

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
46 Benzo(j) fluoranthene	252				Compound Not Detected.		
34 Benzo(a) pyrene	252				Compound Not Detected.		
* 35 Perylene-d12	264	19.851	19.851	(1.000)	231462	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.219	22.219	(1.119)	19781	21.1739	23800 Q
37 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
38 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
39 Benzo(g,h,i)perylene	276				Compound Not Detected.		
47 Perylene	252				Compound Not Detected.		
48 Benzo(e)pyrene	252				Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15121408.D
 Lab Smp Id: AQJ90
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20151214.b\lowsim.m
 Misc Info: 15-21402

Calibration Date: 14-DEC-2015
 Calibration Time: 09:09
 Client Smp ID: PG-SMA2-1-PEMI
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	295716	-9.81
11 Acenaphthene-d10	239179	119590	478358	218344	-8.71
18 Phenanthrene-d10	372253	186127	744506	344692	-7.40
29 Chrysene-d12	294711	147356	589422	257252	-12.71
35 Perylene-d12	260595	130298	521190	231462	-11.18

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.61	6.11	7.11	6.61	0.00
11 Acenaphthene-d10	9.61	9.11	10.11	9.60	-0.11
18 Phenanthrene-d10	12.28	11.78	12.78	12.28	0.00
29 Chrysene-d12	17.03	16.53	17.53	17.02	-0.05
35 Perylene-d12	19.85	19.35	20.35	19.85	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: AQJ90
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20151214.b\lowsim.m
Misc Info: 15-21402

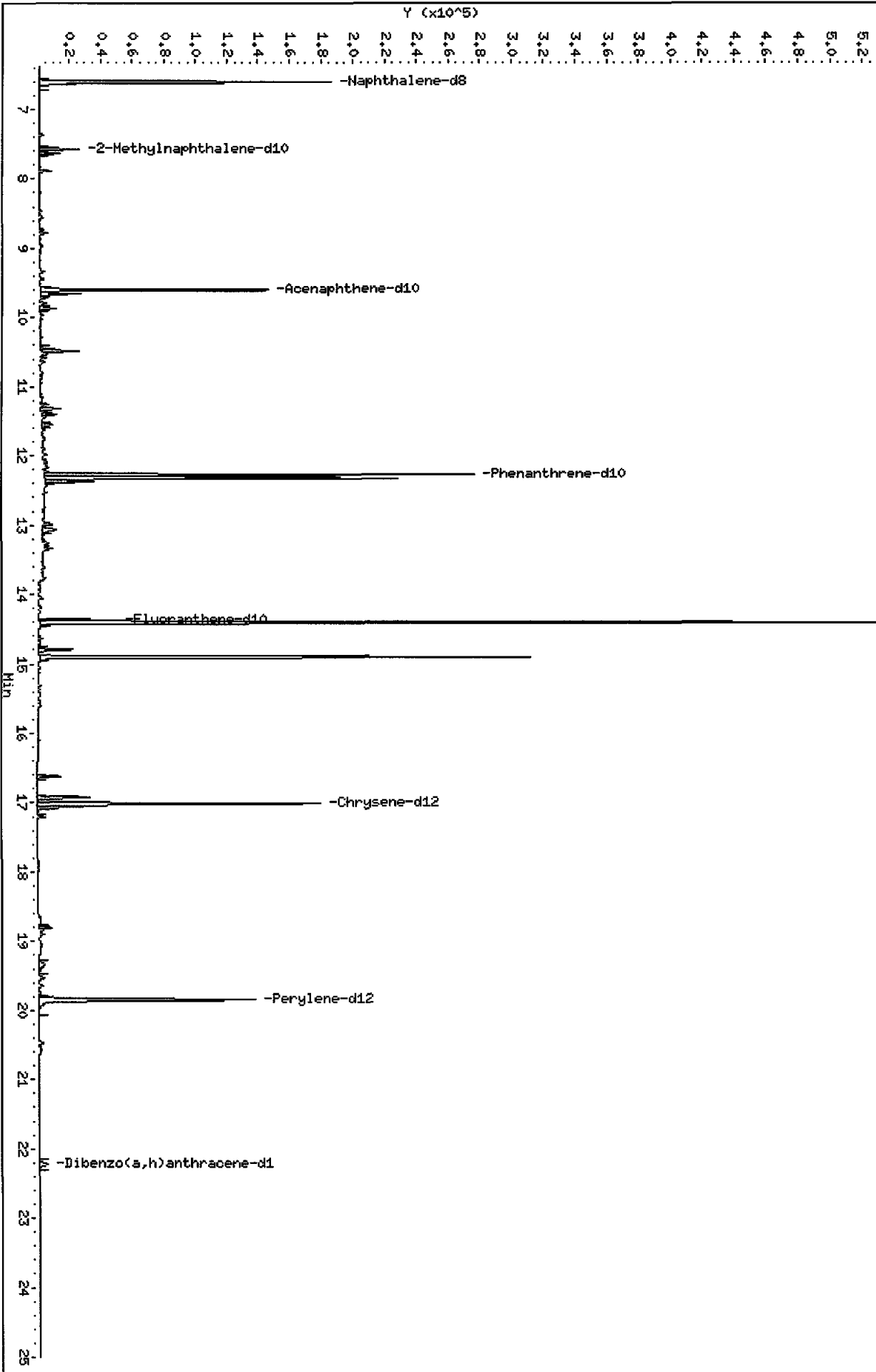
Client SDG: AQJ9
Fraction: SV
Client Smp ID: PG-SMA2-1-PEMD-1511
Operator: VTS
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	33700	21100	62.48	30-160
\$ 23 Fluoranthene-d10	33700	33900	100.70	30-160
\$ 36 Dibenzo(a,h) anthra	33700	23800	70.58	30-160

Data File: \\target\share\chem3\nt11.i\20151214.b\15121408.D
Date: 14-DEC-2015 12:42
Client ID: PG-SM2-1-PEND-1511
Sample Info: AQJ90,10
Volume Injected (uL): 2.0
Column phase: Kx1-17S11 MS

Instrument: nt11.i
Operator: VTS
Column diameter: 0.25

\\target\share\chem3\nt11.i\20151214.b\15121408.D



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90,10

Volume Injected (uL): 2.0

Operator: VTS

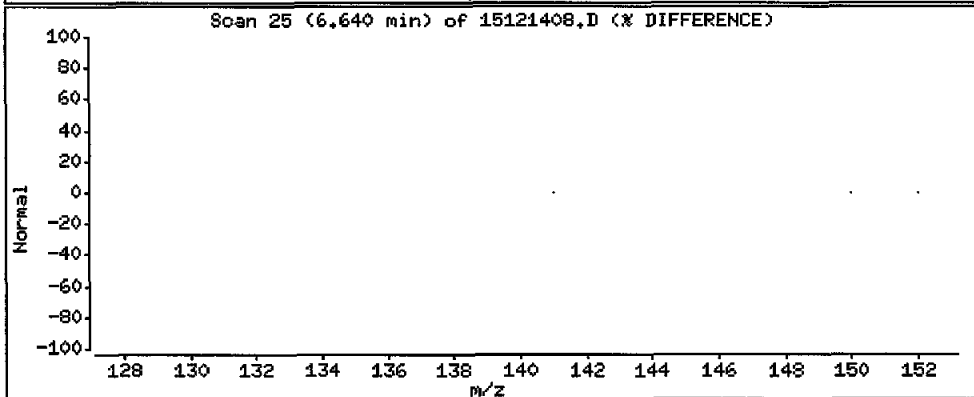
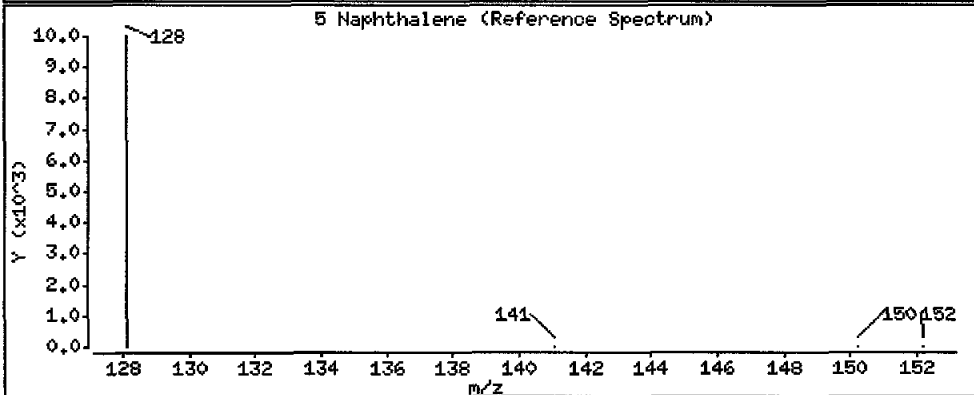
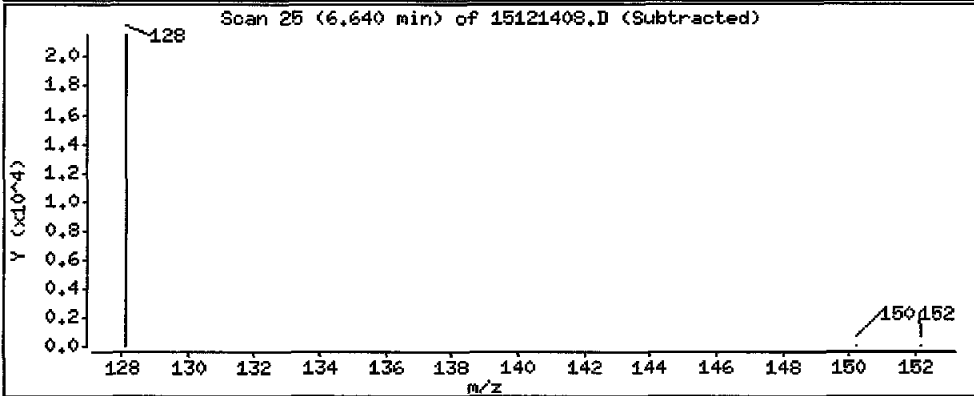
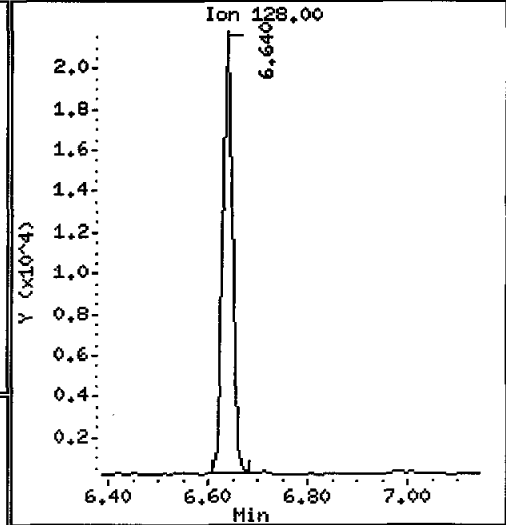
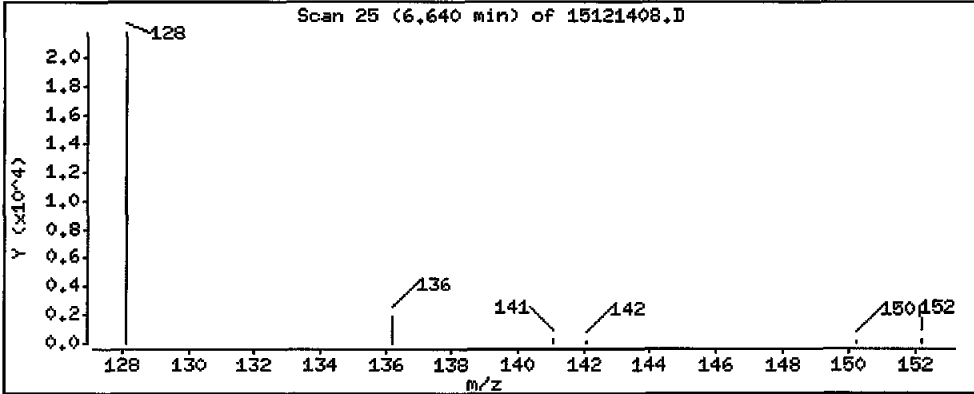
Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 18500 ug/kg

3



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

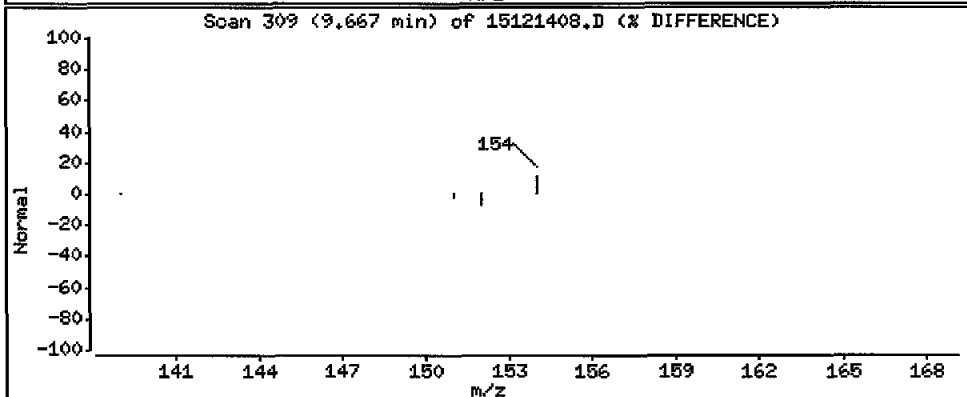
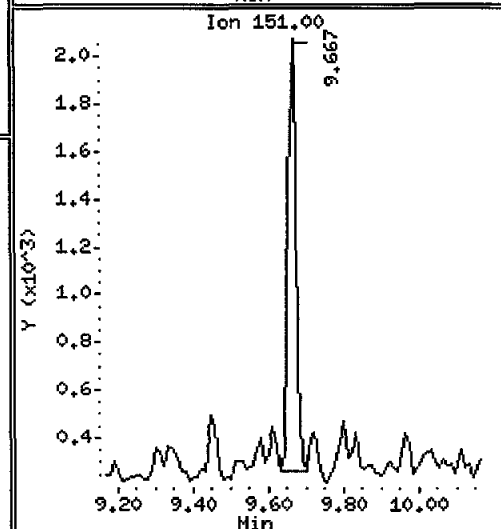
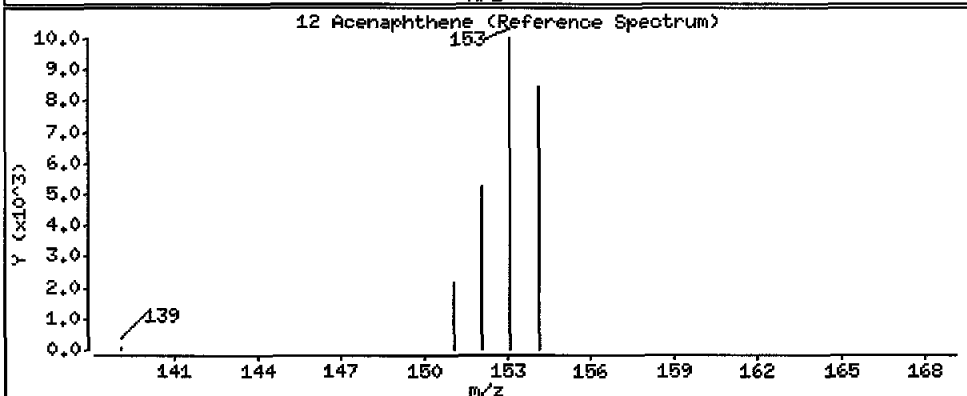
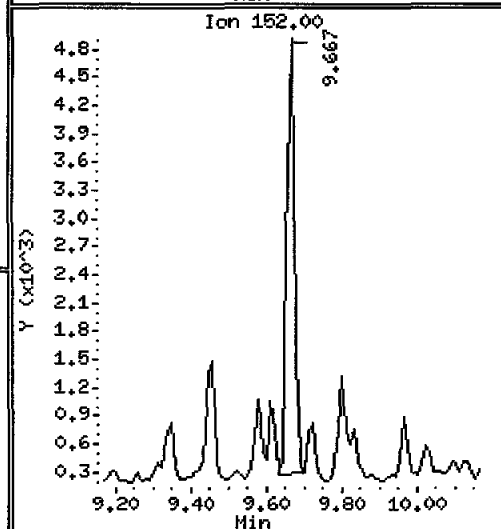
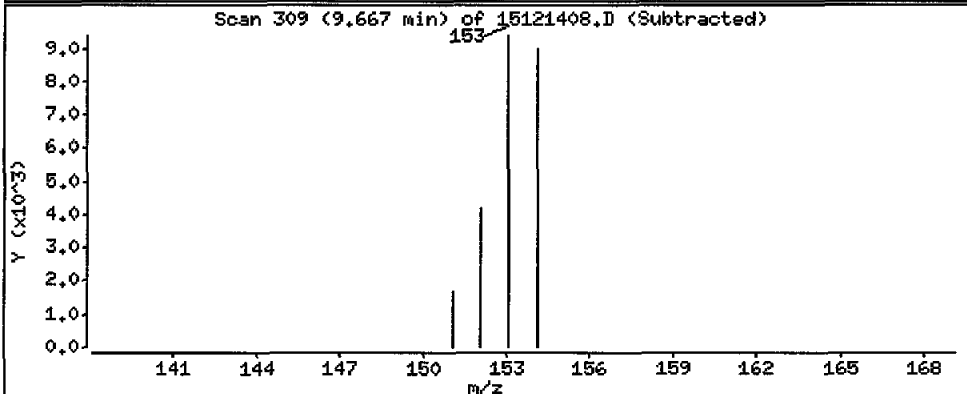
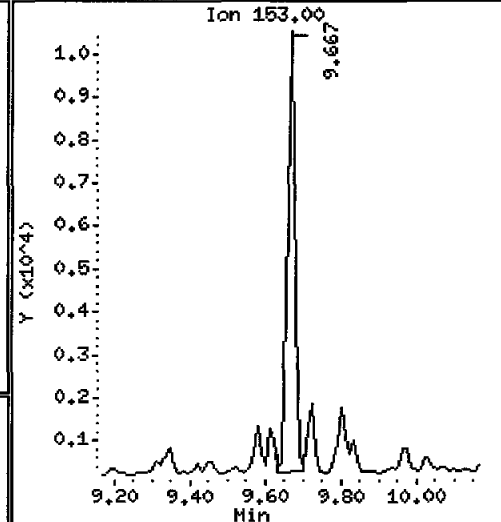
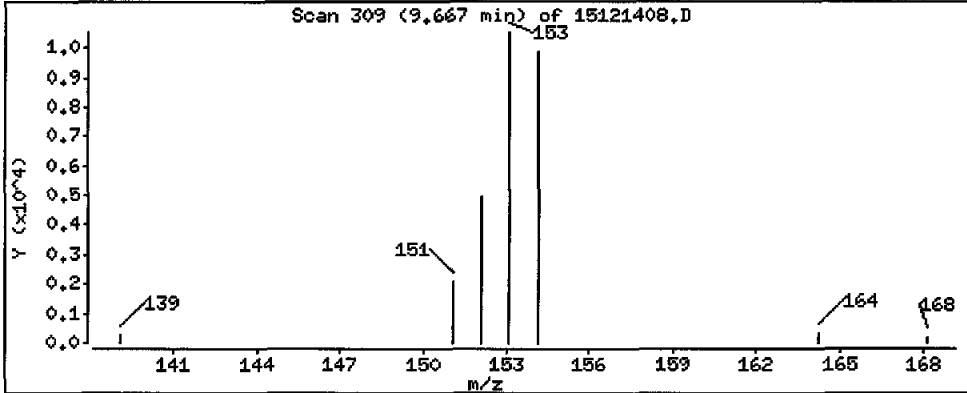
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 12000 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

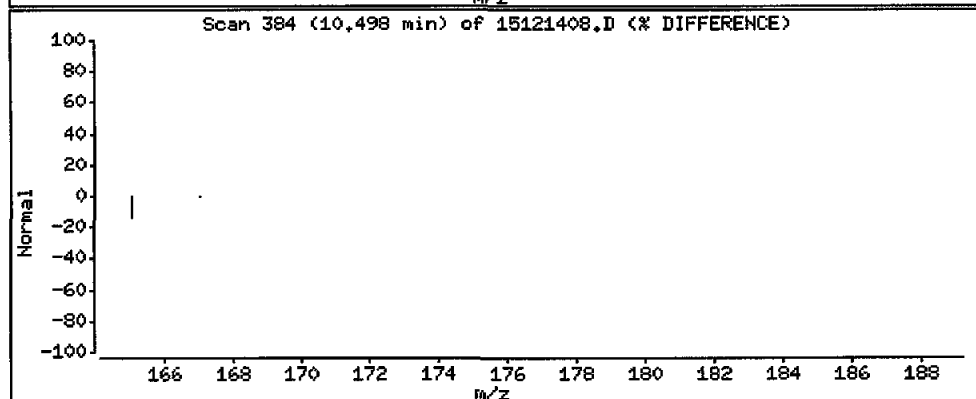
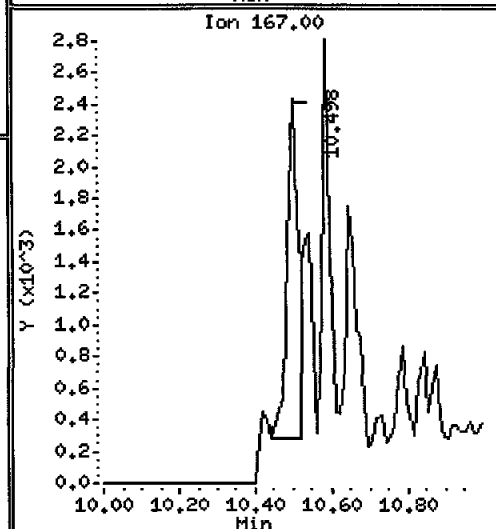
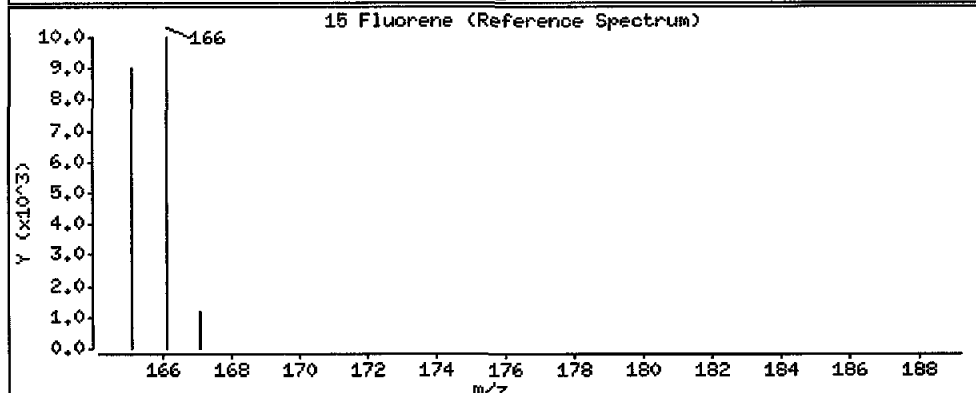
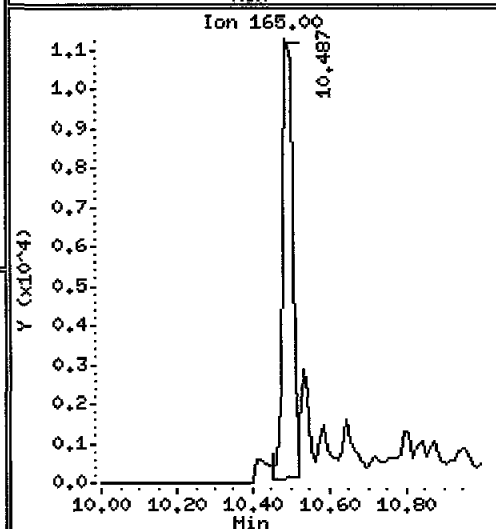
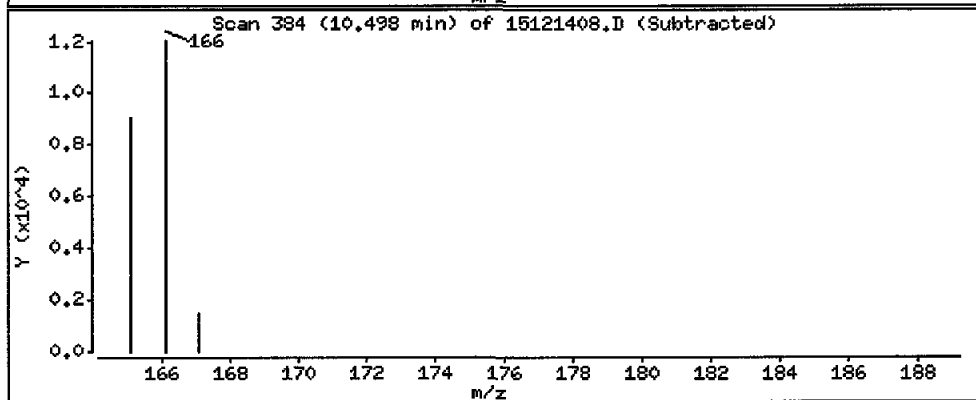
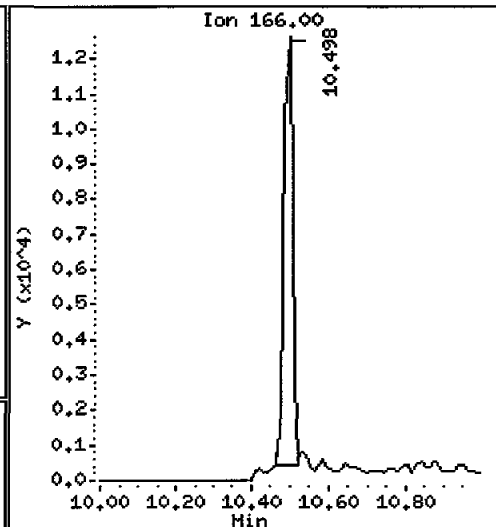
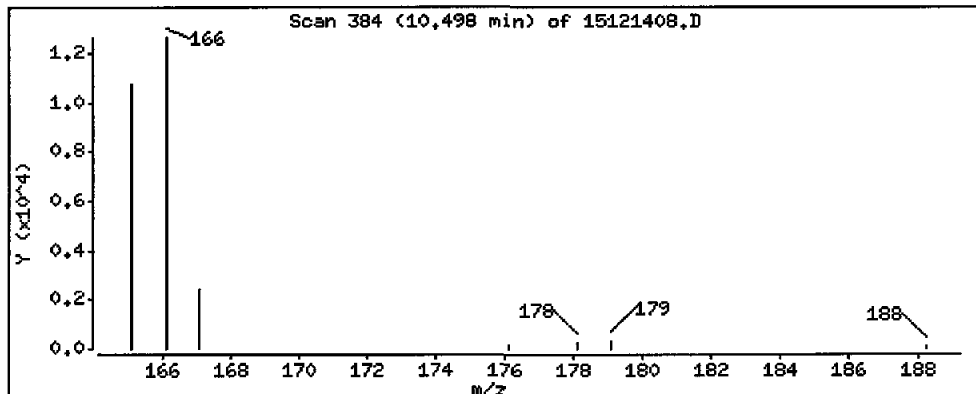
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

15 Fluorene

Concentration: 14500 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

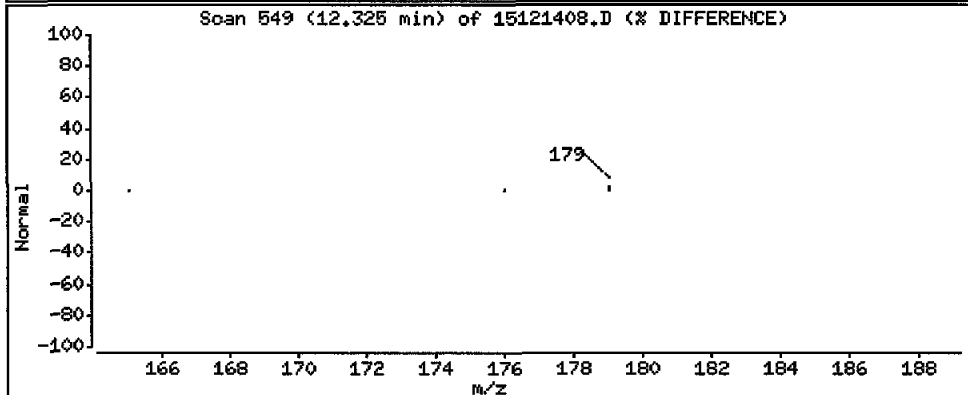
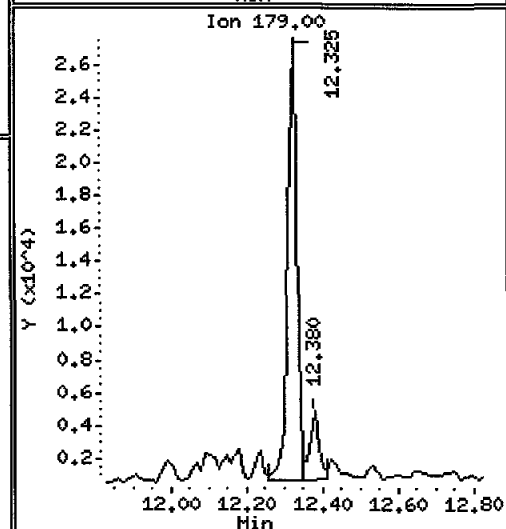
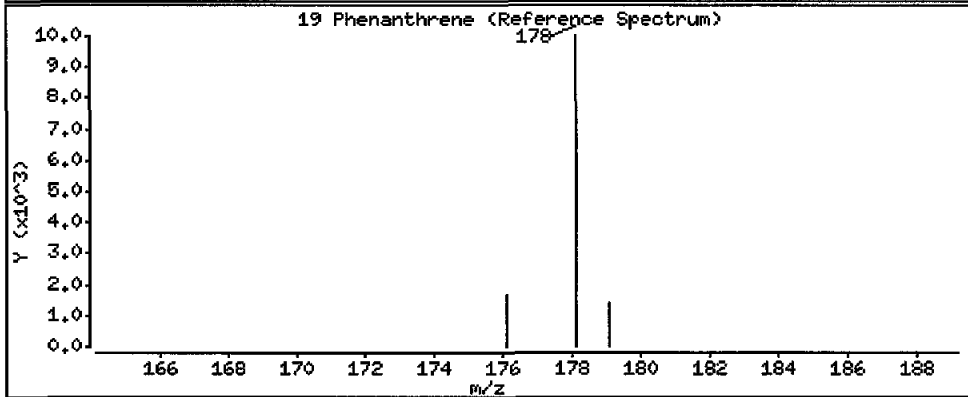
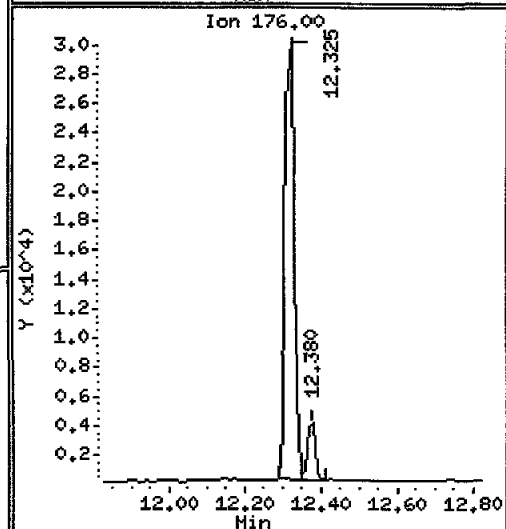
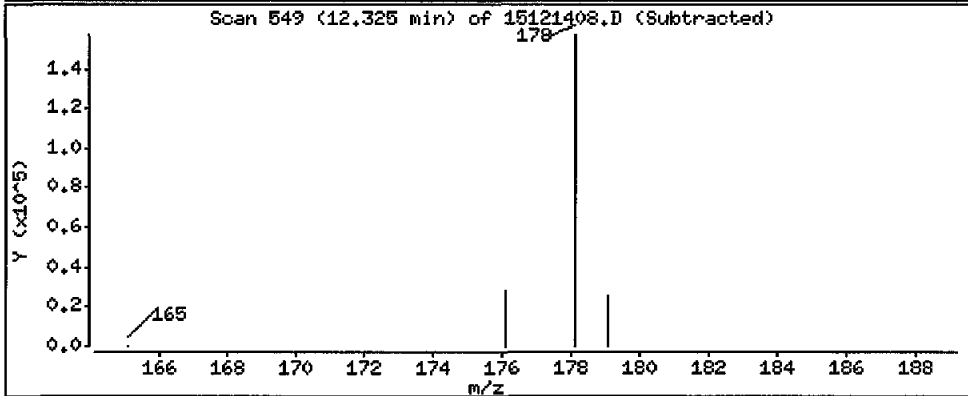
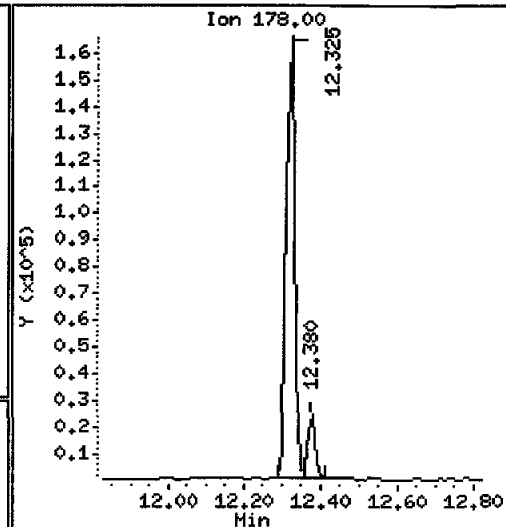
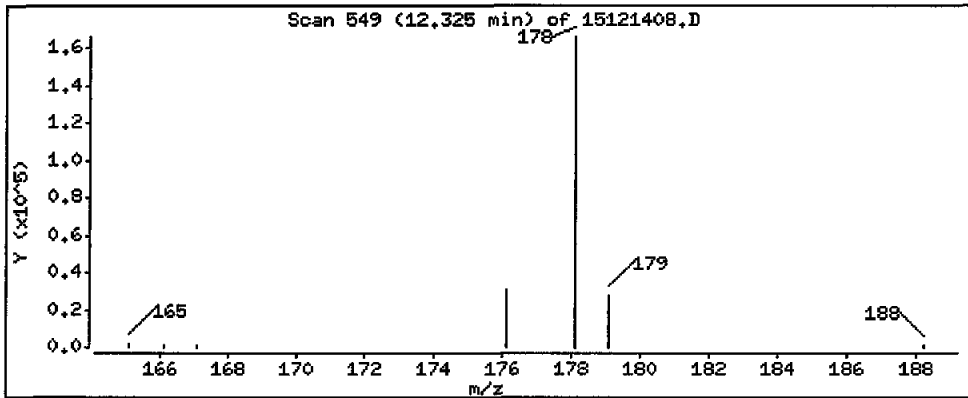
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 119000 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEND-1511

Instrument: nt11.i

Sample Info: AQJ90,10

Volume Injected (uL): 2.0

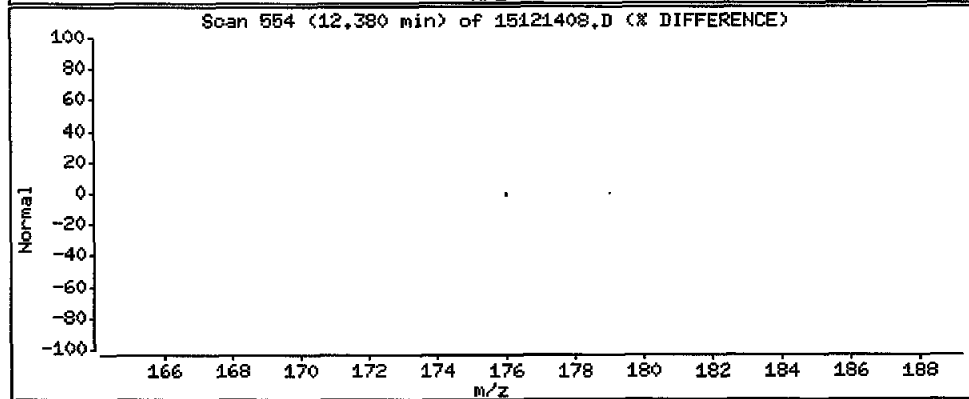
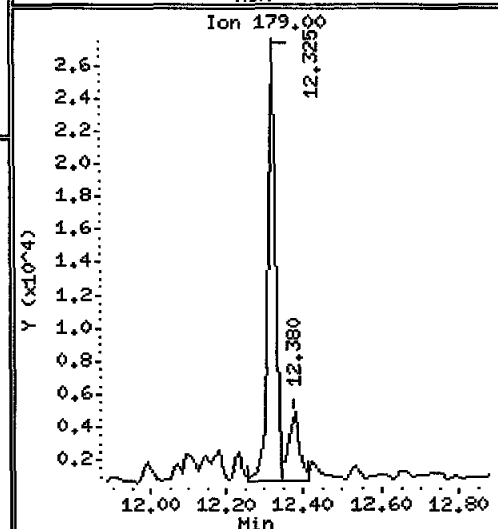
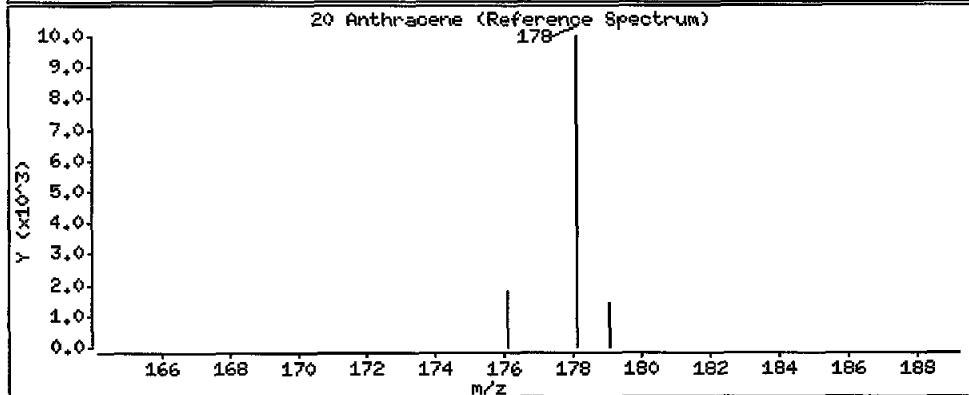
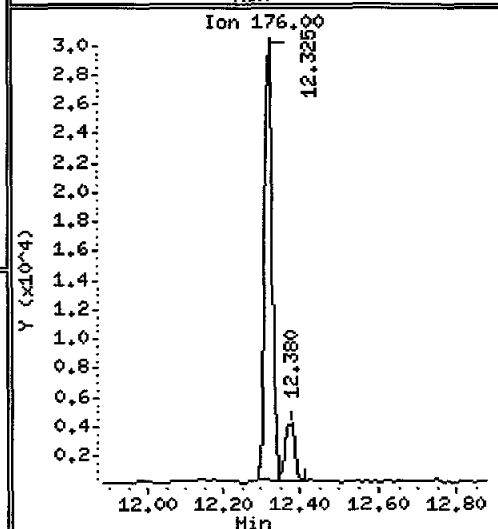
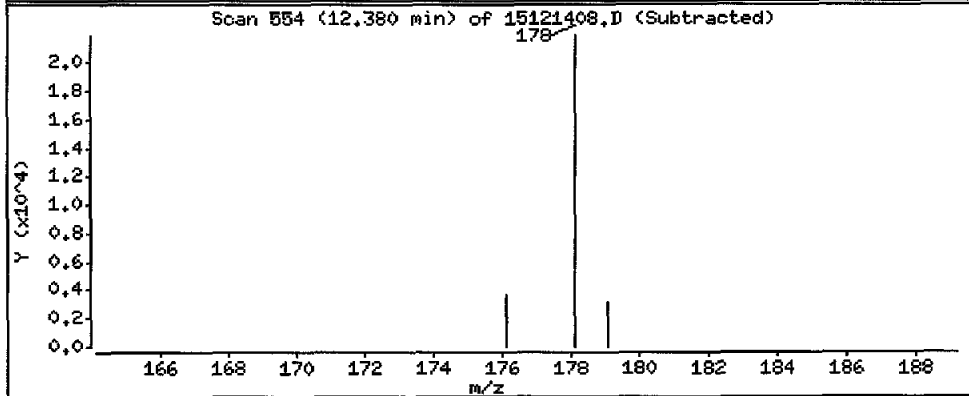
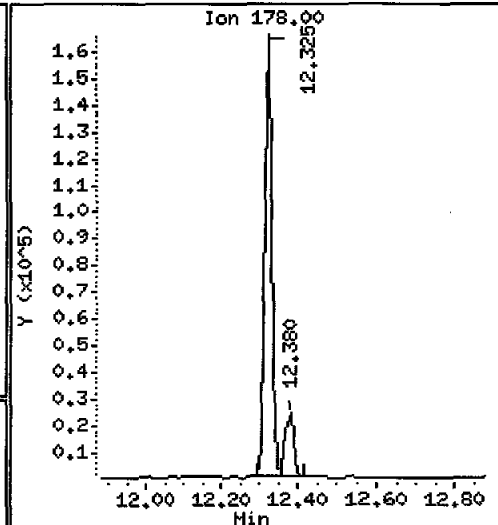
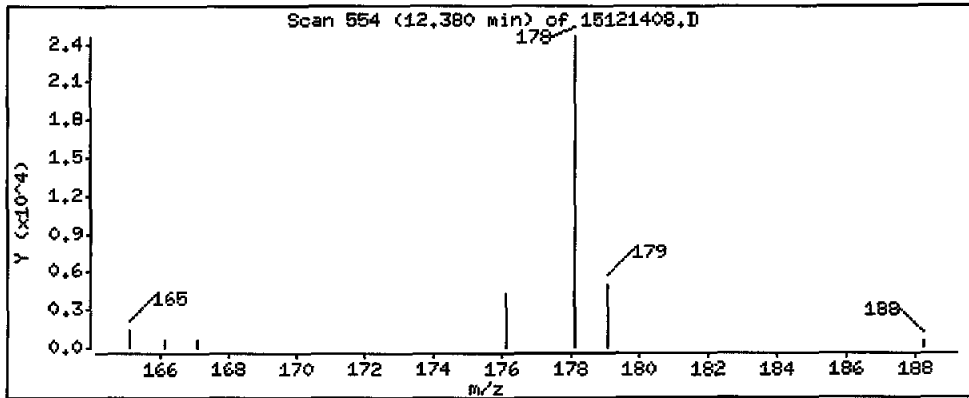
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 19700 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

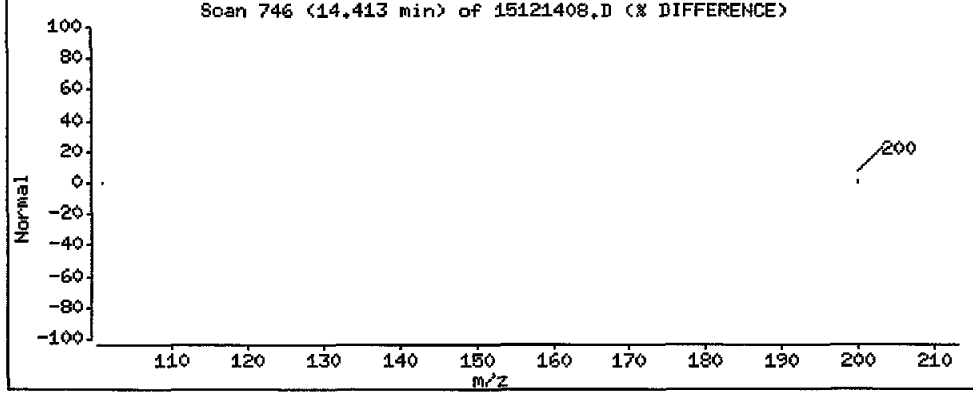
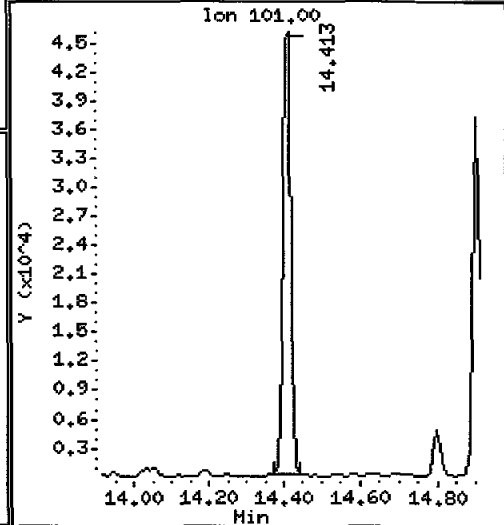
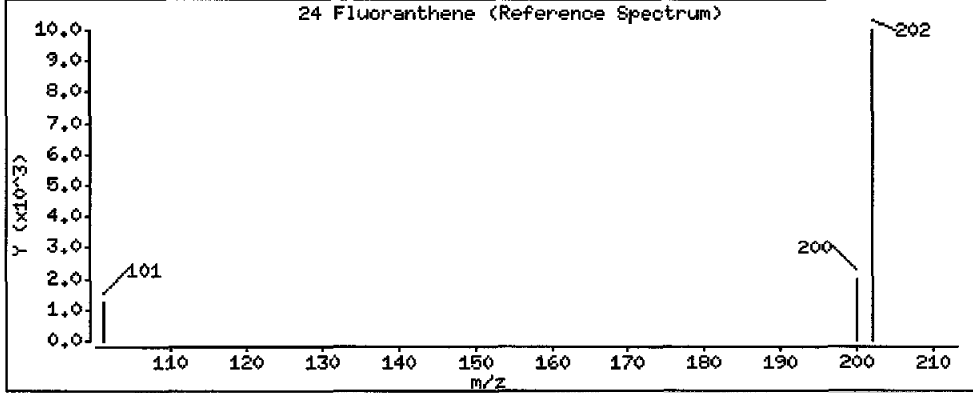
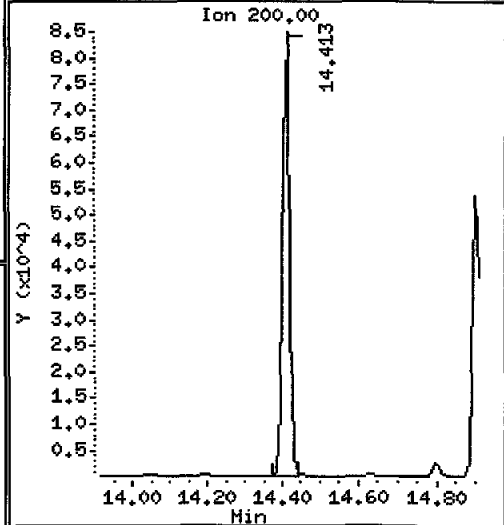
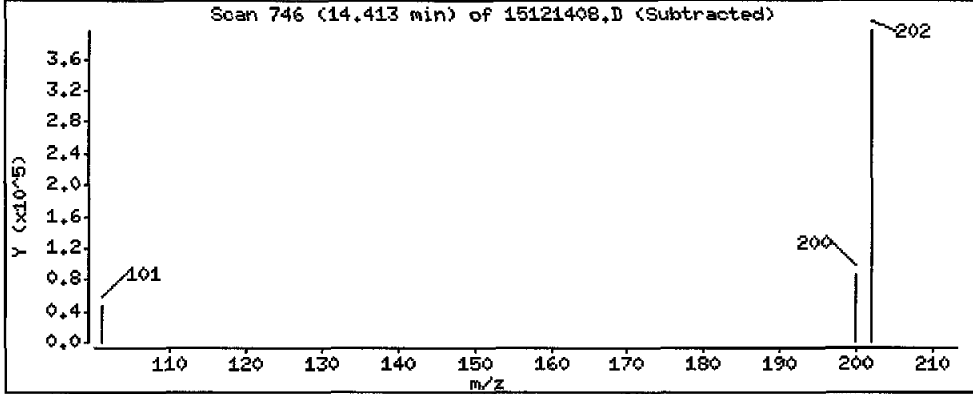
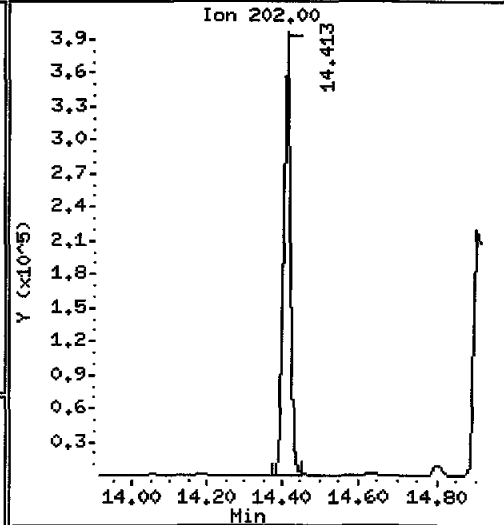
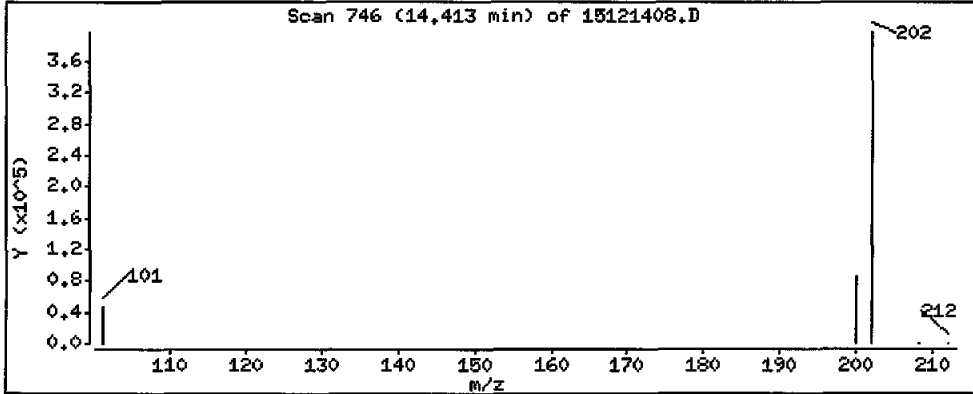
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 280000 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

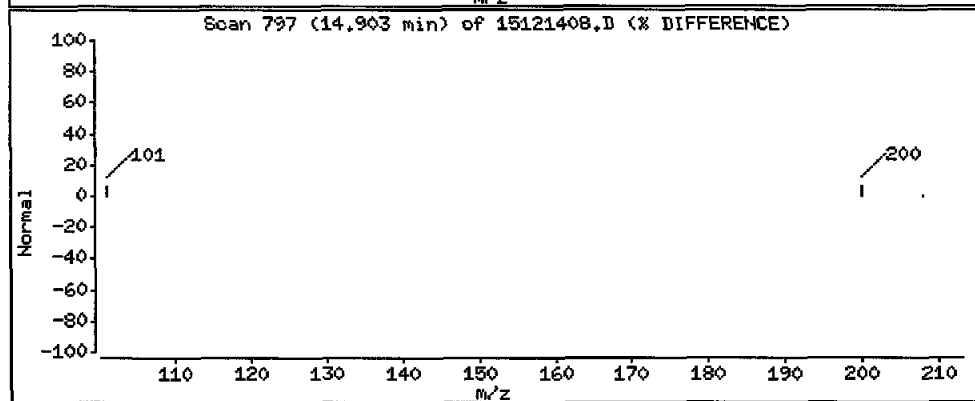
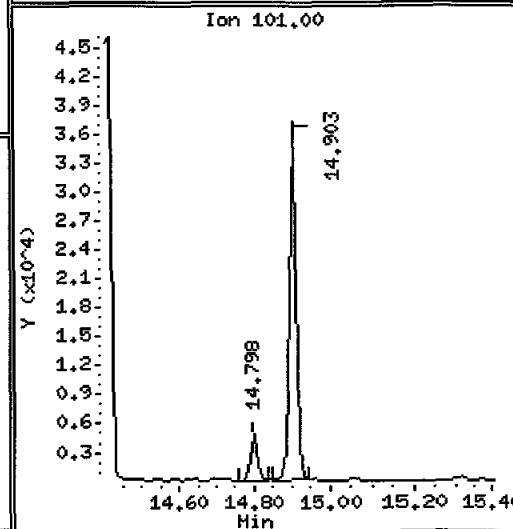
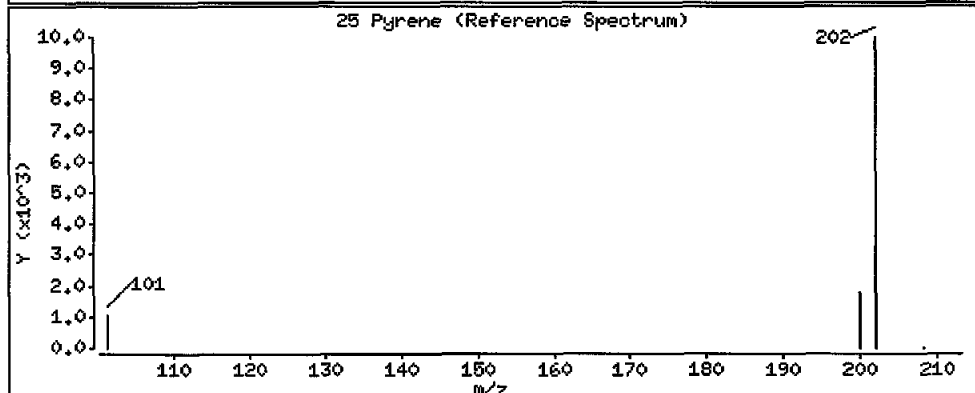
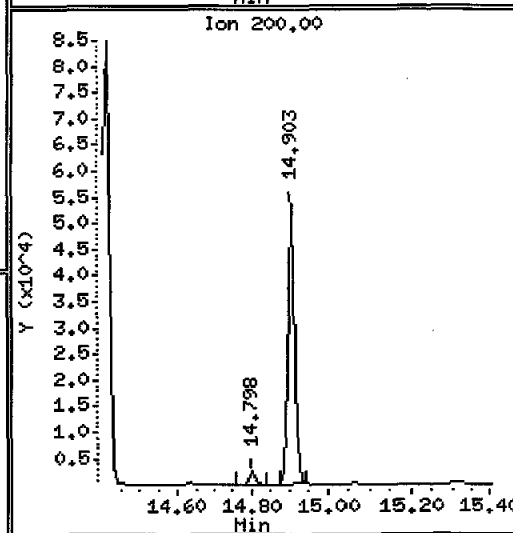
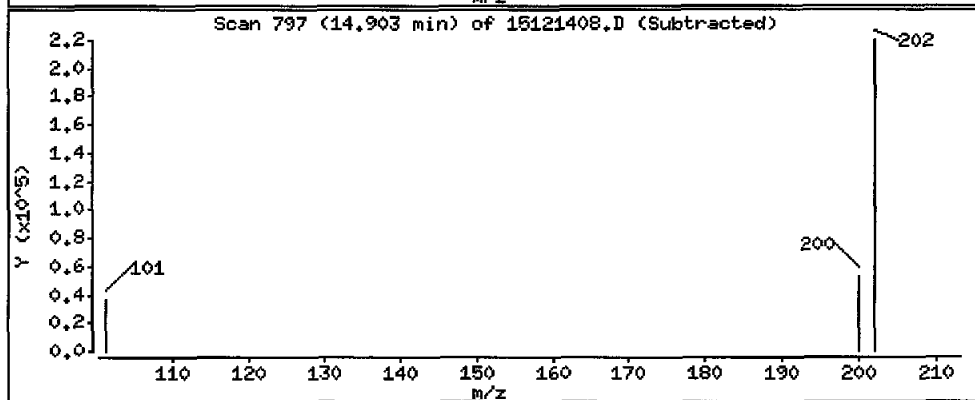
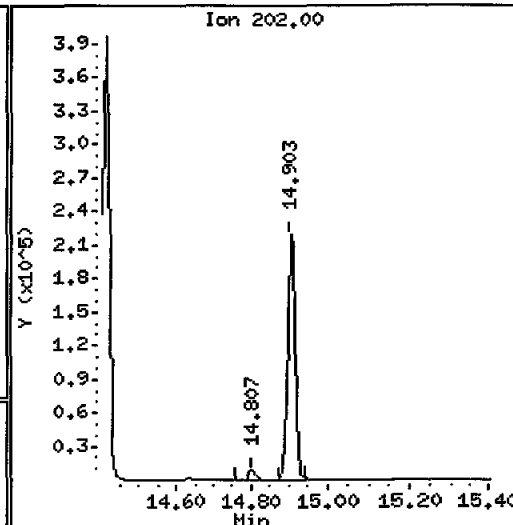
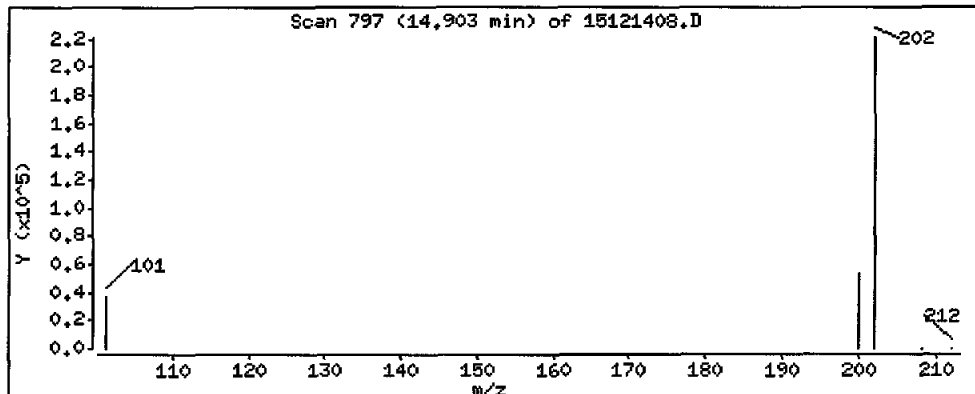
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

25 Pyrene

Concentration: 179000 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90,10

Volume Injected (uL): 2.0

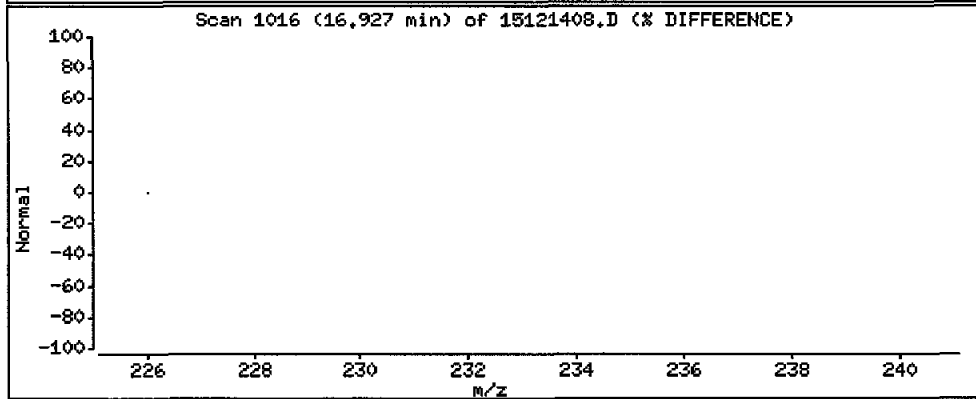
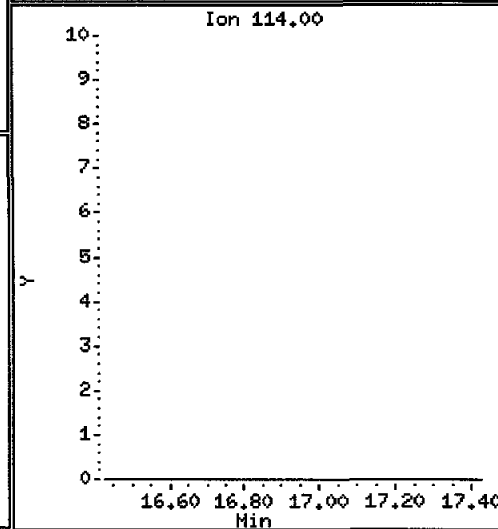
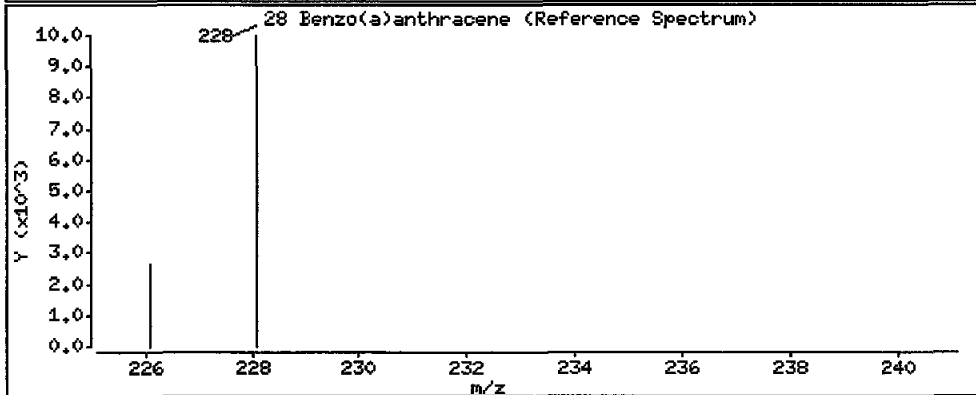
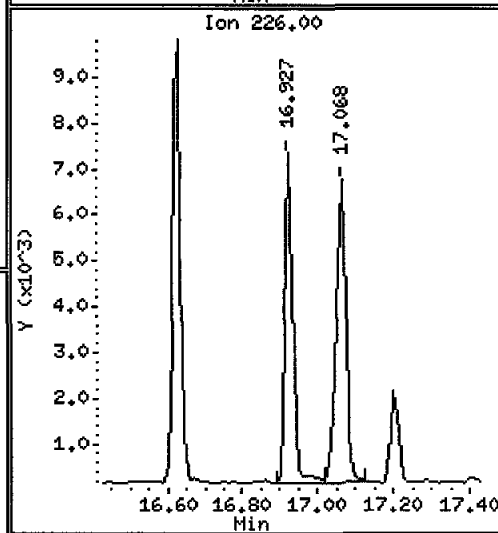
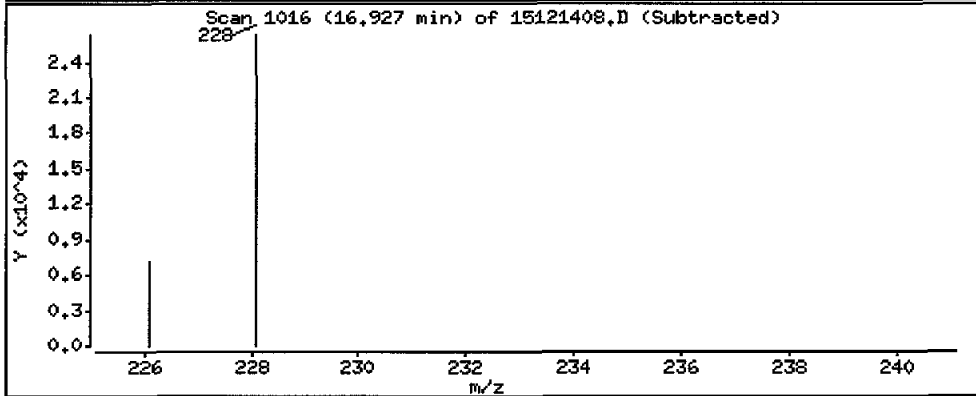
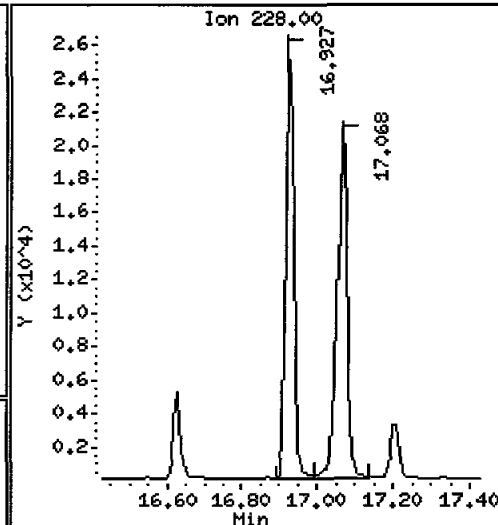
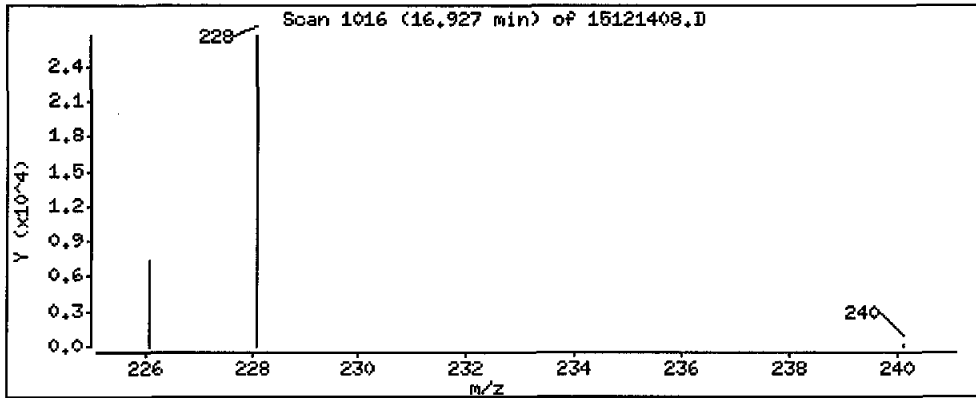
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

28 Benzo(a)anthracene

Concentration: 24500 ug/kg



Date : 14-DEC-2015 12:42

Client ID: PG-SMA2-1-PEMD-1511

Instrument: nt11.i

Sample Info: AQJ90.10

Volume Injected (uL): 2.0

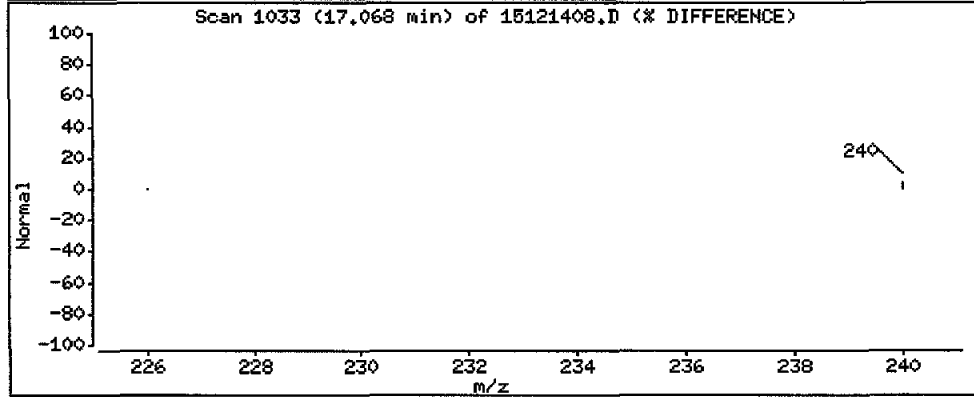
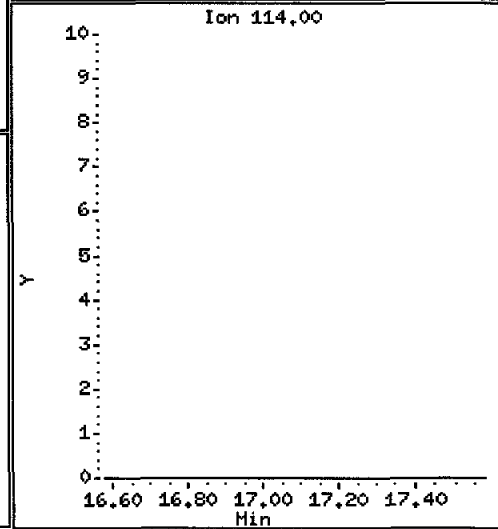
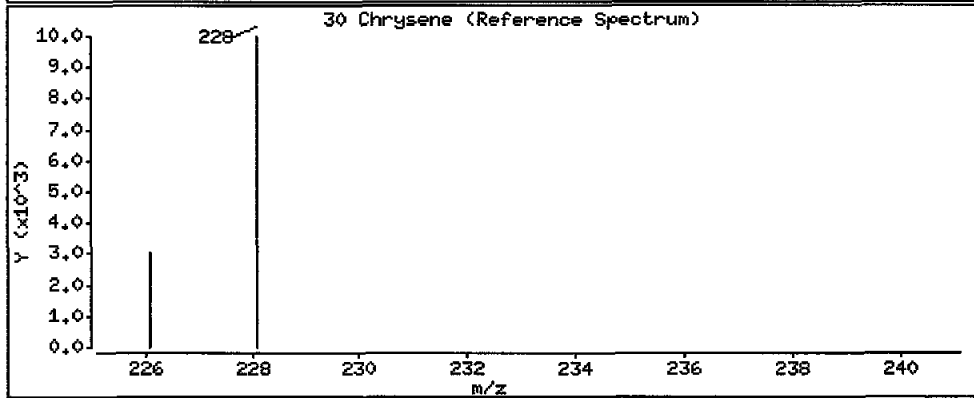
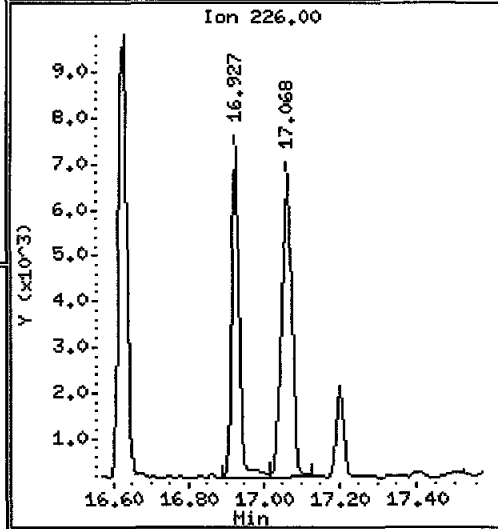
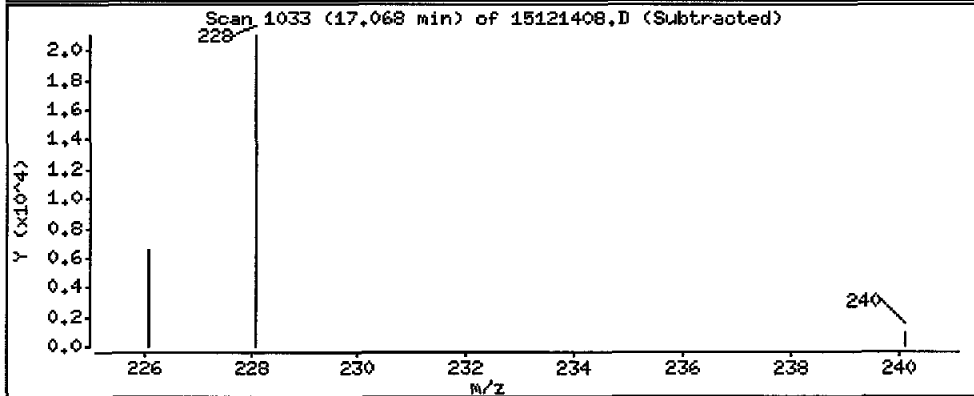
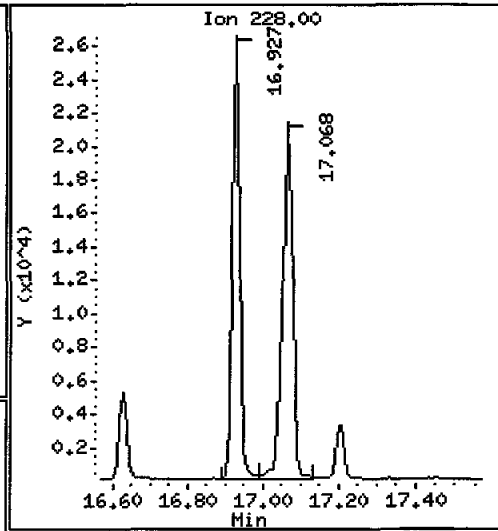
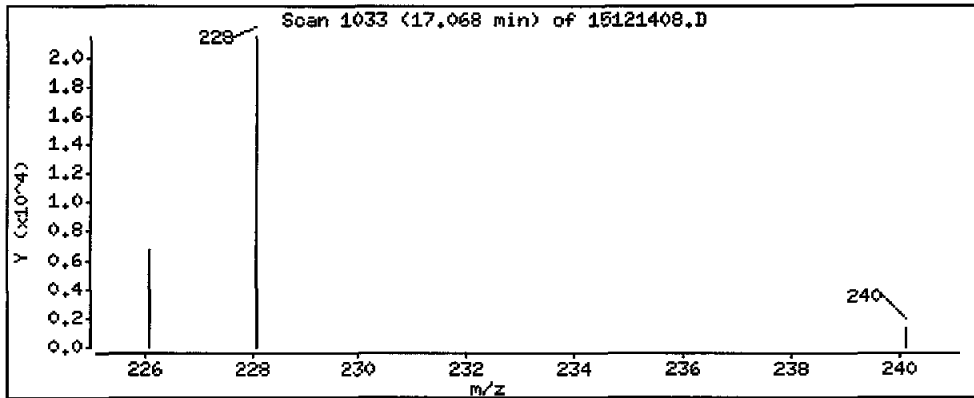
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 23600 ug/kg



Lab ID: AQJ90

nt11.i, 20151214.b\lowsim.m, 14-DEC-2015 12:42

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20151214.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 14-DEC-2015 13:13
 Lab File ID: 15121409.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LLPAH CCV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20151214.b\lowsim.m

COMPOUND	RRF / AMOUNT	RF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
5 Naphthalene	1.15523	1.09513	0.010	-5.20245	20.00000	Averaged
6 2-Methylnaphthalene-d10	0.74235	0.75802	0.010	2.11085	20.00000	Averaged
7 2-Methylnaphthalene	0.79376	0.81563	0.010	2.75539	20.00000	Averaged
8 1-Methylnaphthalene	0.71533	0.73931	0.010	3.35200	20.00000	Averaged
10 Acenaphthylene	1.61414	1.64000	0.010	1.60224	20.00000	Averaged
12 Acenaphthene	1.07135	1.01102	0.010	-5.63175	20.00000	Averaged
14 Dibenzofuran	1.61394	1.52624	0.010	-5.43333	20.00000	Averaged
15 Fluorene	1.21040	1.20003	0.010	-0.85747	20.00000	Averaged
19 Phenanthrene	1.20497	1.12311	0.010	-6.79332	20.00000	Averaged
20 Anthracene	1.07857	1.11754	0.010	3.61293	20.00000	Averaged
23 Fluoranthene-d10	1.09988	1.11772	0.200	1.62252	20.00000	Averaged
24 Fluoranthene	1.20977	1.22222	0.010	1.02923	20.00000	Averaged
25 Pyrene	1.58387	1.55421	0.010	-1.87265	20.00000	Averaged
28 Benzo(a)anthracene	1.33345	1.32399	0.010	-0.70888	20.00000	Averaged
30 Chrysene	1.46350	1.34780	0.010	-7.90620	20.00000	Averaged
44 Benzo(b)fluoranthene	1.35504	1.34277	0.200	-0.90558	20.00000	Averaged
45 Benzo(k)fluoranthene	1.57904	1.51917	0.200	-3.79135	20.00000	Averaged
46 Benzo(j)fluoranthene	1.43839	1.29128	0.200	-10.22802	20.00000	Averaged
34 Benzo(a)pyrene	1.30774	1.24810	0.010	-4.56028	20.00000	Averaged
36 Dibenzo(a,h)anthracene-d14	0.80723	0.62694	0.010	-22.33473	20.00000	Averaged<-
37 Indeno(1,2,3-cd)pyrene	1.37309	1.01206	0.010	-26.29283	20.00000	Averaged<-
38 Dibenzo(a,h)anthracene	1.08579	0.81387	0.010	-25.04389	20.00000	Averaged<-
39 Benzo(g,h,i)perylene	1.19199	0.75105	0.010	-36.99176	20.00000	Averaged<-
47 Perylene	1.35582	1.24944	0.200	-7.84608	20.00000	Averaged
48 Benzo(e)pyrene	1.36945	1.25496	0.200	-8.35985	20.00000	Averaged

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151214.b\15121409.D
 Lab Smp Id: LLPAH CCV
 Inj Date : 14-DEC-2015 13:13 MS Autotune Date: 23-APR-2014 12:54
 Operator : VTS Inst ID: nt11.i
 Smp Info : LLPAH CCV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151214.b\lowsim.m
 Meth Date : 15-Dec-2015 08:23 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt/(Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: JAL 12/15/15

Compounds	QUANT	SIG	AMOUNTS				CAL-AMT (ng/mL)	ON-COL (ng/mL)
			RT	EXP RT	REL RT	RESPONSE		
* 4 Naphthalene-d8	136		6.608	6.608	(1.000)	270472	200.000	
5 Naphthalene	128		6.639	6.639	(1.005)	370254	250.000	237
\$ 6 2-Methylnaphthalene-d10	152		7.585	7.585	(1.148)	256280	250.000	255
7 2-Methylnaphthalene	142		7.637	7.637	(1.156)	275757	250.000	257
8 1-Methylnaphthalene	142		7.889	7.889	(1.194)	249953	250.000	258
10 Acenaphthylene	152		9.457	9.457	(0.984)	443604	250.000	254
* 11 Acenaphthene-d10	164		9.612	9.612	(1.000)	216392	200.000	
12 Acenaphthene	153		9.667	9.667	(1.006)	273470	250.000	236
14 Dibenzofuran	168		9.877	9.877	(1.028)	412834	250.000	236
15 Fluorene	166		10.497	10.497	(1.092)	324595	250.000	248
* 18 Phenanthrene-d10	188		12.280	12.280	(1.000)	358358	200.000	
19 Phenanthrene	178		12.324	12.324	(1.004)	503094	250.000	233
20 Anthracene	178		12.379	12.379	(1.008)	500598	250.000	259
\$ 23 Fluoranthene-d10	212		14.375	14.375	(1.171)	500681	250.000	254
24 Fluoranthene	202		14.413	14.413	(1.174)	547492	250.000	253
25 Pyrene	202		14.903	14.903	(0.876)	549806	250.000	245
28 Benzo(a)anthracene	228		16.926	16.926	(0.995)	468368	250.000	248
* 29 Chrysene-d12	240		17.018	17.018	(1.000)	283003	200.000	
30 Chrysene	228		17.067	17.067	(1.003)	476788	250.000	230
44 Benzo(b)fluoranthene	252		18.794	18.794	(0.947)	406531	250.000	248
45 Benzo(k)fluoranthene	252		18.842	18.842	(0.949)	459936	250.000	241

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo (j) fluoranthene	252	18.900	18.900	(0.952)	390940	250.000	224
34 Benzo (a) pyrene	252	19.649	19.649	(0.990)	377870	250.000	239
* 35 Perylene-d12	264	19.851	19.851	(1.000)	242204	200.000	
\$ 36 Dibenzo (a,h) anthracene-d14	292	22.219	22.219	(1.119)	189809	250.000	194
37 Indeno (1,2,3-cd) pyrene	276	22.341	22.341	(1.125)	306407	250.000	184
38 Dibenzo (a,h) anthracene	278	22.330	22.330	(1.125)	246403	250.000	187
39 Benzo (g,h,i) perylene	276	23.448	23.448	(1.181)	227384	250.000	158
47 Perylene	252	19.909	19.909	(1.003)	378274	250.000	230
48 Benzo (e) pyrene	252	19.534	19.534	(0.984)	379946	250.000	229

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15121409.D
 Lab Smp Id: LLPAH CCV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20151214.b\lowsim.m
 Misc Info:

Calibration Date: 14-DEC-2015
 Calibration Time: 09:09

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	270472	-17.51
11 Acenaphthene-d10	239179	119590	478358	216392	-9.53
18 Phenanthrene-d10	372253	186127	744506	358358	-3.73
29 Chrysene-d12	294711	147356	589422	283003	-3.97
35 Perylene-d12	260595	130298	521190	242204	-7.06

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.61	6.11	7.11	6.61	0.00
11 Acenaphthene-d10	9.61	9.11	10.11	9.61	0.00
18 Phenanthrene-d10	12.28	11.78	12.78	12.28	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	0.00
35 Perylene-d12	19.85	19.35	20.35	19.85	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 14-DEC-2015 13:13

Client ID:

Instrument: nt11.i

Sample Info: LPPH CCV

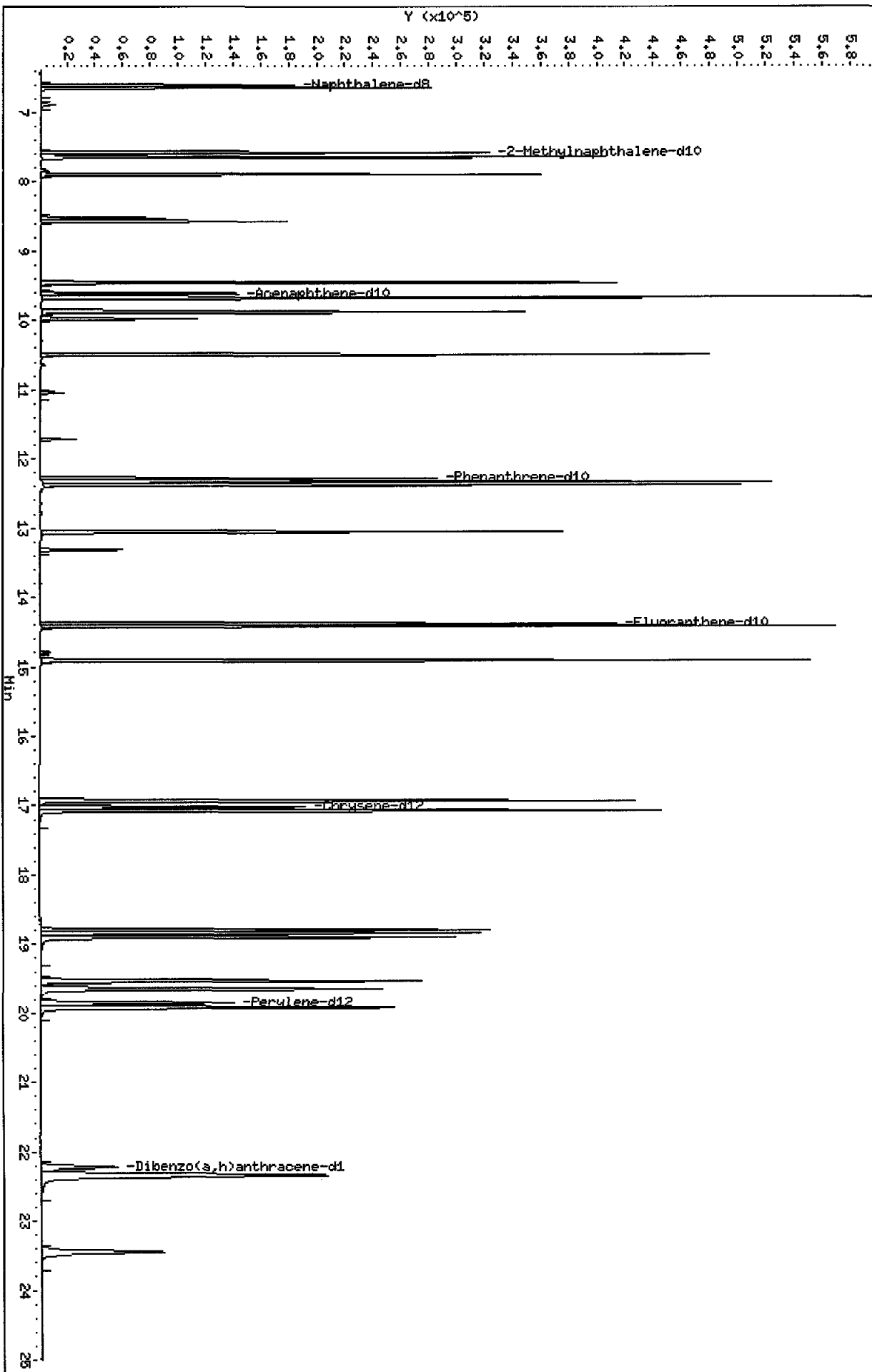
Volume Injected (uL): 2.0

Operator: VTS

Column phase: Rxi-17S11 MS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20151214.0\15121409.D



Lab ID: LLPAH CCV

nt11.i, 20151214.b\lowsim.m, 14-DEC-2015 13:13

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20151214.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

Table of Contents: ARI Job APR4

Client: Anchor QEA, LLC

Project: 1503880101 Port Gamble Clean-up

Page From: Page To:

Inventory Sheet	<u>1</u>	<u>1</u>
Cover Letter	<u>2</u>	<u>19</u>
Chain of Custody Documentation	<u>20</u>	<u>29</u>
Case Narrative, Data Qualifiers, Control Limits		
SIM PAH Analysis		
Report and Summary QC Forms	<u>30</u>	<u>44</u>
Dioxin Analysis		
Report and Summary QC Forms	<u>45</u>	<u>62</u>
Metals Analysis		
Report and Summary QC Forms	<u>63</u>	<u>79</u>
Lipids		
Report and Summary QC Forms	<u>80</u>	<u>84</u>
Subcontracted Analysis		
Report and Summary QC Forms	<u>NA</u>	<u>NA</u>
SIM PAH Raw Data		
Extractions Bench Sheets and Notes	<u>85</u>	<u>88</u>
Initial Calibration	<u>89</u>	<u>166</u>
Run Logs, Continuing Calibrations, and Raw Data	<u>167</u>	<u>250</u>
Dioxin Raw Data		
Extractions Bench Sheets and Notes	<u>251</u>	<u>253</u>
Initial Calibration	<u>254</u>	<u>365</u>
Run Logs, Continuing Calibrations, and Raw Data	<u>366</u>	<u>469</u>
Metals Raw Data		
Preparation Bench Sheets and Notes	<u>470</u>	<u>472</u>
Run Logs, Calibrations, and Raw Data	<u>473</u>	<u>511</u>

AV
Signature

January-25-2016
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

February 2, 2016

Cindy Fields
Anchor QEA
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: Project: Port Gamble Clean-up, 150388010
ARI Job No.: APR4

Dear Ms. Fields:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details regarding requested analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Cheronne Oreiro".

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile: APR4

Enclosures

Chain of Custody Documentation

ARI Job ID: APR4

APR4 : 00002

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **APR 24** Turn-around Requested: **stand and**

ARI Client Company: **MUNOR QEA** Phone: **206-287-9130**

Client Contact: **Vandy Fields**

No. of Coolers: _____ Cooler Temps: _____



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com

Client Project Name: **Port Gamble Clean-up**

Client Project #: **1503880101**

Samplers: **J. Florer**

Analysis Requested *

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested *				Notes/Comments
					Lipids	Pesticides/ Furans	CRAMS	PCB Congeners	
P6-TP-MUS-COL-151030	10/30/15	1500	house	1	X	X	X	X	SAMPLE NUMERICALIZE SEND OUT ISSUE FOR PUB CONSUMER ANALYSIS

Received by: _____ (Signature)
 Printed Name: _____
 Company: _____
 Date & Time: _____

Relinquished by: _____ (Signature)
 Printed Name: _____
 Company: _____
 Date & Time: _____

Received by: _____ (Signature)
 Printed Name: **EMILY UTWIN**
 Company: **ARI**
 Date & Time: **11/02/15 11:28**

Relinquished by: _____ (Signature)
 Printed Name: **EMILY UTWIN**
 Company: **ARI**
 Date & Time: **11/02/15 11:28**

Comments/Special Instructions
***archive frozen with 1 additional musel samples same submitted late Dec 2015**

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Anchor

Project Name: Port Gamble Clean-up

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: ARP4

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES YES NO

Were custody papers properly filled out (ink, signed, etc.) YES YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.2

Time: _____

Temp Gun ID#: DO02505

If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by: W Date: 11/2/15 Time: 1120

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: foil

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: W Date: 11/2/15 Time: 1120

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

<p>Small Air Bubbles ~2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
-----------------------------------	------------------------------	--	--

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com



Turn-around Requested: **Standard**
 Page: **1** of **1**
 Date: **11/02/15** Ice Present?
 No. of Coolers: Cooler Temps:

ARI Assigned Number:
 ARI Client Company: **McDonough QEA**
 Client Contact: **Linda Fields**
 Client Project Name: **Port Gambel Clean-up**
 Client Project #: **1503880101**
 Phone: **206-287-9130**
 Samplers: **S. Flores**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Lipids	PCBs/Furans	PCBs	Conspire	
R6-TP-MUSCOL-15100	10/30/15	1500	tissue	1	X	X	X		Should harmonize spreadsheet as close as possible for PCB (only) analysis

Relinquished by:
 (Signature) *[Signature]*
 Printed Name: **Joanna Flores**
 Company: **ARI**
 Date & Time: **11/02/15 1728**

Received by:
 (Signature) *[Signature]*
 Printed Name: **Emily Utwin**
 Company: **ARI**
 Date & Time: **11/02/15 1128**

Comments/Special Instructions
***archive frozen with additional mussel samples one submitted @ Dec 2015**

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Daily Log

Anchor QEA, L.L.C.
 720 Olive Way, Suite 1900
 Seattle, WA 98101
 Phone 206.287.9130 Fax 206.287.9131



PROJECT NAME: PG Clean-up
 SITE ADDRESS: _____

DATE: 10/29/15

PERSONNEL: J. Flower, Mike + Rony (on boat)

WEATHER: Overcast + calm WIND FROM:

N	NE	E	SE	S	SW	W	NW
SUNNY		<u>CLOUDY</u>		RAIN			?

 LIGHT MEDIUM HEAVY
 TEMPERATURE: _____ °F _____ °C
(Circle appropriate units)

TIME	COMMENTS
0700	Arrive Salisbury Park boat ramp
0800	Arrive SMA-1 dock + loaded cages + conducted H&S + daily plan
0830	departed SMA-1 dock, headed to mussel pen
0845	collected mussels for 2 locations - headed to GP-1
0900	Arrive GP-1 + deployed 3 cages w/ mussels (PEMOs in 2 cages)
1000	left GP-1 + headed to PJ-1
1030	Arrive PJ-1 + deployed 3 cages w/ mussels (PEMOs in 2 cages)
1130	left PJ-1 headed to SMA-1 dock to pln more cages
1145	arrived SMA-1 dock pln cages + David + went to mussel pen to get more mussels
1200	headed to WS-1
1210	Arrive WS-1 + deployed 3 cages w/ mussels (PEMOs in 2 cages)
1251	Departed WS-1 + headed to net pen to pln more mussels + then to SMA dock
1315	Arrive SMA dock to pln another cage set.
1340	Arrive SMA-2-5 + deployed 3 cages w/ mussels (PEMOs in 2 cages) offset anchor rigged location south of construction (SMA)
1430	finished SMA-2-5 + headed to SMA-2-4
1500/1445	arrive SMA-2-4 + deployed 3 cages w/ mussels (PEMOs 2 cages)
1530/1520	finished at SMA-2-4 + headed to net pen to pln more mussels
1600	back to SMA dock + set up cages for SMA-2-3
1620	arrive SMA-2-3 + deployed 3 cages w/ mussels (PEMOs 2 cages)
1645	finish w/ deploying at SMA-2-3 + re. turned to SMA dock
1700	left SMA dock - returned to Salisbury Pt Park

End of day
 at 10/29/15

Signature: J. Flower

Daily Log



Anchor QEA, L.L.C.
 720 Olive Way, Suite 1900
 Seattle, WA 98101
 Phone 206.287.9130 Fax 206.287.9131

PROJECT NAME: P6 Clean-up

DATE: 10/30/15

SITE ADDRESS: _____

PERSONNEL: J. F. [unclear], Mike + Chris [unclear]

WEATHER: Overcast

WIND FROM:

N	NE	E	SE	S	SW	W	<u>NW</u>
SUNNY	CLOUDY	RAIN					?

LIGHT | MEDIUM | HEAVY

TEMPERATURE: _____ °F _____ °C
(Circle appropriate units)

TIME	COMMENTS
1230	began mussel deployment by picking up mussels from net pen + loading 1st set of cages
1245	departed SMA dock + headed to location SMA-2-2 deployed 3 mussel cages (PEMDs 2 cages)
1315	cost opened trip blank PEMD for 5min while deployment ^{was} in progress.
1320	headed back to SMA dock + set up cages for SMA-2-1
1410	Deployed 3 mussel cages at SMA-2-1
1440	Returned to SMA dock
1445	Arrived SMA dock + unloaded
1500	created type O mussel sample (#101, 58, 19, 142)
1530	Mussel deployment + demobilization - End of day note: T-O mussels to be submitted to AR1 on Monday

J. M. F.
 10/30/15

Signature: _____

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>GP-1</u>	Weather: <u>cloudy</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>12.8</u> ^{After lead line of fathometer}
Time: <u>0900</u>	Tide height (ft MLLW) (B): <u>+9.6</u> flood or <u>(ebb)</u>
Latitude/Easting: <u>on target</u>	Water Depth (ft MLLW) (A-B): <u>3.2</u>
Longitude/Northing: <u>on target</u>	
Field Staff: <u>JMF, MT, RD</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

^{9A}
^{subtle}
 yellow buoys have PEMDs, red/white ~~of state~~ = non PEMD
 GP-1 cage 1 - 77, 117, 75, 118 bag #s cage 2 bag #s - 115, 116, 7, 79
 cage 3 bag # - 119, 76, 120, 1

JA 10/29/15

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

down west of Mike's house + east of net pen
 halfway between the shore line + net pens

JA 10/29/15

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>PJ-1</u>	Weather: <u>cloudy</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>9.5</u> lead line of <u>fathometer</u>
Time: <u>10:30</u>	Tide height (ft MLLW) (B): <u>17.2</u> flood or <u>(ebb)</u>
Latitude/Easting: <u>315796.32</u>	Water Depth (ft MLLW) (A-B): <u>2.3</u>
Longitude/Northing: <u>1212999.16</u>	
Field Staff: <u>J. Plover, Bory + Mike</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

non-PEMD = red/white buoy ; yellow or white buoy = PEMD
 cage 1 (no PEMD) bag #'s - 155, 4, 80, 157
 cage 2 (PEMD) bag #'s - 158, 3, 156, 78
 cage 3 (PEMD) bag #'s - 2, 160, 159, 74

JA
10/29/15

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

due west of church (Pg) + NE of turquoise house, due south of Point Julia light post. Moved location 100ft SW to deeper location.

JA
10/29/15

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>WS-1</u>	Weather: <u>partially cloudy</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>7.0</u> lead line or <u>fathometer</u>
Time: <u>1210</u>	Tide height (ft MLLW) (B): <u>5.0</u> flood or ebb
Latitude/Easting: <u>312185.73</u>	Water Depth (ft MLLW) (A-B): <u>2ft</u>
Longitude/Northing: <u>1210499.80</u>	
Field Staff: <u>S. Plover, Rory, Mike</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Cage 1 - 8, 153, 152, 5
bag #'s

Cage 2 - 113, 73, 71, 112
bag #'s

Cage 3 - 114, 10, 72, 154
bag #'s

PEMDs in cages w/
white or yellow buoys
Red/white buoy - no PEMD

~~87 10/29/15~~

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

WS-1 moved east from original location to deeper water ~ 200ft.
due south of construction, east of cable crossing sign
150ft east of pilings

~~87 10/29/15~~

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>SMA-2-5</u>	Weather: <u>Overcast</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>16.0</u> lead line or fathometer
Time: <u>1340</u>	Tide height (ft MLLW) (B): <u>5.2</u> flood or ebb
Latitude/Easting: <u>on target</u>	Water Depth (ft MLLW) (A-B): <u>10.8</u>
Longitude/Northing: <u>on target</u>	
Field Staff: <u>J. Plover, Rory, M. Kie D. Gillingham</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Offset location with one ^{white} buoy marker. PEMD cage lines marked w/ 21pties.

Cage 1 buoy# - 106, 107, 65, 17

Cage 2 buoy# - 66, 108, 147, 12

Cage 3 buoy# - 110, 14, 67, 148

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

Due west of shoreline of 4 evergreen trees, SW of shore line

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>SMA-2-4</u>	Weather: <u>overcast</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>37.7</u> lead line or <u>fathometer</u>
Time: <u>1515</u>	Tide height (ft MLLW) (B): <u>+7.1</u> <u>flood</u> or ebb
Latitude/Easting: <u>1211825.49</u>	Water Depth (ft MLLW) (A-B): <u>37.7 30.6</u>
Longitude/Northing: <u>315378.62</u>	<u>87</u>
Field Staff: <u>J. Plover, Mike, Rory</u> <u>D. Gillingham</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Cage 1 - 69, 70, 109, 151
Cage 2 - 146, 113, 111, 11
Cage 3 - 150, 68, 6, 149

off set location w/
zip ties on lines for cages
w/ PEMDs. one buoy
94

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

due east of beige house + due west of turquoise house

Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>SMA-7-3</u>	Weather: <u>overcast</u>
Date: <u>10/29/15</u>	Water Depth (ft) (A): <u>45.5</u> lead line or <u>fathometer</u>
Time: <u>1620</u>	Tide height (ft MLLW) (B): <u>8.7</u> <u>flood</u> or ebb
Latitude/Easting: <u>1211898.18</u>	Water Depth (ft MLLW) (A-B): <u>36.8</u>
Longitude/Northing: <u>315098.12</u>	
Field Staff: <u>J. Florer, Rory, Mike</u> <u>D. Gillingham</u>	

DESCRIPTION OF CAGE DEPLOYMENT

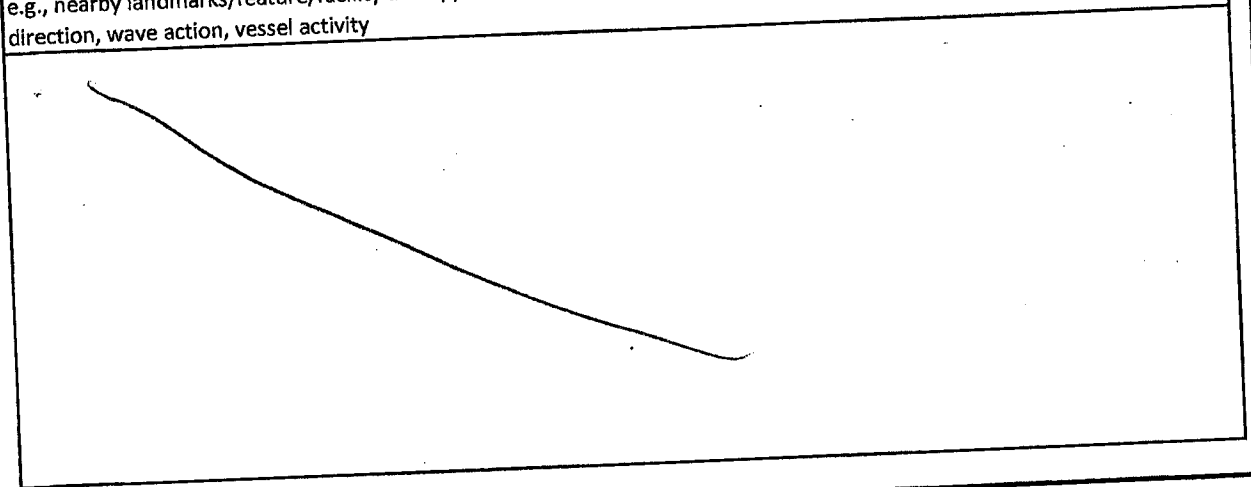
e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Cage 1 - 16, 15, 144, 105
 Cage 2 - 103, 62, 184, 63
 Cage 3 - 64, 143, 145, 18

offset anchor rigging
 set-up w/ 1 white buoy
 due to strong wind from the
 north engine was left on +
 bowed into wind to stay on
 location. PEMD were upwind
 of engine.

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity



Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>SMA-2-2</u>	Weather: <u>overcast</u>
Date: <u>10/30/15</u>	Water Depth (ft) (A): <u>49.5</u> lead line or fathometer
Time: <u>1320</u>	Tide height (ft MLLW) (B): <u>+5.4</u> flood or ebb
Latitude/Easting: <u>89 29 22 S 121 26 55.76 E</u>	Water Depth (ft MLLW) (A-B): <u>44.1</u>
Longitude/Northing: <u>± 316 263.11</u>	
Field Staff: <u>J. Fløer, Mike Chris Jones</u>	

DESCRIPTION OF CAGE DEPLOYMENT

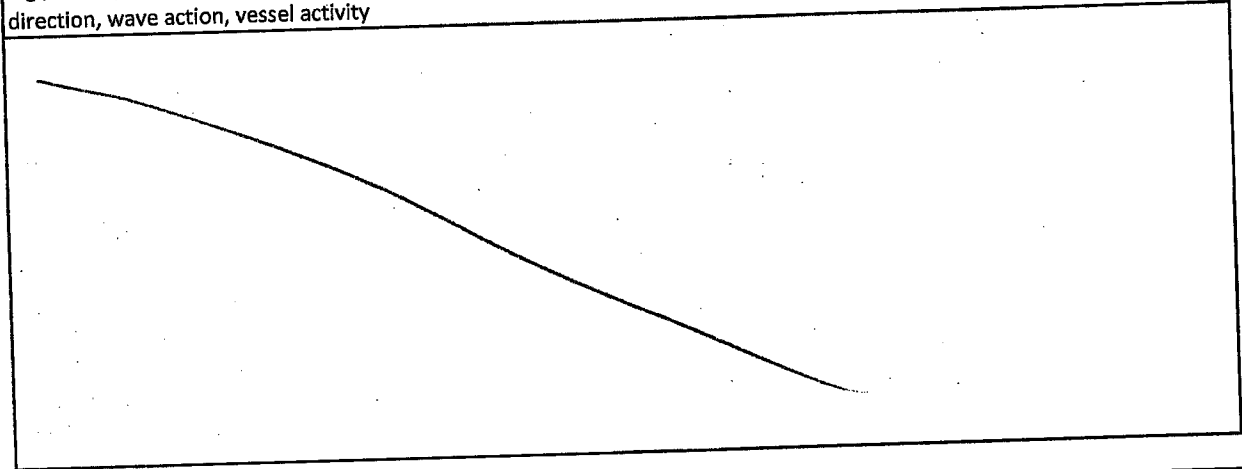
e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Cage 1 - 137, 59, 97, 24
Cage 2 - 25, 139, 56, 96
Cage 3 - 98, 140, 23, 60

offset system w/ one buoy (white)

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity



Caged Bivalve Deployment



Project: Shellfish Monitoring Plan Port Gamble Bay Cleanup

Project Number: 130388-01.02

Station ID: <u>SMA-2-1</u>	Weather: <u>overcast</u>
Date: <u>10/30/15</u>	Water Depth (ft) (A): <u>44</u> lead line or fathometer
Time: <u>1410</u>	Tide height (ft MLLW) (B): <u>+5.4</u> flood or ebb
Latitude/Easting: <u>on target</u>	Water Depth (ft MLLW) (A-B): <u>39</u>
Longitude/Northing: <u>"</u>	
Field Staff: <u>J. Flower, Mike + Chris Jones</u>	

DESCRIPTION OF CAGE DEPLOYMENT

e.g., deployment design (offset, anchor/rigging system), how to identify the cages with PEMDs, type of mussels placed in the cages

Cage 1 - 61, 21, 136, 99
Cage 2 - 141, 22, 55, 100
Cage 3 - 102, 20, 57, 138

yellow marker buoy
offset system

LOCATION DESCRIPTION

e.g., nearby landmarks/feature/facility and approximate distance, hydrologic observations such as flow, currents and direction, wave action, vessel activity

East of green water tower, west of light pole at Point Julia boat launch



DAILY SAFETY BRIEFING

Date: 10/29/15
 Project Name: P6 Cleanup
 Project No: 1503880101 tasks

Person Conducting Meeting: J. Flower Health and Safety Officer: C. Correll Project Manager: N. Solinsky

Topics Covered:

- Emergency Procedures and Evacuation Route
- Directions to Hospital
- HASP Review and Location
- Safety Equipment Location
- Proper Safety Equipment Use
- Employee Right-to-Know/MSDS Location
- Fire Extinguisher Location
- Eye-wash Station Location
- Buddy System
- Self and Coworker Monitoring
- Lines of Authority
- Communication
- Site Security
- Vessel Safety Protocols
- Work Zones
- Vehicle Safety and Driving/Road Conditions
- Equipment Safety and Operation
- Proper Use of PPE
- Decontamination Procedures
- Other:
- Lifting Techniques
- Slips, Trips, and Falls
- Hazard Exposure Routes
- Heat and Cold Stress
- Overhead and Underfoot Hazards
- Chemical Hazards
- Flammable Hazards
- Biological Hazards
- Eating/Drinking/Smoking

Weather conditions:
Overcast, no wind

Daily work scope:
deployment of SMP

Site-specific hazards:
water, ropes

Safety comments:
be careful w/entanglement

Attendees	
Printed Name	Signature
Jama Flower	
David Billingham	



DAILY SAFETY BRIEFING

Date: 10/29/15
 Project Name: PG Clean-up
 Project No: 15038901 tasks

Person Conducting Meeting: J. Florer Health and Safety Officer: C. Tarrell Project Manager: N. Saccorsy

Topics Covered:

- Emergency Procedures and Evacuation Route
- Directions to Hospital
- HASP Review and Location
- Safety Equipment Location
- Proper Safety Equipment Use
- Employee Right-to-Know/MSDS Location
- Fire Extinguisher Location
- Eye-wash Station Location
- Buddy System
- Self and Coworker Monitoring
- Lines of Authority
- Communication
- Site Security
- Vessel Safety Protocols
- Work Zones
- Vehicle Safety and Driving/Road Conditions
- Equipment Safety and Operation
- Proper Use of PPE
- Decontamination Procedures
- Other:
- Lifting Techniques
- Slips, Trips, and Falls
- Hazard Exposure Routes
- Heat and Cold Stress
- Overhead and Underfoot Hazards
- Chemical Hazards
- Flammable Hazards
- Biological Hazards
- Eating/Drinking/Smoking

Weather conditions:
<u>overcast</u>
Daily work scope:
<u>vessel cage deployment</u>
Site-specific hazards:
<u>falling over board + entanglement w/ropes</u>
Safety comments:
<u>keep an eye out for vessel traffic wake</u>

Attendees	
Printed Name	Signature
<u>J. Florer</u>	<u>J. Florer</u>



ARI Job No.: ATSφ / APR4

Client ID: Anchor QEA

Parameter: Tissue Prep

Client Project: Port Gamble Clean-up

Matrix: Filter bag (tissue) other

Samples were rinsed with D-I Water to remove any sand, seaweed, etc.,
 then shelled, homogenized and blended.
 Sample weights after prep are as follows.

(H) ATSφ A = 431.15g	(H) ATSφ B = 670.25	1:1 (T)/(H) ATSφ C ¹ = 587.54	* SEE NOTES
(T) ↓ = 320.70g	(T) ↓ = 715.94	1:1 (H)/(T) ↓ C ² = 497.37	
(H) ATSφ D = 594.16g	(H) ATSφ E = 564.11	(H) ATSφ F = 489.40	
(T) ↓ = 580.77g	(T) ↓ = 567.77	(T) ↓ = 589.84	
(H) APR4 A = 225.18			
(T) ↓ = 227.55			
ATSφ C (Hybrid only) - ARCHIVE = 189.36g Schucked			
ATSφ C = Approximately 21 HYBRID WERE ADDED TO THE SCHUCKED TRUSSULUS JAR. AN ADDITIONAL 54 SCHUCKED HYBRID WERE THEN ADDED TO THE TRUSSULUS TO HAVE A MORE 50/50 MIX OF EACH SPECIES.			
14 HRS (2 TESTS)			
Pre-Dry Prep Time: <u>1/2/11</u>	Analyst/Date: <u>TH</u>	Post-Dry Prep Time:	Analyst/Date:
Special Instructions:			Balance ID: <u>B334705934</u>

(8270) PNA Filter Bag:

- Follow prep and extraction instructions on bench sheet.

Small PCB Filter Bag:

1. Weigh wet filter bag and record weight on blue prep sheet.
2. Any solids splits taken at this time. (Record weights on blue prep sheet).
3. Filter bags are dried overnight by attaching them to the drying apparatus (wrapped in aluminum foil in a tube shape).
4. Re-weigh dried samples and record weight on blue prep sheet.
5. Cut off plastic rings and record weights on blue prep sheet.
6. Record sample dry weights without plastic rings on blue prep sheet and bench sheet.
7. Roll up filter bag and place in labeled 32oz jars.
8. Add Hexane until jar is half full.
9. Add 20g sodium sulfate to filter bag in jar.
10. Blanks=Weigh 10g Sodium Sulfate into labeled 32oz jars. Add Hexane until jar is 1/4 full.
11. Add surr/spike.
12. Tighten lids and place in large ziplock bags.
13. Tumble for 12 hours (min 6 hours).
14. Record "prep time" on blue prep sheet.
15. KD (normal drying columns) on 100°C water bath.
16. Turbovap to approx. 4mL.
17. Vial with Hexane at 5mL in scintillation vials for required cleanups. (Acid/Sulfur/SPE).
18. Pre-SPE Screen 1mL. (Note: Determination of Required SPE cleanup is based on Pre-SPE Screen.
19. After cleanups: TurboVap and vial 1mL in Hexane.

Large PCB Filter Bag instructions on the back of this prep sheet. (Turn over)



ARI Job No.: AT5φ/APR4

Client ID: Anchor QEA

Parameter: Sample Compositing

Client Project: Port Gambler Clean-up

Matrix: Filter bag/tissue other

Sample Component Weights for Composites.			
AT5φA (H)=25φ.35 (T)=25φ.25	AT5φB (H)=25φ.49 (T)=25φ.29		
AT5φC (H)=25φ. (T)=25φ.34	AT5φD (H)=25φ.51 (T)=25φ.86		
AT5φE (H)=25φ.50 (T)=25φ.22	AT5φF (H)=25φ.17 (T)=25φ.50		
APR4 A (H)=1φφ.26 (T)=1φφ.41			

Pre-Dry Prep Time: <u>1.15 hrs</u>	Analyst/Date: <u>MM/13/16</u>	Post-Dry Prep Time:	Analyst/Date:	Balance ID:
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Special Instructions:

- (8270) PNA Filter Bag:
1. Follow prep and extraction instructions on bench sheet.

Small PCB Filter Bag:

1. Weigh wet filter bag and record weight on blue prep sheet.
2. Any solids splits taken at this time. (Record weights on blue prep sheet).
3. Filter bags are dried overnight by attaching them to the drying apparatus (wrapped in aluminum foil in a tube shape).
4. Re-weigh dried samples and record weight on blue prep sheet.
5. Cut off plastic rings and record weights on blue prep sheet.
6. Record sample dry weights without plastic rings on blue prep sheet and bench sheet.
7. Roll up filter bag and place in labeled 32oz jars.
8. Add Hexane until jar is half full.
9. Add 20g sodium sulfate to filter bag in jar.
10. Blanks=Weigh 10g Sodium Sulfate into labeled 32oz jars. Add Hexane until jar is 1/4 full.
11. Add surr/spike.
12. Tighten lids and place in large ziplock bags.
13. Tumble for 12 hours (min 6 hours).
14. Record "prep time" on blue prep sheet.
15. KD (normal drying columns) on 100°C water bath.
16. Turbovap to approx. 4mL.
17. Vial with Hexane at 5mL in scintillation vials for required cleanups. (Acid/Sulfur/SPE).
18. Pre-SPE Screen 1mL. (Note: Determination of Required SPE cleanup is based on Pre-SPE Screen.
19. After cleanups: TurboVap and vial 1mL in Hexane.

Large PCB Filter Bag instructions on the back of this prep sheet. (Turn over)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: APR4

ARP4 : 00020



Case Narrative

Client: Anchor QEA
Project: Port Gamble Clean-up, 150388010
ARI Job No.: APR4

Sample Receipt

One tissue sample was received on November 2, 2016 under ARI job APR4. The cooler temperature measured by IR thermometer following ARI SOP was 5.2°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

PAHs by SW8270D-SIM

The sample was extracted and analyzed within the method recommended holding times for samples stored frozen.

Initial calibrations were within method requirements.

The initial calibration verification (ICV) on 1/22/16 fell outside the 20% control limit low for Benzo(b)fluoranthene and Total Benzofluoranthenes. All detected results associated with this ICV have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within control limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits. NIST 1974C was analyzed as a reference material.

Dioxin/Furans by EPA 1613B

The sample was extracted and analyzed within the method recommended holding times.

Analysis was performed using the application specific RTX-Dioxin 2 column, which has a unique isomer separation for the 2378-TCDF, eliminating the need for second column confirmation.

Initial and continuing calibration results were within method requirements.

Both extraction and cleanup surrogates had recoveries within control limits.



The method blank contained reportable responses below the reporting limit for several compounds. "B" qualifiers were applied to associated results that were less than ten times the levels found in the method blank. No further corrective action was taken.

The OPR (Ongoing Precision and Accuracy or LCS) percent recoveries were within control limits.

Specific results have been "EMPC"-flagged indicating a response not meeting requirements of positive identification. The EMPC values are treated as undetects under some programs and as hits under programs with more conservative protocols.

The TEQ is presented with WHO2005 with ND=0 for undetects and ND=1/2 for undetects, with EMPCs included as hits.

Cadium by SW6010C

The sample and associated laboratory QC were digested and analyzed within the method recommended holding times for samples stored frozen.

The method blank was clean at the reporting limit. The LCS percent recovery was within control limits.

The matrix spike percent recovery and duplicate RPD were within control limits.

Lipids by Method Bligh&Dyer

The sample was prepared and analyzed within the method recommended holding times for samples stored frozen.

The method blank had a result that was greater than the reporting limit. The associated sample result was greater than ten times the level reported in the method blank. No corrective action was taken.

Sample ID Cross Reference Report



ARI Job No: APR4
Client: Anchor QEA, LLC
Project Event: 1503880101
Project Name: Port Gamble Clean-up

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. PG-T0-MUS-COC-151030	APR4A	15-20439	Tissue	10/30/15 15:00	11/02/15 11:28



Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($< 20\%$ RSD, $< 20\%$ Drift or minimum RRF).



- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria"
(Dioxin/Furan analysis only)
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers.
(Dioxin/Furan analysis only)
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**



Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Method Information

Printed: 01/25/2016 11:51 am

8270D-SIM PAH (0.5 ug/kg) in Tissue (EPA 8270D-SIM)

Preservation: Cool <6°C

Container: Glass WM, Clear, 8 oz

Amount Required: 150 g

Hold Time: 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike----		--Blank Spike / LCS--	
					%Rec	RPD	%Rec	RPD
Naphthalene	0.500	0.600 ug/kg		30	30-160	30	30-160	30
1-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Biphenyl	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,6-Dimethylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzofuran	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,3,5-Trimethylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Fluorene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzothiophene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Phenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Carbazole	0.500	0.500 ug/kg		30	30-160	30	30-160	30
1-Methylphenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Chrysene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(b)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(k)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(j)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(e)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Indeno(1,2,3-cd)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzo(a,h)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(g,h,i)perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzofluoranthenes, Total	1.00	1.00 ug/kg		30	30-160	30	46-120	30
Surr: 2-Methylnaphthalene-d10				30-160				
Surr: Dibenzo[a,h]anthracene-d14				30-160				
Surr: Fluoranthene-d10				30-160				
Naphthalene-d8								
Acenaphthene-d10								
Phenanthrene-d10								
Chrysene-d12								
Perylene-d12								

Analytical Method Information

Printed: 01/25/2016 11:51 am

1613B Dioxin in Tissue (EPA 1613B)

Preservation: Cool <6°C

Container: Glass WM, Amber, 8 oz

Amount Required: 150 g

Hold Time: 365 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
2,3,7,8-TCDF	0.0500	1.00 ng/kg		25			75-158	25
2,3,7,8-TCDD	0.160	1.00 ng/kg		25			67-158	25
1,2,3,7,8-PeCDF	0.470	5.00 ng/kg		25			80-134	25
2,3,4,7,8-PeCDF	0.410	5.00 ng/kg		25			68-160	25
1,2,3,7,8-PeCDD	0.490	5.00 ng/kg		25			70-142	25
1,2,3,4,7,8-HxCDF	0.440	5.00 ng/kg		25			72-134	25
1,2,3,6,7,8-HxCDF	0.390	5.00 ng/kg		25			84-130	25
2,3,4,6,7,8-HxCDF	0.410	5.00 ng/kg		25			70-156	25
1,2,3,7,8,9-HxCDF	0.490	5.00 ng/kg		25			78-130	25
1,2,3,4,7,8-HxCDD	0.480	5.00 ng/kg		25			70-164	25
1,2,3,6,7,8-HxCDD	0.370	5.00 ng/kg		25			76-134	25
1,2,3,7,8,9-HxCDD	0.350	5.00 ng/kg		25			64-162	25
1,2,3,4,6,7,8-HpCDF	0.470	5.00 ng/kg		25			82-122	25
1,2,3,4,7,8,9-HpCDF	0.450	5.00 ng/kg		25			78-138	25
1,2,3,4,6,7,8-HpCDD	0.580	5.00 ng/kg		25			70-140	25
OCDF	0.740	10.0 ng/kg		25			63-170	25
OCDD	1.83	10.0 ng/kg		25			78-144	25
Total TCDF		1.00 ng/kg						
Total TCDD		1.00 ng/kg						
Total PeCDF		1.00 ng/kg						
Total PeCDD		1.00 ng/kg						
Total HxCDF		1.00 ng/kg						
Total HxCDD		1.00 ng/kg						
Total HpCDF		1.00 ng/kg						
Total HpCDD		1.00 ng/kg						
Surr: 13C12-2,3,7,8-TCDF				24-169				
Surr: 13C12-2,3,7,8-TCDD				25-164				
Surr: 13C12-1,2,3,7,8-PeCDF				24-185				
Surr: 13C12-2,3,4,7,8-PeCDF				21-178				
Surr: 13C12-1,2,3,7,8-PeCDD				25-181				
Surr: 13C12-1,2,3,4,7,8-HxCDF				26-152				
Surr: 13C12-1,2,3,6,7,8-HxCDF				26-123				
Surr: 13C12-2,3,4,6,7,8-HxCDF				28-136				
Surr: 13C12-1,2,3,7,8,9-HxCDF				29-147				
Surr: 13C12-1,2,3,4,7,8-HxCDD				32-141				
Surr: 13C12-1,2,3,6,7,8-HxCDD				28-130				
Surr: 13C12-1,2,3,4,6,7,8-HpCDF				28-143				
Surr: 13C12-1,2,3,4,7,8,9-HpCDF				26-138				
Surr: 13C12-1,2,3,4,6,7,8-HpCDD				23-140				
Surr: 13C12-OCDD				17-157				
Surr: 37Cl4-2,3,7,8-TCDD				35-197				
13C12-1,2,3,4-TCDD								
13C12-1,2,3,7,8,9-HxCDD								

Analytical Method Information

Printed: 01/25/2016 11:52 am

Met 6010C - Cd in Tissue (EPA 6010C)

Preservation: Cool <6°C

Container: Glass WM, Clear, 4 oz

Amount Required: 100 g

Hold Time: 180 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	RPD	--Blank Spike / LCS-- %Rec	RPD
Cadmium	0.00248	0.0400 mg/kg		20	75-125	20	80-120	20

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: APR4

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030
SAMPLE

Lab Sample ID: APR4A
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: *MW*
Reported: 01/25/16

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
Event: 1503880101
Date Sampled: 10/30/15
Date Received: 11/02/15

Date Extracted: 01/14/16
Date Analyzed: 01/22/16 11:58
Instrument/Analyst: NT11/JLW
GPC Cleanup: Yes
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.02 g-as-rec
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
Sulfur Cleanup: No

Lipids: 1.28 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	1.10
91-57-6	2-Methylnaphthalene	0.50	0.81
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	1.45
86-73-7	Fluorene	0.50	2.01
85-01-8	Phenanthrene	0.50	5.94
120-12-7	Anthracene	0.50	1.03
206-44-0	Fluoranthene	0.50	4.81
129-00-0	Pyrene	0.50	3.18
56-55-3	Benzo (a) anthracene	0.50	0.86
218-01-9	Chrysene	0.50	1.06
205-99-2	Benzo (b) fluoranthene	0.50	0.50
207-08-9	Benzo (k) fluoranthene	0.50	< 0.50 U
50-32-8	Benzo (a) pyrene	0.50	< 0.50 U
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	0.98 Q


Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	58.7%
d10-2-Methylnaphthalene	52.3%
d14-Dibenzo (a,h) anthracene	63.3%

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
Page 1 of 1

Sample ID: SRM 1974C 011416
STANDARD REFERENCE

Lab Sample ID: SRM-011416
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: 
Reported: 02/02/16

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
Event: 1503880101
Date Sampled: NA
Date Received: NA

Date Extracted: 01/14/16
Date Analyzed: 01/22/16 11:28
Instrument/Analyst: NT11/JLW
GPC Cleanup: Yes
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 0.0
Sulfur Cleanup: No

Lipids: NA

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.70
91-57-6	2-Methylnaphthalene	0.50	0.59
208-96-8	Acenaphthylene	0.50	0.28 J
83-32-9	Acenaphthene	0.50	0.45 J
86-73-7	Fluorene	0.50	0.98
85-01-8	Phenanthrene	0.50	9.43
120-12-7	Anthracene	0.50	0.76
206-44-0	Fluoranthene	0.50	22.4
129-00-0	Pyrene	0.50	13.6
56-55-3	Benzo (a) anthracene	0.50	2.27
218-01-9	Chrysene	0.50	8.90
205-99-2	Benzo (b) fluoranthene	0.50	2.98
207-08-9	Benzo (k) fluoranthene	0.50	1.31 Q
50-32-8	Benzo (a) pyrene	0.50	1.17
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	0.89
53-70-3	Dibenz (a,h) anthracene	0.50	0.18 J
191-24-2	Benzo (g,h,i) perylene	0.50	1.52
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	4.38
TOTBFA	Total Benzofluoranthenes	0.50	5.55 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	47.7%
d14-Dibenzo (a,h) anthracene	65.0%

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Tissue

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101

<u>Client ID</u>	<u>FLN</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
MB-011416	61.3%	47.0%	65.7%	0
LCS-011416	61.3%	48.0%	64.3%	0
SRM SRM 1974C	61.3%	47.7%	65.0%	0
PG-T0-MUS-COC-151030	58.7%	52.3%	63.3%	0

	LCS/MB LIMITS (Advisory)	QC LIMITS (Advisory)
(FLN) = d10-Fluoranthene	(30-160)	(30-160)
(MNP) = d10-2-Methylnaphthalene	(30-160)	(30-160)
(DBA) = d14-Dibenzo(a,h)anthracene	(30-160)	(30-160)

Prep Method: TissM
Log Number Range: 15-20439 to 15-20439

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
 Page 1 of 1

Sample ID: LCS-011416
LAB CONTROL SAMPLE

Lab Sample ID: LCS-011416
 LIMS ID: 15-20439
 Matrix: Tissue
 Data Release Authorized: *TW*
 Reported: 01/27/16

QC Report No: APR4-Anchor QEA, LLC
 Project: Port Gamble Clean-up
 Event: 1503880101
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/14/16
 Date Analyzed LCS: 01/22/16 10:57
 Instrument/Analyst LCS: NT11/JLW

Sample Amount LCS: 10.00 g-as-rec
 Final Extract Volume LCS: 0.50 mL
 Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	7.68	15.0	51.2%
2-Methylnaphthalene	7.96	15.0	53.1%
Acenaphthylene	7.38	15.0	49.2%
Acenaphthene	7.76	15.0	51.7%
Fluorene	8.68	15.0	57.9%
Phenanthrene	8.55	15.0	57.0%
Anthracene	8.47	15.0	56.5%
Fluoranthene	9.45	15.0	63.0%
Pyrene	9.67	15.0	64.5%
Benzo(a)anthracene	9.99	15.0	66.6%
Chrysene	9.34	15.0	62.3%
Benzo(b)fluoranthene	9.32	15.0	62.1%
Benzo(k)fluoranthene	8.44 Q	15.0	56.3%
Benzo(a)pyrene	8.44	15.0	56.3%
Indeno(1,2,3-cd)pyrene	9.88	15.0	65.9%
Dibenz(a,h)anthracene	10.2	15.0	68.0%
Benzo(g,h,i)perylene	9.84	15.0	65.6%
Perylene	8.42	15.0	56.1%
Benzo(e)pyrene	8.96	15.0	59.7%
Total Benzofluoranthenes	26.3 Q	45.0	58.4%

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	48.0%
d14-Dibenzo(a,h)anthracene	64.3%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

APR4MBS1

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: APR4
Lab File ID: 16012207
Instrument ID: NT11
Matrix: SOLID

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Date Extracted: 01/14/16
Date Analyzed: 01/22/16
Time Analyzed: 1027

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	APR4LCSS1	APR4LCSS1	16012208	01/22/16
02	SRM 1974C	APR4SRM1	16012209	01/22/16
03	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16
04	PG-SMA2-2-MUS-CO	ATSOA	16012211	01/22/16
05	PG-PJ-1-MUS-COC-	ATSOB	16012212	01/22/16
06	PG-PJ-1-MUS-COC	ATSOBMS	16012213	01/22/16
07	PG-PJ-1-MUS-COC	ATSOBMSD	16012214	01/22/16
08	PG-WS-1-MUS-COC-	ATSOC	16012215	01/22/16
09	PG-GP-1-MUS-COC-	ATSOB	16012216	01/22/16
10	PG-SMA2-5-MUS-CO	ATSOE	16012217	01/22/16
11	PG-SMA2-4-MUS-CO	ATSOE	16012218	01/22/16
12	13EB ME-MTW01Z	AUA2A	16012219	01/22/16
13	13CPS DB-MTW01Z	AUA2B	16012220	01/22/16
14	13NPS CIAR2-MTWO	AUA2C	16012221	01/22/16
15				
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29				
30				

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
Page 1 of 1

Sample ID: MB-011416
METHOD BLANK

Lab Sample ID: MB-011416
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: *MW*
Reported: 01/25/16

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
Event: 1503880101
Date Sampled: NA
Date Received: NA

Date Extracted: 01/14/16
Date Analyzed: 01/22/16 10:27
Instrument/Analyst: NT11/JLW
GPC Cleanup: Yes
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
Sulfur Cleanup: No

Lipids: NA

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	< 0.50 U
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	< 0.50 U
85-01-8	Phenanthrene	0.50	< 0.50 U
120-12-7	Anthracene	0.50	< 0.50 U
206-44-0	Fluoranthene	0.50	< 0.50 U
129-00-0	Pyrene	0.50	< 0.50 U
56-55-3	Benzo(a)anthracene	0.50	< 0.50 U
218-01-9	Chrysene	0.50	< 0.50 U
205-99-2	Benzo(b)fluoranthene	0.50	< 0.50 U
207-08-9	Benzo(k)fluoranthene	0.50	< 0.50 U
50-32-8	Benzo(a)pyrene	0.50	< 0.50 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	< 0.50 U
53-70-3	Dibenz(a,h)anthracene	0.50	< 0.50 U
191-24-2	Benzo(g,h,i)perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo(e)pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	< 0.50 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	47.0%
d14-Dibenzo(a,h)anthracene	65.7%

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR OEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 12/04/15

DFTPP Injection Time: 0845

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.7
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	50.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.8
275	10.0 - 60.0% of mass 198	29.8
365	Greater than 1.0% of mass 198	3.54
441	0.0 - 24.0% of mass 442	13.4 (16.4)2
442	50.0 - 200.0% of mass 198	81.9
443	15.0 - 24.0% of mass 442	18.6 (22.7)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LLSIM 250	15120402	12/04/15	0903
02		LLSIM 100	15120403	12/04/15	0933
03		LLSIM 10	15120404	12/04/15	1003
04		LLSIM 50	15120405	12/04/15	1033
05		LLSIM 500	15120406	12/04/15	1103
06		LLSIM 1000	15120407	12/04/15	1133
07		LLSIM SCV 25	15120408	12/04/15	1204
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 01/22/16

DFTPP Injection Time: 0848

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.7
68	Less than 2.0% of mass 69	0.2 (0.4)1
69	Mass 69 relative abundance	41.6
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	47.8
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.7
275	10.0 - 60.0% of mass 198	27.2
365	Greater than 1.0% of mass 198	3.32
441	0.0 - 24.0% of mass 442	12.5 (16.3)2
442	50.0 - 200.0% of mass 198	77.1
443	15.0 - 24.0% of mass 442	16.8 (21.8)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LL SIM ICV	16012205	01/22/16	0905
02		LL SIM MRL	16012206	01/22/16	0957
03	APR4MBS1	APR4MBS1	16012207	01/22/16	1027
04	APR4LCSS1	APR4LCSS1	16012208	01/22/16	1057
05	SRM 1974C	APR4SRM1	16012209	01/22/16	1128
06	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16	1158
07	PG-SMA2-2-MUS-CO	ATS0A	16012211	01/22/16	1228
08	PG-PJ-1-MUS-COC-	ATS0B	16012212	01/22/16	1258
09	PG-PJ-1-MUS-COC	ATS0BMS	16012213	01/22/16	1328
10	PG-PJ-1-MUS-COC	ATS0BMSD	16012214	01/22/16	1359
11	PG-WS-1-MUS-COC-	ATS0C	16012215	01/22/16	1429
12	PG-GP-1-MUS-COC-	ATS0D	16012216	01/22/16	1459
13	PG-SMA2-5-MUS-CO	ATS0E	16012217	01/22/16	1529
14	PG-SMA2-4-MUS-CO	ATS0F	16012218	01/22/16	1559
15	13EB ME-MTW01Z	AUA2A	16012219	01/22/16	1630
16	13CPS DB-MTW01Z	AUA2B	16012220	01/22/16	1700
17	13NPS CIAR2-MTW0	AUA2C	16012221	01/22/16	1730
18		LL SIM CCV	16012222	01/22/16	1800
19					
20					

6B
SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Calibration Date: 12/04/15

LAB FILE ID: RRF10 =15120404 RRF50 =15120405 RRF100=15120403
 RRF250=15120402 RRF500=15120406 RRF1000=15120407 RRF1000=15120407

COMPOUND	RRF 10	RRF 50	RRF 100	RRF 250	RRF 500	RRF 1000	RRF	%RSD /R ²
Naphthalene	1.199	1.257	1.208	1.138	1.095	1.034	1.155	7.1
2-Methylnaphthalene	0.757	0.822	0.818	0.825	0.787	0.754	0.794	4.1
Acenaphthylene	1.587	1.688	1.646	1.628	1.602	1.535	1.614	3.3
Acenaphthene	1.084	1.136	1.097	1.066	1.041	1.005	1.072	4.3
Dibenzofuran	1.637	1.742	1.685	1.623	1.559	1.437	1.614	6.6
Fluorene	1.159	1.259	1.248	1.231	1.209	1.156	1.210	3.7
Phenanthrene	1.201	1.339	1.261	1.223	1.143	1.063	1.205	7.9
Anthracene	1.014	1.089	1.089	1.118	1.122	1.039	1.078	4.0
Fluoranthene	1.095	1.291	1.250	1.266	1.227	1.130	1.210	6.5
Pyrene	1.570	1.718	1.639	1.574	1.557	1.445	1.584	5.8
Benzo(a)anthracene	1.264	1.424	1.349	1.340	1.338	1.285	1.333	4.2
Chrysene	1.461	1.649	1.511	1.434	1.412	1.314	1.464	7.6
Benzo(b)fluoranthene	1.236	1.449	1.335	1.309	1.428	1.373	1.355	5.8
Benzo(k)fluoranthene	1.404	1.665	1.575	1.601	1.638	1.592	1.579	5.8
Benzo(j)fluoranthene	1.324	1.581	1.430	1.419	1.477	1.400	1.438	6.0
Benzo(a)pyrene	1.122	1.390	1.285	1.305	1.392	1.352	1.308	7.7
Indeno(1,2,3-cd)pyrene	1.070	1.396	1.342	1.372	1.529	1.530	1.373	12.3
Dibenzo(a,h)anthracene	0.794	1.057	1.071	1.111	1.233	1.249	1.086	15.1
Benzo(g,h,i)perylene	1.030	1.235	1.174	1.174	1.272	1.268	1.192	7.6
1-Methylnaphthalene	0.672	0.743	0.744	0.740	0.711	0.681	0.715	4.6
Perylene	1.258	1.475	1.355	1.306	1.390	1.351	1.356	5.5
Benzo(e)pyrene	1.300	1.485	1.371	1.324	1.391	1.346	1.370	4.8
2-Methylnaphthalene-d10	0.706	0.768	0.761	0.766	0.738	0.714	0.742	3.7
Dibenzo(a,h)anthracene-d14	0.593	0.781	0.799	0.816	0.911	0.944	0.807	15.3
Fluoranthene-d10	1.015	1.152	1.114	1.133	1.122	1.062	1.100	4.7

<- Outside QC limits: %RSD <20% or R² > 0.990

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Cont. Calib. Date: 01/22/16

Init. Calib. Date: 12/04/15

Cont. Calib. Time: 0905

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.155	1.010	0.700	AVRG	-12.6
2-Methylnaphthalene	0.794	0.729	0.400	AVRG	-8.2
Acenaphthylene	1.614	1.497	0.900	AVRG	-7.2
Acenaphthene	1.072	0.947	0.900	AVRG	-11.7
Dibenzofuran	1.614	1.441	0.800	AVRG	-10.7
Fluorene	1.210	1.133	0.900	AVRG	-6.4
Phenanthrene	1.205	1.029	0.700	AVRG	-14.6
Anthracene	1.078	1.003	0.700	AVRG	-7.0
Fluoranthene	1.210	1.061	0.600	AVRG	-12.3
Pyrene	1.584	1.428	0.600	AVRG	-9.8
Benzo (a) anthracene	1.333	1.185	0.800	AVRG	-11.1
Chrysene	1.464	1.224	0.700	AVRG	-16.4
Benzo (b) fluoranthene	1.355	1.162	0.700	AVRG	-14.2
Benzo (k) fluoranthene	1.579	1.250	0.700	AVRG	-20.8
Benzo (j) fluoranthene	1.438	1.183	0.010	AVRG	-17.7
Benzo (a) pyrene	1.308	1.118	0.700	AVRG	-14.5
Indeno (1, 2, 3-cd) pyrene	1.373	1.186	0.500	AVRG	-13.6
Dibenzo (a, h) anthracene	1.086	0.964	0.400	AVRG	-11.2
Benzo (g, h, i) perylene	1.192	1.035	0.500	AVRG	-13.2
1-Methylnaphthalene	0.715	0.651	0.010	AVRG	-9.0
Perylene	1.356	1.117	0.010	AVRG	-17.6
Benzo (e) pyrene	1.370	1.107	0.010	AVRG	-19.2
2-Methylnaphthalene-d10	0.742	0.671	0.010	AVRG	-9.6
Dibenzo (a, h) anthracene-d14	0.807	0.735	0.010	AVRG	-8.9
Fluoranthene-d10	1.100	0.976	0.010	AVRG	-11.3

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

ARP4: 00040

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: APR4
Ical Midpoint ID: 15120402
Instrument ID: NT11

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Ical Date: 12/04/15
Cont. Cal Date: 12/04/15

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
=====	=====	=====	=====	=====	=====	=====
CCAL	337457	6.60	238950	9.60	380348	12.27
UPPER LIMIT		7.10		10.10		12.77
LOWER LIMIT		6.10		9.10		11.77
=====	=====	=====	=====	=====	=====	=====
	330144	6.60	236381	9.60	360337	12.27
01						
02						
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15						
16						
17						
18						
19						
20						

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: APR4
Ical Midpoint ID: 15120402
Instrument ID: NT11

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Ical Date: 12/04/15
Cont. Cal Date: 12/04/15

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	298514	17.01	256244	19.84		
UPPER LIMIT		17.51		20.34		
LOWER LIMIT		16.51		19.34		
	291007	17.01	242244	19.83		
01						
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18						
19						
20						

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
=====	=====	=====	=====	=====	=====	=====
CCAL	368312	6.73	275119	9.74	442913	12.42
UPPER LIMIT		7.23		10.24		12.92
LOWER LIMIT		6.23		9.24		11.92
01	345356	6.74	235311	9.76	378135	12.42
02 APR4MBS1	368895	6.73	251480	9.74	405369	12.42
03 APR4LCSS1	360526	6.73	257556	9.74	412183	12.42
04 SRM 1974C	362258	6.73	249465	9.74	398741	12.42
05 PG-T0-MUS-CO	371890	6.72	259279	9.74	437520	12.42
06 PG-SMA2-2-MU	363469	6.73	256352	9.74	419386	12.42
07 PG-PJ-1-MUS-	374753	6.73	264386	9.74	426020	12.42
08 PG-PJ-1-MUS-	373582	6.73	269039	9.74	428623	12.42
09 PG-PJ-1-MUS-	377287	6.73	271691	9.74	435691	12.42
10 PG-WS-1-MUS-	376882	6.73	268849	9.74	435864	12.42
11 PG-GP-1-MUS-	377268	6.72	268633	9.74	436597	12.41
12 PG-SMA2-5-MU	384886	6.73	273475	9.74	449495	12.42
13 PG-SMA2-4-MU	381586	6.72	270392	9.74	439377	12.42
14 13EB ME-MIWO	373510	6.73	268987	9.74	440845	12.42
15 13CPS DB-MIW	370975	6.73	264737	9.74	432287	12.42
16 13NPS CIAR2-	382765	6.72	270341	9.75	435855	12.42
17						
18						
19						
20						

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	337848	17.17	324201	20.06		
UPPER LIMIT		17.67		20.56		
LOWER LIMIT		16.67		19.56		
01	274122	17.18	249583	20.07		
02 APR4MBS1	295936	17.17	283292	20.06		
03 APR4LCSS1	314530	17.17	306666	20.06		
04 SRM 1974C	300525	17.17	299419	20.06		
05 PG-T0-MUS-CO	299515	17.17	303212	20.06		
06 PG-SMA2-2-MU	310418	17.17	308119	20.06		
07 PG-PJ-1-MUS-	316427	17.17	315181	20.07		
08 PG-PJ-1-MUS-	324379	17.17	323020	20.06		
09 PG-PJ-1-MUS-	325376	17.17	324453	20.06		
10 PG-WS-1-MUS-	322334	17.17	323010	20.06		
11 PG-GP-1-MUS-	322279	17.17	320562	20.06		
12 PG-SMA2-5-MU	339179	17.17	335158	20.06		
13 PG-SMA2-4-MU	325728	17.17	325370	20.06		
14 13EB ME-MTW0	336414	17.17	339083	20.06		
15 13CPS DB-MTW	321859	17.17	327843	20.06		
16 13NPS CIAR2-	323444	17.17	326352	20.06		
17						
18						
19						
20						

IS4 = Chrysene-d12

IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

Dioxin Analysis
Report and Summary QC Forms

ARI Job ID: APR4

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030

Lab Sample ID: APR4A
 LIMS ID: 15-20439
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 02/02/16

QC Report No: APR4-Anchor QEA, LLC
 Project: Port Gamble Clean-up
 1503880101
 Date Sampled: 10/30/15
 Date Received: 11/02/15

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 16:13
 Instrument/Analyst: AS1/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Silica-Florisil Cleanup: Yes
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.88	0.65-0.89		0.996	0.0458	J
2,3,7,8-TCDD		0.65-0.89	0.0398	0.996	< 0.0398	U
1,2,3,7,8-PeCDF	5.39	1.32-1.78		0.996	0.0518	BJEMPC
2,3,4,7,8-PeCDF		1.32-1.78	0.0378	0.996	< 0.0378	U
1,2,3,7,8-PeCDD	0.69	1.32-1.78		0.996	0.0478	JEMPC
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0558	0.996	< 0.0558	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0538	0.996	< 0.0538	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0538	0.996	< 0.0538	U
1,2,3,7,8,9-HxCDF	0.68	1.05-1.43		0.996	0.0657	JEMPC
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0618	0.996	< 0.0618	U
1,2,3,6,7,8-HxCDD		1.05-1.43	0.0618	0.996	< 0.0618	U
1,2,3,7,8,9-HxCDD	0.90	1.05-1.43		0.996	0.0837	JEMPC
1,2,3,4,6,7,8-HpCDF	1.19	0.88-1.20		0.996	0.189	BJ
1,2,3,4,7,8,9-HpCDF	1.00	0.88-1.20		0.996	0.0430	J
1,2,3,4,6,7,8-HpCDD	1.08	0.88-1.20		0.996	0.775	BJ
OCDF	0.90	0.76-1.02		1.99	0.502	BJ
OCDD	0.88	0.76-1.02		9.96	7.46	B

Homologue Group	EDL	RL	Result
Total TCDF		0.996	0.169 EMPC
Total TCDD	0.0398	0.996	0.0914 EMPC
Total PeCDF		1.99	0.314 EMPC
Total PeCDD		0.996	0.0474 EMPC
Total HxCDF		1.99	0.187 EMPC
Total HxCDD		1.99	0.249 EMPC
Total HpCDF		1.99	0.446 EMPC
Total HpCDD		1.99	3.03

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.08
 Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.12

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030

Lab Sample ID: APR4A
 LIMS ID: 15-20439
 Matrix: Tissue
 Data Release Authorized: *mm*
 Reported: 02/02/16

QC Report No: APR4-Anchor QEA, LLC
 Project: Port Gamble Clean-up
 1503880101
 Date Sampled: 10/30/15
 Date Received: 11/02/15

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 16:13
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	92.3	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	85.5	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	92.7	24-185	
13C-2,3,4,7,8-PeCDF	1.58	1.32-1.78	93.2	21-178	
13C-1,2,3,7,8-PeCDD	1.57	1.32-1.78	89.5	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	84.8	26-152	
13C-1,2,3,6,7,8-HxCDF	0.53	0.43-0.59	84.4	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	90.6	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	86.1	29-147	
13C-1,2,3,4,7,8-HxCDD	1.27	1.05-1.43	88.0	32-141	
13C-1,2,3,6,7,8-HxCDD	1.25	1.05-1.43	86.4	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.45	0.37-0.51	87.3	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.44	0.37-0.51	89.8	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.07	0.88-1.20	88.7	23-140	
13C-OCDD	0.90	0.76-1.02	70.3	17-157	
37C14-2,3,7,8-TCDD			94.6	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: OPR-012516

Lab Sample ID: OPR-012516
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *mw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 15:20
 Instrument/Analyst: AS1/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Dilution Factor: 1.00
 Silica-Florisil Cleanup: Yes

Analyte	Ion Ratio	Ratio Limits	RL	Result
2,3,7,8-TCDF	0.71	0.65-0.89	1.00	23.1
2,3,7,8-TCDD	0.80	0.65-0.89	1.00	23.6
1,2,3,7,8-PeCDF	1.47	1.32-1.78	1.00	117
2,3,4,7,8-PeCDF	1.46	1.32-1.78	1.00	115
1,2,3,7,8-PeCDD	1.56	1.32-1.78	1.00	112
1,2,3,4,7,8-HxCDF	1.15	1.05-1.43	1.00	116
1,2,3,6,7,8-HxCDF	1.16	1.05-1.43	1.00	115
2,3,4,6,7,8-HxCDF	1.18	1.05-1.43	1.00	116
1,2,3,7,8,9-HxCDF	1.17	1.05-1.43	1.00	114
1,2,3,4,7,8-HxCDD	1.24	1.05-1.43	1.00	113
1,2,3,6,7,8-HxCDD	1.24	1.05-1.43	1.00	116
1,2,3,7,8,9-HxCDD	1.25	1.05-1.43	1.00	115
1,2,3,4,6,7,8-HpCDF	0.97	0.88-1.20	1.00	117
1,2,3,4,7,8,9-HpCDF	0.97	0.88-1.20	1.00	115
1,2,3,4,6,7,8-HpCDD	1.02	0.88-1.20	1.00	115
OCDF	0.84	0.76-1.02	2.00	217
OCDD	0.90	0.76-1.02	10.0	224

Homologue Group	EDL	RL	Result
Total TCDF		1.00	23.9
Total TCDD		1.00	24.2
Total PeCDF		2.00	238 EMPC
Total PeCDD		1.00	112 EMPC
Total HxCDF		2.00	461
Total HxCDD		2.00	345 EMPC
Total HpCDF		2.00	232 EMPC
Total HpCDD		2.00	116

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
Page 1 of 1

Sample ID: OPR-012516

Lab Sample ID: OPR-012516
LIMS ID: 16-135
Matrix: Tissue
Data Release Authorized: *YTW*
Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: NA
Date Received: NA

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 15:20
Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	90.4	24-169	
13C-2,3,7,8-TCDD	0.78	0.65-0.89	87.0	25-164	
13C-1,2,3,7,8-PeCDF	1.57	1.32-1.78	94.9	24-185	
13C-2,3,4,7,8-PeCDF	1.59	1.32-1.78	95.0	21-178	
13C-1,2,3,7,8-PeCDD	1.58	1.32-1.78	92.3	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	87.1	26-152	
13C-1,2,3,6,7,8-HxCDF	0.52	0.43-0.59	84.4	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	89.4	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	85.4	29-147	
13C-1,2,3,4,7,8-HxCDD	1.26	1.05-1.43	86.4	32-141	
13C-1,2,3,6,7,8-HxCDD	1.26	1.05-1.43	82.8	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.45	0.37-0.51	82.8	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	83.2	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.07	0.88-1.20	83.3	23-140	
13C-OCDD	0.90	0.76-1.02	75.0	17-157	
37Cl4-2,3,7,8-TCDD			102	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: OPR-012516

Lab Sample ID: OPR-012516
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 15:20
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Dilution Factor: 1.00

Analyte	OPR	Spiked	Recovery	Limits
2,3,7,8-TCDF	23.1	20.0	116	75-158
2,3,7,8-TCDD	23.6	20.0	118	67-158
1,2,3,7,8-PeCDF	117	100	117	80-134
2,3,4,7,8-PeCDF	115	100	115	68-160
1,2,3,7,8-PeCDD	112	100	112	70-142
1,2,3,4,7,8-HxCDF	116	100	116	72-134
1,2,3,6,7,8-HxCDF	115	100	115	84-130
2,3,4,6,7,8-HxCDF	116	100	116	70-156
1,2,3,7,8,9-HxCDF	114	100	114	78-130
1,2,3,4,7,8-HxCDD	113	100	113	70-164
1,2,3,6,7,8-HxCDD	116	100	116	76-134
1,2,3,7,8,9-HxCDD	115	100	115	64-162
1,2,3,4,6,7,8-HpCDF	117	100	117	82-132
1,2,3,4,7,8,9-HpCDF	115	100	115	78-138
1,2,3,4,6,7,8-HpCDD	115	100	115	70-140
OCDF	217	200	108	63-170
OCDD	224	200	112	78-144

Reported in pg/g

4DF - FORM IV-HR CDD
 CDD/CDF METHOD BLANK SUMMARY
 HIGH RESOLUTION

Blank No.

ATSOMBT

Lab Name: ANALYTICAL RESOURCES, INC.

Contract: ANCHOR

Lab Code: ATSO

Project: PORT GAMBLE

Matrix: (Soil/Water/Ash/Tissue/Oil) TISSUE

Lab Sample ID: ATSOMBT

Sample wt/vol: 10 (g/ml) g

Lab File ID: 16012904

Water Sample Prep: (sep/spe)

Date Received: 06-JAN-16

GC Column: RTX-DIOXIN2 ID: 0.25 mm

Date Extracted: 25-JAN-16

Instrument ID: AUTOSPEC1

Date Analyzed: 29-JAN-16

Client Sample No.	Lab Sample ID	Lab File ID	Date Analyzed
ATS0OPR	ATS0OPR	16012905	01/29/16
PG-T0-MUS-COC-151030	APR4A	16012906	01/29/16
PG-SMA2-2-MUS-COC-160104T	AT50A	16012907	01/29/16
PG-PJ-1-MUS-COC-160104T	AT50B	16012908	01/29/16
PG-WS-1-MUS-COC-160104T	AT50C	16012909	01/29/16
PG-GP-1-MUS-COC-160104T	AT50D	16012910	01/29/16
PG-SMA2-5-MUS-COC-160104T	AT50E	16012911	01/29/16
PG-SMA2-4-MUS-COC-160104T	AT50F	16012912	01/29/16

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: MB-012516

Lab Sample ID: MB-012516
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *Ymw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 14:28
 Instrument/Analyst: ASI/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Dilution Factor: 1.00
 Silica-Florisil Cleanup: Yes

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF		0.65-0.89	0.0320	1.00	< 0.0320	U
2,3,7,8-TCDD		0.65-0.89	0.0380	1.00	< 0.0380	U
1,2,3,7,8-PeCDF	0.65	1.32-1.78		1.00	0.0500	JEMPC
2,3,4,7,8-PeCDF		1.32-1.78	0.0340	1.00	< 0.0340	U
1,2,3,7,8-PeCDD		1.32-1.78	0.0440	1.00	< 0.0440	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0360	1.00	< 0.0360	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0340	1.00	< 0.0340	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0360	1.00	< 0.0360	U
1,2,3,7,8,9-HxCDF		1.05-1.43	0.0400	1.00	< 0.0400	U
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0480	1.00	< 0.0480	U
1,2,3,6,7,8-HxCDD		1.05-1.43	0.0500	1.00	< 0.0500	U
1,2,3,7,8,9-HxCDD		1.05-1.43	0.0500	1.00	< 0.0500	U
1,2,3,4,6,7,8-HpCDF	0.62	0.88-1.20		1.00	0.142	JEMPC
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0740	1.00	< 0.0740	U
1,2,3,4,6,7,8-HpCDD	1.13	0.88-1.20		1.00	0.374	J
OCDF	0.77	0.76-1.02		2.00	0.541	J
OCDD	0.93	0.76-1.02		10.0	6.16	

Homologue Group	EDL	RL	Result
Total TCDF	0.0320	1.00	< 0.0320 U
Total TCDD	0.0380	1.00	< 0.0380 U
Total PeCDF		2.00	0.0500 EMPC
Total PeCDD	0.0440	1.00	0.0378 EMPC
Total HxCDF	0.0400	2.00	< 0.0400 U
Total HxCDD	0.0500	2.00	0.124 EMPC
Total HpCDF		2.00	0.286 EMPC
Total HpCDD		2.00	0.743

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.01

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.07

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
Page 1 of 1

Sample ID: MB-012516

Lab Sample ID: MB-012516
LIMS ID: 16-135
Matrix: Tissue
Data Release Authorized: *MMW*
Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: NA
Date Received: NA

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 14:28
Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	96.0	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	92.1	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	103	24-185	
13C-2,3,4,7,8-PeCDF	1.58	1.32-1.78	104	21-178	
13C-1,2,3,7,8-PeCDD	1.57	1.32-1.78	100	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	87.9	26-152	
13C-1,2,3,6,7,8-HxCDF	0.51	0.43-0.59	86.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	89.4	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	86.6	29-147	
13C-1,2,3,4,7,8-HxCDD	1.28	1.05-1.43	86.4	32-141	
13C-1,2,3,6,7,8-HxCDD	1.28	1.05-1.43	84.0	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.44	0.37-0.51	91.2	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	90.0	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.08	0.88-1.20	90.6	23-140	
13C-OCDD	0.89	0.76-1.02	79.0	17-157	
37C14-2,3,7,8-TCDD			116	35-197	

Reported in Percent Recovery

5DFA - FORM V-HR CDD-1
CDD/CDF WINDOW DEFINING MIX (WDM) SUMMARY
HIGH RESOLUTION

Standard No.

CS3

Lab Name: ANALYTICAL RESOURCES, INC.
Lab Code: ATSO
GC Column: RTX-DIOXIN2 ID: 0.25 mm
Instrument ID: AUTOSPEC1

Contract: ANCHOR
Project: PORT GAMBLE
Lab File ID: 16012902
Date Analyzed: 29-JAN-16
Time Analyzed: 10:58

CDD/CDF	RT First Eluting	RT Last Eluting
TCDD	24.32	27.78
TCDF	23.03	28.02
PeCDD	29.57	32.69
PeCDF	27.90	33.07
HxCDD	34.80	37.50
HxCDF	34.00	37.93
HpCDD	40.62	41.92
HpCDF	40.05	42.83

5DFB - FORM V-HR CDD-2
CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
HIGH RESOLUTION

Standard No.

TETRA ISC

Lab Name: ANALYTICAL RESOURCES, INC.
Lab Code: ATSO
GC Column: RTX-DIOXIN2 ID: .25 mm
Instrument: AUTOSPEC1

Contract: ANCHOR
Project: PORT GAMBLE
Lab File ID: 16012903
Date Analyzed: 29-JAN-16
Time Analyzed: 11:49

Percent Valley determination for RTX-DIOXIN2 column -

1278-TCDD/2378-TCDD: 13.2

3467-TCDF/2378-TCDF: 10.3

QC Limits:

Percent Valley between TCDD/TCDF isomers must be less than or equal to 25%

5DFB - FORM V-HR CDD-3
 CDD/CDF ANALYTICAL SEQUENCE SUMMARY
 HIGH RESOLUTION

Lab Name: ANALYTICAL RESOURCES, INC.

Contract: ANCHOR

Lab Code: ATSO

Project: PORT GAMBLE

GC Column: RTX-DIOXIN2 ID: 0.25 mm

Instrument ID: AUTOSPEC1

Init. Calib. Date(s): 15-OCT-15

Init: Calib. Times: 15:02 to 19:31

The Analytical Sequence of standards, samples, blanks, and Laboratory Control Samples (LCS) is as follows:

Client Sample No.	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CS3	CS3	16012902	01/29/16	1058
ISC	ISC	16012903	01/29/16	1149
ATS0MB	ATS0MBS	16012904	01/29/16	1428
ATS0OPR	ATS0OPR	16012905	01/29/16	1520
PG-T0-MUS-COC-151030	APR4A	16012906	01/29/16	1613
PG-SMA2-2-MUS-COC-160104T	AT50A	16012907	01/29/16	1707
PG-PJ-1-MUS-COC-160104T	AT50B	16012908	01/29/16	1801
PG-WS-1-MUS-COC-160104T	AT50C	16012909	01/29/16	1855
PG-GP-1-MUS-COC-160104T	AT50D	16012910	01/29/16	1948
PG-SMA2-5-MUS-COC-160104T	AT50E	16012911	01/29/16	2042
PG-SMA2-4-MUS-COC-160104T	AT50F	16012912	01/29/16	2136
CS3	CS3	16012913	01/29/16	2229

6DFA - Form VI-HR CDD-1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1		
Init.Calib.Date CSL:	15-Oct-15	Init.Calib.Time CSL:	15:02:44
Init.Calib.Date CS1:	15-Oct-15	Init.Calib.Time CS1:	16:02:00
Init.Calib.Date CS2:	15-Oct-15	Init.Calib.Time CS2:	16:52:59
Init.Calib.Date CS3:	15-Oct-15	Init.Calib.Time CS3:	17:45:44
Init.Calib.Date CS4:	15-Oct-15	Init.Calib.Time CS4:	18:38:36
Init.Calib.Date CS5:	15-Oct-15	Init.Calib.Time CS5:	19:31:22

Target Analytes	RR/RRF						Mean RR/RRF	% RSD	Limits (% +/-)
	CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDD	0.00	1.05	0.96	0.98	1.01	1.12	1.02	6.1	20.0
2378-TCDF	0.00	0.79	0.81	0.82	0.85	0.86	0.83	3.2	20.0
12378-PeCDF	0.78	0.78	0.81	0.84	0.85	0.88	0.82	4.9	20.0
12378-PeCDD	0.90	0.92	0.95	0.94	0.97	0.96	0.94	3.2	20.0
23478-PeCDF	0.81	0.83	0.85	0.86	0.87	0.89	0.85	3.6	20.0
123478-HxCDF	0.92	0.95	0.96	0.98	0.99	1.02	0.97	3.5	20.0
123678-HxCDF	0.90	0.91	0.95	0.96	1.00	0.98	0.95	4.2	20.0
123478-HxCDD	0.92	0.91	0.95	0.98	1.00	1.01	0.96	4.3	20.0
123678-HxCDD	0.90	0.86	0.87	0.89	0.92	0.93	0.89	3.0	20.0
123789-HxCDD ²	0.87	0.88	0.89	0.90	0.91	0.95	0.90	3.0	20.0
234678-HxCDF	0.96	0.98	1.00	1.04	1.07	1.09	1.02	5.0	20.0
123789-HxCDF	0.99	0.96	0.92	0.92	0.93	1.01	0.96	4.1	20.0
1234678-HpCDF	1.13	1.09	1.14	1.18	1.17	1.21	1.15	3.6	20.0
1234678-HpCDD	0.89	0.92	0.97	0.99	1.00	1.01	0.96	4.7	20.0
1234789-HpCDF	1.02	1.07	1.13	1.17	1.18	1.22	1.13	6.6	20.0
OCDD	0.98	0.89	0.95	0.98	0.98	1.03	0.97	4.8	20.0
OCDF ¹	0.93	0.92	1.02	1.04	1.12	1.11	1.02	8.4	20.0
37CL-2378-TCDD	1.05	1.06	1.06	1.09	1.08	1.20	1.09	5.2	20.0

(1) The Relative Response (RR) is calculated based on the labeled analogs of the other two HxCDDs.
(2) The RR is calculated based on the labeled analog of OCDD.

Labeled Compounds	RR/RRF						Mean RR/RRF	% RSD	Limits (% +/-)
	CSL	CS1	CS2	CS3	CS4	CS5			
13C-2378-TCDD	0.94	0.95	1.02	1.01	0.98	0.99	0.98	3.1	35.0
13C-12378-PeCDD	0.77	0.79	0.77	0.75	0.75	0.89	0.79	6.9	35.0
13C-123478-HxCDD	1.04	1.04	1.00	1.05	1.01	1.05	1.03	2.2	35.0
13C-123678-HxCDD	1.15	1.15	1.12	1.18	1.10	1.12	1.14	2.5	35.0
13C-1234678-HpCDD	0.92	0.91	0.88	0.91	0.85	0.88	0.89	2.8	35.0
13C-OCDD	0.88	0.88	0.82	0.84	0.83	0.86	0.85	3.4	35.0
13C-2378-TCDF	1.52	1.53	1.51	1.49	1.44	1.52	1.50	2.2	35.0
13C-12378-PeCDF	1.21	1.23	1.20	1.17	1.15	1.33	1.22	5.1	35.0
13C-23478-PeCDF	1.17	1.20	1.16	1.14	1.11	1.32	1.18	6.3	35.0
13C-123478-HxCDF	1.25	1.24	1.23	1.28	1.23	1.24	1.25	1.7	35.0
13C-123678-HxCDF	1.41	1.39	1.36	1.40	1.31	1.38	1.38	2.6	35.0
13C-234678-HxCDF	1.21	1.20	1.17	1.21	1.14	1.18	1.19	2.4	35.0
13C-123789-HxCDF	1.13	1.13	1.14	1.18	1.13	1.10	1.13	2.4	35.0
13C-1234678-HpCDF	1.05	1.05	1.00	1.04	0.99	1.00	1.02	2.7	35.0
13C-1234789-HpCDF	0.84	0.86	0.81	0.83	0.80	0.81	0.82	2.7	35.0

6DFB - Form VI-HR CDD-2
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1		
Init.Calib.Date CSL:	15-Oct-15	Init.Calib.Time CSL:	15:02:44
Init.Calib.Date CS1:	15-Oct-15	Init.Calib.Time CS1:	16:02:00
Init.Calib.Date CS2:	15-Oct-15	Init.Calib.Time CS2:	16:52:59
Init.Calib.Date CS3:	15-Oct-15	Init.Calib.Time CS3:	17:45:44
Init.Calib.Date CS4:	15-Oct-15	Init.Calib.Time CS4:	18:38:36
Init.Calib.Date CS5:	15-Oct-15	Init.Calib.Time CS5:	19:31:22

Target Analytes	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ratio QC Limits [#]
		CSL	CS1	CS2	CS3	CS4	CS5		
2378-TCDD	320/322	0.00	0.73	0.80	0.80	0.78	0.78		0.65 - 0.89
2378-TCDF	304/306	0.00	0.67	0.66	0.66	0.67	0.68		0.65 - 0.89
12378-PeCDF	340/342	1.38	1.37	1.35	1.40	1.43	1.42		1.32 - 1.78
12378-PeCDD	356/358	1.58	1.56	1.55	1.53	1.55	1.55		1.32 - 1.78
23478-PeCDF	340/342	1.45	1.36	1.42	1.39	1.41	1.41		1.32 - 1.78
123478-HxCDF	374/376	1.23	1.12	1.12	1.14	1.12	1.13		1.05 - 1.43
123678-HxCDF	374/376	1.10	1.08	1.08	1.07	1.13	1.13		1.05 - 1.43
123478-HxCDD	390/392	1.19	1.31	1.25	1.24	1.24	1.25		1.05 - 1.43
123678-HxCDD	390/392	1.19	1.18	1.23	1.25	1.22	1.24		1.05 - 1.43
123789-HxCDD	390/392	1.33	1.29	1.20	1.20	1.25	1.24		1.05 - 1.43
234678-HxCDF	374/376	1.14	1.17	1.12	1.11	1.13	1.12		1.05 - 1.43
123789-HxCDF	374/376	1.17	1.10	1.14	1.10	1.12	1.14		1.05 - 1.43
1234678-HpCDF	408/410	0.96	0.90	0.94	0.92	0.94	0.95		0.89 - 1.21
1234678-HpCDD	424/426	1.01	1.03	1.06	1.05	1.03	1.04		0.89 - 1.21
1234789-HpCDF	408/410	0.94	0.92	0.92	0.93	0.97	0.95		0.89 - 1.21
OCDD	458/460	0.92	0.94	0.88	0.89	0.86	0.88		0.76 - 1.02
OCDF	442/444	0.84	0.83	0.81	0.83	0.83	0.83		0.76 - 1.02

Labeled Compounds	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ratio QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5		
13C-2378-TCDD	332/334	0.79	0.78	0.78	0.79	0.78	0.78		0.65 - 0.89
13C-12378-PeCDD	368/370	1.57	1.57	1.54	1.57	1.60	1.57		1.32 - 1.78
13C-123478-HxCDD	402/404	1.26	1.26	1.27	1.26	1.26	1.27		1.05 - 1.43
13C-123678-HxCDD	402/404	1.25	1.24	1.25	1.23	1.25	1.28		1.05 - 1.43
13C-1234678-HpCDD	436/438	1.04	1.03	1.04	1.05	1.05	1.04		0.89 - 1.21
13C-OCDD	470/472	0.87	0.89	0.90	0.90	0.89	0.89		0.76 - 1.02
13C-2378-TCDF	316/318	0.78	0.77	0.77	0.78	0.77	0.78		0.65 - 0.89
13C-12378-PeCDF	352/354	1.60	1.61	1.54	1.56	1.61	1.57		1.32 - 1.78
13C-23478-PeCDF	352/354	1.57	1.57	1.58	1.57	1.57	1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	0.51	0.51	0.51	0.51	0.51	0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	0.51	0.51	0.51	0.50	0.52	0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	0.51	0.51	0.53	0.52	0.52	0.53		0.43 - 0.59
13C-123789-HxCDF	384/386	0.51	0.52	0.52	0.51	0.51	0.51		0.43 - 0.59
13C-1234678-HpCDF	418/420	0.45	0.45	0.45	0.44	0.45	0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.44	0.43	0.43	0.44	0.45	0.45		0.37 - 0.51

Internal Standards	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ion Ratio QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5		
13C-1234-TCDD	332/334	0.79	0.80	0.79	0.79	0.79	0.78		0.65 - 0.89
13C-123789-HxCDD	402/404	1.25	1.23	1.25	1.24	1.26	1.25		1.05 - 1.43

(#) Quality Control (QC) limits represent ±15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

**7DFA - Form VII-HR CDD-1
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION**

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012902
Date Analysed:	29-Jan-16	Time Analysed:	10:58:17
Init. Calib. Date:	15-OCT-15	Init. Calib. Time:	

Target Analytes	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
2378-TCDD	320/322	1.04	1.02	1.2		0.77		0.65 - 0.89
2378-TCDF	304/306	0.86	0.83	3.8		0.69		0.65 - 0.89
12378-PeCDF	340/342	0.85	0.82	2.7		1.44		1.32 - 1.78
12378-PeCDD	356/358	0.97	0.94	3.5		1.56		1.32 - 1.78
23478-PeCDF	340/342	0.89	0.85	4.3		1.46		1.32 - 1.78
123478-HxCDF	374/376	1.01	0.97	4.2		1.16		1.05 - 1.43
123678-HxCDF	374/376	1.00	0.95	4.6		1.16		1.05 - 1.43
123478-HxCDD	390/392	0.98	0.96	2.0		1.23		1.05 - 1.43
123678-HxCDD	390/392	0.91	0.89	1.5		1.24		1.05 - 1.43
123789-HxCDD	390/392	0.96	0.90	6.3		1.24		1.05 - 1.43
234678-HxCDF	374/376	1.08	1.02	5.4		1.15		1.05 - 1.43
123789-HxCDF	374/376	0.94	0.96	-1.6		1.14		1.05 - 1.43
1234678-HpCDF	408/410	1.19	1.15	3.5		0.95		0.89 - 1.21
1234678-HpCDD	424/426	1.01	0.96	4.3		1.03		0.89 - 1.21
1234789-HpCDF	408/410	1.19	1.13	5.0		0.97		0.89 - 1.21
OCDD	458/460	0.99	0.97	2.4		0.90		0.76 - 1.02
OCDF	442/444	1.08	1.02	5.7		0.85		0.76 - 1.02

Labeled Compounds	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
13C-2378-TCDD	332/334	1.03	0.98	5.0		0.79		0.65 - 0.89
13C-12378-PeCDD	368/370	0.78	0.79	-0.7		1.58		1.32 - 1.78
13C-123478-HxCDD	402/404	1.04	1.03	0.5		1.30		1.05 - 1.43
13C-123678-HxCDD	402/404	1.09	1.14	-4.0		1.23		1.05 - 1.43
13C-1234678-HpCDD	436/438	0.91	0.89	2.1		1.07		0.89 - 1.21
13C-OCDD	470/472	0.83	0.85	-2.6		0.88		0.76 - 1.02
13C-2378-TCDF	316/318	1.59	1.50	5.5		0.77		0.65 - 0.89
13C-12378-PeCDF	352/354	1.27	1.22	4.4		1.57		1.32 - 1.78
13C-23478-PeCDF	352/354	1.23	1.18	3.8		1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	1.27	1.25	2.3		0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	1.32	1.38	-3.8		0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	1.20	1.19	1.5		0.52		0.43 - 0.59
13C-123789-HxCDF	384/386	1.23	1.13	8.4		0.52		0.43 - 0.59
13C-1234678-HpCDF	418/420	1.05	1.02	2.7		0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.86	0.82	4.9		0.45		0.37 - 0.51

Clean-up	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
37CL-2378-TCDD	328	1.13	1.09	3.4		NA	NA	NA

Internal Standards	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ion Ratio Flag [#]	Ion Ratio QC Limits
13C-1234-TCDD	332/334	NA	NA	NA	NA	0.79		0.65 - 0.89
13C-123789-HxCDD	402/404	NA	NA	NA	NA	1.25		1.05 - 1.43

(#) The laboratory must flag any analyte which does not meet the criteria for Percentage Difference (%D) or ion abundance ratio by placing an asterisk in the appropriate flag column.

7DFB - Form VII-HR CDD-2
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012902
Date Analysed:	29-Jan-16	Time Analysed:	10:58:17
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	RRT [#]	RT
2378-TCDD	1.001	27.18
2378-TCDF	1.001	26.53
12378-PeCDF	1.000	30.69
12378-PeCDD	1.001	32.30
23478-PeCDF	1.001	32.04
123478-HxCDF	1.001	35.73
123678-HxCDF	1.001	35.88
123478-HxCDD	1.000	36.96
123678-HxCDD	1.000	37.09
123789-HxCDD	1.012	37.50
234678-HxCDF	1.001	36.83
123789-HxCDF	1.001	37.93
1234678-HpCDF	1.000	40.05
1234678-HpCDD	1.000	41.92
1234789-HpCDF	1.000	42.83
OCDD	1.000	48.04
OCDF	1.006	48.32

Labeled Compounds	RRT [#]	RT
13C-2378-TCDD	1.031	27.15
13C-12378-PeCDD	1.225	32.28
13C-123478-HxCDD	0.985	36.95
13C-123678-HxCDD	0.989	37.08
13C-1234678-HpCDD	1.117	41.90
13C-OCDD	1.281	48.03
13C-2378-TCDF	1.006	26.51
13C-12378-PeCDF	1.164	30.68
13C-23478-PeCDF	1.215	32.01
13C-123478-HxCDF	0.952	35.71
13C-123678-HxCDF	0.956	35.86
13C-234678-HxCDF	0.982	36.80
13C-123789-HxCDF	1.011	37.91
13C-1234678-HpCDF	1.068	40.04
13C-1234789-HpCDF	1.142	42.81

Clean up Standard	RRT [#]	RT
37CL-2378-TCDD	1.03	27.18

Internal Standards	RRT [#]	RT
13C-1234-TCDD	0.00	26.35
13C-123789-HxCDD	0.00	37.49

(#) RRT = (RT of Analyte)/(RT of appropriate labeled compound).

**7DFA - Form VII-HR CDD-1
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION**

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012913
Date Analysed:	29-Jan-16	Time Analysed:	22:29:47
Init. Calib. Date:	15-OCT-15	Init. Calib. Time:	

Target Analytes	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
2378-TCDD	320/322	1.04	1.02	1.2		0.76		0.65 - 0.89
2378-TCDF	304/306	0.86	0.83	3.5		0.69		0.65 - 0.89
12378-PeCDF	340/342	0.88	0.82	6.9		1.45		1.32 - 1.78
12378-PeCDD	356/358	0.97	0.94	2.9		1.55		1.32 - 1.78
23478-PeCDF	340/342	0.89	0.85	4.6		1.45		1.32 - 1.78
123478-HxCDF	374/376	1.02	0.97	4.8		1.16		1.05 - 1.43
123678-HxCDF	374/376	1.00	0.95	4.8		1.14		1.05 - 1.43
123478-HxCDD	390/392	0.98	0.96	1.3		1.24		1.05 - 1.43
123678-HxCDD	390/392	0.92	0.89	2.8		1.25		1.05 - 1.43
123789-HxCDD	390/392	0.96	0.90	6.3		1.24		1.05 - 1.43
234678-HxCDF	374/376	1.07	1.02	4.2		1.15		1.05 - 1.43
123789-HxCDF	374/376	0.94	0.96	-1.3		1.16		1.05 - 1.43
1234678-HpCDF	408/410	1.21	1.15	4.5		0.98		0.89 - 1.21
1234678-HpCDD	424/426	1.01	0.96	4.3		1.05		0.89 - 1.21
1234789-HpCDF	408/410	1.19	1.13	5.2		0.96		0.89 - 1.21
OCDD	458/460	0.99	0.97	2.3		0.88		0.76 - 1.02
OCDF	442/444	1.08	1.02	6.0		0.85		0.76 - 1.02

Labeled Compounds	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
13C-2378-TCDD	332/334	1.00	0.98	2.3		0.79		0.65 - 0.89
13C-12378-PeCDD	368/370	0.79	0.79	1.0		1.57		1.32 - 1.78
13C-123478-HxCDD	402/404	1.06	1.03	2.6		1.27		1.05 - 1.43
13C-123678-HxCDD	402/404	1.11	1.14	-2.6		1.27		1.05 - 1.43
13C-1234678-HpCDD	436/438	0.90	0.89	0.5		1.04		0.89 - 1.21
13C-OCDD	470/472	0.77	0.85	-9.5		0.88		0.76 - 1.02
13C-2378-TCDF	316/318	1.57	1.50	4.6		0.78		0.65 - 0.89
13C-12378-PeCDF	352/354	1.26	1.22	3.6		1.56		1.32 - 1.78
13C-23478-PeCDF	352/354	1.24	1.18	5.2		1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	1.31	1.25	4.9		0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	1.36	1.38	-0.8		0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	1.22	1.19	3.1		0.52		0.43 - 0.59
13C-123789-HxCDF	384/386	1.23	1.13	8.2		0.52		0.43 - 0.59
13C-1234678-HpCDF	418/420	1.04	1.02	1.5		0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.86	0.82	4.0		0.45		0.37 - 0.51

Clean-up	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
37CL-2378-TCDD	328	1.11	1.09	2.0		NA	NA	NA

Internal Standards	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ion Ratio Flag [#]	Ion Ratio QC Limits
13C-1234-TCDD	332/334	NA	NA	NA	NA	0.79		0.65 - 0.89
13C-123789-HxCDD	402/404	NA	NA	NA	NA	1.26		1.05 - 1.43

(#) The laboratory must flag any analyte which does not meet the criteria for Percentage Difference (%D) or ion abundance ratio by placing an asterisk in the appropriate flag column.

7DFB - Form VII-HR CDD-2
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012913
Date Analysed:	29-Jan-16	Time Analysed:	22:29:47
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	RRT [#]	RT
2378-TCDD	1.001	27.14
2378-TCDF	1.001	26.50
12378-PeCDF	1.001	30.67
12378-PeCDD	1.001	32.27
23478-PeCDF	1.001	32.00
123478-HxCDF	1.000	35.70
123678-HxCDF	1.001	35.85
123478-HxCDD	1.000	36.92
123678-HxCDD	1.000	37.06
123789-HxCDD	1.012	37.48
234678-HxCDF	1.001	36.79
123789-HxCDF	1.000	37.90
1234678-HpCDF	1.000	40.03
1234678-HpCDD	1.000	41.89
1234789-HpCDF	1.000	42.79
OCDD	1.001	48.01
OCDF	1.006	48.28

Labeled Compounds	RRT [#]	RT
13C-2378-TCDD	1.031	27.12
13C-12378-PeCDD	1.225	32.24
13C-123478-HxCDD	0.985	36.91
13C-123678-HxCDD	0.989	37.04
13C-1234678-HpCDD	1.118	41.87
13C-OCDD	1.281	47.98
13C-2378-TCDF	1.006	26.48
13C-12378-PeCDF	1.164	30.64
13C-23478-PeCDF	1.215	31.98
13C-123478-HxCDF	0.953	35.69
13C-123678-HxCDF	0.956	35.83
13C-234678-HxCDF	0.982	36.77
13C-123789-HxCDF	1.011	37.89
13C-1234678-HpCDF	1.068	40.00
13C-1234789-HpCDF	1.142	42.78

Clean up Standard	RRT [#]	RT
37CL-2378-TCDD	1.03	27.14

Internal Standards	RRT [#]	RT
13C-1234-TCDD	0.00	26.32
13C-123789-HxCDD	0.00	37.46

(#) RRT = (RT of Analyte)/(RT of appropriate labeled compound).

Metals Analysis
Report and Summary QC Forms

ARI Job ID: APR4

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

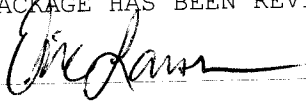
SDG: APR4

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
PG-T0-MUS-COC-1510	APR4A	15-20439	
PG-T0-MUS-COC-1510D	APR4ADUP	15-20439	
PG-T0-MUS-COC-1510S	APR4ASPK	15-20439	
PBS	APR4MB1	15-20439	
LCSS	APR4MB1SPK	15-20439	
PG-SMA2-2-MUS-COC-	ATS0A	16-135	
PG-PJ-1-MUS-COC-16	ATS0B	16-136	
PG-WS-1-MUS-COC-16	ATS0C	16-137	
PG-GP-1-MUS-COC-16	ATS0D	16-138	
PG-SMA2-5-MUS-COC-	ATS0E	16-139	
PG-SMA2-4-MUS-COC-	ATS0F	16-140	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Eric Larson


Date: 1-20-10 Title: Inorganics Director

COVER PAGE

AR4: 00064

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030
SAMPLE

Lab Sample ID: APR4A
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: 
Reported: 01/20/16


QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101
Date Sampled: 10/30/15
Date Received: 11/02/15

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.31

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030
MATRIX SPIKE

Lab Sample ID: APR4A
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: 
Reported: 01/20/16

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101
Date Sampled: 10/30/15
Date Received: 11/02/15

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Cadmium	6010C	0.31	20.1	19.4	102%	

Reported in mg/kg-as-rec

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
 Page 1 of 1

Sample ID: PG-T0-MUS-COC-151030
 DUPLICATE

Lab Sample ID: APR4A
 LIMS ID: 15-20439
 Matrix: Tissue
 Data Release Authorized:
 Reported: 01/20/16



QC Report No: APR4-Anchor QEA, LLC
 Project: Port Gamble Clean-up
 1503880101
 Date Sampled: 10/30/15
 Date Received: 11/02/15

MATRIX DUPLICATE QUALITY CONTROL REPORT


Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Cadmium	6010C	0.31	0.32	3.2%	+/- 20%	

Reported in mg/kg-as-rec

*-Control Limit Not Met
 L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: APR4LCS
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized: 
Reported: 01/20/16

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010C	20.4	20.0	102%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

Sample ID: METHOD BLANK


TOTAL METALS

Page 1 of 1

Lab Sample ID: APR4MB

LIMS ID: 15-20439

Matrix: Tissue

Data Release Authorized: 

Reported: 01/20/16

QC Report No: APR4-Anchor QEA, LLC

Project: Port Gamble Clean-up
1503880101

Date Sampled: NA

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q	
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.04	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation



Calibration Verification

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

UNITS: ug/L

SDG: APR4

ANALYTE	EL	M	RUN	ICV	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Cadmium	CD	ICP	IP011971	1000.0	1042.74	104.3	1000.0	1045.76	104.6	1041.40	104.1	1040.58	104.1					

Control Limits: Mercury 80-120; Other Metals 90-110



CRDL Standard

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Cadmium	CD	ICP	IP011971	2.0		2.11	105.5										

ARP4 : 00071

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4



UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	CCB1	CCB2	CCB3	CCB4	CCB5	C
Cadmium	CD	ICP	IP011971	5.0	2.0	2.0	2.0	2.0	2.0	2.0	U



ICP Interference Check Sample

CLIENT: Anchor QEA, LLC
 PROJECT: Port Gamble Clean-up
 SDG: APR4

ICS SOURCE: I.V.
 RUNID: IP011971
 INSTRUMENT ID: OPTIMA ICP 2
 UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	201753.5	199981.7	100.0						
Antimony	1000	1000	13.6	1036.8	103.7						
Arsenic	1000	1000	27.3	1037.0	103.7						
Barium	1000	1000	2.9	1014.9	101.5						
Beryllium	1000	1000	0.1	982.1	98.2						
Boron			1.3	0.7							
Cadmium	1000	1000	-1.2	1035.9	103.6						
Calcium	100000	100000	100350.8	99635.7	99.6						
Chromium	1000	1000	0.1	1015.8	101.6						
Cobalt	1000	1000	2.9	955.5	95.6						
Copper	1000	1000	1.8	1049.4	104.9						
Iron	200000	200000	196759.8	196913.6	98.5						
Lead	1000	1000	2.3	1002.9	100.3						
Magnesium	100000	100000	105423.2	99682.4	99.7						
Manganese	1000	1000	-1.1	966.2	96.6						
Molybdenum			3.6	2.9							
Nickel	1000	1000	1.4	952.4	95.2						
Potassium			27.9	7.3							
Selenium	1000	1000	16.8	1020.5	102.1						
Silicon			-11.3	-12.9							
Silver	1000	1000	-1.0	1073.3	107.3						
Sodium			3.1	-2.3							
Strontium			6.4	6.3							
Thallium	1000	1000	-6.2	950.3	95.0						
Tin			-20.9	-21.8							
Titanium			4.1	4.1							
Vanadium	1000	1000	3.1	992.8	99.3						
Zinc	1000	1000	5.5	937.5	93.8						

IDLs and ICP Linear Ranges

ANALYTICAL
RESOURCES 
INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA BACK- GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2012	20000.0	5/27/2015

FORM X/XII

ARP4 : 00074



ICP Interelement Correction Factors

CLIENT: Anchor QEA, LLC

IEC DATE: 1/5/2016

PROJECT: Port Gamble Clean-up

INSTRUMENT ID: OPTIMA ICP 1

SDG: APR4

ANALYTE	WAVELENGTH	AL	AS	EA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	14.7924220	0.000000	0.000000
Arsenic	188.98	0.000000	0.000000	0.000000	0.000000	0.1347330	0.000000	-1.0660850	1.6287880	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1619400	0.000000	0.000000	0.1406640
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	228.80	0.000000	5.6057370	0.000000	0.000000	0.000000	0.000000	0.1250180	0.000000	0.000000	0.0079490
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.000000	0.000000	0.000000	0.5200790	0.000000	0.000000	-0.0359620	0.000000	0.000000	0.000000
Cobalt	228.62	0.000000	0.000000	0.1021560	0.000000	0.000000	0.000000	0.000000	-0.0313664	0.000000	0.000000
Copper	324.75	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1747430	-0.0205733	0.000000	-0.0443630
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.0269110	0.000000	0.000000
Lead	220.35	-0.2304480	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1.7905170	1.3513780	0.0487660
Magnesium	279.08	0.000000	0.000000	0.000000	0.000000	0.1232790	0.000000	-1.6648310	-1.2729830	0.000000	0.6500090
Manganese	257.61	0.0068696	0.000000	0.000000	0.000000	0.0039080	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.0182900	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.1733140	0.000000	0.000000	0.000000	0.000000	0.000000	0.505300	0.000000	0.000000	0.000000
Silicon	288.16	0.000000	0.000000	0.000000	0.000000	0.000000	-3.4810440	0.000000	0.000000	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.0322879
Sodium	330.24	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	6.2416330	0.4098520	0.000000	-0.1141150
Tin	189.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.000000	0.000000	0.0674280	0.000000	0.000000	0.2004620	0.000000	0.000000
Vanadium	292.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-4.1323790	0.000000	0.0433830
Zinc	206.20	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.1277681	0.000000	0.000000



ICP Interelement Correction Factors

CLIENT: Anchor QEA, LLC

IEC DATE: 1/5/2016

PROJECT: Port Gamble Clean-up

INSTRUMENT ID: OPTIMA ICP 1

SDG: APR4

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.000000	0.000000	16.6791990	0.000000	0.000000	0.000000	1.6050850	0.000000	14.4572670	0.000000
Antimony	206.84	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.5069520	0.000000	-4.0601450	0.000000
Arsenic	188.98	0.000000	0.000000	3.6223120	0.000000	0.000000	0.000000	-27.5814050	0.000000	0.000000	0.000000
Barium	233.53	0.000000	0.000000	0.000000	0.0895220	0.000000	0.000000	0.000000	0.000000	0.1953560	0.000000
Beryllium	313.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0125780	0.000000	0.2292760	0.000000
Cadmium	228.80	0.000000	0.000000	0.000000	-0.9227370	0.000000	0.000000	0.000000	0.000000	0.0671390	0.000000
Calcium	317.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.72	0.1010740	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.3494600	0.000000
Cobalt	228.62	0.000000	0.000000	-0.1298730	0.1583160	0.000000	0.000000	1.7862780	0.000000	0.000000	0.000000
Copper	324.75	0.0057160	0.000000	0.3208870	0.000000	0.000000	0.000000	0.1832950	0.000000	0.000000	0.000000
Iron	273.96	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	8.2567580	0.000000
Lead	220.35	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.08	0.000000	0.000000	-5.6138960	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.0220710	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.60	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.4463050	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.03	0.0481990	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.6820300	0.000000
Silicon	288.16	0.000000	0.000000	-1.5952730	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-0.2760730	0.000000
Sodium	330.24	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.80	0.000000	0.000000	-1.5056600	0.000000	0.000000	0.000000	0.000000	0.000000	3.6978960	0.000000
Tin	189.93	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	334.90	0.000000	0.000000	0.9947150	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.40	0.000000	-0.1465610	-0.3842450	0.000000	0.000000	0.000000	0.5446660	0.000000	0.000000	0.000000
Zinc	206.20	0.000000	0.000000	0.2762240	0.000000	-0.0714258	0.000000	0.000000	0.000000	0.000000	0.000000

Preparation Log



CLIENT: Anchor QEA, LLC
PROJECT: Port Gamble Clean-up
SDG: APR4

ANALYSIS METHOD: ICP
ARI PREP CODE: FRN
PREPDATE: 1/15/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
PG-T0-MUS-COC-1510	APR4A	2.579	0.0	50.0
PG-T0-MUS-COC-1510D	APR4ADUP	2.583	0.0	50.0
PG-T0-MUS-COC-1510S	APR4ASPK	2.582	0.0	50.0
PBS	APR4MB1	2.500	0.0	50.0
LCSW	APR4MB1SPK	2.500	0.0	50.0
PG-SMA2-2-MUS-COC-	ATSOA	2.509	0.0	50.0
PG-PJ-1-MUS-COC-16	ATSOB	2.555	0.0	50.0
PG-WS-1-MUS-COC-16	ATSOC	2.577	0.0	50.0
PG-GP-1-MUS-COC-16	ATSOD	2.584	0.0	50.0
PG-SMA2-5-MUS-COC-	ATSOE	2.507	0.0	50.0
PG-SMA2-4-MUS-COC-	ATSOE	2.577	0.0	50.0

Analysis Run Log

CLIENT: Anchor QEA, LLC
 PROJECT: Port Gamble Clean-up
 SDG: APR4
 INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP011971
 METHOD: ICP
 START DATE: 1/19/2016
 END DATE: 1/19/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
CCV	CCV3		1.00	12231								X																						
CCB	CCB3		1.00	12272								X																						

Percent Lipids

ARI Job ID: APR4

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer



Data Release Authorized: *B*
Reported: 01/20/16
Date Received: 11/02/15
Page 1 of 1

QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
PG-T0-MUS-COC-151030 APR4A 15-20439	10/30/15	Tissue	01/14/16	0.0010	1.28 %
Method Blank			01/14/16	0.0010	0.0700 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit
U-Undetected at reported detection limit



Preparation Test % Lipid Test # 1
ARI JOB No(s) ATS0/APR4/AUA2

In-House
Batch set up by: SP

Jar #	ARI Sample ID	Original Extracted Weight (wet wt)	Original Volume (FEV) (mL)	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight (g)	Tare+Sample Weight (g)	Comments	Verify Client ID
	MBT ATS0	10.00g	1 mL	(Y/N)	(1,000 µL)	1.1628	1.1705		
1	A	10.23	1 mL	(Y/N)	(1,000 µL)	1.1603	1.2738		
1	Adul	10.75	1 mL	(Y/N)	(1,000 µL)	1.1649	1.2869		
1	Atrip	10.21	1 mL	(Y/N)	(1,000 µL)	1.1636	1.2837		
1	B	10.73	1 mL	(Y/N)	(1,000 µL)	1.1608	1.2660		TA 1/14/16
1	C	10.41	1 mL	(Y/N)	(1,000 µL)	1.1602	1.2856		Analyst/Date KD 80-85°C 003456
1	D	10.21	1 mL	(Y/N)	(1,000 µL)	1.1618	1.2739		
1	E	10.22	1 mL	(Y/N)	(1,000 µL)	1.1663	1.2747		
1	F	10.37	1 mL	(Y/N)	(1,000 µL)	1.1673	1.2626		RMH 1-18-16
1	APR4 A	10.28	1 mL	(Y/N)	(1,000 µL)	1.1606	1.2957		
1	AUA2 A	10.39	1 mL	(Y/N)	(1,000 µL)	1.1628	1.2992		
1	B	10.55	1 mL	(Y/N)	(1,000 µL)	1.1636	1.3107		
1	C	10.30	1 mL	(Y/N)	(1,000 µL)	1.1598	1.2926		Analyst/Date
			mL	(Y/N)	(µL)				TurboVap 123
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
Analyst/Date	TH 1/14/16					SP 1/19/16	SP 1/20/16	Reviewed by/Date	Analyst/Date
Balance ID:	B139298 002					Analytical Balance ID: B146454145			

SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 80-85°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.

* NOTE: GENERALLY A 10:1 RATIO IS THE TARGET (10g sample To 1mL FEV)

Freeze Y(N)

Reagent and Solutions Identification

(Modified Bligh/Dyer) % Lipids - Tissue
 Modified TissueMizer (3550C) (SOP # 340S)

ARI JOB No(s) ATSΦ/APR4/AUAZ

(Modified Bligh/Dyer) % Lipids Tissue:	Analyst/Date
<u>TissueMizing Station:</u> Anhydrous Sodium Sulfate: (I# + jar date) <u>DΦΦ53ΦΦ</u> 1:1 Methylene Chloride/Acetone: (H#) <u>EΦΦΦΦ48</u> Methylene Chloride: (I#) <u>EΦΦΦΦ42</u> Neutral Glasswool: (I#) <u>DΦΦ3978</u>	TissueMize <u>CT</u> <u>4/15/16</u> <u>YPC</u>
<u>KD Station:</u> Neutral Glasswool: (I#) Anhydrous Sodium Sulfate: (I# + jar date) Methylene Chloride: (I#) <u>EΦΦΦΦ42</u>	KD <u>RMH</u> <u>1-18-16</u>
<u>Vialing Station:</u> Methylene Chloride: (I#) <u>EΦΦΦΦ42</u>	Vialing <u>SP</u>



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: ATS4/APRY

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: % Lipids

Client Project: Port Gamble Cleanup

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

[Signature] 1/10/16

SIM PAH Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: APR4



Miscellaneous
Water/Soil/Sed/Tissue/Other
Separatory Funnel (3510C)/Liq-Liq (3520C)
Sonication (3550C)/Microwave (3546)
TissueMize (Modified 3550C)

Analysis Low level / Simple

Preparation Test Misc # 1

ARI Job No(s) APR4/ATSΦ/AUAZ
Batch # _____

*EPH Aromatic
LLDCM*

Batch set up by SP

ARI Sample I.D.	Weight or Volume Extracted	Sonic Hom + Chk	(REQ/Opt) GPC	(REQ/Opt) Acid Clean	(REQ/Opt) Sulfur Clean	(REQ/Opt) SPE Clean	Final Effective Volume	Vol to Lab	Comments	Verify Client ID
APR4 BLK	10.00 g		Y/N	Y/N	Y/N	Y/N	0.5 mL	0.5 mL		Analyst/Date 6/11/16
↓ BS	10.00 g									Pre-GPC KD 3456 50°C Exchange to Hex?
BS Dup										Analyst/Date 11/15/16
MRL Check										TurboVap Pre-GPC 12345
APR4 SRM	10.00 g								SRM 1974C	Analyst/Date 6/11/16
L A	10.00 g									Post GPC 6/24/16 KD 3456 100°C Exchange to Hex?
ATSΦ A	10.00 g									Analyst/Date
B	10.00 g									TurboVap Post-GPC 12345
BMS	10.00 g									Analyst/Date SP 1/20/16
BMSD	10.00 g									TurboVap Post-Cleanups 12345
C	10.00 g									Analyst/Date SP 1/20/16
D	10.00 g									TurboVap Post-Cleanups 12345
E	10.00 g									Analyst/Date SP 1/21/16
F	10.00 g									TurboVap Post-Cleanups 12345
AUAZ A	10.00 g									Analyst/Date SP 1/21/16
B	10.00 g									
C	10.00 g									
SP 1/21/16										Reviewed by/Date SP 1/21/16
Analyst/Date	6/11/16									Analyst/Date

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Low level Surrogate Spike	17 (0045230)	1.5 / 7.5 µg/ml	100 µL	11/11/14	CT	MP
Spike	()	()	µL			
Low level Spike	18 (0044411)	1.5 / 7.5 µg/ml	100 µL	11/11/16	CT	MP
MRL Spike	()	()	µL			

Extraction Time: 16.50 Liq/Liq Start: LL Liq/Liq Stop: _____ Balance ID: 2139297442

SPECIAL INSTRUCTIONS: (2x) 1:1 DCM/Acetone
 (1x) LLDCM only
 KD = LLDCM!

GPC = LLDCM!
 VIALER = LLDCM!

Revision 07
 06/23/15
 ARP4: 00086

Organic Extractions Reagent and Solutions Identification

Analysis: LL-SIMPNA
Method: _____

ARI Job No(s) APR4, A550

Soil/Sediment/Solid/Tissue/Other:	Analyst/Date
Sonication/Microwave/Tissue/Station: Neutral Sodium Sulfate: (<u>D005308</u>) Pre-deactivated Sodium Sulfate: (<u>N/A</u>) Neutral Glasswool: (<u>D003978</u>) Pre-deactivated Glasswool: (<u>N/A</u>) 1:1 Hexane/Acetone: (<u>N/A</u>) 80:20 Hexane/Acetone: (<u>N/A</u>) 4L 1:1 DCM/Acetone: (<u>E000167</u>) 80:20 DCM/Acetone: (<u>N/A</u>) Hexane: (<u>N/A</u>) 4L DCM: (<u>D004497</u>) Other: () Other: ()	Sonication/Microwave /Tissue/Station <u>01/15/16</u> <u>4L/CT</u>
Pre-GPC KD Station: Hexane: () DCM: (<u>D004685</u>) Neutral Sodium Sulfate: () Pre-deactivated Sodium Sulfate: () Neutral Glasswool: () Pre-deactivated Glasswool: () Other: () Other: ()	Pre-GPC KD <u>EU</u> <u>1/15/16</u>
GPC Filter Prep: DCM: (<u>D004685</u>) Other: () Other: ()	GPC Filter Prep <u>W</u> <u>1/18/16</u>
GPC Station: Acetone: (<u>D003482</u>) 2L DCM: (<u>D004685</u>) 1:1 DCM/Acetone: () Other: () Other: ()	GPC <u>G</u> <u>1/18/16</u>
Post GPC KD Station: 4L DCM: (<u>D004685</u>) Hexane: (<u>D005308</u>) Other: () Other: ()	Post GPC KD <u>W</u> <u>01/20/16</u>
Vialing Station: Hexane: (<u>D005345</u>) DCM: (<u>D004685</u>) Concentrated Sulfuric Acid: () Ethyl Acetate: () Tetraethylammonium hydrogensulfate (TEAH): () Sodium Sulfite: () Copper: () Silica Gel (SPE) Darts: () 0% Silica Gel: (<u>D004343</u>) Alumina: () HexMgBr: () Other: Glass wool (<u>D001829</u>) Other: Sodium Sulfate (<u>D005373</u>)	Vialing <u>SP</u> <u>4/20/16</u> <u>01/21/16</u>

60:40 Pent/DCM
E000235



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: APR4/ATSC

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: Low level Simpva

Client Project: Port Gamble Cleanup

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

SIM PAH Raw Data
Initial Calibration

ARI Job ID: APR4

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH (0.5 ug/kg)	Solid	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: <i>YL00008</i>	YES	JLW	12/05/2015
2	DFTPP Tune met criteria	YES	JLW	12/05/2015
3	DDT breakdown <20%	YES	JLW	12/05/2015
4	Peak Tailing factor <= 2% Comments: <i>Benzidine TD @ 2.11</i>	NO	JLW	12/05/2015
5	ICal meets 20% RSD, LR COD, and QR COD limits	YES	JLW	12/05/2015
6	NO ICAL Q Flag applied	YES	JLW	12/05/2015
7	Manual integrations include before/after pictures	NA	JLW	12/05/2015
8	Spectral Library matches updated	YES	JLW	12/05/2015
9	Internal Standard areas within 50-200% from reference	YES	JLW	12/05/2015
10	Minimum response factors met			12/30/1899
11	All SCV within +/- 20% (DOD)	YES	JLW	12/05/2015
12	All SCV within +/- 30%	YES	JLW	12/05/2015
13	NO Linear or Quadratic fits used	YES	JLW	12/05/2015
14	NO Calibration points dropped	YES	JLW	12/05/2015
15	Additional notes	NA	JLW	12/05/2015
16	Reviewer approval (Reviewer)	YES	BB	12/07/2015

* = Indicates Automated Response from Element DataSystem

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt11.i\20151204.b\15120404.D
 Level 2: \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Level 3: \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Level 4: \\target\share\chem3\nt11.i\20151204.b\15120402.D
 Level 5: \\target\share\chem3\nt11.i\20151204.b\15120406.D
 Level 6: \\target\share\chem3\nt11.i\20151204.b\15120407.D

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
5 Naphthalene	1.19875	1.25660	1.20859	1.13779	1.09546	1.03421	1.15523	7.090
7 2-Methylnaphthalene	0.75696	0.82162	0.81758	0.82518	0.78721	0.75401	0.79376	4.105
8 1-Methylnaphthalene	0.67221	0.74285	0.74457	0.74059	0.71073	0.68104	0.71533	4.554
10 Acenaphthylene	1.58688	1.68774	1.64577	1.62759	1.60202	1.53483	1.61414	3.252
12 Acenaphthene	1.08363	1.13588	1.09716	1.06578	1.04086	1.00481	1.07135	4.251
14 Dibenzofuran	1.63702	1.74172	1.68518	1.62325	1.55902	1.43742	1.61394	6.569
15 Fluorene	1.15912	1.25912	1.24842	1.23125	1.20885	1.15567	1.21040	3.673
17 Pentachlorophenol	++++	++++	++++	++++	++++	++++	++++	++++
19 Phenanthrene	1.20070	1.33868	1.26117	1.22278	1.14299	1.06348	1.20497	7.894
20 Anthracene	1.01417	1.08937	1.08864	1.11858	1.12165	1.03900	1.07857	4.018
22 Carbazole	++++	++++	++++	++++	++++	++++	++++	++++
24 Fluoranthene	1.09490	1.29137	1.25014	1.26562	1.22706	1.12956	1.20977	6.544
25 Pyrene	1.56990	1.71816	1.63928	1.57402	1.55717	1.44465	1.58387	5.751
28 Benzo (a) anthracene	1.26389	1.42412	1.34869	1.34036	1.33833	1.28529	1.33345	4.200
30 Chrysene	1.46075	1.64931	1.51090	1.43415	1.41191	1.31399	1.46350	7.649
44 Benzo (b) fluoranthene	1.23590	1.44922	1.33506	1.30908	1.42782	1.37318	1.35504	5.830
45 Benzo (k) fluoranthene	1.40405	1.66492	1.57480	1.60115	1.63773	1.59156	1.57904	5.812
46 Benzo (j) fluoranthene	1.32355	1.58148	1.42960	1.41908	1.47673	1.39992	1.43839	5.986
34 Benzo (a) pyrene	1.12243	1.39016	1.28482	1.30477	1.39200	1.35226	1.30774	7.704
37 Indeno (1,2,3-cd) pyrene	1.07019	1.39573	1.34204	1.37226	1.52877	1.52953	1.37309	12.270
38 Dibenzo (a,h) anthracene	0.79381	1.05747	1.07068	1.11092	1.23311	1.24877	1.08579	15.143
39 Benzo (g,h,i) perylene	1.03016	1.23486	1.17375	1.17405	1.27154	1.26755	1.19199	7.571
47 Perylene	1.25753	1.47517	1.35486	1.30583	1.39016	1.35136	1.35582	5.480
48 Benzo (e) pyrene	1.29965	1.48474	1.37096	1.32360	1.39138	1.34634	1.36945	4.764
\$ 6 2-Methylnaphthalene-d10	0.70562	0.76809	0.76144	0.76607	0.73856	0.71434	0.74235	3.683
\$ 16 2,4,6-Tribromophenol	++++	++++	++++	++++	++++	++++	++++	++++
\$ 23 Fluoranthene-d10	1.01495	1.15239	1.11432	1.13346	1.12157	1.06256	1.09988	4.666

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Compound	10.000	50.000	100.000	250.000	500.000	1000.000	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		
\$ 36 Dibenzo(a,h)anthracene-d14	0.59288	0.78076	0.79874	0.81630	0.91118	0.94354	0.80723	15.292



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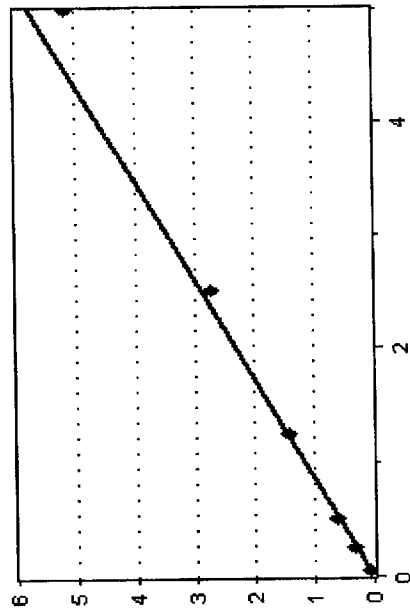
Calibration Report

Instrument: NT11
Calibration ID: YL00008

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

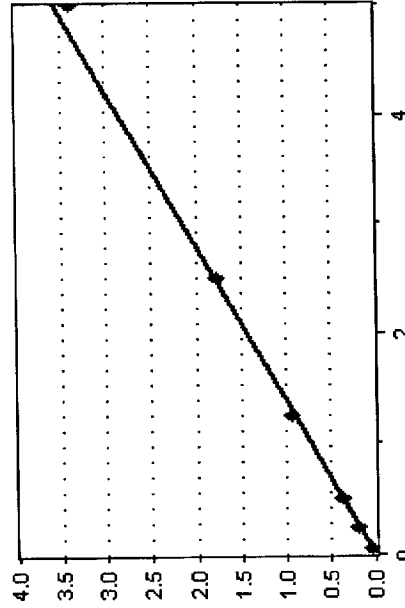
8270D-SIM PAH (0.5 ug/kg)

Naphthalene
8270D-SIM PAH (0.5 ug/kg) - Naphthalene



1-Methylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 1-Methylnaphthalene





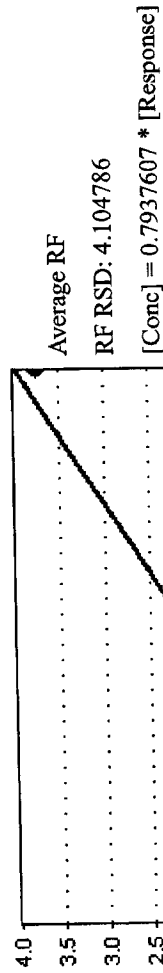
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

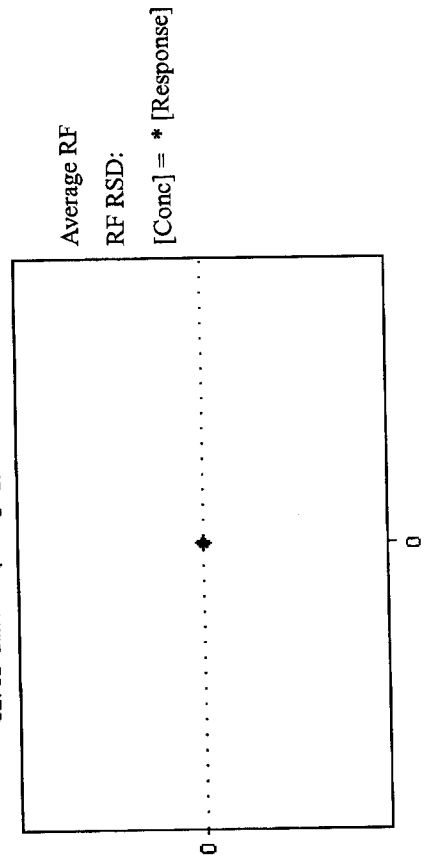
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)

2-Methylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene



Biphenyl
8270D-SIM PAH (0.5 ug/kg) - Biphenyl



ARPH: 00004



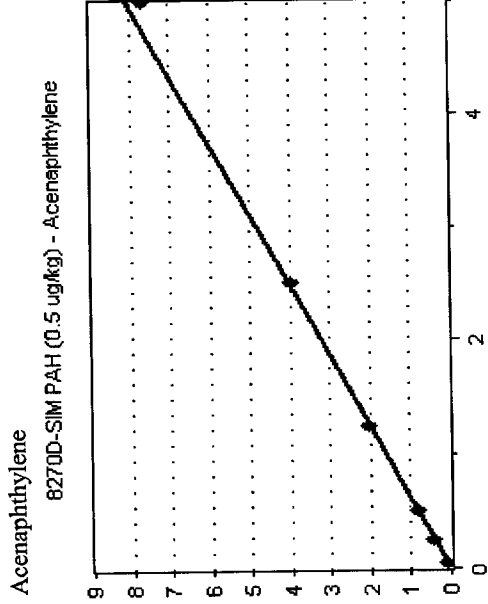
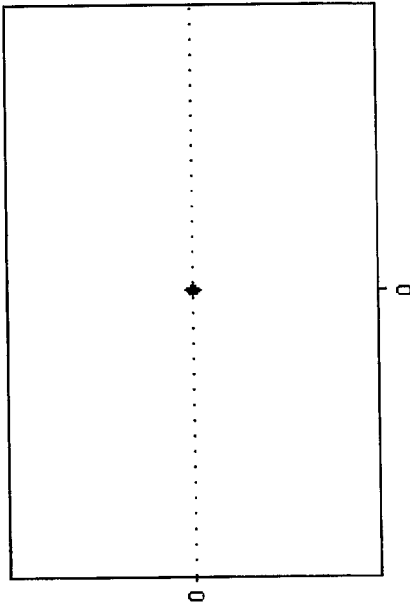
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k)

2,6-Dimethylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2,6-Dimethylnaphthalene





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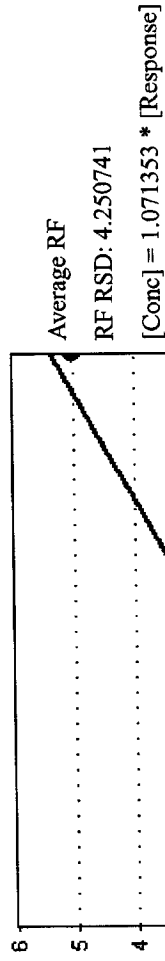
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Acenaphthene

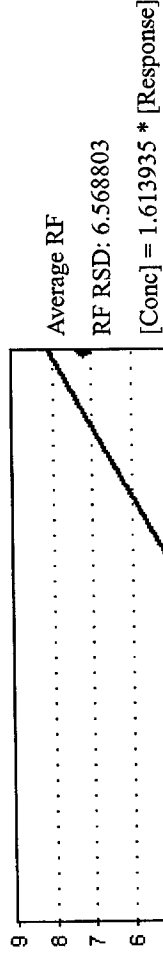
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Acenaphthene

8270D-SIM PAH (0.5 ug/kg) - Acenaphthene



8270D-SIM PAH (0.5 ug/kg) - Dibenzofuran





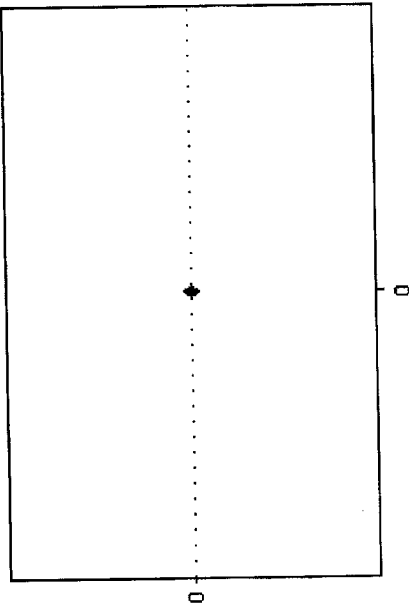
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

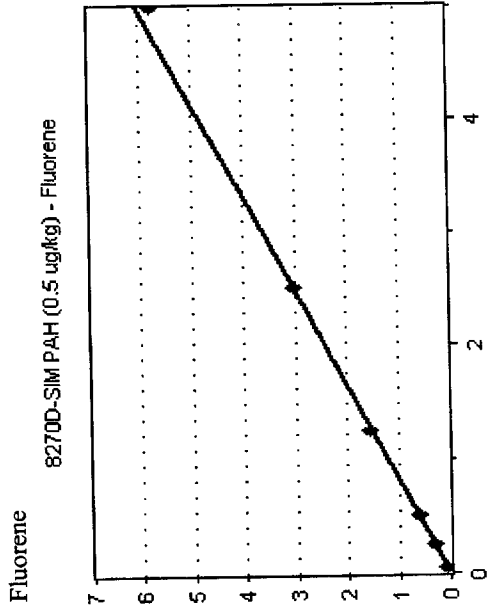
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

2,3,5-Trimethylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2,3,5-Trimethylnaphthalene



Average RF
RF RSD:
[Conc] = * [Response]



Average RF
RF RSD: 3.672642
[Conc] = 1.210404 * [Response]



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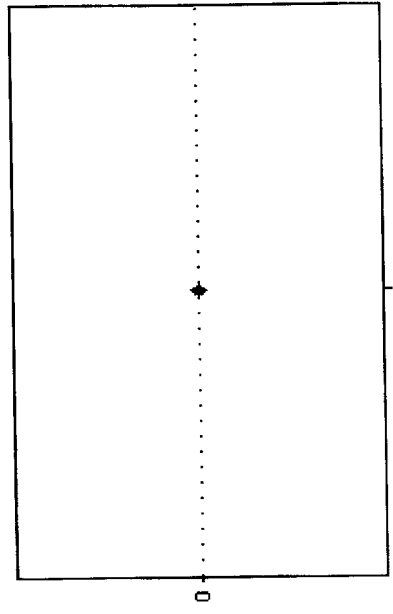
Calibration Report

Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

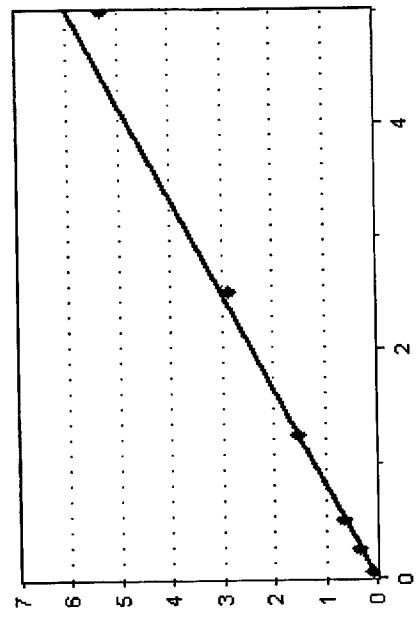
Dibenzothiophene

8270D-SIM PAH (0.5 ug/kg) - Dibenzothiophene



Phenanthrene

8270D-SIM PAH (0.5 ug/kg) - Phenanthrene



ARPH: 00000



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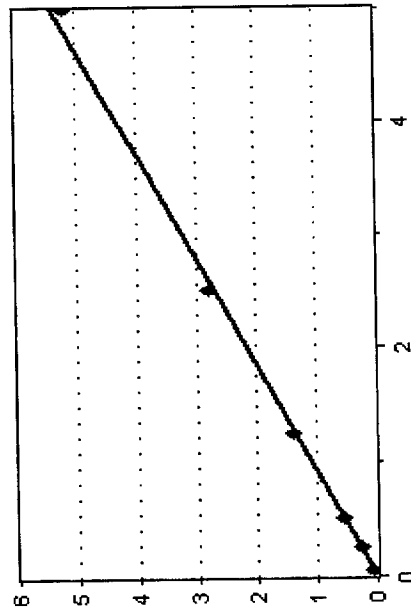
Calibration Report

Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

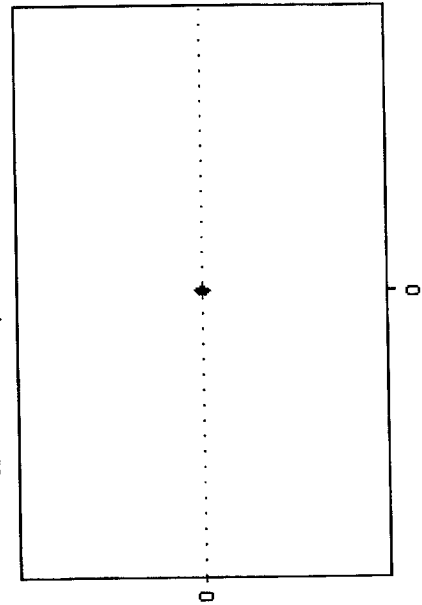
Anthracene

8270D-SIM PAH (0.5 ug/kg) - Anthracene



Carbazole

8270D-SIM PAH (0.5 ug/kg) - Carbazole



APP4: 00000



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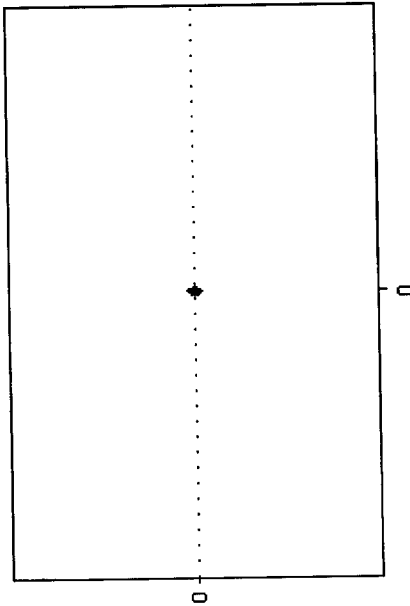
Calibration Report

Instrument: NT11
Calibration ID: YL00008

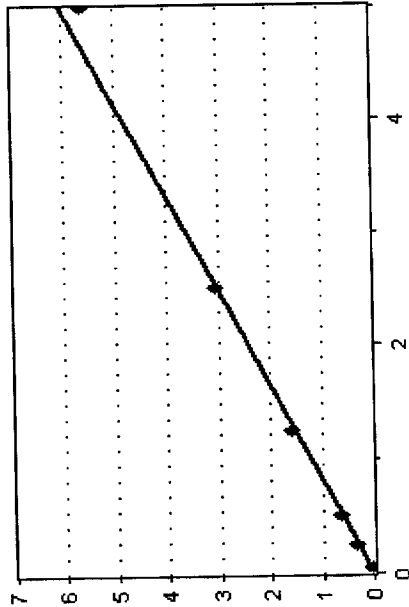
Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

1-Methylphenanthrene
8270D-SIM PAH (0.5 ug/kg) - 1-Methylphenanthrene



Fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene





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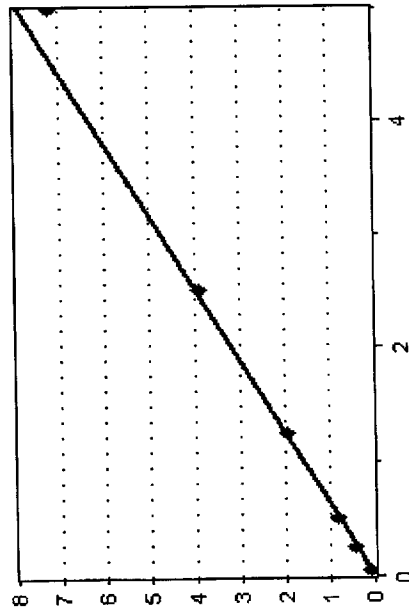
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

Pyrene

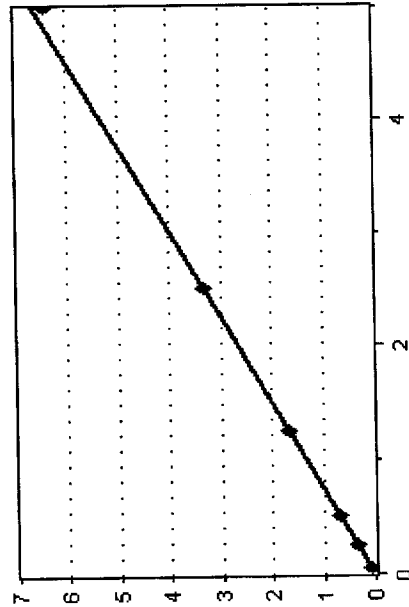
8270D-SIM PAH (0.5 ug/kg) - Pyrene



Average RF
RF RSD: 5.75149
[Conc] = 1.583866 * [Response]

Benzo(a)anthracene

8270D-SIM PAH (0.5 ug/kg) - Benzo(a)anthracene



Average RF
RF RSD: 4.200089
[Conc] = 1.333447 * [Response]

APR 11 08:10:01



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Calibration Report

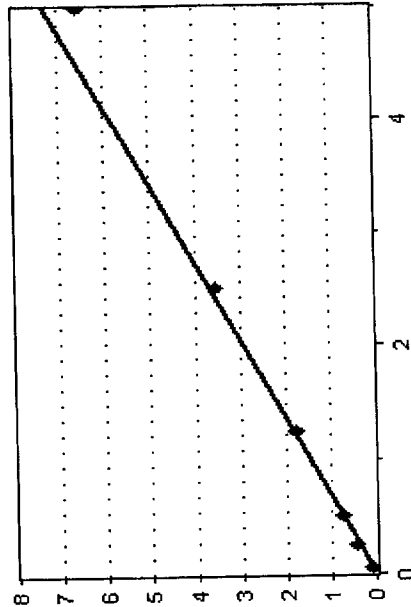
Instrument: NT11
Calibration ID: YL00008

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)

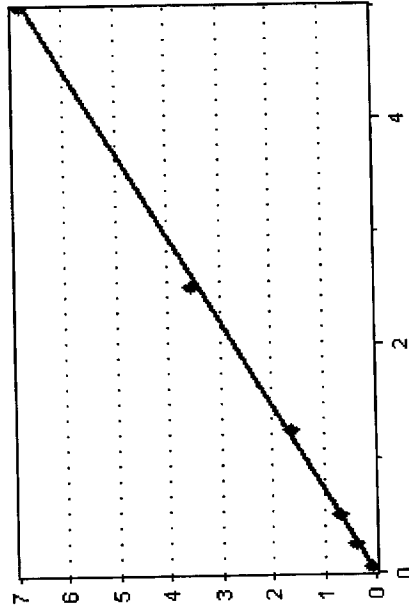
Chrysene

8270D-SIM PAH (0.5 ug/kg) - Chrysene



Benzo(b)fluoranthene

8270D-SIM PAH (0.5 ug/kg) - Benzo(b)fluoranthene





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Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Benzo(k)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(k)fluoranthene

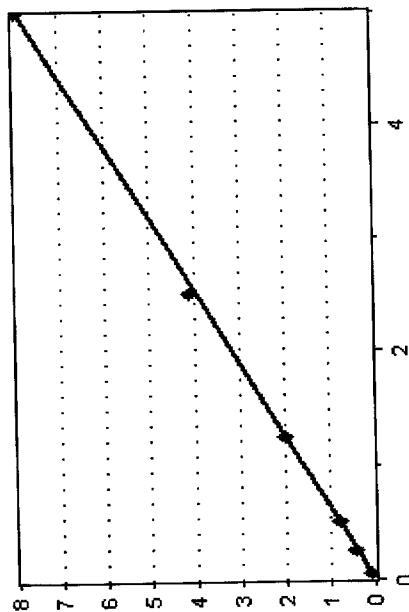
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

Calibration Date:
Last Edit Date:

8270D-SIM PAH (0.5 ug/k;

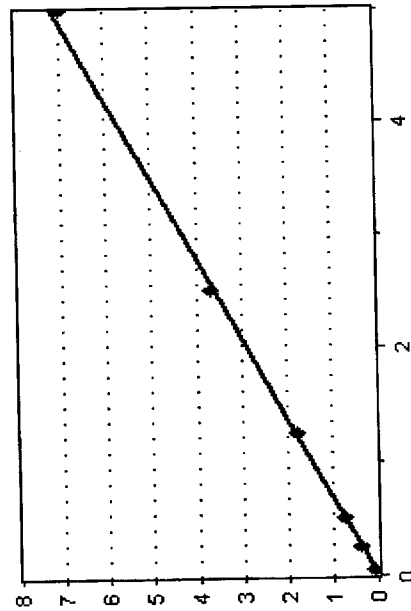
Benzo(k)fluoranthene

8270D-SIM PAH (0.5 ug/kg) - Benzo(k)fluoranthene



Benzo(j)fluoranthene

8270D-SIM PAH (0.5 ug/kg) - Benzo(j)fluoranthene



RRP4-00100



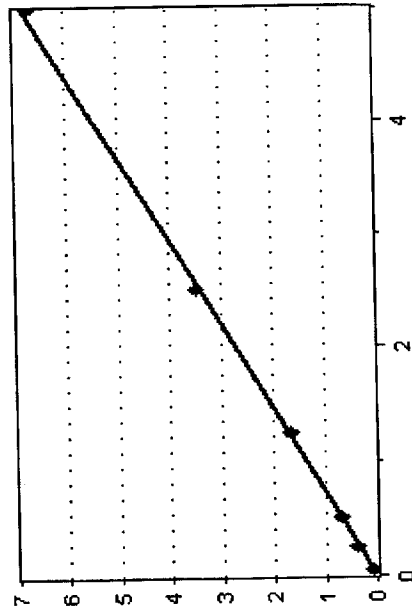
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

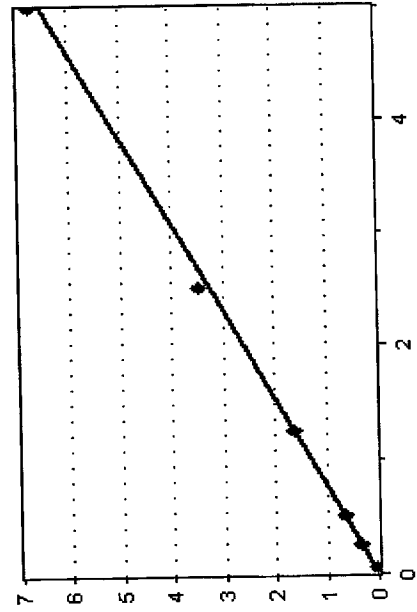
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JILW
05-Dec-2015 10:30 By JILW

8270D-SIM PAH (0.5 ug/kg)

Benzo(e)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(e)pyrene



Benzo(a)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(a)pyrene





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Analytical Chemists and Consultants

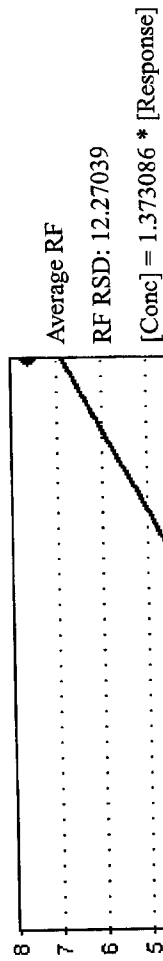
Calibration Report

Instrument: NT11
Calibration ID: YL00008

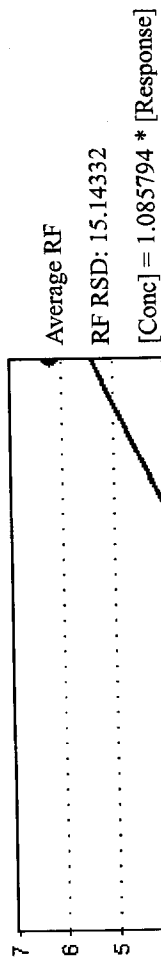
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

Indeno(1,2,3-cd)pyrene
8270D-SIM PAH (0.5 ug/kg) - Indeno(1,2,3-cd)pyrene



Dibenzo(a,h)anthracene
8270D-SIM PAH (0.5 ug/kg) - Dibenzo(a,h)anthracene



ARPL: 00105



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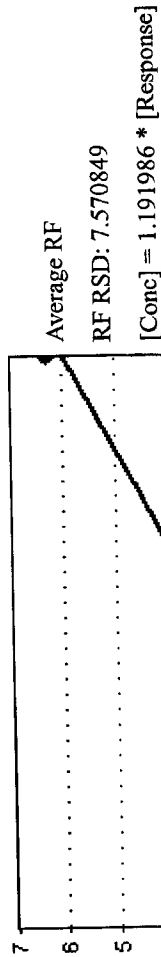
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

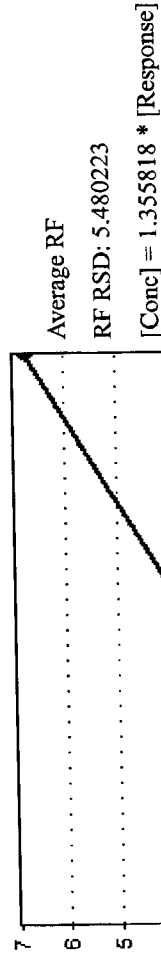
Benzo(g,h,i)perylene

8270D-SIM PAH (0.5 ug/kg) - Benzo(g,h,i)perylene



Perylene

8270D-SIM PAH (0.5 ug/kg) - Perylene



ARPH: 00106



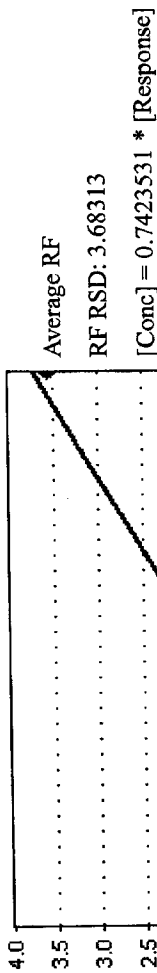
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

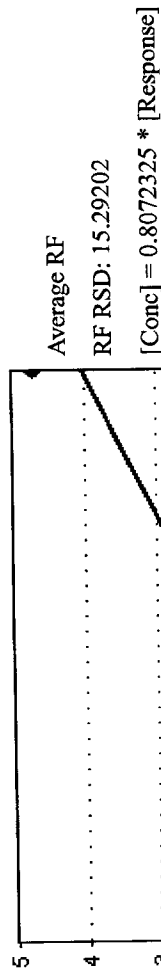
Instrument: NT11
Calibration ID: YL00008
Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

2-Methylnaphthalene-d10
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene-d10



Dibenzo[a,h]anthracene-d14
8270D-SIM PAH (0.5 ug/kg) - Dibenzo[a,h]anthracene-d14



ARPH: 00107



Analytical Resources, Incorporated
Analytical Chemists and Consultants

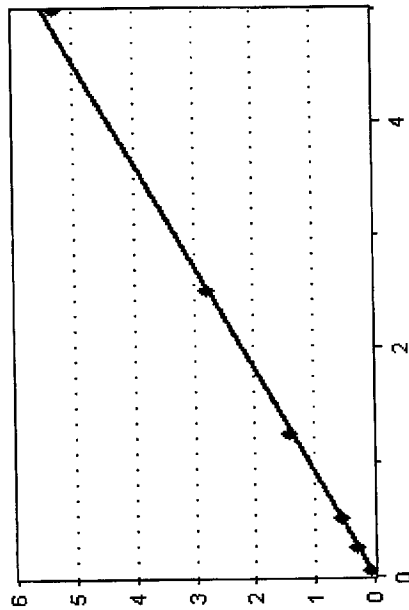
Calibration Report

Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)

Fluoranthene-d10

8270D-SIM PAH (0.5 ug/kg) - Fluoranthene-d10



Average RF
RF RSD: 4.666284
[Conc] = 1.099877 * [Response]

Naphthalene-d8

Average RF
RF RSD:
[Conc] = * [Response]

AR04 : 00100

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20151204.b

ARI Job No.: TUNE Method: DFPPP.m Instrument: nt11.i Date: 04-DEC-2015

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0845	15120401.D	TUNE 10		1	NO MANUAL INTEGRATION
0903	15120402.D	LLSIM 250		1	NO MANUAL INTEGRATION
0933	15120403.D	LLSIM 100		1	NO MANUAL INTEGRATION
1003	15120404.D	LLSIM 10		1	NO MANUAL INTEGRATION
1033	15120405.D	LLSIM 50		1	NO MANUAL INTEGRATION
1103	15120406.D	LLSIM 500		1	NO MANUAL INTEGRATION
1133	15120407.D	LLSIM 1000		1	NO MANUAL INTEGRATION
1204	15120408.D	LLSIM SCV 250		1	NO MANUAL INTEGRATION

INTERNAL STANDARD SUMMARY FOR DATAATCH - \\target\share\chem3\nt11.i\20151204.b

Time	Filename	LabID	ClientID	DF	NO ISTDs FOUND									
1	0845	15120401.D	TUNE 10	1	6.60	327896	9.60	239179	12.27	372253	17.02	294711	19.84	260595
2	0903	15120402.D	LLSIM 250	1	6.60	322094	9.60	228988	12.27	364343	17.02	276576	19.84	245162
3	0933	15120403.D	LLSIM 100	1	6.60	325673	9.60	218580	12.27	358974	17.01	262207	19.84	229323
4	1003	15120404.D	LLSIM 10	1	6.60	322810	9.60	219192	12.27	354307	17.01	262604	19.84	229726
5	1033	15120405.D	LLSIM 50	1	6.60	340768	9.60	241553	12.27	382017	17.01	296788	19.84	253397
6	1103	15120406.D	LLSIM 500	1	6.60	337457	9.60	238950	12.27	380348	17.01	298514	19.84	256244
7	1133	15120407.D	LLSIM 1000	1	6.60	330144	9.60	236381	12.27	360337	17.01	291007	19.83	242244
8	1204	15120408.D	LLSIM SCV 250	1	6.60	330144	9.60	236381	12.27	360337	17.01	291007	19.83	242244

Report Date : 05-Dec-2015 10:32

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.1

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 4 Naphthalene-d8	6.598	6.597	6.598	6.598	6.598	6.598	6.598	6.348-6.848	6.598	0.000
5 Naphthalene	6.640	6.629	6.629	6.629	6.629	6.629	6.629	6.379-6.879	6.631	0.004
\$ 6 2-Methylnaphthalene-d1	7.575	7.575	7.575	7.575	7.575	7.575	7.575	7.325-7.825	7.575	0.000
7 2-Methylnaphthalene	7.638	7.638	7.638	7.627	7.627	7.627	7.627	7.377-7.877	7.632	0.006
8 1-Methylnaphthalene	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.640-8.140	7.890	0.000
10 Acenaphthylene	9.446	9.446	9.446	9.446	9.446	9.446	9.446	9.196-9.696	9.446	0.000
* 11 Acenaphthene-d10	9.601	9.601	9.601	9.601	9.601	9.601	9.601	9.351-9.851	9.601	0.000
12 Acenaphthene	9.656	9.656	9.656	9.656	9.656	9.656	9.656	9.406-9.906	9.656	0.000
14 Dibenzofuran	9.867	9.867	9.867	9.867	9.867	9.867	9.867	9.617-10.117	9.867	0.000
15 Fluorene	10.487	10.487	10.487	10.487	10.487	10.487	10.487	10.237-10.737	10.487	0.000
\$ 16 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++	12.499	12.249-12.749	+++++	+++++
17 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	4.785	4.535-5.035	+++++	+++++
* 18 Phenanthrene-d10	12.269	12.269	12.269	12.269	12.269	12.269	12.269	12.019-12.519	12.269	0.000
19 Phenanthrene	12.314	12.313	12.314	12.314	12.313	12.313	12.313	12.063-12.563	12.313	0.000
20 Anthracene	12.369	12.369	12.369	12.369	12.369	12.369	12.369	12.119-12.619	12.369	0.000
22 Carbazole	+++++	+++++	+++++	+++++	+++++	+++++	14.533	14.283-14.783	+++++	+++++
\$ 23 Fluoranthene-d10	14.375	14.375	14.375	14.365	14.375	14.375	14.375	14.125-14.625	14.373	0.004

Reviewer 1 JL Date: 12/5/15
Reviewer 2 [Signature] Date: 12/7/15

Report Date : 05-Dec-2015 10:32

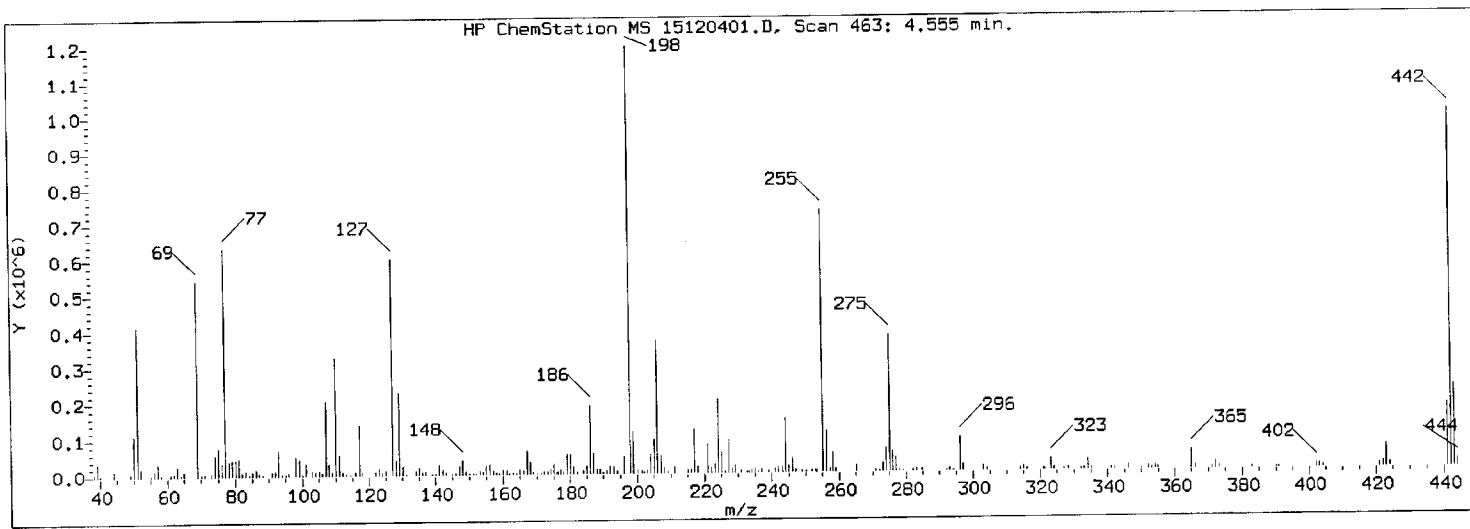
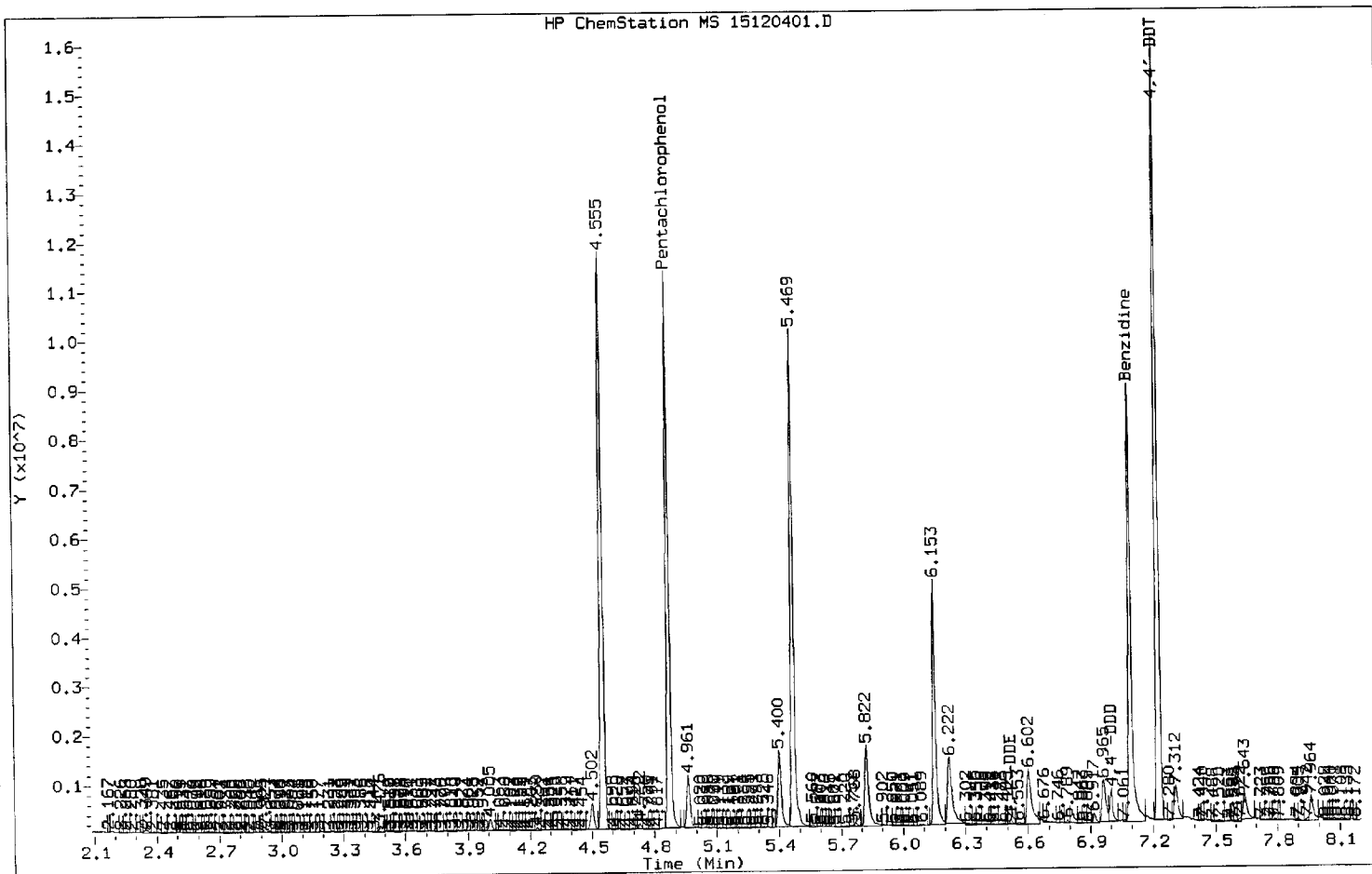
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.i

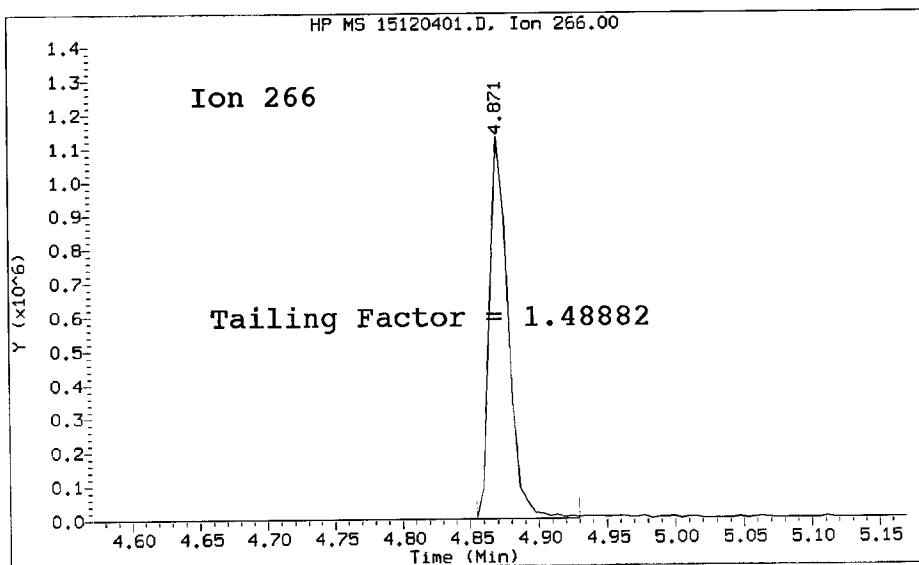
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
24 Fluoranthene	14.404	14.404	14.404	14.404	14.404	14.404	14.404	14.154-14.654	14.404	0.000
25 Pyrene	14.903	14.903	14.903	14.903	14.903	14.903	14.903	14.653-15.153	14.903	0.000
28 Benzo(a)anthracene	16.918	16.918	16.918	16.918	16.918	16.918	16.918	16.668-17.168	16.918	0.000
* 29 Chrysene-d12	17.018	17.018	17.010	17.010	17.010	17.010	17.010	16.760-17.260	17.012	0.004
30 Chrysene	17.068	17.059	17.060	17.060	17.059	17.059	17.059	16.809-17.309	17.061	0.003
44 Benzo(b)fluoranthene	18.785	18.785	18.785	18.785	18.785	18.785	18.785	18.535-19.035	18.785	0.000
45 Benzo(k)fluoranthene	18.833	18.833	18.824	18.824	18.823	18.833	18.833	18.583-19.083	18.828	0.005
46 Benzo(j)fluoranthene	18.891	18.891	18.891	18.891	18.891	18.891	18.891	18.641-19.141	18.891	0.000
34 Benzo(a)pyrene	19.640	19.630	19.631	19.631	19.631	19.631	19.631	19.381-19.881	19.632	0.004
* 35 Perylene-d12	19.842	19.842	19.842	19.842	19.842	19.842	19.842	19.592-20.092	19.842	0.000
§ 36 Dibenzo(a,h)anthracene	22.208	22.197	22.197	22.197	22.197	22.197	22.197	21.947-22.447	22.199	0.005
37 Indeno(1,2,3-cd)pyrene	22.330	22.330	22.330	22.330	22.330	22.330	22.330	22.080-22.580	22.330	0.000
38 Dibenzo(a,h)anthracene	22.319	22.319	22.319	22.308	22.308	22.308	22.308	22.058-22.558	22.313	0.006
39 Benzo(g,h,i)perylene	23.427	23.426	23.427	23.427	23.426	23.426	23.426	23.176-23.676	23.426	0.000
47 Perylene	19.900	19.900	19.900	19.900	19.900	19.900	19.900	19.650-20.150	19.900	0.000
48 Benzo(e)pyrene	19.525	19.525	19.525	19.525	19.525	19.525	19.525	19.275-19.775	19.525	0.000

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20151204.b/15120401.D/15120401.D
 Method Used: \20151204.b\DFTPP.m Inst: nt11
 Injection Date: 04-DEC-2015 08:45 Operator: JW
 Sample Info: TUNE 10 TUNE 10
 Report Date: 12/04/2015 09:41



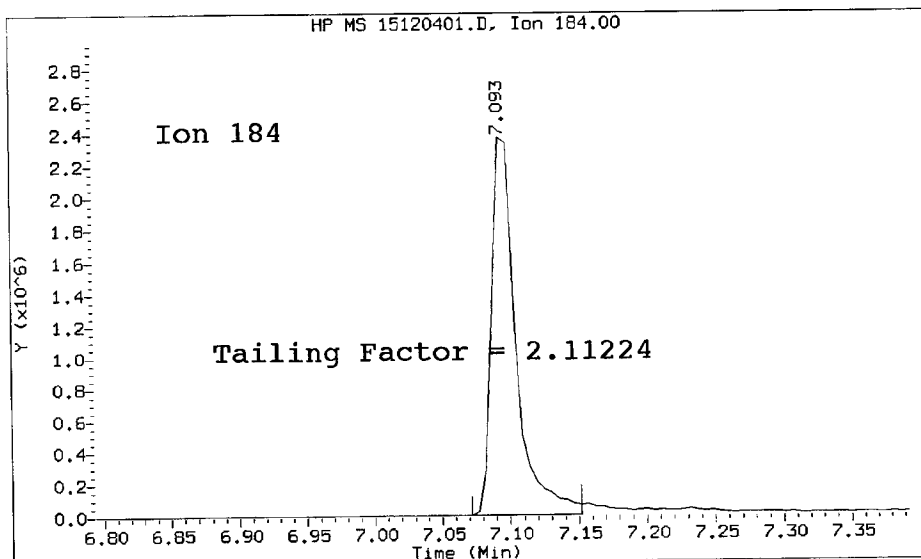
Datafile Analyzed: /20151204.b/15120401.D/15120401.D
Method Used: \20151204.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 04-DEC-2015 08:45 Operator: JR
Sample Info: TUNE 10
Report Date: 12/04/2015 09:41



Pentachlorophenol

=====
Exp. RT = 4.914
Found RT = 4.871

Tail Factor = 1.489 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.141
Found RT = 7.093

The tailing factor for Benzidine EXCEEDED

Tail Factor = 2.112 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4888179	2.000	PASS
Benzidine	2.1122449	2.000	FAIL

[Failure]

BB
12/7/15

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2078544			N/A
4,4-DDE	12541	0.6	20.0	PASS
4,4-DDD	100432	4.6	20.0	PASS
4,4-DDD + DDE	112973	5.2	20.0	PASS

Tuning Sample, nt11.i/20151204.b/15120401.D, *** FAILED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	36.71
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	46.72
70	Less than 2.00% of mass 69	0.25 (0.53)
127	10.00 - 80.00% of mass 198	50.34
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.78
275	10.00 - 60.00% of mass 198	29.75
365	Greater than 1.00% of mass 198	3.54
441	0.01 - 24.00% of mass 442	13.40 (16.36)
442	50.00 - 200.00% of mass 198	81.93
443	15.00 - 24.00% of mass 442	18.59 (22.69)

Data File: 15120401.D
 Spectrum: Avg. Scans 462-464 (4.56), Background Scan 456
 Location of Maximum: 198.00
 Number of points: 252

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	5903	123.00	15321	191.00	4529	276.00	37792
39.00	32472	124.00	6008	192.00	15383	277.00	25616
40.00	2234	125.00	8697	193.00	14981	278.00	5143
44.00	1291	127.00	487424	194.00	2969	279.00	797
49.00	2336	128.00	36048	195.00	935	282.00	1077
50.00	99976	129.00	198784	196.00	36952	283.00	4344
51.00	355456	130.00	17864	198.00	968192	285.00	4257
52.00	19288	131.00	3029	199.00	85016	290.00	736
53.00	699	132.00	770	200.00	7648	292.00	695
55.00	817	134.00	4444	201.00	4181	293.00	3995
56.00	12284	135.00	17328	202.00	2800	294.00	1601
57.00	28160	136.00	7249	203.00	7062	296.00	79296
58.00	882	137.00	7197	204.00	45768	297.00	10726
61.00	4027	139.00	686	205.00	78432	301.00	1083
62.00	4478	140.00	3181	206.00	296256	303.00	9535
63.00	21296	141.00	26728	207.00	40064	304.00	2760
64.00	2870	142.00	9703	208.00	13008	310.00	1258
65.00	7567	143.00	5423	209.00	4174	314.00	5255
69.00	452352	144.00	1270	210.00	2826	315.00	11430
70.00	2404	145.00	2146	211.00	10991	316.00	4496
71.00	1729	146.00	3758	212.00	1343	317.00	1730
74.00	51136	147.00	11875	213.00	1135	321.00	2836
75.00	72784	148.00	28688	215.00	5759	322.00	766
76.00	27064	149.00	7601	216.00	5158	323.00	27808
77.00	512768	150.00	1111	217.00	87992	324.00	3710
78.00	35304	151.00	3226	218.00	10624	327.00	3445
79.00	35128	152.00	2009	221.00	58632	328.00	2747
80.00	28640	153.00	8844	222.00	12655	332.00	2890
81.00	40048	154.00	6510	223.00	18704	333.00	2909
82.00	10036	155.00	17848	224.00	170624	334.00	18896
83.00	13510	156.00	20976	225.00	44928	335.00	3574
84.00	155	157.00	5537	226.00	4319	341.00	3496
85.00	9792	158.00	5165	227.00	75184	342.00	946
86.00	11647	159.00	2604	228.00	10251	346.00	5555
87.00	6242	160.00	7198	229.00	15494	350.00	704
88.00	2104	161.00	9881	231.00	4886	352.00	9894
91.00	8456	162.00	2652	233.00	1517	353.00	6975
92.00	8959	163.00	959	234.00	3642	354.00	7491
93.00	59144	164.00	701	235.00	4833	355.00	2236
94.00	4278	165.00	10199	236.00	1621	365.00	34240
95.00	1022	166.00	9417	237.00	5726	366.00	4979
96.00	2824	167.00	49792	239.00	1926	371.00	2016
98.00	40528	168.00	25208	241.00	6592	372.00	17560
99.00	34656	169.00	4359	242.00	9932	373.00	3339
100.00	3425	170.00	2037	243.00	9154	383.00	2922
101.00	24160	171.00	2039	244.00	122792	390.00	1755
102.00	687	172.00	5959	245.00	17280	391.00	814
103.00	7164	173.00	5076	246.00	28232	402.00	5209
104.00	12935	174.00	11539	247.00	4557	403.00	6386

105.00	10605	175.00	20720	249.00	3982	404.00	2710
106.00	7128	176.00	7696	250.00	1046	421.00	6452
107.00	162176	177.00	11926	252.00	969	422.00	10014
108.00	27064	178.00	3414	253.00	5072	423.00	50464
109.00	2954	179.00	42472	255.00	572352	424.00	9853
110.00	279360	180.00	32368	256.00	86752	425.00	909
111.00	42360	181.00	14321	257.00	6074	441.00	129768
112.00	6933	182.00	2960	258.00	40416	442.00	793216
113.00	1332	184.00	4180	259.00	6964	443.00	179968
114.00	829	185.00	19872	265.00	16576	444.00	15867
116.00	8676	186.00	147328	271.00	1077	445.00	897
117.00	106856	187.00	42160	272.00	2517		
118.00	7215	188.00	5898	273.00	20392		
120.00	674	189.00	10119	274.00	55504		
122.00	7466	190.00	1772	275.00	288064		

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120402.D

Lab Smp Id: LLSIM 250

Inj Date : 04-DEC-2015 09:03

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM 250

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw

Quant Type: ISTD

Cal Date : 04-DEC-2015 09:03

Cal File: 15120402.D

Als bottle: 5

Calibration Sample, Level: 4

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: PEMD.sub

Target Version: 4.14

JW
12/5/15

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	327896	200.000	
5 Naphthalene	128	6.639	6.629	(1.006)	466348	250.000	246
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	313990	250.000	258
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	338215	250.000	260
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	303545	250.000	259
10 Acenaphthylene	152	9.446	9.445	(0.984)	486608	250.000	252
* 11 Acenaphthene-d10	164	9.601	9.600	(1.000)	239179	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	318640	250.000	249
14 Dibenzofuran	168	9.866	9.866	(1.028)	485308	250.000	251
15 Fluorene	166	10.486	10.486	(1.092)	368110	250.000	254
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	372253	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	568980	250.000	254
20 Anthracene	178	12.368	12.368	(1.008)	520493	250.000	259
\$ 23 Fluoranthene-d10	212	14.375	14.374	(1.172)	527419	250.000	258
24 Fluoranthene	202	14.403	14.403	(1.174)	588912	250.000	262
25 Pyrene	202	14.903	14.903	(0.876)	579853	250.000	248
28 Benzo(a)anthracene	228	16.918	16.918	(0.994)	493775	250.000	251
* 29 Chrysene-d12	240	17.018	17.009	(1.000)	294711	200.000	
30 Chrysene	228	17.067	17.059	(1.003)	528325	250.000	245
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	426424	250.000	242
45 Benzo(k)fluoranthene	252	18.833	18.833	(0.949)	521565	250.000	254
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	462257	250.000	247
34 Benzo(a)pyrene	252	19.640	19.630	(0.990)	425021	250.000	249
* 35 Perylene-d12	264	19.842	19.842	(1.000)	260595	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.208	22.197	(1.119)	265906	250.000	253
37 Indeno(1,2,3-cd)pyrene	276	22.330	22.329	(1.125)	447004	250.000	250
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	361875	250.000	256
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	382439	250.000	246
47 Perylene	252	19.899	19.899	(1.003)	425367	250.000	241
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	431155	250.000	242

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120402.D
 Lab Smp Id: LLSIM 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	327896	0.00
11 Acenaphthene-d10	239179	119590	478358	239179	0.00
18 Phenanthrene-d10	372253	186127	744506	372253	0.00
29 Chrysene-d12	294711	147356	589422	294711	0.00
35 Perylene-d12	260595	130298	521190	260595	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.b\15120402.D

Date : 04-DEC-2015 09:03

Client ID:

Sample Info: LLSIM 250

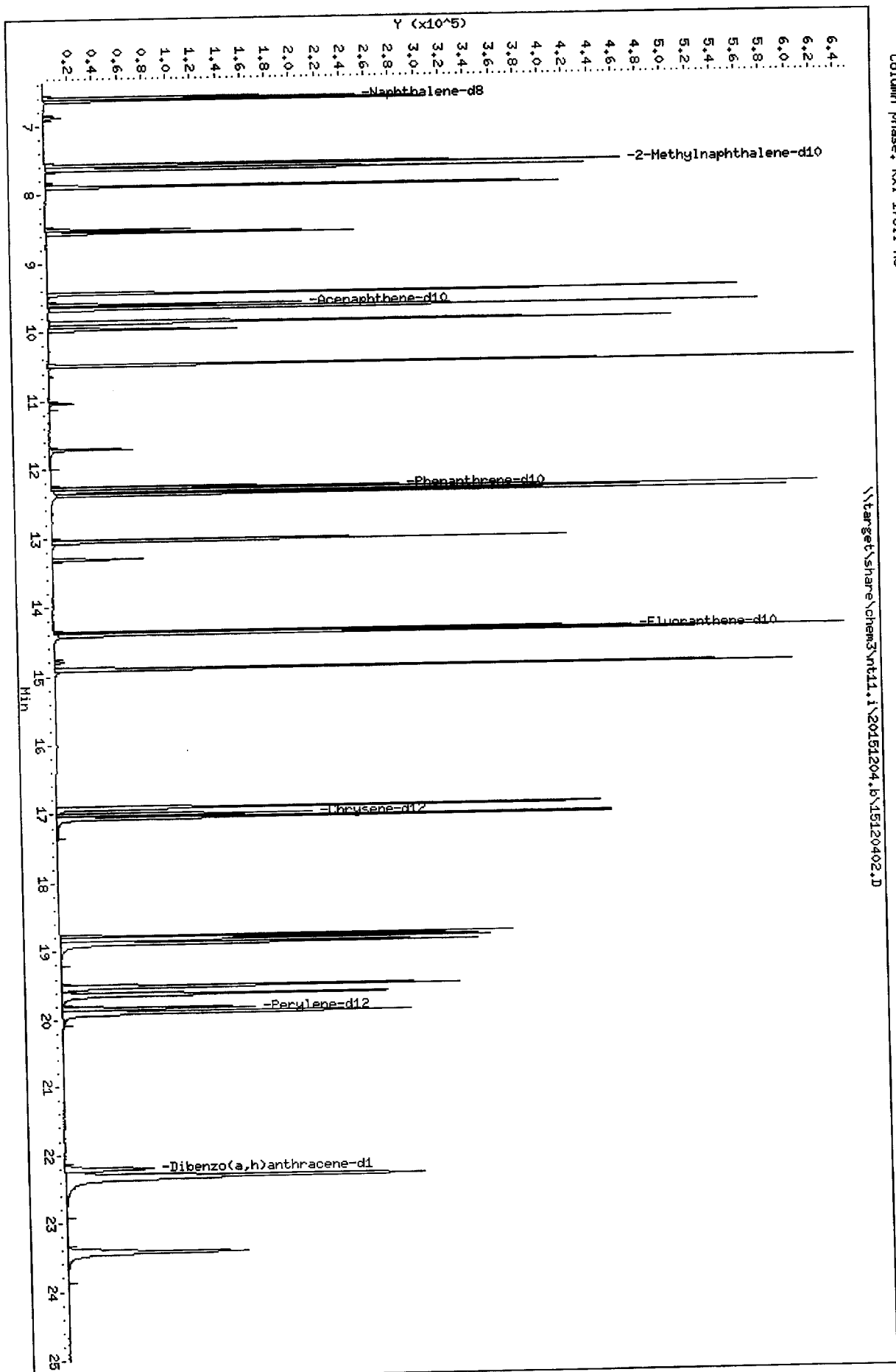
Column phase: RX1-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20151204.b\15120402.D



REVIEW SUMMARY FOR FILE - 15120402.D

Lab ID: LLSIM 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Lab Smp Id: LLSIM 100
 Inj Date : 04-DEC-2015 09:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 100
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 09:33 Cal File: 15120403.D
 Als bottle: 4 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

80 2/5/15

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597 (1.000)		322094	200.000	
5 Naphthalene	128	6.628	6.629 (1.005)		194640	100.000	105
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574 (1.148)		122627	100.000	103
7 2-Methylnaphthalene	142	7.637	7.627 (1.158)		131669	100.000	103
8 1-Methylnaphthalene	142	7.889	7.889 (1.196)		119911	100.000	104
10 Acenaphthylene	152	9.445	9.445 (0.984)		188431	100.000	102
* 11 Acenaphthene-d10	164	9.600	9.600 (1.000)		228988	200.000	
12 Acenaphthene	153	9.656	9.656 (1.006)		125618	100.000	102
14 Dibenzofuran	168	9.866	9.866 (1.028)		192943	100.000	104
15 Fluorene	166	10.486	10.486 (1.092)		142937	100.000	103
* 18 Phenanthrene-d10	188	12.269	12.269 (1.000)		364343	200.000	
19 Phenanthrene	178	12.313	12.313 (1.004)		229750	100.000	105
20 Anthracene	178	12.368	12.368 (1.008)		198320	100.000	101
\$ 23 Fluoranthene-d10	212	14.374	14.374 (1.172)		202998	100.000	101
24 Fluoranthene	202	14.403	14.403 (1.174)		227740	100.000	103
25 Pyrene	202	14.903	14.903 (0.876)		226693	100.000	103
28 Benzo(a)anthracene	228	16.918	16.918 (0.994)		186507	100.000	101
* 29 Chrysene-d12	240	17.017	17.009 (1.000)		276576	200.000	
30 Chrysene	228	17.059	17.059 (1.002)		208940	100.000	103
44 Benzo(b)fluoranthene	252	18.784	18.785 (0.947)		163653	100.000	98.5
45 Benzo(k)fluoranthene	252	18.832	18.833 (0.949)		193041	100.000	99.7
46 Benzo(j)fluoranthene	252	18.890	18.890 (0.952)		175242	100.000	99.4
34 Benzo(a)pyrene	252	19.630	19.630 (0.989)		157495	100.000	98.2
* 35 Perylene-d12	264	19.841	19.842 (1.000)		245162	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.196	22.197 (1.119)		97910	100.000	98.9
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329 (1.125)		164508	100.000	97.7
38 Dibenzo(a,h)anthracene	278	22.318	22.307 (1.125)		131245	100.000	98.6
39 Benzo(g,h,i)perylene	276	23.426	23.426 (1.181)		143879	100.000	98.5
47 Perylene	252	19.899	19.899 (1.003)		166080	100.000	99.9
48 Benzo(e)pyrene	252	19.524	19.524 (0.984)		168054	100.000	100

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120403.D
 Lab Smp Id: LLSIM 100
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322094	-1.77
11 Acenaphthene-d10	239179	119590	478358	228988	-4.26
18 Phenanthrene-d10	372253	186127	744506	364343	-2.12
29 Chrysene-d12	294711	147356	589422	276576	-6.15
35 Perylene-d12	260595	130298	521190	245162	-5.92

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	-0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.b\15120403.D

Date: 04-DEC-2015 09:33

Client ID:

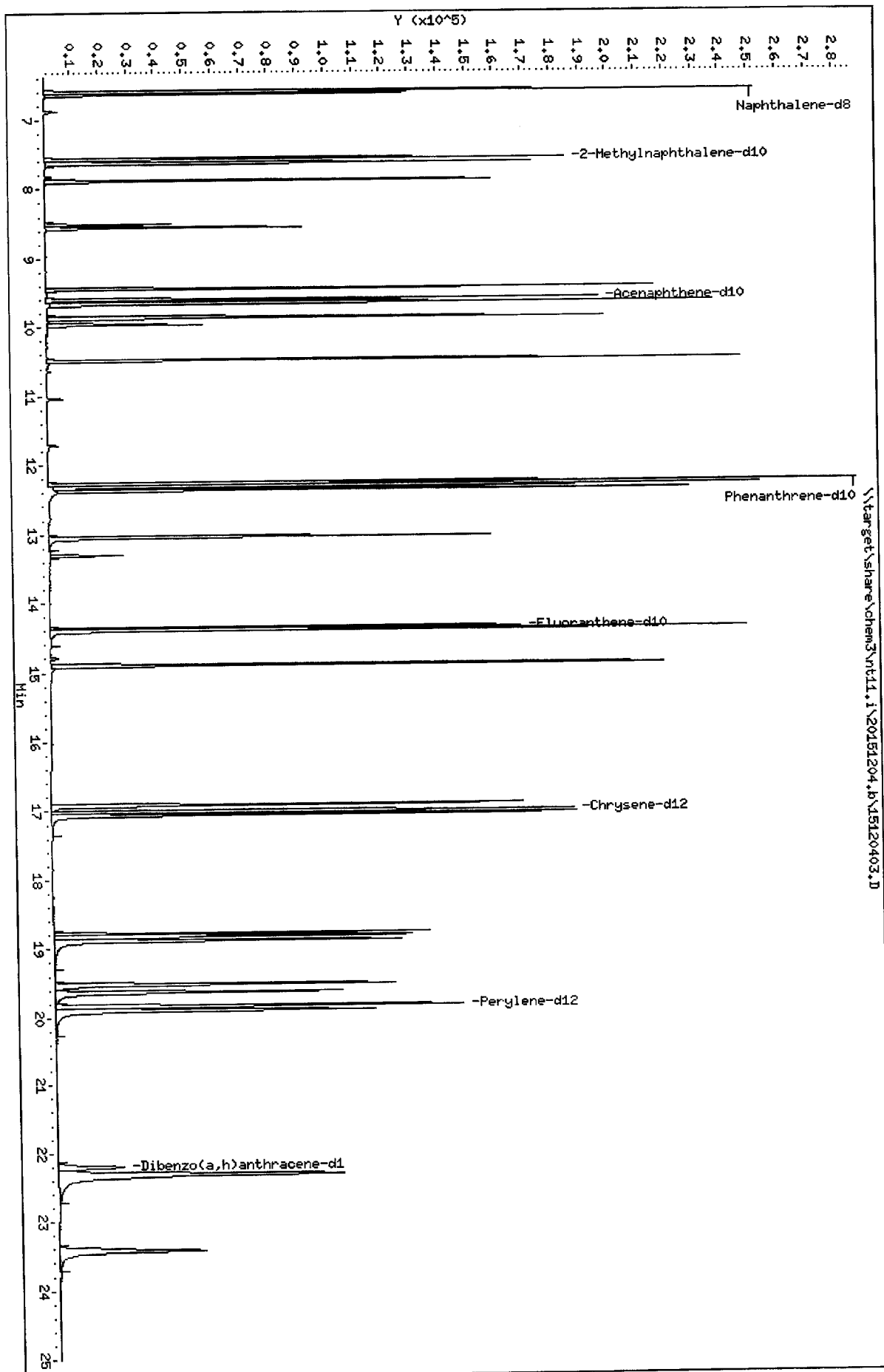
Sample Info: LLSIH 100

Column phase: Rxi-17S11 HS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120403.D

Lab ID: LLSIM 100

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120404.D

Lab Smp Id: LLSIM 10

Inj Date : 04-DEC-2015 10:03

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM 10

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD

Cal Date : 04-DEC-2015 10:03

Cal File: 15120404.D

Als bottle: 2

Calibration Sample, Level: 1

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: PEMD.sub

Target Version: 4.14

*JW
12/5/15*

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	325673	200.000		
5 Naphthalene	128	6.629	6.629	(1.005)	19520	10.0000	10.4	
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	11490	10.0000	9.51	
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	12326	10.0000	9.54	
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	10946	10.0000	9.40	
10 Acenaphthylene	152	9.446	9.445	(0.984)	17343	10.0000	9.83	
* 11 Acenaphthene-d10	164	9.601	9.600	(1.000)	218580	200.000		
12 Acenaphthene	153	9.656	9.656	(1.006)	11843	10.0000	10.1	
14 Dibenzofuran	168	9.866	9.866	(1.028)	17891	10.0000	10.1	
15 Fluorene	166	10.486	10.486	(1.092)	12668	10.0000	9.58	
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	358974	200.000		
19 Phenanthrene	178	12.313	12.313	(1.004)	21551	10.0000	9.96	
20 Anthracene	178	12.368	12.368	(1.008)	18203	10.0000	9.40	
\$ 23 Fluoranthene-d10	212	14.375	14.374	(1.172)	18217	10.0000	9.23	
24 Fluoranthene	202	14.403	14.403	(1.174)	19652	10.0000	9.05	
25 Pyrene	202	14.903	14.903	(0.876)	20582	10.0000	9.91	
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	16570	10.0000	9.48	
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	262207	200.000		
30 Chrysene	228	17.059	17.059	(1.003)	19151	10.0000	9.98	
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	14171	10.0000	9.12	
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	16099	10.0000	8.89	
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	15176	10.0000	9.20	
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	12870	10.0000	8.58	
* 35 Perylene-d12	264	19.842	19.842	(1.000)	229323	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)	6798	10.0000	7.34	
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	12271	10.0000	7.79	
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	9102	10.0000	7.31	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	11812	10.0000	8.64	
47 Perylene	252	19.899	19.899	(1.003)	14419	10.0000	9.28	
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	14902	10.0000	9.49	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120404.D
 Lab Smp Id: LLSIM 10
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	325673	-0.68
11 Acenaphthene-d10	239179	119590	478358	218580	-8.61
18 Phenanthrene-d10	372253	186127	744506	358974	-3.57
29 Chrysene-d12	294711	147356	589422	262207	-11.03
35 Perylene-d12	260595	130298	521190	229323	-12.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120404.D

Date: 04-DEC-2015 10:03

Client ID:

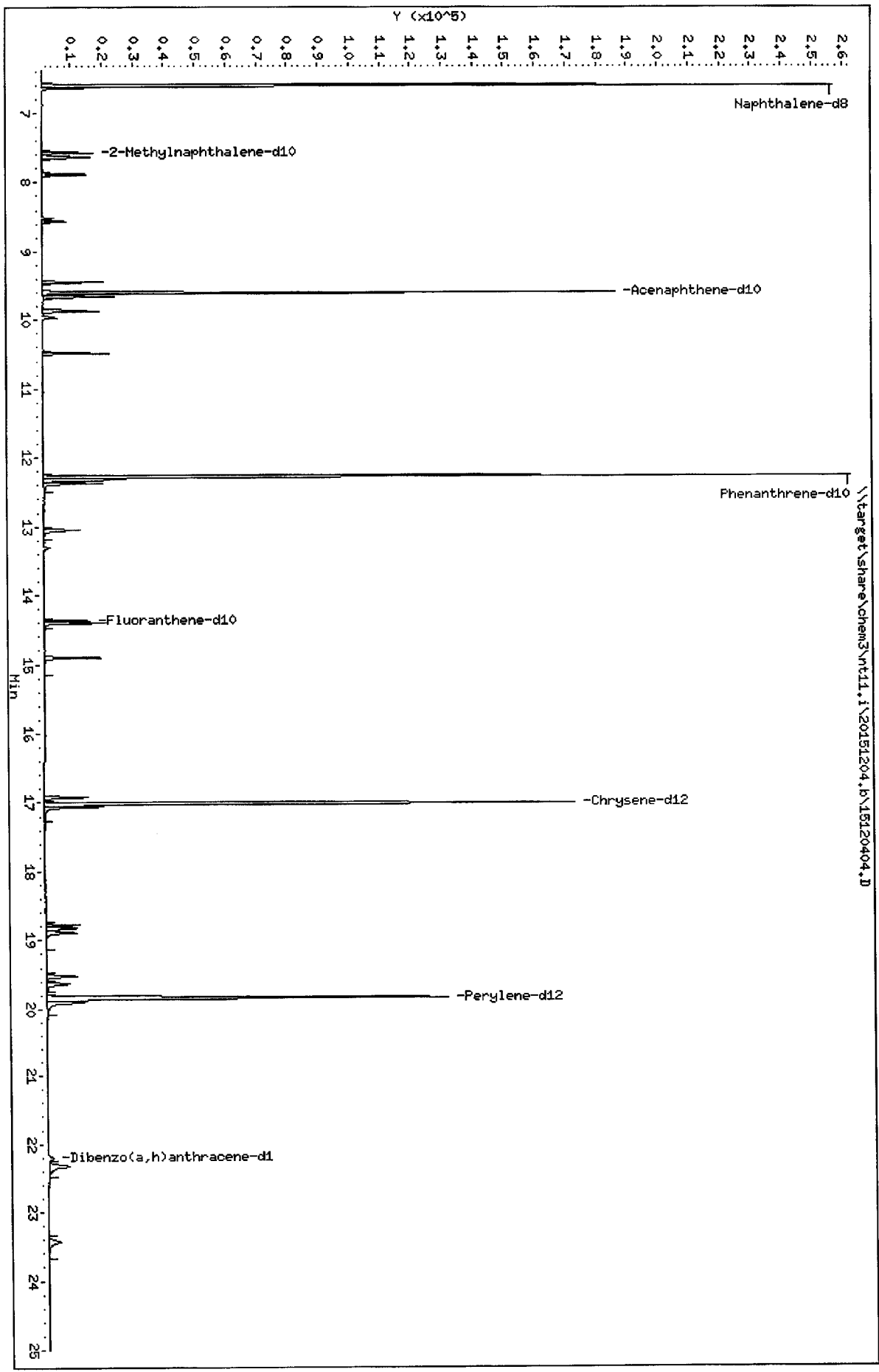
Sample Info: LLSIH 10

Column phase: Rxi-17511 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120404.D

Lab ID: LLSIM 10

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Lab Smp Id: LLSIM 50
 Inj Date : 04-DEC-2015 10:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 50
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 10:33 Cal File: 15120405.D
 Als bottle: 3 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE
 Target Version: 4.14
 Compound Sublist: PEMD.sub

80
12/5/15

Compounds	QUANT SIG						AMOUNTS	
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	322810	200.000		
5 Naphthalene	128	6.629	6.629	(1.005)	101411	50.0000	54.4	
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	61987	50.0000	51.7	
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)	66307	50.0000	51.8	
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	59950	50.0000	51.9	
10 Acenaphthylene	152	9.446	9.445	(0.984)	92485	50.0000	52.3	
* 11 Acenaphthene	164	9.601	9.600	(1.000)	219192	200.000		
12 Acenaphthene	153	9.656	9.656	(1.006)	62244	50.0000	53.0	
14 Dibenzofuran	168	9.866	9.866	(1.028)	95443	50.0000	54.0	
15 Fluorene	166	10.486	10.486	(1.092)	68997	50.0000	52.0	
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	354307	200.000		
19 Phenanthrene	178	12.313	12.313	(1.004)	118576	50.0000	55.5	
20 Anthracene	178	12.368	12.368	(1.008)	96493	50.0000	50.5	
\$ 23 Fluoranthene-d10	212	14.365	14.374	(1.171)	102075	50.0000	52.4	
24 Fluoranthene	202	14.403	14.403	(1.174)	114385	50.0000	53.4	
25 Pyrene	202	14.903	14.903	(0.876)	112799	50.0000	54.2	
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	93495	50.0000	53.4	
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	262604	200.000		
30 Chrysene	228	17.059	17.059	(1.003)	108279	50.0000	56.3	
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	83231	50.0000	53.5	
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	95619	50.0000	52.7	
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	90827	50.0000	55.0	
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	79839	50.0000	53.2	
* 35 Perylene-d12	264	19.842	19.842	(1.000)	229726	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)	44840	50.0000	48.4	
37 Indeno(1,2,3-cd)pyrene	276	22.330	22.329	(1.125)	80159	50.0000	50.8	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)	60732	50.0000	48.7	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	70920	50.0000	51.8	
47 Perylene	252	19.899	19.899	(1.003)	84721	50.0000	54.4	
48 Benzo(e)pyrene	252	19.525	19.524	(0.984)	85271	50.0000	54.2	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120405.D
 Lab Smp Id: LLSIM 50
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

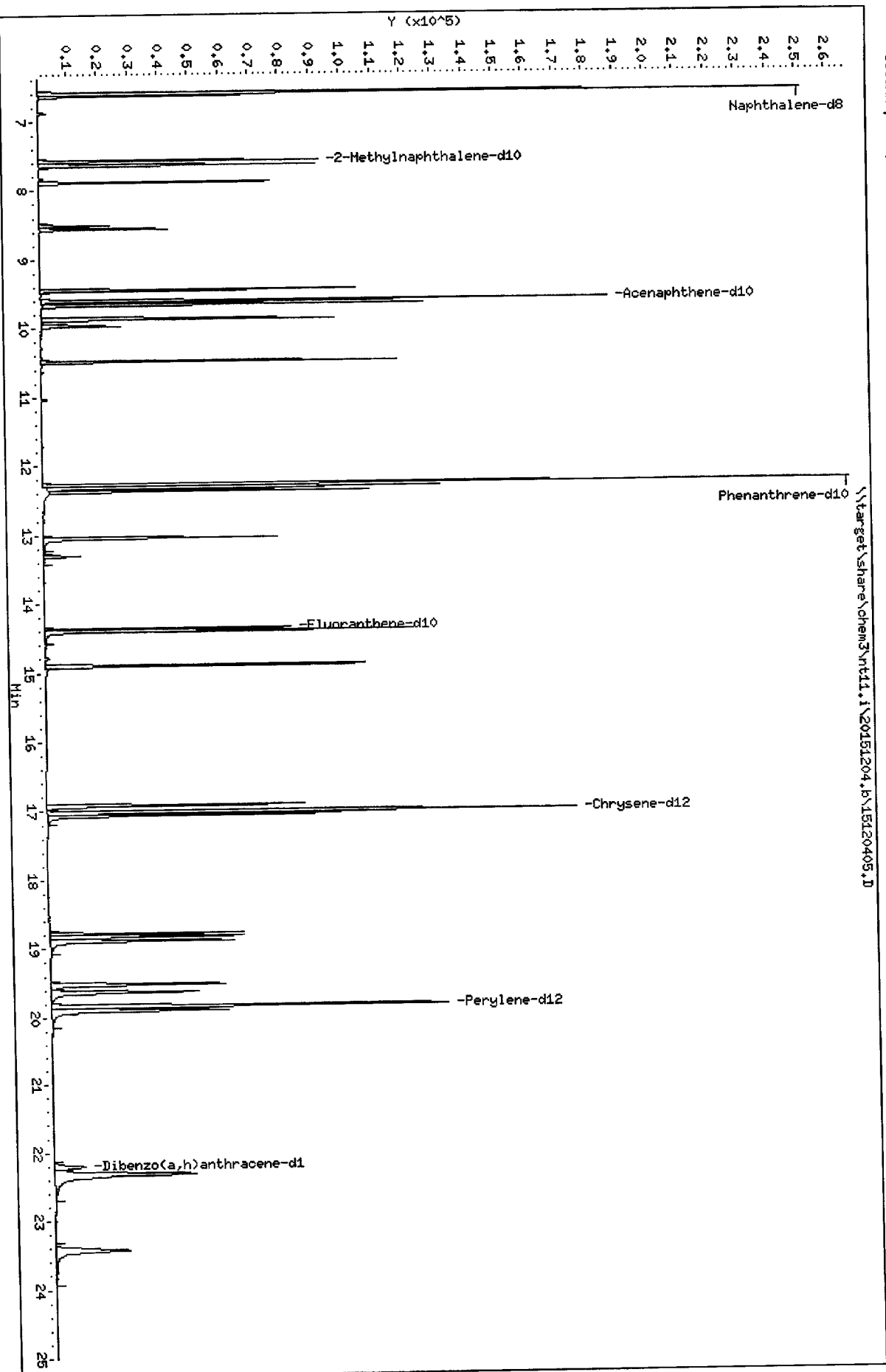
Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322810	-1.55
11 Acenaphthene-d10	239179	119590	478358	219192	-8.36
18 Phenanthrene-d10	372253	186127	744506	354307	-4.82
29 Chrysene-d12	294711	147356	589422	262604	-10.89
35 Perylene-d12	260595	130298	521190	229726	-11.85

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.



REVIEW SUMMARY FOR FILE - 15120405.D

Lab ID: LLSIM 50

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120406.D
 Lab Smp Id: LLSIM 500
 Inj Date : 04-DEC-2015 11:03 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 500
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:03 Cal File: 15120406.D
 Als bottle: 6 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE
 Target Version: 4.14
 Compound Sublist: PEMD.sub

JW
2/5/15

Compounds	QUANT SIG						AMOUNTS	
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	340768	200.000		
5 Naphthalene	128	6.629	6.629	(1.005)	933248	500.000	474	
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	629193	500.000	497	
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)	670644	500.000	496	
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	605485	500.000	497	
10 Acenaphthylene	152	9.445	9.445	(0.984)	967430	500.000	496	
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)	241553	200.000		
12 Acenaphthene	153	9.656	9.656	(1.006)	628559	500.000	486	
14 Dibenzofuran	168	9.866	9.866	(1.028)	941463	500.000	483	
15 Fluorene	166	10.486	10.486	(1.092)	730006	500.000	499	
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	382017	200.000		
19 Phenanthrene	178	12.313	12.313	(1.004)	1091600	500.000	474	
20 Anthracene	178	12.368	12.368	(1.008)	1071225	500.000	520	
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)	1071150	500.000	510	
24 Fluoranthene	202	14.403	14.403	(1.174)	1171890	500.000	507	
25 Pyrene	202	14.903	14.903	(0.876)	1155377	500.000	492	
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	993004	500.000	502	
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	296788	200.000		
30 Chrysene	228	17.059	17.059	(1.003)	1047594	500.000	482	
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	904516	500.000	527	
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	1037488	500.000	519	
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	935496	500.000	513	
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	881824	500.000	532	
* 35 Perylene-d12	264	19.841	19.842	(1.000)	253397	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.196	22.197	(1.119)	577224	500.000	564	
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	968463	500.000	557	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)	781168	500.000	568	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	805513	500.000	533	
47 Perylene	252	19.899	19.899	(1.003)	880659	500.000	513	
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	881426	500.000	508	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120406.D
 Lab Smp Id: LLSIM 500
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	340768	3.93
11 Acenaphthene-d10	239179	119590	478358	241553	0.99
18 Phenanthrene-d10	372253	186127	744506	382017	2.62
29 Chrysene-d12	294711	147356	589422	296788	0.70
35 Perylene-d12	260595	130298	521190	253397	-2.76

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204_b\15120406.D

Date: 04-DEC-2015 11:03

Client ID:

Sample Info: LLSIM 500

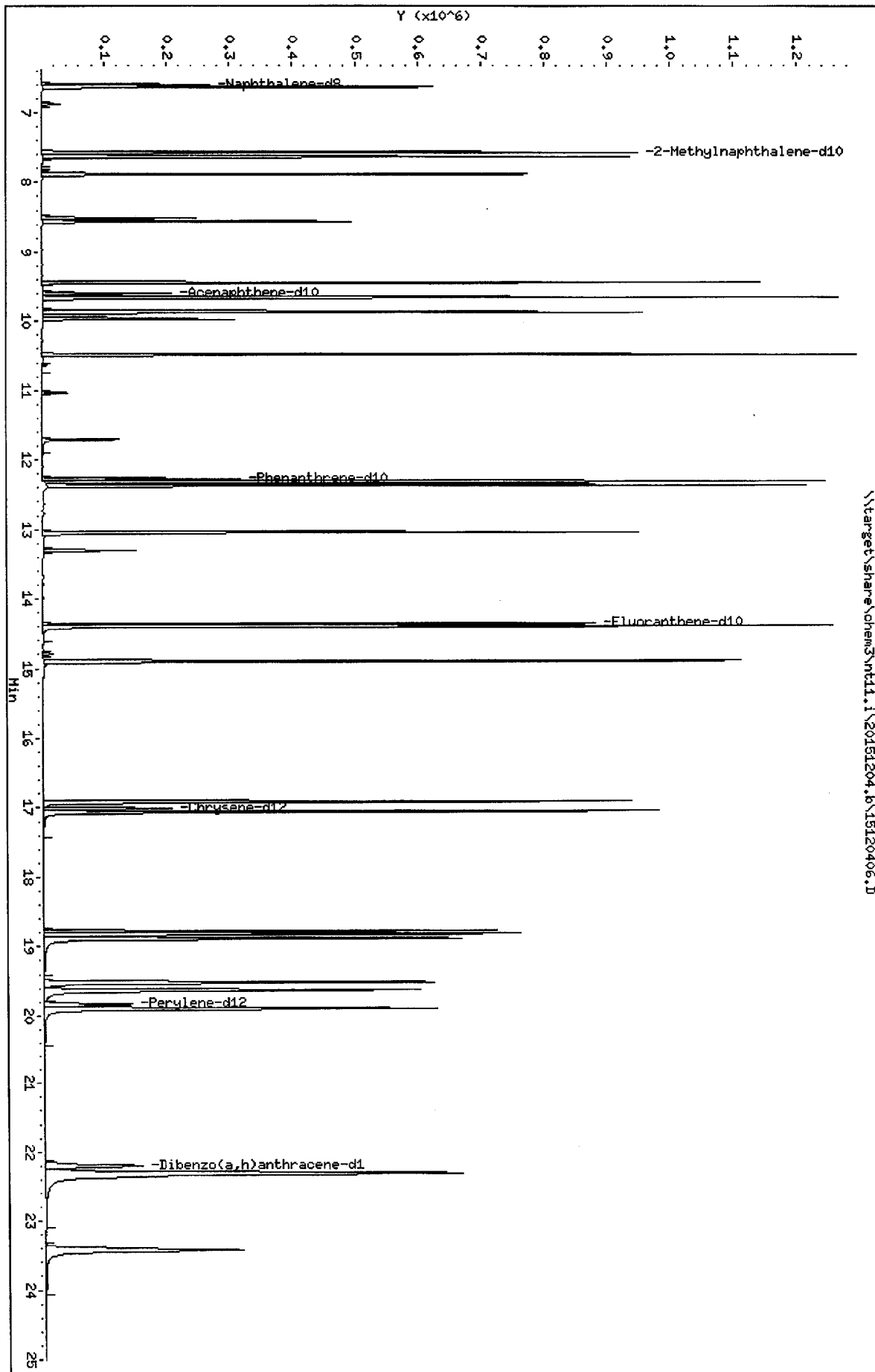
Column phase: Rxi-17S11 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20151204_b\15120406.D



REVIEW SUMMARY FOR FILE - 15120406.D

Lab ID: LLSIM 500

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120407.D
 Lab Smp Id: LLSIM 1000
 Inj Date : 04-DEC-2015 11:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 1000
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 7 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

Handwritten: 12/5/15

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136			6.597	6.597	(1.000)	337457	200.000	
5 Naphthalene	128			6.629	6.629	(1.005)	1745003	1000.00	895
\$ 6 2-Methylnaphthalene-d10	152			7.574	7.574	(1.148)	1205300	1000.00	962
7 2-Methylnaphthalene	142			7.627	7.627	(1.156)	1272236	1000.00	950
8 1-Methylnaphthalene	142			7.889	7.889	(1.196)	1149104	1000.00	952
10 Acenaphthylene	152			9.445	9.445	(0.984)	1833736	1000.00	951
* 11 Acenaphthene-d10	164			9.600	9.600	(1.000)	238950	200.000	
12 Acenaphthene	153			9.656	9.656	(1.006)	1200492	1000.00	938
14 Dibenzofuran	168			9.866	9.866	(1.028)	1717363	1000.00	891
15 Fluorene	166			10.486	10.486	(1.092)	1380739	1000.00	955
* 18 Phenanthrene-d10	188			12.269	12.269	(1.000)	380348	200.000	
19 Phenanthrene	178			12.313	12.313	(1.004)	2022457	1000.00	883
20 Anthracene	178			12.368	12.368	(1.008)	1975909	1000.00	963
\$ 23 Fluoranthene-d10	212			14.374	14.374	(1.172)	2020716	1000.00	966
24 Fluoranthene	202			14.403	14.403	(1.174)	2148123	1000.00	934
25 Pyrene	202			14.903	14.903	(0.876)	2156236	1000.00	912
28 Benzo(a)anthracene	228			16.918	16.918	(0.995)	1918385	1000.00	964
* 29 Chrysene-d12	240			17.009	17.009	(1.000)	298514	200.000	
30 Chrysene	228			17.059	17.059	(1.003)	1961226	1000.00	898
44 Benzo(b)fluoranthene	252			18.785	18.785	(0.947)	1759341	1000.00	1010
45 Benzo(k)fluoranthene	252			18.833	18.833	(0.949)	2039144	1000.00	1010
46 Benzo(j)fluoranthene	252			18.890	18.890	(0.952)	1793610	1000.00	973
34 Benzo(a)pyrene	252			19.630	19.630	(0.989)	1732537	1000.00	1030
* 35 Perylene-d12	264			19.842	19.842	(1.000)	256244	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292			22.197	22.197	(1.119)	1208888	1000.00	1170
37 Indeno(1,2,3-cd)pyrene	276			22.329	22.329	(1.125)	1959663	1000.00	1110
38 Dibenzo(a,h)anthracene	278			22.307	22.307	(1.124)	1599951	1000.00	1150
39 Benzo(g,h,i)perylene	276			23.426	23.426	(1.181)	1624015	1000.00	1060
47 Perylene	252			19.899	19.899	(1.003)	1731385	1000.00	997
48 Benzo(e)pyrene	252			19.524	19.524	(0.984)	1724956	1000.00	983

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120407.D
 Lab Smp Id: LLSIM 1000
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	337457	2.92
11 Acenaphthene-d10	239179	119590	478358	238950	-0.10
18 Phenanthrene-d10	372253	186127	744506	380348	2.17
29 Chrysene-d12	294711	147356	589422	298514	1.29
35 Perylene-d12	260595	130298	521190	256244	-1.67

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.16\15120407.D

Date: 04-DEC-2015 11:53

Client ID:

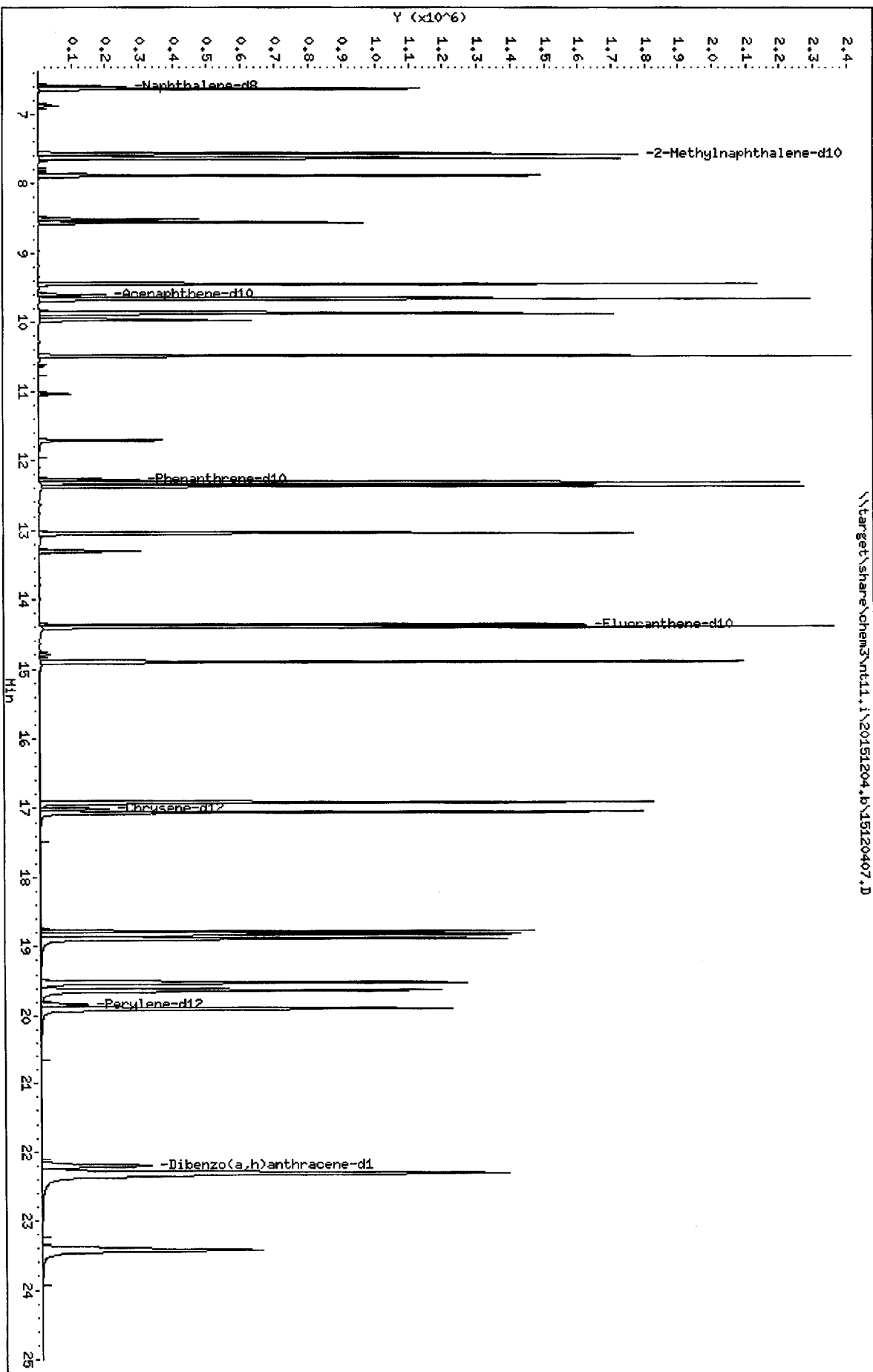
Sample Info: LLSIM 1000

Column phase: RXI-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120407.D

Lab ID: LLSIM 1000

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120408.D
 Lab Smp Id: LLSIM SCV 250
 Inj Date : 04-DEC-2015 12:04 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM SCV 250
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Final Extract Volume (uL)
Vo	500.000	Sample Volume extracted (mL)
Cpnd Variable		Local Compound Variable

JW
12/5/15

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/L)
* 4 Naphthalene-d8		136	6.597	6.597	(1.000)	330144	200.000	
5 Naphthalene		128	6.629	6.629	(1.005)	446422	234.100	234
\$ 6 2-Methylnaphthalene-d10		152	Compound Not Detected.					
7 2-Methylnaphthalene		142	7.627	7.627	(1.156)	286909	218.968	219
8 1-Methylnaphthalene		142	7.889	7.889	(1.196)	286856	242.931	243
10 Acenaphthylene		152	9.445	9.445	(0.984)	450083	235.922	236
* 11 Acenaphthene-d10		164	9.600	9.600	(1.000)	236381	200.000	
12 Acenaphthene		153	9.656	9.656	(1.006)	307274	242.667	243
14 Dibenzofuran		168	Compound Not Detected.					
15 Fluorene		166	10.486	10.486	(1.092)	337933	236.220	236
* 18 Phenanthrene-d10		188	12.269	12.269	(1.000)	360337	200.000	
19 Phenanthrene		178	12.313	12.313	(1.004)	535994	246.891	247
20 Anthracene		178	12.368	12.368	(1.008)	485229	249.701	250
\$ 23 Fluoranthene-d10		212	Compound Not Detected.					
24 Fluoranthene		202	14.403	14.403	(1.174)	518632	237.945	238
25 Pyrene		202	14.903	14.903	(0.876)	586418	254.458	254
28 Benzo(a)anthracene		228	16.918	16.918	(0.995)	456787	235.431	235
* 29 Chrysene-d12		240	17.009	17.009	(1.000)	291007	200.000	
30 Chrysene		228	17.059	17.059	(1.003)	500271	234.930	235
44 Benzo(b)fluoranthene		252	18.784	18.785	(0.947)	394832	240.567	241
45 Benzo(k)fluoranthene		252	18.823	18.833	(0.949)	474361	248.024	248
46 Benzo(j)fluoranthene		252	Compound Not Detected.					

Compounds	QUANT SIG		CONCENTRATIONS					
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/L)	
34 Benzo(a)pyrene.	252	19.630	19.630	(0.990)	391410	247.108	247	
* 35 Perylene-d12	264	19.832	19.842	(1.000)	242244	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.						
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.126)	412835	248.231	248	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.125)	328597	249.858	250	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	360543	249.725	250	
47 Perylene	252	Compound Not Detected.						
48 Benzo(e)pyrene	252	Compound Not Detected.						

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120408.D
 Lab Smp Id: LLSIM SCV 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level: LOW
 Sample Type: WATER

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	330144	0.69
11 Acenaphthene-d10	239179	119590	478358	236381	-1.17
18 Phenanthrene-d10	372253	186127	744506	360337	-3.20
29 Chrysene-d12	294711	147356	589422	291007	-1.26
35 Perylene-d12	260595	130298	521190	242244	-7.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.83	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

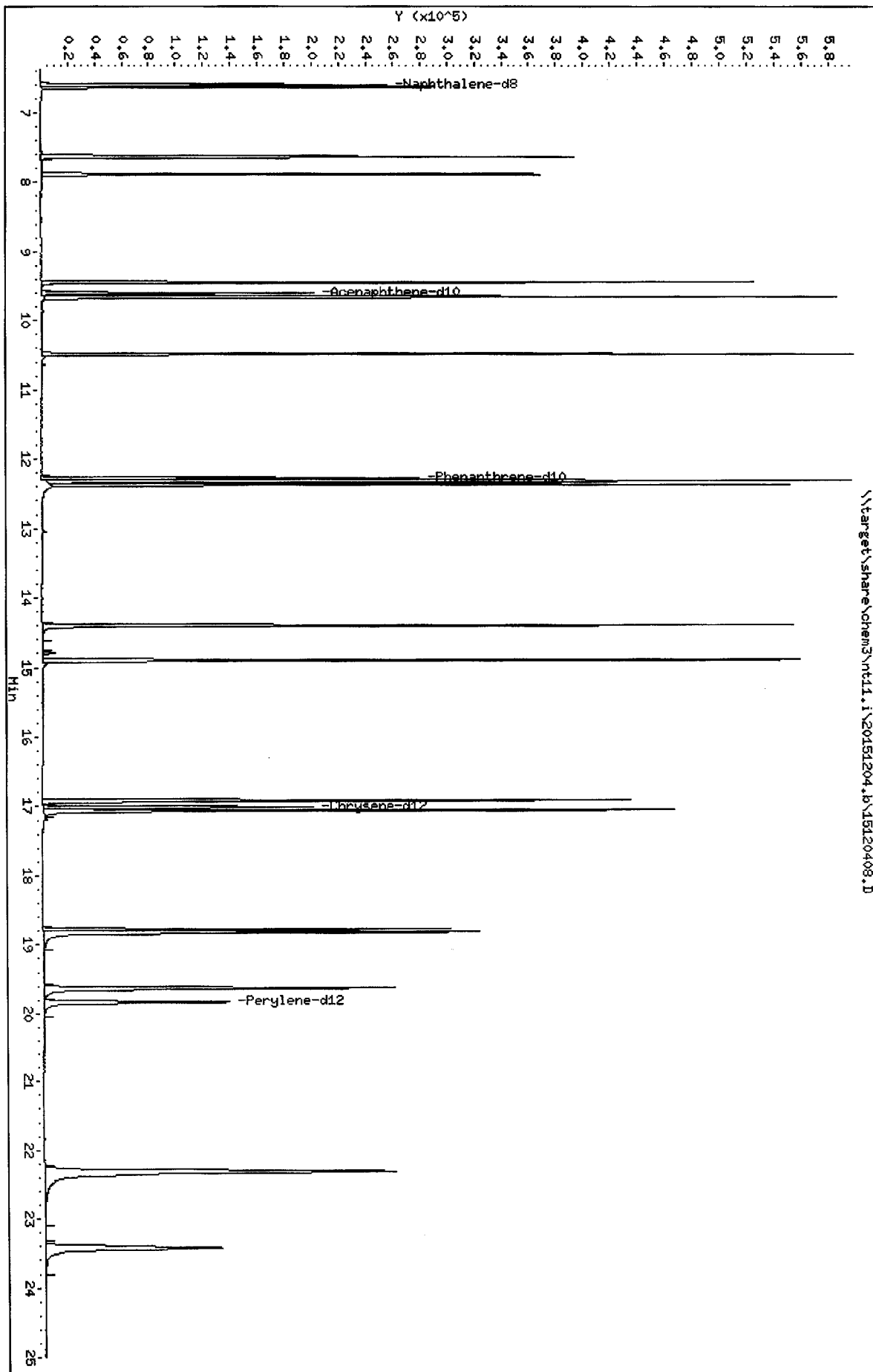
RECOVERY REPORT

Client Name: Client SDG: SDGa03180
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: LLSIM SCV 250
Level: LOW Operator: JW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: waterlcs.spk Quant Type: ISTD
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthale	6000	0.000	<i>no S/N</i>	* 42-120
\$ 23 Fluoranthene-d10	6000	0.000		* 57-120
\$ 36 Dibenzo (a, h) anthr	6000	0.000		* 29-120

Data File: \\target\share\chem3\nt11.1\20151204.16\15120408.D
Date : 04-DEC-2015 12:04
Client ID:
Sample Info: LLSIM SCV 250
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 HS

Instrument: nt11.1
Operator: JM
Column diameter: 0.25



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

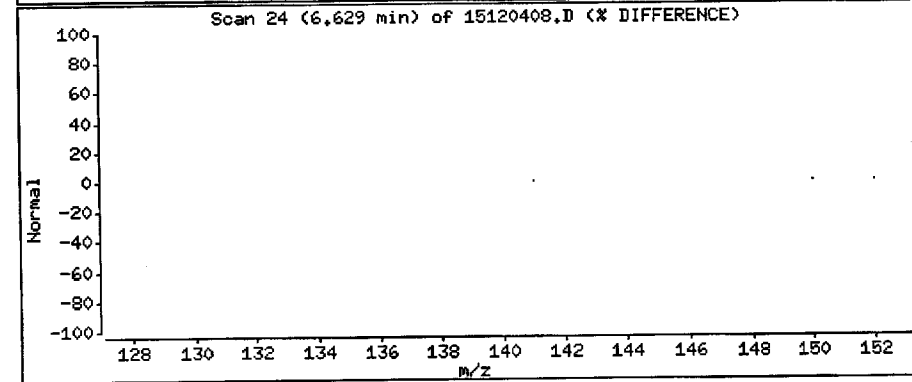
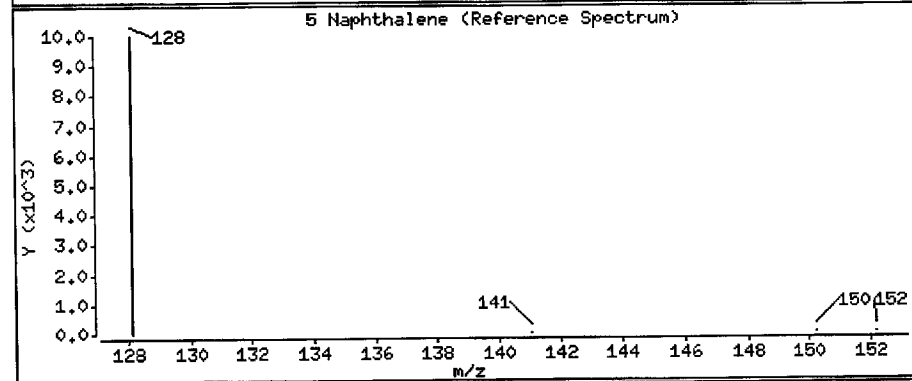
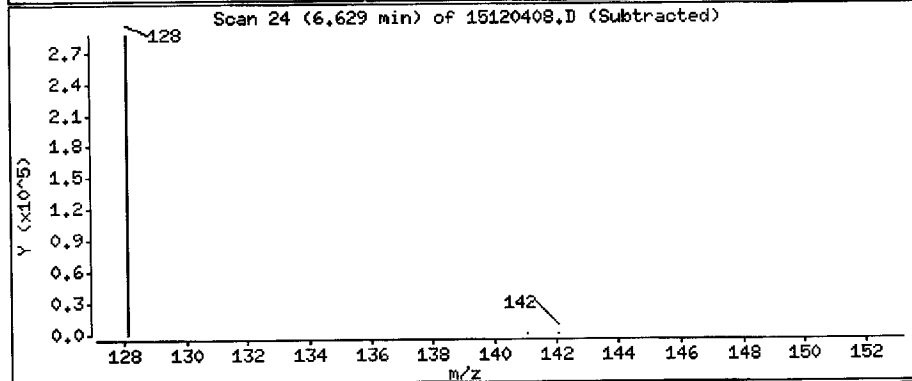
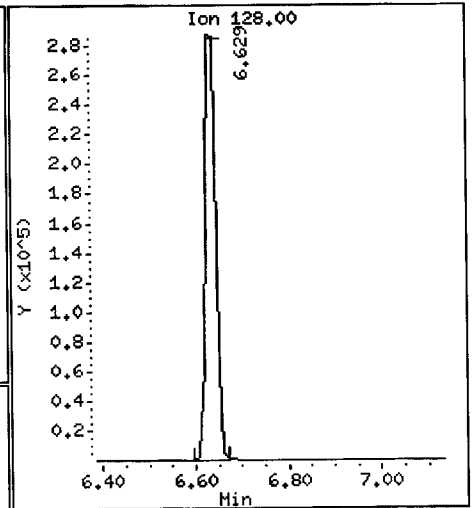
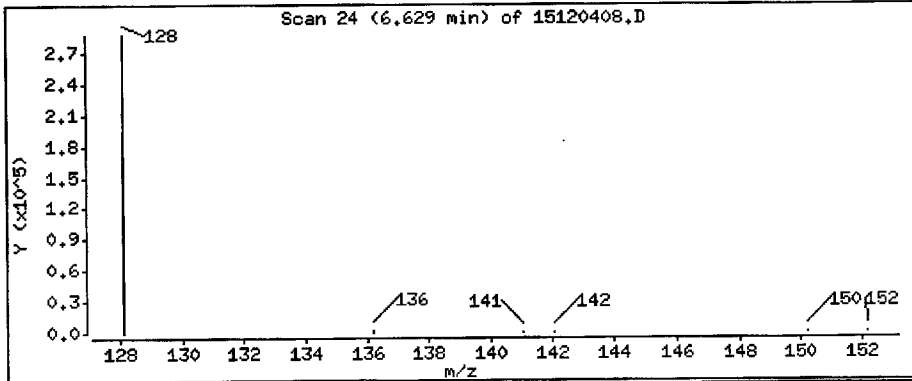
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 234 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

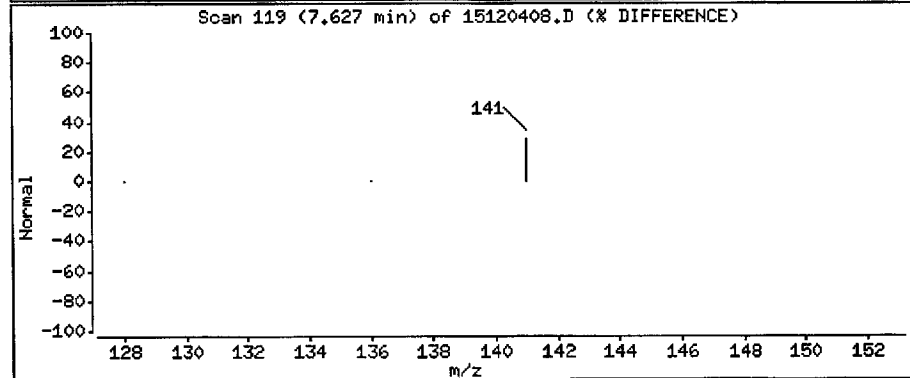
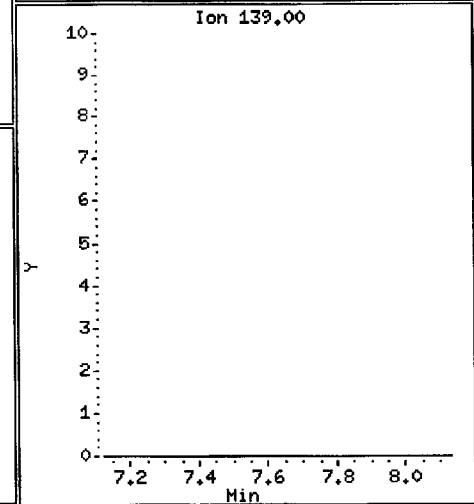
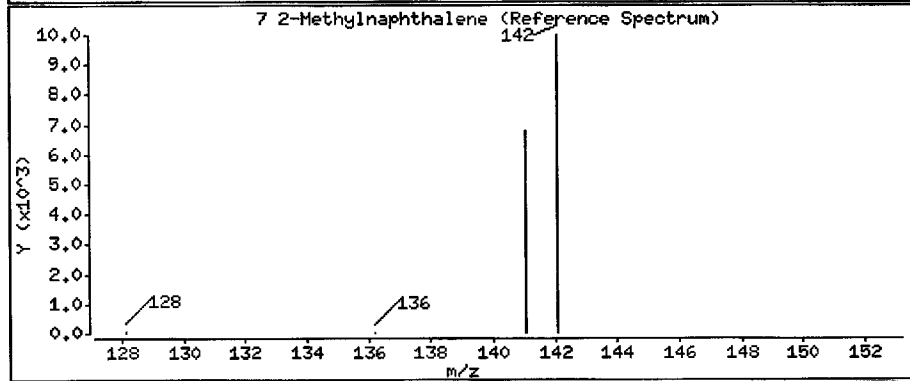
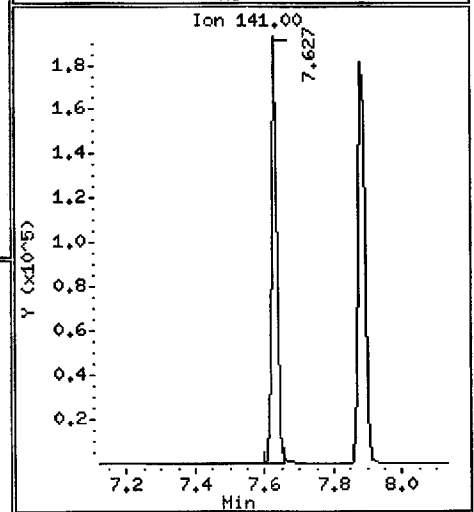
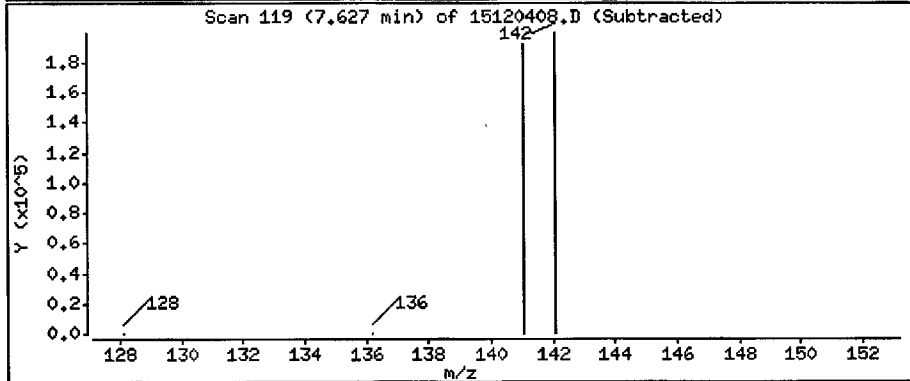
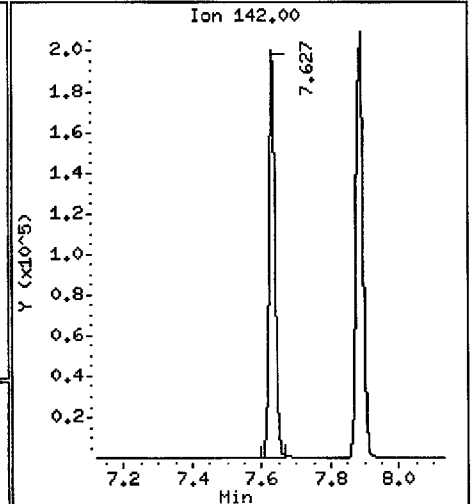
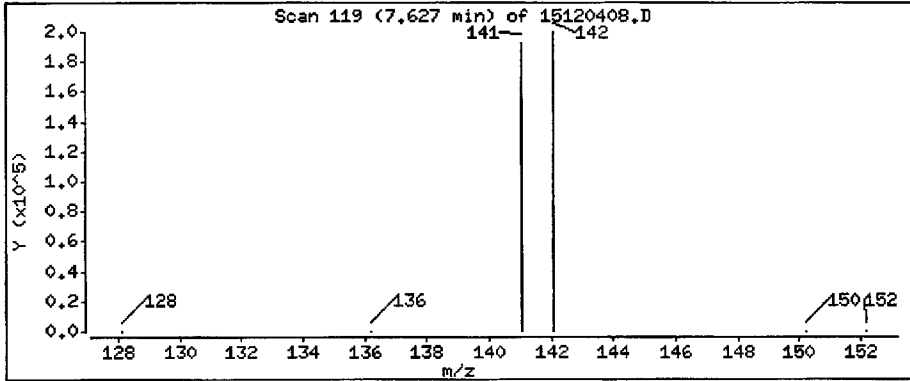
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Methylnaphthalene

Concentration: 219 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

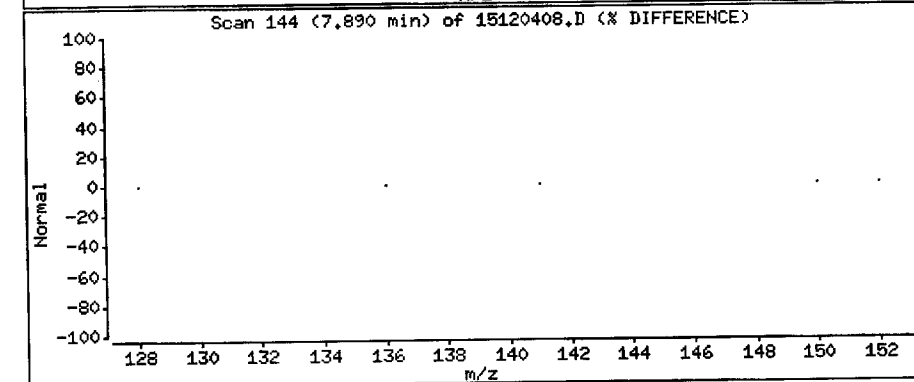
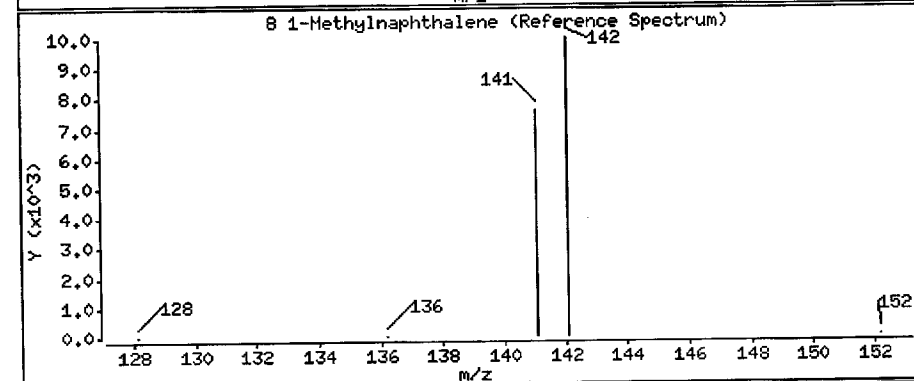
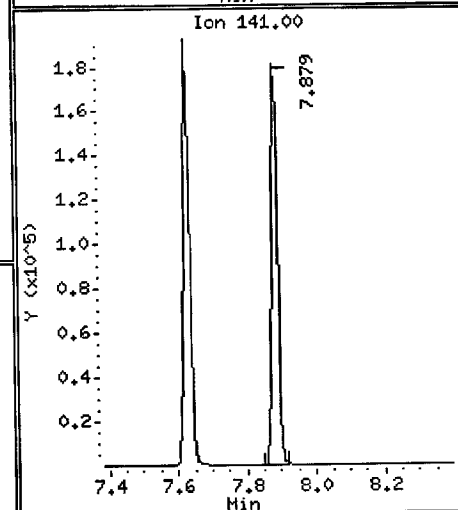
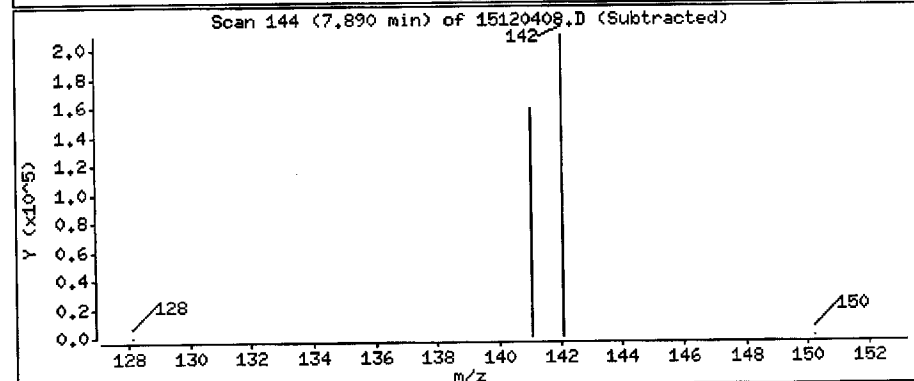
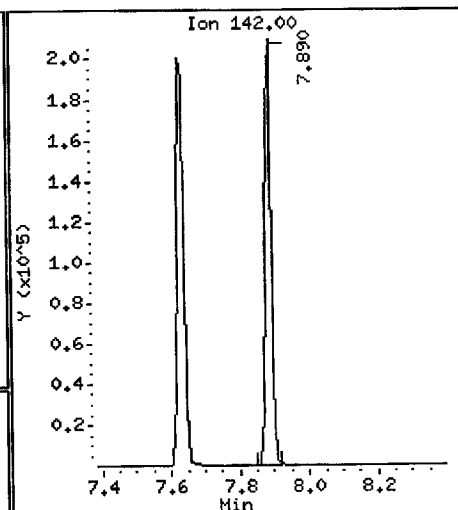
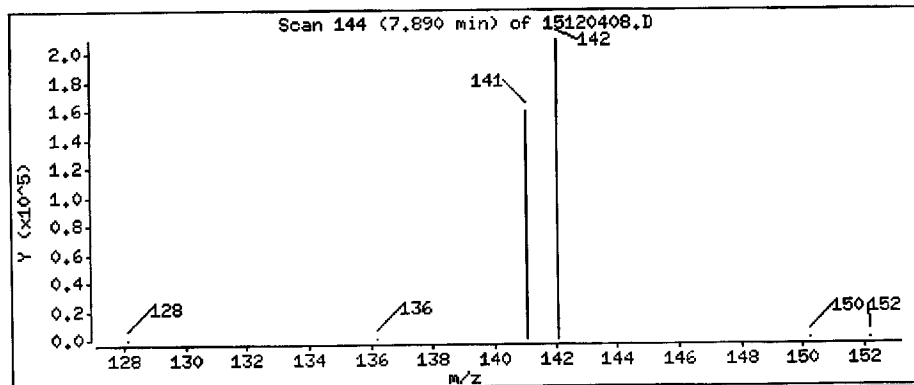
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 1-Methylnaphthalene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

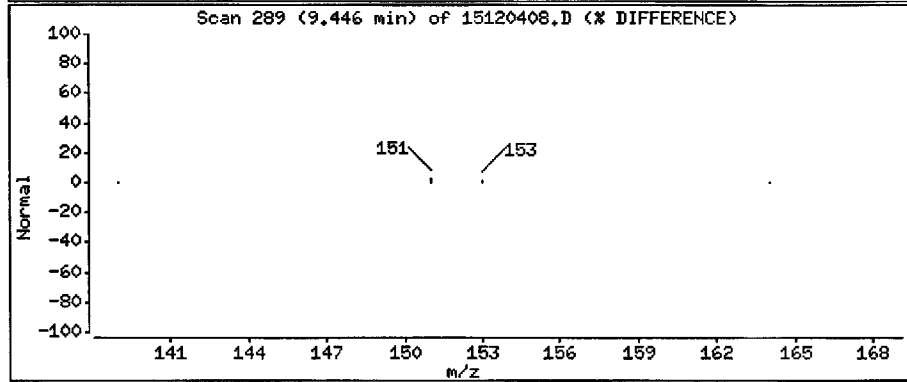
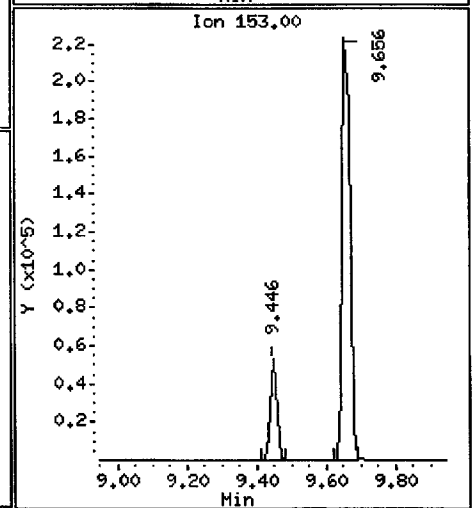
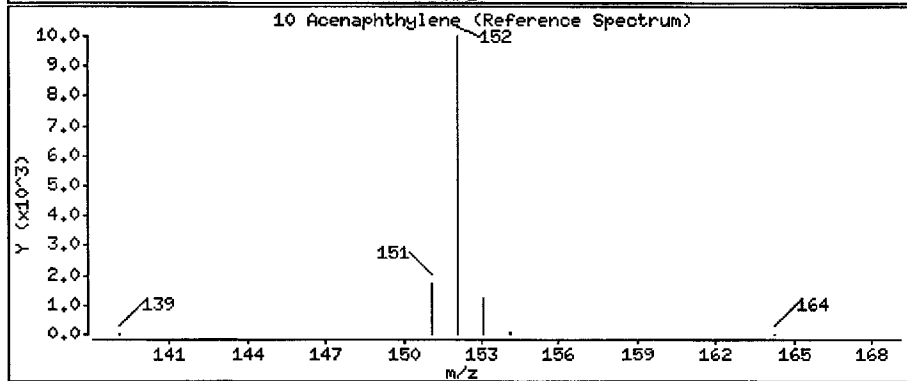
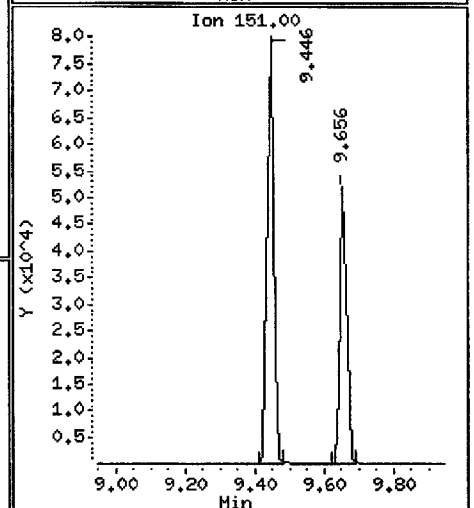
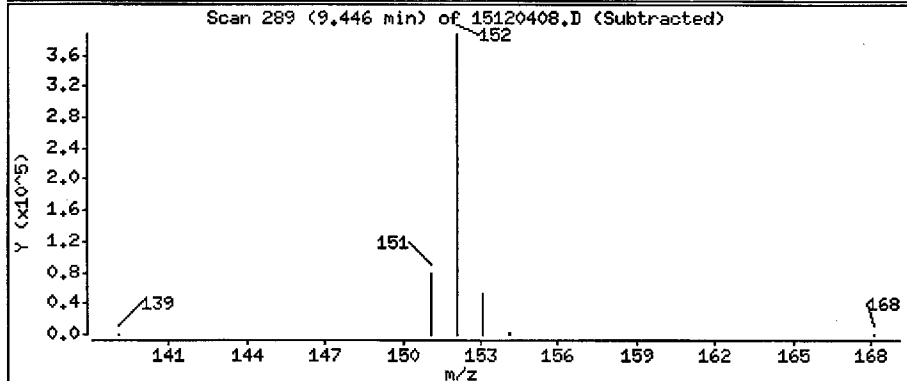
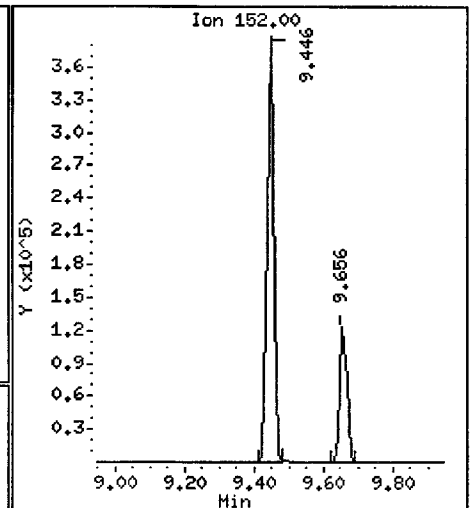
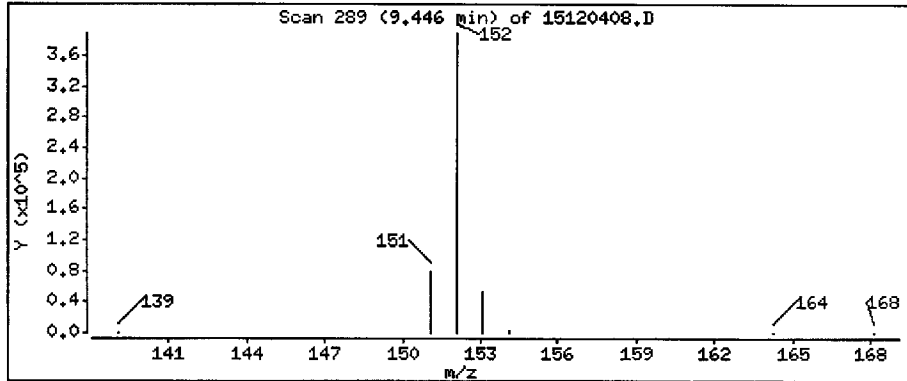
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

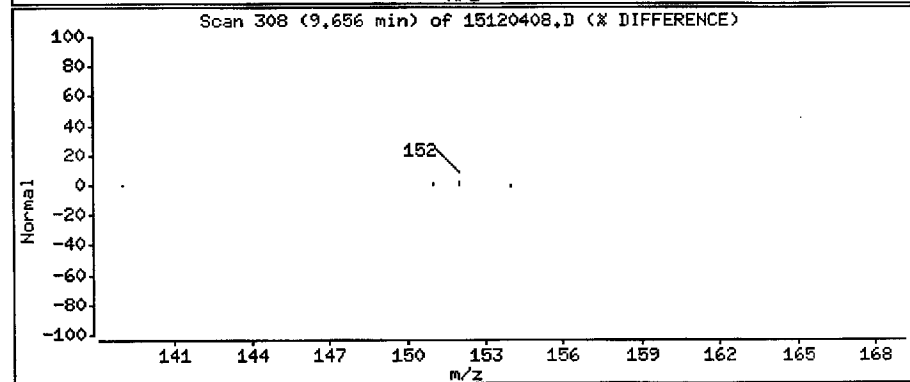
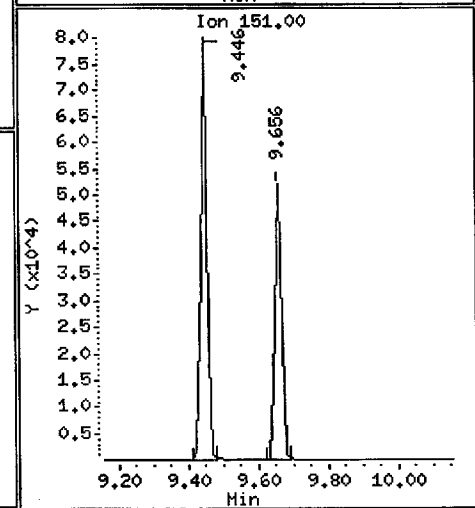
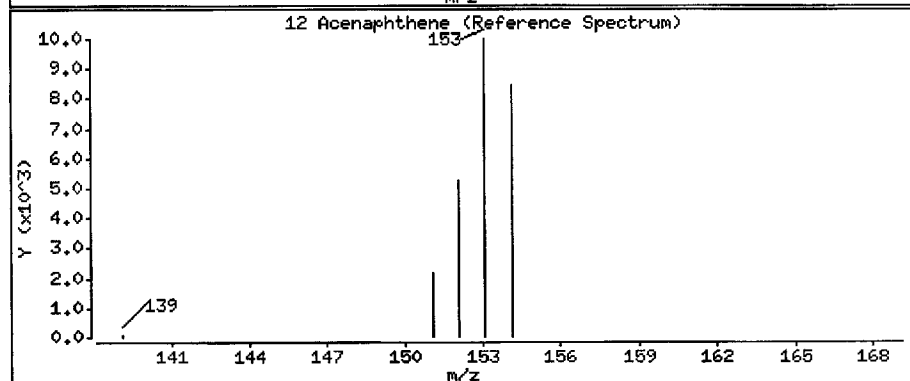
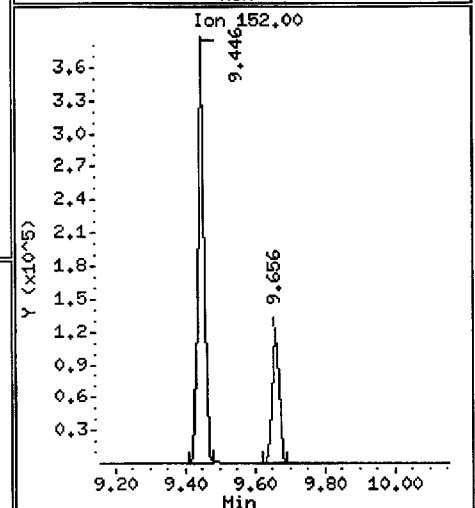
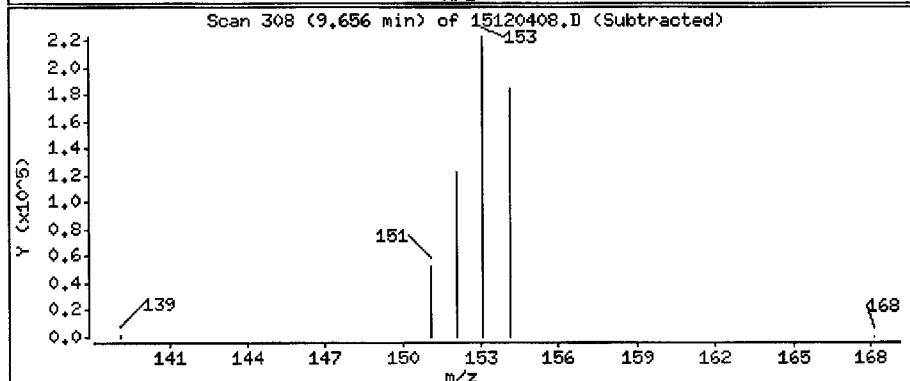
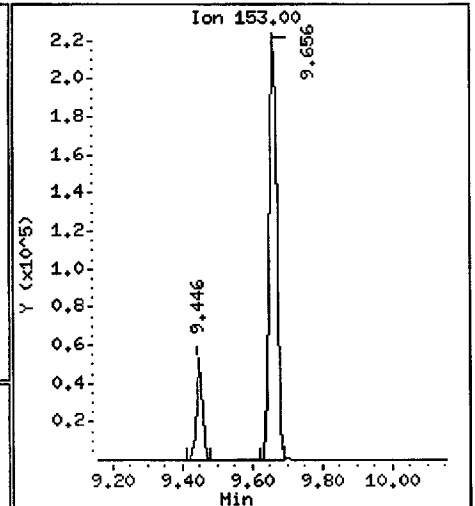
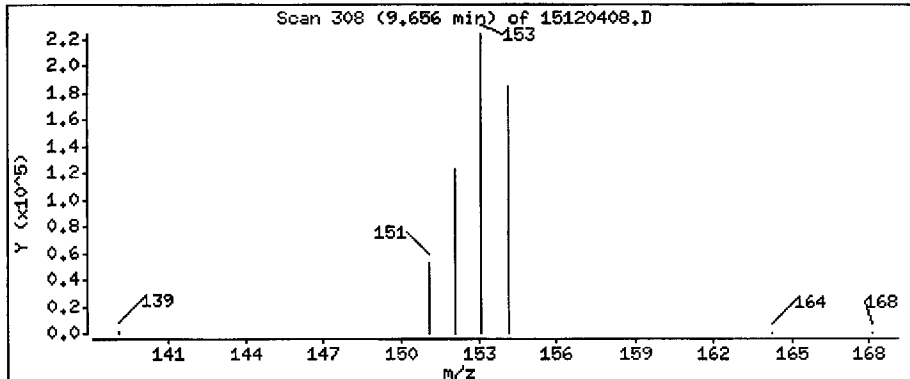
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

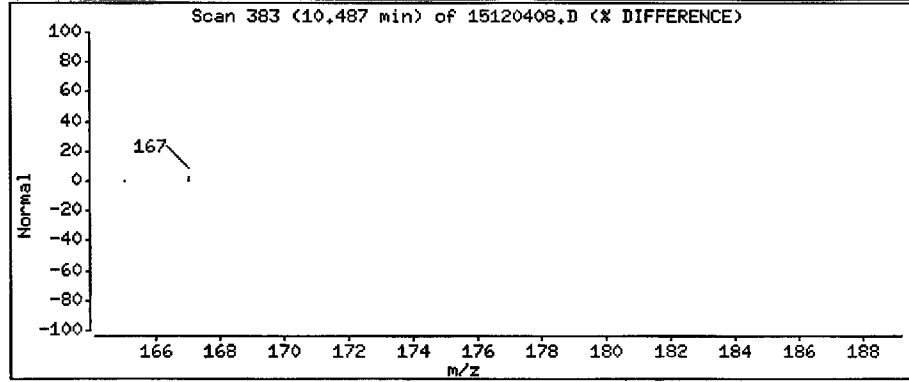
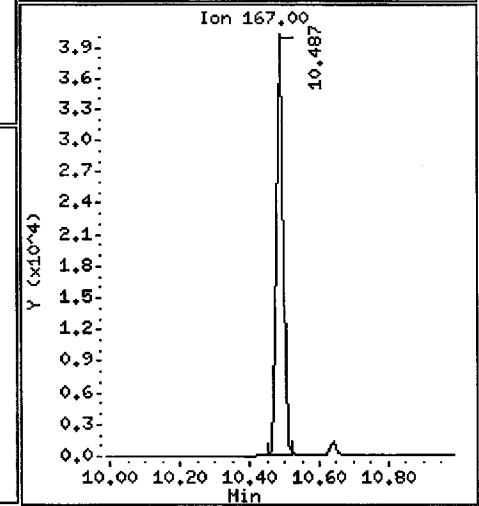
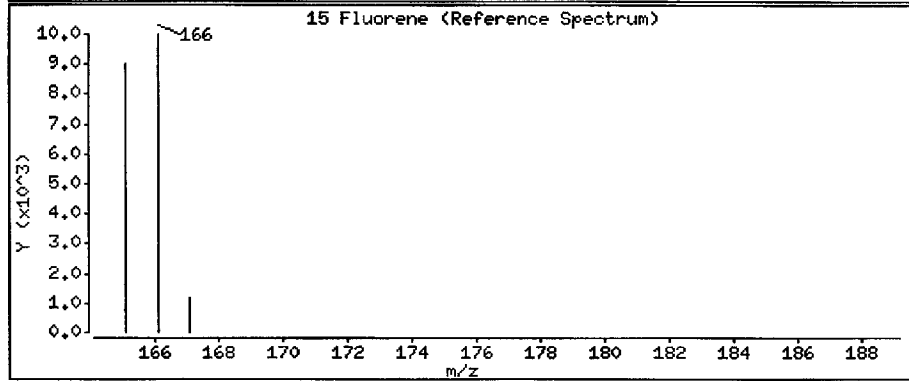
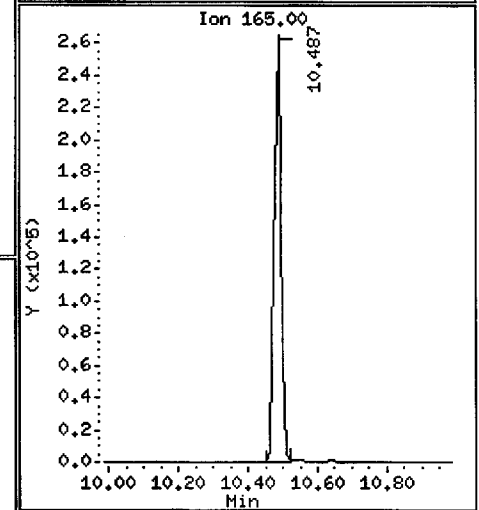
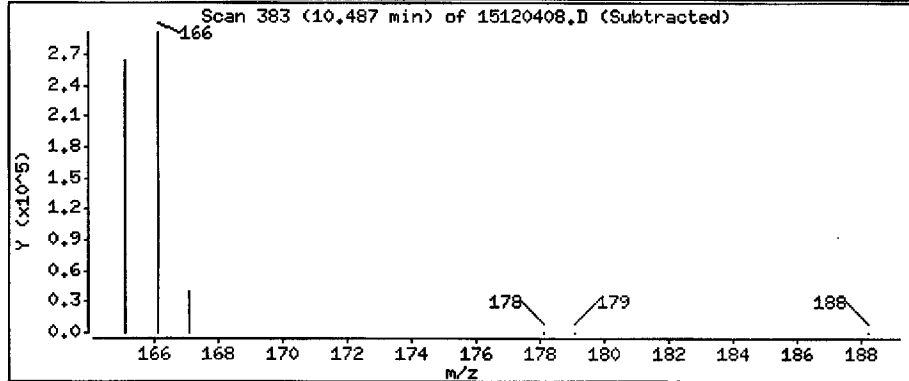
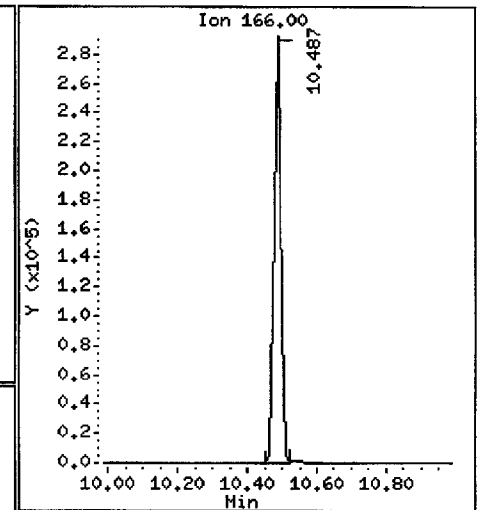
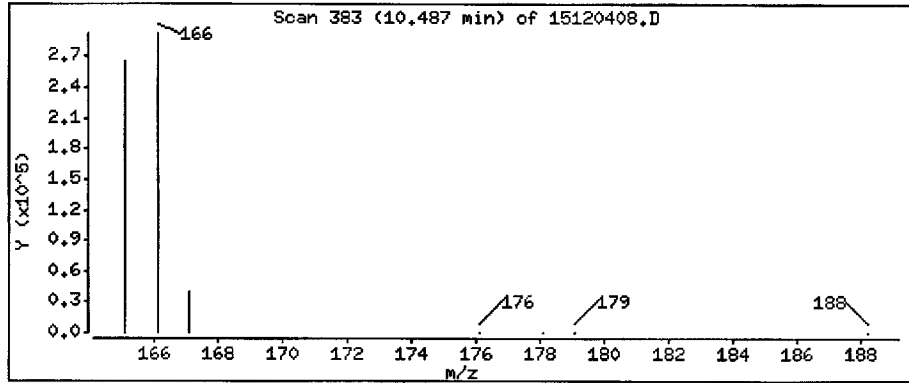
Operator: JW

Column phase: Rxi-17Sil HS

Column diameter: 0.25

15 Fluorene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

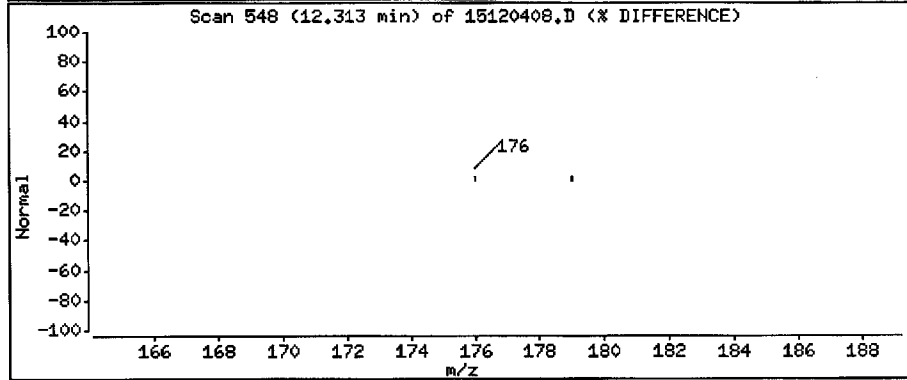
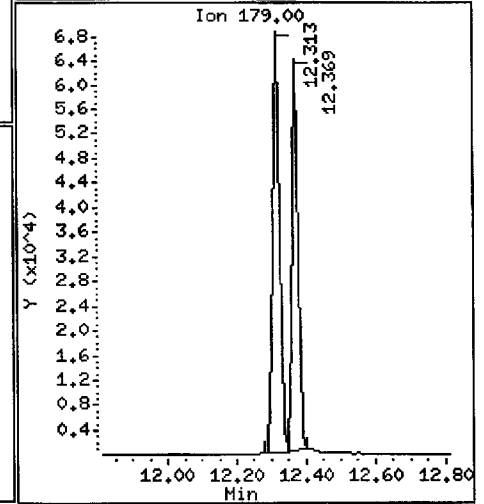
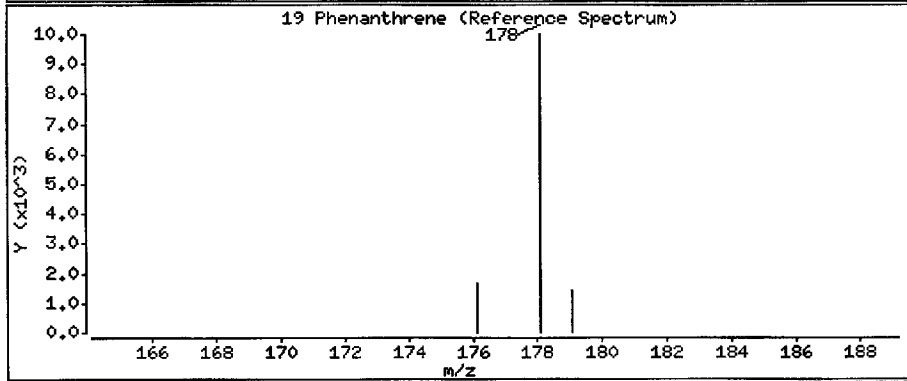
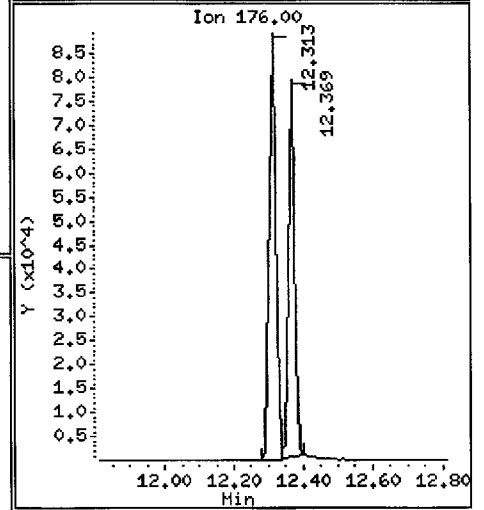
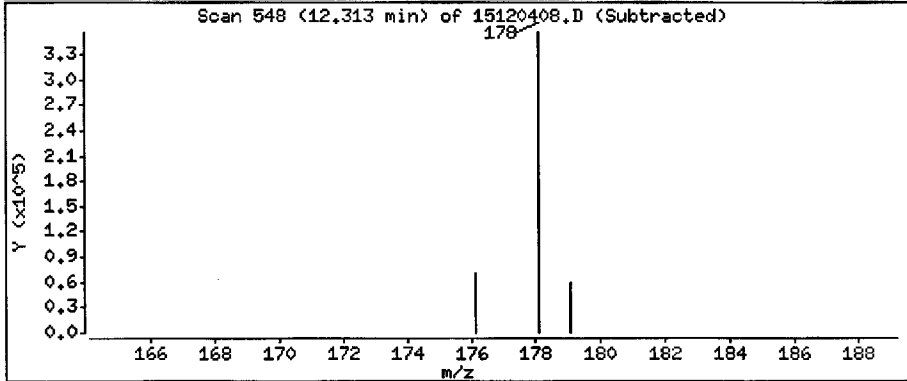
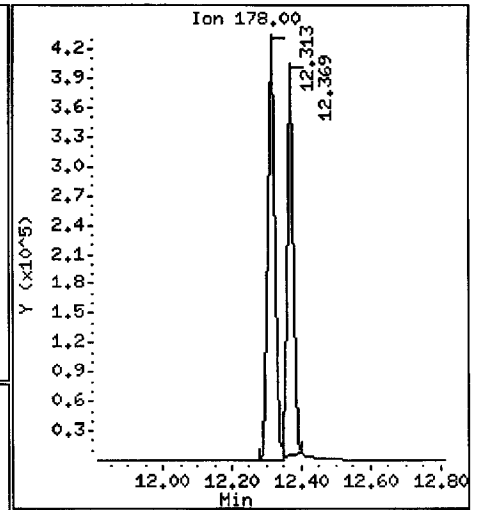
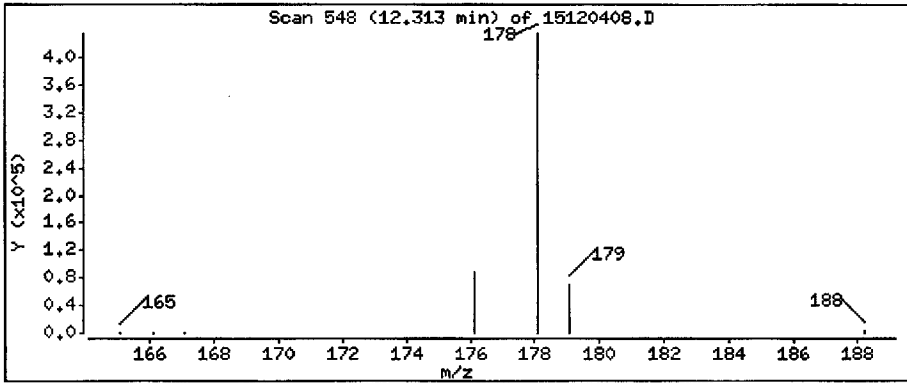
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

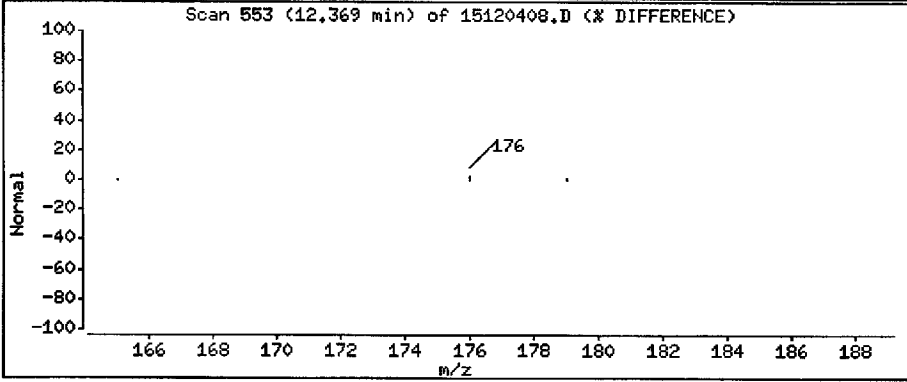
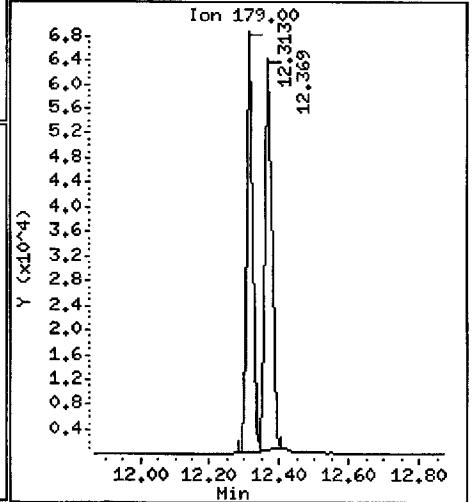
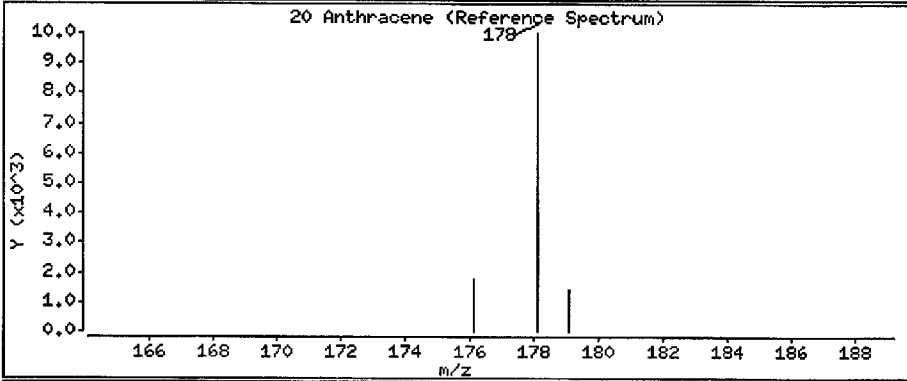
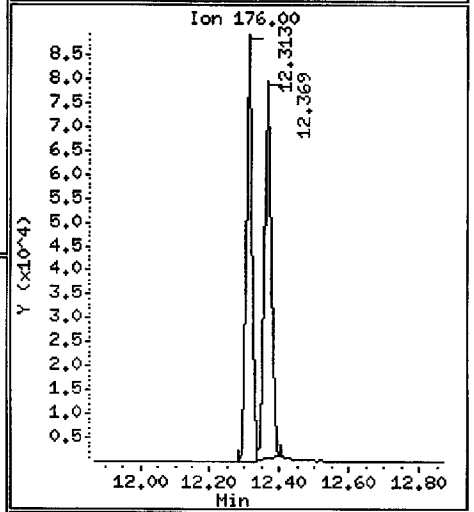
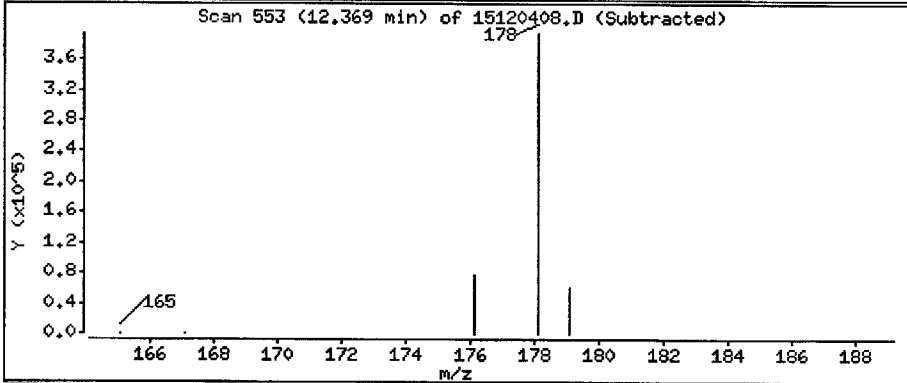
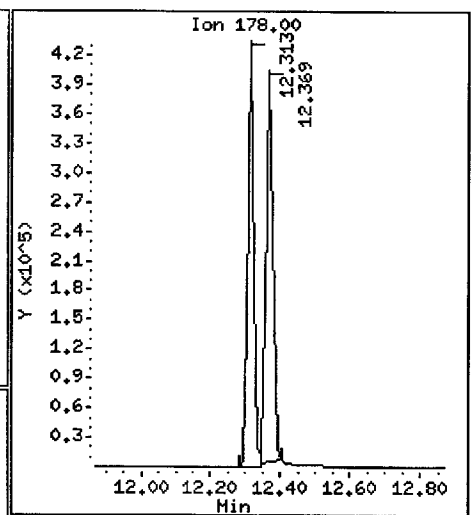
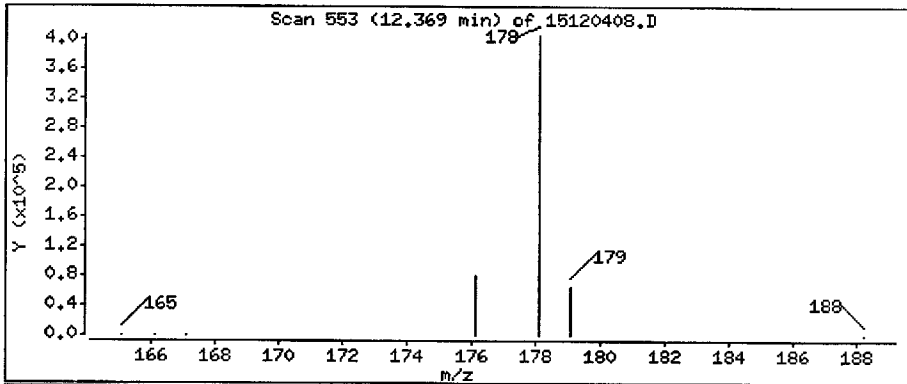
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

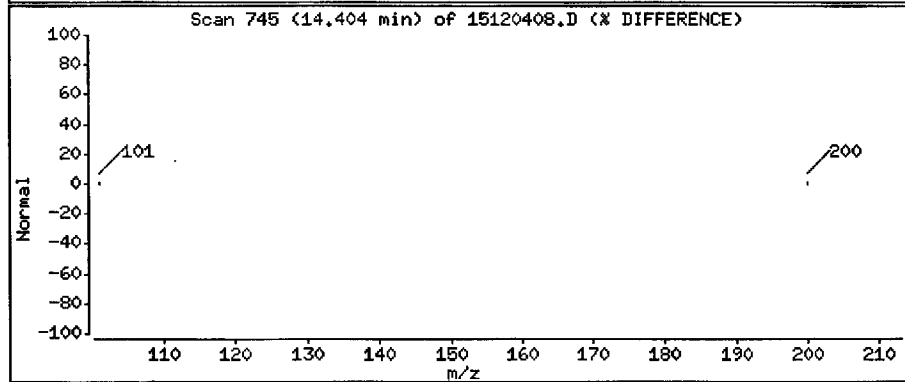
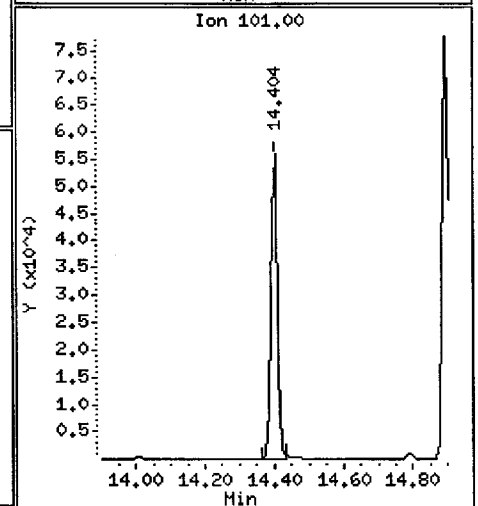
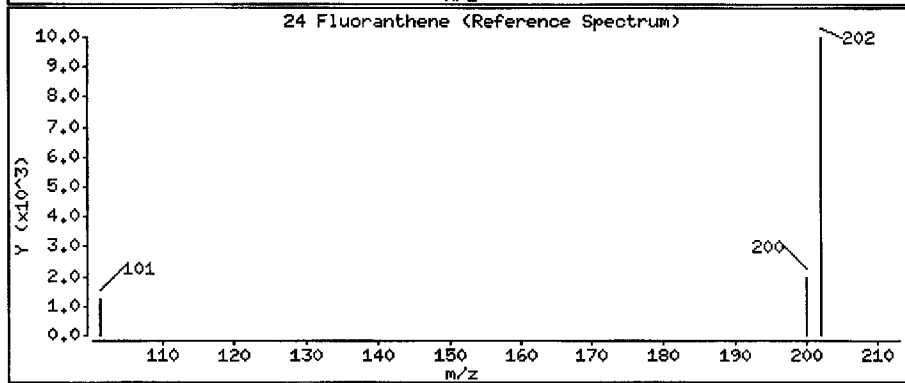
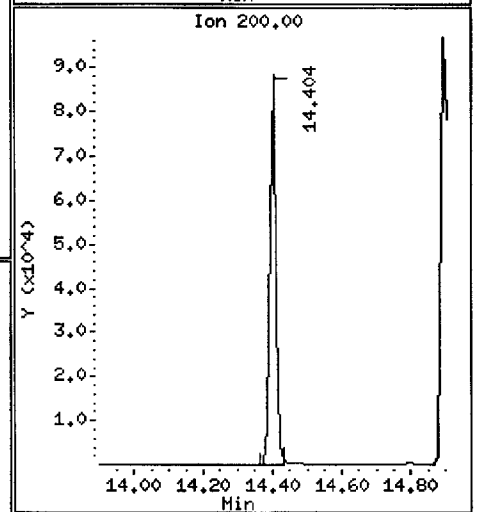
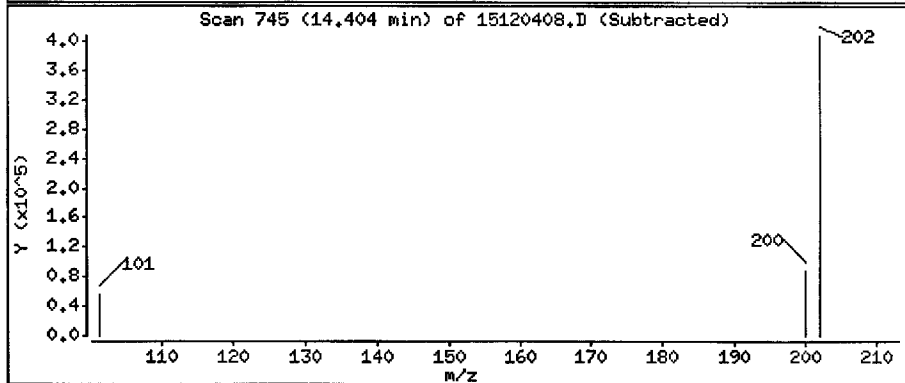
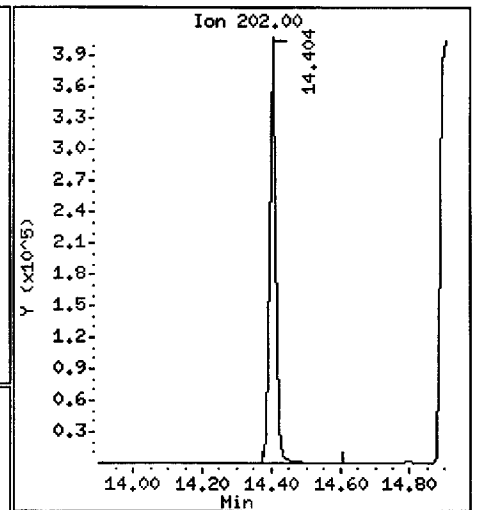
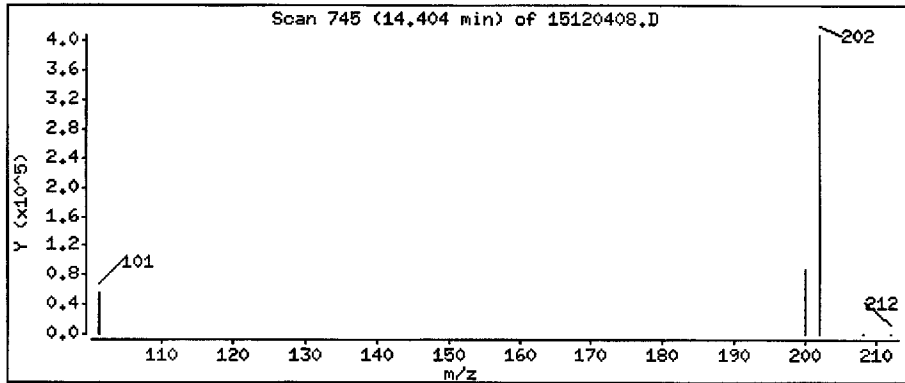
Operator: JM

Column phase: Rxi-17S11 HS

Column diameter: 0.25

24 Fluoranthene

Concentration: 238 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

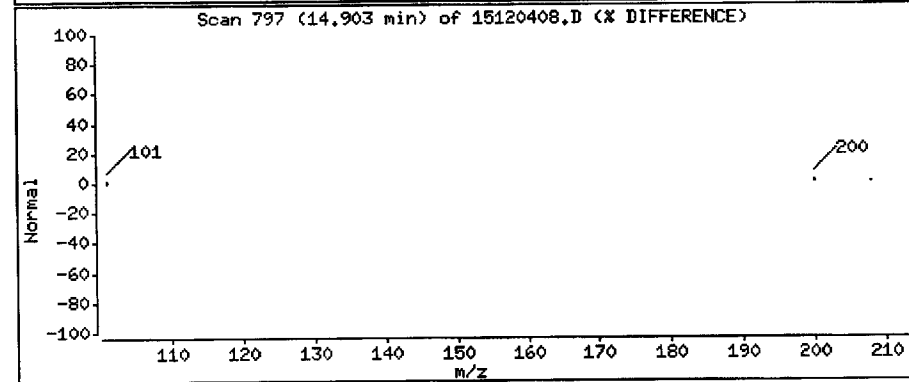
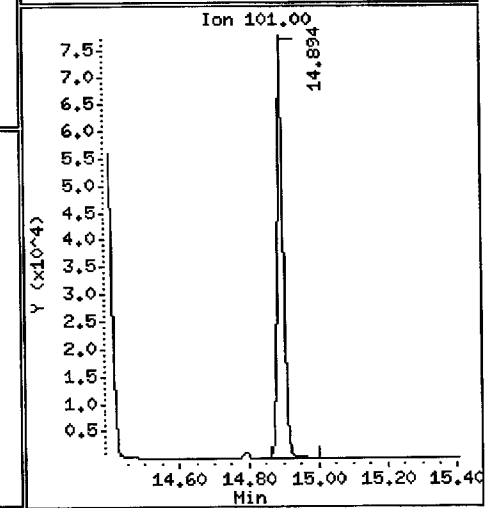
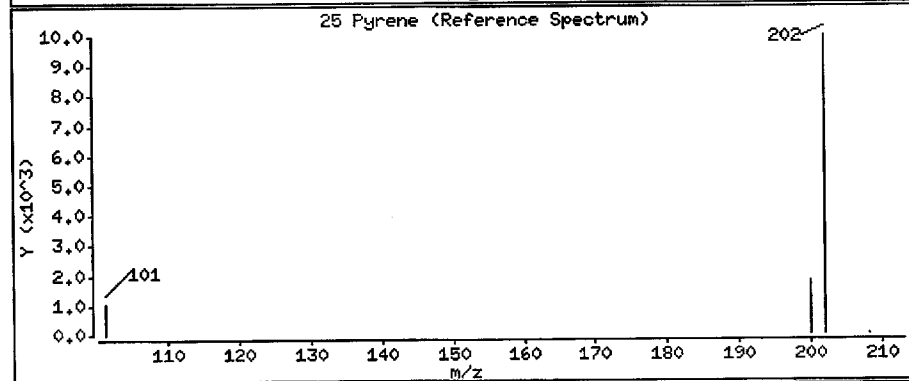
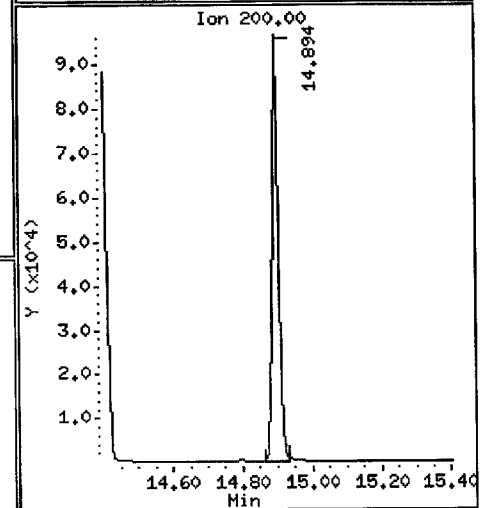
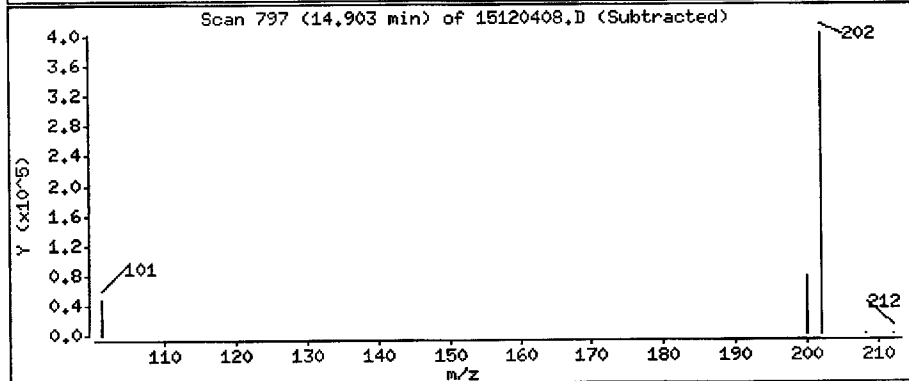
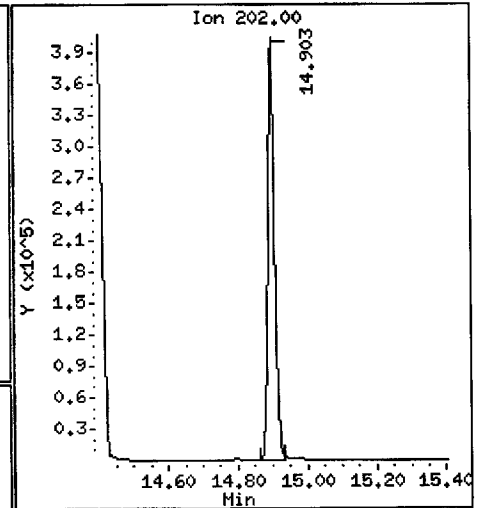
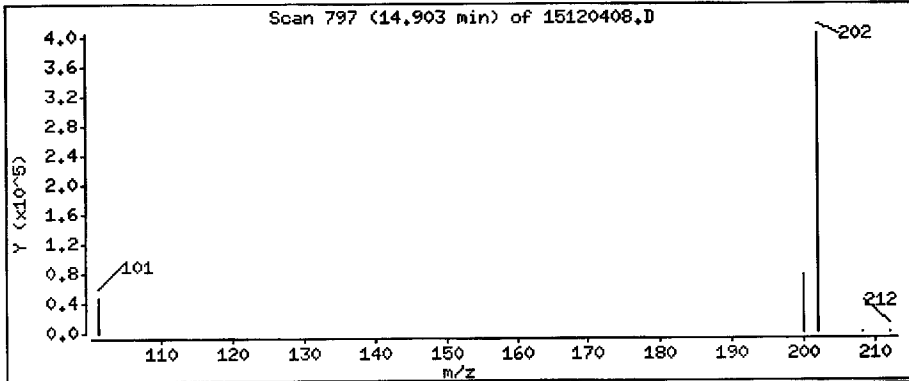
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

25 Pyrene

Concentration: 254 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

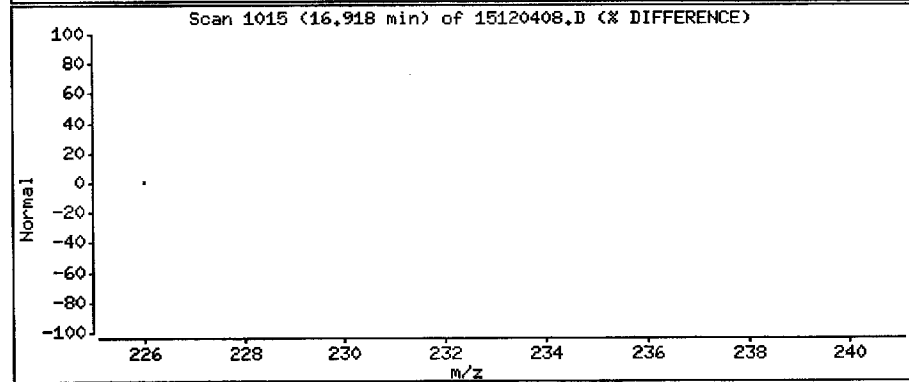
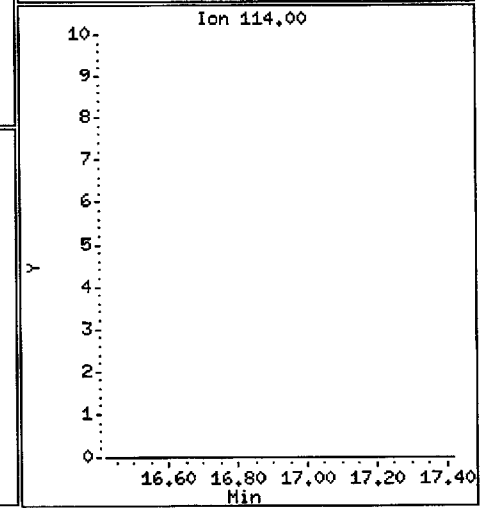
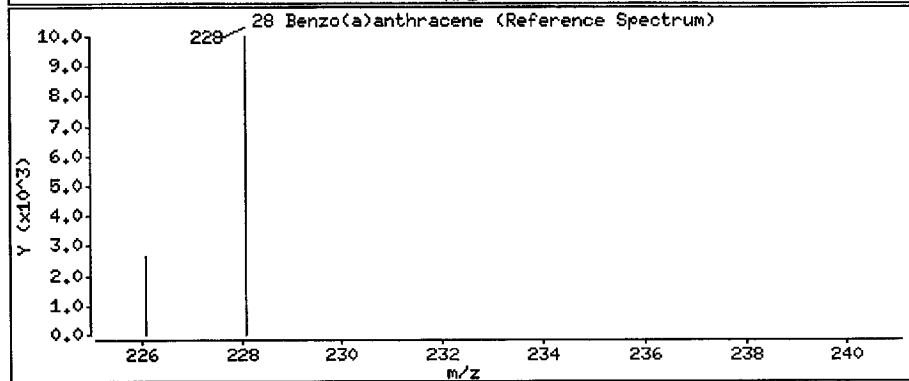
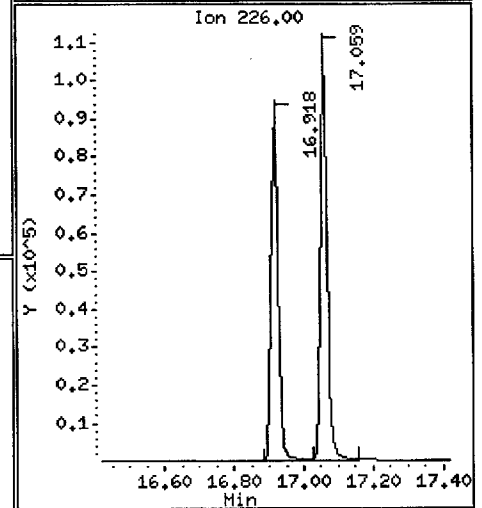
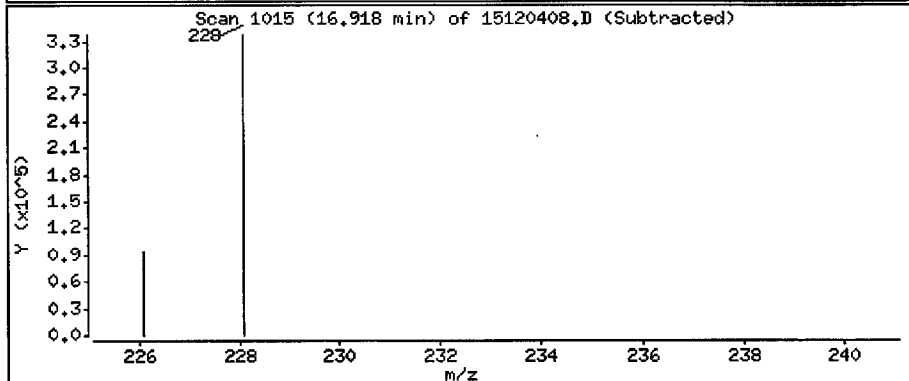
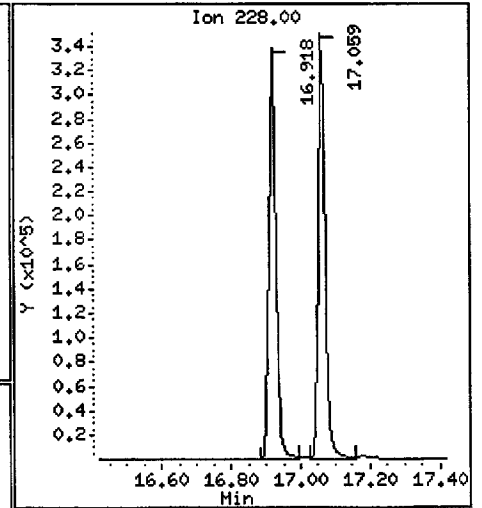
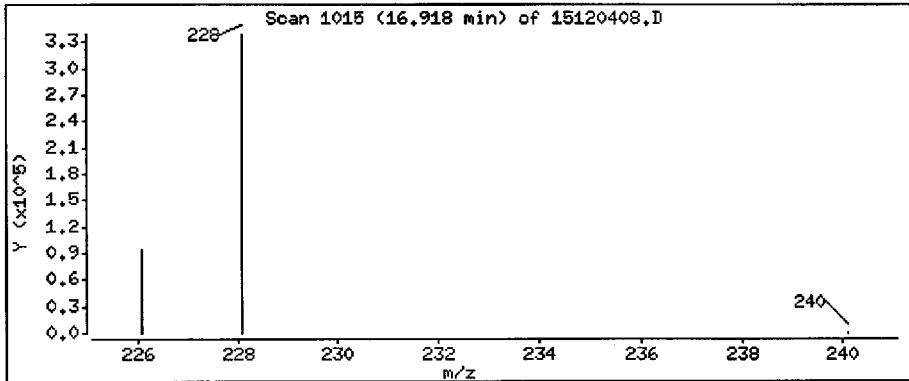
Operator: JW

Column phase: Rxi-17Sil HS

Column diameter: 0,25

28 Benzo(a)anthracene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

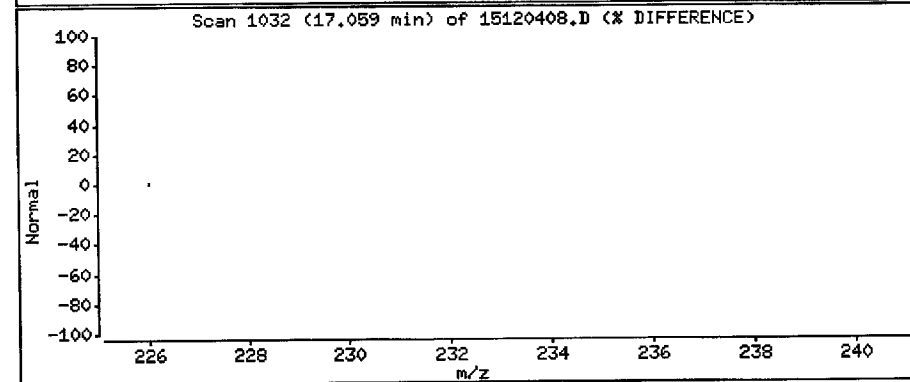
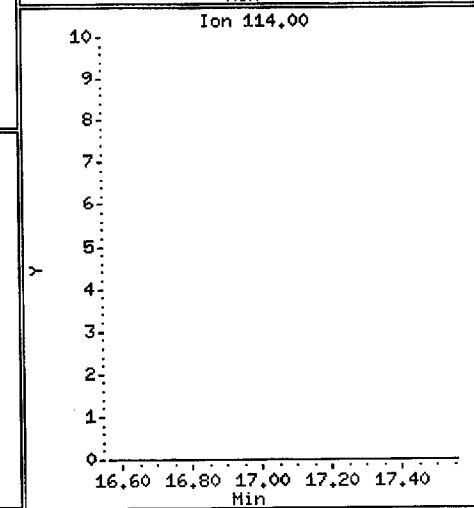
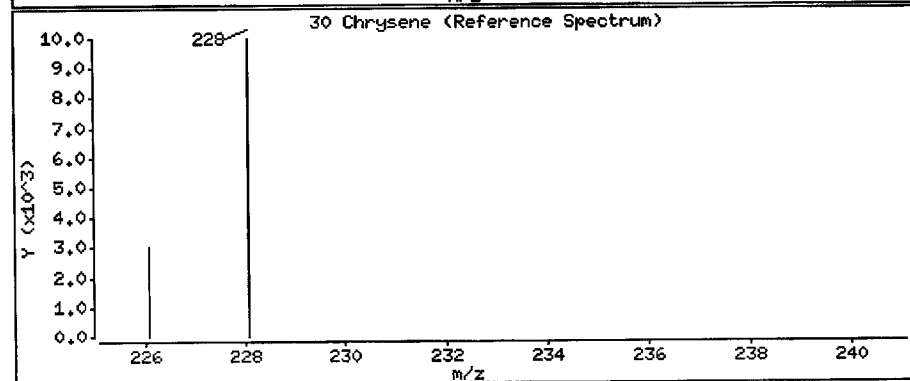
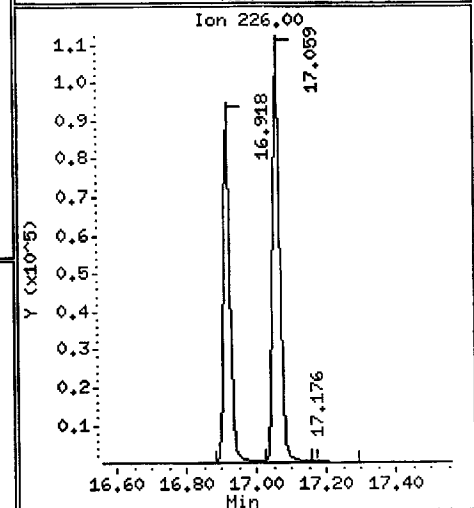
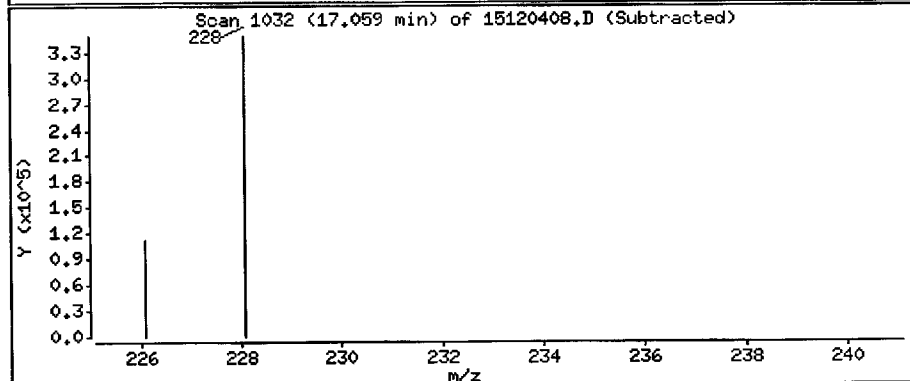
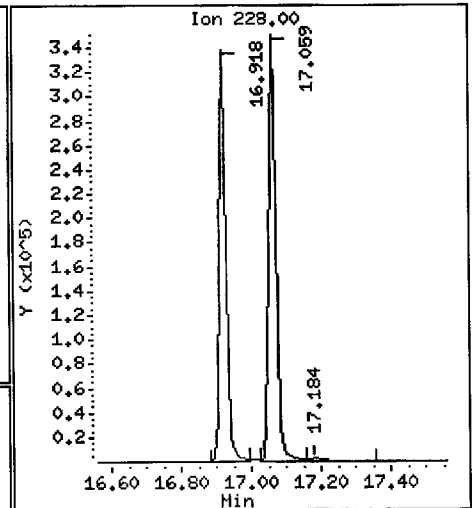
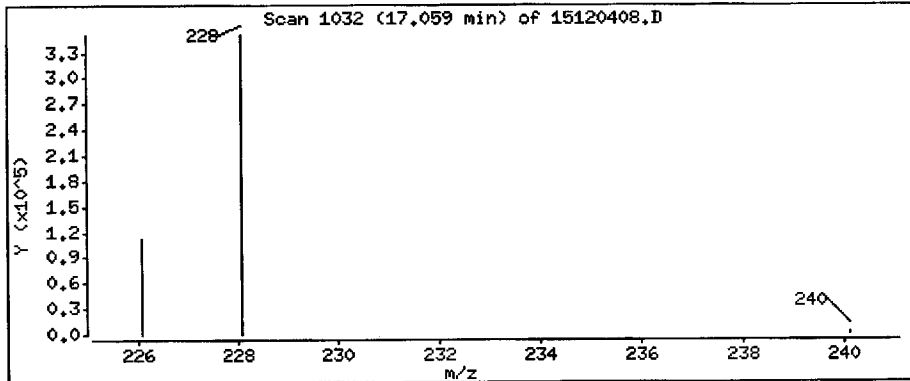
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

30 Chrysene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

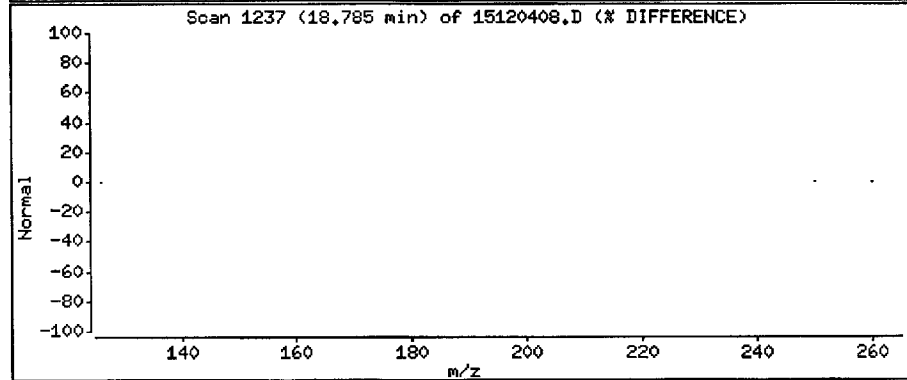
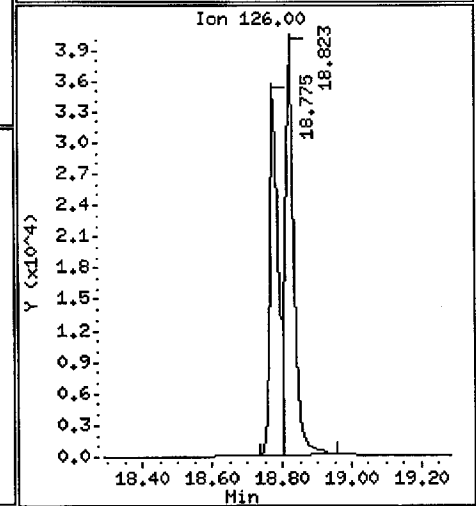
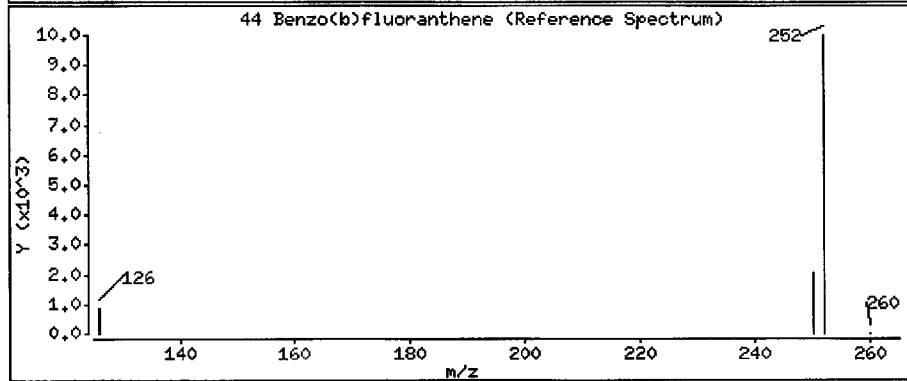
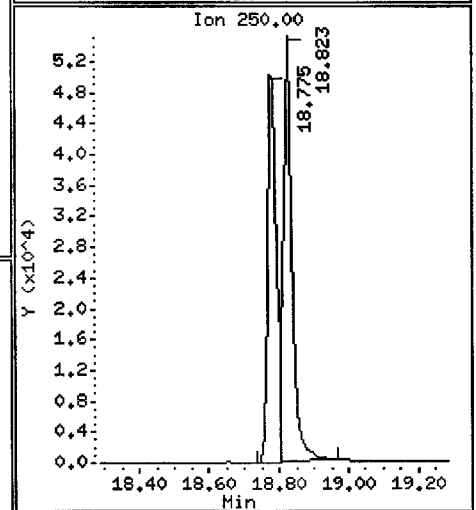
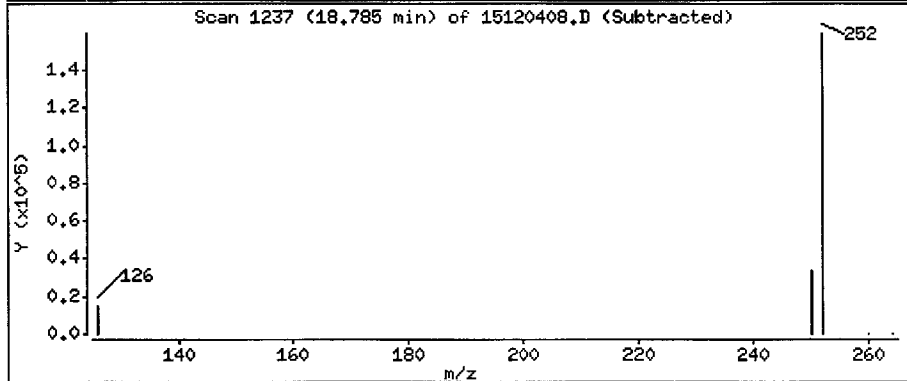
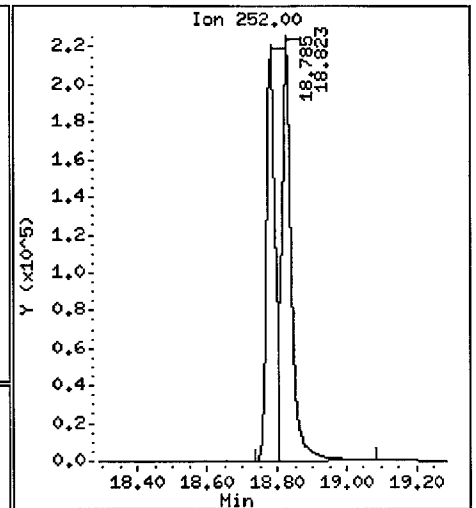
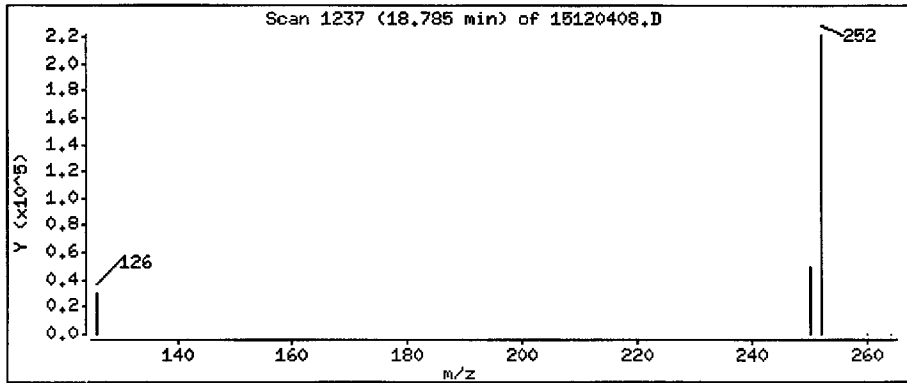
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 241 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

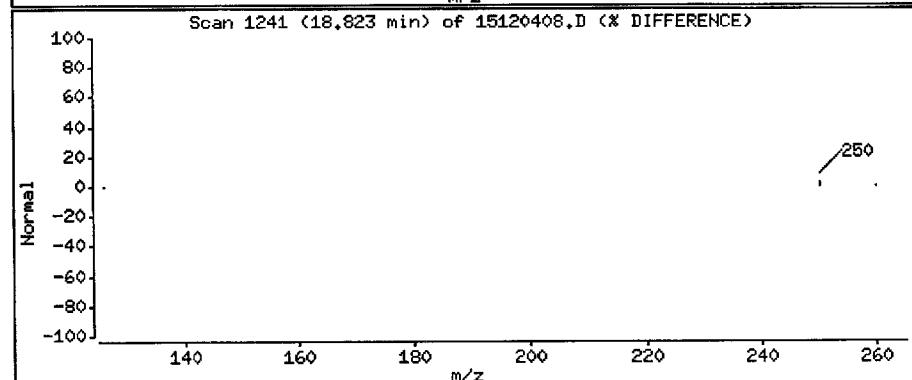
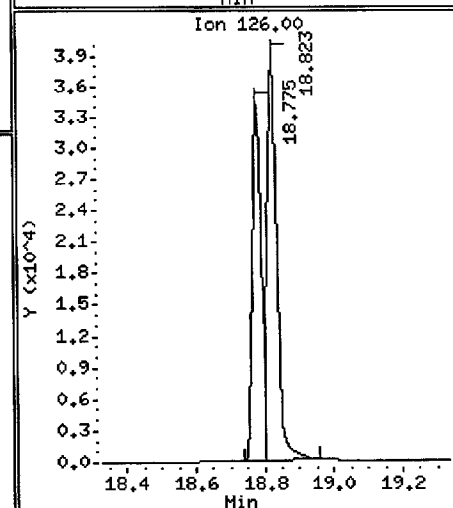
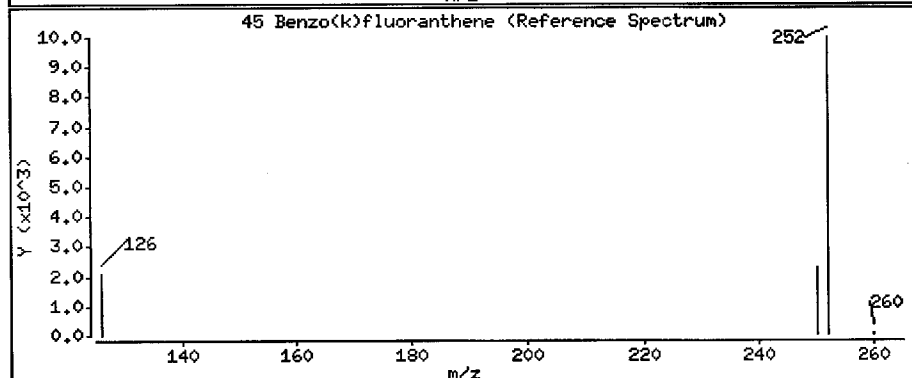
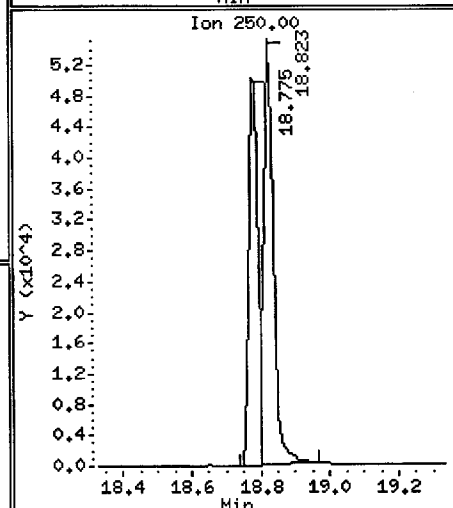
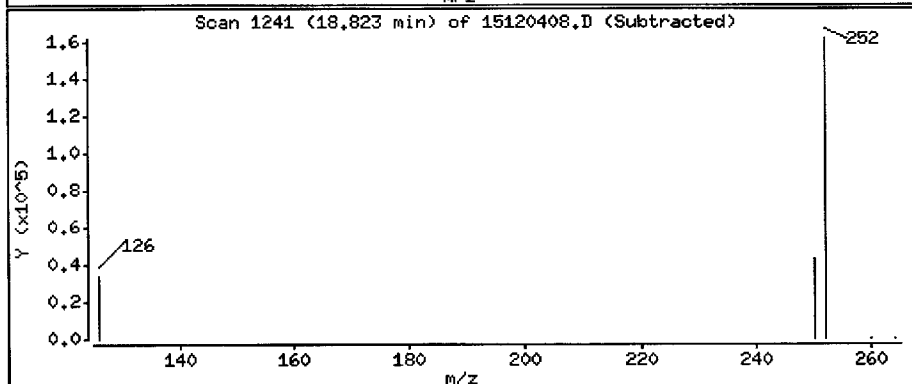
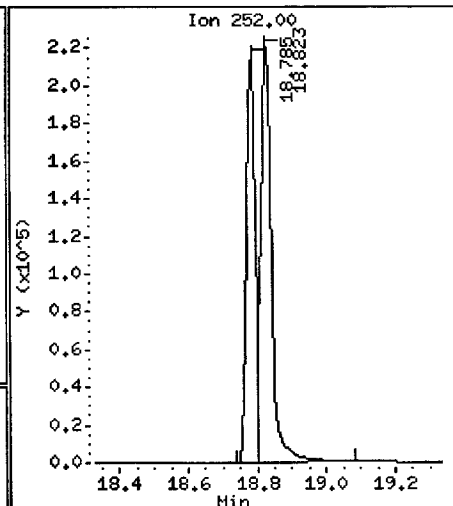
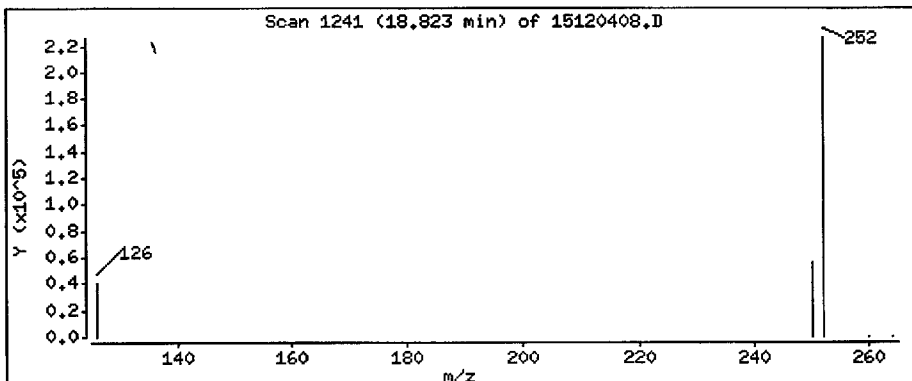
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 248 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

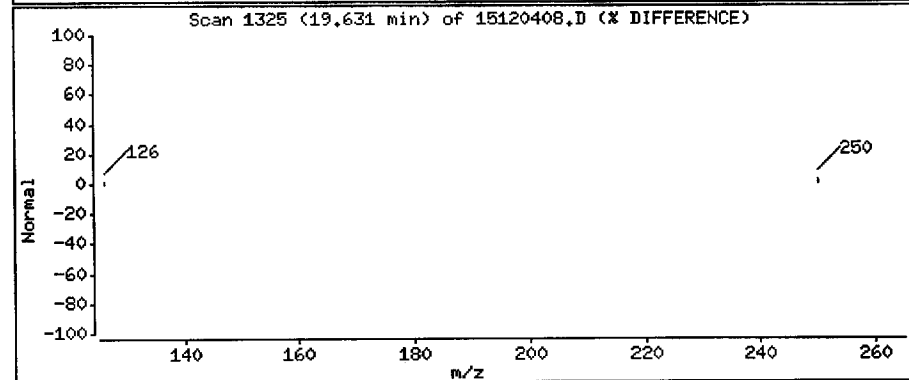
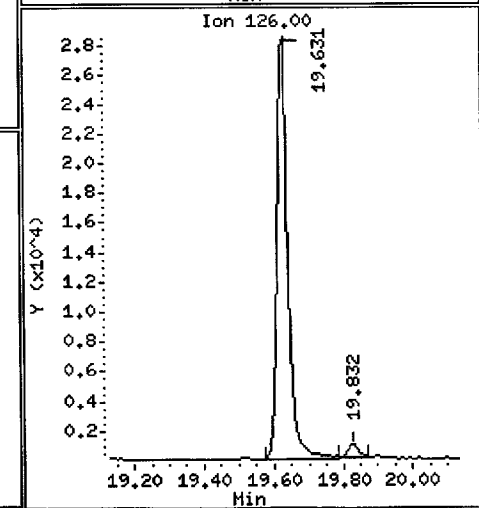
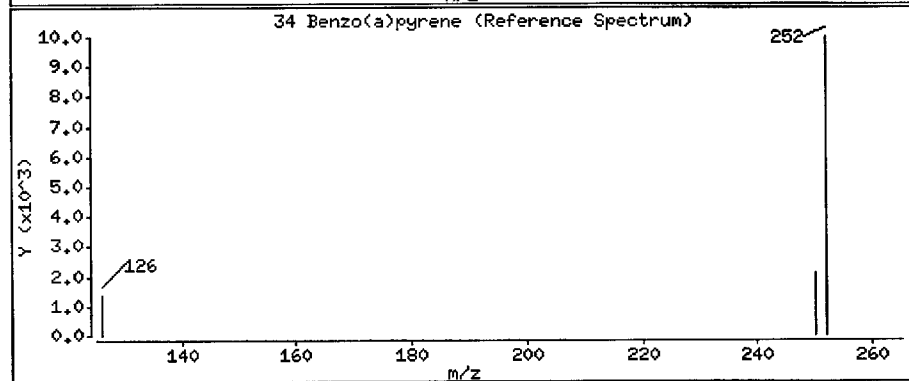
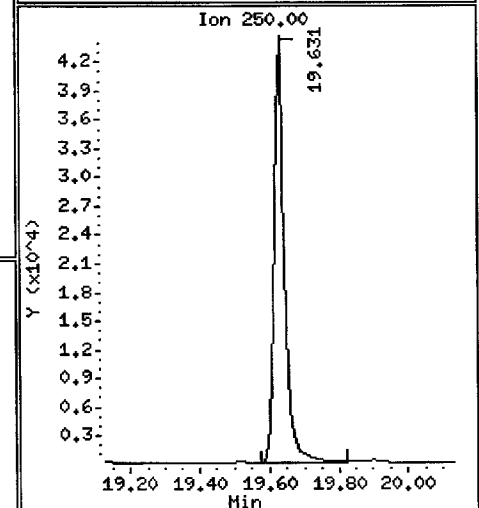
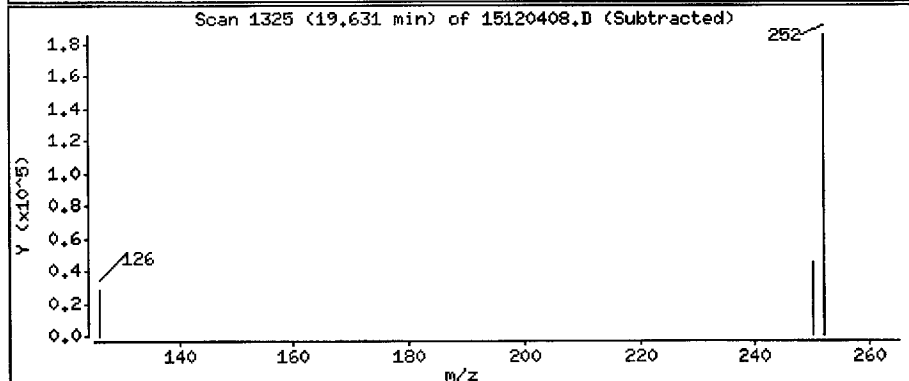
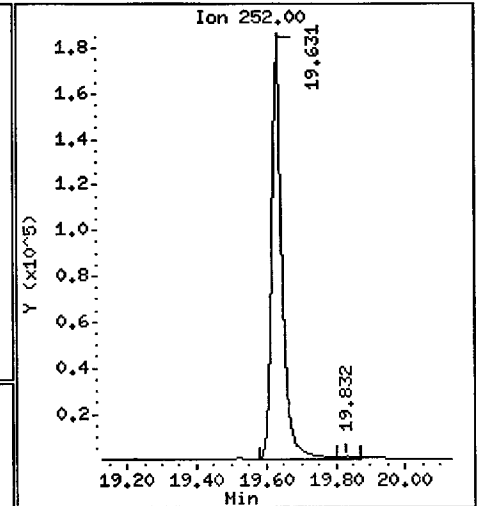
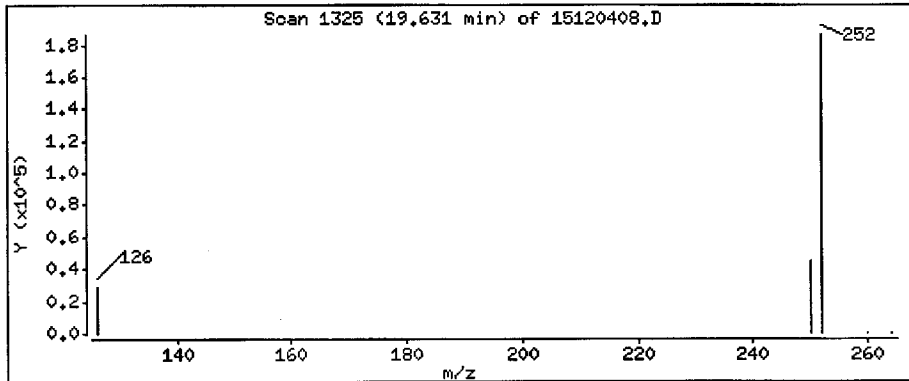
Operator: JH

Column phase: Rxi-17Sil MS

Column diameter: 0.25

34 Benzo(a)pyrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

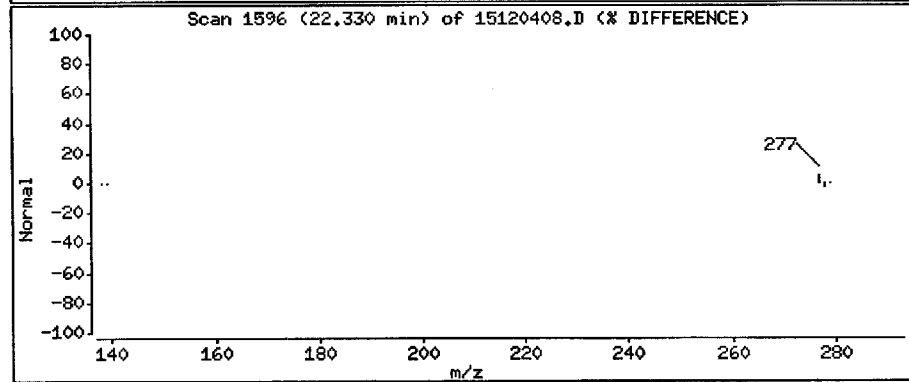
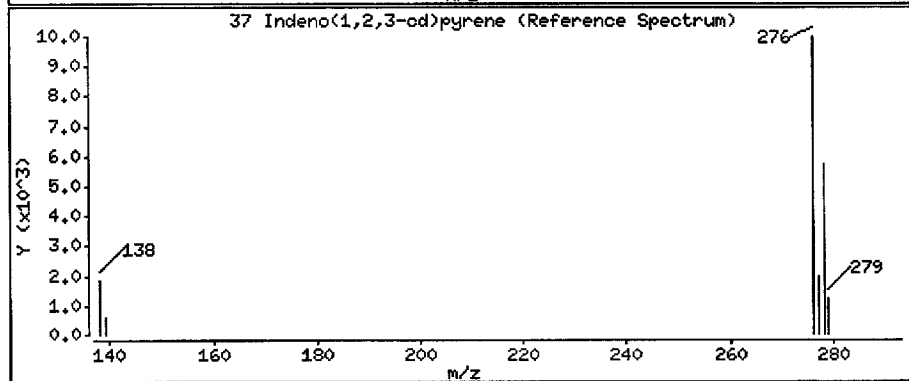
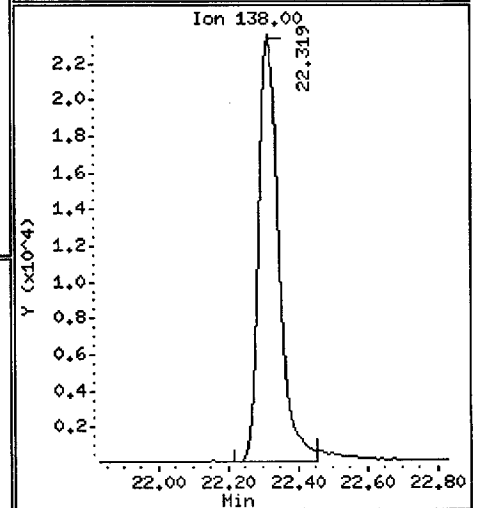
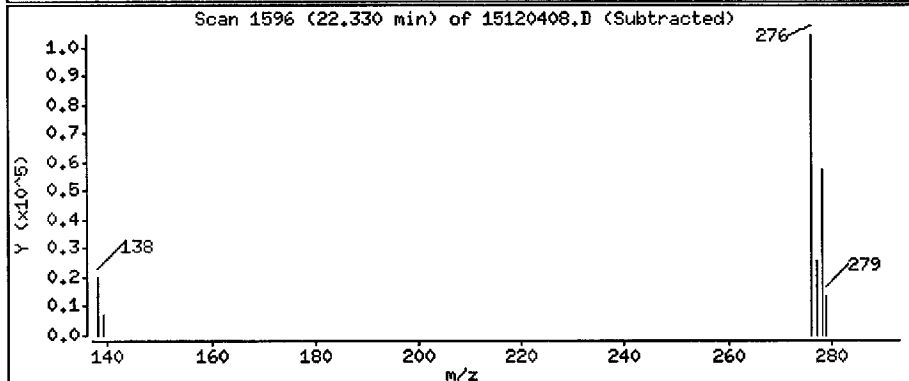
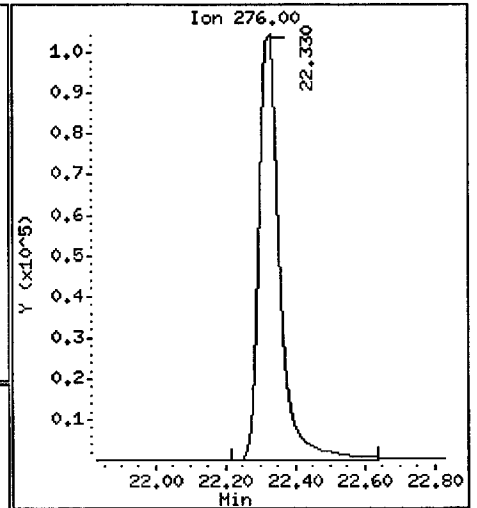
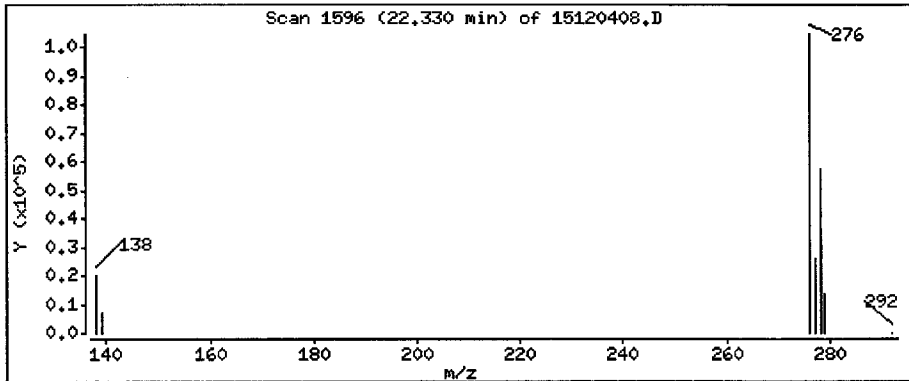
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

37 Indeno(1,2,3-cd)pyrene

Concentration: 248 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

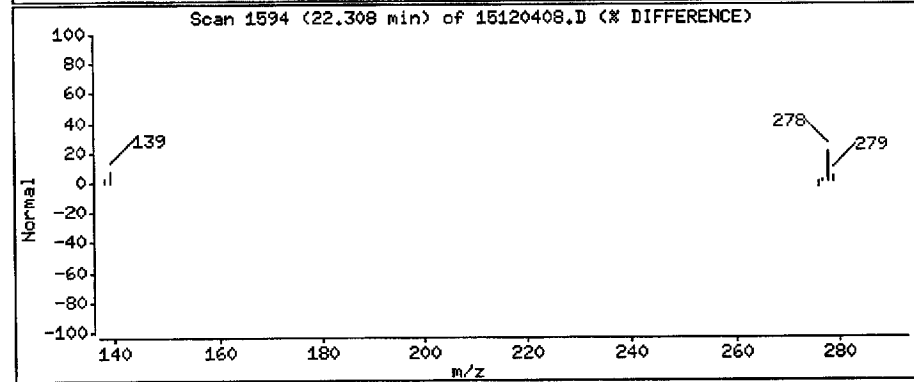
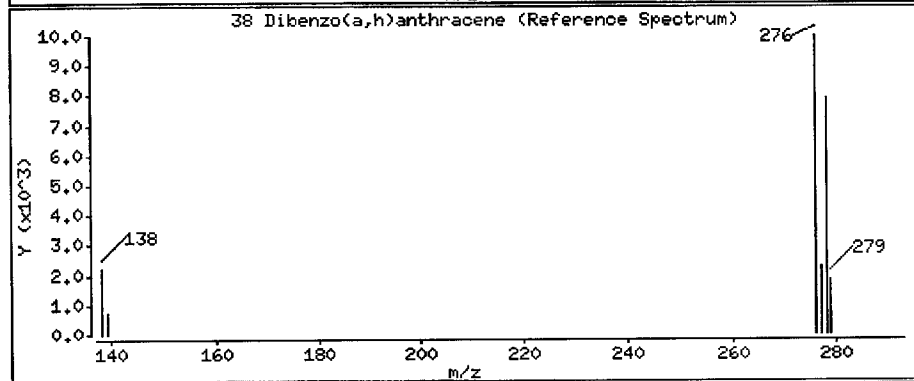
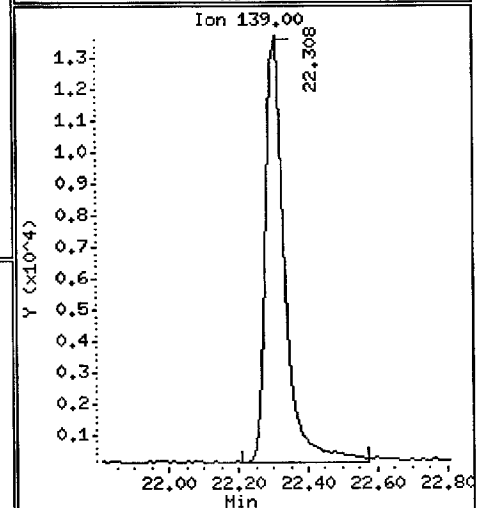
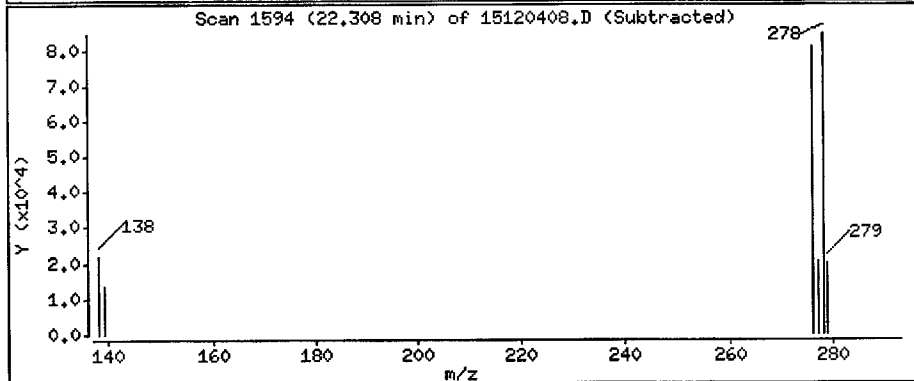
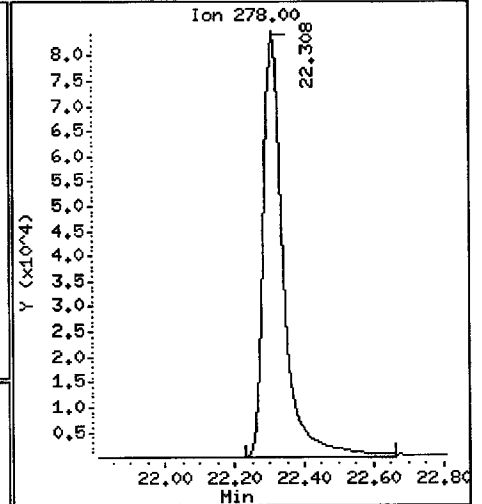
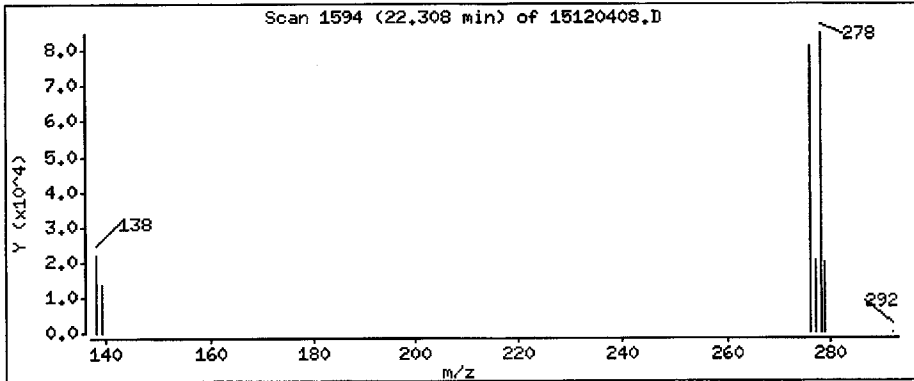
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

38 Dibenzo(a,h)anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

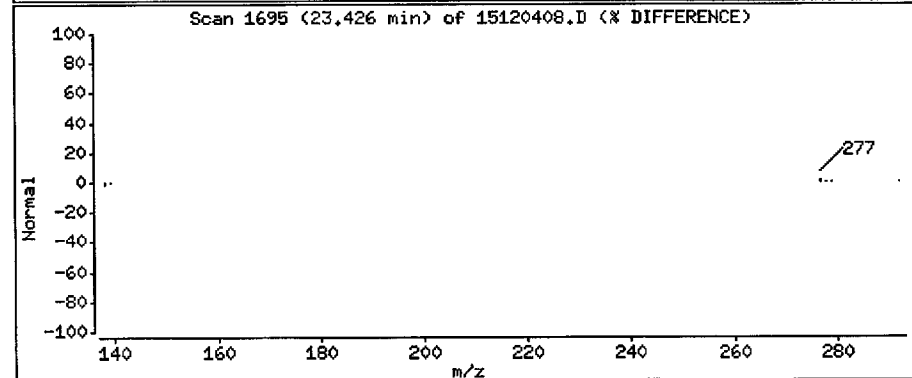
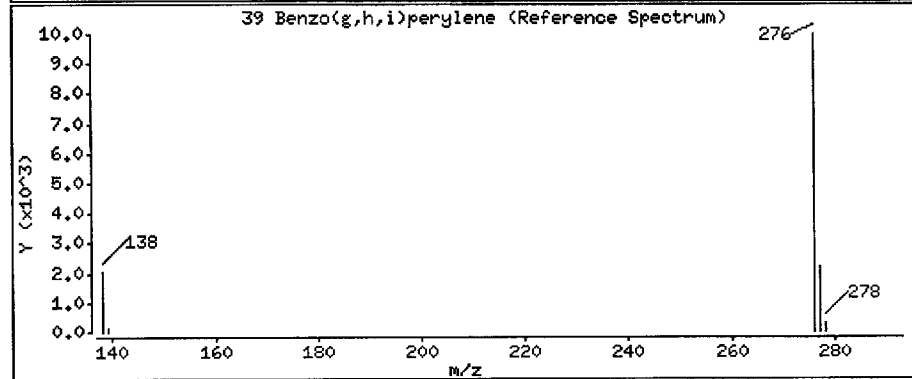
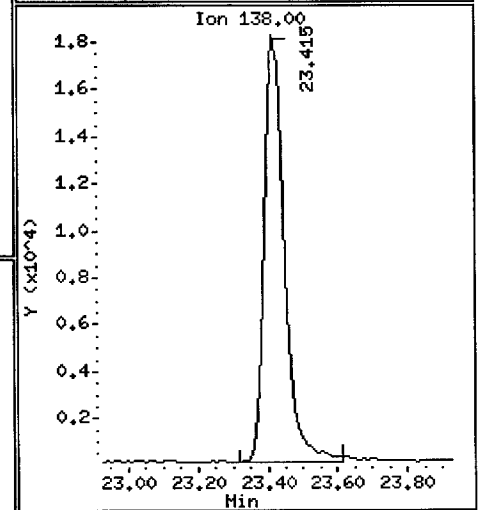
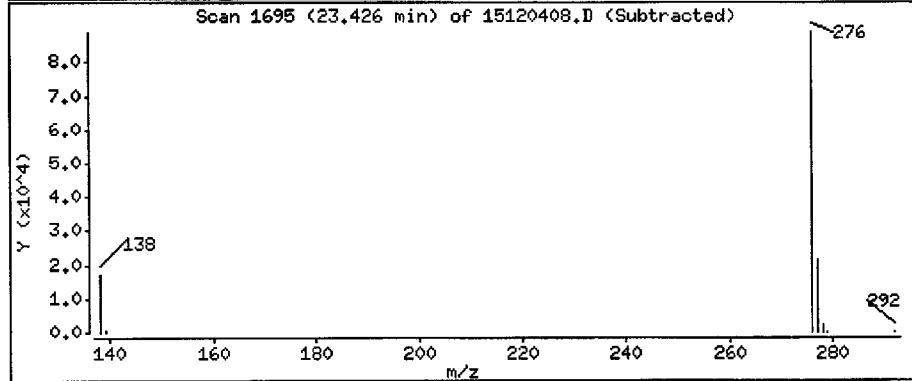
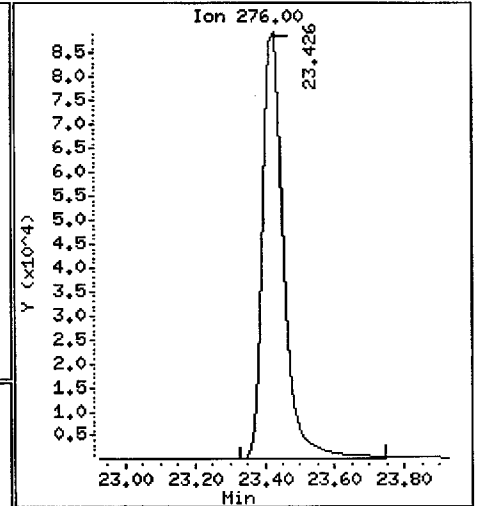
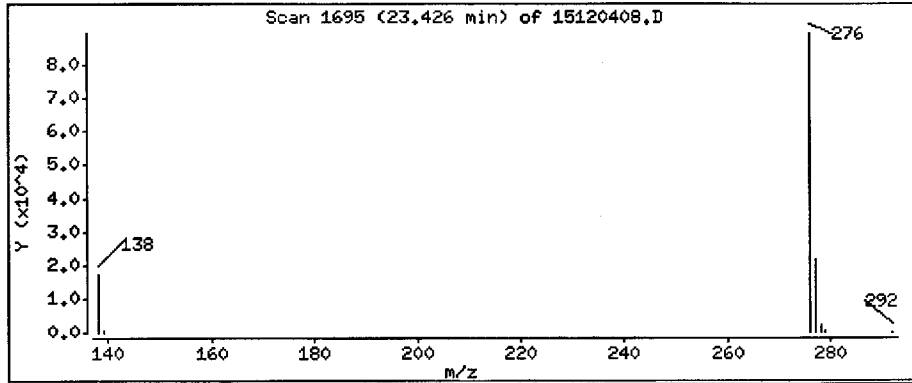
Operator: JW

Column phase: Rxi-17Sil HS

Column diameter: 0.25

39 Benzo(g,h,i)perylene

Concentration: 250 ng/L



REVIEW SUMMARY FOR FILE - 15120408.D

Lab ID: LLSIM SCV 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 12:04

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

SIM PAH Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: APR4



GC/MS SVOA Analyst Notes / Data Review Checklist

ELEMENT/NWA #: APR4 Client: Ancor GEA, LLC

METHOD: 8270D (SIM-SVOA) KRONE (Butyl Tins) 8270D (SVOA) 8270D (OP-Pest)

Instrument: NT-6 NT-8 NT-10 NT-11 NT-12 NT-14

Calibration Code: Y200008 Analysis Start Date: 1/22/16

DFTPP Tune met Criteria?	<u>Y</u> /N/ <u>✓</u>	Internal Standard within 50-200%?	<u>Y</u> /N/ <u>✓</u>
DDT Breakdown <20%?	<u>Y</u> /N/ <u>✓</u>	Retention Times within Windows?	<u>Y</u> /N/ <u>✓</u>
Peak Tailing Factor ≤2?	<u>Y</u> /N/ <u>✓</u>	Method Blank in Control?	<u>Y</u> /N/ <u>✓</u>
ICV/CCV Meets %D?	<u>Y</u> /N/ <u>✓</u>	BS/BSD Recovery in Control?	<u>Y</u> /N/ <u>✓</u>
ICAL Q Flag applied?	Y/ <u>N</u> /	MS/MSD Recovery in Control?	Y/N/
ICV/CCV Q flag applied?	<u>Y</u> /N/ <u>✓</u>	Samples Diluted?	Y/ <u>N</u> /
Surrogate Recovery met?	<u>Y</u> /N/ <u>✓</u>	Special Analysis Request?	<u>Y</u> /N/
Manual Integrations?	Y/ <u>N</u> /	VDP Completed?	NA/ <u>Y</u> /N/
Integration Summary?	<u>Y</u> /N/	Technical Review?	/

Detail problems, corrective actions and/or other pertinent information below.

