



Form I
METHOD BLANK DATA SHEET

Blank

Bligh & Dyer (Mod)

TotalAnalytes

Batch: BFA0626

Laboratory ID: BFA0626-BLK1

Prepared: 01/31/17 12:30

Matrix: Tissue

Preparation: EPA 3550C-Mod (Ultrason

Analyzed: 02/10/17 16:51

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.014	1	0.010	0.010	



HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-T0-MUS-COC-161109 16K0124-01	11/09/16 09:00	11/09/16 09:01	01/31/17 12:30	83	365	02/10/17 16:51	93	365	

* Indicates hold time exceedance.



Analytical
Resources,
Incorporated

METHOD DETECTION AND REPORTING LIMITS

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument:

Analyte	MDL	RL	Units
Percent Lipids	0.010	0.010	%



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
Polycyclic Aromatic Hydrocarbons (PAH) low level

Laboratory: Analytical Resources, Inc. SDG: 16K0124
Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
Matrix: Tissue Laboratory ID: 16K0124-01 File ID: N1117021009.D
Sampled: 11/09/16 09:00 Prepared: 01/31/17 13:45 Analyzed: 02/10/17 15:52
Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 10.18 g / 0.5 mL
Batch: BFA0647 Sequence: SFB0130 Calibration: ZL00083
Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	0.59	U	0.49	0.59
91-57-6	2-Methylnaphthalene	1	0.49	U	0.49	0.49
208-96-8	Acenaphthylene	1	0.49	U	0.49	0.49
83-32-9	Acenaphthene	1	0.49	U	0.49	0.49
132-64-9	Dibenzofuran	1	0.49	U	0.49	0.49
86-73-7	Fluorene	1	0.49	U	0.49	0.49
85-01-8	Phenanthrene	1	1.20		0.49	0.49
120-12-7	Anthracene	1	0.49	U	0.49	0.49
206-44-0	Fluoranthene	1	0.98		0.49	0.49
129-00-0	Pyrene	1	1.16		0.49	0.49
56-55-3	Benzo(a)anthracene	1	0.49	U	0.49	0.49
218-01-9	Chrysene	1	0.56		0.49	0.49
205-99-2	Benzo(b)fluoranthene	1	0.49	U	0.49	0.49
207-08-9	Benzo(k)fluoranthene	1	0.49	U	0.49	0.49
205-82-3	Benzo(j)fluoranthene	1	0.49	U	0.49	0.49
50-32-8	Benzo(a)pyrene	1	0.49	U	0.49	0.49
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.49	U	0.49	0.49
53-70-3	Dibenzo(a,h)anthracene	1	0.49	U	0.49	0.49
191-24-2	Benzo(g,h,i)perylene	1	0.49	U	0.49	0.49
90-12-0	1-Methylnaphthalene	1	0.49	U	0.49	0.49
91-58-7	2-Chloronaphthalene	1	0.49	U	0.49	0.49
95-15-8	Benzo(b)thiophene	1	0.49	U	0.49	0.49

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	14.735	7.71	52.3	30 - 160	
Dibenzo[a,h]anthracene-d14	14.735	9.69	65.7	30 - 160	
Fluoranthene-d10	14.735	8.73	59.3	30 - 160	

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Date: 10-FEB-2017 15:52

Client ID:

Sample Info: 16K0124-01

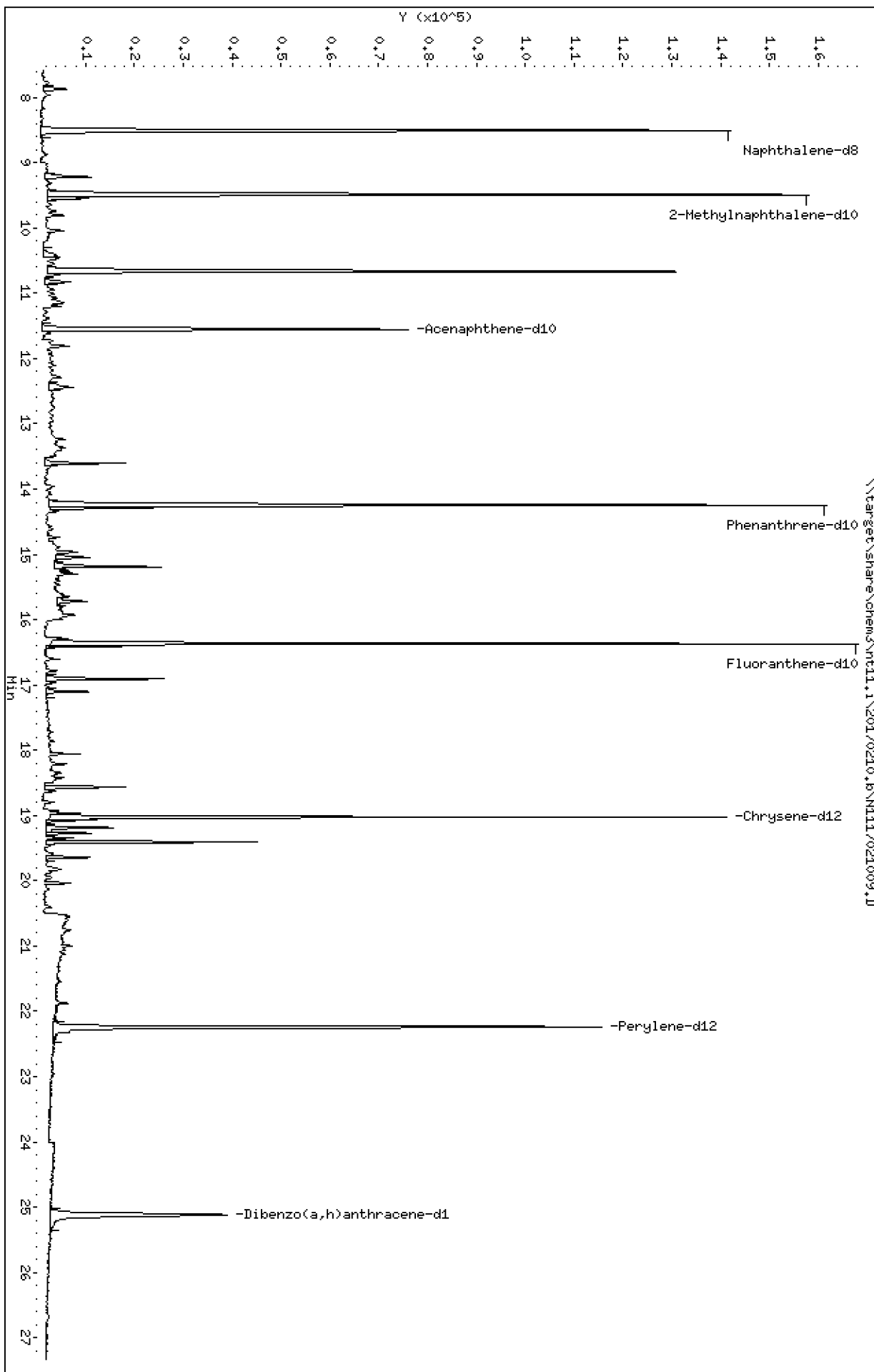
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

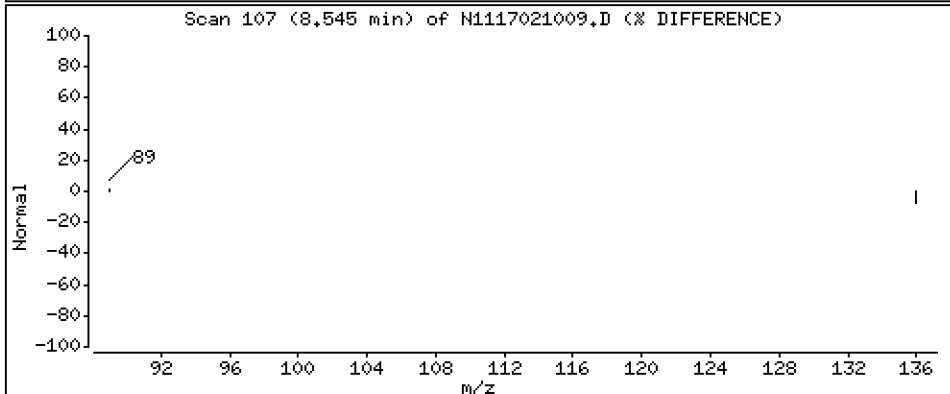
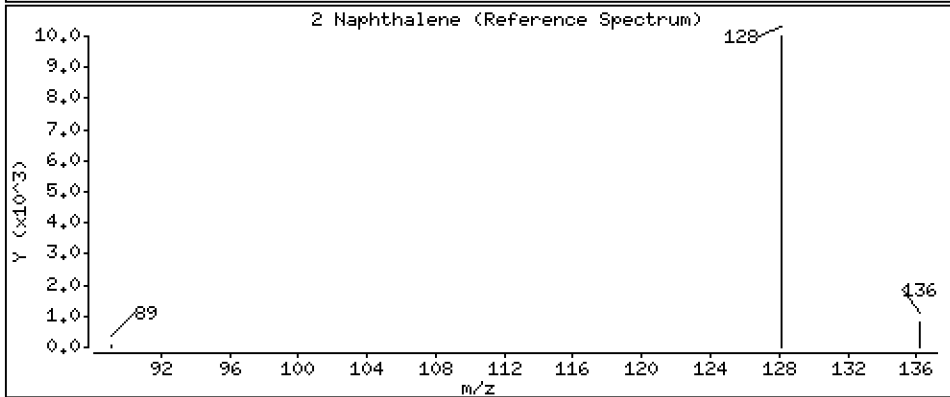
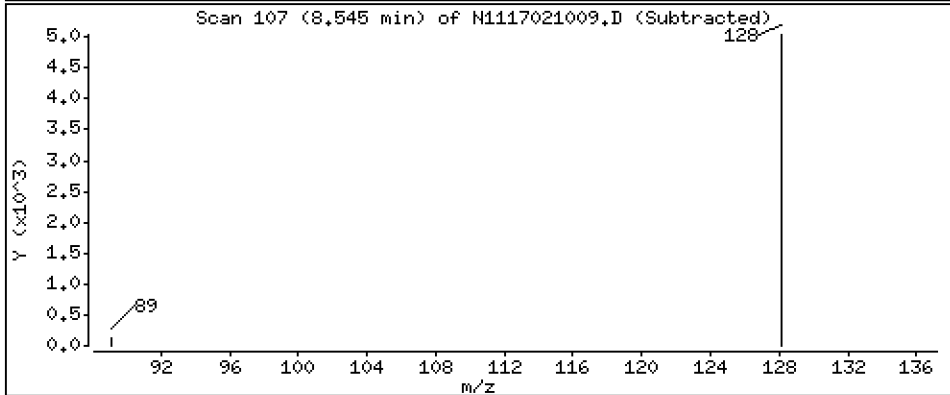
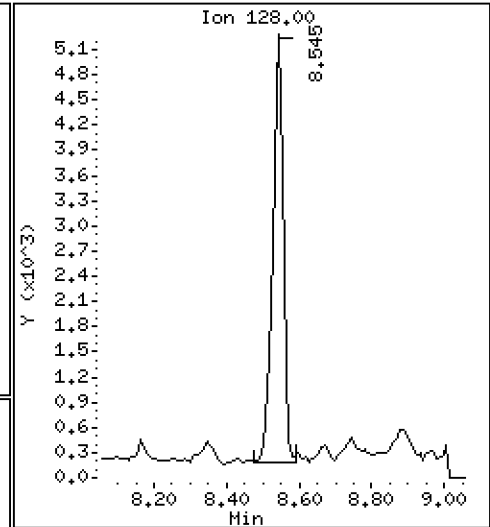
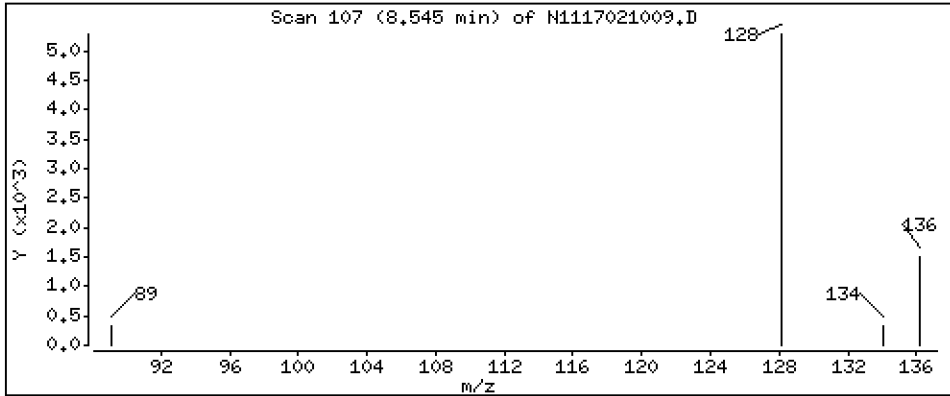
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 8,28 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

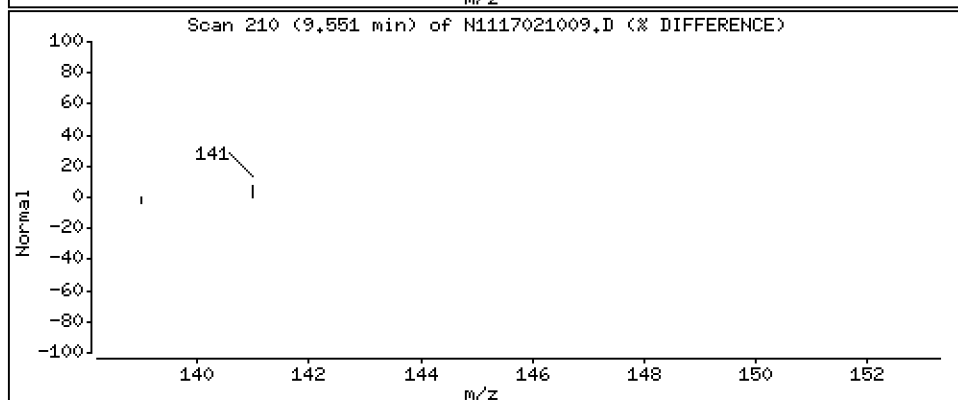
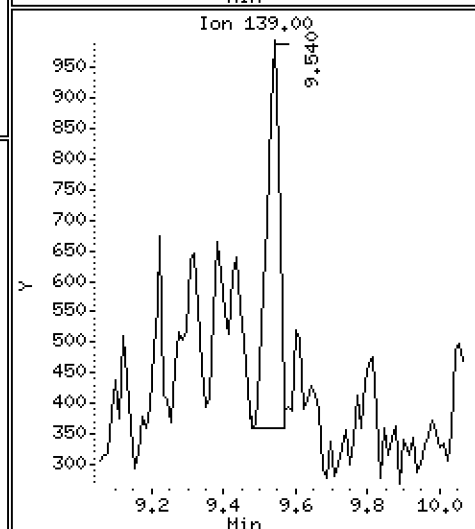
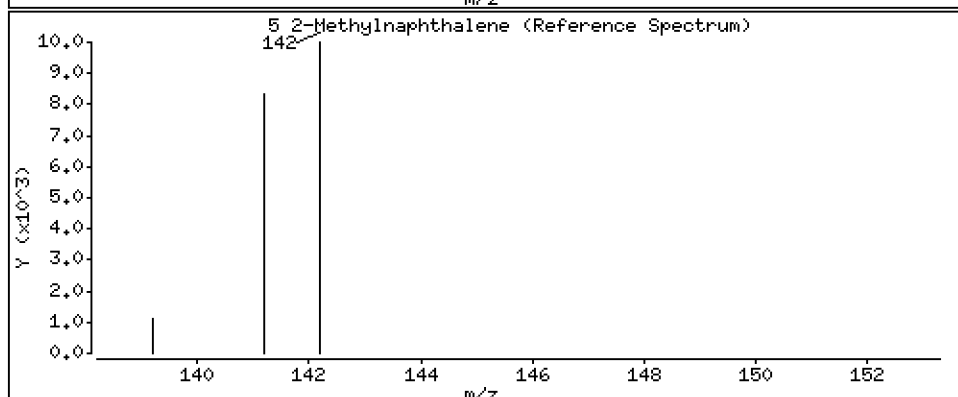
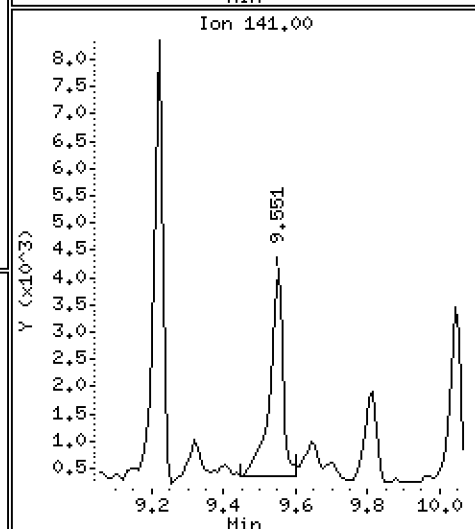
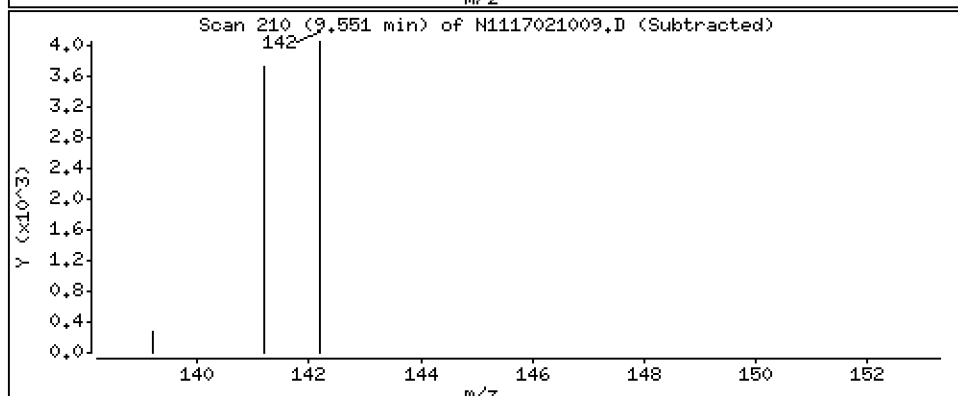
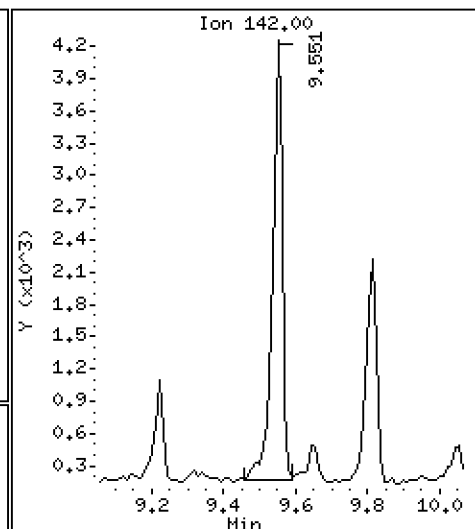
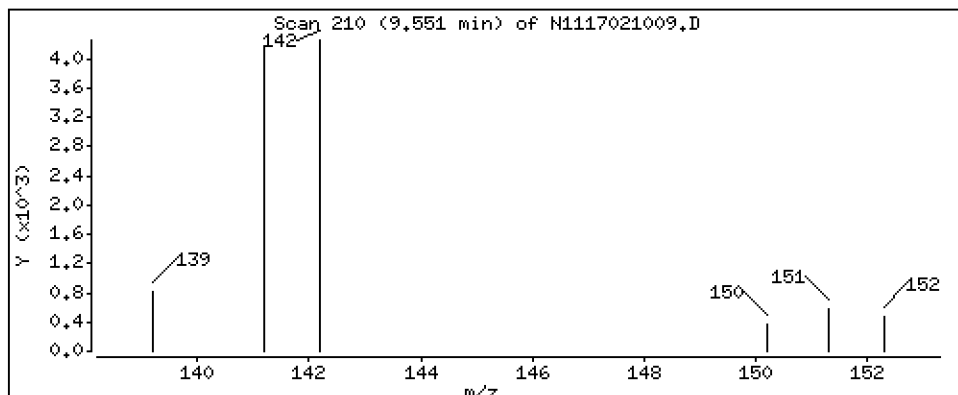
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.61 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

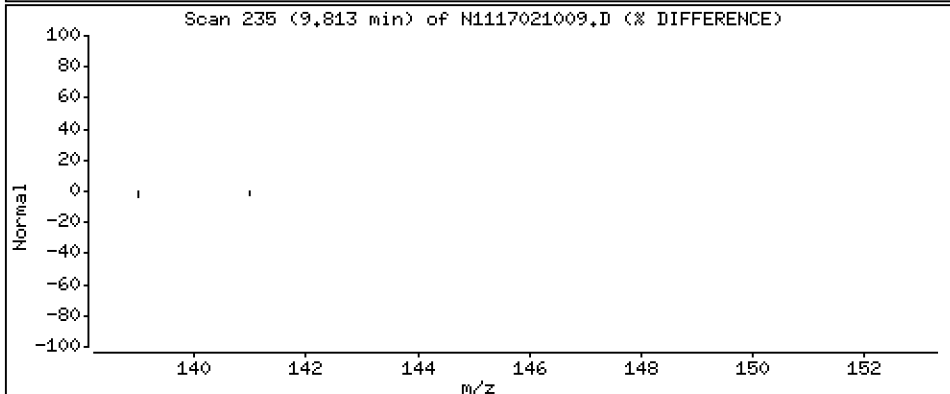
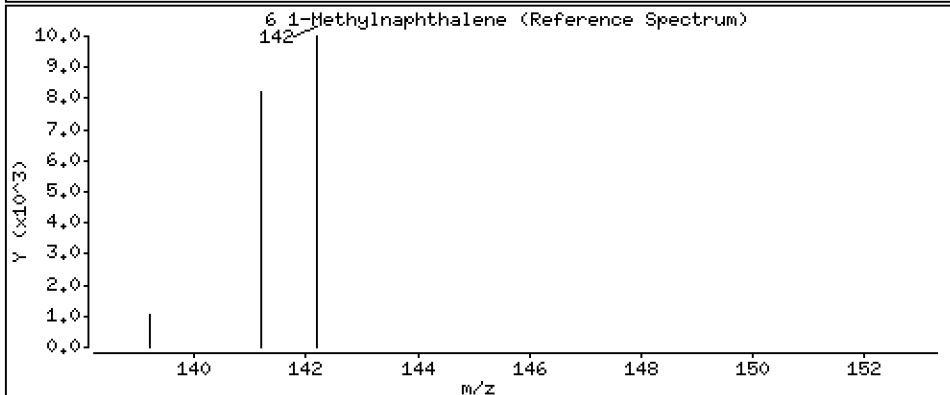
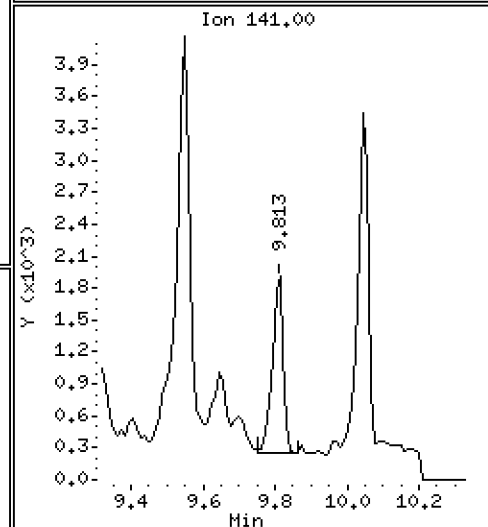
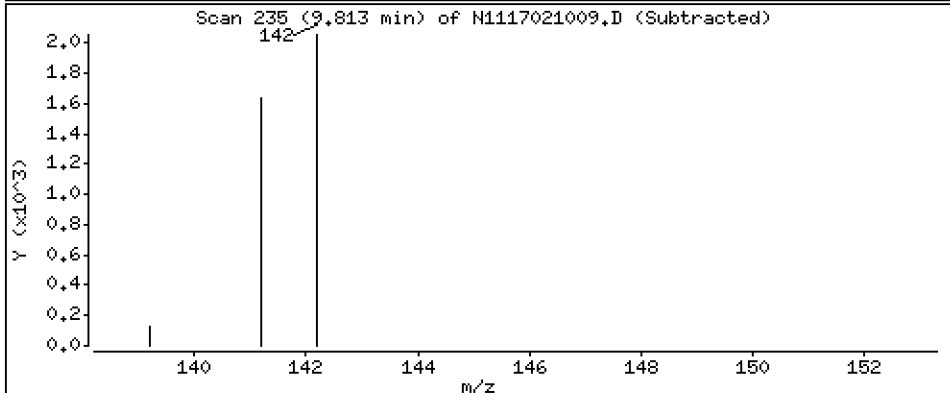
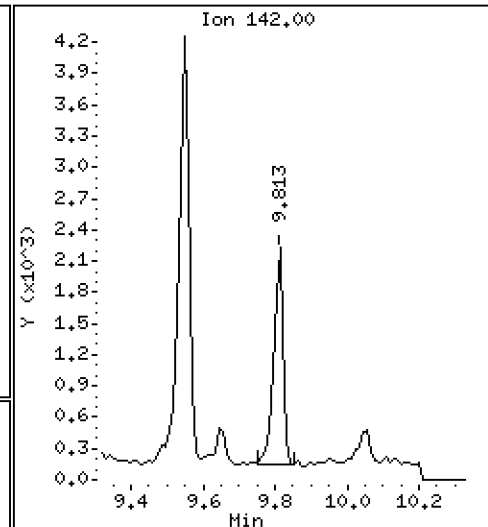
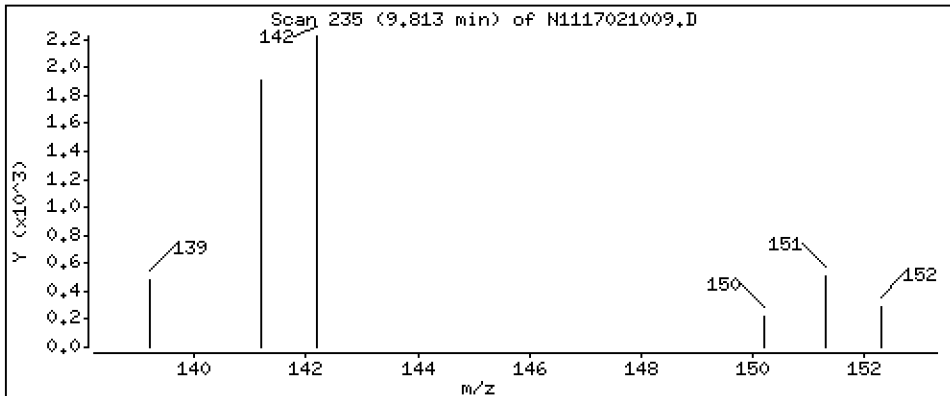
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 3,38 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

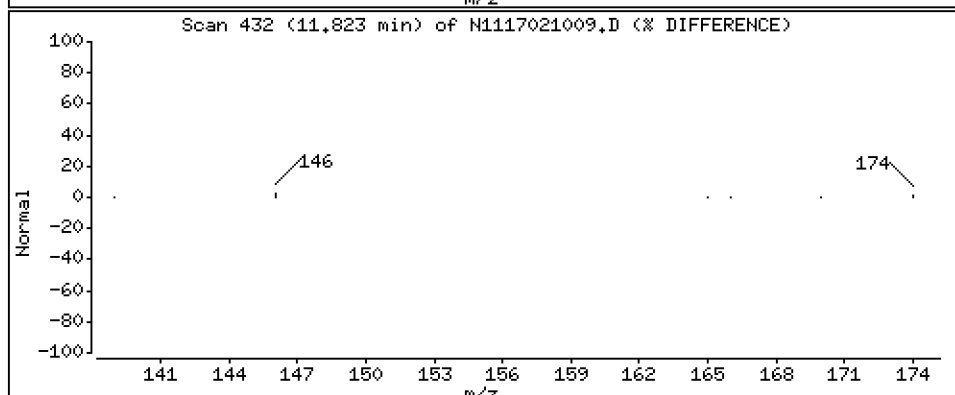
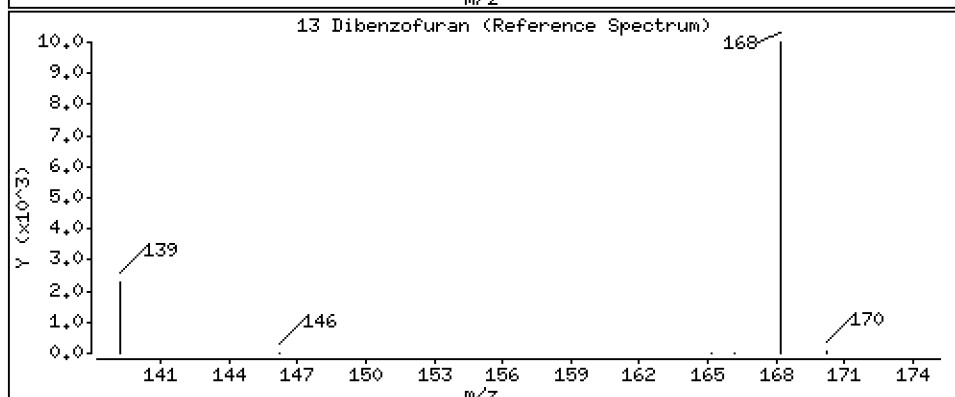
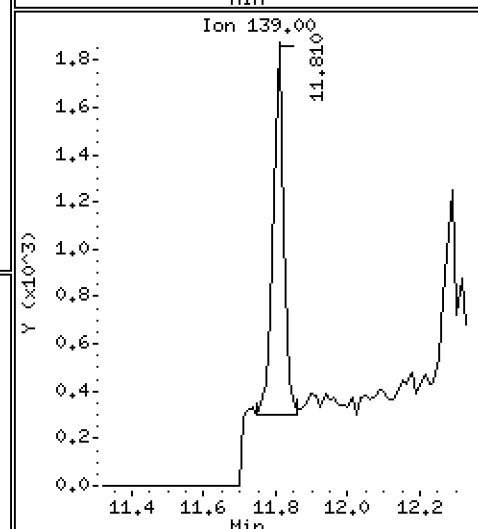
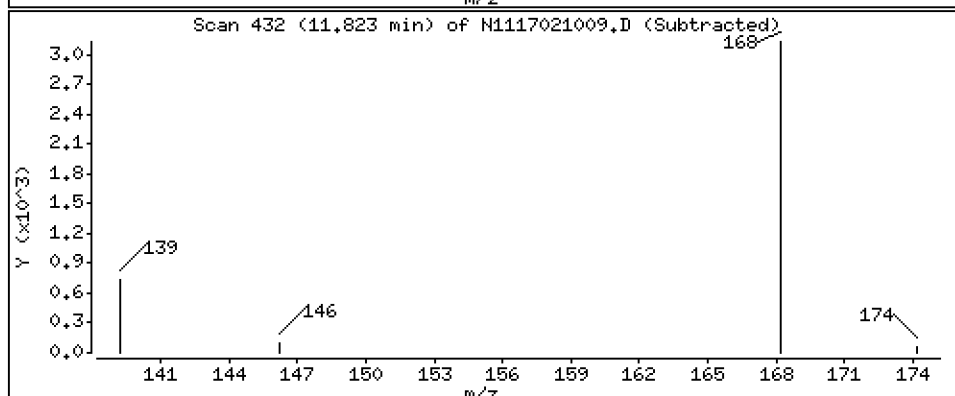
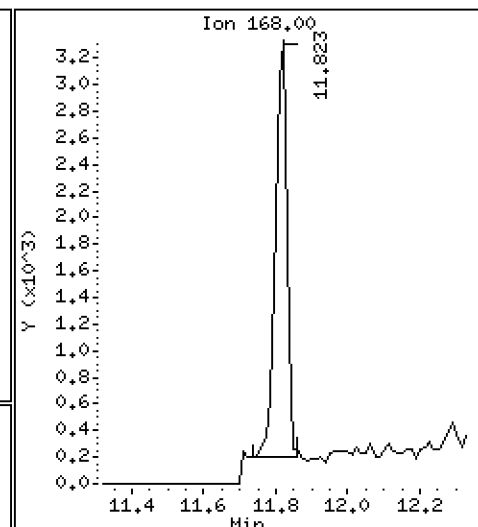
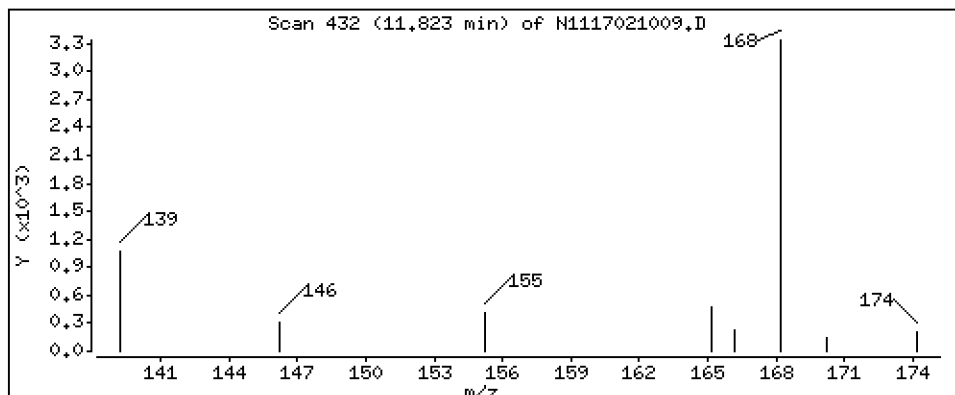
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 5,18 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

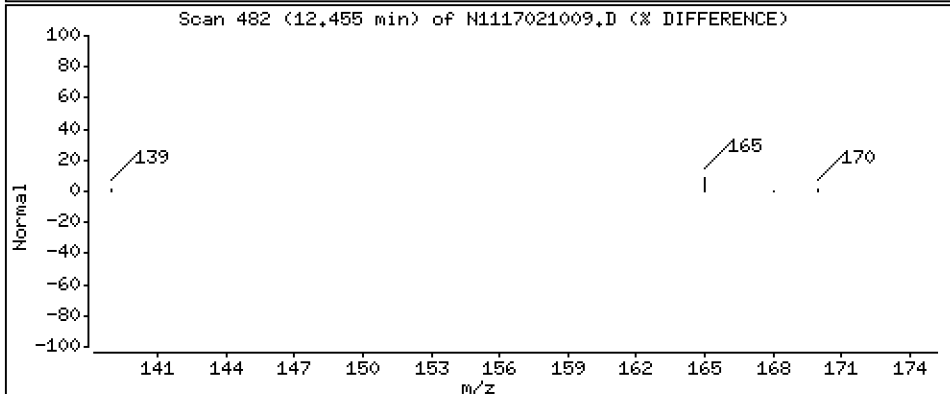
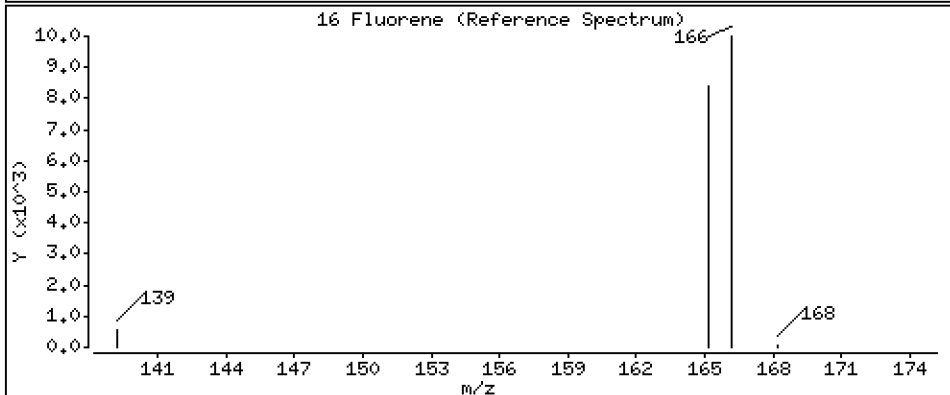
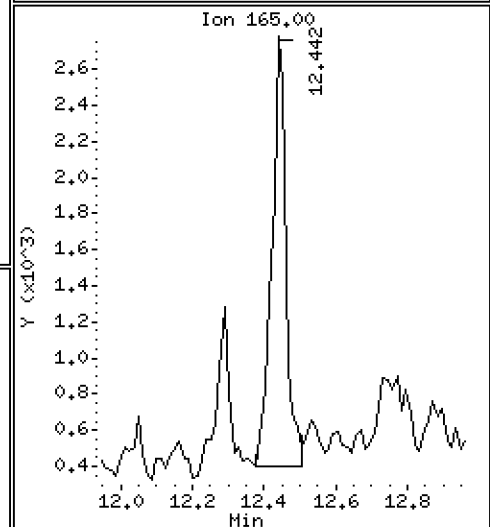
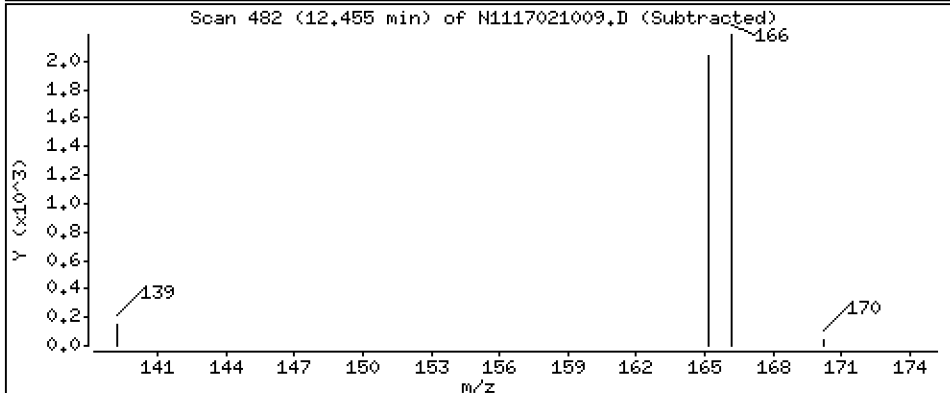
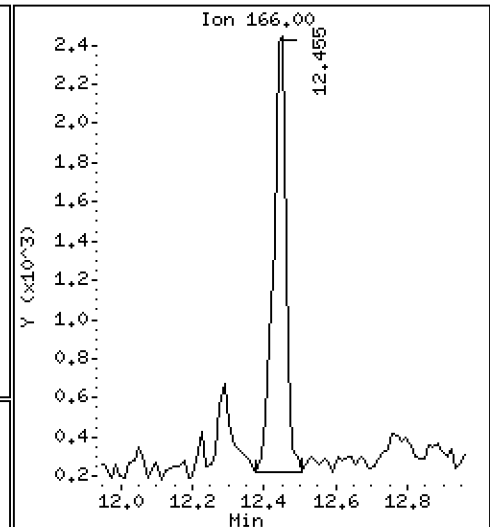
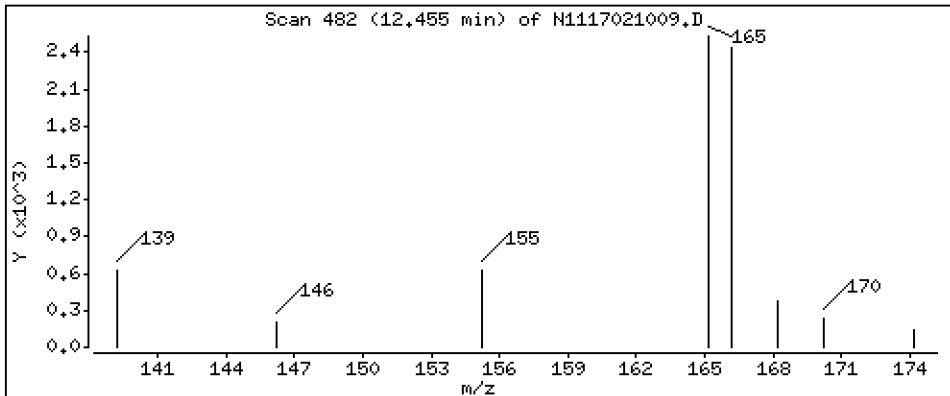
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 5,34 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

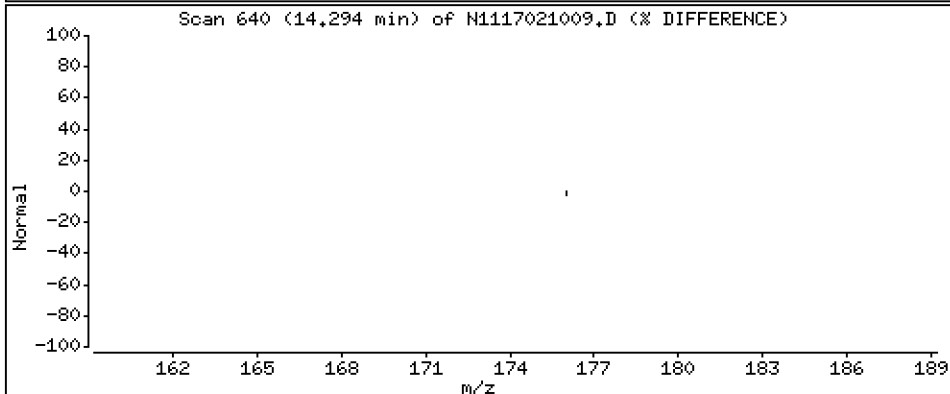
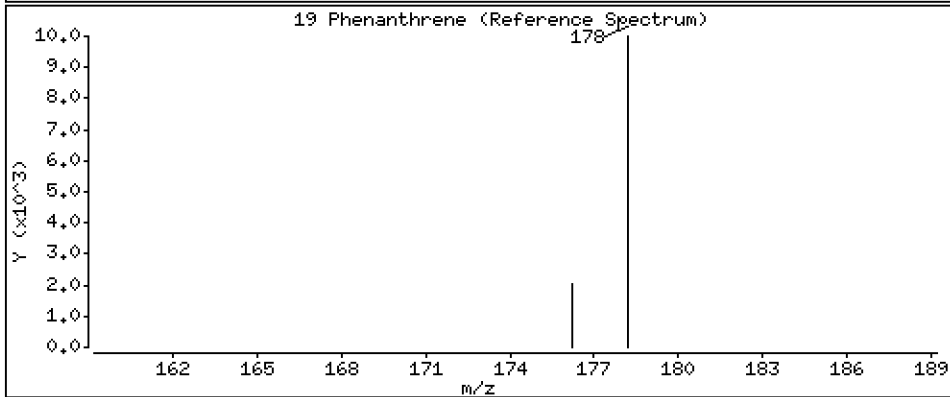
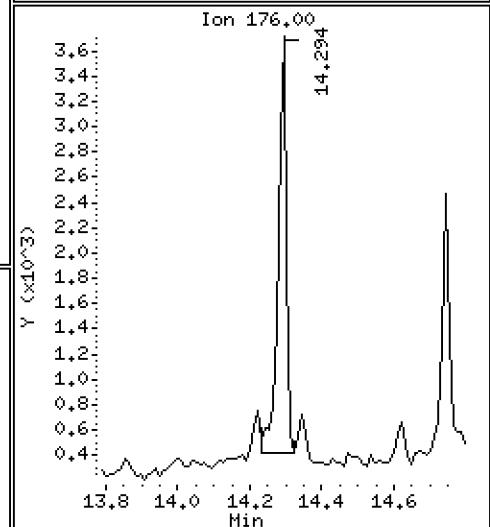
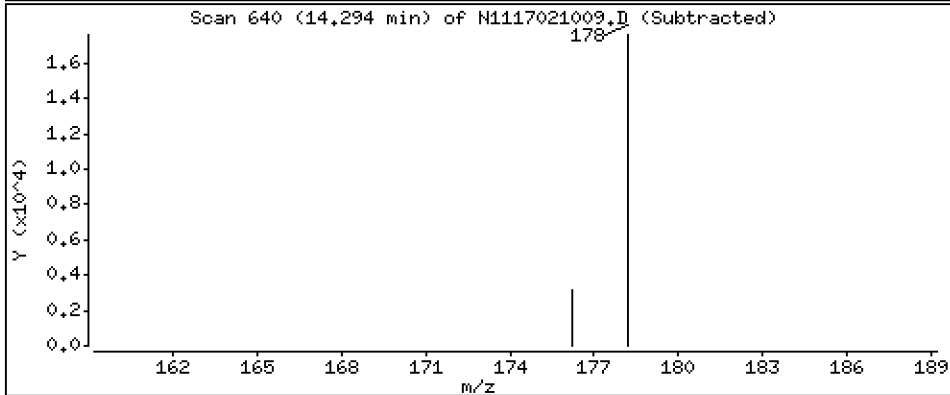
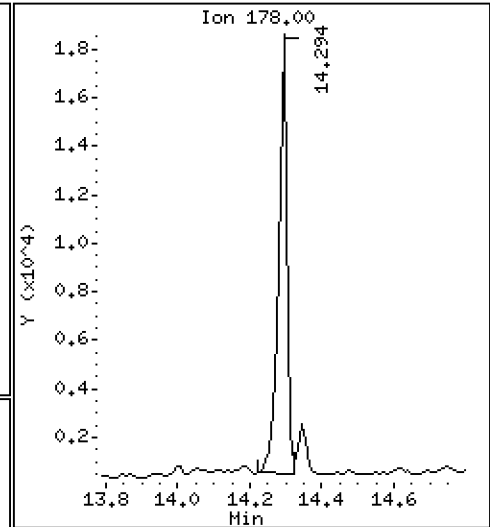
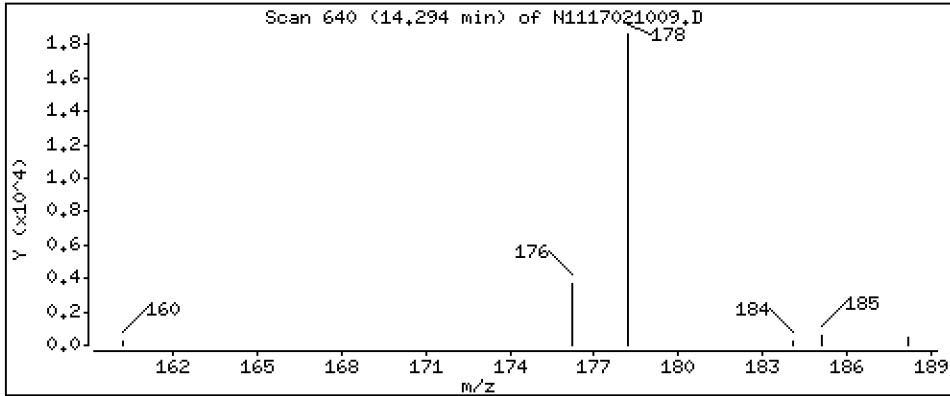
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 24,4 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

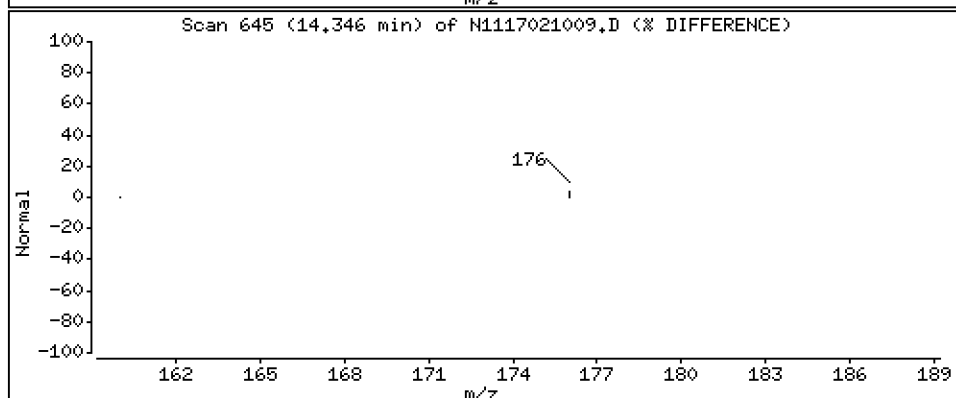
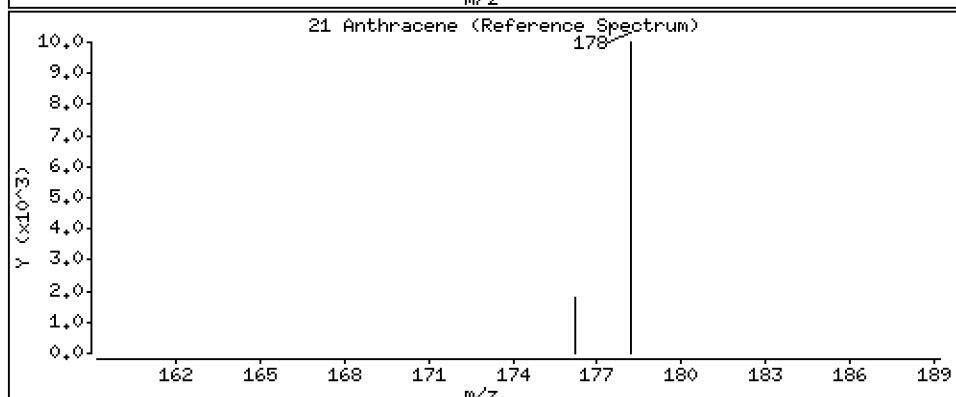
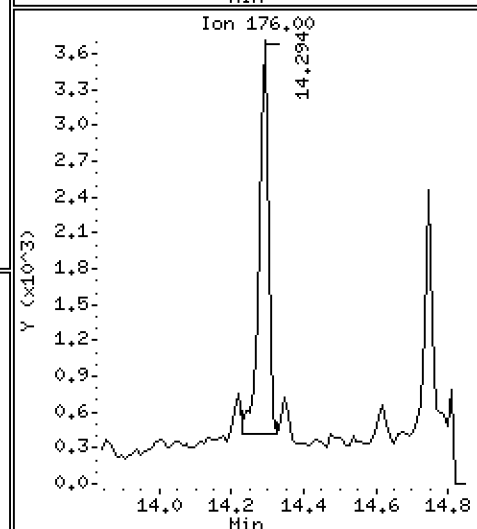
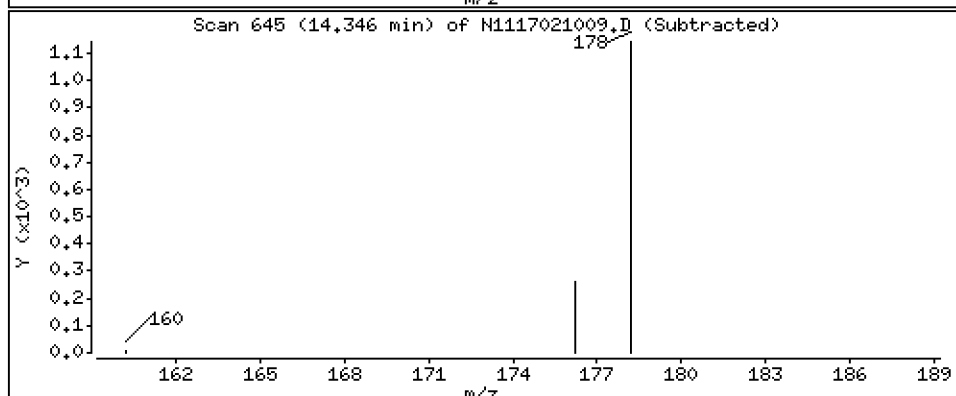
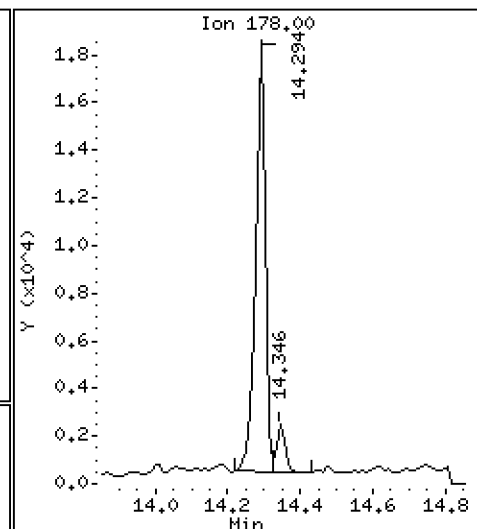
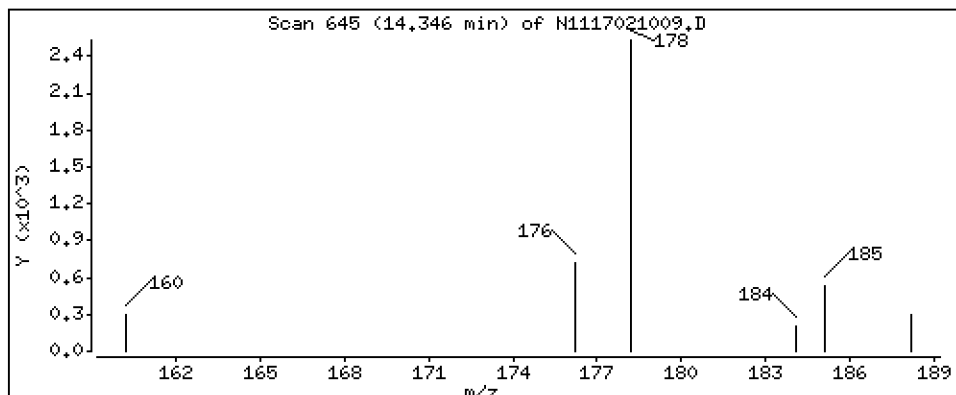
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

21 Anthracene

Concentration: 2.41 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

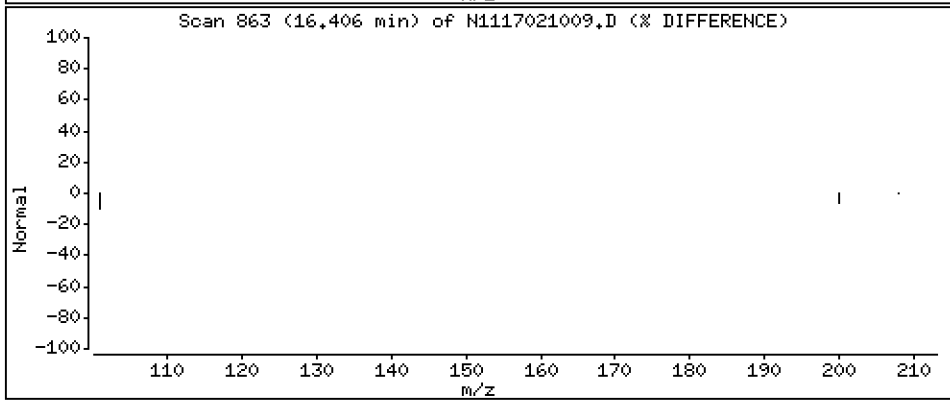
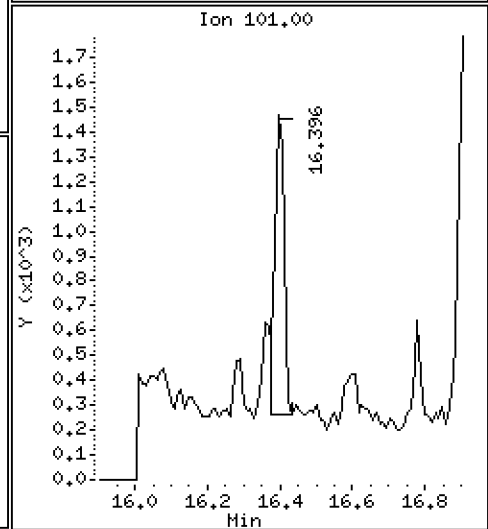
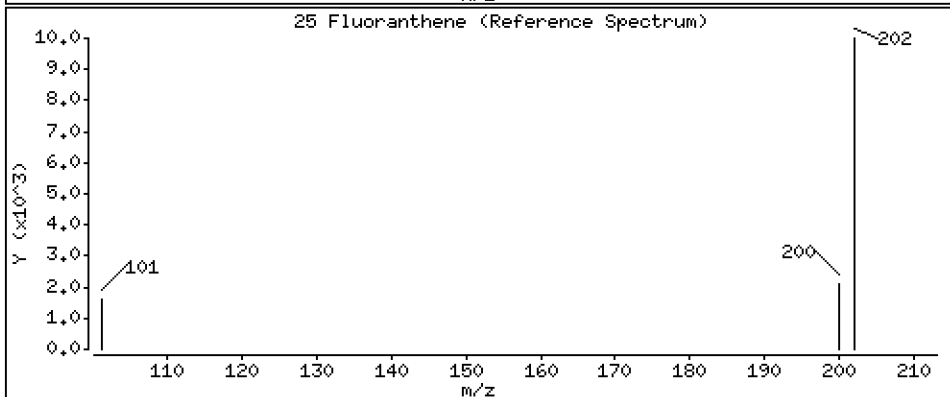
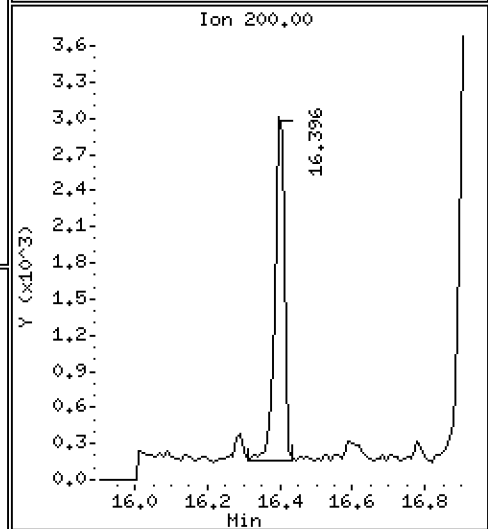
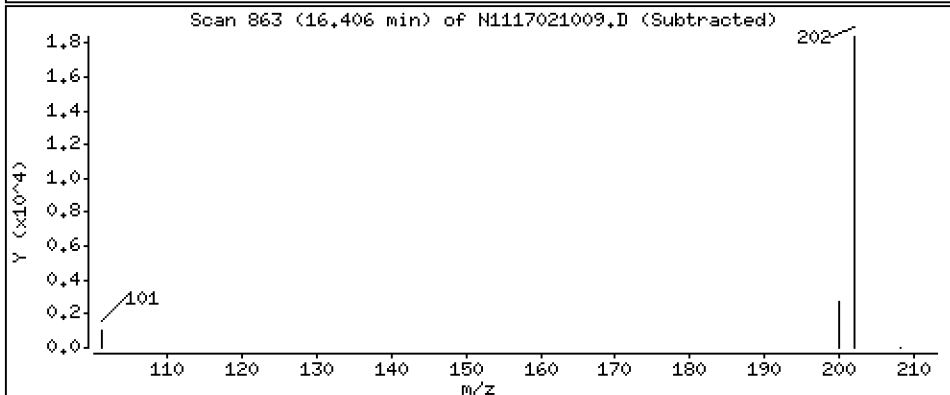
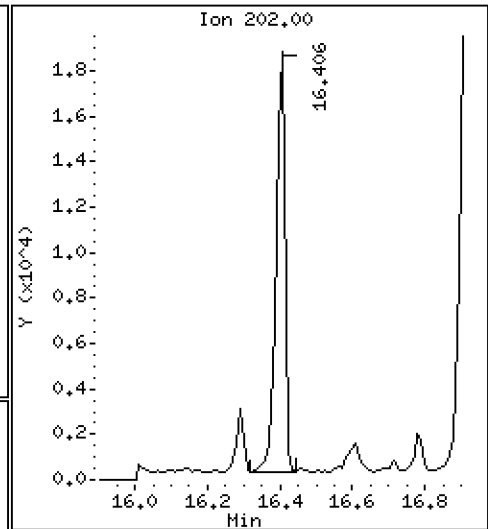
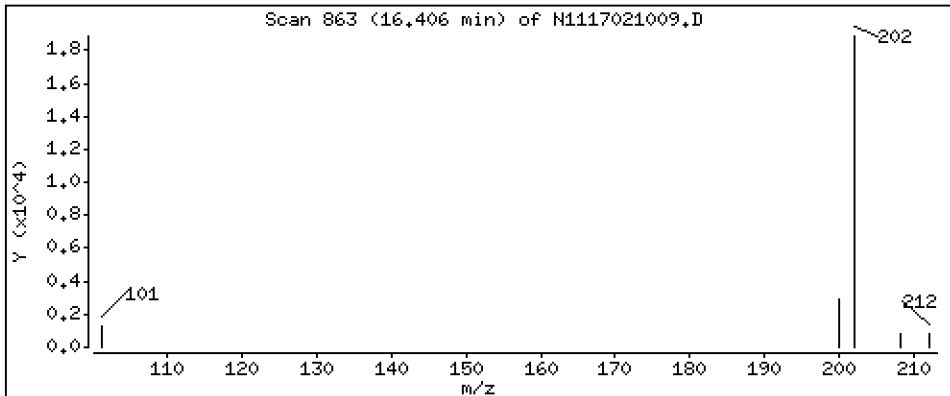
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 19,9 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