Q-flag for benzo(k)fluoranthene, which applies a flag to total benzofluoranthenes. Note total contains benzo(j)fluoranthene as well, column has ~~complete~~ separation of all three.

J flags applied to SRM to get values to go thru

Forms/Job batched w ATSO & ADAZ

MRL std run due to Q flag on benzo(k)

(Review 1) Analyst: JJ Date: 1/25/16

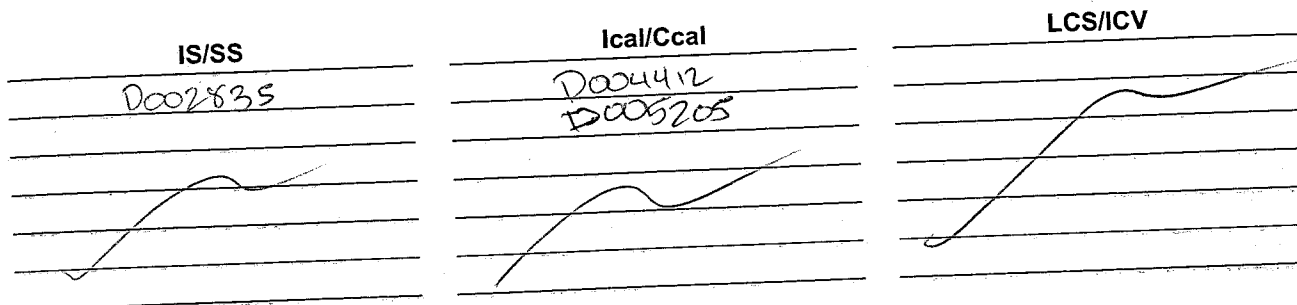
(Review 2) Peer: _____ Date: _____

(Final Review) Reviewer: [Signature] Date: 1/25

Analytical Resources Inc.: Organics Instrument Log

NT-11 Serial No.: GC=US10140004, MS=US10481502

Date: 1/22/16 Analysis: low PATT Analyst: JW
 GC Program: lowsim Column No: D001726 Column Type: 150 Rxi-17silva
 Instrument Tune (.U or .CT.): 150115.U EM Voltage: 1847
 Calibration File: 16012204.D Cali Code: Y60008 Injection Vol.: 2ul



Document All Maintenance Tasks In Element

Time	Filename	LabID	ClientId	DF	
1	0708 16012201.D	TUNE 10		1	[NO ISTDs FOUND]
2	0725 16012202.D	LL SIM ICV		1	6.77 290356 9.77 200396 12.45 328472 17.19 243652 20.11 215215
3	0824 16012203.D			1	6.76 302565 9.77 213697 12.46 342867 17.21 264433 20.13 259585
4	0848 16012204.D	TUNE 10		1	[NO ISTDs FOUND]
5	0905 16012205.D	LL SIM ICV		1	6.74 342116 9.74 244162 12.42 395241 17.17 296129 20.06 267218
6	0957 16012206.D	LL SIM MRL		1	6.74 345356 9.76 235311 12.42 378135 17.18 274122 20.07 249583
7	1027 16012207.D	APRAMBS1	APRAMBS1	1	6.73 368895 9.74 251680 12.42 405369 17.17 295936 20.06 283292
8	1057 16012208.D	APRALCSS1	APRALCSS1	1	6.73 360526 9.74 257556 12.42 412183 17.17 314530 20.06 306686
9	1128 16012209.D	APRASRMI	SRM 1974C	1	6.73 362258 9.74 249465 12.42 398741 17.17 300525 20.06 299419
10	1158 16012210.D	APRAA	PG-T0-MUS-CO	1	6.72 371890 9.74 259279 12.42 437520 17.17 299515 20.06 303212
11	1228 16012211.D	ATSOA	PG-SMA2-2-MU	1	6.73 363469 9.74 256352 12.42 419386 17.17 310418 20.06 308119
12	1258 16012212.D	ATSOB	PG-PJ-1-MUS-	1	6.73 374753 9.74 264386 12.42 426020 17.17 316427 20.07 315181
13	1328 16012213.D	ATSOBMS	PG-PJ-1-MUS-	1	6.73 373582 9.74 269039 12.42 428623 17.17 324379 20.06 323020
14	1359 16012214.D	ATSOBMSD	PG-PJ-1-MUS-	1	6.73 377287 9.74 271691 12.42 435691 17.17 325376 20.06 324453
15	1429 16012215.D	ATSOC	PG-WS-1-MUS-	1	6.73 376882 9.74 268849 12.42 435864 17.17 322334 20.06 323010
16	1459 16012216.D	ATSOE	PG-GP-1-MUS-	1	6.72 377268 9.74 268633 12.41 436597 17.17 322279 20.06 320562
17	1529 16012217.D	ATSOE	PG-SMA2-5-MU	1	6.73 384886 9.74 273475 12.42 449495 17.17 339179 20.06 335158
18	1559 16012218.D	ATSOE	PG-SMA2-4-MU	1	6.72 381586 9.74 270392 12.42 439377 17.17 325728 20.06 325370
19	1630 16012219.D	AUA2A	13EB_ME-MTWO	1	6.73 373510 9.74 268987 12.42 440845 17.17 336414 20.06 339083
20	1700 16012220.D	AUA2B	13CPS_DB-MTW	1	6.73 370975 9.74 264737 12.42 432287 17.17 321859 20.06 327843
21	1730 16012221.D	AUA2C	13NPS_CTAR2-	1	6.72 382765 9.75 270341 12.42 435855 17.17 323444 20.06 326352
22	1800 16012222.D	LL SIM CCV		1	6.73 368312 9.74 275119 12.42 442913 17.17 337848 20.06 332420

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

ARI Job No.: TUNE Method: DFIPP.m Instrument: nt11.i Date: 22-JAN-2016

Time Filename LabID ClientId DF Manually Integrated Compounds

0848 16012204.D TUNE 10 1 NO MANUAL INTEGRATION

0905 16012205.D LL SIM ICV 1 NO MANUAL INTEGRATION

0957 16012206.D LL SIM MRL 1 NO MANUAL INTEGRATION

1027 16012207.D APR4MBS1 APR4MBS1 1 NO MANUAL INTEGRATION

1057 16012208.D APR4LCSS1 APR4LCSS1 1 NO MANUAL INTEGRATION

1128 16012209.D APR4SRM1 SRM 1974C 1 NO MANUAL INTEGRATION

1158 16012210.D APR4A PG-T0-MUS- 1 NO MANUAL INTEGRATION

1228 16012211.D ATSOA PG-SMA2-2- 1 NO MANUAL INTEGRATION

1258 16012212.D ATSOB PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1328 16012213.D ATSOBMS PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1359 16012214.D ATSOBMSD PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1429 16012215.D ATSOC PG-WS-1-MU 1 NO MANUAL INTEGRATION

1459 16012216.D ATSOB PG-GP-1-MU 1 NO MANUAL INTEGRATION

1489 16012217.D ATSOE PG-SMA2-5- 1 NO MANUAL INTEGRATION

1459 16012218.D ATSOE PG-SMA2-4- 1 NO MANUAL INTEGRATION

1480 16012219.D AUA2A 13EB_ME-MT 1 NO MANUAL INTEGRATION

1470 16012220.D AUA2B 13CPS_DB-M 1 NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Time Filename LabID ClientID DF Manually Integrated Compounds

1730 16012221.D AUA2C 13NPS_CTAR 1 NO MANUAL INTEGRATION

1800 16012222.D LL SIM CCV 1 NO MANUAL INTEGRATION

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Instrument: nt11.i Date: 22-JAN-2016 Method: lowsim.m

INITIAL CAL: 04-DEC-2015

Compound	%RSD or R ²

NO Q-FLAGS	

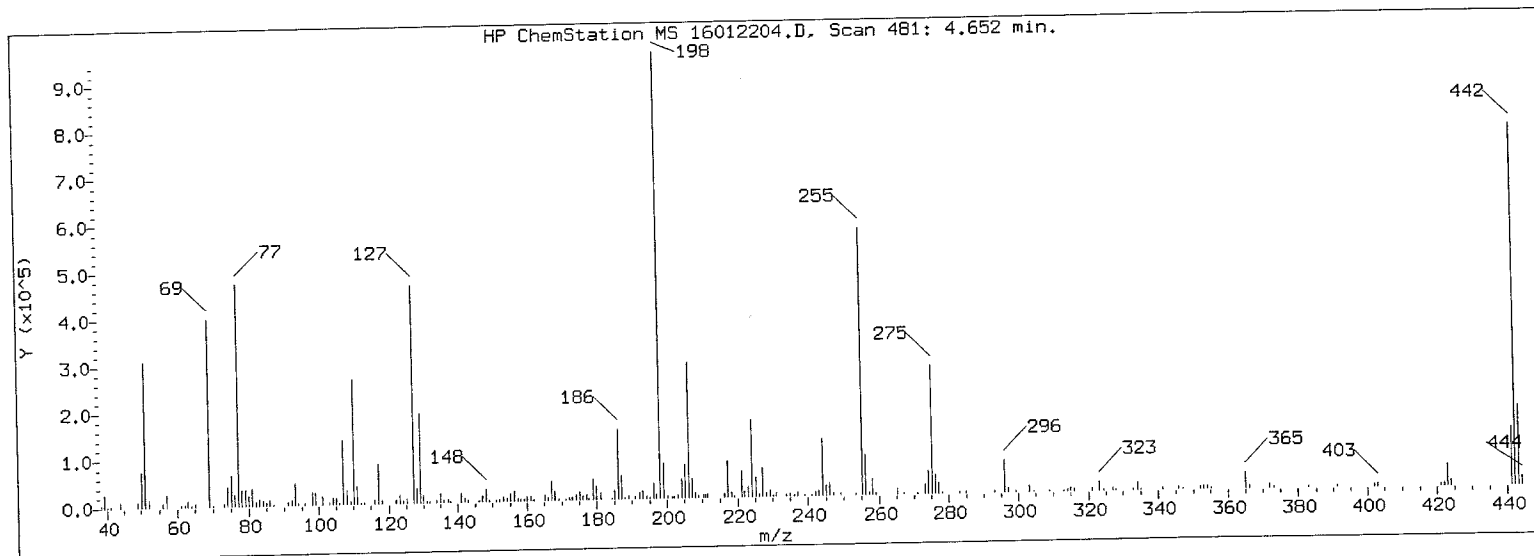
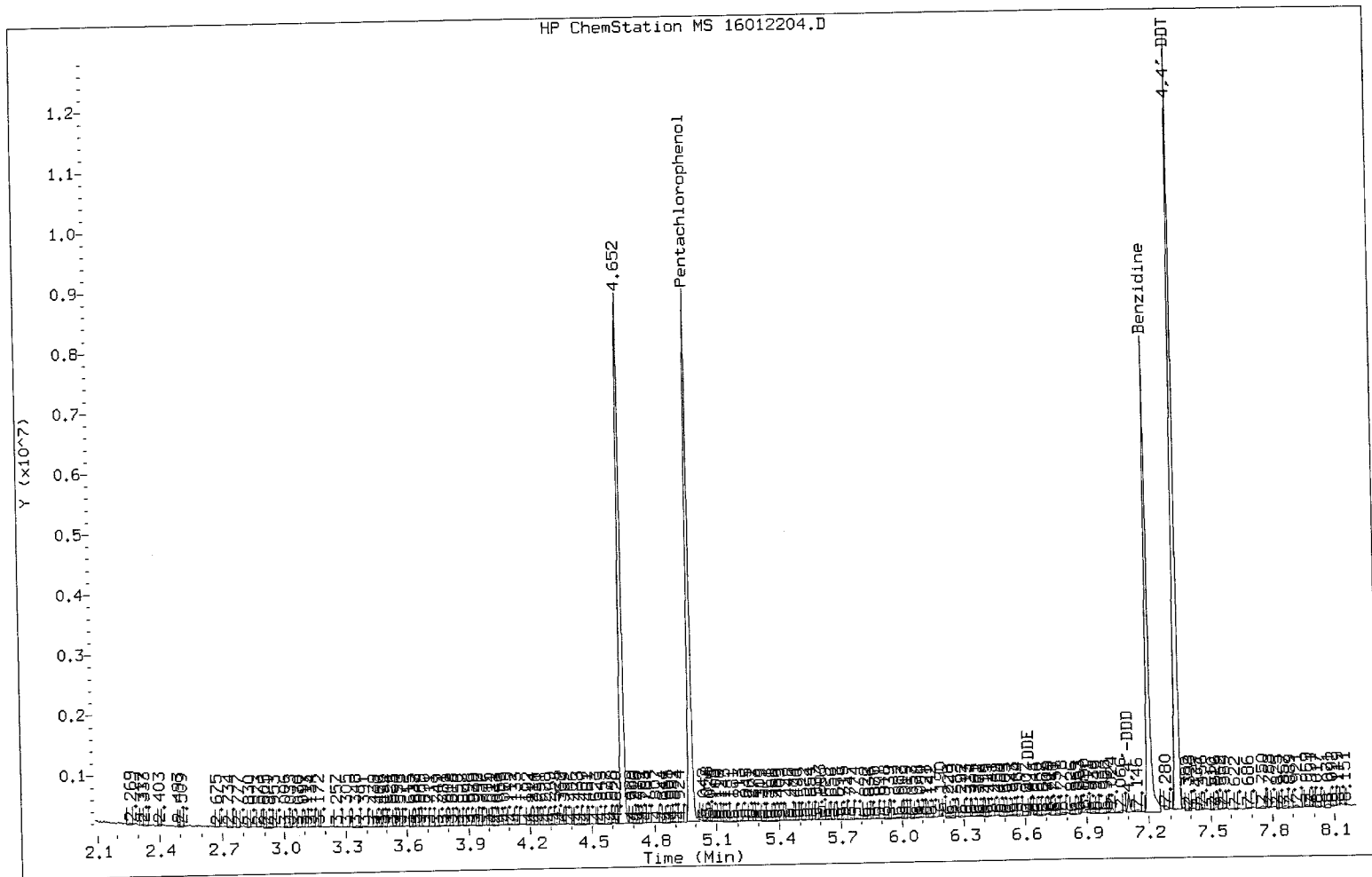
CONTINUING CAL: 22-JAN-2016

Compound	%D

Benzo(k) fluoranthene	-20.8

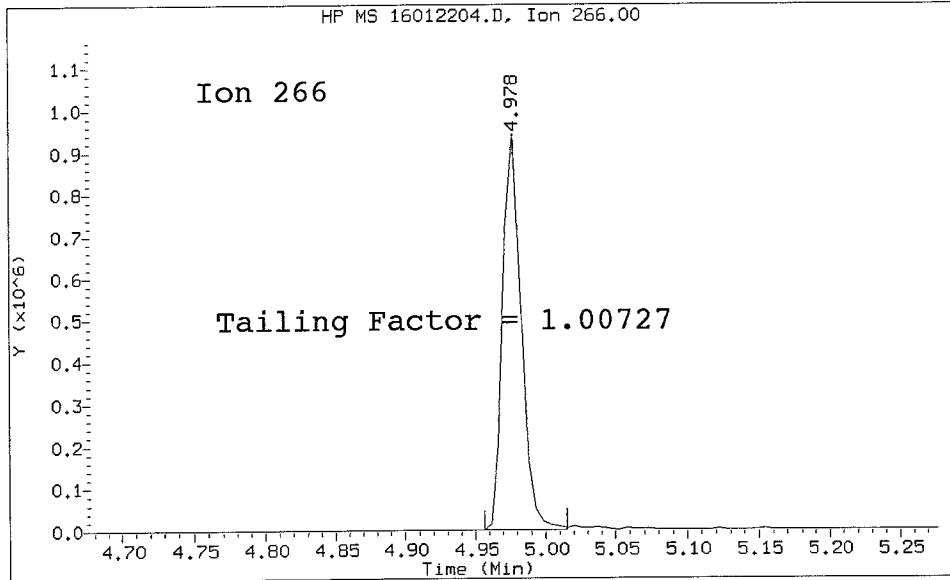
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m Inst: ntl1
Injection Date: 22-JAN-2016 08:48 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 01/22/2016 09:02



ARP4:00173

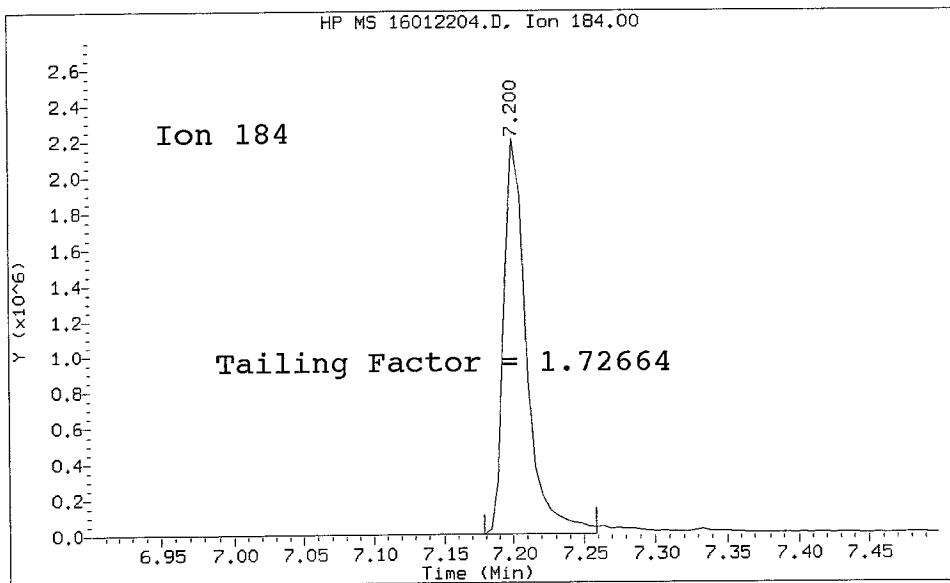
Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 22-JAN-2016 08:48 Operator: JR
Sample Info: TUNE 10
Report Date: 01/22/2016 09:02



Pentachlorophenol

=====
Exp. RT = 4.993
Found RT = 4.978

Tail Factor = 1.007 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.221
Found RT = 7.200

Tail Factor = 1.727 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	32.73
68	Less than 2.00% of mass 69	0.16 (0.39)
69	Mass 69 relative abundance	41.63
70	Less than 2.00% of mass 69	0.25 (0.61)
127	10.00 - 80.00% of mass 198	47.78
197	Less than 2.00% of mass 198	0.40
199	5.00 - 9.00% of mass 198	7.71
275	10.00 - 60.00% of mass 198	27.24
365	Greater than 1.00% of mass 198	3.32
441	0.01 - 24.00% of mass 442	12.54 (16.26)
442	50.00 - 200.00% of mass 198	77.14
443	15.00 - 24.00% of mass 442	16.83 (21.81)

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.0072727	2.000	PASS
Benzidine	1.7266388	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1726805			N/A
4,4-DDE	3549	0.2	20.0	PASS
4,4-DDD	52618	3.0	20.0	PASS
4,4-DDD + DDE	56167	3.2	20.0	PASS

Tuning Sample, nt11.i/20160122.b/16012204.D, *** PASSED ***

Data File: 16012204.D

Spectrum: Avg. Scans 480-482 (4.65), Background Scan 474

Location of Maximum: 198.00

Number of points: 234

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	3607	122.00	7336	189.00	6814	259.00	4520
39.00	25272	123.00	12165	190.00	687	265.00	10616
40.00	1066	124.00	5804	191.00	3058	267.00	824
41.00	1087	125.00	6712	192.00	9991	271.00	1786
44.00	2951	126.00	715	193.00	11855	273.00	17288
47.00	1915	127.00	371968	194.00	2573	274.00	41440
48.00	965	128.00	27128	195.00	969	275.00	212032
49.00	343	129.00	147840	196.00	26288	276.00	33296
50.00	69008	130.00	14201	197.00	3102	277.00	19368
51.00	254784	131.00	2791	198.00	778432	278.00	1718
52.00	12897	132.00	1860	199.00	60048	283.00	2182
56.00	8355	134.00	4232	200.00	5671	285.00	2120
57.00	22680	135.00	13298	201.00	3467	293.00	3851
61.00	3516	136.00	3638	202.00	2557	296.00	55384
62.00	3826	137.00	5257	203.00	5846	297.00	8144
63.00	9940	138.00	1734	204.00	32288	299.00	707
64.00	1093	141.00	18984	205.00	57688	301.00	924
65.00	7427	142.00	6237	206.00	232576	303.00	9467
68.00	1278	143.00	3531	207.00	29320	304.00	667
69.00	324032	146.00	4949	208.00	8015	308.00	766
70.00	1962	147.00	9660	209.00	1911	309.00	753
73.00	723	148.00	22696	210.00	4960	313.00	666
74.00	36448	149.00	2795	211.00	10724	314.00	3828
75.00	55760	150.00	734	215.00	1660	315.00	6576
76.00	19528	151.00	2894	216.00	5836	316.00	3799
77.00	385408	152.00	1966	217.00	56960	321.00	1720
78.00	29584	153.00	6313	218.00	7526	323.00	17272
79.00	25288	154.00	5608	219.00	1661	324.00	1938
80.00	16616	155.00	12727	220.00	890	327.00	4736
81.00	28720	156.00	18096	221.00	44040	328.00	2031
82.00	7311	157.00	4106	222.00	6970	333.00	2333
83.00	8522	158.00	3387	223.00	15012	334.00	16114
85.00	5376	159.00	2361	224.00	125528	335.00	2065
86.00	4792	160.00	6722	225.00	31192	341.00	1930
87.00	3303	161.00	8069	226.00	4356	346.00	3920
88.00	2091	162.00	3527	227.00	50936	347.00	798
91.00	4565	164.00	1307	228.00	7585	352.00	6058
92.00	7896	165.00	7812	229.00	11279	353.00	4458
93.00	39608	166.00	4164	230.00	1526	354.00	5282
94.00	2439	167.00	35072	231.00	5218	355.00	805
96.00	2499	168.00	16007	234.00	3064	365.00	25832
98.00	27064	169.00	3806	235.00	4198	366.00	4228
99.00	25248	171.00	980	236.00	2314	372.00	8757
100.00	1800	172.00	3057	237.00	5032	373.00	1989
101.00	16026	173.00	4470	239.00	1814	383.00	2358
103.00	3544	174.00	8647	241.00	1057	391.00	1271
104.00	11351	175.00	15815	242.00	6205	402.00	5535
105.00	8415	176.00	5995	243.00	4414	403.00	5821
106.00	1019	177.00	7242	244.00	90744	404.00	1129

ARP4: 00177

107.00	114800	178.00	1626	245.00	14417	421.00	4462
108.00	24152	179.00	29840	246.00	18184	422.00	4482
109.00	4094	180.00	23120	247.00	3106	423.00	33288
110.00	220544	181.00	12070	249.00	2530	424.00	9008
111.00	29816	183.00	712	250.00	747	441.00	97608
112.00	3512	184.00	1794	253.00	1957	442.00	600448
113.00	690	185.00	14309	255.00	445120	443.00	130976
116.00	5974	186.00	118168	256.00	66840	444.00	13357
117.00	71488	187.00	35616	257.00	3449		
118.00	4363	188.00	3220	258.00	25832		

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 22-JAN-2016 09:05
 Lab File ID: 16012205.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LL SIM ICV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160122.b\lowsim.m

COMPOUND	RRF / AMOUNT	RF250	MIN		MAX		CURVE TYPE
			RRF	%D / %DRIFT	%D / %DRIFT	%D / %DRIFT	
5 Naphthalene	1.15523	1.01008	0.010	-12.56490	20.00000	Averaged	
6 2-Methylnaphthalene-d10	0.74235	0.67060	0.010	-9.66554	20.00000	Averaged	
7 2-Methylnaphthalene	0.79376	0.72881	0.010	-8.18323	20.00000	Averaged	
8 1-Methylnaphthalene	0.71533	0.65102	0.010	-8.99055	20.00000	Averaged	
10 Acenaphthylene	1.61414	1.49736	0.010	-7.23476	20.00000	Averaged	
12 Acenaphthene	1.07135	0.94674	0.010	-11.63119	20.00000	Averaged	
14 Dibenzofuran	1.61394	1.44144	0.010	-10.68769	20.00000	Averaged	
15 Fluorene	1.21040	1.13274	0.010	-6.41645	20.00000	Averaged	
19 Phenanthrene	1.20497	1.02916	0.010	-14.58979	20.00000	Averaged	
20 Anthracene	1.07857	1.00293	0.010	-7.01252	20.00000	Averaged	
23 Fluoranthene-d10	1.09988	0.97587	0.200	-11.27457	20.00000	Averaged	
24 Fluoranthene	1.20977	1.06068	0.010	-12.32404	20.00000	Averaged	
25 Pyrene	1.58387	1.42756	0.010	-9.86851	20.00000	Averaged	
28 Benzo(a)anthracene	1.33345	1.18471	0.010	-11.15468	20.00000	Averaged	
30 Chrysene	1.46350	1.22447	0.010	-16.33287	20.00000	Averaged	
44 Benzo(b)fluoranthene	1.35504	1.16216	0.200	-14.23482	20.00000	Averaged	
45 Benzo(k)fluoranthene	1.57904	1.24997	0.200	-20.83950	20.00000	Averaged<-	
46 Benzo(j)fluoranthene	1.43839	1.18290	0.200	-17.76252	20.00000	Averaged	
43 Benzo(a)pyrene	1.30774	1.11820	0.010	-14.49403	20.00000	Averaged	
36 Dibenzo(a,h)anthracene-d14	0.80723	0.73518	0.010	-8.92537	20.00000	Averaged	
37 Indeno(1,2,3-cd)pyrene	1.37309	1.18637	0.010	-13.59810	20.00000	Averaged	
38 Dibenzo(a,h)anthracene	1.08579	0.96395	0.010	-11.22141	20.00000	Averaged	
39 Benzo(g,h,i)perylene	1.19199	1.03495	0.010	-13.17397	20.00000	Averaged	
47 Perylene	1.35582	1.11738	0.200	-17.58607	20.00000	Averaged	
48 Benzo(e)pyrene	1.36945	1.10703	0.200	-19.16194	20.00000	Averaged	

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012205.D
 Lab Smp Id: LL SIM ICV
 Inj Date : 22-JAN-2016 09:05 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM ICV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.744	6.744	(1.000)	342116	200.000	
5 Naphthalene	128		6.776	6.776	(1.005)	431956	250.000	219
§ 6 2-Methylnaphthalene-d10	152		7.721	7.721	(1.145)	286779	250.000	226
7 2-Methylnaphthalene	142		7.774	7.774	(1.153)	311670	250.000	230
8 1-Methylnaphthalene	142		8.026	8.026	(1.190)	278405	250.000	228
10 Acenaphthylene	152		9.589	9.589	(0.984)	456998	250.000	232
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	244162	200.000	
12 Acenaphthene	153		9.811	9.811	(1.007)	288948	250.000	221
14 Dibenzofuran	168		10.010	10.010	(1.027)	439932	250.000	223
15 Fluorene	166		10.630	10.630	(1.091)	345715	250.000	234
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	395241	200.000	
19 Phenanthrene	178		12.468	12.468	(1.004)	508460	250.000	214
20 Anthracene	178		12.523	12.523	(1.008)	495501	250.000	232
§ 23 Fluoranthene-d10	212		14.518	14.518	(1.169)	482130	250.000	222
24 Fluoranthene	202		14.557	14.557	(1.172)	524030	250.000	219
25 Pyrene	202		15.057	15.057	(0.877)	528428	250.000	225
28 Benzo (a) anthracene	228		17.075	17.075	(0.995)	438532	250.000	222
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	296129	200.000	
30 Chrysene	228		17.217	17.217	(1.003)	453252	250.000	209
44 Benzo (b) fluoranthene	252		18.967	18.967	(0.945)	388186	250.000	214 (H)
45 Benzo (k) fluoranthene	252		19.015	19.015	(0.948)	417519	250.000	198 (H)

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	395115	250.000	206
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	373503	250.000	214
* 35 Perylene-d12	264	20.062	20.062	(1.000)	267218	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	245568	250.000	228
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	396275	250.000	216
38 Dibenzo(a,h)anthracene	278	22.651	22.651	(1.129)	321982	250.000	222
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	345698	250.000	217
47 Perylene	252	20.130	20.130	(1.003)	373231	250.000	206
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	369774	250.000	202

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012205.D
 Lab Smp Id: LL SIM ICV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 18:00

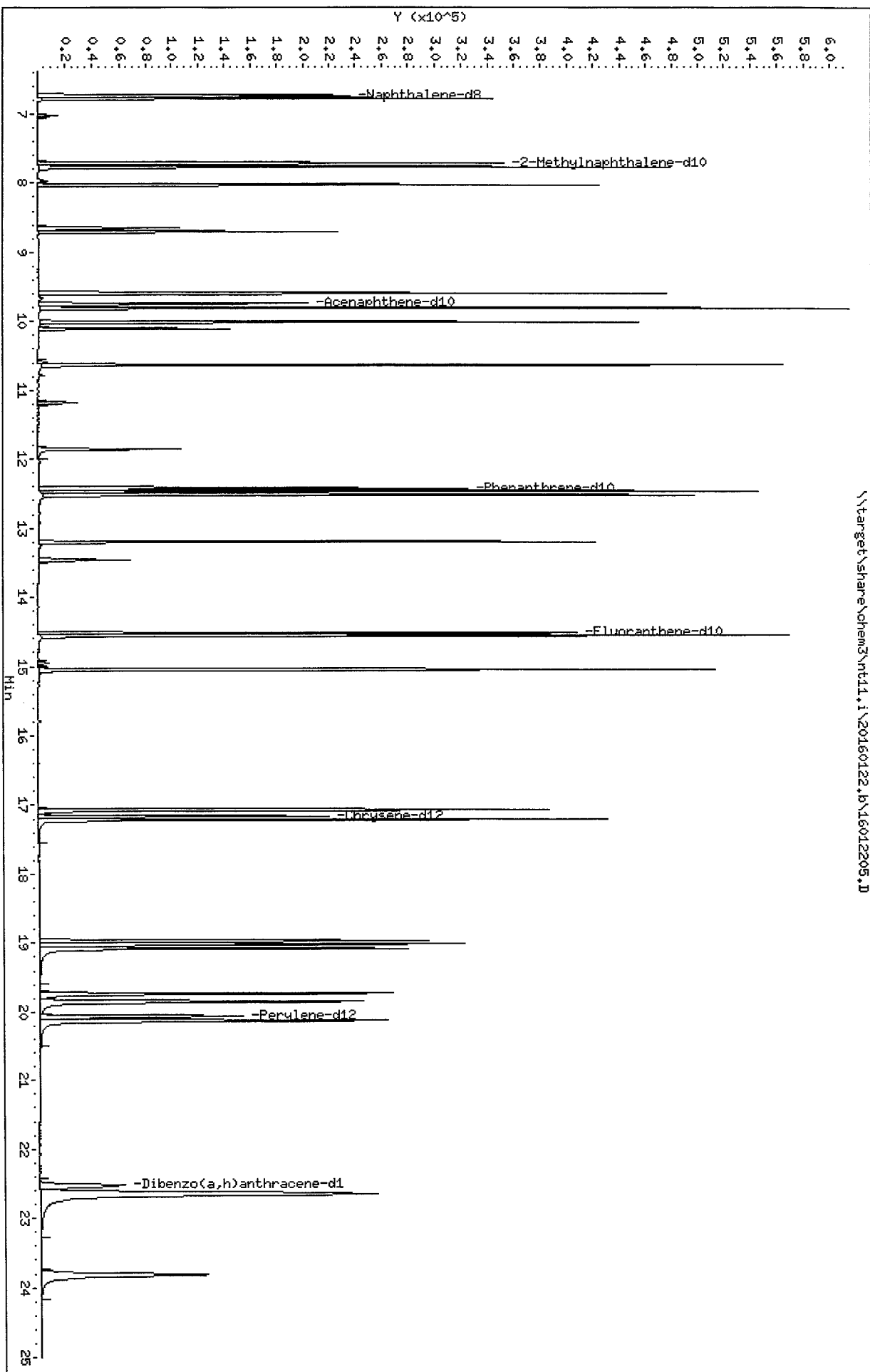
Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	342116	4.34
11 Acenaphthene-d10	239179	119590	478358	244162	2.08
18 Phenanthrene-d10	372253	186127	744506	395241	6.18
29 Chrysene-d12	294711	147356	589422	296129	0.48
35 Perylene-d12	260595	130298	521190	267218	2.54

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.



REVIEW SUMMARY FOR FILE - 16012205.D

Lab ID: LL SIM ICV

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:05

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012206.D
 Lab Smp Id: LL SIM MRL
 Inj Date : 22-JAN-2016 09:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM MRL
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: JTD 1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/Kg)
* 4 Naphthalene-d8	136	6.744	6.744 (1.000)		345356	200.000	
5 Naphthalene	128	6.776	6.776 (1.005)		23679	11.8701	594
\$ 6 2-Methylnaphthalene-d10	152	7.721	7.721 (1.145)		14635	11.4168	571 (R)
7 2-Methylnaphthalene	142	7.774	7.774 (1.153)		15554	11.3479	567
8 1-Methylnaphthalene	142	8.036	8.026 (1.192)		14016	11.3470	567
10 Acenaphthylene	152	9.600	9.589 (0.984)		23264	12.2499	612
* 11 Acenaphthene-d10	164	9.755	9.744 (1.000)		235311	200.000	
12 Acenaphthene	153	9.811	9.811 (1.006)		14766	11.7143	586
14 Dibenzofuran	168	10.021	10.010 (1.027)		23440	12.3441	617
15 Fluorene	166	10.641	10.630 (1.091)		17626	12.3769	619
* 18 Phenanthrene-d10	188	12.424	12.424 (1.000)		378135	200.000	
19 Phenanthrene	178	12.468	12.468 (1.004)		30106	13.2148	661
20 Anthracene	178	12.523	12.523 (1.008)		24053	11.7952	590
\$ 23 Fluoranthene-d10	212	14.528	14.518 (1.169)		25449	12.2380	612 (R)
24 Fluoranthene	202	14.557	14.557 (1.172)		27112	11.8533	593
25 Pyrene	202	15.057	15.057 (0.877)		28035	12.9142	646
28 Benzo (a) anthracene	228	17.076	17.075 (0.994)		22208	12.1512	608
* 29 Chrysene-d12	240	17.175	17.167 (1.000)		274122	200.000	
30 Chrysene	228	17.225	17.217 (1.003)		23055	11.4936	575
44 Benzo (b) fluoranthene	252	18.977	18.967 (0.945)		17108	10.1172	506
45 Benzo (k) fluoranthene	252	19.025	19.015 (0.948)		20372	10.3385	517

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/Kg)
46 Benzo(j)fluoranthene	252	19.092	19.082	(0.951)	19922	11.0986	555
34 Benzo(a)pyrene	252	19.861	19.851	(0.989)	17153	10.5107	526
* 35 Perylene-d12	264	20.072	20.062	(1.000)	249583	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.540	22.529	(1.123)	9288	9.22016	461(R)
37 Indeno(1,2,3-cd)pyrene	276	22.673	22.662	(1.130)	16178	9.44153	472
38 Dibenzo(a,h)anthracene	278	22.651	22.651	(1.128)	12483	9.21269	461
39 Benzo(g,h,i)perylene	276	23.836	23.814	(1.188)	14357	9.65178	483
47 Perylene	252	20.139	20.130	(1.003)	17838	10.5429	527
48 Benzo(e)pyrene	252	19.745	19.736	(0.984)	18320	10.7200	536

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012206.D
 Lab Smp Id: LL SIM MRL
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	345356	5.32
11 Acenaphthene-d10	239179	119590	478358	235311	-1.62
18 Phenanthrene-d10	372253	186127	744506	378135	1.58
29 Chrysene-d12	294711	147356	589422	274122	-6.99
35 Perylene-d12	260595	130298	521190	249583	-4.23

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.76	0.11
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.18	0.05
35 Perylene-d12	20.06	19.56	20.56	20.07	0.05

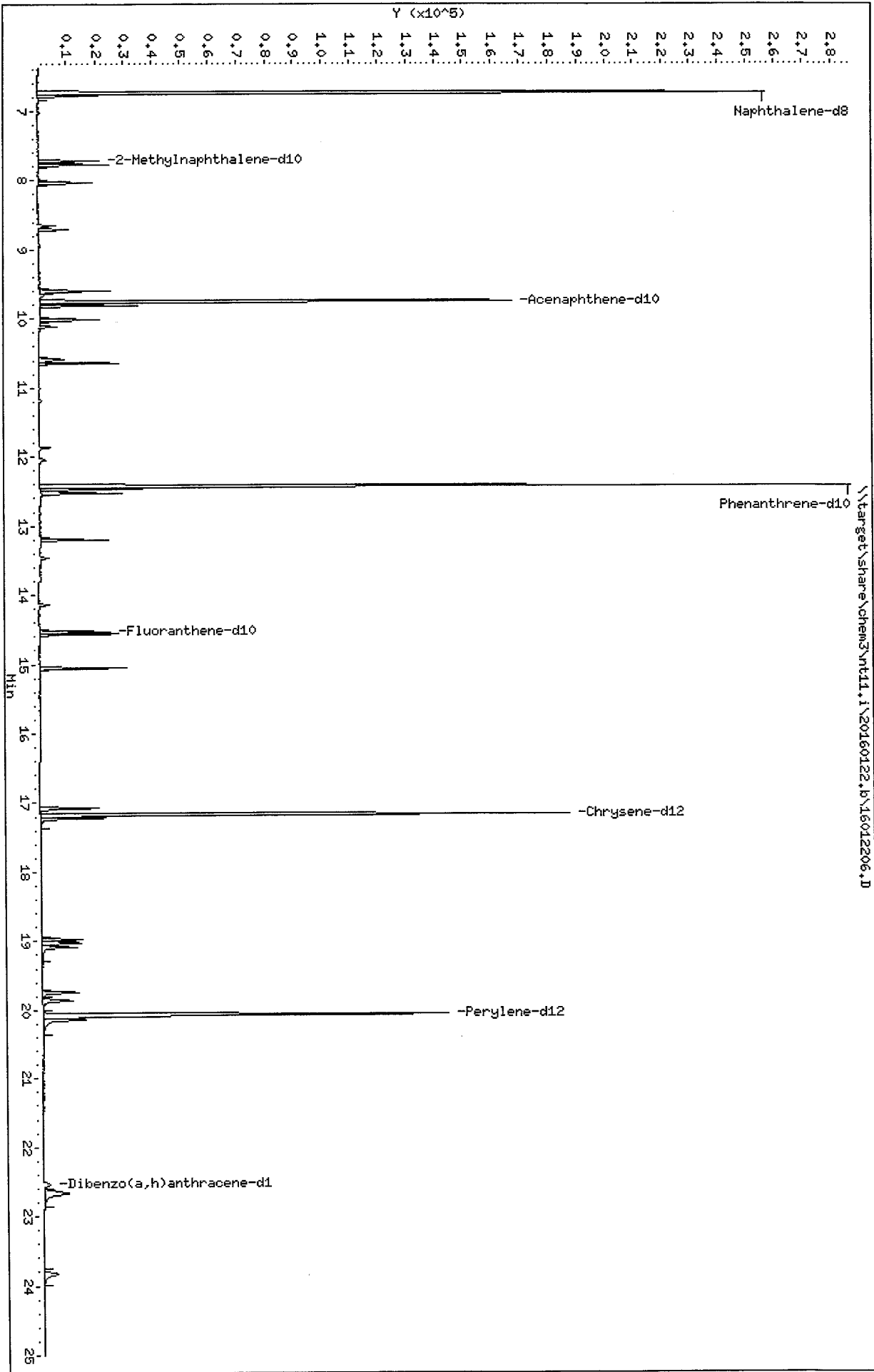
AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: SDGa04420
Sample Matrix: SOLID Fraction: SV
Lab Smp Id: LL SIM MRL
Level: LOW Operator: JW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: waterlcs.spk Quant Type: ISTD
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/Kg	CONC RECOVERED ng/Kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	571	3.81*	30-160
\$ 23 Fluoranthene-d10	15000	612	4.08*	30-160
\$ 36 Dibenzo(a,h) anthra	15000	461	3.07*	30-160



Lab ID: LL SIM MRL
nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012207.D
 Lab Smp Id: APR4MBS1 Client Smp ID: APR4MBS1
 Inj Date : 22-JAN-2016 10:27 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4MBS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1 QC Sample: BLANK
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.0000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	CONCENTRATIONS				ON-COLUMN (ng/mL)	FINAL (ug/kg)	
			RT	EXP RT	REL RT	RESPONSE			
* 4 Naphthalene-d8	136		6.734	6.744	(1.000)	368895	200.000		
5 Naphthalene	128		Compound Not Detected.						
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.721	(1.145)	192954	140.919	7050	
7 2-Methylnaphthalene	142		Compound Not Detected.						
8 1-Methylnaphthalene	142		Compound Not Detected.						
10 Acenaphthylene	152		Compound Not Detected.						
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	251480	200.000		
12 Acenaphthene	153		Compound Not Detected.						
14 Dibenzofuran	168		Compound Not Detected.						
15 Fluorene	166		Compound Not Detected.						
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	405369	200.000		
19 Phenanthrene	178		Compound Not Detected.						
20 Anthracene	178		Compound Not Detected.						
\$ 23 Fluoranthene-d10	212		14.519	14.518	(1.169)	409079	183.503	9180	
24 Fluoranthene	202		Compound Not Detected.						
25 Pyrene	202		Compound Not Detected.						
28 Benzo(a)anthracene	228		Compound Not Detected.						
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	295936	200.000		
30 Chrysene	228		Compound Not Detected.						
44 Benzo(b)fluoranthene	252		Compound Not Detected.						
45 Benzo(k)fluoranthene	252		Compound Not Detected.						

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
=====	=====	=====	=====	=====	=====	=====	=====
46 Benzo(j) fluoranthene	252				Compound Not Detected.		
34 Benzo(a) pyrene	252				Compound Not Detected.		
* 35 Perylene-d12	264	20.063	20.062	(1.000)	283292	200.000	
\$ 36 Dibenzo(a,h) anthracene-d14	292	22.529	22.529	(1.123)	225250	196.998	9850
37 Indeno(1,2,3-cd) pyrene	276				Compound Not Detected.		
38 Dibenzo(a,h) anthracene	278				Compound Not Detected.		
39 Benzo(g,h,i) perylene	276				Compound Not Detected.		
47 Perylene	252				Compound Not Detected.		
48 Benzo(e) pyrene	252				Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012207.D
 Lab Smp Id: APR4MBS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4MBS1
 Level: LOW
 Sample Type: Solid

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	368895	12.50
11 Acenaphthene-d10	239179	119590	478358	251480	5.14
18 Phenanthrene-d10	372253	186127	744506	405369	8.90
29 Chrysene-d12	294711	147356	589422	295936	0.42
35 Perylene-d12	260595	130298	521190	283292	8.71

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: APR4MBS1
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 15-20439

Client SDG: APR4
Fraction: SV
Client Smp ID: APR4MBS1
Operator: JW
SampleType: BLANK
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7050	46.97	30-160
\$ 23 Fluoranthene-d10	15000	9180	61.17	30-160
\$ 36 Dibenzo(a,h) anthra	15000	9850	65.67	30-160

Data File: \\target\share\chem3\nt11.i\20160122.b\16012207.D
Date: 22-JAN-2016 10:27

Client ID: APR4MBS1

Sample Info: APR4MBS1

Volume Injected (uL): 2.0

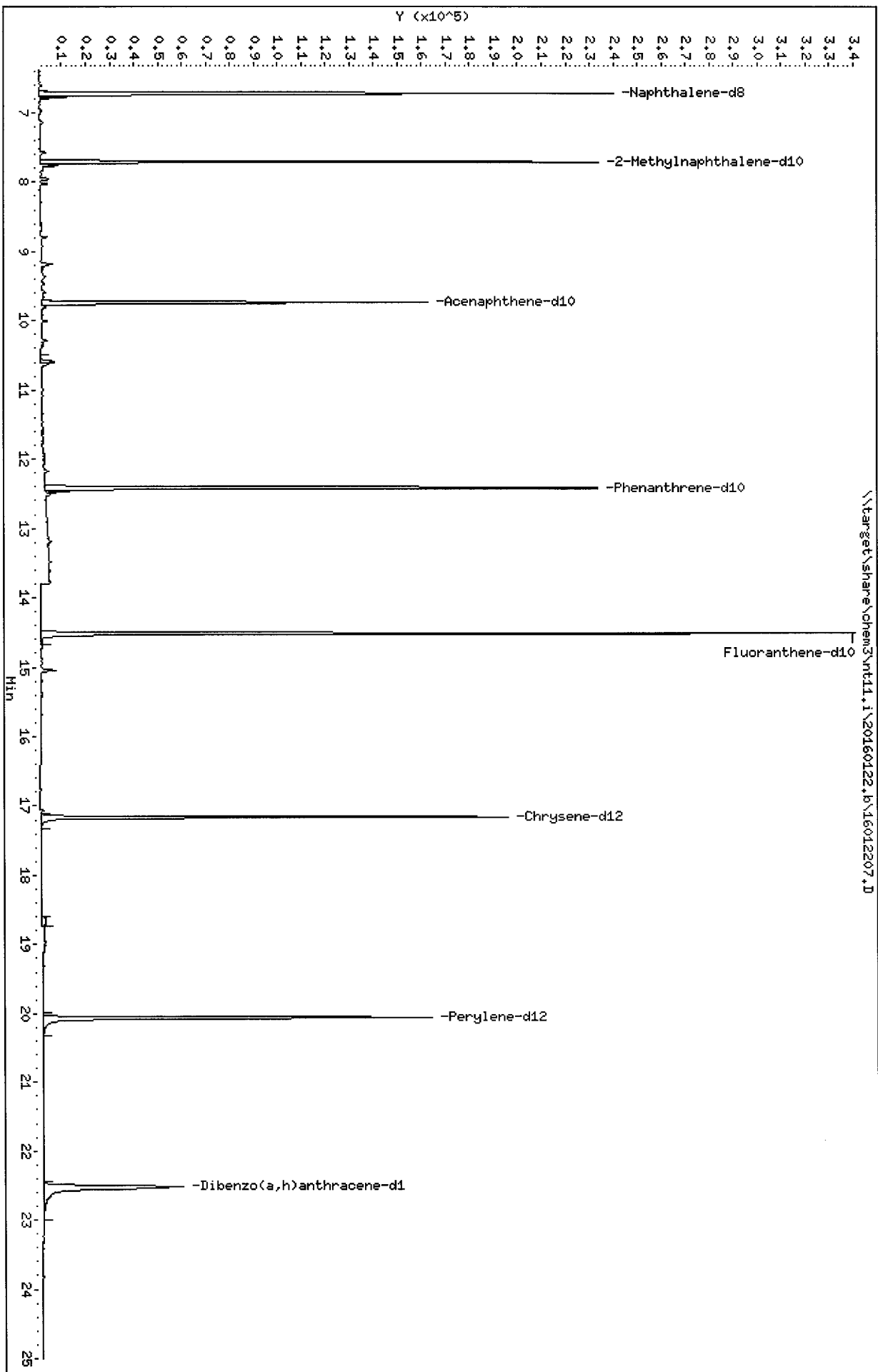
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012207.D



Lab ID: APR4MBS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:27

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012208.D
 Lab Smp Id: APR4LCSS1 Client Smp ID: APR4LCSS1
 Inj Date : 22-JAN-2016 10:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4LCSS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt/(Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	====	136	6.734	6.744	(1.000)	360526	200.000	=====
5 Naphthalene		128	6.765	6.776	(1.005)	319931	153.631	7680
\$ 6 2-Methylnaphthalene-d10		152	7.711	7.721	(1.145)	192117	143.565	7180
7 2-Methylnaphthalene		142	7.763	7.774	(1.153)	227764	159.180	7960
8 1-Methylnaphthalene		142	8.026	8.026	(1.192)	202850	157.312	7870
10 Acenaphthylene		152	9.589	9.589	(0.984)	306764	147.578	7380
* 11 Acenaphthene-d10		164	9.744	9.744	(1.000)	257556	200.000	
12 Acenaphthene		153	9.800	9.811	(1.006)	214202	155.256	7760
14 Dibenzofuran		168	10.010	10.010	(1.027)	330618	159.074	7950
15 Fluorene		166	10.630	10.630	(1.091)	270755	173.702	8690
* 18 Phenanthrene-d10		188	12.424	12.424	(1.000)	412183	200.000	
19 Phenanthrene		178	12.457	12.468	(1.003)	424716	171.027	8550
20 Anthracene		178	12.512	12.523	(1.007)	376504	169.380	8470
\$ 23 Fluoranthene-d10		212	14.519	14.518	(1.169)	417313	184.102	9210
24 Fluoranthene		202	14.557	14.557	(1.172)	471193	188.988	9450
25 Pyrene		202	15.047	15.057	(0.877)	481761	193.411	9670
28 Benzo(a)anthracene		228	17.067	17.075	(0.994)	419082	199.844	9990
* 29 Chrysene-d12		240	17.167	17.167	(1.000)	314530	200.000	
30 Chrysene		228	17.217	17.217	(1.003)	430198	186.914	9350
44 Benzo(b)fluoranthene		252	18.967	18.967	(0.945)	387411	186.459	9320
45 Benzo(k)fluoranthene		252	19.015	19.015	(0.948)	408726	168.813	8440

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
===== 46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	378018	171.395	8570
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	338391	168.757	8440
* 35 Perylene-d12	264	20.063	20.062	(1.000)	306666	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	238624	192.788	9640
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	416120	197.645	9880
38 Dibenzo(a,h)anthracene	278	22.640	22.651	(1.128)	338705	203.441	10200
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	359662	196.783	9840
47 Perylene	252	20.130	20.130	(1.003)	349791	168.256	8410
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	376360	179.235	8960

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012208.D
 Lab Smp Id: APR4LCSS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4LCSS1
 Level: LOW
 Sample Type: Solid

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	360526	9.95
11 Acenaphthene-d10	239179	119590	478358	257556	7.68
18 Phenanthrene-d10	372253	186127	744506	412183	10.73
29 Chrysene-d12	294711	147356	589422	314530	6.72
35 Perylene-d12	260595	130298	521190	306666	17.68

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
 Sample Matrix: SOLID
 Lab Smp Id: APR4LCSS1
 Level: LOW
 Data Type: MS DATA
 SpikeList File: PEMDTISS.spk
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Client SDG: APR4
 Fraction: SV
 Client Smp ID: APR4LCSS1
 Operator: JW
 SampleType: LCS
 Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
5 Naphthalene	15000	7680	51.21	30-160
7 2-Methylnaphthalen	15000	7960	53.06	30-160
10 Acenaphthylene	15000	7380	49.19	30-160
12 Acenaphthene	15000	7760	51.75	30-160
15 Fluorene	15000	8690	57.90	30-160
19 Phenanthrene	15000	8550	57.01	30-160
20 Anthracene	15000	8470	56.46	30-160
24 Fluoranthene	15000	9450	63.00	30-160
25 Pyrene	15000	9670	64.47	30-160
28 Benzo (a) anthracene	15000	9990	66.61	30-160
30 Chrysene	15000	9350	62.30	30-160
44 Benzo (b) fluoranthe	15000	9320	62.15	30-160
45 Benzo (k) fluoranthe	15000	8440	56.27	30-160
34 Benzo (a) pyrene	15000	8440	56.25	30-160
37 Indeno (1,2,3-cd) py	15000	9880	65.88	30-160
38 Dibenzo (a,h) anthra	15000	10200	67.81	30-160
39 Benzo (g,h,i) peryle	15000	9840	65.59	30-160
47 Perylene	15000	8410	56.09	30-160
48 Benzo (e) pyrene	15000	8960	59.75	30-160

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7180	47.86	30-160
\$ 23 Fluoranthene-d10	15000	9210	61.37	30-160
\$ 36 Dibenzo (a,h) anthra	15000	9640	64.26	30-160

Date : 22-JAN-2016 10:57

Client ID: APP4LCSS1

Sample Info: APP4LCSS1

Volume Injected (uL): 2.0

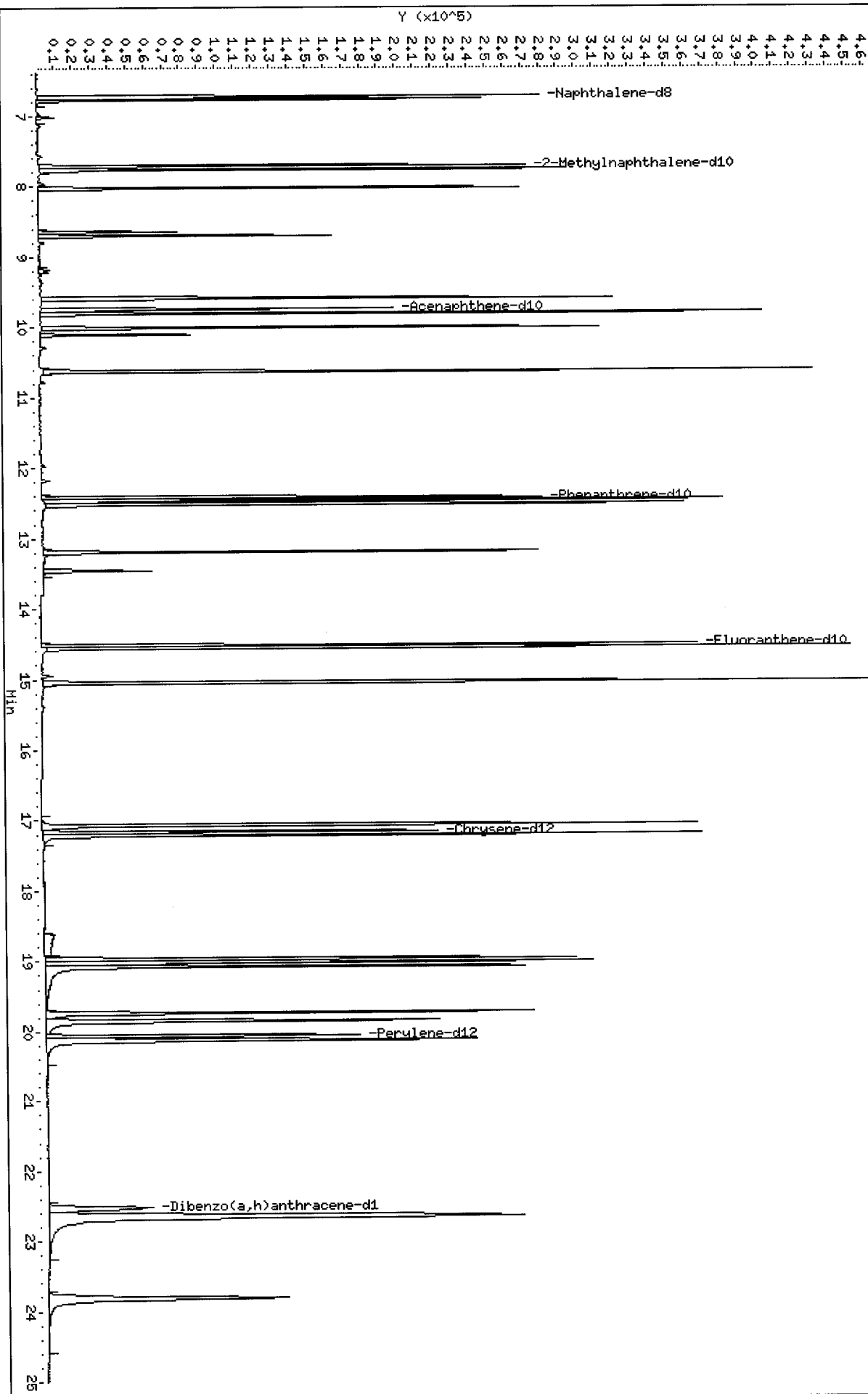
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.1\16012208.D



Lab ID: APR4LCSS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012209.D
 Lab Smp Id: APR4SRM1 Client Smp ID: SRM 1974C
 Inj Date : 22-JAN-2016 11:28 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4SRM1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 3 QC Sample: SRM
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136	6.734	6.744	(1.000)	362258	200.000	
5 Naphthalene	128	6.776	6.776	(1.006)	29301	14.0031	700
\$ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.145)	192181	142.926	7150
7 2-Methylnaphthalene	142	7.774	7.774	(1.154)	16952	11.7908	590
8 1-Methylnaphthalene	142	8.026	8.026	(1.192)	11376	8.78000	439
10 Acenaphthylene	152	9.589	9.589	(0.984)	11298	5.61153	281
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	249465	200.000	
12 Acenaphthene	153	9.811	9.811	(1.007)	12143	9.08686	454
14 Dibenzofuran	168	10.010	10.010	(1.027)	25472	12.6531	633
15 Fluorene	166	10.630	10.630	(1.091)	29582	19.5937	980
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	398741	200.000	
19 Phenanthrene	178	12.468	12.468	(1.004)	453061	188.591	9430
20 Anthracene	178	12.523	12.523	(1.008)	32763	15.2361	762
\$ 23 Fluoranthene-d10	212	14.519	14.518	(1.169)	404383	184.411	9220
24 Fluoranthene	202	14.557	14.557	(1.172)	1080599	448.023	22400
25 Pyrene	202	15.057	15.057	(0.877)	646997	271.852	13600
28 Benzo (a) anthracene	228	17.076	17.075	(0.995)	91021	45.4271	2270
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	300525	200.000	
30 Chrysene	228	17.217	17.217	(1.003)	391160	177.873	8890
44 Benzo (b) fluoranthene	252	18.967	18.967	(0.945)	120709	59.5028	2980
45 Benzo (k) fluoranthene	252	19.015	19.015	(0.948)	62057	26.2512	1310

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
===== 46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	54437	25.2794	1260
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	45805	23.3960	1170
* 35 Perylene-d12	264	20.063	20.062	(1.000)	299419	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	236092	195.359	9770
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	36443	17.7283	886
38 Dibenzo(a,h)anthracene	278	22.640	22.651	(1.128)	5904	3.63203	182
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	54307	30.4323	1520
47 Perylene	252	20.130	20.130	(1.003)	15210	7.49339	375
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	179589	87.5963	4380

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012209.D
 Lab Smp Id: APR4SRM1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: SRM 1974C
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	362258	10.48
11 Acenaphthene-d10	239179	119590	478358	249465	4.30
18 Phenanthrene-d10	372253	186127	744506	398741	7.12
29 Chrysene-d12	294711	147356	589422	300525	1.97
35 Perylene-d12	260595	130298	521190	299419	14.90

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: APR4SRM1
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 15-20439

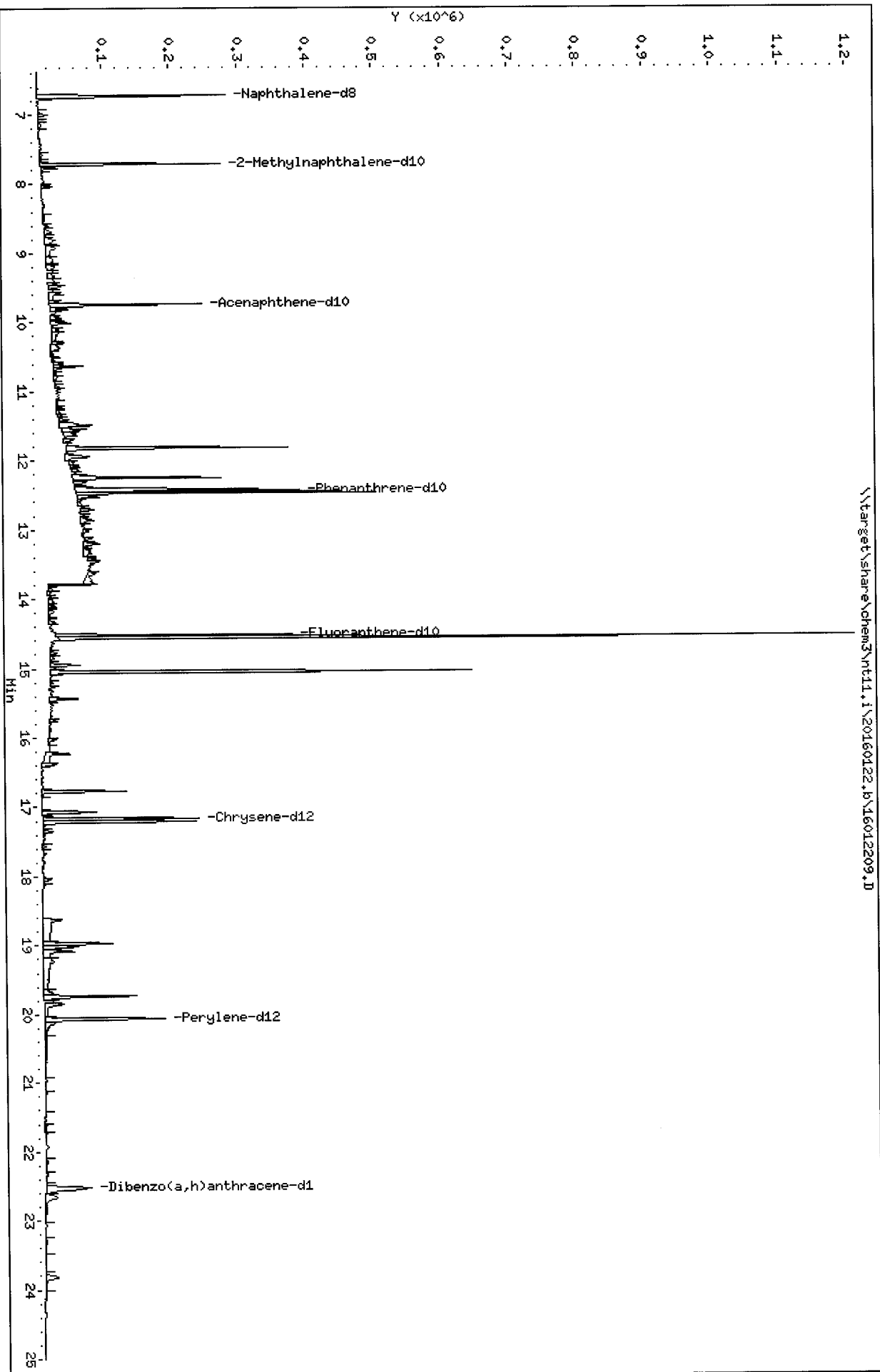
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Fraction: SV
Client Smp ID: SRM 1974C
Operator: JW
SampleType: SRM
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7150	47.64	30-160
\$ 23 Fluoranthene-d10	15000	9220	61.47	30-160
\$ 36 Dibenzo(a,h) anthra	15000	9770	65.12	30-160

Date : 22-JAN-2016 11:28
Client ID: SRM 1974C
Sample Info: APR4SRM1
Volume Injected (uL): 2.0
Column phase: Rx1-17S11 HS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.16\16012209.D



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

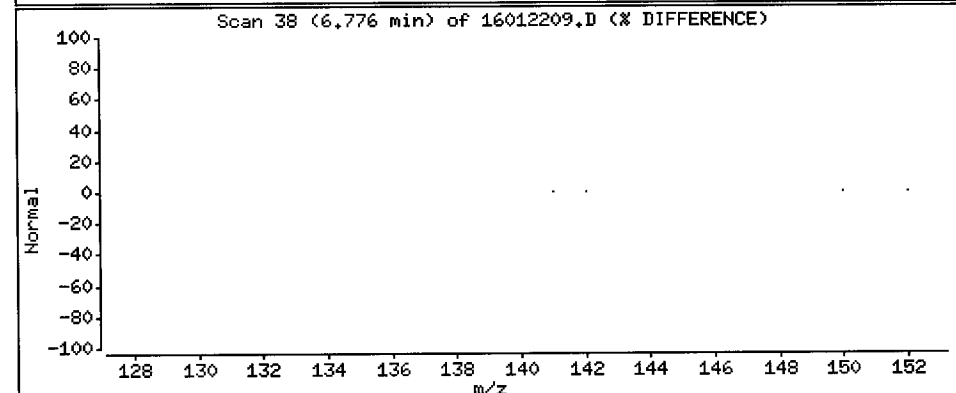
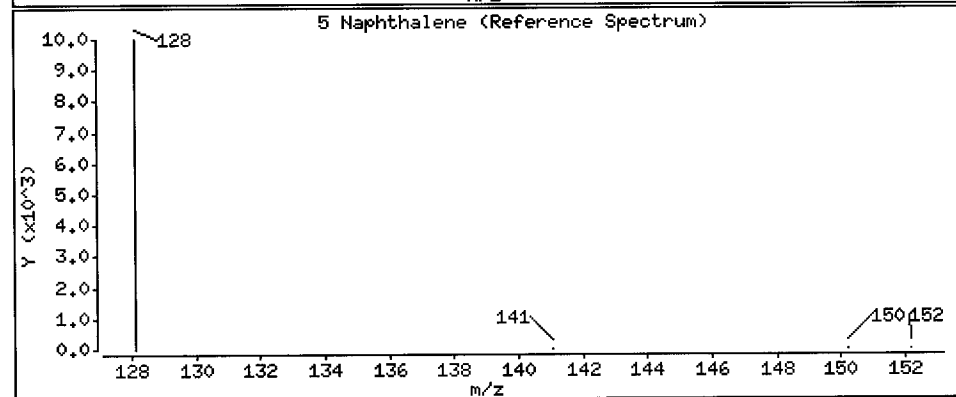
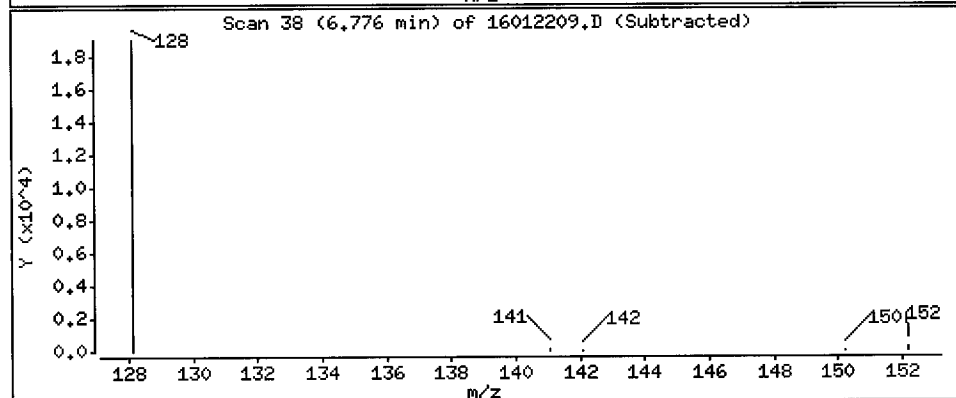
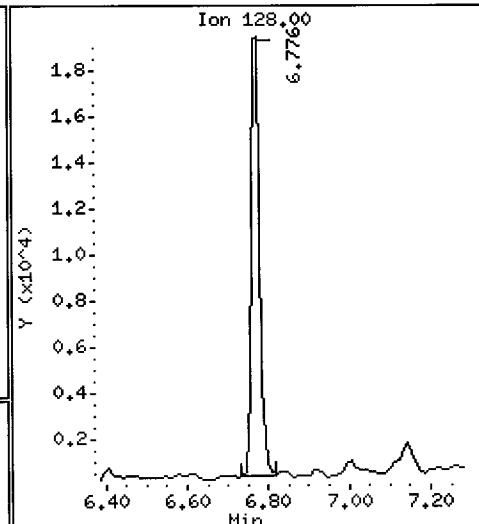
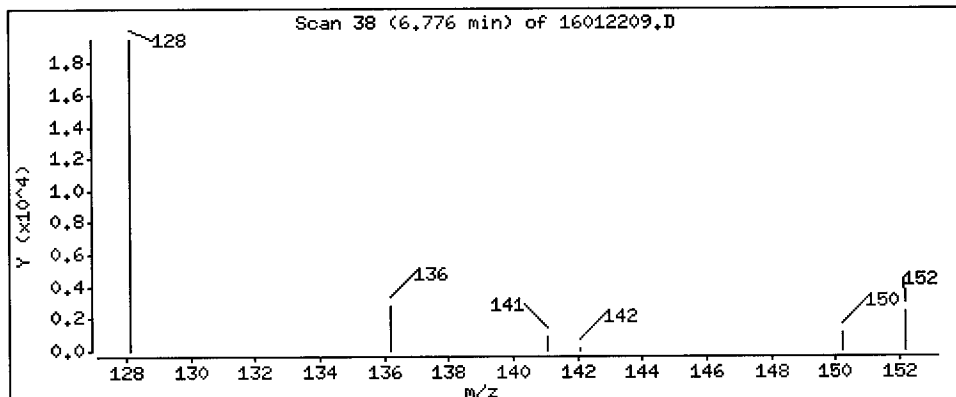
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 700 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

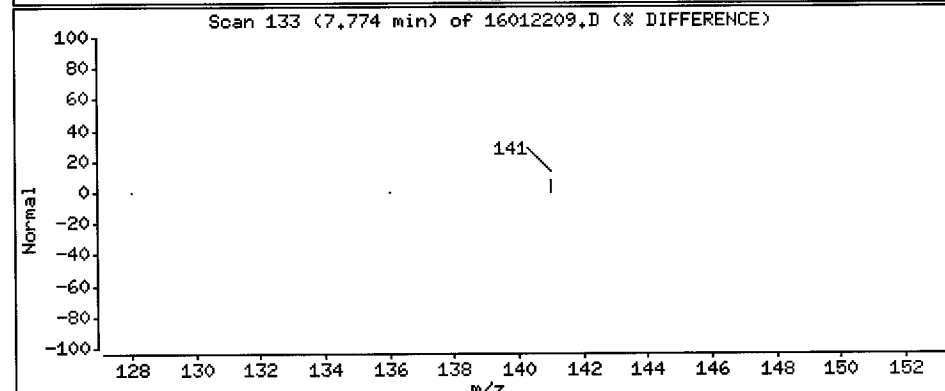
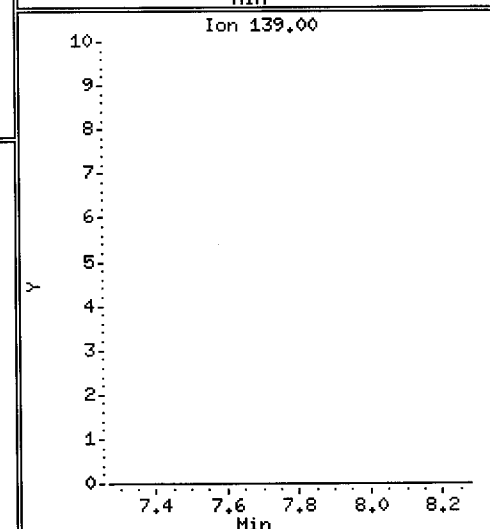
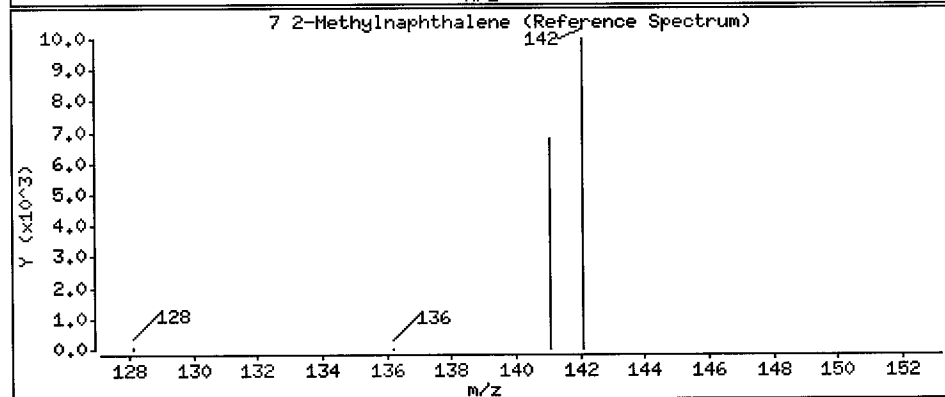
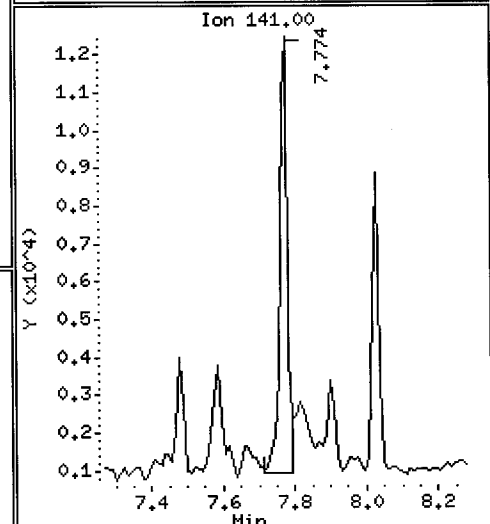
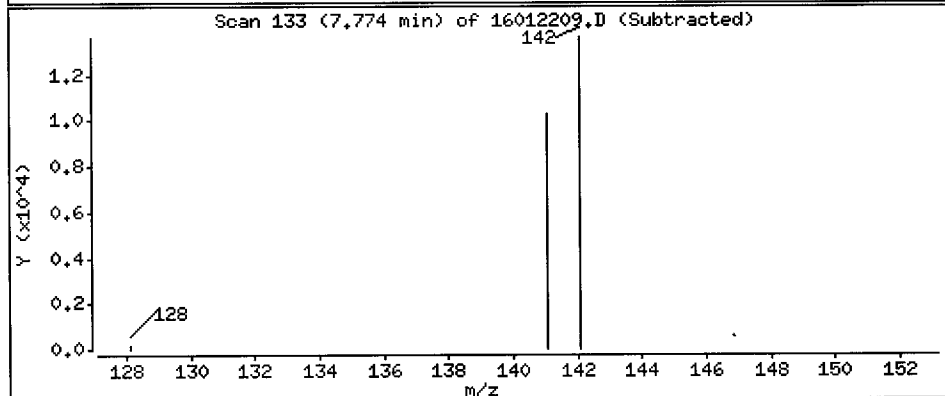
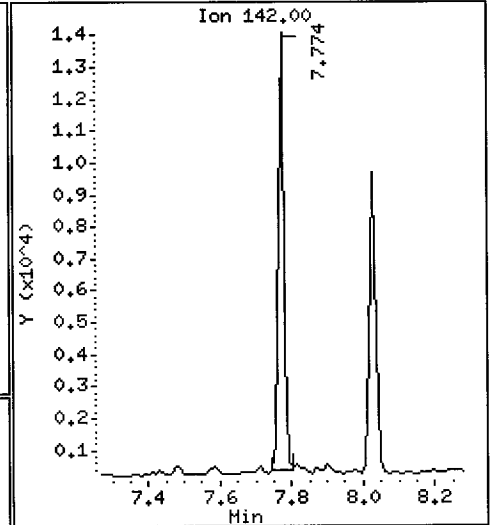
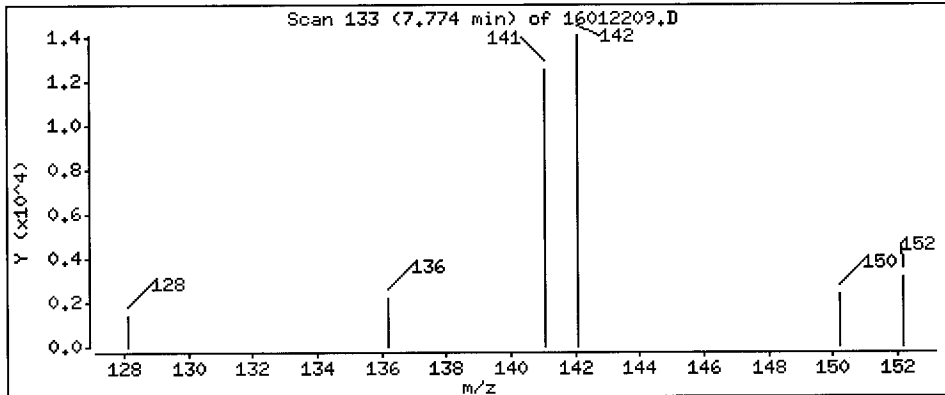
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Methylnaphthalene

Concentration: 590 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRH 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

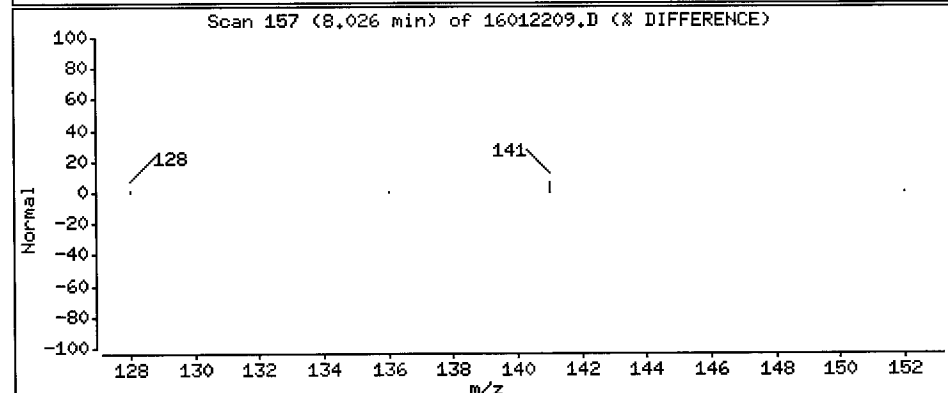
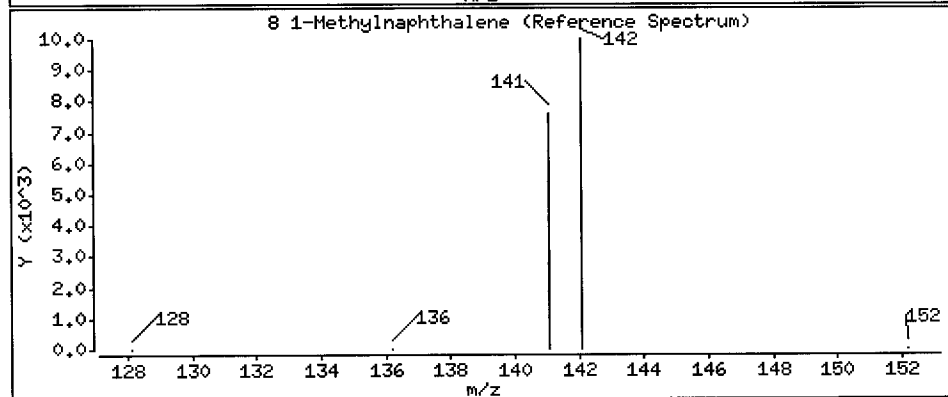
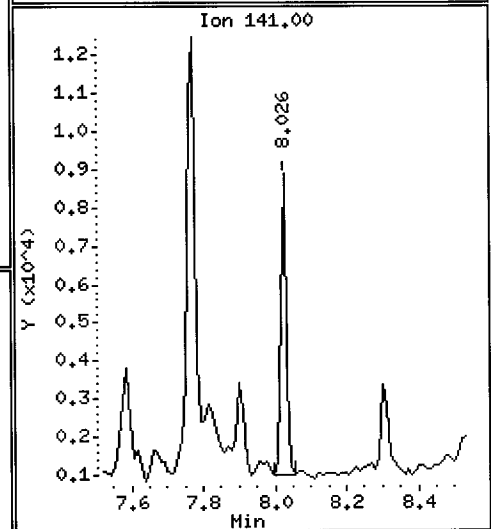
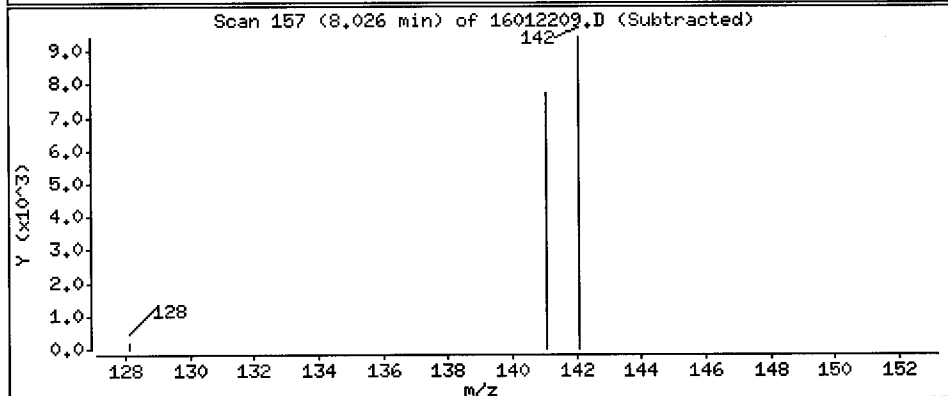
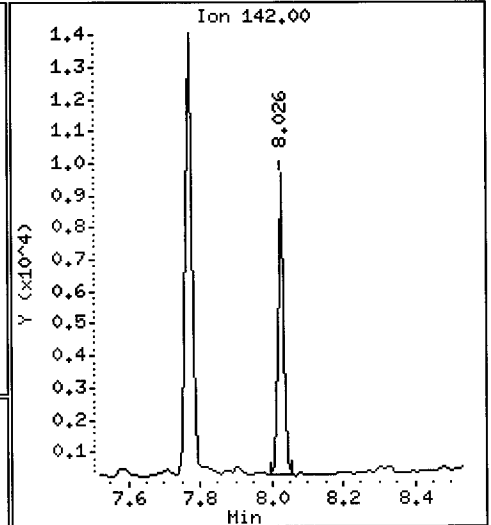
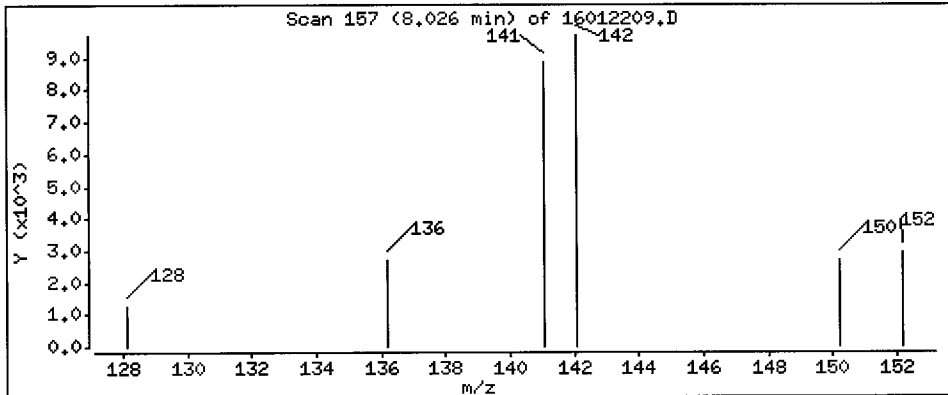
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

8 1-Methylnaphthalene

Concentration: 439 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

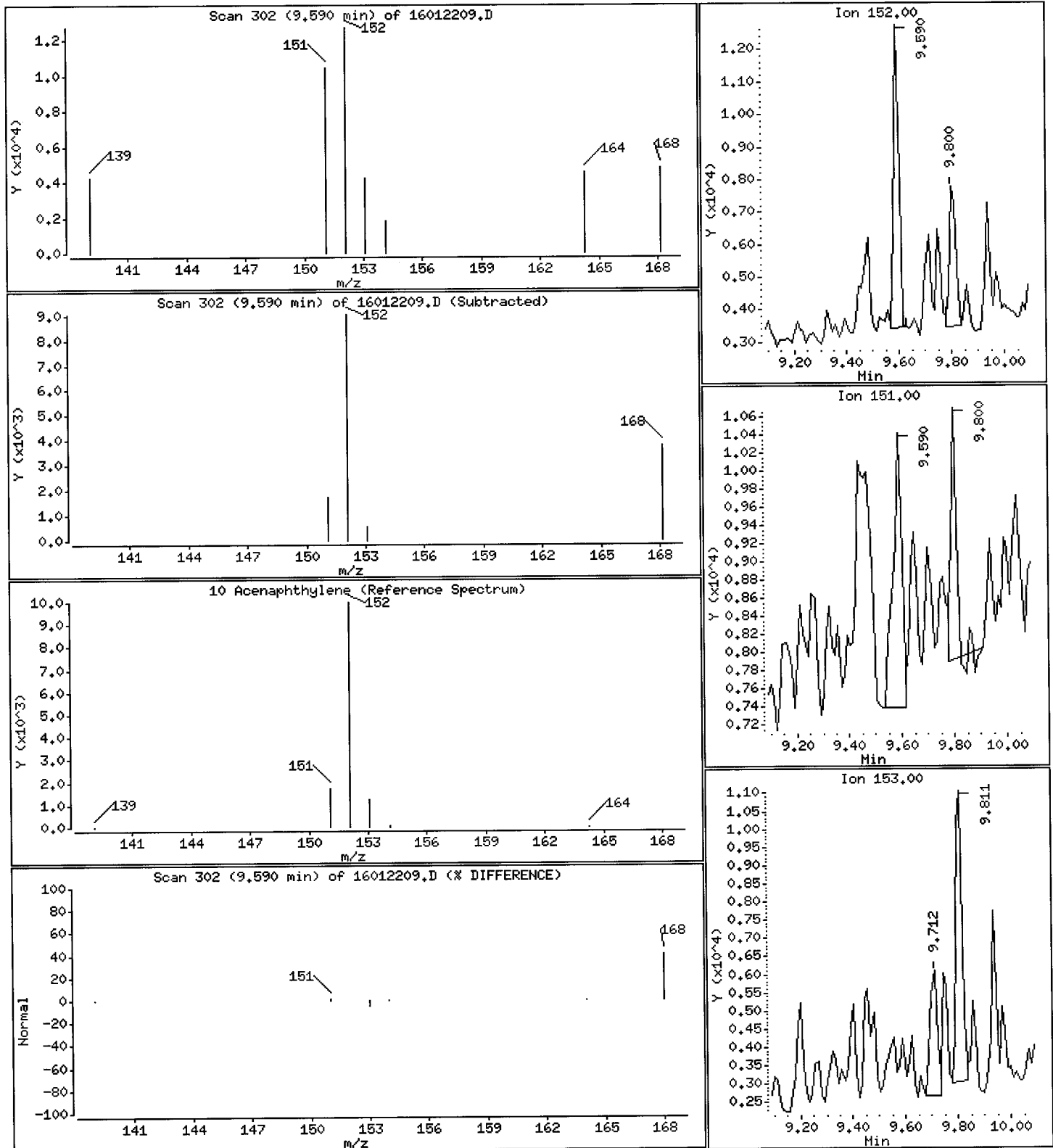
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 281 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

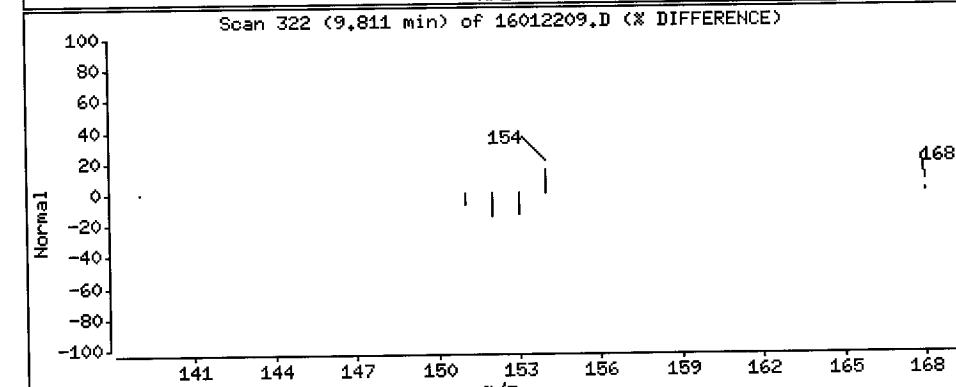
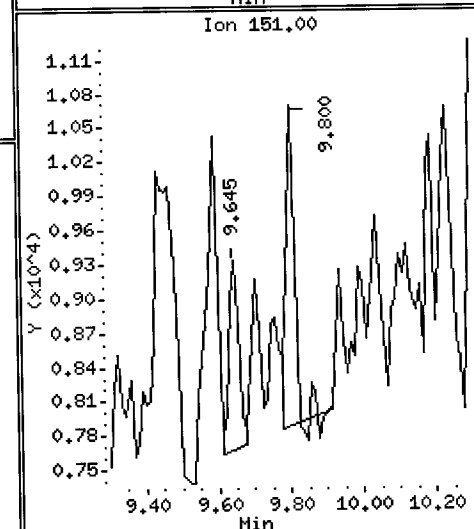
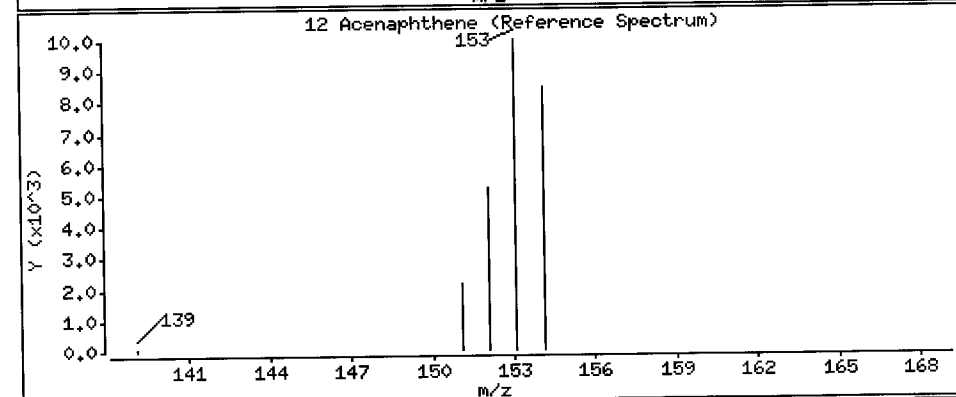
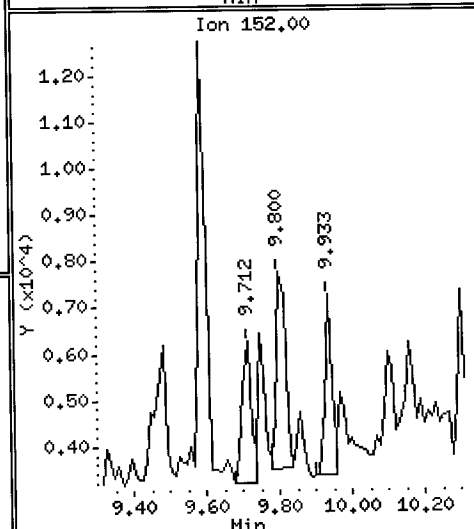
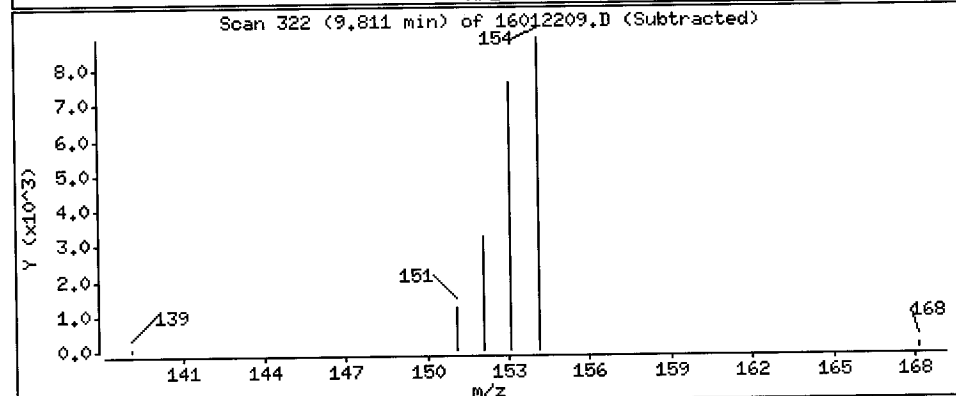
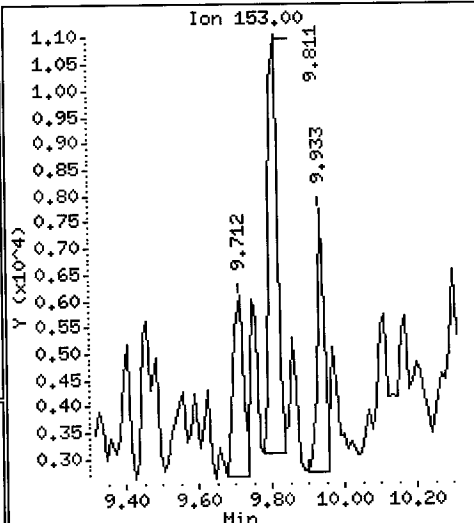
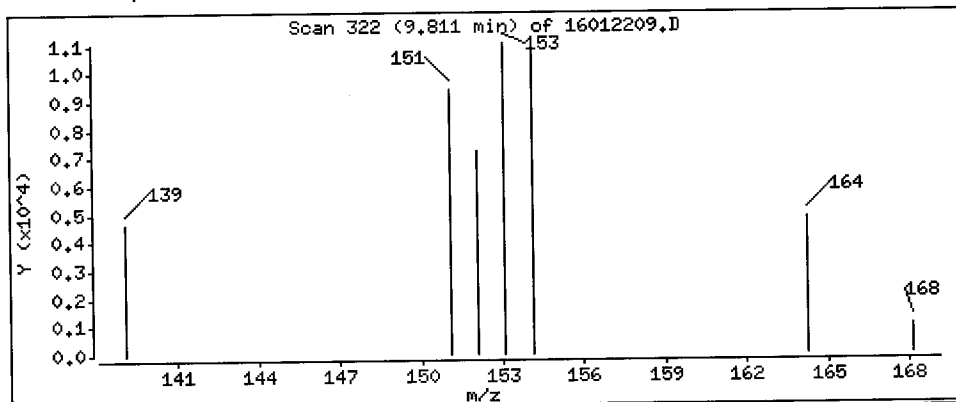
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 454 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

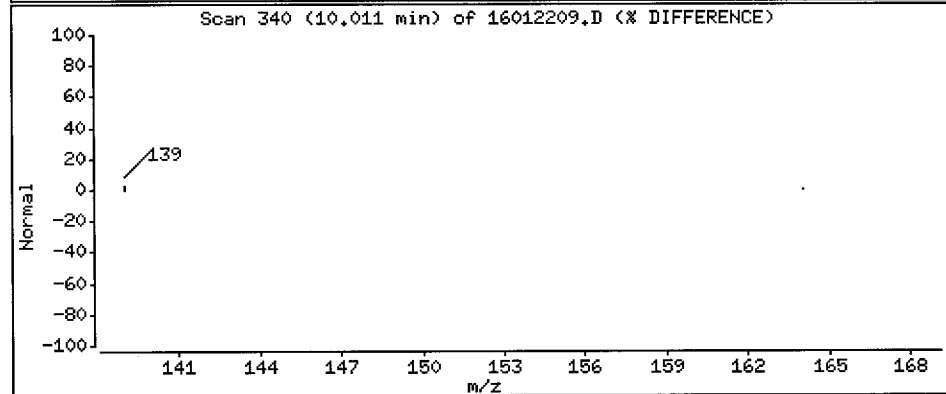
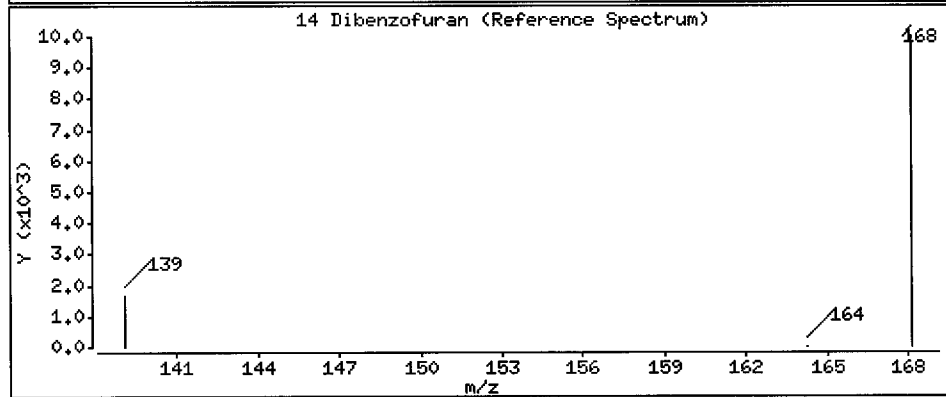
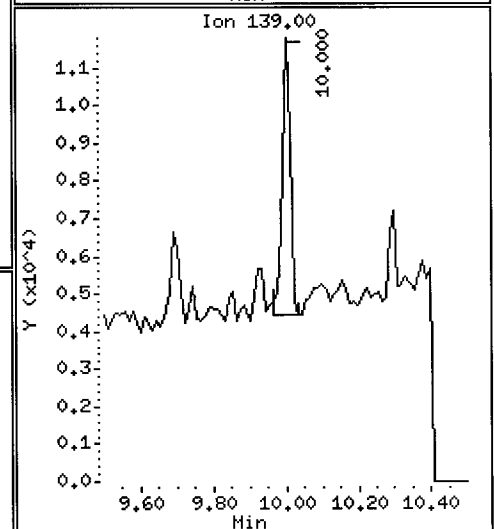
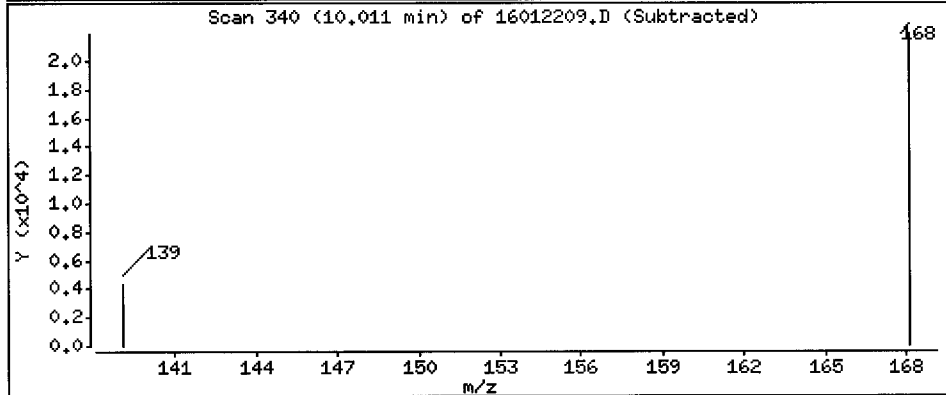
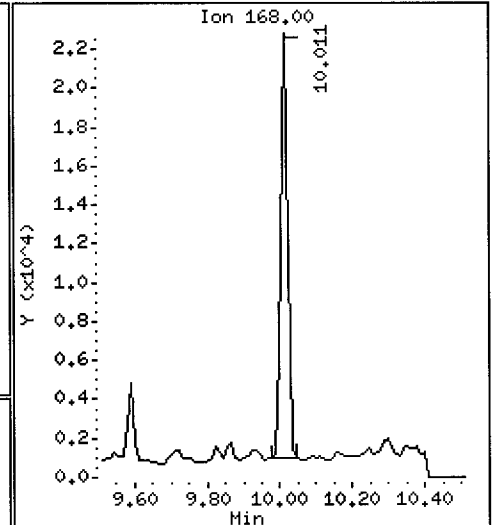
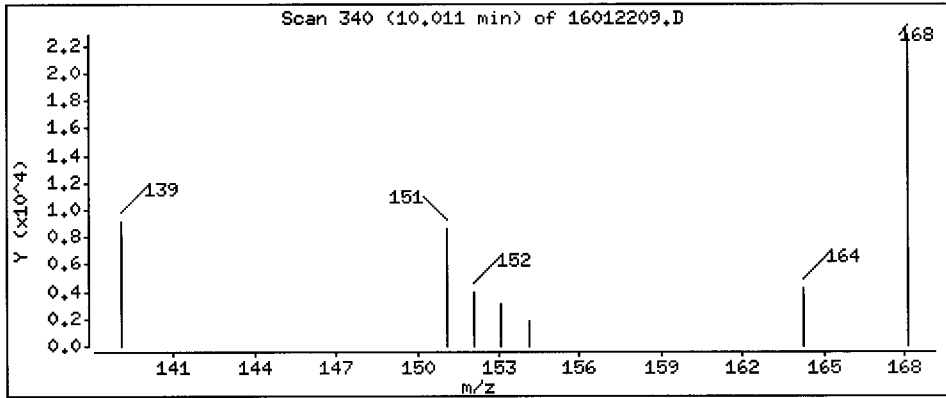
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 Dibenzofuran

Concentration: 633 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

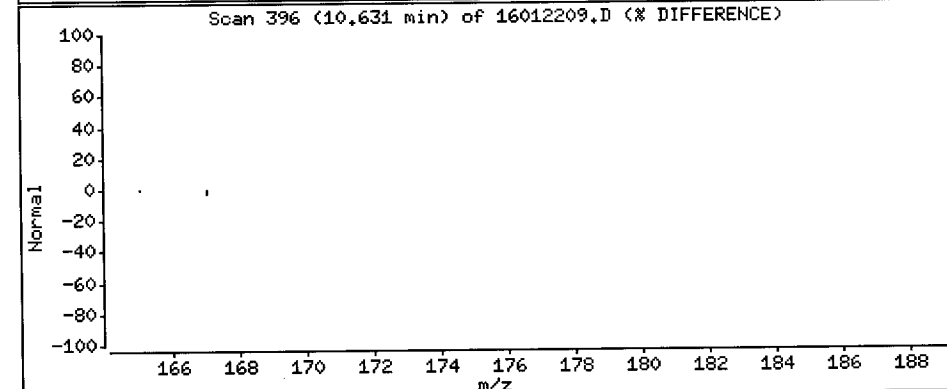
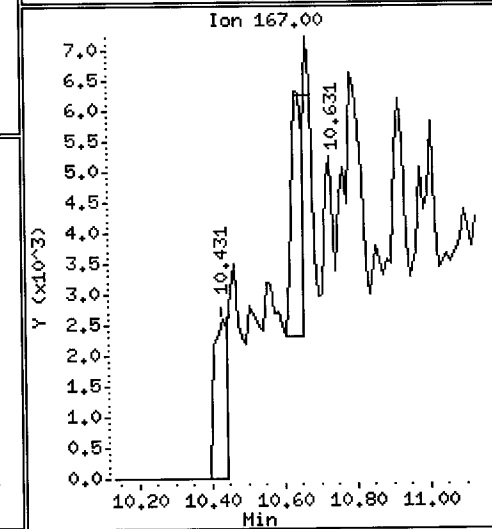
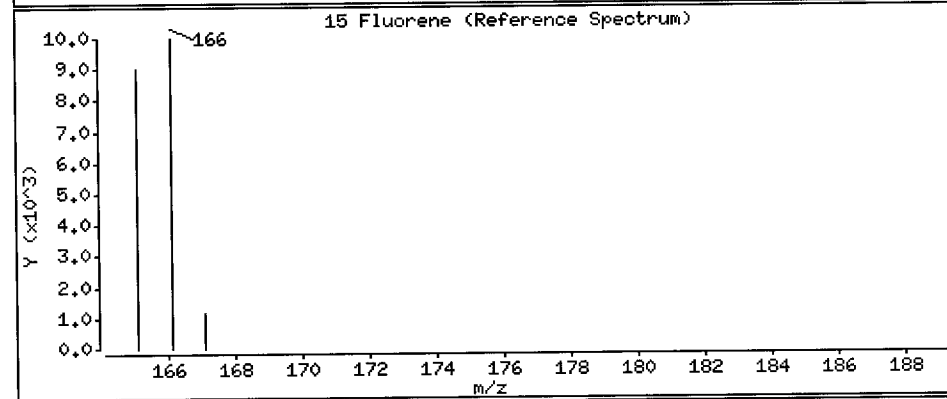
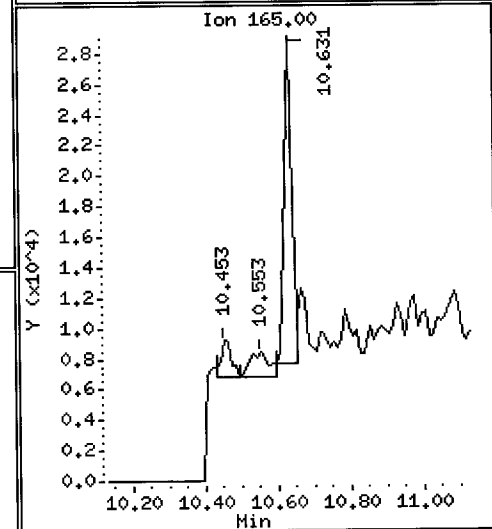
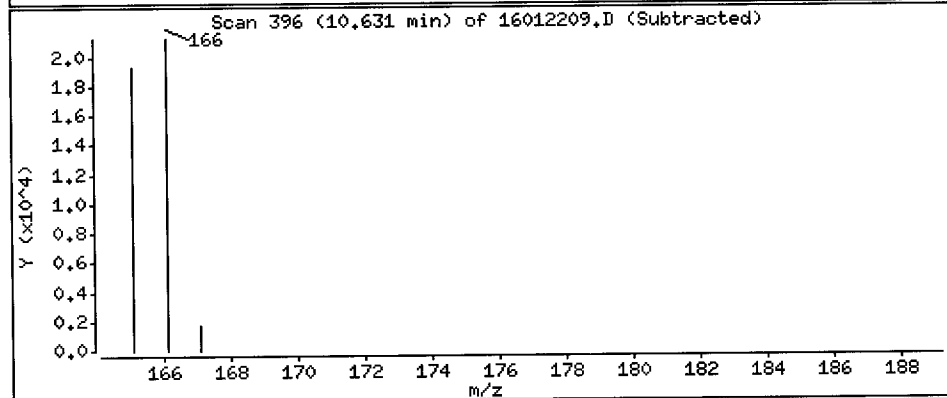
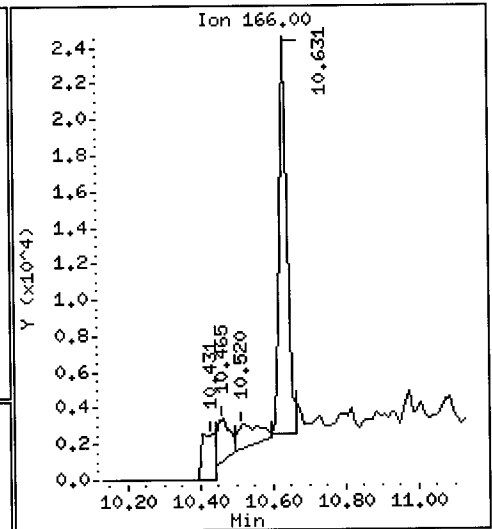
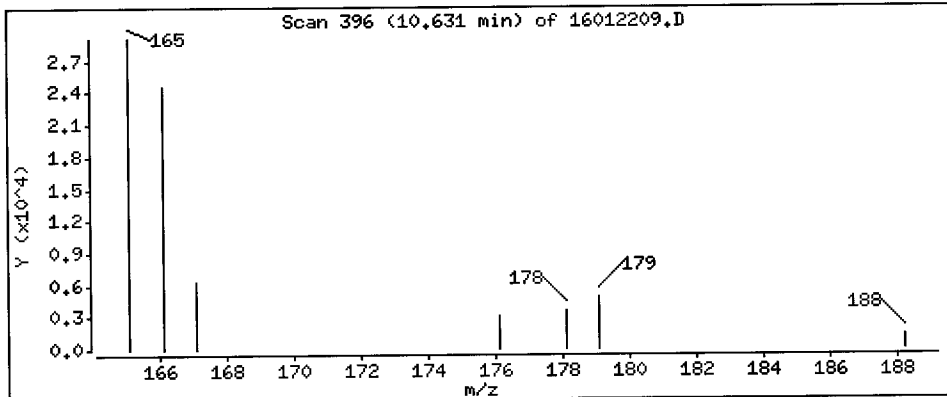
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

15 Fluorene

Concentration: 980 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

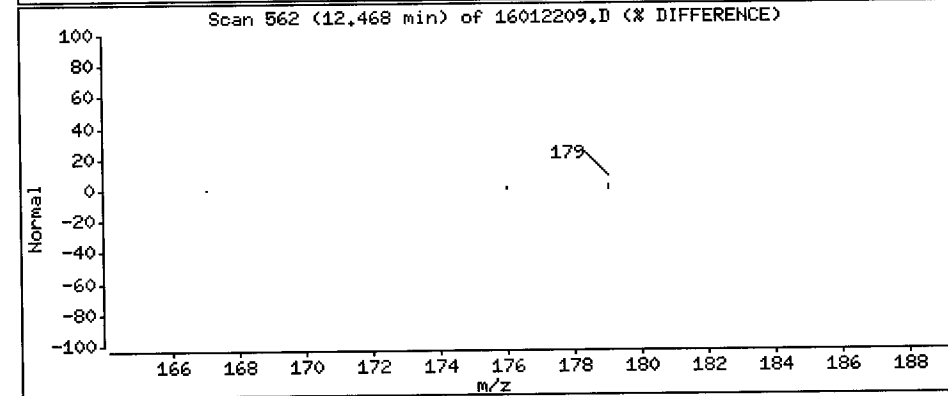
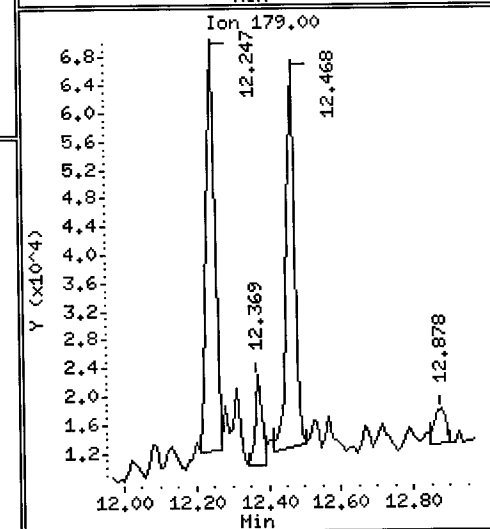
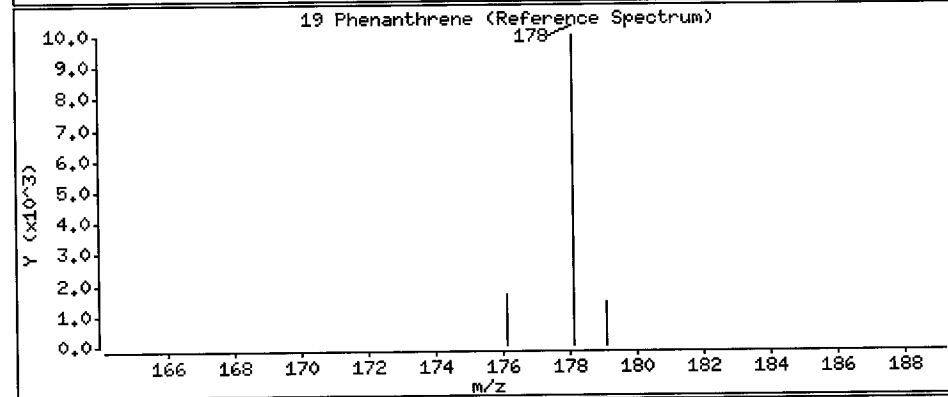
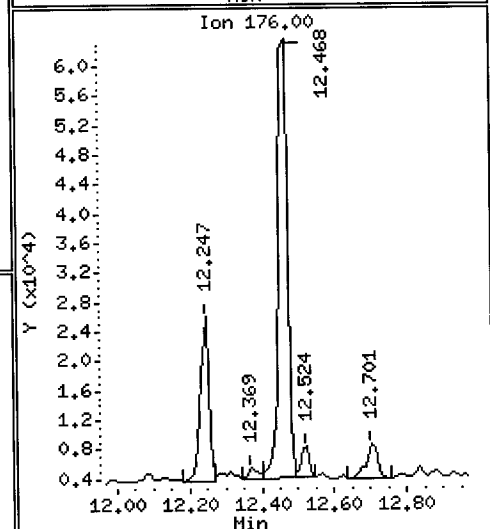
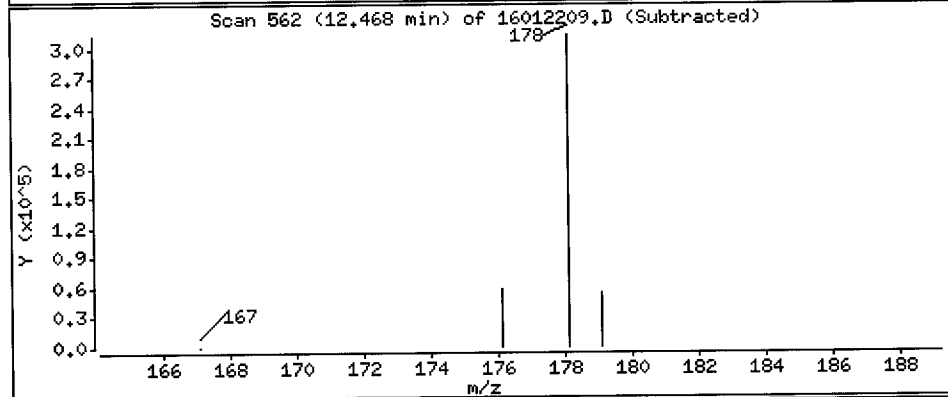
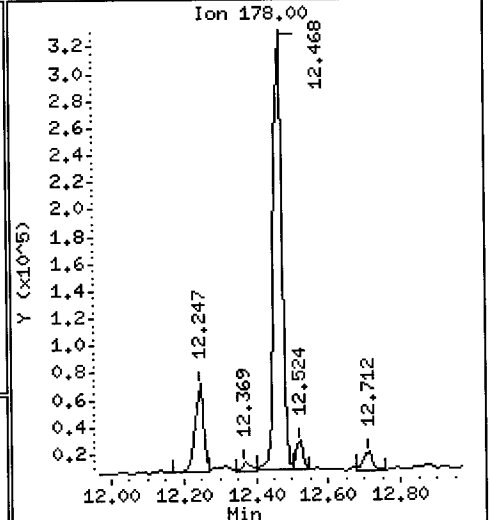
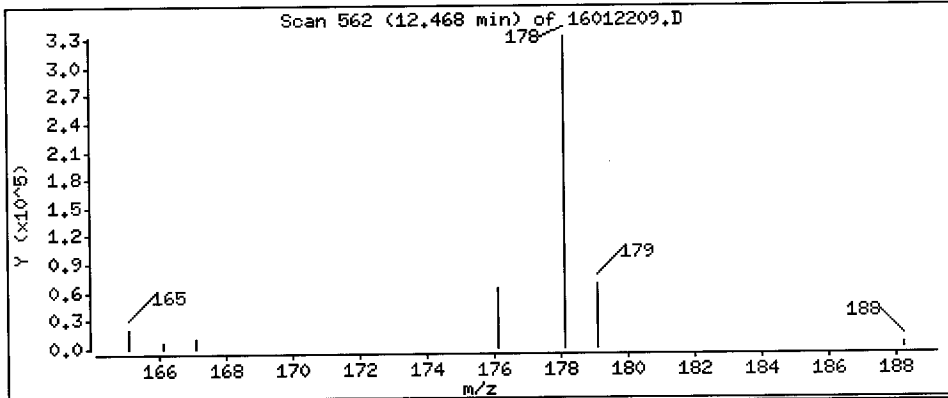
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 9430 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

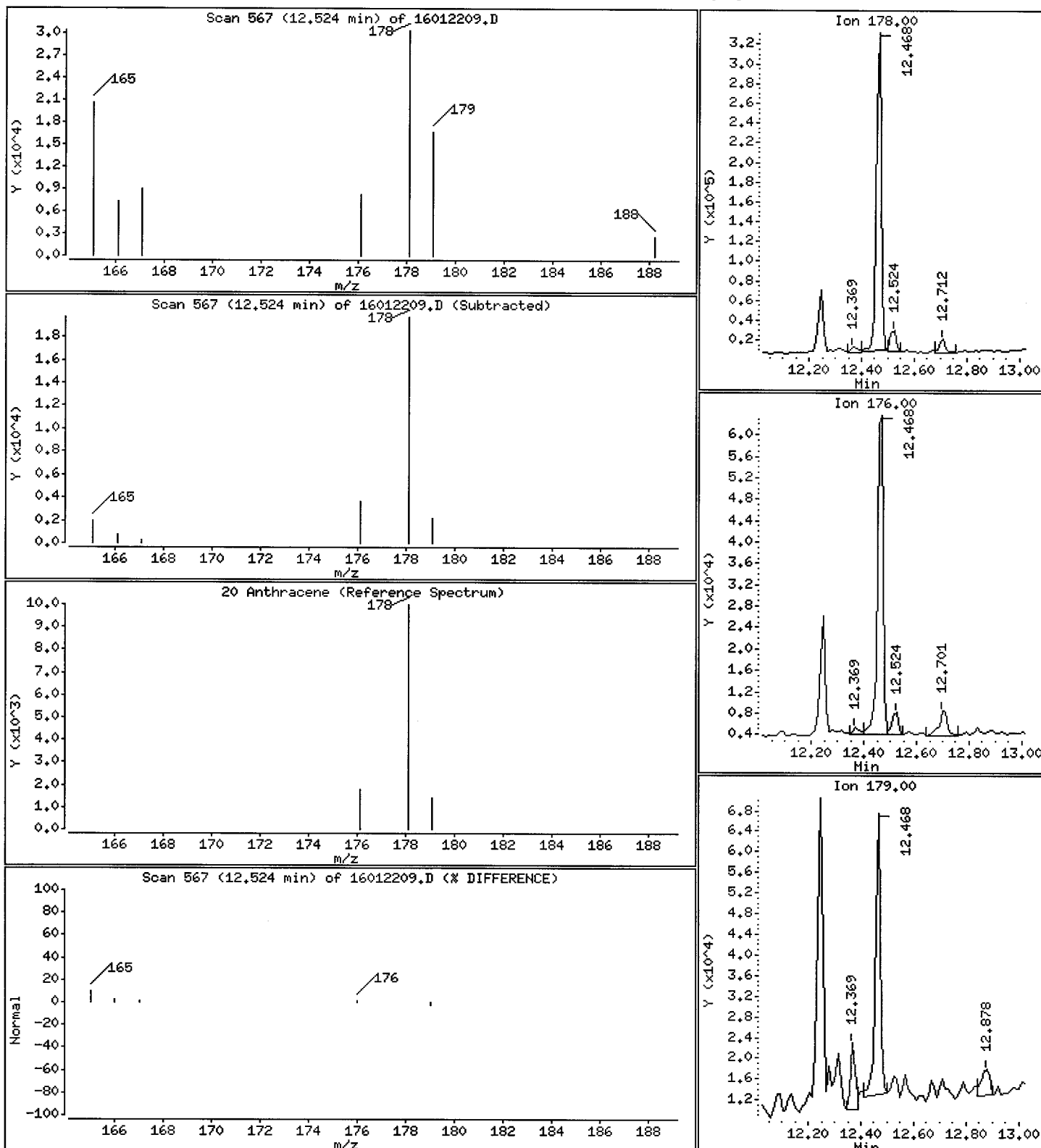
Operator: JH

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

20 Anthracene

Concentration: 762 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

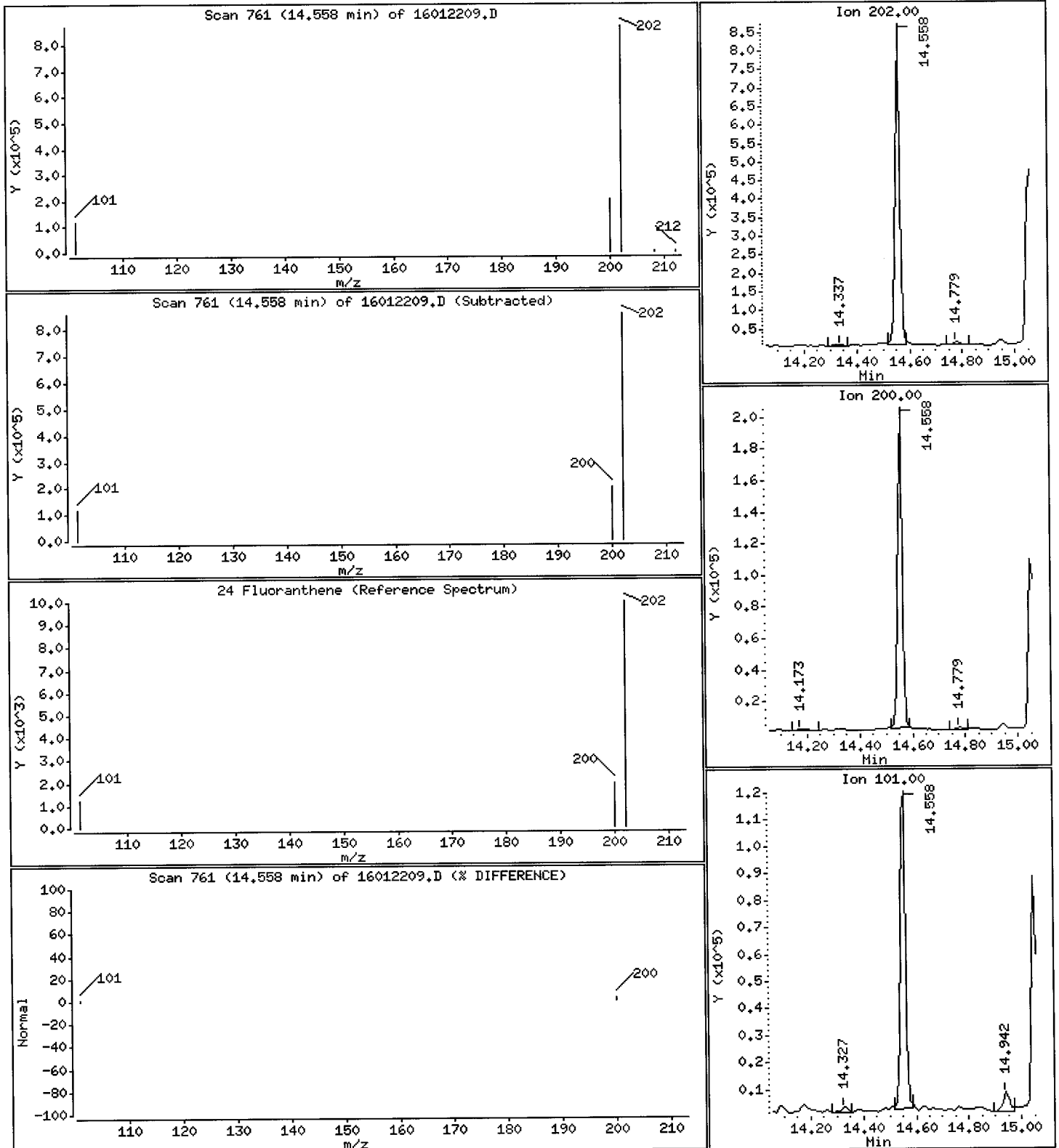
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 22400 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRH 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

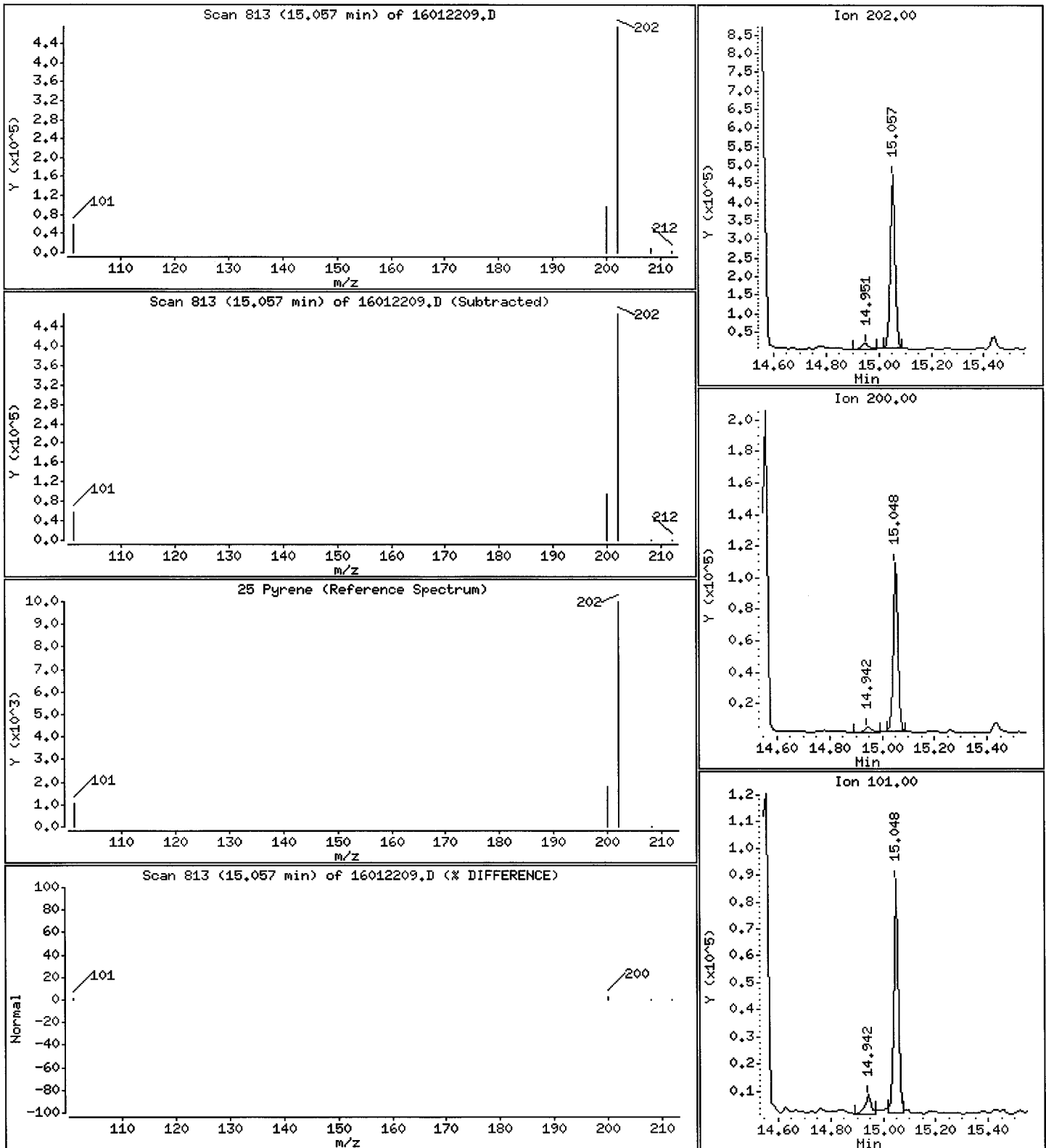
Operator: JN

Column phase: Rxi-17Si1 MS

Column diameter: 0,25

25 Pyrene

Concentration: 13600 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

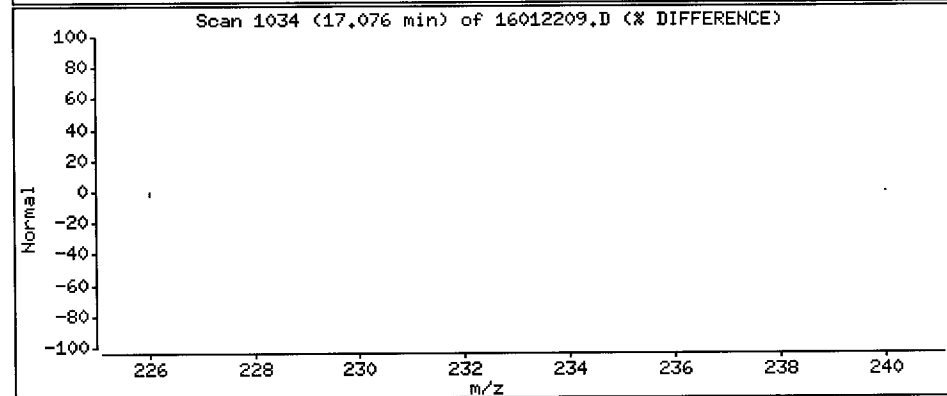
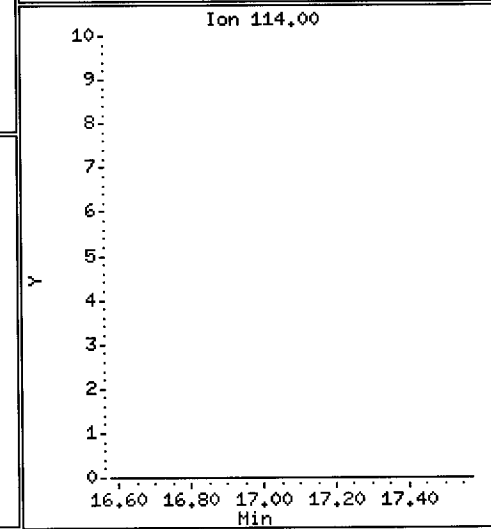
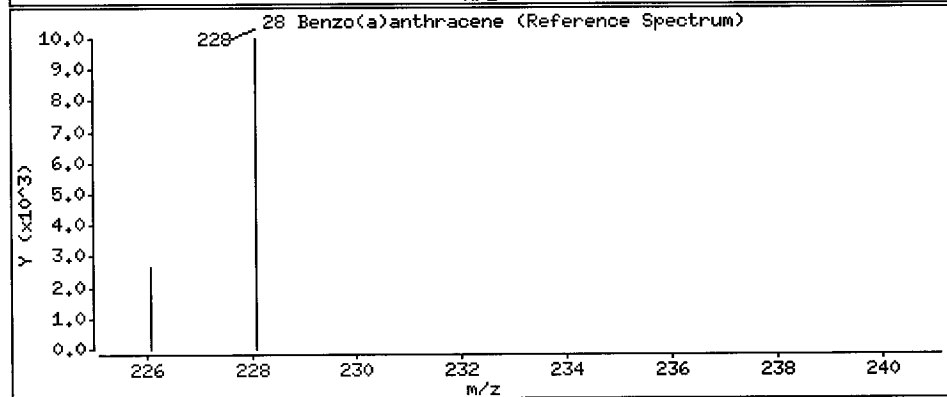
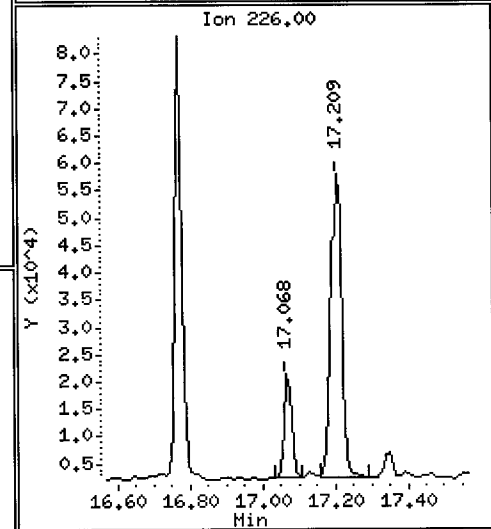
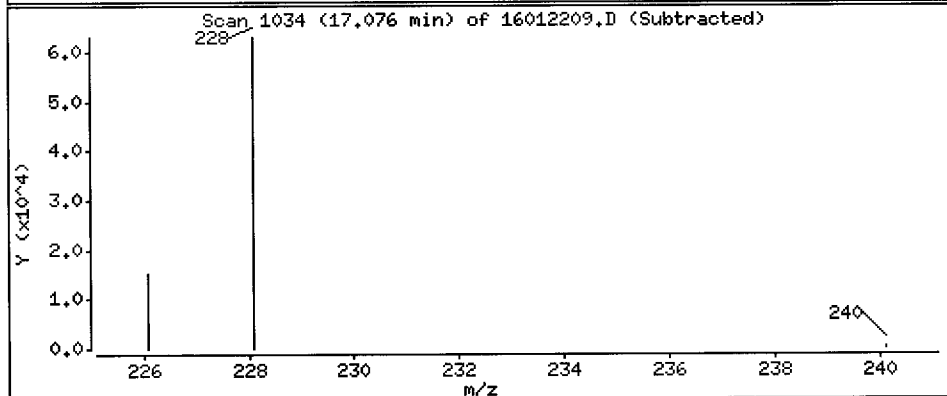
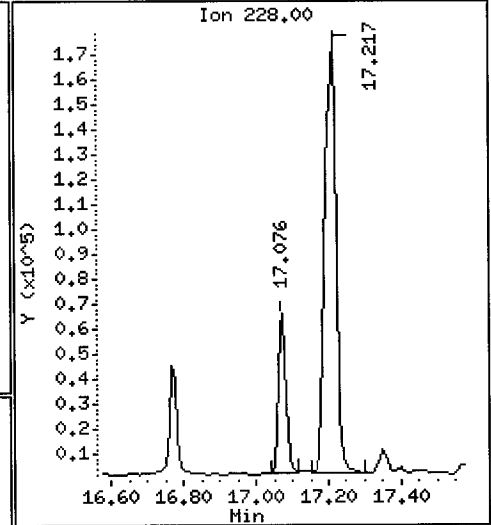
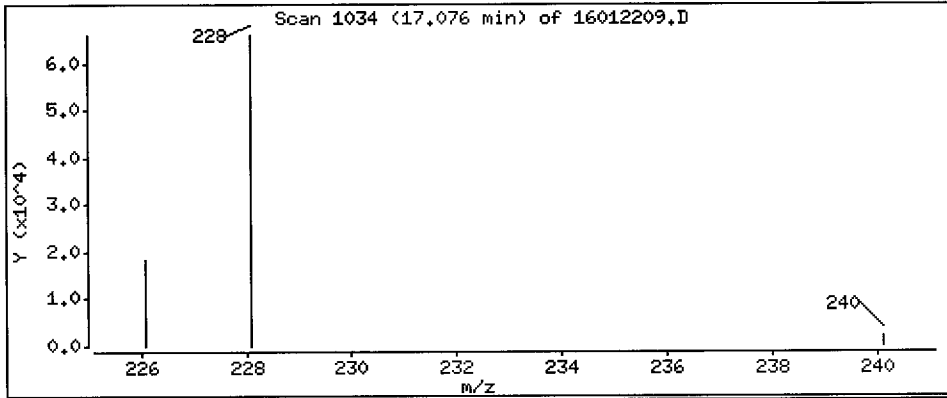
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 2270 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

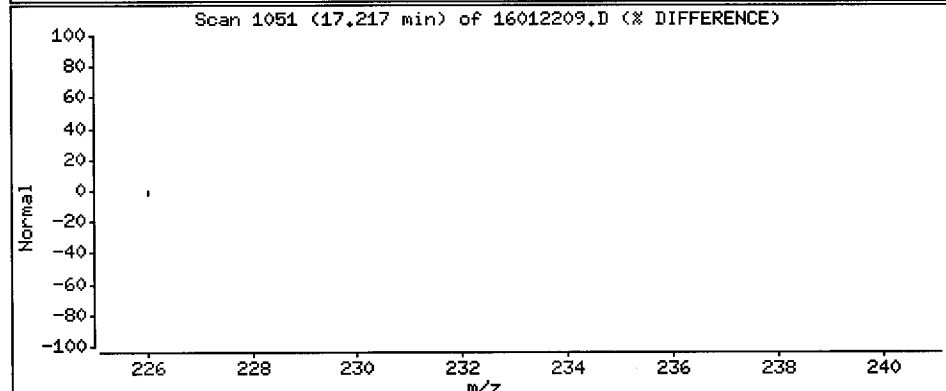
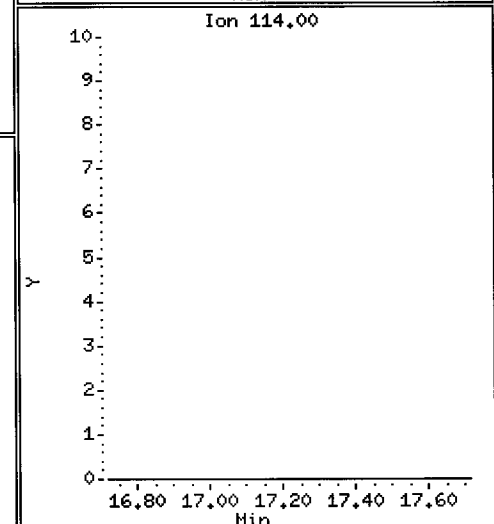
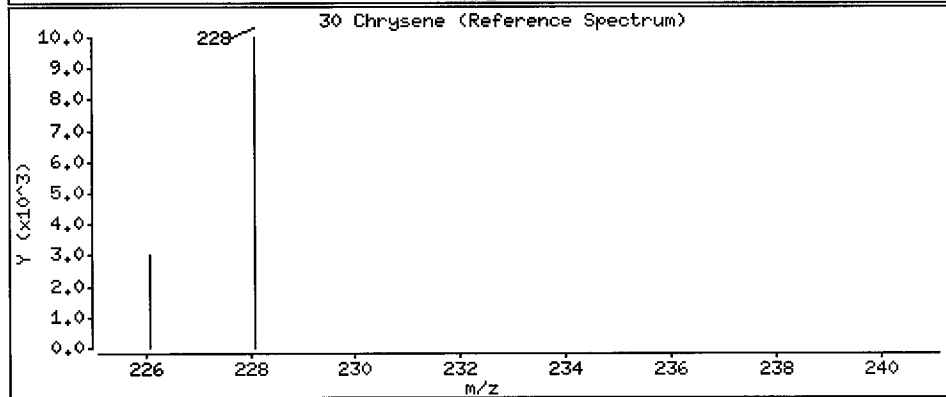
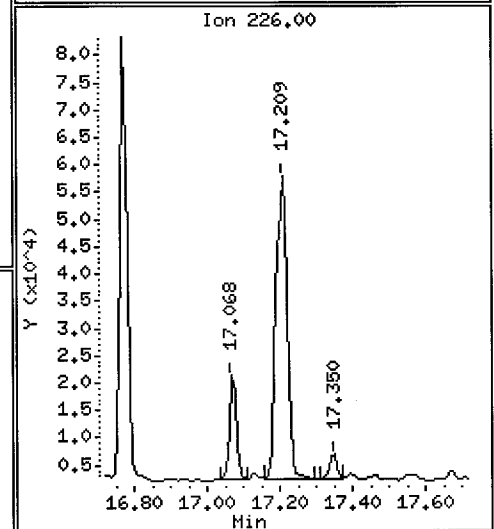
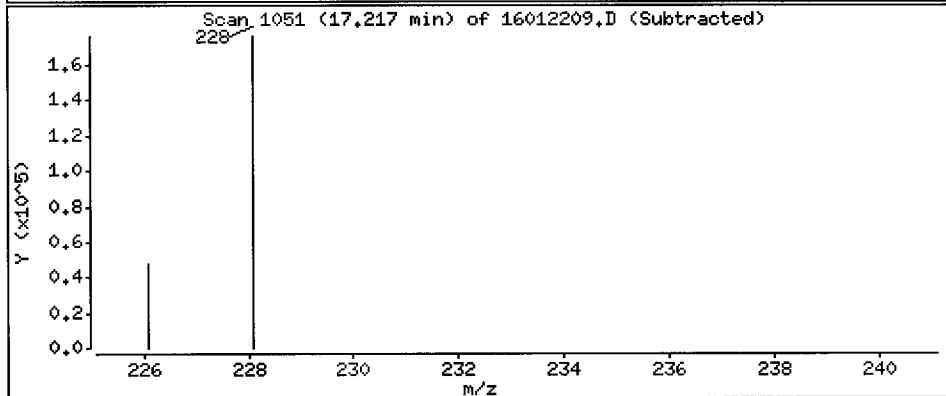
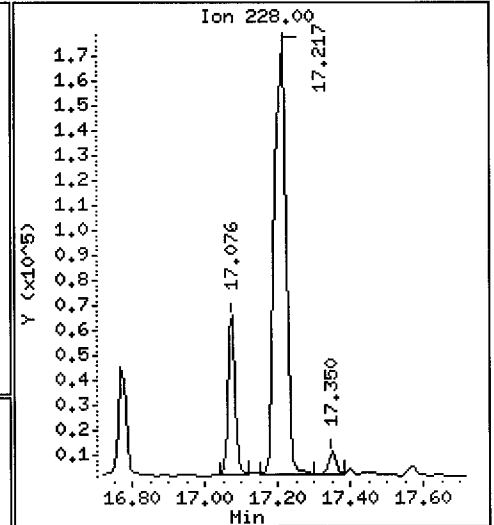
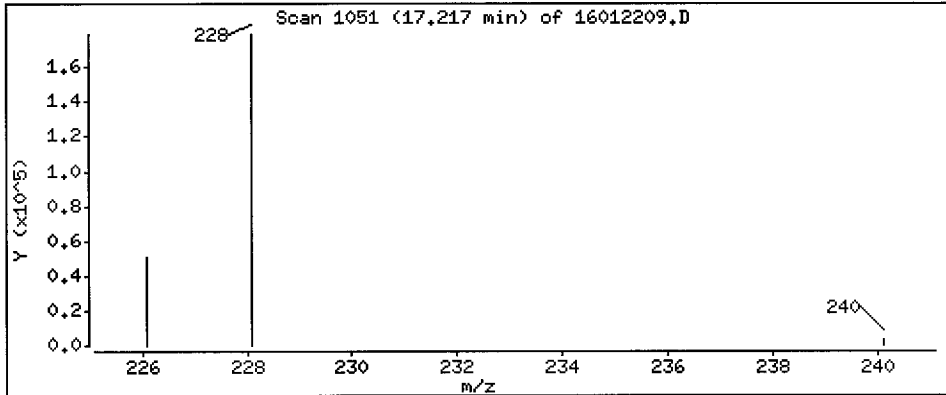
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 8890 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

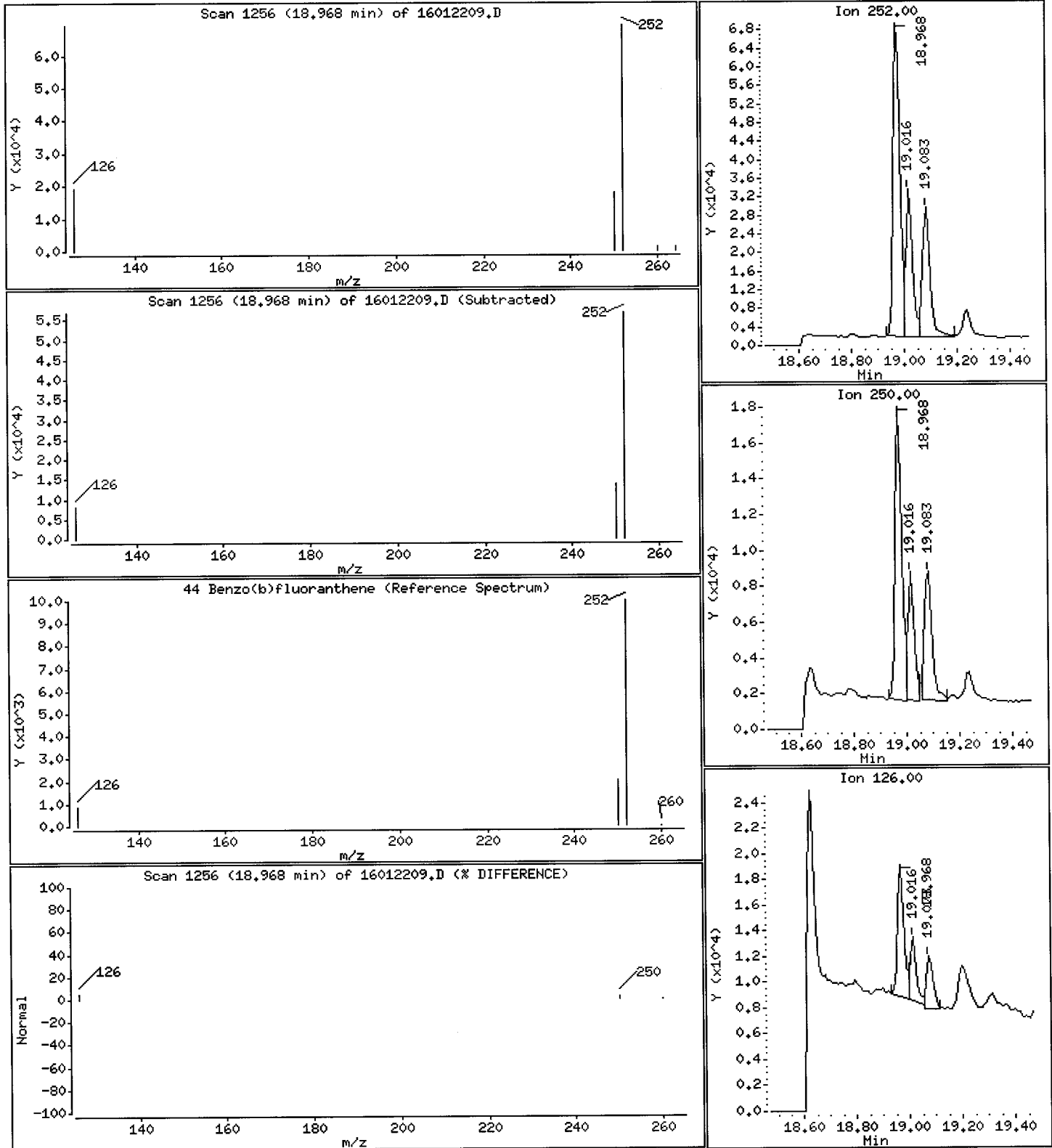
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 2980 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

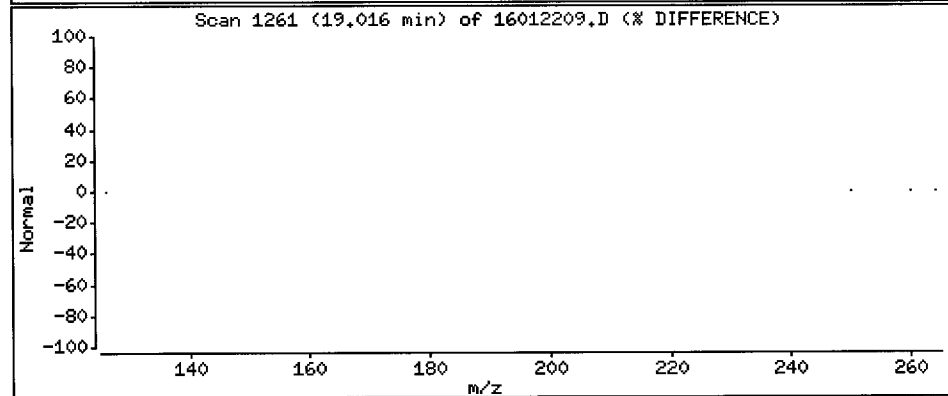
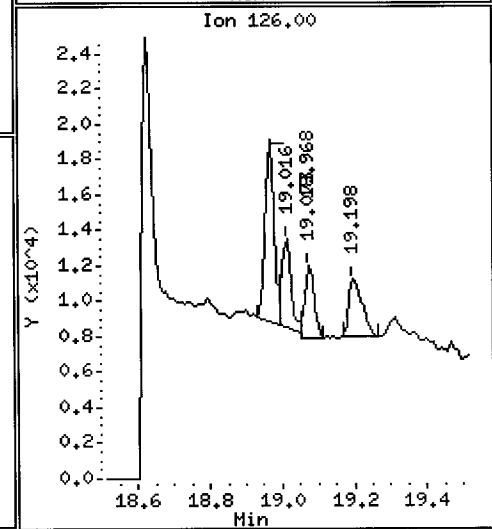
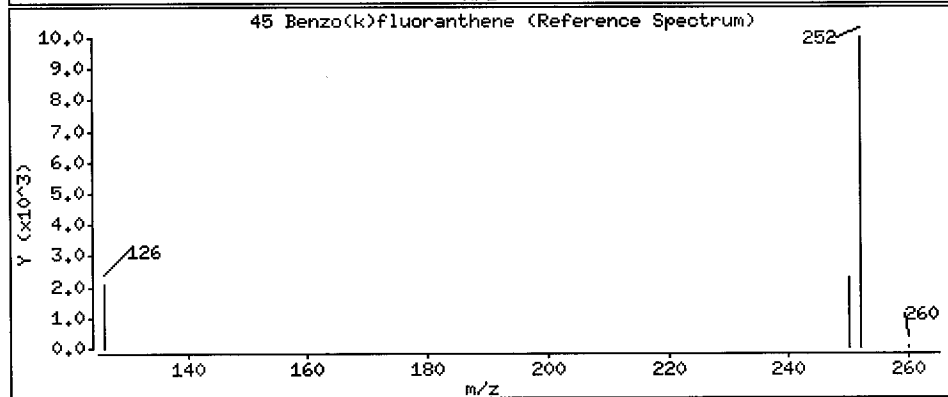
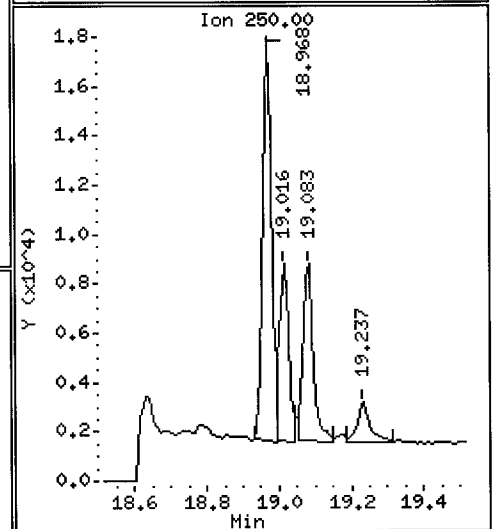
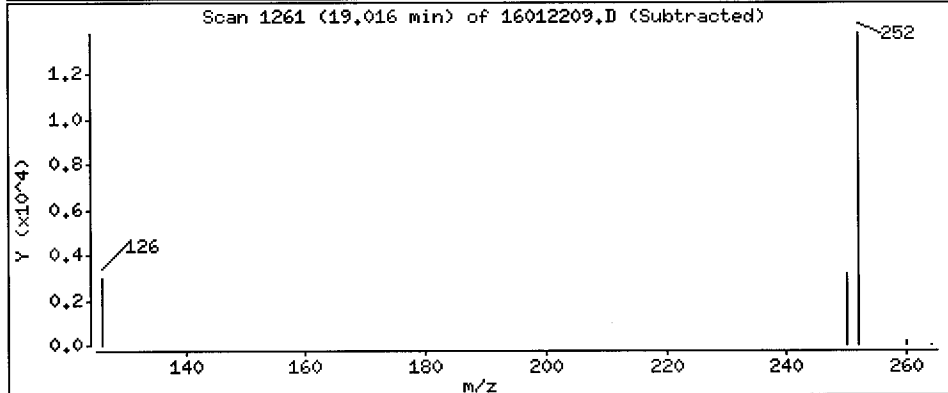
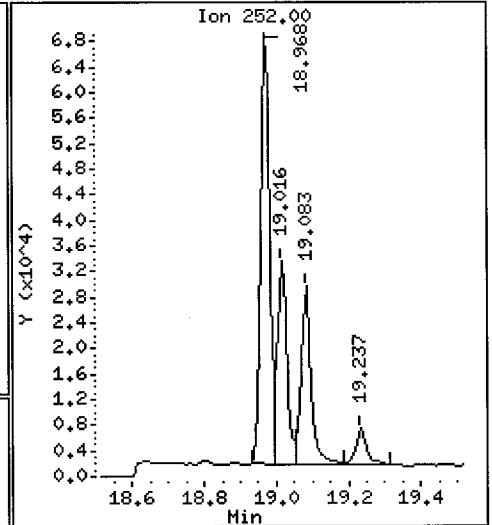
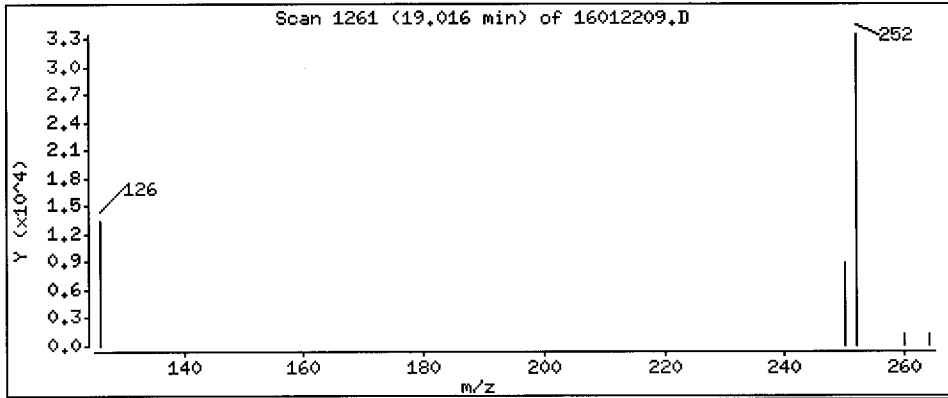
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 1310 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

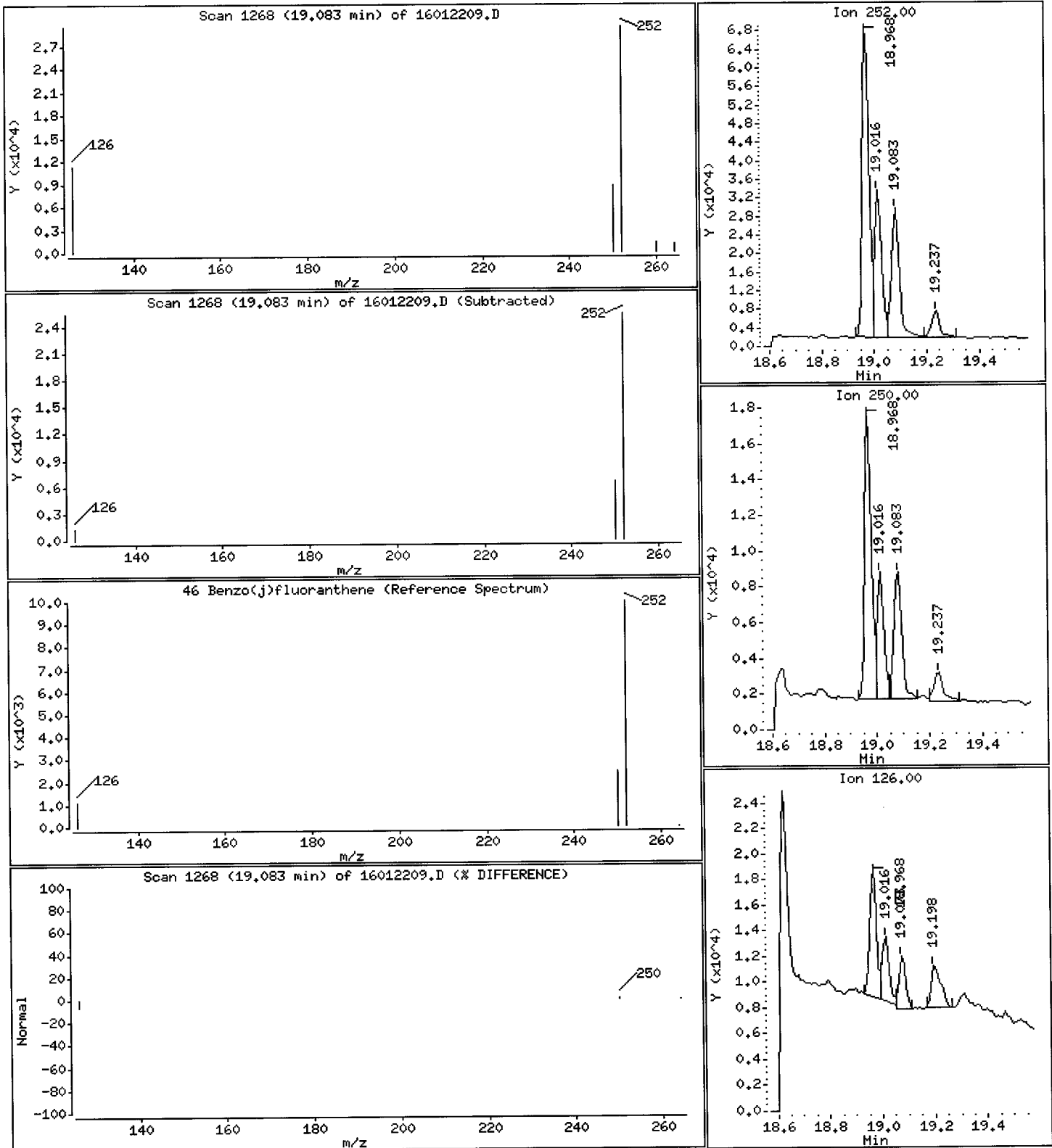
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

46 Benzo(j)fluoranthene

Concentration: 1260 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

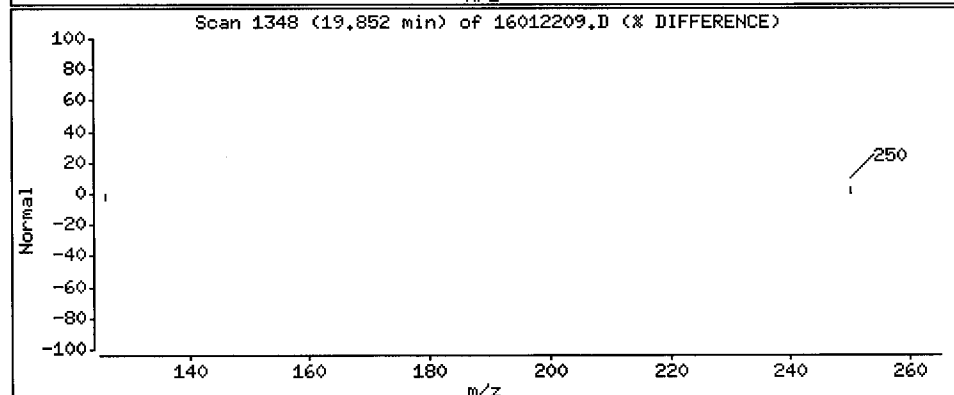
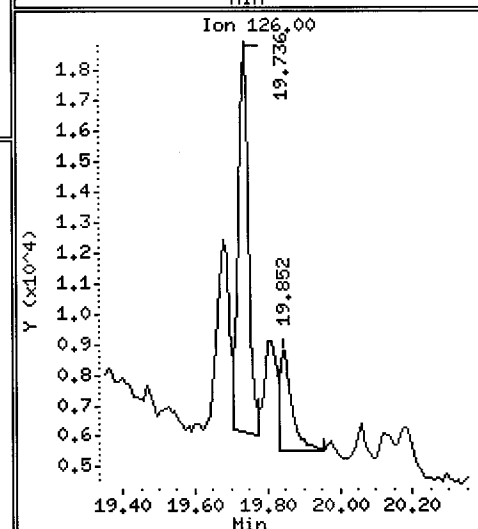
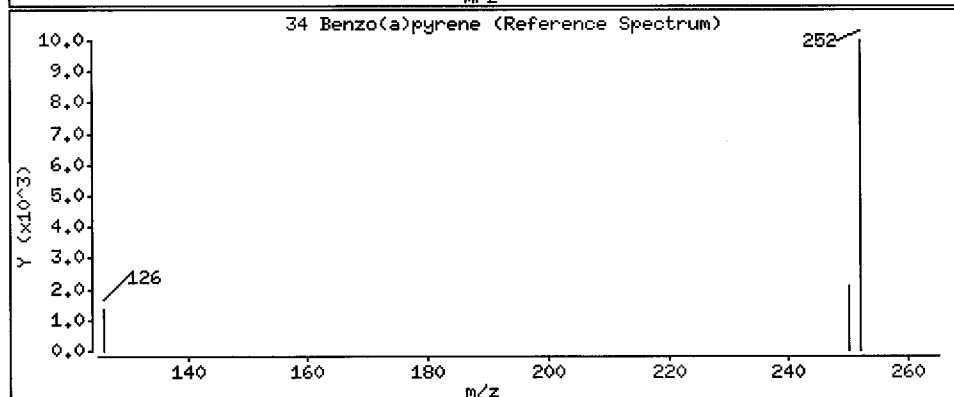
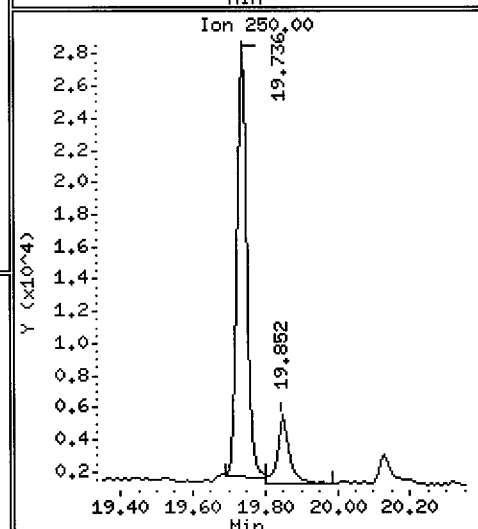
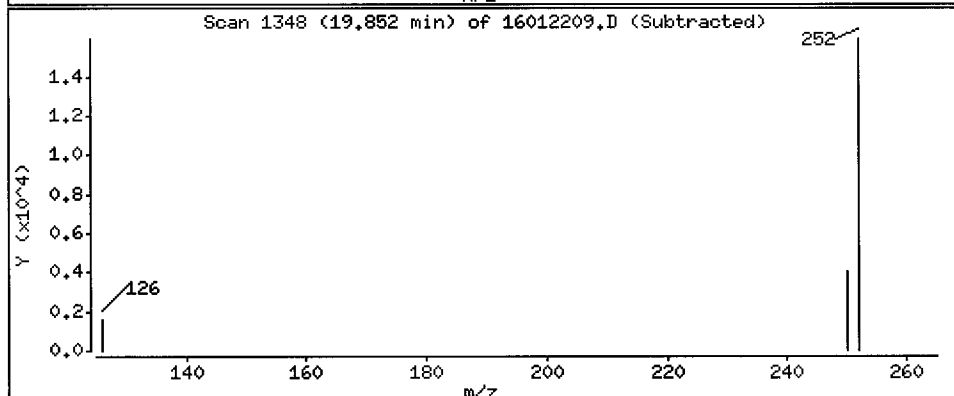
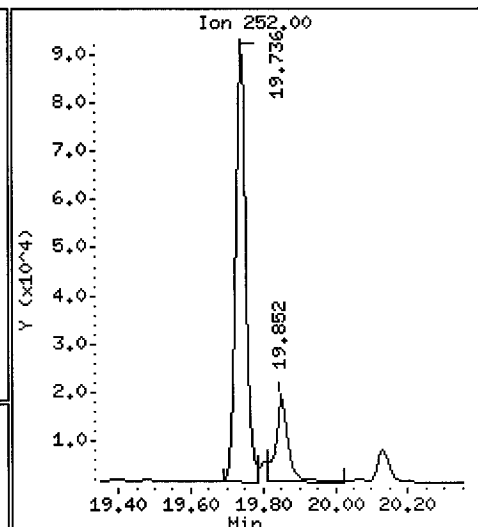
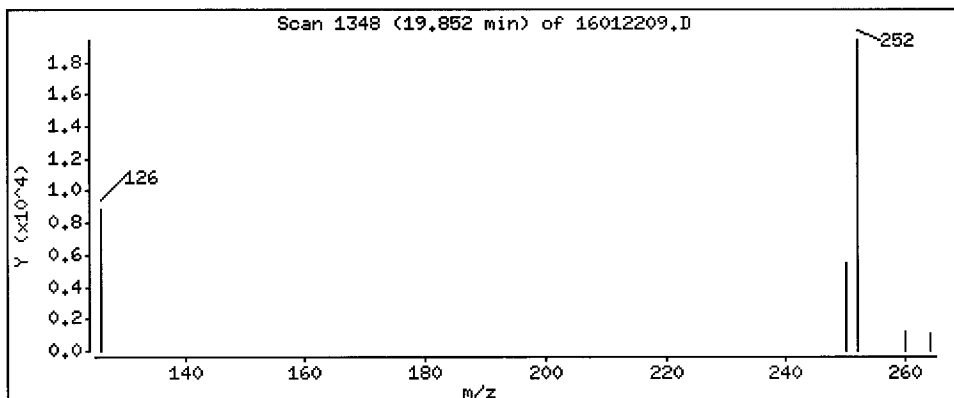
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

34 Benzo(a)pyrene

Concentration: 1170 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRH 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

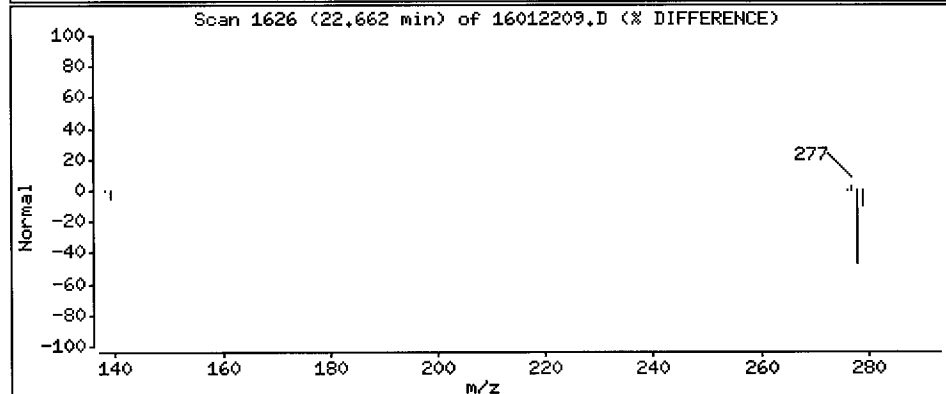
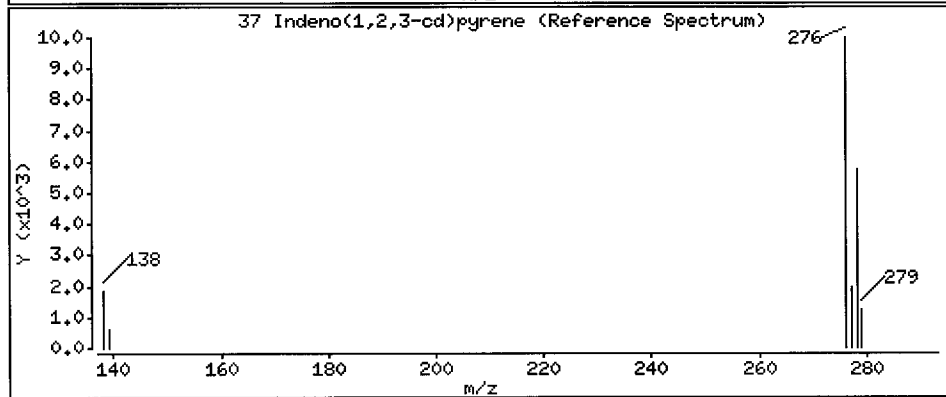
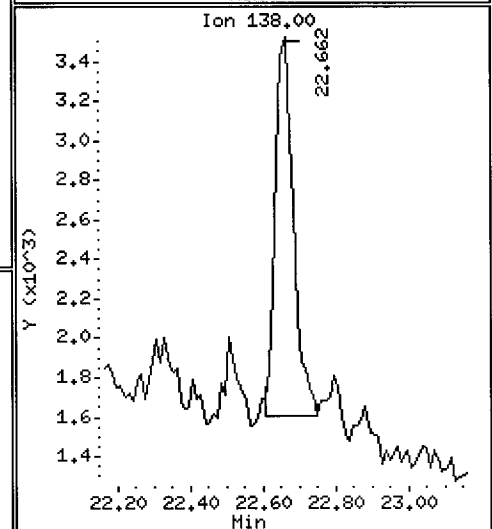
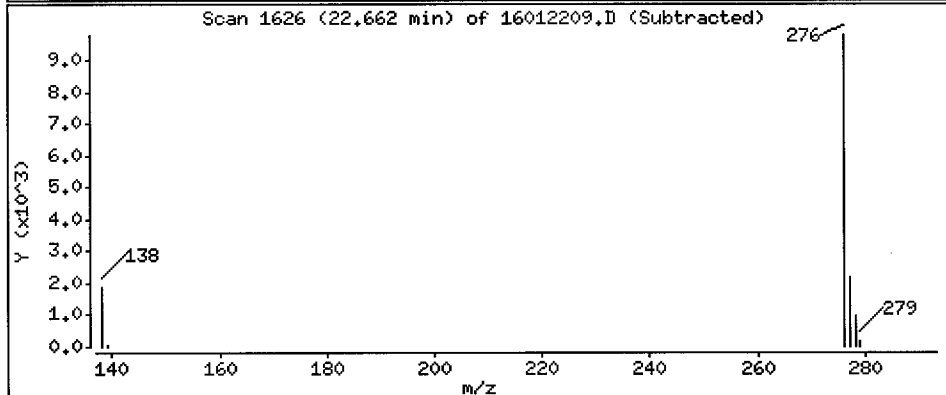
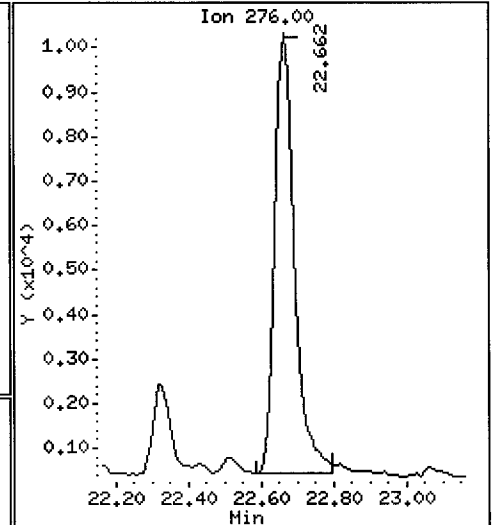
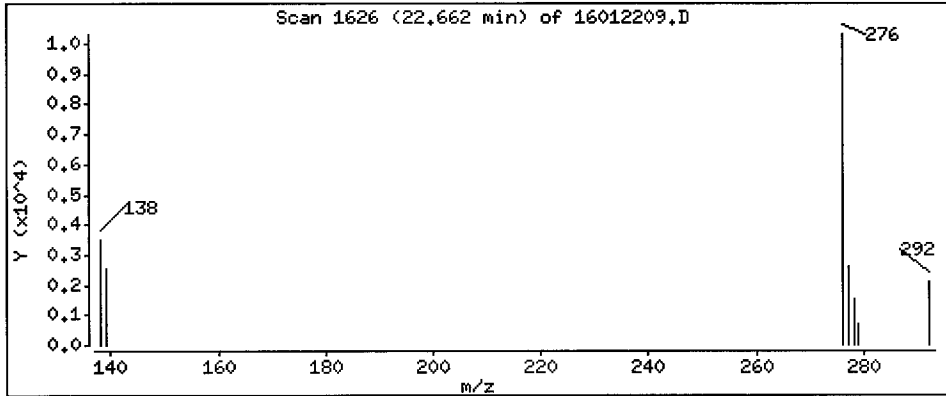
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

37 Indeno(1,2,3-cd)pyrene

Concentration: 886 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

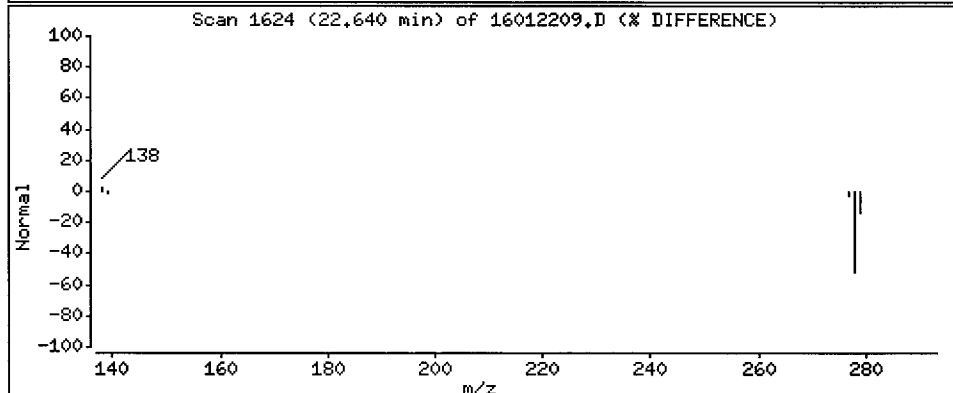
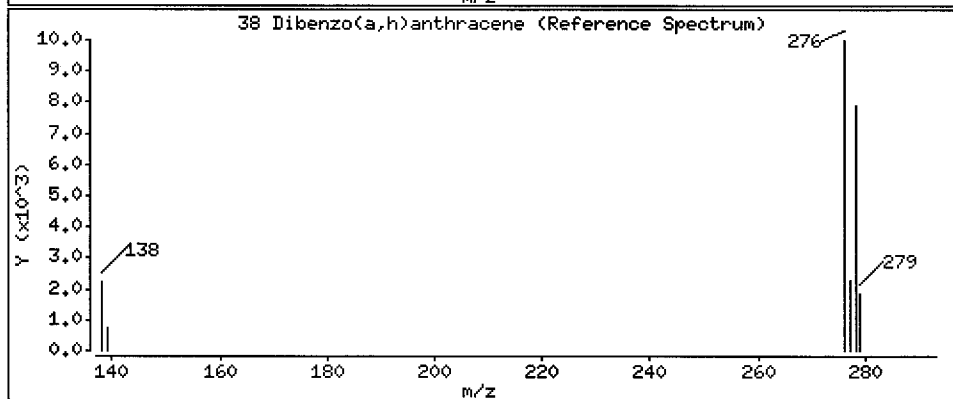
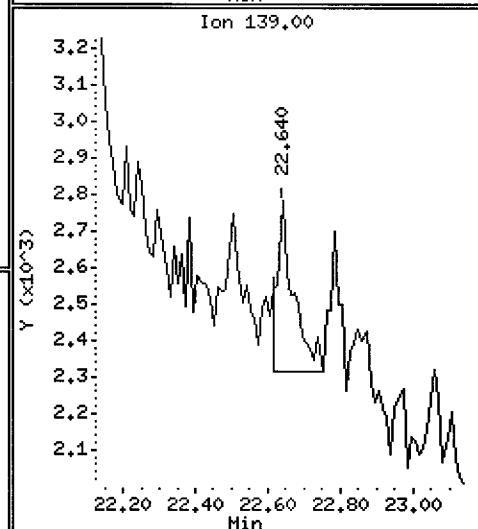
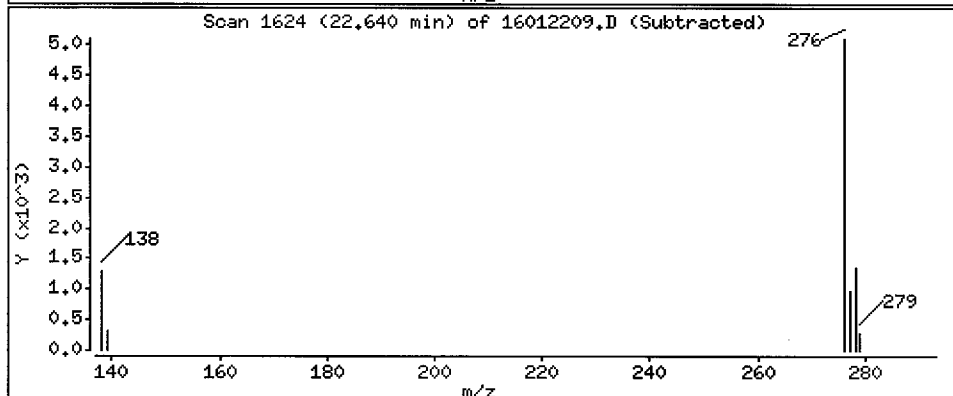
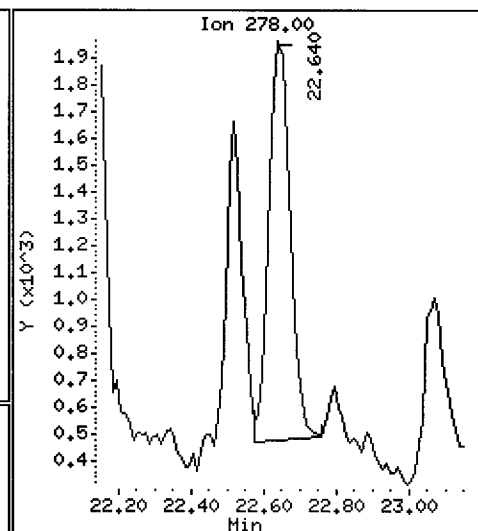
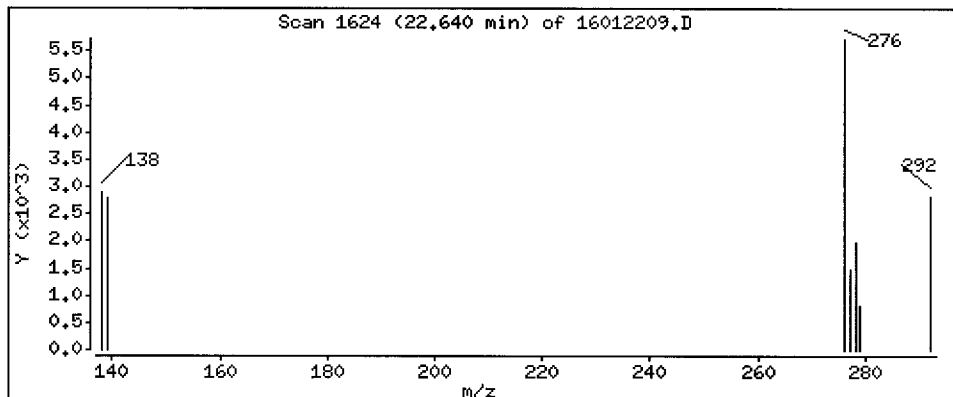
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

38 Dibenzo(a,h)anthracene

Concentration: 182 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

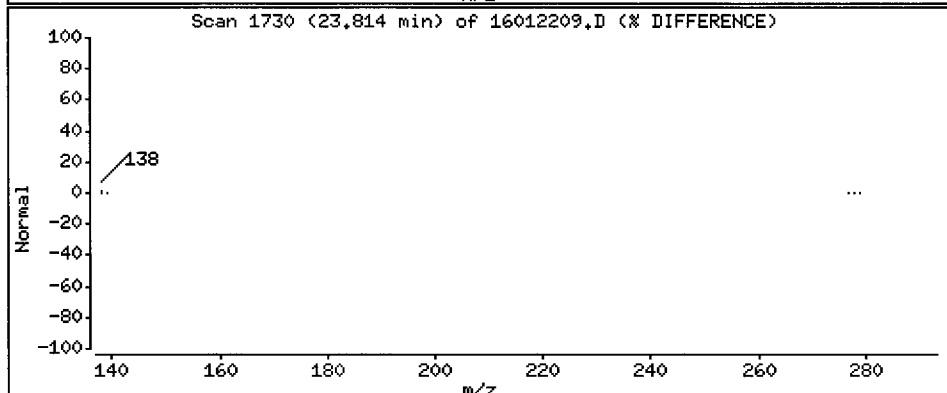
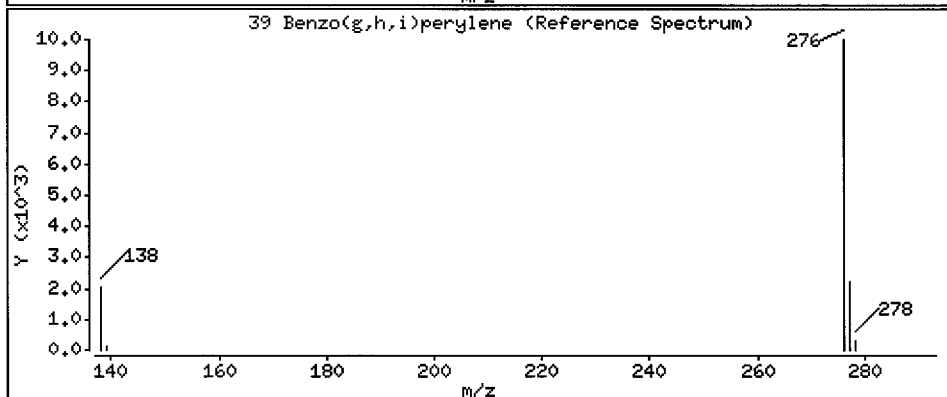
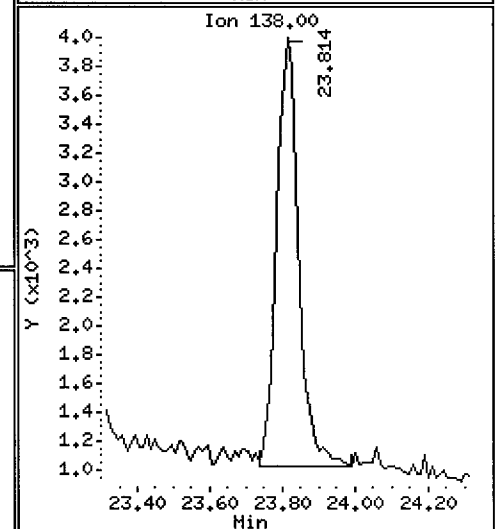
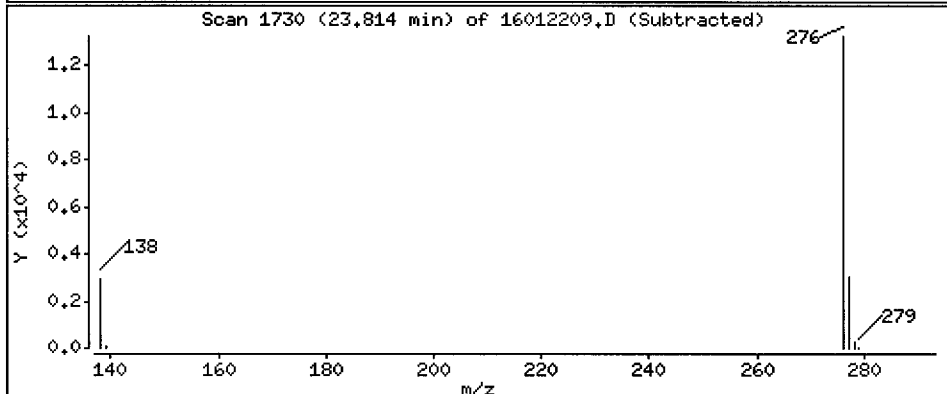
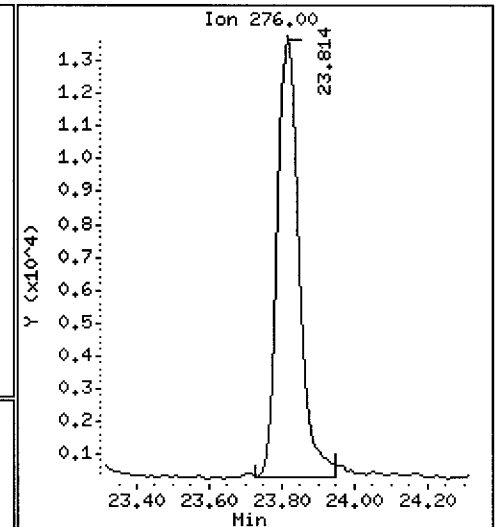
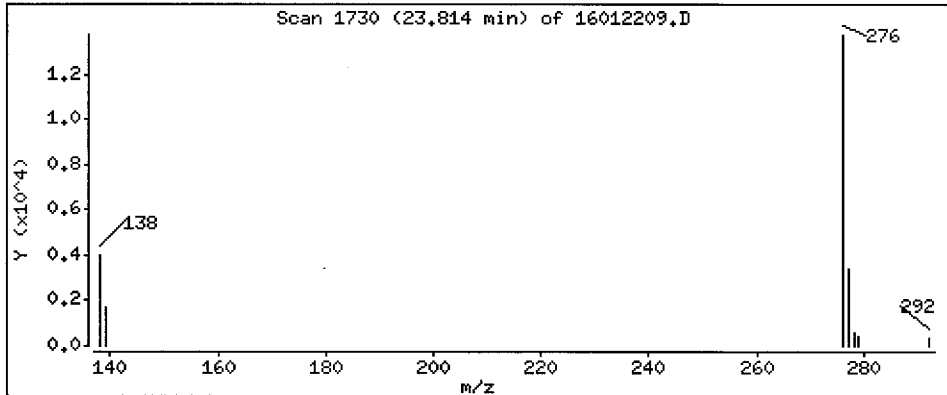
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Benzo(g,h,i)perylene

Concentration: 1520 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

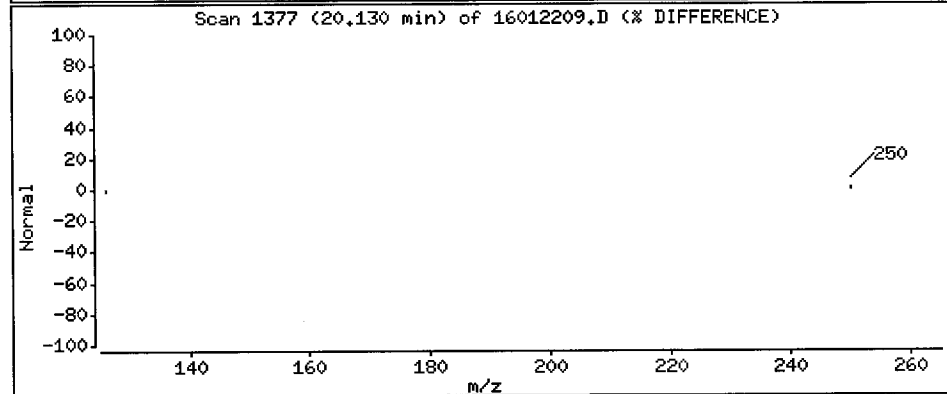
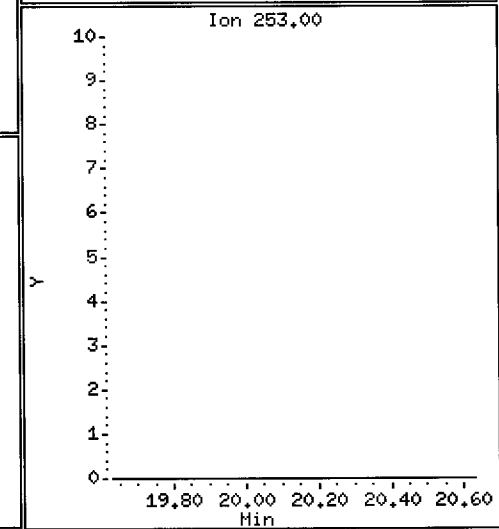
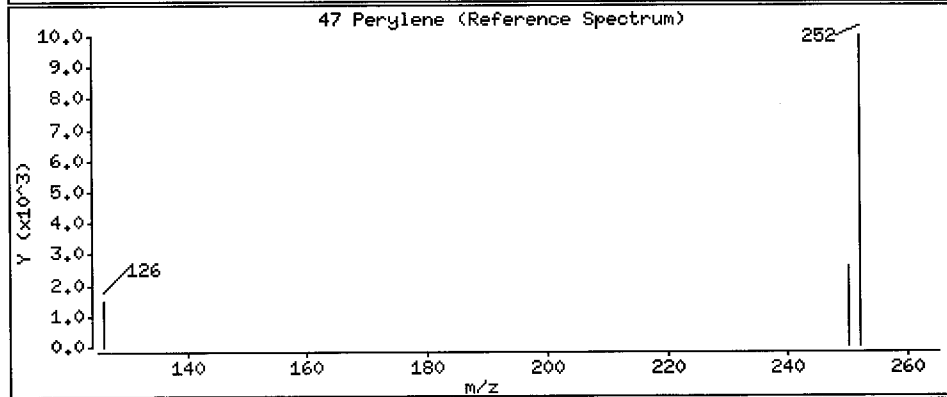
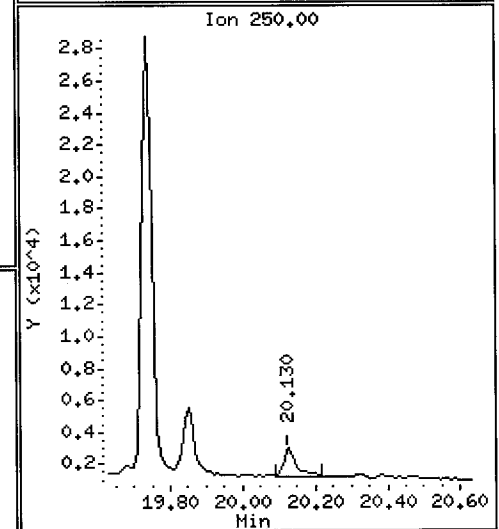
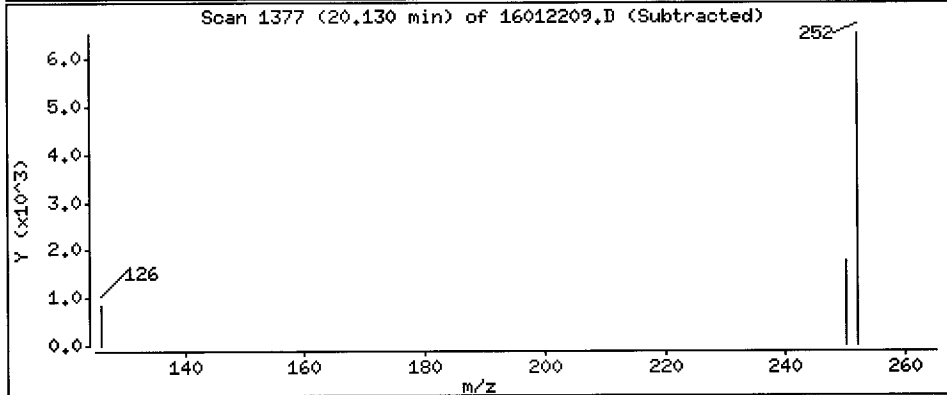
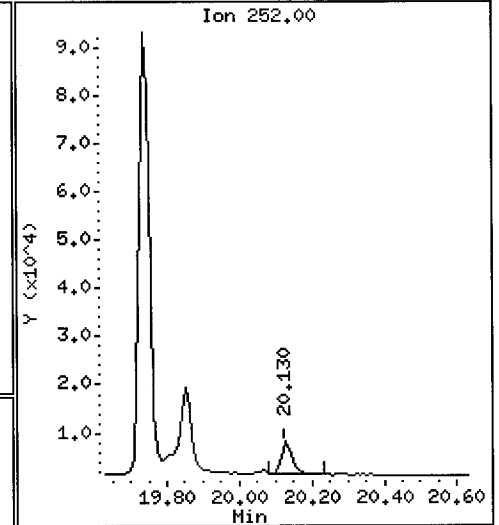
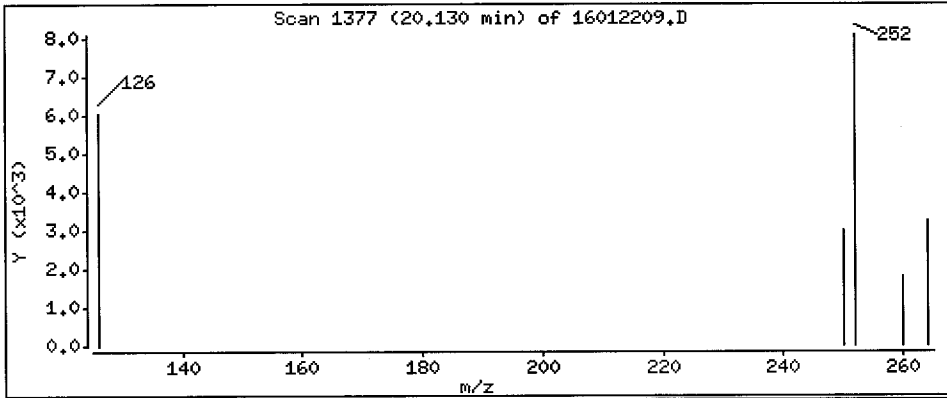
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

47 Perylene

Concentration: 375 ug/kg



Date : 22-JAN-2016 11:28

Client ID: SRM 1974C

Instrument: nt11.i

Sample Info: APR4SRM1

Volume Injected (uL): 2.0

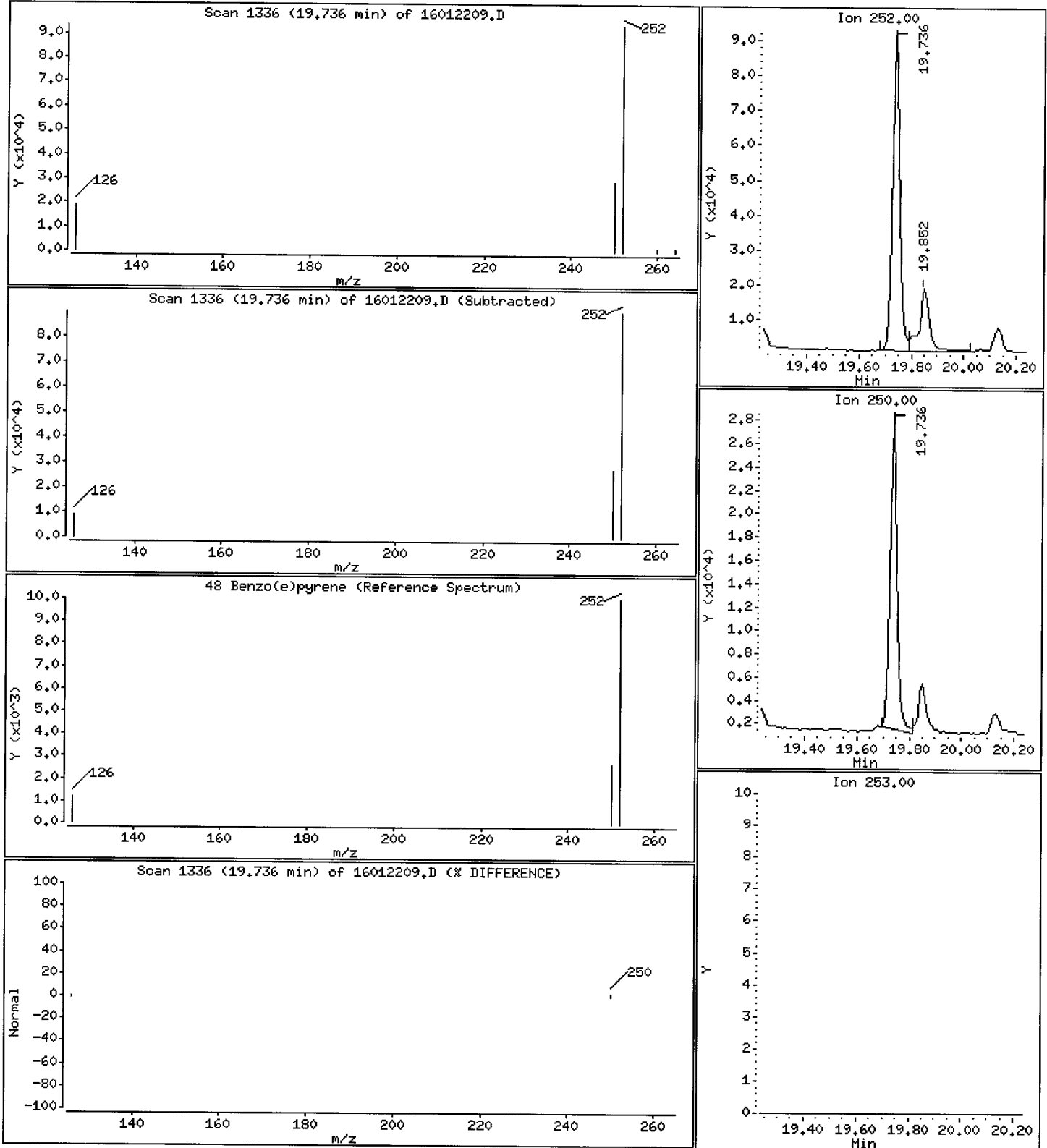
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

48 Benzo(e)pyrene

Concentration: 4380 ug/kg



Lab ID: APR4SRM1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 11:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012210.D
 Lab Smp Id: APR4A Client Smp ID: PG-T0-MUS-COC-15103
 Inj Date : 22-JAN-2016 11:58 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4A
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.020	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136	6.723	6.744	(1.000)	371890	200.000		
5 Naphthalene	128	6.765	6.776	(1.006)	47348	22.0418	1100	
\$ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.147)	216233	156.649	7820	
7 2-Methylnaphthalene	142	7.763	7.774	(1.155)	23870	16.1725	807	
8 1-Methylnaphthalene	142	Compound Not Detected.						
10 Acenaphthylene	152	Compound Not Detected.						
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	259279	200.000		
12 Acenaphthene	153	9.800	9.811	(1.006)	40312	29.0245	1450	
14 Dibenzofuran	168	10.010	10.010	(1.027)	71495	34.1706	1710	
15 Fluorene	166	10.630	10.630	(1.091)	63344	40.3680	2010	
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	437520	200.000		
19 Phenanthrene	178	12.457	12.468	(1.003)	313936	119.096	5940	
20 Anthracene	178	12.512	12.523	(1.007)	48810	20.6868	1030	
\$ 23 Fluoranthene-d10	212	14.518	14.518	(1.169)	422581	175.630	8760	
24 Fluoranthene	202	14.557	14.557	(1.172)	255167	96.4169	4810	
25 Pyrene	202	15.047	15.057	(0.877)	151039	63.6769	3180	
28 Benzo (a) anthracene	228	17.067	17.075	(0.994)	34373	17.2129	859	
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	299515	200.000		
30 Chrysene	228	17.217	17.217	(1.003)	46365	21.1547	1060	
44 Benzo (b) fluoranthene	252	18.967	18.967	(0.945)	20733	10.0924	504	
45 Benzo (k) fluoranthene	252	19.015	19.015	(0.948)	11690	4.88322	244	

Compounds	QUANT SIG							CONCENTRATIONS	
	MASS		RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ug/kg)	
===== 46 Benzo(j) fluoranthene	252		19.082	19.082	(0.951)	10273	4.71089	235	
34 Benzo(a) pyrene	252		Compound Not Detected.						
* 35 Perylene-d12	264		20.062	20.062	(1.000)	303212	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.529	22.529	(1.123)	232034	189.599	9460	
37 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.						
38 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
39 Benzo(g,h,i)perylene	276		Compound Not Detected.						
47 Perylene	252		Compound Not Detected.						
48 Benzo(e)pyrene	252		Compound Not Detected.						

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INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012210.D
 Lab Smp Id: APR4A
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: PG-T0-MUS-COC-1
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	371890	13.42
11 Acenaphthene-d10	239179	119590	478358	259279	8.40
18 Phenanthrene-d10	372253	186127	744506	437520	17.53
29 Chrysene-d12	294711	147356	589422	299515	1.63
35 Perylene-d12	260595	130298	521190	303212	16.35

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.72	-0.31
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	-0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	-0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	-0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

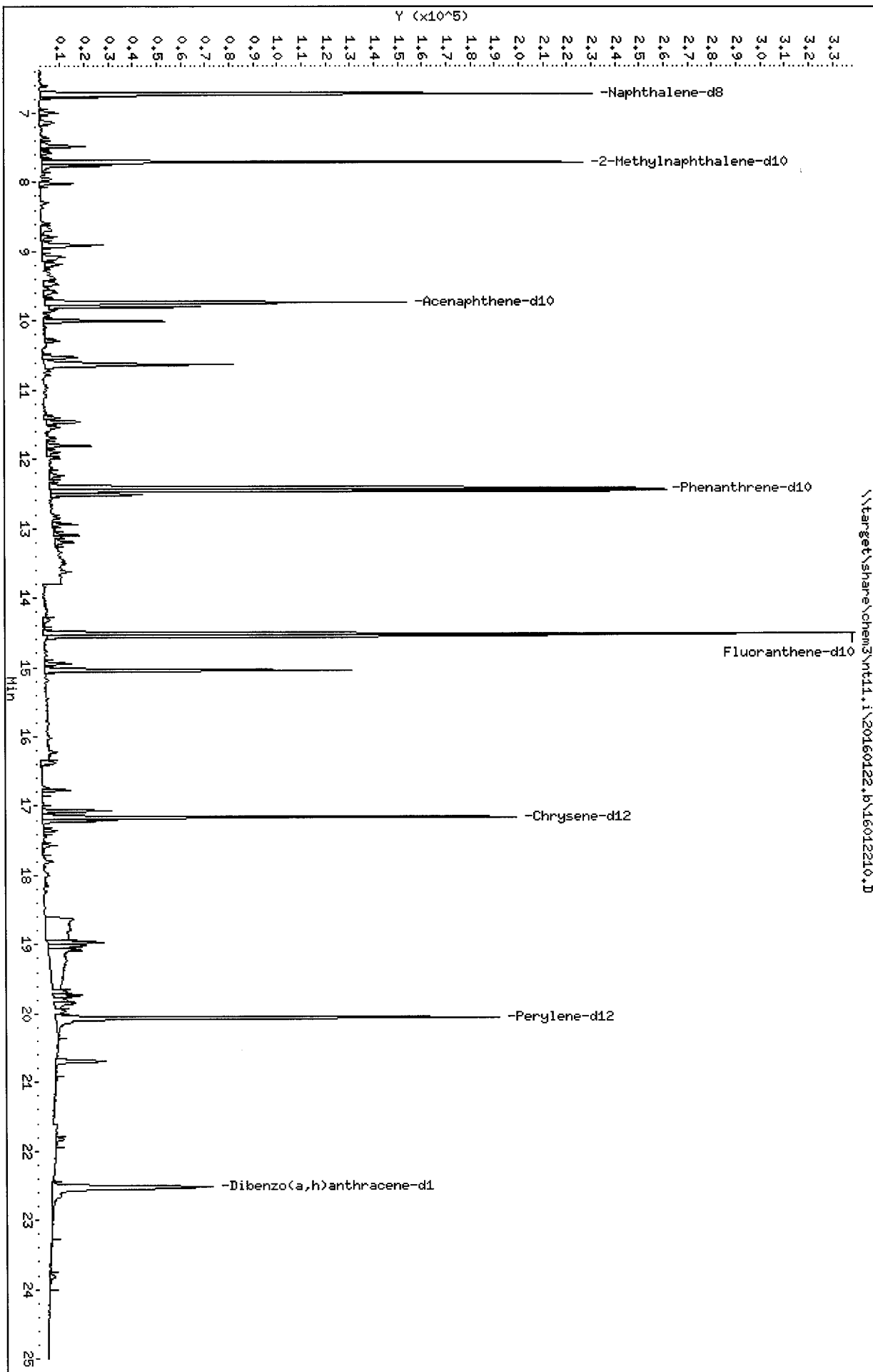
RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: APR4A
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 15-20439

Client SDG: APR4
Fraction: SV
Client Smp ID: PG-T0-MUS-COC-15103
Operator: JW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7820	52.22	30-160
\$ 23 Fluoranthene-d10	15000	8760	58.54	30-160
\$ 36 Dibenzo(a,h) anthra	15000	9460	63.20	30-160

\\target\share\chem3\nt11.i\20160122.b\16012210.D



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

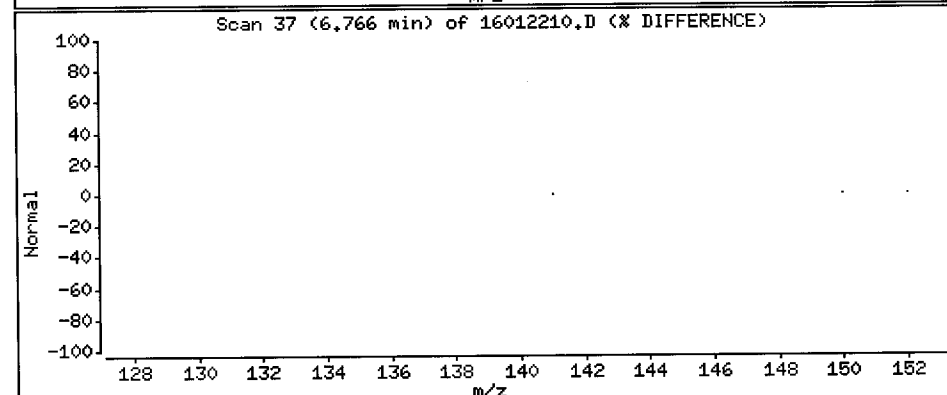
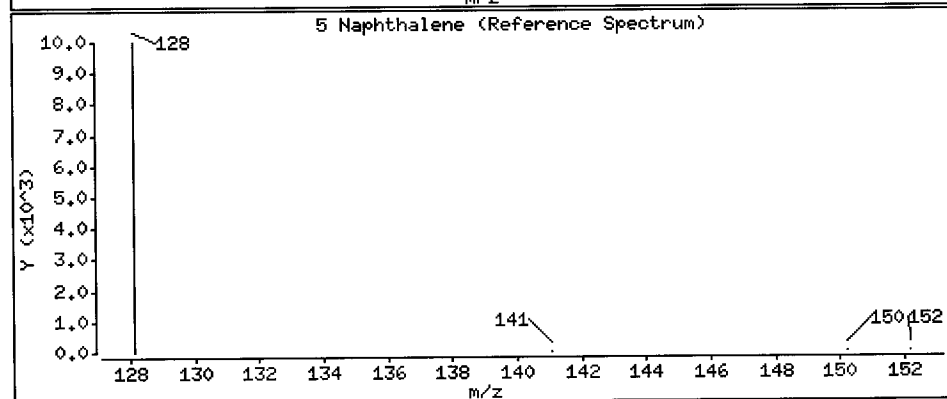
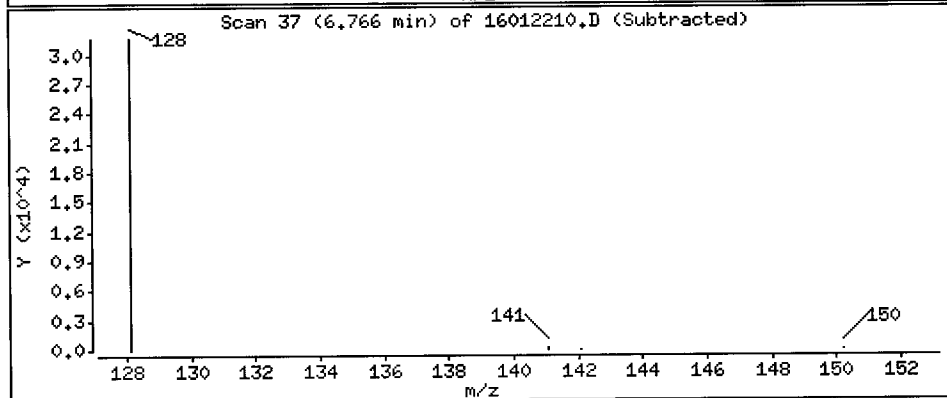
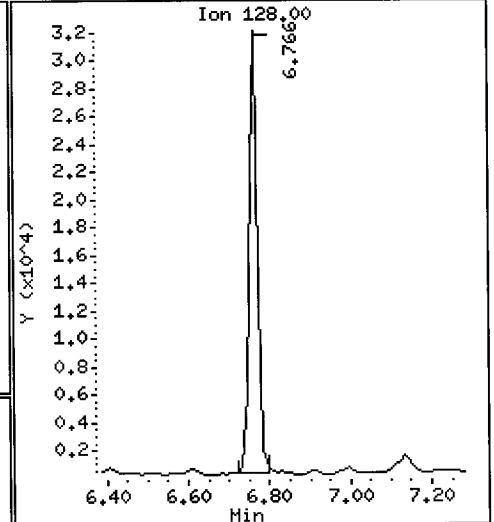
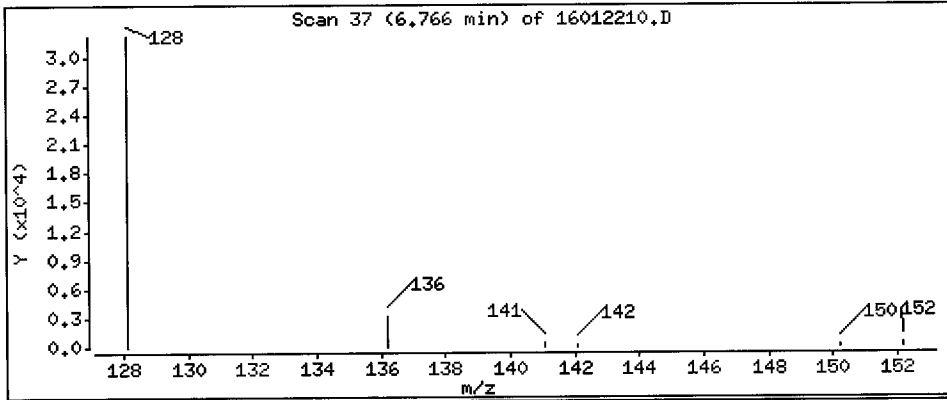
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 1100 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

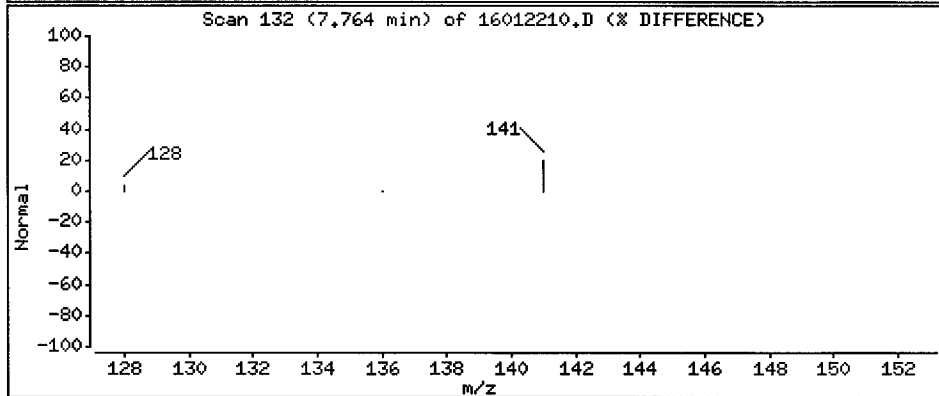
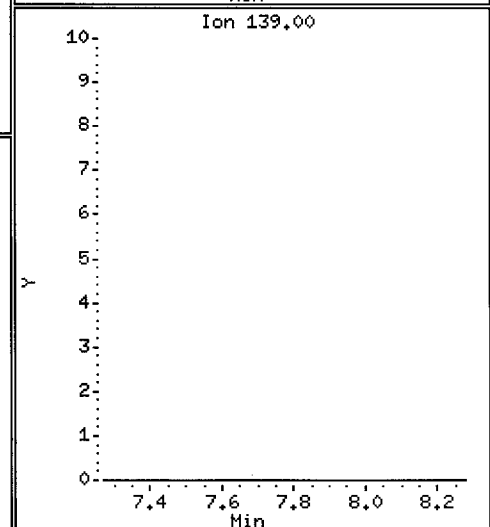
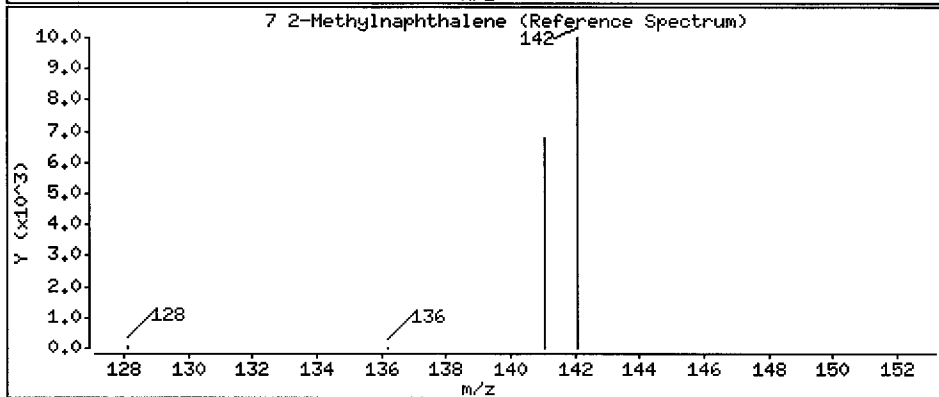
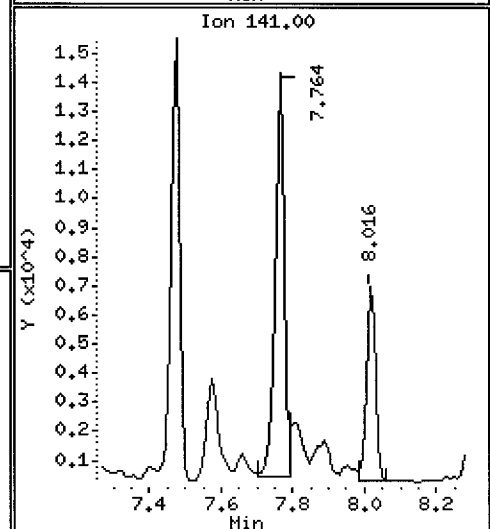
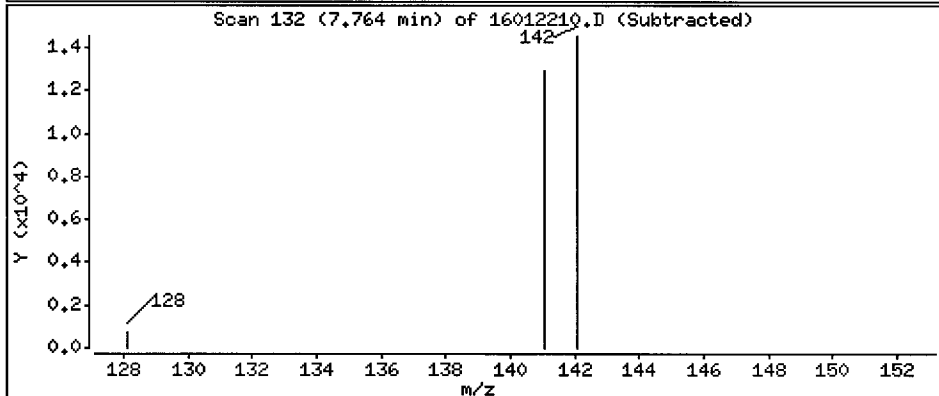
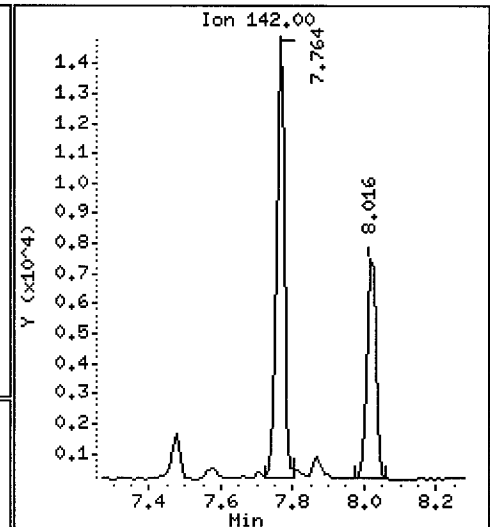
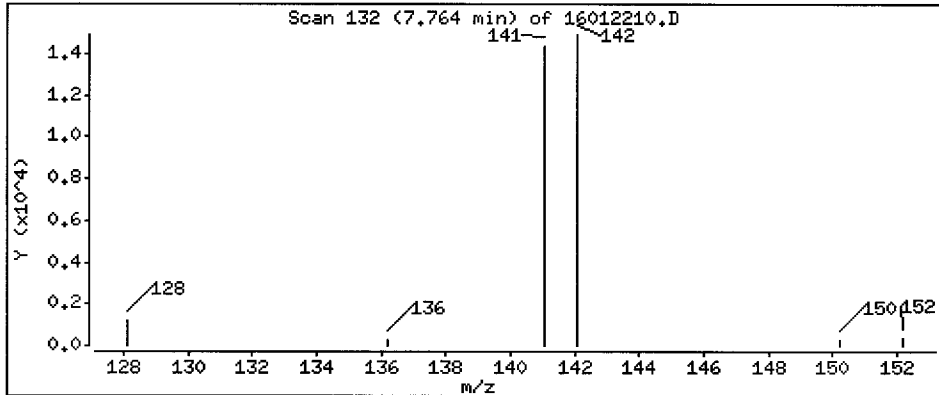
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Methylnaphthalene

Concentration: 807 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

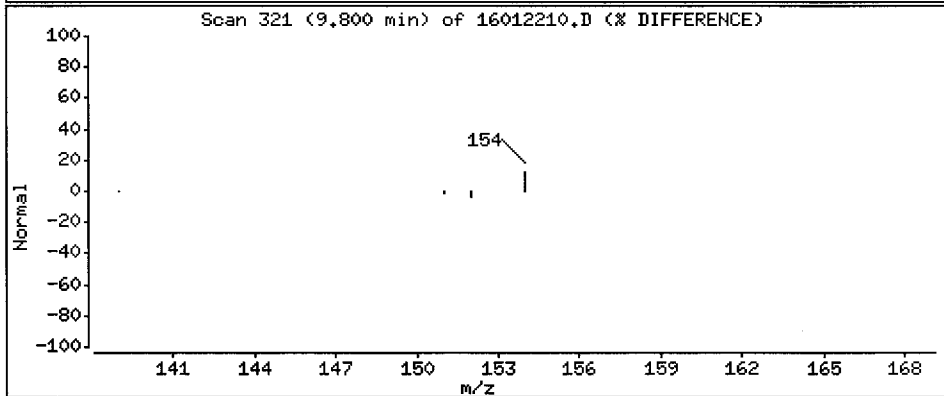
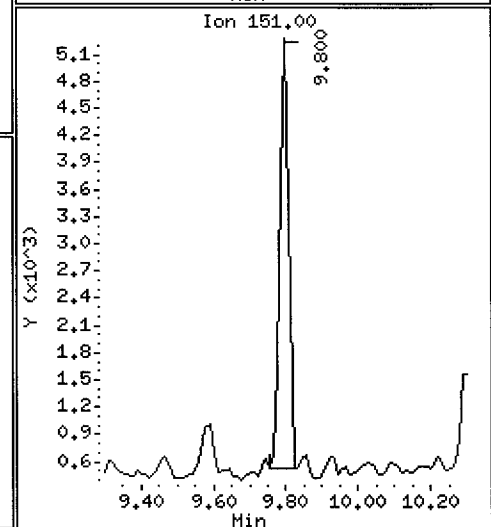
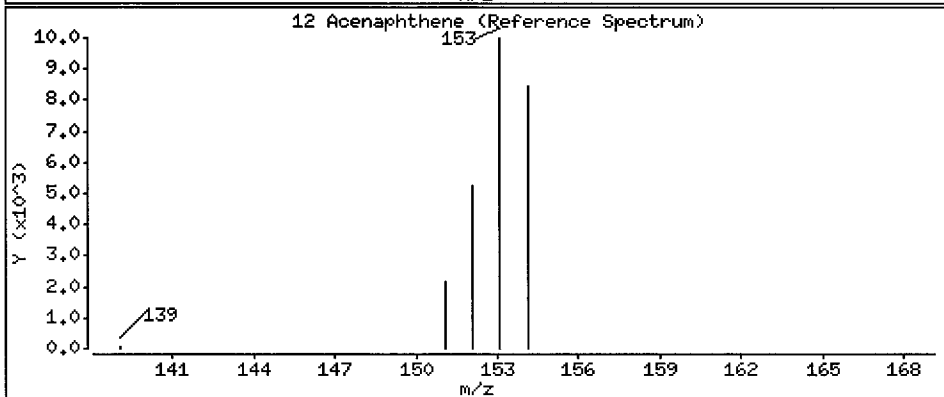
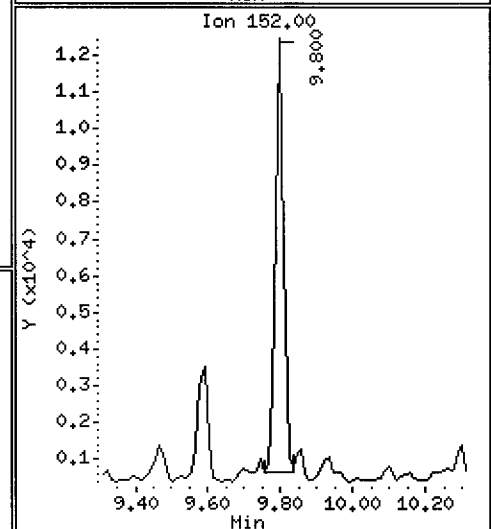
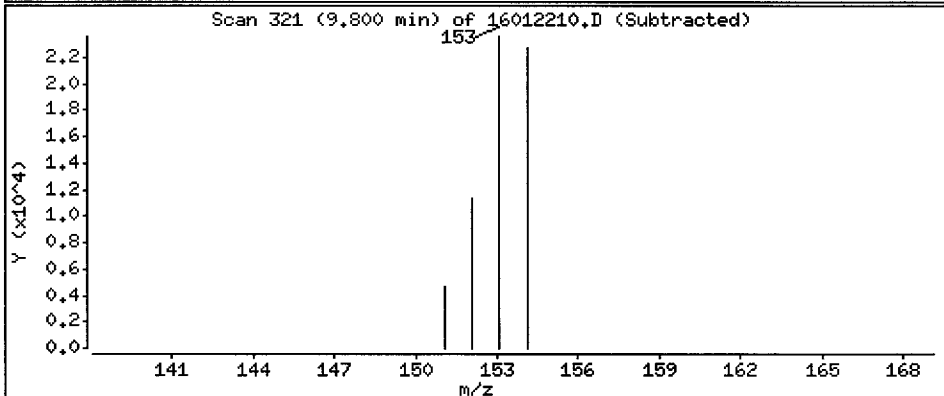
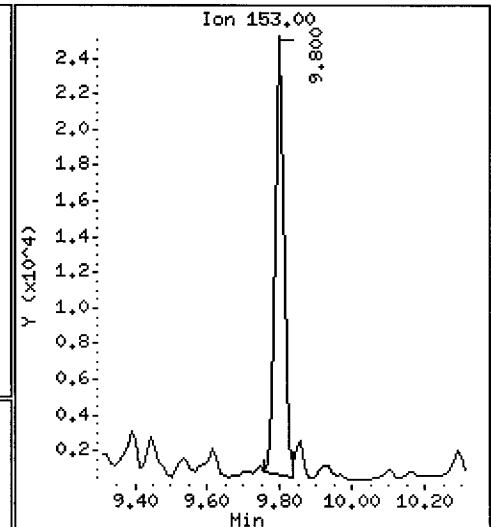
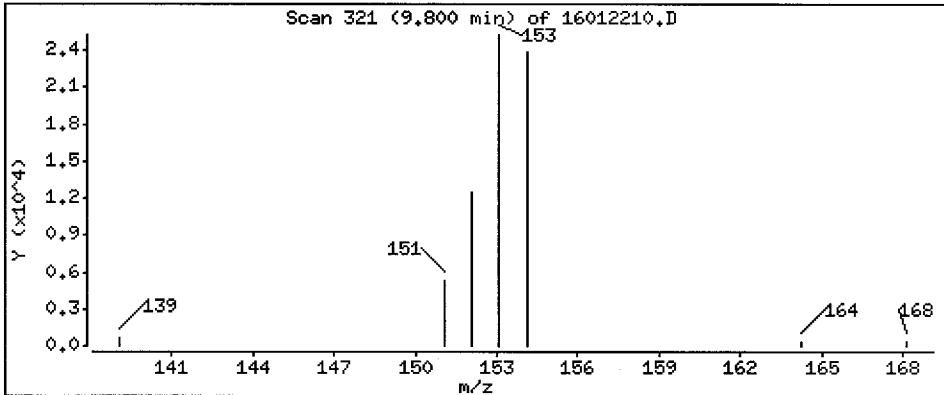
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 1450 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

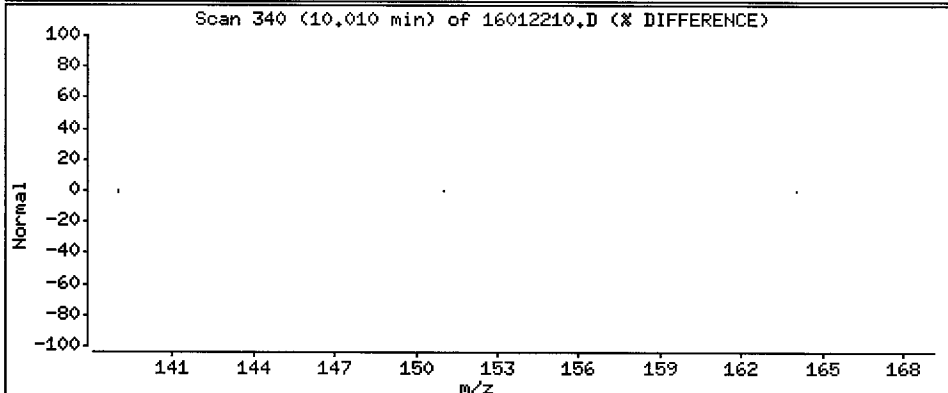
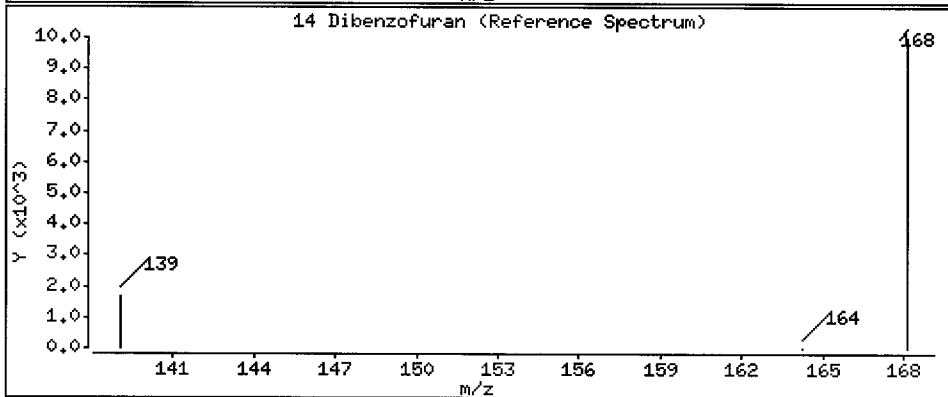
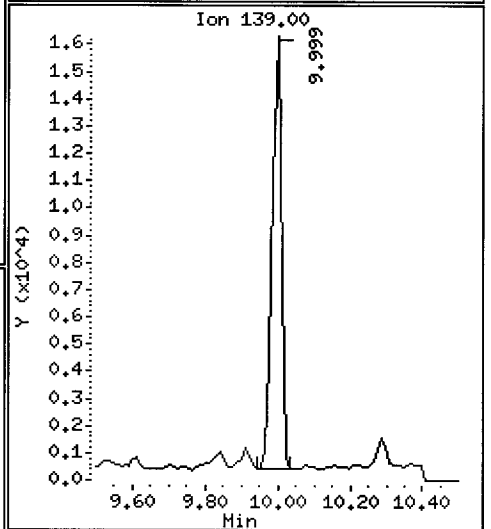
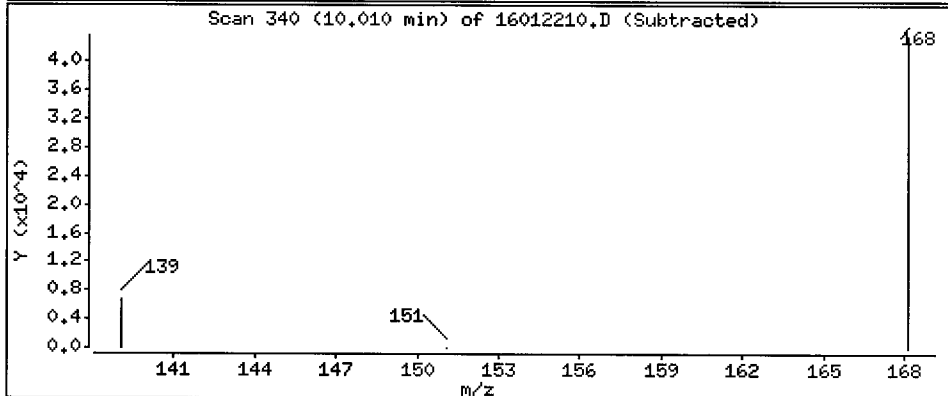
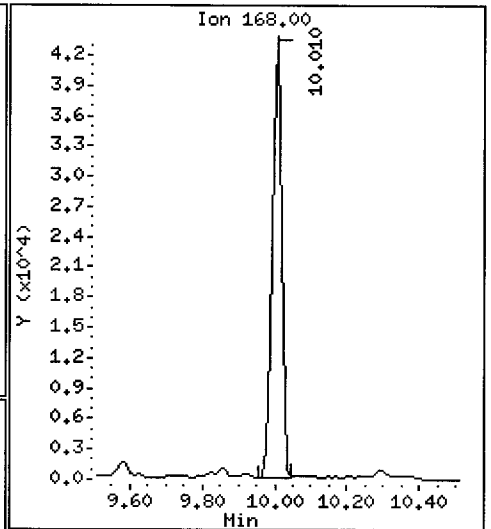
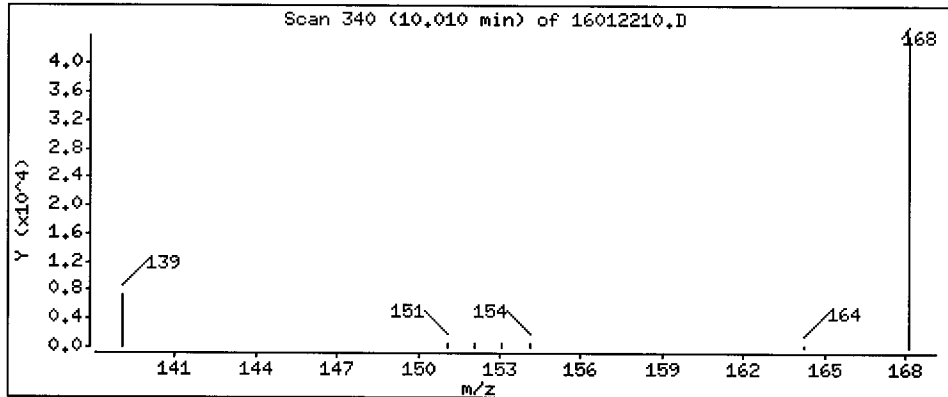
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 Dibenzofuran

Concentration: 1710 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

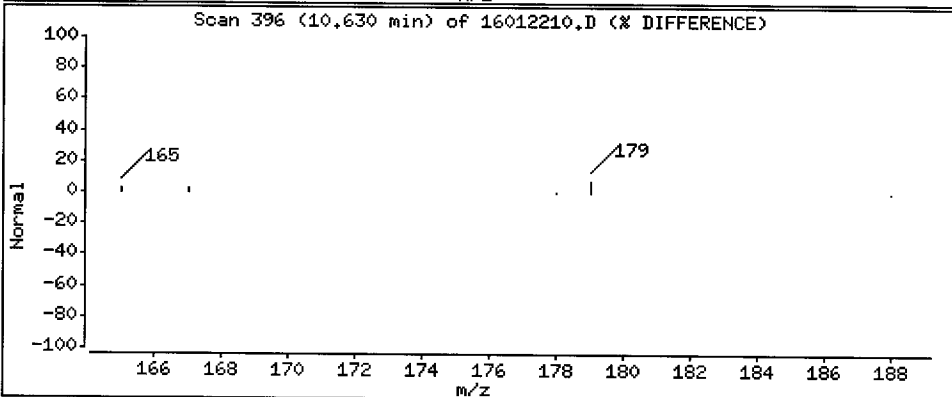
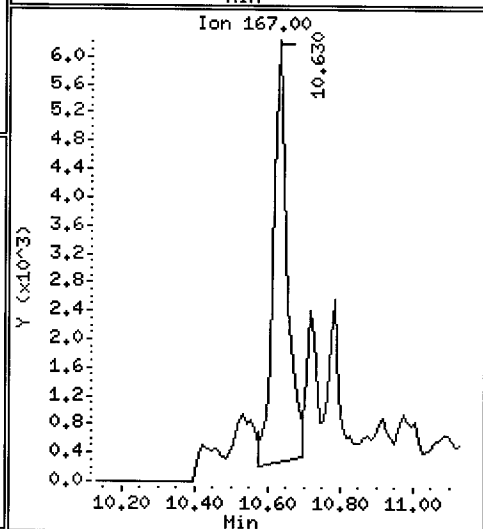
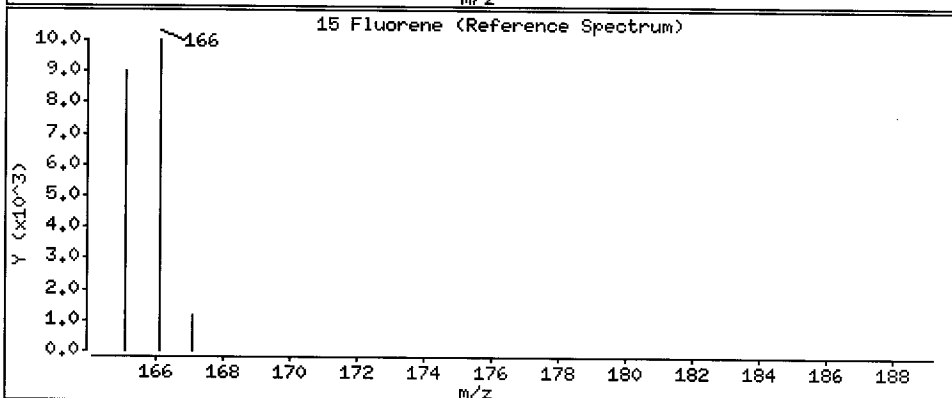
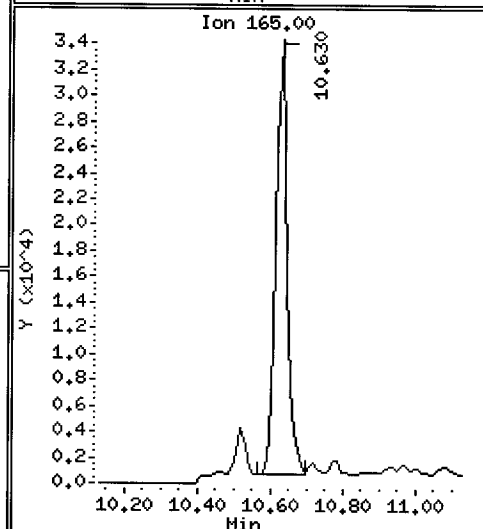
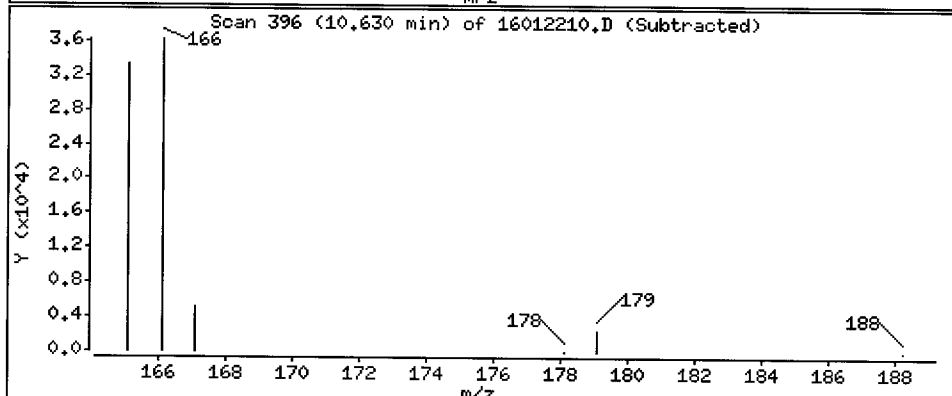
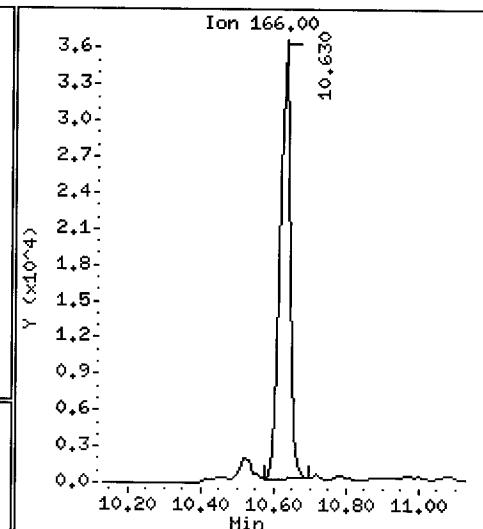
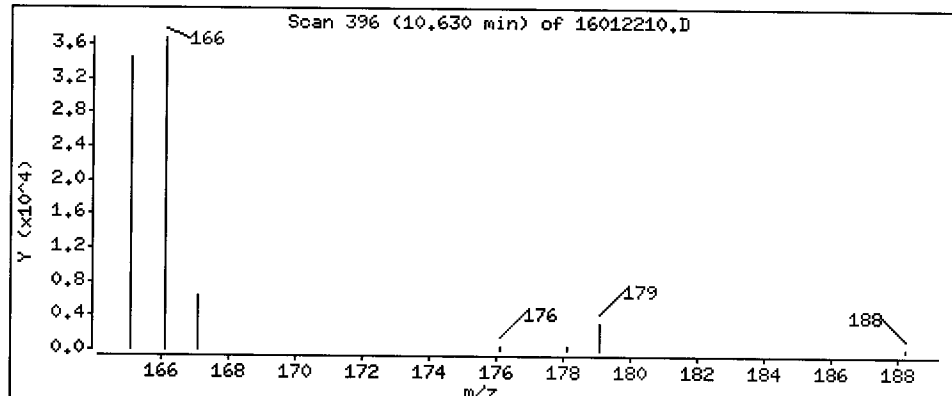
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

15 Fluorene

Concentration: 2010 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

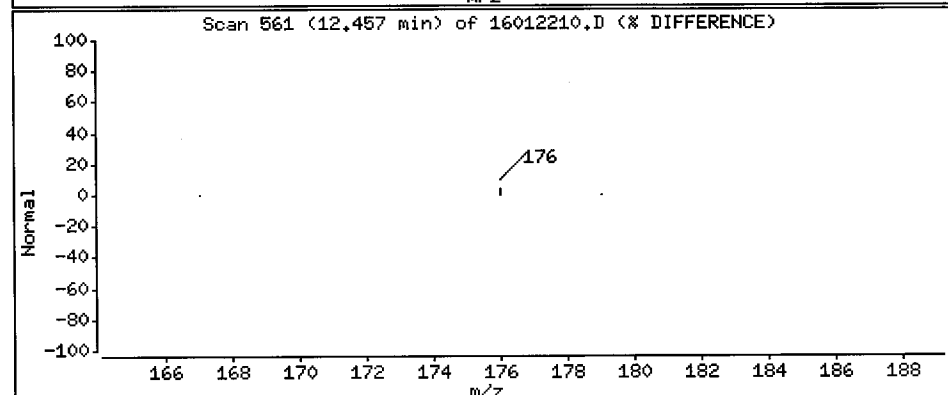
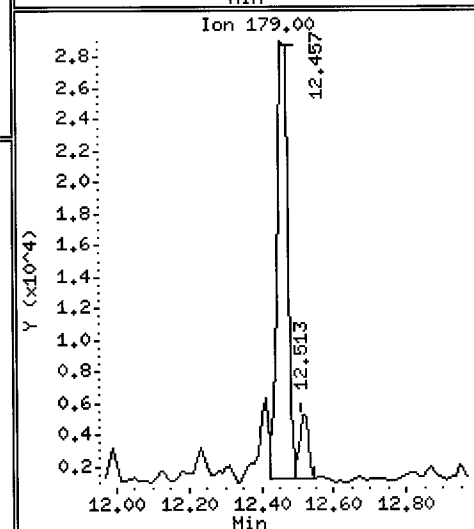
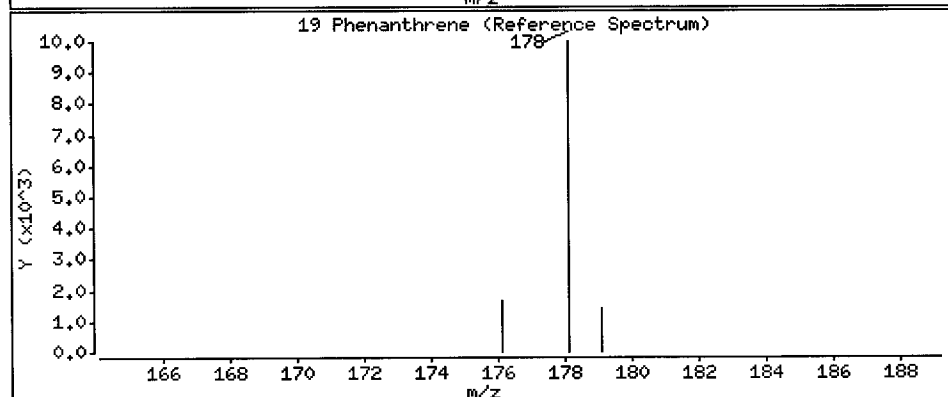
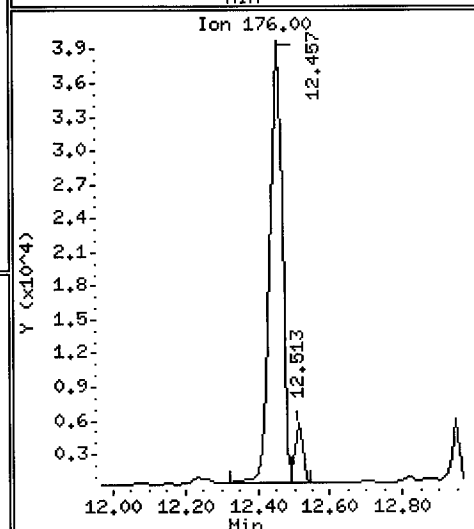
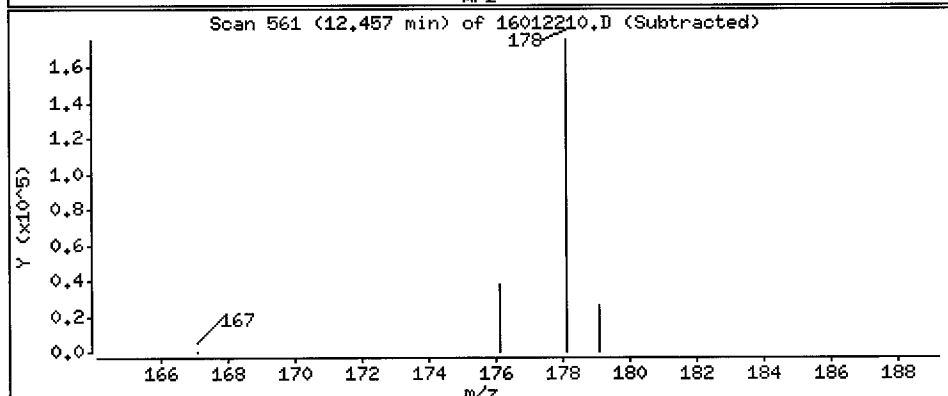
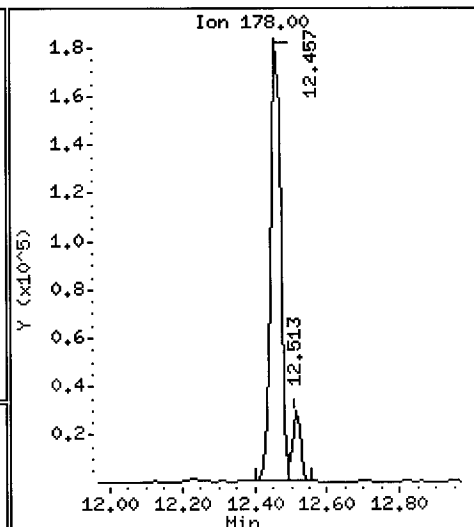
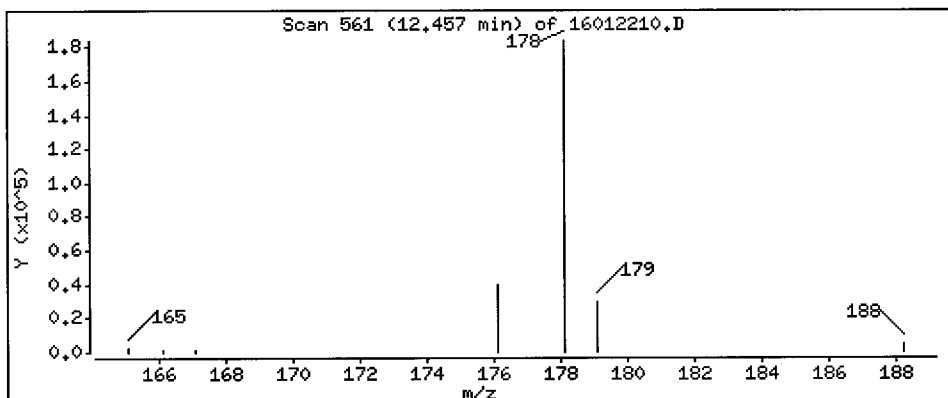
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 5940 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-HUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

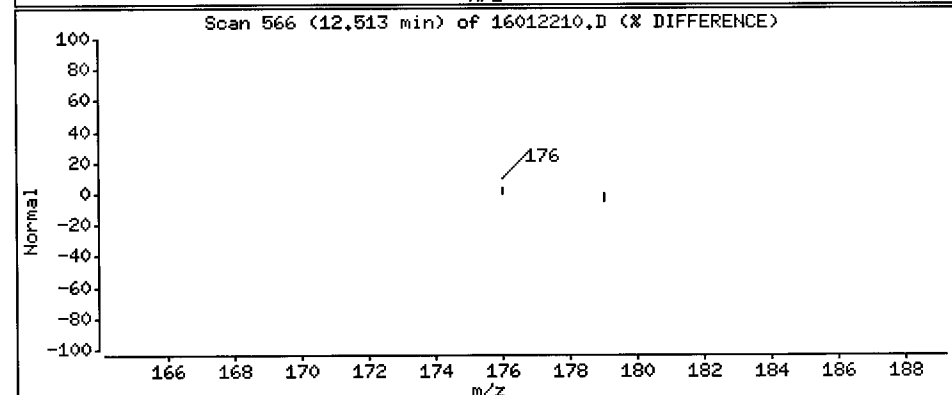
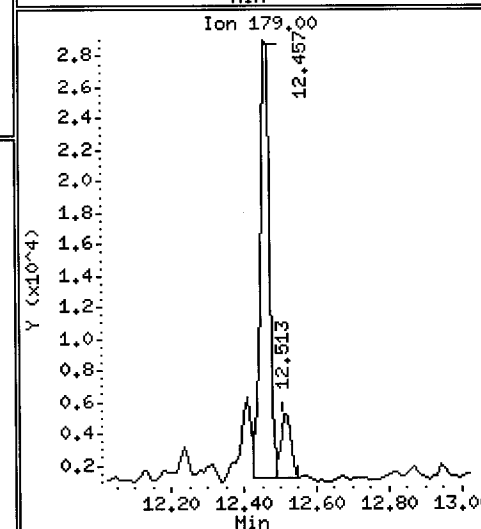
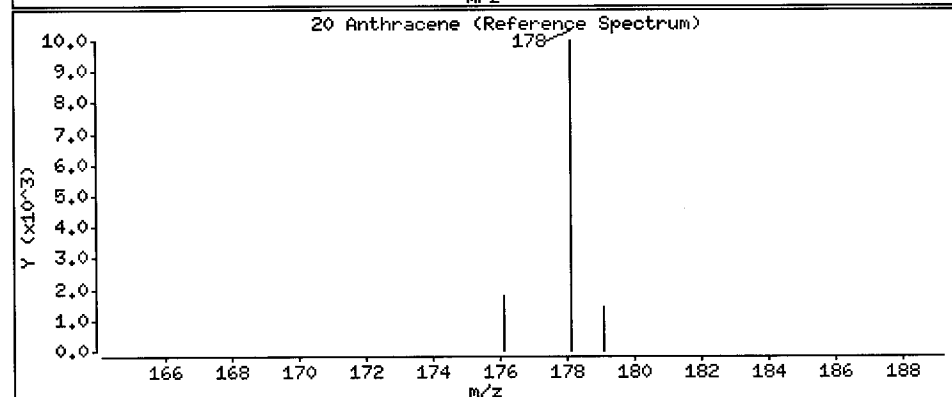
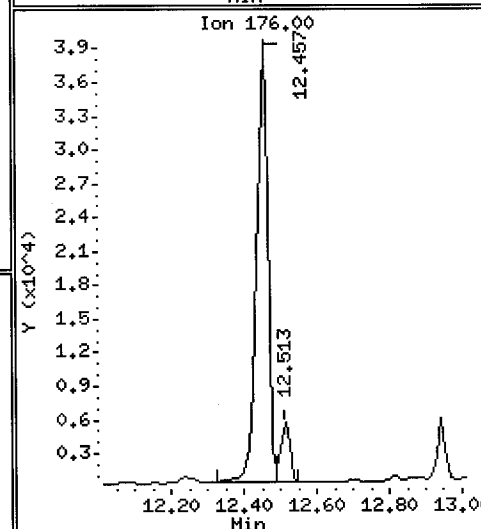
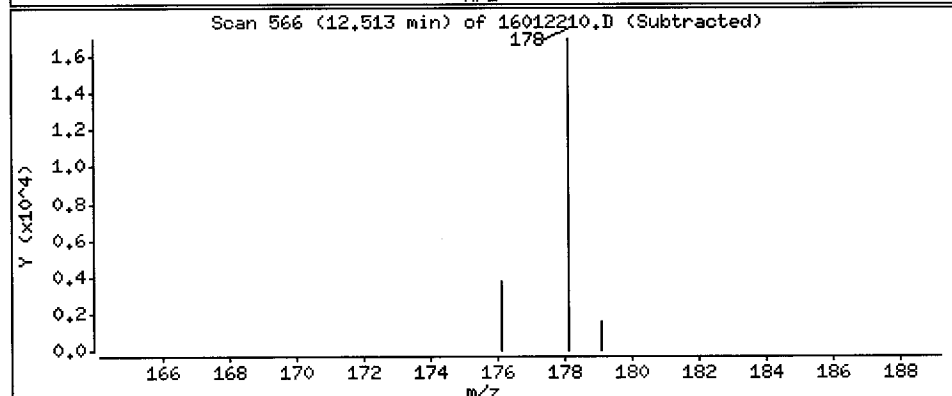
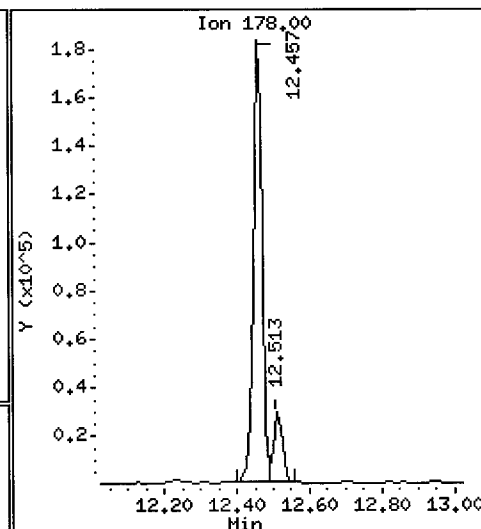
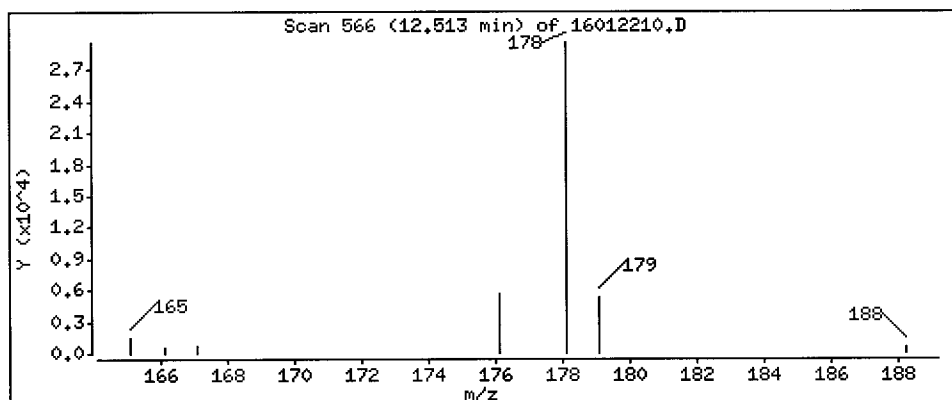
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

20 Anthracene

Concentration: 1030 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

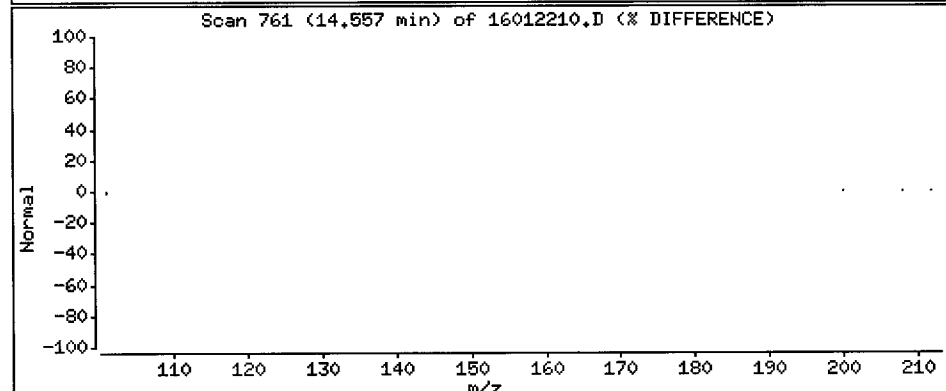
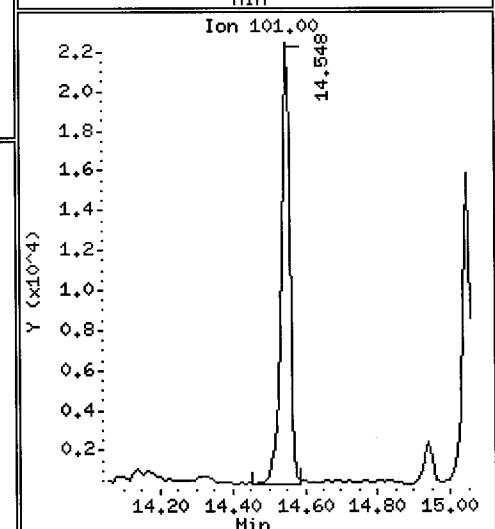
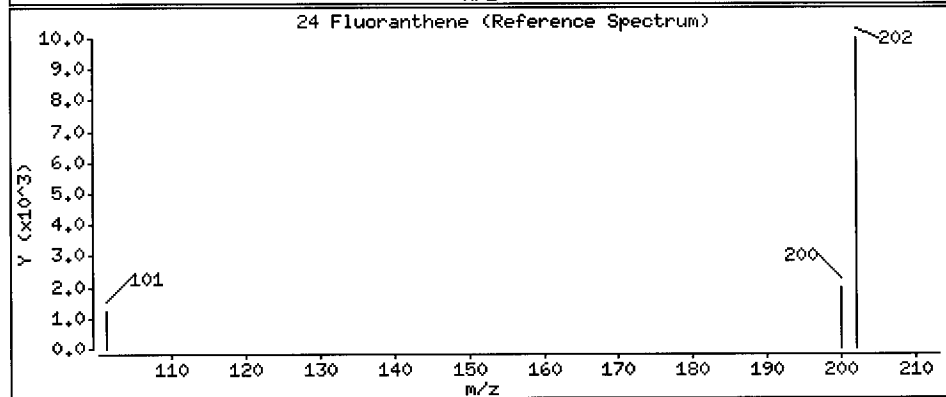
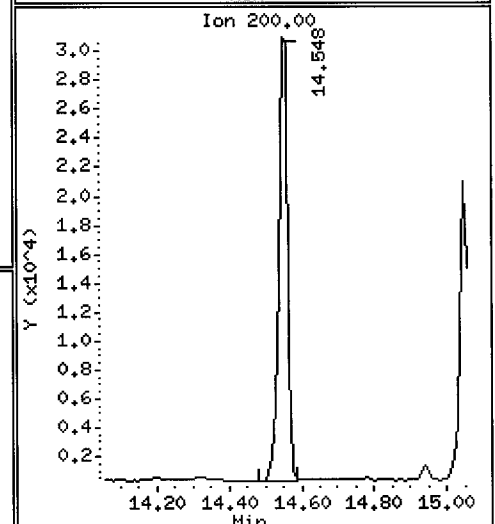
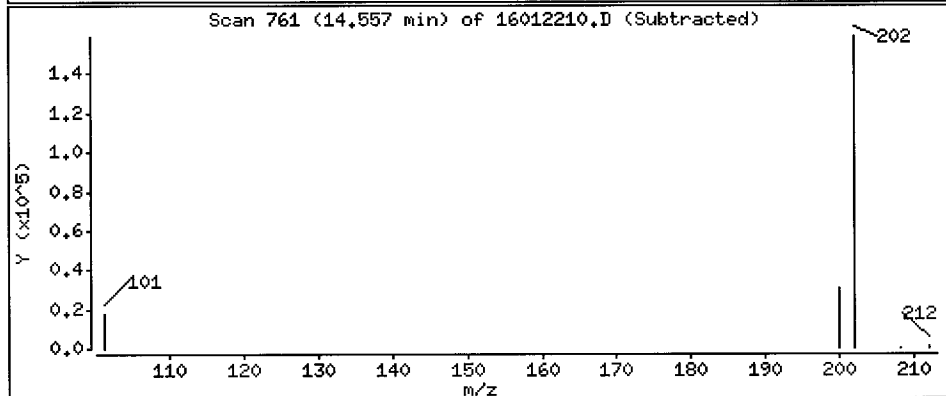
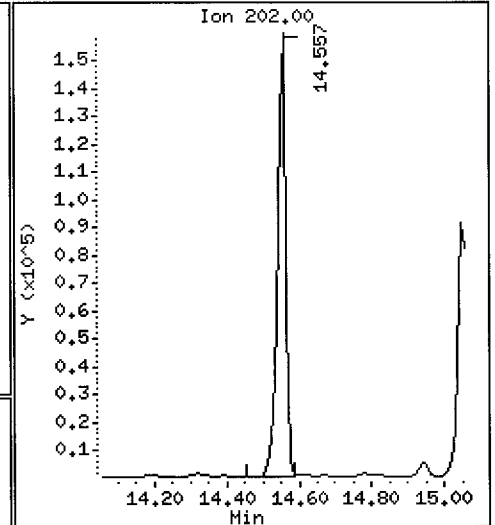
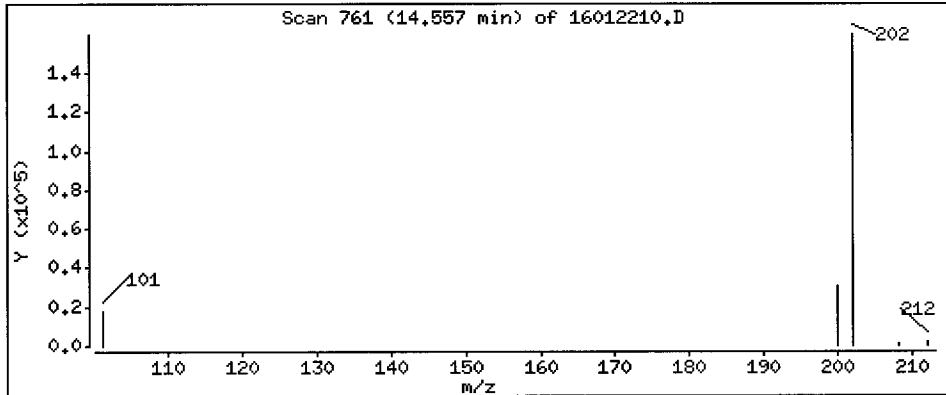
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 4810 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

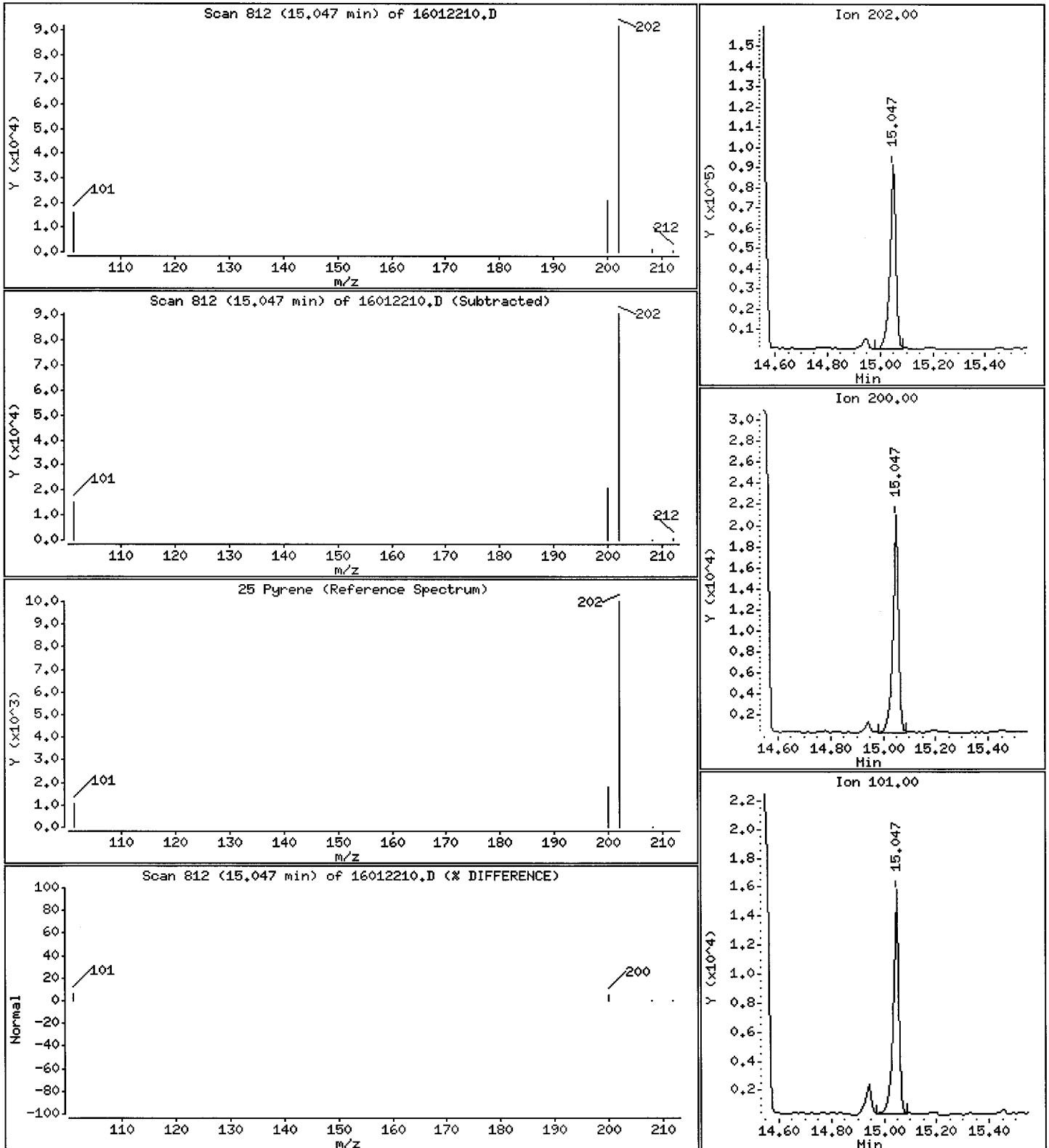
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

25 Pyrene

Concentration: 3180 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

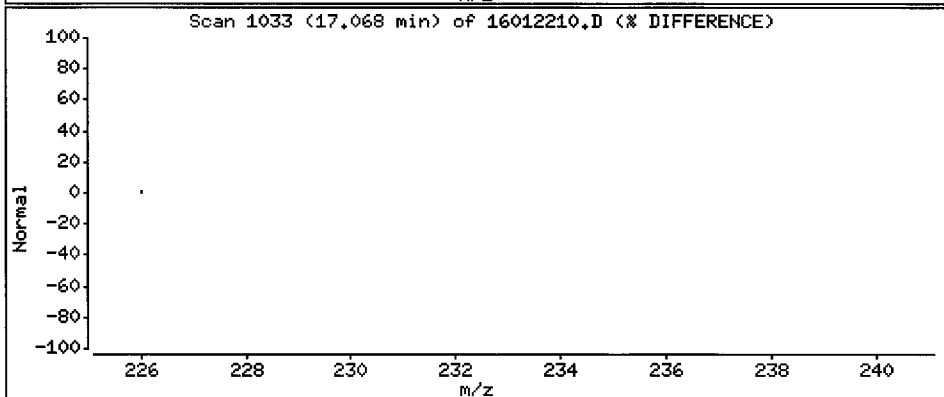
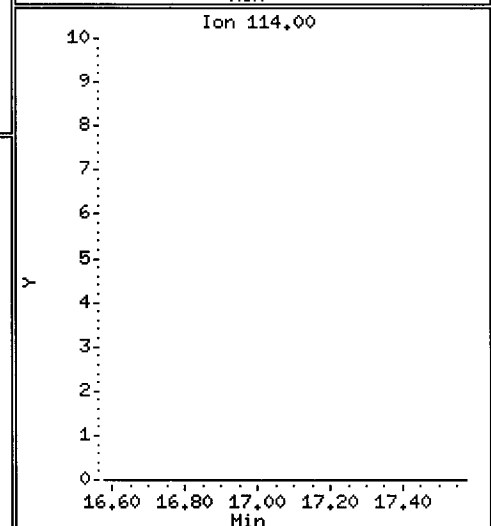
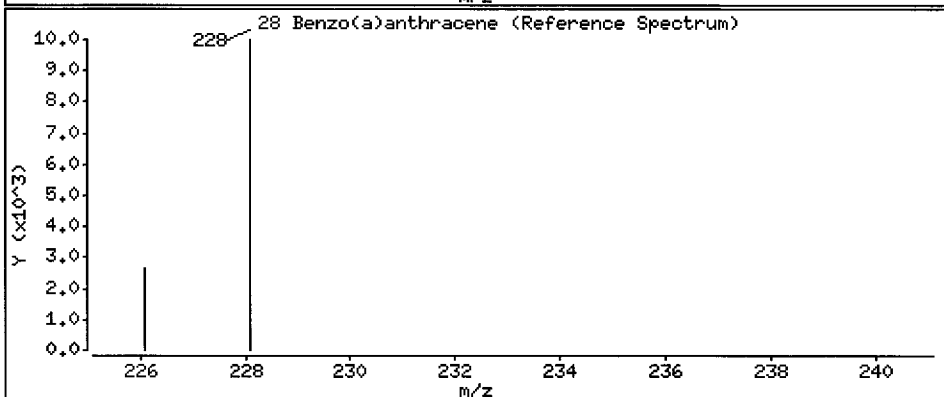
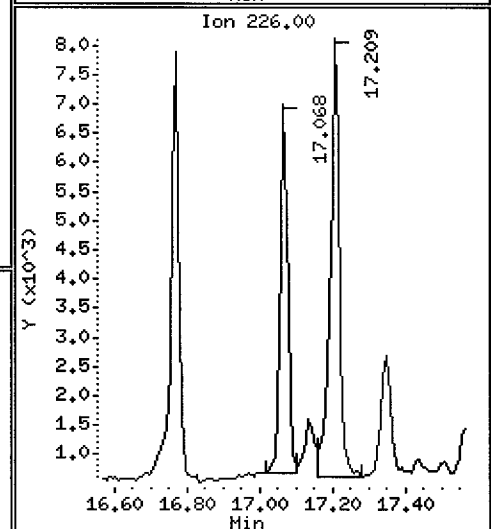
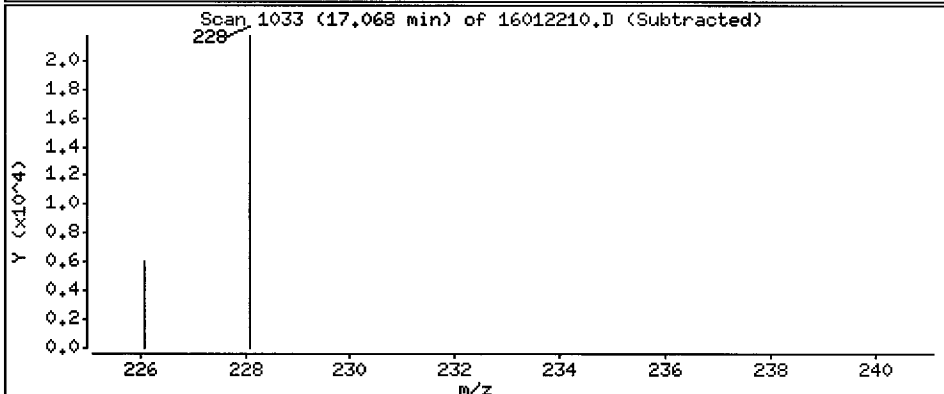
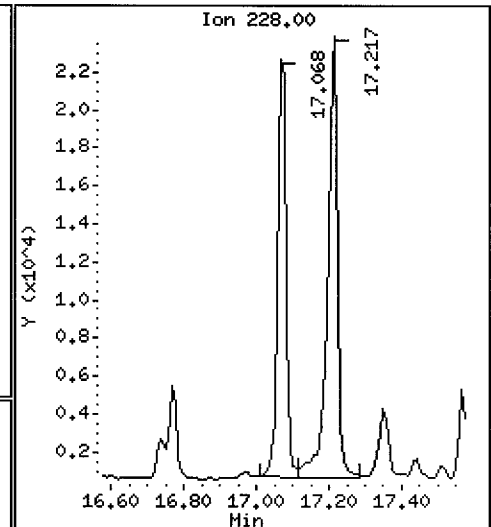
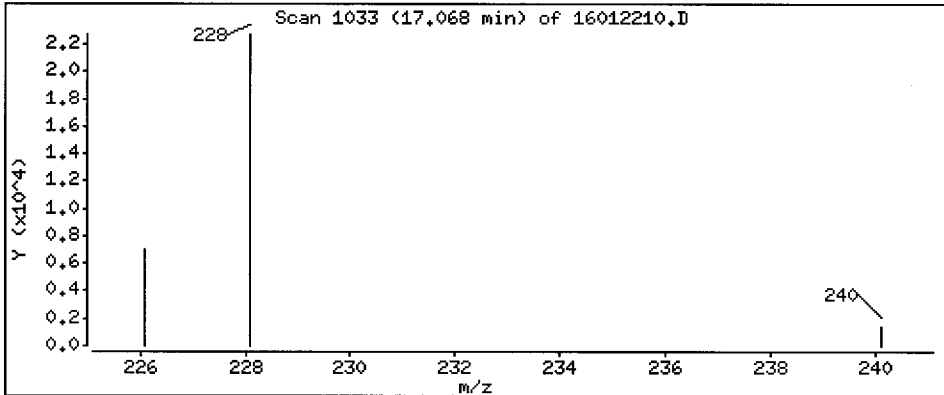
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 859 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

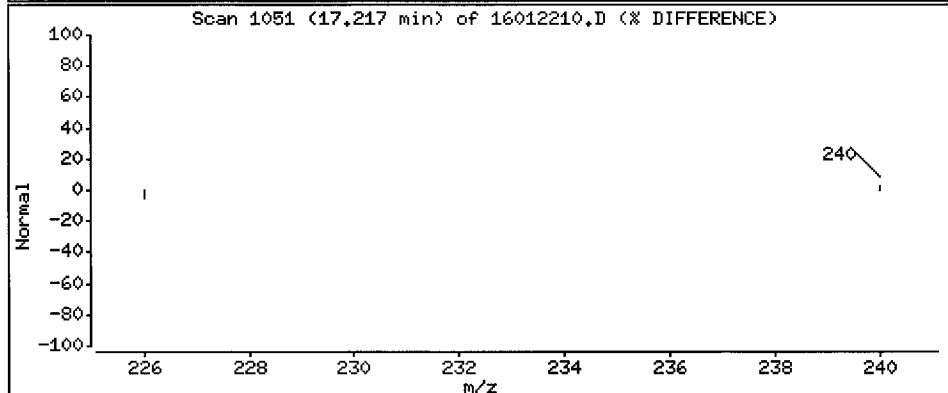
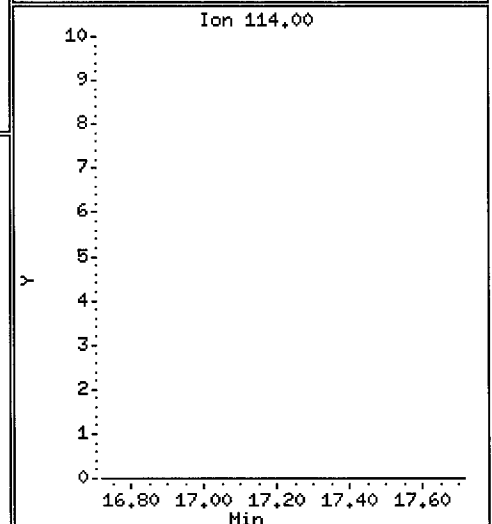
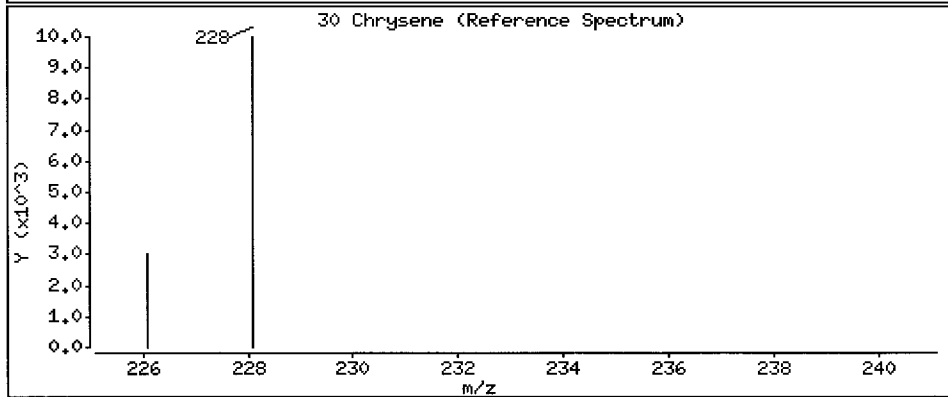
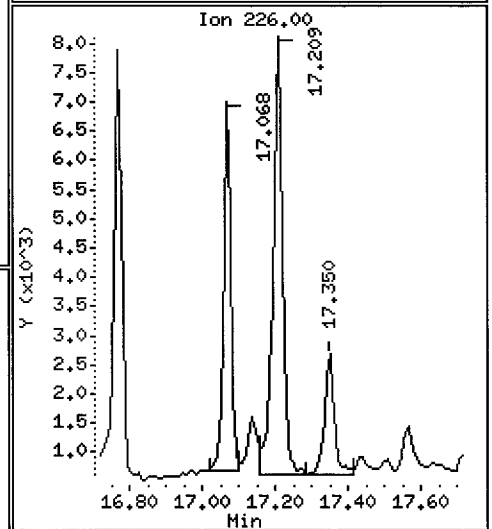
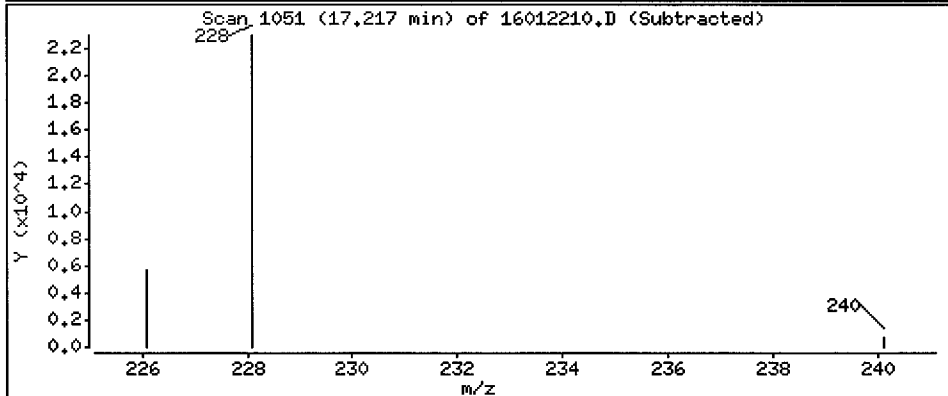
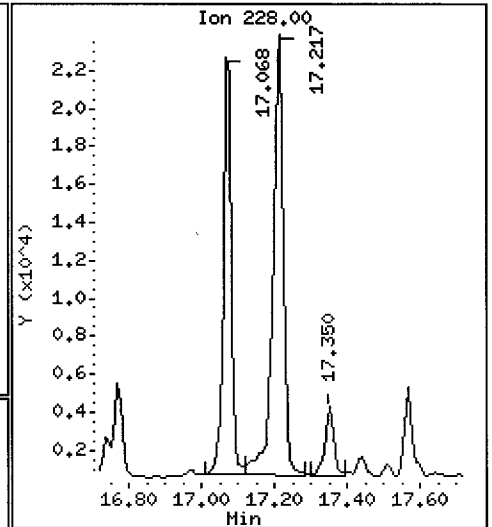
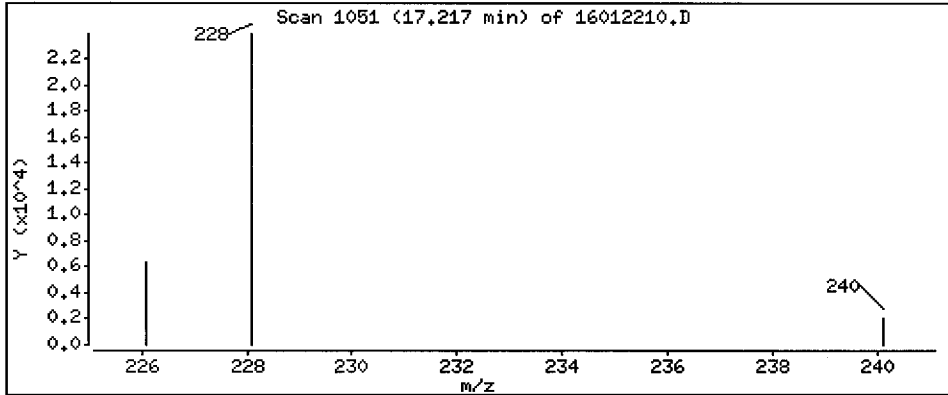
Operator: JH

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Chrysene

Concentration: 1060 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

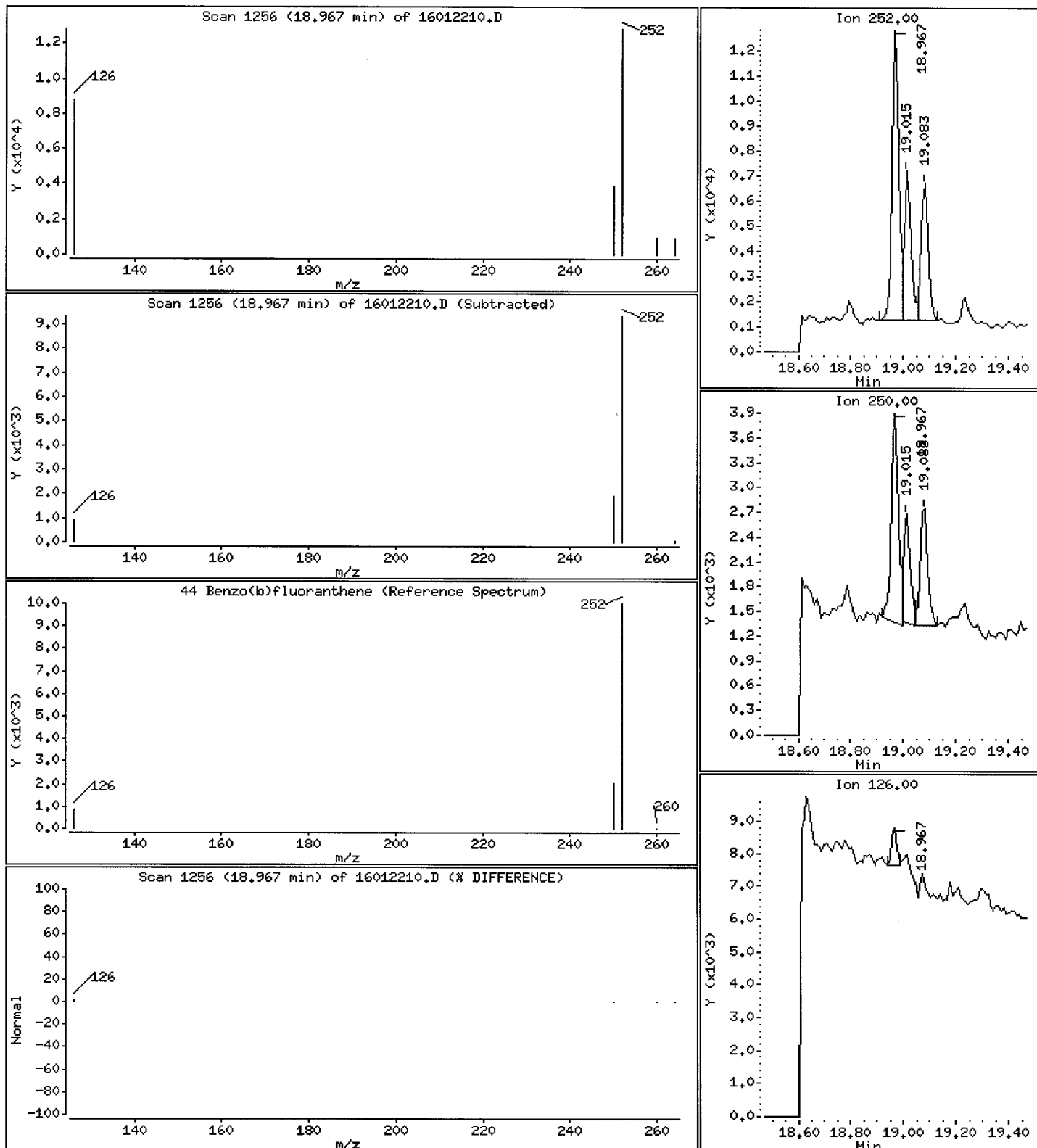
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 504 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

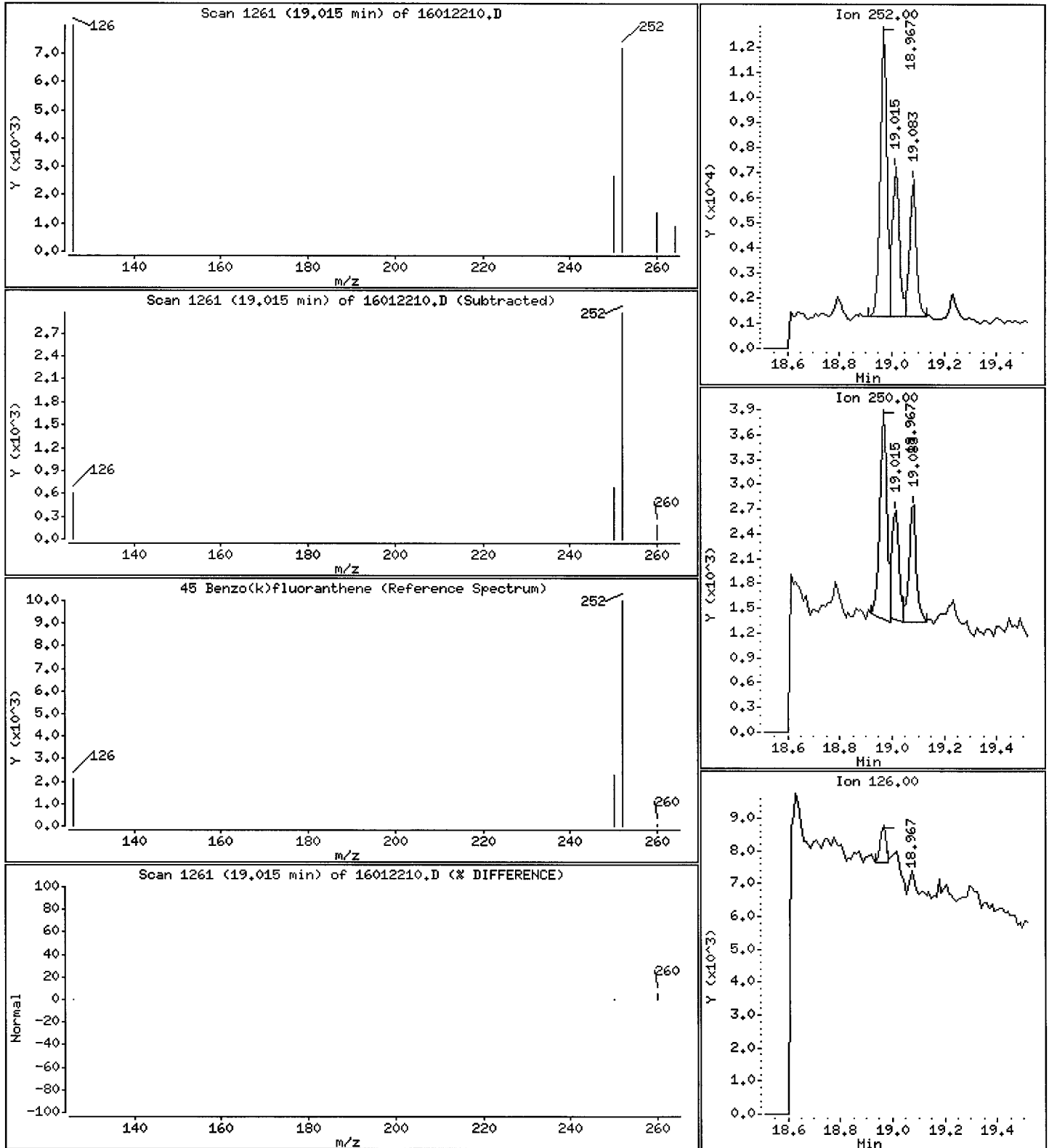
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 244 ug/kg



Date : 22-JAN-2016 11:58

Client ID: PG-T0-MUS-COC-15103

Instrument: nt11.i

Sample Info: APR4A

Volume Injected (uL): 2.0

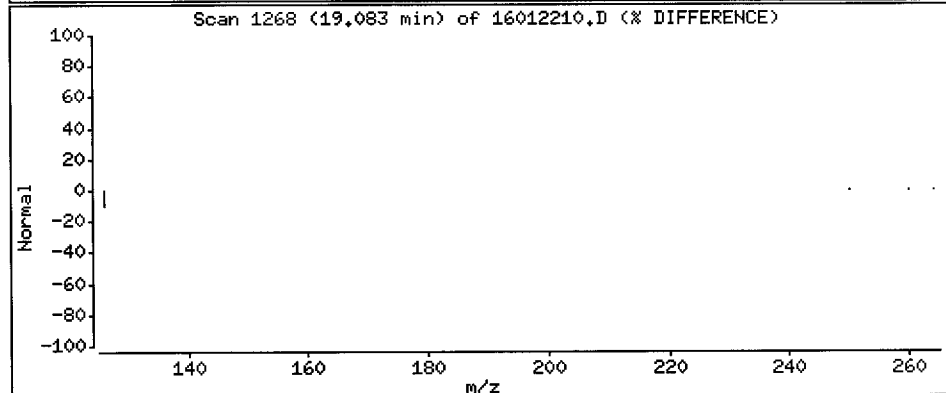
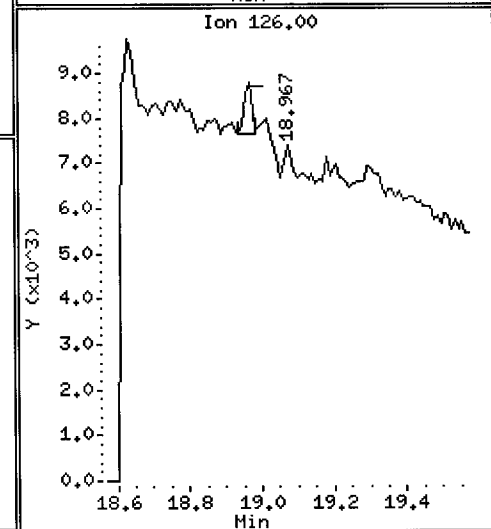
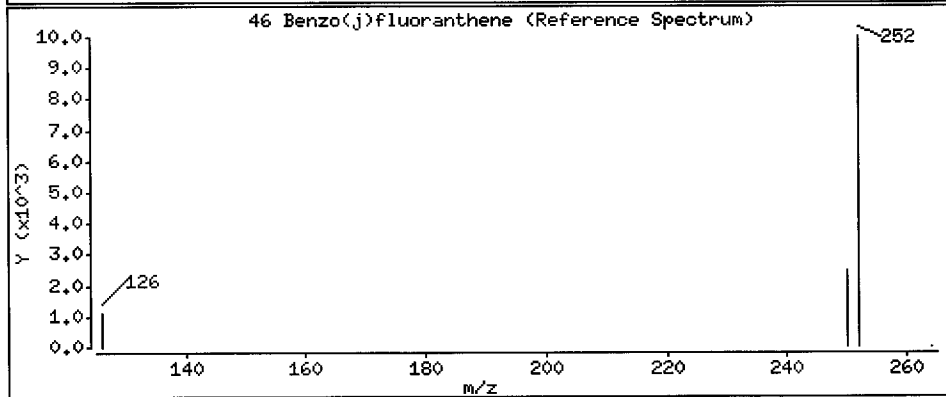
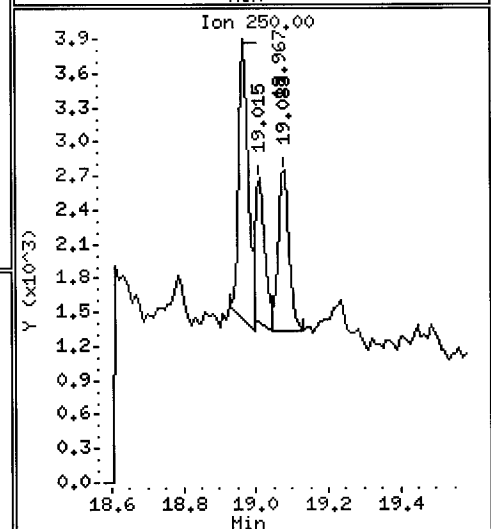
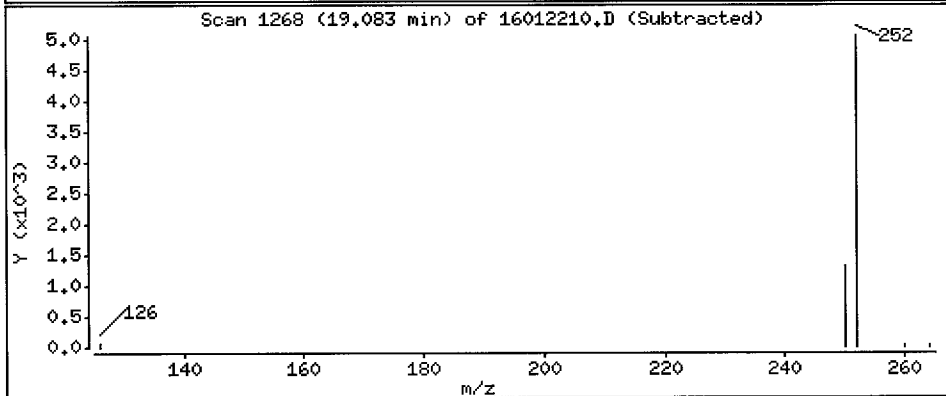
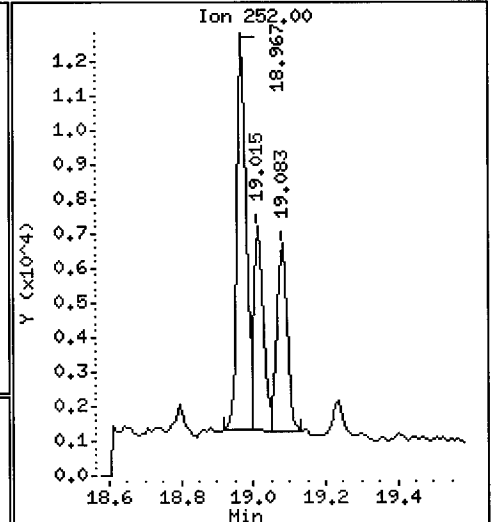
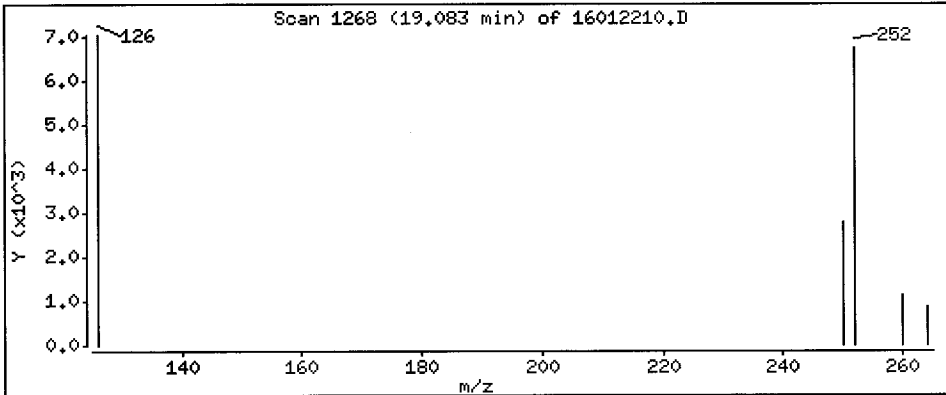
Operator: JH

Column phase: Rxi-17S11 MS

Column diameter: 0.25

46 Benzo(j)fluoranthene

Concentration: 235 ug/kg



Lab ID: APR4A

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 11:58

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

Dioxin Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: APR4



ARI Job No.: APR4

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: Dioxin

Client Project: Port Gumble Clean-up

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input checked="" type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<u>- APR4 - A No client ID Label on the jar for ID check</u>	
<u>The ID on the Lid of sample jar matched the Lims sheet</u>	
	<u>M 1/25/16</u>
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Dioxin Raw Data
Initial Calibration

ARI Job ID: APR4



Dioxin Curve 10/15/15

HR-GC/MS Analyst Notes / Data Review Checklist

ELEMENT/NWA: _____

Client ID: _____

Element Calibration Code: YJ00017

METHOD: 1613B (Dioxins) 8290A (Dioxins)

Instrument: **AutoSpec01**

Analysis Start Date: _____

Resolution Check > 10,000ppm ^{REVIEW 1/REVIEW 2} Y/N/ _____

Signal / Noise ≥ 3.0 ? ^{REVIEW 1/REVIEW 2} Y/N/ _____

TCDD /TCDF Resolution $\leq 25\%$ Y/N/ _____

Extraction STD Limits Met? Y/N/ _____

PCDF Windows Verified Y/N/ _____

Cleanup STD Limits Met? Y/N/ _____

ICV/CCV %D limits met? Y/N/ _____

Method Blank in Control? Y/N/ _____

ICV/CCV Ratios limits met? Y/N/ _____

OPR Recovery Limits Met? Y/N/ _____

ICV/CCV RRT limits met? Y/N/ _____

Values Exceeding Curve Range? Y/N/ _____

Manual Integrations? Y/N/ _____

Samples Diluted? Y/N/ _____

VDP Completed? NA/Y/N/ _____

Duplicate Sample RPD $\leq 25\%$? NA/ _____

EPA Case # NA/ _____

Technical Review? / _____

Detail problems, corrective actions and/or other pertinent information below:

- TCDD/TCDF are 5 point curves : CSL - CSS.
- All others are 6 points : CSL - CSS.
- All cpds = 20% RSD. All curves Avg.

(Review 1)Analyst: *Ally* Date: 10/16/15

(Review 2)Peer: _____ Date: _____

(Final Review)Reviewer: _____ Date: _____

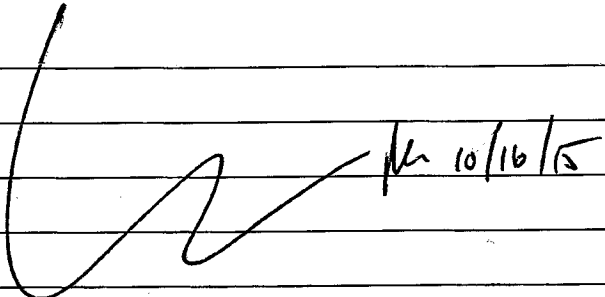
Analytical Resources Inc.: Organics Instrument Log

AutoSpec01 Serial No.: GC=CN10921030, MS=P764

Date: 10/15/15 Analysis: Dioxins Analyst: jk
GC Program: 8290D Column No: D1320 Column Type: RTX DIOXINE
Inj Vol: 1ul Instrument Tune (IPR): 050715 1-5 Detector Voltage: 330
Resolution Check Files: 14:08, 21:21 Curve Date: 10/15/15

IS/SS	Ical/Ccal	LCS/ICV
	D623	
D1086	C125	D621
	D4214	B2539
		B2536
		C3204
		C2712

#	Acq.Date	Acq.Time	File	ID	Comments
1	15-Oct-15	13:06:33	15101502	CS3WD	
2	15-Oct-15	14:11:47	15101503	ISC01	
3	15-Oct-15	15:02:44	15101504	CSL	
4	15-Oct-15	16:02:00	15101505	CS1	
5	15-Oct-15	16:52:59	15101506	CS2	
6	15-Oct-15	17:45:44	15101507	CS3	
7	15-Oct-15	18:38:36	15101508	CS4	
8	15-Oct-15	19:31:22	15101509	CS5	
9	15-Oct-15	20:24:17	15101510	ICV	
10	15-Oct-15	21:21:51	15101511	ISC02	

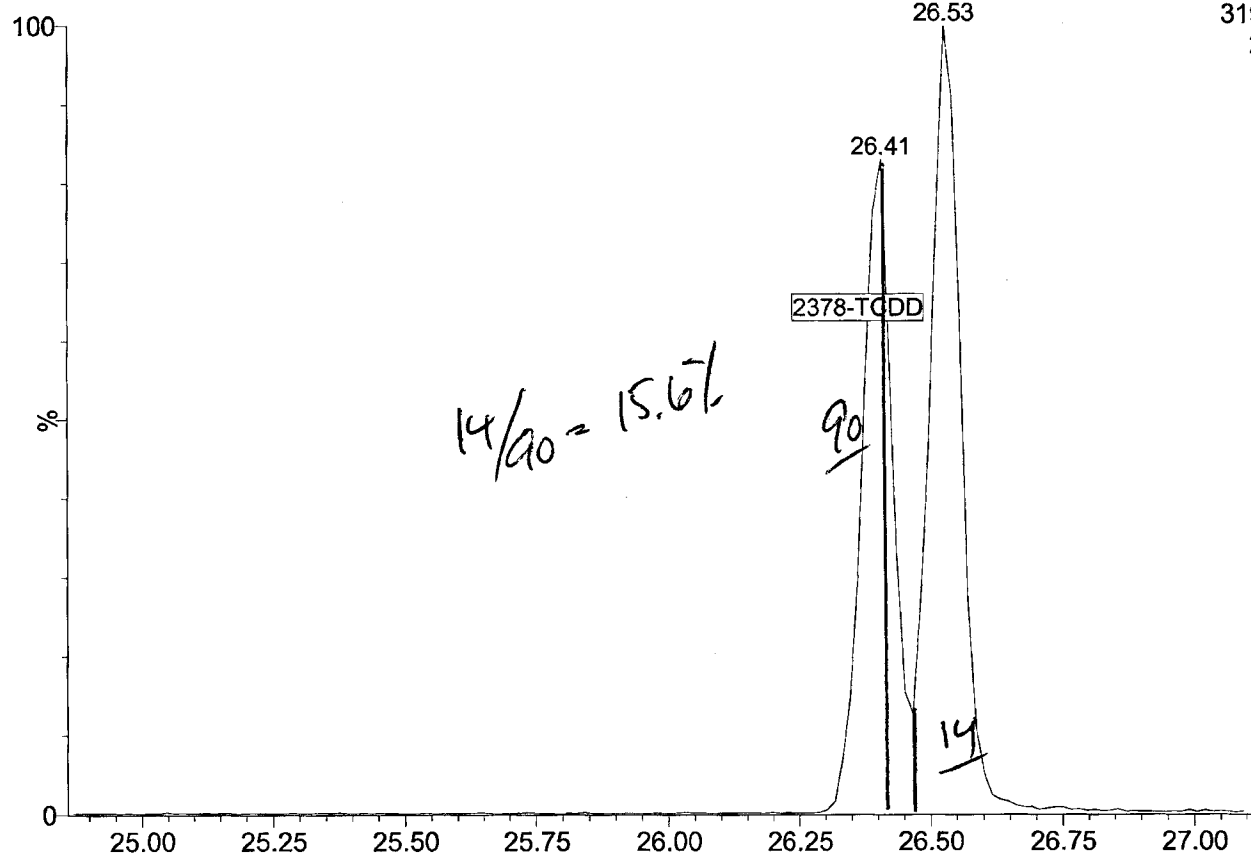


jk 10/16/15

Every line must contain information or be lined out. Make all entries legible.
Start a new page for each QC period. Document All Maintenance Tasks In Element LIMS

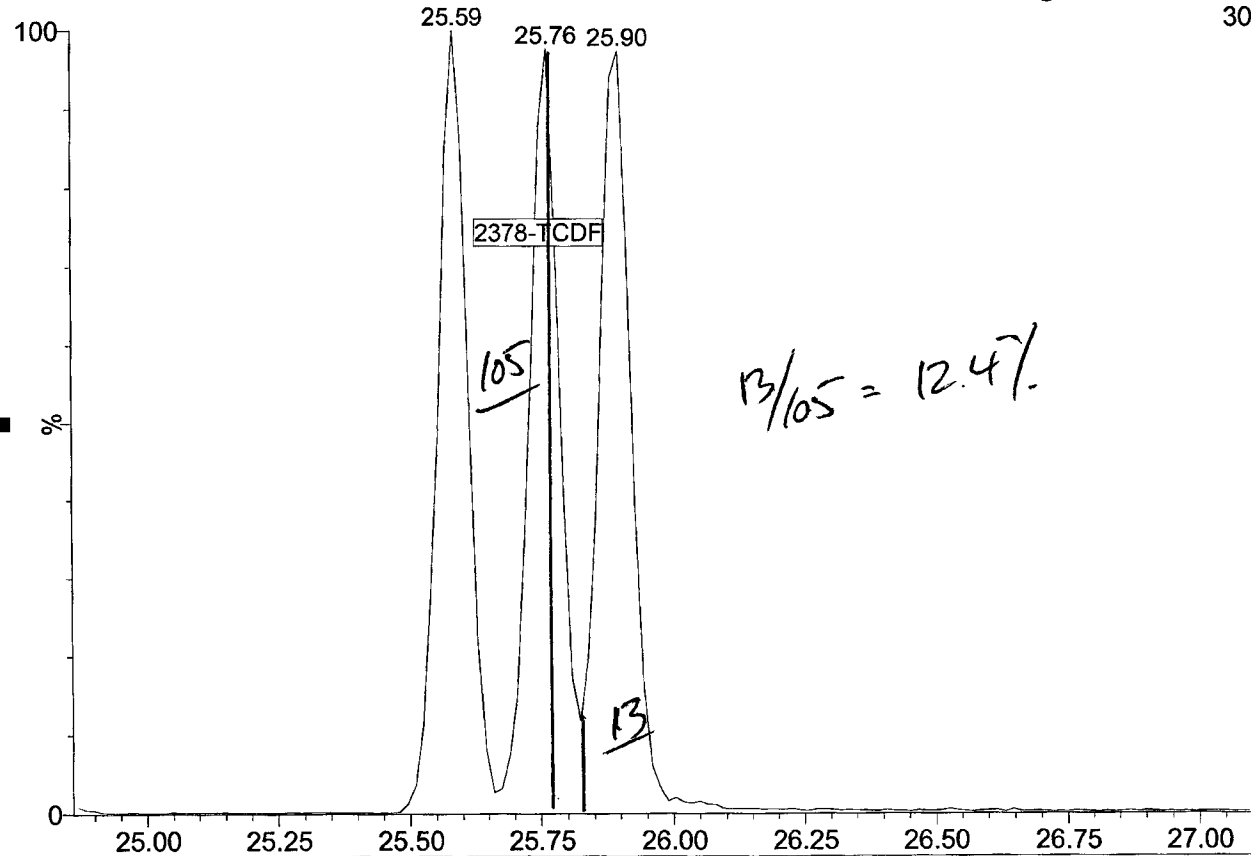
15101503

1: Voltage SIR 15 Channels EI+
319.8965
2.05e6



15101503

1: Voltage SIR 15 Channels EI+
303.9016
2.00e6



15101511

100
%

1: Voltage SIR 15 Channels EI+
319.8965
2.21e6

25.00 25.25 25.50 25.75 26.00 26.25 26.50 26.75 27.00

$16/86 = 18.6\%$

2378-TCDD

26.41

26.54

86

16

15101511

100
%

1: Voltage SIR 15 Channels EI+
303.9016
2.08e6

25.00 25.25 25.50 25.75 26.00 26.25 26.50 26.75 27.00 Time

25.58

25.76

25.90

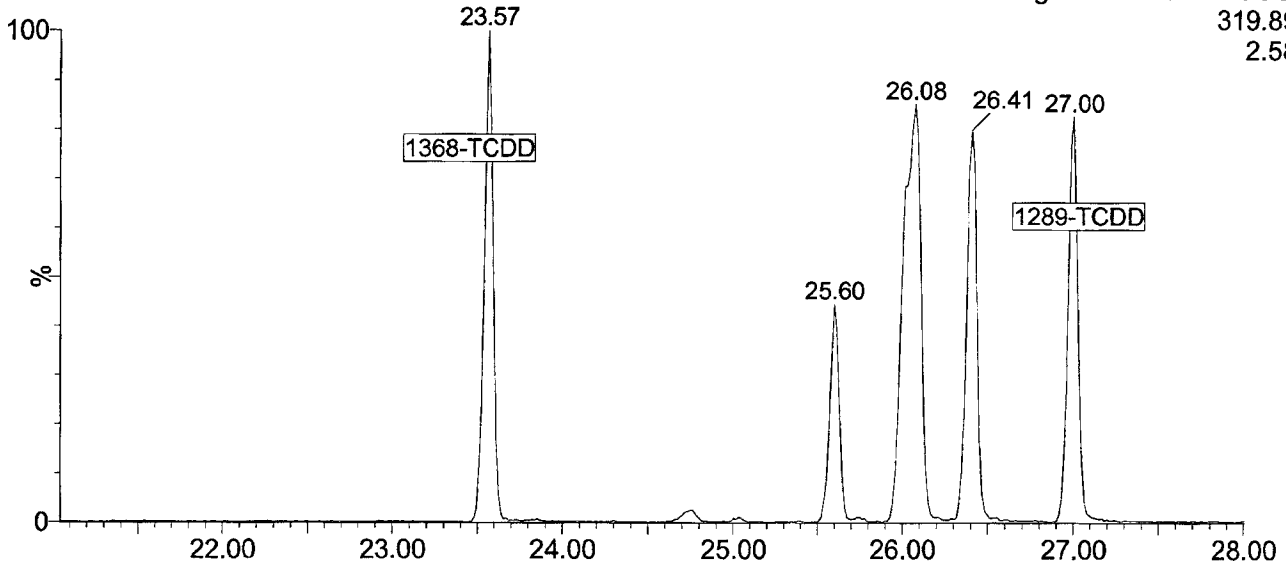
2378-TCDF

99

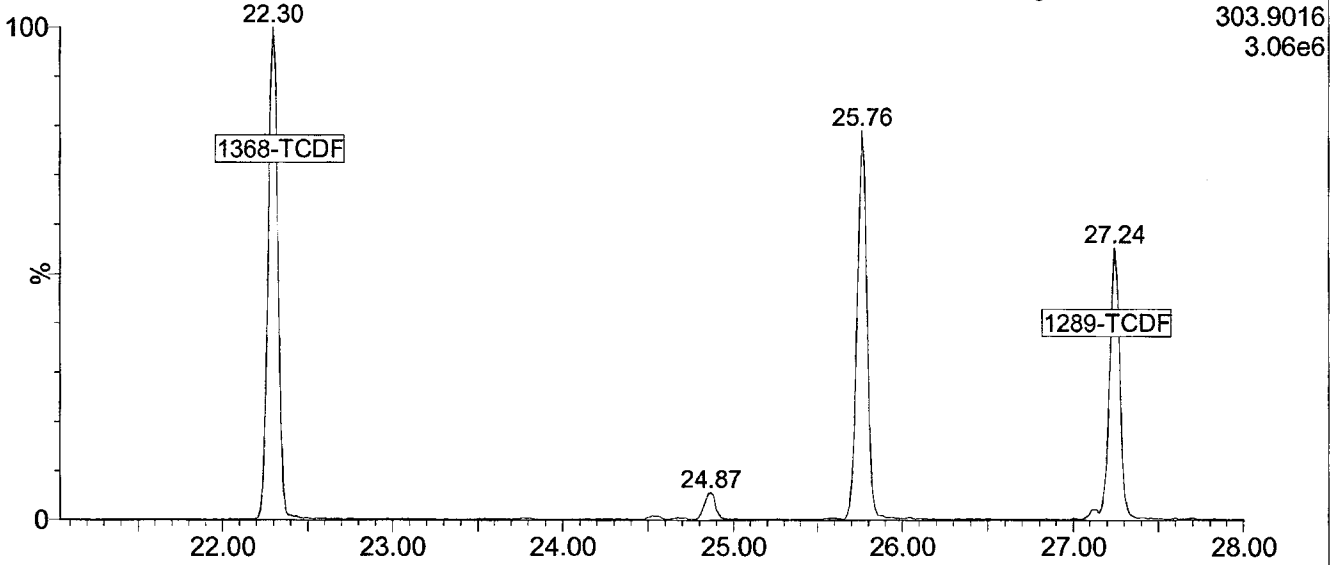
$15/99 = 15.2\%$

15

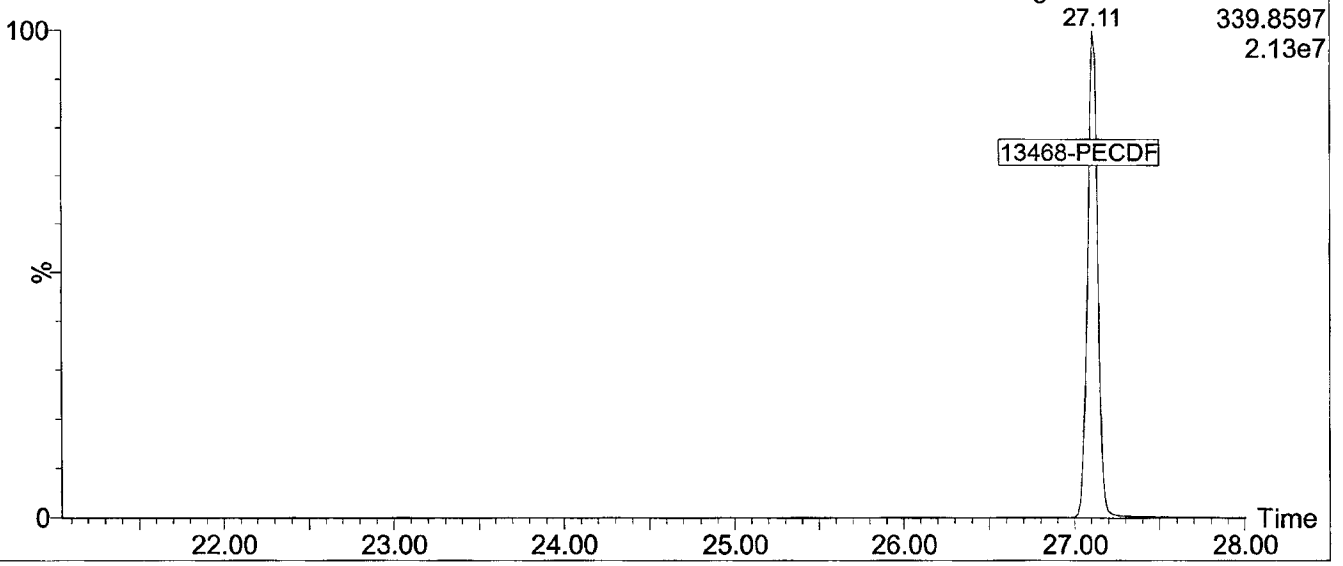
15101602



15101602



15101602

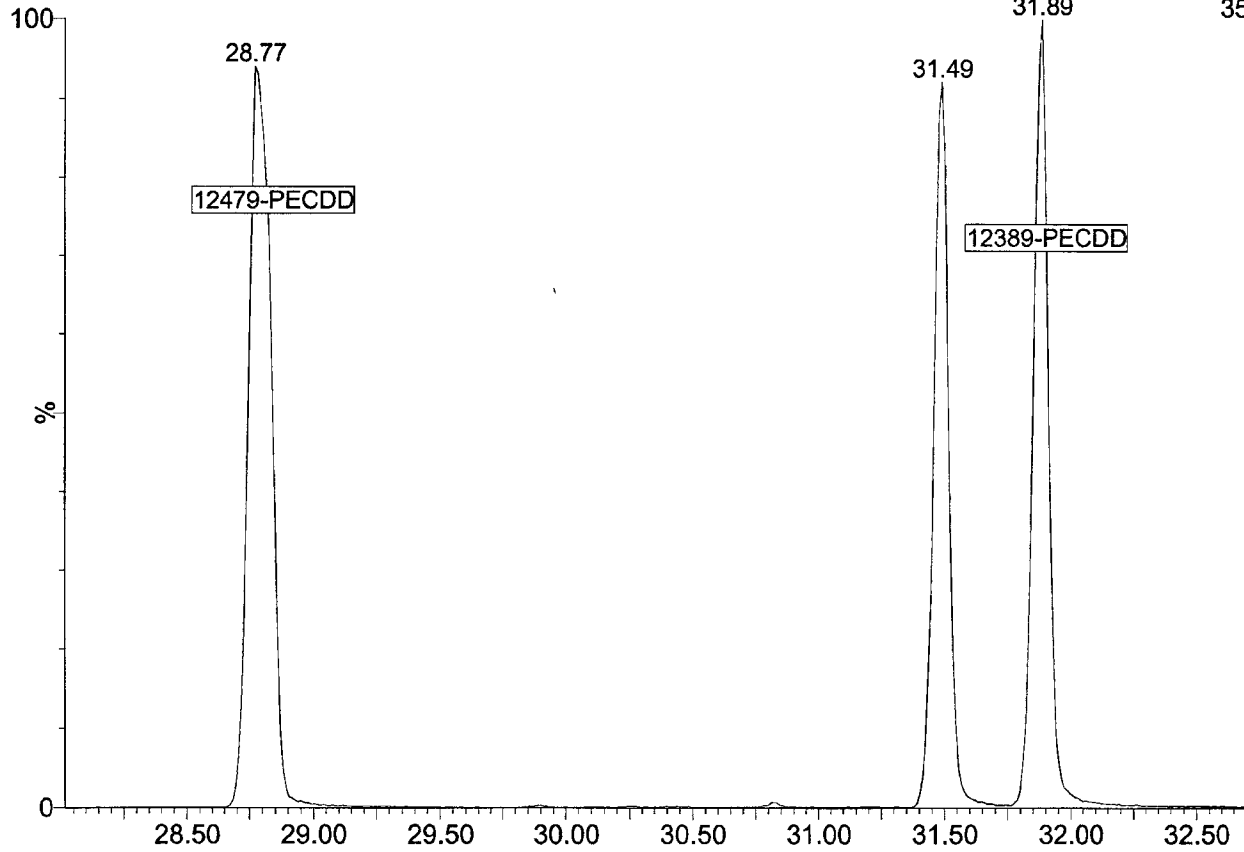


15101602

2: Voltage SIR 11 Channels EI+

355.8546

1.11e7

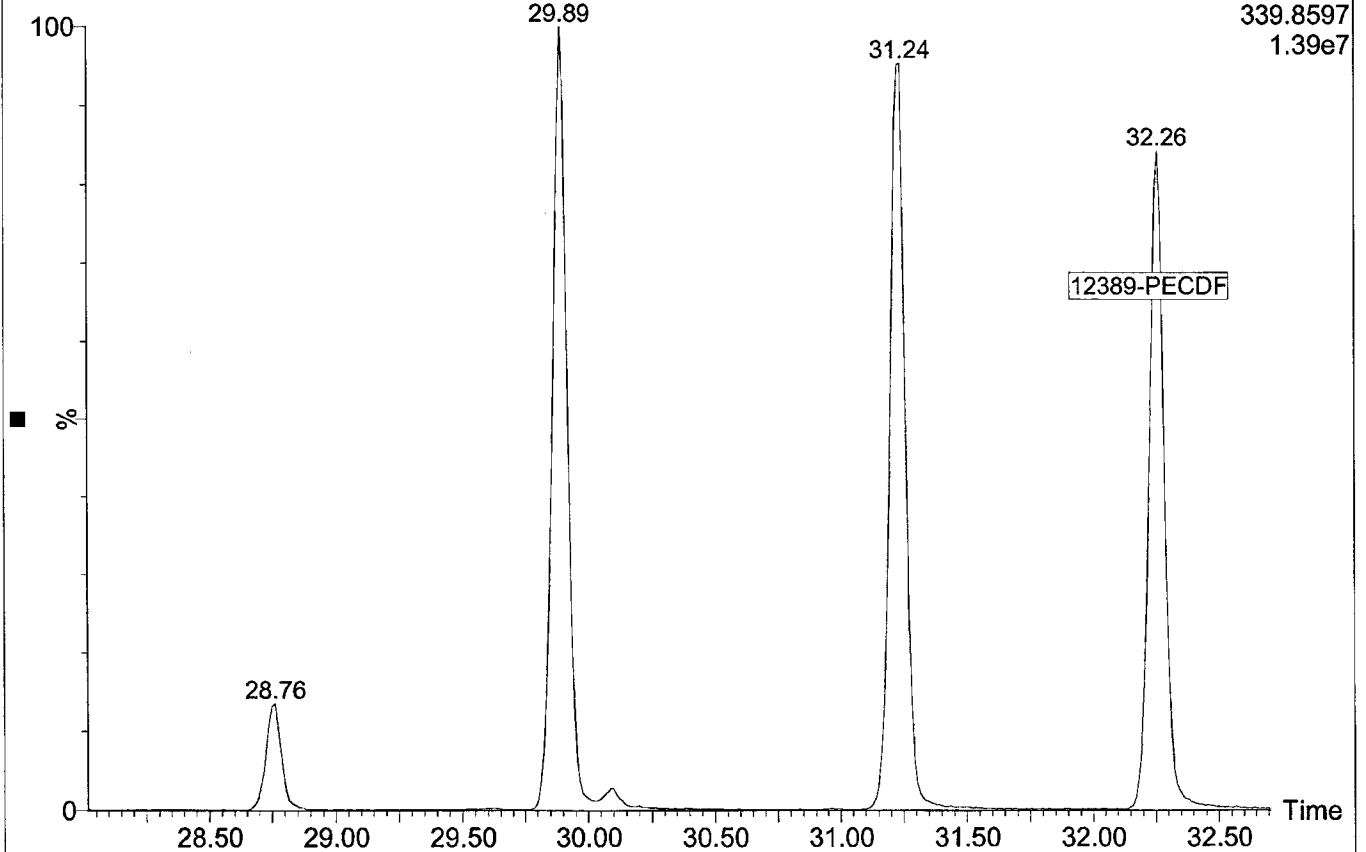


15101602

2: Voltage SIR 11 Channels EI+

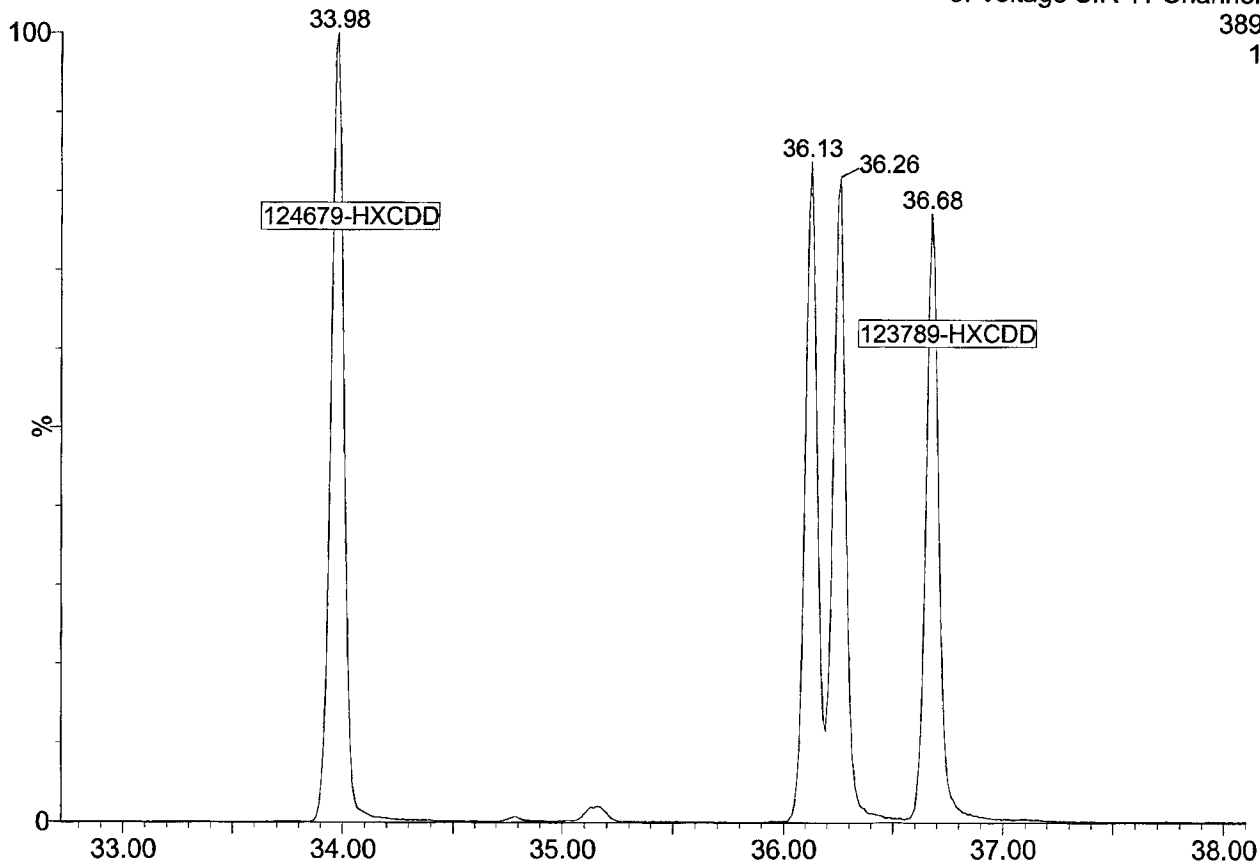
339.8597

1.39e7



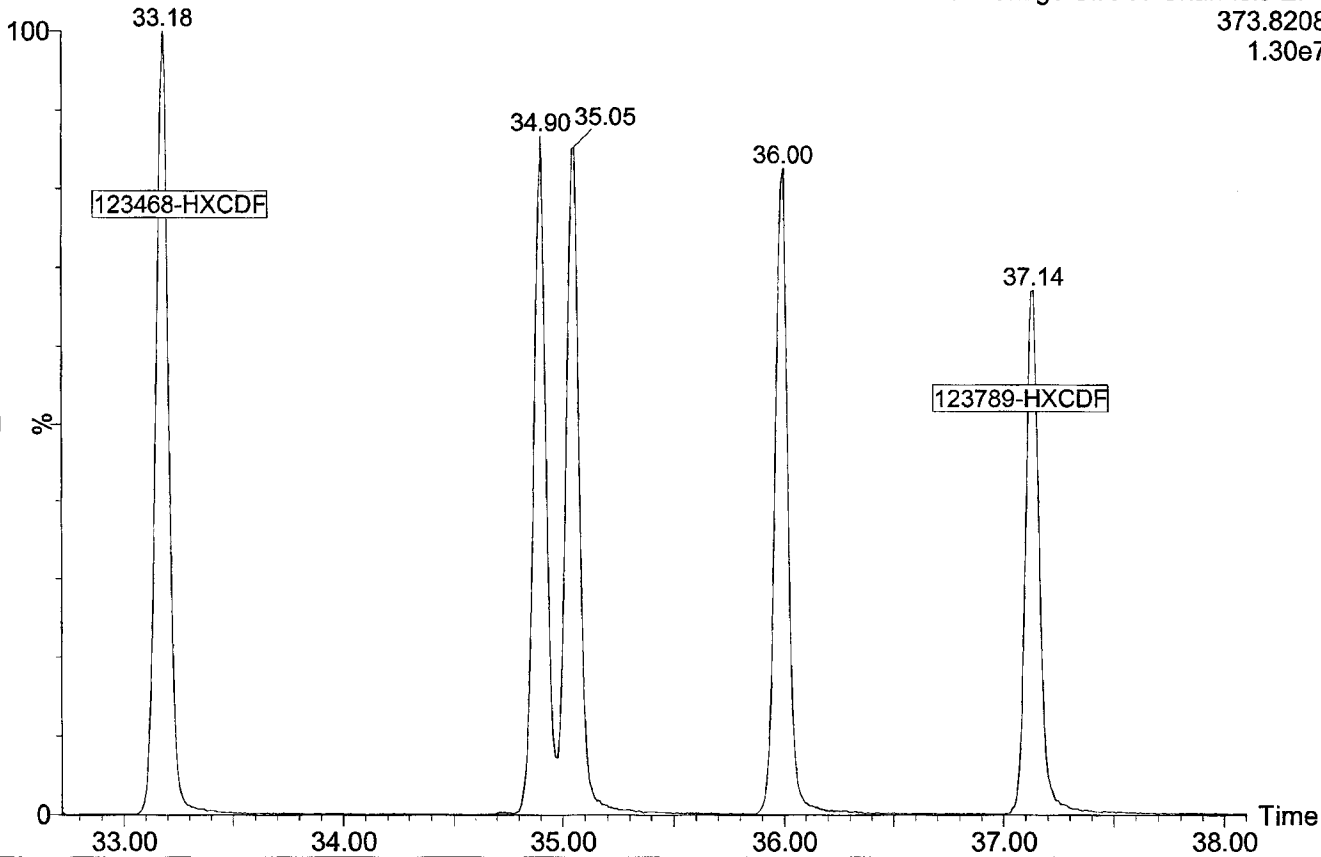
15101602

3: Voltage SIR 11 Channels EI+
389.8157
1.16e7



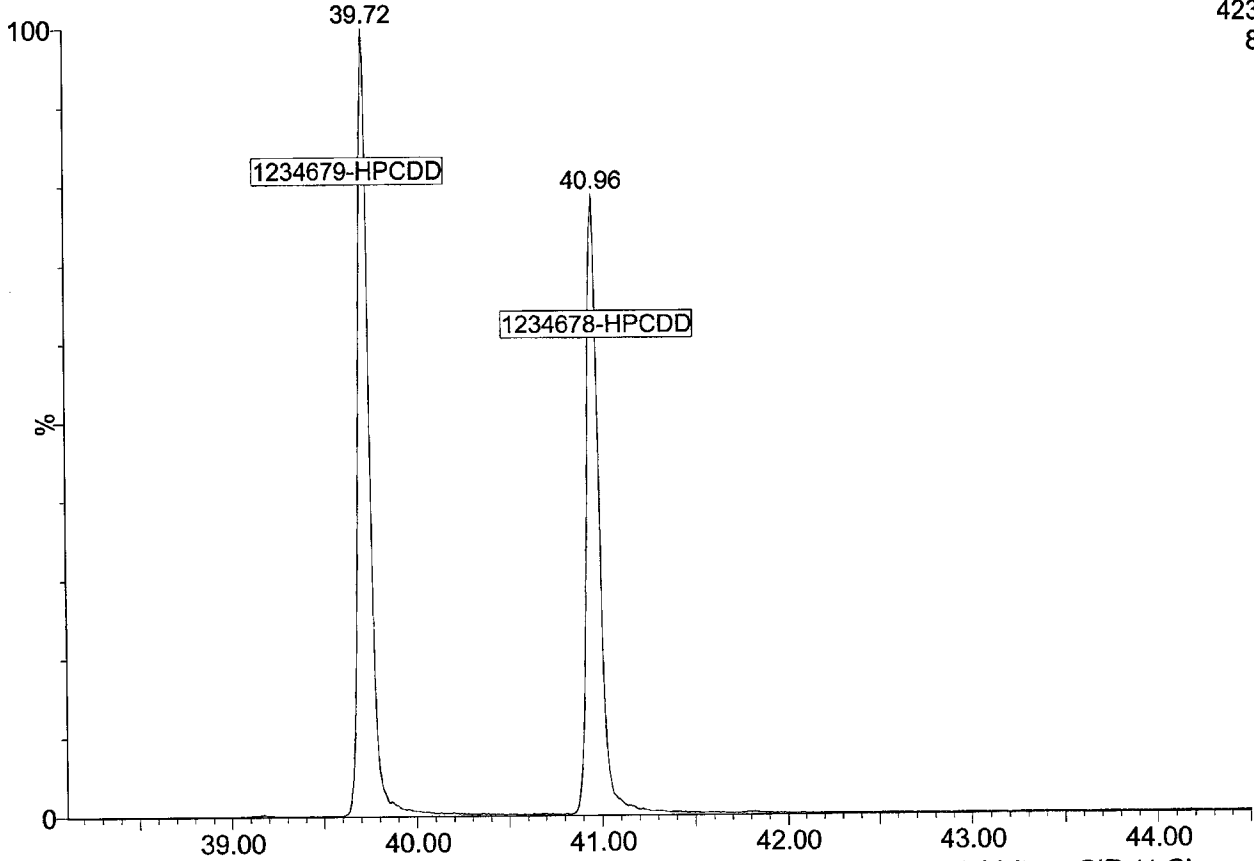
15101602

3: Voltage SIR 11 Channels EI+
373.8208
1.30e7



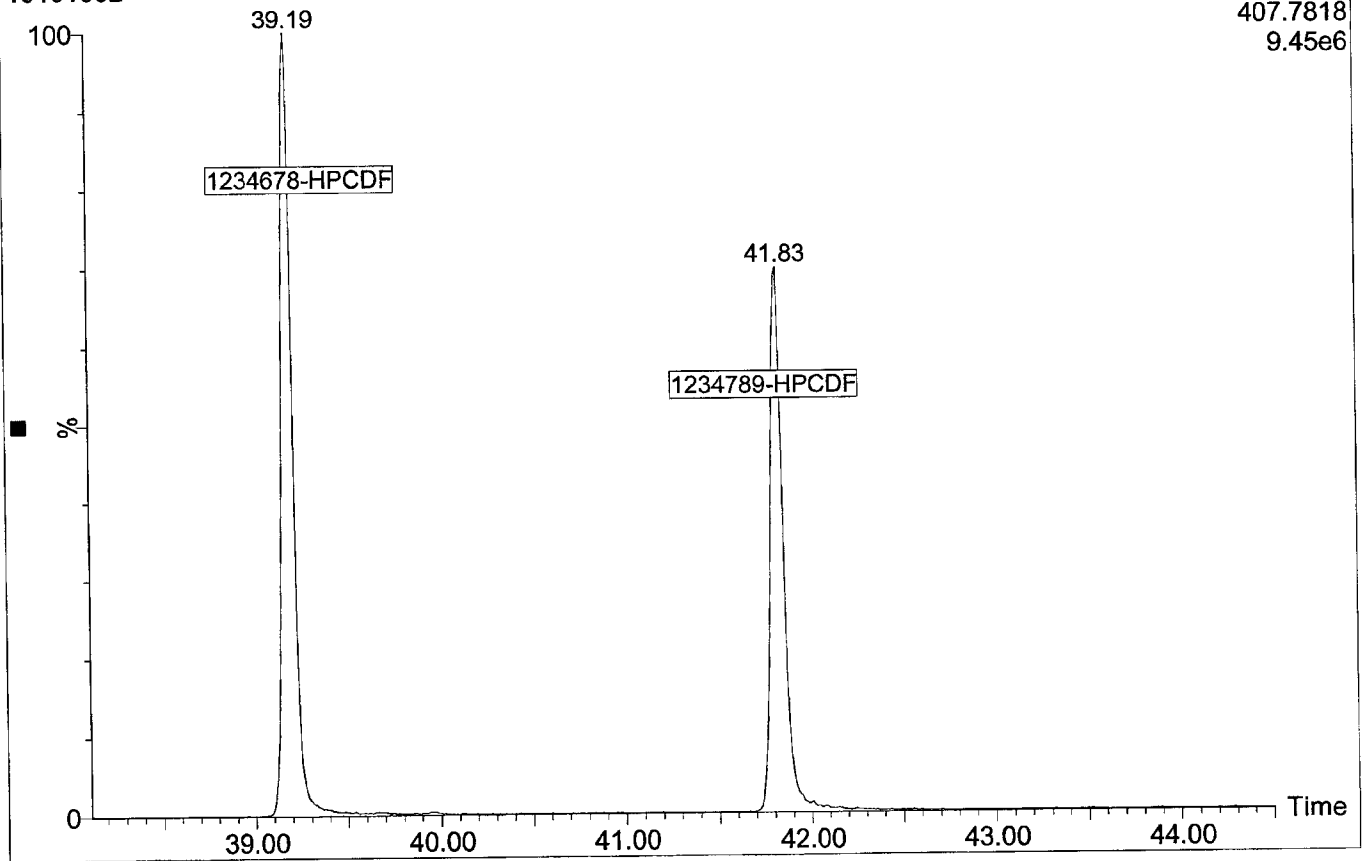
15101602

4: Voltage SIR 11 Channels EI+
423.7766
8.40e6



15101602

4: Voltage SIR 11 Channels EI+
407.7818
9.45e6

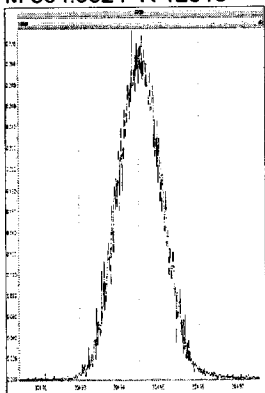


Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 11:05:14 Pacific Daylight Time

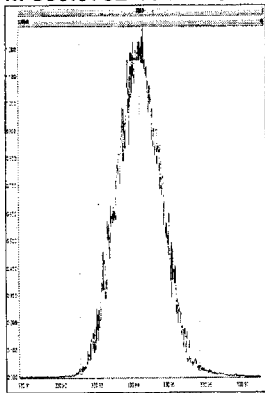
Event	Details	Sample ID
Process Quantify		
Process Integrate		
Process Extract		
Process Calibrate		
Pre modification peak	Sample:15101504, Compound:HF, RT:35.021	1
Pre modification peak	Sample:15101504, Compound:HF, RT:35.032	1
Pre modification peak	Sample:15101505, Compound:TF, RT:25.749	2
Pre modification peak	Sample:15101505, Compound:HPF, RT:41.805	2
Pre modification peak	Sample:15101506, Compound:TF, RT:25.735	3
Pre modification peak	Sample:15101506, Compound:TF, RT:25.735	3
Pre modification peak	Sample:15101504, Compound:PF, RT:31.206	1
Pre modification peak	Sample:15101504, Compound:HD, RT:36.654	1
Pre modification peak	Sample:15101505, Compound:OD, RT:46.682	2
Peak modified	Sample:15101504, Compound:HF, RT:35.021	1
Peak modified	Sample:15101504, Compound:HF, RT:35.032	1
Peak modified	Sample:15101505, Compound:TF, RT:25.749	2
Peak modified	Sample:15101505, Compound:HPF, RT:41.805	2
Peak modified	Sample:15101506, Compound:TF, RT:25.735	3
Peak modified	Sample:15101506, Compound:TF, RT:25.735	3
Peak modified	Sample:15101506, Compound:TF, RT:25.735	3
Peak modified	Sample:15101504, Compound:PF, RT:31.206	1
Peak modified	Sample:15101504, Compound:HD, RT:36.654	1
Peak modified	Sample:15101505, Compound:OD, RT:46.682	2
Peak deleted	Sample:15101504, Compound:TF, RT:25.734	1
Peak deleted	Sample:15101504, Compound:TD, RT:26.377	1
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Dataset Saved	Saved to 'P:\DIOXIN8290.PRO\1510151C.qld'	
Dataset Created		
Calibration Saved	Saved to 'P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb'	

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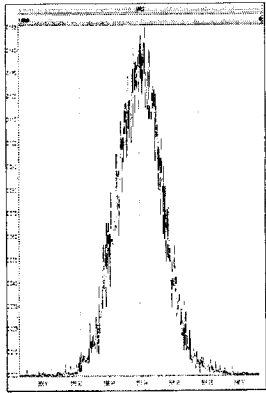
M 304.9824 R 12315



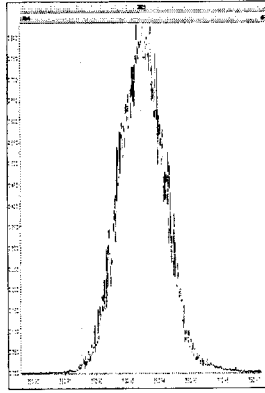
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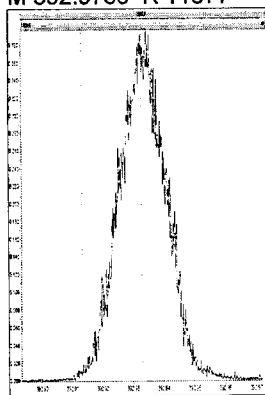
M 366.9792 R 11938



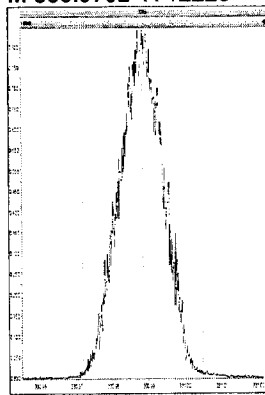
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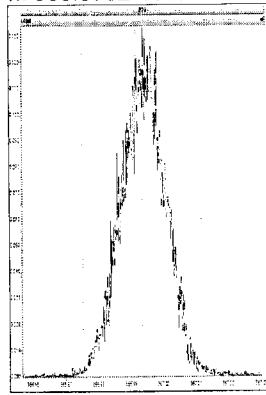
M 392.9760 R 11577



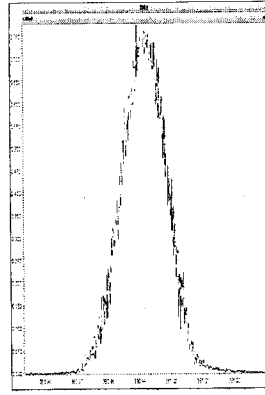
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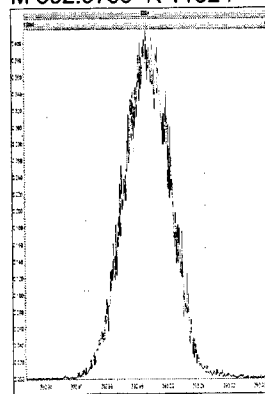
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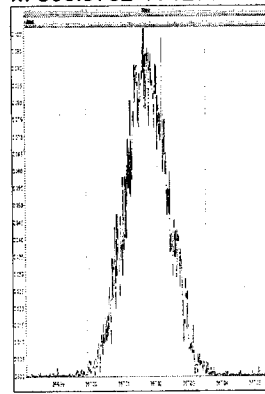
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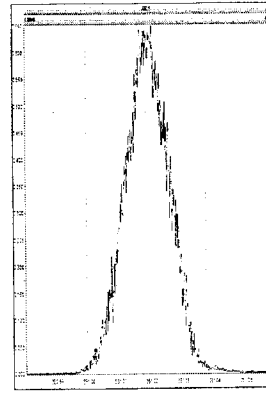
M 392.9760 R 11524



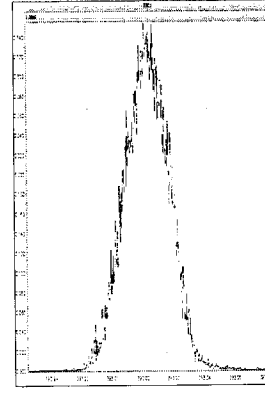
M 366.9792 R 12756



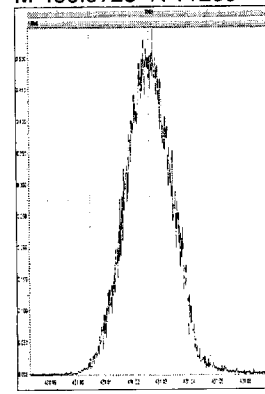
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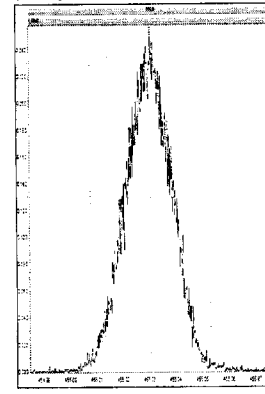
M 392.9760 R 12406



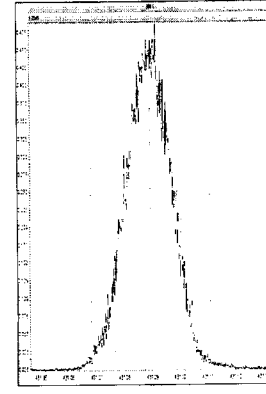
M 430.9728 R 11289



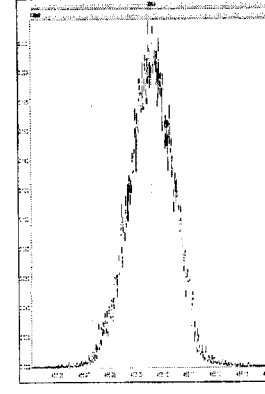
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M 430.9728 R 12165

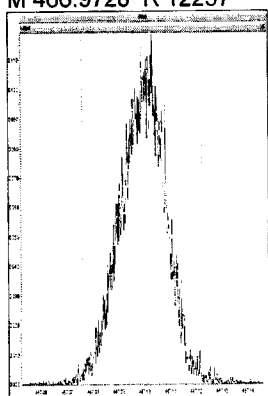


M 454.9728 R 11764

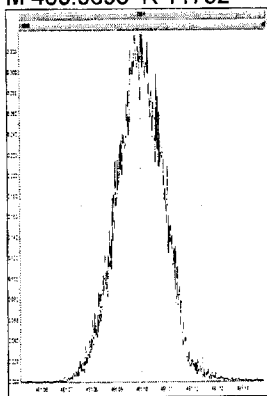


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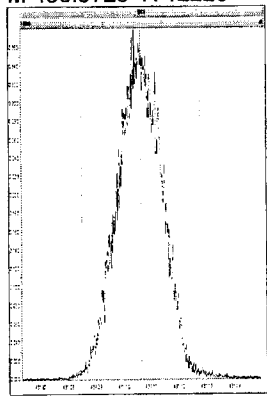
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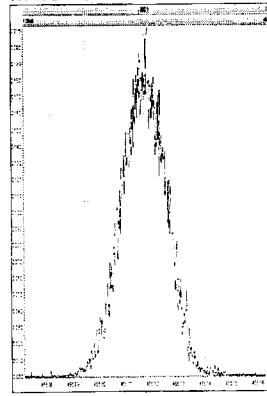
M 480.9696 R 11792



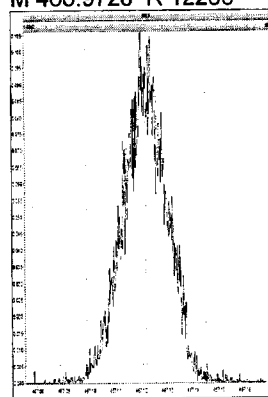
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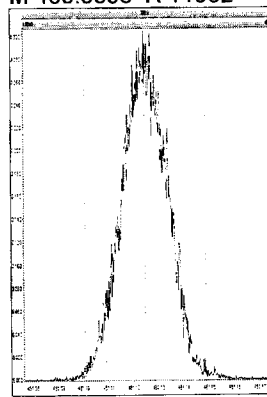
M 454.9728 R 11825



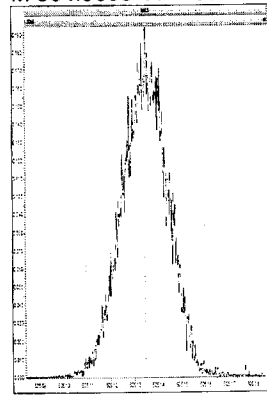
M 466.9728 R 12286



M 480.9696 R 11962

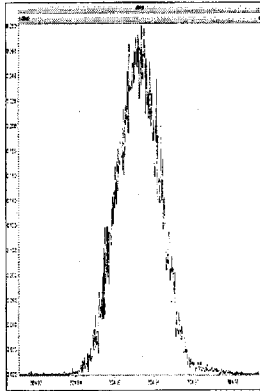


M 504.9696 R 11574

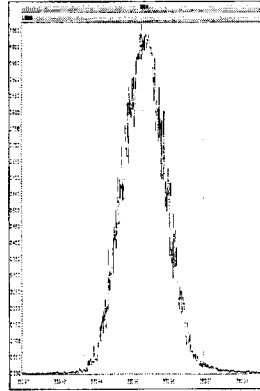


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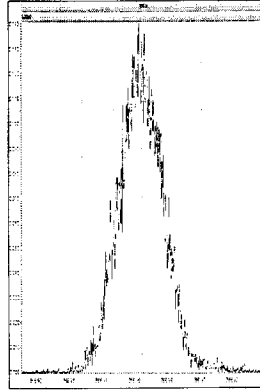
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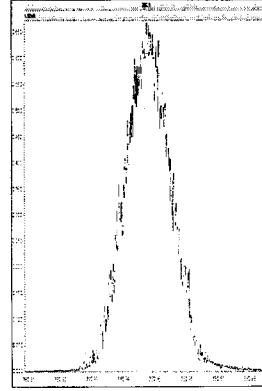
M 330.9792 R 12825



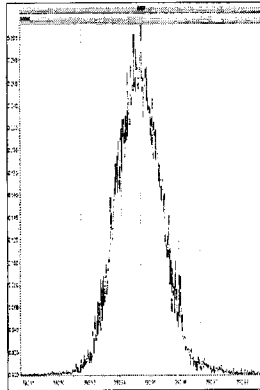
M 366.9792 R 12224



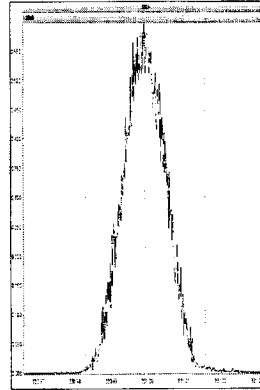
M 380.9760 R 11879



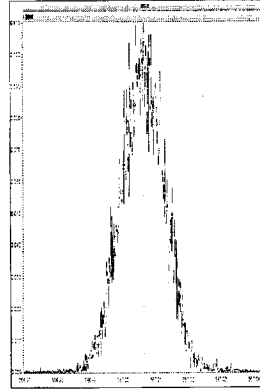
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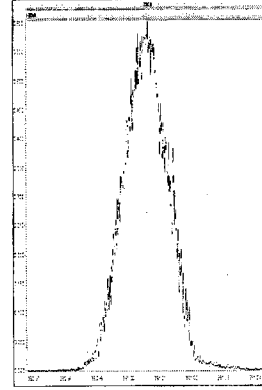
M 330.9792 R 12820



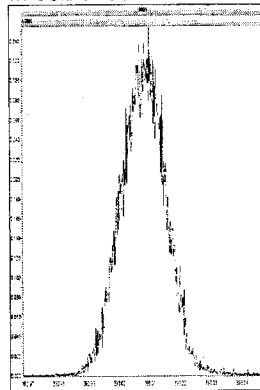
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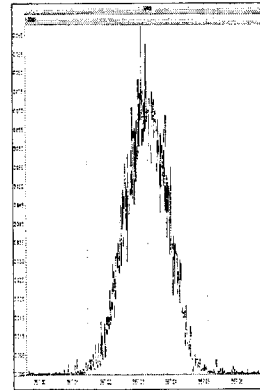
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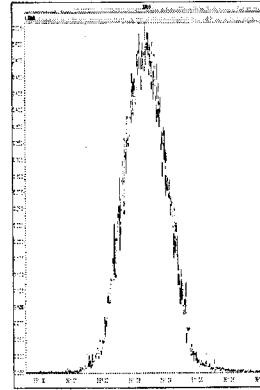
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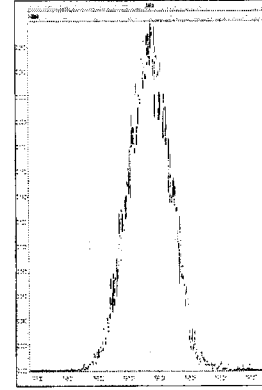
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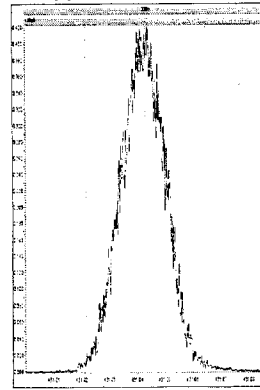
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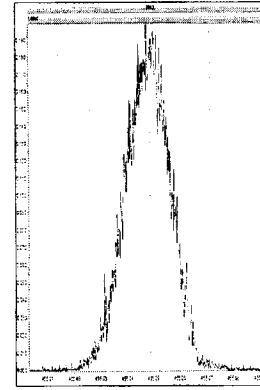
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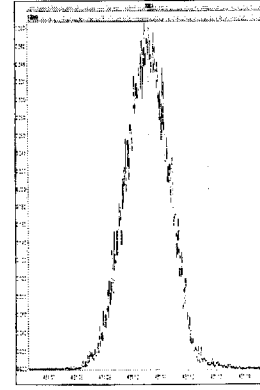
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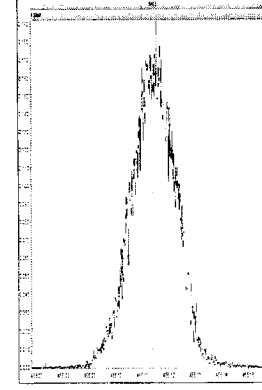
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M 430.9728 R 12757

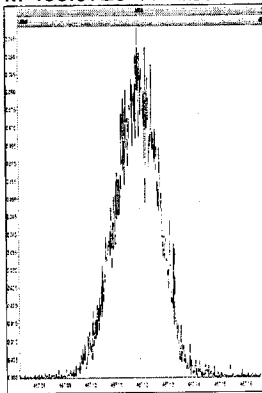


M 454.9728 R 11990

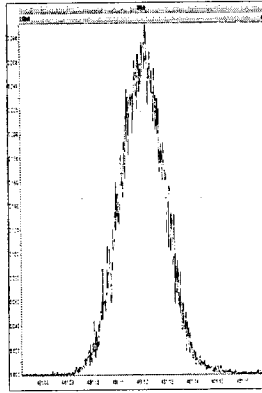


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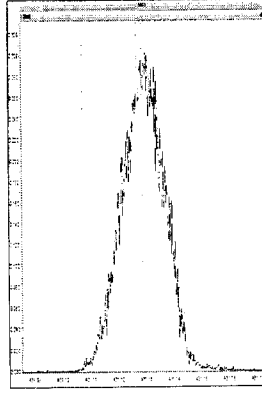
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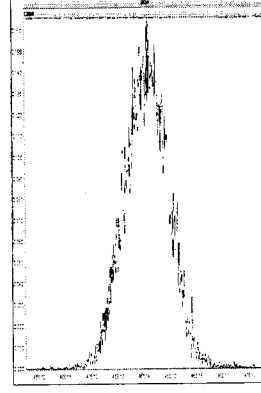
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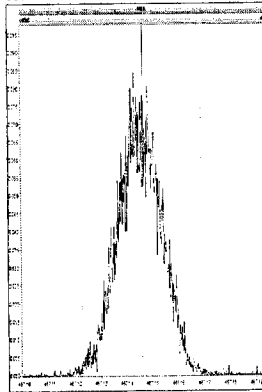
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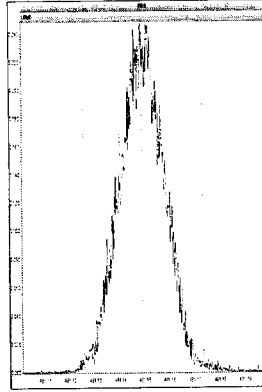
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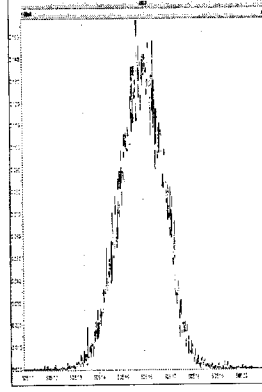
M 466.9728 R 12795



M 480.9696 R 12319



M 504.9696 R 12658



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CSL-, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SIN	EMPC?	EMPC	pg
2378-TCDF					0.827		0.770	485	1056						
12378-PeCDF	29.869	1.000	6.57e3	4.76e3	0.824	1.382	1.550	904	1177	8.53e4	6.51e4	94.4	NO	0.474	0.474
23478-PeCDF	31.206	1.000	6.69e3	4.60e3	0.850	1.454	1.550	904	1177	1.02e5	6.96e4	112.6	NO	0.475	0.475
123478-HxCDF	34.867	1.000	5.40e3	4.39e3	0.973	1.230	1.240	744	561	7.07e4	5.60e4	95.0	NO	0.474	0.474
234678-HxCDF	35.963	1.000	5.26e3	4.61e3	1.025	1.141	1.240	744	561	7.05e4	7.02e4	94.7	NO	0.470	0.470
123678-HxCDF	35.021	1.000	5.63e3	5.10e3	0.953	1.105	1.240	744	561	8.34e4	7.01e4	112.0	NO	0.472	0.472
123789-HxCDF	37.103	1.000	5.14e3	4.39e3	0.956	1.170	1.240	744	561	7.11e4	6.09e4	95.6	NO	0.520	0.520
1234678-HpCDF	39.164	1.000	4.92e3	5.13e3	1.153	0.960	1.050	578	517	7.40e4	8.02e4	128.0	NO	0.489	0.489
1234789-HpCDF	41.795	1.000	3.51e3	3.75e3	1.131	0.935	1.050	578	517	4.39e4	5.17e4	75.9	NO	0.450	0.450
OCDF	46.943	1.006	6.33e3	7.56e3	1.023	0.838	0.890	720	944	6.25e4	7.69e4	86.8	NO	0.907	0.907
2378-TCDD					1.023		0.770	1054	605						
12378-PeCDD	31.469	1.001	5.05e3	3.20e3	0.939	1.581	1.550	992	441	6.91e4	5.01e4	69.6	NO	0.476	0.476
123478-HxCDD	36.106	1.001	4.40e3	3.70e3	0.963	1.188	1.240	776	794	5.97e4	5.71e4	77.0	NO	0.478	0.478
123678-HxCDD	36.237	1.001	4.76e3	4.01e3	0.894	1.186	1.240	776	794	6.50e4	5.95e4	83.8	NO	0.504	0.504
123789-HxCDD	36.654	1.012	4.61e3	3.47e3	0.900	1.327	1.240	776	794	6.29e4	5.45e4	81.0	NO	0.485	0.485
1234678-HpCDD	40.940	1.000	3.51e3	3.46e3	0.964	1.015	1.050	577	531	4.71e4	3.99e4	81.6	NO	0.463	0.463
OCDD	46.674	1.000	7.05e3	7.69e3	0.969	0.917	0.890	531	718	6.90e4	7.76e4	130.0	NO	1.016	1.016
13C-2378-TCDF	25.719	1.006	1.59e6	2.05e6	1.502	0.777	0.770	4767	2478	2.19e7	2.83e7	4595.4	NO	101.097	101.097
13C-12378-PeCDF	29.858	1.168	1.79e6	1.11e6	1.215	1.603	1.550	3616	2786	2.42e7	1.54e7	6685.8	NO	99.644	99.644
13C-23478-PeCDF	31.195	1.221	1.71e6	1.09e6	1.181	1.573	1.550	3616	2786	2.45e7	1.56e7	6762.9	NO	98.978	98.978
13C-123478-HxCDF	34.856	0.951	7.18e5	1.41e6	1.246	0.511	0.510	2704	5337	1.02e7	1.98e7	3775.3	NO	100.653	100.653
13C-123678-HxCDF	35.010	0.955	8.08e5	1.58e6	1.375	0.512	0.510	2704	5337	1.09e7	2.13e7	4045.0	NO	102.504	102.504
13C-234678-HxCDF	35.952	0.981	6.93e5	1.36e6	1.186	0.511	0.510	2704	5337	9.67e6	1.88e7	3577.9	NO	102.098	102.098
13C-123789-HxCDF	37.092	1.012	6.51e5	1.26e6	1.135	0.515	0.510	2704	5337	8.86e6	1.71e7	3276.9	NO	99.670	99.670
13C-1234678-HpCDF	39.153	1.069	5.50e5	1.23e6	1.020	0.446	0.440	2443	3880	7.71e6	1.72e7	3157.9	NO	103.230	103.230
13C-1234789-HpCDF	41.773	1.140	4.34e5	9.93e5	0.824	0.437	0.440	2443	3880	5.25e6	1.20e7	2149.4	NO	102.297	102.297
13C-1234-TCDD	25.555	0.000	1.06e6	1.34e6	1.000	0.788	0.770	2931	1849	1.48e7	1.90e7	5036.6	NO	100.000	100.000
13C-2378-TCDD	26.362	1.032	9.94e5	1.26e6	0.983	0.787	0.770	2931	1849	1.39e7	1.74e7	4736.2	NO	95.915	95.915
13C-12378-PeCDD	31.447	1.231	1.13e6	7.16e5	0.787	1.573	1.550	2647	1211	1.59e7	1.01e7	5995.9	NO	97.787	97.787
13C-123478-HxCDD	36.084	0.985	9.80e5	7.79e5	1.031	1.258	1.240	1671	1737	1.40e7	1.12e7	8361.8	NO	100.738	100.738
13C-123678-HxCDD	36.215	0.988	1.08e6	8.64e5	1.137	1.252	1.240	1671	1737	1.47e7	1.17e7	8814.2	NO	101.126	101.126
13C-1234678-HpCDD	40.918	1.117	7.98e5	7.64e5	0.892	1.044	1.050	2298	2622	9.97e6	9.59e6	4338.0	NO	103.400	103.400
13C-OCDD	46.665	1.273	1.39e6	1.60e6	0.852	0.868	0.890	2424	2603	1.38e7	1.55e7	5677.4	NO	207.609	207.609

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

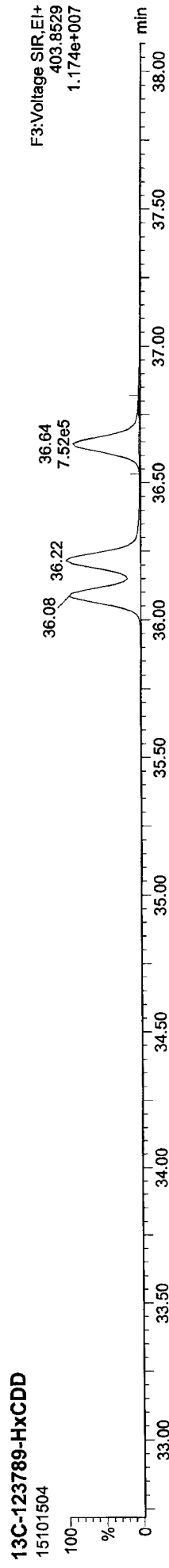
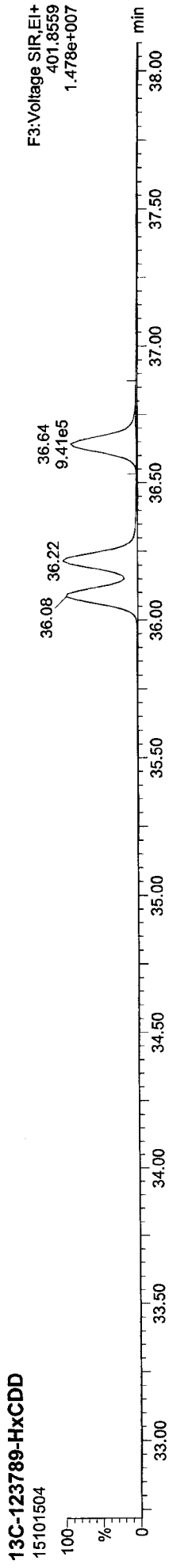
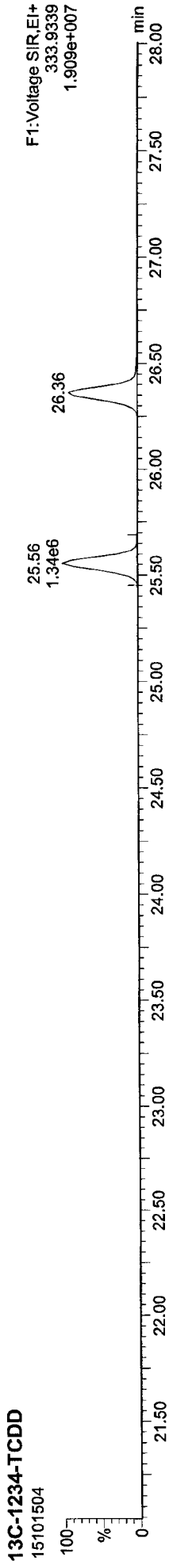
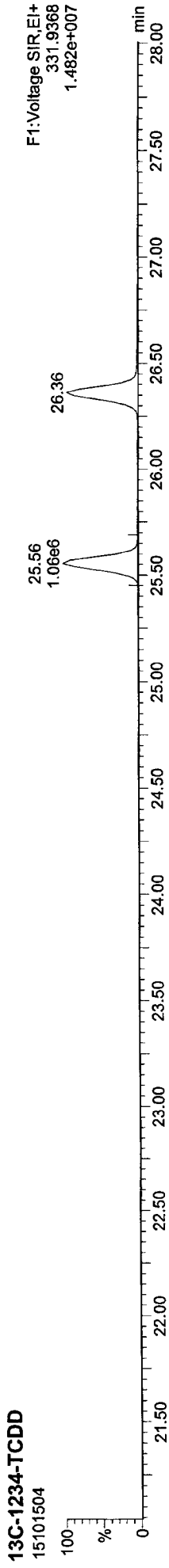
Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise1	Noise2	Height1	Height2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	36.643	0.000	9.41e5	7.52e5	1.000	1.252	1.240	1671	1737	1.29e7	1.05e7	7738.7	NO		100.000
Total-tetrafurans			0.00e0		0.827			485		0.00e0					
Total-penta1			0.00e0					637		0.00e0					0.949
Total-pentafurans			1.33e4		0.837			904		1.87e5					1.936
Total-hexafurans			2.14e4		0.977			744		2.96e5					0.939
Total-heptafurans			8.43e3		1.142			578		1.18e5					4.731
Total-Furans			4.95e4		0.971			485		6.63e5					0.029
Total-tetradioxins			4.69e2		1.023			1054		6.87e3					0.476
Total-pentadioxins			5.05e3		0.939			992		6.91e4					1.522
Total-hexadioxins			1.45e4		0.919			776		2.00e5					0.463
Total-heptadioxins			3.51e3		0.964			577		4.71e4					3.508
Total-Dioxins			3.06e4		0.950			1054		3.92e5					8.238
Total-TEQ			8.00e4					1054		1.06e6					0.096
37CL-2378-TCDD	26.377	1.032	2.51e3		1.091			1500		3.36e4		22.4			
FUNCTION1 PFK			1.87e6					603060		3.14e7					0.000
FUNCTION2 PFK			1.61e6					146963		2.27e7					0.000
FUNCTION3 PFK			1.19e6					505723		2.64e7					0.000
FUNCTION4 PFK			1.79e7					304568		5.90e7					
FUNCTION5 PFK			1.94e5					243188		8.67e6					
FUNCTION1 HXCDPE			0.00e0					477		0.00e0					
FUNCTION1 HPCDPE			3.32e2					653		7.06e3					0.000
FUNCTION2 HPCDPE			1.96e2					800		4.03e3					0.000
FUNCTION3 OCDPE			0.00e0					338		0.00e0					
FUNCTION4 NCDPE			0.00e0					765		0.00e0					
FUNCTION5 DCDPE			0.00e0					278		0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

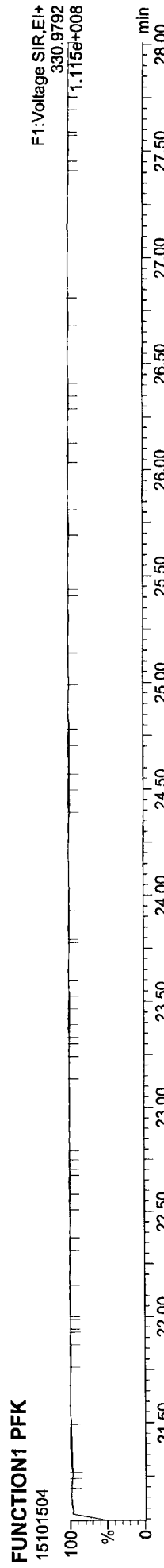
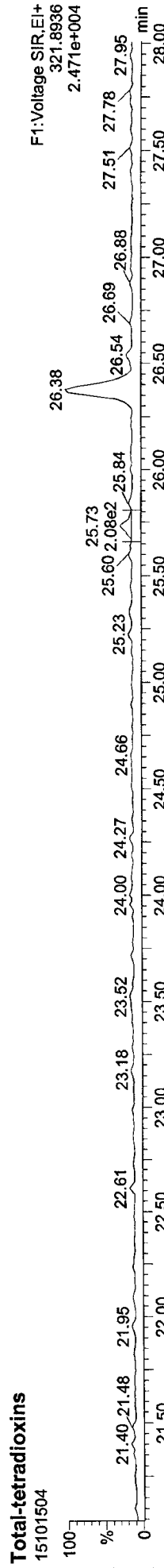
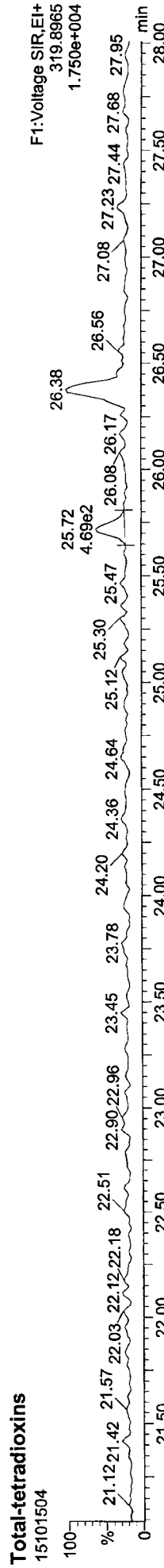
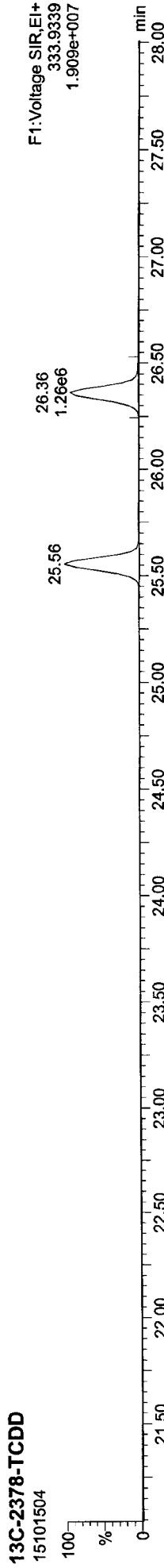
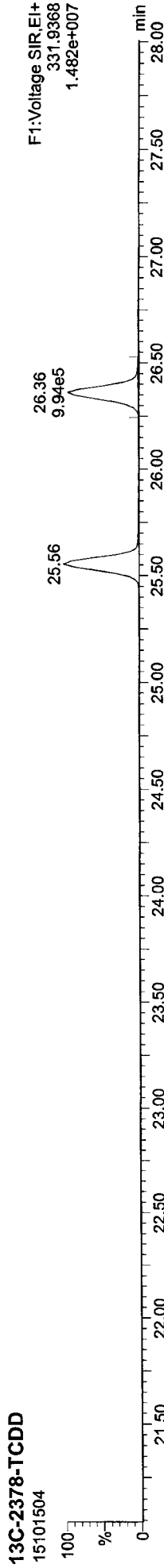
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

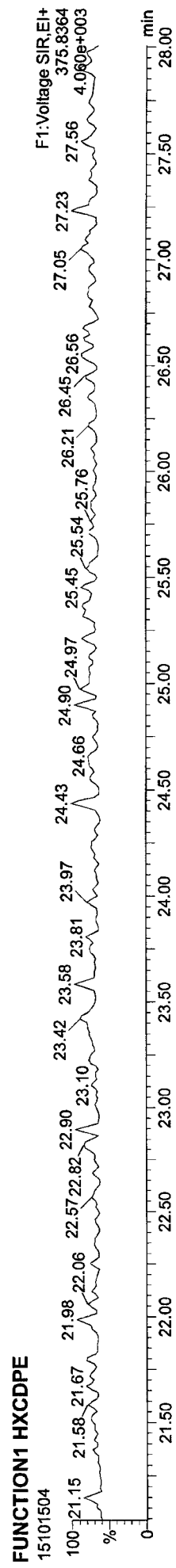
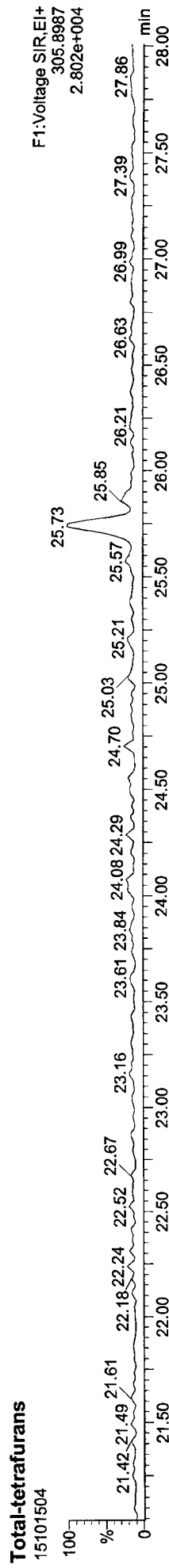
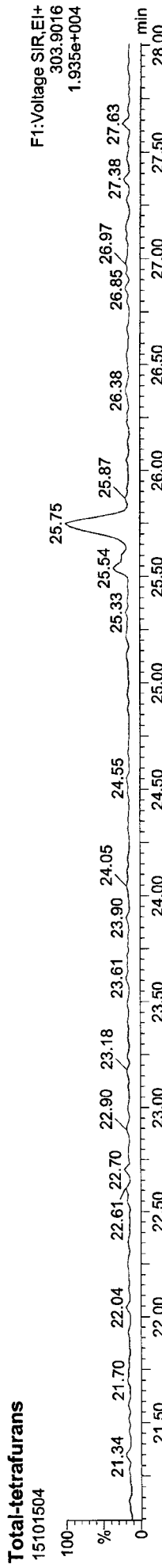
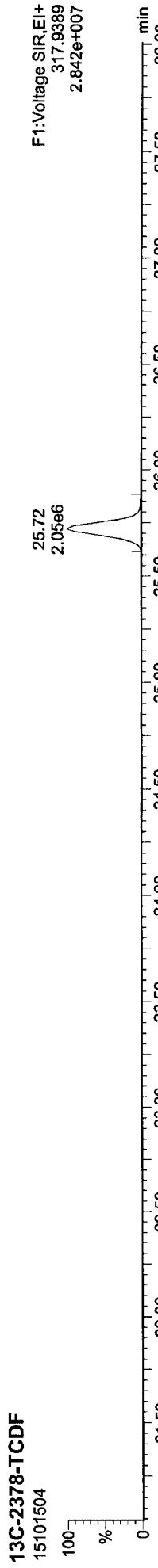
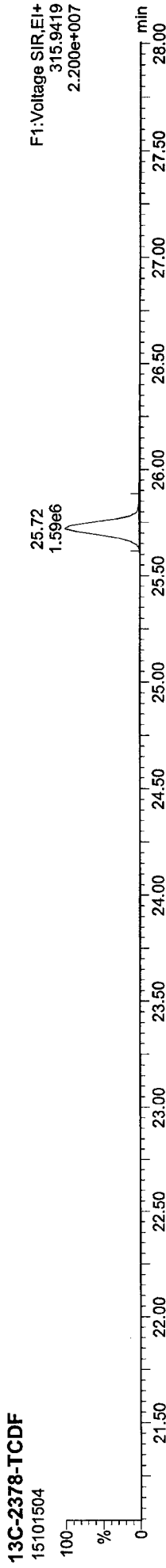


ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



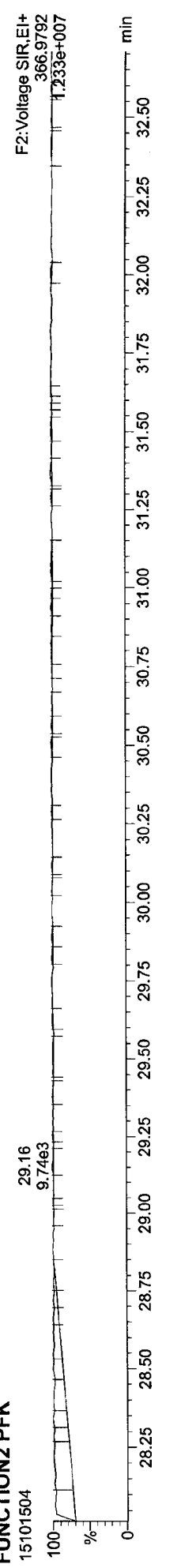
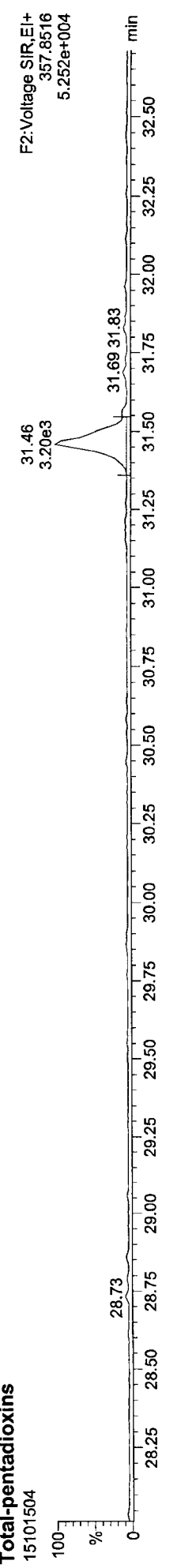
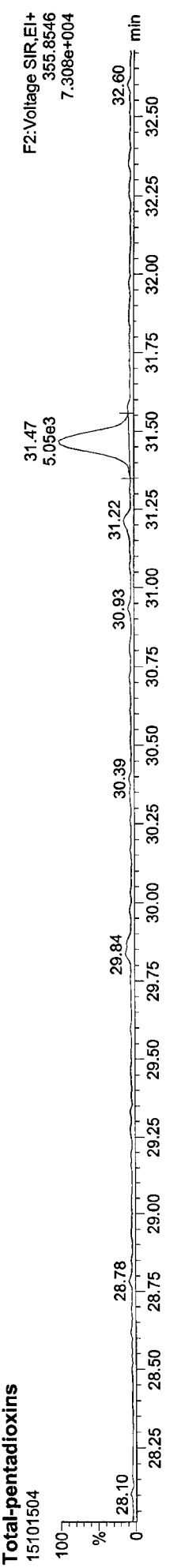
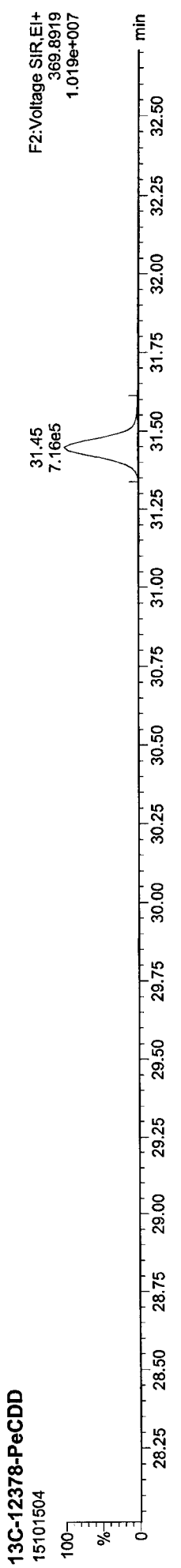
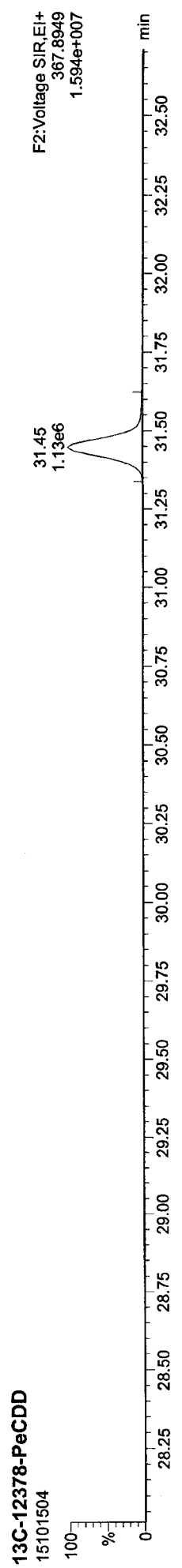
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\15101504.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
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ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

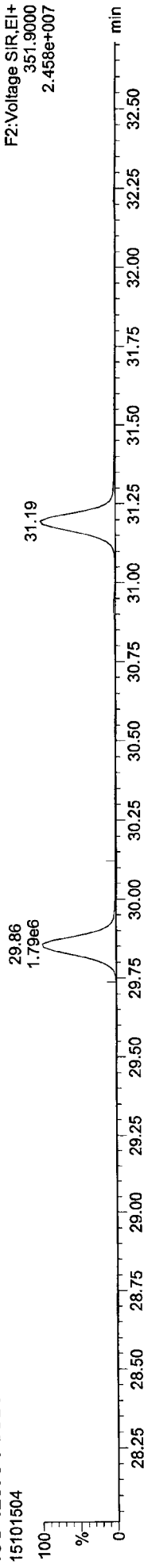


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

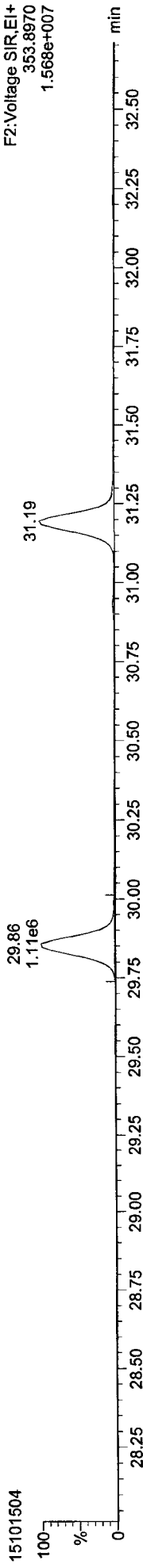
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ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

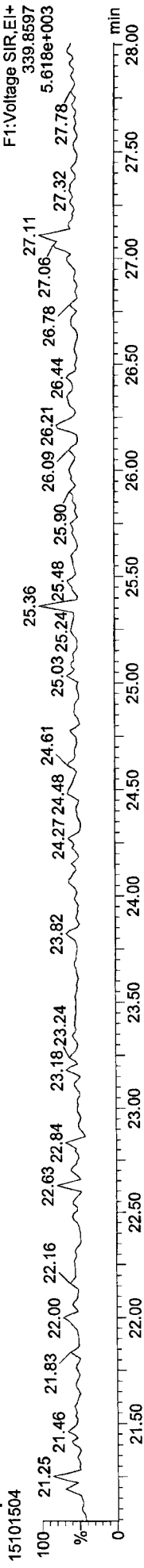
13C-12378-PeCDF



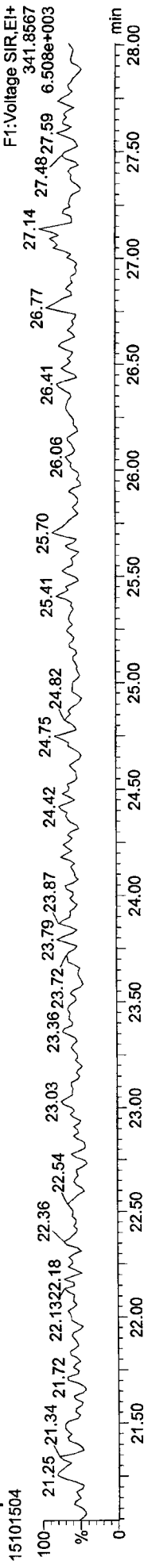
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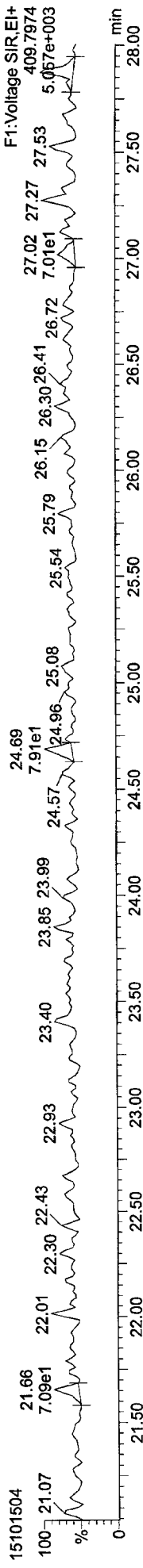
Total-penta1



Total-penta1

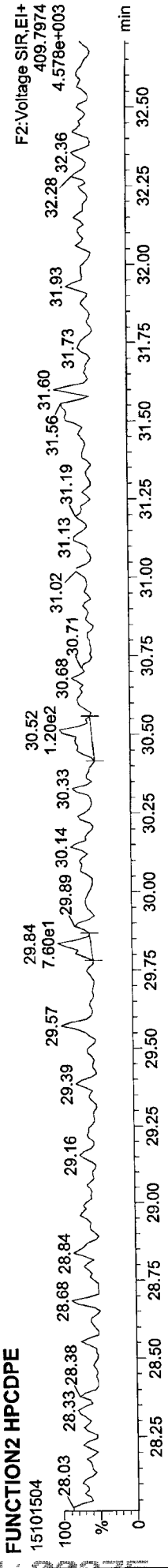
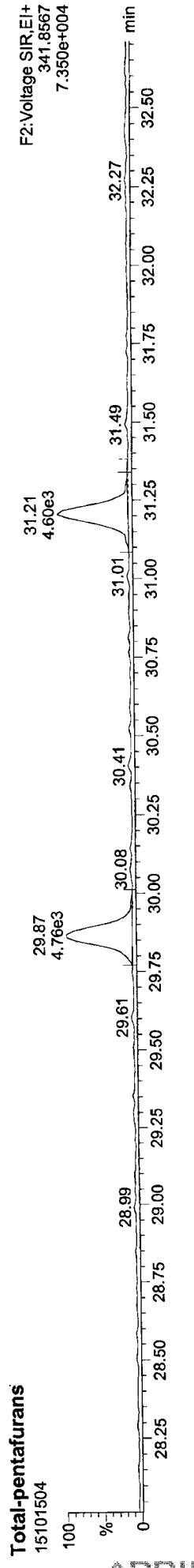
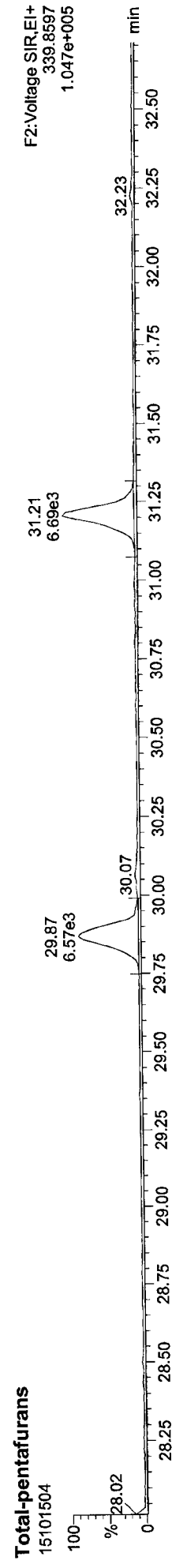
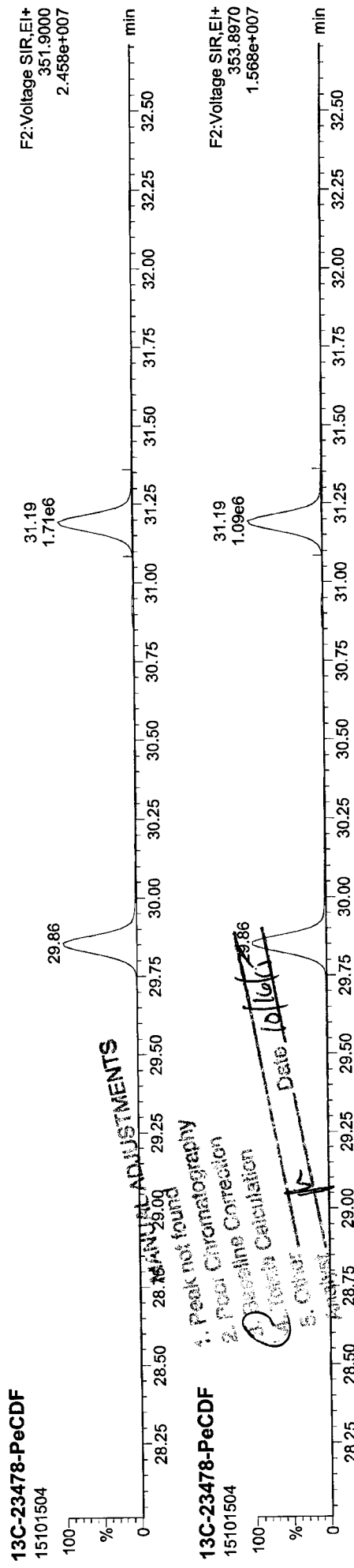


FUNCTION1 HPCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
 Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

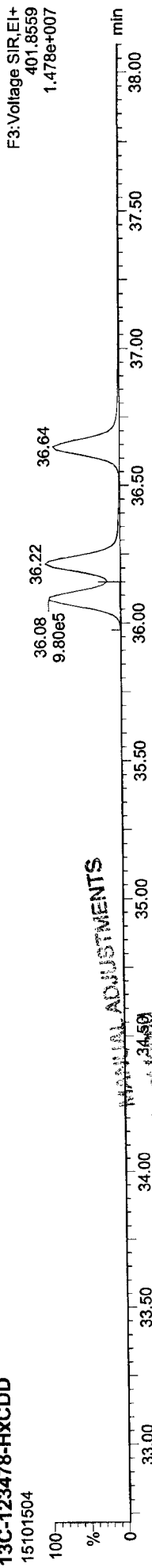
ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



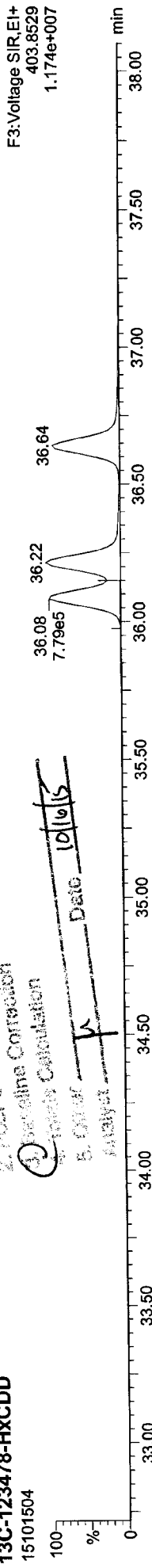
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qid
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

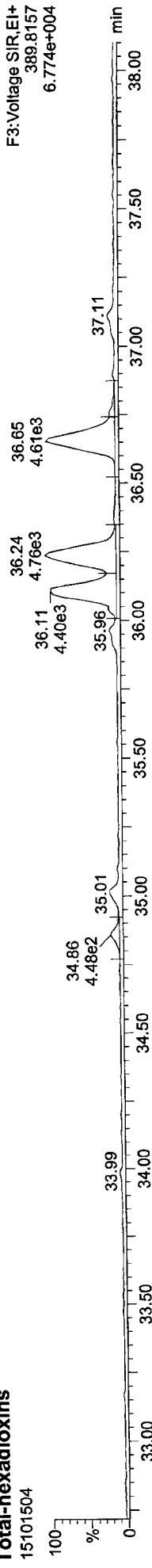
13C-123478-HxCDD
15101504



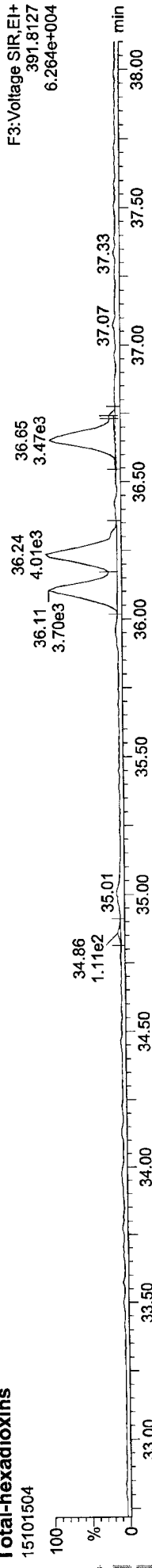
13C-123478-HxCDD
15101504



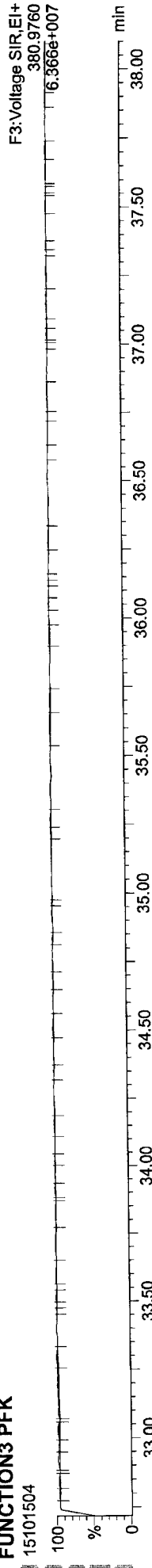
Total-hexadioxins
15101504



Total-hexadioxins
15101504



FUNCTION3 PFK
15101504



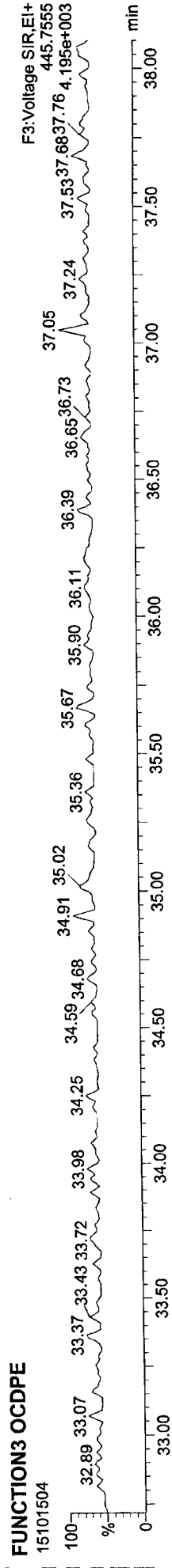
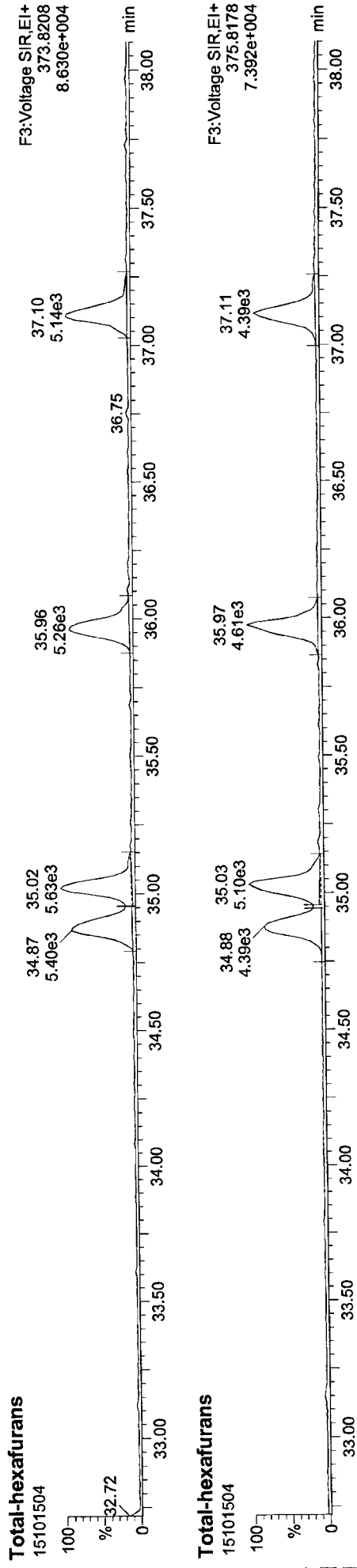
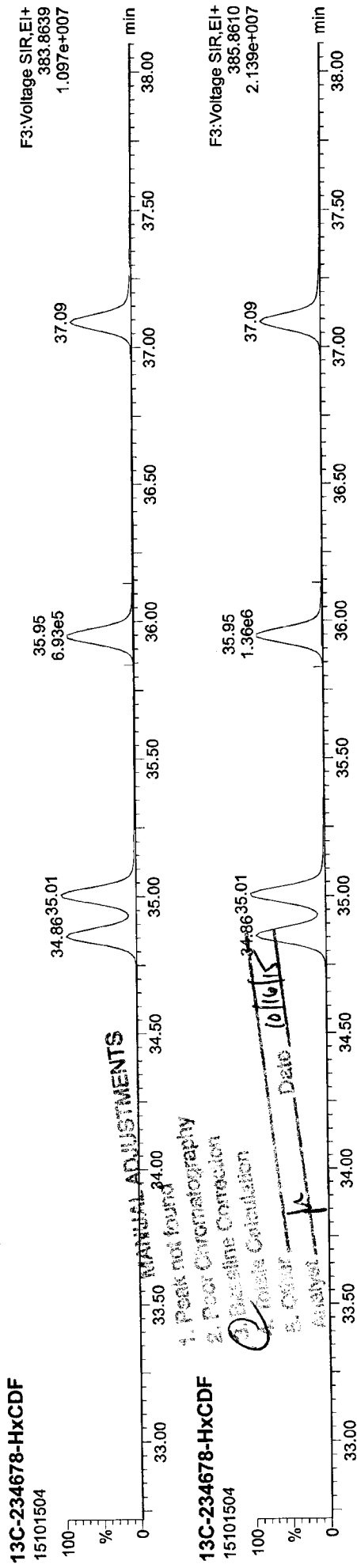
MANUAL ADJUSTMENTS

- 1. Peak not 134.89
- 2. Peak Chromatography
- 3. Peak Chromatography
- 4. Baseline Correction
- 5. Total Calculation

Date 10/16/15

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015\IC.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

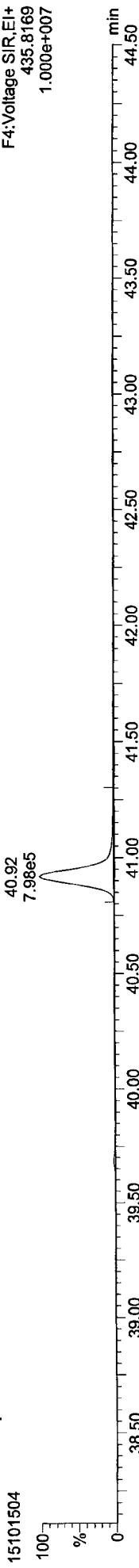


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

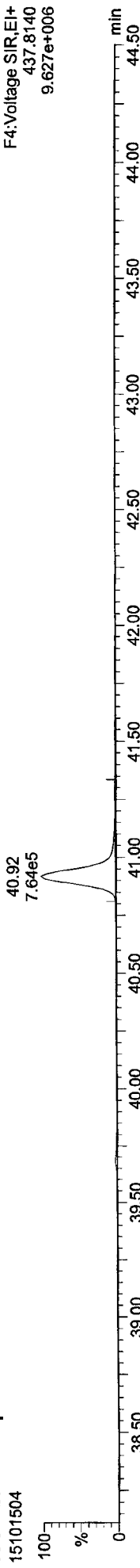
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Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk

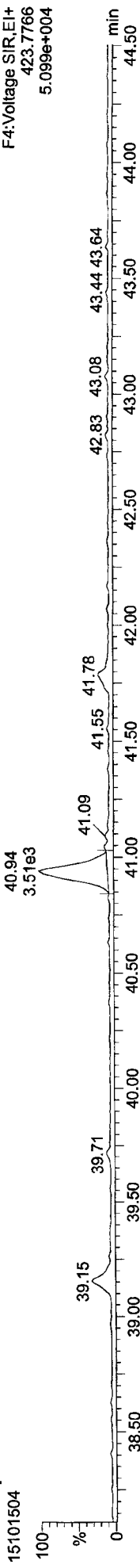
13C-1234678-HpCDD



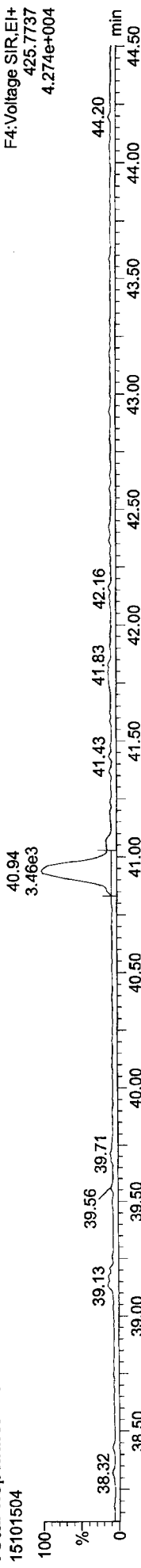
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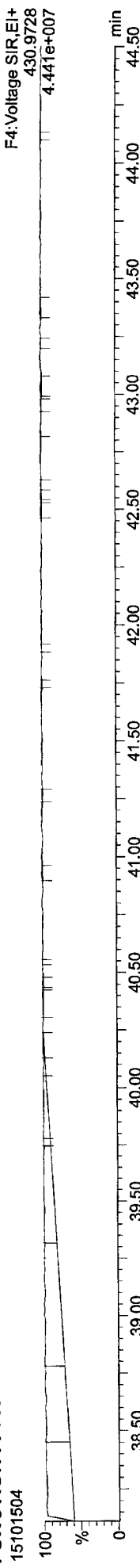
Total-heptadioxins



Total-heptadioxins

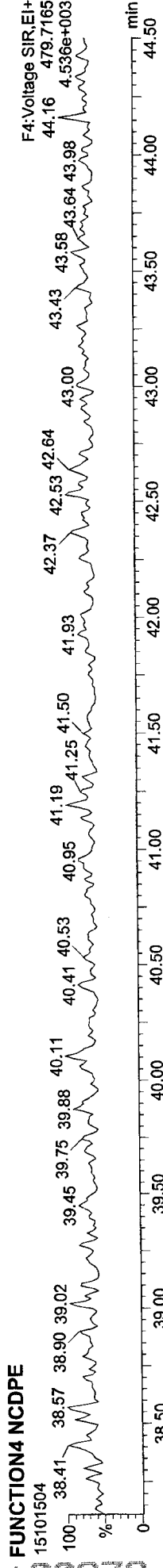
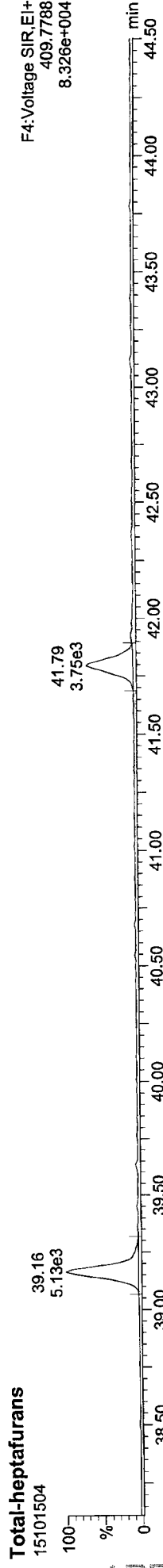
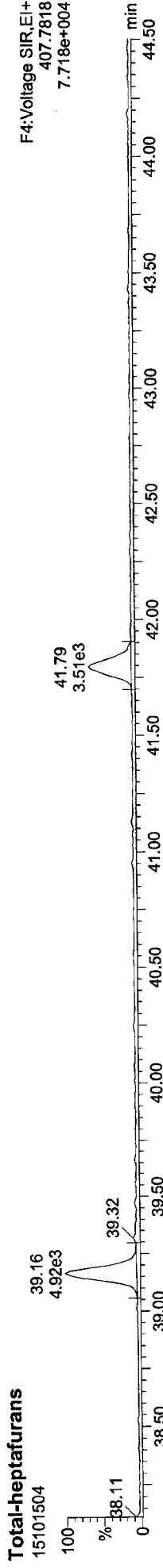
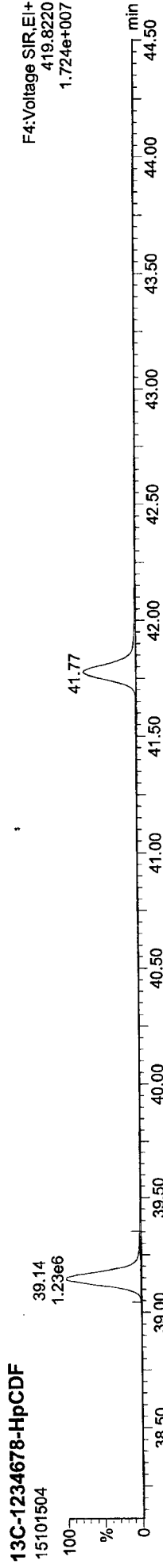
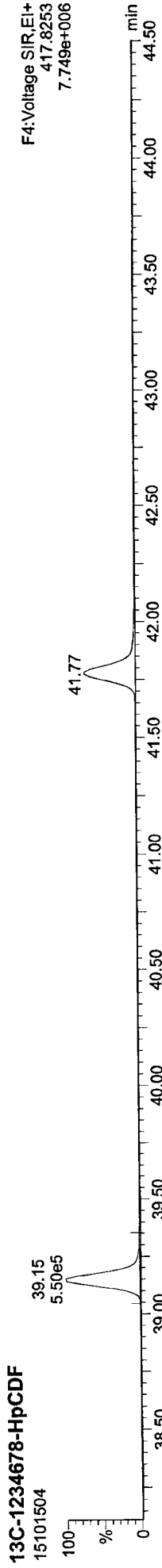


FUNCTION4 PFK



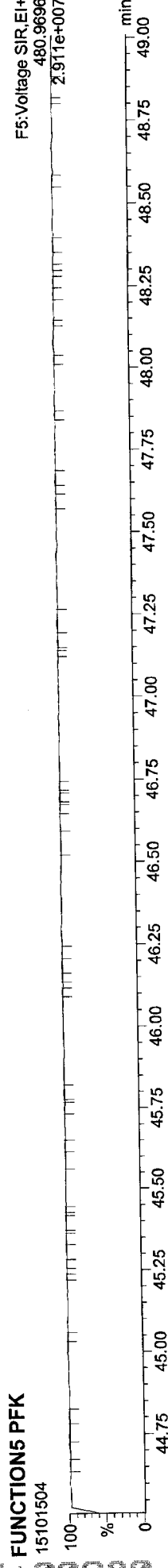
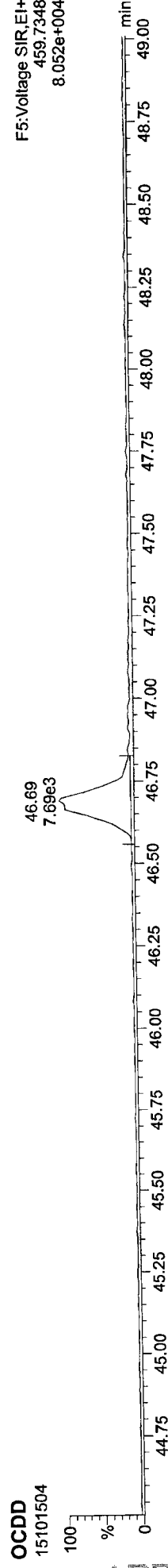
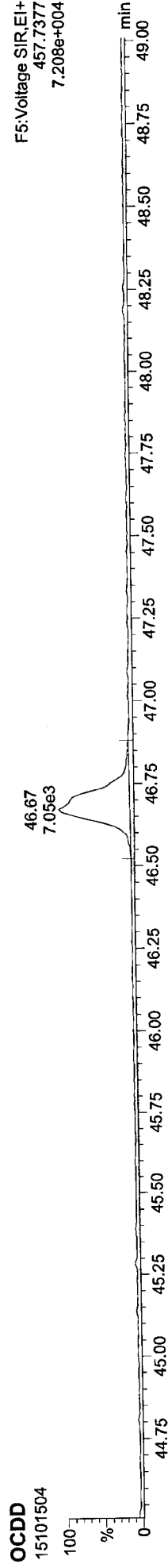
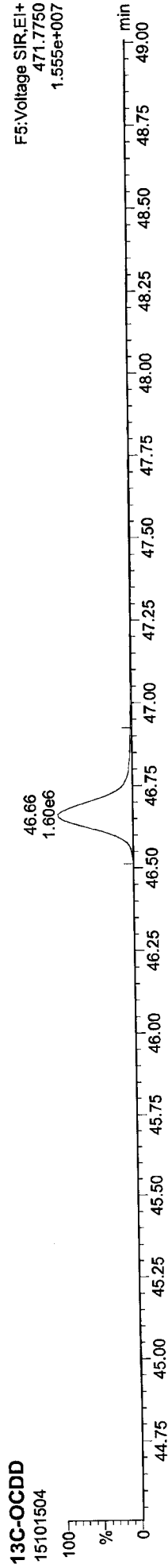
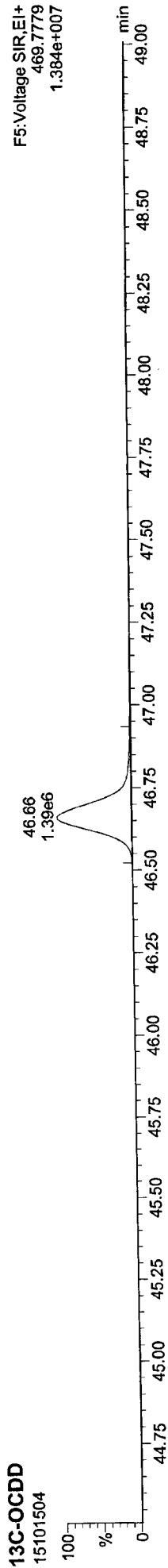
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



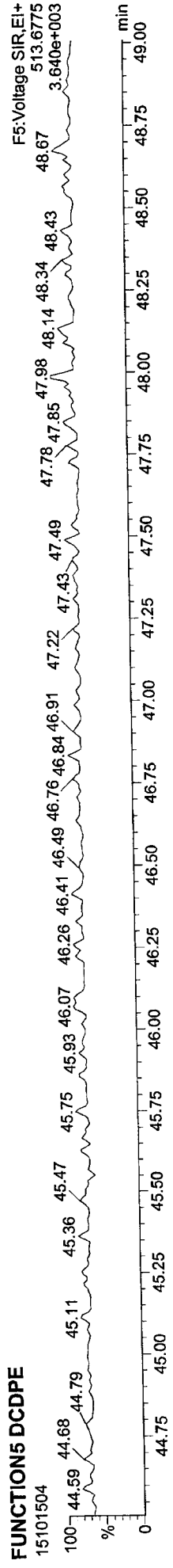
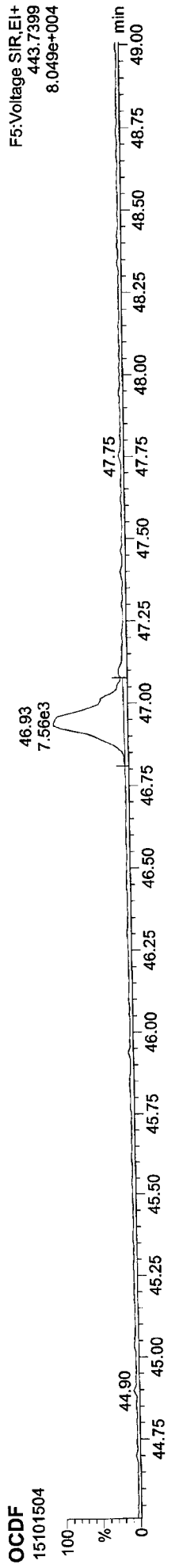
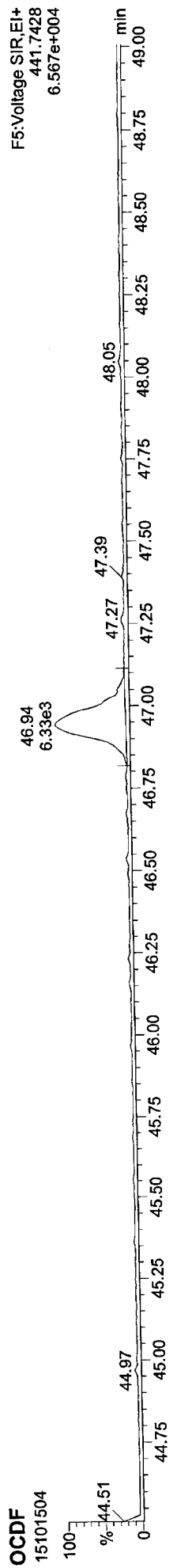
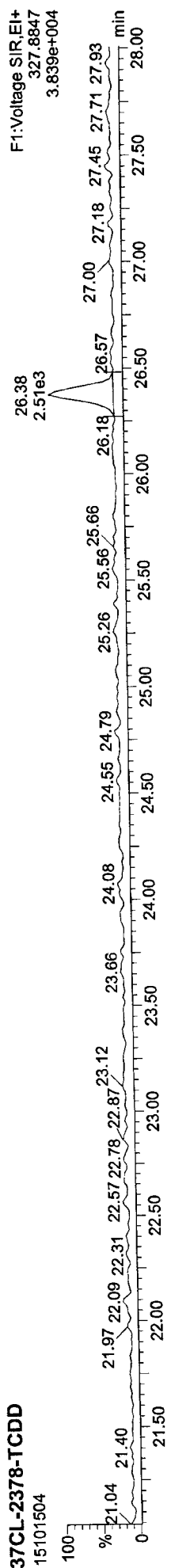
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
 Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:55 Pacific Daylight Time

ID: CSL, Name: 15101504, Date: 15-Oct-2015, Time: 15:02:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:57 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred.R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
2378-TCDF	25.749	1.001	5.93e3	8.82e3	0.827	0.672	0.770	584	991	7.13e4	1.16e5	122.2	NO	0.480	0.480
12378-PeCDF	29.880	1.000	3.37e4	2.45e4	0.824	1.374	1.550	1606	1125	4.71e5	3.29e5	293.5	NO	2.360	2.360
23478-PeCDF	31.217	1.000	3.46e4	2.54e4	0.850	1.361	1.550	1606	1125	5.18e5	3.49e5	322.4	NO	2.427	2.427
123478-HxCDF	34.889	1.001	2.75e4	2.46e4	0.973	1.116	1.240	1175	875	4.00e5	3.50e5	340.0	NO	2.452	2.452
234678-HxCDF	35.974	1.000	2.80e4	2.40e4	1.025	1.166	1.240	1175	875	4.02e5	3.37e5	341.8	NO	2.382	2.382
123678-HxCDF	35.031	1.000	2.92e4	2.71e4	0.953	1.079	1.240	1175	875	4.03e5	3.73e5	342.7	NO	2.397	2.397
123789-HxCDF	37.125	1.001	2.51e4	2.28e4	0.956	1.098	1.240	1175	875	3.33e5	3.04e5	283.7	NO	2.508	2.508
1234678-HpCDF	39.174	1.001	2.40e4	2.65e4	1.153	0.903	1.050	770	799	3.38e5	3.72e5	438.7	NO	2.366	2.366
1234789-HpCDF	41.805	1.000	1.94e4	2.11e4	1.131	0.922	1.050	770	799	2.44e5	2.86e5	317.5	NO	2.366	2.366
OCDF	46.951	1.006	3.25e4	3.93e4	1.023	0.828	0.890	966	954	3.16e5	3.79e5	326.5	NO	4.496	4.496
2378-TCDD	26.392	1.001	5.13e3	7.07e3	1.023	0.725	0.770	887	473	6.59e4	9.62e4	74.3	NO	0.514	0.514
12378-PeCDD	31.480	1.001	2.67e4	1.72e4	0.939	1.556	1.550	877	401	3.79e5	2.40e5	432.1	NO	2.435	2.435
123478-HxCDD	36.116	1.001	2.37e4	1.81e4	0.963	1.307	1.240	784	671	3.36e5	2.68e5	428.4	NO	2.365	2.365
123678-HxCDD	36.248	1.001	2.37e4	2.00e4	0.894	1.183	1.240	784	671	3.30e5	2.87e5	420.4	NO	2.412	2.412
123789-HxCDD	36.664	1.012	2.40e4	1.85e4	0.900	1.292	1.240	784	671	3.24e5	2.58e5	413.3	NO	2.446	2.446
1234678-HpCDD	40.950	1.000	1.88e4	1.83e4	0.964	1.026	1.050	713	739	2.34e5	2.25e5	328.2	NO	2.398	2.398
OCDD	46.682	1.000	3.36e4	3.59e4	0.969	0.938	0.890	601	722	3.52e5	3.55e5	585.9	NO	4.596	4.596
13C-2378-TCDF	25.735	1.006	1.62e6	2.09e6	1.502	0.774	0.770	5261	2837	2.24e7	2.88e7	4261.1	NO	101.559	101.559
13C-12378-PeCDF	29.869	1.168	1.85e6	1.14e6	1.215	1.613	1.550	4466	2387	2.48e7	1.58e7	5555.2	NO	101.124	101.124
13C-23478-PeCDF	31.206	1.220	1.78e6	1.13e6	1.181	1.567	1.550	4466	2387	2.50e7	1.60e7	5603.3	NO	101.227	101.227
13C-123478-HxCDF	34.867	0.951	7.41e5	1.44e6	1.246	0.513	0.510	2769	4074	1.05e7	2.07e7	3808.0	NO	99.206	99.206
13C-123678-HxCDF	35.020	0.955	8.35e5	1.63e6	1.375	0.512	0.510	2769	4074	1.13e7	2.17e7	4088.3	NO	101.369	101.369
13C-234678-HxCDF	35.963	0.981	7.23e5	1.41e6	1.186	0.514	0.510	2769	4074	1.01e7	1.95e7	3665.2	NO	101.537	101.537
13C-123789-HxCDF	37.103	1.012	6.79e5	1.32e6	1.135	0.515	0.510	2769	4074	9.16e6	1.76e7	3309.0	NO	99.535	99.535
13C-1234678-HpCDF	39.152	1.068	5.77e5	1.27e6	1.020	0.454	0.440	2333	3666	7.87e6	1.78e7	3374.5	NO	102.538	102.538
13C-1234789-HpCDF	41.783	1.140	4.55e5	1.06e6	0.824	0.430	0.440	2333	3666	5.50e6	1.25e7	2357.7	NO	103.906	103.906
13C-1234-TCDD	25.570	0.000	1.09e6	1.36e6	1.000	0.795	0.770	2900	1792	1.51e7	1.91e7	5208.6	NO	100.000	100.000
13C-2378-TCDD	26.377	1.032	1.02e6	1.30e6	0.983	0.785	0.770	2900	1792	1.38e7	1.74e7	4767.5	NO	96.936	96.936
13C-12378-PeCDD	31.458	1.230	1.17e6	7.48e5	0.787	1.566	1.550	1686	1300	1.65e7	1.05e7	9808.4	NO	100.157	100.157
13C-123478-HxCDD	36.094	0.985	1.02e6	8.13e5	1.031	1.260	1.240	3984	1600	1.48e7	1.18e7	3710.6	NO	100.813	100.813
13C-123678-HxCDD	36.226	0.988	1.12e6	9.02e5	1.137	1.245	1.240	3984	1600	1.55e7	1.25e7	3897.5	NO	100.794	100.794
13C-1234678-HpCDD	40.928	1.117	8.13e5	7.91e5	0.892	1.028	1.050	2236	1618	1.03e7	9.76e6	4589.3	NO	101.780	101.780
13C-OCDD	46.673	1.273	1.47e6	1.65e6	0.852	0.894	0.890	2822	2065	1.37e7	1.54e7	4866.9	NO	207.389	207.389

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\151015\C.qld
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 Printed: Friday, October 16, 2015 09:49:57 Pacific Daylight Time

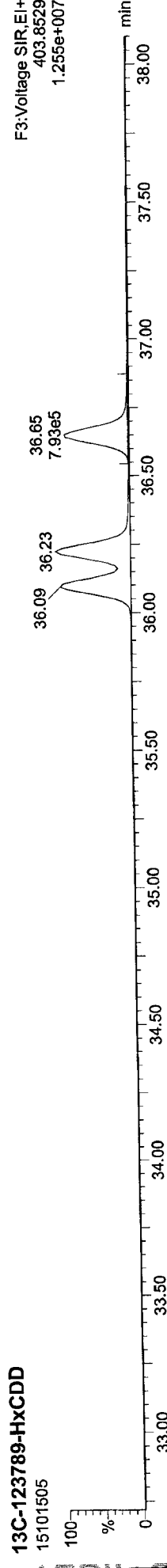
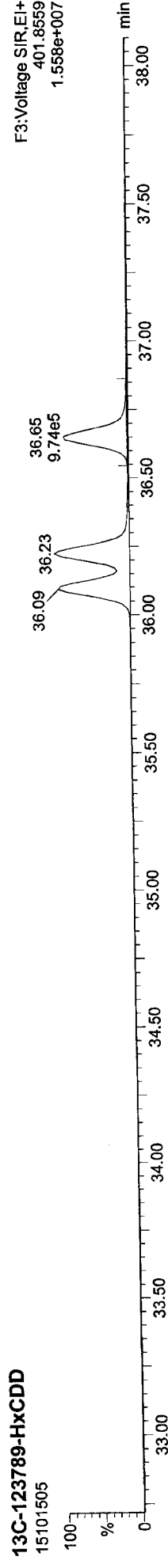
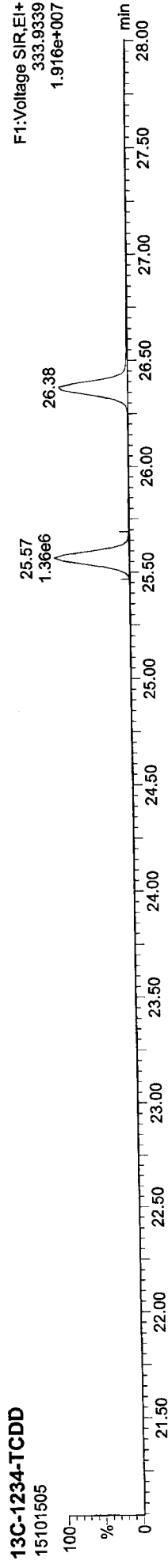
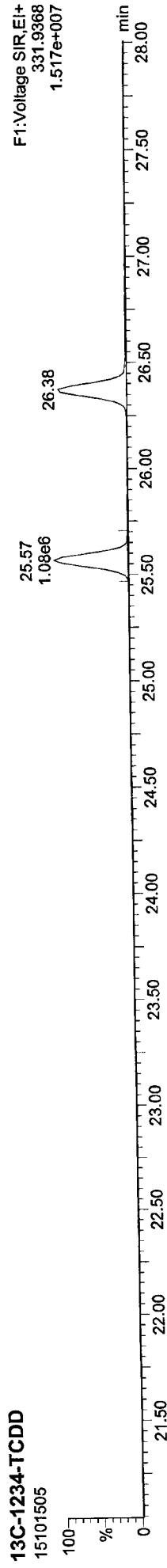
ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	36.653	0.000	9.74e5	7.93e5	1.000	1.228	1.240	3984	1600	1.33e7	1.07e7	3327.0	NO		100.000
Total-tetrafurans			6.31e3		0.827			584		7.79e4					0.504
Total-penta 1			0.00e0					489		0.00e0					4.875
Total-pentafurans			6.94e4		0.837			1606		1.01e6					9.800
Total-hexafurans			1.11e5		0.977			1175		1.55e6					4.750
Total-heptafurans			4.36e4		1.142			770		5.87e5					24.425
Total-Furans			2.62e5		0.971			584		3.54e6					0.551
Total-tetradioxins			5.85e3		1.023			887		7.46e4					2.460
Total-pentadioxins			2.70e4		0.939			877		3.83e5					7.257
Total-hexadioxins			7.15e4		0.919			784		9.94e5					2.398
Total-heptadioxins			1.88e4		0.964			713		2.34e5					17.261
Total-Dioxins			1.57e5		0.950			887		2.04e6					41.687
Total-TEQ			4.19e5					887		5.58e6		119.1			0.485
37CL-2378-TCDD	26.392	1.032	1.29e4		1.091			1496		1.78e5					
FUNCTION1 PFK			5.66e7					671431		2.16e8					0.000
FUNCTION2 PFK			6.17e4					111219		2.26e6					0.000
FUNCTION3 PFK			4.23e5					420338		1.06e7					
FUNCTION4 PFK			4.50e5					241972		1.35e7					
FUNCTION5 PFK			0.00e0					236957		0.00e0					
FUNCTION1 HXCDPE			8.20e1					368		1.35e3					0.000
FUNCTION1 HPCDPE			3.42e2					695		7.44e3					0.000
FUNCTION2 HPCDPE			0.00e0					676		0.00e0					
FUNCTION3 OCDPE			0.00e0					412		0.00e0					
FUNCTION4 NCDPE			0.00e0					549		0.00e0					
FUNCTION5 DCDPE			0.00e0					292		0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:49:57 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin\1510153SN.mdb 15 Oct 2015 16:11:27
Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

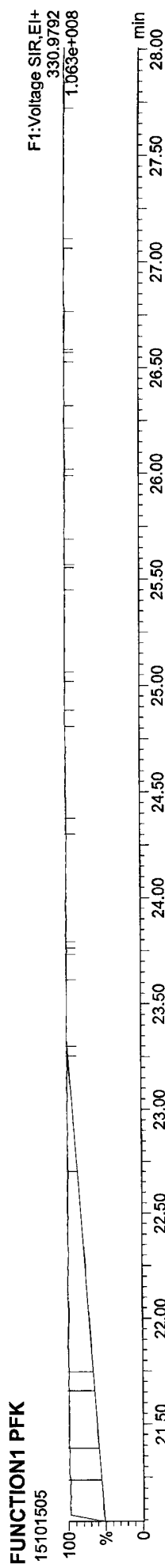
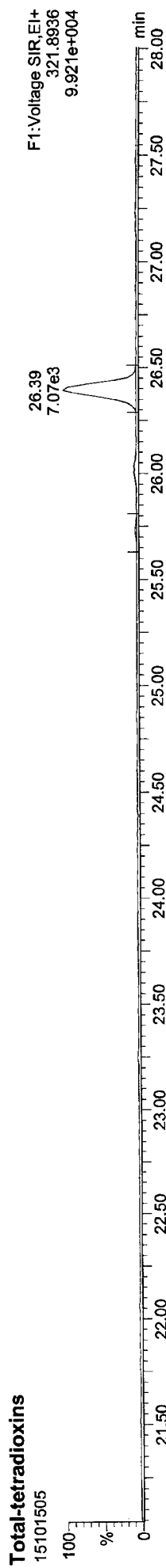
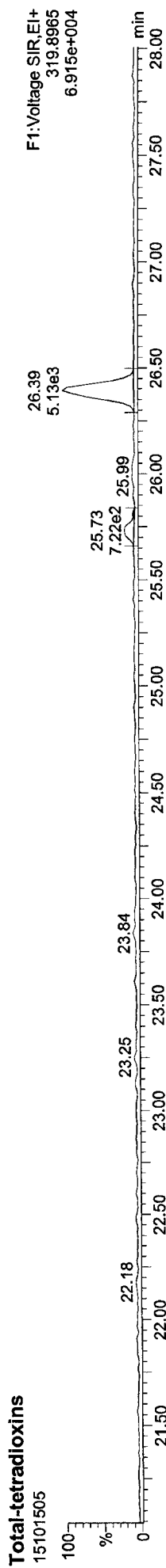
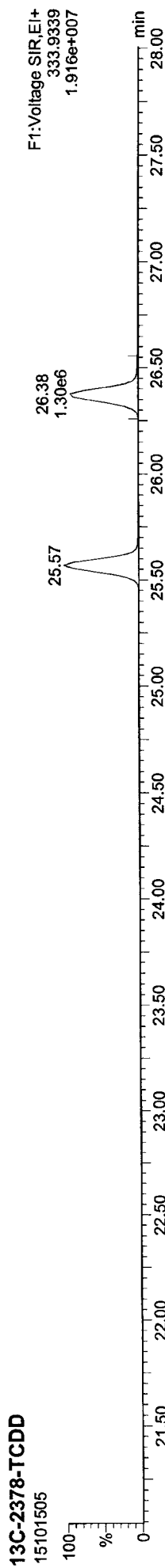
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

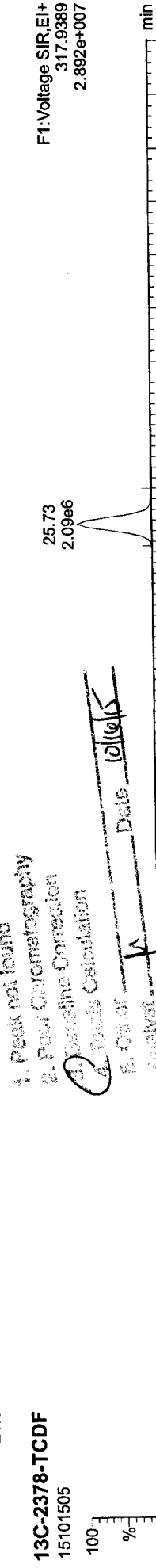
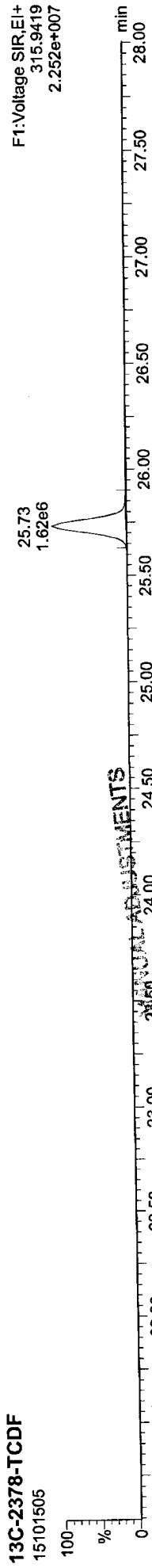
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ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk



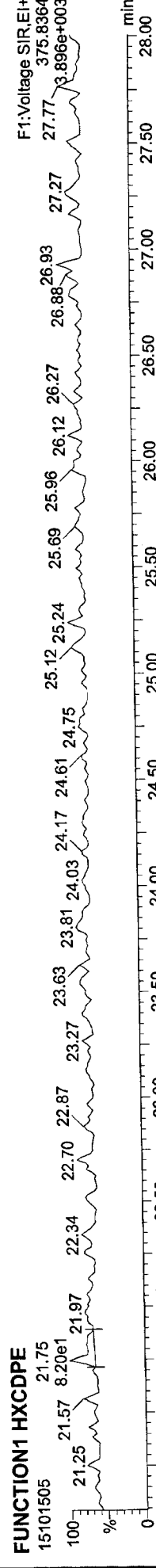
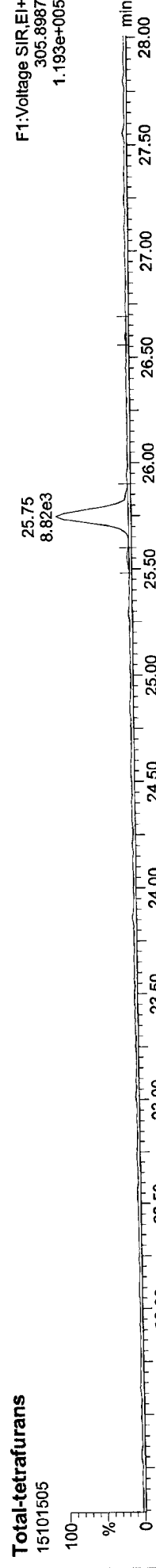
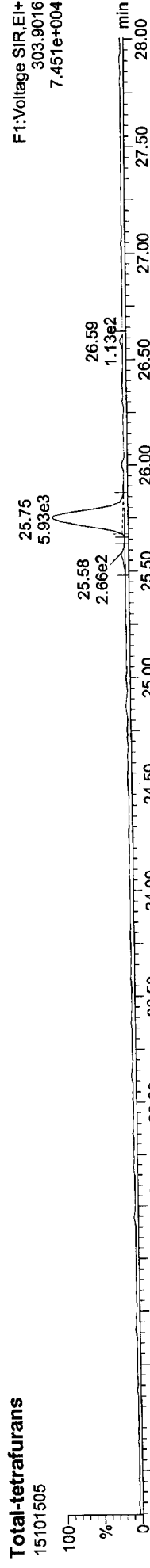
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 Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk



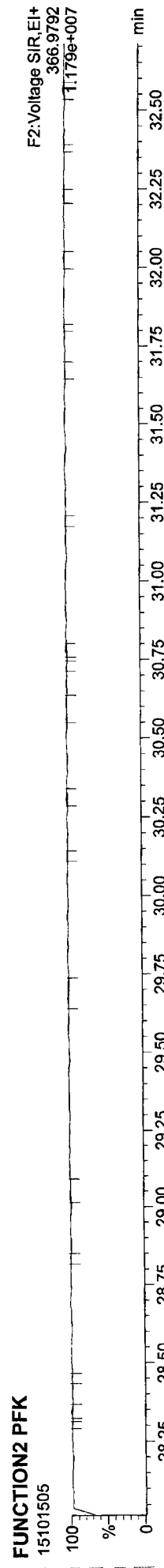
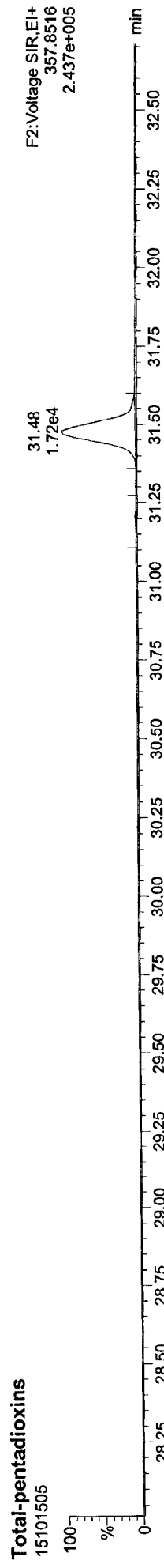
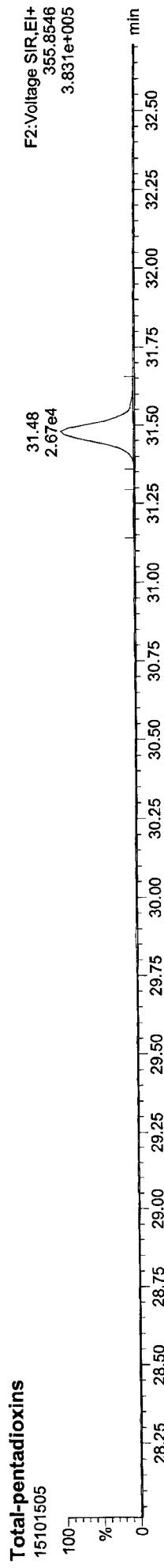
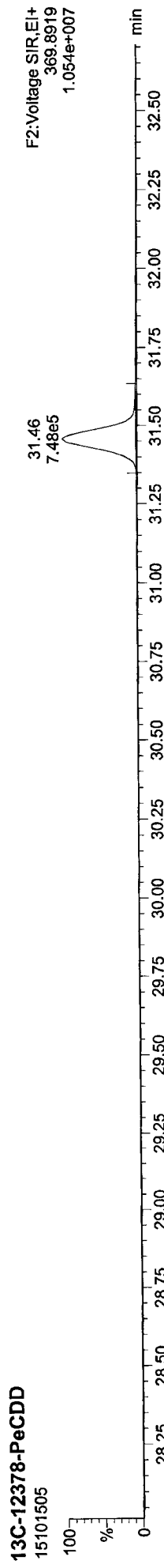
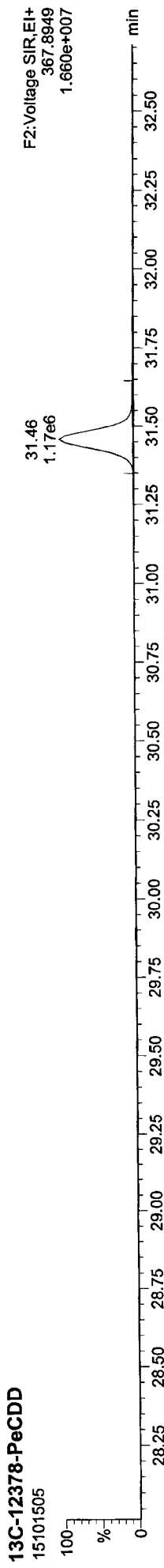
1. Peak not found
 2. Peak Chromatography
 3. Baseline Correction
 4. Peaks Calculation

5. Out of Date 10/16/15



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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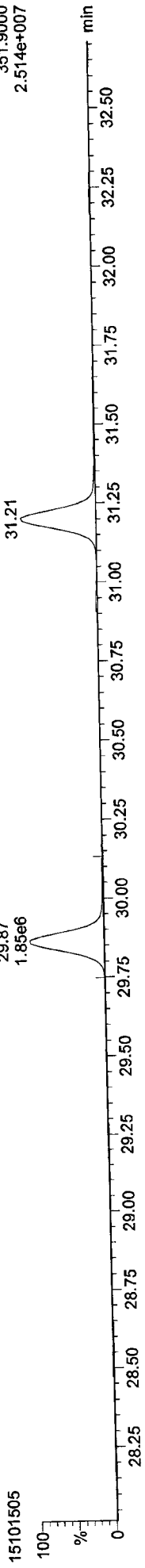
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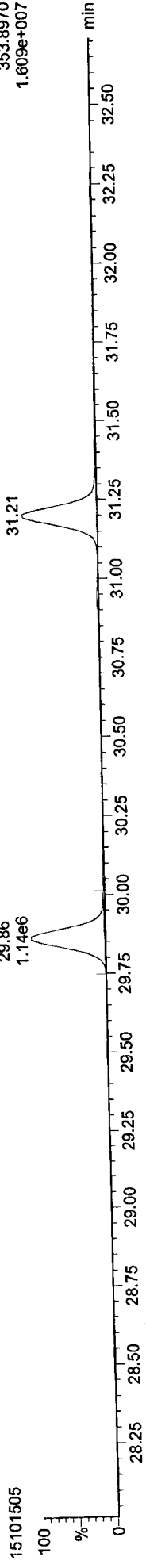
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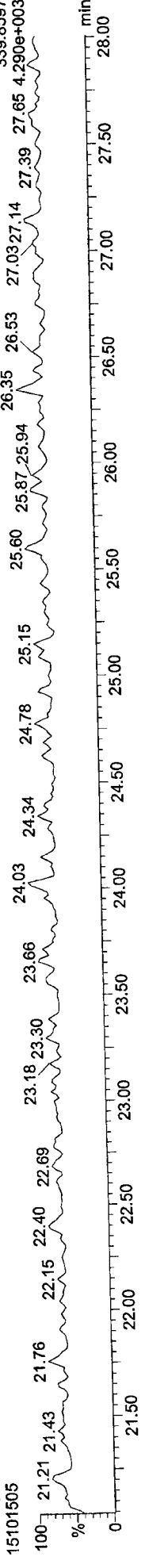
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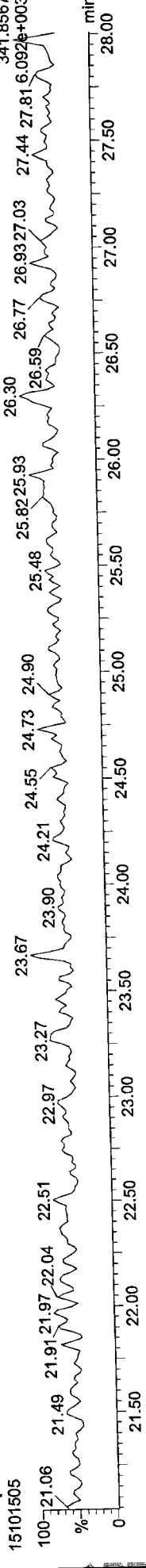
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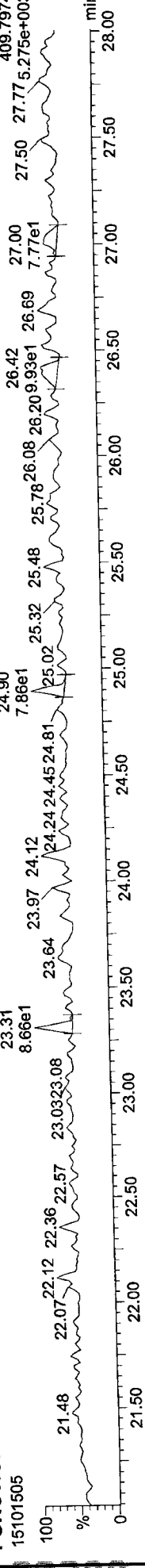
Total-penta1



Total-penta1



FUNCTION1 HPCDFE

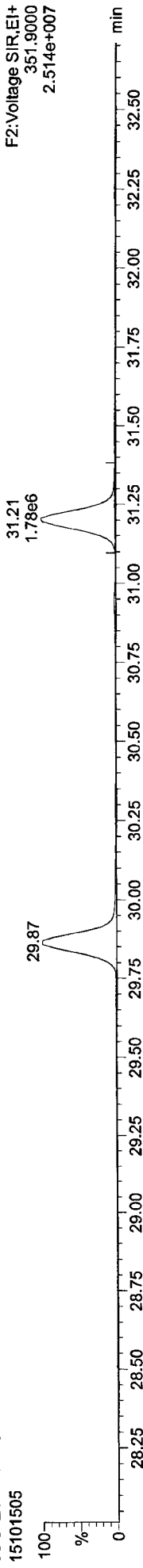


Quantify Sample Report MassLynx V4.1 SCN909

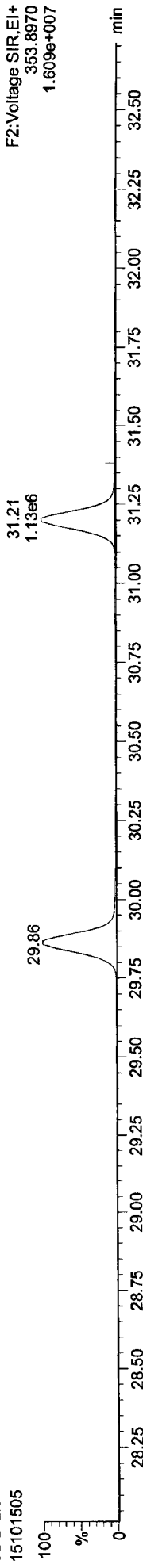
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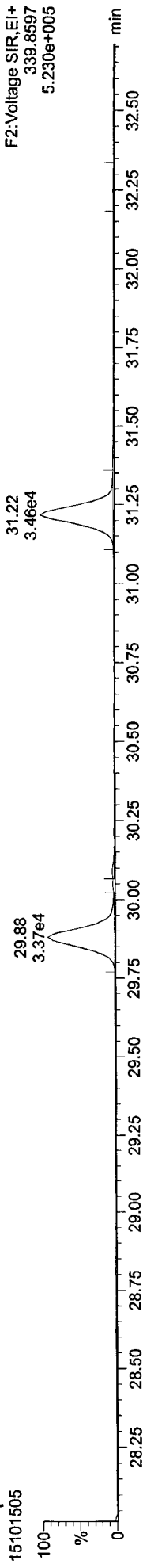
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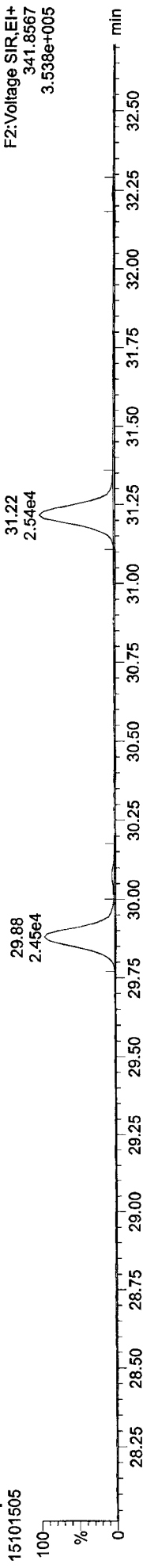
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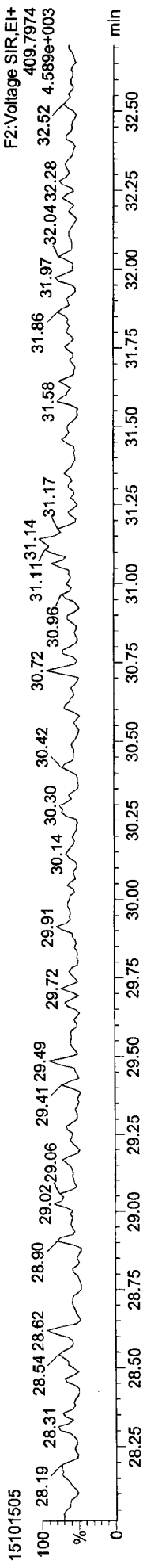
Total-pentafurans



Total-pentafurans

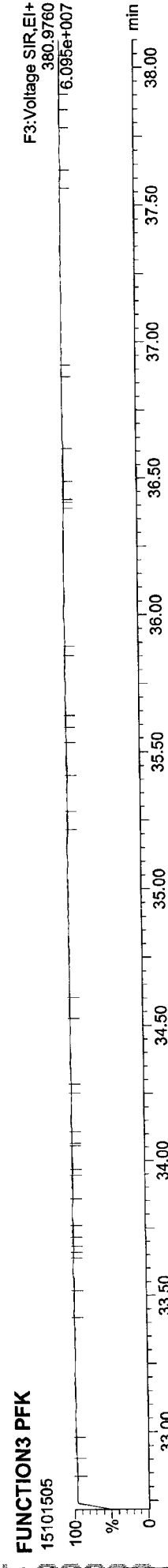
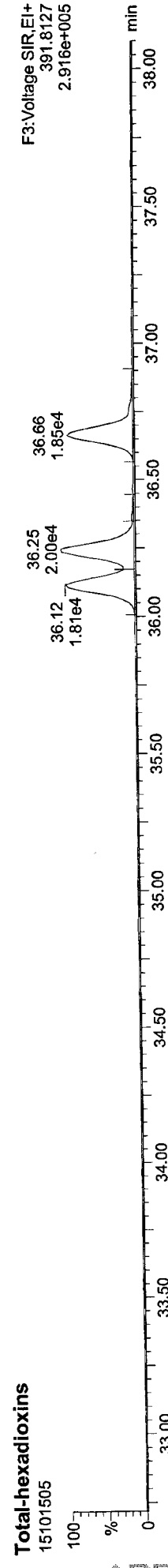
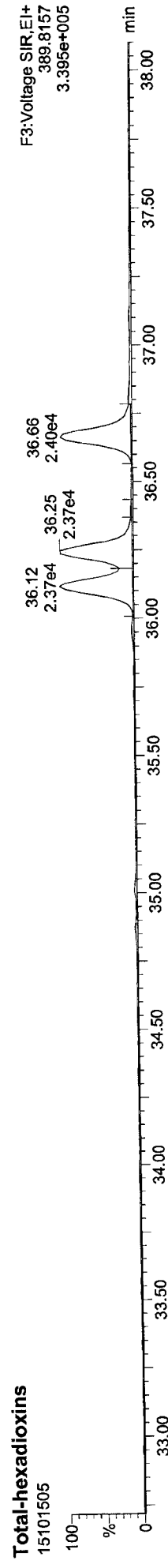
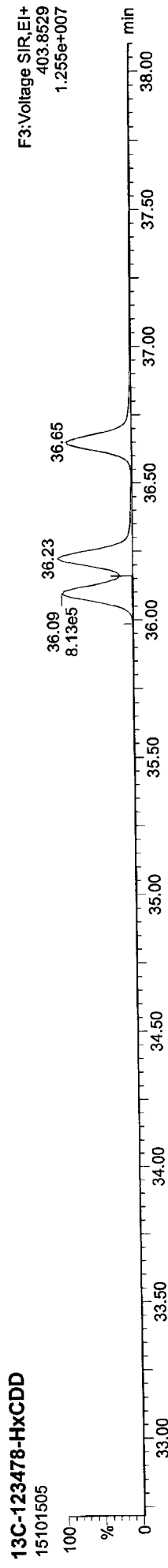
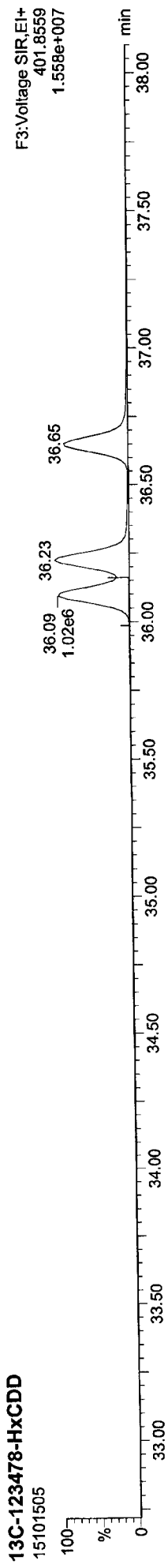


FUNCTION2 HPCDPE



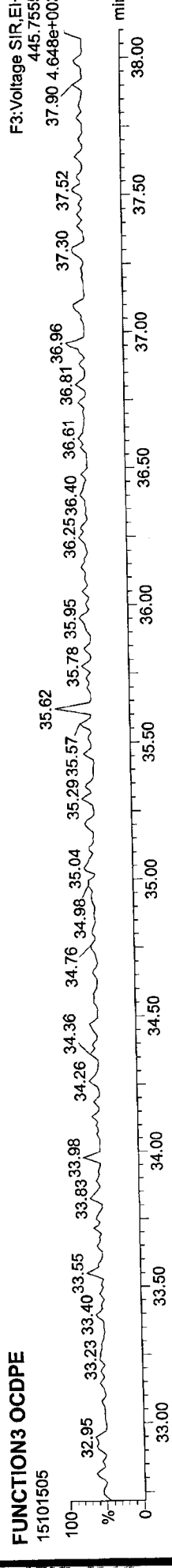
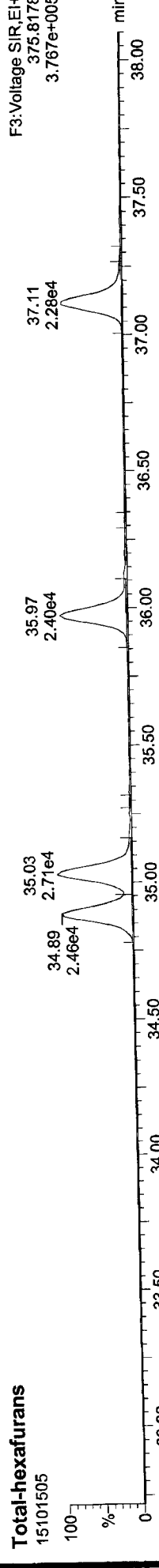
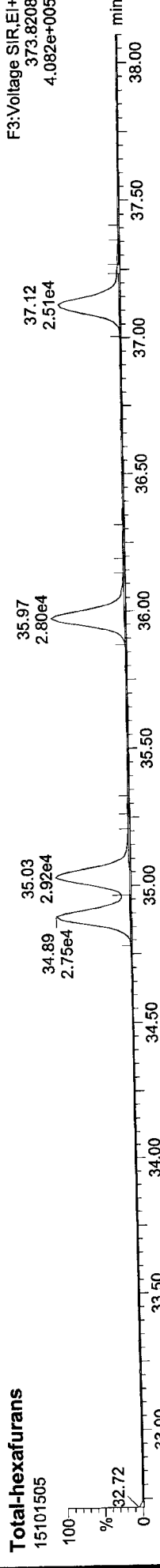
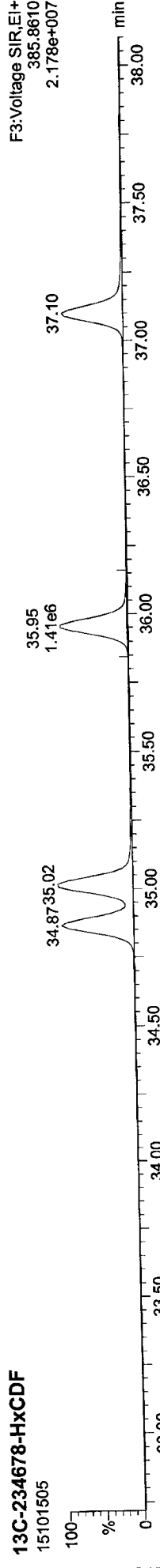
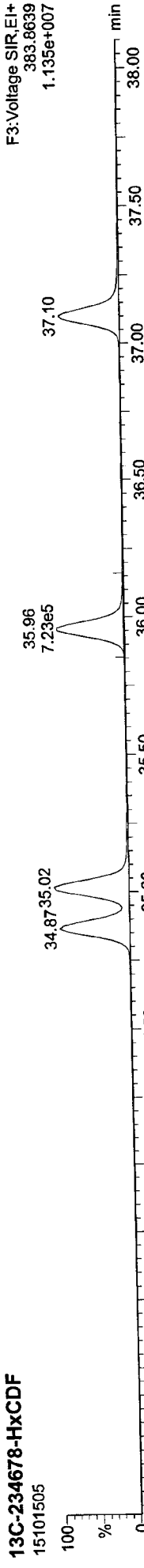
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk



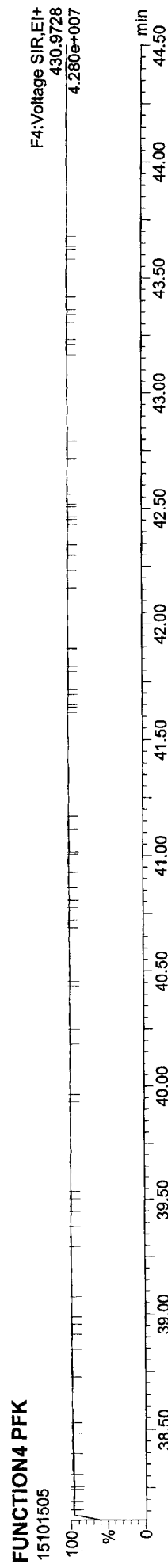
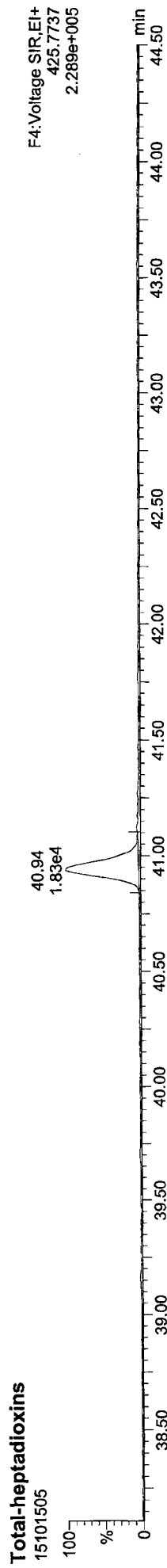
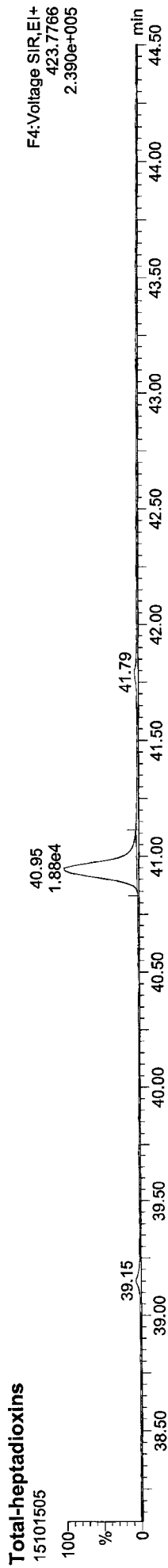
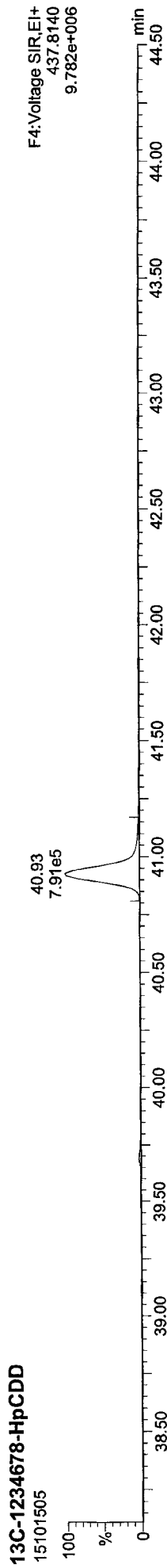
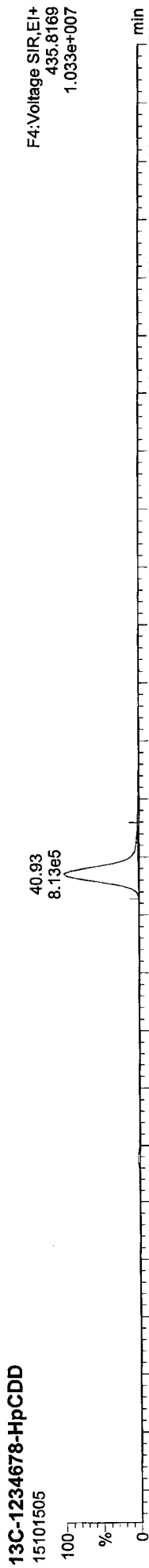
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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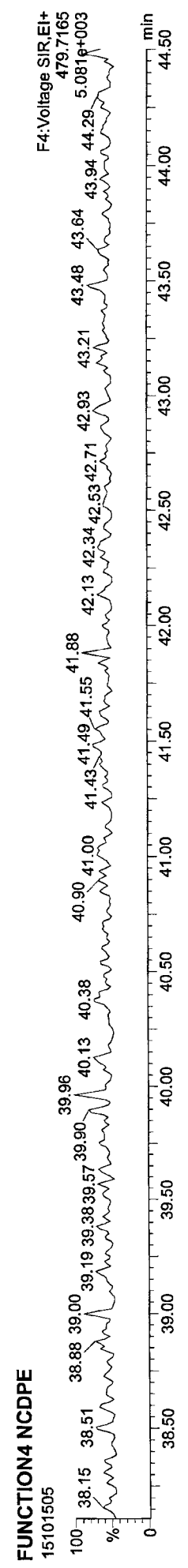
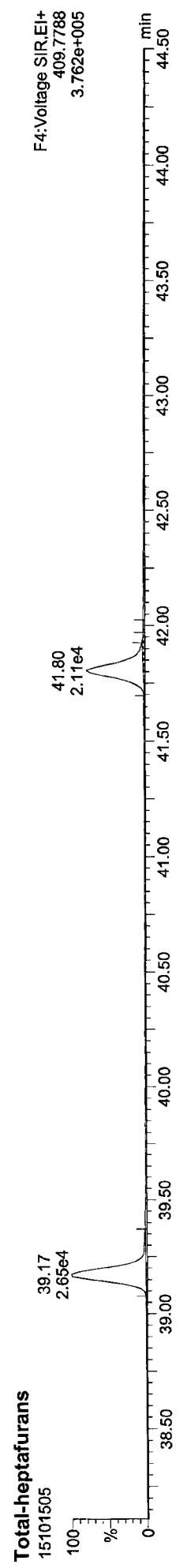
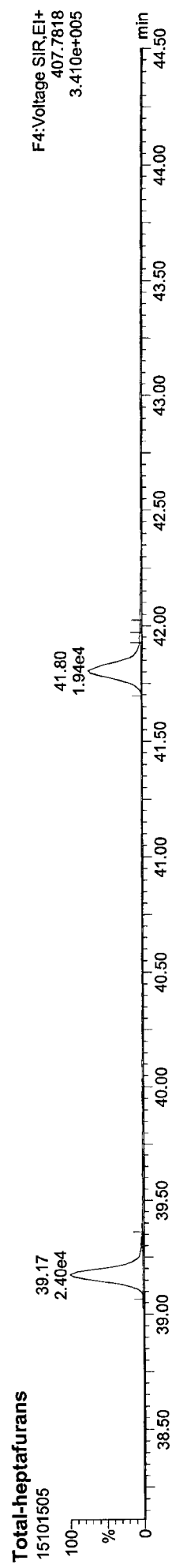
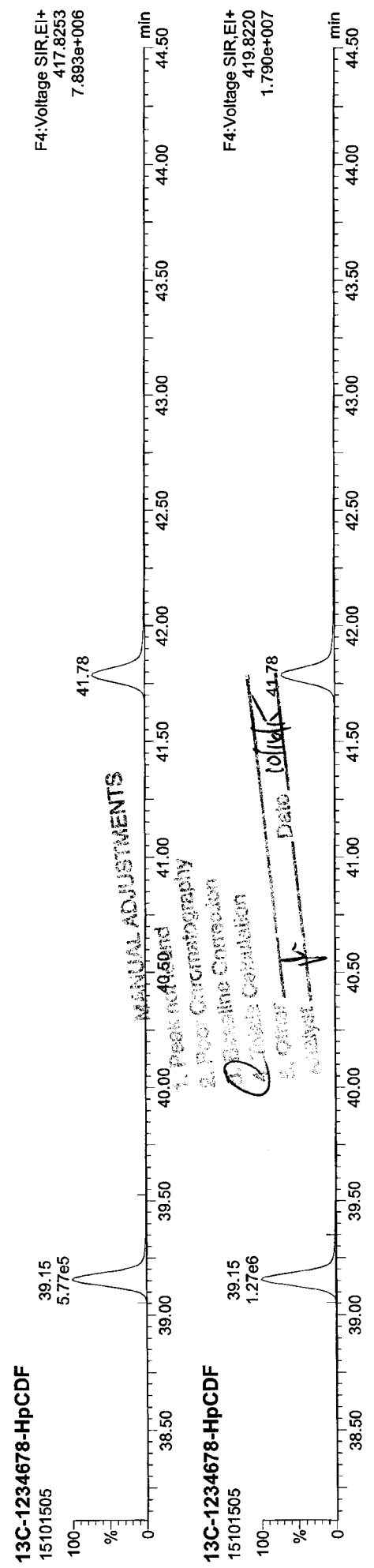
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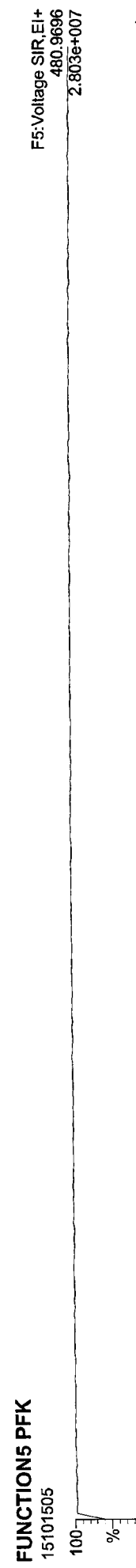
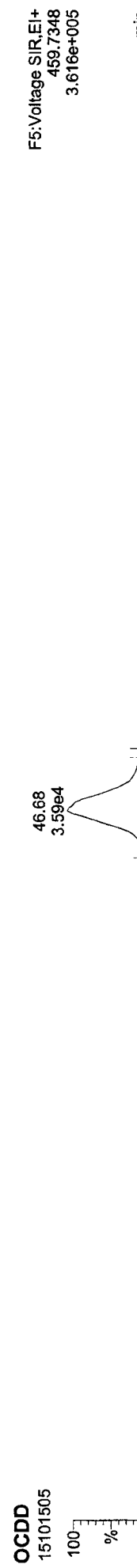
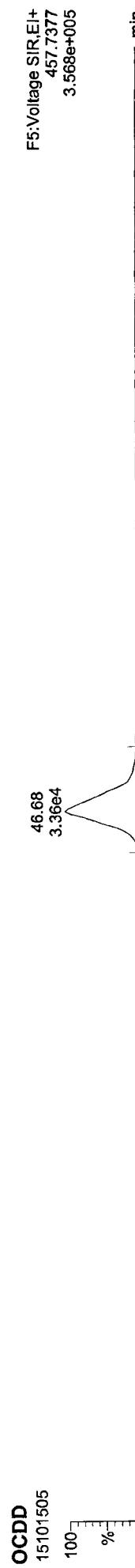
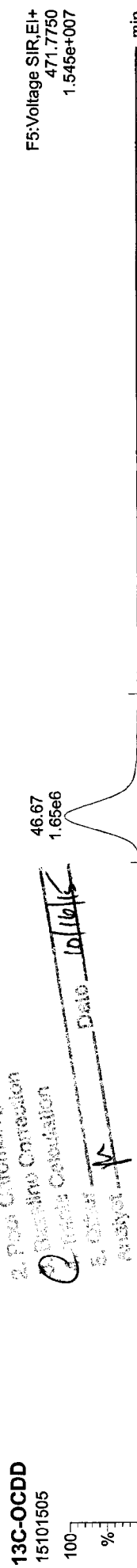
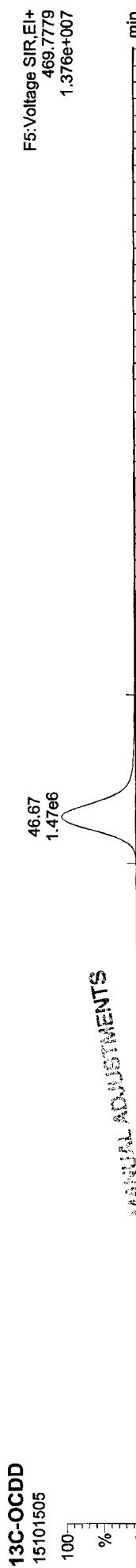
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

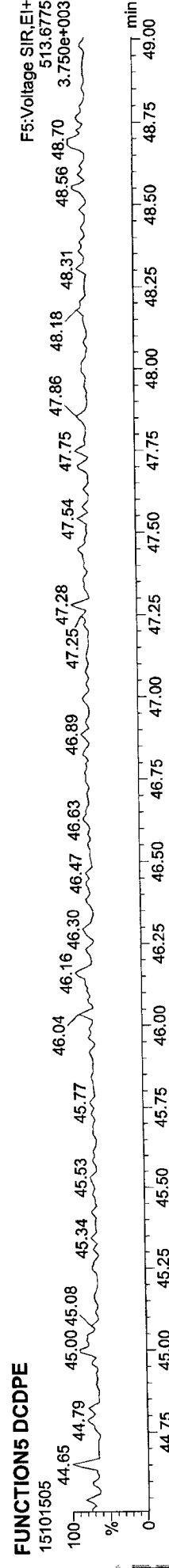
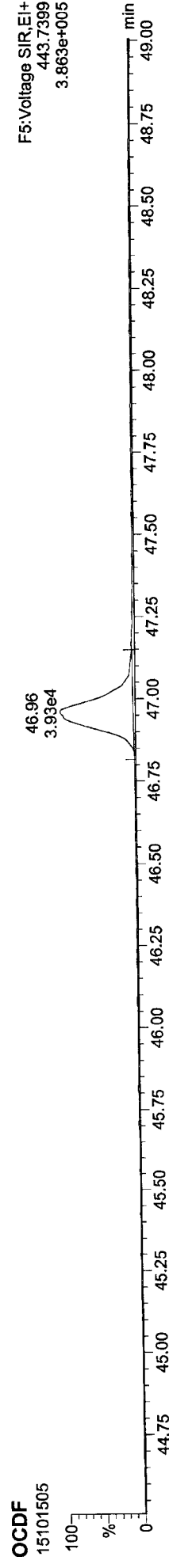
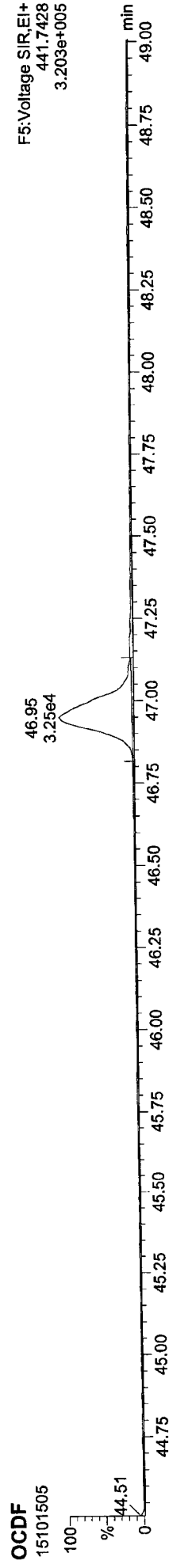
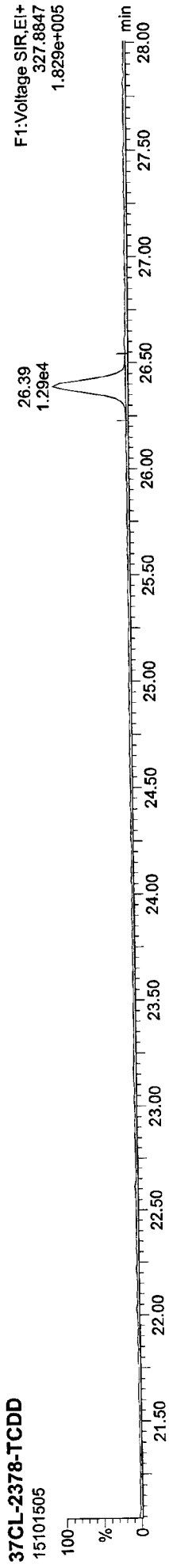
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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Printed: Friday, October 16, 2015 09:49:57 Pacific Daylight Time

ID: CS1, Name: 15101505, Date: 15-Oct-2015, Time: 16:02:00, Conditions: AUTOSPEC01, User: pk



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:49:59 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS2, Name: 15101506, Date: 15-Oct-2015, Time: 16:52:59, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	PredR	Noise1	Noise2	Height1	Height2	S/N	EMPC?	EMPC	pg
2378-TCDF	25.735	1.001	2.52e4	3.83e4	0.827	0.657	0.770	839	1298	3.63e5	5.49e5	433.0	NO	1.958	1.958
12378-PeCDF	29.869	1.001	1.45e5	1.07e5	0.824	1.352	1.550	937	1454	2.04e6	1.51e6	2181.0	NO	9.850	9.850
23478-PeCDF	31.206	1.000	1.49e5	1.05e5	0.850	1.418	1.550	937	1454	2.14e6	1.52e6	2284.7	NO	9.966	9.966
123478-HxCDF	34.878	1.001	1.18e5	1.05e5	0.973	1.125	1.240	1419	2043	1.72e6	1.57e6	1209.2	NO	9.879	9.879
234678-HxCDF	35.963	1.000	1.17e5	1.05e5	1.025	1.116	1.240	1419	2043	1.65e6	1.50e6	1164.7	NO	9.805	9.805
123678-HxCDF	35.020	1.000	1.27e5	1.18e5	0.953	1.082	1.240	1419	2043	1.69e6	1.60e6	1193.5	NO	10.006	10.006
123789-HxCDF	37.114	1.001	1.06e5	9.27e4	0.956	1.142	1.240	1419	2043	1.43e6	1.25e6	1004.9	NO	9.648	9.648
1234678-HpCDF	39.164	1.000	1.04e5	1.11e5	1.153	0.941	1.050	1298	1377	1.46e6	1.61e6	1122.2	NO	9.908	9.908
1234789-HpCDF	41.794	1.000	8.31e4	9.01e4	1.131	0.923	1.050	1298	1377	1.03e6	1.07e6	789.9	NO	9.996	9.996
OCDF	46.951	1.006	1.40e5	1.74e5	1.023	0.807	0.890	1155	1576	1.38e6	1.70e6	1197.8	NO	19.937	19.937
2378-TCDD	26.377	1.001	2.25e4	2.81e4	1.023	0.800	0.770	956	615	3.06e5	3.99e5	320.0	NO	1.878	1.878
12378-PeCDD	31.469	1.001	1.15e5	7.41e4	0.939	1.554	1.550	1151	597	1.64e6	1.01e6	1421.8	NO	10.117	10.117
123478-HxCDD	36.105	1.001	9.98e4	8.00e4	0.963	1.247	1.240	850	1765	1.47e6	1.18e6	1727.4	NO	9.916	9.916
123678-HxCDD	36.237	1.001	1.01e5	8.20e4	0.894	1.234	1.240	850	1765	1.41e6	1.15e6	1656.6	NO	9.685	9.685
123789-HxCDD	36.653	1.012	9.66e4	8.07e4	0.900	1.198	1.240	850	1765	1.34e6	1.09e6	1573.6	NO	9.850	9.850
1234678-HpCDD	40.939	1.000	8.33e4	7.87e4	0.964	1.059	1.050	950	1252	1.05e6	1.00e6	1103.4	NO	10.074	10.074
OCDD	46.682	1.000	1.37e5	1.55e5	0.969	0.881	0.890	1241	1433	1.36e6	1.53e6	1099.0	NO	19.525	19.525
13C-2378-TCDF	25.719	1.006	1.71e6	2.21e6	1.502	0.774	0.770	4466	2203	2.40e7	3.12e7	5378.2	NO	100.740	100.740
13C-12378-PeCDF	29.847	1.168	1.88e6	1.23e6	1.215	1.536	1.550	3320	3079	2.61e7	1.70e7	7872.9	NO	98.692	98.692
13C-23478-PeCDF	31.195	1.221	1.84e6	1.16e6	1.181	1.580	1.550	3320	3079	2.62e7	1.65e7	7879.7	NO	98.102	98.102
13C-123478-HxCDF	34.856	0.951	7.85e5	1.54e6	1.246	0.511	0.510	4143	4385	1.14e7	2.22e7	2749.9	NO	98.524	98.524
13C-123678-HxCDF	35.009	0.955	8.73e5	1.70e6	1.375	0.514	0.510	4143	4385	1.18e7	2.28e7	2849.3	NO	98.859	98.859
13C-234678-HxCDF	35.952	0.981	7.60e5	1.45e6	1.186	0.525	0.510	4143	4385	1.05e7	2.02e7	2545.1	NO	98.304	98.304
13C-123789-HxCDF	37.092	1.012	7.36e5	1.42e6	1.135	0.520	0.510	4143	4385	9.99e6	1.93e7	2410.5	NO	100.229	100.229
13C-1234678-HpCDF	39.153	1.069	5.82e5	1.30e6	1.020	0.448	0.440	2174	3772	8.21e6	1.81e7	3776.4	NO	97.518	97.518
13C-1234789-HpCDF	41.783	1.140	4.58e5	1.07e6	0.824	0.426	0.440	2174	3772	5.59e6	1.27e7	2572.1	NO	98.306	98.306
13C-1234-TCDD	25.555	0.000	1.14e6	1.45e6	1.000	0.790	0.770	2845	1519	1.67e7	2.11e7	5865.5	NO	100.000	100.000
13C-2378-TCDD	26.362	1.032	1.15e6	1.48e6	0.983	0.780	0.770	2845	1519	1.61e7	2.06e7	5645.0	NO	103.373	103.373
13C-12378-PeCDD	31.447	1.231	1.21e6	7.84e5	0.787	1.539	1.550	1217	1716	1.71e7	1.09e7	14015.5	NO	97.611	97.611
13C-123478-HxCDD	36.083	0.985	1.05e6	8.32e5	1.031	1.266	1.240	2022	1855	1.54e7	1.22e7	7608.2	NO	96.621	96.621
13C-123678-HxCDD	36.215	0.988	1.17e6	9.41e5	1.137	1.248	1.240	2022	1855	1.62e7	1.30e7	7996.1	NO	98.403	98.403
13C-1234678-HpCDD	40.917	1.117	8.49e5	8.19e5	0.892	1.037	1.050	2704	1983	1.08e7	1.04e7	3984.5	NO	98.878	98.878
13C-OCDD	46.664	1.273	1.46e6	1.62e6	0.852	0.901	0.890	2413	2734	1.41e7	1.60e7	5839.2	NO	191.435	191.435

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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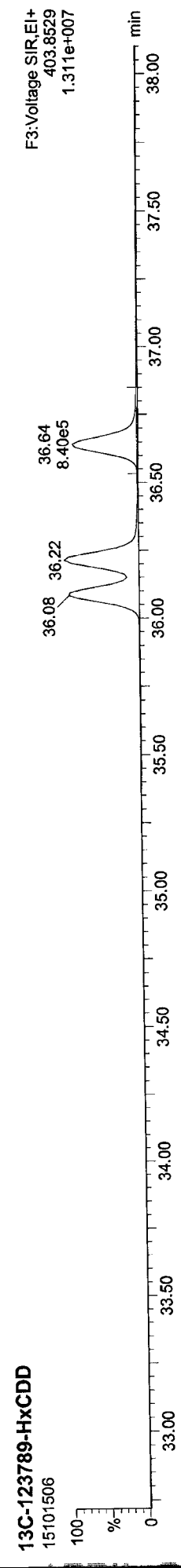
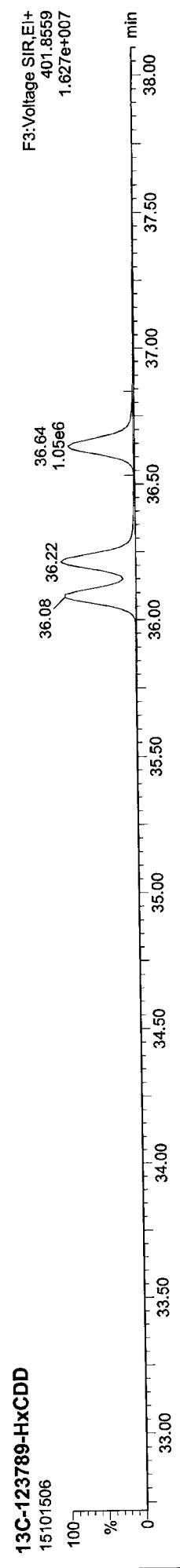
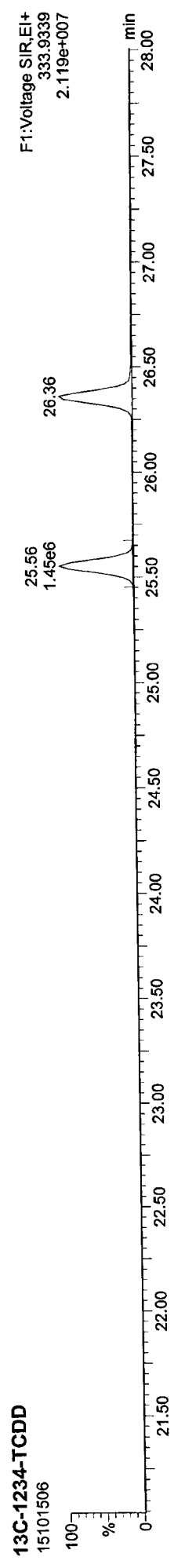
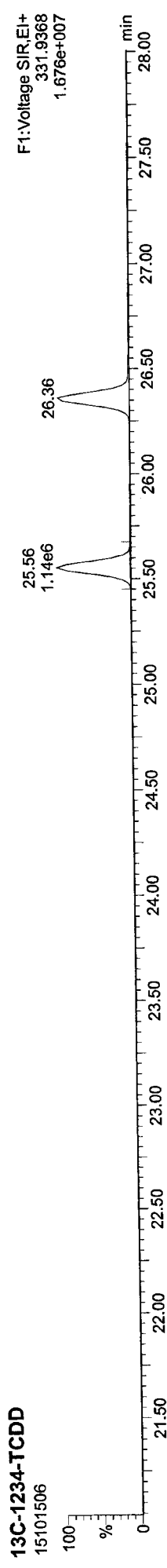
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Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	36.643	0.000	1.05e6	8.40e5	1.000	1.251	1.240	2022	1855	1.43e7	1.14e7	7079.2	NO		100.000
Total-tetrafurans			2.55e4		0.827			839		3.70e5					1.976
Total-penta1			0.00e0					400		0.00e0					
Total-pentafurans			3.02e5		0.837			937		4.27e6					20.262
Total-hexafurans			4.69e5		0.977			1419		6.49e6					39.358
Total-heptafurans			1.88e5		1.142			1298		2.50e6					20.036
Total-Furans			1.12e6		0.971			839		1.50e7					101.569
Total-tetra-dioxins			2.31e4		1.023			956		3.16e5					1.906
Total-penta-dioxins			1.16e5		0.939			1151		1.65e6					10.154
Total-hexa-dioxins			2.98e5		0.919			850		4.22e6					29.500
Total-hepta-dioxins			8.45e4		0.964			950		1.07e6					10.198
Total-Dioxins			6.58e5		0.950			956		8.62e6					71.283
Total-TEQ			1.78e6					956		2.36e7					172.852
37CL-2378-TCDD	26.377	1.032	5.52e4		1.091			1477		7.70e5		521.1			1.950
FUNCTION1 PFK			0.00e0					625796		0.00e0					0.000
FUNCTION2 PFK			1.60e5					120675		4.48e6					
FUNCTION3 PFK			0.00e0					435461		0.00e0					
FUNCTION4 PFK			2.10e5					302741		6.10e6					
FUNCTION5 PFK			0.00e0					260682		0.00e0					
FUNCTION1 HxCDPE			0.00e0					411		0.00e0					0.000
FUNCTION1 HPCDPE			1.84e2					576		3.15e3					0.000
FUNCTION2 HPCDPE			3.96e2					960		6.89e3					
FUNCTION3 OCDPE			0.00e0					365		0.00e0					
FUNCTION4 NCDPE			0.00e0					566		0.00e0					
FUNCTION5 DCDPE			0.00e0					278		0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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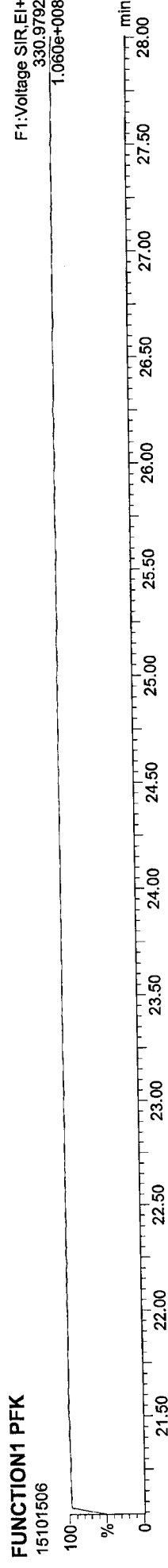
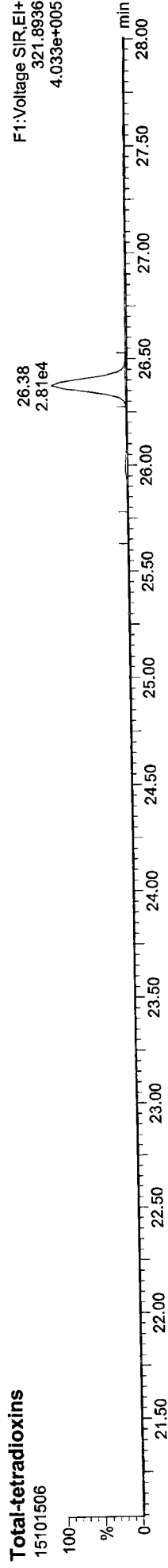
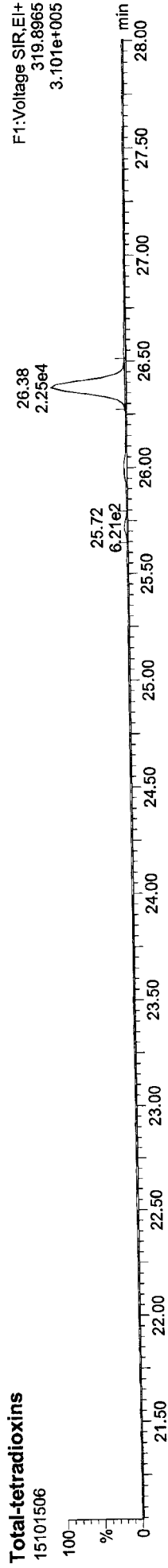
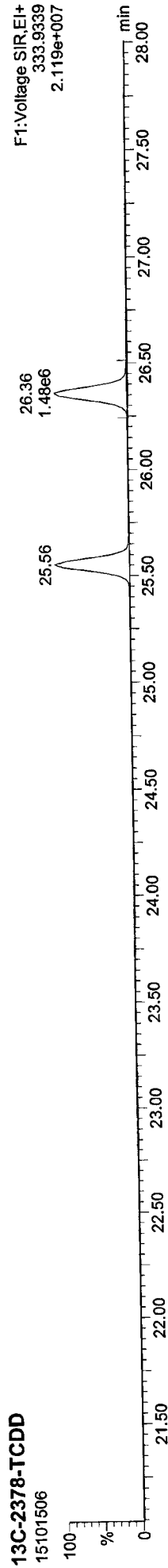
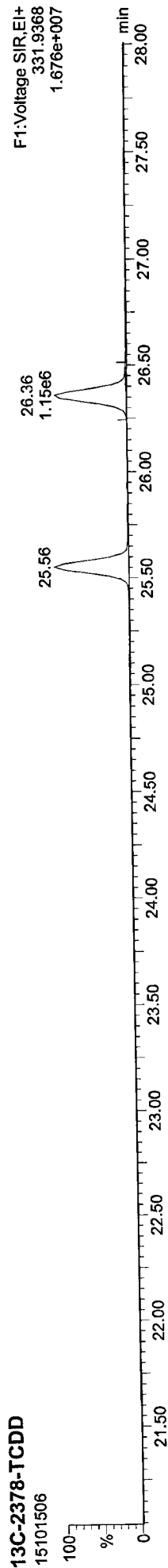
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

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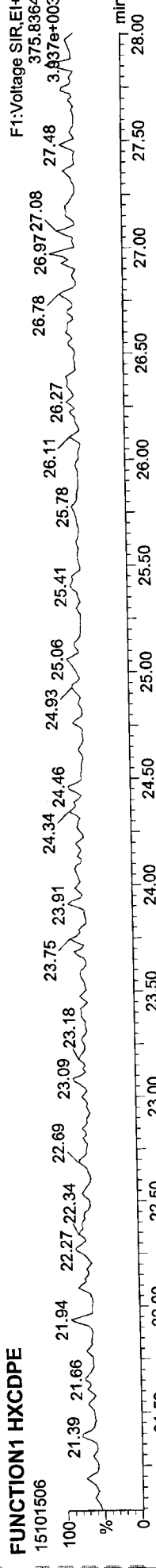
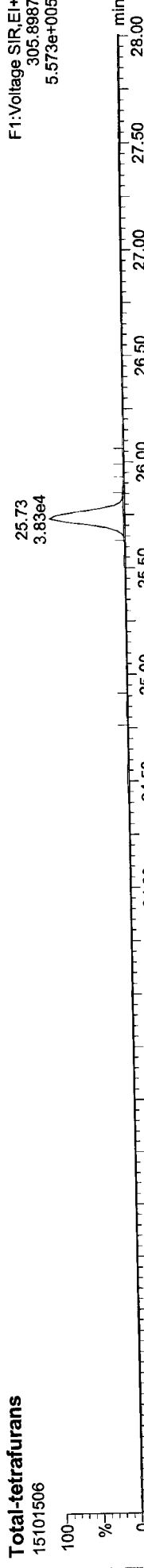
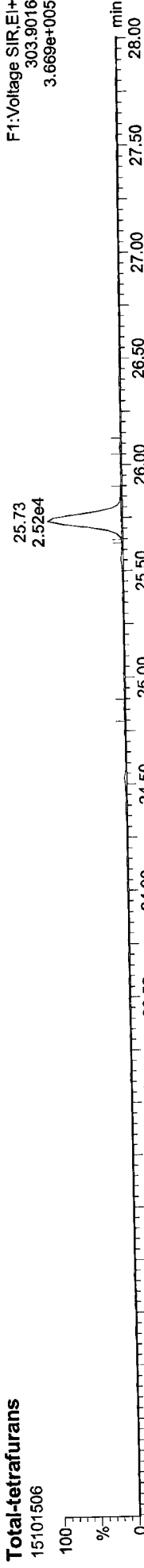
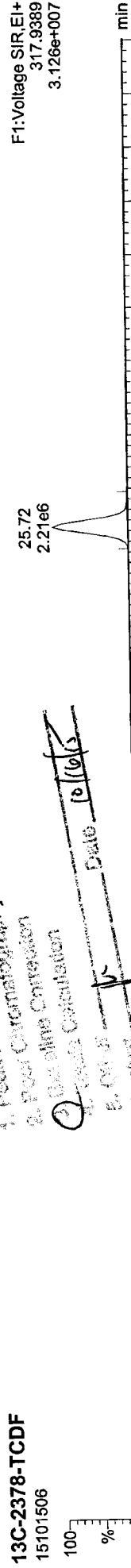
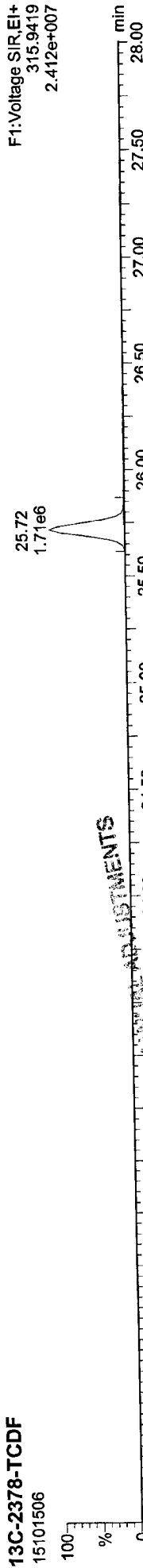
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

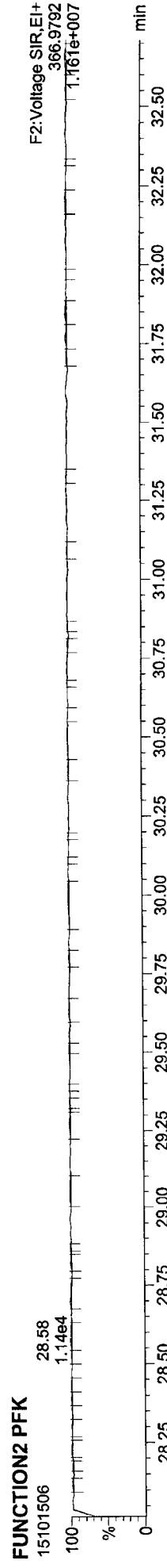
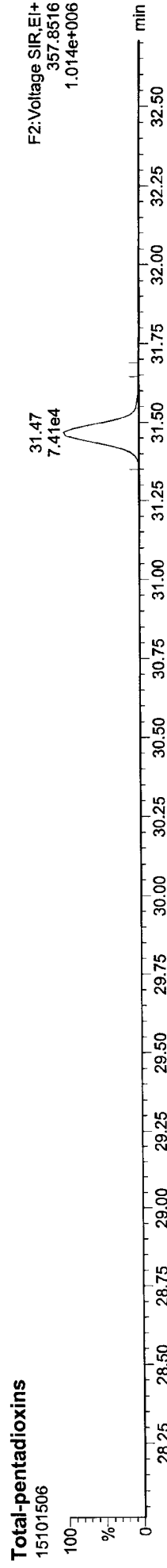
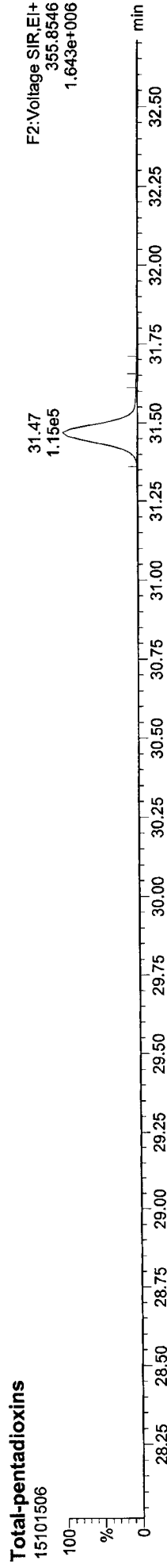
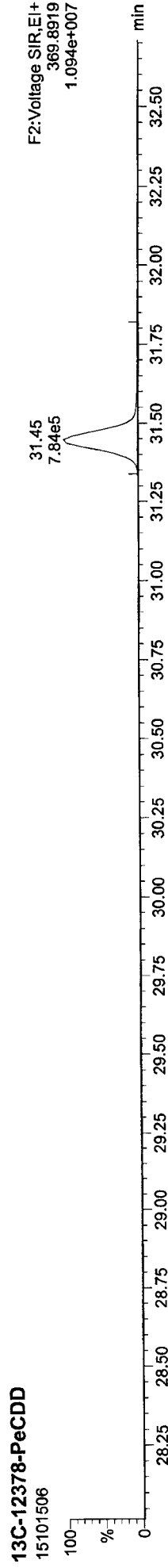
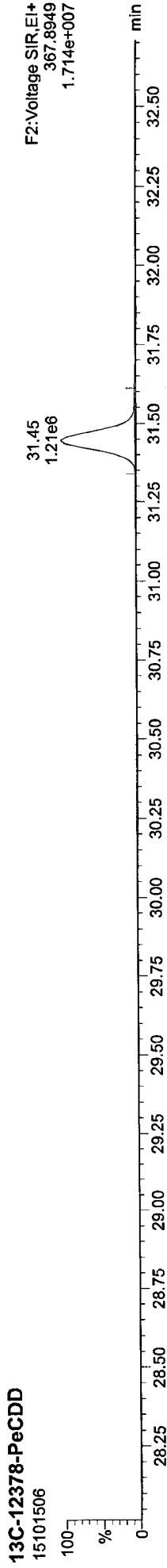
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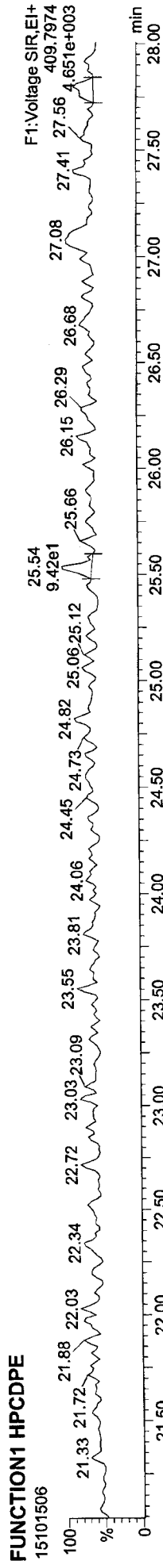
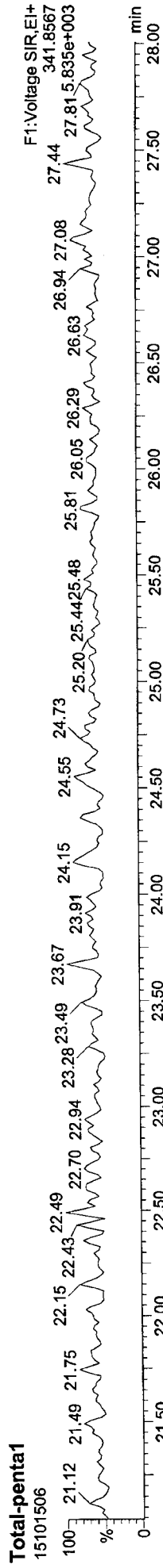
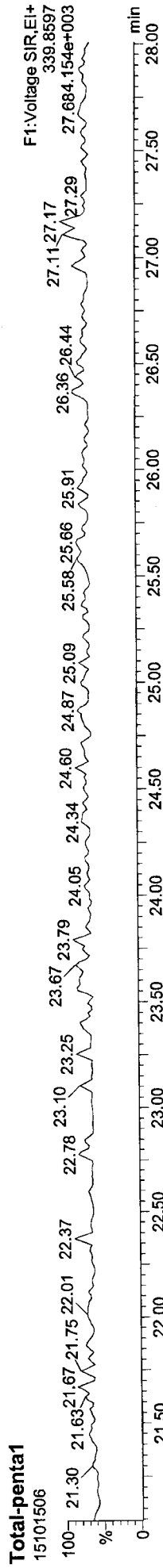
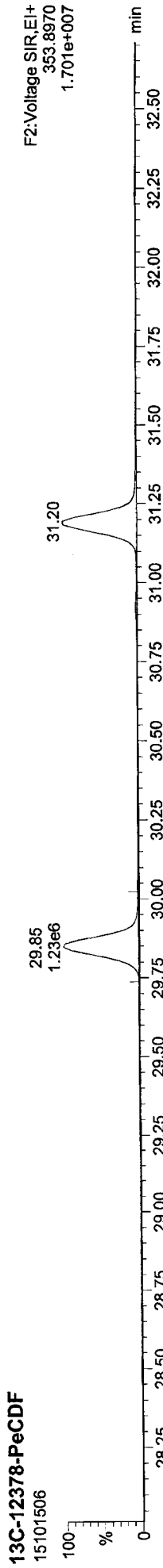
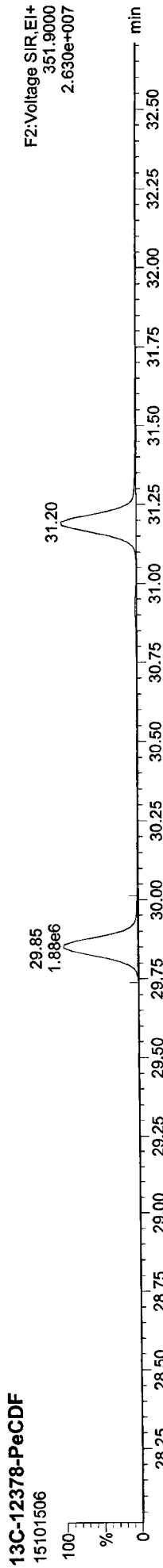
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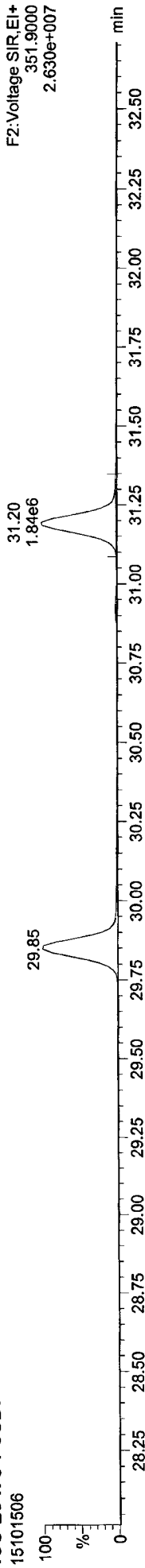


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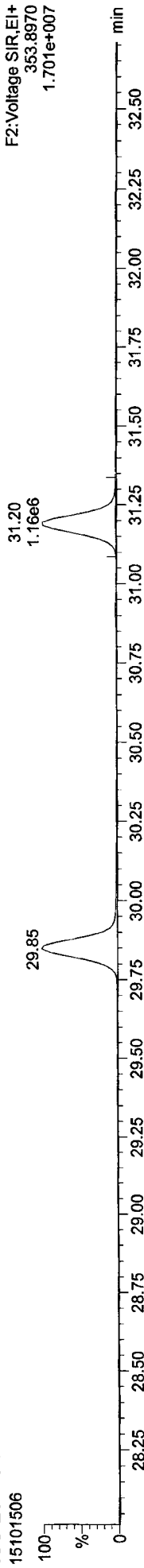
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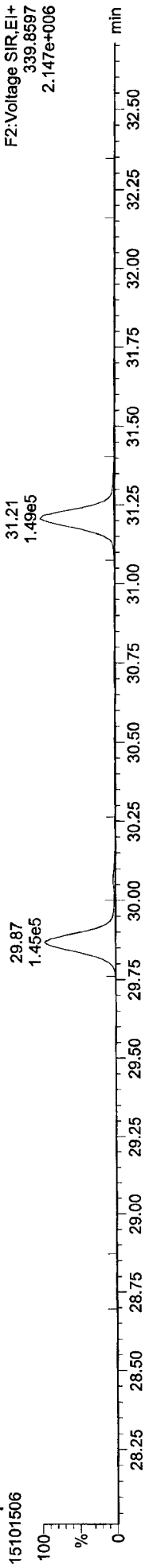
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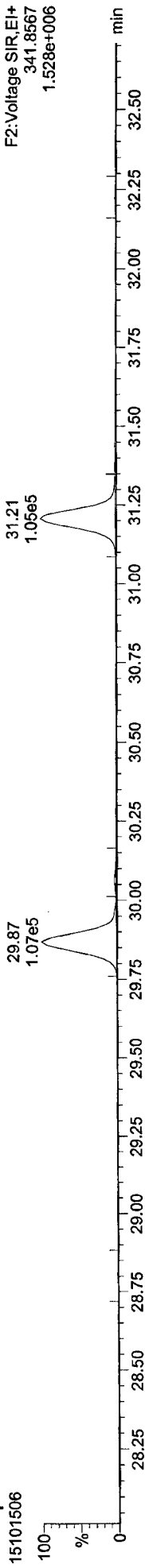
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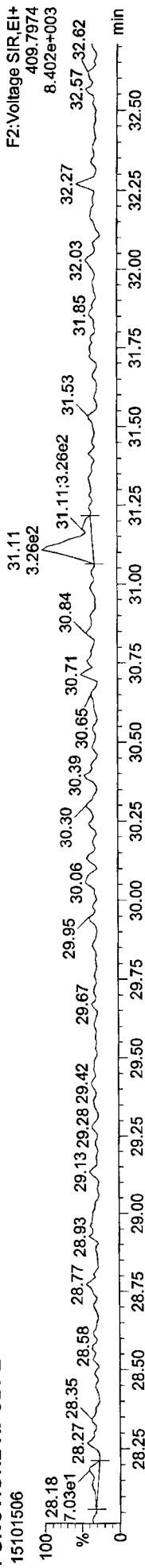
Total-pentafurans



Total-pentafurans



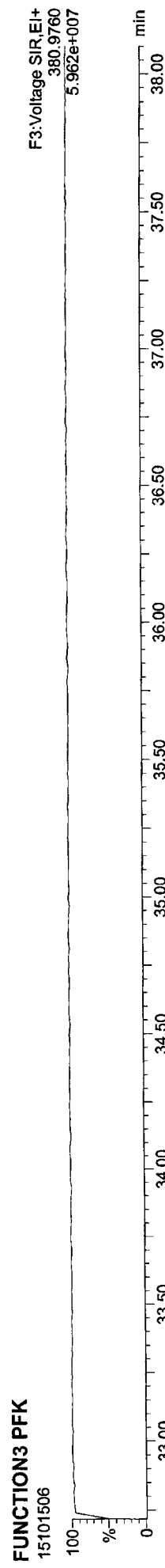
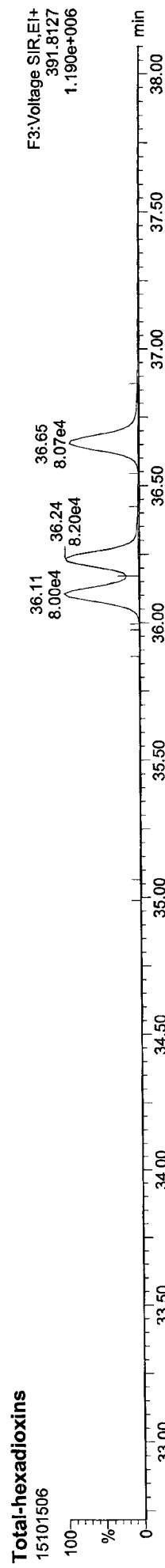
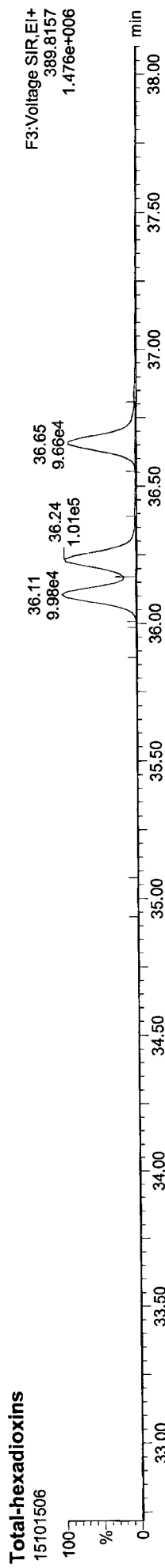
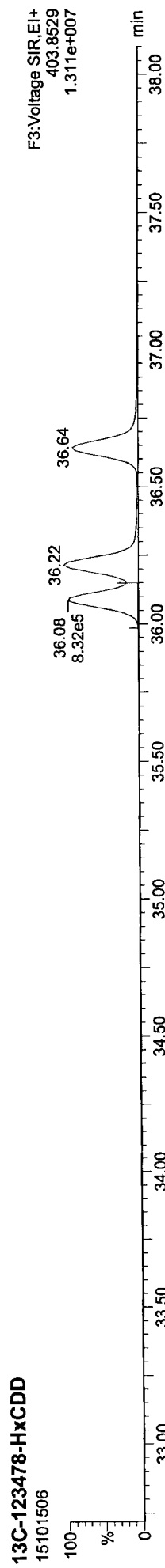
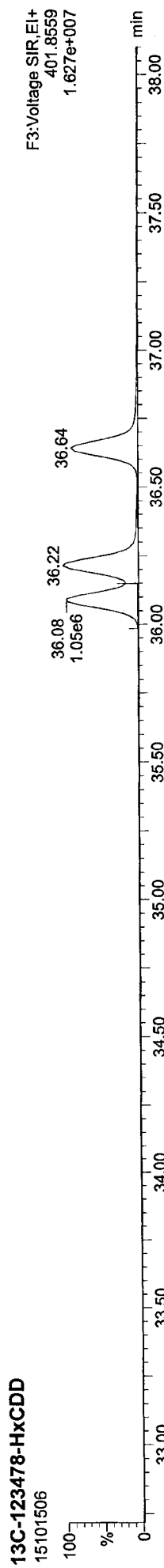
FUNCTION2 HPCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

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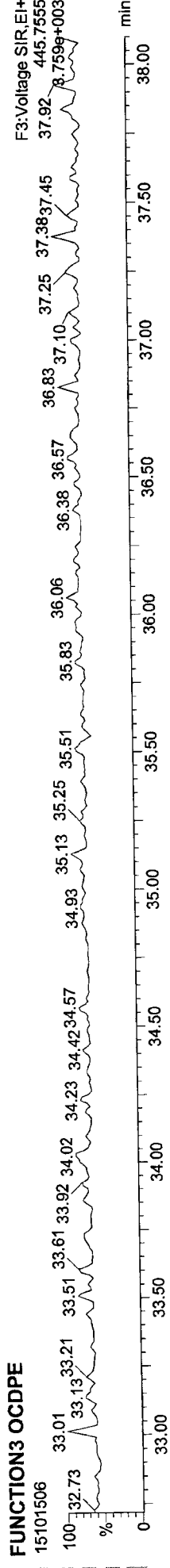
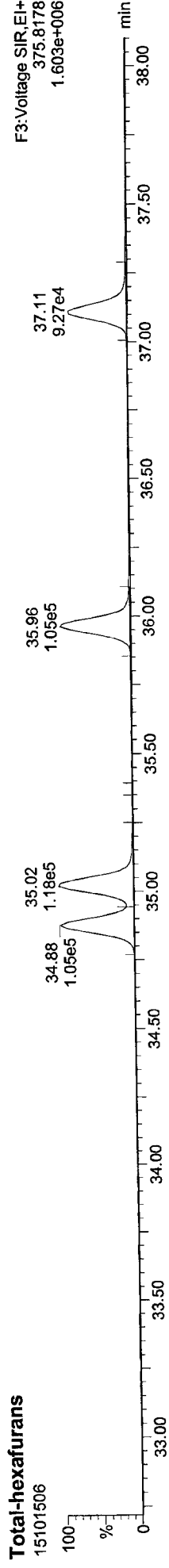
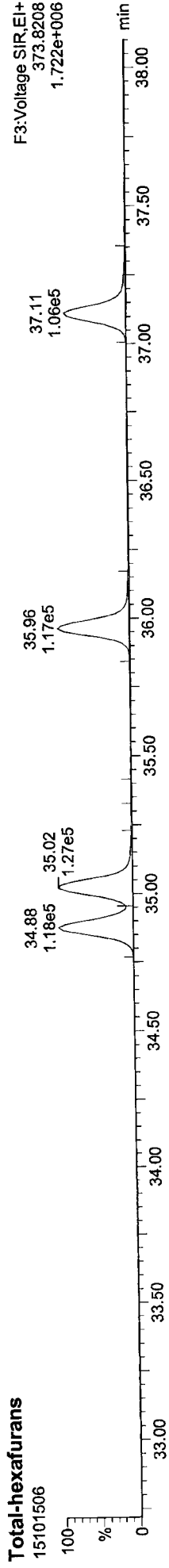
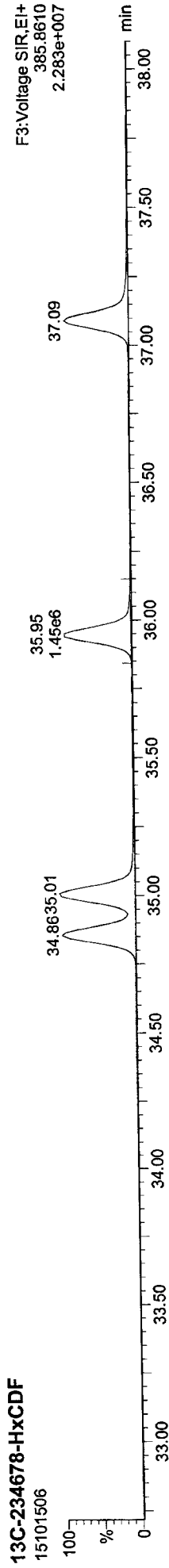
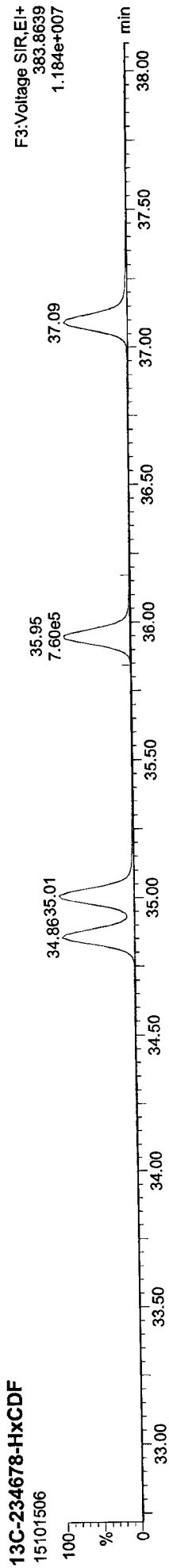
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

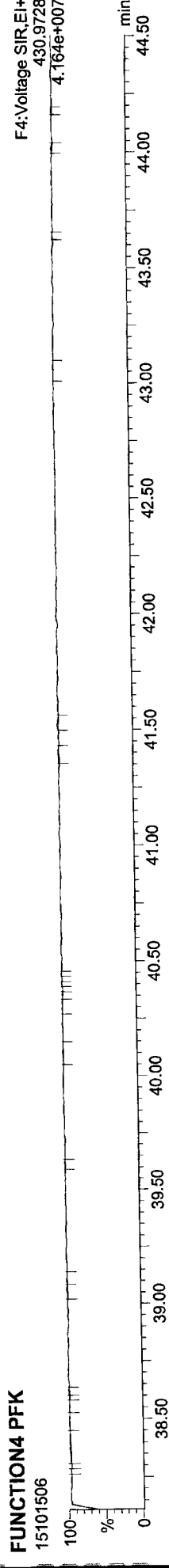
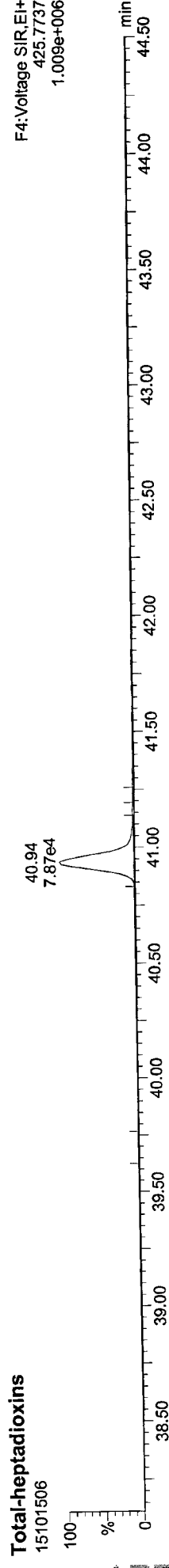
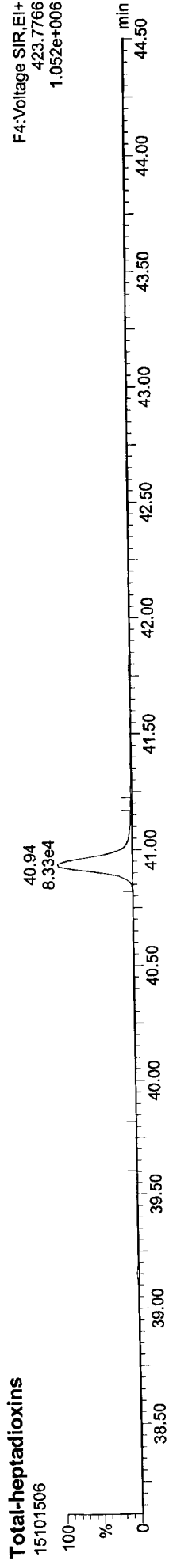
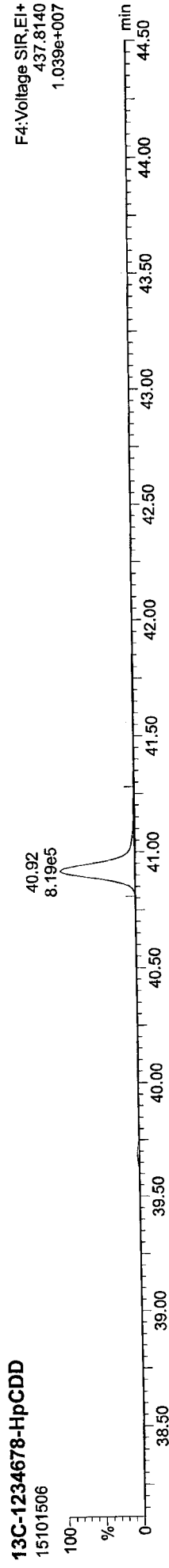
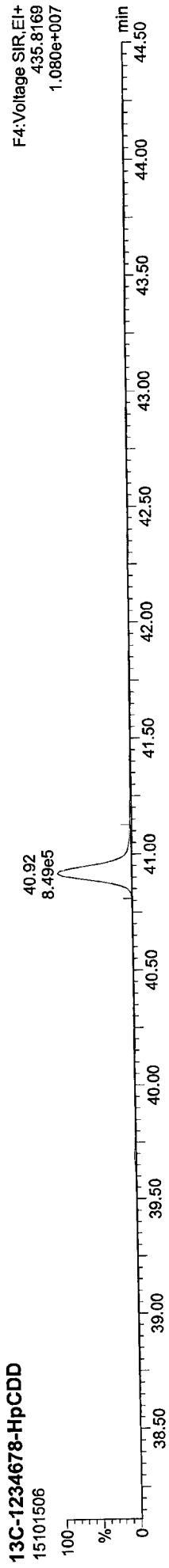
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Printed: Friday, October 16, 2015 09:49:59 Pacific Daylight Time

ID: CS2, Name: 15101506, Date: 15-Oct-2015, Time: 16:52:59, Conditions: AUTOSPEC01, User: pk



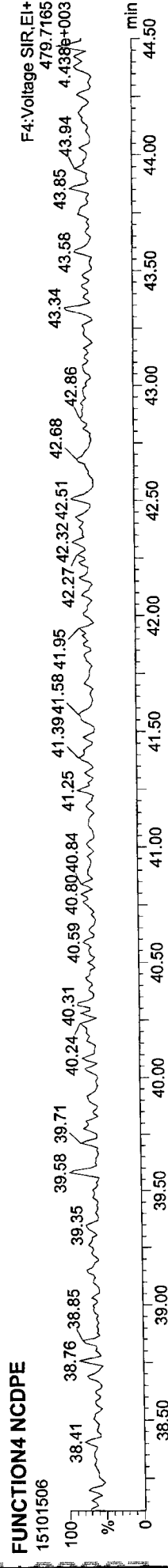
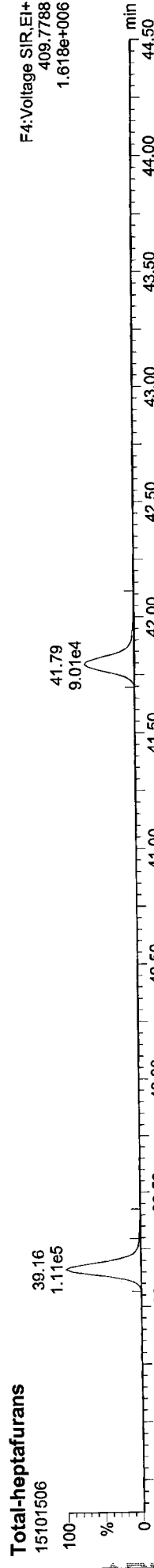
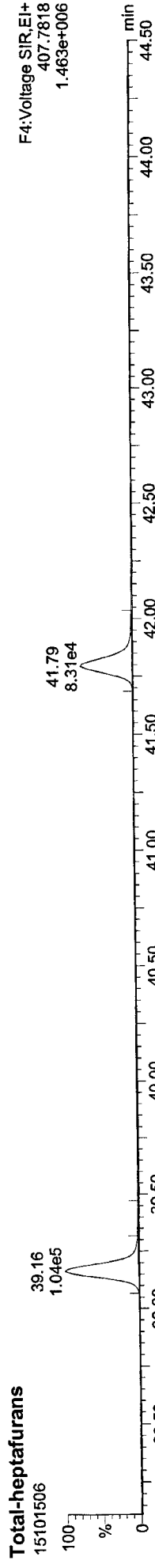
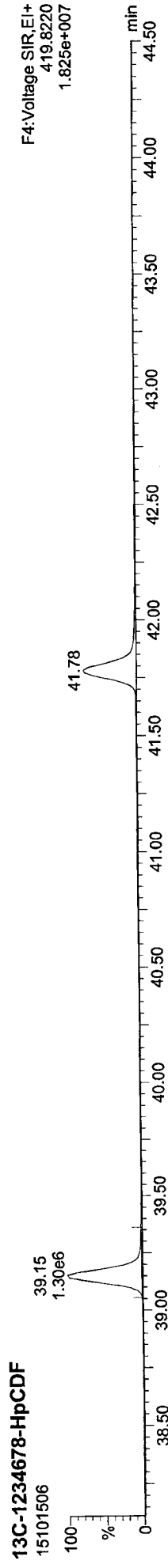
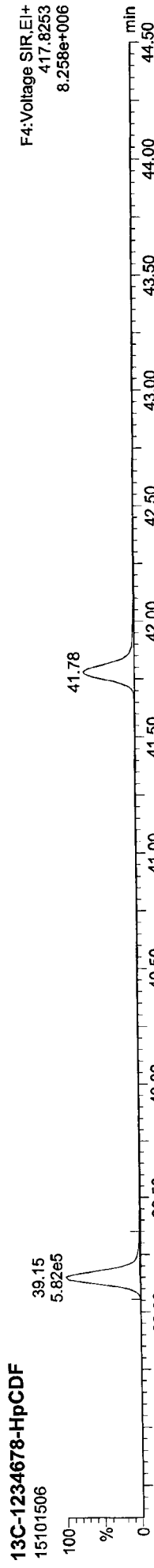
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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Printed: Friday, October 16, 2015 09:49:59 Pacific Daylight Time

ID: CS2, Name: 15101506, Date: 15-Oct-2015, Time: 16:52:59, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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Printed: Friday, October 16, 2015 09:49:59 Pacific Daylight Time

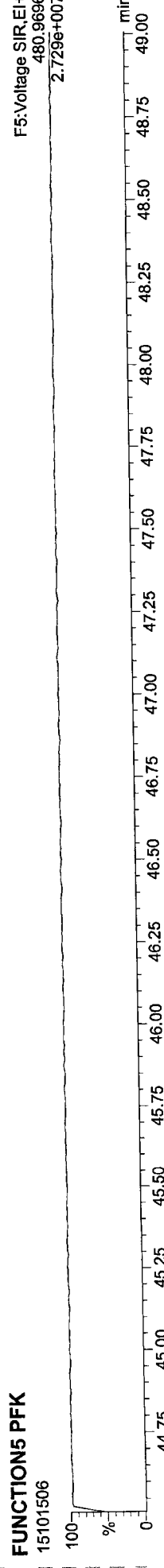
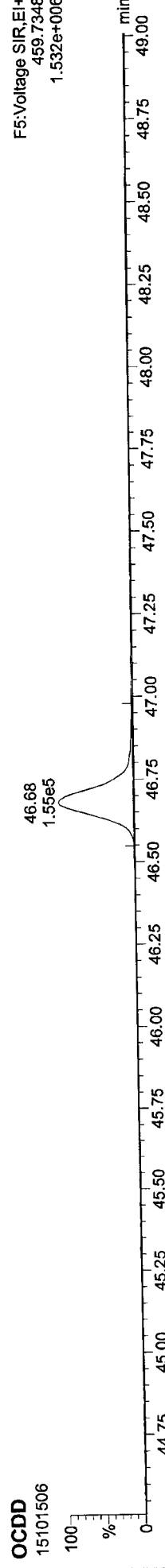
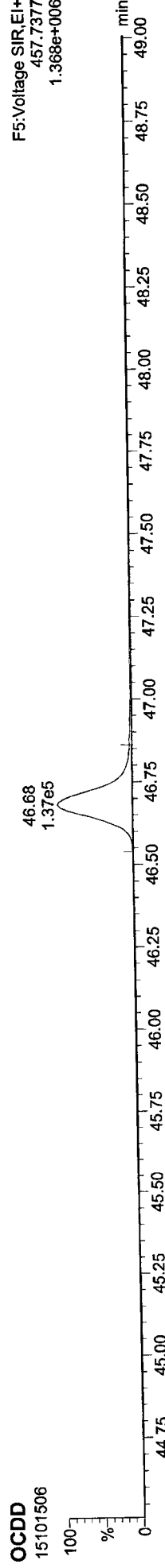
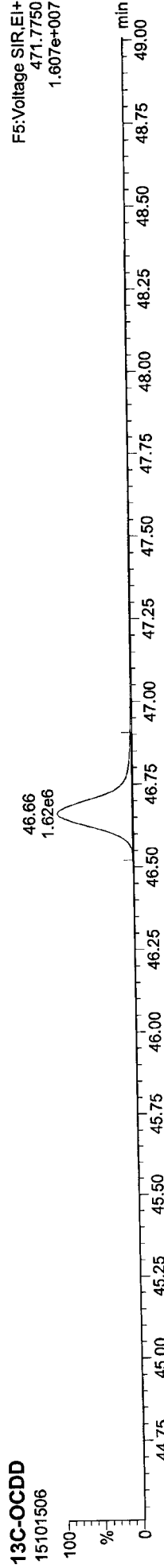
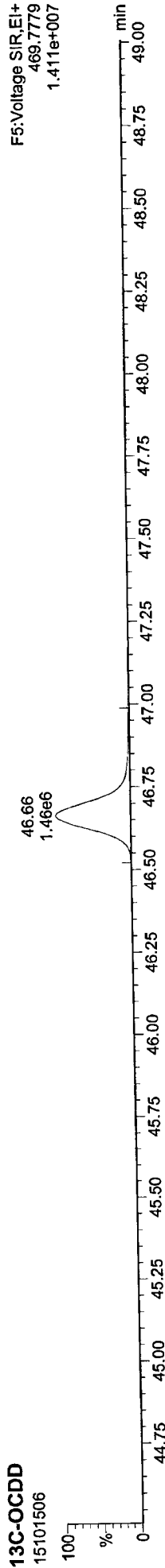
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS2, Name: 15101506, Date: 15-Oct-2015, Time: 16:52:59, Conditions: AUTOSPEC01, User: pk



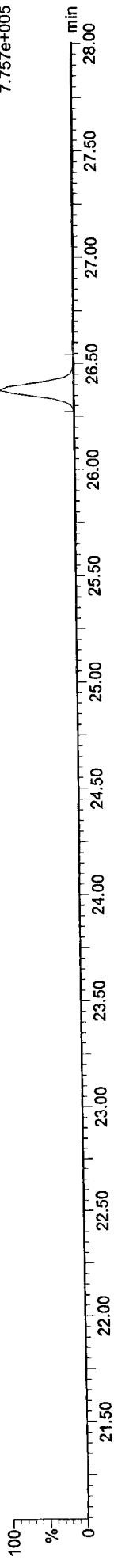
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ID: CS2, Name: 15101506, Date: 15-Oct-2015, Time: 16:52:59, Conditions: AUTOSPEC01, User: pk

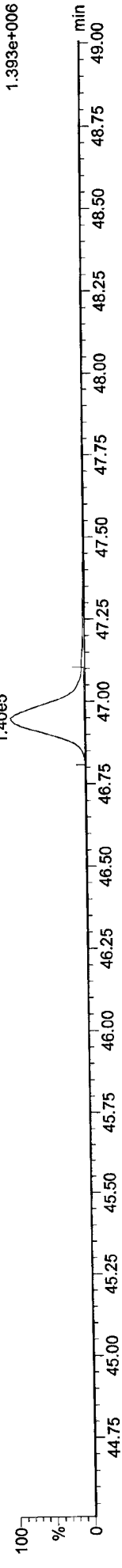
37CL-2378-TCDD

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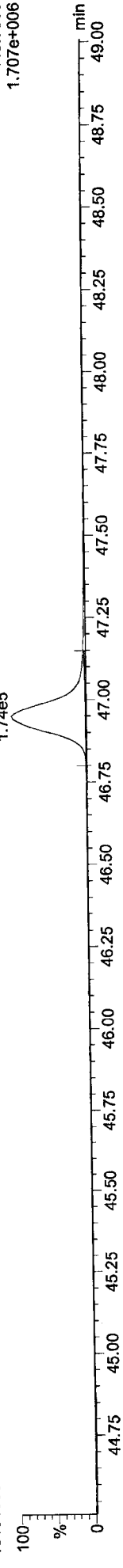
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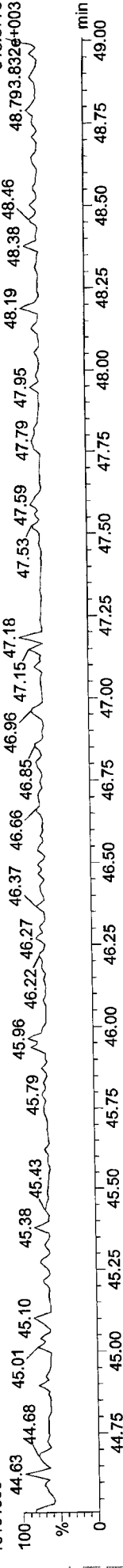
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15101506



FUNCTIONS DCDPE

15101506



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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 Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\DiDioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred.R	Noise 1	Noise 2	Height 1	Height 2	SN	EMPC?	EMPC	P9
2378-TCDF	25.750	1.001	1.48e5	2.24e5	0.827	0.661	0.770	1635	1444	2.09e6	3.19e6	1280.9	NO	9.965	9.965
12378-PeCDF	29.880	1.000	8.77e5	6.25e5	0.824	1.404	1.550	2596	2474	1.25e7	8.98e6	4815.8	NO	51.210	51.210
23478-PeCDF	31.218	1.000	8.61e5	6.18e5	0.850	1.394	1.550	2596	2474	1.25e7	8.96e6	4814.9	NO	50.437	50.437
123478-HxCDF	34.889	1.001	6.87e5	6.04e5	0.973	1.138	1.240	3574	5225	9.98e6	8.86e6	2792.2	NO	50.593	50.593
234678-HxCDF	35.975	1.001	6.80e5	6.15e5	1.025	1.106	1.240	3574	5225	9.64e6	8.64e6	2697.4	NO	50.959	50.959
123678-HxCDF	35.032	1.000	7.12e5	6.64e5	0.953	1.073	1.240	3574	5225	8.89e6	8.94e6	2766.8	NO	50.555	50.555
123789-HxCDF	37.126	1.001	5.81e5	5.30e5	0.956	1.097	1.240	3574	5225	8.04e6	7.22e6	2249.8	NO	48.065	48.065
1234678-HpCDF	39.175	1.000	5.94e5	6.49e5	1.153	0.916	1.050	2948	2978	8.69e6	9.21e6	2947.4	NO	50.934	50.934
1234789-HpCDF	41.806	1.000	4.74e5	5.09e5	1.131	0.930	1.050	2948	2978	5.89e6	6.25e6	1996.7	NO	51.541	51.541
OCDF	46.961	1.006	8.10e5	9.78e5	1.023	0.828	0.890	1918	3140	7.67e6	9.30e6	3999.3	NO	101.917	101.917
2378-TCDD	26.392	1.001	1.33e5	1.67e5	1.023	0.795	0.770	1346	1088	1.93e6	2.40e6	1435.2	NO	9.546	9.546
12378-PeCDD	31.481	1.001	6.50e5	4.24e5	0.939	1.534	1.550	3247	2345	9.31e6	5.99e6	2868.1	NO	49.938	49.938
123478-HxCDD	36.117	1.001	5.83e5	4.70e5	0.963	1.241	1.240	3172	3754	8.45e6	6.74e6	2662.7	NO	50.751	50.751
123678-HxCDD	36.249	1.001	5.95e5	4.76e5	0.894	1.250	1.240	3172	3754	8.34e6	6.60e6	2628.5	NO	49.635	49.635
123789-HxCDD	36.665	1.012	5.63e5	4.67e5	0.900	1.205	1.240	3172	3754	7.99e6	6.49e6	2520.0	NO	50.097	50.097
1234678-HpCDD	40.940	1.000	4.66e5	4.46e5	0.964	1.045	1.050	2500	2672	5.86e6	5.70e6	2342.8	NO	51.110	51.110
OCDD	46.692	1.000	7.93e5	8.94e5	0.969	0.887	0.890	1924	2997	7.73e6	8.76e6	4015.6	NO	101.536	101.536
13C-2378-TCDF	25.735	1.006	1.98e6	2.54e6	1.502	0.777	0.770	4103	2128	2.80e7	3.61e7	6831.3	NO	99.121	99.121
13C-12378-PeCDF	29.869	1.168	2.17e6	1.39e6	1.215	1.564	1.550	3436	3503	3.05e7	1.94e7	8869.4	NO	96.507	96.507
13C-23478-PeCDF	31.207	1.220	2.11e6	1.34e6	1.181	1.569	1.550	3436	3503	2.98e7	1.89e7	8686.2	NO	96.216	96.216
13C-123478-HxCDF	34.868	0.951	8.88e5	1.74e6	1.246	0.511	0.510	4050	5222	1.26e7	2.47e7	3107.0	NO	103.127	103.127
13C-123678-HxCDF	35.021	0.955	9.55e5	1.90e6	1.375	0.502	0.510	4050	5222	1.33e7	2.57e7	3276.3	NO	101.719	101.719
13C-234678-HxCDF	35.953	0.981	8.46e5	1.63e6	1.186	0.518	0.510	4050	5222	1.18e7	2.29e7	2925.5	NO	102.306	102.306
13C-123789-HxCDF	37.104	1.012	8.22e5	1.60e6	1.135	0.515	0.510	4050	5222	1.12e7	2.18e7	2757.3	NO	104.332	104.332
13C-1234678-HpCDF	39.164	1.069	6.46e5	1.47e6	1.020	0.440	0.440	2620	3278	9.11e6	2.04e7	3478.6	NO	101.503	101.503
13C-1234789-HpCDF	41.784	1.140	5.18e5	1.17e6	0.824	0.443	0.440	2620	3278	6.14e6	1.38e7	2343.4	NO	100.233	100.233
13C-1234-TCDD	25.570	0.000	1.34e6	1.70e6	1.000	0.788	0.770	2546	1117	1.91e7	2.42e7	7495.4	NO	100.000	100.000
13C-2378-TCDD	26.377	1.032	1.35e6	1.72e6	0.983	0.786	0.770	2546	1117	1.85e7	2.35e7	7274.0	NO	103.155	103.155
13C-12378-PeCDD	31.459	1.230	1.40e6	8.90e5	0.787	1.573	1.550	1509	1046	2.01e7	1.27e7	13319.8	NO	95.870	95.870
13C-123478-HxCDD	36.095	0.985	1.20e6	9.53e5	1.031	1.260	1.240	1966	1269	1.74e7	1.39e7	8838.3	NO	102.307	102.307
13C-123678-HxCDD	36.227	0.988	1.33e6	1.08e6	1.137	1.226	1.240	1966	1269	1.87e7	1.51e7	9507.2	NO	104.017	104.017
13C-1234678-HpCDD	40.929	1.117	9.49e5	9.02e5	0.892	1.052	1.050	2167	2336	1.21e7	1.16e7	5603.6	NO	101.551	101.551
13C-OCDD	46.674	1.273	1.62e6	1.81e6	0.852	0.900	0.890	2426	2975	1.56e7	1.75e7	6441.4	NO	197.193	197.193

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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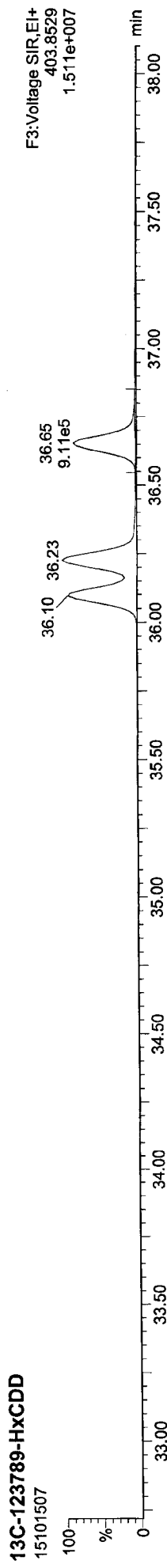
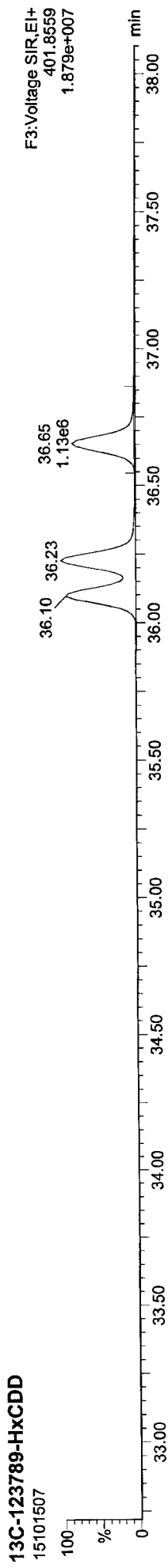
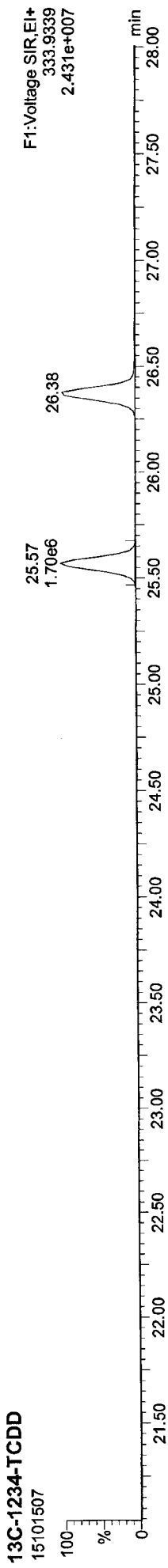
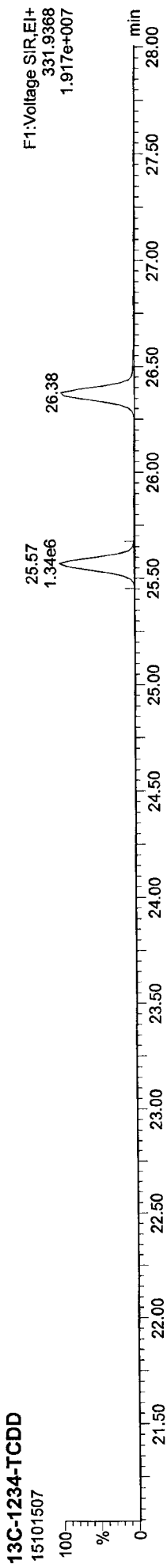
ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred.R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HXCDD	36.654	0.000	1.13e6	9.11e5	1.000	1.242	1.240	1966	1269	1.56e7	1.26e7	7955.6	NO		100.000
Total-tetrafurans			4.56e5		0.827			1635		6.51e6					30.520
Total-penta1			1.35e6					1234		1.90e7					69.154
Total-pentafurans			2.64e6		0.837			2596		3.78e7					154.462
Total-hexafurans			3.48e6		0.977			3574		4.92e7					261.036
Total-heptafurans			1.07e6		1.142			2948		1.46e7					102.756
Total-Furans			9.81e6		0.971			1635		1.35e8					719.863
Total-tetra-dioxins			7.33e5		1.023			1346		8.95e6					52.983
Total-penta-dioxins			2.33e6		0.939			3247		2.86e7					178.127
Total-hexa-dioxins			2.49e6		0.919			3172		3.56e7					215.714
Total-hepta-dioxins			1.01e6		0.964			2500		1.32e7					109.915
Total-Dioxins			7.35e6		0.950			1346		9.41e7					658.283
Total-TEQ			1.72e7					1346		2.29e8					1378.147
37CL-2378-TCDD	26.392	1.032	3.31e5		1.091			1268		4.73e6		3727.2			10.009
FUNCTION1 PFK			4.74e5					551976		6.71e6					0.000
FUNCTION2 PFK			1.12e5					96938		3.54e6					0.000
FUNCTION3 PFK			6.72e5					408622		1.67e7					0.000
FUNCTION4 PFK			5.25e5					291757		1.63e7					0.000
FUNCTION5 PFK			2.09e5					199987		7.29e6					0.000
FUNCTION1 HXCDPE			2.35e2					456		3.03e3					0.000
FUNCTION1 HPCDPE			1.68e2					713		4.25e3					0.000
FUNCTION2 HPCDPE			1.52e3					827		2.45e4					0.000
FUNCTION3 OCDPE			0.00e0					292		0.00e0					0.000
FUNCTION4 NCDPE			0.00e0					634		0.00e0					0.000
FUNCTION5 DCDPE			0.00e0					288		0.00e0					0.000

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

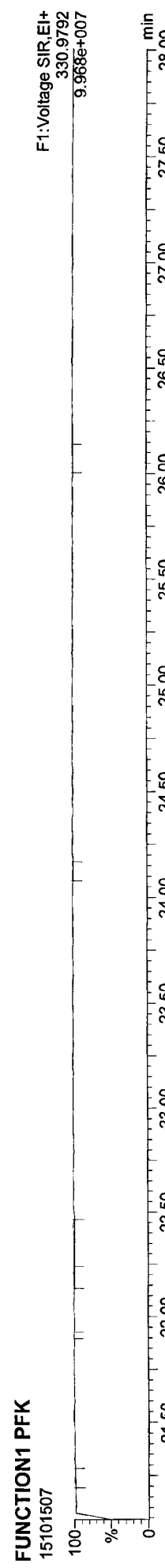
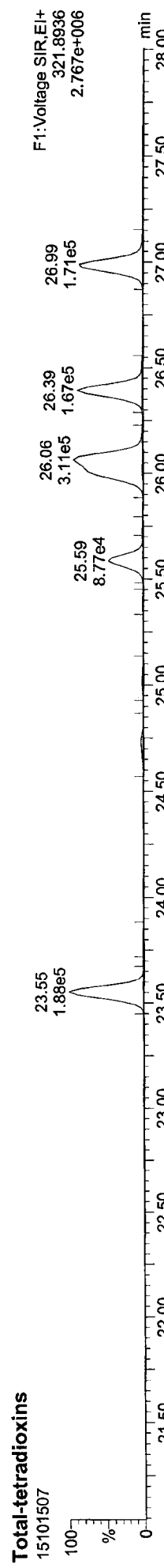
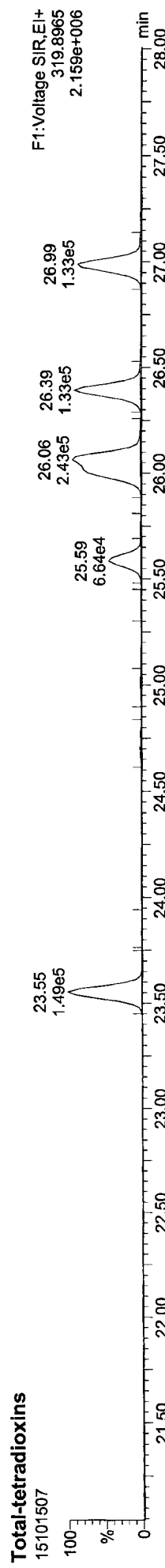
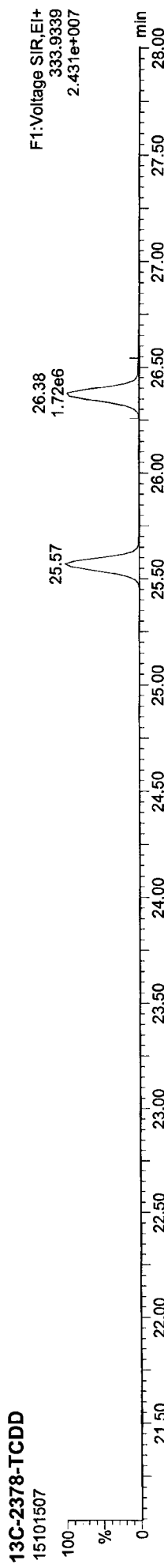
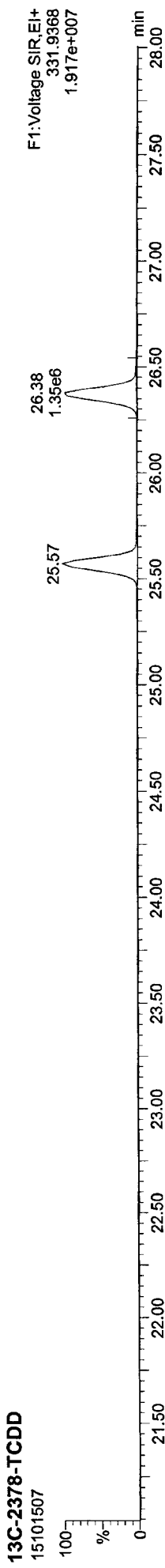
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

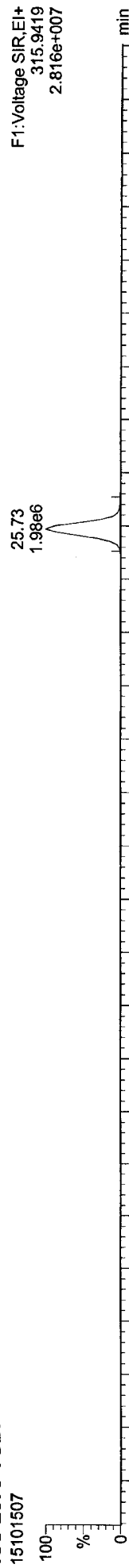
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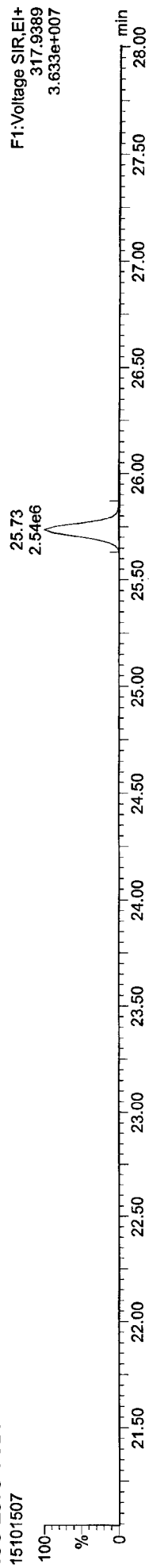
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk

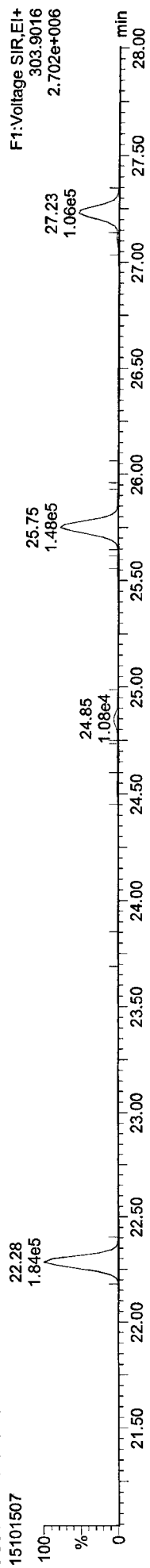
13C-2378-TCDF



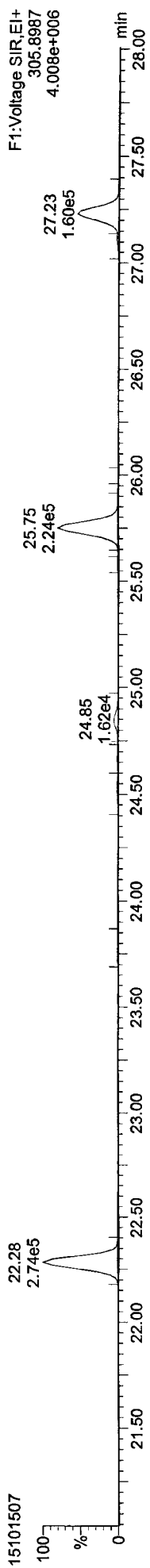
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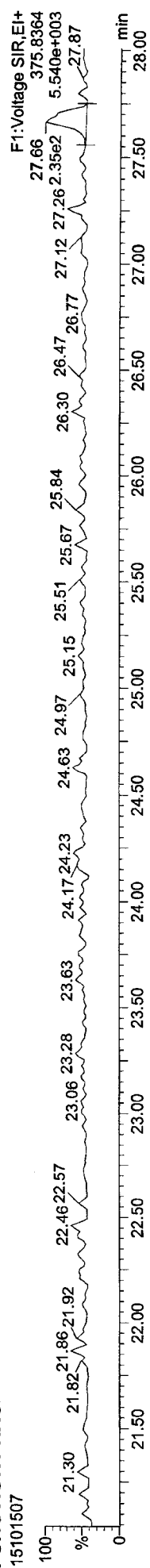
Total-tetrafurans



Total-tetrafurans

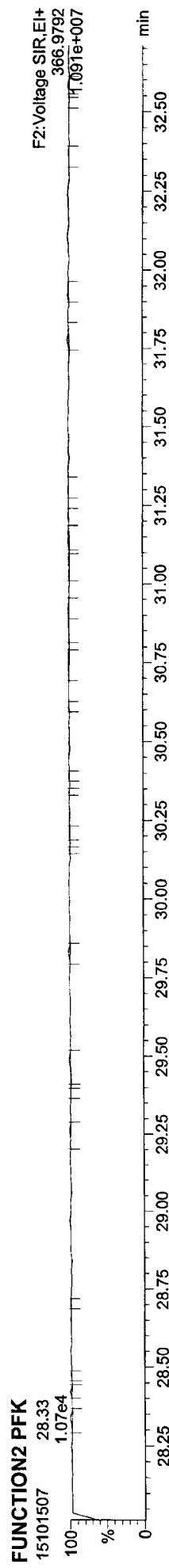
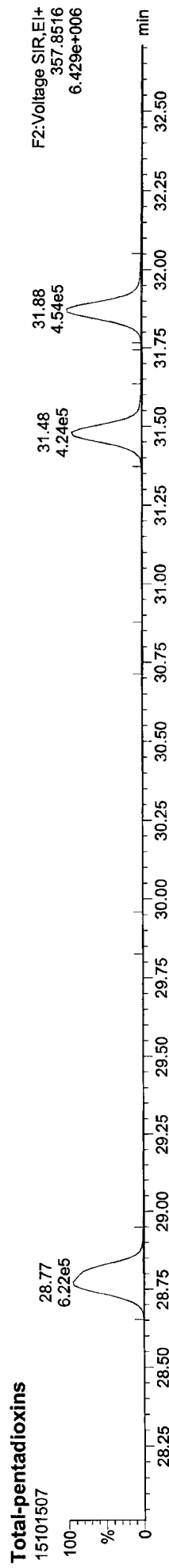
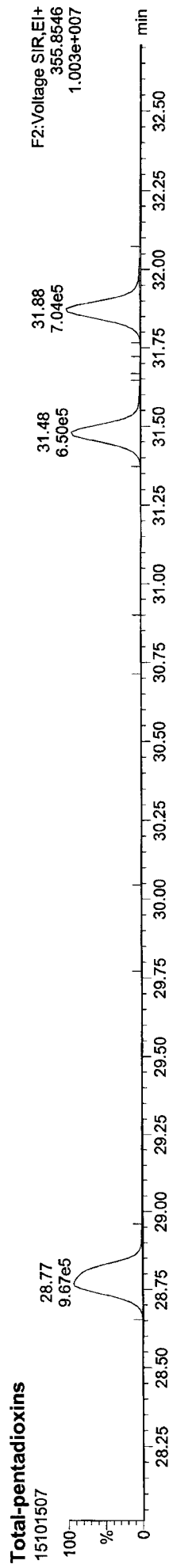
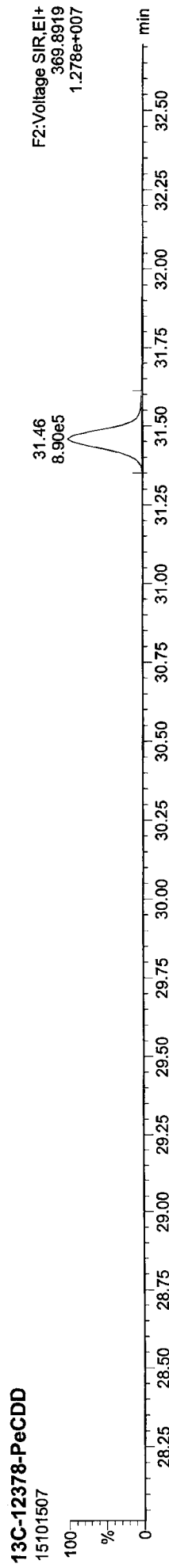
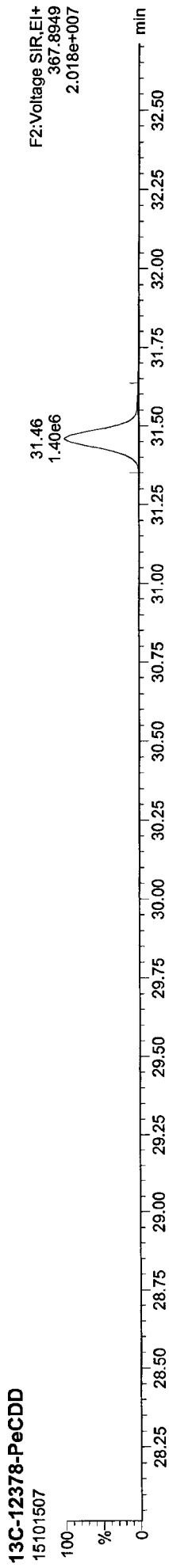


FUNCTION1 HXCDEP



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

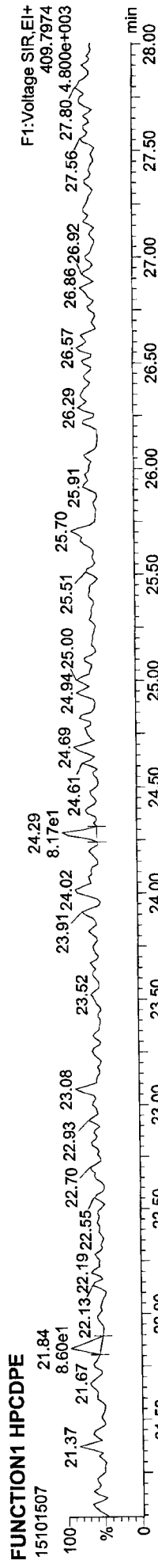
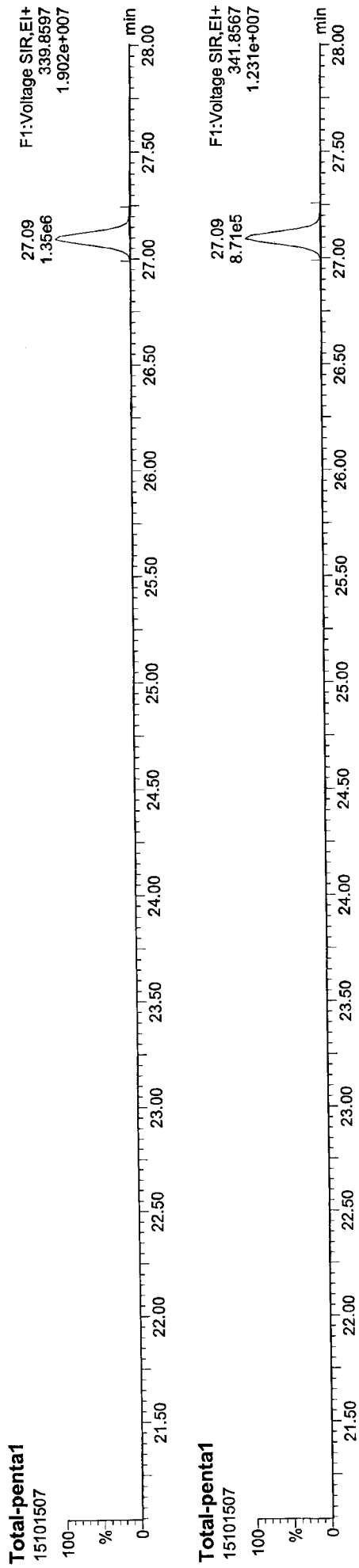
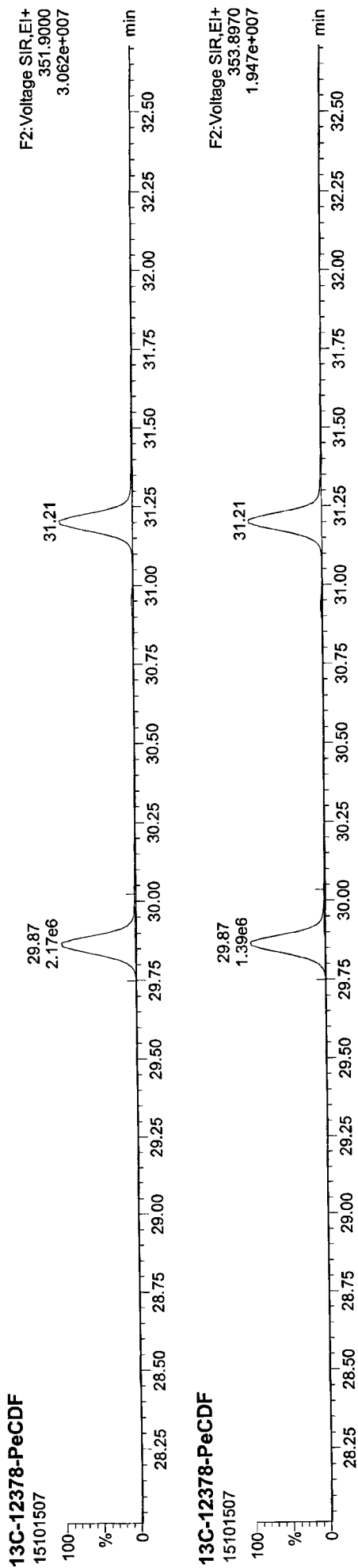
ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

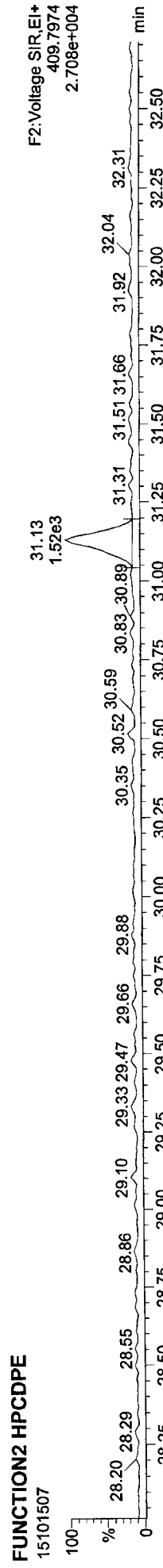
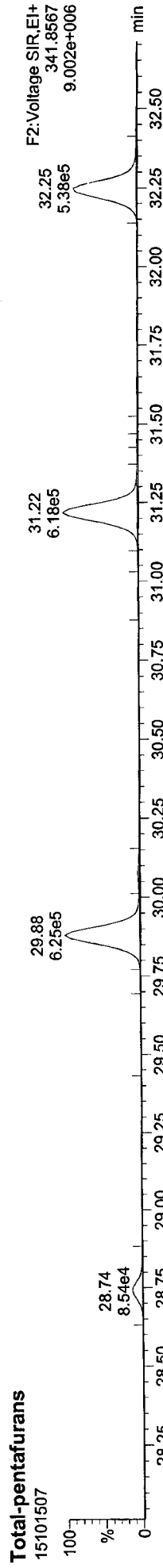
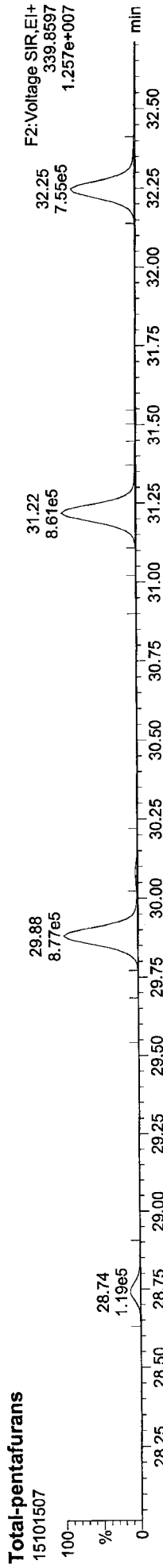
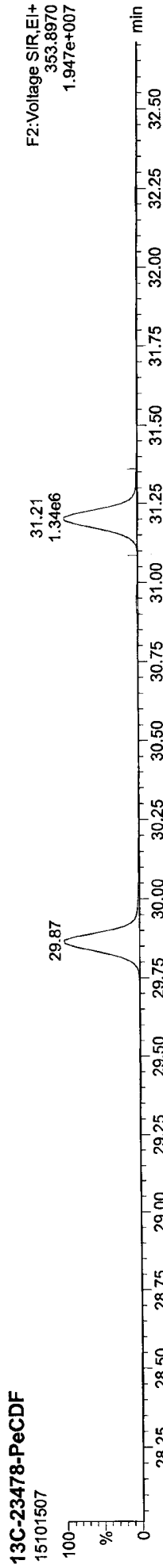
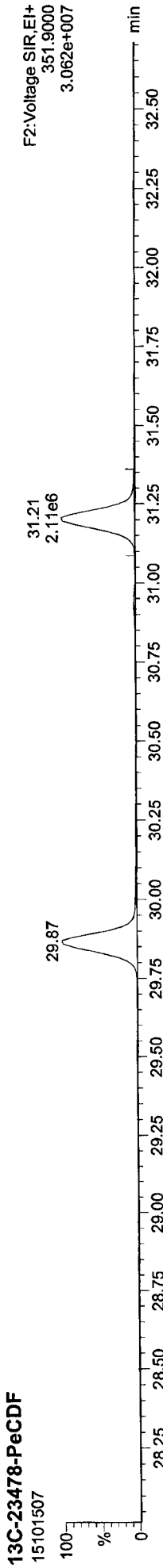
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



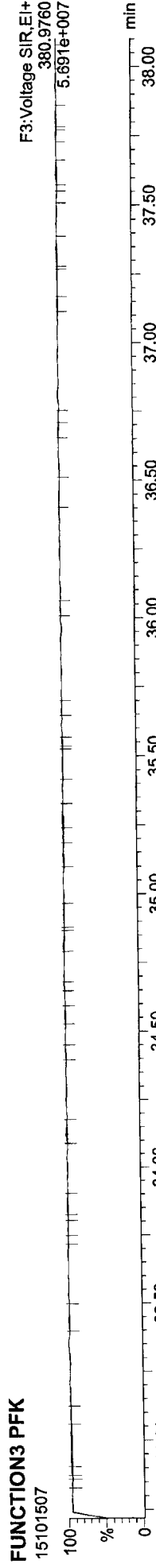
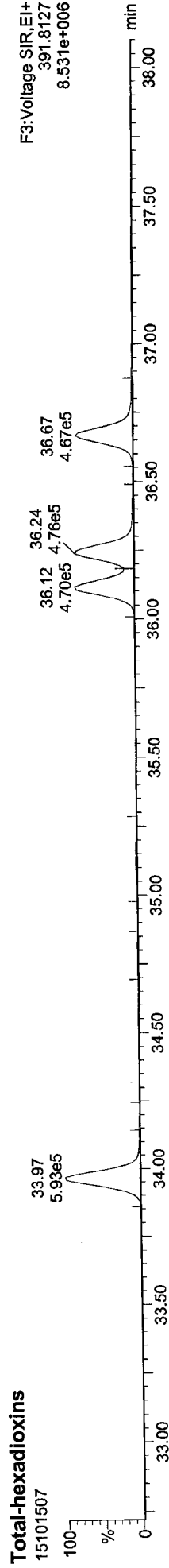
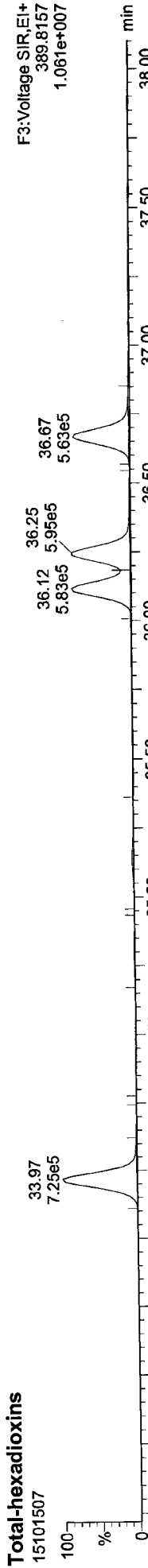
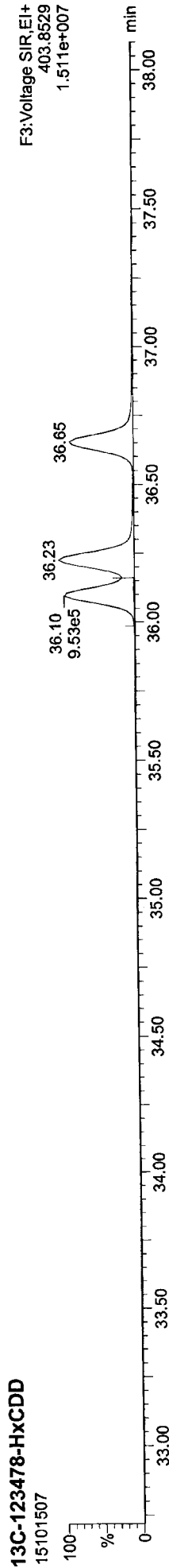
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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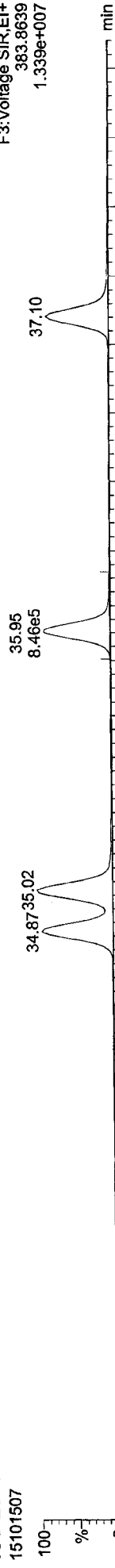


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

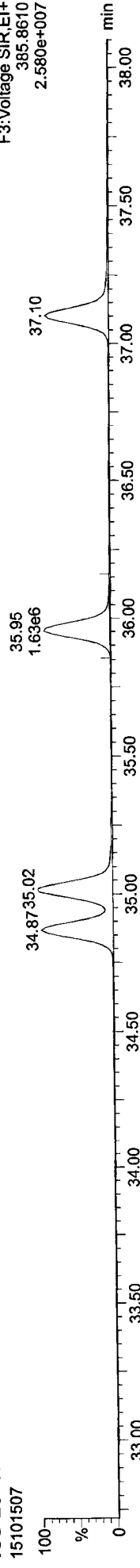
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk

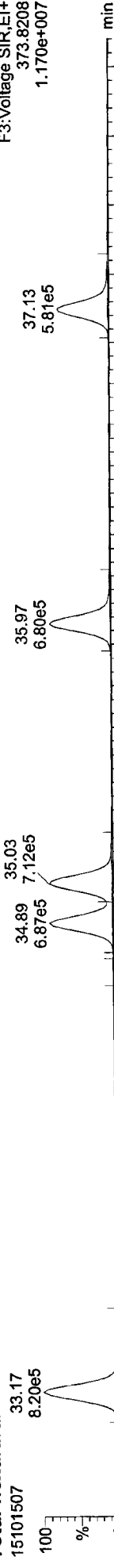
13C-234678-HxCDF



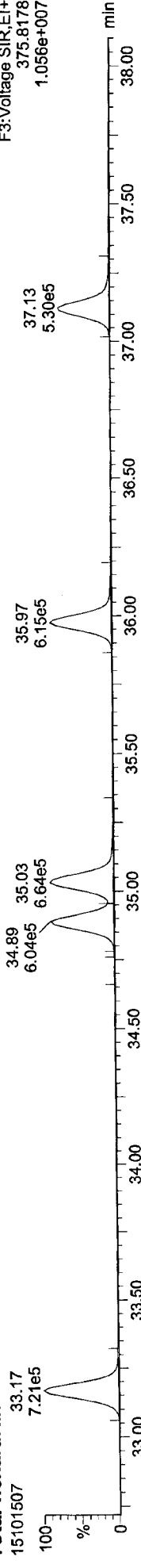
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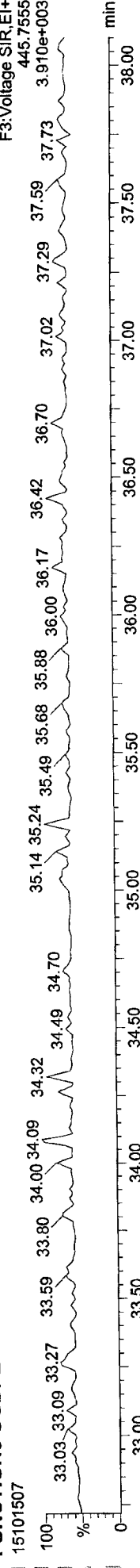
Total-hexafurans



Total-hexafurans

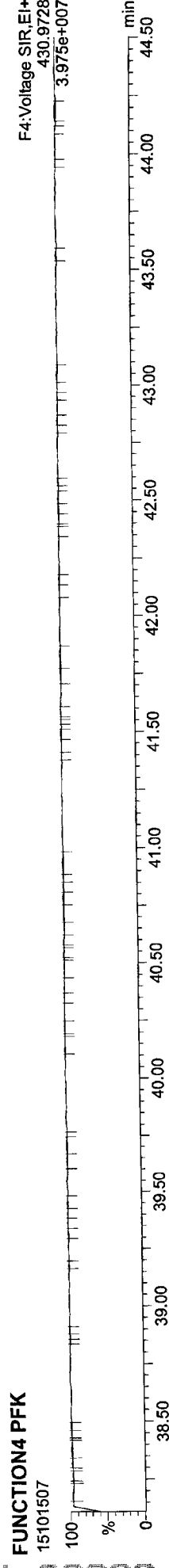
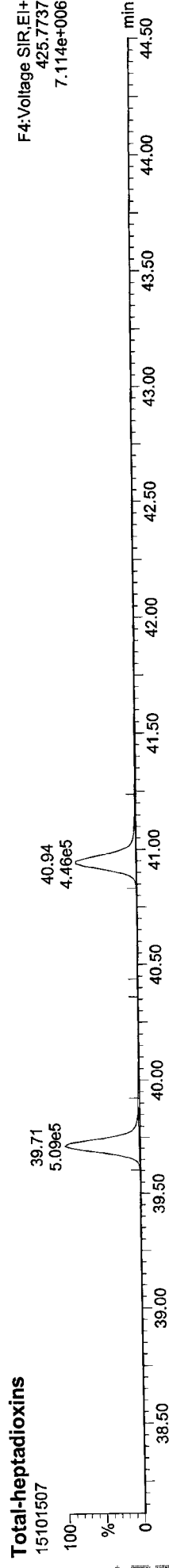
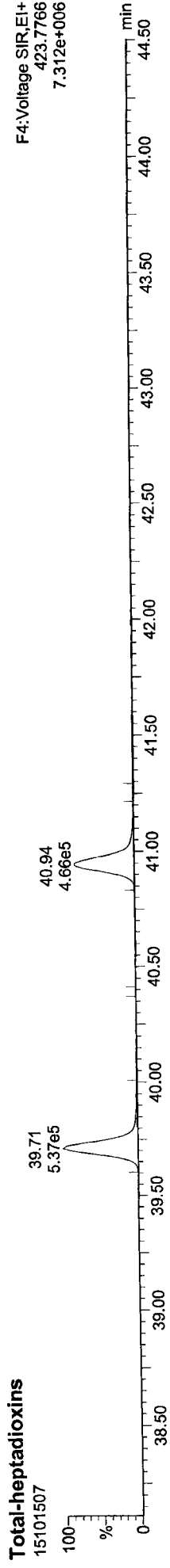
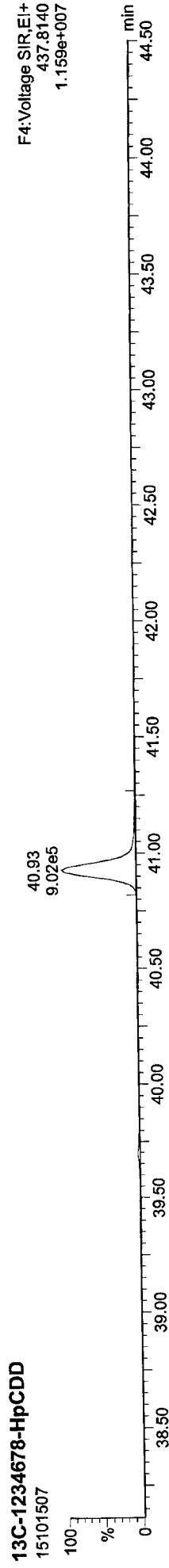
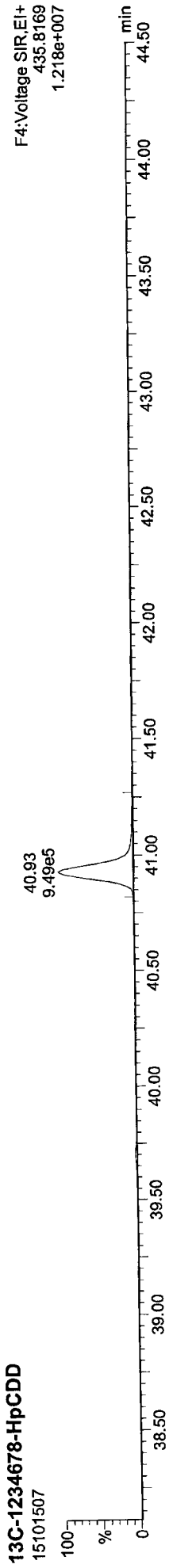


FUNCTION3 OCDFE



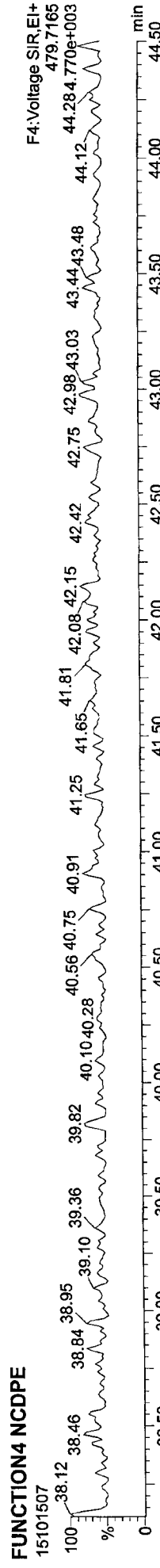
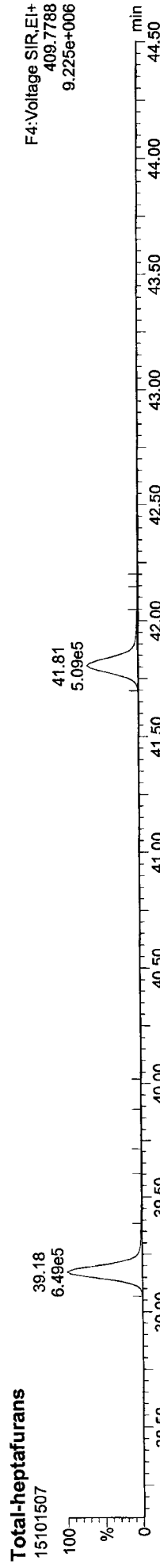
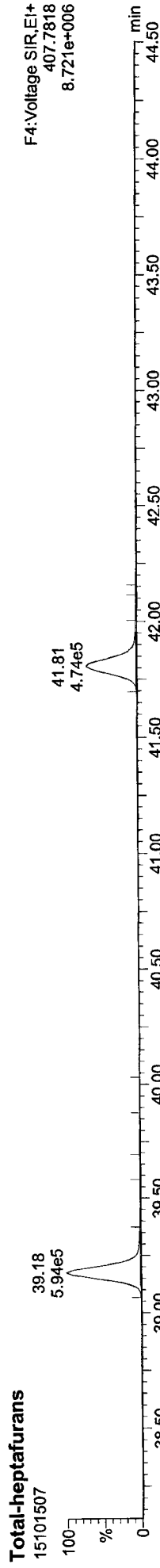
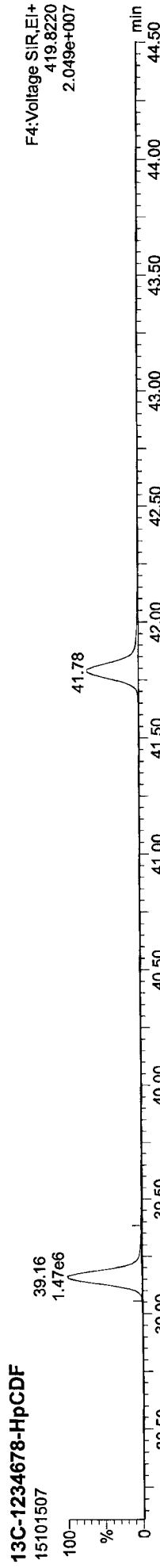
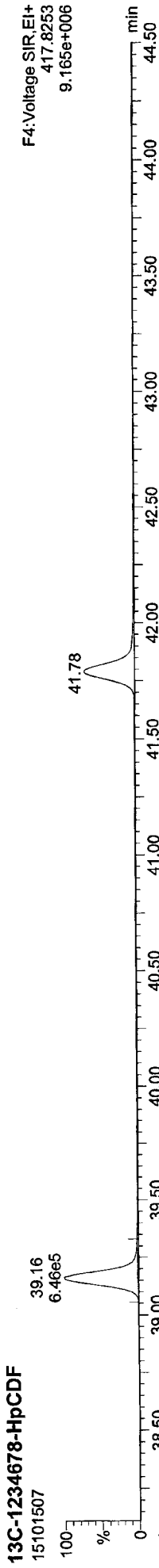
Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



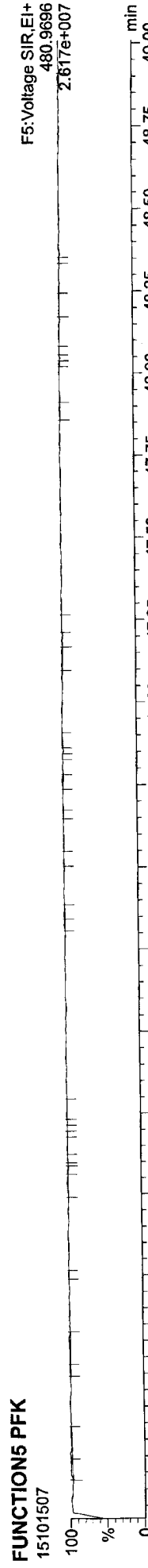
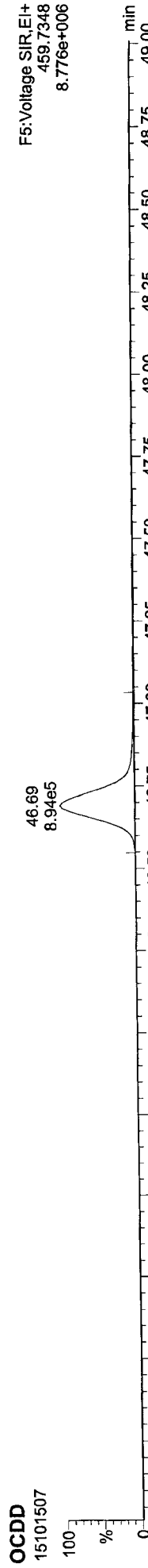
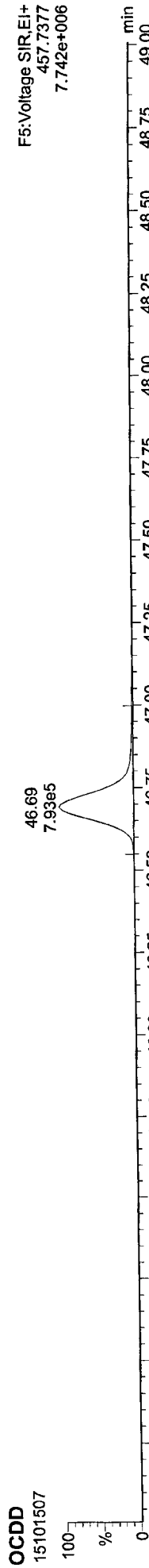
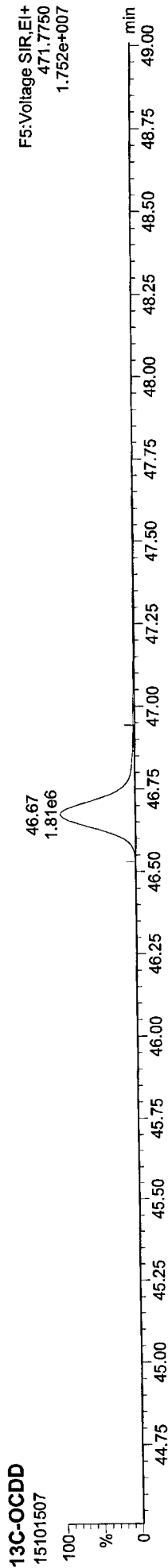
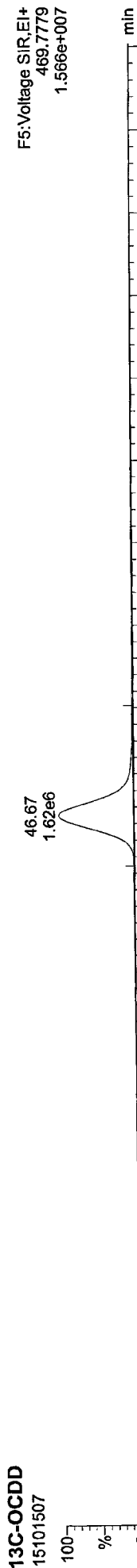
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



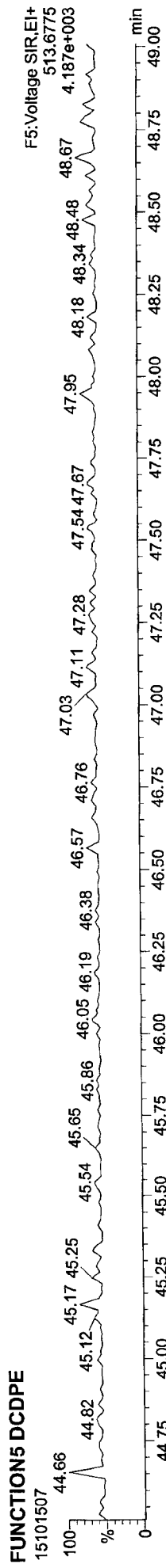
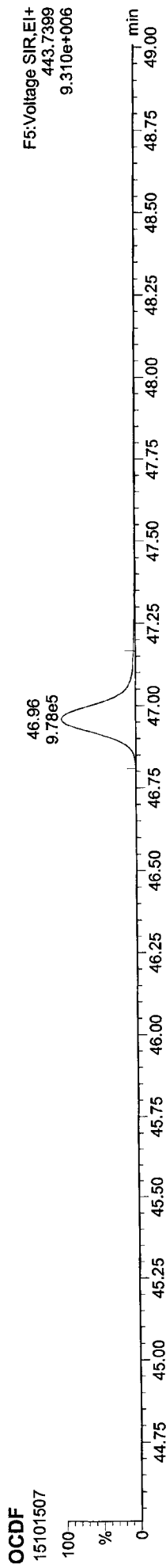
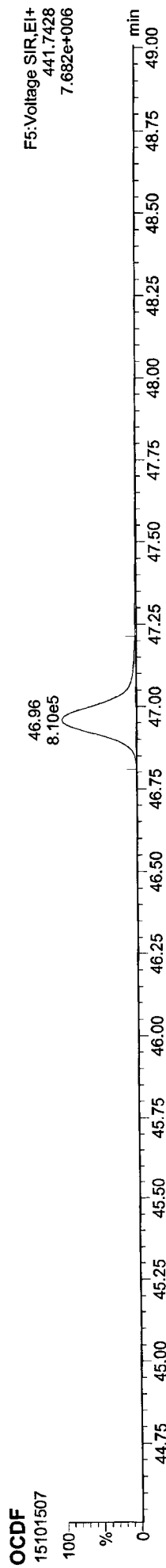
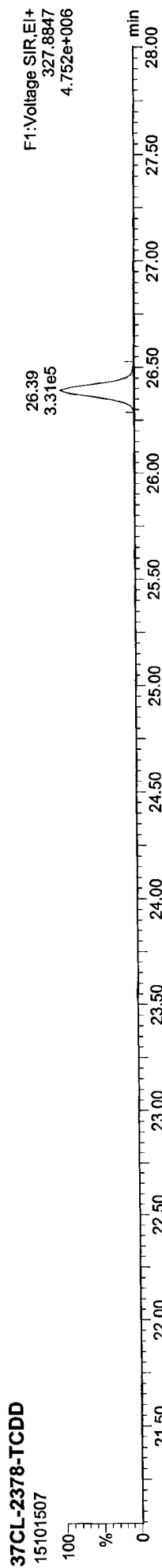
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:01 Pacific Daylight Time

ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.dld
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ID: CS3, Name: 15101507, Date: 15-Oct-2015, Time: 17:45:44, Conditions: AUTOSPEC01, User: pk



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SN	EMPC?	EMPC	PG
2378-TCDF	25.735	1.001	4.97e5	7.43e5	0.827	0.688	0.770	1123	1359	6.87e6	1.02e7	6112.1	NO	41.111	41.111
12378-PeCDF	29.869	1.000	2.92e6	2.05e6	0.824	1.428	1.550	3249	3383	4.12e7	2.88e7	12689.7	NO	207.004	207.004
23478-PeCDF	31.206	1.000	2.86e6	2.02e6	0.850	1.412	1.550	3249	3383	4.06e7	2.90e7	12497.4	NO	205.103	205.103
123478-HxCDF	34.878	1.001	2.24e6	1.99e6	0.973	1.121	1.240	4216	4631	3.21e7	2.87e7	7624.3	NO	204.181	204.181
234678-HxCDF	35.963	1.000	2.25e6	2.00e6	1.025	1.128	1.240	4216	4631	3.19e7	2.83e7	7565.1	NO	209.149	209.149
123678-HxCDF	35.020	1.000	2.41e6	2.14e6	0.953	1.127	1.240	4216	4631	3.30e7	2.95e7	7820.4	NO	210.494	210.494
123789-HxCDF	37.114	1.001	1.92e6	1.71e6	0.956	1.124	1.240	4216	4631	2.57e7	2.30e7	6098.1	NO	194.774	194.774
1234678-HpCDF	39.164	1.000	1.95e6	2.09e6	1.153	0.936	1.050	4135	3642	2.80e7	3.00e7	6762.6	NO	203.265	203.265
1234789-HpCDF	41.794	1.000	1.60e6	1.66e6	1.131	0.969	1.050	4135	3642	1.91e7	2.02e7	4616.7	NO	209.362	209.362
OCDF	46.951	1.006	2.90e6	3.51e6	1.023	0.827	0.890	2913	2843	2.75e7	3.31e7	9452.7	NO	438.434	438.434
2378-TCDD	26.377	1.001	4.40e5	5.66e5	1.023	0.776	0.770	1356	1109	6.16e6	7.82e6	4544.7	NO	39.514	39.514
12378-PeCDD	31.469	1.001	2.24e6	1.45e6	0.939	1.545	1.550	2031	1389	3.16e7	2.04e7	15551.3	NO	207.432	207.432
123478-HxCDD	36.105	1.001	1.94e6	1.57e6	0.963	1.236	1.240	2770	3087	2.79e7	2.24e7	10054.8	NO	207.948	207.948
123678-HxCDD	36.237	1.001	1.93e6	1.58e6	0.894	1.224	1.240	2770	3087	2.69e7	2.18e7	9710.0	NO	205.453	205.453
123789-HxCDD	36.653	1.012	1.85e6	1.48e6	0.900	1.246	1.240	2770	3087	2.53e7	2.03e7	9143.2	NO	202.511	202.511
1234678-HpCDD	40.939	1.000	1.50e6	1.45e6	0.964	1.031	1.050	2609	2291	1.94e7	1.87e7	7417.1	NO	207.392	207.392
OCDD	46.682	1.000	2.59e6	3.02e6	0.969	0.857	0.890	2866	3171	2.63e7	2.98e7	9161.3	NO	405.395	405.395
13C-2378-TCDF	25.720	1.006	1.59e6	2.06e6	1.502	0.772	0.770	5235	2968	2.20e7	2.83e7	4210.6	NO	95.964	95.964
13C-12378-PeCDF	29.858	1.168	1.80e6	1.12e6	1.215	1.607	1.550	4176	2382	2.44e7	1.57e7	5842.7	NO	94.801	94.801
13C-23478-PeCDF	31.195	1.221	1.71e6	1.09e6	1.181	1.570	1.550	4176	2382	2.35e7	1.50e7	5636.5	NO	93.696	93.696
13C-123478-HxCDF	34.856	0.951	7.16e5	1.41e6	1.246	0.507	0.510	2592	3718	1.01e7	1.99e7	3888.3	NO	98.681	98.681
13C-123678-HxCDF	35.009	0.955	7.75e5	1.50e6	1.375	0.518	0.510	2592	3718	1.07e7	2.06e7	4137.3	NO	95.336	95.336
13C-234678-HxCDF	35.952	0.981	6.77e5	1.30e6	1.186	0.519	0.510	2592	3718	9.45e6	1.79e7	3646.4	NO	96.416	96.416
13C-123789-HxCDF	37.092	1.012	6.62e5	1.29e6	1.135	0.514	0.510	2592	3718	8.97e6	1.74e7	3459.1	NO	99.237	99.237
13C-1234678-HpCDF	39.153	1.069	5.37e5	1.18e6	1.020	0.453	0.440	2382	3645	7.34e6	1.66e7	3082.0	NO	97.411	97.411
13C-1234789-HpCDF	41.783	1.140	4.27e5	9.51e5	0.824	0.449	0.440	2382	3645	5.06e6	1.14e7	2124.9	NO	96.517	96.517
13C-1234-TCDD	25.555	0.000	1.12e6	1.41e6	1.000	0.793	0.770	2614	1198	1.59e7	2.01e7	6089.8	NO	100.000	100.000
13C-2378-TCDD	26.362	1.032	1.09e6	1.40e6	0.983	0.783	0.770	2614	1198	1.52e7	1.94e7	5807.8	NO	100.005	100.005
13C-12378-PeCDD	31.447	1.230	1.16e6	7.28e5	0.787	1.598	1.550	1517	1086	1.63e7	1.03e7	10730.7	NO	94.917	94.917
13C-123478-HxCDD	36.083	0.985	9.77e5	7.75e5	1.031	1.260	1.240	3305	1270	1.39e7	1.11e7	4201.9	NO	98.104	98.104
13C-123678-HxCDD	36.215	0.988	1.06e6	8.47e5	1.137	1.253	1.240	3305	1270	1.48e7	1.19e7	4483.3	NO	96.898	96.898
13C-1234678-HpCDD	40.917	1.117	7.57e5	7.22e5	0.892	1.048	1.050	1582	2146	9.78e6	9.34e6	6180.4	NO	95.658	95.658
13C-OCDD	46.664	1.273	1.35e6	1.52e6	0.852	0.887	0.890	2841	2482	1.32e7	1.47e7	4995.2	NO	193.888	193.888

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld

Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time

Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

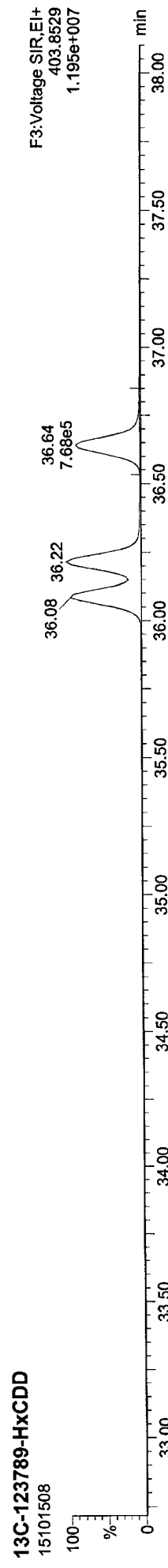
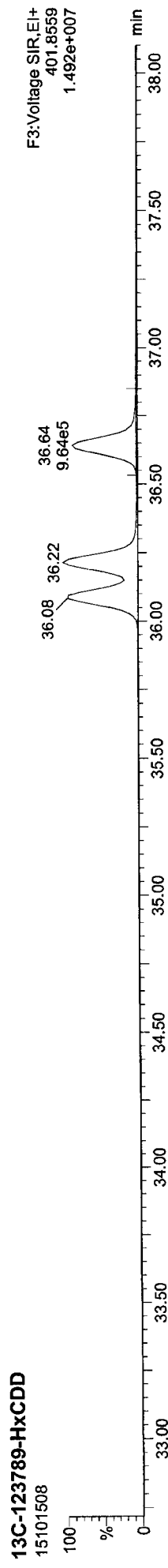
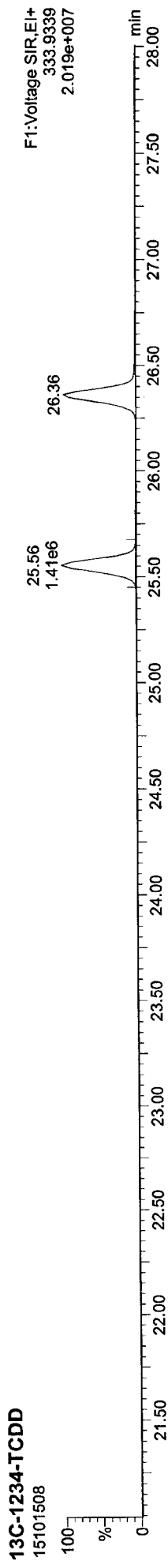
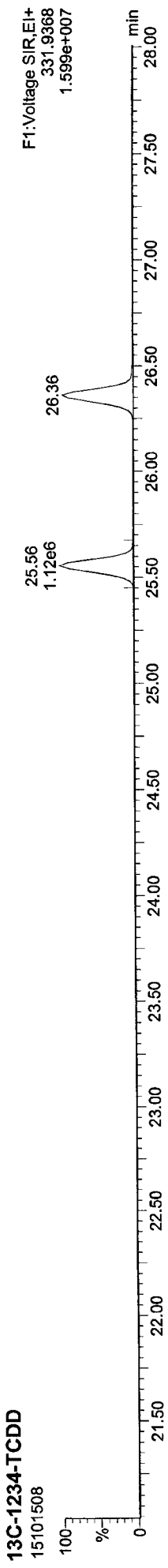
ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SIN	EMPC?	EMPC	pg
13C-123789-HxCDD	36.643	0.000	9.64e5	7.68e5	1.000	1.255	1.240	3305	1270	1.29e7	1.03e7	3889.3	NO		100.000
Total-tetrafurans			5.05e5		0.827			1123		6.99e6					41.805
Total-penta1			2.08e2					533		3.31e3					0.016
Total-pentafurans			5.91e6		0.837			3249		8.35e7					421.701
Total-hexafurans			8.83e6		0.977			4216		1.23e8					819.301
Total-heptafurans			3.56e6		1.142			4135		4.71e7					412.886
Total-Furans			2.17e7		0.971			1123		2.88e8					2134.144
Total-tetradioxins			4.51e5		1.023			1356		6.29e6					40.609
Total-pentadioxins			2.24e6		0.939			2031		3.17e7					207.918
Total-hexadioxins			5.72e6		0.919			2770		8.01e7					615.939
Total-heptadioxins			1.51e6		0.964			2609		1.94e7					208.239
Total-Dioxins			1.25e7		0.950			1356		1.64e8					1478.112
Total-TEQ			3.42e7					1356		4.52e8					3612.256
37CL-2378-TCDD	26.377	1.032	1.10e6		1.091			1545		1.52e7		9828.2			39.722
FUNCTION1 PFK			1.59e6					560264		2.50e7					0.000
FUNCTION2 PFK			1.60e5					128870		4.73e6					0.000
FUNCTION3 PFK			2.32e7					462327		1.82e8					0.000
FUNCTION4 PFK			1.98e5					264875		5.72e6					0.000
FUNCTION5 PFK			0.00e0					245762		0.00e0					0.000
FUNCTION1 HXCDPE			1.99e2					407		3.45e3					0.000
FUNCTION1 HPCDPE			2.47e2					631		5.42e3					0.000
FUNCTION2 HPCDPE			5.39e3					741		7.76e4					0.000
FUNCTION3 OCDPE			0.00e0					322		0.00e0					0.000
FUNCTION4 NCDPE			0.00e0					558		0.00e0					0.000
FUNCTION5 DCDPE			0.00e0					346		0.00e0					0.000

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

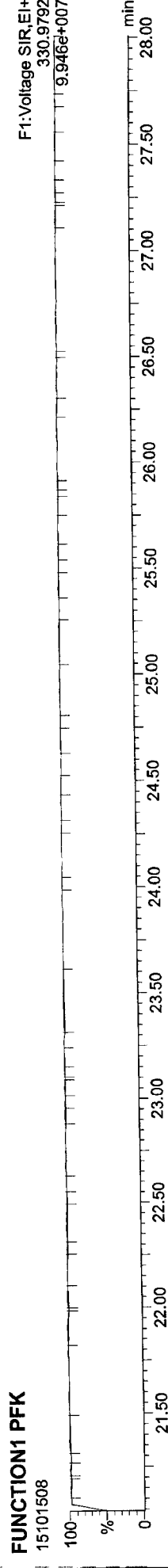
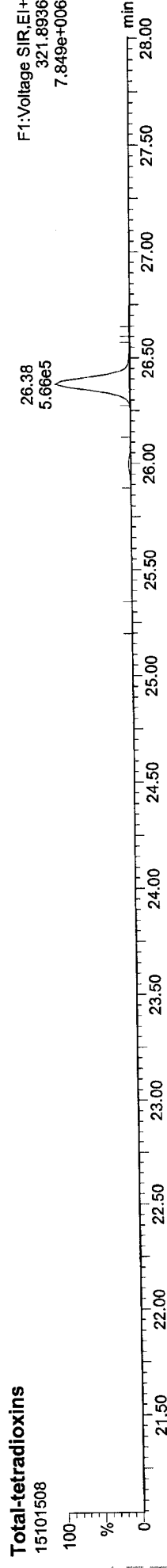
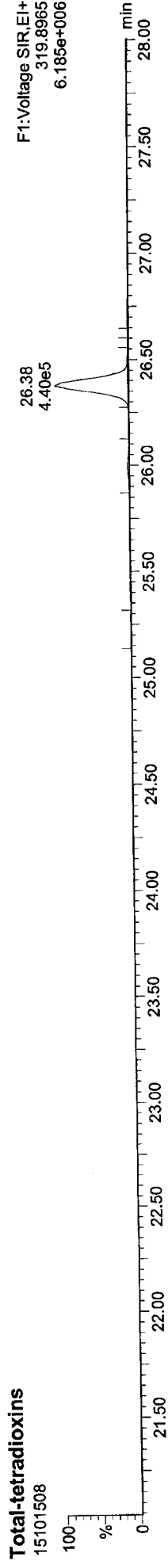
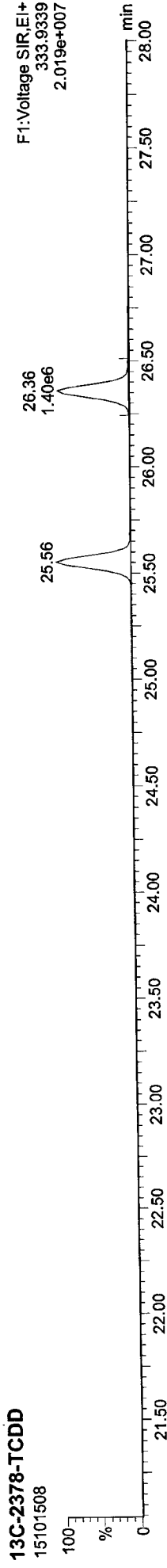
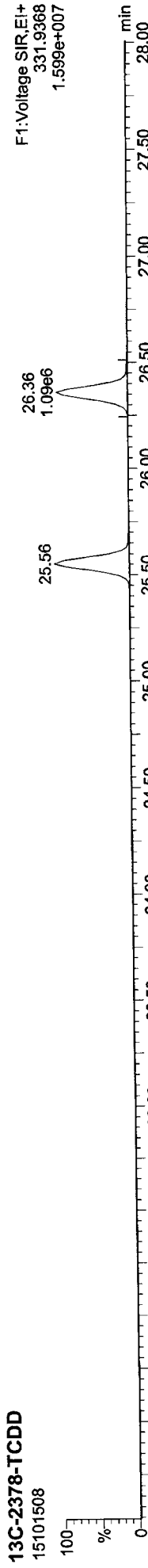
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Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



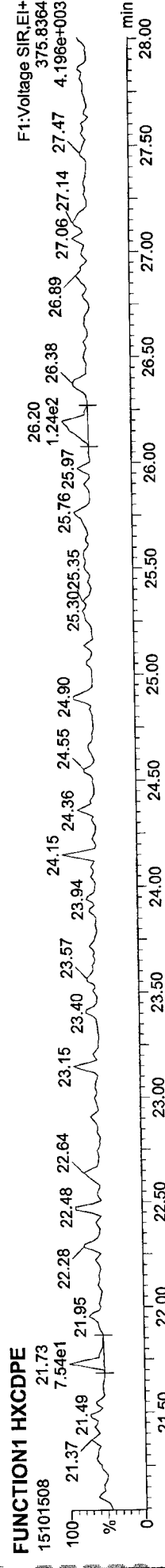
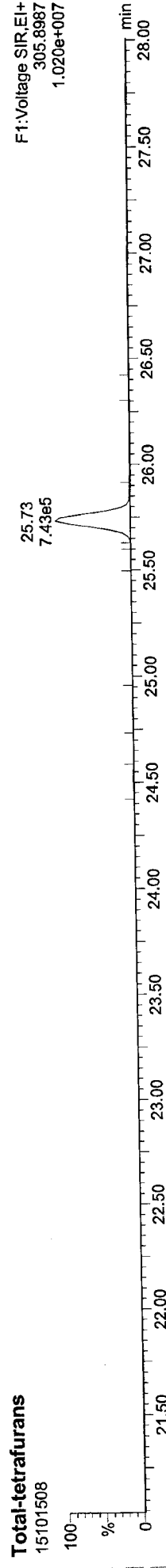
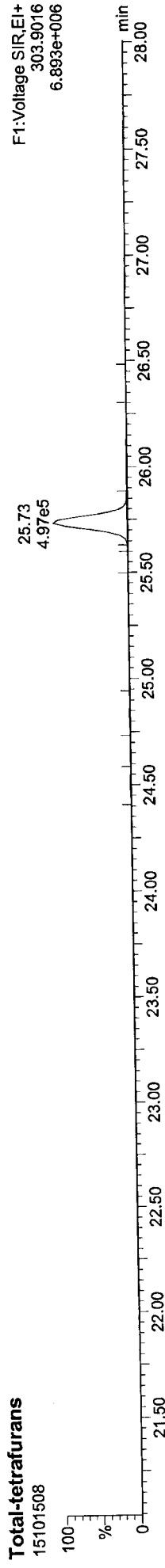
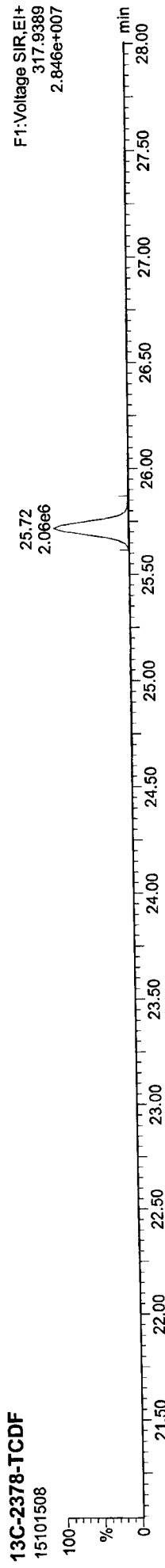
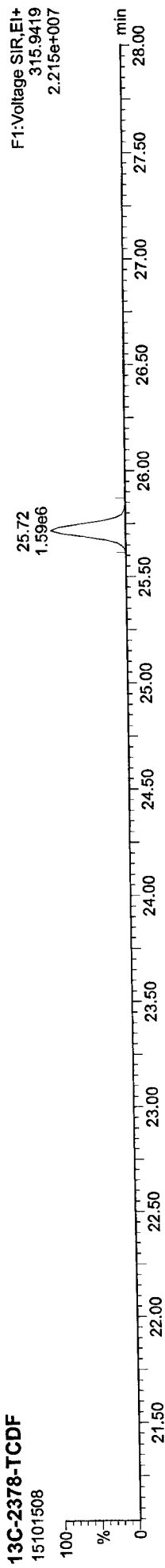
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



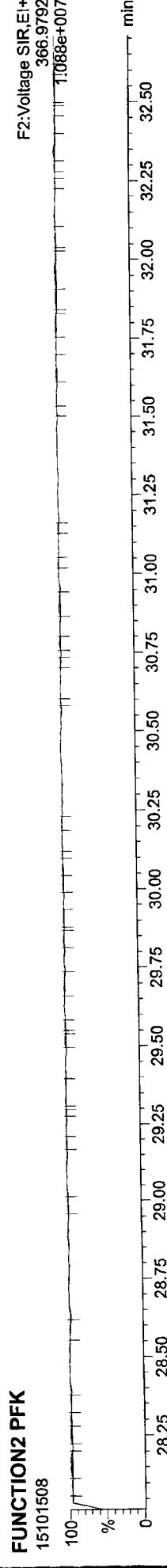
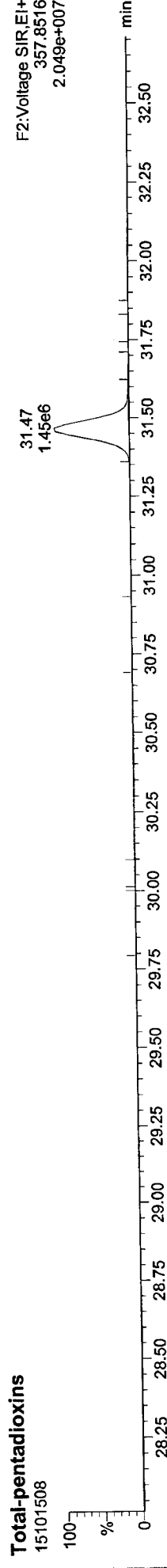
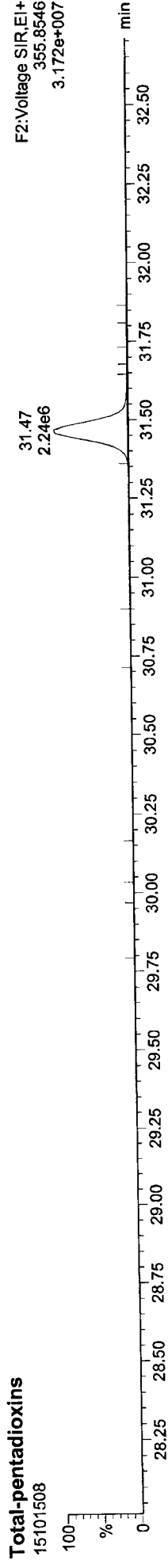
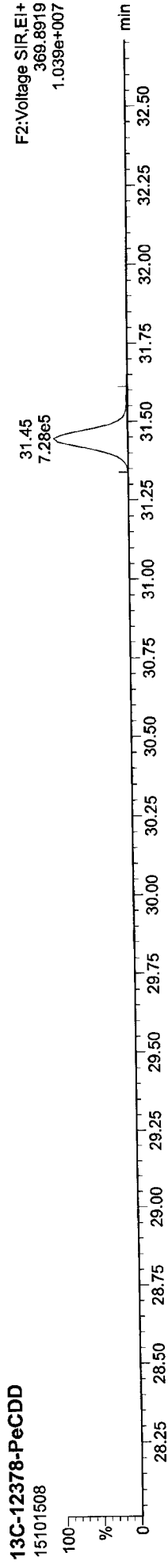
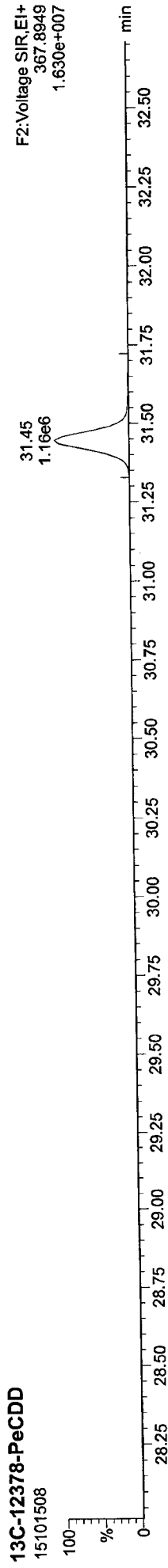
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ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



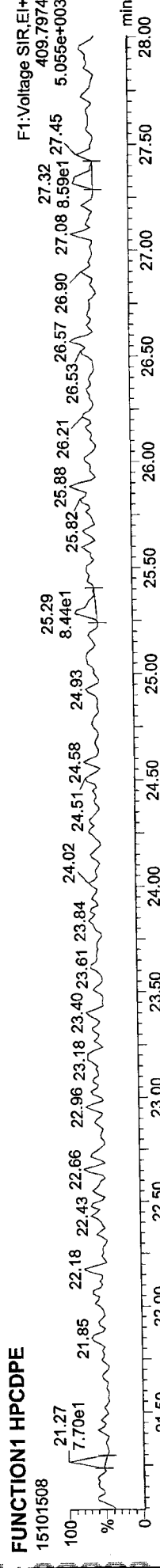
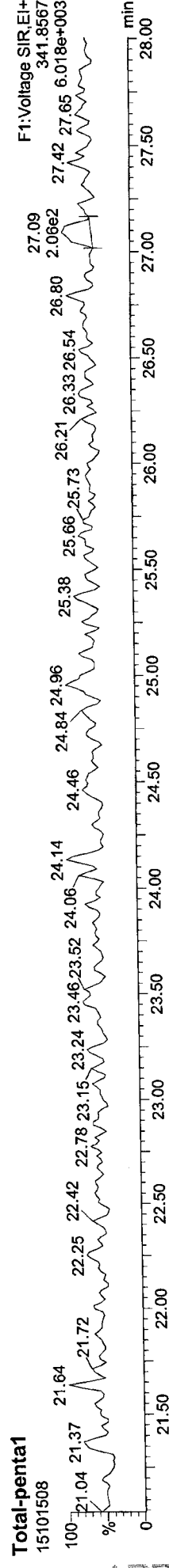
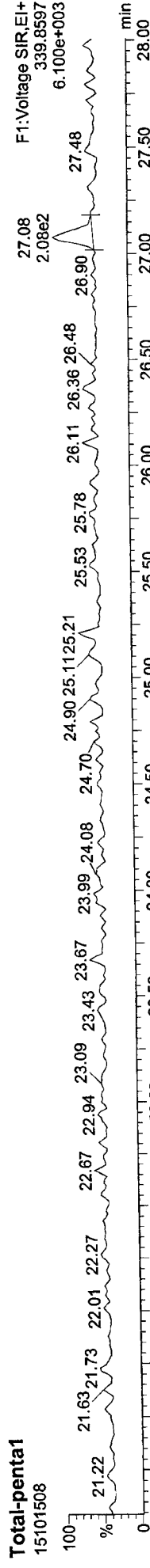
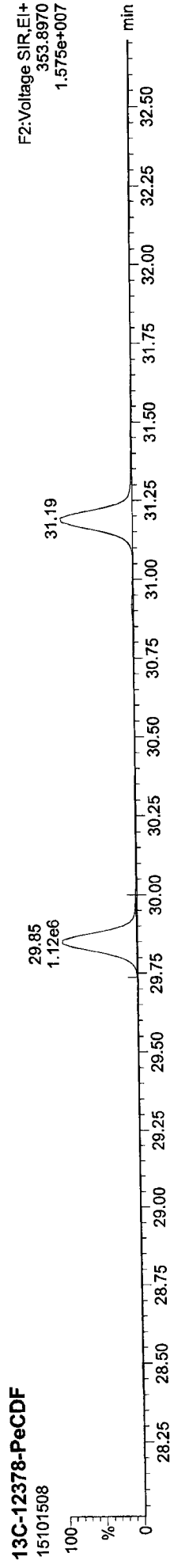
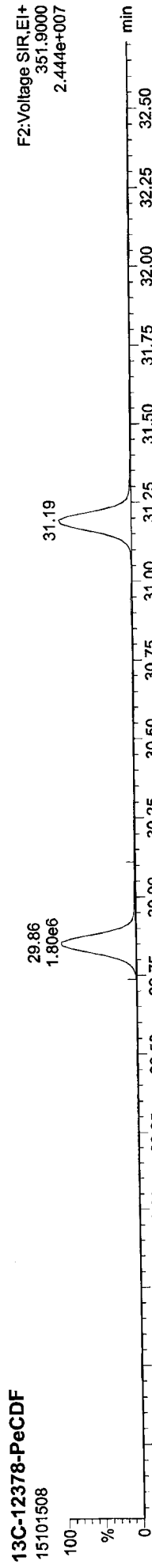
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



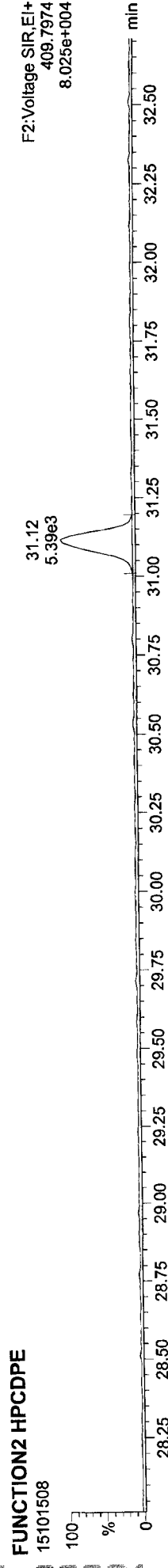
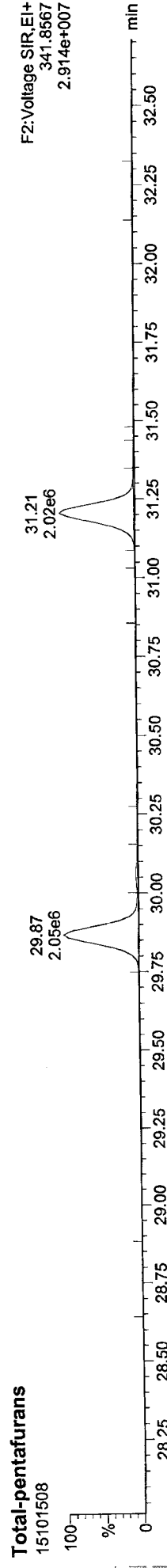
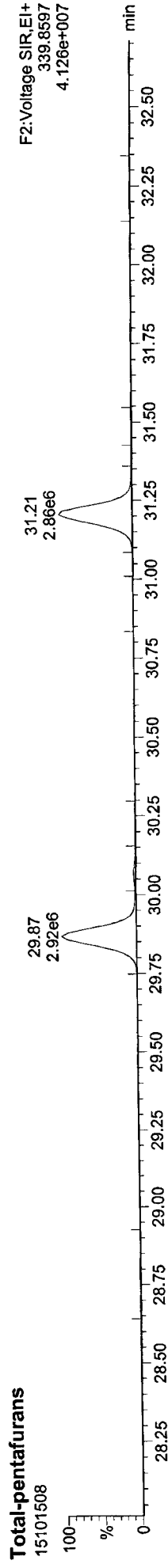
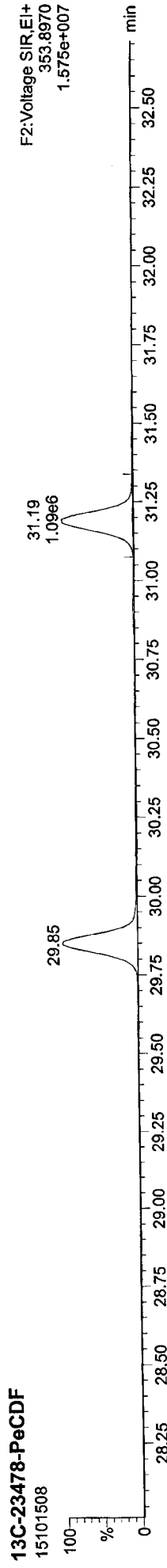
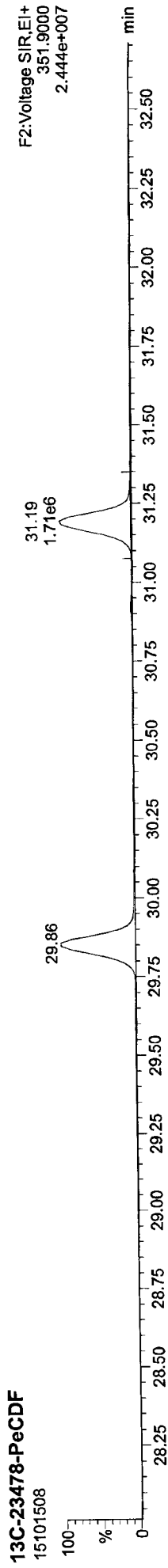
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



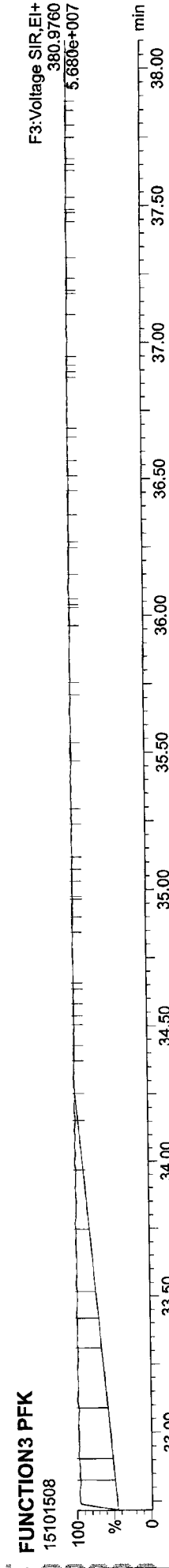
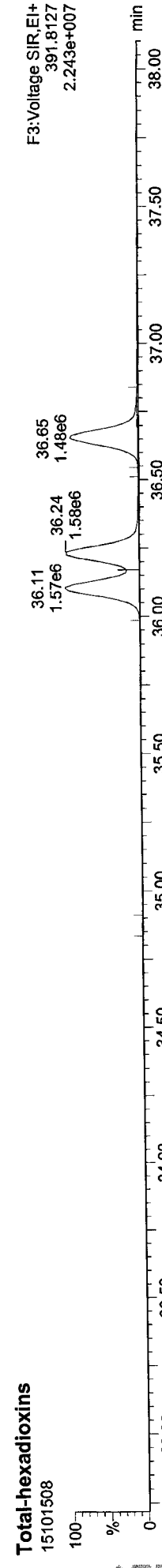
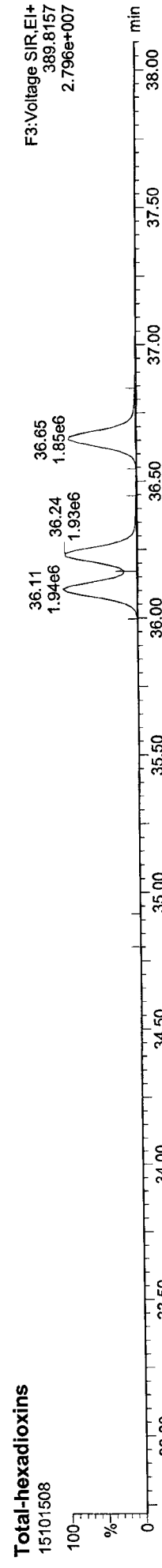
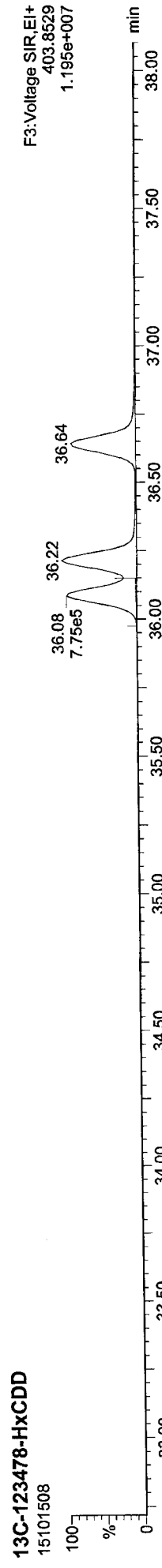
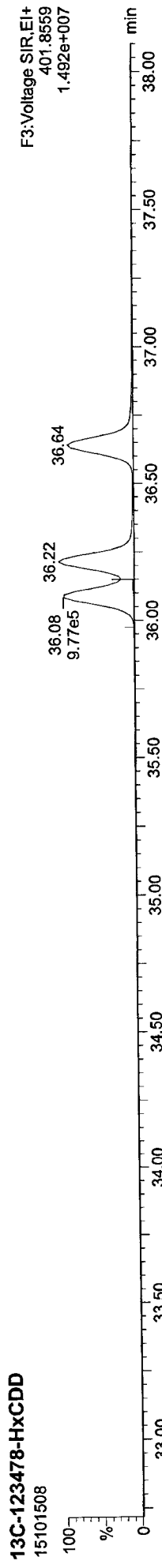
Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015IC.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

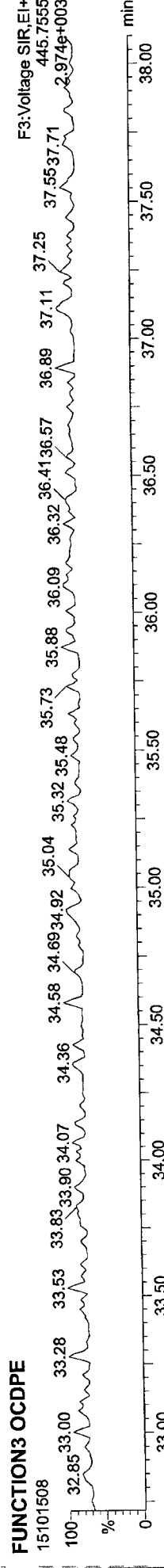
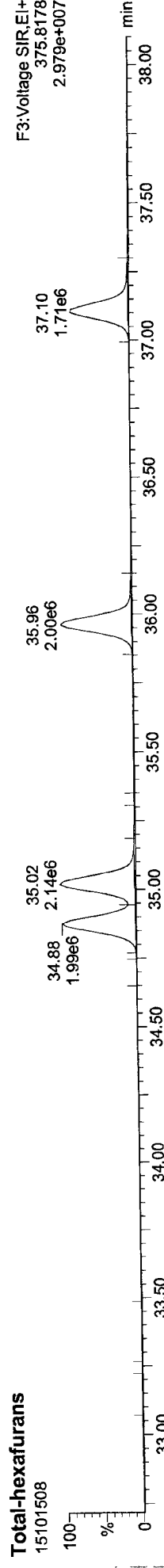
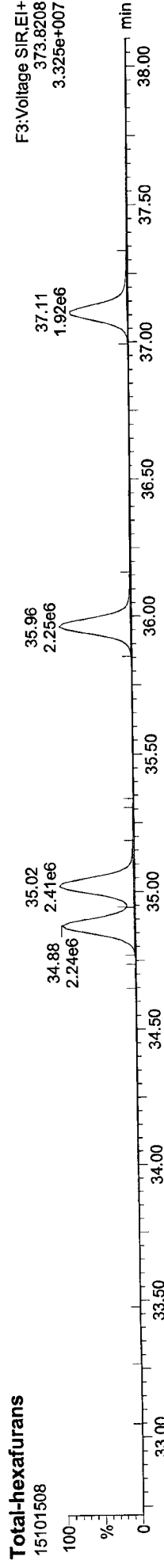
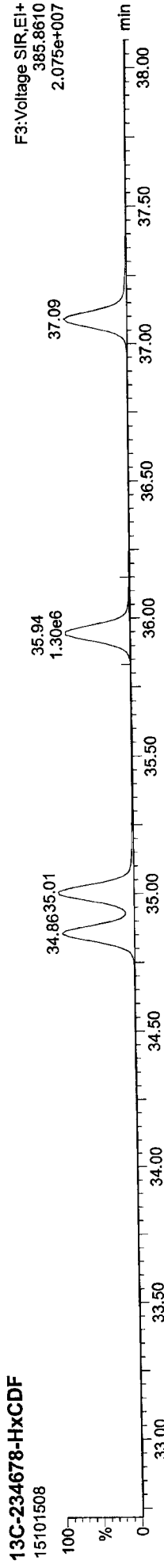
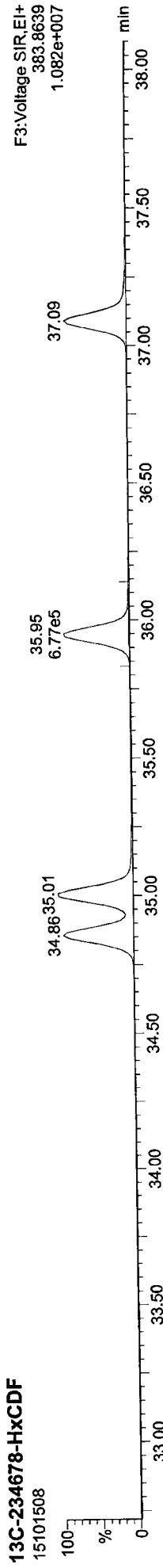
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

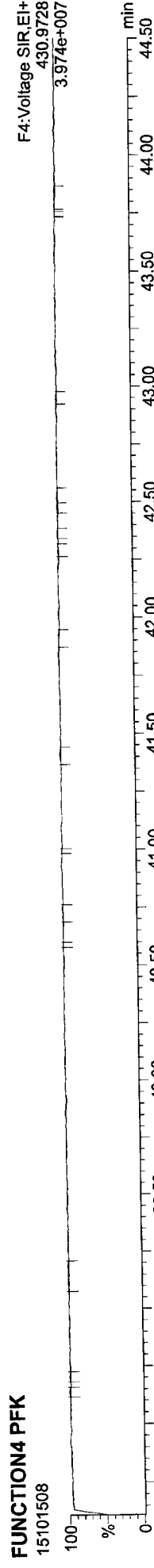
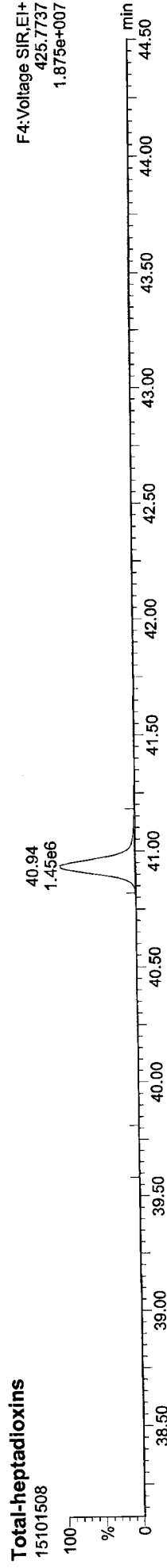
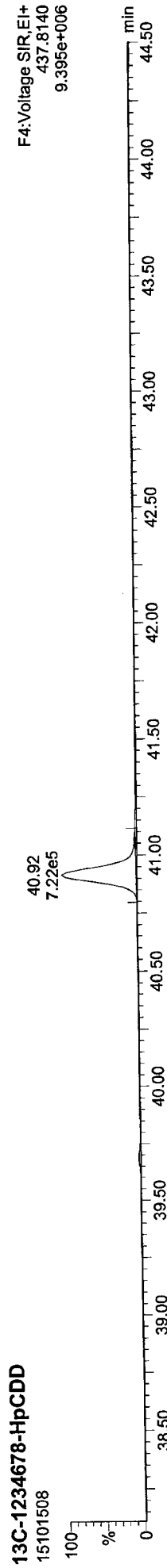
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
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ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



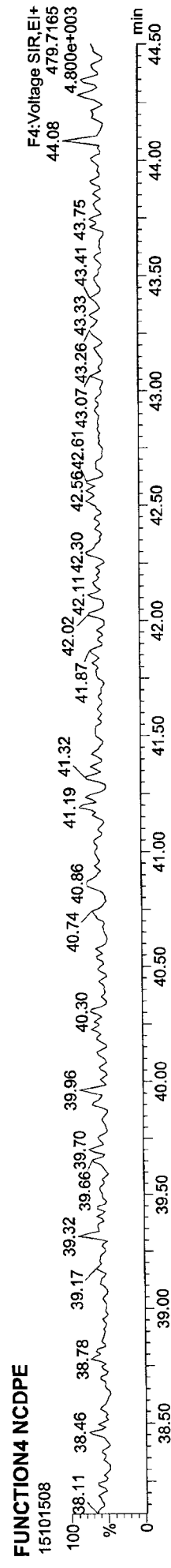
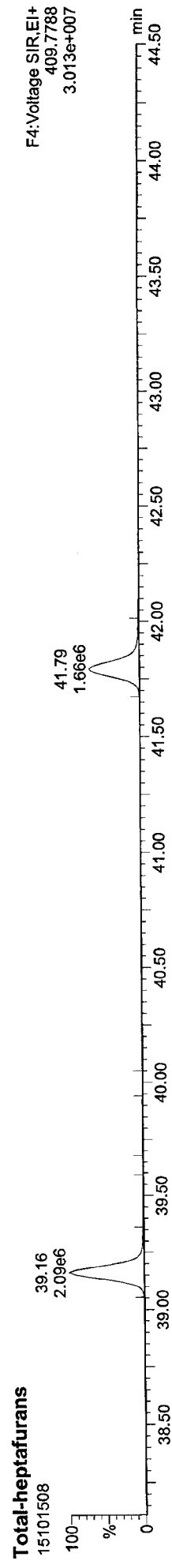
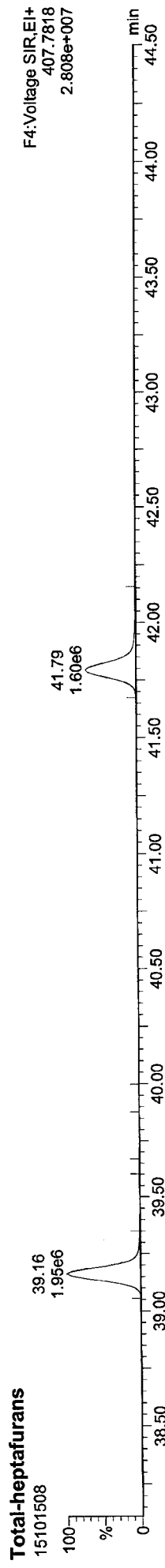
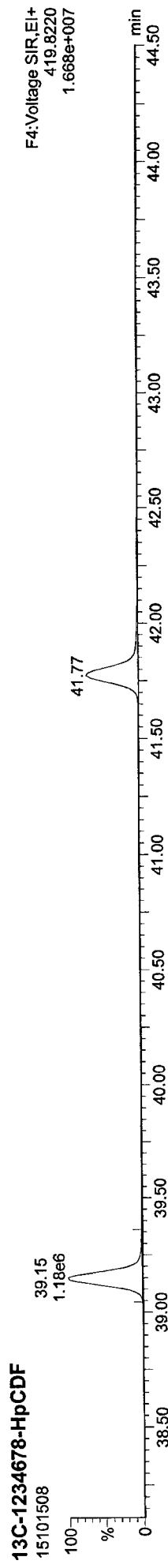
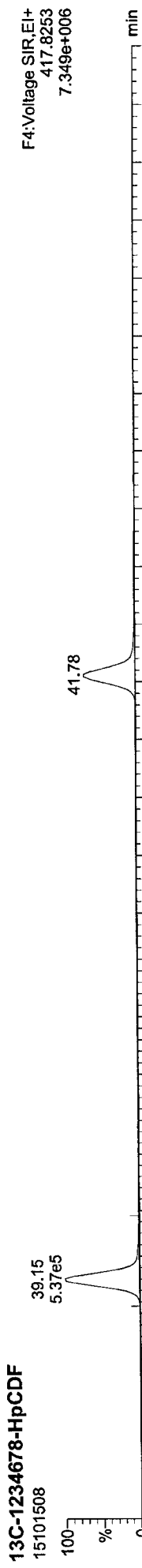
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



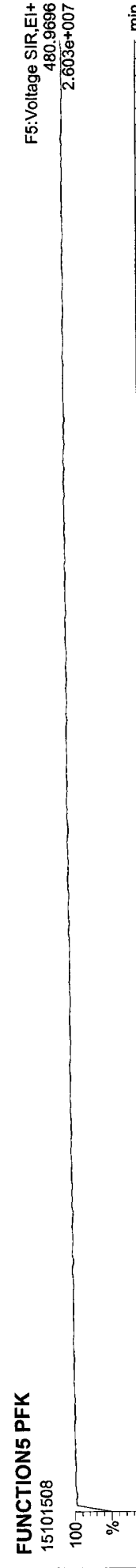
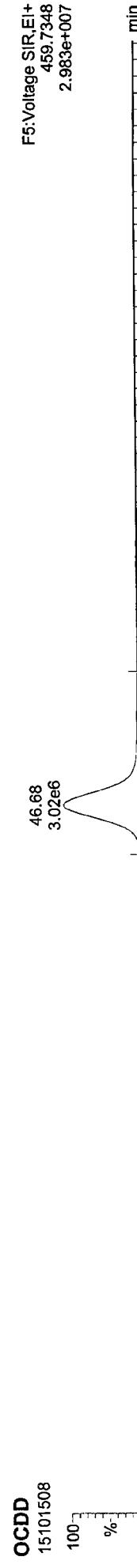
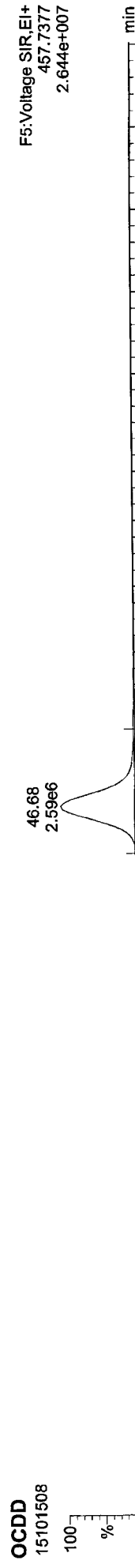
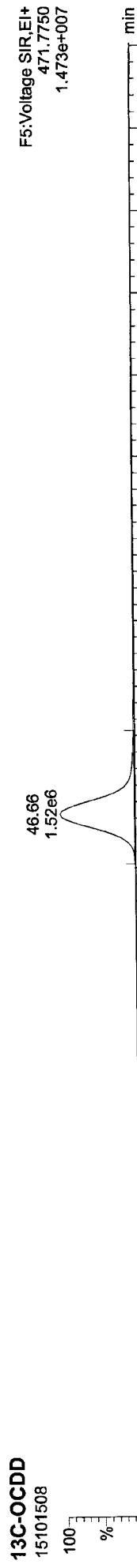
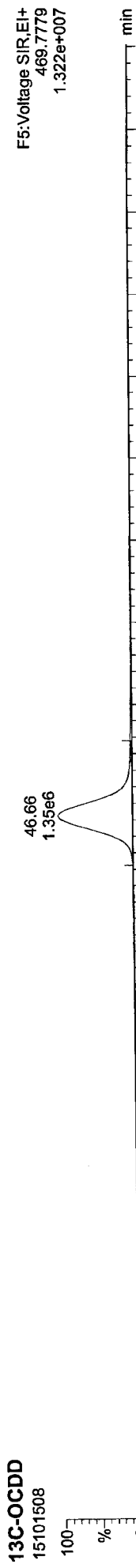
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
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ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



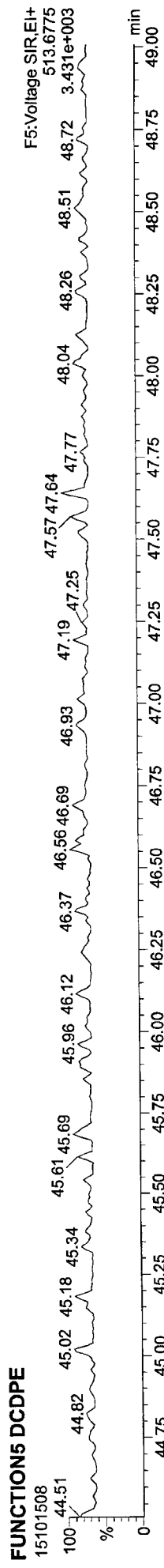
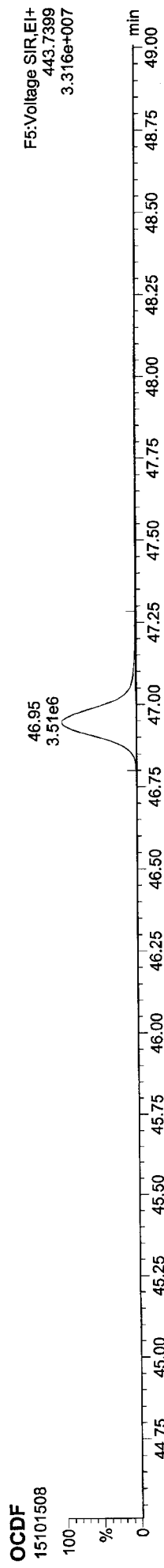
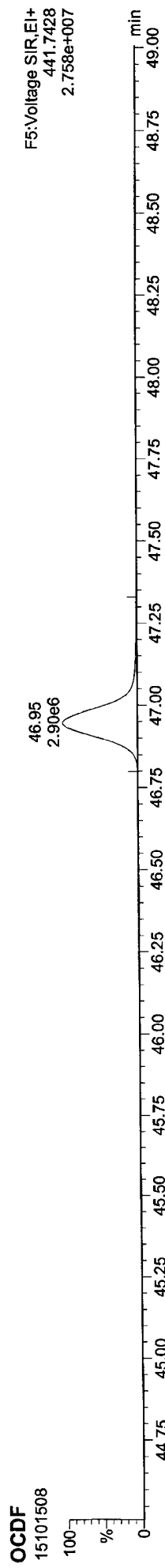
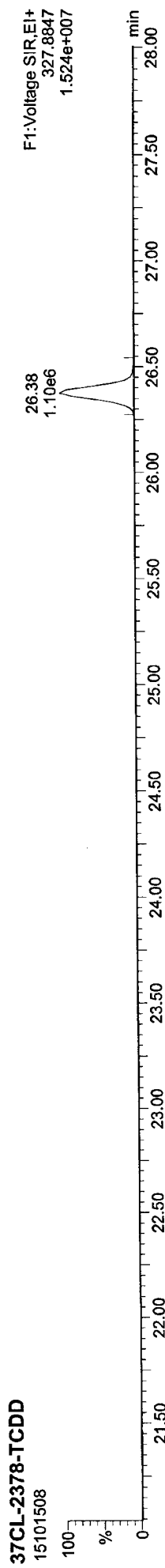
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Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015IC.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:03 Pacific Daylight Time

ID: CS4, Name: 15101508, Date: 15-Oct-2015, Time: 18:38:36, Conditions: AUTOSPEC01, User: pk



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN909**

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
 Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:50:05 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1510153SN.mdb 15 Oct 2015 16:11:27
Calibration: P:\DIOXIN8290.PRO\CurveDB\1510151CAL.cdb 16 Oct 2015 09:47:27

ID: CS5, **Name:** 15101509, **Date:** 15-Oct-2015, **Time:** 19:31:22, **Conditions:** AUTOSPEC01, **User:** pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
2378-TCDF	25.735	1.001	2.34e6	3.45e6	0.827	0.677	0.770	2243	2134	3.35e7	4.99e7	14955.2	NO	207.161	207.161
12378-PeCDF	29.869	1.001	1.51e7	1.07e7	0.824	1.420	1.550	5698	9562	2.23e8	1.56e8	39215.1	NO	1063.525	1063.525
23478-PeCDF	31.206	1.000	1.53e7	1.08e7	0.850	1.413	1.550	5698	9562	2.26e8	1.60e8	39723.3	NO	1048.477	1048.477
123478-HxCDF	34.878	1.001	1.21e7	1.07e7	0.973	1.128	1.240	7790	3755	1.79e8	1.59e8	22958.8	NO	1049.849	1049.849
234678-HxCDF	35.963	1.000	1.21e7	1.08e7	1.025	1.121	1.240	7790	3755	1.83e8	1.63e8	23495.2	NO	1062.833	1062.833
123678-HxCDF	35.021	1.000	1.29e7	1.14e7	0.953	1.127	1.240	7790	3755	1.86e8	1.66e8	23887.8	NO	1033.225	1033.225
123789-HxCDF	37.114	1.001	1.06e7	9.30e6	0.956	1.140	1.240	7790	3755	1.50e8	1.32e8	19229.1	NO	1056.182	1056.182
1234678-HpCDF	39.164	1.000	1.05e7	1.11e7	1.153	0.945	1.050	6039	6934	1.58e8	1.67e8	26196.8	NO	1050.487	1050.487
1234789-HpCDF	41.794	1.000	8.63e6	9.10e6	1.131	0.948	1.050	6039	6934	1.11e8	1.18e8	18418.3	NO	1076.291	1076.291
OCDF	46.960	1.006	1.55e7	1.86e7	1.023	0.832	0.890	3422	5931	1.62e8	1.94e8	47403.0	NO	2163.404	2163.404
2378-TCDD	26.377	1.001	2.14e6	2.75e6	1.023	0.776	0.770	1319	1882	3.08e7	3.95e7	23376.7	NO	218.215	218.215
12378-PeCDD	31.469	1.001	1.16e7	7.48e6	0.939	1.553	1.550	2231	1973	1.73e8	1.11e8	77524.3	NO	1025.445	1025.445
123478-HxCDD	36.105	1.001	1.05e7	8.44e6	0.963	1.246	1.240	3761	4440	1.56e8	1.25e8	41392.7	NO	1051.354	1051.354
123678-HxCDD	36.237	1.001	1.03e7	8.31e6	0.894	1.245	1.240	3761	4440	1.53e8	1.22e8	40697.3	NO	1038.659	1038.659
123789-HxCDD	36.653	1.012	1.02e7	8.21e6	0.900	1.239	1.240	3761	4440	1.51e8	1.22e8	40138.9	NO	1052.621	1052.621
1234678-HpCDD	40.939	1.000	8.12e6	7.81e6	0.964	1.040	1.050	5466	5139	1.08e8	1.04e8	19841.7	NO	1047.702	1047.702
OCDD	46.691	1.000	1.48e7	1.69e7	0.969	0.877	0.890	4932	3988	1.56e8	1.75e8	31604.8	NO	2118.899	2118.899
13C-2378-TCDF	25.720	1.006	1.48e6	1.90e6	1.502	0.777	0.770	3887	2445	2.13e7	2.75e7	5485.7	NO	101.519	101.519
13C-12378-PeCDF	29.847	1.168	1.80e6	1.14e6	1.215	1.573	1.550	3157	2186	2.59e7	1.65e7	8213.2	NO	109.232	109.232
13C-23478-PeCDF	31.195	1.221	1.79e6	1.14e6	1.181	1.575	1.550	3157	2186	2.58e7	1.65e7	8174.2	NO	111.780	111.780
13C-123478-HxCDF	34.856	0.951	7.53e5	1.47e6	1.246	0.512	0.510	4180	2958	1.10e7	2.16e7	2623.8	NO	99.809	99.809
13C-123678-HxCDF	35.009	0.955	8.39e5	1.63e6	1.375	0.516	0.510	4180	2958	1.20e7	2.32e7	2875.4	NO	100.213	100.213
13C-234678-HxCDF	35.952	0.981	7.27e5	1.38e6	1.186	0.525	0.510	4180	2958	1.05e7	2.04e7	2515.2	NO	99.339	99.339
13C-123789-HxCDF	37.092	1.012	6.66e5	1.30e6	1.135	0.511	0.510	4180	2958	9.52e6	1.86e7	2277.2	NO	96.996	96.996
13C-1234678-HpCDF	39.153	1.069	5.51e5	1.24e6	1.020	0.446	0.440	1334	2750	8.00e6	1.80e7	5995.9	NO	97.800	97.800
13C-1234789-HpCDF	41.783	1.140	4.50e5	1.01e6	0.824	0.447	0.440	1334	2750	5.56e6	1.25e7	4165.1	NO	98.741	98.741
13C-12334-TCDD	25.555	0.000	9.73e5	1.24e6	1.000	0.783	0.770	2688	2047	1.45e7	1.84e7	5390.8	NO	100.000	100.000
13C-2378-TCDD	26.362	1.032	9.58e5	1.23e6	0.983	0.778	0.770	2688	2047	1.36e7	1.76e7	5075.7	NO	100.616	100.616
13C-12378-PeCDD	31.447	1.231	1.21e6	7.71e5	0.787	1.570	1.550	1261	1057	1.79e7	1.15e7	14210.5	NO	113.657	113.657
13C-123478-HxCDD	36.084	0.985	1.05e6	8.26e5	1.031	1.267	1.240	2835	1283	1.53e7	1.22e7	5400.8	NO	101.416	101.416
13C-123678-HxCDD	36.215	0.988	1.13e6	8.83e5	1.137	1.275	1.240	2835	1283	1.58e7	1.28e7	5586.5	NO	98.763	98.763
13C-1234678-HpCDD	40.917	1.117	8.05e5	7.72e5	0.892	1.042	1.050	1981	1661	1.08e7	1.02e7	5432.1	NO	98.733	98.733
13C-OCDD	46.673	1.274	1.46e6	1.63e6	0.852	0.894	0.890	3038	1938	1.51e7	1.70e7	4979.7	NO	202.484	202.484

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151C.qld
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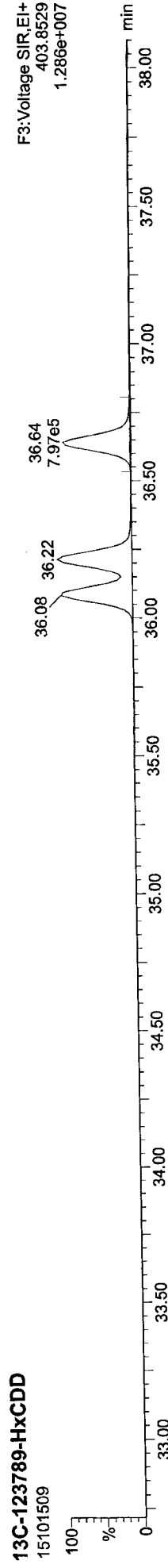
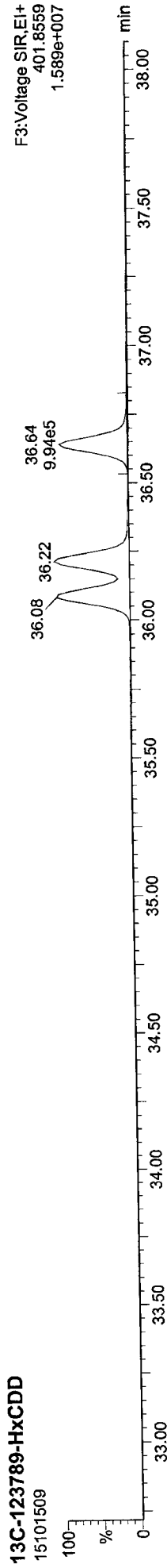
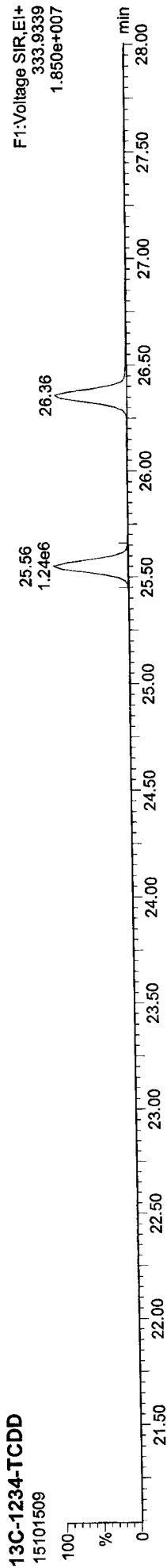
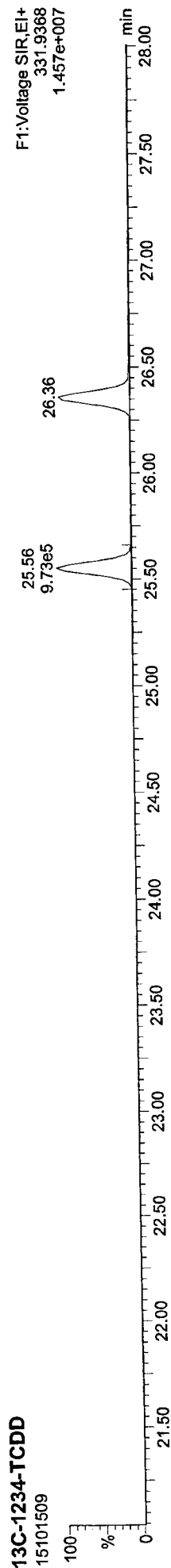
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Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	PredR	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	36.643	0.000	9.94e5	7.97e5	1.000	1.247	1.240	2835	1283	1.45e7	1.16e7	5110.4	NO		100.000
Total-tetrafurans			2.38e6		0.827			2243		3.42e7					210.902
Total-penta1			0.00e0					524		0.00e0					
Total-penta1furans			3.11e7		0.837			5698		4.58e8					2158.480
Total-hexa1furans			4.77e7		0.977			7790		6.99e8					4208.001
Total-hepta1furans			1.92e7		1.142			6039		2.70e8					2129.112
Total-Furans			1.16e8		0.971			2243		1.62e9					10869.899
Total-tetra1dioxins			2.19e6		1.023			1319		3.15e7					223.650
Total-penta1dioxins			1.16e7		0.939			2231		1.73e8					1027.656
Total-hexa1dioxins			3.10e7		0.919			3761		4.60e8					3142.816
Total-hepta1dioxins			8.15e6		0.964			5466		1.09e8					1051.375
Total-Dioxins			6.78e7		0.950			1319		9.29e8					7564.447
Total-TEQ			1.84e8					1319		2.55e9					18434.346
37CL-2378-TCDD	26.377	1.032	5.33e6		1.091			1799		7.72e7		42947.9			220.293
FUNCTION1 PFK			1.67e6					475628		3.10e7					
FUNCTION2 PFK			4.61e4					102875		1.29e6					0.000
FUNCTION3 PFK			2.91e7					404520		1.85e8					0.000
FUNCTION4 PFK			9.49e5					304670		2.31e7					
FUNCTION5 PFK			1.44e5					302561		5.12e6					
FUNCTION1 HXCDPE			7.68e1					494		1.71e3					0.000
FUNCTION1 HPCDPE			2.54e2					764		4.06e3					0.000
FUNCTION2 HPCDPE			2.36e4					742		3.56e5					0.000
FUNCTION3 OCDPE			0.00e0					257		0.00e0					
FUNCTION4 NCDPE			0.00e0					582		0.00e0					
FUNCTION5 DCDPE			0.00e0					313		0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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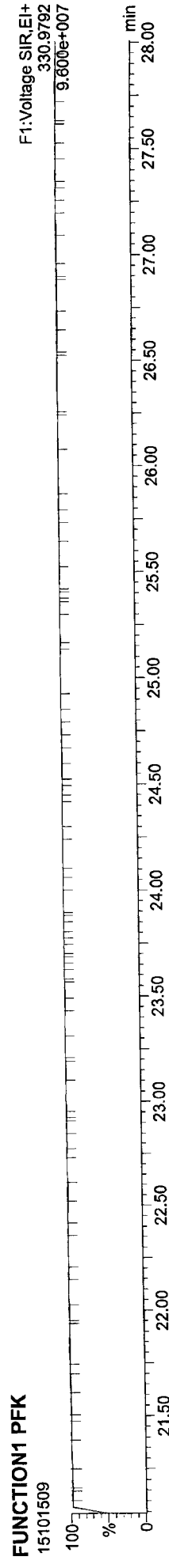
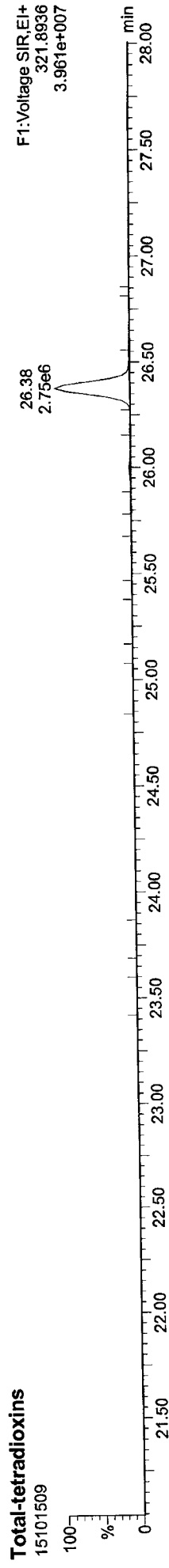
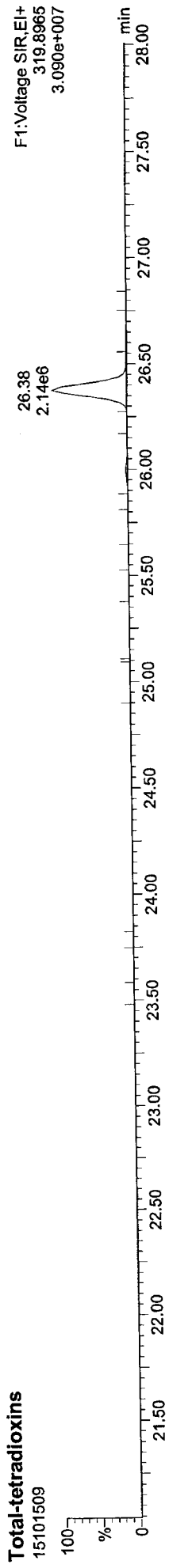
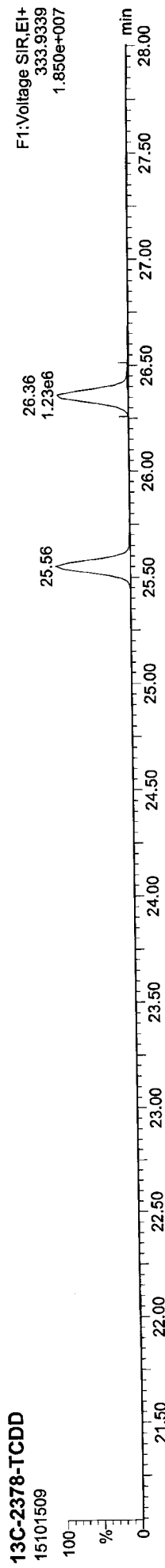
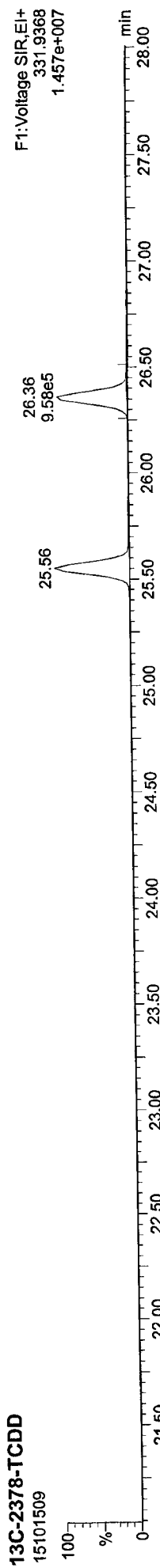
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ID: CS5, Name: 15101509, Date: 15-Oct-2015, Time: 19:31:22, Conditions: AUTOSPEC01, User: pk



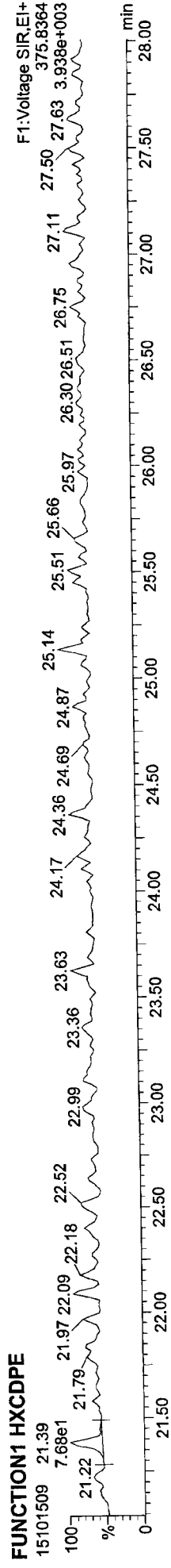
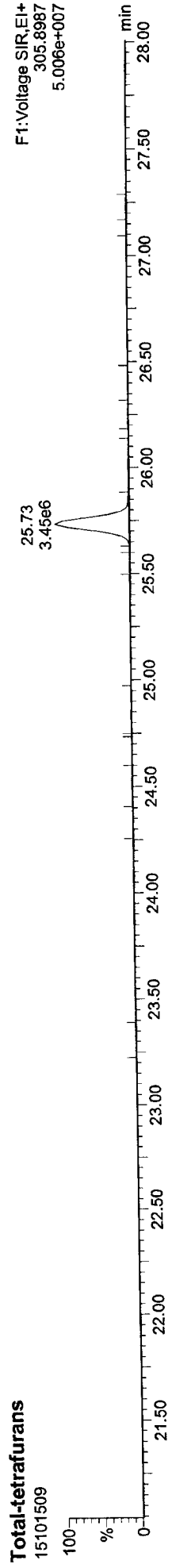
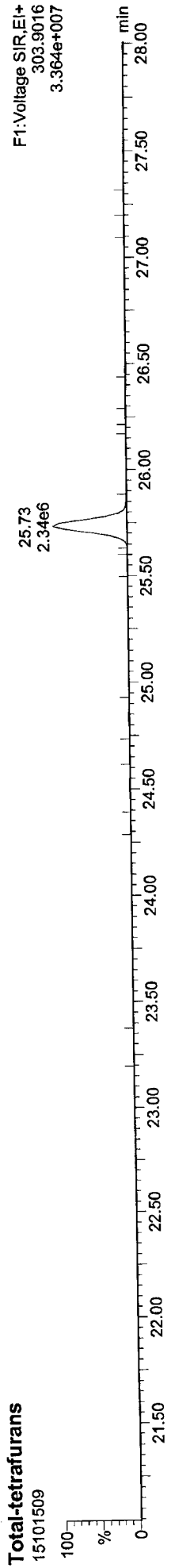
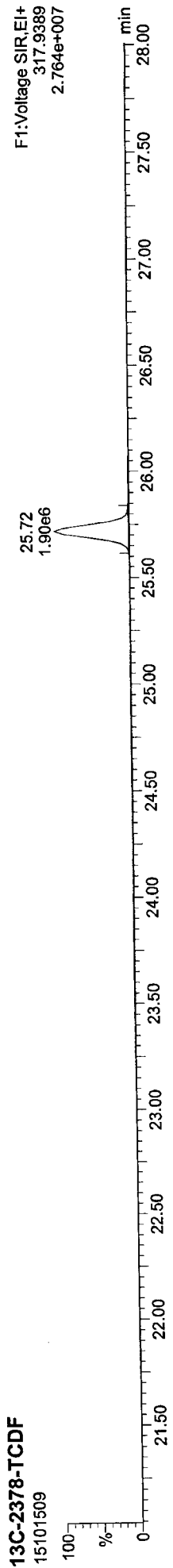
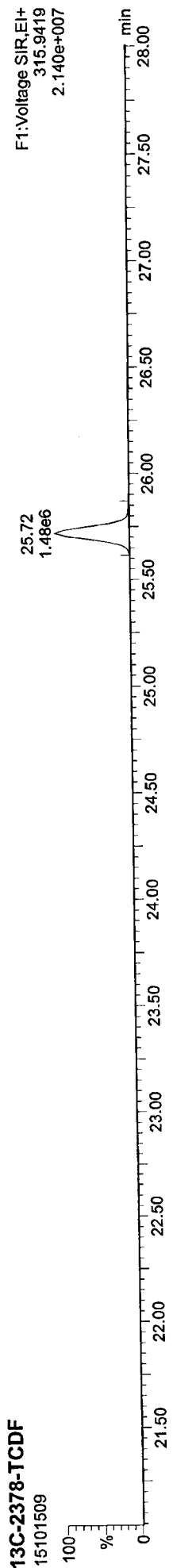
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ID: CS5, Name: 15101509, Date: 15-Oct-2015, Time: 19:31:22, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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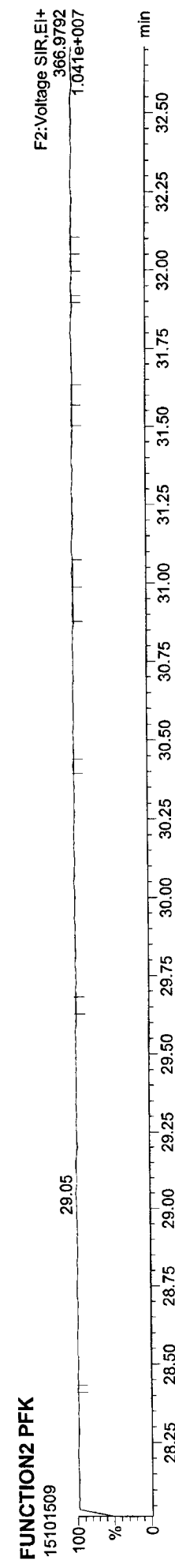
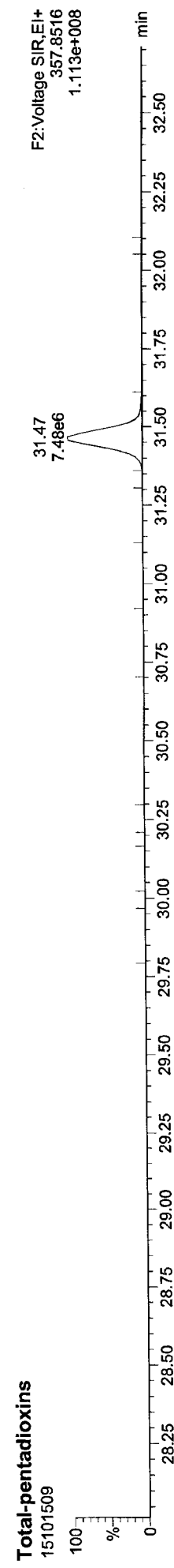
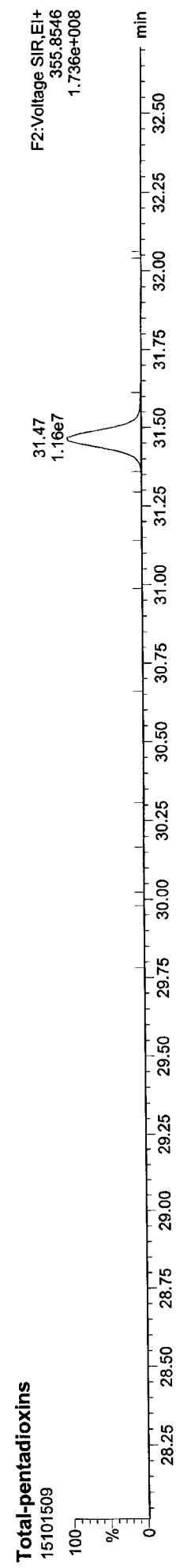
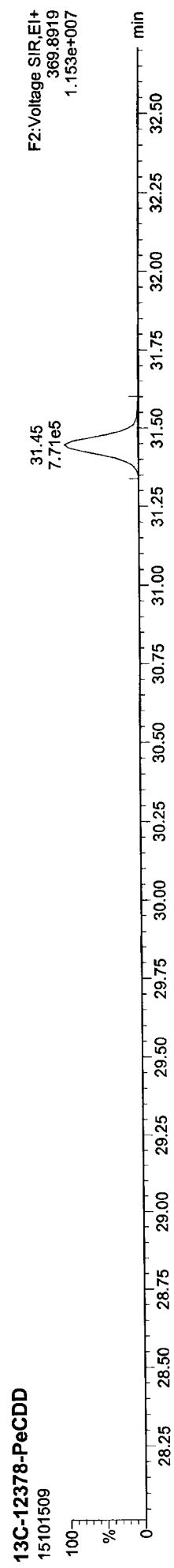
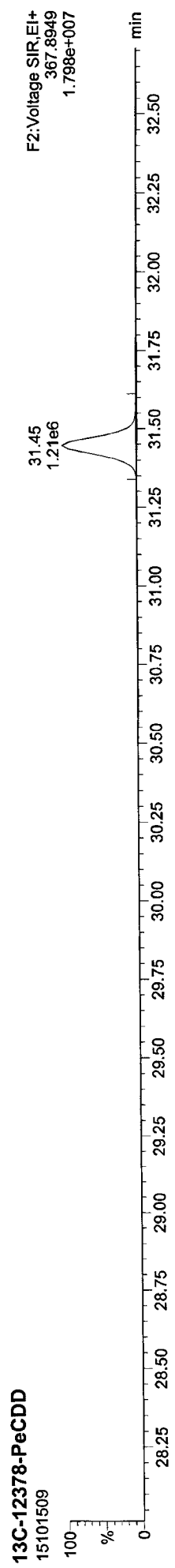
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

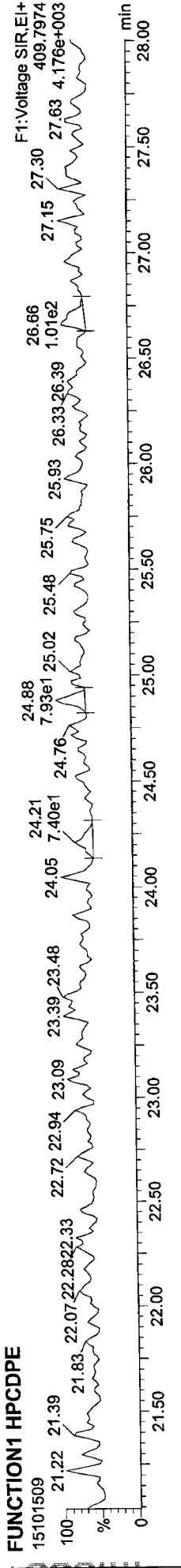
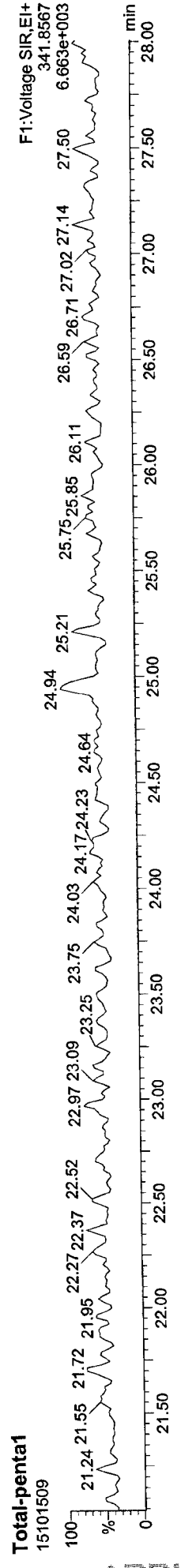
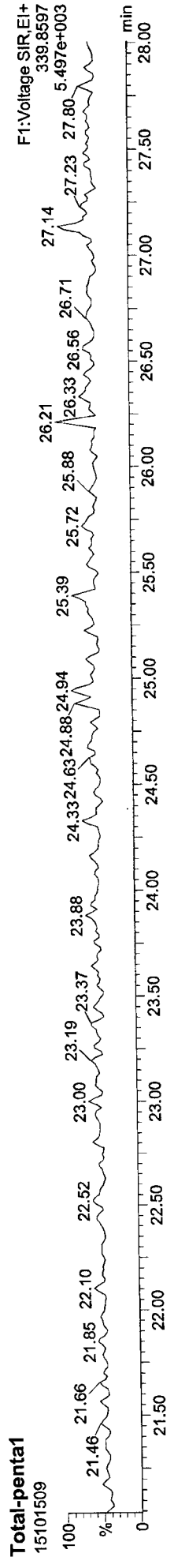
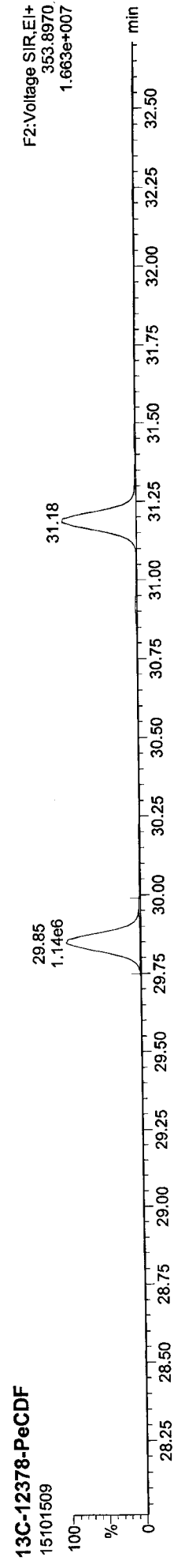
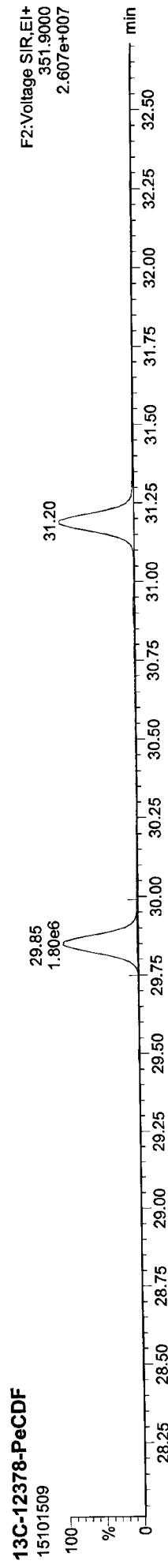
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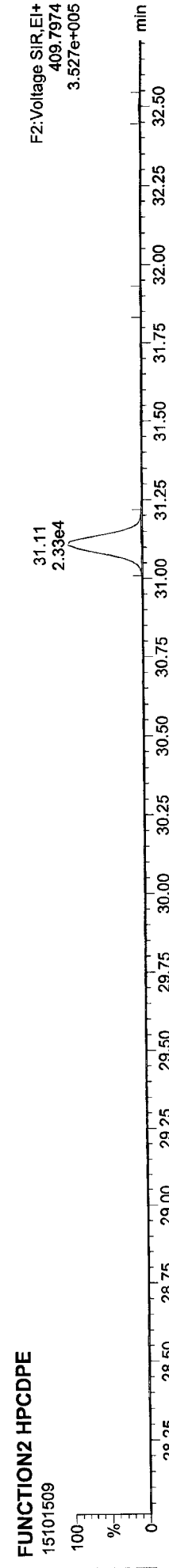
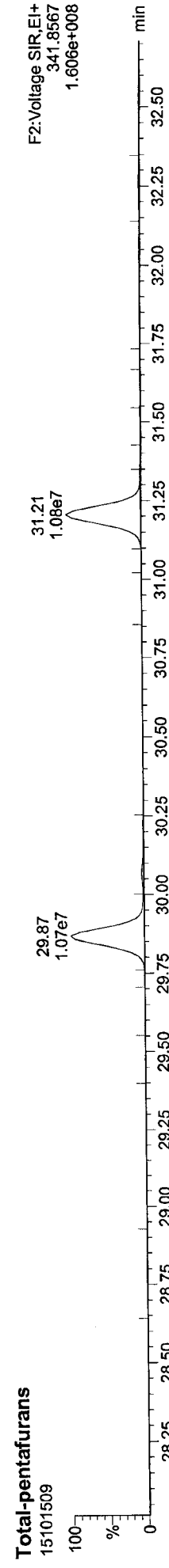
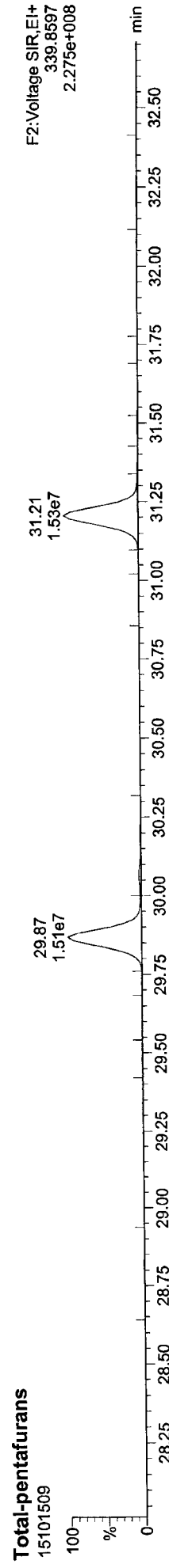
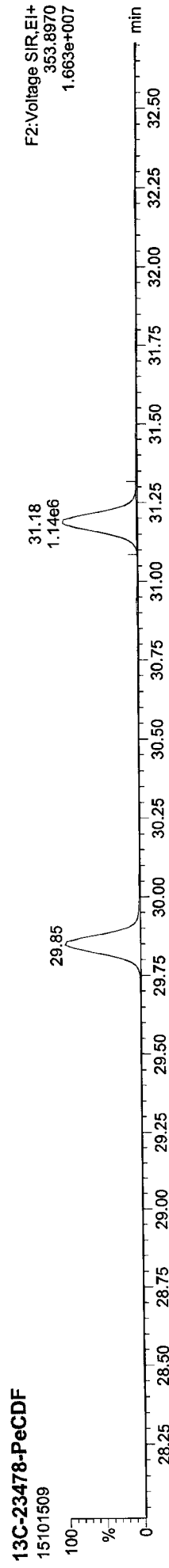
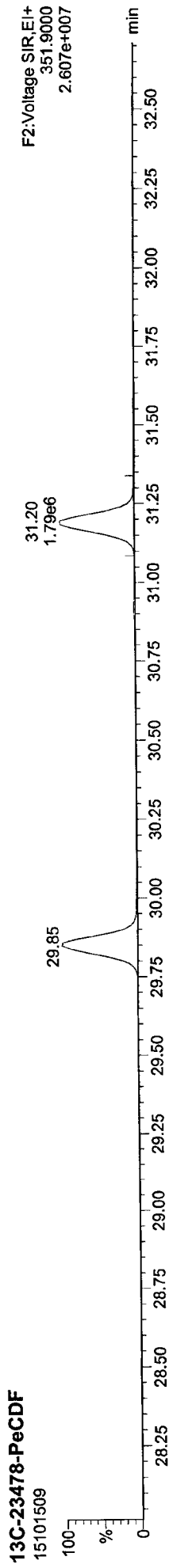
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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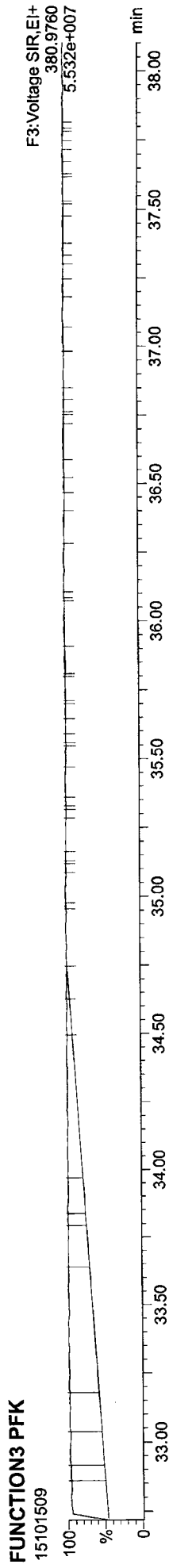
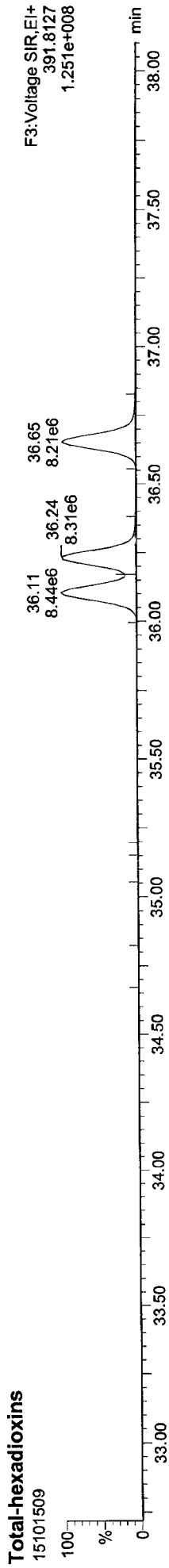
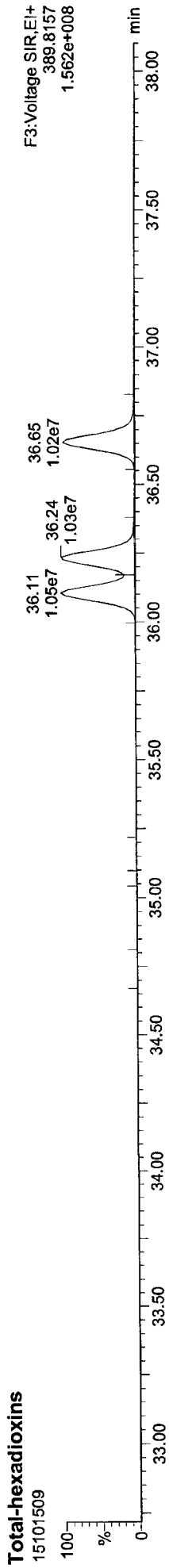
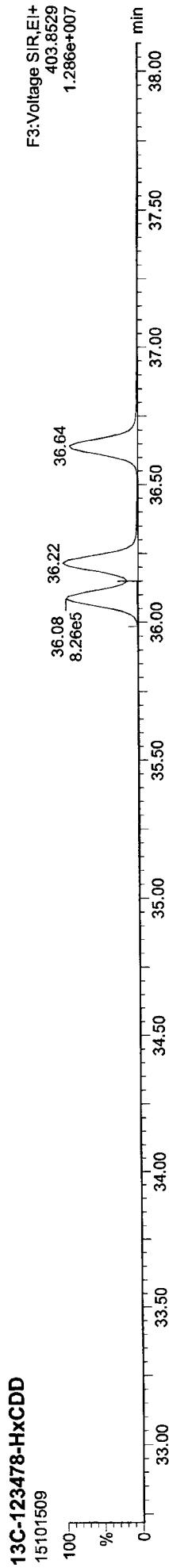
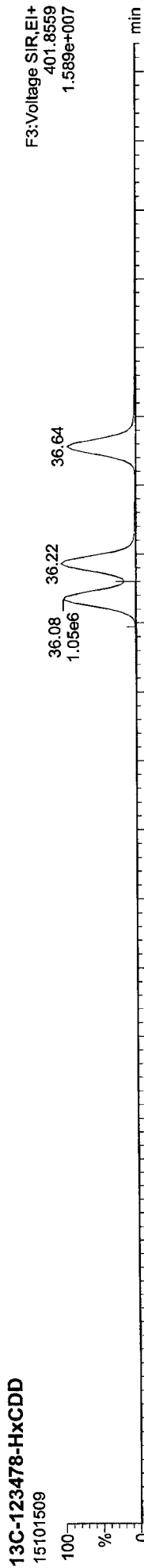
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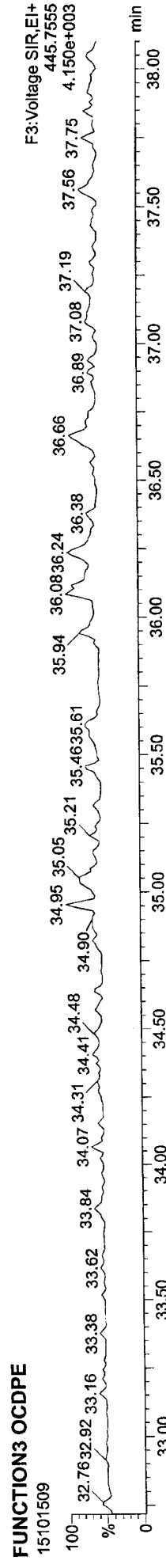
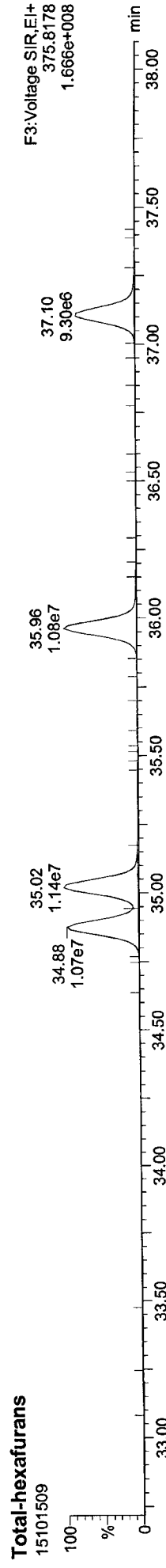
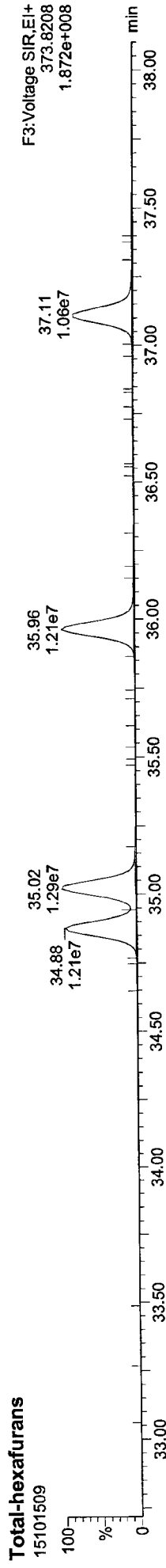
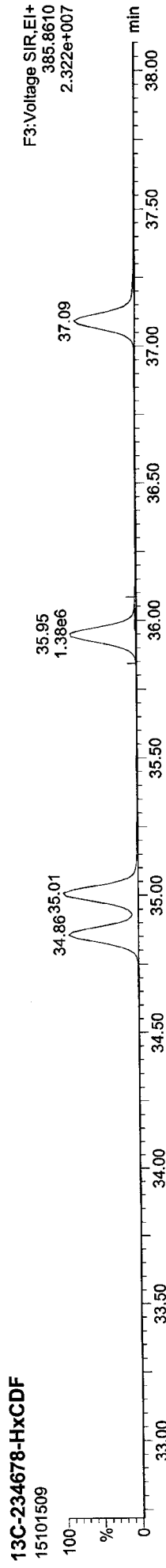
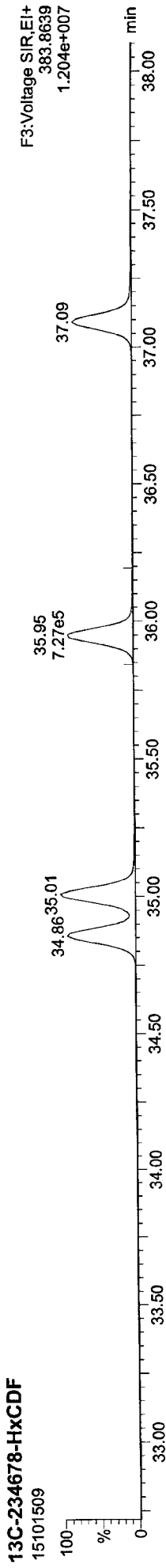
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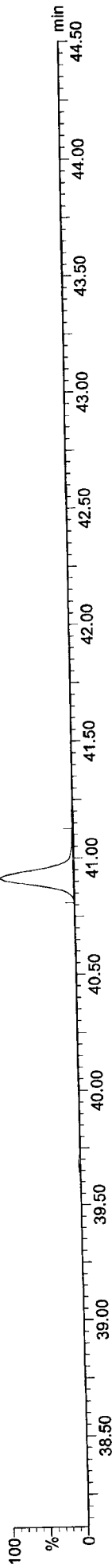


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MassLynx MassLynx V4.1 SCN909
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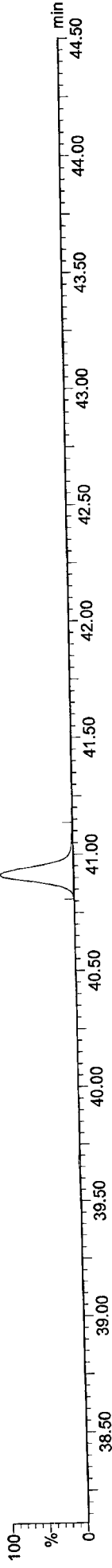
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435.8169
1.080e+007

13C-1234678-HpCDD

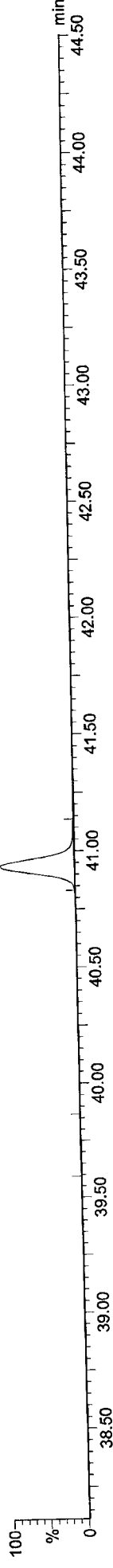
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F4:Voltage SIR,EI+
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1.024e+007

Total-heptadioxins

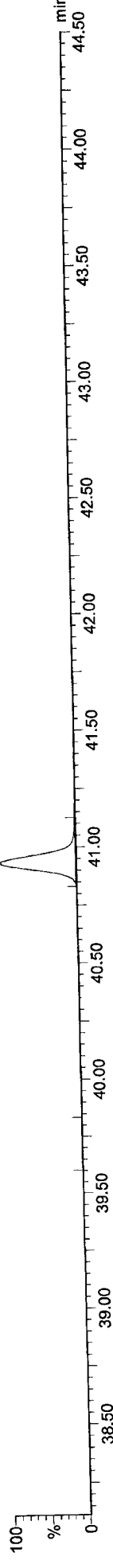
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F4:Voltage SIR,EI+
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1.089e+008

Total-heptadioxins

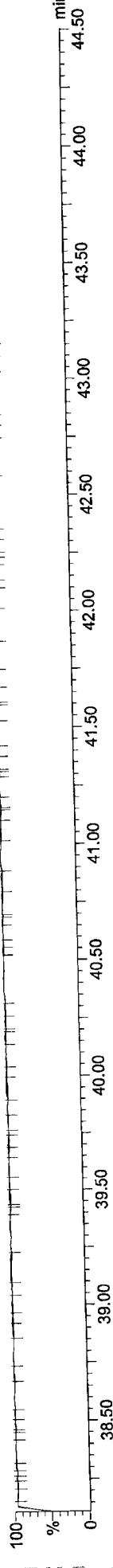
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F4:Voltage SIR,EI+
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1.045e+008

FUNCTION4 PFK

15101509

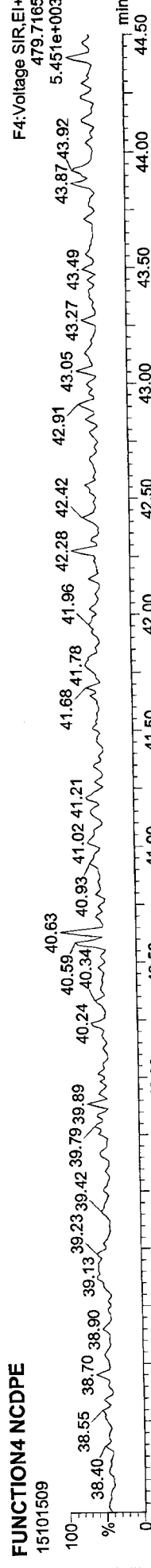
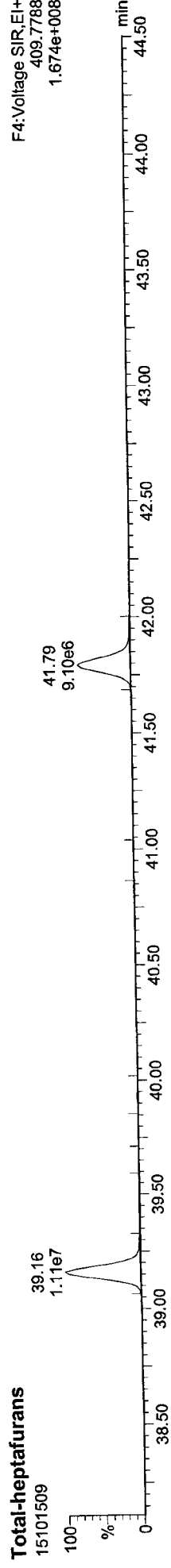
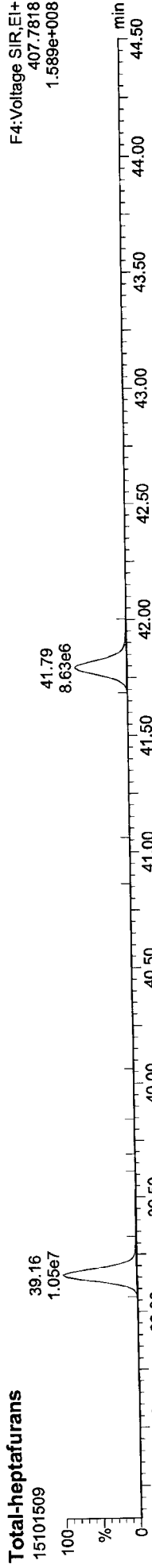
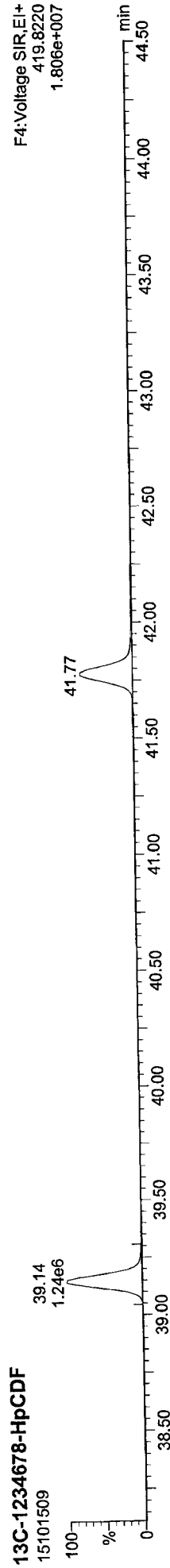
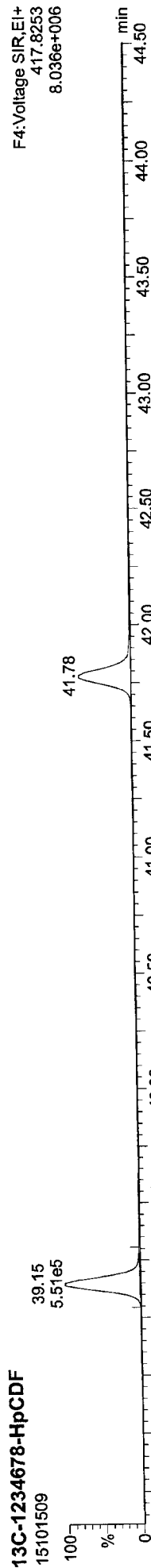


F4:Voltage SIR,EI+
430.9728
3.883e+007

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

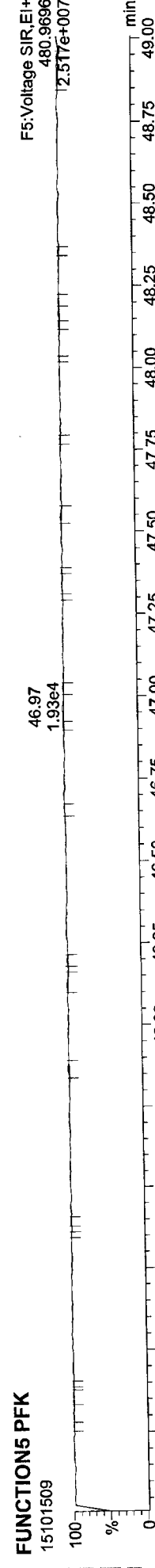
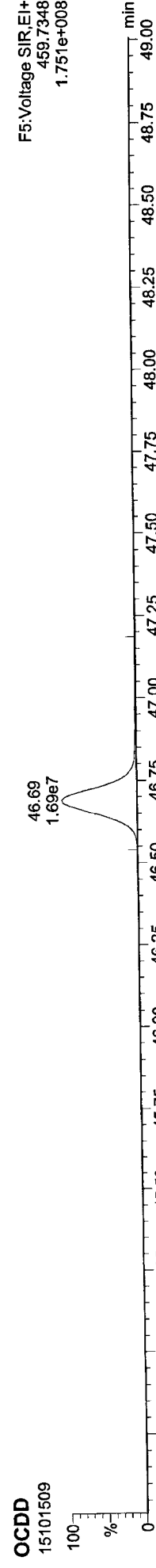
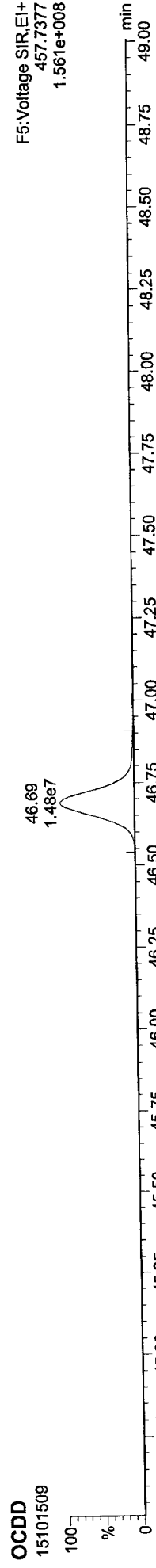
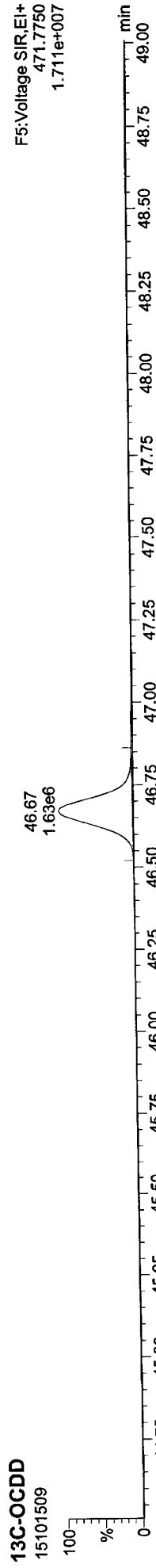
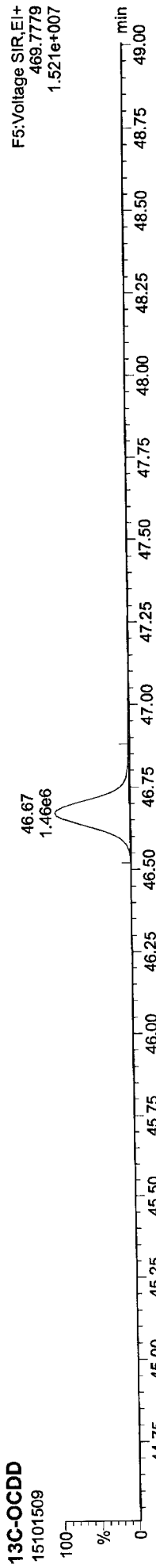
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ID: CS5, Name: 15101509, Date: 15-Oct-2015, Time: 19:31:22, Conditions: AUTOSPEC01, User: pk