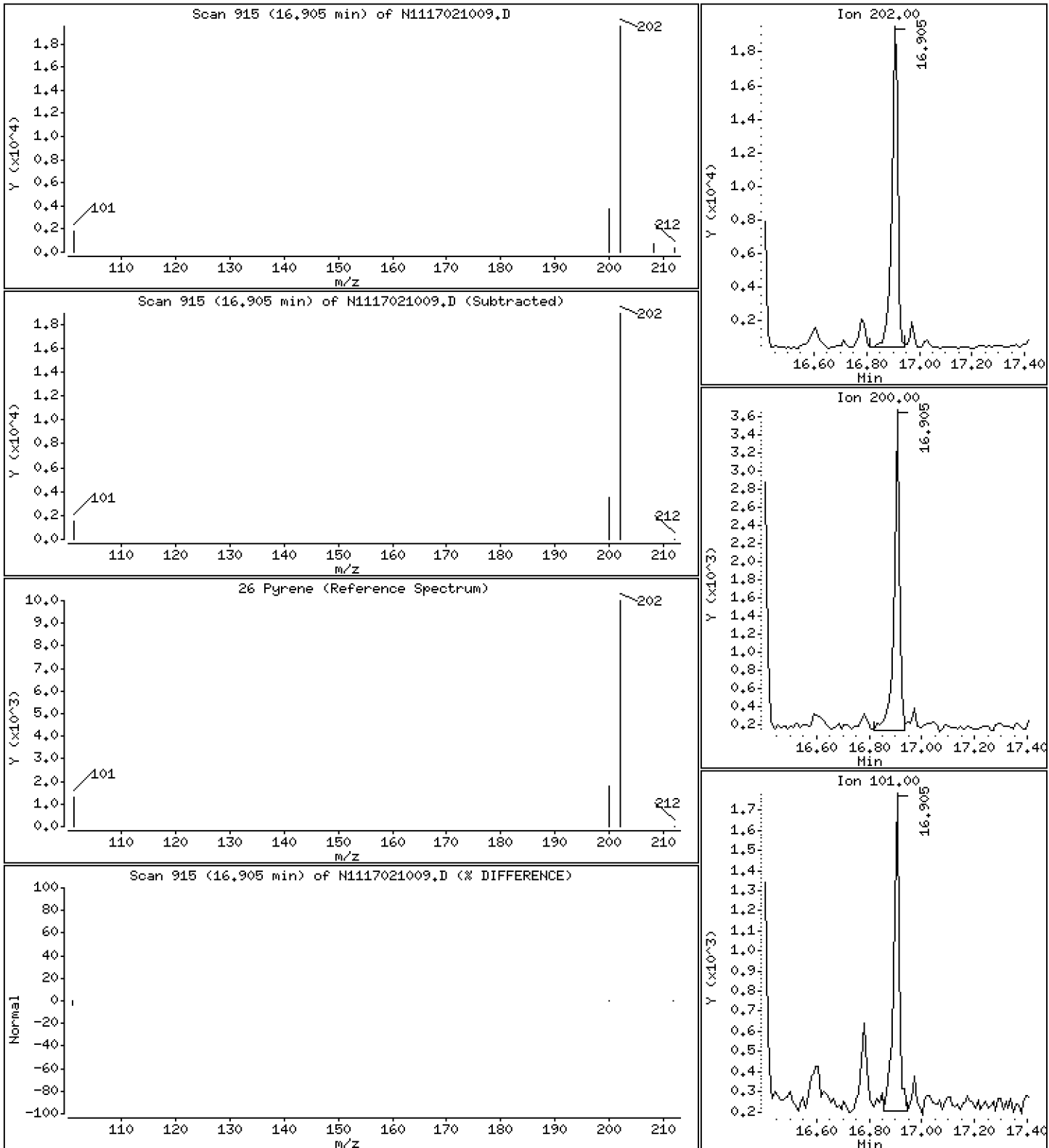
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 23.7 ng/mL



Date : 10-FEB-2017 15:52

Client ID:

Instrument: nt11.i

Sample Info: 16K0124-01

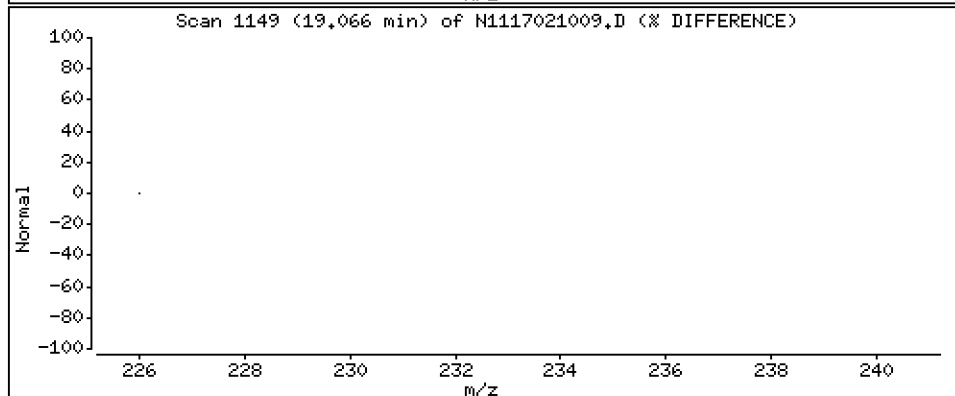
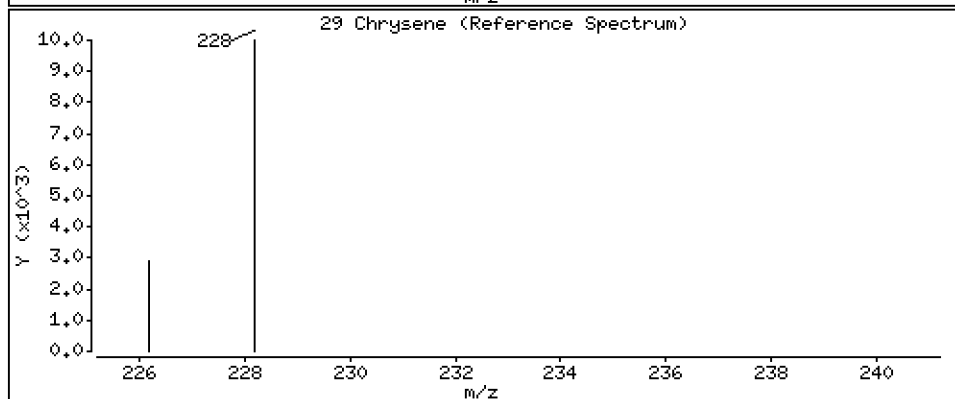
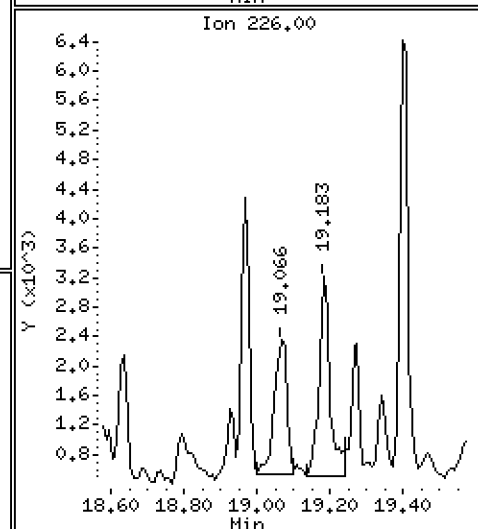
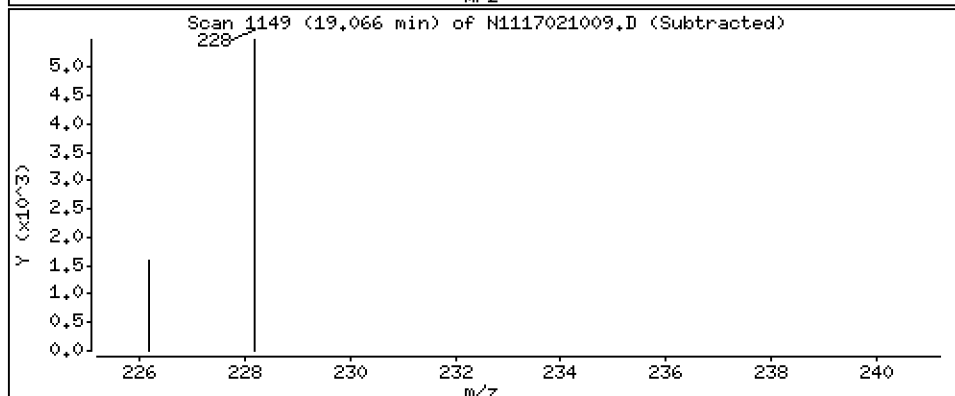
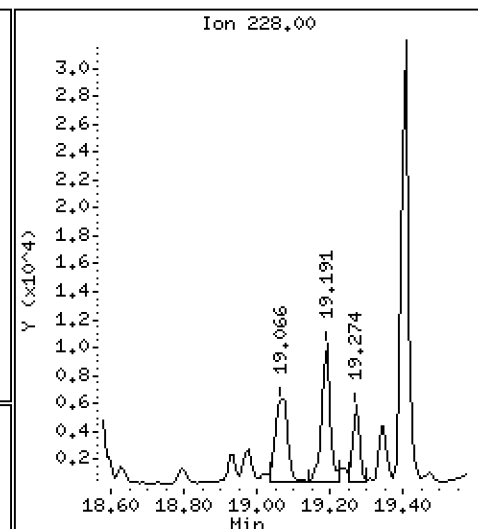
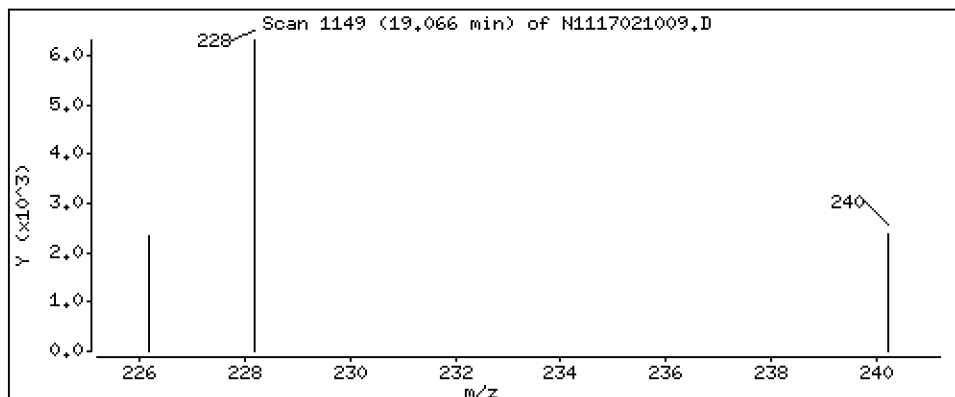
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 11,3 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021009.D
 Lab Smp Id: 16K0124-01
 Inj Date : 10-FEB-2017 15:52 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0124-01
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.508	8.526	(1.000)	251510	200.000	
2 Naphthalene	128		8.544	8.554	(1.004)	10391	8.27862	8.28
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	169574	156.989	157
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	8180	6.61243	6.61
6 1-Methylnaphthalene	142		9.813	9.823	(1.153)	4207	3.38129	3.38
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	149373	200.000	
12 Acenaphthene	153		Compound Not Detected.					
13 Dibenzofuran	168		11.822	11.822	(1.023)	6803	5.17867	5.18
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	5586	5.34142	5.34
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	238222	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	33206	24.3808	24.4
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	3271	2.40865	2.41
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	224905	177.754	178
25 Fluoranthene	202		16.405	16.405	(1.151)	30757	19.9085	19.9
26 Pyrene	202		16.905	16.915	(0.889)	30574	23.7075	23.7
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	198528	200.000	
29 Chrysene	228		19.066	19.074	(1.002)	13901	11.3482	11.3
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
34 Benzo(e)pyrene	252					Compound Not Detected.		
35 Benzo(a)pyrene	252					Compound Not Detected.		
* 36 Perylene-d12	264		22.240	22.240	(1.000)	214455	200.000	
37 Perylene	252					Compound Not Detected.		
§ 38 Dibenzo(a,h)anthracene-d14	292		25.116	25.116	(1.129)	135066	197.217	197
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021009.D Calibration Time: 13:29
 Lab Smp Id: 16K0124-01
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	251510	14.50
11 Acenaphthene-d10	135248	67624	270496	149373	10.44
18 Phenanthrene-d10	257021	128511	514042	238222	-7.31
28 Chrysene-d12	259511	129756	519022	198528	-23.50
36 Perylene-d12	257535	128768	515070	214455	-16.73

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	-0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	-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 - N1117021009.D

Lab ID: 16K0124-01
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 15:52

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Cleanup Batch: CFB0053

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
PG-T0-MUS-COC-161109	16K0124-01	N1117021009.D	02/09/2017	



CLEANUP BENCH SHEET

CFB0053

Printed: 2/9/2017 3:20:28PM

Cleanup using: Organics - EPA 3630C Silica Gel Cleanup

Matrix: Tissue

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
17A0053-12	A	PG-SMA1-2-3-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-11	A	PG-WS-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-10	A	PG-GP-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-09	A	PG-PI-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-08	A	PG-SMA2-5-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-07	A	PG-SMA2-4-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-06	A	PG-SMA2-3-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-05	A	PG-SMA2-2-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-04	A	PG-SMA2-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
17A0053-01	A	PG-SMA1-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
16K0124-01	A	PG-T0-MUS-COC-161109	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/9/2017	SDP	
BFA0647-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	2/9/2017	SDP	
BFA0647-MS1	-	Matrix Spike	-	0.5	0.5	-	2/9/2017	SDP	
BFA0647-BS1	-	LCS	-	0.5	0.5	-	2/9/2017	SDP	
BFA0647-BLK1	-	Blank	-	0.5	0.5	-	2/9/2017	SDP	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Cleanup Batch: CFB0054

Cleanup Type: GPC

Cleanup Method: EPA 3640A GPC Cleanup

Analysis: EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
PG-T0-MUS-COC-161109	16K0124-01	N1117021009.D	02/01/2017	



CLEANUP BENCH SHEET

CFB0054

Printed: 2/9/2017 3:22:46PM

Cleanup using: Organics - EPA 3640A GPC Cleanup

Matrix: Tissue

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
17A0053-12	A	PG-SMA1-2-3-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-11	A	PG-WS-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-10	A	PG-GP-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-09	A	PG-PI-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-08	A	PG-SMA2-5-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-07	A	PG-SMA2-4-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-06	A	PG-SMA2-3-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-05	A	PG-SMA2-2-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-04	A	PG-SMA2-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
17A0053-01	A	PG-SMA1-1-MUS-170105	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
16K0124-01	A	PG-T0-MUS-COC-161109	A 02	0.5	0.5	70D-SIM PAH Low (0.01 ug/L - 0.5 ug/	2/1/2017	WPW	
BFA0647-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	2/1/2017	WPW	
BFA0647-MS1	-	Matrix Spike	-	0.5	0.5	-	2/1/2017	WPW	
BFA0647-BS1	-	LCS	-	0.5	0.5	-	2/1/2017	WPW	
BFA0647-BLK1	-	Blank	-	0.5	0.5	-	2/1/2017	WPW	



PREPARATION BATCH SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 16K0124
Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
Batch: BFA0647 Batch Matrix: Tissue Preparation: EPA 3550C-Mod (Ultrasonic)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PG-T0-MUS-COC-161109	16K0124-01	N1117021009.D	01/31/17 13:45	
Blank	BFA0647-BLK1	N1117021007.D	01/31/17 13:45	
LCS	BFA0647-BS1	N1117021008.D	01/31/17 13:45	



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

Analysis Sim PNA LL

Preparation Test Misc # 1

Lab Number(s) 16K0124/17A0053

Page 1 of 1

Batch set up by: JW

Batch ID BFA0647

Bottle or JAR ID	Extraction Requirements	Weight Or Volume Extracted	Sonic Horn ID + Chk	(REQ/Opt) GPC Y/N	(REQ/Opt) Acid Clean Y/N	(REQ/Opt) Sulfur Clean Y/N	(REQ/Opt) SPE Clean Y/N	Final Effective Volume mL	Vol to Lab mL	Comments	Verify Client ID
	BFA0647 - BLK1	10.00		Y			Y	0.5	0.5		6/13/17
	BS1	10.00						0.5	0.5		Pre-GPC KD 1 2 3 4 5 6
	BS Dup										100 °C
	MRL Check										Exchange to Hex?
A	16K0124-01	10.18						0.5	0.5		TurboVap Pre-GPC 1 2 3 4 5
A	17A0053-01	10.21						0.5	0.5		2/1/17
A	17A0053-04	10.64						0.5	0.5		Analyst/Date
A	-05	10.18						0.5	0.5		4/2/17 Post GPC KD 1 2 3 4 5 6
A	-06	10.23						0.5	0.5		100 °C
A	-07	10.16						0.5	0.5		Exchange to Hex?
A	-08	10.13						0.5	0.5		Analyst/Date
A	-09	10.07						0.5	0.5		TurboVap Post-GPC 1 2 3 4 5
A	-10	10.19						0.5	0.5		2/9/17
A	-11	10.16						0.5	0.5		Analyst/Date
A	-12	10.19						0.5	0.5		TurboVap Pre-Cleanups 1 2 3 4 5
A	BFA0647-MS1	10.26						0.5	0.5		17A0053-05
A	BFA0647-MSD1	10.16						0.5	0.5		17A0053-05
											Analyst/Date
											TurboVap Post-Cleanups 1 2 3 4 5
											2/9/17
Analyst/Date	6/13/17										2/9/17

Standard Surrogate	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
Spike	I (E006470)	1.5/7.5 ug/ml	100 µL	11/09/17		GM
Spike	18 (E004479)	1.5/7.5 ug/ml	100 µL	11/09/17		GM
Spike	()		µL			
Spike	()		µL			
MRL Spike	()		µL			

Extraction Time: 14:28 Liq/Liq Start: Liq/Liq Stop: Balance ID: B139298662
SPECIAL INSTRUCTIONS: (2x) 1:1 DCM:ACE
(1x) DCM only LL



Extraction Parameter: SIM PNA LL

Element Batch: BFA0647 Work Order(s): 17A0053/16K0124

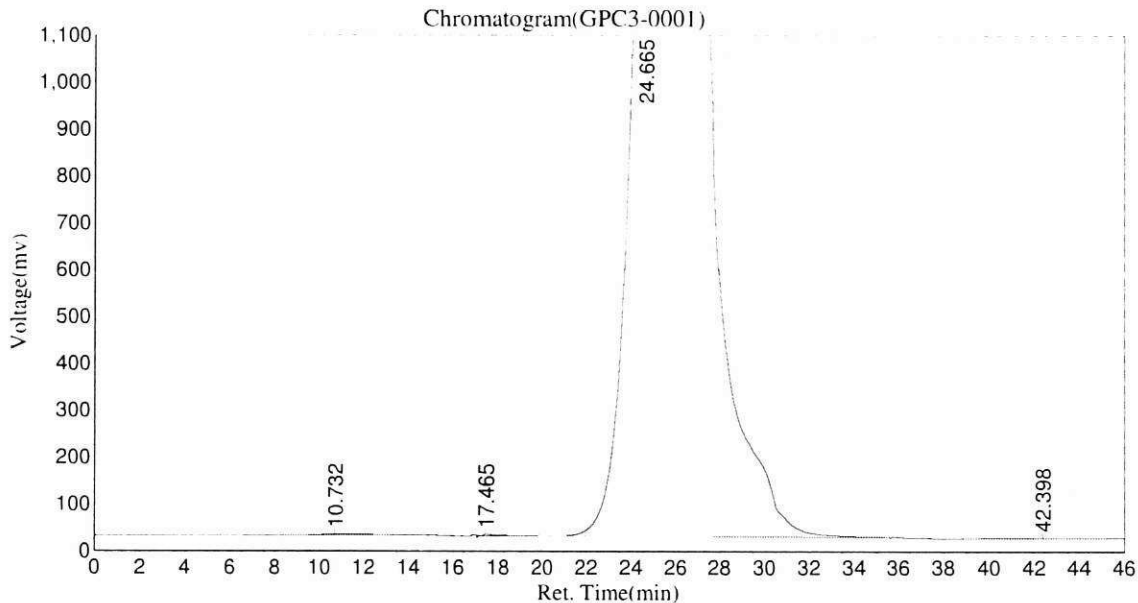
Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (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=	

BFA0647 16K0124 / 17A0053

Date:2017-02-01,8:18:08 PM
 Data File:c:\n2000\data1\020117\GPC3-0001
 Method File:C:\N2000\LL-Tiss.mtd

BLK

Analyst:EW
 Date/Time:2017-02-01,8:18:08 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.732	1892.776	251303.406	0.0673
2		17.465	4878.688	284772.813	0.0763
3		24.665	1349233.375	372737216.000	99.8163
4		42.398	855.021	150069.203	0.0402
Total			1356859.860	373423361.422	100.000

Ingredient Table

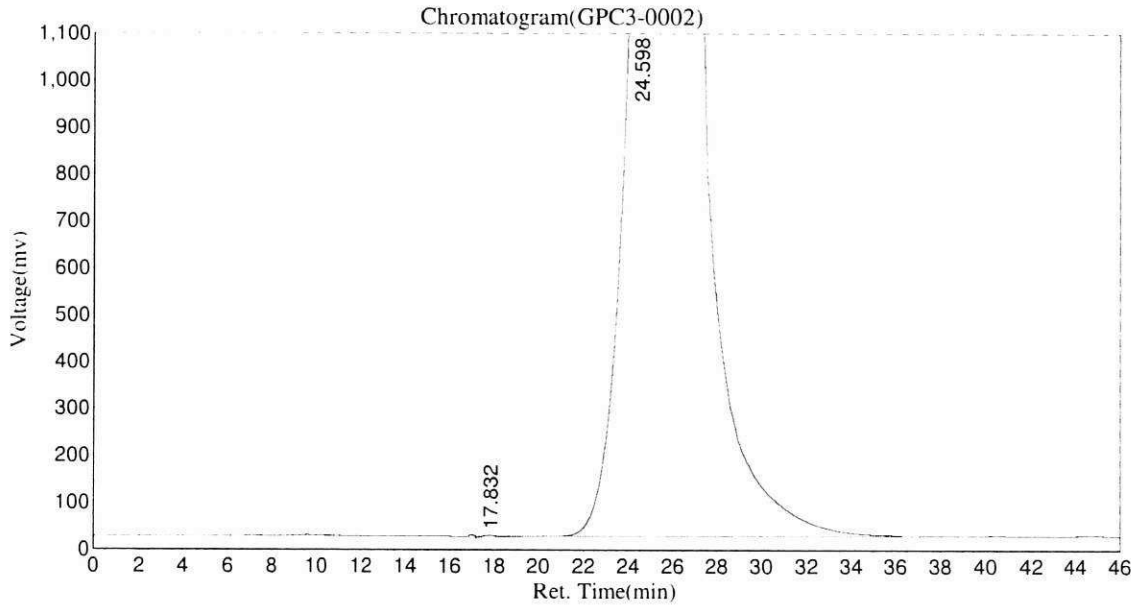
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-01,9:05:50 PM
 Data File:c:\n2000\data1\020117\GPC3-0002
 Method File:C:\N2000\LL-Tiss.mtd

BS

Analyst:WW
 Date/Time:2017-02-01,9:05:50 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.832	4186.750	363548.000	0.0970
2		24.598	1351818.375	374386080.000	99.9030
Total			1356005.125	374749628.000	100.000

Ingredient Table

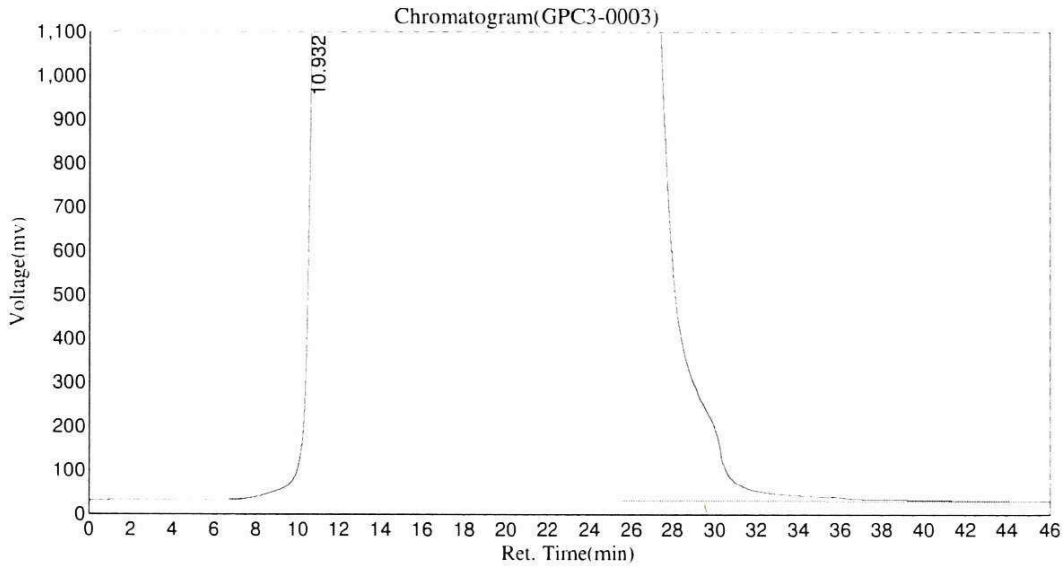
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-01,9:53:35 PM
 Data File:c:\n2000\data1\020117\GPC3-0003
 Method File:C:\N2000\LL-Tiss.mtd

-01

Analyst:WW
 Date/Time:2017-02-01,9:53:35 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.932	1347803.750	1447435264.000	100.0000
Total			1347803.750	1447435264.000	100.000

Ingredient Table

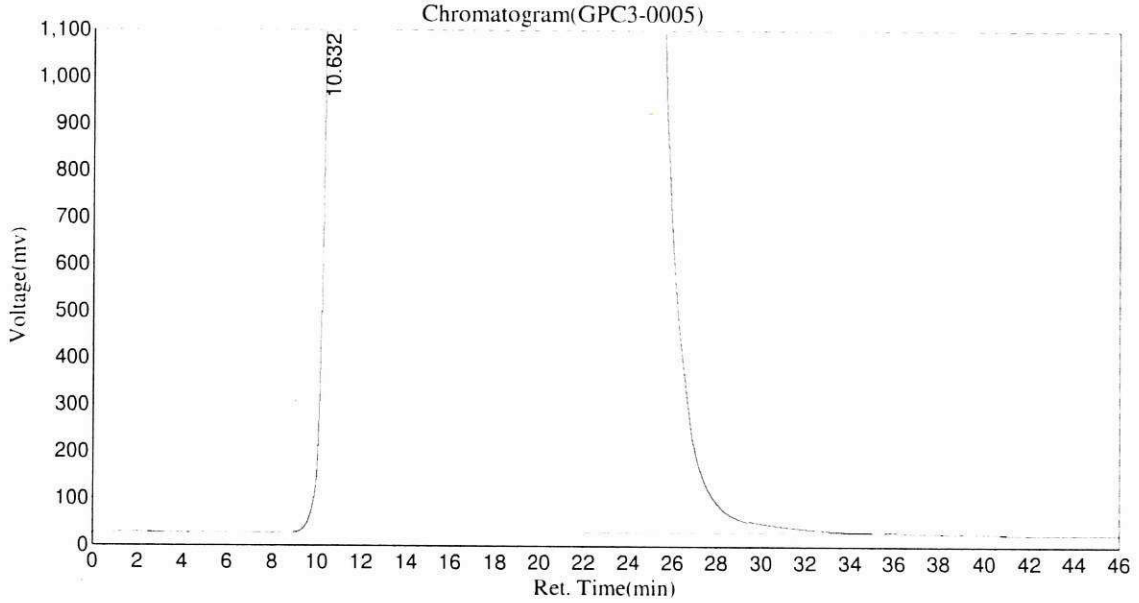
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-01,11:29:00 PM
 Data File:c:\n2000\data1\020117\GPC3-0005
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:£°WW
 Date/Time:2017-02-01,11:29:00 PM

04



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.632	1352818.500	1263109376.000	100.0000
Total			1352818.500	1263109376.000	100.000

Ingredient Table

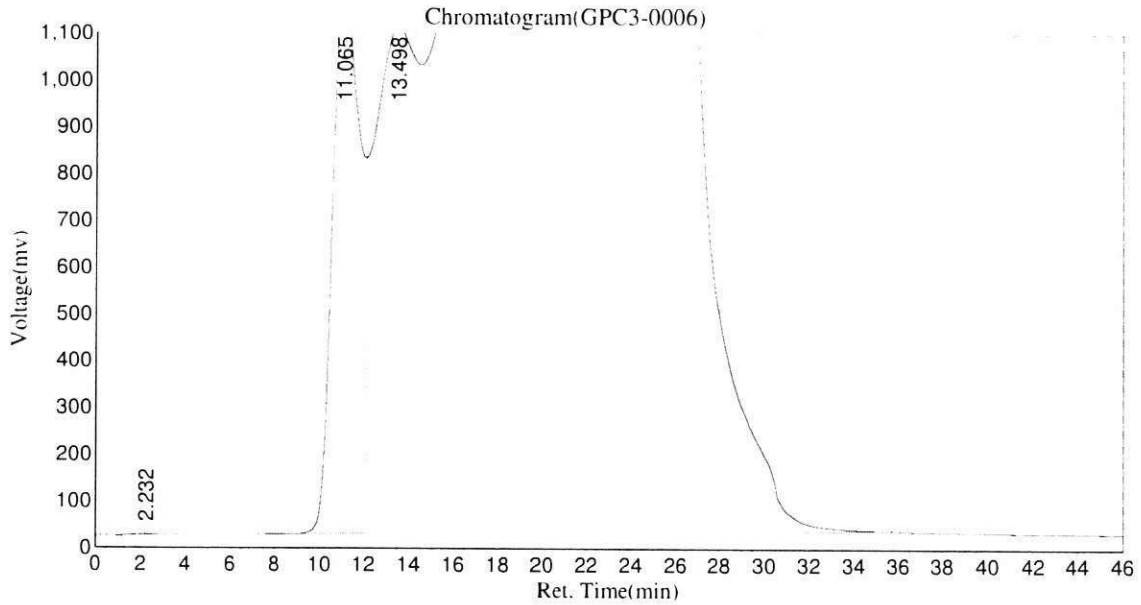
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,12:16:42 AM
 Data File:c:\n2000\data1\020117\GPC3-0006
 Method File:C:\N2000\LL-Tiss.mtd

PS

Analyst:EW
 Date/Time:2017-02-02,12:16:42 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		2.232	2017.805	221809.406	0.0170
2		11.065	1186788.000	102335560.000	7.8587
3		13.498	1080047.750	1199636864.000	92.1243
Total			2268853.555	1302194233.406	100.000

Ingredient Table

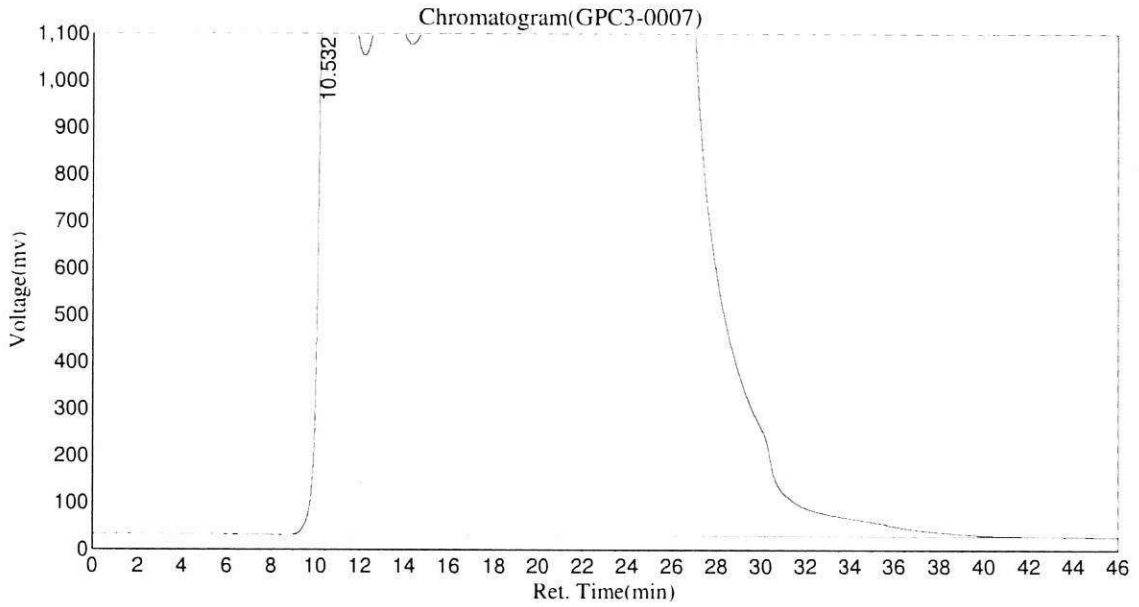
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,1:04:28 AM
 Data File:c:\n2000\data1\020117\GPC3-0007
 Method File:C:\N2000\LL-Tiss.mtd

MS

Analyst:WW
 Date/Time:2017-02-02,1:04:28 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.532	1349657.125	1422353920.000	100.0000
Total			1349657.125	1422353920.000	100.000

Ingredient Table

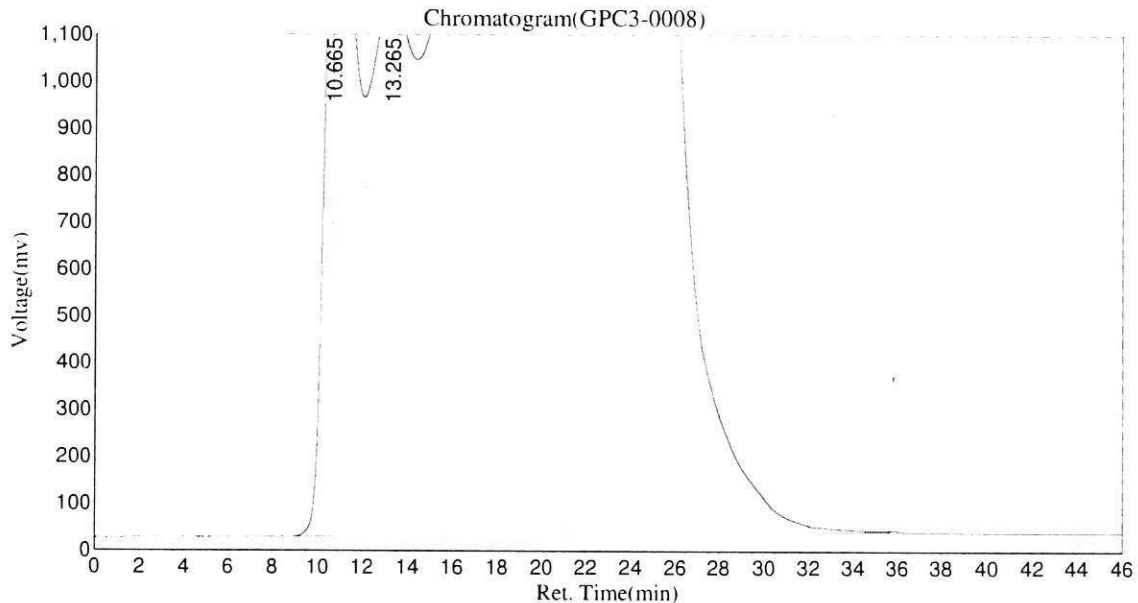
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,1:52:11 AM
 Data File:c:\n2000\data1\020117\GPC3-0008
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:WW
 Date/Time:2017-02-02,1:52:12 AM

msd



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.665	1350788.250	40699824.000	3.4401
2		13.265	1153888.250	1142399232.000	96.5599
Total			2504676.500	1183099056.000	100.000

Ingredient Table

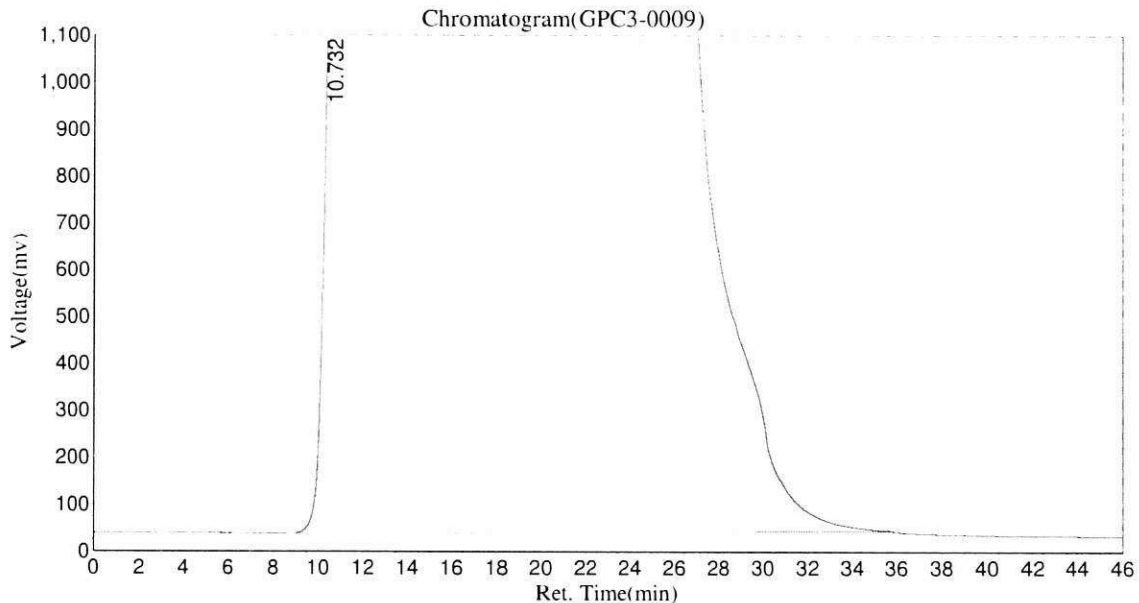
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,2:39:55 AM
 Data File:c:\n2000\data1\020117\GPC3-0009
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:WW
 Date/Time:2017-02-02,2:39:55 AM

-P6



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.732	1341333.375	1459236096.000	100.0000
Total			1341333.375	1459236096.000	100.000

Ingredient Table

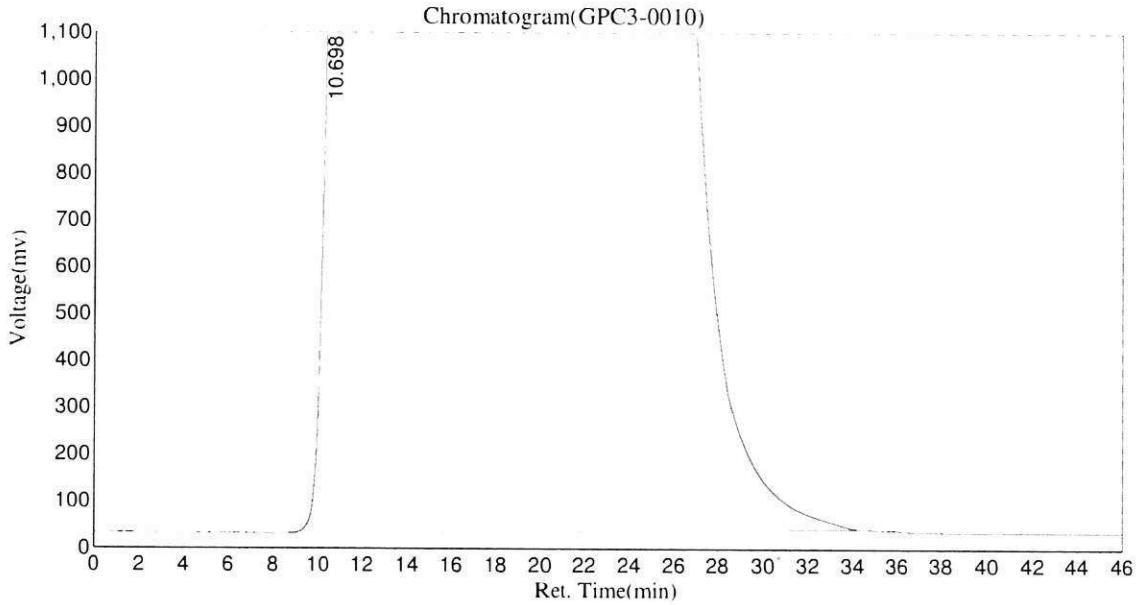
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,3:27:36 AM
 Data File:c:\n2000\data1\020117\GPC3-0010
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:WW
 Date/Time:2017-02-02,3:27:37 AM

07



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.698	1347706.500	1419859456.000	100.0000
Total			1347706.500	1419859456.000	100.000

Ingredient Table

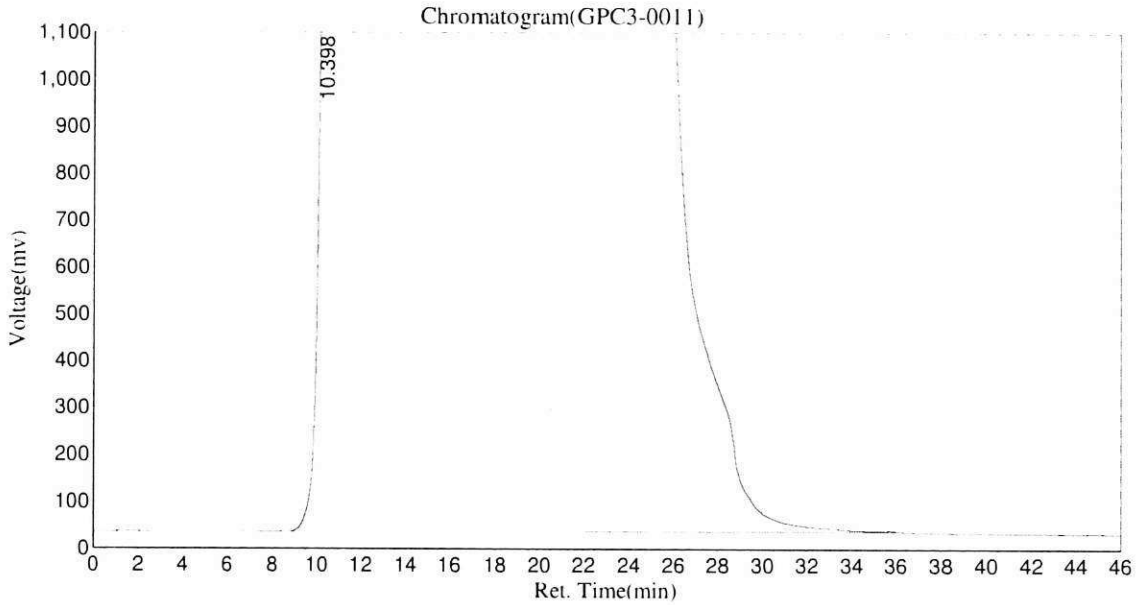
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,4:15:20 AM
Data File:c:\n2000\data1\020117\GPC3-0011
Method File:C:\N2000\LL-Tiss.mtd

48

Analyst:WW
Date/Time:2017-02-02,4:15:21 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.398	1344636.500	1376889088.000	100.0000
Total			1344636.500	1376889088.000	100.0000

Ingredient Table

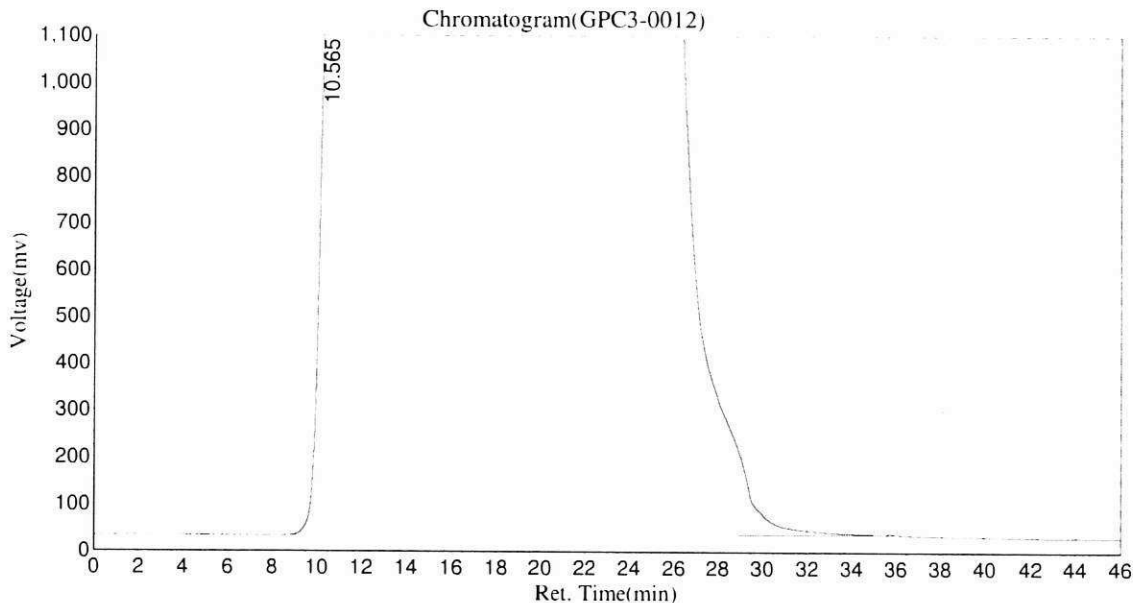
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,5:03:02 AM
 Data File:c:\n2000\data1\020117\GPC3-0012
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:EW
 Date/Time:2017-02-02,5:03:02 AM

-49



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.565	1346876.000	1386889088.000	100.0000
Total			1346876.000	1386889088.000	100.000

Ingredient Table

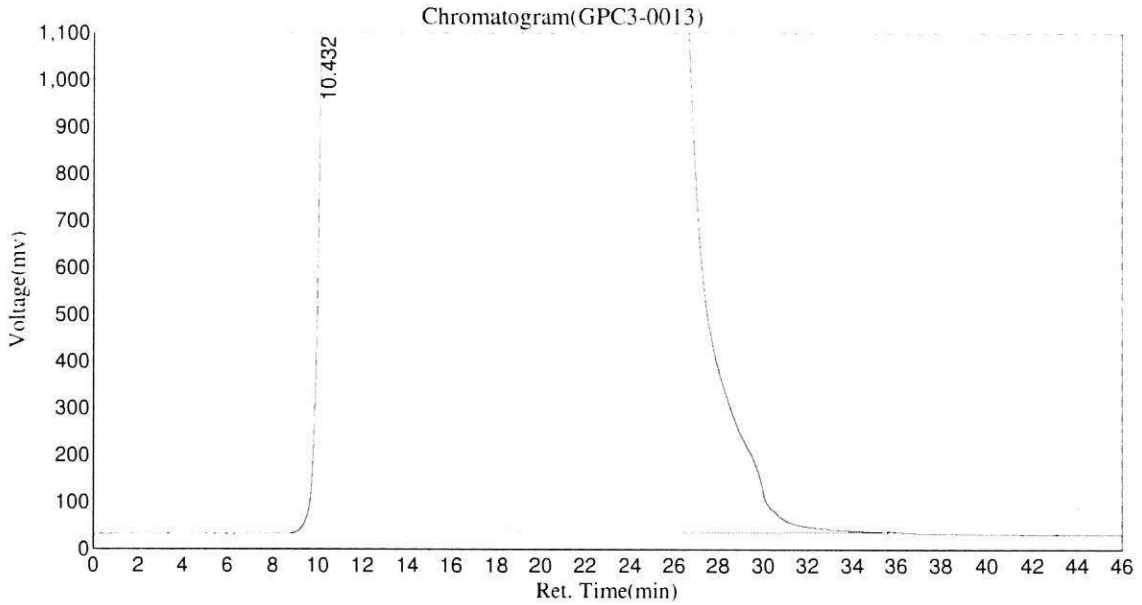
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,5:50:45 AM
Data File:c:\n2000\data1\020117\GPC3-0013
Method File:C:\N2000\LL-Tiss.mtd

Analyst:WW
Date/Time:2017-02-02,5:50:46 AM

10



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.432	1346963.000	1422436992.000	100.0000
Total			1346963.000	1422436992.000	100.000

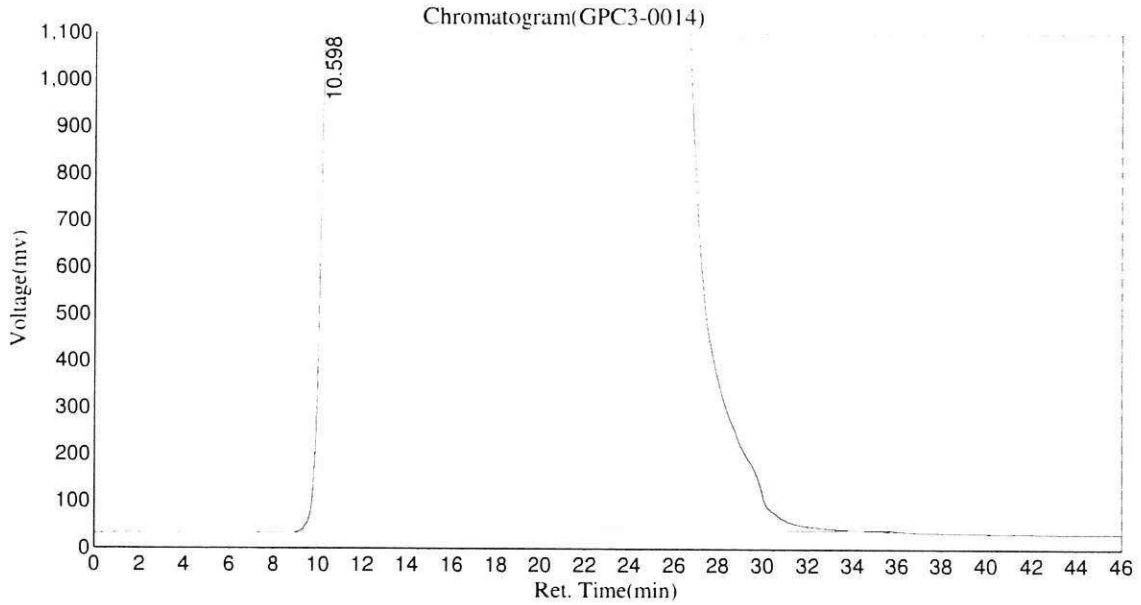
Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,6:38:28 AM
 Data File:c:\n2000\data\1\020117\GPC3-0014
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:EW
 Date/Time:2017-02-02,6:38:28 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.598	1347302.625	1410607872.000	100.0000
Total			1347302.625	1410607872.000	100.000

Ingredient Table

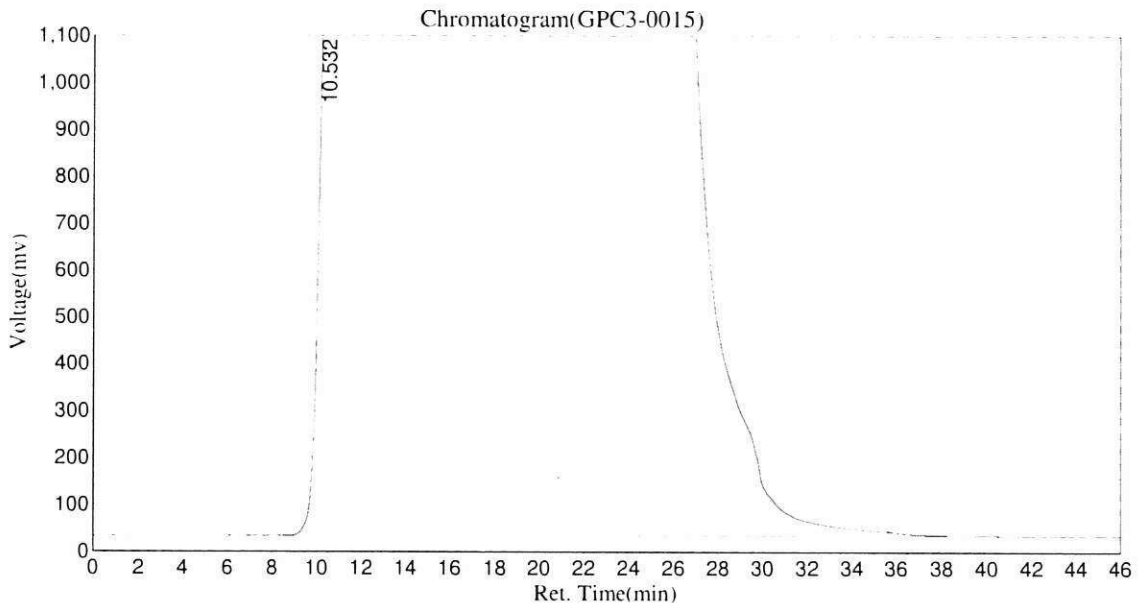
No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

BFA0647 16K0124 / 17A0053

Date:2017-02-02,7:26:11 AM
 Data File:c:\n2000\data1\020117\GPC3-0015
 Method File:C:\N2000\LL-Tiss.mtd

Analyst:WW
 Date/Time:2017-02-02,7:26:11 AM

-12



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		10.532	1347159.500	1451331328.000	100.0000
Total			1347159.500	1451331328.000	100.0000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	BAN Collect	17.000	0.100	0.00E+000	0.00E+000	0.0000
2	Pest Collect	21.000	0.100	0.00E+000	0.00E+000	0.0000
3	Pest Dump	35.000	0.100	0.00E+000	0.00E+000	0.0000
4	BAN Dump	36.000	0.100	0.00E+000	0.00E+000	0.0000

Form I
METHOD BLANK DATA SHEET
EPA 8270D-SIM

Blank

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>16K0124</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>Port Gamble Shellfish Monitoring</u>
Matrix: <u>Tissue</u>	Laboratory ID: <u>BFA0647-BLK1</u>
Sampled: <u>N/A</u>	File ID: <u>N1117021007.D</u>
Solids:	Prepared: <u>01/31/17 13:45</u>
Batch: <u>BFA0647</u>	Analyzed: <u>02/10/17 14:40</u>
Instrument: <u>NT11</u>	Preparation: <u>EPA 3550C-Mod (Ultrasonic)</u>
	Initial/Final: <u>10 g / 0.5 mL</u>
	Sequence: <u>SFB0130</u>
	Calibration: <u>ZL00083</u>
	Column: <u>RXi-17Sil-MS</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	0.60	U	0.50	0.60
91-57-6	2-Methylnaphthalene	1	0.50	U	0.50	0.50
208-96-8	Acenaphthylene	1	0.50	U	0.50	0.50
83-32-9	Acenaphthene	1	0.50	U	0.50	0.50
132-64-9	Dibenzofuran	1	0.50	U	0.50	0.50
86-73-7	Fluorene	1	0.50	U	0.50	0.50
85-01-8	Phenanthrene	1	0.50	U	0.50	0.50
120-12-7	Anthracene	1	0.50	U	0.50	0.50
206-44-0	Fluoranthene	1	0.50	U	0.50	0.50
129-00-0	Pyrene	1	0.50	U	0.50	0.50
56-55-3	Benzo(a)anthracene	1	0.50	U	0.50	0.50
218-01-9	Chrysene	1	0.50	U	0.50	0.50
205-99-2	Benzo(b)fluoranthene	1	0.50	U	0.50	0.50
207-08-9	Benzo(k)fluoranthene	1	0.50	U	0.50	0.50
205-82-3	Benzo(j)fluoranthene	1	0.50	U	0.50	0.50
50-32-8	Benzo(a)pyrene	1	0.50	U	0.50	0.50
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.50	U	0.50	0.50
53-70-3	Dibenzo(a,h)anthracene	1	0.50	U	0.50	0.50
191-24-2	Benzo(g,h,i)perylene	1	0.50	U	0.50	0.50
90-12-0	1-Methylnaphthalene	1	0.50	U	0.50	0.50
91-58-7	2-Chloronaphthalene	1	0.50	U	0.50	0.50
95-15-8	Benzo(b)thiophene	1	0.50	U	0.50	0.50

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	15.000	7.88	52.5	30 - 160	
Dibenzo[a,h]anthracene-d14	15.000	9.75	65.0	30 - 160	
Fluoranthene-d10	15.000	9.63	64.2	30 - 160	

Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021007.D

Date: 10-FEB-2017 14:40

Client ID:

Sample Info: BR00647-BLK1

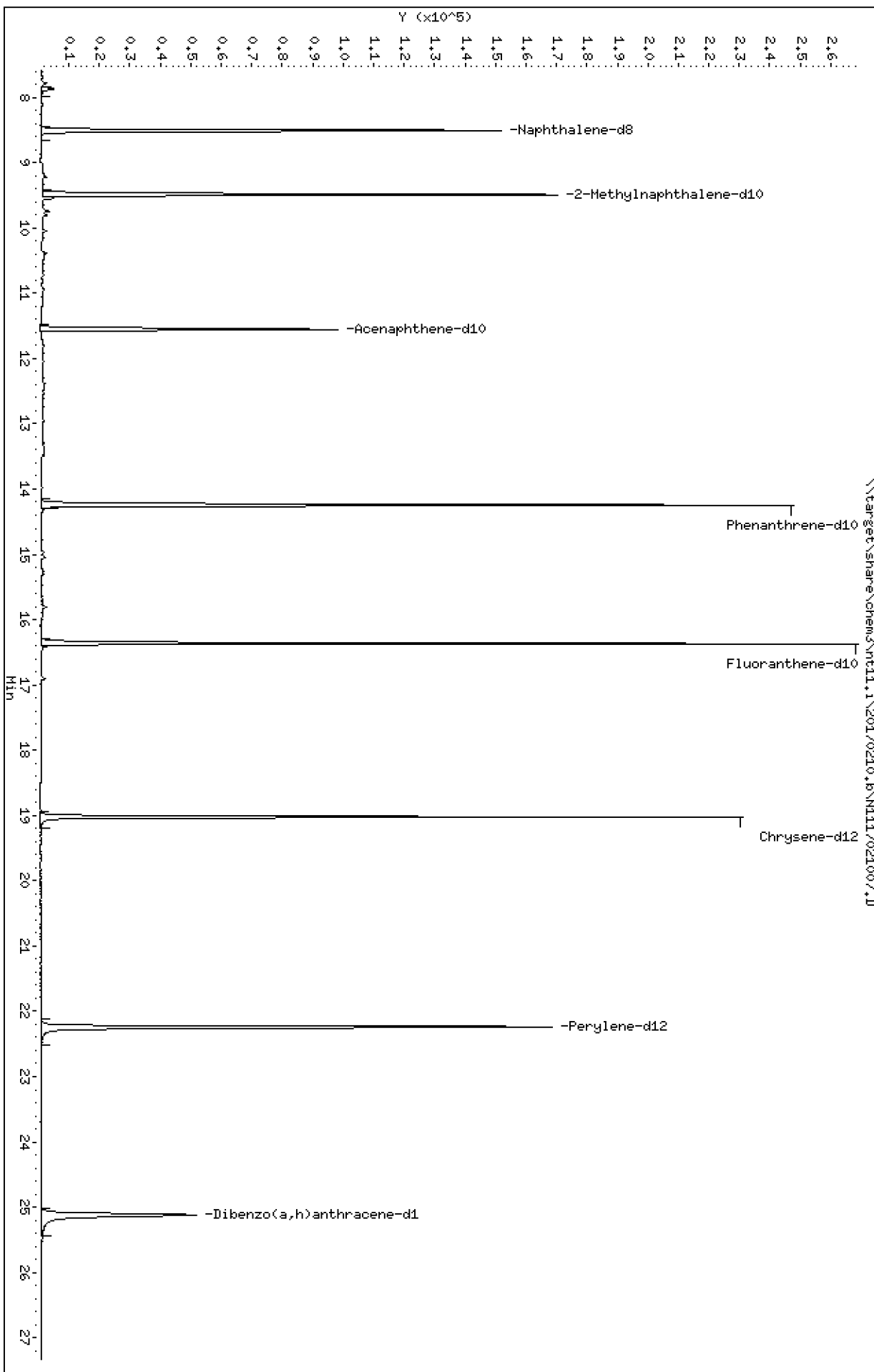
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021007.D
 Lab Smp Id: BFA0647-BLK1
 Inj Date : 10-FEB-2017 14:40 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : BFA0647-BLK1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.509	8.526	(1.000)	263642	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	178402	157.562	158
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	181252	200.000	
12 Acenaphthene	153		Compound Not Detected.					
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		Compound Not Detected.					
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.252	14.262	(1.000)	354769	200.000	
19 Phenanthrene	178		Compound Not Detected.					
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		Compound Not Detected.					
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	363062	192.680	193
25 Fluoranthene	202		Compound Not Detected.					
26 Pyrene	202		Compound Not Detected.					
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	344497	200.000	
29 Chrysene	228		Compound Not Detected.					
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
34 Benzo(e)pyrene	252					Compound Not Detected.		
35 Benzo(a)pyrene	252					Compound Not Detected.		
* 36 Perylene-d12	264		22.240	22.240	(1.000)	338290	200.000	
37 Perylene	252					Compound Not Detected.		
§ 38 Dibenzo(a,h)anthracene-d14	292		25.116	25.116	(1.129)	210633	194.972	195
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021007.D Calibration Time: 13:29
 Lab Smp Id: BFA0647-BLK1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	263642	20.03
11 Acenaphthene-d10	135248	67624	270496	181252	34.01
18 Phenanthrene-d10	257021	128511	514042	354769	38.03
28 Chrysene-d12	259511	129756	519022	344497	32.75
36 Perylene-d12	257535	128768	515070	338290	31.36

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	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 - N1117021007.D

Lab ID: BFA0647-BLK1
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 14:40

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



LCS / LCS DUPLICATE RECOVERY
EPA 8270D-SIM

Laboratory: Analytical Resources, Inc. SDG: 16K0124
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Analyzed: 02/10/17 15:16
 Batch: BFA0647 Laboratory ID: BFA0647-BS1
 Preparation: EPA 3550C-Mod (Ultrasonic) Sequence Name: LCS
 Initial/Final: 10 g / 0.5 mL

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONCENTRATION (ug/kg)	LCS % REC. #	QC LIMITS REC.
Naphthalene	15.0	7.80	52.0	30 - 160
2-Methylnaphthalene	15.0	8.30	55.3	30 - 160
Acenaphthylene	15.0	6.66	44.4	30 - 160
Acenaphthene	15.0	7.66	51.1	30 - 160
Dibenzofuran	15.0	8.55	57.0	30 - 160
Fluorene	15.0	8.86	59.1	30 - 160
Phenanthrene	15.0	9.32	62.2	30 - 160
Anthracene	15.0	7.56	50.4	30 - 160
Fluoranthene	15.0	9.36	62.4	30 - 160
Pyrene	15.0	9.70	64.7	30 - 160
Benzo(a)anthracene	15.0	9.47	63.1	30 - 160
Chrysene	15.0	9.91	66.1	30 - 160
Benzo(b)fluoranthene	15.0	10.9	72.4	30 - 160
Benzo(k)fluoranthene	15.0	9.90	66.0	30 - 160
Benzo(j)fluoranthene	15.0	10.8	72.0	30 - 160
Benzo(a)pyrene	15.0	8.07	53.8	30 - 160
Indeno(1,2,3-cd)pyrene	15.0	10.2	67.8	30 - 160
Dibenzo(a,h)anthracene	15.0	10.6	70.8	30 - 160
Benzo(g,h,i)perylene	15.0	9.81	65.4	30 - 160
1-Methylnaphthalene	15.0	7.95	53.0	30 - 160
2-Chloronaphthalene	15.0	7.51	50.0	30 - 160
Benzo(b)thiophene	15.0	7.79	52.0	30 - 160