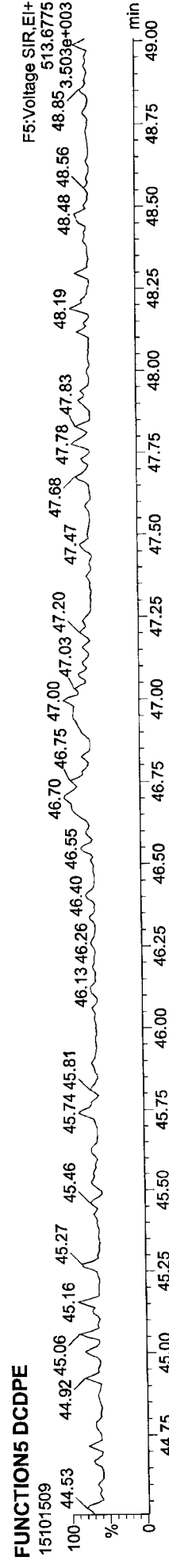
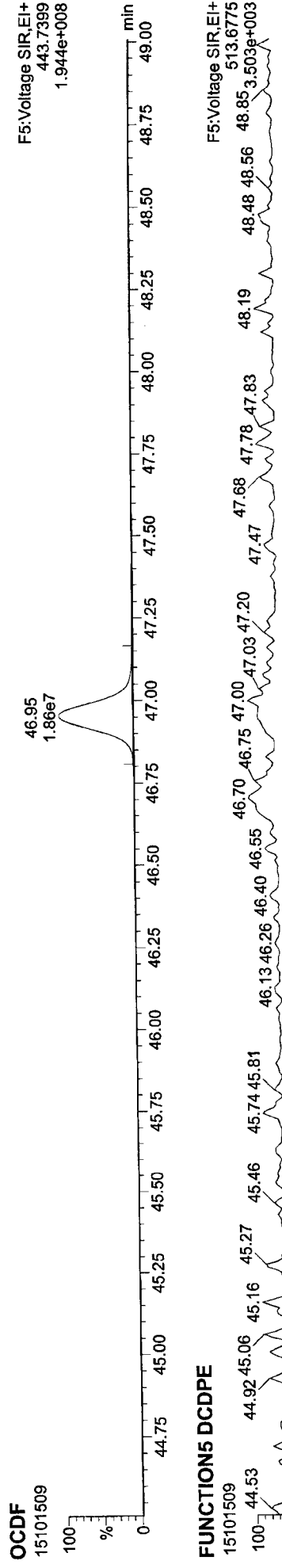
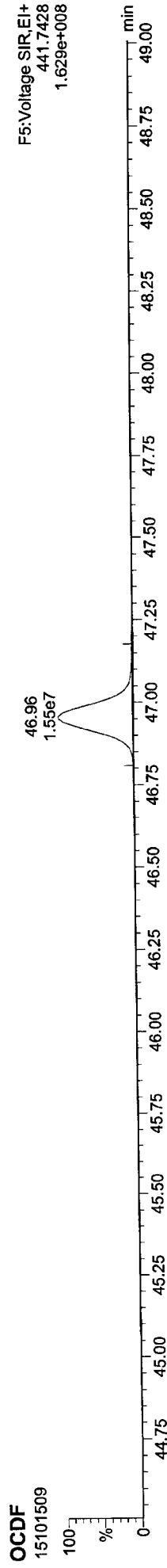
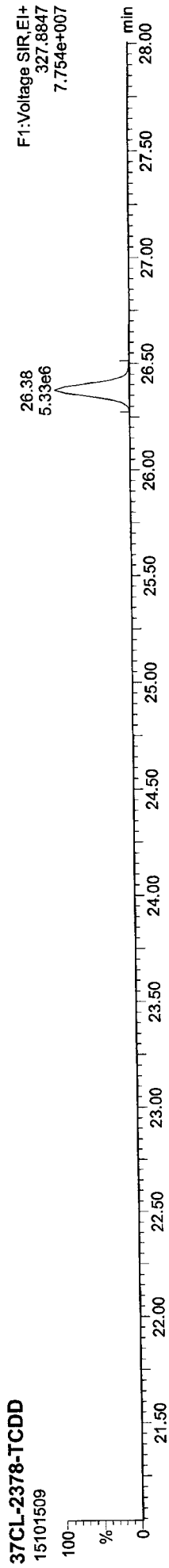
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:05 Pacific Daylight Time

ID: CS5, Name: 15101509, Date: 15-Oct-2015, Time: 19:31:22, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\1510151C.qld
Last Altered: Friday, October 16, 2015 09:47:27 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:50:05 Pacific Daylight Time

ID: CS5, Name: 15101509, Date: 15-Oct-2015, Time: 19:31:22, Conditions: AUTOSPEC01, User: pk



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\151015ICV.qld
 Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

Method: P:\DIOXIN8290.PRO\MethDB\DiDioxin1510153SN.mdb 15 Oct 2015 16:11:27
 Calibration: P:\DIOXIN8290.PRO\CurveDB\151015ICAL.cdb 16 Oct 2015 09:47:27

ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SN	EMPC?	EMPC	pg
2378-TCDF	25.750	1.001	1.00e5	1.53e5	0.827	0.655	0.770	818	1443	1.39e6	2.02e6	1694.2	NO	9.964	9.964
12378-PeCDF	29.869	1.000	6.34e5	4.64e5	0.824	1.366	1.550	2331	2631	8.96e6	6.44e6	3843.4	NO	54.863	54.863
23478-PeCDF	31.206	1.000	5.97e5	4.30e5	0.850	1.388	1.550	2331	2631	8.65e6	6.18e6	3709.7	NO	50.512	50.512
123478-HxCDF	34.879	1.000	5.06e5	4.51e5	0.973	1.123	1.240	2256	2827	7.39e6	6.55e6	3276.5	NO	56.905	56.905
234678-HxCDF	35.975	1.001	4.92e5	4.35e5	1.025	1.130	1.240	2256	2827	6.80e6	6.01e6	3012.1	NO	49.539	49.539
123678-HxCDF	35.032	1.001	5.36e5	4.85e5	0.953	1.106	1.240	2256	2827	7.39e6	6.65e6	3276.1	NO	53.673	53.673
123789-HxCDF	37.115	1.001	4.39e5	4.07e5	0.956	1.078	1.240	2256	2827	5.96e6	5.42e6	2642.6	NO	54.716	54.716
1234678-HpCDF	39.165	1.000	4.26e5	4.48e5	1.153	0.952	1.050	2326	2451	6.06e6	6.30e6	2606.3	NO	53.731	53.731
1234789-HpCDF	41.795	1.000	3.55e5	3.75e5	1.131	0.946	1.050	2326	2451	4.19e6	4.55e6	1802.9	NO	52.870	52.870
OCDF	46.952	1.006	6.28e5	7.64e5	1.023	0.822	0.890	2321	1656	6.03e6	7.32e6	2596.2	NO	118.266	118.266
2378-TCDD	26.377	1.001	9.73e4	1.26e5	1.023	0.771	0.770	1023	899	1.30e6	1.71e6	1273.8	NO	9.557	9.557
12378-PeCDD	31.469	1.001	4.96e5	3.14e5	0.939	1.579	1.550	1564	1282	6.92e6	4.42e6	4425.2	NO	49.161	49.161
123478-HxCDD	36.106	1.000	4.16e5	3.36e5	0.963	1.238	1.240	1390	2057	6.01e6	4.85e6	4322.4	NO	52.507	52.507
123678-HxCDD	36.238	1.001	4.25e5	3.44e5	0.894	1.235	1.240	1390	2057	5.94e6	4.83e6	4274.1	NO	57.661	57.661
123789-HxCDD	36.665	1.012	4.38e5	3.45e5	0.900	1.268	1.240	1390	2057	5.77e6	4.65e6	4153.0	NO	58.354	58.354
1234678-HpCDD	40.940	1.001	3.56e5	3.37e5	0.964	1.059	1.050	1688	1451	4.47e6	4.29e6	2648.7	NO	51.401	51.401
OCDD	46.683	1.000	5.93e5	6.76e5	0.969	0.877	0.890	1832	1783	5.77e6	6.48e6	3150.6	NO	113.957	113.957
13C-2378-TCDF	25.720	1.006	1.35e6	1.72e6	1.502	0.783	0.770	4199	2458	1.80e7	2.32e7	4296.9	NO	87.674	87.674
13C-12378-PeCDF	29.858	1.168	1.49e6	9.43e5	1.215	1.578	1.550	2271	3028	2.07e7	1.30e7	9114.0	NO	85.808	85.808
13C-23478-PeCDF	31.195	1.221	1.46e6	9.33e5	1.181	1.566	1.550	2271	3028	2.09e7	1.34e7	9225.0	NO	86.925	86.925
13C-123478-HxCDF	34.868	0.952	5.88e5	1.14e6	1.246	0.516	0.510	3699	2919	8.33e6	1.62e7	2253.3	NO	87.686	87.686
13C-123678-HxCDF	35.010	0.955	6.80e5	1.32e6	1.375	0.517	0.510	3699	2919	9.28e6	1.79e7	2507.7	NO	91.690	91.690
13C-234678-HxCDF	35.953	0.981	6.21e5	1.20e6	1.186	0.516	0.510	3699	2919	8.67e6	1.67e7	2343.2	NO	97.205	97.205
13C-123789-HxCDF	37.093	1.012	5.59e5	1.06e6	1.135	0.528	0.510	3699	2919	7.27e6	1.41e7	1965.7	NO	90.057	90.057
13C-1234678-HpCDF	39.154	1.069	4.31e5	9.80e5	1.020	0.440	0.440	2425	3140	6.10e6	1.39e7	2516.2	NO	87.352	87.352
13C-1234789-HpCDF	41.784	1.140	3.75e5	8.46e5	0.824	0.443	0.440	2425	3140	4.52e6	1.02e7	1862.1	NO	93.705	93.705
13C-1234-TCDD	25.555	0.000	1.03e6	1.30e6	1.000	0.788	0.770	2352	1818	1.45e7	1.83e7	6152.4	NO	100.000	100.000
13C-2378-TCDD	26.362	1.032	1.01e6	1.27e6	0.983	0.794	0.770	2352	1818	1.40e7	1.77e7	5959.9	NO	99.802	99.802
13C-12378-PeCDD	31.448	1.231	1.07e6	6.85e5	0.787	1.558	1.550	1882	1902	1.51e7	9.64e6	8020.8	NO	95.563	95.563
13C-123478-HxCDD	36.095	0.985	8.41e5	6.46e5	1.031	1.301	1.240	2297	3286	1.18e7	9.20e6	5146.9	NO	91.158	91.158
13C-123678-HxCDD	36.216	0.988	8.18e5	6.76e5	1.137	1.210	1.240	2297	3286	1.12e7	8.92e6	4888.1	NO	83.041	83.041
13C-1234678-HpCDD	40.918	1.117	7.19e5	6.79e5	0.892	1.060	1.050	1762	2253	8.99e6	8.59e6	5098.5	NO	99.053	99.053
13C-OCDD	46.665	1.273	1.09e6	1.21e6	0.852	0.901	0.890	2463	1702	1.04e7	1.16e7	4203.5	NO	170.666	170.666

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\151015\ICV.qld
 Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
 Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk

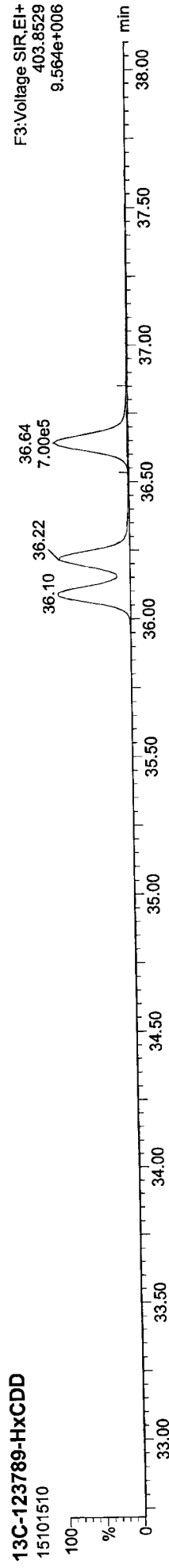
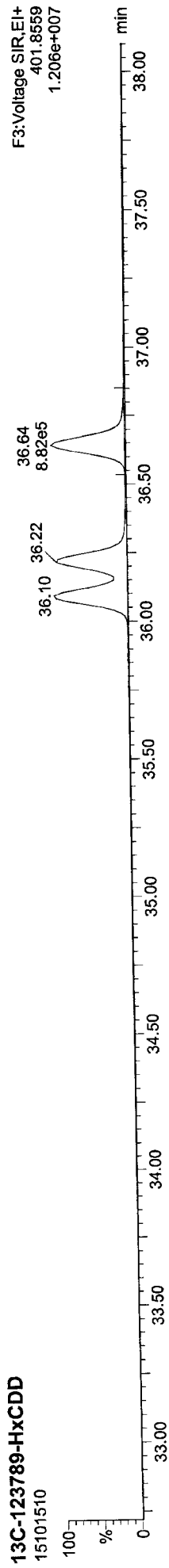
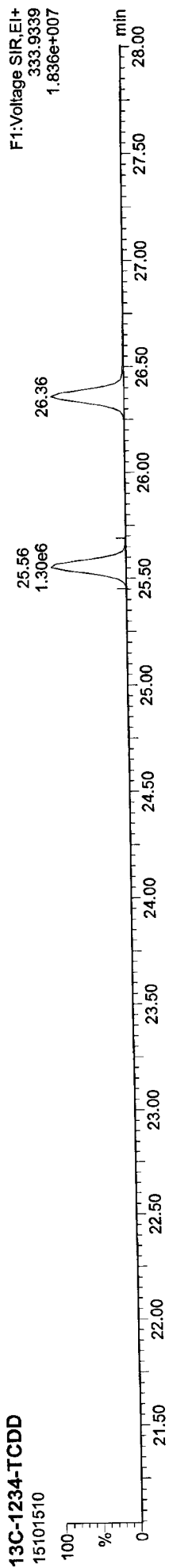
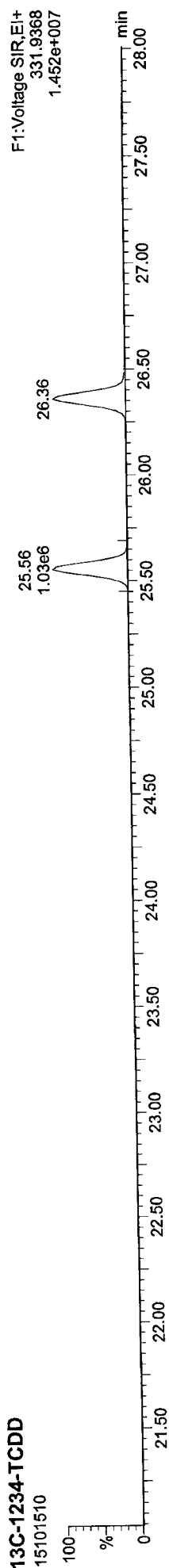
Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SN	EMPC?	EMPC	PG
13C-123789-HxCDD	36.643	0.000	8.82e5	7.00e5	1.000	1.259	1.240	2297	3286	1.20e7	9.48e6	5206.4	NO		100.000
Total-tetrafurans			1.01e5	0.827			818			1.40e6					10.057
Total-penta1			0.00e0				818			0.00e0					
Total-pentafurans			1.24e6	0.837			2331			1.78e7					106.636
Total-hexafurans			1.97e6	0.977			2256			2.76e7					215.027
Total-heptafurans			7.83e5	1.142			2326			1.03e7					106.992
Total-Furans			4.73e6	0.971			818			6.31e7					556.978
Total-tetra-dioxins			9.73e4	1.023			1023			1.30e6					9.557
Total-penta-dioxins			4.96e5	0.939			1564			6.94e6					49.226
Total-hexa-dioxins			1.28e6	0.919			1390			1.78e7					168.671
Total-hepta-dioxins			3.57e5	0.964			1688			4.49e6					51.536
Total-Dioxins			2.83e6	0.950			1023			3.63e7					392.946
Total-TEQ			7.55e6	1.091			1023			9.93e7		1996.6			949.924
37CL-2378-TCDD	26.377	1.032	2.41e5				1632			3.26e6					9.463
FUNCTION1 PFK			1.09e6				600562			2.10e7					0.000
FUNCTION2 PFK			2.65e6				123856			8.85e6					0.000
FUNCTION3 PFK			5.41e4				287251			1.50e6					
FUNCTION4 PFK			1.28e7				267086			8.41e7					
FUNCTION5 PFK			1.56e5				226615			6.68e6					
FUNCTION1 HXCDPE			7.04e1				458			1.49e3					0.000
FUNCTION1 HPCDPE			7.64e2				687			1.43e4					0.000
FUNCTION2 HPCDPE			0.00e0				752			0.00e0					
FUNCTION3 OCDPE			0.00e0				442			0.00e0					
FUNCTION4 NCDPE			7.23e1				581			2.72e3					0.000
FUNCTION5 DCDPE			0.00e0				326			0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1510151CV.qtd
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

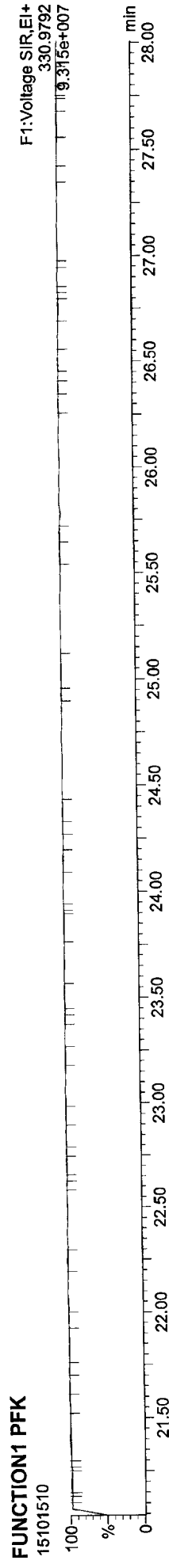
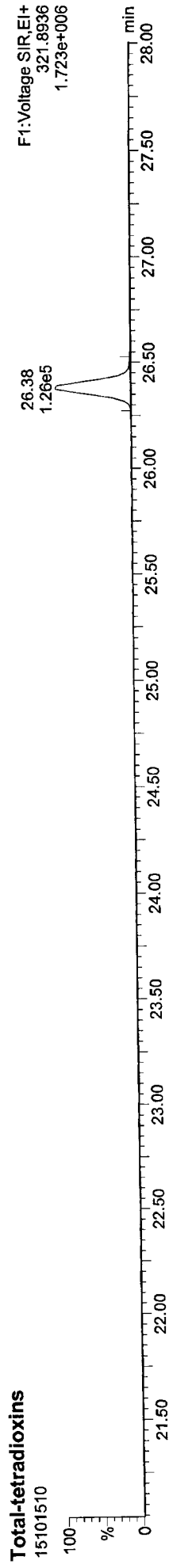
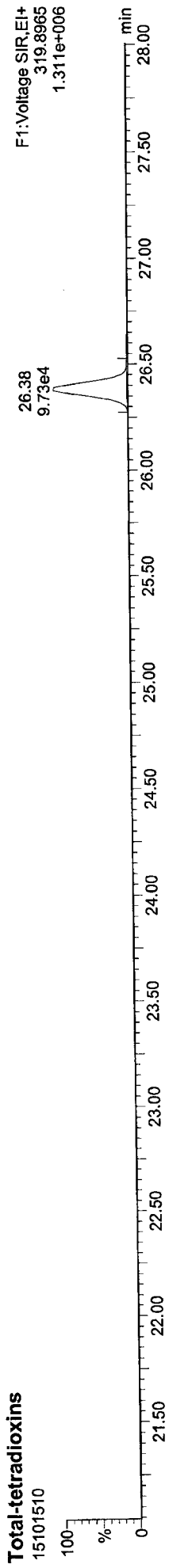
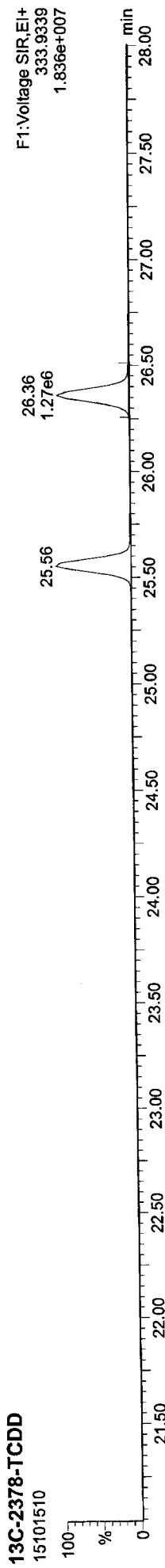
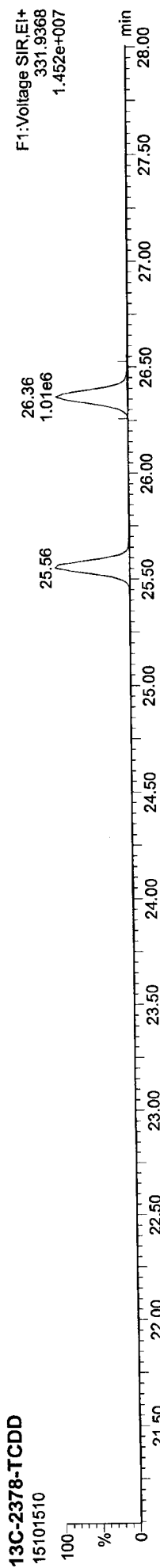
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ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015\ICV.qld
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
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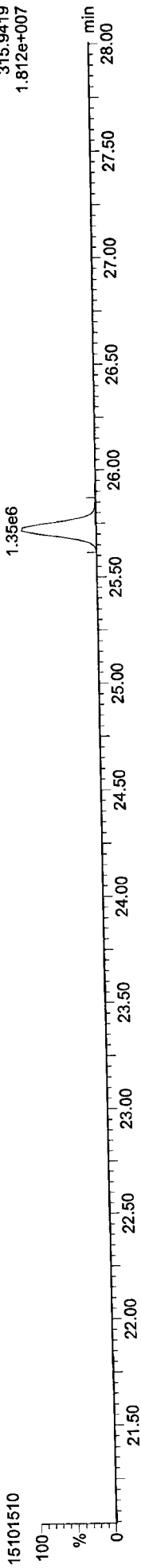
ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015\ICV.qld
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

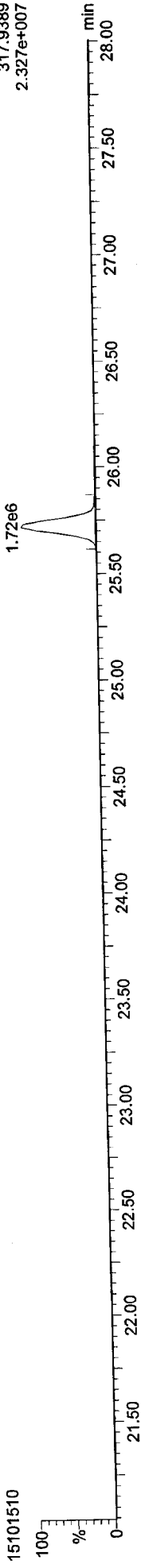
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13C-2378-TCDF



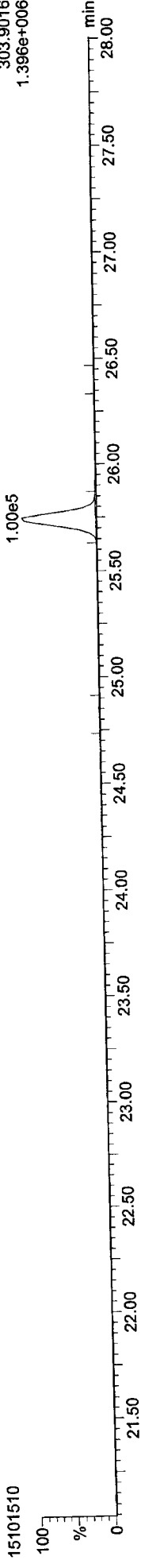
F1: Voltage SIR, EI+
315.9419
1.812e+007

13C-2378-TCDF



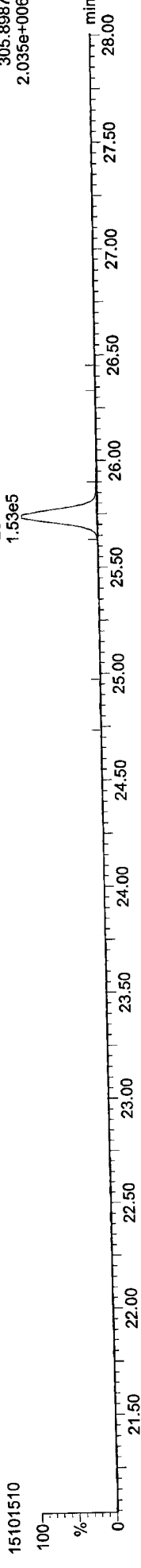
F1: Voltage SIR, EI+
317.9389
2.327e+007

Total-tetrafurans



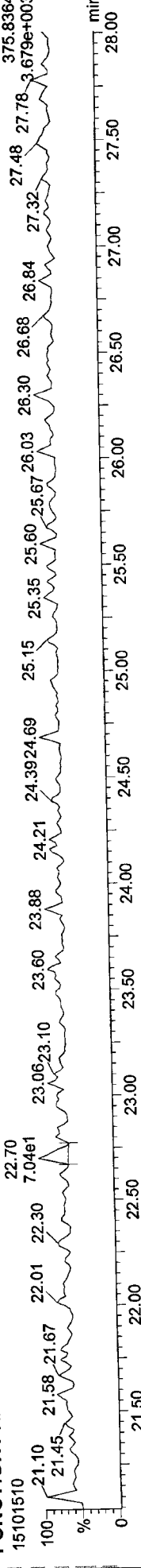
F1: Voltage SIR, EI+
303.9016
1.396e+006

Total-tetrafurans



F1: Voltage SIR, EI+
305.8987
2.035e+006

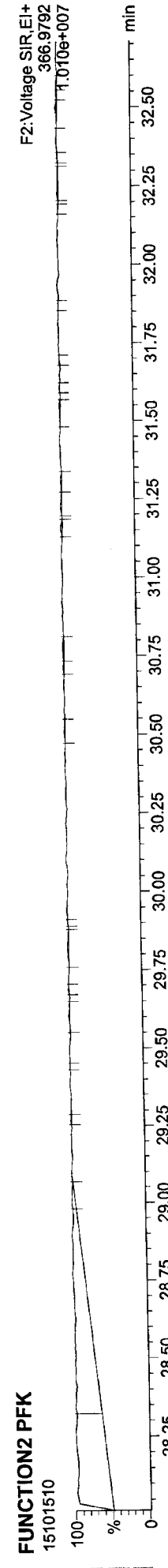
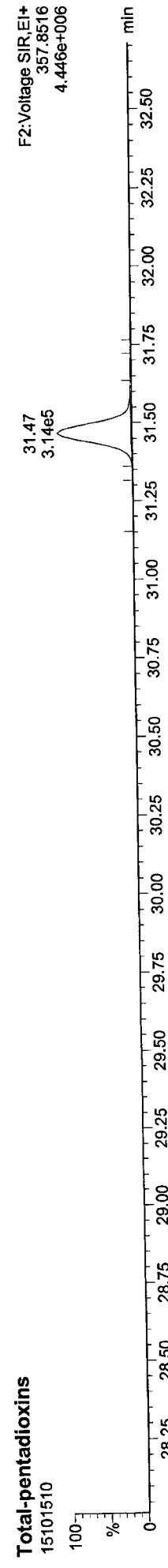
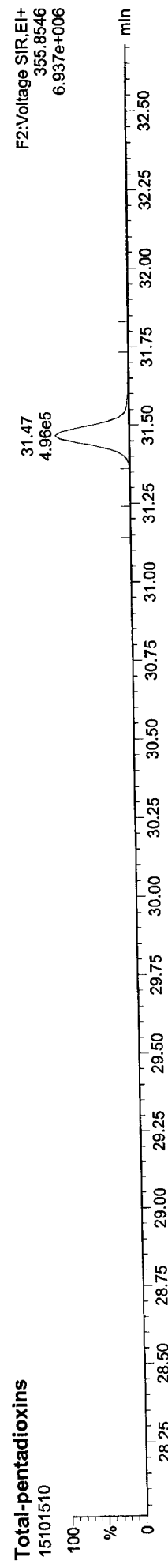
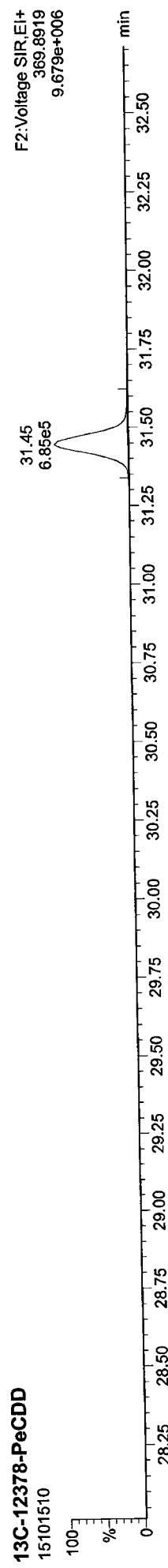
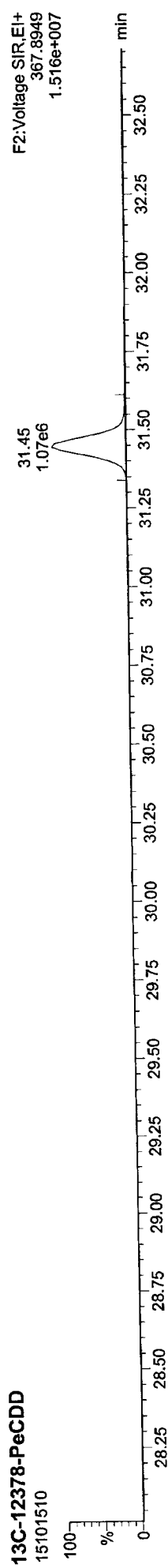
FUNCTION1 HXCDPE



F1: Voltage SIR, EI+
375.8364
375.8364

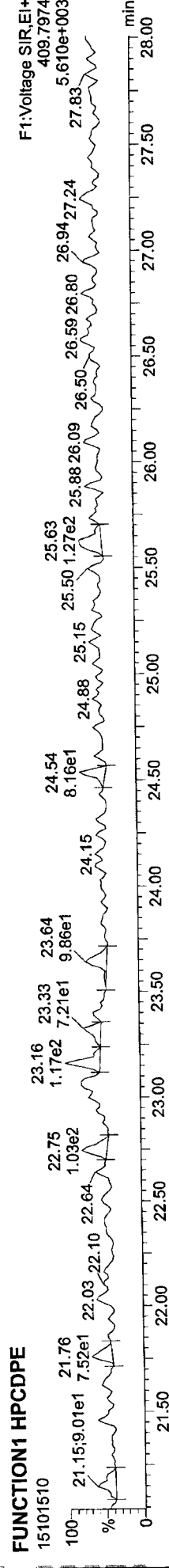
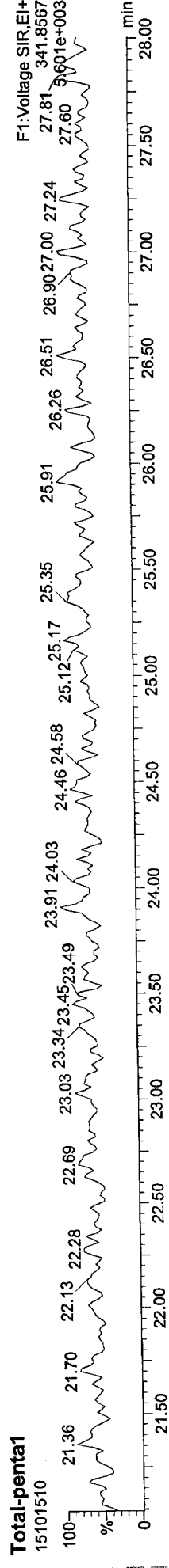
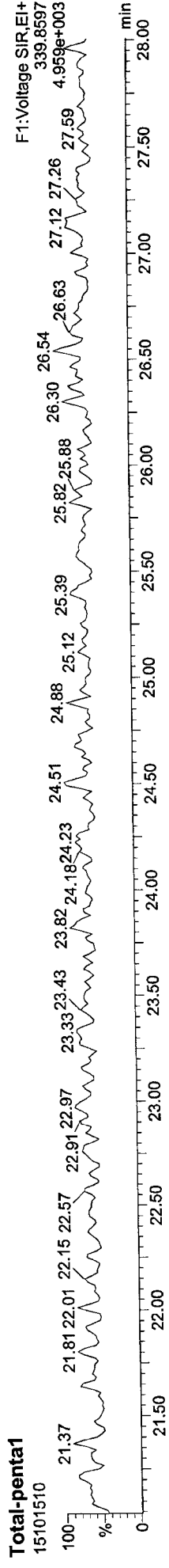
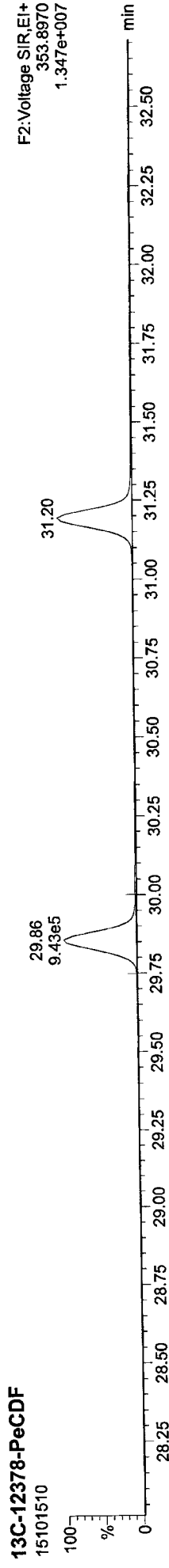
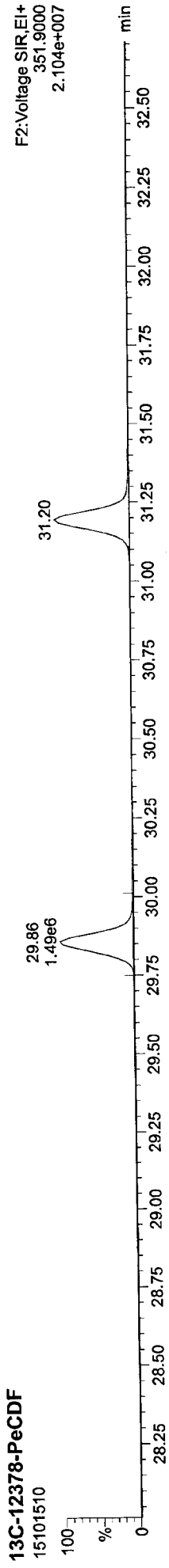
Quantify Sample Report MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015\CV.qld
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015ICV.qld
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
Printed: Friday, October 16, 2015 09:54:10 Pacific Daylight Time

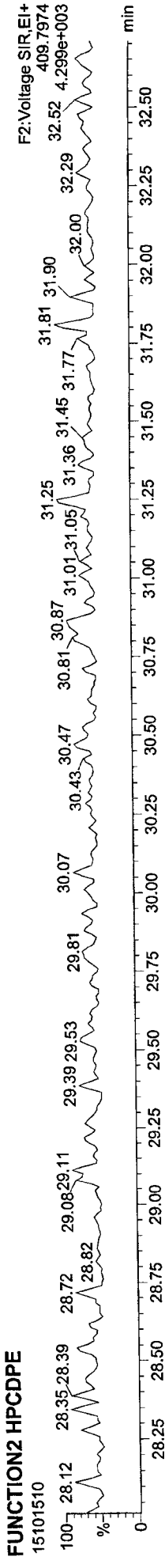
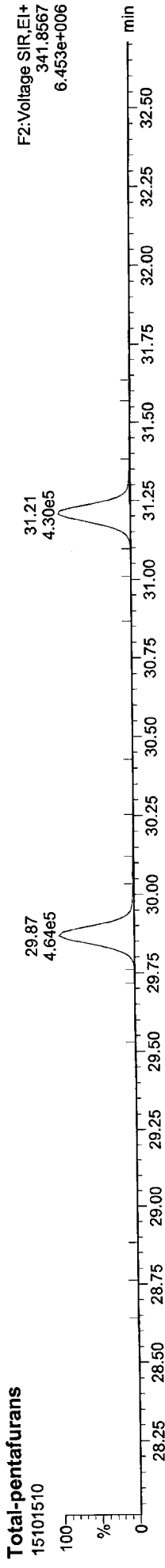
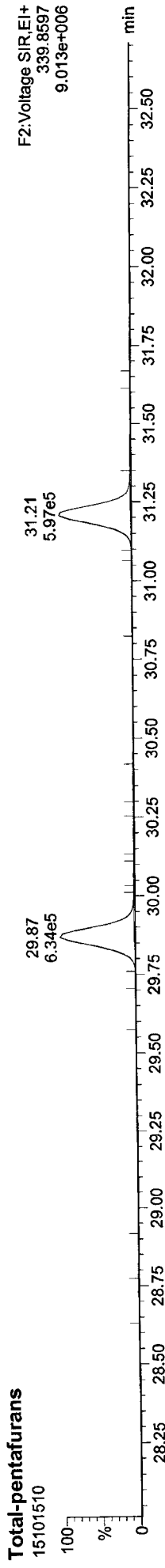
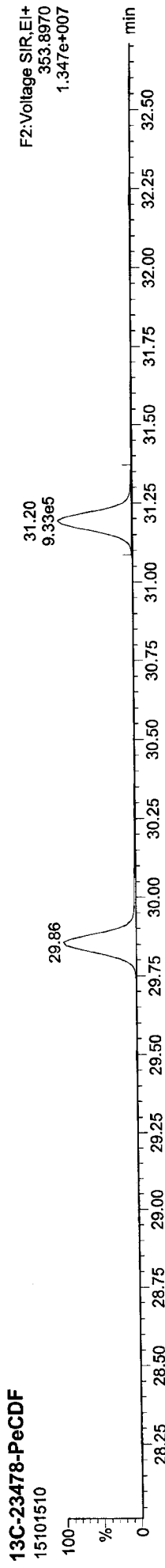
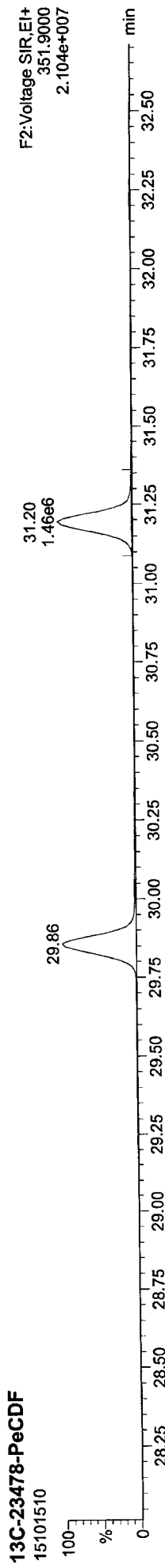
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

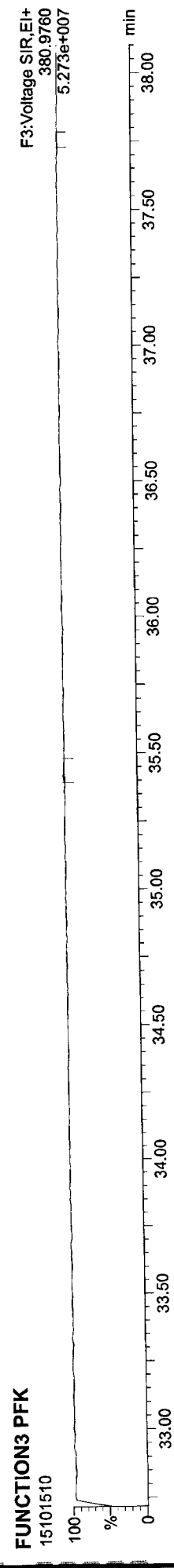
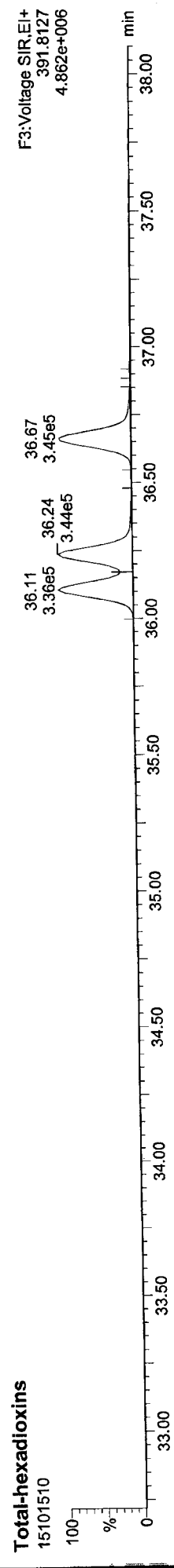
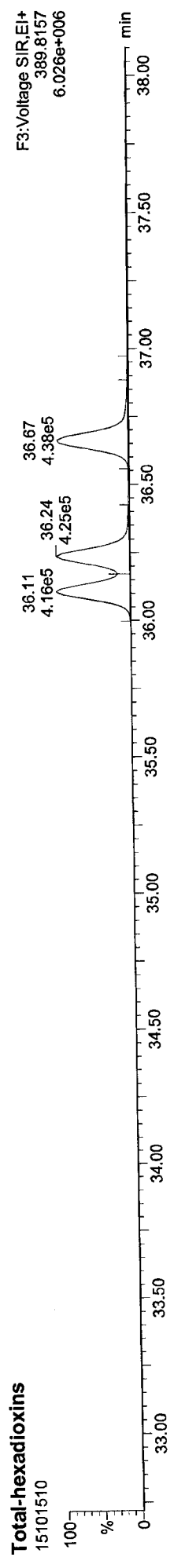
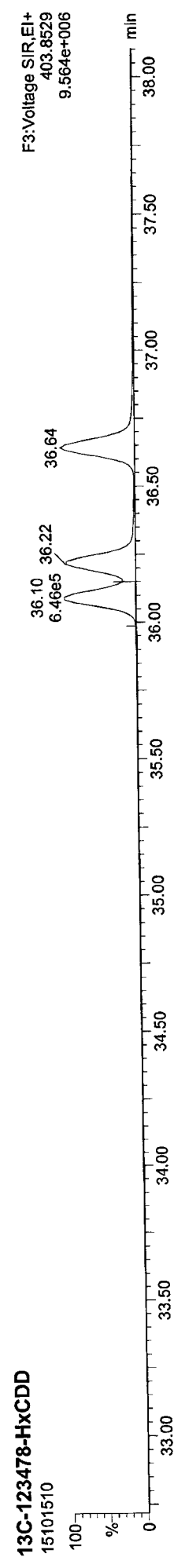
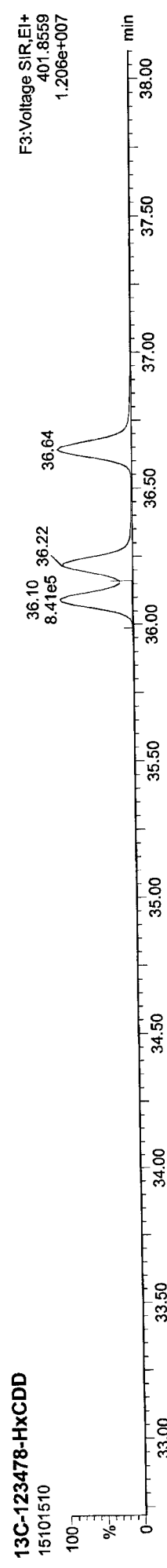
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ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



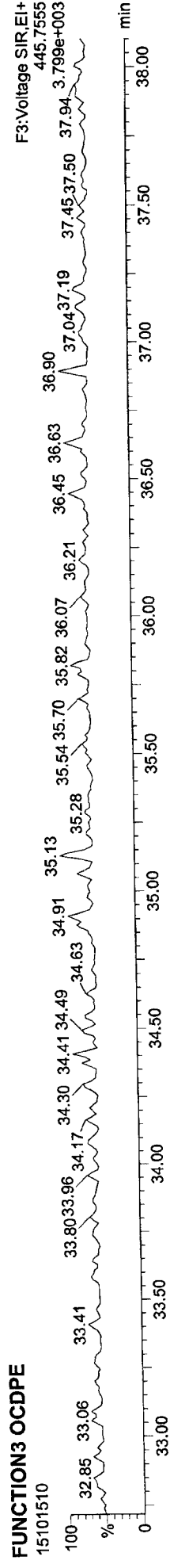
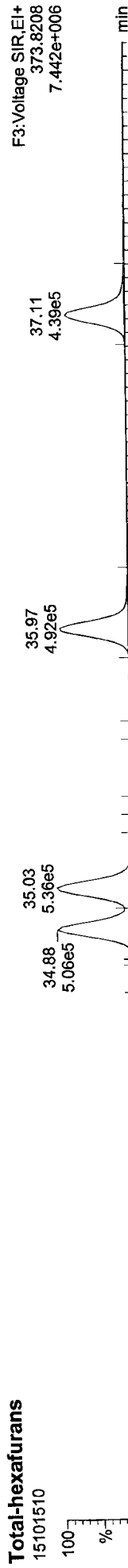
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ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
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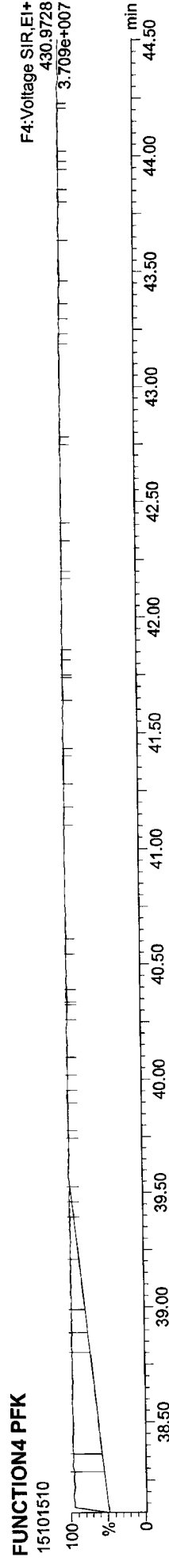
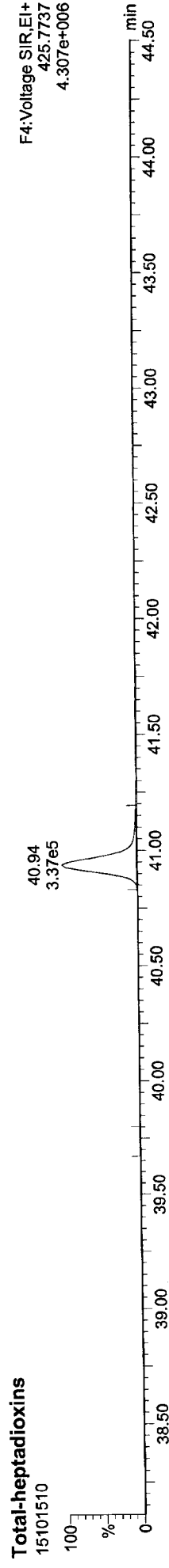
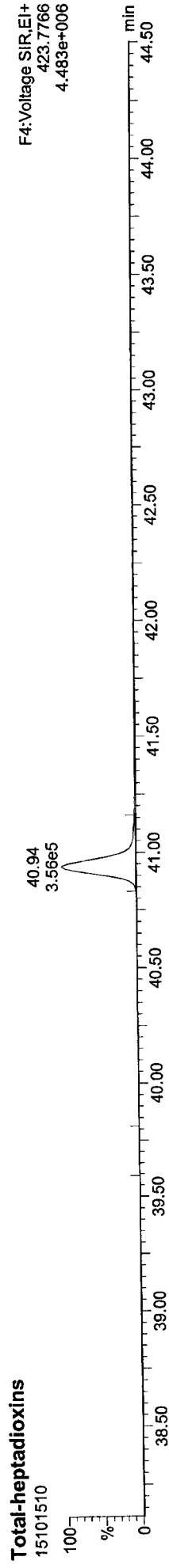
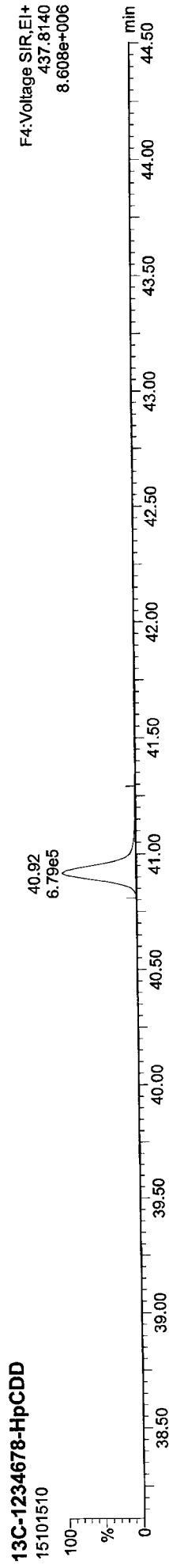
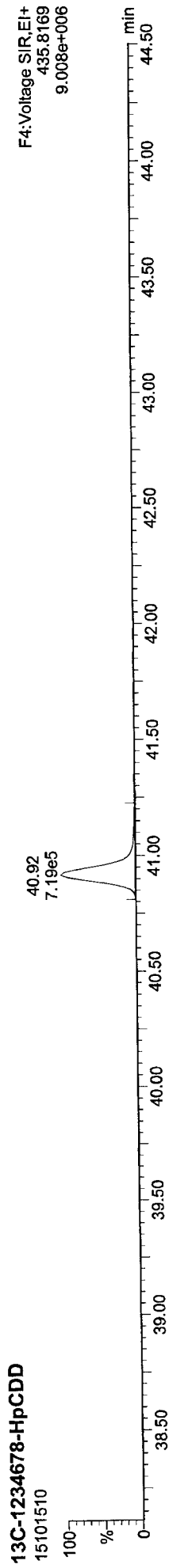
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15101510

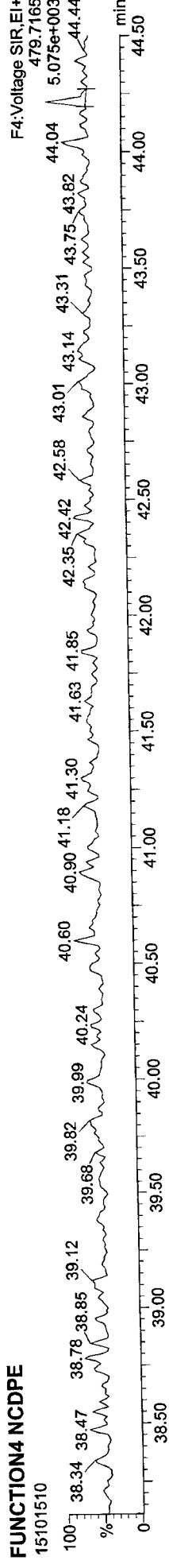
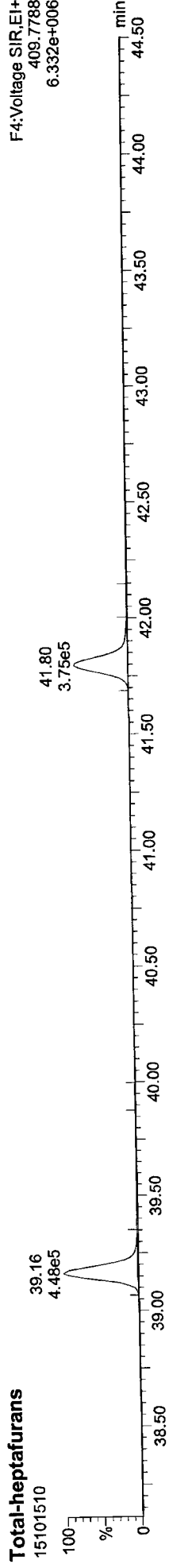
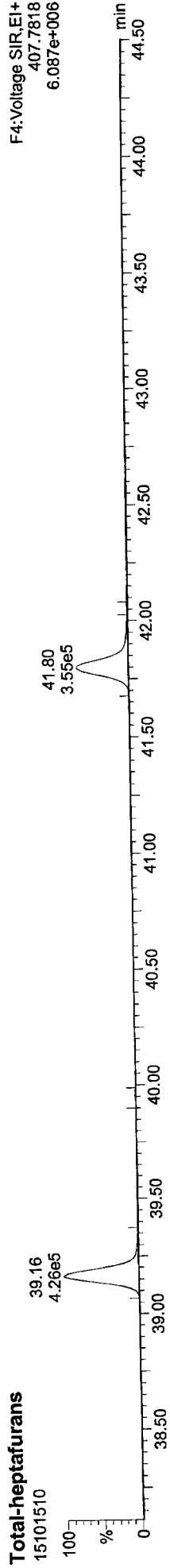
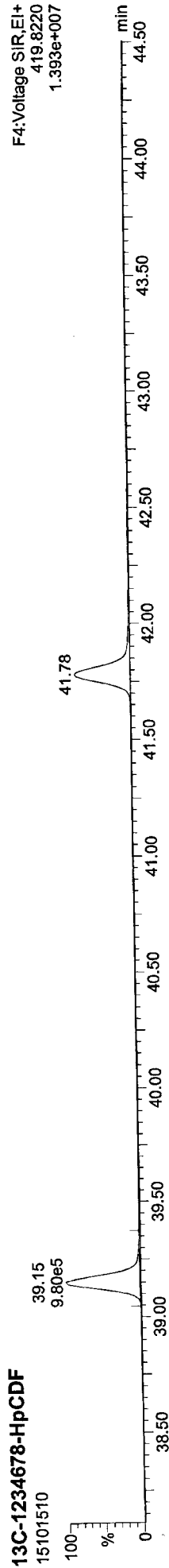
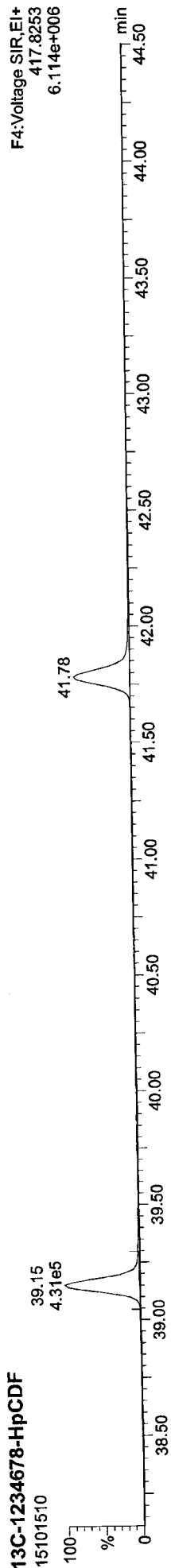
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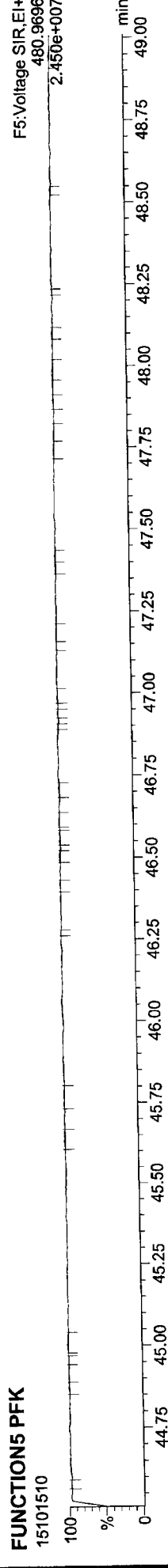
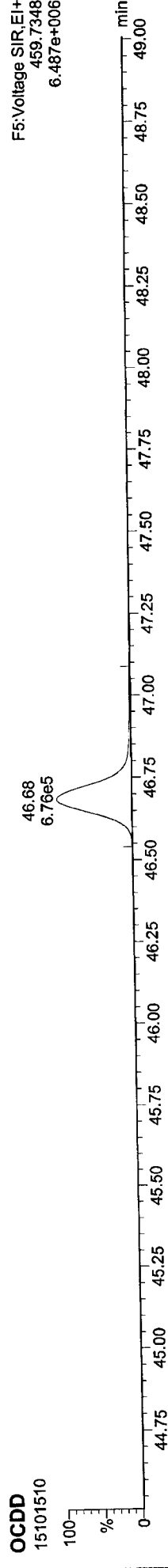
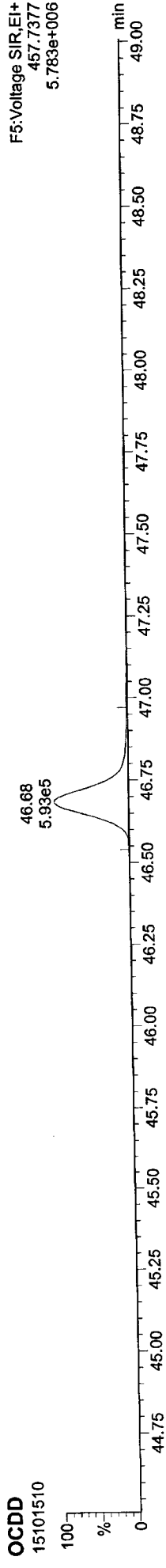
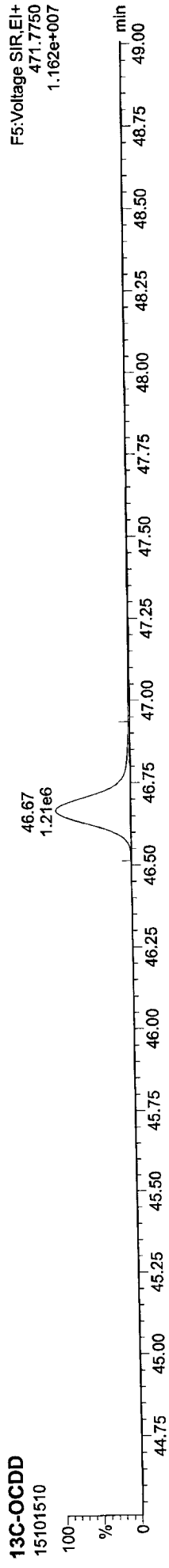
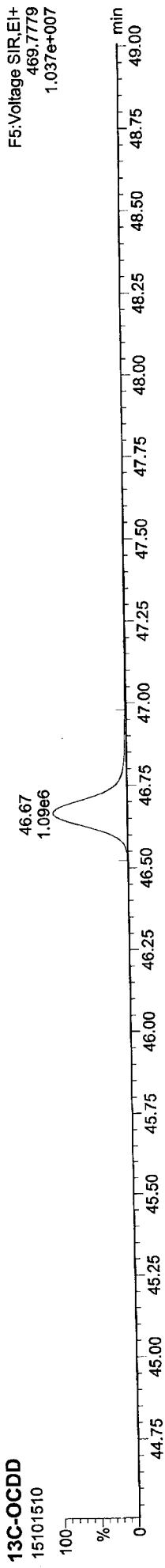
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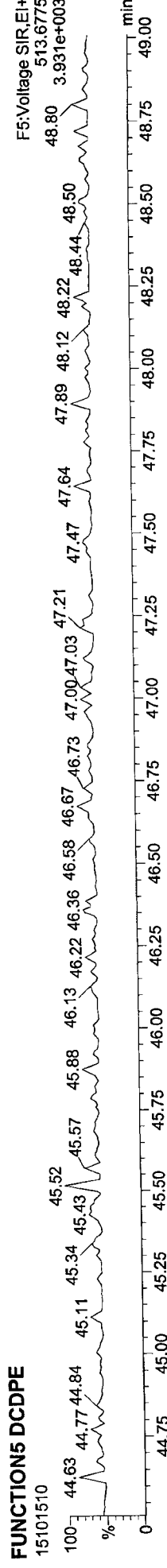
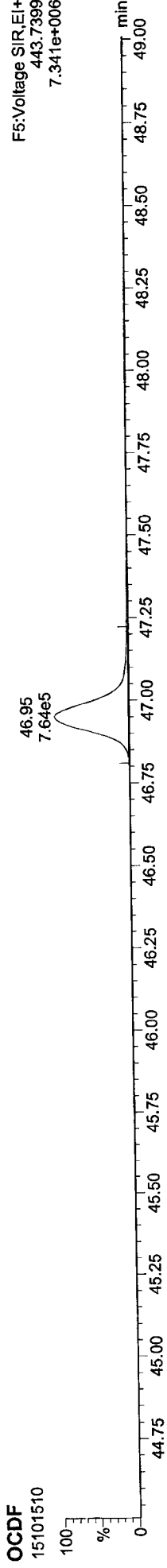
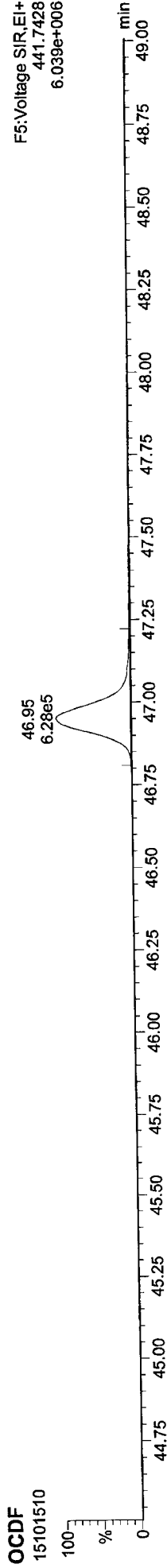
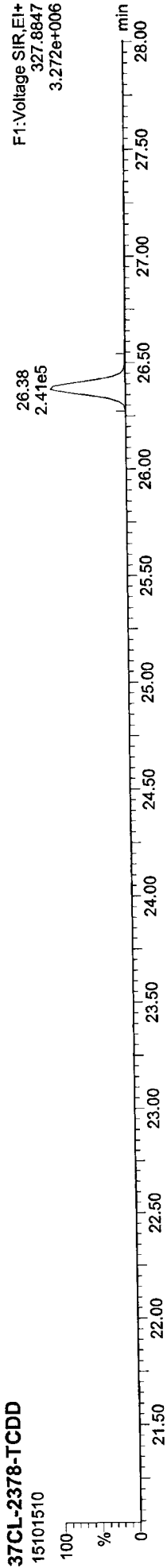
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ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\151015\ICV.qld
Last Altered: Friday, October 16, 2015 09:53:17 Pacific Daylight Time
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ID: ICV, Name: 15101510, Date: 15-Oct-2015, Time: 20:24:17, Conditions: AUTOSPEC01, User: pk



Dioxin Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: APR4



HR-GC/MS Analyst Notes / Data Review Checklist

ELEMENT/NWA: ATSD

Client ID: Ancher

Element Calibration Code: YJ0017

METHOD: 1613B (Dioxins) 8290A (Dioxins)

Instrument: AutoSpec01

Analysis Start Date: 1/29/16

Resolution Check > 10,000ppm REVIEW 1/REVIEW 2
Y / N / ✓

Signal / Noise ≥ 3.0? REVIEW 1/REVIEW 2
Y / N / ✓

TCDD /TCDF Resolution ≤ 25% Y / N / ✓

Extraction STD Limits Met? Y / N / ✓

PCDF Windows Verified Y / N / ✓

Cleanup STD Limits Met? Y / N / ✓

ICV/CCV %D limits met? Y / N / ✓

Method Blank in Control? Y / N / ✓

ICV/CCV Ratios limits met? Y / N / ✓

OPR Recovery Limits Met? Y / N / ✓

ICV/CCV RRT limits met? Y / N / ✓

Values Exceeding Curve Range? Y (N) / ✓

Manual Integrations? Y / N / ✓

Samples Diluted? Y (N) / ✓

VDP Completed? NA (Y) / N / ✓

Duplicate Sample RPD ≤ 25%? NA / ✓

EPA Case # NA / ✓

Technical Review? ✓

Detail problems, corrective actions and/or other pertinent information below:

ok

(Review 1)Analyst: [Signature] Date: 2/1/16

(Review 2)Peer: _____ Date: _____

(Final Review)Reviewer: [Signature] Date: 2/2

Analytical Resources Inc.: Organics Instrument Log

AutoSpec01 Serial No.: GC=CN10921030, MS=P764

Date: 1/21/16 Analysis: Dioxins Analyst: jk
 GC Program: 82907 Column No: D1322 Column Type: AT-Dioxin 2
 Inj Vol: 1ul Instrument Tune (IPR): Jandel 1-5 Detector Voltage: 340
 Resolution Check Files: 10:55, 23:28 Curve Date: 10/15/15

IS/SS	Ical/Ccal	LCS/ICV
<u>D4376</u>	<u>C125</u>	
	<u>C424</u>	

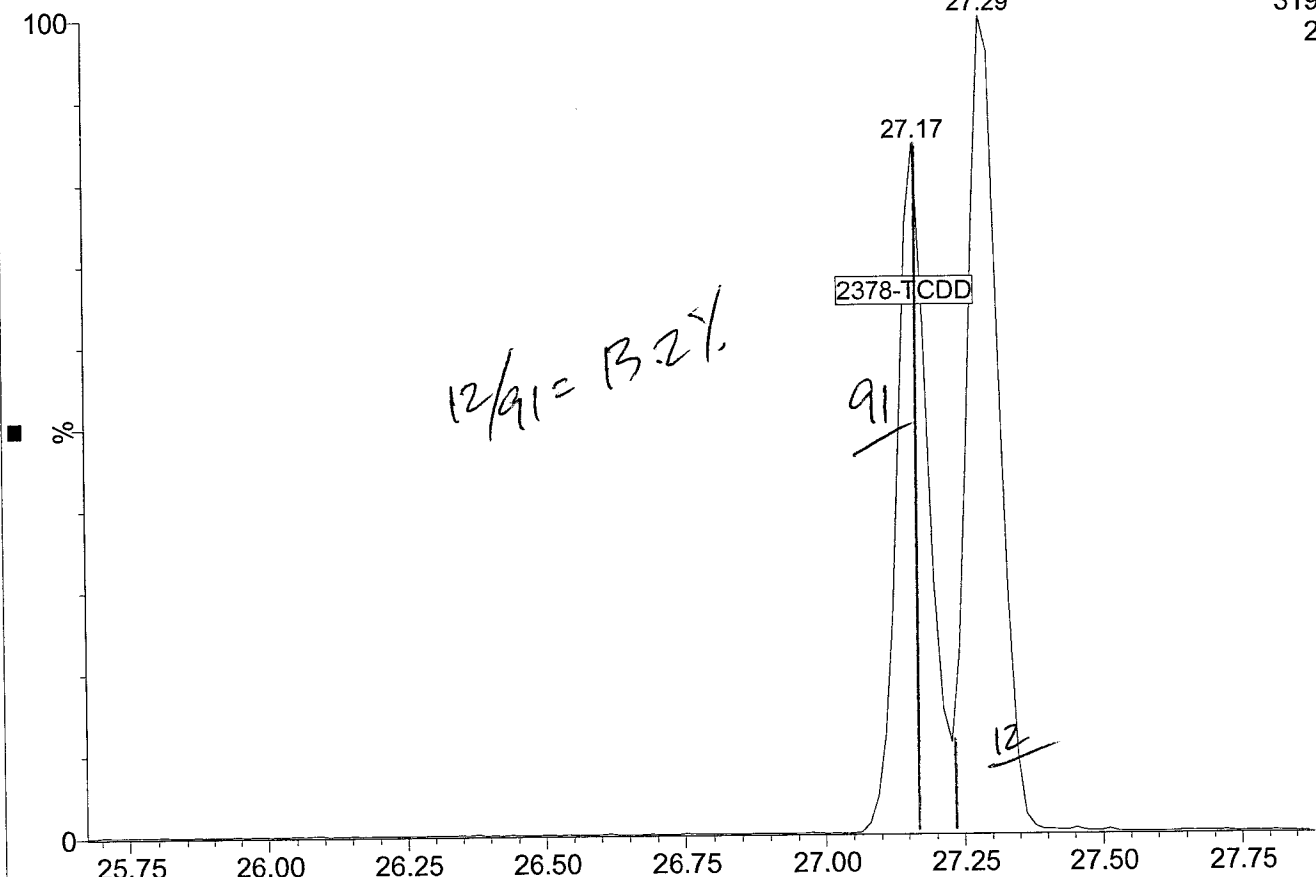
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2	29-Jan-16	11:49:44	16012903	ISC01	
3	29-Jan-16	14:28:15	16012904	AT50MBT	
4	29-Jan-16	15:20:03	16012905	AT50OPR	
5	29-Jan-16	16:13:47	16012906	APR4A	
6	29-Jan-16	17:07:35	16012907	AT50A	
7	29-Jan-16	18:01:18	16012908	AT50B	
8	29-Jan-16	18:55:08	16012909	AT50C	
9	29-Jan-16	19:48:42	16012910	AT50D	
10	29-Jan-16	20:42:23	16012911	AT50E	
11	29-Jan-16	21:36:00	16012912	AT50F	
12	29-Jan-16	22:29:47	16012913	CS3	
13	29-Jan-16	23:28:05	16012914	TOL E0285	

jk 2/1/16

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element LIMS

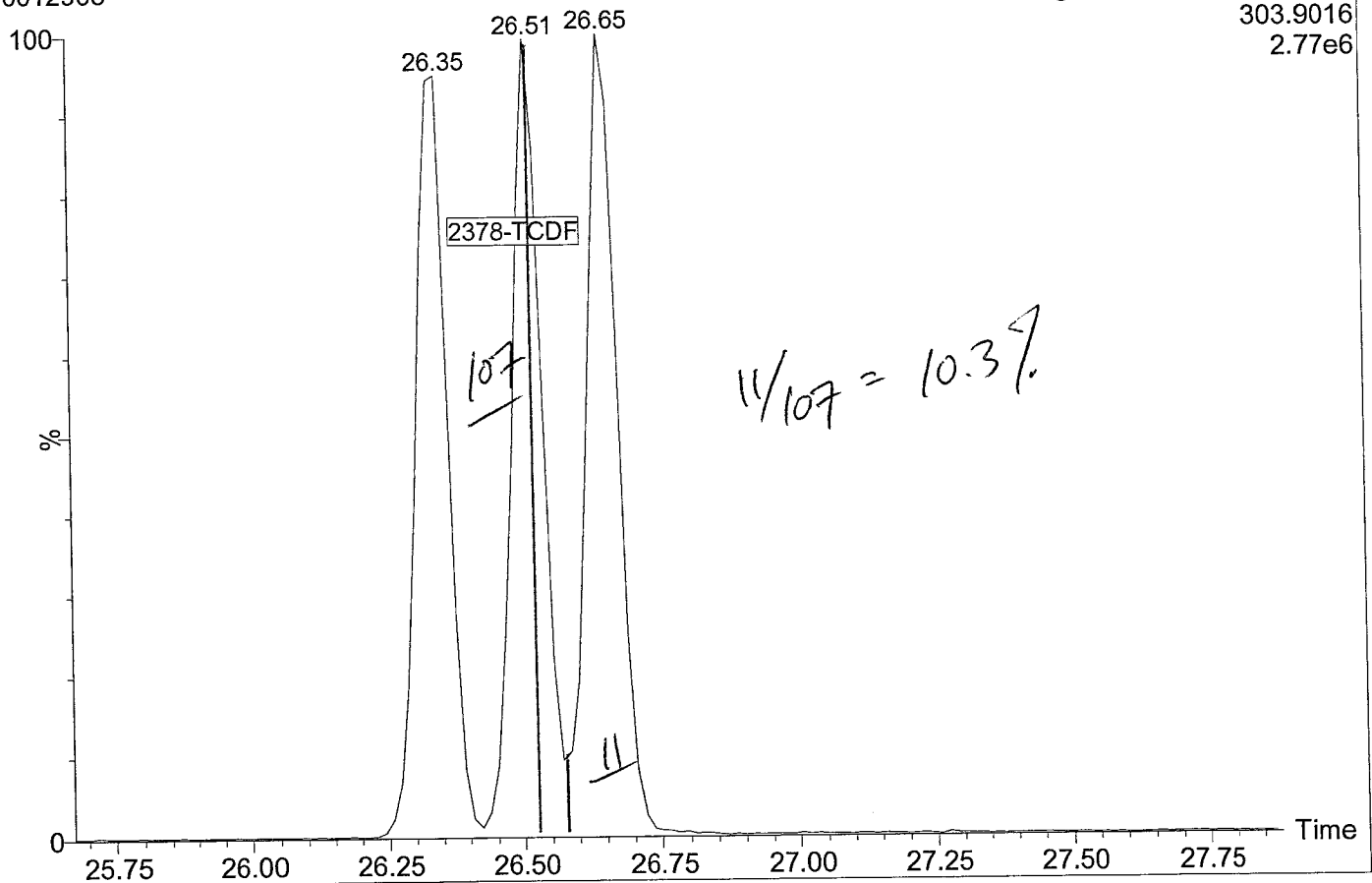
16012903

1: Voltage SIR 15 Channels EI+
319.8965
2.72e6



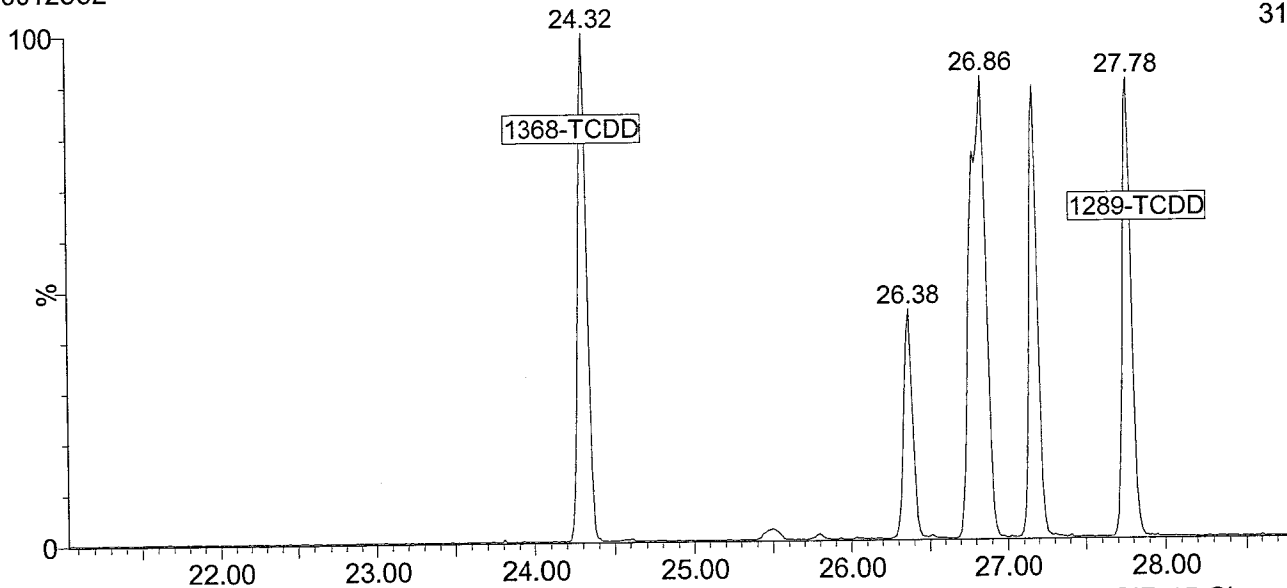
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303.9016
2.77e6



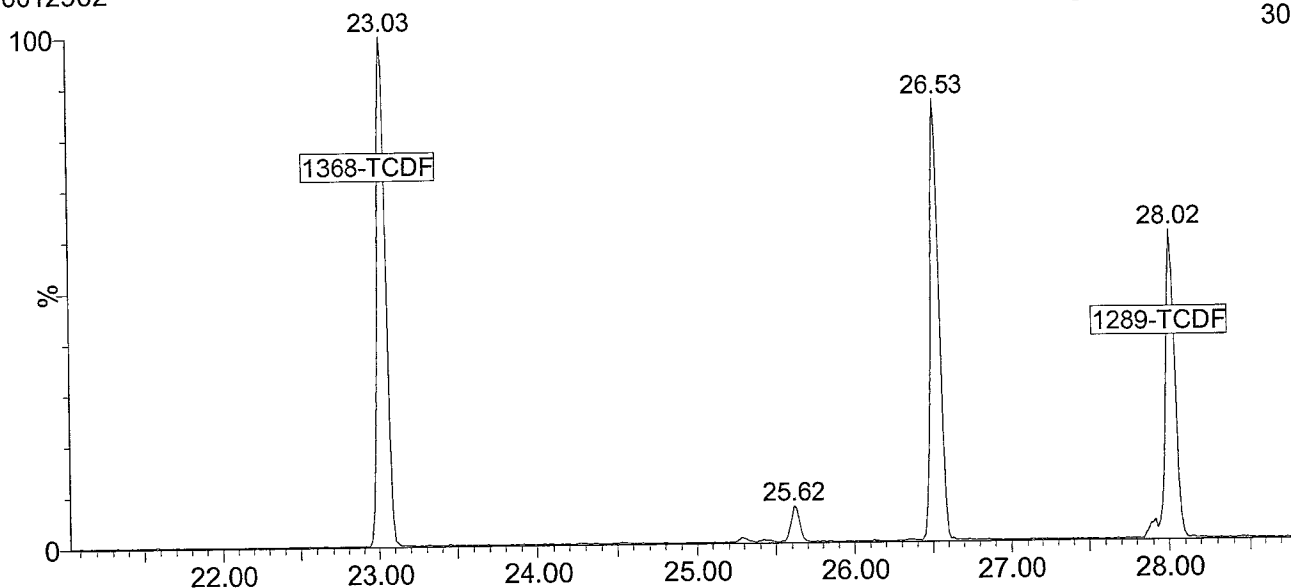
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1: Voltage SIR 15 Channels EI+
319.8965
2.09e6



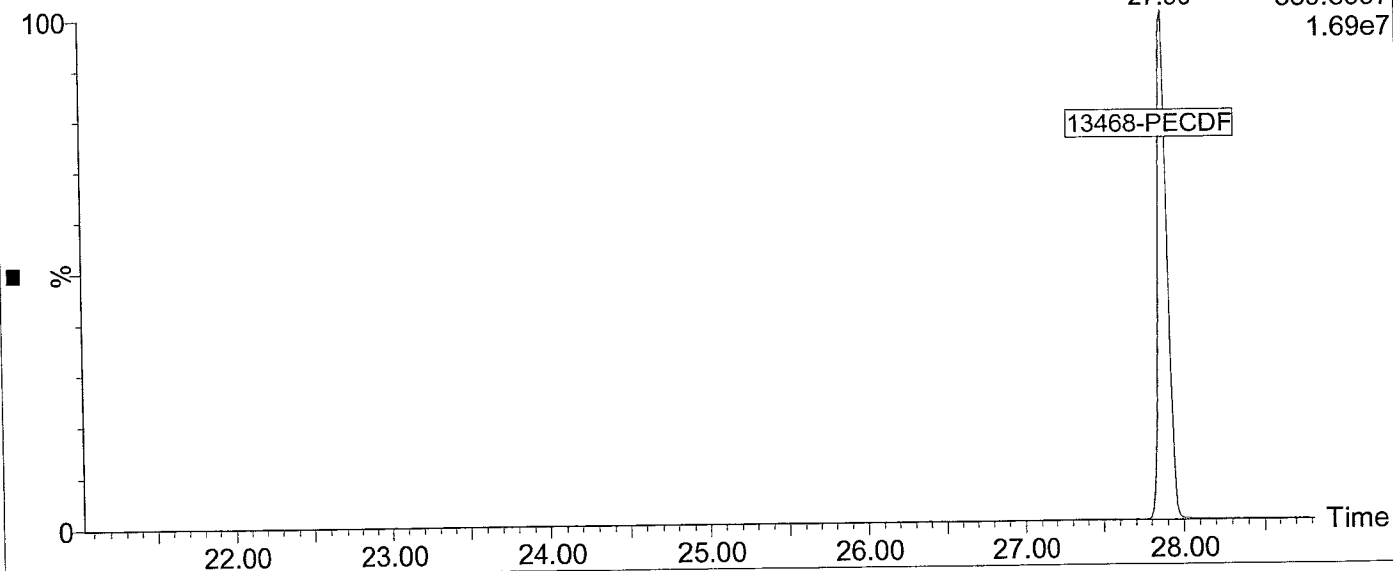
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1: Voltage SIR 15 Channels EI+
303.9016
2.60e6



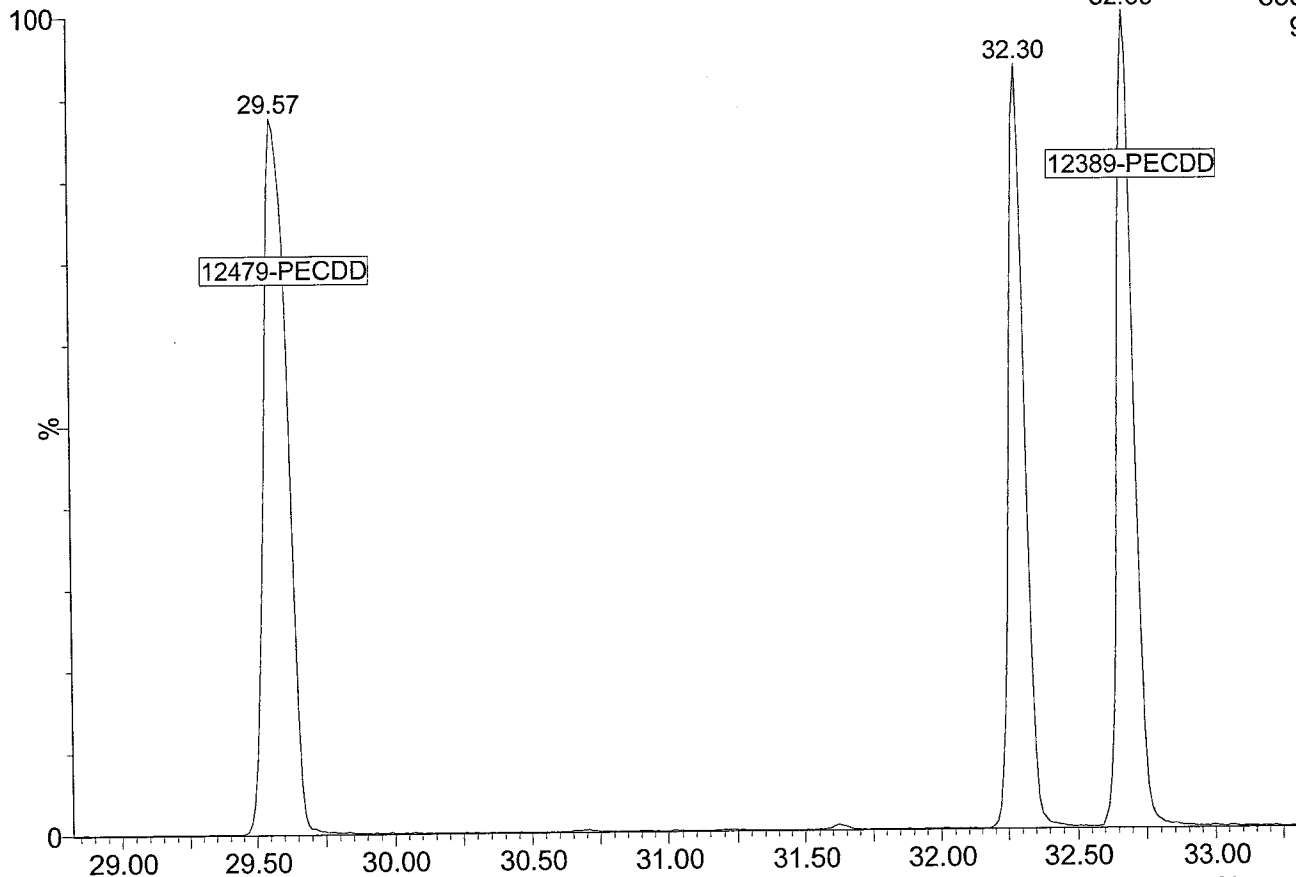
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1: Voltage SIR 15 Channels EI+
27.90
339.8597
1.69e7



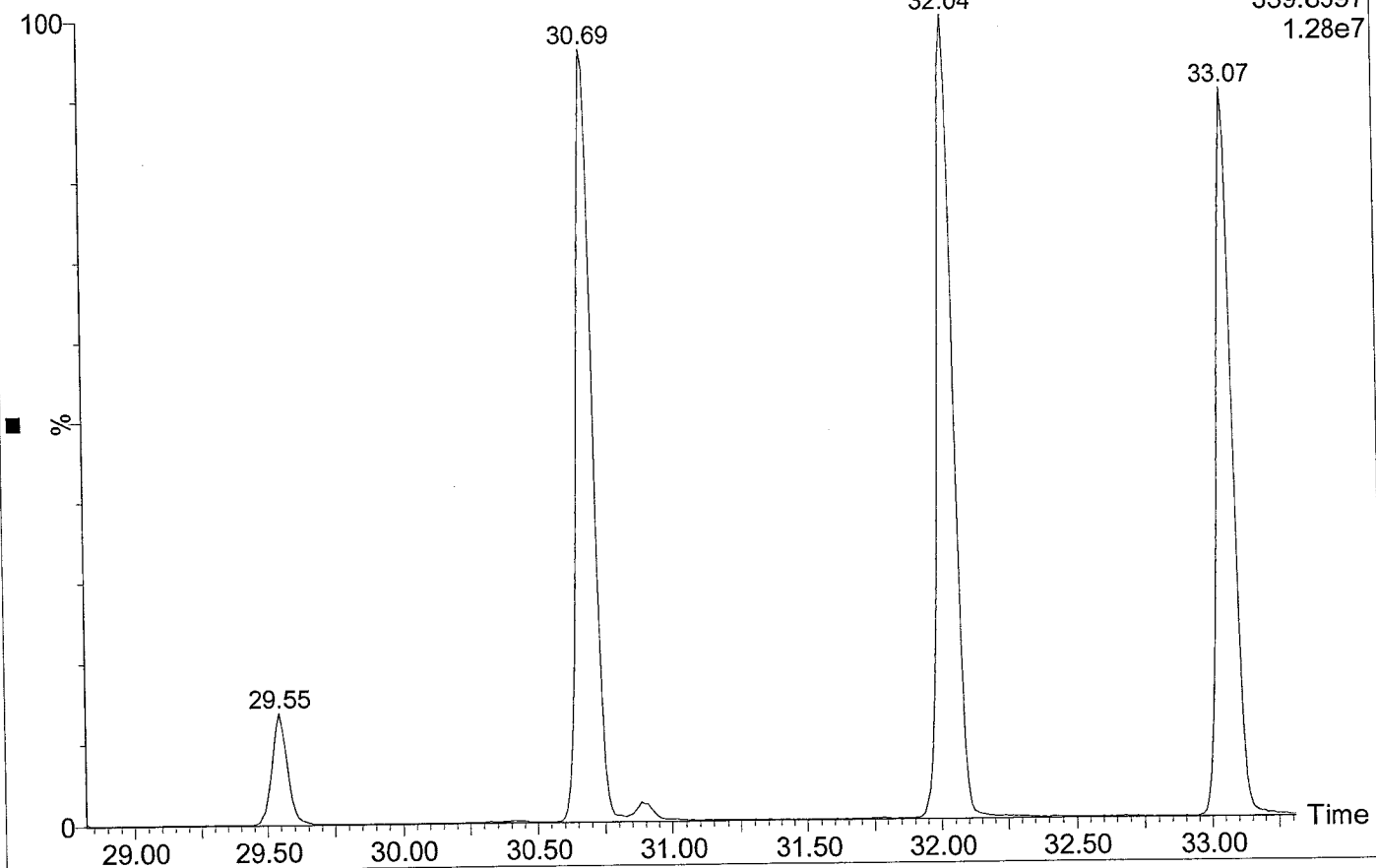
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9.71e6



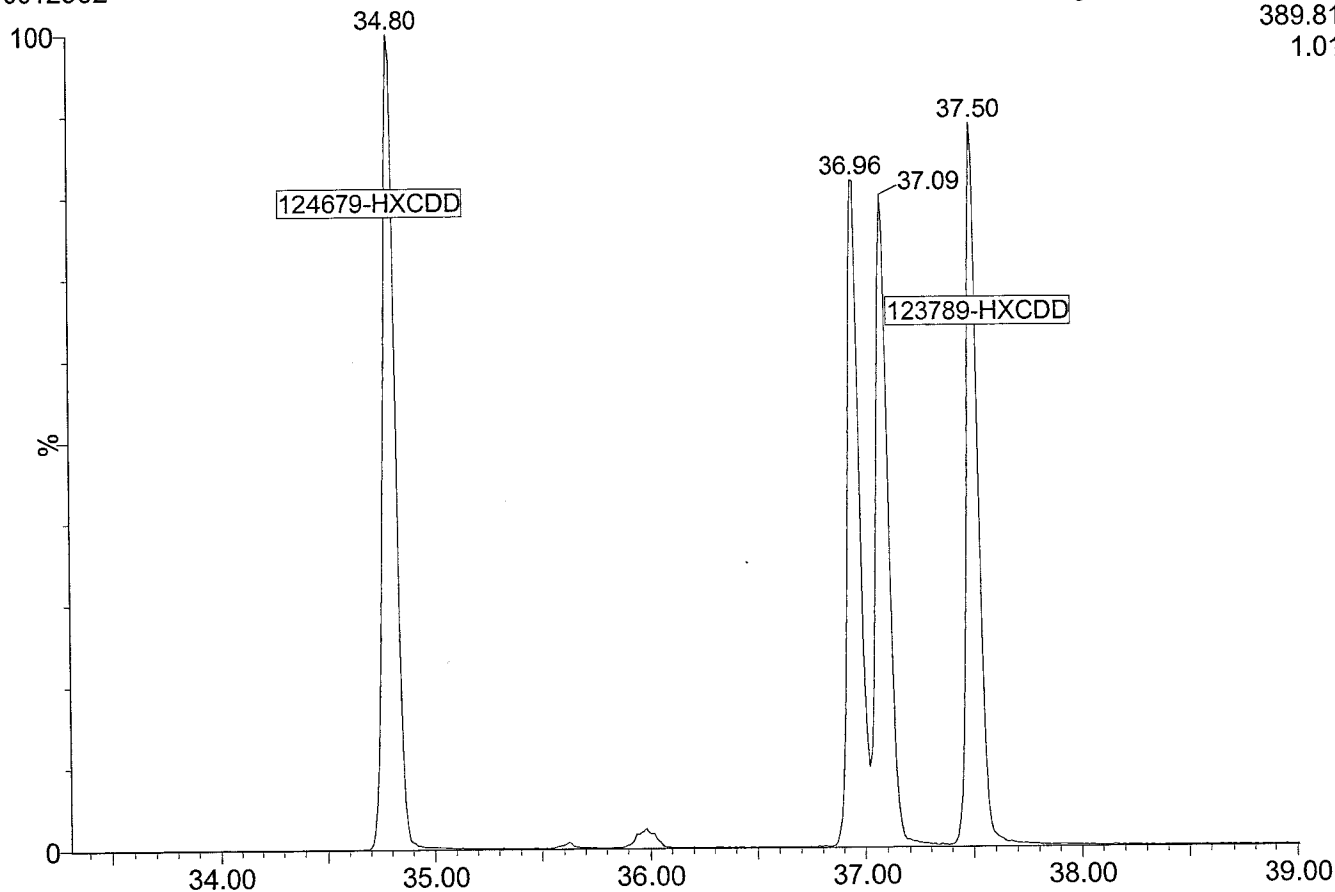
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339.8597
1.28e7



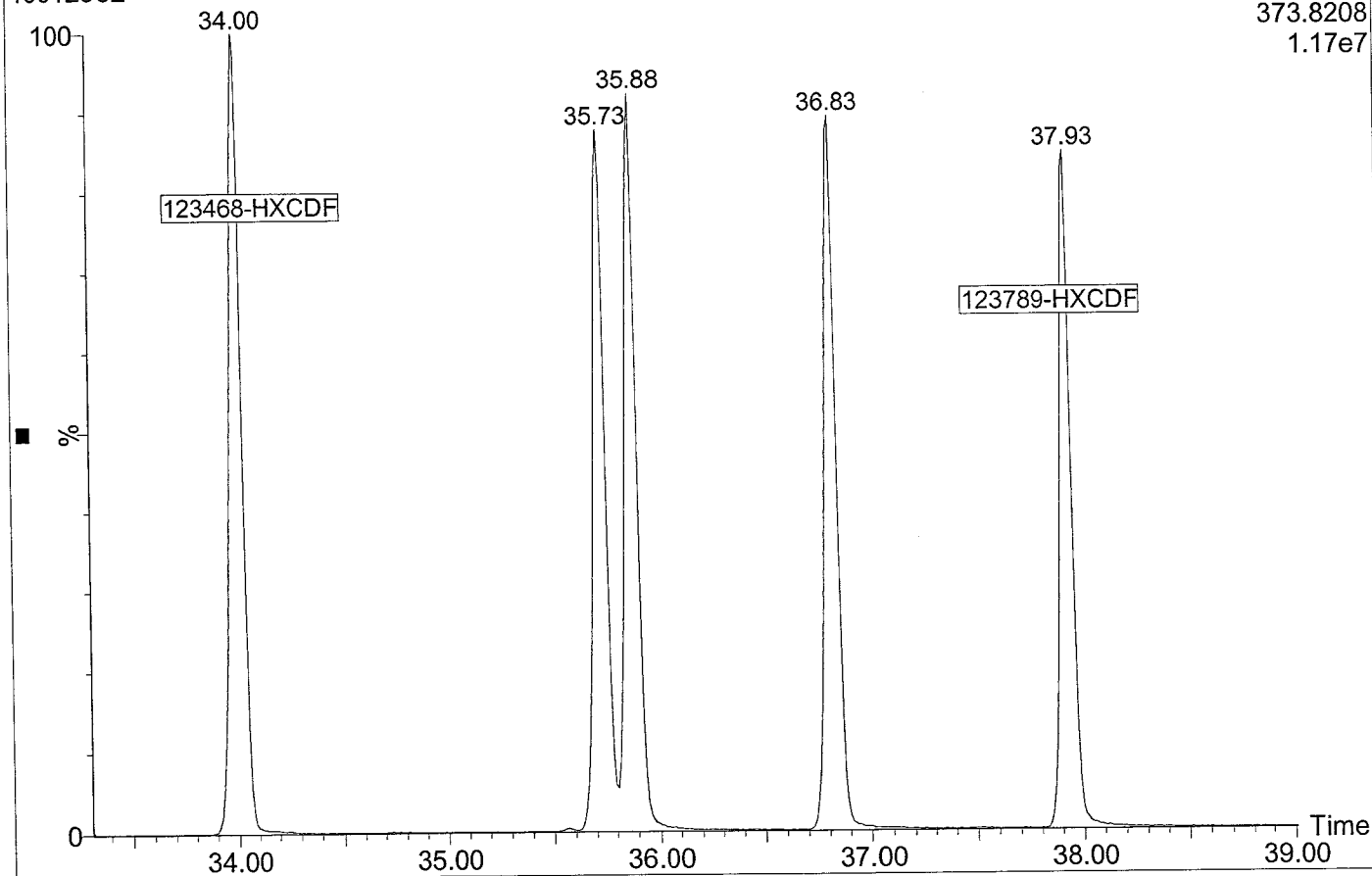
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1.01e7



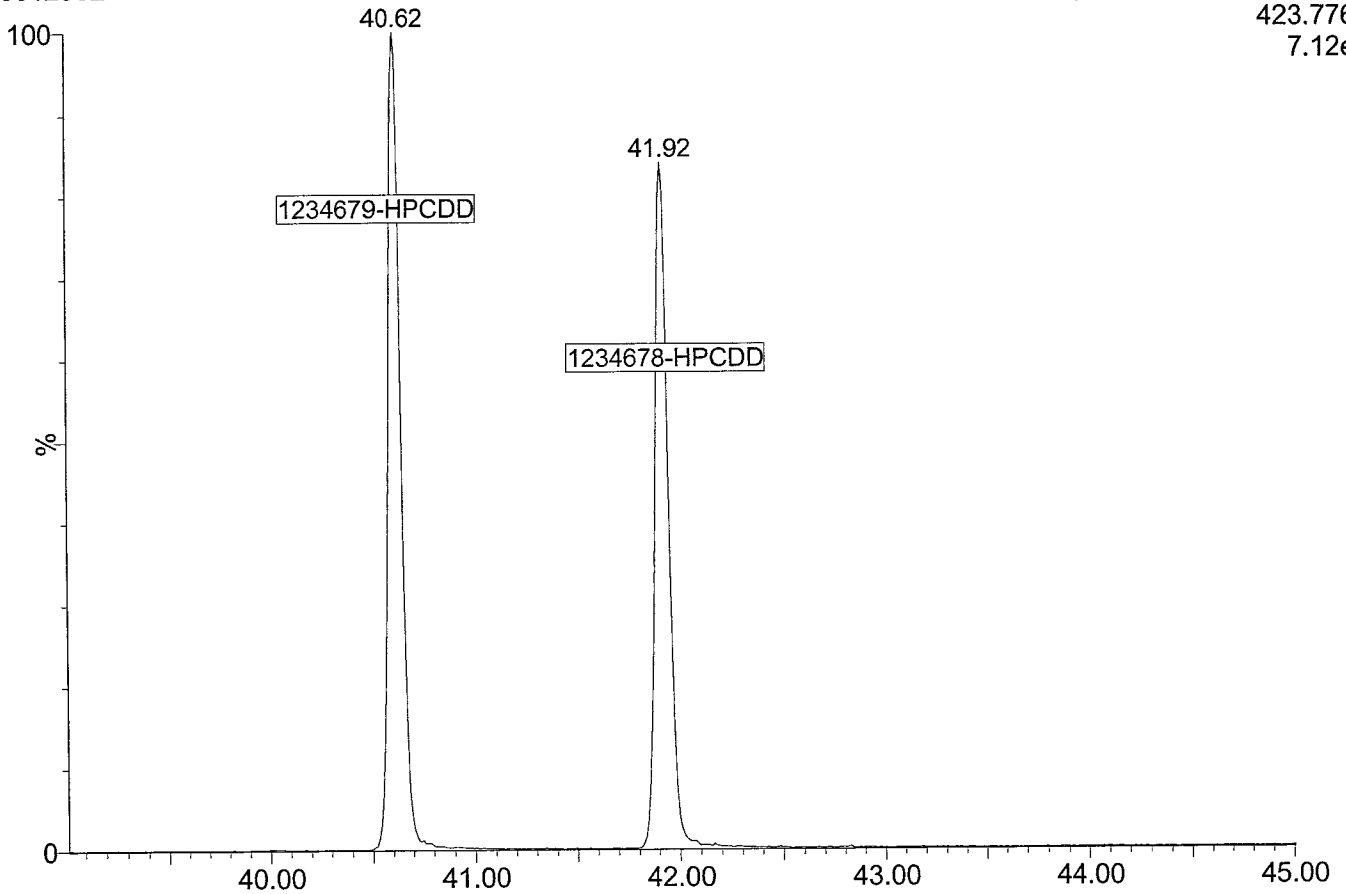
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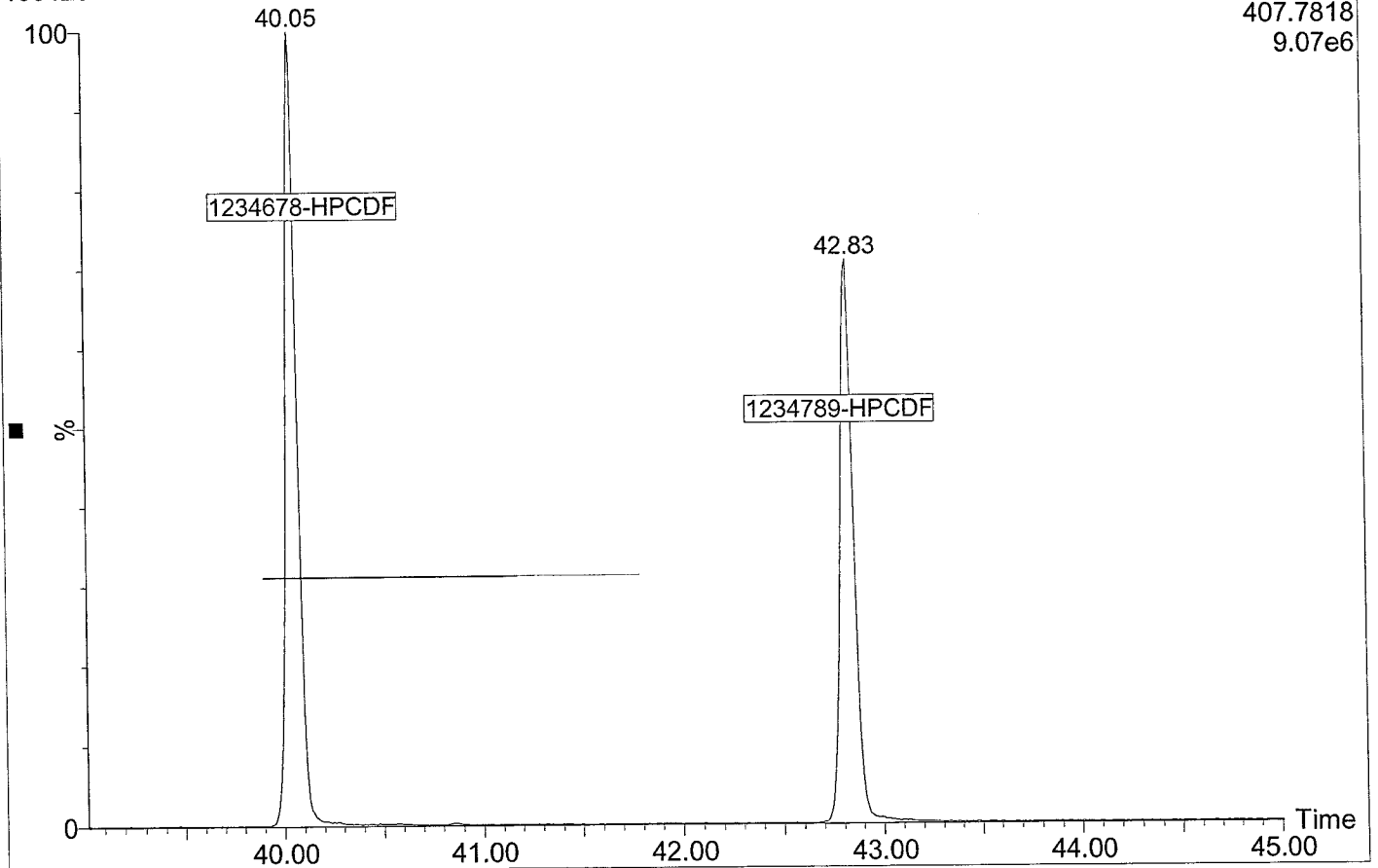
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7.12e6



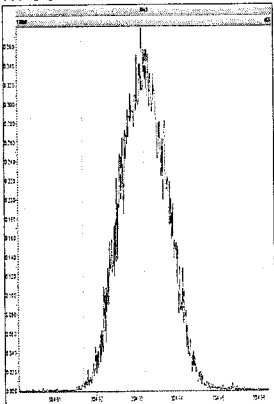
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4: Voltage SIR 11 Channels EI+
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9.07e6

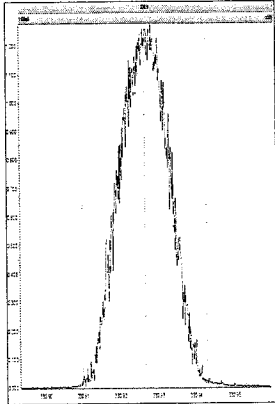


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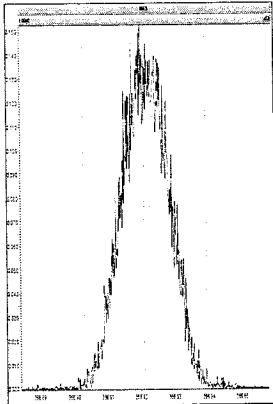
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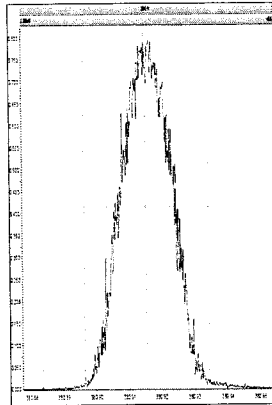
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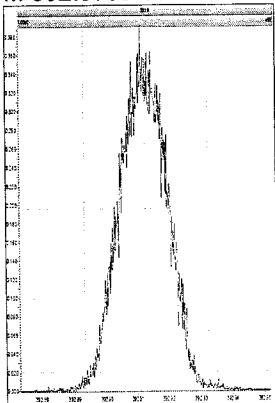
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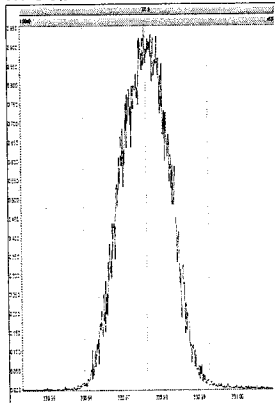
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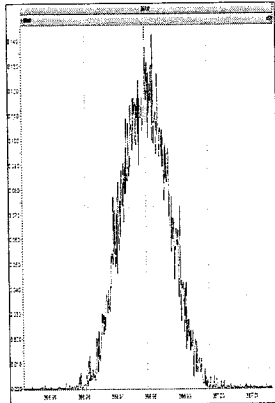
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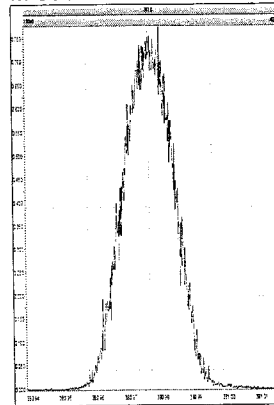
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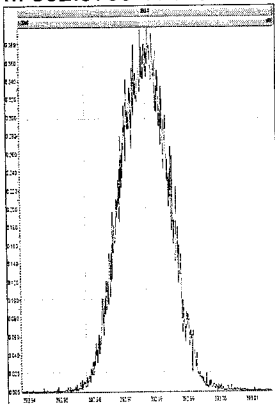
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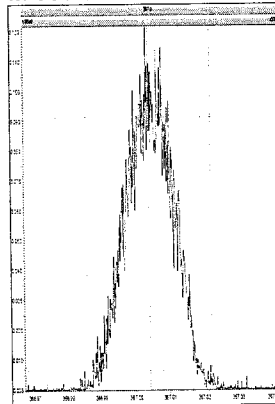
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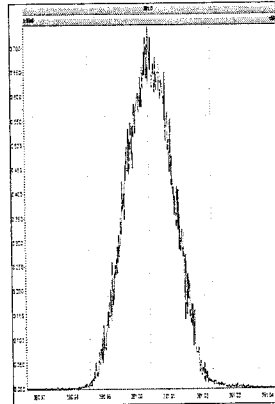
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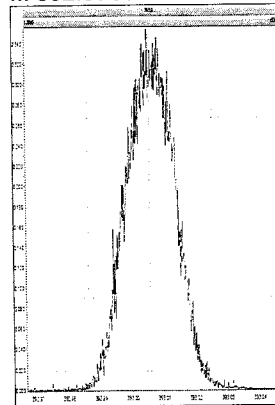
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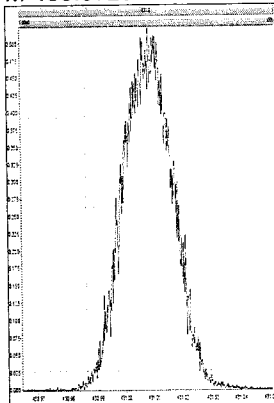
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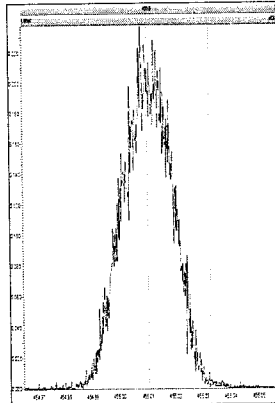
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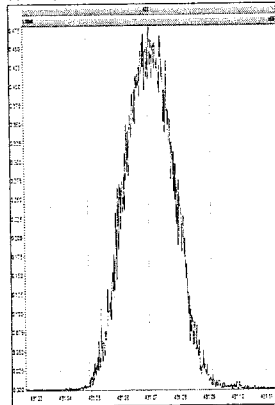
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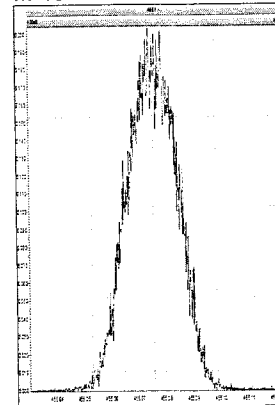
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M 430.9728 R 11765

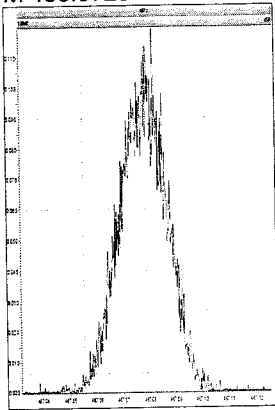


M 454.9728 R 11820

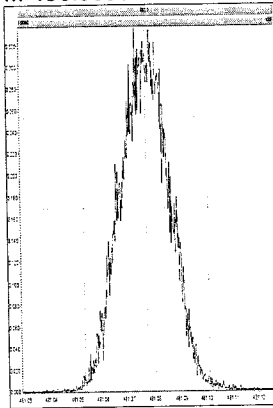


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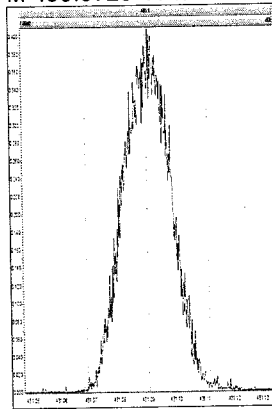
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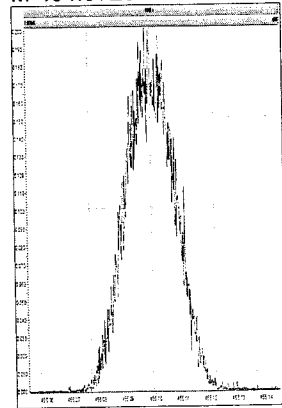
M 480.9696 R 11479



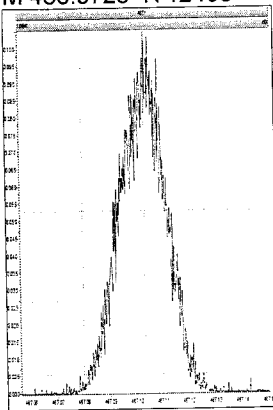
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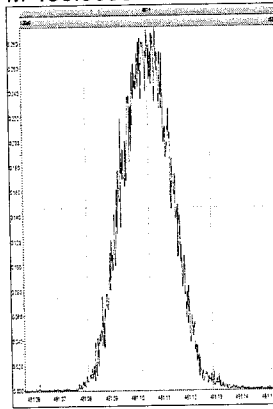
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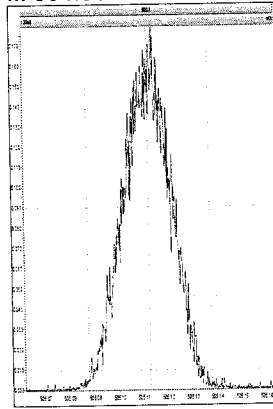
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M 480.9696 R 12225



M 504.9696 R 11585



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
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 Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
2378-TCDF	26.527	1.001	1.46e5	2.10e5	0.827	0.694	0.770	953	1927	2.07e6	2.95e6	2167.7	NO	10.385	10.385
12378-PeCDF	30.687	1.000	8.28e5	5.74e5	0.824	1.442	1.550	3099	2347	1.16e7	8.14e6	3747.1	NO	51.360	51.360
23478-PeCDF	32.035	1.001	8.42e5	5.77e5	0.850	1.460	1.550	3099	2347	1.22e7	8.35e6	3946.4	NO	52.160	52.160
123478-HxCDF	35.729	1.001	6.76e5	5.82e5	0.973	1.161	1.240	2567	2779	9.81e6	8.40e6	3821.9	NO	52.118	52.118
234678-HxCDF	36.825	1.001	6.77e5	5.88e5	1.025	1.152	1.240	2567	2779	9.81e6	8.48e6	3823.1	NO	52.701	52.701
123678-HxCDF	35.883	1.001	6.89e5	5.94e5	0.953	1.161	1.240	2567	2779	1.01e7	8.51e6	3917.7	NO	52.293	52.293
123789-HxCDF	37.932	1.001	6.00e5	5.26e5	0.956	1.140	1.240	2567	2779	9.30e6	7.91e6	3624.8	NO	49.178	49.178
1234678-HpCDF	40.048	1.000	5.93e5	6.25e5	1.153	0.950	1.050	2442	2199	8.60e6	8.90e6	3522.5	NO	51.766	51.766
1234789-HpCDF	42.832	1.000	4.91e5	5.07e5	1.131	0.968	1.050	2442	2199	6.12e6	6.16e6	2506.1	NO	52.504	52.504
OCDF	48.322	1.006	8.02e5	9.44e5	1.023	0.850	0.890	1681	1576	7.74e6	9.24e6	4603.5	NO	105.708	105.708
2378-TCDD	27.184	1.001	1.21e5	1.58e5	1.023	0.769	0.770	1250	816	1.70e6	2.18e6	1359.8	NO	10.120	10.120
12378-PeCDD	32.298	1.001	6.03e5	3.88e5	0.939	1.556	1.550	2565	2051	8.65e6	5.54e6	3372.0	NO	51.736	51.736
123478-HxCDD	36.957	1.000	5.47e5	4.44e5	0.963	1.233	1.240	2365	1819	7.96e6	6.48e6	3365.5	NO	51.015	51.015
123678-HxCDD	37.089	1.000	5.32e5	4.31e5	0.894	1.235	1.240	2365	1819	7.66e6	6.20e6	3241.1	NO	50.748	50.748
123789-HxCDD	37.505	1.012	5.48e5	4.42e5	0.900	1.239	1.240	2365	1819	8.39e6	6.84e6	3549.7	NO	53.141	53.141
1234678-HpCDD	41.922	1.000	4.53e5	4.38e5	0.964	1.035	1.050	1702	1618	5.82e6	5.62e6	3421.9	NO	52.134	52.134
OCDD	48.044	1.000	7.57e5	8.45e5	0.969	0.896	0.890	1707	1285	7.57e6	8.49e6	4432.7	NO	102.398	102.398
13C-2378-TCDF	26.511	1.006	1.80e6	2.33e6	1.502	0.774	0.770	5956	3218	2.56e7	3.30e7	4294.3	NO	105.550	105.550
13C-12378-PeCDF	30.676	1.164	2.02e6	1.29e6	1.215	1.572	1.550	2736	2032	2.88e7	1.84e7	10530.8	NO	104.449	104.449
13C-23478-PeCDF	32.013	1.215	1.95e6	1.25e6	1.181	1.569	1.550	2736	2032	2.79e7	1.79e7	10183.4	NO	103.829	103.829
13C-123478-HxCDF	35.707	0.952	8.43e5	1.64e6	1.246	0.515	0.510	2966	2995	1.20e7	2.36e7	4043.6	NO	102.315	102.315
13C-123678-HxCDF	35.861	0.956	8.78e5	1.70e6	1.375	0.517	0.510	2966	2995	1.27e7	2.46e7	4282.9	NO	96.197	96.197
13C-234678-HxCDF	36.804	0.982	8.00e5	1.54e6	1.186	0.518	0.510	2966	2995	1.18e7	2.27e7	3983.7	NO	101.471	101.471
13C-123789-HxCDF	37.910	1.011	8.17e5	1.58e6	1.135	0.518	0.510	2966	2995	1.27e7	2.43e7	4280.2	NO	108.446	108.446
13C-1234678-HpCDF	40.037	1.068	6.29e5	1.41e6	1.020	0.446	0.440	1817	2176	9.08e6	2.02e7	4996.5	NO	102.691	102.691
13C-1234789-HpCDF	42.810	1.142	5.25e5	1.16e6	0.824	0.453	0.440	1817	2176	6.43e6	1.41e7	3537.7	NO	104.888	104.888
13C-1234-TCDD	26.347	0.000	1.15e6	1.46e6	1.000	0.789	0.770	4132	1668	1.62e7	2.06e7	3931.5	NO	100.000	100.000
13C-2378-TCDD	27.154	1.031	1.19e6	1.51e6	0.983	0.789	0.770	4132	1668	1.65e7	2.10e7	4002.2	NO	105.023	105.023
13C-12378-PeCDD	32.276	1.225	1.25e6	7.90e5	0.787	1.583	1.550	1324	1008	1.80e7	1.14e7	13622.5	NO	99.312	99.312
13C-123478-HxCDD	36.946	0.985	1.14e6	8.76e5	1.031	1.301	1.240	2247	2489	1.65e7	1.29e7	7341.4	NO	100.512	100.512
13C-123678-HxCDD	37.077	0.989	1.17e6	9.51e5	1.137	1.232	1.240	2247	2489	1.68e7	1.33e7	7473.2	NO	95.992	95.992
13C-1234678-HpCDD	41.900	1.117	9.14e5	8.58e5	0.892	1.065	1.050	1840	2247	1.17e7	1.11e7	6383.2	NO	102.058	102.058
13C-OCDD	48.026	1.281	1.51e6	1.72e6	0.852	0.881	0.890	3075	2124	1.50e7	1.70e7	4885.5	NO	194.819	194.819

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld

Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time

Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk

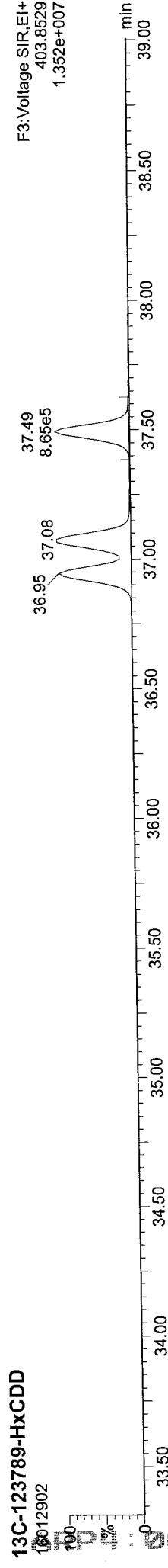
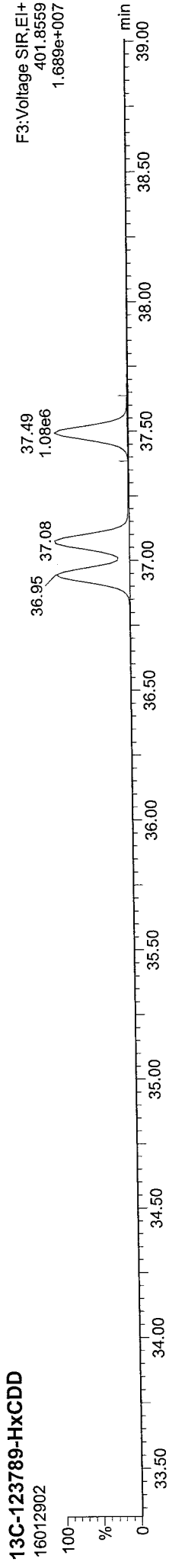
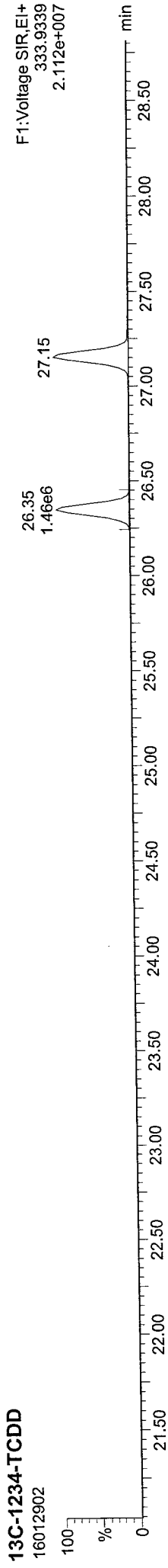
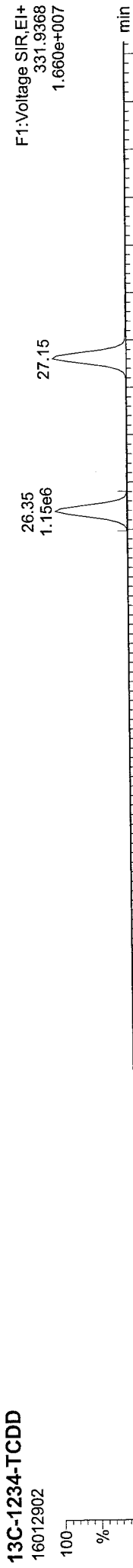
Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	37.494	0.000	1.08e6	8.65e5	1.000	1.249	1.240	2247	2489	1.66e7	1.34e7	7401.1	NO		100.000
Total-tetrafurans			4.40e5		0.827			953		6.23e6					31.583
Total-penta1			1.13e6					825		1.55e7					62.515
Total-pentafurans			2.55e6		0.837			3099		3.66e7					158.262
Total-hexafurans			3.41e6		0.977			2567		5.02e7					266.283
Total-heptafurans			1.09e6		1.142			2442		1.48e7					104.433
Total-Furans			9.43e6		0.971			953		1.31e8					728.799
Total-tetradioxins			6.66e5		1.023			1250		8.02e6					55.158
Total-pentadioxins			2.14e6		0.939			2565		2.64e7					182.852
Total-hexadioxins			2.33e6		0.919			2365		3.40e7					221.093
Total-heptadioxins			9.71e5		0.964			1702		1.28e7					111.554
Total-Dioxins			6.87e6		0.950			1250		8.87e7					673.055
Total-TEQ			1.63e7					1250		2.20e8					1401.854
37CL-2378-TCDD	27.184	1.032	2.94e5		1.091			1489		4.05e6		2722.1			10.335
FUNCTION1 PFK			1.26e6					1025556		2.04e7					
FUNCTION2 PFK			3.60e4					154702		9.23e5					0.000
FUNCTION3 PFK			2.86e4					686724		1.12e6					0.000
FUNCTION4 PFK			2.63e4					466120		1.11e6					
FUNCTION5 PFK			3.35e5					300885		1.33e7					
FUNCTION1 HXCDPE			6.64e2					746		1.46e4					0.000
FUNCTION1 HPCDPE			1.79e2					811		4.06e3					0.000
FUNCTION2 HPCDPE			1.32e3					930		2.17e4					0.000
FUNCTION3 OCDPE			0.00e0					449		0.00e0					
FUNCTION4 NCDPE			0.00e0					815		0.00e0					
FUNCTION5 DCDPE			0.00e0					514		0.00e0					

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

Method: P:\DIOXIN8290.PRO\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk



RP4: 00378

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

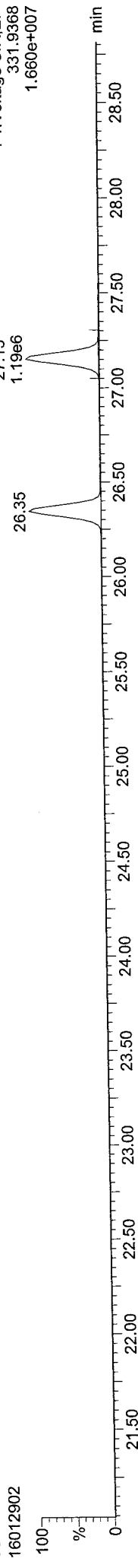
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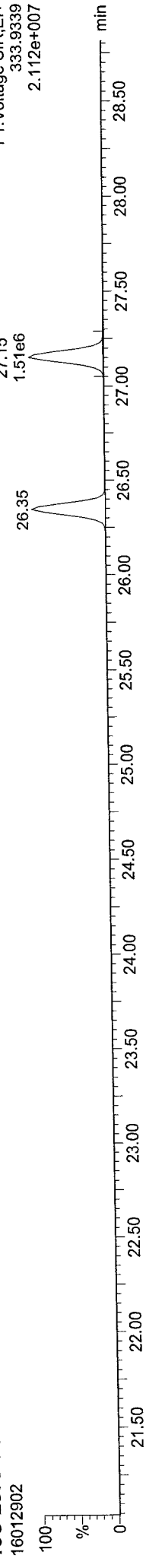
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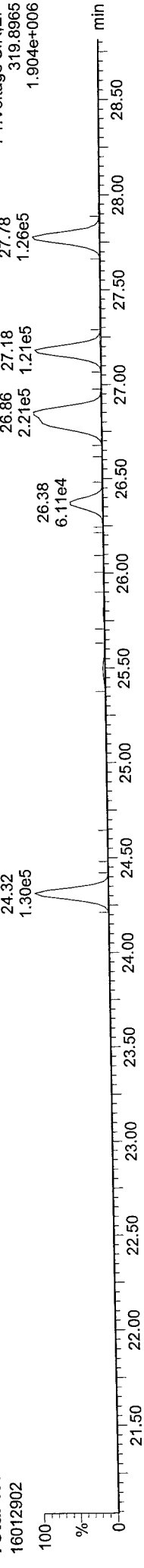
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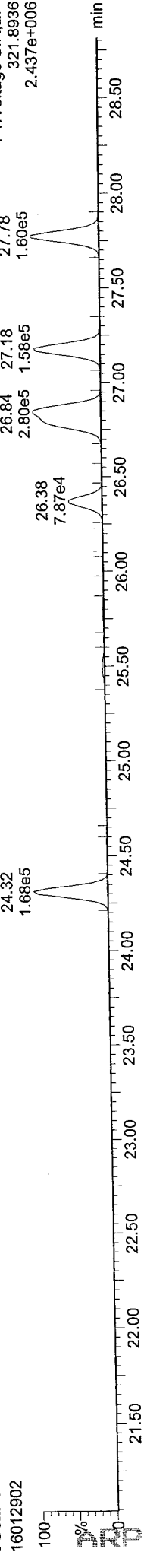
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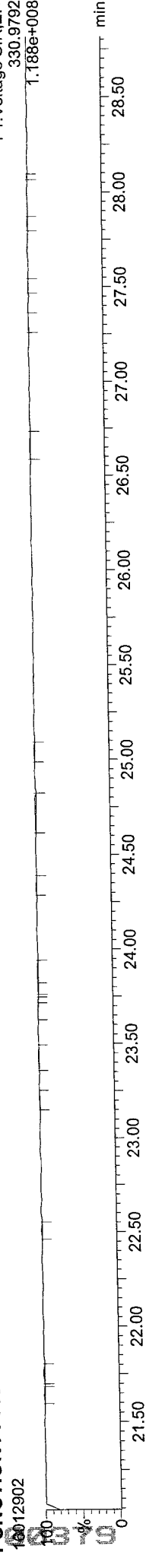
Total-tetradoxins



Total-tetradoxins



FUNCTION1 PFK



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

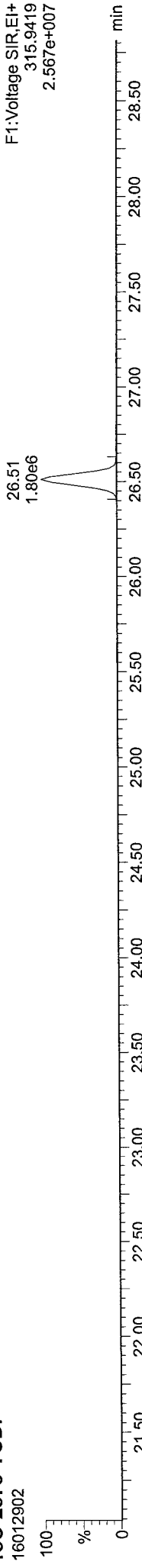
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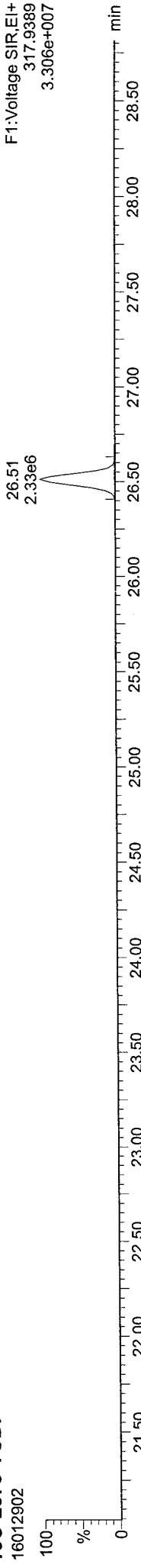
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk

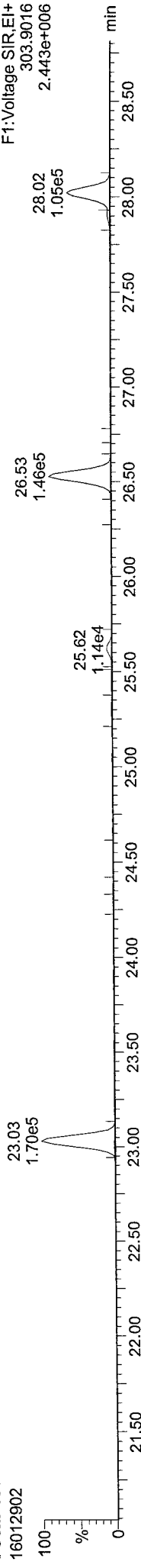
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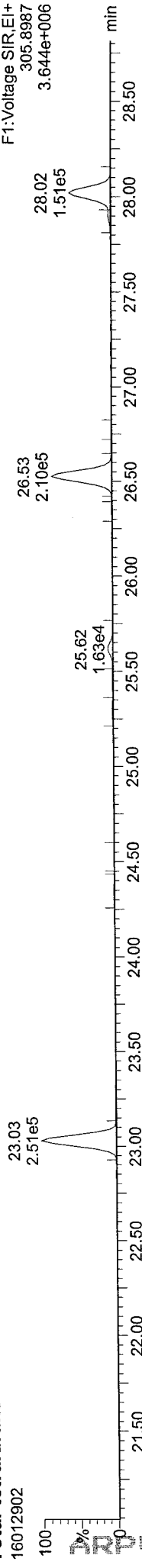
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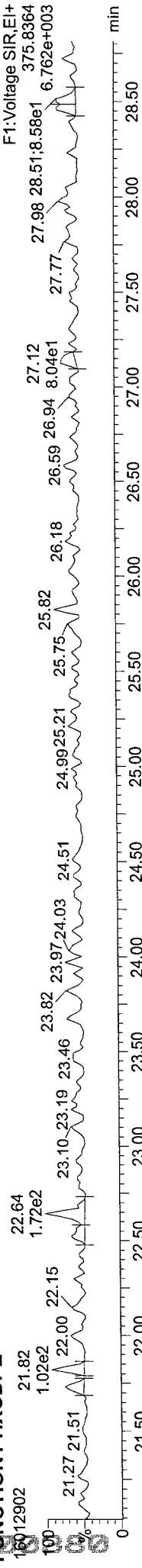
Total-tetrafurans



Total-tetrafurans

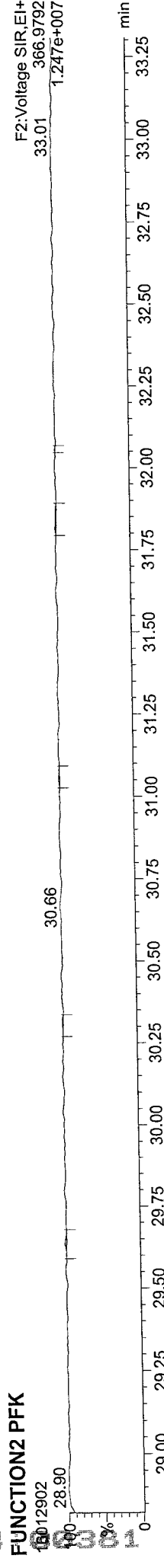
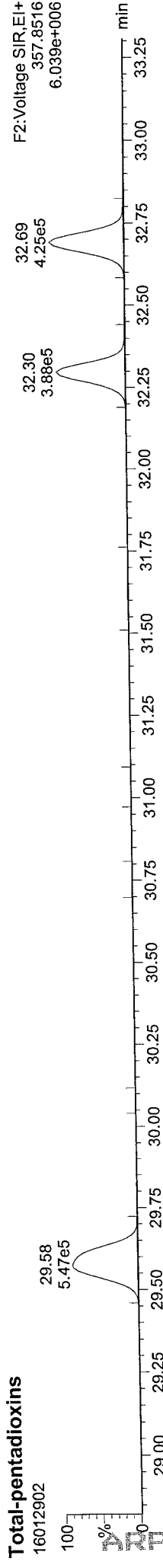
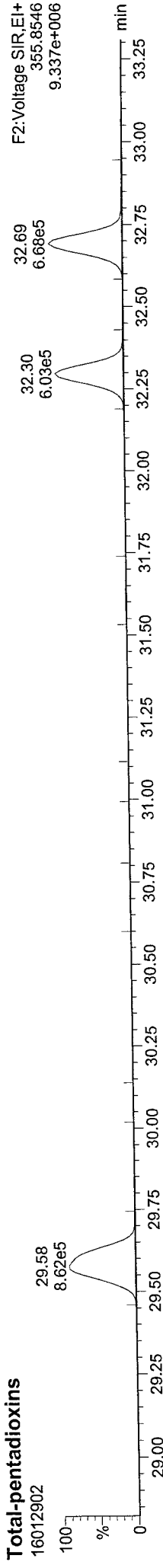
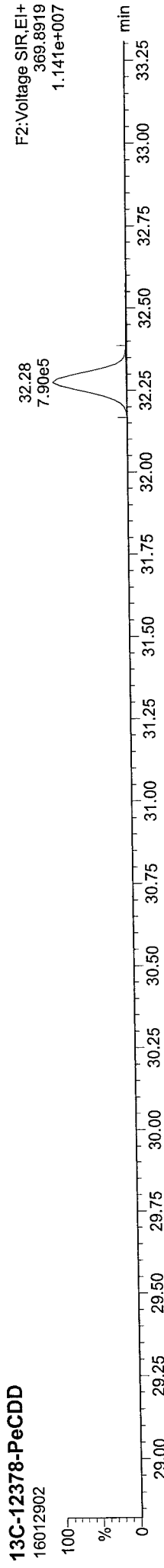
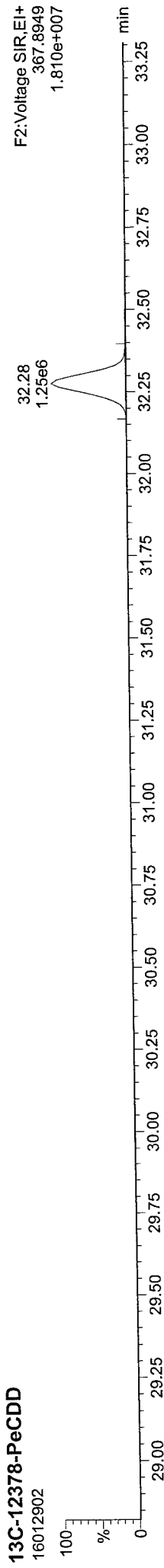


FUNCTION1 HXCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

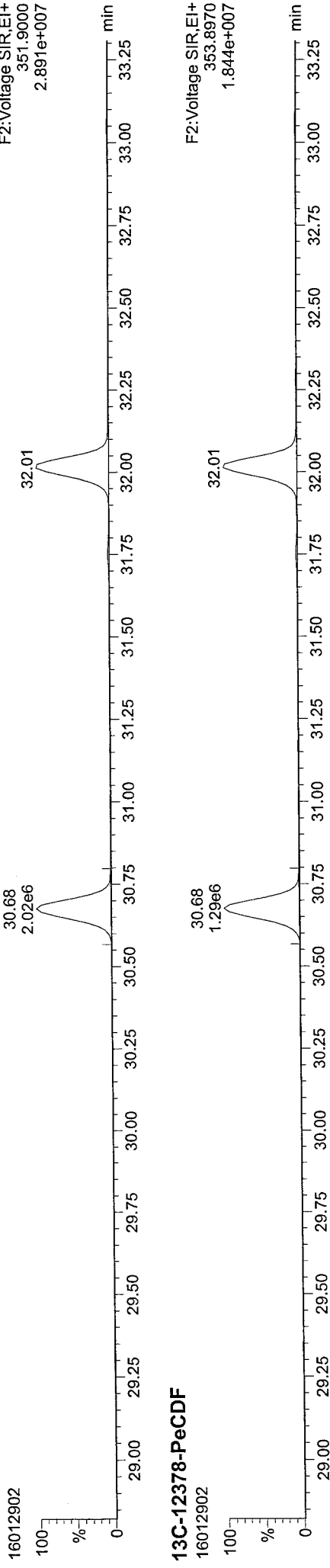
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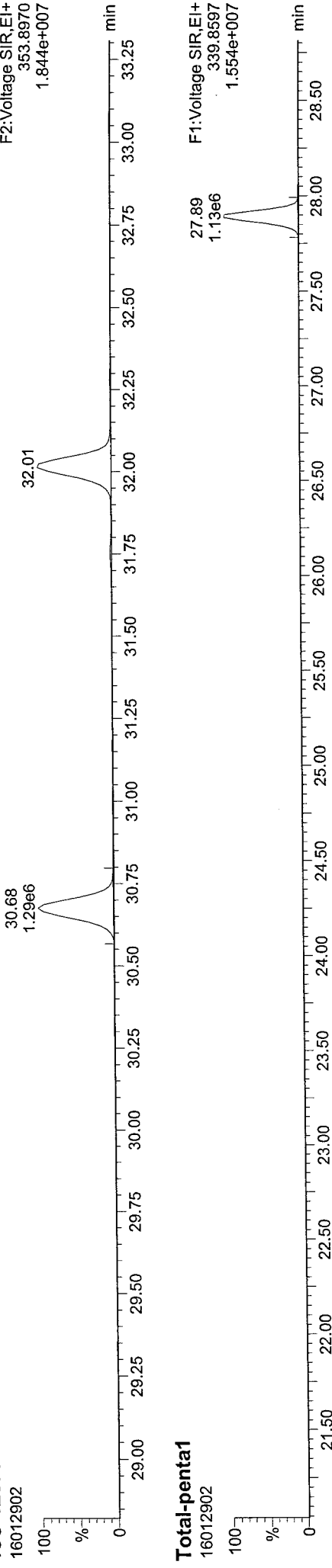
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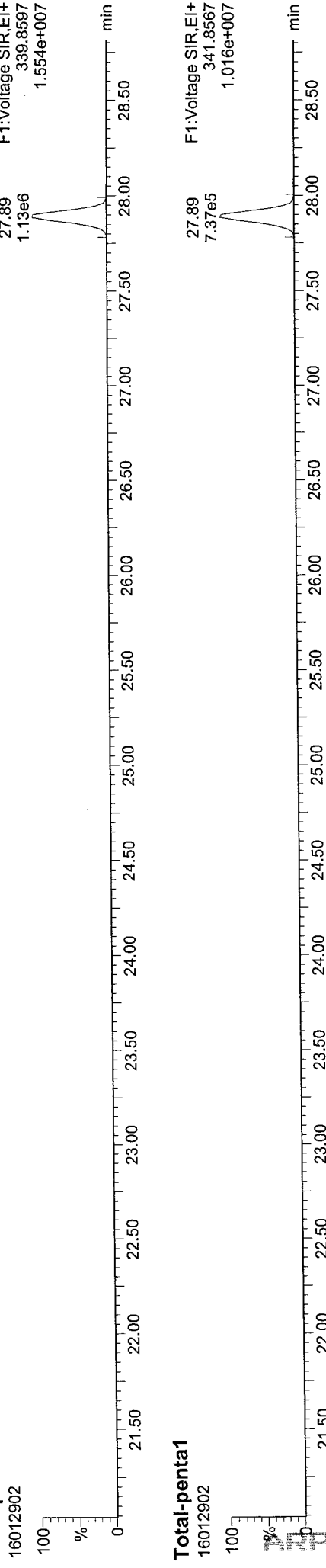
13C-12378-PeCDF



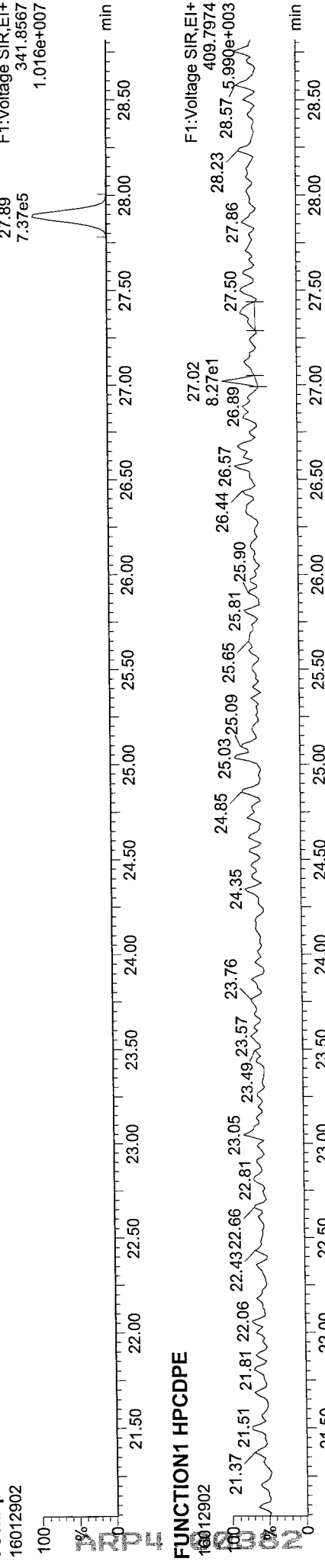
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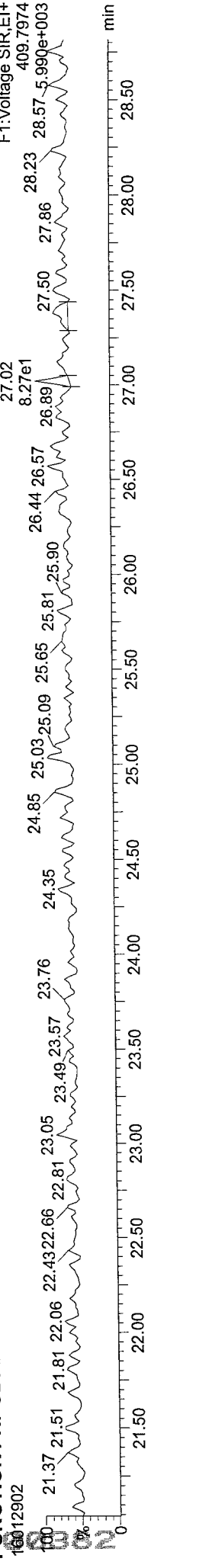
Total-penta1



Total-penta1



FUNCTION1 HPCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld

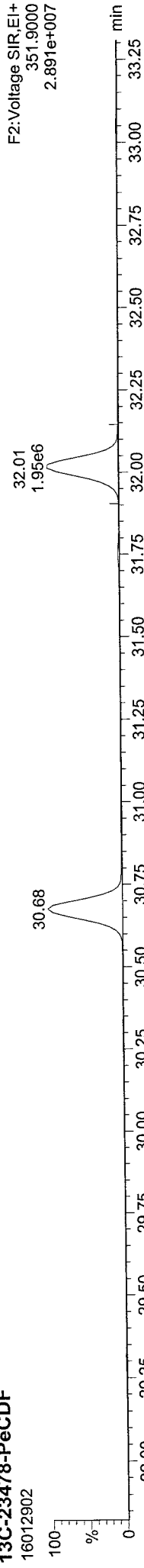
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Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

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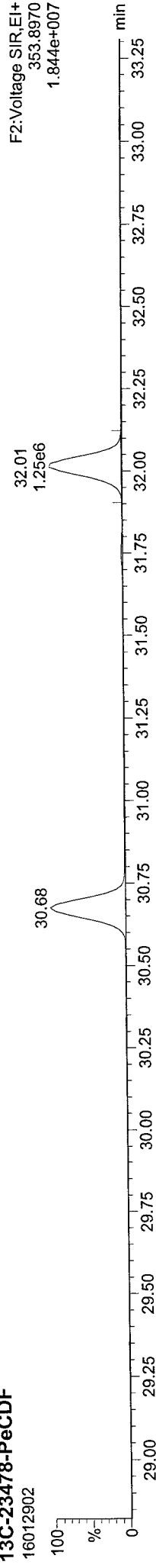
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16012902



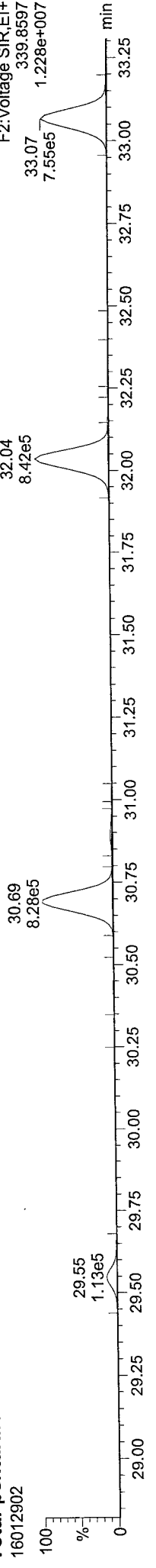
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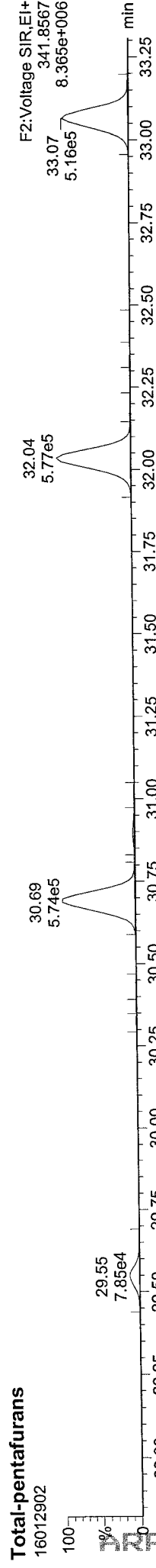
Total-pentafurans

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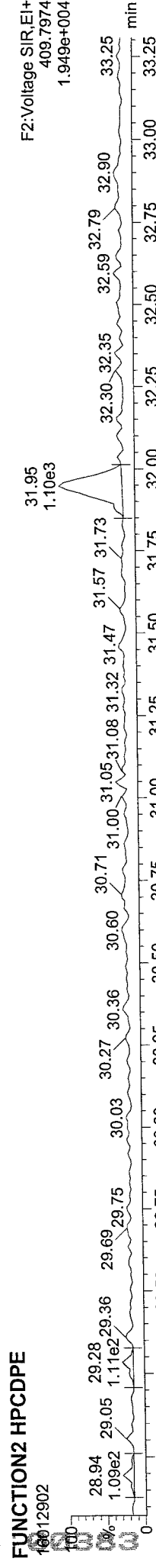
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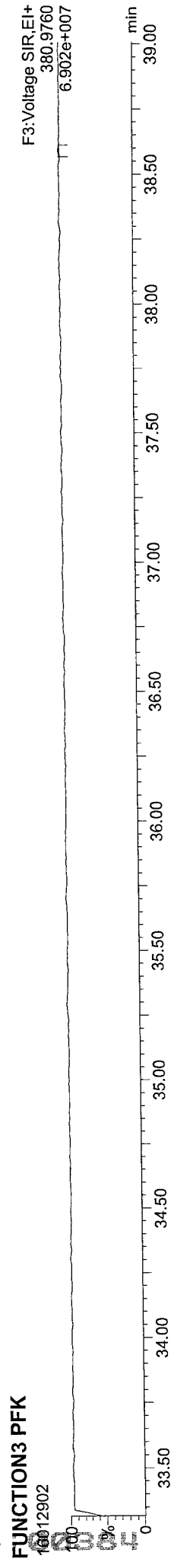
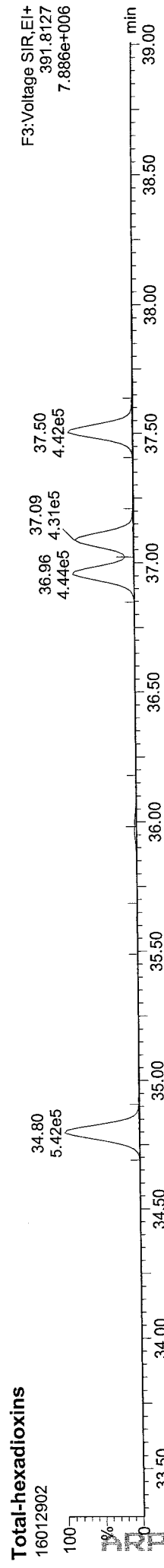
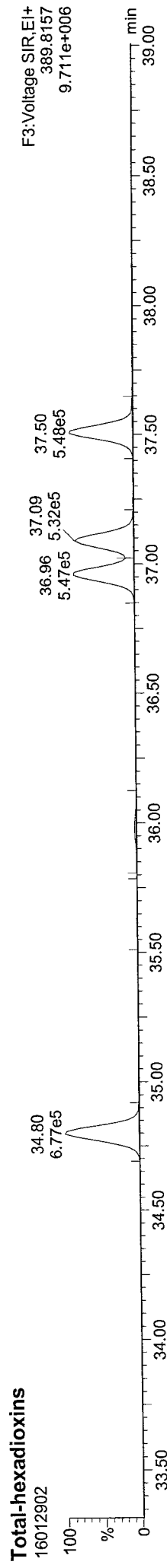
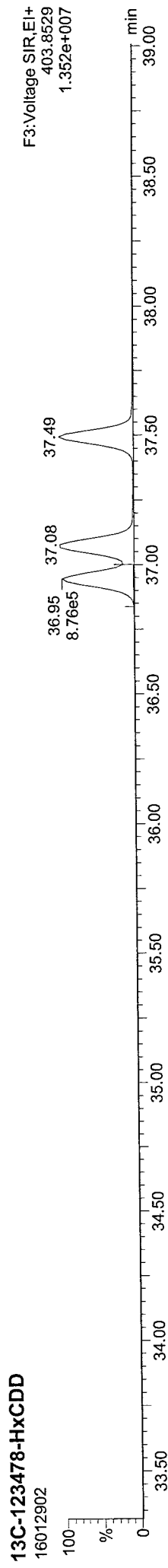
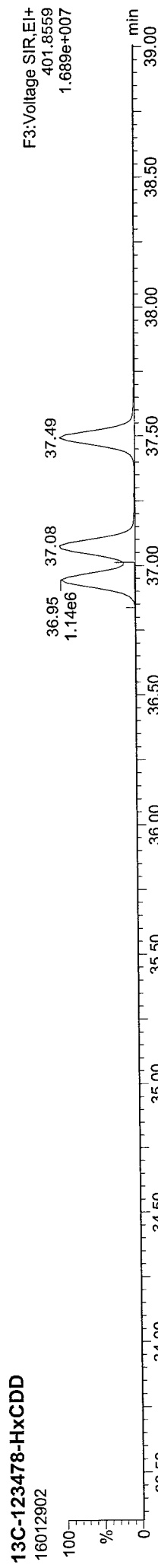
FUNCTION2 HPCDPE

16012902



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

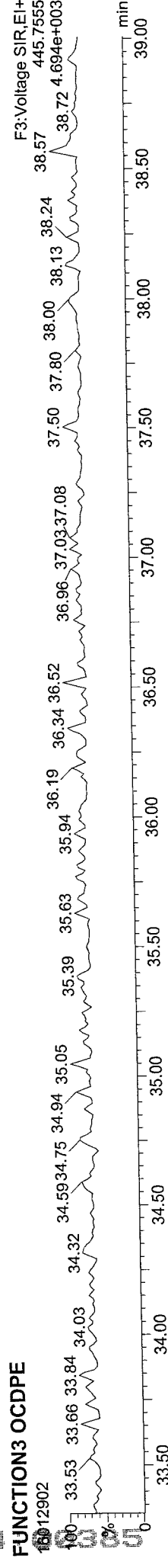
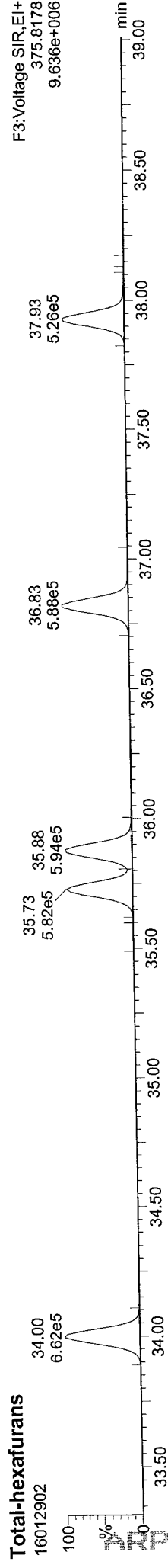
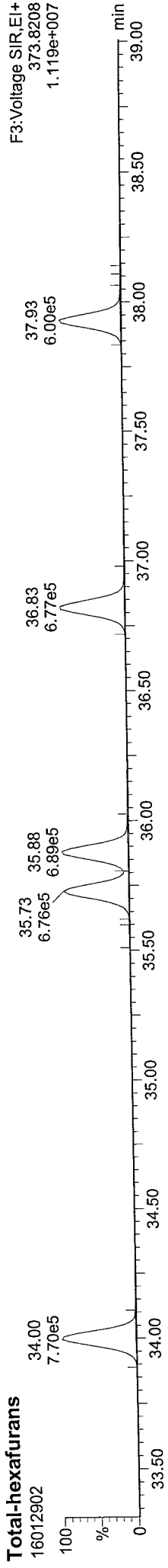
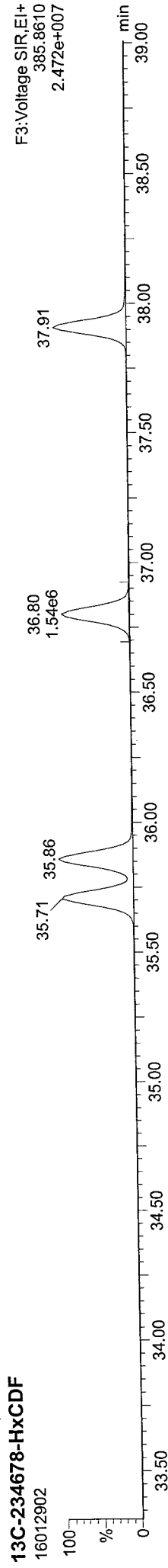
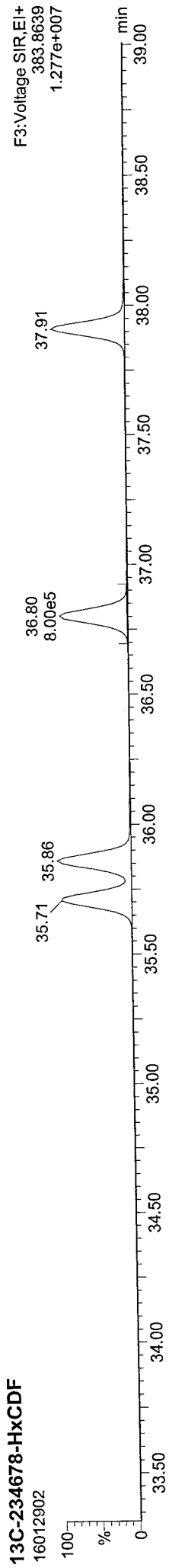
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

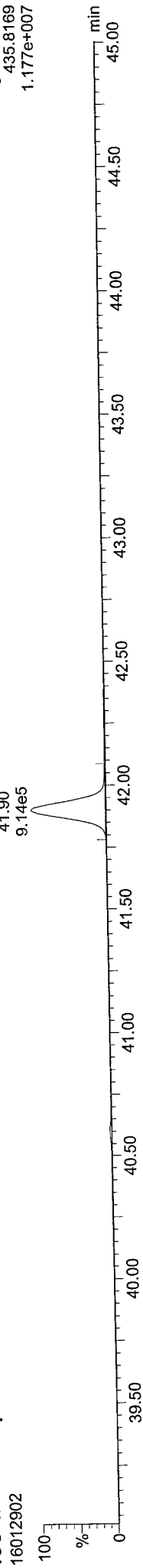
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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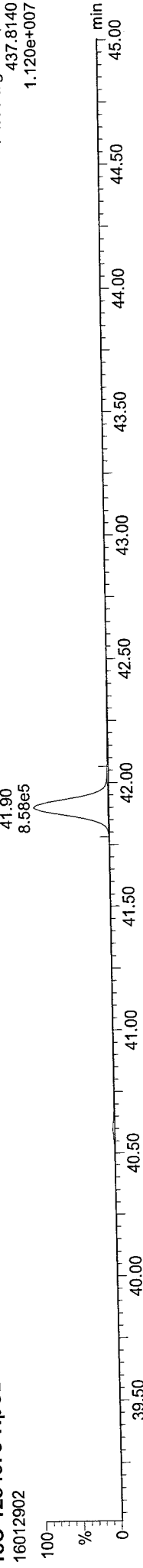
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13C-1234678-HpCDD



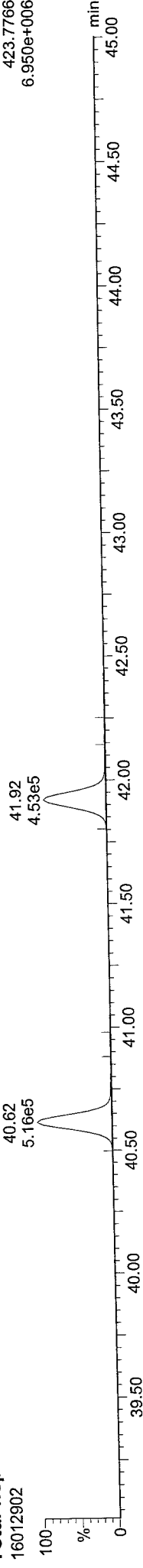
F4: Voltage SIR, EI+
435.8169
1.177e+007

13C-1234678-HpCDD



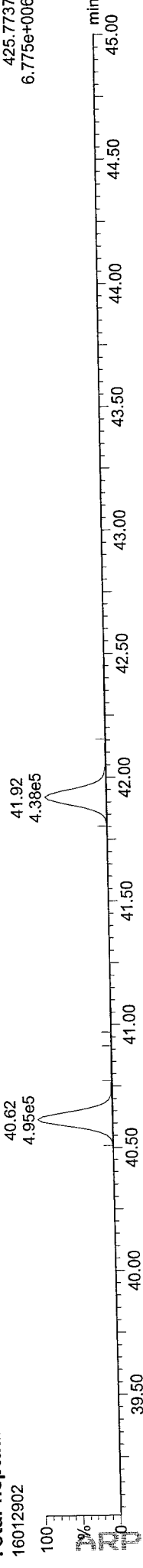
F4: Voltage SIR, EI+
437.8140
1.120e+007

Total-heptadioxins



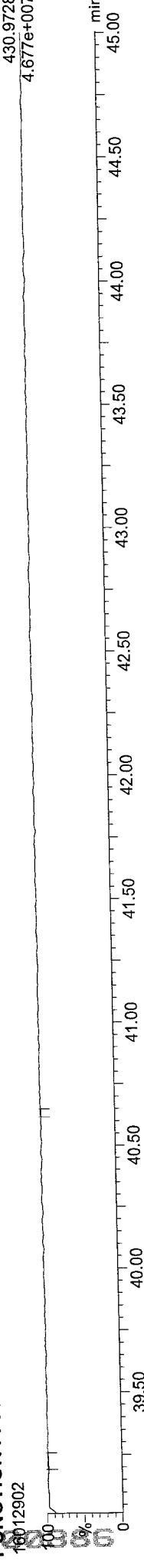
F4: Voltage SIR, EI+
423.7766
6.950e+006

Total-heptadioxins



F4: Voltage SIR, EI+
425.7737
6.775e+006

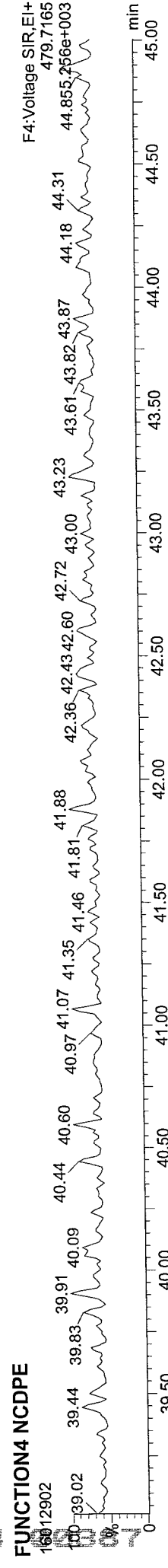
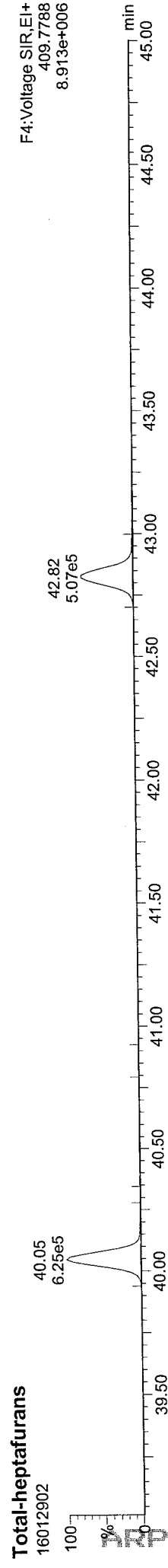
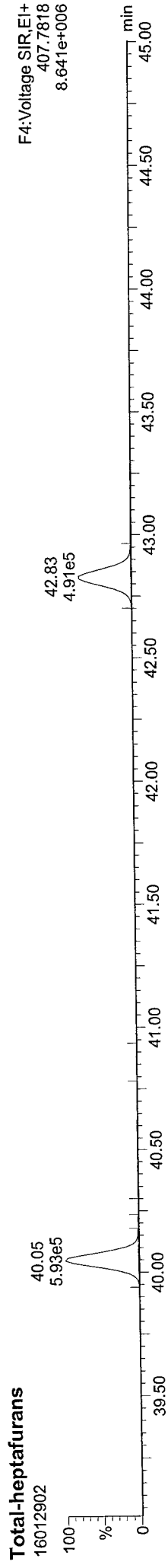
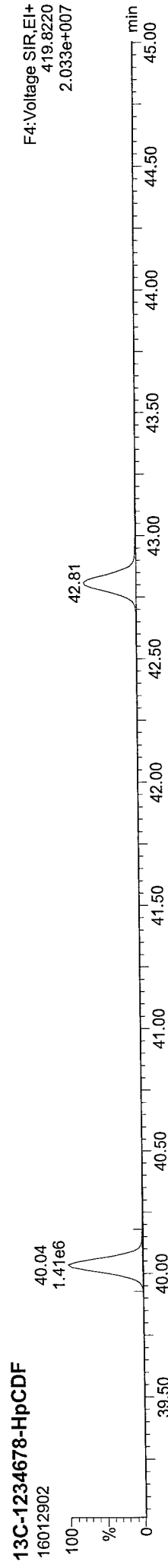
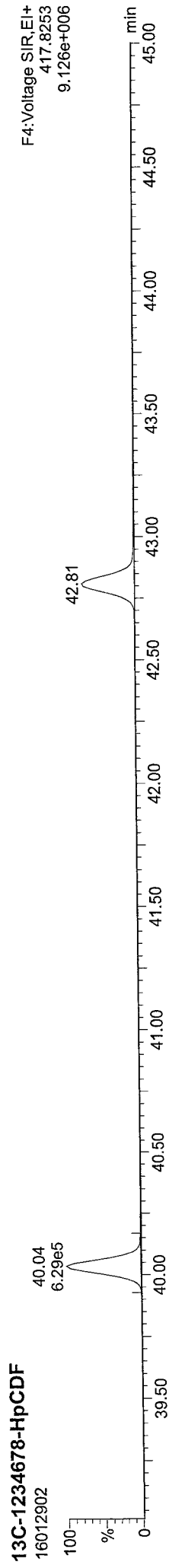
FUNCTION4 PFK



F4: Voltage SIR, EI+
430.9728
4.677e+007

Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.dld

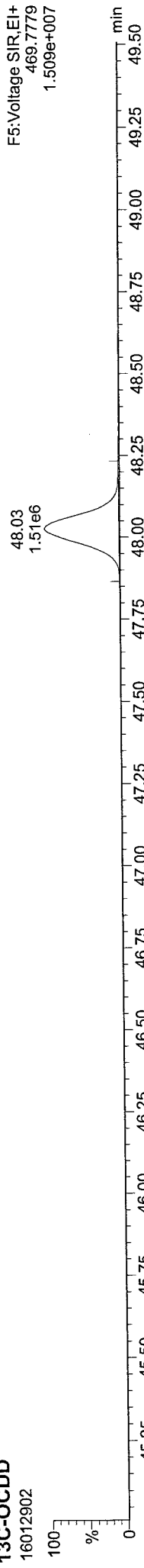
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time

Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk

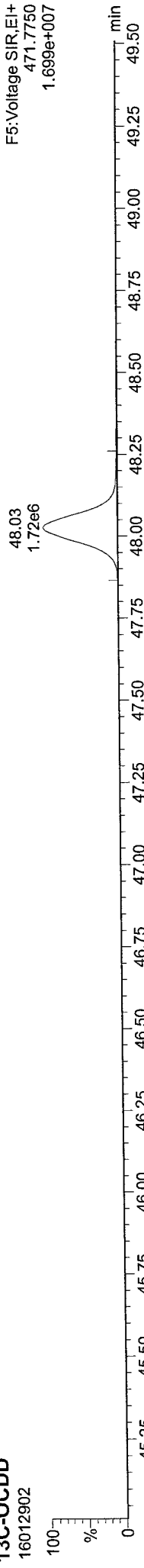
13C-OCDD

16012902



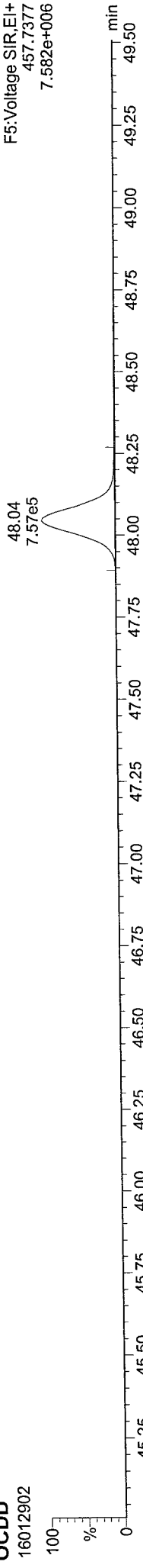
13C-OCDD

16012902



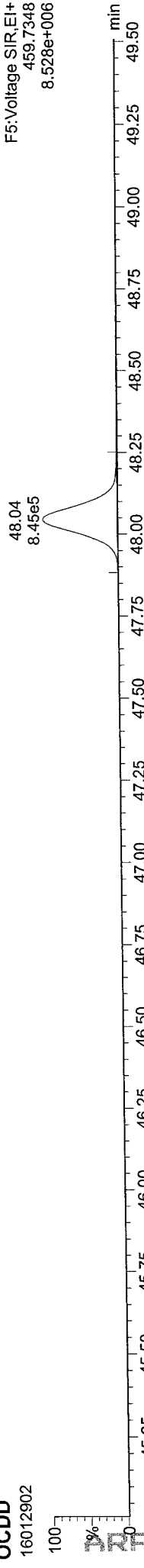
OCDD

16012902



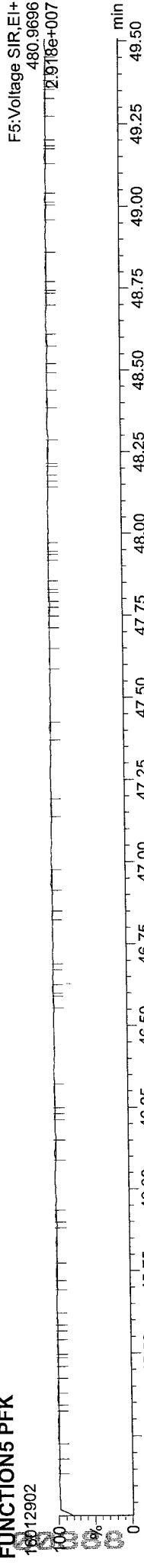
OCDD

16012902



FUNCTION5 PFK

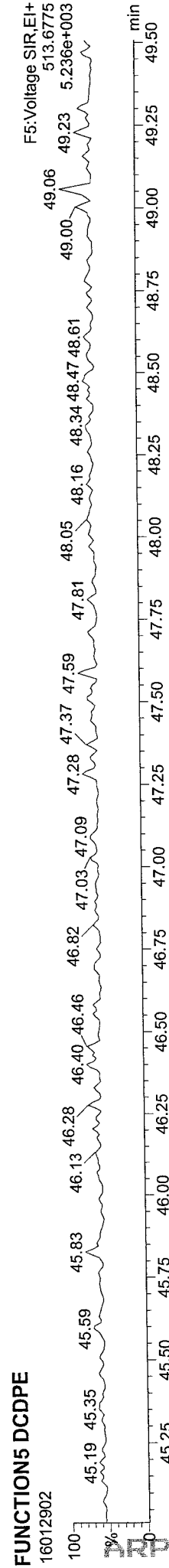
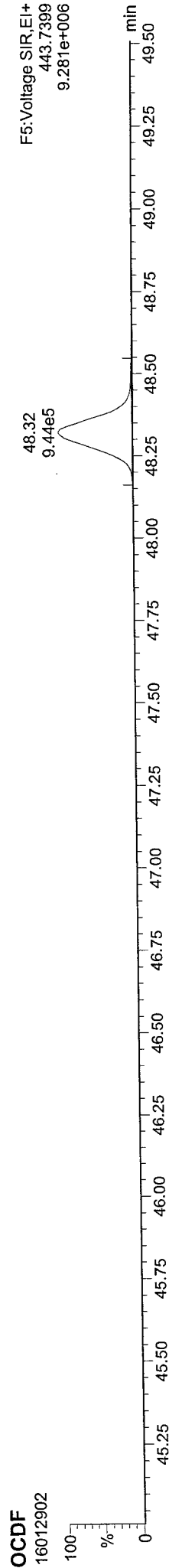
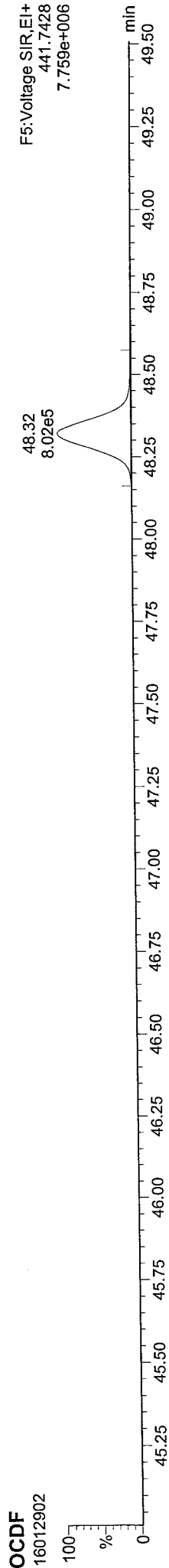
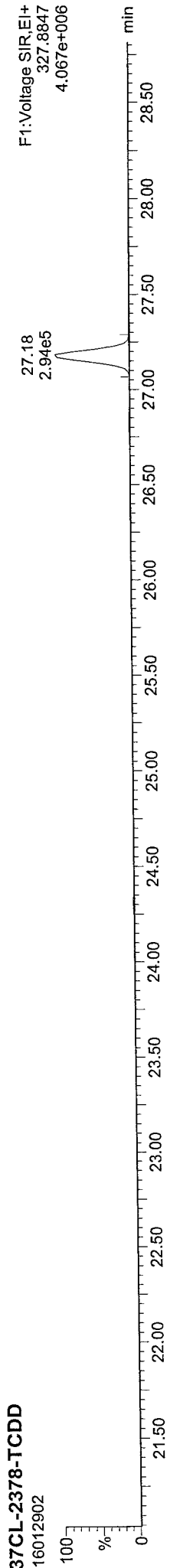
16012902



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129OPEN.qld
Last Altered: Friday, January 29, 2016 14:11:50 Pacific Standard Time
Printed: Monday, February 01, 2016 14:54:44 Pacific Standard Time

ID: CS3, Name: 16012902, Date: 29-Jan-2016, Time: 10:58:17, Conditions: AUTOSPEC01, User: pk



ARD4 : 90080

ANALYTICAL RESOURCES
CDD/CDF EDL DATA
HIGH RESOLUTION

Lab.Sample ID: AT50MBT
 Lab.File ID: 16012904
 Date Analysed: 29-Jan-16

Target Analytes	Selected Ions	Peak RT	Conc	EMPC	EDL
2378-TCDD	320/322	0.00			0.019
12378-PeCDD	356/358	0.00			0.022
123478-HxCDD	390/392	0.00			0.024
123678-HxCDD	390/392	0.00			0.025
123789-HxCDD	390/392	0.00			0.025
1234678-HpCDD	424/426	41.96	0.187		
OCDD	458/460	48.10	3.08		
2378-TCDF	304/306	0.00			0.016
12378-PeCDF	340/342	30.70	0.0250	0.0160	
23478-PeCDF	340/342	0.00			0.017
123478-HxCDF	374/376	0.00			0.018
234678-HxCDF	374/376	0.00			0.018
123678-HxCDF	374/376	0.00			0.017
123789-HxCDF	374/376	0.00			0.020
1234678-HpCDF	408/410	40.07	0.0711	0.0530	
1234789-HpCDF	408/410	0.00			0.037
OCDF	442/444	48.36	0.270		

Note: EDLs are on column values. Final EDL values are corrected for final volume of the extract (normally 20ul) and amount of sample extracted.

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27

Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred.R	Noise 1	Noise 2	Height 1	Height 2	SN	EMPC?	EMPC	pg
2378-TCDF					0.827		0.770	1090	1376						
12378-PeCDF	30.698	1.000	2.73e2	4.22e2	0.824	0.647	1.550	885	1420	5.66e3	5.03e3	6.4	YES	0.016	0.025
23478-PeCDF					0.850		1.550	885	1420						
123478-HxCDF					0.973		1.240	1053	1057						
234678-HxCDF					1.025		1.240	1053	1057						
123678-HxCDF					0.953		1.240	1053	1057						
123789-HxCDF					0.956		1.240	1053	1057						
1234678-HpCDF	40.070	1.000	6.70e2	1.08e3	1.153	0.623	1.050	1299	1456	1.11e4	1.47e4	8.6	YES	0.053	0.071
1234789-HpCDF					1.131		1.050	1299	1456						
OCDF	48.358	1.006	1.85e3	2.41e3	1.023	0.768	0.890	927	1272	1.77e4	2.30e4	19.1	NO	0.270	0.270
2378-TCDD					1.023		0.770	1316	841						
12378-PeCDD					0.939		1.550	1550	493						
123478-HxCDD					0.963		1.240	1113	1166						
123678-HxCDD					0.894		1.240	1113	1166						
123789-HxCDD					0.900		1.240	1113	1166						
1234678-HpCDD	41.955	1.001	1.77e3	1.56e3	0.964	1.130	1.050	913	849	2.57e4	1.98e4	28.1	NO	0.187	0.187
OCDD	48.098	1.000	2.22e4	2.38e4	0.969	0.930	0.890	863	712	2.28e5	2.46e5	264.4	NO	3.081	3.081
13C-2378-TCDF	26.526	1.006	1.69e6	2.17e6	1.502	0.779	0.770	6823	3687	2.43e7	3.11e7	3554.4	NO	95.958	95.958
13C-12378-PeCDF	30.698	1.164	2.06e6	1.31e6	1.215	1.575	1.550	3137	2927	2.95e7	1.87e7	9390.7	NO	103.456	103.456
13C-23478-PeCDF	32.035	1.215	2.01e6	1.27e6	1.181	1.583	1.550	3137	2927	2.92e7	1.85e7	9309.4	NO	103.519	103.519
13C-123478-HxCDF	35.729	0.953	8.54e5	1.65e6	1.246	0.518	0.510	3447	4688	1.25e7	2.42e7	3632.5	NO	87.885	87.885
13C-123678-HxCDF	35.882	0.957	9.20e5	1.81e6	1.375	0.509	0.510	3447	4688	1.31e7	2.51e7	3804.7	NO	86.696	86.696
13C-234678-HxCDF	36.814	0.982	8.34e5	1.59e6	1.186	0.524	0.510	3447	4688	1.20e7	2.33e7	3492.2	NO	89.406	89.406
13C-123789-HxCDF	37.932	1.011	7.71e5	1.48e6	1.135	0.522	0.510	3447	4688	1.13e7	2.16e7	3280.1	NO	86.636	86.636
13C-1234678-HpCDF	40.059	1.068	6.50e5	1.48e6	1.020	0.440	0.440	2963	2830	8.90e6	1.99e7	3004.2	NO	91.232	91.232
13C-1234789-HpCDF	42.843	1.142	5.28e5	1.17e6	0.824	0.452	0.440	2963	2830	6.14e6	1.39e7	2072.5	NO	89.935	89.935
13C-1234-TCDD	26.362	0.000	1.18e6	1.50e6	1.000	0.788	0.770	4547	2110	1.71e7	2.16e7	3755.5	NO	100.000	100.000
13C-2378-TCDD	27.169	1.031	1.07e6	1.35e6	0.983	0.794	0.770	4547	2110	1.50e7	1.90e7	3297.7	NO	92.103	92.103
13C-12378-PeCDD	32.298	1.225	1.29e6	8.25e5	0.787	1.567	1.550	1138	2022	1.84e7	1.17e7	16162.3	NO	100.320	100.320
13C-123478-HxCDD	36.957	0.985	1.14e6	8.93e5	1.031	1.281	1.240	2219	1975	1.69e7	1.32e7	7606.7	NO	86.434	86.434
13C-123678-HxCDD	37.088	0.989	1.23e6	9.58e5	1.137	1.280	1.240	2219	1975	1.74e7	1.38e7	7831.6	NO	84.003	84.003
13C-1234678-HpCDD	41.933	1.118	9.57e5	8.90e5	0.892	1.075	1.050	2521	1794	1.19e7	1.13e7	4711.6	NO	90.547	90.547
13C-OCDD	48.080	1.282	1.45e6	1.63e6	0.852	0.888	0.890	1433	2144	1.40e7	1.59e7	9755.8	NO	158.122	158.122

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.gld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise:1	Noise:2	Height:1	Height:2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	37.505	0.000	1.26e6	1.02e6	1.000	1.236	1.240	2219	1975	1.85e7	1.49e7	8329.2	NO		100.000
Total-tetrafurans			0.00e0		0.827			1090		0.00e0					
Total-penta 1			0.00e0					651		0.00e0					0.025
Total-pentafurans			2.73e2		0.837			885		5.66e3					
Total-hexafurans			0.00e0		0.977			1053		0.00e0					
Total-heptafurans			1.48e3		1.142			1299		2.13e4					0.143
Total-Furans			3.60e3		0.971			1090		4.47e4					0.439
Total-tetra-dioxins			0.00e0		1.023			1316		0.00e0					0.019
Total-penta-dioxins			2.56e2		0.939			1550		6.28e3					0.062
Total-hexa-dioxins			8.22e2		0.919			1113		1.65e4					0.371
Total-hepta-dioxins			3.44e3		0.964			913		4.89e4					3.542
Total-Dioxins			2.68e4		0.950			1316		3.03e5					3.980
Total-TEQ			3.04e4					1316		3.47e5					46.597
37CL-2378-TCDD	27.198	1.032	1.36e6		1.091			1521		1.92e7		12587.0			
FUNCTION1 PFK			1.31e8					806942		4.59e8					0.000
FUNCTION2 PFK			4.12e5					175386		4.40e6					0.000
FUNCTION3 PFK			1.76e8					564778		1.83e8					
FUNCTION4 PFK			1.98e5					470636		1.97e6					
FUNCTION5 PFK			0.00e0					300577		0.00e0					0.000
FUNCTION1 HXCDPE			3.34e2					660		5.36e3					0.000
FUNCTION1 HPCDPE			4.54e2					693		9.01e3					0.000
FUNCTION2 HPCDPE			1.01e2					715		1.75e3					0.000
FUNCTION3 OCDPE			7.55e1					555		1.85e3					0.000
FUNCTION4 NCDPE			1.62e2					741		4.20e3					0.000
FUNCTION5 DCDPE			0.00e0					465		0.00e0					0.000

APP4 : 00392

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

TF

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1											

PP

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1											

PF

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	2 12378-PeCDF	339.8597	30.70	694.582	0.824	0.025	0.016	0.65	1.55	YES	6.4

HF

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1											

HPF

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	39 Total-heptafurans	407.7818	40.88	1571.533	1.142	0.072		1.07	1.05	NO	7.8
2	8 1234678-HpCDF	407.7818	40.07	1745.998	1.153	0.071	0.053	0.62	1.05	YES	8.6

Furans,TF,PP,PF,HF,HPF,OF

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	2 12378-PeCDF	339.8597	30.70	694.582	0.824	0.025	0.016	0.65	1.55	YES	6.4
2	39 Total-heptafurans	407.7818	40.88	1571.533	1.142	0.072		1.07	1.05	NO	7.8
3	8 1234678-HpCDF	407.7818	40.07	1745.998	1.153	0.071	0.053	0.62	1.05	YES	8.6
4	10 OCDF	441.7428	48.36	4262.023	1.023	0.270	0.270	0.77	0.89	NO	19.1

TD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1											

PD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	42 Total-pentadioxins	355.8546	30.68	376.494	0.939	0.019		2.12	1.55	YES	4.0

HD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	43 Total-hexadioxins	389.8157	35.87	676.676	0.919	0.035		2.52	1.24	YES	8.9
2	43 Total-hexadioxins	389.8157	35.72	528.014	0.919	0.027		1.77	1.24	YES	5.9

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

HPD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	16 1234678-HpCDD	423.7766	41.96	3331.913	0.964	0.187	0.187	1.13	1.05	NO	28.1
2	44 Total-heptadioxins	423.7766	40.64	3283.356	0.964	0.184		1.04	1.05	NO	25.5

Dioxins,TD,PD,HD,HPD,OD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	45 Total-Dioxins	319.8965	22.00	179.321	0.950	0.008		1.08	0.77	YES	2.1
2	43 Total-hexadioxins	389.8157	35.87	676.676	0.919	0.035		2.52	1.24	YES	8.9
3	43 Total-hexadioxins	389.8157	35.72	528.014	0.919	0.027		1.77	1.24	YES	5.9
4	42 Total-pentadioxins	355.8546	30.68	376.494	0.939	0.019		2.12	1.55	YES	4.0
5	16 1234678-HpCDD	423.7766	41.96	3331.913	0.964	0.187	0.187	1.13	1.05	NO	28.1
6	44 Total-heptadioxins	423.7766	40.64	3283.356	0.964	0.184		1.04	1.05	NO	25.5
7	17 OCDD	457.7377	48.10	45982.412	0.969	3.081	3.081	0.93	0.89	NO	264.4

TotalTEQ,Furans,Dioxins

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	2 12378-PeCDF	339.8597	30.70	694.582	0.824	0.025	0.016	0.65	1.55	YES	6.4
2	39 Total-heptafurans	407.7818	40.88	1571.533	1.142	0.072		1.07	1.05	NO	7.8
3	8 1234678-HpCDF	407.7818	40.07	1745.998	1.153	0.071	0.053	0.62	1.05	YES	8.6
4	10 OCDF	441.7428	48.36	4262.023	1.023	0.270	0.270	0.77	0.89	NO	19.1
5	45 Total-Dioxins	319.8965	22.00	179.321	0.950	0.008		1.08	0.77	YES	2.1
6	43 Total-hexadioxins	389.8157	35.87	676.676	0.919	0.035		2.52	1.24	YES	8.9
7	43 Total-hexadioxins	389.8157	35.72	528.014	0.919	0.027		1.77	1.24	YES	5.9
8	42 Total-pentadioxins	355.8546	30.68	376.494	0.939	0.019		2.12	1.55	YES	4.0
9	16 1234678-HpCDD	423.7766	41.96	3331.913	0.964	0.187	0.187	1.13	1.05	NO	28.1
10	44 Total-heptadioxins	423.7766	40.64	3283.356	0.964	0.184		1.04	1.05	NO	25.5
11	17 OCDD	457.7377	48.10	45982.412	0.969	3.081	3.081	0.93	0.89	NO	264.4

PFK1

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	48 FUNCTION1 PFK	330.9792	23.64	0.000							10.9
2	48 FUNCTION1 PFK	330.9792	23.24	0.000							36.4
3	48 FUNCTION1 PFK	330.9792	22.91	0.000							65.1
4	48 FUNCTION1 PFK	330.9792	22.84	0.000							65.9
5	48 FUNCTION1 PFK	330.9792	22.64	0.000							76.3
6	48 FUNCTION1 PFK	330.9792	22.43	0.000							84.3
7	48 FUNCTION1 PFK	330.9792	22.33	0.000							89.0
8	48 FUNCTION1 PFK	330.9792	21.46	0.000							101.4
9	48 FUNCTION1 PFK	330.9792	21.16	0.000							40.2

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

PFK2

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	49 FUNCTION2 PFK	366.9792	28.86	0.000	0.000				1.0
2	49 FUNCTION2 PFK	366.9792	33.26	0.000	0.000				1.0
3	49 FUNCTION2 PFK	366.9792	33.11	0.000	0.000				2.2
4	49 FUNCTION2 PFK	366.9792	31.96	0.000	0.000				5.1
5	49 FUNCTION2 PFK	366.9792	31.90	0.000	0.000				3.7
6	49 FUNCTION2 PFK	366.9792	31.75	0.000	0.000				0.0
7	49 FUNCTION2 PFK	366.9792	31.40	0.000	0.000				1.8
8	49 FUNCTION2 PFK	366.9792	30.92	0.000	0.000				0.4
9	49 FUNCTION2 PFK	366.9792	30.79	0.000	0.000				1.0
10	49 FUNCTION2 PFK	366.9792	30.34	0.000	0.000				4.3
11	49 FUNCTION2 PFK	366.9792	29.82	0.000	0.000				0.9
12	49 FUNCTION2 PFK	366.9792	29.46	0.000	0.000				1.5
13	49 FUNCTION2 PFK	366.9792	29.39	0.000	0.000				0.8
14	49 FUNCTION2 PFK	366.9792	29.02	0.000	0.000				0.9
15	49 FUNCTION2 PFK	366.9792	28.99	0.000	0.000				0.5

PFK3

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	50 FUNCTION3 PFK	380.9760	34.34	0.000	0.000				39.7
2	50 FUNCTION3 PFK	380.9760	38.16	0.000	0.000				45.2
3	50 FUNCTION3 PFK	380.9760	36.78	0.000	0.000				97.7
4	50 FUNCTION3 PFK	380.9760	35.10	0.000	0.000				73.5
5	50 FUNCTION3 PFK	380.9760	34.91	0.000	0.000				68.3

PFK4

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	51 FUNCTION4 PFK	430.9728	39.62	0.000					4.2

PFK5

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC	1° Rati...	1° Rati...	1° R...	S/N
1									

ETHERS1

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	53 FUNCTION1 HXCD...	375.8364	28.68	0.000	0.000				1.4
2	53 FUNCTION1 HXCD...	375.8364	26.05	0.000	0.000				3.7
3	53 FUNCTION1 HXCD...	375.8364	23.64	0.000	0.000				1.6
4	53 FUNCTION1 HXCD...	375.8364	23.43	0.000	0.000				1.4

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
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ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

ETHERS2

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	54 FUNCTION1 HPCD...	409.7974	21.76	0.000	0.000					2.5
2	54 FUNCTION1 HPCD...	409.7974	21.40	0.000	0.000					1.3
3	54 FUNCTION1 HPCD...	409.7974	21.15	0.000	0.000					2.8
4	54 FUNCTION1 HPCD...	409.7974	27.89	0.000	0.000					3.2
5	54 FUNCTION1 HPCD...	409.7974	25.39	0.000	0.000					3.2

ETHERS3

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	55 FUNCTION2 HPCD...	409.7974	29.91	0.000	0.000					2.4

ETHERS4

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	56 FUNCTION3 OCDPE	445.7555	38.41	0.000	0.000					3.3

ETHERS5

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	57 FUNCTION4 NCDPE	479.7165	44.39	0.000	0.000					3.8
2	57 FUNCTION4 NCDPE	479.7165	40.94	0.000	0.000					1.8

ETHERS6

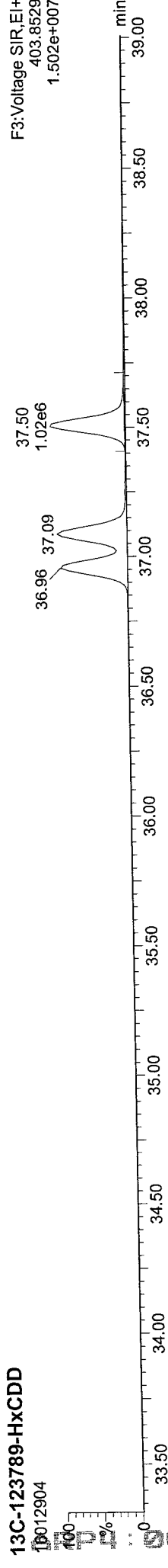
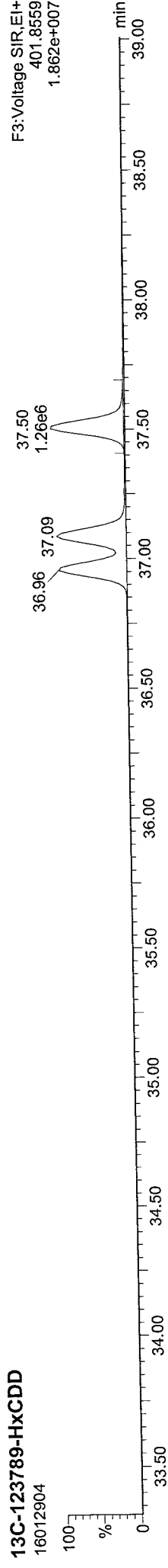
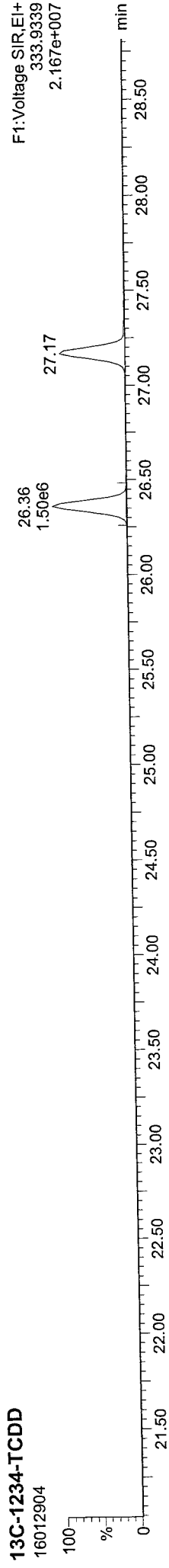
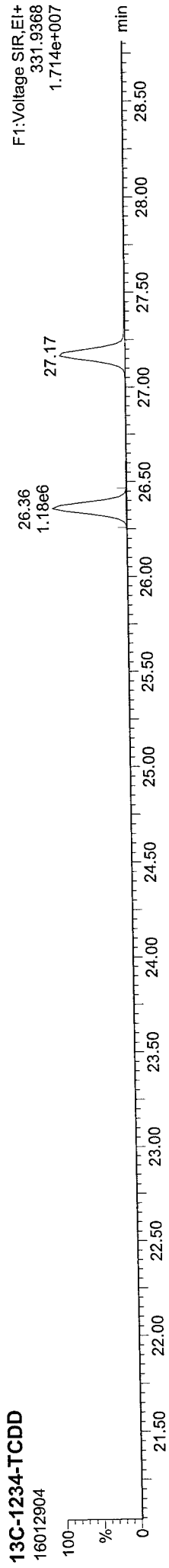
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
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Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

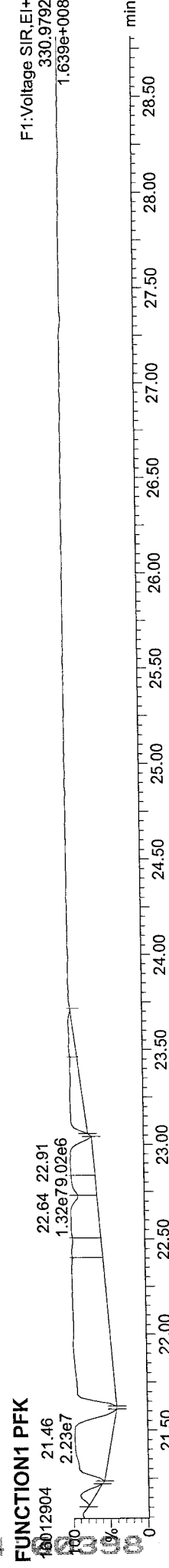
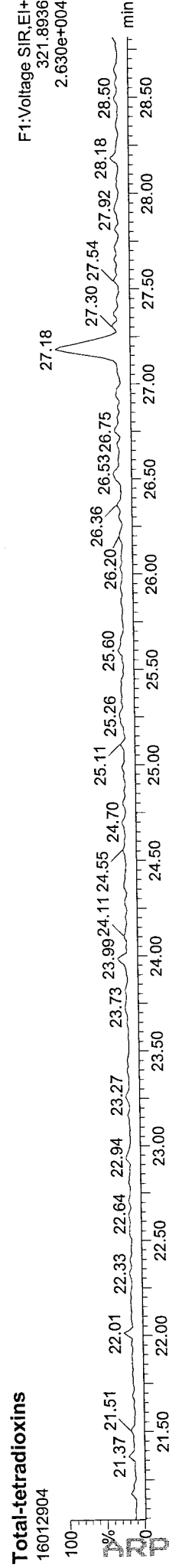
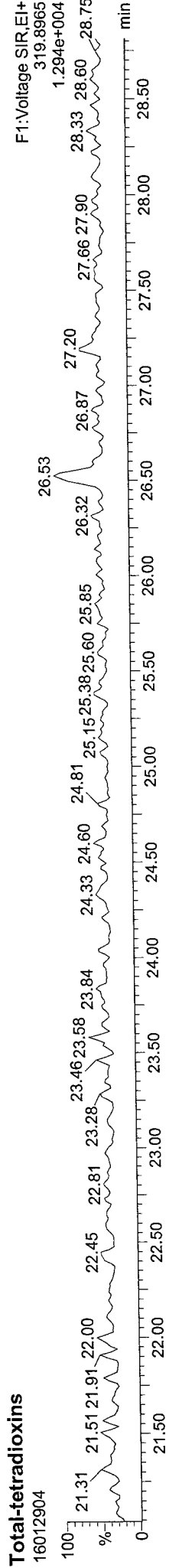
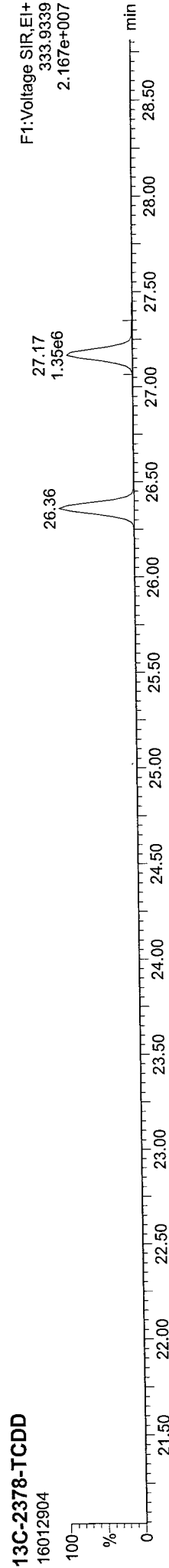
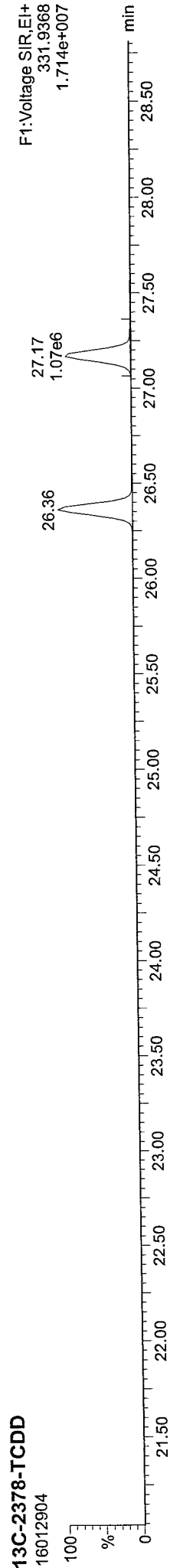
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ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

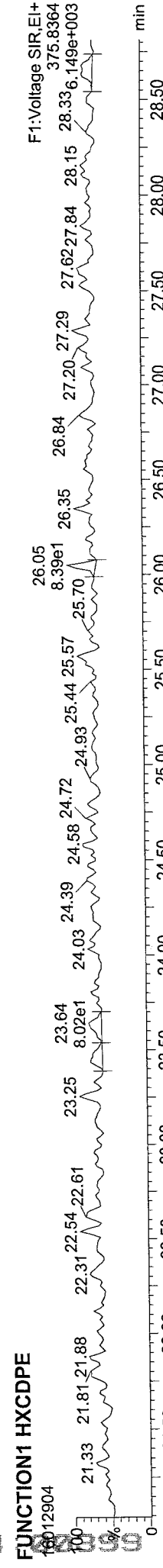
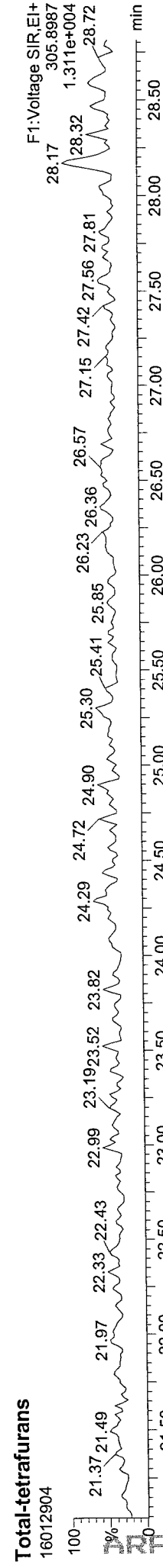
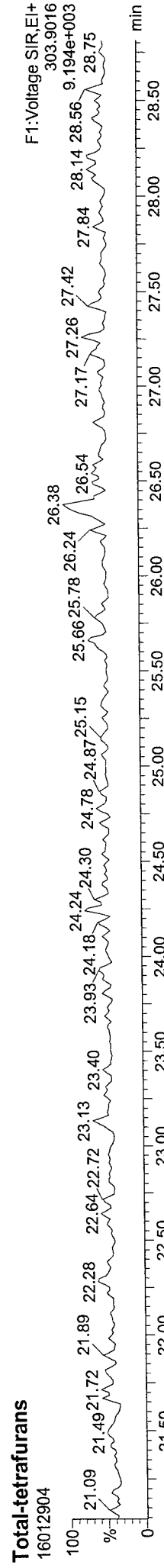
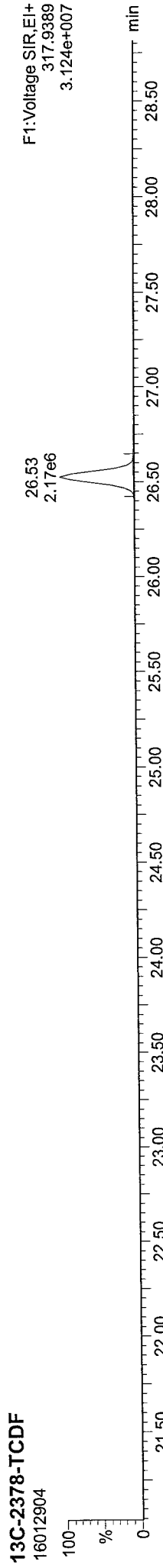
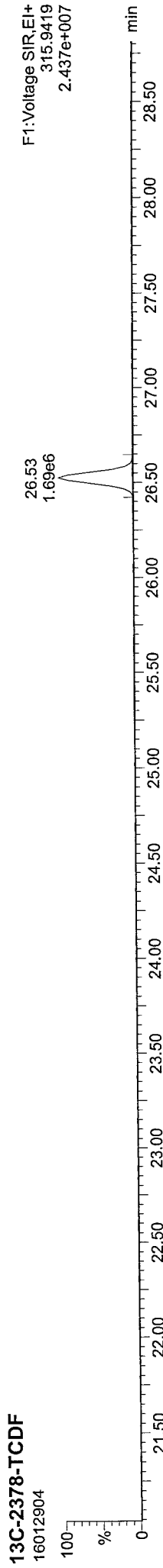
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
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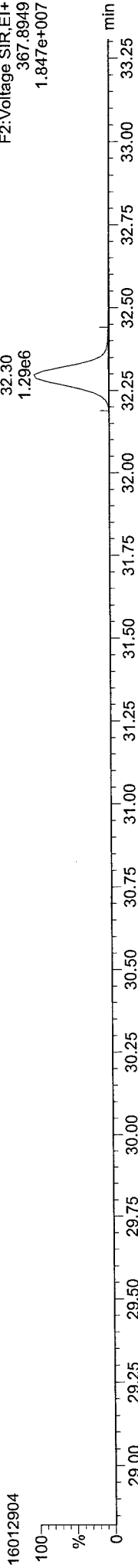


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

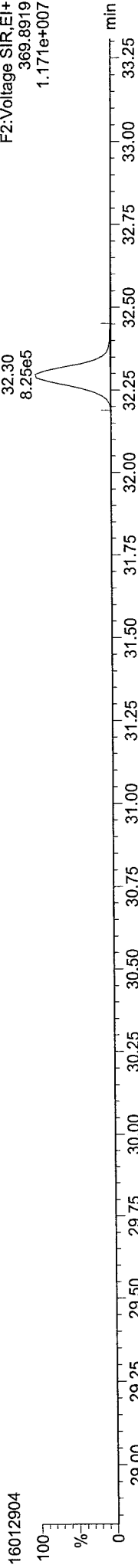
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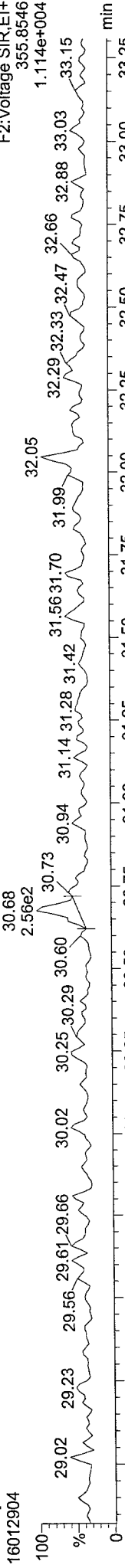
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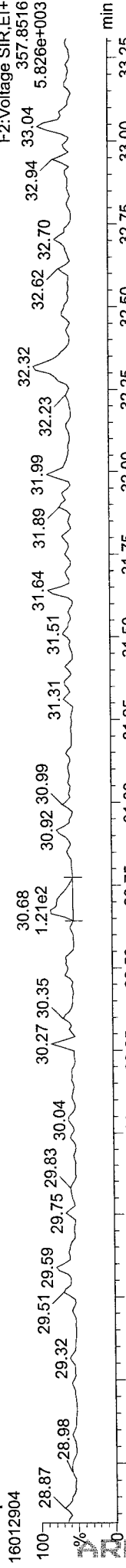
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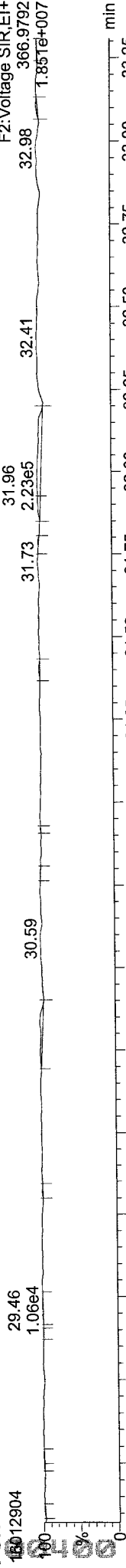
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Total-pentadioxins



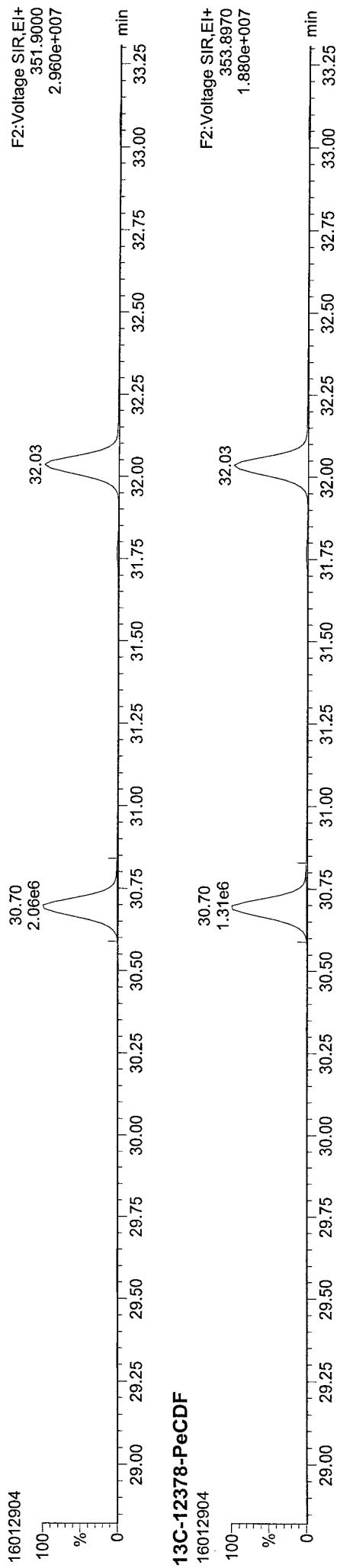
FUNCTION2 PFK



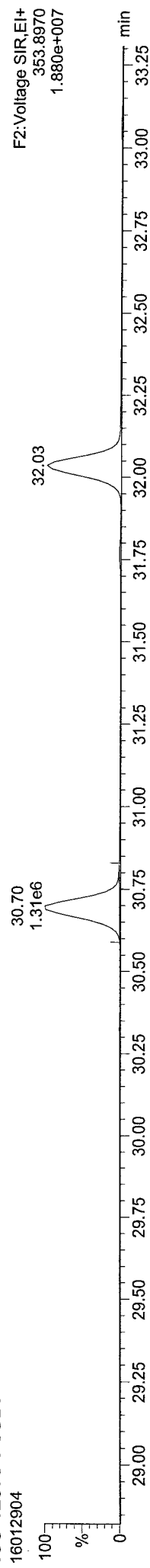
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Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

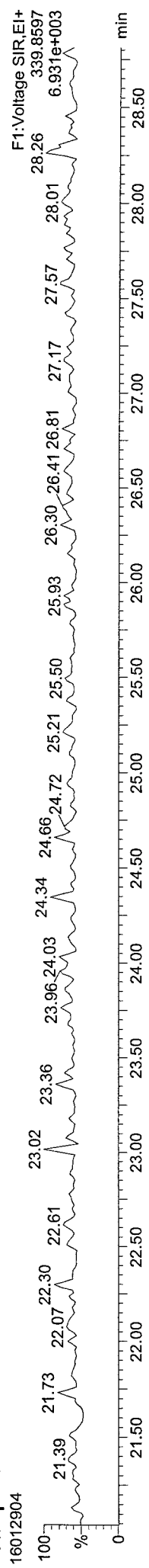
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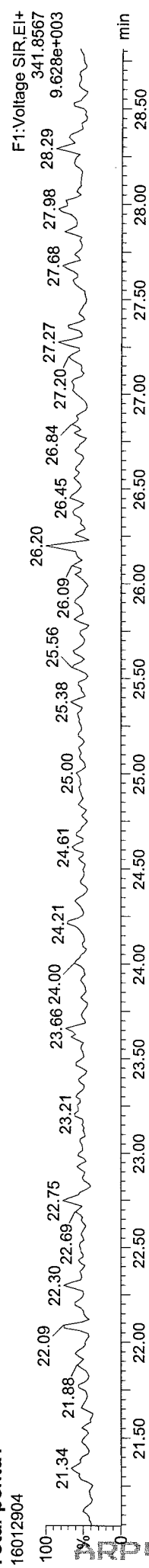
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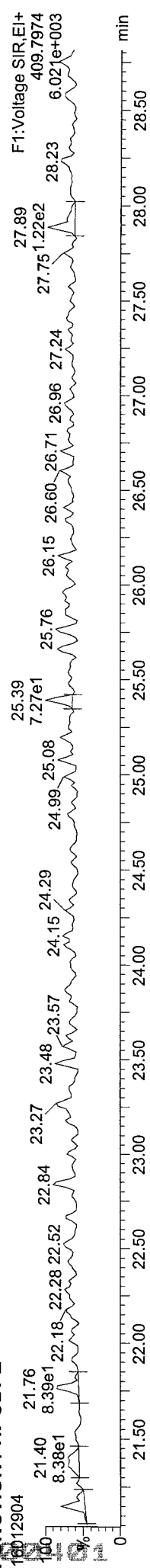
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Total-penta1



FUNCTION1 HPCDPE

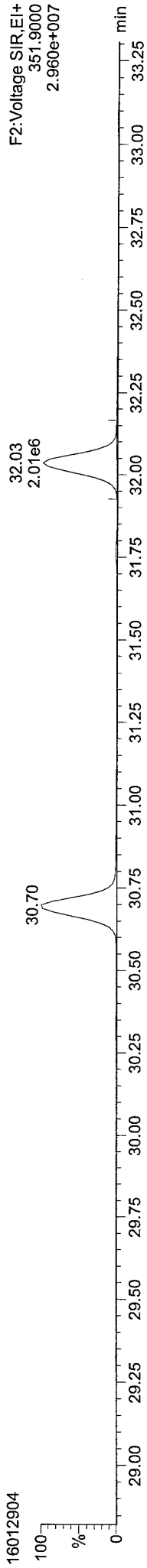


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

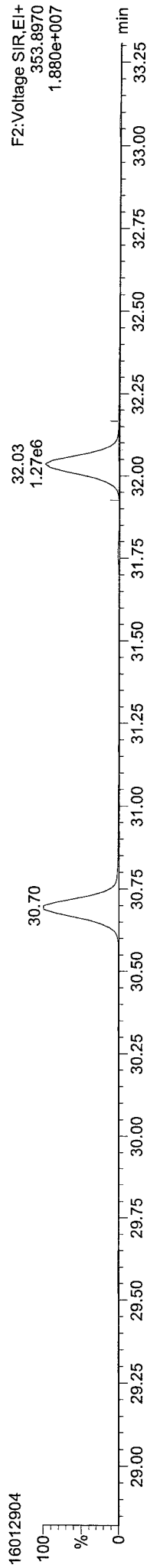
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ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

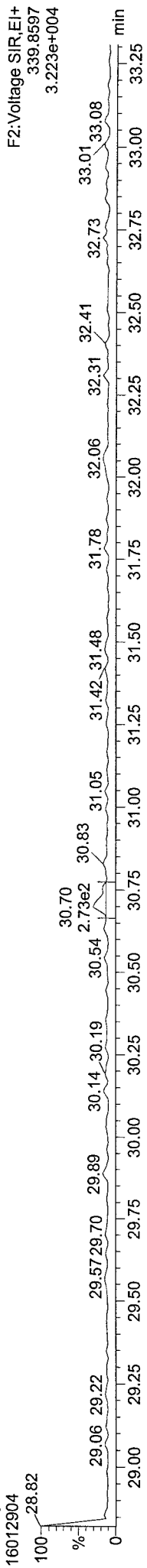
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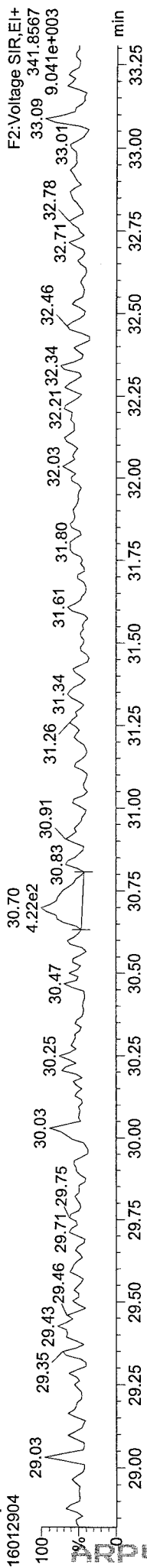
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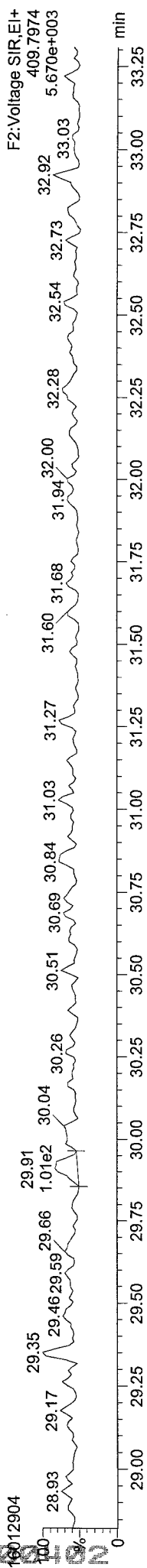
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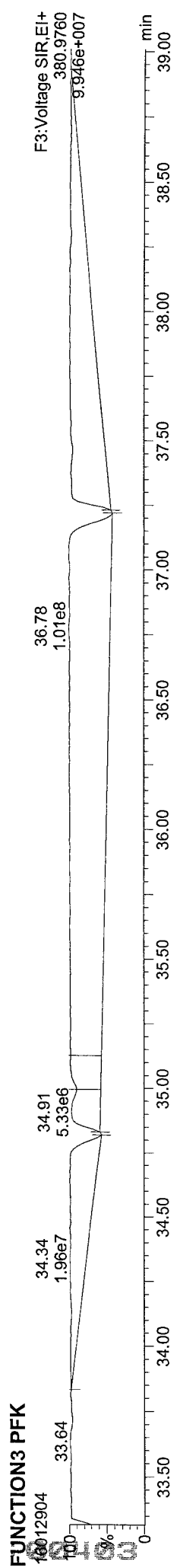
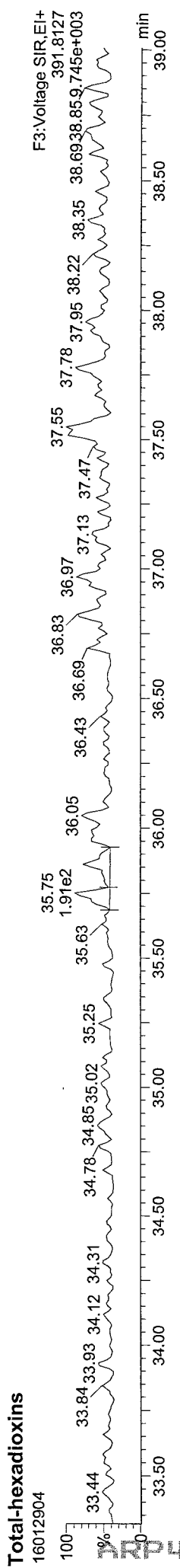
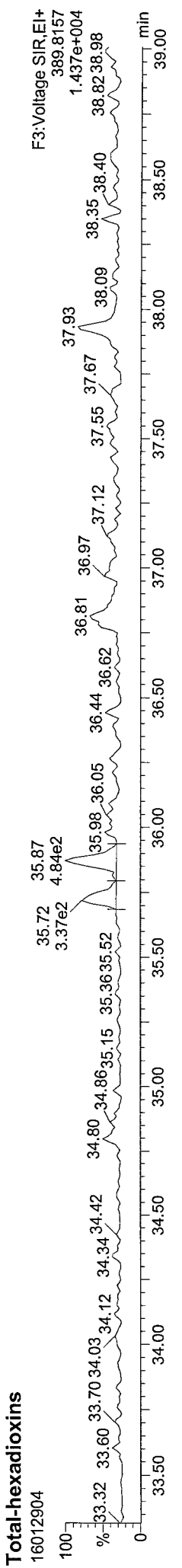
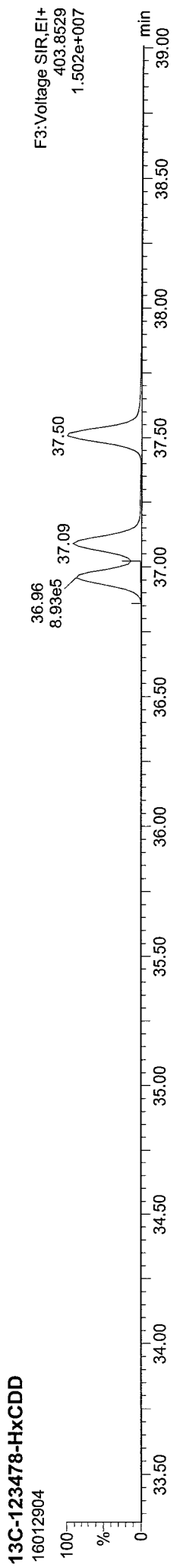
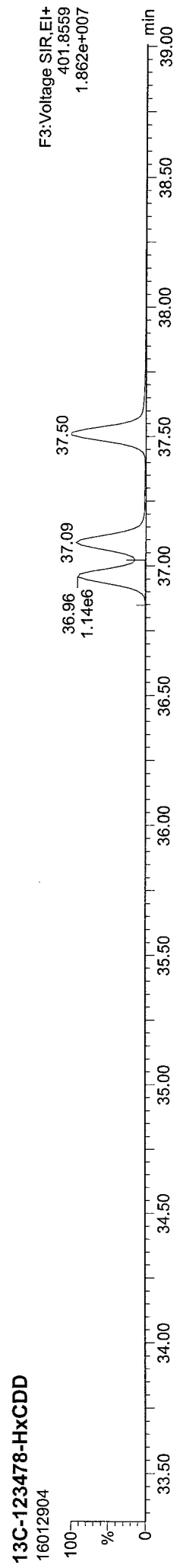


FUNCTION2 HPCDPE



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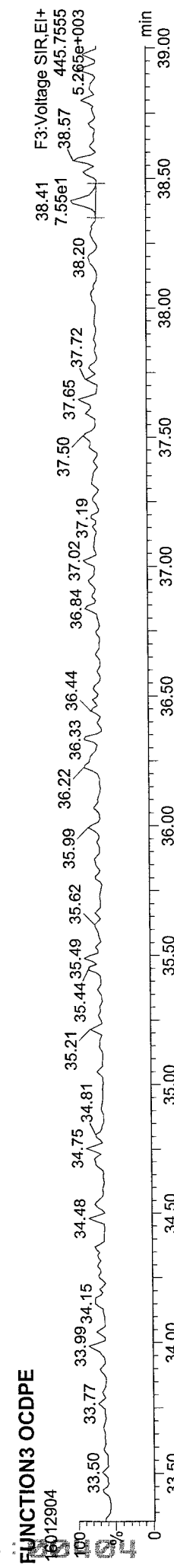
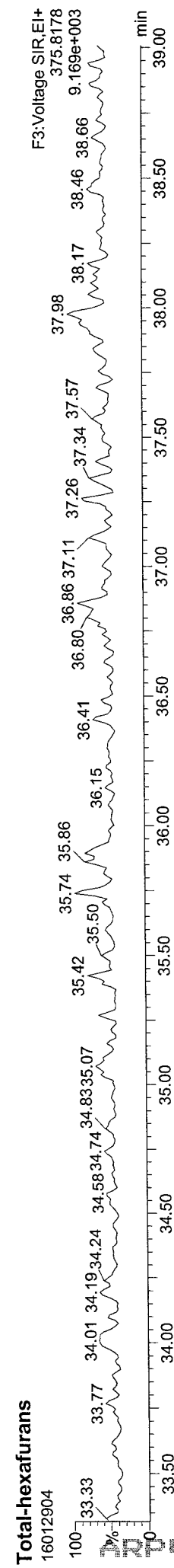
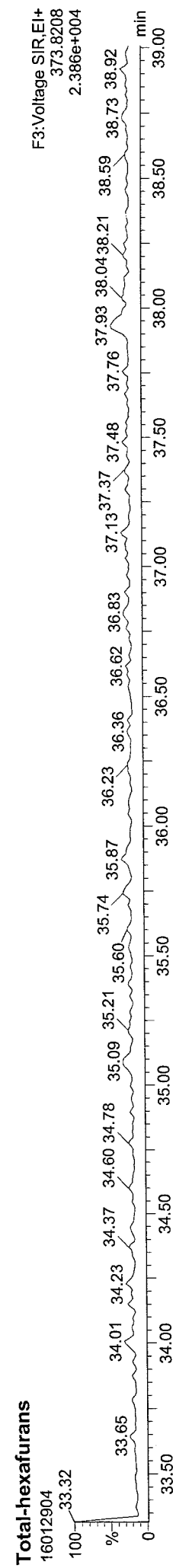
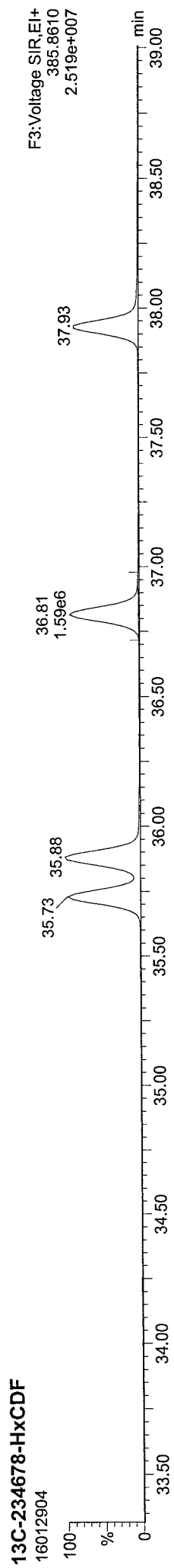
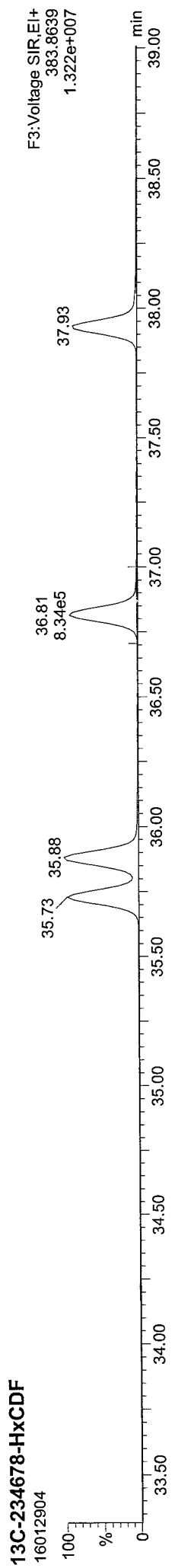
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

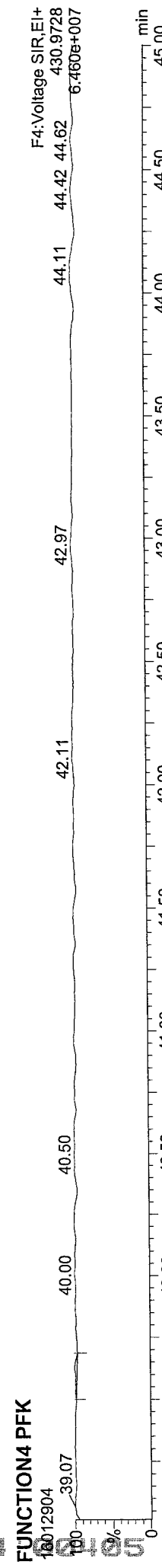
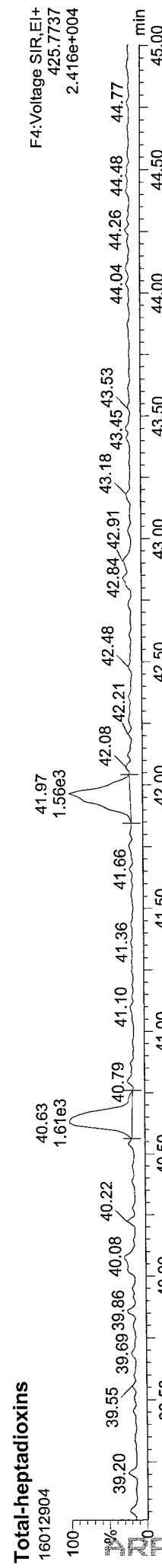
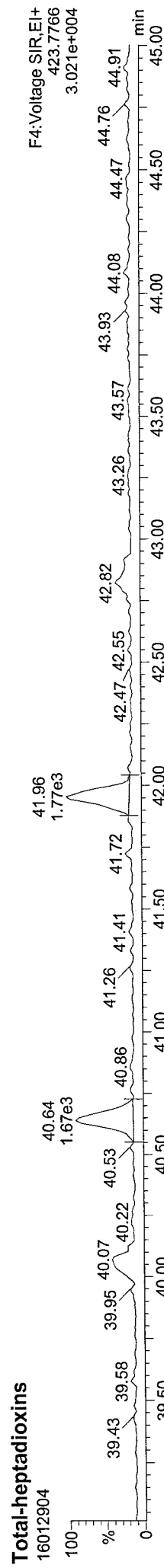
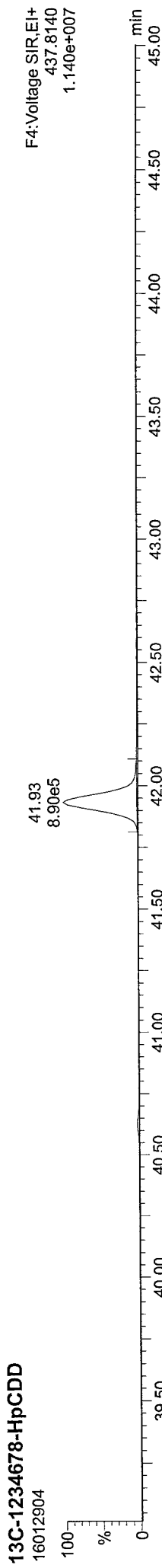
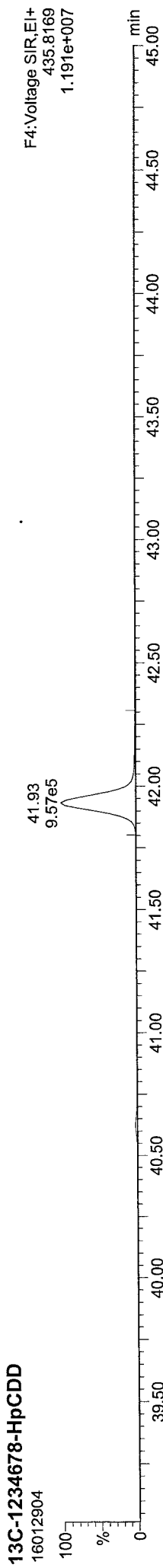
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ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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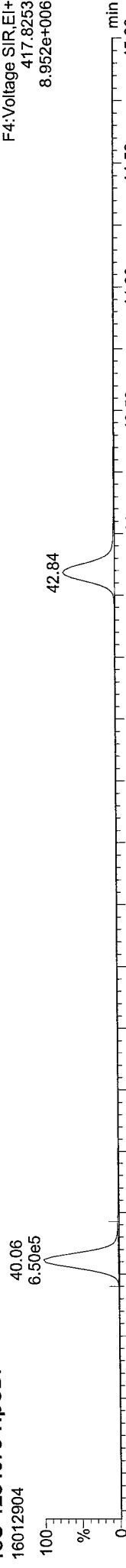


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

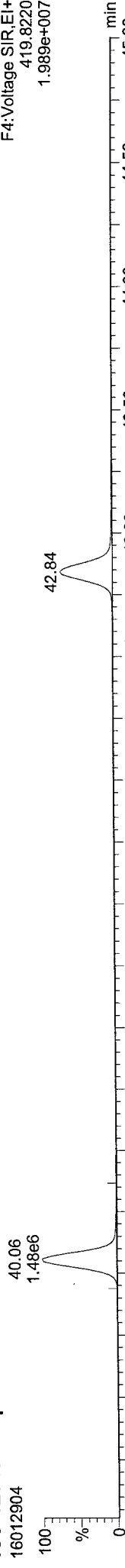
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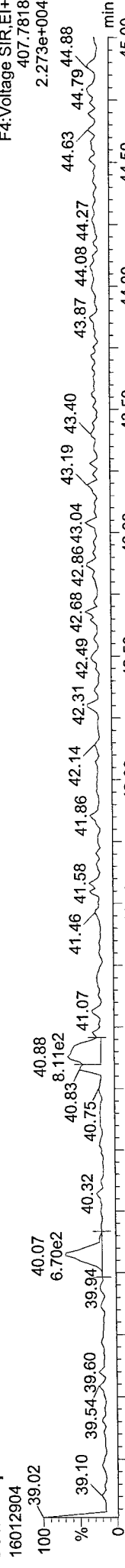
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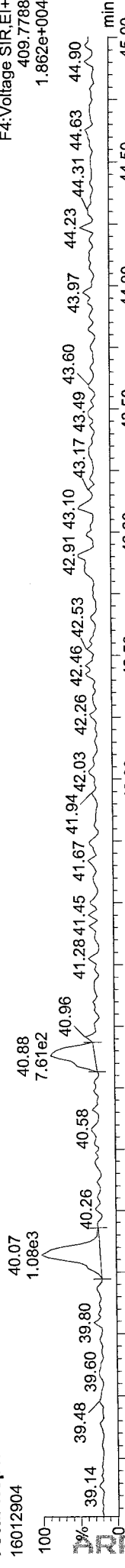
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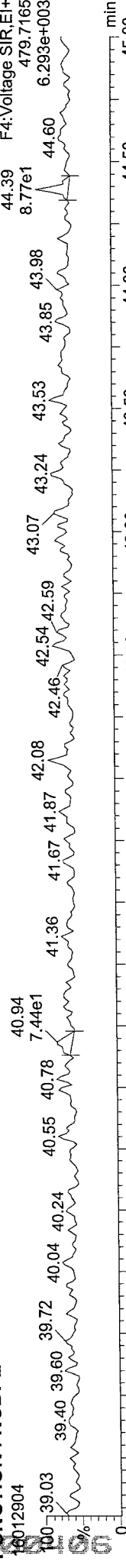
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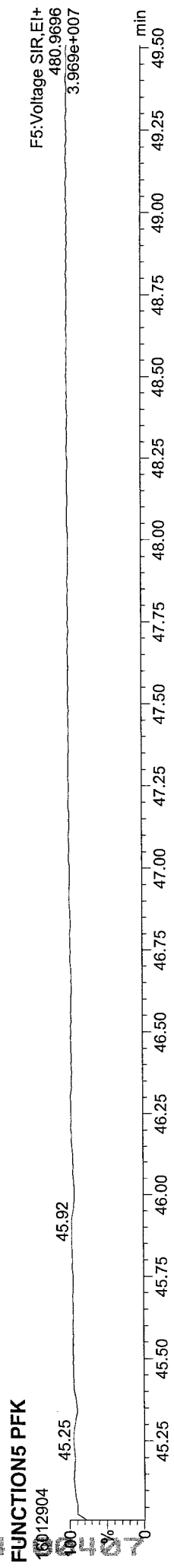
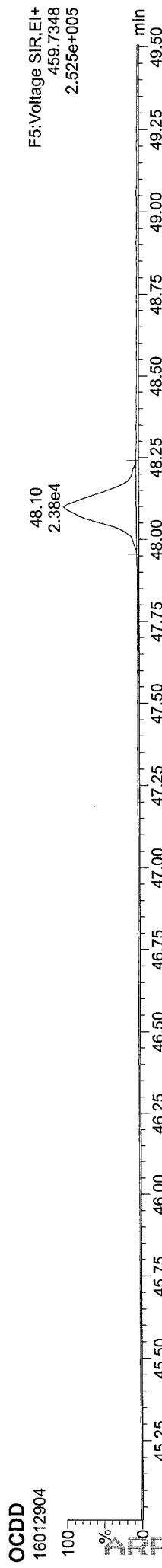
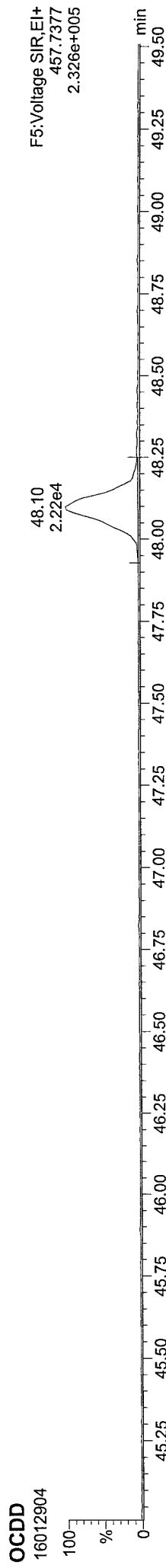
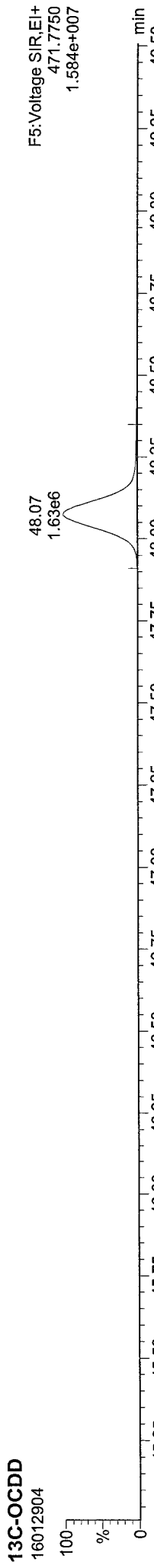
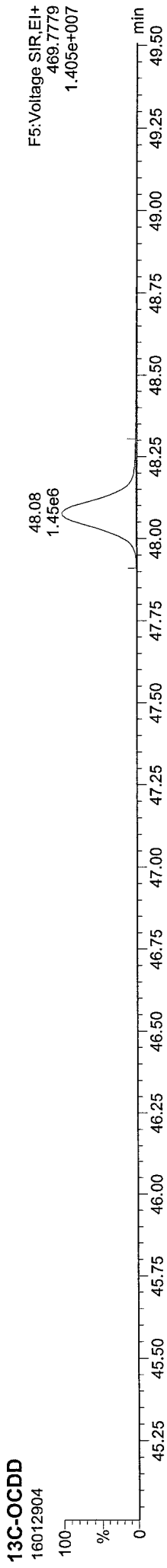
FUNCTION4 NCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\1601290DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

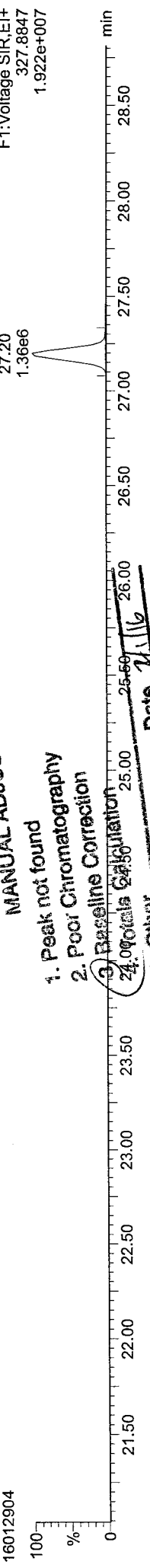
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

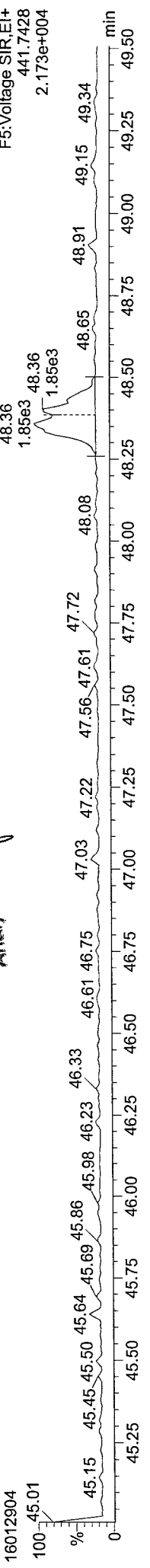
Printed: Monday, February 01, 2016 12:08:22 Pacific Standard Time

ID: AT50MBT, Name: 16012904, Date: 29-Jan-2016, Time: 14:28:15, Conditions: AUTOSPEC01, User: pk

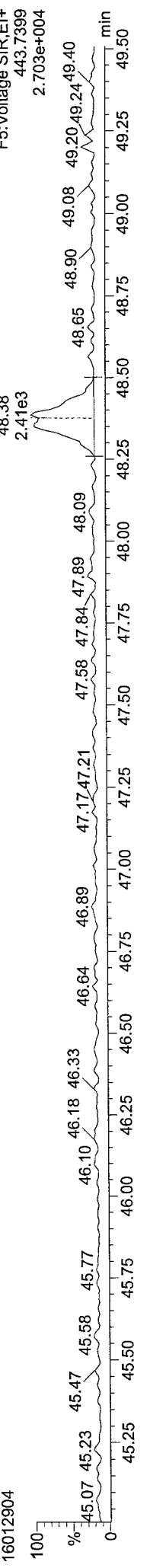
37CL-2378-TCDD



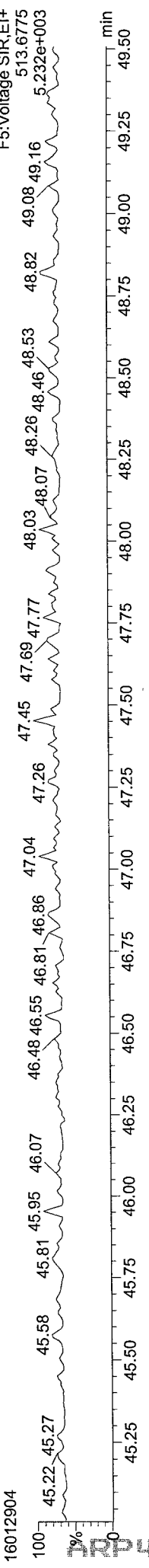
OCDF



OCDF



FUNCTION5 DCDPE



ARP4 : 00408

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\DiDioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
2378-TCDF	26.511	1.001	1.56e5	2.19e5	0.827	0.710	0.770	993	1710	2.30e6	3.21e6	2321.2	NO	11.567	11.567
12378-PeCDF	30.687	1.001	9.53e5	6.49e5	0.824	1.468	1.550	2255	4427	1.39e7	9.37e6	6185.9	NO	58.443	58.443
23478-PeCDF	32.024	1.000	9.37e5	6.40e5	0.850	1.464	1.550	2255	4427	1.42e7	9.60e6	6287.8	NO	57.320	57.320
123478-HxCDF	35.729	1.001	7.50e5	6.53e5	0.973	1.149	1.240	3086	3316	1.12e7	9.75e6	3637.8	NO	57.816	57.816
234678-HxCDF	36.814	1.000	7.82e5	6.65e5	1.025	1.177	1.240	3086	3316	1.14e7	9.76e6	3682.9	NO	57.952	57.952
123678-HxCDF	35.882	1.001	7.82e5	6.77e5	0.953	1.155	1.240	3086	3316	1.13e7	9.59e6	3671.5	NO	57.407	57.407
123789-HxCDF	37.932	1.001	6.57e5	5.60e5	0.956	1.174	1.240	3086	3316	9.82e6	8.44e6	3182.0	NO	57.106	57.106
1234678-HpCDF	40.059	1.001	6.45e5	6.63e5	1.153	0.974	1.050	3514	2886	9.03e6	9.30e6	2571.1	NO	58.415	58.415
1234789-HpCDF	42.854	1.001	5.01e5	5.19e5	1.131	0.966	1.050	3514	2886	6.10e6	6.25e6	1735.8	NO	57.286	57.286
OCDF	48.367	1.006	7.42e5	8.88e5	1.023	0.835	0.890	1927	2476	7.11e6	8.38e6	3687.4	NO	108.416	108.416
2378-TCDD	27.169	1.001	1.32e5	1.66e5	1.023	0.796	0.770	1520	1020	1.92e6	2.42e6	1263.4	NO	11.818	11.818
12378-PeCDD	32.287	1.001	6.70e5	4.30e5	0.939	1.556	1.550	1697	1125	1.01e7	6.37e6	5943.6	NO	55.871	55.871
123478-HxCDD	36.957	1.000	6.18e5	4.97e5	0.963	1.245	1.240	2629	1659	9.46e6	7.54e6	3599.8	NO	56.550	56.550
123678-HxCDD	37.088	1.001	6.19e5	4.98e5	0.894	1.245	1.240	2629	1659	9.04e6	7.26e6	3436.8	NO	57.790	57.790
123789-HxCDD	37.505	1.012	6.08e5	4.85e5	0.900	1.254	1.240	2629	1659	9.32e6	7.45e6	3543.8	NO	57.703	57.703
1234678-HpCDD	41.944	1.001	4.78e5	4.68e5	0.964	1.022	1.050	1801	2063	6.06e6	5.82e6	3365.9	NO	57.406	57.406
OCDD	48.089	1.000	7.55e5	8.41e5	0.969	0.898	0.890	1599	2132	7.42e6	8.18e6	4642.2	NO	112.132	112.132
13C-2378-TCDF	26.497	1.006	1.71e6	2.20e6	1.502	0.777	0.770	8120	3814	2.50e7	3.20e7	3080.7	NO	90.426	90.426
13C-12378-PeCDF	30.665	1.165	2.03e6	1.29e6	1.215	1.571	1.550	4988	3662	2.99e7	1.90e7	5992.2	NO	94.885	94.885
13C-23478-PeCDF	32.013	1.216	1.99e6	1.25e6	1.181	1.587	1.550	4988	3662	2.99e7	1.89e7	5993.5	NO	95.007	95.007
13C-123478-HxCDF	35.707	0.952	8.48e5	1.65e6	1.246	0.515	0.510	3685	3567	1.27e7	2.46e7	3448.2	NO	87.122	87.122
13C-123678-HxCDF	35.861	0.956	9.14e5	1.75e6	1.375	0.522	0.510	3685	3567	1.35e7	2.57e7	3664.1	NO	84.366	84.366
13C-234678-HxCDF	36.803	0.982	8.39e5	1.60e6	1.186	0.525	0.510	3685	3567	1.22e7	2.33e7	3303.5	NO	89.339	89.339
13C-123789-HxCDF	37.910	1.011	7.64e5	1.46e6	1.135	0.522	0.510	3685	3567	1.17e7	2.25e7	3174.0	NO	85.439	85.439
13C-1234678-HpCDF	40.037	1.068	6.03e5	1.34e6	1.020	0.450	0.440	1571	2599	8.45e6	1.88e7	5379.3	NO	82.786	82.786
13C-1234789-HpCDF	42.832	1.142	4.86e5	1.09e6	0.824	0.446	0.440	1571	2599	5.94e6	1.32e7	3783.6	NO	83.192	83.192
13C-1234-TCDD	26.332	0.000	1.28e6	1.60e6	1.000	0.801	0.770	3701	1553	1.87e7	2.34e7	5057.2	NO	100.000	100.000
13C-2378-TCDD	27.139	1.031	1.08e6	1.39e6	0.983	0.775	0.770	3701	1553	1.50e7	1.91e7	4046.4	NO	86.953	86.953
13C-12378-PeCDD	32.265	1.225	1.28e6	8.11e5	0.787	1.584	1.550	1436	1143	1.87e7	1.19e7	13021.2	NO	92.320	92.320
13C-123478-HxCDD	36.946	0.985	1.14e6	9.07e5	1.031	1.259	1.240	2468	2260	1.70e7	1.35e7	6878.7	NO	86.453	86.453
13C-123678-HxCDD	37.066	0.989	1.21e6	9.55e5	1.137	1.265	1.240	2468	2260	1.75e7	1.40e7	7109.0	NO	82.790	82.790
13C-1234678-HpCDD	41.922	1.118	8.81e5	8.27e5	0.892	1.066	1.050	2926	2266	1.13e7	1.05e7	3872.0	NO	83.317	83.317
13C-OCDD	48.071	1.282	1.39e6	1.55e6	0.852	0.896	0.890	2514	2292	1.37e7	1.50e7	5434.0	NO	150.103	150.103

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT500PR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	37.494	0.000	1.28e6	1.02e6	1.000	1.251	1.240	2468	2260	1.95e7	1.56e7	7889.8	NO		100.000
Total-tetrafurans			1.61e5		0.827		993			2.38e6					11.930
Total-penta1			0.00e0				788			0.00e0					
Total-pentafurans			1.94e6		0.837		2255			2.88e7					118.765
Total-hexafurans			2.98e6		0.977		3086			4.38e7					230.731
Total-heptafurans			1.15e6		1.142		3514			1.52e7					116.138
Total-Furans			6.97e6		0.971		993			9.73e7					585.980
Total-tetra-dioxins			1.35e5		1.023		1520			1.97e6					12.108
Total-pentadioxins			6.71e5		0.939		1697			1.01e7					55.954
Total-hexadioxins			1.85e6		0.919		2629			2.79e7					172.629
Total-heptadioxins			4.82e5		0.964		1801			6.11e6					57.871
Total-Dioxins			3.90e6		0.950		1520			5.35e7					410.692
Total-TEQ			1.09e7				1520			1.51e8					996.673
37CL-2378-TCDD	27.169	1.032	1.29e6		1.091		1477			1.87e7		12638.7			40.966
FUNCTION1 PFK			1.32e8				717439			5.10e8					0.000
FUNCTION2 PFK			4.86e5				205260			7.15e6					0.000
FUNCTION3 PFK			1.92e8				822657			2.83e8					
FUNCTION4 PFK			3.16e6				454329			2.48e7					
FUNCTION5 PFK			0.00e0				337407			0.00e0					
FUNCTION1 HXCDPE			7.25e2				945			1.33e4					0.000
FUNCTION1 HPCDPE			2.86e2				646			5.08e3					0.000
FUNCTION2 HPCDPE			0.00e0				963			0.00e0					
FUNCTION3 OCDPE			7.07e1				588			1.54e3					0.000
FUNCTION4 NCDPE			4.59e2				920			1.16e4					0.000
FUNCTION5 DCDPE			0.00e0				605			0.00e0					0.000

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015\CAL.cdb 16 Oct 2015 08:47:27

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

TF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	1 2378-TCDF	303.9016	26.51	374731.687	0.827	11.567	11.567	0.71	0.77	NO	2321.2
2	35 Total-tetrafurans	303.9016	26.33	931.379	0.827	0.029		0.76	0.77	NO	7.2
3	35 Total-tetrafurans	303.9016	25.61	3547.229	0.827	0.109		0.75	0.77	NO	22.9
4	35 Total-tetrafurans	303.9016	25.42	3212.926	0.827	0.099		0.76	0.77	NO	19.3
5	35 Total-tetrafurans	303.9016	25.29	4076.664	0.827	0.126		0.80	0.77	NO	25.3

PP

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1											

PF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	37 Total-pentafurans	339.8597	30.33	4384.219	0.837	0.160		2.31	1.55	YES	19.5
2	37 Total-pentafurans	339.8597	29.60	15301.809	0.837	0.557		1.36	1.55	NO	49.4
3	37 Total-pentafurans	339.8597	33.07	12447.652	0.837	0.453		1.62	1.55	NO	50.4
4	3 23478-PeCDF	339.8597	32.02	1577154.563	0.850	57.320	57.320	1.46	1.55	NO	6287.8
5	37 Total-pentafurans	339.8597	31.75	1878.906	0.837	0.068		1.10	1.55	YES	7.7
6	37 Total-pentafurans	339.8597	30.98	3669.564	0.837	0.134		5.12	1.55	YES	20.3
7	37 Total-pentafurans	339.8597	30.88	44800.906	0.837	1.631		1.36	1.55	NO	153.8
8	2 12378-PeCDF	339.8597	30.69	1601987.063	0.824	58.443	58.443	1.47	1.55	NO	6185.9

HF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	6 123678-HxCDF	373.8208	35.88	1458657.501	0.953	57.407	57.407	1.16	1.24	NO	3671.5
2	4 123478-HxCDF	373.8208	35.73	1403044.188	0.973	57.816	57.816	1.15	1.24	NO	3637.8
3	38 Total-hexafurans	373.8208	35.55	1865.030	0.977	0.078		1.40	1.24	NO	6.1
4	38 Total-hexafurans	373.8208	34.21	8939.039	0.977	0.373		1.15	1.24	NO	23.7
5	7 123789-HxCDF	373.8208	37.93	1216809.375	0.956	57.106	57.106	1.17	1.24	NO	3182.0
6	5 234678-HxCDF	373.8208	36.81	1446857.813	1.025	57.952	57.952	1.18	1.24	NO	3682.9

HPF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	9 1234789-HpCDF	407.7818	42.85	1020349.313	1.131	57.286	57.286	0.97	1.05	NO	1735.8
2	39 Total-heptafurans	407.7818	40.87	6410.204	1.142	0.319		0.95	1.05	NO	11.5
3	39 Total-heptafurans	407.7818	40.27	2359.065	1.142	0.117		0.66	1.05	YES	5.4
4	8 1234678-HpCDF	407.7818	40.06	1308144.250	1.153	58.415	58.415	0.97	1.05	NO	2571.1

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	1 2378-TCDF	303.9016	26.51	374731.687	0.827	11.567	11.567	0.71	0.77	NO	2321.2
2	35 Total-tetrafurans	303.9016	26.33	931.379	0.827	0.029		0.76	0.77	NO	7.2
3	35 Total-tetrafurans	303.9016	25.61	3547.229	0.827	0.109		0.75	0.77	NO	22.9
4	35 Total-tetrafurans	303.9016	25.42	3212.926	0.827	0.099		0.76	0.77	NO	19.3
5	35 Total-tetrafurans	303.9016	25.29	4076.664	0.827	0.126		0.80	0.77	NO	25.3
6	37 Total-pentafurans	339.8597	30.33	4384.219	0.837	0.160		2.31	1.55	YES	19.5
7	37 Total-pentafurans	339.8597	29.60	15301.809	0.837	0.557		1.36	1.55	NO	49.4
8	37 Total-pentafurans	339.8597	33.07	12447.652	0.837	0.453		1.62	1.55	NO	50.4
9	3 23478-PeCDF	339.8597	32.02	1577154.563	0.850	57.320	57.320	1.46	1.55	NO	6287.8
10	37 Total-pentafurans	339.8597	31.75	1878.906	0.837	0.068		1.10	1.55	YES	7.7
11	37 Total-pentafurans	339.8597	30.98	3669.564	0.837	0.134		5.12	1.55	YES	20.3
12	37 Total-pentafurans	339.8597	30.88	44800.906	0.837	1.631		1.36	1.55	NO	153.8
13	2 12378-PeCDF	339.8597	30.69	1601987.063	0.824	58.443	58.443	1.47	1.55	NO	6185.9
14	6 123678-HxCDF	373.8208	35.88	1458657.501	0.953	57.407	57.407	1.16	1.24	NO	3671.5
15	4 123478-HxCDF	373.8208	35.73	1403044.188	0.973	57.816	57.816	1.15	1.24	NO	3637.8
16	38 Total-hexafurans	373.8208	35.55	1865.030	0.977	0.078		1.40	1.24	NO	6.1
17	38 Total-hexafurans	373.8208	34.21	8939.039	0.977	0.373		1.15	1.24	NO	23.7
18	7 123789-HxCDF	373.8208	37.93	1216809.375	0.956	57.106	57.106	1.17	1.24	NO	3182.0
19	5 234678-HxCDF	373.8208	36.81	1446857.813	1.025	57.952	57.952	1.18	1.24	NO	3682.9
20	9 1234789-HpCDF	407.7818	42.85	1020349.313	1.131	57.286	57.286	0.97	1.05	NO	1735.8
21	39 Total-heptafurans	407.7818	40.87	6410.204	1.142	0.319		0.95	1.05	NO	11.5
22	39 Total-heptafurans	407.7818	40.27	2359.065	1.142	0.117		0.66	1.05	YES	5.4
23	8 1234678-HpCDF	407.7818	40.06	1308144.250	1.153	58.415	58.415	0.97	1.05	NO	2571.1
24	10 OCDF	441.7428	48.37	1629383.001	1.023	108.416	108....	0.84	0.89	NO	3687.4

TD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	11 2378-TCDD	319.8965	27.17	298198.719	1.023	11.818	11.818	0.80	0.77	NO	1263.4
2	41 Total-tetradioxins	319.8965	26.78	7297.220	1.023	0.289		0.85	0.77	NO	29.6

PD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	12 12378-PeCDD	355.8546	32.29	1100223.656	0.939	55.871	55.871	1.56	1.55	NO	5943.6
2	42 Total-pentadioxins	355.8546	31.63	1621.593	0.939	0.082		1.79	1.55	YES	9.4

HD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	13 123478-HxCDD	389.8157	36.96	1115151.438	0.963	56.550	56.550	1.24	1.24	NO	3599.8
2	43 Total-hexadioxins	389.8157	36.78	286.923	0.919	0.015		1.91	1.24	YES	1.6
3	43 Total-hexadioxins	389.8157	37.89	1038.980	0.919	0.054					3.6
4	15 123789-HxCDD	389.8157	37.50	1093366.063	0.900	57.703	57.703	1.25	1.24	NO	3543.8
5	43 Total-hexadioxins	389.8157	37.23	9998.313	0.919	0.517		1.02	1.24	YES	25.6
6	14 123678-HxCDD	389.8157	37.09	1116973.407	0.894	57.790	57.790	1.24	1.24	NO	3436.8

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

HPD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	16 1234678-HpCDD	423.7766	41.94	945215.594	0.964	57.406	57.406	1.02	1.05	NO	3365.9
2	44 Total-heptadioxins	423.7766	40.63	7644.681	0.964	0.464		1.06	1.05	NO	28.9

0

Dioxins,TD,PD,HD,HPD,OD

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	11 2378-TCDD	319.8965	27.17	298198.719	1.023	11.818	11.818	0.80	0.77	NO	1263.4
2	41 Total-tetradioxins	319.8965	26.78	7297.220	1.023	0.289		0.85	0.77	NO	29.6
3	13 123478-HxCDD	389.8157	36.96	1115151.438	0.963	56.550	56.550	1.24	1.24	NO	3599.8
4	43 Total-hexadioxins	389.8157	36.78	286.923	0.919	0.015		1.91	1.24	YES	1.6
5	12 12378-PeCDD	355.8546	32.29	1100223.656	0.939	55.871	55.871	1.56	1.55	NO	5943.6
6	42 Total-pentadioxins	355.8546	31.63	1621.593	0.939	0.082		1.79	1.55	YES	9.4
7	43 Total-hexadioxins	389.8157	37.89	1038.980	0.919	0.054					3.6
8	15 123789-HxCDD	389.8157	37.50	1093366.063	0.900	57.703	57.703	1.25	1.24	NO	3543.8
9	43 Total-hexadioxins	389.8157	37.23	9998.313	0.919	0.517		1.02	1.24	YES	25.6
10	14 123678-HxCDD	389.8157	37.09	1116973.407	0.894	57.790	57.790	1.24	1.24	NO	3436.8
11	16 1234678-HpCDD	423.7766	41.94	945215.594	0.964	57.406	57.406	1.02	1.05	NO	3365.9
12	44 Total-heptadioxins	423.7766	40.63	7644.681	0.964	0.464		1.06	1.05	NO	28.9
13	17 OCDD	457.7377	48.09	1595999.063	0.969	112.132	112....	0.90	0.89	NO	4642.2

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	1 2378-TCDF	303.9016	26.51	374731.687	0.827	11.567	11.567	0.71	0.77	NO	2321.2
2	35 Total-tetrafurans	303.9016	26.33	931.379	0.827	0.029		0.76	0.77	NO	7.2
3	35 Total-tetrafurans	303.9016	25.61	3547.229	0.827	0.109		0.75	0.77	NO	22.9
4	35 Total-tetrafurans	303.9016	25.42	3212.926	0.827	0.099		0.76	0.77	NO	19.3
5	35 Total-tetrafurans	303.9016	25.29	4076.664	0.827	0.126		0.80	0.77	NO	25.3
6	37 Total-pentafurans	339.8597	30.33	4384.219	0.837	0.160		2.31	1.55	YES	19.5
7	37 Total-pentafurans	339.8597	29.60	15301.809	0.837	0.557		1.36	1.55	NO	49.4
8	37 Total-pentafurans	339.8597	33.07	12447.652	0.837	0.453		1.62	1.55	NO	50.4
9	3 23478-PeCDF	339.8597	32.02	1577154.563	0.850	57.320	57.320	1.46	1.55	NO	6287.8
10	37 Total-pentafurans	339.8597	31.75	1878.906	0.837	0.068		1.10	1.55	YES	7.7
11	37 Total-pentafurans	339.8597	30.98	3669.564	0.837	0.134		5.12	1.55	YES	20.3
12	37 Total-pentafurans	339.8597	30.88	44800.906	0.837	1.631		1.36	1.55	NO	153.8
13	2 12378-PeCDF	339.8597	30.69	1601987.063	0.824	58.443	58.443	1.47	1.55	NO	6185.9
14	6 123678-HxCDF	373.8208	35.88	1458657.501	0.953	57.407	57.407	1.16	1.24	NO	3671.5
15	4 123478-HxCDF	373.8208	35.73	1403044.188	0.973	57.816	57.816	1.15	1.24	NO	3637.8
16	38 Total-hexafurans	373.8208	35.55	1865.030	0.977	0.078		1.40	1.24	NO	6.1
17	38 Total-hexafurans	373.8208	34.21	8939.039	0.977	0.373		1.15	1.24	NO	23.7
18	7 123789-HxCDF	373.8208	37.93	1216809.375	0.956	57.106	57.106	1.17	1.24	NO	3182.0
19	5 234678-HxCDF	373.8208	36.81	1446857.813	1.025	57.952	57.952	1.18	1.24	NO	3682.9
20	9 1234789-HpCDF	407.7818	42.85	1020349.313	1.131	57.286	57.286	0.97	1.05	NO	1735.8
21	39 Total-heptafurans	407.7818	40.87	6410.204	1.142	0.319		0.95	1.05	NO	11.5
22	39 Total-heptafurans	407.7818	40.27	2359.065	1.142	0.117		0.66	1.05	YES	5.4
23	8 1234678-HpCDF	407.7818	40.06	1308144.250	1.153	58.415	58.415	0.97	1.05	NO	2571.1
24	10 OCDF	441.7428	48.37	1629383.001	1.023	108.416	108....	0.84	0.89	NO	3687.4
25	11 2378-TCDD	319.8965	27.17	298198.719	1.023	11.818	11.818	0.80	0.77	NO	1263.4
26	41 Total-tetradiioxins	319.8965	26.78	7297.220	1.023	0.289		0.85	0.77	NO	29.6
27	13 123478-HxCDD	389.8157	36.96	1115151.438	0.963	56.550	56.550	1.24	1.24	NO	3599.8
28	43 Total-hexadiioxins	389.8157	36.78	286.923	0.919	0.015		1.91	1.24	YES	1.6
29	12 12378-PeCDD	355.8546	32.29	1100223.656	0.939	55.871	55.871	1.56	1.55	NO	5943.6
30	42 Total-pentadiioxins	355.8546	31.63	1621.593	0.939	0.082		1.79	1.55	YES	9.4
31	43 Total-hexadiioxins	389.8157	37.89	1038.980	0.919	0.054					3.6
32	15 123789-HxCDD	389.8157	37.50	1093366.063	0.900	57.703	57.703	1.25	1.24	NO	3543.8
33	43 Total-hexadiioxins	389.8157	37.23	9998.313	0.919	0.517		1.02	1.24	YES	25.6
34	14 123678-HxCDD	389.8157	37.09	1116973.407	0.894	57.790	57.790	1.24	1.24	NO	3436.8
35	16 1234678-HpCDD	423.7766	41.94	945215.594	0.964	57.406	57.406	1.02	1.05	NO	3365.9
36	44 Total-heptadiioxins	423.7766	40.63	7644.681	0.964	0.464		1.06	1.05	NO	28.9
37	17 OCDD	457.7377	48.09	1595999.063	0.969	112.132	112....	0.90	0.89	NO	4642.2

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 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

PFK1

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	48 FUNCTION1 PFK	330.9792	22.87	0.000							87.1
2	48 FUNCTION1 PFK	330.9792	22.60	0.000							96.6
3	48 FUNCTION1 PFK	330.9792	22.21	0.000							113.2
4	48 FUNCTION1 PFK	330.9792	22.07	0.000							118.2
5	48 FUNCTION1 PFK	330.9792	21.48	0.000							121.0
6	48 FUNCTION1 PFK	330.9792	21.13	0.000							55.1
7	48 FUNCTION1 PFK	330.9792	25.26	0.000							1.9
8	48 FUNCTION1 PFK	330.9792	23.21	0.000							29.8
9	48 FUNCTION1 PFK	330.9792	22.90	0.000							87.4

PFK2

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	49 FUNCTION2 PFK	366.9792	31.98	0.000		0.000					1.9
2	49 FUNCTION2 PFK	366.9792	31.49	0.000		0.000					1.9
3	49 FUNCTION2 PFK	366.9792	31.44	0.000		0.000					0.6
4	49 FUNCTION2 PFK	366.9792	30.87	0.000		0.000					2.0
5	49 FUNCTION2 PFK	366.9792	30.83	0.000		0.000					1.3
6	49 FUNCTION2 PFK	366.9792	30.52	0.000		0.000					0.9
7	49 FUNCTION2 PFK	366.9792	30.06	0.000		0.000					1.3
8	49 FUNCTION2 PFK	366.9792	29.94	0.000		0.000					1.2
9	49 FUNCTION2 PFK	366.9792	29.51	0.000		0.000					1.4
10	49 FUNCTION2 PFK	366.9792	29.20	0.000		0.000					0.4
11	49 FUNCTION2 PFK	366.9792	28.97	0.000		0.000					1.2
12	49 FUNCTION2 PFK	366.9792	28.87	0.000		0.000					2.6
13	49 FUNCTION2 PFK	366.9792	32.94	0.000		0.000					4.1
14	49 FUNCTION2 PFK	366.9792	32.89	0.000		0.000					4.9
15	49 FUNCTION2 PFK	366.9792	32.64	0.000		0.000					3.3
16	49 FUNCTION2 PFK	366.9792	32.60	0.000		0.000					2.7
17	49 FUNCTION2 PFK	366.9792	32.50	0.000		0.000					1.7
18	49 FUNCTION2 PFK	366.9792	32.41	0.000		0.000					1.6

PFK3

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	50 FUNCTION3 PFK	380.9760	38.69	0.000		0.000					1.7
2	50 FUNCTION3 PFK	380.9760	37.93	0.000		0.000					26.2
3	50 FUNCTION3 PFK	380.9760	37.30	0.000		0.000					55.8
4	50 FUNCTION3 PFK	380.9760	35.76	0.000		0.000					58.2
5	50 FUNCTION3 PFK	380.9760	35.15	0.000		0.000					55.2
6	50 FUNCTION3 PFK	380.9760	34.88	0.000		0.000					51.9
7	50 FUNCTION3 PFK	380.9760	34.68	0.000		0.000					54.4
8	50 FUNCTION3 PFK	380.9760	33.43	0.000		0.000					40.0

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

PFK4

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1	51 FUNCTION4 PFK	430.9728	44.62	0.000				5.4
2	51 FUNCTION4 PFK	430.9728	44.41	0.000				7.5
3	51 FUNCTION4 PFK	430.9728	41.90	0.000				3.3
4	51 FUNCTION4 PFK	430.9728	41.44	0.000				7.8
5	51 FUNCTION4 PFK	430.9728	41.26	0.000				5.5
6	51 FUNCTION4 PFK	430.9728	40.95	0.000				5.8
7	51 FUNCTION4 PFK	430.9728	40.48	0.000				6.8
8	51 FUNCTION4 PFK	430.9728	40.20	0.000				6.9
9	51 FUNCTION4 PFK	430.9728	39.60	0.000				5.6

PFK5

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1								

ETHERS1

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1	53 FUNCTION1 HXCD...	375.8364	26.54	0.000	0.000			2.4
2	53 FUNCTION1 HXCD...	375.8364	26.30	0.000	0.000			2.2
3	53 FUNCTION1 HXCD...	375.8364	24.51	0.000	0.000			2.8
4	53 FUNCTION1 HXCD...	375.8364	22.81	0.000	0.000			2.1
5	53 FUNCTION1 HXCD...	375.8364	21.37	0.000	0.000			1.0
6	53 FUNCTION1 HXCD...	375.8364	28.20	0.000	0.000			1.7
7	53 FUNCTION1 HXCD...	375.8364	27.90	0.000	0.000			1.8

ETHERS2

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1	54 FUNCTION1 HPCD...	409.7974	27.63	0.000	0.000			3.3
2	54 FUNCTION1 HPCD...	409.7974	26.44	0.000	0.000			2.0
3	54 FUNCTION1 HPCD...	409.7974	22.82	0.000	0.000			2.5

ETHERS3

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1								

ETHERS4

	# Name	Trace	RT	Abs.Resp RRF M...	pg EMPC 1° Rati...	1° Rati...	1° R...	S/N
1	56 FUNCTION3 OCDPE	445.7555	36.39	0.000	0.000			2.6

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

ETHERS5

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	57 FUNCTION4 NCDPE	479.7165	44.37	0.000		0.000				3.8
2	57 FUNCTION4 NCDPE	479.7165	44.10	0.000		0.000				1.9
3	57 FUNCTION4 NCDPE	479.7165	42.94	0.000		0.000				1.7
4	57 FUNCTION4 NCDPE	479.7165	42.29	0.000		0.000				2.0
5	57 FUNCTION4 NCDPE	479.7165	39.66	0.000		0.000				3.3

ETHERS6

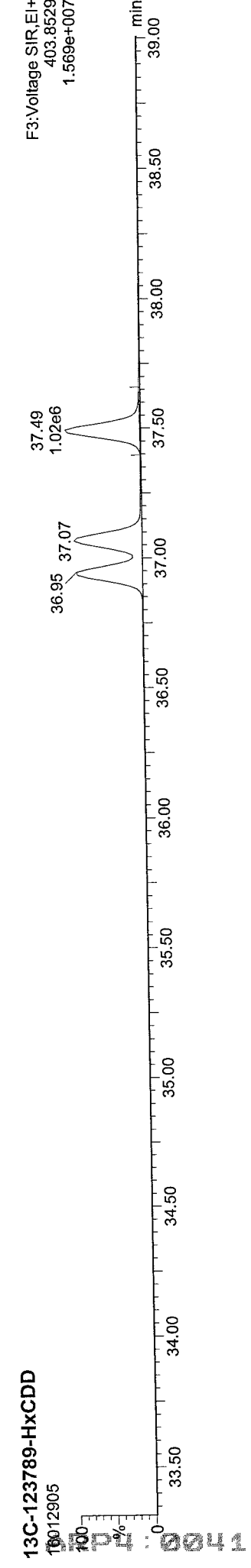
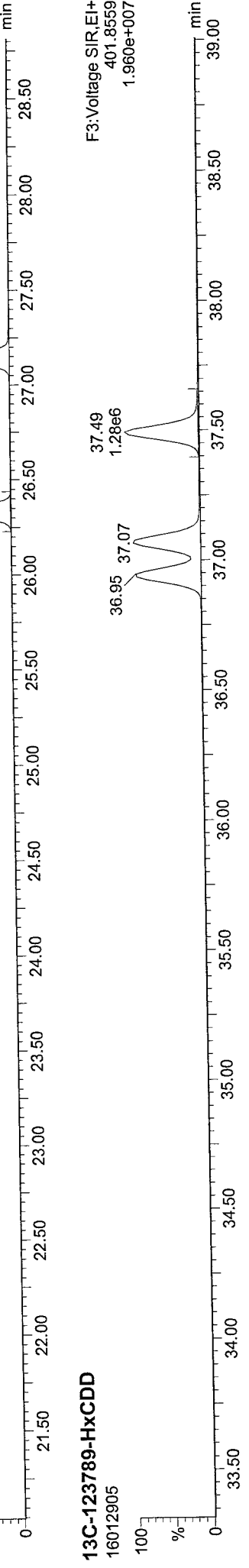
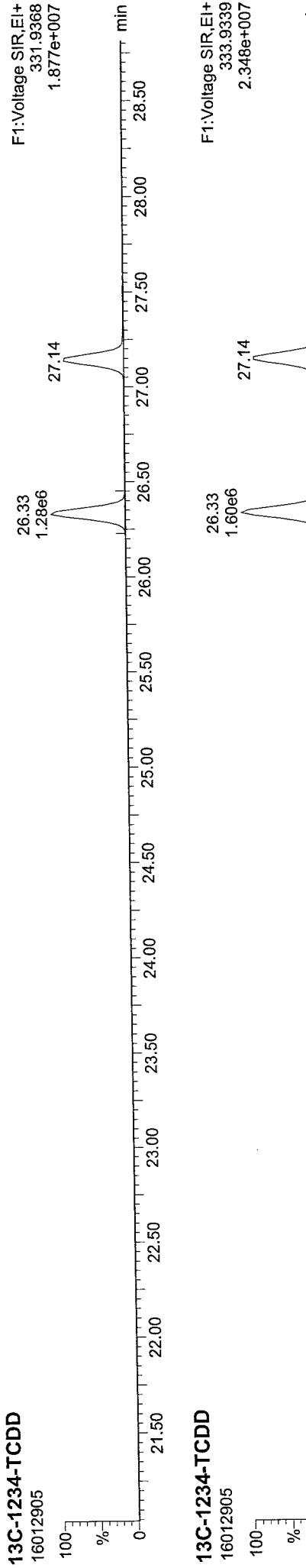
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

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Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

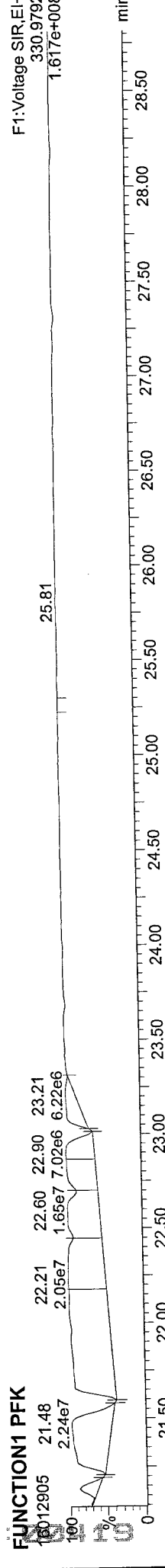
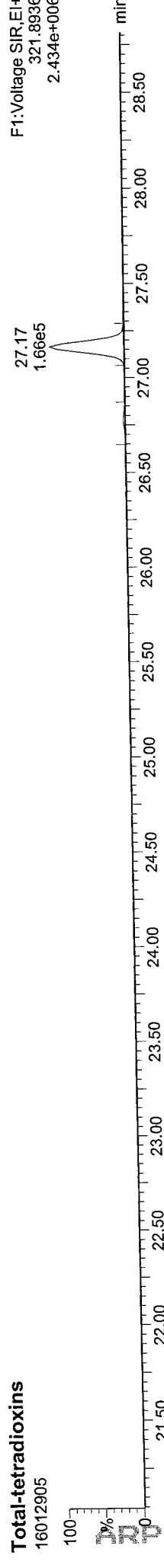
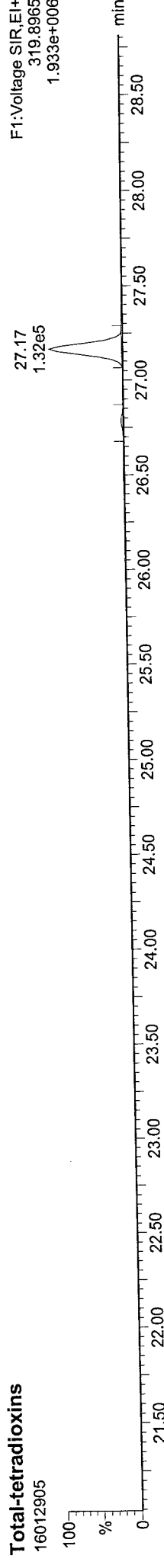
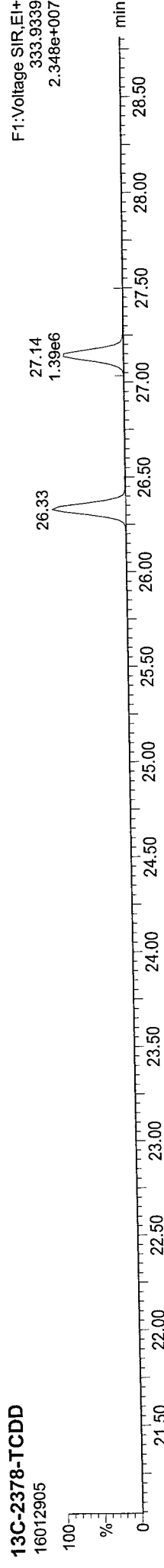
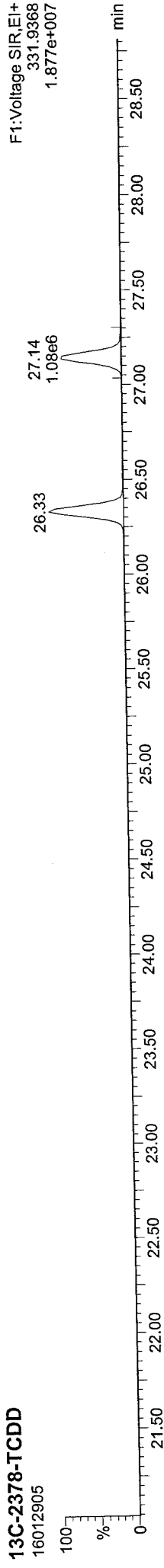
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ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



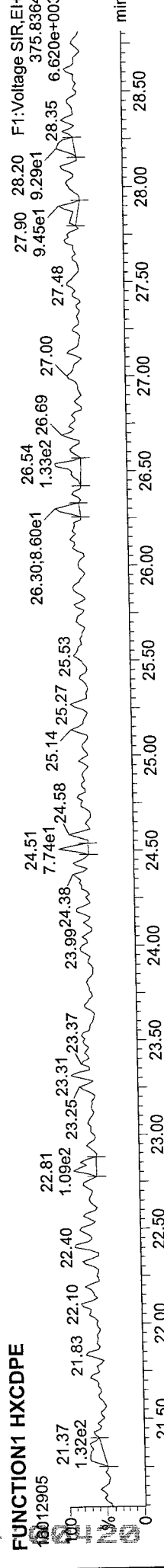
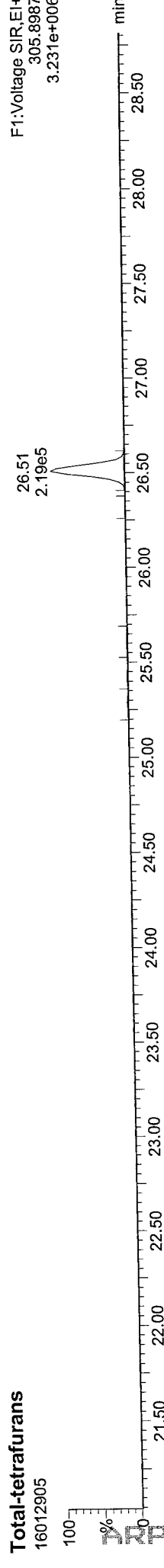
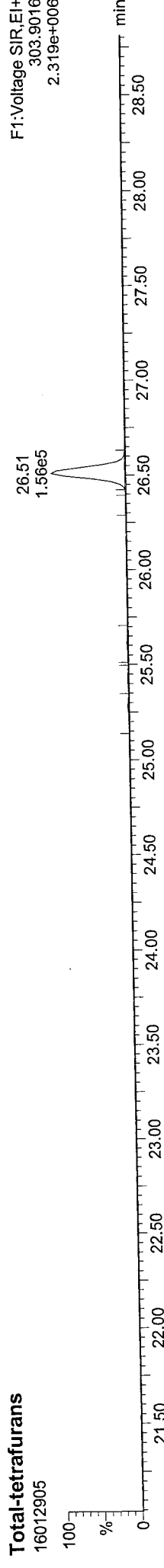
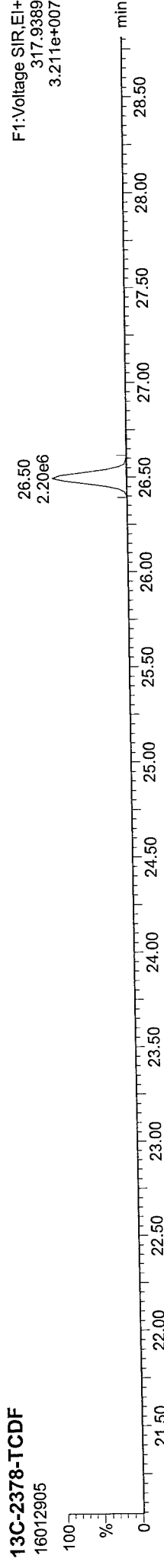
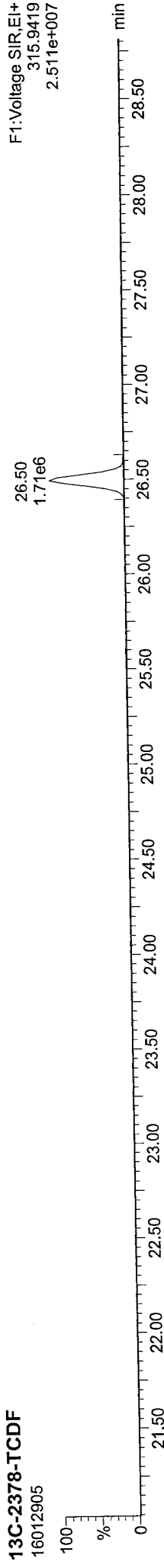
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Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
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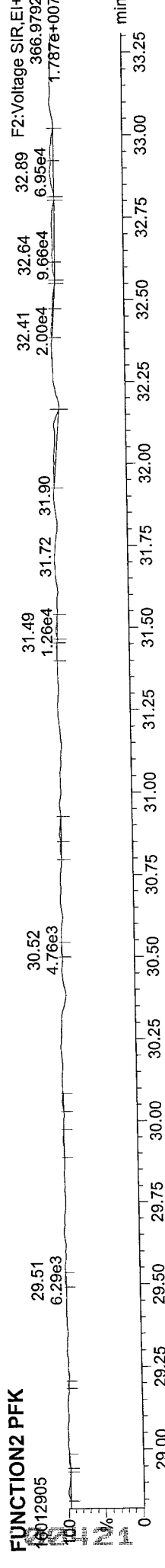
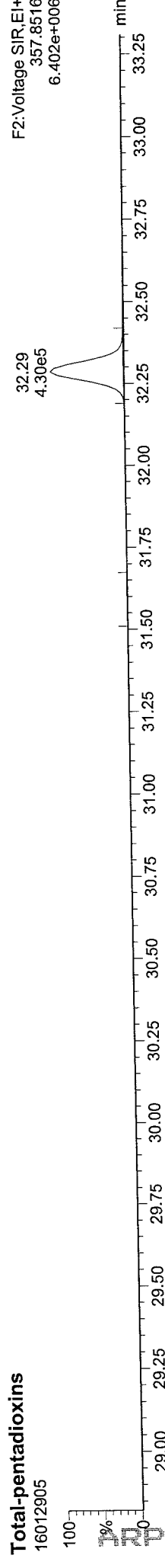
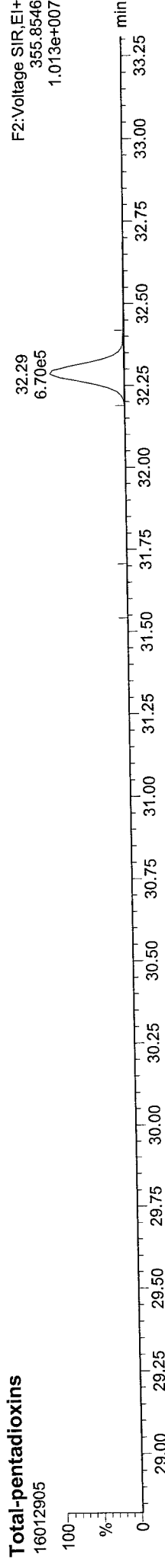
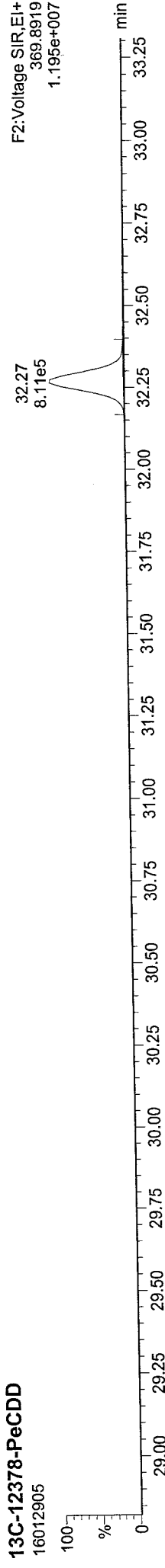
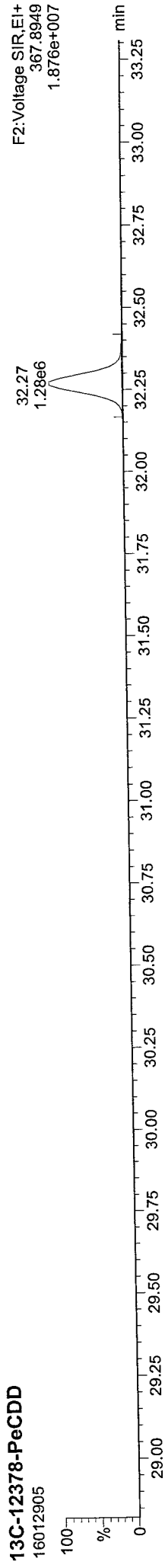
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
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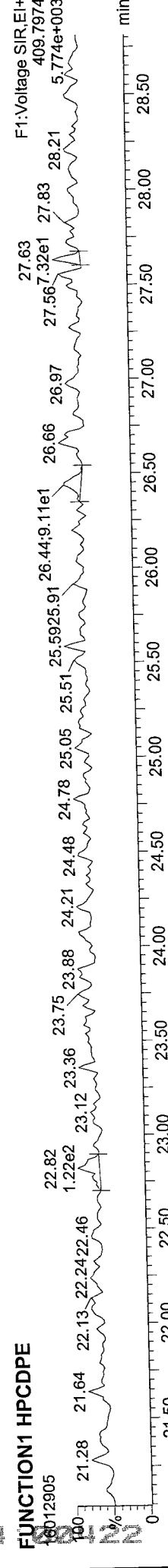
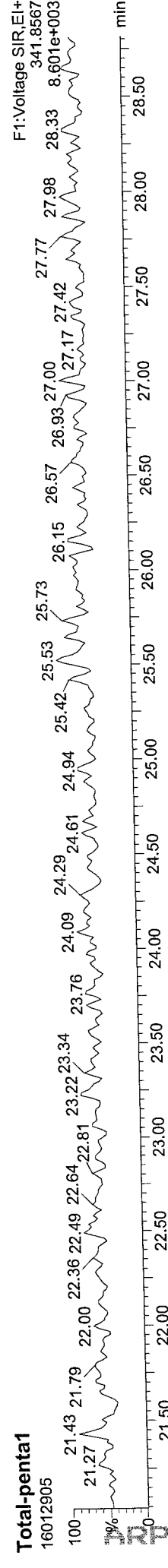
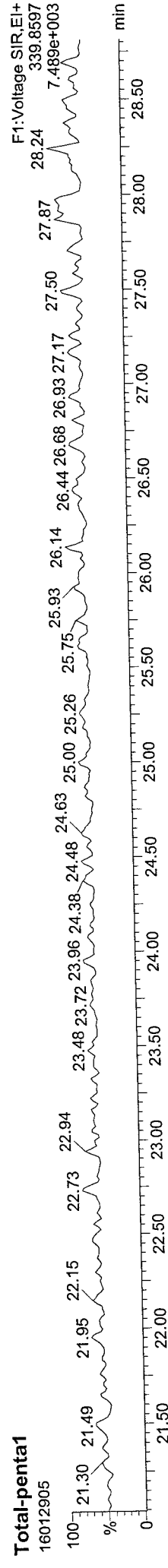
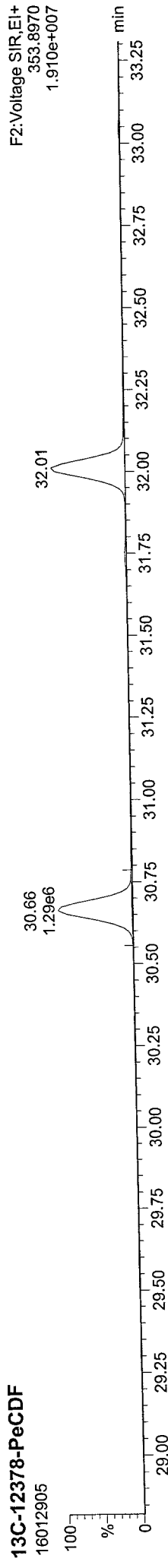
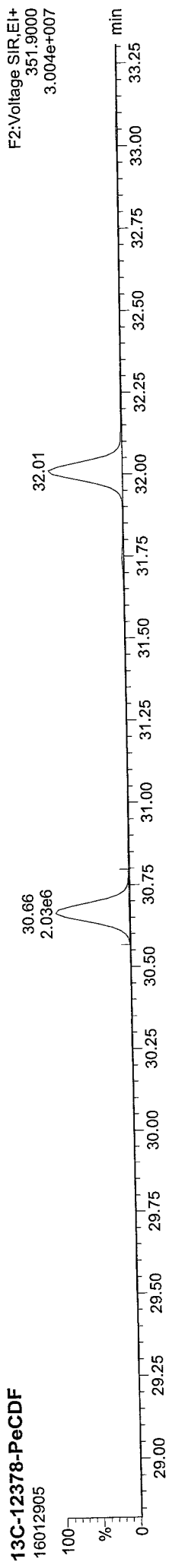
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
 Dataset: P:\DIOXIN8290.PRO\160129DATA.gld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



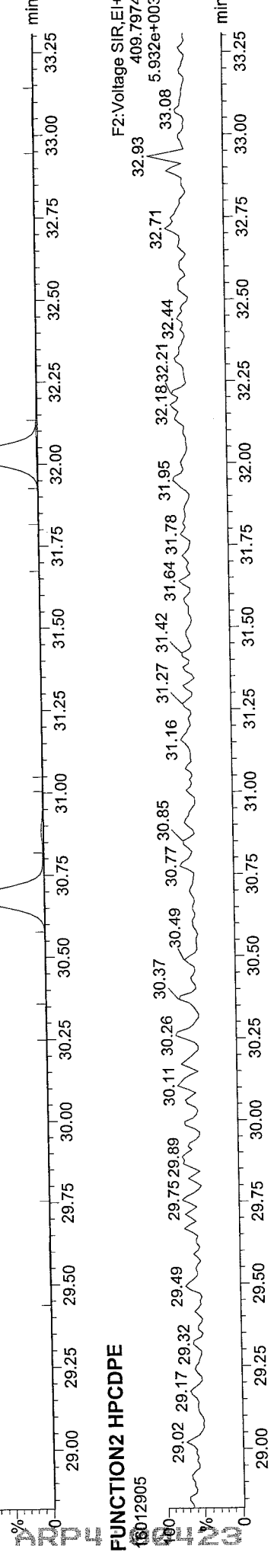
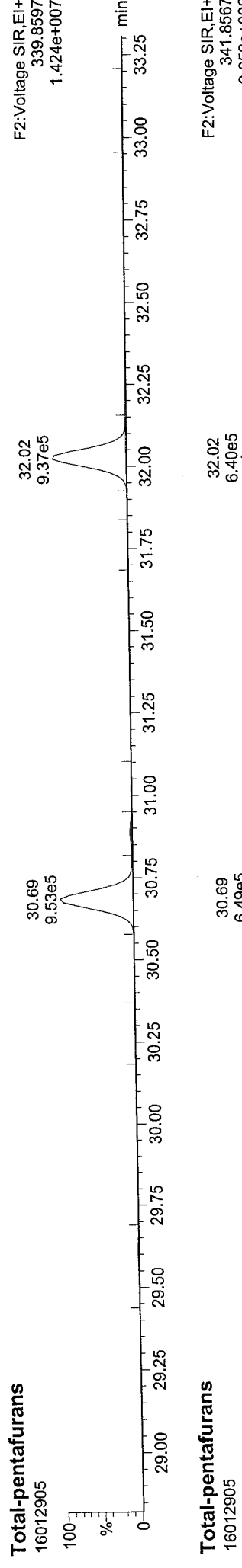
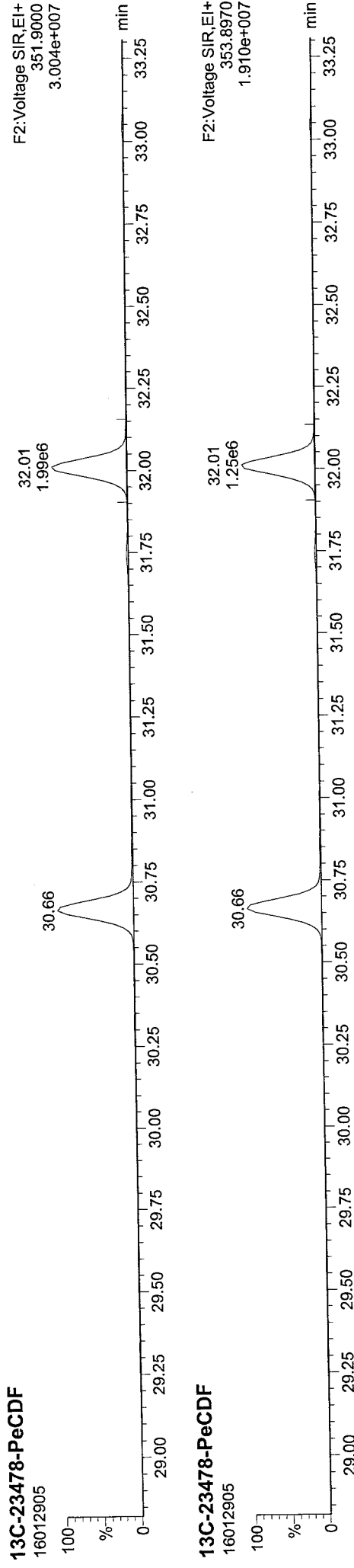
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Dataset: P:\D\OXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



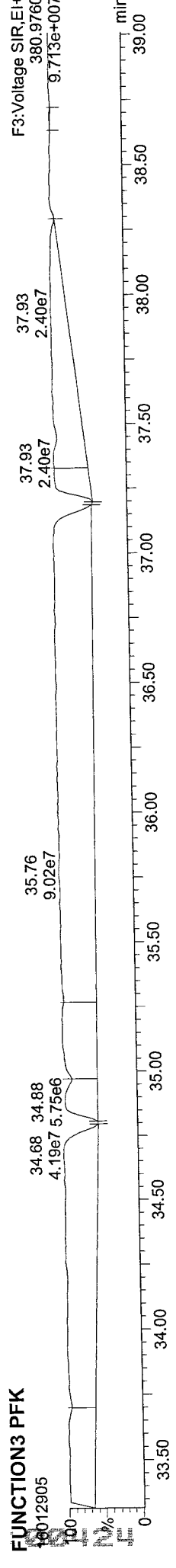
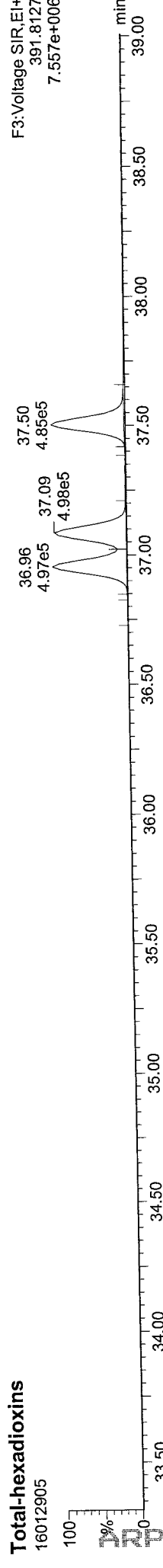
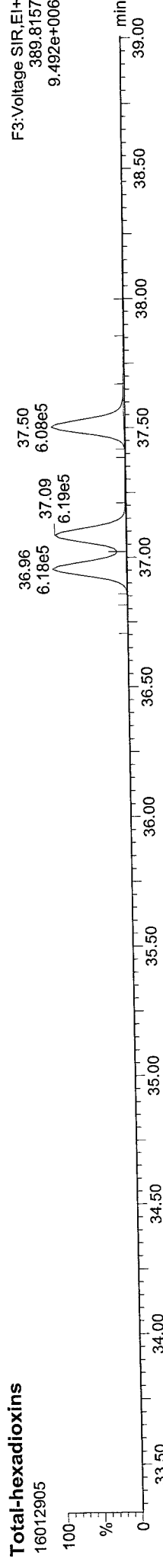
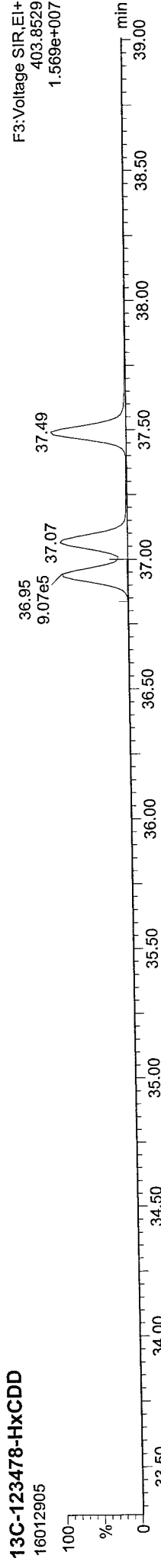
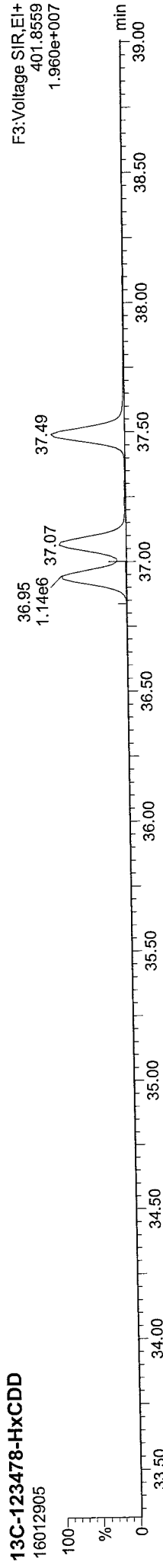
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Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

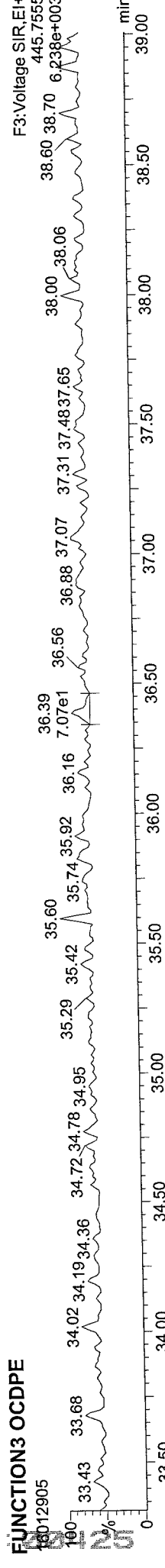
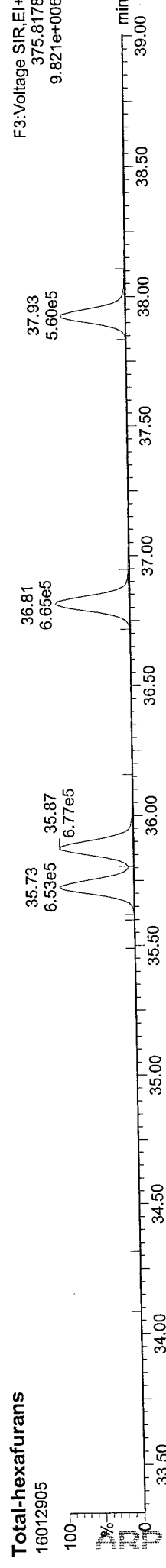
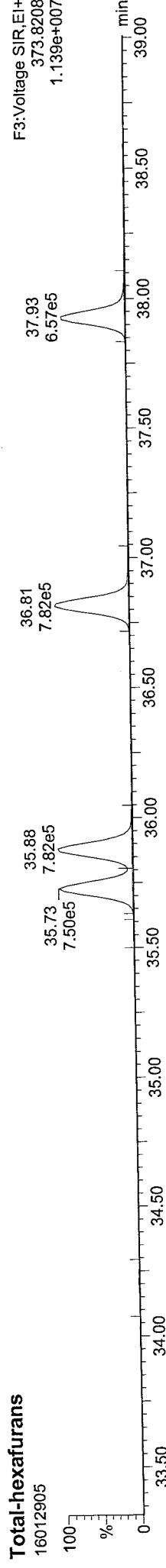
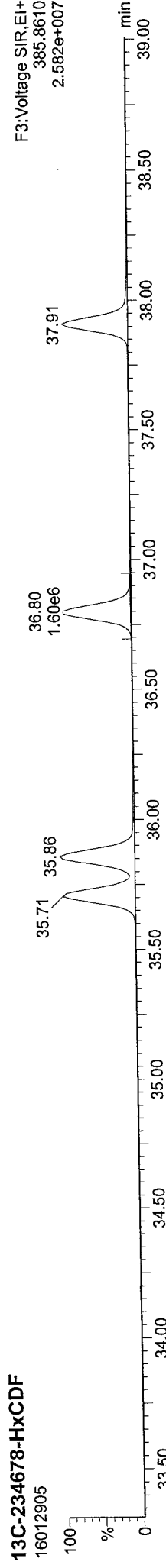
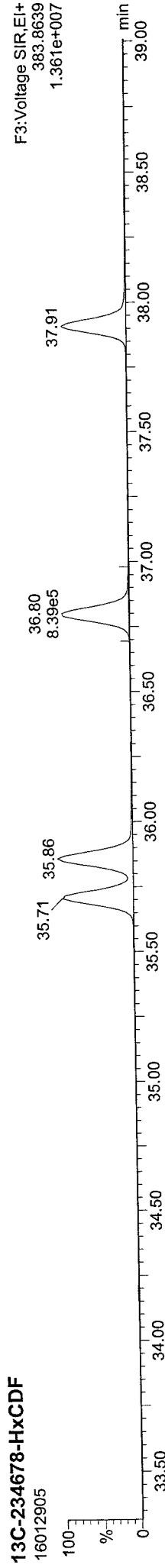
ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT50OPR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

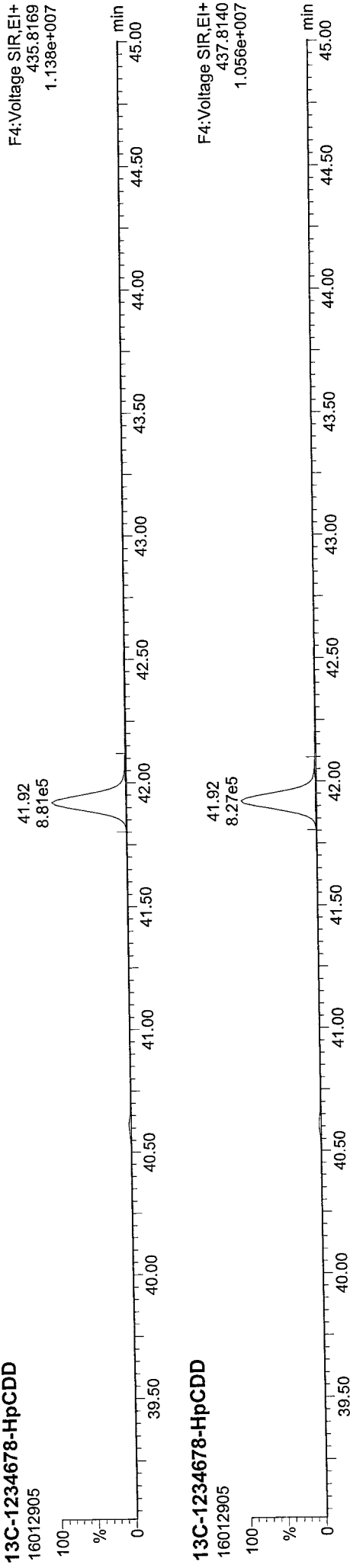


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

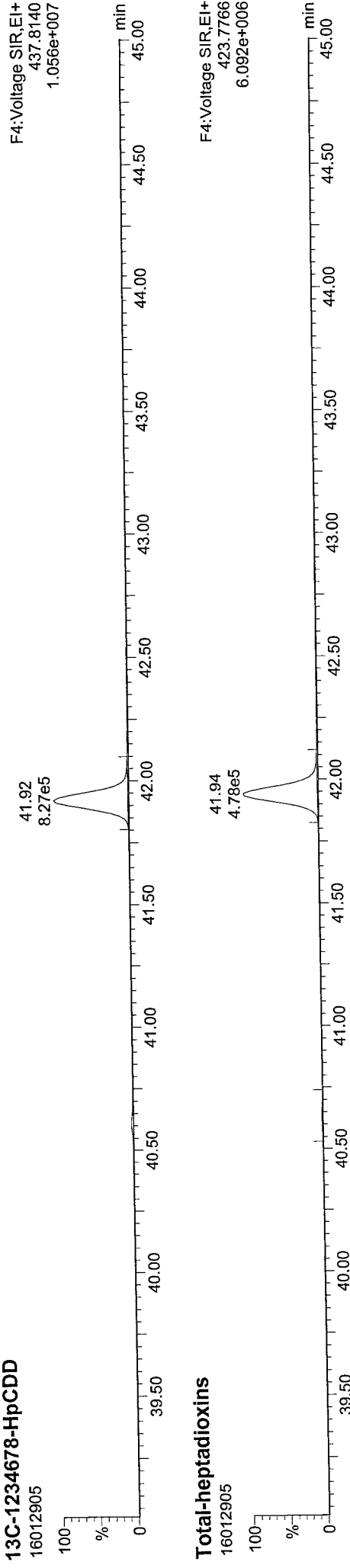
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Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT500PR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk

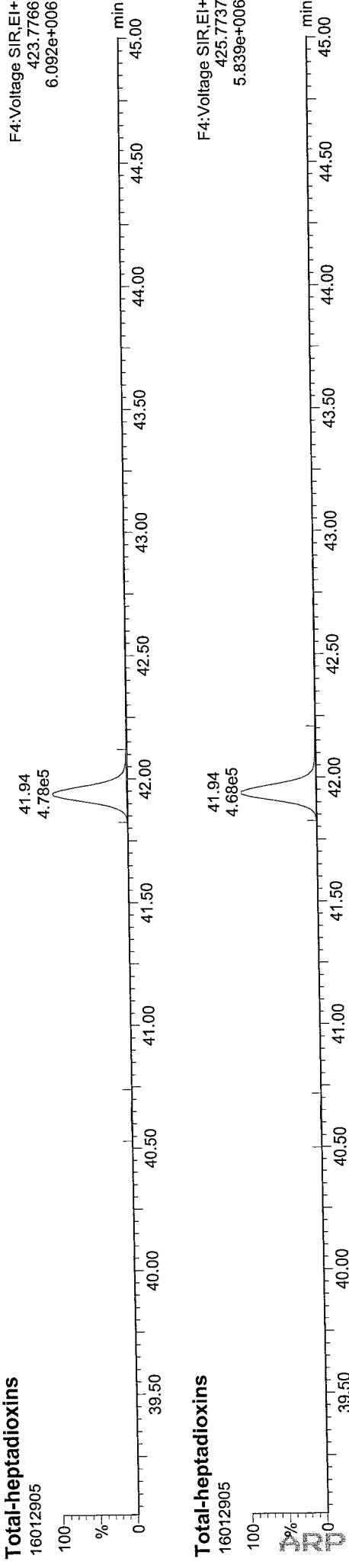
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16012905



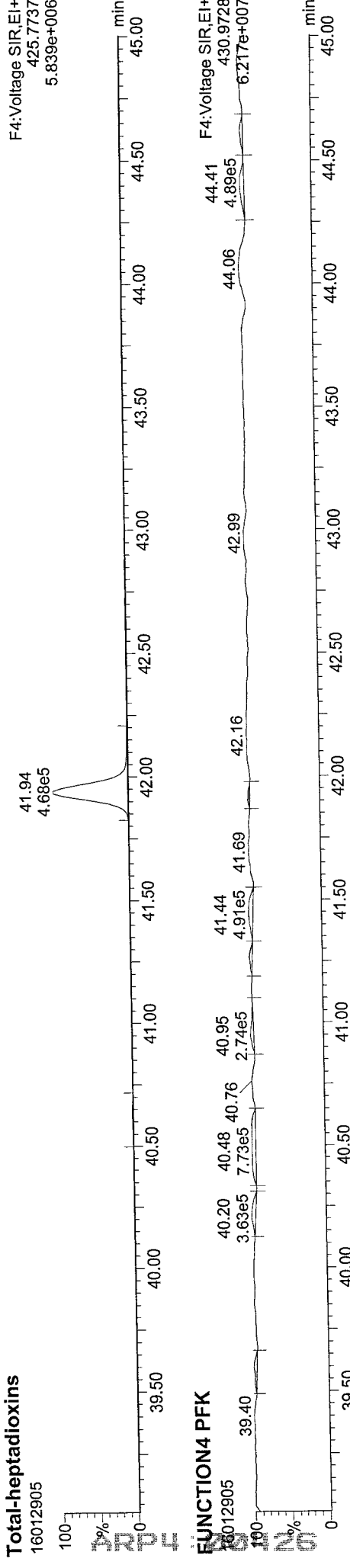
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16012905



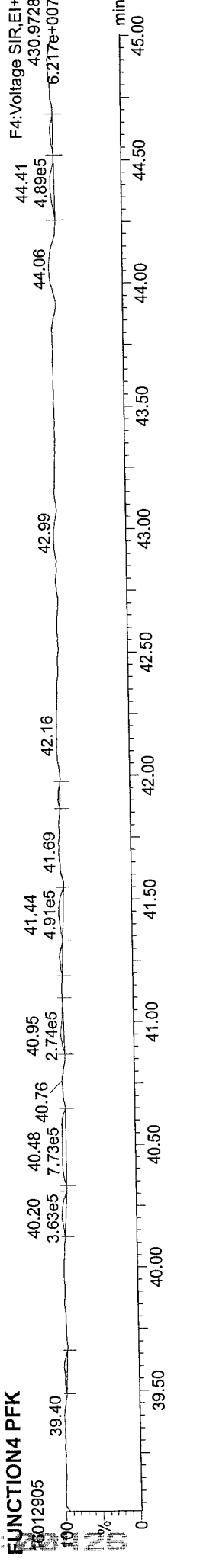
Total-heptadioxins
16012905



Total-heptadioxins
16012905



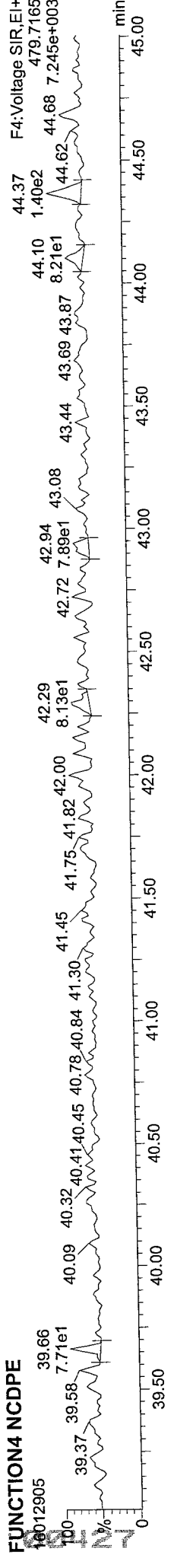
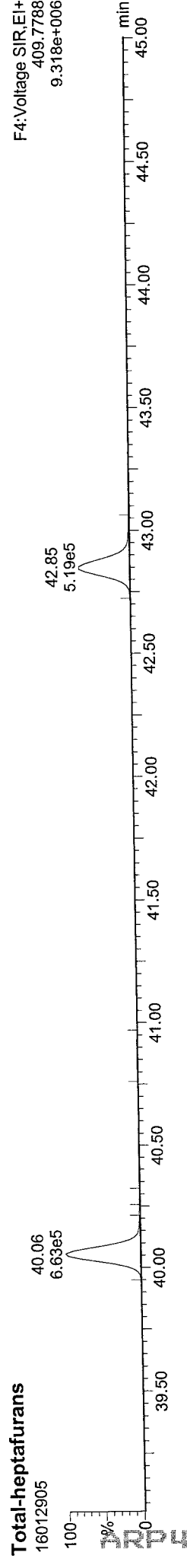
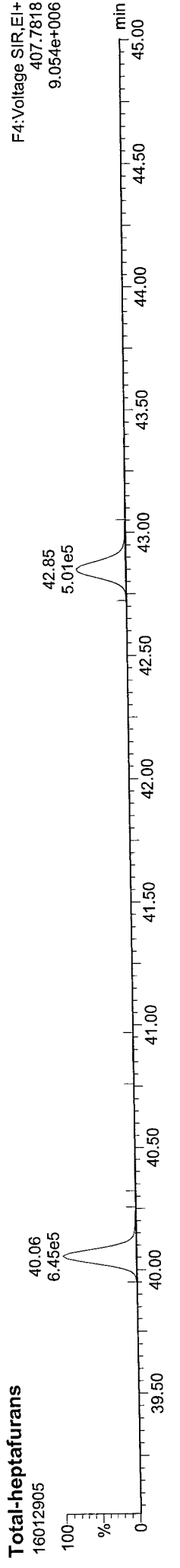
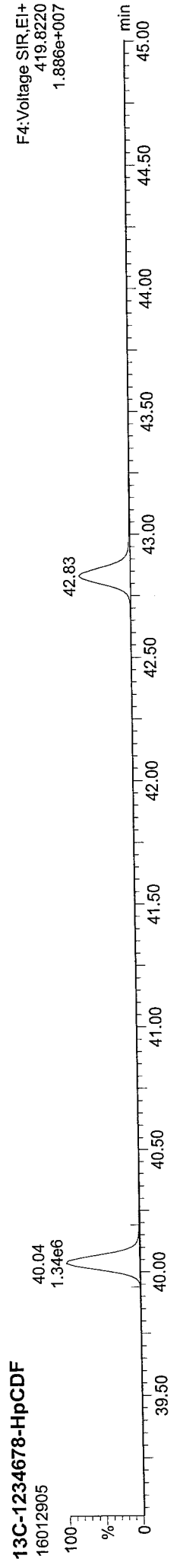
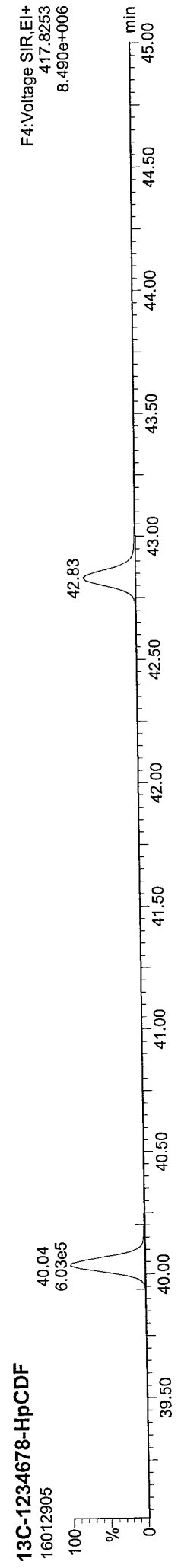
FUNCTION4 PFK
16012905



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

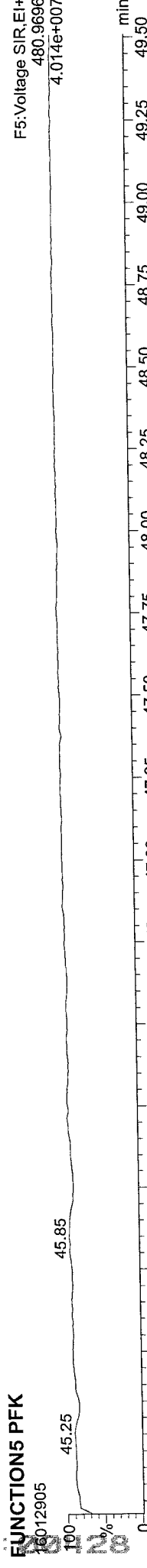
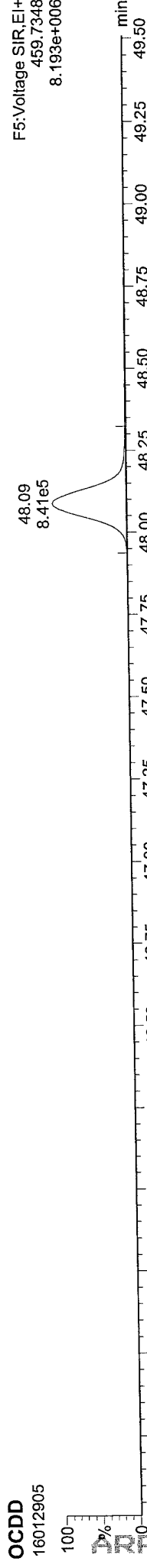
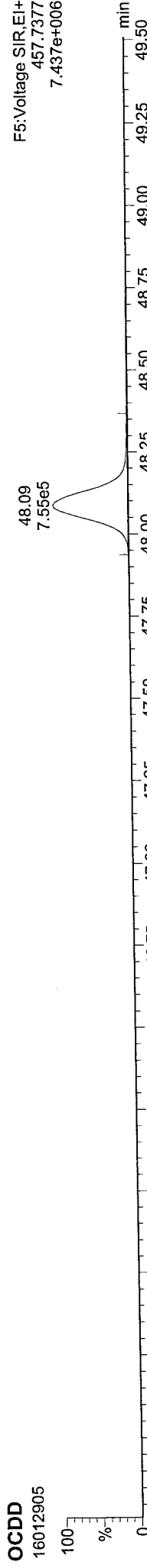
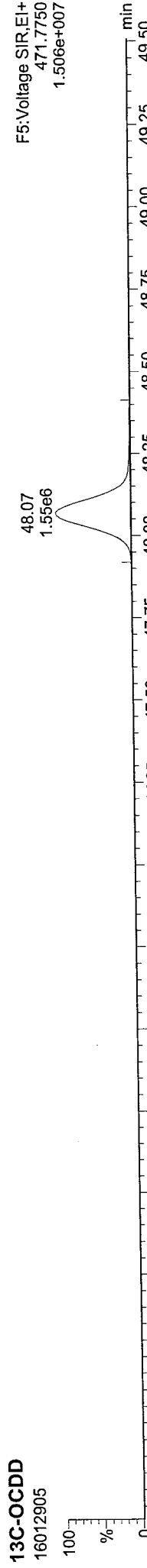
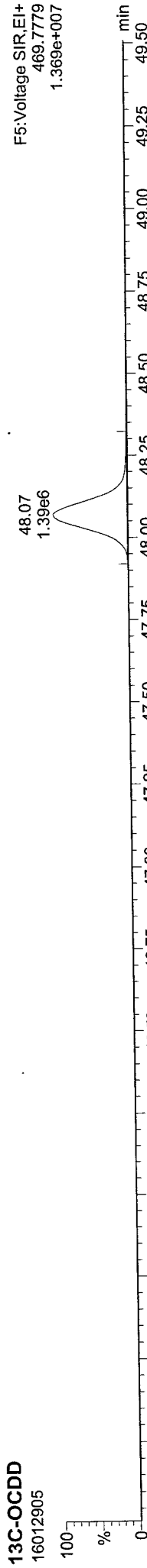
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Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT500PR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



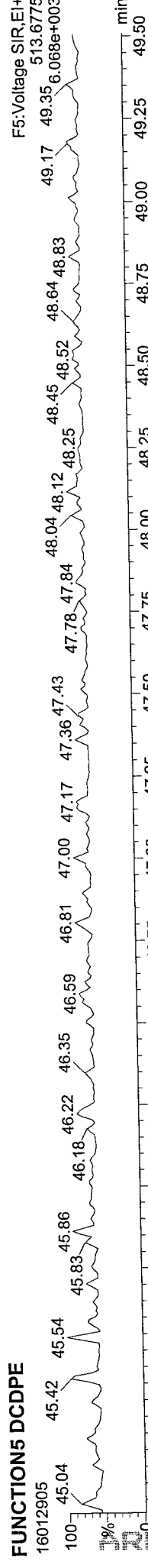
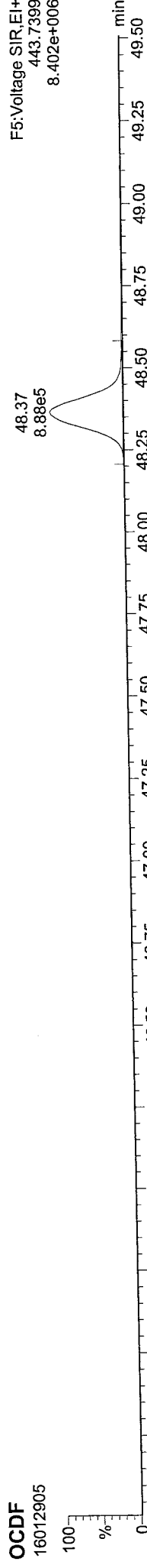
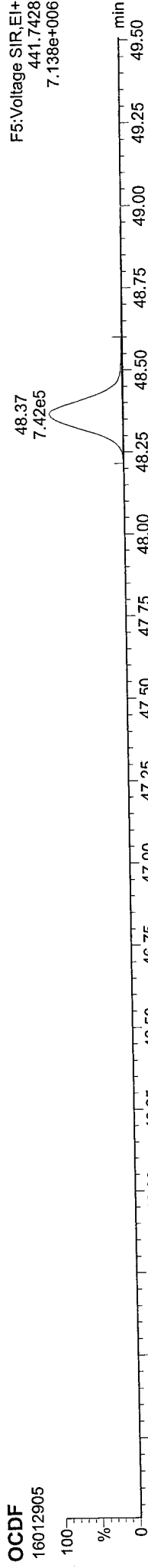
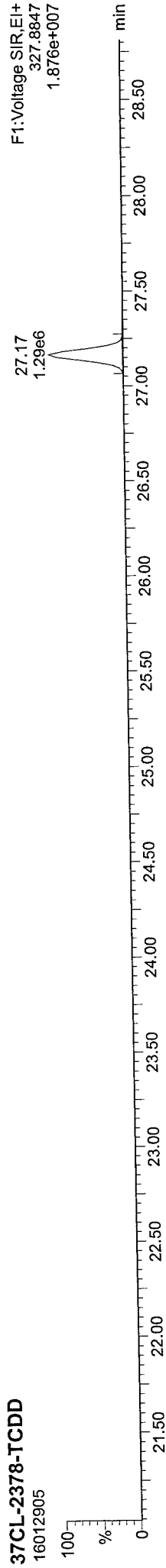
Quantify Sample Report MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:26 Pacific Standard Time

ID: AT500PR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
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ID: AT500PR, Name: 16012905, Date: 29-Jan-2016, Time: 15:20:03, Conditions: AUTOSPEC01, User: pk



**ANALYTICAL RESOURCES
CDD/CDF EDL DATA
HIGH RESOLUTION**

Lab.Sample ID: APR4A
 Lab.File ID: 16012906
 Date Analysed: 29-Jan-16

Target Analytes	Selected Ions	Peak RT	Conc	EMPC	EDL
2378-TCDD	320/322	0.00			0.020
12378-PeCDD	356/358	32.29	0.0238	0.0160	
123478-HxCDD	390/392	0.00			0.031
123678-HxCDD	390/392	0.00			0.031
123789-HxCDD	390/392	37.48	0.0418	0.0360	
1234678-HpCDD	424/426	41.92	0.389		
OCDD	458/460	48.05	3.74		
2378-TCDF	304/306	26.51	0.0230		
12378-PeCDF	340/342	30.69	0.0257	0.0100	
23478-PeCDF	340/342	0.00			0.019
123478-HxCDF	374/376	0.00			0.028
234678-HxCDF	374/376	0.00			0.027
123678-HxCDF	374/376	0.00			0.027
123789-HxCDF	374/376	37.93	0.0333	0.0240	
1234678-HpCDF	408/410	40.05	0.0950		
1234789-HpCDF	408/410	42.83	0.0216		
OCDF	442/444	48.29	0.252		

Note: EDLs are on column values. Final EDL values are corrected for final volume of the extract (normally 20ul) and amount of sample extracted.

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
2378-TCDF	26.511	1.001	3.32e2	3.76e2	0.827	0.885	0.770	1270	1691	4.54e3	6.47e3	3.6	NO	0.023	0.023
12378-PeCDF	30.687	1.001	5.40e2	1.00e2	0.824	5.394	1.550	1067	1252	8.06e3	3.69e3	7.6	YES	0.010	0.026
23478-PeCDF				0.850			1.550	1067	1252						
123478-HxCDF				0.973			1.240	1413	1685						
234678-HxCDF				1.025			1.240	1413	1685						
123678-HxCDF				0.953			1.240	1413	1685						
123789-HxCDF	37.932	1.001	2.74e2	4.01e2	0.956	0.685	1.240	1413	1685	6.72e3	6.58e3	4.8	YES	0.024	0.033
1234678-HpCDF	40.048	1.001	1.15e3	9.68e2	1.153	1.189	1.050	749	640	1.47e4	1.18e4	19.7	NO	0.095	0.095
1234789-HpCDF	42.832	1.001	1.96e2	1.96e2	1.131	1.000	1.050	749	640	4.55e3	2.41e3	6.1	NO	0.022	0.022
OCDF	48.295	1.006	1.59e3	1.76e3	1.023	0.903	0.890	650	1097	2.07e4	2.06e4	31.9	NO	0.252	0.252
2378-TCDD	32.287	1.001	1.72e2	2.50e2	0.939	0.688	0.770	1280	1015	4.15e3	3.98e3	3.1	YES	0.016	0.024
12378-PeCDD				0.963			1.240	1393	1485						
123478-HxCDD				0.894			1.240	1393	1485						
123678-HxCDD				0.902			1.240	1393	1485	4.58e3	5.72e3	3.3	YES	0.036	0.042
123789-HxCDD	37.482	1.011	3.65e2	4.05e2	0.900	0.902	1.050	816	733	4.16e4	3.63e4	51.0	NO	0.389	0.389
1234678-HpCDD	41.922	1.001	3.35e3	3.09e3	0.964	1.081	0.890	780	894	2.10e5	2.40e5	268.8	NO	3.743	3.743
OCDD	48.053	1.001	2.21e4	2.51e4	0.969	0.880	0.770	7774	4542	2.39e7	3.03e7	3070.2	NO	92.289	92.289
13C-2378-TCDF	26.497	1.006	1.63e6	2.09e6	1.502	0.779	1.550	4056	2902	2.69e7	1.73e7	6619.6	NO	92.649	92.649
13C-12378-PeCDF	30.654	1.164	1.85e6	1.17e6	1.215	1.580	1.550	4056	2902	2.70e7	1.72e7	6663.1	NO	93.242	93.242
13C-23478-PeCDF	32.002	1.215	1.81e6	1.15e6	1.181	1.577	1.550	4056	2902	2.70e7	1.72e7	6663.1	NO	84.785	84.785
13C-123478-HxCDF	35.696	0.952	7.85e5	1.51e6	1.246	0.521	0.510	2861	5031	1.16e7	2.25e7	4046.2	NO	84.389	84.389
13C-123678-HxCDF	35.849	0.956	8.72e5	1.65e6	1.375	0.529	0.510	2861	5031	1.26e7	2.40e7	4421.4	NO	90.581	90.581
13C-234678-HxCDF	36.792	0.982	7.97e5	1.54e6	1.186	0.519	0.510	2861	5031	1.16e7	2.22e7	4050.3	NO	86.122	86.122
13C-123789-HxCDF	37.899	1.011	7.28e5	1.39e6	1.135	0.523	0.510	2861	5031	1.10e7	2.10e7	3849.9	NO	87.294	87.294
13C-1234678-HpCDF	40.026	1.068	5.97e5	1.34e6	1.020	0.447	0.440	2053	3094	8.39e6	1.87e7	4086.5	NO	89.829	89.829
13C-1234789-HpCDF	42.810	1.142	4.88e5	1.12e6	0.824	0.437	0.440	2053	3094	6.06e6	1.35e7	2952.3	NO	100.000	100.000
13C-1234-TCDD	26.332	0.000	1.19e6	1.50e6	1.000	0.794	0.770	3790	2362	1.73e7	2.19e7	4572.8	NO	85.524	85.524
13C-2378-TCDD	27.139	1.031	9.93e5	1.26e6	0.983	0.786	0.770	3790	2362	1.45e7	1.83e7	3823.8	NO	89.432	89.432
13C-12378-PeCDD	32.265	1.225	1.15e6	7.35e5	0.787	1.569	1.550	1690	1378	1.71e7	1.08e7	10111.1	NO	87.986	87.986
13C-123478-HxCDD	36.935	0.985	1.10e6	8.68e5	1.031	1.270	1.240	1967	1656	1.62e7	1.27e7	8211.6	NO	86.396	86.396
13C-123678-HxCDD	37.066	0.989	1.18e6	9.48e5	1.137	1.250	1.240	1967	1656	1.71e7	1.35e7	8672.3	NO	88.687	88.687
13C-1234678-HpCDD	41.900	1.118	8.89e5	8.28e5	0.892	1.074	1.050	2137	2319	1.11e7	1.05e7	5213.7	NO	140.597	140.597
13C-OCDD	48.017	1.281	1.23e6	1.37e6	0.852	0.898	0.890	2164	1840	1.19e7	1.34e7	5514.9	NO		

MassLynx MassLynx V4.1 SCN909

Quantify Sample Summary Report

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	EMPC	pg
13C-123789-HxCDD	37.482	0.000	1.22e6	9.54e5	1.000	1.275	1.240	1967	1656	1.81e7	1.44e7	9217.8	NO		100.000
Total-tetrafurans			9.99e2		0.827			1270		1.53e4					0.085
Total-penta1			5.84e2					882		9.30e3					0.033
Total-pentafurans			1.76e3		0.837			1067		2.49e4					0.124
Total-hexafurans			8.12e2		0.977			1413		1.81e4					0.094
Total-heptafurans			2.27e3		1.142			749		3.18e4					0.224
Total-Furans			8.09e3		0.971			1270		1.21e5					0.817
Total-tetradioxins			4.16e2		1.023			1280		9.30e3					0.046
Total-pentadioxins			1.72e2		0.939			1349		4.15e3					0.024
Total-hexadioxins			1.16e3		0.919			1393		1.57e4					0.125
Total-heptadioxins			1.30e4		0.964			816		1.72e5					1.522
Total-Dioxins			3.68e4		0.950			1280		4.11e5					5.460
Total-TEQ			4.49e4					1280		5.32e5					6.277
37CL-2378-TCDD	27.154	1.031	1.11e6		1.091			1444		1.62e7		11199.0			37.850
FUNCTION1 PFK			1.02e8					863393		2.09e8					0.000
FUNCTION2 PFK			1.80e5					162893		5.24e6					0.000
FUNCTION3 PFK			9.33e5					538065		4.69e6					
FUNCTION4 PFK			0.00e0					509311		0.00e0					
FUNCTION5 PFK			8.68e5					318265		2.88e7					0.000
FUNCTION1 HXCDPE			2.55e4					898		3.37e5					0.000
FUNCTION1 HPCDPE			3.87e3					1034		6.47e4					0.000
FUNCTION2 HPCDPE			1.85e2					894		2.58e3					0.000
FUNCTION3 OCDPE			2.74e2					743		7.53e3					0.000
FUNCTION4 NCDPE			4.81e2					914		6.32e3					0.000
FUNCTION5 DCDPE			0.00e0					485		0.00e0					0.000

APR4 : 00432

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

TF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	35 Total-tetrafurans	303.9016	23.87	941.137	0.827	0.031		0.63	0.77	YES	4.6
2	35 Total-tetrafurans	303.9016	26.75	958.257	0.827	0.031		0.46	0.77	YES	3.9
3	1 2378-TCDF	303.9016	26.51	708.045	0.827	0.023	0.023	0.88	0.77	NO	3.6

PP

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	36 Total-penta1	339.8597	27.95	918.188		0.033		1.75	1.55	NO	10.5

PF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	2 12378-PeCDF	339.8597	30.69	639.544	0.824	0.026	0.010	5.39	1.55	YES	7.6
2	37 Total-pentafurans	339.8597	29.52	2459.507	0.837	0.098		0.98	1.55	YES	15.8

HF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	38 Total-hexafurans	373.8208	35.05	716.834	0.977	0.032		0.74	1.24	YES	4.0
2	38 Total-hexafurans	373.8208	34.19	654.411	0.977	0.029		0.55	1.24	YES	4.1
3	7 123789-HxCDF	373.8208	37.93	675.139	0.956	0.033	0.024	0.68	1.24	YES	4.8

HPF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	9 1234789-HpCDF	407.7818	42.83	392.665	1.131	0.022	0.022	1.00	1.05	NO	6.1
2	39 Total-heptafurans	407.7818	40.86	2167.372	1.142	0.107		0.74	1.05	YES	16.7
3	8 1234678-HpCDF	407.7818	40.05	2119.475	1.153	0.095	0.095	1.19	1.05	NO	19.7

Furans,TF,PP,PF,HF,HPF,OF

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	35 Total-tetrafurans	303.9016	23.87	941.137	0.827	0.031		0.63	0.77	YES	4.6
2	40 Total-Furans	303.9016	28.23	193.304	0.971	0.005		0.76	0.77	NO	1.1
3	35 Total-tetrafurans	303.9016	26.75	958.257	0.827	0.031		0.46	0.77	YES	3.9
4	1 2378-TCDF	303.9016	26.51	708.045	0.827	0.023	0.023	0.88	0.77	NO	3.6
5	2 12378-PeCDF	339.8597	30.69	639.544	0.824	0.026	0.010	5.39	1.55	YES	7.6
6	37 Total-pentafurans	339.8597	29.52	2459.507	0.837	0.098		0.98	1.55	YES	15.8
7	38 Total-hexafurans	373.8208	35.05	716.834	0.977	0.032		0.74	1.24	YES	4.0
8	38 Total-hexafurans	373.8208	34.19	654.411	0.977	0.029		0.55	1.24	YES	4.1
9	7 123789-HxCDF	373.8208	37.93	675.139	0.956	0.033	0.024	0.68	1.24	YES	4.8
10	10 OCDF	441.7428	48.29	3347.198	1.023	0.252	0.252	0.90	0.89	NO	31.9
11	9 1234789-HpCDF	407.7818	42.83	392.665	1.131	0.022	0.022	1.00	1.05	NO	6.1
12	39 Total-heptafurans	407.7818	40.86	2167.372	1.142	0.107		0.74	1.05	YES	16.7
13	8 1234678-HpCDF	407.7818	40.05	2119.475	1.153	0.095	0.095	1.19	1.05	NO	19.7
14	36 Total-penta1	339.8597	27.95	918.188		0.033		1.75	1.55	NO	10.5

ARP4: 00433

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

TD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	41 Total-tetradoxins	319.8965	24.30	1059.348	1.023	0.046		0.65	0.77	YES	7.3

PD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	12 12378-PeCDD	355.8546	32.29	421.749	0.939	0.024	0.016	0.69	1.55	YES	3.1

HD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	43 Total-hexadoxins	389.8157	34.78	1568.744	0.919	0.083		1.03	1.24	YES	8.0
2	15 123789-HxCDD	389.8157	37.48	770.692	0.900	0.042	0.036	0.90	1.24	YES	3.3

HPD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	16 1234678-HpCDD	423.7766	41.92	6439.522	0.964	0.389	0.389	1.08	1.05	NO	51.0
2	44 Total-heptadoxins	423.7766	40.61	18762.654	0.964	1.133		1.06	1.05	NO	159.5

Dioxins,TD,PD,HD,HPD,OD

#	Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	41 Total-tetradoxins	319.8965	24.30	1059.348	1.023	0.046		0.65	0.77	YES	7.3
2	12 12378-PeCDD	355.8546	32.29	421.749	0.939	0.024	0.016	0.69	1.55	YES	3.1
3	43 Total-hexadoxins	389.8157	34.78	1568.744	0.919	0.083		1.03	1.24	YES	8.0
4	15 123789-HxCDD	389.8157	37.48	770.692	0.900	0.042	0.036	0.90	1.24	YES	3.3
5	17 OCDD	457.7377	48.05	47129.401	0.969	3.743	3.743	0.88	0.89	NO	268.8
6	16 1234678-HpCDD	423.7766	41.92	6439.522	0.964	0.389	0.389	1.08	1.05	NO	51.0
7	44 Total-heptadoxins	423.7766	40.61	18762.654	0.964	1.133		1.06	1.05	NO	159.5

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	35 Total-tetrafurans	303.9016	23.87	941.137	0.827	0.031		0.63	0.77	YES	4.6
2	40 Total-Furans	303.9016	28.23	193.304	0.971	0.005		0.76	0.77	NO	1.1
3	35 Total-tetrafurans	303.9016	26.75	958.257	0.827	0.031		0.46	0.77	YES	3.9
4	1 2378-TCDF	303.9016	26.51	708.045	0.827	0.023	0.023	0.88	0.77	NO	3.6
5	2 12378-PeCDF	339.8597	30.69	639.544	0.824	0.026	0.010	5.39	1.55	YES	7.6
6	37 Total-pentafurans	339.8597	29.52	2459.507	0.837	0.098		0.98	1.55	YES	15.8
7	38 Total-hexafurans	373.8208	35.05	716.834	0.977	0.032		0.74	1.24	YES	4.0
8	38 Total-hexafurans	373.8208	34.19	654.411	0.977	0.029		0.55	1.24	YES	4.1
9	7 123789-HxCDF	373.8208	37.93	675.139	0.956	0.033	0.024	0.68	1.24	YES	4.8
10	10 OCDF	441.7428	48.29	3347.198	1.023	0.252	0.252	0.90	0.89	NO	31.9
11	9 1234789-HpCDF	407.7818	42.83	392.665	1.131	0.022	0.022	1.00	1.05	NO	6.1
12	39 Total-heptafurans	407.7818	40.86	2167.372	1.142	0.107		0.74	1.05	YES	16.7
13	8 1234678-HpCDF	407.7818	40.05	2119.475	1.153	0.095	0.095	1.19	1.05	NO	19.7
14	36 Total-penta1	339.8597	27.95	918.188		0.033		1.75	1.55	NO	10.5
15	41 Total-tetradioxins	319.8965	24.30	1059.348	1.023	0.046		0.65	0.77	YES	7.3
16	12 12378-PeCDD	355.8546	32.29	421.749	0.939	0.024	0.016	0.69	1.55	YES	3.1
17	43 Total-hexadioxins	389.8157	34.78	1568.744	0.919	0.083		1.03	1.24	YES	8.0
18	15 123789-HxCDD	389.8157	37.48	770.692	0.900	0.042	0.036	0.90	1.24	YES	3.3
19	17 OCDD	457.7377	48.05	47129.401	0.969	3.743	3.743	0.88	0.89	NO	268.8
20	16 1234678-HpCDD	423.7766	41.92	6439.522	0.964	0.389	0.389	1.08	1.05	NO	51.0
21	44 Total-heptadioxins	423.7766	40.61	18762.654	0.964	1.133		1.06	1.05	NO	159.5

PFK1

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	48 FUNCTION1 PFK	330.9792	24.37	0.000							3.4
2	48 FUNCTION1 PFK	330.9792	22.91	0.000							38.2
3	48 FUNCTION1 PFK	330.9792	22.61	0.000							45.3
4	48 FUNCTION1 PFK	330.9792	22.30	0.000							53.1
5	48 FUNCTION1 PFK	330.9792	21.48	0.000							59.3
6	48 FUNCTION1 PFK	330.9792	21.12	0.000							43.1

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

PFK2

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	49 FUNCTION2 PFK	366.9792	29.54	0.000	0.000					1.5
2	49 FUNCTION2 PFK	366.9792	29.34	0.000	0.000					1.0
3	49 FUNCTION2 PFK	366.9792	29.25	0.000	0.000					0.4
4	49 FUNCTION2 PFK	366.9792	29.15	0.000	0.000					1.4
5	49 FUNCTION2 PFK	366.9792	29.11	0.000	0.000					0.5
6	49 FUNCTION2 PFK	366.9792	28.89	0.000	0.000					1.2
7	49 FUNCTION2 PFK	366.9792	32.86	0.000	0.000					2.0
8	49 FUNCTION2 PFK	366.9792	32.79	0.000	0.000					2.2
9	49 FUNCTION2 PFK	366.9792	32.75	0.000	0.000					1.4
10	49 FUNCTION2 PFK	366.9792	32.58	0.000	0.000					1.0
11	49 FUNCTION2 PFK	366.9792	32.33	0.000	0.000					1.6
12	49 FUNCTION2 PFK	366.9792	32.22	0.000	0.000					1.4
13	49 FUNCTION2 PFK	366.9792	32.16	0.000	0.000					0.7
14	49 FUNCTION2 PFK	366.9792	31.82	0.000	0.000					0.4
15	49 FUNCTION2 PFK	366.9792	31.50	0.000	0.000					1.1
16	49 FUNCTION2 PFK	366.9792	31.11	0.000	0.000					1.7
17	49 FUNCTION2 PFK	366.9792	30.75	0.000	0.000					0.9
18	49 FUNCTION2 PFK	366.9792	30.51	0.000	0.000					0.4
19	49 FUNCTION2 PFK	366.9792	30.28	0.000	0.000					1.6
20	49 FUNCTION2 PFK	366.9792	30.14	0.000	0.000					0.7
21	49 FUNCTION2 PFK	366.9792	30.02	0.000	0.000					1.1
22	49 FUNCTION2 PFK	366.9792	29.60	0.000	0.000					0.9
23	49 FUNCTION2 PFK	366.9792	33.20	0.000	0.000					1.4
24	49 FUNCTION2 PFK	366.9792	33.05	0.000	0.000					1.2
25	49 FUNCTION2 PFK	366.9792	32.99	0.000	0.000					2.5
26	49 FUNCTION2 PFK	366.9792	32.92	0.000	0.000					2.2

PFK3

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	50 FUNCTION3 PFK	380.9760	37.30	0.000	0.000					8.7

PFK4

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1										

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
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ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

PFK5

Table with columns: # Name, Trace, RT, Abs.Resp, RRF M..., pg, EMPC, 1° Rati..., 1° Rati..., 1° R..., S/N. Rows 1-49 showing 52 FUNCTION5 PFK with various RT and S/N values.