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021008.D

Date : 10-FEB-2017 15:16

Client ID:

Sample Info: BFR0647-BS1

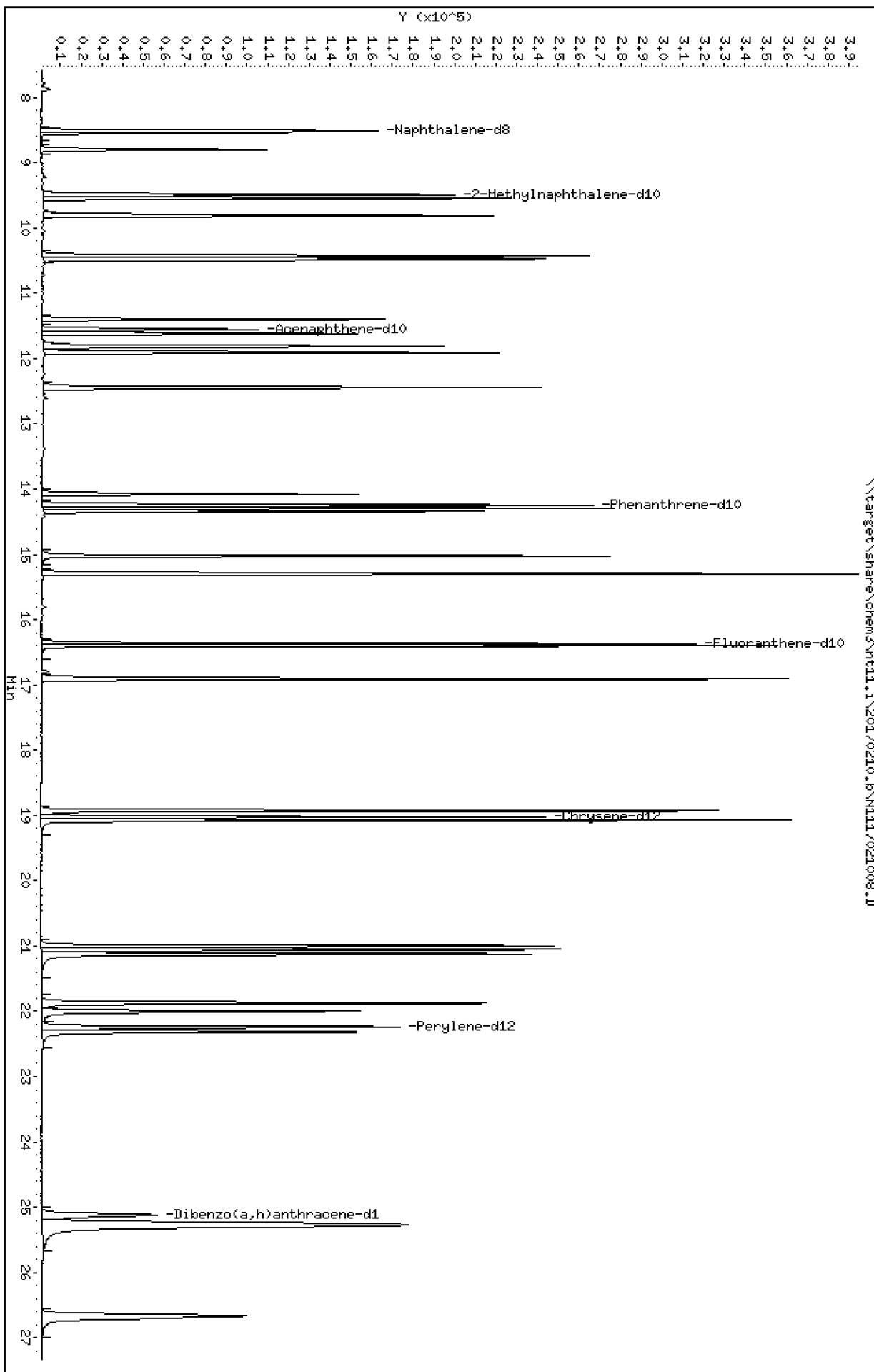
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

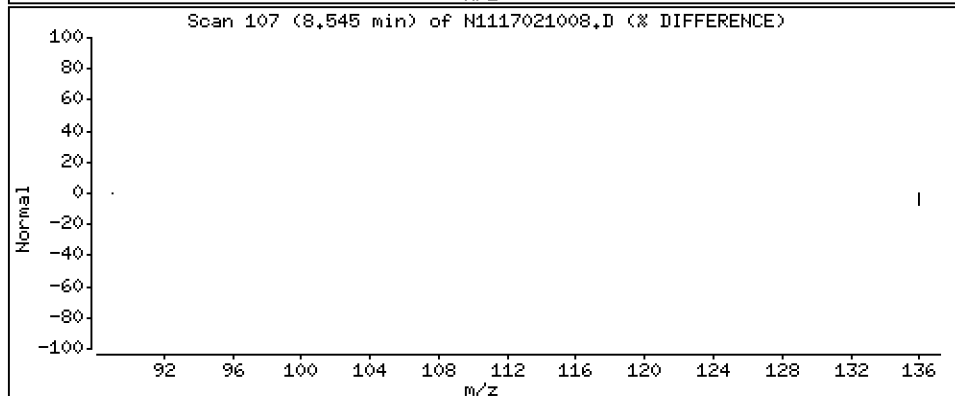
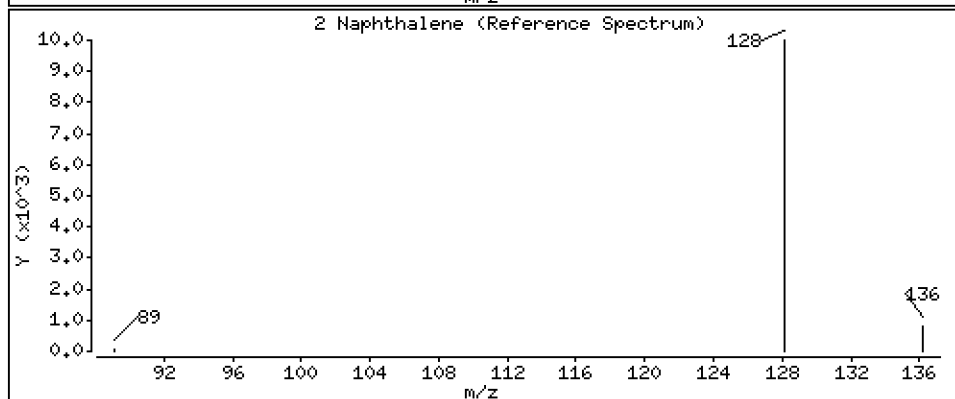
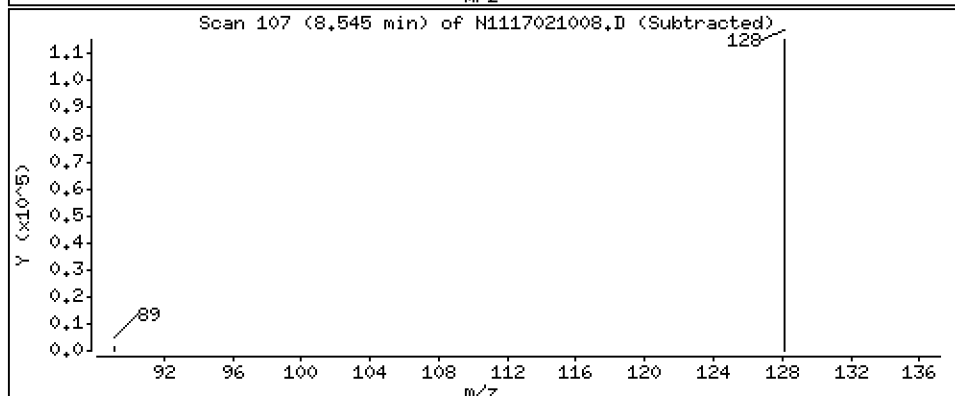
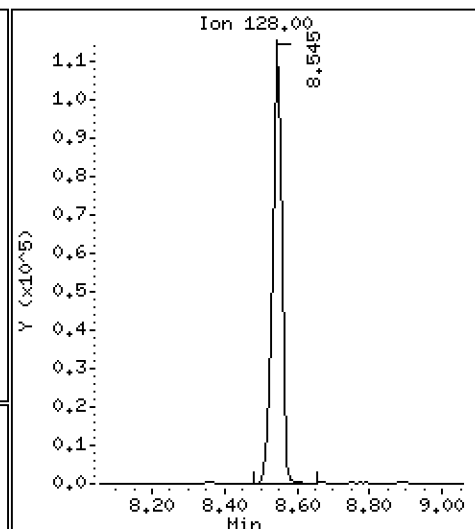
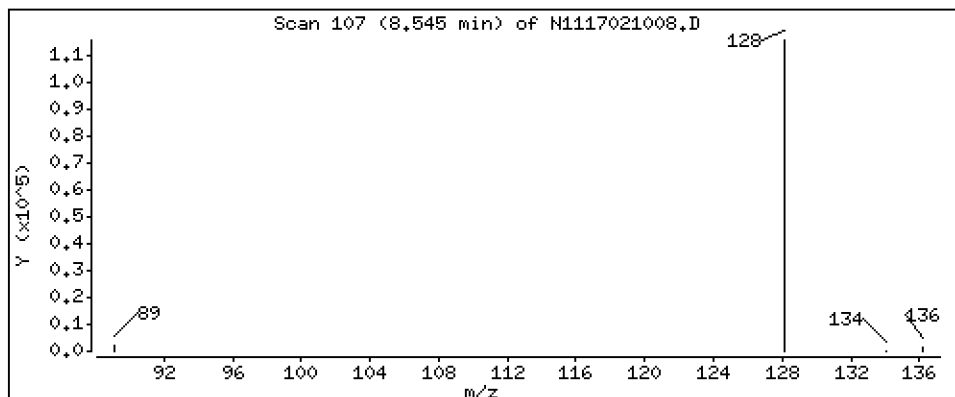
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 156 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

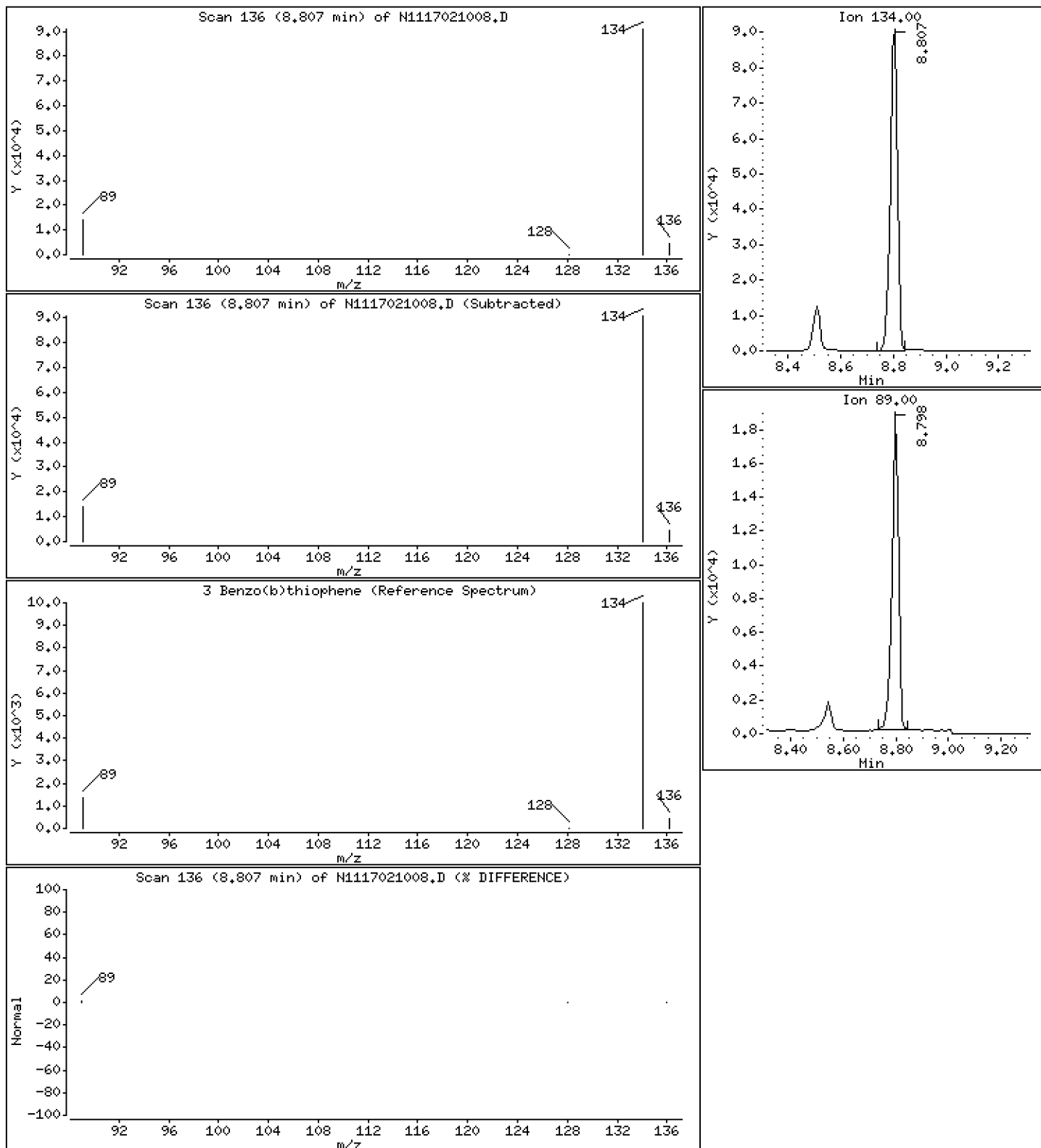
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 156 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

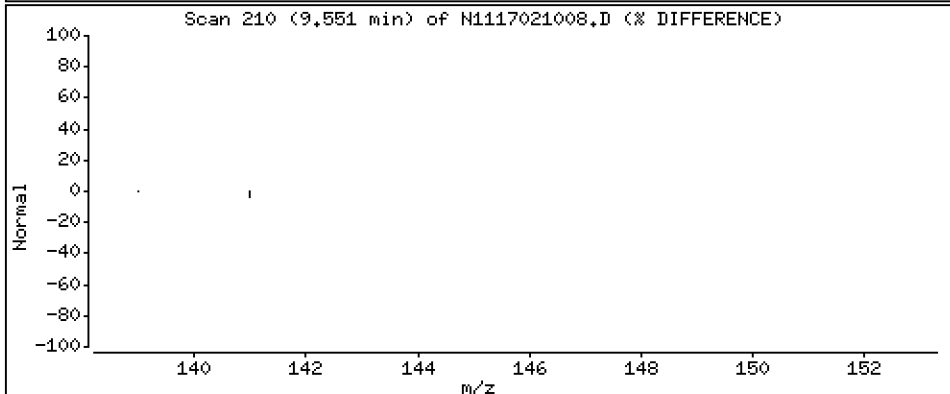
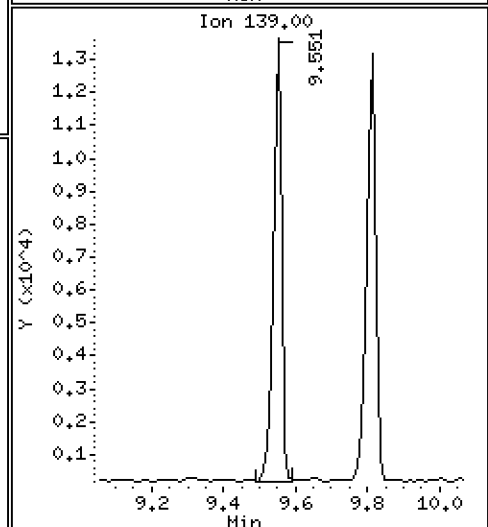
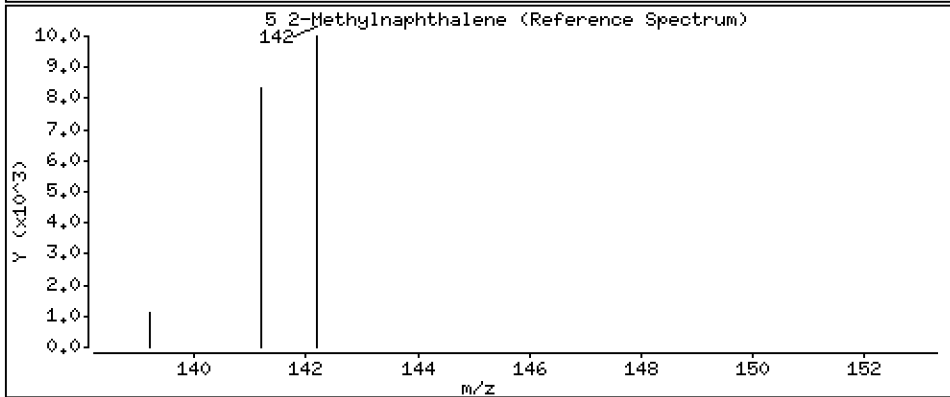
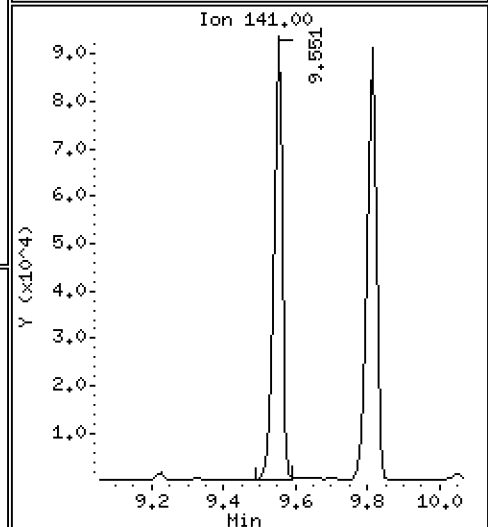
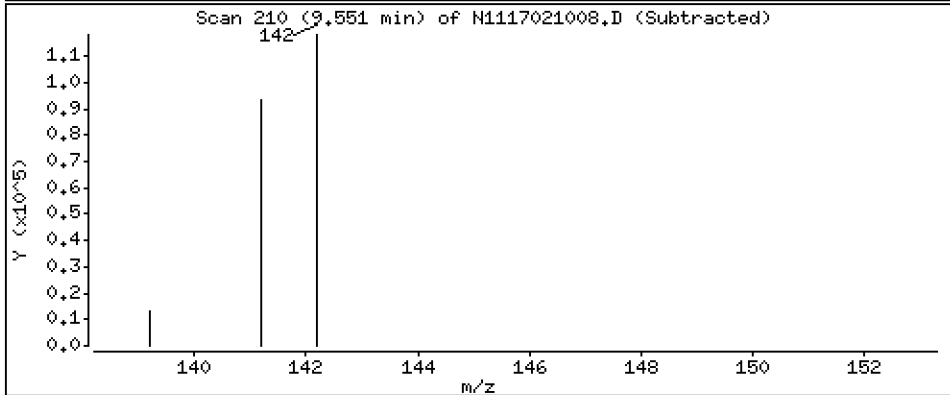
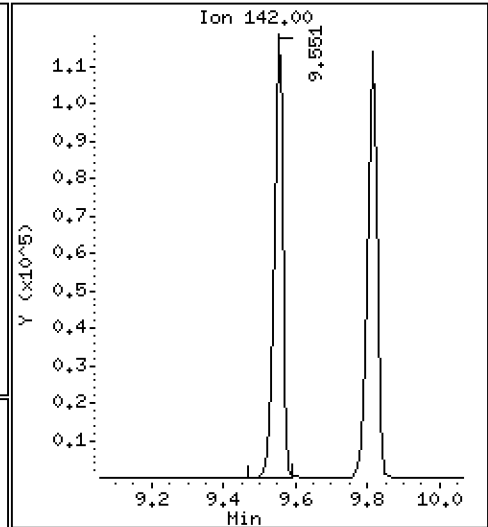
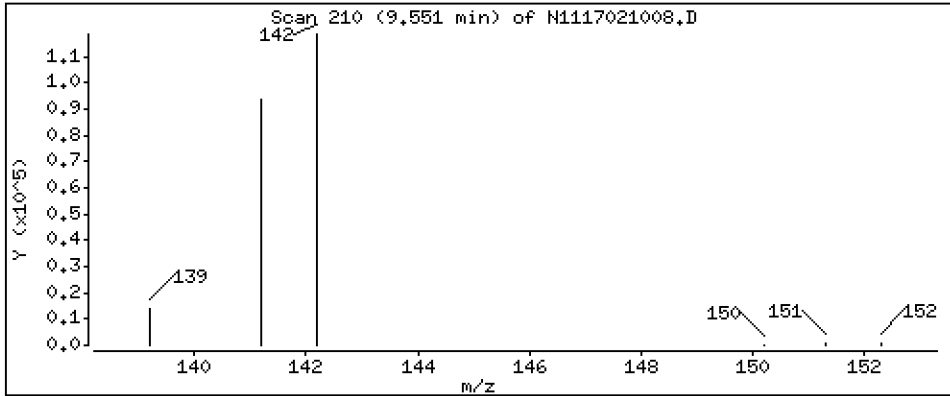
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 166 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

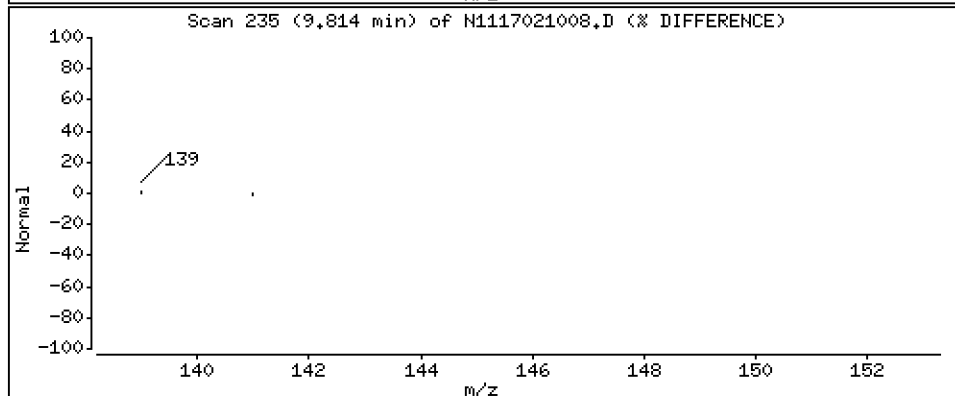
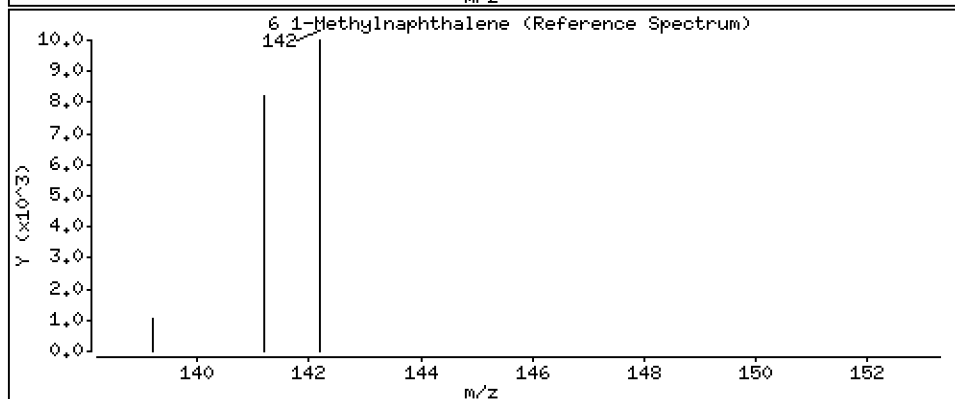
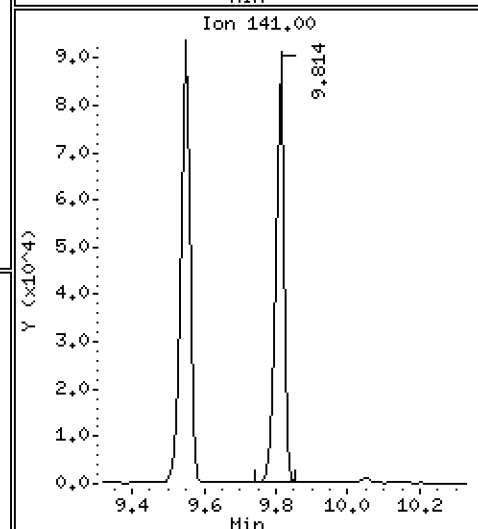
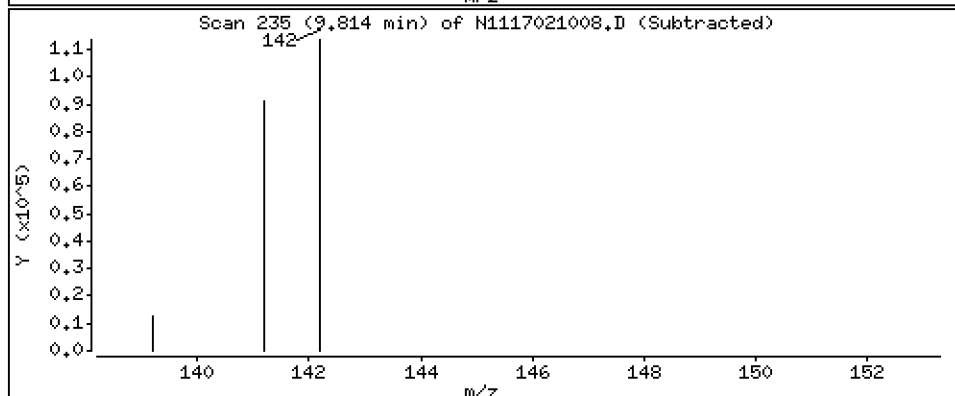
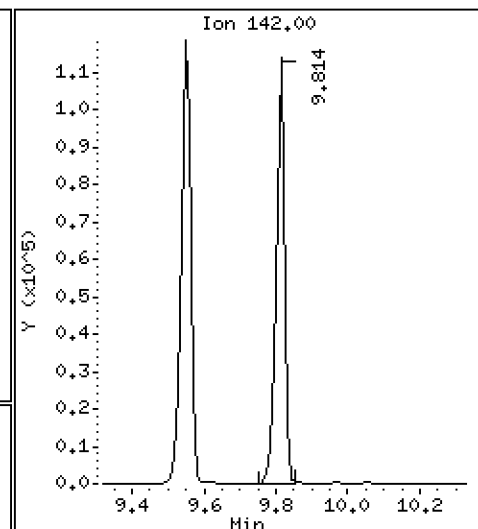
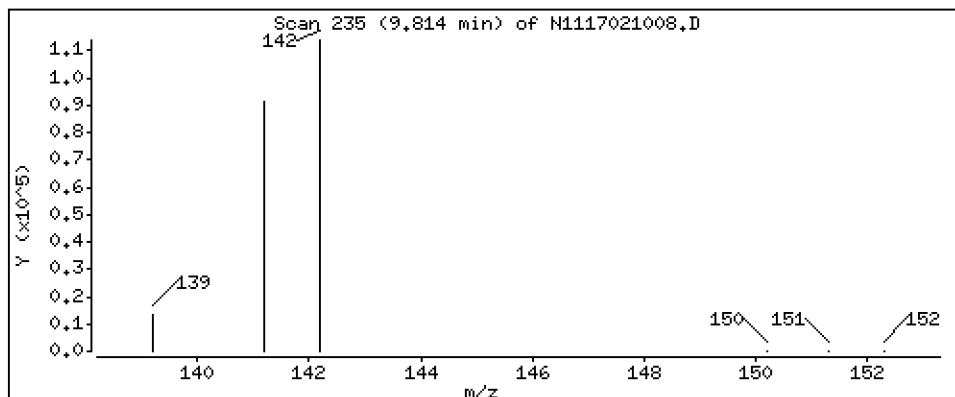
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 159 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

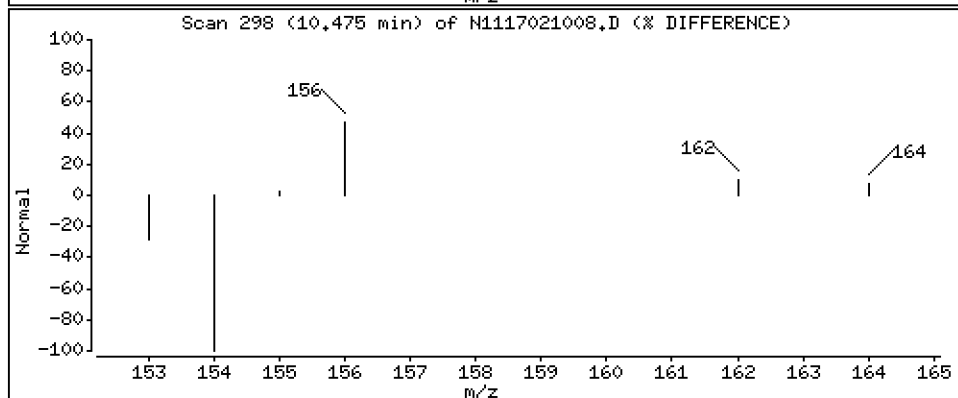
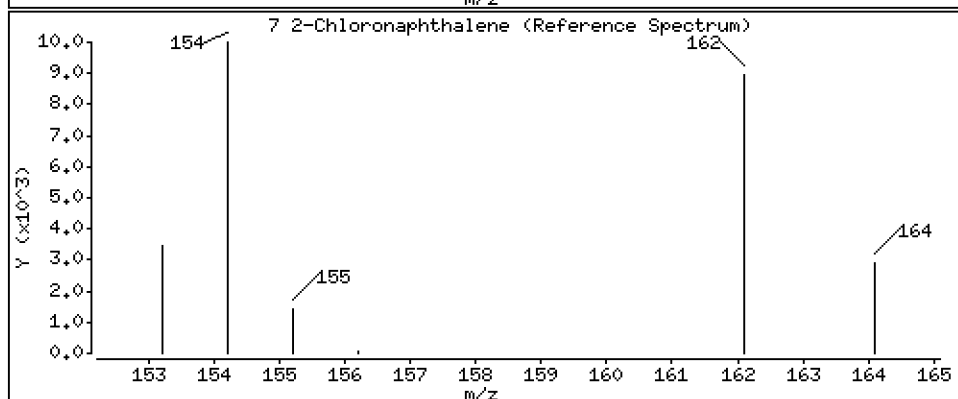
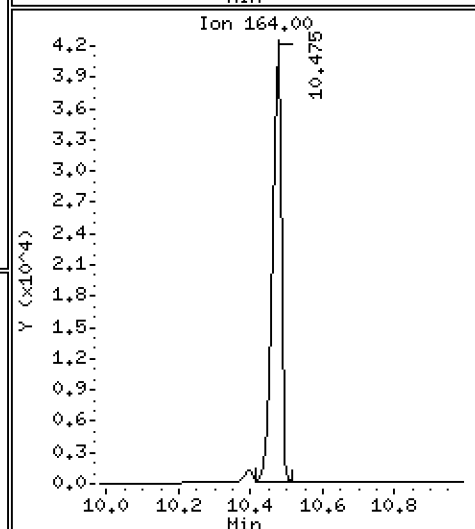
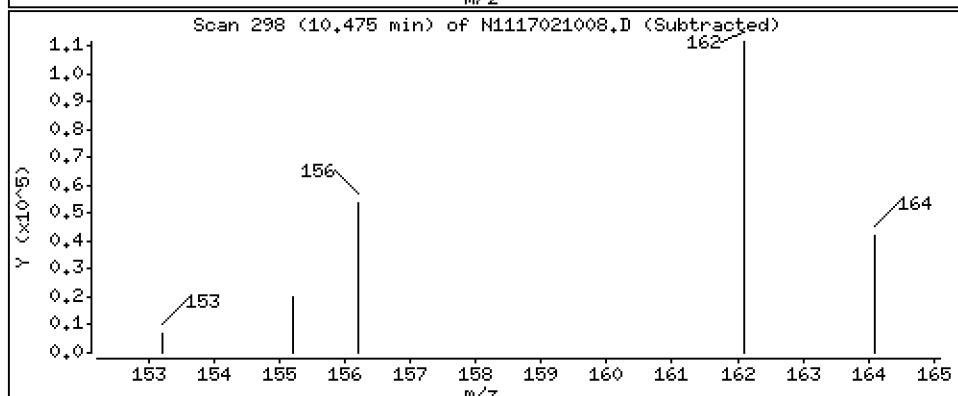
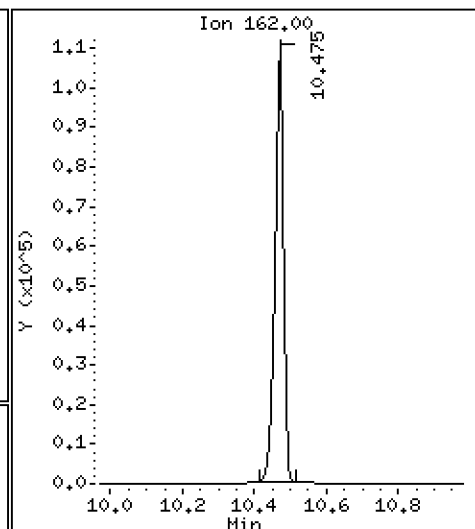
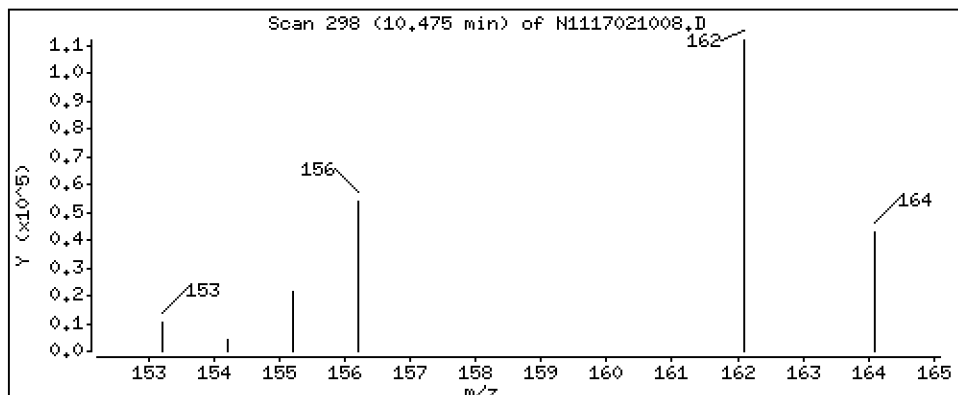
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 150 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

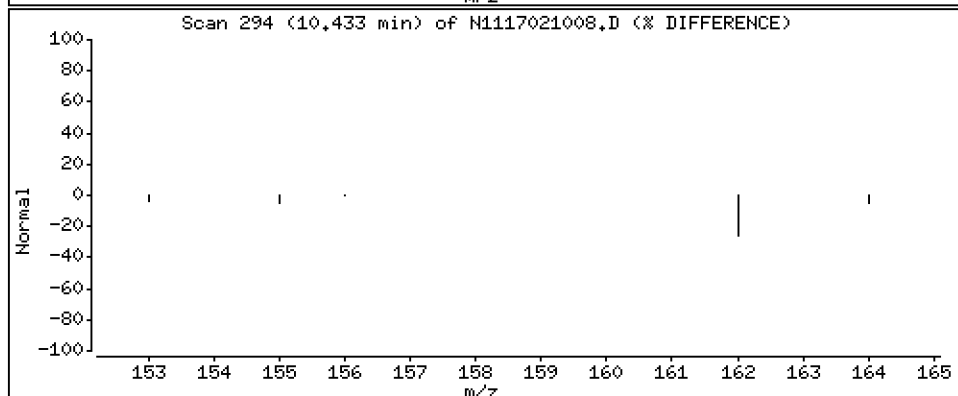
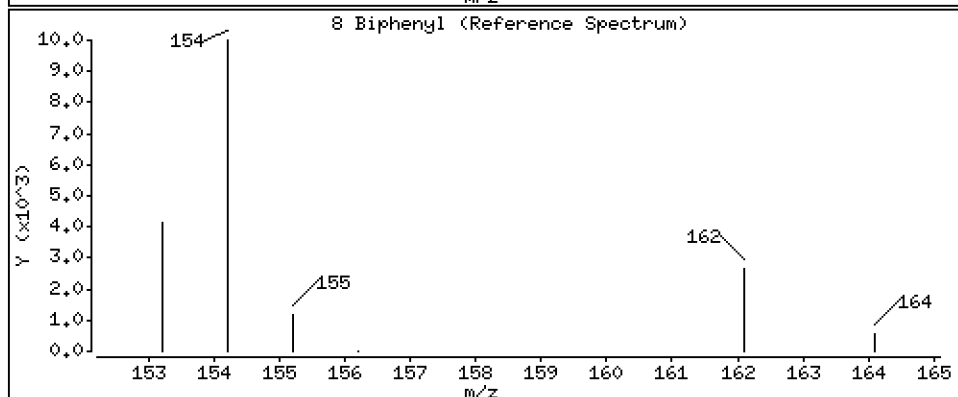
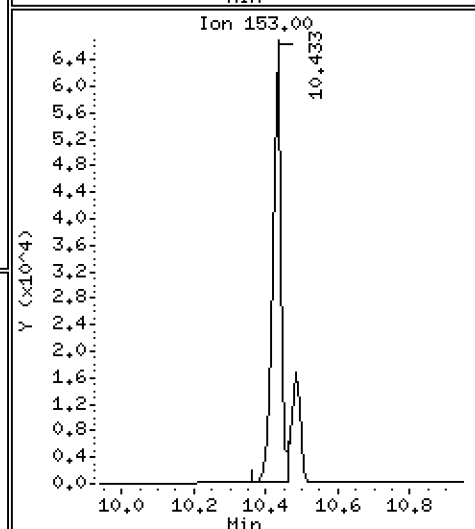
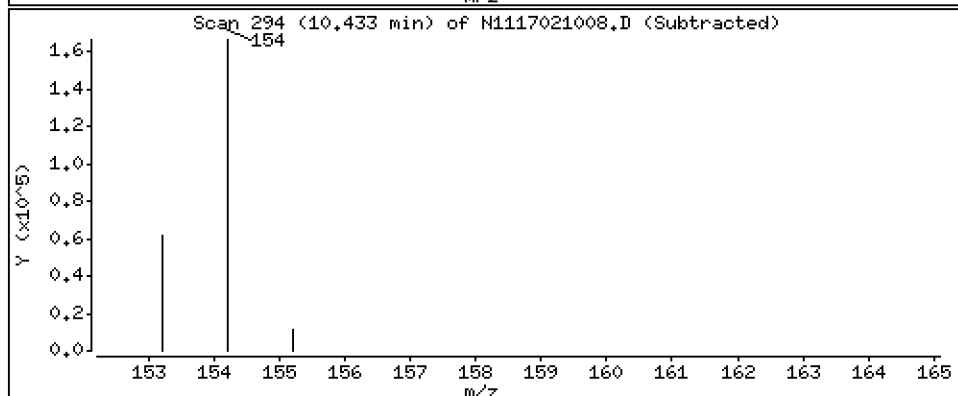
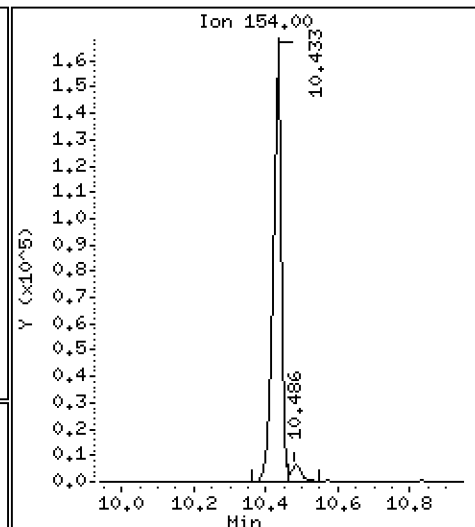
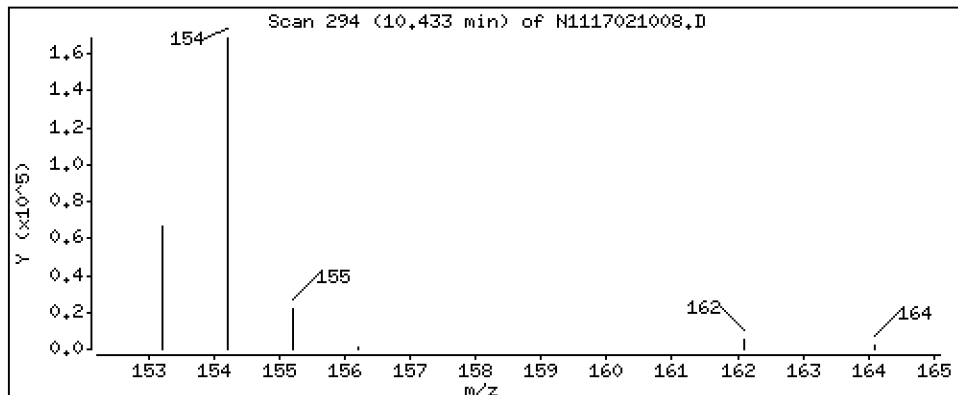
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 158 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

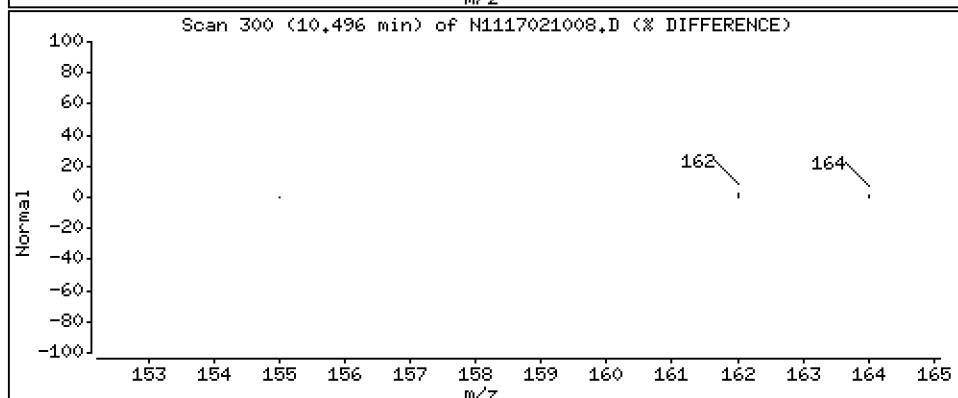
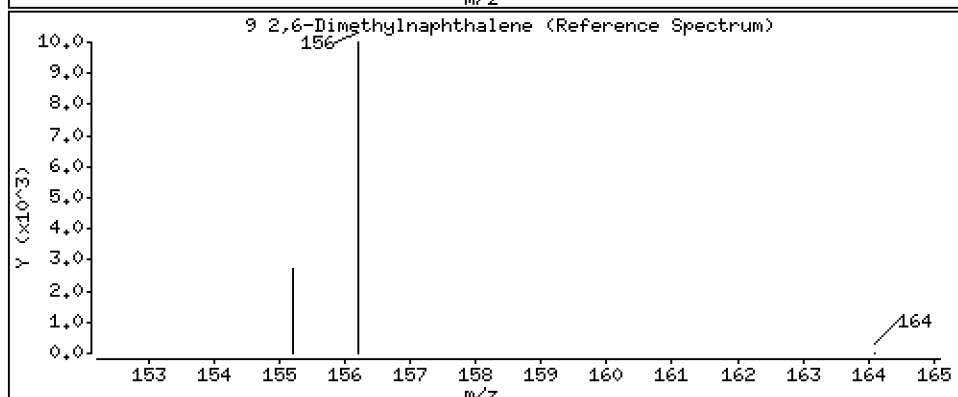
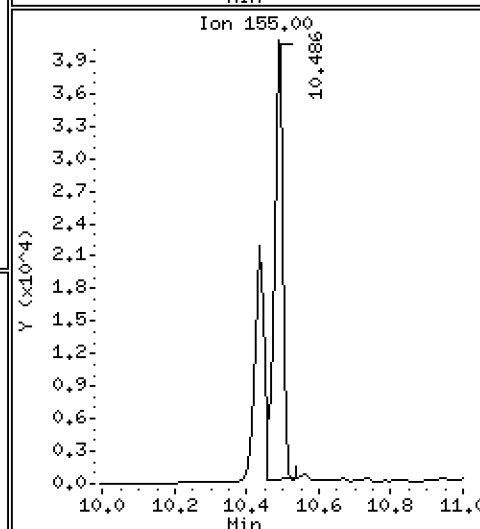
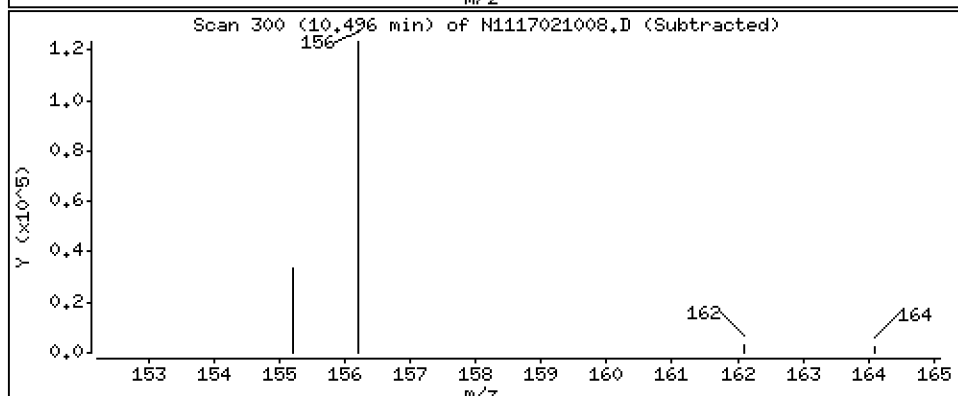
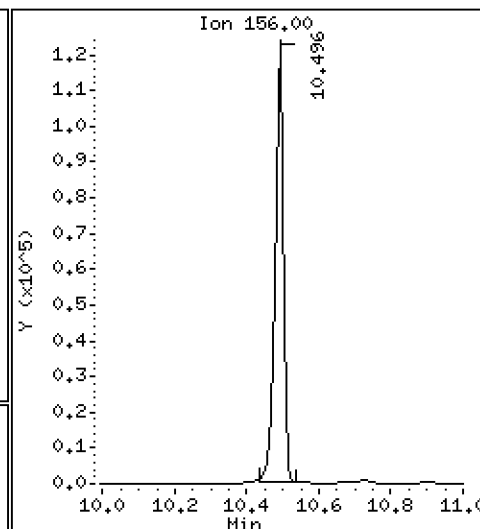
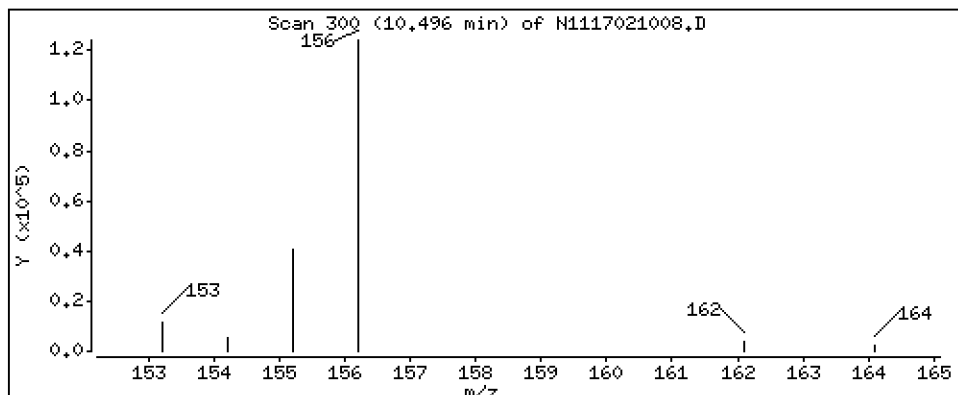
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 157 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

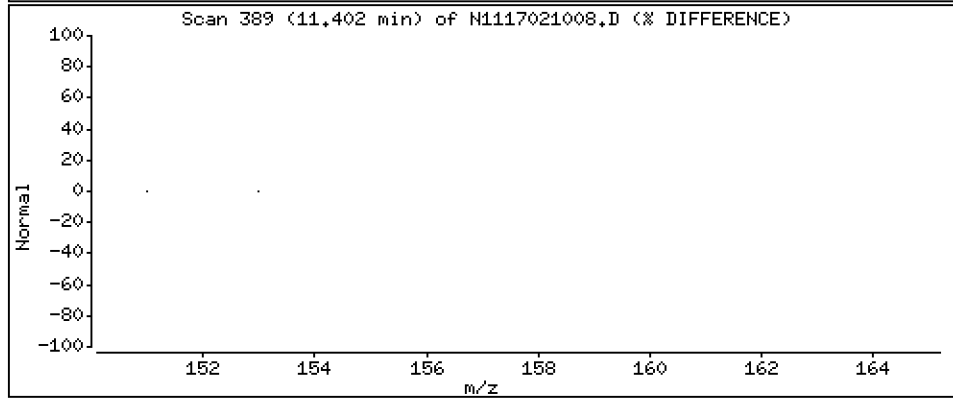
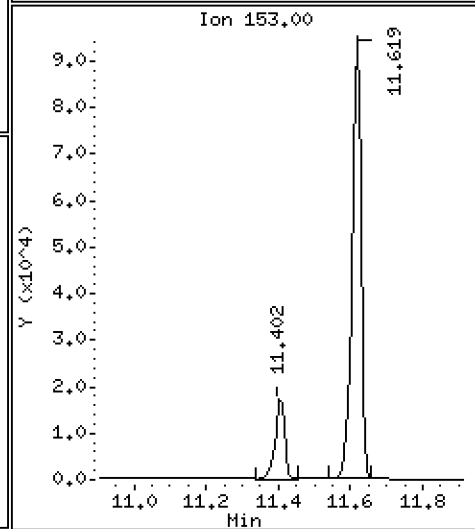
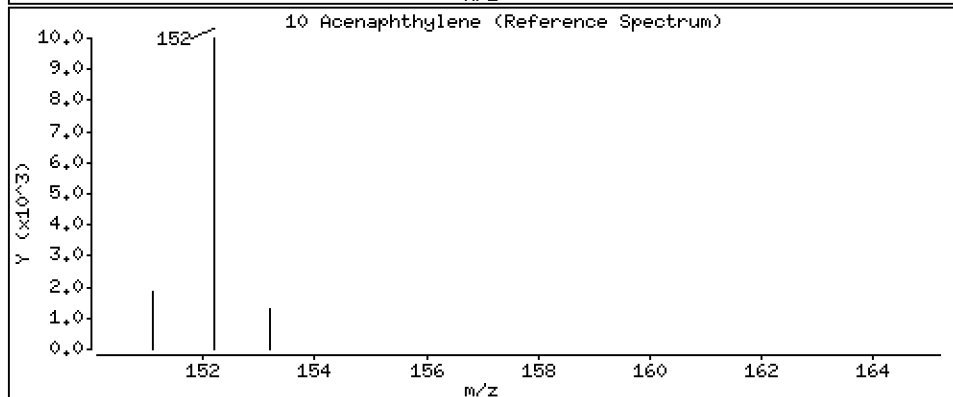
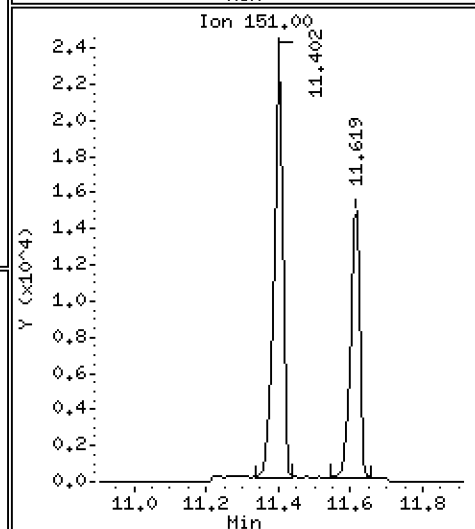
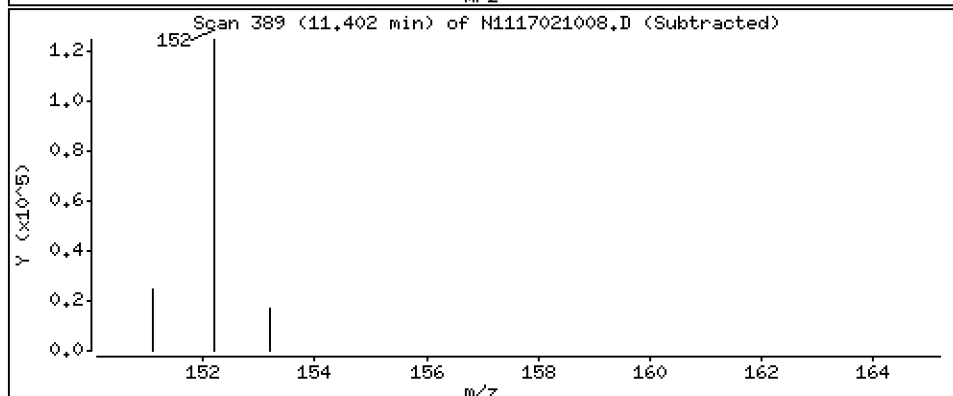
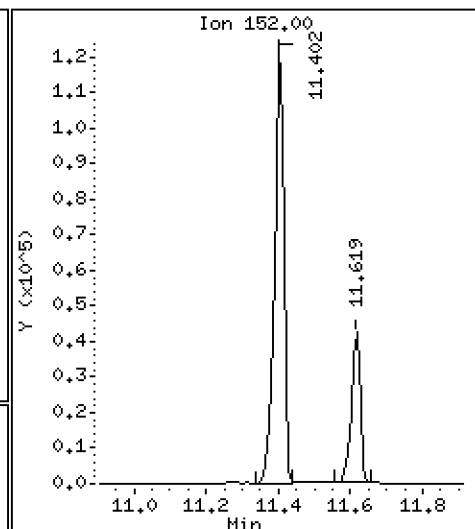
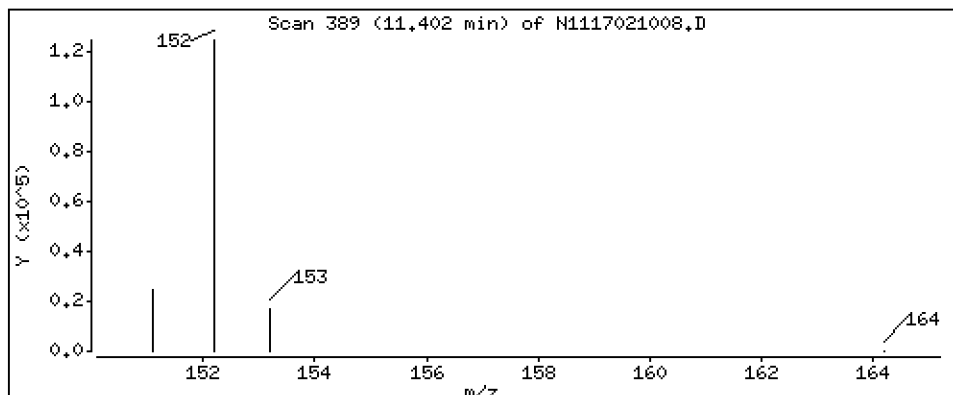
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 133 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

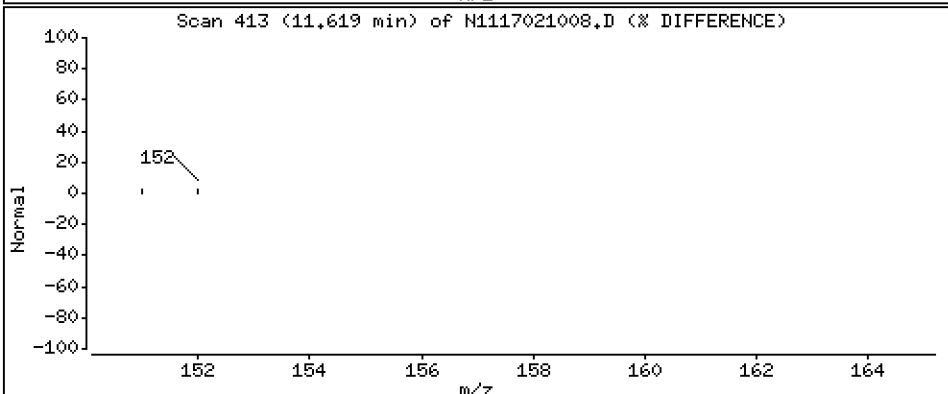
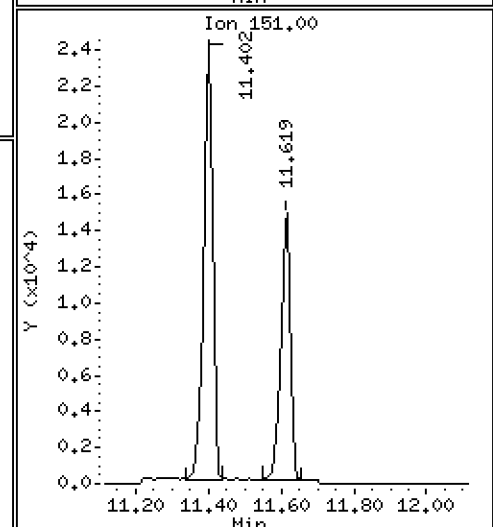
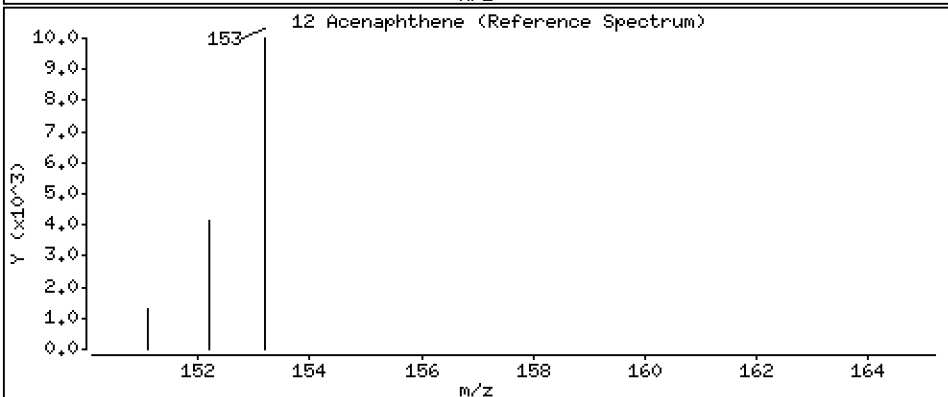
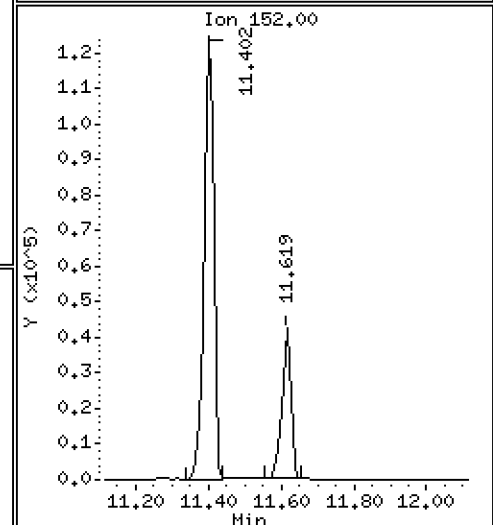
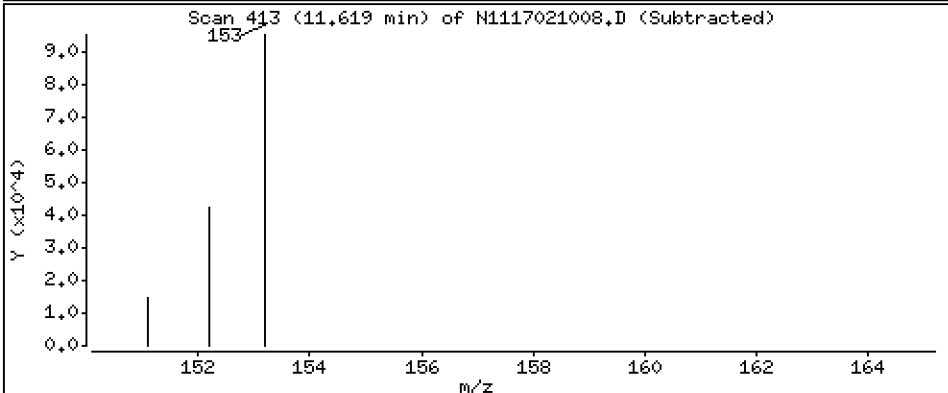
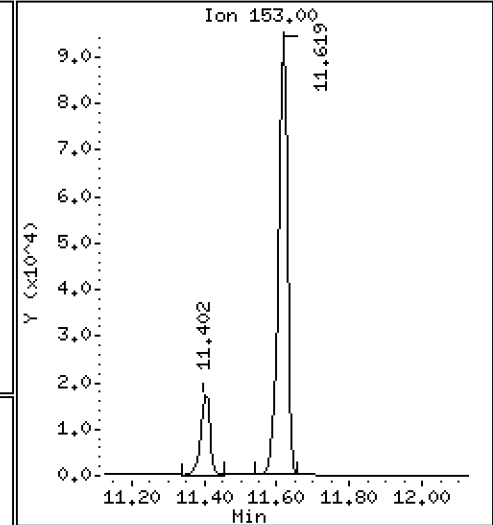
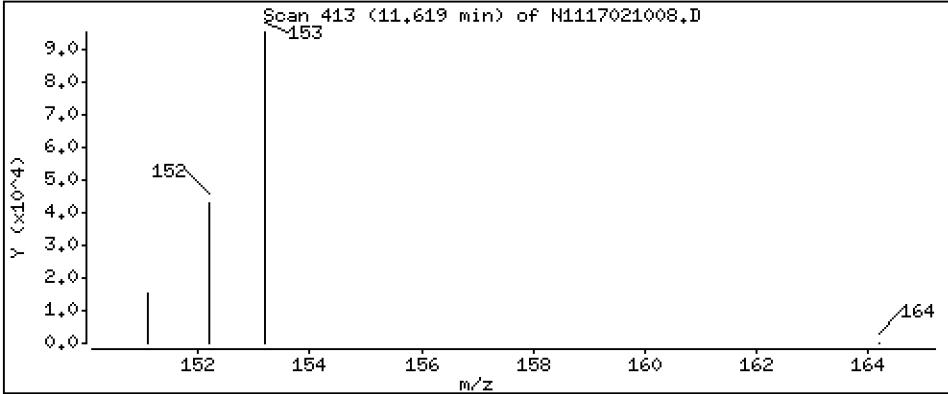
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 153 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

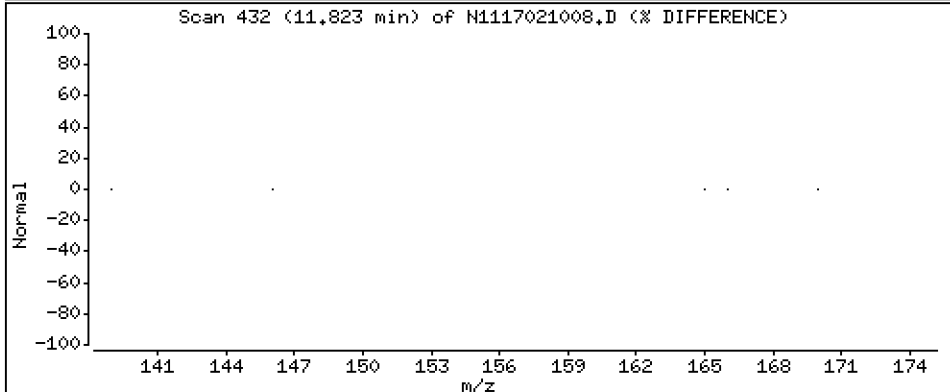
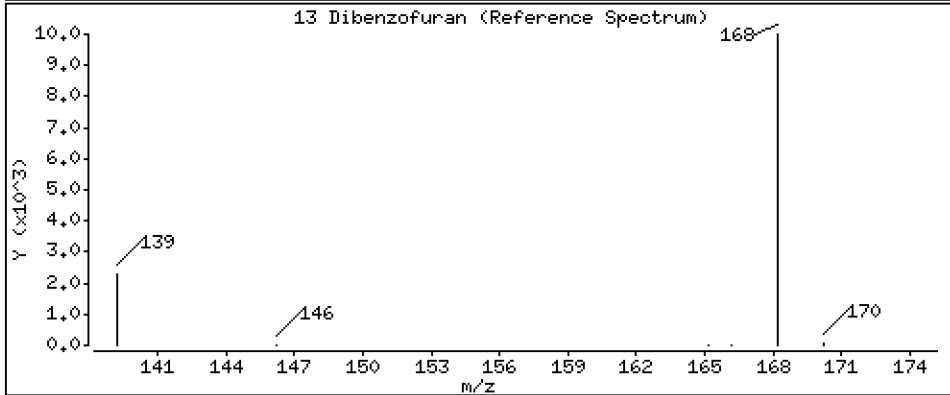
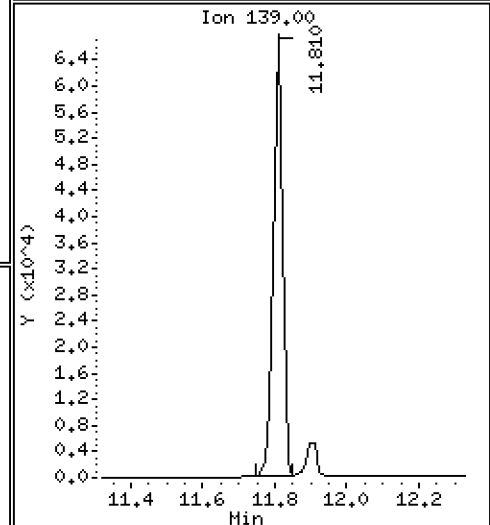
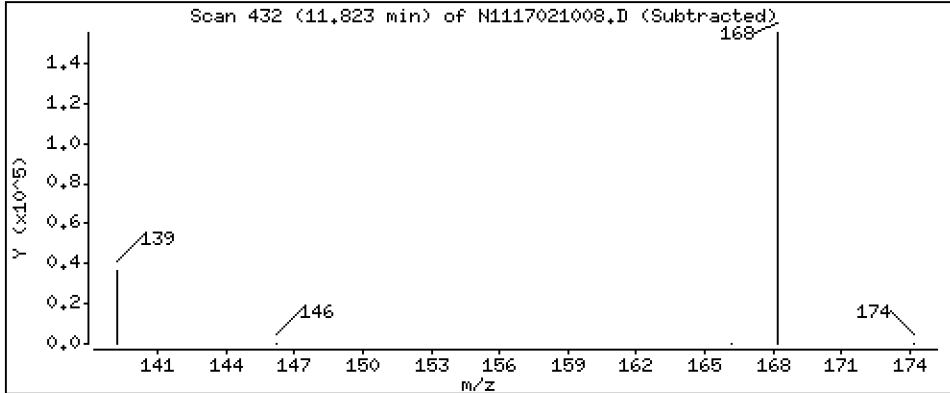
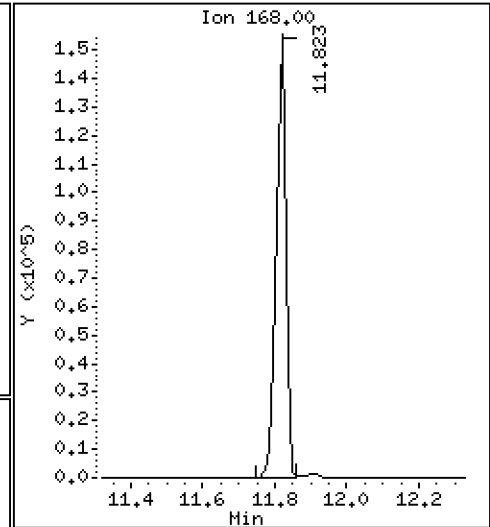
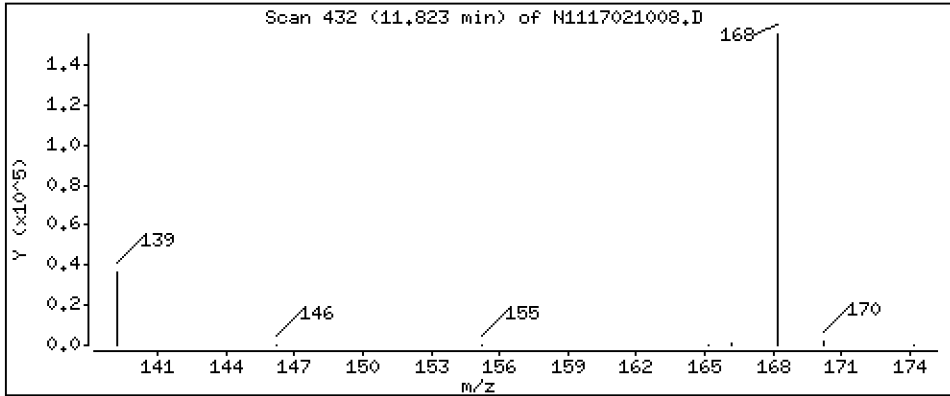
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 171 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

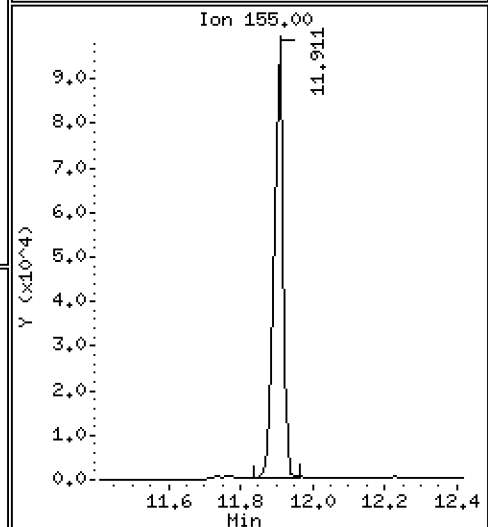
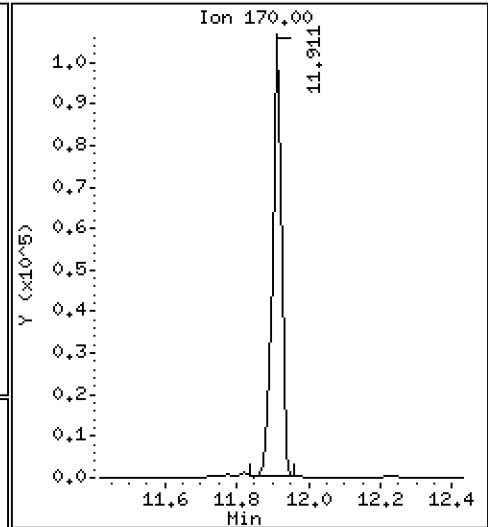
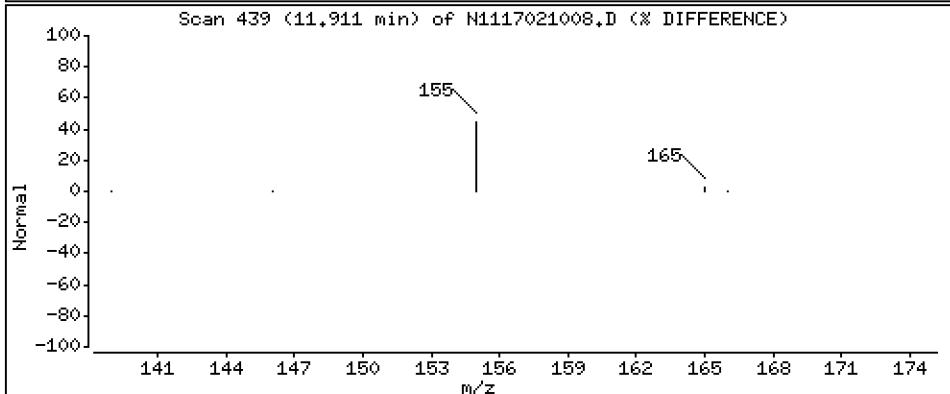
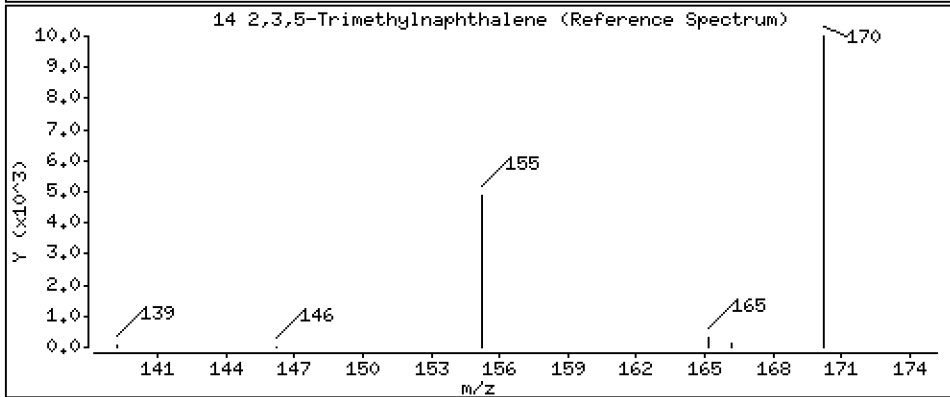
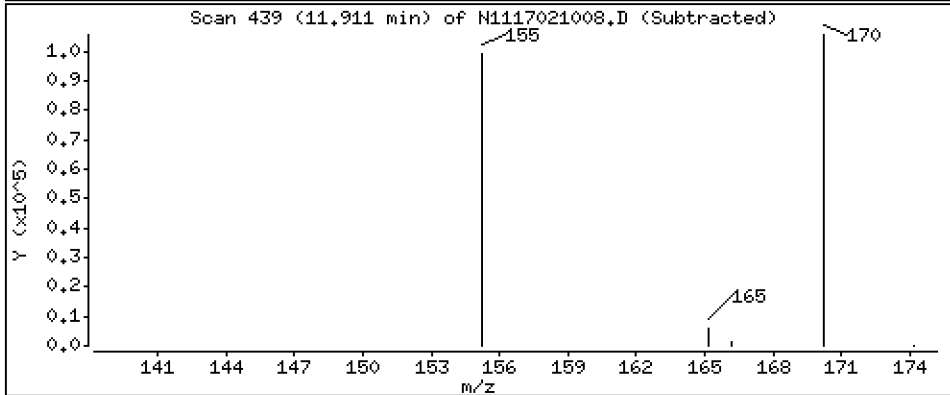
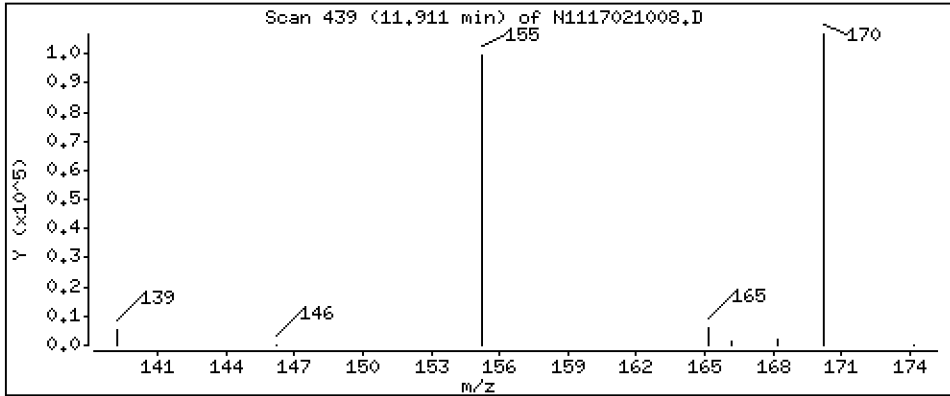
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 183 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

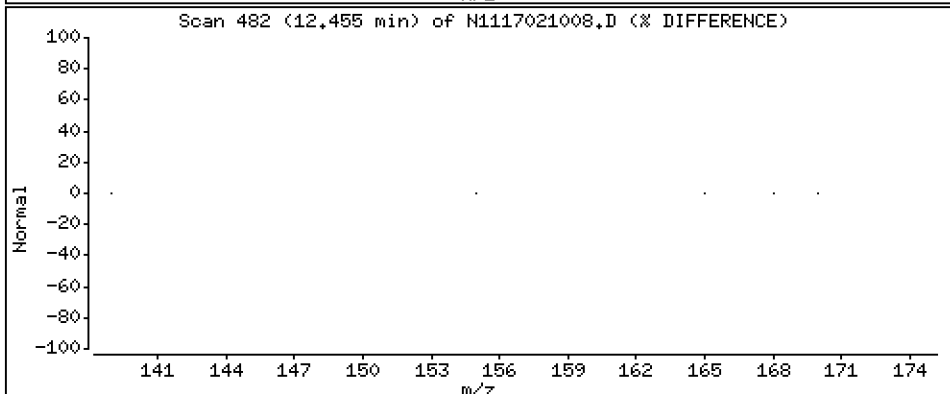
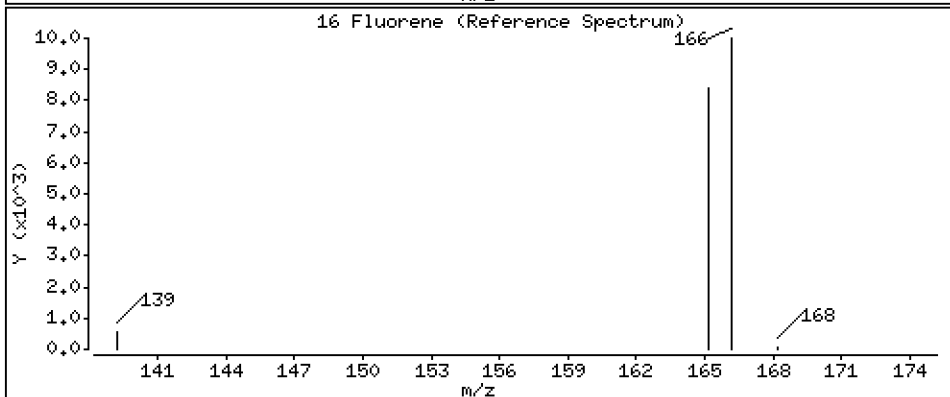
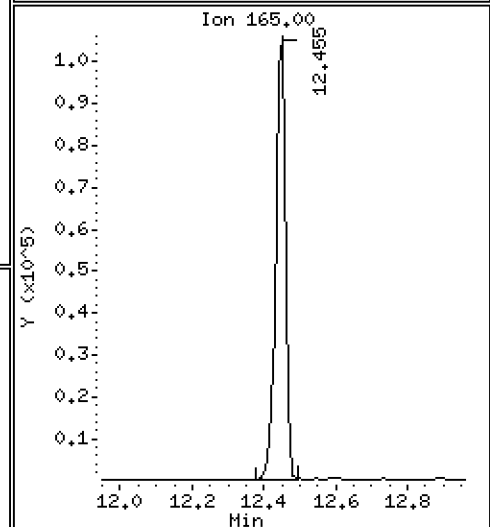
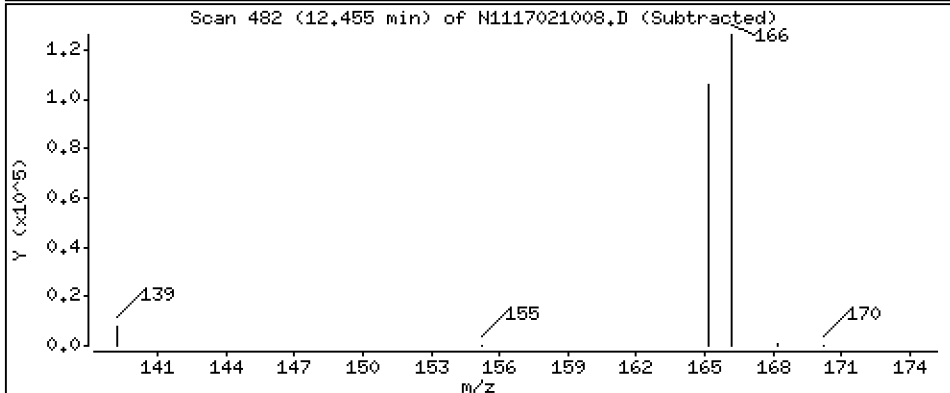
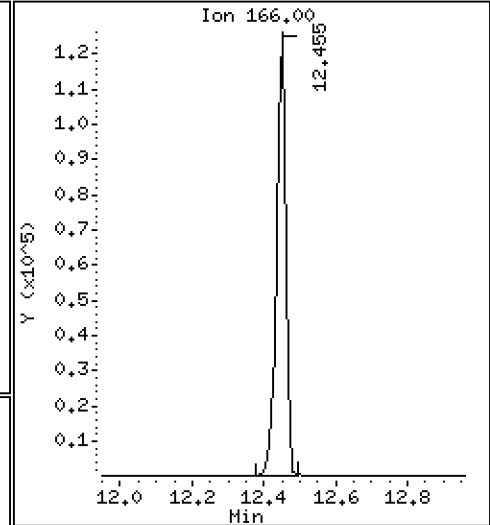
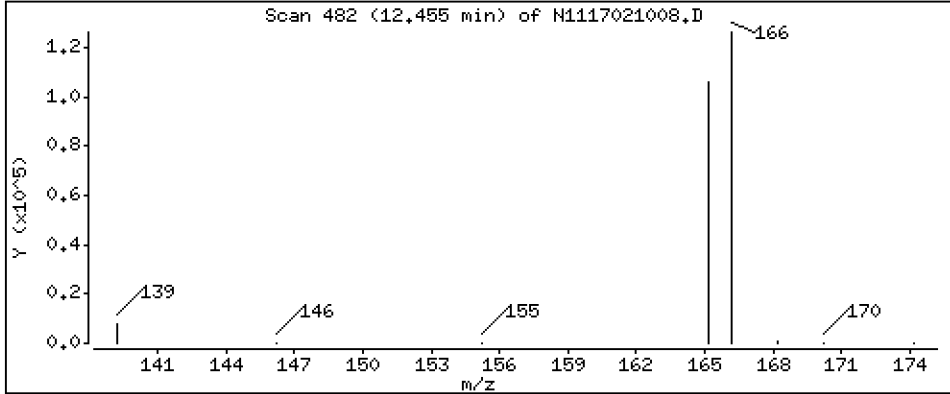
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 177 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

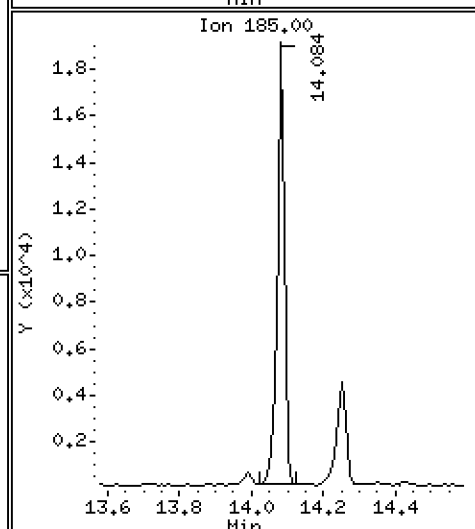
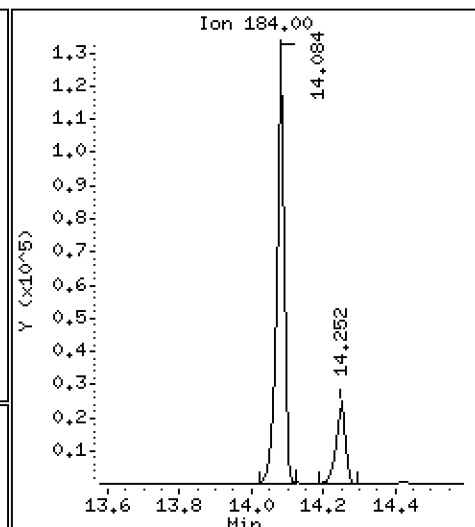
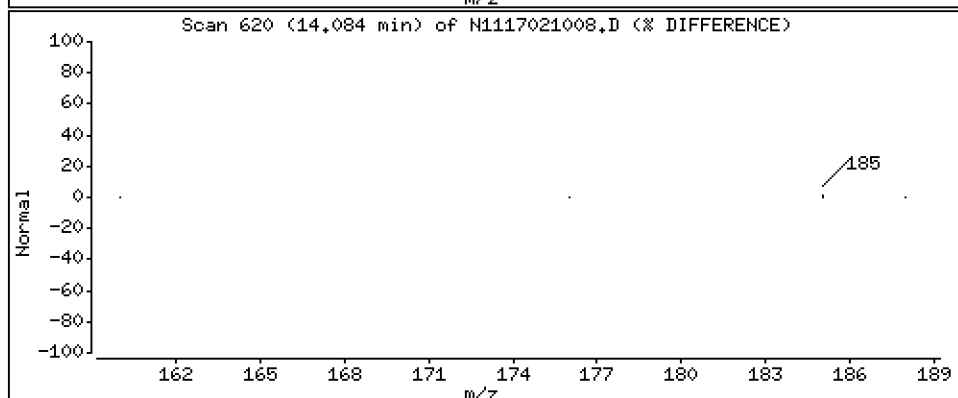
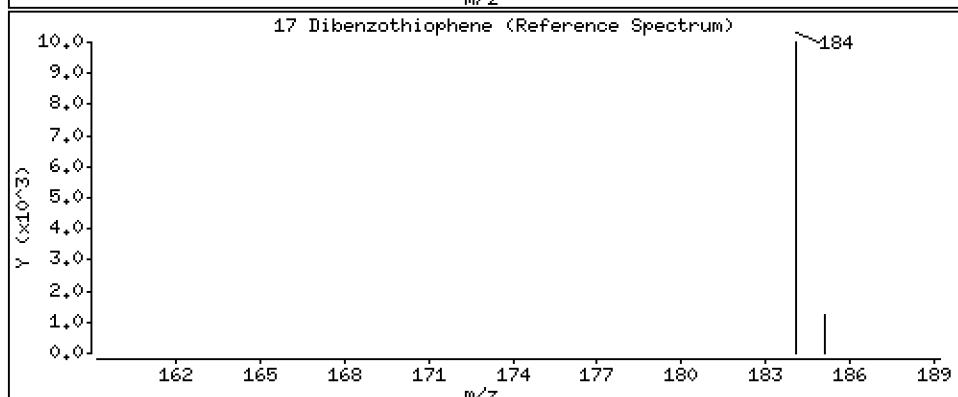
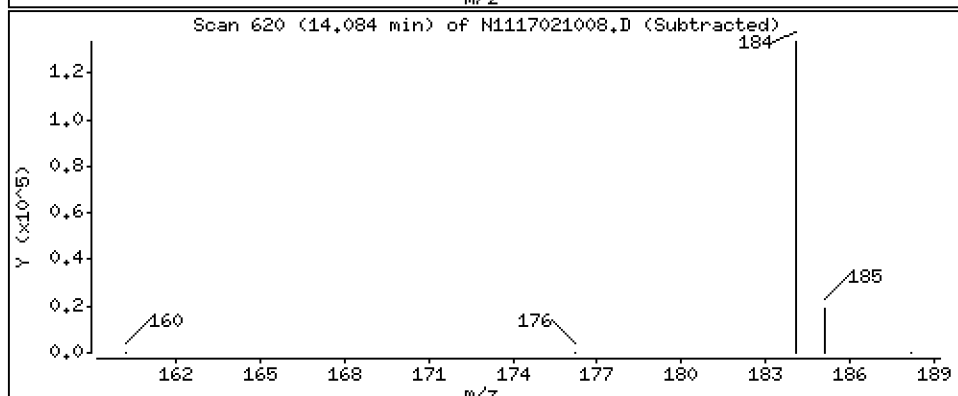
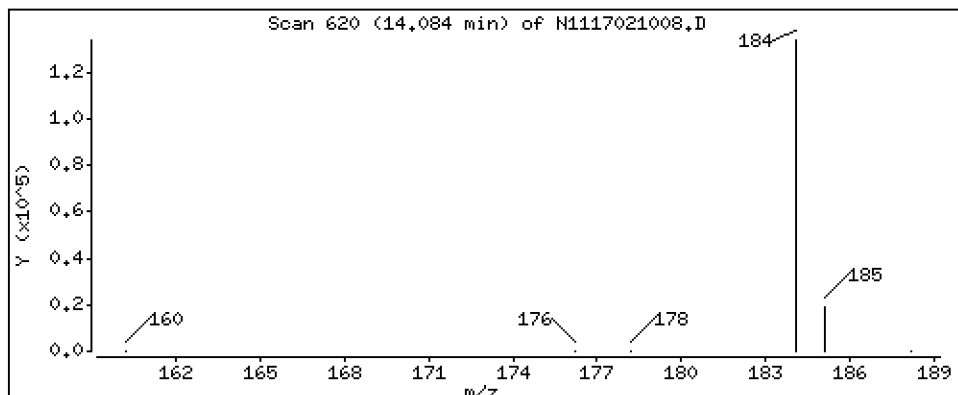
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 129 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

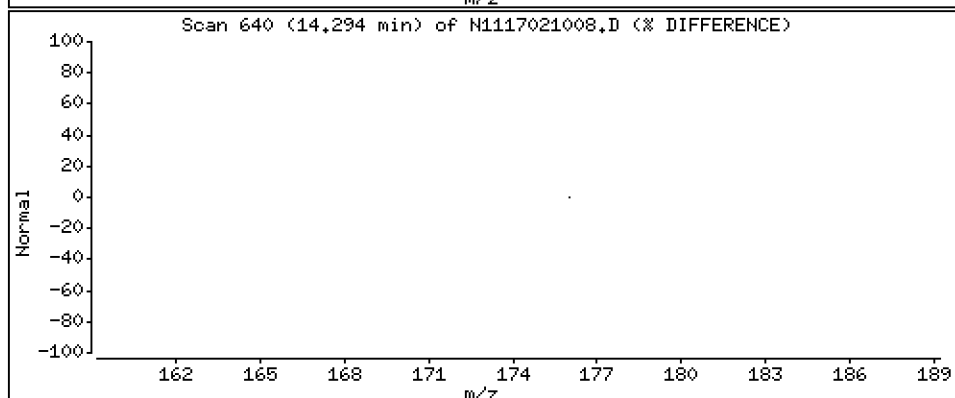
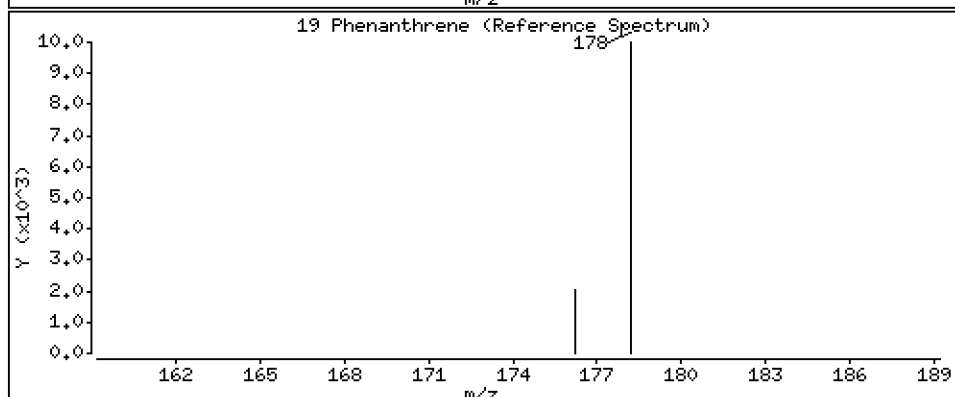
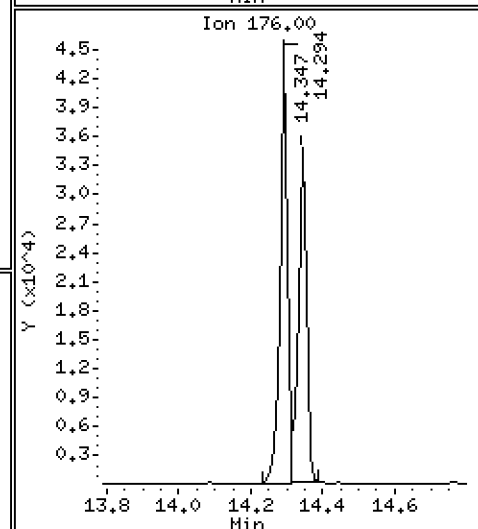
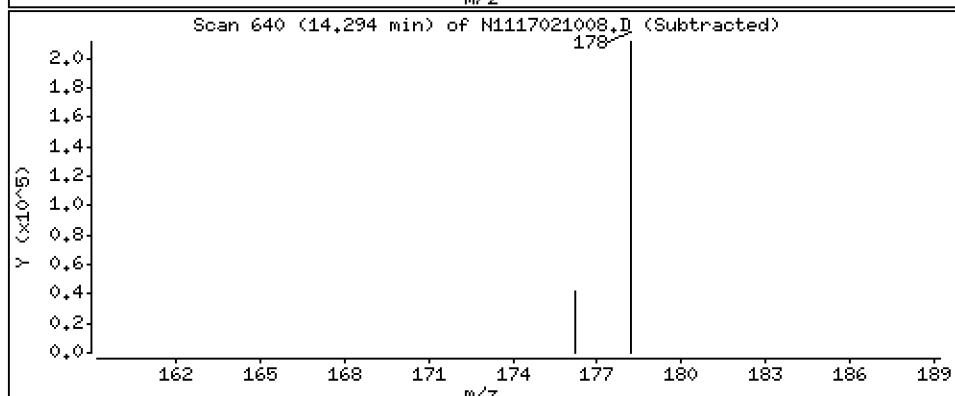
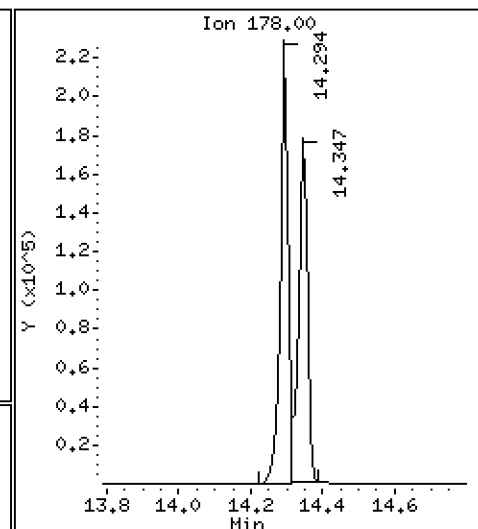
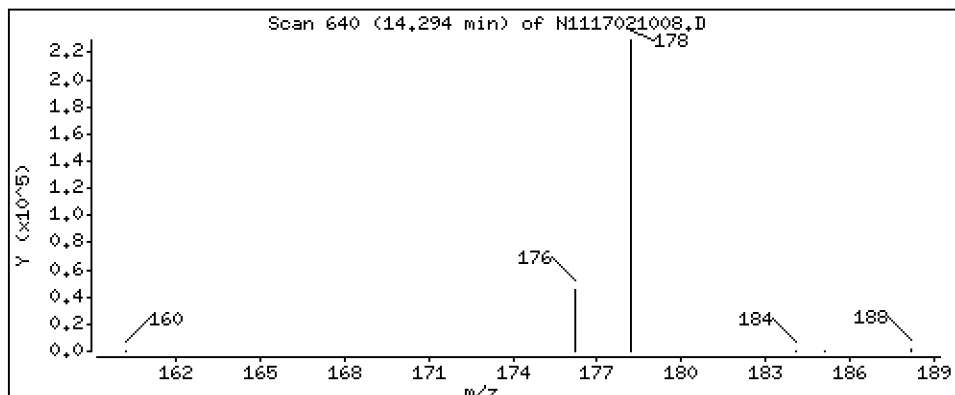
Operator: VTS

Column phase: Rxi-17Si1 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 186 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

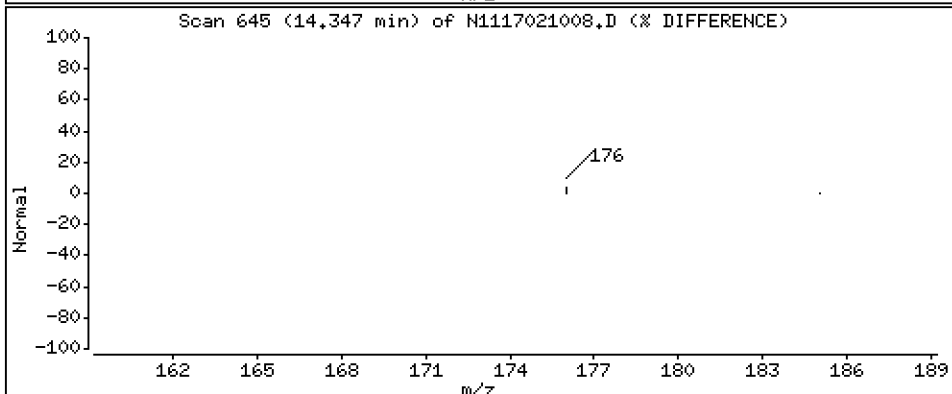
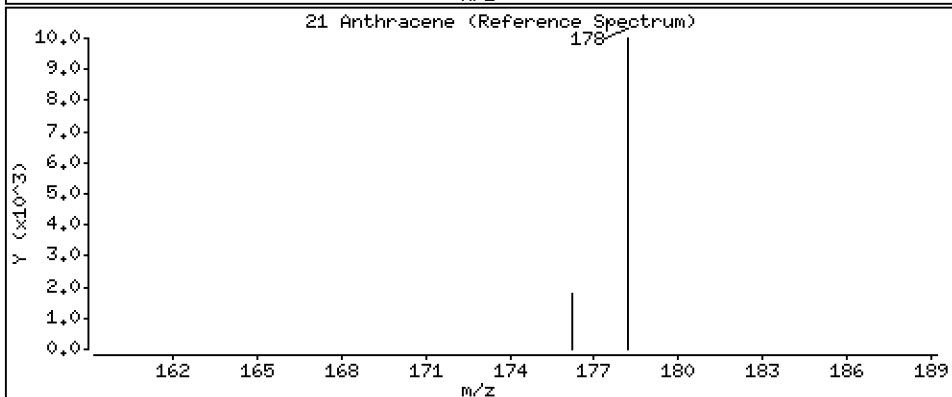
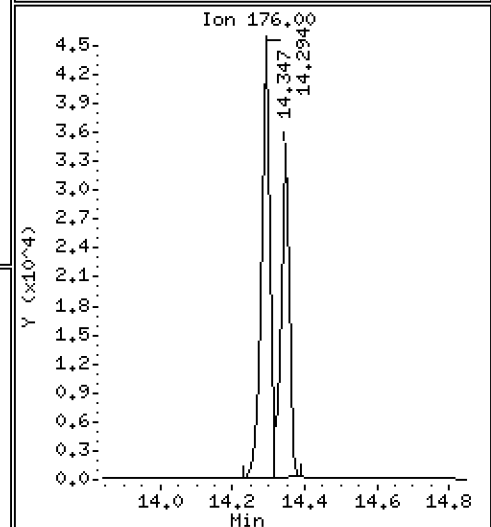
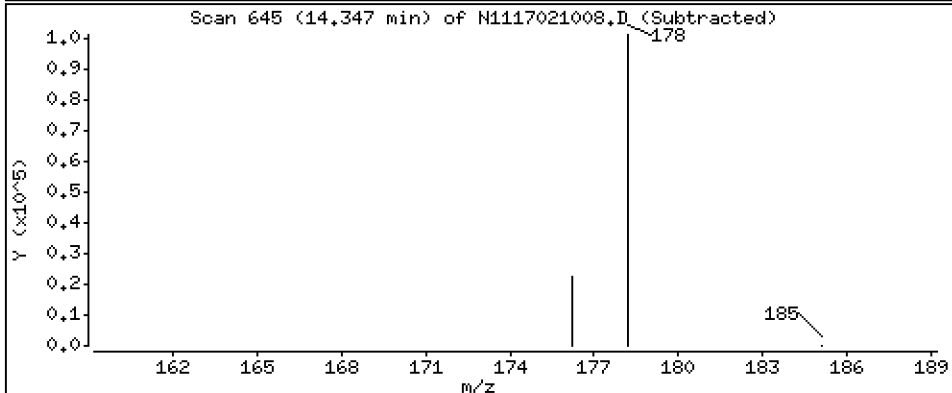
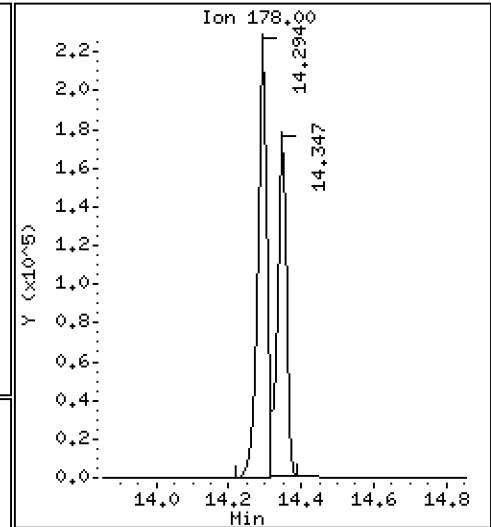
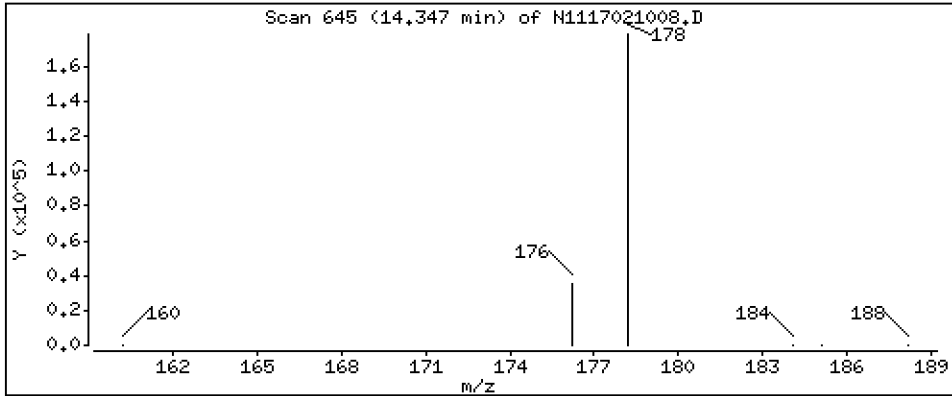
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 151 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

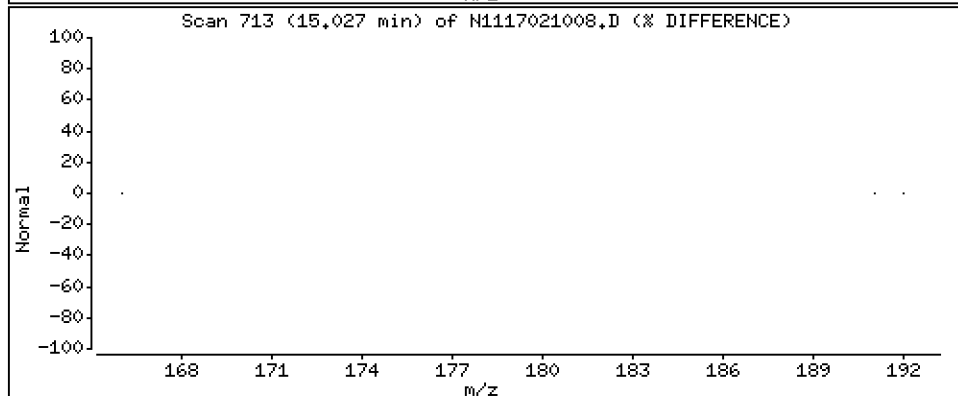
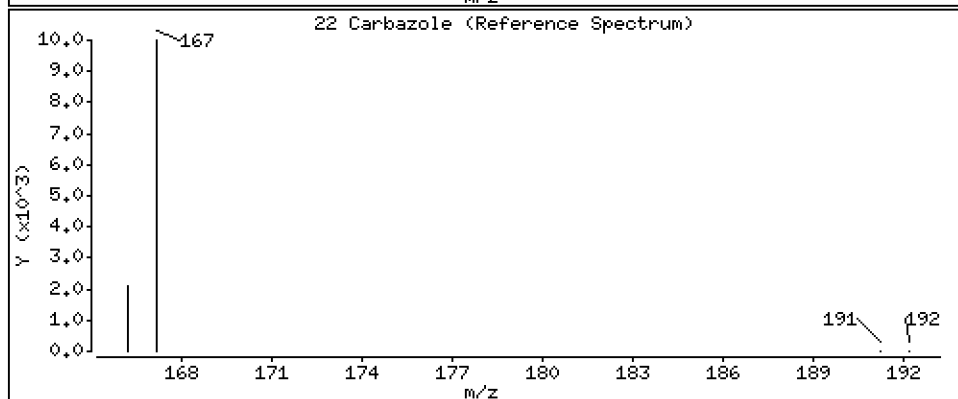
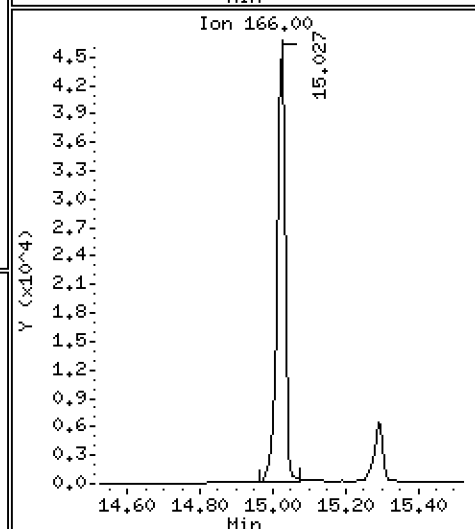
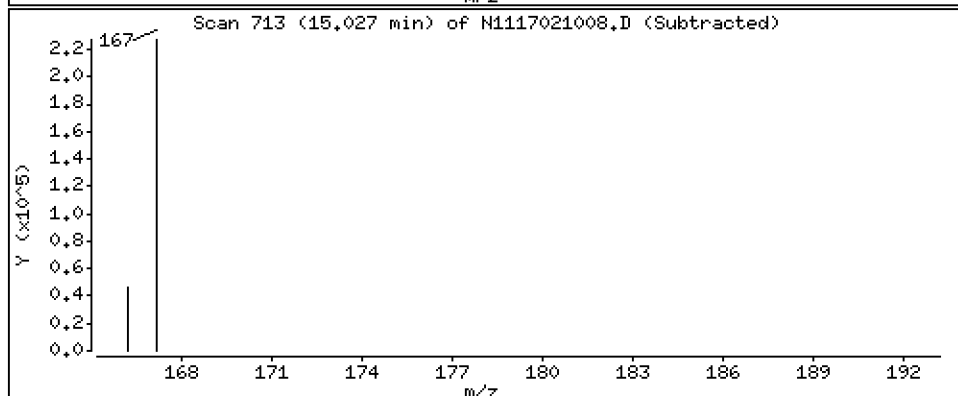
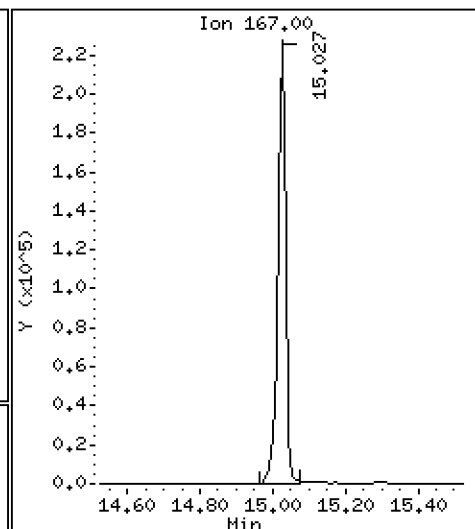
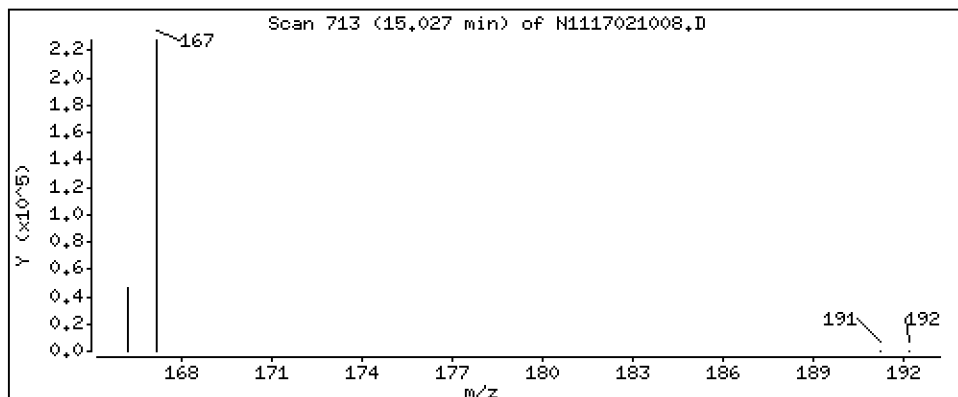
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

22 Carbazole

Concentration: 149 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

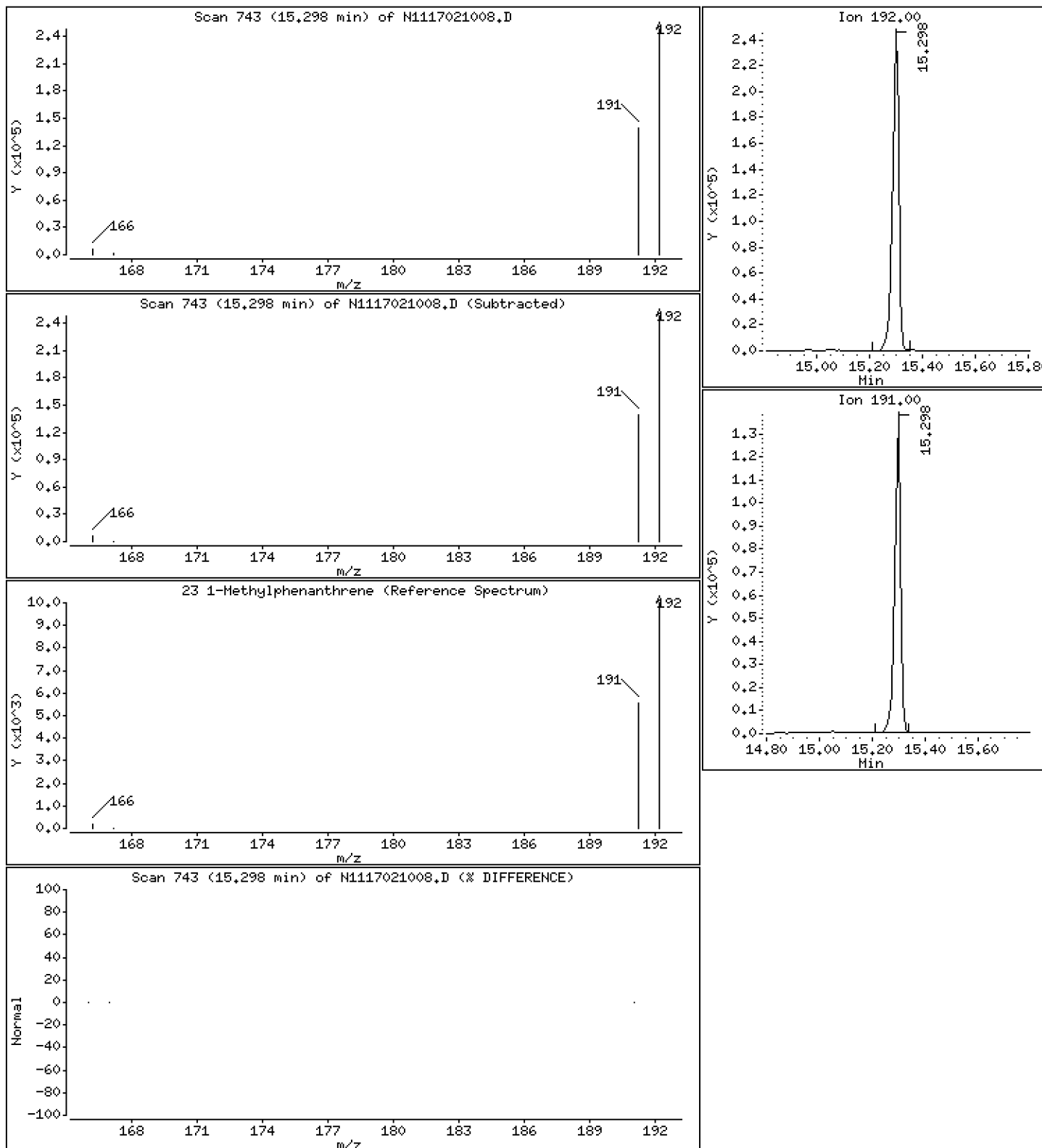
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 184 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

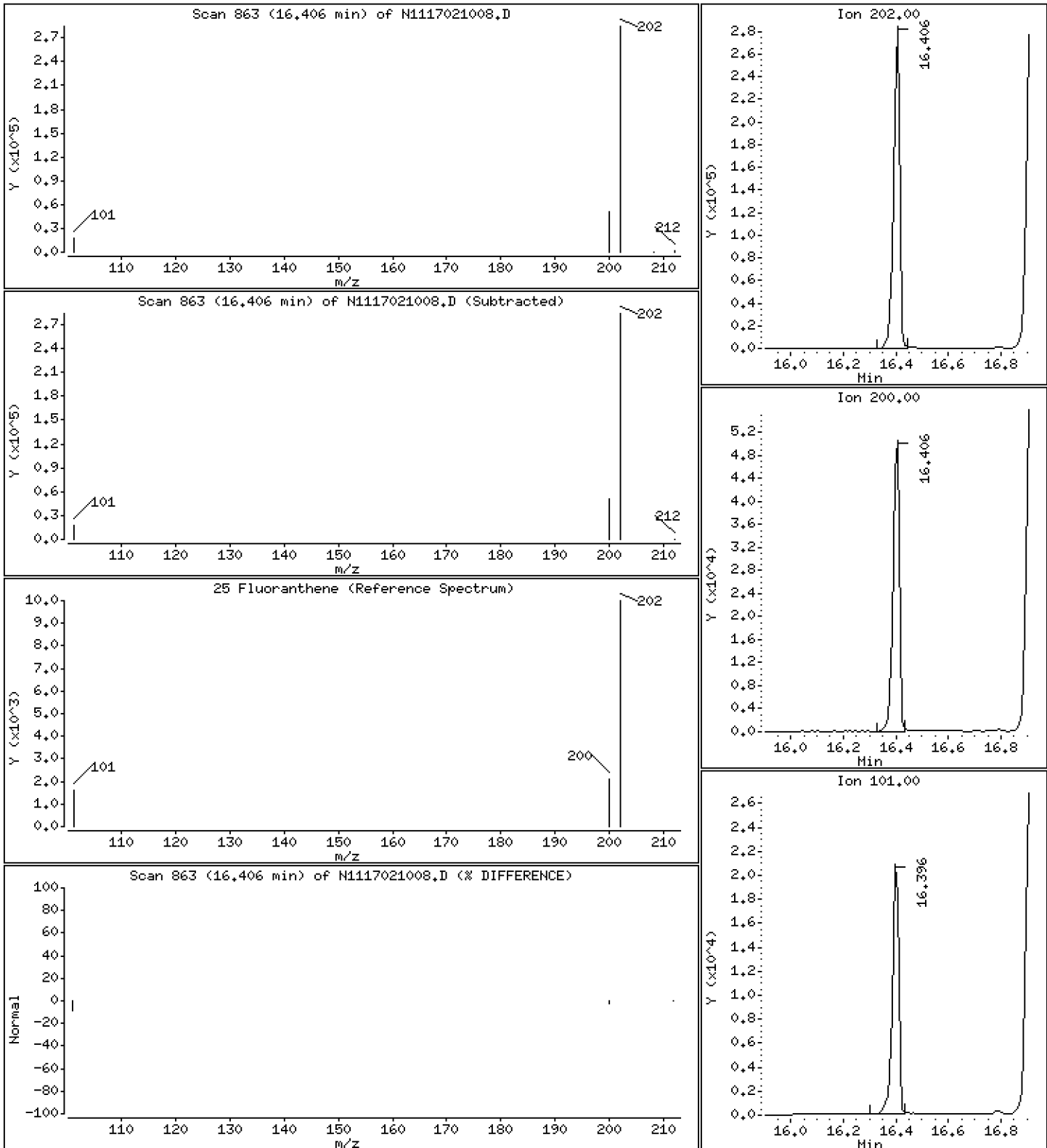
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 187 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

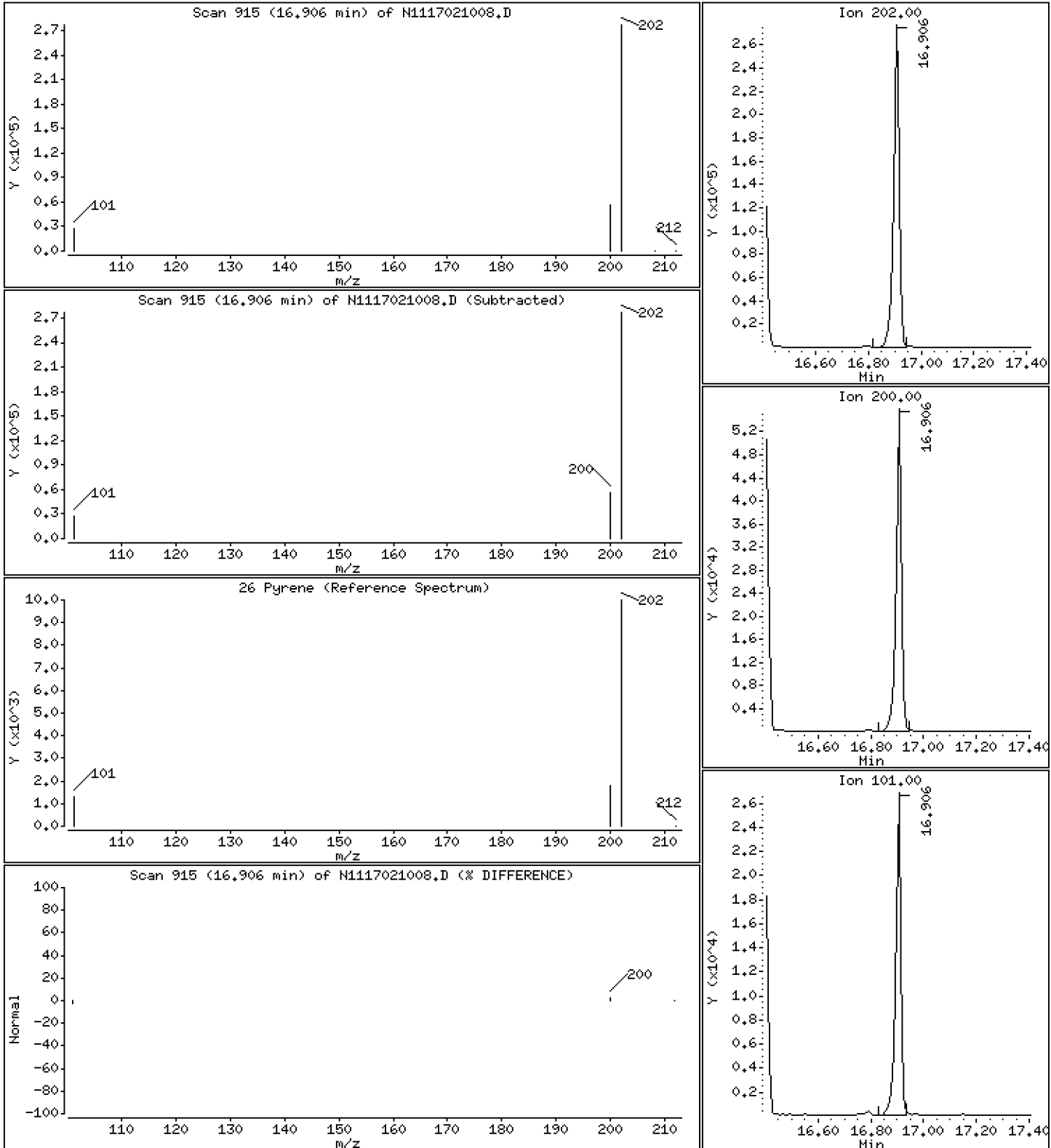
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 194 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