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

PFK5

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
50	52 FUNCTION5 PFK	480.9696	47.84	0.000							0.8
51	52 FUNCTION5 PFK	480.9696	47.76	0.000							2.9
52	52 FUNCTION5 PFK	480.9696	47.71	0.000							2.5
53	52 FUNCTION5 PFK	480.9696	47.68	0.000							2.2
54	52 FUNCTION5 PFK	480.9696	47.64	0.000							2.0
55	52 FUNCTION5 PFK	480.9696	47.60	0.000							1.9
56	52 FUNCTION5 PFK	480.9696	47.56	0.000							1.5
57	52 FUNCTION5 PFK	480.9696	49.09	0.000							0.9
58	52 FUNCTION5 PFK	480.9696	49.06	0.000							0.9
59	52 FUNCTION5 PFK	480.9696	49.01	0.000							0.5
60	52 FUNCTION5 PFK	480.9696	48.98	0.000							0.5
61	52 FUNCTION5 PFK	480.9696	48.90	0.000							0.4
62	52 FUNCTION5 PFK	480.9696	48.87	0.000							0.4
63	52 FUNCTION5 PFK	480.9696	48.83	0.000							0.7
64	52 FUNCTION5 PFK	480.9696	48.78	0.000							0.4
65	52 FUNCTION5 PFK	480.9696	48.73	0.000							0.6
66	52 FUNCTION5 PFK	480.9696	48.67	0.000							0.4
67	52 FUNCTION5 PFK	480.9696	48.64	0.000							0.5
68	52 FUNCTION5 PFK	480.9696	48.62	0.000							1.4
69	52 FUNCTION5 PFK	480.9696	48.58	0.000							1.4
70	52 FUNCTION5 PFK	480.9696	48.50	0.000							1.6
71	52 FUNCTION5 PFK	480.9696	48.45	0.000							1.0
72	52 FUNCTION5 PFK	480.9696	48.29	0.000							0.8
73	52 FUNCTION5 PFK	480.9696	49.44	0.000							0.7
74	52 FUNCTION5 PFK	480.9696	49.33	0.000							0.9
75	52 FUNCTION5 PFK	480.9696	49.29	0.000							1.0
76	52 FUNCTION5 PFK	480.9696	49.25	0.000							1.1
77	52 FUNCTION5 PFK	480.9696	49.20	0.000							1.2

ETHERS1

	# Name	Trace	RT	Abs.Resp	RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	53 FUNCTION1 HXCD...	375.8364	28.05	0.000		0.000					13.9
2	53 FUNCTION1 HXCD...	375.8364	26.59	0.000		0.000					293.2
3	53 FUNCTION1 HXCD...	375.8364	26.30	0.000		0.000					62.7
4	53 FUNCTION1 HXCD...	375.8364	24.15	0.000		0.000					2.1
5	53 FUNCTION1 HXCD...	375.8364	21.92	0.000		0.000					2.8

Quantify Totals Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
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ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

ETHERS2

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	54 FUNCTION1 HPCD...	409.7974	21.72	0.000	0.000					3.9
2	54 FUNCTION1 HPCD...	409.7974	21.67	0.000	0.000					3.5
3	54 FUNCTION1 HPCD...	409.7974	21.34	0.000	0.000					3.4
4	54 FUNCTION1 HPCD...	409.7974	21.10	0.000	0.000					1.6
5	54 FUNCTION1 HPCD...	409.7974	28.20	0.000	0.000					3.7
6	54 FUNCTION1 HPCD...	409.7974	28.07	0.000	0.000					3.1
7	54 FUNCTION1 HPCD...	409.7974	26.56	0.000	0.000					2.1
8	54 FUNCTION1 HPCD...	409.7974	25.88	0.000	0.000					3.5
9	54 FUNCTION1 HPCD...	409.7974	24.21	0.000	0.000					2.1
10	54 FUNCTION1 HPCD...	409.7974	22.82	0.000	0.000					35.8

ETHERS3

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	55 FUNCTION2 HPCD...	409.7974	33.21	0.000	0.000					2.9

ETHERS4

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	56 FUNCTION3 OCDPE	445.7555	38.06	0.000	0.000					3.5
2	56 FUNCTION3 OCDPE	445.7555	37.32	0.000	0.000					1.7
3	56 FUNCTION3 OCDPE	445.7555	33.78	0.000	0.000					4.9

ETHERS5

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1	57 FUNCTION4 NCDPE	479.7165	39.60	0.000	0.000					6.9

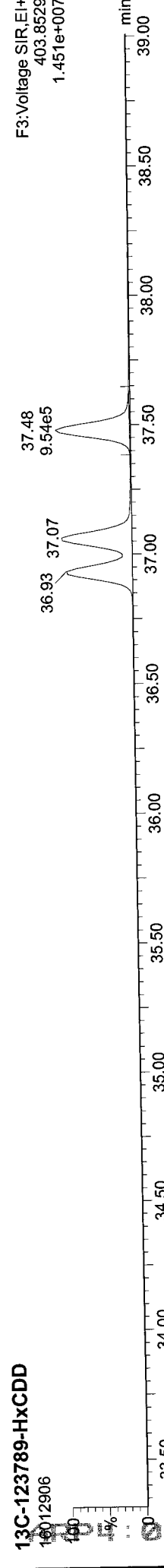
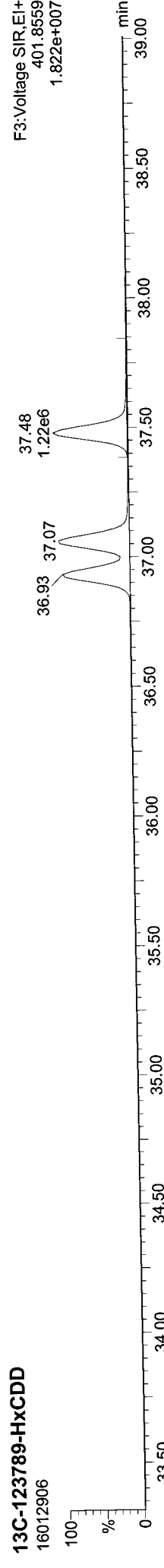
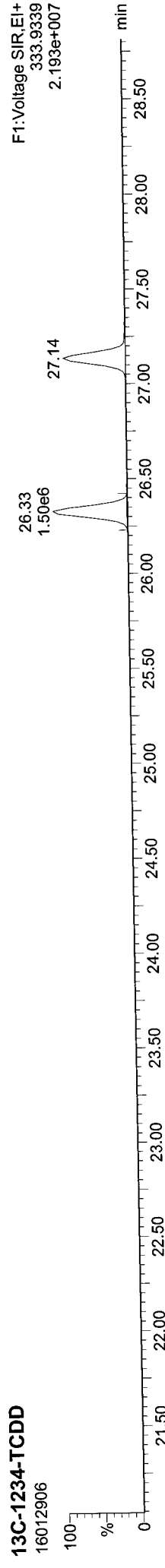
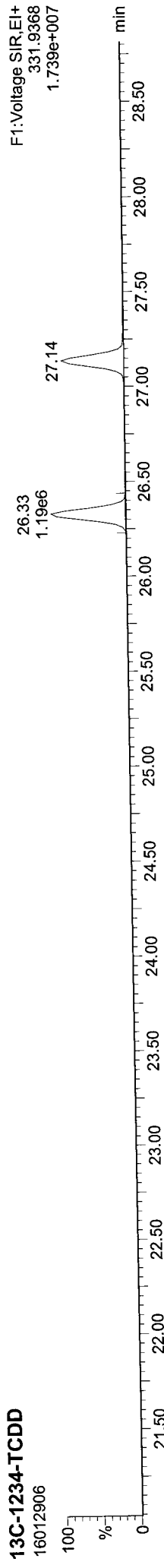
ETHERS6

	# Name	Trace	RT	Abs.Resp RRF M...	pg	EMPC	1° Rati...	1° Rati...	1° R...	S/N
1										

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\IDioxin1601293SN.mdb 29 Jan 2016 12:40:27
Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk



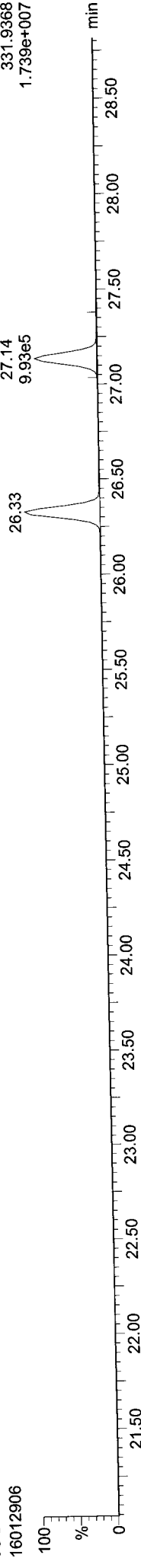
16012906

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

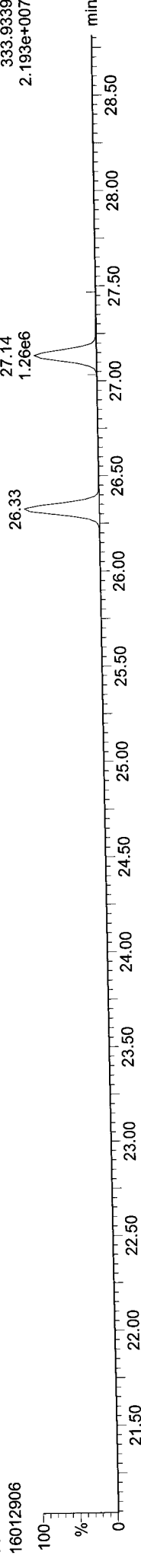
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

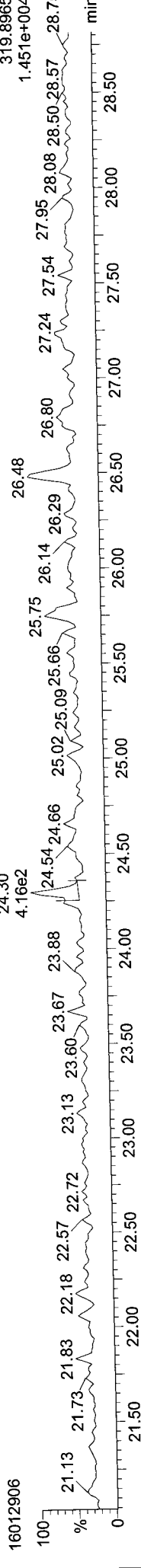
13C-2378-TCDD



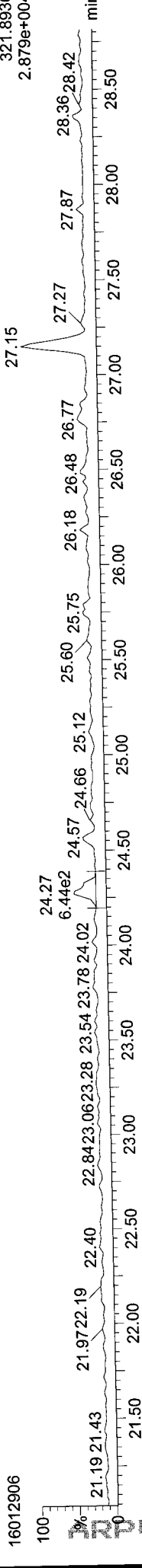
13C-2378-TCDD



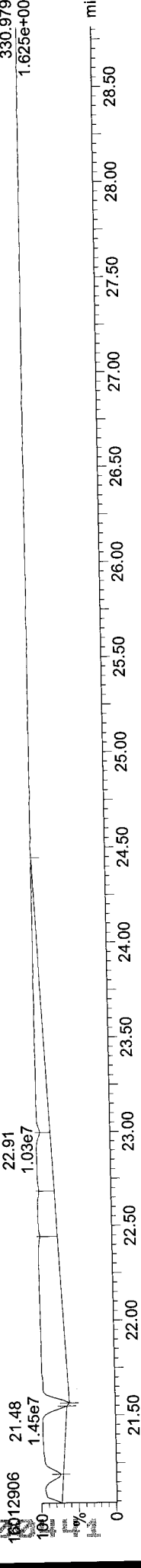
Total-tetradiioxins



Total-tetradiioxins

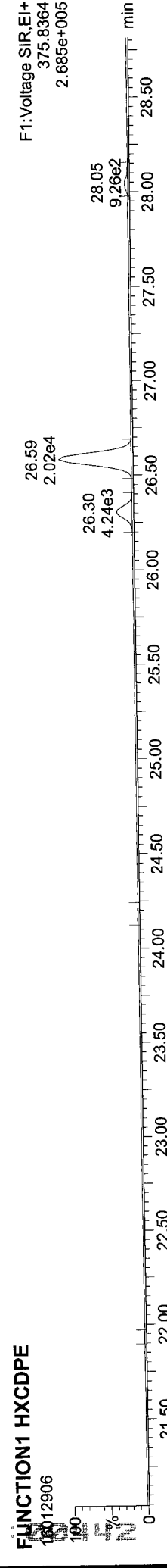
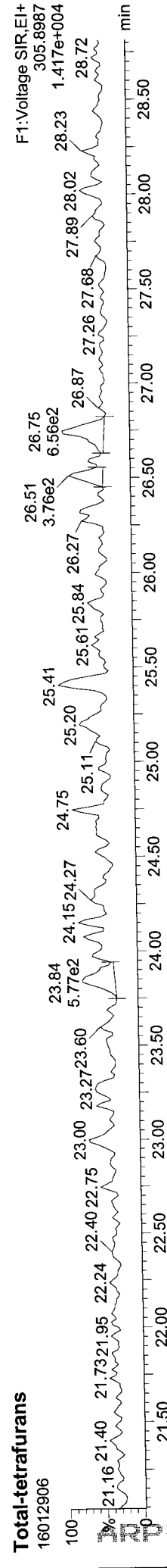
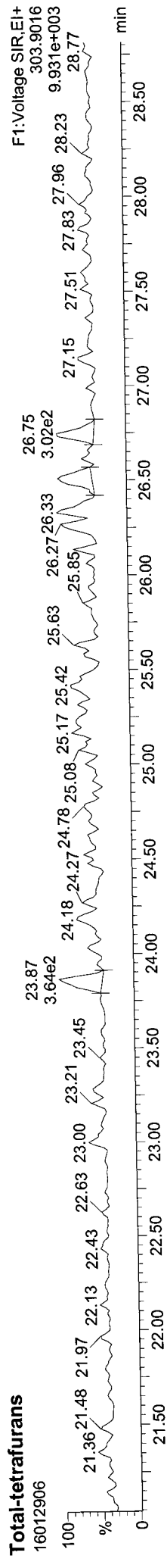
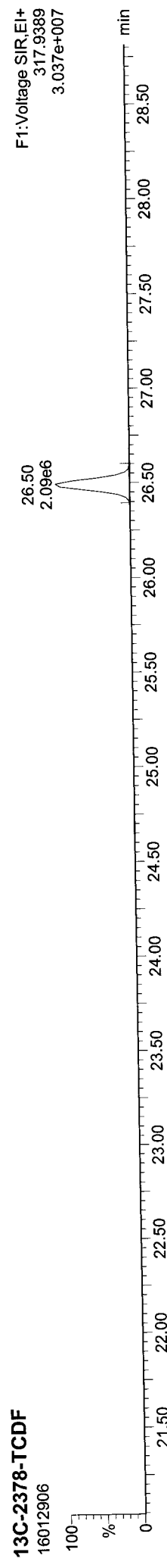
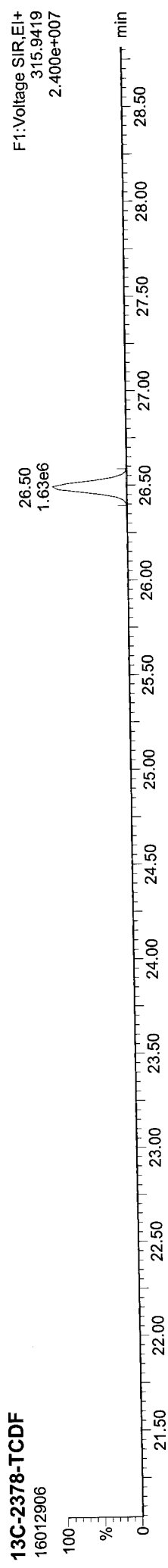


FUNCTION1 PFK



Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
 Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

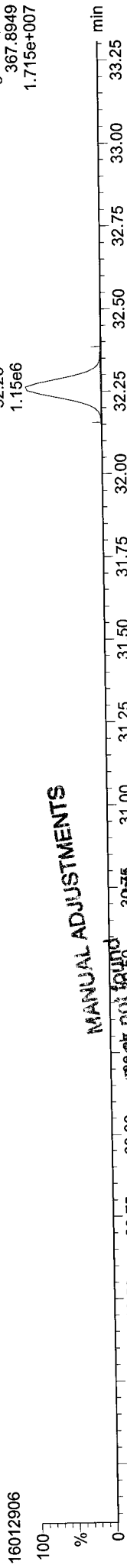


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

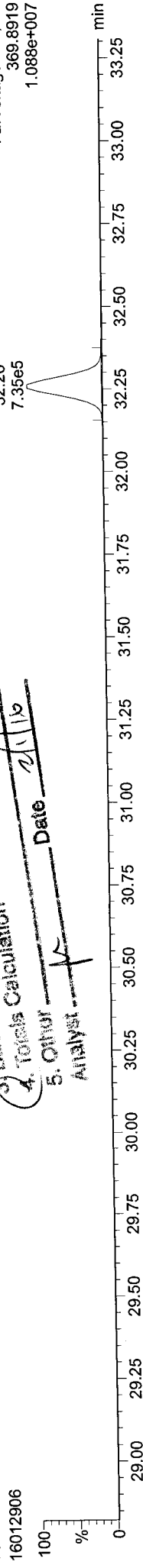
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 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

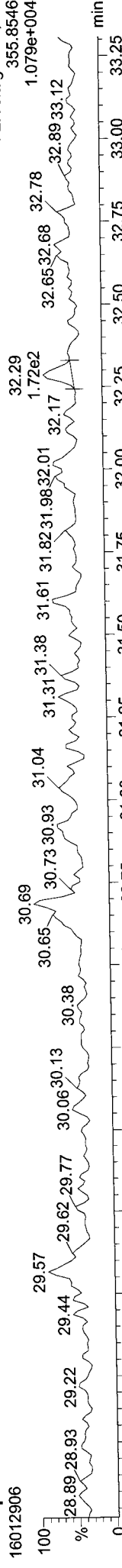
13C-12378-PeCDD



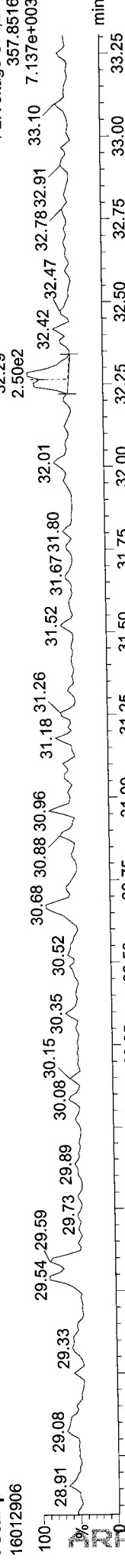
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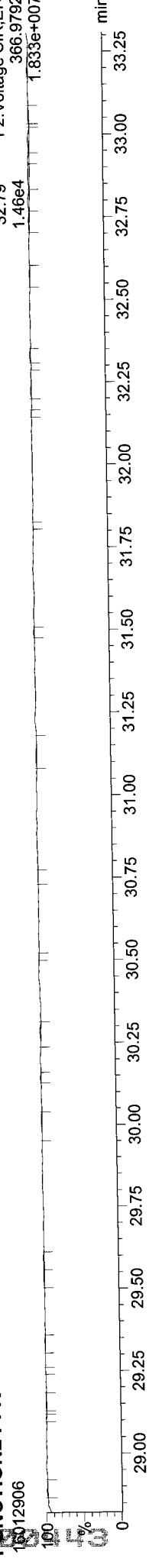
Total-pentadioxins



Total-pentadioxins



FUNCTION2 PFK

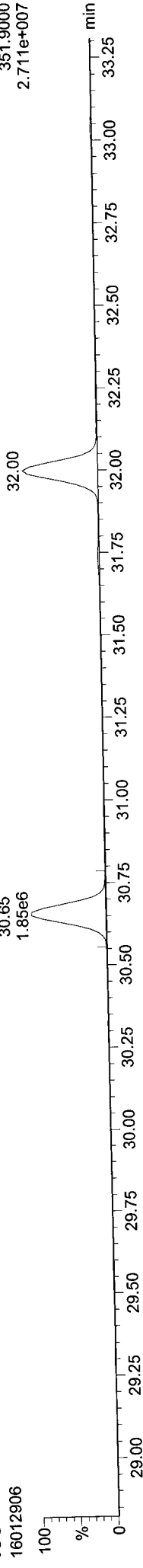


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

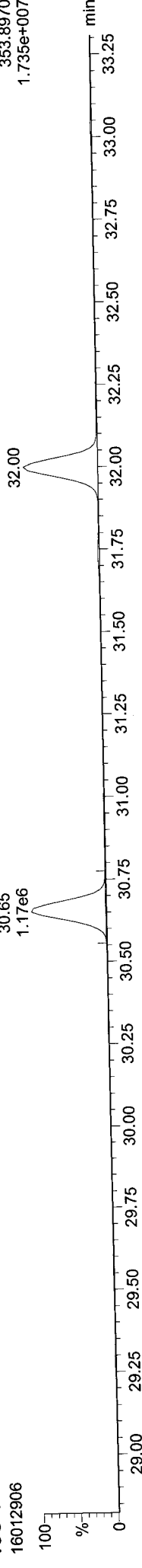
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Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

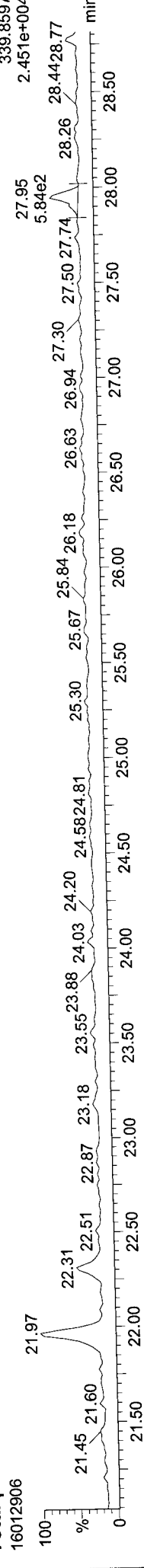
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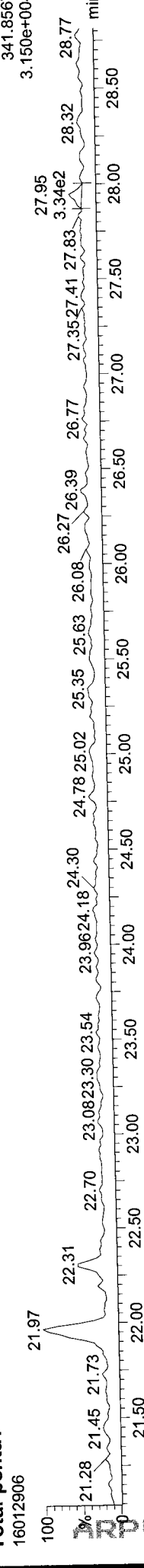
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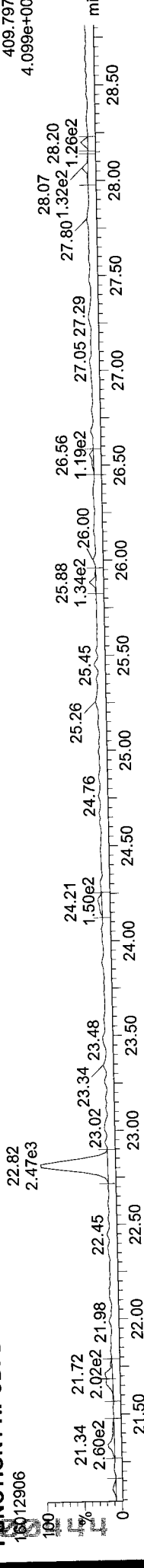
Total-penta1



Total-penta1



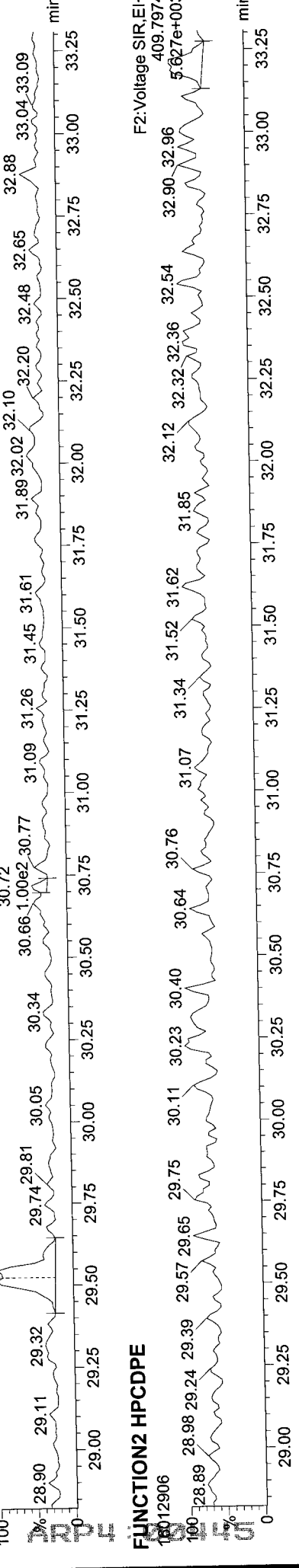
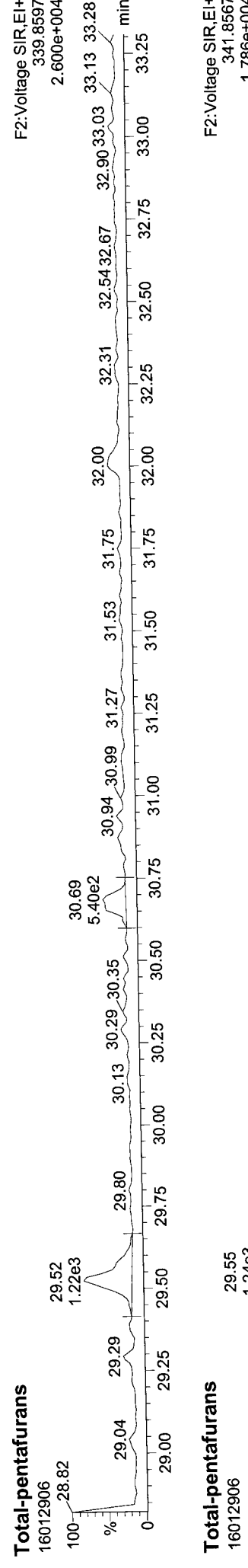
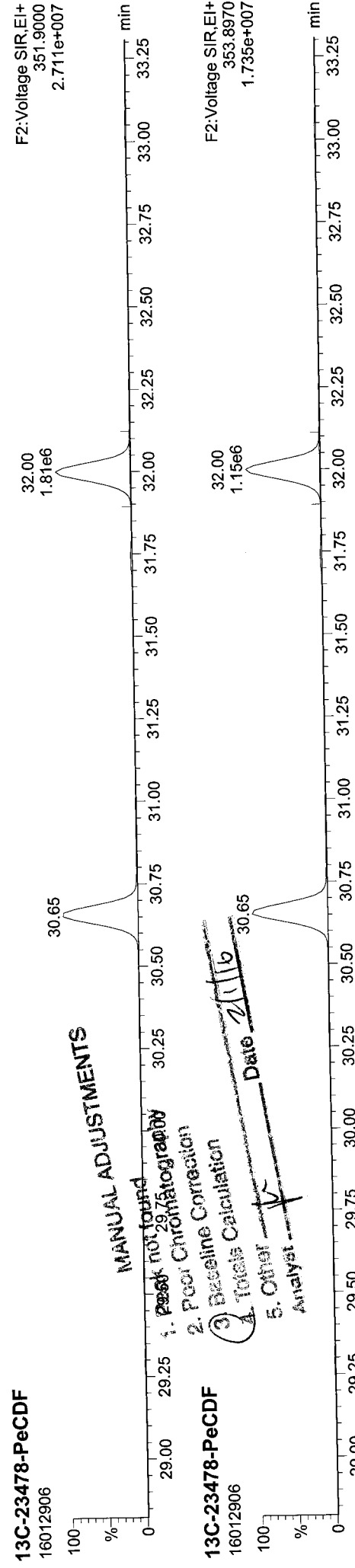
FUNCTION1 HPCDPE



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

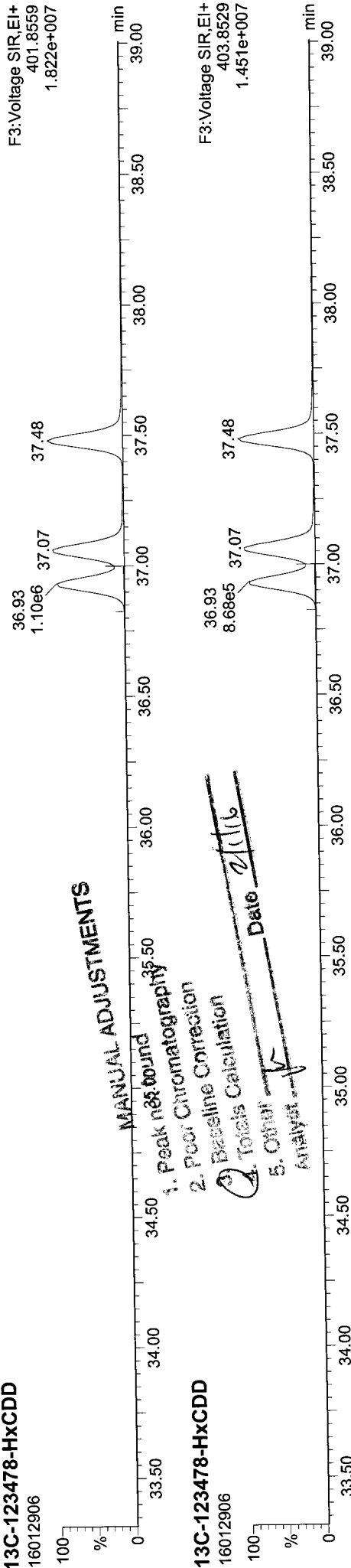
ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk



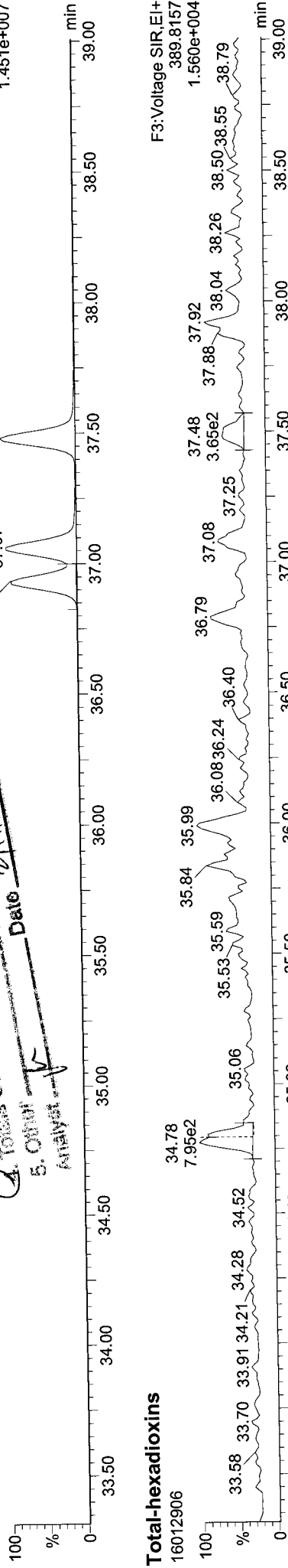
Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

13C-123478-HxCDD
16012906

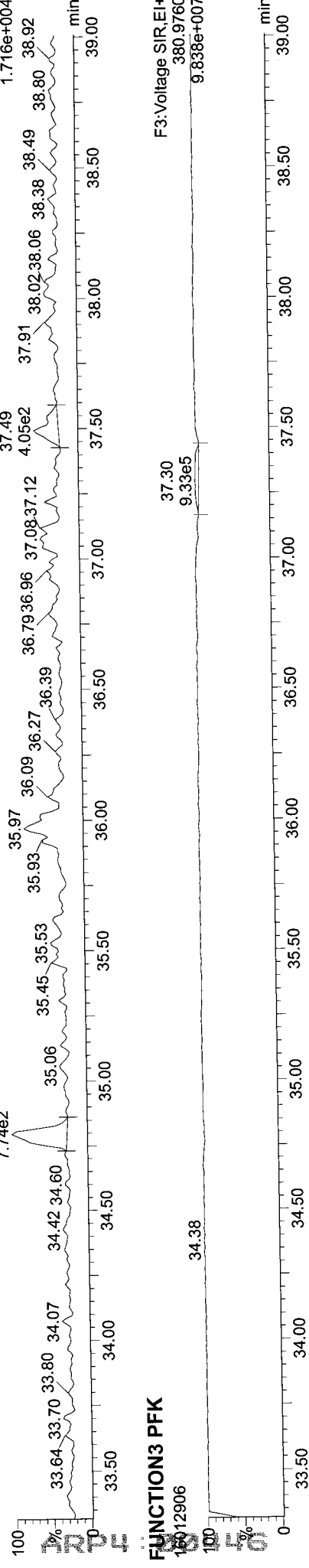


13C-123478-HxCDD
16012906



Total-hexadioxins
16012906

Total-hexadioxins
16012906



FUNCTION3 PFK
16012906

F3:Voltage SIR,EI+
401.8559
1.822e+007

F3:Voltage SIR,EI+
403.8529
1.451e+007

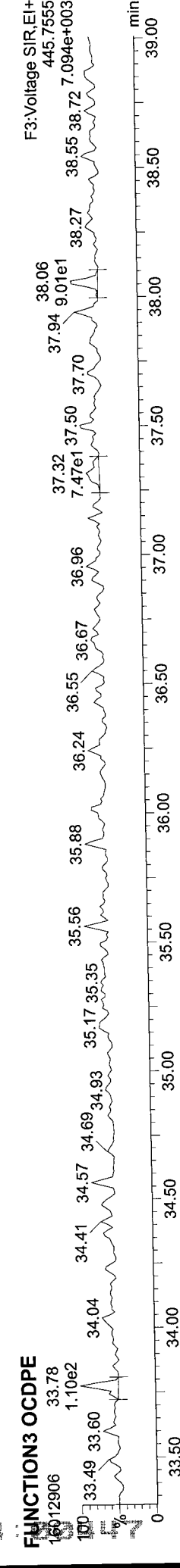
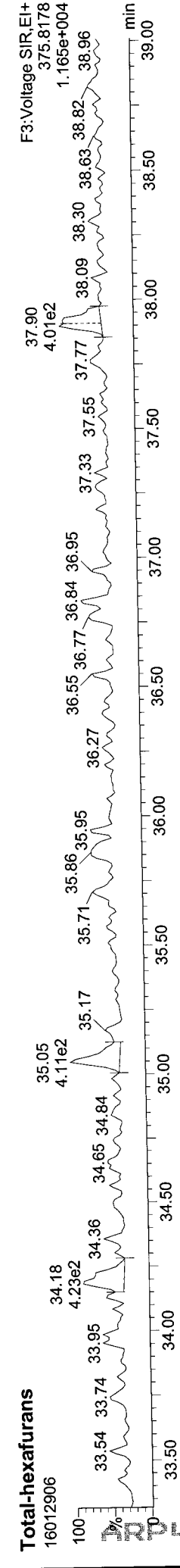
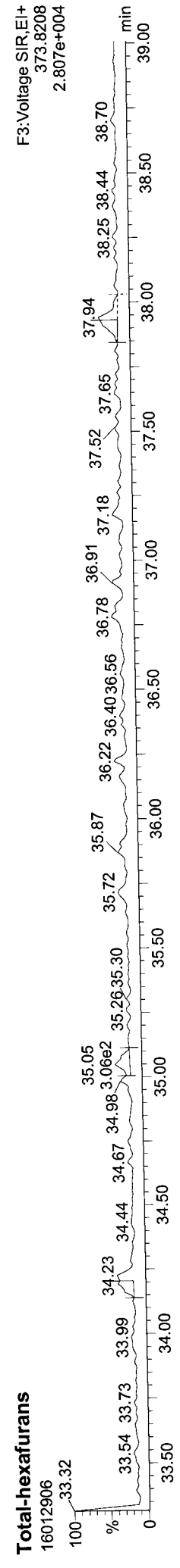
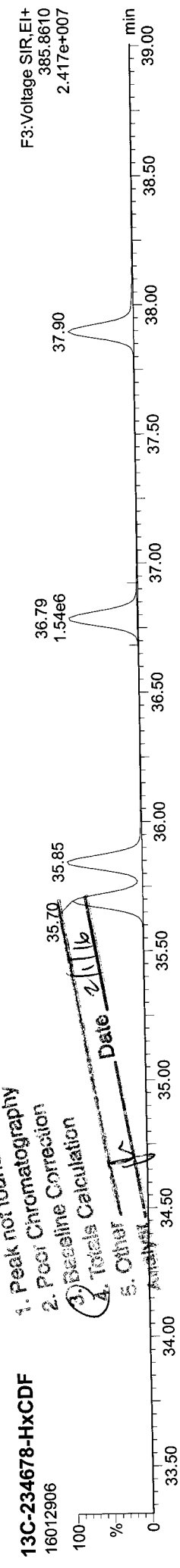
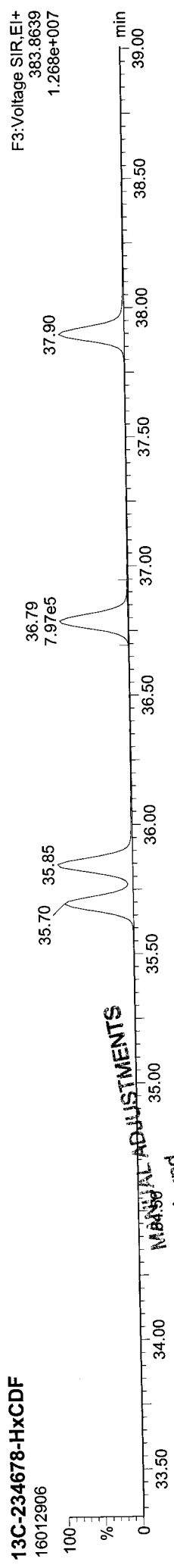
F3:Voltage SIR,EI+
389.8157
1.560e+004

F3:Voltage SIR,EI+
391.8127
1.716e+004

F3:Voltage SIR,EI+
380.9760
9.838e+007

Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qid
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk



MANUAL ADJUSTMENTS

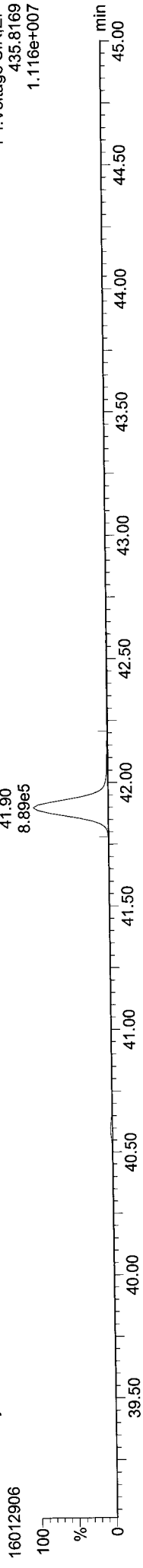
1. Peak not found
2. Poor Chromatography
3. Baseline Correction
4. Totals Calculation
5. Other

Date 2/1/16

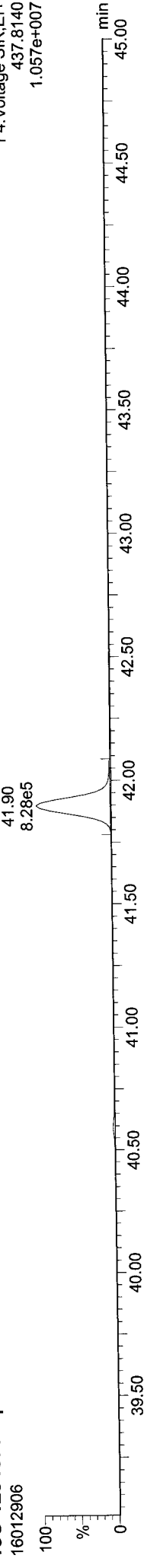
Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

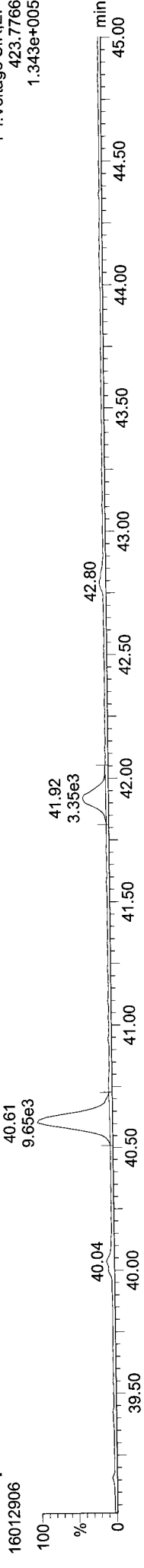
13C-1234678-HpCDD



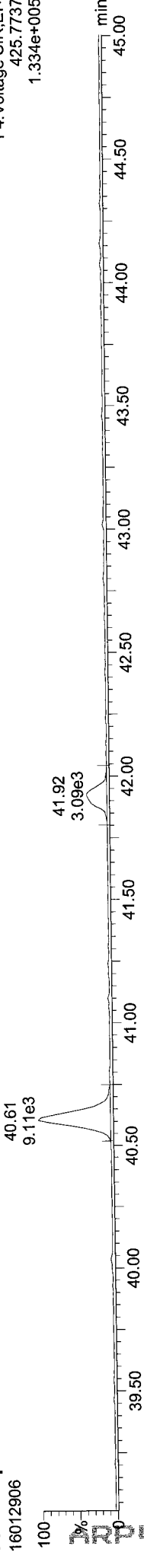
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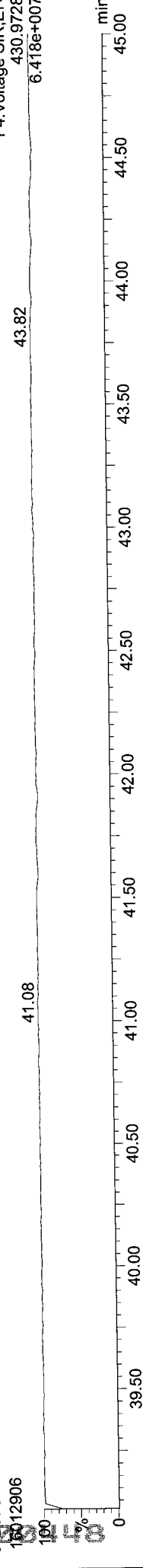
Total-heptadioxins



Total-heptadioxins

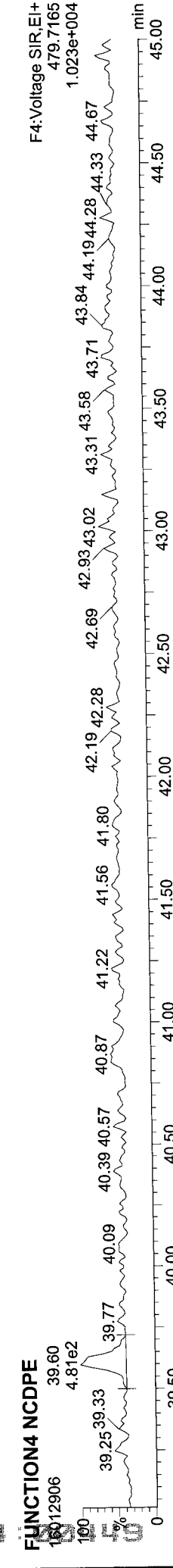
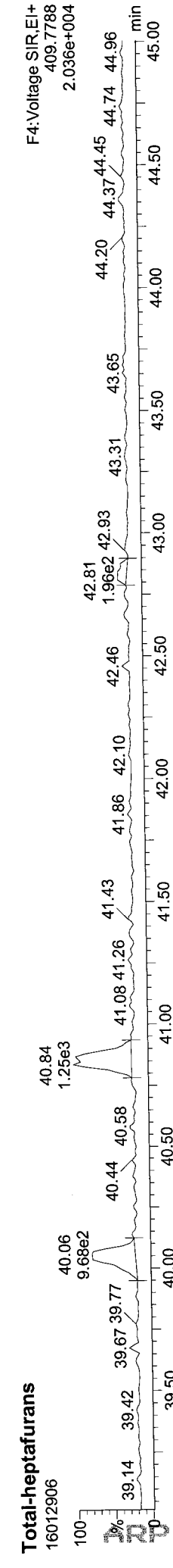
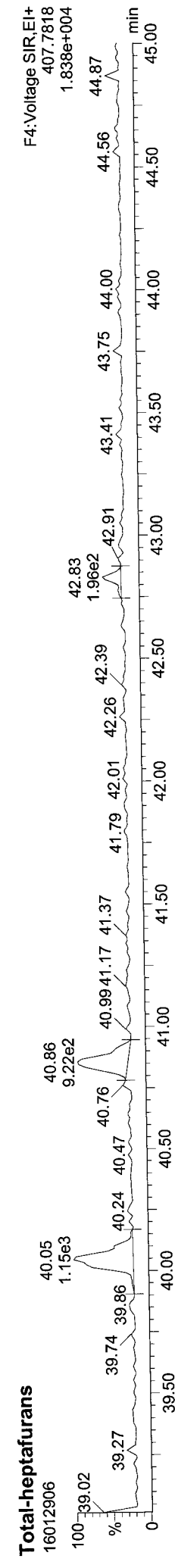
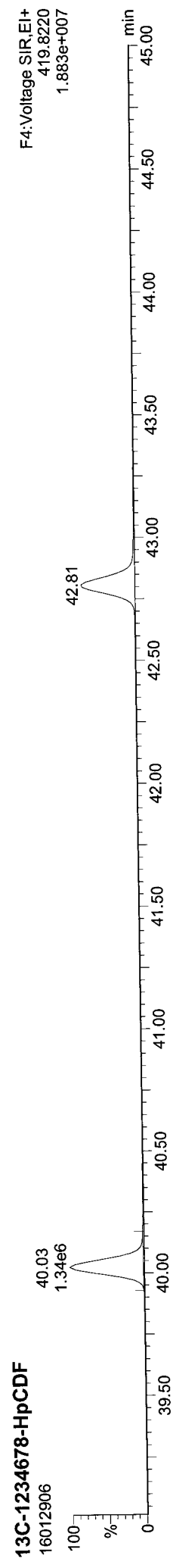
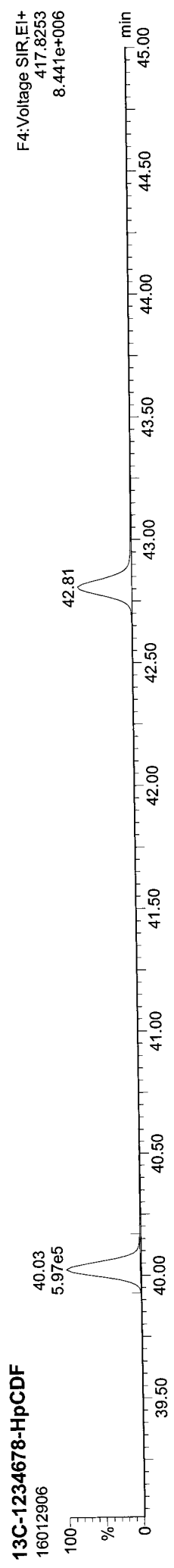


FUNCTION4 PFK



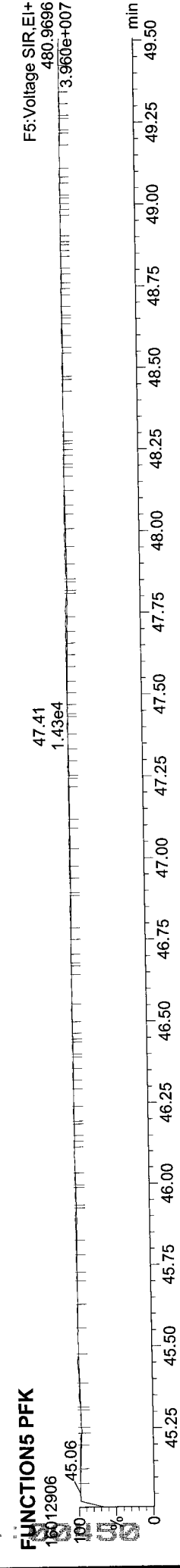
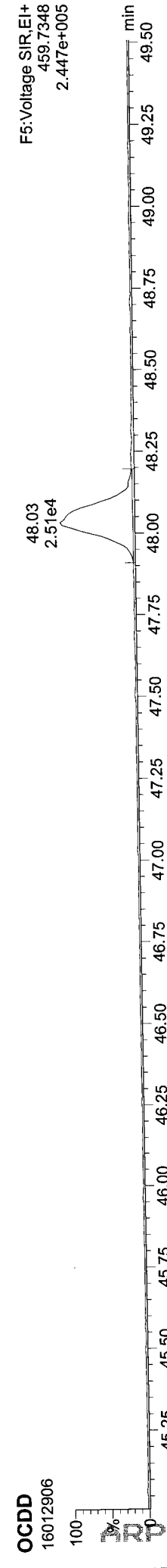
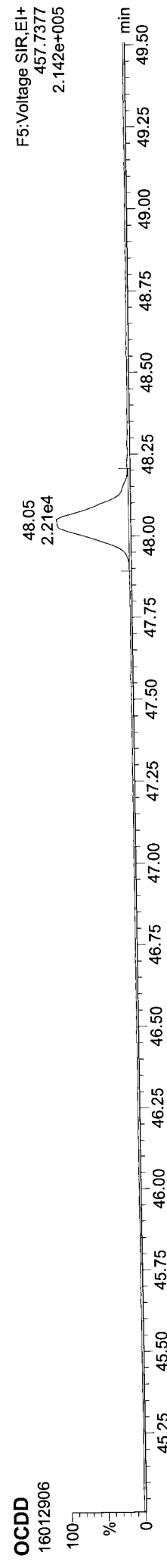
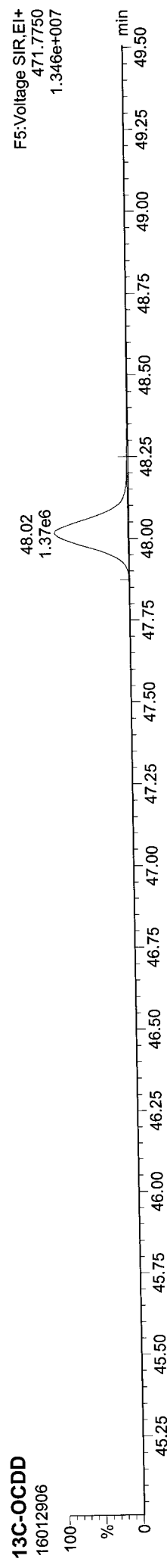
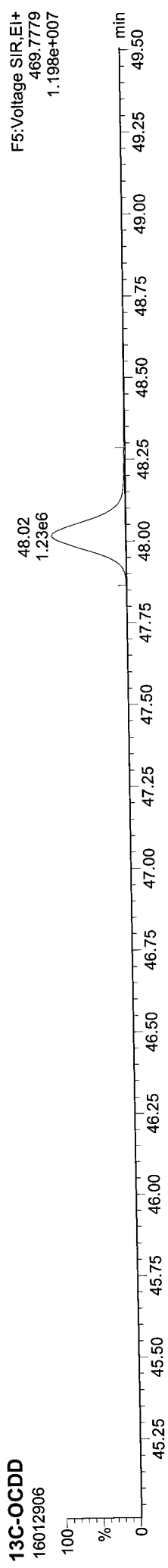
Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
 Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report **MassLynx MassLynx V4.1 SCN909**
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

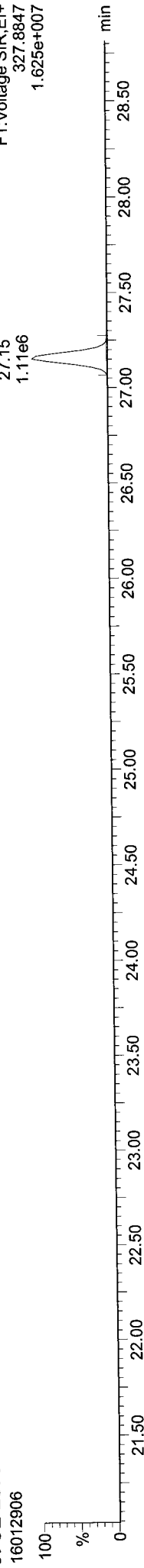


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

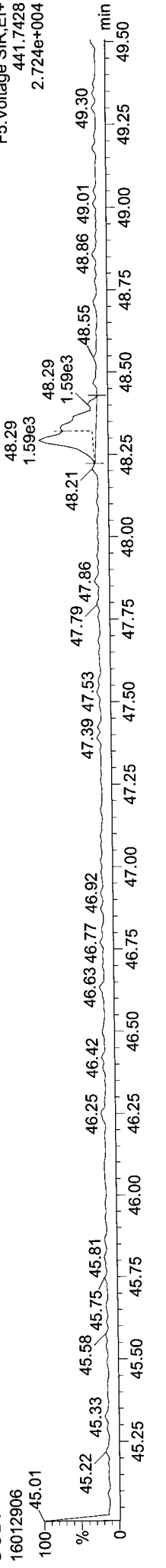
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:08:29 Pacific Standard Time

ID: APR4A, Name: 16012906, Date: 29-Jan-2016, Time: 16:13:47, Conditions: AUTOSPEC01, User: pk

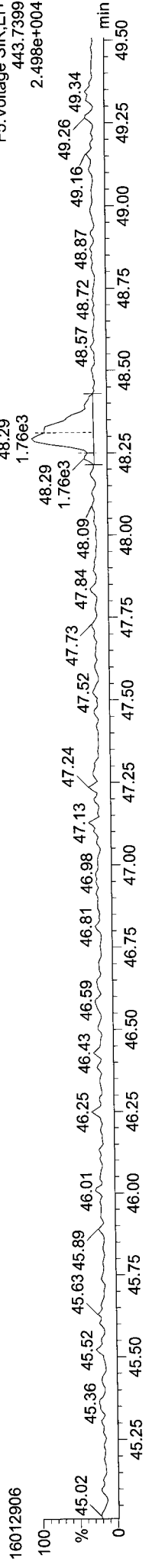
37CL-2378-TCDD



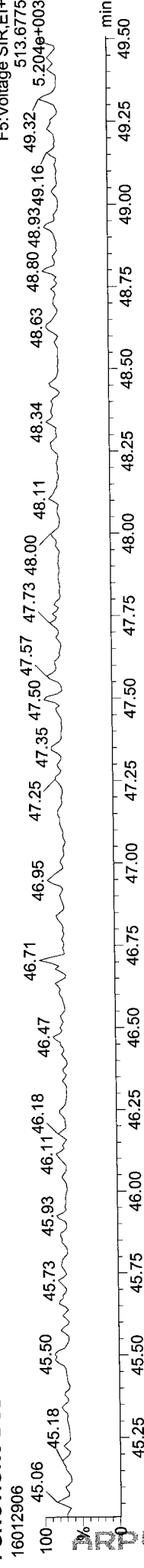
OCDF



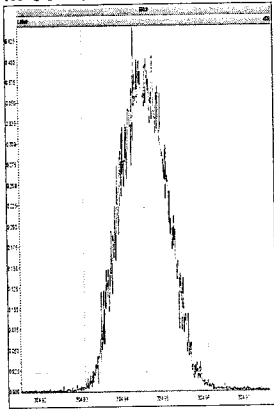
OCDF



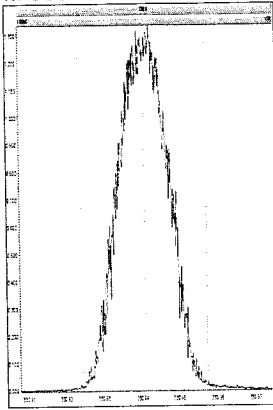
FUNCTIONS DCDPE



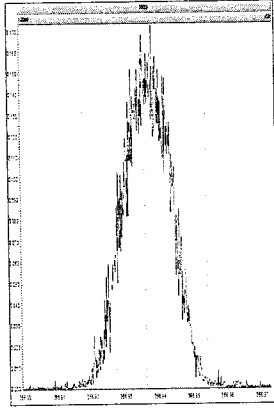
M 304.9824 R 12821



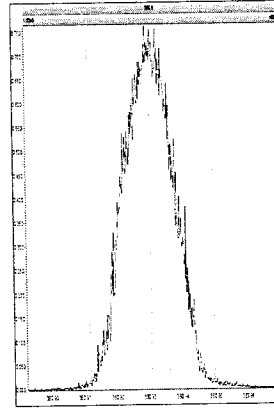
M 330.9792 R 12470



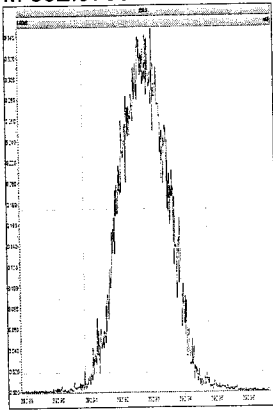
M 366.9792 R 12154



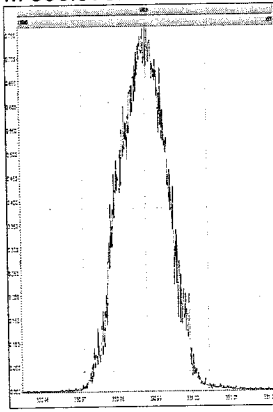
M 380.9760 R 12317



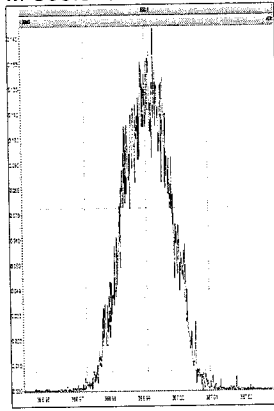
M 392.9760 R 12135



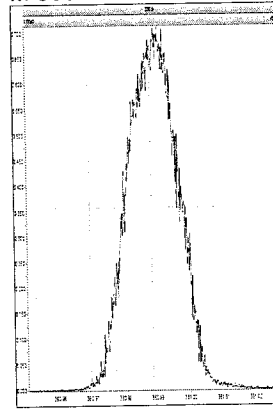
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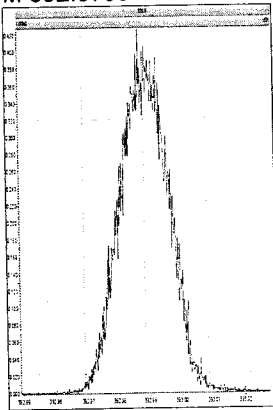
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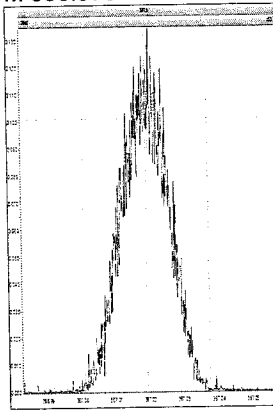
M 380.9760 R 12406



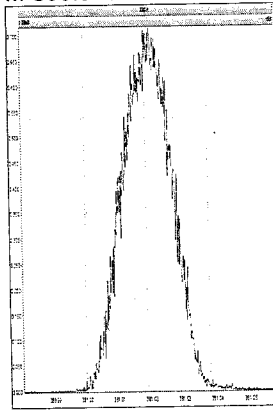
M 392.9760 R 11848



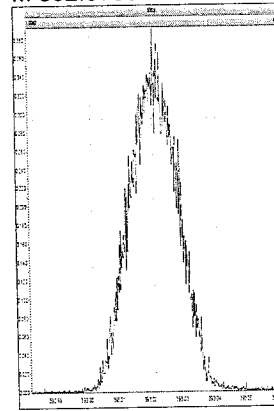
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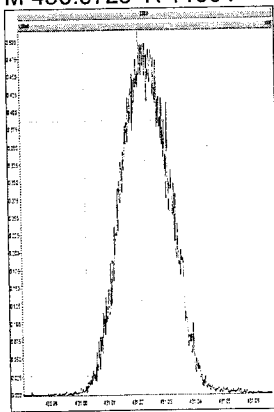
M 380.9760 R 11990



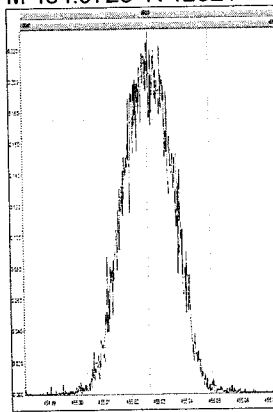
M 392.9760 R 12199



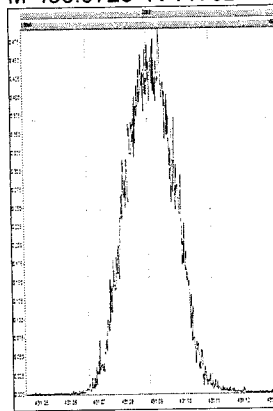
M 430.9728 R 11904



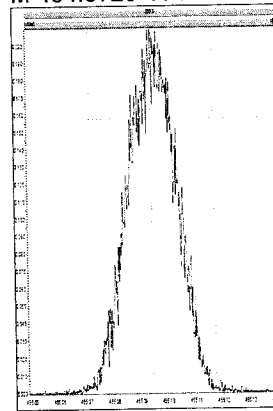
M 454.9728 R 12021



M 430.9728 R 11792

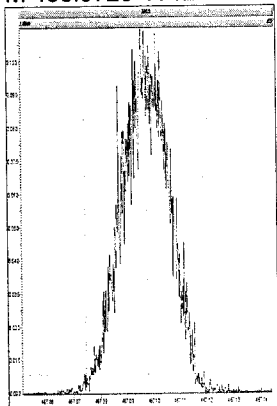


M 454.9728 R 11904

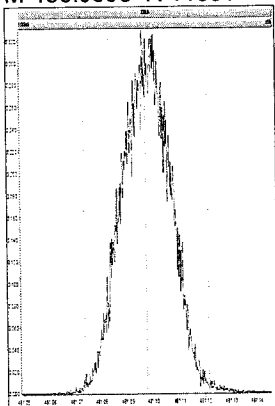


Printed: Friday, January 29, 2016 23:28:03 Pacific Standard Time

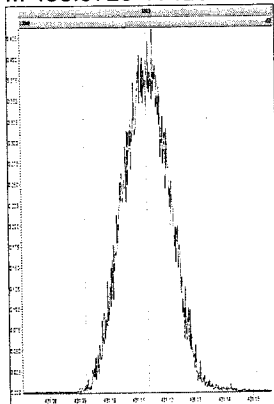
M 466.9728 R 12213



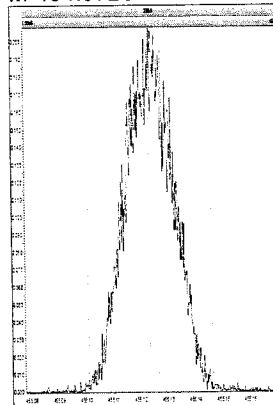
M 480.9696 R 11601



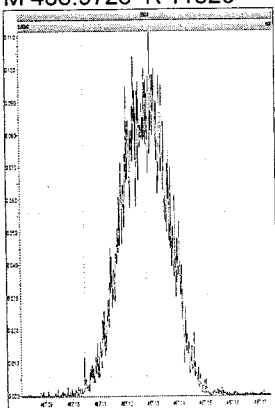
M 430.9728 R 12021



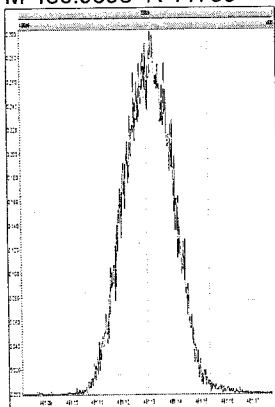
M 454.9728 R 12470



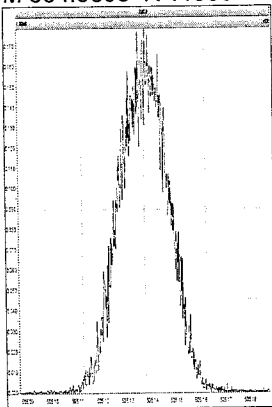
M 466.9728 R 11820



M 480.9696 R 11765



M 504.9696 R 11990



Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

Method: P:\DIOXIN8290.pro\MethDB\Dioxin1601293SN.mdb 29 Jan 2016 12:40:27
 Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	SIN	EMPC?	EMPC	pg
2378-TCDF	26.497	1.001	1.45e5	2.10e5	0.827	0.688	0.770	1381	1347	2.10e6	3.02e6	1518.5	NO	10.352	10.352
12378-PeCDF	30.665	1.001	8.65e5	5.97e5	0.824	1.449	1.550	2888	2796	1.25e7	8.62e6	4320.3	NO	53.444	53.444
23478-PeCDF	32.002	1.001	8.62e5	5.95e5	0.850	1.448	1.550	2888	2796	1.29e7	8.87e6	4455.3	NO	52.301	52.301
123478-HxCDF	35.697	1.000	6.95e5	6.01e5	0.973	1.158	1.240	3180	2657	1.04e7	8.79e6	3271.8	NO	52.394	52.394
234678-HxCDF	36.793	1.001	6.80e5	5.91e5	1.025	1.151	1.240	3180	2657	1.01e7	8.80e6	3174.5	NO	52.108	52.108
123678-HxCDF	35.850	1.001	7.07e5	6.19e5	0.953	1.143	1.240	3180	2657	1.02e7	8.88e6	3219.1	NO	52.410	52.410
123789-HxCDF	37.900	1.000	6.06e5	5.22e5	0.956	1.162	1.240	3180	2657	9.41e6	8.06e6	2960.2	NO	49.340	49.340
1234678-HpCDF	40.026	1.001	6.01e5	6.14e5	1.153	0.978	1.050	2181	1961	8.36e6	8.69e6	3832.5	NO	52.243	52.243
1234789-HpCDF	42.789	1.000	4.86e5	5.06e5	1.131	0.959	1.050	2181	1961	5.93e6	6.06e6	2720.3	NO	52.592	52.592
OCDF	48.278	1.006	7.46e5	8.79e5	1.023	0.849	0.890	1312	1575	7.23e6	8.38e6	5511.3	NO	106.005	106.005
2378-TCDD	27.139	1.001	1.19e5	1.56e5	1.023	0.762	0.770	1131	1173	1.68e6	2.19e6	1489.2	NO	10.125	10.125
12378-PeCDD	32.265	1.001	6.16e5	3.98e5	0.939	1.549	1.550	2507	1560	9.19e6	5.92e6	3667.3	NO	51.452	51.452
123478-HxCDD	36.924	1.000	5.55e5	4.48e5	0.963	1.239	1.240	1788	1566	8.32e6	6.78e6	4651.9	NO	50.661	50.661
123678-HxCDD	37.056	1.000	5.50e5	4.39e5	0.894	1.251	1.240	1788	1566	7.94e6	6.43e6	4441.0	NO	51.378	51.378
123789-HxCDD	37.483	1.012	5.58e5	4.49e5	0.900	1.241	1.240	1788	1566	8.49e6	6.76e6	4746.2	NO	53.129	53.129
1234678-HpCDD	41.890	1.001	4.50e5	4.27e5	0.964	1.053	1.050	1984	2632	5.77e6	5.61e6	2908.0	NO	52.140	52.140
OCDD	48.008	1.001	6.95e5	7.91e5	0.969	0.879	0.890	1916	1004	6.80e6	7.71e6	3547.2	NO	102.278	102.278
13C-2378-TCDF	26.482	1.006	1.82e6	2.33e6	1.502	0.780	0.770	6381	3078	2.57e7	3.26e7	4023.0	NO	104.634	104.634
13C-12378-PeCDF	30.643	1.164	2.03e6	1.30e6	1.215	1.564	1.550	2319	2127	2.96e7	1.88e7	12762.1	NO	103.570	103.570
13C-23478-PeCDF	31.980	1.215	2.00e6	1.27e6	1.181	1.572	1.550	2319	2127	2.97e7	1.90e7	12820.3	NO	105.210	105.210
13C-123478-HxCDF	35.686	0.953	8.61e5	1.68e6	1.246	0.512	0.510	2707	2533	1.25e7	2.45e7	4624.5	NO	104.878	104.878
13C-123678-HxCDF	35.828	0.956	9.06e5	1.75e6	1.375	0.518	0.510	2707	2533	1.30e7	2.52e7	4803.6	NO	99.193	99.193
13C-234678-HxCDF	36.771	0.982	8.16e5	1.57e6	1.186	0.521	0.510	2707	2533	1.20e7	2.31e7	4439.8	NO	103.113	103.113
13C-123789-HxCDF	37.889	1.011	8.19e5	1.57e6	1.135	0.522	0.510	2707	2533	1.24e7	2.37e7	4586.9	NO	108.222	108.222
13C-1234678-HpCDF	40.004	1.068	6.22e5	1.39e6	1.020	0.447	0.440	2276	3146	8.76e6	1.95e7	3850.5	NO	101.522	101.522
13C-1234789-HpCDF	42.778	1.142	5.18e5	1.15e6	0.824	0.451	0.440	2276	3146	6.39e6	1.41e7	2809.6	NO	104.020	104.020
13C-1234-TCDD	26.317	0.000	1.17e6	1.47e6	1.000	0.794	0.770	3383	1619	1.65e7	2.05e7	4871.8	NO	100.000	100.000
13C-2378-TCDD	27.124	1.031	1.17e6	1.48e6	0.983	0.792	0.770	3383	1619	1.67e7	2.10e7	4940.3	NO	102.251	102.251
13C-12378-PeCDD	32.243	1.225	1.28e6	8.15e5	0.787	1.572	1.550	1805	1366	1.91e7	1.21e7	10575.3	NO	100.968	100.968
13C-123478-HxCDD	36.913	0.985	1.15e6	9.05e5	1.031	1.273	1.240	2071	1605	1.71e7	1.35e7	8269.9	NO	102.588	102.588
13C-123678-HxCDD	37.045	0.989	1.20e6	9.51e5	1.137	1.267	1.240	2071	1605	1.75e7	1.40e7	8470.0	NO	97.412	97.412
13C-1234678-HpCDD	41.868	1.118	8.90e5	8.55e5	0.892	1.041	1.050	2120	2236	1.16e7	1.10e7	5455.7	NO	100.501	100.501
13C-OCDD	47.982	1.281	1.41e6	1.59e6	0.852	0.885	0.890	1546	2560	1.38e7	1.54e7	8896.3	NO	180.902	180.902

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld

Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time

Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise:1	Noise:2	Height:1	Height:2	S/N	EMPC?	EMPC	Pg
13C-123789-HxCDD	37.461	0.000	1.09e6	8.61e5	1.000	1.260	1.240	2071	1605	1.66e7	1.32e7	8028.8	NO		100.000
Total-tetrafurans			4.49e5		0.827			1381		6.51e6					32.099
Total-penta 1			1.12e6					926		1.61e7					60.935
Total-pentafurans			2.64e6		0.837			2888		3.86e7					161.617
Total-hexafurans			3.48e6		0.977			3180		5.19e7					267.347
Total-heptafurans			1.09e6		1.142			2181		1.43e7					105.048
Total-Furans			9.54e6		0.971			1381		1.35e8					733.049
Total-tetradiioxins			6.64e5		1.023			1131		8.14e6					55.857
Total-pentadiioxins			2.19e6		0.939			2507		2.79e7					182.301
Total-hexadiioxins			2.38e6		0.919			1788		3.55e7					222.534
Total-heptadiioxins			9.73e5		0.964			1984		1.32e7					113.089
Total-Dioxins			6.90e6		0.950			1131		9.16e7					676.059
Total-TEQ			1.64e7					1131		2.26e8					1409.108
37CL-2378-TCDD	27.139	1.031	2.94e5		1.091			1745		4.16e6		2384.0			10.201
FUNCTION1 PFK			1.48e6					819277		2.54e7					0.000
FUNCTION2 PFK			3.48e4					144016		1.10e6					0.000
FUNCTION3 PFK			5.79e4					699985		1.69e6					
FUNCTION4 PFK			2.65e5					549601		8.89e6					
FUNCTION5 PFK			6.30e4					378503		2.89e6					
FUNCTION1 HXCDPE			4.33e2					600		1.11e4					0.000
FUNCTION1 HPCDPE			4.25e2					808		8.22e3					0.000
FUNCTION2 HPCDPE			1.20e3					764		1.96e4					0.000
FUNCTION3 OCDPE			1.64e2					654		4.31e3					0.000
FUNCTION4 NCDPE			1.15e2					636		1.76e3					0.000
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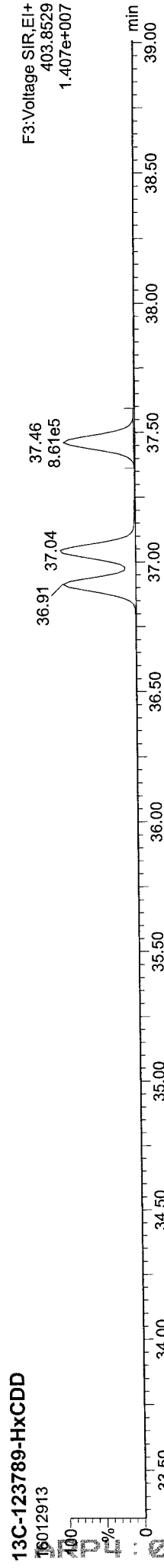
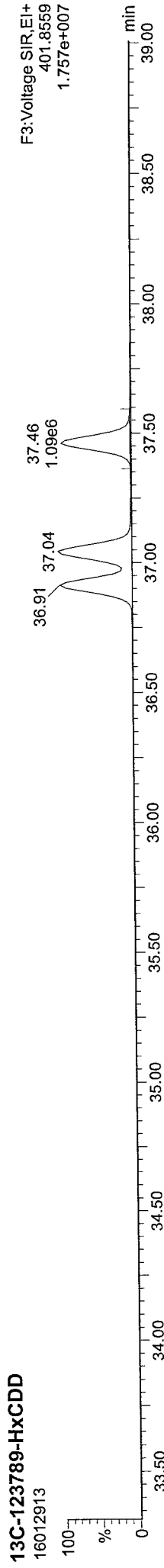
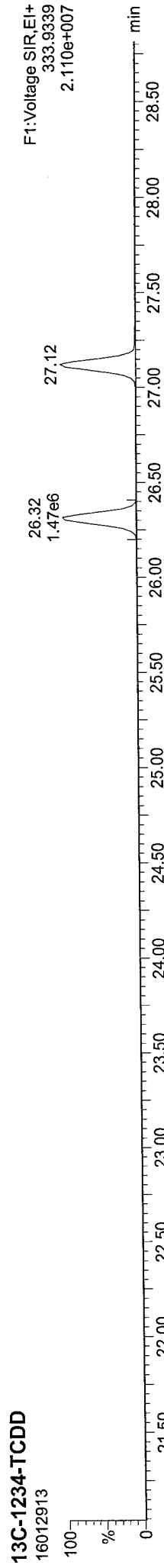
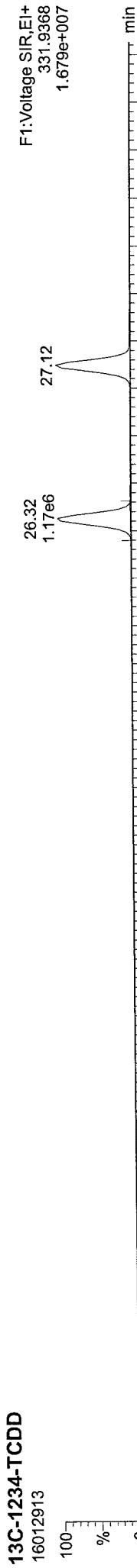
AP4 : 00455

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

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Calibration: P:\DIOXIN8290.pro\CurveDB\151015ICAL.cdb 16 Oct 2015 08:47:27

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

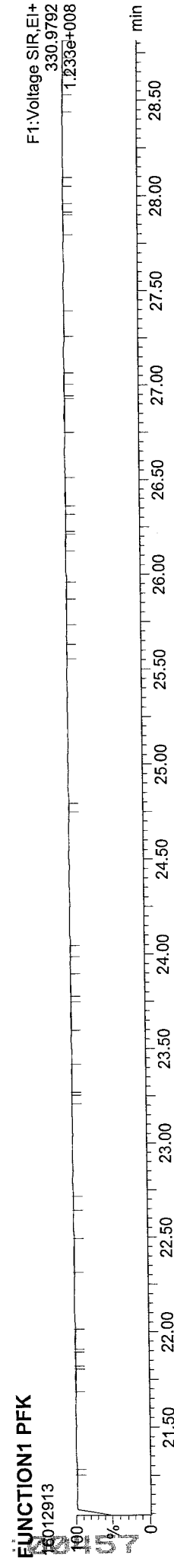
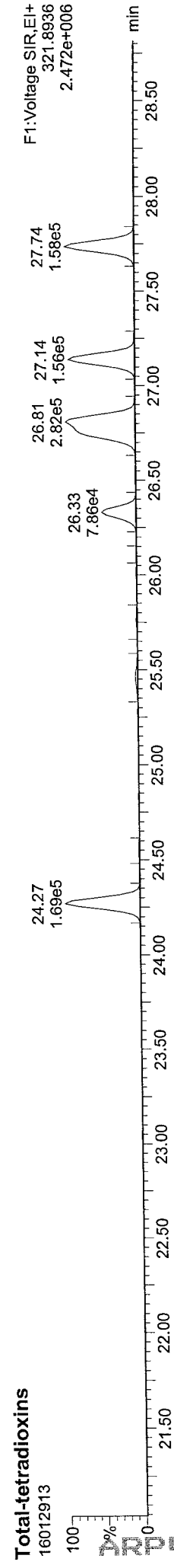
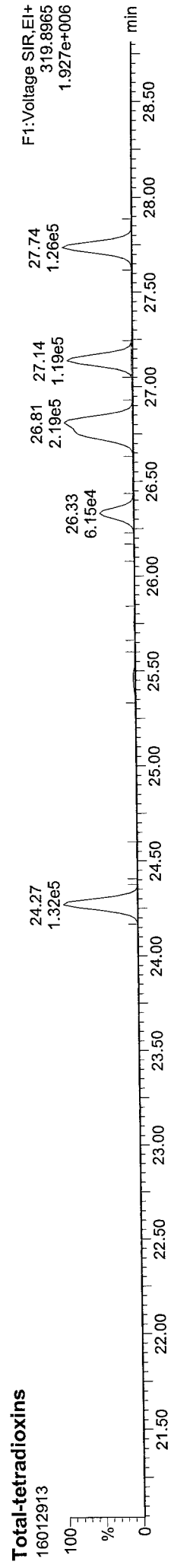
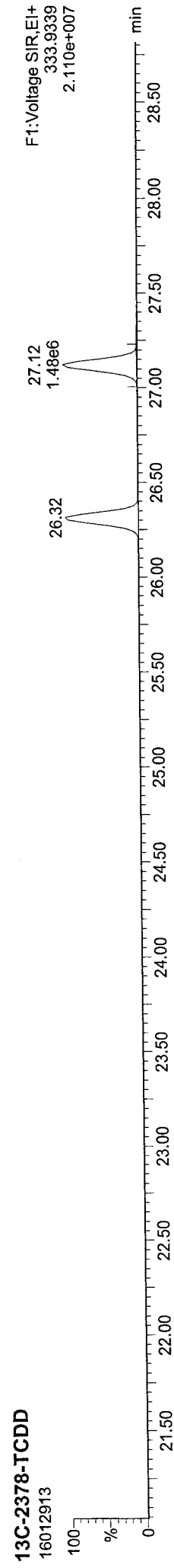
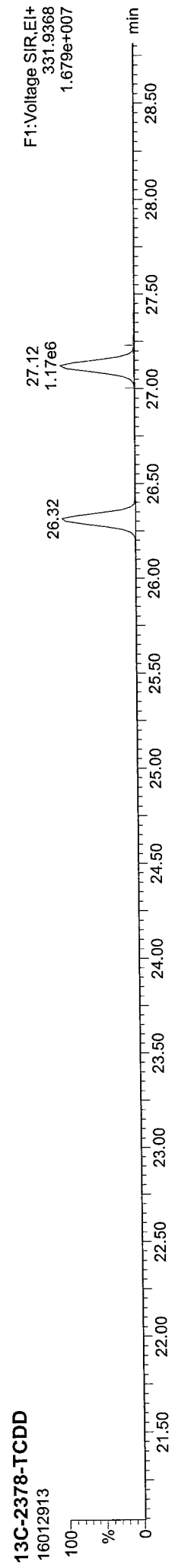


MP4 : 00456

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

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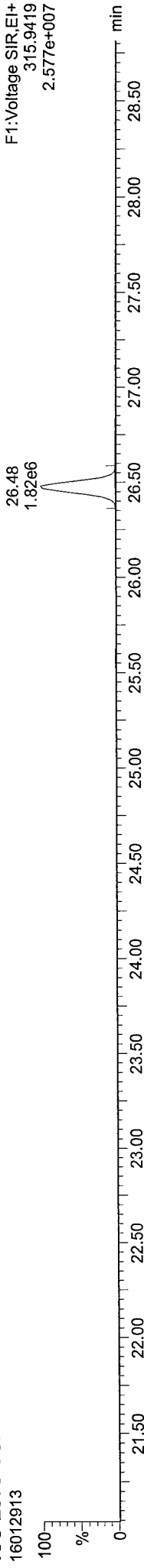
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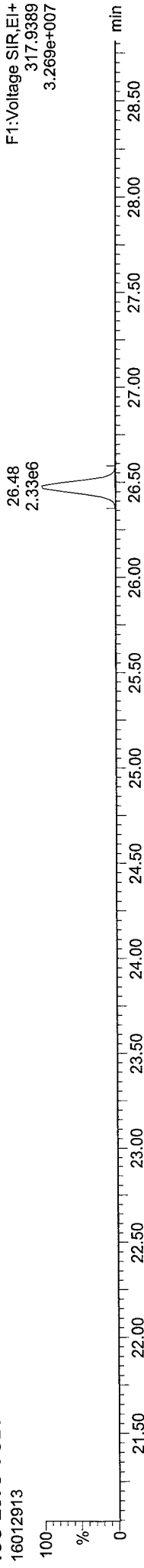
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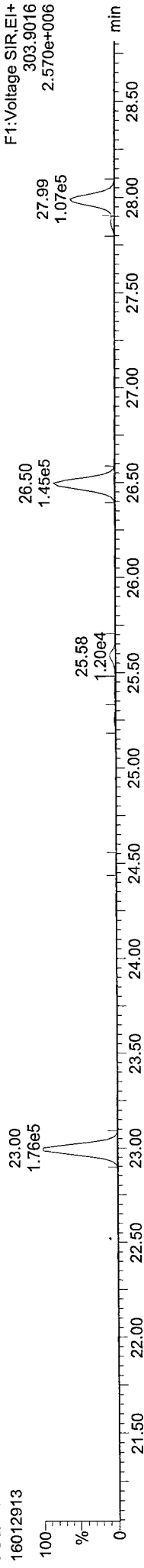
13C-2378-TCDF



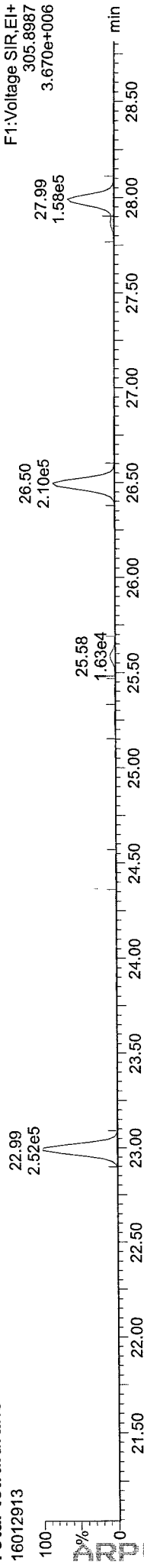
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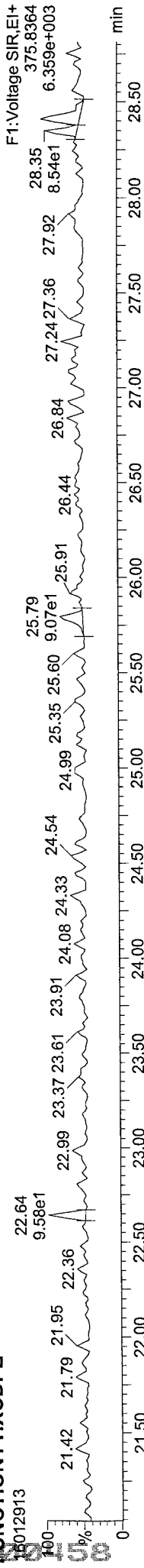
Total-tetrafurans



Total-tetrafurans



FUNCTION1 HXCDPE

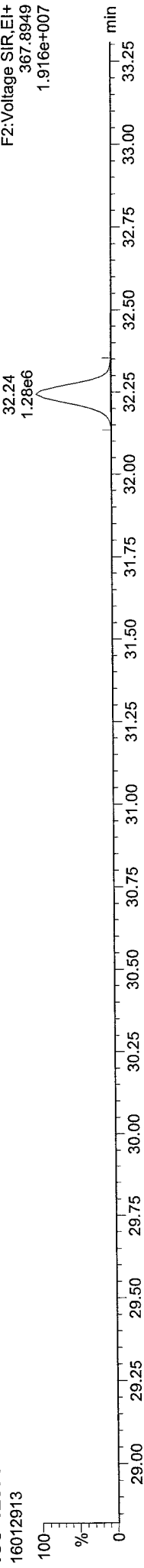


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

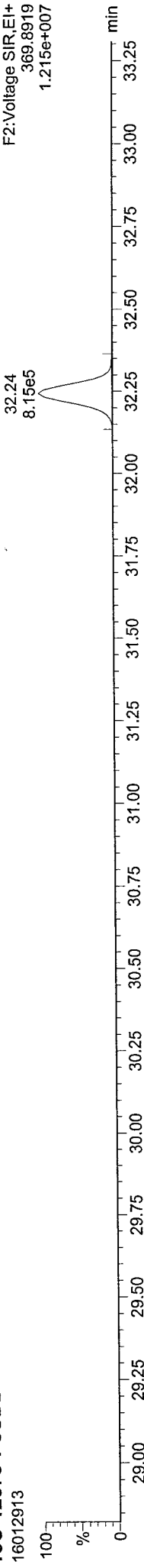
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Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

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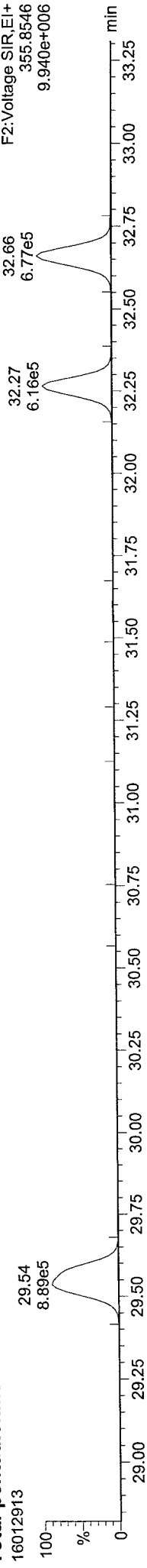
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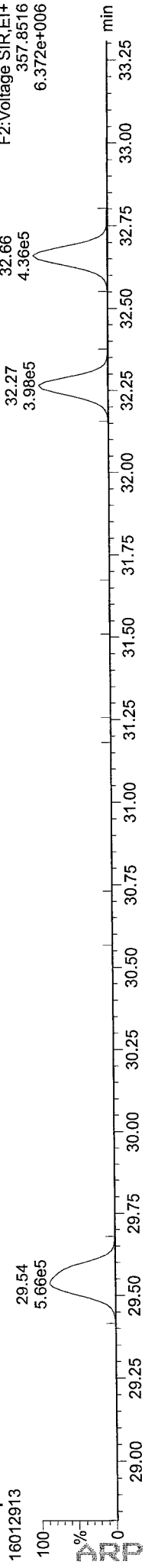
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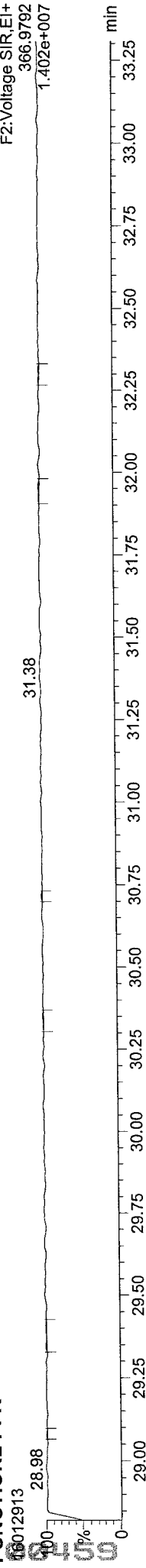
Total-pentadioxins



Total-pentadioxins



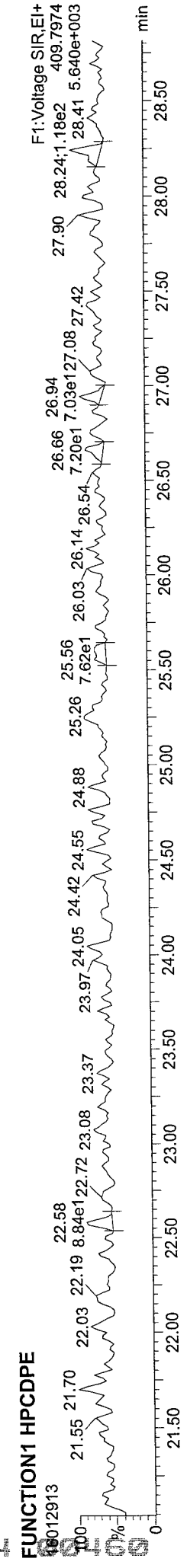
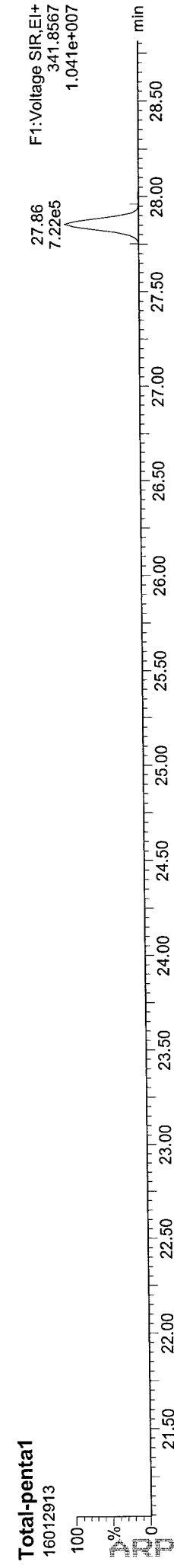
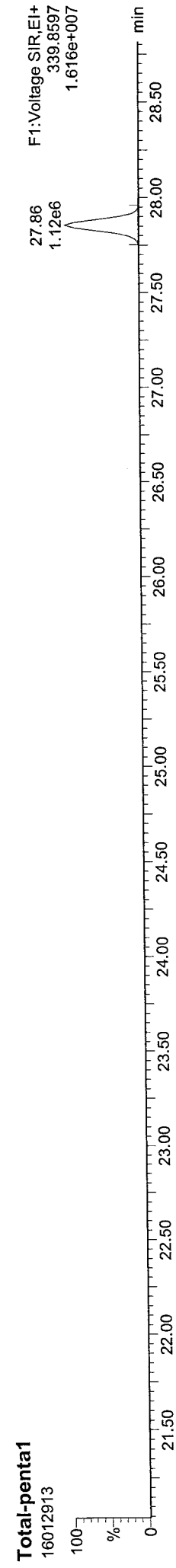
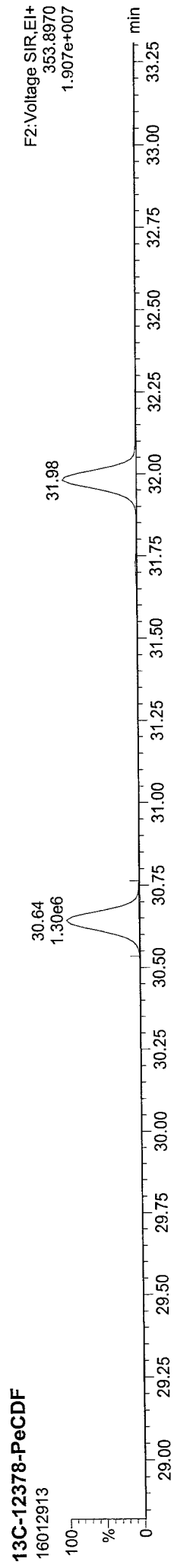
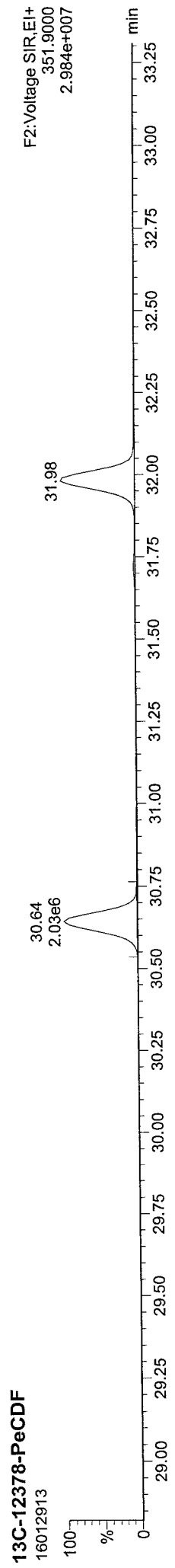
FUNCTION2 PFK



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
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ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

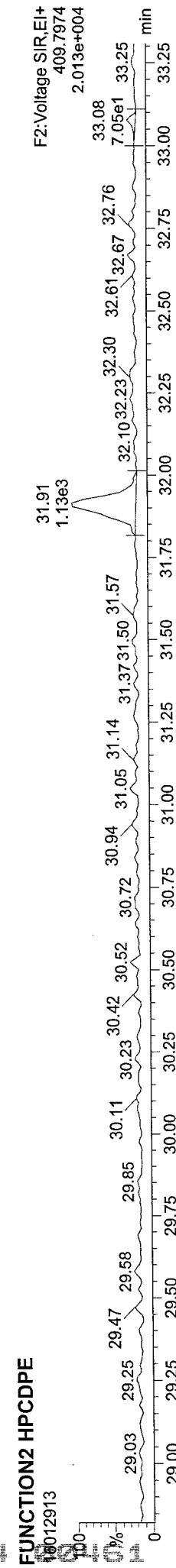
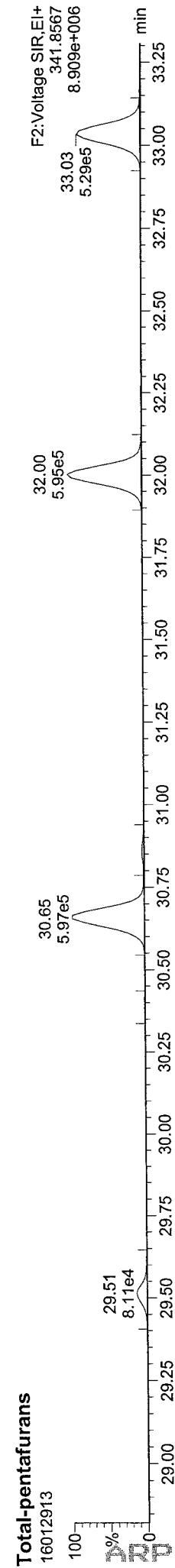
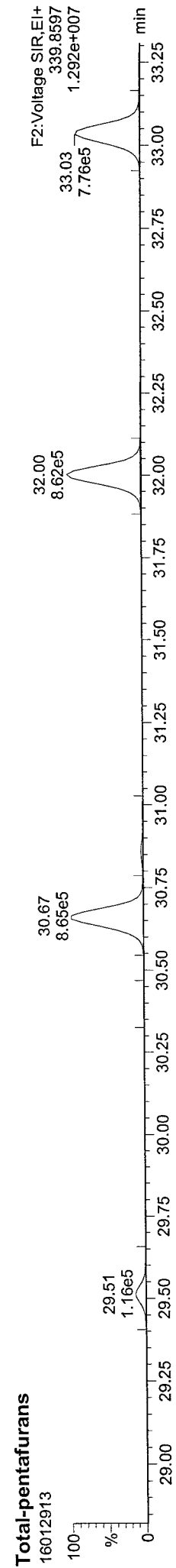
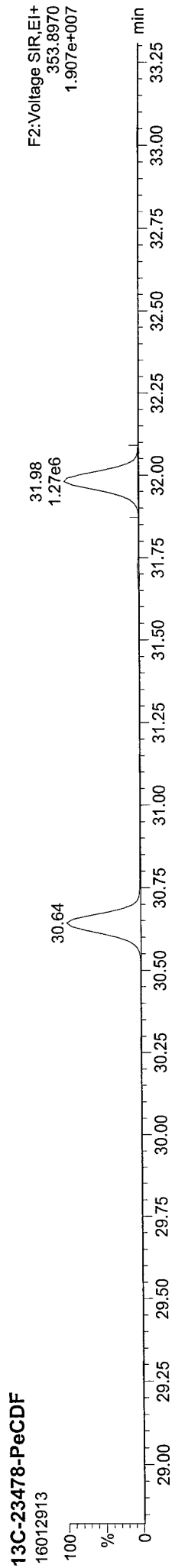
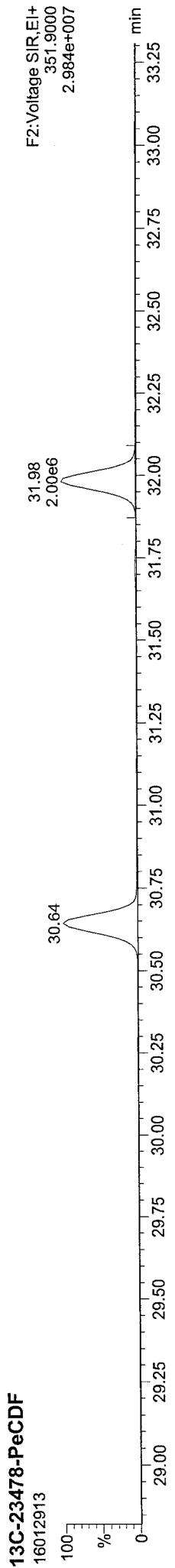


ARP4 80400

Quantify Sample Report MassLynx V4.1 SCN909

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Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

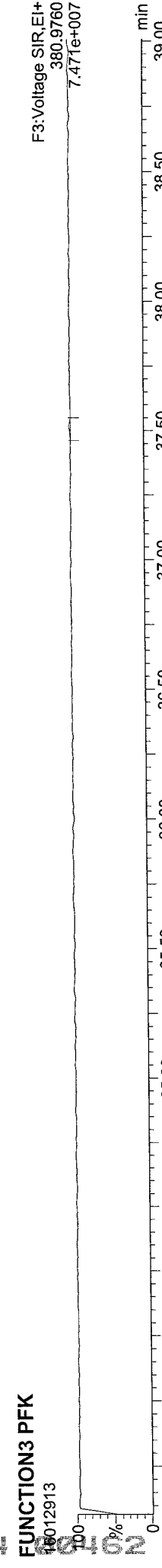
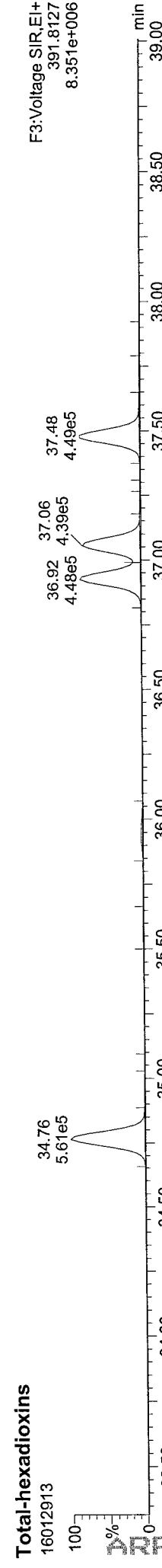
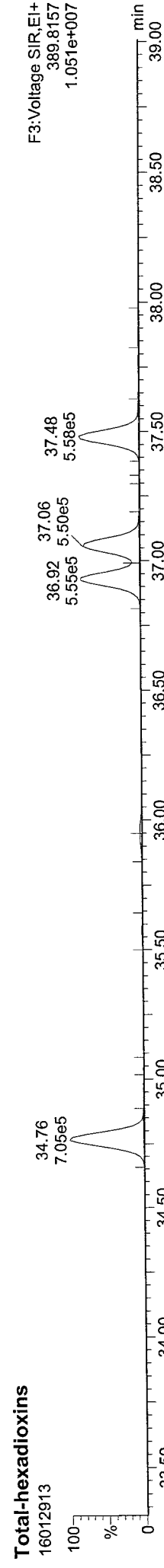
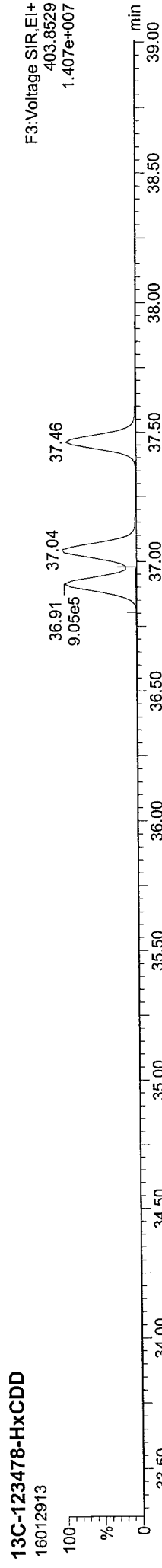
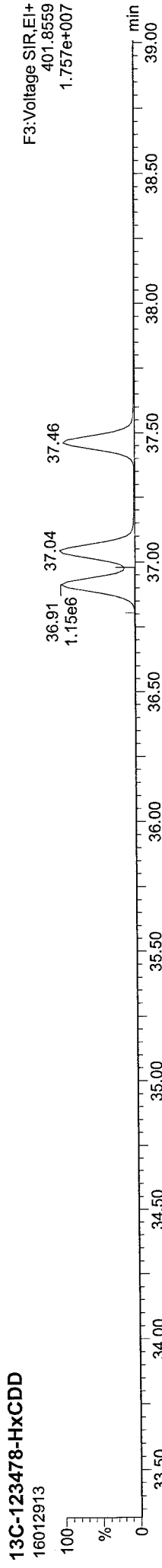
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Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
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ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

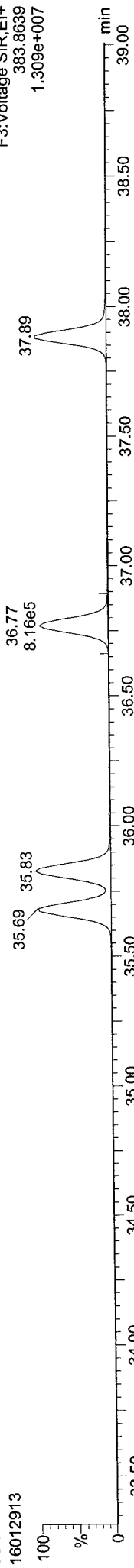


Quantify Sample Report

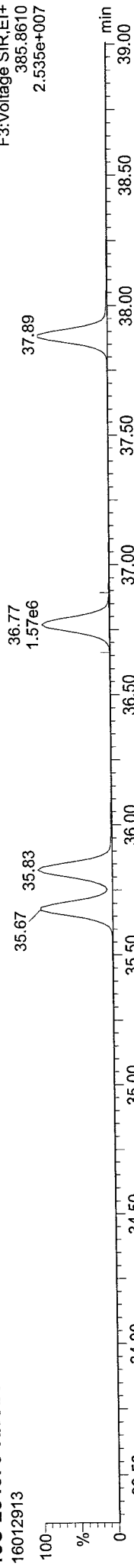
MassLynx MassLynx V4.1 SCN909
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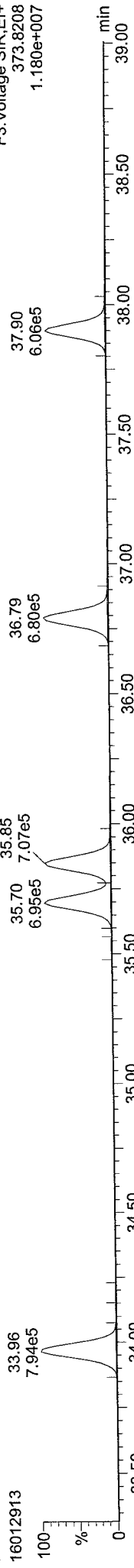
13C-234678-HxCDF



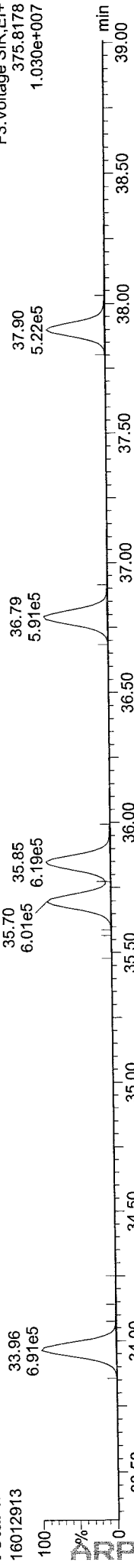
13C-234678-HxCDF



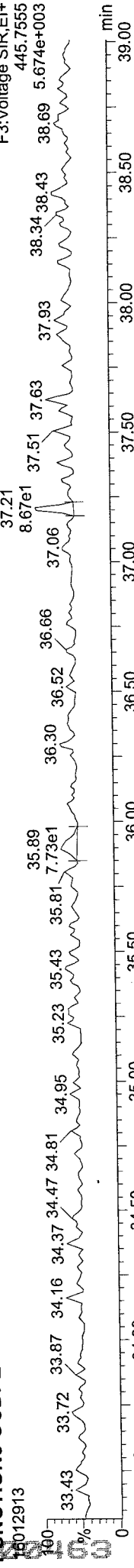
Total-hexafurans



Total-hexafurans



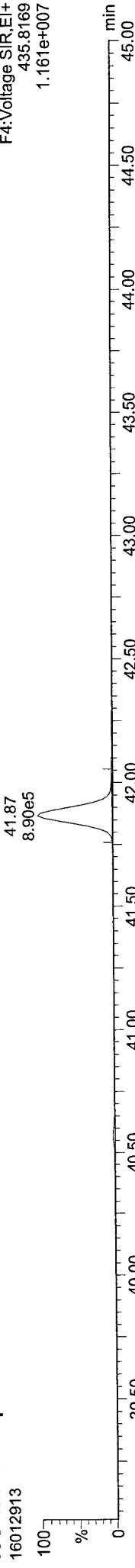
FUNCTION3 OCDFE



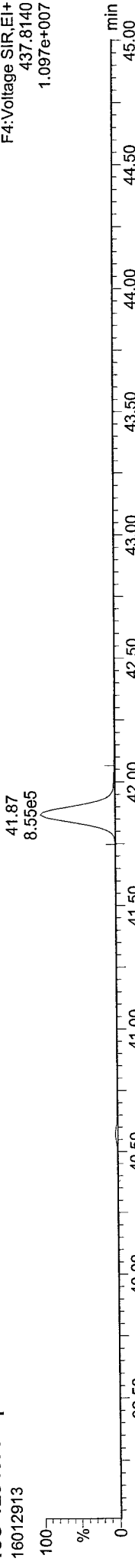
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

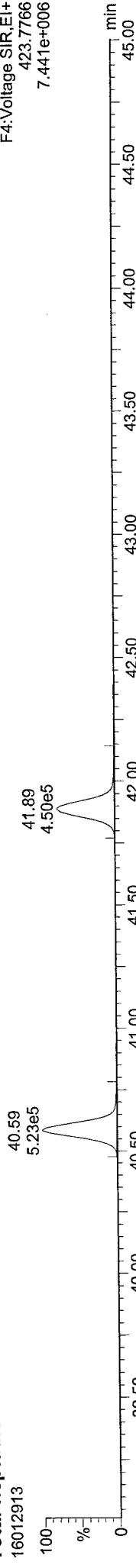
13C-1234678-HpCDD



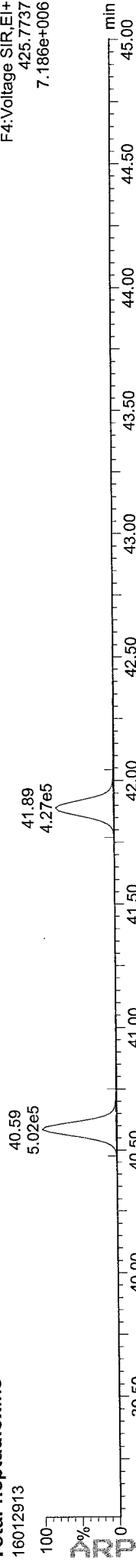
13C-1234678-HpCDD



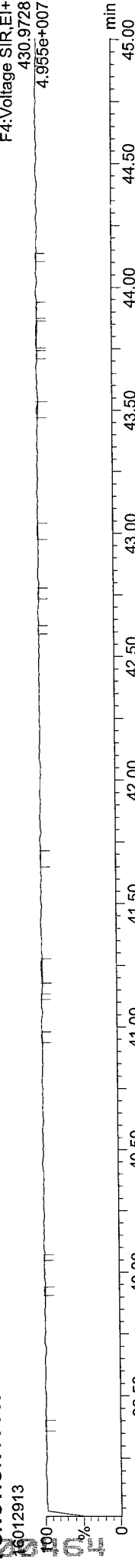
Total-heptadioxins



Total-heptadioxins



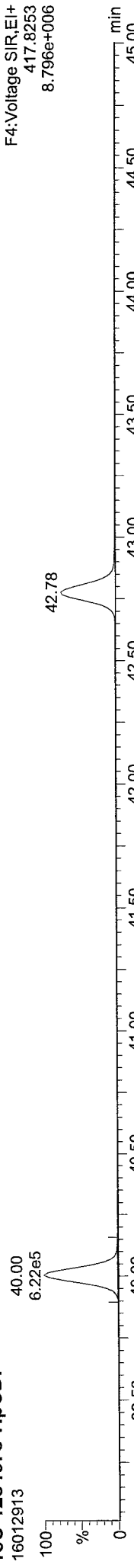
FUNCTION4 PFK



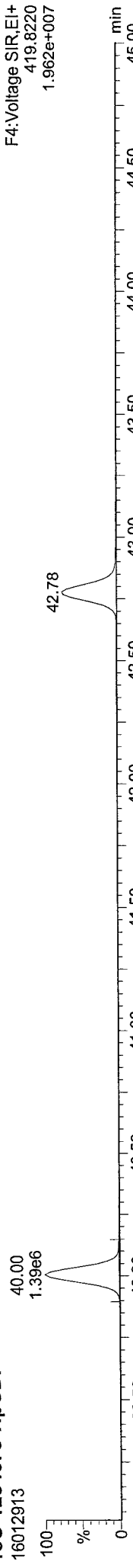
Quantify Sample Report MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk

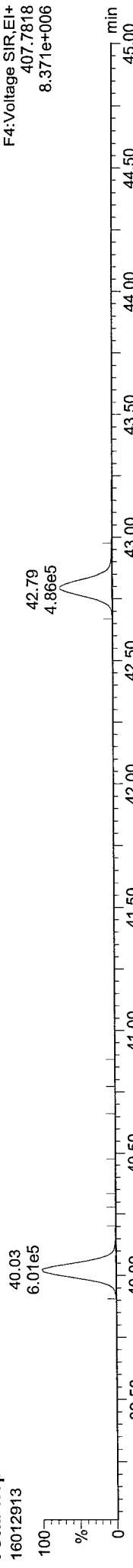
13C-1234678-HpCDF



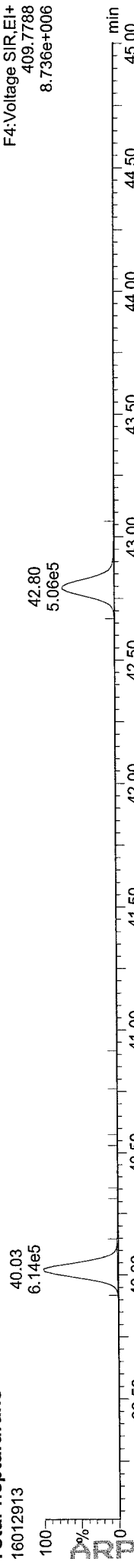
13C-1234678-HpCDF



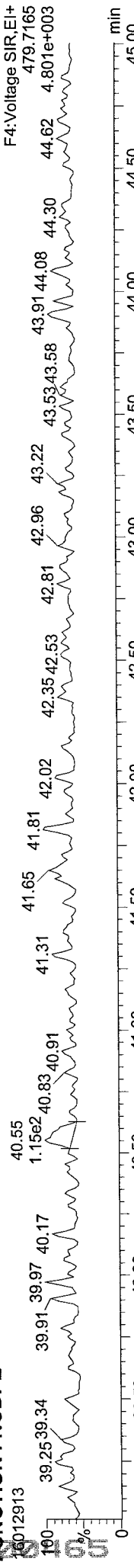
Total-heptafurans



Total-heptafurans

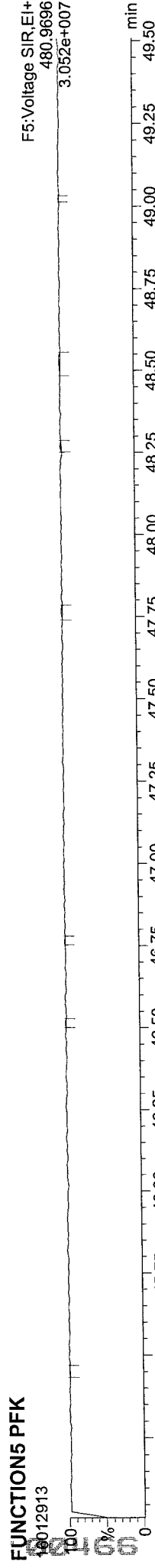
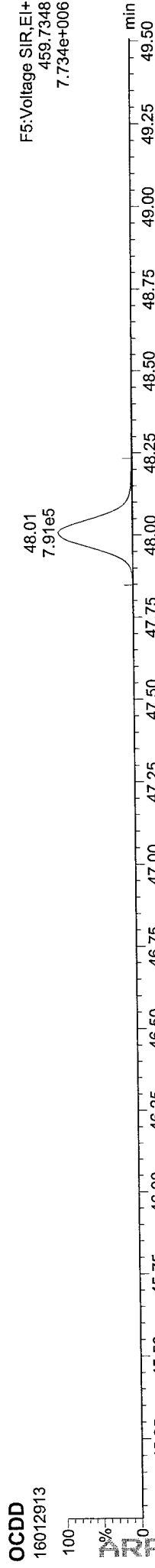
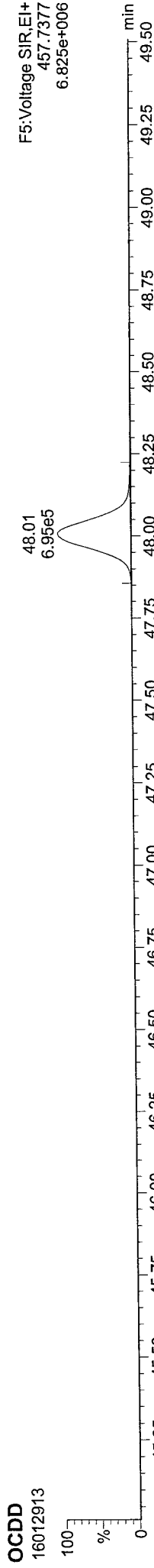
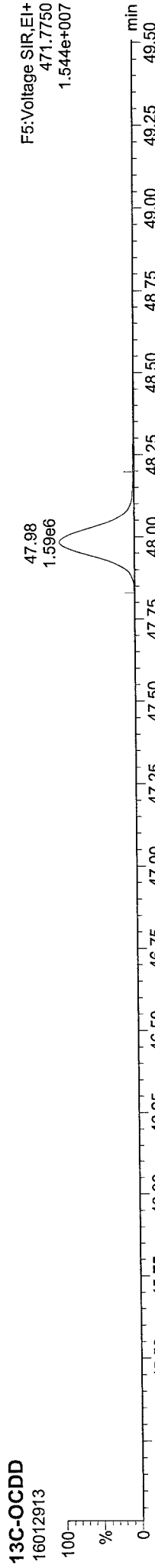
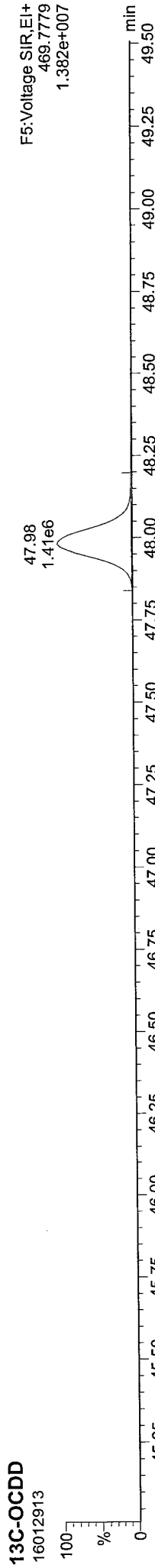


FUNCTION4 NCDPE



Quantify Sample Report
MassLynx MassLynx V4.1 SCN909
Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

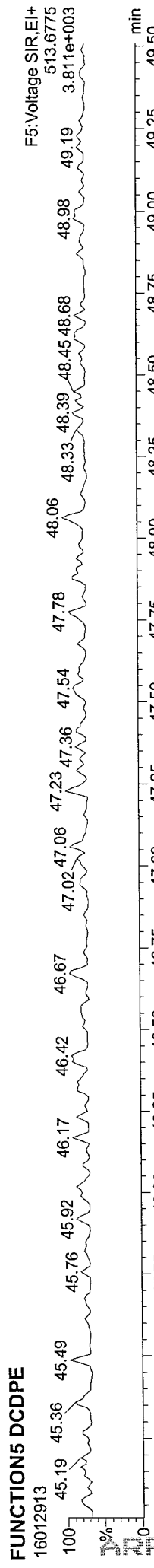
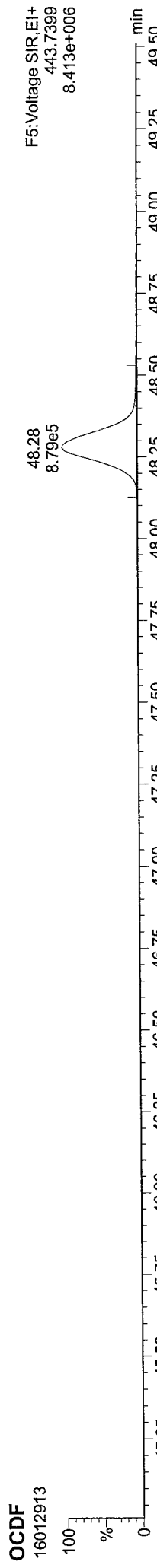
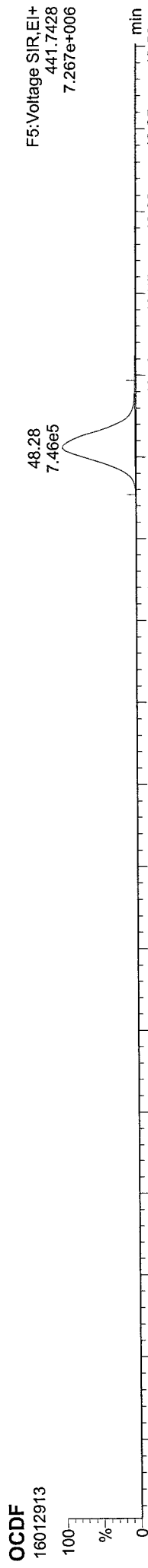
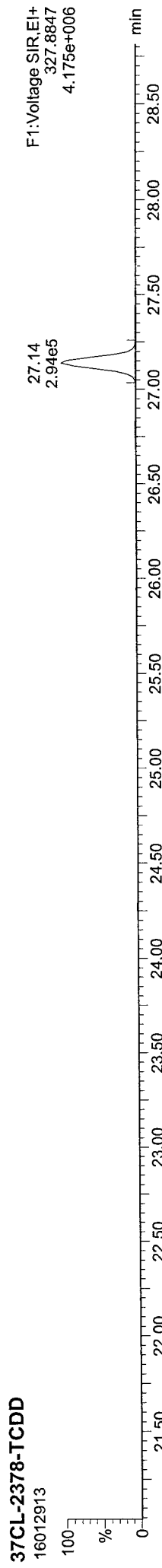
ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
Printed: Monday, February 01, 2016 12:07:55 Pacific Standard Time

ID: CS3, Name: 16012913, Date: 29-Jan-2016, Time: 22:29:47, Conditions: AUTOSPEC01, User: pk



Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:09:47 Pacific Standard Time

Event	Details	Sample ID
Process Quantify		
Process Integrate		
Process Extract		
Pre modification peak	Sample:16012904, Compound:OF, RT:48.385	1
Pre modification peak	Sample:16012904, Compound:OF, RT:48.358	1
Pre modification peak	Sample:16012906, Compound:OF, RT:48.295	3
Pre modification peak	Sample:16012906, Compound:OF, RT:48.295	3
Pre modification peak	Sample:16012906, Compound:PF, RT:29.547	3
Pre modification peak	Sample:16012906, Compound:PF, RT:32.024	3
Pre modification peak	Sample:16012906, Compound:HF, RT:37.899	3
Pre modification peak	Sample:16012906, Compound:HF, RT:37.932	3
Pre modification peak	Sample:16012906, Compound:PD, RT:29.536	3
Pre modification peak	Sample:16012906, Compound:PD, RT:32.287	3
Pre modification peak	Sample:16012906, Compound:HD, RT:34.775	3
Pre modification peak	Sample:16012907, Compound:OF, RT:48.322	4
Pre modification peak	Sample:16012907, Compound:OF, RT:48.340	4
Pre modification peak	Sample:16012907, Compound:TF, RT:24.181	4
Pre modification peak	Sample:16012907, Compound:TF, RT:24.076	4
Pre modification peak	Sample:16012907, Compound:TF, RT:25.197	4
Pre modification peak	Sample:16012907, Compound:PF, RT:29.525	4
Pre modification peak	Sample:16012907, Compound:PF, RT:29.558	4
Pre modification peak	Sample:16012907, Compound:HF, RT:35.060	4
Pre modification peak	Sample:16012907, Compound:HF, RT:35.060	4
Pre modification peak	Sample:16012907, Compound:HF, RT:37.932	4
Pre modification peak	Sample:16012908, Compound:OF, RT:48.305	5
Pre modification peak	Sample:16012908, Compound:OF, RT:48.314	5
Pre modification peak	Sample:16012908, Compound:HD, RT:37.067	5
Pre modification peak	Sample:16012908, Compound:TF, RT:25.182	5
Pre modification peak	Sample:16012908, Compound:PP, RT:27.931	5
Pre modification peak	Sample:16012908, Compound:PF, RT:29.525	5
Pre modification peak	Sample:16012908, Compound:HPF, RT:40.059	5
Pre modification peak	Sample:16012908, Compound:HD, RT:36.124	5
Pre modification peak	Sample:16012908, Compound:HD, RT:35.938	5
Pre modification peak	Sample:16012909, Compound:OF, RT:48.330	6
Pre modification peak	Sample:16012909, Compound:OF, RT:48.321	6
Pre modification peak	Sample:16012909, Compound:TF, RT:25.197	6
Pre modification peak	Sample:16012909, Compound:TF, RT:25.839	6
Pre modification peak	Sample:16012909, Compound:PF, RT:29.294	6
Pre modification peak	Sample:16012909, Compound:HD, RT:35.992	6
Pre modification peak	Sample:16012910, Compound:OF, RT:48.341	7
Pre modification peak	Sample:16012910, Compound:PF, RT:29.547	7
Pre modification peak	Sample:16012910, Compound:TD, RT:26.810	7
Pre modification peak	Sample:16012910, Compound:PD, RT:29.558	7
Pre modification peak	Sample:16012910, Compound:PD, RT:30.687	7
Pre modification peak	Sample:16012910, Compound:HD, RT:35.981	7
Pre modification peak	Sample:16012911, Compound:OF, RT:48.331	8
Pre modification peak	Sample:16012911, Compound:TF, RT:25.152	8
Pre modification peak	Sample:16012911, Compound:TF, RT:26.272	8
Pre modification peak	Sample:16012911, Compound:TF, RT:26.496	8
Pre modification peak	Sample:16012911, Compound:HF, RT:35.049	8
Pre modification peak	Sample:16012911, Compound:HPF, RT:42.842	8
Pre modification peak	Sample:16012911, Compound:TD, RT:26.780	8
Pre modification peak	Sample:16012911, Compound:PD, RT:29.558	8

Dataset: P:\DIOXIN8290.PRO\160129DATA.qld
 Last Altered: Monday, February 01, 2016 12:05:55 Pacific Standard Time
 Printed: Monday, February 01, 2016 12:09:47 Pacific Standard Time

Event	Details	Sample ID
Pre modification peak	Sample:16012911, Compound:PD, RT:29.569	8
Pre modification peak	Sample:16012911, Compound:PD, RT:30.687	8
Pre modification peak	Sample:16012912, Compound:TF, RT:23.015	9
Pre modification peak	Sample:16012912, Compound:TF, RT:24.046	9
Pre modification peak	Sample:16012912, Compound:TF, RT:24.046	9
Pre modification peak	Sample:16012912, Compound:TF, RT:24.017	9
Pre modification peak	Sample:16012912, Compound:TF, RT:25.227	9
Pre modification peak	Sample:16012912, Compound:TF, RT:25.212	9
Pre modification peak	Sample:16012912, Compound:PD, RT:30.665	9
Pre modification peak	Sample:16012912, Compound:HD, RT:35.981	9
Pre modification peak	Sample:16012912, Compound:HD, RT:37.483	9
Pre modification peak	Sample:16012912, Compound:HD, RT:37.088	9
Peak modified	Sample:16012904, Compound:OF, RT:48.385	1
Peak modified	Sample:16012904, Compound:OF, RT:48.358	1
Peak modified	Sample:16012906, Compound:OF, RT:48.295	3
Peak modified	Sample:16012906, Compound:OF, RT:48.295	3
Peak modified	Sample:16012906, Compound:PF, RT:29.547	3
Peak modified	Sample:16012906, Compound:PF, RT:32.024	3
Peak modified	Sample:16012906, Compound:HF, RT:37.899	3
Peak modified	Sample:16012906, Compound:HF, RT:37.932	3
Peak modified	Sample:16012906, Compound:PD, RT:29.536	3
Peak modified	Sample:16012906, Compound:PD, RT:32.287	3
Peak modified	Sample:16012906, Compound:HD, RT:34.775	3
Peak modified	Sample:16012907, Compound:OF, RT:48.322	4
Peak modified	Sample:16012907, Compound:OF, RT:48.340	4
Peak modified	Sample:16012907, Compound:TF, RT:24.181	4
Peak modified	Sample:16012907, Compound:TF, RT:24.076	4
Peak modified	Sample:16012907, Compound:TF, RT:25.197	4
Peak modified	Sample:16012907, Compound:PF, RT:29.525	4
Peak modified	Sample:16012907, Compound:PF, RT:29.558	4
Peak modified	Sample:16012907, Compound:HF, RT:35.060	4
Peak modified	Sample:16012907, Compound:HF, RT:35.060	4
Peak modified	Sample:16012907, Compound:HF, RT:37.932	4
Peak modified	Sample:16012908, Compound:OF, RT:48.305	5
Peak modified	Sample:16012908, Compound:OF, RT:48.314	5
Peak modified	Sample:16012908, Compound:HD, RT:37.067	5
Peak modified	Sample:16012908, Compound:TF, RT:25.182	5
Peak modified	Sample:16012908, Compound:PP, RT:27.931	5
Peak modified	Sample:16012908, Compound:PF, RT:29.525	5
Peak modified	Sample:16012908, Compound:HPF, RT:40.059	5
Peak modified	Sample:16012908, Compound:HD, RT:36.124	5
Peak modified	Sample:16012908, Compound:HD, RT:35.938	5
Peak modified	Sample:16012909, Compound:OF, RT:48.330	6
Peak modified	Sample:16012909, Compound:OF, RT:48.321	6
Peak modified	Sample:16012909, Compound:TF, RT:25.197	6
Peak modified	Sample:16012909, Compound:TF, RT:25.839	6
Peak modified	Sample:16012909, Compound:PF, RT:29.294	6
Peak modified	Sample:16012909, Compound:HD, RT:35.992	6
Peak modified	Sample:16012910, Compound:OF, RT:48.341	7
Peak modified	Sample:16012910, Compound:PF, RT:29.547	7
Peak modified	Sample:16012910, Compound:TD, RT:26.810	7
Peak modified	Sample:16012910, Compound:PD, RT:29.558	7
Peak modified	Sample:16012910, Compound:PD, RT:30.687	7

Metals Raw Data
Preparation Bench Sheets and Notes

ARI Job ID: APR4



Analyst: MS
Date: 1/15/16

SPIKING LOG

Final Volume 50.0 Sample ID AR4 ASPK, MBSPK

Final Volume (Hg): _____

Prepcode:	ICP Routine	ICP No GFA	GFA
Spike Solution:	D3892		
Standard No.:	I.O		
Vol Added (mL):			
Ag	50		2.0
Al	200	200	
As	200		10
Ba	200	200	
Be	50	50	
Ca	1000	1000	
Cd	50		2.0
Co	50	50	
Cr	50	50	
Cu	50	50	
Fe	200	200	
K	1000	1000	
Mg	1000	1000	
Mn	50	50	
Na	1000	1000	
Ni	50	50	
Pb	200		10
Se	200		10
Sr	50	50	
Tl	200		10
V	50	50	
Zn	50	50	

Element	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb			
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MB Date: 1/15/16 Time: 1030
Matrix: tissue Block ID: #4 Block Temp: 93°C Thermometer: up 45

ARI Sample ID	Btl #	pH < 2	Prep Code: <u>FRN</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
<u>ARP4 A</u>	<u>1</u>	<u>-</u>	<u>2.579</u>	<u>50.0</u>			<u>Batch</u>
<u>" ADP</u>	<u>1</u>	<u>-</u>	<u>2.583</u>	<u> </u>			<u> </u>
<u>" ASPK</u>	<u>1</u>	<u>-</u>	<u>2.582</u>	<u> </u>			<u> </u>
<u>" MB1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u> </u>			<u> </u>
<u>" MB1SPK</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u> </u>			<u> </u>
<u>ATSφ A</u>	<u>1</u>	<u>-</u>	<u>2.509</u>	<u> </u>			<u> </u>
<u>" B</u>	<u>1</u>	<u>-</u>	<u>2.555</u>	<u> </u>			<u> </u>
<u>" C</u>	<u>1</u>	<u>-</u>	<u>2.577</u>	<u> </u>			<u> </u>
<u>" D</u>	<u>1</u>	<u>-</u>	<u>2.584</u>	<u> </u>			<u> </u>
<u>" E</u>	<u>↓</u>	<u>-</u>	<u>2.507</u>	<u>↓</u>			<u>↓</u>
<u>" F</u>	<u>1</u>	<u>-</u>	<u>2.577</u>	<u>50.0</u>			<u>↓</u>
<u>MB 1/15/16</u>							

Chemical/Reagent ID:

HNO₃: D37a1 HCl: - H₂O₂: D2934 Tube Lot #: 1504103

Metals Raw Data
Run Logs, Calibrations, and Raw Data

ARI Job ID: APR4

Metals Data Review Checklist

8/19/16

Method: (ICP) ICP-MS GFA CVA

Analysis Date: 8/19/16 ^{DS}

ICP2	Analyst DS & N2/16	Peer N1-20-16	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	✓	✓	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	AUG3, AUG6
Matrix Duplicates	✓	✓	AUG3
Method Blanks	✓	✓	AUG7, AUG6
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	✓	✓	AUG3, AUG7, AUG6



IEC Date: 11/5/16

Analysis Date: 11/19/16

Analyst: DO

LR Date: 11/30/15

Page: 1 of 3

All corrections made by analyst unless otherwise noted. DO 11/19/16

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD	EQ181		
		2	EQ184		
		3	EQ185		
		4	EQ186		
		5	EQ187		
		ICV	DS452		
		ICB	STD		
		CRI	EQ148		
		ICSA	D4330		Sn ↑
		ICSAB	D4331		Sn ↑
		CCV1	ICV		
		CCB1	STD		
		APR4	MB1	FRN	
		ATS0	A		
			B		
			C		
			D		
			E		
		APR4	ADUP		✓
			A		✓
			ASPK		✓
			MBISPK		
		CCV2			
		CCB2			End PKG APR4

PI BLANK →



IEC Date: _____

Analysis Date: 1/19/16

Analyst: DS

LR Date: _____

Page: 2 of 3

All corrections made by analyst unless otherwise noted.

DS 1/19/16

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		ATZ2 MBZ	DMN		
		↓ MBI	TWC		
		ATZ4 MBI	↓		
		ATZ2 A	↓		
		↓ B	DMN		
		ATS8 F	FRN		
		ATZ4 B	TWC		
		↓ MBISPK	↓		
		ATZ2 MBISPK	↓		
		↓ MBZSPK	DMN		0.288 mL ICP SPK (D3892)
		CCV3			
		CCB3			End PKG ATS8
		AUG7 MBI	SWC	2	CA 7 RL (0.1428 mg/L) CAF
		AUG6 MB	↓	↓	CA 7 RL (0.8737 mg/L) CAF
		AUG3 MBI	↓	↓	
		ATZ4 ATDUP	TWC		✓
		↓ A	↓		✓
		↓ ASPK	↓		✓
		AUG3 MBISPK	SWC		
		AUG6 MBSPK	↓	↓	
		AUG7 MBISPK	↓	↓	
		CCV4			
		CCB4			
	✓	AUG7 A	SWC	2	RR25x Fe 72400 mg/L

=====
Analysis Begun

Start Time: 1/19/2016 10:02:19 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 1/19/2016 8:33:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSETMON.sif

Batch ID:

Results Data Set: I2160119

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1
 Sample ID: Calib Blank 1

Autosampler Location: 1
 Date Collected: 1/19/2016 10:02:20 AM
 Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
ScA 357.253	2240847.3	5028.22	0.22%	100.0	%
ScR 361.383	176125.9	1430.68	0.81%	100.0	%
Ag 328.068†	-69.4	41.56	59.91%	[0.00]	mg/L
Al 308.215†	46.8	7.62	16.30%	[0.00]	mg/L
As 188.979†	-5.2	1.67	32.16%	[0.00]	mg/L
B 249.677†	31.1	0.48	1.53%	[0.00]	mg/L
Ba 233.527†	4.0	3.61	91.16%	[0.00]	mg/L
Be 313.042†	457.6	1.83	0.40%	[0.00]	mg/L
Ca 317.933†	56.0	4.66	8.33%	[0.00]	mg/L
Cd 228.802†	243.8	2.09	0.86%	[0.00]	mg/L
Co 228.616†	-71.6	4.27	5.97%	[0.00]	mg/L
Cr 267.716†	-36.3	1.17	3.21%	[0.00]	mg/L
Cu 324.752†	3436.9	26.37	0.77%	[0.00]	mg/L
Fe 273.955†	5.4	1.59	29.44%	[0.00]	mg/L
K 766.490†	434.5	2.28	0.52%	[0.00]	mg/L
Mg 279.077†	33.9	4.99	14.73%	[0.00]	mg/L
Mn 257.610†	47.4	1.74	3.66%	[0.00]	mg/L
Mo 202.031†	35.4	0.89	2.51%	[0.00]	mg/L
Na 589.592†	234.3	13.72	5.85%	[0.00]	mg/L
Na 330.237†	-98.1	3.19	3.25%	[0.00]	mg/L
Ni 231.604†	-11.0	2.21	20.10%	[0.00]	mg/L
Pb 220.353†	25.2	5.43	21.54%	[0.00]	mg/L
Sb 206.836†	31.5	2.99	9.49%	[0.00]	mg/L
Se 196.026†	-28.6	4.10	14.34%	[0.00]	mg/L
Si 288.158†	32.2	1.94	6.04%	[0.00]	mg/L
Sn 189.927†	-1.3	1.52	114.09%	[0.00]	mg/L
Sr 421.552†	109.5	0.60	0.54%	[0.00]	mg/L
Ti 334.903†	-28.8	6.56	22.83%	[0.00]	mg/L
Tl 190.801†	-18.7	1.77	9.46%	[0.00]	mg/L
V 292.402†	140.8	2.70	1.92%	[0.00]	mg/L
Zn 206.200†	7.6	1.25	16.41%	[0.00]	mg/L

Sequence No.: 2
 Sample ID: STD2

Autosampler Location: 2
 Date Collected: 1/19/2016 10:06:20 AM
 Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	170.0 kPa	0.75 L/min

Mean Data: STD2

Mean Corrected

Calib

Analyte	Intensity	Std.Dev.	RSD	Conc. Units
ScA 357.253	2255797.9	15677.83	0.70%	100.7 %
ScR 361.383	176945.9	211.59	0.12%	100.5 %
Ba 233.527†	23336.9	147.00	0.63%	[10] mg/L
Cd 228.802†	210186.5	641.19	0.31%	[10] mg/L
Co 228.616†	208213.0	632.89	0.30%	[10] mg/L
Cr 267.716†	30190.3	54.68	0.18%	[10] mg/L
Cu 324.752†	2448421.5	6891.19	0.28%	[10] mg/L
Mn 257.610†	173324.9	144.56	0.08%	[10] mg/L
V 292.402†	1143646.6	4371.29	0.38%	[10] mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 1/19/2016 10:08:05 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
ScA 357.253	2233959.9	3716.55	0.17%	99.69 %	
ScR 361.383	171881.5	603.06	0.35%	97.59 %	
Ag 328.068†	154084.6	391.45	0.25%	[1.0] mg/L	
As 188.979†	8422.5	37.62	0.45%	[10] mg/L	
B 249.677†	37846.1	179.23	0.47%	[10] mg/L	
Be 313.042†	1514366.8	636.30	0.04%	[5.0] mg/L	
Na 589.592†	679641.1	1428.52	0.21%	[50] mg/L	
Ni 231.604†	19483.7	94.03	0.48%	[10] mg/L	
Pb 220.353†	46331.3	182.78	0.39%	[10] mg/L	
Se 196.026†	7142.8	26.89	0.38%	[10] mg/L	
Sr 421.552†	3280754.0	9109.33	0.28%	[5] mg/L	
Tl 190.801†	10528.1	38.70	0.37%	[10] mg/L	
Zn 206.200†	16723.6	81.58	0.49%	[10] mg/L	

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 1/19/2016 10:11:07 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
ScA 357.253	2262397.7	8771.31	0.39%	101.0 %	
ScR 361.383	178088.7	737.14	0.41%	101.1 %	
Mo 202.031†	103483.6	583.76	0.56%	[10] mg/L	
Sb 206.836†	18162.8	113.12	0.62%	[10] mg/L	
Si 288.158†	11309.6	69.94	0.62%	[10] mg/L	
Sn 189.927†	17935.9	88.23	0.49%	[10] mg/L	
Ti 334.903†	110170.7	233.68	0.21%	[10] mg/L	

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 1/19/2016 10:13:21 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2094310.2	6679.04	0.32%	93.46	%
ScR 361.383	175419.1	1518.61	0.87%	99.60	%
Al 308.215†	30868.1	313.85	1.02%	[30]	mg/L
Ca 317.933†	196355.0	1430.33	0.73%	[30]	mg/L
Fe 273.955†	57081.4	545.70	0.96%	[100]	mg/L
K 766.490†	213953.0	788.35	0.37%	[100]	mg/L
Mg 279.077†	22151.4	222.86	1.01%	[30]	mg/L
Na 330.237†	1540.4	8.94	0.58%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	154100	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1029	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	842.2	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	3785	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	2334	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	302900	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	6545	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	21020	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	20820	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	3019	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	244800	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	570.8	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2140	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	738.4	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	17330	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	10350	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13590	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	15.40	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	1948	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	4633	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	1816	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	714.3	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1131	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	1794	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	656200	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	11020	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	1053	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	114400	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	1672	0.00000	1.000000	

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Analysis Begun

Start Time: 1/19/2016 10:15:06 AM
 Logged In Analyst: Metals
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 1/19/2016 8:33:30 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSETMON.sif

Batch ID:

Results Data Set: I2160119

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Sample ID: CV

Autosampler Location: 7

Date Collected: 1/19/2016 10:15:07 AM

Data Type: Original

Dilution: 1.000000X

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Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	172.0 kPa	0.75 L/min

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Mean Data: CV

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2224427.5	99.27 %	0.222			0.22%
ScR 361.383	173236.0	98.36 %	0.144			0.15%
Ag 328.068†	152528.5	0.9902 mg/L	0.00253	0.9902 mg/L	0.00253	0.26%
Al 308.215†	2113.9	2.022 mg/L	0.0070	2.022 mg/L	0.0070	0.35%
As 188.979†	1684.3	2.022 mg/L	0.0018	2.022 mg/L	0.0018	0.09%
B 249.677†	3746.5	0.9887 mg/L	0.00166	0.9887 mg/L	0.00166	0.17%
Ba 233.527†	2404.6	1.030 mg/L	0.0037	1.030 mg/L	0.0037	0.36%
Be 313.042†	293847.9	0.9700 mg/L	0.00166	0.9700 mg/L	0.00166	0.17%
Ca 317.933†	12771.9	1.950 mg/L	0.0055	1.950 mg/L	0.0055	0.28%
Cd 228.802†	22137.8	1.043 mg/L	0.0025	1.043 mg/L	0.0025	0.24%
Co 228.616†	21017.1	1.008 mg/L	0.0021	1.008 mg/L	0.0021	0.21%
Cr 267.716†	3131.1	1.036 mg/L	0.0027	1.036 mg/L	0.0027	0.26%
Cu 324.752†	242448.2	0.9899 mg/L	0.00229	0.9899 mg/L	0.00229	0.23%
Fe 273.955†	1182.6	2.065 mg/L	0.0162	2.065 mg/L	0.0162	0.78%
K 766.490†	42415.9	19.82 mg/L	0.086	19.82 mg/L	0.086	0.44%
Mg 279.077†	1493.3	2.029 mg/L	0.0087	2.029 mg/L	0.0087	0.43%
Mn 257.610†	16825.6	0.9712 mg/L	0.00545	0.9712 mg/L	0.00545	0.56%
Mo 202.031†	10321.4	0.9974 mg/L	0.00488	0.9974 mg/L	0.00488	0.49%
Na 589.592†	667517.9	49.11 mg/L	0.173	49.11 mg/L	0.173	0.35%
Na 330.237†	796.6	51.64 mg/L	0.309	51.64 mg/L	0.309	0.60%
Ni 231.604†	1934.1	0.9929 mg/L	0.00168	0.9929 mg/L	0.00168	0.17%
Pb 220.353†	9388.1	2.027 mg/L	0.0054	2.027 mg/L	0.0054	0.27%
Sb 206.836†	3770.5	2.073 mg/L	0.0048	2.073 mg/L	0.0048	0.23%
Se 196.026†	1459.2	2.041 mg/L	0.0048	2.041 mg/L	0.0048	0.24%
Si 288.158†	2325.1	2.055 mg/L	0.0174	2.055 mg/L	0.0174	0.85%
Sn 189.927†	1763.4	0.9848 mg/L	0.00554	0.9848 mg/L	0.00554	0.56%
Sr 421.552†	637979.0	0.9723 mg/L	0.00355	0.9723 mg/L	0.00355	0.37%
Ti 334.903†	10819.9	0.9808 mg/L	0.00520	0.9808 mg/L	0.00520	0.53%
Tl 190.801†	2125.2	2.010 mg/L	0.0116	2.010 mg/L	0.0116	0.58%
V 292.402†	115797.5	1.017 mg/L	0.0014	1.017 mg/L	0.0014	0.14%
Zn 206.200†	1645.4	0.9842 mg/L	0.00297	0.9842 mg/L	0.00297	0.30%

Sequence No.: 2
 Sample ID: CB

Autosampler Location: 1
 Date Collected: 1/19/2016 10:19:09 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 170.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2251710.6	100.5 %	0.19			0.18%
ScR 361.383	177310.8	100.7 %	0.47			0.46%
Ag 328.068†	31.9	0.00021 mg/L	0.000182	0.00021 mg/L	0.000182	88.16%
Al 308.215†	1.6	0.00149 mg/L	0.004337	0.00149 mg/L	0.004337	290.63%
As 188.979†	1.3	0.00156 mg/L	0.000670	0.00156 mg/L	0.000670	43.00%
B 249.677†	17.4	0.00461 mg/L	0.001172	0.00461 mg/L	0.001172	25.42%
Ba 233.527†	0.1	0.00006 mg/L	0.000510	0.00006 mg/L	0.000510	847.45%
Be 313.042†	49.8	0.00016 mg/L	0.000036	0.00016 mg/L	0.000036	22.02%
Ca 317.933†	2.2	0.00033 mg/L	0.000390	0.00033 mg/L	0.000390	118.68%
Cd 228.802†	2.7	0.00012 mg/L	0.000149	0.00012 mg/L	0.000149	124.33%
Co 228.616†	1.5	0.00007 mg/L	0.000169	0.00007 mg/L	0.000169	235.52%
Cr 267.716†	0.8	0.00027 mg/L	0.000820	0.00027 mg/L	0.000820	304.47%
Cu 324.752†	42.3	0.00017 mg/L	0.000069	0.00017 mg/L	0.000069	40.04%
Fe 273.955†	1.3	0.00222 mg/L	0.002850	0.00222 mg/L	0.002850	128.61%
K 766.490†	44.4	0.02077 mg/L	0.020133	0.02077 mg/L	0.020133	96.94%
Mg 279.077†	-1.6	-0.00218 mg/L	0.004160	-0.00218 mg/L	0.004160	190.92%
Mn 257.610†	5.1	0.00030 mg/L	0.000030	0.00030 mg/L	0.000030	10.24%
Mo 202.031†	23.9	0.00231 mg/L	0.000804	0.00231 mg/L	0.000804	34.80%
Na 589.592†	199.3	0.01466 mg/L	0.004107	0.01466 mg/L	0.004107	28.01%
Na 330.237†	2.4	0.1590 mg/L	0.07320	0.1590 mg/L	0.07320	46.04%
Ni 231.604†	-1.7	-0.00088 mg/L	0.001764	-0.00088 mg/L	0.001764	199.79%
Pb 220.353†	8.8	0.00191 mg/L	0.001424	0.00191 mg/L	0.001424	74.62%
Sb 206.836†	13.5	0.00746 mg/L	0.002214	0.00746 mg/L	0.002214	29.70%
Se 196.026†	1.2	0.00164 mg/L	0.000686	0.00164 mg/L	0.000686	41.94%
Si 288.158†	-0.9	-0.00082 mg/L	0.002689	-0.00082 mg/L	0.002689	326.72%
Sn 189.927†	0.5	0.00028 mg/L	0.001293	0.00028 mg/L	0.001293	468.23%
Sr 421.552†	148.4	0.00023 mg/L	0.000036	0.00023 mg/L	0.000036	15.88%
Ti 334.903†	3.9	0.00035 mg/L	0.000536	0.00035 mg/L	0.000536	151.75%
Tl 190.801†	4.4	0.00414 mg/L	0.003413	0.00414 mg/L	0.003413	82.45%
V 292.402†	10.3	0.00009 mg/L	0.000186	0.00009 mg/L	0.000186	202.34%
Zn 206.200†	0.4	0.00022 mg/L	0.000619	0.00022 mg/L	0.000619	278.21%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 1/19/2016 10:23:09 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CRI

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2262903.6	101.0	%	0.90			0.89%
ScR 361.383	177775.9	100.9	%	0.08			0.08%
Ag 328.068†	466.5	0.00303	mg/L	0.000091	0.00303 mg/L	0.000091	3.02%
Al 308.215†	51.4	0.04979	mg/L	0.002693	0.04979 mg/L	0.002693	5.41%
As 188.979†	45.0	0.05356	mg/L	0.002447	0.05356 mg/L	0.002447	4.57%
B 249.677†	84.2	0.02224	mg/L	0.001354	0.02224 mg/L	0.001354	6.09%
Ba 233.527†	4.9	0.00209	mg/L	0.000987	0.00209 mg/L	0.000987	47.27%
Be 313.042†	327.0	0.00108	mg/L	0.000044	0.00108 mg/L	0.000044	4.06%
Ca 317.933†	351.3	0.05365	mg/L	0.000366	0.05365 mg/L	0.000366	0.68%
Cd 228.802†	50.5	0.00211	mg/L	0.000081	0.00211 mg/L	0.000081	3.85%
Co 228.616†	65.6	0.00314	mg/L	0.000071	0.00314 mg/L	0.000071	2.26%
Cr 267.716†	18.2	0.00601	mg/L	0.000486	0.00601 mg/L	0.000486	8.08%
Cu 324.752†	538.2	0.00220	mg/L	0.000134	0.00220 mg/L	0.000134	6.12%
Fe 273.955†	29.4	0.05154	mg/L	0.001591	0.05154 mg/L	0.001591	3.09%
K 766.490†	1093.0	0.5109	mg/L	0.00625	0.5109 mg/L	0.00625	1.22%
Mg 279.077†	36.0	0.04870	mg/L	0.001914	0.04870 mg/L	0.001914	3.93%
Mn 257.610†	18.4	0.00107	mg/L	0.000209	0.00107 mg/L	0.000209	19.61%
Mo 202.031†	57.1	0.00551	mg/L	0.000227	0.00551 mg/L	0.000227	4.11%
Na 589.592†	6759.0	0.4972	mg/L	0.00402	0.4972 mg/L	0.00402	0.81%
Na 330.237†	9.0	0.5815	mg/L	0.22193	0.5815 mg/L	0.22193	38.16%
Ni 231.604†	19.5	0.00999	mg/L	0.001542	0.00999 mg/L	0.001542	15.43%
Pb 220.353†	102.4	0.02211	mg/L	0.000295	0.02211 mg/L	0.000295	1.33%
Sb 206.836†	98.9	0.05447	mg/L	0.001106	0.05447 mg/L	0.001106	2.03%
Se 196.026†	35.3	0.04946	mg/L	0.003932	0.04946 mg/L	0.003932	7.95%
Si 288.158†	67.6	0.05971	mg/L	0.002926	0.05971 mg/L	0.002926	4.90%
Sn 189.927†	19.4	0.01088	mg/L	0.001352	0.01088 mg/L	0.001352	12.43%
Sr 421.552†	690.4	0.00105	mg/L	0.000031	0.00105 mg/L	0.000031	2.97%
Ti 334.903†	53.8	0.00487	mg/L	0.000338	0.00487 mg/L	0.000338	6.94%
Tl 190.801†	56.4	0.05353	mg/L	0.004685	0.05353 mg/L	0.004685	8.75%
V 292.402†	347.2	0.00306	mg/L	0.000030	0.00306 mg/L	0.000030	0.99%
Zn 206.200†	17.7	0.01059	mg/L	0.000349	0.01059 mg/L	0.000349	3.29%

Sequence No.: 4
 Sample ID: ICSA

Autosampler Location: 302
 Date Collected: 1/19/2016 10:27:10 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSA

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2145501.4		95.75 %	0.978			1.02%
ScR 361.383	170936.1		97.05 %	0.110			0.11%
Ag 328.068†	-150.6	-0.00097	mg/L	0.000111	-0.00097	mg/L	0.000111 11.35%
Al 308.215†	207591.5		201.8 mg/L	0.65	201.8	mg/L	0.65 0.32%
As 188.979†	34.1	0.02729	mg/L	0.003618	0.02729	mg/L	0.003618 13.25%
B 249.677†	4.8	0.00127	mg/L	0.004025	0.00127	mg/L	0.004025 317.45%
Ba 233.527†	79.6	0.00286	mg/L	0.001149	0.00286	mg/L	0.001149 40.24%
Be 313.042†	28.6	0.00009	mg/L	0.000019	0.00009	mg/L	0.000019 20.67%
Ca 317.933†	656812.9		100.4 mg/L	0.23	100.4	mg/L	0.23 0.23%
Cd 228.802†	12.9	-0.00118	mg/L	0.000128	-0.00118	mg/L	0.000128 10.89%
Co 228.616†	61.4	0.00293	mg/L	0.000245	0.00293	mg/L	0.000245 8.35%
Cr 267.716†	11.6	0.00011	mg/L	0.001036	0.00011	mg/L	0.001036 934.74%
Cu 324.752†	-1556.5	0.00176	mg/L	0.000251	0.00176	mg/L	0.000251 14.24%
Fe 273.955†	112313.2		196.8 mg/L	0.82	196.8	mg/L	0.82 0.42%
K 766.490†	59.8	0.02794	mg/L	0.003286	0.02794	mg/L	0.003286 11.76%
Mg 279.077†	77946.0		105.4 mg/L	0.27	105.4	mg/L	0.27 0.26%
Mn 257.610†	12.0	-0.00109	mg/L	0.000253	-0.00109	mg/L	0.000253 23.18%
Mo 202.031†	56.6	0.00363	mg/L	0.000638	0.00363	mg/L	0.000638 17.57%
Na 589.592†	42.5	0.00312	mg/L	0.001788	0.00312	mg/L	0.001788 57.25%
Na 330.237†	3.9	0.2572	mg/L	0.32655	0.2572	mg/L	0.32655 126.95%
Ni 231.604†	2.6	0.00137	mg/L	0.000396	0.00137	mg/L	0.000396 28.97%
Pb 220.353†	-160.3	0.00232	mg/L	0.002052	0.00232	mg/L	0.002052 88.48%
Sb 206.836†	25.3	0.01357	mg/L	0.003313	0.01357	mg/L	0.003313 24.42%
Se 196.026†	40.7	0.01685	mg/L	0.003607	0.01685	mg/L	0.003607 21.41%
Si 288.158†	-13.1	-0.01133	mg/L	0.008142	-0.01133	mg/L	0.008142 71.87%
Sn 189.927†	-77.4	-0.02091	mg/L	0.000623	-0.02091	mg/L	0.000623 2.98%
Sr 421.552†	4227.0	0.00644	mg/L	0.000048	0.00644	mg/L	0.000048 0.74%
Ti 334.903†	120.1	0.00413	mg/L	0.000618	0.00413	mg/L	0.000618 14.96%
Tl 190.801†	-30.2	-0.00625	mg/L	0.006140	-0.00625	mg/L	0.006140 98.25%
V 292.402†	1332.0	0.00312	mg/L	0.000172	0.00312	mg/L	0.000172 5.52%
Zn 206.200†	9.2	0.00551	mg/L	0.000568	0.00551	mg/L	0.000568 10.31%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 1/19/2016 10:31:25 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2139218.9		95.46 %	0.109			0.11%
ScR 361.383	170934.8		97.05 %	0.193			0.20%
Ag 328.068†	165336.4		1.073 mg/L	0.0094	1.073 mg/L	0.0094	0.88%
Al 308.215†	205783.1		200.0 mg/L	0.41	200.0 mg/L	0.41	0.20%
As 188.979†	885.0		1.037 mg/L	0.0104	1.037 mg/L	0.0104	1.00%
B 249.677†	11.6	0.00070	mg/L	0.001427	0.00070 mg/L	0.001427	202.64%
Ba 233.527†	2442.0		1.015 mg/L	0.0048	1.015 mg/L	0.0048	0.47%
Be 313.042†	297508.6		0.9821 mg/L	0.00059	0.9821 mg/L	0.00059	0.06%
Ca 317.933†	652132.4		99.64 mg/L	0.156	99.64 mg/L	0.156	0.16%
Cd 228.802†	21915.3		1.036 mg/L	0.0058	1.036 mg/L	0.0058	0.56%
Co 228.616†	19899.6		0.9555 mg/L	0.00654	0.9555 mg/L	0.00654	0.68%
Cr 267.716†	3078.8		1.016 mg/L	0.0019	1.016 mg/L	0.0019	0.19%
Cu 324.752†	254893.6		1.049 mg/L	0.0007	1.049 mg/L	0.0007	0.07%
Fe 273.955†	112405.1		196.9 mg/L	0.56	196.9 mg/L	0.56	0.28%
K 766.490†	15.5	0.00726	mg/L	0.006161	0.00726 mg/L	0.006161	84.88%
Mg 279.077†	73705.0		99.68 mg/L	0.195	99.68 mg/L	0.195	0.20%
Mn 257.610†	16774.0		0.9662 mg/L	0.00436	0.9662 mg/L	0.00436	0.45%
Mo 202.031†	48.9	0.00291	mg/L	0.000735	0.00291 mg/L	0.000735	25.30%
Na 589.592†	-30.8	-0.00226	mg/L	0.001284	-0.00226 mg/L	0.001284	56.71%
Na 330.237†	11.7	0.4637	mg/L	0.19446	0.4637 mg/L	0.19446	41.94%
Ni 231.604†	1855.3		0.9524 mg/L	0.00335	0.9524 mg/L	0.00335	0.35%
Pb 220.353†	4475.5		1.003 mg/L	0.0029	1.003 mg/L	0.0029	0.28%
Sb 206.836†	1903.8		1.037 mg/L	0.0063	1.037 mg/L	0.0063	0.60%
Se 196.026†	758.0		1.021 mg/L	0.0068	1.021 mg/L	0.0068	0.67%
Si 288.158†	-19.0	-0.01290	mg/L	0.001866	-0.01290 mg/L	0.001866	14.47%
Sn 189.927†	-79.7	-0.02177	mg/L	0.000362	-0.02177 mg/L	0.000362	1.66%
Sr 421.552†	4145.0	0.00632	mg/L	0.000015	0.00632 mg/L	0.000015	0.24%
Ti 334.903†	121.5	0.00411	mg/L	0.000558	0.00411 mg/L	0.000558	13.59%
Tl 190.801†	987.4		0.9503 mg/L	0.00407	0.9503 mg/L	0.00407	0.43%
V 292.402†	114020.7		0.9928 mg/L	0.00862	0.9928 mg/L	0.00862	0.87%
Zn 206.200†	1567.5		0.9375 mg/L	0.00436	0.9375 mg/L	0.00436	0.46%

Sequence No.: 6
Sample ID: DI CHECK

Autosampler Location: 304
Date Collected: 1/19/2016 10:36:49 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: DI CHECK

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: DI CHECK

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2313130.9		103.2 %	0.49			0.48%
ScR 361.383	182666.3		103.7 %	1.24			1.19%
Ag 328.068†	25.3	0.00016	mg/L	0.000035	0.00016	mg/L	0.000035 21.15%
Al 308.215†	16.9	0.01645	mg/L	0.005517	0.01645	mg/L	0.005517 33.55%
As 188.979†	2.8	0.00331	mg/L	0.000848	0.00331	mg/L	0.000848 25.65%
B 249.677†	-0.3	-0.00008	mg/L	0.001068	-0.00008	mg/L	0.001068 >999.9%
Ba 233.527†	0.9	0.00038	mg/L	0.000535	0.00038	mg/L	0.000535 140.30%
Be 313.042†	10.2	0.00003	mg/L	0.000014	0.00003	mg/L	0.000014 40.54%
Ca 317.933†	44.7	0.00683	mg/L	0.003178	0.00683	mg/L	0.003178 46.52%
Cd 228.802†	-0.5	-0.00004	mg/L	0.000069	-0.00004	mg/L	0.000069 170.16%
Co 228.616†	11.0	0.00053	mg/L	0.000069	0.00053	mg/L	0.000069 13.09%
Cr 267.716†	2.5	0.00084	mg/L	0.000943	0.00084	mg/L	0.000943 112.41%
Cu 324.752†	-37.7	-0.00015	mg/L	0.000243	-0.00015	mg/L	0.000243 158.22%
Fe 273.955†	7.5	0.01308	mg/L	0.006705	0.01308	mg/L	0.006705 51.25%
K 766.490†	21.4	0.01001	mg/L	0.016709	0.01001	mg/L	0.016709 166.93%
Mg 279.077†	7.1	0.00956	mg/L	0.002988	0.00956	mg/L	0.002988 31.26%
Mn 257.610†	-0.1	-0.00001	mg/L	0.000093	-0.00001	mg/L	0.000093 >999.9%
Mo 202.031†	-2.4	-0.00023	mg/L	0.000342	-0.00023	mg/L	0.000342 147.34%
Na 589.592†	-1.6	-0.00012	mg/L	0.001246	-0.00012	mg/L	0.001246 >999.9%
Na 330.237†	-0.7	-0.04495	mg/L	0.075362	-0.04495	mg/L	0.075362 167.65%
Ni 231.604†	0.2	0.00011	mg/L	0.000642	0.00011	mg/L	0.000642 583.38%
Pb 220.353†	1.7	0.00037	mg/L	0.000296	0.00037	mg/L	0.000296 79.67%
Sb 206.836†	-2.8	-0.00159	mg/L	0.000509	-0.00159	mg/L	0.000509 32.01%
Se 196.026†	4.3	0.00599	mg/L	0.004160	0.00599	mg/L	0.004160 69.41%
Si 288.158†	-9.1	-0.00801	mg/L	0.003259	-0.00801	mg/L	0.003259 40.69%
Sn 189.927†	-1.8	-0.00099	mg/L	0.001233	-0.00099	mg/L	0.001233 124.32%
Sr 421.552†	18.6	0.00003	mg/L	0.000010	0.00003	mg/L	0.000010 36.76%
Ti 334.903†	1.1	0.00010	mg/L	0.000243	0.00010	mg/L	0.000243 240.06%
Tl 190.801†	5.0	0.00474	mg/L	0.004918	0.00474	mg/L	0.004918 103.83%
V 292.402†	8.5	0.00008	mg/L	0.000098	0.00008	mg/L	0.000098 128.03%
Zn 206.200†	0.2	0.00012	mg/L	0.000171	0.00012	mg/L	0.000171 136.62%

Sequence No.: 7
Sample ID: CV{

Autosampler Location: 7
Date Collected: 1/19/2016 10:40:48 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
All 170.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2219091.3	99.03 %	0.554			0.56%
ScR 361.383	174097.4	98.85 %	0.466			0.47%
Ag 328.068†	151893.1	0.9861 mg/L	0.00382	0.9861 mg/L	0.00382	0.39%
Al 308.215†	2076.7	1.986 mg/L	0.0117	1.986 mg/L	0.0117	0.59%
As 188.979†	1666.4	2.001 mg/L	0.0211	2.001 mg/L	0.0211	1.05%
B 249.677†	3672.1	0.9690 mg/L	0.00672	0.9690 mg/L	0.00672	0.69%
Ba 233.527†	2356.7	1.009 mg/L	0.0101	1.009 mg/L	0.0101	1.01%
Be 313.042†	289902.6	0.9569 mg/L	0.00747	0.9569 mg/L	0.00747	0.78%
Ca 317.933†	12621.8	1.927 mg/L	0.0073	1.927 mg/L	0.0073	0.38%
Cd 228.802†	22199.0	1.046 mg/L	0.0008	1.046 mg/L	0.0008	0.07%
Co 228.616†	20843.8	0.9992 mg/L	0.00204	0.9992 mg/L	0.00204	0.20%
Cr 267.716†	3077.1	1.018 mg/L	0.0071	1.018 mg/L	0.0071	0.70%
Cu 324.752†	241704.3	0.9868 mg/L	0.00117	0.9868 mg/L	0.00117	0.12%
Fe 273.955†	1164.5	2.033 mg/L	0.0174	2.033 mg/L	0.0174	0.86%
K 766.490†	42116.0	19.68 mg/L	0.028	19.68 mg/L	0.028	0.14%
Mg 279.077†	1461.9	1.987 mg/L	0.0119	1.987 mg/L	0.0119	0.60%
Mn 257.610†	16761.1	0.9674 mg/L	0.00238	0.9674 mg/L	0.00238	0.25%
Mo 202.031†	10270.0	0.9924 mg/L	0.00555	0.9924 mg/L	0.00555	0.56%
Na 589.592†	664944.7	48.92 mg/L	0.088	48.92 mg/L	0.088	0.18%
Na 330.237†	784.8	50.88 mg/L	0.390	50.88 mg/L	0.390	0.77%
Ni 231.604†	1906.2	0.9786 mg/L	0.00363	0.9786 mg/L	0.00363	0.37%
Pb 220.353†	9346.3	2.018 mg/L	0.0010	2.018 mg/L	0.0010	0.05%
Sb 206.836†	3749.5	2.062 mg/L	0.0141	2.062 mg/L	0.0141	0.68%
Se 196.026†	1440.6	2.015 mg/L	0.0161	2.015 mg/L	0.0161	0.80%
Si 288.158†	2276.5	2.012 mg/L	0.0043	2.012 mg/L	0.0043	0.21%
Sn 189.927†	1751.1	0.9779 mg/L	0.01118	0.9779 mg/L	0.01118	1.14%
Sr 421.552†	636290.1	0.9697 mg/L	0.00179	0.9697 mg/L	0.00179	0.18%
Ti 334.903†	10781.4	0.9773 mg/L	0.00297	0.9773 mg/L	0.00297	0.30%
Tl 190.801†	2108.3	1.994 mg/L	0.0135	1.994 mg/L	0.0135	0.67%
V 292.402†	114991.4	1.010 mg/L	0.0039	1.010 mg/L	0.0039	0.38%
Zn 206.200†	1610.2	0.9632 mg/L	0.00702	0.9632 mg/L	0.00702	0.73%

Sequence No.: 8
Sample ID: CB

Autosampler Location: 1
Date Collected: 1/19/2016 10:44:51 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2257104.4	100.7 %	0.63			0.63%
ScR 361.383	175511.5	99.65 %	0.524			0.53%
Ag 328.068†	2.2	0.00001 mg/L	0.000205	0.00001 mg/L	0.000205	>999.9%
Al 308.215†	2.8	0.00273 mg/L	0.004769	0.00273 mg/L	0.004769	174.55%
As 188.979†	-1.9	-0.00230 mg/L	0.001727	-0.00230 mg/L	0.001727	75.05%
B 249.677†	5.7	0.00151 mg/L	0.000997	0.00151 mg/L	0.000997	66.08%
Ba 233.527†	0.7	0.00031 mg/L	0.001509	0.00031 mg/L	0.001509	489.09%
Be 313.042†	33.0	0.00011 mg/L	0.000032	0.00011 mg/L	0.000032	29.73%
Ca 317.933†	0.4	0.00006 mg/L	0.000610	0.00006 mg/L	0.000610	997.00%
Cd 228.802†	-0.8	-0.00002 mg/L	0.000164	-0.00002 mg/L	0.000164	660.52%
Co 228.616†	4.1	0.00020 mg/L	0.000225	0.00020 mg/L	0.000225	113.83%
Cr 267.716†	0.8	0.00026 mg/L	0.000446	0.00026 mg/L	0.000446	172.33%
Cu 324.752†	1.8	0.00001 mg/L	0.000117	0.00001 mg/L	0.000117	>999.9%
Fe 273.955†	1.4	0.00250 mg/L	0.001606	0.00250 mg/L	0.001606	64.24%
K 766.490†	55.3	0.02586 mg/L	0.012075	0.02586 mg/L	0.012075	46.70%
Mg 279.077†	-1.6	-0.00216 mg/L	0.001870	-0.00216 mg/L	0.001870	86.61%
Mn 257.610†	0.4	0.00002 mg/L	0.000102	0.00002 mg/L	0.000102	428.89%
Mo 202.031†	18.1	0.00175 mg/L	0.000695	0.00175 mg/L	0.000695	39.78%
Na 589.592†	60.6	0.00446 mg/L	0.006590	0.00446 mg/L	0.006590	147.89%
Na 330.237†	0.4	0.02694 mg/L	0.166303	0.02694 mg/L	0.166303	617.23%
Ni 231.604†	0.1	0.00007 mg/L	0.002350	0.00007 mg/L	0.002350	>999.9%
Pb 220.353†	3.8	0.00081 mg/L	0.000678	0.00081 mg/L	0.000678	83.27%
Sb 206.836†	10.4	0.00574 mg/L	0.002035	0.00574 mg/L	0.002035	35.45%
Se 196.026†	-1.8	-0.00249 mg/L	0.004965	-0.00249 mg/L	0.004965	199.31%
Si 288.158†	-1.0	-0.00086 mg/L	0.001012	-0.00086 mg/L	0.001012	117.87%
Sn 189.927†	0.3	0.00018 mg/L	0.001349	0.00018 mg/L	0.001349	748.40%
Sr 421.552†	98.0	0.00015 mg/L	0.000053	0.00015 mg/L	0.000053	35.26%
Ti 334.903†	5.8	0.00052 mg/L	0.000358	0.00052 mg/L	0.000358	68.34%
Tl 190.801†	0.9	0.00083 mg/L	0.004399	0.00083 mg/L	0.004399	527.77%
V 292.402†	-13.4	-0.00012 mg/L	0.000268	-0.00012 mg/L	0.000268	232.24%
Zn 206.200†	1.6	0.00095 mg/L	0.001089	0.00095 mg/L	0.001089	114.39%

Sequence No.: 9
Sample ID: APR4 MB1 FRN

Autosampler Location: 305
Date Collected: 1/19/2016 10:48:51 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: APR4 MB1 FRN

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: APR4 MB1 FRN

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		RSD
	Intensity				Conc. Units	Std.Dev.	
ScA 357.253	2275229.8		101.5 %	0.30			0.30%
ScR 361.383	177895.9		101.0 %	0.43			0.43%
Ag 328.068†	29.5	0.00019	mg/L	0.000153	0.00019	mg/L	0.000153 79.73%
Al 308.215†	247.3	0.2403	mg/L	0.00425	0.2403	mg/L	0.00425 1.77%
As 188.979†	-1.7	-0.00160	mg/L	0.001576	-0.00160	mg/L	0.001576 98.76%
B 249.677†	2.9	0.00077	mg/L	0.000378	0.00077	mg/L	0.000378 48.95%
Ba 233.527†	0.9	0.00040	mg/L	0.001110	0.00040	mg/L	0.001110 278.86%
Be 313.042†	-10.1	-0.00003	mg/L	0.000024	-0.00003	mg/L	0.000024 71.16%
Ca 317.933†	1958.3	0.2992	mg/L	0.00350	0.2992	mg/L	0.00350 1.17%
Cd 228.802†	-6.8	-0.00031	mg/L	0.000087	-0.00031	mg/L	0.000087 28.15%
Co 228.616†	-3.4	-0.00019	mg/L	0.000281	-0.00019	mg/L	0.000281 144.15%
Cr 267.716†	2.7	0.00087	mg/L	0.000472	0.00087	mg/L	0.000472 53.95%
Cu 324.752†	-25.9	-0.00011	mg/L	0.000221	-0.00011	mg/L	0.000221 201.78%
Fe 273.955†	2.6	0.00461	mg/L	0.001410	0.00461	mg/L	0.001410 30.60%
K 766.490†	30.9	0.01442	mg/L	0.004479	0.01442	mg/L	0.004479 31.06%
Mg 279.077†	64.5	0.08737	mg/L	0.008373	0.08737	mg/L	0.008373 9.58%
Mn 257.610†	1.3	0.00007	mg/L	0.000123	0.00007	mg/L	0.000123 175.44%
Mo 202.031†	9.9	0.00095	mg/L	0.000198	0.00095	mg/L	0.000198 20.89%
Na 589.592†	287.7	0.02117	mg/L	0.003900	0.02117	mg/L	0.003900 18.42%
Na 330.237†	6.5	0.4252	mg/L	0.28914	0.4252	mg/L	0.28914 68.00%
Ni 231.604†	-0.3	-0.00017	mg/L	0.002044	-0.00017	mg/L	0.002044 >999.9%
Pb 220.353†	2.6	0.00061	mg/L	0.001235	0.00061	mg/L	0.001235 202.54%
Sb 206.836†	9.3	0.00513	mg/L	0.001843	0.00513	mg/L	0.001843 35.90%
Se 196.026†	-2.4	-0.00347	mg/L	0.001630	-0.00347	mg/L	0.001630 46.94%
Si 288.158†	-2.9	-0.00258	mg/L	0.003141	-0.00258	mg/L	0.003141 121.95%
Sn 189.927†	2.2	0.00128	mg/L	0.002218	0.00128	mg/L	0.002218 172.81%
Sr 421.552†	152.5	0.00023	mg/L	0.000023	0.00023	mg/L	0.000023 10.07%
Ti 334.903†	190.5	0.01727	mg/L	0.000675	0.01727	mg/L	0.000675 3.91%
Tl 190.801†	-0.3	-0.00031	mg/L	0.001054	-0.00031	mg/L	0.001054 336.69%
V 292.402†	-10.0	-0.00009	mg/L	0.000067	-0.00009	mg/L	0.000067 71.94%
Zn 206.200†	16.7	0.01001	mg/L	0.000615	0.01001	mg/L	0.000615 6.14%

Sequence No.: 10
 Sample ID: ATSO A FRN

Autosampler Location: 306
 Date Collected: 1/19/2016 10:52:52 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO A FRN

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: ATSO A FRN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2209587.9	98.61	%	0.276			0.28%
ScR 361.383	172952.5	98.20	%	0.423			0.43%
Ag 328.068†	51.6	0.00034	mg/L	0.000116	0.00034	mg/L	34.49%
Al 308.215†	618.5	0.6008	mg/L	0.00582	0.6008	mg/L	0.97%
As 188.979†	57.0	0.06573	mg/L	0.003085	0.06573	mg/L	0.003085
B 249.677†	757.7	0.2002	mg/L	0.00113	0.2002	mg/L	0.00113
Ba 233.527†	6.9	0.00271	mg/L	0.001280	0.00271	mg/L	0.001280
Be 313.042†	6.0	0.00002	mg/L	0.000033	0.00002	mg/L	0.000033
Ca 317.933†	134082.7	20.48	mg/L	0.025	20.48	mg/L	0.025
Cd 228.802†	430.5	0.02010	mg/L	0.000226	0.02010	mg/L	0.000226
Co 228.616†	37.9	0.00176	mg/L	0.000126	0.00176	mg/L	0.000126
Cr 267.716†	39.5	0.00988	mg/L	0.001614	0.00988	mg/L	0.001614
Cu 324.752†	10557.1	0.04238	mg/L	0.000231	0.04238	mg/L	0.000231
Fe 273.955†	782.9	1.371	mg/L	0.0098	1.371	mg/L	0.0098
K 766.490†	231169.5	108.0	mg/L	0.14	108.0	mg/L	0.14
Mg 279.077†	22526.7	30.50	mg/L	0.074	30.50	mg/L	0.074
Mn 257.610†	1349.5	0.07778	mg/L	0.000399	0.07778	mg/L	0.000399
Mo 202.031†	103.6	0.00963	mg/L	0.000524	0.00963	mg/L	0.000524
Na 589.592†	2883068.2	212.1	mg/L	0.17	212.1	mg/L	0.17
Na 330.237†	3316.0	215.1	mg/L	1.17	215.1	mg/L	1.17
Ni 231.604†	10.4	0.00533	mg/L	0.001301	0.00533	mg/L	0.001301
Pb 220.353†	15.2	0.00331	mg/L	0.000418	0.00331	mg/L	0.000418
Sb 206.836†	2.5	0.00112	mg/L	0.000859	0.00112	mg/L	0.000859
Se 196.026†	22.0	0.02920	mg/L	0.001411	0.02920	mg/L	0.001411
Si 288.158†	466.2	0.4124	mg/L	0.00300	0.4124	mg/L	0.00300
Sn 189.927†	-20.7	-0.00703	mg/L	0.002053	-0.00703	mg/L	0.002053
Sr 421.552†	140560.6	0.2142	mg/L	0.00019	0.2142	mg/L	0.00019
Ti 334.903†	374.6	0.03261	mg/L	0.000384	0.03261	mg/L	0.000384
Tl 190.801†	2.6	0.00259	mg/L	0.002452	0.00259	mg/L	0.002452
V 292.402†	398.6	0.00348	mg/L	0.000077	0.00348	mg/L	0.000077
Zn 206.200†	1055.0	0.6309	mg/L	0.00348	0.6309	mg/L	0.00348

Sequence No.: 11
 Sample ID: ATSO B FRN

Autosampler Location: 307
 Date Collected: 1/19/2016 10:57:09 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO B FRN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ATSO B FRN

Analyte	Mean Corrected			Std.Dev.	Sample			RSD
	Intensity	Conc. Units	Calib.		Conc. Units	Std.Dev.		
ScA 357.253	2186411.0	97.57 %		0.104				0.11%
ScR 361.383	174100.8	98.85 %		0.280				0.28%
Ag 328.068†	13.0	0.00009 mg/L		0.000144	0.00009 mg/L	0.000144	167.53%	
Al 308.215†	1158.6	1.126 mg/L		0.0044	1.126 mg/L	0.0044	0.39%	
As 188.979†	57.5	0.06574 mg/L		0.002225	0.06574 mg/L	0.002225	3.38%	
B 249.677†	765.3	0.2022 mg/L		0.00127	0.2022 mg/L	0.00127	0.63%	
Ba 233.527†	13.5	0.00544 mg/L		0.000616	0.00544 mg/L	0.000616	11.33%	
Be 313.042†	7.1	0.00002 mg/L		0.000018	0.00002 mg/L	0.000018	85.89%	
Ca 317.933†	211537.1	32.31 mg/L		0.191	32.31 mg/L	0.191	0.59%	
Cd 228.802†	341.3	0.01585 mg/L		0.000126	0.01585 mg/L	0.000126	0.80%	
Co 228.616†	50.9	0.00232 mg/L		0.000197	0.00232 mg/L	0.000197	8.48%	
Cr 267.716†	41.7	0.01035 mg/L		0.000319	0.01035 mg/L	0.000319	3.09%	
Cu 324.752†	17087.0	0.06913 mg/L		0.000414	0.06913 mg/L	0.000414	0.60%	
Fe 273.955†	1204.4	2.110 mg/L		0.0071	2.110 mg/L	0.0071	0.34%	
K 766.490†	203475.5	95.10 mg/L		0.321	95.10 mg/L	0.321	0.34%	
Mg 279.077†	24114.2	32.65 mg/L		0.232	32.65 mg/L	0.232	0.71%	
Mn 257.610†	1647.2	0.09490 mg/L		0.000299	0.09490 mg/L	0.000299	0.32%	
Mo 202.031†	123.1	0.01131 mg/L		0.000601	0.01131 mg/L	0.000601	5.31%	
Na 589.592†	3148968.1	231.7 mg/L		0.75	231.7 mg/L	0.75	0.32%	
Na 330.237†	3627.1	235.3 mg/L		0.97	235.3 mg/L	0.97	0.41%	
Ni 231.604†	25.5	0.01310 mg/L		0.001763	0.01310 mg/L	0.001763	13.46%	
Pb 220.353†	16.4	0.00363 mg/L		0.000666	0.00363 mg/L	0.000666	18.37%	
Sb 206.836†	3.7	0.00172 mg/L		0.000381	0.00172 mg/L	0.000381	22.21%	
Se 196.026†	20.0	0.02626 mg/L		0.002298	0.02626 mg/L	0.002298	8.75%	
Si 288.158†	515.7	0.4562 mg/L		0.00408	0.4562 mg/L	0.00408	0.90%	
Sn 189.927†	-34.4	-0.01200 mg/L		0.001913	-0.01200 mg/L	0.001913	15.94%	
Sr 421.552†	176444.4	0.2689 mg/L		0.00074	0.2689 mg/L	0.00074	0.27%	
Ti 334.903†	753.6	0.06621 mg/L		0.000462	0.06621 mg/L	0.000462	0.70%	
Tl 190.801†	2.2	0.00227 mg/L		0.001071	0.00227 mg/L	0.001071	47.10%	
V 292.402†	670.4	0.00581 mg/L		0.000175	0.00581 mg/L	0.000175	3.02%	
Zn 206.200†	950.4	0.5684 mg/L		0.00177	0.5684 mg/L	0.00177	0.31%	

Sequence No.: 12
 Sample ID: ATSO C FRN

Autosampler Location: 308
 Date Collected: 1/19/2016 11:01:26 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO C FRN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ATSO C FRN

Analyte	Mean Corrected			Std.Dev.	Sample			RSD
	Intensity	Conc.	Units		Conc.	Units	Std.Dev.	
ScA 357.253	2205780.7	98.44	%	0.504				0.51%
ScR 361.383	176142.9	100.0	%	1.16				1.16%
Ag 328.068†	2.1	0.00002	mg/L	0.000087	0.00002	mg/L	0.000087	567.88%
Al 308.215†	939.7	0.9128	mg/L	0.01116	0.9128	mg/L	0.01116	1.22%
As 188.979†	75.7	0.08205	mg/L	0.003692	0.08205	mg/L	0.003692	4.50%
B 249.677†	765.7	0.2023	mg/L	0.00336	0.2023	mg/L	0.00336	1.66%
Ba 233.527†	7.5	0.00293	mg/L	0.000140	0.00293	mg/L	0.000140	4.78%
Be 313.042†	0.4	-0.00000	mg/L	0.000021	-0.00000	mg/L	0.000021	>999.9%
Ca 317.933†	455668.5	69.61	mg/L	0.321	69.61	mg/L	0.321	0.46%
Cd 228.802†	424.9	0.01970	mg/L	0.000179	0.01970	mg/L	0.000179	0.91%
Co 228.616†	58.2	0.00269	mg/L	0.000070	0.00269	mg/L	0.000070	2.61%
Cr 267.716†	37.6	0.00901	mg/L	0.000553	0.00901	mg/L	0.000553	6.14%
Cu 324.752†	11643.5	0.04683	mg/L	0.000264	0.04683	mg/L	0.000264	0.56%
Fe 273.955†	1056.5	1.851	mg/L	0.0194	1.851	mg/L	0.0194	1.05%
K 766.490†	235320.3	110.0	mg/L	0.66	110.0	mg/L	0.66	0.60%
Mg 279.077†	21700.7	29.38	mg/L	0.417	29.38	mg/L	0.417	1.42%
Mn 257.610†	1713.5	0.09858	mg/L	0.000993	0.09858	mg/L	0.000993	1.01%
Mo 202.031†	135.2	0.01179	mg/L	0.000329	0.01179	mg/L	0.000329	2.79%
Na 589.592†	2801264.3	206.1	mg/L	0.67	206.1	mg/L	0.67	0.33%
Na 330.237†	3219.4	208.8	mg/L	3.27	208.8	mg/L	3.27	1.56%
Ni 231.604†	13.2	0.00679	mg/L	0.000727	0.00679	mg/L	0.000727	10.71%
Pb 220.353†	13.0	0.00288	mg/L	0.000720	0.00288	mg/L	0.000720	24.98%
Sb 206.836†	-1.7	-0.00128	mg/L	0.001497	-0.00128	mg/L	0.001497	116.72%
Se 196.026†	29.5	0.03966	mg/L	0.002758	0.03966	mg/L	0.002758	6.95%
Si 288.158†	458.2	0.4054	mg/L	0.00281	0.4054	mg/L	0.00281	0.69%
Sn 189.927†	-43.8	-0.00898	mg/L	0.001576	-0.00898	mg/L	0.001576	17.54%
Sr 421.552†	219465.2	0.3345	mg/L	0.00118	0.3345	mg/L	0.00118	0.35%
Ti 334.903†	645.9	0.05392	mg/L	0.000593	0.05392	mg/L	0.000593	1.10%
Tl 190.801†	3.7	0.00375	mg/L	0.002806	0.00375	mg/L	0.002806	74.80%
V 292.402†	589.2	0.00511	mg/L	0.000098	0.00511	mg/L	0.000098	1.92%
Zn 206.200†	1113.5	0.6659	mg/L	0.00792	0.6659	mg/L	0.00792	1.19%

Sequence No.: 13
Sample ID: ATSO D FRN

Autosampler Location: 309
Date Collected: 1/19/2016 11:05:43 AM
Data Type: Original

Dilution: 1.000000X
User canceled analysis.

Analysis Begun

Start Time: 1/19/2016 11:07:34 AM
Logged In Analyst: Metals
Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 1/19/2016 8:33:30 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\CRISSETMON.sif
Batch ID:
Results Data Set: I2160119
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 13
Sample ID: ATSO D FRN

Autosampler Location: 309
Date Collected: 1/19/2016 11:07:34 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO D FRN
Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: ATSO D FRN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2204425.1	98.37	%	0.142			0.14%
ScR 361.383	175272.8	99.52	%	0.876			0.88%
Ag 328.068†	39.6	0.00026	mg/L	0.000167	0.00026 mg/L	0.000167	63.95%
Al 308.215†	1118.6	1.087	mg/L	0.0162	1.087 mg/L	0.0162	1.49%
As 188.979†	62.0	0.07017	mg/L	0.002097	0.07017 mg/L	0.002097	2.99%
B 249.677†	869.0	0.2296	mg/L	0.00109	0.2296 mg/L	0.00109	0.47%
Ba 233.527†	11.5	0.00460	mg/L	0.001606	0.00460 mg/L	0.001606	34.88%
Be 313.042†	-1.1	-0.00001	mg/L	0.000018	-0.00001 mg/L	0.000018	229.27%
Ca 317.933†	256957.5	39.25	mg/L	0.347	39.25 mg/L	0.347	0.88%
Cd 228.802†	418.2	0.01947	mg/L	0.000373	0.01947 mg/L	0.000373	1.92%
Co 228.616†	50.1	0.00228	mg/L	0.000196	0.00228 mg/L	0.000196	8.57%
Cr 267.716†	34.8	0.00802	mg/L	0.001075	0.00802 mg/L	0.001075	13.41%
Cu 324.752†	12897.5	0.05194	mg/L	0.000246	0.05194 mg/L	0.000246	0.47%
Fe 273.955†	1169.3	2.048	mg/L	0.0258	2.048 mg/L	0.0258	1.26%
K 766.490†	233574.5	109.2	mg/L	0.89	109.2 mg/L	0.89	0.81%
Mg 279.077†	23976.5	32.47	mg/L	0.327	32.47 mg/L	0.327	1.01%
Mn 257.610†	1566.5	0.09022	mg/L	0.000933	0.09022 mg/L	0.000933	1.03%
Mo 202.031†	181.7	0.01684	mg/L	0.000247	0.01684 mg/L	0.000247	1.46%
Na 589.592†	3067821.1	225.7	mg/L	1.60	225.7 mg/L	1.60	0.71%
Na 330.237†	3561.4	231.0	mg/L	2.67	231.0 mg/L	2.67	1.16%
Ni 231.604†	12.3	0.00629	mg/L	0.001225	0.00629 mg/L	0.001225	19.48%
Pb 220.353†	12.1	0.00272	mg/L	0.001233	0.00272 mg/L	0.001233	45.33%
Sb 206.836†	1.7	0.00069	mg/L	0.001001	0.00069 mg/L	0.001001	144.97%
Se 196.026†	22.3	0.02943	mg/L	0.005221	0.02943 mg/L	0.005221	17.74%
Si 288.158†	602.8	0.5332	mg/L	0.00454	0.5332 mg/L	0.00454	0.85%
Sn 189.927†	-36.0	-0.01137	mg/L	0.001015	-0.01137 mg/L	0.001015	8.93%
Sr 421.552†	181681.1	0.2769	mg/L	0.00192	0.2769 mg/L	0.00192	0.69%
Ti 334.903†	765.8	0.06684	mg/L	0.000491	0.06684 mg/L	0.000491	0.73%
Tl 190.801†	2.6	0.00269	mg/L	0.001137	0.00269 mg/L	0.001137	42.25%
V 292.402†	1571.4	0.01368	mg/L	0.000019	0.01368 mg/L	0.000019	0.14%
Zn 206.200†	1116.0	0.6674	mg/L	0.00545	0.6674 mg/L	0.00545	0.82%

Sequence No.: 14
 Sample ID: ATSO E FRN

Autosampler Location: 310
 Date Collected: 1/19/2016 11:11:52 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO E FRN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ATSO E FRN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2192352.1	97.84 %	0.396			0.40%
ScR 361.383	173201.5	98.34 %	0.748			0.76%
Ag 328.068†	5.3	0.00004 mg/L	0.000171	0.00004 mg/L	0.000171	479.96%
Al 308.215†	1311.7	1.274 mg/L	0.0182	1.274 mg/L	0.0182	1.43%
As 188.979†	50.0	0.05789 mg/L	0.000674	0.05789 mg/L	0.000674	1.16%
B 249.677†	796.9	0.2106 mg/L	0.00330	0.2106 mg/L	0.00330	1.57%
Ba 233.527†	13.7	0.00549 mg/L	0.000917	0.00549 mg/L	0.000917	16.71%
Be 313.042†	7.7	0.00002 mg/L	0.000008	0.00002 mg/L	0.000008	35.47%
Ca 317.933†	167458.1	25.58 mg/L	0.167	25.58 mg/L	0.167	0.65%
Cd 228.802†	306.9	0.01426 mg/L	0.000109	0.01426 mg/L	0.000109	0.77%
Co 228.616†	49.9	0.00226 mg/L	0.000131	0.00226 mg/L	0.000131	5.80%
Cr 267.716†	34.8	0.00776 mg/L	0.001049	0.00776 mg/L	0.001049	13.52%
Cu 324.752†	12719.4	0.05133 mg/L	0.000573	0.05133 mg/L	0.000573	1.12%
Fe 273.955†	1301.5	2.280 mg/L	0.0311	2.280 mg/L	0.0311	1.36%
K 766.490†	185247.3	86.58 mg/L	0.441	86.58 mg/L	0.441	0.51%
Mg 279.077†	26731.1	36.20 mg/L	0.453	36.20 mg/L	0.453	1.25%
Mn 257.610†	1612.7	0.09294 mg/L	0.001172	0.09294 mg/L	0.001172	1.26%
Mo 202.031†	102.9	0.00947 mg/L	0.000180	0.00947 mg/L	0.000180	1.90%
Na 589.592†	3530344.2	259.7 mg/L	1.27	259.7 mg/L	1.27	0.49%
Na 330.237†	4113.2	266.9 mg/L	3.67	266.9 mg/L	3.67	1.37%
Ni 231.604†	12.7	0.00653 mg/L	0.001378	0.00653 mg/L	0.001378	21.10%
Pb 220.353†	21.0	0.00466 mg/L	0.000702	0.00466 mg/L	0.000702	15.07%
Sb 206.836†	1.8	0.00076 mg/L	0.001708	0.00076 mg/L	0.001708	225.06%
Se 196.026†	18.5	0.02394 mg/L	0.005190	0.02394 mg/L	0.005190	21.68%
Si 288.158†	475.7	0.4208 mg/L	0.01075	0.4208 mg/L	0.01075	2.55%
Sn 189.927†	-26.9	-0.00935 mg/L	0.001945	-0.00935 mg/L	0.001945	20.79%
Sr 421.552†	171002.8	0.2606 mg/L	0.00126	0.2606 mg/L	0.00126	0.48%
Ti 334.903†	824.5	0.07310 mg/L	0.000690	0.07310 mg/L	0.000690	0.94%
Tl 190.801†	2.0	0.00211 mg/L	0.005367	0.00211 mg/L	0.005367	254.83%
V 292.402†	588.1	0.00507 mg/L	0.000119	0.00507 mg/L	0.000119	2.34%
Zn 206.200†	887.1	0.5305 mg/L	0.00667	0.5305 mg/L	0.00667	1.26%

Sequence No.: 15
 Sample ID: APR4 ADUP FRN

Autosampler Location: 311
 Date Collected: 1/19/2016 11:16:09 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: APR4 ADUP FRN

Analyte	Back Pressure	Flow
All	172.0 kPa	0.75 L/min

Mean Data: APR4 ADUP FRN

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc. Units			Conc. Units	Units		
ScA 357.253	2183096.7	97.42 %	%	0.463				0.47%
ScR 361.383	173776.7	98.67 %	%	0.600				0.61%
Ag 328.068†	57.9	0.00038 mg/L	mg/L	0.000193	0.00038 mg/L	0.000193	51.39%	51.39%
Al 308.215†	471.6	0.4579 mg/L	mg/L	0.00484	0.4579 mg/L	0.00484	1.06%	1.06%
As 188.979†	51.7	0.05887 mg/L	mg/L	0.004328	0.05887 mg/L	0.004328	7.35%	7.35%
B 249.677†	812.2	0.2146 mg/L	mg/L	0.00217	0.2146 mg/L	0.00217	1.01%	1.01%
Ba 233.527†	5.6	0.00224 mg/L	mg/L	0.000283	0.00224 mg/L	0.000283	12.64%	12.64%
Be 313.042†	3.6	0.00001 mg/L	mg/L	0.000018	0.00001 mg/L	0.000018	159.50%	159.50%
Ca 317.933†	152203.6	23.25 mg/L	mg/L	0.148	23.25 mg/L	0.148	0.64%	0.64%
Cd 228.802†	355.3	0.01656 mg/L	mg/L	0.000184	0.01656 mg/L	0.000184	1.11%	1.11%
Co 228.616†	36.8	0.00172 mg/L	mg/L	0.000147	0.00172 mg/L	0.000147	8.51%	8.51%
Cr 267.716†	33.6	0.00714 mg/L	mg/L	0.000961	0.00714 mg/L	0.000961	13.46%	13.46%
Cu 324.752†	8833.6	0.03539 mg/L	mg/L	0.000170	0.03539 mg/L	0.000170	0.48%	0.48%
Fe 273.955†	571.1	1.000 mg/L	mg/L	0.0063	1.000 mg/L	0.0063	0.63%	0.63%
K 766.490†	189335.9	88.49 mg/L	mg/L	0.338	88.49 mg/L	0.338	0.38%	0.38%
Mg 279.077†	28131.9	38.10 mg/L	mg/L	0.298	38.10 mg/L	0.298	0.78%	0.78%
Mn 257.610†	1015.9	0.05852 mg/L	mg/L	0.000366	0.05852 mg/L	0.000366	0.63%	0.63%
Mo 202.031†	216.1	0.02045 mg/L	mg/L	0.000171	0.02045 mg/L	0.000171	0.84%	0.84%
Na 589.592†	3845295.6	282.9 mg/L	mg/L	1.02	282.9 mg/L	1.02	0.36%	0.36%
Na 330.237†	4479.3	290.7 mg/L	mg/L	1.39	290.7 mg/L	1.39	0.48%	0.48%
Ni 231.604†	10.0	0.00511 mg/L	mg/L	0.001005	0.00511 mg/L	0.001005	19.67%	19.67%
Pb 220.353†	15.6	0.00339 mg/L	mg/L	0.001202	0.00339 mg/L	0.001202	35.47%	35.47%
Sb 206.836†	0.2	-0.00013 mg/L	mg/L	0.000885	-0.00013 mg/L	0.000885	661.05%	661.05%
Se 196.026†	16.6	0.02136 mg/L	mg/L	0.002091	0.02136 mg/L	0.002091	9.79%	9.79%
Si 288.158†	448.2	0.3964 mg/L	mg/L	0.00508	0.3964 mg/L	0.00508	1.28%	1.28%
Sn 189.927†	-21.0	-0.00653 mg/L	mg/L	0.001912	-0.00653 mg/L	0.001912	29.28%	29.28%
Sr 421.552†	169347.3	0.2581 mg/L	mg/L	0.00120	0.2581 mg/L	0.00120	0.47%	0.47%
Ti 334.903†	277.6	0.02360 mg/L	mg/L	0.000331	0.02360 mg/L	0.000331	1.40%	1.40%
Tl 190.801†	3.2	0.00313 mg/L	mg/L	0.001798	0.00313 mg/L	0.001798	57.38%	57.38%
V 292.402†	238.4	0.00209 mg/L	mg/L	0.000132	0.00209 mg/L	0.000132	6.30%	6.30%
Zn 206.200†	748.3	0.4475 mg/L	mg/L	0.00179	0.4475 mg/L	0.00179	0.40%	0.40%

Sequence No.: 16
 Sample ID: APR4 A FRN
 Dilution: 1.000000X

Autosampler Location: 312
 Date Collected: 1/19/2016 11:20:26 AM
 Data Type: Original

Nebulizer Parameters: APR4 A FRN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: APR4 A FRN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2175450.7	97.08	%	0.553				0.57%
ScR 361.383	173800.5	98.68	%	0.363				0.37%
Ag 328.068†	68.7	0.00045	mg/L	0.000106	0.00045	mg/L	0.000106	23.71%
Al 308.215†	437.1	0.4243	mg/L	0.00398	0.4243	mg/L	0.00398	0.94%
As 188.979†	54.3	0.06027	mg/L	0.000369	0.06027	mg/L	0.000369	0.61%
B 249.677†	787.3	0.2081	mg/L	0.00036	0.2081	mg/L	0.00036	0.18%
Ba 233.527†	5.9	0.00238	mg/L	0.000616	0.00238	mg/L	0.000616	25.85%
Be 313.042†	2.7	0.00001	mg/L	0.000009	0.00001	mg/L	0.000009	110.45%
Ca 317.933†	231981.5	35.43	mg/L	0.065	35.43	mg/L	0.065	0.18%
Cd 228.802†	341.2	0.01587	mg/L	0.000292	0.01587	mg/L	0.000292	1.84%
Co 228.616†	38.0	0.00179	mg/L	0.000123	0.00179	mg/L	0.000123	6.88%
Cr 267.716†	33.4	0.00718	mg/L	0.000999	0.00718	mg/L	0.000999	13.91%
Cu 324.752†	8485.3	0.03399	mg/L	0.000265	0.03399	mg/L	0.000265	0.78%
Fe 273.955†	537.1	0.9410	mg/L	0.00251	0.9410	mg/L	0.00251	0.27%
K 766.490†	181543.0	84.85	mg/L	0.216	84.85	mg/L	0.216	0.26%
Mg 279.077†	26697.3	36.15	mg/L	0.050	36.15	mg/L	0.050	0.14%
Mn 257.610†	976.3	0.05618	mg/L	0.000089	0.05618	mg/L	0.000089	0.16%
Mo 202.031†	228.9	0.02147	mg/L	0.000071	0.02147	mg/L	0.000071	0.33%
Na 589.592†	3700164.3	272.2	mg/L	0.50	272.2	mg/L	0.50	0.18%
Na 330.237†	4297.6	278.9	mg/L	0.25	278.9	mg/L	0.25	0.09%
Ni 231.604†	10.4	0.00535	mg/L	0.002258	0.00535	mg/L	0.002258	42.17%
Pb 220.353†	17.5	0.00380	mg/L	0.000671	0.00380	mg/L	0.000671	17.65%
Sb 206.836†	1.2	0.00034	mg/L	0.001549	0.00034	mg/L	0.001549	451.68%
Se 196.026†	16.1	0.02072	mg/L	0.003346	0.02072	mg/L	0.003346	16.15%
Si 288.158†	439.0	0.3884	mg/L	0.00819	0.3884	mg/L	0.00819	2.11%
Sn 189.927†	-31.9	-0.00995	mg/L	0.002753	-0.00995	mg/L	0.002753	27.66%
Sr 421.552†	190085.1	0.2897	mg/L	0.00055	0.2897	mg/L	0.00055	0.19%
Ti 334.903†	260.0	0.02119	mg/L	0.000432	0.02119	mg/L	0.000432	2.04%
Tl 190.801†	-0.3	-0.00016	mg/L	0.005519	-0.00016	mg/L	0.005519	>999.9%
V 292.402†	238.1	0.00209	mg/L	0.000035	0.00209	mg/L	0.000035	1.66%
Zn 206.200†	707.6	0.4232	mg/L	0.00160	0.4232	mg/L	0.00160	0.38%

Sequence No.: 17
 Sample ID: APR4 ASPK FRN
 Dilution: 1.000000X

Autosampler Location: 313
 Date Collected: 1/19/2016 11:24:43 AM
 Data Type: Original

Nebulizer Parameters: APR4 ASPK FRN

Analyte Back Pressure Flow
 All 172.0 kPa 0.75 L/min

Mean Data: APR4 ASPK FRN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2190134.6	97.74 %	0.469			0.48%
ScR 361.383	180263.5	102.3 %	0.35			0.35%
Ag 328.068†	45429.1	0.2951 mg/L	0.00034	0.2951 mg/L	0.00034	0.12%
Al 308.215†	4420.2	4.281 mg/L	0.0118	4.281 mg/L	0.0118	0.27%
As 188.979†	3463.0	4.106 mg/L	0.0178	4.106 mg/L	0.0178	0.43%
B 249.677†	762.4	0.1991 mg/L	0.00091	0.1991 mg/L	0.00091	0.46%
Ba 233.527†	8986.7	3.850 mg/L	0.0084	3.850 mg/L	0.0084	0.22%
Be 313.042†	279043.8	0.9211 mg/L	0.00990	0.9211 mg/L	0.00990	1.08%
Ca 317.933†	253326.4	38.70 mg/L	0.207	38.70 mg/L	0.207	0.53%
Cd 228.802†	22336.5	1.040 mg/L	0.0027	1.040 mg/L	0.0027	0.26%
Co 228.616†	19668.5	0.9441 mg/L	0.00142	0.9441 mg/L	0.00142	0.15%
Cr 267.716†	2923.9	0.9620 mg/L	0.00244	0.9620 mg/L	0.00244	0.25%
Cu 324.752†	255006.2	1.041 mg/L	0.0040	1.041 mg/L	0.0040	0.39%
Fe 273.955†	2797.6	4.894 mg/L	0.0226	4.894 mg/L	0.0226	0.46%
K 766.490†	224859.1	105.1 mg/L	0.19	105.1 mg/L	0.19	0.18%
Mg 279.077†	40877.3	55.36 mg/L	0.116	55.36 mg/L	0.116	0.21%
Mn 257.610†	17196.6	0.9928 mg/L	0.00561	0.9928 mg/L	0.00561	0.57%
Mo 202.031†	224.4	0.02097 mg/L	0.000149	0.02097 mg/L	0.000149	0.71%
Na 589.592†	3968888.9	292.0 mg/L	0.80	292.0 mg/L	0.80	0.27%
Na 330.237†	4749.5	307.9 mg/L	1.11	307.9 mg/L	1.11	0.36%
Ni 231.604†	1812.4	0.9286 mg/L	0.00288	0.9286 mg/L	0.00288	0.31%
Pb 220.353†	17456.8	3.769 mg/L	0.0124	3.769 mg/L	0.0124	0.33%
Sb 206.836†	13.1	-0.00328 mg/L	0.002757	-0.00328 mg/L	0.002757	84.17%
Se 196.026†	3069.5	4.293 mg/L	0.0286	4.293 mg/L	0.0286	0.67%
Si 288.158†	488.2	0.4355 mg/L	0.00276	0.4355 mg/L	0.00276	0.63%
Sn 189.927†	-39.6	-0.01336 mg/L	0.001359	-0.01336 mg/L	0.001359	10.17%
Sr 421.552†	774022.0	1.180 mg/L	0.0040	1.180 mg/L	0.0040	0.34%
Ti 334.903†	246.0	0.01951 mg/L	0.000171	0.01951 mg/L	0.000171	0.88%
Tl 190.801†	3875.3	3.672 mg/L	0.0197	3.672 mg/L	0.0197	0.54%
V 292.402†	112887.4	0.9910 mg/L	0.00270	0.9910 mg/L	0.00270	0.27%
Zn 206.200†	2225.6	1.331 mg/L	0.0018	1.331 mg/L	0.0018	0.14%

Sequence No.: 18
 Sample ID: APR4 MB1SPK FRN

Autosampler Location: 314
 Date Collected: 1/19/2016 11:29:01 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: APR4 MB1SPK FRN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: APR4 MB1SPK FRN

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2263435.0	101.0 %	0.27			0.27%
ScR 361.383	178956.3	101.6 %	1.17			1.16%
Ag 328.068†	147085.1	0.9549 mg/L	0.00484	0.9549 mg/L	0.00484	0.51%
Al 308.215†	4162.4	4.031 mg/L	0.0475	4.031 mg/L	0.0475	1.18%
As 188.979†	3297.4	3.912 mg/L	0.0232	3.912 mg/L	0.0232	0.59%
B 249.677†	6.8	-0.00059 mg/L	0.000742	-0.00059 mg/L	0.000742	125.40%
Ba 233.527†	9147.4	3.919 mg/L	0.0624	3.919 mg/L	0.0624	1.59%
Be 313.042†	280564.0	0.9261 mg/L	0.01789	0.9261 mg/L	0.01789	1.93%
Ca 317.933†	126126.5	19.27 mg/L	0.265	19.27 mg/L	0.265	1.38%
Cd 228.802†	21911.1	1.021 mg/L	0.0037	1.021 mg/L	0.0037	0.36%
Co 228.616†	20286.7	0.9738 mg/L	0.00628	0.9738 mg/L	0.00628	0.64%
Cr 267.716†	3052.7	1.008 mg/L	0.0148	1.008 mg/L	0.0148	1.47%
Cu 324.752†	241663.1	0.9872 mg/L	0.00396	0.9872 mg/L	0.00396	0.40%
Fe 273.955†	2356.3	4.121 mg/L	0.0589	4.121 mg/L	0.0589	1.43%
K 766.490†	42515.3	19.87 mg/L	0.298	19.87 mg/L	0.298	1.50%
Mg 279.077†	14420.8	19.53 mg/L	0.279	19.53 mg/L	0.279	1.43%
Mn 257.610†	16925.9	0.9773 mg/L	0.01406	0.9773 mg/L	0.01406	1.44%
Mo 202.031†	41.4	0.00365 mg/L	0.000303	0.00365 mg/L	0.000303	8.31%
Na 589.592†	266803.6	19.63 mg/L	0.318	19.63 mg/L	0.318	1.62%
Na 330.237†	332.4	21.28 mg/L	0.360	21.28 mg/L	0.360	1.69%
Ni 231.604†	1898.4	0.9726 mg/L	0.01458	0.9726 mg/L	0.01458	1.50%
Pb 220.353†	18327.3	3.957 mg/L	0.0207	3.957 mg/L	0.0207	0.52%
Sb 206.836†	18.2	-0.00094 mg/L	0.002533	-0.00094 mg/L	0.002533	269.12%
Se 196.026†	2727.4	3.816 mg/L	0.0203	3.816 mg/L	0.0203	0.53%
Si 288.158†	-10.5	-0.00553 mg/L	0.002791	-0.00553 mg/L	0.002791	50.48%
Sn 189.927†	-31.3	-0.01298 mg/L	0.000976	-0.01298 mg/L	0.000976	7.52%
Sr 421.552†	637527.8	0.9716 mg/L	0.01704	0.9716 mg/L	0.01704	1.75%
Ti 334.903†	40.0	0.00213 mg/L	0.000236	0.00213 mg/L	0.000236	11.08%
Tl 190.801†	4094.3	3.879 mg/L	0.0167	3.879 mg/L	0.0167	0.43%
V 292.402†	116077.6	1.019 mg/L	0.0017	1.019 mg/L	0.0017	0.17%
Zn 206.200†	1578.1	0.9441 mg/L	0.01492	0.9441 mg/L	0.01492	1.58%

Sequence No.: 19
 Sample ID: CV 2

Autosampler Location: 7
 Date Collected: 1/19/2016 11:33:16 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: CV

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2280082.3	101.8	%	0.30				0.30%
ScR 361.383	179552.2	101.9	%	0.39				0.38%
Ag 328.068†	152355.6	0.9891	mg/L	0.00322	0.9891	mg/L	0.00322	0.33%
Al 308.215†	2083.3	1.992	mg/L	0.0173	1.992	mg/L	0.0173	0.87%
As 188.979†	1673.6	2.009	mg/L	0.0098	2.009	mg/L	0.0098	0.49%
B 249.677†	3666.8	0.9677	mg/L	0.00289	0.9677	mg/L	0.00289	0.30%
Ba 233.527†	2356.4	1.009	mg/L	0.0075	1.009	mg/L	0.0075	0.74%
Be 313.042†	292832.7	0.9666	mg/L	0.00153	0.9666	mg/L	0.00153	0.16%
Ca 317.933†	12675.7	1.935	mg/L	0.0110	1.935	mg/L	0.0110	0.57%
Cd 228.802†	22108.4	1.041	mg/L	0.0076	1.041	mg/L	0.0076	0.73%
Co 228.616†	20676.7	0.9912	mg/L	0.00858	0.9912	mg/L	0.00858	0.87%
Cr 267.716†	3085.0	1.021	mg/L	0.0029	1.021	mg/L	0.0029	0.28%
Cu 324.752†	241839.6	0.9874	mg/L	0.00186	0.9874	mg/L	0.00186	0.19%
Fe 273.955†	1168.5	2.040	mg/L	0.0151	2.040	mg/L	0.0151	0.74%
K 766.490†	42029.6	19.64	mg/L	0.041	19.64	mg/L	0.041	0.21%
Mg 279.077†	1464.2	1.990	mg/L	0.0185	1.990	mg/L	0.0185	0.93%
Mn 257.610†	16886.8	0.9747	mg/L	0.00207	0.9747	mg/L	0.00207	0.21%
Mo 202.031†	10203.7	0.9860	mg/L	0.01054	0.9860	mg/L	0.01054	1.07%
Na 589.592†	663992.8	48.85	mg/L	0.016	48.85	mg/L	0.016	0.03%
Na 330.237†	796.4	51.63	mg/L	0.329	51.63	mg/L	0.329	0.64%
Ni 231.604†	1897.1	0.9739	mg/L	0.00265	0.9739	mg/L	0.00265	0.27%
Pb 220.353†	9274.6	2.003	mg/L	0.0216	2.003	mg/L	0.0216	1.08%
Sb 206.836†	3731.8	2.052	mg/L	0.0067	2.052	mg/L	0.0067	0.33%
Se 196.026†	1448.6	2.026	mg/L	0.0028	2.026	mg/L	0.0028	0.14%
Si 288.158†	2282.7	2.017	mg/L	0.0022	2.017	mg/L	0.0022	0.11%
Sn 189.927†	1751.8	0.9783	mg/L	0.00050	0.9783	mg/L	0.00050	0.05%
Sr 421.552†	637131.3	0.9710	mg/L	0.00095	0.9710	mg/L	0.00095	0.10%
Ti 334.903†	10776.9	0.9769	mg/L	0.00226	0.9769	mg/L	0.00226	0.23%
Tl 190.801†	2093.9	1.980	mg/L	0.0051	1.980	mg/L	0.0051	0.26%
V 292.402†	114033.5	1.001	mg/L	0.0135	1.001	mg/L	0.0135	1.35%
Zn 206.200†	1614.5	0.9658	mg/L	0.00773	0.9658	mg/L	0.00773	0.80%

Sequence No.: 20
 Sample ID: CB7

Autosampler Location: 1
 Date Collected: 1/19/2016 11:37:18 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CB

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2303820.5	102.8 %	0.45			0.44%
ScR 361.383	181281.3	102.9 %	0.37			0.36%
Ag 328.068†	43.0	0.00028 mg/L	0.000153	0.00028 mg/L	0.000153	55.00%
Al 308.215†	-4.5	-0.00437 mg/L	0.004542	-0.00437 mg/L	0.004542	103.87%
As 188.979†	1.0	0.00118 mg/L	0.001824	0.00118 mg/L	0.001824	154.36%
B 249.677†	2.4	0.00064 mg/L	0.001653	0.00064 mg/L	0.001653	256.93%
Ba 233.527†	1.1	0.00047 mg/L	0.000755	0.00047 mg/L	0.000755	160.30%
Be 313.042†	42.4	0.00014 mg/L	0.000019	0.00014 mg/L	0.000019	13.48%
Ca 317.933†	12.1	0.00184 mg/L	0.001716	0.00184 mg/L	0.001716	93.27%
Cd 228.802†	-1.3	-0.00007 mg/L	0.000103	-0.00007 mg/L	0.000103	156.30%
Co 228.616†	1.9	0.00009 mg/L	0.000074	0.00009 mg/L	0.000074	81.16%
Cr 267.716†	1.2	0.00039 mg/L	0.001221	0.00039 mg/L	0.001221	312.56%
Cu 324.752†	-9.2	-0.00004 mg/L	0.000212	-0.00004 mg/L	0.000212	551.51%
Fe 273.955†	0.4	0.00076 mg/L	0.001969	0.00076 mg/L	0.001969	257.60%
K 766.490†	53.0	0.02476 mg/L	0.019512	0.02476 mg/L	0.019512	78.80%
Mg 279.077†	3.6	0.00482 mg/L	0.006968	0.00482 mg/L	0.006968	144.57%
Mn 257.610†	0.9	0.00005 mg/L	0.000104	0.00005 mg/L	0.000104	189.68%
Mo 202.031†	18.3	0.00177 mg/L	0.000561	0.00177 mg/L	0.000561	31.68%
Na 589.592†	490.6	0.03609 mg/L	0.013845	0.03609 mg/L	0.013845	38.36%
Na 330.237†	5.9	0.3821 mg/L	0.03077	0.3821 mg/L	0.03077	8.05%
Ni 231.604†	1.1	0.00056 mg/L	0.000226	0.00056 mg/L	0.000226	40.48%
Pb 220.353†	2.9	0.00063 mg/L	0.000999	0.00063 mg/L	0.000999	159.01%
Sb 206.836†	11.2	0.00619 mg/L	0.000528	0.00619 mg/L	0.000528	8.53%
Se 196.026†	3.5	0.00495 mg/L	0.003282	0.00495 mg/L	0.003282	66.31%
Si 288.158†	-5.6	-0.00493 mg/L	0.001745	-0.00493 mg/L	0.001745	35.37%
Sn 189.927†	1.5	0.00087 mg/L	0.001620	0.00087 mg/L	0.001620	187.21%
Sr 421.552†	148.4	0.00023 mg/L	0.000066	0.00023 mg/L	0.000066	29.11%
Ti 334.903†	6.6	0.00060 mg/L	0.000315	0.00060 mg/L	0.000315	52.45%
Tl 190.801†	1.0	0.00095 mg/L	0.001470	0.00095 mg/L	0.001470	155.25%
V 292.402†	0.6	0.00001 mg/L	0.000097	0.00001 mg/L	0.000097	>999.9%
Zn 206.200†	1.1	0.00066 mg/L	0.000797	0.00066 mg/L	0.000797	121.31%

Sequence No.: 21
 Sample ID: ATZ2 MB2 DMN

Autosampler Location: 315
 Date Collected: 1/19/2016 11:41:18 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 MB2 DMN

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ATZ2 MB2 DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2355652.5	105.1	%	0.40				0.38%
ScR 361.383	186887.3	106.1	%	0.94				0.89%
Ag 328.068†	22.3	0.00014	mg/L	0.000173	0.00014	mg/L	0.000173	119.71%
Al 308.215†	17.3	0.01677	mg/L	0.004203	0.01677	mg/L	0.004203	25.06%
As 188.979†	1.1	0.00126	mg/L	0.000285	0.00126	mg/L	0.000285	22.60%
B 249.677†	7.9	0.00209	mg/L	0.000679	0.00209	mg/L	0.000679	32.47%
Ba 233.527†	-0.3	-0.00012	mg/L	0.000461	-0.00012	mg/L	0.000461	380.57%
Be 313.042†	1.7	0.00001	mg/L	0.000022	0.00001	mg/L	0.000022	393.39%
Ca 317.933†	253.1	0.03866	mg/L	0.000125	0.03866	mg/L	0.000125	0.32%
Cd 228.802†	-5.4	-0.00027	mg/L	0.000066	-0.00027	mg/L	0.000066	24.97%
Co 228.616†	11.6	0.00056	mg/L	0.000028	0.00056	mg/L	0.000028	5.10%
Cr 267.716†	0.7	0.00022	mg/L	0.000046	0.00022	mg/L	0.000046	21.19%
Cu 324.752†	-82.5	-0.00034	mg/L	0.000215	-0.00034	mg/L	0.000215	63.88%
Fe 273.955†	-0.8	-0.00135	mg/L	0.002013	-0.00135	mg/L	0.002013	149.04%
K 766.490†	27.0	0.01260	mg/L	0.004800	0.01260	mg/L	0.004800	38.08%
Mg 279.077†	-2.0	-0.00269	mg/L	0.002403	-0.00269	mg/L	0.002403	89.19%
Mn 257.610†	-3.3	-0.00019	mg/L	0.000077	-0.00019	mg/L	0.000077	40.16%
Mo 202.031†	-4.3	-0.00042	mg/L	0.000208	-0.00042	mg/L	0.000208	49.95%
Na 589.592†	449.4	0.03306	mg/L	0.000479	0.03306	mg/L	0.000479	1.45%
Na 330.237†	3.8	0.2441	mg/L	0.12801	0.2441	mg/L	0.12801	52.43%
Ni 231.604†	0.7	0.00037	mg/L	0.001372	0.00037	mg/L	0.001372	375.77%
Pb 220.353†	5.4	0.00117	mg/L	0.000875	0.00117	mg/L	0.000875	75.01%
Sb 206.836†	-3.6	-0.00197	mg/L	0.001727	-0.00197	mg/L	0.001727	87.60%
Se 196.026†	4.6	0.00637	mg/L	0.005285	0.00637	mg/L	0.005285	82.97%
Si 288.158†	-13.5	-0.01190	mg/L	0.005083	-0.01190	mg/L	0.005083	42.70%
Sn 189.927†	-0.8	-0.00043	mg/L	0.000739	-0.00043	mg/L	0.000739	171.01%
Sr 421.552†	167.3	0.00025	mg/L	0.000050	0.00025	mg/L	0.000050	19.45%
Ti 334.903†	-2.2	-0.00020	mg/L	0.000430	-0.00020	mg/L	0.000430	214.97%
Tl 190.801†	2.1	0.00203	mg/L	0.003500	0.00203	mg/L	0.003500	171.99%
V 292.402†	6.0	0.00005	mg/L	0.000033	0.00005	mg/L	0.000033	62.36%
Zn 206.200†	-0.3	-0.00016	mg/L	0.000974	-0.00016	mg/L	0.000974	613.96%

Sequence No.: 22
 Sample ID: ATZ2 MB1 TWC

Autosampler Location: 316
 Date Collected: 1/19/2016 11:45:19 AM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 MB1 TWC

Analyte Back Pressure Flow
 All 171.0 kPa 0.75 L/min

Mean Data: ATZ2 MB1 TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2305551.6	102.9	%	0.85				0.82%
ScR 361.383	181956.8	103.3	%	0.49				0.48%
Ag 328.068†	8.2	0.00005	mg/L	0.000092	0.00005	mg/L	0.000092	172.80%
Al 308.215†	3.6	0.00350	mg/L	0.001821	0.00350	mg/L	0.001821	52.06%
As 188.979†	1.2	0.00137	mg/L	0.001797	0.00137	mg/L	0.001797	131.28%
B 249.677†	-0.7	-0.00019	mg/L	0.000595	-0.00019	mg/L	0.000595	308.92%
Ba 233.527†	3.0	0.00127	mg/L	0.000753	0.00127	mg/L	0.000753	59.08%
Be 313.042†	-4.1	-0.00001	mg/L	0.000030	-0.00001	mg/L	0.000030	225.45%
Ca 317.933†	46.3	0.00705	mg/L	0.000294	0.00705	mg/L	0.000294	4.17%
Cd 228.802†	-3.6	-0.00018	mg/L	0.000124	-0.00018	mg/L	0.000124	69.64%
Co 228.616†	1.0	0.00005	mg/L	0.000203	0.00005	mg/L	0.000203	400.48%
Cr 267.716†	2.8	0.00094	mg/L	0.001011	0.00094	mg/L	0.001011	107.15%
Cu 324.752†	-93.7	-0.00038	mg/L	0.000243	-0.00038	mg/L	0.000243	63.65%
Fe 273.955†	2.4	0.00428	mg/L	0.000919	0.00428	mg/L	0.000919	21.49%
K 766.490†	26.2	0.01225	mg/L	0.002695	0.01225	mg/L	0.002695	22.00%
Mg 279.077†	-0.4	-0.00059	mg/L	0.008228	-0.00059	mg/L	0.008228	>999.9%
Mn 257.610†	-1.4	-0.00008	mg/L	0.000113	-0.00008	mg/L	0.000113	141.04%
Mo 202.031†	3.1	0.00030	mg/L	0.000368	0.00030	mg/L	0.000368	121.69%
Na 589.592†	278.9	0.02052	mg/L	0.002906	0.02052	mg/L	0.002906	14.17%
Na 330.237†	6.9	0.4444	mg/L	0.14765	0.4444	mg/L	0.14765	33.22%
Ni 231.604†	0.5	0.00024	mg/L	0.000629	0.00024	mg/L	0.000629	257.13%
Pb 220.353†	3.1	0.00067	mg/L	0.000342	0.00067	mg/L	0.000342	51.35%
Sb 206.836†	-0.2	-0.00014	mg/L	0.002394	-0.00014	mg/L	0.002394	>999.9%
Se 196.026†	-0.6	-0.00081	mg/L	0.003253	-0.00081	mg/L	0.003253	402.51%
Si 288.158†	-2.4	-0.00216	mg/L	0.004311	-0.00216	mg/L	0.004311	199.28%
Sn 189.927†	-0.6	-0.00034	mg/L	0.000960	-0.00034	mg/L	0.000960	279.38%
Sr 421.552†	43.4	0.00007	mg/L	0.000018	0.00007	mg/L	0.000018	26.90%
Ti 334.903†	-5.0	-0.00045	mg/L	0.000431	-0.00045	mg/L	0.000431	95.58%
Tl 190.801†	1.2	0.00116	mg/L	0.000394	0.00116	mg/L	0.000394	33.93%
V 292.402†	-2.2	-0.00002	mg/L	0.000161	-0.00002	mg/L	0.000161	>999.9%
Zn 206.200†	2.2	0.00131	mg/L	0.000390	0.00131	mg/L	0.000390	29.73%

Sequence No.: 23
Sample ID: ATZ4 MB1 TWC

Autosampler Location: 317
Date Collected: 1/19/2016 11:49:19 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ4 MB1 TWC

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: ATZ4 MB1 TWC

Analyte	Mean Corrected		Calib. Conc. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity				Conc.	Units		
ScA 357.253	2314859.7		103.3 %	0.06				0.06%
ScR 361.383	182985.2		103.9 %	0.82				0.79%
Ag 328.068†	31.0	0.00020	mg/L	0.000191	0.00020	mg/L	0.000191	95.13%
Al 308.215†	1.8	0.00172	mg/L	0.002001	0.00172	mg/L	0.002001	116.46%
As 188.979†	1.6	0.00192	mg/L	0.002213	0.00192	mg/L	0.002213	115.14%
B 249.677†	-3.7	-0.00098	mg/L	0.001192	-0.00098	mg/L	0.001192	121.81%
Ba 233.527†	0.1	0.00003	mg/L	0.000337	0.00003	mg/L	0.000337	>999.9%
Be 313.042†	-10.6	-0.00003	mg/L	0.000031	-0.00003	mg/L	0.000031	87.44%
Ca 317.933†	62.2	0.00949	mg/L	0.001031	0.00949	mg/L	0.001031	10.86%
Cd 228.802†	-5.3	-0.00026	mg/L	0.000065	-0.00026	mg/L	0.000065	24.97%
Co 228.616†	0.1	0.00000	mg/L	0.000131	0.00000	mg/L	0.000131	>999.9%
Cr 267.716†	5.1	0.00168	mg/L	0.001533	0.00168	mg/L	0.001533	91.42%
Cu 324.752†	-74.3	-0.00030	mg/L	0.000191	-0.00030	mg/L	0.000191	62.80%
Fe 273.955†	1.4	0.00249	mg/L	0.001438	0.00249	mg/L	0.001438	57.82%
K 766.490†	63.8	0.02983	mg/L	0.016858	0.02983	mg/L	0.016858	56.51%
Mg 279.077†	1.9	0.00257	mg/L	0.003234	0.00257	mg/L	0.003234	125.75%
Mn 257.610†	1.5	0.00008	mg/L	0.000240	0.00008	mg/L	0.000240	286.27%
Mo 202.031†	1.1	0.00011	mg/L	0.000240	0.00011	mg/L	0.000240	226.38%
Na 589.592†	604.1	0.04444	mg/L	0.001462	0.04444	mg/L	0.001462	3.29%
Na 330.237†	2.5	0.1615	mg/L	0.21944	0.1615	mg/L	0.21944	135.85%
Ni 231.604†	-0.5	-0.00026	mg/L	0.000445	-0.00026	mg/L	0.000445	172.89%
Pb 220.353†	-3.4	-0.00073	mg/L	0.001353	-0.00073	mg/L	0.001353	185.91%
Sb 206.836†	4.7	0.00259	mg/L	0.000838	0.00259	mg/L	0.000838	32.39%
Se 196.026†	1.2	0.00168	mg/L	0.002584	0.00168	mg/L	0.002584	154.24%
Si 288.158†	-2.9	-0.00258	mg/L	0.003215	-0.00258	mg/L	0.003215	124.81%
Sn 189.927†	2.0	0.00111	mg/L	0.001462	0.00111	mg/L	0.001462	131.70%
Sr 421.552†	29.3	0.00004	mg/L	0.000014	0.00004	mg/L	0.000014	31.82%
Ti 334.903†	5.7	0.00051	mg/L	0.000496	0.00051	mg/L	0.000496	96.33%
Tl 190.801†	3.2	0.00306	mg/L	0.003192	0.00306	mg/L	0.003192	104.16%
V 292.402†	-9.5	-0.00008	mg/L	0.000118	-0.00008	mg/L	0.000118	153.72%
Zn 206.200†	12.0	0.00716	mg/L	0.000967	0.00716	mg/L	0.000967	13.50%

Sequence No.: 24
Sample ID: ATZ2 A TWC

Autosampler Location: 318
Date Collected: 1/19/2016 11:53:18 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 A TWC

Analyte Back Pressure Flow
All 172.0 kPa 0.75 L/min

Mean Data: ATZ2 A TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2100093.8	93.72	%	0.398			0.42%
ScR 361.383	171289.4	97.25	%	1.263			1.30%
Ag 328.068†	-28.2	-0.00018	mg/L	0.000292	-0.00018 mg/L	0.000292	165.07%
Al 308.215†	7652.3	7.436	mg/L	0.0868	7.436 mg/L	0.0868	1.17%
As 188.979†	19.1	0.02779	mg/L	0.002670	0.02779 mg/L	0.002670	9.61%
B 249.677†	1354.6	0.3579	mg/L	0.00554	0.3579 mg/L	0.00554	1.55%
Ba 233.527†	166.3	0.06968	mg/L	0.001229	0.06968 mg/L	0.001229	1.76%
Be 313.042†	50.9	0.00016	mg/L	0.000010	0.00016 mg/L	0.000010	6.09%
Ca 317.933†	322433.1	49.24	mg/L	0.149	49.24 mg/L	0.149	0.30%
Cd 228.802†	9.7	0.00027	mg/L	0.000143	0.00027 mg/L	0.000143	53.64%
Co 228.616†	111.9	0.00460	mg/L	0.000316	0.00460 mg/L	0.000316	6.87%
Cr 267.716†	84.7	0.01753	mg/L	0.000798	0.01753 mg/L	0.000798	4.55%
Cu 324.752†	13270.6	0.05378	mg/L	0.000615	0.05378 mg/L	0.000615	1.14%
Fe 273.955†	5594.0	9.800	mg/L	0.0972	9.800 mg/L	0.0972	0.99%
K 766.490†	66015.1	30.85	mg/L	0.173	30.85 mg/L	0.173	0.56%
Mg 279.077†	76914.0	104.2	mg/L	1.35	104.2 mg/L	1.35	1.29%
Mn 257.610†	4539.2	0.2616	mg/L	0.00278	0.2616 mg/L	0.00278	1.06%
Mo 202.031†	99.4	0.00871	mg/L	0.000396	0.00871 mg/L	0.000396	4.55%
Na 589.592†	10339750.4	760.7	mg/L	11.19	760.7 mg/L	11.19	1.47%
Na 330.237†	12391.7	804.5	mg/L	8.39	804.5 mg/L	8.39	1.04%
Ni 231.604†	31.7	0.01626	mg/L	0.001768	0.01626 mg/L	0.001768	10.87%
Pb 220.353†	88.0	0.02021	mg/L	0.000136	0.02021 mg/L	0.000136	0.67%
Sb 206.836†	9.2	0.00471	mg/L	0.001854	0.00471 mg/L	0.001854	39.34%
Se 196.026†	10.0	0.00767	mg/L	0.005337	0.00767 mg/L	0.005337	69.59%
Si 288.158†	18753.0	16.58	mg/L	0.370	16.58 mg/L	0.370	2.23%
Sn 189.927†	-50.8	-0.01741	mg/L	0.001902	-0.01741 mg/L	0.001902	10.93%
Sr 421.552†	411848.9	0.6277	mg/L	0.00134	0.6277 mg/L	0.00134	0.21%
Ti 334.903†	4734.2	0.4264	mg/L	0.00342	0.4264 mg/L	0.00342	0.80%
Tl 190.801†	2.4	0.00327	mg/L	0.001689	0.00327 mg/L	0.001689	51.64%
V 292.402†	2782.9	0.02383	mg/L	0.000105	0.02383 mg/L	0.000105	0.44%
Zn 206.200†	480.5	0.2903	mg/L	0.00220	0.2903 mg/L	0.00220	0.76%

Sequence No.: 25
Sample ID: ATZ2 B DMN

Autosampler Location: 319
Date Collected: 1/19/2016 11:57:55 AM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 B DMN

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: ATZ2 B DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2171272.1	96.90	%	0.222				0.23%
ScR 361.383	176071.6	99.97	%	0.650				0.65%
Ag 328.068†	-36.5	-0.00024	mg/L	0.000249	-0.00024	mg/L	0.000249	105.12%
Al 308.215†	35.9	0.03475	mg/L	0.001638	0.03475	mg/L	0.001638	4.71%
As 188.979†	25.4	0.02408	mg/L	0.003045	0.02408	mg/L	0.003045	12.64%
B 249.677†	1380.1	0.3647	mg/L	0.00574	0.3647	mg/L	0.00574	1.57%
Ba 233.527†	72.9	0.03122	mg/L	0.000689	0.03122	mg/L	0.000689	2.21%
Be 313.042†	16.1	0.00005	mg/L	0.000025	0.00005	mg/L	0.000025	46.55%
Ca 317.933†	300407.6	45.87	mg/L	0.141	45.87	mg/L	0.141	0.31%
Cd 228.802†	4.7	0.00005	mg/L	0.000189	0.00005	mg/L	0.000189	344.69%
Co 228.616†	24.8	0.00118	mg/L	0.000143	0.00118	mg/L	0.000143	12.10%
Cr 267.716†	41.3	0.00340	mg/L	0.000912	0.00340	mg/L	0.000912	26.82%
Cu 324.752†	1550.4	0.00559	mg/L	0.000110	0.00559	mg/L	0.000110	1.97%
Fe 273.955†	9.3	0.01632	mg/L	0.004550	0.01632	mg/L	0.004550	27.88%
K 766.490†	66053.1	30.87	mg/L	0.071	30.87	mg/L	0.071	0.23%
Mg 279.077†	72588.6	98.30	mg/L	0.259	98.30	mg/L	0.259	0.26%
Mn 257.610†	1616.2	0.09307	mg/L	0.000690	0.09307	mg/L	0.000690	0.74%
Mo 202.031†	84.6	0.00733	mg/L	0.000517	0.00733	mg/L	0.000517	7.05%
Na 589.592†	10481097.0	771.1	mg/L	5.27	771.1	mg/L	5.27	0.68%
Na 330.237†	12533.7	813.6	mg/L	2.97	813.6	mg/L	2.97	0.37%
Ni 231.604†	3.1	0.00158	mg/L	0.000708	0.00158	mg/L	0.000708	44.89%
Pb 220.353†	-8.9	-0.00189	mg/L	0.001626	-0.00189	mg/L	0.001626	85.99%
Sb 206.836†	-7.7	-0.00469	mg/L	0.001975	-0.00469	mg/L	0.001975	42.12%
Se 196.026†	14.7	0.01589	mg/L	0.001824	0.01589	mg/L	0.001824	11.48%
Si 288.158†	6781.4	5.996	mg/L	0.0805	5.996	mg/L	0.0805	1.34%
Sn 189.927†	-52.7	-0.01920	mg/L	0.000707	-0.01920	mg/L	0.000707	3.68%
Sr 421.552†	395668.4	0.6030	mg/L	0.00175	0.6030	mg/L	0.00175	0.29%
Ti 334.903†	67.2	0.00300	mg/L	0.000474	0.00300	mg/L	0.000474	15.80%
Tl 190.801†	3.0	0.00287	mg/L	0.002363	0.00287	mg/L	0.002363	82.29%
V 292.402†	138.2	0.00128	mg/L	0.000040	0.00128	mg/L	0.000040	3.15%
Zn 206.200†	142.1	0.08606	mg/L	0.001656	0.08606	mg/L	0.001656	1.92%

Sequence No.: 26
Sample ID: ATSO F FRN

Autosampler Location: 320
Date Collected: 1/19/2016 12:02:32 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATSO F FRN

Analyte Back Pressure Flow
All 172.0 kPa 0.75 L/min

Mean Data: ATSO F FRN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2198476.3	98.11	%	0.200				0.20%
ScR 361.383	174979.5	99.35	%	1.076				1.08%
Ag 328.068†	21.1	0.00014	mg/L	0.000132	0.00014	mg/L	0.000132	95.55%
Al 308.215†	841.6	0.8177	mg/L	0.01039	0.8177	mg/L	0.01039	1.27%
As 188.979†	46.4	0.05347	mg/L	0.003527	0.05347	mg/L	0.003527	6.60%
B 249.677†	725.7	0.1918	mg/L	0.00061	0.1918	mg/L	0.00061	0.32%
Ba 233.527†	11.1	0.00452	mg/L	0.000938	0.00452	mg/L	0.000938	20.77%
Be 313.042†	-5.3	-0.00002	mg/L	0.000043	-0.00002	mg/L	0.000043	232.20%
Ca 317.933†	132777.3	20.28	mg/L	0.025	20.28	mg/L	0.025	0.12%
Cd 228.802†	301.5	0.01403	mg/L	0.000167	0.01403	mg/L	0.000167	1.19%
Co 228.616†	34.0	0.00155	mg/L	0.000178	0.00155	mg/L	0.000178	11.43%
Cr 267.716†	28.0	0.00591	mg/L	0.000542	0.00591	mg/L	0.000542	9.18%
Cu 324.752†	8877.9	0.03564	mg/L	0.000144	0.03564	mg/L	0.000144	0.40%
Fe 273.955†	822.8	1.441	mg/L	0.0069	1.441	mg/L	0.0069	0.48%
K 766.490†	184302.0	86.14	mg/L	0.493	86.14	mg/L	0.493	0.57%
Mg 279.077†	23807.1	32.24	mg/L	0.170	32.24	mg/L	0.170	0.53%
Mn 257.610†	1265.1	0.07290	mg/L	0.000543	0.07290	mg/L	0.000543	0.74%
Mo 202.031†	93.7	0.00868	mg/L	0.000047	0.00868	mg/L	0.000047	0.54%
Na 589.592†	3158774.1	232.4	mg/L	1.59	232.4	mg/L	1.59	0.69%
Na 330.237†	3677.7	238.6	mg/L	2.17	238.6	mg/L	2.17	0.91%
Ni 231.604†	10.3	0.00529	mg/L	0.000175	0.00529	mg/L	0.000175	3.31%
Pb 220.353†	13.4	0.00298	mg/L	0.002114	0.00298	mg/L	0.002114	70.99%
Sb 206.836†	3.6	0.00176	mg/L	0.000391	0.00176	mg/L	0.000391	22.24%
Se 196.026†	18.4	0.02408	mg/L	0.003053	0.02408	mg/L	0.003053	12.68%
Si 288.158†	552.1	0.4883	mg/L	0.03260	0.4883	mg/L	0.03260	6.68%
Sn 189.927†	-22.6	-0.00811	mg/L	0.002506	-0.00811	mg/L	0.002506	30.90%
Sr 421.552†	146614.2	0.2234	mg/L	0.00170	0.2234	mg/L	0.00170	0.76%
Ti 334.903†	479.7	0.04216	mg/L	0.000429	0.04216	mg/L	0.000429	1.02%
Tl 190.801†	2.3	0.00238	mg/L	0.003610	0.00238	mg/L	0.003610	151.61%
V 292.402†	396.7	0.00344	mg/L	0.000030	0.00344	mg/L	0.000030	0.87%
Zn 206.200†	811.1	0.4851	mg/L	0.00488	0.4851	mg/L	0.00488	1.01%

Sequence No.: 27
Sample ID: ATZ4 B TWC

Autosampler Location: 321
Date Collected: 1/19/2016 12:06:49 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ4 B TWC

Analyte Back Pressure Flow
All 171.0 kPa 0.75 L/min

Mean Data: ATZ4 B TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2304300.8	102.8	%	0.48			0.46%
ScR 361.383	182049.7	103.4	%	0.44			0.43%
Ag 328.068†	21.4	0.00014	mg/L	0.000077	0.00014 mg/L	0.000077	55.23%
Al 308.215†	1427.9	1.388	mg/L	0.0083	1.388 mg/L	0.0083	0.60%
As 188.979†	5.7	0.00636	mg/L	0.004444	0.00636 mg/L	0.004444	69.83%
B 249.677†	58.7	0.01551	mg/L	0.000824	0.01551 mg/L	0.000824	5.31%
Ba 233.527†	27.9	0.01184	mg/L	0.000451	0.01184 mg/L	0.000451	3.81%
Be 313.042†	-4.6	-0.00002	mg/L	0.000008	-0.00002 mg/L	0.000008	48.60%
Ca 317.933†	58374.2	8.919	mg/L	0.0021	8.919 mg/L	0.0021	0.02%
Cd 228.802†	-8.2	-0.00043	mg/L	0.000155	-0.00043 mg/L	0.000155	35.90%
Co 228.616†	10.7	0.00046	mg/L	0.000204	0.00046 mg/L	0.000204	44.02%
Cr 267.716†	5.6	0.00151	mg/L	0.000561	0.00151 mg/L	0.000561	37.12%
Cu 324.752†	937.2	0.00382	mg/L	0.000132	0.00382 mg/L	0.000132	3.46%
Fe 273.955†	439.1	0.7693	mg/L	0.00294	0.7693 mg/L	0.00294	0.38%
K 766.490†	7341.1	3.431	mg/L	0.0211	3.431 mg/L	0.0211	0.62%
Mg 279.077†	2287.2	3.096	mg/L	0.0156	3.096 mg/L	0.0156	0.50%
Mn 257.610†	273.1	0.01571	mg/L	0.000161	0.01571 mg/L	0.000161	1.02%
Mo 202.031†	26.7	0.00241	mg/L	0.000073	0.00241 mg/L	0.000073	3.03%
Na 589.592†	49478.8	3.640	mg/L	0.0224	3.640 mg/L	0.0224	0.62%
Na 330.237†	67.6	4.396	mg/L	0.1904	4.396 mg/L	0.1904	4.33%
Ni 231.604†	7.1	0.00363	mg/L	0.001916	0.00363 mg/L	0.001916	52.82%
Pb 220.353†	7.1	0.00182	mg/L	0.001388	0.00182 mg/L	0.001388	76.23%
Sb 206.836†	9.8	0.00534	mg/L	0.001117	0.00534 mg/L	0.001117	20.91%
Se 196.026†	1.2	0.00123	mg/L	0.007812	0.00123 mg/L	0.007812	634.44%
Si 288.158†	5505.6	4.868	mg/L	0.0193	4.868 mg/L	0.0193	0.40%
Sn 189.927†	-14.4	-0.00606	mg/L	0.001308	-0.00606 mg/L	0.001308	21.59%
Sr 421.552†	33784.2	0.05149	mg/L	0.000059	0.05149 mg/L	0.000059	0.11%
Ti 334.903†	320.2	0.02846	mg/L	0.000115	0.02846 mg/L	0.000115	0.40%
Tl 190.801†	-0.1	-0.00002	mg/L	0.003204	-0.00002 mg/L	0.003204	>999.9%
V 292.402†	269.7	0.00232	mg/L	0.000175	0.00232 mg/L	0.000175	7.56%
Zn 206.200†	7.6	0.00540	mg/L	0.001422	0.00540 mg/L	0.001422	26.36%

Sequence No.: 28
Sample ID: ATZ4 MB1SPK TWC

Autosampler Location: 322
Date Collected: 1/19/2016 12:10:48 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ4 MB1SPK TWC

Analyte Back Pressure Flow
All 172.0 kPa 0.75 L/min

Mean Data: ATZ4 MB1SPK TWC

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
ScA 357.253	2276867.9	101.6	%	0.28			0.27%
ScR 361.383	179415.6	101.9	%	0.25			0.25%
Ag 328.068†	78018.2	0.5065	mg/L	0.00175	0.5065	mg/L	0.35%
Al 308.215†	2056.0	1.991	mg/L	0.0147	1.991	mg/L	0.74%
As 188.979†	1668.1	1.979	mg/L	0.0095	1.979	mg/L	0.48%
B 249.677†	-0.5	-0.00133	mg/L	0.001037	-0.00133	mg/L	78.09%
Ba 233.527†	4611.7	1.976	mg/L	0.0088	1.976	mg/L	0.45%
Be 313.042†	140105.4	0.4625	mg/L	0.00273	0.4625	mg/L	0.59%
Ca 317.933†	63940.5	9.769	mg/L	0.0351	9.769	mg/L	0.36%
Cd 228.802†	10989.6	0.5121	mg/L	0.00162	0.5121	mg/L	0.32%
Co 228.616†	10075.2	0.4836	mg/L	0.00124	0.4836	mg/L	0.26%
Cr 267.716†	1496.7	0.4944	mg/L	0.00164	0.4944	mg/L	0.33%
Cu 324.752†	116023.0	0.4739	mg/L	0.00151	0.4739	mg/L	0.32%
Fe 273.955†	1169.5	2.045	mg/L	0.0117	2.045	mg/L	0.57%
K 766.490†	20982.2	9.807	mg/L	0.0364	9.807	mg/L	0.37%
Mg 279.077†	7126.9	9.651	mg/L	0.0364	9.651	mg/L	0.38%
Mn 257.610†	8405.1	0.4853	mg/L	0.00107	0.4853	mg/L	0.22%
Mo 202.031†	21.9	0.00194	mg/L	0.000261	0.00194	mg/L	13.51%
Na 589.592†	131864.8	9.701	mg/L	0.0404	9.701	mg/L	0.42%
Na 330.237†	166.5	10.66	mg/L	0.172	10.66	mg/L	1.61%
Ni 231.604†	937.8	0.4804	mg/L	0.00300	0.4804	mg/L	0.62%
Pb 220.353†	9225.1	1.992	mg/L	0.0054	1.992	mg/L	0.27%
Sb 206.836†	11.7	0.00103	mg/L	0.001620	0.00103	mg/L	156.63%
Se 196.026†	1399.2	1.957	mg/L	0.0032	1.957	mg/L	0.16%
Si 288.158†	11.3	0.01189	mg/L	0.007981	0.01189	mg/L	67.11%
Sn 189.927†	-20.4	-0.00911	mg/L	0.003025	-0.00911	mg/L	33.23%
Sr 421.552†	315660.6	0.4811	mg/L	0.00254	0.4811	mg/L	0.53%
Ti 334.903†	15.6	0.00066	mg/L	0.000774	0.00066	mg/L	117.68%
Tl 190.801†	2048.6	1.941	mg/L	0.0150	1.941	mg/L	0.77%
V 292.402†	56214.8	0.4936	mg/L	0.00203	0.4936	mg/L	0.41%
Zn 206.200†	778.6	0.4658	mg/L	0.00150	0.4658	mg/L	0.32%

Sequence No.: 29
 Sample ID: ATZ2 MB1SPK TWC

Autosampler Location: 323
 Date Collected: 1/19/2016 12:15:03 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 MB1SPK TWC

Analyte Back Pressure Flow
 All 172.0 kPa 0.75 L/min

Mean Data: ATZ2 MB1SPK TWC

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2275464.9	101.5	%	0.19			0.19%
ScR 361.383	180095.0	102.3	%	0.44			0.43%
Ag 328.068†	77831.9	0.5053	mg/L	0.00235	0.5053 mg/L	0.00235	0.46%
Al 308.215†	2039.8	1.975	mg/L	0.0190	1.975 mg/L	0.0190	0.96%
As 188.979†	1669.2	1.980	mg/L	0.0094	1.980 mg/L	0.0094	0.47%
B 249.677†	-0.1	-0.00121	mg/L	0.000822	-0.00121 mg/L	0.000822	68.14%
Ba 233.527†	4573.0	1.959	mg/L	0.0138	1.959 mg/L	0.0138	0.71%
Be 313.042†	140640.0	0.4642	mg/L	0.00151	0.4642 mg/L	0.00151	0.33%
Ca 317.933†	61820.1	9.445	mg/L	0.0107	9.445 mg/L	0.0107	0.11%
Cd 228.802†	10935.6	0.5095	mg/L	0.00340	0.5095 mg/L	0.00340	0.67%
Co 228.616†	10050.7	0.4825	mg/L	0.00382	0.4825 mg/L	0.00382	0.79%
Cr 267.716†	1484.8	0.4905	mg/L	0.00504	0.4905 mg/L	0.00504	1.03%
Cu 324.752†	116556.5	0.4761	mg/L	0.00109	0.4761 mg/L	0.00109	0.23%
Fe 273.955†	1164.9	2.037	mg/L	0.0140	2.037 mg/L	0.0140	0.69%
K 766.490†	20674.2	9.663	mg/L	0.0347	9.663 mg/L	0.0347	0.36%
Mg 279.077†	7045.2	9.540	mg/L	0.0175	9.540 mg/L	0.0175	0.18%
Mn 257.610†	8266.3	0.4773	mg/L	0.00137	0.4773 mg/L	0.00137	0.29%
Mo 202.031†	20.4	0.00180	mg/L	0.000339	0.00180 mg/L	0.000339	18.84%
Na 589.592†	130957.0	9.634	mg/L	0.0129	9.634 mg/L	0.0129	0.13%
Na 330.237†	165.2	10.58	mg/L	0.271	10.58 mg/L	0.271	2.56%
Ni 231.604†	931.4	0.4771	mg/L	0.00623	0.4771 mg/L	0.00623	1.30%
Pb 220.353†	9184.3	1.983	mg/L	0.0103	1.983 mg/L	0.0103	0.52%
Sb 206.836†	9.9	0.00009	mg/L	0.002378	0.00009 mg/L	0.002378	>999.9%
Se 196.026†	1411.4	1.975	mg/L	0.0044	1.975 mg/L	0.0044	0.22%
Si 288.158†	3.5	0.00497	mg/L	0.000882	0.00497 mg/L	0.000882	17.74%
Sn 189.927†	-14.4	-0.00585	mg/L	0.001028	-0.00585 mg/L	0.001028	17.58%
Sr 421.552†	313185.8	0.4773	mg/L	0.00042	0.4773 mg/L	0.00042	0.09%
Ti 334.903†	9.0	0.00008	mg/L	0.000334	0.00008 mg/L	0.000334	433.17%
Tl 190.801†	2063.5	1.955	mg/L	0.0087	1.955 mg/L	0.0087	0.44%
V 292.402†	55951.0	0.4912	mg/L	0.00270	0.4912 mg/L	0.00270	0.55%
Zn 206.200†	775.3	0.4638	mg/L	0.00524	0.4638 mg/L	0.00524	1.13%

Sequence No.: 30
 Sample ID: ATZ2 MB2SPK DMN

Autosampler Location: 324
 Date Collected: 1/19/2016 12:19:03 PM
 Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: ATZ2 MB2SPK DMN

Analyte Back Pressure Flow
 All 172.0 kPa 0.75 L/min

Mean Data: ATZ2 MB2SPK DMN

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2325895.2	103.8	%	0.62				0.59%
ScR 361.383	182571.7	103.7	%	1.44				1.39%
Ag 328.068†	82284.8	0.5342	mg/L	0.00252	0.5342	mg/L	0.00252	0.47%
Al 308.215†	2146.4	2.079	mg/L	0.0162	2.079	mg/L	0.0162	0.78%
As 188.979†	1804.4	2.141	mg/L	0.0179	2.141	mg/L	0.0179	0.84%
B 249.677†	10.5	0.00152	mg/L	0.001314	0.00152	mg/L	0.001314	86.28%
Ba 233.527†	4748.4	2.034	mg/L	0.0157	2.034	mg/L	0.0157	0.77%
Be 313.042†	144658.6	0.4775	mg/L	0.00365	0.4775	mg/L	0.00365	0.77%
Ca 317.933†	66474.5	10.16	mg/L	0.119	10.16	mg/L	0.119	1.18%
Cd 228.802†	11929.7	0.5559	mg/L	0.00217	0.5559	mg/L	0.00217	0.39%
Co 228.616†	10514.6	0.5047	mg/L	0.00327	0.5047	mg/L	0.00327	0.65%
Cr 267.716†	1547.1	0.5110	mg/L	0.00362	0.5110	mg/L	0.00362	0.71%
Cu 324.752†	117746.5	0.4810	mg/L	0.00080	0.4810	mg/L	0.00080	0.17%
Fe 273.955†	1214.0	2.123	mg/L	0.0211	2.123	mg/L	0.0211	1.00%
K 766.490†	21956.0	10.26	mg/L	0.038	10.26	mg/L	0.038	0.37%
Mg 279.077†	7466.1	10.11	mg/L	0.082	10.11	mg/L	0.082	0.81%
Mn 257.610†	8711.5	0.5030	mg/L	0.00556	0.5030	mg/L	0.00556	1.10%
Mo 202.031†	15.3	0.00130	mg/L	0.000349	0.00130	mg/L	0.000349	26.95%
Na 589.592†	137181.1	10.09	mg/L	0.022	10.09	mg/L	0.022	0.22%
Na 330.237†	164.6	10.53	mg/L	0.238	10.53	mg/L	0.238	2.26%
Ni 231.604†	970.3	0.4971	mg/L	0.00453	0.4971	mg/L	0.00453	0.91%
Pb 220.353†	9732.5	2.101	mg/L	0.0069	2.101	mg/L	0.0069	0.33%
Sb 206.836†	6.5	-0.00203	mg/L	0.000885	-0.00203	mg/L	0.000885	43.56%
Se 196.026†	1683.1	2.355	mg/L	0.0136	2.355	mg/L	0.0136	0.58%
Si 288.158†	-6.1	-0.00338	mg/L	0.004887	-0.00338	mg/L	0.004887	144.47%
Sn 189.927†	-17.4	-0.00734	mg/L	0.000286	-0.00734	mg/L	0.000286	3.89%
Sr 421.552†	324941.2	0.4952	mg/L	0.00156	0.4952	mg/L	0.00156	0.32%
Ti 334.903†	17.2	0.00077	mg/L	0.000387	0.00077	mg/L	0.000387	49.88%
Tl 190.801†	2183.8	2.069	mg/L	0.0168	2.069	mg/L	0.0168	0.81%
V 292.402†	57539.5	0.5052	mg/L	0.00273	0.5052	mg/L	0.00273	0.54%
Zn 206.200†	828.7	0.4957	mg/L	0.00349	0.4957	mg/L	0.00349	0.70%

Sequence No.: 31
Sample ID: CV 3

Autosampler Location: 7
Date Collected: 1/19/2016 12:23:18 PM
Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	171.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	2254859.7	100.6 %	0.49			0.48%
ScR 361.383	174958.8	99.34 %	0.367			0.37%
Ag 328.068†	158336.1	1.028 mg/L	0.0105	1.028 mg/L	0.0105	1.03%
Al 308.215†	2088.3	1.997 mg/L	0.0058	1.997 mg/L	0.0058	0.29%
As 188.979†	1660.5	1.995 mg/L	0.0122	1.995 mg/L	0.0122	0.61%
B 249.677†	3687.6	0.9732 mg/L	0.00508	0.9732 mg/L	0.00508	0.52%
Ba 233.527†	2352.0	1.007 mg/L	0.0047	1.007 mg/L	0.0047	0.46%
Be 313.042†	293409.4	0.9685 mg/L	0.00183	0.9685 mg/L	0.00183	0.19%
Ca 317.933†	13380.1	2.043 mg/L	0.0093	2.043 mg/L	0.0093	0.45%
Cd 228.802†	22089.4	1.041 mg/L	0.0116	1.041 mg/L	0.0116	1.12%
Co 228.616†	20597.3	0.9873 mg/L	0.00578	0.9873 mg/L	0.00578	0.59%
Cr 267.716†	3088.9	1.022 mg/L	0.0033	1.022 mg/L	0.0033	0.33%
Cu 324.752†	242008.4	0.9881 mg/L	0.00201	0.9881 mg/L	0.00201	0.20%
Fe 273.955†	1188.1	2.074 mg/L	0.0119	2.074 mg/L	0.0119	0.57%
K 766.490†	42716.5	19.97 mg/L	0.075	19.97 mg/L	0.075	0.38%
Mg 279.077†	1468.1	1.995 mg/L	0.0069	1.995 mg/L	0.0069	0.34%
Mn 257.610†	17757.7	1.025 mg/L	0.0073	1.025 mg/L	0.0073	0.71%
Mo 202.031†	10439.3	1.009 mg/L	0.0050	1.009 mg/L	0.0050	0.50%
Na 589.592†	672058.8	49.44 mg/L	0.118	49.44 mg/L	0.118	0.24%
Na 330.237†	792.2	51.37 mg/L	0.187	51.37 mg/L	0.187	0.36%
Ni 231.604†	1901.5	0.9762 mg/L	0.00328	0.9762 mg/L	0.00328	0.34%
Pb 220.353†	9505.5	2.053 mg/L	0.0138	2.053 mg/L	0.0138	0.67%
Sb 206.836†	3722.3	2.047 mg/L	0.0126	2.047 mg/L	0.0126	0.62%
Se 196.026†	1444.8	2.021 mg/L	0.0103	2.021 mg/L	0.0103	0.51%
Si 288.158†	2305.5	2.038 mg/L	0.0117	2.038 mg/L	0.0117	0.57%
Sn 189.927†	1749.9	0.9773 mg/L	0.00676	0.9773 mg/L	0.00676	0.69%
Sr 421.552†	647943.8	0.9875 mg/L	0.00251	0.9875 mg/L	0.00251	0.25%
Ti 334.903†	11317.5	1.026 mg/L	0.0051	1.026 mg/L	0.0051	0.50%
Tl 190.801†	2084.2	1.971 mg/L	0.0115	1.971 mg/L	0.0115	0.58%
V 292.402†	113441.6	0.9960 mg/L	0.01089	0.9960 mg/L	0.01089	1.09%
Zn 206.200†	1626.0	0.9727 mg/L	0.00500	0.9727 mg/L	0.00500	0.51%

Sequence No.: 32
 Sample ID: CB 3

Autosampler Location: 1
 Date Collected: 1/19/2016 12:27:20 PM
 Data Type: Original

Dilution: 1.000000X

 Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	172.0 kPa	0.75 L/min

 Mean Data: CB


Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
ScA 357.253	2278597.6	101.7	%	0.39				0.38%
ScR 361.383	179257.9	101.8	%	0.50				0.49%
Ag 328.068†	8.9	0.00006	mg/L	0.000092	0.00006	mg/L	0.000092	159.83%
Al 308.215†	0.9	0.00084	mg/L	0.007215	0.00084	mg/L	0.007215	857.92%
As 188.979†	0.7	0.00078	mg/L	0.001651	0.00078	mg/L	0.001651	211.45%
B 249.677†	4.1	0.00108	mg/L	0.000539	0.00108	mg/L	0.000539	49.86%
Ba 233.527†	-1.1	-0.00045	mg/L	0.000408	-0.00045	mg/L	0.000408	90.23%
Be 313.042†	13.3	0.00004	mg/L	0.000037	0.00004	mg/L	0.000037	84.21%
Ca 317.933†	-1.5	-0.00024	mg/L	0.000385	-0.00024	mg/L	0.000385	163.45%
Cd 228.802†	-2.5	-0.00012	mg/L	0.000071	-0.00012	mg/L	0.000071	57.18%
Co 228.616†	5.6	0.00027	mg/L	0.000063	0.00027	mg/L	0.000063	23.62%
Cr 267.716†	0.3	0.00009	mg/L	0.000189	0.00009	mg/L	0.000189	207.75%
Cu 324.752†	-129.9	-0.00053	mg/L	0.000170	-0.00053	mg/L	0.000170	31.99%
Fe 273.955†	0.2	0.00032	mg/L	0.001250	0.00032	mg/L	0.001250	384.78%
K 766.490†	41.5	0.01938	mg/L	0.010394	0.01938	mg/L	0.010394	53.63%
Mg 279.077†	-2.0	-0.00267	mg/L	0.005837	-0.00267	mg/L	0.005837	218.60%
Mn 257.610†	1.3	0.00007	mg/L	0.000049	0.00007	mg/L	0.000049	66.16%
Mo 202.031†	15.9	0.00154	mg/L	0.000636	0.00154	mg/L	0.000636	41.40%
Na 589.592†	486.1	0.03576	mg/L	0.001757	0.03576	mg/L	0.001757	4.91%
Na 330.237†	4.2	0.2733	mg/L	0.08564	0.2733	mg/L	0.08564	31.33%
Ni 231.604†	1.6	0.00083	mg/L	0.001396	0.00083	mg/L	0.001396	167.23%
Pb 220.353†	5.8	0.00126	mg/L	0.000483	0.00126	mg/L	0.000483	38.50%
Sb 206.836†	10.4	0.00574	mg/L	0.003588	0.00574	mg/L	0.003588	62.51%
Se 196.026†	1.8	0.00246	mg/L	0.003185	0.00246	mg/L	0.003185	129.37%
Si 288.158†	-2.2	-0.00195	mg/L	0.001544	-0.00195	mg/L	0.001544	79.08%
Sn 189.927†	0.9	0.00049	mg/L	0.001563	0.00049	mg/L	0.001563	316.17%
Sr 421.552†	77.0	0.00012	mg/L	0.000037	0.00012	mg/L	0.000037	31.88%
Ti 334.903†	1.7	0.00015	mg/L	0.000284	0.00015	mg/L	0.000284	183.26%
Tl 190.801†	0.9	0.00084	mg/L	0.002936	0.00084	mg/L	0.002936	349.06%
V 292.402†	1.4	0.00001	mg/L	0.000131	0.00001	mg/L	0.000131	996.14%
Zn 206.200†	-0.3	-0.00019	mg/L	0.000709	-0.00019	mg/L	0.000709	368.35%

Table of Contents: ARI Job AUA2

Client: Anchor QEA, LLC

Project:

	Page From:	Page To:
Inventory Sheet		
Cover Letter	<u>1</u>	<u>1</u>
Chain of Custody Documentation	<u>2</u>	<u>3</u>
Case Narrative, Data Qualifiers, Control Limits	<u>4</u>	<u>10</u>
SIM PAH Analysis		
Report and Summary QC Forms	<u>11</u>	<u>32</u>
Lipids		
Report and Summary QC Forms	<u>33</u>	<u>38</u>
SIM PAH Raw Data		
Extractions Bench Sheets and Notes	<u>39</u>	<u>42</u>
Initial Calibration	<u>43</u>	<u>186</u>
Run Logs, Continuing Calibrations, and Raw Data	<u>187</u>	<u>321</u>



Signature

January-27-2016
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

January 27, 2016

Cindy Fields
Anchor QEA
720 Olive Way, Suite 1900
Seattle, WA 98101

ARI Job No.: AUA2

Dear Ms. Fields:

Please find enclosed the sample receipt documentation and the final data package for samples from the project referenced above.

Sample receipt and details regarding requested analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile: AUA2

Enclosures

Chain of Custody Documentation

ARI Job ID: AUA2

AUA2: 00002



Cooler Receipt Form

ARI Client: ARCHEV QEA

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Carrier Hand Delivered Other: _____

Assigned ARI Job No: AUA2

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1100 0.1

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: VEDS 276

Cooler Accepted by: A Date: 12-10-15 Time: 1100

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: CA Date: 1/13/16 Time: 1117

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
NO COC received
By: W Date: 12/10/15

<p>Small Air Bubbles ~2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
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Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: AUA2

AUA2: 00004



Case Narrative

Client: Anchor QEA
ARI Job No.: AUA2

Sample Receipt

Three tissue samples were received on December 18, 2015 under ARI job AUA2. The cooler temperature measured by IR thermometer following ARI SOP was 0.1°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

PAHs by SW8270D-SIM

The samples were extracted and analyzed within the method recommended holding times for samples stored frozen.

Initial calibrations were within method requirements.

The initial calibration verification (ICV) on 1/22/16 fell outside the 20% control limit low for Benzo(b)fluoranthene and Total Benzo(a)fluoranthenes. All detected results associated with this ICV have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within control limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

Lipids by Method Bligh & Dyer

The samples were extracted and analyzed within the method recommended holding times for samples stored frozen.

Sample ID Cross Reference Report



ARI Job No: AUA2
Client: Anchor QEA, LLC
Project Event: N/A
Project Name: N/A

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. 13EB_ME-MTW01Z	AUA2A	16-418	Tissue	01/07/13	12/18/15 11:00
2. 13CPS_DB-MTW01Z	AUA2B	16-419	Tissue	01/10/13	12/18/15 11:00
3. 13NPS_CIAR2-MTW01Z	AUA2C	16-420	Tissue	01/14/13	12/18/15 11:00



Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($< 20\%$ RSD, $< 20\%$ Drift or minimum RRF).



- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Method Information

Printed: 01/27/2016 12:27 pm

8270D-SIM PAH (0.5 ug/kg) in Tissue (EPA 8270D-SIM)

Preservation: Cool <6°C

Container: Glass WM, Clear, 8 oz

Amount Required: 150 g

Hold Time: 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	---Matrix Spike---		--Blank Spike / LCS--	
					%Rec	RPD	%Rec	RPD
Naphthalene	0.500	0.600 ug/kg		30	30-160	30	30-160	30
1-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Biphenyl	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,6-Dimethylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzofuran	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,3,5-Trimethylnaphthalene	0.500	0.500 ug/kg						
Fluorene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzothiophene	0.500	0.500 ug/kg						
Phenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Carbazole	0.500	0.500 ug/kg		30	30-160	30	30-160	30
1-Methylphenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Chrysene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(b)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(k)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(j)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(e)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Indeno(1,2,3-cd)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzo(a,h)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(g,h,i)perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)fluoranthenes, Total	1.00	1.00 ug/kg		30	30-160	30	46-120	30
Surr: 2-Methylnaphthalene-d10				30-160				
Surr: Dibenzo[a,h]anthracene-d14				30-160				
Surr: Fluoranthene-d10				30-160				
Naphthalene-d8								
Acenaphthene-d10								
Phenanthrene-d10								
Chrysene-d12								
Perylene-d12								

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: AUA2

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
Page 1 of 1

Sample ID: 13EB_ME-MTW01Z
SAMPLE

Lab Sample ID: AUA2A
LIMS ID: 16-418
Matrix: Tissue
Data Release Authorized: *mmw*
Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC
Project: NA
Event: NA
Date Sampled: 01/07/13
Date Received: 12/18/15

Date Extracted: 01/14/16
Date Analyzed: 01/22/16 16:30
Instrument/Analyst: NT11/JLW
GPC Cleanup: Yes
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
Sulfur Cleanup: No

Lipids: 1.32 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	1.09
91-57-6	2-Methylnaphthalene	0.50	1.43
208-96-8	Acenaphthylene	0.50	0.86
83-32-9	Acenaphthene	0.50	4.62
86-73-7	Fluorene	0.50	6.66
85-01-8	Phenanthrene	0.50	30.1
120-12-7	Anthracene	0.50	8.54
206-44-0	Fluoranthene	0.50	52.7 E
129-00-0	Pyrene	0.50	33.4
56-55-3	Benzo (a) anthracene	0.50	15.0
218-01-9	Chrysene	0.50	17.0
205-99-2	Benzo (b) fluoranthene	0.50	12.1
207-08-9	Benzo (k) fluoranthene	0.50	7.11 Q
50-32-8	Benzo (a) pyrene	0.50	5.81
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	1.67
53-70-3	Dibenz (a,h) anthracene	0.50	0.51
191-24-2	Benzo (g,h,i) perylene	0.50	2.31
198-55-0	Perylene	0.50	2.82
192-97-2	Benzo (e) pyrene	0.50	8.90
TOTBFA	Total Benzofluoranthenes	0.50	25.6 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	52.3%
d10-2-Methylnaphthalene	45.7%
d14-Dibenzo (a,h) anthracene	56.0%

ORGANICS ANALYSIS DATA SHEET
 PNAs by Low Level SW8270D-SIM GC/MS
 Extraction Method: TissM
 Page 1 of 1

Sample ID: 13EB_ME-MTW01Z
 DILUTION

Lab Sample ID: AUA2A
 LIMS ID: 16-418
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC
 Project: NA
 Event: NA
 Date Sampled: 01/07/13
 Date Received: 12/18/15

Date Extracted: 01/14/16
 Date Analyzed: 01/25/16 13:00
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 10.0
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.32 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	5.00	< 5.00 U
91-57-6	2-Methylnaphthalene	5.00	< 5.00 U
208-96-8	Acenaphthylene	5.00	< 5.00 U
83-32-9	Acenaphthene	5.00	5.28
86-73-7	Fluorene	5.00	7.20
85-01-8	Phenanthrene	5.00	43.9
120-12-7	Anthracene	5.00	10.4
206-44-0	Fluoranthene	5.00	81.4
129-00-0	Pyrene	5.00	47.2
56-55-3	Benzo (a) anthracene	5.00	18.4
218-01-9	Chrysene	5.00	23.7
205-99-2	Benzo (b) fluoranthene	5.00	14.8
207-08-9	Benzo (k) fluoranthene	5.00	10.2
50-32-8	Benzo (a) pyrene	5.00	7.11
193-39-5	Indeno (1,2,3-cd) pyrene	5.00	< 5.00 U
53-70-3	Dibenz (a,h) anthracene	5.00	< 5.00 U
191-24-2	Benzo (g,h,i) perylene	5.00	< 5.00 U
198-55-0	Perylene	5.00	< 5.00 U
192-97-2	Benzo (e) pyrene	5.00	11.9
TOTBFA	Total Benzofluoranthenes	5.00	34.3

Reported in µg/kg (ppb)

SIM Semivolatle Surrogate Recovery

d10-Fluoranthene	64.3%
d10-2-Methylnaphthalene	49.0%
d14-Dibenzo (a,h) anthracene	57.7%

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
Page 1 of 1

Sample ID: 13CPS_DB-MTW01Z
SAMPLE

Lab Sample ID: AUA2B
LIMS ID: 16-419
Matrix: Tissue
Data Release Authorized: *MW*
Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC
Project: NA
Event: NA
Date Sampled: 01/10/13
Date Received: 12/18/15

Date Extracted: 01/14/16
Date Analyzed: 01/22/16 17:00
Instrument/Analyst: NT11/JLW
GPC Cleanup: Yes
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.02 g-as-rec
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
Sulfur Cleanup: No

Lipids: 1.39 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.56
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	< 0.50 U
85-01-8	Phenanthrene	0.50	1.24
120-12-7	Anthracene	0.50	< 0.50 U
206-44-0	Fluoranthene	0.50	2.19
129-00-0	Pyrene	0.50	1.57
56-55-3	Benzo (a) anthracene	0.50	0.51
218-01-9	Chrysene	0.50	1.09
205-99-2	Benzo (b) fluoranthene	0.50	0.60
207-08-9	Benzo (k) fluoranthene	0.50	< 0.50 U
50-32-8	Benzo (a) pyrene	0.50	< 0.50 U
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	1.17 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	52.3%
d10-2-Methylnaphthalene	42.0%
d14-Dibenzo (a,h) anthracene	56.7%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: 13NPS_CIAR2-MTW01Z
SAMPLE

Lab Sample ID: AUA2C
 LIMS ID: 16-420
 Matrix: Tissue
 Data Release Authorized: *mm*
 Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC
 Project: NA
 Event: NA
 Date Sampled: 01/14/13
 Date Received: 12/18/15

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 17:30
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.01 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.29 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.66
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	< 0.50 U
85-01-8	Phenanthrene	0.50	0.66
120-12-7	Anthracene	0.50	< 0.50 U
206-44-0	Fluoranthene	0.50	0.75
129-00-0	Pyrene	0.50	0.58
56-55-3	Benzo(a)anthracene	0.50	< 0.50 U
218-01-9	Chrysene	0.50	< 0.50 U
205-99-2	Benzo(b)fluoranthene	0.50	< 0.50 U
207-08-9	Benzo(k)fluoranthene	0.50	< 0.50 U
50-32-8	Benzo(a)pyrene	0.50	< 0.50 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	< 0.50 U
53-70-3	Dibenz(a,h)anthracene	0.50	< 0.50 U
191-24-2	Benzo(g,h,i)perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo(e)pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	< 0.50 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	60.3%
d10-2-Methylnaphthalene	51.0%
d14-Dibenzo(a,h)anthracene	66.7%

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Tissue

QC Report No: AUA2-Anchor QEA, LLC
Project:

<u>Client ID</u>	<u>FLN</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
MB-011416	61.3%	47.0%	65.7%	0
LCS-011416	61.3%	48.0%	64.3%	0
13EB_ME-MTW01Z	52.3%	45.7%	56.0%	0
13EB_ME-MTW01Z DL	64.3%	49.0%	57.7%	0
13CPS_DB-MTW01Z	52.3%	42.0%	56.7%	0
13NPS_CIAR2-MTW01Z	60.3%	51.0%	66.7%	0

LCS/MB LIMITS (Advisory)	QC LIMITS (Advisory)
-------------------------------------	---------------------------------

(FLN) = d10-Fluoranthene	(30-160)	(30-160)
(MNP) = d10-2-Methylnaphthalene	(30-160)	(30-160)
(DBA) = d14-Dibenzo(a,h)anthracene	(30-160)	(30-160)

Prep Method: TissM
Log Number Range: 16-418 to 16-420

ORGANICS ANALYSIS DATA SHEET

PNAs by Low Level SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: LCS-011416

LAB CONTROL SAMPLE

Lab Sample ID: LCS-011416

LIMS ID: 16-418

Matrix: Tissue

Data Release Authorized: *MW*

Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC

Project: NA

Event: NA

Date Sampled: NA

Date Received: NA

Date Extracted: 01/14/16

Date Analyzed LCS: 01/22/16 10:57

Instrument/Analyst LCS: NT11/JLW

Sample Amount LCS: 10.00 g-as-rec

Final Extract Volume LCS: 0.50 mL

Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	7.68	15.0	51.2%
2-Methylnaphthalene	7.96	15.0	53.1%
Acenaphthylene	7.38	15.0	49.2%
Acenaphthene	7.76	15.0	51.7%
Fluorene	8.68	15.0	57.9%
Phenanthrene	8.55	15.0	57.0%
Anthracene	8.47	15.0	56.5%
Fluoranthene	9.45	15.0	63.0%
Pyrene	9.67	15.0	64.5%
Benzo(a)anthracene	9.99	15.0	66.6%
Chrysene	9.34	15.0	62.3%
Benzo(b)fluoranthene	9.32	15.0	62.1%
Benzo(k)fluoranthene	8.44 Q	15.0	56.3%
Benzo(a)pyrene	8.44	15.0	56.3%
Indeno(1,2,3-cd)pyrene	9.88	15.0	65.9%
Dibenz(a,h)anthracene	10.2	15.0	68.0%
Benzo(g,h,i)perylene	9.84	15.0	65.6%
Perylene	8.42	15.0	56.1%
Benzo(e)pyrene	8.96	15.0	59.7%
Total Benzofluoranthenes	26.3 Q	45.0	58.4%

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	48.0%
d14-Dibenzo(a,h)anthracene	64.3%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

APR4MBS1

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: APR4
Lab File ID: 16012207
Instrument ID: NT11
Matrix: SOLID

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Date Extracted: 01/14/16
Date Analyzed: 01/22/16
Time Analyzed: 1027

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	APR4LCSS1	APR4LCSS1	16012208	01/22/16
02	SRM 1974C	APR4SRM1	16012209	01/22/16
03	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16
04	PG-SMA2-2-MUS-CO	ATS0A	16012211	01/22/16
05	PG-PJ-1-MUS-COC-	ATS0B	16012212	01/22/16
06	PG-PJ-1-MUS-COC	ATS0BMS	16012213	01/22/16
07	PG-PJ-1-MUS-COC	ATS0BMSD	16012214	01/22/16
08	PG-WS-1-MUS-COC-	ATS0C	16012215	01/22/16
09	PG-GP-1-MUS-COC-	ATS0D	16012216	01/22/16
10	PG-SMA2-5-MUS-CO	ATS0E	16012217	01/22/16
11	PG-SMA2-4-MUS-CO	ATS0F	16012218	01/22/16
12	13EB_ME-MTW01Z	AUA2A	16012219	01/22/16
13	13CPS_DB-MTW01Z	AUA2B	16012220	01/22/16
14	13NPS_CIAR2-MTW0	AUA2C	16012221	01/22/16
15	13EB_ME-MTW01Z	AUA2A, 10	16012512	01/25/16
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ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: MB-011416
 METHOD BLANK

Lab Sample ID: MB-011416
 LIMS ID: 16-418
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 01/27/16

QC Report No: AUA2-Anchor QEA, LLC
 Project: NA
 Event: NA
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 10:27
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: NA

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	< 0.50 U
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	< 0.50 U
85-01-8	Phenanthrene	0.50	< 0.50 U
120-12-7	Anthracene	0.50	< 0.50 U
206-44-0	Fluoranthene	0.50	< 0.50 U
129-00-0	Pyrene	0.50	< 0.50 U
56-55-3	Benzo(a)anthracene	0.50	< 0.50 U
218-01-9	Chrysene	0.50	< 0.50 U
205-99-2	Benzo(b)fluoranthene	0.50	< 0.50 U
207-08-9	Benzo(k)fluoranthene	0.50	< 0.50 U
50-32-8	Benzo(a)pyrene	0.50	< 0.50 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	< 0.50 U
53-70-3	Dibenz(a,h)anthracene	0.50	< 0.50 U
191-24-2	Benzo(g,h,i)perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo(e)pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	< 0.50 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	47.0%
d14-Dibenzo(a,h)anthracene	65.7%

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 12/04/15

DFTPP Injection Time: 0845

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.7
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	50.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.8
275	10.0 - 60.0% of mass 198	29.8
365	Greater than 1.0% of mass 198	3.54
441	0.0 - 24.0% of mass 442	13.4 (16.4)2
442	50.0 - 200.0% of mass 198	81.9
443	15.0 - 24.0% of mass 442	18.6 (22.7)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LLSIM 250	15120402	12/04/15	0903
02		LLSIM 100	15120403	12/04/15	0933
03		LLSIM 10	15120404	12/04/15	1003
04		LLSIM 50	15120405	12/04/15	1033
05		LLSIM 500	15120406	12/04/15	1103
06		LLSIM 1000	15120407	12/04/15	1133
07		LLSIM SCV 25	15120408	12/04/15	1204
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 01/22/16

DFTPP Injection Time: 0848

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.7
68	Less than 2.0% of mass 69	0.2 (0.4)1
69	Mass 69 relative abundance	41.6
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	47.8
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.7
275	10.0 - 60.0% of mass 198	27.2
365	Greater than 1.0% of mass 198	3.32
441	0.0 - 24.0% of mass 442	12.5 (16.3)2
442	50.0 - 200.0% of mass 198	77.1
443	15.0 - 24.0% of mass 442	16.8 (21.8)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LL SIM ICV	16012205	01/22/16	0905
02		LL SIM MRL	16012206	01/22/16	0957
03	APR4MBS1	APR4MBS1	16012207	01/22/16	1027
04	APR4LCSS1	APR4LCSS1	16012208	01/22/16	1057
05	SRM 1974C	APR4SRM1	16012209	01/22/16	1128
06	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16	1158
07	PG-SMA2-2-MUS-CO	ATS0A	16012211	01/22/16	1228
08	PG-PJ-1-MUS-COC-	ATS0B	16012212	01/22/16	1258
09	PG-PJ-1-MUS-COC	ATS0BMS	16012213	01/22/16	1328
10	PG-PJ-1-MUS-COC	ATS0BMSD	16012214	01/22/16	1359
11	PG-WS-1-MUS-COC-	ATS0C	16012215	01/22/16	1429
12	PG-GP-1-MUS-COC-	ATS0D	16012216	01/22/16	1459
13	PG-SMA2-5-MUS-CO	ATS0E	16012217	01/22/16	1529
14	PG-SMA2-4-MUS-CO	ATS0F	16012218	01/22/16	1559
15	13EB ME-MTW01Z	AUA2A	16012219	01/22/16	1630
16	13CPS DB-MTW01Z	AUA2B	16012220	01/22/16	1700
17	13NPS CIAR2-MTW0	AUA2C	16012221	01/22/16	1730
18		LL SIM CCV	16012222	01/22/16	1800
19					
20					

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 01/25/16

DFTPP Injection Time: 0857

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	37.4
68	Less than 2.0% of mass 69	0.4 (0.8)1
69	Mass 69 relative abundance	45.6
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	50.8
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.7
275	10.0 - 60.0% of mass 198	28.5
365	Greater than 1.0% of mass 198	2.89
441	0.0 - 24.0% of mass 442	12.4 (16.4)2
442	50.0 - 200.0% of mass 198	75.5
443	15.0 - 24.0% of mass 442	16.4 (21.7)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LLPAH ICV	16012505	01/25/16	0914
02		LLPAH 50	16012507	01/25/16	0959
03		LLPAH 10	16012506	01/25/16	1029
04		LLPAH 500	16012509	01/25/16	1059
05		LLPAH 100	16012508	01/25/16	1129
06		LLPAH 1000	16012510	01/25/16	1200
07		LLPAH SCV	16012511	01/25/16	1230
08	13EB_ME-MTW01Z	AUA2A	16012512	01/25/16	1300
09		LLPAH CCV	16012515	01/25/16	1432
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6B
SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Calibration Date: 12/04/15

LAB FILE ID:	RRF10 =15120404	RRF50 =15120405	RRF100=15120403
	RRF250=15120402	RRF500=15120406	RRF1000=15120407

COMPOUND	RRF 10	RRF 50	RRF 100	RRF 250	RRF 500	RRF 1000	RRF	%RSD /R^2
Naphthalene	1.199	1.257	1.208	1.138	1.095	1.034	1.155	7.1
2-Methylnaphthalene	0.757	0.822	0.818	0.825	0.787	0.754	0.794	4.1
Acenaphthylene	1.587	1.688	1.646	1.628	1.602	1.535	1.614	3.3
Acenaphthene	1.084	1.136	1.097	1.066	1.041	1.005	1.072	4.3
Dibenzofuran	1.637	1.742	1.685	1.623	1.559	1.437	1.614	6.6
Fluorene	1.159	1.259	1.248	1.231	1.209	1.156	1.210	3.7
Phenanthrene	1.201	1.339	1.261	1.223	1.143	1.063	1.205	7.9
Anthracene	1.014	1.089	1.089	1.118	1.122	1.039	1.078	4.0
Fluoranthene	1.095	1.291	1.250	1.266	1.227	1.130	1.210	6.5
Pyrene	1.570	1.718	1.639	1.574	1.557	1.445	1.584	5.8
Benzo (a) anthracene	1.264	1.424	1.349	1.340	1.338	1.285	1.333	4.2
Chrysene	1.461	1.649	1.511	1.434	1.412	1.314	1.464	7.6
Benzo (b) fluoranthene	1.236	1.449	1.335	1.309	1.428	1.373	1.355	5.8
Benzo (k) fluoranthene	1.404	1.665	1.575	1.601	1.638	1.592	1.579	5.8
Benzo (j) fluoranthene	1.324	1.581	1.430	1.419	1.477	1.400	1.438	6.0
Benzo (a) pyrene	1.122	1.390	1.285	1.305	1.392	1.352	1.308	7.7
Indeno (1,2,3-cd) pyrene	1.070	1.396	1.342	1.372	1.529	1.530	1.373	12.3
Dibenzo (a,h) anthracene	0.794	1.057	1.071	1.111	1.233	1.249	1.086	15.1
Benzo (g,h,i) perylene	1.030	1.235	1.174	1.174	1.272	1.268	1.192	7.6
1-Methylnaphthalene	0.672	0.743	0.744	0.740	0.711	0.681	0.715	4.6
Perylene	1.258	1.475	1.355	1.306	1.390	1.351	1.356	5.5
Benzo (e) pyrene	1.300	1.485	1.371	1.324	1.391	1.346	1.370	4.8
2-Methylnaphthalene-d10	0.706	0.768	0.761	0.766	0.738	0.714	0.742	3.7
Dibenzo (a,h) anthracene-d14	0.593	0.781	0.799	0.816	0.911	0.944	0.807	15.3
Fluoranthene-d10	1.015	1.152	1.114	1.133	1.122	1.062	1.100	4.7

<- Outside QC limits: %RSD <20% or R^2 > 0.990

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Cont. Calib. Date: 01/22/16

Init. Calib. Date: 12/04/15

Cont. Calib. Time: 0905

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
=====	=====	=====	=====	=====	=====
Naphthalene	1.155	1.010	0.700	AVRG	-12.6
2-Methylnaphthalene	0.794	0.729	0.400	AVRG	-8.2
Acenaphthylene	1.614	1.497	0.900	AVRG	-7.2
Acenaphthene	1.072	0.947	0.900	AVRG	-11.7
Dibenzofuran	1.614	1.441	0.800	AVRG	-10.7
Fluorene	1.210	1.133	0.900	AVRG	-6.4
Phenanthrene	1.205	1.029	0.700	AVRG	-14.6
Anthracene	1.078	1.003	0.700	AVRG	-7.0
Fluoranthene	1.210	1.061	0.600	AVRG	-12.3
Pyrene	1.584	1.428	0.600	AVRG	-9.8
Benzo(a)anthracene	1.333	1.185	0.800	AVRG	-11.1
Chrysene	1.464	1.224	0.700	AVRG	-16.4
Benzo(b)fluoranthene	1.355	1.162	0.700	AVRG	-14.2
Benzo(k)fluoranthene	1.579	1.250	0.700	AVRG	-20.8
Benzo(j)fluoranthene	1.438	1.183	0.010	AVRG	-17.7
Benzo(a)pyrene	1.308	1.118	0.700	AVRG	-14.5
Indeno(1,2,3-cd)pyrene	1.373	1.186	0.500	AVRG	-13.6
Dibenzo(a,h)anthracene	1.086	0.964	0.400	AVRG	-11.2
Benzo(g,h,i)perylene	1.192	1.035	0.500	AVRG	-13.2
1-Methylnaphthalene	0.715	0.651	0.010	AVRG	-9.0
Perylene	1.356	1.117	0.010	AVRG	-17.6
Benzo(e)pyrene	1.370	1.107	0.010	AVRG	-19.2
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene-d10	0.742	0.671	0.010	AVRG	-9.6
Dibenzo(a,h)anthracene-d14	0.807	0.735	0.010	AVRG	-8.9
Fluoranthene-d10	1.100	0.976	0.010	AVRG	-11.3

<- Exceeds QC limit of 20% D

* RF less than minimum RF

7B
SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: AUA2
Instrument ID: NT11
Init. Calib. Date: 01/25/16

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Cont. Calib. Date: 01/25/16
Cont. Calib. Time: 0914

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.107	0.976	0.700	AVRG	-11.8
2-Methylnaphthalene	0.796	0.718	0.400	AVRG	-9.8
Acenaphthylene	1.635	1.472	0.900	AVRG	-10.0
Acenaphthene	1.032	0.920	0.900	AVRG	-10.8
Dibenzofuran	1.580	1.401	0.800	AVRG	-11.3
Fluorene	1.247	1.103	0.900	AVRG	-11.5
Phenanthrene	1.132	0.971	0.700	AVRG	-14.2
Anthracene	1.089	0.968	0.700	AVRG	-11.1
Fluoranthene	1.161	1.031	0.600	AVRG	-11.2
Pyrene	1.539	1.337	0.600	AVRG	-13.1
Benzo (a) anthracene	1.310	1.142	0.800	AVRG	-12.8
Chrysene	1.341	1.153	0.700	AVRG	-14.0
Benzo (b) fluoranthene	1.317	1.088	0.700	AVRG	-17.4
Benzo (k) fluoranthene	1.375	1.191	0.700	AVRG	-13.4
Benzo (j) fluoranthene	1.252	1.049	0.010	AVRG	-16.2
Benzo (a) pyrene	1.207	1.030	0.700	AVRG	-14.7
Indeno (1, 2, 3-cd) pyrene	1.236	1.070	0.500	AVRG	-13.4
Dibenzo (a, h) anthracene	0.976	0.852	0.400	AVRG	-12.7
Benzo (g, h, i) perylene	1.094	0.933	0.500	AVRG	-14.7
1-Methylnaphthalene	0.721	0.641	0.010	AVRG	-11.1
Perylene	1.236	1.050	0.010	AVRG	-15.0
Benzo (e) pyrene	1.249	1.048	0.010	AVRG	-16.1
2-Methylnaphthalene-d10	0.747	0.662	0.010	AVRG	-11.4
Dibenzo (a, h) anthracene-d14	0.746	0.657	0.010	AVRG	-11.9
Fluoranthene-d10	1.082	0.941	0.010	AVRG	-13.0

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 12/04/15

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
=====	=====	=====	=====	=====	=====	=====
CCAL	337457	6.60	238950	9.60	380348	12.27
UPPER LIMIT		7.10		10.10		12.77
LOWER LIMIT		6.10		9.10		11.77
01	330144	6.60	236381	9.60	360337	12.27
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 12/04/15

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	298514	17.01	256244	19.84		
UPPER LIMIT		17.51		20.34		
LOWER LIMIT		16.51		19.34		
01	291007	17.01	242244	19.83		
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IS4 = Chrysene-d12

IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
=====	=====	=====	=====	=====	=====	=====
CCAL	368312	6.73	275119	9.74	442913	12.42
UPPER LIMIT		7.23		10.24		12.92
LOWER LIMIT		6.23		9.24		11.92
01	345356	6.74	235311	9.76	378135	12.42
02 APR4MBS1	368895	6.73	251480	9.74	405369	12.42
03 APR4LCSS1	360526	6.73	257556	9.74	412183	12.42
04 SRM 1974C	362258	6.73	249465	9.74	398741	12.42
05 PG-T0-MUS-CO	371890	6.72	259279	9.74	437520	12.42
06 PG-SMA2-2-MU	363469	6.73	256352	9.74	419386	12.42
07 PG-PJ-1-MUS-	374753	6.73	264386	9.74	426020	12.42
08 PG-PJ-1-MUS-	373582	6.73	269039	9.74	428623	12.42
09 PG-PJ-1-MUS-	377287	6.73	271691	9.74	435691	12.42
10 PG-WS-1-MUS-	376882	6.73	268849	9.74	435864	12.42
11 PG-GP-1-MUS-	377268	6.72	268633	9.74	436597	12.41
12 PG-SMA2-5-MU	384886	6.73	273475	9.74	449495	12.42
13 PG-SMA2-4-MU	381586	6.72	270392	9.74	439377	12.42
14 13EB ME-MTW0	373510	6.73	268987	9.74	440845	12.42
15 13CPS DB-MTW	370975	6.73	264737	9.74	432287	12.42
16 13NPS CIAR2-	382765	6.72	270341	9.75	435855	12.42
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	337848	17.17	324201	20.06		
UPPER LIMIT		17.67		20.56		
LOWER LIMIT		16.67		19.56		
01	274122	17.18	249583	20.07		
02 APR4MBS1	295936	17.17	283292	20.06		
03 APR4LCSS1	314530	17.17	306666	20.06		
04 SRM 1974C	300525	17.17	299419	20.06		
05 PG-T0-MUS-CO	299515	17.17	303212	20.06		
06 PG-SMA2-2-MU	310418	17.17	308119	20.06		
07 PG-PJ-1-MUS-	316427	17.17	315181	20.07		
08 PG-PJ-1-MUS-	324379	17.17	323020	20.06		
09 PG-PJ-1-MUS-	325376	17.17	324453	20.06		
10 PG-WS-1-MUS-	322334	17.17	323010	20.06		
11 PG-GP-1-MUS-	322279	17.17	320562	20.06		
12 PG-SMA2-5-MU	339179	17.17	335158	20.06		
13 PG-SMA2-4-MU	325728	17.17	325370	20.06		
14 13EB ME-MTWO	336414	17.17	339083	20.06		
15 13CPS_DB-MTW	321859	17.17	327843	20.06		
16 13NPS_CIAR2-	323444	17.17	326352	20.06		
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IS4 = Chrysene-d12

IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: AUA2
Ical Midpoint ID: 16012505
Instrument ID: NT11

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Ical Date: 01/25/16
Cont. Cal Date: 01/25/16

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	356051	6.71	264524	9.71	444949	12.38
UPPER LIMIT	712102		529048		889898	
LOWER LIMIT	178026		132262		222475	
=====	=====	=====	=====	=====	=====	=====
CCAL	312072	6.71	248822	9.71	422923	12.38
UPPER LIMIT		7.21		10.21		12.88
LOWER LIMIT		6.21		9.21		11.88
01	297375	6.71	218000	9.71	349233	12.38
02 13EB_ME-MTWO	301571	6.70	210363	9.71	345651	12.38
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: AUA2

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 16012505

Ical Date: 01/25/16

Instrument ID: NT11

Cont. Cal Date: 01/25/16

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	343139	17.12	319277	20.01		
UPPER LIMIT	686278		638554			
LOWER LIMIT	171570		159639			
=====	=====	=====	=====	=====	=====	=====
CCAL	330299	17.12	314395	20.00		
UPPER LIMIT		17.62		20.50		
LOWER LIMIT		16.62		19.50		
01	282390	17.12	252294	20.00		
02 13EB_ME-MIWO	257794	17.12	243887	20.00		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal


* Values outside of QC limits.

Percent Lipids

ARI Job ID: AUA2

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer



Data Release Authorized: 
Reported: 01/20/16
Date Received: 12/18/15
Page 1 of 1

QC Report No: AUA2-Anchor QEA, LLC
Project:

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
13EB_ME-MTW01Z AUA2A 16-418	01/07/13	Tissue	01/14/16	0.0010	1.32 %
13CPS_DB-MTW01Z AUA2B 16-419	01/10/13	Tissue	01/14/16	0.0009	1.39 %
13NPS_CJAR2-MTW01Z AUA2C 16-420	01/14/13	Tissue	01/14/16	0.0010	1.29 %
Method Blank			01/14/16	0.0010	0.0700 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit
U-Undetected at reported detection limit

Percent Lipids-lipid
Data By: Jim Hawk
Created: 1/20/16

Worklist: 5469
Analyst: TH
Comments:

SA (g)	Tare (g)	Final (g)	Aliq Vol (uL)	Ext Vol (mL)	Lipids ()	Qual	RPD (%)
Blank 10.00	1.163	1.170	1000.	1.0	0.0700 0.0010		
AUA2A 10.39	1.162	1.299	1000.	1.0	1.32 0.0010		
AUA2B 10.55	1.164	1.311	1000.	1.0	1.39 0.0009		
AUA2C 10.30	1.160	1.293	1000.	1.0	1.29 0.0010		



Preparation Test % Lipid Test # 1
ARI JOB No(s) ATSP/APR4/AUA2

In-House
Batch set up by: SP

Jar #	ARI Sample ID	Original Extracted Weight (wet wt)	Original Volume (FEV) (mL)	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight (g)	Tare+Sample Weight (g)	Comments	Verify Client ID
	MBT ATSP	10.00g	1 mL	(Y/N)	(1,000 µL)	1.1628	1.1705		
1	A 10.23		1 mL	(Y/N)	(1,000 µL)	1.1603	1.2738		
1	Adup 10.75		1 mL	(Y/N)	(1,000 µL)	1.1649	1.2869		
1	Atip 10.21		1 mL	(Y/N)	(1,000 µL)	1.1636	1.2837		TA 1/14/16
1	B 10.73		1 mL	(Y/N)	(1,000 µL)	1.1608	1.2660		Analyst/Date
1	C 10.41		1 mL	(Y/N)	(1,000 µL)	1.1602	1.2856		KD 80-85°C 3456
1	D 10.21		1 mL	(Y/N)	(1,000 µL)	1.1618	1.2739		
1	E 10.22		1 mL	(Y/N)	(1,000 µL)	1.1663	1.2747		
1	F 10.37		1 mL	(Y/N)	(1,000 µL)	1.1673	1.2626		RMH 1-18-16
1	APR4 A 10.28		1 mL	(Y/N)	(1,000 µL)	1.1606	1.2957		
1	AUA2 A 10.39		1 mL	(Y/N)	(1,000 µL)	1.1628	1.2992		
1	B 10.55		1 mL	(Y/N)	(1,000 µL)	1.1636	1.3107		
1	C 10.30		1 mL	(Y/N)	(1,000 µL)	1.1598	1.2926		Analyst/Date
			mL	(Y/N)	(µL)				TurboVap 123
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				SP 1/19/16
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
Analyst/Date	TH 1/14/16					SP 1/19/16	SP 1/20/16	Reviewed by/Date	Analyst/Date
Balance ID:	B139298002					Analytical Balance ID:	B3146454145		

SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissue mizing. 5. Tissue mize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 80-85°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.

* NOTE: GENERALLY A 10:1 RATIO IS THE TARGET (10g sample To 1mL FEV)

Freeze Y(N)

Reagent and Solutions Identification

(Modified Bligh/Dyer) % Lipids - Tissue
 Modified TissueMizer (3550C) (SOP # 340S)

ARI JOB No(s) ATS4/APR4/AUA2

(Modified Bligh/Dyer) % Lipids Tissue:	Analyst/Date
<u>TissueMizing Station:</u> Anhydrous Sodium Sulfate: (I# + jar date) <u>D445348</u> 1:1 Methylene Chloride/Acetone: (H#) <u>E44448</u> Methylene Chloride: (I#) <u>E44442</u> Neutral Glasswool: (I#) <u>D44378</u>	TissueMize <u>CT 4/15/16</u> <u>YPC</u>
<u>KD Station:</u> Neutral Glasswool: (I#) Anhydrous Sodium Sulfate: (I# + jar date) Methylene Chloride: (I#) <u>E000042</u>	KD <u>RMH</u> <u>1-18-16</u>
<u>Vialing Station:</u> Methylene Chloride: (I#) <u>E000042</u>	Vialing <u>SP</u>



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: AUA2

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: o/p Lipids

Client Project: _____

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	<u>g / ml</u>

SIM PAH Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: AUA2



Miscellaneous

Water/Soil/Sed/Tissue/Other

Separatory Funnel (3510C)/Liq-Liq (3520C)

Sonication (3550C)/Microwave (3546)

TissueMize (Modified 3550C)

Analysis Low level Simpva

Preparation Test Misc # 1

ARI Job No(s) APR4/ATSΦ/AUA2
Batch # _____

Batch set up by SP

EPA aromatic
LLDCM

Low level column

ARI Sample I.D.	Weight or Volume Extracted	Sonic Homr + Chk	(REQ/Opt) GPC	(REQ/Opt) Acid Clean	(REQ/Opt) Sulfur Clean	(REQ/Opt) SPE Clean	Final Effective Volume	Vol to Lab	Comments	Verify Client ID
APR4 BLK	10.00 g		Y/N 1:1	Y/N	Y/N	Y/N 1:1	Φ.5 mL	Φ.5 mL		Pre-GPC KD 123456 50°C Exchange to Hex? Analyst/Date 11/14/16
BS	10.00 g									
BS Dup										
MRL Check										
APR4 SRM	10.ΦΦ								SRM 1974C	TurboVap Pre-GPC 12345
L A	10.Φ2									GM 11/19/16
ATSΦ A	10.Φ4									Analyst/Date
B	10.Φ1									Post GPC 11/24/16 KD 123456 100°C Exchange to Hex? Analyst/Date
BMS	10.Φ1									
BMSD	10.ΦΦ									
C	10.Φ4									TurboVap Post-GPC 12345
D	10.Φ3									
E	10.Φ5									SE 1/20/16
F	10.Φ4									Analyst/Date
AUA2 A	10.ΦΦ									TurboVap Pre-Cleanups 12345
B	10.Φ2									
C	10.Φ1									SE 1/20/16
										Analyst/Date
										TurboVap Post-Cleanups 12345
										SE 1/21/16
Analyst/Date			GM 11/19/16				SE 1/20/16	SE 1/21/16	SE 1/21/16	Reviewed by/Date SE 1/21/16

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Low level Simpva Surrogate Spike	I (D045238)	1.5/7.5 mg/ml	100 µL	11/11/14	CT	
Spike	()		µL			
Spike	()		µL			
Low level Simpva MRL Spike	18 (D044411)	1.5/7.5 mg/ml	100 µL	11/11/16	CT	
MRL Spike	()		µL			

Extraction Time: 16:50 Liq/Liq Start: _____ Liq/Liq Stop: _____ Balance ID: B1392974Φ2

SPECIAL INSTRUCTIONS: (2+) 1:1 DCM/Acetone
 (1X) LLDCM only
 KD = LLDCM!

GPC = LLDCM!
 VIALER = LLDCM!

Revision 07
 06/23/15
 AUA2: 00040

Organic Extractions Reagent and Solutions Identification

Analysis: LL-5im PNA
Method: _____

ARI Job No(s) APR4, A+50

Soil/Sediment/Solid/Tissue/Other:	Analyst/Date
Sonication/Microwave/Tissue/Emulsify Station: Neutral Sodium Sulfate: (<u>D005308</u>) Pre-deactivated Sodium Sulfate: (<u>N/A</u>) Neutral Glasswool: (<u>D003978</u>) Pre-deactivated Glasswool: (<u>N/A</u>) 1:1 Hexane/Acetone: (<u>NA</u>) 80:20 Hexane/Acetone: (<u>NA</u>) 4L 1:1 DCM/Acetone: (<u>E000167</u>) 80:20 DCM/Acetone: (<u>N/A</u>) Hexane: (<u>N/A</u>) 4L DCM: (<u>D004497</u>) Other: () Other: ()	Sonication/Microwave /Tissue/Emulsify <u>01/15/16</u> <u>4L/CF</u>
Pre-GPC KD Station: Hexane: () DCM: (<u>D004685</u>) Neutral Sodium Sulfate: () Pre-deactivated Sodium Sulfate: () Neutral Glasswool: () Pre-deactivated Glasswool: () Other: () Other: ()	Pre-GPC KD <u>RU</u> <u>1/15/16</u>
GPC Filter Prep: DCM: (<u>D004685</u>) Other: () Other: ()	GPC Filter Prep <u>W</u> <u>1/18/16</u>
GPC Station: Acetone: (<u>D003482</u>) 2L DCM: (<u>D004685</u>) 1:1 DCM/Acetone: () Other: () Other: ()	GPC <u>G</u> <u>1/18/16</u>
Post GPC KD Station: 4L DCM: (<u>D004685</u>) Hexane: (<u>D005308</u>) Other: () Other: ()	Post GPC KD <u>4L/CF</u> <u>01/20/16</u>
Vialing Station: Hexane: (<u>D005345</u>) DCM: (<u>D004685</u>) Concentrated Sulfuric Acid: () Ethyl Acetate: () Tetrabutylammonium hydrogensulfate (TBAS): () Sodium Sulfite: () Copper: () Silica Gel (SPE) Darts: () 0% Silica Gel: (<u>D004343</u>) Alumina: () HexMgBr: () Other: Glass wool (<u>D001829</u>) Other: Sodium Sulfate (<u>D005373</u>)	Vialing <u>SP</u> <u>4/20/16</u> <u>SP 1/21/16</u>

60:40 Pent/DCM
E000235



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: AUAZ

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: Low level Sim pNA

Client Project: _____

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

SIM PAH Raw Data
Initial Calibration

ARI Job ID: AUA2

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH (0.5 ug/kg)	Solid	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: <i>YL00008</i>	YES	JLW	12/05/2015
2	DFTPP Tune met criteria	YES	JLW	12/05/2015
3	DDT breakdown <20%	YES	JLW	12/05/2015
4	Peak Tailing factor <= 2% Comments: <i>Benzidine TD @ 2.11</i>	NO	JLW	12/05/2015
5	ICal meets 20% RSD, LR COD, and QR COD limits	YES	JLW	12/05/2015
6	NO ICAL Q Flag applied	YES	JLW	12/05/2015
7	Manual integrations include before/after pictures	NA	JLW	12/05/2015
8	Spectral Library matches updated	YES	JLW	12/05/2015
9	Internal Standard areas within 50-200% from reference	YES	JLW	12/05/2015
10	Minimum response factors met			12/30/1899
11	All SCV within +/- 20% (DOD)	YES	JLW	12/05/2015
12	All SCV within +/- 30%	YES	JLW	12/05/2015
13	NO Linear or Quadratic fits used	YES	JLW	12/05/2015
14	NO Calibration points dropped	YES	JLW	12/05/2015
15	Additional notes	NA	JLW	12/05/2015
16	Reviewer approval (Reviewer)	YES	BB	12/07/2015

* = Indicates Automated Response from Element DataSyst

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt11.i\20151204.b\15120404.D
 Level 2: \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Level 3: \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Level 4: \\target\share\chem3\nt11.i\20151204.b\15120402.D
 Level 5: \\target\share\chem3\nt11.i\20151204.b\15120406.D
 Level 6: \\target\share\chem3\nt11.i\20151204.b\15120407.D

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
5 Naphthalene	1.19875	1.25660	1.20859	1.13779	1.09546	1.03421	1.15523	7.090
7 2-Methylnaphthalene	0.75696	0.82162	0.81758	0.82518	0.78721	0.75401	0.79376	4.105
8 1-Methylnaphthalene	0.67221	0.74285	0.74457	0.74059	0.71073	0.68104	0.71533	4.554
10 Acenaphthylene	1.58688	1.68774	1.64577	1.62759	1.60202	1.53483	1.61414	3.252
12 Acenaphthene	1.08363	1.13588	1.09716	1.06578	1.04086	1.00481	1.07135	4.251
14 Dibenzofuran	1.63702	1.74172	1.68518	1.62325	1.55902	1.43742	1.61394	6.569
15 Fluorene	1.15912	1.25912	1.24842	1.23125	1.20885	1.15567	1.21040	3.673
17 Pentachlorophenol	++++	++++	++++	++++	++++	++++	++++	++++
19 Phenanthrene	1.20070	1.33868	1.26117	1.22278	1.14299	1.06348	1.20497	7.894
20 Anthracene	1.01417	1.08937	1.08864	1.11858	1.12165	1.03900	1.07857	4.018
22 Carbazole	++++	++++	++++	++++	++++	++++	++++	++++
24 Fluoranthene	1.09490	1.29137	1.25014	1.26562	1.22706	1.12956	1.20977	6.544
25 Pyrene	1.56990	1.71816	1.63928	1.57402	1.55717	1.44465	1.58387	5.751
28 Benzo (a) anthracene	1.26389	1.42412	1.34869	1.34036	1.33833	1.28529	1.33345	4.200
30 Chrysene	1.46075	1.64931	1.51090	1.43415	1.41191	1.31399	1.46350	7.649
44 Benzo (b) fluoranthene	1.23590	1.44922	1.33506	1.30908	1.42782	1.37318	1.35504	5.830
45 Benzo (k) fluoranthene	1.40405	1.66492	1.57480	1.60115	1.63773	1.59156	1.57904	5.812
46 Benzo (j) fluoranthene	1.32355	1.58148	1.42960	1.41908	1.47673	1.39992	1.43839	5.986
34 Benzo (a) pyrene	1.12243	1.39016	1.28482	1.30477	1.39200	1.35226	1.30774	7.704
37 Indeno (1,2,3-cd) pyrene	1.07019	1.39573	1.34204	1.37226	1.52877	1.52953	1.37309	12.270
38 Dibenzo (a,h) anthracene	0.79381	1.05747	1.07068	1.11092	1.23311	1.24877	1.08579	15.143
39 Benzo (g,h,i) perylene	1.03016	1.23486	1.17375	1.17405	1.27154	1.26755	1.19199	7.571
47 Perylene	1.25753	1.47517	1.35486	1.30583	1.39016	1.35136	1.35582	5.480
48 Benzo (e) pyrene	1.29965	1.48474	1.37096	1.32360	1.39138	1.34634	1.36945	4.764
\$ 6 2-Methylnaphthalene-d10	0.70562	0.76809	0.76144	0.76607	0.73856	0.71434	0.74235	3.683
\$ 16 2,4,6-Tribromophenol	++++	++++	++++	++++	++++	++++	++++	++++
\$ 23 Carbazanthene-d10	1.01495	1.15239	1.11432	1.13346	1.12157	1.06256	1.09988	4.666

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
\$ 36 Dibenzo(a,h)anthracene-d14	0.59288	0.78076	0.79874	0.81630	0.91118	0.94354	0.80723	15.292



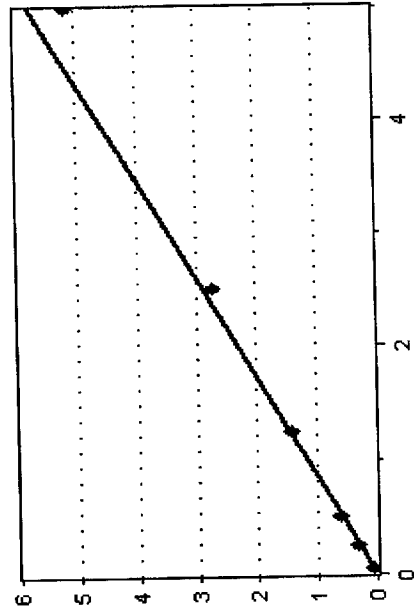
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Naphthalene

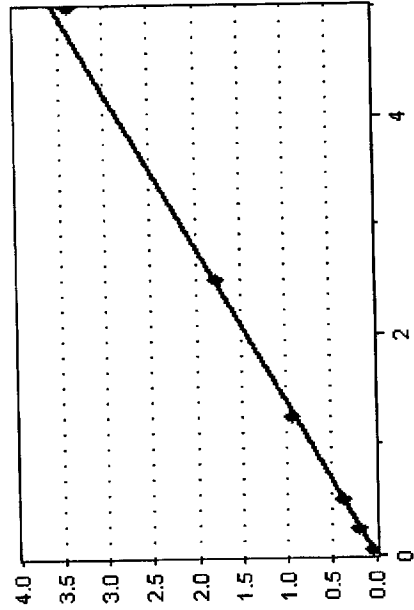
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Naphthalene



Average RF
RF RSD: 7.089665
[Conc] = 1.155235 * [Response]

1-Methylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 1-Methylnaphthalene



Average RF
RF RSD: 4.554497
[Conc] = 0.7153312 * [Response]



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Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)
2-Methylnaphthalene

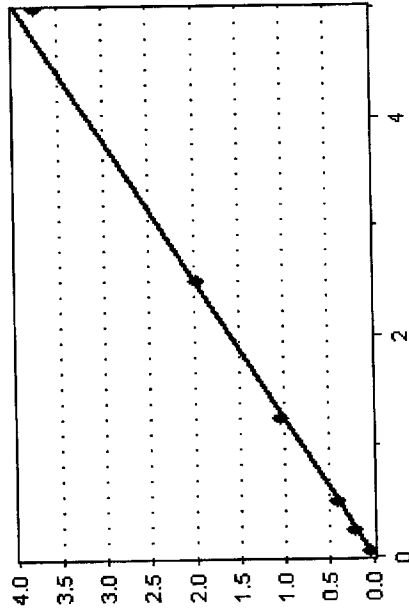
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

Calibration Date:
Last Edit Date:

8270D-SIM PAH (0.5 ug/k)

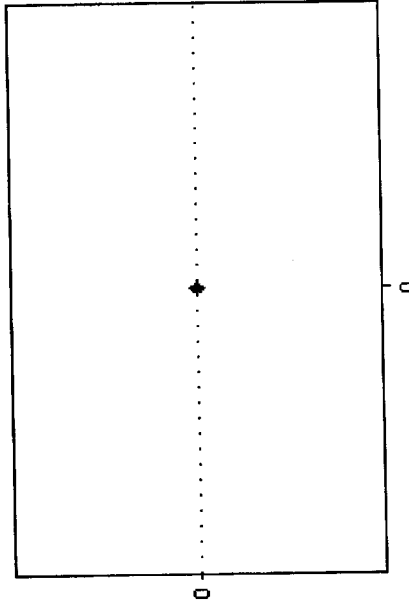
2-Methylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene



Biphenyl

8270D-SIM PAH (0.5 ug/kg) - Biphenyl





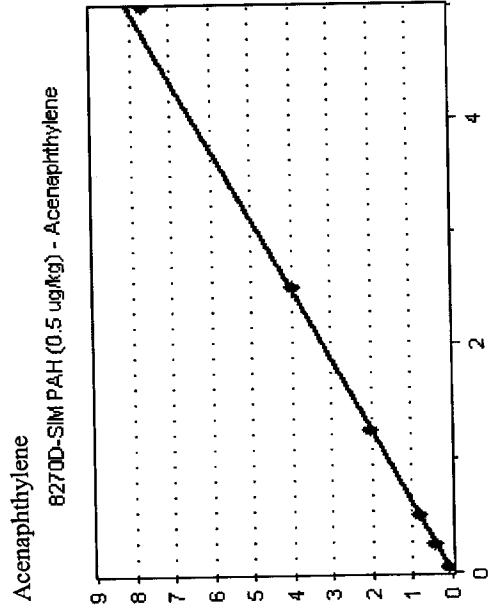
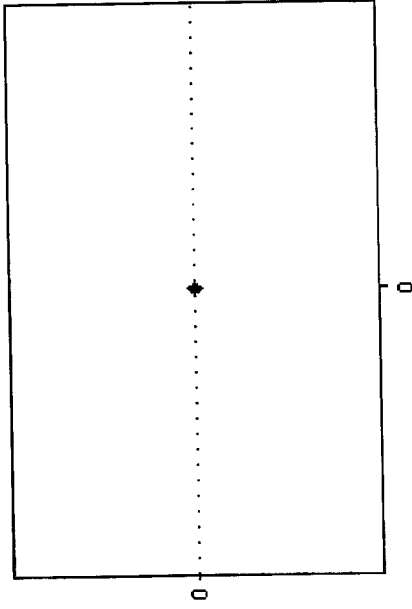
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k)

2,6-Dimethylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2,6-Dimethylnaphthalene





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Calibration Report

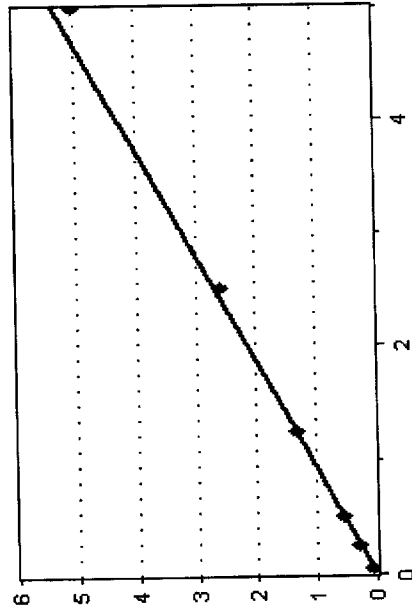
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Acenaphthene

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Acenaphthene

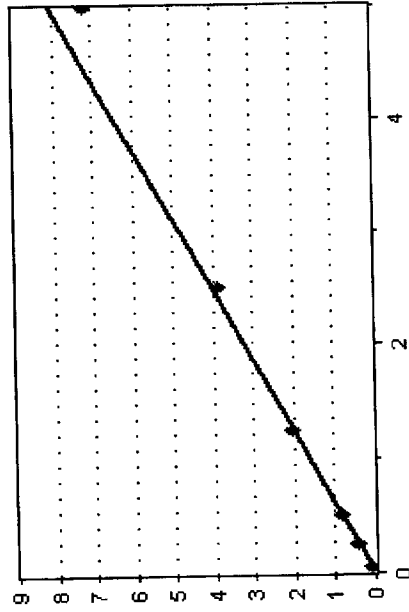
Acenaphthene

8270D-SIM PAH (0.5 ug/kg) - Acenaphthene



Dibenzofuran

8270D-SIM PAH (0.5 ug/kg) - Dibenzofuran



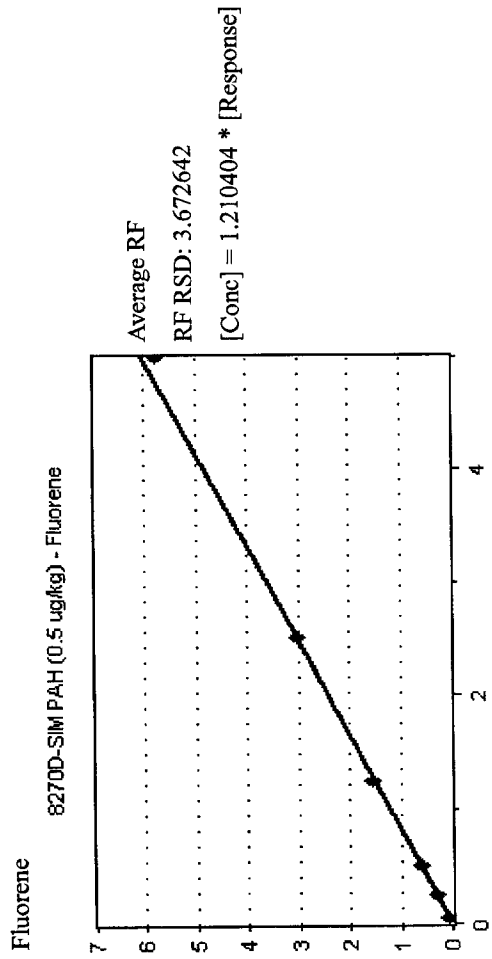
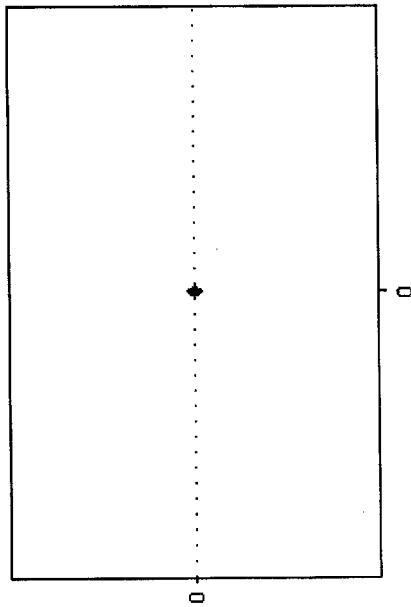


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Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
2,3,5-Trimethylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2,3,5-Trimethylnaphthalene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW





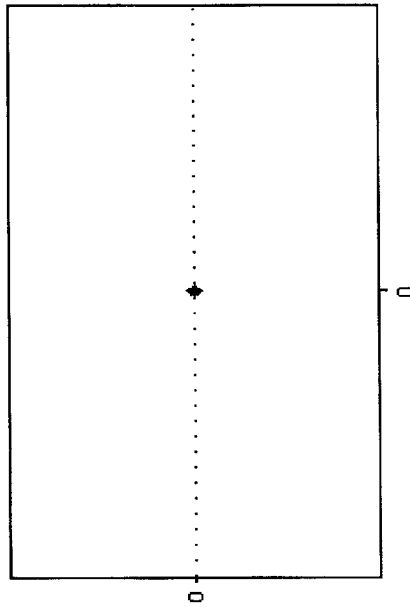
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

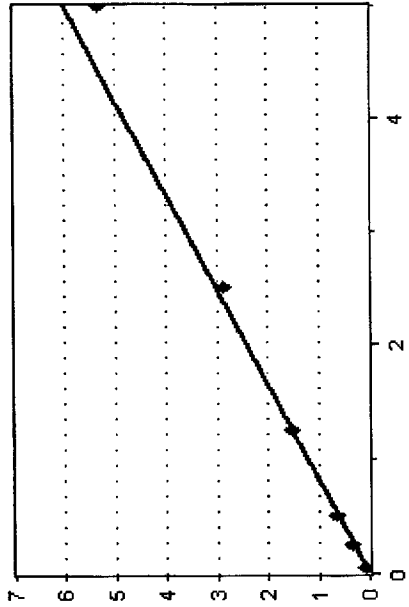
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Dibenzothiophene

Calibration Date: 04-Dec-2015 08:45 By JILW
Last Edit Date: 05-Dec-2015 10:30 By JILW

8270D-SIM PAH (0.5 ug/kg) - Dibenzothiophene



Phenanthrene
8270D-SIM PAH (0.5 ug/kg) - Phenanthrene





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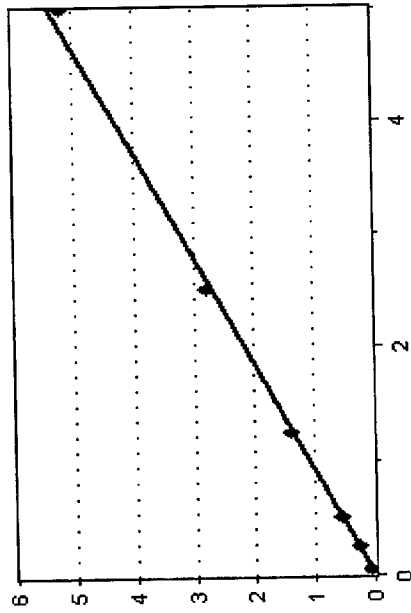
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Anthracene

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

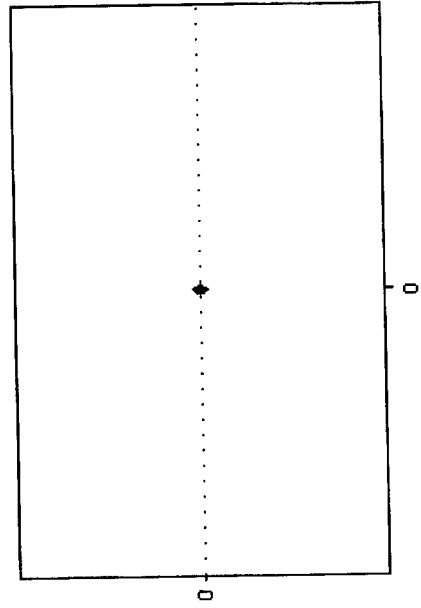
8270D-SIM PAH (0.5 ug/kg) - Anthracene

8270D-SIM PAH (0.5 ug/kg) - Anthracene



Carbazole

8270D-SIM PAH (0.5 ug/kg) - Carbazole





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Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
1-Methylphenanthrene
8270D-SIM PAH (0.5 ug/kg) - 1-Methylphenanthrene

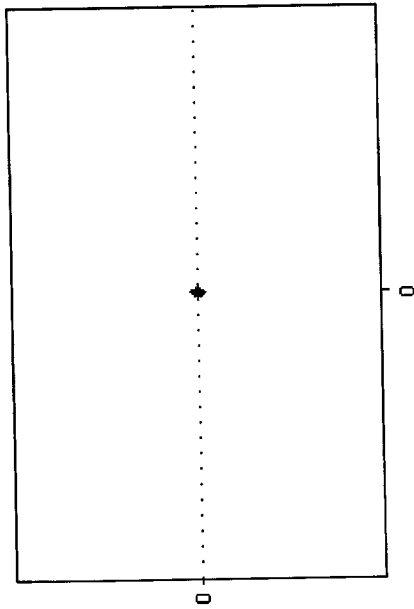
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

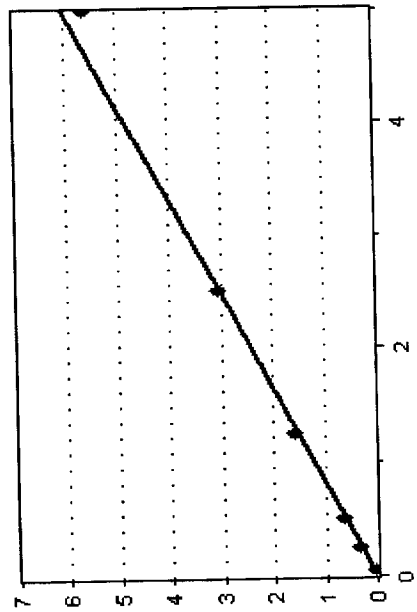
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW



Fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene





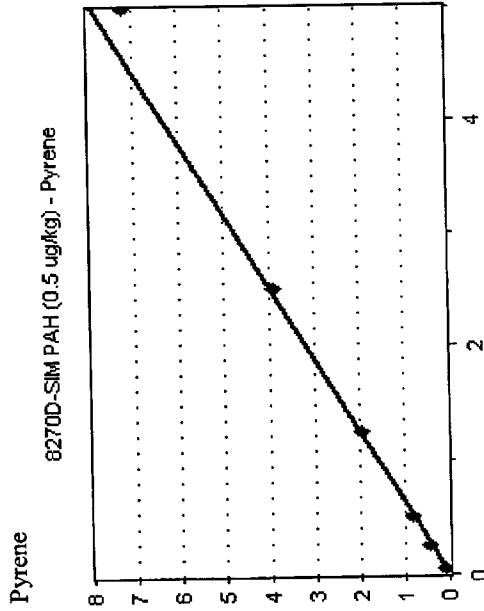
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

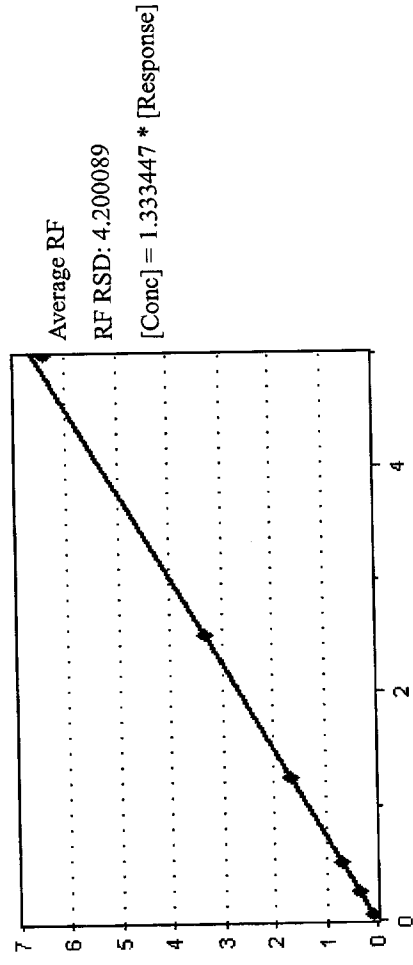
Instrument: NT11
Calibration ID: YL00008

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;



Benzo(a)anthracene





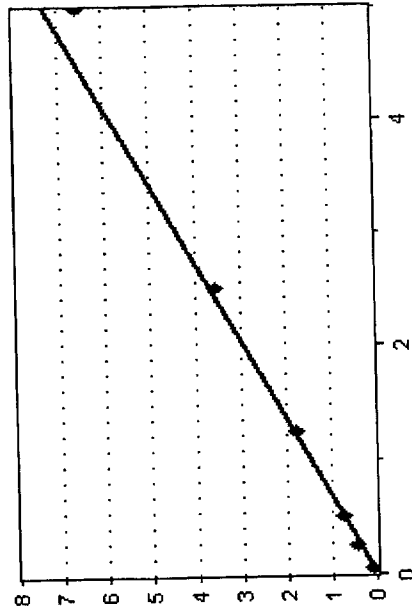
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

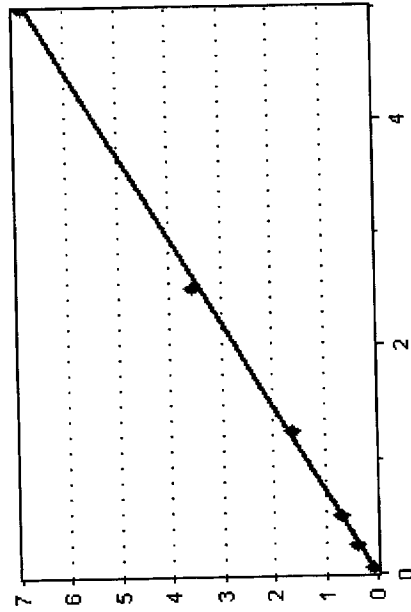
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

Chrysenes
8270D-SIM PAH (0.5 ug/kg) - Chrysenes



Benzo(b)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(b)fluoranthene



ALA2:00050



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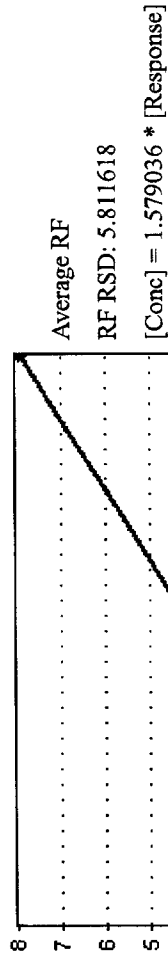
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Benzo(k)fluoranthene

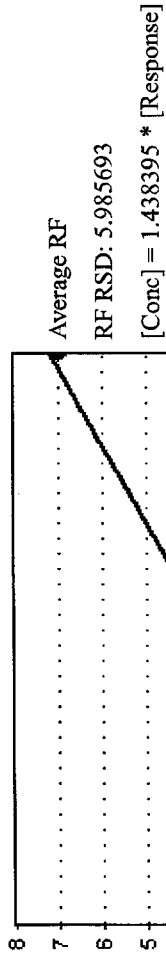
04-Dec-2015 08:45 By JLW

Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Benzo(k)fluoranthene



8270D-SIM PAH (0.5 ug/kg) - Benzo(j)fluoranthene





Analytical Resources, Incorporated
Analytical Chemists and Consultants

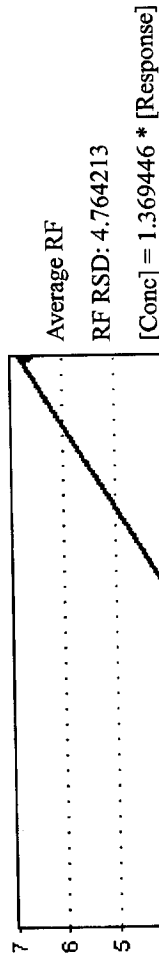
Calibration Report

Instrument: NT11
Calibration ID: YL00008

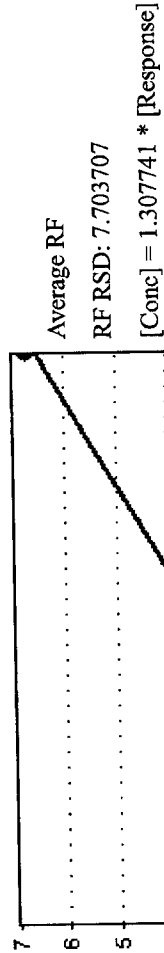
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

Benzo(e)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(e)pyrene



Benzo(a)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(a)pyrene





Analytical Resources, Incorporated
Analytical Chemists and Consultants

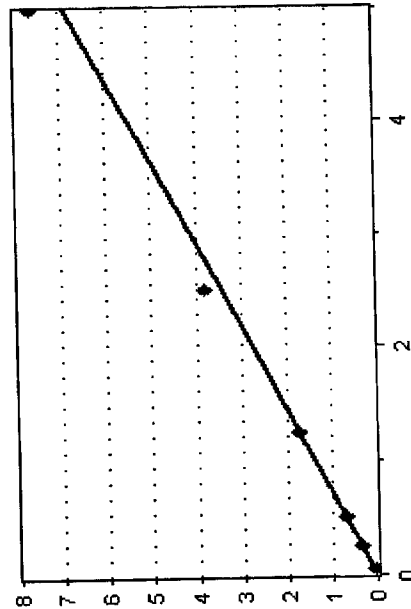
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

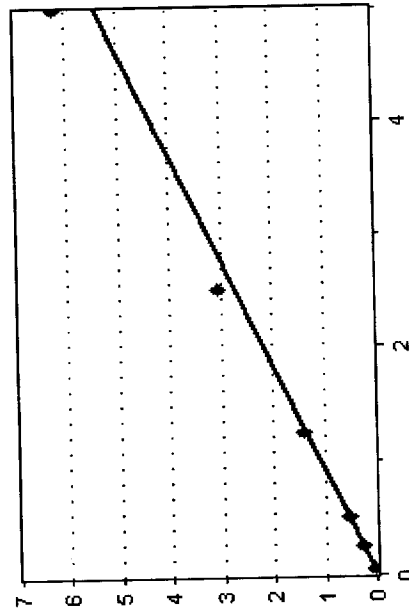
Indeno(1,2,3-cd)pyrene

8270D-SIM PAH (0.5 ug/kg) - Indeno(1,2,3-cd)pyrene



Dibenzo(a,h)anthracene

8270D-SIM PAH (0.5 ug/kg) - Dibenzo(a,h)anthracene





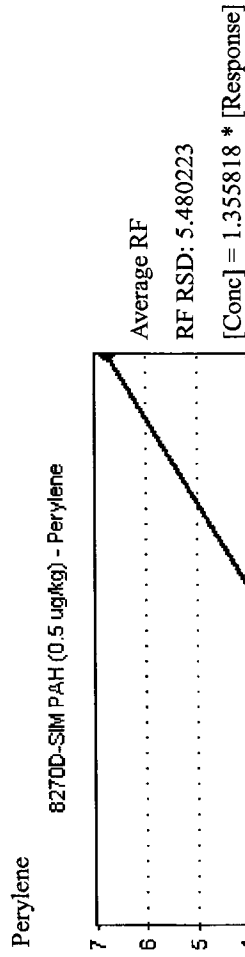
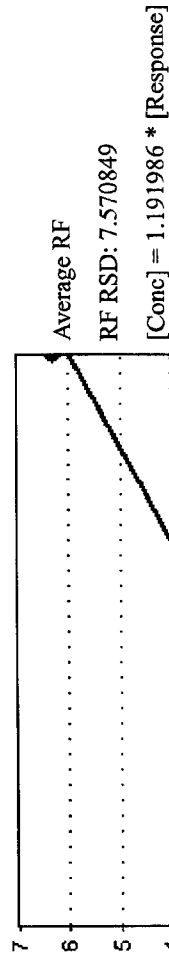
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Benzo(g,h,i)perylene
8270D-SIM PAH (0.5 ug/kg) - Benzo(g,h,i)perylene

04-Dec-2015 08:45 By JLW

Calibration Date:
Last Edit Date: 05-Dec-2015 10:30 By JLW



AUA2-00050



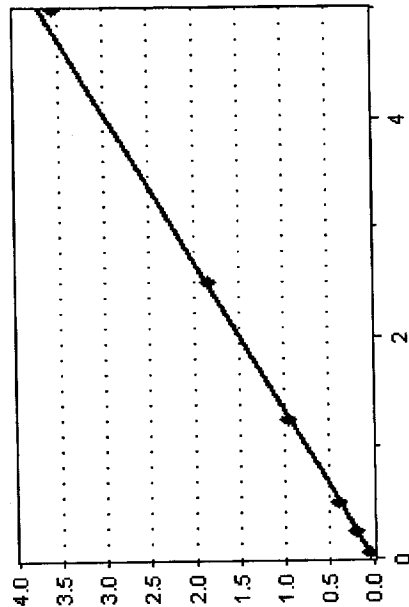
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

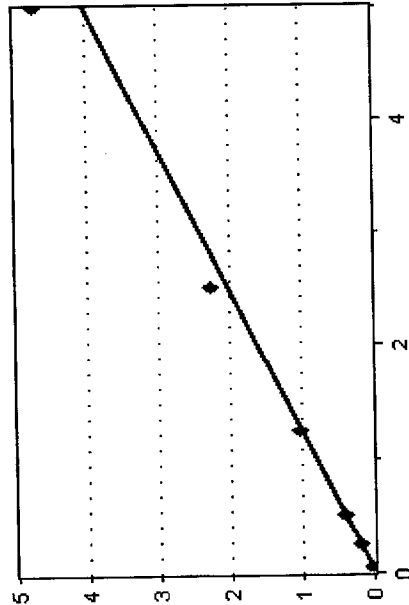
8270D-SIM PAH (0.5 ug/k;

2-Methylnaphthalene-d10
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene-d10



Dibenzo[a,h]anthracene-d14

8270D-SIM PAH (0.5 ug/kg) - Dibenzo[a,h]anthracene-d14



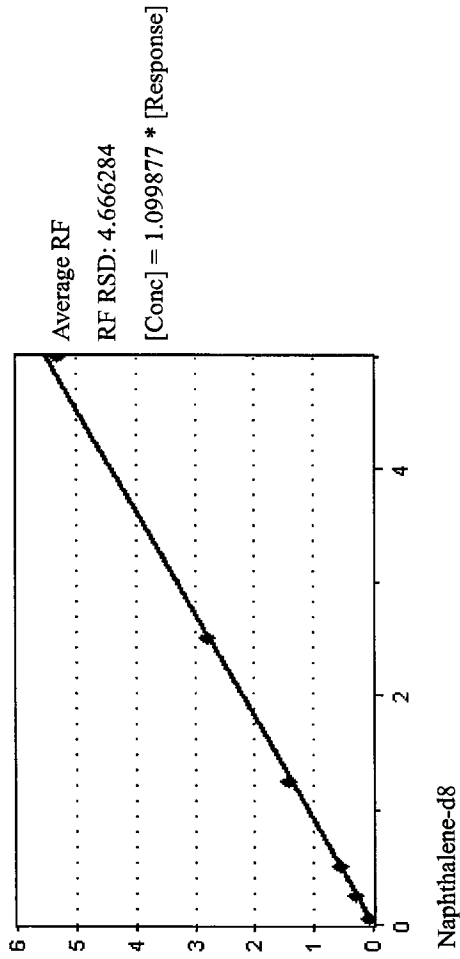


Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11 Calibration Date: 04-Dec-2015 08:45 By JLW
Calibration ID: YL00008 Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)
Fluoranthene-d10
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene-d10



Average RF
RF RSD:
[Conc] = * [Response]

AUA2: 00052

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20151204.b

ARI Job No.: TUNE Method: DFPP.m Instrument: nt11.i Date: 04-DEC-2015

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0845	15120401.D	TUNE 10		1	NO MANUAL INTEGRATION
0903	15120402.D	LLSIM 250		1	NO MANUAL INTEGRATION
0933	15120403.D	LLSIM 100		1	NO MANUAL INTEGRATION
1003	15120404.D	LLSIM 10		1	NO MANUAL INTEGRATION
1033	15120405.D	LLSIM 50		1	NO MANUAL INTEGRATION
1103	15120406.D	LLSIM 500		1	NO MANUAL INTEGRATION
1133	15120407.D	LLSIM 1000		1	NO MANUAL INTEGRATION
1204	15120408.D	LLSIM SCV 250		1	NO MANUAL INTEGRATION

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20151204.b

Time	Filename	LabID	ClientID	DF	-----																
1	0845	15120401.D	TUNE 10	1	NO	ISTDS	FOUND	-----													
2	0903	15120402.D	LLSIM 250	1	6.60	327896	9.60	239179	12.27	372253	17.02	294711	19.84	260595	-----						
3	0933	15120403.D	LLSIM 100	1	6.60	322094	9.60	228988	12.27	364343	17.02	276576	19.84	245162	-----						
4	1003	15120404.D	LLSIM 10	1	6.60	325673	9.60	218580	12.27	358974	17.01	262207	19.84	229323	-----						
5	1033	15120405.D	LLSIM 50	1	6.60	322810	9.60	219192	12.27	354307	17.01	262604	19.84	229726	-----						
6	1103	15120406.D	LLSIM 500	1	6.60	340768	9.60	241553	12.27	382017	17.01	296788	19.84	253397	-----						
7	1133	15120407.D	LLSIM 1000	1	6.60	337457	9.60	238950	12.27	380348	17.01	298514	19.84	256244	-----						
8	1204	15120408.D	LLSIM SCV 250	1	6.60	330144	9.60	236381	12.27	360337	17.01	291007	19.83	242244	-----						

Report Date : 05-Dec-2015 10:32

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 4 Naphthalene-d8	6.598	6.597	6.598	6.598	6.598	6.598	6.598	6.348-6.848	6.598	0.000
5 Naphthalene	6.640	6.629	6.629	6.629	6.629	6.629	6.629	6.379-6.879	6.631	0.004
\$ 6 2-Methylnaphthalene-d1	7.575	7.575	7.575	7.575	7.575	7.575	7.575	7.325-7.825	7.575	0.000
7 2-Methylnaphthalene	7.638	7.638	7.638	7.627	7.627	7.627	7.627	7.377-7.877	7.632	0.006
8 1-Methylnaphthalene	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.640-8.140	7.890	0.000
10 Acenaphthylene	9.446	9.446	9.446	9.446	9.446	9.446	9.446	9.196-9.696	9.446	0.000
* 11 Acenaphthene-d10	9.601	9.601	9.601	9.601	9.601	9.601	9.601	9.351-9.851	9.601	0.000
12 Acenaphthene	9.656	9.656	9.656	9.656	9.656	9.656	9.656	9.406-9.906	9.656	0.000
14 Dibenzofuran	9.867	9.867	9.867	9.867	9.867	9.867	9.867	9.617-10.117	9.867	0.000
15 Fluorene	10.487	10.487	10.487	10.487	10.487	10.487	10.487	10.237-10.737	10.487	0.000
\$ 16 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.249-12.749	+++++	+++++
17 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	4.785	4.535-5.035	+++++	+++++
* 18 Phenanthrene-d10	12.269	12.269	12.269	12.269	12.269	12.269	12.269	12.019-12.519	12.269	0.000
19 Phenanthrene	12.314	12.313	12.314	12.314	12.313	12.313	12.313	12.063-12.563	12.313	0.000
20 Anthracene	12.369	12.369	12.369	12.369	12.369	12.369	12.369	12.119-12.619	12.369	0.000
22 Carbazole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.283-14.783	+++++	+++++
\$ 23 Fluoranthene-d10	14.375	14.375	14.375	14.365	14.375	14.375	14.375	14.125-14.625	14.373	0.004

Reviewer 1 JS Date: 12/5/15
Reviewer 2 AS Date: 12/7/15

Report Date : 05-Dec-2015 10:32

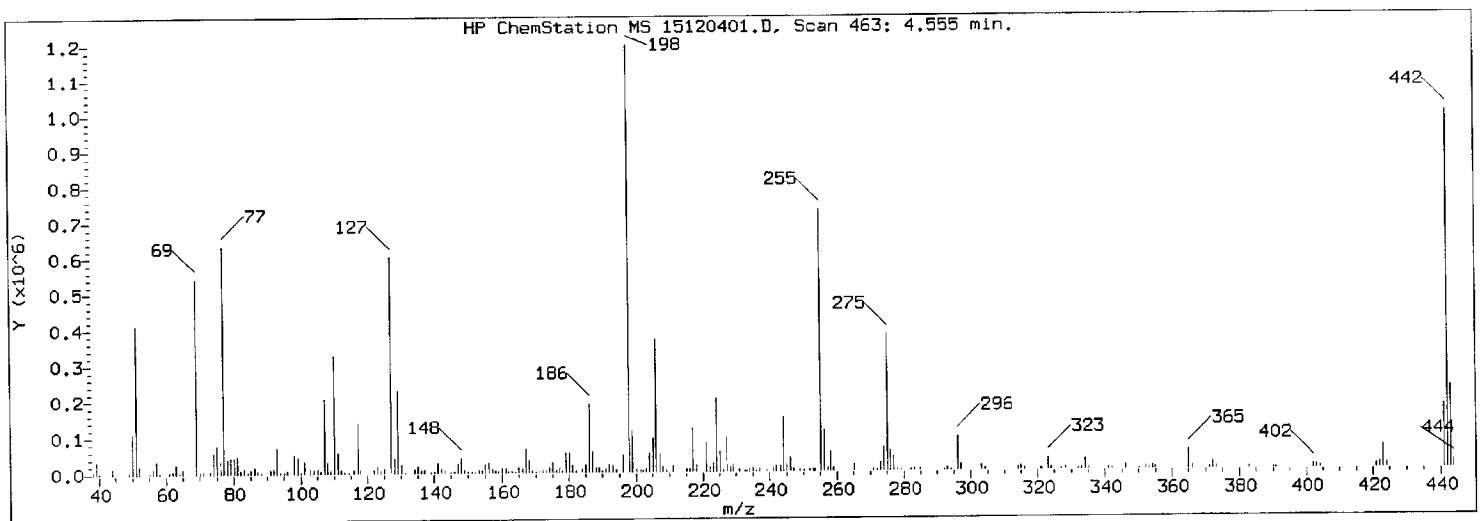
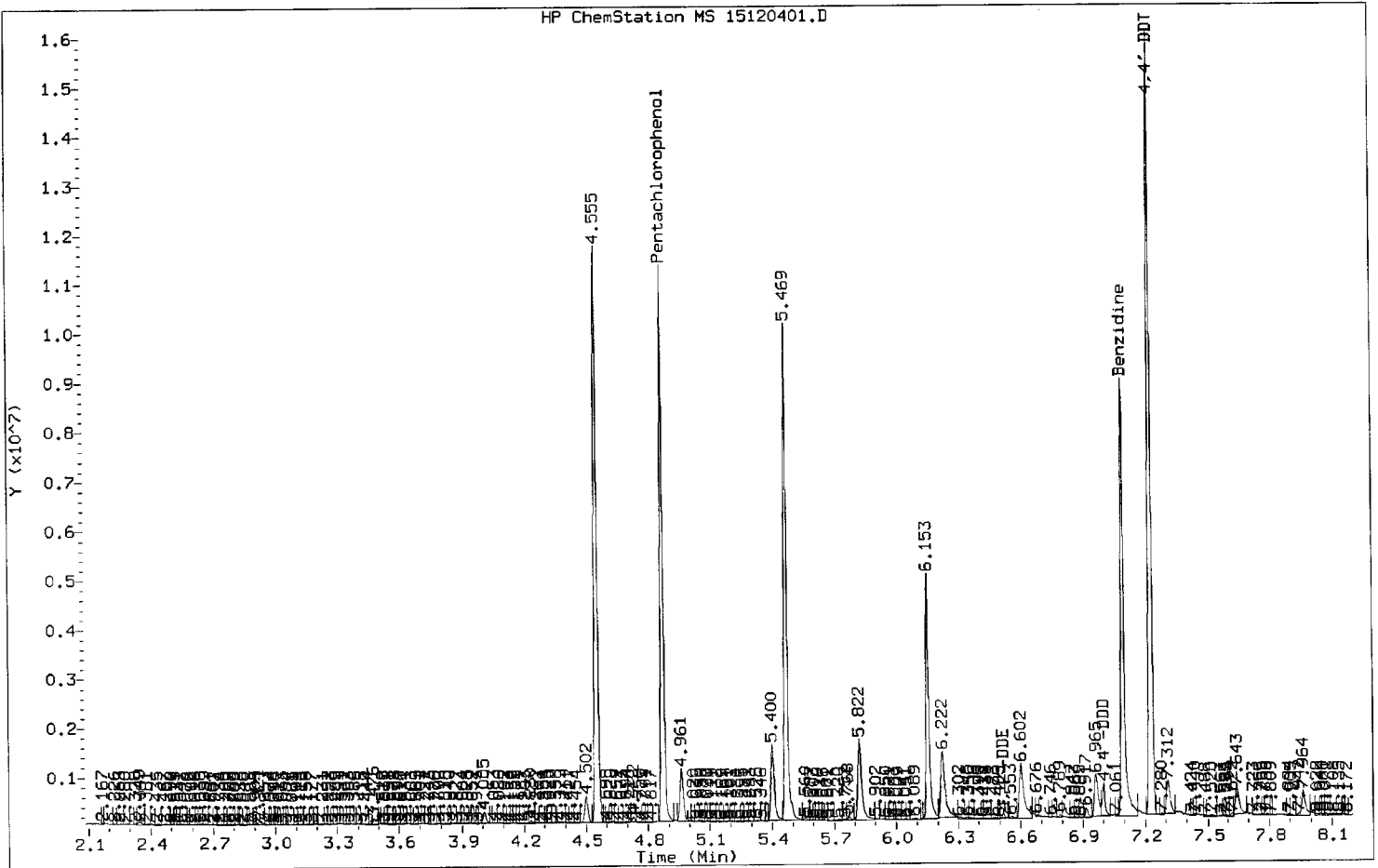
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.i

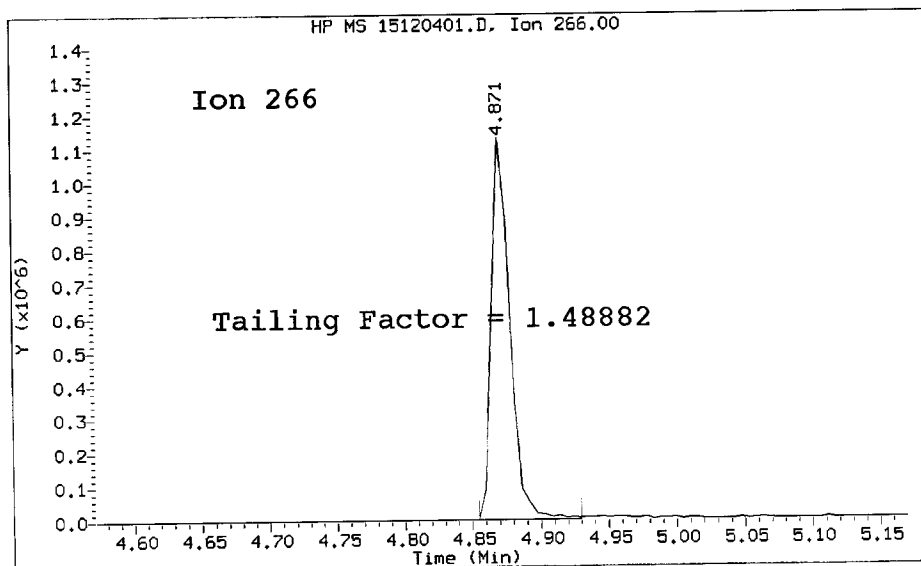
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
24 Fluoranthene	14.404	14.404	14.404	14.404	14.404	14.404	14.404	14.154-14.654	14.404	0.000
25 Pyrene	14.903	14.903	14.903	14.903	14.903	14.903	14.903	14.653-15.153	14.903	0.000
28 Benzo (a) anthracene	16.918	16.918	16.918	16.918	16.918	16.918	16.918	16.668-17.168	16.918	0.000
* 29 Chrysene-d12	17.018	17.018	17.010	17.010	17.010	17.010	17.010	16.760-17.260	17.012	0.004
30 Chrysene	17.068	17.059	17.060	17.060	17.059	17.059	17.059	16.809-17.309	17.061	0.003
44 Benzo (b) fluoranthene	18.785	18.785	18.785	18.785	18.785	18.785	18.785	18.535-19.035	18.785	0.000
45 Benzo (k) fluoranthene	18.833	18.833	18.824	18.824	18.823	18.833	18.833	18.583-19.083	18.828	0.005
46 Benzo (j) fluoranthene	18.891	18.891	18.891	18.891	18.891	18.891	18.891	18.641-19.141	18.891	0.000
34 Benzo (a) pyrene	19.640	19.630	19.631	19.631	19.631	19.631	19.631	19.381-19.881	19.632	0.004
* 35 Perylene-d12	19.842	19.842	19.842	19.842	19.842	19.842	19.842	19.592-20.092	19.842	0.000
\$ 36 Dibenzo(a,h)anthracene	22.208	22.197	22.197	22.197	22.197	22.197	22.197	21.947-22.447	22.199	0.005
37 Indeno (1,2,3-cd)pyrene	22.330	22.330	22.330	22.330	22.330	22.330	22.330	22.080-22.580	22.330	0.000
38 Dibenzo (a,h)anthracene	22.319	22.319	22.319	22.308	22.308	22.308	22.308	22.058-22.558	22.313	0.006
39 Benzo (g,h,i)perylene	23.427	23.426	23.427	23.427	23.426	23.426	23.426	23.176-23.676	23.426	0.000
47 Perylene	19.900	19.900	19.900	19.900	19.900	19.900	19.900	19.650-20.150	19.900	0.000
48 Benzo (e) pyrene	19.525	19.525	19.525	19.525	19.525	19.525	19.525	19.275-19.775	19.525	0.000

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20151204.b/15120401.D/15120401.D
 Method Used: \20151204.b\DFTPP.m Inst: nt11
 Injection Date: 04-DEC-2015 08:45 Operator: JW
 Sample Info: TUNE 10 TUNE 10
 Report Date: 12/04/2015 09:41



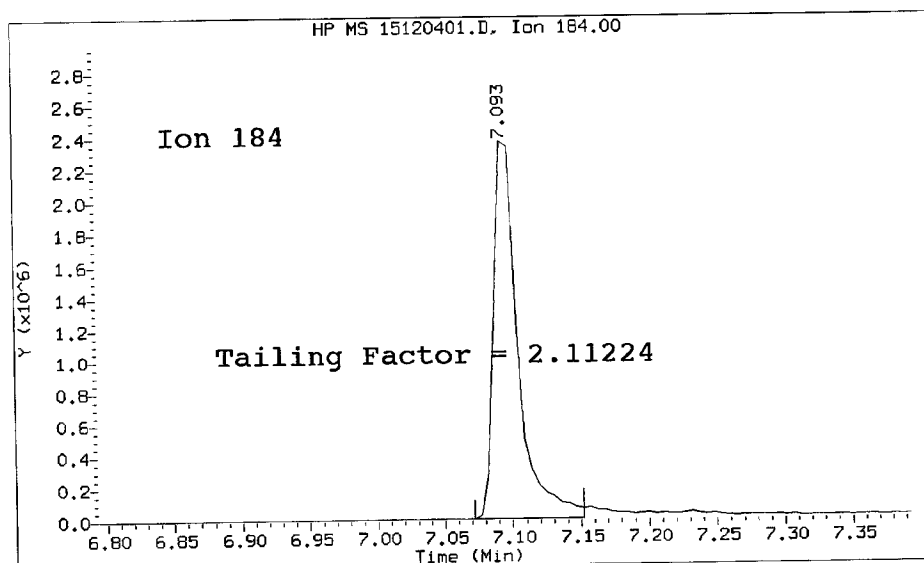
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Method Used: \20151204.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 04-DEC-2015 08:45 Operator: JR
Sample Info: TUNE 10
Report Date: 12/04/2015 09:41



Pentachlorophenol

=====
Exp. RT = 4.914
Found RT = 4.871

Tail Factor = 1.489 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.141
Found RT = 7.093

The tailing factor for Benzidine EXCEEDED

Tail Factor = 2.112 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4888179	2.000	PASS
Benzidine	2.1122449	2.000	FAIL [Failure]

AB
12/7/15

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2078544			N/A
4,4-DDE	12541	0.6	20.0	PASS
4,4-DDD	100432	4.6	20.0	PASS
4,4-DDD + DDE	112973	5.2	20.0	PASS

Tuning Sample, nt11.i/20151204.b/15120401.D, *** FAILED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	36.71
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	46.72
70	Less than 2.00% of mass 69	0.25 (0.53)
127	10.00 - 80.00% of mass 198	50.34
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.78
275	10.00 - 60.00% of mass 198	29.75
365	Greater than 1.00% of mass 198	3.54
441	0.01 - 24.00% of mass 442	13.40 (16.36)
442	50.00 - 200.00% of mass 198	81.93
443	15.00 - 24.00% of mass 442	18.59 (22.69)

Data File: 15120401.D
 Spectrum: Avg. Scans 462-464 (4.56), Background Scan 456
 Location of Maximum: 198.00
 Number of points: 252

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	5903	123.00	15321	191.00	4529	276.00	37792
39.00	32472	124.00	6008	192.00	15383	277.00	25616
40.00	2234	125.00	8697	193.00	14981	278.00	5143
44.00	1291	127.00	487424	194.00	2969	279.00	797
49.00	2336	128.00	36048	195.00	935	282.00	1077
50.00	99976	129.00	198784	196.00	36952	283.00	4344
51.00	355456	130.00	17864	198.00	968192	285.00	4257
52.00	19288	131.00	3029	199.00	85016	290.00	736
53.00	699	132.00	770	200.00	7648	292.00	695
55.00	817	134.00	4444	201.00	4181	293.00	3995
56.00	12284	135.00	17328	202.00	2800	294.00	1601
57.00	28160	136.00	7249	203.00	7062	296.00	79296
58.00	882	137.00	7197	204.00	45768	297.00	10726
61.00	4027	139.00	686	205.00	78432	301.00	1083
62.00	4478	140.00	3181	206.00	296256	303.00	9535
63.00	21296	141.00	26728	207.00	40064	304.00	2760
64.00	2870	142.00	9703	208.00	13008	310.00	1258
65.00	7567	143.00	5423	209.00	4174	314.00	5255
69.00	452352	144.00	1270	210.00	2826	315.00	11430
70.00	2404	145.00	2146	211.00	10991	316.00	4496
71.00	1729	146.00	3758	212.00	1343	317.00	1730
74.00	51136	147.00	11875	213.00	1135	321.00	2836
75.00	72784	148.00	28688	215.00	5759	322.00	766
76.00	27064	149.00	7601	216.00	5158	323.00	27808
77.00	512768	150.00	1111	217.00	87992	324.00	3710
78.00	35304	151.00	3226	218.00	10624	327.00	3445
79.00	35128	152.00	2009	221.00	58632	328.00	2747
80.00	28640	153.00	8844	222.00	12655	332.00	2890
81.00	40048	154.00	6510	223.00	18704	333.00	2909
82.00	10036	155.00	17848	224.00	170624	334.00	18896
83.00	13510	156.00	20976	225.00	44928	335.00	3574
84.00	155	157.00	5537	226.00	4319	341.00	3496
85.00	9792	158.00	5165	227.00	75184	342.00	946
86.00	11647	159.00	2604	228.00	10251	346.00	5555
87.00	6242	160.00	7198	229.00	15494	350.00	704
88.00	2104	161.00	9881	231.00	4886	352.00	9894
91.00	8456	162.00	2652	233.00	1517	353.00	6975
92.00	8959	163.00	959	234.00	3642	354.00	7491
93.00	59144	164.00	701	235.00	4833	355.00	2236
94.00	4278	165.00	10199	236.00	1621	365.00	34240
95.00	1022	166.00	9417	237.00	5726	366.00	4979
96.00	2824	167.00	49792	239.00	1926	371.00	2016
98.00	40528	168.00	25208	241.00	6592	372.00	17560
99.00	34656	169.00	4359	242.00	9932	373.00	3339
100.00	3425	170.00	2037	243.00	9154	383.00	2922
101.00	24160	171.00	2039	244.00	122792	390.00	1755
102.00	687	172.00	5959	245.00	17280	391.00	814
103.00	7164	173.00	5076	246.00	28232	402.00	5209
104.00	12935	174.00	11539	247.00	4557	403.00	6386

105.00	10605	175.00	20720	249.00	3982	404.00	2710
106.00	7128	176.00	7696	250.00	1046	421.00	6452
107.00	162176	177.00	11926	252.00	969	422.00	10014
108.00	27064	178.00	3414	253.00	5072	423.00	50464
109.00	2954	179.00	42472	255.00	572352	424.00	9853
110.00	279360	180.00	32368	256.00	86752	425.00	909
111.00	42360	181.00	14321	257.00	6074	441.00	129768
112.00	6933	182.00	2960	258.00	40416	442.00	793216
113.00	1332	184.00	4180	259.00	6964	443.00	179968
114.00	829	185.00	19872	265.00	16576	444.00	15867
116.00	8676	186.00	147328	271.00	1077	445.00	897
117.00	106856	187.00	42160	272.00	2517		
118.00	7215	188.00	5898	273.00	20392		
120.00	674	189.00	10119	274.00	55504		
122.00	7466	190.00	1772	275.00	288064		

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120402.D
 Lab Smp Id: LLSIM 250
 Inj Date : 04-DEC-2015 09:03 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 250
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 09:03 Cal File: 15120402.D
 Als bottle: 5 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

JW
12/5/15

Compounds	QUANT SIG			AMOUNTS			
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	327896	200.000	
5 Naphthalene	128	6.639	6.629	(1.006)	466348	250.000	246
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	313990	250.000	258
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	338215	250.000	260
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	303545	250.000	259
10 Acenaphthylene	152	9.446	9.445	(0.984)	486608	250.000	252
* 11 Acenaphthene-d10	164	9.601	9.600	(1.000)	239179	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	318640	250.000	249
14 Dibenzofuran	168	9.866	9.866	(1.028)	485308	250.000	251
15 Fluorene	166	10.486	10.486	(1.092)	368110	250.000	254
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	372253	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	568980	250.000	254
20 Anthracene	178	12.368	12.368	(1.008)	520493	250.000	259
\$ 23 Fluoranthene-d10	212	14.375	14.374	(1.172)	527419	250.000	258
24 Fluoranthene	202	14.403	14.403	(1.174)	588912	250.000	262
25 Pyrene	202	14.903	14.903	(0.876)	579853	250.000	248
28 Benzo(a)anthracene	228	16.918	16.918	(0.994)	493775	250.000	251
* 29 Chrysene-d12	240	17.018	17.009	(1.000)	294711	200.000	
30 Chrysene	228	17.067	17.059	(1.003)	528325	250.000	245
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	426424	250.000	242
45 Benzo(k)fluoranthene	252	18.833	18.833	(0.949)	521565	250.000	254
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	462257	250.000	247
34 Benzo(a)pyrene	252	19.640	19.630	(0.990)	425021	250.000	249
* 35 Perylene-d12	264	19.842	19.842	(1.000)	260595	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.208	22.197	(1.119)	265906	250.000	253
37 Indeno(1,2,3-cd)pyrene	276	22.330	22.329	(1.125)	447004	250.000	250
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	361875	250.000	256
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	382439	250.000	246
47 Perylene	252	19.899	19.899	(1.003)	425367	250.000	241
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	431155	250.000	242

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120402.D
 Lab Smp Id: LLSIM 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	327896	0.00
11 Acenaphthene-d10	239179	119590	478358	239179	0.00
18 Phenanthrene-d10	372253	186127	744506	372253	0.00
29 Chrysene-d12	294711	147356	589422	294711	0.00
35 Perylene-d12	260595	130298	521190	260595	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120402.D

Date: 04-DEC-2015 09:03

Client ID:

Sample Info: LLSIM 250

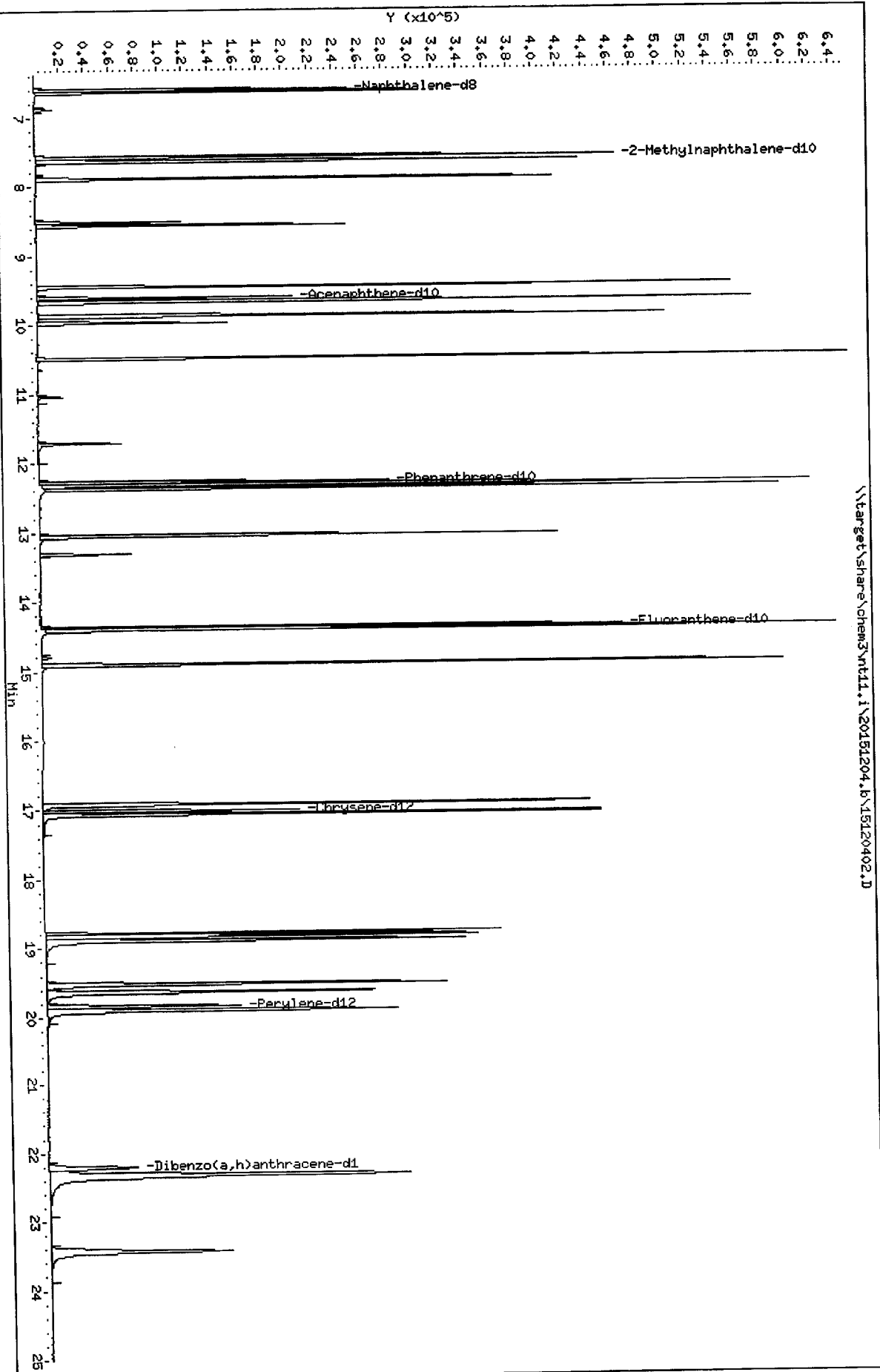
Column phase: RXI-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20151204.b\15120402.D



REVIEW SUMMARY FOR FILE - 15120402.D

Lab ID: LLSIM 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Lab Smp Id: LLSIM 100
 Inj Date : 04-DEC-2015 09:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 100
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 09:33 Cal File: 15120403.D
 Als bottle: 4 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

*80
12/5/15*

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	322094	200.000	
5 Naphthalene	128	6.628	6.629	(1.005)	194640	100.000	105
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	122627	100.000	103
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	131669	100.000	103
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	119911	100.000	104
10 Acenaphthylene	152	9.445	9.445	(0.984)	188431	100.000	102
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)	228988	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	125618	100.000	102
14 Dibenzofuran	168	9.866	9.866	(1.028)	192943	100.000	104
15 Fluorene	166	10.486	10.486	(1.092)	142937	100.000	103
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	364343	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	229750	100.000	105
20 Anthracene	178	12.368	12.368	(1.008)	198320	100.000	101
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)	202998	100.000	101
24 Fluoranthene	202	14.403	14.403	(1.174)	227740	100.000	103
25 Pyrene	202	14.903	14.903	(0.876)	226693	100.000	103
28 Benzo(a)anthracene	228	16.918	16.918	(0.994)	186507	100.000	101
* 29 Chrysene-d12	240	17.017	17.009	(1.000)	276576	200.000	
30 Chrysene	228	17.059	17.059	(1.002)	208940	100.000	103
44 Benzo(b)fluoranthene	252	18.784	18.785	(0.947)	163653	100.000	98.5
45 Benzo(k)fluoranthene	252	18.832	18.833	(0.949)	193041	100.000	99.7
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	175242	100.000	99.4
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	157495	100.000	98.2
* 35 Perylene-d12	264	19.841	19.842	(1.000)	245162	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.196	22.197	(1.119)	97910	100.000	98.9
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	164508	100.000	97.7
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	131245	100.000	98.6
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	143879	100.000	98.5
47 Perylene	252	19.899	19.899	(1.003)	166080	100.000	99.9
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	168054	100.000	100

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120403.D
 Lab Smp Id: LLSIM 100
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322094	-1.77
11 Acenaphthene-d10	239179	119590	478358	228988	-4.26
18 Phenanthrene-d10	372253	186127	744506	364343	-2.12
29 Chrysene-d12	294711	147356	589422	276576	-6.15
35 Perylene-d12	260595	130298	521190	245162	-5.92

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	-0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120403.D

Date : 04-DEC-2015 09:33

Client ID:

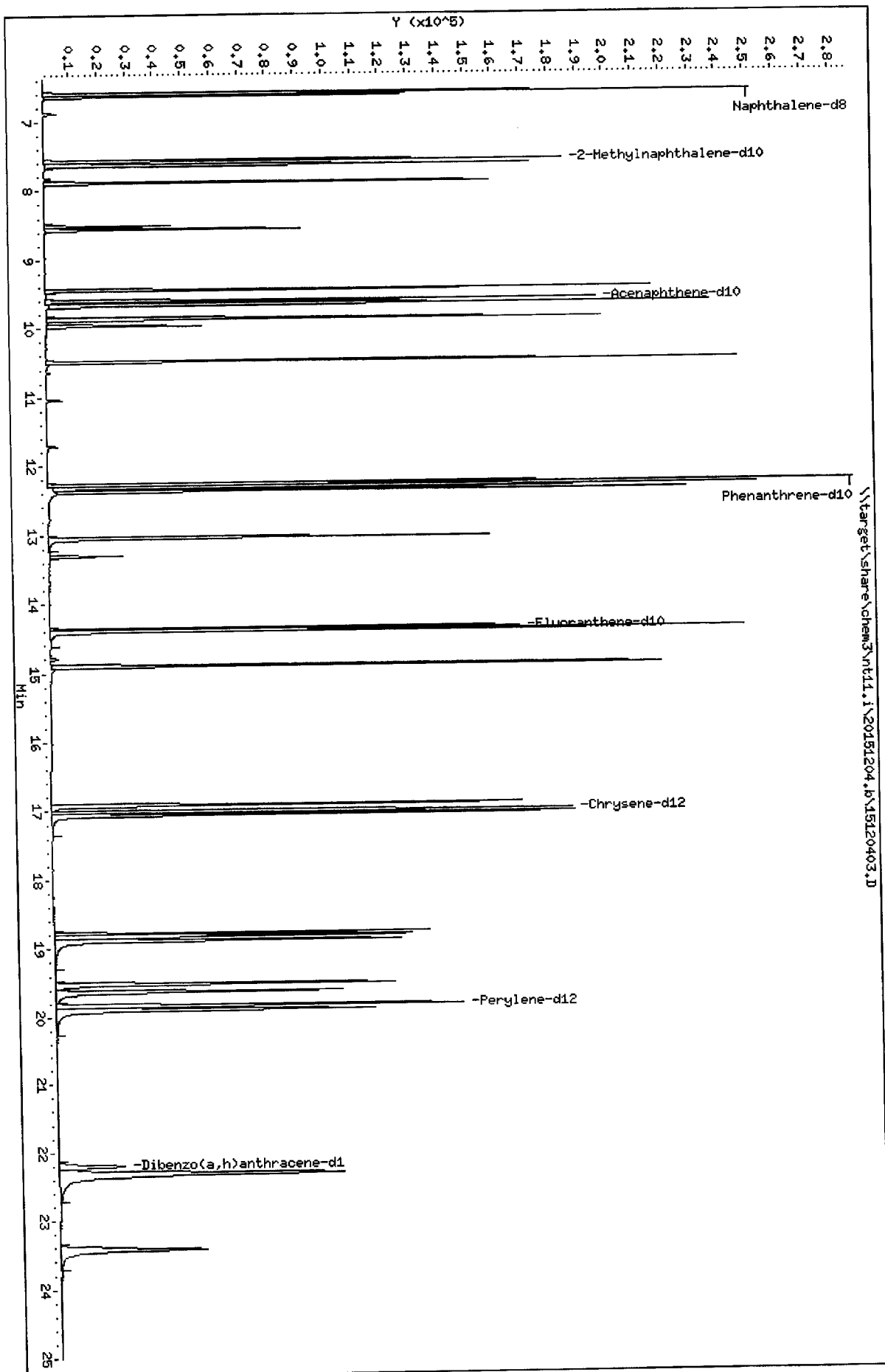
Sample Info: LLSIM 100

Column phase: Rxi-17S11 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120403.D

Lab ID: LLSIM 100

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120404.D
 Lab Smp Id: LLSIM 10
 Inj Date : 04-DEC-2015 10:03 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 10:03 Cal File: 15120404.D
 Als bottle: 2 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

*JW
12/5/15*

Compounds	QUANT SIG	AMOUNTS					
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	325673	200.000	
5 Naphthalene	128	6.629	6.629	(1.005)	19520	10.0000	10.4
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	11490	10.0000	9.51
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	12326	10.0000	9.54
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	10946	10.0000	9.40
10 Acenaphthylene	152	9.446	9.445	(0.984)	17343	10.0000	9.83
* 11 Acenaphthene-d10	164	9.601	9.600	(1.000)	218580	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	11843	10.0000	10.1
14 Dibenzofuran	168	9.866	9.866	(1.028)	17891	10.0000	10.1
15 Fluorene	166	10.486	10.486	(1.092)	12668	10.0000	9.58
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	358974	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	21551	10.0000	9.96
20 Anthracene	178	12.368	12.368	(1.008)	18203	10.0000	9.40
\$ 23 Fluoranthene-d10	212	14.375	14.374	(1.172)	18217	10.0000	9.23
24 Fluoranthene	202	14.403	14.403	(1.174)	19652	10.0000	9.05
25 Pyrene	202	14.903	14.903	(0.876)	20582	10.0000	9.91
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	16570	10.0000	9.48
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	262207	200.000	
30 Chrysene	228	17.059	17.059	(1.003)	19151	10.0000	9.98
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	14171	10.0000	9.12
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	16099	10.0000	8.89
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	15176	10.0000	9.20
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	12870	10.0000	8.58
* 35 Perylene-d12	264	19.842	19.842	(1.000)	229323	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)	6798	10.0000	7.34
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	12271	10.0000	7.79
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	9102	10.0000	7.31
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	11812	10.0000	8.64
47 Perylene	252	19.899	19.899	(1.003)	14419	10.0000	9.28
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	14902	10.0000	9.49

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120404.D
 Lab Smp Id: LLSIM 10
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	325673	-0.68
11 Acenaphthene-d10	239179	119590	478358	218580	-8.61
18 Phenanthrene-d10	372253	186127	744506	358974	-3.57
29 Chrysene-d12	294711	147356	589422	262207	-11.03
35 Perylene-d12	260595	130298	521190	229323	-12.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204_b\15120404.D

Date: 04-DEC-2015 10:03

Client ID:

Sample Info: LLSIM 10

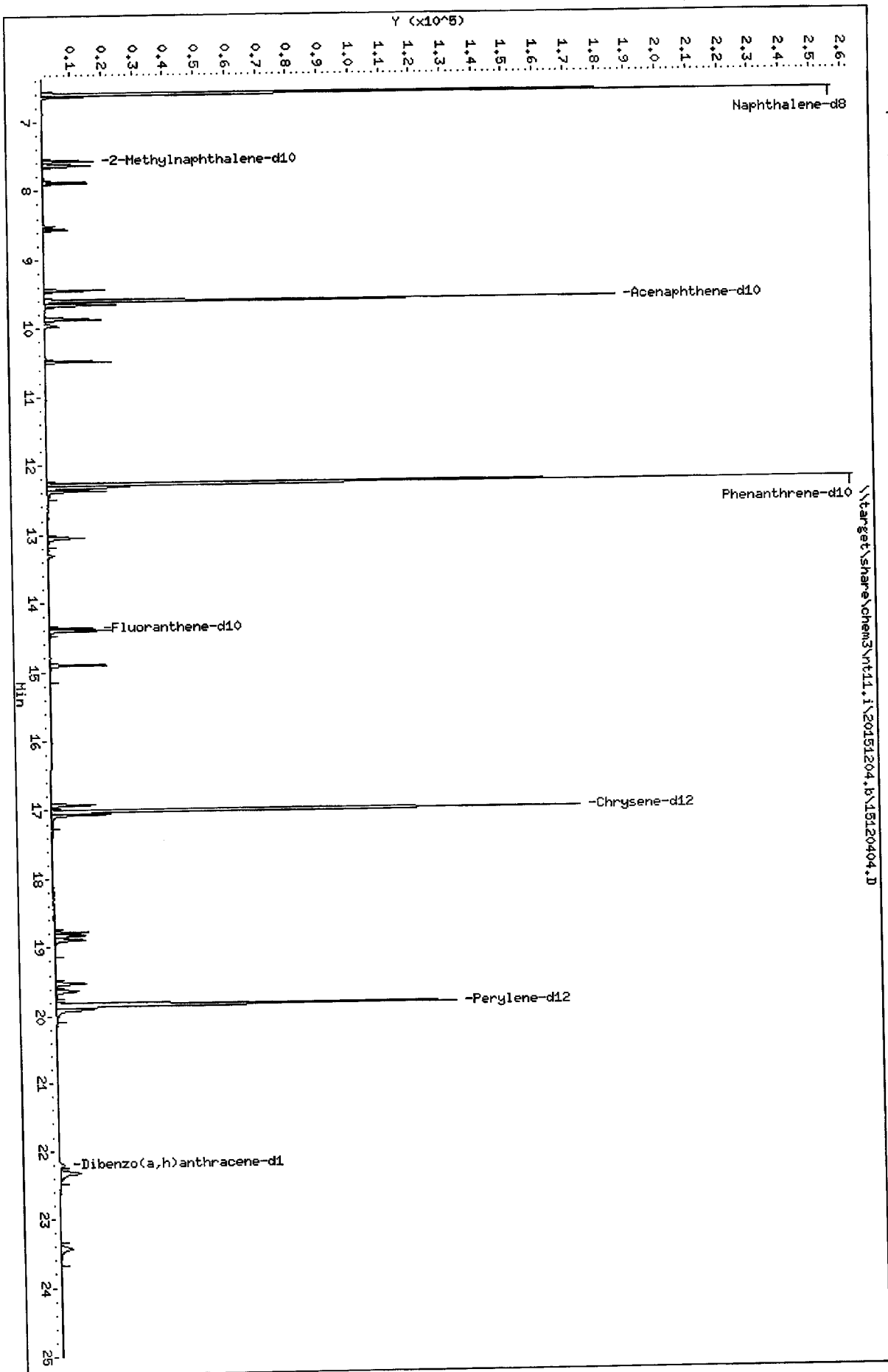
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20151204_b\15120404.D



REVIEW SUMMARY FOR FILE - 15120404.D

Lab ID: LLSIM 10
nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Lab Smp Id: LLSIM 50
 Inj Date : 04-DEC-2015 10:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 50
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 10:33 Cal File: 15120405.D
 Als bottle: 3 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

*82
12/5/15*

Compounds	QUANT SIG						AMOUNTS	
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	322810	200.000		
5 Naphthalene	128	6.629	6.629	(1.005)	101411	50.0000	54.4	
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	61987	50.0000	51.7	
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)	66307	50.0000	51.8	
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	59950	50.0000	51.9	
10 Acenaphthylene	152	9.446	9.445	(0.984)	92485	50.0000	52.3	
* 11 Acenaphthene-d10	164	9.601	9.600	(1.000)	219192	200.000		
12 Acenaphthene	153	9.656	9.656	(1.006)	62244	50.0000	53.0	
14 Dibenzofuran	168	9.866	9.866	(1.028)	95443	50.0000	54.0	
15 Fluorene	166	10.486	10.486	(1.092)	68997	50.0000	52.0	
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	354307	200.000		
19 Phenanthrene	178	12.313	12.313	(1.004)	118576	50.0000	55.5	
20 Anthracene	178	12.368	12.368	(1.008)	96493	50.0000	50.5	
\$ 23 Fluoranthene-d10	212	14.365	14.374	(1.171)	102075	50.0000	52.4	
24 Fluoranthene	202	14.403	14.403	(1.174)	114385	50.0000	53.4	
25 Pyrene	202	14.903	14.903	(0.876)	112799	50.0000	54.2	
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	93495	50.0000	53.4	
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	262604	200.000		
30 Chrysene	228	17.059	17.059	(1.003)	108279	50.0000	56.3	
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	83231	50.0000	53.5	
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	95619	50.0000	52.7	
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	90827	50.0000	55.0	
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	79839	50.0000	53.2	
* 35 Perylene-d12	264	19.842	19.842	(1.000)	229726	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)	44840	50.0000	48.4	
37 Indeno(1,2,3-cd)pyrene	276	22.330	22.329	(1.125)	80159	50.0000	50.8	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)	60732	50.0000	48.7	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	70920	50.0000	51.8	
47 Perylene	252	19.899	19.899	(1.003)	84721	50.0000	54.4	
48 Benzo(e)pyrene	252	19.525	19.524	(0.984)	85271	50.0000	54.2	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120405.D
 Lab Smp Id: LLSIM 50
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322810	-1.55
11 Acenaphthene-d10	239179	119590	478358	219192	-8.36
18 Phenanthrene-d10	372253	186127	744506	354307	-4.82
29 Chrysene-d12	294711	147356	589422	262604	-10.89
35 Perylene-d12	260595	130298	521190	229726	-11.85

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.b\15120405.D

Date : 04-DEC-2015 10:33

Client ID:

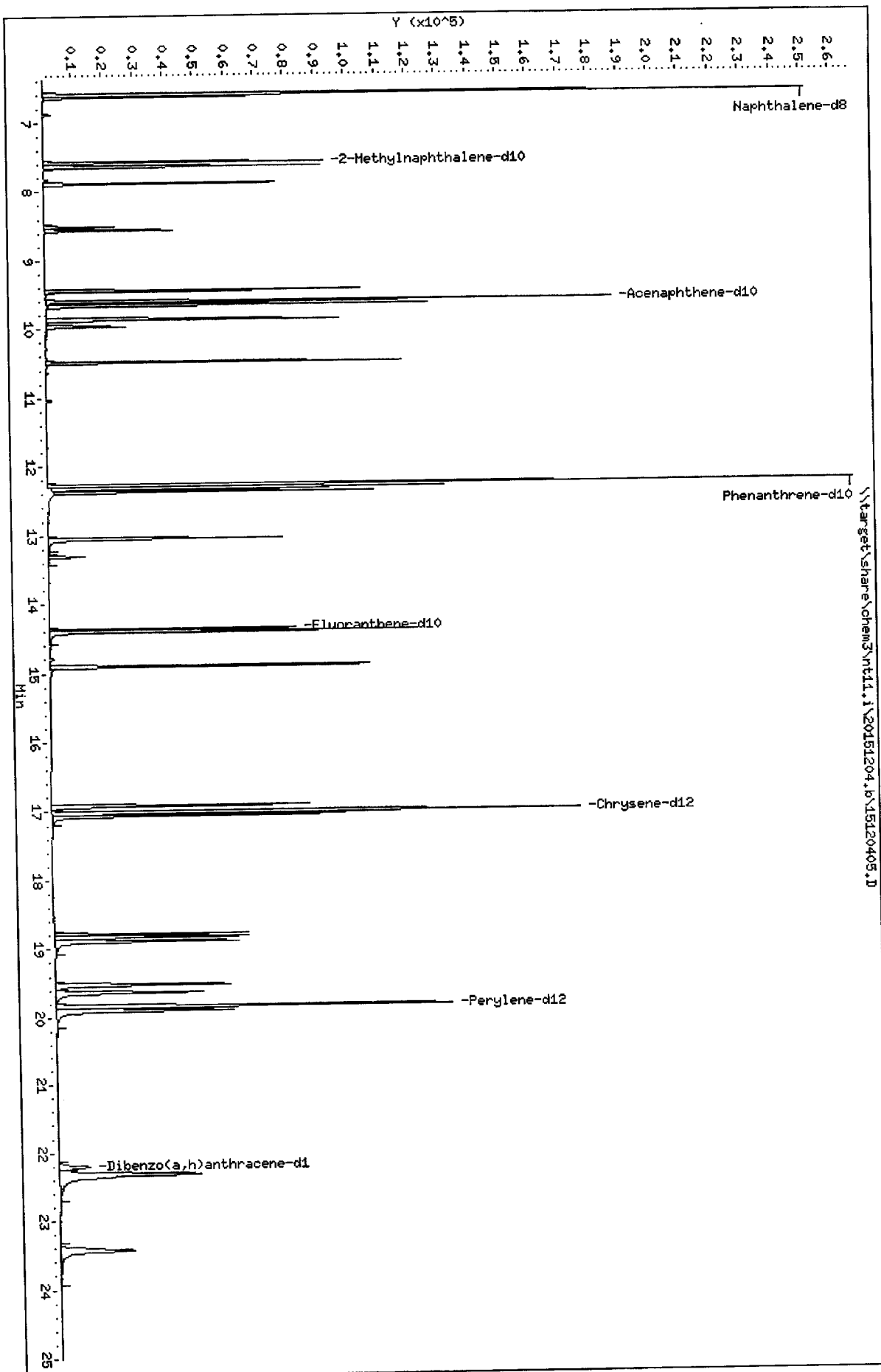
Sample Info: LLSIM B0

Column phase: Rxi-17S11 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120405.D

Lab ID: LLSIM 50

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120406.D

Lab Smp Id: LLSIM 500

Inj Date : 04-DEC-2015 11:03

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM 500

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw

Quant Type: ISTD

Cal Date : 04-DEC-2015 11:03

Cal File: 15120406.D

Als bottle: 6

Calibration Sample, Level: 5

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: PEMD.sub

Target Version: 4.14

JW
12/5/15

Compounds	QUANT SIG	AMOUNTS					CAL-AMT (ng/mL)	ON-COL (ng/mL)
		MASS	RT	EXP RT	REL RT	RESPONSE		
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	340768	200.000		
5 Naphthalene	128	6.629	6.629	(1.005)	933248	500.000	474	
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	629193	500.000	497	
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)	670644	500.000	496	
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	605485	500.000	497	
10 Acenaphthylene	152	9.445	9.445	(0.984)	967430	500.000	496	
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)	241553	200.000		
12 Acenaphthene	153	9.656	9.656	(1.006)	628559	500.000	486	
14 Dibenzofuran	168	9.866	9.866	(1.028)	941463	500.000	483	
15 Fluorene	166	10.486	10.486	(1.092)	730006	500.000	499	
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	382017	200.000		
19 Phenanthrene	178	12.313	12.313	(1.004)	1091600	500.000	474	
20 Anthracene	178	12.368	12.368	(1.008)	1071225	500.000	520	
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)	1071150	500.000	510	
24 Fluoranthene	202	14.403	14.403	(1.174)	1171890	500.000	507	
25 Pyrene	202	14.903	14.903	(0.876)	1155377	500.000	492	
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	993004	500.000	502	
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	296788	200.000		
30 Chrysene	228	17.059	17.059	(1.003)	1047594	500.000	482	
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	904516	500.000	527	
45 Benzo(k)fluoranthene	252	18.823	18.833	(0.949)	1037488	500.000	519	
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	935496	500.000	513	
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	881824	500.000	532	
* 35 Perylene-d12	264	19.841	19.842	(1.000)	253397	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.196	22.197	(1.119)	577224	500.000	564	
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	968463	500.000	557	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)	781168	500.000	568	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	805513	500.000	533	
47 Perylene	252	19.899	19.899	(1.003)	880659	500.000	513	
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	881426	500.000	508	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120406.D
 Lab Smp Id: LLSIM 500
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	340768	3.93
11 Acenaphthene-d10	239179	119590	478358	241553	0.99
18 Phenanthrene-d10	372253	186127	744506	382017	2.62
29 Chrysene-d12	294711	147356	589422	296788	0.70
35 Perylene-d12	260595	130298	521190	253397	-2.76

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120406.D

Date : 04-DEC-2015 11:03

Client ID:

Sample Info: LLSIM 500

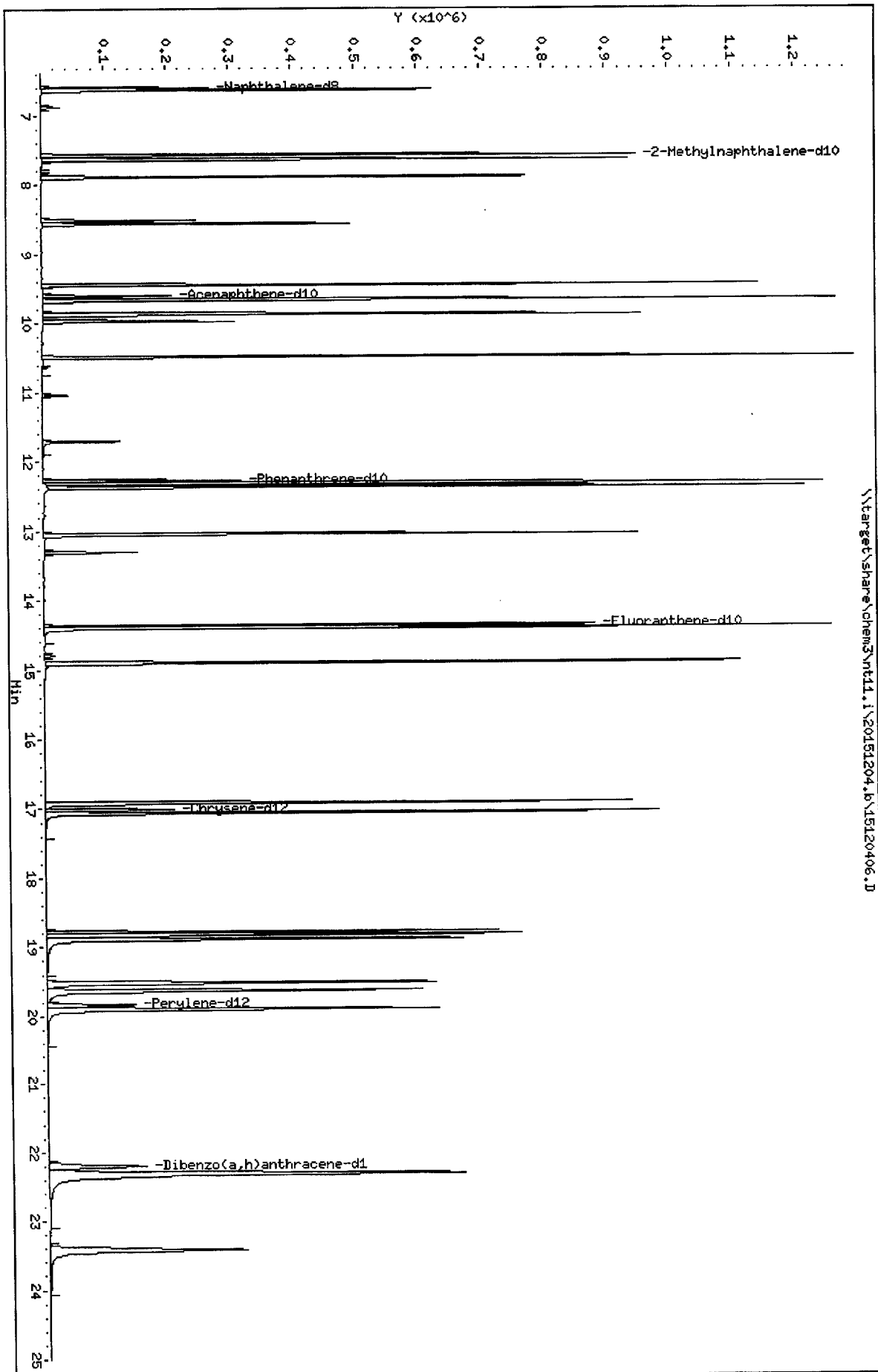
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20151204.b\15120406.D



REVIEW SUMMARY FOR FILE - 15120406.D

Lab ID: LLSIM 500
nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120407.D

Lab Smp Id: LLSIM 1000

Inj Date : 04-DEC-2015 11:33

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM 1000

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw

Quant Type: ISTD

Cal Date : 04-DEC-2015 11:33

Cal File: 15120407.D

Als bottle: 7

Calibration Sample, Level: 6

Dil Factor: 1.00000

Compound Sublist: PEMD.sub

Integrator: HP RTE

Target Version: 4.14

Handwritten: 12/5/15

Compounds	QUANT		SIG				AMOUNTS		
	MASS	RT	EXP	RT	REL	RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)			337457	200.000	
5 Naphthalene	128	6.629	6.629	(1.005)			1745003	1000.00	895
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)			1205300	1000.00	962
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)			1272236	1000.00	950
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)			1149104	1000.00	952
10 Acenaphthylene	152	9.445	9.445	(0.984)			1833736	1000.00	951
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)			238950	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)			1200492	1000.00	938
14 Dibenzofuran	168	9.866	9.866	(1.028)			1717363	1000.00	891
15 Fluorene	166	10.486	10.486	(1.092)			1380739	1000.00	955
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)			380348	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)			2022457	1000.00	883
20 Anthracene	178	12.368	12.368	(1.008)			1975909	1000.00	963
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)			2020716	1000.00	966
24 Fluoranthene	202	14.403	14.403	(1.174)			2148123	1000.00	934
25 Pyrene	202	14.903	14.903	(0.876)			2156236	1000.00	912
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)			1918385	1000.00	964
* 29 Chrysene-d12	240	17.009	17.009	(1.000)			298514	200.000	
30 Chrysene	228	17.059	17.059	(1.003)			1961226	1000.00	898
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)			1759341	1000.00	1010
45 Benzo(k)fluoranthene	252	18.833	18.833	(0.949)			2039144	1000.00	1010
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)			1793610	1000.00	973
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)			1732537	1000.00	1030
* 35 Perylene-d12	264	19.842	19.842	(1.000)			256244	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)			1208888	1000.00	1170
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)			1959663	1000.00	1110
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)			1599951	1000.00	1150
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)			1624015	1000.00	1060
47 Perylene	252	19.899	19.899	(1.003)			1731385	1000.00	997
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)			1724956	1000.00	983

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120407.D
 Lab Smp Id: LLSIM 1000
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	337457	2.92
11 Acenaphthene-d10	239179	119590	478358	238950	-0.10
18 Phenanthrene-d10	372253	186127	744506	380348	2.17
29 Chrysene-d12	294711	147356	589422	298514	1.29
35 Perylene-d12	260595	130298	521190	256244	-1.67

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.b\15120407.D

Date : 04-DEC-2015 11:33

Client ID:

Sample Info: LLSIM 1000

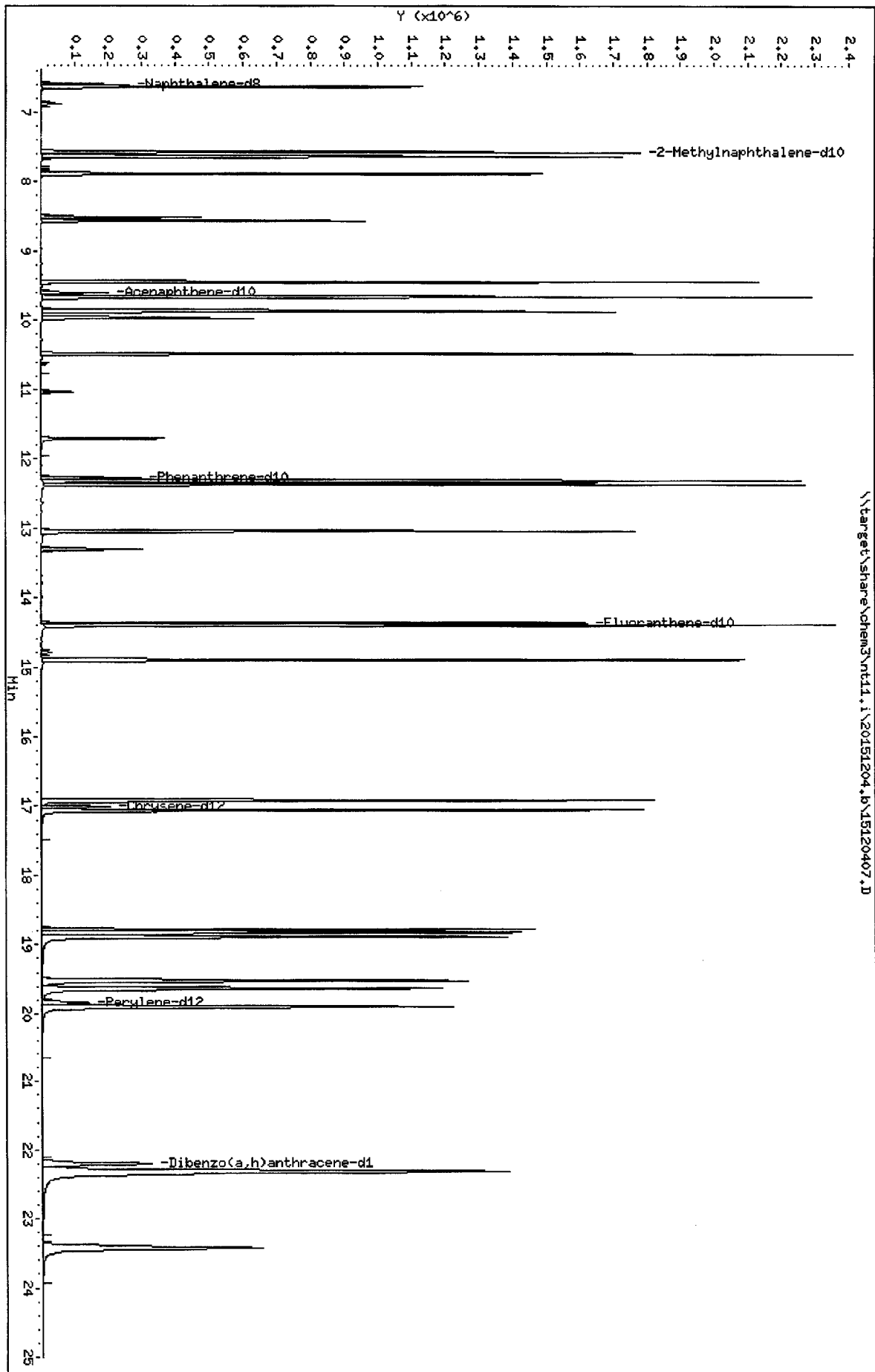
Column phase: RXI-17S11 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20151204.b\15120407.D



REVIEW SUMMARY FOR FILE - 15120407.D

Lab ID: LLSIM 1000

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120408.D

Lab Smp Id: LLSIM SCV 250

Inj Date : 04-DEC-2015 12:04

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM SCV 250

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD

Cal Date : 04-DEC-2015 11:33

Cal File: 15120407.D

Als bottle: 8

Dil Factor: 1.00000

Compound Sublist: PEMD.sub

Integrator: HP RTE

Target Version: 4.14

Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Final Extract Volume (uL)
Vo	500.000	Sample Volume extracted (mL)
Cpnd Variable		Local Compound Variable

Handwritten: JW
12/5/15

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/L)
* 4 Naphthalene-d8	136		6.597	6.597	(1.000)	330144	200.000	
5 Naphthalene	128		6.629	6.629	(1.005)	446422	234.100	234
\$ 6 2-Methylnaphthalene-d10	152		Compound Not Detected.					
7 2-Methylnaphthalene	142		7.627	7.627	(1.156)	286909	218.968	219
8 1-Methylnaphthalene	142		7.889	7.889	(1.196)	286856	242.931	243
10 Acenaphthylene	152		9.445	9.445	(0.984)	450083	235.922	236
* 11 Acenaphthene-d10	164		9.600	9.600	(1.000)	236381	200.000	
12 Acenaphthene	153		9.656	9.656	(1.006)	307274	242.667	243
14 Dibenzofuran	168		Compound Not Detected.					
15 Fluorene	166		10.486	10.486	(1.092)	337933	236.220	236
* 18 Phenanthrene-d10	188		12.269	12.269	(1.000)	360337	200.000	
19 Phenanthrene	178		12.313	12.313	(1.004)	535994	246.891	247
20 Anthracene	178		12.368	12.368	(1.008)	485229	249.701	250
\$ 23 Fluoranthene-d10	212		Compound Not Detected.					
24 Fluoranthene	202		14.403	14.403	(1.174)	518632	237.945	238
25 Pyrene	202		14.903	14.903	(0.876)	586418	254.458	254
28 Benzo(a)anthracene	228		16.918	16.918	(0.995)	456787	235.431	235
* 29 Chrysene-d12	240		17.009	17.009	(1.000)	291007	200.000	
30 Chrysene	228		17.059	17.059	(1.003)	500271	234.930	235
44 Benzo(b)fluoranthene	252		18.784	18.785	(0.947)	394832	240.567	241
45 Benzo(k)fluoranthene	252		18.823	18.833	(0.949)	474361	248.024	248
46 Benzo(j)fluoranthene	252		Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/L)
34 Benzo(a)pyrene.	252	19.630	19.630	(0.990)	391410	247.108	247
* 35 Perylene-d12	264	19.832	19.842	(1.000)	242244	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.126)	412835	248.231	248
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.125)	328597	249.858	250
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	360543	249.725	250
47 Perylene	252	Compound Not Detected.					
48 Benzo(e)pyrene	252	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120408.D
 Lab Smp Id: LLSIM SCV 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level: LOW
 Sample Type: WATER

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	330144	0.69
11 Acenaphthene-d10	239179	119590	478358	236381	-1.17
18 Phenanthrene-d10	372253	186127	744506	360337	-3.20
29 Chrysene-d12	294711	147356	589422	291007	-1.26
35 Perylene-d12	260595	130298	521190	242244	-7.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.83	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

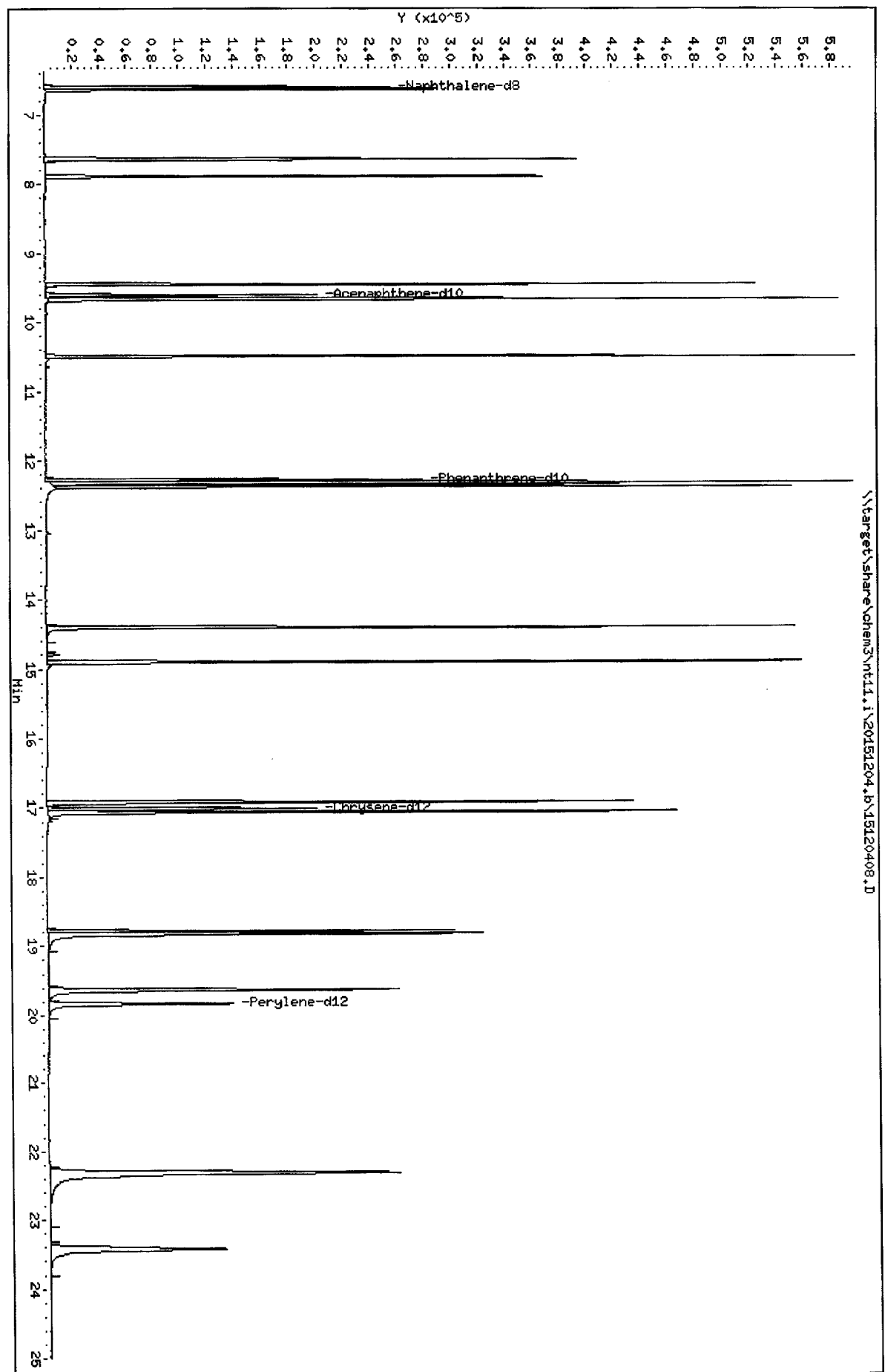
RECOVERY REPORT

Client Name: Client SDG: SDGa03180
 Sample Matrix: LIQUID Fraction: SV
 Lab Smp Id: LLSIM SCV 250
 Level: LOW Operator: JW
 Data Type: MS DATA SampleType: SAMPLE
 SpikeList File: waterlcs.spk Quant Type: ISTD
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthale	6000	0.000	<i>no S/N</i>	* 42-120
\$ 23 Fluoranthene-d10	6000	0.000		* 57-120
\$ 36 Dibenzo(a,h)anthr	6000	0.000		* 29-120

Data File: \\target\share\chem3\nt11,1\20151204,b\15120408.D
Date : 04-DEC-2015 12:04
Client ID:
Sample Info: LLSIM SCV 250
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 HS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



ALLA2: 00101

Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

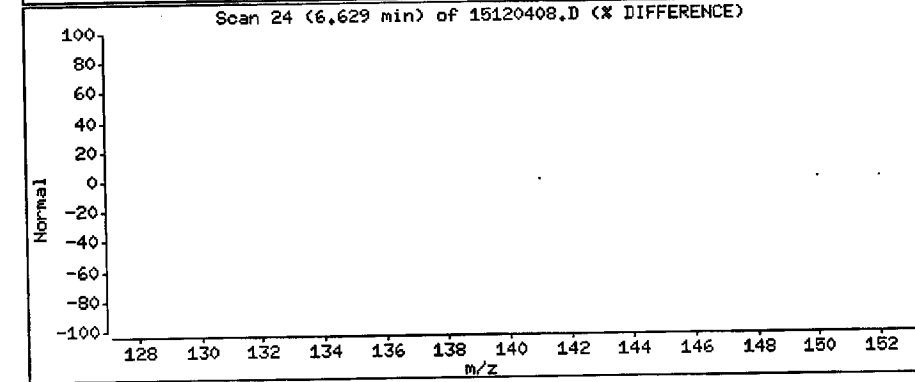
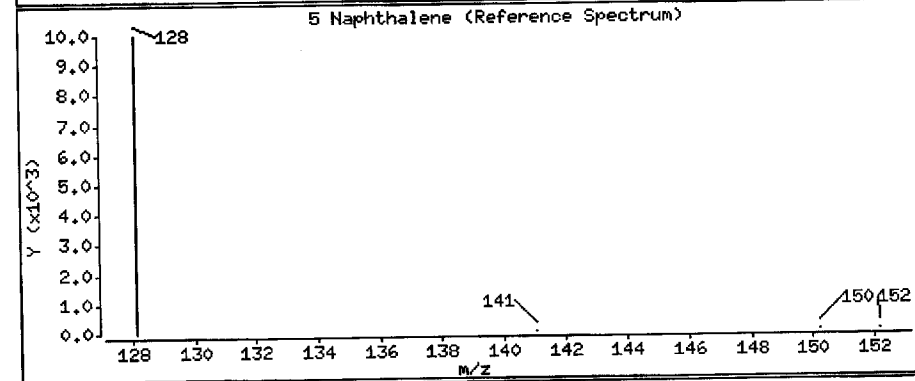
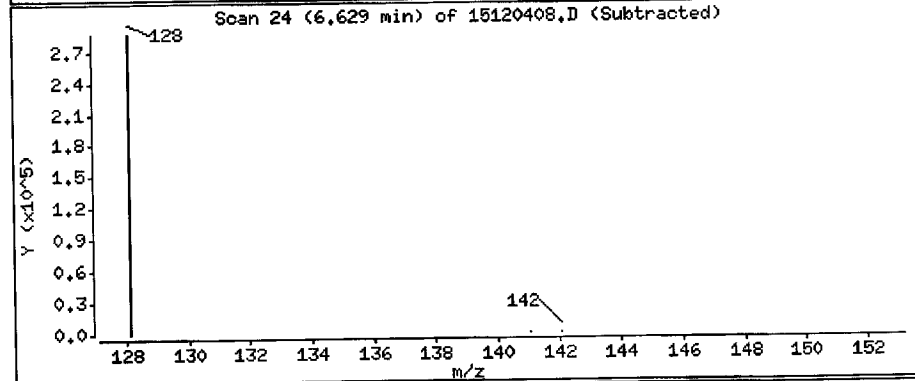
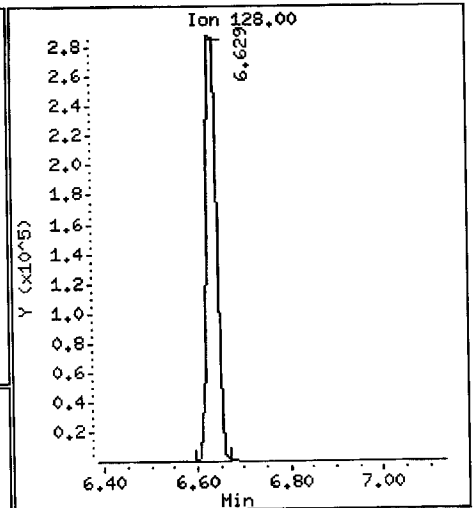
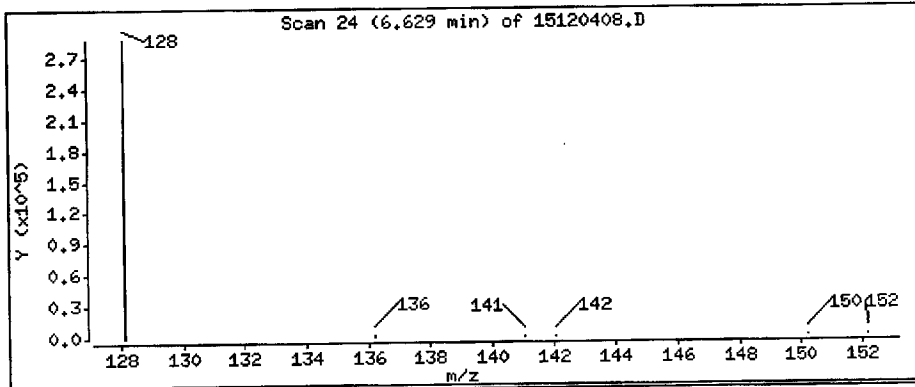
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 234 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

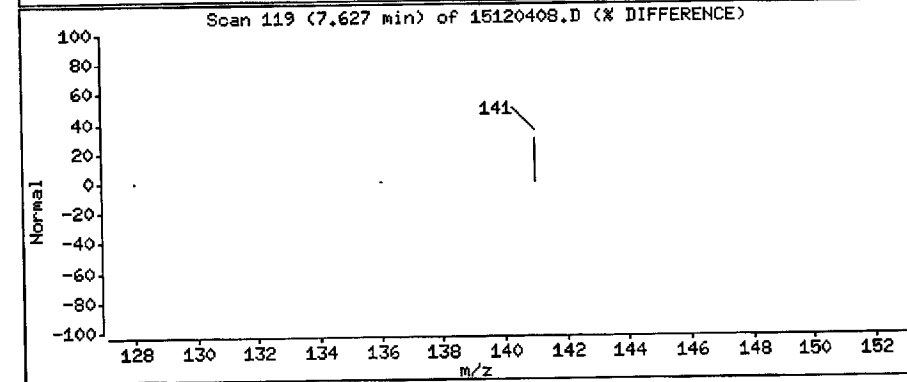
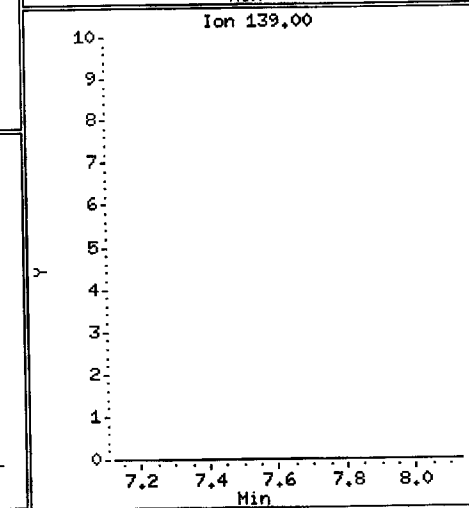
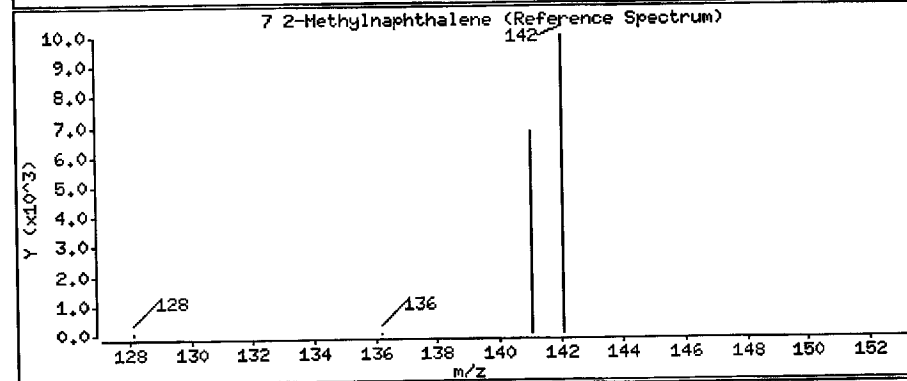
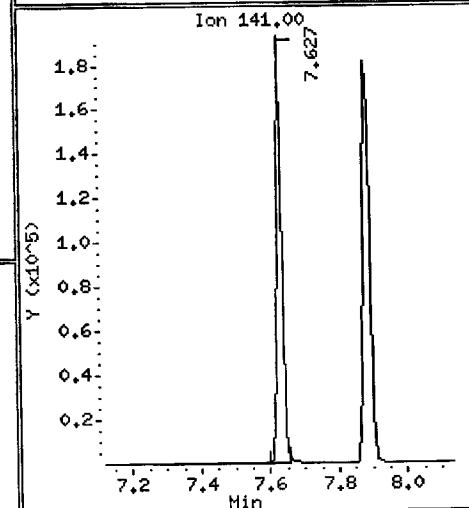
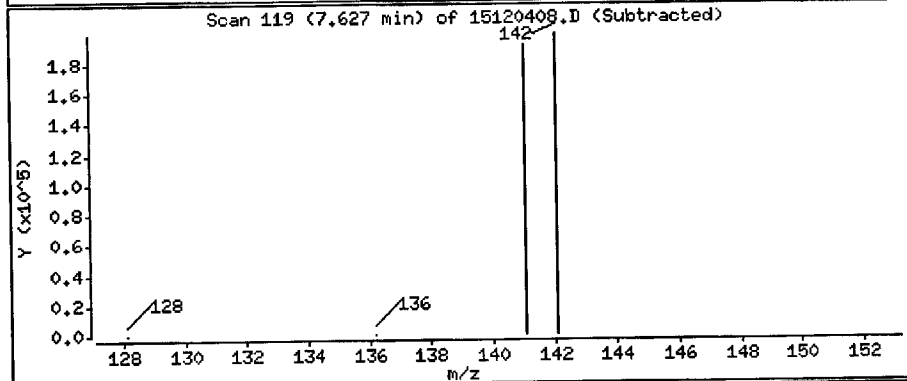
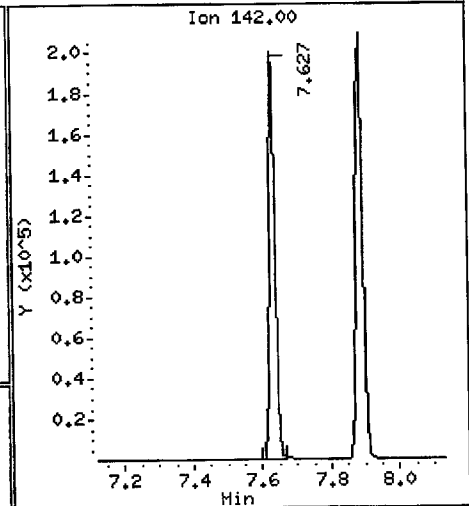
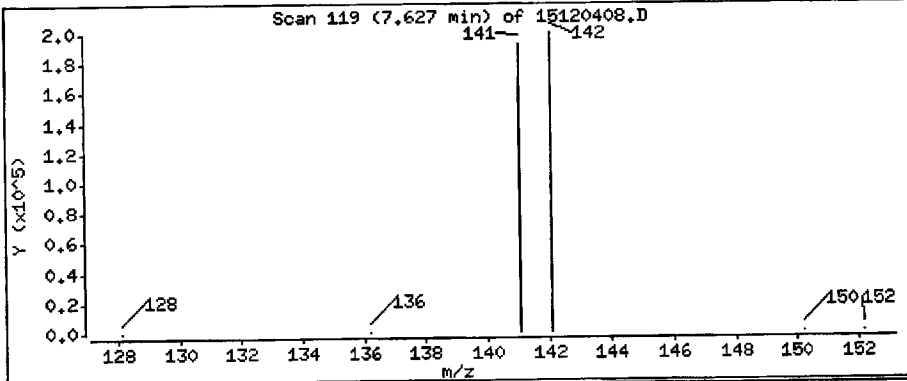
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Methylnaphthalene

Concentration: 219 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

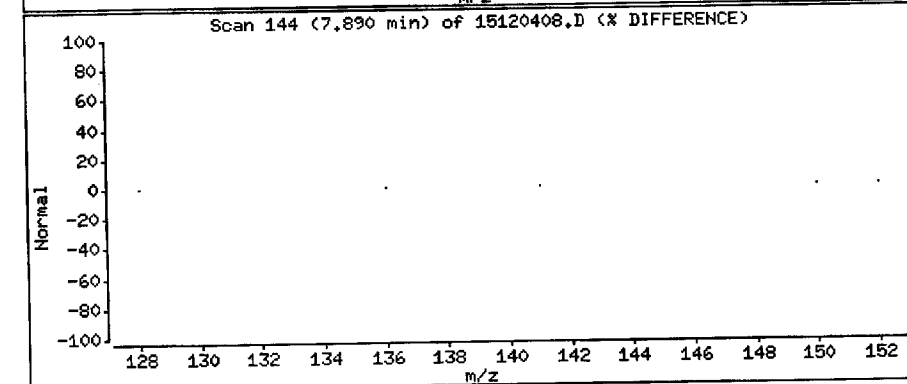
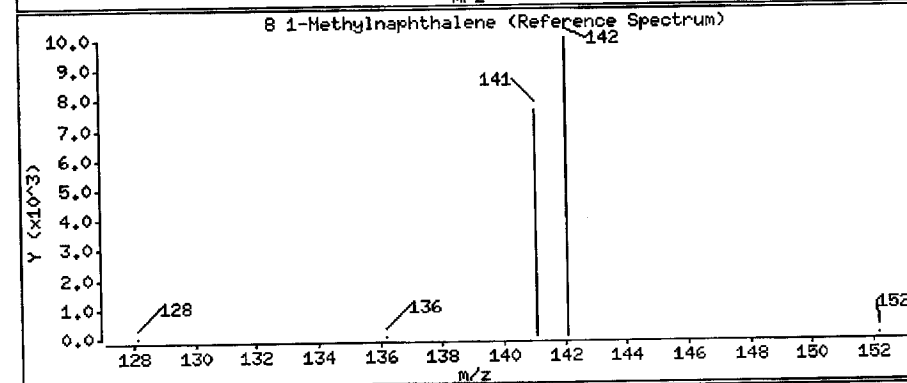
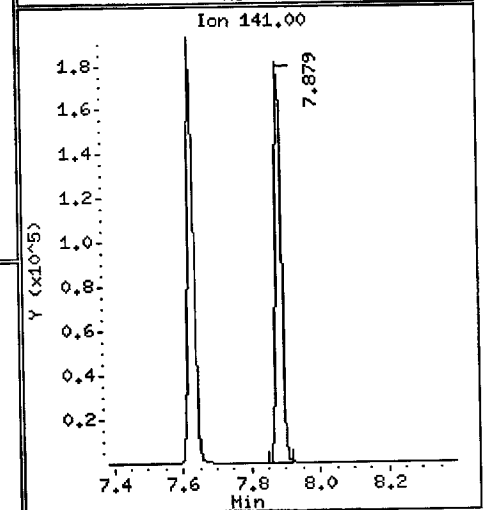
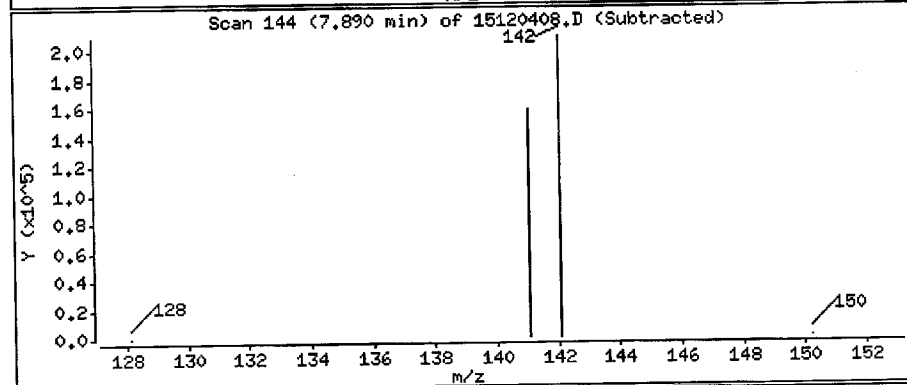
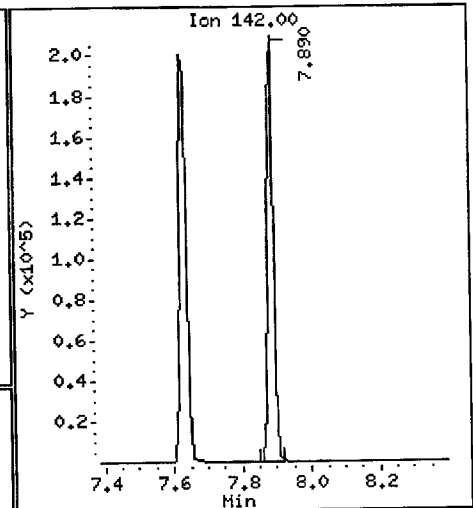
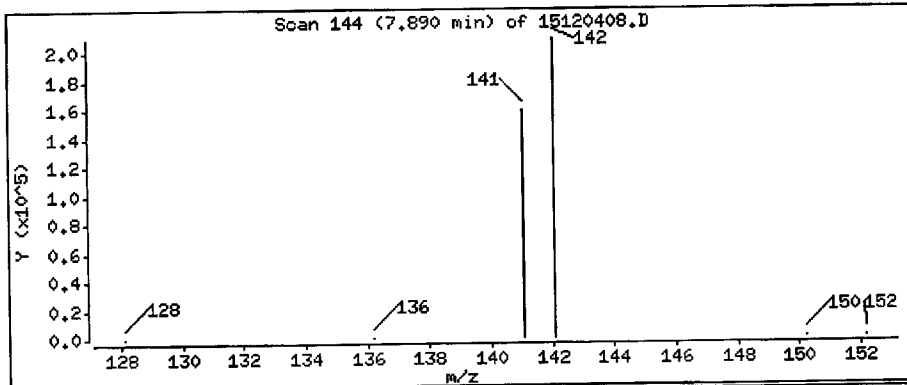
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 1-Methylnaphthalene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

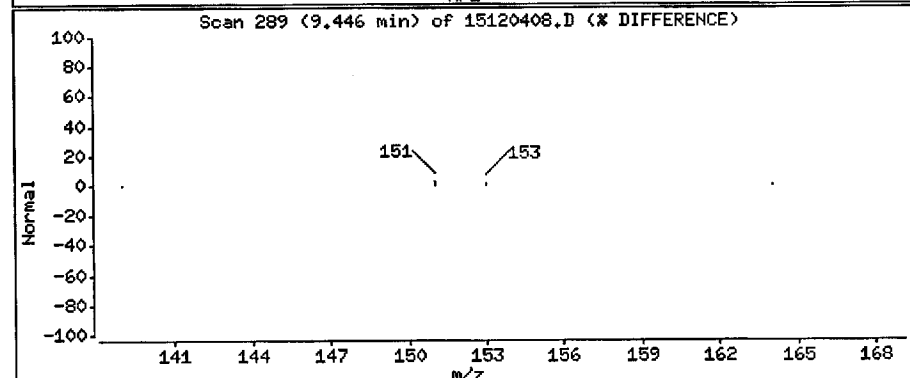
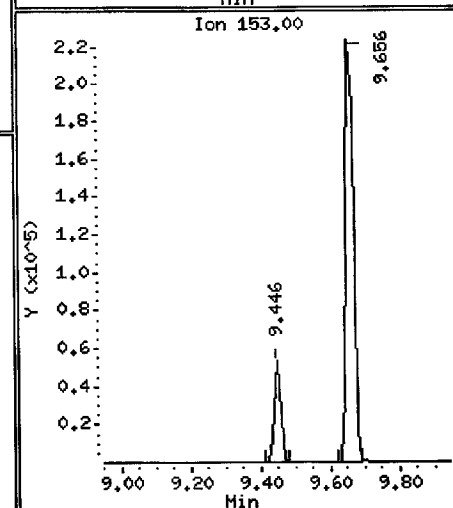
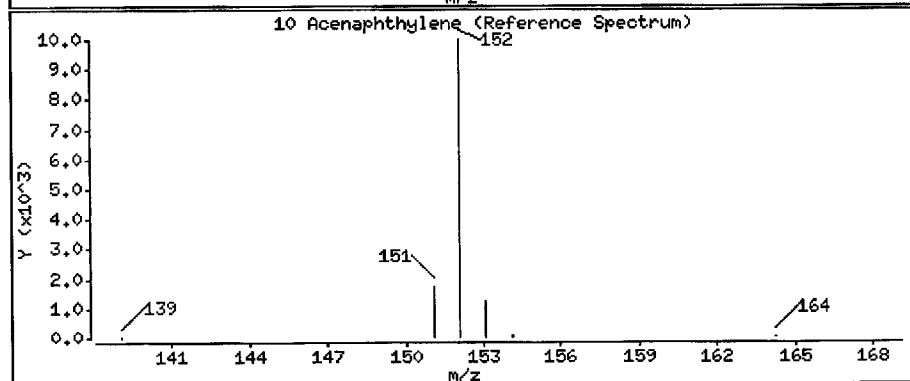
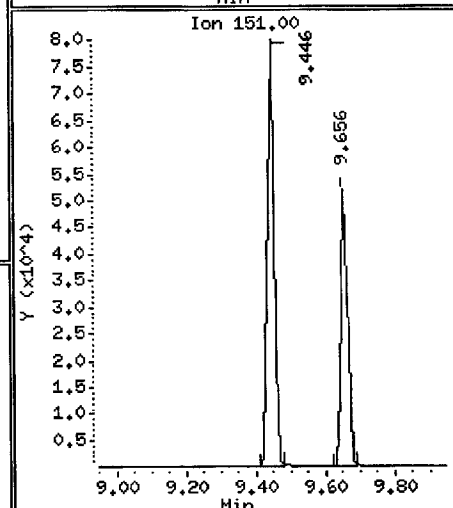
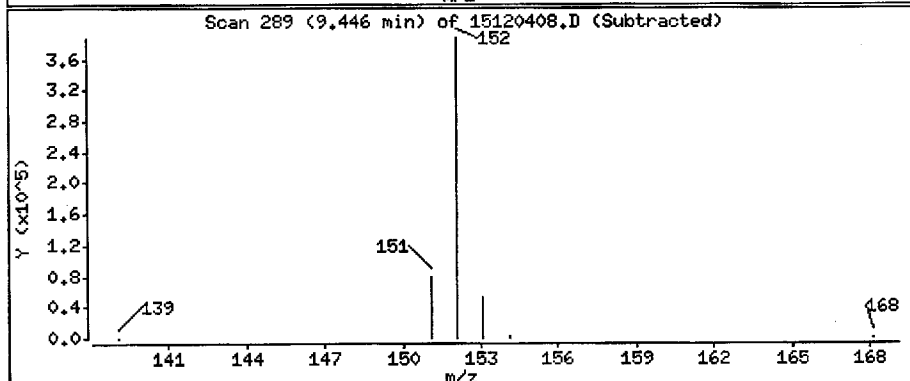
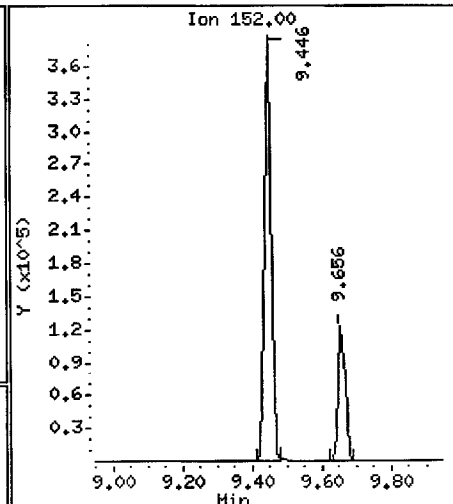
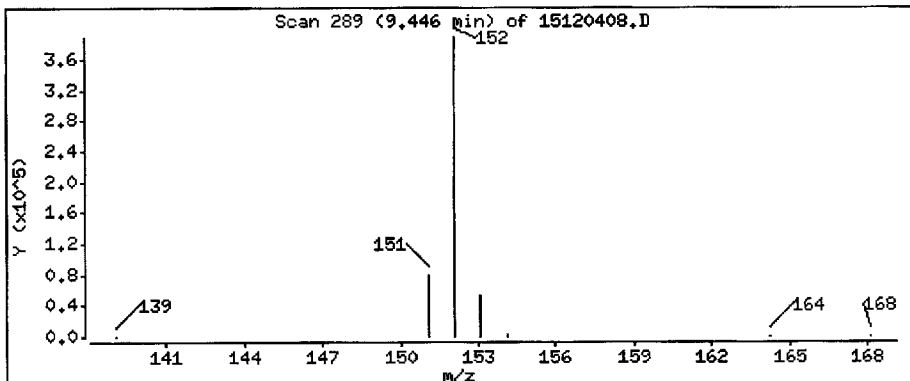
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

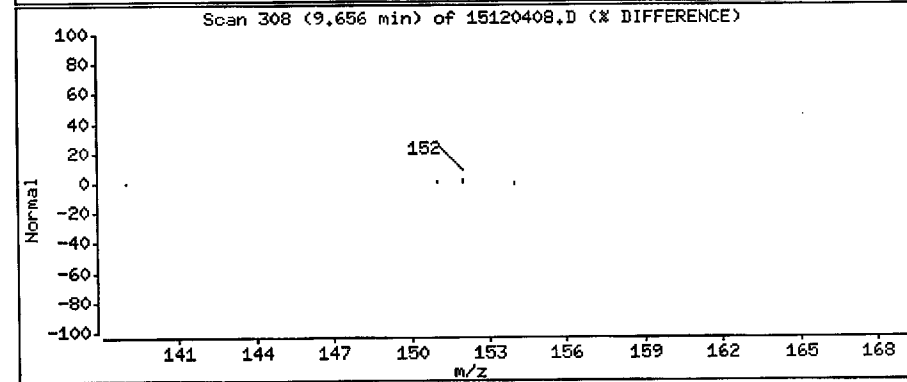
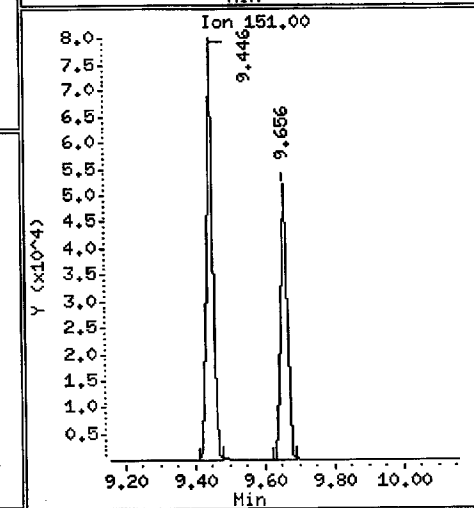
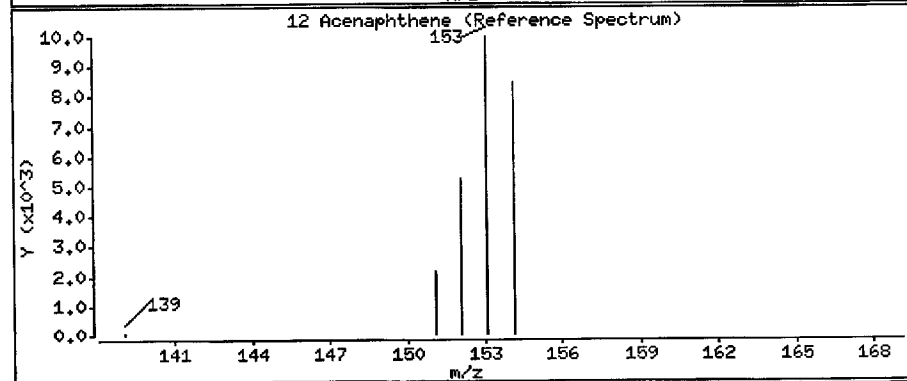
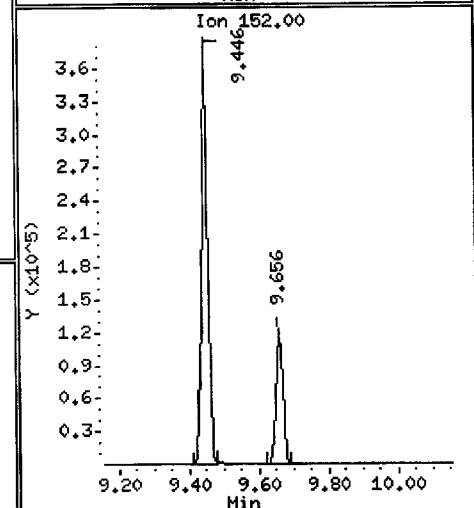
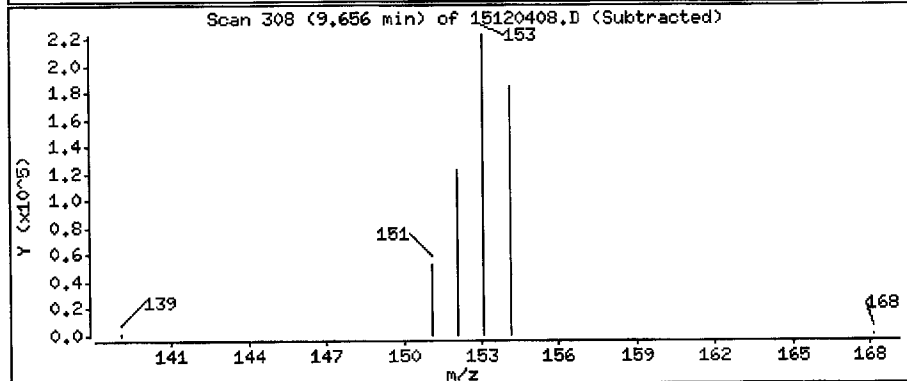
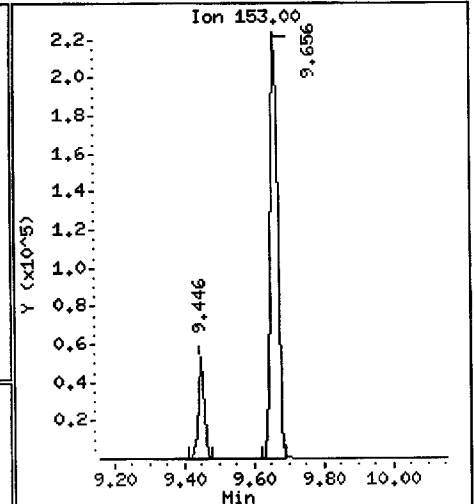
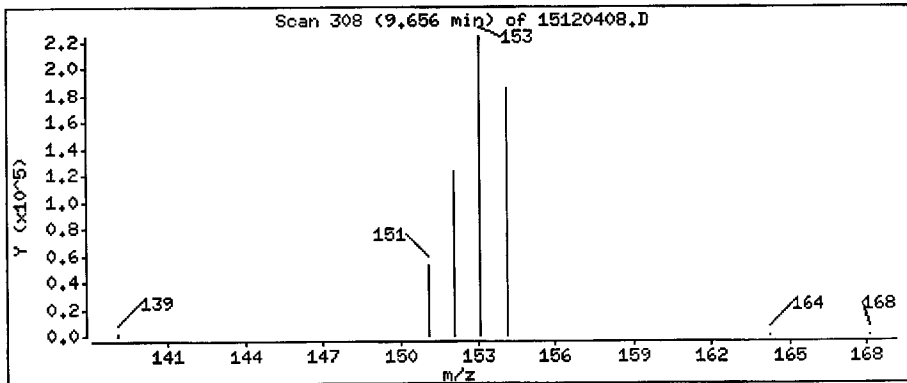
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

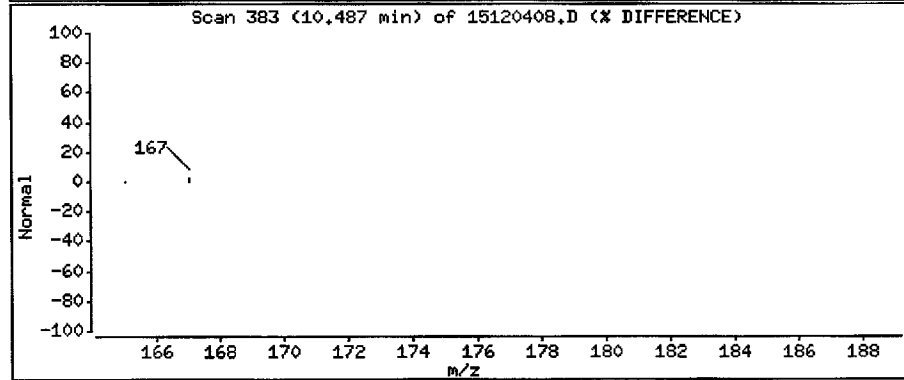
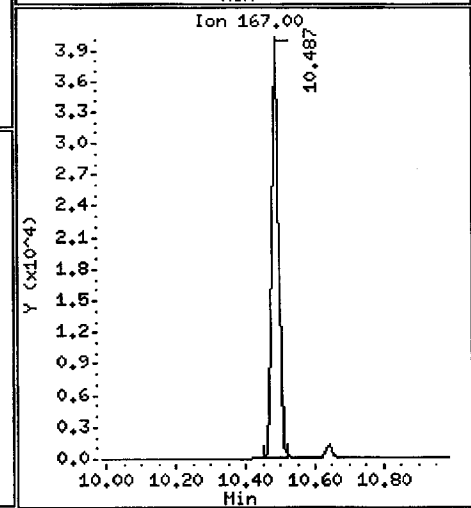
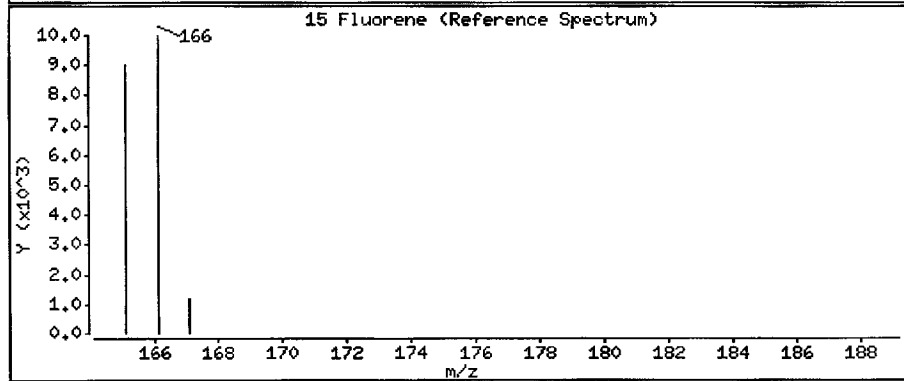
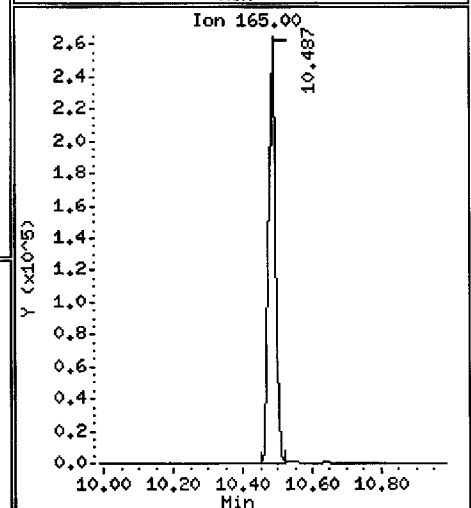
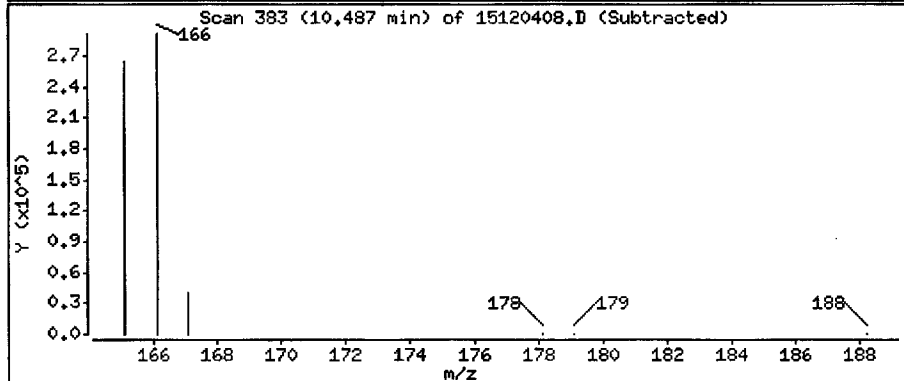
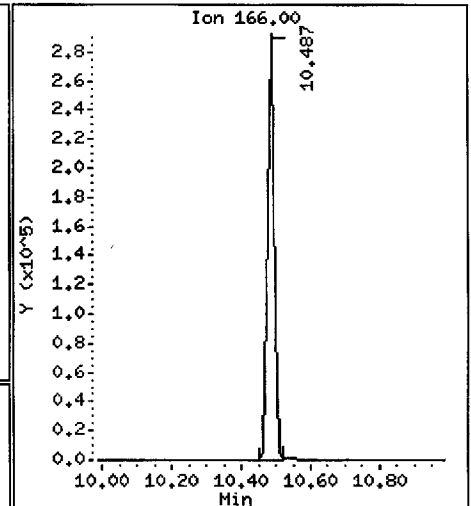
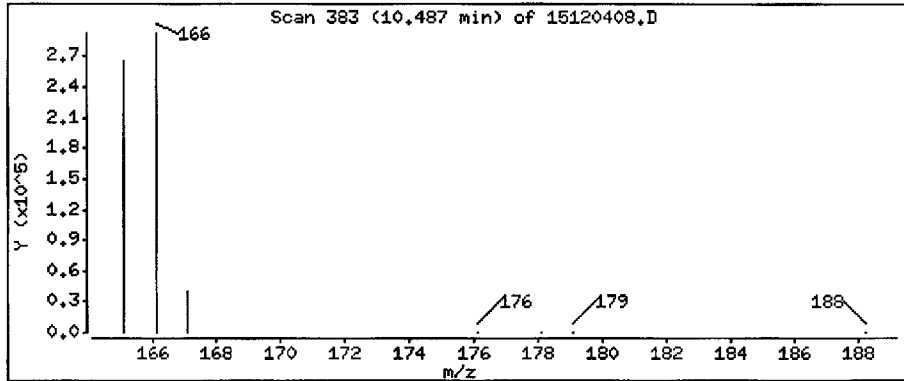
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

15 Fluorene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

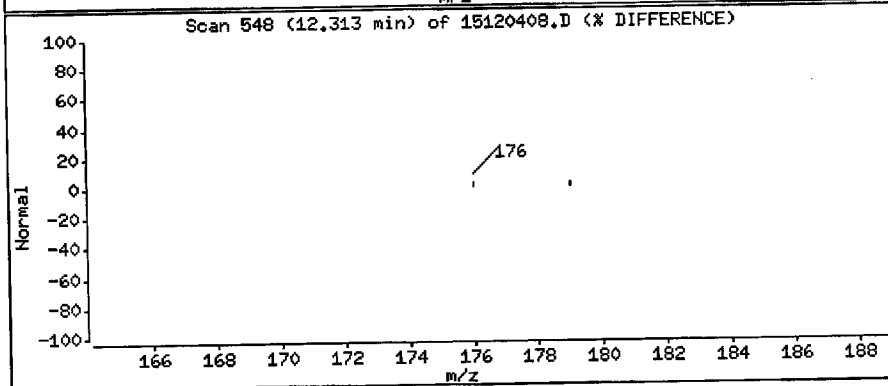
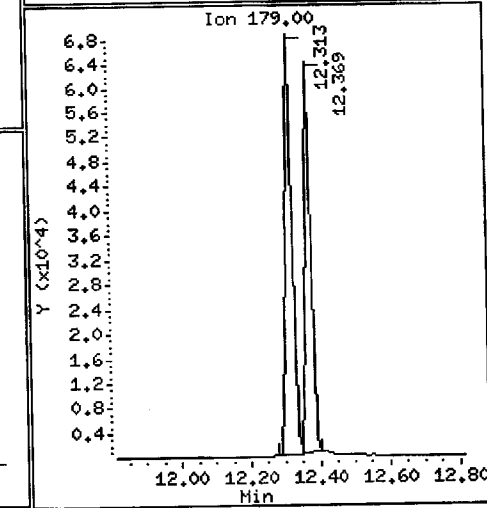
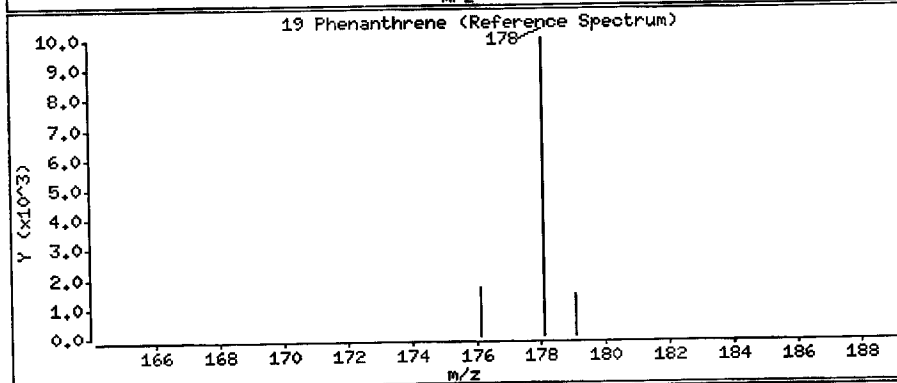
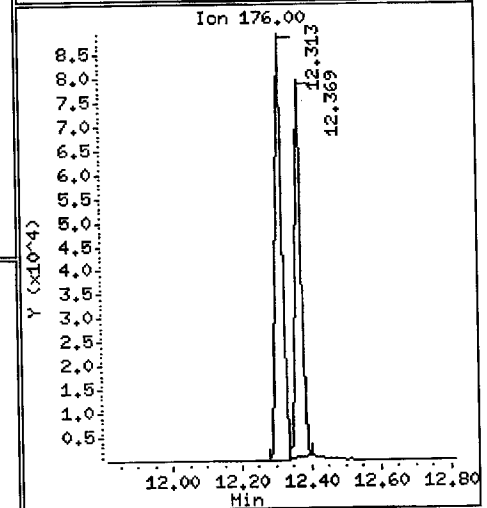
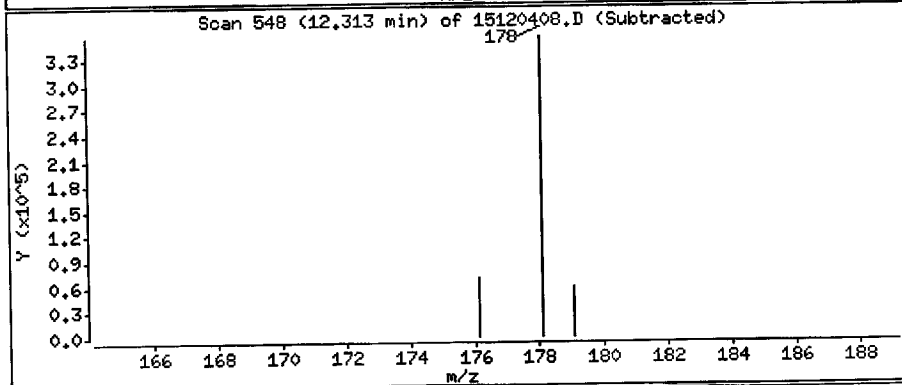
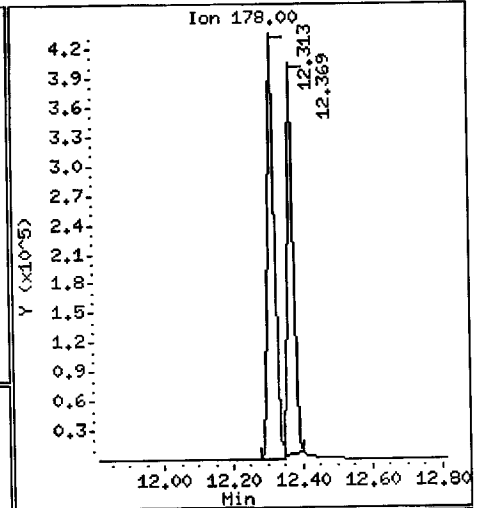
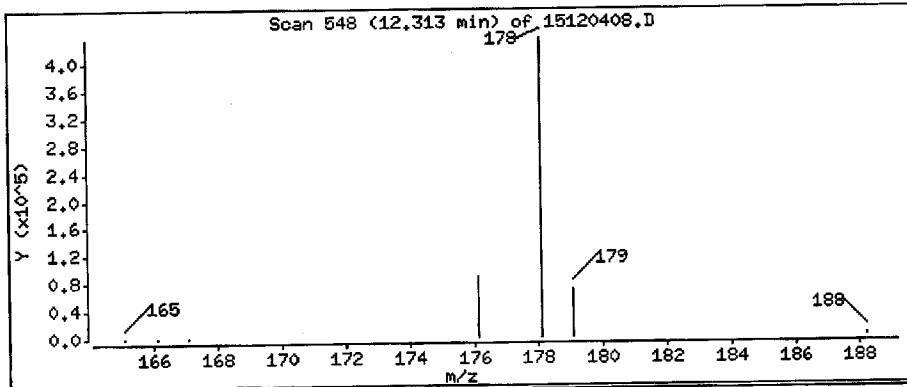
Operator: JM

Column phase: Rxi-17S11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

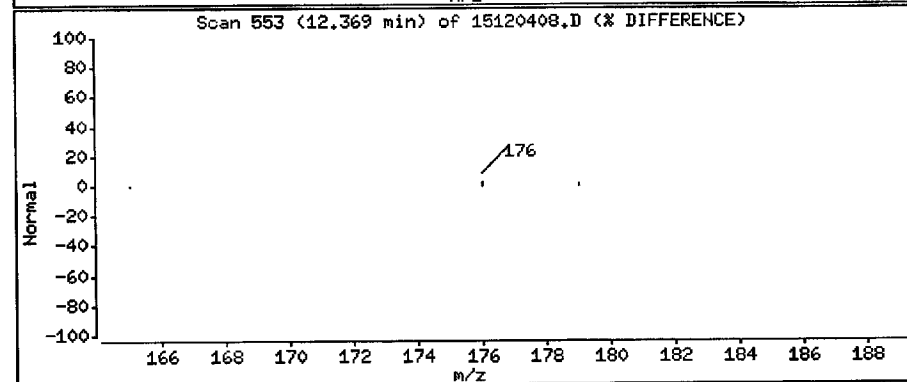
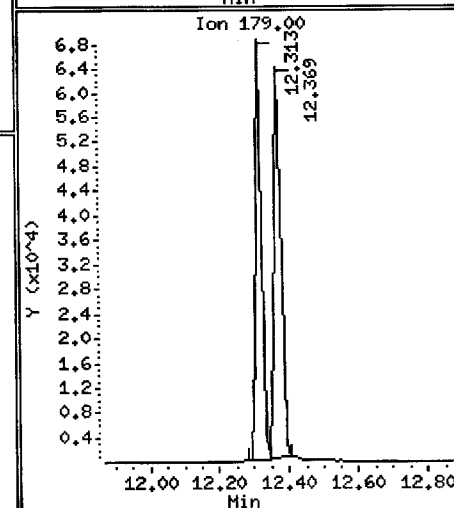
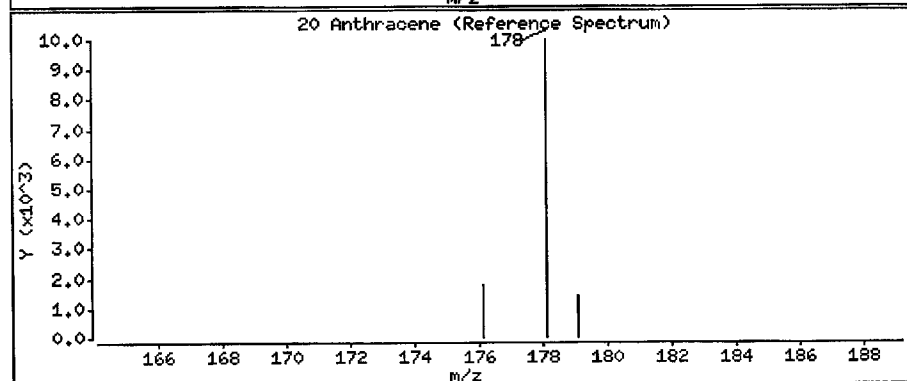
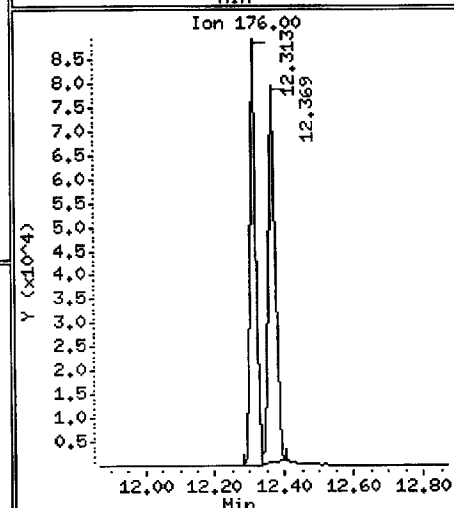
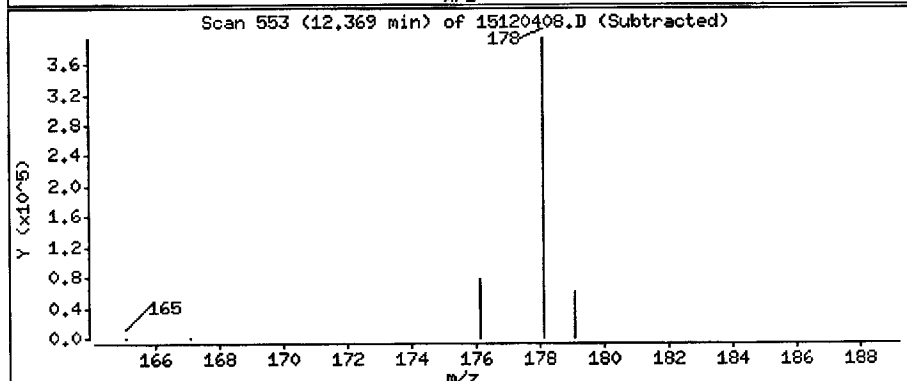
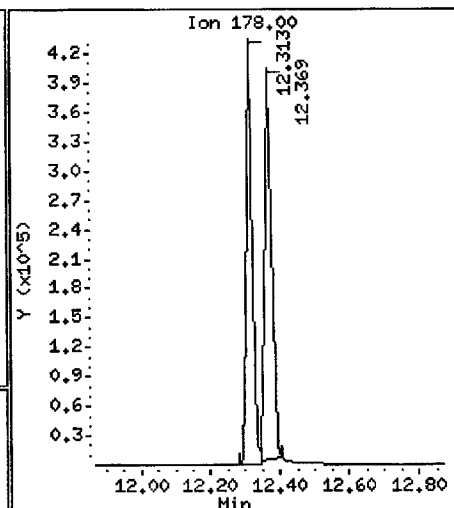
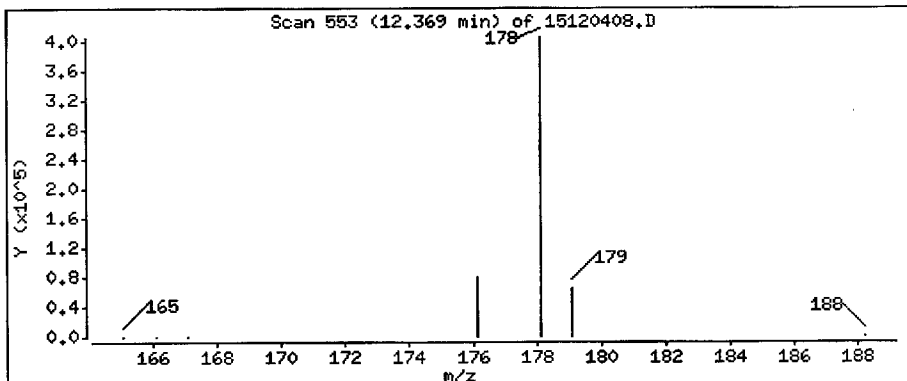
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

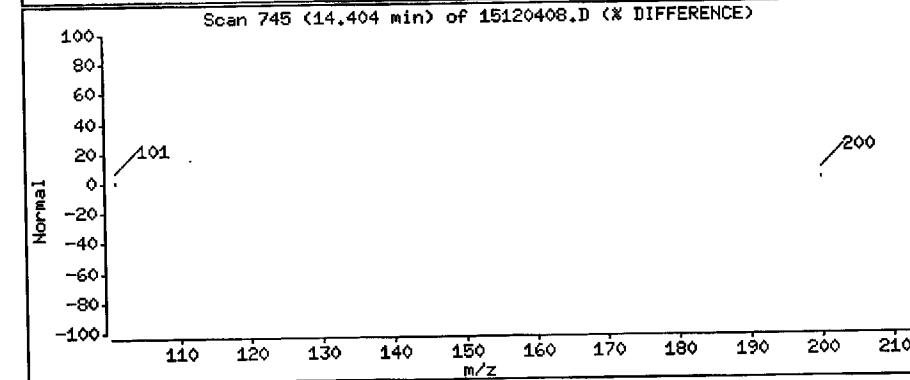
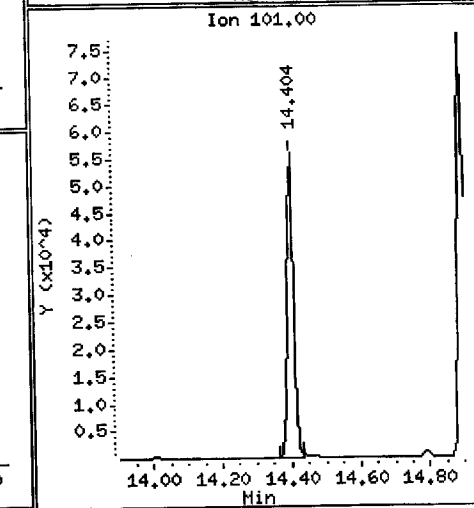
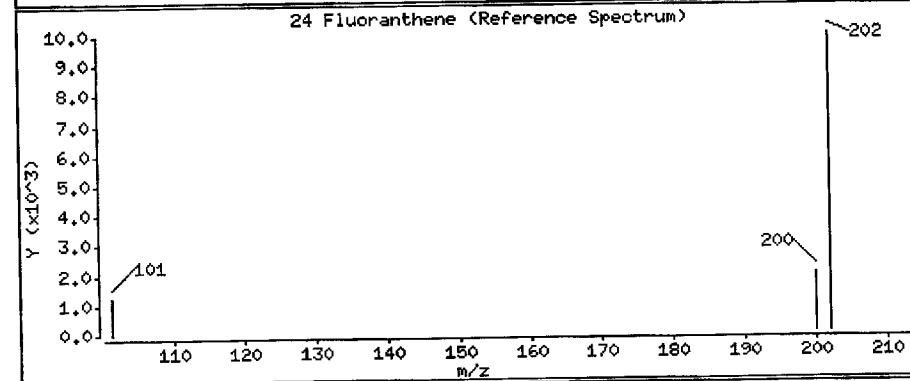
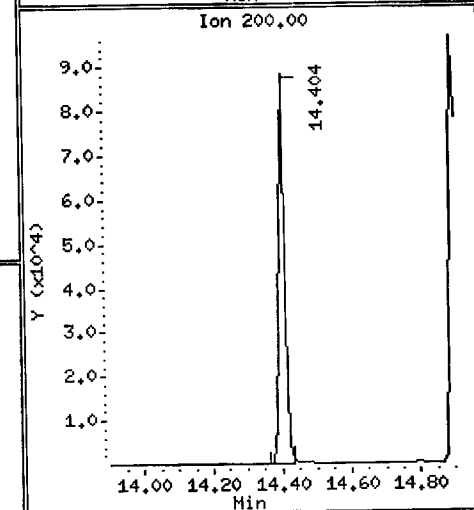
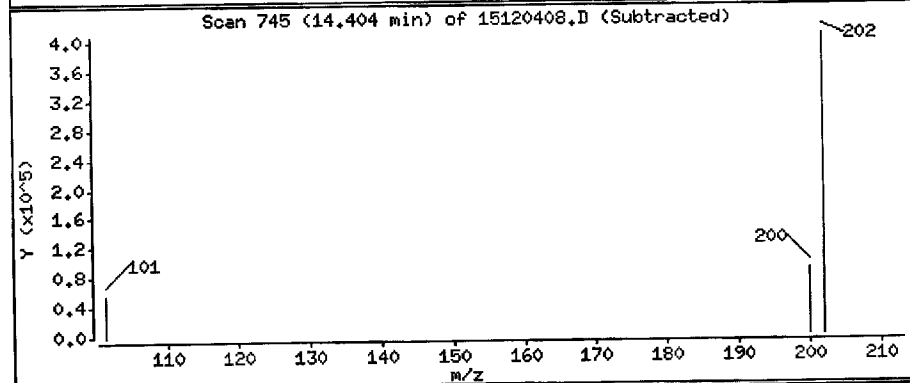
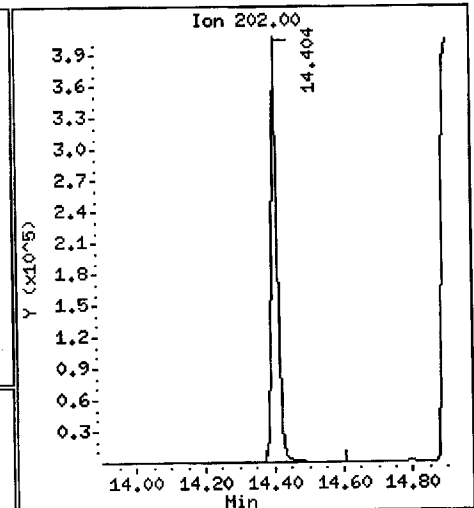
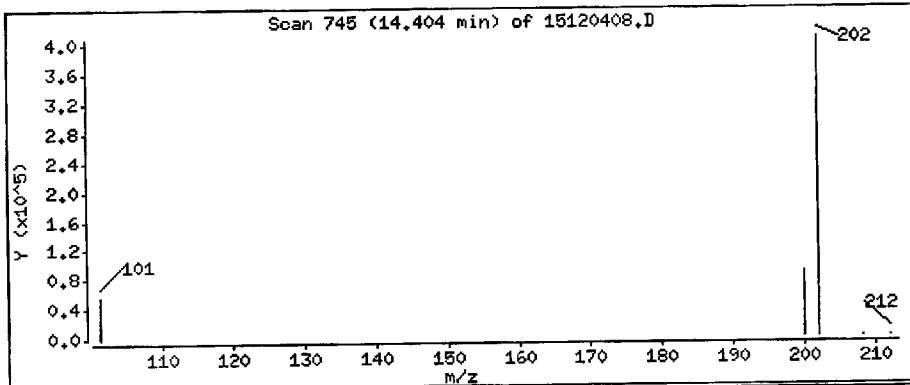
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 238 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.1

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

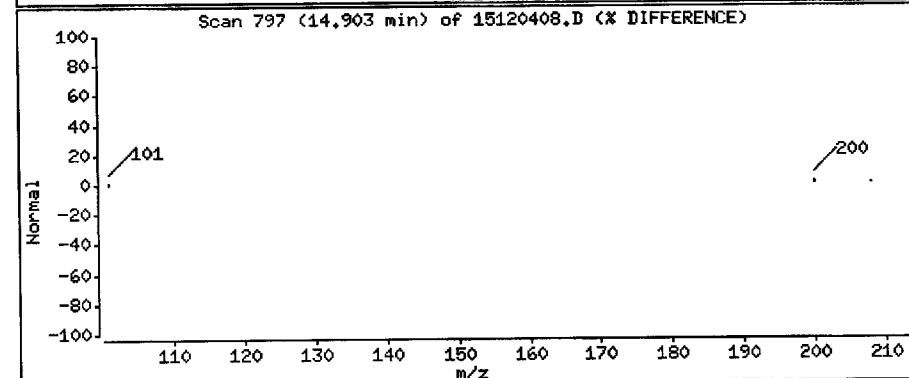
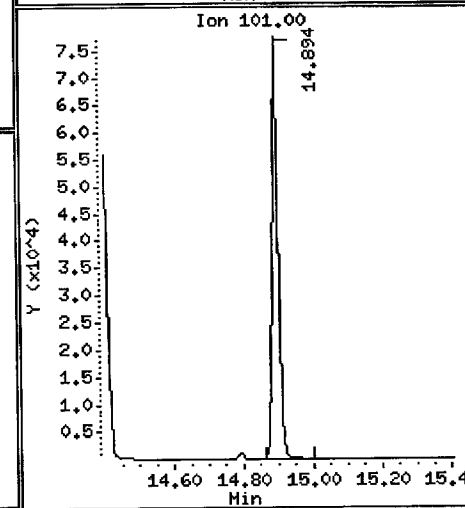
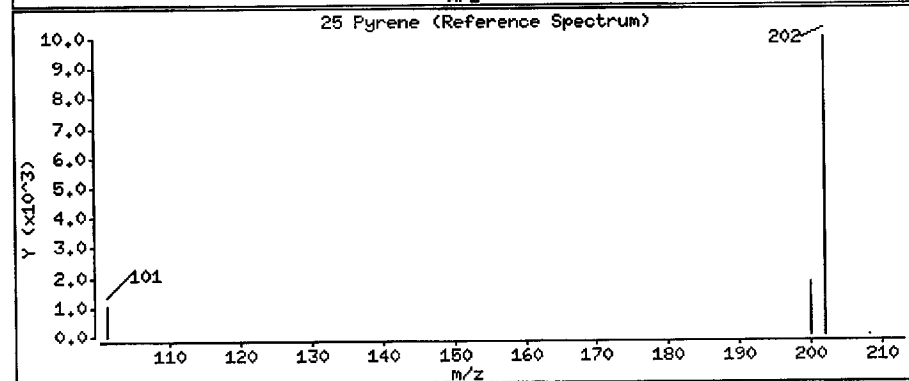
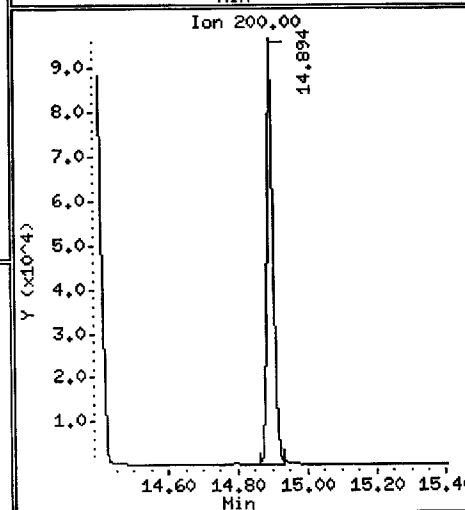
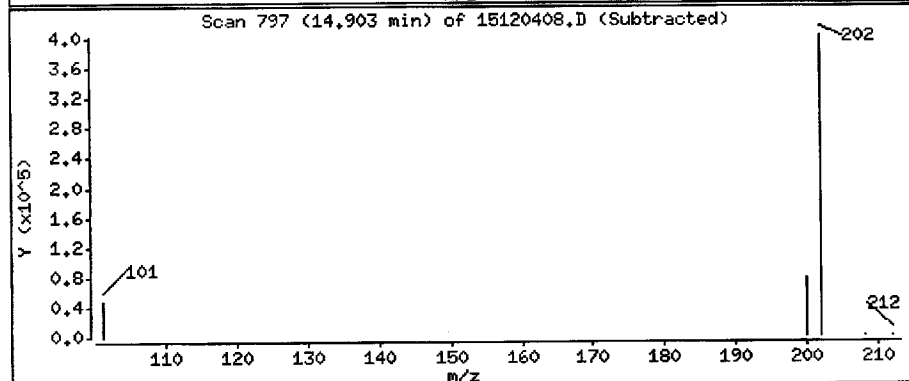
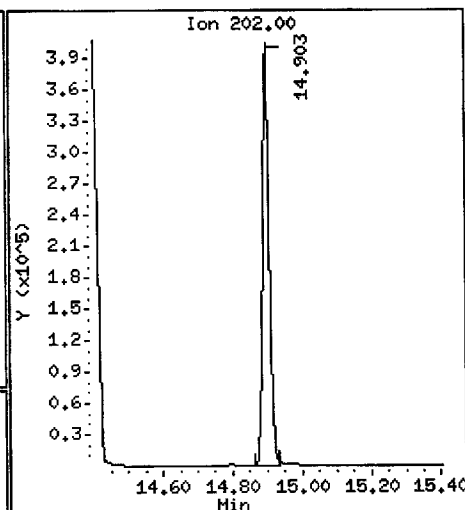
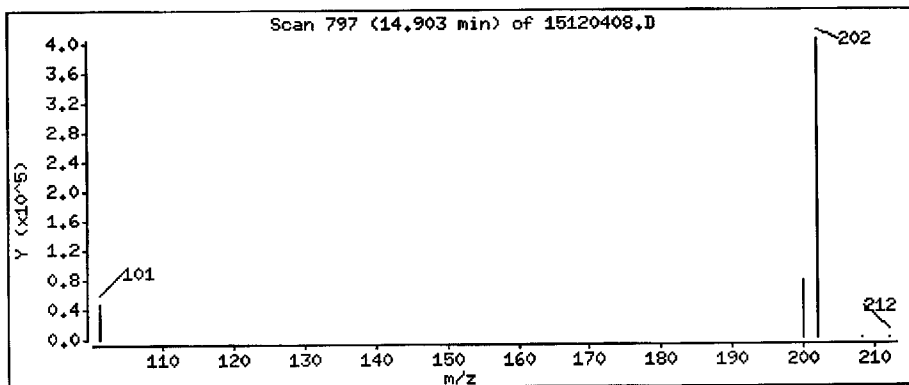
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

25 Pyrene

Concentration: 254 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

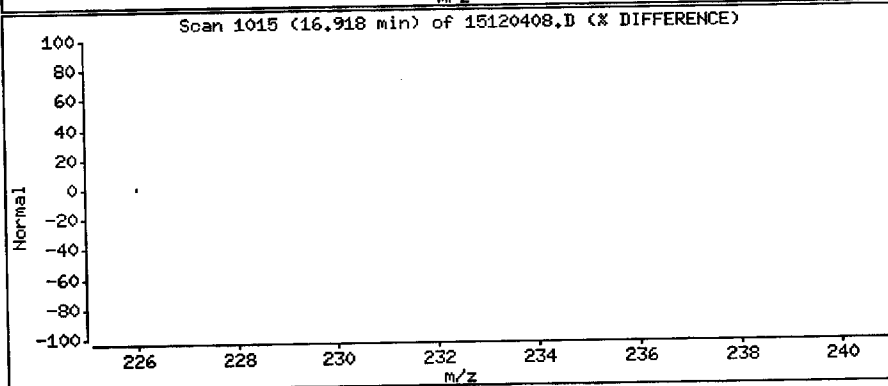
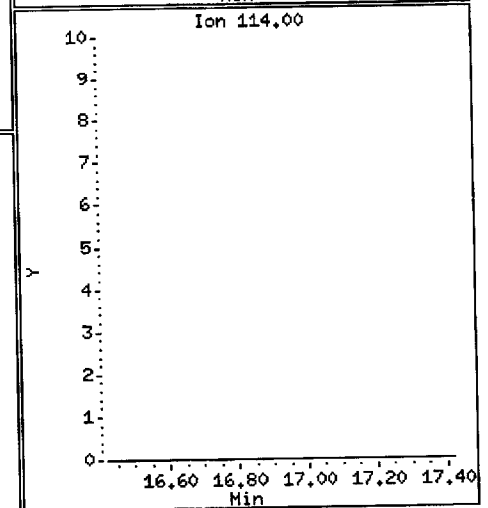
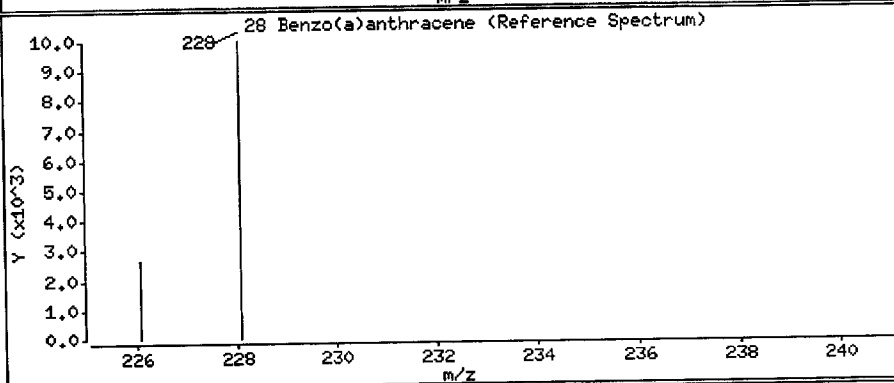
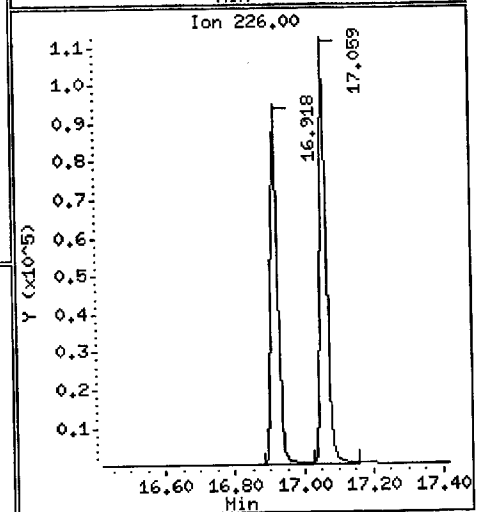
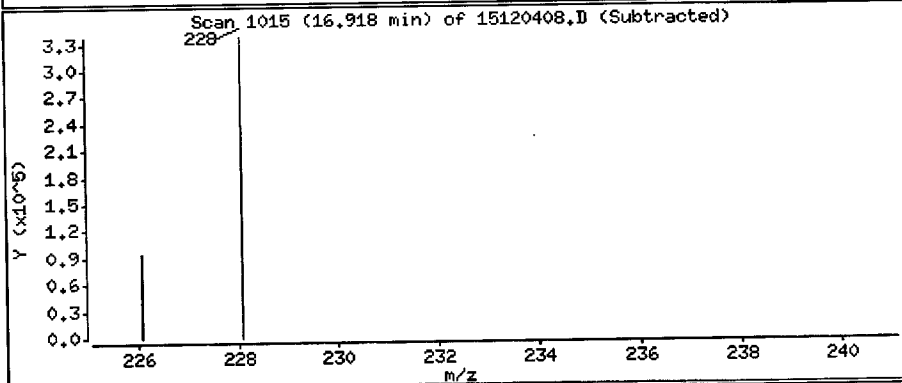
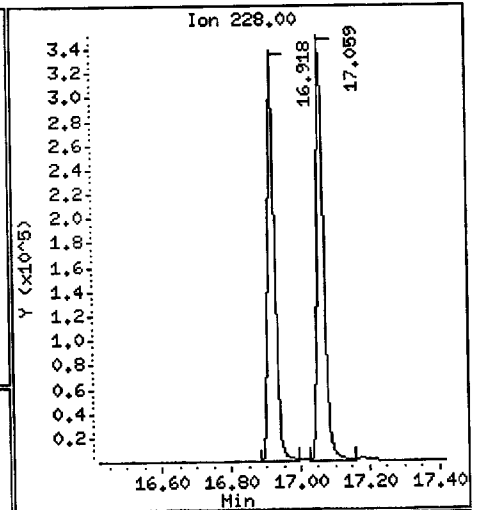
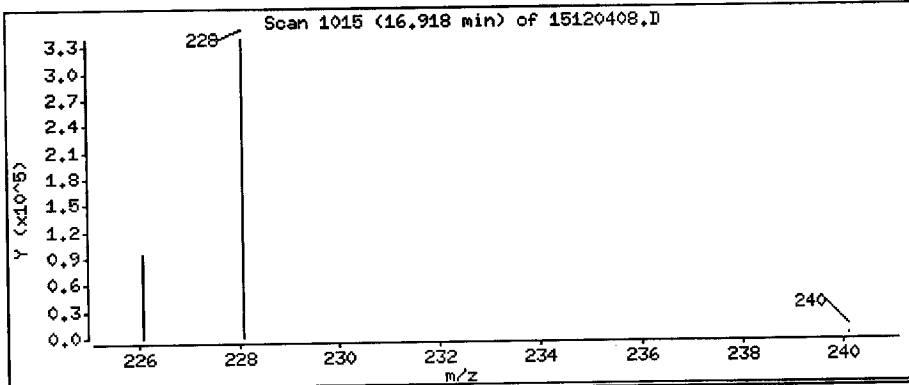
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

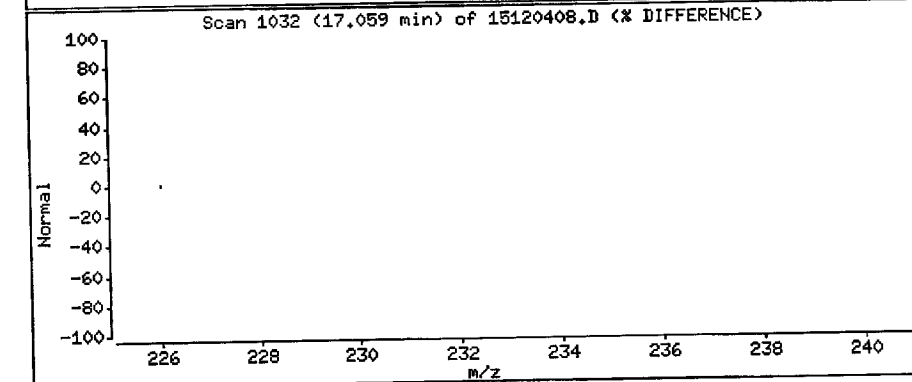
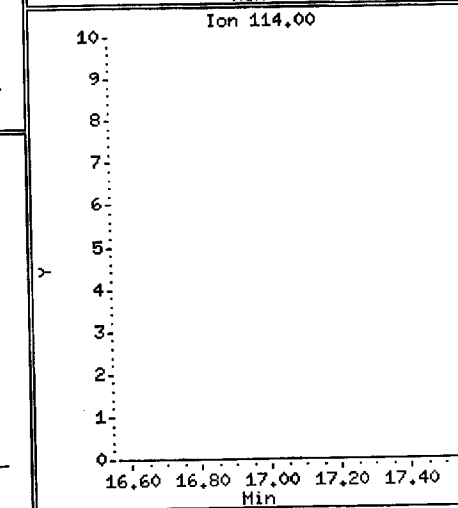
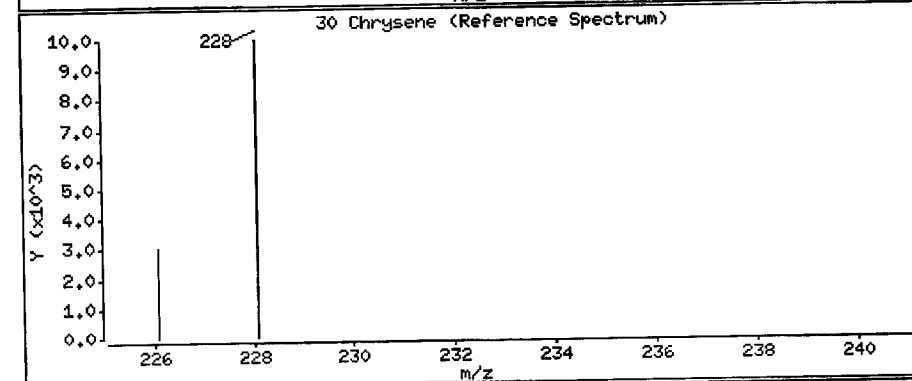
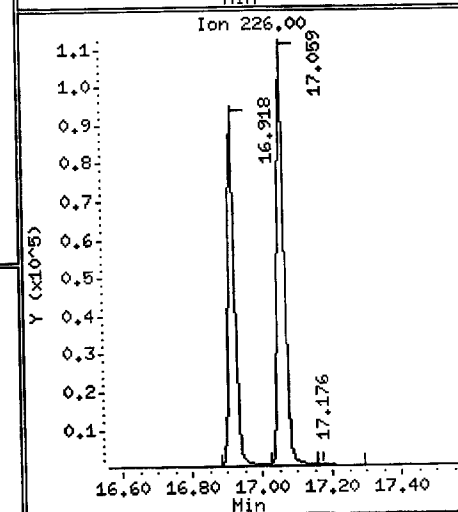
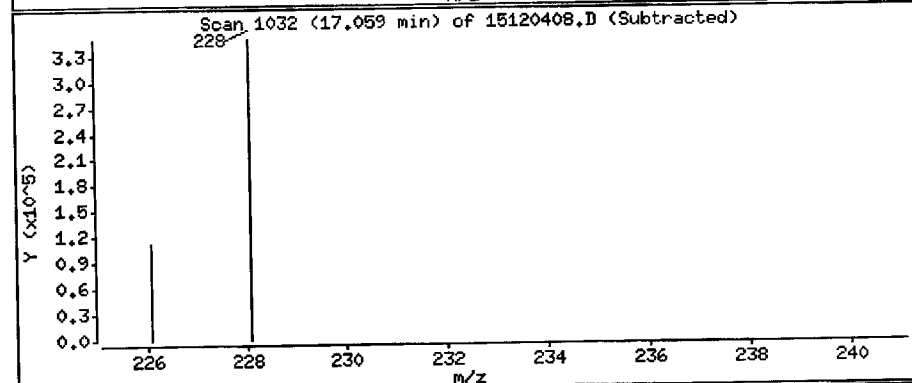
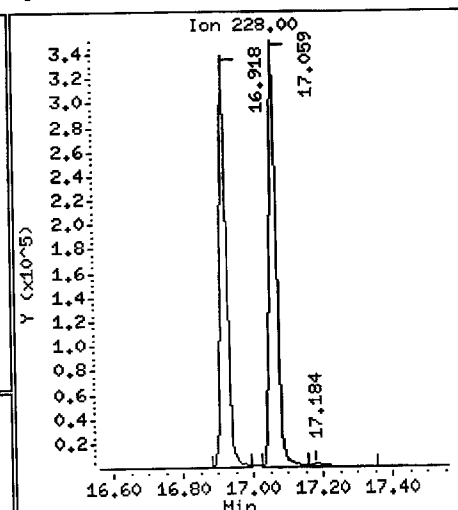
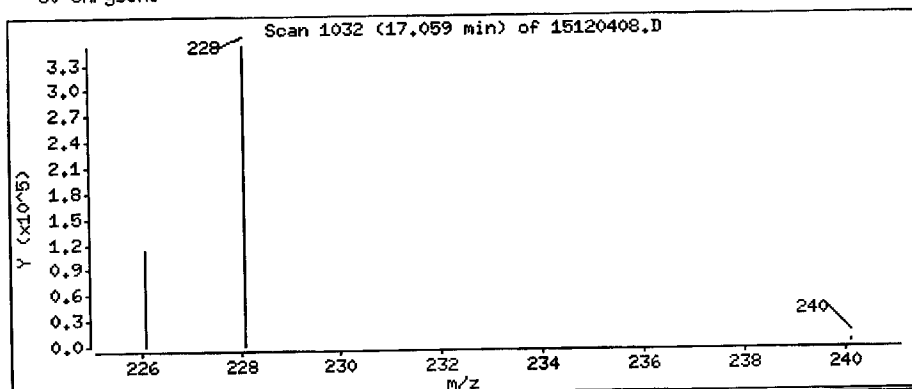
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

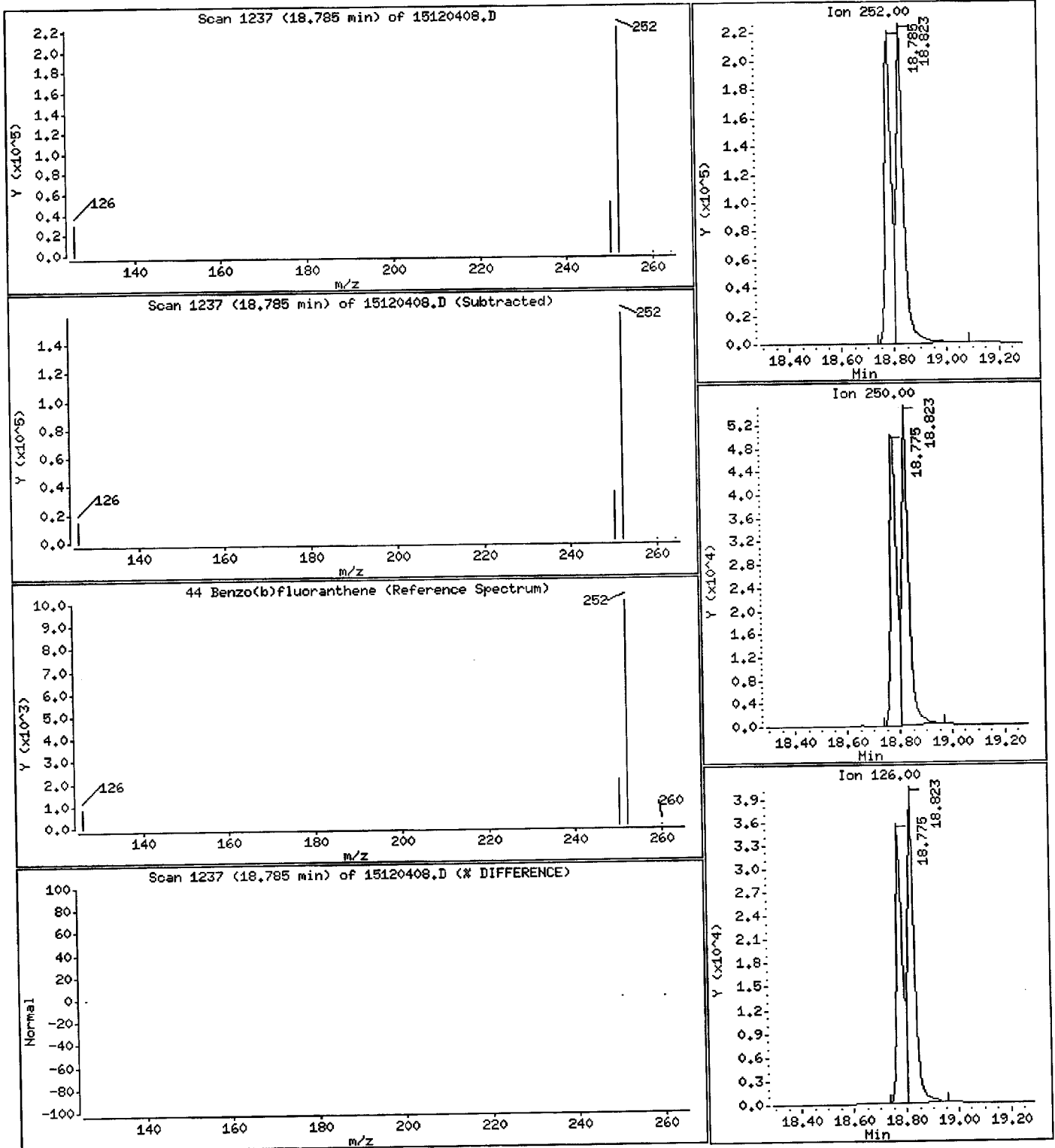
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 241 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

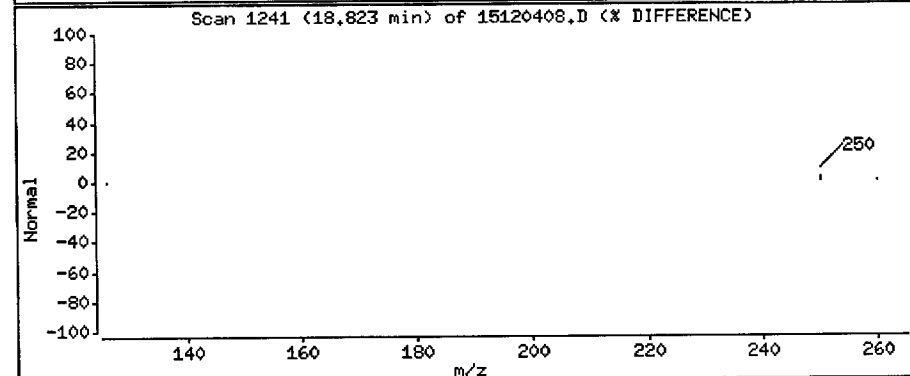
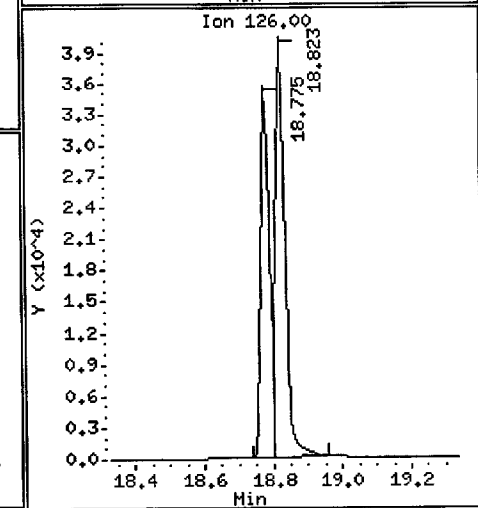
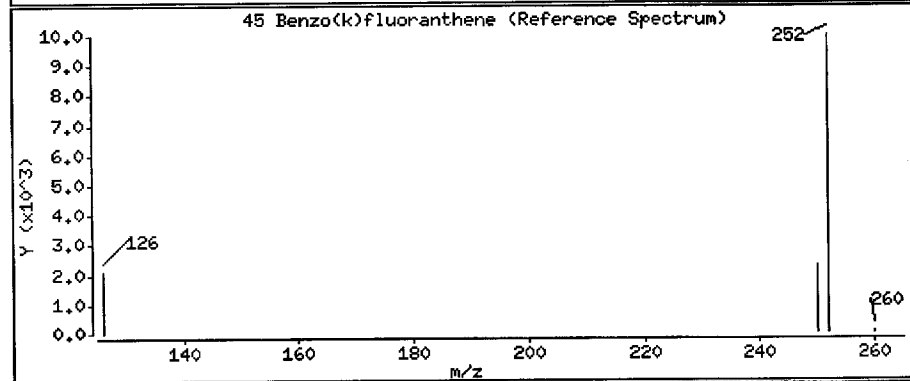
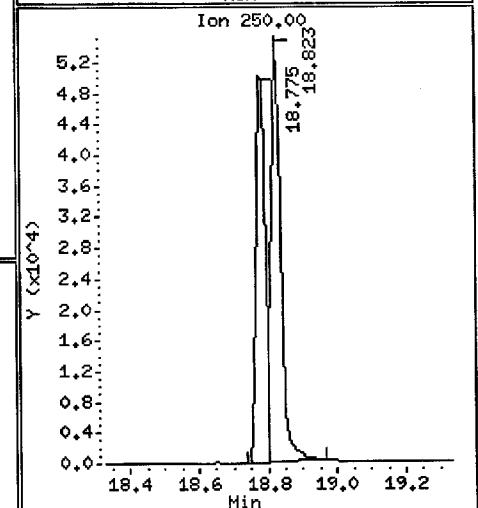
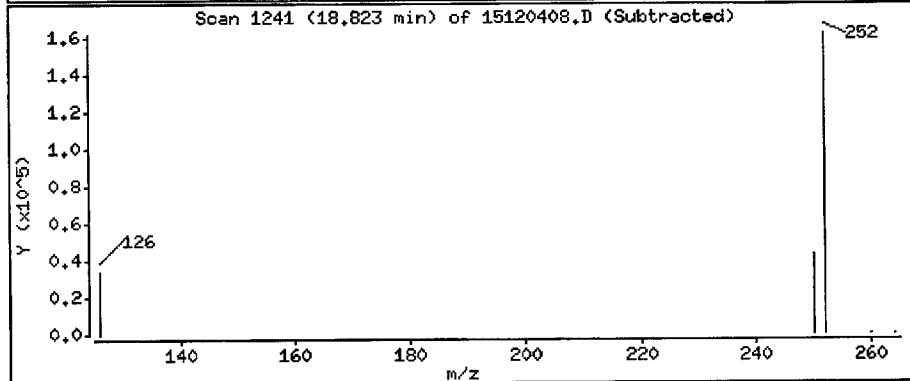
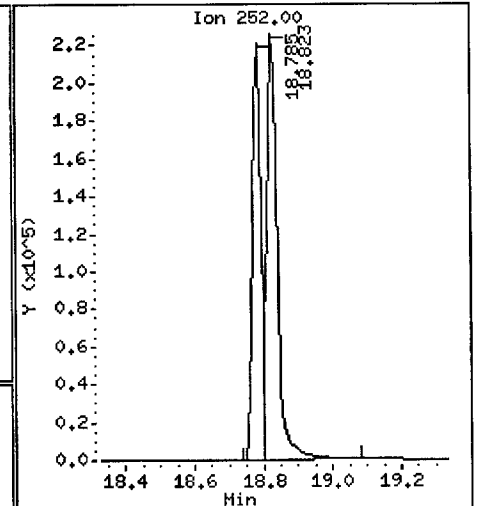
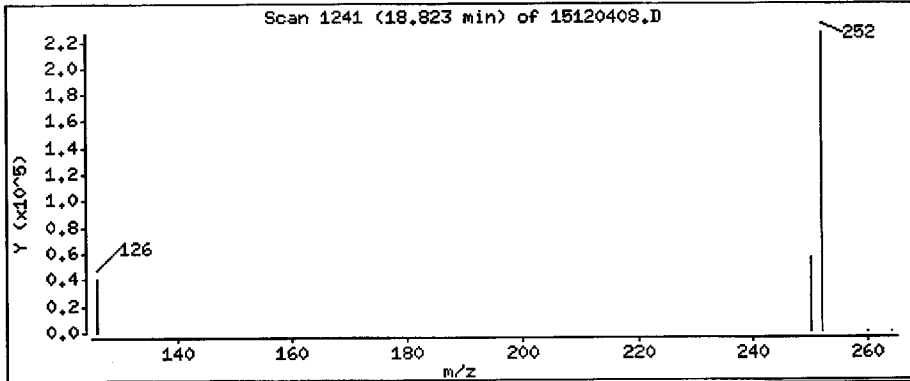
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 248 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

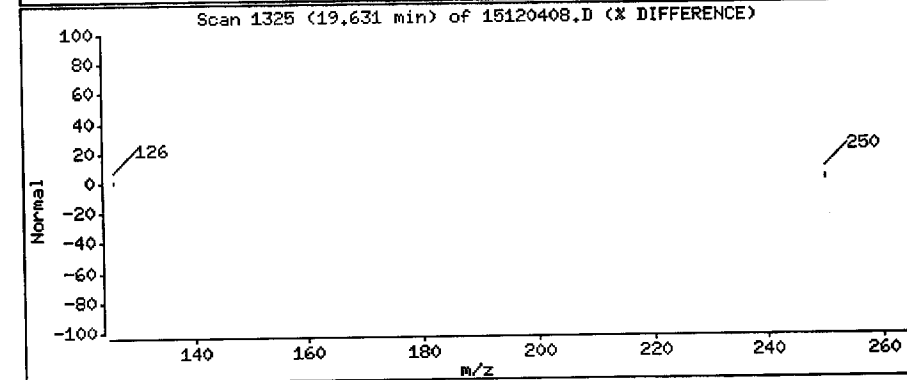
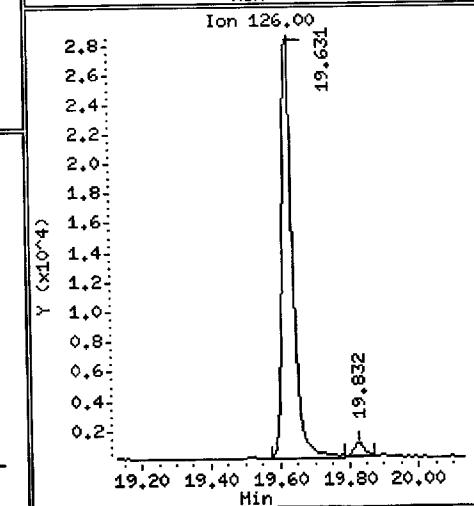
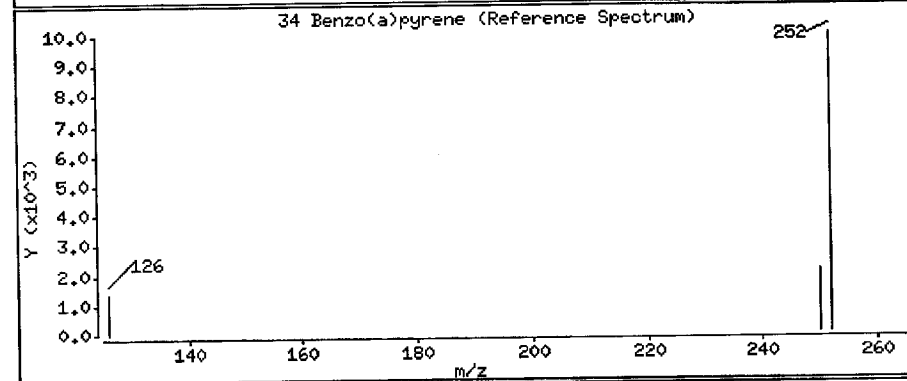
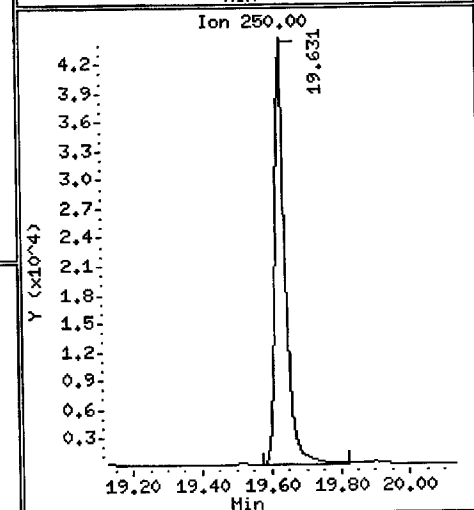
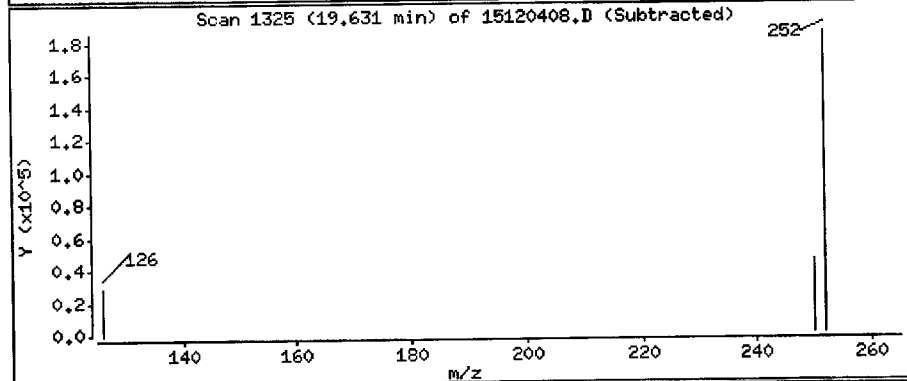
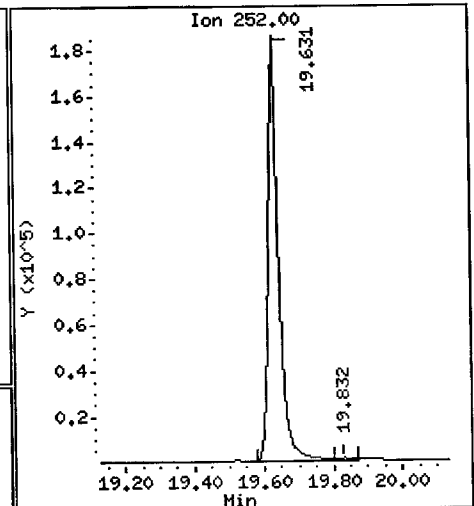
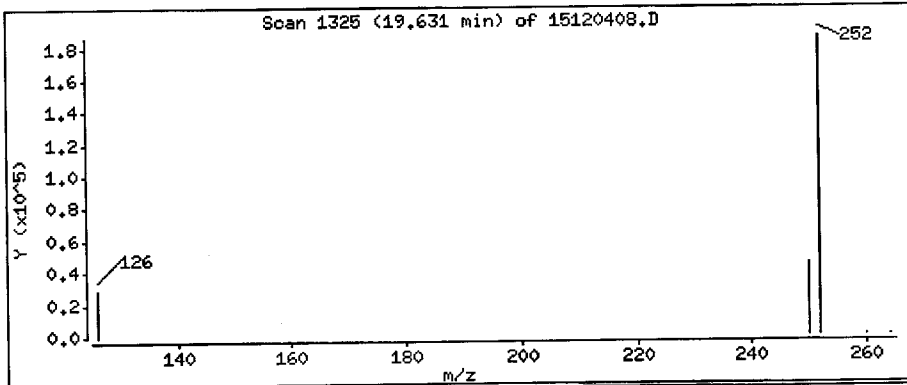
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

34 Benzo(a)pyrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

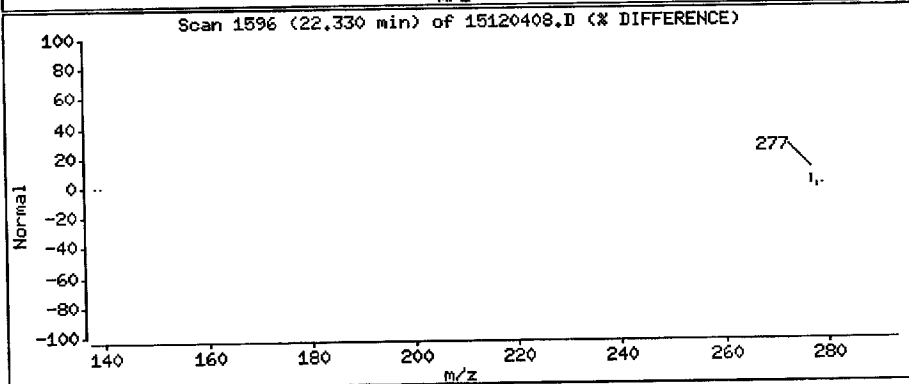
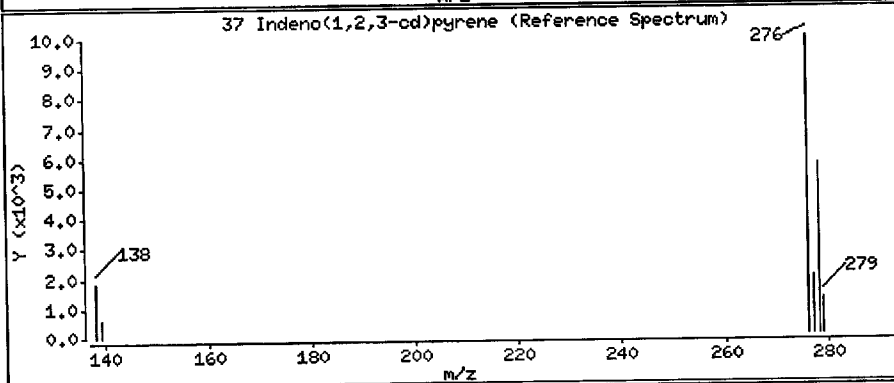
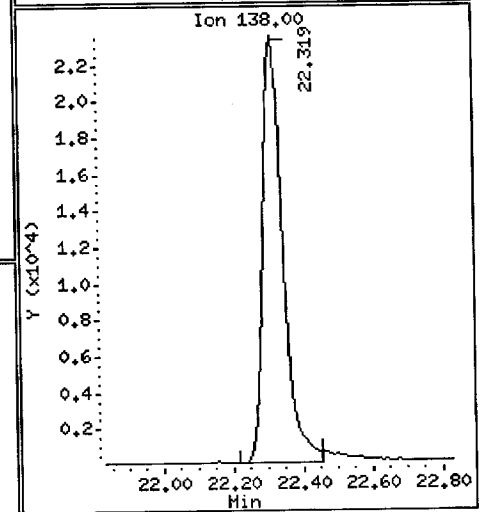
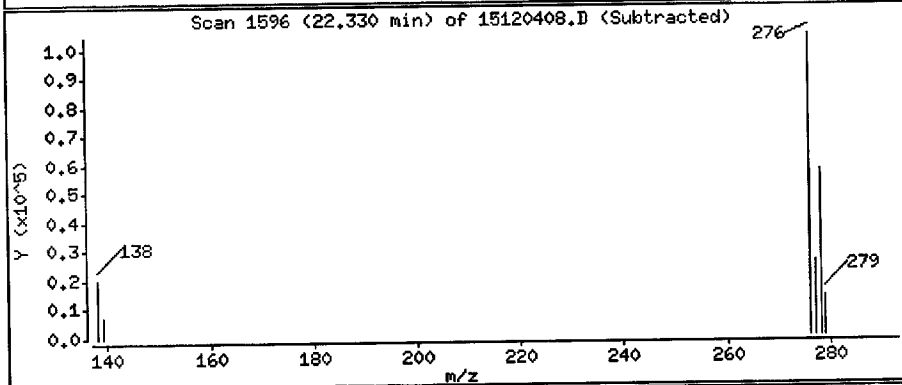
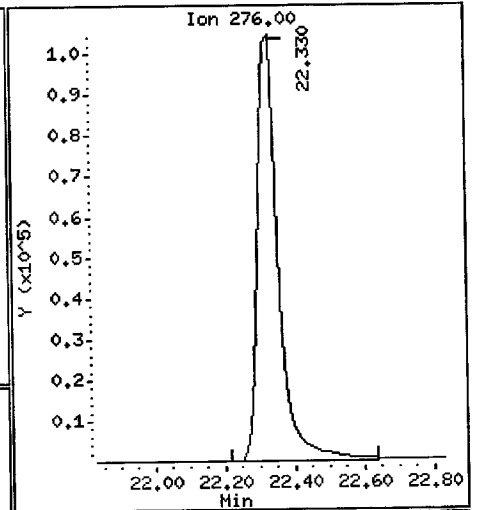
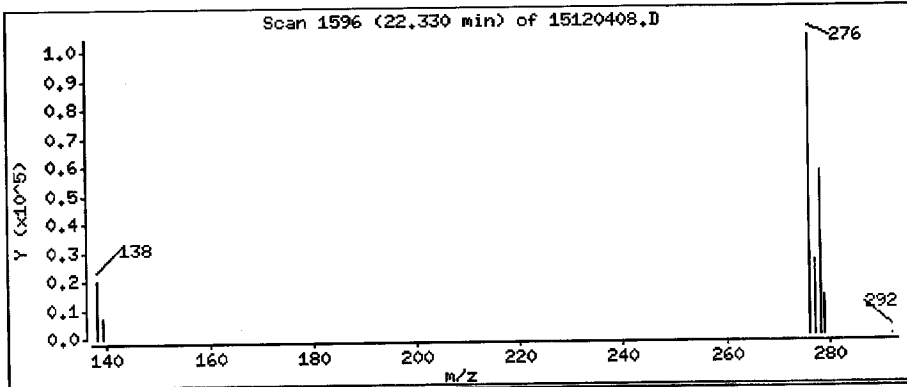
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

37 Indeno(1,2,3-cd)pyrene

Concentration: 248 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

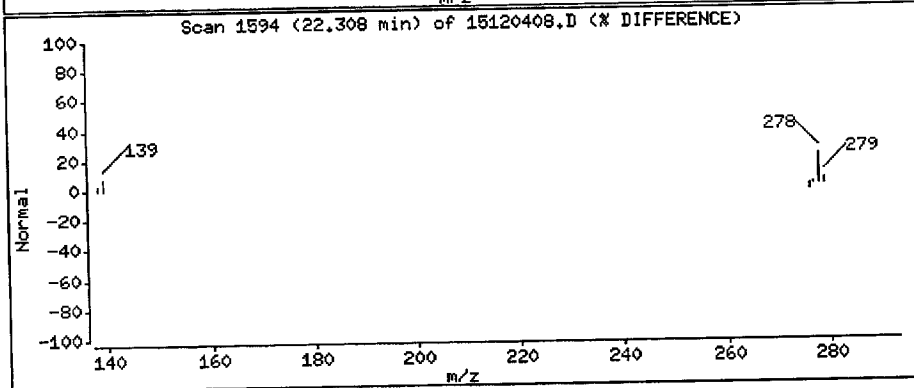
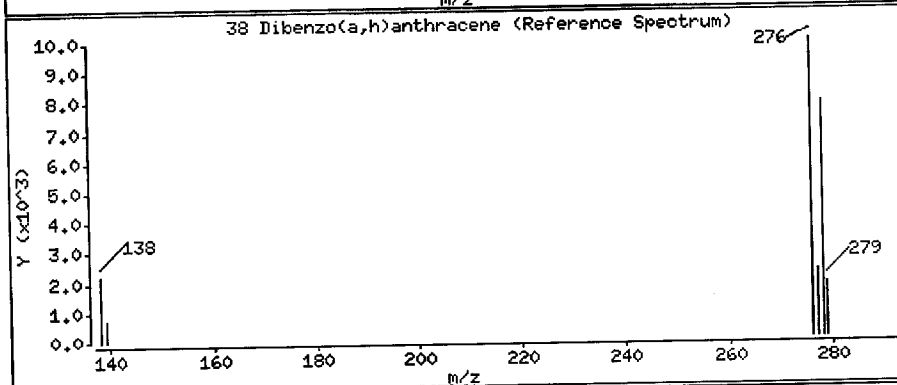
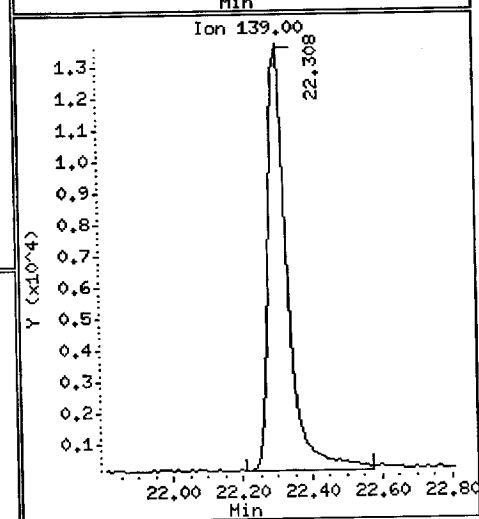
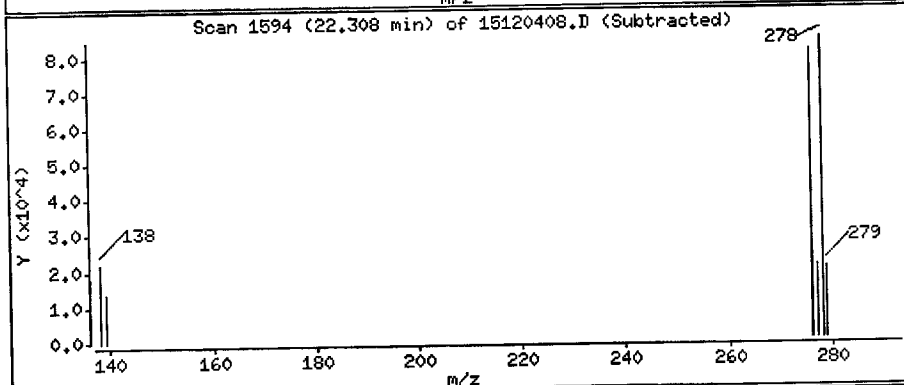
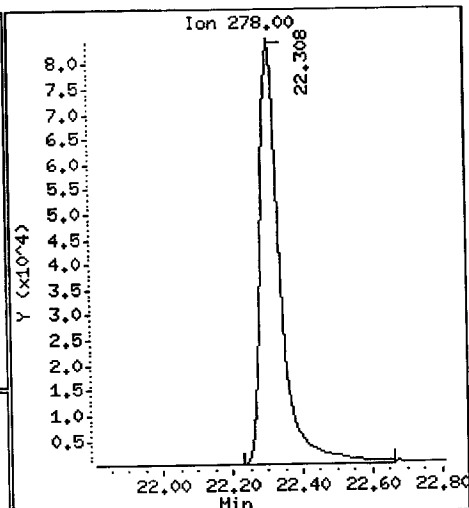
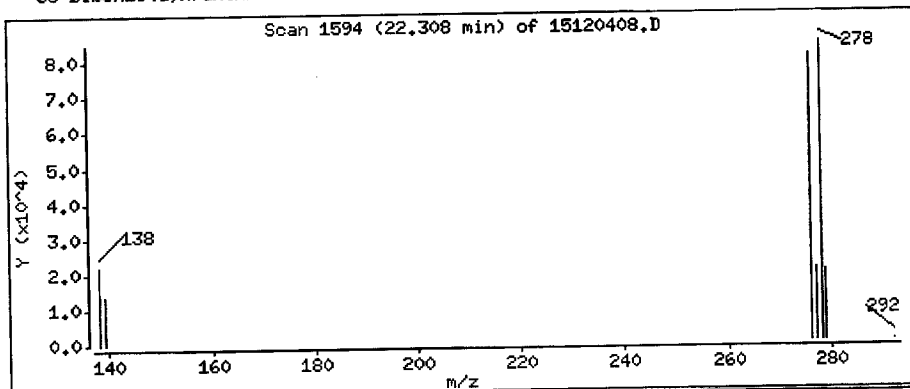
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

38 Dibenzo(a,h)anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

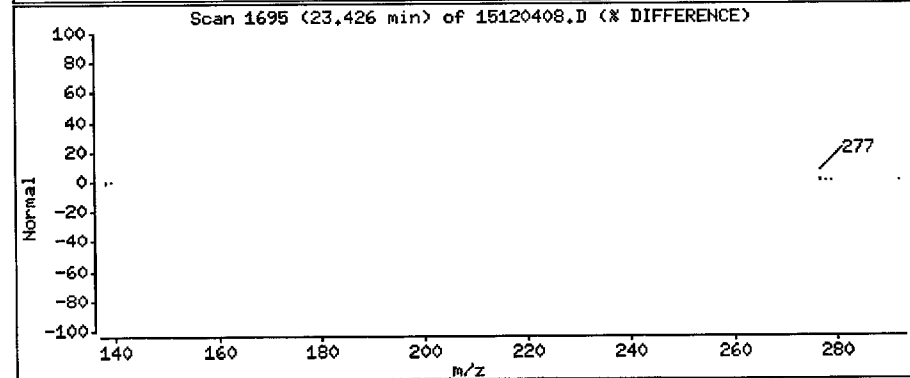
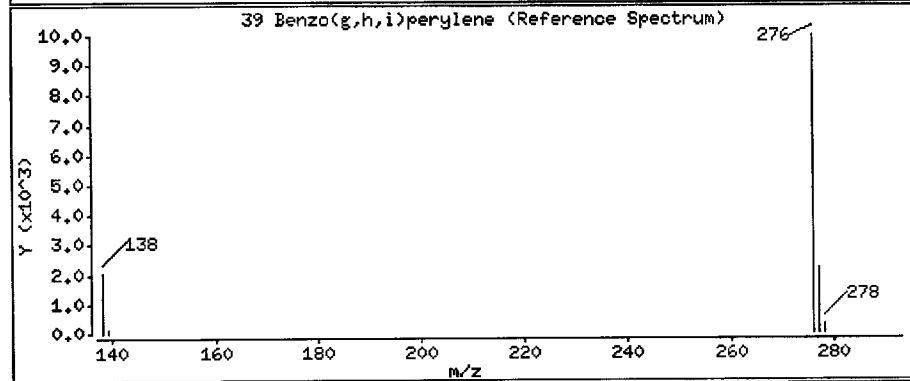
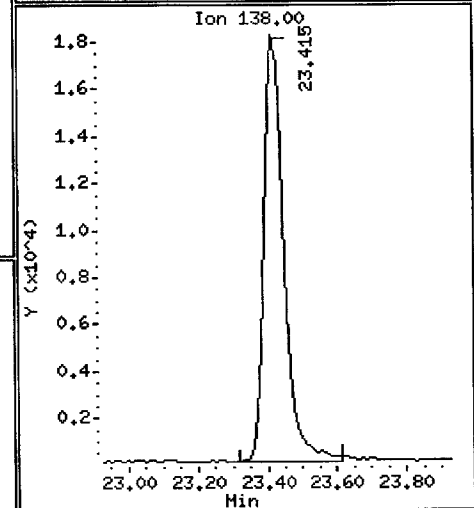
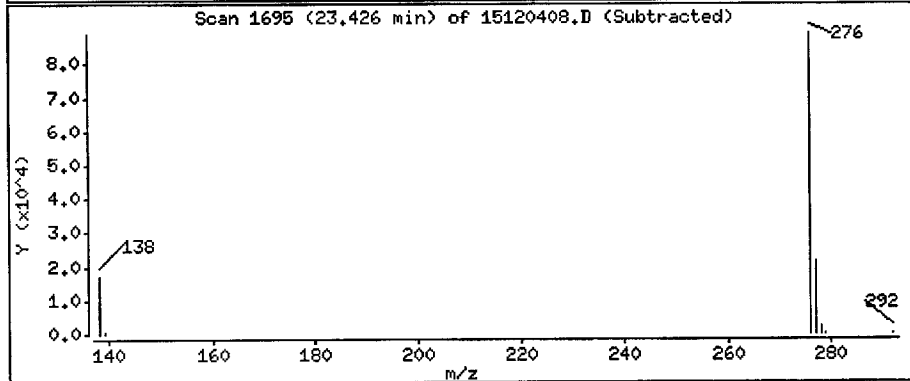
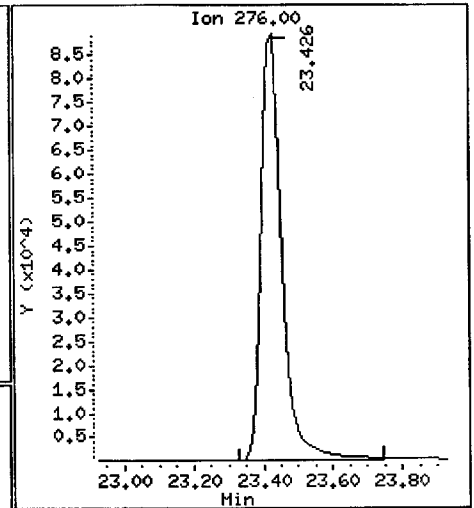
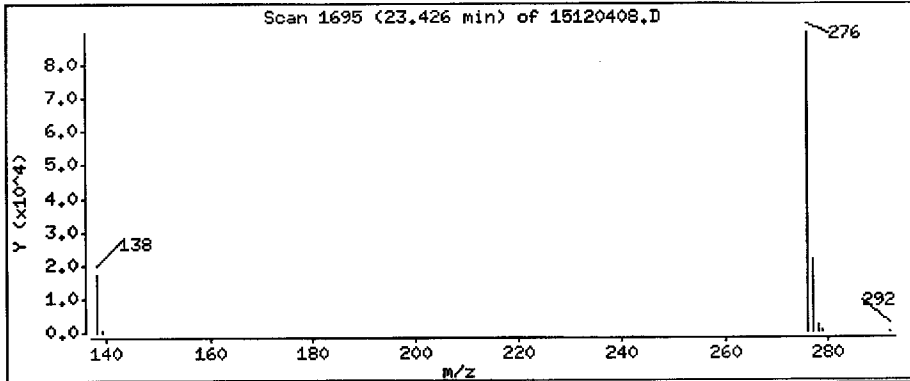
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

39 Benzo(g,h,i)perylene

Concentration: 250 ng/L



REVIEW SUMMARY FOR FILE - 15120408.D

Lab ID: LLSIM SCV 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 12:04

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH (0.5 ug/kg)	Solid	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: ZA00015	YES	JLW	01/25/2016
2	DFTPP Tune met criteria	YES	JLW	01/25/2016
3	DDT breakdown <20%	YES	JLW	01/25/2016
4	Peak Tailing factor <= 2%	YES	JLW	01/25/2016
5	ICal meets 20% RSD, LR COD, and QR COD limits	YES	JLW	01/25/2016
6	NO ICAL Q Flag applied	YES	JLW	01/25/2016
7	Manual integrations include before/after pictures	NA	JLW	01/25/2016
8	Spectral Library matches updated	NA	JLW	01/25/2016
9	Internal Standard areas within 50-200% from reference	YES	JLW	01/25/2016
10	Minimum response factors met	YES	JLW	01/25/2016
11	All SCV within +/- 20% (DOD)	YES	JLW	01/25/2016
12	All SCV within +/- 30%	YES	JLW	01/25/2016
13	NO Linear or Quadratic fits used	YES	JLW	01/25/2016
14	NO Calibration points dropped	YES	JLW	01/25/2016
15	Additional notes	NA	JLW	01/25/2016
16	Reviewer approval (Reviewer)	YES	BB	01/25/2016

* = Indicates Automated Response from Element DataSystem

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-JAN-2016 09:14
 End Cal Date : 25-JAN-2016 12:00
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Last Edit : 25-Jan-2016 12:22 jonathonw
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt11.i\20160125.b\16012506.D
 Level 2: \\target\share\chem3\nt11.i\20160125.b\16012507.D
 Level 3: \\target\share\chem3\nt11.i\20160125.b\16012508.D
 Level 4: \\target\share\chem3\nt11.i\20160125.b\16012505.D
 Level 5: \\target\share\chem3\nt11.i\20160125.b\16012509.D
 Level 6: \\target\share\chem3\nt11.i\20160125.b\16012510.D

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
5 Naphthalene	1.23125	1.20925	1.19281	0.97552	1.06864	0.96201	1.10658	10.922
7 2-Methylnaphthalene	0.82651	0.85115	0.84278	0.71799	0.80383	0.73153	0.79563	7.212
8 1-Methylnaphthalene	0.76563	0.76861	0.76881	0.64068	0.72138	0.65849	0.72060	8.068
10 Acenaphthylene	1.82400	1.79230	1.71027	1.47247	1.57680	1.43637	1.63537	10.062
12 Acenaphthene	1.11170	1.11141	1.08590	0.91981	1.01993	0.94225	1.03183	8.264
14 Dibenzofuran	1.76444	1.73288	1.70352	1.40113	1.51173	1.36747	1.58020	11.123
15 Fluorene	1.38984	1.35567	1.31049	1.10342	1.21297	1.11159	1.24733	9.907
17 Pentachlorophenol	++++	++++	++++	++++	++++	++++	++++	++++
19 Phenanthrene	1.28714	1.24014	1.24049	0.97076	1.08094	0.97391	1.13223	12.561
20 Anthracene	1.17726	1.18749	1.14964	0.96820	1.08296	0.96684	1.08873	9.251
22 Carbazole	++++	++++	++++	++++	++++	++++	++++	++++
24 Fluoranthene	1.26250	1.23777	1.25745	1.03072	1.14897	1.02812	1.16092	9.457
25 Pyrene	1.75596	1.70807	1.63510	1.33717	1.48523	1.31137	1.53882	12.342
28 Benzo(a)anthracene	1.44714	1.40816	1.38469	1.14241	1.30313	1.17561	1.31019	9.668
30 Chrysene	1.49434	1.45258	1.45360	1.15300	1.32060	1.17070	1.34080	11.232
44 Benzo(b)fluoranthene	1.43552	1.43694	1.40803	1.08771	1.31473	1.21659	1.31659	10.708
45 Benzo(k)fluoranthene	1.47456	1.38493	1.48058	1.19066	1.42099	1.29867	1.37507	8.168
46 Benzo(j)fluoranthene	1.35528	1.34123	1.34854	1.04890	1.25673	1.16150	1.25203	9.938
34 Benzo(a)pyrene	1.26626	1.24843	1.27972	1.02993	1.24737	1.17258	1.20738	7.830
37 Indeno(1,2,3-cd)pyrene	1.17517	1.22550	1.26750	1.07059	1.35258	1.32373	1.23585	8.366
38 Dibenzo(a,h)anthracene	0.87048	0.95973	1.01063	0.85214	1.08636	1.07821	0.97626	10.301
39 Benzo(g,h,i)perylene	1.11731	1.11248	1.13248	0.93347	1.15405	1.11510	1.09415	7.333
47 Perylene	1.29950	1.31091	1.31240	1.05008	1.26399	1.17666	1.23559	8.438
48 Benzo(e)pyrene	1.37153	1.32075	1.33256	1.04774	1.25868	1.16199	1.24888	9.827
\$ 6 2-Methylnaphthalene-d10	0.80348	0.80607	0.78360	0.66232	0.74338	0.68630	0.74752	8.222
\$ 16 2,4,6-Tribromophenol	++++	++++	++++	++++	++++	++++	++++	++++
\$ 23 Fluoranthene-d10	1.19648	1.16354	1.15494	0.94147	1.06650	0.97310	1.08267	9.855

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-JAN-2016 09:14
 End Cal Date : 25-JAN-2016 12:00
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Last Edit : 25-Jan-2016 12:22 jonathonw
 Curve Type : Average

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
\$ 36 Dibenzo(a,h)anthracene-d14	0.66127	0.75054	0.76490	0.65699	0.82414	0.81914	0.74617	9.836



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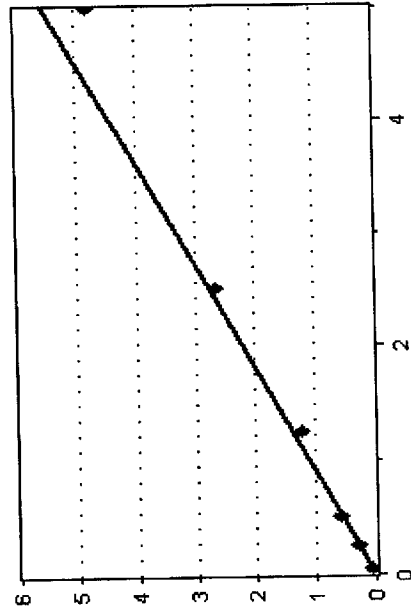
Calibration Report

Instrument: NT11
Calibration ID: ZA00015

25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

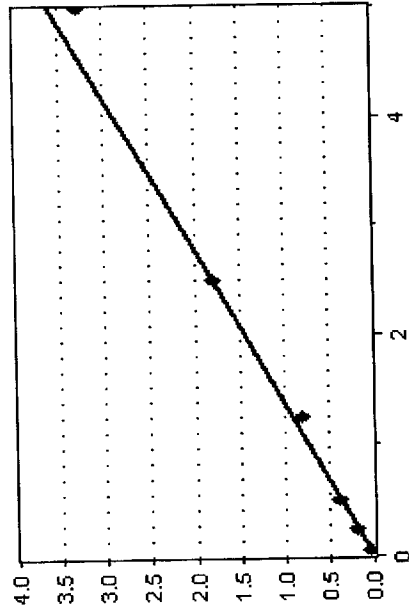
8270D-SIM PAH (0.5 ug/k)

Naphthalene
8270D-SIM PAH (0.5 ug/kg) - Naphthalene



1-Methylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 1-Methylnaphthalene





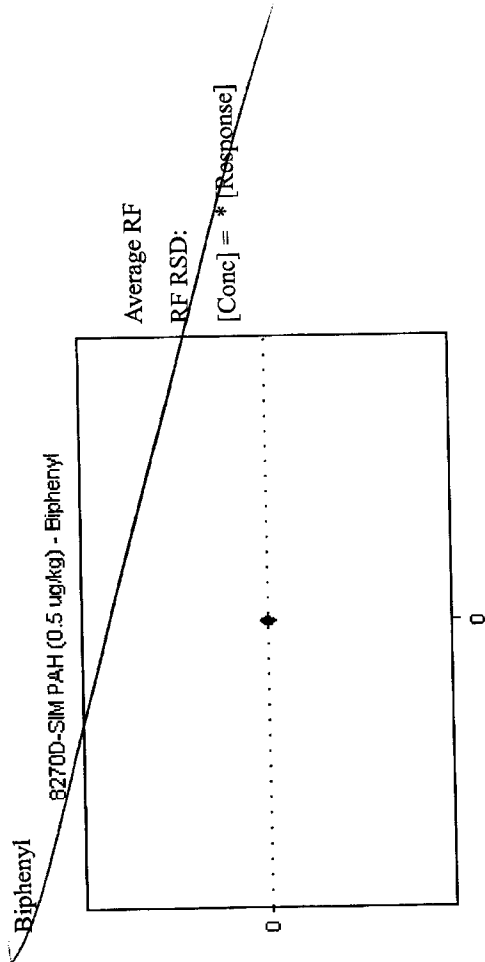
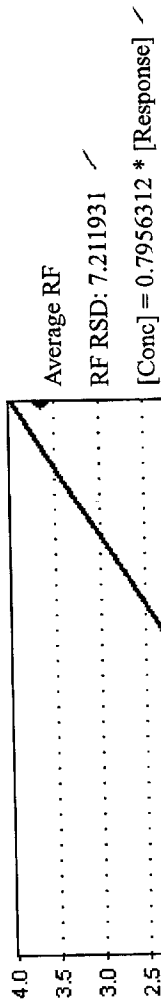
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/kg)

2-Methylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene





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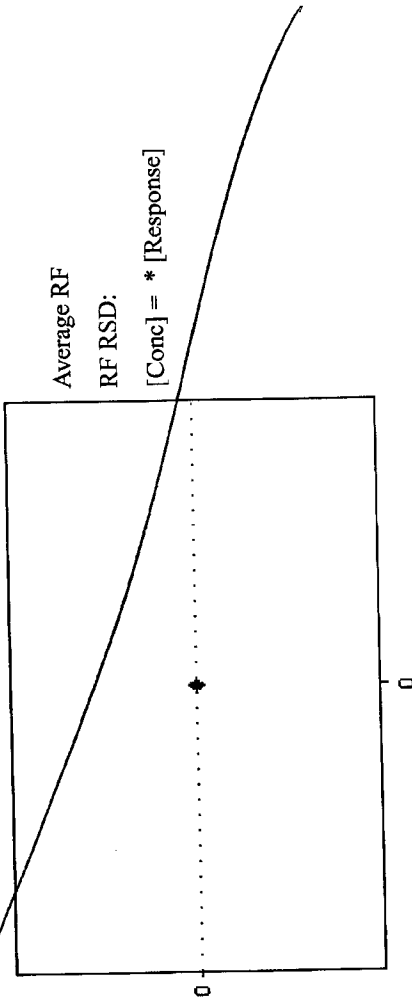
Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k;

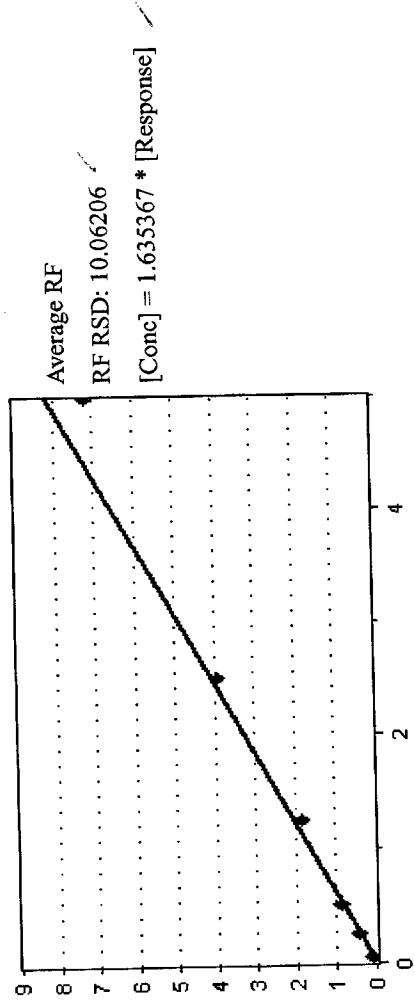
2,6-Dimethylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 2,6-Dimethylnaphthalene



Acenaphthylene

8270D-SIM PAH (0.5 ug/kg) - Acenaphthylene





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Calibration Report

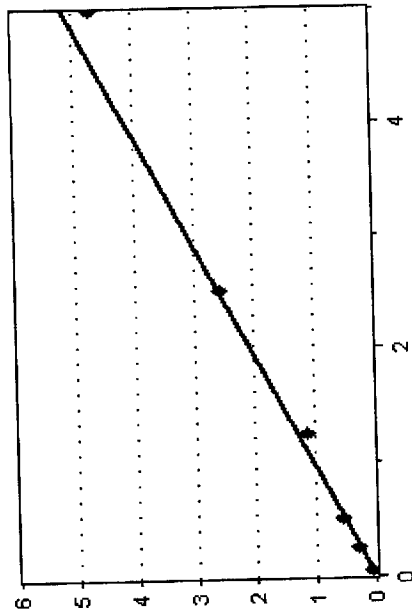
Instrument: NT11
Calibration ID: ZA00015
8270D-SIM PAH (0.5 ug/k;
Acenaphthene

25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

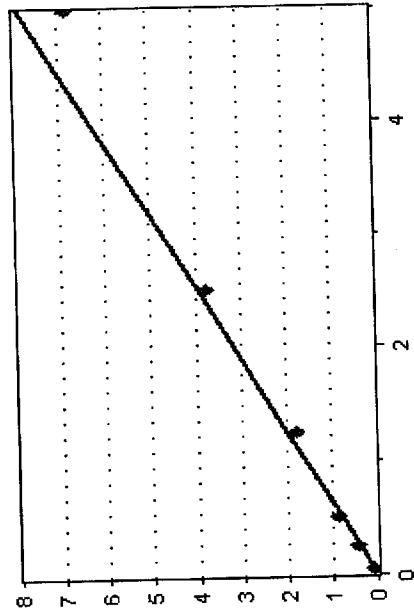
Calibration Date:
Last Edit Date:

8270D-SIM PAH (0.5 ug/kg) - Acenaphthene

Acenaphthene
8270D-SIM PAH (0.5 ug/kg) - Acenaphthene



Dibenzofuran
8270D-SIM PAH (0.5 ug/kg) - Dibenzofuran





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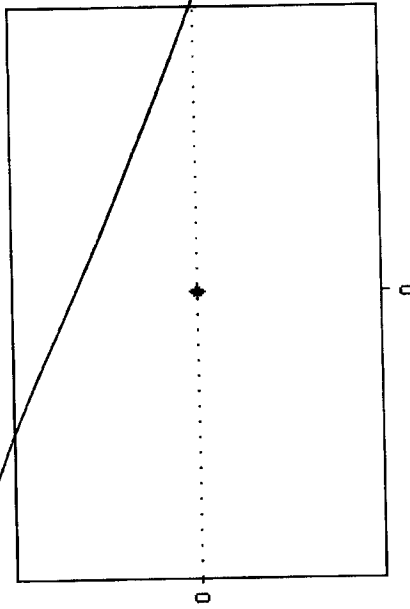
Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k;
2,3,5-Trimethylnaphthalene
8276D-SIM PAH (0.5 ug/kg) - 2,3,5-Trimethylnaphthalene

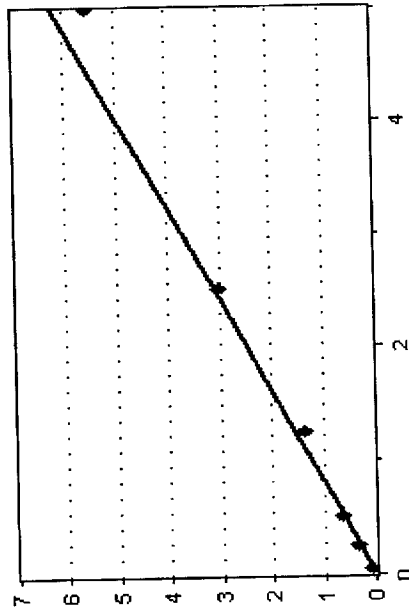
Average RF
RF RSD:
[Conc] = * [Response]

8270D-SIM PAH (0.5 ug/k;
2,3,5-Trimethylnaphthalene
8276D-SIM PAH (0.5 ug/kg) - 2,3,5-Trimethylnaphthalene



Fluorene

8270D-SIM PAH (0.5 ug/kg) - Fluorene





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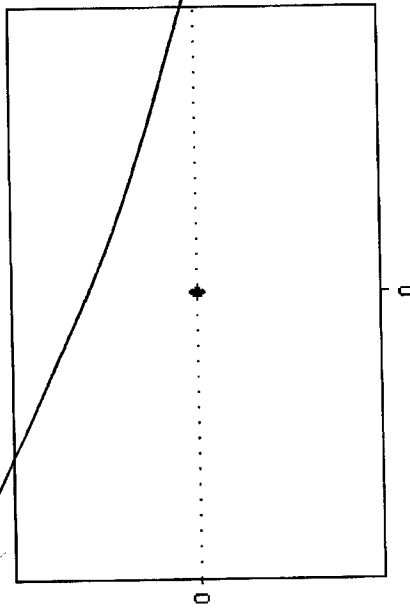
Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k)

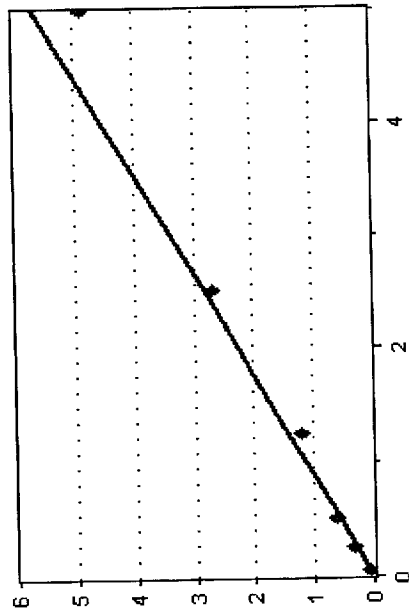
Dibenzothiophene

8270D-SIM PAH (0.5 ug/kg) - Dibenzothiophene



Phenanthrene

8270D-SIM PAH (0.5 ug/kg) - Phenanthrene





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Calibration Report

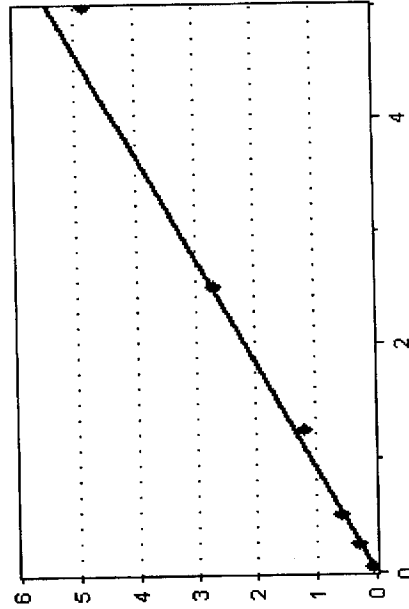
Instrument: NT11
Calibration ID: ZA00015

Calibration Date: 25-Jan-2016 08:57 By JLW
Last Edit Date: 25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/kg)

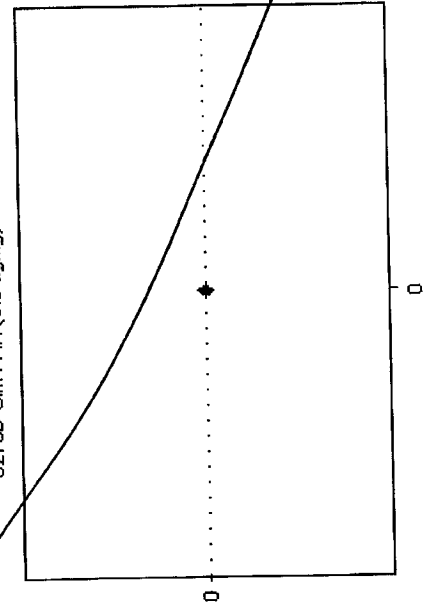
Anthracene

8270D-SIM PAH (0.5 ug/kg) - Anthracene



Carbazole

8270D-SIM PAH (0.5 ug/kg) - Carbazole





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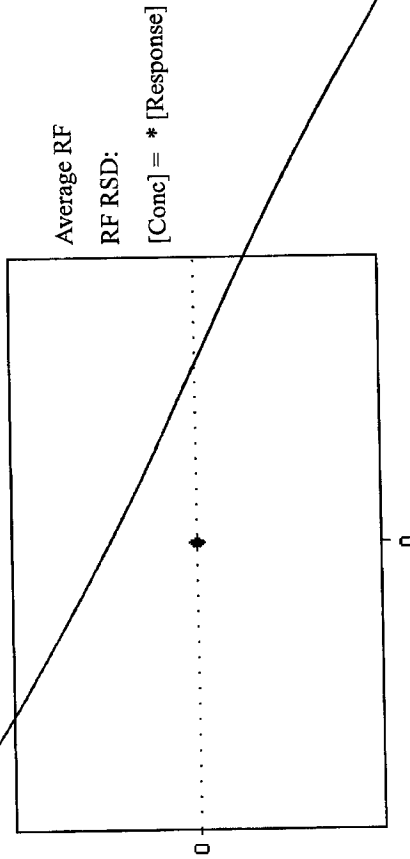
Calibration Report

Instrument: NT11
Calibration ID: ZA00015

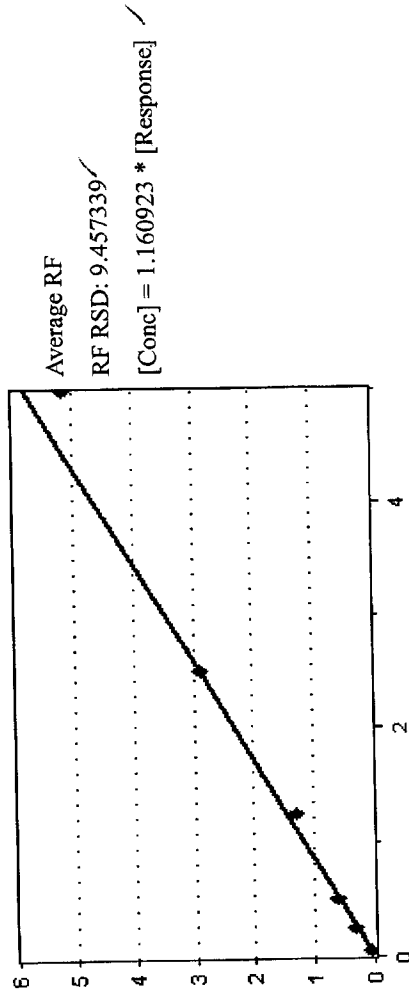
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k)

1-Methylphenanthrene
8270D-SIM PAH (0.5 ug/kg) - 1-Methylphenanthrene



Fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene





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Calibration Report

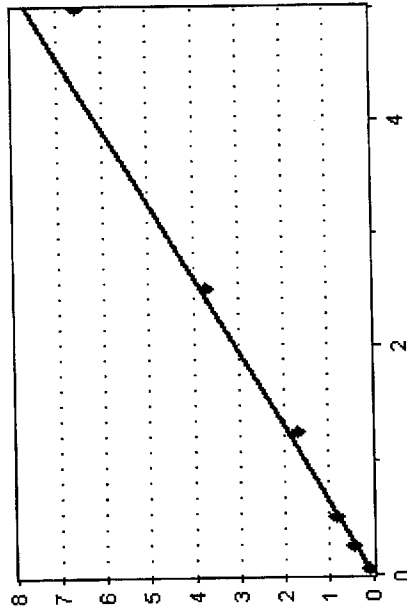
Instrument: NT11
Calibration ID: ZA00015

25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k;

Pyrene

8270D-SIM PAH (0.5 ug/kg) - Pyrene



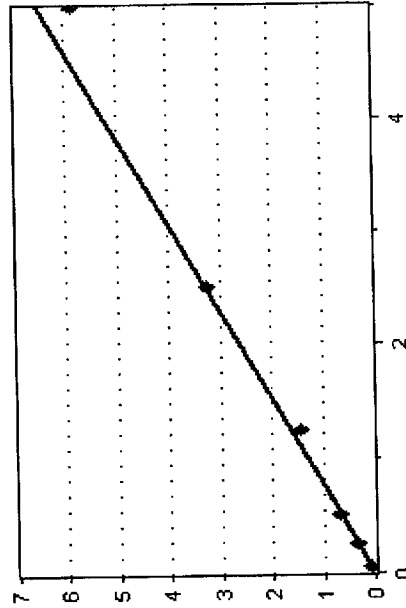
Average RF

RF RSD: 12.34151 ✓

[Conc] = 1.538816 * [Response] ✓

Benzo(a)anthracene

8270D-SIM PAH (0.5 ug/kg) - Benzo(a)anthracene



Average RF

RF RSD: 9.667504 ✓

[Conc] = 1.310189 * [Response] ✓



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Calibration Report

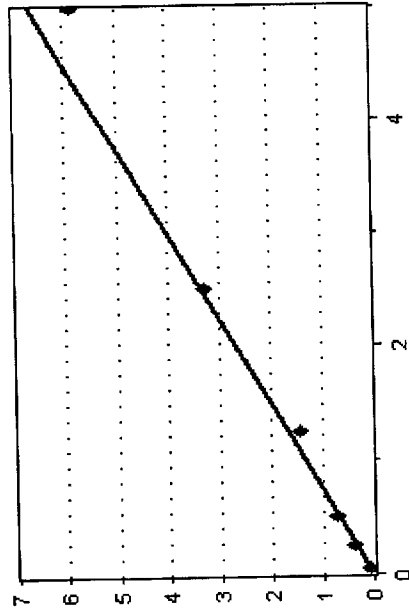
Instrument: NT11
Calibration ID: ZA00015

Calibration Date: 25-Jan-2016 08:57 By JLW
Last Edit Date: 25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k)

Chrysene

8270D-SIM PAH (0.5 ug/kg) - Chrysene



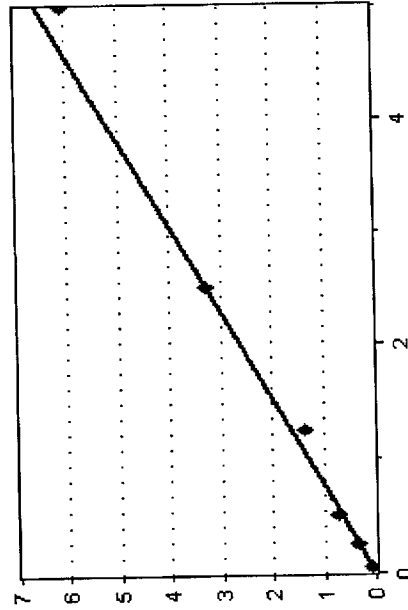
Average RF

RF RSD: 11.2321 ✓

[Conc] = 1.340803 * [Response] ✓

Benzo(b)fluoranthene

8270D-SIM PAH (0.5 ug/kg) - Benzo(b)fluoranthene



Average RF

RF RSD: 10.70822 ✓

[Conc] = 1.316586 * [Response] ✓



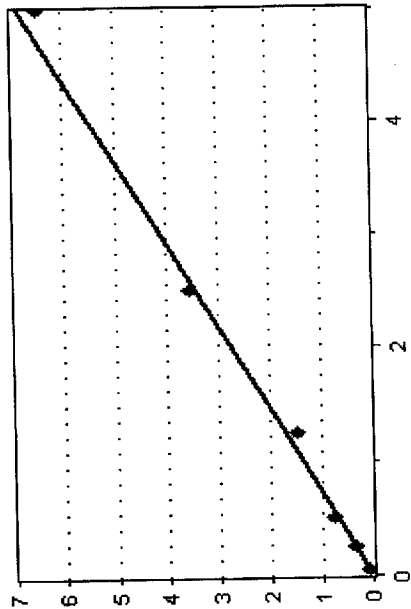
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

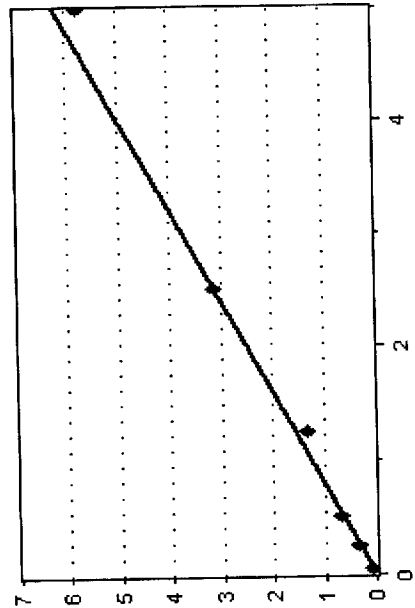
Instrument: NT11
Calibration ID: ZA00015
Calibration Date: 25-Jan-2016 08:57 By JLW
Last Edit Date: 25-Jan-2016 13:53 By JLW

8270D-SIM PAH (0.5 ug/k)

Benzo(k)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(k)fluoranthene



Benzo(j)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(j)fluoranthene





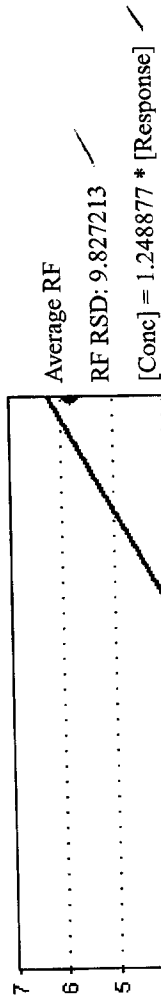
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

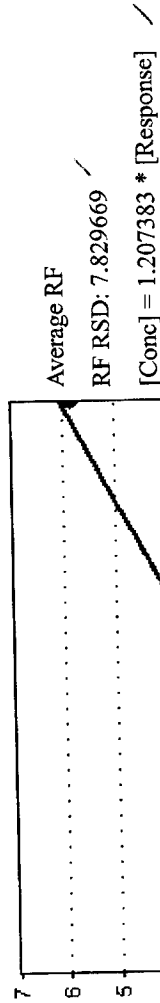
Instrument: NT11
Calibration ID: ZA00015
8270D-SIM PAH (0.5 ug/kg)

Calibration Date: 25-Jan-2016 08:57 By JLW
Last Edit Date: 25-Jan-2016 13:53 By JLW

Benzo(e)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(e)pyrene



Benzo(a)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(a)pyrene





Analytical Resources, Incorporated
Analytical Chemists and Consultants

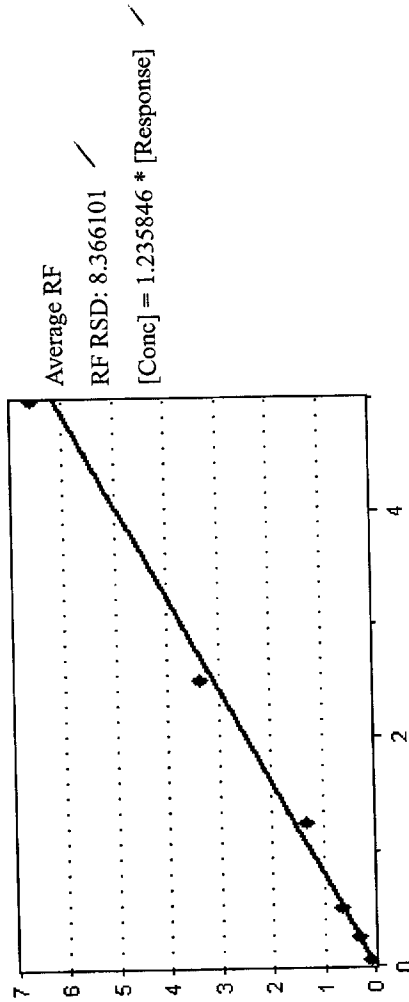
Calibration Report

Instrument: NT11
Calibration ID: ZA00015

Calibration Date: 25-Jan-2016 08:57 By JLW
Last Edit Date: 25-Jan-2016 13:53 By JLW

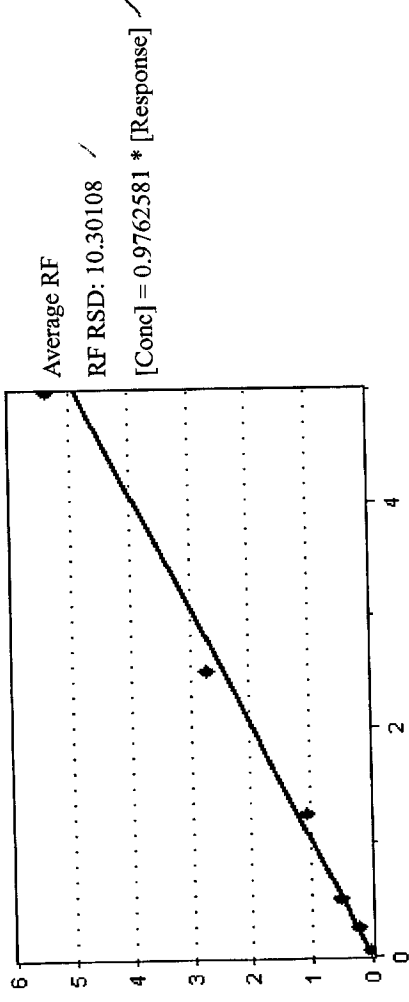
8270D-SIM PAH (0.5 ug/k;

Indeno(1,2,3-cd)pyrene
8270D-SIM PAH (0.5 ug/kg) - Indeno(1,2,3-cd)pyrene



Dibenzo(a,h)anthracene

8270D-SIM PAH (0.5 ug/kg) - Dibenzo(a,h)anthracene





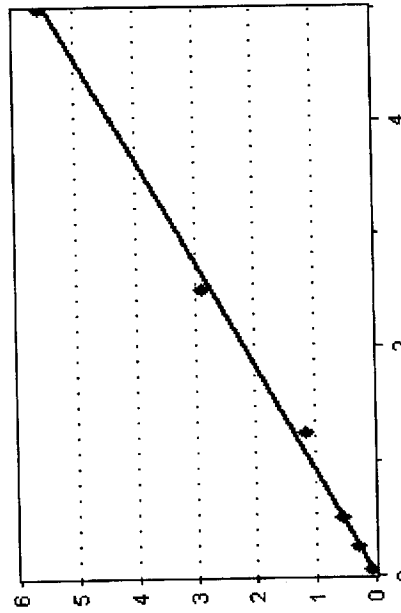
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

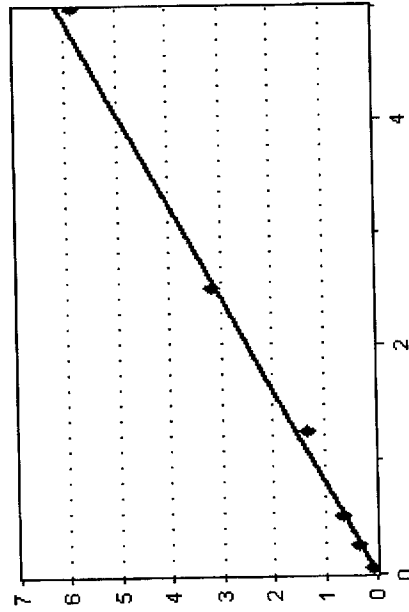
8270D-SIM PAH (0.5 ug/k;

Benzo(g,h,i)perylene
8270D-SIM PAH (0.5 ug/kg) - Benzo(g,h,i)perylene



Perylene

8270D-SIM PAH (0.5 ug/kg) - Perylene





Analytical Resources, Incorporated
Analytical Chemists and Consultants

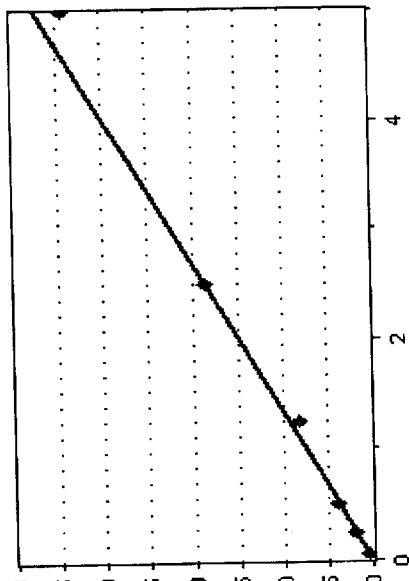
Calibration Report

Instrument: NT11
Calibration ID: ZA00015

25-Jan-2016 08:57 By JLW
25-Jan-2016 13:53 By JLW

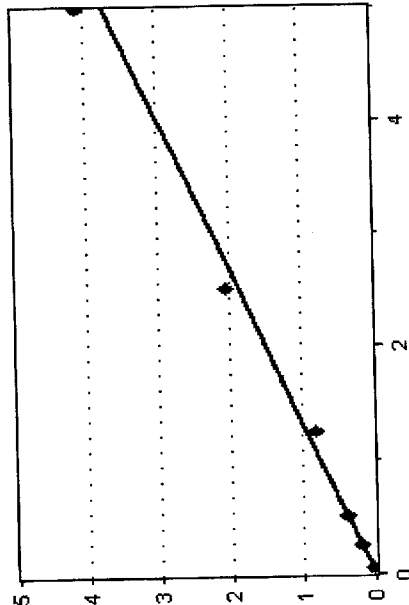
8270D-SIM PAH (0.5 ug/k;

2-Methylnaphthalene-d10
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene-d10



Dibenzo[a,h]anthracene-d14

8270D-SIM PAH (0.5 ug/kg) - Dibenzo[a,h]anthracene-d14





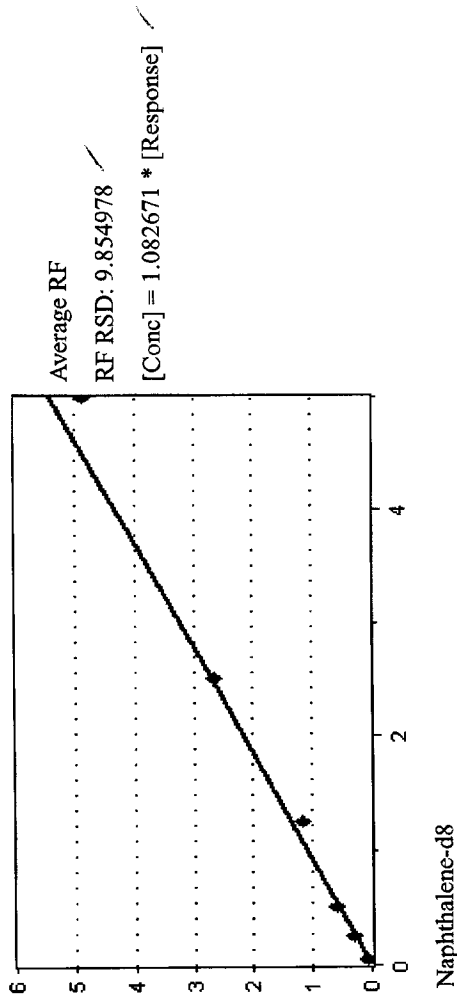
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: ZA00015
25-Jan-2016 08:57 By JILW
25-Jan-2016 13:53 By JILW

8270D-SIM PAH (0.5 ug/kg)

Fluoranthene-d10
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene-d10



Average RF
RF RSD:
[Conc] = * [Response]

15102:00139

6B
SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: 20150730

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Calibration Date: 01/25/16

LAB FILE ID: RRF10 =16012506 RRF50 =16012507 RRF100=16012508								
RRF250=16012505 RRF500=16012509 RRF1000=16012510								
COMPOUND	RRF 10	RRF 50	RRF 100	RRF 250	RRF 500	RRF 1000	RRF	%RSD /R^2
Naphthalene	1.231	1.209	1.193	0.976	1.069	0.962	1.107	10.9
2-Methylnaphthalene	0.826	0.851	0.843	0.718	0.804	0.732	0.796	7.2
Acenaphthylene	1.824	1.792	1.710	1.472	1.577	1.436	1.635	10.1
Acenaphthene	1.112	1.111	1.086	0.920	1.020	0.942	1.032	8.3
Dibenzofuran	1.764	1.733	1.704	1.401	1.512	1.367	1.580	11.1
Fluorene	1.390	1.356	1.310	1.103	1.213	1.112	1.247	9.9
Phenanthrene	1.287	1.240	1.240	0.971	1.081	0.974	1.132	12.6
Anthracene	1.177	1.187	1.150	0.968	1.083	0.967	1.089	9.3
Fluoranthene	1.262	1.238	1.257	1.031	1.149	1.028	1.161	9.5
Pyrene	1.756	1.708	1.635	1.337	1.485	1.311	1.539	12.3
Benzo(a)anthracene	1.447	1.408	1.385	1.142	1.303	1.176	1.310	9.7
Chrysene	1.494	1.452	1.454	1.153	1.320	1.171	1.341	11.2
Benzo(a)pyrene	1.266	1.248	1.280	1.030	1.247	1.172	1.207	7.8
Indeno(1,2,3-cd)pyrene	1.175	1.225	1.268	1.070	1.352	1.324	1.236	8.4
Dibenzo(a,h)anthracene	0.870	0.960	1.011	0.852	1.086	1.078	0.976	10.3
Benzo(g,h,i)perylene	1.117	1.112	1.132	0.933	1.154	1.115	1.094	7.3
Pentachlorophenol								
1-Methylnaphthalene	0.766	0.769	0.769	0.641	0.721	0.658	0.721	8.1
Carbazole								
Benzo(b)fluoranthene	1.436	1.437	1.408	1.088	1.315	1.216	1.317	10.7
Benzo(k)fluoranthene	1.474	1.385	1.480	1.191	1.421	1.299	1.375	8.2
Benzo(j)fluoranthene	1.355	1.341	1.348	1.049	1.257	1.162	1.252	9.9
Perylene	1.299	1.311	1.312	1.050	1.264	1.177	1.236	8.4
Benzo(e)pyrene	1.372	1.321	1.332	1.048	1.259	1.162	1.249	9.8
2-Methylnaphthalene-d10	0.803	0.806	0.784	0.662	0.743	0.686	0.747	8.2
Fluoranthene-d10	1.196	1.164	1.155	0.941	1.066	0.973	1.082	9.9
Dibenzo(a,h)anthracene-d14	0.661	0.750	0.765	0.657	0.824	0.819	0.746	9.8
2,4,6-Tribromophenol								

<- Outside QC limits: %RSD <20% or R^2 > 0.990

ALL 2: 22119

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: 20150730

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 16012505

Ical Date: 01/25/16

Instrument ID: NT11

Cont. Cal Date: 01/25/16

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	356051	6.71	264524	9.71	444949	12.38
UPPER LIMIT	712102		529048		889898	
LOWER LIMIT	178026		132262		222475	
=====	=====	=====	=====	=====	=====	=====
CCAL	309113	6.71	227974	9.71	372441	12.38
UPPER LIMIT		7.21		10.21		12.88
LOWER LIMIT		6.21		9.21		11.88
01	297375	6.71	218000	9.71	349233	12.38
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: 20150730

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 16012505

Ical Date: 01/25/16

Instrument ID: NT11

Cont. Cal Date: 01/25/16

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	343139	17.12	319277	20.01		
UPPER LIMIT	686278		638554			
LOWER LIMIT	171570		159639			
=====	=====	=====	=====	=====	=====	=====
CCAL	295350	17.12	273271	20.00		
UPPER LIMIT		17.62		20.50		
LOWER LIMIT		16.62		19.50		
01	282390	17.12	252294	20.00		
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

IS4 = Chrysene-d12

IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160125.b

ARI Job No.: TUNE Method: DFPPP.m Instrument: nt11.i Date: 25-JAN-2016

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0857	16012504.D	TUNE 10		1	NO MANUAL INTEGRATION
0914	16012505.D	LLPAH ICV		1	NO MANUAL INTEGRATION
1029	16012506.D	LLPAH 10		1	NO MANUAL INTEGRATION
0959	16012507.D	LLPAH 50		1	NO MANUAL INTEGRATION
1129	16012508.D	LLPAH 100		1	NO MANUAL INTEGRATION
1059	16012509.D	LLPAH 500		1	NO MANUAL INTEGRATION
1200	16012510.D	LLPAH 1000		1	NO MANUAL INTEGRATION
1230	16012511.D	LLPAH SCV		1	NO MANUAL INTEGRATION

Report Date : 25-Jan-2016 13:44

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20160125.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 4 Naphthalene-d8	6.708	6.708	6.708	6.708	6.708	6.708	6.708	6.458-6.958	6.708	0.000
5 Naphthalene	6.739	6.739	6.739	6.739	6.739	6.739	6.739	6.489-6.989	6.739	0.000
\$ 6 2-Methylnaphthalene-d1	7.685	7.685	7.685	7.685	7.674	7.674	7.674	7.424-7.924	7.681	0.005
7 2-Methylnaphthalene	7.737	7.737	7.737	7.737	7.737	7.737	7.737	7.487-7.987	7.737	0.000
8 1-Methylnaphthalene	7.989	7.989	7.989	7.989	7.989	7.989	7.989	7.739-8.239	7.989	0.000
10 Acenaphthylene	9.551	9.562	9.551	9.551	9.551	9.551	9.551	9.301-9.801	9.552	0.005
* 11 Acenaphthene-d10	9.706	9.717	9.706	9.706	9.706	9.706	9.706	9.456-9.956	9.707	0.005
12 Acenaphthene	9.772	9.772	9.772	9.772	9.772	9.772	9.772	9.522-10.022	9.772	0.000
14 Dibenzofuran	9.971	9.982	9.971	9.971	9.971	9.971	9.971	9.721-10.221	9.973	0.005
15 Fluorene	10.591	10.602	10.591	10.591	10.591	10.591	10.591	10.341-10.841	10.593	0.005
\$ 16 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++	12.499	12.249-12.749	+++++	+++++
17 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	4.785	4.535-5.035	+++++	+++++
* 18 Phenanthrene-d10	12.385	12.385	12.385	12.385	12.385	12.385	12.385	12.135-12.635	12.385	0.000
19 Phenanthrene	12.429	12.429	12.429	12.429	12.418	12.429	12.429	12.179-12.679	12.427	0.004
20 Anthracene	12.484	12.485	12.474	12.473	12.474	12.473	12.473	12.223-12.723	12.477	0.006
22 Carbazole	+++++	+++++	+++++	+++++	+++++	+++++	14.533	14.283-14.783	+++++	+++++
\$ 23 Fluoranthene-d10	14.486	14.486	14.486	14.486	14.476	14.476	14.476	14.226-14.726	14.482	0.005

Reviewer 1 *ju* Date: 1/25/16
Reviewer 2 *[Signature]* Date: 1/23/16

Report Date : 25-Jan-2016 13:44

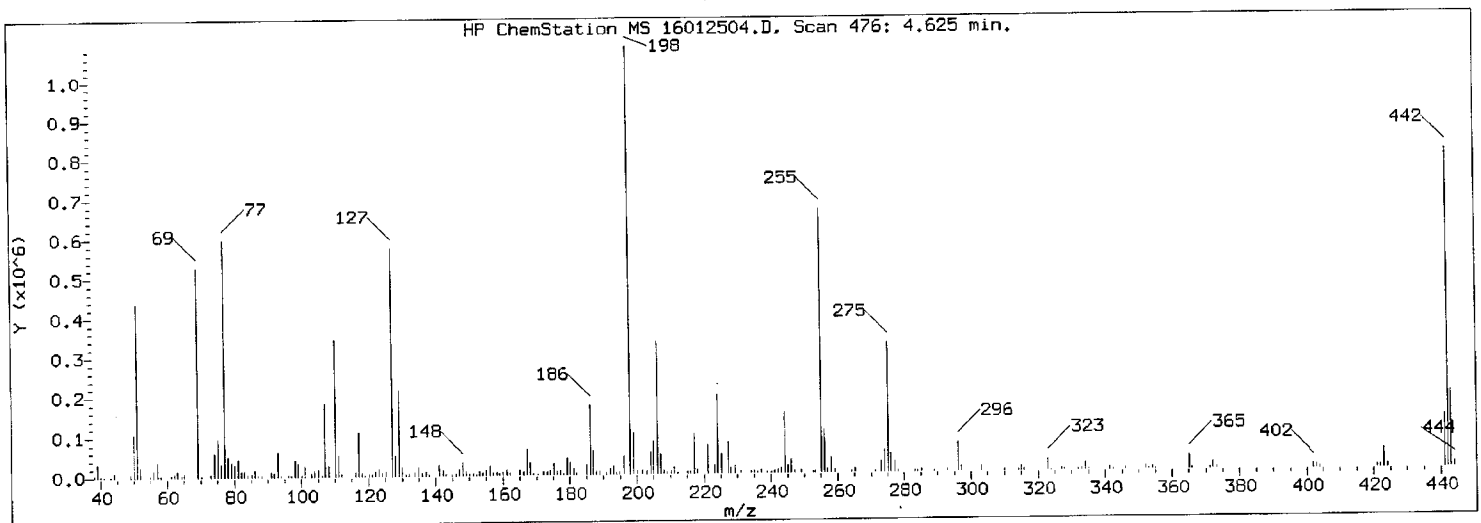
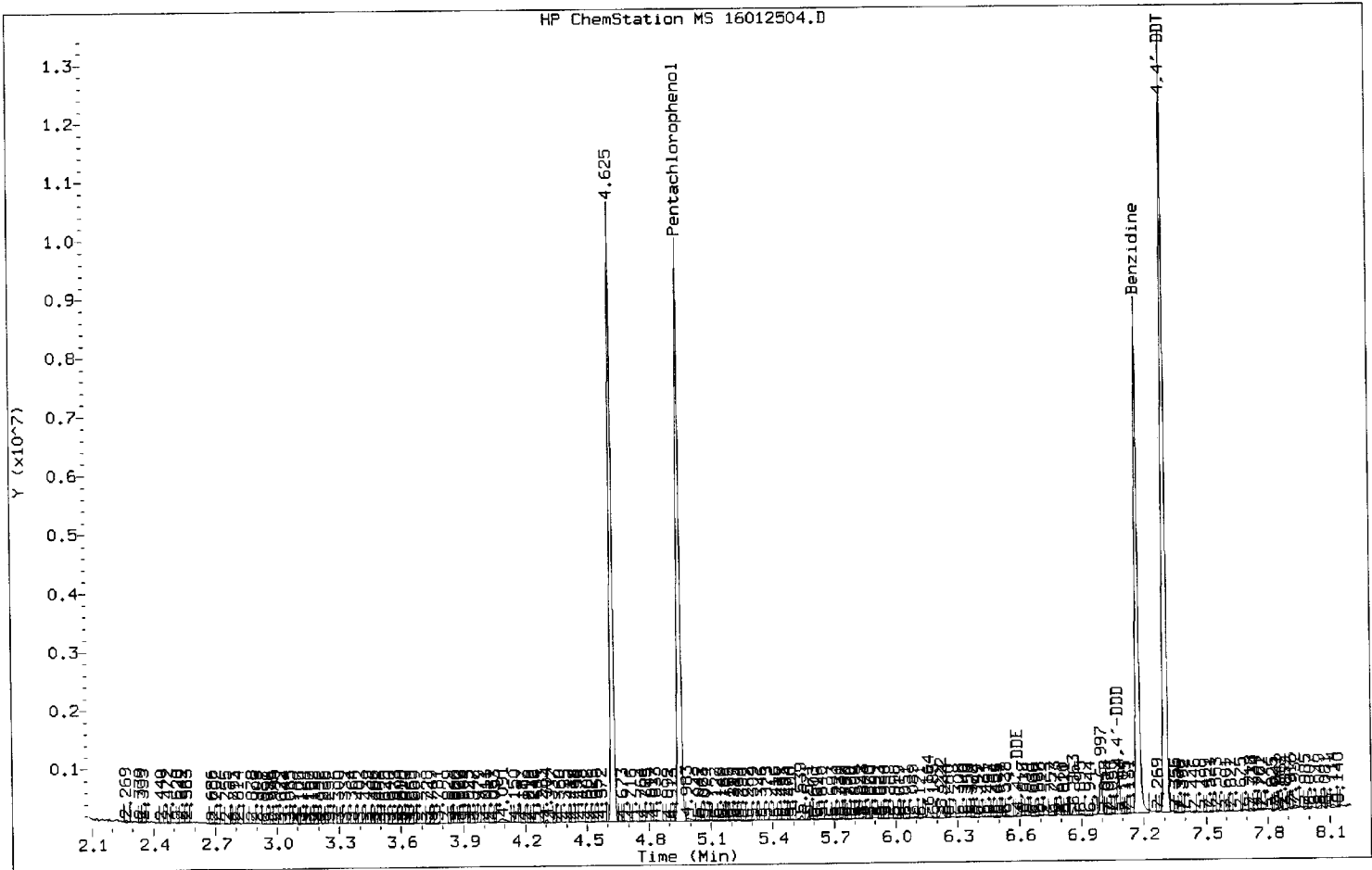
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20160125.b
Inst ID: nt11.i

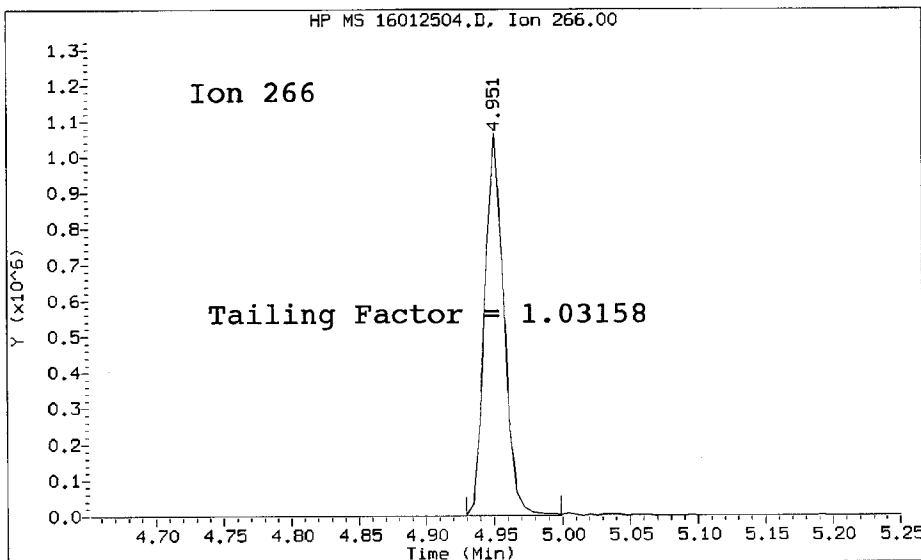
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
24 Fluoranthene	14.514	14.524	14.515	14.514	14.515	14.514	14.514	14.264-14.764	14.516	0.004
25 Pyrene	15.014	15.014	15.014	15.014	15.014	15.014	15.014	14.764-15.264	15.014	0.000
28 Benzo(a)anthracene	17.030	17.038	17.030	17.030	17.030	17.030	17.030	16.780-17.280	17.031	0.003
* 29 Chrysene-d12	17.121	17.130	17.121	17.121	17.121	17.121	17.121	16.871-17.371	17.123	0.003
30 Chrysene	17.171	17.179	17.171	17.171	17.171	17.171	17.171	16.921-17.421	17.172	0.003
44 Benzo(b)fluoranthene	18.921	18.921	18.922	18.922	18.912	18.921	18.921	18.671-19.171	18.920	0.004
45 Benzo(k)fluoranthene	18.969	18.970	18.960	18.960	18.960	18.960	18.960	18.710-19.210	18.963	0.005
46 Benzo(j)fluoranthene	19.027	19.037	19.027	19.027	19.027	19.027	19.027	18.777-19.277	19.029	0.004
34 Benzo(a)pyrene	19.796	19.796	19.796	19.796	19.786	19.796	19.796	19.546-20.046	19.794	0.004
* 35 Perylene-d12	20.007	20.007	20.007	20.007	19.998	19.998	19.998	19.748-20.248	20.004	0.005
\$ 36 Dibenzo(a,h)anthracene	22.443	22.443	22.443	22.443	22.432	22.443	22.443	22.193-22.693	22.439	0.006
37 Indeno(1,2,3-cd)pyrene	22.575	22.575	22.564	22.564	22.565	22.575	22.575	22.325-22.825	22.570	0.006
38 Dibenzo(a,h)anthracene	22.553	22.564	22.553	22.553	22.553	22.553	22.553	22.303-22.803	22.555	0.005
39 Benzo(g,h,i)perylene	23.716	23.716	23.705	23.705	23.705	23.705	23.705	23.455-23.955	23.709	0.006
47 Perylene	20.074	20.075	20.065	20.065	20.065	20.065	20.065	19.815-20.315	20.068	0.005
48 Benzo(e)pyrene	19.681	19.681	19.681	19.681	19.681	19.681	19.681	19.431-19.931	19.681	0.000

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20160125.b/16012504.D/16012504.D
Method Used: \20160125.b\DFTPP.m Inst: nt11
Injection Date: 25-JAN-2016 08:57 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 01/25/2016 09:09



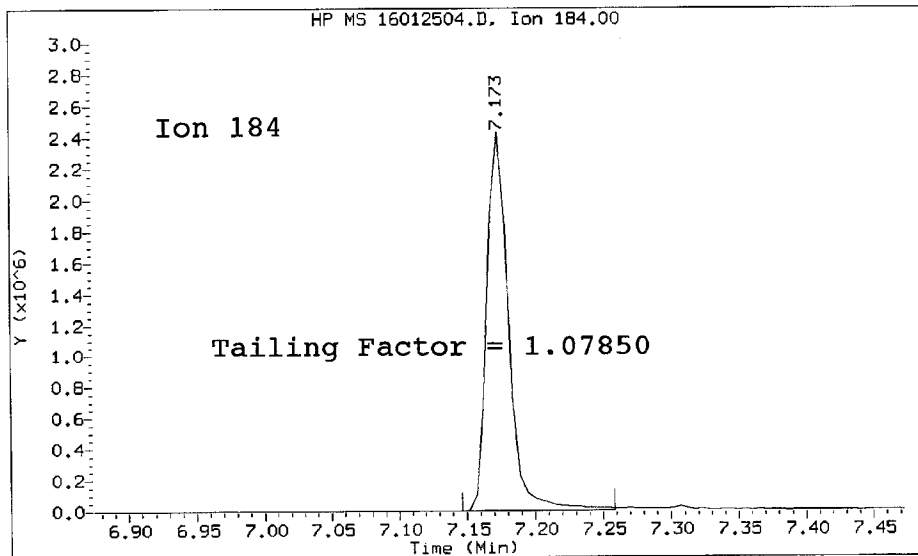
Datafile Analyzed: /20160125.b/16012504.D/16012504.D
Method Used: \20160125.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 25-JAN-2016 08:57 Operator: JR
Sample Info: TUNE 10
Report Date: 01/25/2016 09:09



Pentachlorophenol

=====
Exp. RT = 4.993
Found RT = 4.951

Tail Factor = 1.032 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.221
Found RT = 7.173

Tail Factor = 1.078 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	37.45
68	Less than 2.00% of mass 69	0.37 (0.81)
69	Mass 69 relative abundance	45.57
70	Less than 2.00% of mass 69	0.29 (0.63)
127	10.00 - 80.00% of mass 198	50.81
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.74
275	10.00 - 60.00% of mass 198	28.48
365	Greater than 1.00% of mass 198	2.89
441	0.01 - 24.00% of mass 442	12.40 (16.41)
442	50.00 - 200.00% of mass 198	75.54
443	15.00 - 24.00% of mass 442	16.39 (21.69)

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.0315789	2.000	PASS
Benzidine	1.0784983	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1860276			N/A
4,4-DDE	8198	0.4	20.0	PASS
4,4-DDD	124298	6.3	20.0	PASS
4,4-DDD + DDE	132496	6.6	20.0	PASS

Tuning Sample, nt11.i/20160125.b/16012504.D, *** PASSED ***

Data File: 16012504.D
 Spectrum: Avg. Scans 475-477 (4.63), Background Scan 470
 Location of Maximum: 198.00
 Number of points: 244

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	3649	120.00	2093	189.00	6588	273.00	16744
39.00	23416	121.00	1355	191.00	5306	274.00	42336
40.00	2821	122.00	8348	192.00	12210	275.00	253312
41.00	751	123.00	13455	193.00	14186	276.00	34312
43.00	740	124.00	5977	194.00	1910	277.00	19064
44.00	1103	125.00	7429	195.00	1308	278.00	2909
49.00	1335	127.00	451840	196.00	35320	283.00	3255
50.00	86040	128.00	35152	198.00	889344	284.00	832
51.00	333056	129.00	168000	199.00	77688	285.00	4669
52.00	16370	130.00	16424	200.00	5755	289.00	707
55.00	3839	131.00	1646	201.00	6194	293.00	5387
56.00	11002	132.00	2558	202.00	2546	296.00	58592
57.00	27120	134.00	6150	203.00	5344	297.00	8132
58.00	1084	135.00	14263	204.00	40192	303.00	8680
61.00	4453	136.00	4923	205.00	61784	304.00	1882
62.00	5898	137.00	7270	206.00	269376	310.00	864
63.00	14254	138.00	2256	207.00	38520	314.00	1111
64.00	1684	139.00	710	208.00	7629	315.00	6898
65.00	8896	141.00	18856	209.00	2955	316.00	5846
68.00	3292	142.00	9147	210.00	4025	322.00	2037
69.00	405312	143.00	4171	211.00	10899	323.00	23200
70.00	2541	145.00	1964	212.00	4262	324.00	3512
73.00	4101	146.00	4148	215.00	1774	327.00	3549
74.00	42416	147.00	13499	216.00	3495	328.00	807
75.00	72696	148.00	25376	217.00	68544	332.00	3036
76.00	26600	149.00	7146	218.00	9377	333.00	1285
77.00	460672	150.00	979	221.00	58512	334.00	13573
78.00	31040	151.00	4284	222.00	2379	335.00	4378
79.00	27688	152.00	1473	223.00	18400	336.00	770
80.00	23600	153.00	6911	224.00	152832	341.00	3102
81.00	32800	154.00	5303	225.00	36752	342.00	766
82.00	9299	155.00	13420	226.00	2432	346.00	3637
83.00	9216	156.00	18976	227.00	61136	351.00	685
84.00	557	157.00	3983	228.00	8686	352.00	7540
85.00	5522	158.00	5101	229.00	12504	353.00	3491
86.00	8497	159.00	3868	231.00	6526	354.00	6396
87.00	4346	160.00	6848	233.00	803	355.00	1196
88.00	2973	161.00	10662	234.00	4102	365.00	25664
91.00	8185	162.00	3791	235.00	4443	366.00	3165
92.00	7611	165.00	9192	236.00	2359	371.00	821
93.00	49776	166.00	6324	237.00	5889	372.00	13465
94.00	3390	167.00	45400	239.00	2902	373.00	3113
96.00	936	168.00	21944	240.00	896	377.00	679
97.00	1770	169.00	3837	241.00	3783	383.00	882
98.00	30680	170.00	736	242.00	6940	384.00	883
99.00	29104	171.00	718	243.00	8594	390.00	770
100.00	3048	172.00	3954	244.00	110872	402.00	6242
101.00	17480	173.00	4499	245.00	15704	403.00	6551
103.00	6162	174.00	8976	246.00	23296	404.00	2057

104.00	11942	175.00	23464	247.00	4598	421.00	5587
105.00	12846	176.00	5626	249.00	4985	422.00	6188
106.00	1995	177.00	8652	252.00	911	423.00	43232
107.00	141248	178.00	2929	253.00	4212	424.00	5324
108.00	25624	179.00	33368	255.00	528192	441.00	110248
109.00	3384	180.00	23904	256.00	83696	442.00	671808
110.00	255808	181.00	13103	257.00	8213	443.00	145728
111.00	38624	182.00	2291	258.00	28904	444.00	12291
112.00	4258	184.00	1696	259.00	6298	445.00	705
116.00	6833	185.00	19448	264.00	794		
117.00	87088	186.00	143040	265.00	9743		
118.00	7590	187.00	43488	266.00	2006		
119.00	673	188.00	7046	271.00	1026		

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012505.D
 Lab Smp Id: LLPAH ICV
 Inj Date : 25-JAN-2016 09:14 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH ICV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 2 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: 1/25/16

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.707	6.707	(1.000)	356051	200.000	
5 Naphthalene	128	6.739	6.739	(1.005)	434168	250.000	220
§ 6 2-Methylnaphthalene-d10	152	7.684	7.674	(1.146)	294773	250.000	222
7 2-Methylnaphthalene	142	7.737	7.737	(1.153)	319553	250.000	226
8 1-Methylnaphthalene	142	7.989	7.989	(1.191)	285143	250.000	222
10 Acenaphthylene	152	9.550	9.550	(0.984)	486879	250.000	225
* 11 Acenaphthene-d10	164	9.705	9.705	(1.000)	264524	200.000	
12 Acenaphthene	153	9.771	9.772	(1.007)	304139	250.000	223
14 Dibenzofuran	168	9.971	9.971	(1.027)	463292	250.000	222
15 Fluorene	166	10.591	10.591	(1.091)	364851	250.000	221
* 18 Phenanthrene-d10	188	12.384	12.384	(1.000)	444949	200.000	
19 Phenanthrene	178	12.429	12.429	(1.004)	539922	250.000	214
20 Anthracene	178	12.484	12.473	(1.008)	538499	250.000	222
§ 23 Fluoranthene-d10	212	14.485	14.476	(1.170)	523633	250.000	217
24 Fluoranthene	202	14.514	14.514	(1.172)	573274	250.000	222
25 Pyrene	202	15.014	15.014	(0.877)	573543	250.000	217
28 Benzo(a)anthracene	228	17.029	17.029	(0.995)	490006	250.000	218
* 29 Chrysene-d12	240	17.121	17.121	(1.000)	343139	200.000	
30 Chrysene	228	17.171	17.171	(1.003)	494549	250.000	215
44 Benzo(b)fluoranthene	252	18.921	18.921	(0.946)	434099	250.000	207
45 Benzo(k)fluoranthene	252	18.969	18.959	(0.948)	475189	250.000	216

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j)fluoranthene	252	19.027	19.027	(0.951)	418612	250.000	209
34 Benzo(a)pyrene	252	19.795	19.795	(0.989)	411042	250.000	213
* 35 Perylene-d12	264	20.007	19.997	(1.000)	319277	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.442	22.442	(1.122)	262204	250.000	220
37 Indeno(1,2,3-cd)pyrene	276	22.575	22.575	(1.128)	427270	250.000	217
38 Dibenzo(a,h)anthracene	278	22.553	22.553	(1.127)	340086	250.000	218
39 Benzo(g,h,i)perylene	276	23.716	23.705	(1.185)	372546	250.000	213
47 Perylene	252	20.074	20.064	(1.003)	419081	250.000	212
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	418150	250.000	210

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012505.D
 Lab Smp Id: LLPAH ICV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

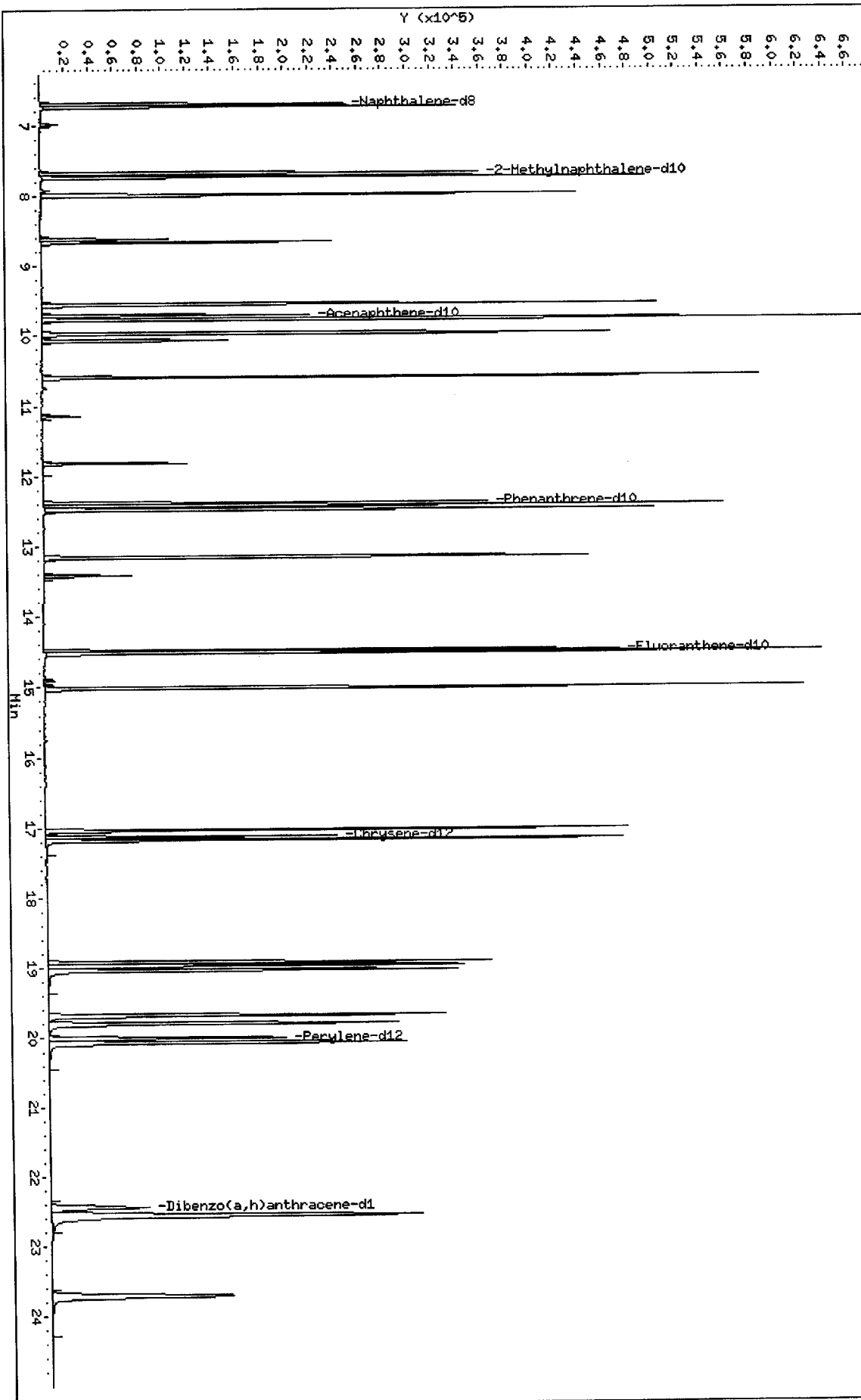
Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	356051	0.00
11 Acenaphthene-d10	264524	132262	529048	264524	0.00
18 Phenanthrene-d10	444949	222475	889898	444949	0.00
29 Chrysene-d12	343139	171570	686278	343139	0.00
35 Perylene-d12	319277	159639	638554	319277	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.01	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

\\target\share\chem3\nt11.i\20160125.b\16012505.D



REVIEW SUMMARY FOR FILE - 16012505.D

Lab ID: LLPAH ICV
nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 09:14

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012507.D
 Lab Smp Id: LLPAH 50
 Inj Date : 25-JAN-2016 09:59 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH 50
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 4 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

*510
1/25/16*

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136			6.707	6.707	(1.000)	294064	200.000	
5 Naphthalene	128			6.739	6.739	(1.005)	88899	50.0000	54.6
\$ 6 2-Methylnaphthalene-d10	152			7.684	7.674	(1.146)	59259	50.0000	53.9
7 2-Methylnaphthalene	142			7.737	7.737	(1.153)	62573	50.0000	53.5
8 1-Methylnaphthalene	142			7.989	7.989	(1.191)	56505	50.0000	53.3
10 Acenaphthylene	152			9.561	9.550	(0.984)	96982	50.0000	54.8
* 11 Acenaphthene-d10	164			9.716	9.705	(1.000)	216442	200.000	
12 Acenaphthene	153			9.772	9.772	(1.006)	60139	50.0000	53.9
14 Dibenzofuran	168			9.982	9.971	(1.027)	93767	50.0000	54.8
15 Fluorene	166			10.602	10.591	(1.091)	73356	50.0000	54.3
* 18 Phenanthrene-d10	188			12.384	12.384	(1.000)	363731	200.000	
19 Phenanthrene	178			12.429	12.429	(1.004)	112769	50.0000	54.8
20 Anthracene	178			12.484	12.473	(1.008)	107982	50.0000	54.5
\$ 23 Fluoranthene-d10	212			14.485	14.476	(1.170)	105804	50.0000	53.7
24 Fluoranthene	202			14.524	14.514	(1.173)	112554	50.0000	53.3
25 Pyrene	202			15.014	15.014	(0.876)	115927	50.0000	55.5
28 Benzo(a)anthracene	228			17.038	17.029	(0.995)	95572	50.0000	53.7
* 29 Chrysene-d12	240			17.129	17.121	(1.000)	271481	200.000	
30 Chrysene	228			17.179	17.171	(1.003)	98587	50.0000	54.2
44 Benzo(b)fluoranthene	252			18.921	18.921	(0.946)	90541	50.0000	54.6
45 Benzo(k)fluoranthene	252			18.969	18.959	(0.948)	87264	50.0000	50.4

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j) fluoranthene	252	19.036	19.027	(0.951)	84510	50.0000	53.6
34 Benzo(a)pyrene	252	19.795	19.795	(0.989)	78663	50.0000	51.7
* 35 Perylene-d12	264	20.007	19.997	(1.000)	252038	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.442	22.442	(1.122)	47291	50.0000	50.3
37 Indeno(1,2,3-cd)pyrene	276	22.575	22.575	(1.128)	77218	50.0000	49.6
38 Dibenzo(a,h)anthracene	278	22.564	22.553	(1.128)	60472	50.0000	49.2
39 Benzo(g,h,i)perylene	276	23.716	23.705	(1.185)	70097	50.0000	50.8
47 Perylene	252	20.074	20.064	(1.003)	82600	50.0000	53.0
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	83220	50.0000	52.9

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012507.D
 Lab Smp Id: LLPAH 50
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	294064	-17.41
11 Acenaphthene-d10	264524	132262	529048	216442	-18.18
18 Phenanthrene-d10	444949	222475	889898	363731	-18.25
29 Chrysene-d12	343139	171570	686278	271481	-20.88
35 Perylene-d12	319277	159639	638554	252038	-21.06

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.72	0.11
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.13	0.05
35 Perylene-d12	20.01	19.51	20.51	20.01	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chems\nt11.i\20160125.b\16012507.D

Date : 25-JAN-2016 09:59

Client ID:

Sample Info: LLPAH 50

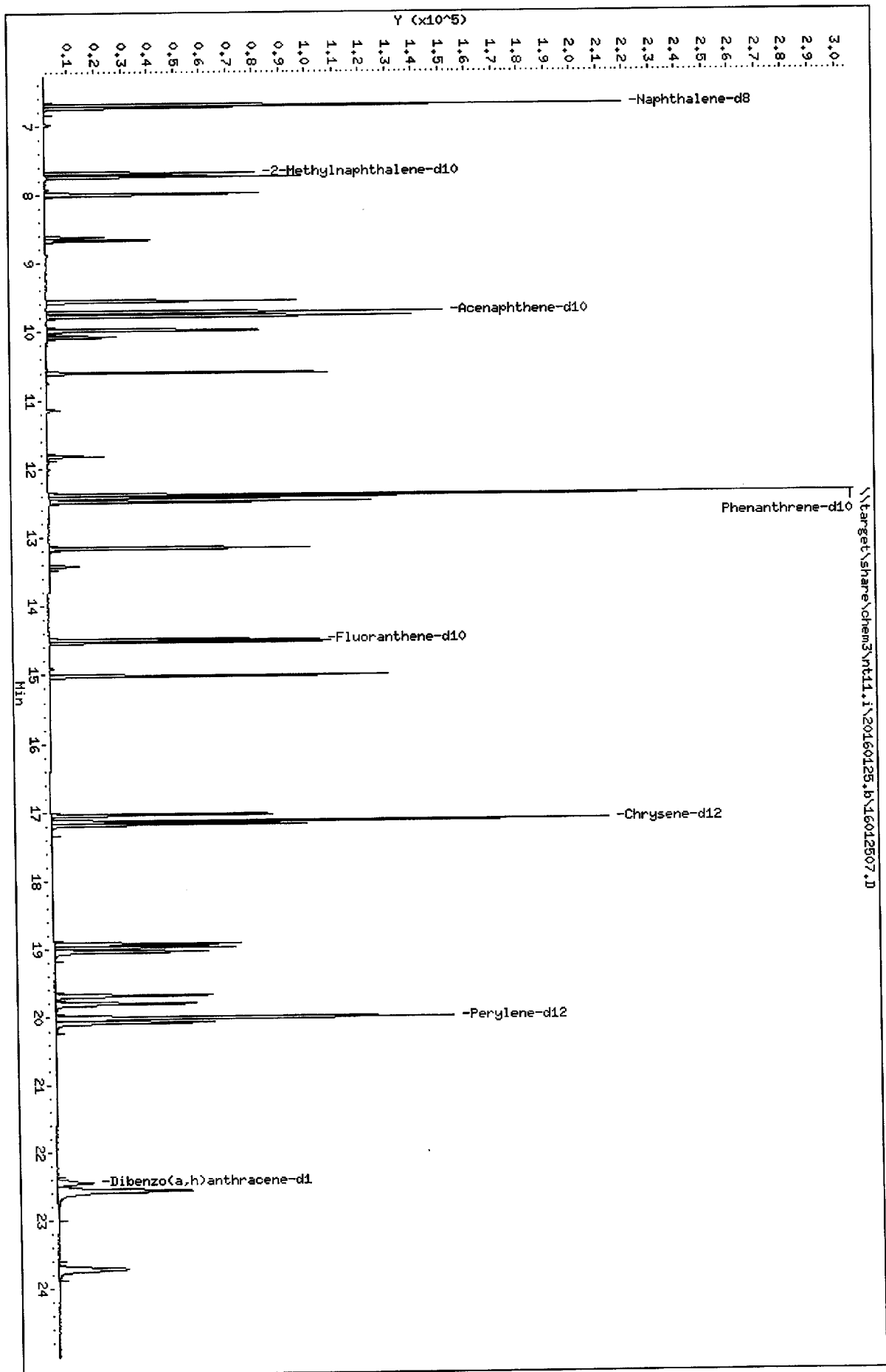
Volume Injected (uL): 2.0

Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 16012507.D

Lab ID: LLPAH 50

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 09:59

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012506.D
 Lab Smp Id: LLPAH 10
 Inj Date : 25-JAN-2016 10:29 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH 10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 3 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8		136	6.707	6.707	(1.000)	299647	200.000	
5 Naphthalene		128	6.739	6.739	(1.005)	18447	10.0000	11.1
§ 6 2-Methylnaphthalene-d10		152	7.684	7.674	(1.146)	12038	10.0000	10.7
7 2-Methylnaphthalene		142	7.737	7.737	(1.153)	12383	10.0000	10.4
8 1-Methylnaphthalene		142	7.989	7.989	(1.191)	11471	10.0000	10.6
10 Acenaphthylene		152	9.550	9.550	(0.984)	19628	10.0000	11.2
* 11 Acenaphthene-d10		164	9.705	9.705	(1.000)	215219	200.000	
12 Acenaphthene		153	9.772	9.772	(1.007)	11963	10.0000	10.8
14 Dibenzofuran		168	9.971	9.971	(1.027)	18987	10.0000	11.2
15 Fluorene		166	10.591	10.591	(1.091)	14956	10.0000	11.1
* 18 Phenanthrene-d10		188	12.384	12.384	(1.000)	354756	200.000	
19 Phenanthrene		178	12.429	12.429	(1.004)	22831	10.0000	11.4
20 Anthracene		178	12.473	12.473	(1.007)	20882	10.0000	10.8
§ 23 Fluoranthene-d10		212	14.485	14.476	(1.170)	21223	10.0000	11.1
24 Fluoranthene		202	14.514	14.514	(1.172)	22394	10.0000	10.9
25 Pyrene		202	15.014	15.014	(0.877)	23290	10.0000	11.4
28 Benzo(a)anthracene		228	17.029	17.029	(0.995)	19194	10.0000	11.0
* 29 Chrysene-d12		240	17.121	17.121	(1.000)	265268	200.000	
30 Chrysene		228	17.171	17.171	(1.003)	19820	10.0000	11.1
44 Benzo(b)fluoranthene		252	18.921	18.921	(0.946)	17319	10.0000	10.9
45 Benzo(k)fluoranthene		252	18.959	18.959	(0.948)	17790	10.0000	10.7

Compounds	QUANT SIG						AMOUNTS	
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		====	=====	=====	=====	=====	=====
46 Benzo(j) fluoranthene	252		19.027	19.027	(0.951)	16351	10.0000	10.8
34 Benzo(a)pyrene	252		19.795	19.795	(0.989)	15277	10.0000	10.5
* 35 Perylene-d12	264		20.007	19.997	(1.000)	241293	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.431	22.442	(1.121)	7978	10.0000	8.86
37 Indeno(1,2,3-cd)pyrene	276		22.564	22.575	(1.128)	14178	10.0000	9.51
38 Dibenzo(a,h)anthracene	278		22.553	22.553	(1.127)	10502	10.0000	8.92
39 Benzo(g,h,i)perylene	276		23.705	23.705	(1.185)	13480	10.0000	10.2
47 Perylene	252		20.064	20.064	(1.003)	15678	10.0000	10.5
48 Benzo(e)pyrene	252		19.680	19.680	(0.984)	16547	10.0000	11.0

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012506.D
 Lab Smp Id: LLPAH 10
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

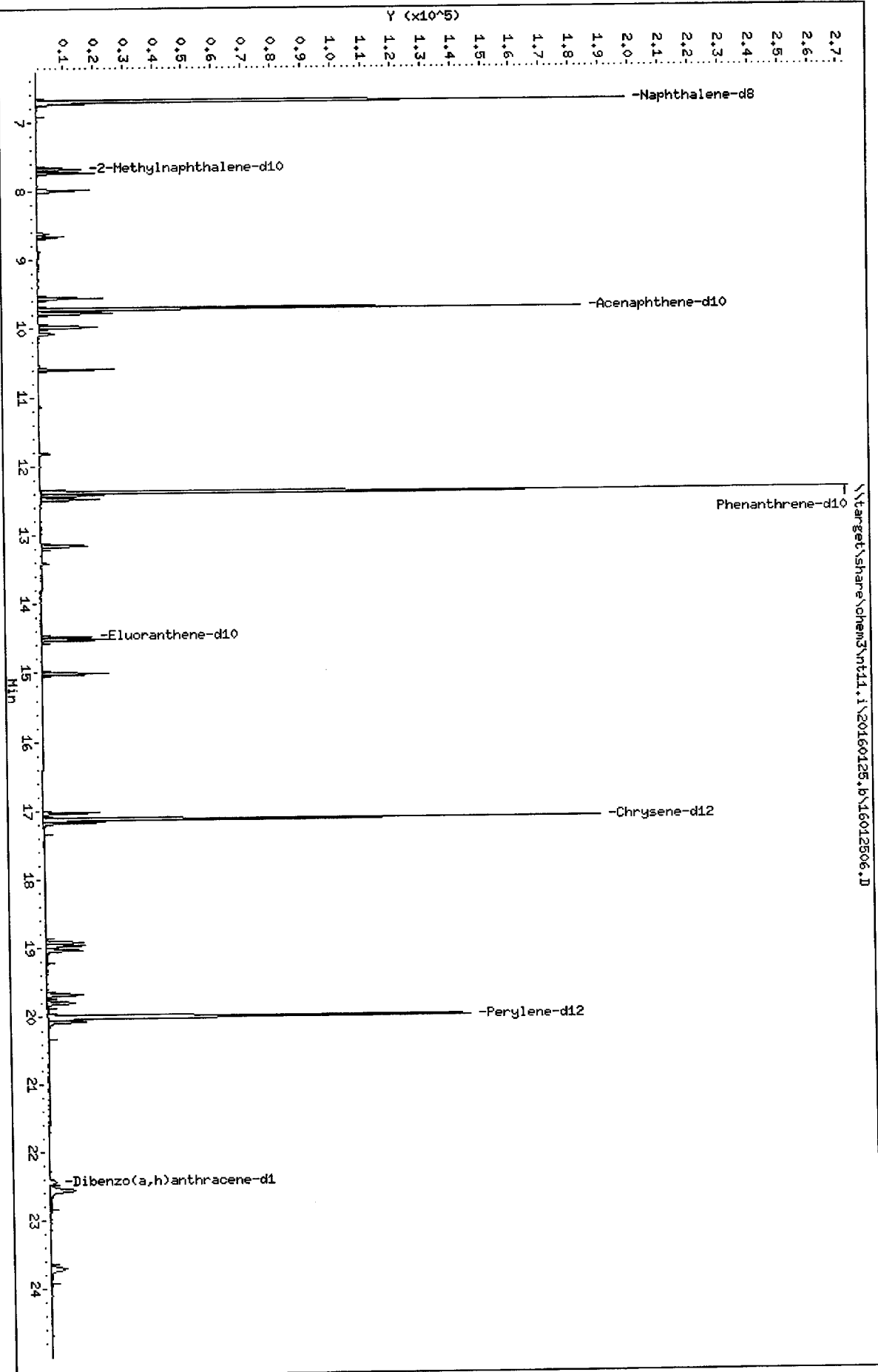
COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	299647	-15.84
11 Acenaphthene-d10	264524	132262	529048	215219	-18.64
18 Phenanthrene-d10	444949	222475	889898	354756	-20.27
29 Chrysene-d12	343139	171570	686278	265268	-22.69
35 Perylene-d12	319277	159639	638554	241293	-24.43

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.01	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20160125.b\16012506.D
Date: 25-JAN-2016 10:29
Client ID:
Sample Info: LPPH 10
Volume Injected (uL): 2.0
Column Phase: Rxi-17S11 MS

Instrument: nt11.1
Operator: JM
Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 16012506.D

Lab ID: LLPAH 10

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 10:29

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012509.D
 Lab Smp Id: LLPAH 500
 Inj Date : 25-JAN-2016 10:59 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH 500
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 6 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt/(Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

TO
1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.707	6.707	(1.000)	303314	200.000	
5 Naphthalene	128		6.739	6.739	(1.005)	810334	500.000	483
\$ 6 2-Methylnaphthalene-d10	152		7.684	7.674	(1.146)	563695	500.000	497
7 2-Methylnaphthalene	142		7.737	7.737	(1.153)	609536	500.000	505
8 1-Methylnaphthalene	142		7.989	7.989	(1.191)	547015	500.000	501
10 Acenaphthylene	152		9.550	9.550	(0.984)	900307	500.000	482
* 11 Acenaphthene-d10	164		9.705	9.705	(1.000)	228389	200.000	
12 Acenaphthene	153		9.772	9.772	(1.007)	582352	500.000	494
14 Dibenzofuran	168		9.971	9.971	(1.027)	863159	500.000	478
15 Fluorene	166		10.591	10.591	(1.091)	692573	500.000	486
* 18 Phenanthrene-d10	188		12.384	12.384	(1.000)	374517	200.000	
19 Phenanthrene	178		12.429	12.429	(1.004)	1012075	500.000	477
20 Anthracene	178		12.473	12.473	(1.007)	1013964	500.000	497
\$ 23 Fluoranthene-d10	212		14.485	14.476	(1.170)	998553	500.000	493
24 Fluoranthene	202		14.514	14.514	(1.172)	1075774	500.000	495
25 Pyrene	202		15.014	15.014	(0.877)	1077457	500.000	483
28 Benzo(a)anthracene	228		17.029	17.029	(0.995)	945351	500.000	497
* 29 Chrysene-d12	240		17.121	17.121	(1.000)	290179	200.000	
30 Chrysene	228		17.171	17.171	(1.003)	958023	500.000	492
44 Benzo(b)fluoranthene	252		18.921	18.921	(0.946)	877554	500.000	499
45 Benzo(k)fluoranthene	252		18.959	18.959	(0.948)	948480	500.000	517

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	====		====	=====	=====	=====	=====	=====
46 Benzo(j)fluoranthene	252		19.027	19.027	(0.951)	838838	500.000	502
34 Benzo(a)pyrene	252		19.795	19.795	(0.989)	832593	500.000	517
* 35 Perylene-d12	264		20.007	19.997	(1.000)	266991	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.442	22.442	(1.122)	550098	500.000	552
37 Indeno(1,2,3-cd)pyrene	276		22.564	22.575	(1.128)	902818	500.000	547
38 Dibenzo(a,h)anthracene	278		22.553	22.553	(1.127)	725124	500.000	556
39 Benzo(g,h,i)perylene	276		23.705	23.705	(1.185)	770302	500.000	527
47 Perylene	252		20.064	20.064	(1.003)	843684	500.000	511
48 Benzo(e)pyrene	252		19.680	19.680	(0.984)	840139	500.000	504

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012509.D
 Lab Smp Id: LLPAH 500
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	303314	-14.81
11 Acenaphthene-d10	264524	132262	529048	228389	-13.66
18 Phenanthrene-d10	444949	222475	889898	374517	-15.83
29 Chrysene-d12	343139	171570	686278	290179	-15.43
35 Perylene-d12	319277	159639	638554	266991	-16.38

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.01	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20160125.b\16012509.D

Date: 25-JAN-2016 10:59

Client ID:

Sample Info: LLP#H 500

Volume Injected (uL): 2.0

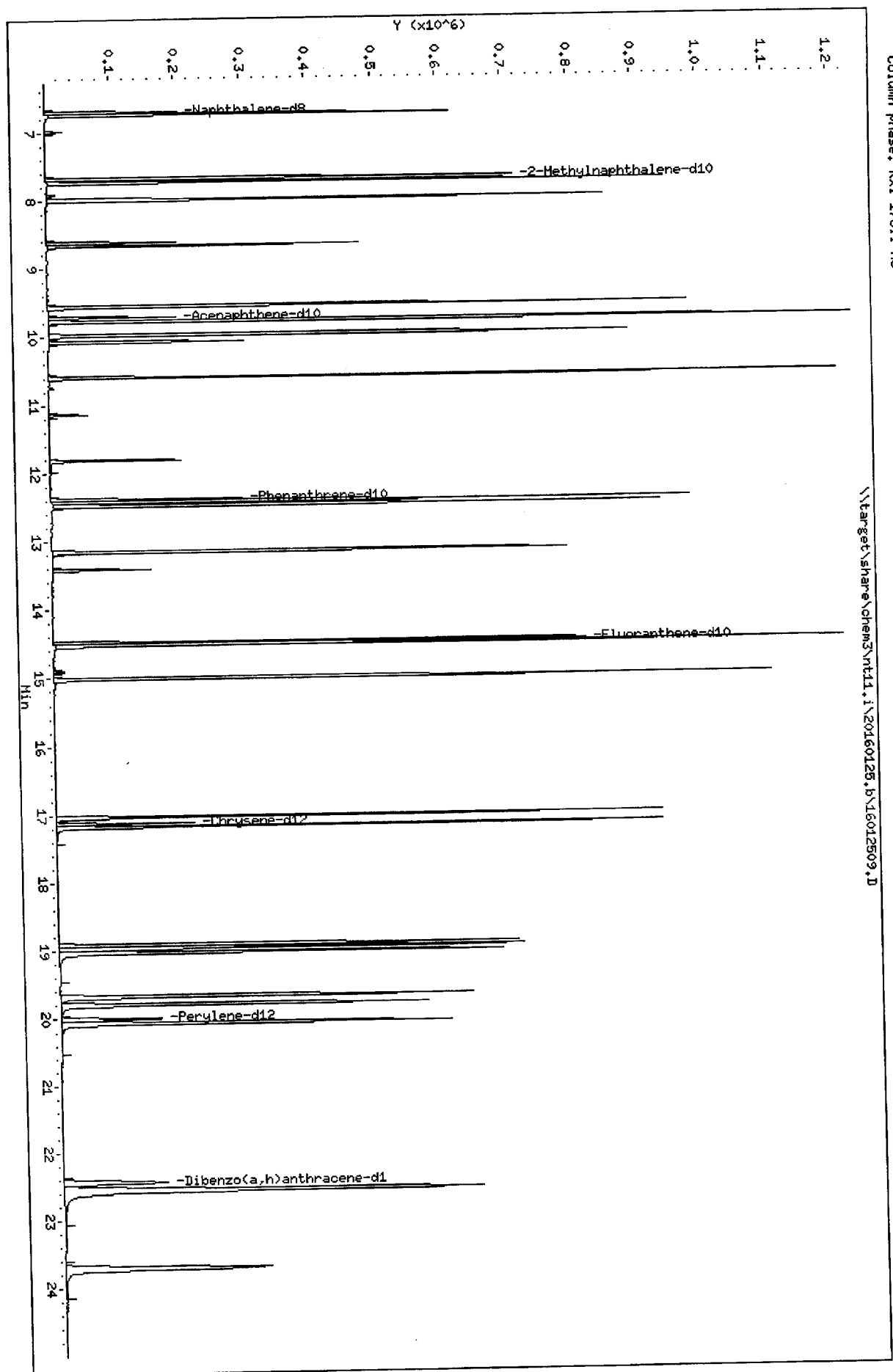
Column phase: Rx1-17S11 HS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20160125.b\16012509.D



REVIEW SUMMARY FOR FILE - 16012509.D

Lab ID: LLPAH 500
nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 10:59

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012508.D
 Lab Smp Id: LLPAH 100
 Inj Date : 25-JAN-2016 11:29 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH 100
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 5 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.707	6.707	(1.000)	299208	200.000		
5 Naphthalene	128		6.739	6.739	(1.005)	178449	100.000	108	
§ 6 2-Methylnaphthalene-d10	152		7.674	7.674	(1.144)	117230	100.000	105	
7 2-Methylnaphthalene	142		7.737	7.737	(1.153)	126083	100.000	106	
8 1-Methylnaphthalene	142		7.989	7.989	(1.191)	115017	100.000	107	
10 Acenaphthylene	152		9.550	9.550	(0.984)	188606	100.000	105	
* 11 Acenaphthene-d10	164		9.705	9.705	(1.000)	220557	200.000		
12 Acenaphthene	153		9.772	9.772	(1.007)	119751	100.000	105	
14 Dibenzofuran	168		9.971	9.971	(1.027)	187862	100.000	108	
15 Fluorene	166		10.591	10.591	(1.091)	144519	100.000	105	
* 18 Phenanthrene-d10	188		12.384	12.384	(1.000)	361305	200.000		
19 Phenanthrene	178		12.418	12.429	(1.003)	224097	100.000	110	
20 Anthracene	178		12.473	12.473	(1.007)	207686	100.000	106	
§ 23 Fluoranthene-d10	212		14.476	14.476	(1.169)	208642	100.000	107	
24 Fluoranthene	202		14.514	14.514	(1.172)	227161	100.000	108	
25 Pyrene	202		15.014	15.014	(0.877)	229911	100.000	106	
28 Benzo(a)anthracene	228		17.030	17.029	(0.995)	194701	100.000	106	
* 29 Chrysene-d12	240		17.121	17.121	(1.000)	281219	200.000		
30 Chrysene	228		17.171	17.171	(1.003)	204390	100.000	108	
44 Benzo(b)fluoranthene	252		18.911	18.921	(0.946)	178870	100.000	107	
45 Benzo(k)fluoranthene	252		18.960	18.959	(0.948)	188086	100.000	108	

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j)fluoranthene	252	19.027	19.027	(0.951)	171312	100.000	108
34 Benzo(a)pyrene	252	19.786	19.795	(0.989)	162570	100.000	106
* 35 Perylene-d12	264	19.997	19.997	(1.000)	254071	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.431	22.442	(1.122)	97170	100.000	103
37 Indeno(1,2,3-cd)pyrene	276	22.564	22.575	(1.128)	161018	100.000	103
38 Dibenzo(a,h)anthracene	278	22.553	22.553	(1.128)	128386	100.000	104
39 Benzo(g,h,i)perylene	276	23.705	23.705	(1.185)	143865	100.000	104
47 Perylene	252	20.064	20.064	(1.003)	166722	100.000	106
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	169283	100.000	107

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012508.D
 Lab Smp Id: LLPAH 100
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	299208	-15.96
11 Acenaphthene-d10	264524	132262	529048	220557	-16.62
18 Phenanthrene-d10	444949	222475	889898	361305	-18.80
29 Chrysene-d12	343139	171570	686278	281219	-18.05
35 Perylene-d12	319277	159639	638554	254071	-20.42

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.00	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20160125_b\16012508.D

Date: 25-JAN-2016 11:29

Client ID:

Sample Info: LLP4H 100

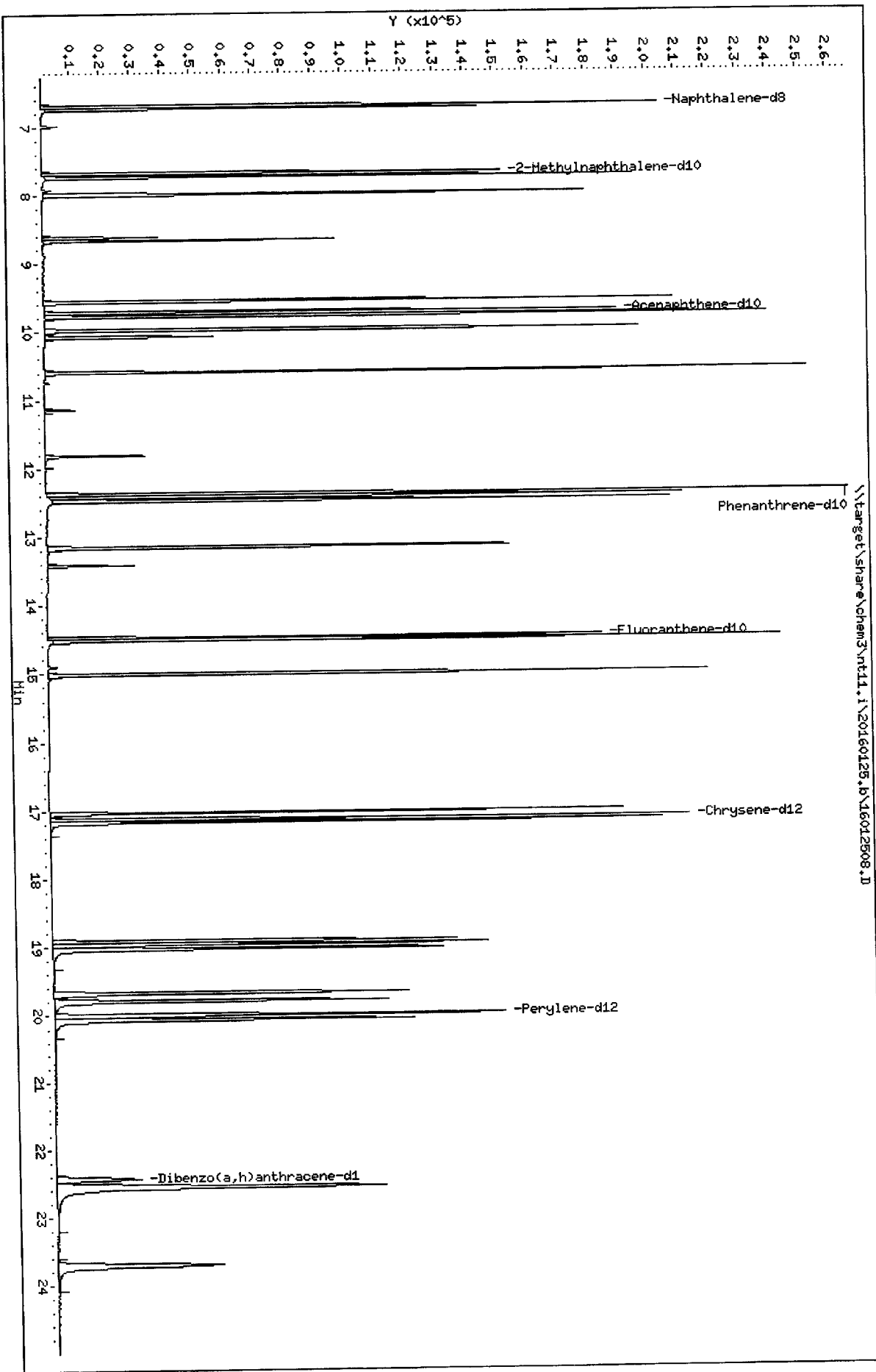
Volume Injected (uL): 2.0

Column phase: Rx1-17S11 HS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR F

Lab ID: LLPAH 100
nt11.i, 20160125.b\

RT CO-ELUT

NO CO-EL

Quant Method: ICAL

RRT CHECK

RRT CCV RRT :

NONE

On Column LOD for n

- Exception: Napht
- Exception: Phena
- Exception: Anthr
- Exception: Pyren
- Exception: Benzo
- Exception: Peryl
- Exception: Benzo
- Exception: 2-Met
- Exception: Diben
- Exception: Fluor

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012510.D
 Lab Smp Id: LLPAH 1000
 Inj Date : 25-JAN-2016 12:00 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH 1000
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 7 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: OK 1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.707	6.707 (1.000)		309113	200.000	
5 Naphthalene	128		6.739	6.739 (1.005)		1486842	1000.00	869
\$ 6 2-Methylnaphthalene-d10	152		7.674	7.674 (1.144)		1060714	1000.00	918
7 2-Methylnaphthalene	142		7.737	7.737 (1.153)		1130621	1000.00	919
8 1-Methylnaphthalene	142		7.989	7.989 (1.191)		1017746	1000.00	914
10 Acenaphthylene	152		9.550	9.550 (0.984)		1637276	1000.00	878
* 11 Acenaphthene-d10	164		9.705	9.705 (1.000)		227974	200.000	
12 Acenaphthene	153		9.772	9.772 (1.007)		1074041	1000.00	913
14 Dibenzofuran	168		9.971	9.971 (1.027)		1558739	1000.00	865
15 Fluorene	166		10.591	10.591 (1.091)		1267065	1000.00	891
* 18 Phenanthrene-d10	188		12.384	12.384 (1.000)		372441	200.000	
19 Phenanthrene	178		12.429	12.429 (1.004)		1813611	1000.00	860
20 Anthracene	178		12.473	12.473 (1.007)		1800460	1000.00	888
\$ 23 Fluoranthene-d10	212		14.476	14.476 (1.169)		1812106	1000.00	899
24 Fluoranthene	202		14.514	14.514 (1.172)		1914574	1000.00	886
25 Pyrene	202		15.014	15.014 (0.877)		1936563	1000.00	852
28 Benzo (a) anthracene	228		17.029	17.029 (0.995)		1736076	1000.00	897
* 29 Chrysene-d12	240		17.121	17.121 (1.000)		295350	200.000	
30 Chrysene	228		17.171	17.171 (1.003)		1728837	1000.00	873
44 Benzo (b) fluoranthene	252		18.921	18.921 (0.946)		1662296	1000.00	924
45 Benzo (k) fluoranthene	252		18.959	18.959 (0.948)		1774449	1000.00	944

Compounds	QUANT SIG						AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)	
46 Benzo(j)fluoranthene	252	19.027	19.027	(0.951)	1587026	1000.00	928	
34 Benzo(a)pyrene	252	19.795	19.795	(0.990)	1602164	1000.00	971	
* 35 Perylene-d12	264	19.997	19.997	(1.000)	273271	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.442	22.442	(1.122)	1119235	1000.00	1100	
37 Indeno(1,2,3-cd)pyrene	276	22.575	22.575	(1.129)	1808681	1000.00	1070	
38 Dibenzo(a,h)anthracene	278	22.553	22.553	(1.128)	1473214	1000.00	1100	
39 Benzo(g,h,i)perylene	276	23.705	23.705	(1.185)	1523618	1000.00	1020	
47 Perylene	252	20.064	20.064	(1.003)	1607740	1000.00	952	
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	1587696	1000.00	930	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012510.D
 Lab Smp Id: LLPAH 1000
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	309113	-13.18
11 Acenaphthene-d10	264524	132262	529048	227974	-13.82
18 Phenanthrene-d10	444949	222475	889898	372441	-16.30
29 Chrysene-d12	343139	171570	686278	295350	-13.93
35 Perylene-d12	319277	159639	638554	273271	-14.41

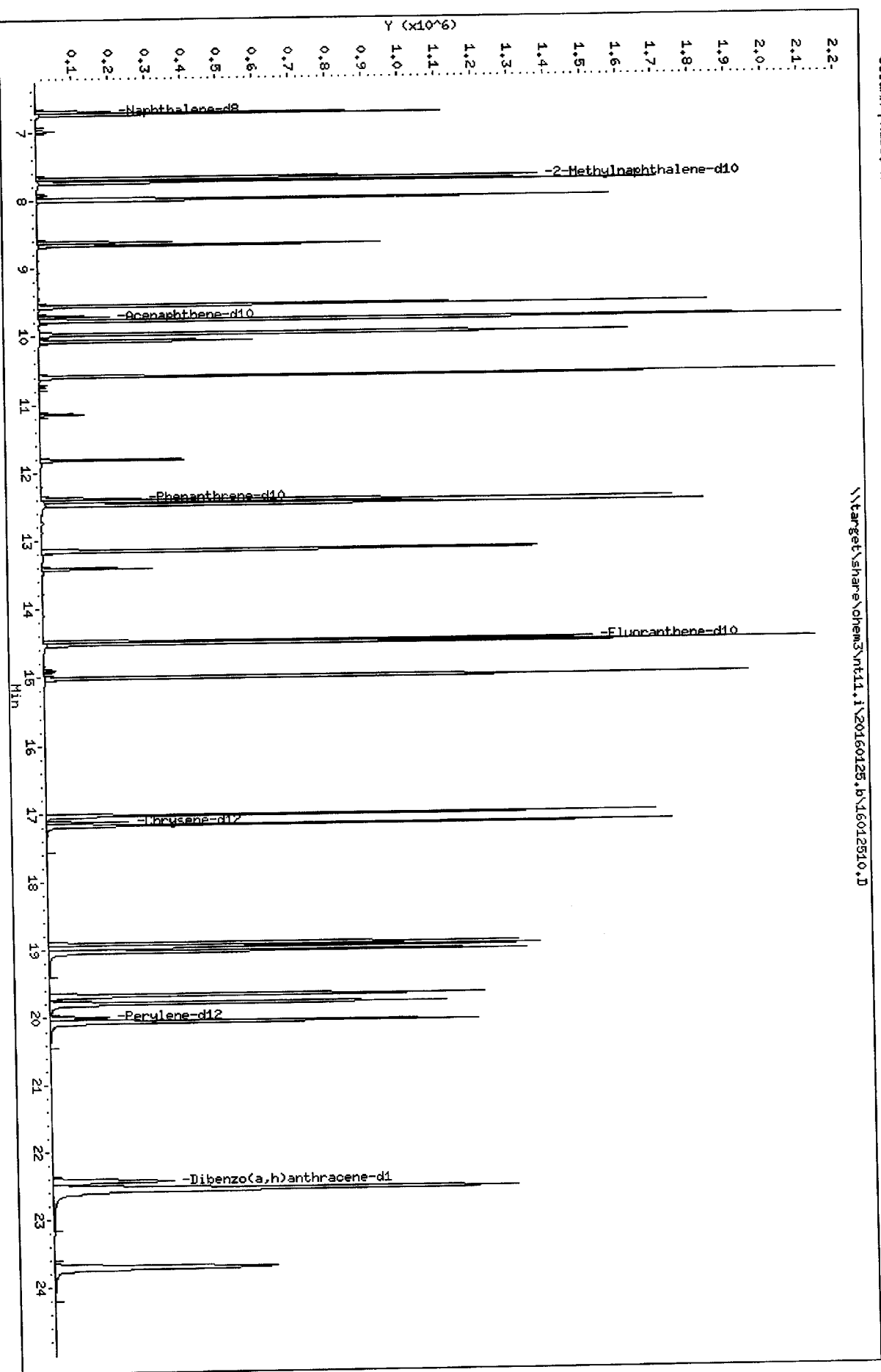
COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.00	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20160125.b\16012510.D
Date : 25-JAN-2016 12:00
Client ID:
Sample Info: LLP#H 1000
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 HS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chem3\nt11.i\20160125.b\16012510.D



REVIEW SUMMARY FOR FILE - 16012510.D

Lab ID: LLPAH 1000

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 12:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
-----	---------	-------	----------

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012511.D
 Lab Smp Id: LLPAH SCV
 Inj Date : 25-JAN-2016 12:30 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH SCV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 25-Jan-2016 12:22 jonathonw Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 8 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

1/25/16

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/Kg)
* 4 Naphthalene-d8	136	6.707	6.707	(1.000)	297375	200.000		
5 Naphthalene	128	6.739	6.739	(1.005)	393033	238.876	11900	
\$ 6 2-Methylnaphthalene-d10	152	Compound Not Detected.						
7 2-Methylnaphthalene	142	7.737	7.737	(1.153)	268187	226.700	11300	
8 1-Methylnaphthalene	142	7.989	7.989	(1.191)	261967	244.499	12200	
10 Acenaphthylene	152	9.550	9.550	(0.984)	425342	238.614	11900	
* 11 Acenaphthene-d10	164	9.705	9.705	(1.000)	218000	200.000		
12 Acenaphthene	153	9.772	9.772	(1.007)	280994	249.840	12500	
14 Dibenzofuran	168	Compound Not Detected.						
15 Fluorene	166	10.591	10.591	(1.091)	325324	239.281	12000	
* 18 Phenanthrene-d10	188	12.384	12.384	(1.000)	349233	200.000		
19 Phenanthrene	178	12.418	12.429	(1.003)	494432	250.085	12500	
20 Anthracene	178	12.473	12.473	(1.007)	478375	251.630	12600	
\$ 23 Fluoranthene-d10	212	Compound Not Detected.						
24 Fluoranthene	202	14.514	14.514	(1.172)	487263	240.367	12000	
25 Pyrene	202	15.014	15.014	(0.877)	550874	253.540	12700	
28 Benzo(a)anthracene	228	17.029	17.029	(0.995)	441556	238.689	11900	
* 29 Chrysene-d12	240	17.121	17.121	(1.000)	282390	200.000		
30 Chrysene	228	17.171	17.171	(1.003)	460355	243.169	12200	
44 Benzo(b)fluoranthene	252	18.921	18.921	(0.946)	392027	236.042	11800	
45 Benzo(k)fluoranthene	252	18.959	18.959	(0.948)	427665	246.549	12300	
46 Benzo(j)fluoranthene	252	Compound Not Detected.						

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/Kg)	
-----	====	----	-----	-----	-----	-----	-----	
34 Benzo(a)pyrene	252	19.786	19.795	(0.989)	379557	249.204	12500	
* 35 Perylene-d12	264	19.997	19.997	(1.000)	252294	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.						
37 Indeno(1,2,3-cd)pyrene	276	22.564	22.575	(1.128)	387296	248.429	12400	
38 Dibenzo(a,h)anthracene	278	22.553	22.553	(1.128)	305417	248.000	12400	
39 Benzo(g,h,i)perylene	276	23.705	23.705	(1.185)	340826	246.933	12300	
47 Perylene	252	Compound Not Detected.						
48 Benzo(e)pyrene	252	Compound Not Detected.						

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012511.D
 Lab Smp Id: LLPAH SCV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode: Use Initial Calibration Level 4.

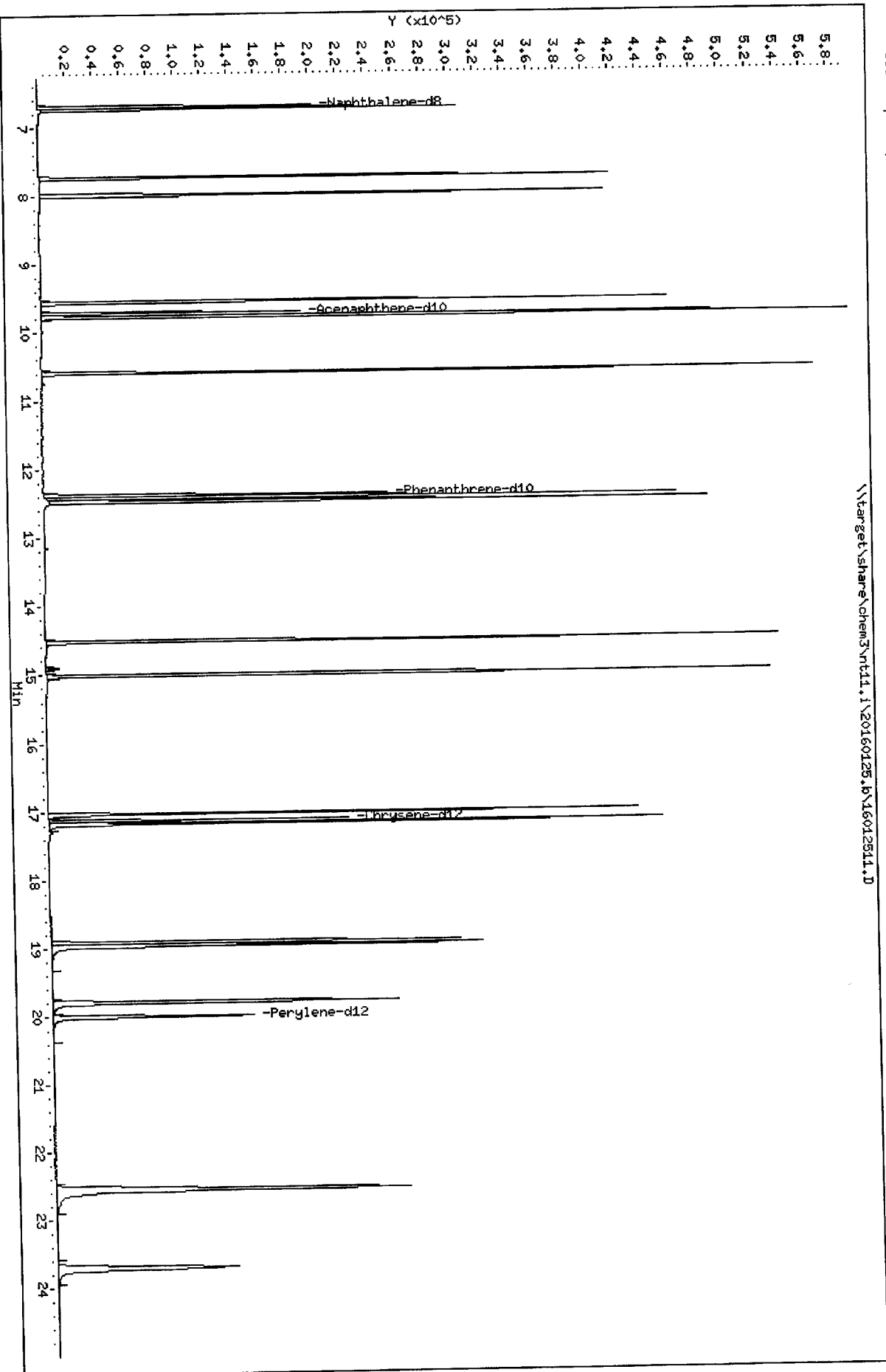
COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	297375	-16.48
11 Acenaphthene-d10	264524	132262	529048	218000	-17.59
18 Phenanthrene-d10	444949	222475	889898	349233	-21.51
29 Chrysene-d12	343139	171570	686278	282390	-17.70
35 Perylene-d12	319277	159639	638554	252294	-20.98

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.00	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chems\nt11,1\20160125.b\16012511.D
Date : 25-JAN-2016 12:30
Client ID:
Sample Info: LLPAH SCV
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



160125

REVIEW SUMMARY FOR FILE - 16012511.D

Lab ID: LLPAH SCV
nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 12:30

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

SIM PAH Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: AUA2



GC/MS SVOA Analyst Notes / Data Review Checklist

ELEMENT/NWA #: AUAZ Client: Anchor GEA, LLC

METHOD: 8270D (SIM-SVOA) KRONE (Butyl Tins) 8270D (SVOA) 8270D (OP-Pest)

Instrument: NT-6 NT-8 NT-10 NT-11 NT-12 NT-14

Calibration Code: YLO0008 / ZA00015 Analysis Start Date: 1/22/16

	REVIEW 1/REVIEW 2		REVIEW 1/REVIEW 2
DFTPP Tune met Criteria?	<u>Y</u> /N/ <u>✓</u>	Internal Standard within 50-200%?	<u>Y</u> /N/ <u>✓</u>
DDT Breakdown <20%?	<u>Y</u> /N/ <u>✓</u>	Retention Times within Windows?	<u>Y</u> /N/ <u>✓</u>
Peak Tailing Factor ≤2?	<u>Y</u> /N/ <u>✓</u>	Method Blank in Control?	<u>Y</u> /N/ <u>✓</u>
ICV/CCV Meets %D?	<u>Y</u> /N/ <u>✓</u>	BS/BSD Recovery in Control?	<u>Y</u> /N/ <u>✓</u>
ICAL Q Flag applied?	Y/ <u>N</u> / <u>✓</u>	MS/MSD Recovery in Control?	Y/N/
ICV/CCV Q flag applied?	<u>Y</u> /N/ <u>✓</u>	Samples Diluted?	<u>Y</u> /N/ <u>✓</u>
Surrogate Recovery met?	<u>Y</u> /N/ <u>✓</u>	Special Analysis Request?	<u>Y</u> /N/ <u>✓</u>
Manual Integrations?	Y/ <u>N</u> / <u>✓</u>	VDP Completed?	NA <u>Y</u> /N/ <u>✓</u>
Integration Summary?	<u>Y</u> /N/ <u>✓</u>	Technical Review?	<u>✓</u> /

Detail problems, corrective actions and/or other pertinent information below.

Q-flag for benzo(k)fluoranthene, which applies Q flag to total benzo fluoranthenes. Note total contains benzo(j)fluoranthene as well, column has separation of all three. This is for 1/22 run

AUAZ A rerun @ 10x on 1/25, B & C checked for carry over, not present reported from 1/22 run

Curve was lost even after inst. maint. dilution rerun on new curve ZA00015

Job/Forms batched w/ APR4 & ATSO

(Review 1) Analyst: JW Date: 1/26/16

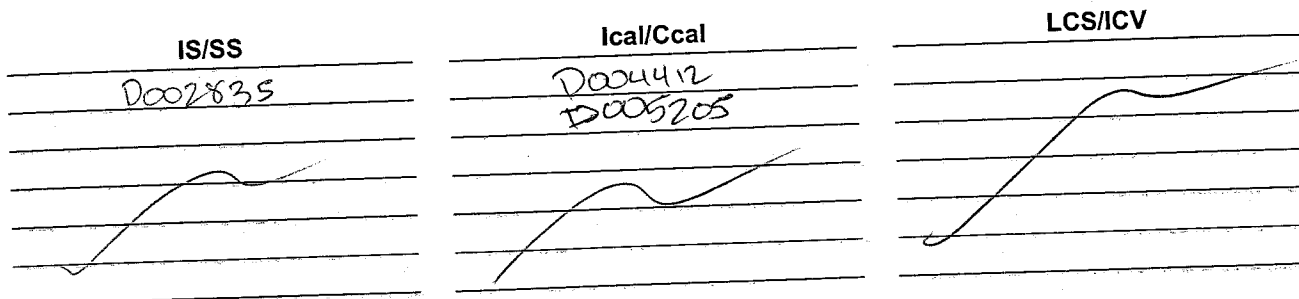
(Review 2) Peer: _____ Date: _____

(Final Review) Reviewer: [Signature] Date: 1/27

Analytical Resources Inc.: Organics Instrument Log

NT-11 Serial No.: GC=US10140004, MS=US10481502

Date: 1/22/16 Analysis: low PAK Analyst: JW
 GC Program: lowsim Column No: D001726 Column Type: 184 Rxi-17silvers
 Instrument Tune (.U or .CT.): 150115.U EM Voltage: 1847
 Calibration File: 16012204.D Cali Code: Y60008 Injection Vol.: 2ul



Document All Maintenance Tasks In Element

Time	Filename	LabID	ClientID	DF																	
1	0708	16012201.D	TUNE 10		1		NO ISTDs FOUND														
2	0725	16012202.D	LL SIM ICV		1		6.77	290356		9.77	200396		12.45	328472		17.19	243652		20.11	215215	
3	0824	16012203.D			1		6.76	302565		9.77	213697		12.46	342867		17.21	264433		20.13	259585	
4	0848	16012204.D	TUNE 10		1		NO ISTDs FOUND														
5	0905	16012205.D	LL SIM ICV		1		6.74	342116		9.74	244162		12.42	395241		17.17	296129		20.06	267218	
6	0957	16012206.D	LL SIM MRL		1		6.74	345356		9.76	235311		12.42	378135		17.18	274122		20.07	249583	
7	1027	16012207.D	APR4MBS1	APR4MBS1	1		6.73	368895		9.74	251480		12.42	405369		17.17	295936		20.06	283292	
8	1057	16012208.D	APR4LCS1	APR4LCS1	1		6.73	360526		9.74	257556		12.42	412183		17.17	314530		20.06	306666	
9	1128	16012209.D	APR4SRM1	SRM 1974C	1		6.73	362258		9.74	249465		12.42	398741		17.17	300525		20.06	299419	
10	1158	16012210.D	APR4A	PG-T0-MUS-CO	1		6.72	371890		9.74	259279		12.42	437520		17.17	299515		20.06	303212	
11	1228	16012211.D	ATSOA	PG-SMA2-2-MU	1		6.73	363469		9.74	256352		12.42	419386		17.17	310418		20.06	308119	
12	1258	16012212.D	ATSOB	PG-PJ-1-MUS-	1		6.73	374753		9.74	264386		12.42	426020		17.17	316427		20.07	315181	
13	1328	16012213.D	ATSORMS	PG-PJ-1-MUS-	1		6.73	373582		9.74	269039		12.42	428623		17.17	324379		20.06	323020	
14	1359	16012214.D	ATSORMSD	PG-PJ-1-MUS-	1		6.73	377287		9.74	271691		12.42	435691		17.17	325376		20.06	324453	
15	1429	16012215.D	ATSOC	PG-WS-1-MUS-	1		6.73	376882		9.74	268849		12.42	435864		17.17	322334		20.06	323010	
16	1459	16012216.D	ATSOB	PG-GP-1-MUS-	1		6.72	377268		9.74	268633		12.42	436597		17.17	322279		20.06	320562	
17	1529	16012217.D	ATSOE	PG-SMA2-5-MU	1		6.73	384886		9.74	273475		12.42	449495		17.17	339179		20.06	335158	
18	1559	16012218.D	ATSOE	PG-SMA2-4-MU	1		6.72	381586		9.74	270392		12.42	439377		17.17	325728		20.06	325370	
19	1630	16012219.D	AUA2A	13EB_MB-MTW0	1		6.73	373510		9.74	268987		12.42	440845		17.17	336414		20.06	339083	
20	1700	16012220.D	AUA2B	13CPS_DB-MTW	1		6.73	370975		9.74	264737		12.42	432287		17.17	321859		20.06	327843	
21	1730	16012221.D	AUA2C	13NPS_CJAR2-	1		6.72	382765		9.75	270341		12.42	435855		17.17	323444		20.06	326352	
22	1800	16012222.D	LL SIM CCV		1		6.73	368312		9.74	275119		12.42	442913		17.17	337848		20.06	324201	

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Instrument: nt11.i Date: 22-JAN-2016 Method: lowsim.m

INITIAL CAL: 04-DEC-2015

Compound	%RSD or R ²

NO Q-FLAGS	

CONTINUING CAL: 22-JAN-2016

Compound	%D

Benzo(k) fluoranthene	-20.8

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

ARI Job No.: TUNE Method: DFIPP.m Instrument: nt11.i Date: 22-JAN-2016

Time Filename LabID ClientId DF Manually Integrated Compounds

0848	16012204.D	TUNE 10		1	NO MANUAL INTEGRATION
0905	16012205.D	LL SIM ICV		1	NO MANUAL INTEGRATION
0957	16012206.D	LL SIM MRL		1	NO MANUAL INTEGRATION
1027	16012207.D	APR4MBS1	APR4MBS1	1	NO MANUAL INTEGRATION
1057	16012208.D	APR4LCSS1	APR4LCSS1	1	NO MANUAL INTEGRATION
1128	16012209.D	APR4SRM1	SRM 1974C	1	NO MANUAL INTEGRATION
1158	16012210.D	APR4A	PG-T0-MUS-	1	NO MANUAL INTEGRATION
1228	16012211.D	ATS0A	PG-SMA2-2-	1	NO MANUAL INTEGRATION
1258	16012212.D	ATS0B	PG-PJ-1-MU	1	NO MANUAL INTEGRATION
1328	16012213.D	ATS0BMS	PG-PJ-1-MU	1	NO MANUAL INTEGRATION
1359	16012214.D	ATS0BMSD	PG-PJ-1-MU	1	NO MANUAL INTEGRATION
1429	16012215.D	ATS0C	PG-WS-1-MU	1	NO MANUAL INTEGRATION
1459	16012216.D	ATS0D	PG-GP-1-MU	1	NO MANUAL INTEGRATION
1529	16012217.D	ATS0E	PG-SMA2-5-	1	NO MANUAL INTEGRATION
1559	16012218.D	ATS0F	PG-SMA2-4-	1	NO MANUAL INTEGRATION
1630	16012219.D	AUA2A	13BB_ME-MT	1	NO MANUAL INTEGRATION
1700	16012220.D	AUA2B	13CPS_DB-M	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Time Filename LabID ClientId DF Manually Integrated Compounds

1730 16012221.D AUA2C 13NPS_CJAR 1 NO MANUAL INTEGRATION

1800 16012222.D LL SIM CCV 1 NO MANUAL INTEGRATION

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH (0.5 ug/kg)	Solid	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

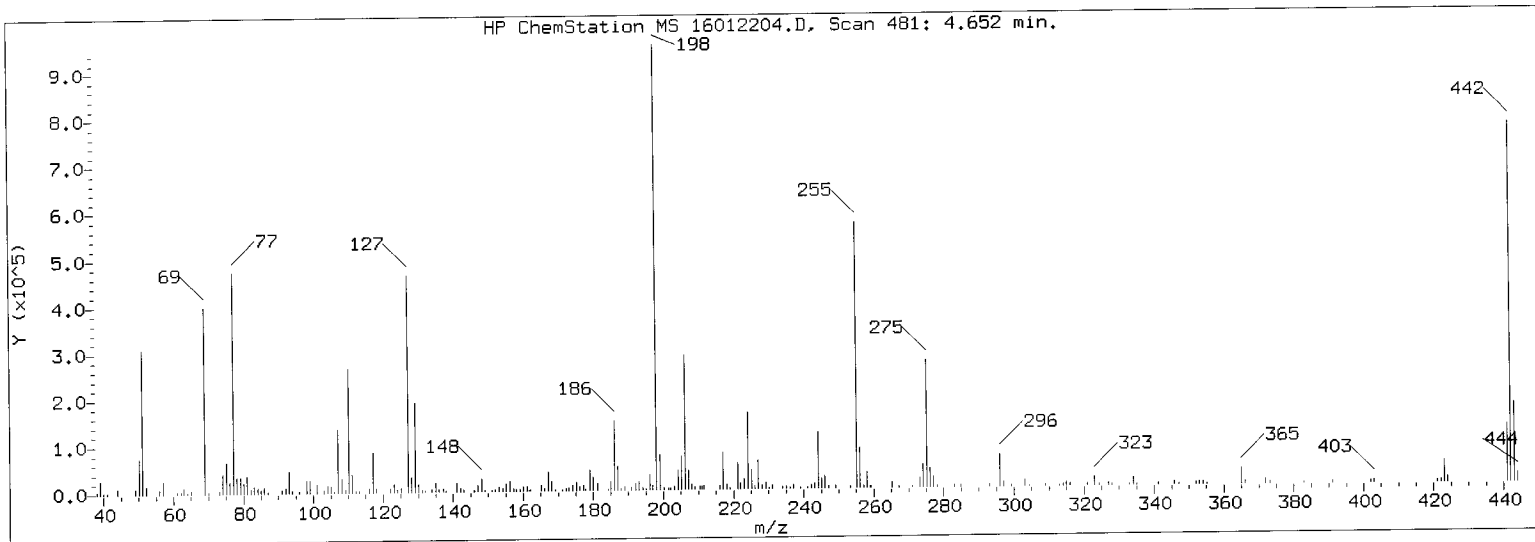
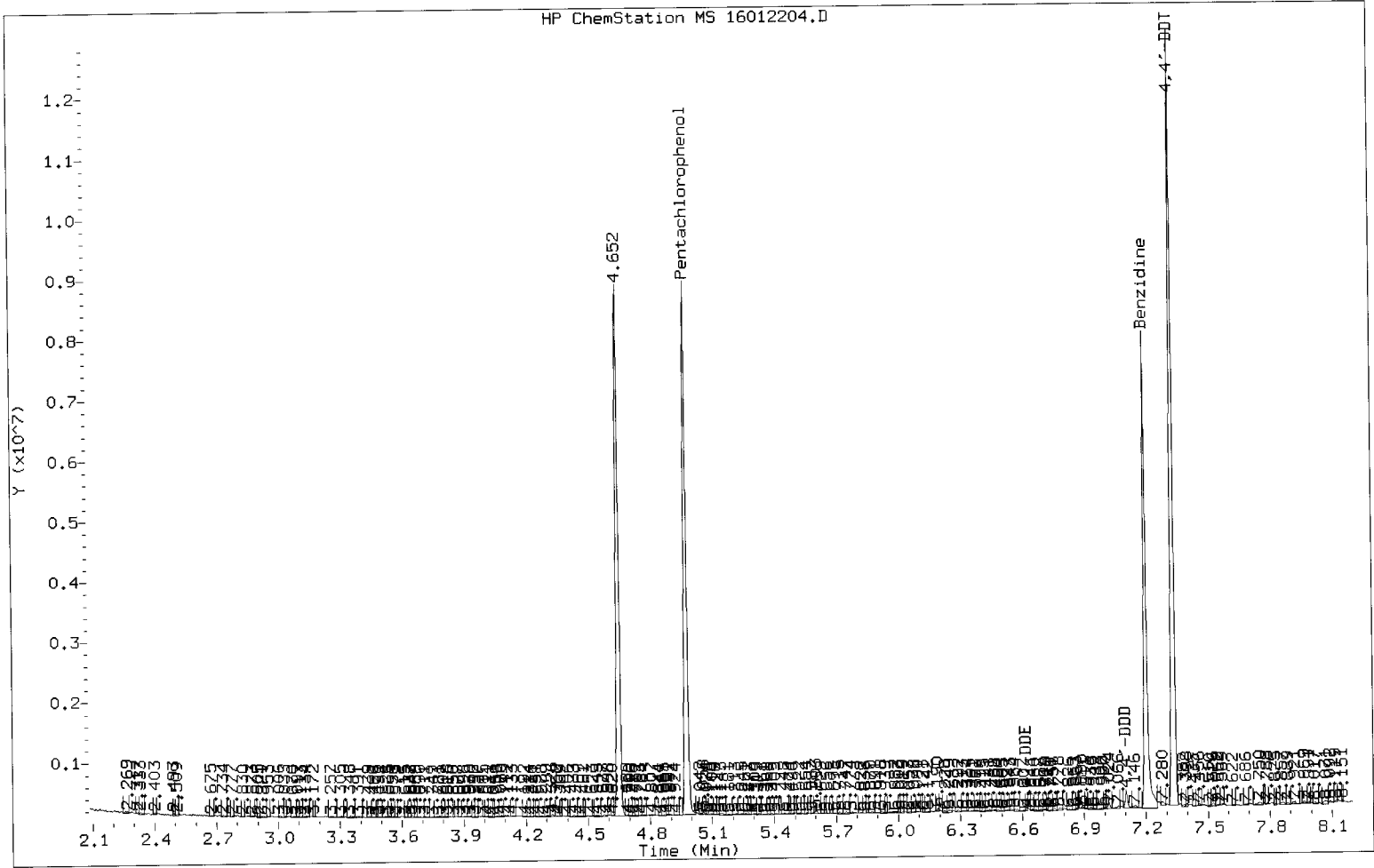
#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: <i>YL00008</i>	YES	JLW	12/05/2015
2	DFTPP Tune met criteria	YES	JLW	12/05/2015
3	DDT breakdown <20%	YES	JLW	12/05/2015
4	Peak Tailing factor <= 2% Comments: <i>Benzidine TD @ 2.11</i>	NO	JLW	12/05/2015
5	ICal meets 20% RSD, LR COD, and QR COD limits	YES	JLW	12/05/2015
6	NO ICAL Q Flag applied	YES	JLW	12/05/2015
7	Manual integrations include before/after pictures	NA	JLW	12/05/2015
8	Spectral Library matches updated	YES	JLW	12/05/2015
9	Internal Standard areas within 50-200% from reference	YES	JLW	12/05/2015
10	Minimum response factors met			12/30/1899
11	All SCV within +/- 20% (DOD)	YES	JLW	12/05/2015
12	All SCV within +/- 30%	YES	JLW	12/05/2015
13	NO Linear or Quadratic fits used	YES	JLW	12/05/2015
14	NO Calibration points dropped	YES	JLW	12/05/2015
15	Additional notes	NA	JLW	12/05/2015
16	Reviewer approval (Reviewer)	YES	BB	12/07/2015

* = Indicates Automated Response from Element DataSystem

AUA2 : 00193

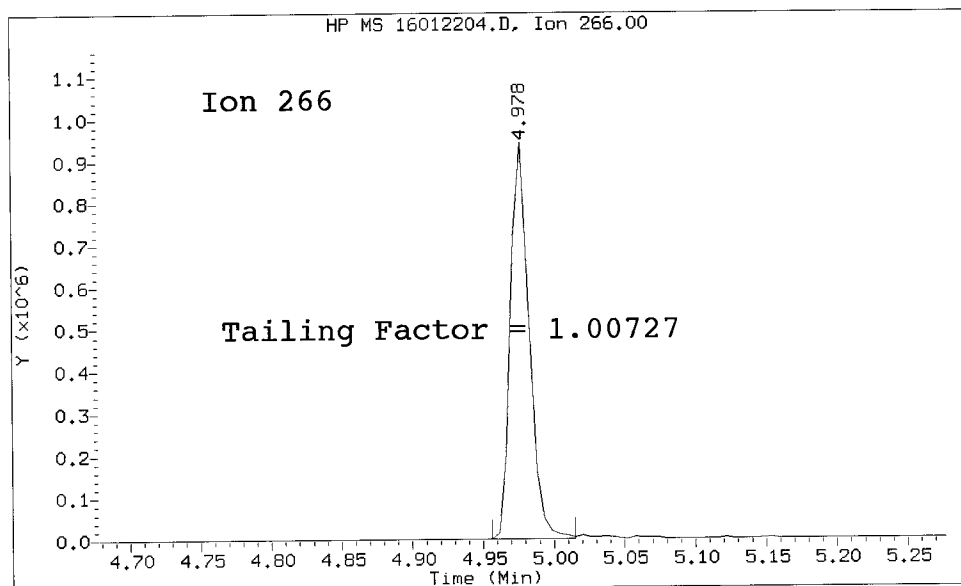
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m Inst: nt11
Injection Date: 22-JAN-2016 08:48 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 01/22/2016 09:02



AUA2:00194

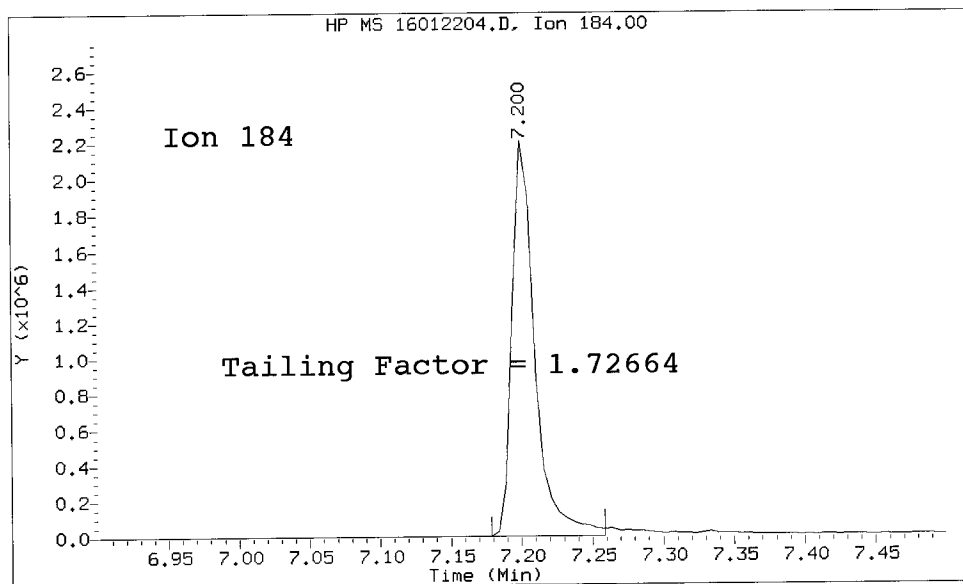
Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 22-JAN-2016 08:48 Operator: JR
Sample Info: TUNE 10
Report Date: 01/22/2016 09:02



Pentachlorophenol

=====
Exp. RT = 4.993
Found RT = 4.978

Tail Factor = 1.007 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.221
Found RT = 7.200

Tail Factor = 1.727 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	32.73
68	Less than 2.00% of mass 69	0.16 (0.39)
69	Mass 69 relative abundance	41.63
70	Less than 2.00% of mass 69	0.25 (0.61)
127	10.00 - 80.00% of mass 198	47.78
197	Less than 2.00% of mass 198	0.40
199	5.00 - 9.00% of mass 198	7.71
275	10.00 - 60.00% of mass 198	27.24
365	Greater than 1.00% of mass 198	3.32
441	0.01 - 24.00% of mass 442	12.54 (16.26)
442	50.00 - 200.00% of mass 198	77.14
443	15.00 - 24.00% of mass 442	16.83 (21.81)

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.0072727	2.000	PASS
Benzidine	1.7266388	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1726805			N/A
4,4-DDE	3549	0.2	20.0	PASS
4,4-DDD	52618	3.0	20.0	PASS
4,4-DDD + DDE	56167	3.2	20.0	PASS

Tuning Sample, nt11.i/20160122.b/16012204.D, *** PASSED ***

Data File: 16012204.D
 Spectrum: Avg. Scans 480-482 (4.65), Background Scan 474
 Location of Maximum: 198.00
 Number of points: 234

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	3607	122.00	7336	189.00	6814	259.00	4520
39.00	25272	123.00	12165	190.00	687	265.00	10616
40.00	1066	124.00	5804	191.00	3058	267.00	824
41.00	1087	125.00	6712	192.00	9991	271.00	1786
44.00	2951	126.00	715	193.00	11855	273.00	17288
47.00	1915	127.00	371968	194.00	2573	274.00	41440
48.00	965	128.00	27128	195.00	969	275.00	212032
49.00	343	129.00	147840	196.00	26288	276.00	33296
50.00	69008	130.00	14201	197.00	3102	277.00	19368
51.00	254784	131.00	2791	198.00	778432	278.00	1718
52.00	12897	132.00	1860	199.00	60048	283.00	2182
56.00	8355	134.00	4232	200.00	5671	285.00	2120
57.00	22680	135.00	13298	201.00	3467	293.00	3851
61.00	3516	136.00	3638	202.00	2557	296.00	55384
62.00	3826	137.00	5257	203.00	5846	297.00	8144
63.00	9940	138.00	1734	204.00	32288	299.00	707
64.00	1093	141.00	18984	205.00	57688	301.00	924
65.00	7427	142.00	6237	206.00	232576	303.00	9467
68.00	1278	143.00	3531	207.00	29320	304.00	667
69.00	324032	146.00	4949	208.00	8015	308.00	766
70.00	1962	147.00	9660	209.00	1911	309.00	753
73.00	723	148.00	22696	210.00	4960	313.00	666
74.00	36448	149.00	2795	211.00	10724	314.00	3828
75.00	55760	150.00	734	215.00	1660	315.00	6576
76.00	19528	151.00	2894	216.00	5836	316.00	3799
77.00	385408	152.00	1966	217.00	56960	321.00	1720
78.00	29584	153.00	6313	218.00	7526	323.00	17272
79.00	25288	154.00	5608	219.00	1661	324.00	1938
80.00	16616	155.00	12727	220.00	890	327.00	4736
81.00	28720	156.00	18096	221.00	44040	328.00	2031
82.00	7311	157.00	4106	222.00	6970	333.00	2333
83.00	8522	158.00	3387	223.00	15012	334.00	16114
85.00	5376	159.00	2361	224.00	125528	335.00	2065
86.00	4792	160.00	6722	225.00	31192	341.00	1930
87.00	3303	161.00	8069	226.00	4356	346.00	3920
88.00	2091	162.00	3527	227.00	50936	347.00	798
91.00	4565	164.00	1307	228.00	7585	352.00	6058
92.00	7896	165.00	7812	229.00	11279	353.00	4458
93.00	39608	166.00	4164	230.00	1526	354.00	5282
94.00	2439	167.00	35072	231.00	5218	355.00	805
96.00	2499	168.00	16007	234.00	3064	365.00	25832
98.00	27064	169.00	3806	235.00	4198	366.00	4228
99.00	25248	171.00	980	236.00	2314	372.00	8757
100.00	1800	172.00	3057	237.00	5032	373.00	1989
101.00	16026	173.00	4470	239.00	1814	383.00	2358
103.00	3544	174.00	8647	241.00	1057	391.00	1271
104.00	11351	175.00	15815	242.00	6205	402.00	5535
105.00	8415	176.00	5995	243.00	4414	403.00	5821
106.00	1019	177.00	7242	244.00	90744	404.00	1129

107.00	114800	178.00	1626	245.00	14417	421.00	4462
108.00	24152	179.00	29840	246.00	18184	422.00	4482
109.00	4094	180.00	23120	247.00	3106	423.00	33288
110.00	220544	181.00	12070	249.00	2530	424.00	9008
111.00	29816	183.00	712	250.00	747	441.00	97608
112.00	3512	184.00	1794	253.00	1957	442.00	600448
113.00	690	185.00	14309	255.00	445120	443.00	130976
116.00	5974	186.00	118168	256.00	66840	444.00	13357
117.00	71488	187.00	35616	257.00	3449		
118.00	4363	188.00	3220	258.00	25832		

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 22-JAN-2016 09:05
 Lab File ID: 16012205.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LL SIM ICV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160122.b\lowsim.m

COMPOUND	RRF / AMOUNT	MIN		MAX		CURVE TYPE
		RF250	RRF %D / %DRIFT	%D / %DRIFT	%D / %DRIFT	
5 Naphthalene	1.15523	1.01008	0.010 -12.56490	20.00000	Averaged	
6 2-Methylnaphthalene-d10	0.74235	0.67060	0.010 -9.66554	20.00000	Averaged	
7 2-Methylnaphthalene	0.79376	0.72881	0.010 -8.18323	20.00000	Averaged	
8 1-Methylnaphthalene	0.71533	0.65102	0.010 -8.99055	20.00000	Averaged	
10 Acenaphthylene	1.61414	1.49736	0.010 -7.23476	20.00000	Averaged	
12 Acenaphthene	1.07135	0.94674	0.010 -11.63119	20.00000	Averaged	
14 Dibenzofuran	1.61394	1.44144	0.010 -10.68769	20.00000	Averaged	
15 Fluorene	1.21040	1.13274	0.010 -6.41645	20.00000	Averaged	
19 Phenanthrene	1.20497	1.02916	0.010 -14.58979	20.00000	Averaged	
20 Anthracene	1.07857	1.00293	0.010 -7.01252	20.00000	Averaged	
23 Fluoranthene-d10	1.09988	0.97587	0.200 -11.27457	20.00000	Averaged	
24 Fluoranthene	1.20977	1.06068	0.010 -12.32404	20.00000	Averaged	
25 Pyrene	1.58387	1.42756	0.010 -9.86851	20.00000	Averaged	
28 Benzo(a)anthracene	1.33345	1.18471	0.010 -11.15468	20.00000	Averaged	
30 Chrysene	1.46350	1.22447	0.010 -16.33287	20.00000	Averaged	
44 Benzo(b)fluoranthene	1.35504	1.16216	0.200 -14.23482	20.00000	Averaged	
45 Benzo(k)fluoranthene	1.57904	1.24997	0.200 -20.83950	20.00000	Averaged	
46 Benzo(j)fluoranthene	1.43839	1.18290	0.200 -17.76252	20.00000	Averaged	
34 Benzo(a)pyrene	1.30774	1.11820	0.010 -14.49403	20.00000	Averaged	
36 Dibenzo(a,h)anthracene-d14	0.80723	0.73518	0.010 -8.92537	20.00000	Averaged	
37 Indeno(1,2,3-cd)pyrene	1.37309	1.18637	0.010 -13.59810	20.00000	Averaged	
38 Dibenzo(a,h)anthracene	1.08579	0.96395	0.010 -11.22141	20.00000	Averaged	
39 Benzo(g,h,i)perylene	1.19199	1.03495	0.010 -13.17397	20.00000	Averaged	
47 Perylene	1.35582	1.11738	0.200 -17.58607	20.00000	Averaged	
48 Benzo(e)pyrene	1.36945	1.10703	0.200 -19.16194	20.00000	Averaged	

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012205.D
 Lab Smp Id: LL SIM ICV
 Inj Date : 22-JAN-2016 09:05 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM ICV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

*JW
1/25/16*

Compounds	QUANT	SIG	AMOUNTS				CAL-AMT (ng/mL)	ON-COL (ng/mL)
			MASS	RT	EXP RT	REL RT		
* 4 Naphthalene-d8	136		6.744	6.744	(1.000)	342116	200.000	
5 Naphthalene	128		6.776	6.776	(1.005)	431956	250.000	219
\$ 6 2-Methylnaphthalene-d10	152		7.721	7.721	(1.145)	286779	250.000	226
7 2-Methylnaphthalene	142		7.774	7.774	(1.153)	311670	250.000	230
8 1-Methylnaphthalene	142		8.026	8.026	(1.190)	278405	250.000	228
10 Acenaphthylene	152		9.589	9.589	(0.984)	456998	250.000	232
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	244162	200.000	
12 Acenaphthene	153		9.811	9.811	(1.007)	288948	250.000	221
14 Dibenzofuran	168		10.010	10.010	(1.027)	439932	250.000	223
15 Fluorene	166		10.630	10.630	(1.091)	345715	250.000	234
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	395241	200.000	
19 Phenanthrene	178		12.468	12.468	(1.004)	508460	250.000	214
20 Anthracene	178		12.523	12.523	(1.008)	495501	250.000	232
\$ 23 Fluoranthene-d10	212		14.518	14.518	(1.169)	482130	250.000	222
24 Fluoranthene	202		14.557	14.557	(1.172)	524030	250.000	219
25 Pyrene	202		15.057	15.057	(0.877)	528428	250.000	225
28 Benzo(a)anthracene	228		17.075	17.075	(0.995)	438532	250.000	222
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	296129	200.000	
30 Chrysene	228		17.217	17.217	(1.003)	453252	250.000	209
44 Benzo(b)fluoranthene	252		18.967	18.967	(0.945)	388186	250.000	214 (H)
45 Benzo(k)fluoranthene	252		19.015	19.015	(0.948)	417519	250.000	198 (H)

Compounds	QUANT SIG						AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)	
=====	====	====	=====	=====	=====	=====	=====	
46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	395115	250.000	206	
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	373503	250.000	214	
* 35 Perylene-d12	264	20.062	20.062	(1.000)	267218	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	245568	250.000	228	
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	396275	250.000	216	
38 Dibenzo(a,h)anthracene	278	22.651	22.651	(1.129)	321982	250.000	222	
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	345698	250.000	217	
47 Perylene	252	20.130	20.130	(1.003)	373231	250.000	206	
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	369774	250.000	202	

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012205.D
 Lab Smp Id: LL SIM ICV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 18:00

Level: LOW
 Sample Type: SOIL

Test Mode:

Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	342116	4.34
11 Acenaphthene-d10	239179	119590	478358	244162	2.08
18 Phenanthrene-d10	372253	186127	744506	395241	6.18
29 Chrysene-d12	294711	147356	589422	296129	0.48
35 Perylene-d12	260595	130298	521190	267218	2.54

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date: 22-JAN-2016 09:05

Client ID:

Sample Info: LL SIM ICV

Volume Injected (uL): 2.0

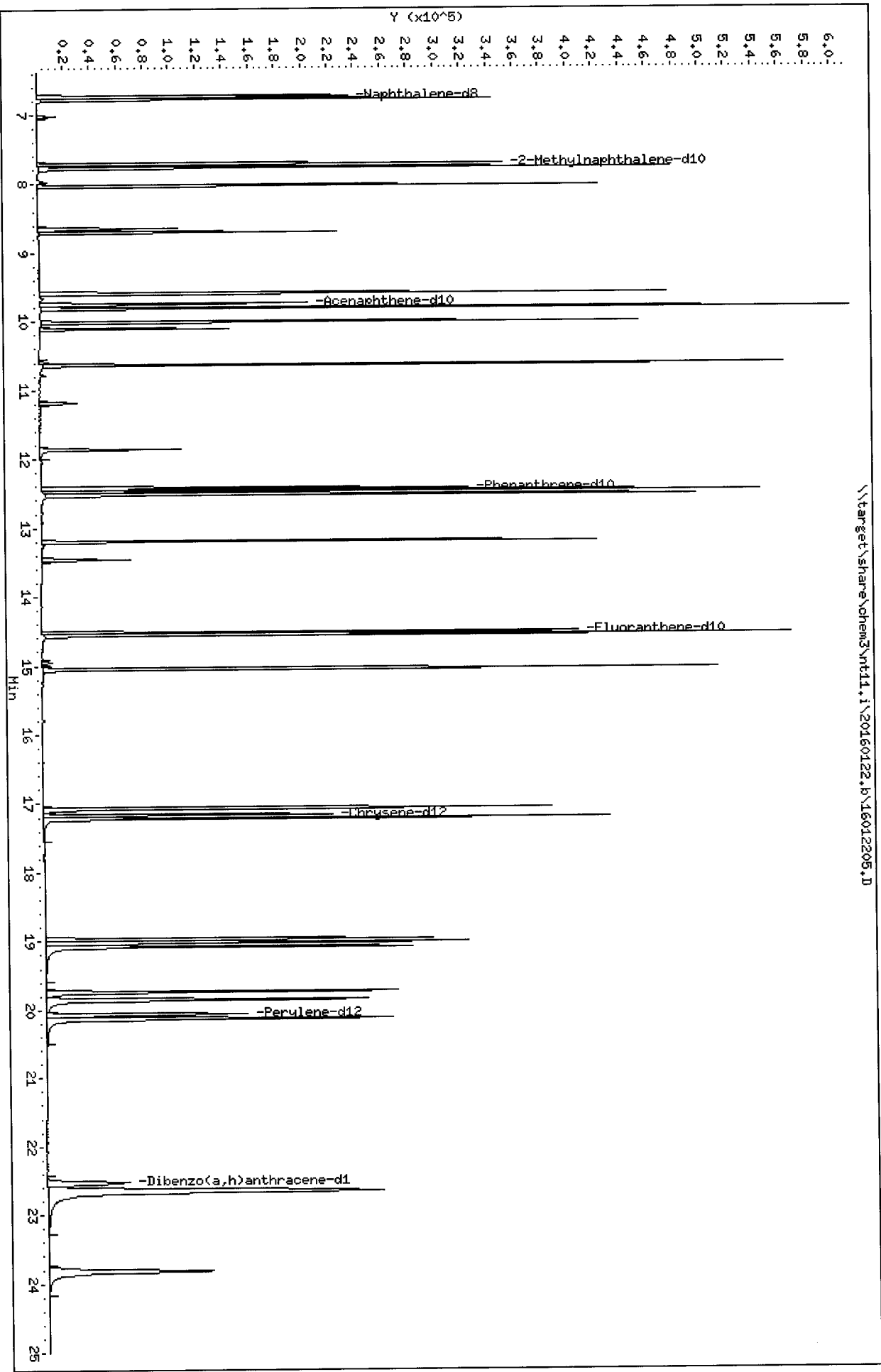
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.k\16012205.D



Lab ID: LL SIM ICV

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:05

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012206.D
 Lab Smp Id: LL SIM MRL
 Inj Date : 22-JAN-2016 09:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM MRL
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

*50
1/25/16*

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/Kg)
* 4 Naphthalene-d8	136	6.744	6.744 (1.000)		345356	200.000	
5 Naphthalene	128	6.776	6.776 (1.005)		23679	11.8701	594
\$ 6 2-Methylnaphthalene-d10	152	7.721	7.721 (1.145)		14635	11.4168	571 (R)
7 2-Methylnaphthalene	142	7.774	7.774 (1.153)		15554	11.3479	567
8 1-Methylnaphthalene	142	8.036	8.026 (1.192)		14016	11.3470	567
10 Acenaphthylene	152	9.600	9.589 (0.984)		23264	12.2499	612
* 11 Acenaphthene-d10	164	9.755	9.744 (1.000)		235311	200.000	
12 Acenaphthene	153	9.811	9.811 (1.006)		14766	11.7143	586
14 Dibenzofuran	168	10.021	10.010 (1.027)		23440	12.3441	617
15 Fluorene	166	10.641	10.630 (1.091)		17626	12.3769	619
* 18 Phenanthrene-d10	188	12.424	12.424 (1.000)		378135	200.000	
19 Phenanthrene	178	12.468	12.468 (1.004)		30106	13.2148	661
20 Anthracene	178	12.523	12.523 (1.008)		24053	11.7952	590
\$ 23 Fluoranthene-d10	212	14.528	14.518 (1.169)		25449	12.2380	612 (R)
24 Fluoranthene	202	14.557	14.557 (1.172)		27112	11.8533	593
25 Pyrene	202	15.057	15.057 (0.877)		28035	12.9142	646
28 Benzo (a) anthracene	228	17.076	17.075 (0.994)		22208	12.1512	608
* 29 Chrysene-d12	240	17.175	17.167 (1.000)		274122	200.000	
30 Chrysene	228	17.225	17.217 (1.003)		23055	11.4936	575
44 Benzo (b) fluoranthene	252	18.977	18.967 (0.945)		17108	10.1172	506
45 Benzo (k) fluoranthene	252	19.025	19.015 (0.948)		20372	10.3385	517

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)
46 Benzo(j) fluoranthene	252	19.092	19.082	(0.951)	19922	11.0986	555
34 Benzo(a)pyrene	252	19.861	19.851	(0.989)	17153	10.5107	526
* 35 Perylene-d12	264	20.072	20.062	(1.000)	249583	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.540	22.529	(1.123)	9288	9.22016	461 (R)
37 Indeno(1,2,3-cd)pyrene	276	22.673	22.662	(1.130)	16178	9.44153	472
38 Dibenzo(a,h)anthracene	278	22.651	22.651	(1.128)	12483	9.21269	461
39 Benzo(g,h,i)perylene	276	23.836	23.814	(1.188)	14357	9.65178	483
47 Perylene	252	20.139	20.130	(1.003)	17838	10.5429	527
48 Benzo(e)pyrene	252	19.745	19.736	(0.984)	18320	10.7200	536

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012206.D
 Lab Smp Id: LL SIM MRL
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	345356	5.32
11 Acenaphthene-d10	239179	119590	478358	235311	-1.62
18 Phenanthrene-d10	372253	186127	744506	378135	1.58
29 Chrysene-d12	294711	147356	589422	274122	-6.99
35 Perylene-d12	260595	130298	521190	249583	-4.23

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.76	0.11
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.18	0.05
35 Perylene-d12	20.06	19.56	20.56	20.07	0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: SDGa04420
Sample Matrix: SOLID Fraction: SV
Lab Smp Id: LL SIM MRL
Level: LOW Operator: JW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: waterlcs.spk Quant Type: ISTD
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/Kg	CONC RECOVERED ng/Kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	571	3.81*	30-160
\$ 23 Fluoranthene-d10	15000	612	4.08*	30-160
\$ 36 Dibenzo(a,h) anthra	15000	461	3.07*	30-160

Date: 22-JAN-2016 09:57

Client ID:

Instrument: nt11.1

Sample Info: LL SIM MRL

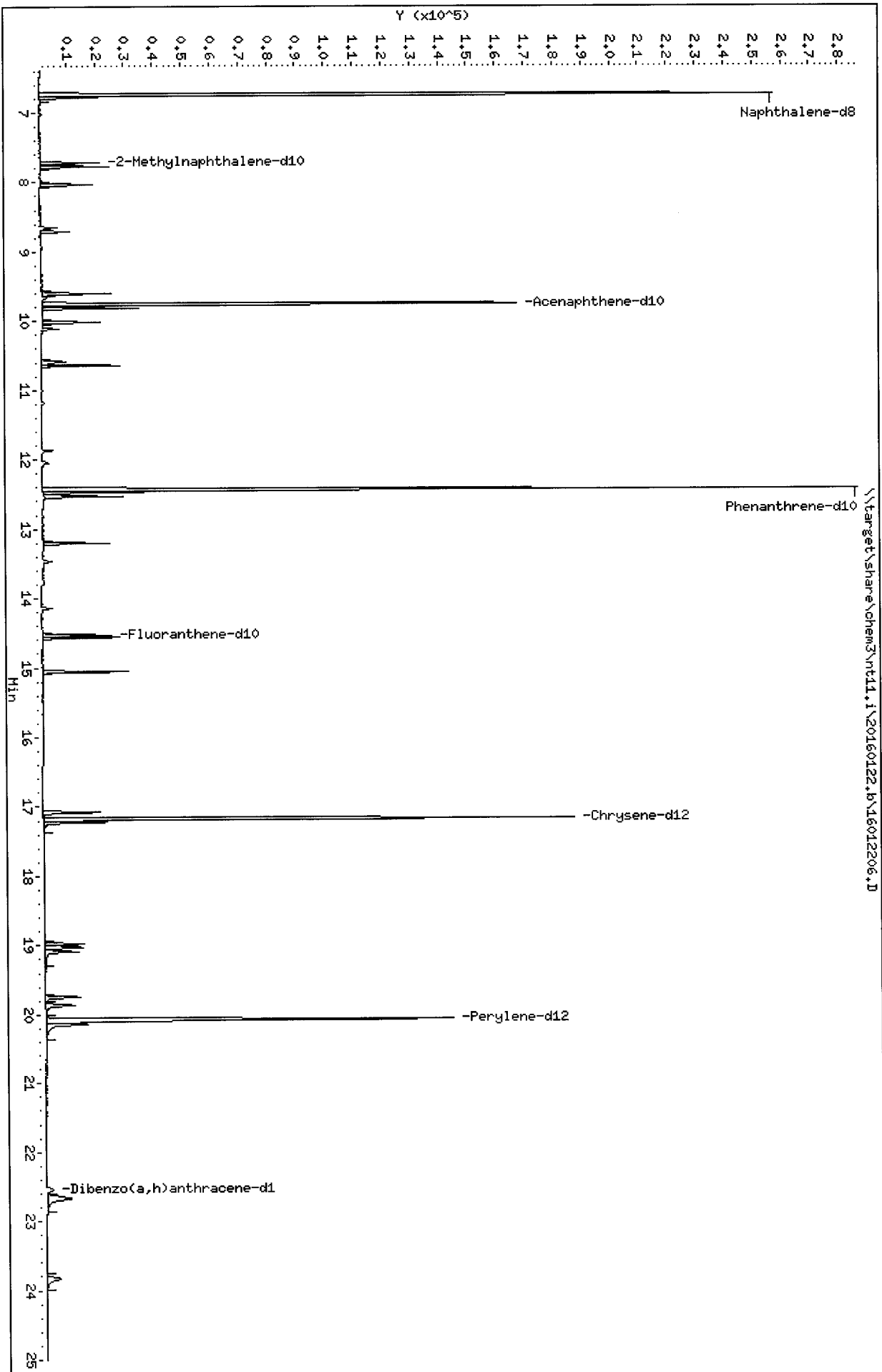
Volume Injected (uL): 2.0

Operator: JM

Column phase: Rxi-17S11 MS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.6\16012206.D



Lab ID: LL SIM MRL
nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 22-JAN-2016 18:00
 Lab File ID: 16012222.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LL SIM CCV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160122.b\lowsim.m

COMPOUND	RRF / AMOUNT	MIN		MAX		CURVE TYPE
		RF250	RRF %D / %DRIFT	%D / %DRIFT	%D / %DRIFT	
15 Naphthalene	1.15523	1.01182	0.010	-12.41432	20.00000	Averaged
16 2-Methylnaphthalene-d10	0.74235	0.69544	0.010	-6.31969	20.00000	Averaged
17 2-Methylnaphthalene	0.79376	0.74787	0.010	-5.78194	20.00000	Averaged
18 1-Methylnaphthalene	0.71533	0.68036	0.010	-4.88849	20.00000	Averaged
10 Acenaphthylene	1.61414	1.54546	0.010	-4.25498	20.00000	Averaged
12 Acenaphthene	1.07135	0.94423	0.010	-11.86579	20.00000	Averaged
14 Dibenzofuran	1.61394	1.41355	0.010	-12.41578	20.00000	Averaged
15 Fluorene	1.21040	1.13310	0.010	-6.38636	20.00000	Averaged
19 Phenanthrene	1.20497	1.00481	0.010	-16.61100	20.00000	Averaged
20 Anthracene	1.07857	1.02531	0.010	-4.93777	20.00000	Averaged
23 Fluoranthene-d10	1.09988	0.98829	0.200	-10.14508	20.00000	Averaged
24 Fluoranthene	1.20977	1.05659	0.010	-12.66190	20.00000	Averaged
25 Pyrene	1.58387	1.41304	0.010	-10.78535	20.00000	Averaged
28 Benzo(a)anthracene	1.33345	1.20396	0.010	-9.71058	20.00000	Averaged
30 Chrysene	1.46350	1.19614	0.010	-18.26873	20.00000	Averaged
44 Benzo(k)fluoranthene	1.35504	1.18613	0.200	-12.46547	20.00000	Averaged
45 Benzo(l)fluoranthene	1.57904	1.16913	0.200	-25.95931	20.00000	Averaged <- ck
46 Benzo(j)fluoranthene	1.43839	1.09316	0.200	-24.00145	20.00000	Averaged <- ck
34 Benzo(a)pyrene	1.30774	1.10745	0.010	-15.31574	20.00000	Averaged
36 Dibenzo(a,h)anthracene-d14	0.80723	0.77966	0.010	-3.41604	20.00000	Averaged
37 Indeno(1,2,3-cd)pyrene	1.37309	1.23211	0.010	-10.26727	20.00000	Averaged
38 Dibenzo(a,h)anthracene	1.08579	1.01780	0.010	-6.26235	20.00000	Averaged
39 Benzo(g,h,i)perylene	1.19199	1.04962	0.010	-11.94336	20.00000	Averaged
47 Perylene	1.35582	1.10544	0.200	-18.46728	20.00000	Averaged
48 Benzo(e)pyrene	1.36945	1.07298	0.200	-21.64831	20.00000	Averaged <- ck

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012222.D
 Lab Smp Id: LL SIM CCV
 Inj Date : 22-JAN-2016 18:00 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM CCV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:47 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 16 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	AMOUNTS				CAL-AMT (ng/mL)	ON-COL (ng/mL)
			MASS	RT	EXP RT	REL RT		
* 4 Naphthalene-d8	136		6.734	6.734	(1.000)	368312	200.000	
5 Naphthalene	128		6.776	6.776	(1.006)	465832	250.000	219
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.711	(1.145)	320173	250.000	234
7 2-Methylnaphthalene	142		7.774	7.774	(1.154)	344310	250.000	236
8 1-Methylnaphthalene	142		8.026	8.026	(1.192)	313232	250.000	238
10 Acenaphthylene	152		9.589	9.589	(0.984)	531481	250.000	239
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	275119	200.000	
12 Acenaphthene	153		9.811	9.811	(1.007)	324719	250.000	220
14 Dibenzofuran	168		10.010	10.010	(1.027)	486119	250.000	219
15 Fluorene	166		10.630	10.630	(1.091)	389673	250.000	234
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	442913	200.000	
19 Phenanthrene	178		12.468	12.468	(1.004)	556304	250.000	208
20 Anthracene	178		12.523	12.523	(1.008)	567655	250.000	238
\$ 23 Fluoranthene-d10	212		14.519	14.519	(1.169)	547160	250.000	225
24 Fluoranthene	202		14.557	14.557	(1.172)	584973	250.000	218
25 Pyrene	202		15.057	15.057	(0.877)	596741	250.000	223
28 Benzo(a)anthracene	228		17.067	17.067	(0.994)	508445	250.000	226
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	337848	200.000	
30 Chrysene	228		17.217	17.217	(1.003)	505142	250.000	204
44 Benzo(b)fluoranthene	252		18.967	18.967	(0.945)	480681	250.000	219
45 Benzo(k)fluoranthene	252		19.015	19.015	(0.948)	473791	250.000	185

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
===== 46 Benzo(j) fluoranthene	252	19.083	19.083	(0.951)	443004	250.000	190
34 Benzo(a) pyrene	252	19.851	19.851	(0.989)	448796	250.000	212
* 35 Perylene-d12	264	20.063	20.063	(1.000)	324201	200.000	
\$ 36 Dibenzo(a,h) anthracene-d14	292	22.529	22.529	(1.123)	315957	250.000	241
37 Indeno(1,2,3-cd) pyrene	276	22.662	22.662	(1.130)	499313	250.000	224
38 Dibenzo(a,h) anthracene	278	22.640	22.640	(1.128)	412464	250.000	234
39 Benzo(g,h,i) perylene	276	23.814	23.814	(1.187)	425361	250.000	220
47 Perylene	252	20.130	20.130	(1.003)	447979	250.000	204
48 Benzo(e) pyrene	252	19.736	19.736	(0.984)	434828	250.000	196

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012222.D
 Lab Smp Id: LL SIM CCV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	368312	12.33
11 Acenaphthene-d10	239179	119590	478358	275119	15.03
18 Phenanthrene-d10	372253	186127	744506	442913	18.98
29 Chrysene-d12	294711	147356	589422	337848	14.64
35 Perylene-d12	260595	130298	521190	324201	24.41

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.73	6.23	7.23	6.73	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Client ID:

Sample Info: LL SIM CCV

Volume Injected (uL): 2.0

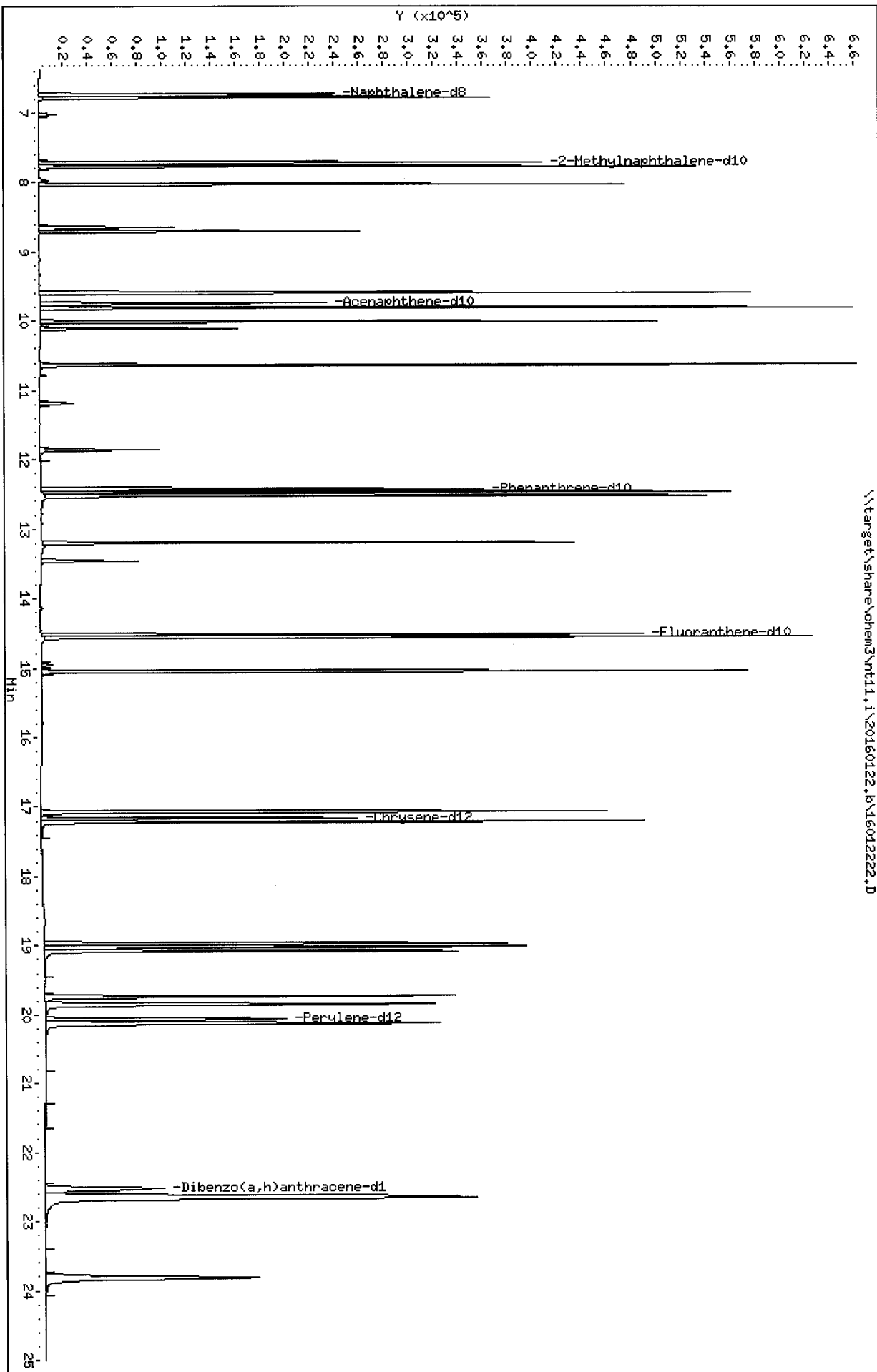
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012222.D



REVIEW SUMMARY FOR FILE - 16012222.D

Lab ID: LL SIM CCV
nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 18:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

AUA2:00217

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012207.D
 Lab Smp Id: APR4MBS1 Client Smp ID: APR4MBS1
 Inj Date : 22-JAN-2016 10:27 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4MBS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1 QC Sample: BLANK
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ug/kg)	
* 4 Naphthalene-d8	136	6.734	6.744	(1.000)	368895	200.000		
5 Naphthalene	128	Compound Not Detected.						
\$ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.145)	192954	140.919	7050	
7 2-Methylnaphthalene	142	Compound Not Detected.						
8 1-Methylnaphthalene	142	Compound Not Detected.						
10 Acenaphthylene	152	Compound Not Detected.						
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	251480	200.000		
12 Acenaphthene	153	Compound Not Detected.						
14 Dibenzofuran	168	Compound Not Detected.						
15 Fluorene	166	Compound Not Detected.						
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	405369	200.000		
19 Phenanthrene	178	Compound Not Detected.						
20 Anthracene	178	Compound Not Detected.						
\$ 23 Fluoranthene-d10	212	14.519	14.518	(1.169)	409079	183.503	9180	
24 Fluoranthene	202	Compound Not Detected.						
25 Pyrene	202	Compound Not Detected.						
28 Benzo (a) anthracene	228	Compound Not Detected.						
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	295936	200.000		
30 Chrysene	228	Compound Not Detected.						
44 Benzo (b) fluoranthene	252	Compound Not Detected.						
45 Benzo (k) fluoranthene	252	Compound Not Detected.						

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
46 Benzo(j)fluoranthene	252				Compound Not Detected.		
34 Benzo(a)pyrene	252				Compound Not Detected.		
* 35 Perylene-d12	264	20.063	20.062	(1.000)	283292	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	225250	196.998	9850
37 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
38 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
39 Benzo(g,h,i)perylene	276				Compound Not Detected.		
47 Perylene	252				Compound Not Detected.		
48 Benzo(e)pyrene	252				Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012207.D
 Lab Smp Id: APR4MBS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4MBS1
 Level: LOW
 Sample Type: Solid

Test Mode:

Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	368895	12.50
11 Acenaphthene-d10	239179	119590	478358	251480	5.14
18 Phenanthrene-d10	372253	186127	744506	405369	8.90
29 Chrysene-d12	294711	147356	589422	295936	0.42
35 Perylene-d12	260595	130298	521190	283292	8.71

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

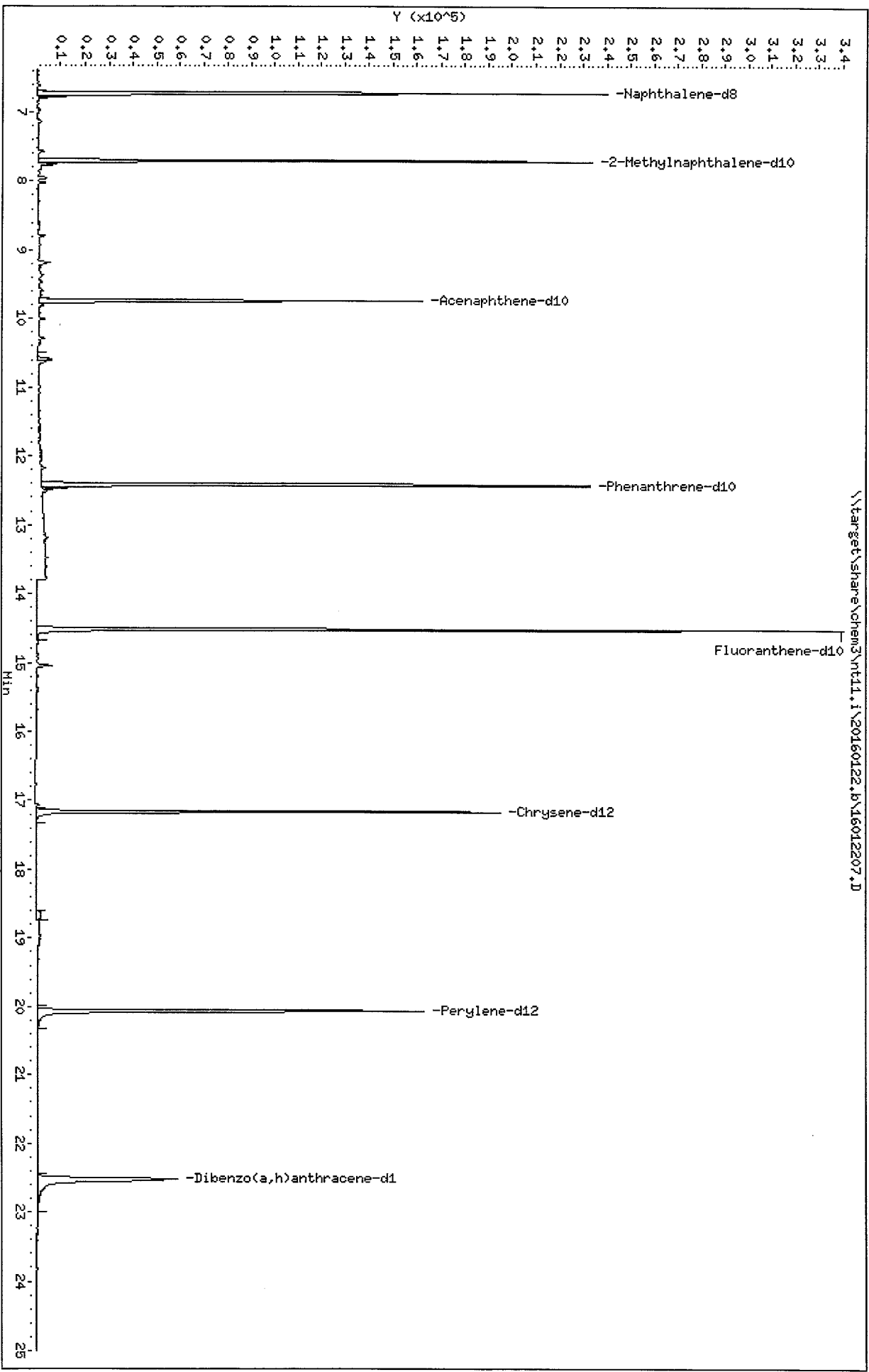
Client Name: Anchor QEA, LLC
 Sample Matrix: SOLID
 Lab Smp Id: APR4MBS1
 Level: LOW
 Data Type: MS DATA
 SpikeList File: waterlcs.spk
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Client SDG: APR4
 Fraction: SV
 Client Smp ID: APR4MBS1
 Operator: JW
 SampleType: BLANK
 Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7050	46.97	30-160
\$ 23 Fluoranthene-d10	15000	9180	61.17	30-160
\$ 36 Dibenzo(a,h) anthra	15000	9850	65.67	30-160 ✓

Data File: \\target\share\chem3\nt11.i\20160122.B\16012207.D
Date : 22-JAN-2016 10:27
Client ID: APP4HBS1
Sample Info: APP4HBS1
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 16012207.D

Lab ID: APR4MBS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:27

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012208.D
 Lab Smp Id: APR4LCSS1 Client Smp ID: APR4LCSS1
 Inj Date : 22-JAN-2016 10:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4LCSS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt/(Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136	6.734	6.744	(1.000)	360526	200.000	
5 Naphthalene	128	6.765	6.776	(1.005)	319931	153.631	7680
§ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.145)	192117	143.565	7180
7 2-Methylnaphthalene	142	7.763	7.774	(1.153)	227764	159.180	7960
8 1-Methylnaphthalene	142	8.026	8.026	(1.192)	202850	157.312	7870
10 Acenaphthylene	152	9.589	9.589	(0.984)	306764	147.578	7380
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	257556	200.000	
12 Acenaphthene	153	9.800	9.811	(1.006)	214202	155.256	7760
14 Dibenzofuran	168	10.010	10.010	(1.027)	330618	159.074	7950
15 Fluorene	166	10.630	10.630	(1.091)	270755	173.702	8690
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	412183	200.000	
19 Phenanthrene	178	12.457	12.468	(1.003)	424716	171.027	8550
20 Anthracene	178	12.512	12.523	(1.007)	376504	169.380	8470
§ 23 Fluoranthene-d10	212	14.519	14.518	(1.169)	417313	184.102	9210
24 Fluoranthene	202	14.557	14.557	(1.172)	471193	188.988	9450
25 Pyrene	202	15.047	15.057	(0.877)	481761	193.411	9670
28 Benzo(a)anthracene	228	17.067	17.075	(0.994)	419082	199.844	9990
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	314530	200.000	
30 Chrysene	228	17.217	17.217	(1.003)	430198	186.914	9350
44 Benzo(b)fluoranthene	252	18.967	18.967	(0.945)	387411	186.459	9320
45 Benzo(k)fluoranthene	252	19.015	19.015	(0.948)	408726	168.813	8440

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	378018	171.395	8570
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	338391	168.757	8440
* 35 Perylene-d12	264	20.063	20.062	(1.000)	306666	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	238624	192.788	9640
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	416120	197.645	9880
38 Dibenzo(a,h)anthracene	278	22.640	22.651	(1.128)	338705	203.441	10200
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	359662	196.783	9840
47 Perylene	252	20.130	20.130	(1.003)	349791	168.256	8410
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	376360	179.235	8960

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012208.D
 Lab Smp Id: APR4LCSS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4LCSS1
 Level: LOW
 Sample Type: Solid

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	360526	9.95
11 Acenaphthene-d10	239179	119590	478358	257556	7.68
18 Phenanthrene-d10	372253	186127	744506	412183	10.73
29 Chrysene-d12	294711	147356	589422	314530	6.72
35 Perylene-d12	260595	130298	521190	306666	17.68

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
 Sample Matrix: SOLID
 Lab Smp Id: APR4LCSS1
 Level: LOW
 Data Type: MS DATA
 SpikeList File: PEMDTISS.spk
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Client SDG: APR4
 Fraction: SV
 Client Smp ID: APR4LCSS1
 Operator: JW
 SampleType: LCS
 Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
5 Naphthalene	15000	7680	51.21	30-160
7 2-Methylnaphthalen	15000	7960	53.06	30-160
10 Acenaphthylene	15000	7380	49.19	30-160
12 Acenaphthene	15000	7760	51.75	30-160
15 Fluorene	15000	8690	57.90	30-160
19 Phenanthrene	15000	8550	57.01	30-160
20 Anthracene	15000	8470	56.46	30-160
24 Fluoranthene	15000	9450	63.00	30-160
25 Pyrene	15000	9670	64.47	30-160
28 Benzo(a)anthracene	15000	9990	66.61	30-160
30 Chrysene	15000	9350	62.30	30-160
44 Benzo(b)fluoranthene	15000	9320	62.15	30-160
45 Benzo(k)fluoranthene	15000	8440	56.27	30-160
34 Benzo(a)pyrene	15000	8440	56.25	30-160
37 Indeno(1,2,3-cd)py	15000	9880	65.88	30-160
38 Dibenzo(a,h)anthra	15000	10200	67.81	30-160
39 Benzo(g,h,i)perylene	15000	9840	65.59	30-160
47 Perylene	15000	8410	56.09	30-160
48 Benzo(e)pyrene	15000	8960	59.75	30-160

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7180	47.86	30-160
\$ 23 Fluoranthene-d10	15000	9210	61.37	30-160
\$ 36 Dibenzo(a,h)anthra	15000	9640	64.26	30-160

Date : 22-JAN-2016 10:57

Client ID: APPR4LCSS1

Sample Info: APPR4LCSS1

Volume Injected (uL): 2.0

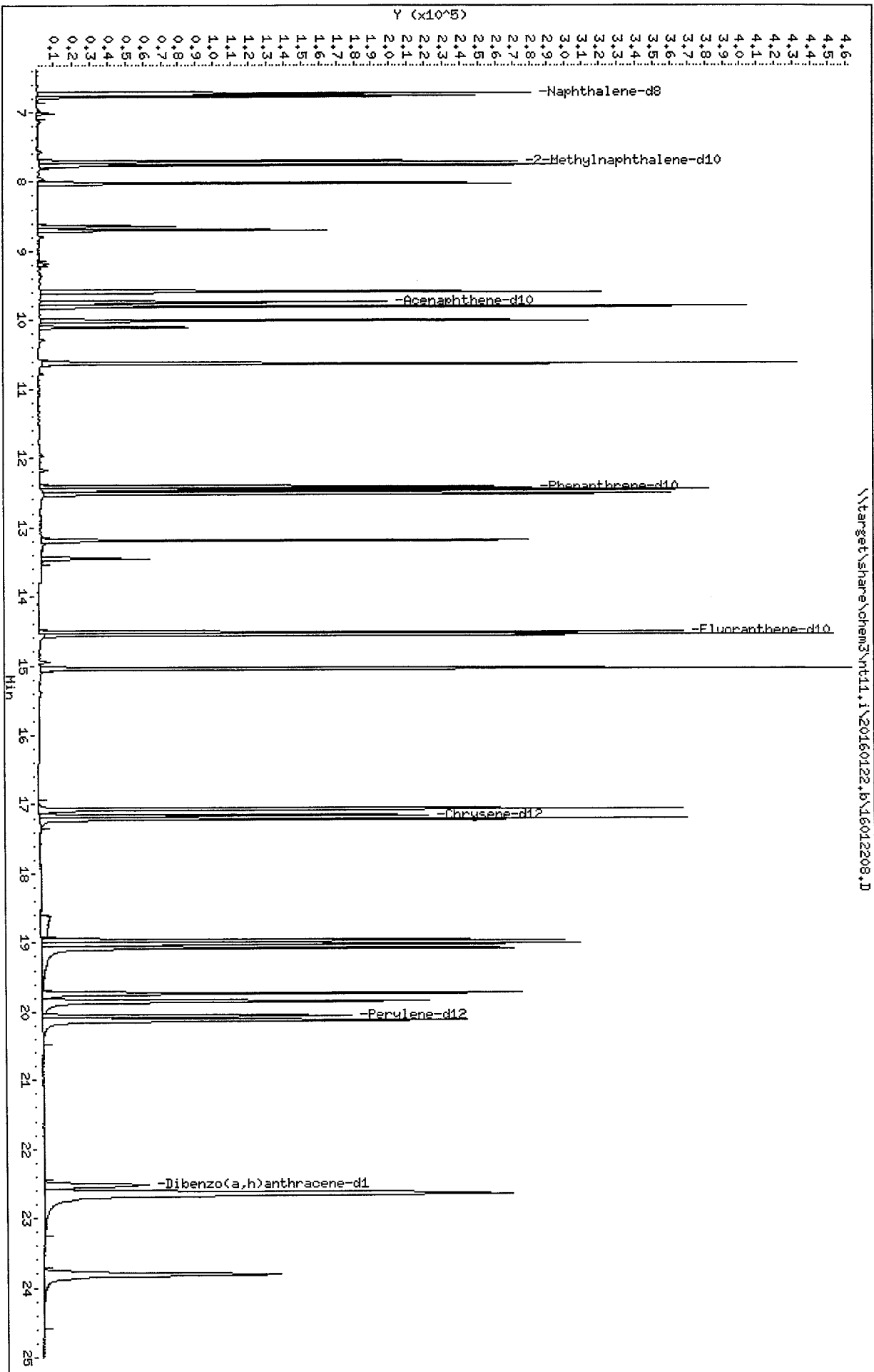
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.6\16012208.D



REVIEW SUMMARY FOR FILE - 16012208.D

Lab ID: APR4LCSS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

AUA2: 00229

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012219.D
 Lab Smp Id: AUA2A Client Smp ID: 13EB ME-MTW01Z
 Inj Date : 22-JAN-2016 16:30 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : AUA2A
 Misc Info : 16-418
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 13
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

TD
1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136	6.733	6.744	(1.000)	373510	200.000	
5 Naphthalene	128	6.765	6.776	(1.005)	47005	21.7872	1090
\$ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.145)	189611	136.767	6840
7 2-Methylnaphthalene	142	7.774	7.774	(1.154)	42302	28.5364	1430
8 1-Methylnaphthalene	142	8.026	8.026	(1.192)	20769	15.5466	777
10 Acenaphthylene	152	9.589	9.589	(0.984)	37306	17.1845	859
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	268987	200.000	
12 Acenaphthene	153	9.800	9.811	(1.006)	133018	92.3159	4620
14 Dibenzofuran	168	10.010	10.010	(1.027)	162606	74.9116	3750
15 Fluorene	166	10.630	10.630	(1.091)	216602	133.055	6650
* 18 Phenanthrene-d10	188	12.423	12.424	(1.000)	440845	200.000	
19 Phenanthrene	178	12.468	12.468	(1.004)	1597538	601.479	30100
20 Anthracene	178	12.523	12.523	(1.008)	406221	170.867	8540
\$ 23 Fluoranthene-d10	212	14.518	14.518	(1.169)	381077	157.186	7860
24 Fluoranthene	202	14.557	14.557	(1.172)	2810826	1054.08	52700 E
25 Pyrene	202	15.056	15.057	(0.877)	1782049	668.894	33400
28 Benzo(a)anthracene	228	17.075	17.075	(0.995)	674278	300.621	15000
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	336414	200.000	
30 Chrysene	228	17.217	17.217	(1.003)	837700	340.291	17000
44 Benzo(b)fluoranthene	252	18.967	18.967	(0.945)	555143	241.644	12100
45 Benzo(k)fluoranthene	252	19.015	19.015	(0.948)	380680	142.198	7110 G

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)
46 Benzo(j) fluoranthene	252	19.082	19.082	(0.951)	310111	127.164	6360
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	257740	116.248	5810
* 35 Perylene-d12	264	20.062	20.062	(1.000)	339083	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	229823	167.926	8400
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	77754	33.4002	1670
38 Dibenzo(a,h)anthracene	278	22.639	22.651	(1.128)	18841	10.2348	512
39 Benzo(g,h,i)perylene	276	23.813	23.814	(1.187)	93358	46.1960	2310
47 Perylene	252	20.130	20.130	(1.003)	129641	56.3982	2820
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	412934	177.852	8890

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012219.D
 Lab Smp Id: AUA2A
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 16-418

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: 13EB_ME-MTW01Z
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	373510	13.91
11 Acenaphthene-d10	239179	119590	478358	268987	12.46
18 Phenanthrene-d10	372253	186127	744506	440845	18.43
29 Chrysene-d12	294711	147356	589422	336414	14.15
35 Perylene-d12	260595	130298	521190	339083	30.12

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.16
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	-0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	-0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	-0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: AUA2A
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 16-418

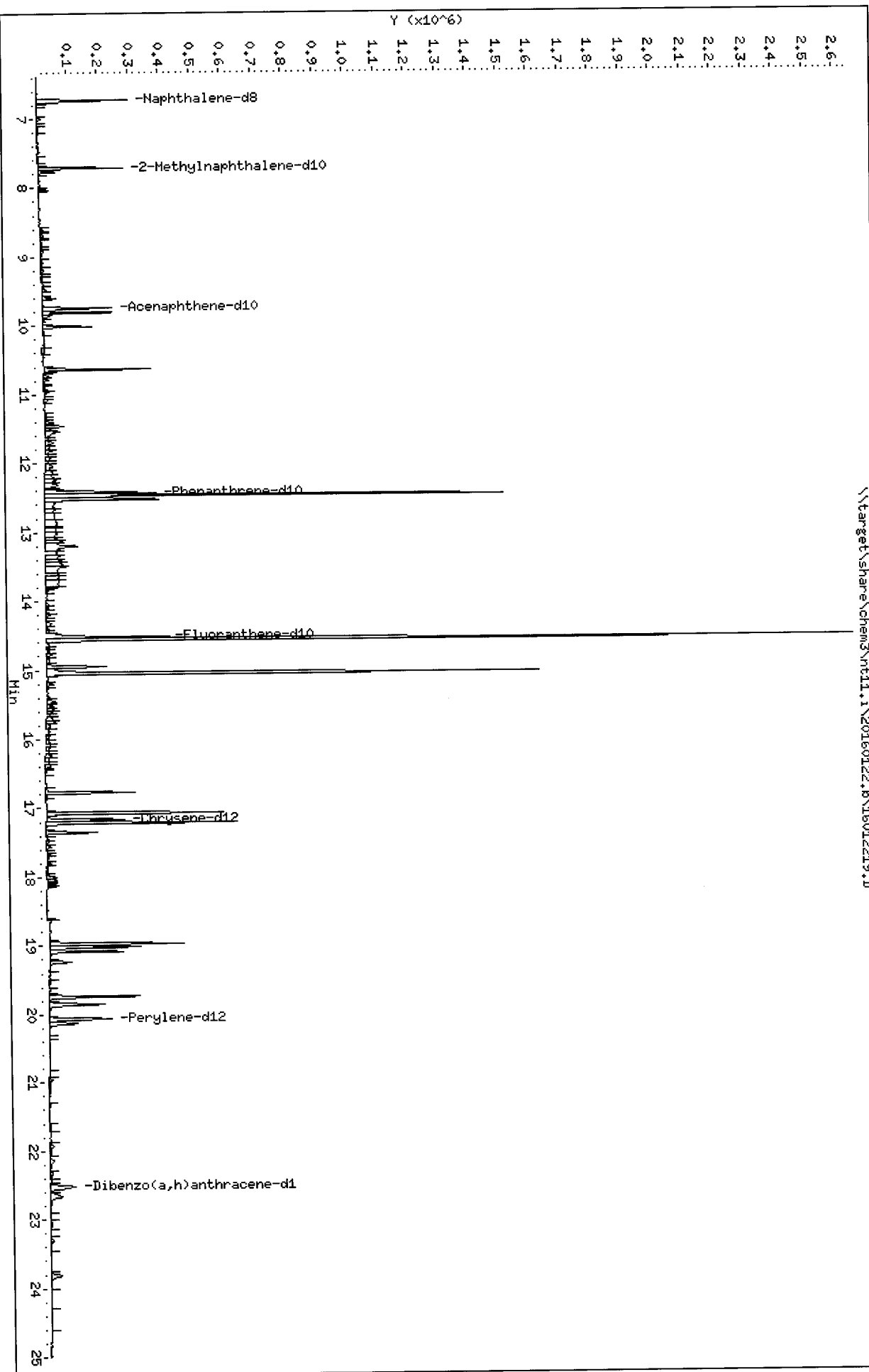
Client SDG: AUA2
Fraction: SV
Client Smp ID: 13EB_ME-MTW01Z
Operator: JW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	6840	45.59	30-160
\$ 23 Fluoranthene-d10	15000	7860	52.40	30-160
\$ 36 Dibenzo(a,h) anthra	15000	8400	55.98	30-160

Date : 22-JAN-2016 16:30
Client ID: 13EB_ME-HTW01Z
Sample Info: AUA2A
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012219.D



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

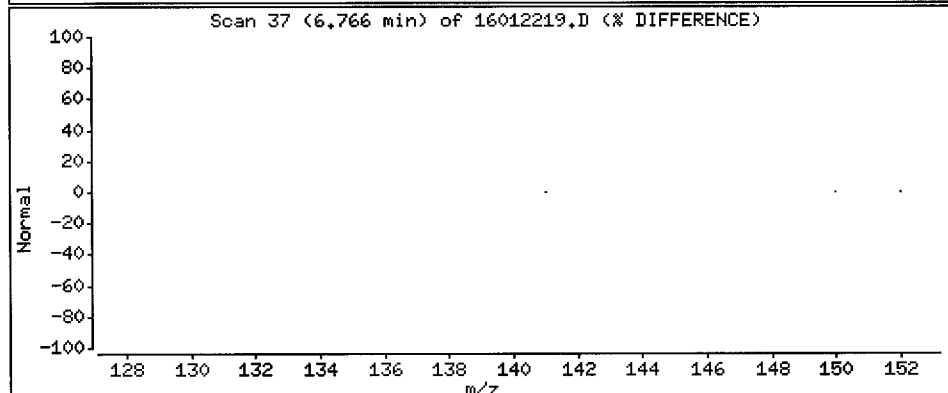
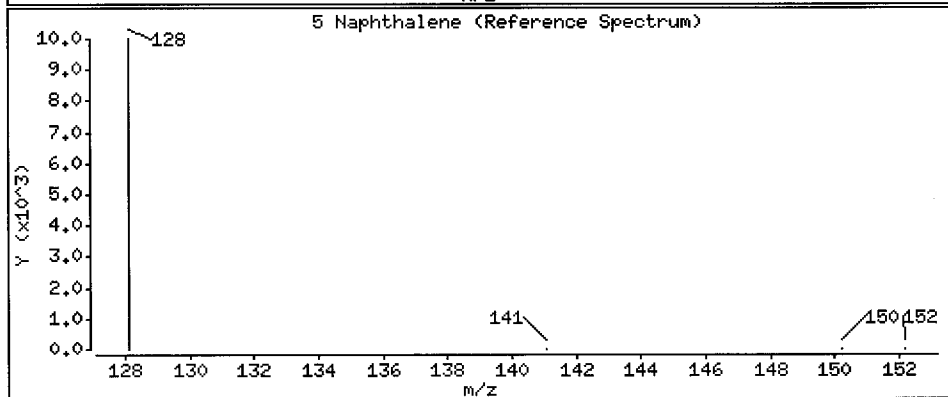
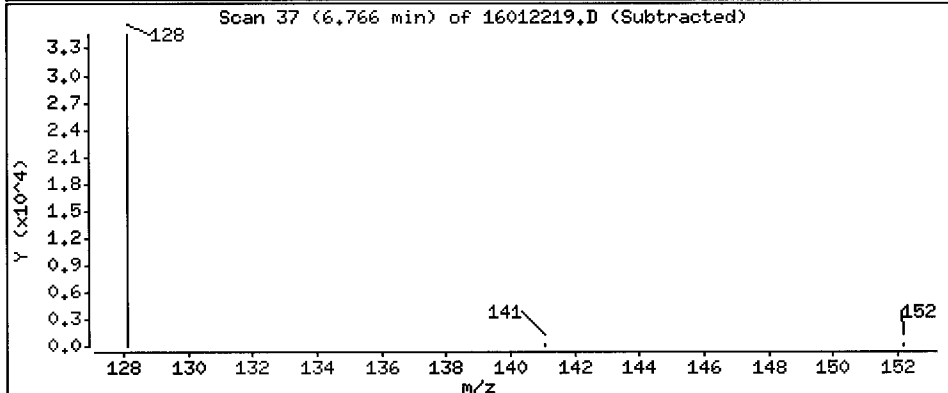
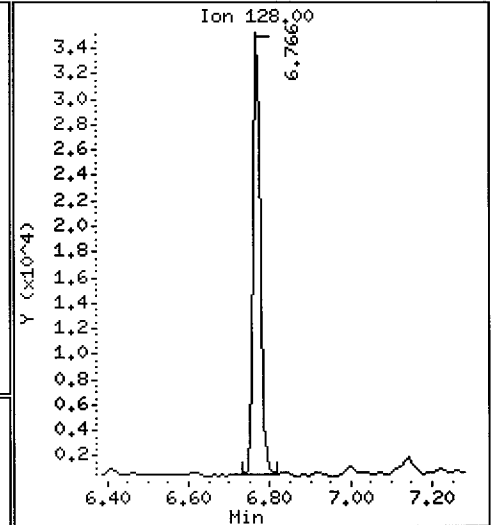
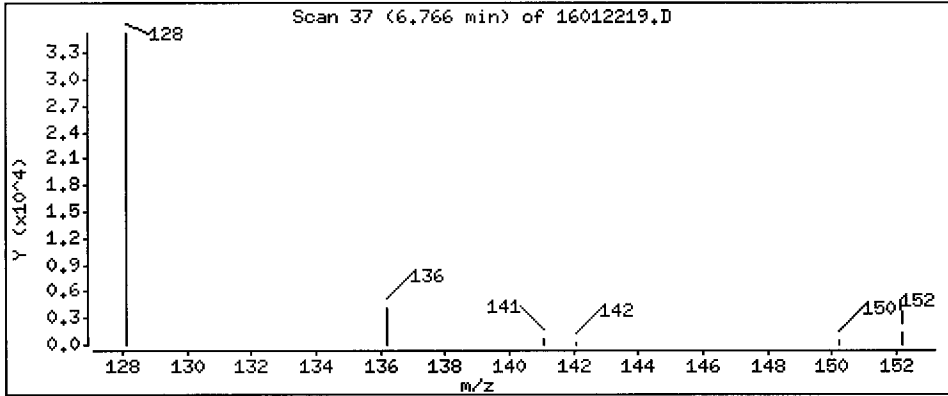
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 1090 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

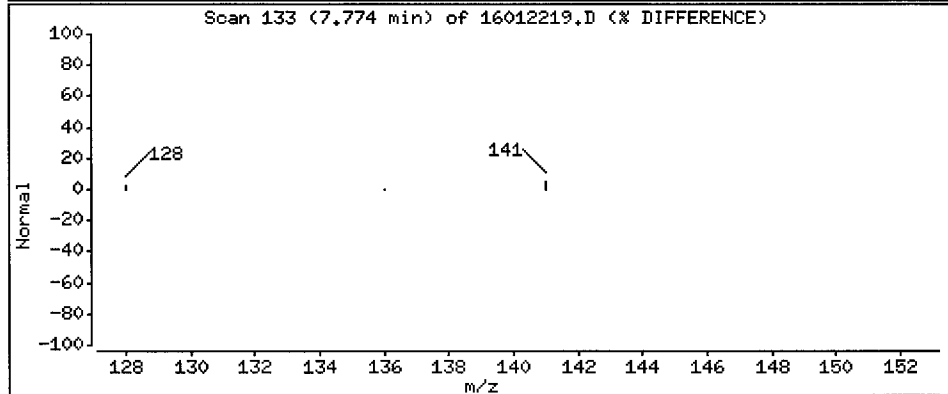
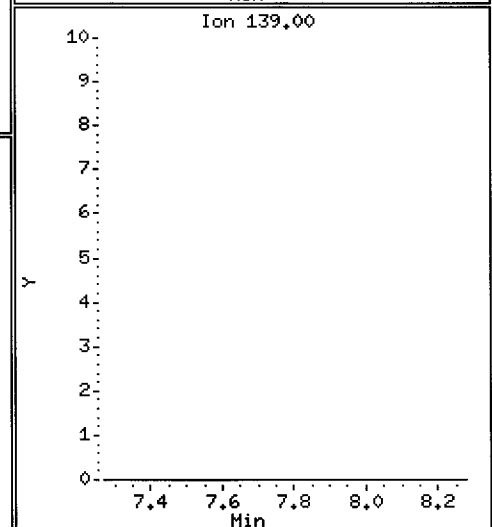
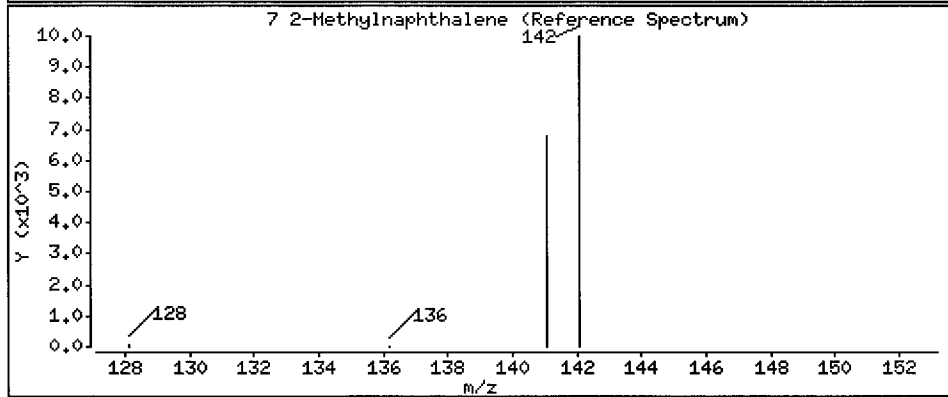
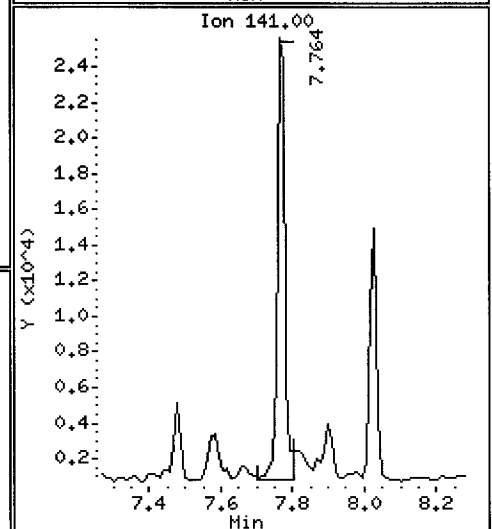
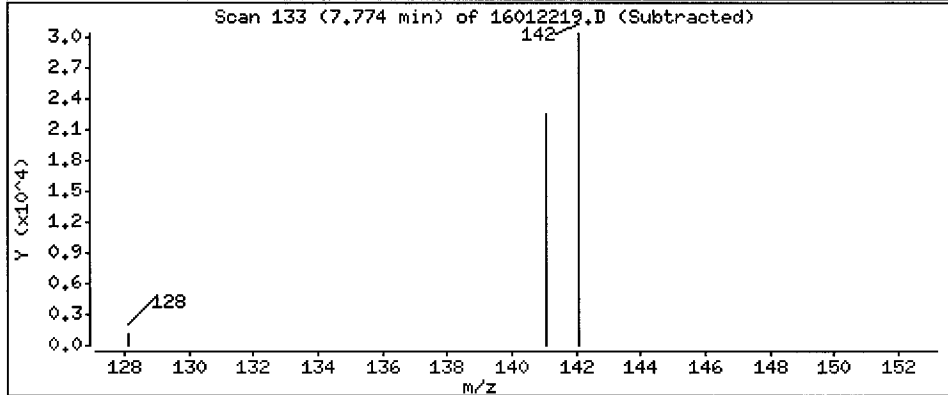
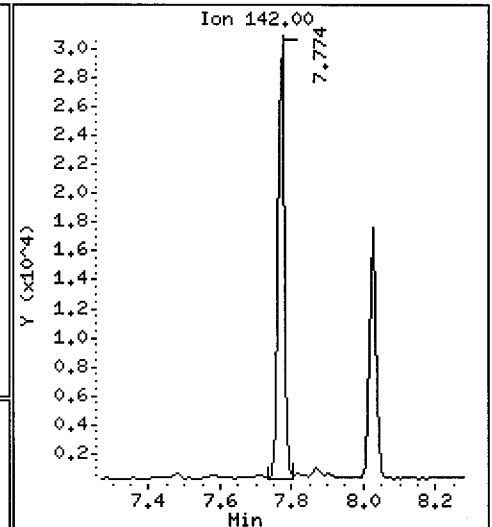
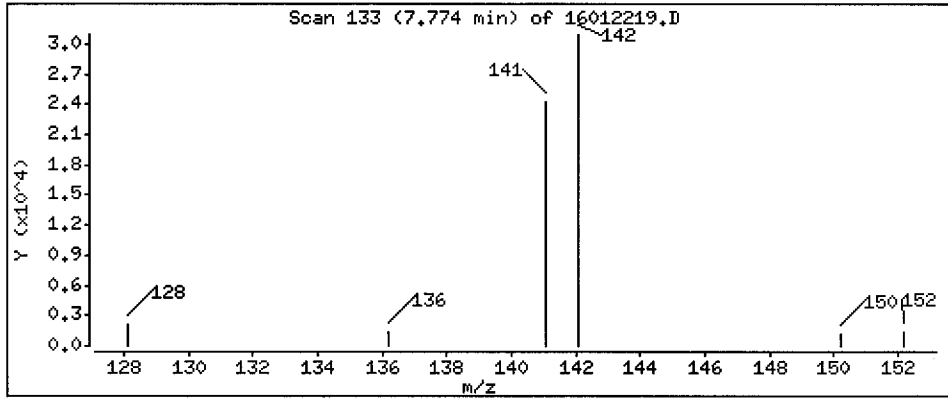
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7-2-Methylnaphthalene

Concentration: 1430 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW012

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

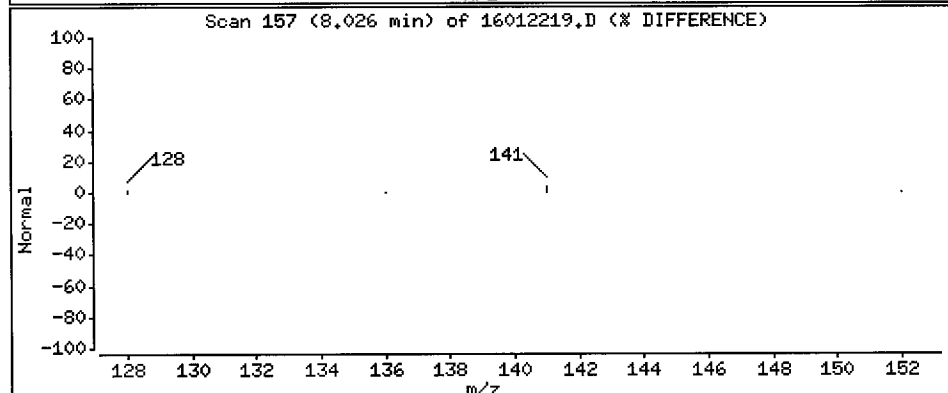
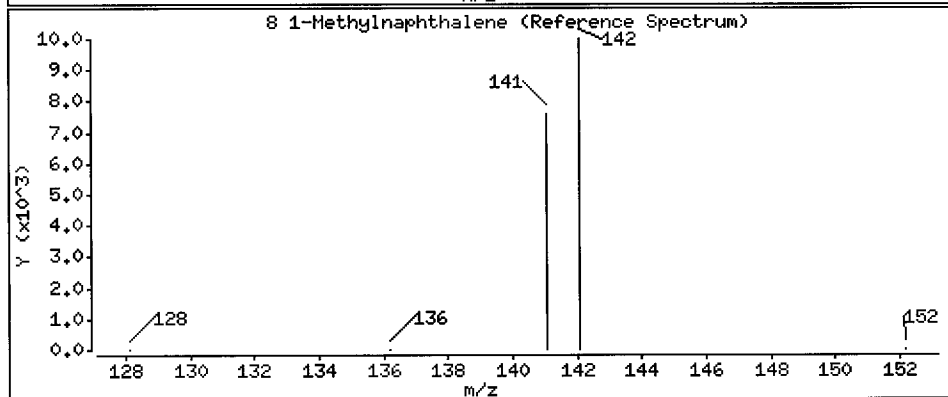
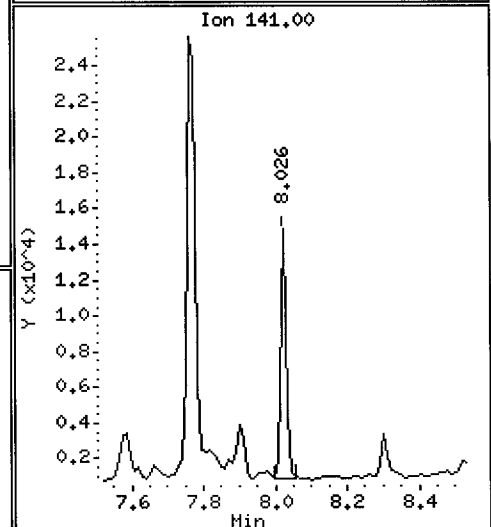
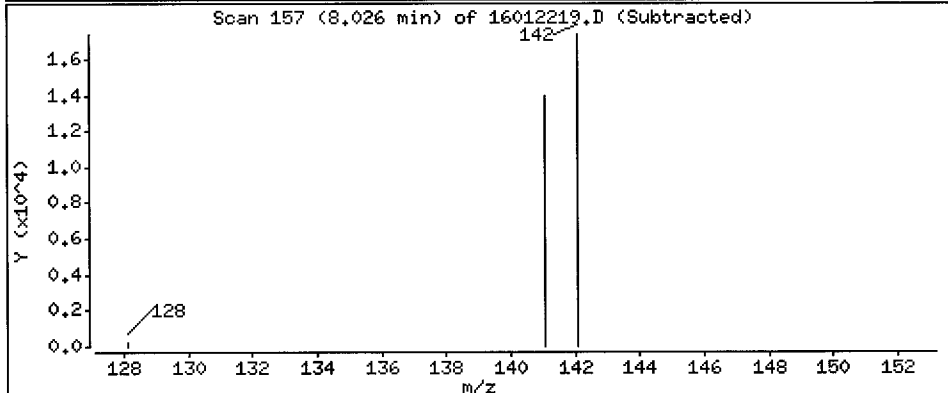
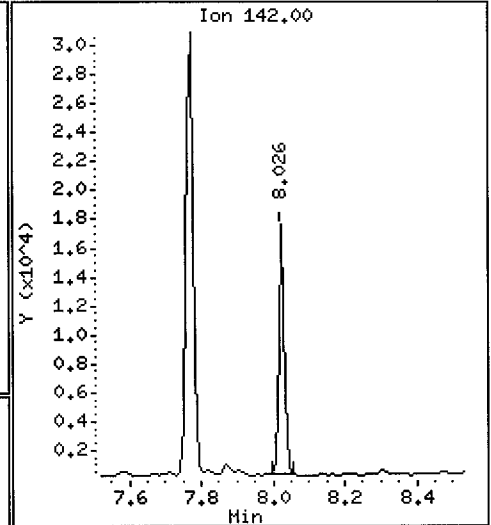
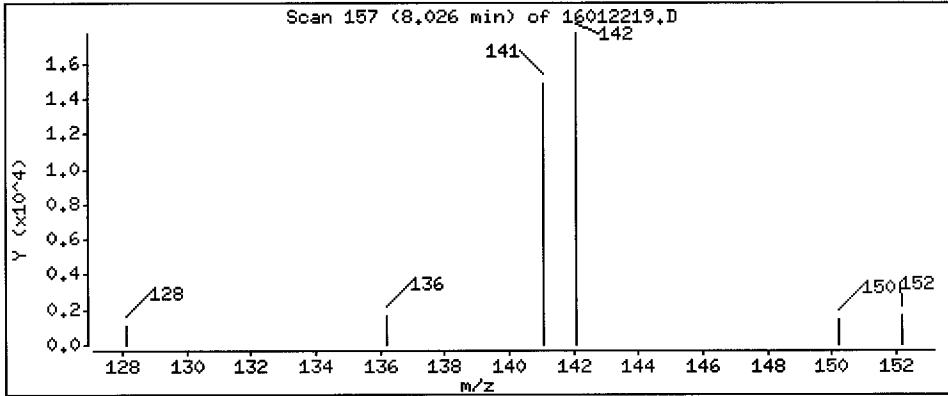
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 1-Methylnaphthalene

Concentration: 777 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

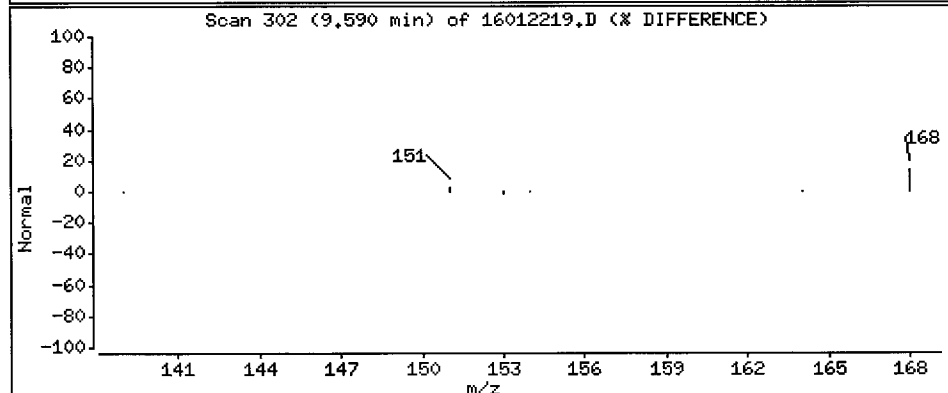
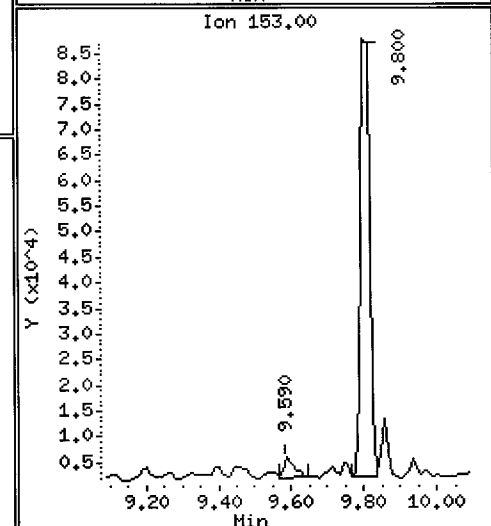
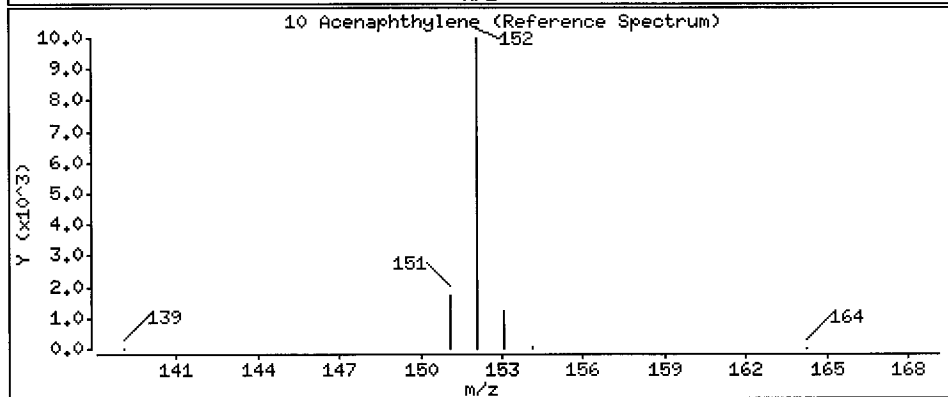
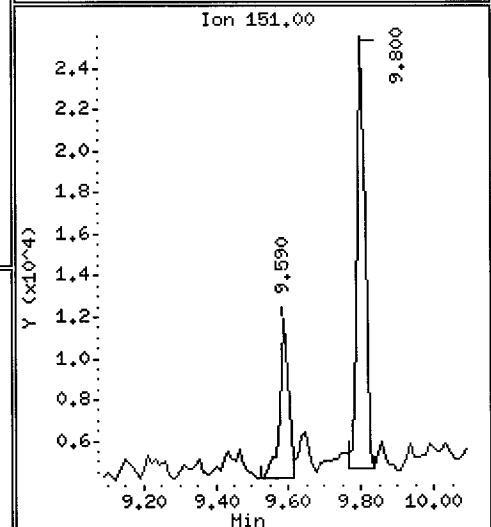
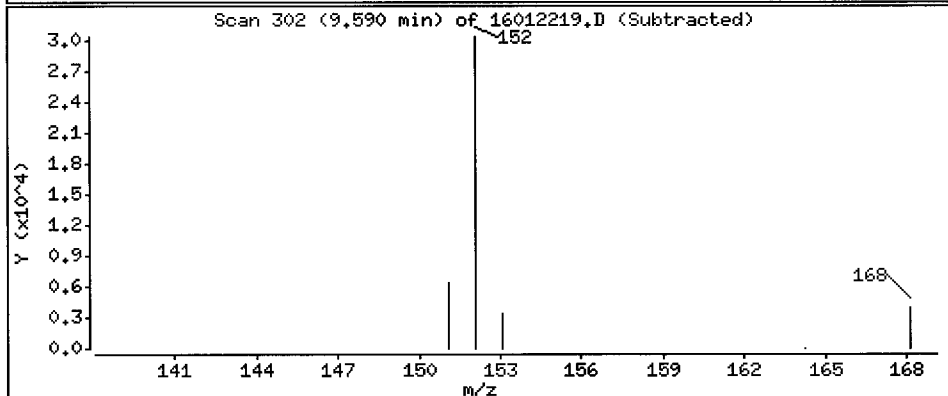
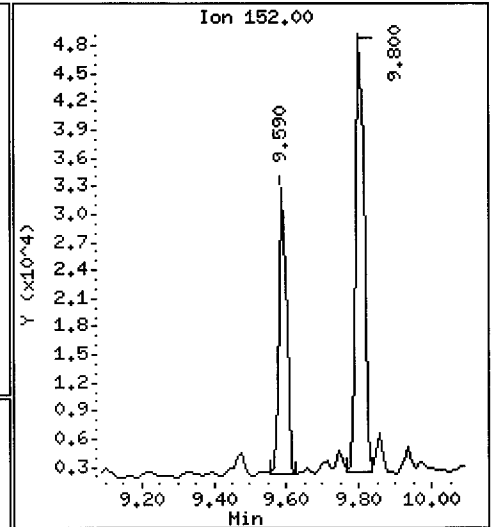
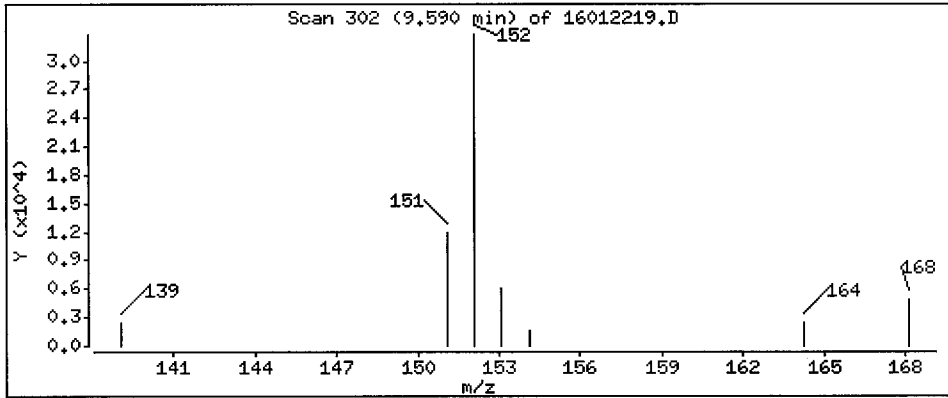
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 859 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

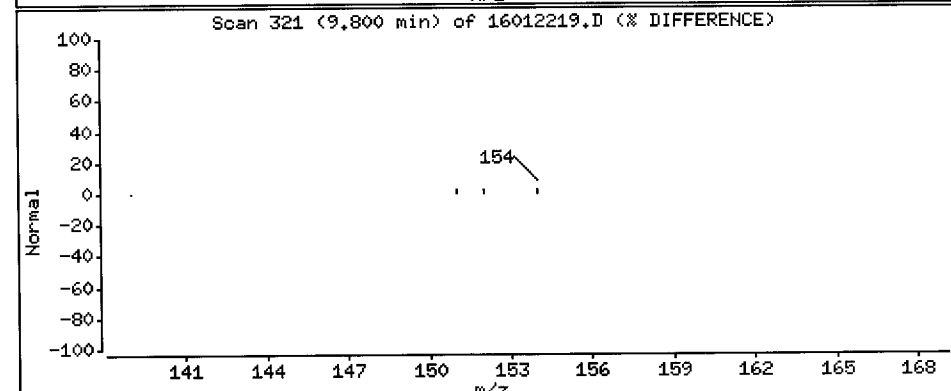
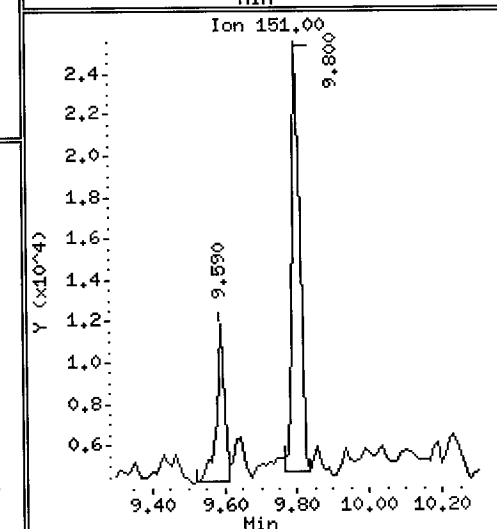
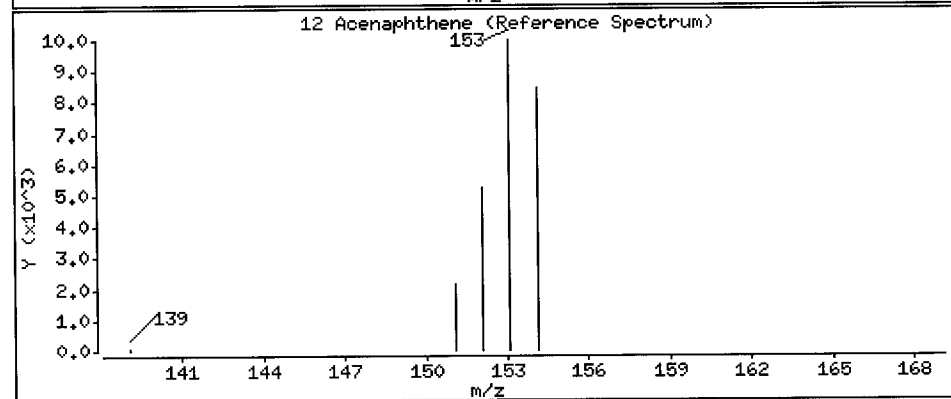
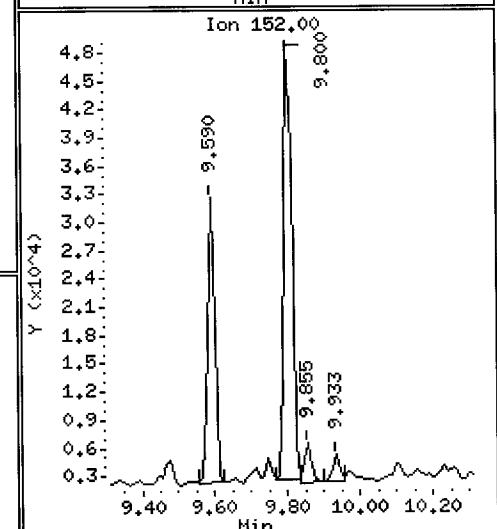
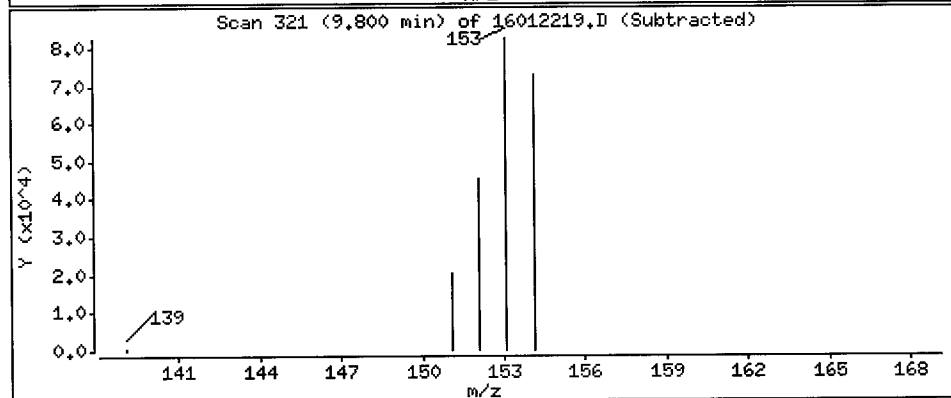
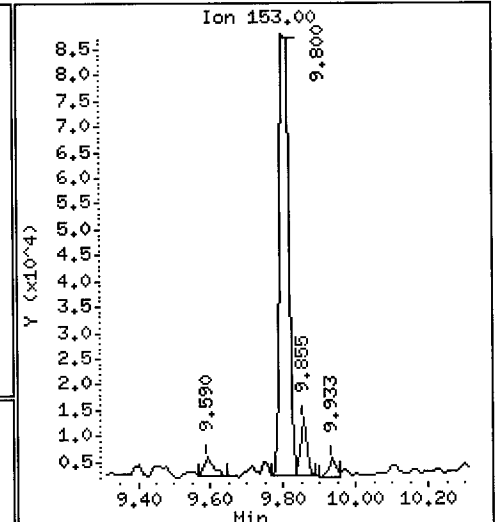
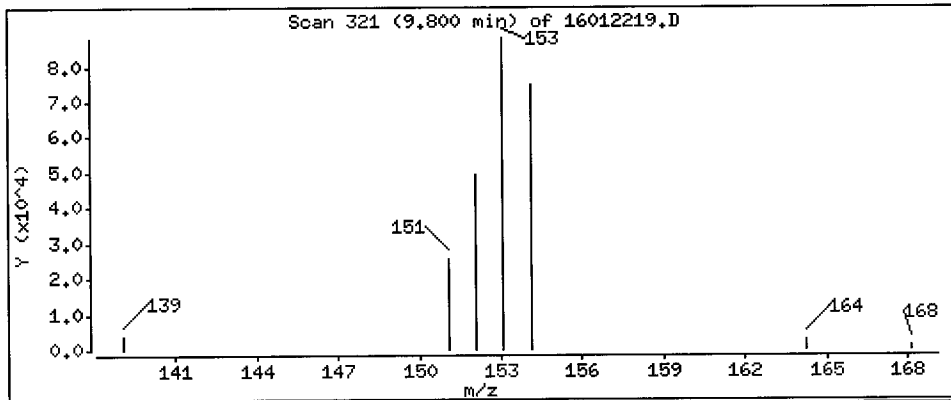
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 4620 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

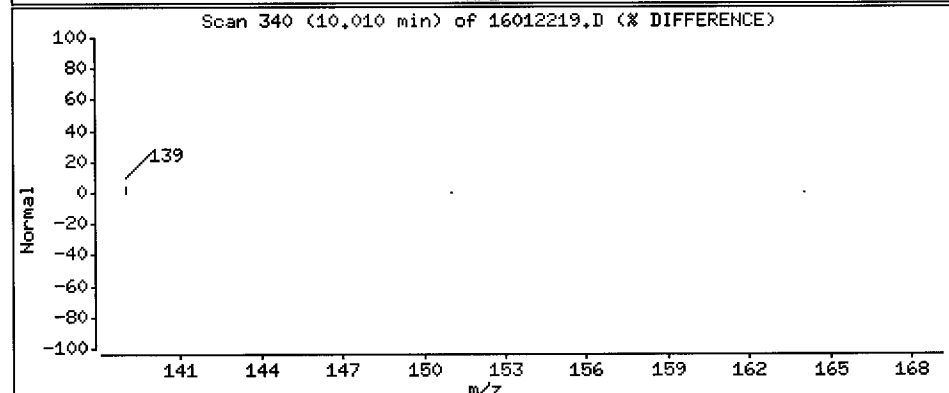
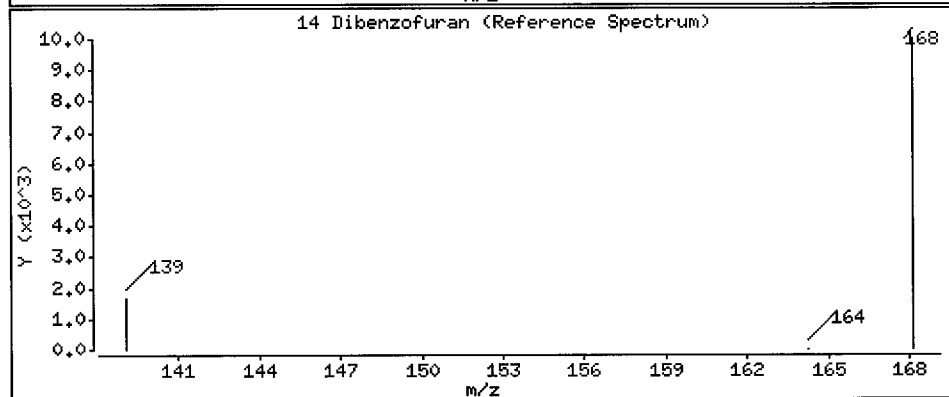
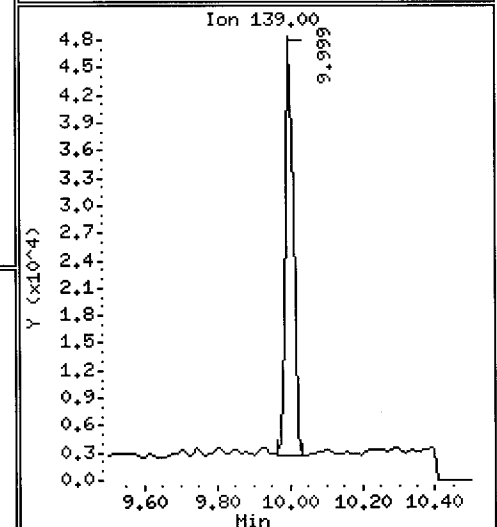
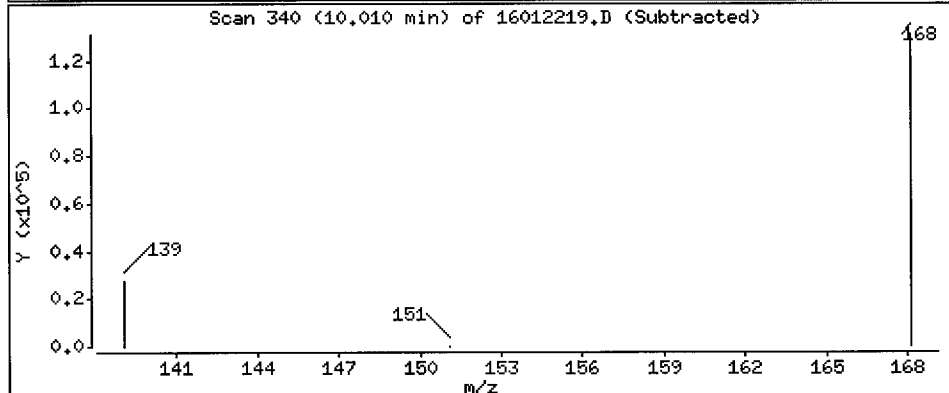
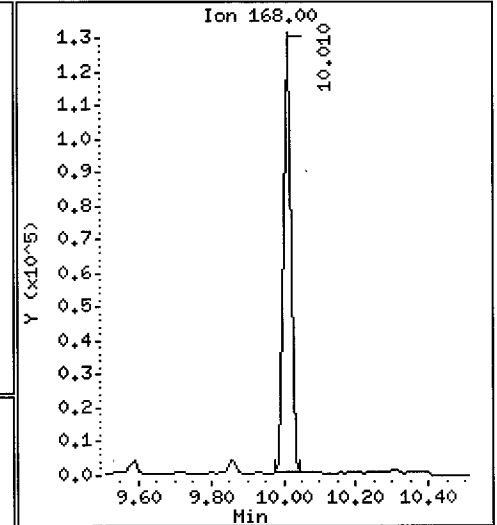
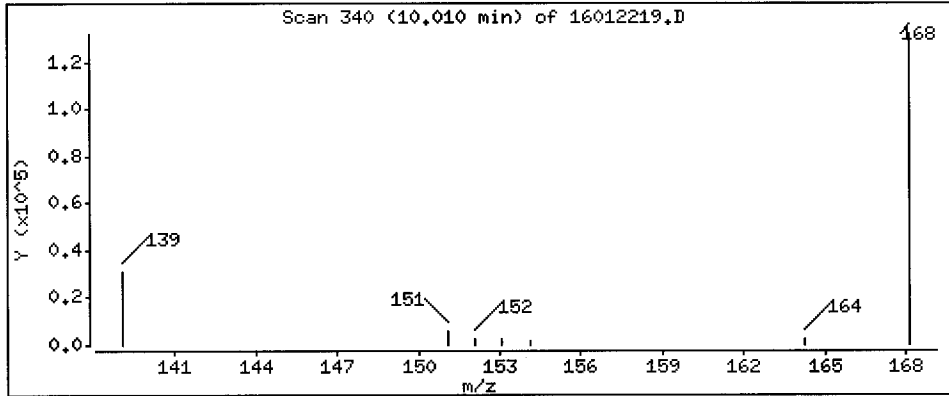
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 Dibenzofuran

Concentration: 3750 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

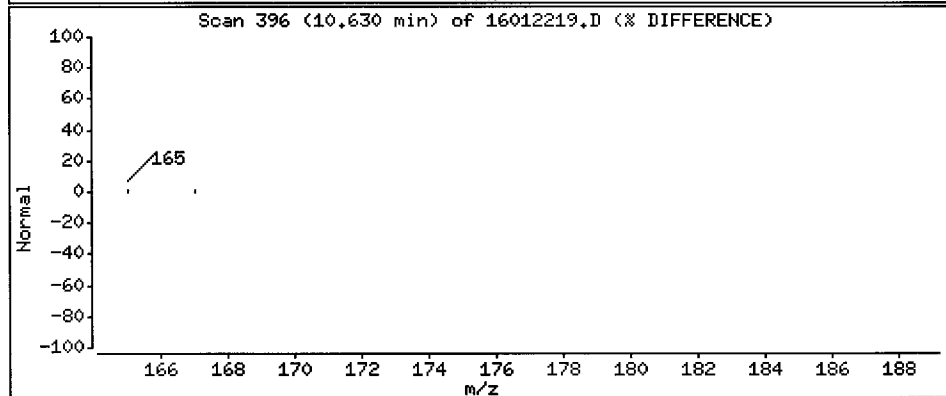
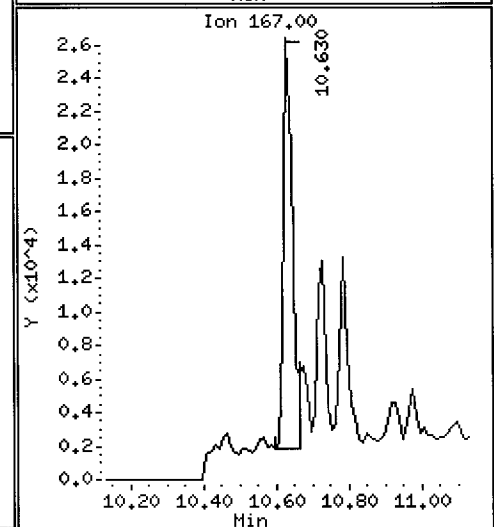
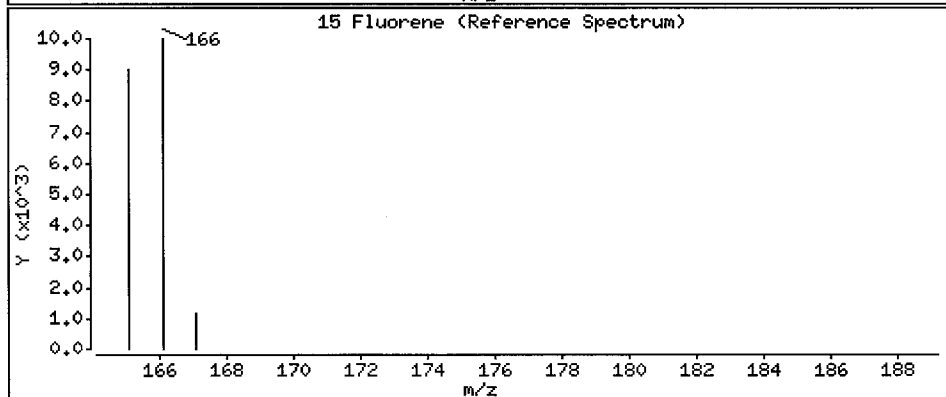
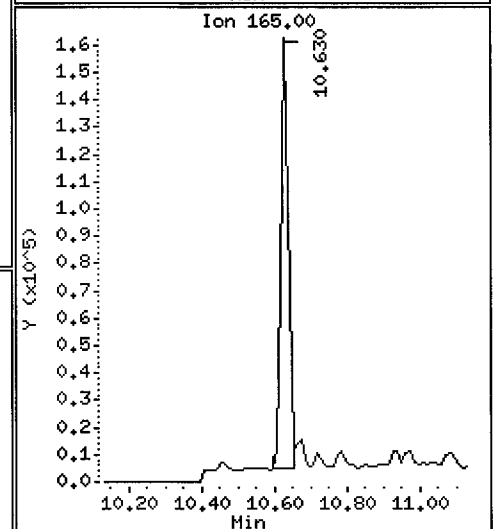
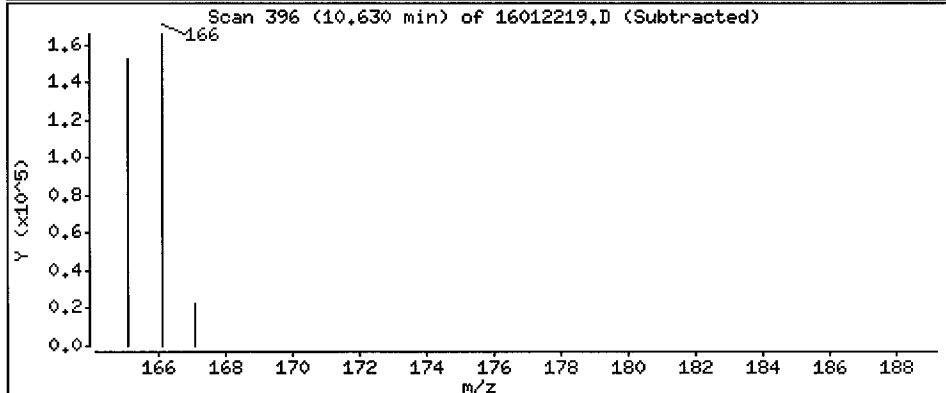
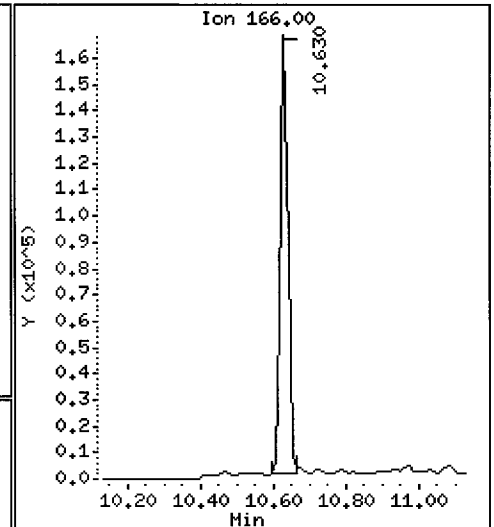
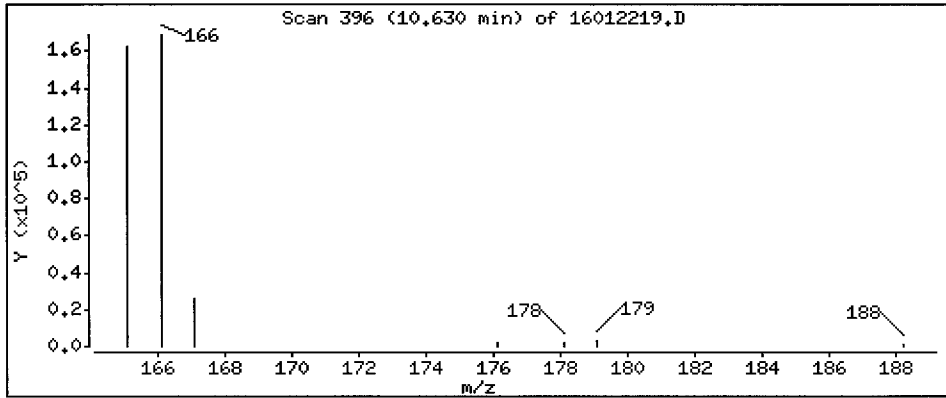
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

15 Fluorene

Concentration: 6650 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW012

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

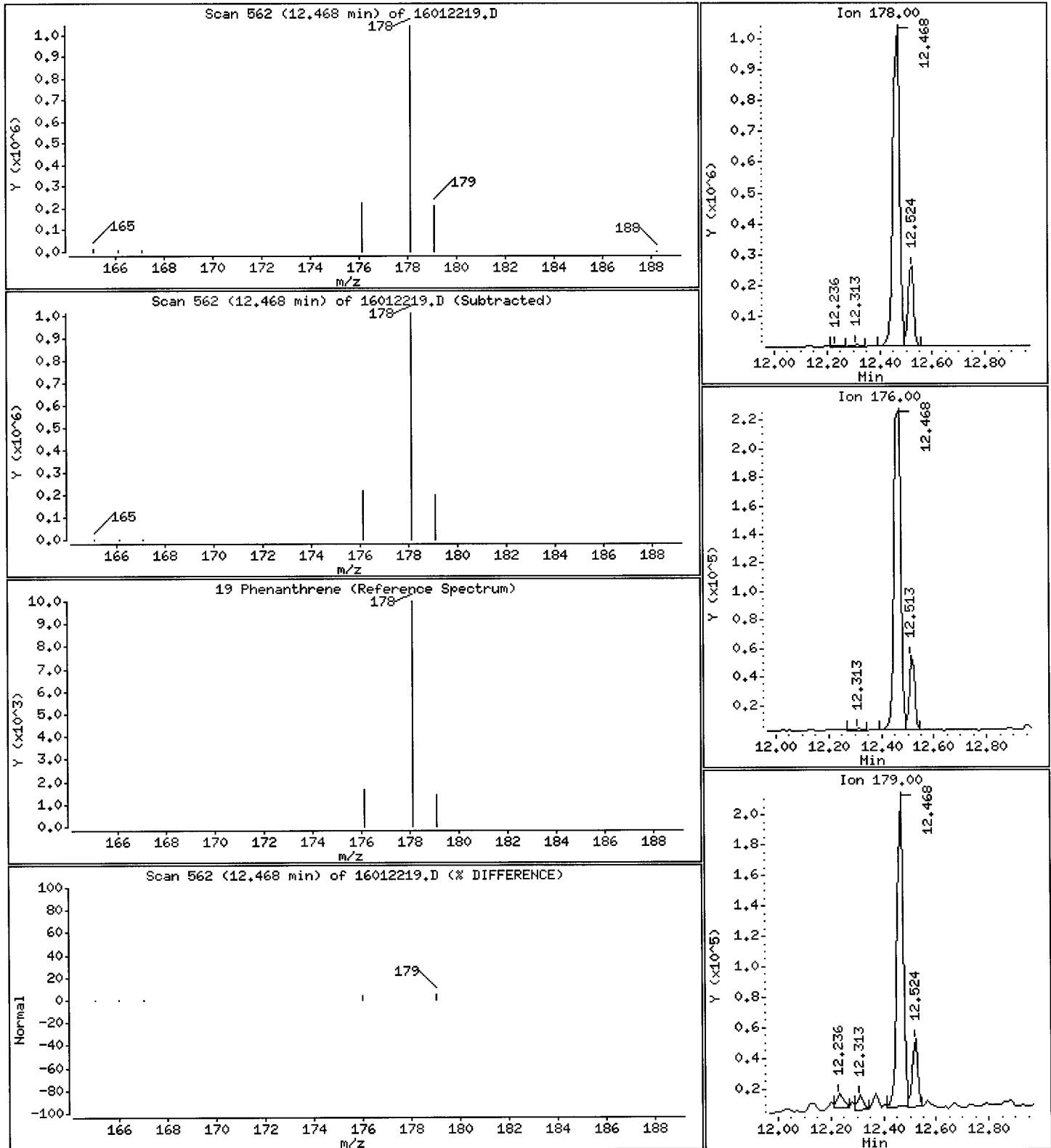
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 30100 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

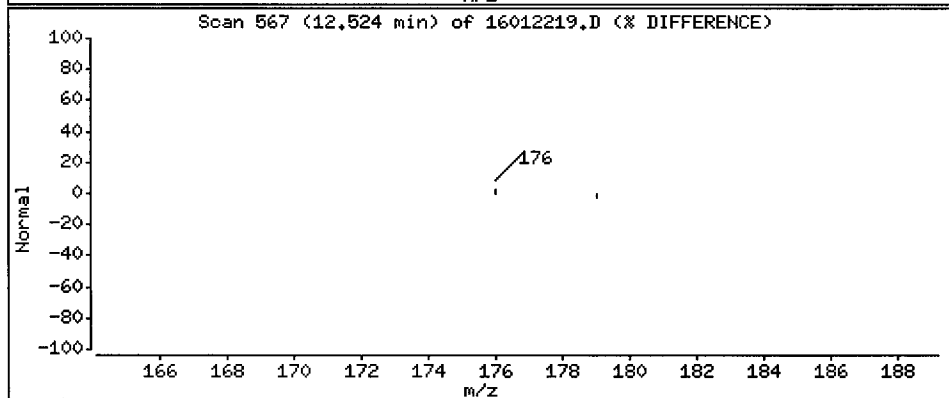
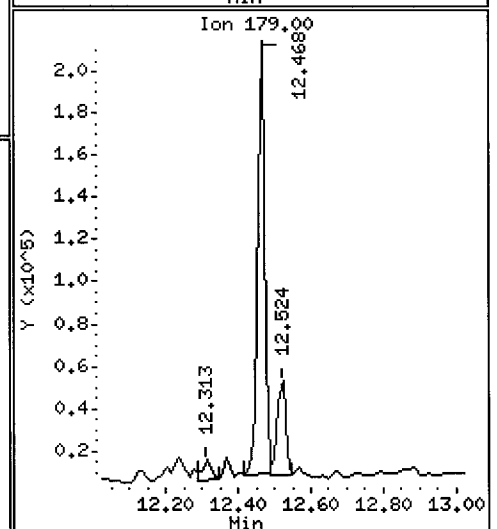
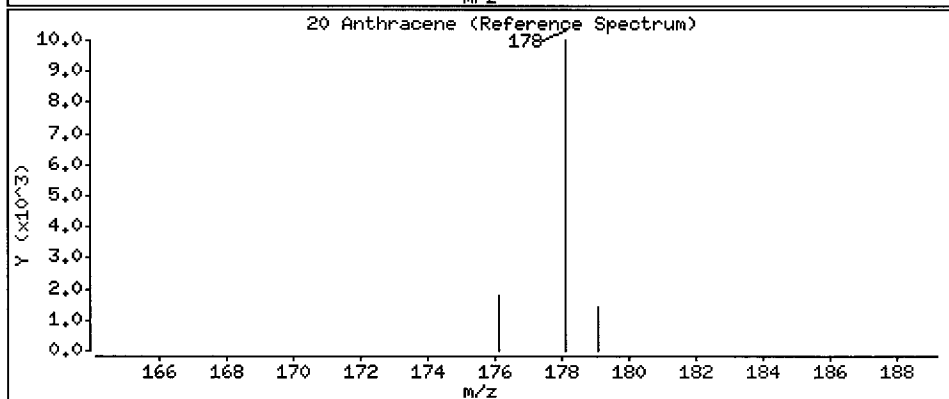
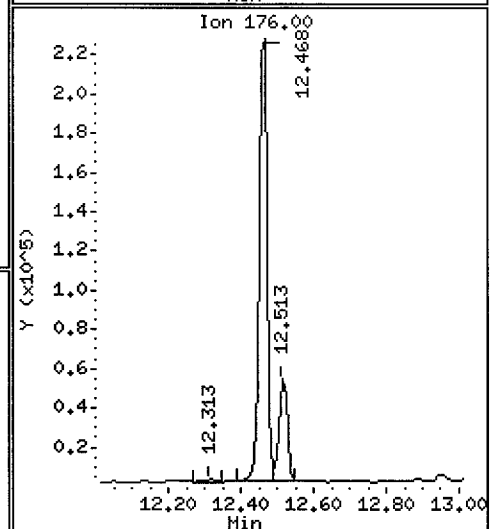
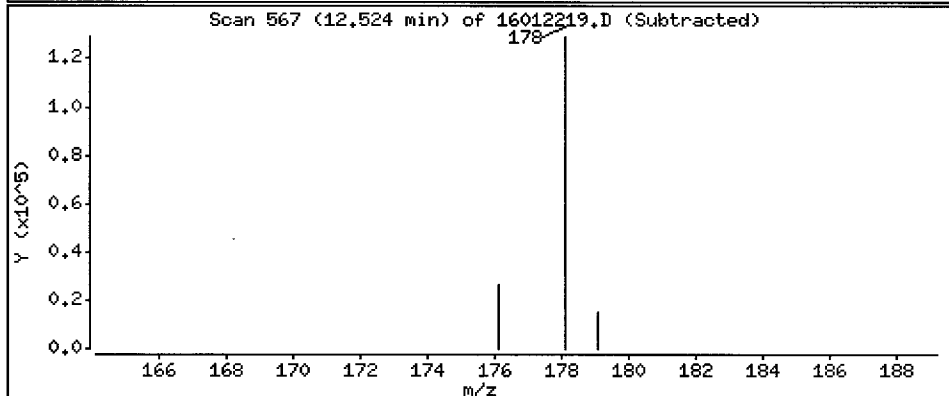
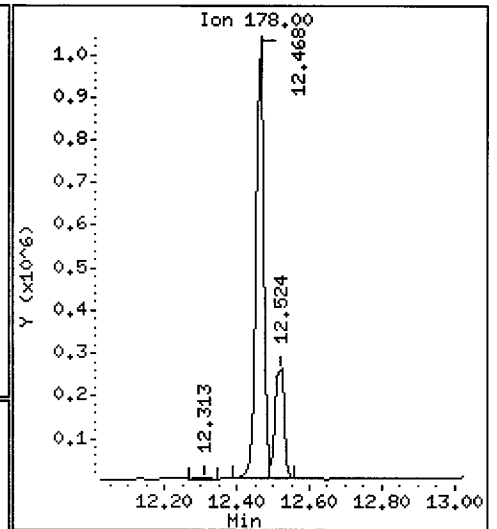
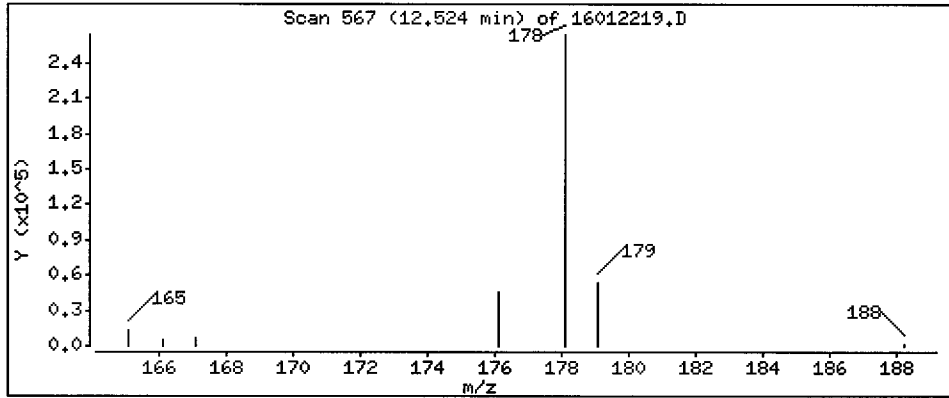
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 8540 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