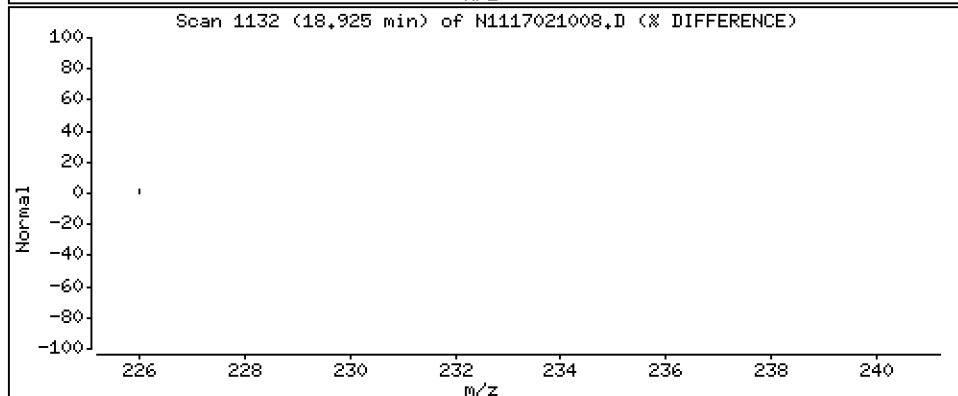
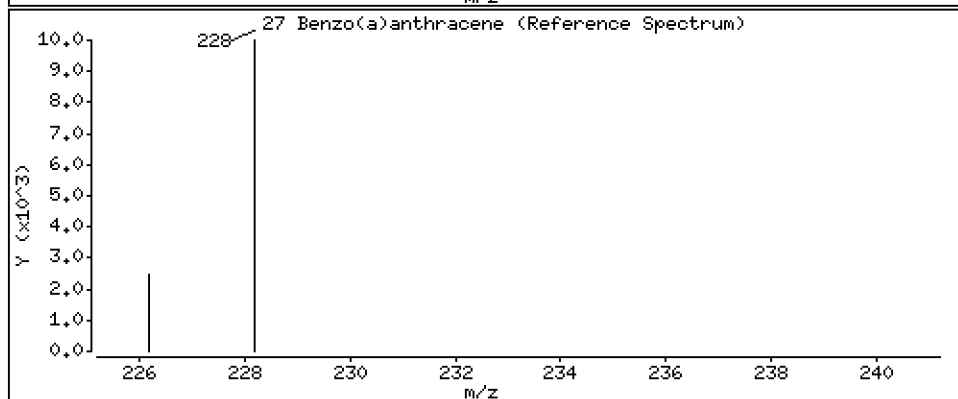
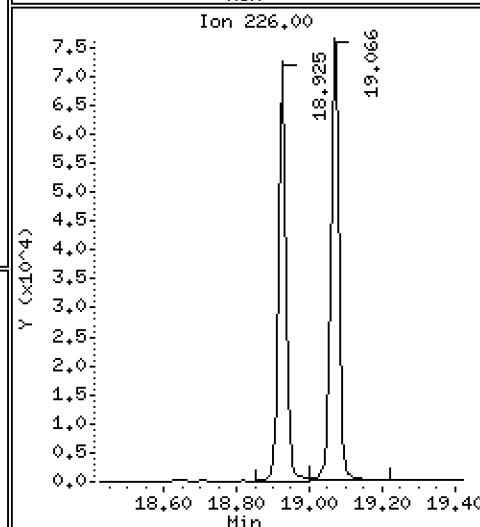
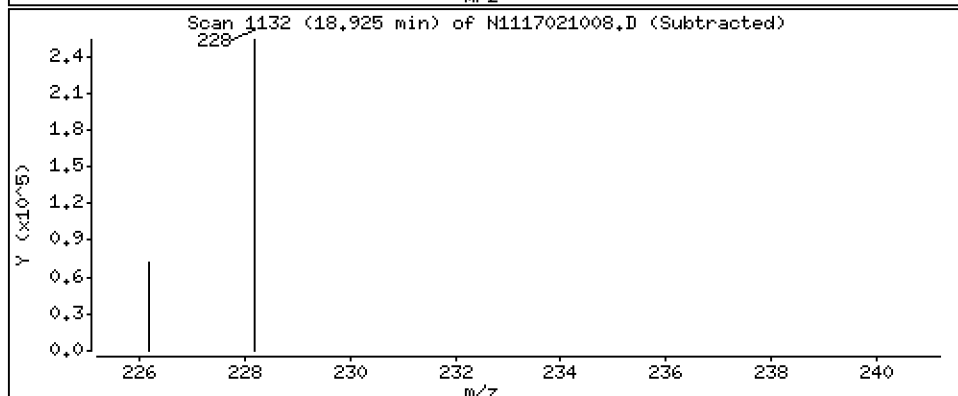
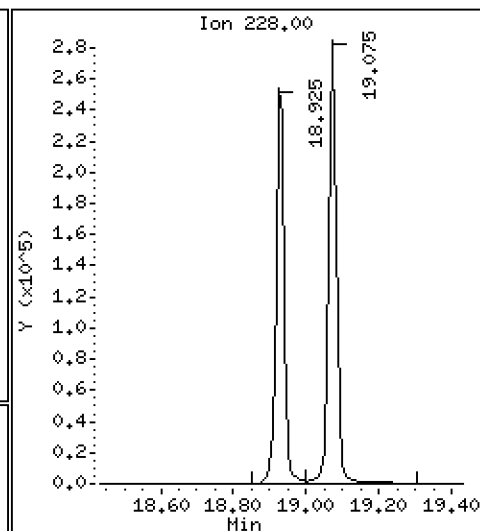
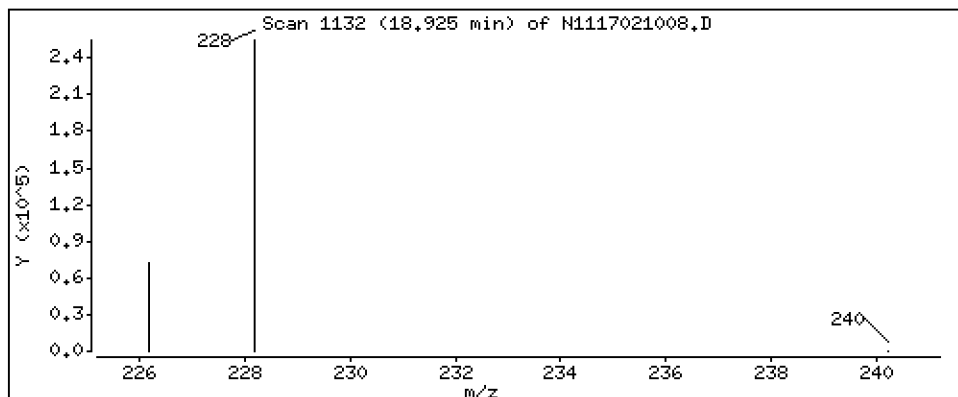
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 189 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

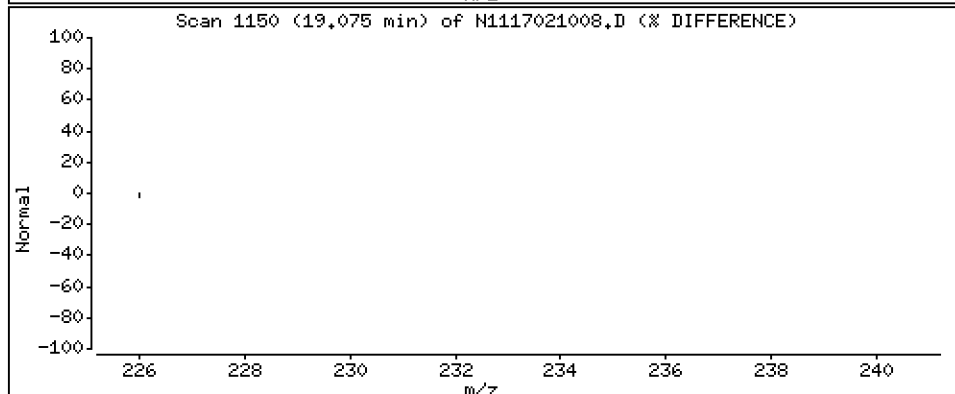
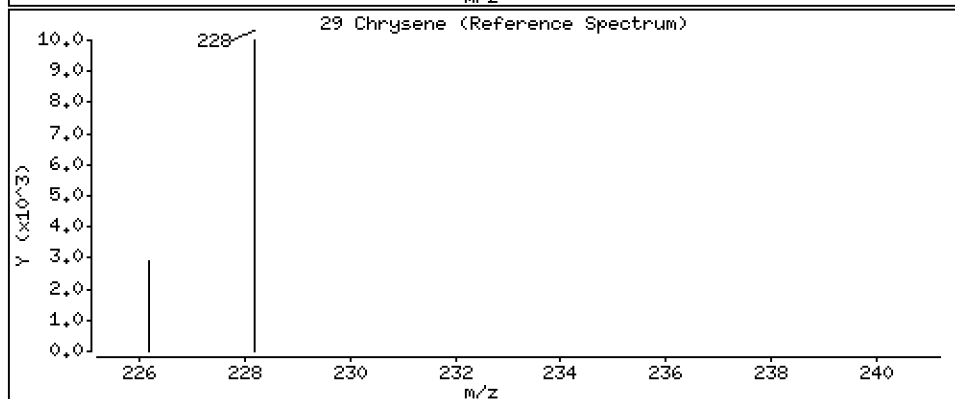
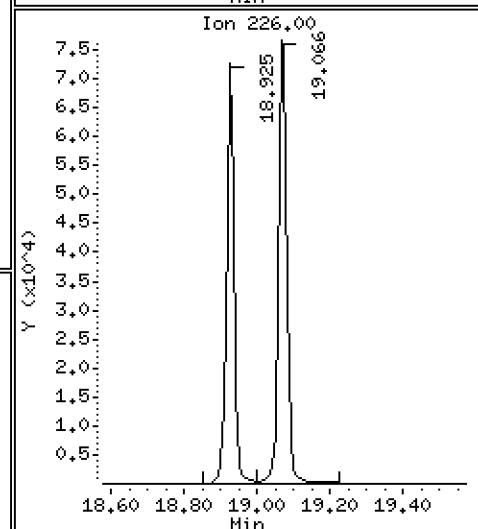
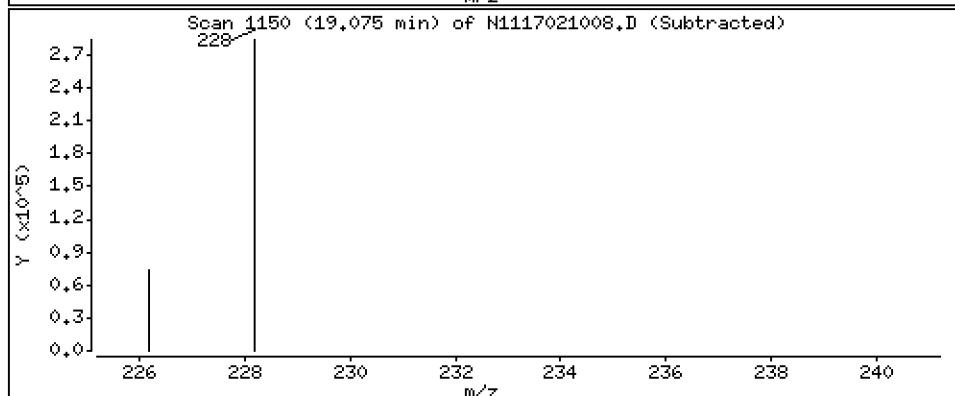
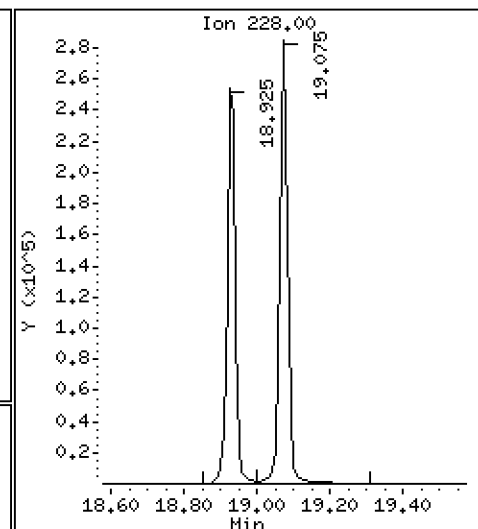
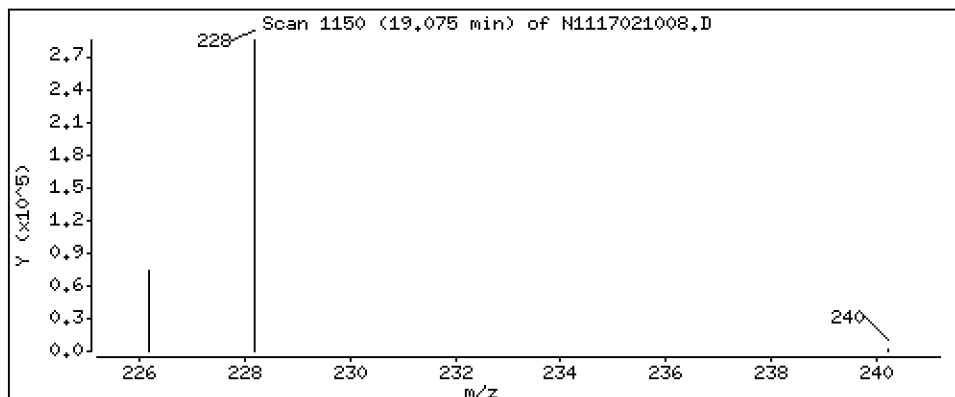
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 198 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

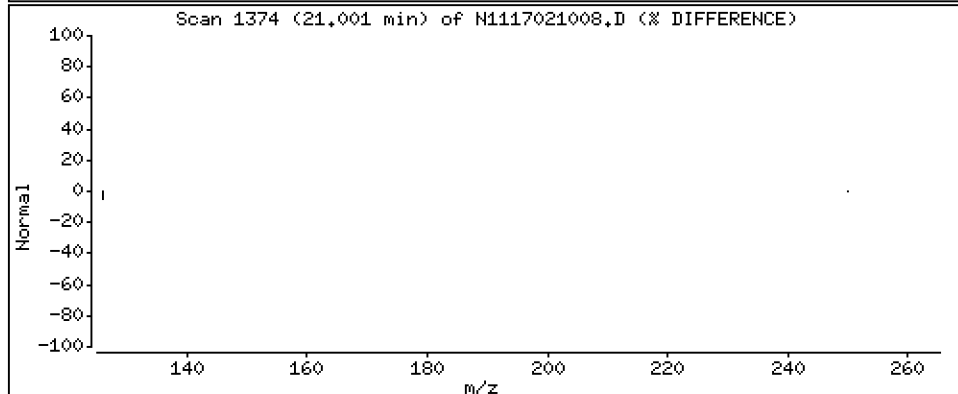
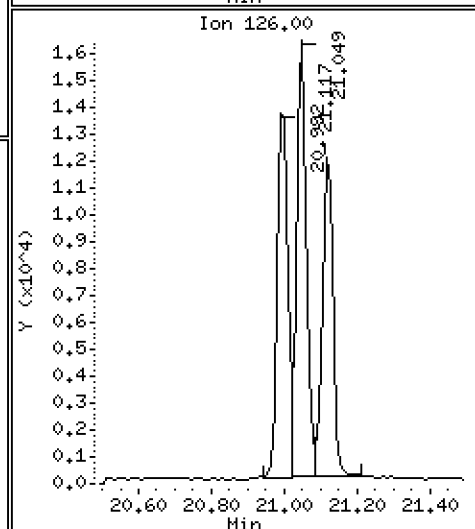
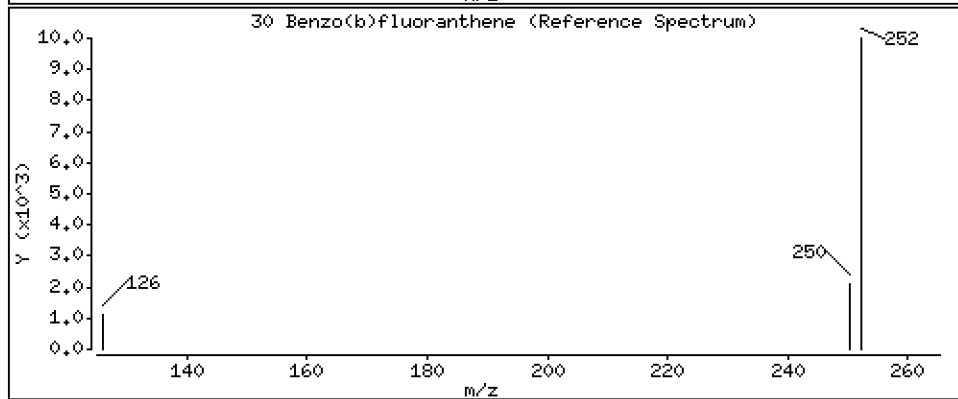
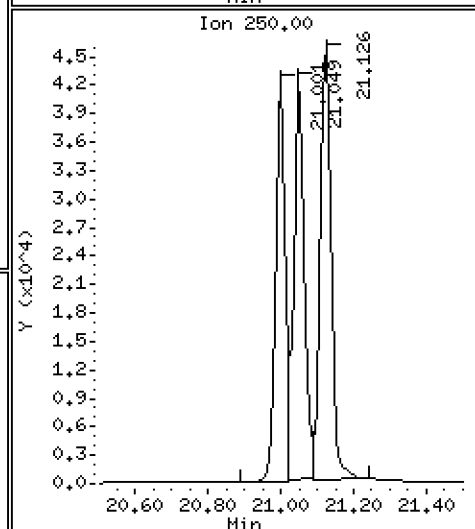
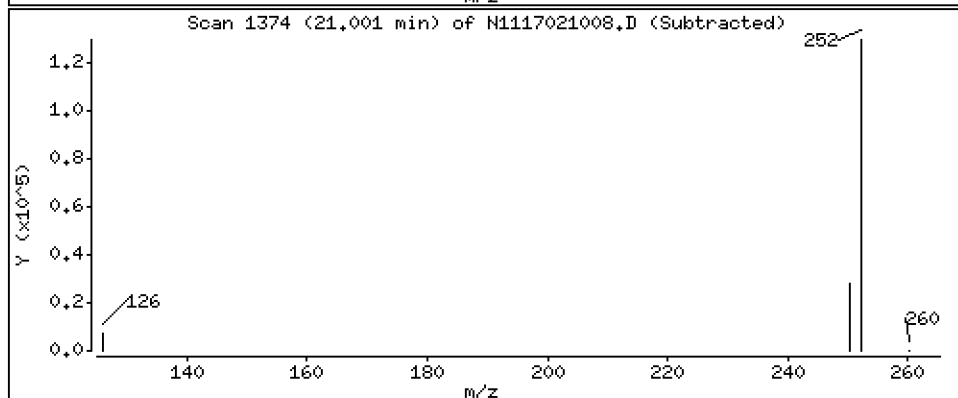
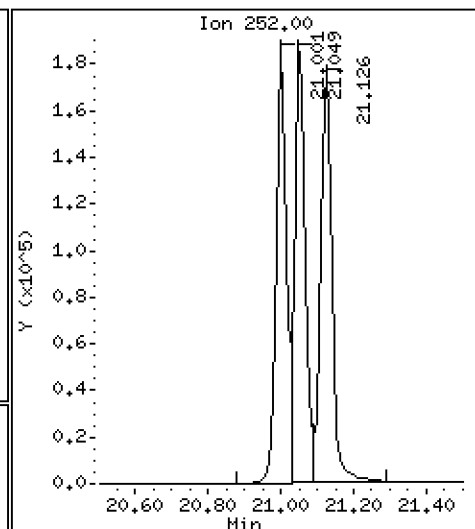
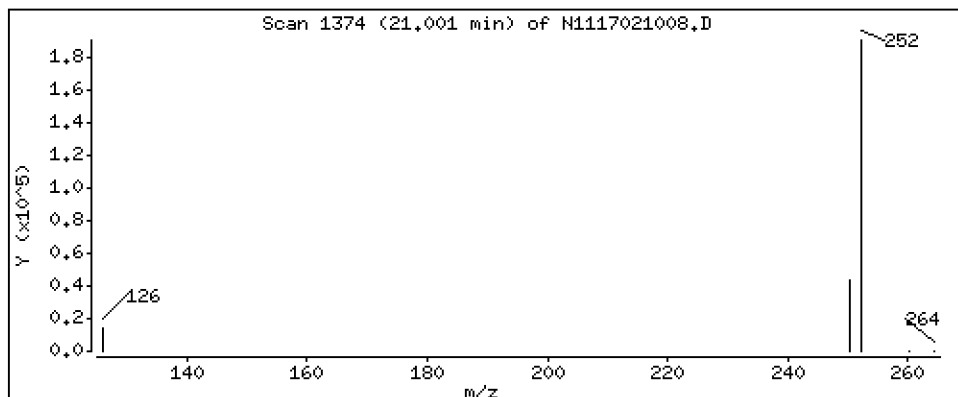
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 217 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

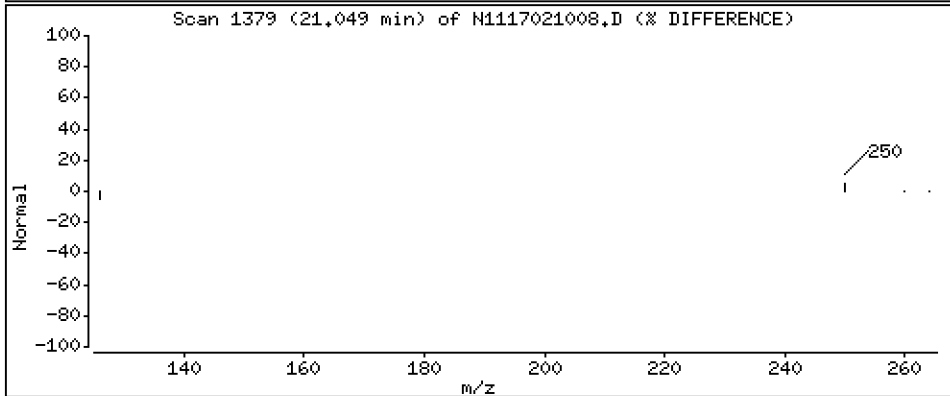
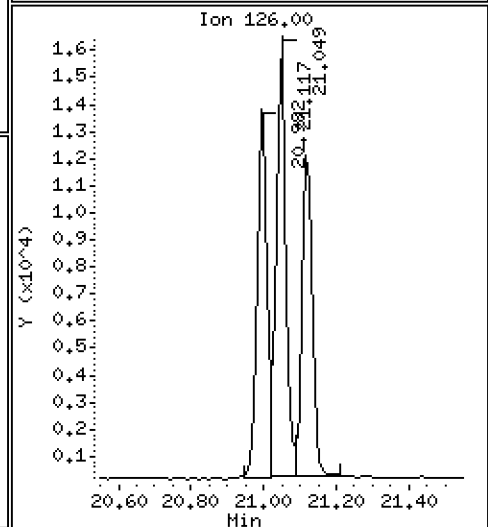
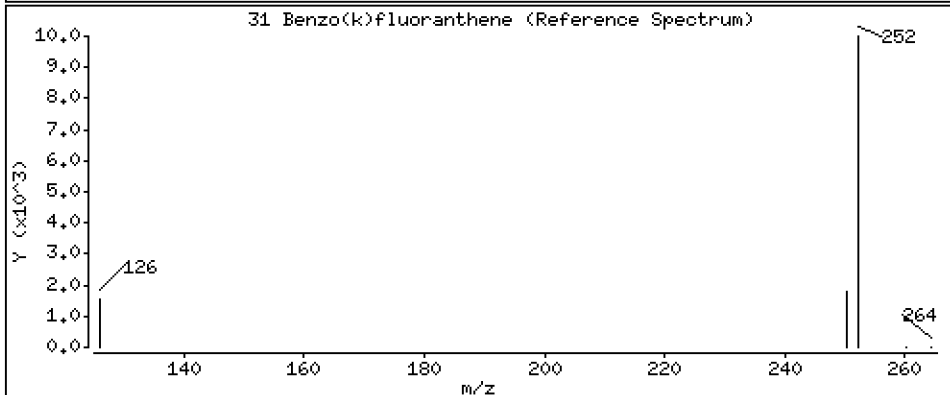
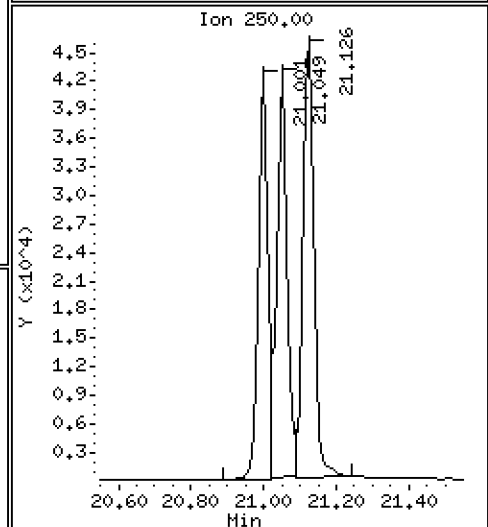
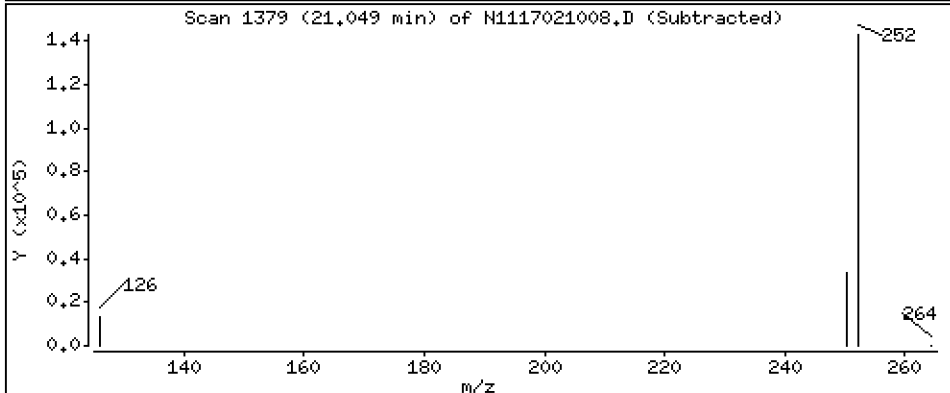
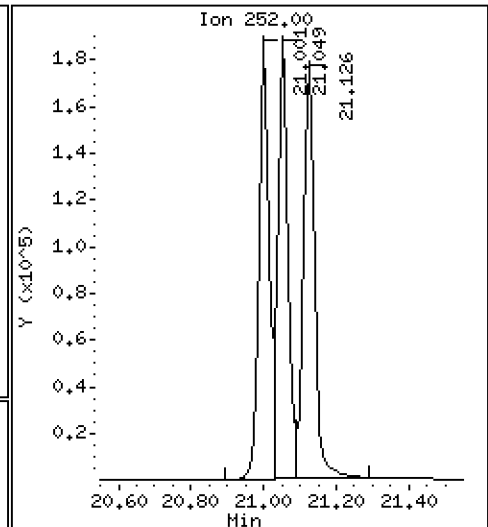
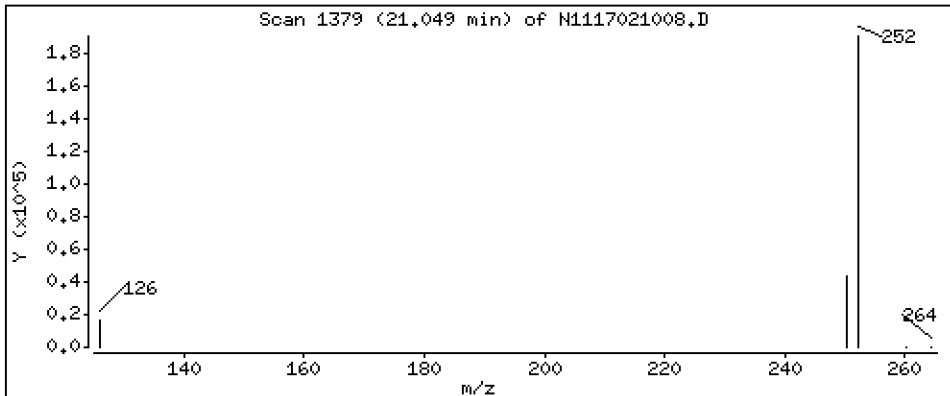
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 198 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

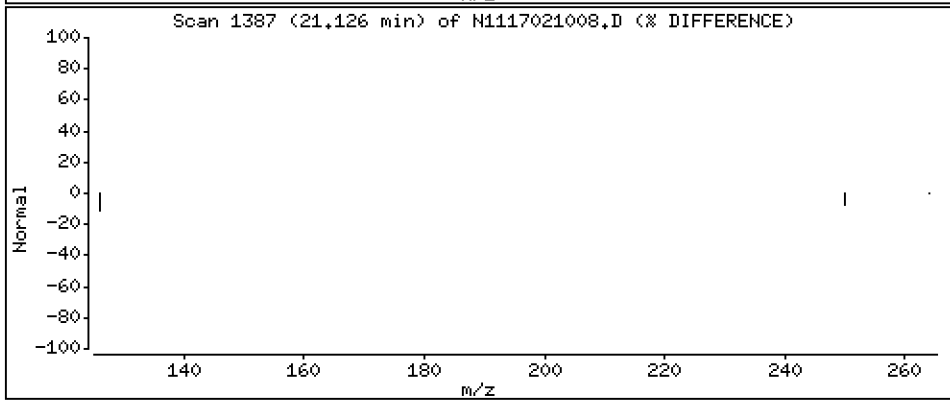
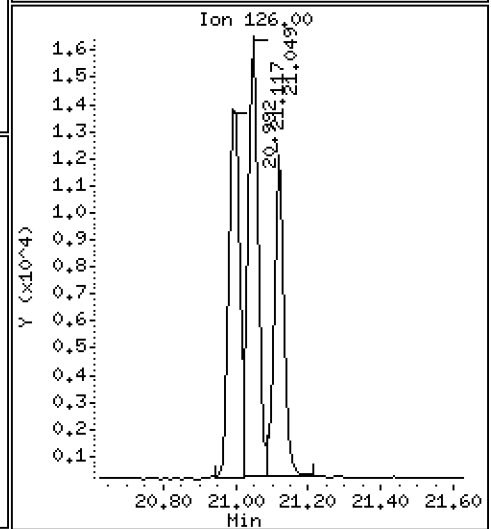
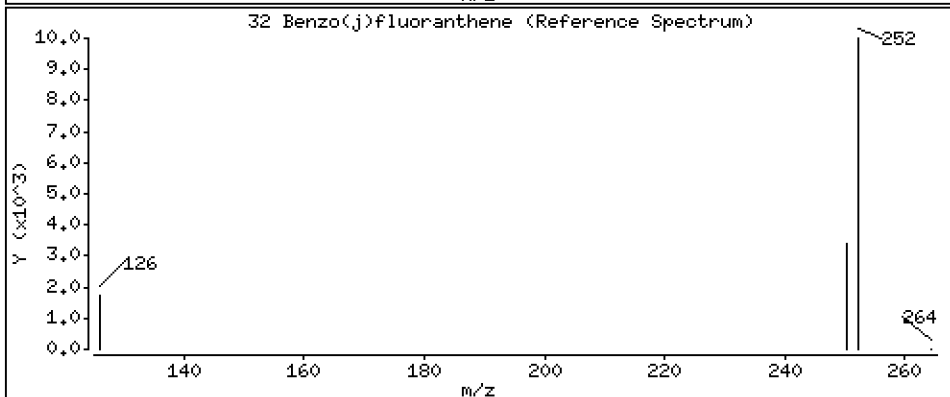
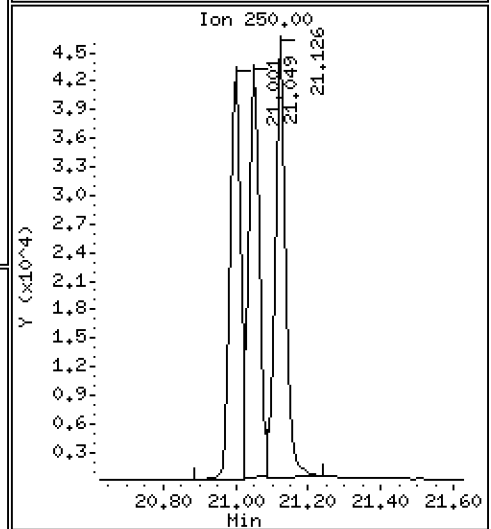
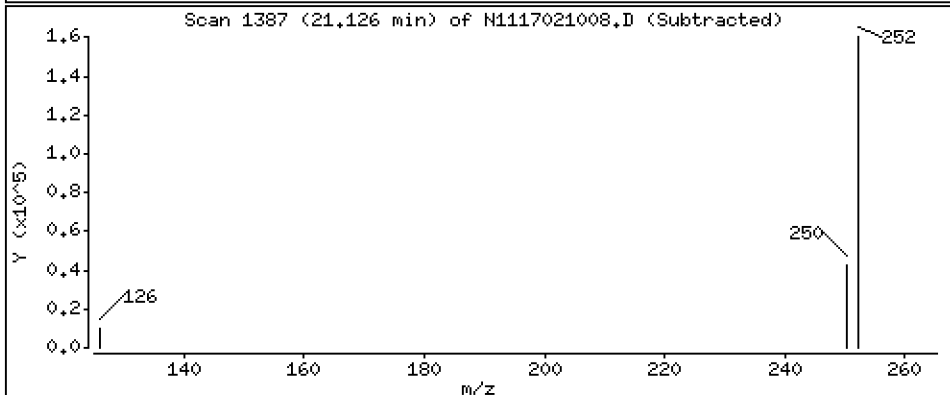
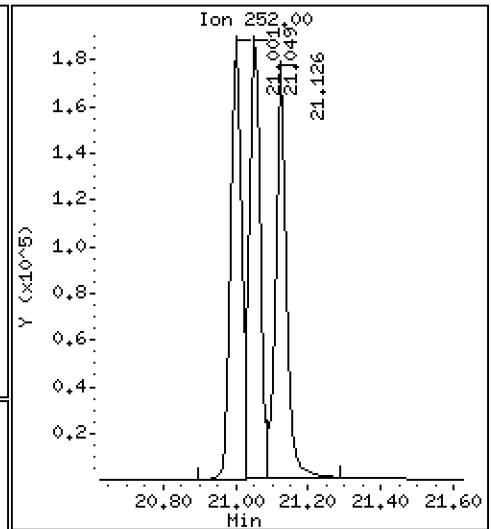
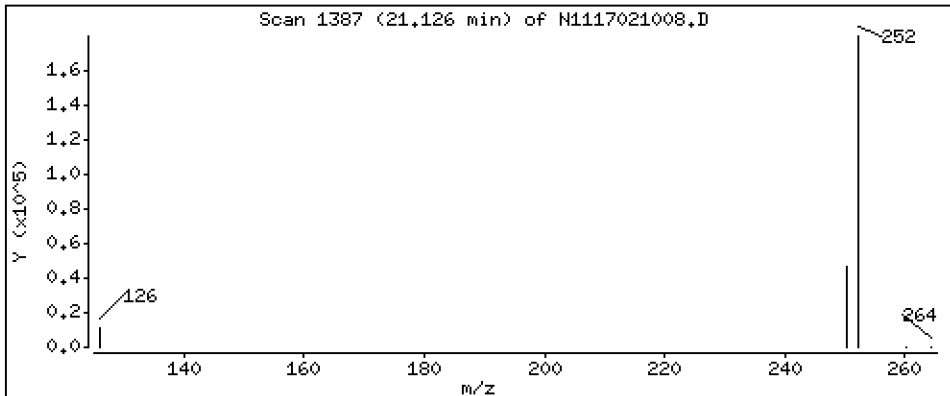
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 216 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

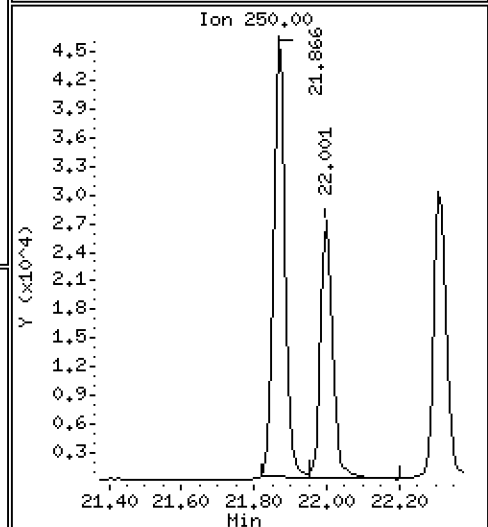
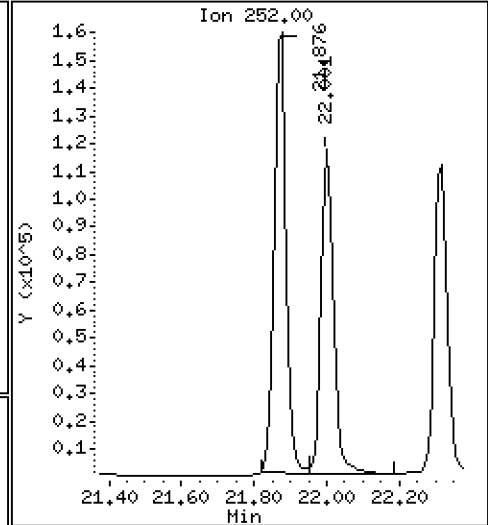
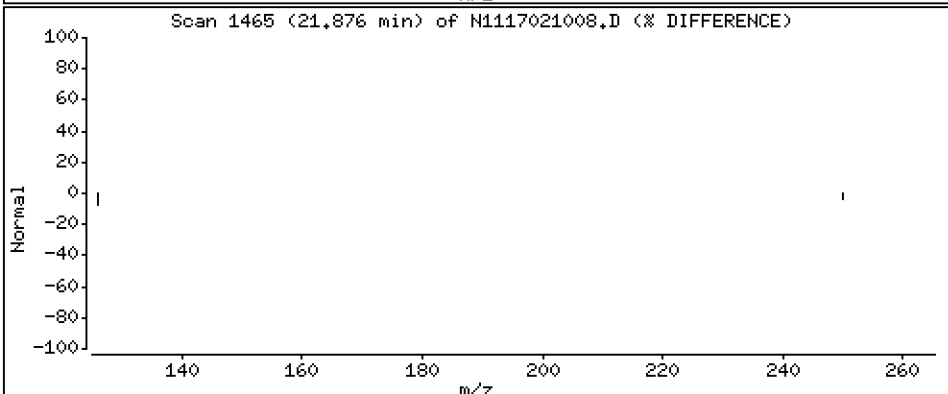
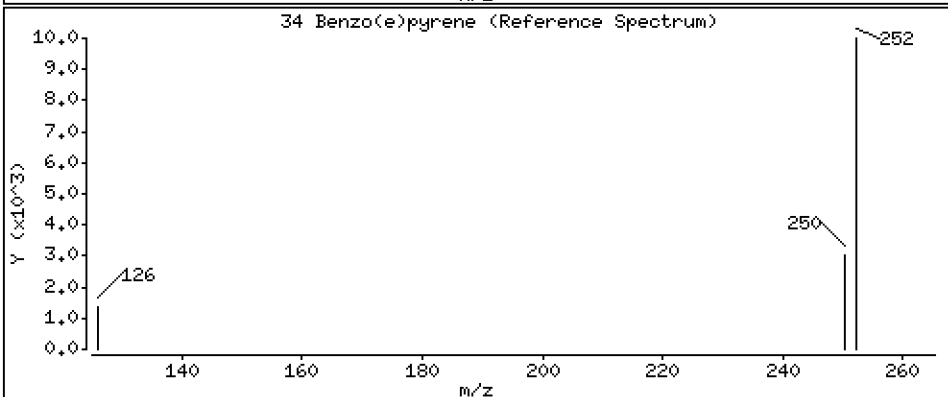
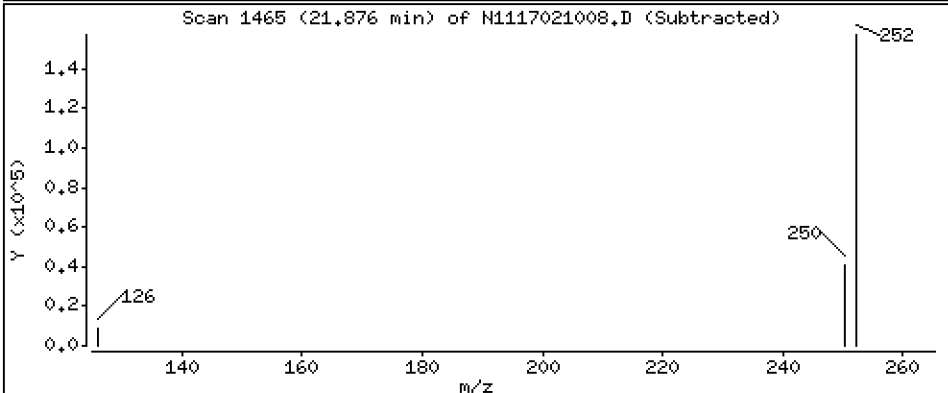
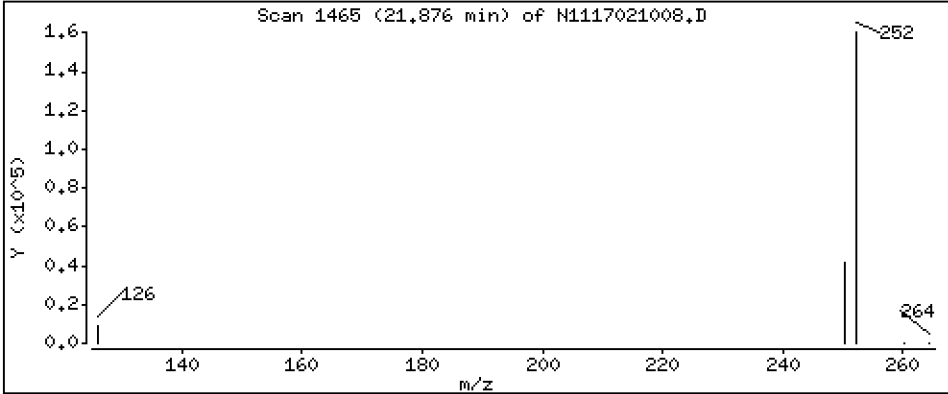
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 200 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

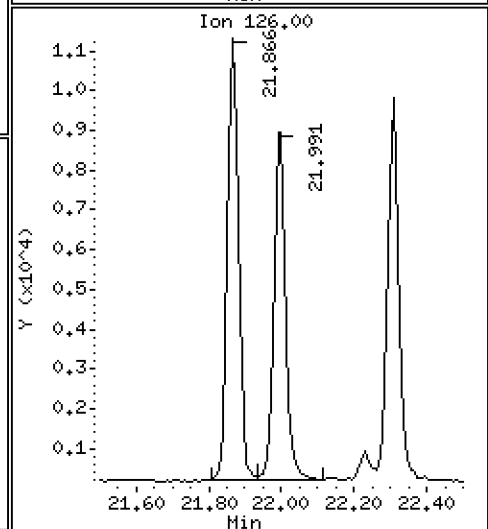
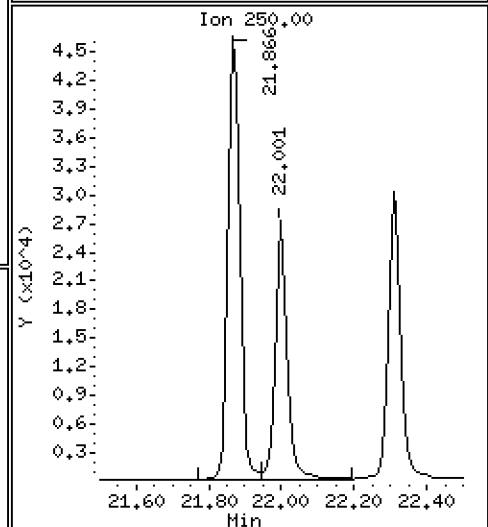
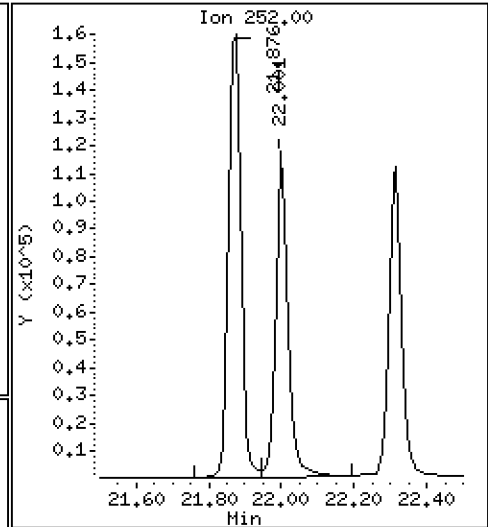
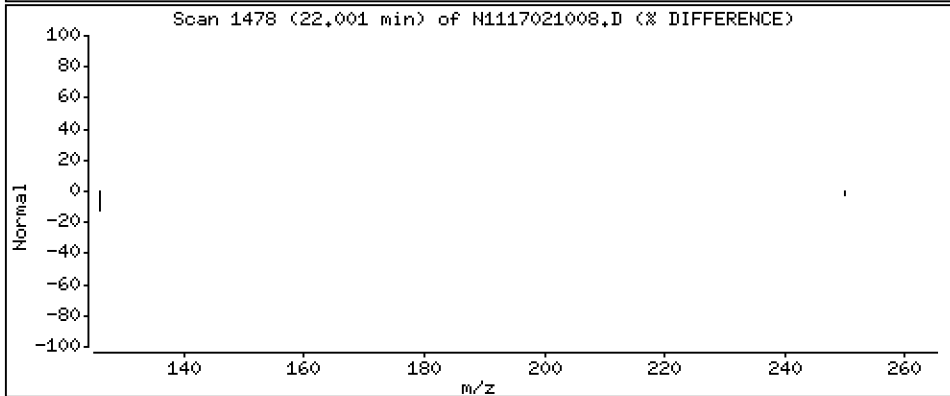
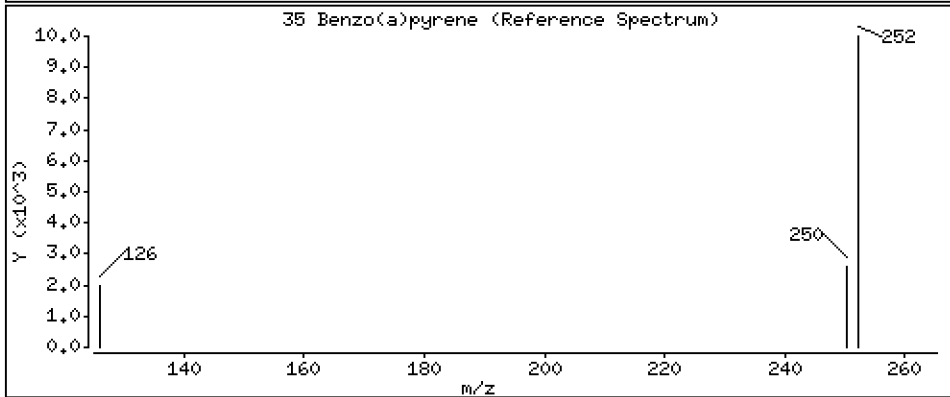
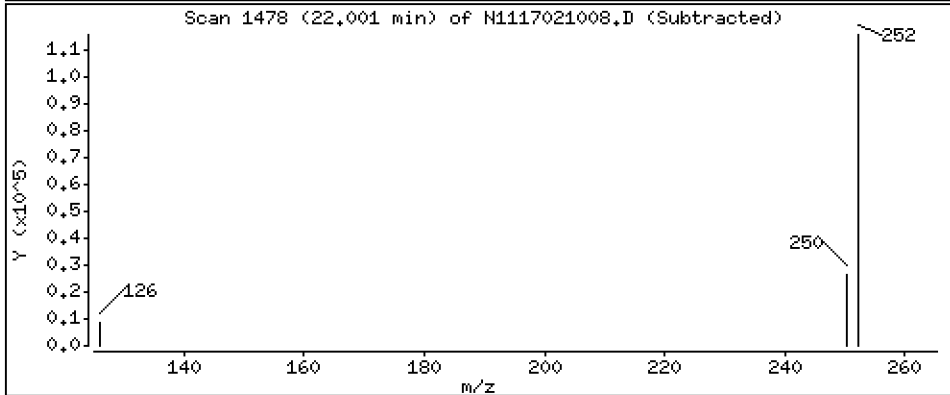
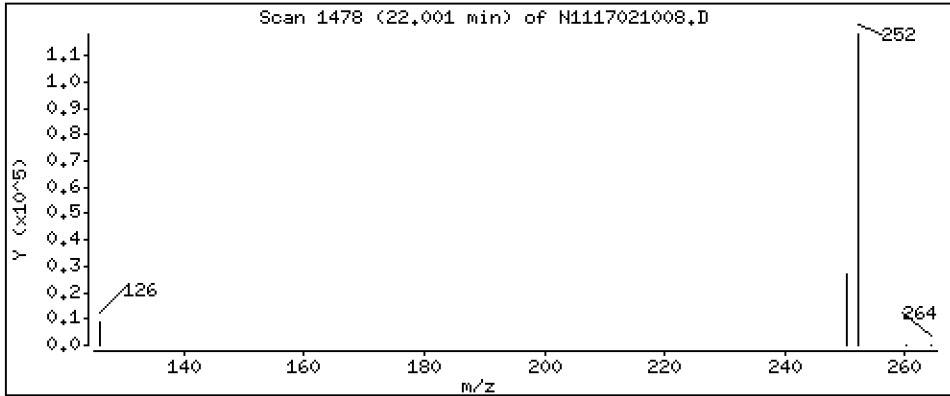
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 161 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

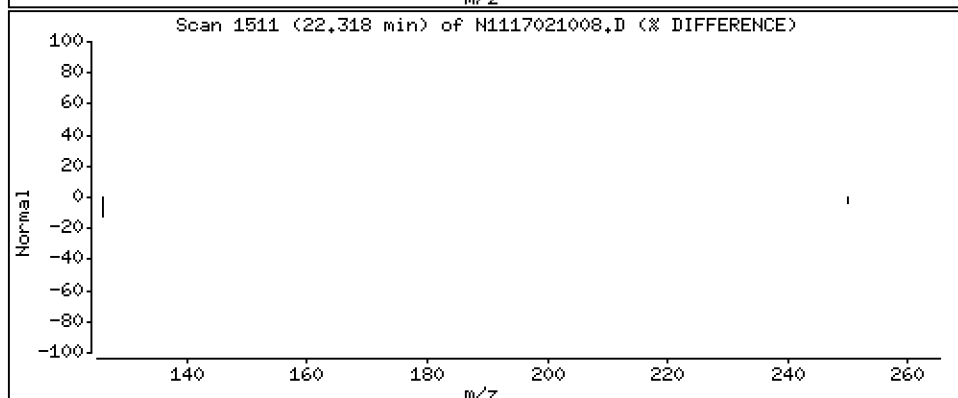
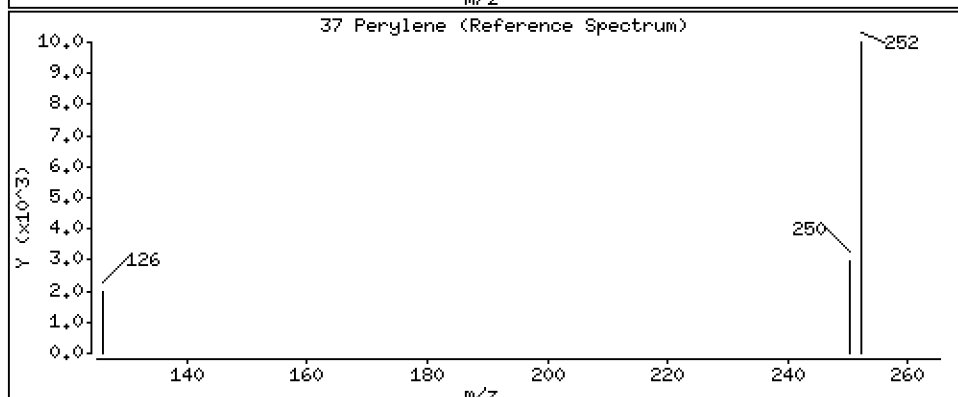
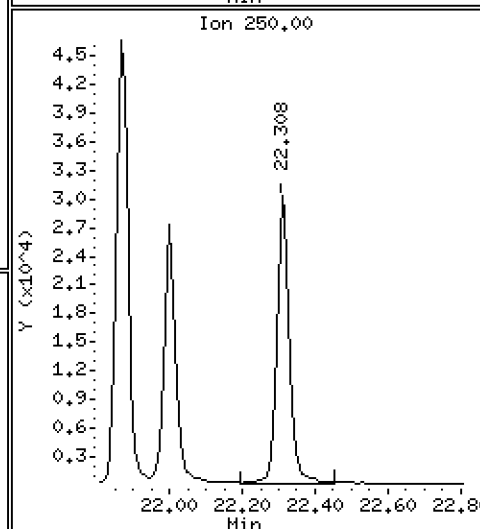
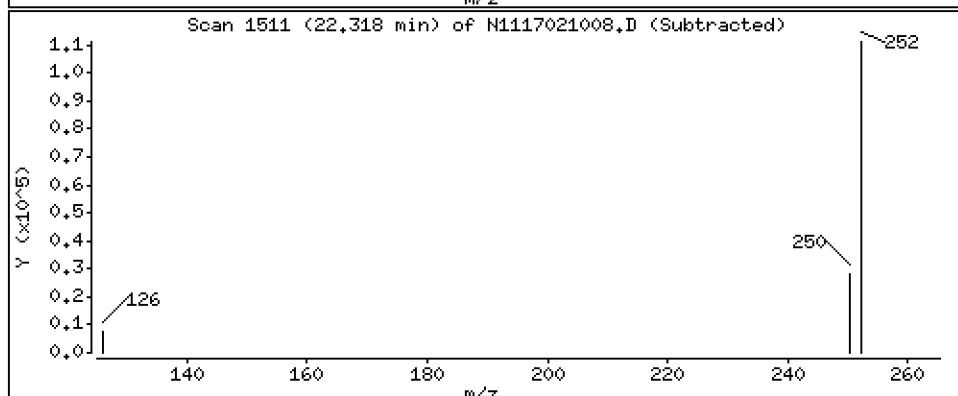
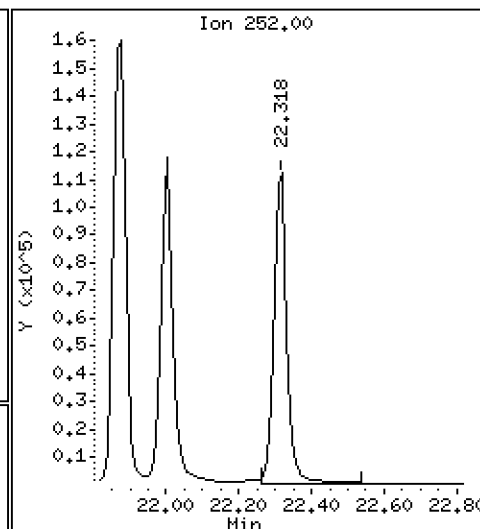
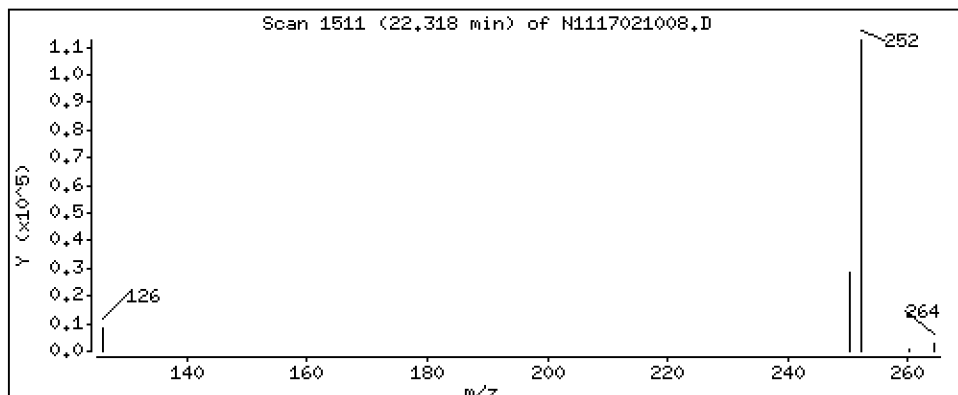
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 155 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

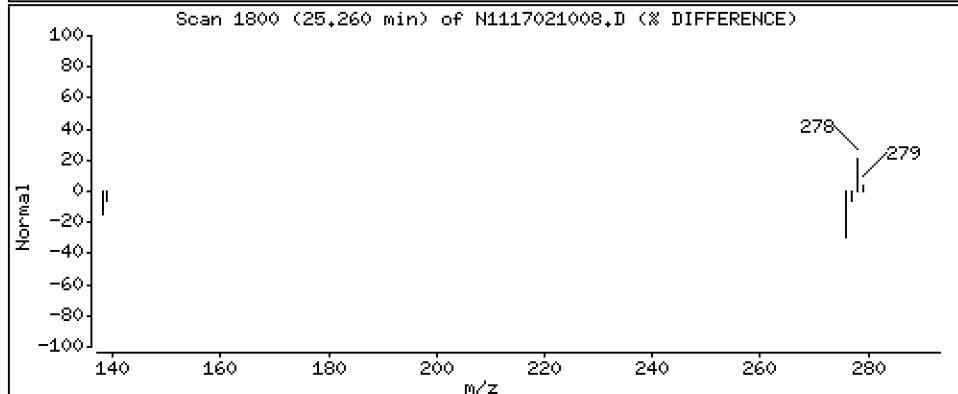
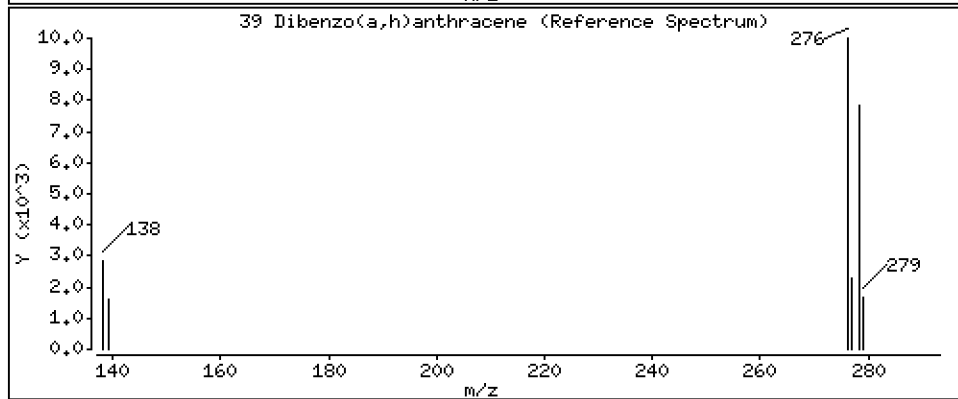
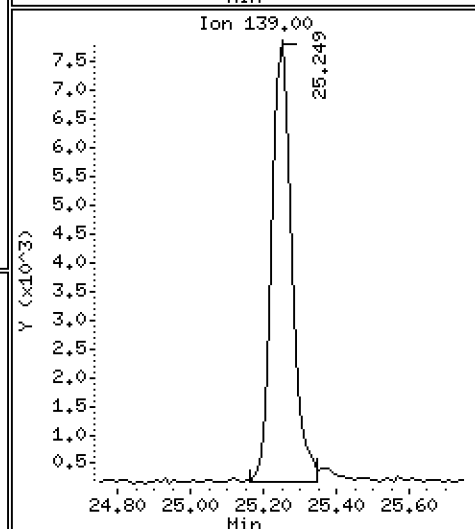
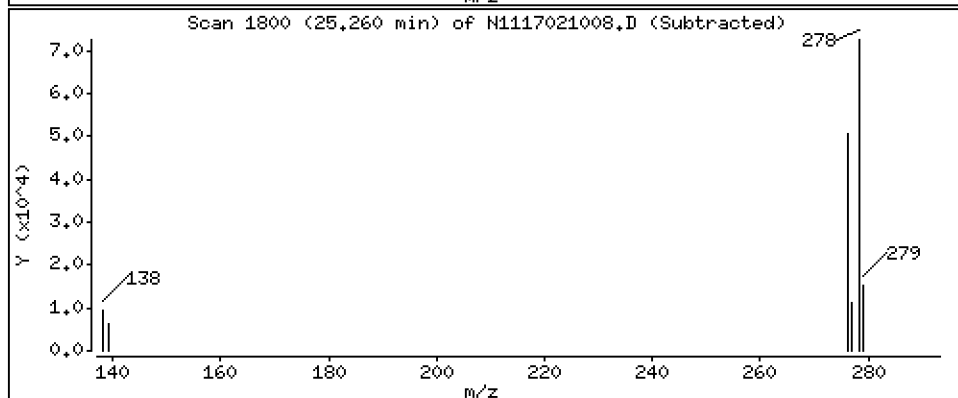
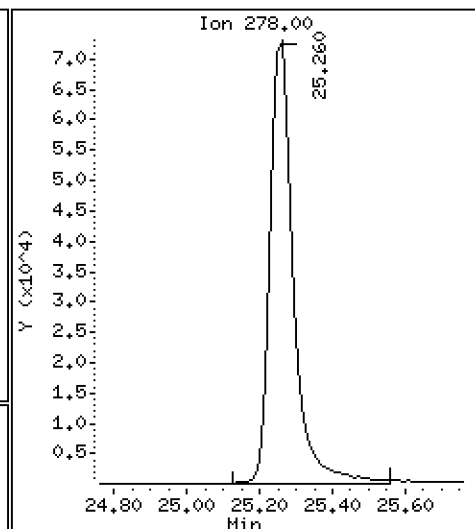
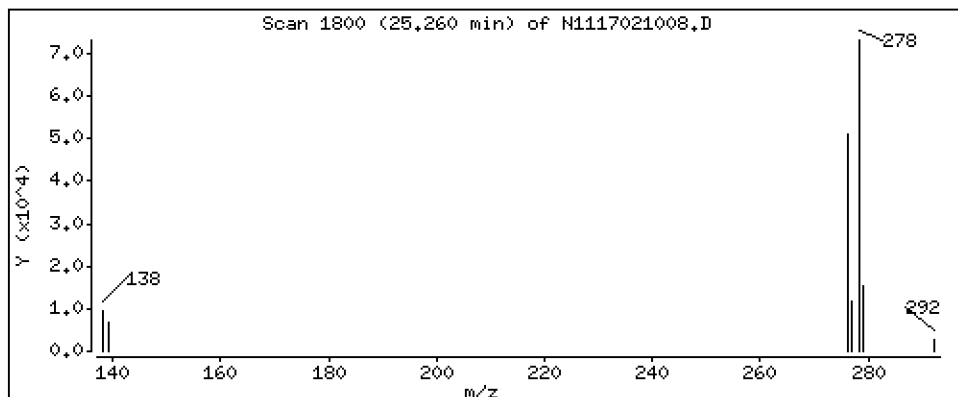
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 212 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

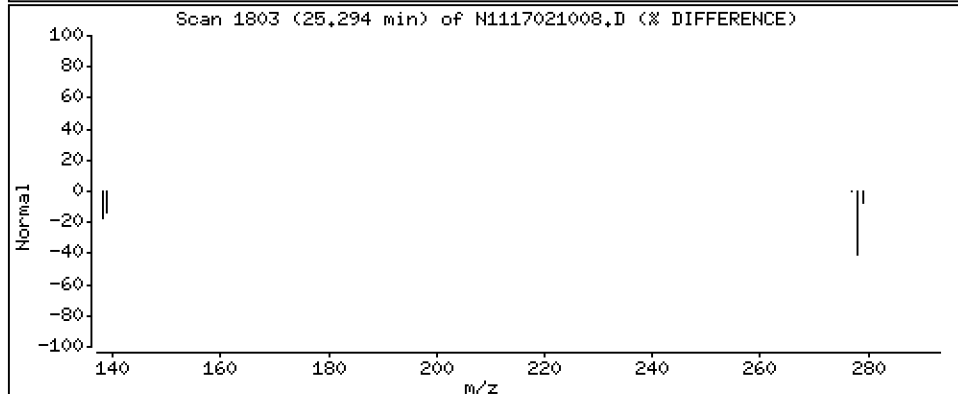
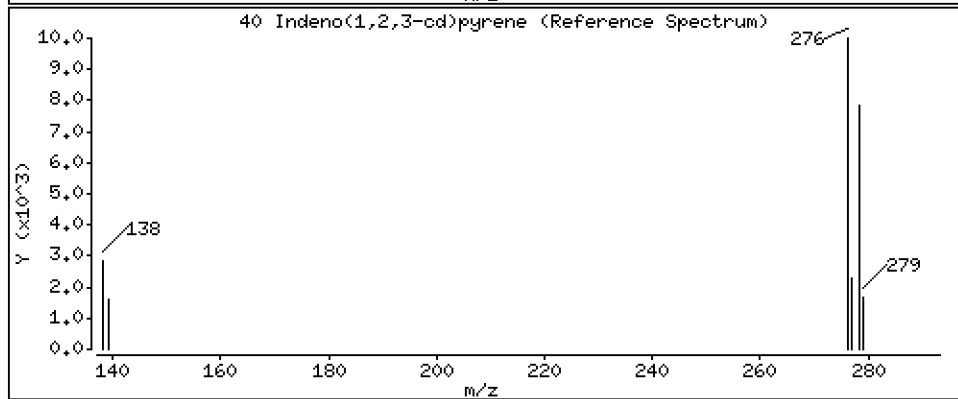
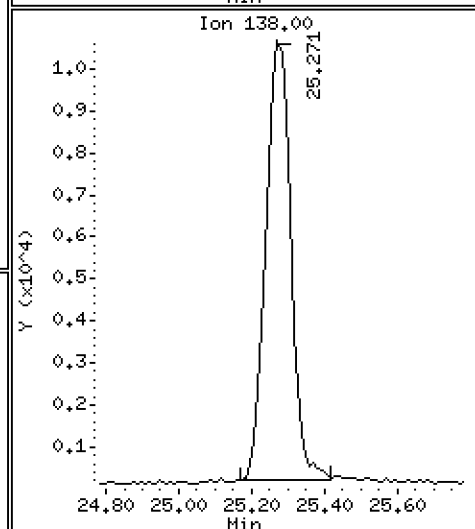
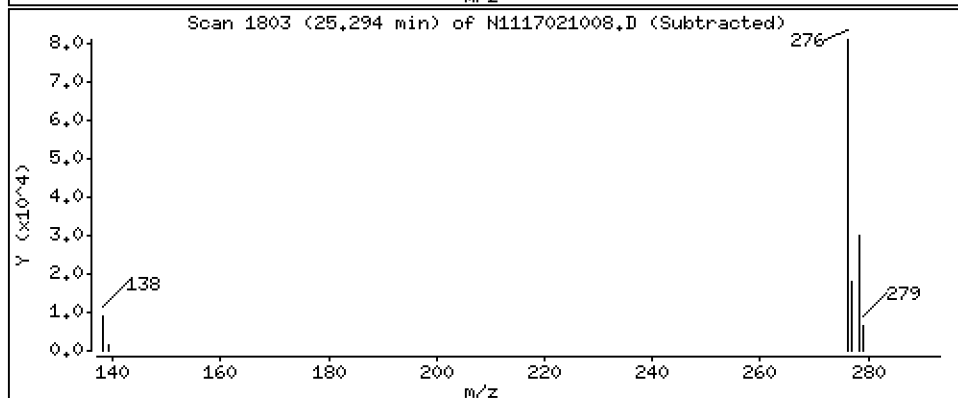
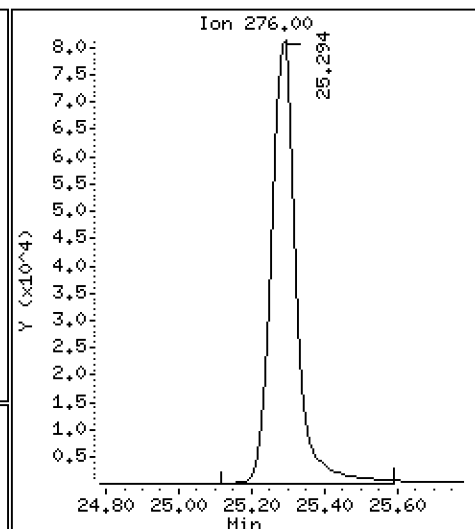
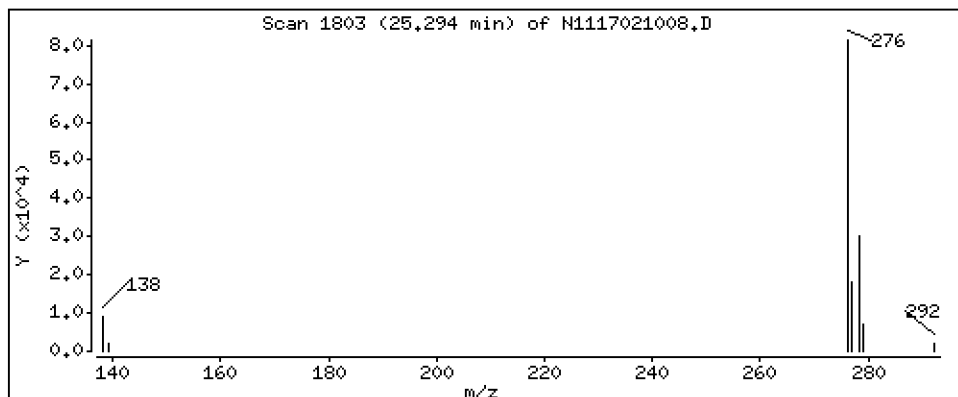
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 203 ng/mL



Date : 10-FEB-2017 15:16

Client ID:

Instrument: nt11.i

Sample Info: BFA0647-BS1

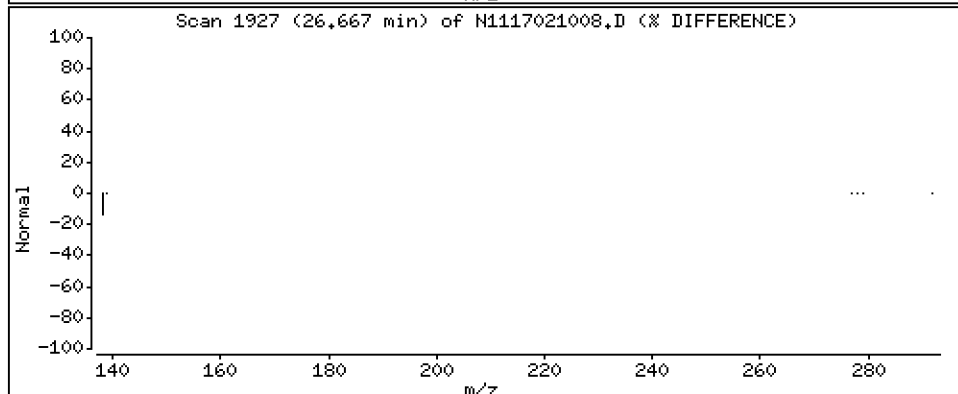
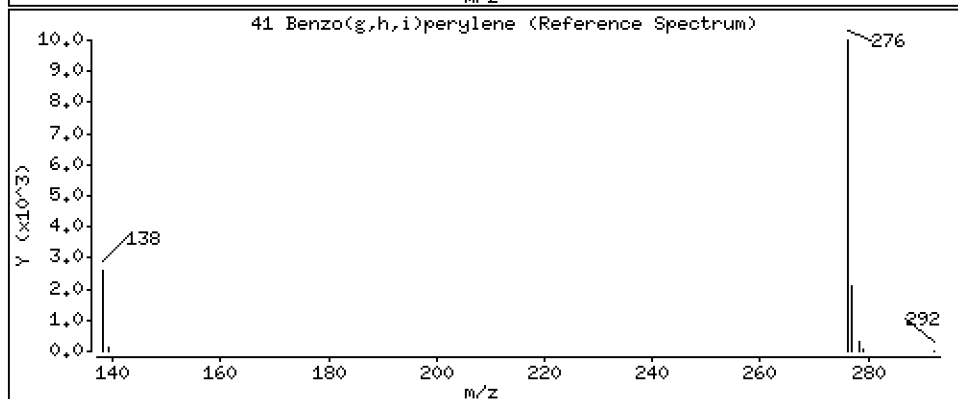
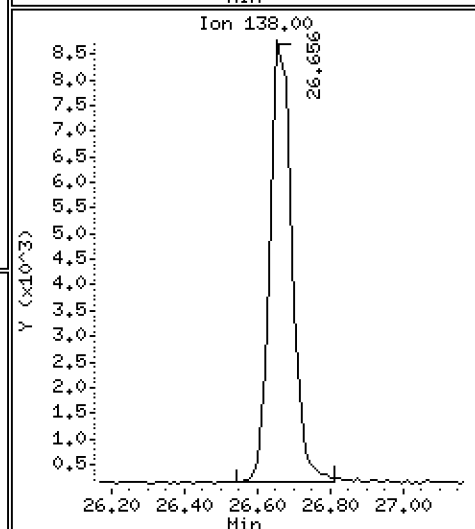
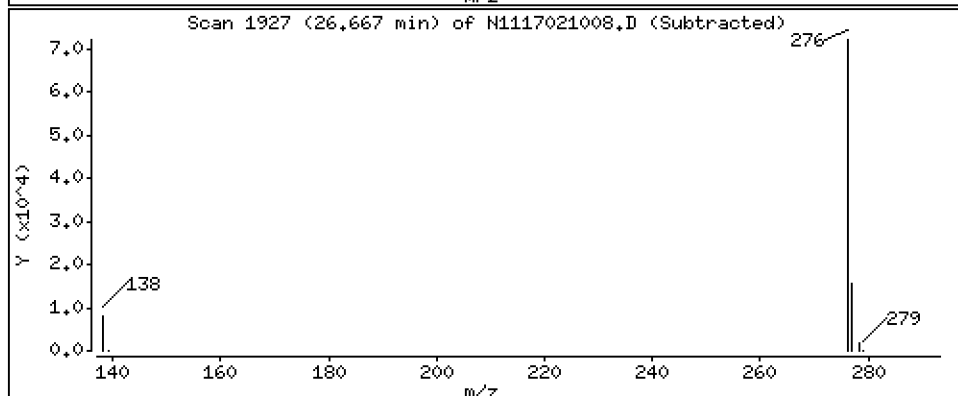
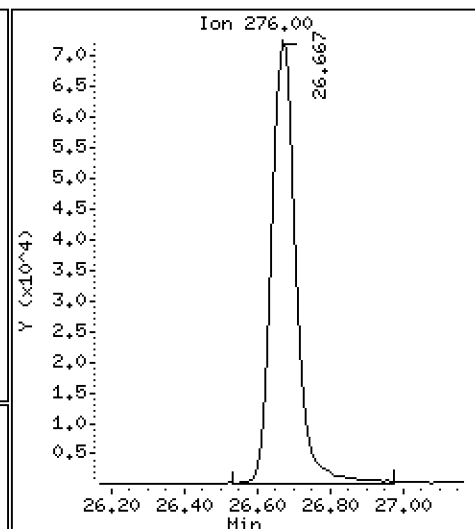
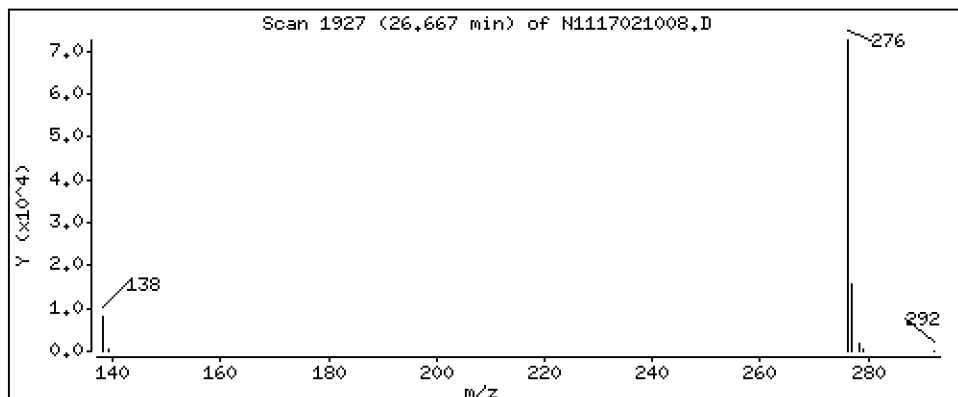
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 196 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021008.D
 Lab Smp Id: BFA0647-BS1
 Inj Date : 10-FEB-2017 15:16 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : BFA0647-BS1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.509	8.526	(1.000)	263463	200.000	
2 Naphthalene	128		8.545	8.554	(1.004)	205027	155.936	156
3 Benzo(b)thiophene	134		8.807	8.816	(1.035)	166817	155.856	156
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	190901	168.715	169
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	215146	166.026	166
6 1-Methylnaphthalene	142		9.813	9.823	(1.153)	207291	159.047	159
7 2-Chloronaphthalene	162		10.475	10.475	(0.907)	209701	150.139	150
8 Biphenyl	154		10.433	10.443	(0.903)	294029	158.313	158
9 2,6-Dimethylnaphthalene	156		10.496	10.496	(0.908)	225978	156.905	157
10 Acenaphthylene	152		11.401	11.410	(0.987)	220254	133.213	133
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	184009	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	166751	153.179	153
13 Dibenzofuran	168		11.822	11.822	(1.023)	276688	170.978	171
14 2,3,5-Trimethylnaphthalene	170		11.911	11.923	(1.031)	189940	183.425	183
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	228230	177.158	177
17 Dibenzothiophene	184		14.083	14.083	(0.988)	215863	128.646	129
* 18 Phenanthrene-d10	188		14.252	14.262	(1.000)	363382	200.000	
19 Phenanthrene	178		14.294	14.293	(1.003)	387370	186.456	186
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	313246	151.216	151
22 Carbazole	167		15.027	15.027	(1.054)	340230	148.827	149
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	392532	184.239	184
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	390656	202.410	202
25 Fluoranthene	202		16.406	16.405	(1.151)	441069	187.163	187
26 Pyrene	202		16.905	16.915	(0.889)	444642	193.995	194
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	401790	189.377	189
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	352838	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	431479	198.193	198
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	399310	217.134	217
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	392190	197.999	198
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	381273	215.942	216
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	21.875	21.875	(0.984)	366108	199.578	200
35 Benzo(a)pyrene	252	22.000	22.000	(0.989)	276600	161.338	161
* 36 Perylene-d12	264	22.240	22.240	(1.000)	341159	200.000	
37 Perylene	252	22.317	22.317	(1.003)	277541	155.051	155
§ 38 Dibenzo(a,h)anthracene-d14	292	25.116	25.116	(1.129)	245050	224.923	225
39 Dibenzo(a,h)anthracene	278	25.260	25.260	(1.136)	318592	212.404	212
40 Indeno(1,2,3-cd)pyrene	276	25.293	25.282	(1.137)	380474	203.274	203
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.199)	329635	196.160	196

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021008.D Calibration Time: 13:29
 Lab Smp Id: BFA0647-BS1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	263463	19.94
11 Acenaphthene-d10	135248	67624	270496	184009	36.05
18 Phenanthrene-d10	257021	128511	514042	363382	41.38
28 Chrysene-d12	259511	129756	519022	352838	35.96
36 Perylene-d12	257535	128768	515070	341159	32.47

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	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 - N1117021008.D

Lab ID: BFA0647-BS1
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 15:16

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



**MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM**

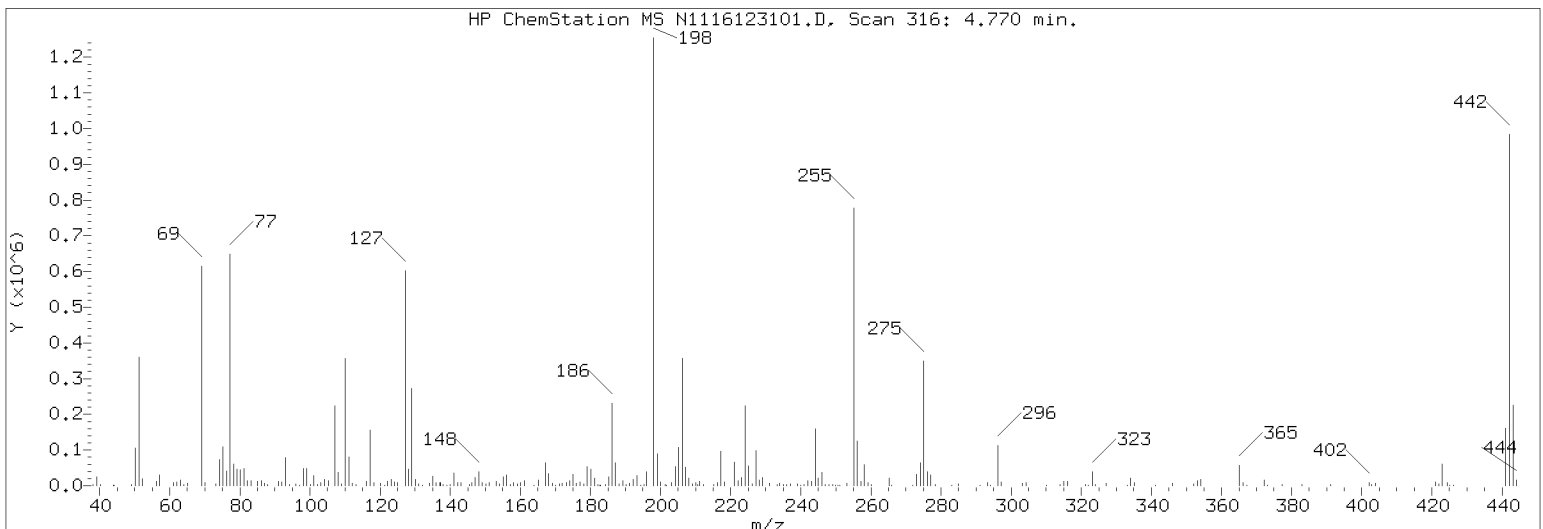
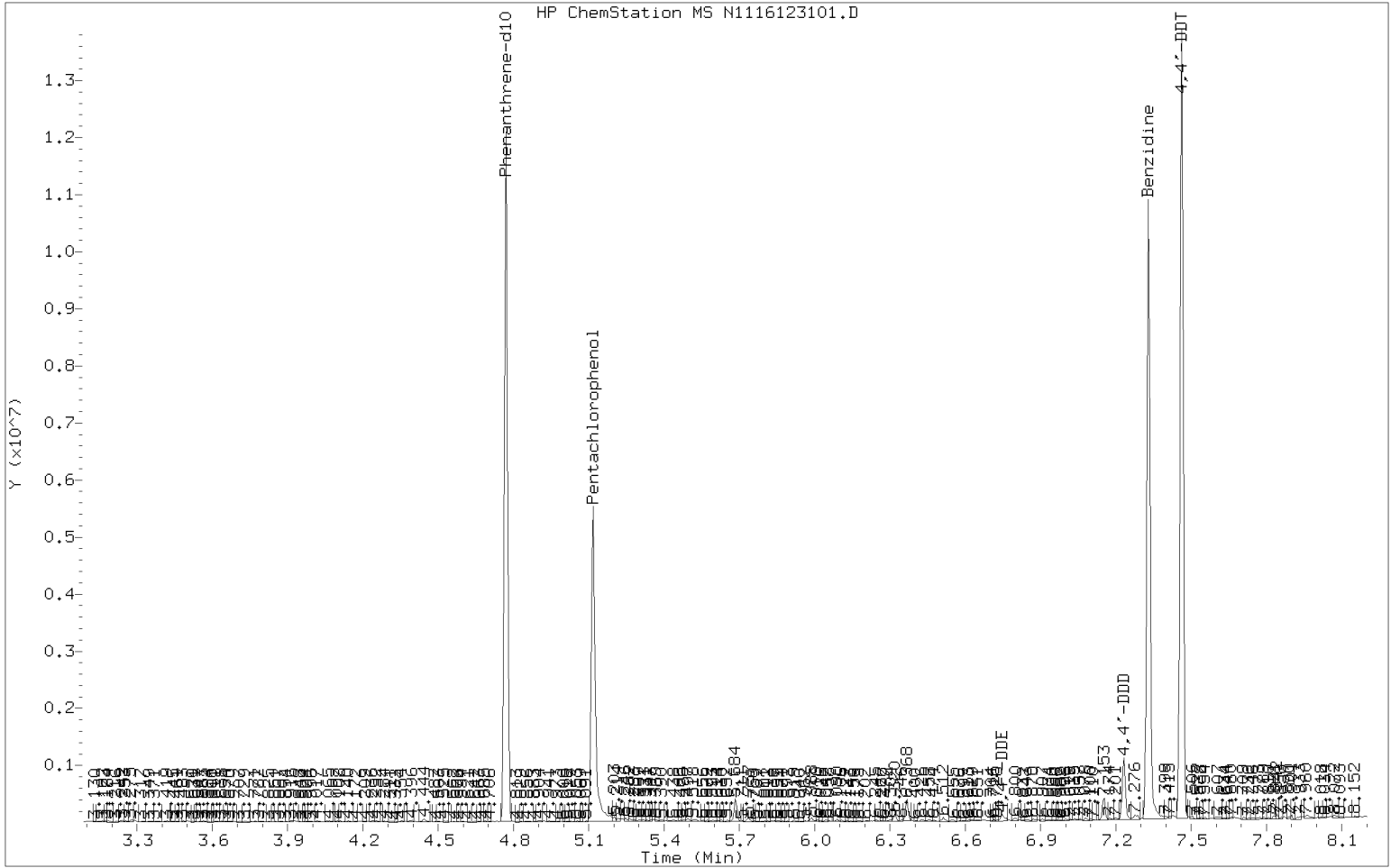
Laboratory: Analytical Resources, Inc. SDG: 16K0124
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Lab File ID: N1116123101.D Injection Date: 12/31/16
 Instrument ID: NT11 Injection Time: 08:12
 Sequence: SEL0401 Lab Sample ID: SEL0401-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	27.4	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	50.6	PASS
70	Less than 2% of 69	0.709	PASS
127	10 - 80% of 198	48	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.22	PASS
275	10 - 60% of 198	27.5	PASS
365	1 - 100% of 198	3.88	PASS
441	0.1 - 24% of 442	16.4	PASS
442	50 - 200% of 198	80.4	PASS
443	15 - 24% of 442	22.2	PASS

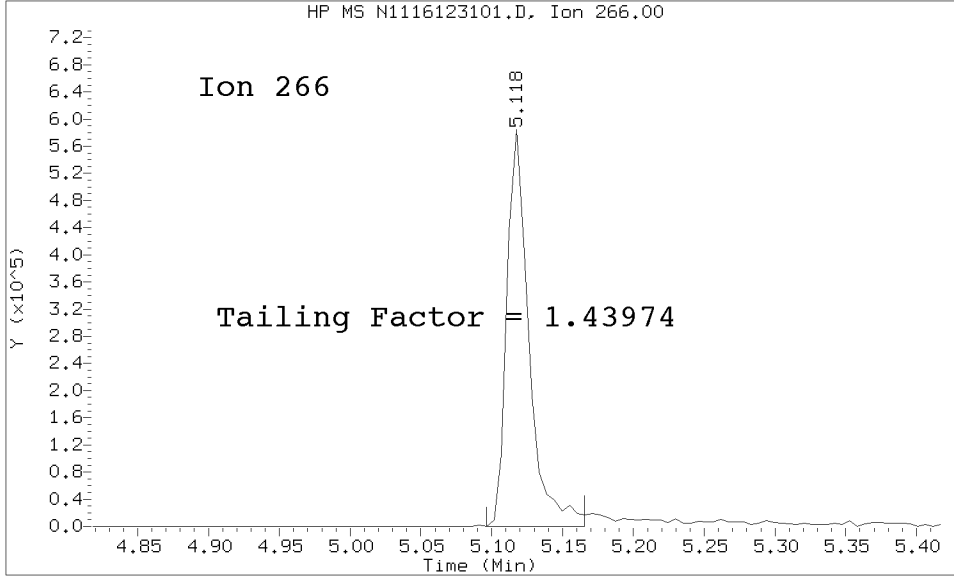
Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SEL0401-TUN1	N1116123101.D	12/31/2016	8:12
Cal Standard	SEL0401-CAL4	N1116123102.D	12/31/2016	8:28
Initial Cal Check	SEL0401-ICV1	N1116123102ICV.D	12/31/2016	8:28
Cal Standard	SEL0401-CAL6	N1116123103.D	12/31/2016	8:59
Cal Standard	SEL0401-CAL1	N1116123104.D	12/31/2016	9:30
Cal Standard	SEL0401-CAL5	N1116123105.D	12/31/2016	10:01
Cal Standard	SEL0401-CAL2	N1116123106.D	12/31/2016	10:32
Cal Standard	SEL0401-CAL3	N1116123107.D	12/31/2016	11:04
Secondary Cal Check	SEL0401-SCV1	N1116123108.D	12/31/2016	11:35
Blank	BEL0603-BLK1	N1116123109.D	12/31/2016	12:06
LCS	BEL0603-BS1	N1116123110.D	12/31/2016	12:37
ZZZZZ	16L0317-01	N1116123111.D	12/31/2016	13:08
ZZZZZ	16L0317-02	N1116123114.D	12/31/2016	14:42
ZZZZZ	16L0317-03	N1116123115.D	12/31/2016	15:13
ZZZZZ	16L0317-04	N1116123116.D	12/31/2016	15:45
ZZZZZ	16L0317-05	N1116123117.D	12/31/2016	16:16
ZZZZZ	16L0317-06	N1116123118.D	12/31/2016	16:47
ZZZZZ	16L0317-07	N1116123119.D	12/31/2016	17:18
ZZZZZ	16L0317-08	N1116123120.D	12/31/2016	17:50
ZZZZZ	16L0317-09	N1116123121.D	12/31/2016	18:21
ZZZZZ	16L0326-01	N1116123122.D	12/31/2016	18:52
Calibration Check	SEL0401-CCV1	N1116123125.D	12/31/2016	20:26

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20161231.b/N1116123101.D/N1116123101.D
Method Used: \20161231.b\DFTPP.m Inst: nt11
Injection Date: 31-DEC-2016 08:12 Operator: VTS
Sample Info: SEL0401-TUN1 SEL0401-TUN1
Report Date: 12/31/2016 12:45



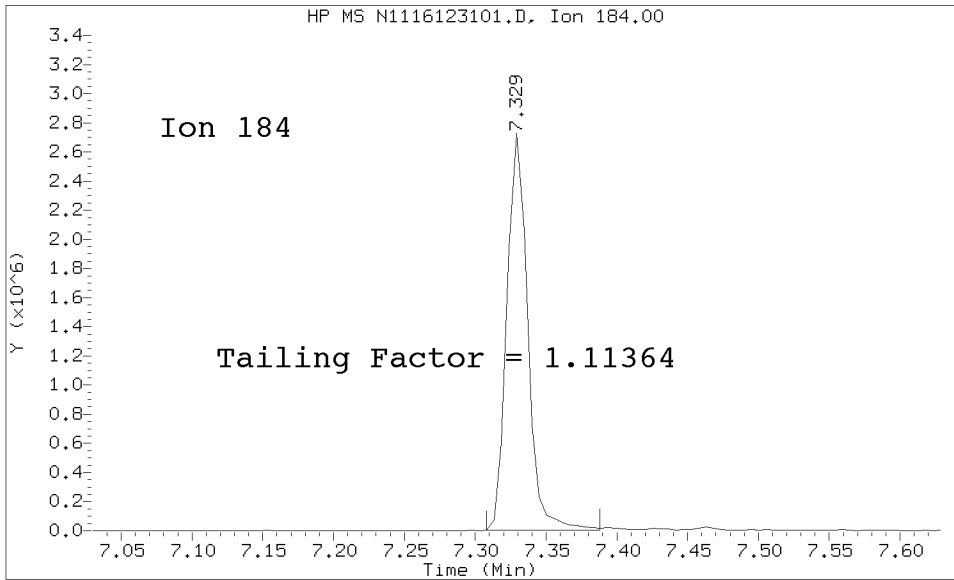
Datafile Analyzed: /20161231.b/N1116123101.D/N1116123101.D
Method Used: \20161231.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 31-DEC-2016 08:12 Operator: JW
Sample Info: SEL0401-TUN1
Report Date: 12/31/2016 12:45



Pentachlorophenol

=====
Exp. RT = 5.118
Found RT = 5.118

Tail Factor = 1.440 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.329
Found RT = 7.329

Tail Factor = 1.114 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4397436	2.000	PASS
Benzidine	1.1136364	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1823078			N/A
4,4-DDE	10805	0.6	20.0	PASS
4,4-DDD	178680	8.9	20.0	PASS
4,4-DDD + DDE	189485	9.4	20.0	PASS

Tuning Sample, nt11.i/20161231.b/N1116123101.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	27.42
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	50.60
70	Less than 2.00% of mass 69	0.36 (0.71)
127	10.00 - 80.00% of mass 198	47.99
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.22
275	10.00 - 60.00% of mass 198	27.50
365	Greater than 1.00% of mass 198	3.88
441	0.01 - 24.00% of mass 442	13.21 (16.44)
442	50.00 - 200.00% of mass 198	80.37
443	15.00 - 24.00% of mass 442	17.83 (22.19)

Data File: N1116123101.D
 Spectrum: Avg. Scans 315-317 (4.77), Background Scan 310
 Location of Maximum: 198.00
 Number of points: 259

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	4112	127.00	472128	195.00	3783	276.00	35832
39.00	21872	128.00	35424	196.00	29136	277.00	24352
40.00	1591	129.00	200960	198.00	983872	278.00	1853
49.00	4352	130.00	17360	199.00	70992	283.00	1906
50.00	74792	131.00	2839	200.00	7543	285.00	4004
51.00	269824	132.00	889	201.00	4410	291.00	689
52.00	13561	134.00	5138	202.00	780	293.00	4172
55.00	789	135.00	14732	203.00	7183	294.00	886
56.00	10365	136.00	5834	204.00	37800	296.00	77968
57.00	26032	137.00	11901	205.00	76208	297.00	13062
61.00	6870	138.00	2543	206.00	284608	298.00	1321
62.00	5796	139.00	1910	207.00	37632	303.00	6888
63.00	15472	140.00	2791	208.00	15406	304.00	5144
64.00	2998	141.00	26608	209.00	3515	308.00	1139
65.00	7777	142.00	9094	210.00	3938	309.00	678
69.00	497792	143.00	6338	211.00	12659	310.00	864
70.00	3530	144.00	1120	212.00	5219	314.00	3485
71.00	1051	145.00	900	214.00	1328	315.00	10152
73.00	1859	146.00	5984	215.00	3055	316.00	8308
74.00	53200	147.00	13024	216.00	4570	317.00	847
75.00	78288	148.00	27952	217.00	75856	321.00	2592
76.00	30672	149.00	5354	218.00	9820	322.00	1406
77.00	512768	150.00	1705	220.00	766	323.00	26928
78.00	44392	151.00	5823	221.00	49304	324.00	5058
79.00	35568	153.00	9711	222.00	11169	327.00	3349
80.00	28552	154.00	5611	223.00	21232	329.00	784
81.00	40432	155.00	17800	224.00	174656	332.00	907
82.00	11373	156.00	25512	225.00	42944	333.00	710
83.00	10164	157.00	5182	226.00	3179	334.00	18216
84.00	2152	158.00	5392	227.00	79240	335.00	4623
85.00	8183	159.00	5750	228.00	11518	341.00	3116
86.00	12389	160.00	8734	229.00	12419	346.00	4062
87.00	4760	161.00	10188	231.00	6545	348.00	734
88.00	946	162.00	679	233.00	923	352.00	7346
91.00	10133	164.00	1681	234.00	3904	353.00	7570
92.00	9964	165.00	9710	235.00	5133	354.00	9753
93.00	62720	166.00	6278	236.00	2580	365.00	38208
94.00	2847	167.00	55048	237.00	2584	366.00	5638
96.00	3701	168.00	21792	239.00	1717	367.00	685
97.00	1665	169.00	3346	240.00	2183	370.00	738
98.00	38336	170.00	860	241.00	4842	371.00	882
99.00	37392	171.00	1565	242.00	9670	372.00	12613
100.00	3115	172.00	5740	243.00	10997	373.00	2840
101.00	21528	173.00	7105	244.00	121632	377.00	2390
102.00	2207	174.00	12440	245.00	15142	378.00	779
103.00	6397	175.00	25664	246.00	24496	383.00	3636
104.00	12228	176.00	6082	247.00	4057	384.00	775
105.00	12690	177.00	11109	248.00	1121	390.00	2090
106.00	1874	178.00	3887	249.00	3581	391.00	1461

107.00	172288	179.00	45320	250.00	2340	402.00	6904
108.00	26136	180.00	31904	251.00	830	403.00	7868
109.00	6103	181.00	17320	252.00	2065	404.00	3612
110.00	277696	182.00	2527	253.00	6217	405.00	854
111.00	55616	183.00	843	255.00	593856	421.00	8805
112.00	6239	184.00	4234	256.00	92000	422.00	6157
113.00	1118	185.00	19384	257.00	9514	423.00	49568
116.00	9080	186.00	165504	258.00	43800	424.00	8122
117.00	113552	187.00	47728	259.00	5413	425.00	1511
118.00	6157	188.00	4565	260.00	2007	426.00	717
120.00	2605	189.00	8903	265.00	13043	441.00	130000
121.00	711	190.00	2087	266.00	1555	442.00	790720
122.00	10998	191.00	4688	272.00	1799	443.00	175424
123.00	16246	192.00	17088	273.00	21744	444.00	14344
124.00	7190	193.00	17808	274.00	52248	445.00	950
125.00	7218	194.00	2470	275.00	270528		



**MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270D-SIM**

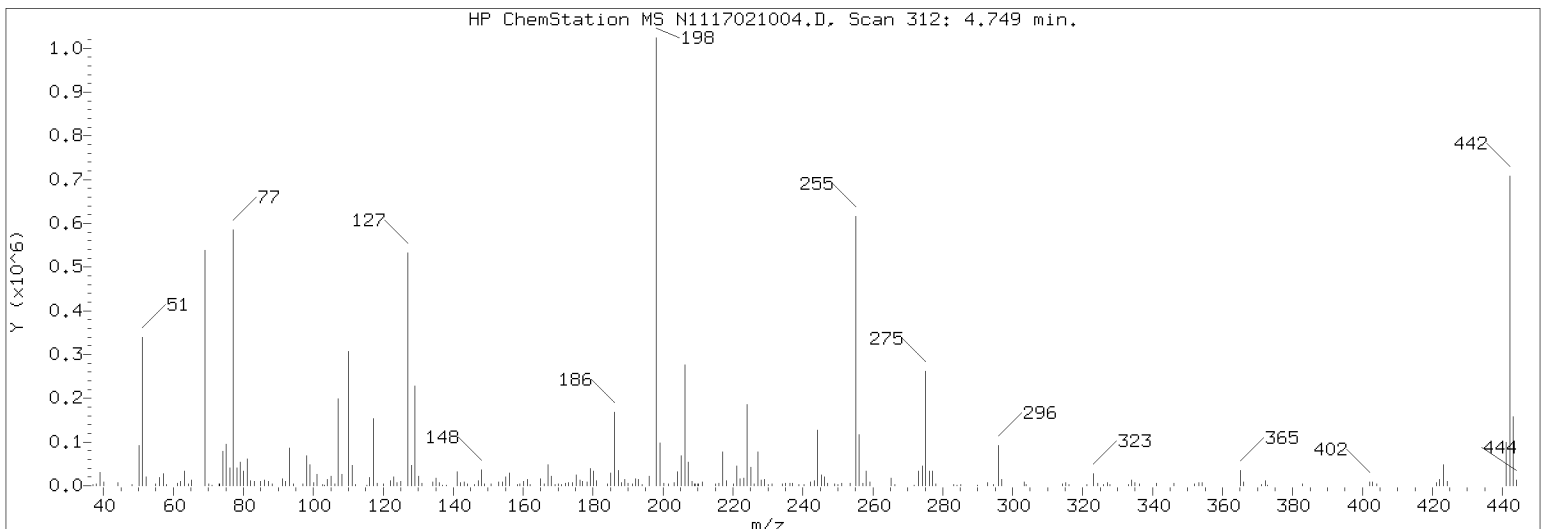
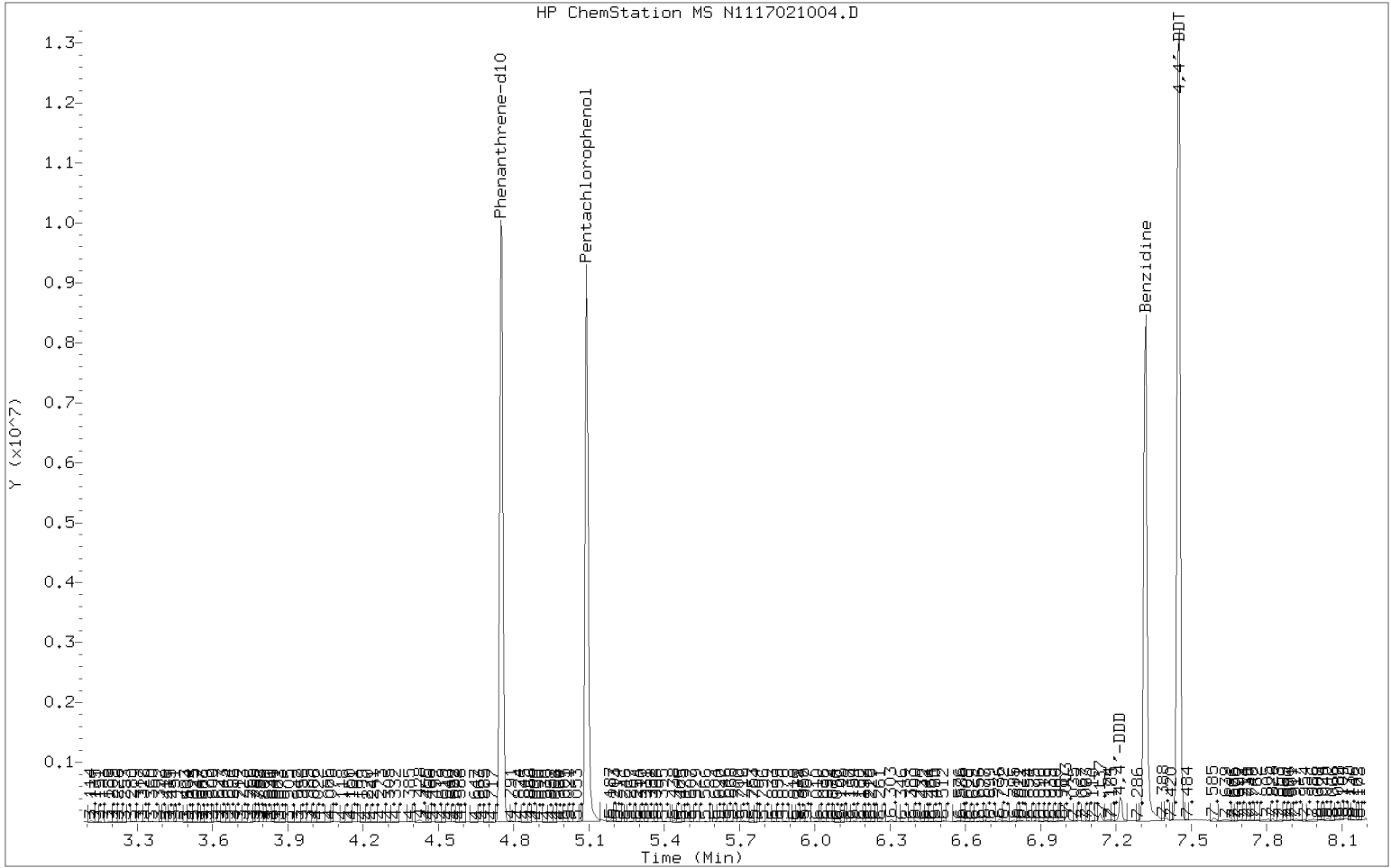
Laboratory: Analytical Resources, Inc. SDG: 16K0124
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Lab File ID: N1117021004.D Injection Date: 02/10/17
 Instrument ID: NT11 Injection Time: 13:08
 Sequence: SFB0130 Lab Sample ID: SFB0130-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	32.2	PASS
68	Less than 2% of 69	1.17	PASS
69	Less than 100% of 198	50.5	PASS
70	Less than 2% of 69	0.59	PASS
127	10 - 80% of 198	49.5	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	8.25	PASS
275	10 - 60% of 198	26.4	PASS
365	1 - 100% of 198	3.86	PASS
441	0.1 - 24% of 442	16	PASS
442	50 - 200% of 198	77.8	PASS
443	15 - 24% of 442	22.8	PASS

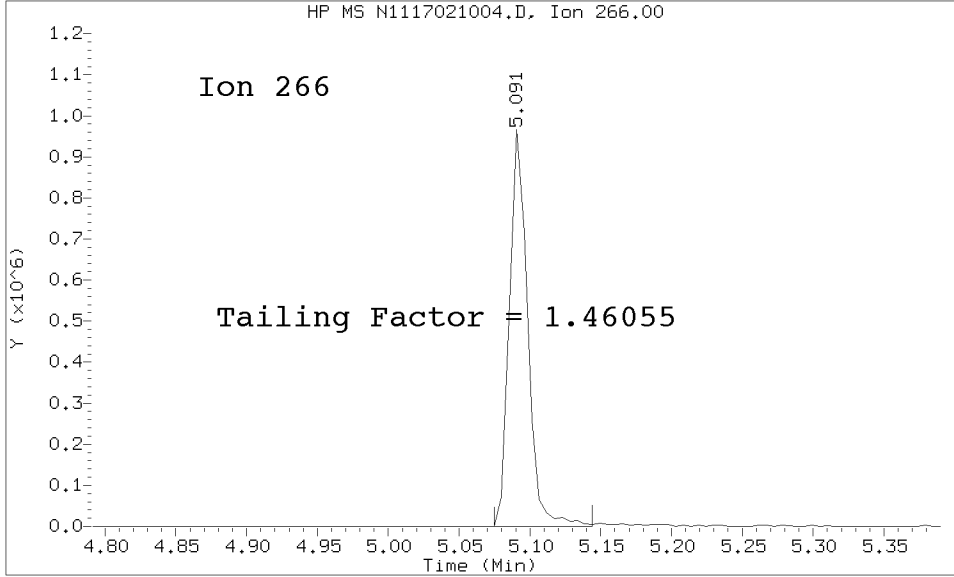
Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SFB0130-TUN1	N1117021004.D	02/10/2017	13:08
Initial Cal Check	SFB0130-ICV1	N1117021005.D	02/10/2017	13:29
Blank	BFA0647-BLK1	N1117021007.D	02/10/2017	14:40
LCS	BFA0647-BS1	N1117021008.D	02/10/2017	15:16
PG-T0-MUS-COC-161109	16K0124-01	N1117021009.D	02/10/2017	15:52
ZZZZZ	17A0053-01	N1117021010.D	02/10/2017	16:27
ZZZZZ	17A0053-04	N1117021011.D	02/10/2017	17:03
ZZZZZ	17A0053-05	N1117021012.D	02/10/2017	17:39
ZZZZZ	17A0053-06	N1117021013.D	02/10/2017	18:14
ZZZZZ	17A0053-07	N1117021014.D	02/10/2017	18:50
ZZZZZ	17A0053-08	N1117021015.D	02/10/2017	19:25
ZZZZZ	17A0053-09	N1117021016.D	02/10/2017	20:01
ZZZZZ	17A0053-11	N1117021018.D	02/10/2017	21:12
ZZZZZ	17A0053-12	N1117021019.D	02/10/2017	21:48
Calibration Check	SFB0130-CCV1	N1117021022.D	02/10/2017	23:35

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20170210.b/N1117021004.D/N1117021004.D
Method Used: \20170210.b\DFTPP.m Inst: nt11
Injection Date: 10-FEB-2017 13:08 Operator: VTS
Sample Info: SFB0130-TUN1 SFB0130-TUN1
Report Date: 02/10/2017 13:22



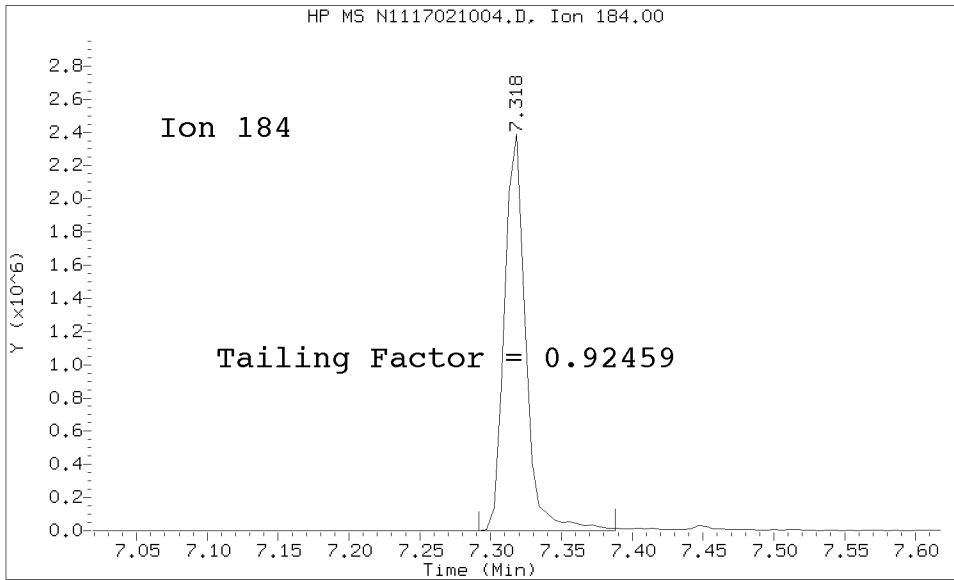
Datafile Analyzed: /20170210.b/N1117021004.D/N1117021004.D
Method Used: \20170210.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 10-FEB-2017 13:08 Operator: JW
Sample Info: SFB0130-TUN1
Report Date: 02/10/2017 13:22



Pentachlorophenol

=====
Exp. RT = 5.091
Found RT = 5.091

Tail Factor = 1.461 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.318
Found RT = 7.318

Tail Factor = 0.925 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4605475	2.000	PASS
Benzidine	0.9245902	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1909959			N/A
4,4-DDE	0	0.0	20.0	PASS
4,4-DDD	65124	3.3	20.0	PASS
4,4-DDD + DDE	65124	3.3	20.0	PASS

Tuning Sample, nt11.i/20170210.b/N1117021004.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	32.25
68	Less than 2.00% of mass 69	0.59 (1.17)
69	Mass 69 relative abundance	50.52
70	Less than 2.00% of mass 69	0.30 (0.59)
127	10.00 - 80.00% of mass 198	49.50
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	8.25
275	10.00 - 60.00% of mass 198	26.43
365	Greater than 1.00% of mass 198	3.86
441	0.01 - 24.00% of mass 442	12.46 (16.01)
442	50.00 - 200.00% of mass 198	77.79
443	15.00 - 24.00% of mass 442	17.76 (22.83)

Data File: N1117021004.D
 Spectrum: Avg. Scans 311-313 (4.75), Background Scan 306
 Location of Maximum: 198.00
 Number of points: 256

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1112	124.00	5327	199.00	67408	284.00	2629
38.00	3388	125.00	7215	200.00	5534	285.00	2459
39.00	22392	127.00	404480	201.00	2687	290.00	1612
43.00	682	128.00	39192	202.00	1347	292.00	815
44.00	2434	129.00	167040	203.00	7971	293.00	5695
48.00	763	130.00	13635	204.00	37280	294.00	2765
49.00	1388	131.00	4979	205.00	59656	295.00	1716
50.00	64376	134.00	6947	206.00	223168	296.00	68176
51.00	263488	135.00	12693	207.00	34656	297.00	11736
52.00	12367	136.00	7506	208.00	8855	298.00	753
55.00	2222	137.00	5835	209.00	5207	302.00	1190
56.00	12085	138.00	676	210.00	7572	303.00	8742
57.00	21528	140.00	884	211.00	9542	304.00	966
58.00	911	141.00	22016	215.00	3860	306.00	826
61.00	3551	142.00	6307	216.00	6472	314.00	3381
62.00	5999	143.00	4726	217.00	68328	315.00	7285
63.00	20632	144.00	2765	218.00	11061	316.00	3170
64.00	1454	146.00	2286	220.00	2443	317.00	712
65.00	9453	147.00	11927	221.00	41752	321.00	3119
68.00	4816	148.00	24160	222.00	11136	323.00	26048
69.00	412800	149.00	4182	223.00	18824	324.00	4622
70.00	2434	151.00	2506	224.00	149120	326.00	1146
71.00	709	153.00	6030	225.00	33584	327.00	5126
73.00	5947	154.00	5449	226.00	3161	328.00	2330
74.00	53128	155.00	13283	227.00	63456	332.00	2013
75.00	71008	156.00	20208	228.00	10071	333.00	1086
76.00	24624	157.00	1103	229.00	11696	334.00	15143
77.00	450432	158.00	3369	230.00	2508	335.00	4284
78.00	33960	159.00	3623	231.00	2769	336.00	1331
79.00	40216	160.00	6217	234.00	3441	341.00	2797
80.00	24872	161.00	10286	235.00	3920	346.00	4645
81.00	42200	162.00	2602	236.00	3821	352.00	3596
82.00	7059	165.00	9010	237.00	5195	353.00	6698
83.00	8376	166.00	6622	239.00	2496	354.00	6808
85.00	8268	167.00	42568	240.00	2578	355.00	765
86.00	9981	168.00	18328	241.00	3632	360.00	851
87.00	4336	169.00	2247	242.00	8334	365.00	31528
88.00	2738	170.00	2894	243.00	8173	366.00	4277
89.00	731	171.00	1108	244.00	101584	371.00	1592
91.00	10217	172.00	4512	245.00	15899	372.00	11666
92.00	10218	173.00	6041	246.00	19488	373.00	2352
93.00	63136	174.00	7358	247.00	4089	383.00	2427
94.00	2771	175.00	16085	249.00	3981	384.00	696
97.00	2493	176.00	6468	250.00	1761	391.00	1149
98.00	45304	177.00	9300	251.00	2017	392.00	720
99.00	35264	178.00	8422	253.00	2423	402.00	6785
100.00	4052	179.00	32344	254.00	3507	403.00	7205
101.00	18472	180.00	28536	255.00	497536	404.00	3648
103.00	5644	181.00	8094	256.00	92576	405.00	689

104.00	12071	182.00	900	257.00	5471	421.00	5545
105.00	14386	183.00	787	258.00	31272	422.00	9693
106.00	2769	184.00	2518	259.00	4949	423.00	38848
107.00	148608	185.00	20112	260.00	679	424.00	8628
108.00	22056	186.00	147584	261.00	1659	425.00	1546
109.00	836	187.00	35512	264.00	1144	431.00	758
110.00	225792	188.00	6217	265.00	13343	441.00	101776
111.00	37888	189.00	8546	266.00	1434	442.00	635584
112.00	3072	190.00	1791	272.00	3667	443.00	145088
115.00	673	191.00	3108	273.00	19472	444.00	11926
116.00	11843	192.00	13855	274.00	39968	445.00	1110
117.00	113096	193.00	10355	275.00	215936	470.00	1007
118.00	4622	194.00	3590	276.00	29696		
120.00	3147	195.00	1081	277.00	25912		
122.00	7183	196.00	23240	278.00	2282		
123.00	15024	198.00	817088	283.00	2736		



INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	16K0124
Client:	Anchor QEA, LLC	Project:	Port Gamble Shellfish Monitoring
Calibration:	ZL00083	Instrument:	NT11
Calibration Date:	12/31/2016 12:55	Column (1):	RXi-17Sil-MS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Naphthalene	10	1.003847	50	1.001275	100	0.9758562	250	1.062602	500	0.9820556	1000	0.9629658
2-Methylnaphthalene	10	0.9103806	50	0.9508846	100	0.95814	250	1.06781	500	1.012215	1000	1.00283
Acenaphthylene	10	1.647427	50	1.741513	100	1.761343	250	1.993984	500	1.833196	1000	1.805041
Acenaphthene	10	1.110055	50	1.156211	100	1.162354	250	1.281373	500	1.199898	1000	1.189345
Dibenzofuran	10	1.587854	50	1.694475	100	1.754052	250	1.936206	500	1.803204	1000	1.777581
Fluorene	10	1.323279	50	1.315215	100	1.354716	250	1.522897	500	1.4583	1000	1.427029
Phenanthrene	10	1.153031	50	1.135725	100	1.151657	250	1.226546	500	1.119446	1000	1.074277
Anthracene	10	1.105241	50	1.136145	100	1.149921	250	1.295038	500	1.085426	1000	1.069013
Fluoranthene	10	1.296262	50	1.263984	100	1.30226	250	1.410658	500	1.284922	1000	1.22416
Pyrene	10	1.338529	50	1.262826	100	1.296106	250	1.41204	500	1.281417	1000	1.204252
Benzo(a)anthracene	10	1.158433	50	1.170683	100	1.19074	250	1.299136	500	1.223838	1000	1.172871
Chrysene	10	1.232407	50	1.221908	100	1.250928	250	1.312616	500	1.223745	1000	1.162586
Benzo(b)fluoranthene	10	1.051834	50	1.022281	100	1.046711	250	1.151126	500	1.10065	1000	1.095952
Benzo(k)fluoranthene	10	1.144731	50	1.107831	100	1.137862	250	1.258147	500	1.165161	1000	1.153472
Carbazole	10	1.265106	50	1.236655	100	1.270232	250	1.329722	500	1.227712	1000	1.219916
Benzo(j)fluoranthene	10	0.9713139	50	0.9921422	100	0.9839014	250	1.152952	500	1.065556	1000	1.044594
Benzo(a)pyrene	10	0.9857074	50	0.95031	100	0.984937	250	1.083087	500	1.009812	1000	1.016452
Indeno(1,2,3-cd)pyrene	10	1.107322	50	0.9780917	100	1.05206	250	1.16699	500	1.118211	1000	1.161003
Dibenzo(a,h)anthracene	10	0.8962873	50	0.7794382	100	0.8340598	250	0.9318345	500	0.8977528	1000	0.9365236
Benzo(g,h,i)perylene	10	1.043281	50	0.9229693	100	0.9477007	250	1.021646	500	0.9711213	1000	1.004083
1-Methylnaphthalene	10	0.930743	50	0.9530673	100	0.9717923	250	1.103208	500	0.9960192	1000	0.981482
Perylene	10	1.033129	50	0.999426	100	1.032398	250	1.120913	500	1.05538	1000	1.054947
Benzo(e)pyrene	10	1.018527	50	1.049682	100	1.053953	250	1.155674	500	1.094205	1000	1.080365
2-Chloronaphthalene	10	1.290662	50	1.525955	100	1.47794	250	1.680675	500	1.565743	1000	1.56756
Benzo(b)thiophene	10	0.759499	50	0.7903811	100	0.7933996	250	0.8815537	500	0.8240092	1000	0.8262029
2-Methylnaphthalene-d10	10	0.7671766	50	0.7958566	100	0.8316088	250	0.9750899	500	0.8888552	1000	0.8950724
Dibenzo[a,h]anthracene-d14	10	0.6167625	50	0.564575	100	0.5815519	250	0.701034	500	0.6665677	1000	0.7016884
Fluoranthene-d10	10	0.9871043	50	1.055741	100	1.048505	250	1.162744	500	1.072323	1000	1.047111



INITIAL CALIBRATION DATA

EPA 8270D-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	16K0124
Client:	Anchor QEA, LLC	Project:	Port Gamble Shellfish Monitoring
Calibration:	ZL00083	Instrument:	NT11
Calibration Date:	12/31/2016 12:55	Column (1):	RXi-17Sil-MS

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Naphthalene	0.9981003	3.5			RSD (20)	
2-Methylnaphthalene	0.9837101	5.6			RSD (20)	
Acenaphthylene	1.797084	6.4			RSD (20)	
Acenaphthene	1.183206	4.9			RSD (20)	
Dibenzofuran	1.758895	6.6			RSD (20)	
Fluorene	1.400239	5.9			RSD (20)	
Phenanthrene	1.143447	4.4			RSD (20)	
Anthracene	1.140131	7.2			RSD (20)	
Fluoranthene	1.297041	4.8			RSD (20)	
Pyrene	1.299195	5.4			RSD (20)	
Benzo(a)anthracene	1.202617	4.4			RSD (20)	
Chrysene	1.234032	3.9			RSD (20)	
Benzo(b)fluoranthene	1.078092	4.3			RSD (20)	
Benzo(k)fluoranthene	1.161201	4.4			RSD (20)	
Carbazole	1.258224	3.2			RSD (20)	
Benzo(j)fluoranthene	1.035077	6.6			RSD (20)	
Benzo(a)pyrene	1.005051	4.5			RSD (20)	
Indeno(1,2,3-cd)pyrene	1.09728	6.5			RSD (20)	
Dibenzo(a,h)anthracene	0.879316	7.0			RSD (20)	
Benzo(g,h,i)perylene	0.9851335	4.7			RSD (20)	
1-Methylnaphthalene	0.9893853	6.1			RSD (20)	
Perylene	1.049366	3.9			RSD (20)	
Benzo(e)pyrene	1.075401	4.4			RSD (20)	
2-Chloronaphthalene	1.518089	8.6			RSD (20)	
Benzo(b)thiophene	0.8125076	5.1			RSD (20)	
2-Methylnaphthalene-d10	0.8589433	8.8			RSD (20)	
Dibenzo[a,h]anthracene-d14	0.6386966	9.4			RSD (20)	
Fluoranthene-d10	1.062255	5.4			RSD (20)	

A Street
16L0317
Laurel Station
16L0326

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)	Water	EPA 8270D-SIM

Checklist: Initial Calibration Checklist-SVOA

# Checklist Item	Response	Analyst Initials	Date
1 Element Calibration Code Comments: <i>ZL00083</i>	YES	VTS	01/04/2017
2 DFTPP Tune met criteria	YES	VTS	01/04/2017
3 DDT breakdown <20%	YES	VTS	01/04/2017
4 Peak Tailing factor <= 2%	YES	VTS	01/04/2017
5 ICal meets 20% RSD, LR COD, and QR COD limits	YES	VTS	01/04/2017
6 NO ICAL Q Flag applied	YES	VTS	01/04/2017
7 Manual integrations include before/after pictures	YES	VTS	01/04/2017
8 Spectral Library matches updated	NA	VTS	01/04/2017
9 Internal Standard areas within 50-200% from reference	YES	VTS	01/04/2017
10 Minimum response factors met	YES	VTS	01/04/2017
11 All SCV within +/- 20% (DOD) Comments: <i>Solution expired 12/26/16. All within 20%</i>	YES	VTS	01/04/2017
12 All SCV within +/- 30%	YES	VTS	01/04/2017
13 NO Linear or Quadratic fits used	YES	VTS	01/04/2017
14 NO Calibration points dropped	YES	VTS	01/04/2017
15 Additional notes	NA	VTS	01/04/2017
16 Reviewer approval (Reviewer)	YES	BB	01/04/2017

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-DEC-2016 08:28
 End Cal Date : 31-DEC-2016 11:04
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Last Edit : 31-Dec-2016 12:31 van
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt11.i\20161231.b\N1116123104.D
 Level 2: \\target\share\chem3\nt11.i\20161231.b\N1116123106.D
 Level 3: \\target\share\chem3\nt11.i\20161231.b\N1116123107.D
 Level 4: \\target\share\chem3\nt11.i\20161231.b\N1116123102.D
 Level 5: \\target\share\chem3\nt11.i\20161231.b\N1116123105.D
 Level 6: \\target\share\chem3\nt11.i\20161231.b\N1116123103.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
2 Naphthalene	1.00385	1.00127	0.97586	1.06260	0.98206	0.96297	0.99810	3.525
3 Benzo(b)thiophene	0.75950	0.79038	0.79340	0.88155	0.82401	0.82620	0.81251	5.149
5 2-Methylnaphthalene	0.91038	0.95088	0.95814	1.06781	1.01221	1.00283	0.98371	5.634
6 1-Methylnaphthalene	0.93074	0.95307	0.97179	1.10321	0.99602	0.98148	0.98939	6.086
7 2-Chloronaphthalene	1.29066	1.52595	1.47794	1.68068	1.56574	1.56756	1.51809	8.566
8 Biphenyl	1.81065	2.06316	1.97102	2.22216	2.04125	2.00375	2.01867	6.634
9 2,6-Dimethylnaphthalene	1.39283	1.48193	1.51604	1.75351	1.62569	1.62232	1.56538	8.153
10 Acenaphthylene	1.64743	1.74151	1.76134	1.99398	1.83320	1.80504	1.79708	6.437
12 Acenaphthene	1.11006	1.15621	1.16235	1.28137	1.19990	1.18935	1.18321	4.850
13 Dibenzofuran	1.58785	1.69447	1.75405	1.93621	1.80320	1.77758	1.75890	6.590
14 2,3,5-Trimethylnaphthalene	1.00007	1.04759	1.10342	1.25350	1.17736	1.17111	1.12551	8.282
16 Fluorene	1.32328	1.31521	1.35472	1.52290	1.45830	1.42703	1.40024	5.920
17 Dibenzothiophene	0.86551	0.91754	0.92192	1.00898	0.92351	0.90370	0.92353	5.102
19 Phenanthrene	1.15303	1.13573	1.15166	1.22655	1.11945	1.07428	1.14345	4.370
21 Anthracene	1.10524	1.13615	1.14992	1.29504	1.08543	1.06901	1.14013	7.166
22 Carbazole	1.26511	1.23665	1.27023	1.32972	1.22771	1.21992	1.25822	3.212
23 1-Methylphenanthrene	1.08572	1.14899	1.16099	1.29410	1.18423	1.16172	1.17263	5.816
25 Fluoranthene	1.29626	1.26398	1.30226	1.41066	1.28492	1.22416	1.29704	4.813
26 Pyrene	1.33853	1.26283	1.29611	1.41204	1.28142	1.20425	1.29919	5.437
27 Benzo(a)anthracene	1.15843	1.17068	1.19074	1.29914	1.22384	1.17287	1.20262	4.363
29 Chrysene	1.23241	1.22191	1.25093	1.31262	1.22375	1.16259	1.23403	3.940
30 Benzo(b)fluoranthene	1.05183	1.02228	1.04671	1.15113	1.10065	1.09595	1.07809	4.341
31 Benzo(k)fluoranthene	1.14473	1.10783	1.13786	1.25815	1.16516	1.15347	1.16120	4.414
32 Benzo(j)fluoranthene	0.97131	0.99214	0.98390	1.15295	1.06556	1.04459	1.03508	6.615
34 Benzo(e)pyrene	1.01853	1.04968	1.05395	1.15567	1.09420	1.08037	1.07540	4.397
35 Benzo(a)pyrene	0.98571	0.95031	0.98494	1.08309	1.00981	1.01645	1.00505	4.454
37 Perylene	1.03313	0.99943	1.03240	1.12091	1.05538	1.05495	1.04937	3.867
39 Dibenzo(a,h)anthracene	0.89629	0.77944	0.83406	0.93183	0.89775	0.93652	0.87932	6.952