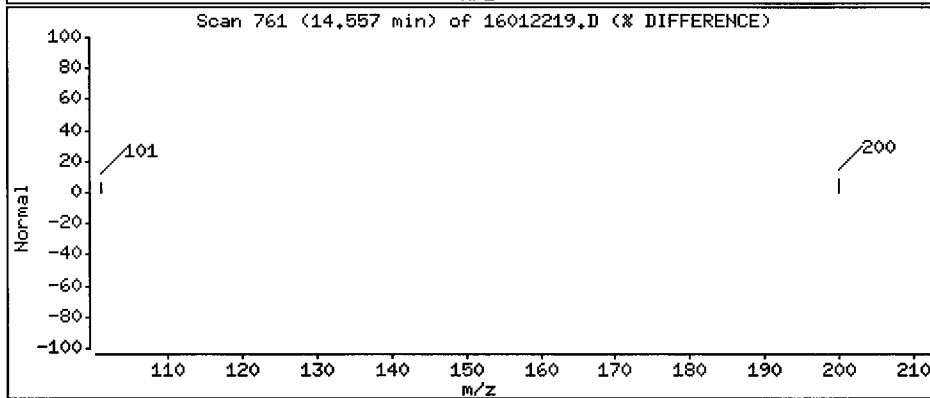
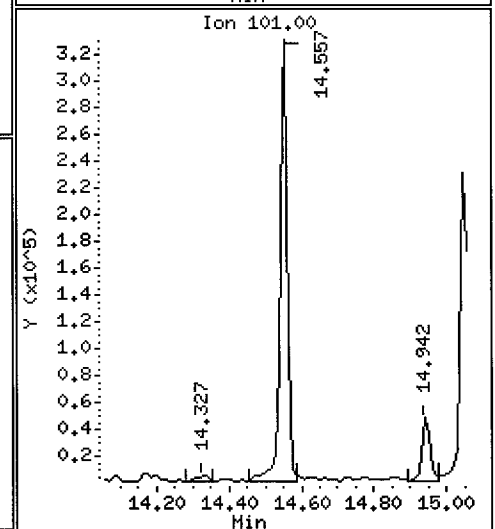
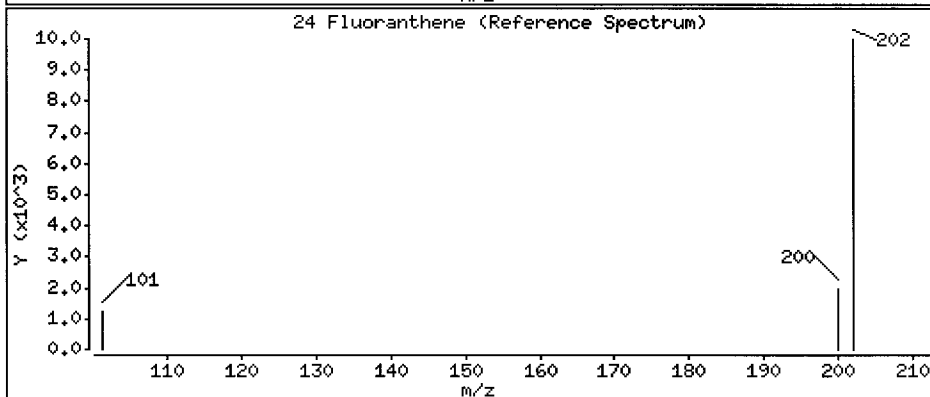
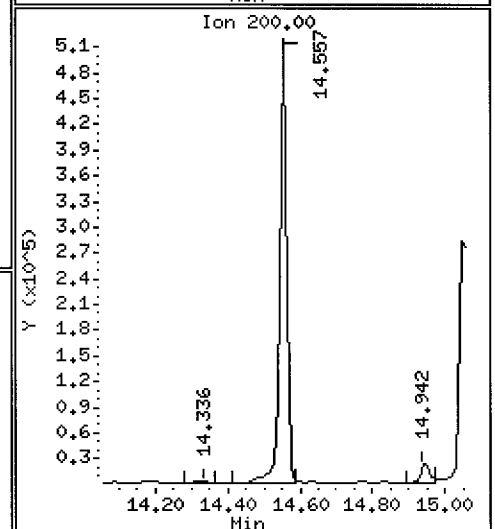
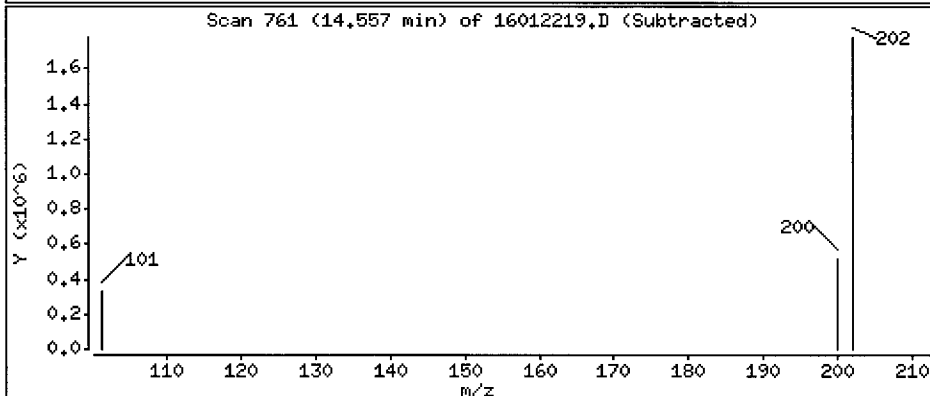
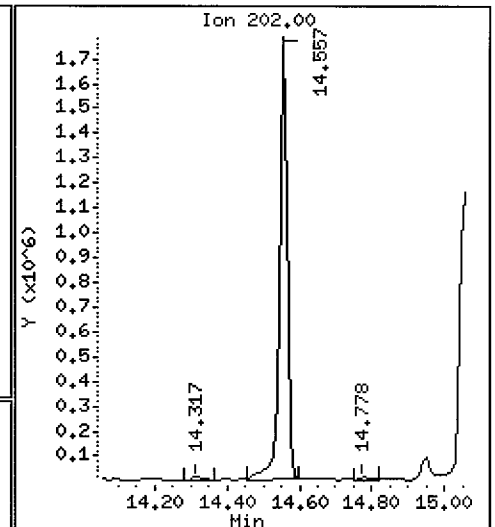
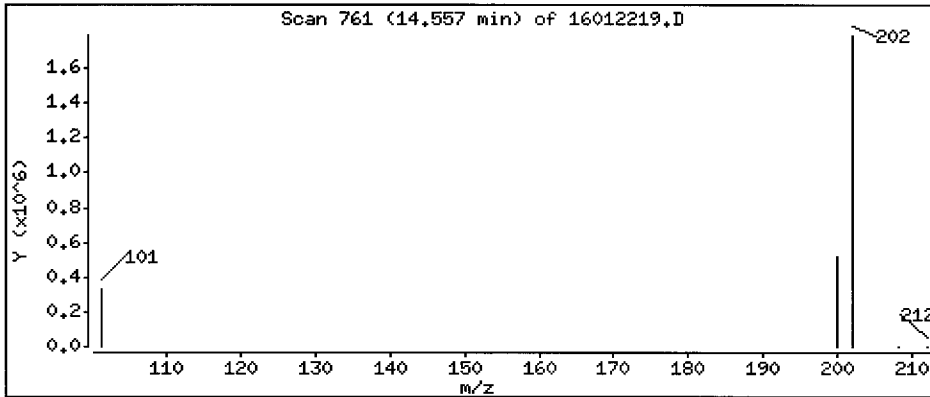
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

24 Fluoranthene

Concentration: 52700 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

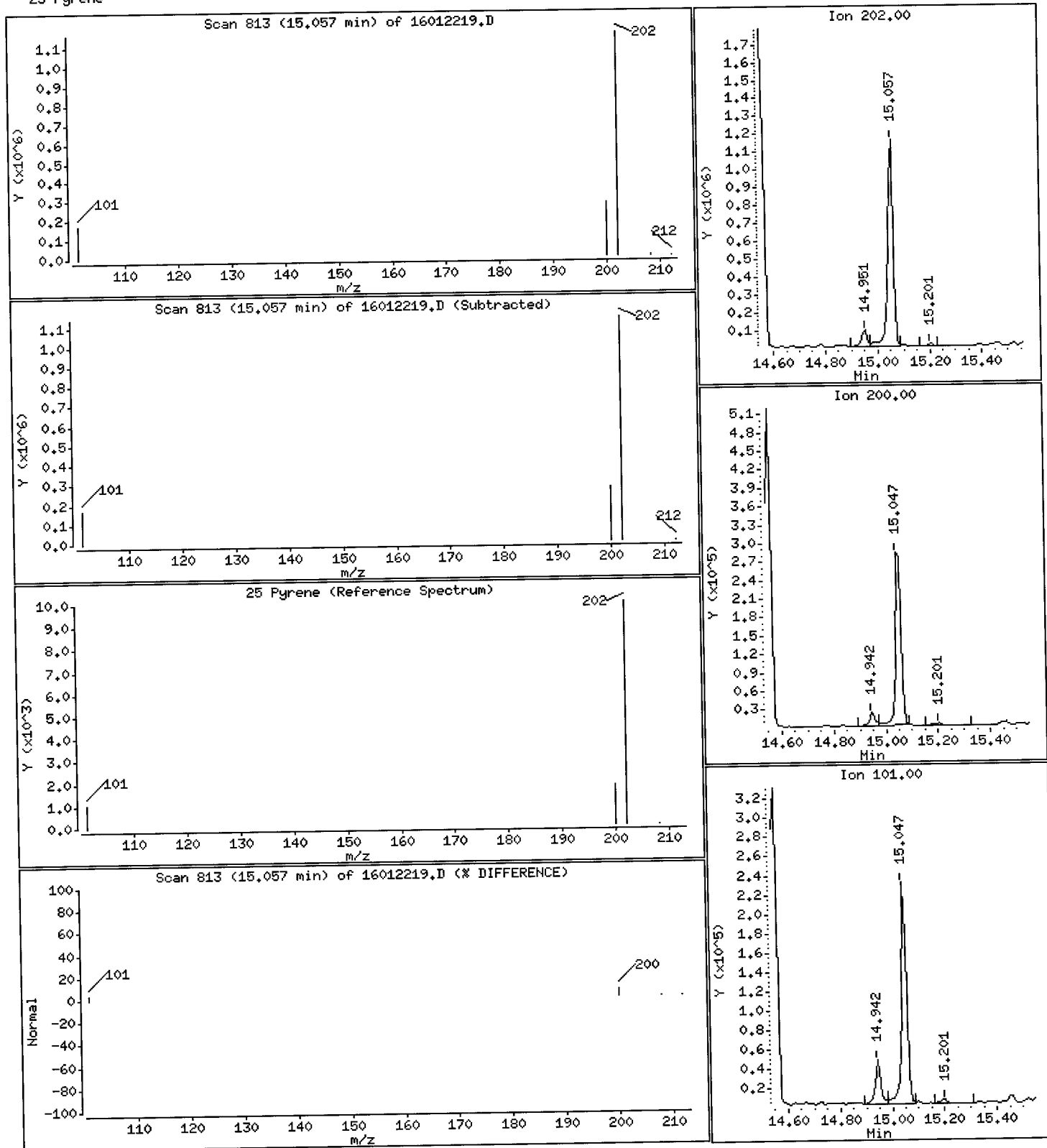
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

25 Pyrene

Concentration: 33400 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW012

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

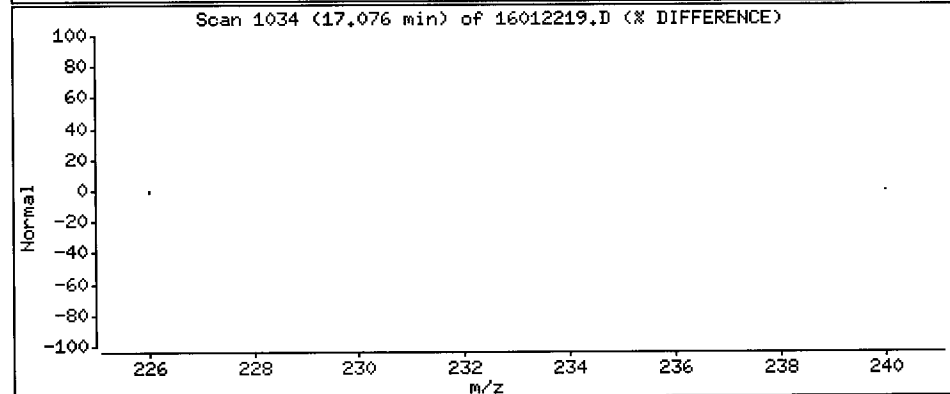
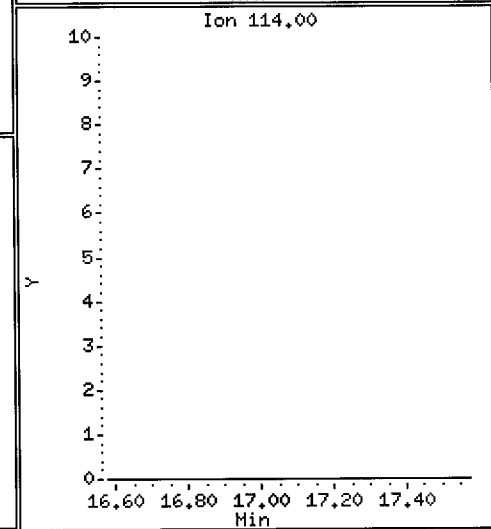
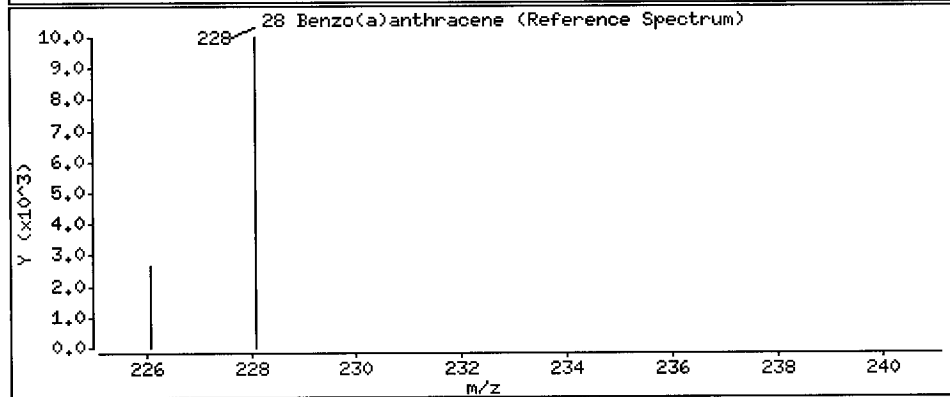
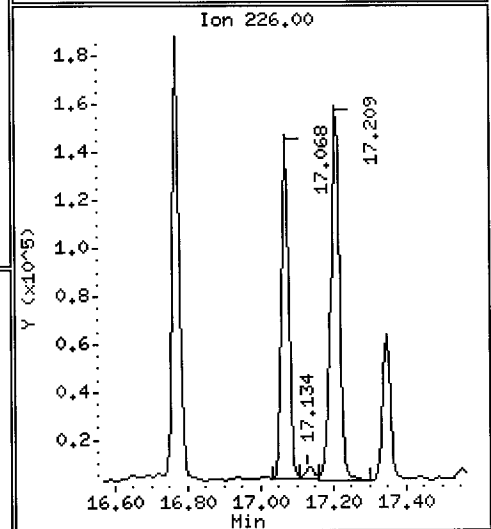
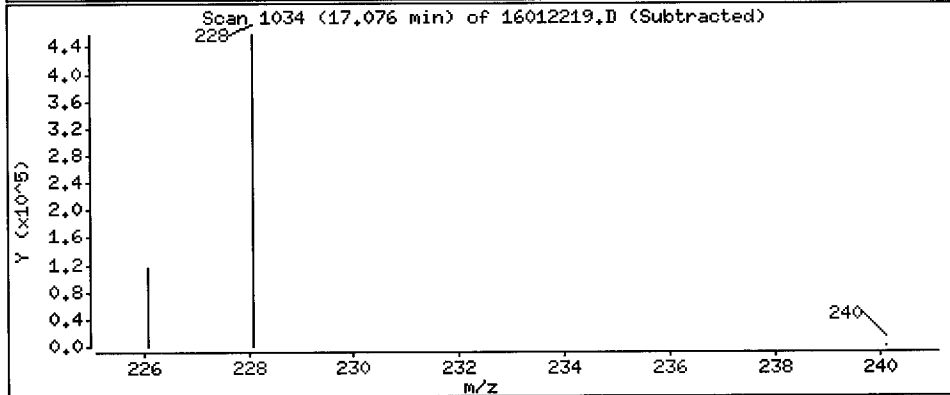
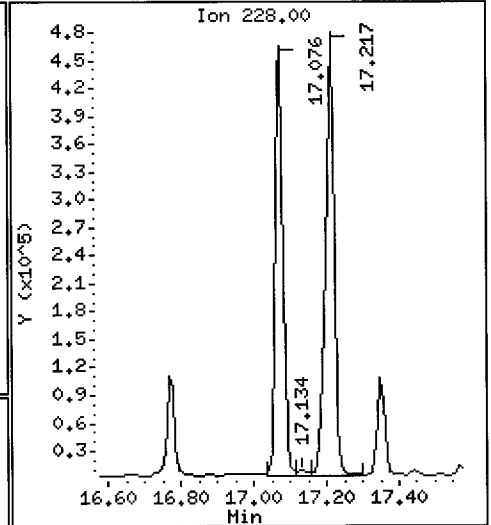
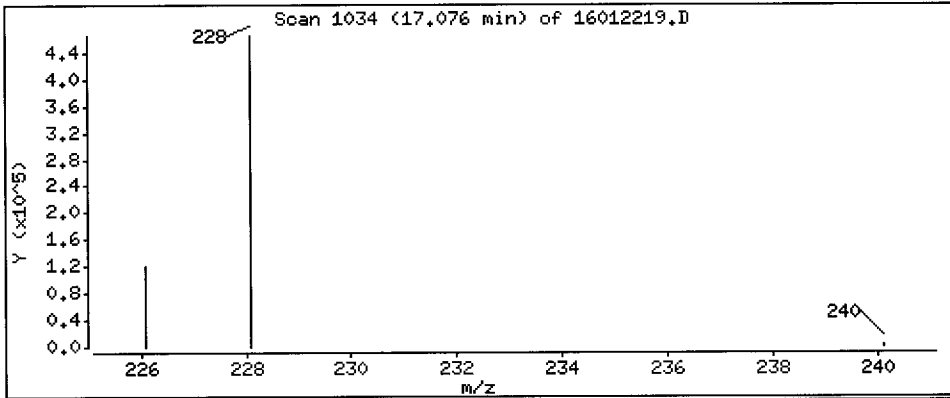
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 15000 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

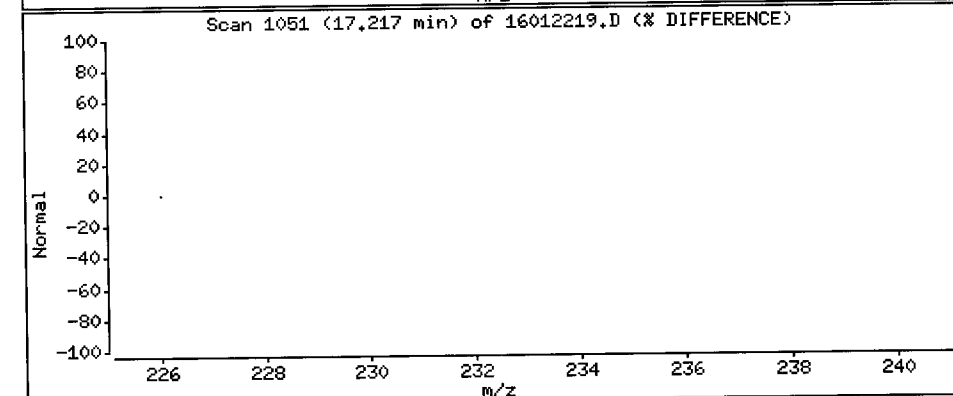
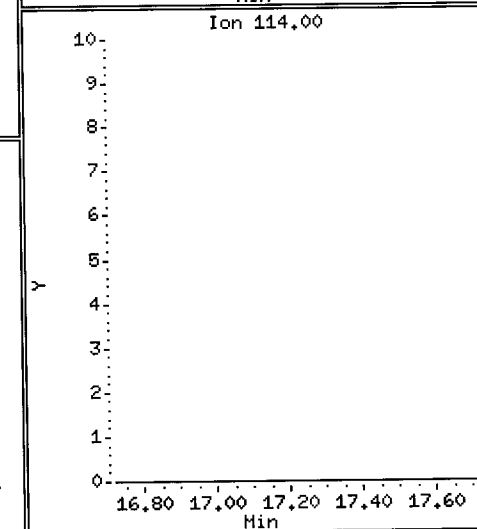
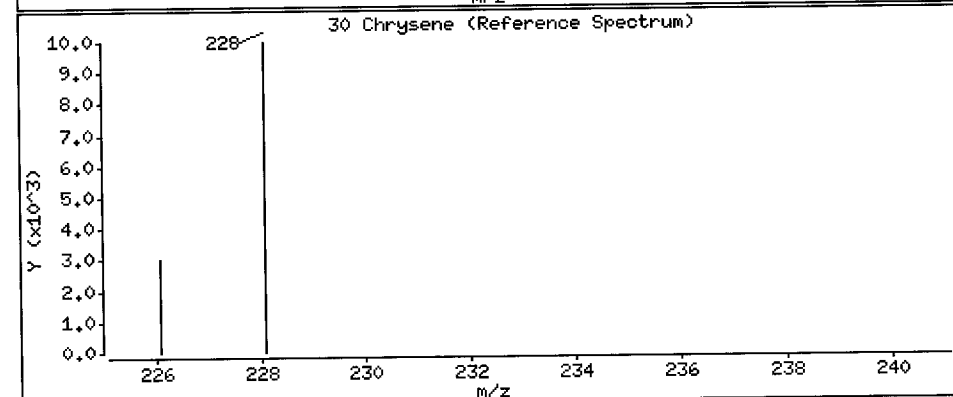
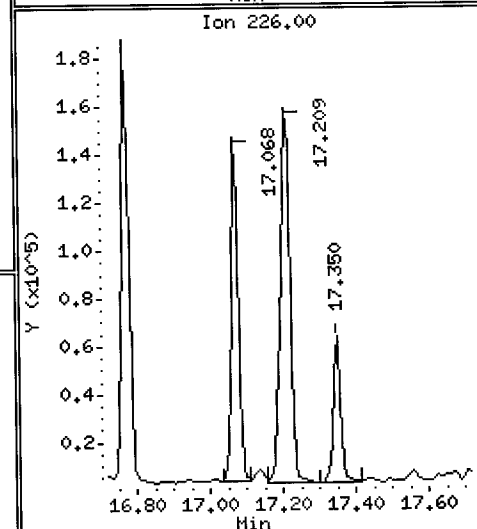
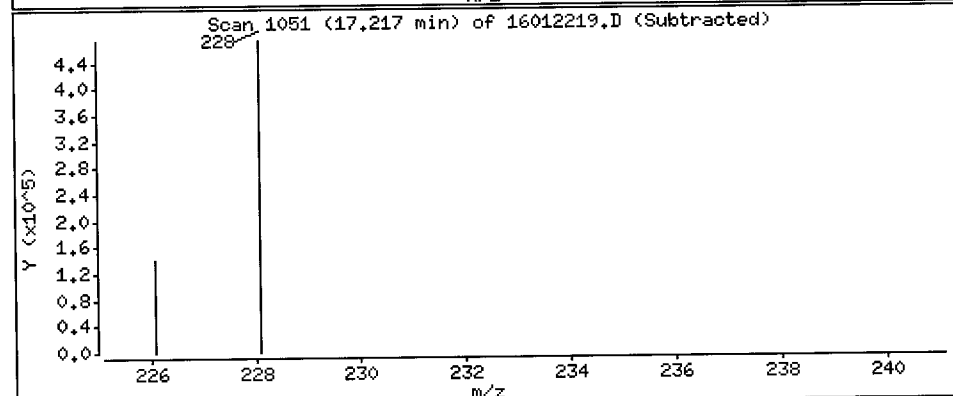
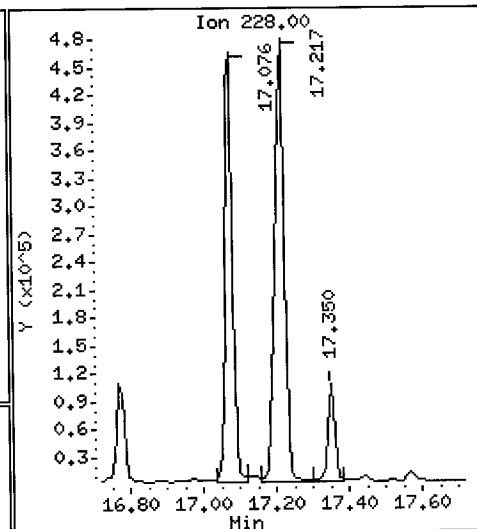
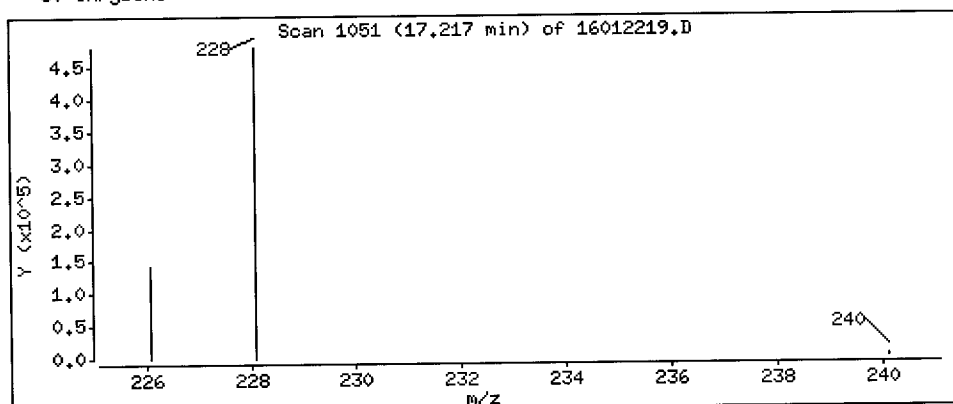
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 17000 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

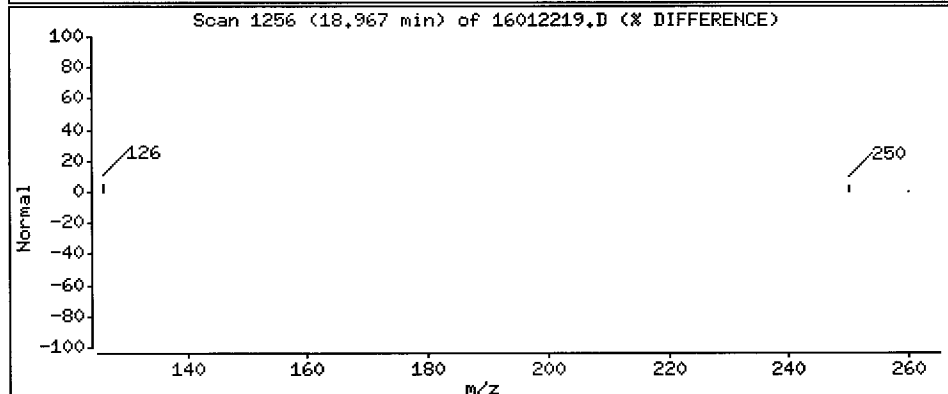
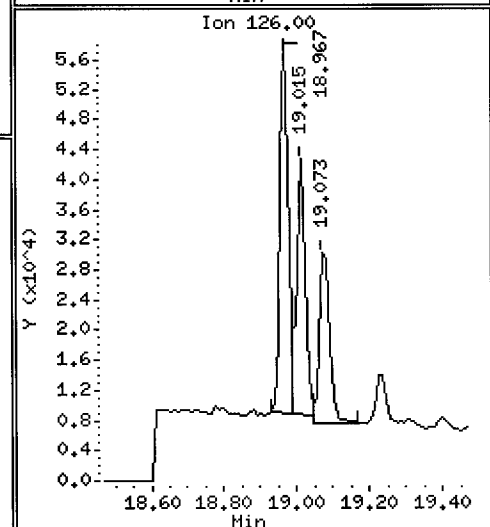
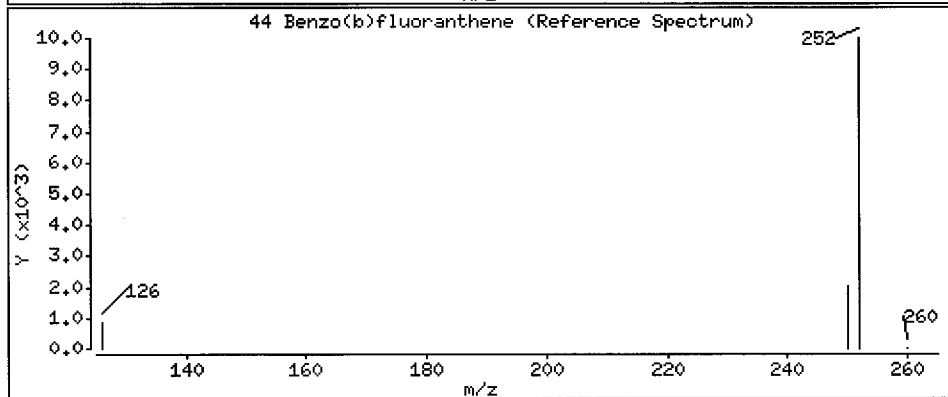
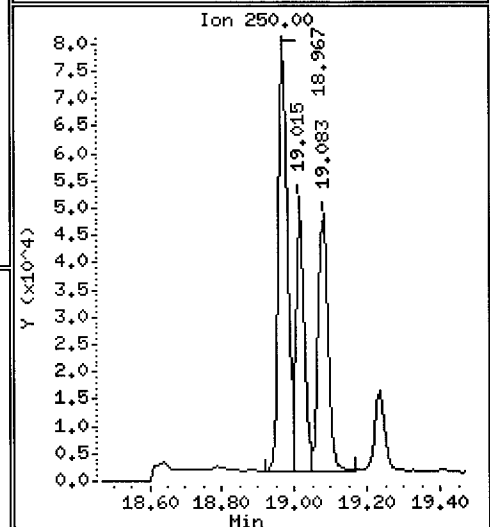
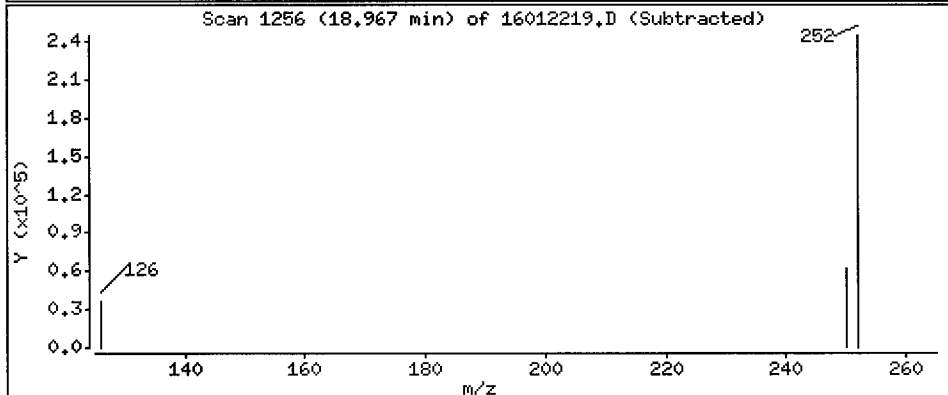
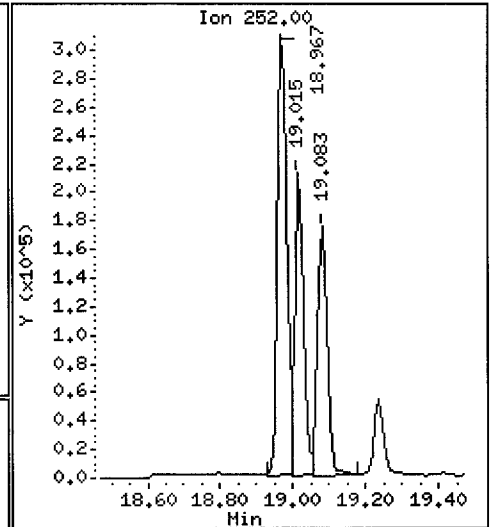
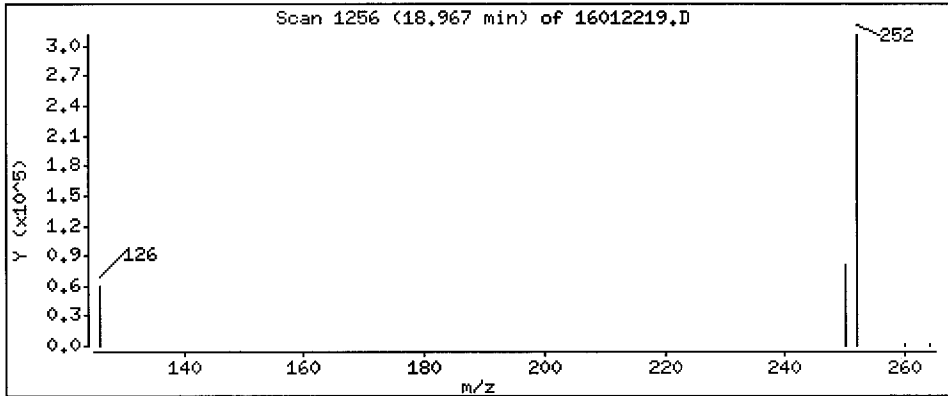
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 12100 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

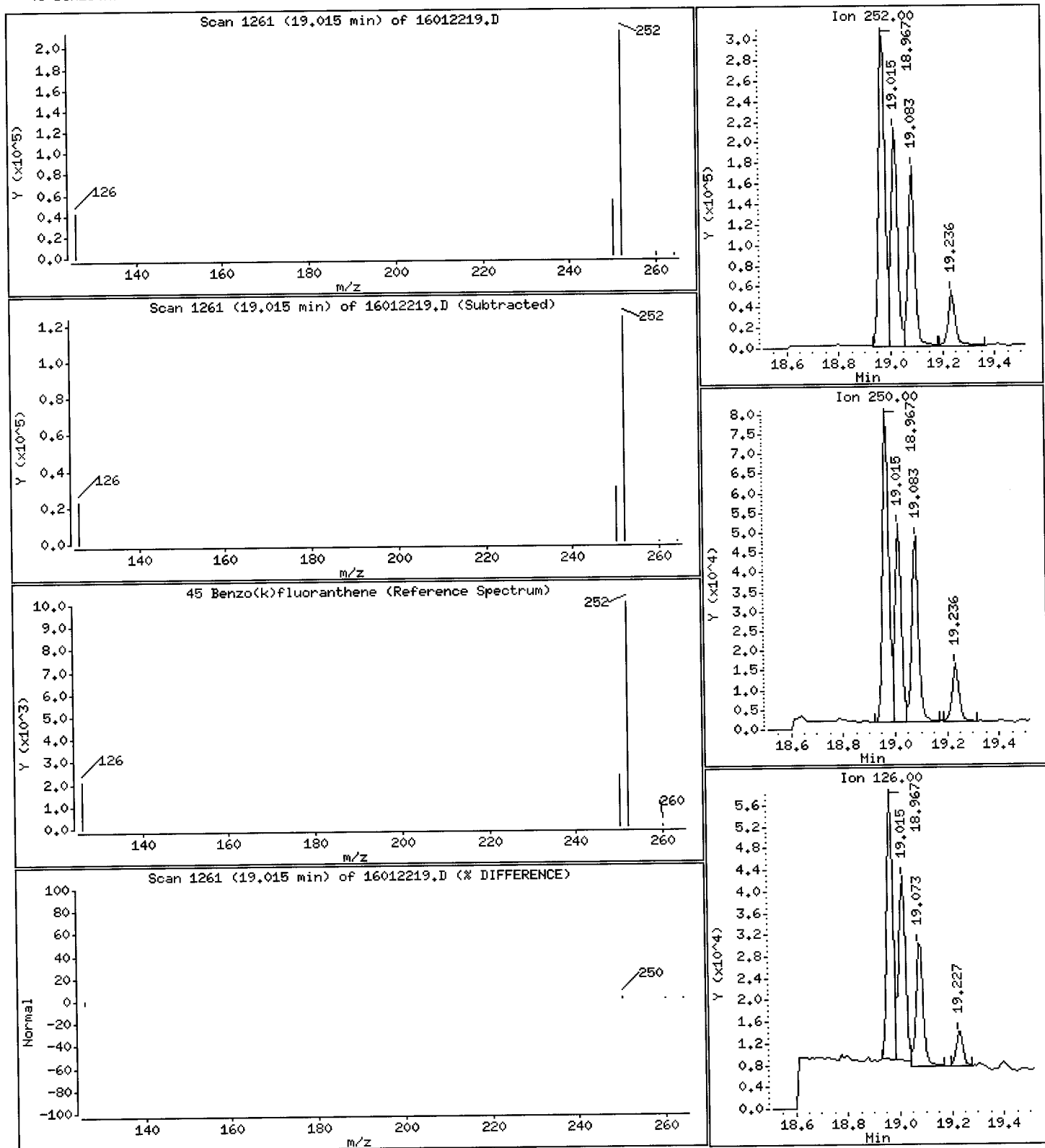
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 7110 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

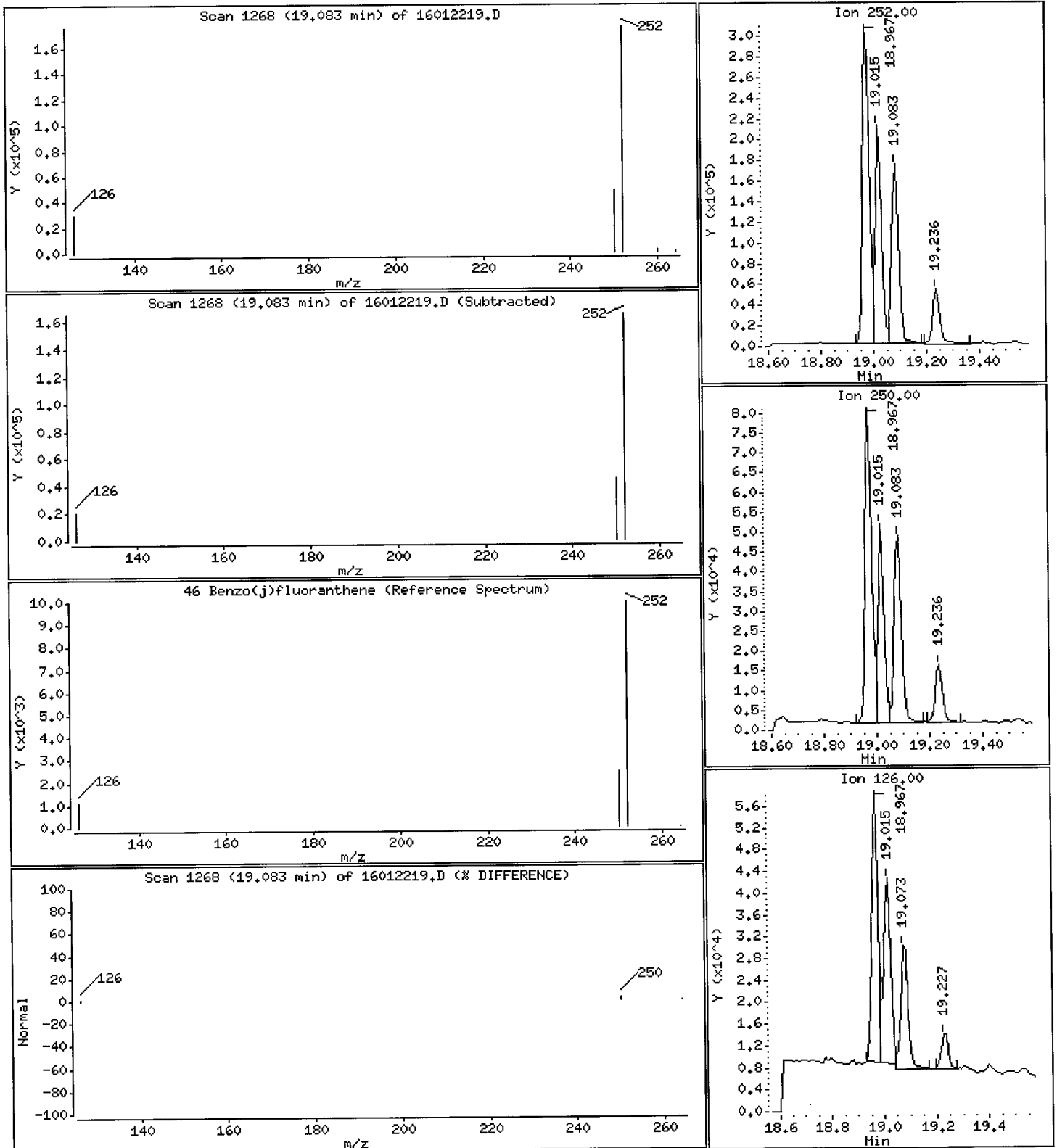
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

46 Benzo(j)fluoranthene

Concentration: 6360 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

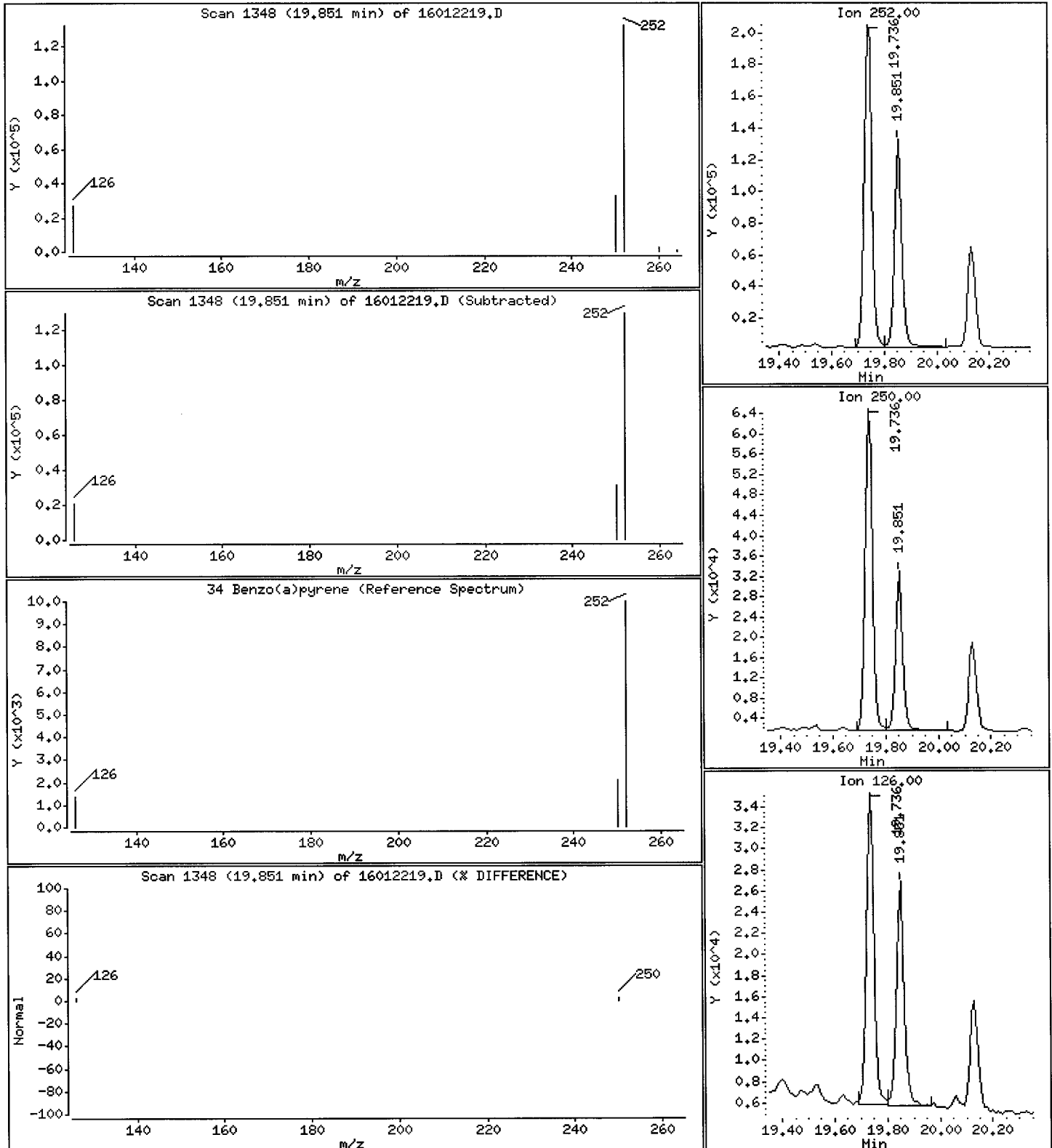
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

34 Benzo(a)pyrene

Concentration: 5810 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

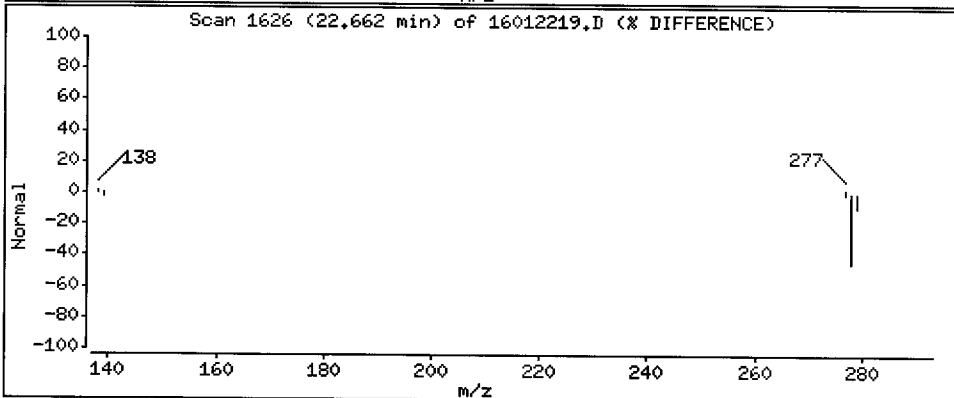
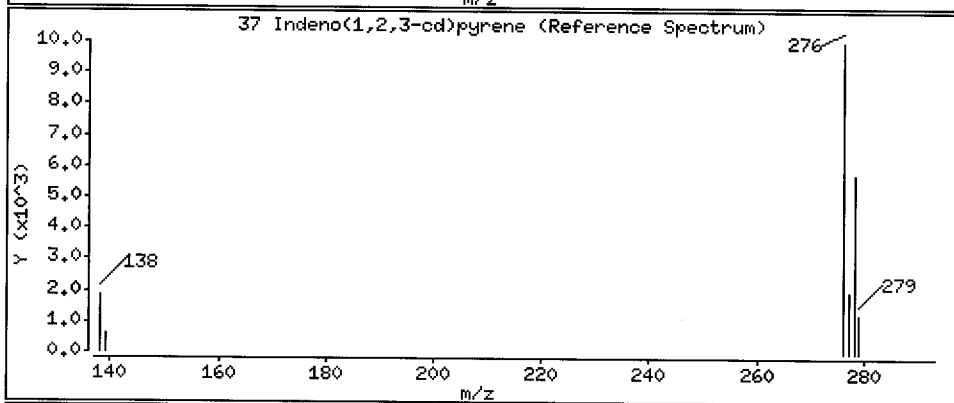
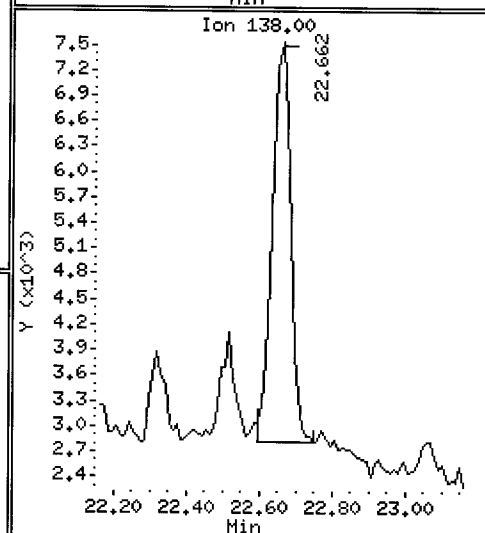
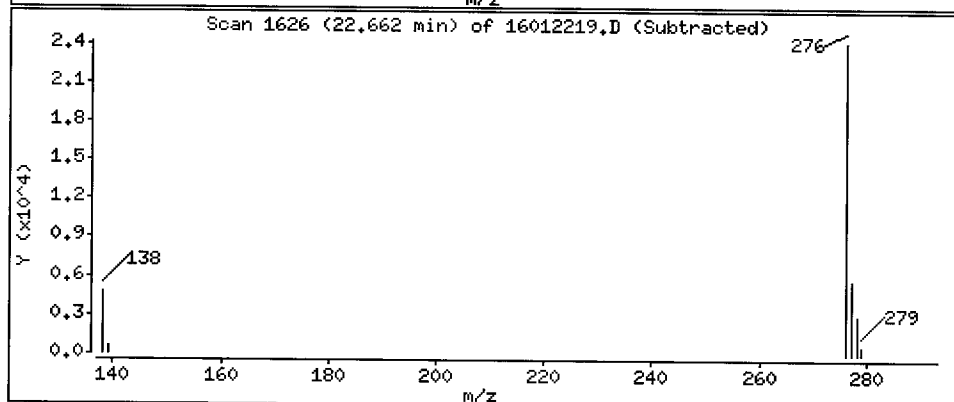
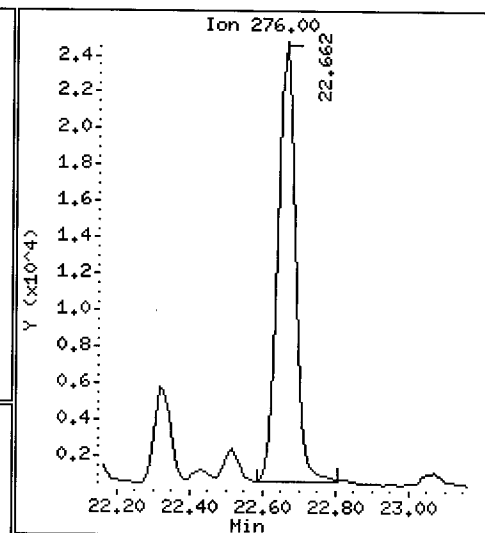
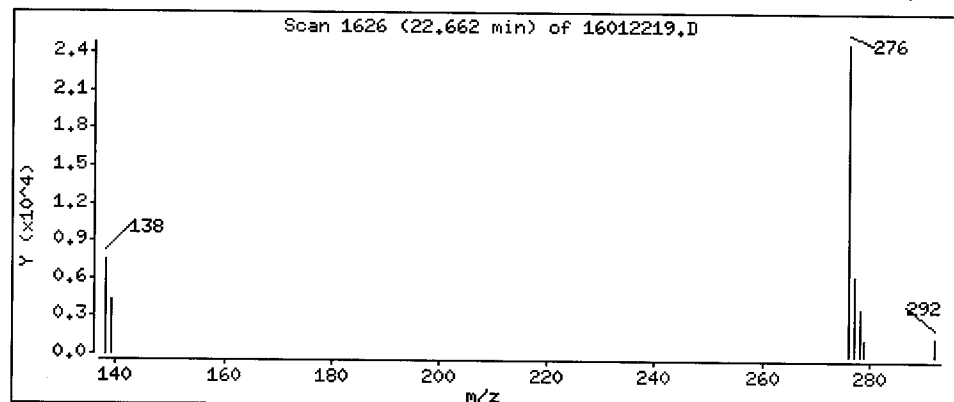
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

37 Indeno(1,2,3-cd)pyrene

Concentration: 1670 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

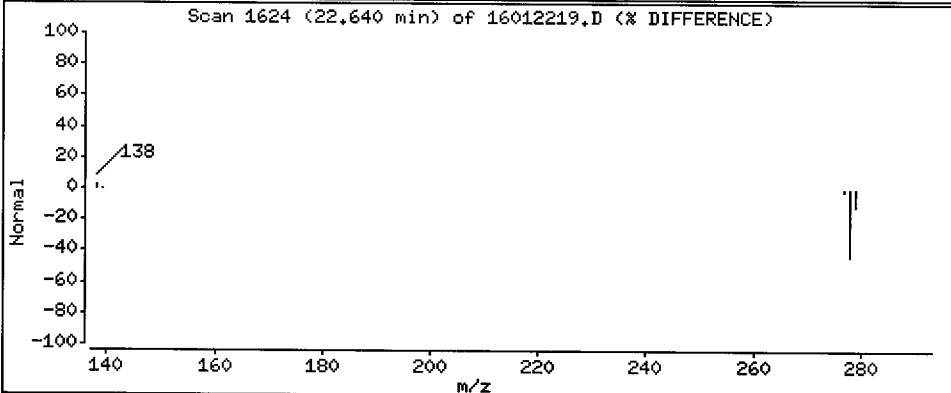
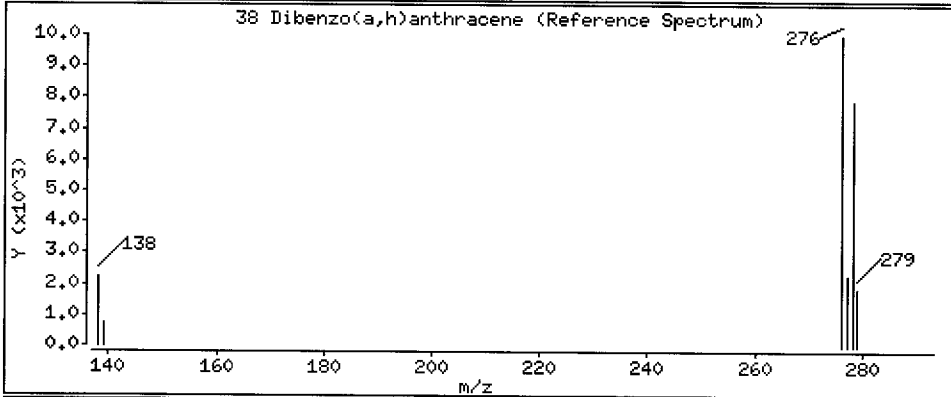
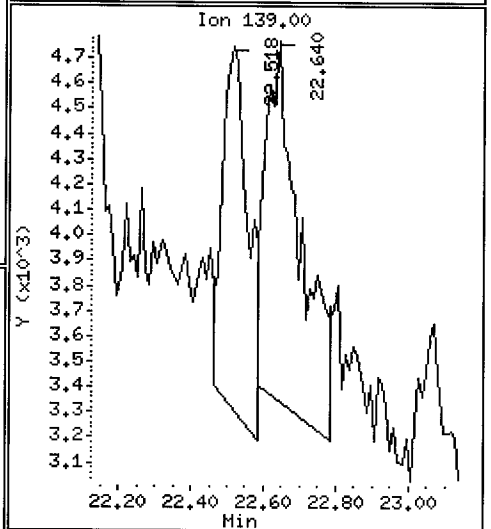
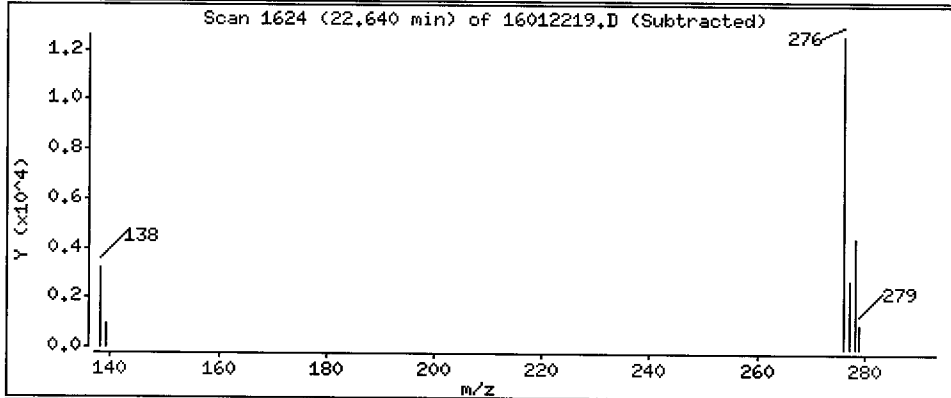
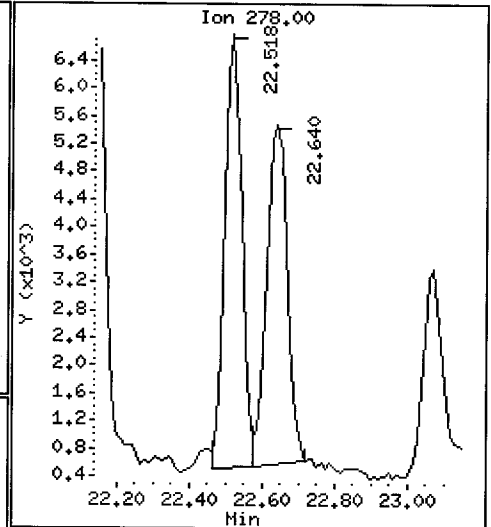
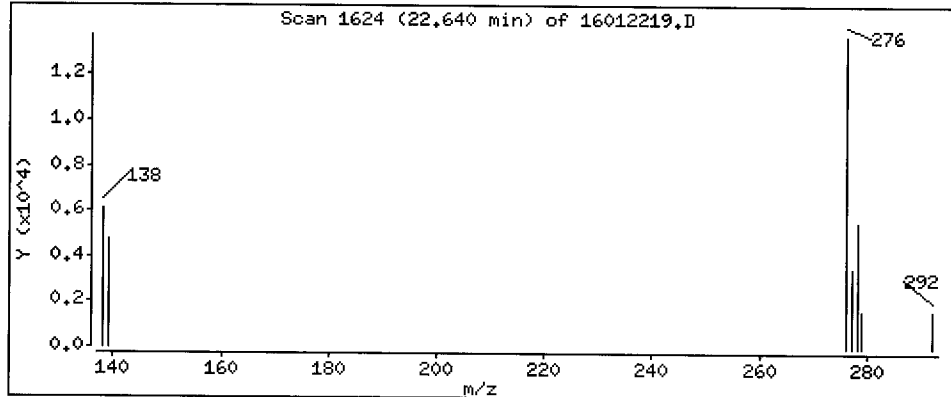
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

38 Dibenzo(a,h)anthracene

Concentration: 512 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

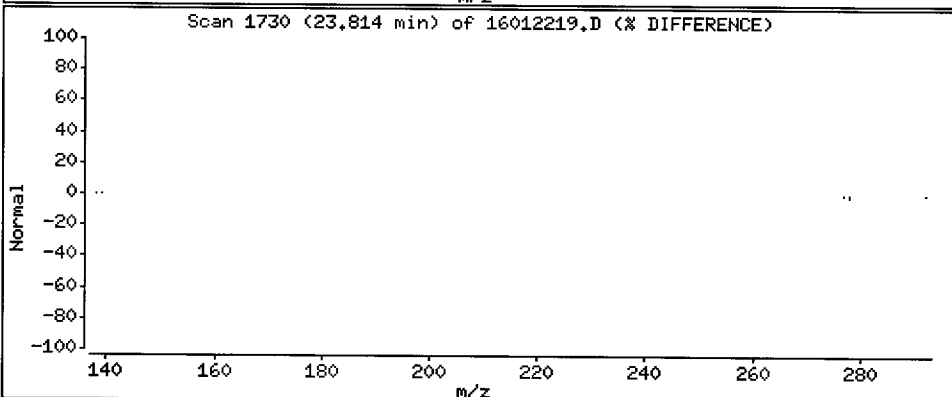
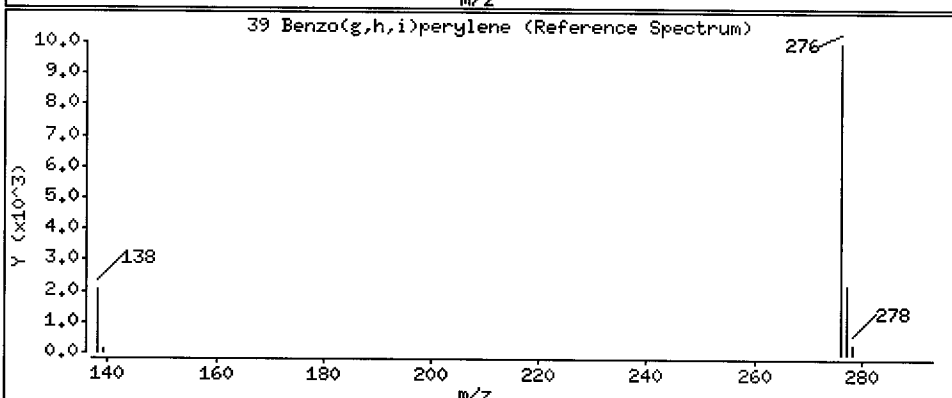
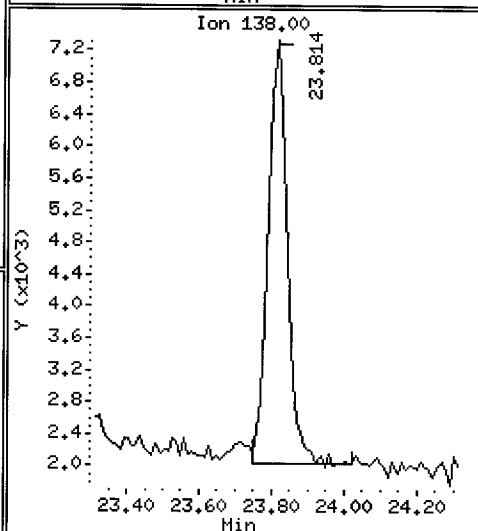
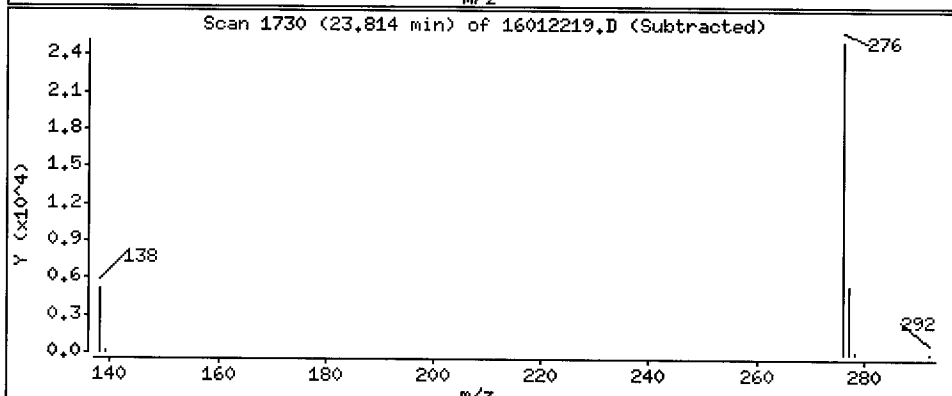
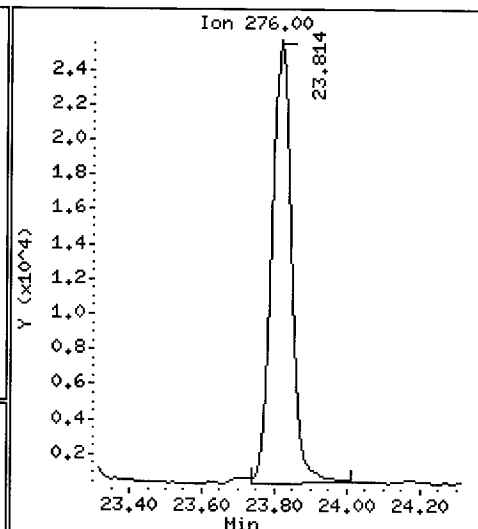
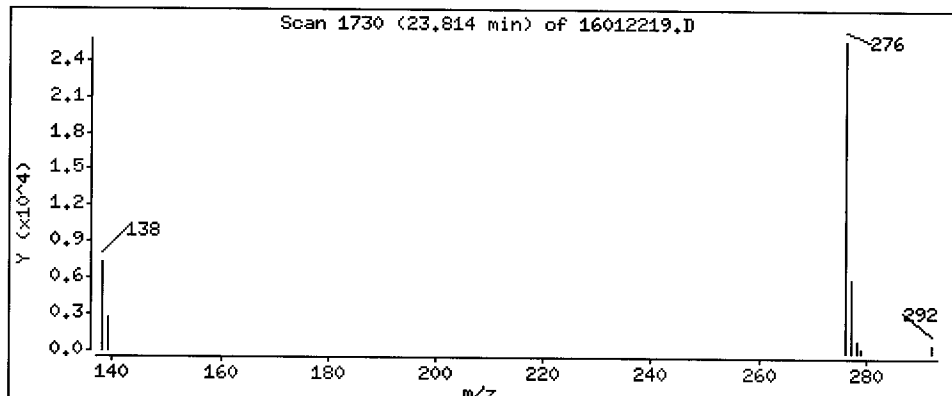
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

39 Benzo(g,h,i)perylene

Concentration: 2310 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-MTN01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

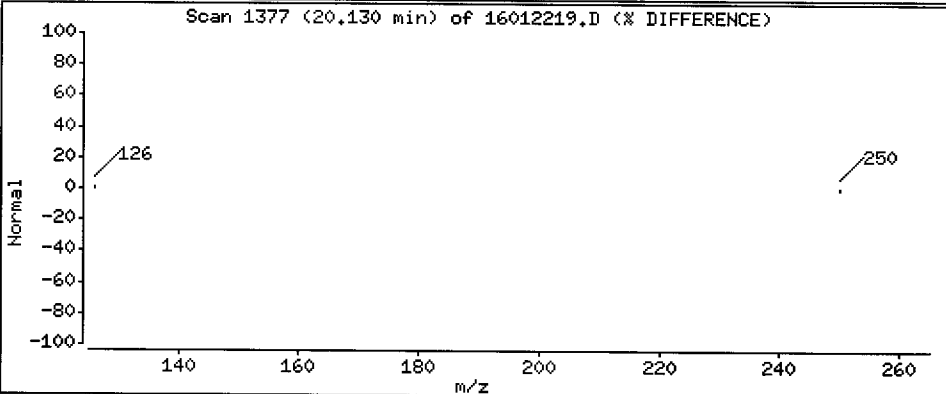
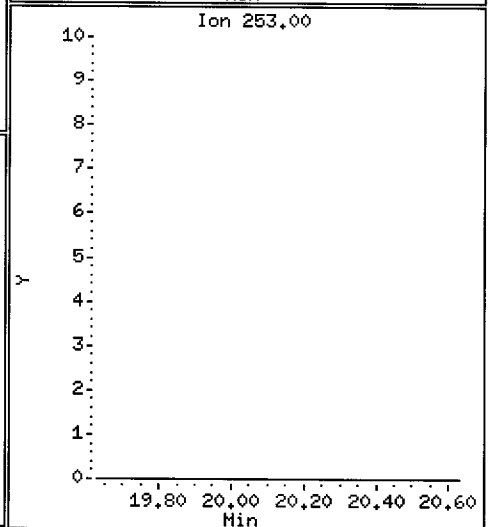
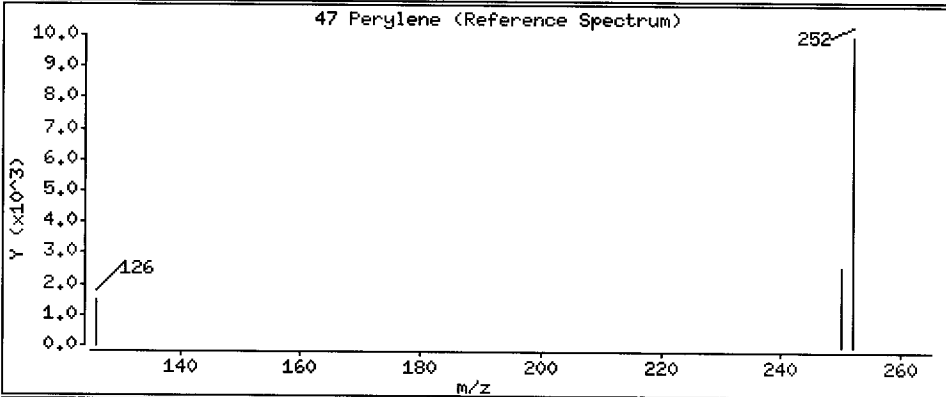
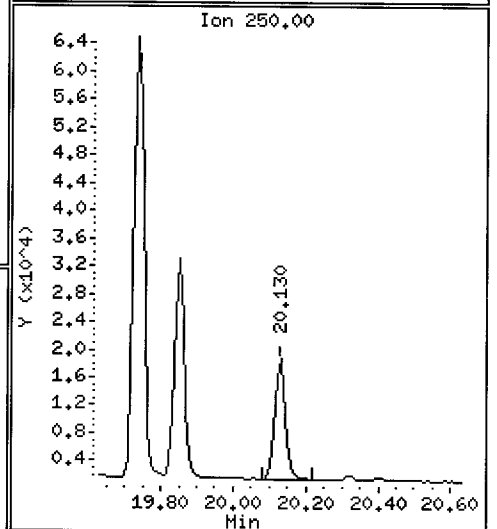
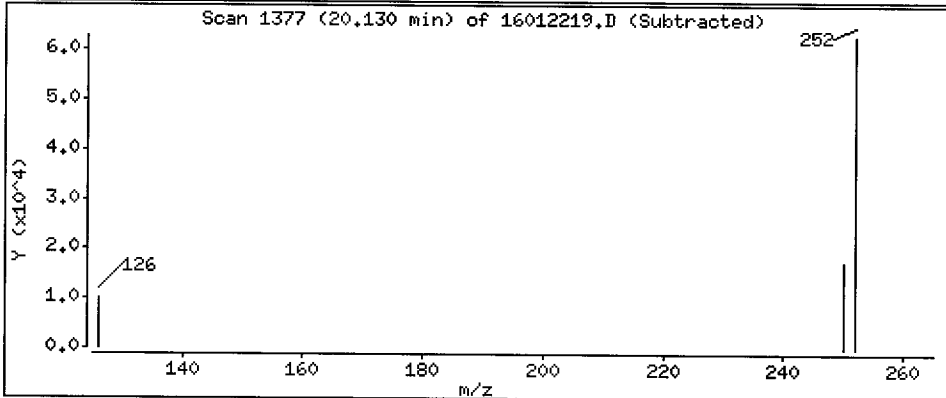
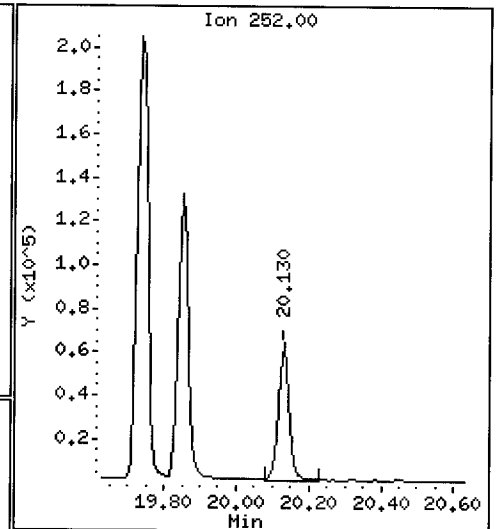
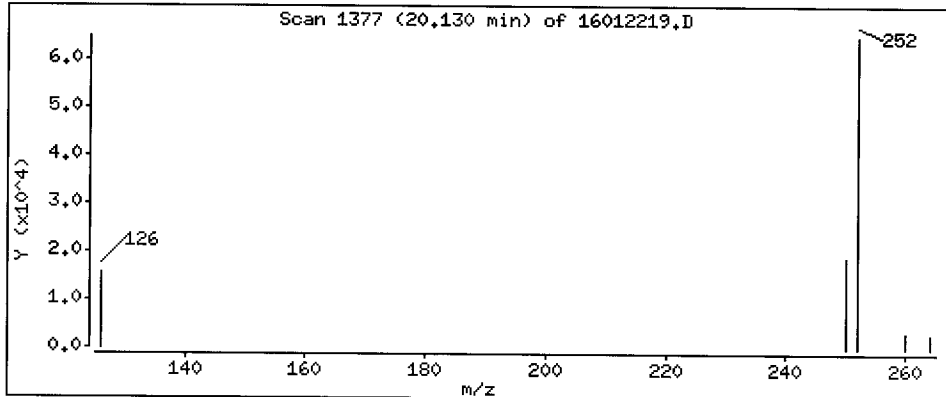
Operator: JM

Column phase: Rxi-17S11 MS

Column diameter: 0.25

47 Perylene

Concentration: 2820 ug/kg



Date : 22-JAN-2016 16:30

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A

Volume Injected (uL): 2.0

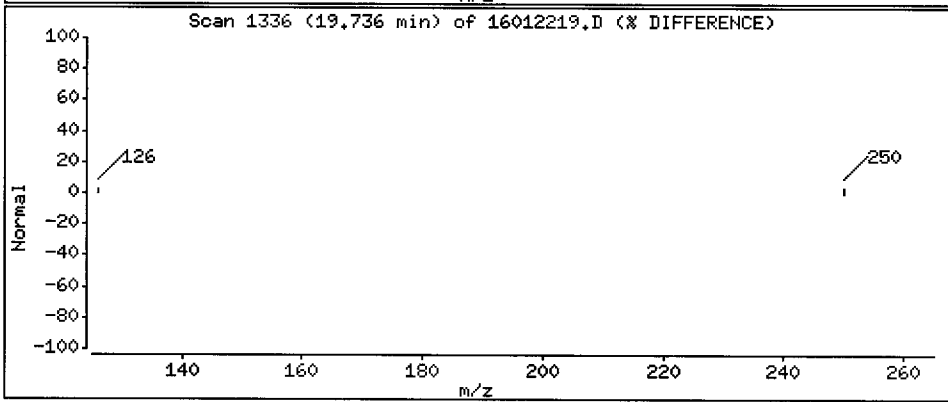
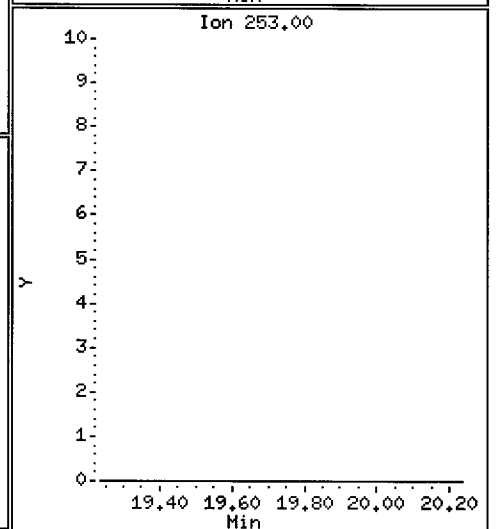
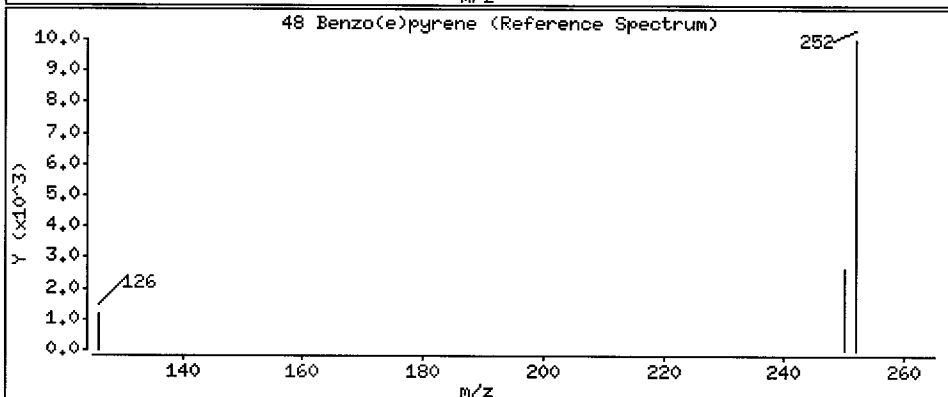
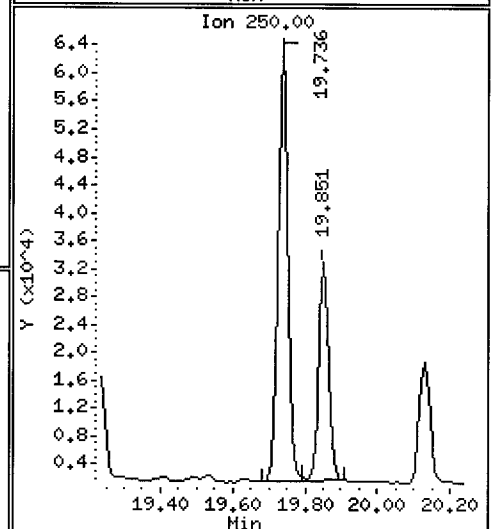
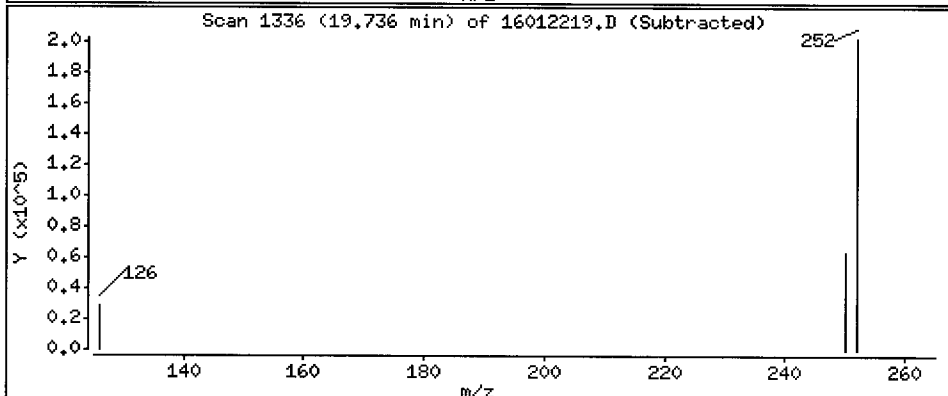
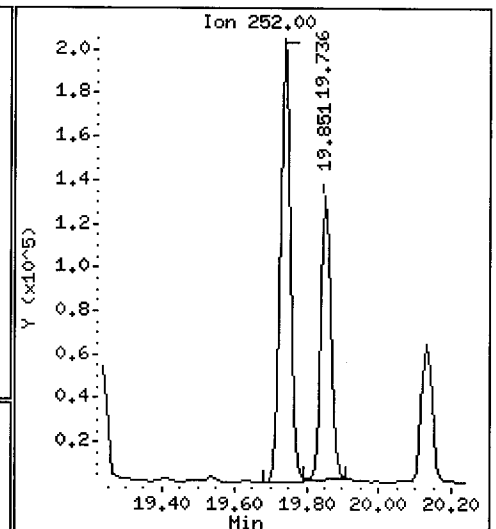
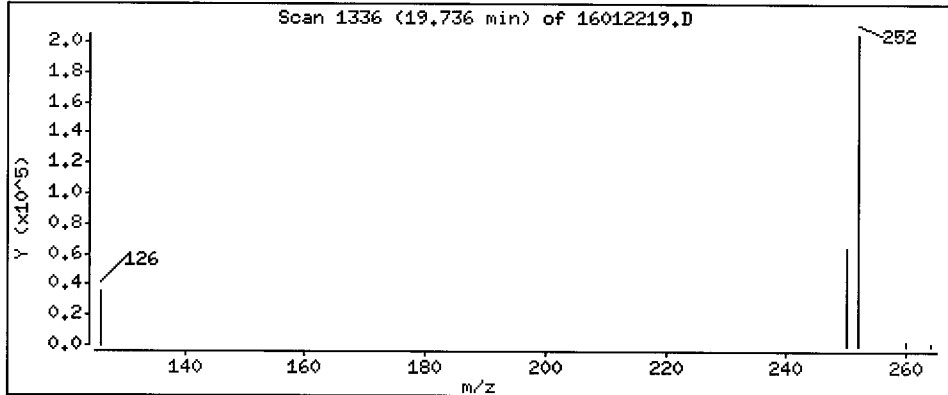
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

48 Benzo(e)pyrene

Concentration: 8890 ug/kg



Lab ID: AUA2A

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 16:30

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012220.D
 Lab Smp Id: AUA2B Client Smp ID: 13CPS_DB-MTW01Z
 Inj Date : 22-JAN-2016 17:00 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : AUA2B
 Misc Info : 16-419
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 14
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.020	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JTD
1/25/14

Compounds	QUANT	SIG	CONCENTRATIONS					ON-COLUMN (ng/mL)	FINAL (ug/kg)
			MASS	RT	EXP RT	REL RT	RESPONSE		
* 4 Naphthalene-d8	136		6.734	6.744	(1.000)	370975	200.000		
5 Naphthalene	128		6.765	6.776	(1.005)	24253	11.3183	565	
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.721	(1.145)	173879	126.276	6300	
7 2-Methylnaphthalene	142		Compound Not Detected.						
8 1-Methylnaphthalene	142		Compound Not Detected.						
10 Acenaphthylene	152		Compound Not Detected.						
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	264737	200.000		
12 Acenaphthene	153		Compound Not Detected.						
14 Dibenzofuran	168		Compound Not Detected.						
15 Fluorene	166		Compound Not Detected.						
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	432287	200.000		
19 Phenanthrene	178		12.468	12.468	(1.004)	64882	24.9119	1240	
20 Anthracene	178		Compound Not Detected.						
\$ 23 Fluoranthene-d10	212		14.519	14.518	(1.169)	372707	156.777	7820	
24 Fluoranthene	202		14.557	14.557	(1.172)	114603	43.8279	2190	
25 Pyrene	202		15.057	15.057	(0.877)	80250	31.4841	1570	
28 Benzo(a)anthracene	228		17.076	17.075	(0.995)	22101	10.2991	514	
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	321859	200.000		
30 Chrysene	228		17.217	17.217	(1.003)	51355	21.8049	1090	
44 Benzo(b)fluoranthene	252		18.967	18.967	(0.945)	26496	11.9286	595	
45 Benzo(k)fluoranthene	252		19.015	19.015	(0.948)	16286	6.29197	314	

Q

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	12284	5.20986	260
34 Benzo(a)pyrene	252	Compound Not Detected.					
* 35 Perylene-d12	264	20.062	20.062	(1.000)	327843	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	225401	170.342	8500
37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
39 Benzo(g,h,i)perylene	276	Compound Not Detected.					
47 Perylene	252	Compound Not Detected.					
48 Benzo(e)pyrene	252	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012220.D
 Lab Smp Id: AUA2B
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 16-419

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: 13CPS_DB-MTW01Z
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	370975	13.14
11 Acenaphthene-d10	239179	119590	478358	264737	10.69
18 Phenanthrene-d10	372253	186127	744506	432287	16.13
29 Chrysene-d12	294711	147356	589422	321859	9.21
35 Perylene-d12	260595	130298	521190	327843	25.81

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.16
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: AUA2B
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 16-419

Client SDG: AUA2
Fraction: SV
Client Smp ID: 13CPS_DB-MTW01Z
Operator: JW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	6300	42.09	30-160
\$ 23 Fluoranthene-d10	15000	7820	52.26	30-160
\$ 36 Dibenzo(a,h) anthra	15000	8500	56.78	30-160

Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-HTW012

Sample Info: AUA2B

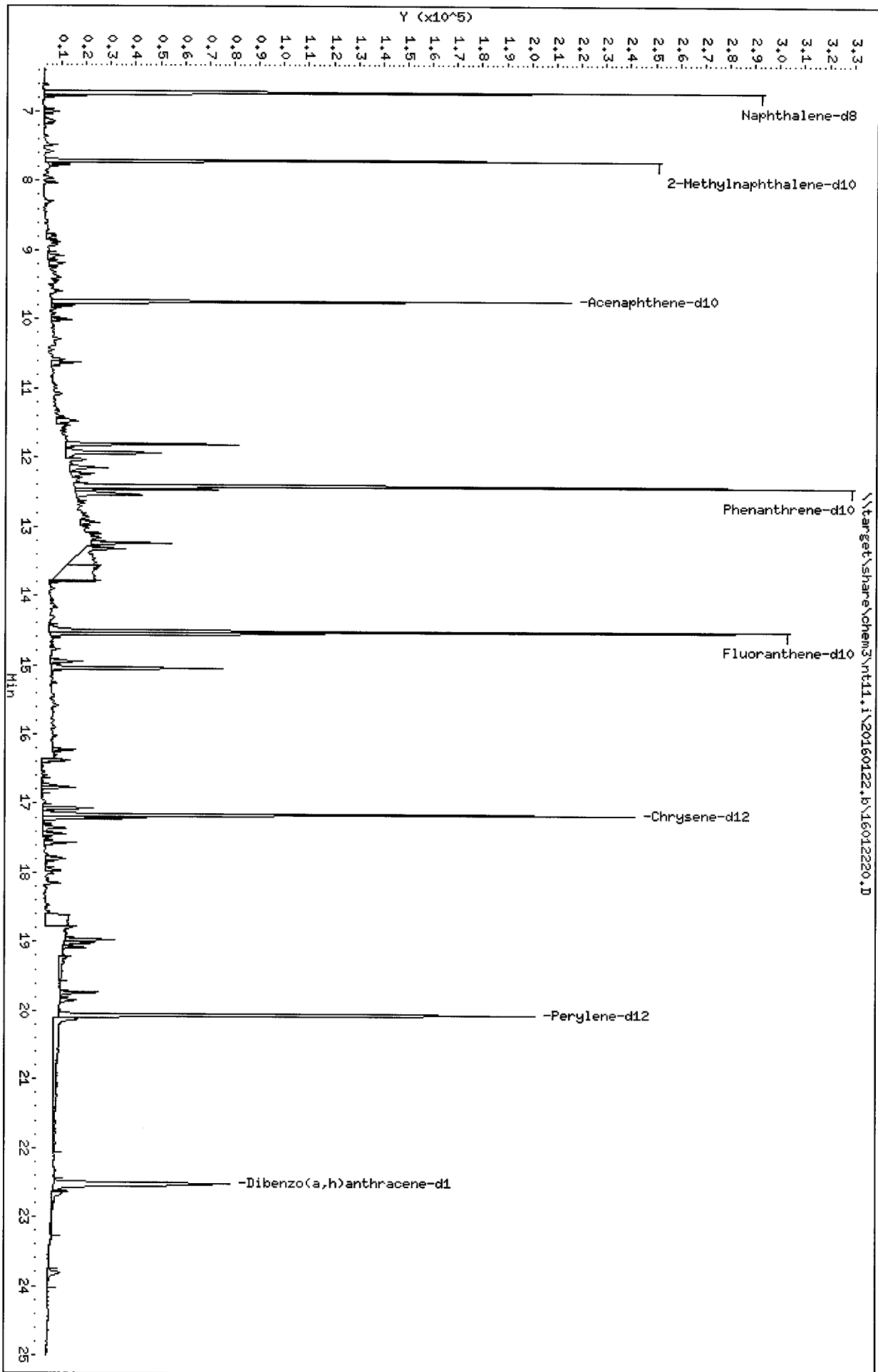
Volume Injected (uL): 2.0

Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTN01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

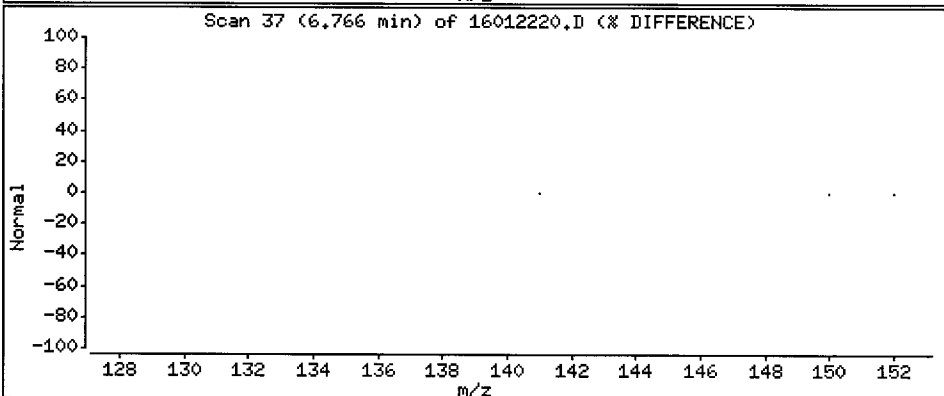
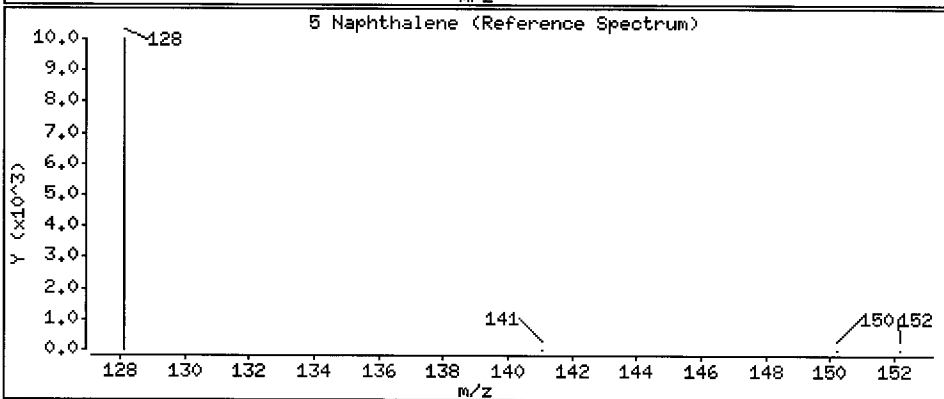
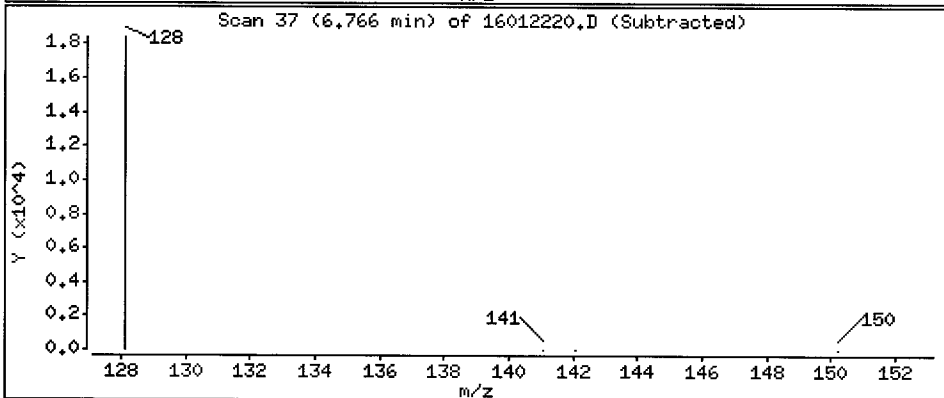
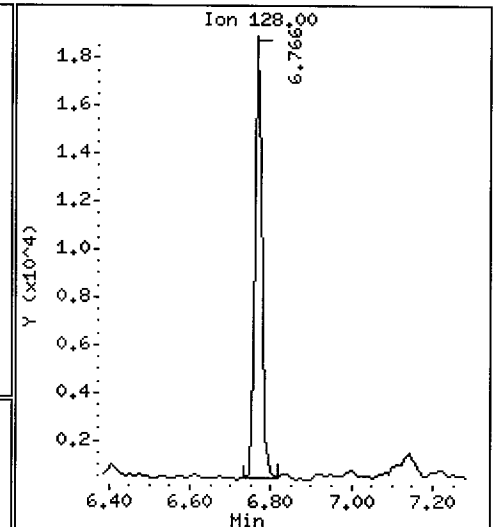
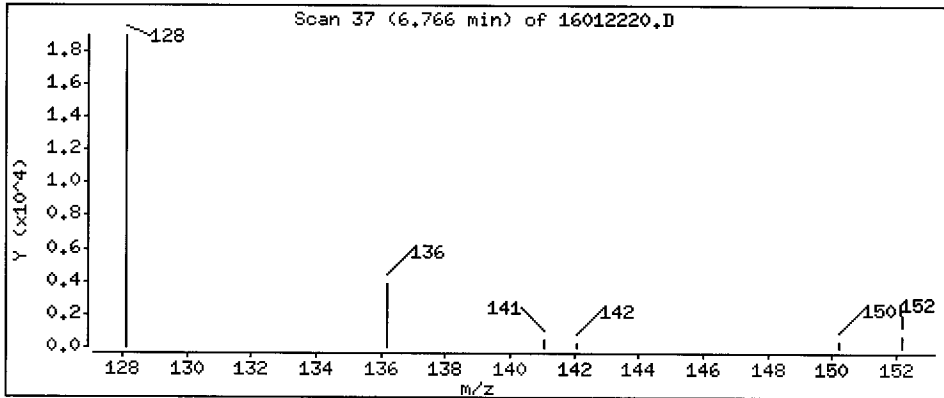
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 565 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

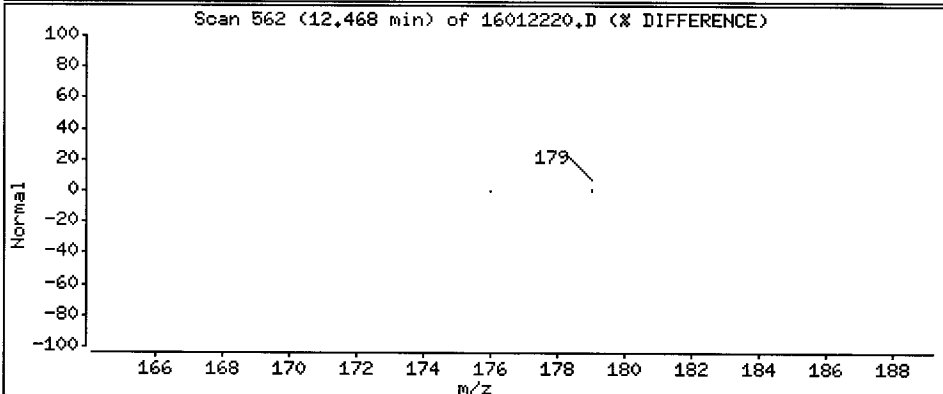
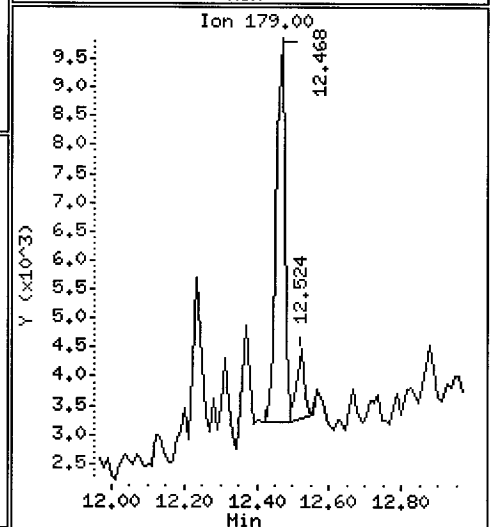
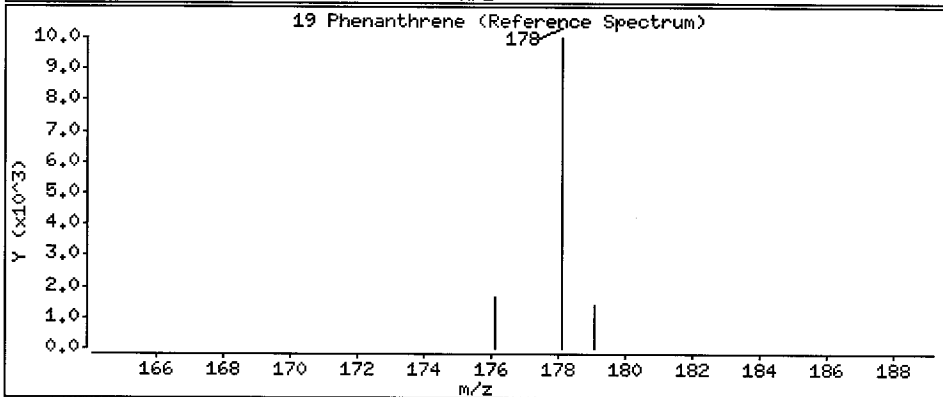
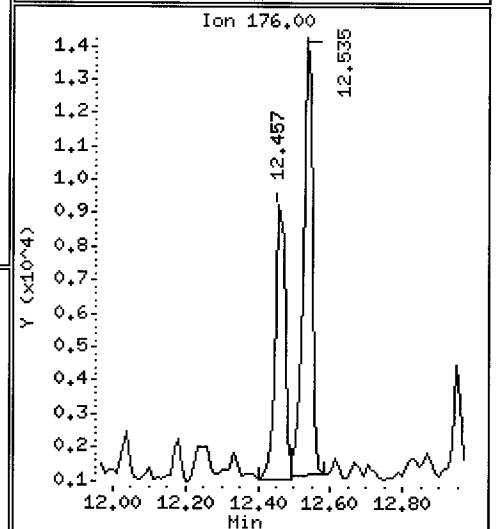
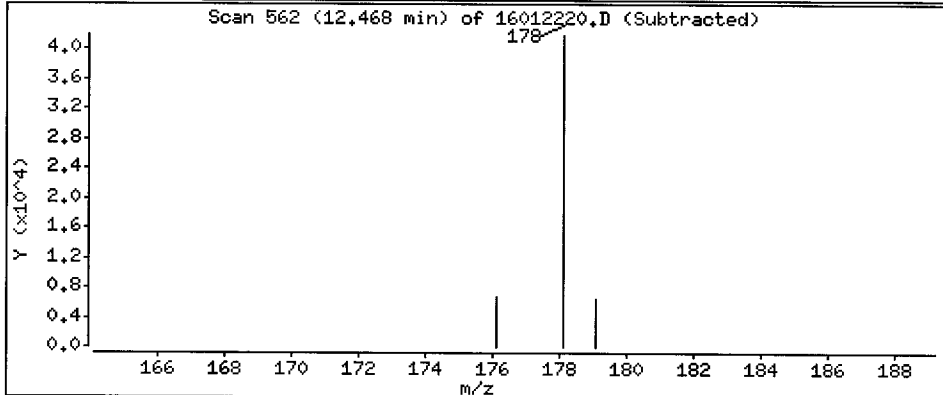
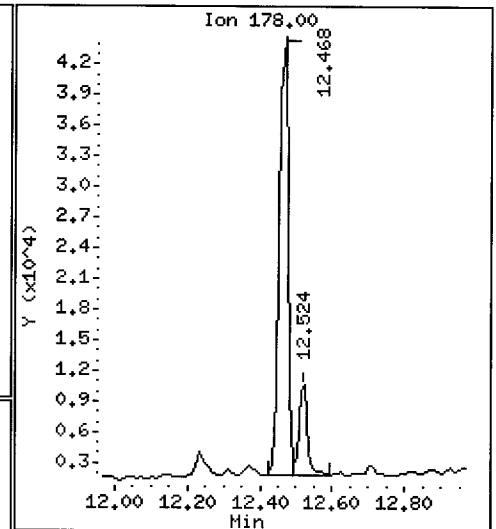
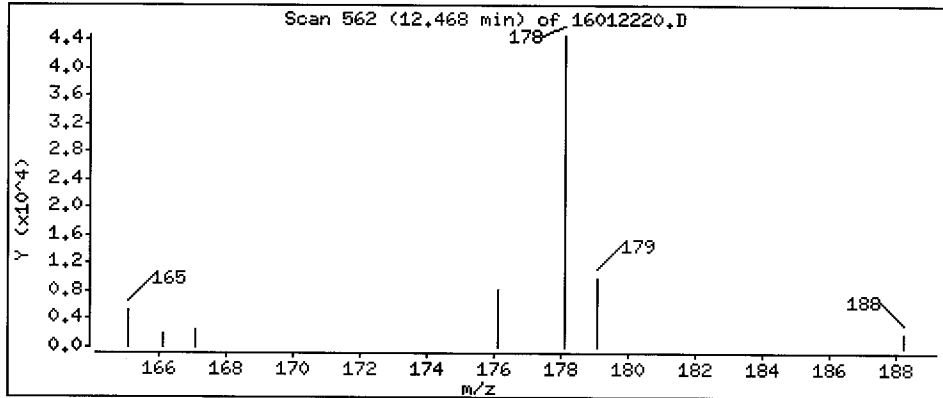
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 1240 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

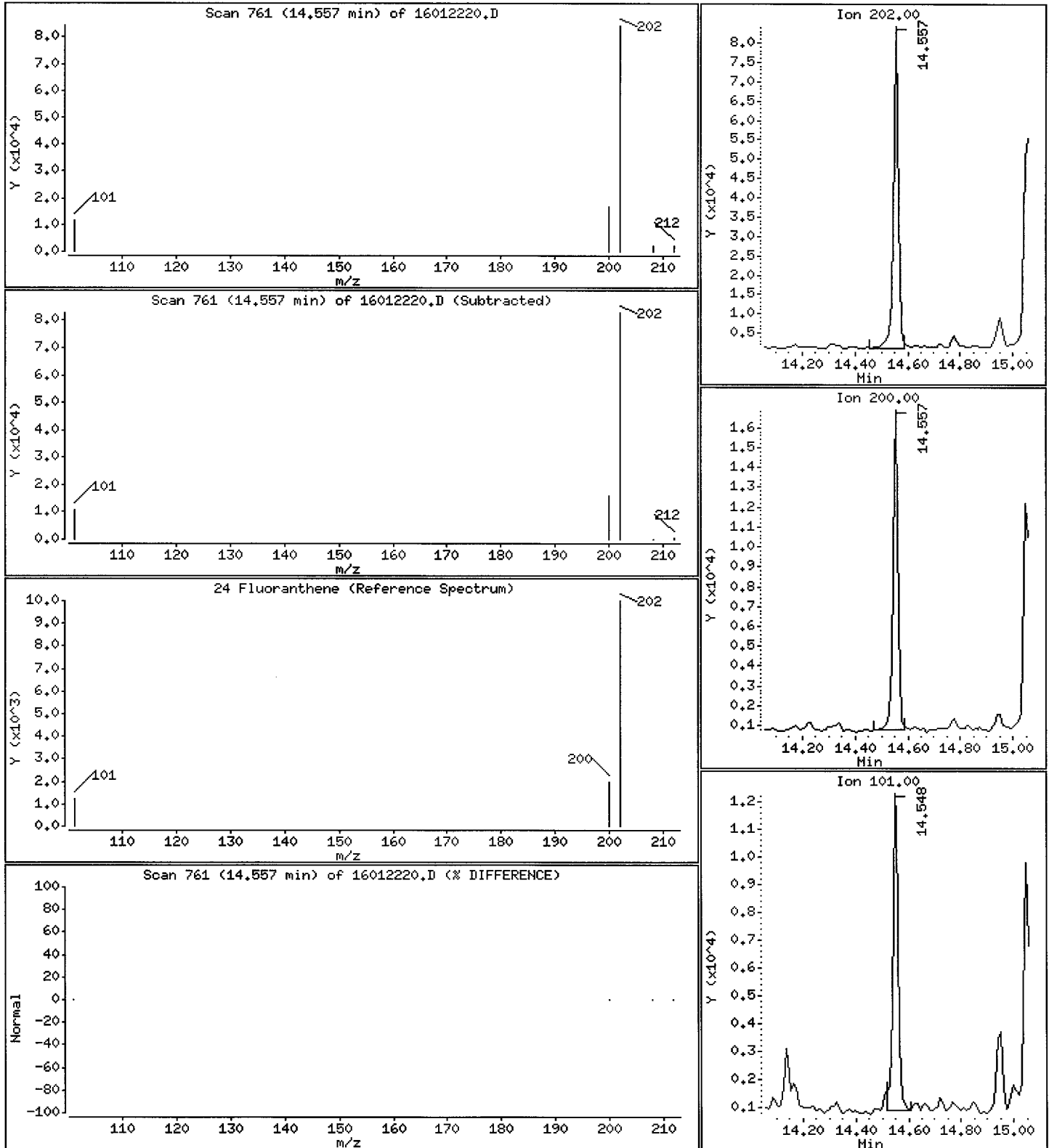
Operator: JH

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 2190 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

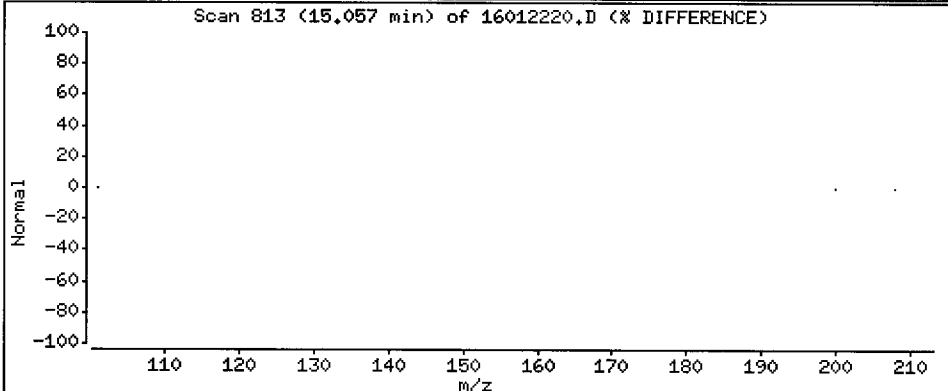
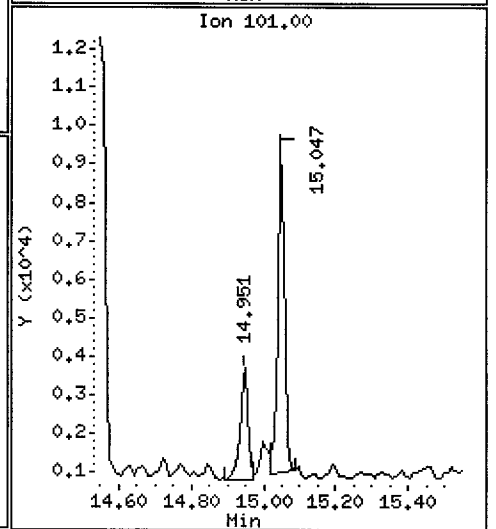
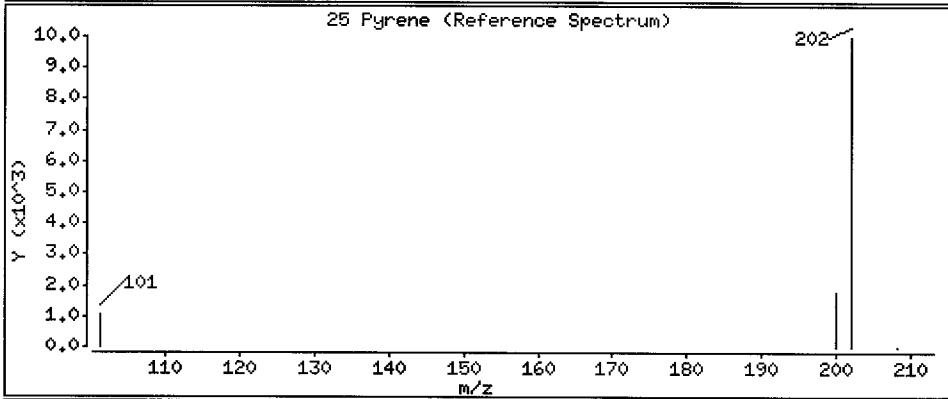
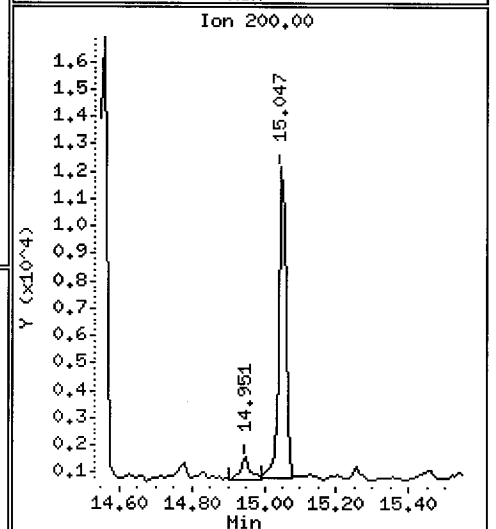
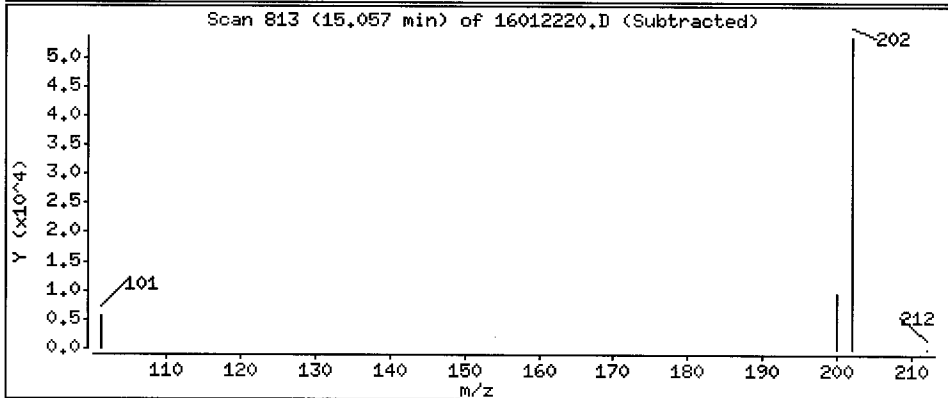
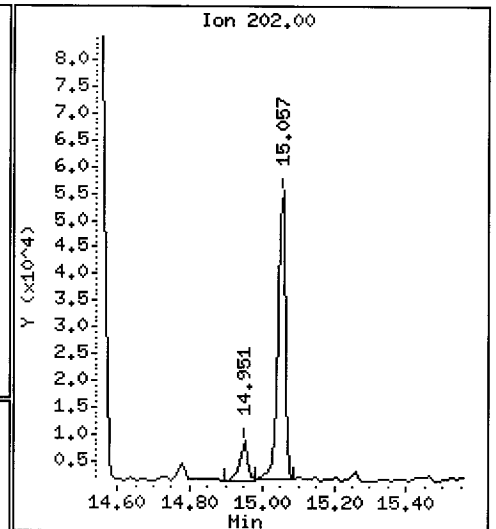
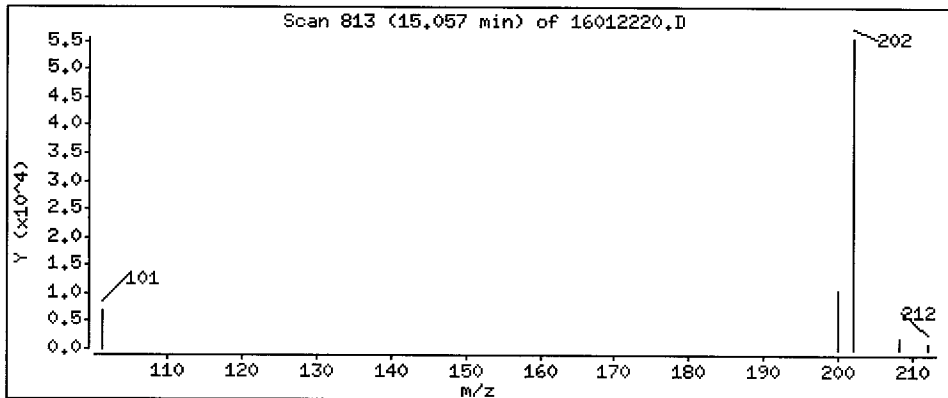
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

25 Pyrene

Concentration: 1570 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

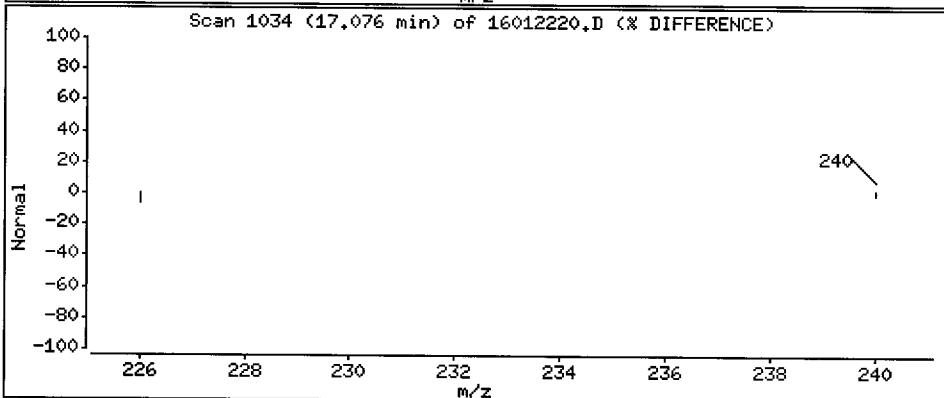
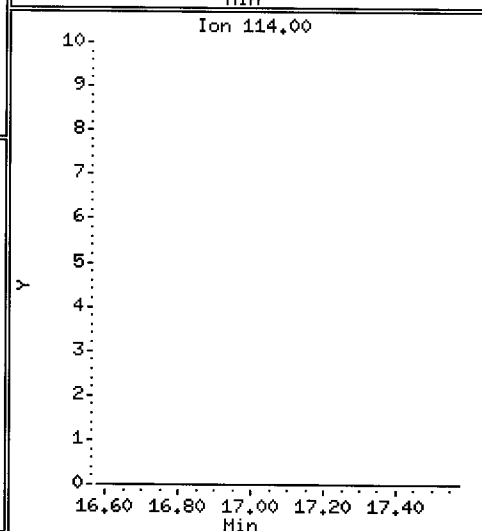
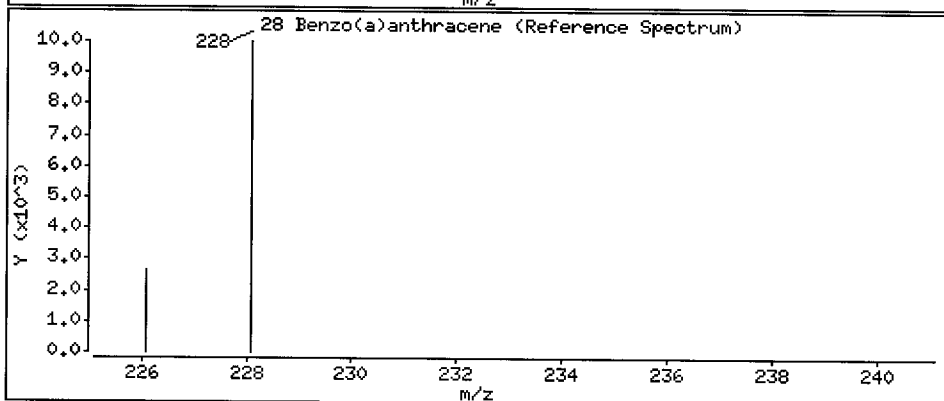
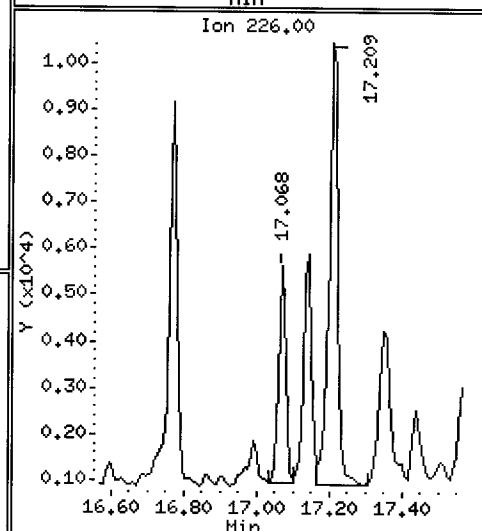
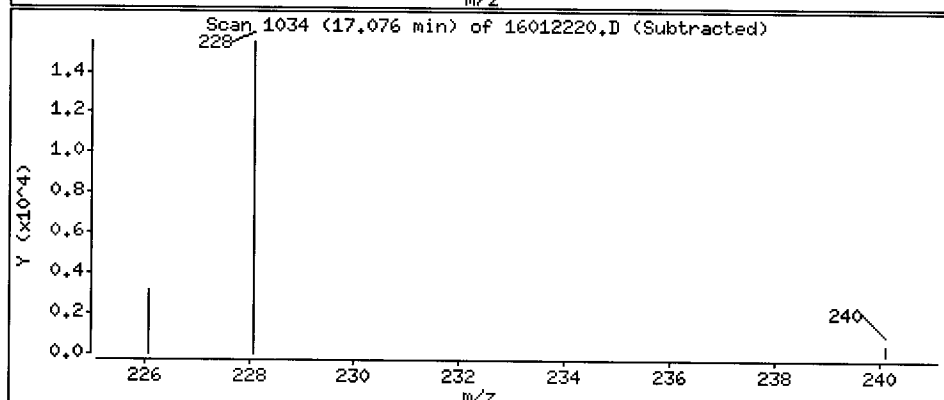
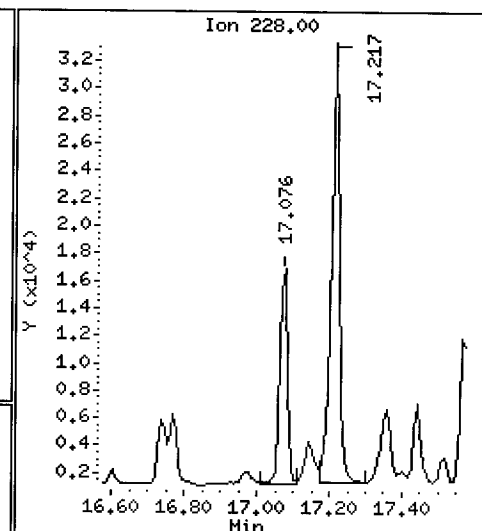
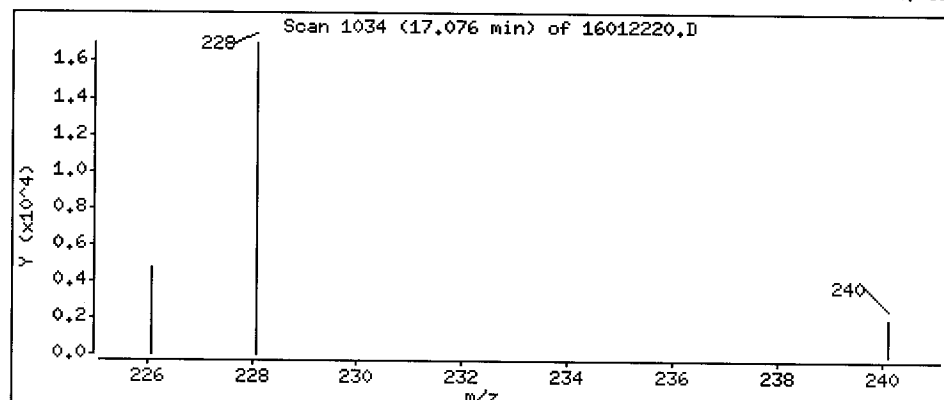
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 514 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

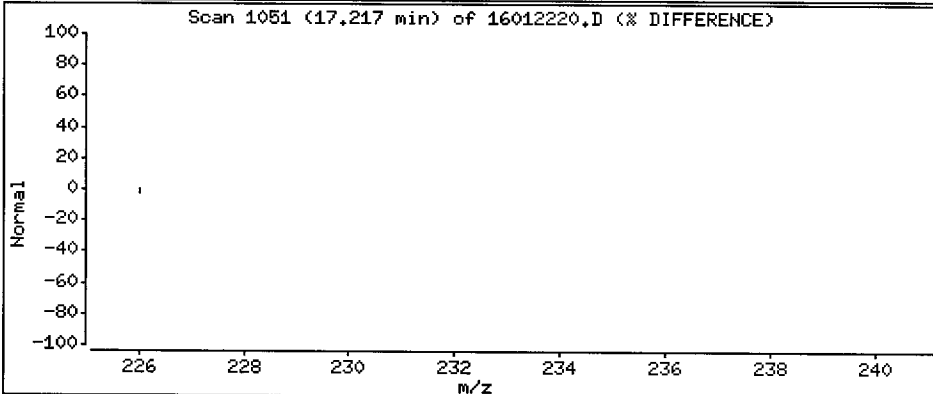
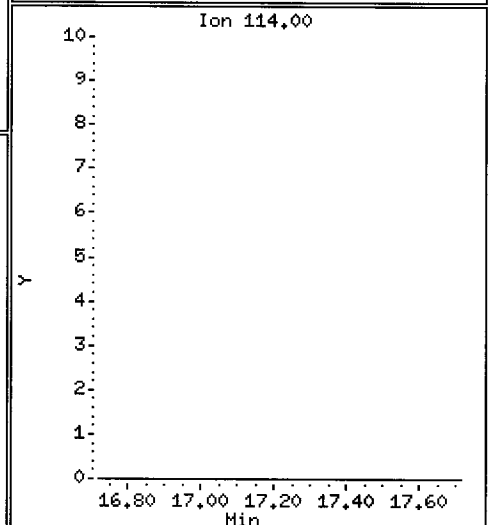
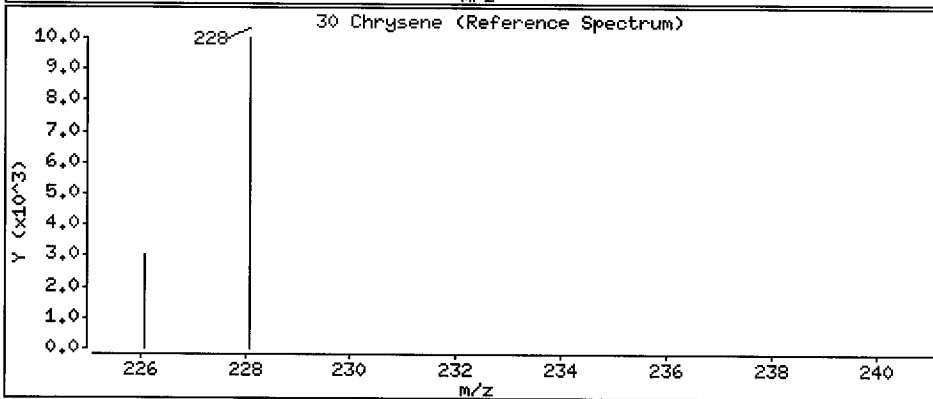
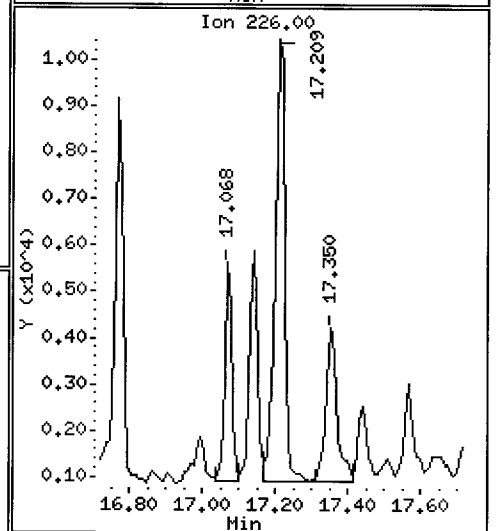
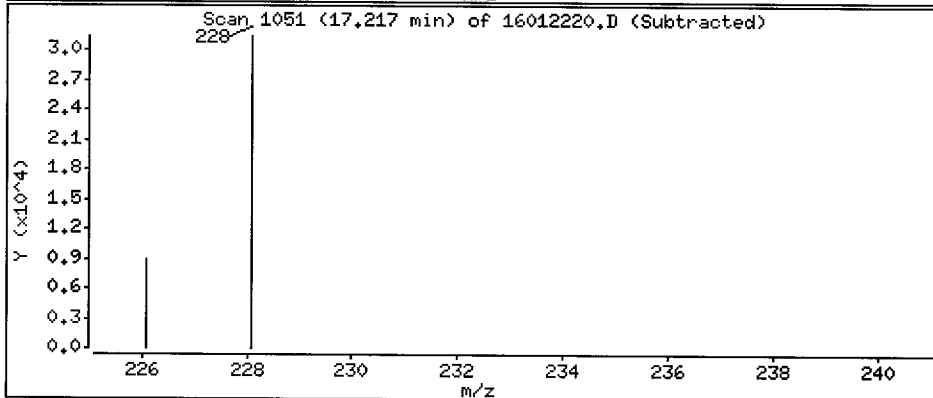
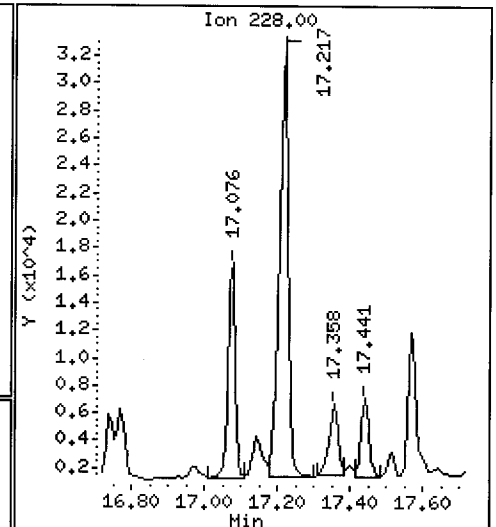
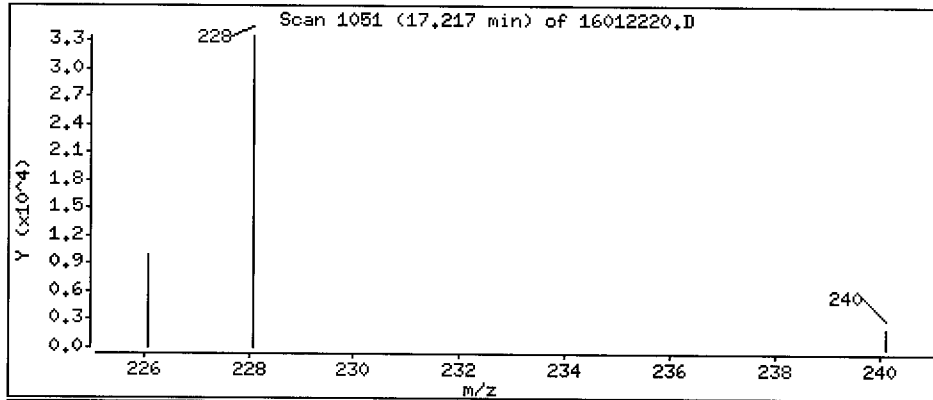
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 1090 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-MTN01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

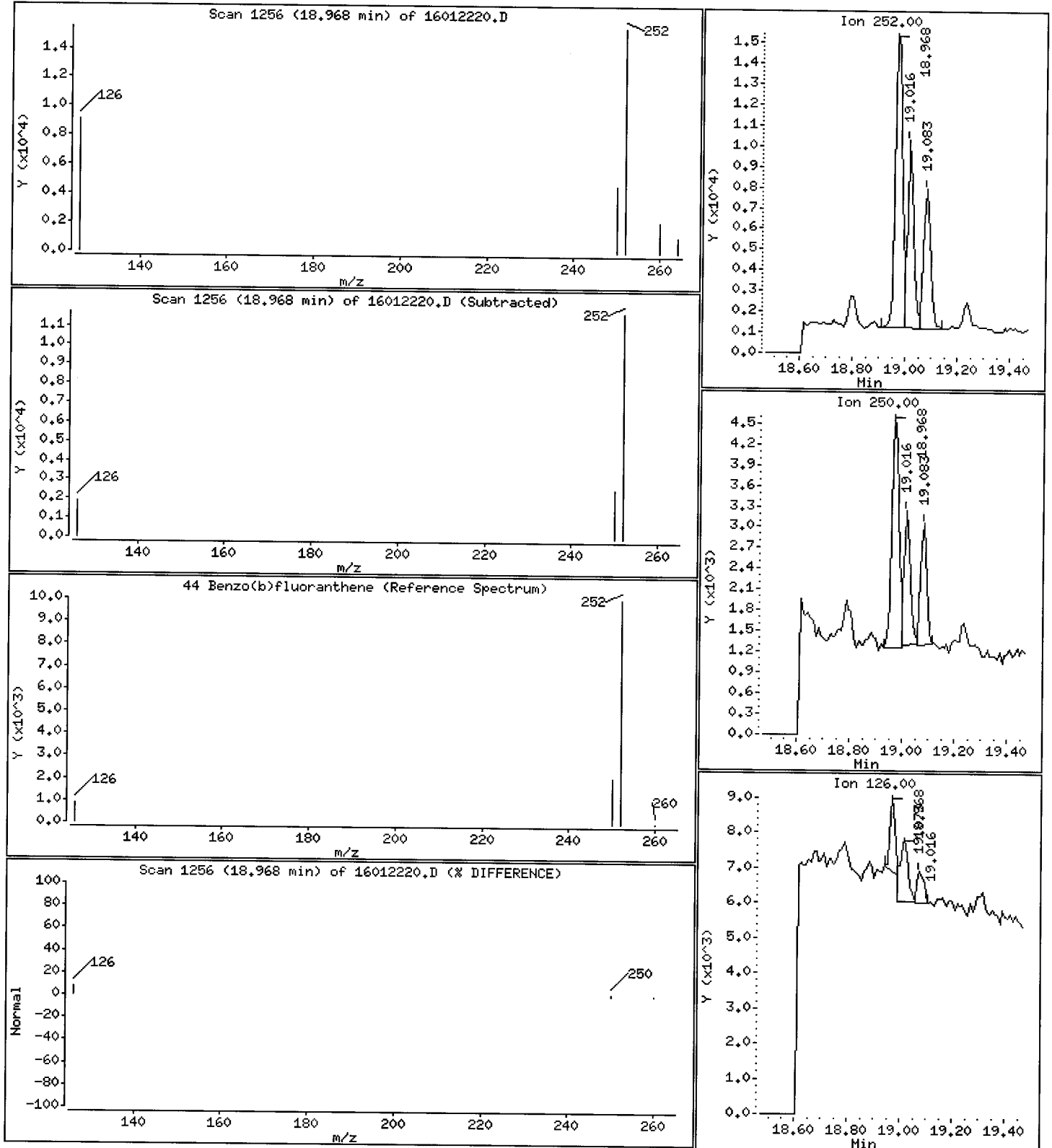
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 595 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-HTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

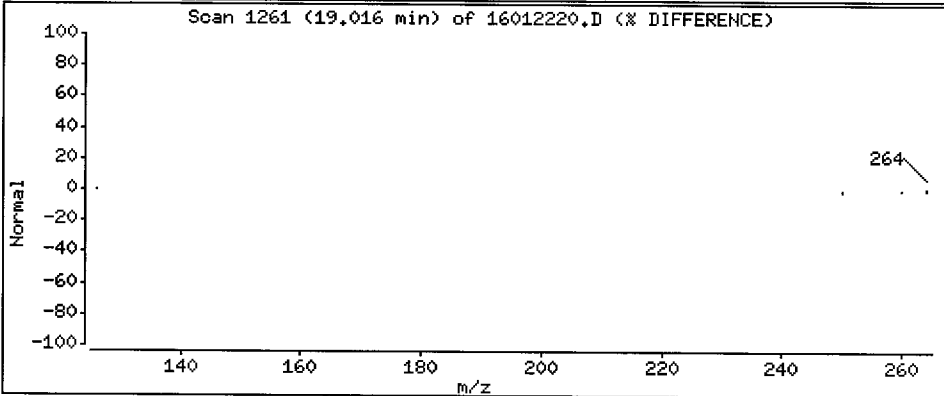
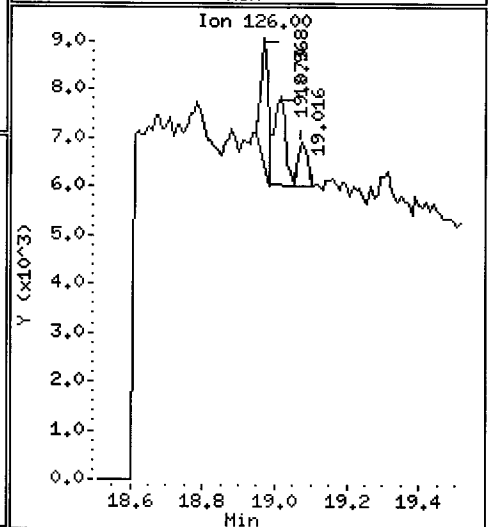
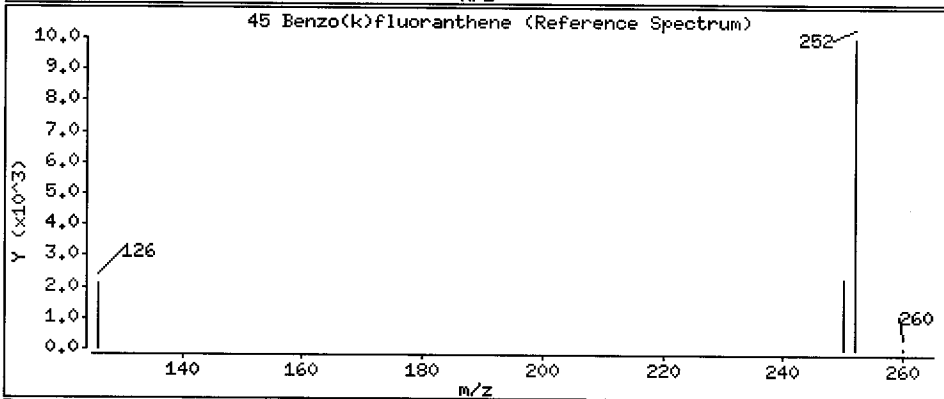
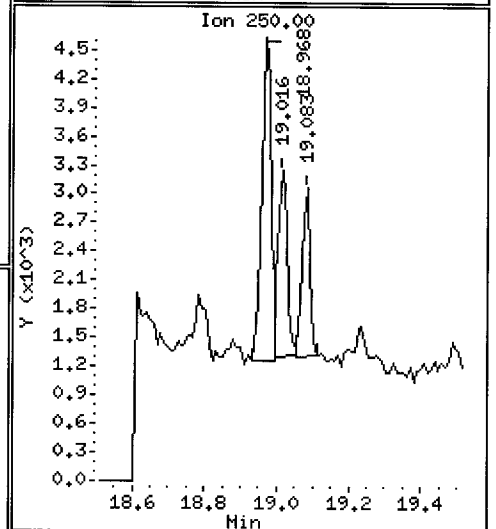
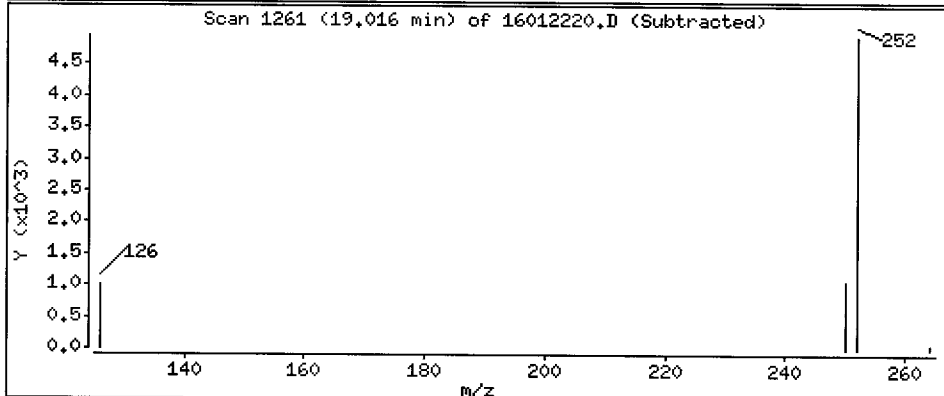
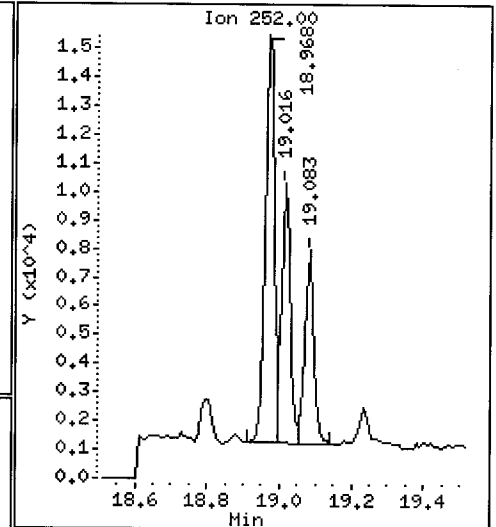
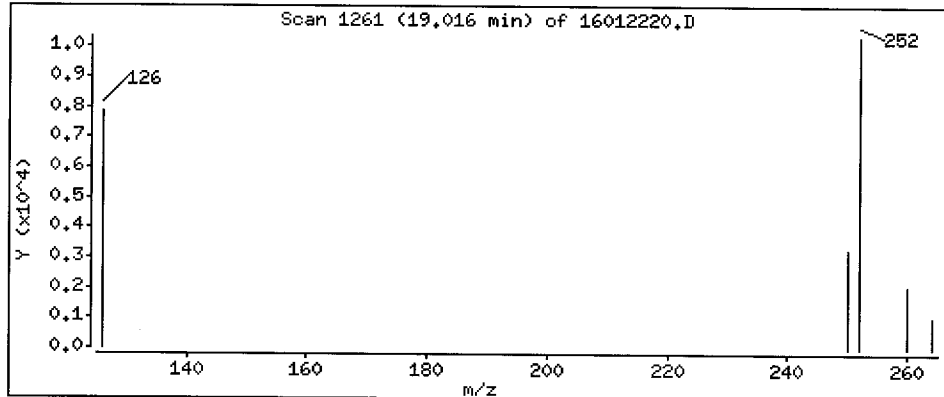
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 314 ug/kg



Date : 22-JAN-2016 17:00

Client ID: 13CPS_DB-HTW01Z

Instrument: nt11.i

Sample Info: AUA2B

Volume Injected (uL): 2.0

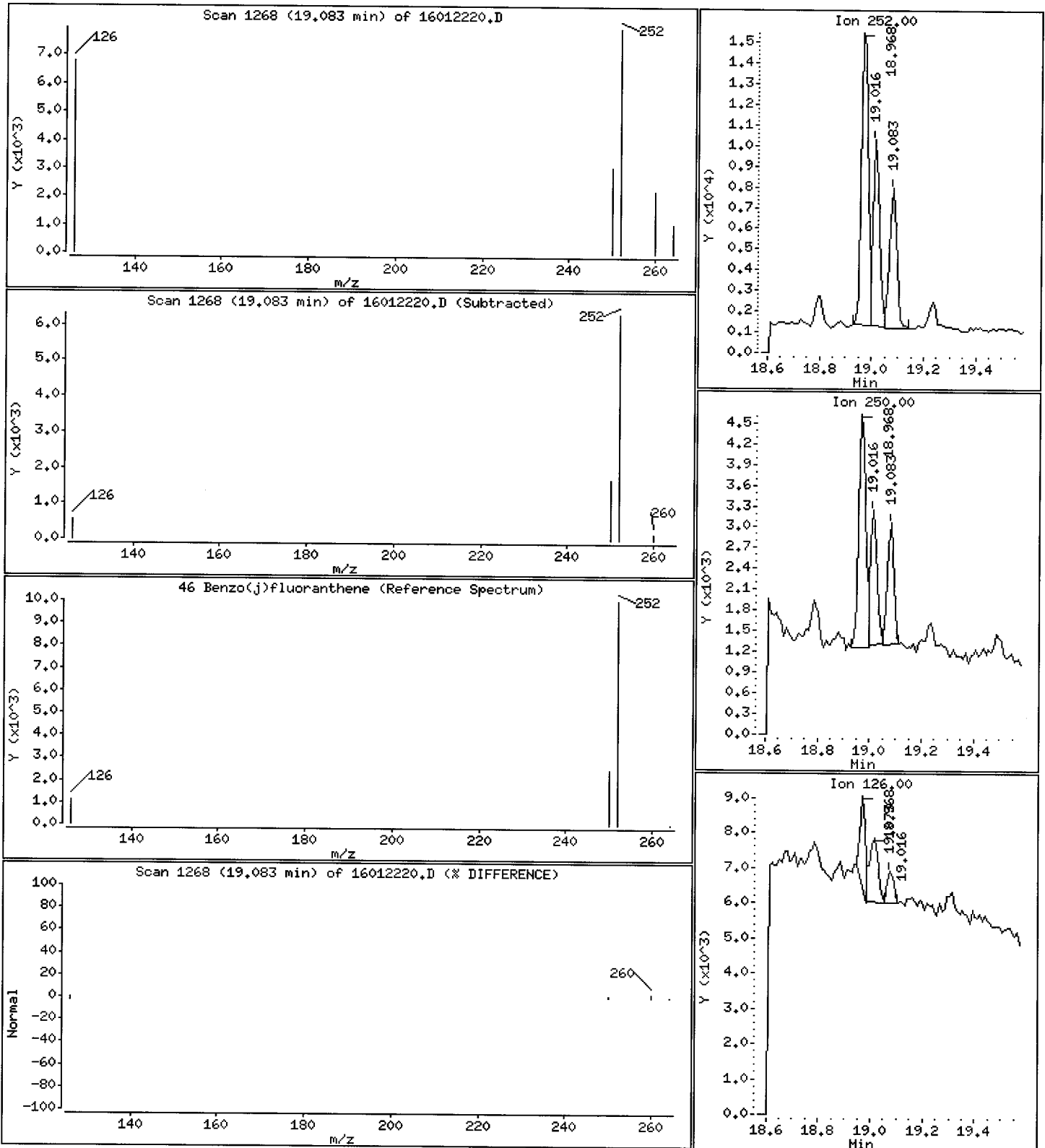
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

46 Benzo(j)fluoranthene

Concentration: 260 ug/kg



REVIEW SUMMARY FOR FILE - 16012220.D

Lab ID: AUA2B

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 17:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

AUA2:00272

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012221.D
 Lab Smp Id: AUA2C Client Smp ID: 13NPS CIAR2-MTW01Z
 Inj Date : 22-JAN-2016 17:30 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : AUA2C
 Misc Info : 16-420
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 15
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.010	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	CONCENTRATIONS				
			ON-COLUMN	FINAL	REMARKS	REMARKS	REMARKS
	MASS	RT	EXP RT	REL RT	RESPONSE	(ng/mL)	(ug/kg)
* 4 Naphthalene-d8	136	6.723	6.744	(1.000)	382765	200.000	
5 Naphthalene	128	6.765	6.776	(1.006)	29156	13.1873	659
\$ 6 2-Methylnaphthalene-d10	152	7.711	7.721	(1.147)	216825	152.615	7620
7 2-Methylnaphthalene	142	Compound Not Detected.					
8 1-Methylnaphthalene	142	Compound Not Detected.					
10 Acenaphthylene	152	Compound Not Detected.					
* 11 Acenaphthene-d10	164	9.745	9.744	(1.000)	270341	200.000	
12 Acenaphthene	153	Compound Not Detected.					
14 Dibenzofuran	168	Compound Not Detected.					
15 Fluorene	166	Compound Not Detected.					
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	435855	200.000	
19 Phenanthrene	178	12.457	12.468	(1.003)	34910	13.2942	664
20 Anthracene	178	Compound Not Detected.					
\$ 23 Fluoranthene-d10	212	14.519	14.518	(1.169)	433395	180.812	9030
24 Fluoranthene	202	14.557	14.557	(1.172)	39564	15.0067	750
25 Pyrene	202	15.047	15.057	(0.877)	29711	11.5992	579
28 Benzo(a)anthracene	228	Compound Not Detected.					
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	323444	200.000	
30 Chrysene	228	Compound Not Detected.					
44 Benzo(b)fluoranthene	252	Compound Not Detected.					
45 Benzo(k)fluoranthene	252	Compound Not Detected.					

Compounds	QUANT SIG							CONCENTRATIONS	
	MASS		RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ug/kg)	
===== 46 Benzo(j) fluoranthene	252								
34 Benzo(a) pyrene	252								
* 35 Perylene-d12	264		20.063	20.062	(1.000)	326352	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.529	22.529	(1.123)	262898	199.587	9970	
37 Indeno(1,2,3-cd)pyrene	276								
38 Dibenzo(a,h)anthracene	278								
39 Benzo(g,h,i)perylene	276								
47 Perylene	252								
48 Benzo(e)pyrene	252								

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012221.D
 Lab Smp Id: AUA2C
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 16-420

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: 13NPS_CIAR2-MTW
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	382765	16.73
11 Acenaphthene-d10	239179	119590	478358	270341	13.03
18 Phenanthrene-d10	372253	186127	744506	435855	17.09
29 Chrysene-d12	294711	147356	589422	323444	9.75
35 Perylene-d12	260595	130298	521190	326352	25.23

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.72	-0.31
11 Acenaphthene-d10	9.74	9.24	10.24	9.75	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: AUA2C
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 16-420

Client SDG: AUA2
Fraction: SV
Client Smp ID: 13NPS_CIAR2-MTW01Z
Operator: JW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7620	50.87	30-160
\$ 23 Fluoranthene-d10	15000	9030	60.27	30-160
\$ 36 Dibenzo(a,h)anthra	15000	9970	66.53	30-160

Date : 22-JAN-2016 17:30

Instrument: nt11.1

Client ID: 13NPS_C1AR2-HTW012

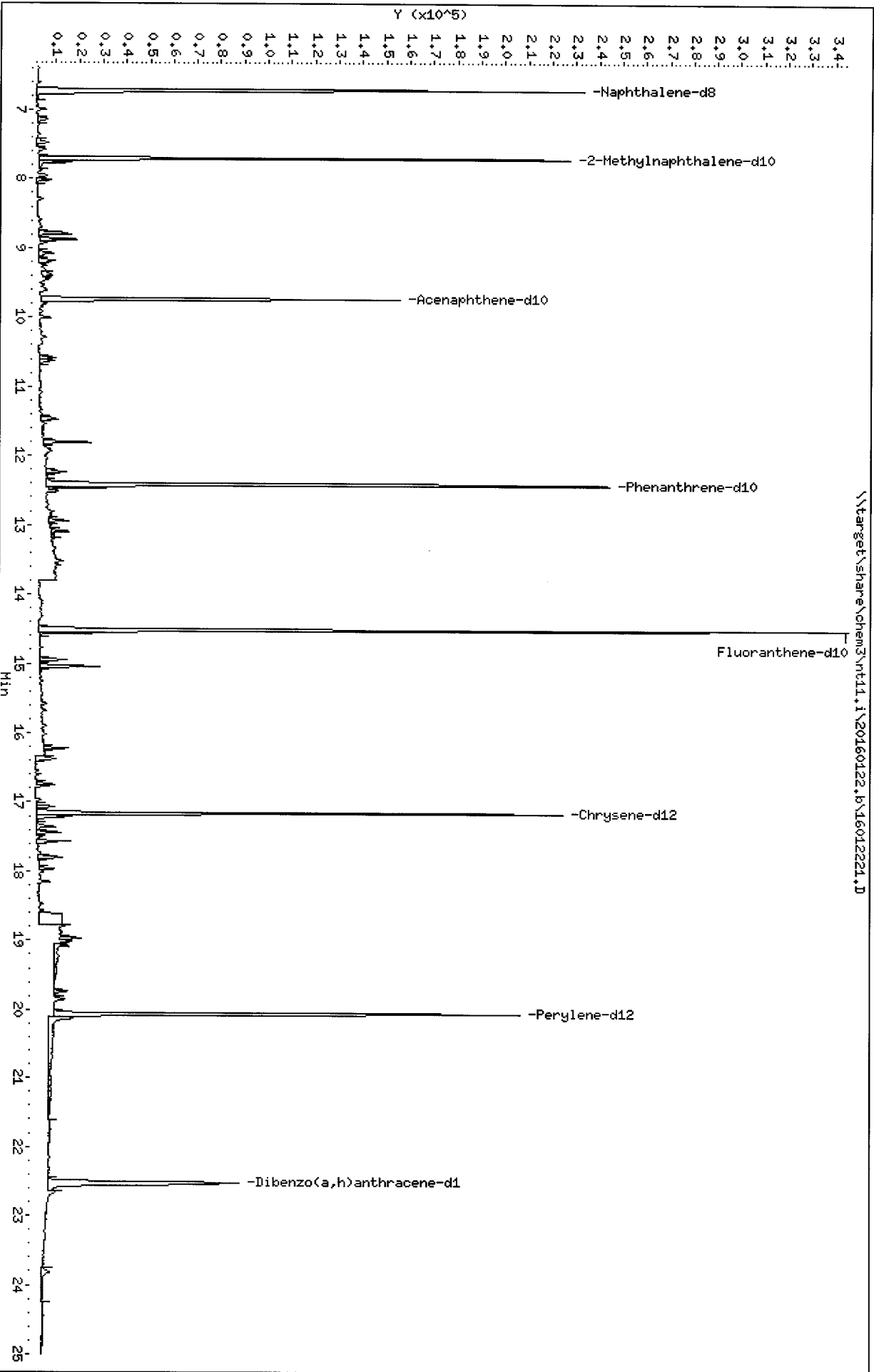
Operator: JM

Sample Info: AUA2C

Column diameter: 0.25

Volume Injected (uL): 2.0

\\target\share\chem3\nt11.1\20160122.6\16012221.D



Date : 22-JAN-2016 17:30

Client ID: 13NPS_C1AR2-HTW01Z

Instrument: nt11.i

Sample Info: AUA2C

Volume Injected (uL): 2.0

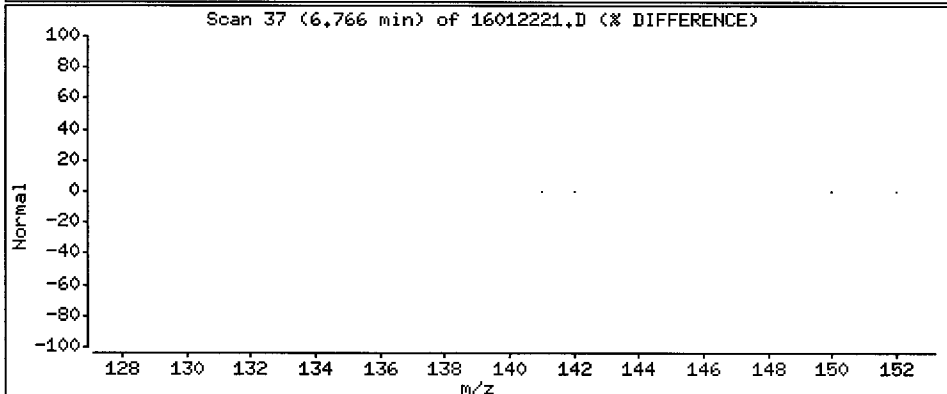
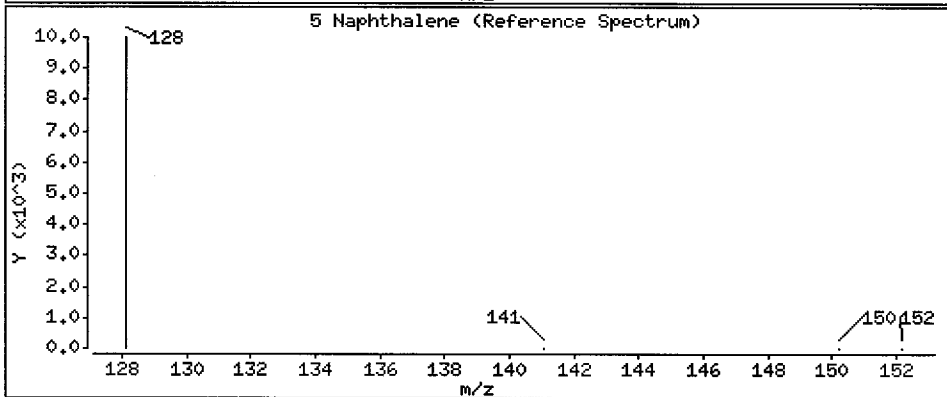
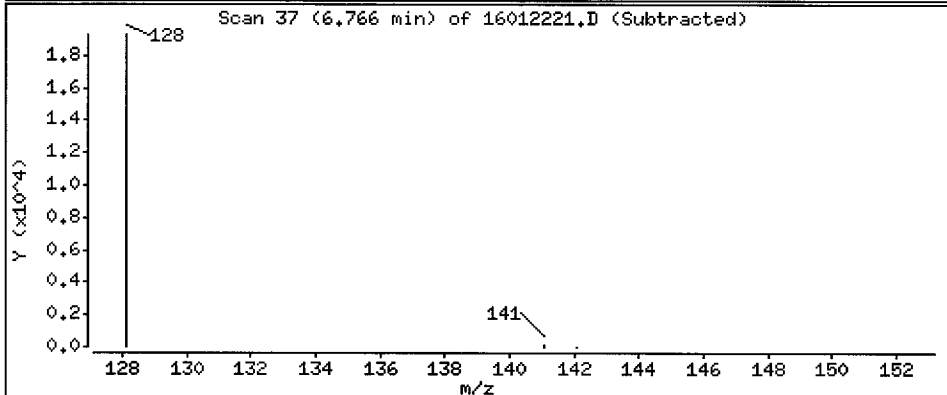
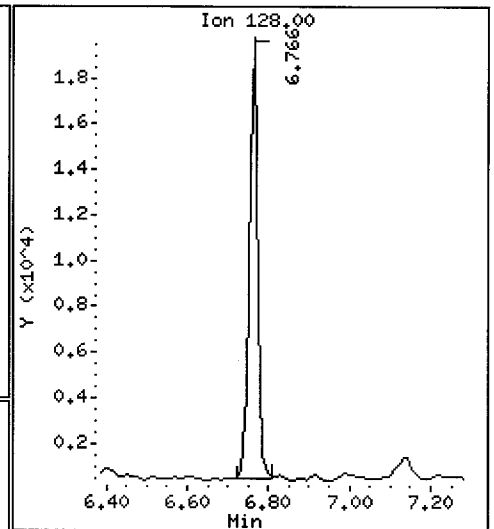
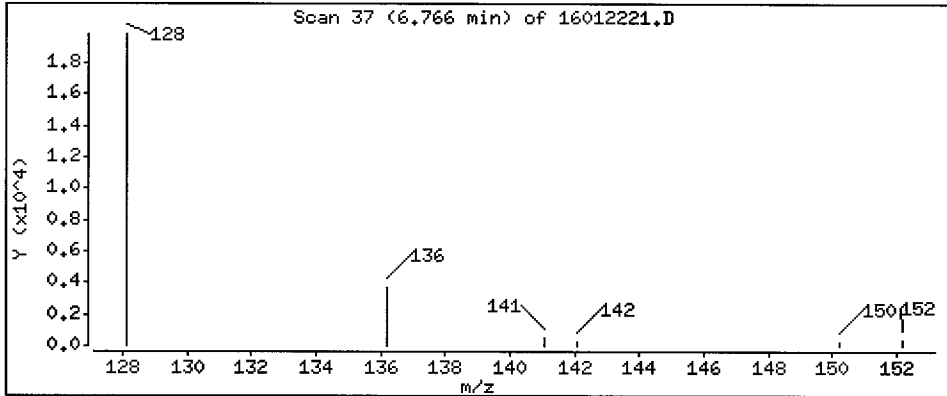
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 Naphthalene

Concentration: 659 ug/kg



Date : 22-JAN-2016 17:30

Client ID: 13NPS_CJAR2-HTW012

Instrument: nt11.i

Sample Info: AUA2C

Volume Injected (uL): 2.0

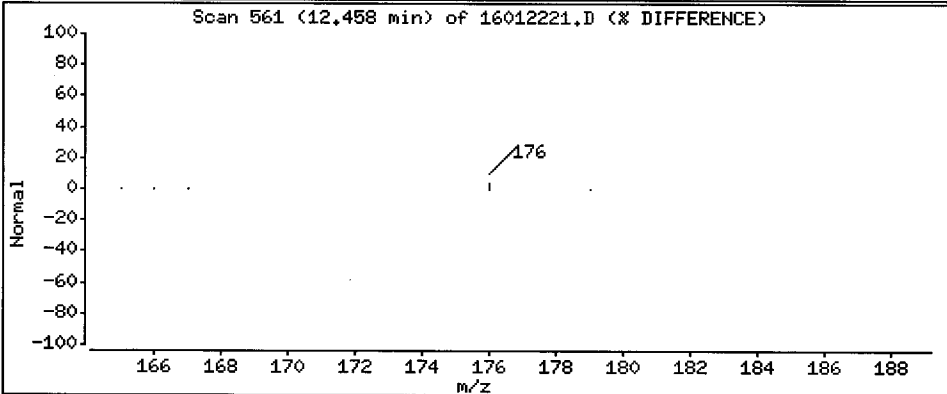
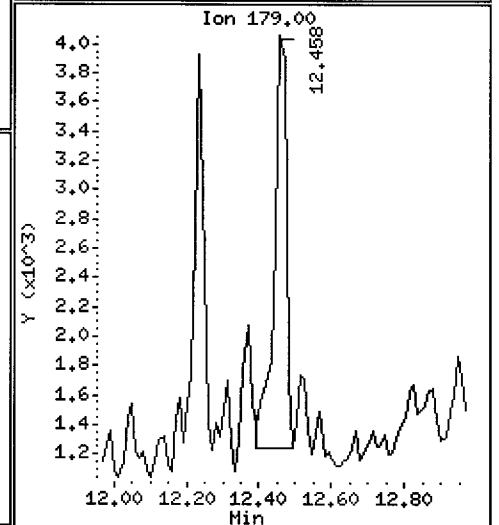
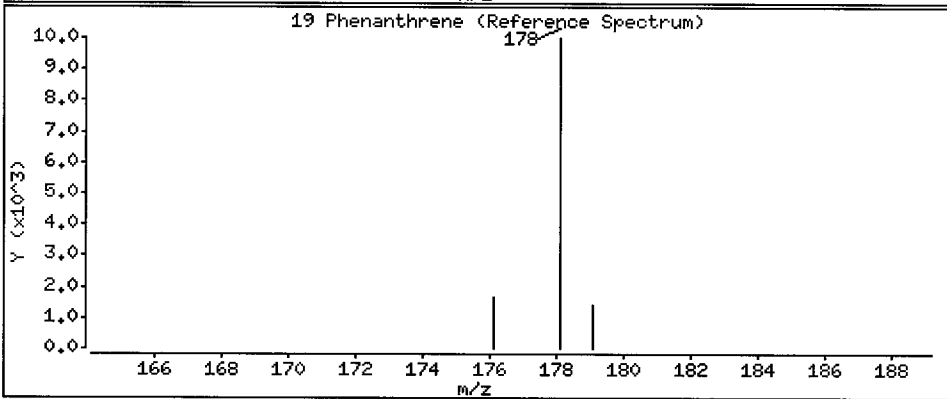
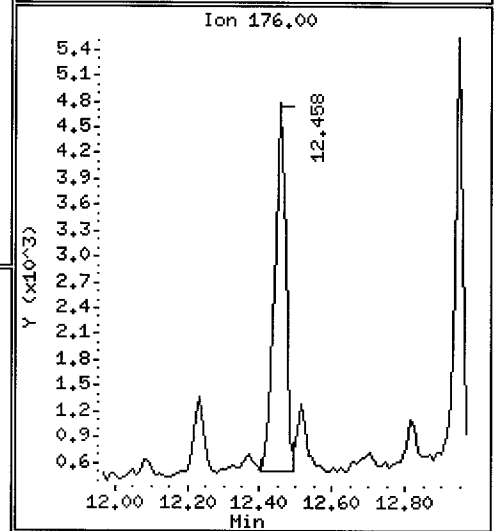
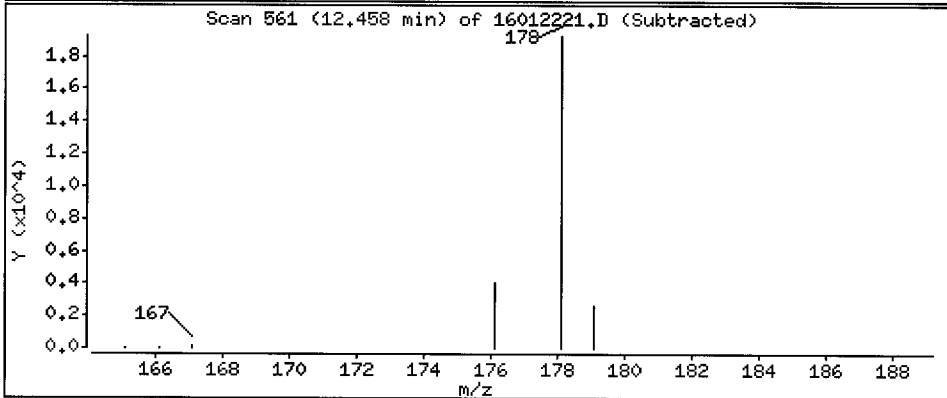
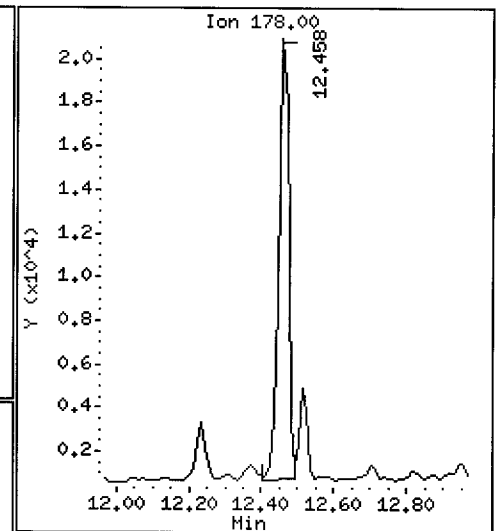
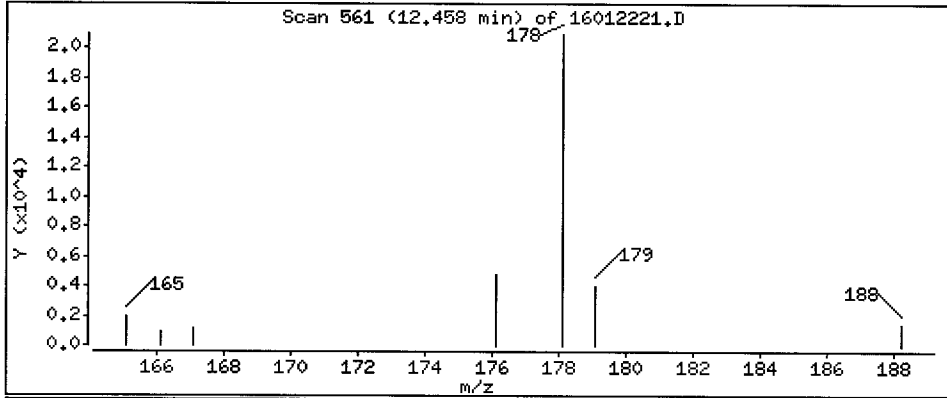
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 664 ug/kg



Date : 22-JAN-2016 17:30

Client ID: 13NPS_CIAR2-MTW01Z

Instrument: nt11.i

Sample Info: AUA2C

Volume Injected (uL): 2.0

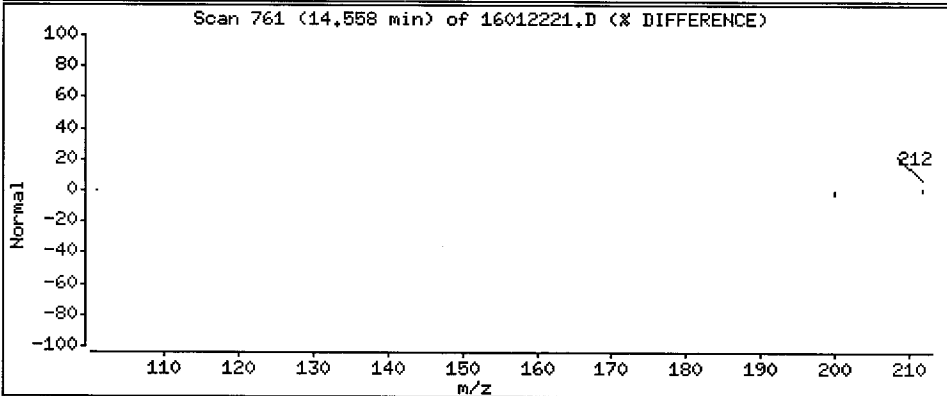
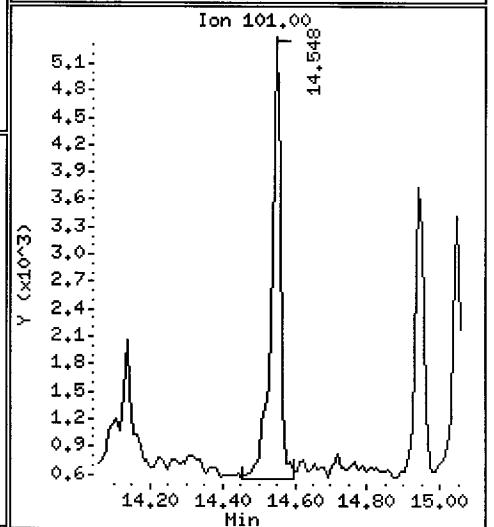
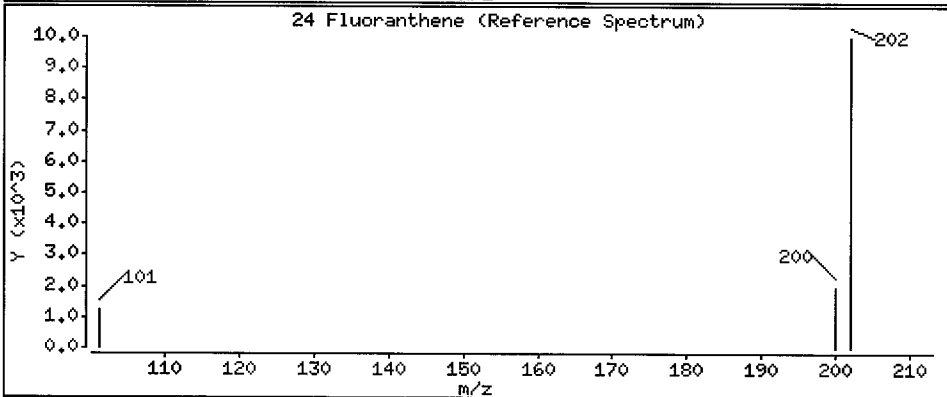
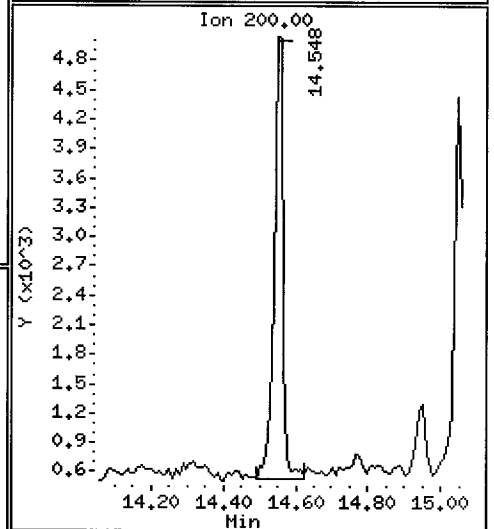
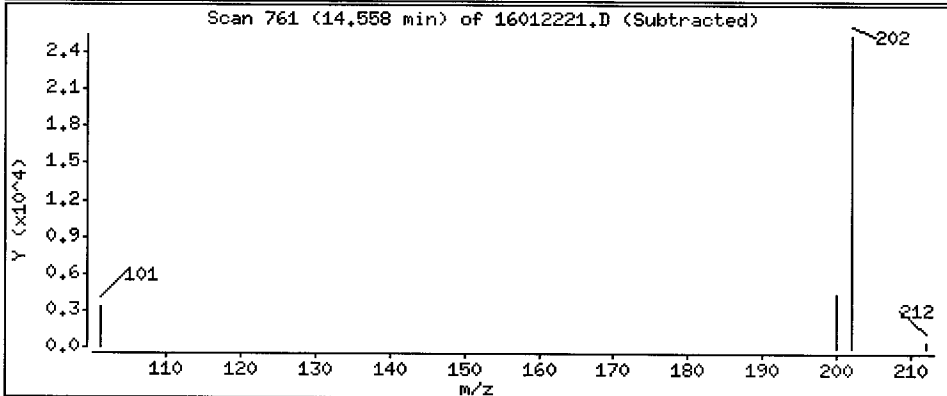
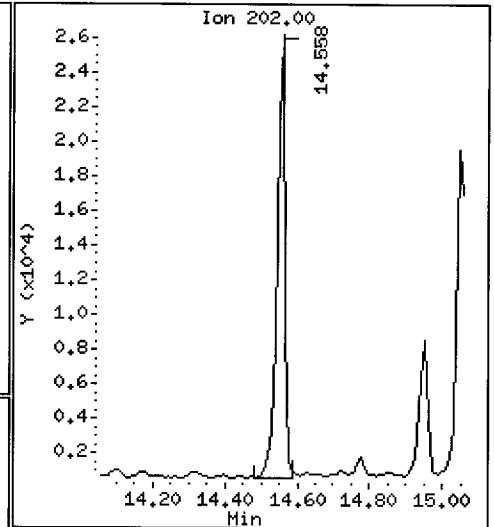
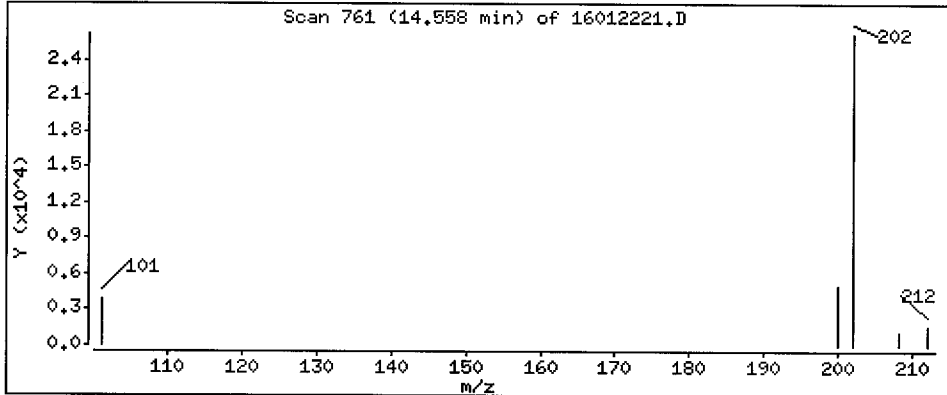
Operator: JW

Column phase: Rxi-17Sil1 MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 750 ug/kg



Date : 22-JAN-2016 17:30

Client ID: 13NPS_CIAR2-MTW01Z

Instrument: nt11.i

Sample Info: AUA2C

Volume Injected (uL): 2.0

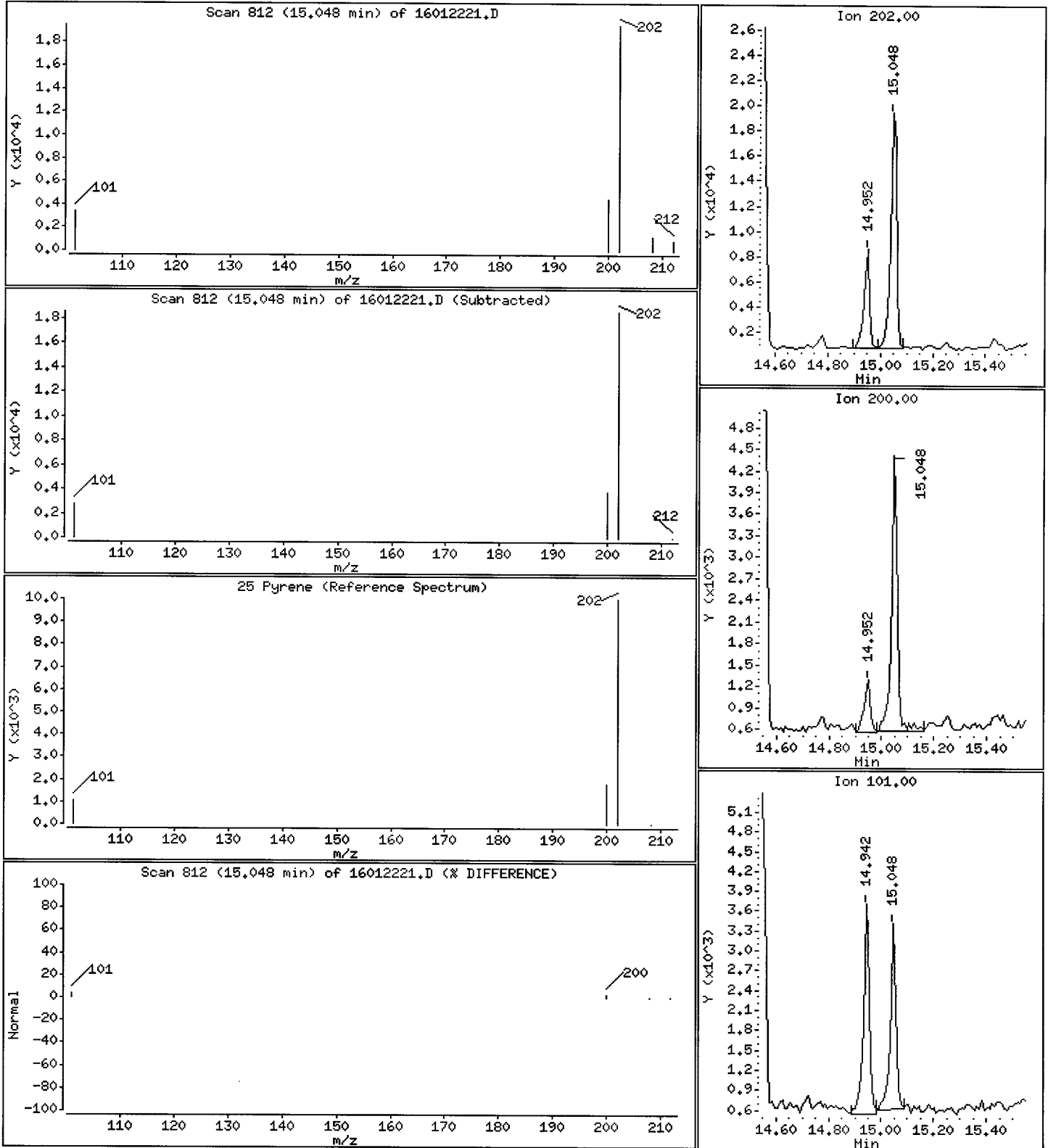
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

25 Pyrene

Concentration: 579 ug/kg



Lab ID: AUA2C

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 17:30

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

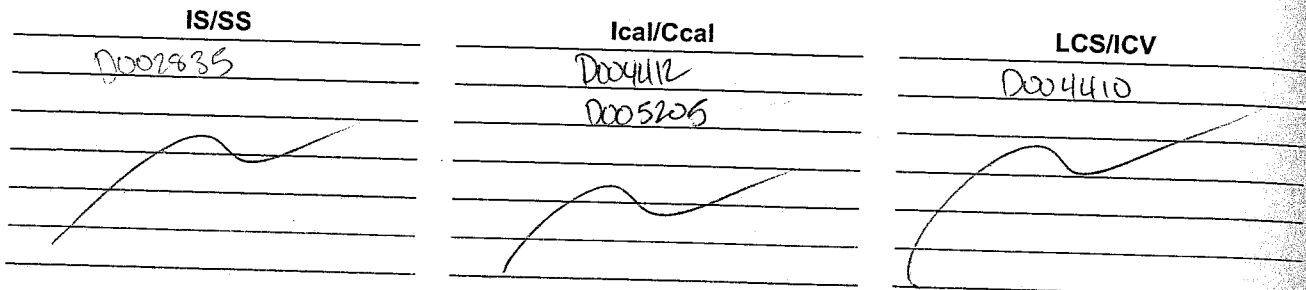
NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

Analytical Resources Inc.: Organics Instrument Log
NT-11 Serial No.:GC=US10140004, MS=US10481502

Date: 1/25/16 Analysis: low PAH Analyst: EW
 GC Program: lowSim Column No: D001724 Column Type: Exi-17silms
 Instrument Tune (.U or .CT.): 15015.U EM Voltage: 1847
 Calibration File: _____ Cali Code: ZA00015 Injection Vol.: 2ul



Document All Maintenance Tasks In Element

Time	Filename	LabID	ClientId	DP
1 0724	16012501.D	TUNE 10		1 [NO ISTDs FOUND]
2 0741	16012502.D	LLPAH ICV		1 6.74 325085 9.74 248090 12.42 417430 17.17 308246 20.07 302521
3 0833	16012503.D	RINSE		1 6.71 320668 9.72 250444 12.40 417494 17.14 323408 20.02 307973
4 0857	16012504.D	TUNE 10		1 [NO ISTDs FOUND]
5 0914	16012505.D	LLPAH ICV		1 6.71 356051 9.71 264524 12.38 444949 17.12 343139 20.01 319277
6 1029	16012506.D	LLPAH 10		1 6.71 299647 9.71 215219 12.38 354756 17.12 265268 20.01 241293
7 0959	16012507.D	LLPAH 50		1 6.71 294064 9.72 216442 12.38 363731 17.13 271481 20.01 252038
8 1129	16012508.D	LLPAH 100		1 6.71 299208 9.71 220557 12.38 361305 17.12 281219 20.00 294092
9 1059	16012509.D	LLPAH 500		1 6.71 303314 9.71 228389 12.38 374517 17.12 290179 20.01 266991
10 1200	16012510.D	LLPAH 1000		1 6.71 309113 9.71 227974 12.38 372441 17.12 295350 20.00 273271
11 1230	16012511.D	LLPAH SCV		1 6.71 297375 9.71 218000 12.38 349233 17.12 282390 20.00 252294
12 1300	16012512.D	AUA2A	13ER ME-MTW0	10 6.70 301571 9.71 210363 12.38 345651 17.12 257794 20.00 243887
13 1331	16012513.D	AUA2B	13CPS_DB-MTW	1 6.70 425584 9.71 318975 12.38 533038 17.12 418862 20.00 423970
14 1401	16012514.D	AUA2C	13NPS_CIAR2-	1 6.70 283944 9.71 214913 12.37 368648 17.12 288963 20.00 258350
15 1432	16012515.D	LLPAH CCV		1 6.71 312072 9.71 248822 12.38 422923 17.12 330299 20.00 314395

AW

EW
1/26/16

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160125.b

ARI Job No.: TUNE Method: DFPP.m Instrument: nt11.i Date: 25-JAN-2016

Time Filename LabID ClientId DF Manually Integrated Compounds

0857 16012504.D TUNE 10 1 NO MANUAL INTEGRATION

0914 16012505.D LLPAH ICV 1 NO MANUAL INTEGRATION

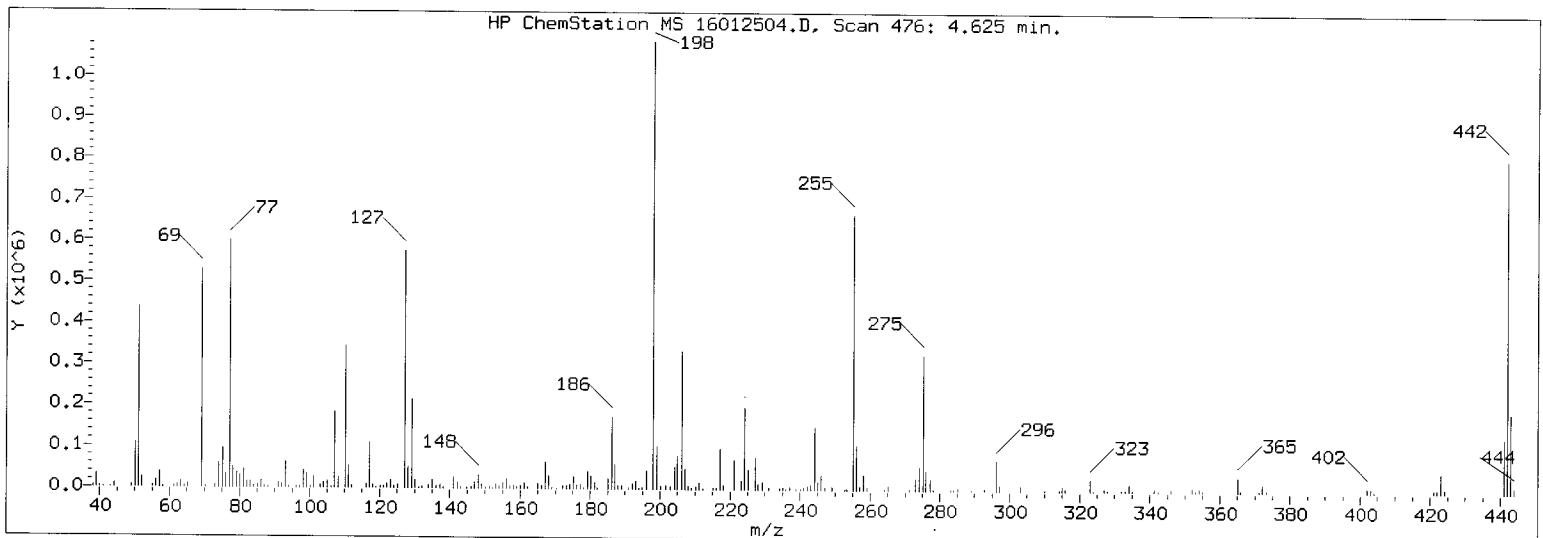
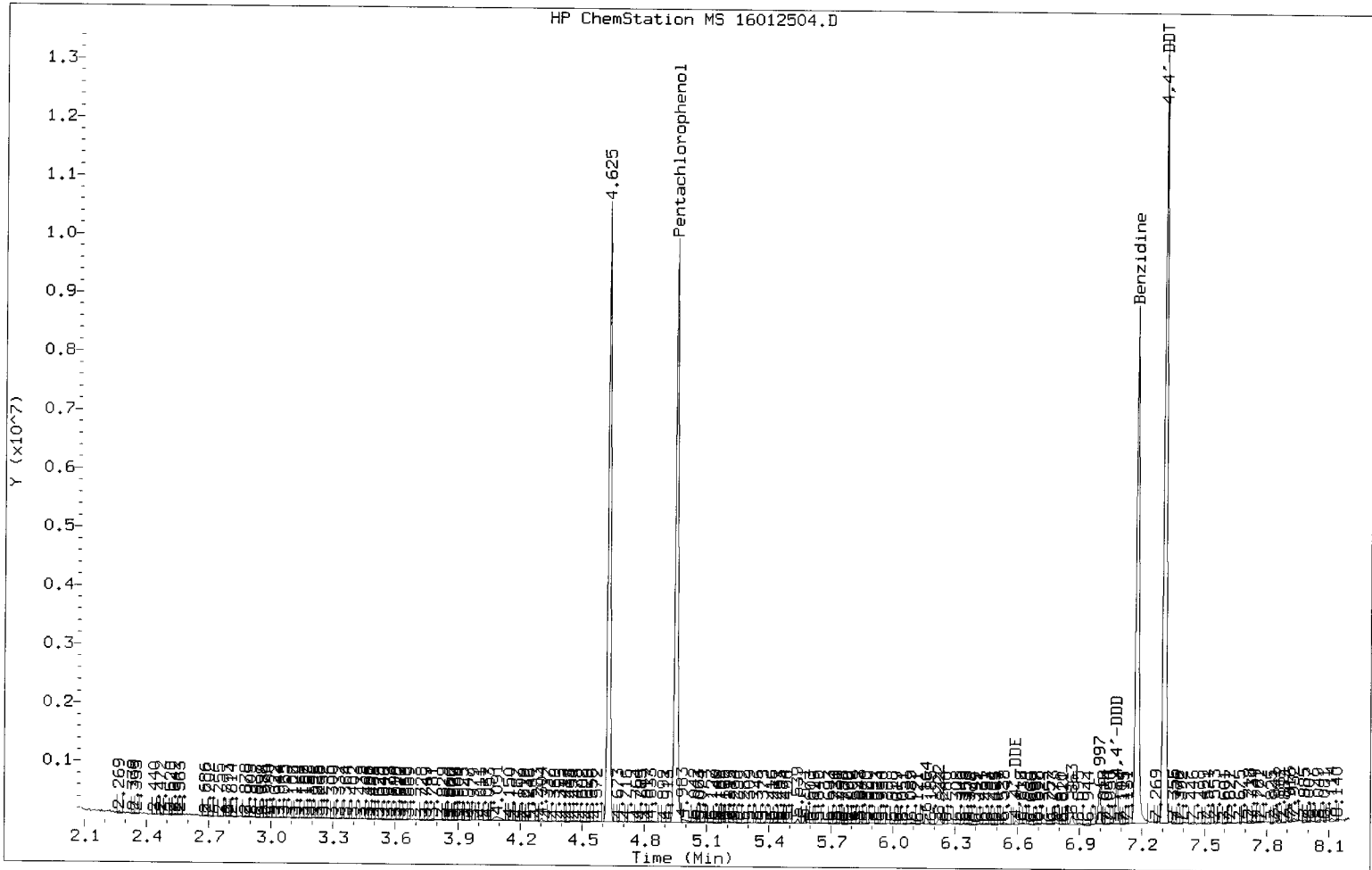
1300 16012512.D AUAZA 13BB_ME-MT 10 NO MANUAL INTEGRATION

1432 16012515.D LLPAH CCV 1 NO MANUAL INTEGRATION

AUA2 : 00284

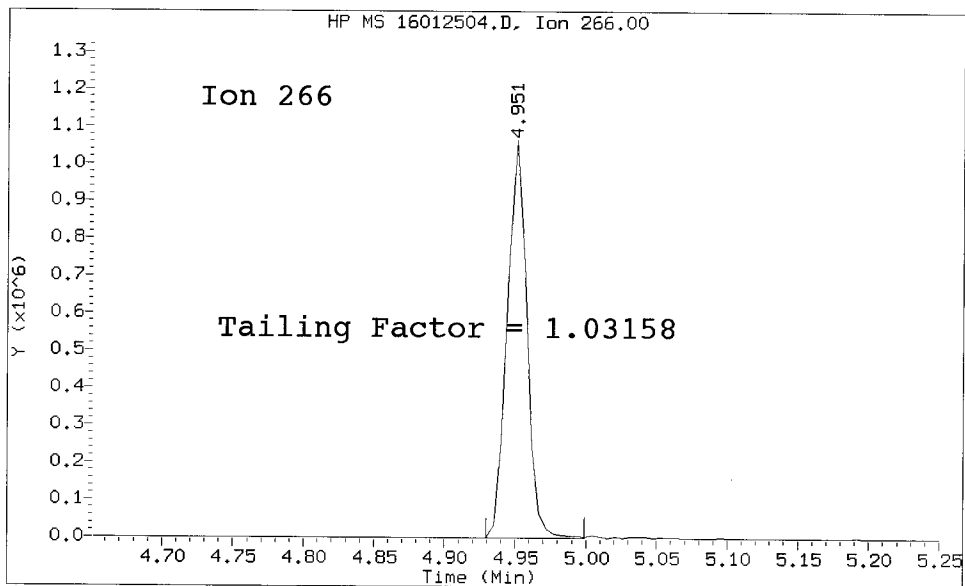
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20160125.b/16012504.D/16012504.D
Method Used: \20160125.b\DFTPP.m Inst: nt11
Injection Date: 25-JAN-2016 08:57 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 01/25/2016 09:09



AUA2: 00285

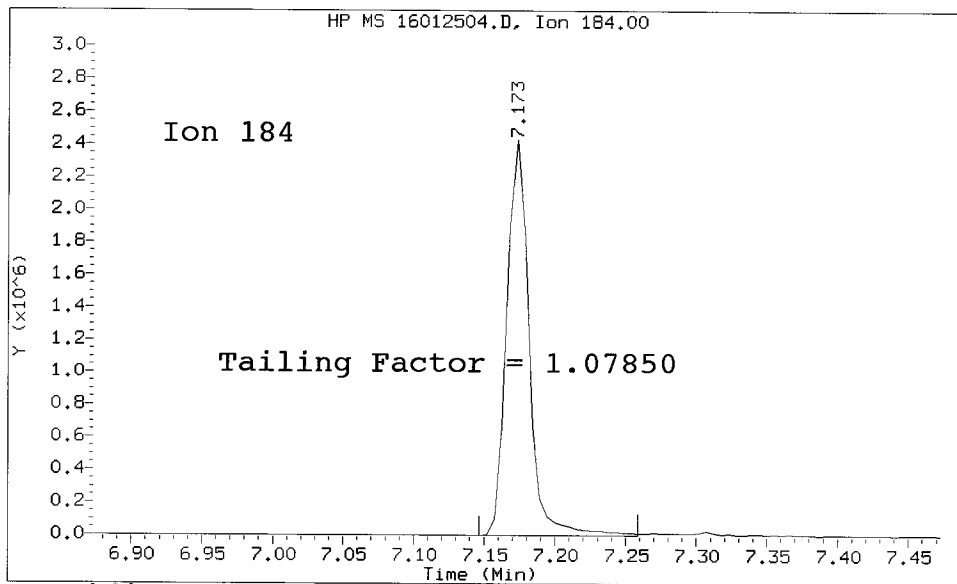
Datafile Analyzed: /20160125.b/16012504.D/16012504.D
Method Used: \20160125.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 25-JAN-2016 08:57 Operator: JR
Sample Info: TUNE 10
Report Date: 01/25/2016 09:09



Pentachlorophenol

=====
Exp. RT = 4.993
Found RT = 4.951

Tail Factor = 1.032 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.221
Found RT = 7.173

Tail Factor = 1.078 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	37.45
68	Less than 2.00% of mass 69	0.37 (0.81)
69	Mass 69 relative abundance	45.57
70	Less than 2.00% of mass 69	0.29 (0.63)
127	10.00 - 80.00% of mass 198	50.81
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.74
275	10.00 - 60.00% of mass 198	28.48
365	Greater than 1.00% of mass 198	2.89
441	0.01 - 24.00% of mass 442	12.40 (16.41)
442	50.00 - 200.00% of mass 198	75.54
443	15.00 - 24.00% of mass 442	16.39 (21.69)

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.0315789	2.000	PASS
Benzidine	1.0784983	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1860276			N/A
4,4-DDE	8198	0.4	20.0	PASS
4,4-DDD	124298	6.3	20.0	PASS
4,4-DDD + DDE	132496	6.6	20.0	PASS

Tuning Sample, nt11.i/20160125.b/16012504.D, *** PASSED ***

Data File: 16012504.D

Spectrum: Avg. Scans 475-477 (4.63), Background Scan 470

Location of Maximum: 198.00

Number of points: 244

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	3649	120.00	2093	189.00	6588	273.00	16744
39.00	23416	121.00	1355	191.00	5306	274.00	42336
40.00	2821	122.00	8348	192.00	12210	275.00	253312
41.00	751	123.00	13455	193.00	14186	276.00	34312
43.00	740	124.00	5977	194.00	1910	277.00	19064
44.00	1103	125.00	7429	195.00	1308	278.00	2909
49.00	1335	127.00	451840	196.00	35320	283.00	3255
50.00	86040	128.00	35152	198.00	889344	284.00	832
51.00	333056	129.00	168000	199.00	77688	285.00	4669
52.00	16370	130.00	16424	200.00	5755	289.00	707
55.00	3839	131.00	1646	201.00	6194	293.00	5387
56.00	11002	132.00	2558	202.00	2546	296.00	58592
57.00	27120	134.00	6150	203.00	5344	297.00	8132
58.00	1084	135.00	14263	204.00	40192	303.00	8680
61.00	4453	136.00	4923	205.00	61784	304.00	1882
62.00	5898	137.00	7270	206.00	269376	310.00	864
63.00	14254	138.00	2256	207.00	38520	314.00	1111
64.00	1684	139.00	710	208.00	7629	315.00	6898
65.00	8896	141.00	18856	209.00	2955	316.00	5846
68.00	3292	142.00	9147	210.00	4025	322.00	2037
69.00	405312	143.00	4171	211.00	10899	323.00	23200
70.00	2541	145.00	1964	212.00	4262	324.00	3512
73.00	4101	146.00	4148	215.00	1774	327.00	3549
74.00	42416	147.00	13499	216.00	3495	328.00	807
75.00	72696	148.00	25376	217.00	68544	332.00	3036
76.00	26600	149.00	7146	218.00	9377	333.00	1285
77.00	460672	150.00	979	221.00	58512	334.00	13573
78.00	31040	151.00	4284	222.00	2379	335.00	4378
79.00	27688	152.00	1473	223.00	18400	336.00	770
80.00	23600	153.00	6911	224.00	152832	341.00	3102
81.00	32800	154.00	5303	225.00	36752	342.00	766
82.00	9299	155.00	13420	226.00	2432	346.00	3637
83.00	9216	156.00	18976	227.00	61136	351.00	685
84.00	557	157.00	3983	228.00	8686	352.00	7540
85.00	5522	158.00	5101	229.00	12504	353.00	3491
86.00	8497	159.00	3868	231.00	6526	354.00	6396
87.00	4346	160.00	6848	233.00	803	355.00	1196
88.00	2973	161.00	10662	234.00	4102	365.00	25664
91.00	8185	162.00	3791	235.00	4443	366.00	3165
92.00	7611	165.00	9192	236.00	2359	371.00	821
93.00	49776	166.00	6324	237.00	5889	372.00	13465
94.00	3390	167.00	45400	239.00	2902	373.00	3113
96.00	936	168.00	21944	240.00	896	377.00	679
97.00	1770	169.00	3837	241.00	3783	383.00	882
98.00	30680	170.00	736	242.00	6940	384.00	883
99.00	29104	171.00	718	243.00	8594	390.00	770
100.00	3048	172.00	3954	244.00	110872	402.00	6242
101.00	17480	173.00	4499	245.00	15704	403.00	6551
103.00	6162	174.00	8976	246.00	23296	404.00	2057

104.00	11942	175.00	23464	247.00	4598	421.00	5587
105.00	12846	176.00	5626	249.00	4985	422.00	6188
106.00	1995	177.00	8652	252.00	911	423.00	43232
107.00	141248	178.00	2929	253.00	4212	424.00	5324
108.00	25624	179.00	33368	255.00	528192	441.00	110248
109.00	3384	180.00	23904	256.00	83696	442.00	671808
110.00	255808	181.00	13103	257.00	8213	443.00	145728
111.00	38624	182.00	2291	258.00	28904	444.00	12291
112.00	4258	184.00	1696	259.00	6298	445.00	705
116.00	6833	185.00	19448	264.00	794		
117.00	87088	186.00	143040	265.00	9743		
118.00	7590	187.00	43488	266.00	2006		
119.00	673	188.00	7046	271.00	1026		

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 25-JAN-2016 09:14
 Lab File ID: 16012505.D Init. Cal. Date(s): 25-JAN-2016 25-JAN-2016
 Analysis Type: SOIL Init. Cal. Times: 09:14 12:00
 Lab Sample ID: LLPAH ICV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160125.b\lowsim.m

COMPOUND	RRF / AMOUNT	RF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
15 Naphthalene	1.10658	0.97552	0.010	-11.84368	20.00000	Averaged
16 2-Methylnaphthalene-d10	0.74752	0.66232	0.010	-11.39864	20.00000	Averaged
17 2-Methylnaphthalene	0.79563	0.71799	0.010	-9.75796	20.00000	Averaged
18 1-Methylnaphthalene	0.72060	0.64068	0.010	-11.09110	20.00000	Averaged
110 Acenaphthylene	1.63537	1.47247	0.010	-9.96099	20.00000	Averaged
112 Acenaphthene	1.03183	0.91981	0.010	-10.85693	20.00000	Averaged
114 Dibenzofuran	1.58020	1.40113	0.010	-11.33165	20.00000	Averaged
115 Fluorene	1.24733	1.10342	0.010	-11.53751	20.00000	Averaged
119 Phenanthrene	1.13223	0.97076	0.010	-14.26123	20.00000	Averaged
120 Anthracene	1.08873	0.96820	0.010	-11.07099	20.00000	Averaged
123 Fluoranthene-d10	1.08267	0.94147	0.200	-13.04185	20.00000	Averaged
124 Fluoranthene	1.16092	1.03072	0.010	-11.21521	20.00000	Averaged
125 Pyrene	1.53882	1.33717	0.010	-13.10413	20.00000	Averaged
128 Benzo(a)anthracene	1.31019	1.14241	0.010	-12.80584	20.00000	Averaged
130 Chrysene	1.34080	1.15300	0.010	-14.00677	20.00000	Averaged
144 Benzo(b)fluoranthene	1.31659	1.08771	0.200	-17.38445	20.00000	Averaged
145 Benzo(k)fluoranthene	1.37507	1.19066	0.200	-13.41051	20.00000	Averaged
146 Benzo(j)fluoranthene	1.25203	1.04890	0.200	-16.22402	20.00000	Averaged
134 Benzo(a)pyrene	1.20738	1.02993	0.010	-14.69718	20.00000	Averaged
136 Dibenzo(a,h)anthracene-d14	0.74617	0.65699	0.010	-11.95054	20.00000	Averaged
137 Indeno(1,2,3-cd)pyrene	1.23585	1.07059	0.010	-13.37155	20.00000	Averaged
138 Dibenzo(a,h)anthracene	0.97626	0.85214	0.010	-12.71362	20.00000	Averaged
139 Benzo(g,h,i)perylene	1.09415	0.93347	0.010	-14.68495	20.00000	Averaged
147 Perylene	1.23559	1.05008	0.200	-15.01433	20.00000	Averaged
148 Benzo(e)pyrene	1.24888	1.04774	0.200	-16.10522	20.00000	Averaged

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012505.D
 Lab Smp Id: LLPAH ICV
 Inj Date : 25-JAN-2016 09:14 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH ICV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 26-Jan-2016 06:16 nt11.i Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

W
1/26/16

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	====	6.707	6.707	(1.000)	356051	200.000		
5 Naphthalene	128		6.739	6.739	(1.005)	434168	250.000	220	
\$ 6 2-Methylnaphthalene-d10	152		7.684	7.684	(1.146)	294773	250.000	222	
7 2-Methylnaphthalene	142		7.737	7.737	(1.153)	319553	250.000	226	
8 1-Methylnaphthalene	142		7.989	7.989	(1.191)	285143	250.000	222	
10 Acenaphthylene	152		9.550	9.550	(0.984)	486879	250.000	225	
* 11 Acenaphthene-d10	164		9.705	9.705	(1.000)	264524	200.000		
12 Acenaphthene	153		9.771	9.771	(1.007)	304139	250.000	223	
14 Dibenzofuran	168		9.971	9.971	(1.027)	463292	250.000	222	
15 Fluorene	166		10.591	10.591	(1.091)	364851	250.000	221	
* 18 Phenanthrene-d10	188		12.384	12.384	(1.000)	444949	200.000		
19 Phenanthrene	178		12.429	12.429	(1.004)	539922	250.000	214	
20 Anthracene	178		12.484	12.484	(1.008)	538499	250.000	222	
\$ 23 Fluoranthene-d10	212		14.485	14.485	(1.170)	523633	250.000	217	
24 Fluoranthene	202		14.514	14.514	(1.172)	573274	250.000	222	
25 Pyrene	202		15.014	15.014	(0.877)	573543	250.000	217	
28 Benzo (a) anthracene	228		17.029	17.029	(0.995)	490006	250.000	218	
* 29 Chrysene-d12	240		17.121	17.121	(1.000)	343139	200.000		
30 Chrysene	228		17.171	17.171	(1.003)	494549	250.000	215	
44 Benzo (b) fluoranthene	252		18.921	18.921	(0.946)	434099	250.000	207	
45 Benzo (k) fluoranthene	252		18.969	18.969	(0.948)	475189	250.000	216	

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j)fluoranthene	252	19.027	19.027	(0.951)	418612	250.000	209
34 Benzo(a)pyrene	252	19.795	19.795	(0.989)	411042	250.000	213
* 35 Perylene-d12	264	20.007	20.007	(1.000)	319277	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.442	22.442	(1.122)	262204	250.000	220
37 Indeno(1,2,3-cd)pyrene	276	22.575	22.575	(1.128)	427270	250.000	217
38 Dibenzo(a,h)anthracene	278	22.553	22.553	(1.127)	340086	250.000	218
39 Benzo(g,h,i)perylene	276	23.716	23.716	(1.185)	372546	250.000	213
47 Perylene	252	20.074	20.074	(1.003)	419081	250.000	212
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	418150	250.000	210

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012505.D
 Lab Smp Id: LLPAH ICV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 14:32

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	356051	0.00
11 Acenaphthene-d10	264524	132262	529048	264524	0.00
18 Phenanthrene-d10	444949	222475	889898	444949	0.00
29 Chrysene-d12	343139	171570	686278	343139	0.00
35 Perylene-d12	319277	159639	638554	319277	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.01	19.51	20.51	20.01	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 25-JAN-2016 09:14

Instrument: nt11.i

Client ID:

Sample Info: LLPQH ICV

Operator: JM

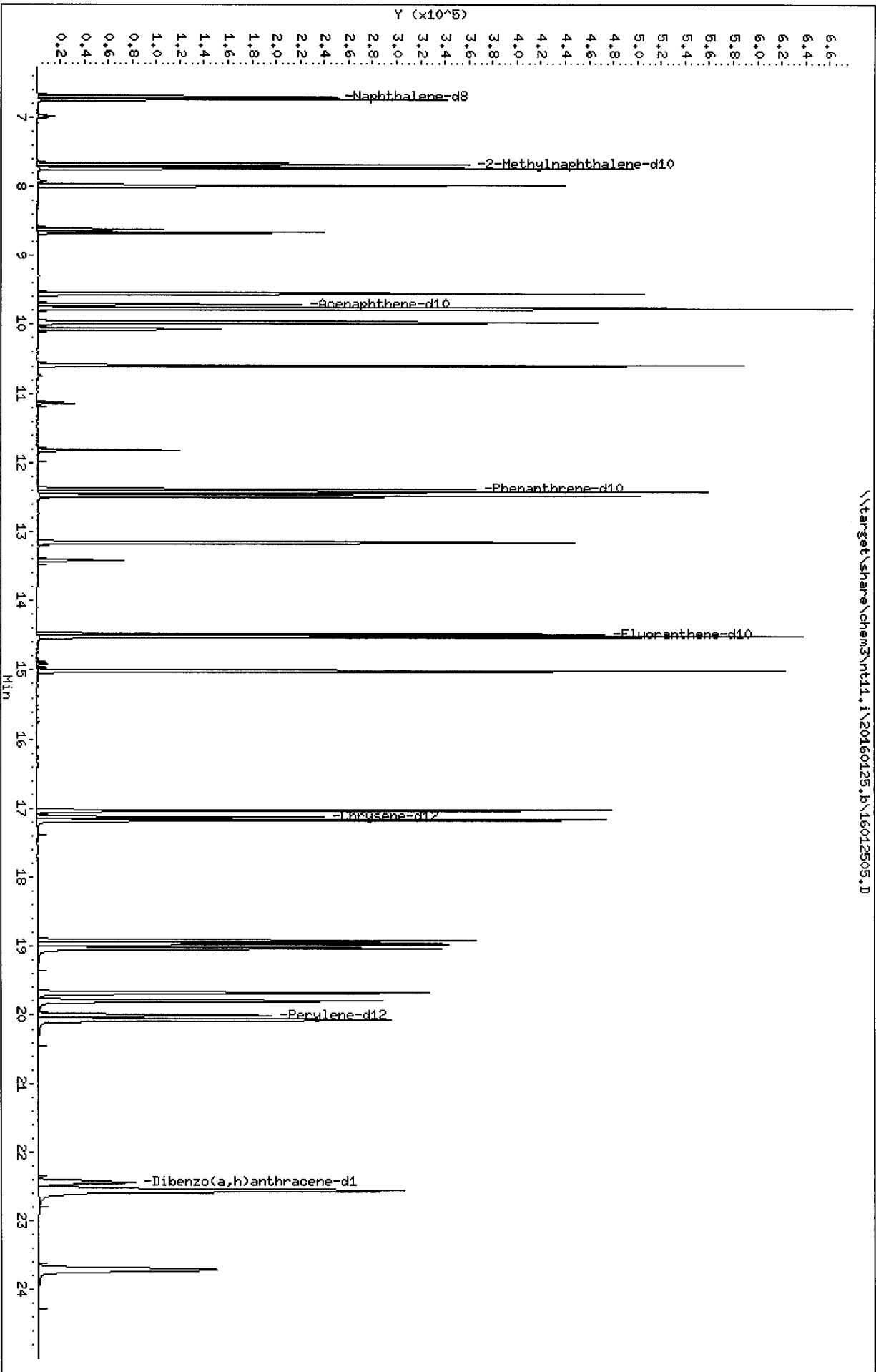
Volume Injected (uL): 2.0

Column diameter: 0.25

Column phase: Rxi-17S11 HS

Column diameter: 0.25

\\target\share\chems\nt11.i\20160125.b\16012505.D



Lab ID: LLPAH ICV

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 09:14

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 25-JAN-2016 14:32
 Lab File ID: 16012515.D Init. Cal. Date(s): 25-JAN-2016 25-JAN-2016
 Analysis Type: SOIL Init. Cal. Times: 09:14 12:00
 Lab Sample ID: LLPAH CCV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160125.b\lowsim.m

COMPOUND	RRF / AMOUNT	RF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
5 Naphthalene	1.10658	0.98282	0.010	-11.18346	20.00000	Averaged
6 2-Methylnaphthalene-d10	0.74752	0.68851	0.010	-7.89419	20.00000	Averaged
7 2-Methylnaphthalene	0.79563	0.74424	0.010	-6.45968	20.00000	Averaged
8 1-Methylnaphthalene	0.72060	0.67151	0.010	-6.81307	20.00000	Averaged
10 Acenaphthylene	1.63537	1.47559	0.010	-9.77032	20.00000	Averaged
12 Acenaphthene	1.03183	0.91487	0.010	-11.33538	20.00000	Averaged
14 Dibenzofuran	1.58020	1.37657	0.010	-12.88597	20.00000	Averaged
15 Fluorene	1.24733	1.11273	0.010	-10.79120	20.00000	Averaged
19 Phenanthrene	1.13223	0.95994	0.010	-15.21664	20.00000	Averaged
20 Anthracene	1.08873	0.97716	0.010	-10.24833	20.00000	Averaged
23 Fluoranthene-d10	1.08267	0.95384	0.200	-11.89938	20.00000	Averaged
24 Fluoranthene	1.16092	1.01064	0.010	-12.94523	20.00000	Averaged
25 Pyrene	1.53882	1.32823	0.010	-13.68500	20.00000	Averaged
28 Benzo(a)anthracene	1.31019	1.13704	0.010	-13.21519	20.00000	Averaged
30 Chrysene	1.34080	1.14888	0.010	-14.31393	20.00000	Averaged
44 Benzo(b)fluoranthene	1.31659	1.10003	0.200	-16.44811	20.00000	Averaged
45 Benzo(k)fluoranthene	1.37507	1.15477	0.200	-16.02046	20.00000	Averaged
46 Benzo(j)fluoranthene	1.25203	1.02492	0.200	-18.13933	20.00000	Averaged
34 Benzo(a)pyrene	1.20738	1.02856	0.010	-14.81096	20.00000	Averaged
36 Dibenzo(a,h)anthracene-d14	0.74617	0.67238	0.010	-9.88829	20.00000	Averaged
37 Indeno(1,2,3-cd)pyrene	1.23585	1.09268	0.010	-11.58409	20.00000	Averaged
38 Dibenzo(a,h)anthracene	0.97626	0.87752	0.010	-10.11390	20.00000	Averaged
39 Benzo(g,h,i)perylene	1.09415	0.93543	0.010	-14.50645	20.00000	Averaged
47 Perylene	1.23559	1.04039	0.200	-15.79792	20.00000	Averaged
48 Benzo(e)pyrene	1.24888	1.02934	0.200	-17.57835	20.00000	Averaged

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012515.D
 Lab Smp Id: LLPAH CCV
 Inj Date : 25-JAN-2016 14:32 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLPAH CCV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 26-Jan-2016 06:16 nt11.i Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 12 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: 2-12/16

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.707	6.707	(1.000)	312072	200.000		
5 Naphthalene	128		6.739	6.739	(1.005)	383390	250.000	222	
\$ 6 2-Methylnaphthalene-d10	152		7.684	7.684	(1.146)	268582	250.000	230	
7 2-Methylnaphthalene	142		7.737	7.737	(1.153)	290319	250.000	234	
8 1-Methylnaphthalene	142		7.989	7.989	(1.191)	261948	250.000	233	
10 Acenaphthylene	152		9.550	9.550	(0.984)	458948	250.000	226	
* 11 Acenaphthene-d10	164		9.705	9.705	(1.000)	248822	200.000		
12 Acenaphthene	153		9.771	9.771	(1.007)	284550	250.000	222	
14 Dibenzofuran	168		9.971	9.971	(1.027)	428152	250.000	218	
15 Fluorene	166		10.591	10.591	(1.091)	346089	250.000	223	
* 18 Phenanthrene-d10	188		12.384	12.384	(1.000)	422923	200.000		
19 Phenanthrene	178		12.429	12.429	(1.004)	507476	250.000	212	
20 Anthracene	178		12.473	12.473	(1.007)	516577	250.000	224	
\$ 23 Fluoranthene-d10	212		14.485	14.485	(1.170)	504251	250.000	220	
24 Fluoranthene	202		14.514	14.514	(1.172)	534278	250.000	218	
25 Pyrene	202		15.013	15.013	(0.877)	548391	250.000	216	
28 Benzo(a)anthracene	228		17.029	17.029	(0.995)	469456	250.000	217	
* 29 Chrysene-d12	240		17.121	17.121	(1.000)	330299	200.000		
30 Chrysene	228		17.171	17.171	(1.003)	474343	250.000	214	
44 Benzo(b)fluoranthene	252		18.921	18.921	(0.946)	432306	250.000	209	
45 Benzo(k)fluoranthene	252		18.959	18.959	(0.948)	453819	250.000	210	

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
46 Benzo(j)fluoranthene	252		19.027	19.027	(0.951)	402787	250.000	205
34 Benzo(a)pyrene	252		19.786	19.786	(0.989)	404217	250.000	213
* 35 Perylene-d12	264		19.997	19.997	(1.000)	314395	200.000	
§ 36 Dibenzo(a,h)anthracene-d14	292		22.431	22.431	(1.122)	264242	250.000	225
37 Indeno(1,2,3-cd)pyrene	276		22.564	22.564	(1.128)	429418	250.000	221
38 Dibenzo(a,h)anthracene	278		22.553	22.553	(1.128)	344860	250.000	225
39 Benzo(g,h,i)perylene	276		23.705	23.705	(1.185)	367617	250.000	214
47 Perylene	252		20.064	20.064	(1.003)	408868	250.000	211
48 Benzo(e)pyrene	252		19.680	19.680	(0.984)	404526	250.000	206

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012515.D
 Lab Smp Id: LLPAH CCV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info:

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	312072	-12.35
11 Acenaphthene-d10	264524	132262	529048	248822	-5.94
18 Phenanthrene-d10	444949	222475	889898	422923	-4.95
29 Chrysene-d12	343139	171570	686278	330299	-3.74
35 Perylene-d12	319277	159639	638554	314395	-1.53

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.71	0.00
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	0.00
35 Perylene-d12	20.00	19.50	20.50	20.00	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 25-JAN-2016 14:32

Instrument: nt11.i

Client ID:

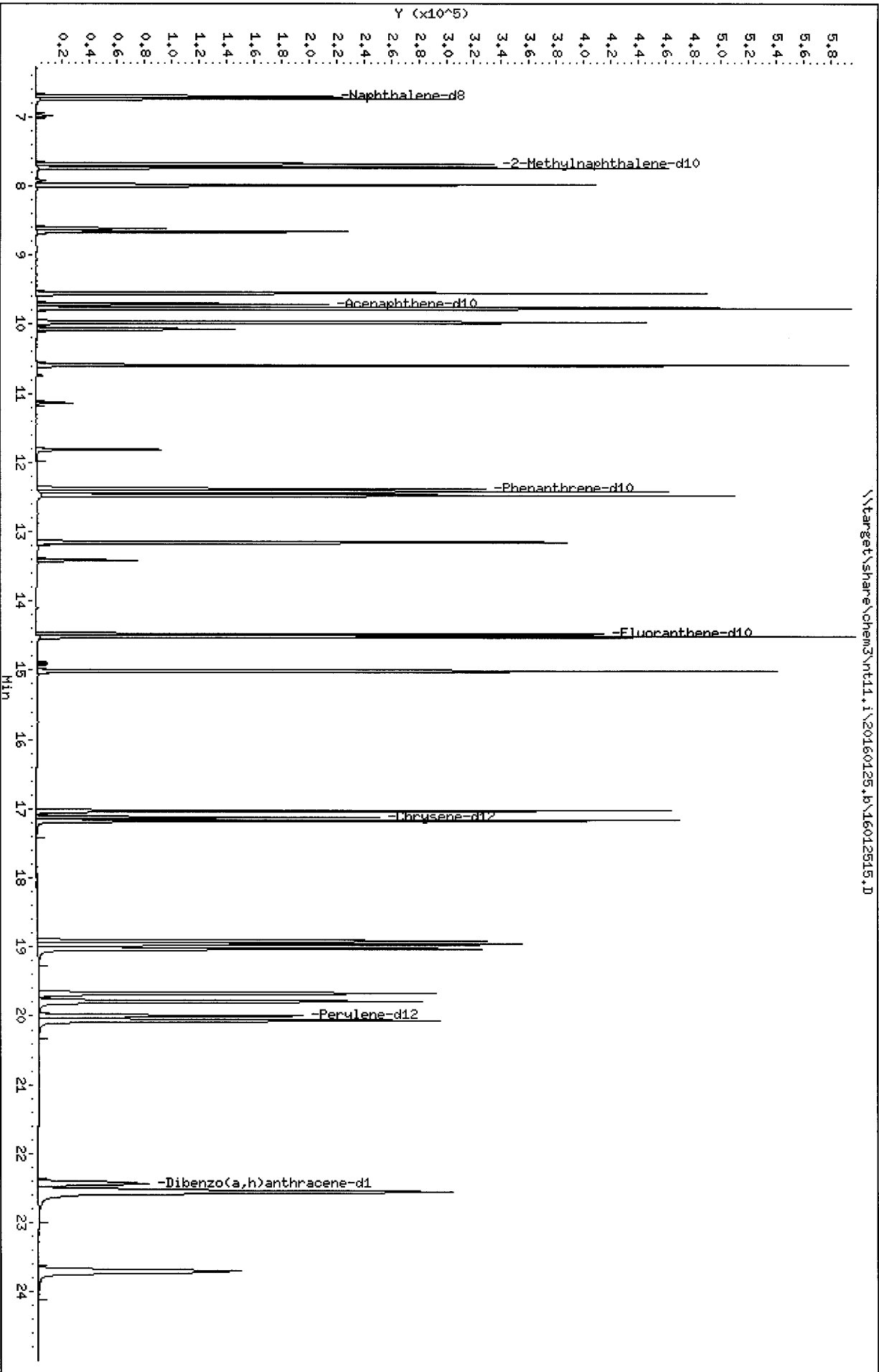
Sample Info: LLP4H CCV

Operator: JM

Volume Injected (uL): 2.0

Column diameter: 0.25

Column phase: Rxi-17S11 HS



REVIEW SUMMARY FOR FILE - 16012515.D

Lab ID: LLPAH CCV

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 14:32

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

AUA2: 00302

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160125.b\16012512.D
 Lab Smp Id: AUA2A Client Smp ID: 13EB ME-MTW01Z
 Inj Date : 25-JAN-2016 13:00 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : AUA2A,10'
 Misc Info : 16-418
 Comment :
 Method : \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Meth Date : 26-Jan-2016 06:16 nt11.i Quant Type: ISTD
 Cal Date : 25-JAN-2016 12:00 Cal File: 16012510.D
 Als bottle: 9
 Dil Factor: 10.00000 ✓
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

Handwritten: 1/26/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136	6.697	6.707	(1.000)	301571	200.000	
5 Naphthalene	128	Compound Not Detected.					
\$ 6 2-Methylnaphthalene-d10	152	7.674	7.684	(1.146)	16599	14.7264	7360
7 2-Methylnaphthalene	142	Compound Not Detected.					
8 1-Methylnaphthalene	142	Compound Not Detected.					
10 Acenaphthylene	152	Compound Not Detected.					
* 11 Acenaphthene-d10	164	9.705	9.705	(1.000)	210363	200.000	
12 Acenaphthene	153	9.771	9.771	(1.007)	11446	10.5464	5270
14 Dibenzofuran	168	Compound Not Detected.					
15 Fluorene	166	10.591	10.591	(1.091)	18905	14.4097	7200
* 18 Phenanthrene-d10	188	12.384	12.384	(1.000)	345651	200.000	
19 Phenanthrene	178	12.429	12.429	(1.004)	171747	87.7703	43900
20 Anthracene	178	12.473	12.484	(1.007)	39259	20.8646	10400
\$ 23 Fluoranthene-d10	212	14.475	14.485	(1.169)	36195	19.3439	9670
24 Fluoranthene	202	14.514	14.514	(1.172)	326541	162.752	81400
25 Pyrene	202	15.013	15.014	(0.877)	187194	94.3762	47200
28 Benzo(a)anthracene	228	17.029	17.029	(0.995)	62260	36.8665	18400
* 29 Chrysene-d12	240	17.121	17.121	(1.000)	257794	200.000	
30 Chrysene	228	17.171	17.171	(1.003)	81818	47.3414	23700
44 Benzo(b)fluoranthene	252	18.911	18.921	(0.946)	47662	29.6869	14800
45 Benzo(k)fluoranthene	252	18.959	18.969	(0.948)	34188	20.3888	10200

Compounds	QUANT SIG							CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ug/kg)		
===== 46 Benzo(j) fluoranthene	252	19.027	19.027	(0.951)	28236	18.4940	9250		
34 Benzo(a) pyrene	252	19.786	19.795	(0.989)	20935	14.2190	7110		
* 35 Perylene-d12	264	19.997	20.007	(1.000)	243887	200.000			
\$ 36 Dibenzo(a,h) anthracene-d14	292	22.431	22.442	(1.122)	15747	17.3063	8650		
37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.							
38 Dibenzo(a,h) anthracene	278	Compound Not Detected.							
39 Benzo(g,h,i)perylene	276	Compound Not Detected.							
47 Perylene	252	Compound Not Detected.							
48 Benzo(e)pyrene	252	19.680	19.680	(0.984)	36305	23.8390	11900		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012512.D
 Lab Smp Id: AUA2A
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
 Misc Info: 16-418

Calibration Date: 25-JAN-2016
 Calibration Time: 09:14
 Client Smp ID: 13EB_ME-MTW01Z
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	356051	178026	712102	301571	-15.30
11 Acenaphthene-d10	264524	132262	529048	210363	-20.47
18 Phenanthrene-d10	444949	222475	889898	345651	-22.32
29 Chrysene-d12	343139	171570	686278	257794	-24.87
35 Perylene-d12	319277	159639	638554	243887	-23.61

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.71	6.21	7.21	6.70	-0.16
11 Acenaphthene-d10	9.71	9.21	10.21	9.71	-0.00
18 Phenanthrene-d10	12.38	11.88	12.88	12.38	-0.00
29 Chrysene-d12	17.12	16.62	17.62	17.12	-0.00
35 Perylene-d12	20.01	19.51	20.51	20.00	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

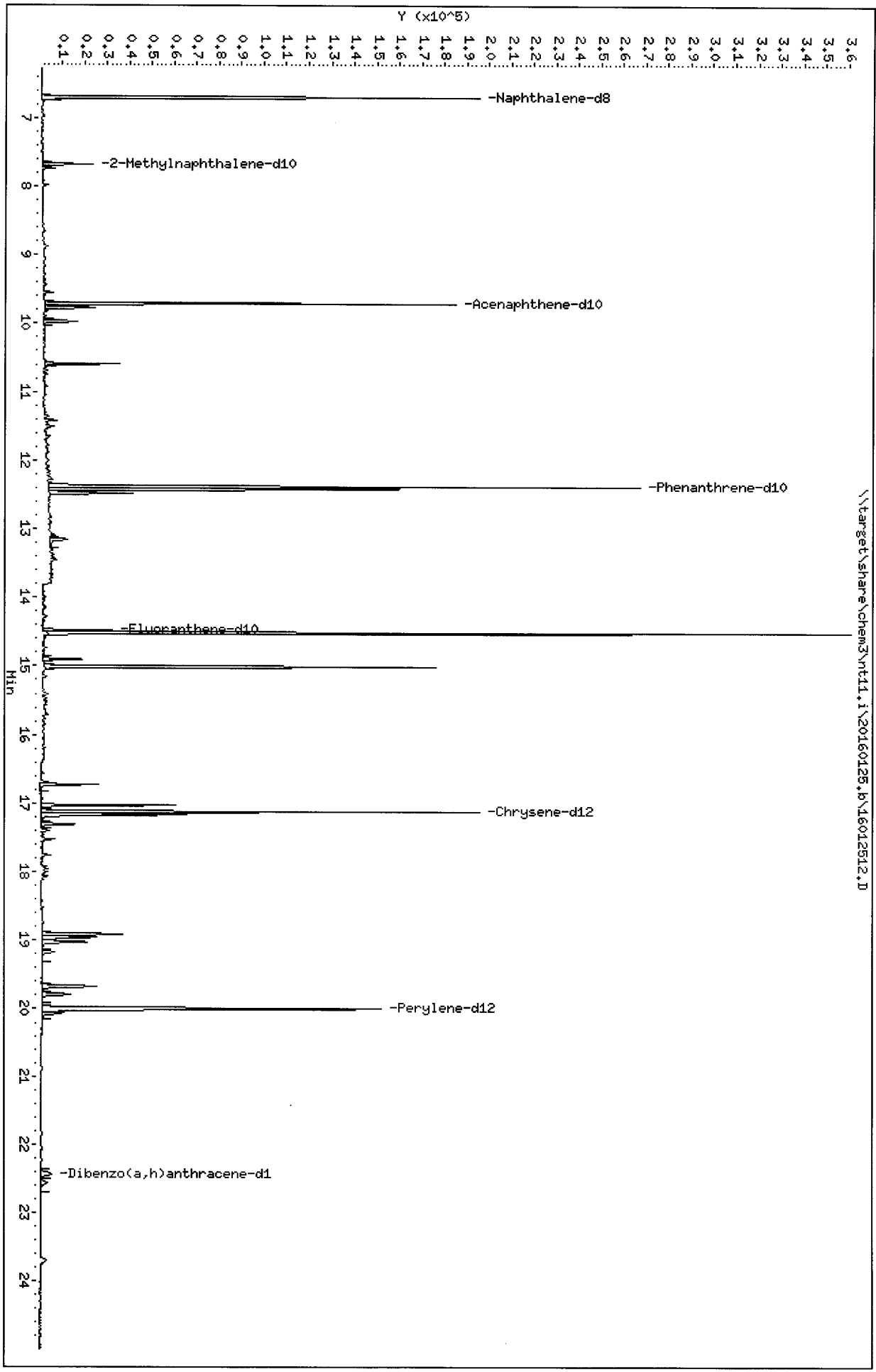
Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: AUA2A
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160125.b\lowsim.m
Misc Info: 16-418

Client SDG: AUA2
Fraction: SV
Client Smp ID: 13EB_ME-MTW01Z
Operator: JW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7360	49.09	30-160
\$ 23 Fluoranthene-d10	15000	9670	64.48	30-160
\$ 36 Dibenzo(a,h) anthra	15000	8650	57.69	30-160

Data File: \\target\share\chem3\nt11.i\20160125.b\16012512.D
Date : 25-JAN-2016 13:00
Client ID: 13EB_ME-NT1012
Sample Info: AUA20,10
Volume Injected (ul): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

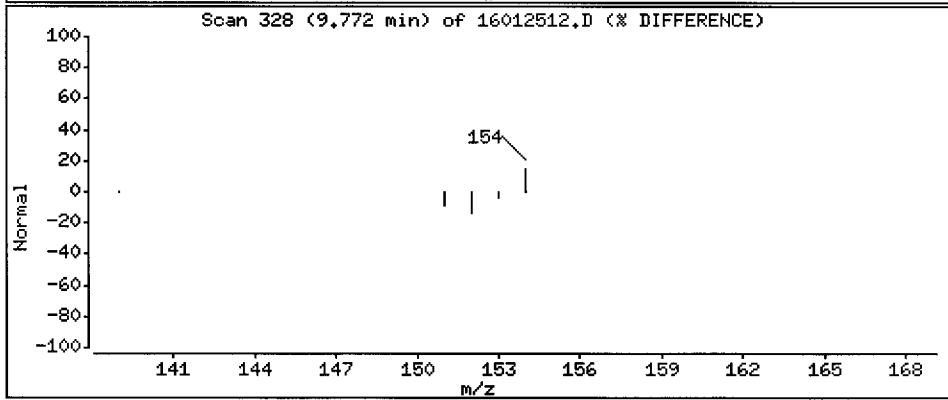
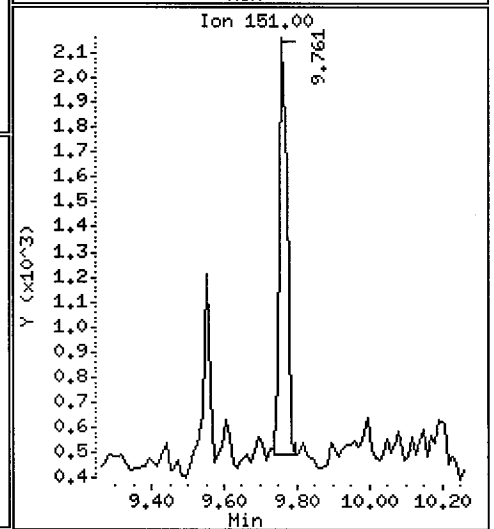
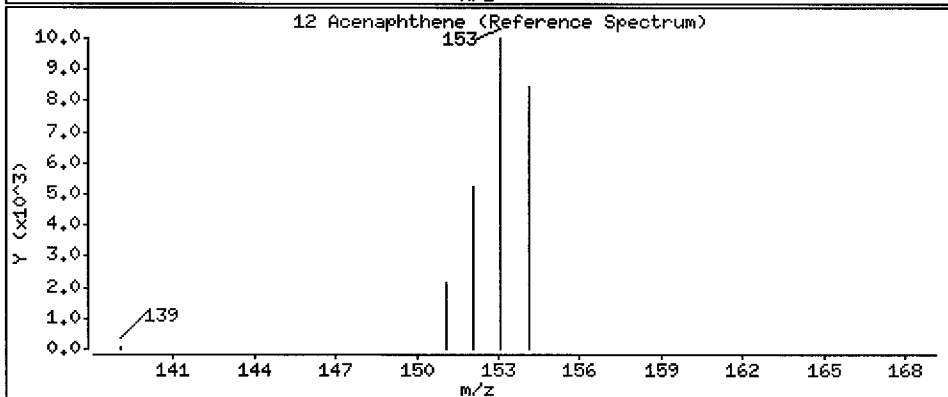
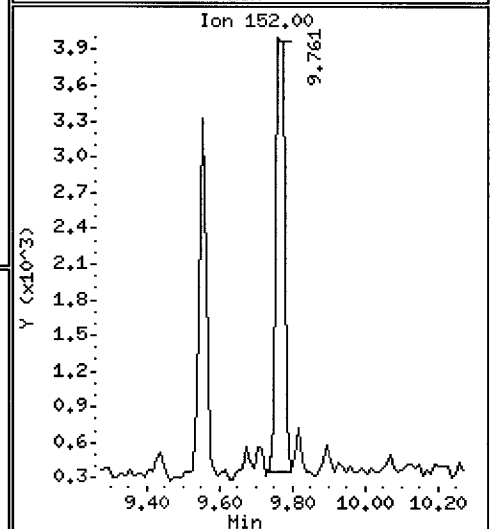
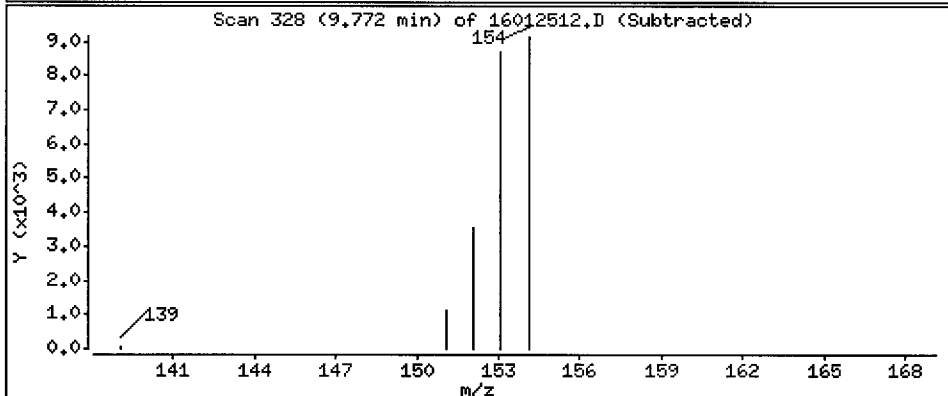
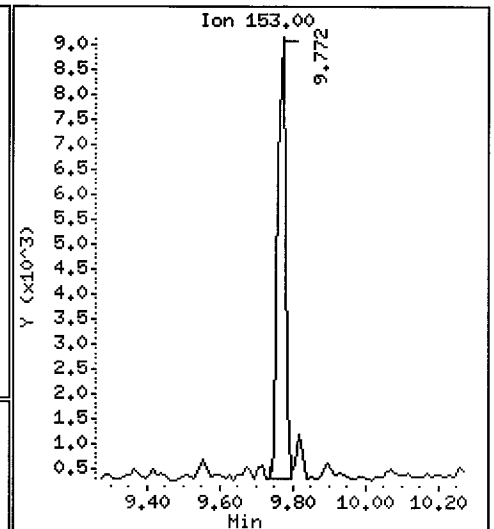
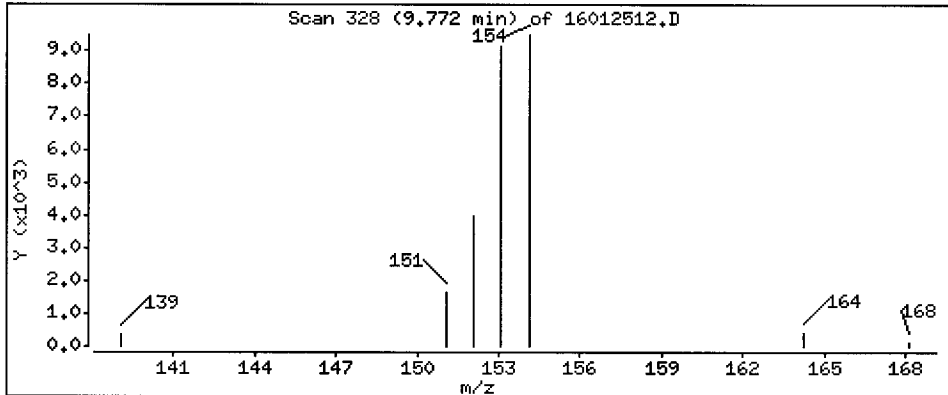
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 5270 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A.10

Volume Injected (uL): 2.0

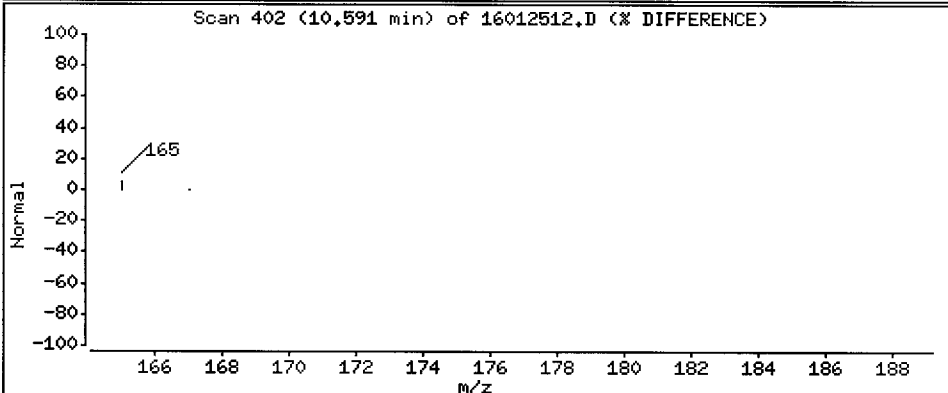
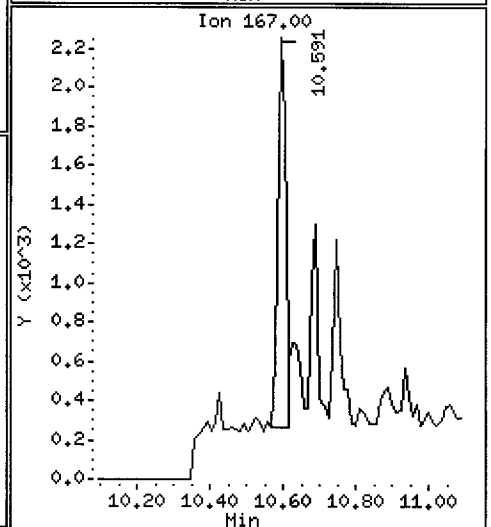
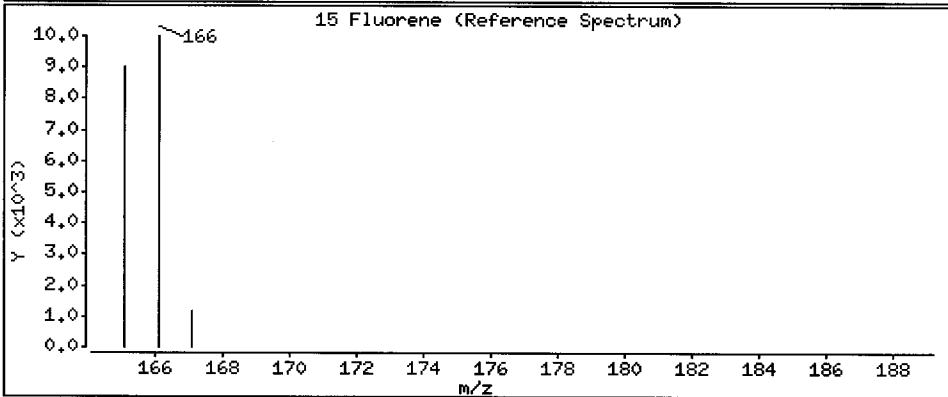
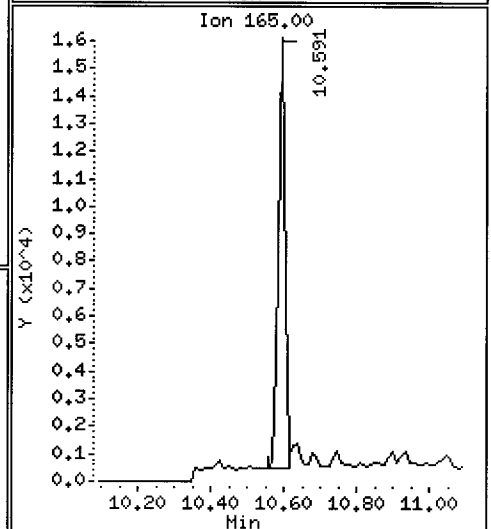
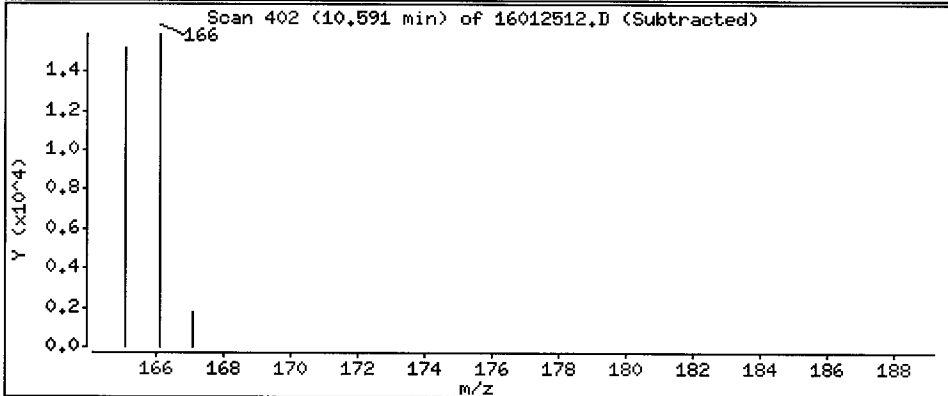
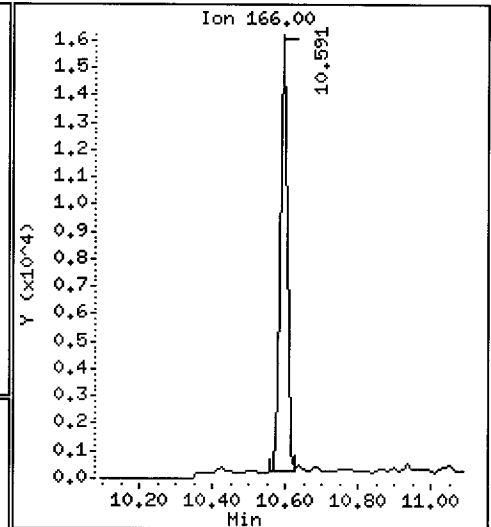
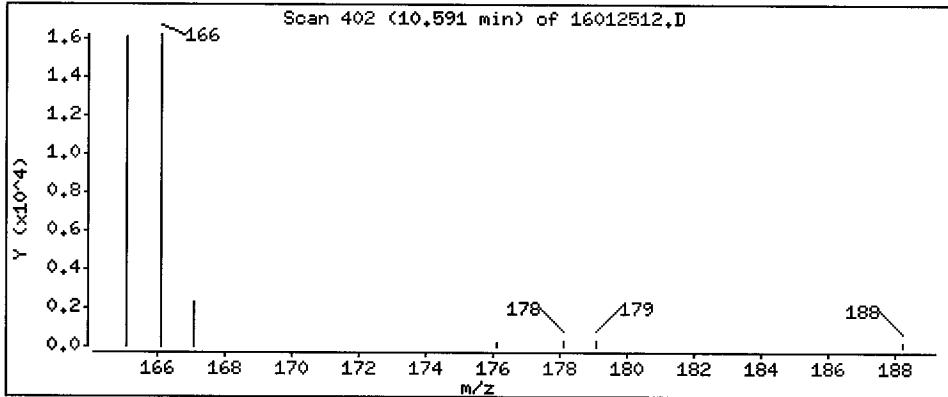
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

15 Fluorene

Concentration: 7200 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTM01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

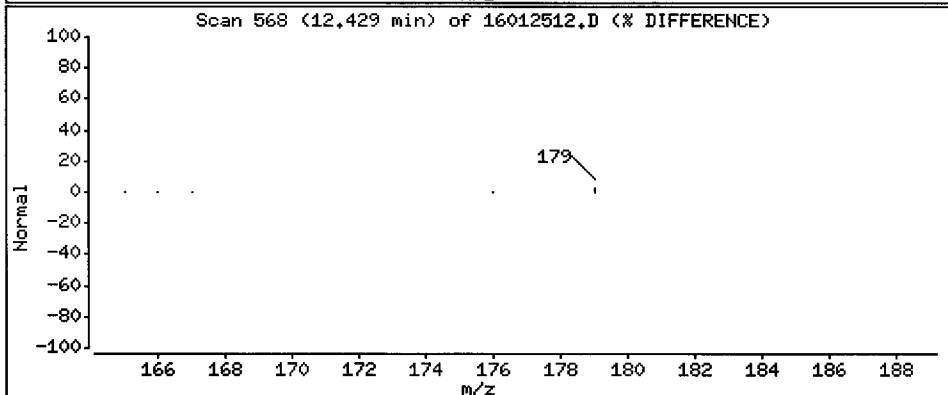
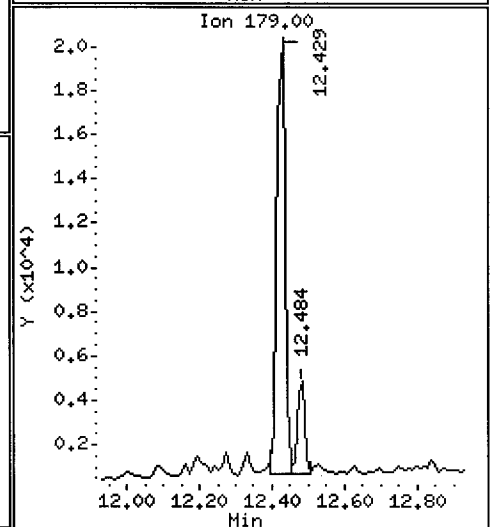
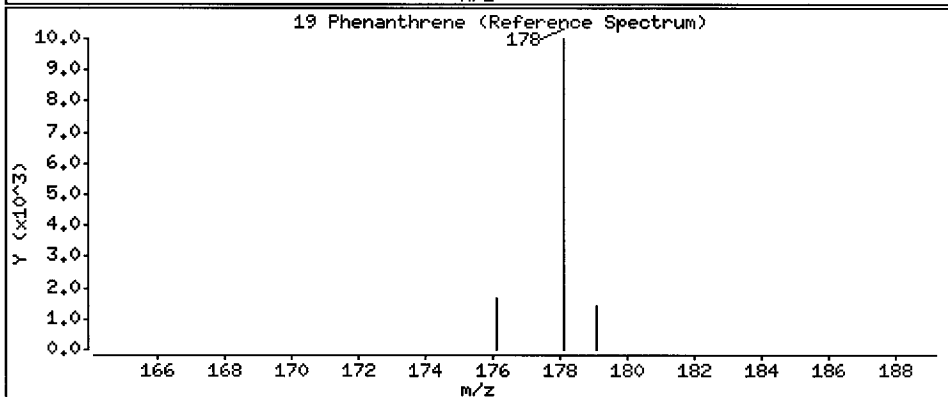
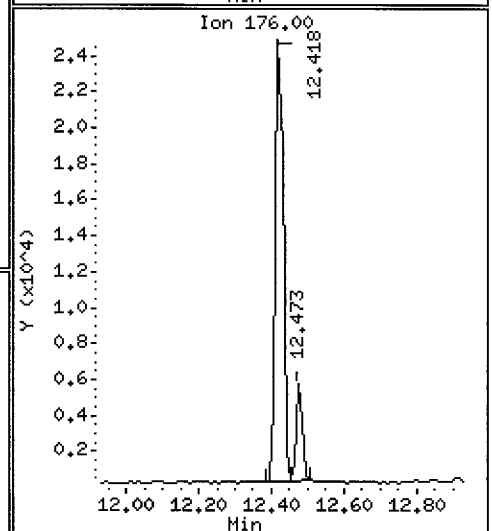
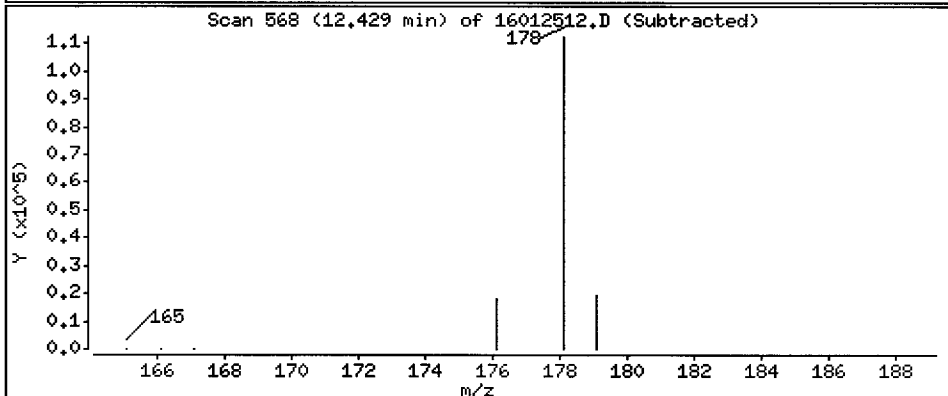
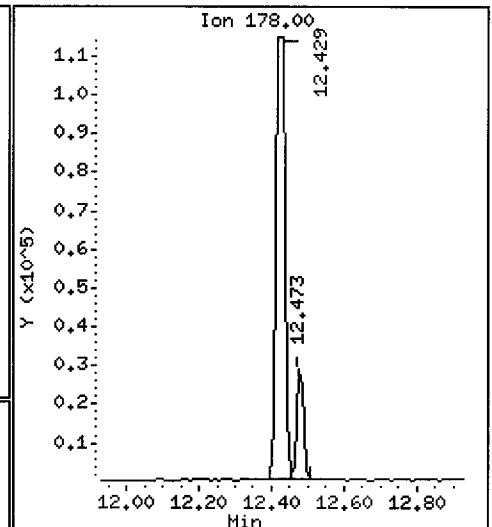
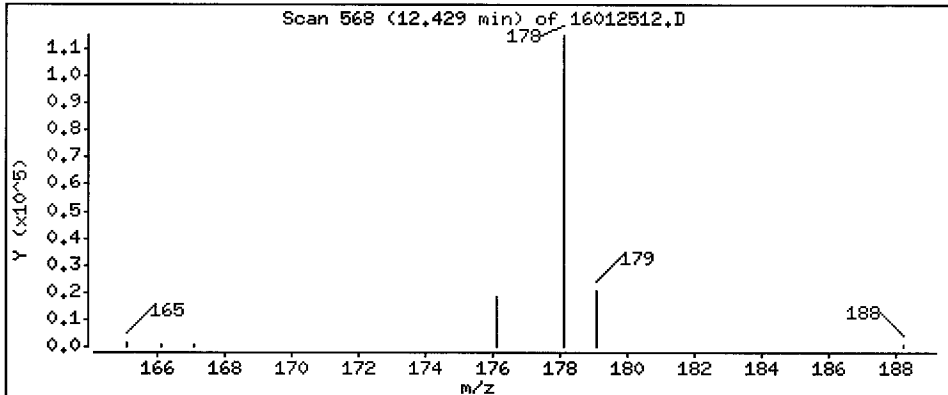
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 43900 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

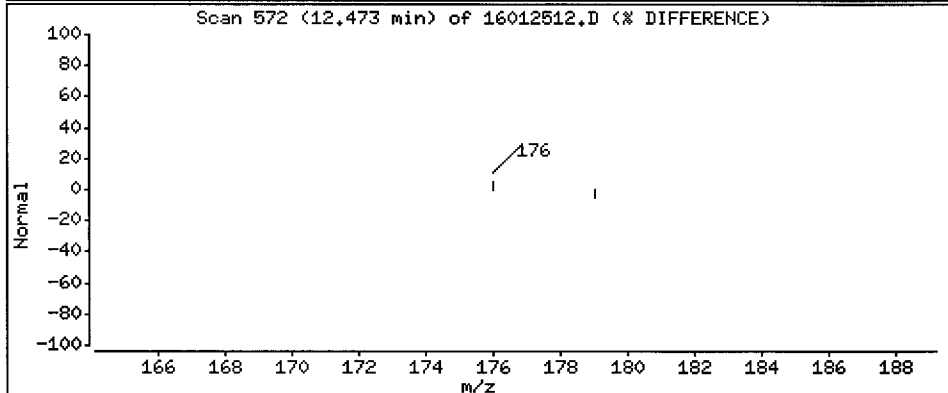
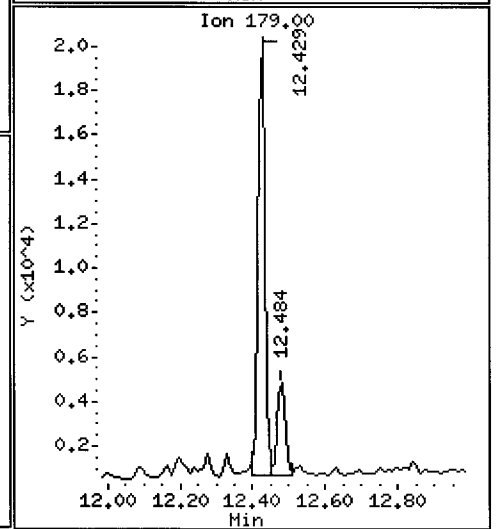
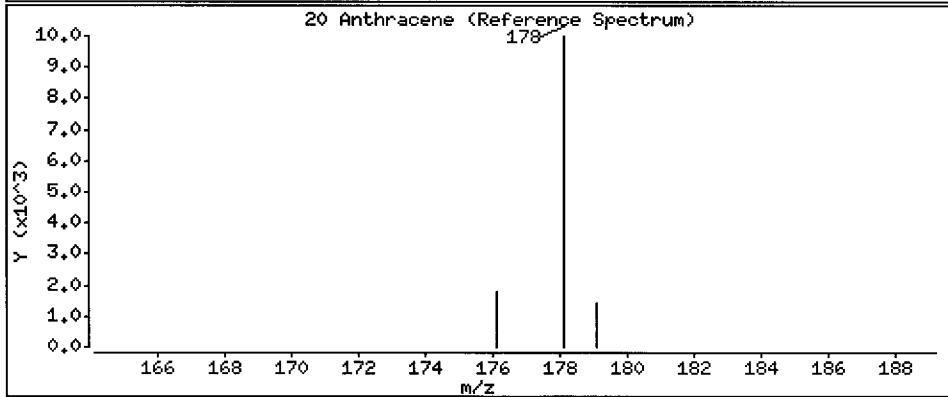
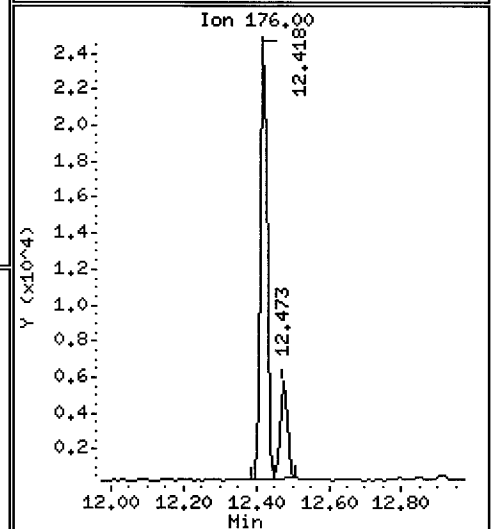
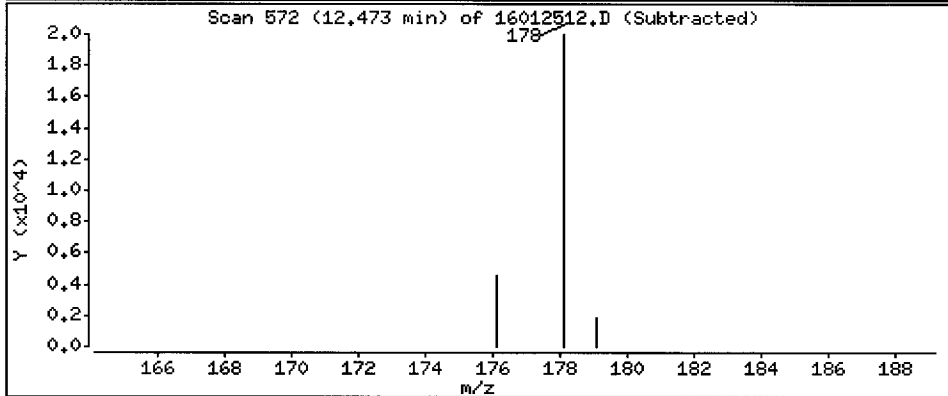
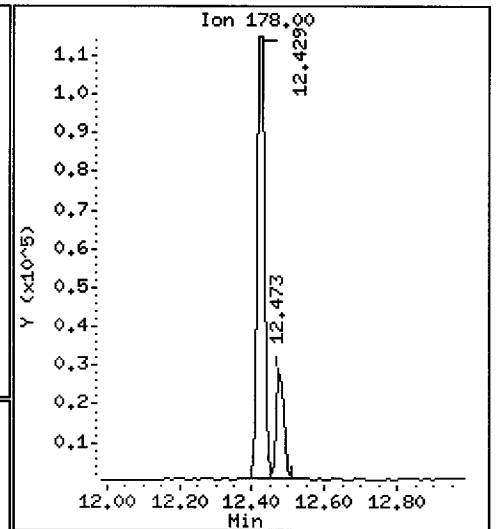
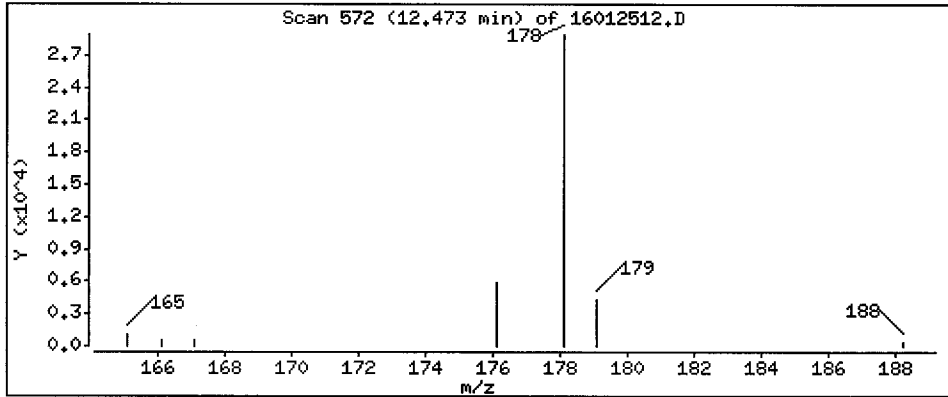
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 10400 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

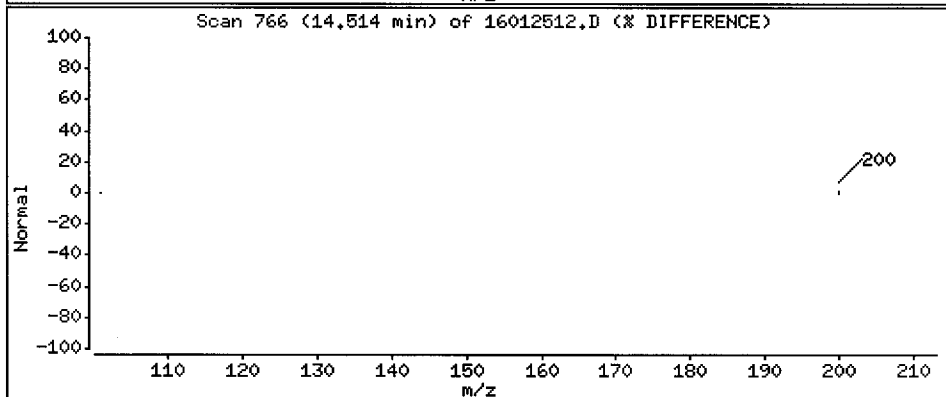
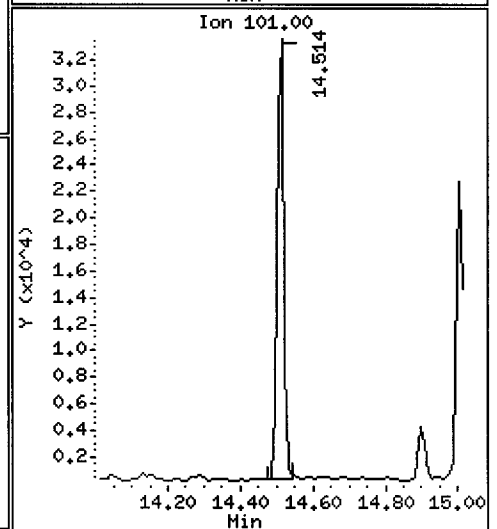
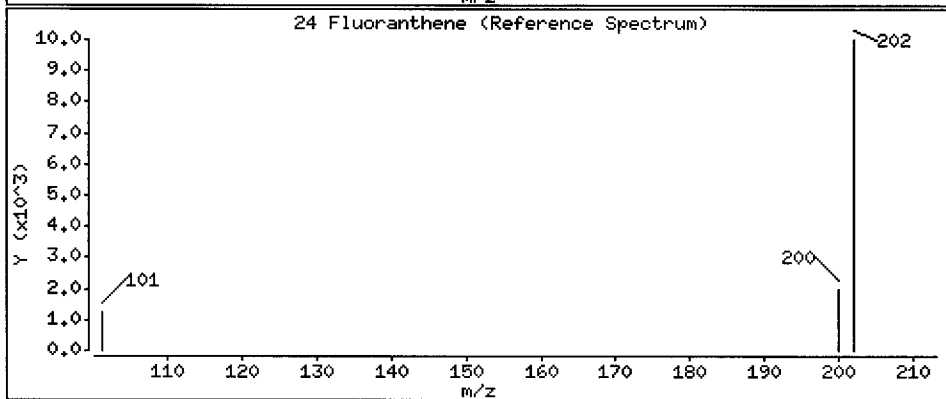
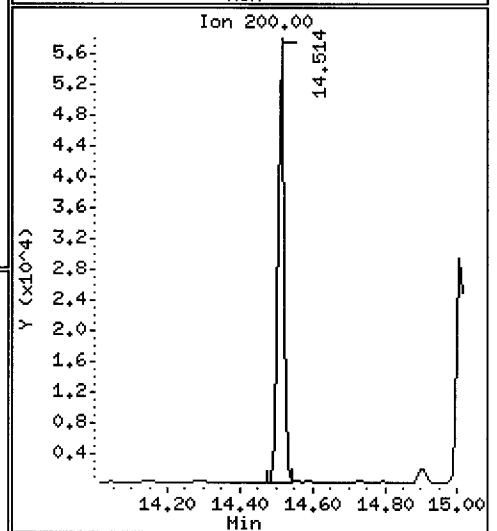
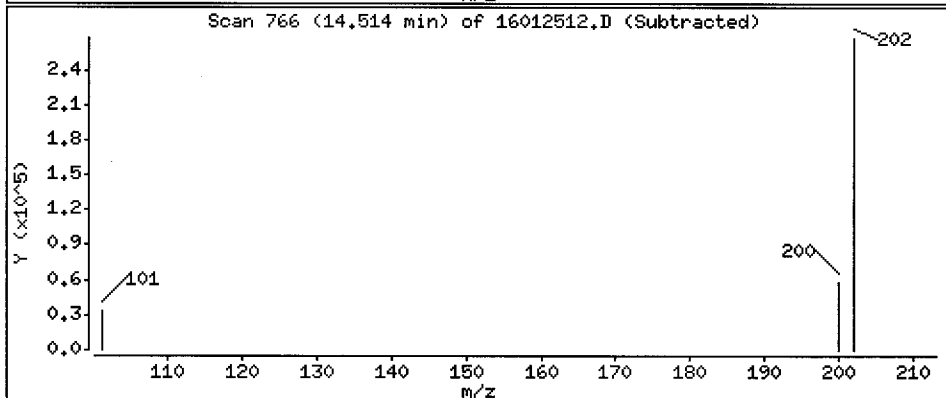
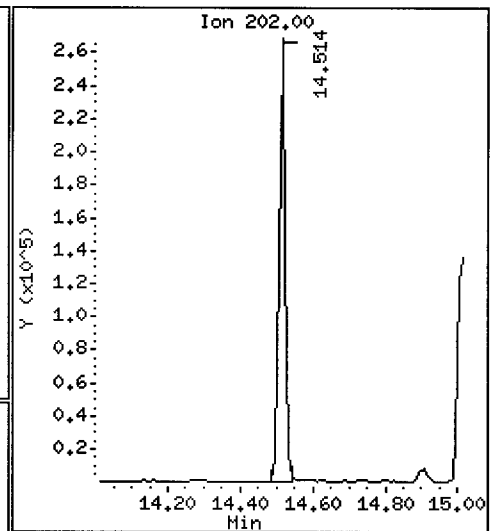
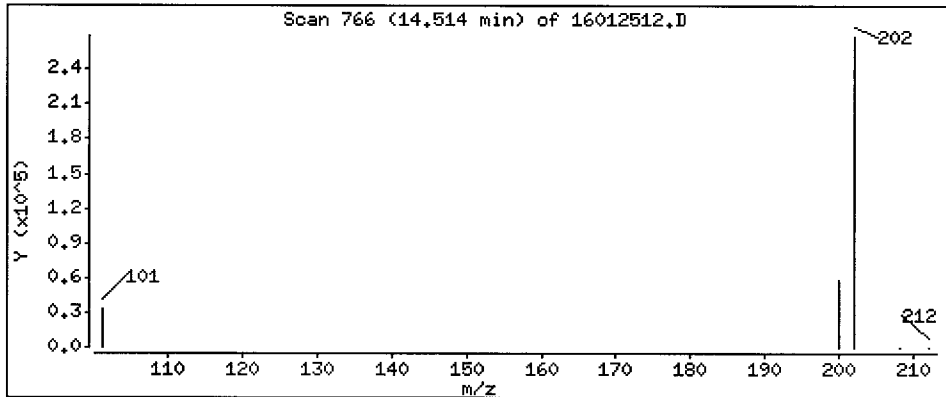
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 81400 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

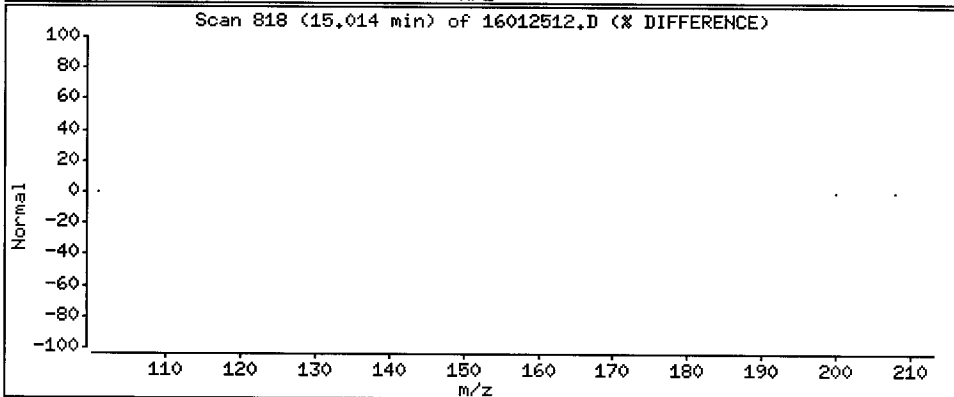
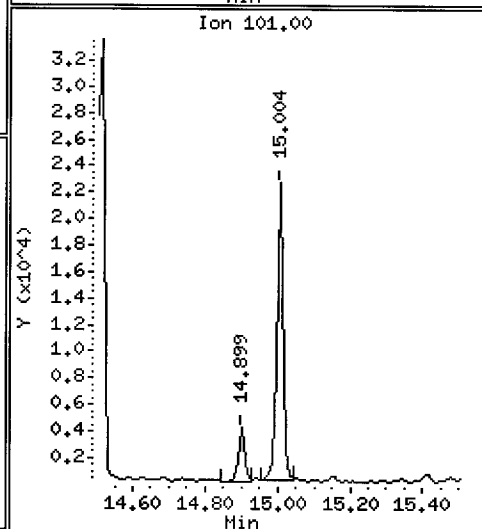
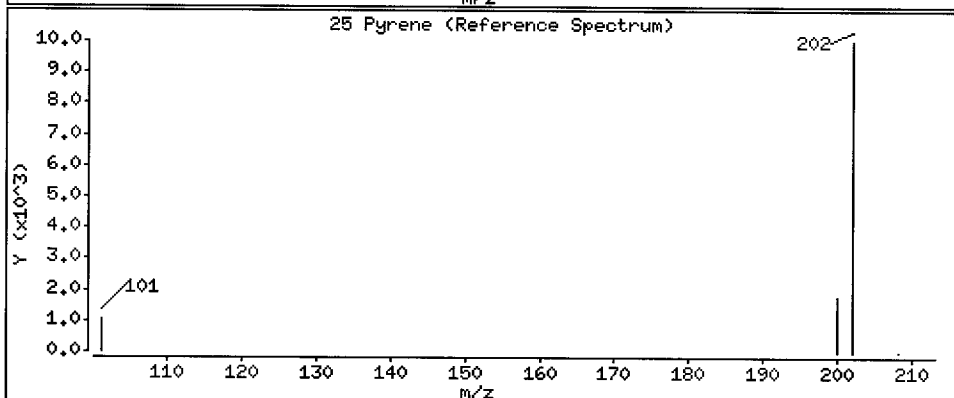
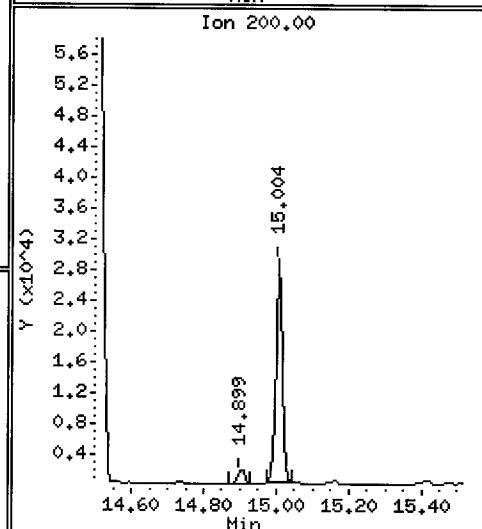
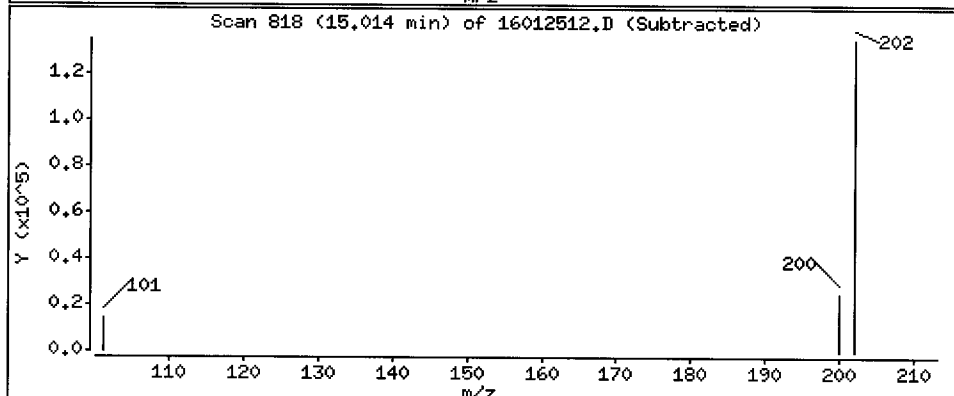
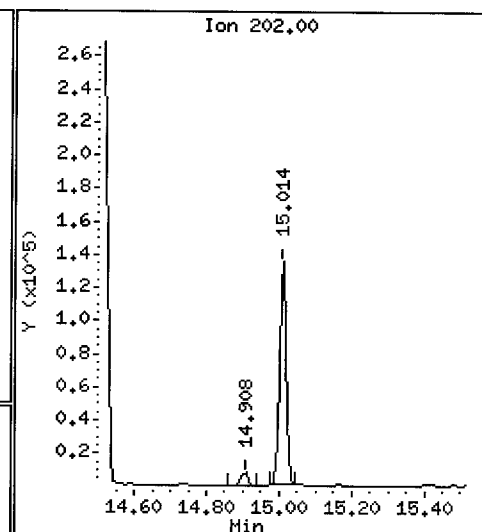
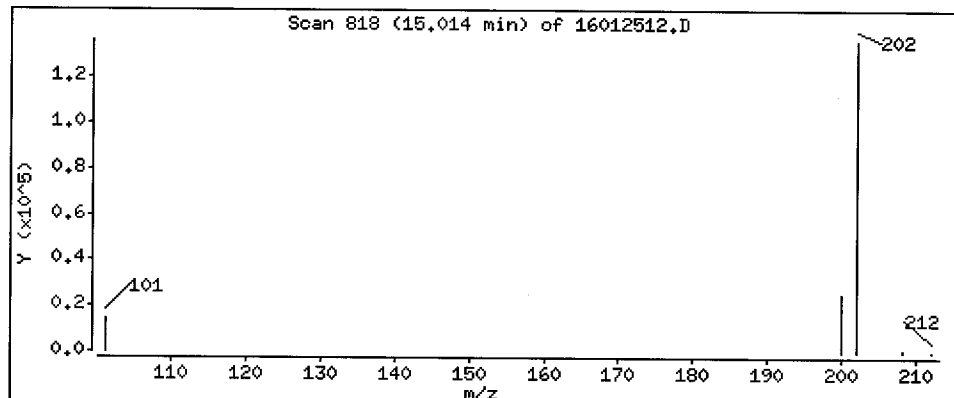
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

25 Pyrene

Concentration: 47200 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

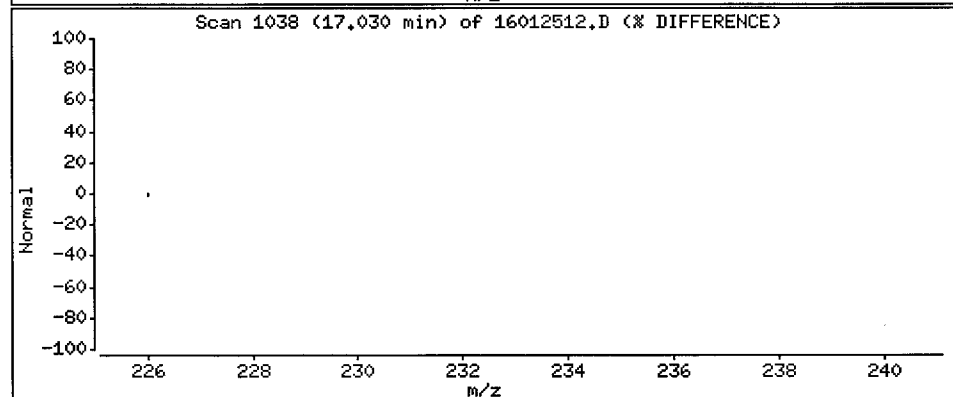
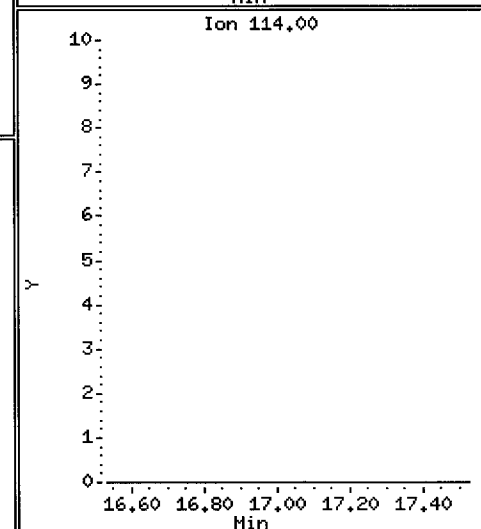
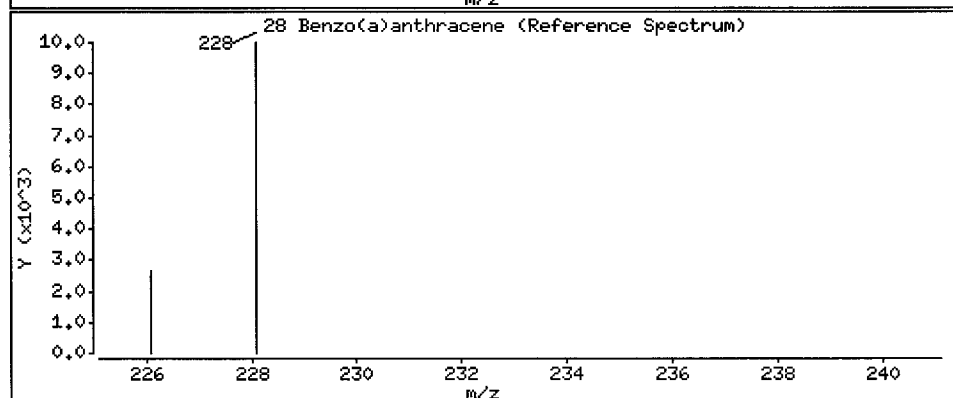
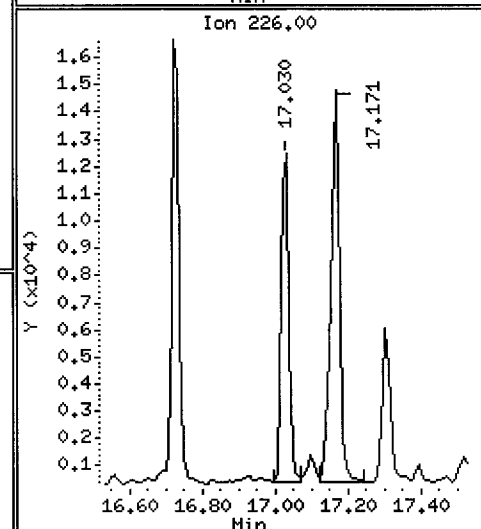
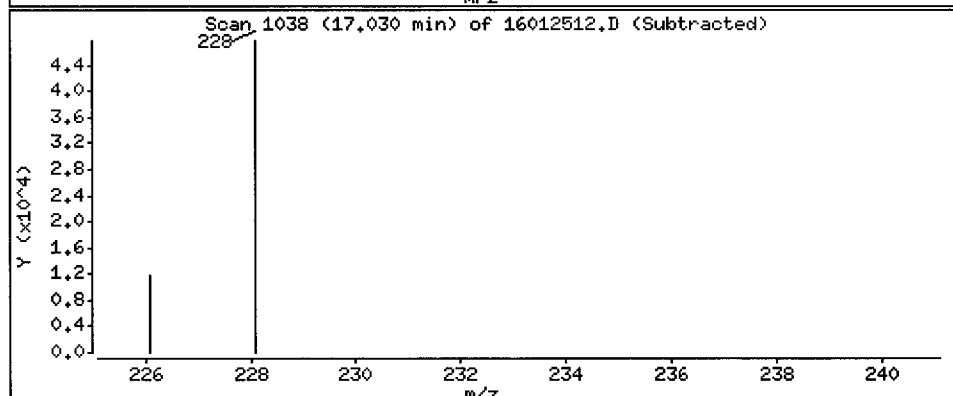
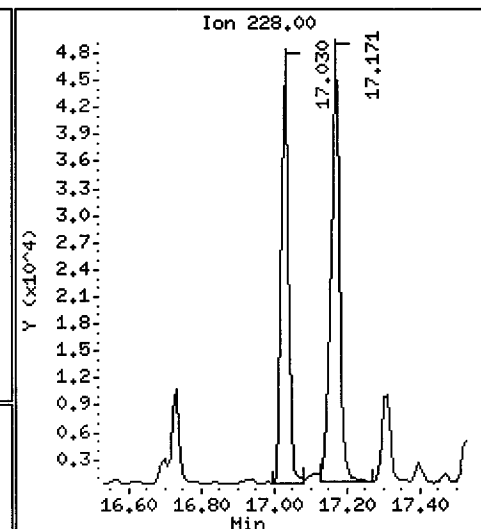
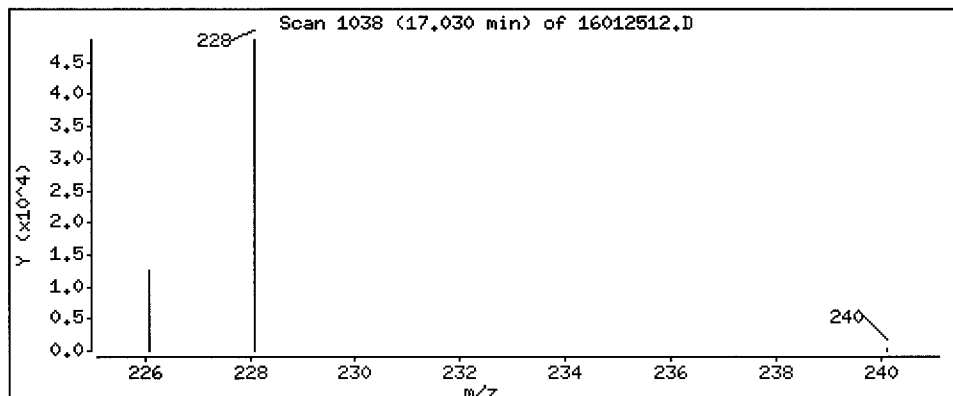
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 18400 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

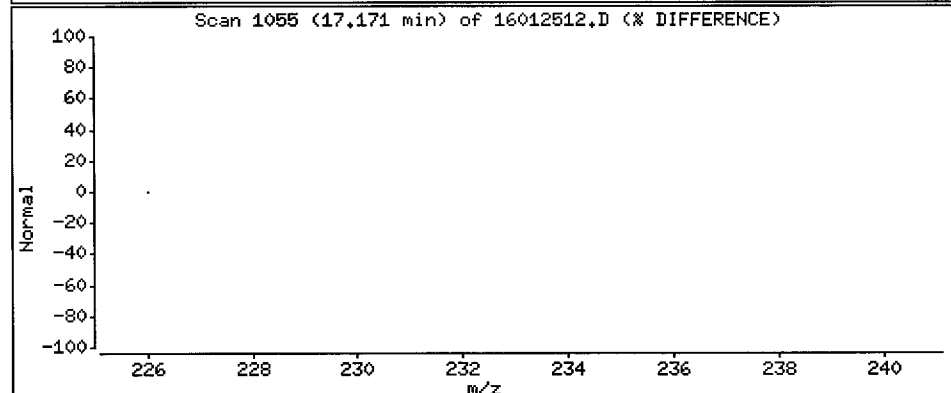
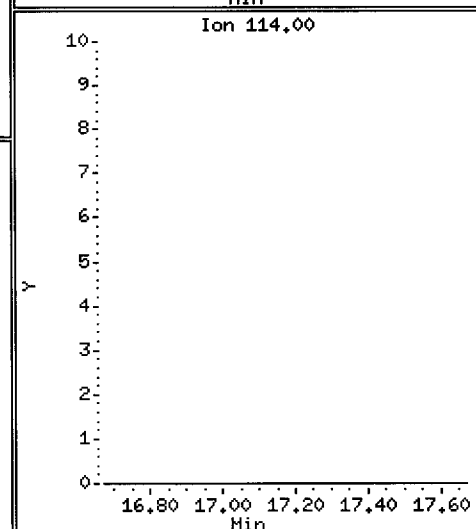
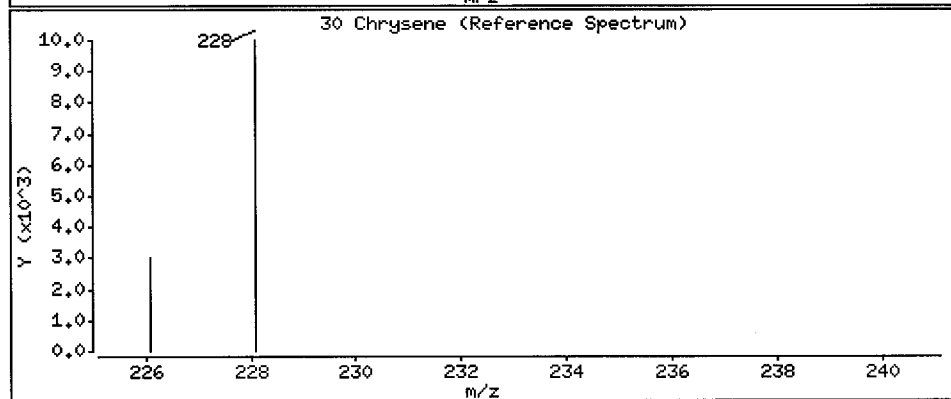
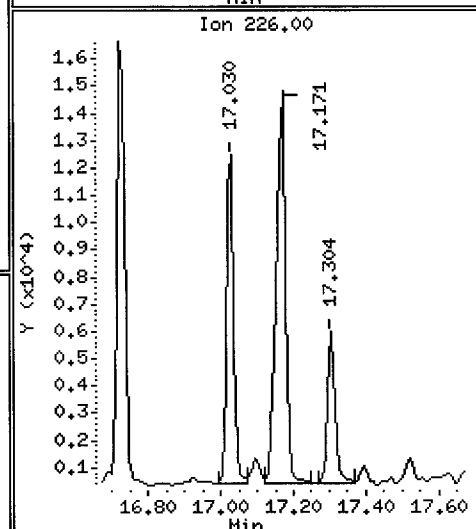
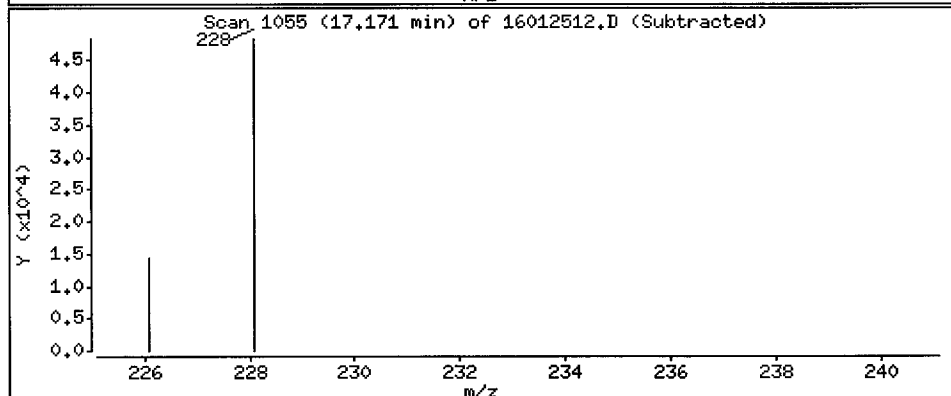
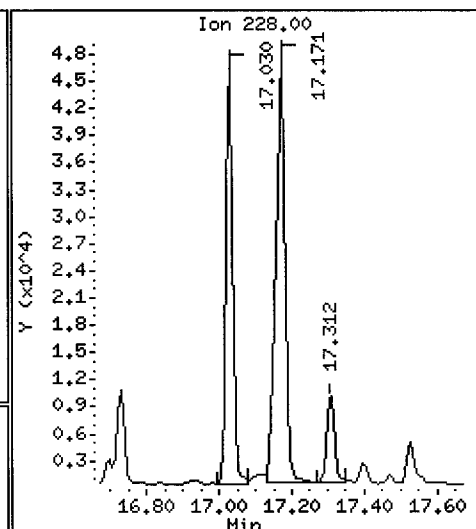
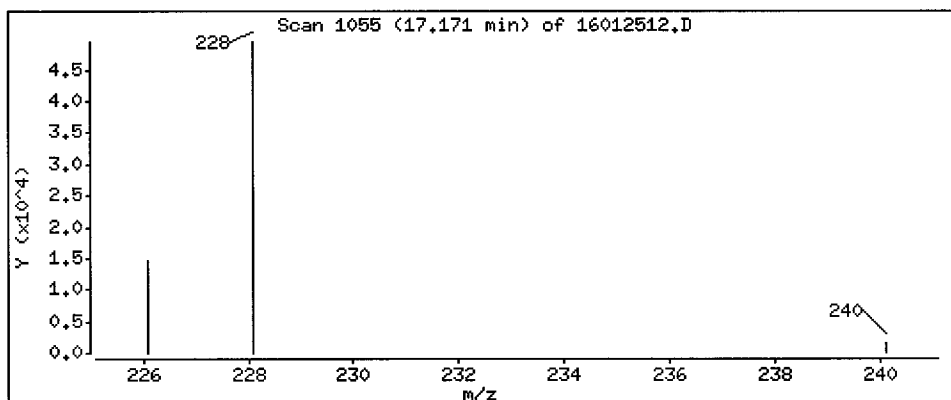
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 23700 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

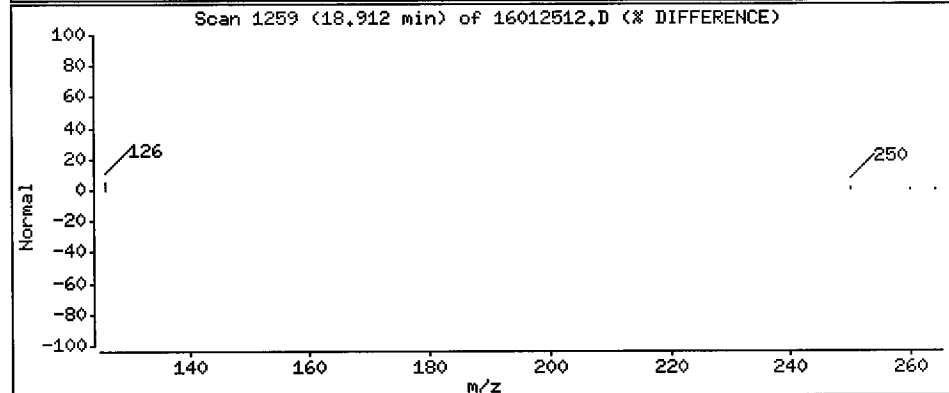
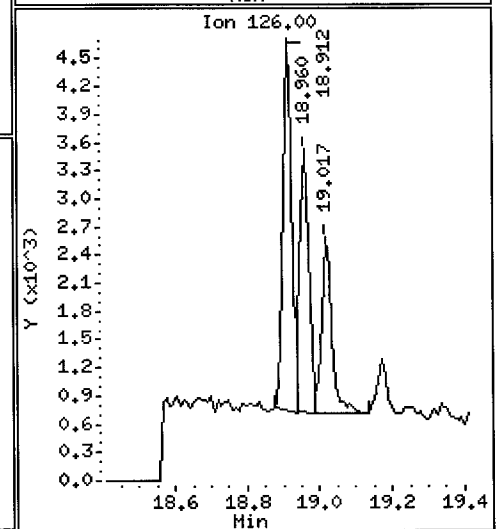
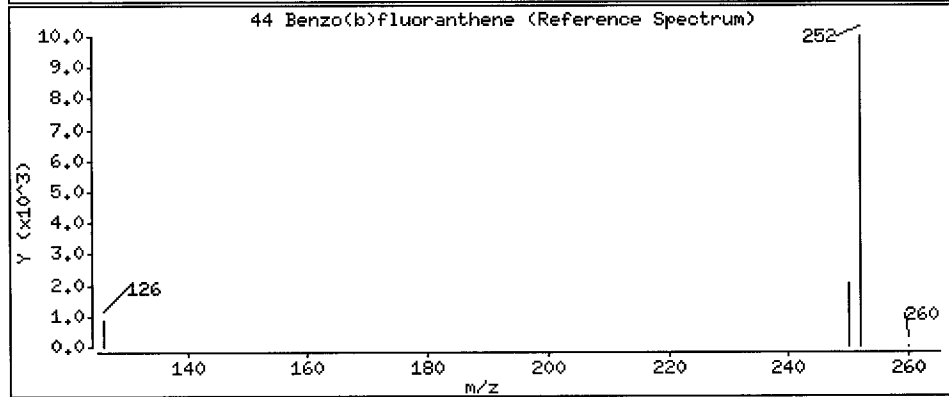
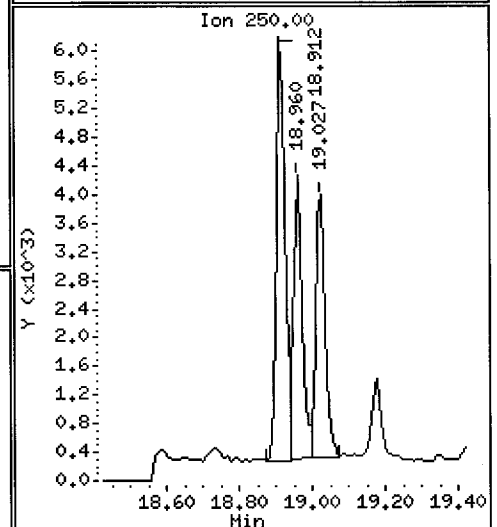
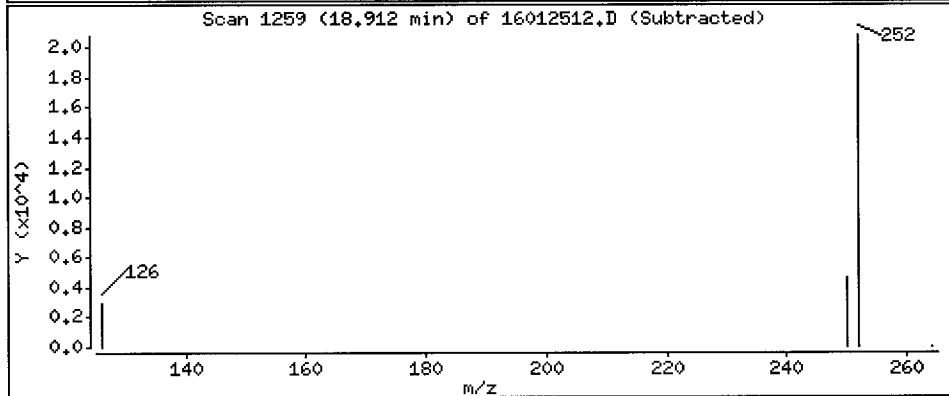
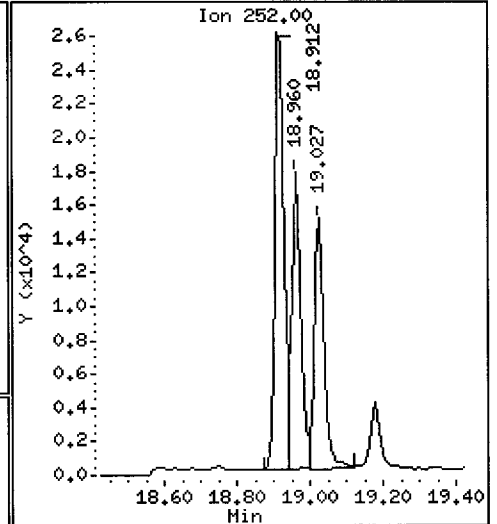
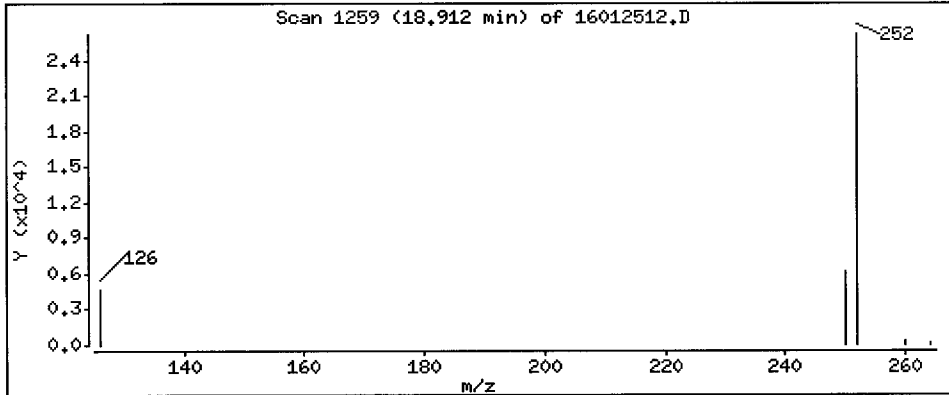
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 14800 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

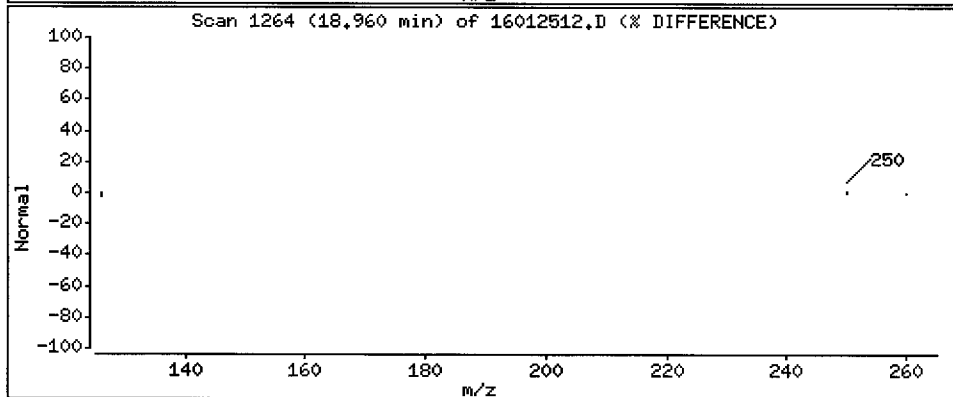
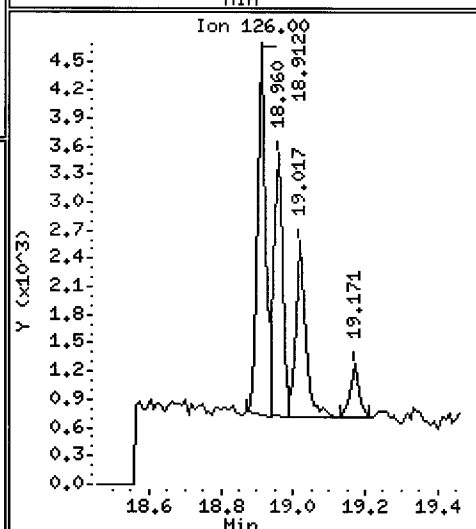
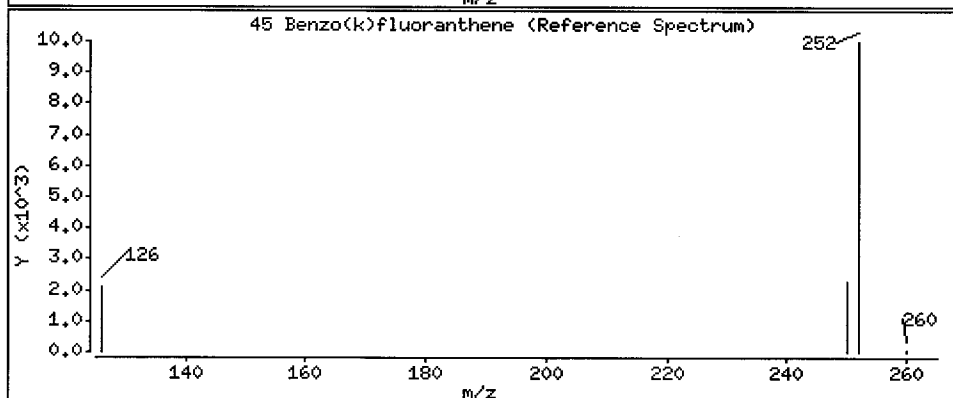
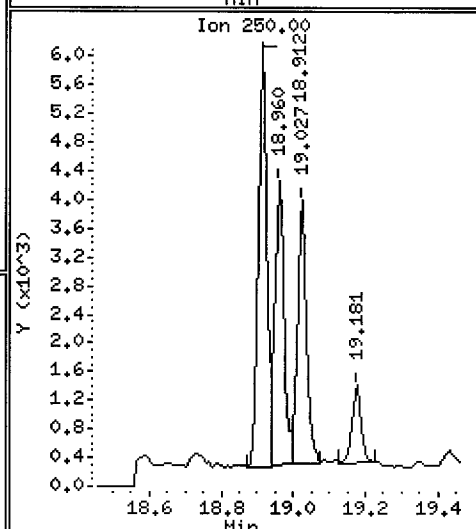
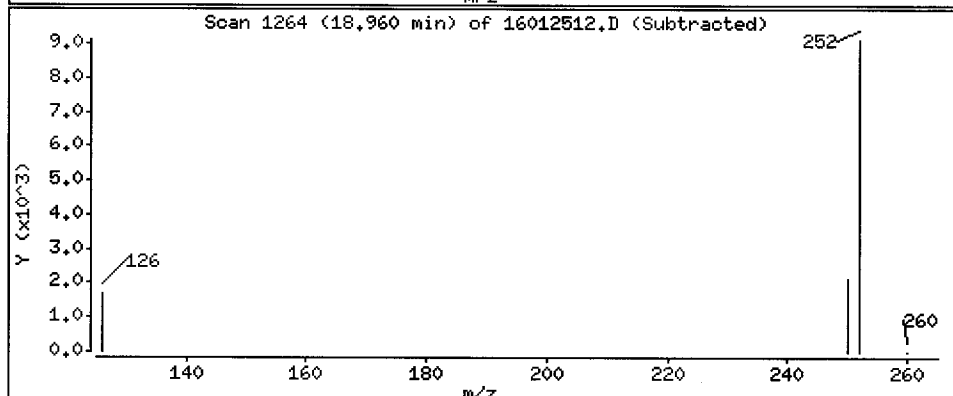
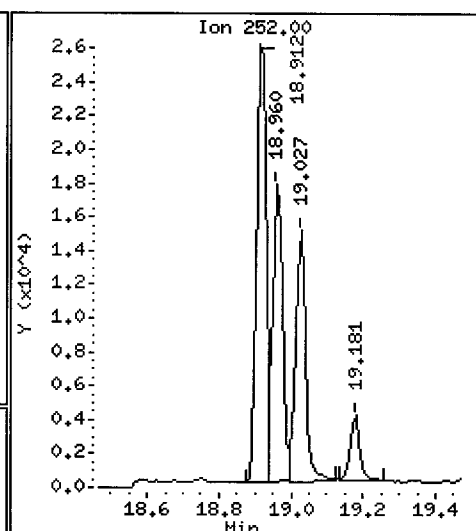
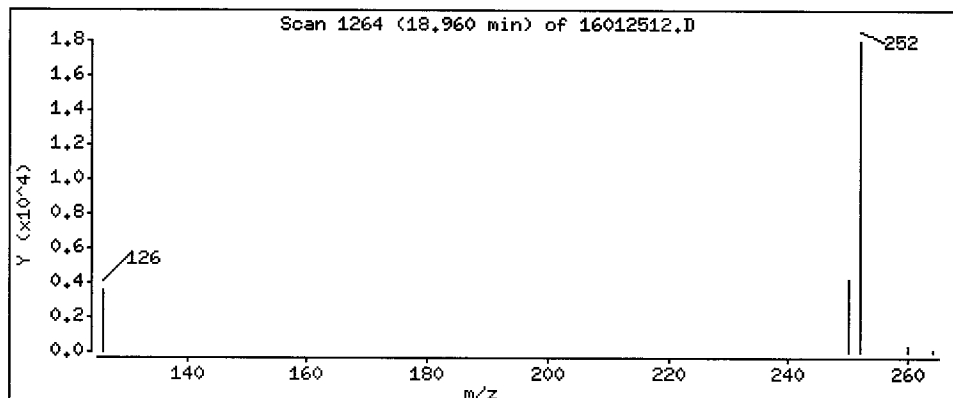
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

45 Benzo(k)fluoranthene

Concentration: 10200 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

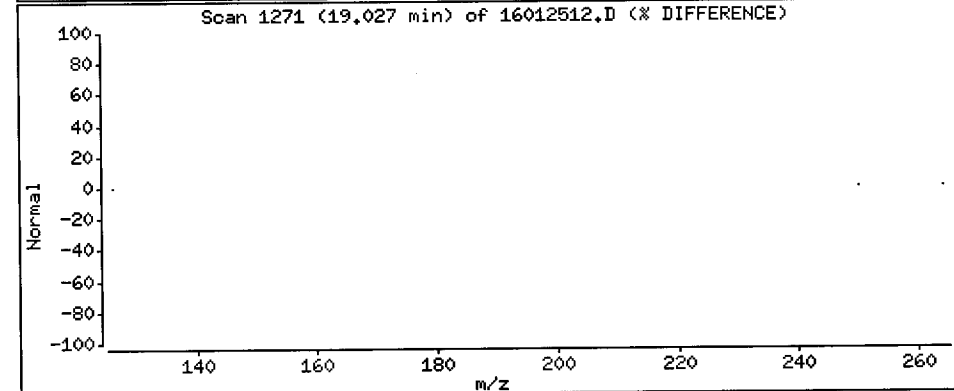
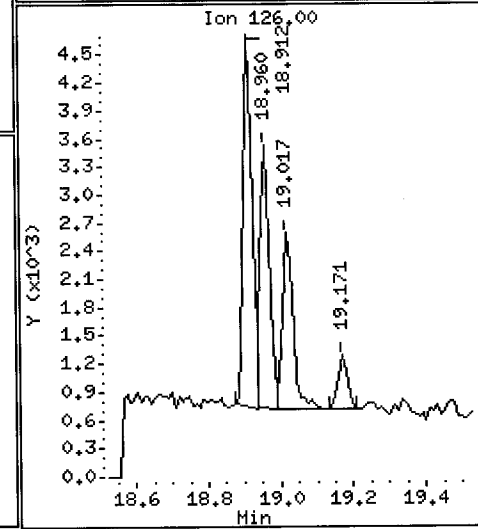
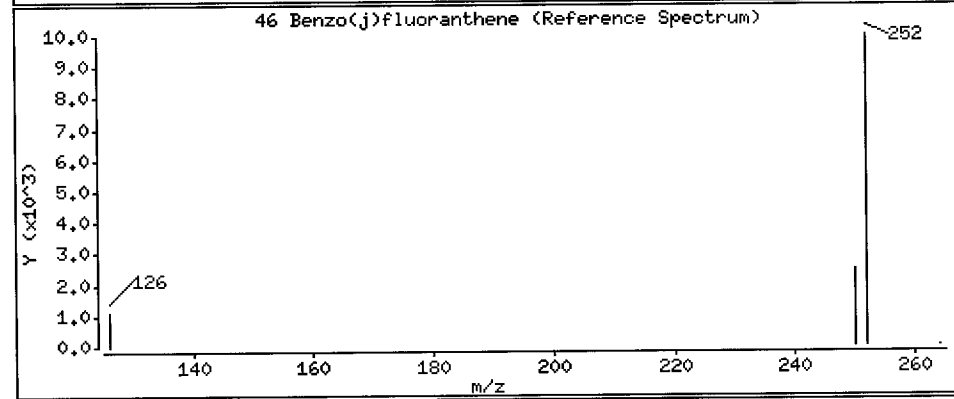
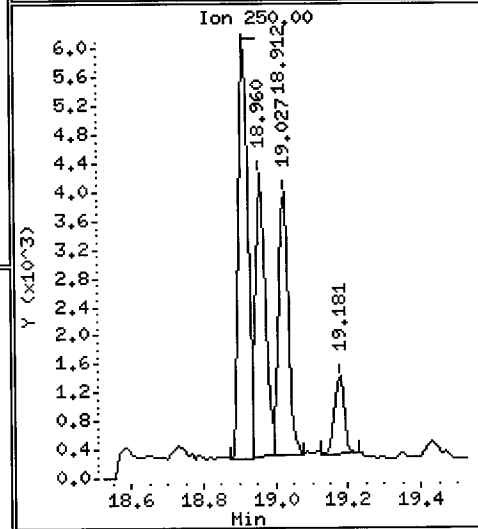
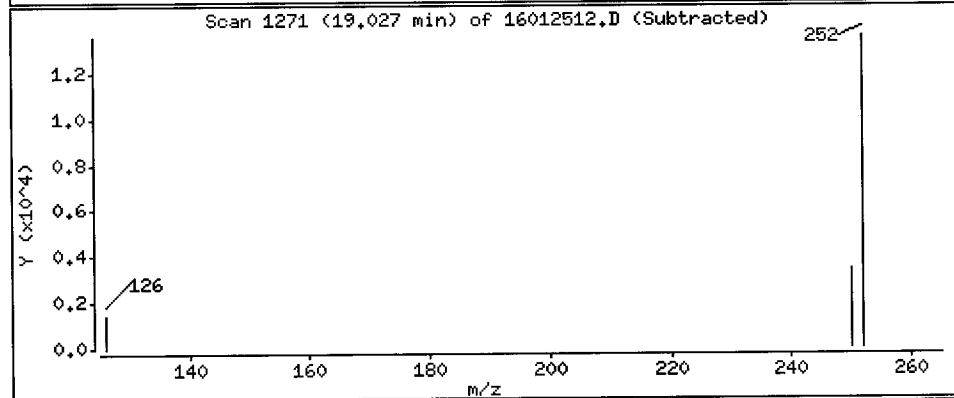
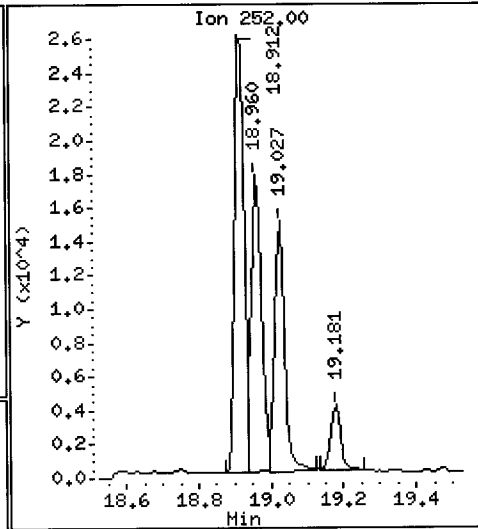
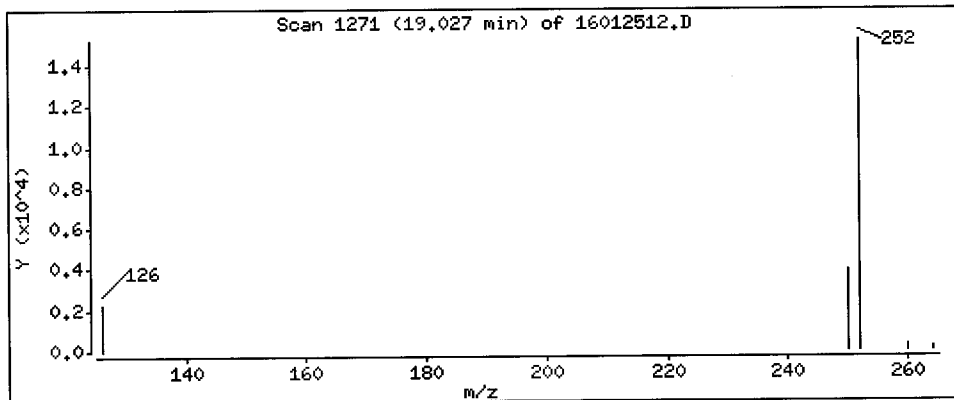
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

46 Benzo(j)fluoranthene

Concentration: 9250 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-MTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

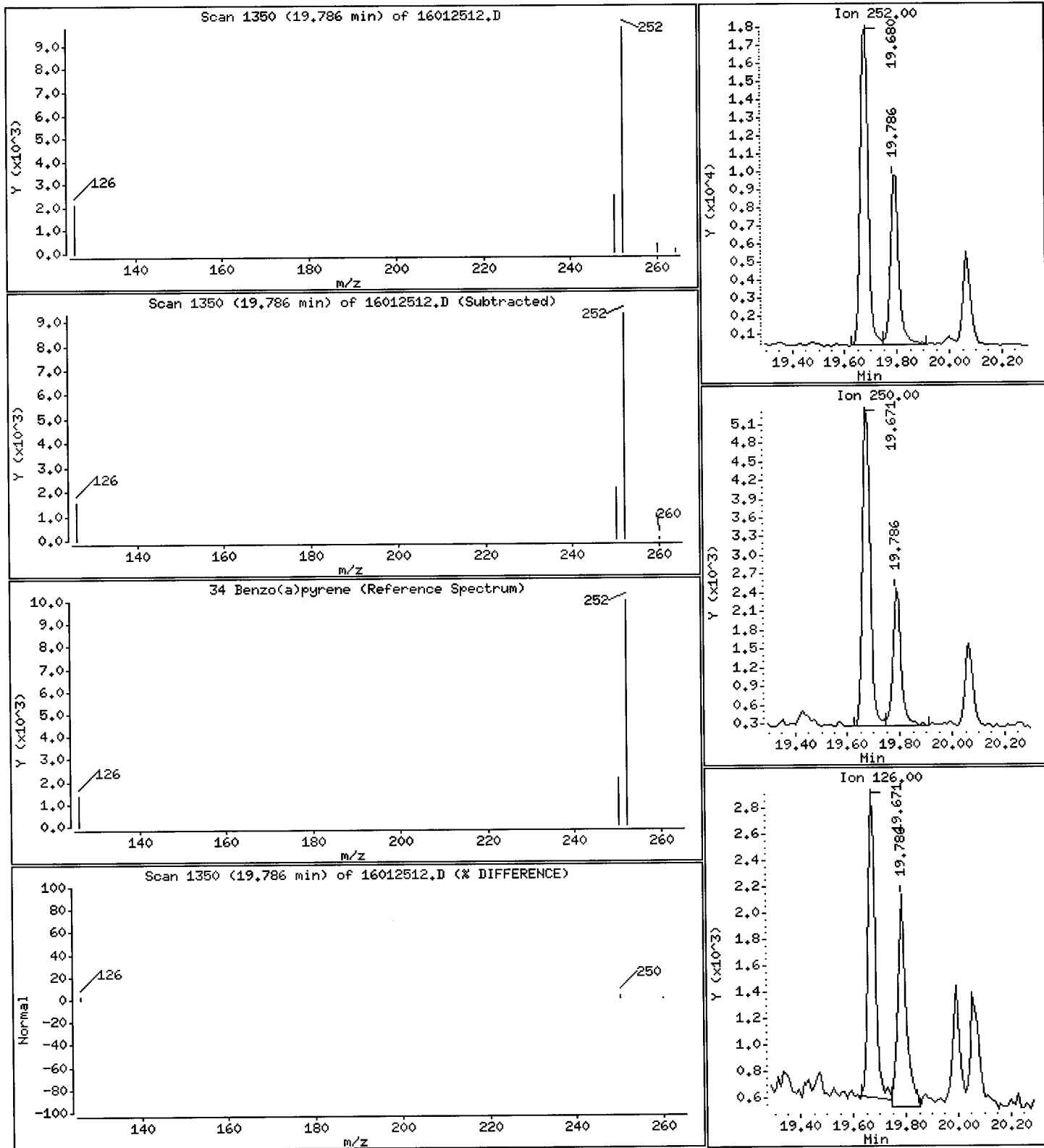
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(a)pyrene

Concentration: 7110 ug/kg



Date : 25-JAN-2016 13:00

Client ID: 13EB_ME-HTW01Z

Instrument: nt11.i

Sample Info: AUA2A,10

Volume Injected (uL): 2.0

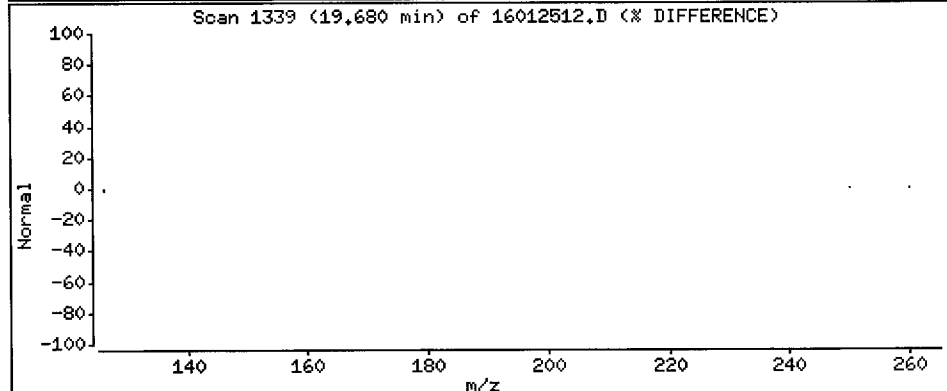
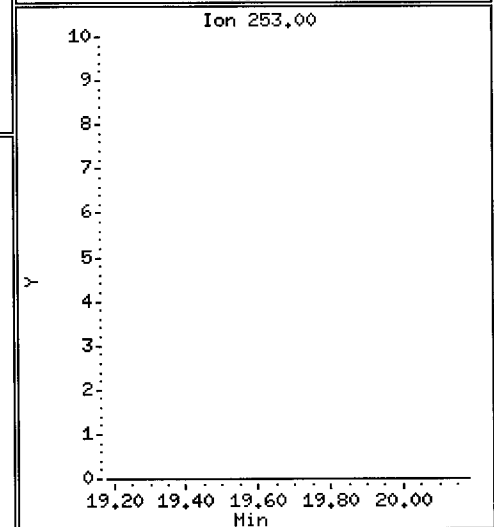
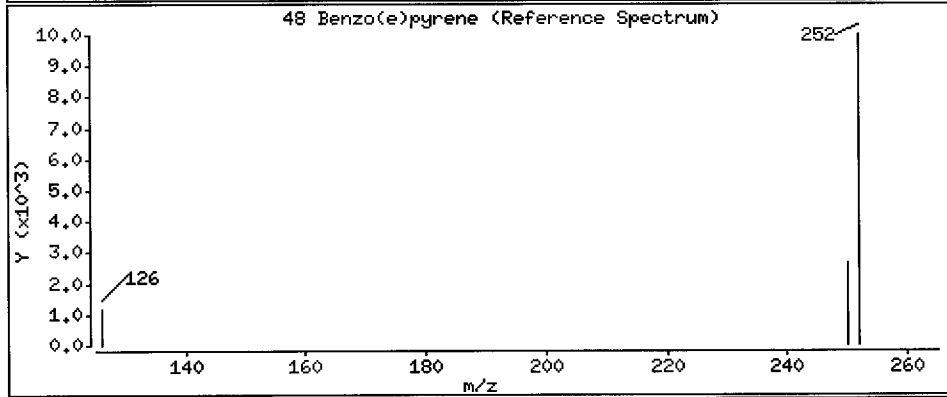
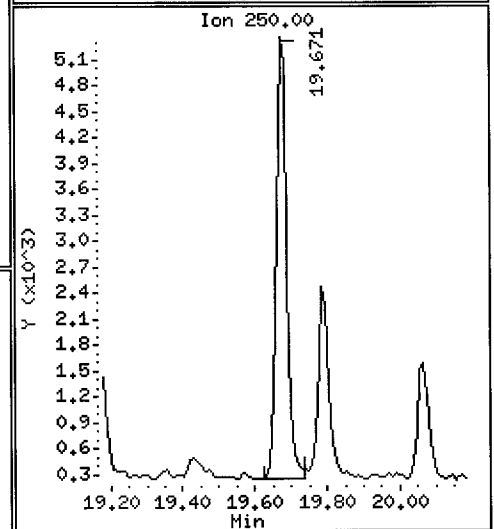
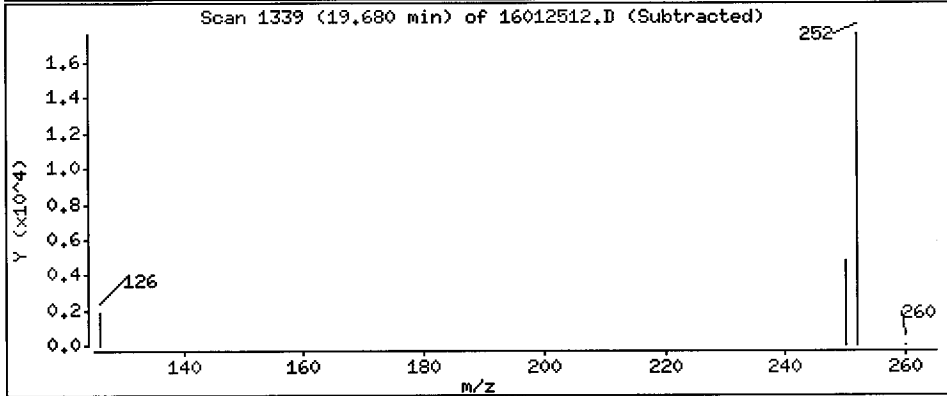
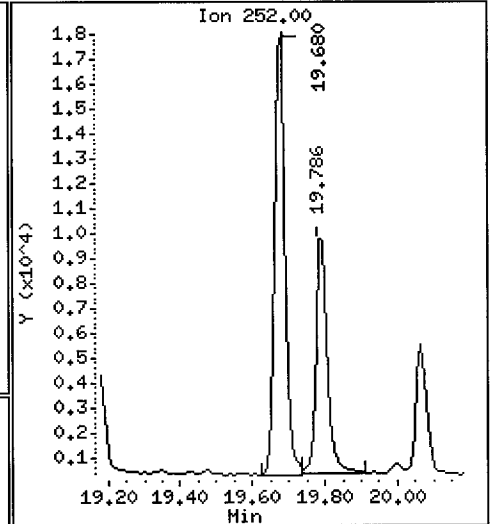
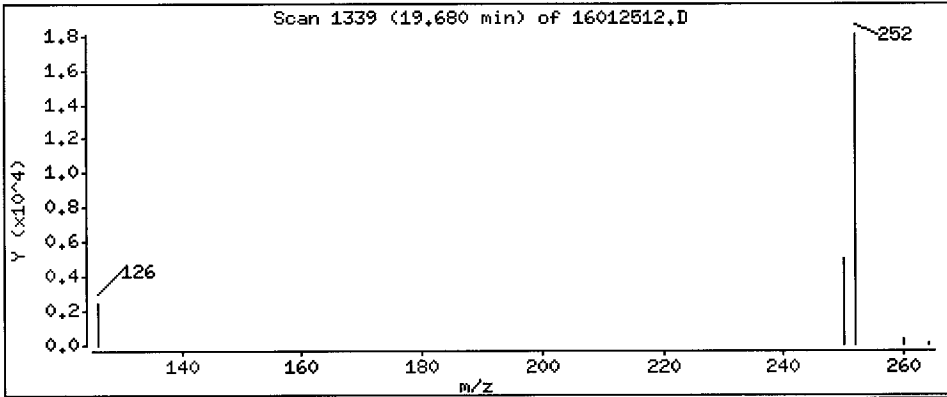
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

48 Benzo(e)pyrene

Concentration: 11900 ug/kg



Lab ID: AUA2A

nt11.i, 20160125.b\lowsim.m, 25-JAN-2016 13:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i,20160125.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

Table of Contents: ARI Job ATS0

Client: Anchor QEA, LLC

Project: 150388-01.01 Port Gamble Clean-Up

	Page From:	Page To:
Inventory Sheet		
Cover Letter	<u>1</u>	<u>1</u>
Chain of Custody Documentation	<u>2</u>	<u>6</u>
Case Narrative, Data Qualifiers, Control Limits	<u>7</u>	<u>16</u>
SIM PAH Analysis		
Report and Summary QC Forms	<u>17</u>	<u>38</u>
Dioxin Analysis		
Report and Summary QC Forms	<u>39</u>	<u>46</u>
Metals Analysis		
Report and Summary QC Forms	<u>67</u>	<u>86</u>
Lipids		
Report and Summary QC Forms	<u>87</u>	<u>91</u>
Subcontracted Analysis		
Report and Summary QC Forms	<u>NA</u>	<u>NA</u>
SIM PAH Raw Data		
Extractions Bench Sheets and Notes	<u>92</u>	<u>95</u>
Initial Calibration	<u>96</u>	<u>173</u>
Run Logs, Continuing Calibrations, and Raw Data	<u>174</u>	<u>352</u>
Dioxin Raw Data		
Extractions Bench Sheets and Notes	<u>353</u>	<u>355</u>
Initial Calibration	<u>356</u>	<u>467</u>
Run Logs, Continuing Calibrations, and Raw Data	<u>468</u>	<u>676</u>
Metals Raw Data		
Preparation Bench Sheets and Notes	<u>677</u>	<u>679</u>
Run Logs, Calibrations, and Raw Data	<u>680</u>	<u>718</u>

AN
Signature

January-28-2016
Date



Analytical Resources, Incorporated
Analytical Chemists and Consultants

February 2, 2016

Cindy Fields
Anchor QEA
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: Project: Port Gamble Clean-up, 150388010
ARI Job No.: ATSO

Dear Ms. Fields:

Please find enclosed the Chain-of-Custody record (COC), sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details regarding requested analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com
www.arilabs.com

cc: eFile: ATSO

Enclosures

Chain of Custody Documentation

ARI Job ID: ATS0

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com



Page: 1 of 1
 Date: 01/11/06
 No. of Coolers: 2
 Ice Present? Yes
 Cooler Temps: 0.6, 0.9°C

Turn-around Requested: Standard
 Phone: 206-287-9130
 Client Company: Anchor OEA
 Client Contact: Andy Fields
 Client Project Name: Port Gambly Clean-up
 Client Project #: 150388-0101
 Samplers: J. Florer, R.O. Rowke

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Lipids	PCBs	Pesticides	Cadmium	
PG-SMA2-2-MUS-COC-160104	01/07/16	1400	Tissue	1	X	X	X	X	Composite 2 bags per sample
PG-FJ-1-MUS-160104	0900			1	X	X	X	X	"
PG-WS-1-MUS-160104	1145			1	X	X	X	X	"
PG-GF-1-MUS-160104	1010			1	X	X	X	X	"
PG-SMA2-5-MUS-160104	01/07/16	1600		1	X	X	X	X	"
PG-SMA2-4-MUS-COC-160105	01/05/16	0940	tissue	1	X	X	X	X	"
Comments/Special Instructions: Rinse, shuck 5 composites, homogenize all mussels for each sample.									
Relinquished by: J. Florer (Signature) Printed Name: Joanna Florer Company: Anchor OEA Date & Time: 1/6/15 1033					Received by: Tyler Rankin (Signature) Printed Name: Tyler Rankin Company: ARI Date & Time: 1/6/15 1033				

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Anchor QEA

Project Name: Port Gamble Clean-Up

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: ATS0

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 0.6 0.9

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D005276

Cooler Accepted by: TR Date: 1-6-16 Time: 10:33

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: _____ NA

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

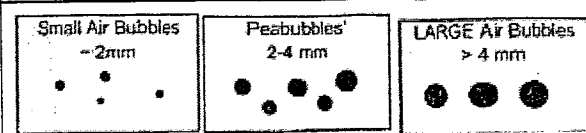
Samples Logged by: TR Date: 1-6-16 Time: 10:43

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)



ARI Job No.: ATSφ / APR4

Client ID: Anchor QEA

Parameter: Tissue Prep

Client Project: Port Gamble Clean-up

Matrix: Filter bag (tissue) other

Samples were rinsed with D-I Water to remove any sand, seaweed, etc., then shelled, homogenized and blended.
Sample weights after prep are as follows.

(H) ATSφ A = 431.15g	(H) ATSφ B = 676.25	1.1 (T)/(H) ATSφ C ¹ = 587.54	(* SEE NOTES)
(T) ↓ = 320.76g	(T) ↓ = 715.94	1.1 (H)/(T) ↓ C ² = 497.31	
(H) ATSφ D = 594.16g	(H) ATSφ E = 564.11	(H) ATSφ F = 489.40	
(T) ↓ = 586.71g	(T) ↓ = 567.77	(T) ↓ = 589.84	

(1004.91)

(H) APR4A = 225.18
(T) ↓ = 227.55

ATSφ C (Hybrid only) - ARCHIVE = 189.36g
Schuckler

ATSφ C = Approximately 21 Hybrid were added to the Schuckler Trossulus jar. An additional 54 Schuckler Hybrid were then added to the Trossulus to have a more 50/50 mix of each species.

14hrs (27hrs)

Pre-Dry Prep Time: <u>1/2/11</u>	Analyst/Date: <u>ML</u>	Post-Dry Prep Time:	Analyst/Date:	Balance ID:
----------------------------------	-------------------------	---------------------	---------------	-------------

Special Instructions:

B334705934

(8270) PNA Filter Bag:

- Follow prep and extraction instructions on bench sheet.

Small PCB Filter Bag:

1. Weigh wet filter bag and record weight on blue prep sheet.
2. Any solids splits taken at this time. (Record weights on blue prep sheet).
3. Filter bags are dried overnight by attaching them to the drying apparatus (wrapped in aluminum foil in a tube shape).
4. Re-weigh dried samples and record weight on blue prep sheet.
5. Cut off plastic rings and record weights on blue prep sheet.
6. Record sample dry weights without plastic rings on blue prep sheet and bench sheet.
7. Roll up filter bag and place in labeled 32oz jars.
8. Add Hexane until jar is half full.
9. Add 20g sodium sulfate to filter bag in jar.
10. Blanks=Weigh 10g Sodium Sulfate into labeled 32oz jars. Add Hexane until jar is 1/4 full.
11. Add surr/spike.
12. Tighten lids and place in large ziplock bags.
13. Tumble for 12 hours (min 6 hours).
14. Record "prep time" on blue prep sheet.
15. KD (normal drying columns) on 100°C water bath.
16. Turbovap to approx. 4mL.
17. Vial with Hexane at 5mL in scintillation vials for required cleanups. (Acid/Sulfur/SPE).
18. Pre-SPE Screen 1mL. (Note: Determination of Required SPE cleanup is based on Pre-SPE Screen.
19. After cleanups: TurboVap and vial 1mL in Hexane.

Large PCB Filter Bag instructions on the back of this prep sheet. (Turn over)

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: ATSO



Case Narrative

Client: Anchor QEA
Project: Port Gamble Clean-up, 1503880-01.01
ARI Job No.: ATSO

Sample Receipt

Six tissue samples were received on January 6, 2016 under ARI job ATSO. The cooler temperatures measured by IR thermometer following ARI SOP were 0.6 and 0.9°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

All samples were prepared, homogenized, and composited, per client request.

PAHs by SW8270D-SIM

The samples and associated laboratory QC were extracted and analyzed within the method recommended holding times for samples stored frozen.

Initial calibrations were within method requirements.

The initial calibration verification (ICV) on 1/22/16 fell outside the 20% control limit low for Benzo(b)fluoranthene and Total Benzofluoranthenes. All detected results associated with this ICV have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within control limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits. NIST 1974C was analyzed as a reference material and results have been reported under a separate cover (ARI job APR4).

The matrix spike and matrix spike duplicate percent recoveries were within control limits.

Dioxin/Furans by EPA 1613B

The samples were extracted and analyzed within the method recommended holding times.

Analysis was performed using the application specific RTX-Dioxin 2 column, which has a unique isomer separation for the 2378-TCDF, eliminating the need for second column confirmation.



Initial and continuing calibration results were within method requirements.

Both extraction and cleanup surrogates had recoveries within control limits.

The method blank contained reportable responses below the reporting limit for several compounds. "B" qualifiers were applied to associated results that were less than ten times the levels found in the method blank. No further corrective action was taken.

The OPR (Ongoing Precision and Accuracy or LCS) percent recoveries were within control limits.

Specific results have been "EMPC"-flagged indicating a response not meeting requirements of positive identification. The EMPC values are treated as undetects under some programs and as hits under programs with more conservative protocols.

The TEQ is presented with WHO2005 with ND=0 for undetects and ND=1/2 for undetects, with EMPCs included as hits.

Cadmium by SW6010C

The samples were digested and analyzed within the method recommended holding times for samples stored frozen.

The method blank was clean at the reporting limit. The LCS percent recovery was within control limits.

Lipids by Method Bligh&Dyer

The samples were prepared and analyzed within the method recommended holding times for samples stored frozen.

The method blank had a result that was greater than the reporting limit. The associated sample result was greater than ten times the level reported in the method blank. No corrective action was taken.

The replicate RPDs were within control limits.

Sample ID Cross Reference Report



ARI Job No: ATSO
Client: Anchor QEA, LLC
Project Event: 150388-01.01
Project Name: Port Gamble Clean-Up

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. PG-SMA2-2-MUS-COC-160104ATS0A		16-135	Tissue	01/04/16 14:00	01/06/16 10:33
2. PG-PJ-1-MUS-COC-160104	ATS0B	16-136	Tissue	01/04/16 09:00	01/06/16 10:33
3. PG-WS-1-MUS-COC-160104	ATS0C	16-137	Tissue	01/04/16 11:45	01/06/16 10:33
4. PG-GP-1-MUS-COC-160104	ATS0D	16-138	Tissue	01/04/16 10:10	01/06/16 10:33
5. PG-SMA2-5-MUS-COC-160104ATS0E		16-139	Tissue	01/04/16 16:00	01/06/16 10:33
6. PG-SMA2-4-MUS-COC-160105ATS0F		16-140	Tissue	01/05/16 09:40	01/06/16 10:33



Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but \geq the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is ≤ 5 times the Reporting Limit and the replicate control limit defaults to ± 1 RL instead of the normal 20% RPD

Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- * Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($< 20\%$ RSD, $< 20\%$ Drift or minimum RRF).



- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NR Spiked compound recovery is not reported due to chromatographic interference
- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by $\geq 40\%$ RPD with no obvious chromatographic interference
- X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
- Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**



Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Method Information

Printed: 01/28/2016 10:40 am

8270D-SIM PAH (0.5 ug/kg) in Tissue (EPA 8270D-SIM)

Preservation: Cool <6°C

Container: Glass WM, Clear, 8 oz

Amount Required: 150 g

Hold Time: 14 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike----		--Blank Spike / LCS--	
					%Rec	RPD	%Rec	RPD
Naphthalene	0.500	0.600 ug/kg		30	30-160	30	30-160	30
1-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2-Methylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Biphenyl	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,6-Dimethylnaphthalene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Acenaphthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzofuran	0.500	0.500 ug/kg		30	30-160	30	30-160	30
2,3,5-Trimethylnaphthalene	0.500	0.500 ug/kg						
Fluorene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzothiophene	0.500	0.500 ug/kg						
Phenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Carbazole	0.500	0.500 ug/kg		30	30-160	30	30-160	30
1-Methylphenanthrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Chrysene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(b)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(k)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(j)fluoranthene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(e)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(a)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Indeno(1,2,3-cd)pyrene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Dibenzo(a,h)anthracene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzo(g,h,i)perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Perylene	0.500	0.500 ug/kg		30	30-160	30	30-160	30
Benzofluoranthenes, Total	1.00	1.00 ug/kg		30	30-160	30	46-120	30
Surr: 2-Methylnaphthalene-d10				30-160				
Surr: Dibenzo[a,h]anthracene-d14				30-160				
Surr: Fluoranthene-d10				30-160				
Naphthalene-d8								
Acenaphthene-d10								
Phenanthrene-d10								
Chrysene-d12								
Perylene-d12								

Analytical Method Information

Printed: 01/28/2016 10:40 am

1613B Dioxin in Tissue (EPA 1613B)

Preservation: Cool <6°C

Container: Glass WM, Amber, 8 oz

Amount Required: 150 g

Hold Time: 365 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike----		--Blank Spike / LCS--	
					%Rec	RPD	%Rec	RPD
2,3,7,8-TCDF	0.0500	1.00 ng/kg		25			75-158	25
2,3,7,8-TCDD	0.160	1.00 ng/kg		25			67-158	25
1,2,3,7,8-PeCDF	0.470	5.00 ng/kg		25			80-134	25
2,3,4,7,8-PeCDF	0.410	5.00 ng/kg		25			68-160	25
1,2,3,7,8-PeCDD	0.490	5.00 ng/kg		25			70-142	25
1,2,3,4,7,8-HxCDF	0.440	5.00 ng/kg		25			72-134	25
1,2,3,6,7,8-HxCDF	0.390	5.00 ng/kg		25			84-130	25
2,3,4,6,7,8-HxCDF	0.410	5.00 ng/kg		25			70-156	25
1,2,3,7,8,9-HxCDF	0.490	5.00 ng/kg		25			78-130	25
1,2,3,4,7,8-HxCDD	0.480	5.00 ng/kg		25			70-164	25
1,2,3,6,7,8-HxCDD	0.370	5.00 ng/kg		25			76-134	25
1,2,3,7,8,9-HxCDD	0.350	5.00 ng/kg		25			64-162	25
1,2,3,4,6,7,8-HpCDF	0.470	5.00 ng/kg		25			82-122	25
1,2,3,4,7,8,9-HpCDF	0.450	5.00 ng/kg		25			78-138	25
1,2,3,4,6,7,8-HpCDD	0.580	5.00 ng/kg		25			70-140	25
OCDF	0.740	10.0 ng/kg		25			63-170	25
OCDD	1.83	10.0 ng/kg		25			78-144	25
Total TCDF		1.00 ng/kg						
Total TCDD		1.00 ng/kg						
Total PeCDF		1.00 ng/kg						
Total PeCDD		1.00 ng/kg						
Total HxCDF		1.00 ng/kg						
Total HxCDD		1.00 ng/kg						
Total HpCDF		1.00 ng/kg						
Total HpCDD		1.00 ng/kg						
Surr: 13C12-2,3,7,8-TCDF							24-169	
Surr: 13C12-2,3,7,8-TCDD							25-164	
Surr: 13C12-1,2,3,7,8-PeCDF							24-185	
Surr: 13C12-2,3,4,7,8-PeCDF							21-178	
Surr: 13C12-1,2,3,7,8-PeCDD							25-181	
Surr: 13C12-1,2,3,4,7,8-HxCDF							26-152	
Surr: 13C12-1,2,3,6,7,8-HxCDF							26-123	
Surr: 13C12-2,3,4,6,7,8-HxCDF							28-136	
Surr: 13C12-1,2,3,7,8,9-HxCDF							29-147	
Surr: 13C12-1,2,3,4,7,8-HxCDD							32-141	
Surr: 13C12-1,2,3,6,7,8-HxCDD							28-130	
Surr: 13C12-1,2,3,4,6,7,8-HpCDF							28-143	
Surr: 13C12-1,2,3,4,7,8,9-HpCDF							26-138	
Surr: 13C12-1,2,3,4,6,7,8-HpCDD							23-140	
Surr: 13C12-OCDD							17-157	
Surr: 37Cl4-2,3,7,8-TCDD							35-197	
13C12-1,2,3,4-TCDD								
13C12-1,2,3,7,8,9-HxCDD								

Analytical Method Information

Printed: 01/28/2016 10:41 am

Met 6010C - Cd in Tissue (EPA 6010C)

Preservation: Cool <6°C

Container: Glass WM, Clear, 4 oz

Amount Required: 100 g

Hold Time: 180 days

Analyte	MDL	Reporting Limit	Surrogate %Rec	Duplicate RPD	----Matrix Spike---- %Rec	----Matrix Spike---- RPD	--Blank Spike / LCS-- %Rec	--Blank Spike / LCS-- RPD
Cadmium	0.00248	0.0400 mg/kg		20	75-125	20	80-120	20

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: ATS0

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-SMA2-2-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSOA
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *AB*
 Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 12:28
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.04 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.11 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.60
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	0.65
85-01-8	Phenanthrene	0.50	4.20
120-12-7	Anthracene	0.50	1.23
206-44-0	Fluoranthene	0.50	6.50
129-00-0	Pyrene	0.50	4.98
56-55-3	Benzo (a) anthracene	0.50	1.64
218-01-9	Chrysene	0.50	2.14
205-99-2	Benzo (b) fluoranthene	0.50	1.52
207-08-9	Benzo (k) fluoranthene	0.50	1.19 Q
50-32-8	Benzo (a) pyrene	0.50	0.59
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	1.11
TOTBFA	Total Benzofluoranthenes	0.50	3.66 Q


Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	66.0%
d10-2-Methylnaphthalene	55.0%
d14-Dibenzo (a,h) anthracene	72.7%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-PJ-1-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSOB
 LIMS ID: 16-136
 Matrix: Tissue
 Data Release Authorized: 
 Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 12:58
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.01 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 0.979 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.56
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	0.66
85-01-8	Phenanthrene	0.50	4.29
120-12-7	Anthracene	0.50	0.99
206-44-0	Fluoranthene	0.50	6.28
129-00-0	Pyrene	0.50	4.34
56-55-3	Benzo (a) anthracene	0.50	1.51
218-01-9	Chrysene	0.50	2.06
205-99-2	Benzo (b) fluoranthene	0.50	1.20
207-08-9	Benzo (k) fluoranthene	0.50	0.78 Q
50-32-8	Benzo (a) pyrene	0.50	< 0.50 U
193-39-5	Indeno (1, 2, 3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a, h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g, h, i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	0.87
TOTBFA	Total Benzofluoranthenes	0.50	2.68 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	63.3%
d10-2-Methylnaphthalene	47.7%
d14-Dibenzo (a, h) anthracene	68.3%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-WS-1-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSO0
 LIMS ID: 16-137
 Matrix: Tissue
 Data Release Authorized: *AB*
 Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 14:29
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.04 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.21 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.55
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	0.58
86-73-7	Fluorene	0.50	0.86
85-01-8	Phenanthrene	0.50	5.94
120-12-7	Anthracene	0.50	1.70
206-44-0	Fluoranthene	0.50	9.95
129-00-0	Pyrene	0.50	7.33
56-55-3	Benzo (a) anthracene	0.50	2.83
218-01-9	Chrysene	0.50	3.44
205-99-2	Benzo (b) fluoranthene	0.50	2.45
207-08-9	Benzo (k) fluoranthene	0.50	1.58 Q
50-32-8	Benzo (a) pyrene	0.50	0.97
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	0.65
192-97-2	Benzo (e) pyrene	0.50	1.67
TOTBFA	Total Benzofluoranthenes	0.50	5.40 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	59.3%
d10-2-Methylnaphthalene	47.0%
d14-Dibenzo (a,h) anthracene	63.0%

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-GP-1-MUS-COC-160104
SAMPLE

Lab Sample ID: AT50D
 LIMS ID: 16-138
 Matrix: Tissue
 Data Release Authorized: *B*
 Reported: 01/25/16

QC Report No: AT50-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 14:59
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.03 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.10 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.59
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	0.73
85-01-8	Phenanthrene	0.50	4.52
120-12-7	Anthracene	0.50	0.95
206-44-0	Fluoranthene	0.50	5.98
129-00-0	Pyrene	0.50	4.33
56-55-3	Benzo (a) anthracene	0.50	1.42
218-01-9	Chrysene	0.50	1.99
205-99-2	Benzo (b) fluoranthene	0.50	1.18
207-08-9	Benzo (k) fluoranthene	0.50	0.74 Q
50-32-8	Benzo (a) pyrene	0.50	< 0.50 U
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo (e) pyrene	0.50	0.82
TOTBFA	Total Benzofluoranthenes	0.50	2.57 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	59.7%
d10-2-Methylnaphthalene	49.3%
d14-Dibenzo (a,h) anthracene	66.0%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-SMA2-5-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSOE
 LIMS ID: 16-139
 Matrix: Tissue
 Data Release Authorized: *[Signature]*
 Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 15:29
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.05 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 1.07 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.84
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	1.22
86-73-7	Fluorene	0.50	1.80
85-01-8	Phenanthrene	0.50	13.1
120-12-7	Anthracene	0.50	4.69
206-44-0	Fluoranthene	0.50	33.6
129-00-0	Pyrene	0.50	25.2
56-55-3	Benzo (a) anthracene	0.50	7.53
218-01-9	Chrysene	0.50	8.65
205-99-2	Benzo (b) fluoranthene	0.50	5.99
207-08-9	Benzo (k) fluoranthene	0.50	4.12 Q
50-32-8	Benzo (a) pyrene	0.50	2.76
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	0.70
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	0.99
198-55-0	Perylene	0.50	1.75
192-97-2	Benzo (e) pyrene	0.50	5.24
TOTBFA	Total Benzofluoranthenes	0.50	13.5 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	58.7%
d10-2-Methylnaphthalene	49.7%
d14-Dibenzo (a,h) anthracene	62.0%

ORGANICS ANALYSIS DATA SHEET

PNA's by Low Level SW8270D-SIM GC/MS

Extraction Method: TissM

Page 1 of 1

**Sample ID: PG-SMA2-4-MUS-COC-160105
SAMPLE**

Lab Sample ID: ATSO0F

LIMS ID: 16-140

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

Event: 150388-01.01

Date Sampled: 01/05/16

Date Received: 01/06/16

Date Extracted: 01/14/16

Date Analyzed: 01/22/16 15:59

Instrument/Analyst: NT11/JLW

GPC Cleanup: Yes

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.04 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

Sulfur Cleanup: No

Lipids: 0.926 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	0.56
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	0.77
85-01-8	Phenanthrene	0.50	5.47
120-12-7	Anthracene	0.50	1.75
206-44-0	Fluoranthene	0.50	10.7
129-00-0	Pyrene	0.50	7.09
56-55-3	Benzo (a) anthracene	0.50	2.96
218-01-9	Chrysene	0.50	3.17
205-99-2	Benzo (b) fluoranthene	0.50	2.45
207-08-9	Benzo (k) fluoranthene	0.50	1.49 Q
50-32-8	Benzo (a) pyrene	0.50	1.13
193-39-5	Indeno (1,2,3-cd) pyrene	0.50	< 0.50 U
53-70-3	Dibenz (a,h) anthracene	0.50	< 0.50 U
191-24-2	Benzo (g,h,i) perylene	0.50	0.71
198-55-0	Perylene	0.50	0.76
192-97-2	Benzo (e) pyrene	0.50	1.58
TOTBFA	Total Benzofluoranthenes	0.50	5.21 Q

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	52.3%
d14-Dibenzo (a,h) anthracene	66.3%

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Tissue

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01

<u>Client ID</u>	<u>FLN</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
PG-SMA2-2-MUS-COC-1601	66.0%	55.0%	72.7%	0
MB-011416	61.3%	47.0%	65.7%	0
LCS-011416	61.3%	48.0%	64.3%	0
PG-PJ-1-MUS-COC-160104	63.3%	47.7%	68.3%	0
PG-PJ-1-MUS-COC-160104 MS	63.7%	48.7%	68.7%	0
PG-PJ-1-MUS-COC-160104 MS	53.3%	38.0%	57.7%	0
PG-WS-1-MUS-COC-160104	59.3%	47.0%	63.0%	0
PG-GP-1-MUS-COC-160104	59.7%	49.3%	66.0%	0
PG-SMA2-5-MUS-COC-1601	58.7%	49.7%	62.0%	0
PG-SMA2-4-MUS-COC-1601	61.3%	52.3%	66.3%	0

LCS/MB LIMITS	QC LIMITS
(Advisory)	(Advisory)

(FLN) = d10-Fluoranthene	(30-160)	(30-160)
(MNP) = d10-2-Methylnaphthalene	(30-160)	(30-160)
(DBA) = d14-Dibenzo(a,h)anthracene	(30-160)	(30-160)

Prep Method: TissM
Log Number Range: 16-135 to 16-140

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
 Page 1 of 1

Sample ID: PG-PJ-1-MUS-COC-160104
MATRIX SPIKE

Lab Sample ID: ATSOB
 LIMS ID: 16-136
 Matrix: Tissue
 Data Release Authorized: *mm*
 Reported: 01/27/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted MS/MSD: 01/14/16
 Date Analyzed MS: 01/22/16 13:28
 MSD: 01/22/16 13:59
 Instrument/Analyst MS: NT11/JLW
 MSD: NT11/JLW

Sample Amount MS: 10.01 g-as-rec
 MSD: 10.00 g-as-rec
 Final Extract Volume MS: 0.50 mL
 MSD: 0.50 mL
 Dilution Factor MS: 1.00
 MSD: 1.00

Analyte	Sample	MS	Spike		MS		Spike		RPD
			Added-MS	Recovery	Added-MSD	Recovery	Added-MSD	Recovery	
Naphthalene	0.6	7.2	15.0	44.0%	5.8	15.0	34.7%	21.5%	
2-Methylnaphthalene	< 0.5 U	8.0	15.0	53.3%	6.5	15.0	43.3%	20.7%	
Acenaphthylene	< 0.5 U	9.1	15.0	60.7%	7.6	15.0	50.7%	18.0%	
Acenaphthene	< 0.5 U	8.9	15.0	59.3%	7.4	15.0	49.3%	18.4%	
Fluorene	0.7	10.2	15.0	63.3%	8.6	15.0	52.7%	17.0%	
Phenanthrene	4.3	12.7	15.0	56.0%	10.9	15.0	44.0%	15.3%	
Anthracene	1.0	11.0	15.0	66.7%	9.5	15.0	56.7%	14.6%	
Fluoranthene	6.3	15.2	15.0	59.3%	13.3	15.0	46.7%	13.3%	
Pyrene	4.3	13.9	15.0	64.0%	12.2	15.0	52.7%	13.0%	
Benzo(a)anthracene	1.5	11.6	15.0	67.3%	10.1	15.0	57.3%	13.8%	
Chrysene	2.1	11.0	15.0	59.3%	9.8	15.0	51.3%	11.5%	
Benzo(b)fluoranthene	1.2	10.7	15.0	63.3%	9.4	15.0	54.7%	12.9%	
Benzo(k)fluoranthene	0.8 Q	9.2 Q	15.0	56.0%	8.1 Q	15.0	48.7%	12.7%	
Benzo(a)pyrene	< 0.5 U	9.6	15.0	64.0%	8.5	15.0	56.7%	12.2%	
Indeno(1,2,3-cd)pyrene	< 0.5 U	10.3	15.0	68.7%	9.1	15.0	60.7%	12.4%	
Dibenz(a,h)anthracene	< 0.5 U	10.6	15.0	70.7%	9.3	15.0	62.0%	13.1%	
Benzo(g,h,i)perylene	< 0.5 U	10.1	15.0	67.3%	9.0	15.0	60.0%	11.5%	
Perylene	< 0.5 U	9.3	15.0	62.0%	8.2	15.0	54.7%	12.6%	
Benzo(e)pyrene	0.9	9.6	15.0	58.0%	8.5	15.0	50.7%	12.2%	
Total Benzofluoranthenes	2.7 Q	28.8 Q	45.0	58.0%	25.4 Q	45.0	50.4%	12.5%	

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-PJ-1-MUS-COC-160104
MATRIX SPIKE

Lab Sample ID: ATSOB
 LIMS ID: 16-136
 Matrix: Tissue
 Data Release Authorized: *MM*
 Reported: 01/27/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 13:28
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.01 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 0.979 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	---
91-57-6	2-Methylnaphthalene	0.50	---
208-96-8	Acenaphthylene	0.50	---
83-32-9	Acenaphthene	0.50	---
86-73-7	Fluorene	0.50	---
85-01-8	Phenanthrene	0.50	---
120-12-7	Anthracene	0.50	---
206-44-0	Fluoranthene	0.50	---
129-00-0	Pyrene	0.50	---
56-55-3	Benzo(a)anthracene	0.50	---
218-01-9	Chrysene	0.50	---
205-99-2	Benzo(b)fluoranthene	0.50	---
207-08-9	Benzo(k)fluoranthene	0.50	---
50-32-8	Benzo(a)pyrene	0.50	---
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	---
53-70-3	Dibenz(a,h)anthracene	0.50	---
191-24-2	Benzo(g,h,i)perylene	0.50	---
198-55-0	Perylene	0.50	---
192-97-2	Benzo(e)pyrene	0.50	---
TOTBFA	Total Benzofluoranthenes	0.50	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	63.7%
d10-2-Methylnaphthalene	48.7%
d14-Dibenzo(a,h)anthracene	68.7%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
Extraction Method: TissM
 Page 1 of 1

Sample ID: PG-PJ-1-MUS-COC-160104
MATRIX SPIKE DUPLICATE

Lab Sample ID: ATSOB
 LIMS ID: 16-136
 Matrix: Tissue
 Data Release Authorized: *TW*
 Reported: 01/27/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 Event: 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/14/16
 Date Analyzed: 01/22/16 13:59
 Instrument/Analyst: NT11/JLW
 GPC Cleanup: Yes
 Silica Gel Cleanup: Yes
 Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec
 Final Extract Volume: 0.5 mL
 Dilution Factor: 1.00
 Percent Moisture: NA
 Sulfur Cleanup: No

Lipids: 0.979 %

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	---
91-57-6	2-Methylnaphthalene	0.50	---
208-96-8	Acenaphthylene	0.50	---
83-32-9	Acenaphthene	0.50	---
86-73-7	Fluorene	0.50	---
85-01-8	Phenanthrene	0.50	---
120-12-7	Anthracene	0.50	---
206-44-0	Fluoranthene	0.50	---
129-00-0	Pyrene	0.50	---
56-55-3	Benzo(a)anthracene	0.50	---
218-01-9	Chrysene	0.50	---
205-99-2	Benzo(b)fluoranthene	0.50	---
207-08-9	Benzo(k)fluoranthene	0.50	---
50-32-8	Benzo(a)pyrene	0.50	---
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	---
53-70-3	Dibenz(a,h)anthracene	0.50	---
191-24-2	Benzo(g,h,i)perylene	0.50	---
198-55-0	Perylene	0.50	---
192-97-2	Benzo(e)pyrene	0.50	---
TOTBFA	Total Benzofluoranthenes	0.50	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	53.3%
d10-2-Methylnaphthalene	38.0%
d14-Dibenzo(a,h)anthracene	57.7%

ORGANICS ANALYSIS DATA SHEET
PNA's by Low Level SW8270D-SIM GC/MS
 Page 1 of 1

Sample ID: LCS-011416
LAB CONTROL SAMPLE

Lab Sample ID: LCS-011416
 LIMS ID: 15-20439
 Matrix: Tissue
 Data Release Authorized: *Trw*
 Reported: 01/27/16

QC Report No: APR4-Anchor QEA, LLC
 Project: Port Gamble Clean-up
 Event: 1503880101
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/14/16
 Date Analyzed LCS: 01/22/16 10:57
 Instrument/Analyst LCS: NT11/JLW

Sample Amount LCS: 10.00 g-as-rec
 Final Extract Volume LCS: 0.50 mL
 Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	7.68	15.0	51.2%
2-Methylnaphthalene	7.96	15.0	53.1%
Acenaphthylene	7.38	15.0	49.2%
Acenaphthene	7.76	15.0	51.7%
Fluorene	8.68	15.0	57.9%
Phenanthrene	8.55	15.0	57.0%
Anthracene	8.47	15.0	56.5%
Fluoranthene	9.45	15.0	63.0%
Pyrene	9.67	15.0	64.5%
Benzo(a)anthracene	9.99	15.0	66.6%
Chrysene	9.34	15.0	62.3%
Benzo(b)fluoranthene	9.32	15.0	62.1%
Benzo(k)fluoranthene	8.44 Q	15.0	56.3%
Benzo(a)pyrene	8.44	15.0	56.3%
Indeno(1,2,3-cd)pyrene	9.88	15.0	65.9%
Dibenz(a,h)anthracene	10.2	15.0	68.0%
Benzo(g,h,i)perylene	9.84	15.0	65.6%
Perylene	8.42	15.0	56.1%
Benzo(e)pyrene	8.96	15.0	59.7%
Total Benzofluoranthenes	26.3 Q	45.0	58.4%

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	48.0%
d14-Dibenzo(a,h)anthracene	64.3%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

APR4MBS1

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Lab File ID: 16012207

Date Extracted: 01/14/16

Instrument ID: NT11

Date Analyzed: 01/22/16

Matrix: SOLID

Time Analyzed: 1027

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	APR4LCSS1	APR4LCSS1	16012208	01/22/16
02	SRM 1974C	APR4SRM1	16012209	01/22/16
03	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16
04	PG-SMA2-2-MUS-CO	ATS0A	16012211	01/22/16
05	PG-PJ-1-MUS-COC-	ATS0B	16012212	01/22/16
06	PG-PJ-1-MUS-COC	ATS0BMS	16012213	01/22/16
07	PG-PJ-1-MUS-COC	ATS0BMSD	16012214	01/22/16
08	PG-WS-1-MUS-COC-	ATS0C	16012215	01/22/16
09	PG-GP-1-MUS-COC-	ATS0D	16012216	01/22/16
10	PG-SMA2-5-MUS-CO	ATS0E	16012217	01/22/16
11	PG-SMA2-4-MUS-CO	ATS0F	16012218	01/22/16
12	13EB ME-MTW01Z	AUA2A	16012219	01/22/16
13	13CP _S DB-MTW01Z	AUA2B	16012220	01/22/16
14	13NPS CIAR2-MTWO	AUA2C	16012221	01/22/16
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ORGANICS ANALYSIS DATA SHEET

PNA's by Low Level SW8270D-SIM GC/MS

Extraction Method: TissM

Page 1 of 1

Sample ID: MB-011416

METHOD BLANK

Lab Sample ID: MB-011416

LIMS ID: 16-136

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 01/25/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

Event: 150388-01.01

Date Sampled: NA

Date Received: NA

Date Extracted: 01/14/16

Date Analyzed: 01/22/16 10:27

Instrument/Analyst: NT11/JLW

GPC Cleanup: Yes

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.00 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

Sulfur Cleanup: No

Lipids: NA

CAS Number	Analyte	LOQ	Result
91-20-3	Naphthalene	0.50	< 0.50 U
91-57-6	2-Methylnaphthalene	0.50	< 0.50 U
208-96-8	Acenaphthylene	0.50	< 0.50 U
83-32-9	Acenaphthene	0.50	< 0.50 U
86-73-7	Fluorene	0.50	< 0.50 U
85-01-8	Phenanthrene	0.50	< 0.50 U
120-12-7	Anthracene	0.50	< 0.50 U
206-44-0	Fluoranthene	0.50	< 0.50 U
129-00-0	Pyrene	0.50	< 0.50 U
56-55-3	Benzo(a)anthracene	0.50	< 0.50 U
218-01-9	Chrysene	0.50	< 0.50 U
205-99-2	Benzo(b)fluoranthene	0.50	< 0.50 U
207-08-9	Benzo(k)fluoranthene	0.50	< 0.50 U
50-32-8	Benzo(a)pyrene	0.50	< 0.50 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.50	< 0.50 U
53-70-3	Dibenz(a,h)anthracene	0.50	< 0.50 U
191-24-2	Benzo(g,h,i)perylene	0.50	< 0.50 U
198-55-0	Perylene	0.50	< 0.50 U
192-97-2	Benzo(e)pyrene	0.50	< 0.50 U
TOTBFA	Total Benzofluoranthenes	0.50	< 0.50 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	61.3%
d10-2-Methylnaphthalene	47.0%
d14-Dibenzo(a,h)anthracene	65.7%

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR OEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 12/04/15

DFTPP Injection Time: 0845

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.7
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	50.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.8
275	10.0 - 60.0% of mass 198	29.8
365	Greater than 1.0% of mass 198	3.54
441	0.0 - 24.0% of mass 442	13.4 (16.4)2
442	50.0 - 200.0% of mass 198	81.9
443	15.0 - 24.0% of mass 442	18.6 (22.7)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LLSIM 250	15120402	12/04/15	0903
02		LLSIM 100	15120403	12/04/15	0933
03		LLSIM 10	15120404	12/04/15	1003
04		LLSIM 50	15120405	12/04/15	1033
05		LLSIM 500	15120406	12/04/15	1103
06		LLSIM 1000	15120407	12/04/15	1133
07		LLSIM SCV 25	15120408	12/04/15	1204
08					
09					
10					
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16					
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18					
19					
20					

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

Instrument ID: NT11

Project: PORT GAMBLE CLEAN-UP

DFTPP Injection Date: 01/22/16

DFTPP Injection Time: 0848

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.7
68	Less than 2.0% of mass 69	0.2 (0.4)1
69	Mass 69 relative abundance	41.6
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	47.8
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.7
275	10.0 - 60.0% of mass 198	27.2
365	Greater than 1.0% of mass 198	3.32
441	0.0 - 24.0% of mass 442	12.5 (16.3)2
442	50.0 - 200.0% of mass 198	77.1
443	15.0 - 24.0% of mass 442	16.8 (21.8)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		LL SIM ICV	16012205	01/22/16	0905
02		LL SIM MRL	16012206	01/22/16	0957
03	APR4MBS1	APR4MBS1	16012207	01/22/16	1027
04	APR4LCSS1	APR4LCSS1	16012208	01/22/16	1057
05	SRM 1974C	APR4SRM1	16012209	01/22/16	1128
06	PG-T0-MUS-COC-15	APR4A	16012210	01/22/16	1158
07	PG-SMA2-2-MUS-CO	ATS0A	16012211	01/22/16	1228
08	PG-PJ-1-MUS-COC-	ATS0B	16012212	01/22/16	1258
09	PG-PJ-1-MUS-COC	ATS0BMS	16012213	01/22/16	1328
10	PG-PJ-1-MUS-COC	ATS0BMSD	16012214	01/22/16	1359
11	PG-WS-1-MUS-COC-	ATS0C	16012215	01/22/16	1429
12	PG-GP-1-MUS-COC-	ATS0D	16012216	01/22/16	1459
13	PG-SMA2-5-MUS-CO	ATS0E	16012217	01/22/16	1529
14	PG-SMA2-4-MUS-CO	ATS0F	16012218	01/22/16	1559
15	13EB ME-MTW01Z	AUA2A	16012219	01/22/16	1630
16	13CPS DB-MTW01Z	AUA2B	16012220	01/22/16	1700
17	13NPS CIAR2-MTW0	AUA2C	16012221	01/22/16	1730
18		LL SIM CCV	16012222	01/22/16	1800
19					
20					

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Instrument ID: NT11

Cont. Calib. Date: 01/22/16

Init. Calib. Date: 12/04/15

Cont. Calib. Time: 0905

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
=====	=====	=====	=====	=====	=====
Naphthalene	1.155	1.010	0.700	AVRG	-12.6
2-Methylnaphthalene	0.794	0.729	0.400	AVRG	-8.2
Acenaphthylene	1.614	1.497	0.900	AVRG	-7.2
Acenaphthene	1.072	0.947	0.900	AVRG	-11.7
Dibenzofuran	1.614	1.441	0.800	AVRG	-10.7
Fluorene	1.210	1.133	0.900	AVRG	-6.4
Phenanthrene	1.205	1.029	0.700	AVRG	-14.6
Anthracene	1.078	1.003	0.700	AVRG	-7.0
Fluoranthene	1.210	1.061	0.600	AVRG	-12.3
Pyrene	1.584	1.428	0.600	AVRG	-9.8
Benzo (a) anthracene	1.333	1.185	0.800	AVRG	-11.1
Chrysene	1.464	1.224	0.700	AVRG	-16.4
Benzo (b) fluoranthene	1.355	1.162	0.700	AVRG	-14.2
Benzo (k) fluoranthene	1.579	1.250	0.700	AVRG	-20.8
Benzo (j) fluoranthene	1.438	1.183	0.010	AVRG	-17.7
Benzo (a) pyrene	1.308	1.118	0.700	AVRG	-14.5
Indeno (1, 2, 3-cd) pyrene	1.373	1.186	0.500	AVRG	-13.6
Dibenzo (a, h) anthracene	1.086	0.964	0.400	AVRG	-11.2
Benzo (g, h, i) perylene	1.192	1.035	0.500	AVRG	-13.2
1-Methylnaphthalene	0.715	0.651	0.010	AVRG	-9.0
Perylene	1.356	1.117	0.010	AVRG	-17.6
Benzo (e) pyrene	1.370	1.107	0.010	AVRG	-19.2
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene-d10	0.742	0.671	0.010	AVRG	-9.6
Dibenzo (a, h) anthracene-d14	0.807	0.735	0.010	AVRG	-8.9
Fluoranthene-d10	1.100	0.976	0.010	AVRG	-11.3

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

ATS0 : 00034

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 12/04/15

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
=====	=====	=====	=====	=====	=====	=====
CCAL	337457	6.60	238950	9.60	380348	12.27
UPPER LIMIT		7.10		10.10		12.77
LOWER LIMIT		6.10		9.10		11.77
=====	=====	=====	=====	=====	=====	=====
01	330144	6.60	236381	9.60	360337	12.27
02						
03						
04						
05						
06						
07						
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09						
10						
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12						
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14						
15						
16						
17						
18						
19						
20						

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.
ARI Job No: APR4
Ical Midpoint ID: 15120402
Instrument ID: NT11

Client: ANCHOR QEA, LLC
Project: PORT GAMBLE CLEAN-UP
Ical Date: 12/04/15
Cont. Cal Date: 12/04/15

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	298514	17.01	256244	19.84		
UPPER LIMIT		17.51		20.34		
LOWER LIMIT		16.51		19.34		
01	291007	17.01	242244	19.83		
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS1 (NPT) AREA #	RT #	IS2 (ANT) AREA #	RT #	IS3 (PHN) AREA #	RT #
ICAL MIDPT	327896	6.60	239179	9.60	372253	12.27
UPPER LIMIT	655792		478358		744506	
LOWER LIMIT	163948		119590		186127	
CCAL	368312	6.73	275119	9.74	442913	12.42
UPPER LIMIT		7.23		10.24		12.92
LOWER LIMIT		6.23		9.24		11.92
01	345356	6.74	235311	9.76	378135	12.42
02 APR4MBS1	368895	6.73	251480	9.74	405369	12.42
03 APR4LCSS1	360526	6.73	257556	9.74	412183	12.42
04 SRM 1974C	362258	6.73	249465	9.74	398741	12.42
05 PG-T0-MUS-CO	371890	6.72	259279	9.74	437520	12.42
06 PG-SMA2-2-MU	363469	6.73	256352	9.74	419386	12.42
07 PG-PJ-1-MUS-	374753	6.73	264386	9.74	426020	12.42
08 PG-PJ-1-MUS-	373582	6.73	269039	9.74	428623	12.42
09 PG-PJ-1-MUS-	377287	6.73	271691	9.74	435691	12.42
10 PG-WS-1-MUS-	376882	6.73	268849	9.74	435864	12.42
11 PG-GP-1-MUS-	377268	6.72	268633	9.74	436597	12.41
12 PG-SMA2-5-MU	384886	6.73	273475	9.74	449495	12.42
13 PG-SMA2-4-MU	381586	6.72	270392	9.74	439377	12.42
14 13EB ME-MIWO	373510	6.73	268987	9.74	440845	12.42
15 13CPS DB-MIW	370975	6.73	264737	9.74	432287	12.42
16 13NPS CIAR2-	382765	6.72	270341	9.75	435855	12.42
17						
18						
19						
20						

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC.

Client: ANCHOR QEA, LLC

ARI Job No: APR4

Project: PORT GAMBLE CLEAN-UP

Ical Midpoint ID: 15120402

Ical Date: 12/04/15

Instrument ID: NT11

Cont. Cal Date: 01/22/16

	IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
ICAL MIDPT	294711	17.02	260595	19.84		
UPPER LIMIT	589422		521190			
LOWER LIMIT	147356		130298			
=====	=====	=====	=====	=====	=====	=====
CCAL	337848	17.17	324201	20.06		
UPPER LIMIT		17.67		20.56		
LOWER LIMIT		16.67		19.56		
01	274122	17.18	249583	20.07		
02 APR4MBS1	295936	17.17	283292	20.06		
03 APR4LCSS1	314530	17.17	306666	20.06		
04 SRM 1974C	300525	17.17	299419	20.06		
05 PG-T0-MUS-CO	299515	17.17	303212	20.06		
06 PG-SMA2-2-MU	310418	17.17	308119	20.06		
07 PG-PJ-1-MUS-	316427	17.17	315181	20.07		
08 PG-PJ-1-MUS-	324379	17.17	323020	20.06		
09 PG-PJ-1-MUS-	325376	17.17	324453	20.06		
10 PG-WS-1-MUS-	322334	17.17	323010	20.06		
11 PG-GP-1-MUS-	322279	17.17	320562	20.06		
12 PG-SMA2-5-MU	339179	17.17	335158	20.06		
13 PG-SMA2-4-MU	325728	17.17	325370	20.06		
14 13EB ME-MTW0	336414	17.17	339083	20.06		
15 13CPS DB-MTW	321859	17.17	327843	20.06		
16 13NPS CIAR2-	323444	17.17	326352	20.06		
17						
18						
19						
20						

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
 AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

Dioxin Analysis
Report and Summary QC Forms

ARI Job ID: ATS0

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1

Sample ID: PG-SMA2-2-MUS-COC-160104

Lab Sample ID: ATSOA

LIMS ID: 16-135

Matrix: Tissue

Data Release Authorized: *mm*

Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: 01/04/16

Date Received: 01/06/16

Date Extracted: 01/25/16

Date Analyzed: 01/29/16 17:07

Instrument/Analyst: AS1/PK

Acid Cleanup: Yes

Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 20 uL

Extract Split: 1.00

Silica-Florisil Cleanup: Yes

Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.45	0.65-0.89		1.00	0.158	JEMPC
2,3,7,8-TCDD		0.65-0.89	0.0380	1.00	< 0.0380	U
1,2,3,7,8-PeCDF	0.70	1.32-1.78		1.00	0.0460	BJEMPC
2,3,4,7,8-PeCDF	1.61	1.32-1.78		1.00	0.0464	J
1,2,3,7,8-PeCDD		1.32-1.78	0.0520	1.00	< 0.0520	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0500	1.00	< 0.0500	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0480	1.00	< 0.0480	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0460	1.00	< 0.0460	U
1,2,3,7,8,9-HxCDF	1.25	1.05-1.43		1.00	0.0742	J
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0480	1.00	< 0.0480	U
1,2,3,6,7,8-HxCDD	1.16	1.05-1.43		1.00	0.0808	J
1,2,3,7,8,9-HxCDD		1.05-1.43	0.0500	1.00	< 0.0500	U
1,2,3,4,6,7,8-HpCDF	1.06	0.88-1.20		1.00	0.127	BJ
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0380	1.00	< 0.0380	U
1,2,3,4,6,7,8-HpCDD	0.94	0.88-1.20		1.00	1.01	B
OCDF	0.88	0.76-1.02		2.00	0.376	BJ
OCDD	0.85	0.76-1.02		10.0	13.6	B

Homologue Group	EDL	RL	Result
Total TCDF		1.00	1.14 EMPC
Total TCDD	0.0380	1.00	0.613 EMPC
Total PeCDF		2.00	0.371 EMPC
Total PeCDD	0.0520	1.00	< 0.0520 U
Total HxCDF		2.00	0.213 EMPC
Total HxCDD		2.00	0.494 EMPC
Total HpCDF		2.00	0.296
Total HpCDD		2.00	11.7 EMPC

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.06

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.12

Reported in pg/g

Sample ID: PG-SMA2-2-MUS-COC-160104

Lab Sample ID: ATSOA
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *mw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 17:07
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	97.2	24-169	
13C-2,3,7,8-TCDD	0.80	0.65-0.89	90.1	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	98.8	24-185	
13C-2,3,4,7,8-PeCDF	1.58	1.32-1.78	98.2	21-178	
13C-1,2,3,7,8-PeCDD	1.58	1.32-1.78	93.8	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	85.3	26-152	
13C-1,2,3,6,7,8-HxCDF	0.52	0.43-0.59	84.1	26-123	
13C-2,3,4,6,7,8-HxCDF	0.51	0.43-0.59	93.4	28-136	
13C-1,2,3,7,8,9-HxCDF	0.53	0.43-0.59	90.2	29-147	
13C-1,2,3,4,7,8-HxCDD	1.27	1.05-1.43	87.8	32-141	
13C-1,2,3,6,7,8-HxCDD	1.23	1.05-1.43	88.0	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.45	0.37-0.51	91.6	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	96.8	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.06	0.88-1.20	94.0	23-140	
13C-OCDD	0.88	0.76-1.02	81.8	17-157	
37Cl4-2,3,7,8-TCDD			102	35-197	

Reported in Percent Recovery

Lab Sample ID: ATSOB
LIMS ID: 16-136
Matrix: Tissue
Data Release Authorized: *mw*
Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 18:01
Instrument/Analyst: AS1/PK
Acid Cleanup: Yes
Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Extract Split: 1.00
Silica-Florisil Cleanup: Yes
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.74	0.65-0.89		0.996	0.130	J
2,3,7,8-TCDD		0.65-0.89	0.0458	0.996	< 0.0458	U
1,2,3,7,8-PeCDF		1.32-1.78	0.0538	0.996	< 0.0538	U
2,3,4,7,8-PeCDF		1.32-1.78	0.0518	0.996	< 0.0518	U
1,2,3,7,8-PeCDD		1.32-1.78	0.0518	0.996	< 0.0518	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0518	0.996	< 0.0518	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0478	0.996	< 0.0478	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0478	0.996	< 0.0478	U
1,2,3,7,8,9-HxCDF		1.05-1.43	0.0518	0.996	< 0.0518	U
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0797	0.996	< 0.0797	U
1,2,3,6,7,8-HxCDD	1.31	1.05-1.43		0.996	0.102	J
1,2,3,7,8,9-HxCDD		1.05-1.43	0.0817	0.996	< 0.0817	U
1,2,3,4,6,7,8-HpCDF	0.99	0.88-1.20		0.996	0.175	BJ
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0319	0.996	< 0.0319	U
1,2,3,4,6,7,8-HpCDD	0.97	0.88-1.20		0.996	1.36	B
OCDF	0.83	0.76-1.02		1.99	0.437	BJ
OCDD	0.92	0.76-1.02		9.96	14.0	B

Homologue Group	EDL	RL	Result
Total TCDF		0.996	0.599 EMPC
Total TCDD	0.0458	0.996	0.235
Total PeCDF	0.0538	1.99	0.269 EMPC
Total PeCDD	0.0518	0.996	0.173 EMPC
Total HxCDF	0.0518	1.99	0.157 EMPC
Total HxCDD		1.99	0.900 EMPC
Total HpCDF		1.99	0.496
Total HpCDD		1.99	11.2

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.04

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.12

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1

Sample ID: PG-PJ-1-MUS-COC-160104

Lab Sample ID: ATSOB

LIMS ID: 16-136

Matrix: Tissue

Data Release Authorized: *mmw*

Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: 01/04/16

Date Received: 01/06/16

Date Extracted: 01/25/16

Date Analyzed: 01/29/16 18:01

Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 20 uL

Extract Split: 1.00

Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	92.4	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	84.1	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	93.0	24-185	
13C-2,3,4,7,8-PeCDF	1.57	1.32-1.78	93.4	21-178	
13C-1,2,3,7,8-PeCDD	1.57	1.32-1.78	90.8	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	84.0	26-152	
13C-1,2,3,6,7,8-HxCDF	0.51	0.43-0.59	84.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.53	0.43-0.59	90.0	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	88.1	29-147	
13C-1,2,3,4,7,8-HxCDD	1.30	1.05-1.43	86.4	32-141	
13C-1,2,3,6,7,8-HxCDD	1.24	1.05-1.43	85.9	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.44	0.37-0.51	89.6	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.44	0.37-0.51	90.2	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.06	0.88-1.20	90.7	23-140	
13C-OCDD	0.91	0.76-1.02	76.0	17-157	
37Cl4-2,3,7,8-TCDD			96.8	35-197	

Reported in Percent Recovery

Lab Sample ID: ATSO0
 LIMS ID: 16-137
 Matrix: Tissue
 Data Release Authorized: *Yhw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 18:55
 Instrument/Analyst: AS1/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Silica-Florisil Cleanup: Yes
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.59	0.65-0.89		0.997	0.162	JEMPC
2,3,7,8-TCDD		0.65-0.89	0.0379	0.997	< 0.0379	U
1,2,3,7,8-PeCDF	1.65	1.32-1.78		0.997	0.0612	BJ
2,3,4,7,8-PeCDF	5.97	1.32-1.78		0.997	0.0379	JEMPC
1,2,3,7,8-PeCDD		1.32-1.78	0.0518	0.997	< 0.0518	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0399	0.997	< 0.0399	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0379	0.997	< 0.0379	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0379	0.997	< 0.0379	U
1,2,3,7,8,9-HxCDF	1.12	1.05-1.43		0.997	0.0648	J
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0379	0.997	< 0.0379	U
1,2,3,6,7,8-HxCDD	1.10	1.05-1.43		0.997	0.117	J
1,2,3,7,8,9-HxCDD	1.32	1.05-1.43		0.997	0.0620	J
1,2,3,4,6,7,8-HpCDF	0.90	0.88-1.20		0.997	0.173	BJ
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0279	0.997	< 0.0279	U
1,2,3,4,6,7,8-HpCDD	1.08	0.88-1.20		0.997	1.20	B
OCDF	0.96	0.76-1.02		1.99	0.443	BJ
OCDD	0.90	0.76-1.02		9.97	16.1	B

Homologue Group	EDL	RL	Result
Total TCDF		0.997	0.927 EMPC
Total TCDD	0.0379	0.997	0.704 EMPC
Total PeCDF		1.99	0.576 EMPC
Total PeCDD	0.0518	0.997	0.247 EMPC
Total HxCDF		1.99	0.250 EMPC
Total HxCDD		1.99	0.985 EMPC
Total HpCDF		1.99	0.393
Total HpCDD		1.99	12.4 EMPC

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.07

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.13

Reported in pg/g

Sample ID: PG-WS-1-MUS-COC-160104

Lab Sample ID: ATSO0
 LIMS ID: 16-137
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 18:55
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.79	0.65-0.89	99.2	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	91.8	25-164	
13C-1,2,3,7,8-PeCDF	1.59	1.32-1.78	102	24-185	
13C-2,3,4,7,8-PeCDF	1.57	1.32-1.78	101	21-178	
13C-1,2,3,7,8-PeCDD	1.56	1.32-1.78	98.5	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	89.2	26-152	
13C-1,2,3,6,7,8-HxCDF	0.52	0.43-0.59	88.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	97.0	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	95.3	29-147	
13C-1,2,3,4,7,8-HxCDD	1.27	1.05-1.43	93.0	32-141	
13C-1,2,3,6,7,8-HxCDD	1.24	1.05-1.43	92.1	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.46	0.37-0.51	94.7	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.44	0.37-0.51	95.7	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.05	0.88-1.20	93.8	23-140	
13C-OCDD	0.89	0.76-1.02	81.0	17-157	
37Cl4-2,3,7,8-TCDD			103	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1

Sample ID: PG-GP-1-MUS-COC-160104

Lab Sample ID: ATSD0
LIMS ID: 16-138
Matrix: Tissue
Data Release Authorized: *mmw*
Reported: 02/02/16

QC Report No: ATSD0-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 19:48
Instrument/Analyst: AS1/PK
Acid Cleanup: Yes
Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Extract Split: 1.00
Silica-Florisil Cleanup: Yes
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.52	0.65-0.89		0.997	0.148	JEMPC
2,3,7,8-TCDD		0.65-0.89	0.0379	0.997	< 0.0379	U
1,2,3,7,8-PeCDF		1.32-1.78	0.0658	0.997	< 0.0658	U
2,3,4,7,8-PeCDF		1.32-1.78	0.0618	0.997	< 0.0618	U
1,2,3,7,8-PeCDD		1.32-1.78	0.0419	0.997	< 0.0419	U
1,2,3,4,7,8-HxCDF	1.19	1.05-1.43		0.997	0.0393	J
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0399	0.997	< 0.0399	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0399	0.997	< 0.0399	U
1,2,3,7,8,9-HxCDF	1.03	1.05-1.43		0.997	0.0439	JEMPC
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0578	0.997	< 0.0578	U
1,2,3,6,7,8-HxCDD	1.62	1.05-1.43		0.997	0.0658	JEMPC
1,2,3,7,8,9-HxCDD		1.05-1.43	0.0598	0.997	< 0.0598	U
1,2,3,4,6,7,8-HpCDF	1.14	0.88-1.20		0.997	0.127	BJ
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0359	0.997	< 0.0359	U
1,2,3,4,6,7,8-HpCDD	1.06	0.88-1.20		0.997	0.821	BJ
OCDF	0.76	0.76-1.02		1.99	0.320	BJ
OCDD	0.89	0.76-1.02		9.97	9.47	B

Homologue Group	EDL	RL	Result	
Total TCDF		0.997	0.800	EMPC
Total TCDD	0.0379	0.997	0.491	EMPC
Total PeCDF	0.0658	1.99	0.215	EMPC
Total PeCDD	0.0419	0.997	0.133	EMPC
Total HxCDF		1.99	0.204	EMPC
Total HxCDD		1.99	0.675	EMPC
Total HpCDF		1.99	0.306	
Total HpCDD		1.99	4.89	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.04

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.10

Reported in pg/g

Sample ID: PG-GP-1-MUS-COC-160104

Lab Sample ID: ATSD0
LIMS ID: 16-138
Matrix: Tissue
Data Release Authorized: *mw*
Reported: 02/02/16

QC Report No: ATSD0-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 19:48
Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Extract Split: 1.00
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	94.7	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	87.8	25-164	
13C-1,2,3,7,8-PeCDF	1.59	1.32-1.78	94.6	24-185	
13C-2,3,4,7,8-PeCDF	1.57	1.32-1.78	94.9	21-178	
13C-1,2,3,7,8-PeCDD	1.56	1.32-1.78	91.3	25-181	
13C-1,2,3,4,7,8-HxCDF	0.51	0.43-0.59	89.1	26-152	
13C-1,2,3,6,7,8-HxCDF	0.51	0.43-0.59	89.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	96.1	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	91.6	29-147	
13C-1,2,3,4,7,8-HxCDD	1.28	1.05-1.43	91.7	32-141	
13C-1,2,3,6,7,8-HxCDD	1.26	1.05-1.43	89.9	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.44	0.37-0.51	88.6	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.44	0.37-0.51	86.3	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.05	0.88-1.20	83.0	23-140	
13C-OCDD	0.87	0.76-1.02	76.1	17-157	
37Cl4-2,3,7,8-TCDD			99.3	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1



Sample ID: PG-SMA2-5-MUS-COC-160104

Lab Sample ID: ATSOE
 LIMS ID: 16-139
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/04/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 20:42
 Instrument/Analyst: AS1/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Silica-Florisil Cleanup: Yes
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.43	0.65-0.89		0.998	0.150	JEMPC
2,3,7,8-TCDD		0.65-0.89	0.0479	0.998	< 0.0479	U
1,2,3,7,8-PeCDF		1.32-1.78	0.0639	0.998	< 0.0639	U
2,3,4,7,8-PeCDF		1.32-1.78	0.0599	0.998	< 0.0599	U
1,2,3,7,8-PeCDD		1.32-1.78	0.0639	0.998	< 0.0639	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0439	0.998	< 0.0439	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0399	0.998	< 0.0399	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0419	0.998	< 0.0419	U
1,2,3,7,8,9-HxCDF	1.39	1.05-1.43		0.998	0.0780	J
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0579	0.998	< 0.0579	U
1,2,3,6,7,8-HxCDD	1.45	1.05-1.43		0.998	0.116	JEMPC
1,2,3,7,8,9-HxCDD	0.72	1.05-1.43		0.998	0.0599	JEMPC
1,2,3,4,6,7,8-HpCDF	0.99	0.88-1.20		0.998	0.252	BJ
1,2,3,4,7,8,9-HpCDF	1.29	0.88-1.20		0.998	0.0419	JEMPC
1,2,3,4,6,7,8-HpCDD	0.96	0.88-1.20		0.998	1.61	B
OCDF	0.87	0.76-1.02		2.00	0.768	BJ
OCDD	0.87	0.76-1.02		9.98	19.6	B

Homologue Group	EDL	RL	Result	
Total TCDF		0.998	1.34	EMPC
Total TCDD	0.0479	0.998	0.898	EMPC
Total PeCDF	0.0639	2.00	0.354	EMPC
Total PeCDD	0.0639	0.998	0.307	EMPC
Total HxCDF		2.00	0.304	
Total HxCDD		2.00	1.25	EMPC
Total HpCDF		2.00	0.663	EMPC
Total HpCDD		2.00	14.5	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.07

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.14

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1



Sample ID: PG-SMA2-5-MUS-COC-160104

Lab Sample ID: ATSOE

LIMS ID: 16-139

Matrix: Tissue

Data Release Authorized: *Ymw*

Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: 01/04/16

Date Received: 01/06/16

Date Extracted: 01/25/16

Date Analyzed: 01/29/16 20:42

Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 20 uL

Extract Split: 1.00

Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	86.0	24-169	
13C-2,3,7,8-TCDD	0.78	0.65-0.89	80.7	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	86.7	24-185	
13C-2,3,4,7,8-PeCDF	1.58	1.32-1.78	88.3	21-178	
13C-1,2,3,7,8-PeCDD	1.58	1.32-1.78	85.3	25-181	
13C-1,2,3,4,7,8-HxCDF	0.51	0.43-0.59	80.9	26-152	
13C-1,2,3,6,7,8-HxCDF	0.51	0.43-0.59	82.5	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	87.1	28-136	
13C-1,2,3,7,8,9-HxCDF	0.51	0.43-0.59	85.3	29-147	
13C-1,2,3,4,7,8-HxCDD	1.28	1.05-1.43	84.0	32-141	
13C-1,2,3,6,7,8-HxCDD	1.22	1.05-1.43	80.4	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.45	0.37-0.51	82.0	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	82.1	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.04	0.88-1.20	79.1	23-140	
13C-OCDD	0.89	0.76-1.02	69.3	17-157	
37Cl4-2,3,7,8-TCDD			96.7	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1



Sample ID: PG-SMA2-4-MUS-COC-160105

Lab Sample ID: ATSOF
 LIMS ID: 16-140
 Matrix: Tissue
 Data Release Authorized: *mmw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/05/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 21:36
 Instrument/Analyst: AS1/PK
 Acid Cleanup: Yes
 Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Silica-Florisil Cleanup: Yes
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result	
2,3,7,8-TCDF	0.55	0.65-0.89		0.998	0.0699	JEMPC
2,3,7,8-TCDD		0.65-0.89	0.0339	0.998	< 0.0339	U
1,2,3,7,8-PeCDF	1.37	1.32-1.78		0.998	0.0449	BJ
2,3,4,7,8-PeCDF	0.88	1.32-1.78		0.998	0.0359	JEMPC
1,2,3,7,8-PeCDD		1.32-1.78	0.0599	0.998	< 0.0599	U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0299	0.998	< 0.0299	U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0279	0.998	< 0.0279	U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0279	0.998	< 0.0279	U
1,2,3,7,8,9-HxCDF	0.85	1.05-1.43		0.998	0.0659	JEMPC
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0559	0.998	< 0.0559	U
1,2,3,6,7,8-HxCDD	1.09	1.05-1.43		0.998	0.0711	J
1,2,3,7,8,9-HxCDD	1.34	1.05-1.43		0.998	0.0513	J
1,2,3,4,6,7,8-HpCDF	0.78	0.88-1.20		0.998	0.152	BJEMPC
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0240	0.998	< 0.0240	U
1,2,3,4,6,7,8-HpCDD	0.96	0.88-1.20		0.998	0.866	BJ
OCDF	0.75	0.76-1.02		2.00	0.313	BJEMPC
OCDD	0.91	0.76-1.02		9.98	11.0	B

Homologue Group	EDL	RL	Result
Total TCDF		0.998	0.710 EMPC
Total TCDD	0.0339	0.998	0.465 EMPC
Total PeCDF		2.00	0.410 EMPC
Total PeCDD	0.0599	0.998	0.0667 EMPC
Total HxCDF		2.00	0.208 EMPC
Total HxCDD		2.00	0.646 EMPC
Total HpCDF		2.00	0.373 EMPC
Total HpCDD		2.00	5.86 EMPC

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.05

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.11

Reported in pg/g

Sample ID: PG-SMA2-4-MUS-COC-160105

Lab Sample ID: ATSOF
 LIMS ID: 16-140
 Matrix: Tissue
 Data Release Authorized: *mmw*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: 01/05/16
 Date Received: 01/06/16

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 21:36
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Extract Split: 1.00
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	98.0	24-169	
13C-2,3,7,8-TCDD	0.80	0.65-0.89	89.9	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	97.6	24-185	
13C-2,3,4,7,8-PeCDF	1.59	1.32-1.78	100	21-178	
13C-1,2,3,7,8-PeCDD	1.59	1.32-1.78	95.5	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	86.3	26-152	
13C-1,2,3,6,7,8-HxCDF	0.52	0.43-0.59	84.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	93.0	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	92.2	29-147	
13C-1,2,3,4,7,8-HxCDD	1.29	1.05-1.43	88.8	32-141	
13C-1,2,3,6,7,8-HxCDD	1.21	1.05-1.43	88.0	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.44	0.37-0.51	90.0	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	94.3	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.07	0.88-1.20	92.6	23-140	
13C-OCDD	0.89	0.76-1.02	75.9	17-157	
37Cl4-2,3,7,8-TCDD			99.2	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1

Sample ID: OPR-012516

Lab Sample ID: OPR-012516

LIMS ID: 16-135

Matrix: Tissue

Data Release Authorized: *mm*

Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: NA

Date Received: NA

Date Extracted: 01/25/16

Date Analyzed: 01/29/16 15:20

Instrument/Analyst: AS1/PK

Acid Cleanup: Yes

Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 20 uL

Dilution Factor: 1.00

Silica-Florisil Cleanup: Yes

Analyte	Ion Ratio	Ratio Limits	RL	Result
2,3,7,8-TCDF	0.71	0.65-0.89	1.00	23.1
2,3,7,8-TCDD	0.80	0.65-0.89	1.00	23.6
1,2,3,7,8-PeCDF	1.47	1.32-1.78	1.00	117
2,3,4,7,8-PeCDF	1.46	1.32-1.78	1.00	115
1,2,3,7,8-PeCDD	1.56	1.32-1.78	1.00	112
1,2,3,4,7,8-HxCDF	1.15	1.05-1.43	1.00	116
1,2,3,6,7,8-HxCDF	1.16	1.05-1.43	1.00	115
2,3,4,6,7,8-HxCDF	1.18	1.05-1.43	1.00	116
1,2,3,7,8,9-HxCDF	1.17	1.05-1.43	1.00	114
1,2,3,4,7,8-HxCDD	1.24	1.05-1.43	1.00	113
1,2,3,6,7,8-HxCDD	1.24	1.05-1.43	1.00	116
1,2,3,7,8,9-HxCDD	1.25	1.05-1.43	1.00	115
1,2,3,4,6,7,8-HpCDF	0.97	0.88-1.20	1.00	117
1,2,3,4,7,8,9-HpCDF	0.97	0.88-1.20	1.00	115
1,2,3,4,6,7,8-HpCDD	1.02	0.88-1.20	1.00	115
OCDF	0.84	0.76-1.02	2.00	217
OCDD	0.90	0.76-1.02	10.0	224

Homologue Group	EDL	RL	Result
Total TCDF		1.00	23.9
Total TCDD		1.00	24.2
Total PeCDF		2.00	238 EMPC
Total PeCDD		1.00	112 EMPC
Total HxCDF		2.00	461
Total HxCDD		2.00	345 EMPC
Total HpCDF		2.00	232 EMPC
Total HpCDD		2.00	116

Reported in pg/g

ORGANICS ANALYSIS DATA SHEET
Dioxins/Furans by EPA 1613B
 Page 1 of 1

Sample ID: OPR-012516

Lab Sample ID: OPR-012516
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *YW*
 Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01
 Date Sampled: NA
 Date Received: NA

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 15:20
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	90.4	24-169	
13C-2,3,7,8-TCDD	0.78	0.65-0.89	87.0	25-164	
13C-1,2,3,7,8-PeCDF	1.57	1.32-1.78	94.9	24-185	
13C-2,3,4,7,8-PeCDF	1.59	1.32-1.78	95.0	21-178	
13C-1,2,3,7,8-PeCDD	1.58	1.32-1.78	92.3	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	87.1	26-152	
13C-1,2,3,6,7,8-HxCDF	0.52	0.43-0.59	84.4	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	89.4	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	85.4	29-147	
13C-1,2,3,4,7,8-HxCDD	1.26	1.05-1.43	86.4	32-141	
13C-1,2,3,6,7,8-HxCDD	1.26	1.05-1.43	82.8	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.45	0.37-0.51	82.8	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	83.2	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.07	0.88-1.20	83.3	23-140	
13C-OCDD	0.90	0.76-1.02	75.0	17-157	
37C14-2,3,7,8-TCDD			102	35-197	

Reported in Percent Recovery

ORGANICS ANALYSIS DATA SHEET
 Dioxins/Furans by EPA 1613B
 Page 1 of 1



Sample ID: OPR-012516

Lab Sample ID: OPR-012516
 LIMS ID: 16-135
 Matrix: Tissue
 Data Release Authorized: *MW*
 Reported: 02/02/16

QC Report No: AT50-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01

Date Sampled: NA
 Date Received: NA

Date Extracted: 01/25/16
 Date Analyzed: 01/29/16 15:20
 Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
 Final Extract Volume: 20 uL
 Dilution Factor: 1.00

Analyte	OPR	Spiked	Recovery	Limits
2,3,7,8-TCDF	23.1	20.0	116	75-158
2,3,7,8-TCDD	23.6	20.0	118	67-158
1,2,3,7,8-PeCDF	117	100	117	80-134
2,3,4,7,8-PeCDF	115	100	115	68-160
1,2,3,7,8-PeCDD	112	100	112	70-142
1,2,3,4,7,8-HxCDF	116	100	116	72-134
1,2,3,6,7,8-HxCDF	115	100	115	84-130
2,3,4,6,7,8-HxCDF	116	100	116	70-156
1,2,3,7,8,9-HxCDF	114	100	114	78-130
1,2,3,4,7,8-HxCDD	113	100	113	70-164
1,2,3,6,7,8-HxCDD	116	100	116	76-134
1,2,3,7,8,9-HxCDD	115	100	115	64-162
1,2,3,4,6,7,8-HpCDF	117	100	117	82-132
1,2,3,4,7,8,9-HpCDF	115	100	115	78-138
1,2,3,4,6,7,8-HpCDD	115	100	115	70-140
OCDF	217	200	108	63-170
OCDD	224	200	112	78-144

Reported in pg/g

4DF - FORM IV-HR CDD
 CDD/CDF METHOD BLANK SUMMARY
 HIGH RESOLUTION

Blank No.

ATSOMBT

Lab Name: ANALYTICAL RESOURCES, INC.

Contract: ANCHOR

Lab Code: ATSO

Project: PORT GAMBLE

Matrix: (Soil/Water/Ash/Tissue/Oil) TISSUE

Lab Sample ID: ATSOMBT

Sample wt/vol: 10 (g/ml) g

Lab File ID: 16012904

Water Sample Prep: (sep/spe)

Date Received: 06-JAN-16

GC Column: RTX-DIOXIN2 ID: 0.25 mm

Date Extracted: 25-JAN-16

Instrument ID: AUTOSPEC1

Date Analyzed: 29-JAN-16

Client Sample No.	Lab Sample ID	Lab File ID	Date Analyzed
ATS0OPR	ATS0OPR	16012905	01/29/16
PG-T0-MUS-COC-151030	APR4A	16012906	01/29/16
PG-SMA2-2-MUS-COC-160104T	AT50A	16012907	01/29/16
PG-PJ-1-MUS-COC-160104T	AT50B	16012908	01/29/16
PG-WS-1-MUS-COC-160104T	AT50C	16012909	01/29/16
PG-GP-1-MUS-COC-160104T	AT50D	16012910	01/29/16
PG-SMA2-5-MUS-COC-160104T	AT50E	16012911	01/29/16
PG-SMA2-4-MUS-COC-160104T	AT50F	16012912	01/29/16

ORGANICS ANALYSIS DATA SHEET

Dioxins/Furans by EPA 1613B

Page 1 of 1

Sample ID: MB-012516

Lab Sample ID: MB-012516

LIMS ID: 16-135

Matrix: Tissue

Data Release Authorized: *mw*

Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: NA

Date Received: NA

Date Extracted: 01/25/16

Date Analyzed: 01/29/16 14:28

Instrument/Analyst: AS1/PK

Acid Cleanup: Yes

Silica-Carbon Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 20 uL

Dilution Factor: 1.00

Silica-Florisil Cleanup: Yes

Analyte	Ion Ratio	Ratio Limits	EDL	RL	Result
2,3,7,8-TCDF		0.65-0.89	0.0320	1.00	< 0.0320 U
2,3,7,8-TCDD		0.65-0.89	0.0380	1.00	< 0.0380 U
1,2,3,7,8-PeCDF	0.65	1.32-1.78		1.00	0.0500 JEMPC
2,3,4,7,8-PeCDF		1.32-1.78	0.0340	1.00	< 0.0340 U
1,2,3,7,8-PeCDD		1.32-1.78	0.0440	1.00	< 0.0440 U
1,2,3,4,7,8-HxCDF		1.05-1.43	0.0360	1.00	< 0.0360 U
1,2,3,6,7,8-HxCDF		1.05-1.43	0.0340	1.00	< 0.0340 U
2,3,4,6,7,8-HxCDF		1.05-1.43	0.0360	1.00	< 0.0360 U
1,2,3,7,8,9-HxCDF		1.05-1.43	0.0400	1.00	< 0.0400 U
1,2,3,4,7,8-HxCDD		1.05-1.43	0.0480	1.00	< 0.0480 U
1,2,3,6,7,8-HxCDD		1.05-1.43	0.0500	1.00	< 0.0500 U
1,2,3,7,8,9-HxCDD		1.05-1.43	0.0500	1.00	< 0.0500 U
1,2,3,4,6,7,8-HpCDF	0.62	0.88-1.20		1.00	0.142 JEMPC
1,2,3,4,7,8,9-HpCDF		0.88-1.20	0.0740	1.00	< 0.0740 U
1,2,3,4,6,7,8-HpCDD	1.13	0.88-1.20		1.00	0.374 J
OCDF	0.77	0.76-1.02		2.00	0.541 J
OCDD	0.93	0.76-1.02		10.0	6.16

Homologue Group	EDL	RL	Result
Total TCDF	0.0320	1.00	< 0.0320 U
Total TCDD	0.0380	1.00	< 0.0380 U
Total PeCDF		2.00	0.0500 EMPC
Total PeCDD	0.0440	1.00	0.0378 EMPC
Total HxCDF	0.0400	2.00	< 0.0400 U
Total HxCDD	0.0500	2.00	0.124 EMPC
Total HpCDF		2.00	0.286 EMPC
Total HpCDD		2.00	0.743

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.01

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.07

Reported in pg/g

Sample ID: MB-012516

Lab Sample ID: MB-012516
LIMS ID: 16-135
Matrix: Tissue
Data Release Authorized: *MW*
Reported: 02/02/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: NA
Date Received: NA

Date Extracted: 01/25/16
Date Analyzed: 01/29/16 14:28
Instrument/Analyst: AS1/PK

Sample Amount: 10.0 g-as-rec
Final Extract Volume: 20 uL
Dilution Factor: 1.00

Analyte	Ion Ratio	Ratio Limits	Result	Limits	Exceedance
13C-2,3,7,8-TCDF	0.78	0.65-0.89	96.0	24-169	
13C-2,3,7,8-TCDD	0.79	0.65-0.89	92.1	25-164	
13C-1,2,3,7,8-PeCDF	1.58	1.32-1.78	103	24-185	
13C-2,3,4,7,8-PeCDF	1.58	1.32-1.78	104	21-178	
13C-1,2,3,7,8-PeCDD	1.57	1.32-1.78	100	25-181	
13C-1,2,3,4,7,8-HxCDF	0.52	0.43-0.59	87.9	26-152	
13C-1,2,3,6,7,8-HxCDF	0.51	0.43-0.59	86.7	26-123	
13C-2,3,4,6,7,8-HxCDF	0.52	0.43-0.59	89.4	28-136	
13C-1,2,3,7,8,9-HxCDF	0.52	0.43-0.59	86.6	29-147	
13C-1,2,3,4,7,8-HxCDD	1.28	1.05-1.43	86.4	32-141	
13C-1,2,3,6,7,8-HxCDD	1.28	1.05-1.43	84.0	28-130	
13C-1,2,3,4,6,7,8-HpCDF	0.44	0.37-0.51	91.2	28-143	
13C-1,2,3,4,7,8,9-HpCDF	0.45	0.37-0.51	90.0	26-138	
13C-1,2,3,4,6,7,8-HpCDD	1.08	0.88-1.20	90.6	23-140	
13C-OCDD	0.89	0.76-1.02	79.0	17-157	
37Cl4-2,3,7,8-TCDD			116	35-197	

Reported in Percent Recovery

5DFA - FORM V-HR CDD-1
CDD/CDF WINDOW DEFINING MIX (WDM) SUMMARY
HIGH RESOLUTION

Standard No.

CS3

Lab Name: ANALYTICAL RESOURCES, INC.

Contract: ANCHOR

Lab Code: ATSO

Project: PORT GAMBLE

GC Column: RTX-DIOXIN2 ID: 0.25 mm

Lab File ID: 16012902

Instrument ID: AUTOSPEC1

Date Analyzed: 29-JAN-16

Time Analyzed: 10:58

CDD/CDF	RT First Eluting	RT Last Eluting
TCDD	24.32	27.78
TCDF	23.03	28.02
PeCDD	29.57	32.69
PeCDF	27.90	33.07
HxCDD	34.80	37.50
HxCDF	34.00	37.93
HpCDD	40.62	41.92
HpCDF	40.05	42.83

5DFB - FORM V-HR CDD-2
CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
HIGH RESOLUTION

Standard No.

TETRA ISC

Lab Name: ANALYTICAL RESOURCES, INC.
Lab Code: AT50
GC Column: RTX-DIOXIN2 ID: .25 mm
Instrument: AUTOSPEC1

Contract: ANCHOR
Project: PORT GAMBLE
Lab File ID: 16012903
Date Analyzed: 29-JAN-16
Time Analyzed: 11:49

Percent Valley determination for RTX-DIOXIN2 column -

1278-TCDD/2378-TCDD: 13.2

3467-TCDF/2378-TCDF: 10.3

QC Limits:

Percent Valley between TCDD/TCDF isomers must be less than or equal to 25%

5DFB - FORM V-HR CDD-3
CDD/CDF ANALYTICAL SEQUENCE SUMMARY
HIGH RESOLUTION

Lab Name: ANALYTICAL RESOURCES, INC.

Contract: ANCHOR

Lab Code: ATSO

Project: PORT GAMBLE

GC Column: RTX-DIOXIN2 ID: 0.25 mm

Instrument ID: AUTOSPEC1

Init. Calib. Date(s): 15-OCT-15

Init: Calib. Times: 15:02 to 19:31

The Analytical Sequence of standards, samples, blanks, and Laboratory Control Samples (LCS) is as follows:

Client Sample No.	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
CS3	CS3	16012902	01/29/16	1058
ISC	ISC	16012903	01/29/16	1149
ATS0MB	ATS0MBS	16012904	01/29/16	1428
ATS0OPR	ATS0OPR	16012905	01/29/16	1520
PG-T0-MUS-COC-151030	APR4A	16012906	01/29/16	1613
PG-SMA2-2-MUS-COC-160104T	AT50A	16012907	01/29/16	1707
PG-PJ-1-MUS-COC-160104T	AT50B	16012908	01/29/16	1801
PG-WS-1-MUS-COC-160104T	AT50C	16012909	01/29/16	1855
PG-GP-1-MUS-COC-160104T	AT50D	16012910	01/29/16	1948
PG-SMA2-5-MUS-COC-160104T	AT50E	16012911	01/29/16	2042
PG-SMA2-4-MUS-COC-160104T	AT50F	16012912	01/29/16	2136
CS3	CS3	16012913	01/29/16	2229

6DFA - Form VI-HR CDD-1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1		
Init.Calib.Date CSL:	15-Oct-15	Init.Calib.Time CSL:	15:02:44
Init.Calib.Date CS1:	15-Oct-15	Init.Calib.Time CS1:	16:02:00
Init.Calib.Date CS2:	15-Oct-15	Init.Calib.Time CS2:	16:52:59
Init.Calib.Date CS3:	15-Oct-15	Init.Calib.Time CS3:	17:45:44
Init.Calib.Date CS4:	15-Oct-15	Init.Calib.Time CS4:	18:38:36
Init.Calib.Date CS5:	15-Oct-15	Init.Calib.Time CS5:	19:31:22

Target Analytes	RR/RRF						Mean RR/RRF	% RSD	Limits (% +/-)
	CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDD	0.00	1.05	0.96	0.98	1.01	1.12	1.02	6.1	20.0
2378-TCDF	0.00	0.79	0.81	0.82	0.85	0.86	0.83	3.2	20.0
12378-PeCDF	0.78	0.78	0.81	0.84	0.85	0.88	0.82	4.9	20.0
12378-PeCDD	0.90	0.92	0.95	0.94	0.97	0.96	0.94	3.2	20.0
23478-PeCDF	0.81	0.83	0.85	0.86	0.87	0.89	0.85	3.6	20.0
123478-HxCDF	0.92	0.95	0.96	0.98	0.99	1.02	0.97	3.5	20.0
123678-HxCDF	0.90	0.91	0.95	0.96	1.00	0.98	0.95	4.2	20.0
123478-HxCDD	0.92	0.91	0.95	0.98	1.00	1.01	0.96	4.3	20.0
123678-HxCDD	0.90	0.86	0.87	0.89	0.92	0.93	0.89	3.0	20.0
123789-HxCDD ²	0.87	0.88	0.89	0.90	0.91	0.95	0.90	3.0	20.0
234678-HxCDF	0.96	0.98	1.00	1.04	1.07	1.09	1.02	5.0	20.0
123789-HxCDF	0.99	0.96	0.92	0.92	0.93	1.01	0.96	4.1	20.0
1234678-HpCDF	1.13	1.09	1.14	1.18	1.17	1.21	1.15	3.6	20.0
1234678-HpCDD	0.89	0.92	0.97	0.99	1.00	1.01	0.96	4.7	20.0
1234789-HpCDF	1.02	1.07	1.13	1.17	1.18	1.22	1.13	6.6	20.0
OCDD	0.98	0.89	0.95	0.98	0.98	1.03	0.97	4.8	20.0
OCDF ¹	0.93	0.92	1.02	1.04	1.12	1.11	1.02	8.4	20.0
37CL-2378-TCDD	1.05	1.06	1.06	1.09	1.08	1.20	1.09	5.2	20.0

(1) The Relative Response (RR) is calculated based on the labeled analogs of the other two HxCDDs.
(2) The RR is calculated based on the labeled analog of OCDD.

Labeled Compounds	RR/RRF						Mean RR/RRF	% RSD	Limits (% +/-)
	CSL	CS1	CS2	CS3	CS4	CS5			
13C-2378-TCDD	0.94	0.95	1.02	1.01	0.98	0.99	0.98	3.1	35.0
13C-12378-PeCDD	0.77	0.79	0.77	0.75	0.75	0.89	0.79	6.9	35.0
13C-123478-HxCDD	1.04	1.04	1.00	1.05	1.01	1.05	1.03	2.2	35.0
13C-123678-HxCDD	1.15	1.15	1.12	1.18	1.10	1.12	1.14	2.5	35.0
13C-1234678-HpCDD	0.92	0.91	0.88	0.91	0.85	0.88	0.89	2.8	35.0
13C-OCDD	0.88	0.88	0.82	0.84	0.83	0.86	0.85	3.4	35.0
13C-2378-TCDF	1.52	1.53	1.51	1.49	1.44	1.52	1.50	2.2	35.0
13C-12378-PeCDF	1.21	1.23	1.20	1.17	1.15	1.33	1.22	5.1	35.0
13C-23478-PeCDF	1.17	1.20	1.16	1.14	1.11	1.32	1.18	6.3	35.0
13C-123478-HxCDF	1.25	1.24	1.23	1.28	1.23	1.24	1.25	1.7	35.0
13C-123678-HxCDF	1.41	1.39	1.36	1.40	1.31	1.38	1.38	2.6	35.0
13C-234678-HxCDF	1.21	1.20	1.17	1.21	1.14	1.18	1.19	2.4	35.0
13C-123789-HxCDF	1.13	1.13	1.14	1.18	1.13	1.10	1.13	2.4	35.0
13C-1234678-HpCDF	1.05	1.05	1.00	1.04	0.99	1.00	1.02	2.7	35.0
13C-1234789-HpCDF	0.84	0.86	0.81	0.83	0.80	0.81	0.82	2.7	35.0

Form VI-HR CDD-1

ATS0 : 00061

6DFB - Form VI-HR CDD-2
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1		
Init.Calib.Date CSL:	15-Oct-15	Init.Calib.Time CSL:	15:02:44
Init.Calib.Date CS1:	15-Oct-15	Init.Calib.Time CS1:	16:02:00
Init.Calib.Date CS2:	15-Oct-15	Init.Calib.Time CS2:	16:52:59
Init.Calib.Date CS3:	15-Oct-15	Init.Calib.Time CS3:	17:45:44
Init.Calib.Date CS4:	15-Oct-15	Init.Calib.Time CS4:	18:38:36
Init.Calib.Date CS5:	15-Oct-15	Init.Calib.Time CS5:	19:31:22

Target Analytes	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ratio QC Limits#
		CSL	CS1	CS2	CS3	CS4	CS5		
2378-TCDD	320/322	0.00	0.73	0.80	0.80	0.78	0.78		0.65 - 0.89
2378-TCDF	304/306	0.00	0.67	0.66	0.66	0.67	0.68		0.65 - 0.89
12378-PeCDF	340/342	1.38	1.37	1.35	1.40	1.43	1.42		1.32 - 1.78
12378-PeCDD	356/358	1.58	1.56	1.55	1.53	1.55	1.55		1.32 - 1.78
23478-PeCDF	340/342	1.45	1.36	1.42	1.39	1.41	1.41		1.32 - 1.78
123478-HxCDF	374/376	1.23	1.12	1.12	1.14	1.12	1.13		1.05 - 1.43
123678-HxCDF	374/376	1.10	1.08	1.08	1.07	1.13	1.13		1.05 - 1.43
123478-HxCDD	390/392	1.19	1.31	1.25	1.24	1.24	1.25		1.05 - 1.43
123678-HxCDD	390/392	1.19	1.18	1.23	1.25	1.22	1.24		1.05 - 1.43
123789-HxCDD	390/392	1.33	1.29	1.20	1.20	1.25	1.24		1.05 - 1.43
234678-HxCDF	374/376	1.14	1.17	1.12	1.11	1.13	1.12		1.05 - 1.43
123789-HxCDF	374/376	1.17	1.10	1.14	1.10	1.12	1.14		1.05 - 1.43
1234678-HpCDF	408/410	0.96	0.90	0.94	0.92	0.94	0.95		0.89 - 1.21
1234678-HpCDD	424/426	1.01	1.03	1.06	1.05	1.03	1.04		0.89 - 1.21
1234789-HpCDF	408/410	0.94	0.92	0.92	0.93	0.97	0.95		0.89 - 1.21
OCDD	458/460	0.92	0.94	0.88	0.89	0.86	0.88		0.76 - 1.02
OCDF	442/444	0.84	0.83	0.81	0.83	0.83	0.83		0.76 - 1.02

Labeled Compounds	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ratio QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5		
13C-2378-TCDD	332/334	0.79	0.78	0.78	0.79	0.78	0.78		0.65 - 0.89
13C-12378-PeCDD	368/370	1.57	1.57	1.54	1.57	1.60	1.57		1.32 - 1.78
13C-123478-HxCDD	402/404	1.26	1.26	1.27	1.26	1.26	1.27		1.05 - 1.43
13C-123678-HxCDD	402/404	1.25	1.24	1.25	1.23	1.25	1.28		1.05 - 1.43
13C-1234678-HpCDD	436/438	1.04	1.03	1.04	1.05	1.05	1.04		0.89 - 1.21
13C-OCDD	470/472	0.87	0.89	0.90	0.90	0.89	0.89		0.76 - 1.02
13C-2378-TCDF	316/318	0.78	0.77	0.77	0.78	0.77	0.78		0.65 - 0.89
13C-12378-PeCDF	352/354	1.60	1.61	1.54	1.56	1.61	1.57		1.32 - 1.78
13C-23478-PeCDF	352/354	1.57	1.57	1.58	1.57	1.57	1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	0.51	0.51	0.51	0.51	0.51	0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	0.51	0.51	0.51	0.50	0.52	0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	0.51	0.51	0.53	0.52	0.52	0.53		0.43 - 0.59
13C-123789-HxCDF	384/386	0.51	0.52	0.52	0.51	0.51	0.51		0.43 - 0.59
13C-1234678-HpCDF	418/420	0.45	0.45	0.45	0.44	0.45	0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.44	0.43	0.43	0.44	0.45	0.45		0.37 - 0.51

Internal Standards	Selected Ions	Ion Abundance Ratio						Ratio Flag	Ion Ratio QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5		
13C-1234-TCDD	332/334	0.79	0.80	0.79	0.79	0.79	0.78		0.65 - 0.89
13C-123789-HxCDD	402/404	1.25	1.23	1.25	1.24	1.26	1.25		1.05 - 1.43

(#) Quality Control (QC) limits represent $\pm 15\%$ window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

**7DFA - Form VII-HR CDD-1
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION**

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012902
Date Analysed	29-Jan-16	Time Analysed	10:58:17
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
2378-TCDD	320/322	1.04	1.02	1.2		0.77		0.65 - 0.89
2378-TCDF	304/306	0.86	0.83	3.8		0.69		0.65 - 0.89
12378-PeCDF	340/342	0.85	0.82	2.7		1.44		1.32 - 1.78
12378-PeCDD	356/358	0.97	0.94	3.5		1.56		1.32 - 1.78
23478-PeCDF	340/342	0.89	0.85	4.3		1.46		1.32 - 1.78
123478-HxCDF	374/376	1.01	0.97	4.2		1.16		1.05 - 1.43
123678-HxCDF	374/376	1.00	0.95	4.6		1.16		1.05 - 1.43
123478-HxCDD	390/392	0.98	0.96	2.0		1.23		1.05 - 1.43
123678-HxCDD	390/392	0.91	0.89	1.5		1.24		1.05 - 1.43
123789-HxCDD	390/392	0.96	0.90	6.3		1.24		1.05 - 1.43
234678-HxCDF	374/376	1.08	1.02	5.4		1.15		1.05 - 1.43
123789-HxCDF	374/376	0.94	0.96	-1.6		1.14		1.05 - 1.43
1234678-HpCDF	408/410	1.19	1.15	3.5		0.95		0.89 - 1.21
1234678-HpCDD	424/426	1.01	0.96	4.3		1.03		0.89 - 1.21
1234789-HpCDF	408/410	1.19	1.13	5.0		0.97		0.89 - 1.21
OCDD	458/460	0.99	0.97	2.4		0.90		0.76 - 1.02
OCDF	442/444	1.08	1.02	5.7		0.85		0.76 - 1.02

Labeled Compounds	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
13C-2378-TCDD	332/334	1.03	0.98	5.0		0.79		0.65 - 0.89
13C-12378-PeCDD	368/370	0.78	0.79	-0.7		1.58		1.32 - 1.78
13C-123478-HxCDD	402/404	1.04	1.03	0.5		1.30		1.05 - 1.43
13C-123678-HxCDD	402/404	1.09	1.14	-4.0		1.23		1.05 - 1.43
13C-1234678-HpCDD	436/438	0.91	0.89	2.1		1.07		0.89 - 1.21
13C-OCDD	470/472	0.83	0.85	-2.6		0.88		0.76 - 1.02
13C-2378-TCDF	316/318	1.59	1.50	5.5		0.77		0.65 - 0.89
13C-12378-PeCDF	352/354	1.27	1.22	4.4		1.57		1.32 - 1.78
13C-23478-PeCDF	352/354	1.23	1.18	3.8		1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	1.27	1.25	2.3		0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	1.32	1.38	-3.8		0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	1.20	1.19	1.5		0.52		0.43 - 0.59
13C-123789-HxCDF	384/386	1.23	1.13	8.4		0.52		0.43 - 0.59
13C-1234678-HpCDF	418/420	1.05	1.02	2.7		0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.86	0.82	4.9		0.45		0.37 - 0.51

Clean-up	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
37CL-2378-TCDD	328	1.13	1.09	3.4		NA	NA	NA

Internal Standards	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ion Ratio Flag [#]	Ion Ratio QC Limits
13C-1234-TCDD	332/334	NA	NA	NA	NA	0.79		0.65 - 0.89
13C-123789-HxCDD	402/404	NA	NA	NA	NA	1.25		1.05 - 1.43

(#) The laboratory must flag any analyte which does not meet the criteria for Percentage Difference (%D) or ion abundance ratio by placing an asterisk in the appropriate flag column.

7DFB - Form VII-HR CDD-2
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012902
Date Analysed:	29-Jan-16	Time Analysed:	10:58:17
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	RRT [#]	RT
2378-TCDD	1.001	27.18
2378-TCDF	1.001	26.53
12378-PeCDF	1.000	30.69
12378-PeCDD	1.001	32.30
23478-PeCDF	1.001	32.04
123478-HxCDF	1.001	35.73
123678-HxCDF	1.001	35.88
123478-HxCDD	1.000	36.96
123678-HxCDD	1.000	37.09
123789-HxCDD	1.012	37.50
234678-HxCDF	1.001	36.83
123789-HxCDF	1.001	37.93
1234678-HpCDF	1.000	40.05
1234678-HpCDD	1.000	41.92
1234789-HpCDF	1.000	42.83
OCDD	1.000	48.04
OCDF	1.006	48.32

Labeled Compounds	RRT [#]	RT
13C-2378-TCDD	1.031	27.15
13C-12378-PeCDD	1.225	32.28
13C-123478-HxCDD	0.985	36.95
13C-123678-HxCDD	0.989	37.08
13C-1234678-HpCDD	1.117	41.90
13C-OCDD	1.281	48.03
13C-2378-TCDF	1.006	26.51
13C-12378-PeCDF	1.164	30.68
13C-23478-PeCDF	1.215	32.01
13C-123478-HxCDF	0.952	35.71
13C-123678-HxCDF	0.956	35.86
13C-234678-HxCDF	0.982	36.80
13C-123789-HxCDF	1.011	37.91
13C-1234678-HpCDF	1.068	40.04
13C-1234789-HpCDF	1.142	42.81

Clean up Standard	RRT [#]	RT
37CL-2378-TCDD	1.03	27.18

Internal Standards	RRT [#]	RT
13C-1234-TCDD	0.00	26.35
13C-123789-HxCDD	0.00	37.49

(#) RRT = (RT of Analyte)/(RT of appropriate labeled compound).

**7DFA - Form VII-HR CDD-1
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION**

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012913
Date Analysed	29-Jan-16	Time Analysed	22:29:47
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
2378-TCDD	320/322	1.04	1.02	1.2		0.76		0.65 - 0.89
2378-TCDF	304/306	0.86	0.83	3.5		0.69		0.65 - 0.89
12378-PeCDF	340/342	0.88	0.82	6.9		1.45		1.32 - 1.78
12378-PeCDD	356/358	0.97	0.94	2.9		1.55		1.32 - 1.78
23478-PeCDF	340/342	0.89	0.85	4.6		1.45		1.32 - 1.78
123478-HxCDF	374/376	1.02	0.97	4.8		1.16		1.05 - 1.43
123678-HxCDF	374/376	1.00	0.95	4.8		1.14		1.05 - 1.43
123478-HxCDD	390/392	0.98	0.96	1.3		1.24		1.05 - 1.43
123678-HxCDD	390/392	0.92	0.89	2.8		1.25		1.05 - 1.43
123789-HxCDD	390/392	0.96	0.90	6.3		1.24		1.05 - 1.43
234678-HxCDF	374/376	1.07	1.02	4.2		1.15		1.05 - 1.43
123789-HxCDF	374/376	0.94	0.96	-1.3		1.16		1.05 - 1.43
1234678-HpCDF	408/410	1.21	1.15	4.5		0.98		0.89 - 1.21
1234678-HpCDD	424/426	1.01	0.96	4.3		1.05		0.89 - 1.21
1234789-HpCDF	408/410	1.19	1.13	5.2		0.96		0.89 - 1.21
OCDD	458/460	0.99	0.97	2.3		0.88		0.76 - 1.02
OCDF	442/444	1.08	1.02	6.0		0.85		0.76 - 1.02

Labeled Compounds	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
13C-2378-TCDD	332/334	1.00	0.98	2.3		0.79		0.65 - 0.89
13C-12378-PeCDD	368/370	0.79	0.79	1.0		1.57		1.32 - 1.78
13C-123478-HxCDD	402/404	1.06	1.03	2.6		1.27		1.05 - 1.43
13C-123678-HxCDD	402/404	1.11	1.14	-2.6		1.27		1.05 - 1.43
13C-1234678-HpCDD	436/438	0.90	0.89	0.5		1.04		0.89 - 1.21
13C-OCDD	470/472	0.77	0.85	-9.5		0.88		0.76 - 1.02
13C-2378-TCDF	316/318	1.57	1.50	4.6		0.78		0.65 - 0.89
13C-12378-PeCDF	352/354	1.26	1.22	3.6		1.56		1.32 - 1.78
13C-23478-PeCDF	352/354	1.24	1.18	5.2		1.57		1.32 - 1.78
13C-123478-HxCDF	384/386	1.31	1.25	4.9		0.51		0.43 - 0.59
13C-123678-HxCDF	384/386	1.36	1.38	-0.8		0.52		0.43 - 0.59
13C-234678-HxCDF	384/386	1.22	1.19	3.1		0.52		0.43 - 0.59
13C-123789-HxCDF	384/386	1.23	1.13	8.2		0.52		0.43 - 0.59
13C-1234678-HpCDF	418/420	1.04	1.02	1.5		0.45		0.37 - 0.51
13C-1234789-HpCDF	418/420	0.86	0.82	4.0		0.45		0.37 - 0.51

Clean-up	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ratio Flag [#]	Ratio QC Limits
37CL-2378-TCDD	328	1.11	1.09	2.0		NA	NA	NA

Internal Standards	Selected Ions	RRF	Mean RRF	%D	%D Flag [#]	Ion Ratio	Ion Ratio Flag [#]	Ion Ratio QC Limits
13C-1234-TCDD	332/334	NA	NA	NA	NA	0.79		0.65 - 0.89
13C-123789-HxCDD	402/404	NA	NA	NA	NA	1.26		1.05 - 1.43

(#) The laboratory must flag any analyte which does not meet the criteria for Percentage Difference (%D) or ion abundance ratio by placing an asterisk in the appropriate flag column.

7DFB - Form VII-HR CDD-2
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

Lab Name:	ANALYTICAL RESOURCES	Contract:	ANCHOR
Lab Code:	ATS0	Case No.:	PORT GAMBLE
TO No.:		SDG No.:	
GC Column:	RTX-DIOXIN2	ID (mm):	.25
Instrument ID:	AUTOSPEC1	Lab File ID:	16012913
Date Analysed:	29-Jan-16	Time Analysed:	22:29:47
Init.Calib.Date:	15-OCT-15	Init.Calib.Time:	

Target Analytes	RRT [#]	RT
2378-TCDD	1.001	27.14
2378-TCDF	1.001	26.50
12378-PeCDF	1.001	30.67
12378-PeCDD	1.001	32.27
23478-PeCDF	1.001	32.00
123478-HxCDF	1.000	35.70
123678-HxCDF	1.001	35.85
123478-HxCDD	1.000	36.92
123678-HxCDD	1.000	37.06
123789-HxCDD	1.012	37.48
234678-HxCDF	1.001	36.79
123789-HxCDF	1.000	37.90
1234678-HpCDF	1.000	40.03
1234678-HpCDD	1.000	41.89
1234789-HpCDF	1.000	42.79
OCDD	1.001	48.01
OCDF	1.006	48.28

Labeled Compounds	RRT [#]	RT
13C-2378-TCDD	1.031	27.12
13C-12378-PeCDD	1.225	32.24
13C-123478-HxCDD	0.985	36.91
13C-123678-HxCDD	0.989	37.04
13C-1234678-HpCDD	1.118	41.87
13C-OCDD	1.281	47.98
13C-2378-TCDF	1.006	26.48
13C-12378-PeCDF	1.164	30.64
13C-23478-PeCDF	1.215	31.98
13C-123478-HxCDF	0.953	35.69
13C-123678-HxCDF	0.956	35.83
13C-234678-HxCDF	0.982	36.77
13C-123789-HxCDF	1.011	37.89
13C-1234678-HpCDF	1.068	40.00
13C-1234789-HpCDF	1.142	42.78

Clean up Standard	RRT [#]	RT
37CL-2378-TCDD	1.03	27.14

Internal Standards	RRT [#]	RT
13C-1234-TCDD	0.00	26.32
13C-123789-HxCDD	0.00	37.46

(#) RRT = (RT of Analyte)/(RT of appropriate labeled compound).

Metals Analysis
Report and Summary QC Forms

ARI Job ID: ATSO

Cover Page

INORGANIC ANALYSIS DATA PACKAGE



CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

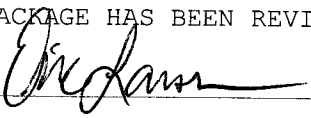
SDG: APR4

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
PG-T0-MUS-COC-1510	APR4A	15-20439	
PG-T0-MUS-COC-1510D	APR4ADUP	15-20439	
PG-T0-MUS-COC-1510S	APR4ASPK	15-20439	
PBS	APR4MB1	15-20439	
LCSS	APR4MB1SPK	15-20439	
PG-SMA2-2-MUS-COC-	ATS0A	16-135	
PG-PJ-1-MUS-COC-16	ATS0B	16-136	
PG-WS-1-MUS-COC-16	ATS0C	16-137	
PG-GP-1-MUS-COC-16	ATS0D	16-138	
PG-SMA2-5-MUS-COC-	ATS0E	16-139	
PG-SMA2-4-MUS-COC-	ATS0F	16-140	

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature:  Name: Eric Larson

Date: 1-20-10 Title: Inorganics Director


COVER PAGE

ATS0: 00068

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: PG-SMA2-2-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSOA
LIMS ID: 16-135
Matrix: Tissue
Data Release Authorized: 
Reported: 01/20/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.40

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: PG-PJ-1-MUS-COC-160104
SAMPLE**

Lab Sample ID: ATSOB
LIMS ID: 16-136
Matrix: Tissue
Data Release Authorized:
Reported: 01/20/16



QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16


Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.31

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: PG-WS-1-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSO0
LIMS ID: 16-137
Matrix: Tissue
Data Release Authorized: 
Reported: 01/20/16

QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/04/16
Date Received: 01/06/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.38

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: PG-GP-1-MUS-COC-160104
SAMPLE**

Lab Sample ID: ATS0D

LIMS ID: 16-138

Matrix: Tissue

Data Release Authorized:

Reported: 01/20/16



QC Report No: ATS0-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: 01/04/16

Date Received: 01/06/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.38

U-Analyte undetected at given LOQ

LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: PG-SMA2-5-MUS-COC-160104
SAMPLE

Lab Sample ID: ATSOE

LIMS ID: 16-139

Matrix: Tissue

Data Release Authorized: 

Reported: 01/20/16

QC Report No: ATSO-Anchor QEA, LLC

Project: Port Gamble Clean-Up

150388-01.01

Date Sampled: 01/04/16

Date Received: 01/06/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.28

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: PG-SMA2-4-MUS-COC-160105
SAMPLE

Lab Sample ID: ATSO
LIMS ID: 16-140
Matrix: Tissue
Data Release Authorized:
Reported: 01/20/16



QC Report No: ATSO-Anchor QEA, LLC
Project: Port Gamble Clean-Up
150388-01.01
Date Sampled: 01/05/16
Date Received: 01/06/16

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.27

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: APR4LCS
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized:
Reported: 01/20/16



QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Cadmium	6010C	20.4	20.0	102%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Sample ID: METHOD BLANK

Page 1 of 1

Lab Sample ID: APR4MB
LIMS ID: 15-20439
Matrix: Tissue
Data Release Authorized:
Reported: 01/20/16



QC Report No: APR4-Anchor QEA, LLC
Project: Port Gamble Clean-up
1503880101
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	LOQ	mg/kg-as-rec Q	
3050B	01/15/16	6010C	01/19/16	7440-43-9	Cadmium	0.04	0.04	U

U-Analyte undetected at given LOQ
LOQ-Limit of Quantitation

Calibration Verification

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4



UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Cadmium	CD	ICP	IP011971	1000.0	1042.74	104.3	1000.0	1045.76	104.6	1041.40	104.1	1040.58	104.1				

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

ATSO: 00077

CRDL Standard

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4



UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Cadmium	CD	ICP	IP011971	2.0		2.11	105.5										

Control Limits: no control limits have been established by the EPA at this time.

Calibration Blanks

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4



UNITS: ug/L

ANALYTE	EL METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Cadmium	CD	ICP	IP011971	5.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

ICP Interference Check Sample



CLIENT: Anchor QEA, LLC

ICS SOURCE: I.V.

PROJECT: Port Gamble Clean-up

RUNID: IP011971

SDG: APR4

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	201753.5	199981.7	100.0						
Antimony	1000	1000	13.6	1036.8	103.7						
Arsenic	1000	1000	27.3	1037.0	103.7						
Barium	1000	1000	2.9	1014.9	101.5						
Beryllium	1000	1000	0.1	982.1	98.2						
Boron			1.3	0.7							
Cadmium	1000	1000	-1.2	1035.9	103.6						
Calcium	100000	100000	100350.8	99635.7	99.6						
Chromium	1000	1000	0.1	1015.8	101.6						
Cobalt	1000	1000	2.9	955.5	95.6						
Copper	1000	1000	1.8	1049.4	104.9						
Iron	200000	200000	196759.8	1966913.6	98.5						
Lead	1000	1000	2.3	1002.9	100.3						
Magnesium	100000	100000	105423.2	99682.4	99.7						
Manganese	1000	1000	-1.1	966.2	96.6						
Molybdenum			3.6	2.9							
Nickel	1000	1000	1.4	952.4	95.2						
Potassium			27.9	7.3							
Selenium	1000	1000	16.8	1020.5	102.1						
Silicon			-11.3	-12.9							
Silver	1000	1000	-1.0	1073.3	107.3						
Sodium			3.1	-2.3							
Strontium			6.4	6.3							
Thallium	1000	1000	-6.2	950.3	95.0						
Tin			-20.9	-21.8							
Titanium			4.1	4.1							
Vanadium	1000	1000	3.1	992.8	99.3						
Zinc	1000	1000	5.5	937.5	93.8						

IDLs and ICP Linear Ranges

ANALYTICAL
RESOURCES 
INCORPORATED

CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENGTH (nm)	GFA BACK- GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2012	20000.0	5/27/2015

FORM X/XII

ATS0:00081

ICP Interelement Correction Factors



CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4

IEC DATE: 1/5/2016

INSTRUMENT ID: OPTIMA ICP 1

ANALYTE	WAVELENGTH	AL	AS	EA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	14.7924220	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.1347330	0.0000000	-1.0660850	1.6287880	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1619400	0.0000000	0.0000000	0.1406640
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.6057370	0.0000000	0.0000000	0.0000000	0.0000000	0.1250180	0.0000000	0.0000000	0.0079490
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.5200790	0.0076930	0.0000000	-0.0359620	0.0000000	0.0000000	-0.0391990
Cobalt	228.62	0.0000000	0.0000000	0.1021560	0.0000000	0.0000000	0.0000000	0.0000000	-0.0313664	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1747430	-0.0205733	0.0000000	-0.0443630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.0269110	0.0000000	0.0000000
Lead	220.35	-0.2304480	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.7905170	1.3513780	0.0487660
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1232790	0.0000000	-1.6648310	-1.2729830	0.0000000	0.6500090
Manganese	257.61	0.0068696	0.0000000	0.0000000	0.0000000	0.0039080	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0182900	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.1733140	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5005300	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.4810440	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	330.24	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	6.2416330	0.4098520	0.0000000	-0.1141150
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1815637	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0674280	0.0000000	0.0000000	0.2004620	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1323790	0.0000000	0.0433830
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1277681	0.0000000	0.0000000

ICP Interelement Correction Factors



CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

IEC DATE: 1/5/2016

SDG: APR4

INSTRUMENT ID: OPTIMA ICP 1

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	16.6791990	0.0000000	0.0000000	0.0000000	1.6050850	0.0000000	14.4572670	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5069520	0.0000000	-4.0601450	0.0000000
Arsenic	188.98	0.0000000	0.0000000	3.6223120	0.0000000	0.0000000	0.0000000	-27.5814050	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0895220	0.0000000	0.0000000	0.0000000	0.0000000	0.1953560	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0125780	0.0000000	0.2292760	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.9227370	0.0000000	0.0000000	0.0000000	0.0000000	0.0671390	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.1010740	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3494600	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1298730	0.1583160	0.0000000	0.0000000	1.7862780	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0057160	0.0000000	0.3208870	0.0000000	0.0000000	0.0000000	0.1832950	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.2567580	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-5.6138960	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	-0.1995920	0.0000000	0.0000000	0.0000000	-0.02220710	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5480870	0.0000000	0.4463050	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0481990	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.6820300	0.0000000
Silicon	288.16	0.0000000	0.0000000	-1.5952730	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2760730	0.0000000
Sodium	330.24	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	-1.5056600	0.0000000	0.0000000	0.0000000	247.8313240	0.0000000	0.0000000	318.3962490
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0440830	-0.5226220	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9947150	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1465610	-0.3842450	0.0000000	0.0000000	0.0000000	0.5446660	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2762240	0.0000000	-0.0714258	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

FORM XI

Preparation Log



CLIENT: Anchor QEA, LLC

ANALYSIS METHOD: ICP

PROJECT: Port Gamble Clean-up

ARI PREP CODE: FRN

SDG: APR4

PREPDATE: 1/15/2016

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
PG-T0-MUS-COC-1510	APR4A	2.579	0.0	50.0
PG-T0-MUS-COC-1510D	APR4ADUP	2.583	0.0	50.0
PG-T0-MUS-COC-1510S	APR4ASPK	2.582	0.0	50.0
PBS	APR4MB1	2.500	0.0	50.0
LCSW	APR4MB1SPK	2.500	0.0	50.0
PG-SMA2-2-MUS-COC-	ATS0A	2.509	0.0	50.0
PG-PJ-1-MUS-COC-16	ATS0B	2.555	0.0	50.0
PG-WS-1-MUS-COC-16	ATS0C	2.577	0.0	50.0
PG-GP-1-MUS-COC-16	ATS0D	2.584	0.0	50.0
PG-SMA2-5-MUS-COC-	ATS0E	2.507	0.0	50.0
PG-SMA2-4-MUS-COC-	ATS0F	2.577	0.0	50.0

Analysis Run Log



CLIENT: Anchor QEA, LLC

PROJECT: Port Gamble Clean-up

SDG: APR4

INSTRUMENT ID: OPTIMA ICP 2
 RUNID: IP011971 METHOD: ICP

START DATE: 1/19/2016
 END DATE: 1/19/2016

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN	
CCV	CCV3	1.00	12231									X																						
CCB	CCB3	1.00	12272									X																						

Percent Lipids

ARI Job ID: ATSO

LIPIDS ANALYSIS DATA SHEET
 Percent Lipids by Method Bligh&Dyer



Data Release Authorized: *AB*
 Reported: 01/20/16
 Date Received: 01/06/16
 Page 1 of 1

QC Report No: ATSO-Anchor QEA, LLC
 Project: Port Gamble Clean-Up
 150388-01.01

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
PG-SMA2-2-MUS-COC-160104 ATSOA 16-135	01/04/16	Tissue	01/14/16	0.0010	1.11 %
PG-PJ-1-MUS-COC-160104 ATSOB 16-136	01/04/16	Tissue	01/14/16	0.0009	0.979 %
PG-WS-1-MUS-COC-160104 ATSOC 16-137	01/04/16	Tissue	01/14/16	0.0010	1.21 %
PG-GP-1-MUS-COC-160104 ATSD 16-138	01/04/16	Tissue	01/14/16	0.0010	1.10 %
PG-SMA2-5-MUS-COC-160104 ATSOE 16-139	01/04/16	Tissue	01/14/16	0.0010	1.07 %
PG-SMA2-4-MUS-COC-160105 ATSO F 16-140	01/05/16	Tissue	01/14/16	0.0010	0.926 %
Method Blank			01/14/16	0.0010	0.0700 %
PG-SMA2-2-MUS-COC-160104 DUP ATSOADUP 16-135	01/04/16	Tissue	01/14/16	0.0009	1.13 % RPD: 1.8 %
PG-SMA2-2-MUS-COC-160104 TRP ATSOATRP 16-135	01/04/16	Tissue	01/14/16	0.0010	1.18 % RPD: 6.1 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit
 U-Undetected at reported detection limit



Preparation Test % Lipid Test # 1
ARI JOB No(s) ATS0/APR4/AUAZ

In-House
Batch set up by: SP

Jar #	ARI Sample ID	Original Extracted Weight (wet wt)	Original Volume (FEV) (mL)	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight (g)	Tare+Sample Weight (g)	Comments	Verify Client ID
	MBT ATS0	10.00g	1 mL	(Y/N)	(1,000 µL)	1.1628	1.1705		
1	A	10.23	1 mL	(Y/N)	(1,000 µL)	1.1603	1.2738		
1	Adip	10.75	1 mL	(Y/N)	(1,000 µL)	1.1649	1.2869		
1	Atrip	10.21	1 mL	(Y/N)	(1,000 µL)	1.1630	1.2837		TA 1/14/16
1	B	10.73	1 mL	(Y/N)	(1,000 µL)	1.1608	1.2660		Analyst/Date KD 80-85°C 3456
1	C	10.41	1 mL	(Y/N)	(1,000 µL)	1.1602	1.2856		
1	D	10.21	1 mL	(Y/N)	(1,000 µL)	1.1618	1.2739		
1	E	10.22	1 mL	(Y/N)	(1,000 µL)	1.1663	1.2747		
1	F	10.37	1 mL	(Y/N)	(1,000 µL)	1.1673	1.2626		RMH 1-18-16
1	APR4 A	10.28	1 mL	(Y/N)	(1,000 µL)	1.1606	1.2957		
1	AUAZ A	10.39	1 mL	(Y/N)	(1,000 µL)	1.1628	1.2992		
1	B	10.55	1 mL	(Y/N)	(1,000 µL)	1.1630	1.3107		
1	C	10.30	1 mL	(Y/N)	(1,000 µL)	1.1598	1.2926		Analyst/Date
			mL	(Y/N)	(µL)				TurboVap 23
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
Analyst/Date	TH 1/14/16					SP 1/19/16	SP 1/20/16	Reviewed by/Date	SP 1/20/16
Balance ID:	B139298002					Analytical Balance ID:	B146454145		

SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissue mizing. 5. Tissue mize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD (Normal drying column) at 80-85°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.

* NOTE: GENERALLY A 10:1 RATIO IS THE TARGET (10g sample to 1mL FEV)

Freeze Y(N)

Reagent and Solutions Identification

(Modified Bligh/Dyer) % Lipids - Tissue
 Modified TissueMizer (3550C) (SOP # 340S)

ARI JOB No(s) ATSO/APR4/AUAZ

(Modified Bligh/Dyer) % Lipids Tissue:	Analyst/Date
<u>TissueMizing Station:</u> Anhydrous Sodium Sulfate: (I# + jar date) <u>D445348</u> 1:1 Methylene Chloride/Acetone: (H#) <u>E44448</u> Methylene Chloride: (I#) <u>E44442</u> Neutral Glasswool: (I#) <u>D443778</u>	TissueMize <u>CT 4/15/16</u> <u>YJL</u>
<u>KD Station:</u> Neutral Glasswool: (I#) Anhydrous Sodium Sulfate: (I# + jar date) Methylene Chloride: (I#) <u>E000042</u>	KD <u>RMH</u> <u>1-18-16</u>
<u>Vialing Station:</u> Methylene Chloride: (I#) <u>E000042</u>	Vialing <u>SP</u>



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: ATS & APRY

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: % Lipids

Client Project: Port Gamble Cleanup

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	<u>B 1/20/16</u>

SIM PAH Raw Data
Extraction Bench Sheets and Notes

ARI Job ID: ATS0



Miscellaneous

Water/Soil/Sed/Tissue/Other

Separatory Funnel (3510C)/Liq-Liq (3520C)

Sonication (3550C)/Microwave (3546)

TissueMize (Modified 3550C)

Analysis Low level Simp A

Preparation Test Misc # 1

ARI Job No(s) APR4/ATSO/ALAZ

Batch # _____

Batch set up by SP

ARI Sample I.D.	Weight Or Volume Extracted	Sonic Hom + Chk	(REQ/Opt) GPC	(REQ/Opt) Acid Clean	(REQ/Opt) Sulfur Clean	(REQ/Opt) SPE Clean	Final Effective Volume	Vol to Lab	Comments	Verify Client ID
APR4 BLK	10.00 g		Y/N	Y/N	Y/N	Y/N	0.5 mL	0.5 mL		ME 01/14/16 Analyst/Date
BS	10.00 g									Pre-GPC KD 023456 50°C Exchange to Hex? Analyst/Date 1/15/16
BS Dup										TurboVap Pre-GPC 12345 Analyst/Date 1/19/16
MRL Check										
APR4 SRM	10.00								SRM 1974C	
L A	10.02									
ATSO A	10.04									
B	10.01									
BMS	10.01									Post GPC 1/24/16 KD 023456 50°C Exchange to Hex? Analyst/Date
BMS	10.00									
C	10.04									
D	10.03									
E	10.05									
F	10.04									TurboVap Post-GPC 12345 Analyst/Date 1/20/16
ALAZ A	10.00									
B	10.02									
C	10.01									TurboVap Pre-Cleanups 12345 Analyst/Date 1/20/16
										TurboVap Post-Cleanups 12345 Analyst/Date 1/21/16
Analyst/Date	01/14/16		1/19/16				1/20/16	1/21/16	1/21/16	Reviewed by/Date 1/21/16

Standard	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Low level Surrogate Spike	17 (D045230)	1.5/7.5 mg/ml	100 µL	11/11/10	CT	
Spike	()		µL			
Low level Spike	18 (D044411)	1.5/7.5 mg/ml	100 µL	11/11/10	CT	
MRL Spike	()		µL			

Extraction Time: 16.50
SPECIAL INSTRUCTIONS: 3057F

Liq/Liq Start: LL
Liq/Liq Stop: LL
(2x) 1:1 DCM/Acetone
(1x) LLDCM only
KD = LLDCM!

GPC = LLDCM!
VIALER = LLDCM!

Balance ID: B139297002

ATSO: 00093

Organic Extractions Reagent and Solutions Identification

Analysis: LL-Sim PNA
Method: _____

ARI Job No(s) APR4, ATSP

Soil/Sediment/Solid/Tissue/Other:	Analyst/Date
Sonication/Microwave/Tissue/size Station: Neutral Sodium Sulfate: (<u>D005308</u>) Pre-deactivated Sodium Sulfate: (<u>N/A</u>) Neutral Glasswool: (<u>D003978</u>) Pre-deactivated Glasswool: (<u>N/A</u>) 1:1 Hexane/Acetone: (<u>NA</u>) 80:20 Hexane/Acetone: (<u>NA</u>) 4L 1:1 DCM/Acetone: (<u>E000167</u>) 80:20 DCM/Acetone: (<u>N/A</u>) Hexane: (<u>N/A</u>) 4L DCM: (<u>D004497</u>) Other: () Other: ()	Sonication/Microwave/Tissue/size <u>6/15/16</u> <u>4L/CT</u>
Pre-GPC KD Station: Hexane: () DCM: (<u>D004685</u>) Neutral Sodium Sulfate: () Pre-deactivated Sodium Sulfate: () Neutral Glasswool: () Pre-deactivated Glasswool: () Other: () Other: ()	Pre-GPC KD <u>RU</u> <u>1/15/16</u>
GPC Filter Prep: DCM: (<u>D004685</u>) Other: () Other: ()	GPC Filter Prep <u>W</u> <u>1/18/16</u>
GPC Station: Acetone: (<u>D003482</u>) 2L DCM: (<u>D004685</u>) 1:1 DCM/Acetone: () Other: () Other: ()	GPC <u>G</u> <u>1/18/16</u>
Post GPC KD Station: 4L DCM: (<u>D004625</u>) Hexane: (<u>D005305</u>) Other: () Other: ()	Post GPC KD <u>Me/CT</u> <u>6/12/16</u>
Vialing Station: Hexane: (<u>D005345</u>) L DCM: (<u>D004685</u>) Concentrated Sulfuric Acid: () Ethyl Acetate: () Tetrabutylammonium hydrogensulfate (TBAS): () Sodium Sulfite: () Copper: () Silica Gel (SPE) Darts: () 0% Silica Gel: (<u>D004343</u>) Alumina: () HexMgBr: () Other: <u>Glass wool (D001829)</u> Other: <u>Sodium Sulfate D005373</u> 60:40 Pent/DCM <u>E000235</u>	Vialing <u>SP</u> <u>4/20/16</u> <u>SP 1/21/16</u>



Analytical Resources,
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Analytical Chemists and
Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: APR4/ATSC

Client ID: Anchor QEA, LLC

Batch ID: _____

Parameter: Low level SIM PNA

Client Project: Port Gamble Cleanup

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

**SIM PAH Raw Data
Initial Calibration**

ARI Job ID: ATS0

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH (0.5 ug/kg)	Solid	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
1	Element Calibration Code Comments: <i>YL00008</i>	YES	JLW	12/05/2015
2	DFTPP Tune met criteria	YES	JLW	12/05/2015
3	DDT breakdown <20%	YES	JLW	12/05/2015
4	Peak Tailing factor <= 2% Comments: <i>Benzidine TD @ 2.11</i>	NO	JLW	12/05/2015
5	ICal meets 20% RSD, LR COD, and QR COD limits	YES	JLW	12/05/2015
6	NO ICAL Q Flag applied	YES	JLW	12/05/2015
7	Manual integrations include before/after pictures	NA	JLW	12/05/2015
8	Spectral Library matches updated	YES	JLW	12/05/2015
9	Internal Standard areas within 50-200% from reference	YES	JLW	12/05/2015
10	Minimum response factors met			12/30/1899
11	All SCV within +/- 20% (DOD)	YES	JLW	12/05/2015
12	All SCV within +/- 30%	YES	JLW	12/05/2015
13	NO Linear or Quadratic fits used	YES	JLW	12/05/2015
14	NO Calibration points dropped	YES	JLW	12/05/2015
15	Additional notes	NA	JLW	12/05/2015
16	Reviewer approval (Reviewer)	YES	BB	12/07/2015

* = Indicates Automated Response from Element DataSystem

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt11.i\20151204.b\15120404.D
 Level 2: \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Level 3: \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Level 4: \\target\share\chem3\nt11.i\20151204.b\15120402.D
 Level 5: \\target\share\chem3\nt11.i\20151204.b\15120406.D
 Level 6: \\target\share\chem3\nt11.i\20151204.b\15120407.D

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRP	% RSD
5 Naphthalene	1.19875	1.25660	1.20859	1.13779	1.09546	1.03421	1.15523	7.090
7 2-Methylnaphthalene	0.75696	0.82162	0.81758	0.82518	0.78721	0.75401	0.79376	4.105
8 1-Methylnaphthalene	0.67221	0.74285	0.74457	0.74059	0.71073	0.68104	0.71533	4.554
10 Acenaphthylene	1.58688	1.68774	1.64577	1.62759	1.60202	1.53483	1.61414	3.252
12 Acenaphthene	1.08363	1.13588	1.09716	1.06578	1.04086	1.00481	1.07135	4.251
14 Dibenzofuran	1.63702	1.74172	1.68518	1.62325	1.55902	1.43742	1.61394	6.569
15 Fluorene	1.15912	1.25912	1.24842	1.23125	1.20885	1.15567	1.21040	3.673
17 Pentachlorophenol	++++	++++	++++	++++	++++	++++	++++	++++
19 Phenanthrene	1.20070	1.33868	1.26117	1.22278	1.14299	1.06348	1.20497	7.894
20 Anthracene	1.01417	1.08937	1.08864	1.11858	1.12165	1.03900	1.07857	4.018
22 Carbazole	++++	++++	++++	++++	++++	++++	++++	++++
24 Fluoranthene	1.09490	1.29137	1.25014	1.26562	1.22706	1.12956	1.20977	6.544
25 Pyrene	1.56990	1.71816	1.63928	1.57402	1.55717	1.44465	1.58387	5.751
28 Benzo(a)anthracene	1.26389	1.42412	1.34869	1.34036	1.33833	1.28529	1.33345	4.200
30 Chrysene	1.46075	1.64931	1.51090	1.43415	1.41191	1.31399	1.46350	7.649
44 Benzo(b)fluoranthene	1.23590	1.44922	1.33506	1.30908	1.42782	1.37318	1.35504	5.830
45 Benzo(k)fluoranthene	1.40405	1.66492	1.57480	1.60115	1.63773	1.59156	1.57904	5.812
46 Benzo(j)fluoranthene	1.32355	1.58148	1.42960	1.41908	1.47673	1.39992	1.43839	5.986
34 Benzo(a)pyrene	1.12243	1.39016	1.28482	1.30477	1.39200	1.35226	1.30774	7.704
37 Indeno(1,2,3-cd)pyrene	1.07019	1.39573	1.34204	1.37226	1.52877	1.52953	1.37309	12.270
38 Dibenzo(a,h)anthracene	0.79381	1.05747	1.07068	1.11092	1.23311	1.24877	1.08579	15.143
39 Benzo(g,h,i)perylene	1.03016	1.23486	1.17375	1.17405	1.27154	1.26755	1.19199	7.571
47 Perylene	1.25753	1.47517	1.35486	1.30583	1.39016	1.35136	1.35582	5.480
48 Benzo(e)pyrene	1.29965	1.48474	1.37096	1.32360	1.39138	1.34634	1.36945	4.764
\$ 6 2-Methylnaphthalene-d10	0.70562	0.76809	0.76144	0.76607	0.73856	0.71434	0.74235	3.683
\$ 16 2,4,6-Tribromophenol	++++	++++	++++	++++	++++	++++	++++	++++
\$ 23 Fluoranthene-d10	1.01495	1.15239	1.11432	1.13346	1.12157	1.06256	1.09988	4.666

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-DEC-2015 09:03
 End Cal Date : 04-DEC-2015 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Last Edit : 05-Dec-2015 09:24 jonathonw
 Curve Type : Average

Compound	10.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
\$ 36 Dibenzo(a,h)anthracene-d14	0.59288	0.78076	0.79874	0.81630	0.91118	0.94354	0.80723	15.292



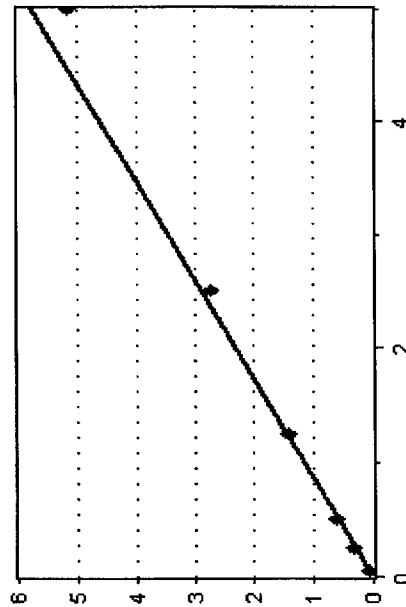
Calibration Report

Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

Naphthalene

8270D-SIM PAH (0.5 ug/kg) - Naphthalene



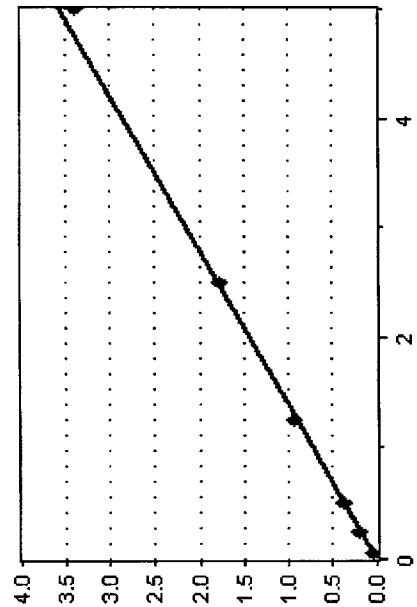
Average RF

RF RSD: 7.089665

[Conc] = 1.155235 * [Response]

1-Methylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 1-Methylnaphthalene



Average RF

RF RSD: 4.554497

[Conc] = 0.7153312 * [Response]

AT00:00100



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Calibration Report

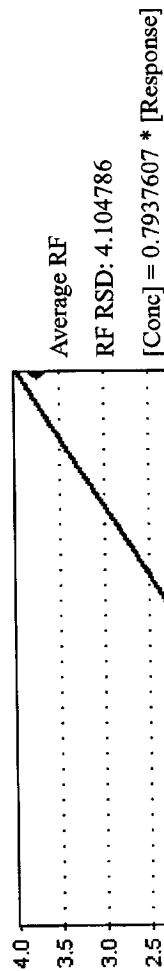
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/kg)
2-Methylnaphthalene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)

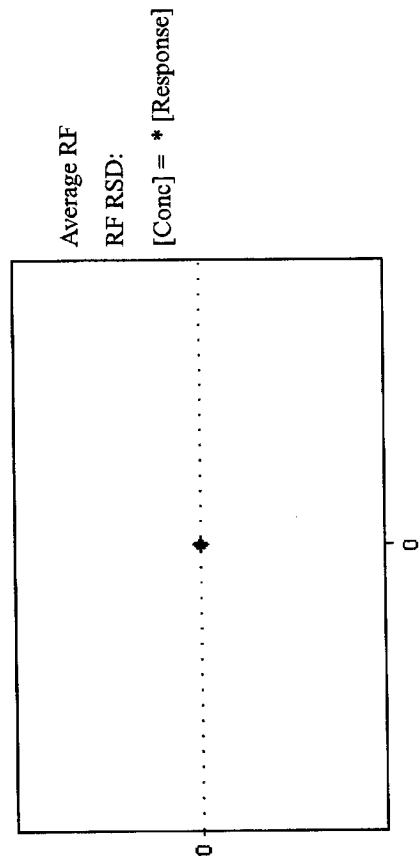
2-Methylnaphthalene

8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene



Biphenyl

8270D-SIM PAH (0.5 ug/kg) - Biphenyl



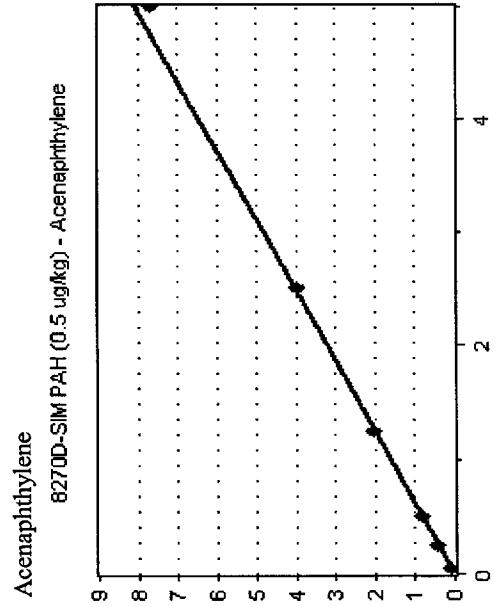
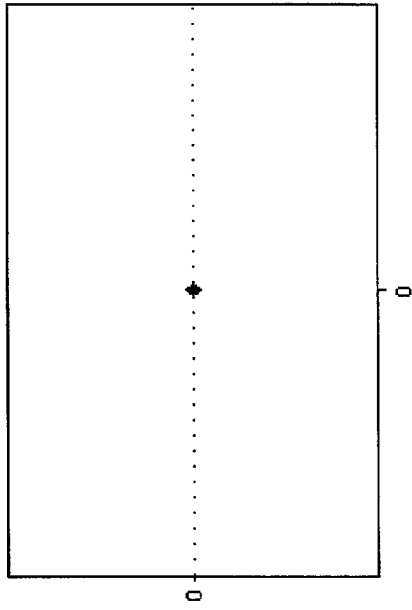


Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)
2,6-Dimethylnaphthalene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - 2,6-Dimethylnaphthalene





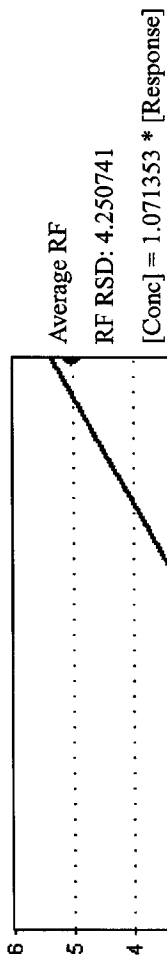
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Calibration Report

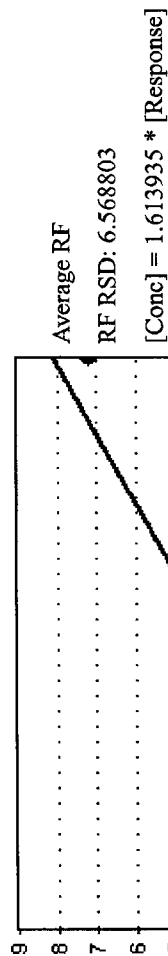
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

Acenaphthene
8270D-SIM PAH (0.5 ug/kg) - Acenaphthene



Dibenzofuran
8270D-SIM PAH (0.5 ug/kg) - Dibenzofuran



ATCS-00100

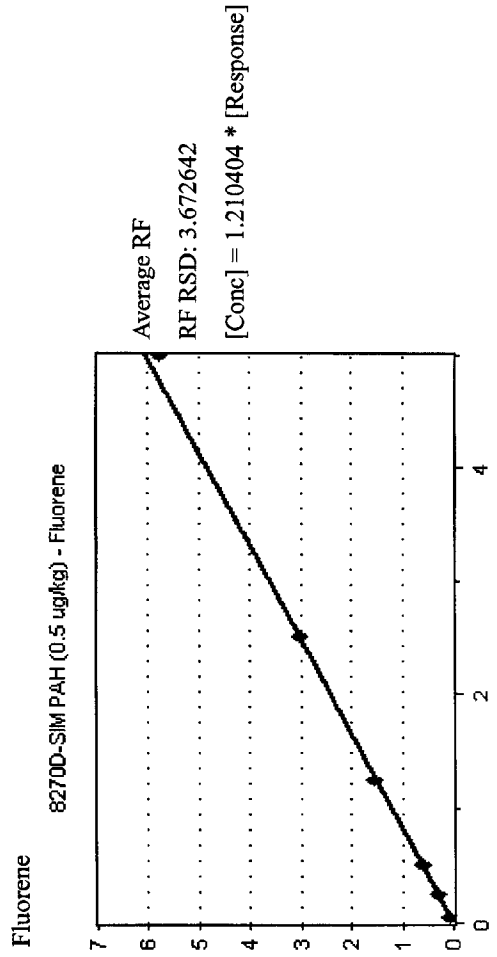
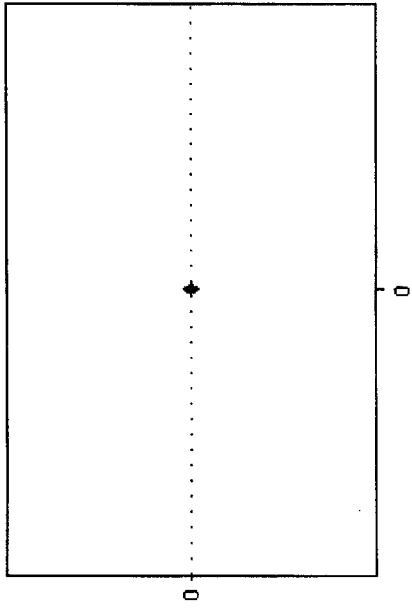


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Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
2,3,5-Trimethylnaphthalene
8270D-SIM PAH (0.5 ug/kg) - 2,3,5-Trimethylnaphthalene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

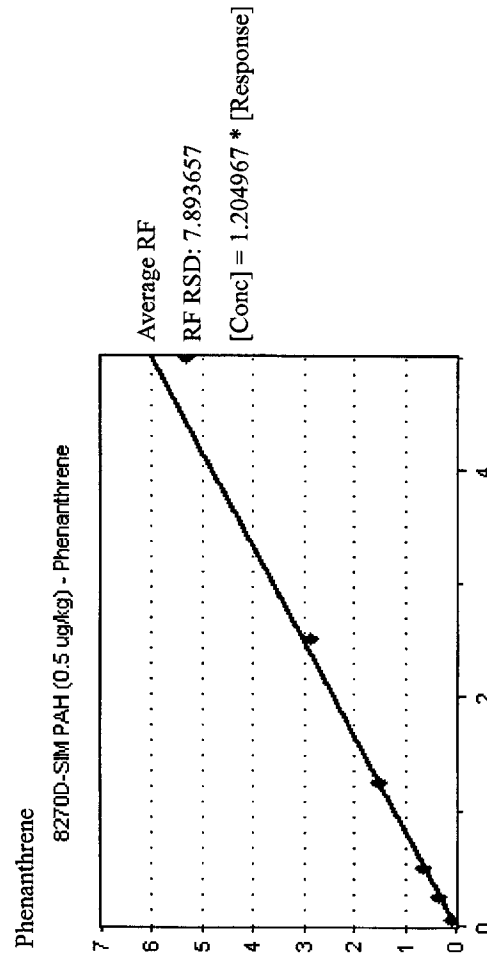
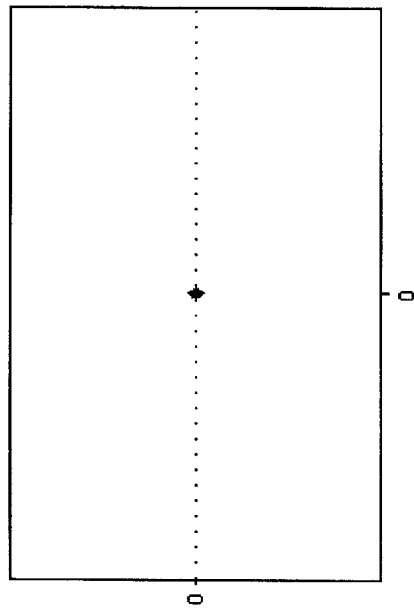




Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Dibenzothiophene

04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW



ATSO-00105



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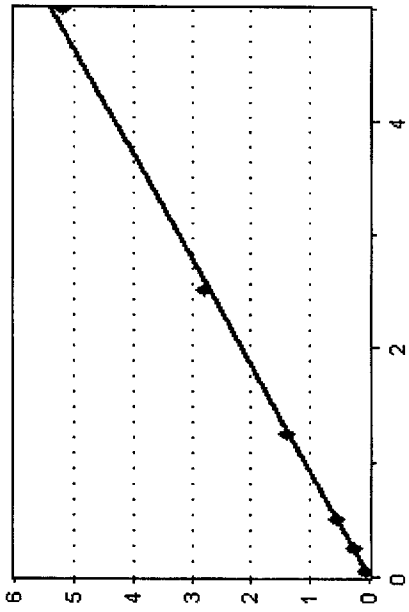
Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k;
Anthracene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

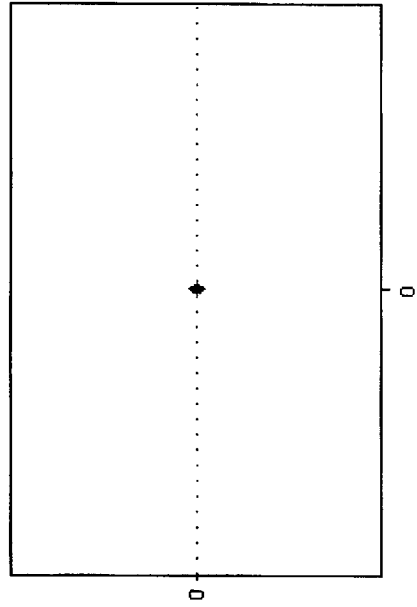
8270D-SIM PAH (0.5 ug/kg) - Anthracene

Anthracene



Average RF
RF RSD: 4.017562
[Conc] = 1.078569 * [Response]

8270D-SIM PAH (0.5 ug/kg) - Carbazole



Average RF
RF RSD:
[Conc] = * [Response]

ATSO: 20105



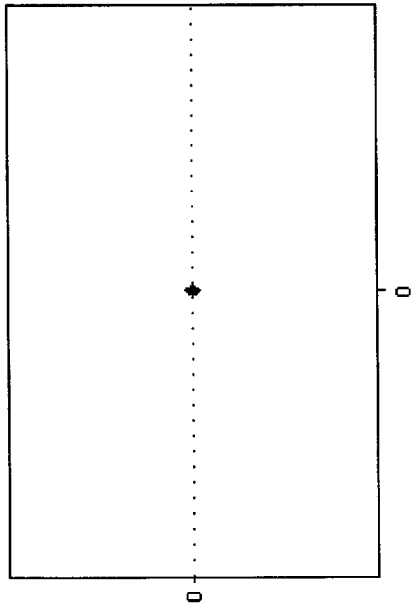
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Calibration Report

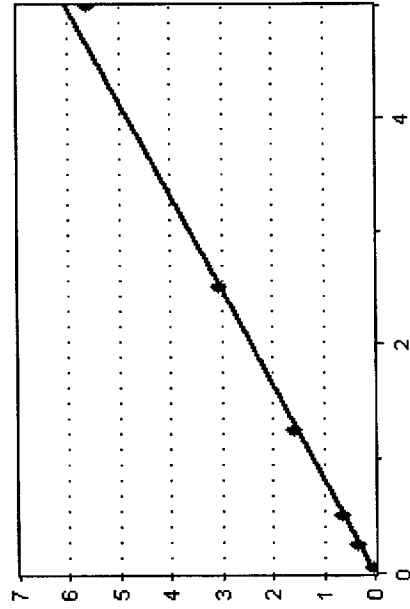
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k)

1-Methylphenanthrene
8270D-SIM PAH (0.5 ug/kg) - 1-Methylphenanthrene



Fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Fluoranthene





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Calibration Report

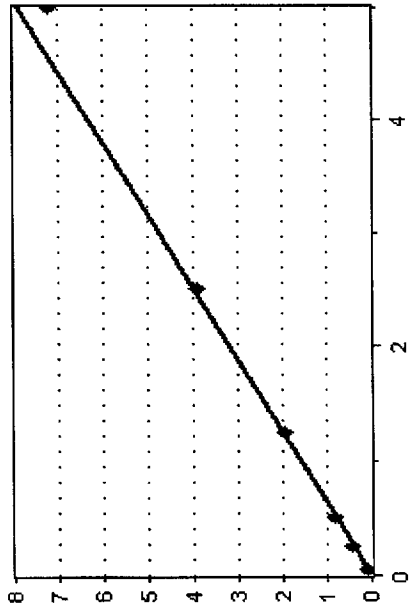
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/kg)
Pyrene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg)

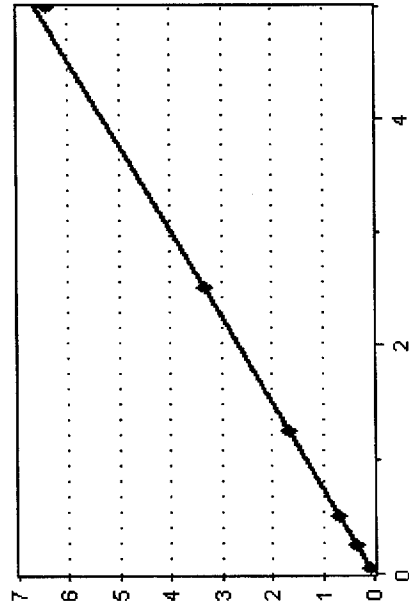
Pyrene

8270D-SIM PAH (0.5 ug/kg) - Pyrene



Benzo(a)anthracene

8270D-SIM PAH (0.5 ug/kg) - Benzo(a)anthracene





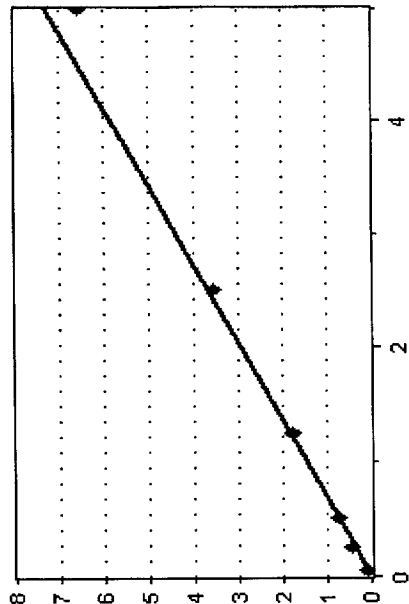
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

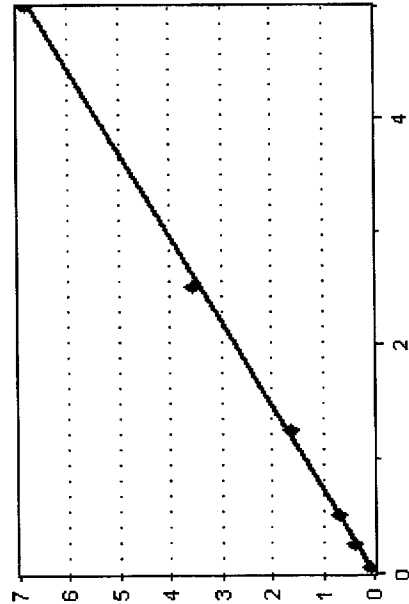
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/kg)
Chrysene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Chrysene



Benzo(b)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(b)fluoranthene



AT50:00109

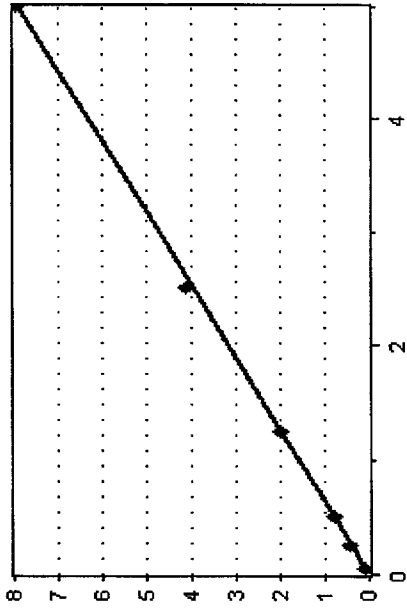


Calibration Report

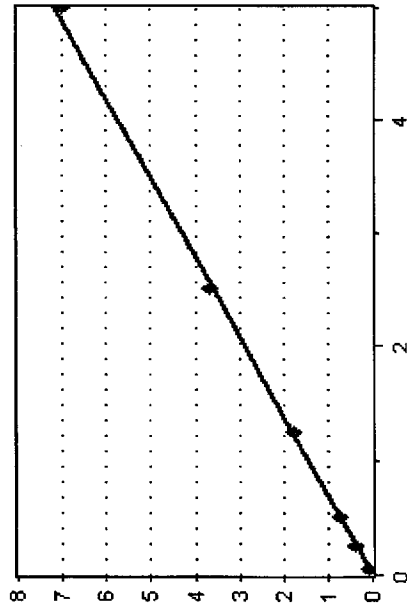
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

Benzo(k)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(k)fluoranthene



Benzo(j)fluoranthene
8270D-SIM PAH (0.5 ug/kg) - Benzo(j)fluoranthene





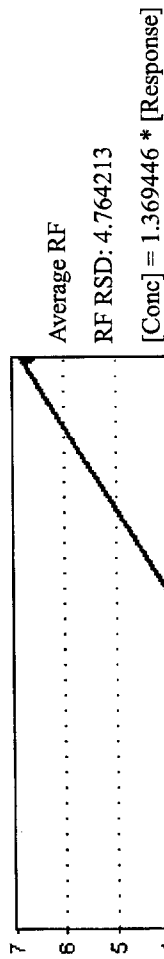
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

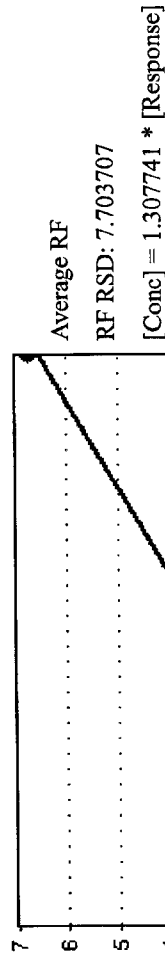
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

Benzo(e)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(e)pyrene



Benzo(a)pyrene
8270D-SIM PAH (0.5 ug/kg) - Benzo(a)pyrene



AT50:00111



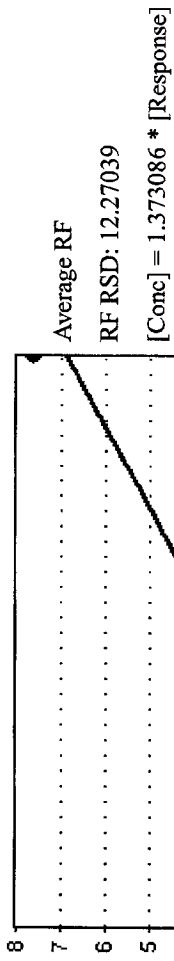
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

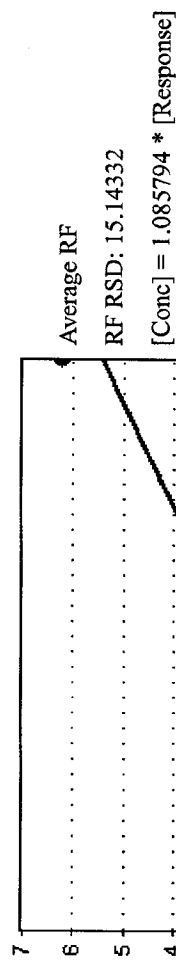
Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/kg)
Indeno(1,2,3-cd)pyrene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Indeno(1,2,3-cd)pyrene



Dibenzo(a,h)anthracene
8270D-SIM PAH (0.5 ug/kg) - Dibenzo(a,h)anthracene



ATSD: 00112

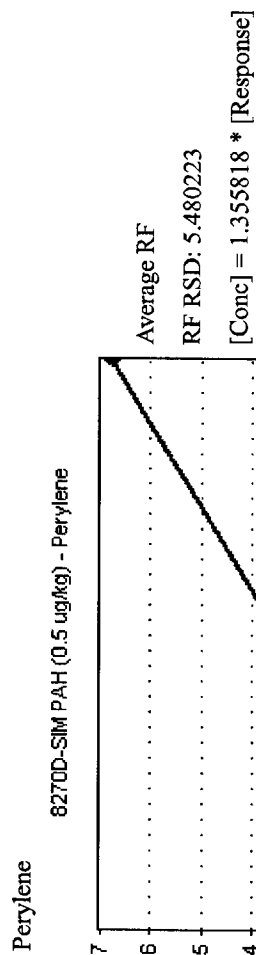
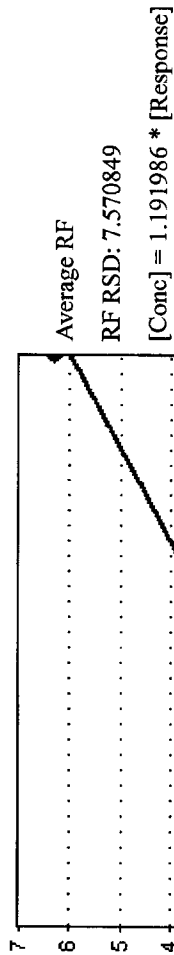


Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/kg)
Benzo(g,h,i)perylene
8270D-SIM PAH (0.5 ug/kg) - Benzo(g,h,i)perylene

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW



ATSO: 00113



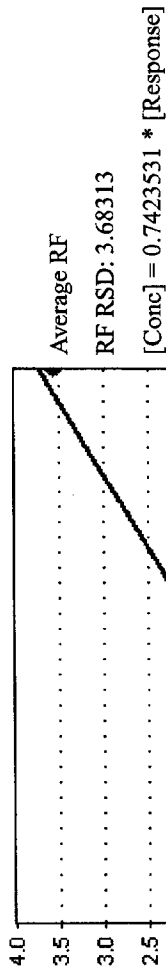
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

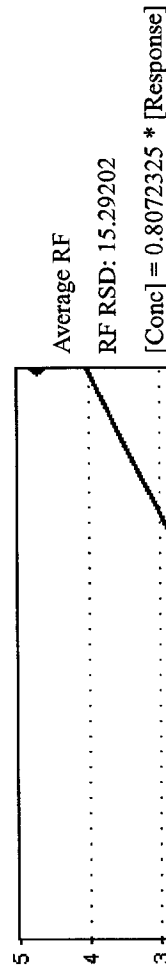
Instrument: NT11
Calibration ID: YL00008
04-Dec-2015 08:45 By JLW
05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/k;

2-Methylnaphthalene-d10
8270D-SIM PAH (0.5 ug/kg) - 2-Methylnaphthalene-d10



Dibenzo[a,h]anthracene-d14
8270D-SIM PAH (0.5 ug/kg) - Dibenzo[a,h]anthracene-d14



ATS0:00114



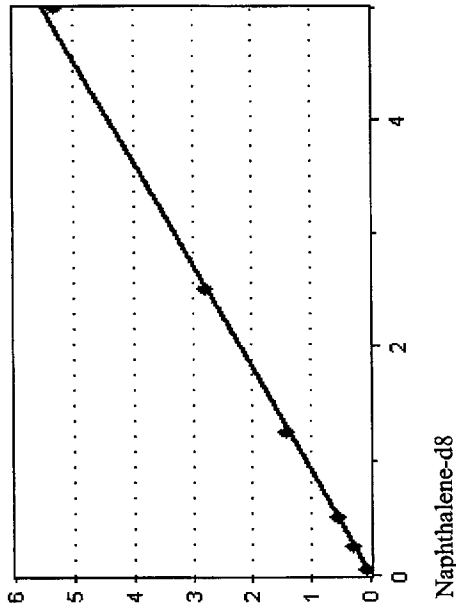
Analytical Resources, Incorporated
Analytical Chemists and Consultants

Calibration Report

Instrument: NT11
Calibration ID: YL00008
8270D-SIM PAH (0.5 ug/k)
Fluoranthene-d10

Calibration Date: 04-Dec-2015 08:45 By JLW
Last Edit Date: 05-Dec-2015 10:30 By JLW

8270D-SIM PAH (0.5 ug/kg) - Fluoranthene-d10



Average RF
RF RSD: 4.666284
[Conc] = 1.099877 * [Response]

Average RF
RF RSD:
[Conc] = * [Response]

ATS0:00115

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20151204.b

ARI Job No.: TUNE Method: DFIPP.m Instrument: nt11.i Date: 04-DEC-2015

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0845	15120401.D	TUNE 10		1	NO MANUAL INTEGRATION
0903	15120402.D	LLSIM 250		1	NO MANUAL INTEGRATION
0933	15120403.D	LLSIM 100		1	NO MANUAL INTEGRATION
1003	15120404.D	LLSIM 10		1	NO MANUAL INTEGRATION
1033	15120405.D	LLSIM 50		1	NO MANUAL INTEGRATION
1103	15120406.D	LLSIM 500		1	NO MANUAL INTEGRATION
1133	15120407.D	LLSIM 1000		1	NO MANUAL INTEGRATION
1204	15120408.D	LLSIM SCV 250		1	NO MANUAL INTEGRATION

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20151204.b

Time	Filename	LabID	Clientid	DF																
1	0845	15120401.D	TUNE 10	1	1	NO ISTD	FOUND													
2	0903	15120402.D	LLSIM 250	1	6.60	327896	9.60	239179	12.27	372253	17.02	294711	19.84	260595						
3	0933	15120403.D	LLSIM 100	1	6.60	322094	9.60	228988	12.27	364343	17.02	276576	19.84	245162						
4	1003	15120404.D	LLSIM 10	1	6.60	325673	9.60	218580	12.27	358974	17.01	262207	19.84	229323						
5	1033	15120405.D	LLSIM 50	1	6.60	322810	9.60	219192	12.27	354307	17.01	262604	19.84	229726						
6	1103	15120406.D	LLSIM 500	1	6.60	340768	9.60	241553	12.27	382017	17.01	296788	19.84	253397						
7	1133	15120407.D	LLSIM 1000	1	6.60	337457	9.60	238950	12.27	380348	17.01	298514	19.84	256244						
8	1204	15120408.D	LLSIM SCV 250	1	6.60	330144	9.60	236381	12.27	360337	17.01	291007	19.83	242244						

Report Date : 05-Dec-2015 10:32

Page 1

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 4 Naphthalene-d8	6.598	6.597	6.598	6.598	6.598	6.598	6.598	6.348-6.848	6.598	0.000
5 Naphthalene	6.640	6.629	6.629	6.629	6.629	6.629	6.629	6.379-6.879	6.631	0.004
\$ 6 2-Methylnaphthalene-d1	7.575	7.575	7.575	7.575	7.575	7.575	7.575	7.325-7.825	7.575	0.000
7 2-Methylnaphthalene	7.638	7.638	7.638	7.627	7.627	7.627	7.627	7.377-7.877	7.632	0.006
8 1-Methylnaphthalene	7.890	7.890	7.890	7.890	7.890	7.890	7.890	7.640-8.140	7.890	0.000
10 Acenaphthylene	9.446	9.446	9.446	9.446	9.446	9.446	9.446	9.196-9.696	9.446	0.000
* 11 Acenaphthene-d10	9.601	9.601	9.601	9.601	9.601	9.601	9.601	9.351-9.851	9.601	0.000
12 Acenaphthene	9.656	9.656	9.656	9.656	9.656	9.656	9.656	9.406-9.906	9.656	0.000
14 Dibenzofuran	9.867	9.867	9.867	9.867	9.867	9.867	9.867	9.617-10.117	9.867	0.000
15 Fluorene	10.487	10.487	10.487	10.487	10.487	10.487	10.487	10.237-10.737	10.487	0.000
\$ 16 2,4,6-Tribromophenol	12.269	12.269	12.269	12.269	12.269	12.269	12.269	12.019-12.519	12.269	0.000
* 17 Pentachlorophenol	12.314	12.313	12.314	12.314	12.313	12.313	12.313	12.063-12.563	12.313	0.000
19 Phenanthrene	12.314	12.313	12.314	12.314	12.313	12.313	12.313	12.063-12.563	12.313	0.000
20 Anthracene	12.369	12.369	12.369	12.369	12.369	12.369	12.369	12.119-12.619	12.369	0.000
22 Carbazole	14.375	14.375	14.375	14.375	14.375	14.375	14.375	14.283-14.783	14.375	0.004
\$ 23 Fluoranthene-d10	14.375	14.375	14.375	14.375	14.375	14.375	14.375	14.125-14.625	14.375	0.004

Reviewer 1 JS Date: 12/5/15
 Reviewer 2 AS Date: 12/7/15

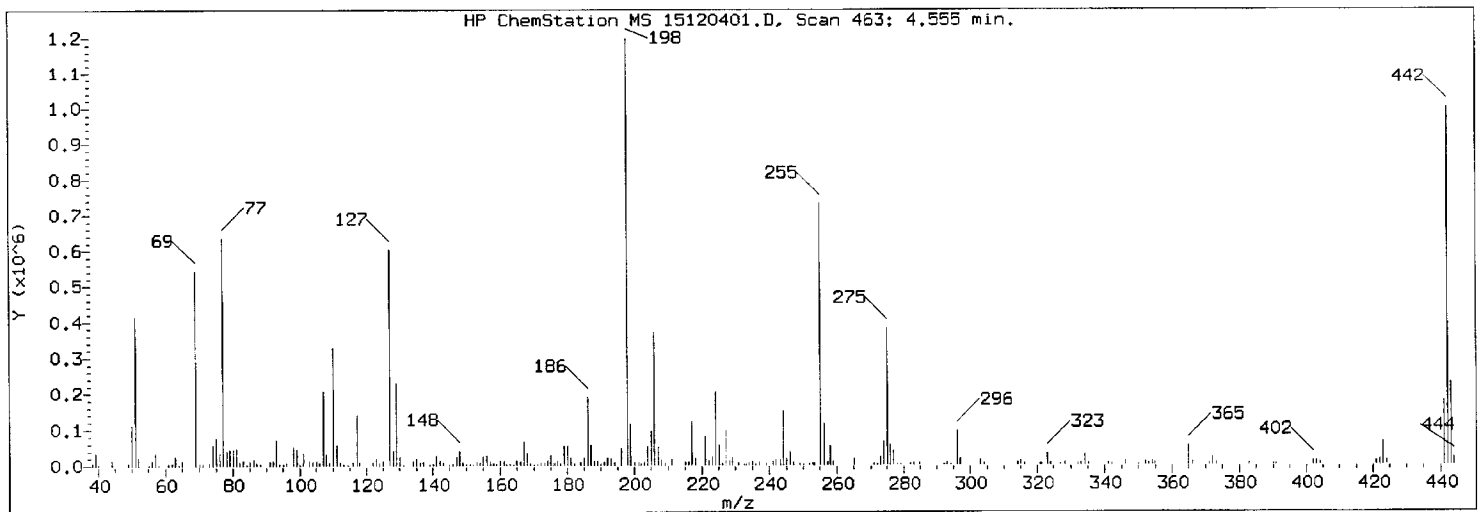
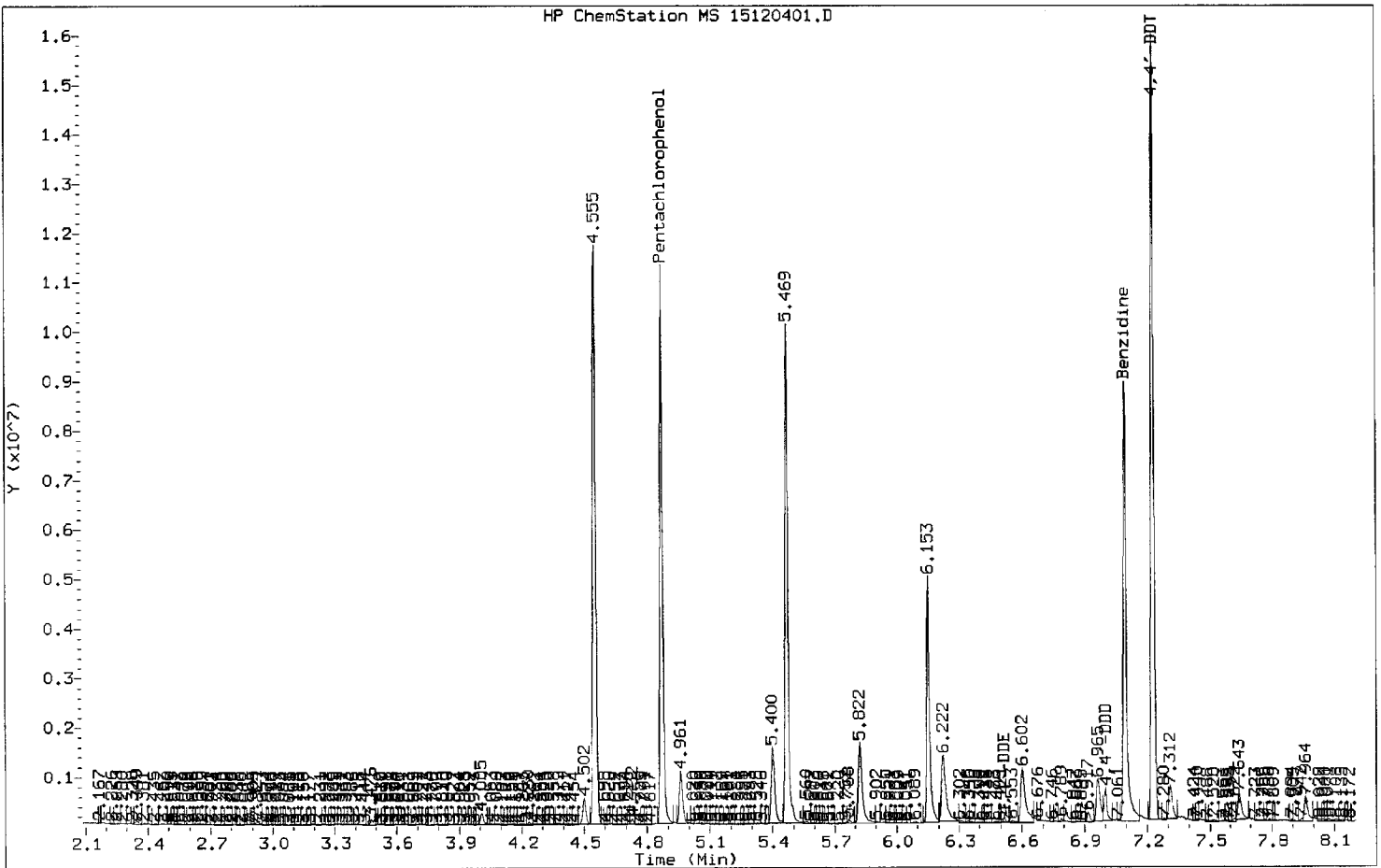
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20151204.b
Inst ID: nt11.i

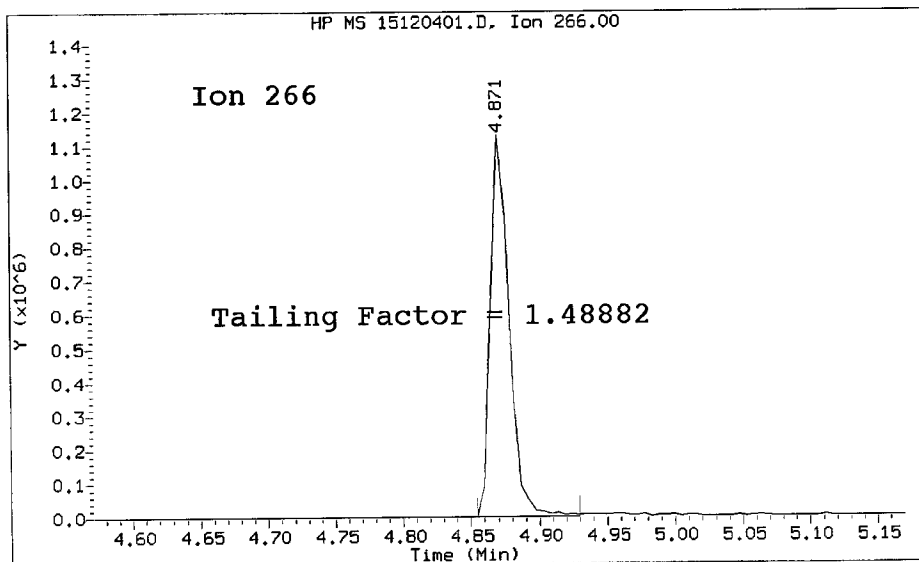
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
24 Fluoranthene	14.404	14.404	14.404	14.404	14.404	14.404	14.404	14.154-14.654	14.404	0.000
25 Pyrene	14.903	14.903	14.903	14.903	14.903	14.903	14.903	14.653-15.153	14.903	0.000
28 Benzo(a)anthracene	16.918	16.918	16.918	16.918	16.918	16.918	16.918	16.568-17.168	16.918	0.000
* 29 Chrysene-d12	17.018	17.018	17.010	17.010	17.010	17.010	17.010	16.760-17.260	17.012	0.004
30 Chrysene	17.068	17.059	17.060	17.060	17.059	17.059	17.059	16.809-17.309	17.061	0.003
44 Benzo (b) fluoranthene	18.785	18.785	18.785	18.785	18.785	18.785	18.785	18.535-19.035	18.785	0.000
45 Benzo (k) fluoranthene	18.833	18.833	18.824	18.824	18.833	18.833	18.833	18.583-19.083	18.828	0.005
46 Benzo (j) fluoranthene	18.891	18.891	18.891	18.891	18.891	18.891	18.891	18.641-19.141	18.891	0.000
34 Benzo (a) pyrene	19.640	19.630	19.631	19.631	19.631	19.631	19.631	19.381-19.881	19.632	0.004
* 35 Perylene-d12	19.842	19.842	19.842	19.842	19.842	19.842	19.842	19.592-20.092	19.842	0.000
§ 36 Dibenzo(a,h)anthracene	22.208	22.197	22.197	22.197	22.197	22.197	22.197	21.947-22.447	22.199	0.005
37 Indeno (1,2,3-cd)pyrene	22.330	22.330	22.330	22.330	22.330	22.330	22.330	22.080-22.580	22.330	0.000
38 Dibenzo(a,h)anthracene	22.319	22.319	22.319	22.308	22.308	22.308	22.308	22.058-22.558	22.313	0.006
39 Benzo(g,h,i)perylene	23.427	23.426	23.427	23.427	23.426	23.426	23.426	23.176-23.676	23.426	0.000
47 Perylene	19.900	19.900	19.900	19.900	19.900	19.900	19.900	19.650-20.150	19.900	0.000
48 Benzo(e)pyrene	19.525	19.525	19.525	19.525	19.525	19.525	19.525	19.275-19.775	19.525	0.000

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20151204.b/15120401.D/15120401.D
Method Used: \20151204.b\DFTPP.m Inst: ntl1
Injection Date: 04-DEC-2015 08:45 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 12/04/2015 09:41



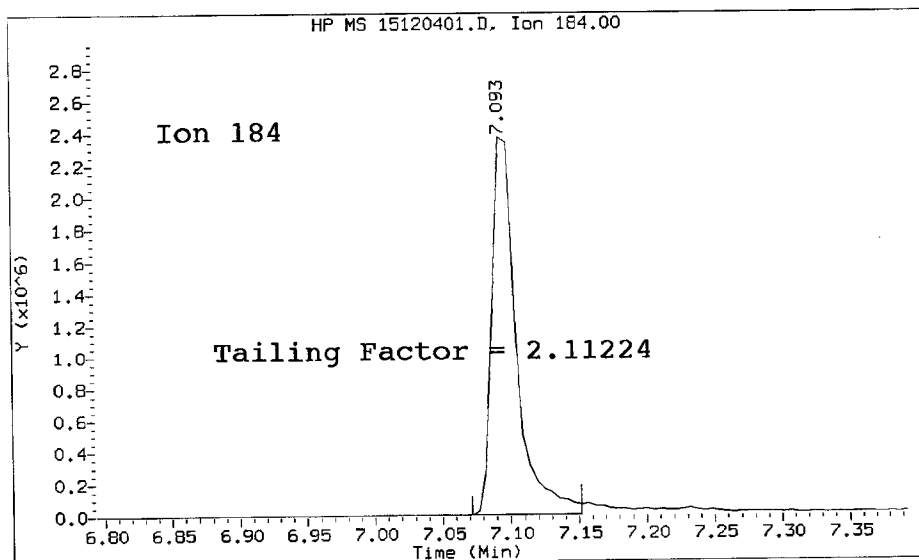
Datafile Analyzed: /20151204.b/15120401.D/15120401.D
Method Used: \20151204.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 04-DEC-2015 08:45 Operator: JR
Sample Info: TUNE 10
Report Date: 12/04/2015 09:41



Pentachlorophenol

=====
Exp. RT = 4.914
Found RT = 4.871

Tail Factor = 1.489 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.141
Found RT = 7.093

The tailing factor for Benzidine EXCEEDED

Tail Factor = 2.112 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4888179	2.000	PASS
Benzidine	2.1122449	2.000	FAIL

[Failure]

AB
12/7/15

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2078544			N/A
4,4-DDE	12541	0.6	20.0	PASS
4,4-DDD	100432	4.6	20.0	PASS
4,4-DDD + DDE	112973	5.2	20.0	PASS

Tuning Sample, nt11.i/20151204.b/15120401.D, *** FAILED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	36.71
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	46.72
70	Less than 2.00% of mass 69	0.25 (0.53)
127	10.00 - 80.00% of mass 198	50.34
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.78
275	10.00 - 60.00% of mass 198	29.75
365	Greater than 1.00% of mass 198	3.54
441	0.01 - 24.00% of mass 442	13.40 (16.36)
442	50.00 - 200.00% of mass 198	81.93
443	15.00 - 24.00% of mass 442	18.59 (22.69)

Data File: 15120401.D

Spectrum: Avg. Scans 462-464 (4.56), Background Scan 456

Location of Maximum: 198.00

Number of points: 252

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	5903	123.00	15321	191.00	4529	276.00	37792
39.00	32472	124.00	6008	192.00	15383	277.00	25616
40.00	2234	125.00	8697	193.00	14981	278.00	5143
44.00	1291	127.00	487424	194.00	2969	279.00	797
49.00	2336	128.00	36048	195.00	935	282.00	1077
50.00	99976	129.00	198784	196.00	36952	283.00	4344
51.00	355456	130.00	17864	198.00	968192	285.00	4257
52.00	19288	131.00	3029	199.00	85016	290.00	736
53.00	699	132.00	770	200.00	7648	292.00	695
55.00	817	134.00	4444	201.00	4181	293.00	3995
56.00	12284	135.00	17328	202.00	2800	294.00	1601
57.00	28160	136.00	7249	203.00	7062	296.00	79296
58.00	882	137.00	7197	204.00	45768	297.00	10726
61.00	4027	139.00	686	205.00	78432	301.00	1083
62.00	4478	140.00	3181	206.00	296256	303.00	9535
63.00	21296	141.00	26728	207.00	40064	304.00	2760
64.00	2870	142.00	9703	208.00	13008	310.00	1258
65.00	7567	143.00	5423	209.00	4174	314.00	5255
69.00	452352	144.00	1270	210.00	2826	315.00	11430
70.00	2404	145.00	2146	211.00	10991	316.00	4496
71.00	1729	146.00	3758	212.00	1343	317.00	1730
74.00	51136	147.00	11875	213.00	1135	321.00	2836
75.00	72784	148.00	28688	215.00	5759	322.00	766
76.00	27064	149.00	7601	216.00	5158	323.00	27808
77.00	512768	150.00	1111	217.00	87992	324.00	3710
78.00	35304	151.00	3226	218.00	10624	327.00	3445
79.00	35128	152.00	2009	221.00	58632	328.00	2747
80.00	28640	153.00	8844	222.00	12655	332.00	2890
81.00	40048	154.00	6510	223.00	18704	333.00	2909
82.00	10036	155.00	17848	224.00	170624	334.00	18896
83.00	13510	156.00	20976	225.00	44928	335.00	3574
84.00	155	157.00	5537	226.00	4319	341.00	3496
85.00	9792	158.00	5165	227.00	75184	342.00	946
86.00	11647	159.00	2604	228.00	10251	346.00	5555
87.00	6242	160.00	7198	229.00	15494	350.00	704
88.00	2104	161.00	9881	231.00	4886	352.00	9894
91.00	8456	162.00	2652	233.00	1517	353.00	6975
92.00	8959	163.00	959	234.00	3642	354.00	7491
93.00	59144	164.00	701	235.00	4833	355.00	2236
94.00	4278	165.00	10199	236.00	1621	365.00	34240
95.00	1022	166.00	9417	237.00	5726	366.00	4979
96.00	2824	167.00	49792	239.00	1926	371.00	2016
98.00	40528	168.00	25208	241.00	6592	372.00	17560
99.00	34656	169.00	4359	242.00	9932	373.00	3339
100.00	3425	170.00	2037	243.00	9154	383.00	2922
101.00	24160	171.00	2039	244.00	122792	390.00	1755
102.00	687	172.00	5959	245.00	17280	391.00	814
103.00	7164	173.00	5076	246.00	28232	402.00	5209
104.00	12935	174.00	11539	247.00	4557	403.00	6386

105.00	10605	175.00	20720	249.00	3982	404.00	2710
106.00	7128	176.00	7696	250.00	1046	421.00	6452
107.00	162176	177.00	11926	252.00	969	422.00	10014
108.00	27064	178.00	3414	253.00	5072	423.00	50464
109.00	2954	179.00	42472	255.00	572352	424.00	9853
110.00	279360	180.00	32368	256.00	86752	425.00	909
111.00	42360	181.00	14321	257.00	6074	441.00	129768
112.00	6933	182.00	2960	258.00	40416	442.00	793216
113.00	1332	184.00	4180	259.00	6964	443.00	179968
114.00	829	185.00	19872	265.00	16576	444.00	15867
116.00	8676	186.00	147328	271.00	1077	445.00	897
117.00	106856	187.00	42160	272.00	2517		
118.00	7215	188.00	5898	273.00	20392		
120.00	674	189.00	10119	274.00	55504		
122.00	7466	190.00	1772	275.00	288064		

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120402.D
 Lab Smp Id: LLSIM 250
 Inj Date : 04-DEC-2015 09:03 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 250
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 09:03 Cal File: 15120402.D
 Dil bottle: 5 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

JW
12/5/15

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.597	6.597	(1.000)	327896	200.000	
5 Naphthalene	128		6.639	6.629	(1.006)	466348	250.000	246
§ 6 2-Methylnaphthalene-d10	152		7.574	7.574	(1.148)	313990	250.000	258
7 2-Methylnaphthalene	142		7.637	7.627	(1.158)	338215	250.000	260
8 1-Methylnaphthalene	142		7.889	7.889	(1.196)	303545	250.000	259
10 Acenaphthylene	152		9.446	9.445	(0.984)	486608	250.000	252
* 11 Acenaphthene-d10	164		9.601	9.600	(1.000)	239179	200.000	
12 Acenaphthene	153		9.656	9.656	(1.006)	318640	250.000	249
14 Dibenzofuran	168		9.866	9.866	(1.028)	485308	250.000	251
15 Fluorene	166		10.486	10.486	(1.092)	368110	250.000	254
* 18 Phenanthrene-d10	188		12.269	12.269	(1.000)	372253	200.000	
19 Phenanthrene	178		12.313	12.313	(1.004)	568980	250.000	254
20 Anthracene	178		12.368	12.368	(1.008)	520493	250.000	259
§ 23 Fluoranthene-d10	212		14.375	14.374	(1.172)	527419	250.000	258
24 Fluoranthene	202		14.403	14.403	(1.174)	588912	250.000	262
25 Pyrene	202		14.903	14.903	(0.876)	579853	250.000	248
28 Benzo(a)anthracene	228		16.918	16.918	(0.994)	493775	250.000	251
* 29 Chrysene-d12	240		17.018	17.009	(1.000)	294711	200.000	
30 Chrysene	228		17.067	17.059	(1.003)	528325	250.000	245
44 Benzo(b)fluoranthene	252		18.785	18.785	(0.947)	426424	250.000	242
45 Benzo(k)fluoranthene	252		18.833	18.833	(0.949)	521565	250.000	254
46 Benzo(j)fluoranthene	252		18.890	18.890	(0.952)	462257	250.000	247
34 Benzo(a)pyrene	252		19.640	19.630	(0.990)	425021	250.000	249
* 35 Perylene-d12	264		19.842	19.842	(1.000)	260595	200.000	
§ 36 Dibenzo(a,h)anthracene-d14	292		22.208	22.197	(1.119)	265906	250.000	253
37 Indeno(1,2,3-cd)pyrene	276		22.330	22.329	(1.125)	447004	250.000	250
38 Dibenzo(a,h)anthracene	278		22.318	22.307	(1.125)	361875	250.000	256
39 Benzo(g,h,i)perylene	276		23.426	23.426	(1.181)	382439	250.000	246
47 Perylene	252		19.899	19.899	(1.003)	425367	250.000	241
48 Benzo(e)pyrene	252		19.524	19.524	(0.984)	431155	250.000	242

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120402.D
 Lab Smp Id: LLSIM 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	327896	0.00
11 Acenaphthene-d10	239179	119590	478358	239179	0.00
18 Phenanthrene-d10	372253	186127	744506	372253	0.00
29 Chrysene-d12	294711	147356	589422	294711	0.00
35 Perylene-d12	260595	130298	521190	260595	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.b\15120402.D

Date: 04-DEC-2015 09:03

Client ID:

Sample Info: LLSIM 250

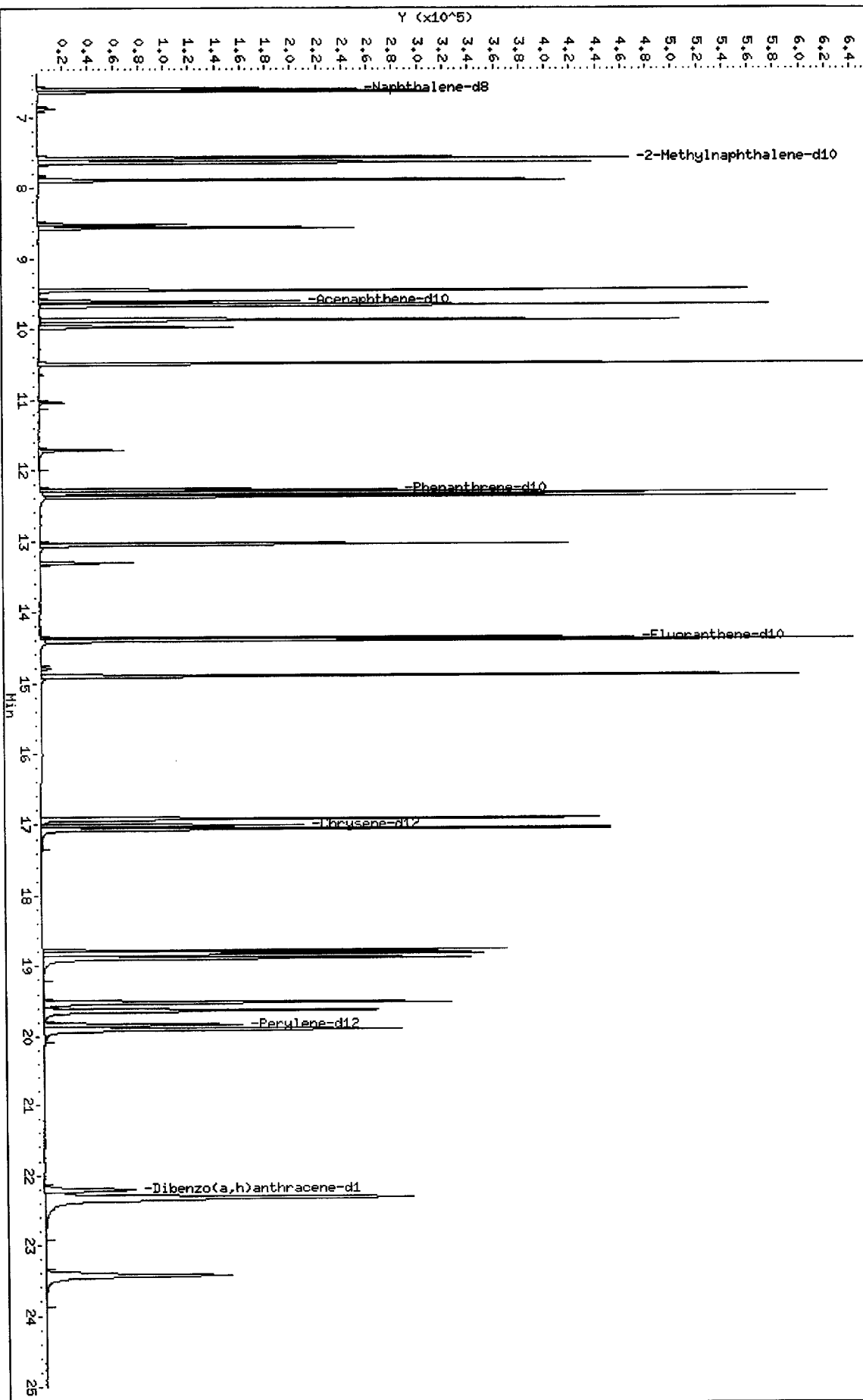
Column phase: RX1-17511 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20151204.b\15120402.D



REVIEW SUMMARY FOR FILE - 15120402.D

Lab ID: LLSIM 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120403.D
 Lab Smp Id: LLSIM 100
 Inj Date : 04-DEC-2015 09:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 100
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 09:33 Cal File: 15120403.D
 Als bottle: 4 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

*80
12/5/15*

Compounds	QUANT SIG		AMOUNTS				ON-COL (ng/mL)
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	322094	200.000	
5 Naphthalene	128	6.628	6.629	(1.005)	194640	100.000	105
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	122627	100.000	103
7 2-Methylnaphthalene	142	7.637	7.627	(1.158)	131669	100.000	103
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	119911	100.000	104
10 Acenaphthylene	152	9.445	9.445	(0.984)	188431	100.000	102
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)	228988	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	125618	100.000	102
14 Dibenzofuran	168	9.866	9.866	(1.028)	192943	100.000	104
15 Fluorene	166	10.486	10.486	(1.092)	142937	100.000	103
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	364343	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	229750	100.000	105
20 Anthracene	178	12.368	12.368	(1.008)	198320	100.000	101
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)	202998	100.000	101
24 Fluoranthene	202	14.403	14.403	(1.174)	227740	100.000	103
25 Pyrene	202	14.903	14.903	(0.876)	226693	100.000	103
28 Benzo(a)anthracene	228	16.918	16.918	(0.994)	186507	100.000	101
* 29 Chrysene-d12	240	17.017	17.009	(1.000)	276576	200.000	
30 Chrysene	228	17.059	17.059	(1.002)	208940	100.000	103
44 Benzo(b)fluoranthene	252	18.784	18.785	(0.947)	163653	100.000	98.5
45 Benzo(k)fluoranthene	252	18.832	18.833	(0.949)	193041	100.000	99.7
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	175242	100.000	99.4
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	157495	100.000	98.2
* 35 Perylene-d12	264	19.841	19.842	(1.000)	245162	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.196	22.197	(1.119)	97910	100.000	98.9
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	164508	100.000	97.7
38 Dibenzo(a,h)anthracene	278	22.318	22.307	(1.125)	131245	100.000	98.6
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	143879	100.000	98.5
47 Perylene	252	19.899	19.899	(1.003)	166080	100.000	99.9
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	168054	100.000	100

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120403.D
 Lab Smp Id: LLSIM 100
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322094	-1.77
11 Acenaphthene-d10	239179	119590	478358	228988	-4.26
18 Phenanthrene-d10	372253	186127	744506	364343	-2.12
29 Chrysene-d12	294711	147356	589422	276576	-6.15
35 Perylene-d12	260595	130298	521190	245162	-5.92

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.02	-0.00
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.B\15120403.D

Date: 04-DEC-2015 09:33

Client ID:

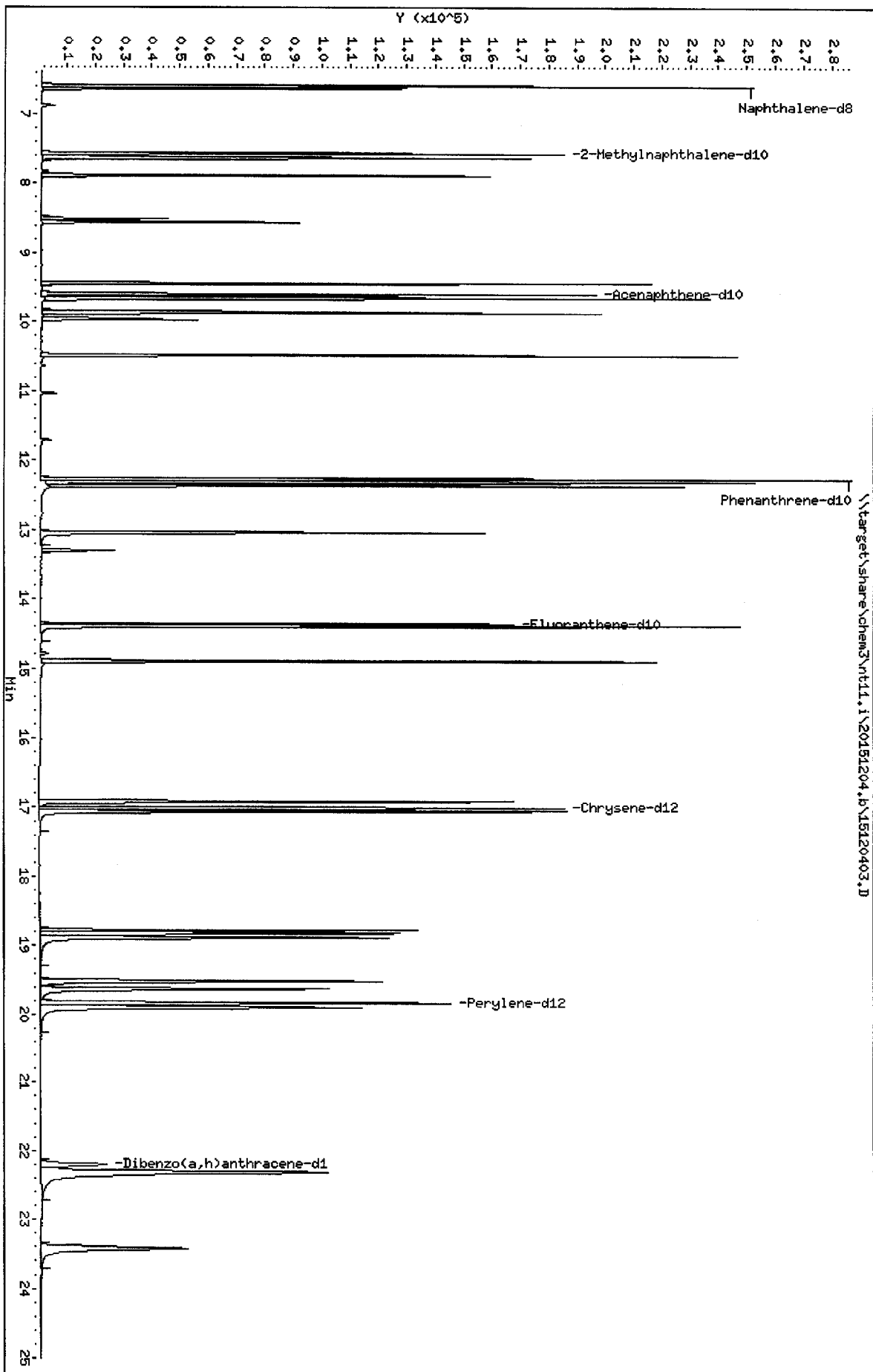
Sample Info: LLSIM 100

Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120403.D

Lab ID: LLSIM 100

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 09:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120404.D

Lab Smp Id: LLSIM 10

Inj Date : 04-DEC-2015 10:03

MS Autotune Date: 23-APR-2014 12:54

Operator : JW

Inst ID: nt11.i

Smp Info : LLSIM 10

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m

Meth Date : 05-Dec-2015 09:24 jonathonw

Quant Type: ISTD

Cal Date : 04-DEC-2015 10:03

Cal File: 15120404.D

Als bottle: 2

Calibration Sample, Level: 1

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: PEMD.sub

Target Version: 4.14

*SW
12/5/15*

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.597	6.597	(1.000)	325673	200.000	
5 Naphthalene	128		6.629	6.629	(1.005)	19520	10.0000	10.4
\$ 6 2-Methylnaphthalene-d10	152		7.574	7.574	(1.148)	11490	10.0000	9.51
7 2-Methylnaphthalene	142		7.637	7.627	(1.158)	12326	10.0000	9.54
8 1-Methylnaphthalene	142		7.889	7.889	(1.196)	10946	10.0000	9.40
10 Acenaphthylene	152		9.446	9.445	(0.984)	17343	10.0000	9.83
* 11 Acenaphthene-d10	164		9.601	9.600	(1.000)	218580	200.000	
12 Acenaphthene	153		9.656	9.656	(1.006)	11843	10.0000	10.1
14 Dibenzofuran	168		9.866	9.866	(1.028)	17891	10.0000	10.1
15 Fluorene	166		10.486	10.486	(1.092)	12668	10.0000	9.58
* 18 Phenanthrene-d10	188		12.269	12.269	(1.000)	358974	200.000	
19 Phenanthrene	178		12.313	12.313	(1.004)	21551	10.0000	9.96
20 Anthracene	178		12.368	12.368	(1.008)	18203	10.0000	9.40
\$ 23 Fluoranthene-d10	212		14.375	14.374	(1.172)	18217	10.0000	9.23
24 Fluoranthene	202		14.403	14.403	(1.174)	19652	10.0000	9.05
25 Pyrene	202		14.903	14.903	(0.876)	20582	10.0000	9.91
28 Benzo(a)anthracene	228		16.918	16.918	(0.995)	16570	10.0000	9.48
* 29 Chrysene-d12	240		17.009	17.009	(1.000)	262207	200.000	
30 Chrysene	228		17.059	17.059	(1.003)	19151	10.0000	9.98
44 Benzo(b)fluoranthene	252		18.785	18.785	(0.947)	14171	10.0000	9.12
45 Benzo(k)fluoranthene	252		18.823	18.833	(0.949)	16099	10.0000	8.89
46 Benzo(j)fluoranthene	252		18.890	18.890	(0.952)	15176	10.0000	9.20
34 Benzo(a)pyrene	252		19.630	19.630	(0.989)	12870	10.0000	8.58
* 35 Perylene-d12	264		19.842	19.842	(1.000)	229323	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.197	22.197	(1.119)	6798	10.0000	7.34
37 Indeno(1,2,3-cd)pyrene	276		22.329	22.329	(1.125)	12271	10.0000	7.79
38 Dibenzo(a,h)anthracene	278		22.318	22.307	(1.125)	9102	10.0000	7.31
39 Benzo(g,h,i)perylene	276		23.426	23.426	(1.181)	11812	10.0000	8.64
47 Perylene	252		19.899	19.899	(1.003)	14419	10.0000	9.28
48 Benzo(e)pyrene	252		19.524	19.524	(0.984)	14902	10.0000	9.49

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120404.D
 Lab Smp Id: LLSIM 10
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	325673	-0.68
11 Acenaphthene-d10	239179	119590	478358	218580	-8.61
18 Phenanthrene-d10	372253	186127	744506	358974	-3.57
29 Chrysene-d12	294711	147356	589422	262207	-11.03
35 Perylene-d12	260595	130298	521190	229323	-12.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120404.D

Date : 04-DEC-2015 10:03

Client ID:

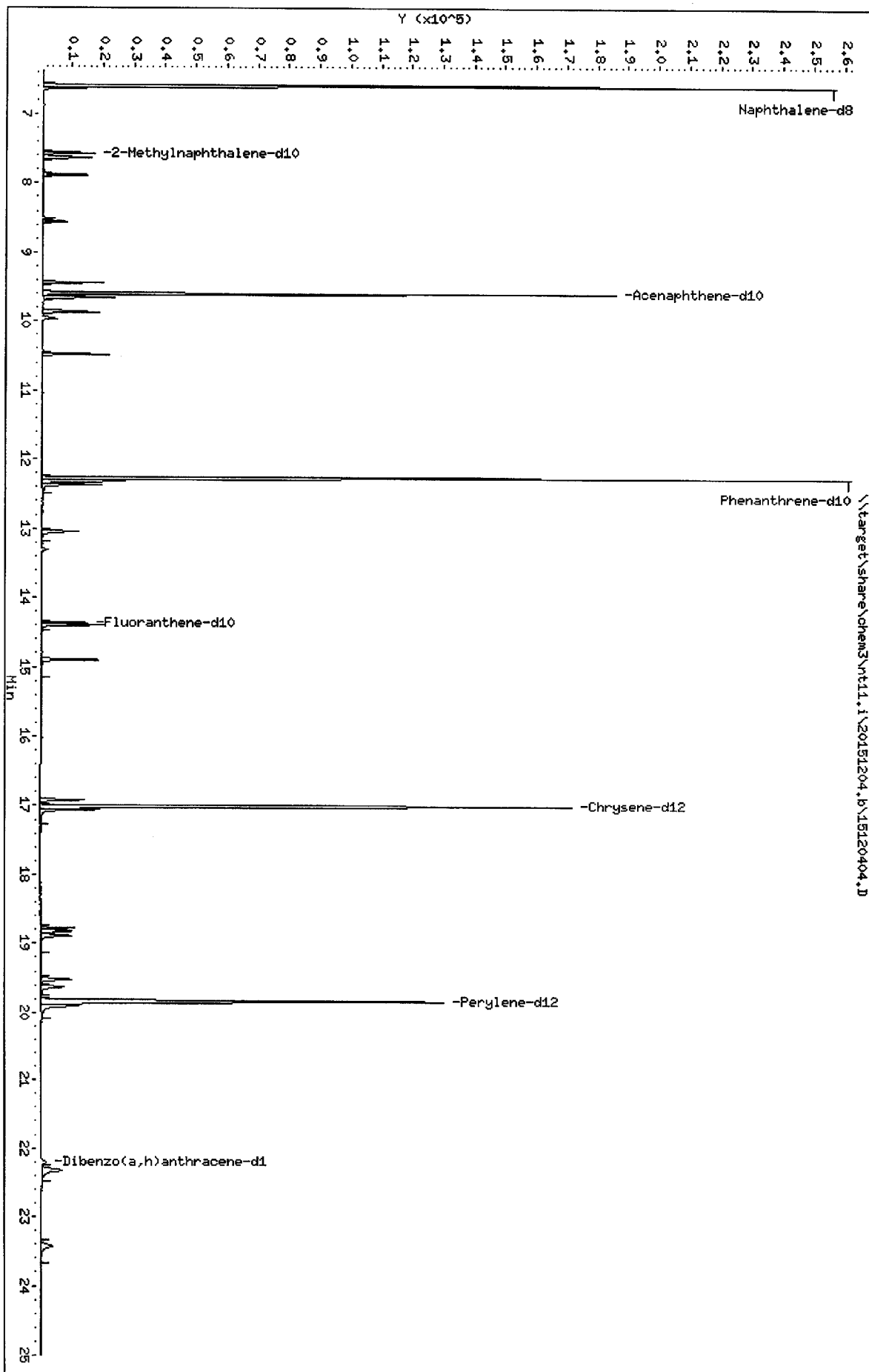
Sample Info: LLSIM 10

Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120404.D

Lab ID: LLSIM 10

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120405.D
 Lab Smp Id: LLSIM 50
 Inj Date : 04-DEC-2015 10:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 50
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 10:33 Cal File: 15120405.D
 Als bottle: 3 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

*80
12/5/15*

Compounds	QUANT	SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136			6.597	6.597	(1.000)	322810	200.000	
5 Naphthalene	128			6.629	6.629	(1.005)	101411	50.0000	54.4
\$ 6 2-Methylnaphthalene-d10	152			7.574	7.574	(1.148)	61987	50.0000	51.7
7 2-Methylnaphthalene	142			7.627	7.627	(1.156)	66307	50.0000	51.8
8 1-Methylnaphthalene	142			7.889	7.889	(1.196)	59950	50.0000	51.9
10 Acenaphthylene	152			9.446	9.445	(0.984)	92485	50.0000	52.3
* 11 Acenaphthene-d10	164			9.601	9.600	(1.000)	219192	200.000	
12 Acenaphthene	153			9.656	9.656	(1.006)	62244	50.0000	53.0
14 Dibenzofuran	168			9.866	9.866	(1.028)	95443	50.0000	54.0
15 Fluorene	166			10.486	10.486	(1.092)	68997	50.0000	52.0
* 18 Phenanthrene-d10	188			12.269	12.269	(1.000)	354307	200.000	
19 Phenanthrene	178			12.313	12.313	(1.004)	118576	50.0000	55.5
20 Anthracene	178			12.368	12.368	(1.008)	96493	50.0000	50.5
\$ 23 Fluoranthene-d10	212			14.365	14.374	(1.171)	102075	50.0000	52.4
24 Fluoranthene	202			14.403	14.403	(1.174)	114385	50.0000	53.4
25 Pyrene	202			14.903	14.903	(0.876)	112799	50.0000	54.2
28 Benzo(a)anthracene	228			16.918	16.918	(0.995)	93495	50.0000	53.4
* 29 Chrysene-d12	240			17.009	17.009	(1.000)	262604	200.000	
30 Chrysene	228			17.059	17.059	(1.003)	108279	50.0000	56.3
44 Benzo(b)fluoranthene	252			18.785	18.785	(0.947)	83231	50.0000	53.5
45 Benzo(k)fluoranthene	252			18.823	18.833	(0.949)	95619	50.0000	52.7
46 Benzo(j)fluoranthene	252			18.890	18.890	(0.952)	90827	50.0000	55.0
34 Benzo(a)pyrene	252			19.630	19.630	(0.989)	79839	50.0000	53.2
* 35 Perylene-d12	264			19.842	19.842	(1.000)	229726	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292			22.197	22.197	(1.119)	44840	50.0000	48.4
37 Indeno(1,2,3-cd)pyrene	276			22.330	22.329	(1.125)	80159	50.0000	50.8
38 Dibenzo(a,h)anthracene	278			22.307	22.307	(1.124)	60732	50.0000	48.7
39 Benzo(g,h,i)perylene	276			23.426	23.426	(1.181)	70920	50.0000	51.8
47 Perylene	252			19.899	19.899	(1.003)	84721	50.0000	54.4
48 Benzo(e)pyrene	252			19.525	19.524	(0.984)	85271	50.0000	54.2

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120405.D
 Lab Smp Id: LLSIM 50
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	322810	-1.55
11 Acenaphthene-d10	239179	119590	478358	219192	-8.36
18 Phenanthrene-d10	372253	186127	744506	354307	-4.82
29 Chrysene-d12	294711	147356	589422	262604	-10.89
35 Perylene-d12	260595	130298	521190	229726	-11.85

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.1\20151204.6\15120405.D

Date: 04-DEC-2015 10:33

Client ID:

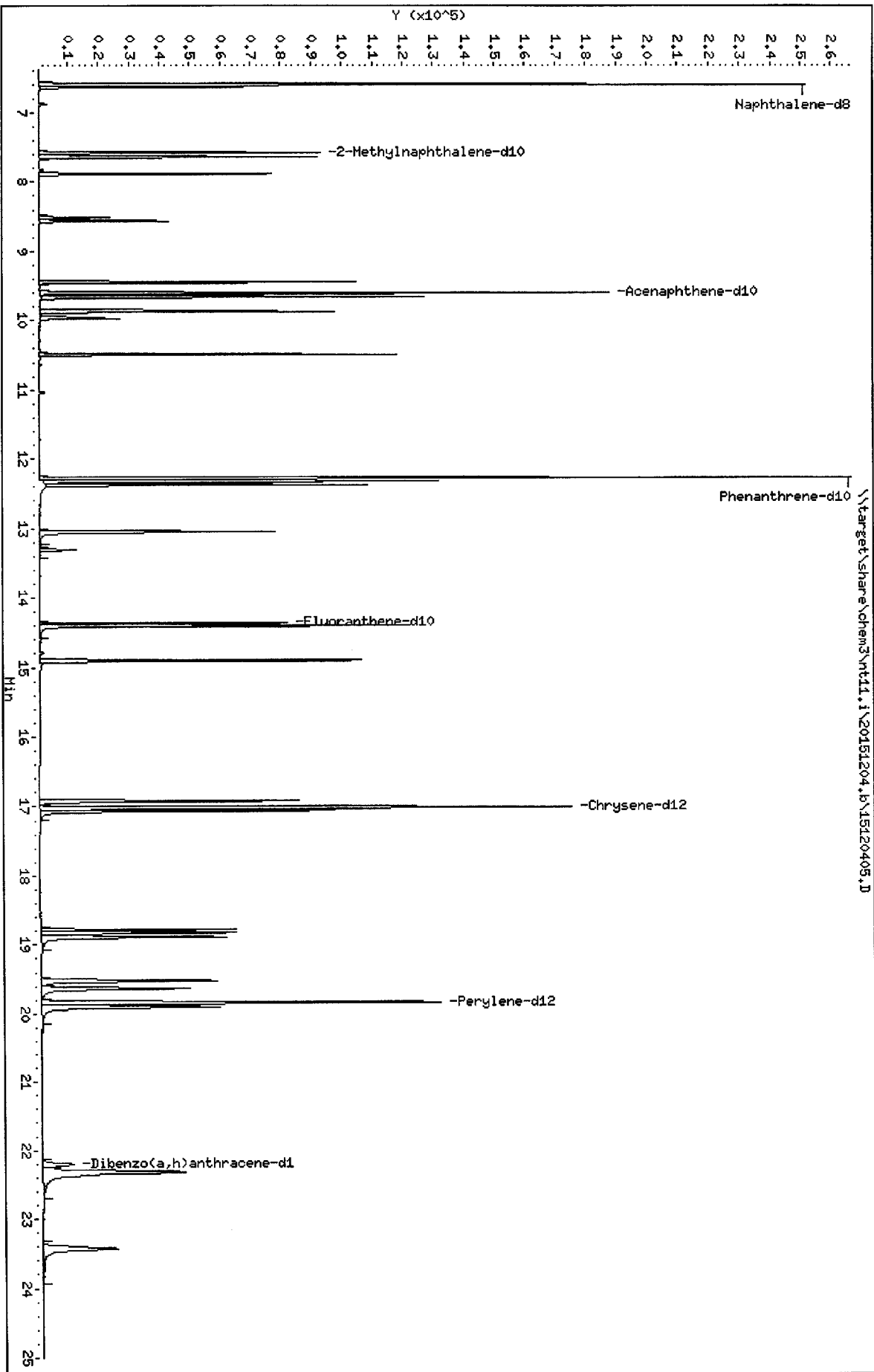
Sample Info: LSIH 50

Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120405.D

Lab ID: LLSIM 50

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 10:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120406.D
 Lab Smp Id: LLSIM 500
 Inj Date : 04-DEC-2015 11:03 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 500
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:03 Cal File: 15120406.D
 Als bottle: 6 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

JW
12/5/15

Compounds	QUANT	SIG					AMOUNTS	
			MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)
*****	****	*****	*****	*****	*****	*****	*****	*****
* 4 Naphthalene-d8	136		6.597	6.597	(1.000)	340768	200.000	
5 Naphthalene	128		6.629	6.629	(1.005)	933248	500.000	474
\$ 6 2-Methylnaphthalene-d10	152		7.574	7.574	(1.148)	629193	500.000	497
7 2-Methylnaphthalene	142		7.627	7.627	(1.156)	670644	500.000	496
8 1-Methylnaphthalene	142		7.889	7.889	(1.196)	605485	500.000	497
10 Acenaphthylene	152		9.445	9.445	(0.984)	967430	500.000	496
* 11 Acenaphthene-d10	164		9.600	9.600	(1.000)	241553	200.000	
12 Acenaphthene	153		9.656	9.656	(1.006)	628559	500.000	486
14 Dibenzofuran	168		9.866	9.866	(1.028)	941463	500.000	483
15 Fluorene	166		10.486	10.486	(1.092)	730006	500.000	499
* 18 Phenanthrene-d10	188		12.269	12.269	(1.000)	382017	200.000	
19 Phenanthrene	178		12.313	12.313	(1.004)	1091600	500.000	474
20 Anthracene	178		12.368	12.368	(1.008)	1071225	500.000	520
\$ 23 Fluoranthene-d10	212		14.374	14.374	(1.172)	1071150	500.000	510
24 Fluoranthene	202		14.403	14.403	(1.174)	1171830	500.000	507
25 Pyrene	202		14.903	14.903	(0.876)	1155377	500.000	492
28 Benzo(a)anthracene	228		16.918	16.918	(0.995)	993004	500.000	502
* 29 Chrysene-d12	240		17.009	17.009	(1.000)	296788	200.000	
30 Chrysene	228		17.059	17.059	(1.003)	1047594	500.000	482
44 Benzo(b)fluoranthene	252		18.785	18.785	(0.947)	904516	500.000	527
45 Benzo(k)fluoranthene	252		18.823	18.833	(0.949)	1037488	500.000	519
46 Benzo(j)fluoranthene	252		18.890	18.890	(0.952)	935496	500.000	513
34 Benzo(a)pyrene	252		19.630	19.630	(0.989)	881824	500.000	532
* 35 Perylene-d12	264		19.841	19.842	(1.000)	253397	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.196	22.197	(1.119)	577224	500.000	564
37 Indeno(1,2,3-cd)pyrene	276		22.329	22.329	(1.125)	968463	500.000	557
38 Dibenzo(a,h)anthracene	278		22.307	22.307	(1.124)	781168	500.000	568
39 Benzo(g,h,i)perylene	276		23.426	23.426	(1.181)	805513	500.000	533
47 Perylene	252		19.899	19.899	(1.003)	880659	500.000	513
48 Benzo(e)pyrene	252		19.524	19.524	(0.984)	881426	500.000	508

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120406.D
 Lab Smp Id: LLSIM 500
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	340768	3.93
11 Acenaphthene-d10	239179	119590	478358	241553	0.99
18 Phenanthrene-d10	372253	186127	744506	382017	2.62
29 Chrysene-d12	294711	147356	589422	296788	0.70
35 Perylene-d12	260595	130298	521190	253397	-2.76

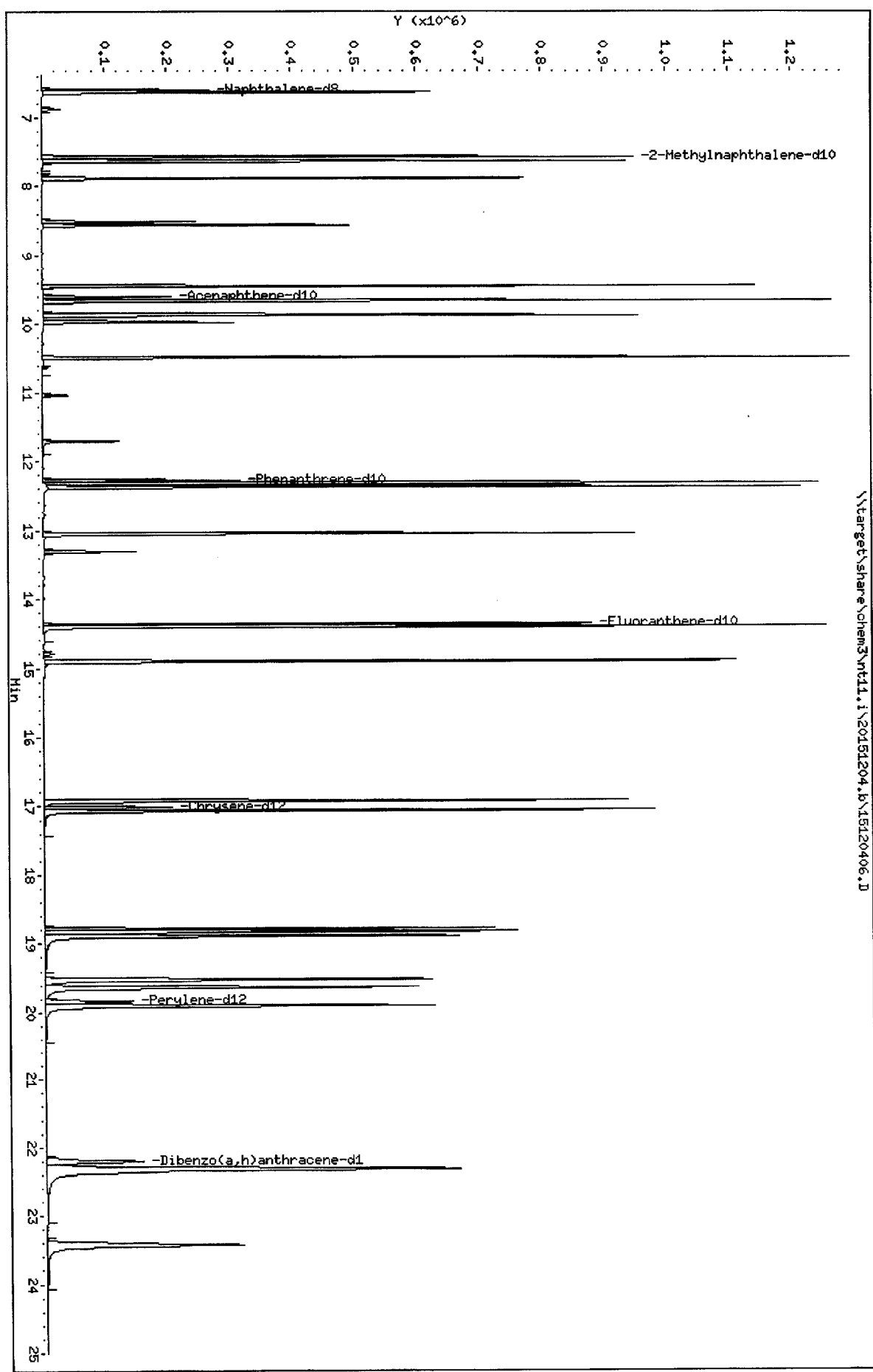
COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chems\nt11.i\20151204.b\15120406.D
Date: 04-DEC-2015 11:03
Client ID:
Sample Info: LLSIM 500
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chems\nt11.i\20151204.b\15120406.D



REVIEW SUMMARY FOR FILE - 15120406.D

Lab ID: LLSIM 500
nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120407.D
 Lab Smp Id: LLSIM 1000
 Inj Date : 04-DEC-2015 11:33 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM 1000
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 7 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14

Handwritten: 12/5/15

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.597	6.597	(1.000)	337457	200.000	
5 Naphthalene	128	6.629	6.629	(1.005)	1745003	1000.00	895
\$ 6 2-Methylnaphthalene-d10	152	7.574	7.574	(1.148)	1205300	1000.00	962
7 2-Methylnaphthalene	142	7.627	7.627	(1.156)	1272236	1000.00	950
8 1-Methylnaphthalene	142	7.889	7.889	(1.196)	1149104	1000.00	952
10 Acenaphthylene	152	9.445	9.445	(0.984)	1833736	1000.00	951
* 11 Acenaphthene-d10	164	9.600	9.600	(1.000)	238950	200.000	
12 Acenaphthene	153	9.656	9.656	(1.006)	1200492	1000.00	938
14 Dibenzofuran	168	9.866	9.866	(1.028)	1717363	1000.00	891
15 Fluorene	166	10.486	10.486	(1.092)	1380739	1000.00	955
* 18 Phenanthrene-d10	188	12.269	12.269	(1.000)	380348	200.000	
19 Phenanthrene	178	12.313	12.313	(1.004)	2022457	1000.00	883
20 Anthracene	178	12.368	12.368	(1.008)	1975909	1000.00	963
\$ 23 Fluoranthene-d10	212	14.374	14.374	(1.172)	2020716	1000.00	966
24 Fluoranthene	202	14.403	14.403	(1.174)	2148123	1000.00	934
25 Pyrene	202	14.903	14.903	(0.876)	2156236	1000.00	912
28 Benzo(a)anthracene	228	16.918	16.918	(0.995)	1918385	1000.00	964
* 29 Chrysene-d12	240	17.009	17.009	(1.000)	298514	200.000	
30 Chrysene	228	17.059	17.059	(1.003)	1961226	1000.00	898
44 Benzo(b)fluoranthene	252	18.785	18.785	(0.947)	1759341	1000.00	1010
45 Benzo(k)fluoranthene	252	18.833	18.833	(0.949)	2039144	1000.00	1010
46 Benzo(j)fluoranthene	252	18.890	18.890	(0.952)	1793610	1000.00	973
34 Benzo(a)pyrene	252	19.630	19.630	(0.989)	1732537	1000.00	1030
* 35 Perylene-d12	264	19.842	19.842	(1.000)	256244	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.197	22.197	(1.119)	1208888	1000.00	1170
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.125)	1959663	1000.00	1110
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.124)	1599951	1000.00	1150
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	1624015	1000.00	1060
47 Perylene	252	19.899	19.899	(1.003)	1731385	1000.00	997
48 Benzo(e)pyrene	252	19.524	19.524	(0.984)	1724956	1000.00	983

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120407.D
 Lab Smp Id: LLSIM 1000
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	337457	2.92
11 Acenaphthene-d10	239179	119590	478358	238950	-0.10
18 Phenanthrene-d10	372253	186127	744506	380348	2.17
29 Chrysene-d12	294711	147356	589422	298514	1.29
35 Perylene-d12	260595	130298	521190	256244	-1.67

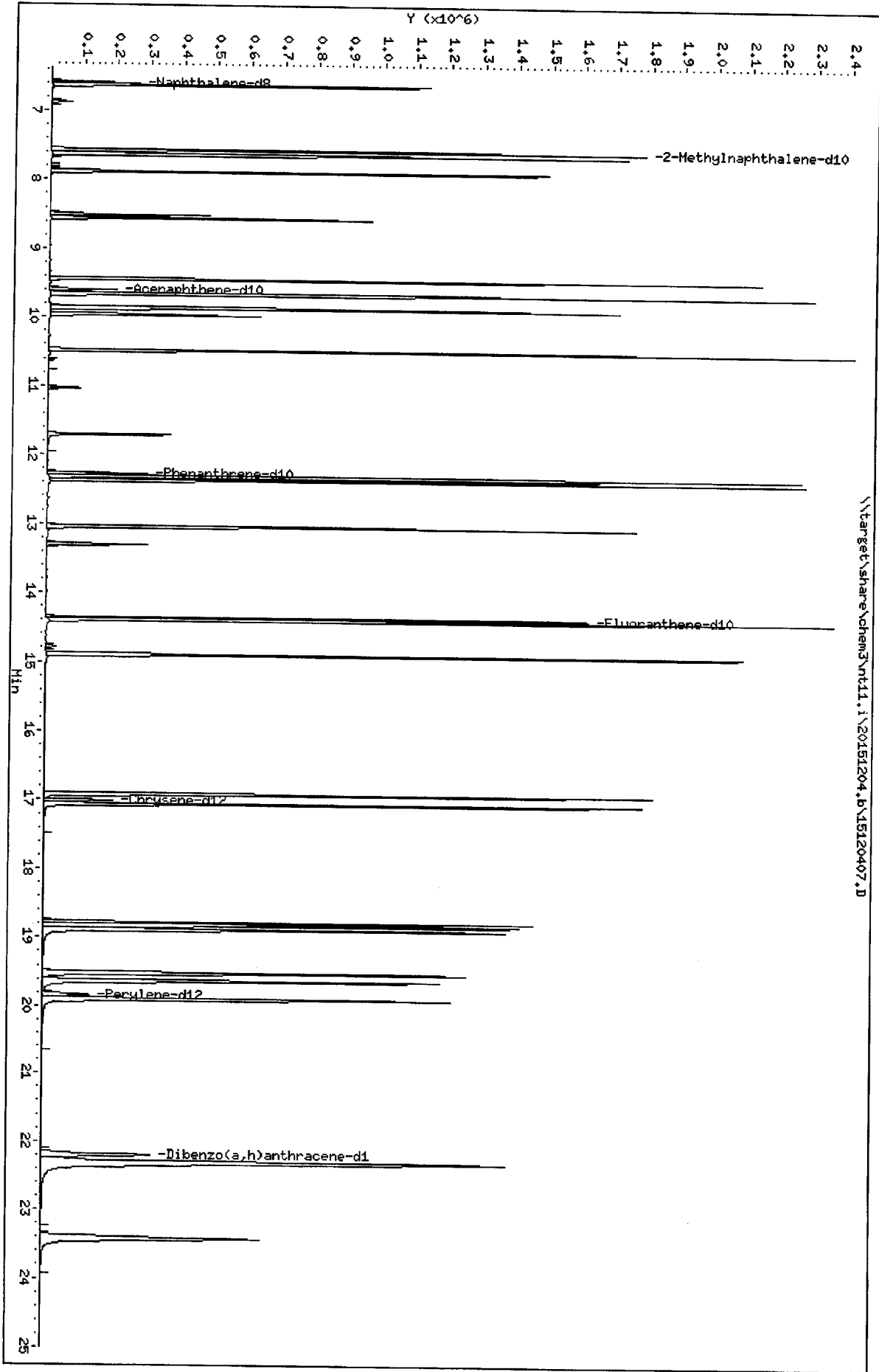
COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.84	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20151204.b\15120407.D
Date : 04-DEC-2015 11:33
Client ID:
Sample Info: LSIH 1000

Column phase: Rxi-17S11 HS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



REVIEW SUMMARY FOR FILE - 15120407.D

Lab ID: LLSIM 1000

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 11:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 0.0000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20151204.b\15120408.D
 Lab Smp Id: LLSIM SCV 250
 Inj Date : 04-DEC-2015 12:04 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LLSIM SCV 250
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Meth Date : 05-Dec-2015 09:24 jonathonw Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Final Extract Volume (uL)
Vo	500.000	Sample Volume extracted (mL)
Cpnd Variable		Local Compound Variable

JW
12/5/15

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/L)
* 4 Naphthalene-d8	136	6.597	6.597 (1.000)		330144	200.000	
5 Naphthalene	128	6.629	6.629 (1.005)		446422	234.100	234
\$ 6 2-Methylnaphthalene-d10	152	Compound Not Detected.					
7 2-Methylnaphthalene	142	7.627	7.627 (1.156)		286909	218.968	219
8 1-Methylnaphthalene	142	7.889	7.889 (1.196)		286856	242.931	243
10 Acenaphthylene	152	9.445	9.445 (0.984)		450083	235.922	236
* 11 Acenaphthene-d10	164	9.600	9.600 (1.000)		236381	200.000	
12 Acenaphthene	153	9.656	9.656 (1.006)		307274	242.667	243
14 Dibenzofuran	168	Compound Not Detected.					
15 Fluorene	166	10.486	10.486 (1.092)		337933	236.220	236
* 18 Phenanthrene-d10	188	12.269	12.269 (1.000)		360337	200.000	
19 Phenanthrene	178	12.313	12.313 (1.004)		535994	246.891	247
20 Anthracene	178	12.368	12.368 (1.008)		485229	249.701	250
\$ 23 Fluoranthene-d10	212	Compound Not Detected.					
24 Fluoranthene	202	14.403	14.403 (1.174)		518632	237.945	238
25 Pyrene	202	14.903	14.903 (0.876)		586418	254.458	254
28 Benzo(a)anthracene	228	16.918	16.918 (0.995)		456787	235.431	235
* 29 Chrysene-d12	240	17.009	17.009 (1.000)		291007	200.000	
30 Chrysene	228	17.059	17.059 (1.003)		500271	234.930	235
44 Benzo(b)fluoranthene	252	18.784	18.785 (0.947)		394832	240.567	241
45 Benzo(k)fluoranthene	252	18.823	18.833 (0.949)		474361	248.024	248
46 Benzo(j)fluoranthene	252	Compound Not Detected.					

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/L)
34 Benzo(a)pyrene.	252	19.630	19.630	(0.990)	391410	247.108	247	
* 35 Perylene-d12	264	19.832	19.842	(1.000)	242244	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.						
37 Indeno(1,2,3-cd)pyrene	276	22.329	22.329	(1.126)	412835	248.231	248	
38 Dibenzo(a,h)anthracene	278	22.307	22.307	(1.125)	328597	249.858	250	
39 Benzo(g,h,i)perylene	276	23.426	23.426	(1.181)	360543	249.725	250	
47 Perylene	252	Compound Not Detected.						
48 Benzo(e)pyrene	252	Compound Not Detected.						

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 15120408.D
 Lab Smp Id: LLSIM SCV 250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

Calibration Date: 04-DEC-2015
 Calibration Time: 09:03
 Level: LOW
 Sample Type: WATER

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	330144	0.69
11 Acenaphthene-d10	239179	119590	478358	236381	-1.17
18 Phenanthrene-d10	372253	186127	744506	360337	-3.20
29 Chrysene-d12	294711	147356	589422	291007	-1.26
35 Perylene-d12	260595	130298	521190	242244	-7.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.60	6.10	7.10	6.60	-0.00
11 Acenaphthene-d10	9.60	9.10	10.10	9.60	-0.00
18 Phenanthrene-d10	12.27	11.77	12.77	12.27	-0.00
29 Chrysene-d12	17.02	16.52	17.52	17.01	-0.05
35 Perylene-d12	19.84	19.34	20.34	19.83	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

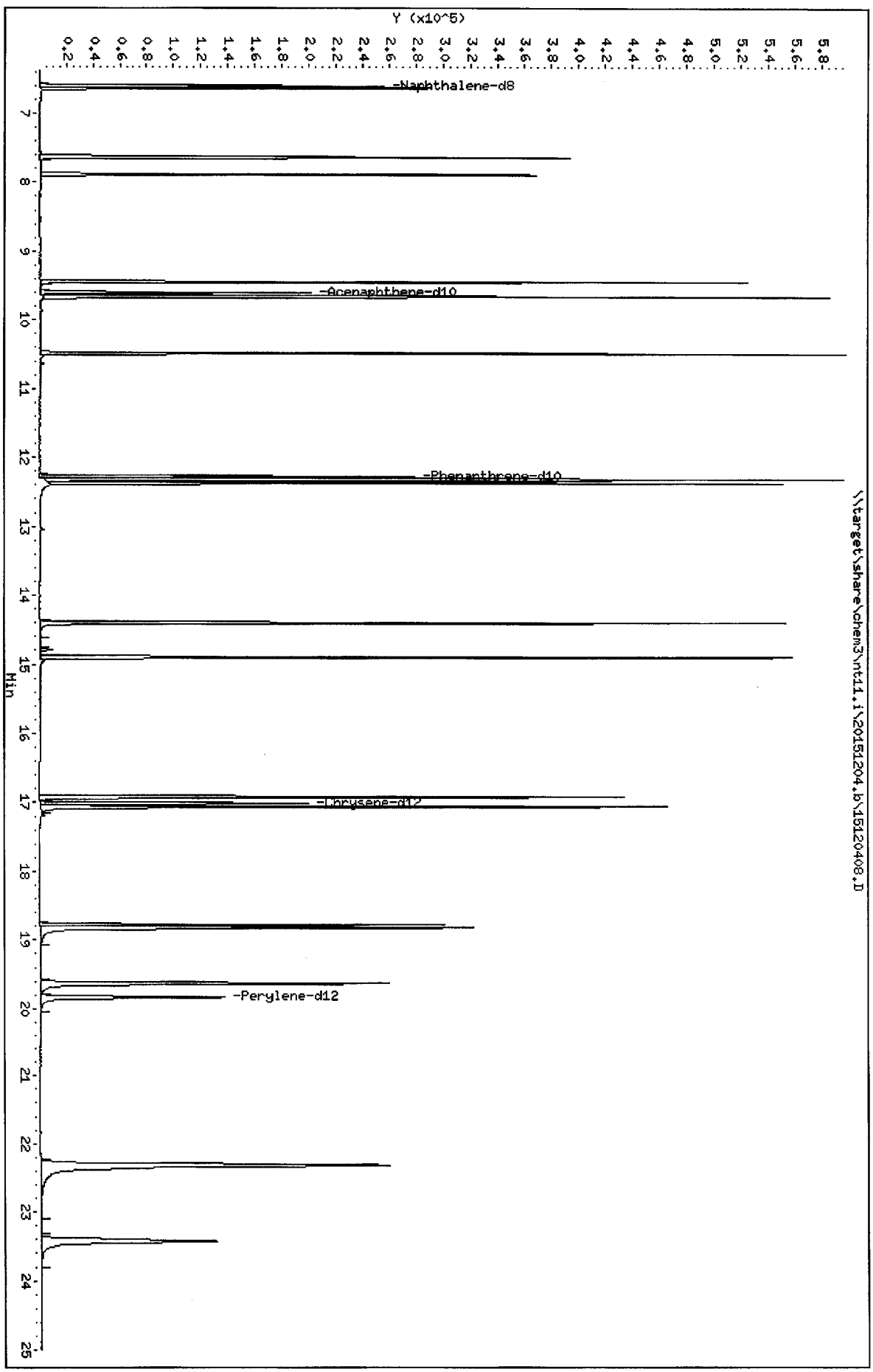
Client Name: Client SDG: SDGa03180
 Sample Matrix: LIQUID Fraction: SV
 Lab Smp Id: LLSIM SCV 250
 Level: LOW Operator: JW
 Data Type: MS DATA SampleType: SAMPLE
 SpikeList File: waterlcs.spk Quant Type: ISTD
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20151204.b\lowsim.m
 Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthale	6000	0.000	<i>no sum</i>	* 42-120
\$ 23 Fluoranthene-d10	6000	0.000		* 57-120
\$ 36 Dibenzo(a,h)anthr	6000	0.000		* 29-120

Data File: \\target\share\chem3\nt11.i\20151204.b\15120408.D
Date : 04-DEC-2015 12:04

Client ID:
Sample Info: LLSIH SCU 250
Volume Injected (uL): 2.0
Column phase: Rxi-17511 HS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

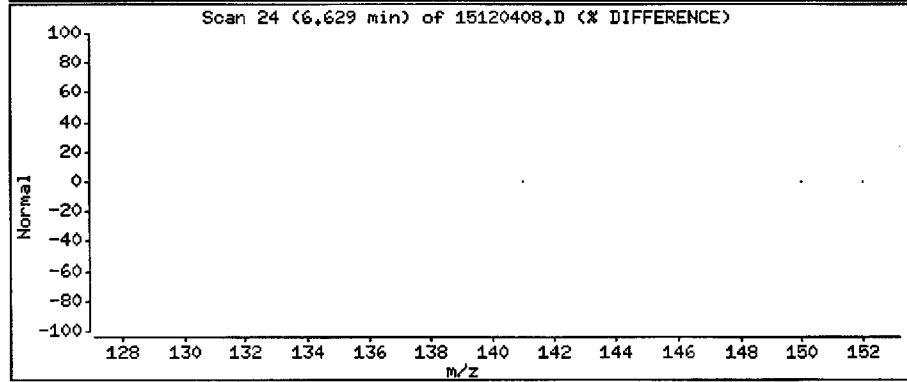
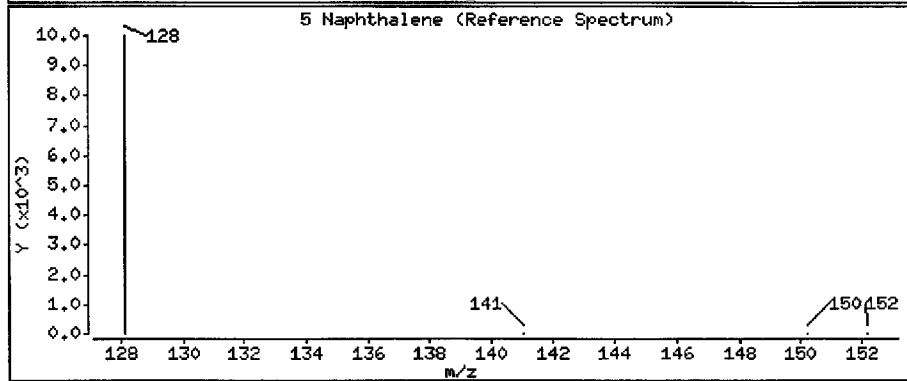
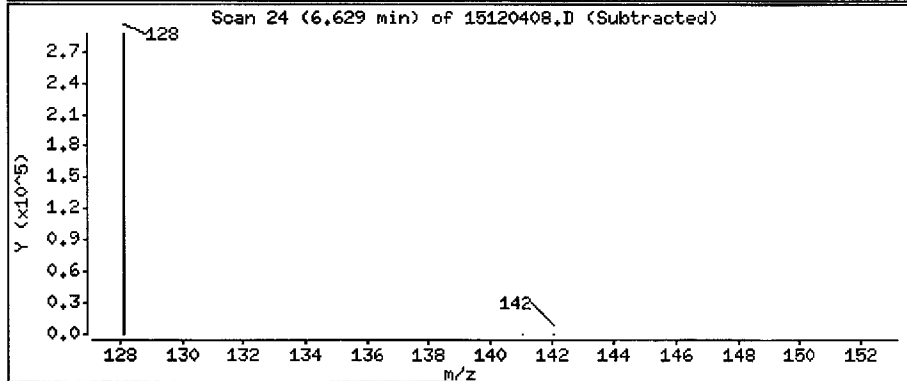
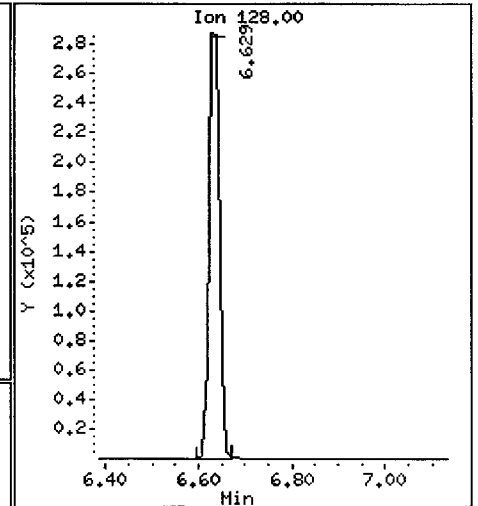
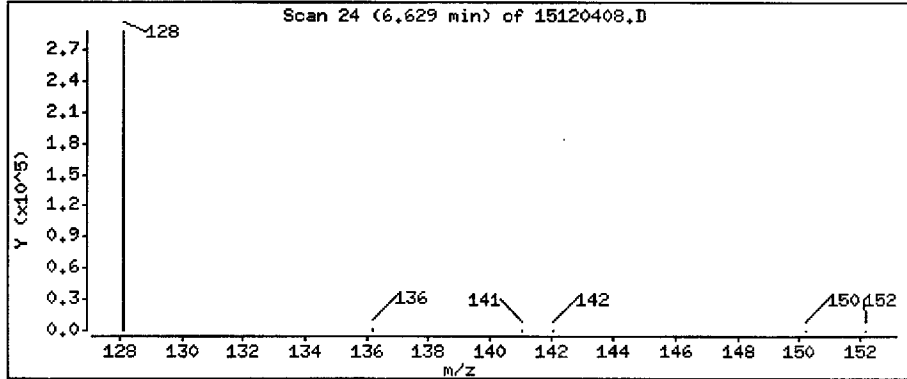
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

5 Naphthalene

Concentration: 234 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

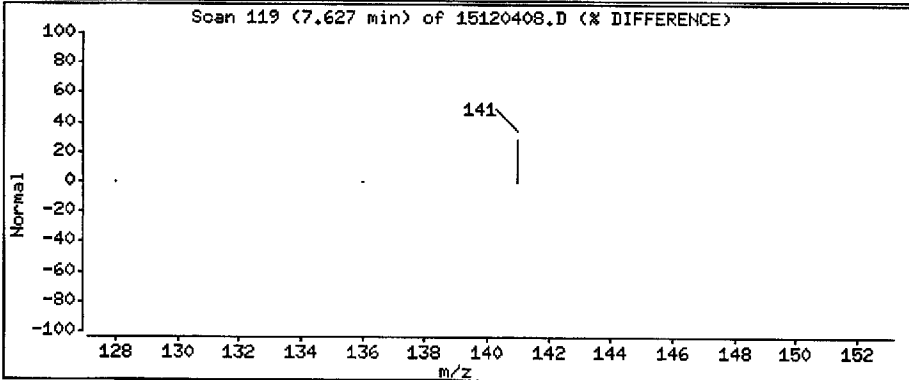
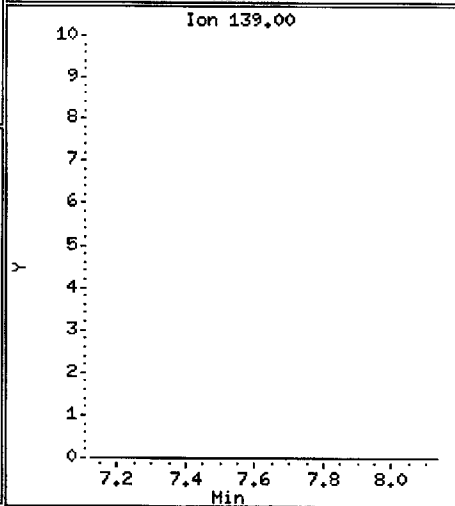
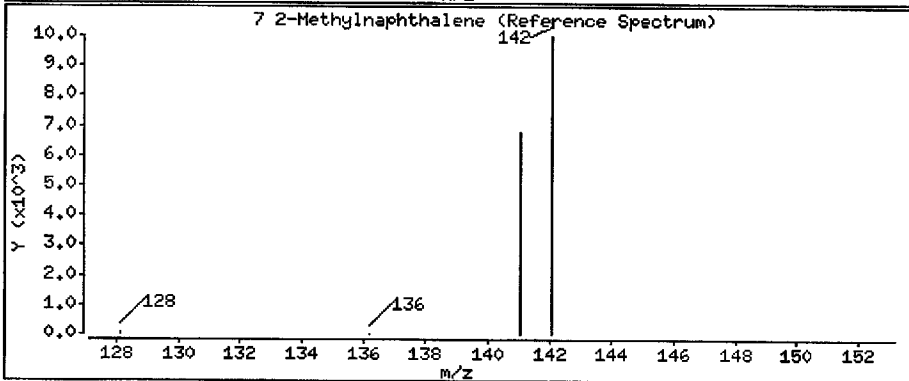
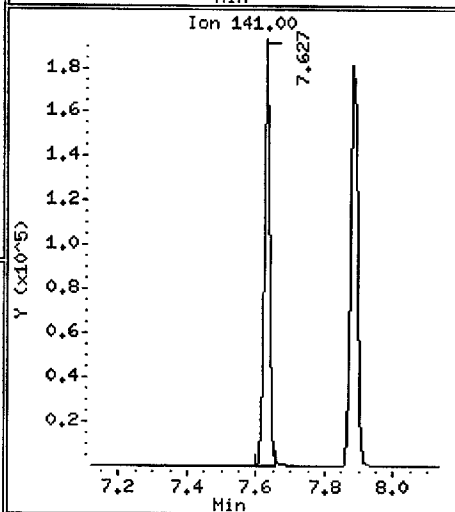
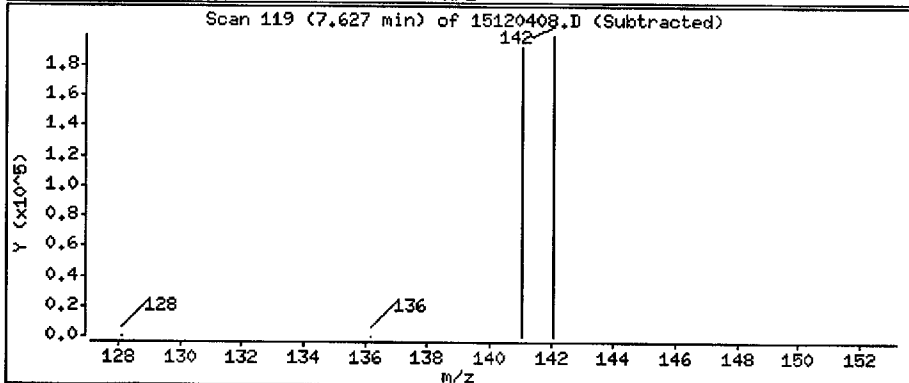
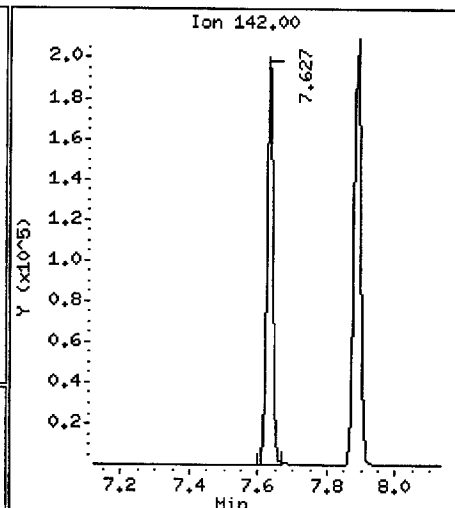
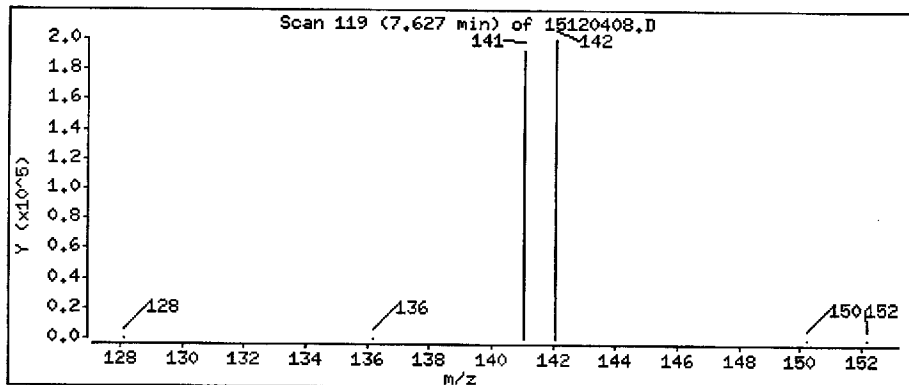
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Methylnaphthalene

Concentration: 219 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

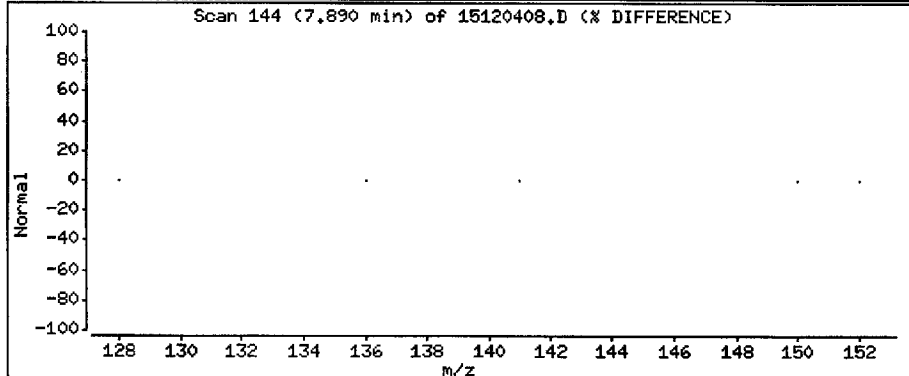
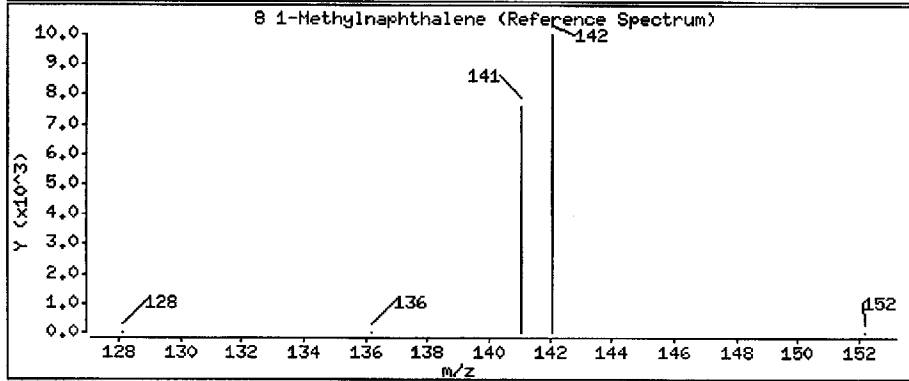
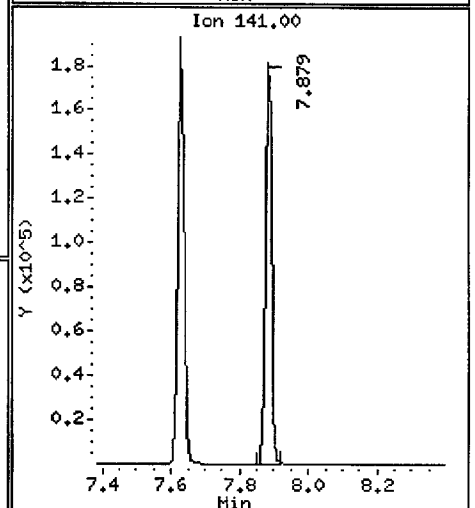
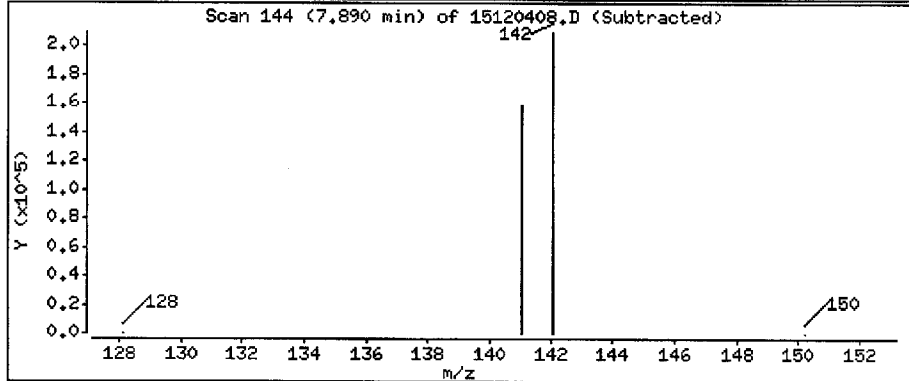
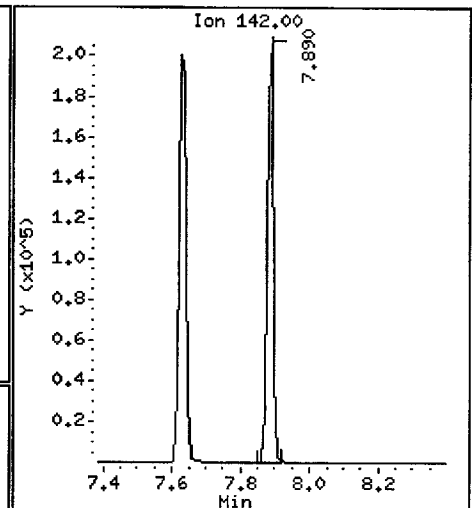
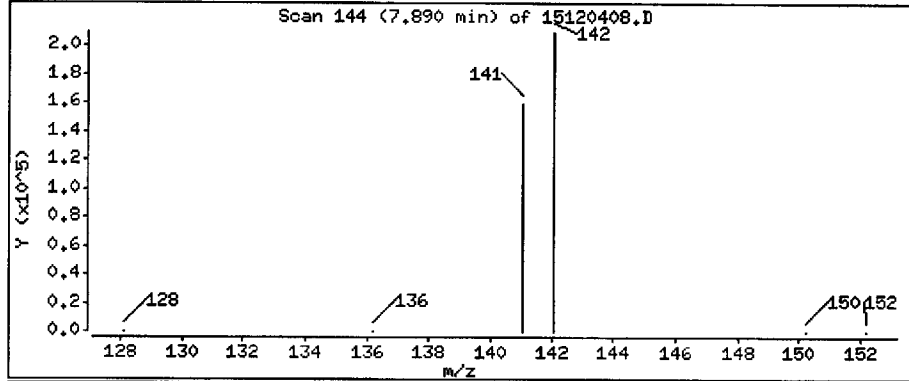
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 1-Methylnaphthalene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

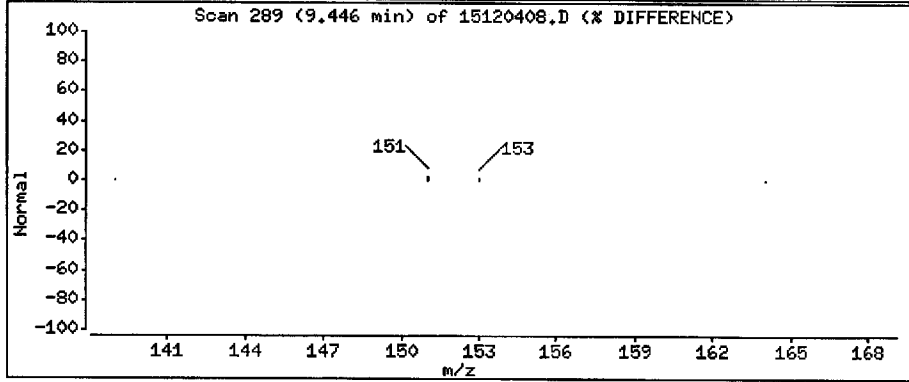
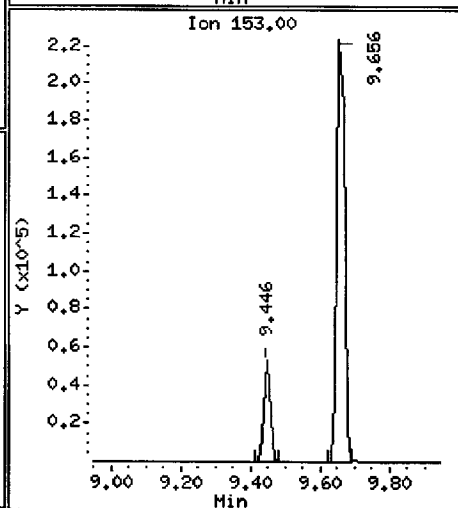
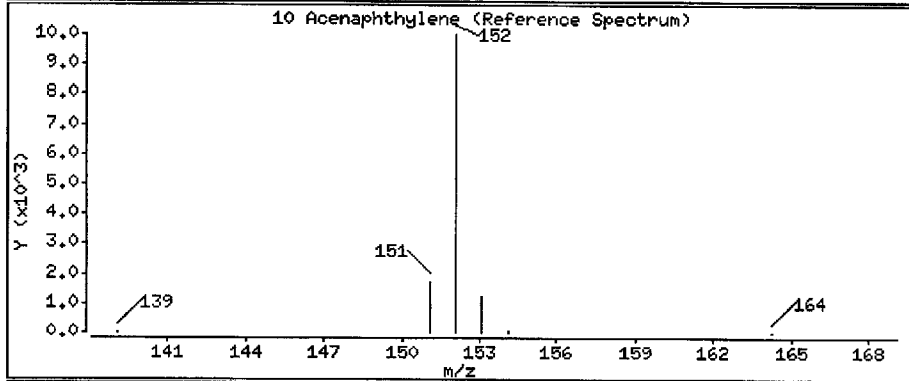
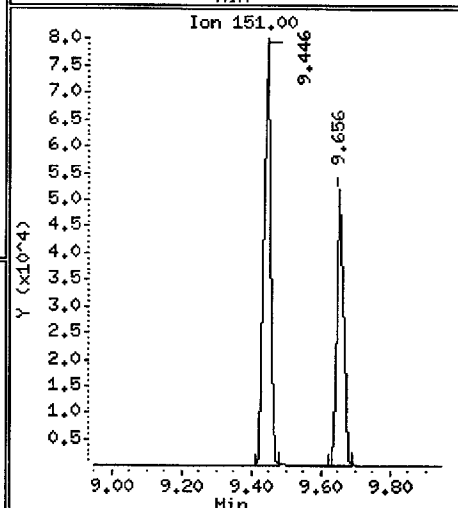
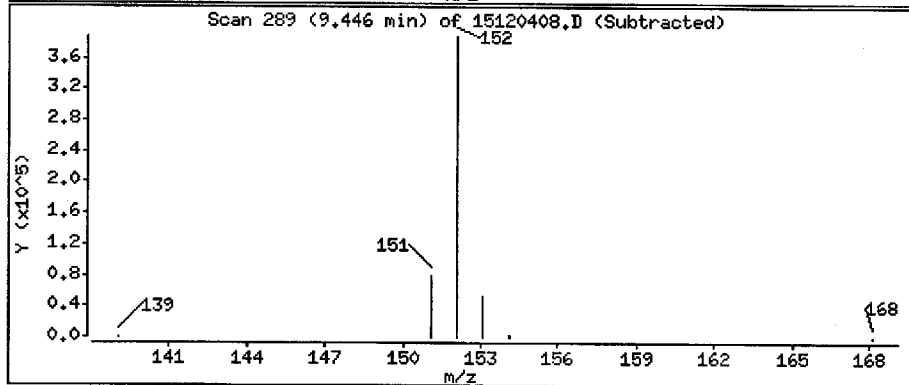
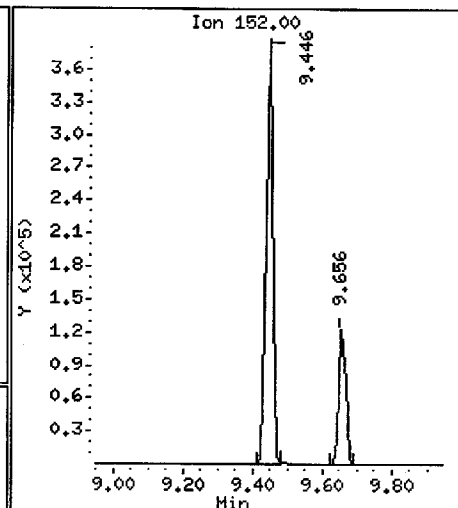
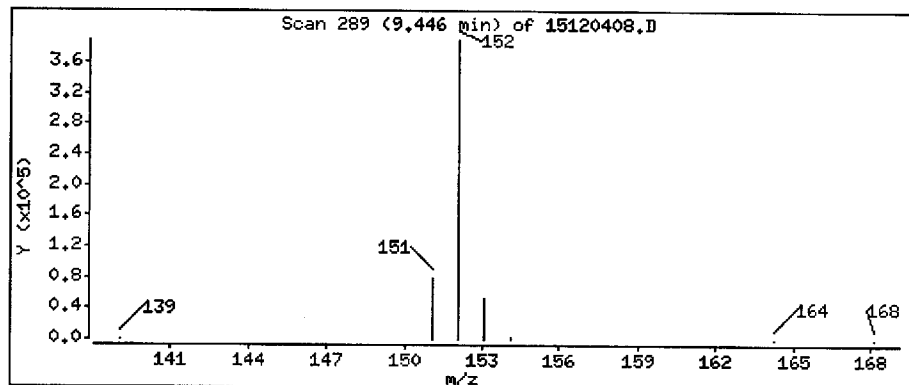
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

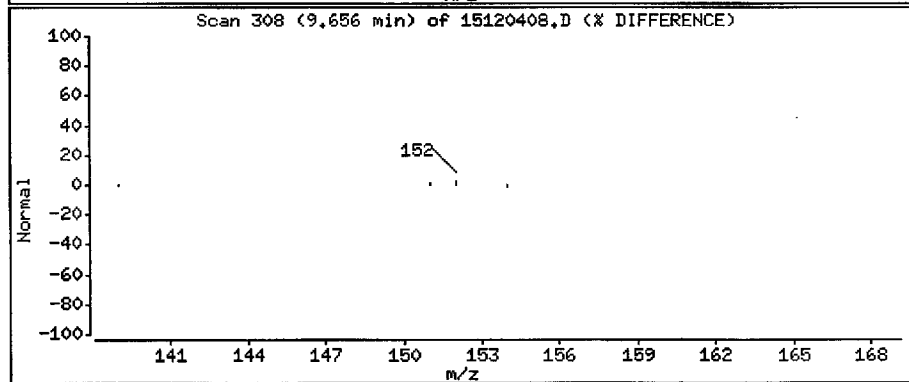
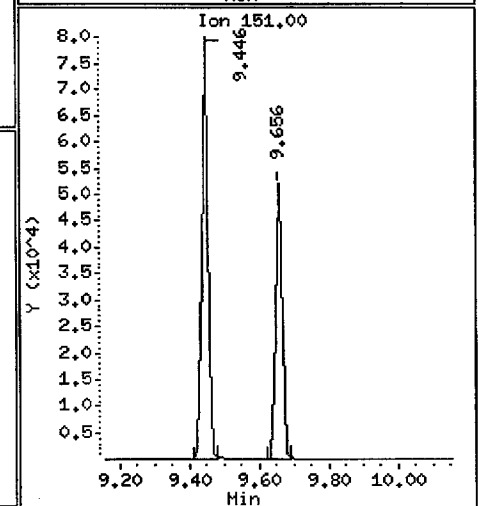
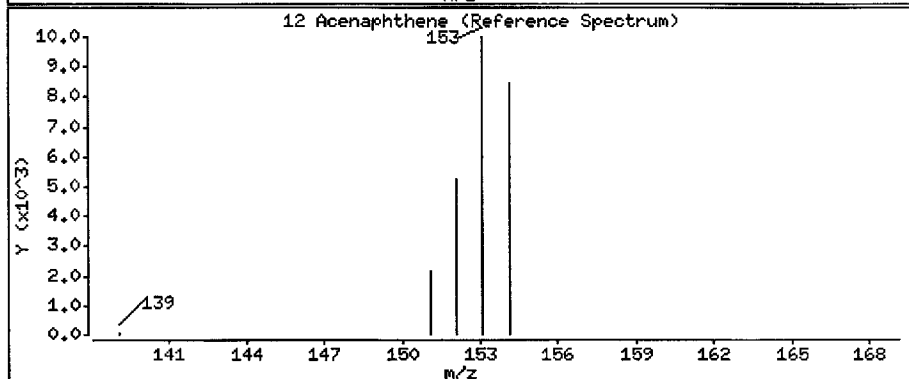
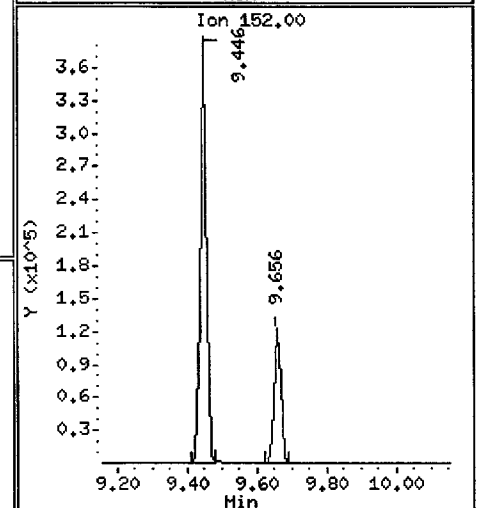
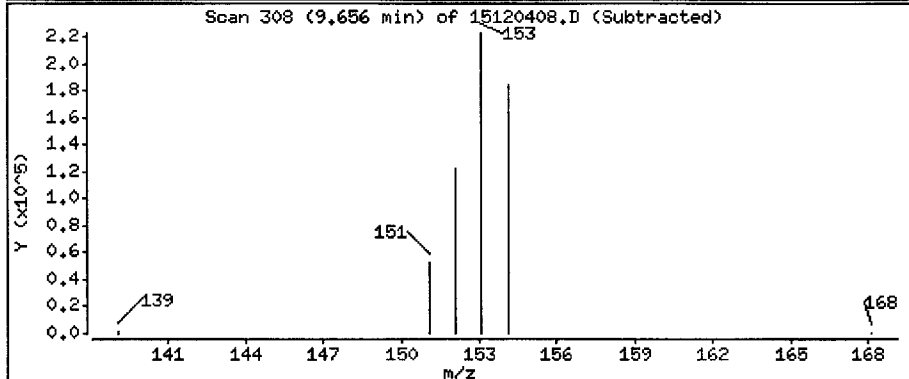
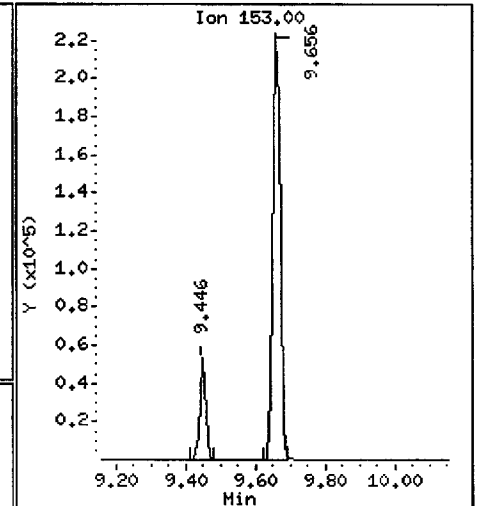
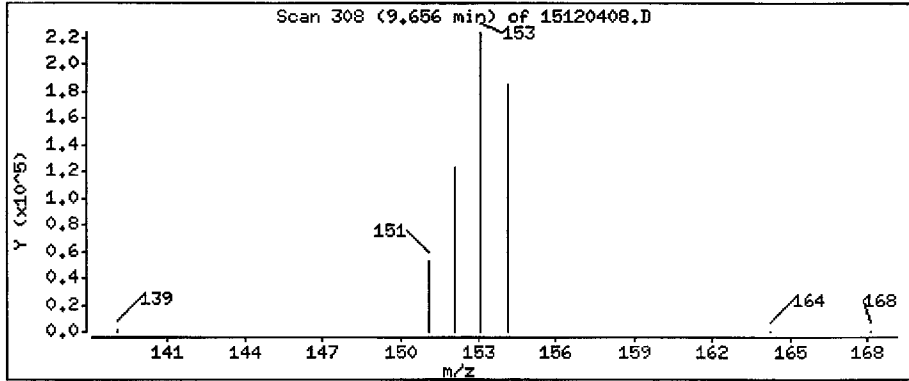
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 243 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

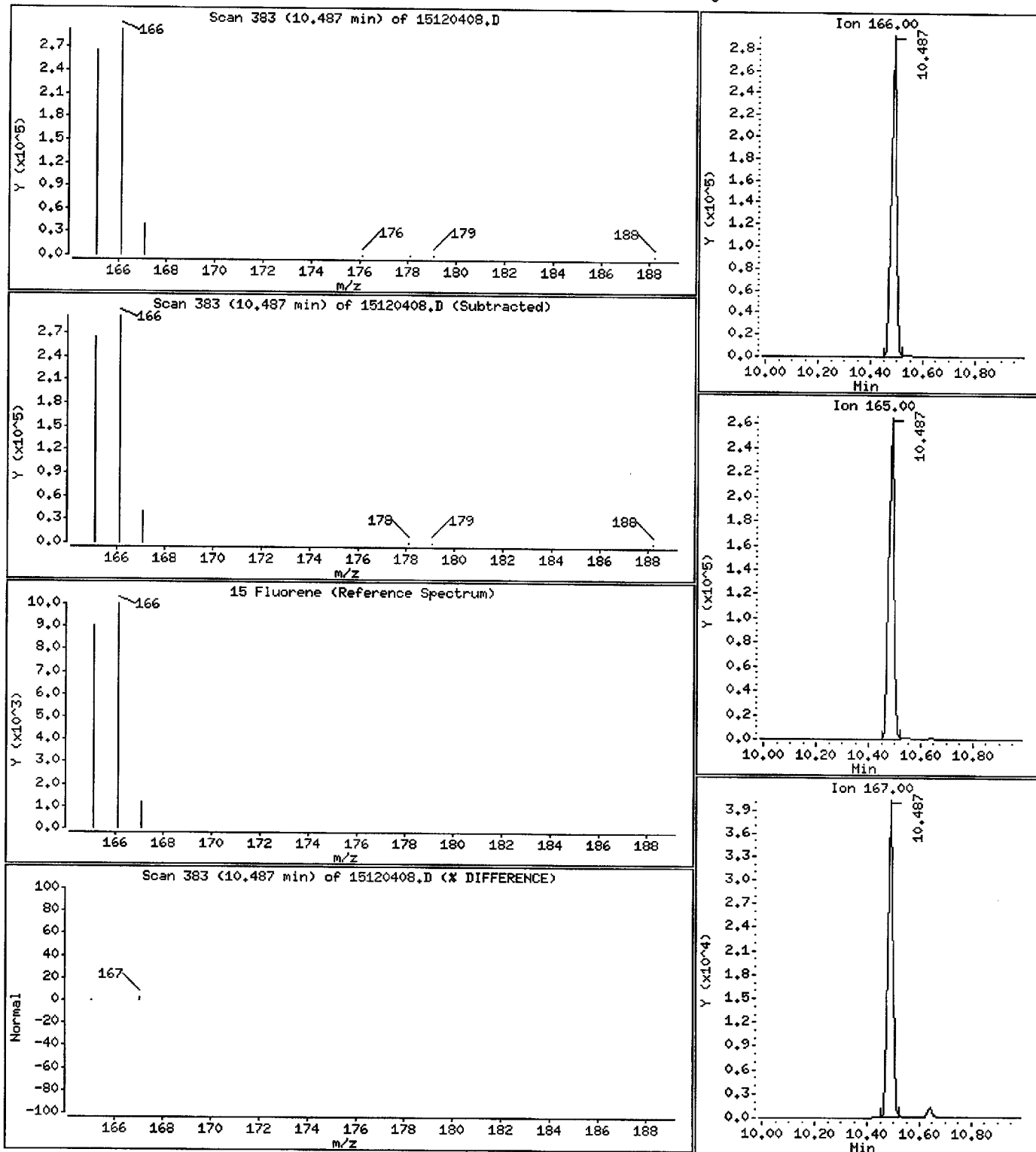
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

15 Fluorene

Concentration: 236 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

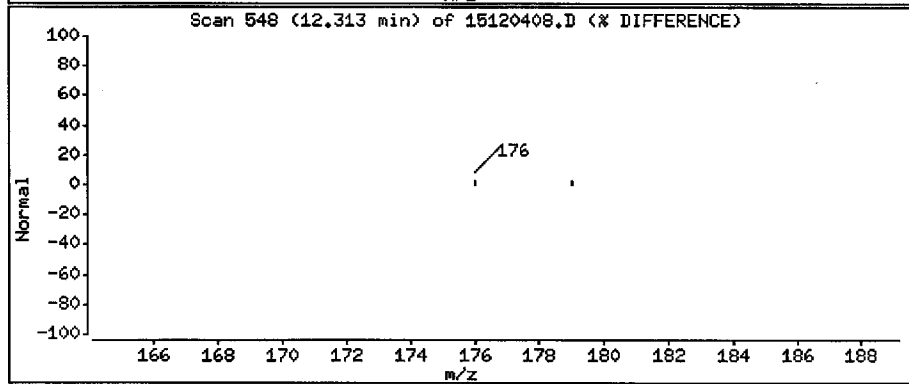
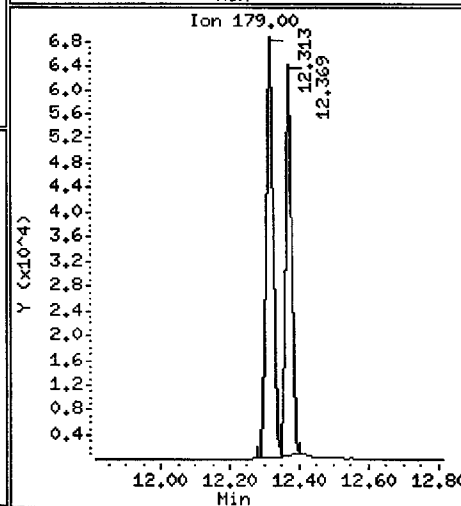
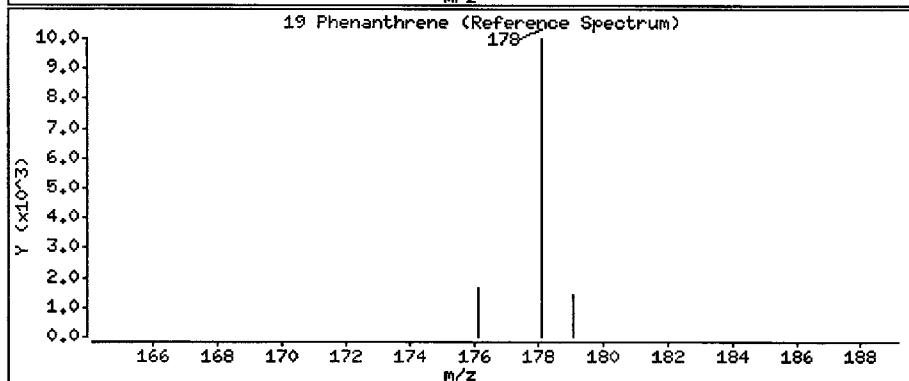
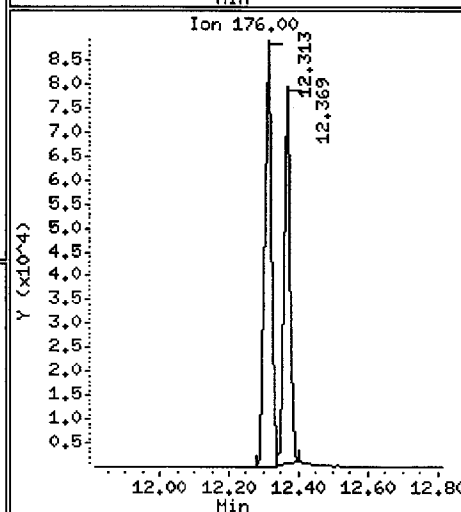
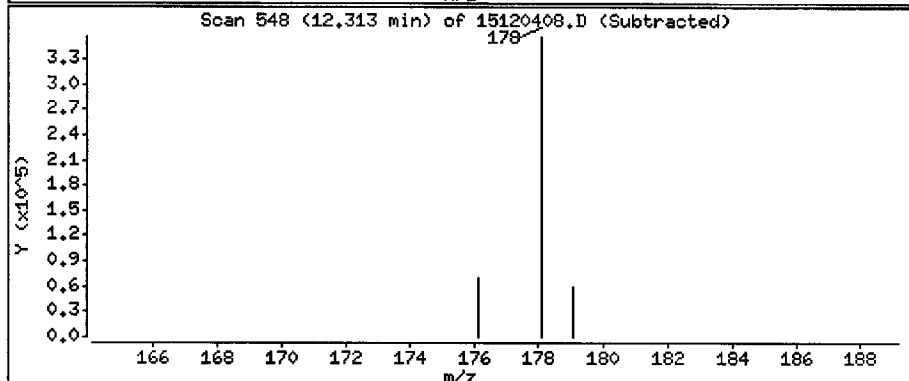
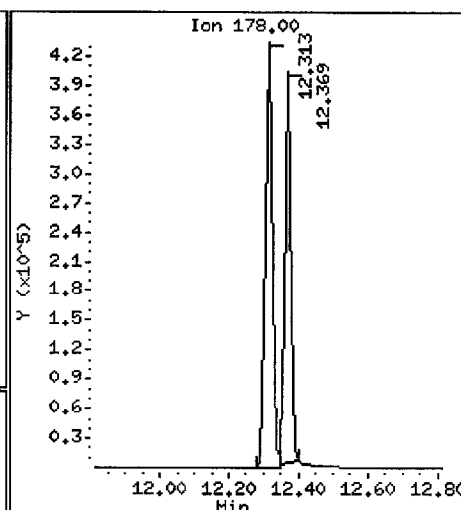
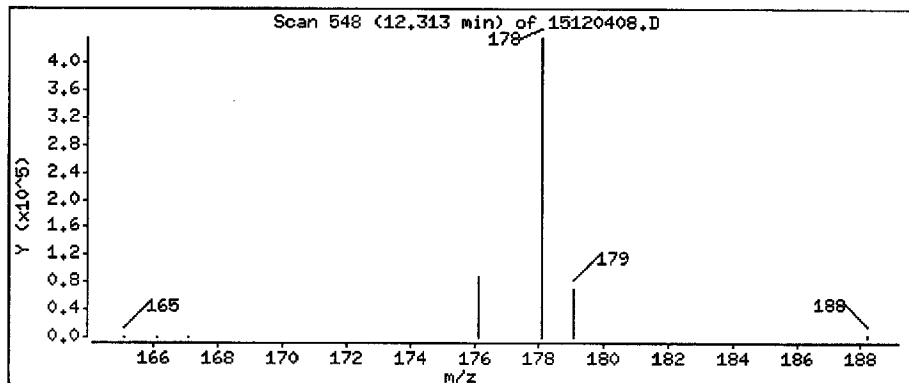
Operator: JW

Column phase: Rxi-17S11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

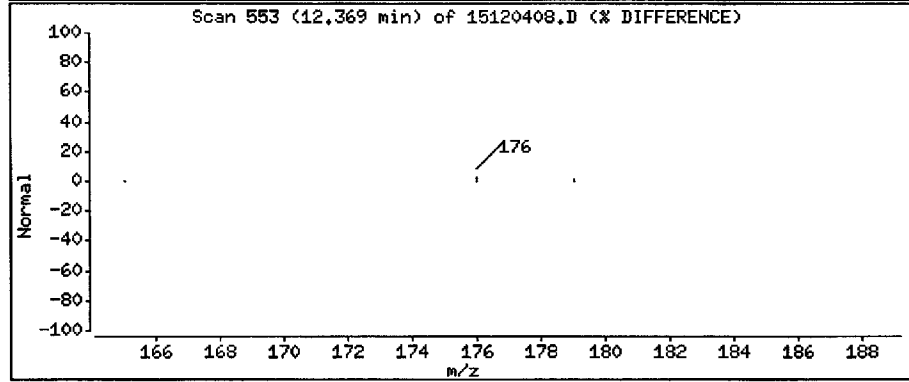
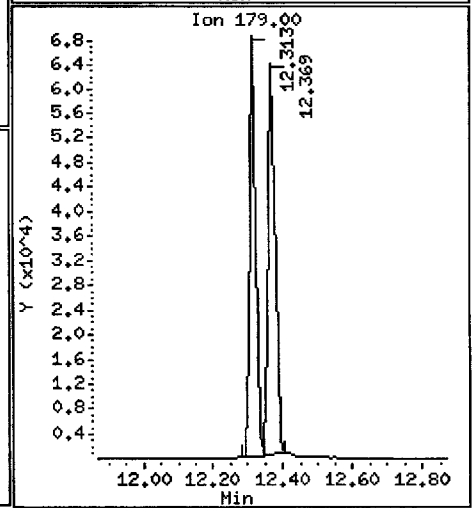
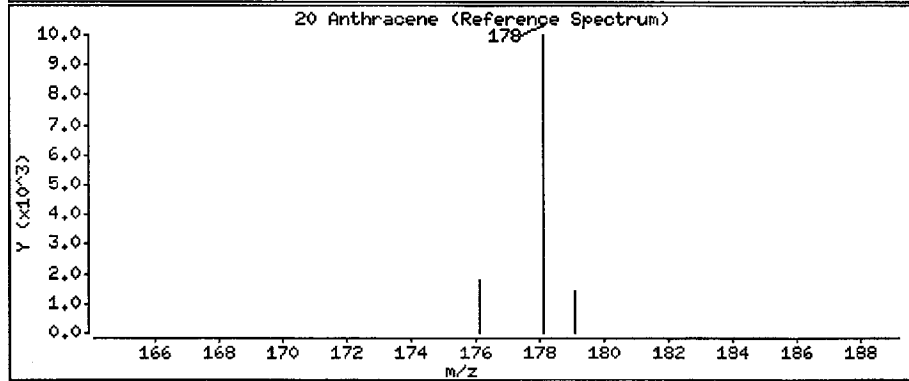
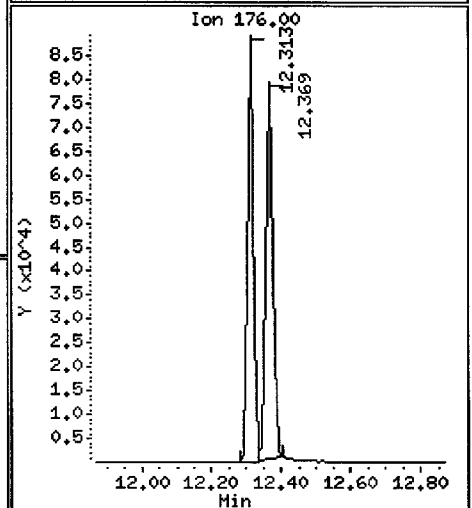
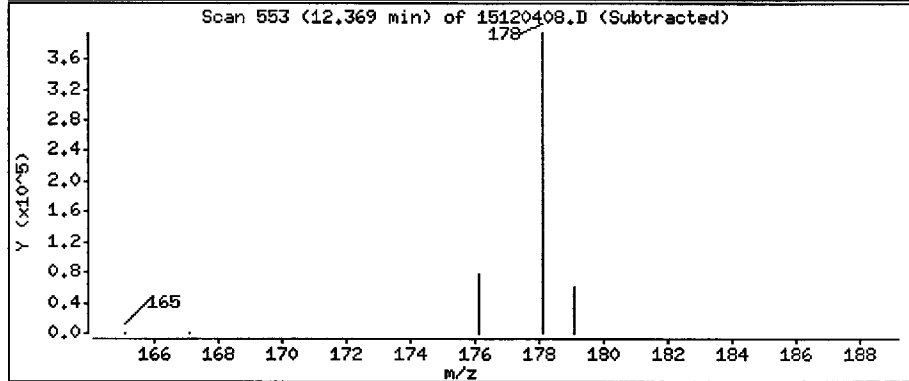
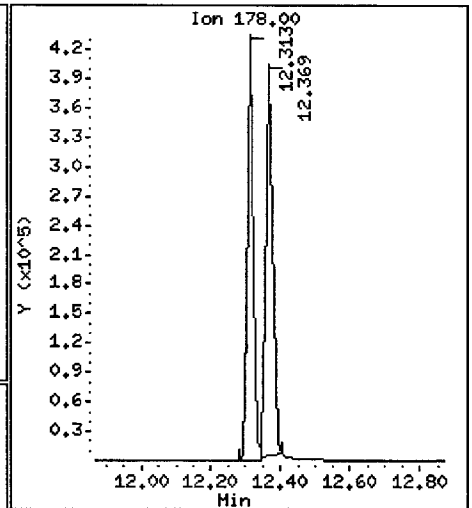
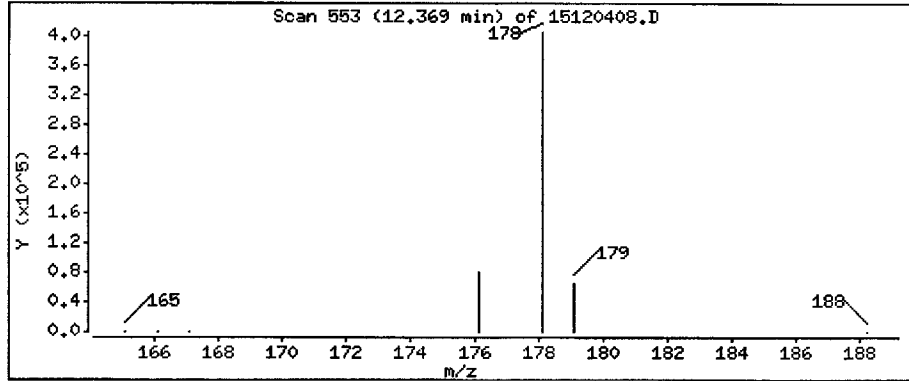
Operator: JM

Column phase: Rxi-17Sil MS

Column diameter: 0.25

20 Anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIH SCV 250

Volume Injected (uL): 2.0

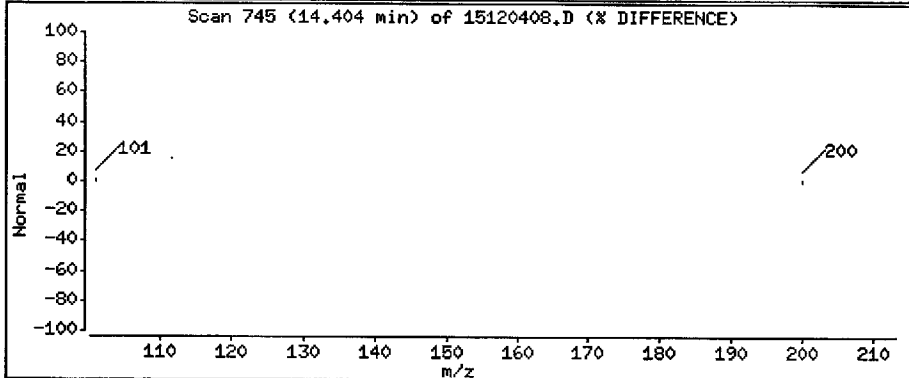
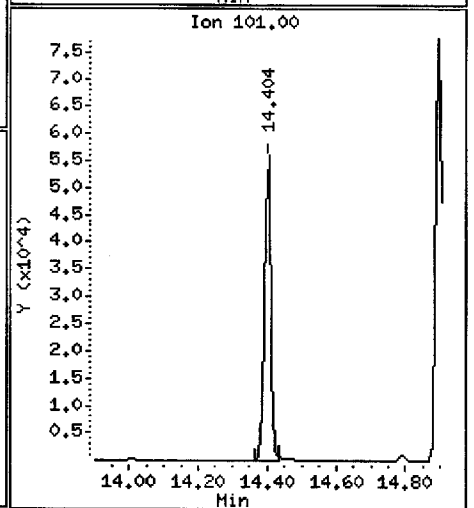
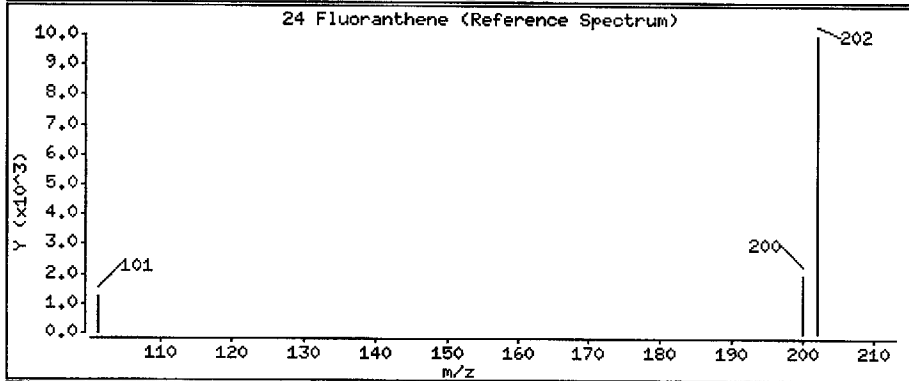
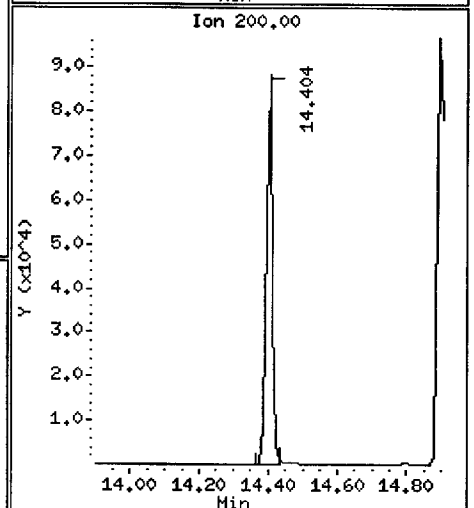
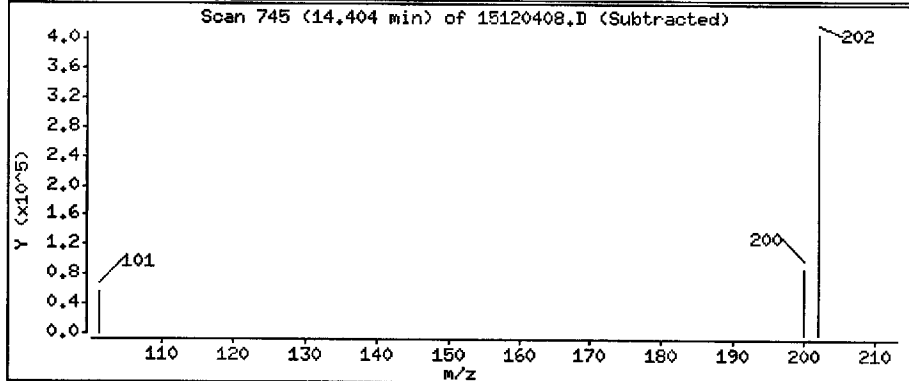
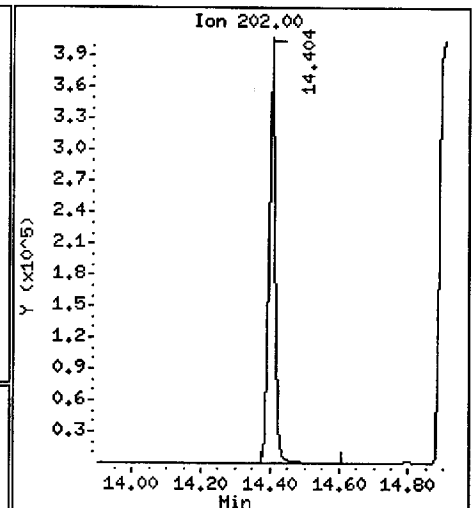
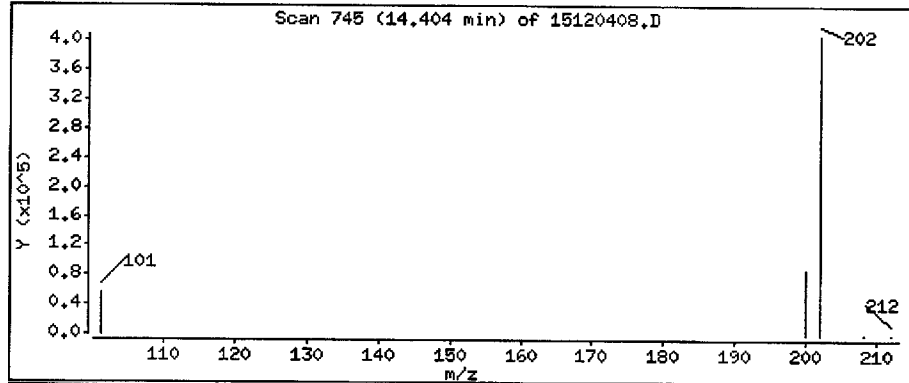
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

24 Fluoranthene

Concentration: 238 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

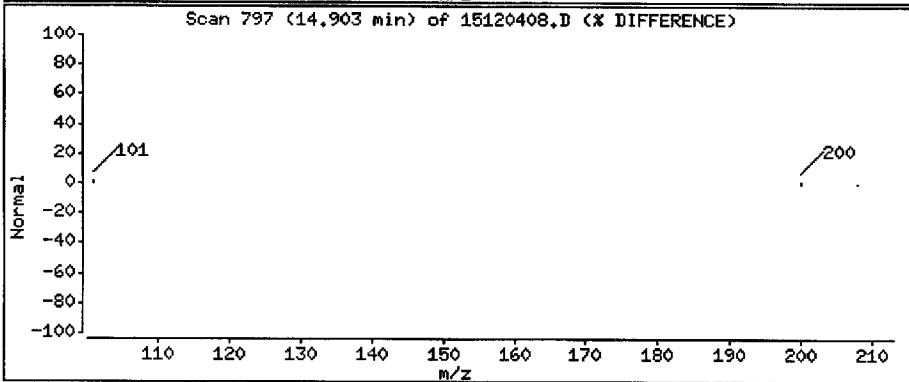
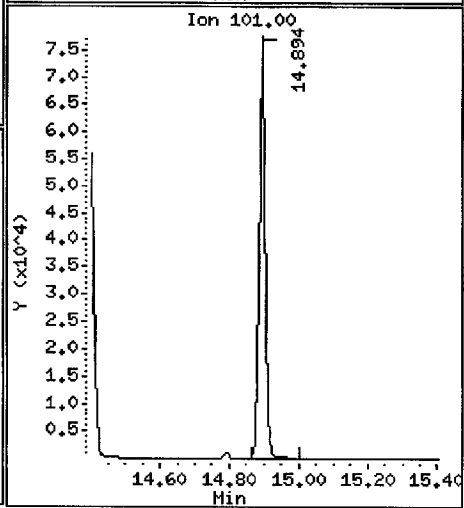
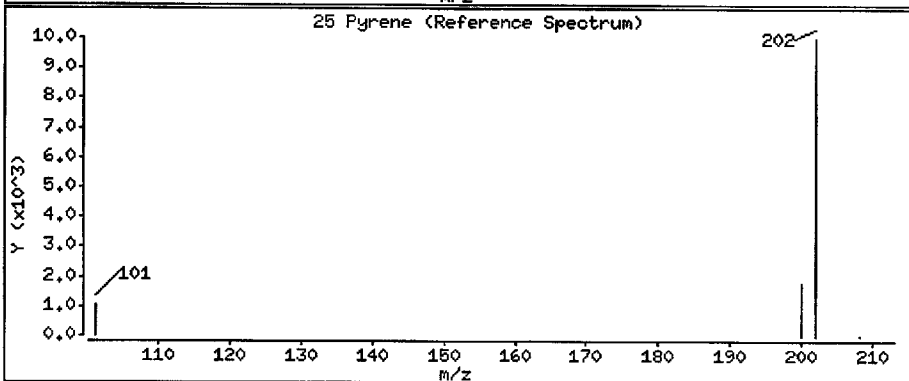
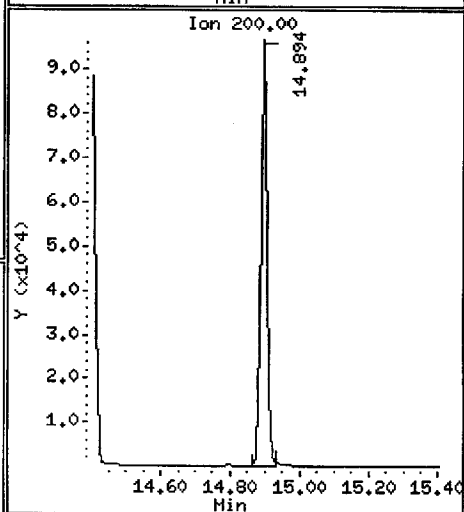
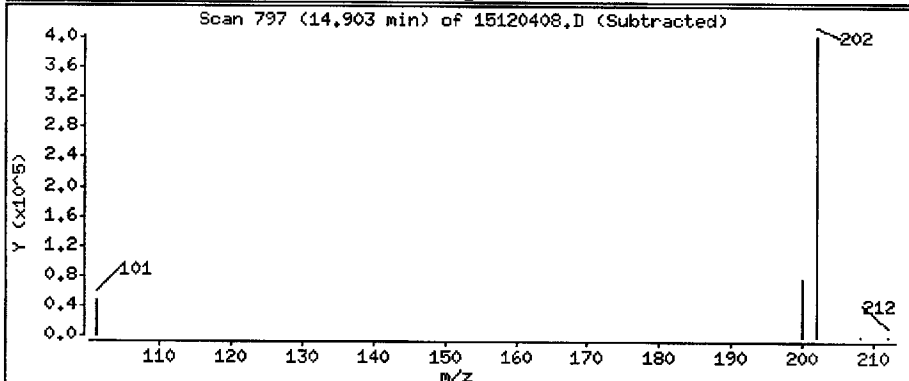
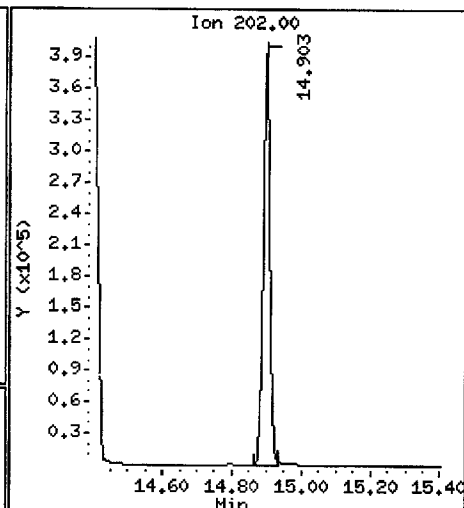
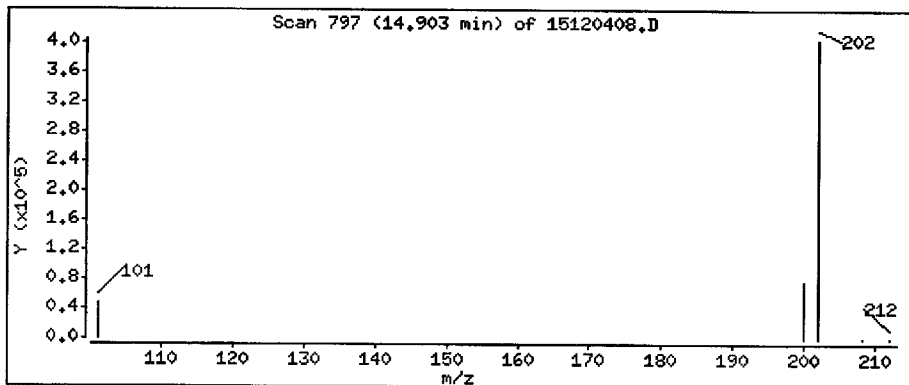
Operator: JW

Column phase: Rxi-17Si1 MS

Column diameter: 0.25

25 Pyrene

Concentration: 254 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

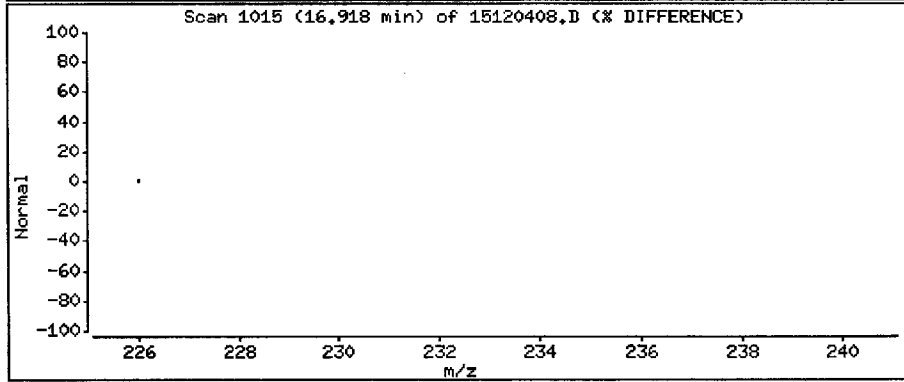
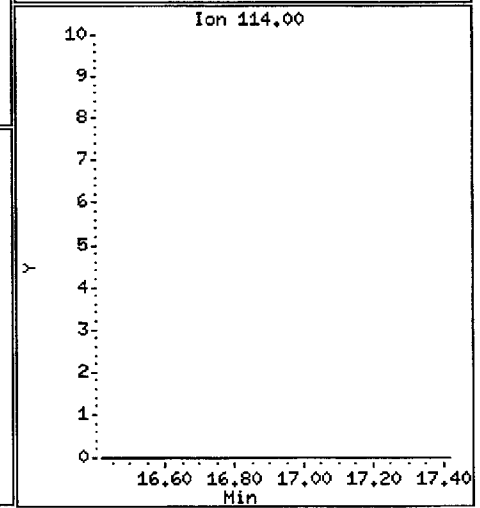
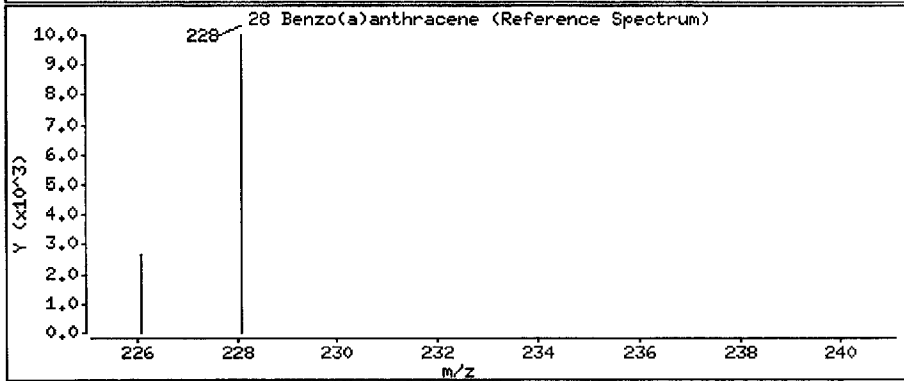
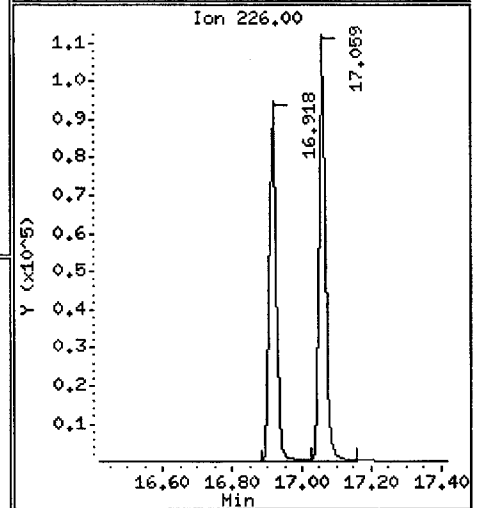
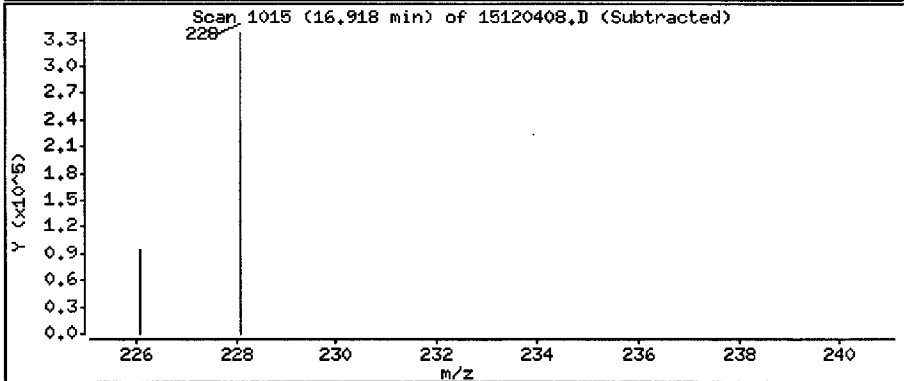
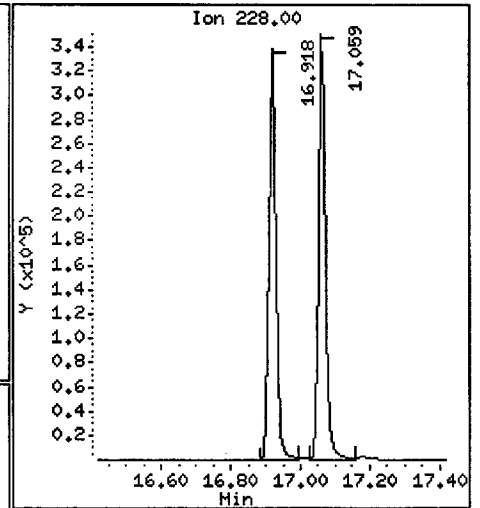
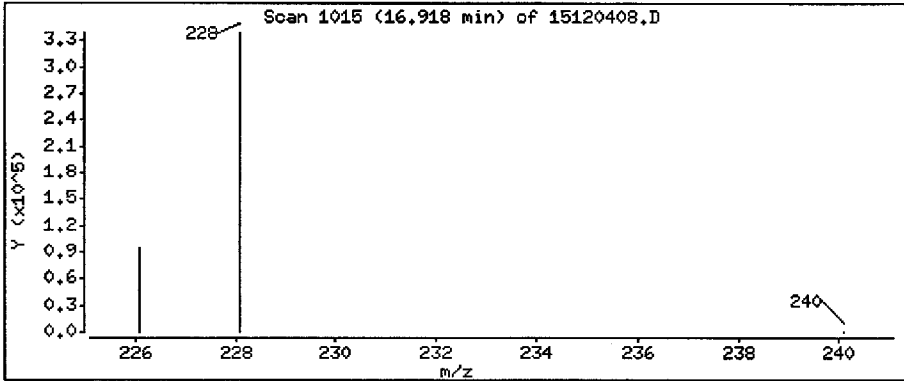
Operator: JN

Column phase: Rxi-17Sil MS

Column diameter: 0.25

28 Benzo(a)anthracene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

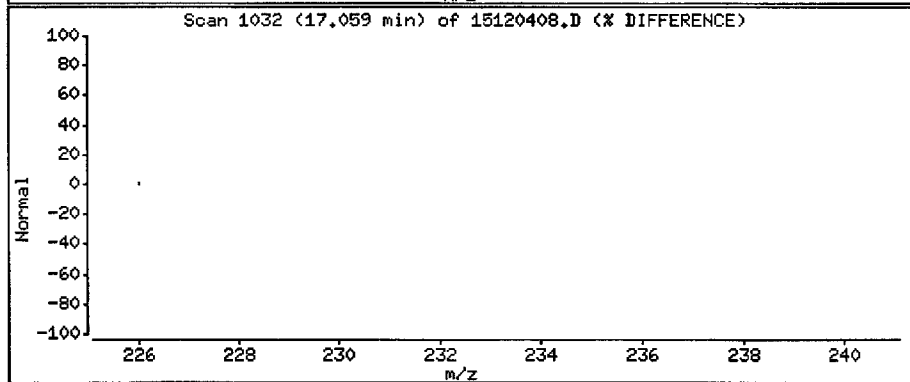
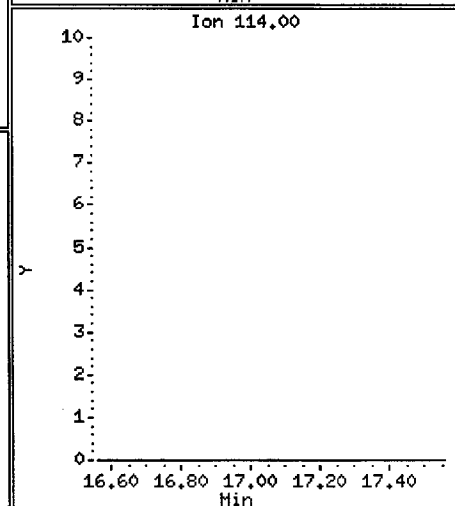
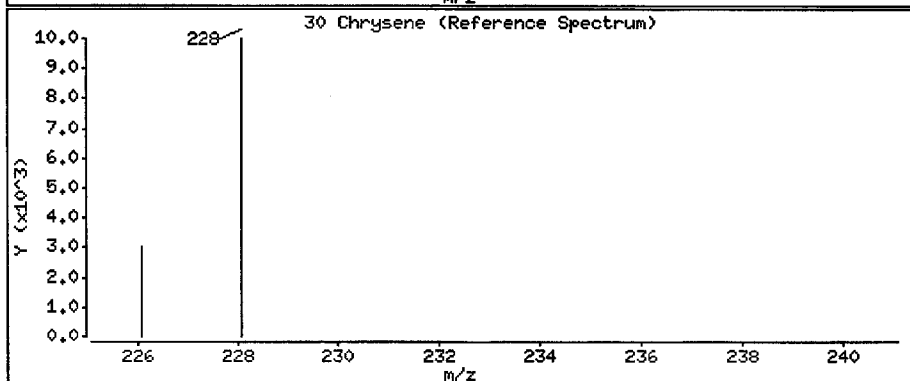
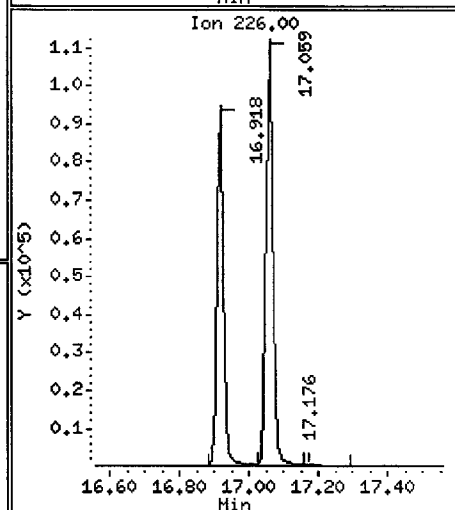
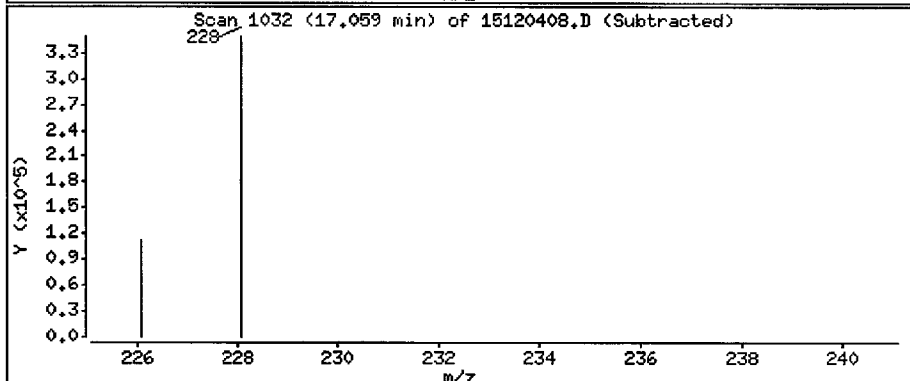
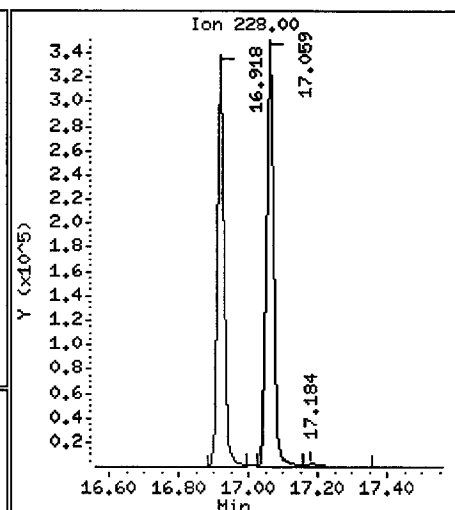
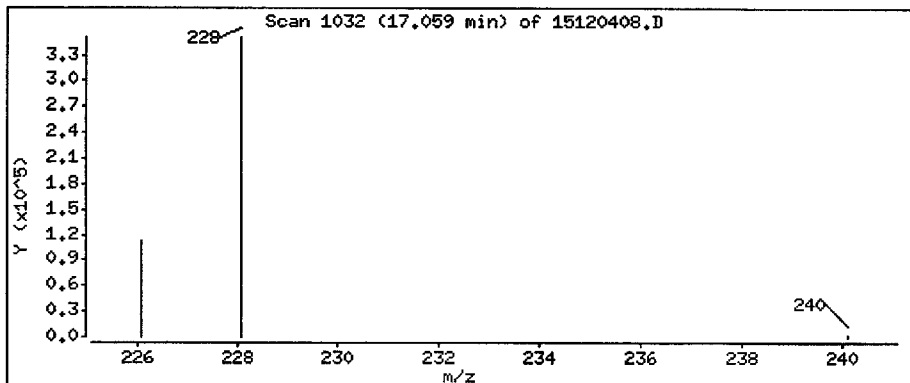
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

30 Chrysene

Concentration: 235 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

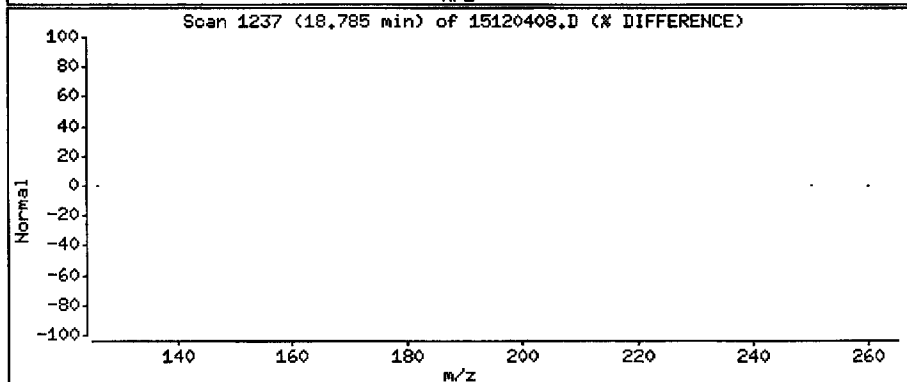
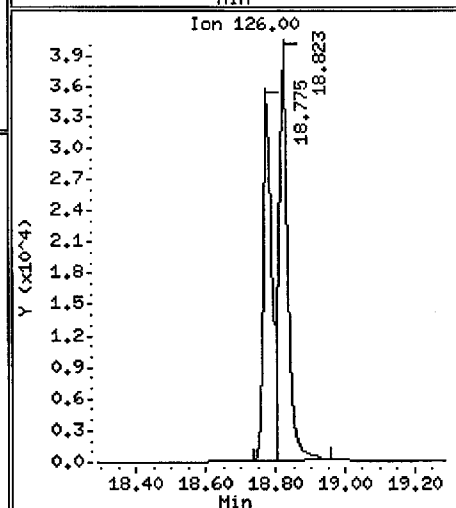
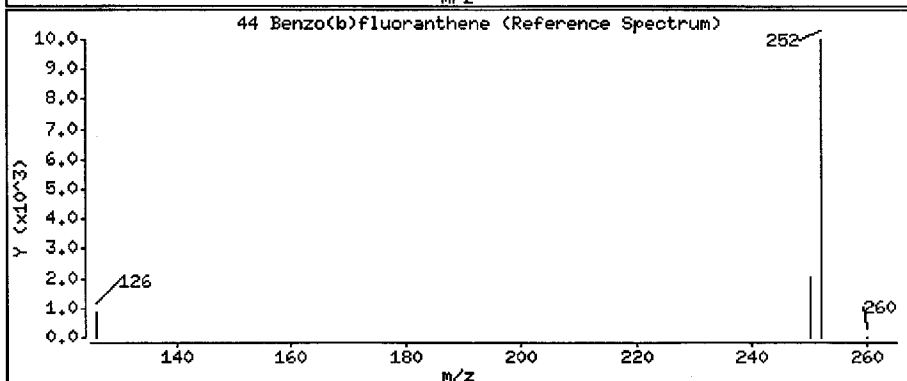
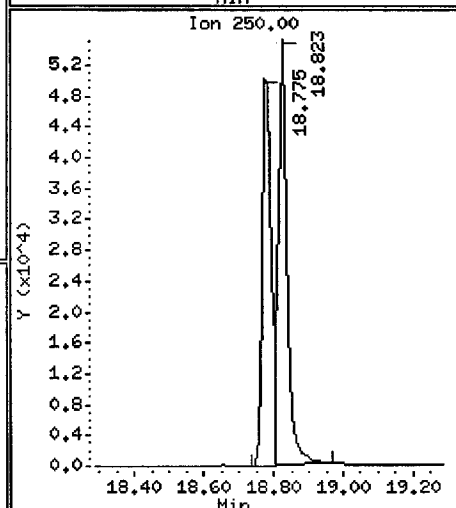
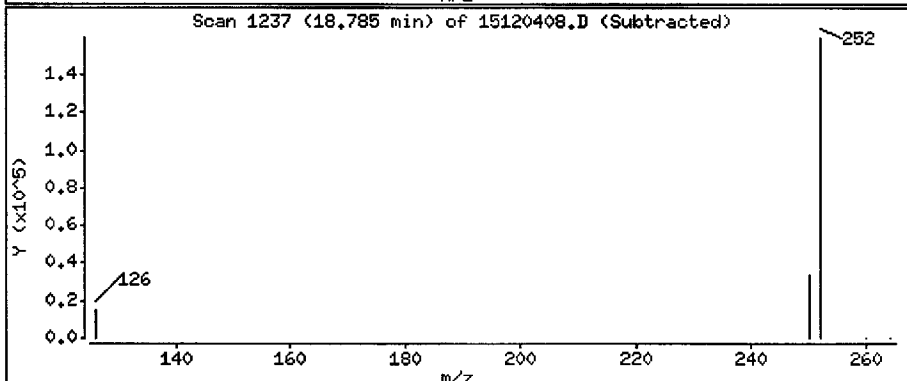
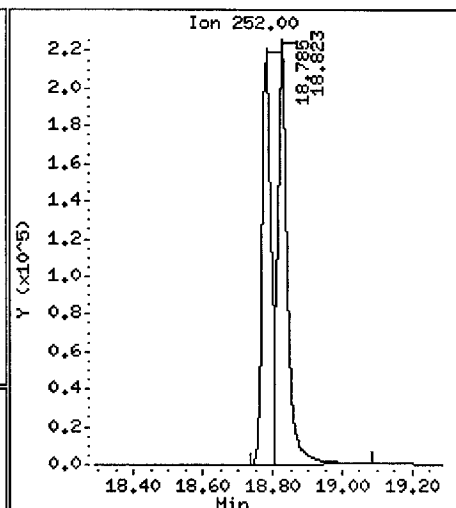
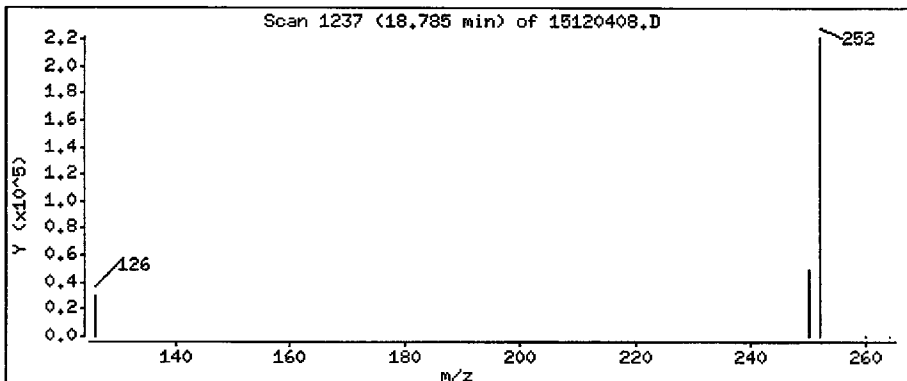
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

44 Benzo(b)fluoranthene

Concentration: 241 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

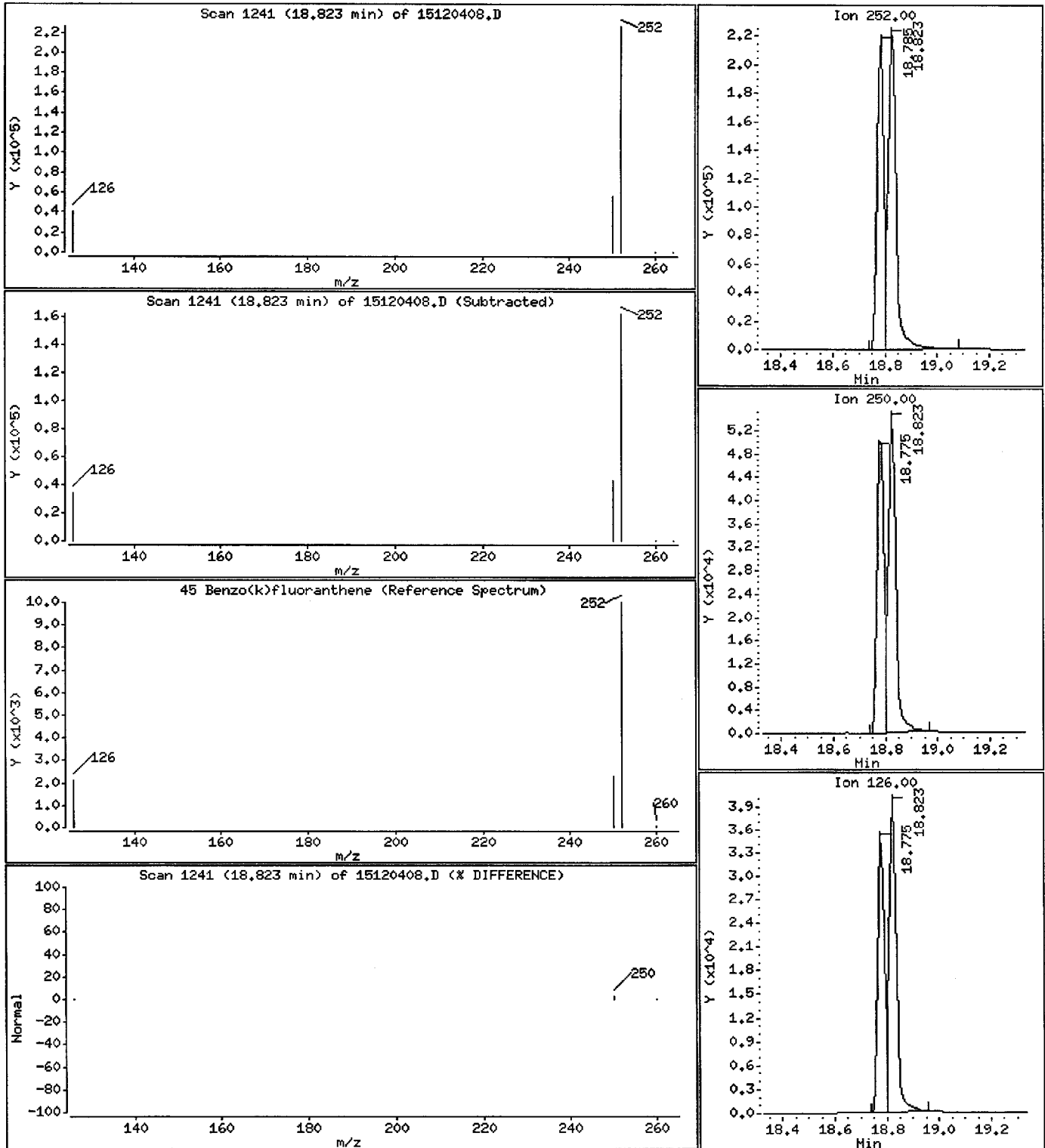
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

45 Benzo(k)fluoranthene

Concentration: 249 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

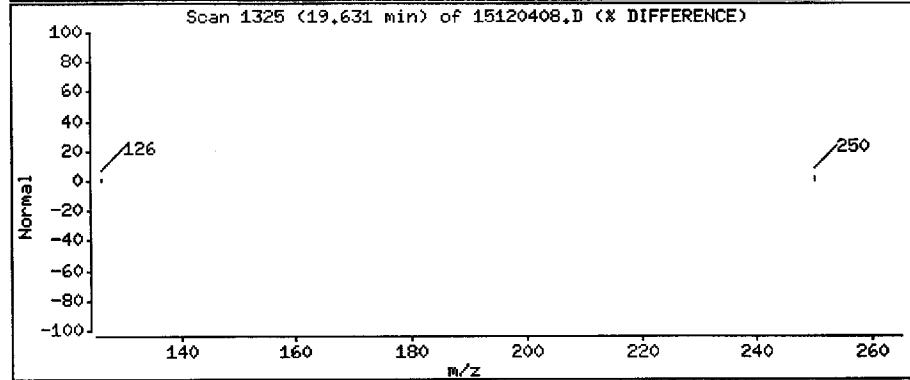
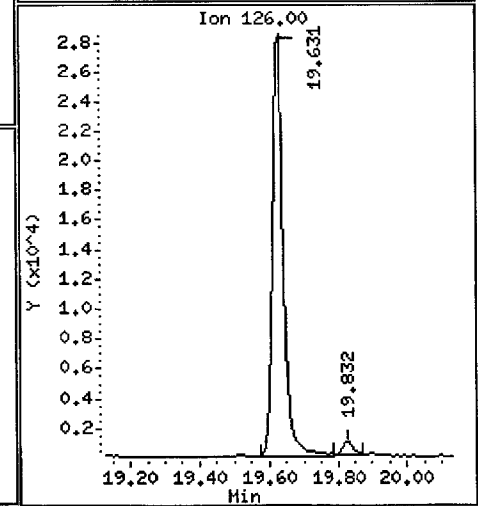
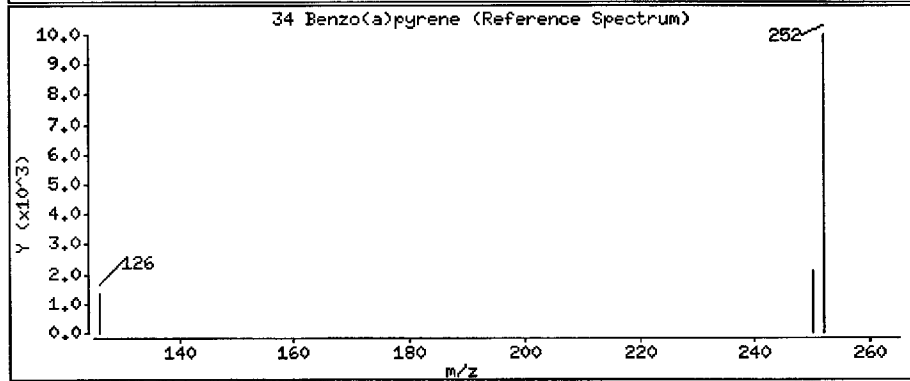
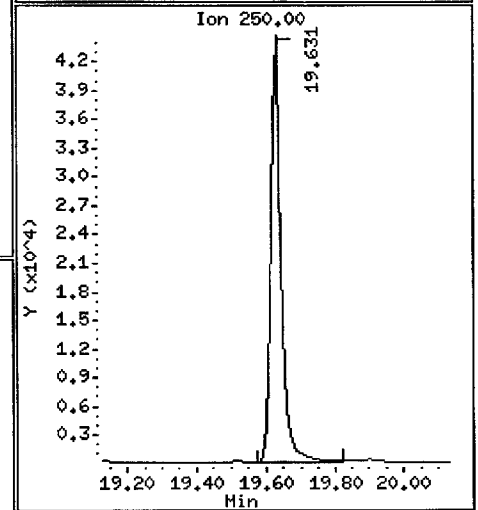
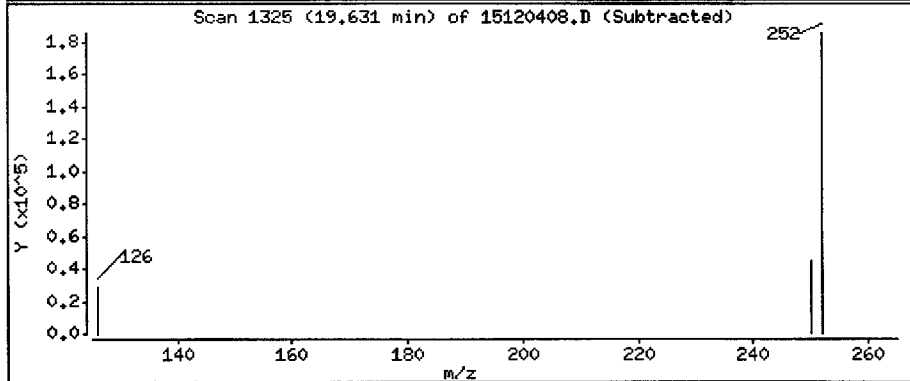
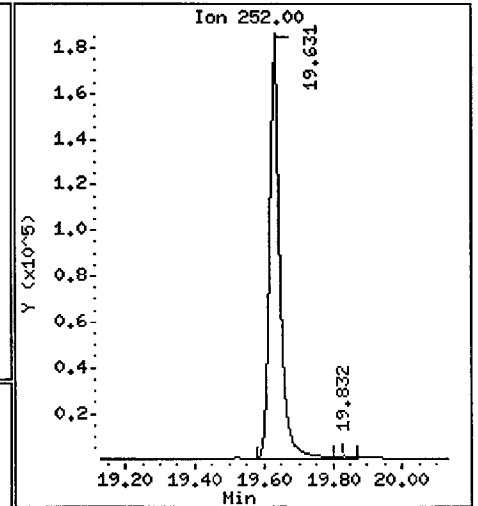
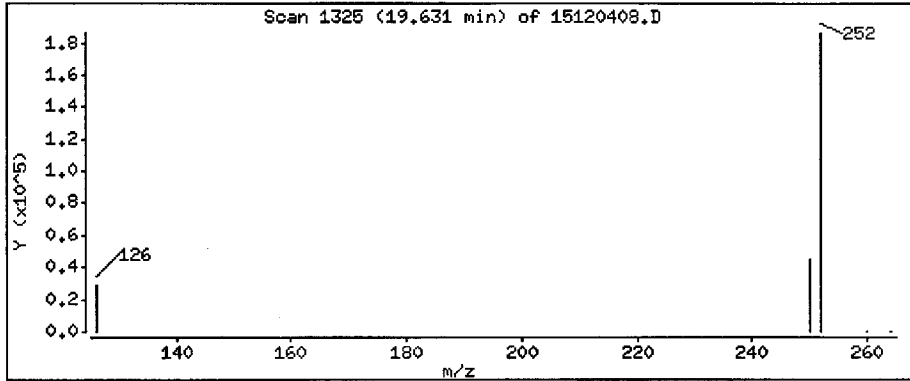
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

34 Benzo(a)pyrene

Concentration: 247 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

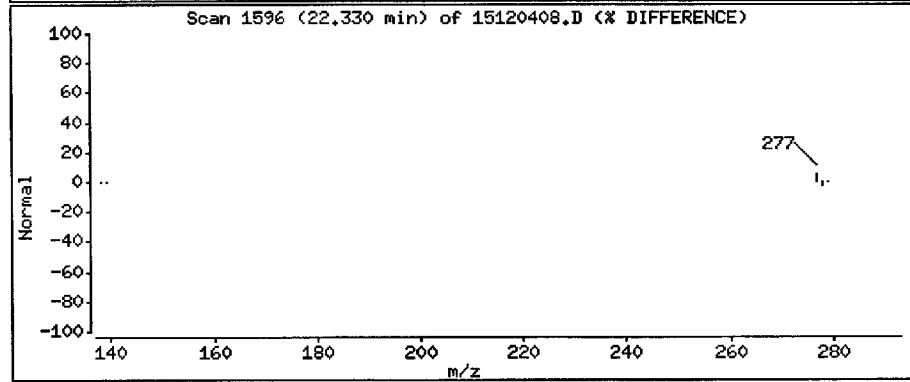
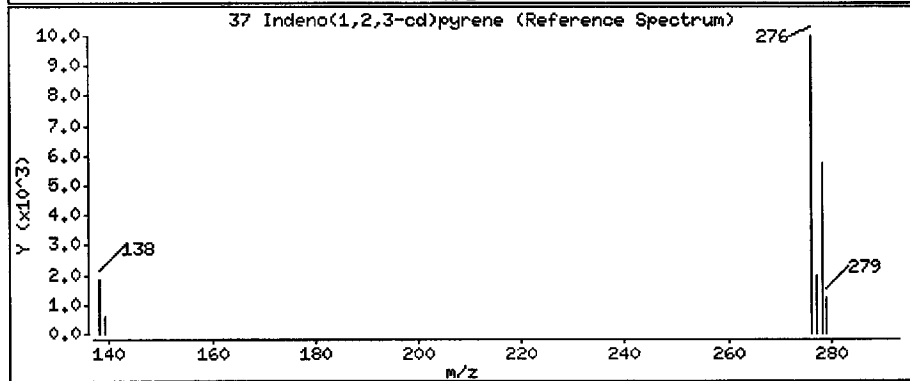
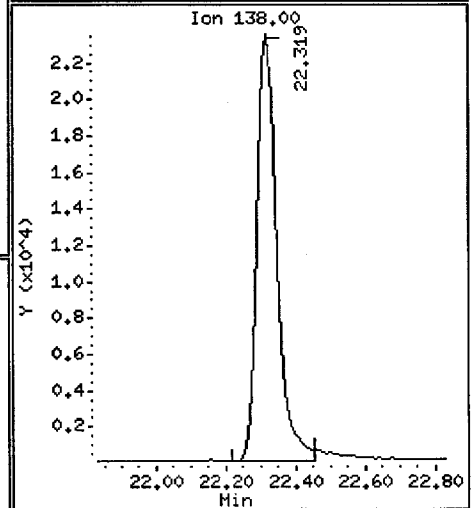
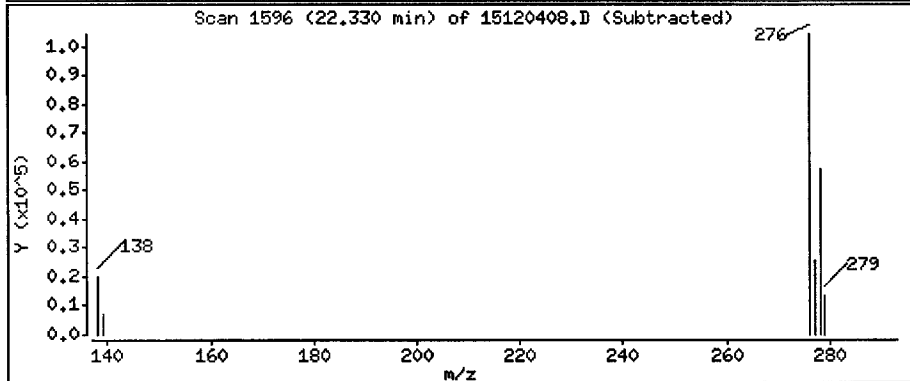
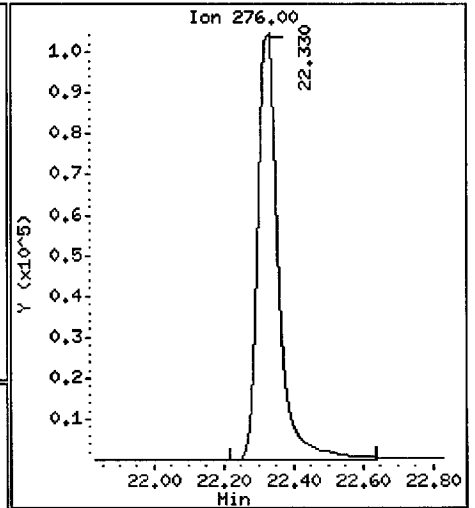
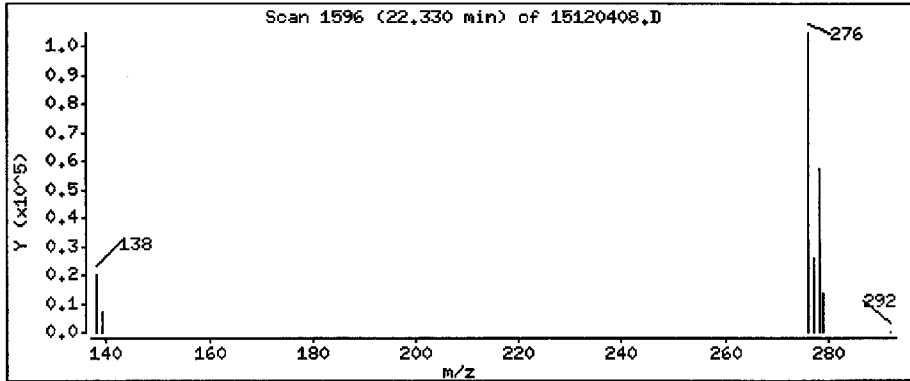
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

37 Indeno(1,2,3-cd)pyrene

Concentration: 248 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

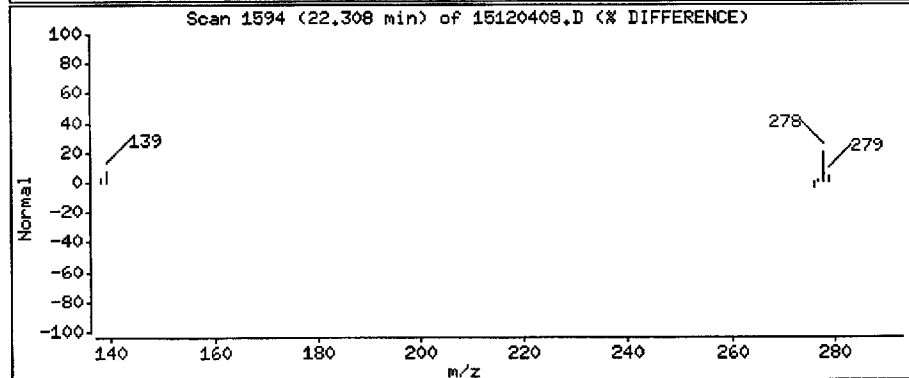
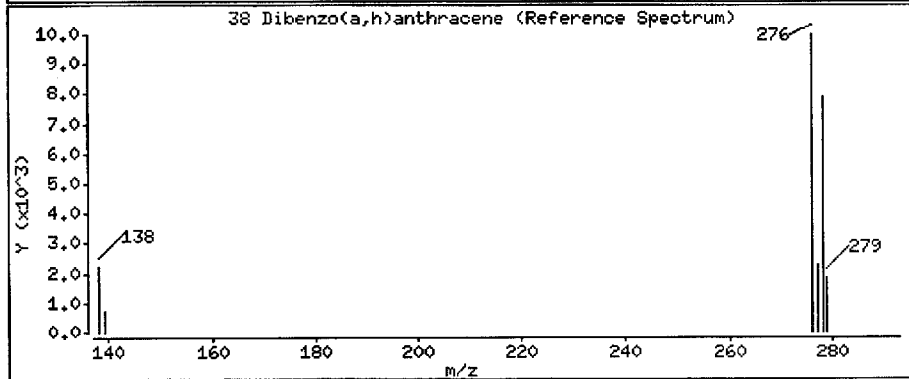
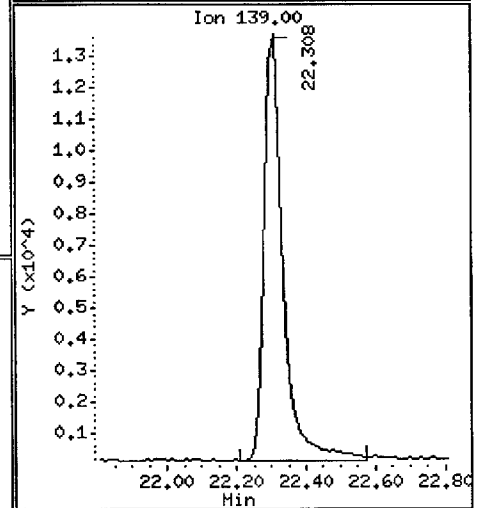
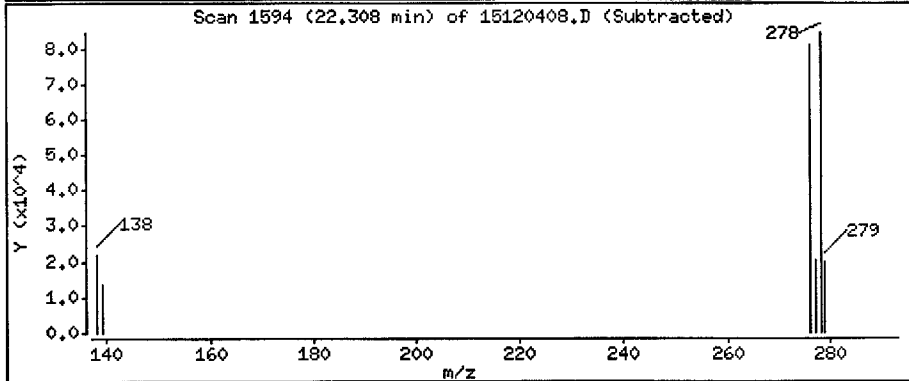
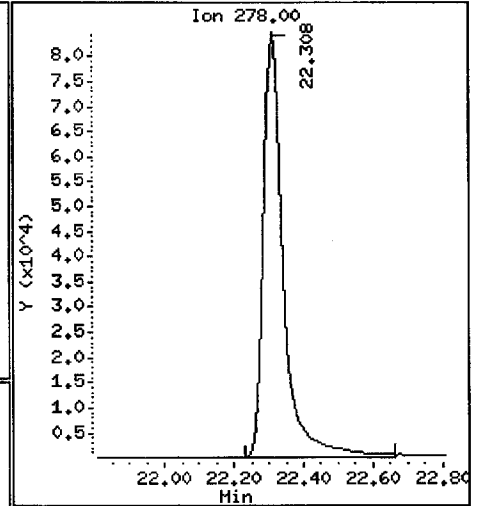
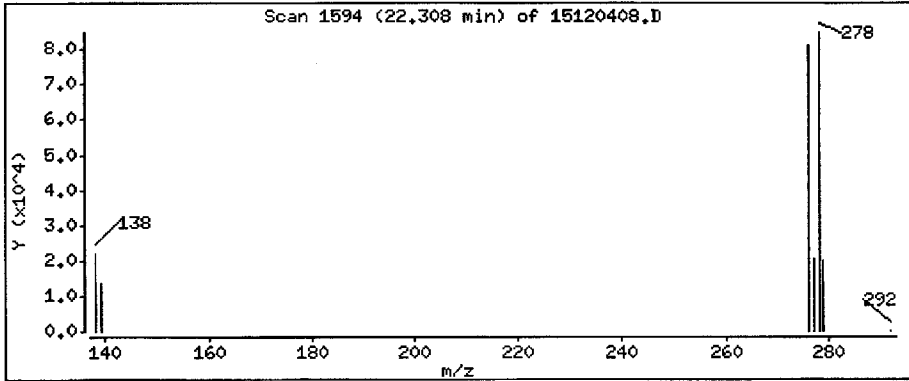
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

38 Dibenzo(a,h)anthracene

Concentration: 250 ng/L



Date : 04-DEC-2015 12:04

Client ID:

Instrument: nt11.i

Sample Info: LLSIM SCV 250

Volume Injected (uL): 2.0

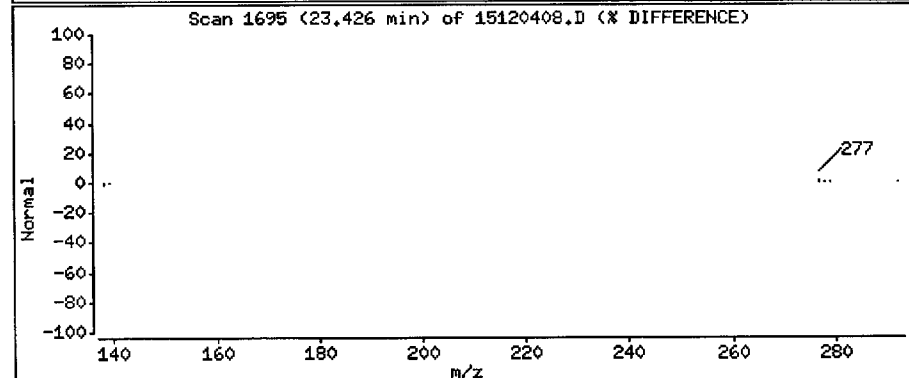
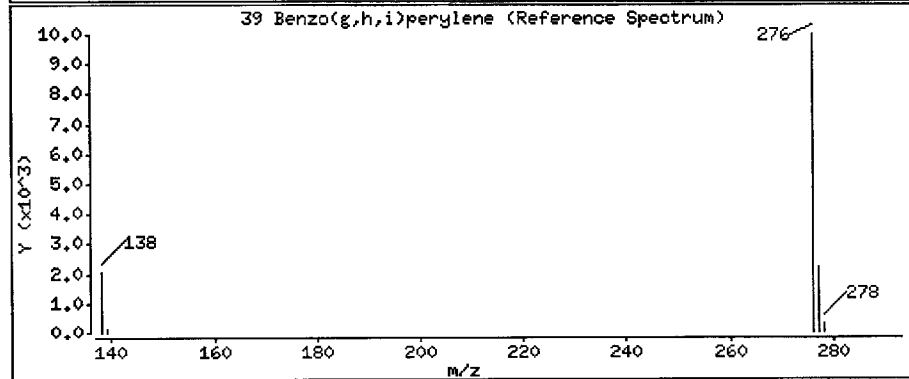
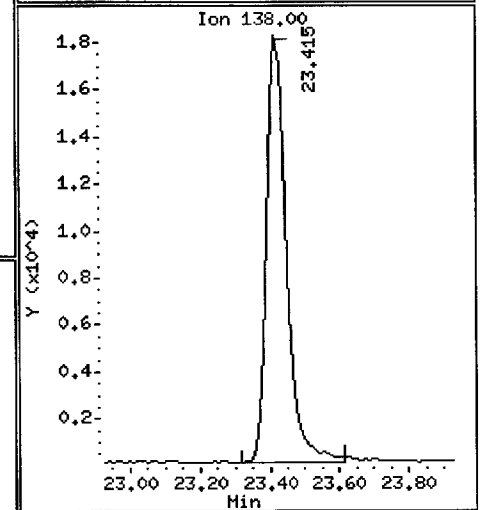
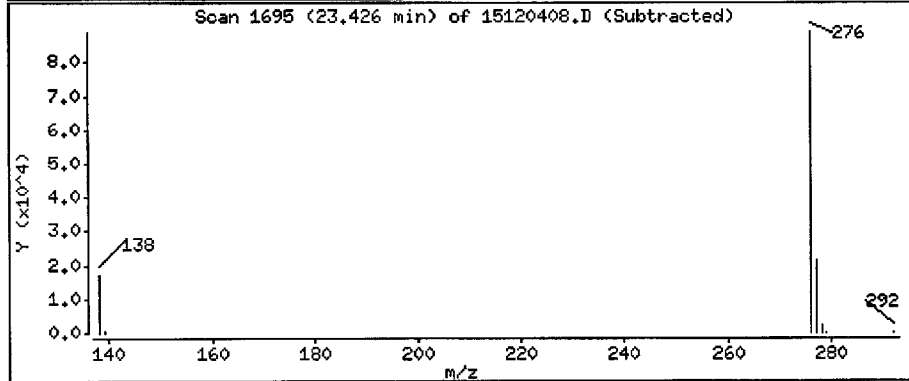
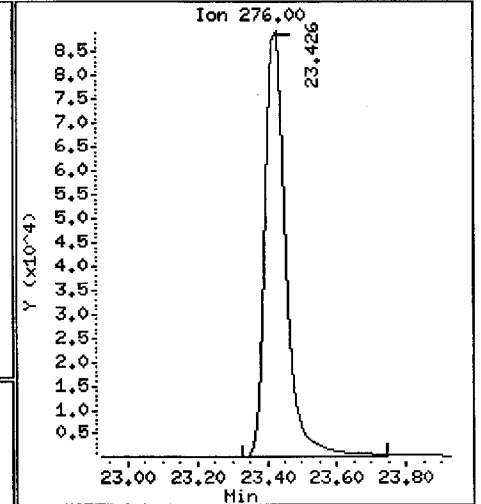
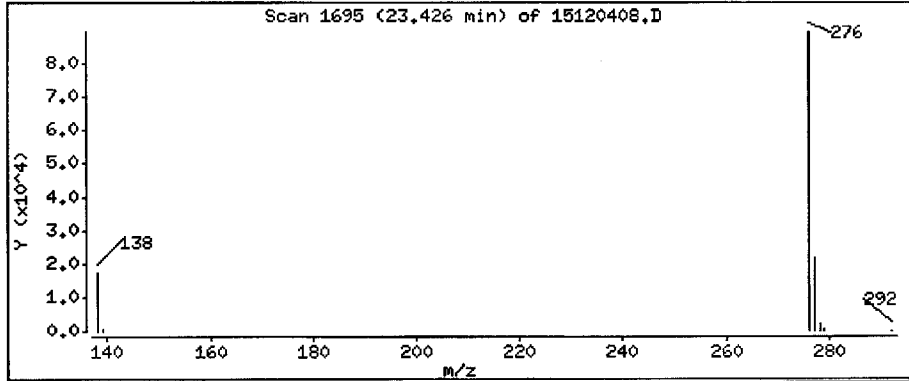
Operator: JM

Column phase: Rxi-17S11 MS

Column diameter: 0.25

39 Benzo(g,h,i)perylene

Concentration: 250 ng/L



REVIEW SUMMARY FOR FILE - 15120408.D

Lab ID: LLSIM SCV 250

nt11.i, 20151204.b\lowsim.m, 04-DEC-2015 12:04

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i,20151204.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000

Exception: Phenanthrene 2.5000

Exception: Anthracene 2.0000

Exception: Pyrene 4.0000

Exception: Benzo(j)fluoranthene 2.5000

Exception: Benzo(a)pyrene 2.0000

Exception: Perylene 3.5000

Exception: Benzo(e)pyrene 2.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

SIM PAH Raw Data
Run Logs, Continuing Calibrations, and Raw Data

ARI Job ID: ATS0



GC/MS SVOA Analyst Notes / Data Review Checklist

ELEMENT/NWA #: ATSO Client: Anchor QEA, LLC

METHOD: 8270D (SIM-SVOA) KRONE (Butyl Tins) 8270D (SVOA) 8270D (OP-Pest)

Instrument: NT-6 NT-8 NT-10 NT-11 NT-12 NT-14

Calibration Code: Y100008 Analysis Start Date: 1/22/16

	REVIEW 1/REVIEW 2		REVIEW 1/REVIEW 2
DFTPP Tune met Criteria?	<u>Y</u> /N/___	Internal Standard within 50-200%?	<u>Y</u> /N/___
DDT Breakdown <20%?	<u>Y</u> /N/___	Retention Times within Windows?	<u>Y</u> /N/___
Peak Tailing Factor ≤2?	<u>Y</u> /N/___	Method Blank in Control?	<u>Y</u> /N/___
ICV/CCV Meets %D?	<u>Y</u> /N/___	BS/BSD Recovery in Control?	<u>Y</u> /N/___
ICAL Q Flag applied?	Y/ <u>N</u> /___	MS / MSD Recovery in Control? <i>Resubmit form II</i>	Y/N/___
ICV/CCV Q flag applied?	<u>Y</u> /N/___	Samples Diluted?	Y/ <u>N</u> /___
Surrogate Recovery met?	<u>Y</u> /N/___	Special Analysis Request?	<u>Y</u> /N/___
Manual Integrations?	Y/ <u>N</u> /___	VDP Completed?	NA/ <u>Y</u> /N/___
Integration Summary?	<u>Y</u> /N/___	Technical Review?	___/___

Detail problems, corrective actions and/or other pertinent information below.

Q-flag for benzo(k)fluoranthene, which applies Q flag to total benzo fluoranthenes. Note total contains benzo(j)fluoranthene as well, column has separation of all three.

Job/forms batched w/ APR 4 & AMAZ

(Review 1) Analyst: JW Date: 1/25/16

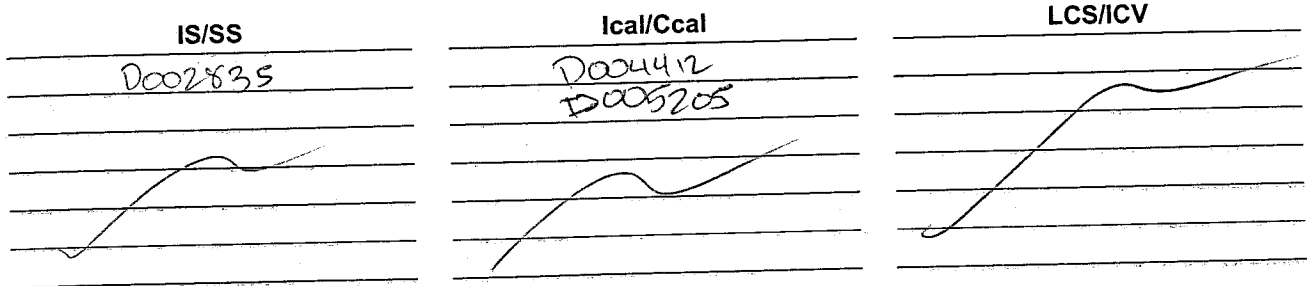
(Review 2) Peer: _____ Date: _____

(Final Review) Reviewer: _____ Date: _____

Analytical Resources Inc.: Organics Instrument Log

NT-11 Serial No.: GC=US10140004, MS=US10481502

Date: 1/22/16 Analysis: low PAH Analyst: JW
 GC Program: lowsim Column No: D001726 Column Type: RTX-Rxi-17silv
 Instrument Tune (.U or .CT.): 150115.U EM Voltage: 1847
 Calibration File: 16012204.D Cali Code: Y60008 Injection Vol.: 2ul



Document All Maintenance Tasks In Element

Time	Filename	LabID	ClientID	DP	
1 0708	16012201.D	TUNE 10		1	NO ISTDs FOUND
2 0725	16012202.D	LL SIM ICV		1	6.77 290356 9.77 200396 12.45 328472 17.19 243652 20.11 215215
3 0824	16012203.D			1	6.76 302565 9.77 213697 12.46 342867 17.21 264433 20.13 259565
4 0848	16012204.D	TUNE 10		1	NO ISTDs FOUND
5 0905	16012205.D	LL SIM ICV		1	6.74 342116 9.74 244162 12.42 395241 17.17 296129 20.06 267218
6 0957	16012206.D	LL SIM MRL		1	6.74 345356 9.76 235311 12.42 378135 17.18 274122 20.07 249583
7 1027	16012207.D	APR4MBS1	APR4MBS1	1	6.73 368895 9.74 251480 12.42 405369 17.17 295936 20.06 283292
8 1057	16012208.D	APR4LCSS1	APR4LCSS1	1	6.73 360526 9.74 257556 12.42 412183 17.17 314530 20.06 306666
9 1128	16012209.D	APR4SRM1	SRM 1974C	1	6.73 362258 9.74 249465 12.42 398741 17.17 300525 20.06 299419
10 1158	16012210.D	APR4A	PG-TO-MUS-CO	1	6.72 371890 9.74 259279 12.42 437520 17.17 299515 20.06 303212
11 1228	16012211.D	ATS0A	PG-SMA2-2-MU	1	6.73 363469 9.74 256352 12.42 419386 17.17 310418 20.06 308119
12 1258	16012212.D	ATS0B	PG-FJ-1-MUS-	1	6.73 374753 9.74 264386 12.42 426020 17.17 316427 20.07 315181
13 1328	16012213.D	ATS0BMS	PG-FJ-1-MUS-	1	6.73 373582 9.74 269039 12.42 428623 17.17 324379 20.06 323020
14 1359	16012214.D	ATS0BMSD	PG-FJ-1-MUS-	1	6.73 377287 9.74 271691 12.42 435691 17.17 325376 20.06 324453
15 1429	16012215.D	ATS0C	PG-WS-1-MUS-	1	6.73 376882 9.74 268849 12.42 435864 17.17 322334 20.06 323010
16 1459	16012216.D	ATS0D	PG-GP-1-MUS-	1	6.72 377268 9.74 268633 12.42 436597 17.17 322279 20.06 320562
17 1529	16012217.D	ATS0E	PG-SMA2-5-MU	1	6.73 384886 9.74 273475 12.42 449495 17.17 339179 20.06 335158
18 1559	16012218.D	ATS0F	PG-SMA2-4-MU	1	6.72 381586 9.74 270392 12.42 439377 17.17 325728 20.06 325370
19 1630	16012219.D	AUA2A	13EB_ME-MTW	1	6.73 373510 9.74 268987 12.42 440845 17.17 336414 20.06 339083
20 1700	16012220.D	AUA2B	13CPS_DB-MTW	1	6.73 370975 9.74 264737 12.42 432287 17.17 321859 20.06 327843
21 1730	16012221.D	AUA2C	13NFS_CIAR2-	1	6.72 382765 9.75 270341 12.42 435855 17.17 323444 20.06 326352
22 1800	16012222.D	LL SIM CCV		1	6.73 368312 9.74 275119 12.42 442913 17.17 337848 20.06 332420

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

ARI Job No.: TUNE Method: DFTPP.m Instrument: nt11.i Date: 22-JAN-2016

Time Filename LabID ClientId DF Manually Integrated Compounds

0848 16012204.D TUNE 10 1 NO MANUAL INTEGRATION

0905 16012205.D LL SIM ICV 1 NO MANUAL INTEGRATION

0957 16012206.D LL SIM MRL 1 NO MANUAL INTEGRATION

1027 16012207.D APR4MBS1 APR4MBS1 1 NO MANUAL INTEGRATION

1057 16012208.D APR4LCSS1 APR4LCSS1 1 NO MANUAL INTEGRATION

1128 16012209.D APR4SRM1 SRM 1974C 1 NO MANUAL INTEGRATION

1158 16012210.D APR4A PG-T0-MUS- 1 NO MANUAL INTEGRATION

1228 16012211.D AT50A PG-SMA2-2- 1 NO MANUAL INTEGRATION

1258 16012212.D AT50B PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1328 16012213.D AT50BMS PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1359 16012214.D AT50BMSD PG-PJ-1-MU 1 NO MANUAL INTEGRATION

1429 16012215.D AT50C PG-WS-1-MU 1 NO MANUAL INTEGRATION

1459 16012216.D AT50D PG-GP-1-MU 1 NO MANUAL INTEGRATION

1529 16012217.D AT50E PG-SMA2-5- 1 NO MANUAL INTEGRATION

1559 16012218.D AT50F PG-SMA2-4- 1 NO MANUAL INTEGRATION

1600 16012219.D AUA2A 13EB_ME-MT 1 NO MANUAL INTEGRATION

1700 16012220.D AUA2B 13CPS_DB-M 1 NO MANUAL INTEGRATION

AT50
1600
1700
77

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Time Filename LabID ClientId DF Manually Integrated Compounds

1730 16012221.D AUA2C 13NPS_CIAR 1 NO MANUAL INTEGRATION

1800 16012222.D LL SIM CCV 1 NO MANUAL INTEGRATION

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20160122.b

Instrument: nt11.i Date: 22-JAN-2016 Method: lowsim.m

INITIAL CAL: 04-DEC-2015

Compound	%RSD or R ²

NO Q-FLAGS	

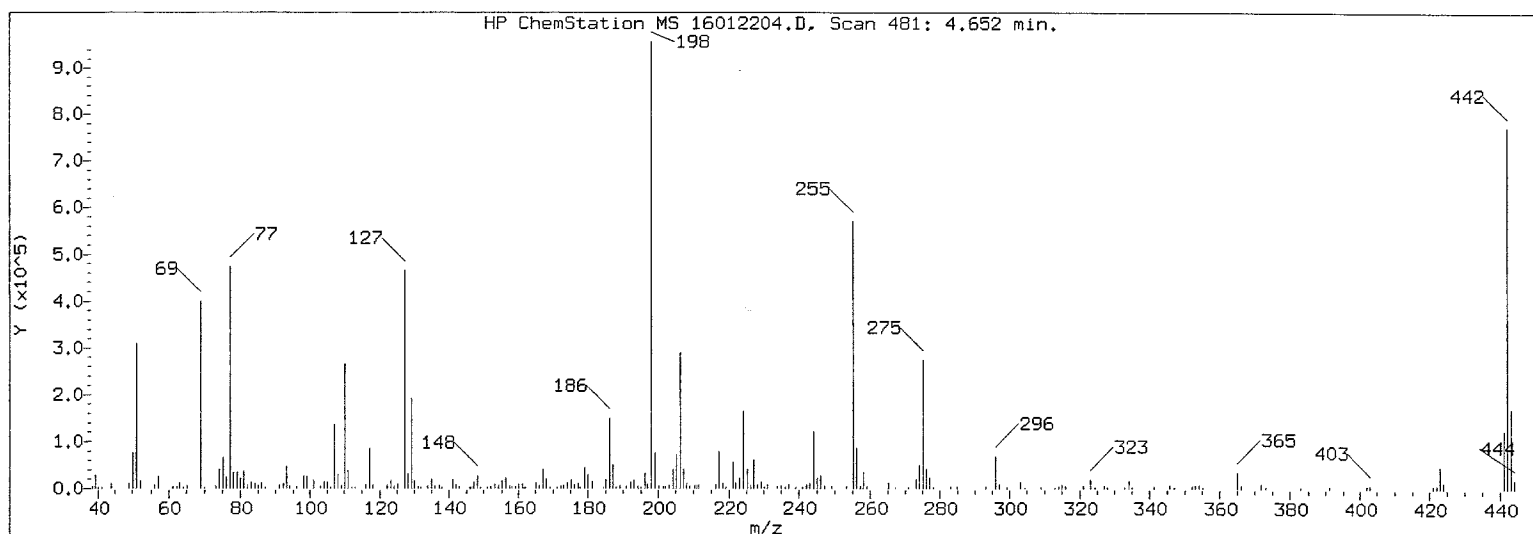
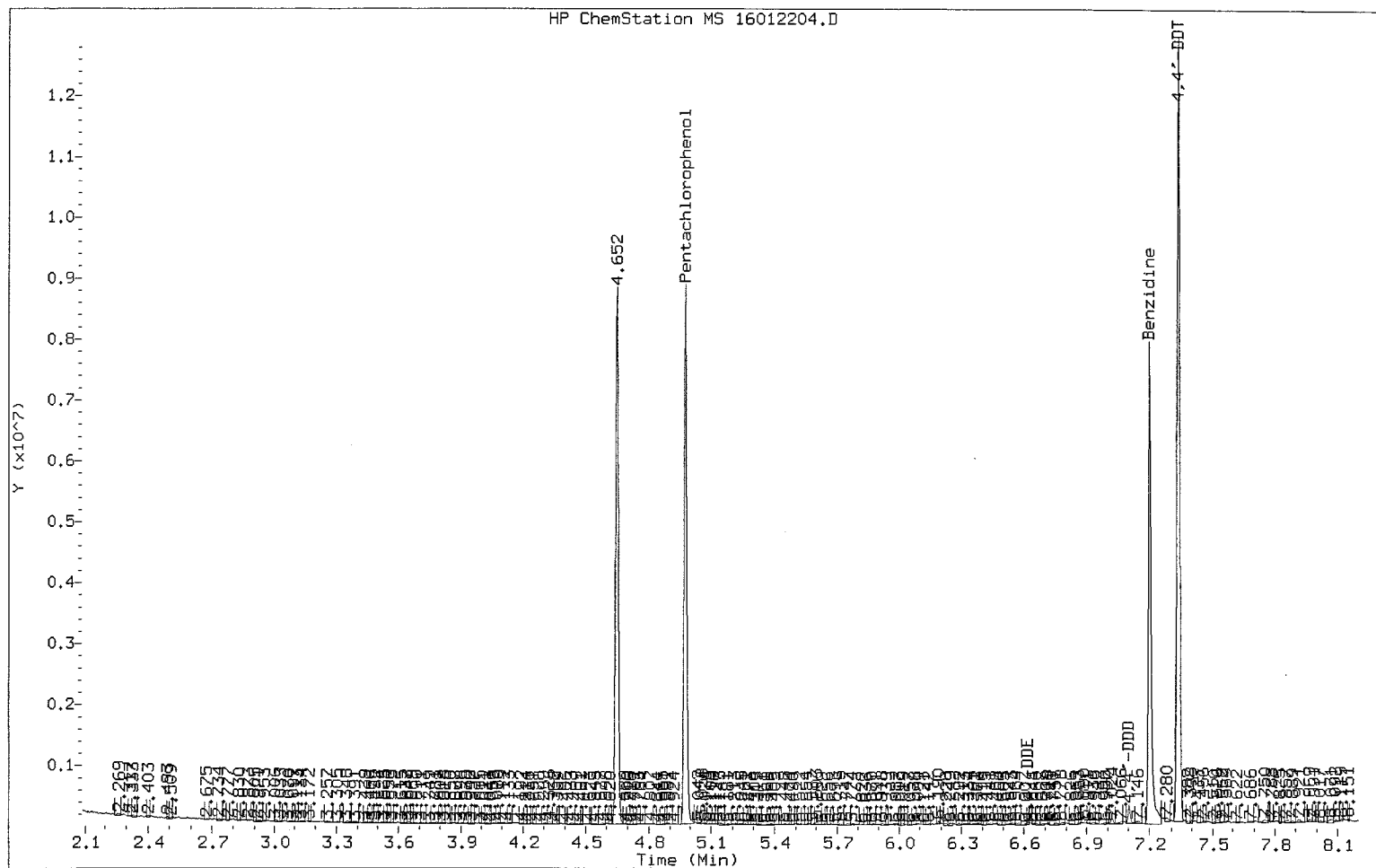
CONTINUING CAL: 22-JAN-2016

Compound	%D

Benzo (k) fluoranthene	-20.8

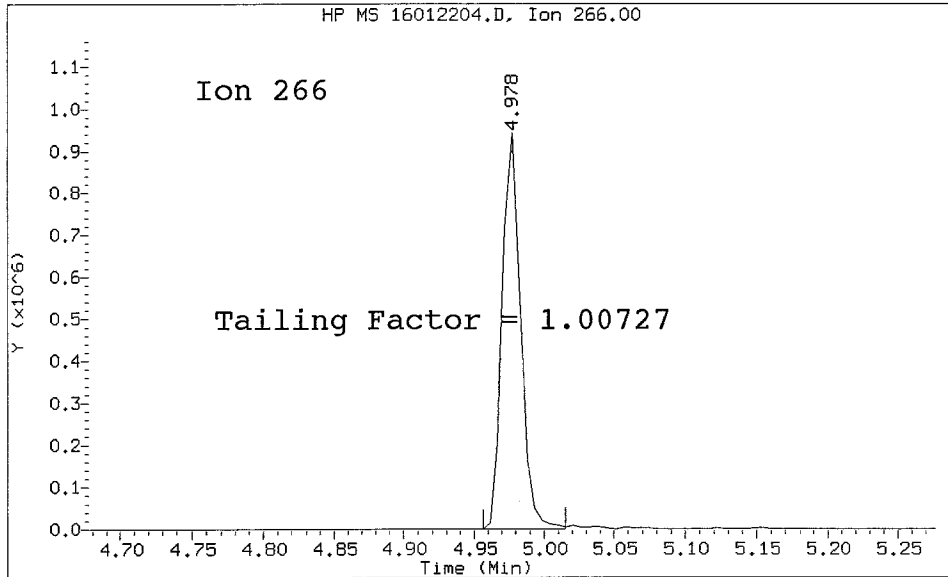
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m Inst: nt11
Injection Date: 22-JAN-2016 08:48 Operator: JW
Sample Info: TUNE 10 TUNE 10
Report Date: 01/22/2016 09:02



ATSO: 00180

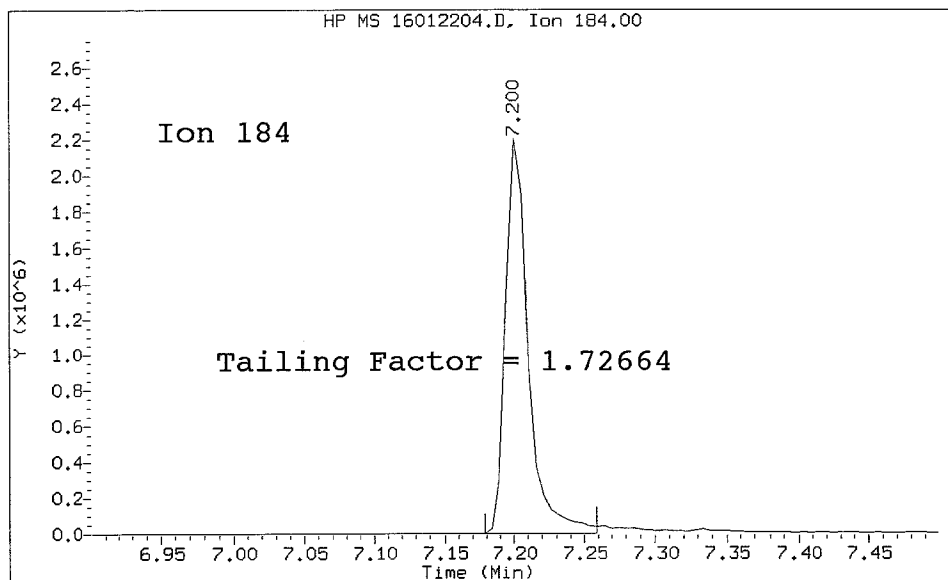
Datafile Analyzed: /20160122.b/16012204.D/16012204.D
Method Used: \20160122.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 22-JAN-2016 08:48 Operator: JR
Sample Info: TUNE 10
Report Date: 01/22/2016 09:02



Pentachlorophenol

=====
Exp. RT = 4.993
Found RT = 4.978

Tail Factor = 1.007 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.221
Found RT = 7.200

Tail Factor = 1.727 Maximum Allowed = 2.0

ATSO: 00181

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	32.73
68	Less than 2.00% of mass 69	0.16 (0.39)
69	Mass 69 relative abundance	41.63
70	Less than 2.00% of mass 69	0.25 (0.61)
127	10.00 - 80.00% of mass 198	47.78
197	Less than 2.00% of mass 198	0.40
199	5.00 - 9.00% of mass 198	7.71
275	10.00 - 60.00% of mass 198	27.24
365	Greater than 1.00% of mass 198	3.32
441	0.01 - 24.00% of mass 442	12.54 (16.26)
442	50.00 - 200.00% of mass 198	77.14
443	15.00 - 24.00% of mass 442	16.83 (21.81)

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.0072727	2.000	PASS
Benzidine	1.7266388	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1726805			N/A
4,4-DDE	3549	0.2	20.0	PASS
4,4-DDD	52618	3.0	20.0	PASS
4,4-DDD + DDE	56167	3.2	20.0	PASS

Tuning Sample, nt11.i/20160122.b/16012204.D, *** PASSED ***

Data File: 16012204.D
 Spectrum: Avg. Scans 480-482 (4.65), Background Scan 474
 Location of Maximum: 198.00
 Number of points: 234

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	3607	122.00	7336	189.00	6814	259.00	4520
39.00	25272	123.00	12165	190.00	687	265.00	10616
40.00	1066	124.00	5804	191.00	3058	267.00	824
41.00	1087	125.00	6712	192.00	9991	271.00	1786
44.00	2951	126.00	715	193.00	11855	273.00	17288
47.00	1915	127.00	371968	194.00	2573	274.00	41440
48.00	965	128.00	27128	195.00	969	275.00	212032
49.00	343	129.00	147840	196.00	26288	276.00	33296
50.00	69008	130.00	14201	197.00	3102	277.00	19368
51.00	254784	131.00	2791	198.00	778432	278.00	1718
52.00	12897	132.00	1860	199.00	60048	283.00	2182
56.00	8355	134.00	4232	200.00	5671	285.00	2120
57.00	22680	135.00	13298	201.00	3467	293.00	3851
61.00	3516	136.00	3638	202.00	2557	296.00	55384
62.00	3826	137.00	5257	203.00	5846	297.00	8144
63.00	9940	138.00	1734	204.00	32288	299.00	707
64.00	1093	141.00	18984	205.00	57688	301.00	924
65.00	7427	142.00	6237	206.00	232576	303.00	9467
68.00	1278	143.00	3531	207.00	29320	304.00	667
69.00	324032	146.00	4949	208.00	8015	308.00	766
70.00	1962	147.00	9660	209.00	1911	309.00	753
73.00	723	148.00	22696	210.00	4960	313.00	666
74.00	36448	149.00	2795	211.00	10724	314.00	3828
75.00	55760	150.00	734	215.00	1660	315.00	6576
76.00	19528	151.00	2894	216.00	5836	316.00	3799
77.00	385408	152.00	1966	217.00	56960	321.00	1720
78.00	29584	153.00	6313	218.00	7526	323.00	17272
79.00	25288	154.00	5608	219.00	1661	324.00	1938
80.00	16616	155.00	12727	220.00	890	327.00	4736
81.00	28720	156.00	18096	221.00	44040	328.00	2031
82.00	7311	157.00	4106	222.00	6970	333.00	2333
83.00	8522	158.00	3387	223.00	15012	334.00	16114
85.00	5376	159.00	2361	224.00	125528	335.00	2065
86.00	4792	160.00	6722	225.00	31192	341.00	1930
87.00	3303	161.00	8069	226.00	4356	346.00	3920
88.00	2091	162.00	3527	227.00	50936	347.00	798
91.00	4565	164.00	1307	228.00	7585	352.00	6058
92.00	7896	165.00	7812	229.00	11279	353.00	4458
93.00	39608	166.00	4164	230.00	1526	354.00	5282
94.00	2439	167.00	35072	231.00	5218	355.00	805
96.00	2499	168.00	16007	234.00	3064	365.00	25832
98.00	27064	169.00	3806	235.00	4198	366.00	4228
99.00	25248	171.00	980	236.00	2314	372.00	8757
100.00	1800	172.00	3057	237.00	5032	373.00	1989
101.00	16026	173.00	4470	239.00	1814	383.00	2358
103.00	3544	174.00	8647	241.00	1057	391.00	1271
104.00	11351	175.00	15815	242.00	6205	402.00	5535
105.00	8415	176.00	5995	243.00	4414	403.00	5821
106.00	1019	177.00	7242	244.00	90744	404.00	1129

107.00	114800	178.00	1626	245.00	14417	421.00	4462
108.00	24152	179.00	29840	246.00	18184	422.00	4482
109.00	4094	180.00	23120	247.00	3106	423.00	33288
110.00	220544	181.00	12070	249.00	2530	424.00	9008
111.00	29816	183.00	712	250.00	747	441.00	97608
112.00	3512	184.00	1794	253.00	1957	442.00	600448
113.00	690	185.00	14309	255.00	445120	443.00	130976
116.00	5974	186.00	118168	256.00	66840	444.00	13357
117.00	71488	187.00	35616	257.00	3449		
118.00	4363	188.00	3220	258.00	25832		

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: ntl1.i Injection Date: 22-JAN-2016 09:05
 Lab File ID: 16012205.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LL SIM ICV Quant Type: ISTD
 Method: \\target\share\chem3\ntl1.i\20160122.b\lowsim.m

COMPOUND	RRF / AMOUNT	MIN		MAX		CURVE TYPE
		RF250	RRF %D / %DRIFT	%D / %DRIFT	%D / %DRIFT	
15 Naphthalene	1.15523	1.01008	0.010	-12.56490	20.00000	Averaged
16 2-Methylnaphthalene-d10	0.74235	0.67060	0.010	-9.66554	20.00000	Averaged
17 2-Methylnaphthalene	0.79376	0.72881	0.010	-8.18323	20.00000	Averaged
18 1-Methylnaphthalene	0.71533	0.65102	0.010	-8.99055	20.00000	Averaged
110 Acenaphthylene	1.61414	1.49736	0.010	-7.23476	20.00000	Averaged
112 Acenaphthene	1.07135	0.94674	0.010	-11.63119	20.00000	Averaged
114 Dibenzofuran	1.61394	1.44144	0.010	-10.68769	20.00000	Averaged
115 Fluorene	1.21040	1.13274	0.010	-6.41645	20.00000	Averaged
119 Phenanthrene	1.20497	1.02916	0.010	-14.58979	20.00000	Averaged
120 Anthracene	1.07857	1.00293	0.010	-7.01252	20.00000	Averaged
123 Fluoranthene-d10	1.09988	0.97587	0.200	-11.27457	20.00000	Averaged
124 Fluoranthene	1.20977	1.06068	0.010	-12.32404	20.00000	Averaged
125 Pyrene	1.58387	1.42756	0.010	-9.86851	20.00000	Averaged
128 Benzo(a)anthracene	1.33345	1.18471	0.010	-11.15468	20.00000	Averaged
130 Chrysene	1.46350	1.22447	0.010	-16.33287	20.00000	Averaged
144 Benzo(b)fluoranthene	1.35504	1.16216	0.200	-14.23482	20.00000	Averaged
145 Benzo(k)fluoranthene	1.57904	1.24997	0.200	-20.83950	20.00000	Averaged<
146 Benzo(j)fluoranthene	1.43839	1.18290	0.200	-17.76252	20.00000	Averaged
134 Benzo(a)pyrene	1.30774	1.11820	0.010	-14.49403	20.00000	Averaged
136 Dibenzo(a,h)anthracene-d14	0.80723	0.73518	0.010	-8.92537	20.00000	Averaged
137 Indeno(1,2,3-cd)pyrene	1.37309	1.18637	0.010	-13.59810	20.00000	Averaged
138 Dibenzo(a,h)anthracene	1.08579	0.96395	0.010	-11.22141	20.00000	Averaged
139 Benzo(g,h,i)perylene	1.19199	1.03495	0.010	-13.17397	20.00000	Averaged
147 Perylene	1.35582	1.11738	0.200	-17.58607	20.00000	Averaged
148 Benzo(e)pyrene	1.36945	1.10703	0.200	-19.16194	20.00000	Averaged

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012205.D
 Lab Smp Id: LL SIM ICV
 Inj Date : 22-JAN-2016 09:05 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM ICV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136	6.744	6.744	(1.000)	342116	200.000	
5 Naphthalene	128	6.776	6.776	(1.005)	431956	250.000	219
§ 6 2-Methylnaphthalene-d10	152	7.721	7.721	(1.145)	286779	250.000	226
7 2-Methylnaphthalene	142	7.774	7.774	(1.153)	311670	250.000	230
8 1-Methylnaphthalene	142	8.026	8.026	(1.190)	278405	250.000	228
10 Acenaphthylene	152	9.589	9.589	(0.984)	456998	250.000	232
* 11 Acenaphthene-d10	164	9.744	9.744	(1.000)	244162	200.000	
12 Acenaphthene	153	9.811	9.811	(1.007)	288948	250.000	221
14 Dibenzofuran	168	10.010	10.010	(1.027)	439932	250.000	223
15 Fluorene	166	10.630	10.630	(1.091)	345715	250.000	234
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	395241	200.000	
19 Phenanthrene	178	12.468	12.468	(1.004)	508460	250.000	214
20 Anthracene	178	12.523	12.523	(1.008)	495501	250.000	232
§ 23 Fluoranthene-d10	212	14.518	14.518	(1.169)	482130	250.000	222
24 Fluoranthene	202	14.557	14.557	(1.172)	524030	250.000	219
25 Pyrene	202	15.057	15.057	(0.877)	528428	250.000	225
28 Benzo(a)anthracene	228	17.075	17.075	(0.995)	438532	250.000	222
* 29 Chrysene-d12	240	17.167	17.167	(1.000)	296129	200.000	
30 Chrysene	228	17.217	17.217	(1.003)	453252	250.000	209
44 Benzo(b)fluoranthene	252	18.967	18.967	(0.945)	388186	250.000	214 (H)
45 Benzo(k)fluoranthene	252	19.015	19.015	(0.948)	417519	250.000	198 (H)

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
===== 46 Benzo(j)fluoranthene	252		19.082	19.082	(0.951)	395115	250.000	206
34 Benzo(a)pyrene	252		19.851	19.851	(0.989)	373503	250.000	214
* 35 Perylene-d12	264		20.062	20.062	(1.000)	267218	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292		22.529	22.529	(1.123)	245568	250.000	228
37 Indeno(1,2,3-cd)pyrene	276		22.662	22.662	(1.130)	396275	250.000	216
38 Dibenzo(a,h)anthracene	278		22.651	22.651	(1.129)	321982	250.000	222
39 Benzo(g,h,i)perylene	276		23.814	23.814	(1.187)	345698	250.000	217
47 Perylene	252		20.130	20.130	(1.003)	373231	250.000	206
48 Benzo(e)pyrene	252		19.736	19.736	(0.984)	369774	250.000	202

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012205.D
 Lab Smp Id: LL SIM ICV
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 18:00

Level: LOW
 Sample Type: SOIL

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	342116	4.34
11 Acenaphthene-d10	239179	119590	478358	244162	2.08
18 Phenanthrene-d10	372253	186127	744506	395241	6.18
29 Chrysene-d12	294711	147356	589422	296129	0.48
35 Perylene-d12	260595	130298	521190	267218	2.54

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 22-Jan-2016 09:05

Client ID:

Sample Info: LL SIM ICV

Volume Injected (uL): 2.0

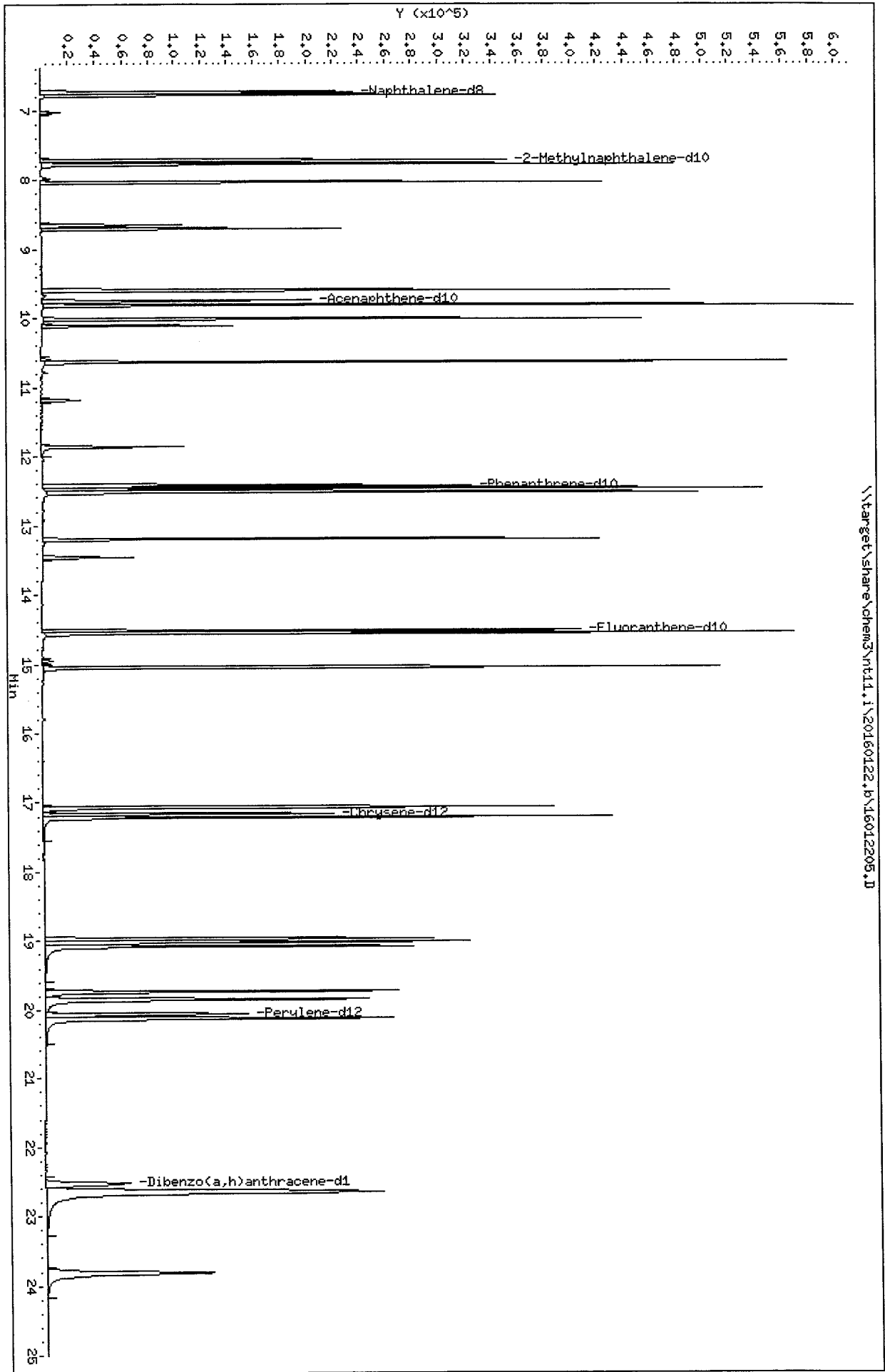
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.b\16012205.D



REVIEW SUMMARY FOR FILE - 16012205.D

Lab ID: LL SIM ICV

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:05

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ATS0:00191

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012206.D
 Lab Smp Id: LL SIM MRL
 Inj Date : 22-JAN-2016 09:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM MRL
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

SD
1/25/16

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/Kg)
* 4 Naphthalene-d8	136	6.744	6.744	(1.000)	345356	200.000		
5 Naphthalene	128	6.776	6.776	(1.005)	23679	11.8701	594	
\$ 6 2-Methylnaphthalene-d10	152	7.721	7.721	(1.145)	14635	11.4168	571 (R)	
7 2-Methylnaphthalene	142	7.774	7.774	(1.153)	15554	11.3479	567	
8 1-Methylnaphthalene	142	8.036	8.026	(1.192)	14016	11.3470	567	
10 Acenaphthylene	152	9.600	9.589	(0.984)	23264	12.2499	612	
* 11 Acenaphthene-d10	164	9.755	9.744	(1.000)	235311	200.000		
12 Acenaphthene	153	9.811	9.811	(1.006)	14766	11.7143	586	
14 Dibenzofuran	168	10.021	10.010	(1.027)	23440	12.3441	617	
15 Fluorene	166	10.641	10.630	(1.091)	17626	12.3769	619	
* 18 Phenanthrene-d10	188	12.424	12.424	(1.000)	378135	200.000		
19 Phenanthrene	178	12.468	12.468	(1.004)	30106	13.2148	661	
20 Anthracene	178	12.523	12.523	(1.008)	24053	11.7952	590	
\$ 23 Fluoranthene-d10	212	14.528	14.518	(1.169)	25449	12.2380	612 (R)	
24 Fluoranthene	202	14.557	14.557	(1.172)	27112	11.8533	593	
25 Pyrene	202	15.057	15.057	(0.877)	28035	12.9142	646	
28 Benzo (a) anthracene	228	17.076	17.075	(0.994)	22208	12.1512	608	
* 29 Chrysene-d12	240	17.175	17.167	(1.000)	274122	200.000		
30 Chrysene	228	17.225	17.217	(1.003)	23055	11.4936	575	
44 Benzo (b) fluoranthene	252	18.977	18.967	(0.945)	17108	10.1172	506	
45 Benzo (k) fluoranthene	252	19.025	19.015	(0.948)	20372	10.3385	517	

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/Kg)
46 Benzo(j)fluoranthene	252	19.092	19.082	(0.951)	19922	11.0986	555
34 Benzo(a)pyrene	252	19.861	19.851	(0.989)	17153	10.5107	526
* 35 Perylene-d12	264	20.072	20.062	(1.000)	249583	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.540	22.529	(1.123)	9288	9.22016	461 (R)
37 Indeno(1,2,3-cd)pyrene	276	22.673	22.662	(1.130)	16178	9.44153	472
38 Dibenzo(a,h)anthracene	278	22.651	22.651	(1.128)	12483	9.21269	461
39 Benzo(g,h,i)perylene	276	23.836	23.814	(1.188)	14357	9.65178	483
47 Perylene	252	20.139	20.130	(1.003)	17838	10.5429	527
48 Benzo(e)pyrene	252	19.745	19.736	(0.984)	18320	10.7200	536

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012206.D
 Lab Smp Id: LL SIM MRL
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05

Level: LOW
 Sample Type: SOIL

Test Mode:

Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	345356	5.32
11 Acenaphthene-d10	239179	119590	478358	235311	-1.62
18 Phenanthrene-d10	372253	186127	744506	378135	1.58
29 Chrysene-d12	294711	147356	589422	274122	-6.99
35 Perylene-d12	260595	130298	521190	249583	-4.23

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.74	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.76	0.11
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.18	0.05
35 Perylene-d12	20.06	19.56	20.56	20.07	0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Client SDG: SDGa04420
Sample Matrix: SOLID Fraction: SV
Lab Smp Id: LL SIM MRL
Level: LOW Operator: JW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: waterlcs.spk Quant Type: ISTD
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info:

SURROGATE COMPOUND	CONC ADDED ng/Kg	CONC RECOVERED ng/Kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	571	3.81*	30-160
\$ 23 Fluoranthene-d10	15000	612	4.08*	30-160
\$ 36 Dibenzo(a,h) anthra	15000	461	3.07*	30-160

Date : 22-JAN-2016 09:57
Client ID:

Sample Info: LL SIM HRL

Volume Injected (uL): 2.0

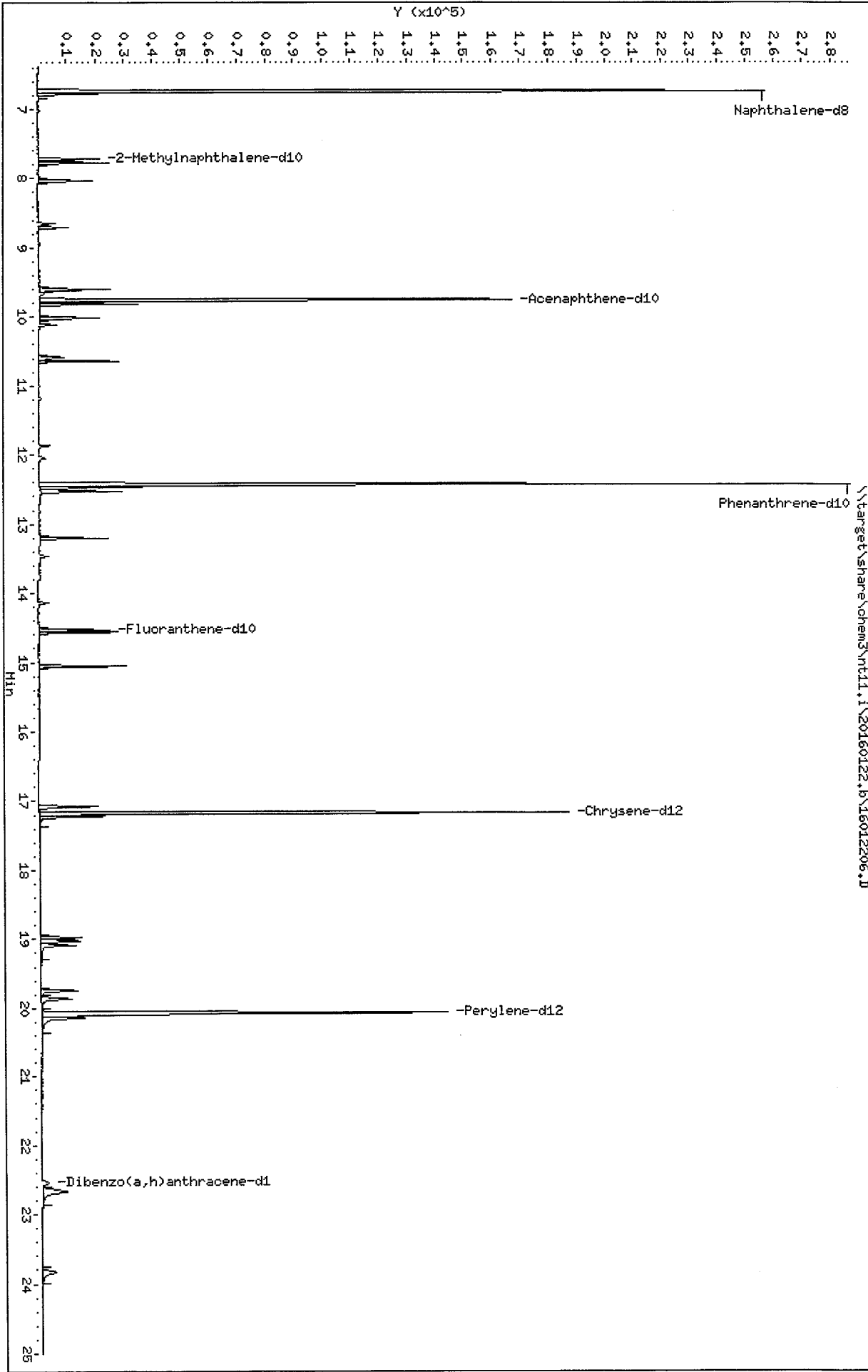
Column Phase: Rxi-17S11 HS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20160122.b\16012206.D



REVIEW SUMMARY FOR FILE - 16012206.D

Lab ID: LL SIM MRL

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 09:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ATS0:00197

ARI Labs, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt11.i Injection Date: 22-JAN-2016 18:00
 Lab File ID: 16012222.D Init. Cal. Date(s): 04-DEC-2015 04-DEC-2015
 Analysis Type: SOIL Init. Cal. Times: 09:03 11:33
 Lab Sample ID: LL SIM CCV Quant Type: ISTD
 Method: \\target\share\chem3\nt11.i\20160122.b\lowsim.m

ccv *WAP* *1/20/16*

COMPOUND	RRF / AMOUNT	RF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
15 Naphthalene	1.15523	1.01182	0.010	-12.41432	20.00000	Averaged
16 2-Methylnaphthalene-d10	0.74235	0.69544	0.010	-6.31969	20.00000	Averaged
17 2-Methylnaphthalene	0.79376	0.74787	0.010	-5.78194	20.00000	Averaged
18 1-Methylnaphthalene	0.71533	0.68036	0.010	-4.88849	20.00000	Averaged
10 Acenaphthylene	1.61414	1.54546	0.010	-4.25498	20.00000	Averaged
12 Acenaphthene	1.07135	0.94423	0.010	-11.86579	20.00000	Averaged
14 Dibenzofuran	1.61394	1.41355	0.010	-12.41578	20.00000	Averaged
15 Fluorene	1.21040	1.13310	0.010	-6.38636	20.00000	Averaged
19 Phenanthrene	1.20497	1.00481	0.010	-16.61100	20.00000	Averaged
20 Anthracene	1.07857	1.02531	0.010	-4.93777	20.00000	Averaged
19 23 Fluoranthene-d10	1.09988	0.98829	0.200	-10.14508	20.00000	Averaged
24 Fluoranthene	1.20977	1.05659	0.010	-12.66190	20.00000	Averaged
25 Pyrene	1.58387	1.41304	0.010	-10.78535	20.00000	Averaged
28 Benzo(a)anthracene	1.33345	1.20396	0.010	-9.71058	20.00000	Averaged
30 Chrysene	1.46350	1.19614	0.010	-18.26873	20.00000	Averaged
44 Benzo(b)fluoranthene	1.35504	1.18613	0.200	-12.46547	20.00000	Averaged
45 Benzo(k)fluoranthene	1.57904	1.16913	0.200	-25.95931	20.00000	Averaged <- ok
46 Benzo(j)fluoranthene	1.43839	1.09316	0.200	-24.00145	20.00000	Averaged <- ok
34 Benzo(a)pyrene	1.30774	1.10745	0.010	-15.31574	20.00000	Averaged
19 36 Dibenzo(a,h)anthracene-d14	0.80723	0.77966	0.010	-3.41604	20.00000	Averaged
37 Indeno(1,2,3-cd)pyrene	1.37309	1.23211	0.010	-10.26727	20.00000	Averaged
38 Dibenzo(a,h)anthracene	1.08579	1.01780	0.010	-6.26235	20.00000	Averaged
39 Benzo(g,h,i)perylene	1.19199	1.04962	0.010	-11.94336	20.00000	Averaged
47 Perylene	1.35582	1.10544	0.200	-18.46728	20.00000	Averaged
48 Benzo(e)pyrene	1.36945	1.07298	0.200	-21.64831	20.00000	Averaged <- ok

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012222.D
 Lab Smp Id: LL SIM CCV
 Inj Date : 22-JAN-2016 18:00 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : LL SIM CCV
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:47 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 16 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

SW
1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 4 Naphthalene-d8	136		6.734	6.734	(1.000)	368312	200.000	
5 Naphthalene	128		6.776	6.776	(1.006)	465832	250.000	219
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.711	(1.145)	320173	250.000	234
7 2-Methylnaphthalene	142		7.774	7.774	(1.154)	344310	250.000	236
8 1-Methylnaphthalene	142		8.026	8.026	(1.192)	313232	250.000	238
10 Acenaphthylene	152		9.589	9.589	(0.984)	531481	250.000	239
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	275119	200.000	
12 Acenaphthene	153		9.811	9.811	(1.007)	324719	250.000	220
14 Dibenzofuran	168		10.010	10.010	(1.027)	486119	250.000	219
15 Fluorene	166		10.630	10.630	(1.091)	389673	250.000	234
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	442913	200.000	
19 Phenanthrene	178		12.468	12.468	(1.004)	556304	250.000	208
20 Anthracene	178		12.523	12.523	(1.008)	567655	250.000	238
\$ 23 Fluoranthene-d10	212		14.519	14.519	(1.169)	547160	250.000	225
24 Fluoranthene	202		14.557	14.557	(1.172)	584973	250.000	218
25 Pyrene	202		15.057	15.057	(0.877)	596741	250.000	223
28 Benzo (a) anthracene	228		17.067	17.067	(0.994)	508445	250.000	226
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	337848	200.000	
30 Chrysene	228		17.217	17.217	(1.003)	505142	250.000	204
44 Benzo (b) fluoranthene	252		18.967	18.967	(0.945)	480681	250.000	219
45 Benzo (k) fluoranthene	252		19.015	19.015	(0.948)	473791	250.000	185

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
46 Benzo(j)fluoranthene	252	19.083	19.083	(0.951)	443004	250.000	190
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	448796	250.000	212
* 35 Perylene-d12	264	20.063	20.063	(1.000)	324201	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	315957	250.000	241
37 Indeno(1,2,3-cd)pyrene	276	22.662	22.662	(1.130)	499313	250.000	224
38 Dibenzo(a,h)anthracene	278	22.640	22.640	(1.128)	412464	250.000	234
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	425361	250.000	220
47 Perylene	252	20.130	20.130	(1.003)	447979	250.000	204
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	434828	250.000	196

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 22-JAN-2016
 Lab File ID: 16012222.D Calibration Time: 09:05
 Lab Smp Id: LL SIM CCV
 Analysis Type: SV Level: LOW
 Quant Type: ISTD Sample Type: SOIL
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	368312	12.33
11 Acenaphthene-d10	239179	119590	478358	275119	15.03
18 Phenanthrene-d10	372253	186127	744506	442913	18.98
29 Chrysene-d12	294711	147356	589422	337848	14.64
35 Perylene-d12	260595	130298	521190	324201	24.41

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.73	6.23	7.23	6.73	0.00
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

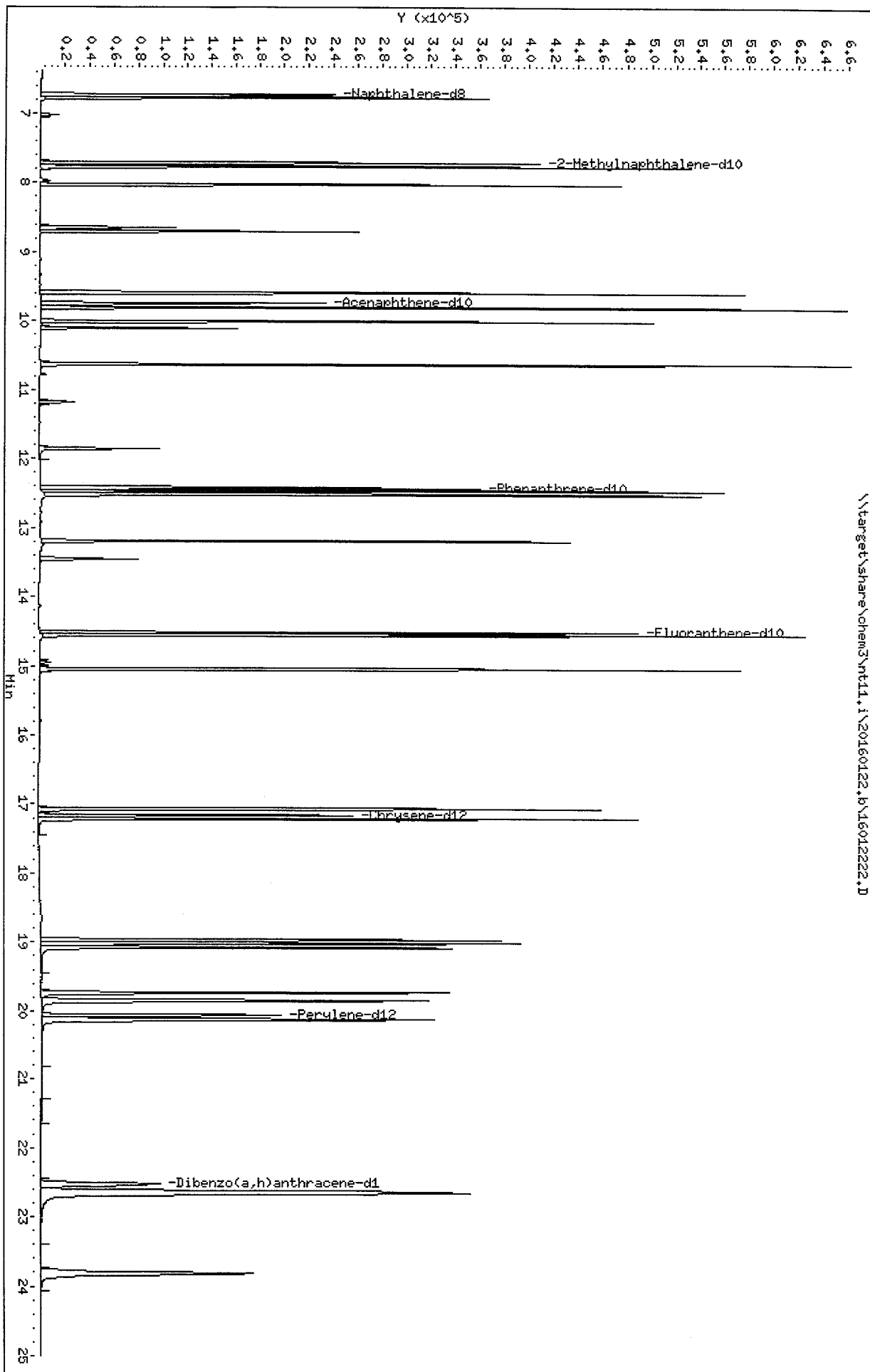
AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: \\target\share\chem3\nt11.i\20160122.b\16012222.D
Date : 22-JAN-2016 18:00

Client ID:
Sample Info: LL SIM CCV
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012222.D



REVIEW SUMMARY FOR FILE - 16012222.D

Lab ID: LL SIM CCV

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 18:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ATS0:00203

ARI Labs, Inc.

LOW LEVEL PNAS BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012207.D
 Lab Smp Id: APR4MBS1 Client Smp ID: APR4MBS1
 Inj Date : 22-JAN-2016 10:27 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4MBS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 1 QC Sample: BLANK
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136		6.734	6.744	(1.000)	368895	200.000	
5 Naphthalene	128		Compound Not Detected.					
§ 6 2-Methylnaphthalene-d10	152		7.711	7.721	(1.145)	192954	140.919	7050
7 2-Methylnaphthalene	142		Compound Not Detected.					
8 1-Methylnaphthalene	142		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	251480	200.000	
12 Acenaphthene	153		Compound Not Detected.					
14 Dibenzofuran	168		Compound Not Detected.					
15 Fluorene	166		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	405369	200.000	
19 Phenanthrene	178		Compound Not Detected.					
20 Anthracene	178		Compound Not Detected.					
§ 23 Fluoranthene-d10	212		14.519	14.518	(1.169)	409079	183.503	9180
24 Fluoranthene	202		Compound Not Detected.					
25 Pyrene	202		Compound Not Detected.					
28 Benzo (a) anthracene	228		Compound Not Detected.					
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	295936	200.000	
30 Chrysene	228		Compound Not Detected.					
44 Benzo (b) fluoranthene	252		Compound Not Detected.					
45 Benzo (k) fluoranthene	252		Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ug/kg)
=====	=====	=====	=====	=====	=====	=====	=====
46 Benzo (j) fluoranthene	252				Compound Not Detected.		
34 Benzo (a) pyrene	252				Compound Not Detected.		
* 35 Perylene-d12	264	20.063	20.062	(1.000)	283292	200.000	
\$ 36 Dibenzo (a,h) anthracene-d14	292	22.529	22.529	(1.123)	225250	196.998	9850
37 Indeno (1,2,3-cd) pyrene	276				Compound Not Detected.		
38 Dibenzo (a,h) anthracene	278				Compound Not Detected.		
39 Benzo (g,h,i) perylene	276				Compound Not Detected.		
47 Perylene	252				Compound Not Detected.		
48 Benzo (e) pyrene	252				Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012207.D
 Lab Smp Id: APR4MBS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4MBS1
 Level: LOW
 Sample Type: Solid

Test Mode:

Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	368895	12.50
11 Acenaphthene-d10	239179	119590	478358	251480	5.14
18 Phenanthrene-d10	372253	186127	744506	405369	8.90
29 Chrysene-d12	294711	147356	589422	295936	0.42
35 Perylene-d12	260595	130298	521190	283292	8.71

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
Sample Matrix: SOLID
Lab Smp Id: APR4MBS1
Level: LOW
Data Type: MS DATA
SpikeList File: waterlcs.spk
Sublist File: PEMD.sub
Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
Misc Info: 15-20439

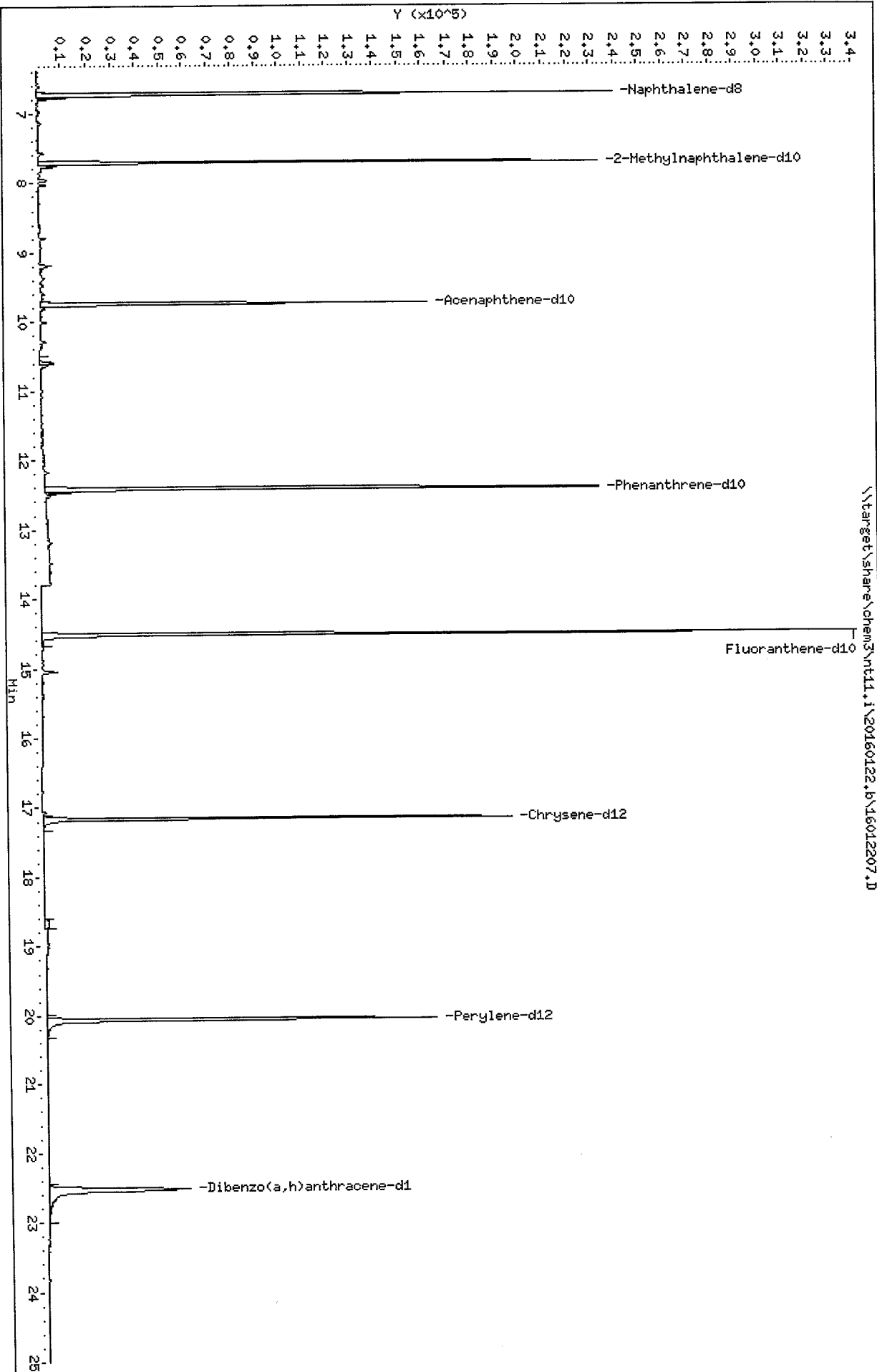
Client SDG: APR4
Fraction: SV
Client Smp ID: APR4MBS1
Operator: JW
SampleType: BLANK
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7050	46.97	30-160
\$ 23 Fluoranthene-d10	15000	9180	61.17	30-160
\$ 36 Dibenzo(a,h) anthra	15000	9850	65.67	30-160 ✓

Data File: \\target\share\chem3\nt11.i\20160122.b\16012207.D
Date: 22-JAN-2016 10:27
Client ID: APP4HBS1
Sample Info: APP4HBS1
Volume Injected (uL): 2.0
Column phase: Rxi-17S11 MS

Instrument: nt11.i
Operator: JM
Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012207.D



Lab ID: APR4MBS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:27

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

- Exception: Naphthalene 7.0000
- Exception: Phenanthrene 2.5000
- Exception: Anthracene 2.0000
- Exception: Pyrene 4.0000
- Exception: Benzo(j)fluoranthene 2.5000
- Exception: Benzo(a)pyrene 2.0000
- Exception: Perylene 3.5000
- Exception: Benzo(e)pyrene 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012208.D
 Lab Smp Id: APR4LCSS1 Client Smp ID: APR4LCSS1
 Inj Date : 22-JAN-2016 10:57 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : APR4LCSS1
 Misc Info : 15-20439
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 2 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt/(Ws * (100-M)/100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.000	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

JW
1/25/16

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ug/kg)
* 4 Naphthalene-d8	136		6.734	6.744	(1.000)	360526	200.000	
5 Naphthalene	128		6.765	6.776	(1.005)	319931	153.631	7680
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.721	(1.145)	192117	143.565	7180
7 2-Methylnaphthalene	142		7.763	7.774	(1.153)	227764	159.180	7960
8 1-Methylnaphthalene	142		8.026	8.026	(1.192)	202850	157.312	7870
10 Acenaphthylene	152		9.589	9.589	(0.984)	306764	147.578	7380
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	257556	200.000	
12 Acenaphthene	153		9.800	9.811	(1.006)	214202	155.256	7760
14 Dibenzofuran	168		10.010	10.010	(1.027)	330618	159.074	7950
15 Fluorene	166		10.630	10.630	(1.091)	270755	173.702	8690
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	412183	200.000	
19 Phenanthrene	178		12.457	12.468	(1.003)	424716	171.027	8550
20 Anthracene	178		12.512	12.523	(1.007)	376504	169.380	8470
\$ 23 Fluoranthene-d10	212		14.519	14.518	(1.169)	417313	184.102	9210
24 Fluoranthene	202		14.557	14.557	(1.172)	471193	188.988	9450
25 Pyrene	202		15.047	15.057	(0.877)	481761	193.411	9670
28 Benzo(a)anthracene	228		17.067	17.075	(0.994)	419082	199.844	9990
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	314530	200.000	
30 Chrysene	228		17.217	17.217	(1.003)	430198	186.914	9350
44 Benzo(b)fluoranthene	252		18.967	18.967	(0.945)	387411	186.459	9320
45 Benzo(k)fluoranthene	252		19.015	19.015	(0.948)	408726	168.813	8440

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)
===== 46 Benzo(j) fluoranthene	==== 252	==== 19.082	==== 19.082	==== (0.951)	==== 378018	==== 171.395	==== 8570
34 Benzo(a) pyrene	252	19.851	19.851	(0.989)	338391	168.757	8440
* 35 Perylene-d12	264	20.063	20.062	(1.000)	306666	200.000	
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	238624	192.788	9640
37 Indeno(1,2,3-cd) pyrene	276	22.662	22.662	(1.130)	416120	197.645	9880
38 Dibenzo(a,h)anthracene	278	22.640	22.651	(1.128)	338705	203.441	10200
39 Benzo(g,h,i)perylene	276	23.814	23.814	(1.187)	359662	196.783	9840
47 Perylene	252	20.130	20.130	(1.003)	349791	168.256	8410
48 Benzo(e) pyrene	252	19.736	19.736	(0.984)	376360	179.235	8960

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012208.D
 Lab Smp Id: APR4LCSS1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: APR4LCSS1
 Level: LOW
 Sample Type: Solid

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	360526	9.95
11 Acenaphthene-d10	239179	119590	478358	257556	7.68
18 Phenanthrene-d10	372253	186127	744506	412183	10.73
29 Chrysene-d12	294711	147356	589422	314530	6.72
35 Perylene-d12	260595	130298	521190	306666	17.68

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.15
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ARI Labs, Inc.

RECOVERY REPORT

Client Name: Anchor QEA, LLC
 Sample Matrix: SOLID
 Lab Smp Id: APR4LCSS1
 Level: LOW
 Data Type: MS DATA
 SpikeList File: PEMDTISS.spk
 Sublist File: PEMD.sub
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 15-20439

Client SDG: APR4
 Fraction: SV
 Client Smp ID: APR4LCSS1
 Operator: JW
 SampleType: LCS
 Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
5 Naphthalene	15000	7680	51.21	30-160
7 2-Methylnaphthalen	15000	7960	53.06	30-160
10 Acenaphthylene	15000	7380	49.19	30-160
12 Acenaphthene	15000	7760	51.75	30-160
15 Fluorene	15000	8690	57.90	30-160
19 Phenanthrene	15000	8550	57.01	30-160
20 Anthracene	15000	8470	56.46	30-160
24 Fluoranthene	15000	9450	63.00	30-160
25 Pyrene	15000	9670	64.47	30-160
28 Benzo(a)anthracene	15000	9990	66.61	30-160
30 Chrysene	15000	9350	62.30	30-160
44 Benzo(b)fluoranthene	15000	9320	62.15	30-160
45 Benzo(k)fluoranthene	15000	8440	56.27	30-160
34 Benzo(a)pyrene	15000	8440	56.25	30-160
37 Indeno(1,2,3-cd)py	15000	9880	65.88	30-160
38 Dibenzo(a,h)anthra	15000	10200	67.81	30-160
39 Benzo(g,h,i)perylene	15000	9840	65.59	30-160
47 Perylene	15000	8410	56.09	30-160
48 Benzo(e)pyrene	15000	8960	59.75	30-160

SURROGATE COMPOUND	CONC ADDED ug/kg	CONC RECOVERED ug/kg	% RECOVERED	LIMITS
\$ 6 2-Methylnaphthalen	15000	7180	47.86	30-160
\$ 23 Fluoranthene-d10	15000	9210	61.37	30-160
\$ 36 Dibenzo(a,h)anthra	15000	9640	64.26	30-160

Data File: \\target\share\chem3\nt11.i\20160122.b\16012208.D
Date : 22-JAN-2016 10:57

Client ID: APR4LCSS1

Sample Info: APR4LCSS1

Volume Injected (uL): 2.0

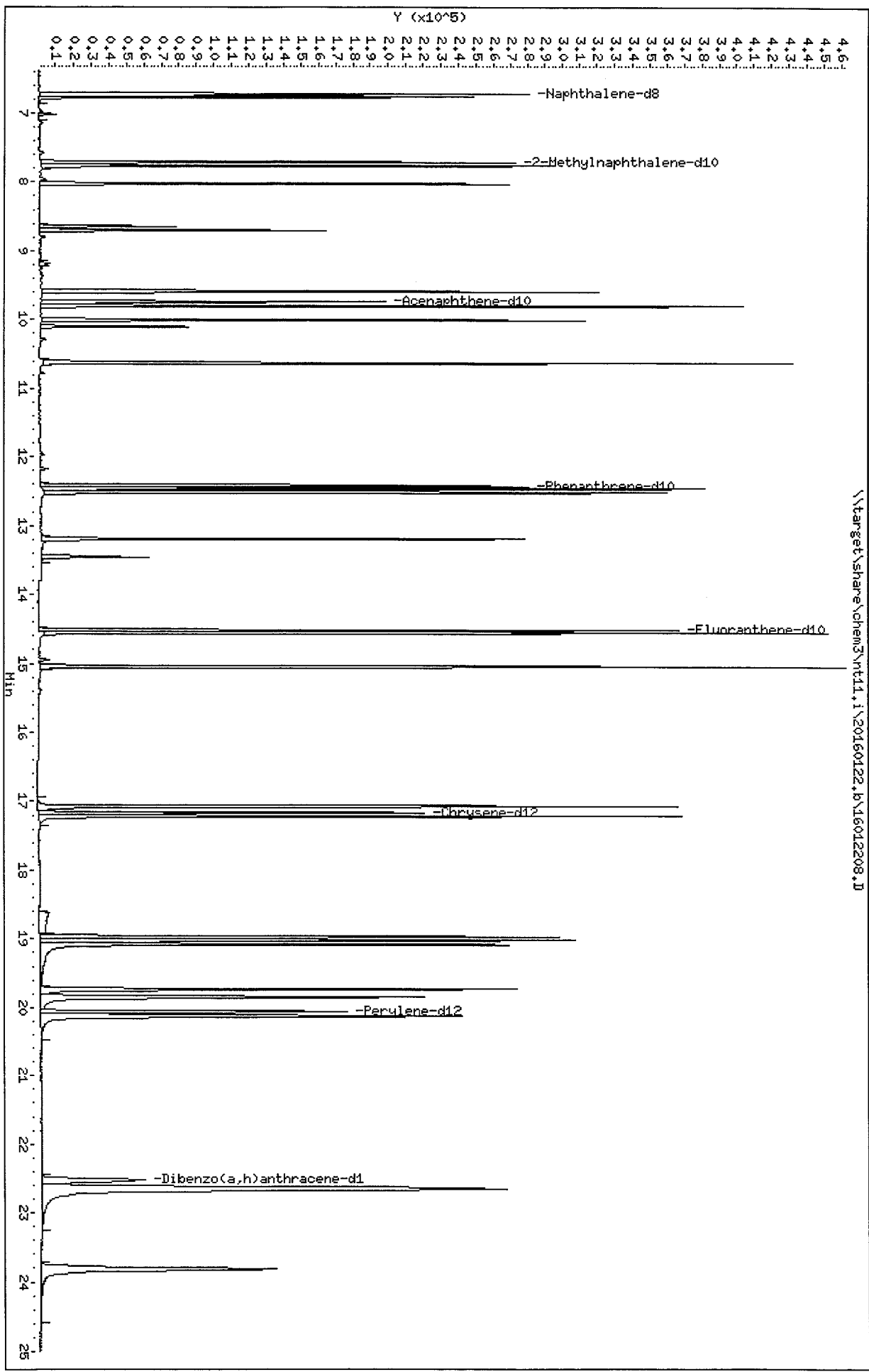
Column phase: Rxi-17S11 MS

Instrument: nt11.i

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.i\20160122.b\16012208.D



REVIEW SUMMARY FOR FILE - 16012208.D

Lab ID: APR4LCSS1

nt11.i, 20160122.b\lowsim.m, 22-JAN-2016 10:57

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

On Column LOD for nt11.i,20160122.b\lowsim.m,Sublist: PEMD.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

ATS0:00215

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LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20160122.b\16012211.D
 Lab Smp Id: ATSOA Client Smp ID: PG-SMA2-2-MUS-COC-1
 Inj Date : 22-JAN-2016 12:28 MS Autotune Date: 23-APR-2014 12:54
 Operator : JW Inst ID: nt11.i
 Smp Info : ATSOA
 Misc Info : 16-135
 Comment :
 Method : \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Meth Date : 25-Jan-2016 07:43 nt11.i Quant Type: ISTD
 Cal Date : 04-DEC-2015 11:33 Cal File: 15120407.D
 Als bottle: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PEMD.sub
 Target Version: 4.14
 Processing Host: AUTOSPECDATA2

Concentration Formula: Amt * DF * Vt / (Ws * (100-M) / 100) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Ws	10.040	Weight of sample extracted (g)
M	0.00000	% Moisture (not decanted)
Cpnd Variable		Local Compound Variable

*300
1/25/16*

Compounds	QUANT	SIG	CONCENTRATIONS				ON-COLUMN (ng/mL)	FINAL (ug/kg)	
			MASS	RT	EXP RT	REL RT			RESPONSE
* 4 Naphthalene-d8	136		6.734	6.744	(1.000)	363469	200.000		
5 Naphthalene	128		6.765	6.776	(1.005)	25398	12.0974	602	
\$ 6 2-Methylnaphthalene-d10	152		7.711	7.721	(1.145)	222682	165.058	8220	
7 2-Methylnaphthalene	142		Compound Not Detected.						
8 1-Methylnaphthalene	142		Compound Not Detected.						
10 Acenaphthylene	152		Compound Not Detected.						
* 11 Acenaphthene-d10	164		9.744	9.744	(1.000)	256352	200.000		
12 Acenaphthene	153		Compound Not Detected.						
14 Dibenzofuran	168		Compound Not Detected.						
15 Fluorene	166		10.630	10.630	(1.091)	20115	12.9653	646	
* 18 Phenanthrene-d10	188		12.424	12.424	(1.000)	419386	200.000		
19 Phenanthrene	178		12.468	12.468	(1.004)	212897	84.2579	4200	
20 Anthracene	178		12.512	12.523	(1.007)	55873	24.7042	1230	
\$ 23 Fluoranthene-d10	212		14.519	14.518	(1.169)	457498	198.363	9880	
24 Fluoranthene	202		14.557	14.557	(1.172)	330932	130.452	6500	
25 Pyrene	202		15.057	15.057	(0.877)	245848	100.007	4980	
28 Benzo(a)anthracene	228		17.067	17.075	(0.994)	68056	32.8832	1640	
* 29 Chrysene-d12	240		17.167	17.167	(1.000)	310418	200.000		
30 Chrysene	228		17.217	17.217	(1.003)	97622	42.9771	2140	
44 Benzo(b)fluoranthene	252		18.967	18.967	(0.945)	63555	30.4444	1520	
45 Benzo(k)fluoranthene	252		19.015	19.015	(0.948)	58083	23.8764	1190	

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ug/kg)	
46 Benzo(j)fluoranthene	252	19.082	19.082	(0.951)	42395	19.1315	953	
34 Benzo(a)pyrene	252	19.851	19.851	(0.989)	23699	11.7630	586	
* 35 Perylene-d12	264	20.062	20.062	(1.000)	308119	200.000		
\$ 36 Dibenzo(a,h)anthracene-d14	292	22.529	22.529	(1.123)	270538	217.541	10800	
37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
38 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
39 Benzo(g,h,i)perylene	276	Compound Not Detected.						
47 Perylene	252	Compound Not Detected.						
48 Benzo(e)pyrene	252	19.736	19.736	(0.984)	47057	22.3044	1110	

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INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: 16012211.D
 Lab Smp Id: ATSOA
 Analysis Type: SV
 Quant Type: ISTD
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20160122.b\lowsim.m
 Misc Info: 16-135

Calibration Date: 22-JAN-2016
 Calibration Time: 09:05
 Client Smp ID: PG-SMA2-2-MUS-C
 Level: LOW
 Sample Type: Tissue

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	327896	163948	655792	363469	10.85
11 Acenaphthene-d10	239179	119590	478358	256352	7.18
18 Phenanthrene-d10	372253	186127	744506	419386	12.66
29 Chrysene-d12	294711	147356	589422	310418	5.33
35 Perylene-d12	260595	130298	521190	308119	18.24

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Naphthalene-d8	6.74	6.24	7.24	6.73	-0.16
11 Acenaphthene-d10	9.74	9.24	10.24	9.74	0.00
18 Phenanthrene-d10	12.42	11.92	12.92	12.42	0.00
29 Chrysene-d12	17.17	16.67	17.67	17.17	0.00
35 Perylene-d12	20.06	19.56	20.56	20.06	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.