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 31-DEC-2016 08:28
 End Cal Date : 31-DEC-2016 11:04
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Last Edit : 31-Dec-2016 12:31 van
 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
40 Indeno(1,2,3-cd)pyrene	1.10732	0.97809	1.05206	1.16699	1.11821	1.16100	1.09728	6.535
41 Benzo(g,h,i)perylene	1.04328	0.92297	0.94770	1.02165	0.97112	1.00408	0.98513	4.660
\$ 4 2-Methylnaphthalene-d10	0.76718	0.79586	0.83161	0.97509	0.88886	0.89507	0.85894	8.842
\$ 15 Fluorene-d10	0.91974	0.91177	0.92607	1.04754	0.98062	0.97429	0.96001	5.390
\$ 20 Anthracene-d10	1.11208	0.93118	0.96346	1.04332	0.94594	0.94085	0.98947	7.325
\$ 24 Fluoranthene-d10	0.98710	1.05574	1.04851	1.16274	1.07232	1.04711	1.06225	5.376
\$ 33 Benzo(e)pyrene-d12	0.94169	0.96445	0.97436	1.06024	1.00264	1.00444	0.99130	4.165
\$ 38 Dibenzo(a,h)anthracene-d14	0.61676	0.56457	0.58155	0.70103	0.66657	0.70169	0.63870	9.361

Report Date : 31-Dec-2016 12:33

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20161231.b
Inst ID: nt11.i

ID: RT01 RT02 RT03 RT04 RT05 RT06
FILENAME: N1116123102 N1116123103 N1116123104 N1116123105 N1116123106 N1116123107
INT_DATE: 31-DEC-2016 31-DEC-2016 31-DEC-2016 31-DEC-2016 31-DEC-2016 31-DEC-2016
INT_TIME: 08:28 08:59 09:30 10:01 10:32 11:04

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 1 Naphthalene-d8	7.226	7.226	7.226	7.226	7.226	7.226	7.226	6.976-7.476	7.226	0.000
2 Naphthalene	7.262	7.253	7.253	7.253	7.253	7.262	7.012-7.512	7.254	0.004	0.000
3 Benzof(b)thiophene	7.515	7.515	7.515	7.515	7.515	7.515	7.265-7.765	7.515	0.000	0.000
* 4 2-Methylnaphthalene-d1	8.201	8.201	8.201	8.201	8.201	8.201	7.951-8.451	8.201	0.000	0.000
5 2-Methylnaphthalene	8.254	8.254	8.254	8.254	8.254	8.254	8.004-8.504	8.254	0.000	0.000
6 1-Methylnaphthalene	8.516	8.516	8.516	8.516	8.516	8.516	8.266-8.766	8.516	0.000	0.000
7 2-Chloronaphthalene	9.168	9.168	9.168	9.168	9.168	9.168	8.918-9.418	9.168	0.000	0.000
8 Biphenyl	9.136	9.126	9.136	9.126	9.126	9.136	8.886-9.386	9.129	0.005	0.000
9 2,6-Dimethylnaphthalen	9.189	9.189	9.189	9.189	9.189	9.189	8.939-9.439	9.189	0.000	0.000
10 Acenaphthylene	10.098	10.098	10.098	10.098	10.098	10.098	9.848-10.348	10.098	0.000	0.000
* 11 Acenaphthene-d10	10.252	10.252	10.252	10.252	10.252	10.252	10.002-10.502	10.252	0.000	0.000
12 Acenaphthene	10.315	10.315	10.315	10.315	10.315	10.315	10.065-10.565	10.315	0.000	0.000
13 Dibenzofuran	10.519	10.519	10.519	10.519	10.519	10.519	10.269-10.769	10.519	0.000	0.000
14 2,3,5-Trimethylnaphtha	10.608	10.608	10.608	10.608	10.608	10.608	10.358-10.858	10.608	0.000	0.000
\$ 15 Fluorene-d10	11.088	11.088	11.088	11.088	11.088	11.088	10.838-11.338	11.088	0.000	0.000
16 Fluorene	11.151	11.139	11.151	11.139	11.139	11.151	10.901-11.401	11.143	0.007	0.000
17 Dibenzochlaphene	12.778	12.767	12.767	12.767	12.767	12.778	12.528-13.028	12.769	0.004	0.000

Reviewer 1
Reviewer 2

WD

Date: 12-31-16
Date: 1/4/17

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20161231.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 18 Phenanthrene-d10	12.946	12.946	12.946	12.946	12.946	12.946	12.946	12.696-13.196	12.946	0.000
19 Phenanthrene	12.988	12.988	12.988	12.988	12.988	12.988	12.988	12.738-13.238	12.988	0.000
\$ 20 Anthracene-d10	13.009	13.009	13.009	13.009	13.009	13.009	13.009	12.759-13.259	13.009	0.000
21 Anthracene	13.040	13.040	13.040	13.040	13.040	13.040	13.040	12.790-13.290	13.040	0.000
22 Carbazole	13.713	13.713	13.723	13.713	13.722	13.713	13.713	13.463-13.963	13.716	0.005
23 1-Methylphenanthrene	13.984	13.985	13.985	13.984	13.984	13.984	13.984	13.734-14.234	13.984	0.000
\$ 24 Fluoranthene-d10	15.056	15.056	15.056	15.056	15.056	15.056	15.056	14.806-15.306	15.056	0.000
25 Fluoranthene	15.084	15.085	15.085	15.084	15.084	15.084	15.084	14.834-15.334	15.084	0.000
26 Pyrene	15.594	15.594	15.594	15.594	15.594	15.594	15.594	15.344-15.844	15.594	0.000
27 Benzo(a)anthracene	17.611	17.603	17.603	17.602	17.602	17.602	17.611	17.361-17.861	17.604	0.003
* 28 Chrysene-d12	17.702	17.702	17.702	17.702	17.702	17.702	17.702	17.452-17.952	17.702	0.000
29 Chrysene	17.752	17.752	17.752	17.752	17.752	17.752	17.752	17.502-18.002	17.752	0.000
30 Benzo(b)fluoranthene	19.677	19.677	19.677	19.677	19.677	19.677	19.677	19.427-19.927	19.677	0.000
31 Benzo(k)fluoranthene	19.734	19.735	19.725	19.734	19.735	19.735	19.734	19.484-19.984	19.733	0.004
32 Benzo(j)fluoranthene	19.802	19.802	19.802	19.802	19.802	19.802	19.802	19.552-20.052	19.802	0.000
\$ 33 Benzo(e)pyrene-d12	20.484	20.475	20.475	20.474	20.474	20.474	20.484	20.234-20.734	20.476	0.004
34 Benzo(e)pyrene	20.551	20.551	20.551	20.551	20.551	20.551	20.551	20.301-20.801	20.551	0.000
35 Benzo(a)pyrene	20.686	20.686	20.686	20.676	20.686	20.686	20.686	20.436-20.936	20.684	0.004
* 36 Perylene-d12	20.926	20.917	20.917	20.916	20.916	20.916	20.926	20.676-21.176	20.918	0.004
37 Perylene	20.993	20.993	20.993	20.993	20.993	20.993	20.993	20.743-21.243	20.993	0.000
\$ 38 Dibenzo(a,h)anthracene	23.808	23.809	23.798	23.797	23.809	23.809	23.808	23.558-24.058	23.805	0.006
39 Dibenzo(a,h)anthracene	23.941	23.942	23.942	23.941	23.941	23.942	23.941	23.691-24.191	23.941	0.000

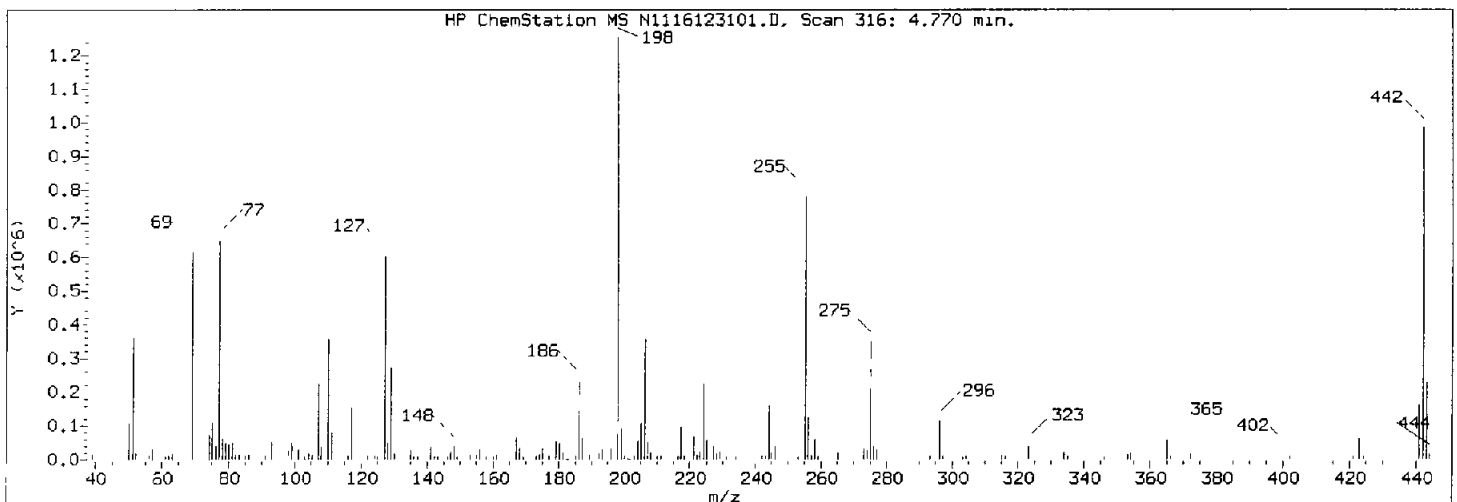
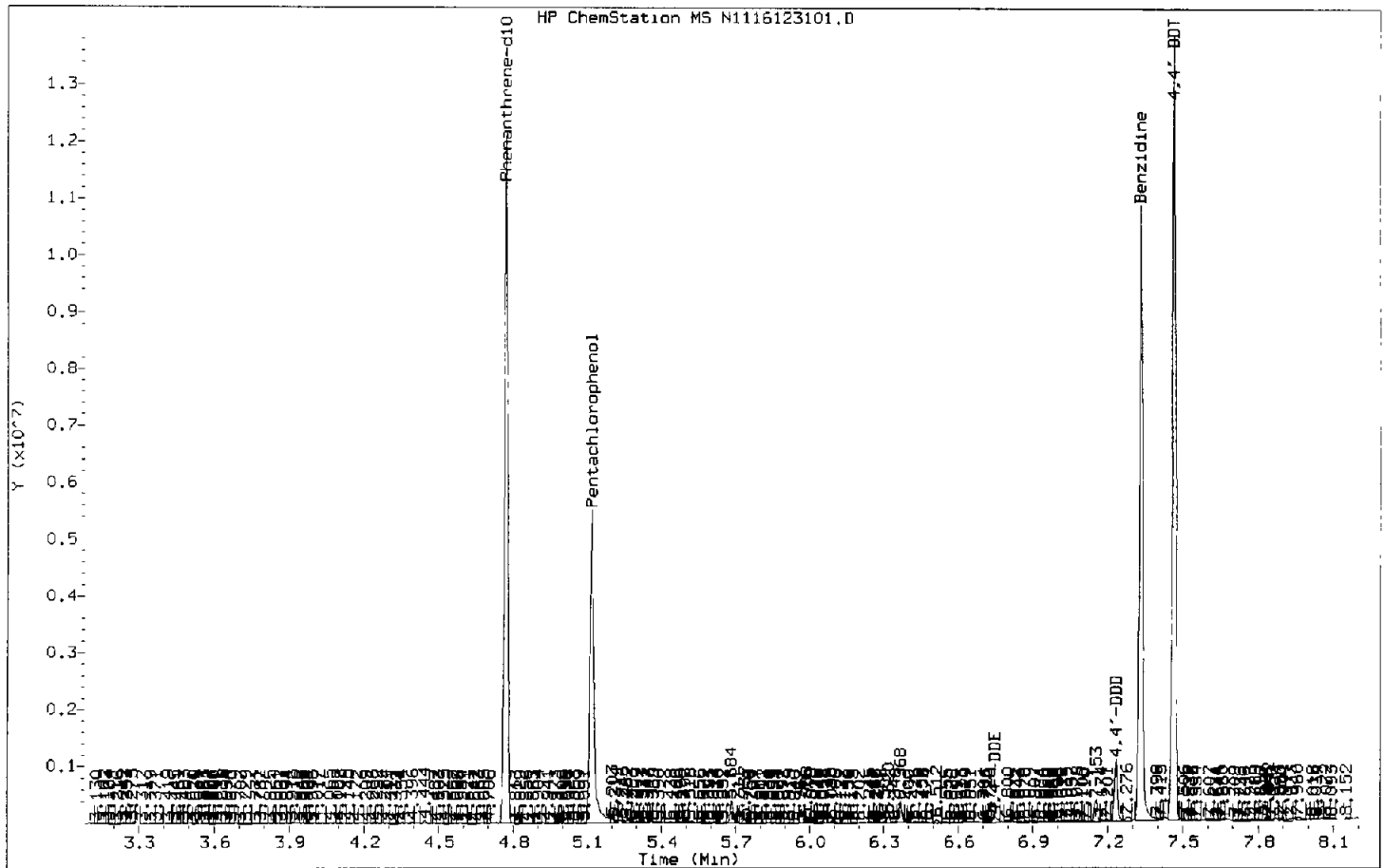
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Batch File: \\target\share\chem3\nt11.i\20161231.b
 Inst ID: nt11.i

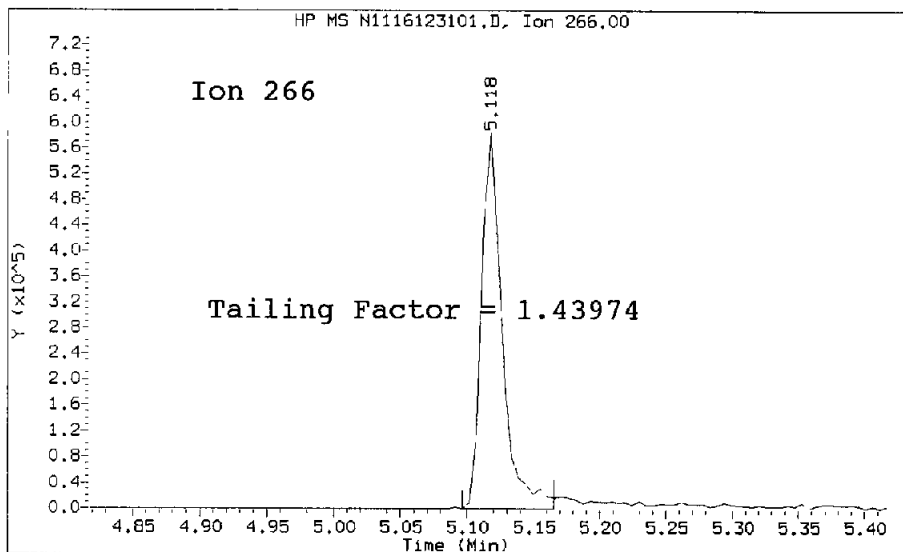
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 Indeno(1,2,3-cd)pyrene	23.986	23.986	23.975	23.975	23.975	23.975	23.986	23.736-24.236	23.978	0.006
41 Benzo(g,h,i)perylene	25.370	25.370	25.370	25.359	25.370	25.370	25.370	25.120-25.620	25.368	0.005

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20161231.b/N1116123101.D/N1116123101.D
 Method Used: \20161231.b\DFTPP.m Inst: nt11
 Injection Date: 31-DEC-2016 08:12 Operator: VTS
 Sample Info: SEL0401-TUN1 SEL0401-TUN1
 Report Date: 12/31/2016 12:45



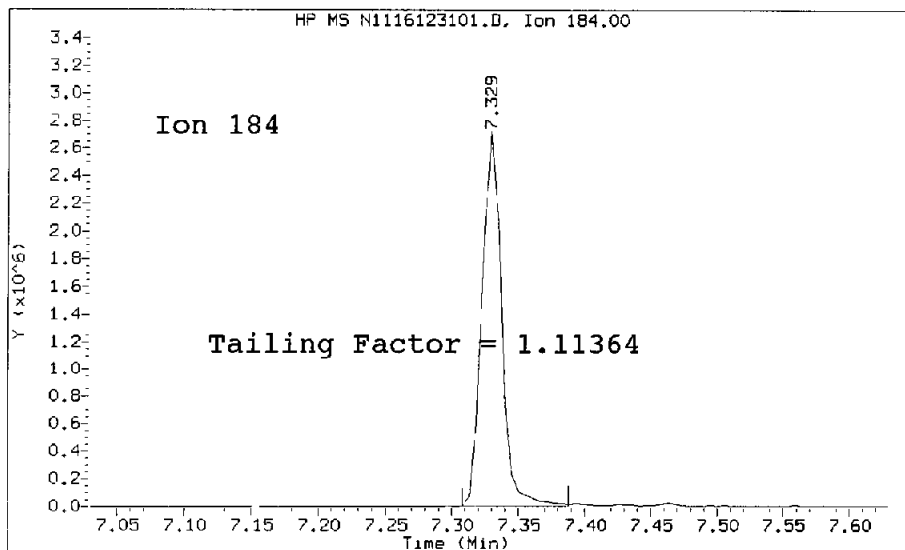
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Method Used: \20161231.b\DFTPP.m\sw846ddt.m Inst: nt11
Injection Date: 31-DEC-2016 08:12 Operator: JW
Sample Info: SEL0401-TUN1
Report Date: 12/31/2016 12:45



Pentachlorophenol

=====
Exp. RT = 5.118
Found RT = 5.118

Tail Factor = 1.440 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.329
Found RT = 7.329

Tail Factor = 1.114 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4397436	2.000	PASS
Benzidine	1.1136364	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1823078			N/A
4,4-DDE	10805	0.6	20.0	PASS
4,4-DDD	178680	8.9	20.0	PASS
4,4-DDD + DDE	189485	9.4	20.0	PASS

Tuning Sample, nt11.i/20161231.b/N1116123101.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	27.42
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	50.60
70	Less than 2.00% of mass 69	0.36 (0.71)
127	10.00 - 80.00% of mass 198	47.99
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.22
275	10.00 - 60.00% of mass 198	27.50
365	Greater than 1.00% of mass 198	3.88
441	0.01 - 24.00% of mass 442	13.21 (16.44)
442	50.00 - 200.00% of mass 198	80.37
443	15.00 - 24.00% of mass 442	17.83 (22.19)

Data File: N1116123101.D

Spectrum: Avg. Scans 315-317 (4.77), Background Scan 310

Location of Maximum: 198.00

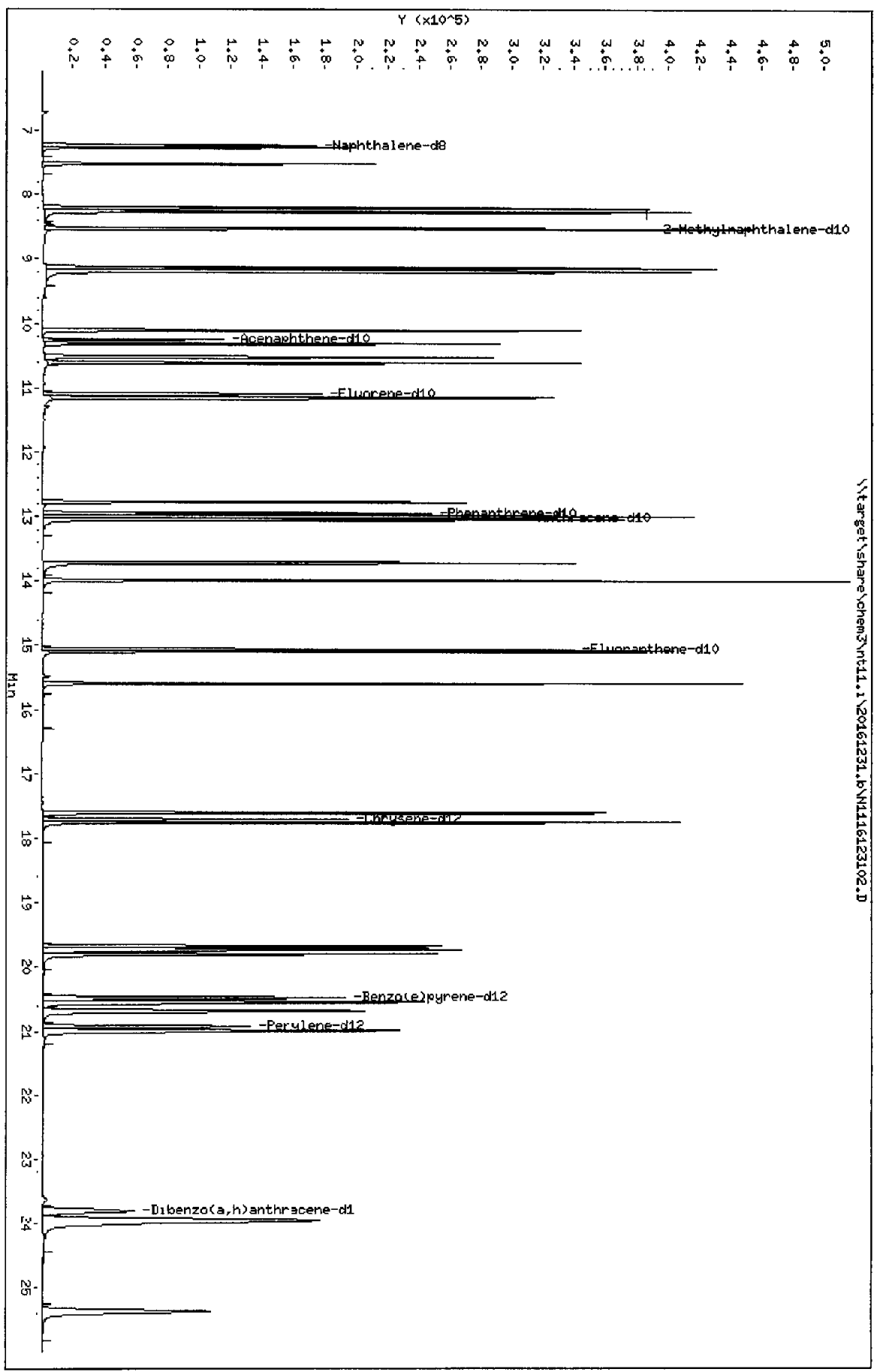
Number of points: 259

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	4112	127.00	472128	195.00	3783	276.00	35832
39.00	21872	128.00	35424	196.00	29136	277.00	24352
40.00	1591	129.00	200960	198.00	983872	278.00	1853
49.00	4352	130.00	17360	199.00	70992	283.00	1906
50.00	74792	131.00	2839	200.00	7543	285.00	4004
51.00	269824	132.00	889	201.00	4410	291.00	689
52.00	13561	134.00	5138	202.00	780	293.00	4172
55.00	789	135.00	14732	203.00	7183	294.00	886
56.00	10365	136.00	5834	204.00	37800	296.00	77968
57.00	26032	137.00	11901	205.00	76208	297.00	13062
61.00	6870	138.00	2543	206.00	284608	298.00	1321
62.00	5796	139.00	1910	207.00	37632	303.00	6888
63.00	15472	140.00	2791	208.00	15406	304.00	5144
64.00	2998	141.00	26608	209.00	3515	308.00	1139
65.00	7777	142.00	9094	210.00	3938	309.00	678
69.00	497792	143.00	6338	211.00	12659	310.00	864
70.00	3530	144.00	1120	212.00	5219	314.00	3485
71.00	1051	145.00	900	214.00	1328	315.00	10152
73.00	1859	146.00	5984	215.00	3055	316.00	8308
74.00	53200	147.00	13024	216.00	4570	317.00	847
75.00	78288	148.00	27952	217.00	75856	321.00	2592
76.00	30672	149.00	5354	218.00	9820	322.00	1406
77.00	512768	150.00	1705	220.00	766	323.00	26928
78.00	44392	151.00	5823	221.00	49304	324.00	5058
79.00	35568	153.00	9711	222.00	11169	327.00	3349
80.00	28552	154.00	5611	223.00	21232	329.00	784
81.00	40432	155.00	17800	224.00	174656	332.00	907
82.00	11373	156.00	25512	225.00	42944	333.00	710
83.00	10164	157.00	5182	226.00	3179	334.00	18216
84.00	2152	158.00	5392	227.00	79240	335.00	4623
85.00	8183	159.00	5750	228.00	11518	341.00	3116
86.00	12389	160.00	8734	229.00	12419	346.00	4062
87.00	4760	161.00	10188	231.00	6545	348.00	734
88.00	946	162.00	679	233.00	923	352.00	7346
91.00	10133	164.00	1681	234.00	3904	353.00	7570
92.00	9964	165.00	9710	235.00	5133	354.00	9753
93.00	62720	166.00	6278	236.00	2580	365.00	38208
94.00	2847	167.00	55048	237.00	2584	366.00	5638
96.00	3701	168.00	21792	239.00	1717	367.00	685
97.00	1665	169.00	3346	240.00	2183	370.00	738
98.00	38336	170.00	860	241.00	4842	371.00	882
99.00	37392	171.00	1565	242.00	9670	372.00	12613
100.00	3115	172.00	5740	243.00	10997	373.00	2840
101.00	21528	173.00	7105	244.00	121632	377.00	2390
102.00	2207	174.00	12440	245.00	15142	378.00	779
103.00	6397	175.00	25664	246.00	24496	383.00	3636
104.00	12228	176.00	6082	247.00	4057	384.00	775
105.00	12690	177.00	11109	248.00	1121	390.00	2090
106.00	1874	178.00	3887	249.00	3581	391.00	1461

107.00	172288	179.00	45320	250.00	2340	402.00	6904
108.00	26136	180.00	31904	251.00	830	403.00	7868
109.00	6103	181.00	17320	252.00	2065	404.00	3612
110.00	277696	182.00	2527	253.00	6217	405.00	854
111.00	55616	183.00	843	255.00	593856	421.00	8805
112.00	6239	184.00	4234	256.00	92000	422.00	6157
113.00	1118	185.00	19384	257.00	9514	423.00	49568
116.00	9080	186.00	165504	258.00	43800	424.00	8122
117.00	113552	187.00	47728	259.00	5413	425.00	1511
118.00	6157	188.00	4565	260.00	2007	426.00	717
120.00	2605	189.00	8903	265.00	13043	441.00	130000
121.00	711	190.00	2087	266.00	1555	442.00	790720
122.00	10998	191.00	4688	272.00	1799	443.00	175424
123.00	16246	192.00	17088	273.00	21744	444.00	14344
124.00	7190	193.00	17808	274.00	52248	445.00	950
125.00	7218	194.00	2470	275.00	270528		

Data File: \\target\share\chem3\nt11.1\20161231.6\N116123102.D
 Date: 31-DEC-2016 08:28
 Client ID:
 Sample Info: SEL0401-DAL4
 Column phase: Rxi-17S11 MS

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



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123102.D
 Lab Smp Id: SEL0401-CAL4
 Inj Date : 31-DEC-2016 08:28 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL4
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 2 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	MASS	RT	EXP FT	REL FT	RESPONSE	AMOUNTS	
								CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-c8	136		7.225	7.225	(1.000)	219654	200.000		
2 Naphthalene	128		7.261	7.253	(1.005)	291756	250.000	266	
3 Benzo(a)thiophene	134		7.514	7.515	(1.040)	242046	250.000	271	
* 4 2-Methylnaphthalene-d10	152		8.201	8.201	(1.135)	267726	250.000	264	
5 2-Methylnaphthalene	142		8.255	8.255	(1.142)	293186	250.000	271	
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	302905	250.000	279	
7 2-Chloronaphthalene	162		9.157	9.157	(0.894)	284135	250.000	277	
8 Biphenyl	154		9.136	9.136	(0.891)	375679	250.000	275	
9 1,6-Dimethylnaphthalene	156		9.188	9.188	(0.896)	296448	250.000	280	
10 Acenaphthylene	152		10.098	10.098	(0.985)	337103	250.000	277	
* 11 Acenaphthene-d10	164		10.251	10.252	(1.000)	135246	200.000		
12 Acenaphthene	153		10.315	10.315	(1.006)	216629	250.000	271	
13 Dibenzofuran	168		10.519	10.519	(1.026)	327335	250.000	275	
14 1,3,5-Trimethylnaphthalene	170		10.607	10.607	(1.035)	211917	250.000	278	
* 15 Fluorene-d10	174		11.087	11.088	(1.092)	177097	250.000	273	
16 Fluorene	166		11.151	11.151	(1.098)	257461	250.000	272	
17 Dibenzothiophene	184		12.777	12.767	(0.987)	324162	250.000	273	
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	257021	200.000		
19 Phenanthrene	178		12.987	12.987	(1.003)	394060	250.000	268	
* 20 Anthracene-d10	188		13.008	13.008	(1.005)	335193	250.000	264	
21 Anthracene	178		13.040	13.040	(1.007)	416065	250.000	284	
22 Carbazole	167		13.713	13.722	(1.059)	427208	250.000	264	
23 1-Methylphenanthrene	190		13.984	13.984	(1.080)	415765	250.000	276	
* 24 Fluoranthene-d10	212		15.055	15.055	(1.163)	373562	250.000	274	
25 Fluoranthene	202		15.084	15.084	(1.165)	453211	250.000	272	
26 Pyrene	202		15.593	15.593	(0.881)	458050	250.000	272	
27 Benzo(a)anthracene	228		17.610	17.602	(0.995)	421425	250.000	270	
* 28 Chrysene-d12	240		17.701	17.702	(1.000)	259511	200.000		
29 Chrysene	228		17.751	17.751	(1.003)	425798	250.000	266	
30 Benzo(b)fluoranthene	252		19.676	19.677	(0.940)	370563	250.000	267	
31 Benzo(k)fluoranthene	252		19.734	19.725	(0.943)	405021	250.000	271	
32 Benzo(j)fluoranthene	252		19.801	19.801	(0.946)	371157	250.000	278	
* 33 Benzo(e)pyrene-d12	264		20.483	20.474	(0.979)	341312	250.000	267	

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	20.551	20.551	(0.982)	372033	250.000	269
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	348666	250.000	269
* 36 Perylene-d12	264	20.925	20.916	(1.000)	257335	200.000	
37 Perylene	252	20.993	20.993	(1.003)	360843	250.000	267
38 Dibenzo(a,h)anthracene-d14	292	23.808	23.798	(1.130)	225676	250.000	274
39 Dibenzo(a,h)anthracene	278	23.941	23.941	(1.144)	299975	250.000	265
40 Indeno(1,2,3-cd)pyrene	276	23.985	23.974	(1.146)	375676	250.000	266
41 Benzo(g,h,)perylene	276	25.370	25.370	(1.212)	328867	250.000	259

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: N1116123102.D
 Lab Smp Id: SEL0401-CAL4
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Calibration Date: 31-DEC-2016
 Calibration Time: 08:28
 Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	219654	0.00
11 Acenaphthene-d10	135248	67624	270496	135248	0.00
18 Phenanthrene-d10	257021	128511	514042	257021	0.00
28 Chrysene-d12	259511	129756	519022	259511	0.00
36 Perylene-d12	257535	128768	515070	257535	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.93	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 - N116123102.D

Lab ID: SEL0401-CAL4
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 08:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b

Instrument: nt11.i Date: 31-DEC-2016 Method: 20161231.b\lowsim.m

INITIAL CAL: 16-DEC-2016

Compound	%RSD or R^2

NO Q-FLAGS	

ICV CAL: N1116123102.D 31-DEC-2016 08:28

Compound	%D

Pyrene	28.3
Dibenzo(a,h)anthracene	21.8
Carbazole	24.0

Data File: \\target\share\chem3\nt11.1\20161231.6\N116123103.D
Date: 31-DEC-2016 08:59

Client ID:

Sample Info: SEL0401-CAL6

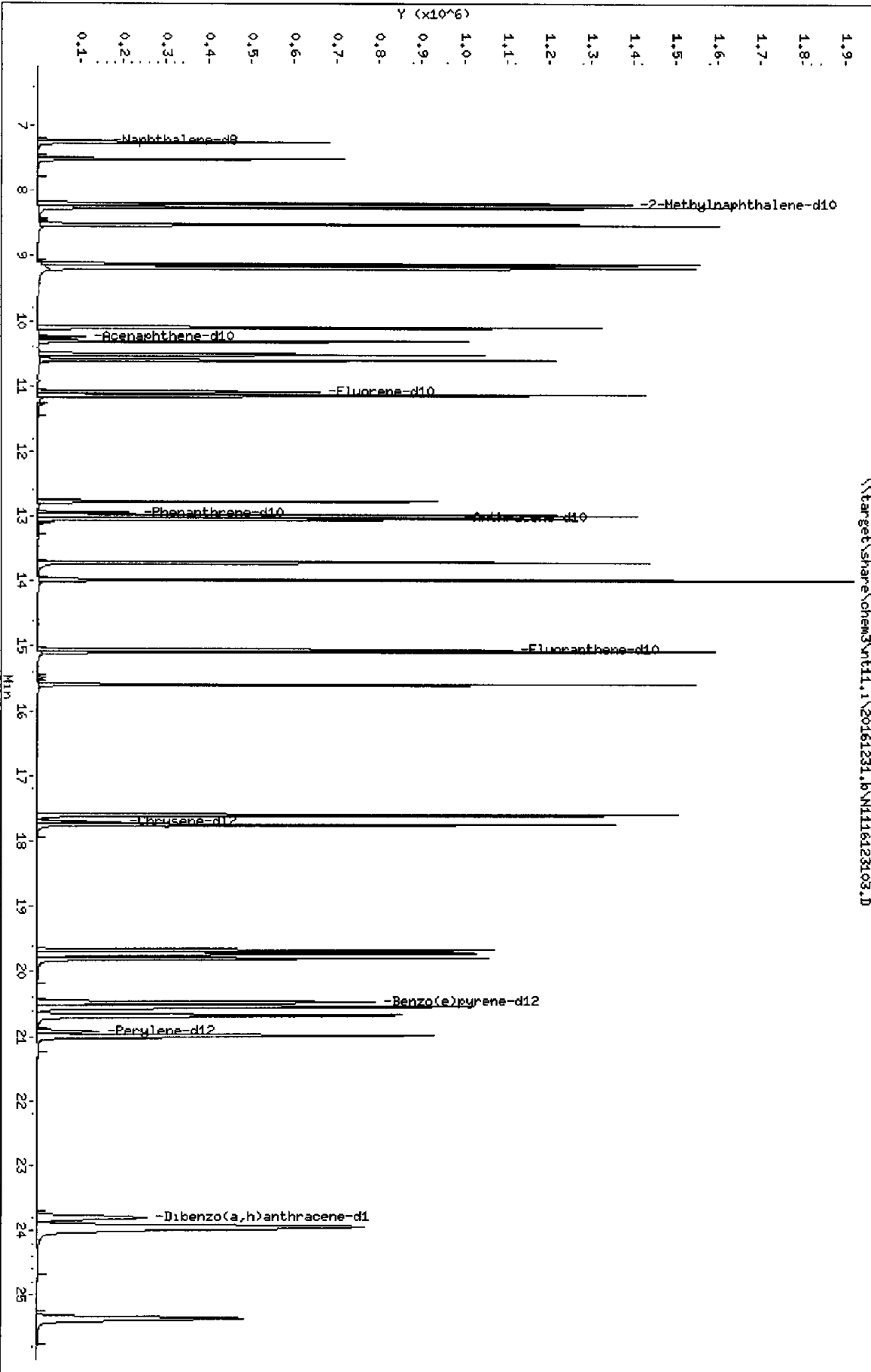
Column Phase: Rx1-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123103.D
 Lab Smp Id: SEL0401-CAL6
 Inj Date : 31-DEC-2016 08:59 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL6
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 3 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		7.225	7.225	(1.000)	213511	200.000	
2 Naphthalene	128		7.253	7.253	(1.004)	1028019	1000.00	965
3 Benzocyclohexene	134		7.515	7.515	(1.040)	682017	1000.00	1020
\$ 4 2-Methylnaphthalene-d10	152		8.201	8.201	(1.135)	955539	1000.00	1040
5 2-Methylnaphthalene	142		8.253	8.253	(1.142)	1070576	1000.00	1020
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	1047786	1000.00	992
7 1-Chloronaphthalene	162		9.167	9.167	(0.894)	1047091	1000.00	1030
8 Biphenyl	154		9.125	9.136	(0.890)	1338455	1000.00	993
9 2,6-Dimethylnaphthalene	156		9.188	9.188	(0.896)	1083666	1000.00	1040
10 Acenaphthylene	152		10.098	10.098	(0.985)	1205722	1000.00	1000
* 11 Acenaphthene-d10	164		10.252	10.252	(1.000)	133595	200.000	
12 Acenaphthene	153		10.315	10.315	(1.006)	794453	1000.00	1010
13 Dibenzofuran	168		10.519	10.519	(1.026)	1187380	1000.00	1010
14 2,3,5-Trimethylnaphthalene	170		10.607	10.607	(1.035)	782273	1000.00	1040
\$ 15 Fluorene-d10	174		11.088	11.088	(1.082)	650800	1000.00	1010
16 Fluorene	166		11.133	11.151	(1.086)	953220	1000.00	1020
17 D-Benzothiofene	184		12.767	12.767	(0.986)	1159468	1000.00	979
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	256606	200.000	
19 Phenanthrene	178		12.987	12.987	(1.003)	1378329	1000.00	940
\$ 20 Anthracene-d10	168		13.008	13.008	(1.005)	1207158	1000.00	951
21 Anthracene	178		13.040	13.040	(1.007)	1371576	1000.00	938
22 Carbazole	167		13.713	13.722	(1.059)	1565189	1000.00	970
23 1-Methylphenanthrene	192		13.984	13.984	(1.080)	1490518	1000.00	991
\$ 24 Fluoranthene-d10	212		15.055	15.055	(1.163)	1343475	1000.00	986
25 Fluoranthene	202		15.084	15.084	(1.165)	1570634	1000.00	944
26 Pyrene	202		15.593	15.593	(0.881)	1614986	1000.00	927
27 Benzo(a)anthracene	228		17.602	17.602	(0.994)	1572902	1000.00	975
* 28 Chrysene-d12	240		17.702	17.702	(1.000)	266214	200.000	
29 Chrysene	228		17.751	17.751	(1.003)	1559109	1000.00	942
30 Benzo(b)fluoranthene	252		19.677	19.677	(0.941)	1529637	1000.00	1020
31 Benzo(k)fluoranthene	252		19.734	19.725	(0.943)	1609918	1000.00	993
32 Benzo(c)fluoranthene	252		19.801	19.801	(0.947)	1457956	1000.00	1010
\$ 33 Benzo(e,pyrene)-d12	264		20.474	20.474	(0.979)	1401911	1000.00	1010

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	20.551	20.551	(0.983)	1507882	1000.00	1000
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	1418478	1000.00	1010
* 36 Perylene-d12	264	20.916	20.916	(1.000)	279143	200.000	
37 Perylene	252	20.993	20.993	(1.004)	1472405	1000.00	1010
\$ 38 Dibenzo(a,h)anthracene-d14	292	23.808	23.798	(1.138)	979357	1000.00	1100
39 Dibenzo(a,h)anthracene	278	23.941	23.941	(1.145)	1307120	1000.00	1070
40 Indeno(1,2,3-cd)pyrene	276	23.985	23.974	(1.147)	1620429	1000.00	1060
41 Benzo(g,h,i)perylene	276	25.370	25.370	(1.213)	1401414	1000.00	1020

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 31-DEC-2016
 Lab File ID: N116123103.D Calibration Time: 08:28
 Lab Smp Id: SEL0401-CAL6
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	213511	-2.80
11 Acenaphthene-d10	135248	67624	270496	133595	-1.22
18 Phenanthrene-d10	257021	128511	514042	256606	-0.16
28 Chrysene-d12	259511	129756	519022	268214	3.35
36 Perylene-d12	257535	128768	515070	279143	8.39

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-0.04

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 - N116123103.D

Lab ID: SEL0401-CAL6
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 08:59

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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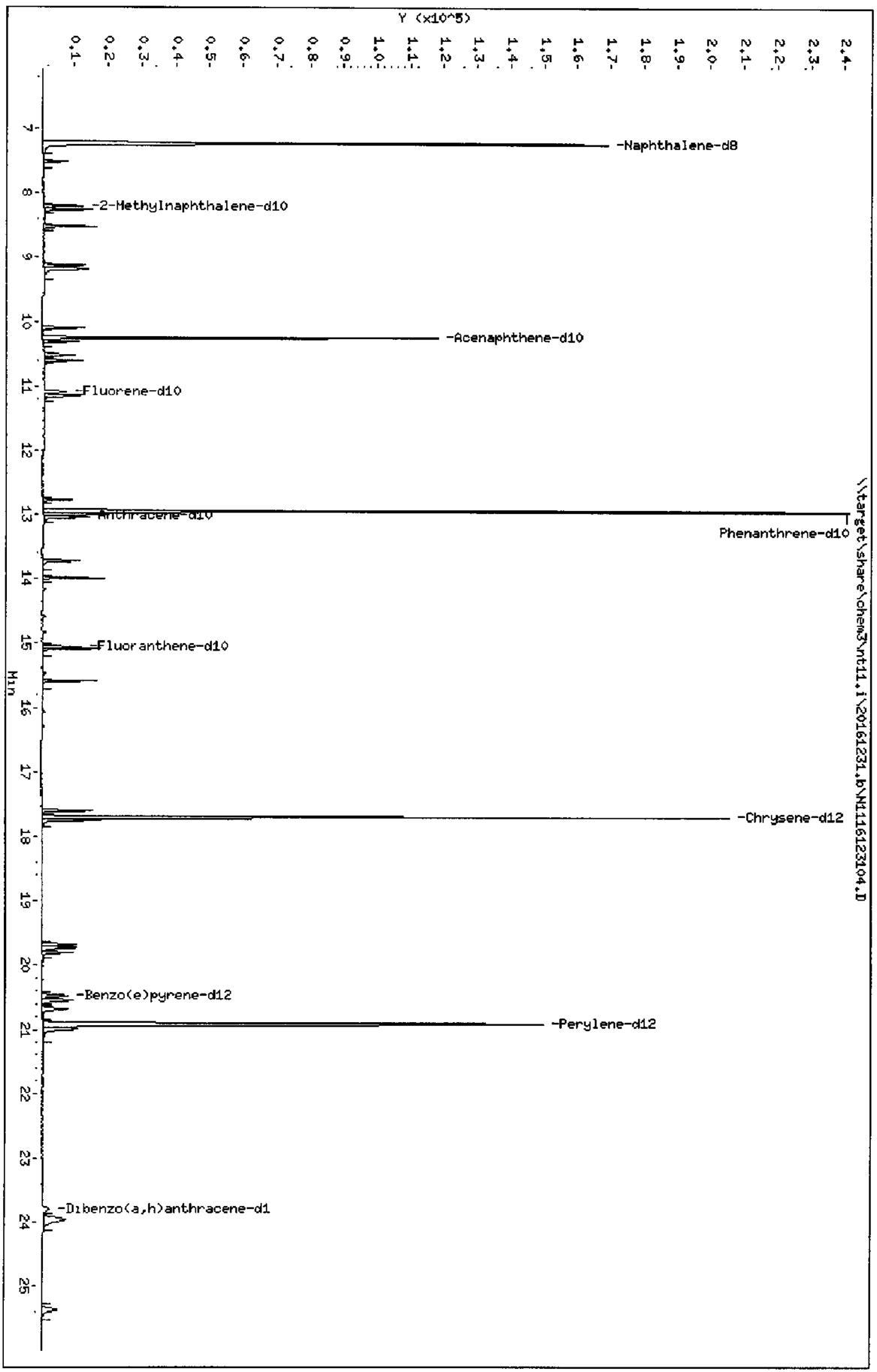
NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Data File: \\target\share\chem3\nt11.1\20161231.6\N116123104.D
Date: 31-DEC-2016 09:30
Client ID:
Sample Info: SEL0401-QAL1
Column phase: Rxi-17S11 MS

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



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123104.D
 Lab Smp Id: SEL0401-CAL1
 Inj Date : 31-DEC-2016 09:30 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 4 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-c8	136	7.225	7.225	(1.000)	239e58	200.000	
2 Naphthalene	128	7.253	7.253	(1.004)	12029	10.0000	10.1
3 Benzo(b)thiophene	134	7.515	7.515	(1.040)	9101	10.0000	9.35(M)
§ 4 7-Methylnaphthalene-d10	152	8.201	8.201	(1.135)	9193	10.0000	8.93
5 2-Methylnaphthalene	142	8.253	8.253	(1.142)	10909	10.0000	9.25
6 1-Methylnaphthalene	142	8.516	8.516	(1.179)	11153	10.0000	9.41
7 2-Chloronaphthalene	162	9.167	9.167	(0.894)	9576	10.0000	8.50(M)
8 Biphenyl	154	9.136	9.136	(0.891)	13434	10.0000	8.97
9 2,6-Dimethylnaphthalene	156	9.188	9.188	(0.896)	10334	10.0000	8.90
10 Acenaphthylene	152	10.098	10.098	(0.985)	12223	10.0000	9.17
* 11 Acenaphthene-d10	164	10.252	10.252	(1.000)	148389	200.000	
12 Acenaphthene	153	10.315	10.315	(1.006)	8236	10.0000	9.38
13 Dibenzofuran	168	10.519	10.519	(1.026)	11781	10.0000	9.03
14 1,3,5-Trimethylnaphthalene	170	10.607	10.607	(1.035)	7420	10.0000	8.89(M)
§ 15 Fluorene-d10	174	11.088	11.088	(1.082)	6824	10.0000	9.58(M)
16 Fluorene	166	11.151	11.151	(1.088)	9819	10.0000	9.45
17 Dibenzochiophene	184	12.767	12.767	(0.966)	12273	10.0000	9.37
* 18 Phenanthrene-d10	188	12.945	12.945	(1.000)	283739	200.000	
19 Phenanthrene	178	12.987	12.987	(1.003)	16358	10.0000	10.1
§ 20 Anthracene-d10	188	13.008	13.008	(1.005)	15777	10.0000	11.2
21 Anthracene	178	13.040	13.040	(1.007)	15680	10.0000	9.69
22 Carbazole	167	13.722	13.722	(1.060)	17948	10.0000	10.1
23 1-Methylphenanthrene	192	13.964	13.964	(1.080)	15403	10.0000	9.26
§ 24 Fluoranthene-d10	212	15.055	15.055	(1.163)	14004	10.0000	9.29
25 Fluoranthene	202	15.084	15.084	(1.165)	18390	10.0000	9.99
26 Pyrene	202	15.593	15.593	(0.881)	18945	10.0000	10.3
27 Benzo(a)anthracene	228	17.602	17.602	(0.994)	16396	10.0000	9.63
* 28 Chrysene-d12	240	17.702	17.702	(1.000)	283072	200.000	
29 Chrysene	228	17.751	17.751	(1.003)	17443	10.0000	9.99
30 Benzo(b)fluoranthene	252	19.677	19.677	(0.941)	15127	10.0000	9.76
31 Benzo(k)fluoranthene	252	19.725	19.725	(0.943)	16463	10.0000	9.86
32 Benzo(?)fluoranthene	252	19.801	19.801	(0.947)	13969	10.0000	9.3F
§ 33 Benzo(e)pyrene-d12	264	20.474	20.474	(0.979)	13543	10.0000	9.50

Compounds	QUANT SIG	AMOUNTS					
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	20.551	20.551	(0.983)	14648	10.0000	9.47
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	14176	10.0000	9.61
* 36 Perylene-d12	264	20.916	20.916	(1.000)	287631	200.000	
37 Perylene	252	20.993	20.993	(1.004)	14858	10.0000	9.85
S 38 Litenzo(a,h)anthracene-d14	292	23.797	23.790	(1.138)	8870	10.0000	9.66(M)
39 Litenzo(a,h)anthracene	278	23.941	23.941	(1.145)	12890	10.0000	10.2
40 Indeno(1,2,3-cd)pyrene	276	23.974	23.974	(1.146)	15925	10.0000	10.1
41 Benzo(a,h,i)perylene	276	25.370	25.370	(1.213)	15001	10.0000	10.6

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: N1116123104.D
 Lab Smp Id: SEL0401-CAL1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Calibration Date: 31-DEC-2016
 Calibration Time: 08:28
 Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	239658	9.11
11 Acenaphthene-d10	135248	67624	270496	148389	9.72
18 Phenanthrene-d10	257021	128511	514042	283739	10.40
28 Chrysene-d12	259511	129756	519022	283072	9.08
36 Perylene-d12	257535	128768	515070	287631	11.69

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-0.04

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 - N116123104.D

Lab ID: SEL0401-CAL1
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 09:30

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

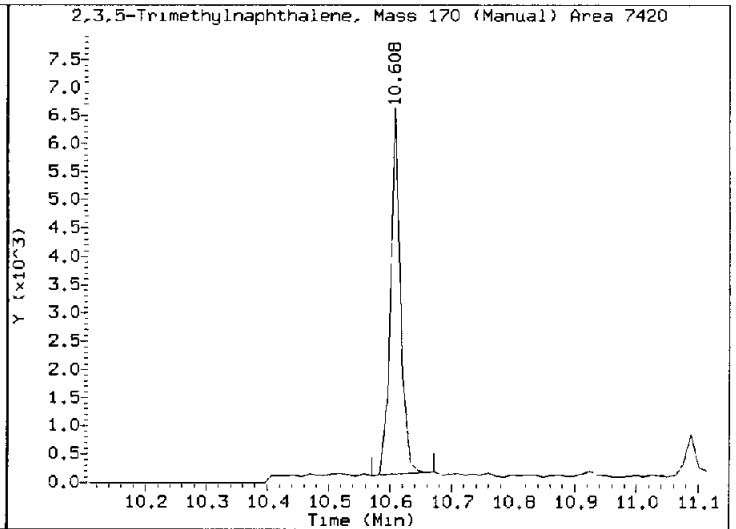
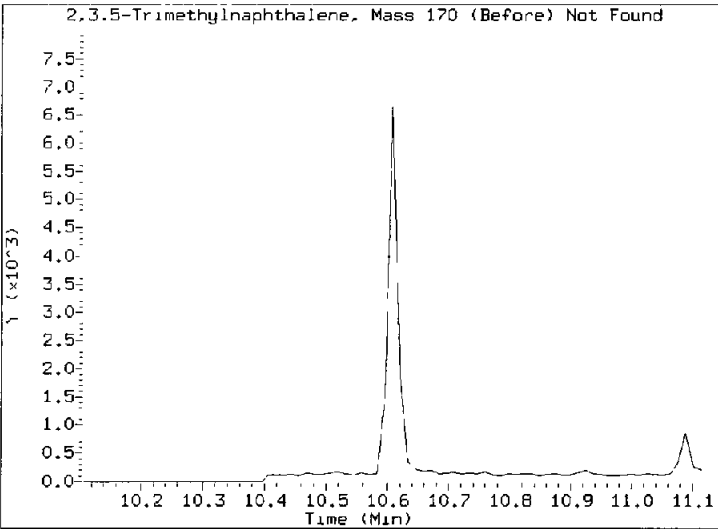
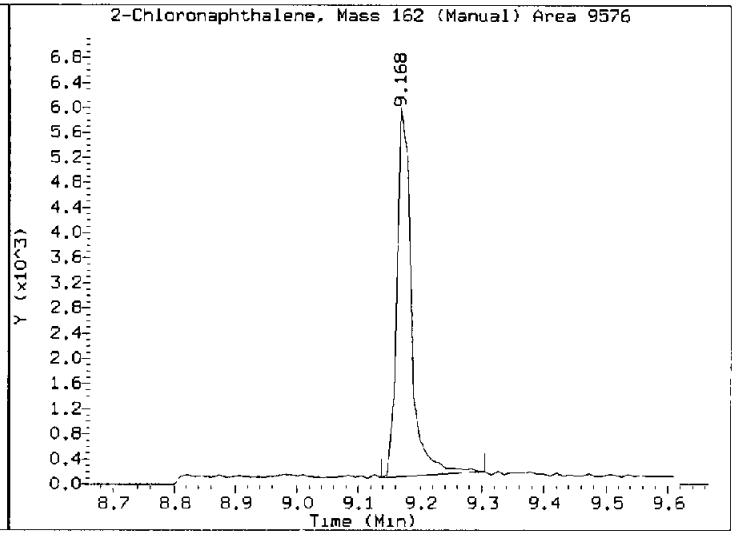
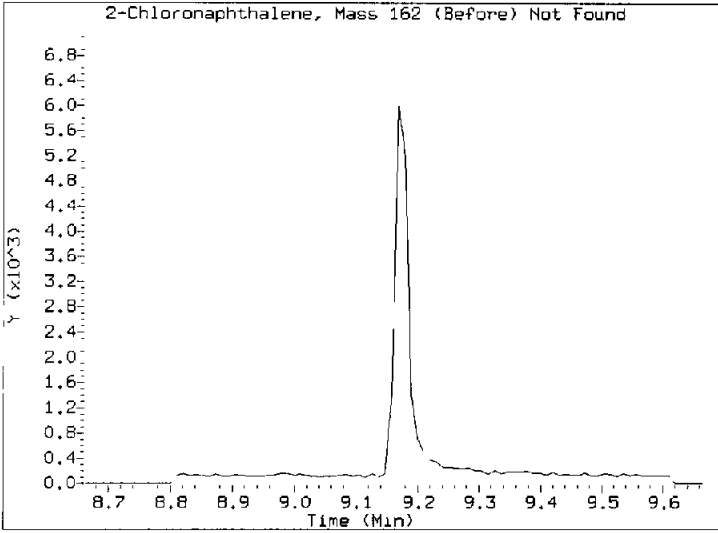
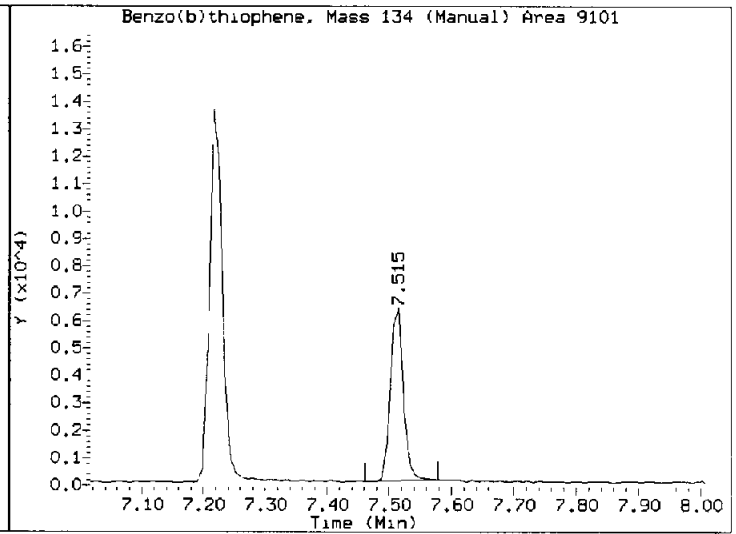
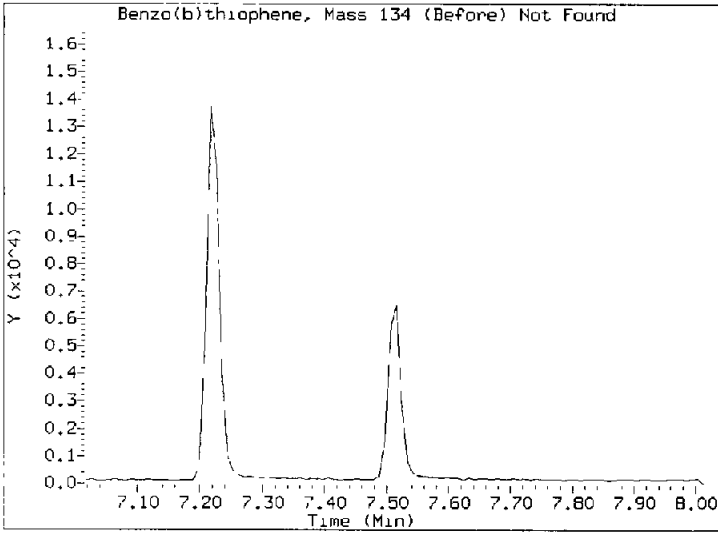
NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123104.D
Injection Date: 31-DEC-2016 09:30
Lab ID:SEL0401-CAL1 Client ID:
Report Date: 12/31/2016 12:39



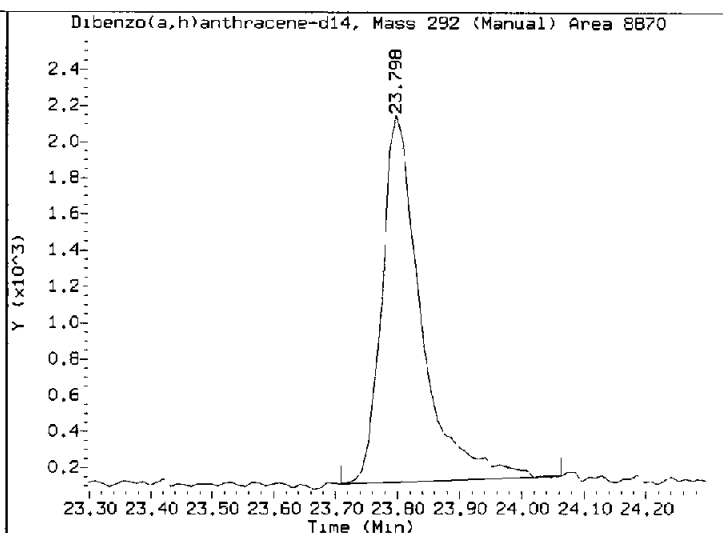
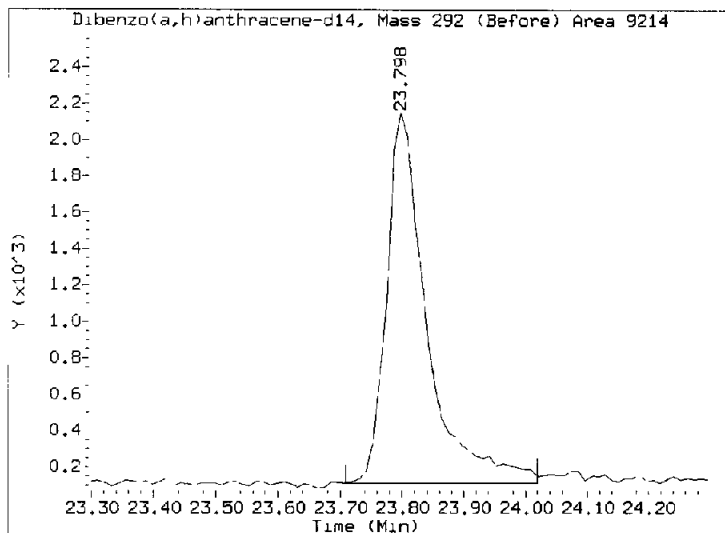
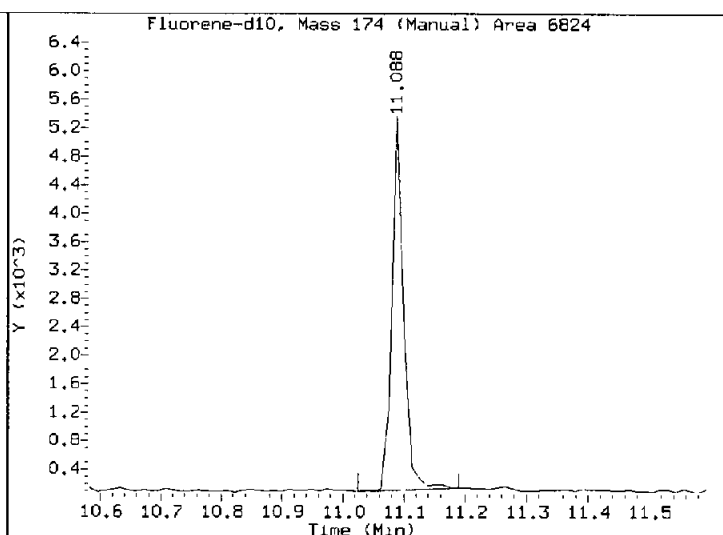
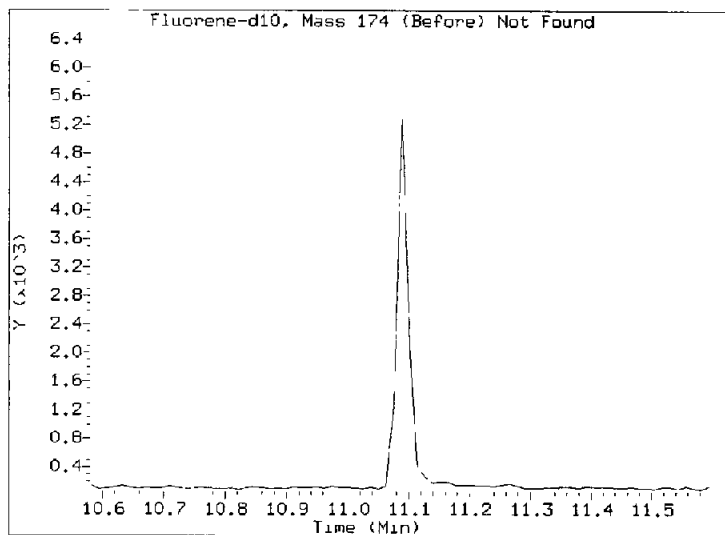
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123104.D

Injection Date: 31-DEC-2016 09:30

Lab ID:SEL0401-CAL1 Client ID:

Report Date: 12/31/2016 12:39



Data File: \\target\share\chem3\nt11.1\20161231.6\N116123105.D
Date: 31-DEC-2016 10:01

Client ID:

Sample Info: SEL0401-CRL5

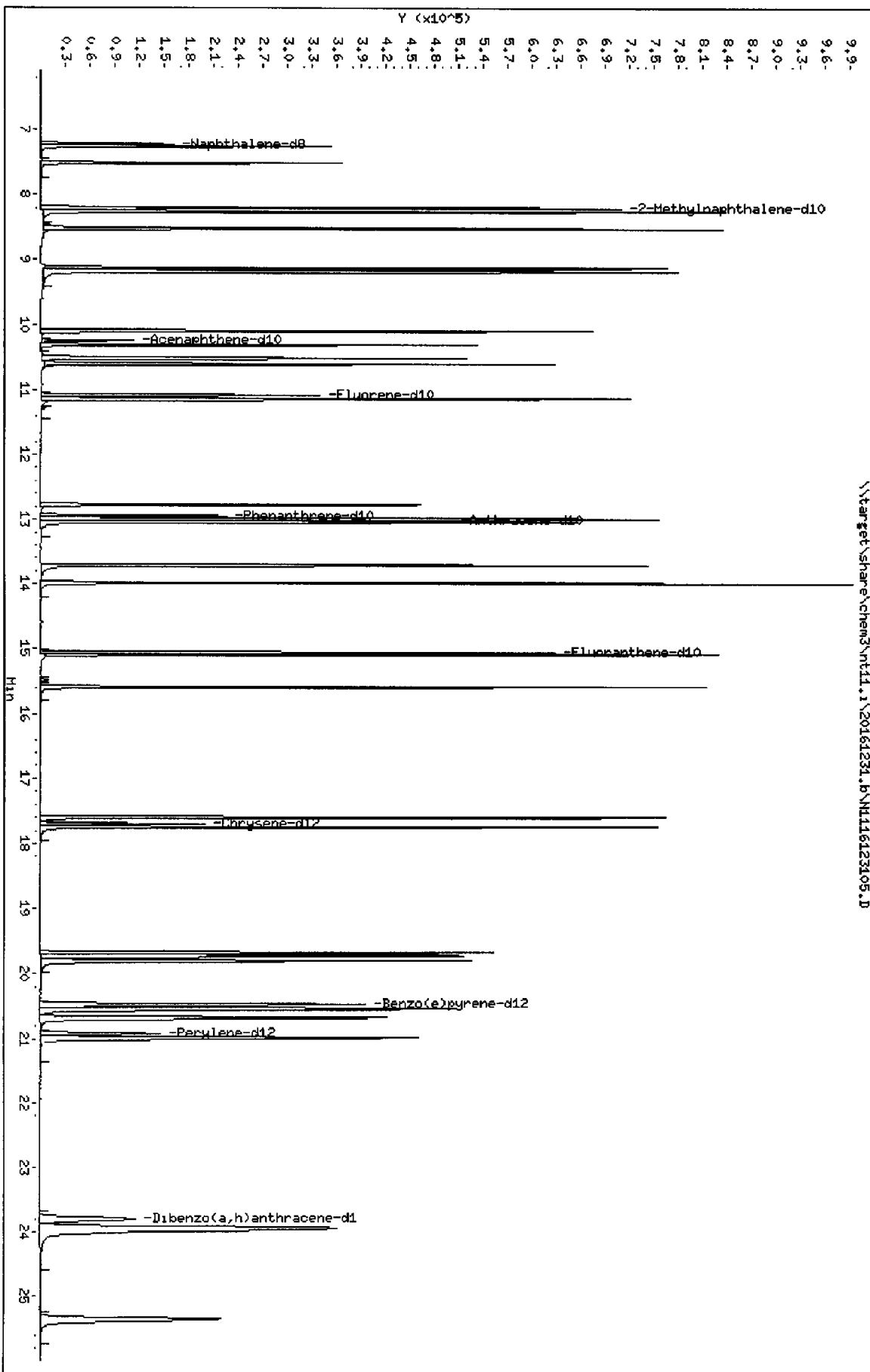
Column Phase: Rxi-175.1 HS

Instrument: nt11.i

Operator: VTS

Column diameter: 0.25

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ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123105.D
 Lab Smp Id: SEL0401-CAL5
 Inj Date : 31-DEC-2016 10:01 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL5
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 5 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QJANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-c8	136	7.225	7.225	(1.000)	218999	200.000	
2 Naphthalene	128	7.252	7.253	(1.004)	537673	500.000	492
3 Benzo(a)thiophene	134	7.514	7.515	(1.040)	451143	500.000	507
4 1-Methylnaphthalene-d10	152	8.201	8.201	(1.135)	486646	500.000	517
5 2-Methylnaphthalene	142	8.253	8.253	(1.142)	554185	500.000	514
6 1-Methylnaphthalene	142	8.516	8.516	(1.179)	545318	500.000	503
7 2-Chloronaphthalene	162	9.167	9.167	(0.894)	536396	500.000	516
8 Biphenyl	154	9.125	9.130	(0.890)	699297	500.000	506
9 2,6-Dimethylnaphthalene	156	9.188	9.188	(0.896)	558933	500.000	519
10 Acenaphthylene	152	10.098	10.098	(0.985)	628021	500.000	510
* 11 Acenaphthene-d10	164	10.251	10.252	(1.000)	137033	200.000	
12 Acenaphthene	153	10.315	10.315	(1.006)	411064	500.000	507
13 Dibenzofuran	168	10.519	10.519	(1.026)	617746	500.000	513
14 2,3,5-Trimethylnaphthalene	170	10.607	10.607	(1.035)	403344	500.000	523
\$ 15 Fluorene-d10	174	11.067	11.088	(1.082)	335944	500.000	511
16 Fluorene	166	11.138	11.151	(1.086)	499588	500.000	521
17 Dibenzothiophene	184	12.767	12.767	(0.986)	613283	500.000	500
* 18 Phenanthrene-d10	188	12.945	12.945	(1.000)	265632	200.000	
19 Phenanthrene	178	12.987	12.987	(1.003)	743402	500.000	490
\$ 20 Anthracene-d10	188	13.003	13.008	(1.005)	628161	500.000	478
21 Anthracene	178	13.040	13.040	(1.007)	720810	500.000	476
22 Carbazole	167	13.713	13.722	(1.059)	815299	500.000	488
23 1-Methylphenanthrene	192	13.984	13.984	(1.080)	766426	500.000	505
\$ 24 Fluoranthene-d10	212	15.055	15.055	(1.163)	712108	500.000	505
25 Fluoranthene	202	15.064	15.084	(1.165)	853291	500.000	495
26 Pyrene	202	15.593	15.593	(0.881)	869166	500.000	493
27 Benzo(a)anthracene	228	17.602	17.602	(0.994)	830111	500.000	509
* 28 Chrysene-d12	240	17.701	17.702	(1.000)	271314	200.000	
29 Chrysene	228	17.751	17.751	(1.003)	830048	500.000	496
30 Benzo(b)fluoranthene	252	19.676	19.677	(0.941)	771176	500.000	510
31 Benzo(k)fluoranthene	252	19.734	19.725	(0.943)	816376	500.000	502
32 Benzo(j)fluoranthene	252	19.801	19.801	(0.947)	746587	500.000	515
\$ 33 Benzo(e)pyrene-d12	264	20.474	20.474	(0.979)	702503	500.000	506

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	20.551	20.551	(0.983)	768660	500.000	509
35 Benzo(a)pyrene	252	20.676	20.685	(0.989)	707530	500.000	502
36 Perylene-d12	264	20.916	20.916	(1.000)	280262	200.000	
37 Perylene	252	20.993	20.993	(1.004)	739457	500.000	503
38 Dibenzo(a,h)anthracene-d14	292	23.797	23.798	(1.138)	467034	500.000	522
39 Dibenzo(a,h)anthracene	278	23.941	23.941	(1.145)	629015	500.000	510
40 Indeno(1,2,3-cd)pyrene	276	23.974	23.974	(1.146)	783480	500.000	510
41 Benzo(g,h,i)perylene	276	25.359	25.370	(1.212)	680421	500.000	493

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 31-DEC-2016
 Lab File ID: N1116123105.D Calibration Time: 08:28
 Lab Smp Id: SEL0401-CAL5
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Test Mode: Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	218999	-0.30
11 Acenaphthene-d10	135248	67624	270496	137033	1.32
18 Phenanthrene-d10	257021	128511	514042	265632	3.35
28 Chrysene-d12	259511	129756	519022	271314	4.55
36 Perylene-d12	257535	128768	515070	280262	8.82

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N1116123105.D

Lab ID: SEL0401-CAL5
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 10:01

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, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Data File: \\target\share\chem3\nt11.1\20161231.6\NM116123106.D
Date: 31-DEC-2016 10:32

Client ID:

Sample Info: SEL0401-CAL2

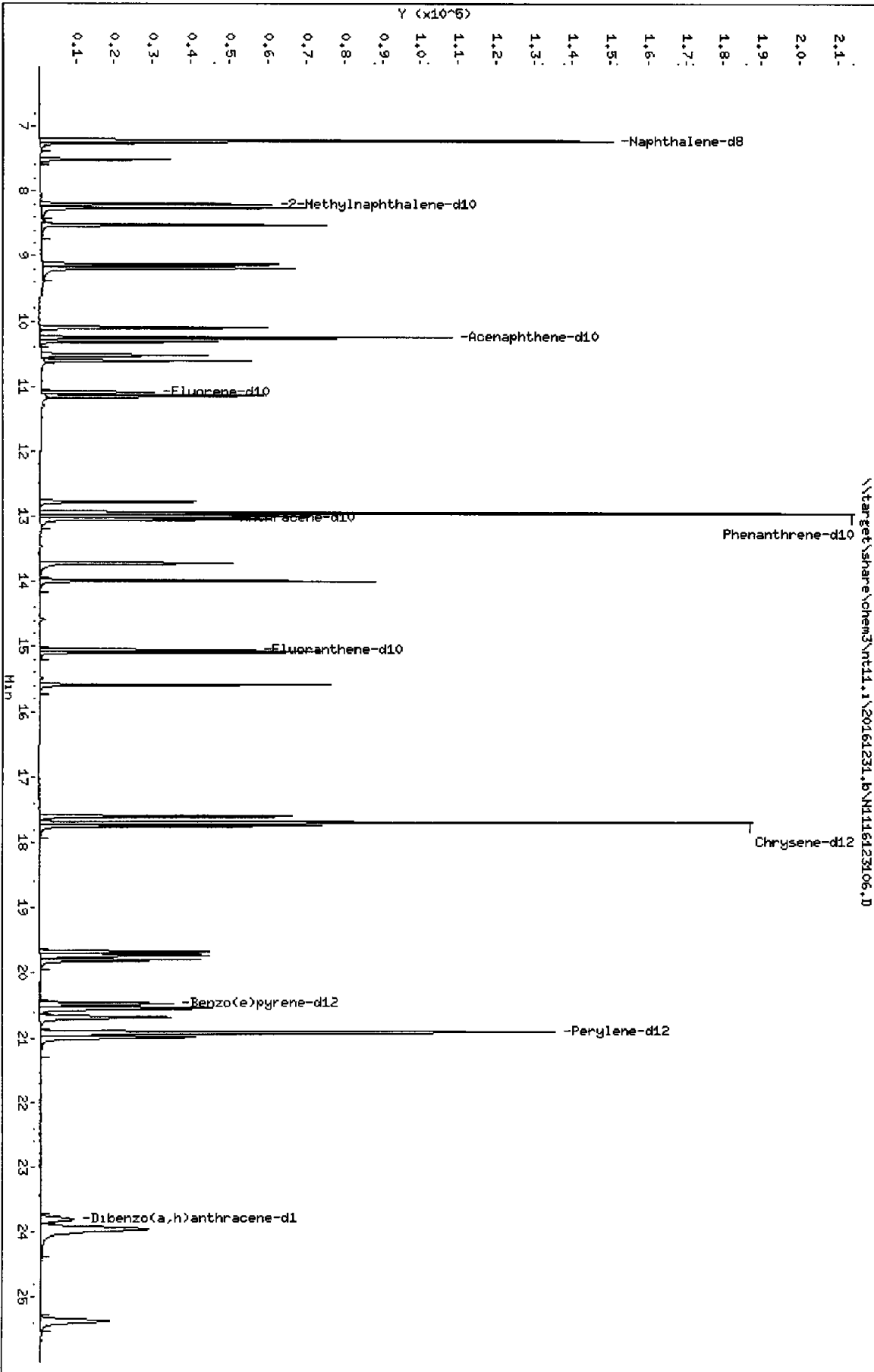
Column phase: Rx1-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

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ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123106.D
 Lab Smp Id: SEL0401-CAL2
 Inj Date : 31-DEC-2016 10:32 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL2
 Misc Info : 16-
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-a8	136	7.225	7.225	(1.000)	212581	200.000	
2 Naphthalene	128	7.252	7.253	(1.004)	53213	50.0000	50.2
3 Benzo(b)thiophene	134	7.515	7.515	(1.040)	42005	50.0000	48.6 (M)
\$ 4 2-Methylnaphthalene-d10	152	8.201	8.201	(1.135)	42296	50.0000	46.3 (M)
5 2-Methylnaphthalene	142	8.253	8.253	(1.142)	50535	50.0000	48.3
6 1-Methylnaphthalene	142	8.516	8.516	(1.179)	50651	50.0000	48.2
7 2-Chloronaphthalene	162	9.167	9.167	(0.894)	50672	50.0000	50.3
8 Biphenyl	154	9.125	9.136	(0.890)	68511	50.0000	51.1
9 2,6-Dimethylnaphthalene	156	9.188	9.188	(0.896)	49210	50.0000	47.3 (M)
10 Acenaphthylene	152	10.096	10.096	(0.985)	57833	50.0000	48.5
* 11 Acenaphthene-d10	164	10.251	10.252	(1.000)	132827	200.000	
12 Acenaphthene	153	10.315	10.315	(1.006)	38394	50.0000	48.9
13 Dibenzofuran	168	10.519	10.519	(1.026)	56268	50.0000	48.2
14 2,3,5-Trimethylnaphthalene	170	10.607	10.607	(1.035)	34787	50.0000	46.5 (M)
\$ 15 Fluorene-d10	174	11.088	11.088	(1.082)	30277	50.0000	47.5
16 Fluorene	166	11.139	11.151	(1.086)	43674	50.0000	47.0
17 Dibenzothiophene	184	12.767	12.767	(0.986)	56773	50.0000	49.7
* 18 Phenanthrene-d10	188	12.945	12.945	(1.000)	247500	200.000	
19 Phenanthrene	178	12.987	12.987	(1.003)	70273	50.0000	49.7
\$ 20 Anthracene-d10	188	13.009	13.008	(1.005)	57617	50.0000	47.1
21 Anthracene	178	13.043	13.040	(1.007)	70299	50.0000	49.8
22 Carbazole	167	13.722	13.722	(1.060)	76518	50.0000	49.1
23 1-Methylphenanthrene	192	13.984	13.984	(1.080)	71094	50.0000	49.0
\$ 24 Fluoranthene-d10	212	15.055	15.055	(1.163)	65324	50.0000	49.7
25 Fluoranthene	202	15.084	15.084	(1.165)	78209	50.0000	48.7
26 Pyrene	202	15.593	15.593	(0.881)	80860	50.0000	48.6
27 Benzo(a)anthracene	228	17.602	17.602	(0.994)	74960	50.0000	48.7
* 28 Chrysene-d12	240	17.702	17.702	(1.000)	256124	200.000	
29 Chrysene	228	17.751	17.751	(1.003)	78240	50.0000	49.5
30 Benzo(b)fluoranthene	252	19.676	19.677	(0.941)	67228	50.0000	47.4
31 Benzo(k)fluoranthene	252	19.734	19.725	(0.943)	72854	50.0000	47.7
32 Benzo(j)fluoranthene	252	19.801	19.801	(0.947)	65246	50.0000	47.9 (M)
\$ 33 Benzo(e)pyrene-d12	264	20.474	20.474	(0.979)	63425	50.0000	48.6 (M)

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	20.551	20.551	(0.983)	69030	50.0000	48.8
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	62495	50.0000	47.3
36 Perylene-d10	264	20.916	20.916	(1.000)	263051	200.000	
37 Perylene	252	20.993	20.993	(1.004)	65725	50.0000	47.6
38 Dibenzo(a,h)anthracene-d14	292	23.808	23.798	(1.138)	37128	50.0000	44.2 (M)
39 Dibenzo(a,h)anthracene	278	23.941	23.941	(1.145)	51258	50.0000	44.3
40 Indeno(1,2,3-cd)pyrene	276	23.974	23.974	(1.146)	64322	50.0000	44.6
41 Benzo(g,h,-)perylene	276	25.370	25.370	(1.213)	60597	50.0000	46.8

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: N116123106.D
 Lab Smp Id: SEL0401-CAL2
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info: 16-

Calibration Date: 31-DEC-2016
 Calibration Time: 08:28

Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	212581	-3.22
11 Acenaphthene-d10	135248	67624	270496	132827	-1.79
18 Phenanthrene-d10	257021	128511	514042	247500	-3.70
28 Chrysene-d12	259511	129756	519022	256124	-1.31
36 Perylene-d12	257535	128768	515070	263051	2.14

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N116123106.D

Lab ID: SEL0401-CAL2
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 10:32

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

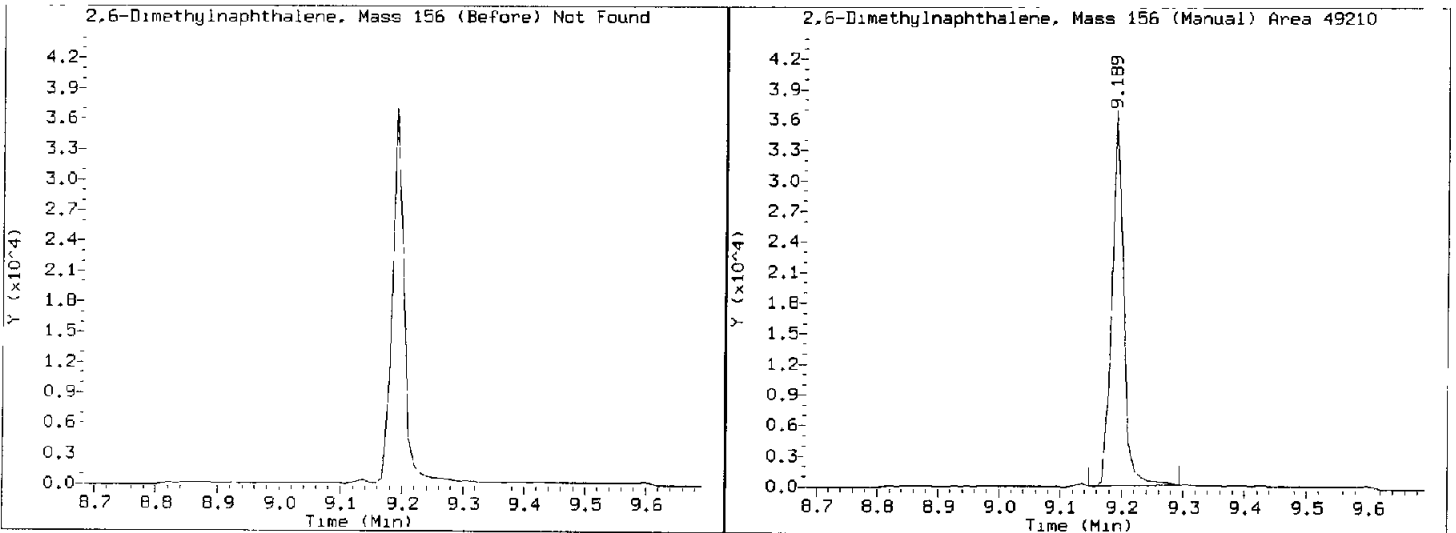
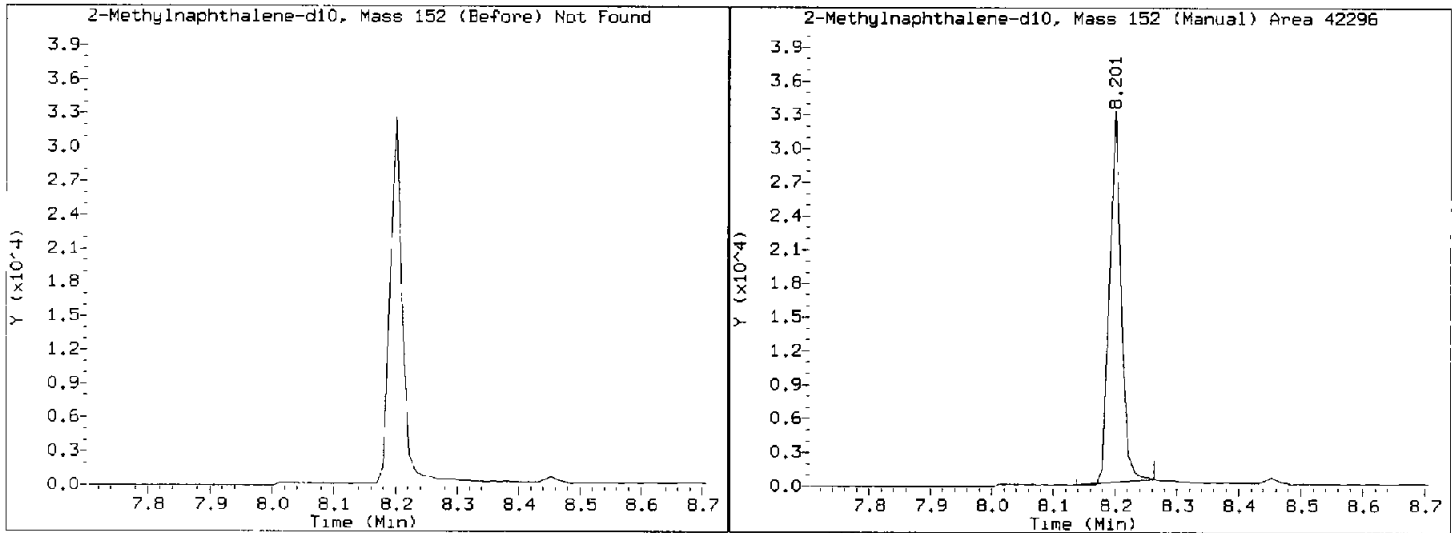
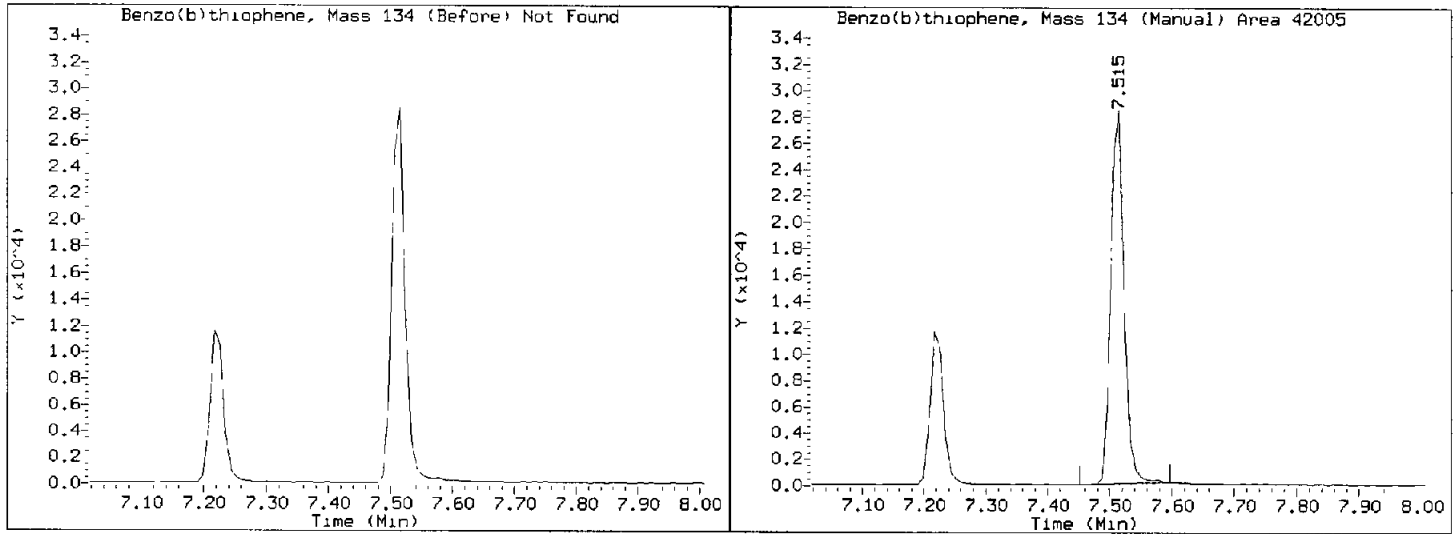
NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123106.D
Injection Date: 31-DEC-2016 10:32
Lab ID:SEL0401-CAL2 Client ID:
Report Date: 12/31/2016 12:39



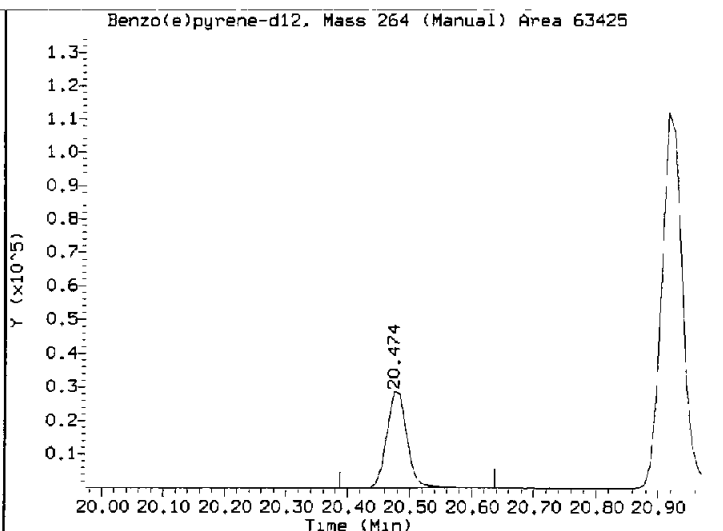
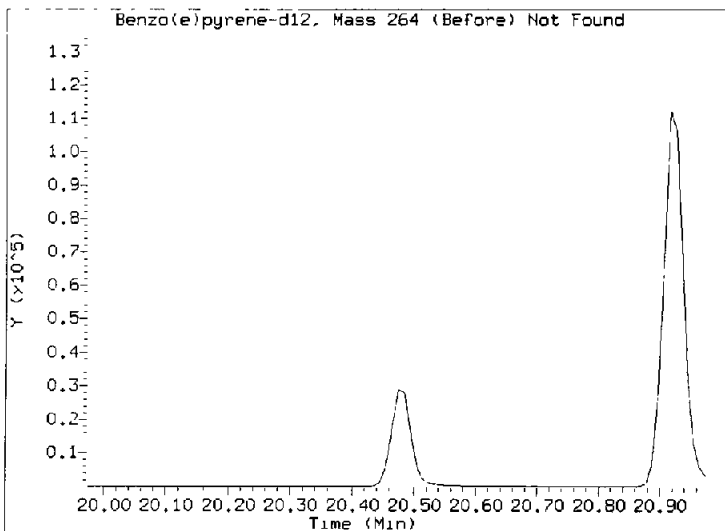
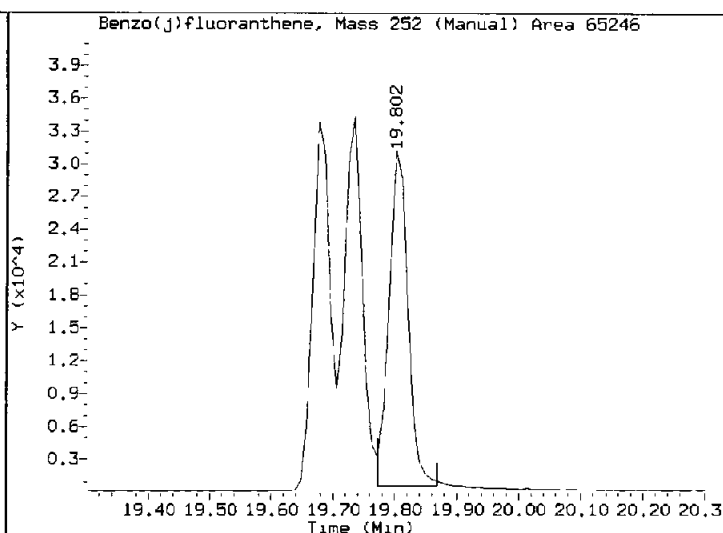
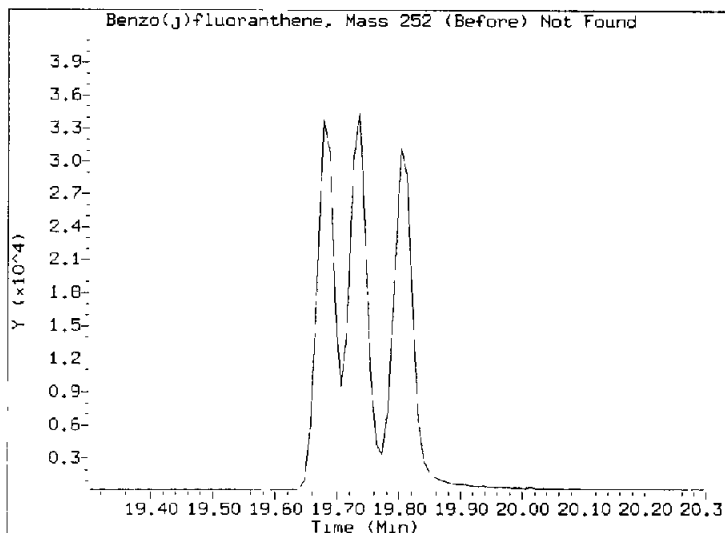
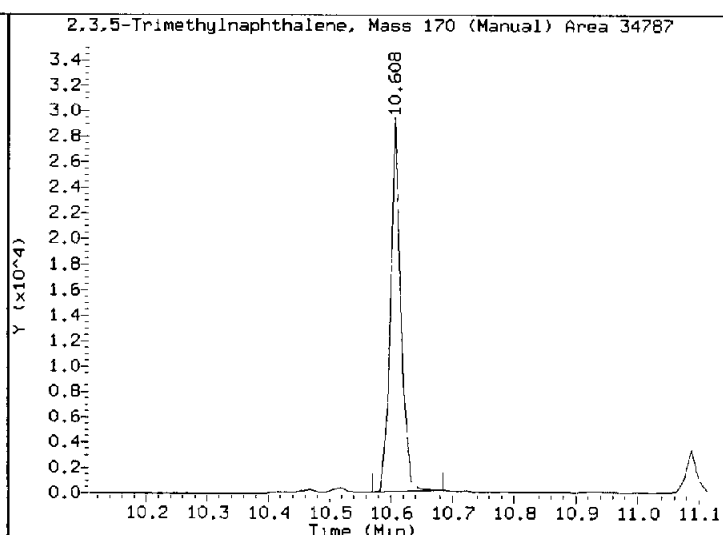
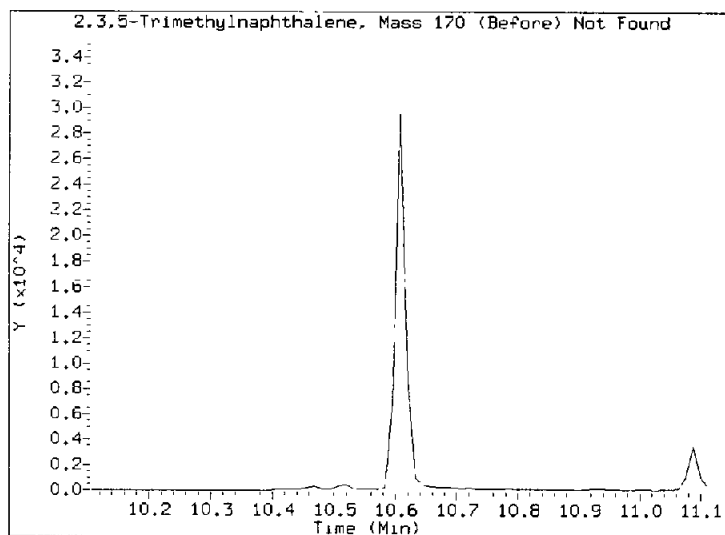
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123106.D

Injection Date: 31-DEC-2016 10:32

Lab ID:SEL0401-CAL2 Client ID:

Report Date: 12/31/2016 12:39



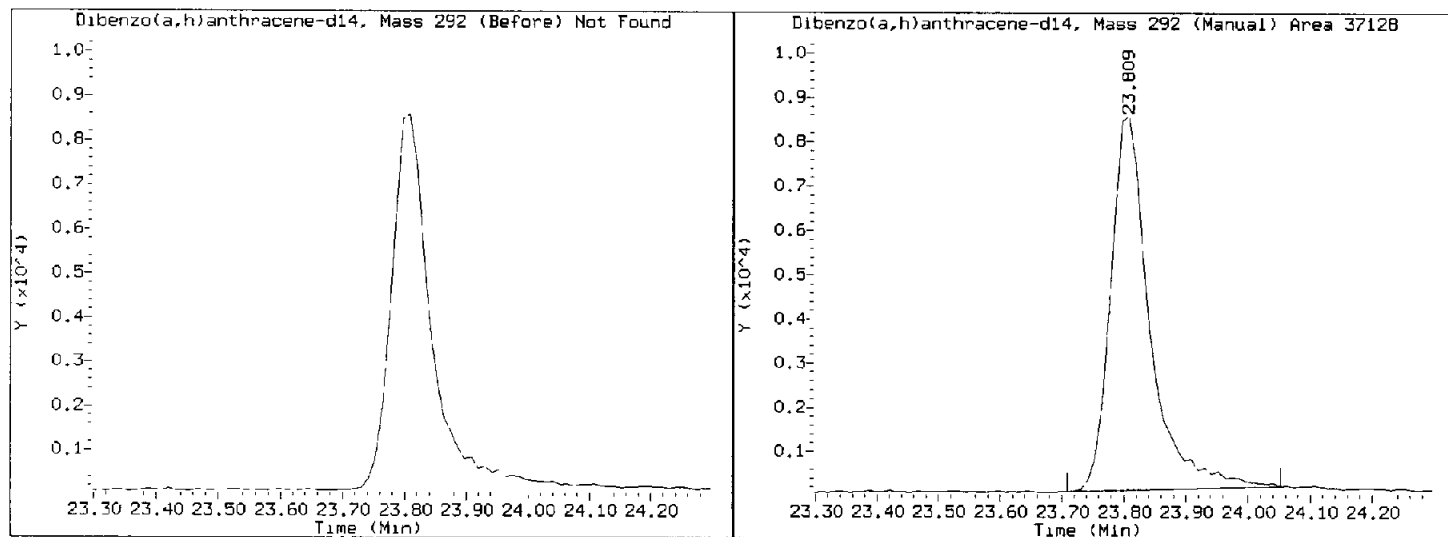
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123106.D

Injection Date: 31-DEC-2016 10:32

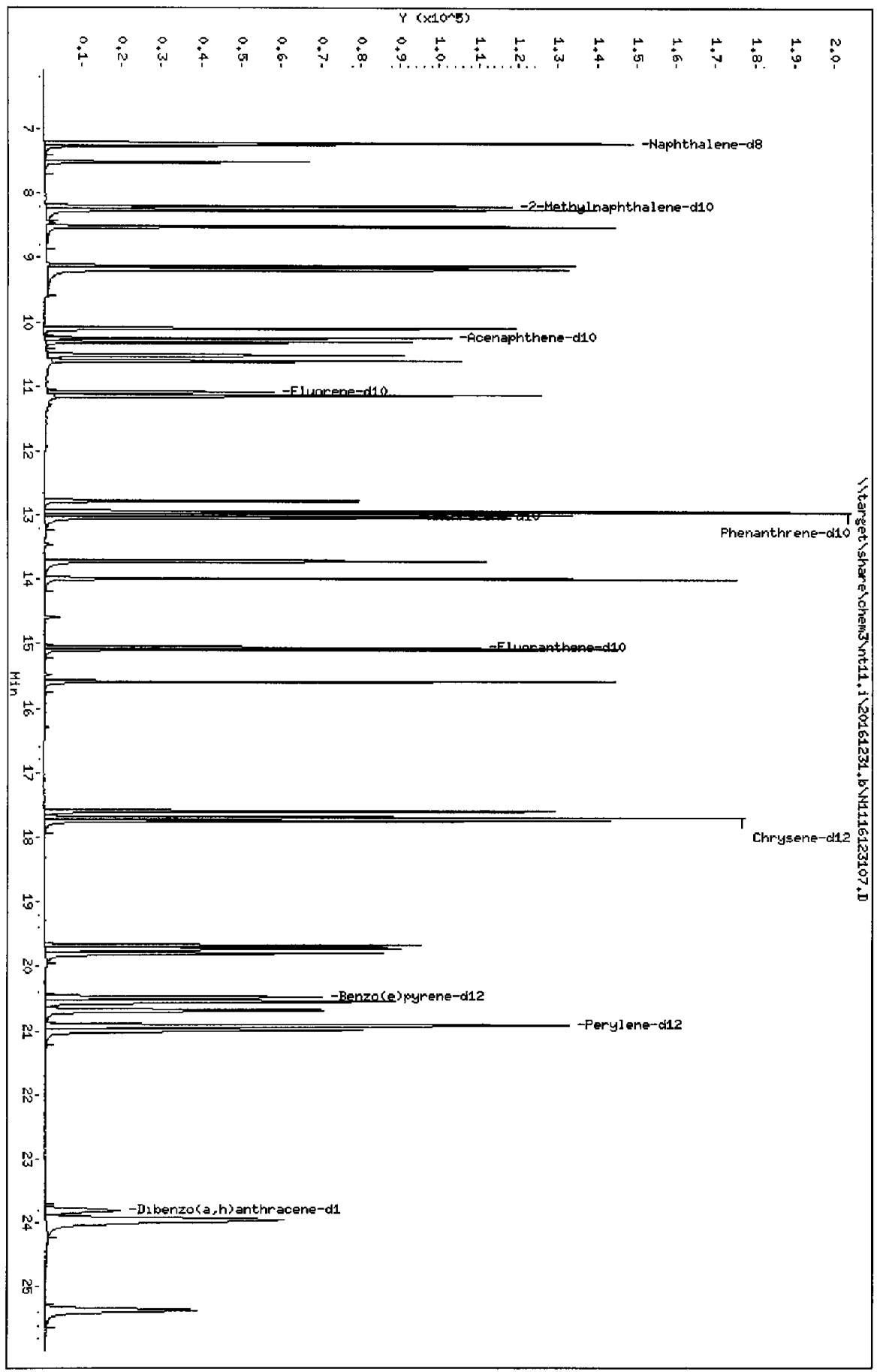
Lab ID:SEL0401-CAL2 Client ID:

Report Date: 12/31/2016 12:39



Data File: \\target\share\chem3\nt11.1\20161231.6\NH116123107.D
Date: 31-DEC-2016 11:04
Client ID:
Sample Info: SEL0401-CAL3
Column phase: Rxi-17S11 MS

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



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123107.D
 Lab Smp Id: SEL0401-CAL3
 Inj Date : 31-DEC-2016 11:04 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-CAL3
 Misc Info : 16-
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	AMOUNTS				CAL-AMT (ng/mL)	ON-COL (ng/mL)
			MASS	RT	EXP RT	REL RT		
* 1 Naphthalene-d8	136		7.225	7.225	(1.000)	208170	200.000	
2 Naphthalene	128		7.253	7.253	(1.004)	101572	100.000	97.8
3 Benzo(b)thiophene	134		7.515	7.515	(1.040)	82581	100.000	97.6 (M)
\$ 4 2-Methylnaphthalene-d10	152		8.201	8.201	(1.135)	86558	100.000	96.8 (M)
5 2-Methylnaphthalene	142		8.253	8.253	(1.142)	99728	100.000	97.4
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	101149	100.000	98.2
7 2-Chloronaphthalene	162		9.167	9.167	(0.894)	94464	100.000	97.4 (M)
8 Biphenyl	154		9.125	9.126	(0.890)	125960	100.000	97.6 (M)
9 2,6-Dimethylnaphthalene	156		9.188	9.188	(0.896)	96899	100.000	96.8 (M)
10 Acenaphthylene	152		10.098	10.098	(0.985)	112578	100.000	98.0
* 11 Acenaphthene-d10	164		10.251	10.252	(1.000)	127832	200.000	
12 Acenaphthene	153		10.315	10.315	(1.006)	74293	100.000	98.2
13 Diketo-furan	168		10.519	10.519	(1.026)	112112	100.000	99.7
14 2,3,5-Trimethylnaphthalene	170		10.607	10.607	(1.035)	70526	100.000	98.0 (M)
\$ 15 Fluorene-d10	174		11.086	11.088	(1.082)	59191	100.000	96.5
16 Fluorene	166		11.139	11.151	(1.086)	86588	100.000	96.7
17 Diketo-thiophene	184		12.767	12.767	(0.986)	109440	100.000	99.8
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	237418	200.000	
19 Phenanthrene	178		12.987	12.987	(1.003)	136712	100.000	101
\$ 20 Anthracene-d10	188		13.008	13.008	(1.005)	114371	100.000	97.4
21 Anthracene	178		13.040	13.040	(1.007)	136506	100.000	101
22 Carbazole	167		13.713	13.722	(1.059)	150788	100.000	101
23 1-Methylphenanthrene	192		13.984	13.984	(1.080)	137820	100.000	99.0
\$ 24 Fluoranthene-d10	212		15.055	15.055	(1.163)	124467	100.000	98.7
25 Fluoranthene	202		15.084	15.084	(1.165)	154590	100.000	100
26 Pyrene	202		15.593	15.593	(0.881)	158191	100.000	99.8
27 Benzo(a)anthracene	228		17.602	17.602	(0.994)	145331	100.000	99.0
* 28 Chrysenes-d12	240		17.702	17.702	(1.000)	244102	200.000	
29 Chrysenes	228		17.751	17.751	(1.003)	152677	100.000	101
30 Benzo(o)fluoranthene	252		19.676	19.677	(0.941)	135434	100.000	97.1
31 Benzo(k)fluoranthene	252		19.734	19.725	(0.943)	147228	100.000	98.0
32 Benzo(j)fluoranthene	252		19.801	19.801	(0.947)	127307	100.000	95.1 (M)
\$ 33 Benzo(e)pyrene-d12	264		20.474	20.474	(0.979)	126073	100.000	98.3 (M)

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(a)pyrene	252	20.551	20.551	(0.983)	136371	100.000	98.0
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	127441	100.000	98.0
* 36 Perylene-d12	264	20.916	20.916	(1.000)	258780	200.000	
37 Perylene	252	20.993	20.993	(1.004)	133582	100.000	98.4
\$ 38 Dibenzo(a,h)anthracene-d14	292	23.808	23.798	(1.138)	75247	100.000	91.1(M)
39 Dibenzo(a,h)anthracene	278	23.941	23.941	(1.145)	107919	100.000	94.3
40 Indeno(1,2,3-cd)pyrene	276	23.974	23.974	(1.146)	136125	100.000	95.9
41 Benzo(g,h,i)perylene	276	25.370	25.370	(1.213)	122623	100.000	96.2

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 31-DEC-2016
 Lab File ID: N1116123107.D Calibration Time: 08:28
 Lab Smp Id: SEL0401-CAL3
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info: 16-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	208170	-5.23
11 Acenaphthene-d10	135248	67624	270496	127832	-5.48
18 Phenanthrene-d10	257021	128511	514042	237418	-7.63
28 Chrysene-d12	259511	129756	519022	244102	-5.94
36 Perylene-d12	257535	128768	515070	258780	0.48

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N1116123107.D

Lab ID: SEL0401-CAL3
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 11:04

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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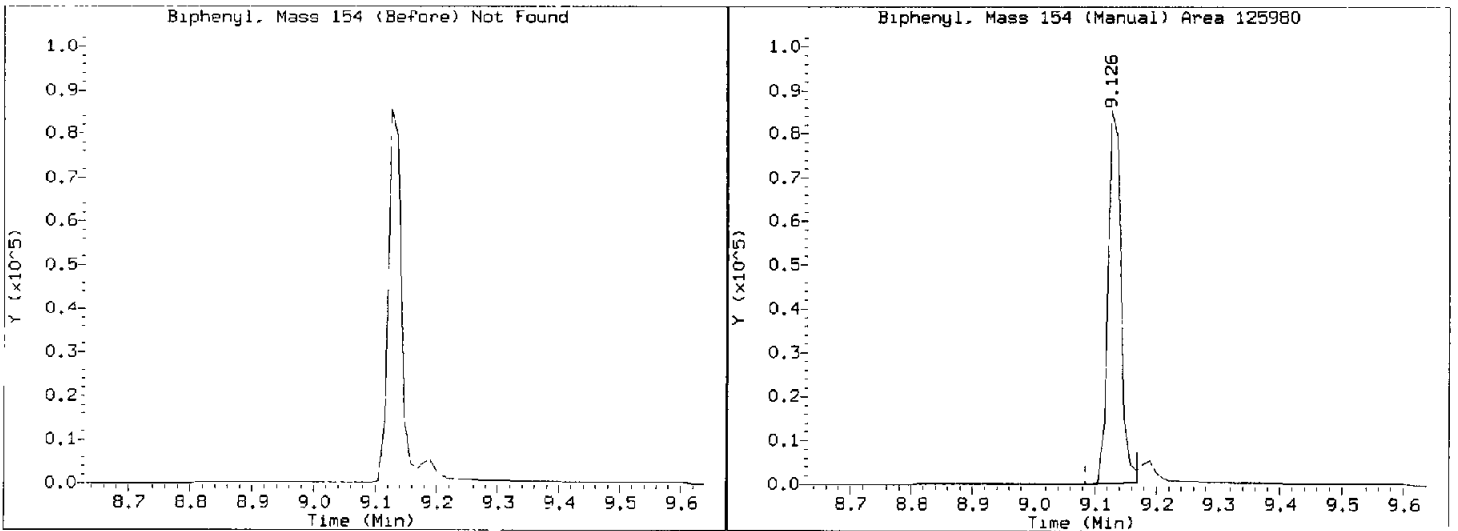
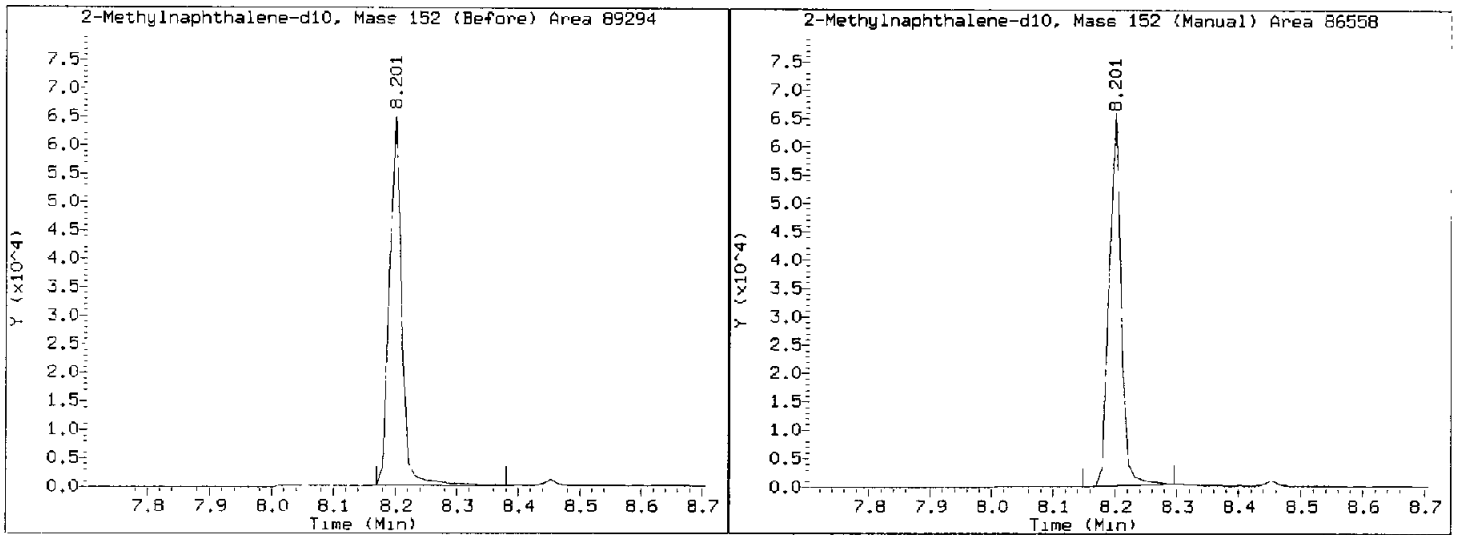
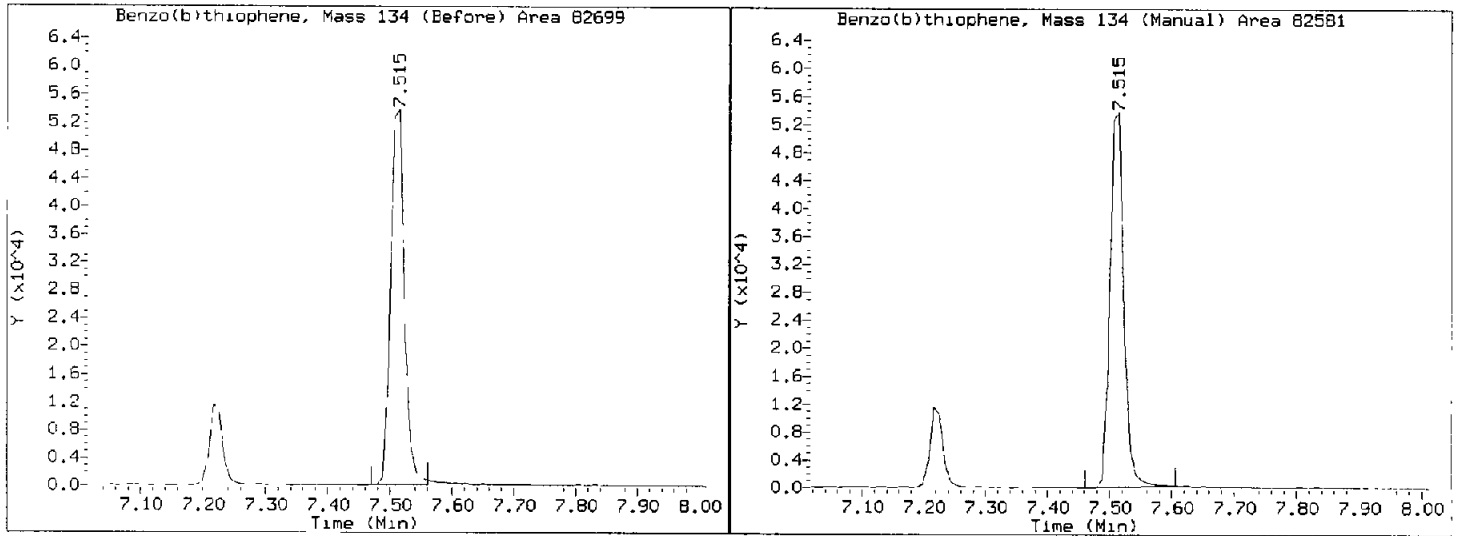
NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
- Exception: 2-Chloronaphthalene 2.0000
- Exception: 2,6-Dimethylnaphthalene 2.0000
- Exception: 2,3,5-Trimethylnaphthalene 2.0000
- Exception: 1-Methylphenanthrene 2.0000
- Exception: Dibenzothiophene 2.0000
- Exception: Carbazole 2.0000
- Exception: Biphenyl 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000
- Exception: Anthracene-d10 (Surr) 0.1000
- Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
- Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123107.D
Injection Date: 31-DEC-2016 11:04
Lab ID:SEL0401-CAL3 Client ID:
Report Date: 12/31/2016 12:39



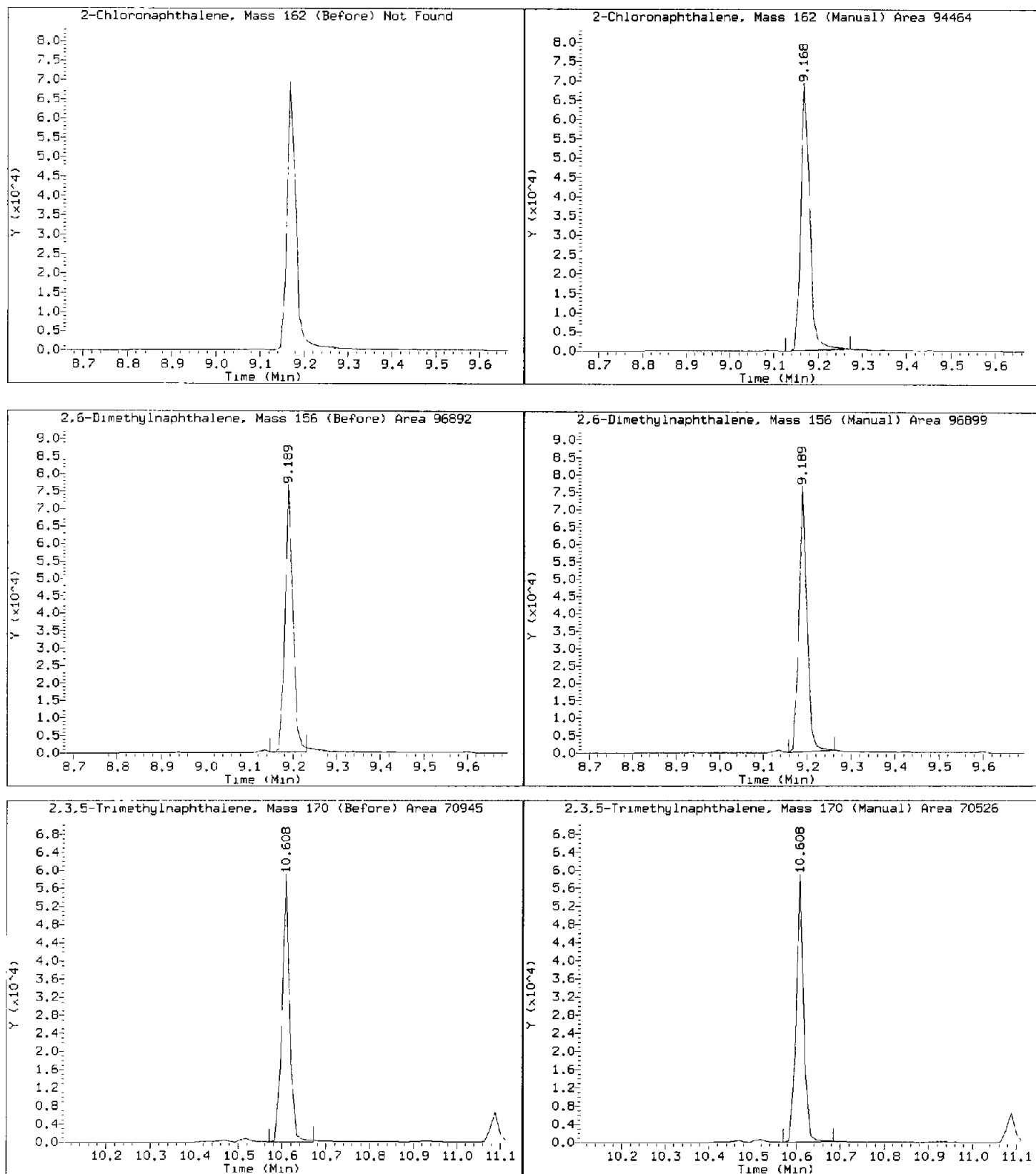
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123107.D

Injection Date: 31-DEC-2016 11:04

Lab ID:SEL0401-CAL3 Client ID:

Report Date: 12/31/2016 12:39



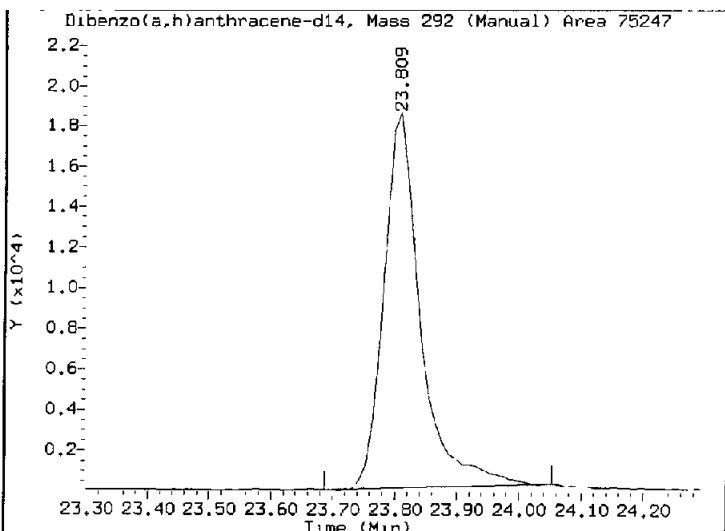
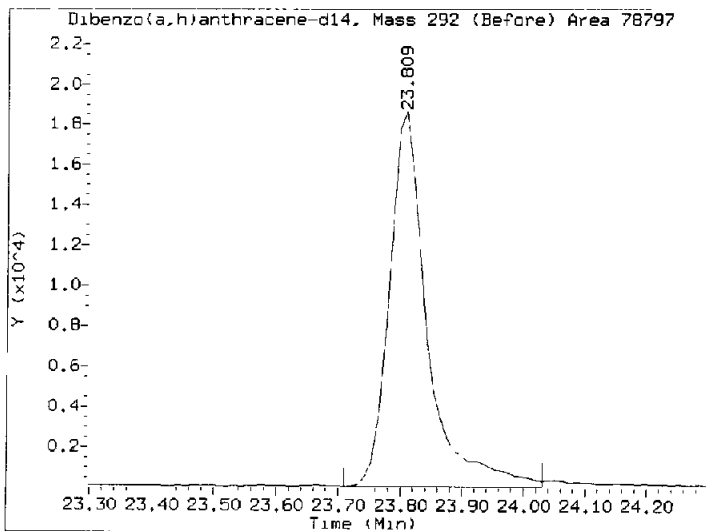
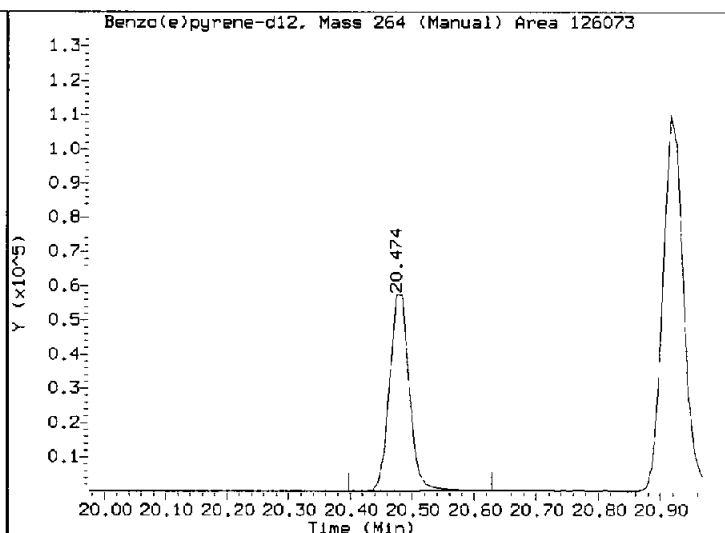
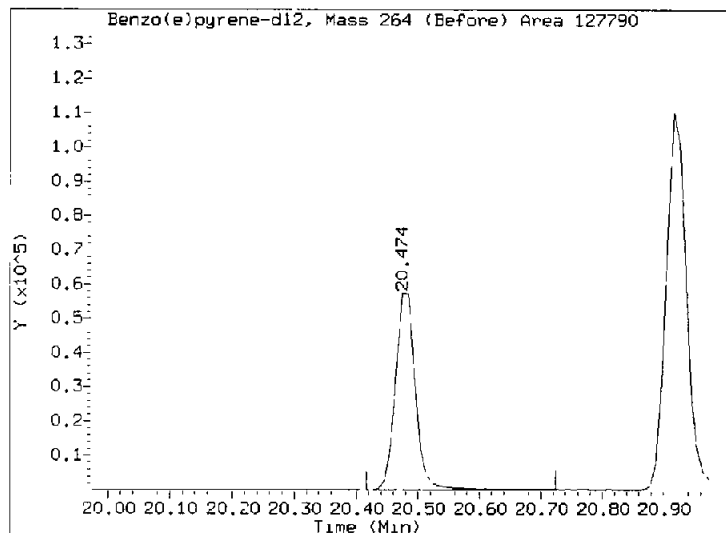
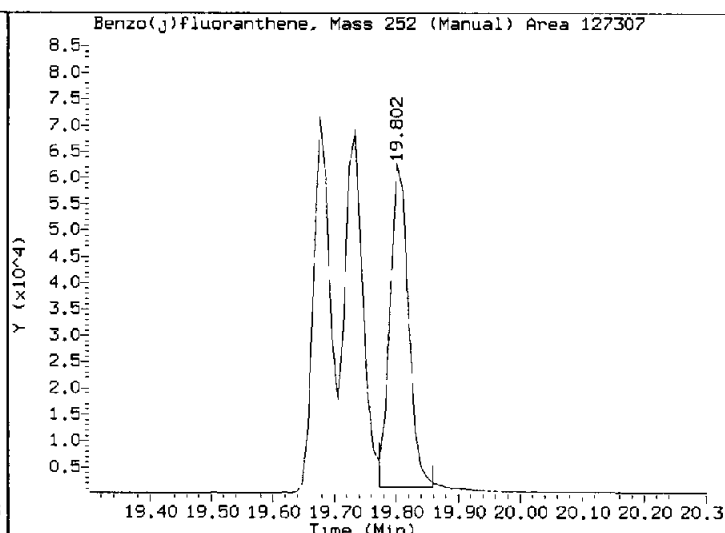
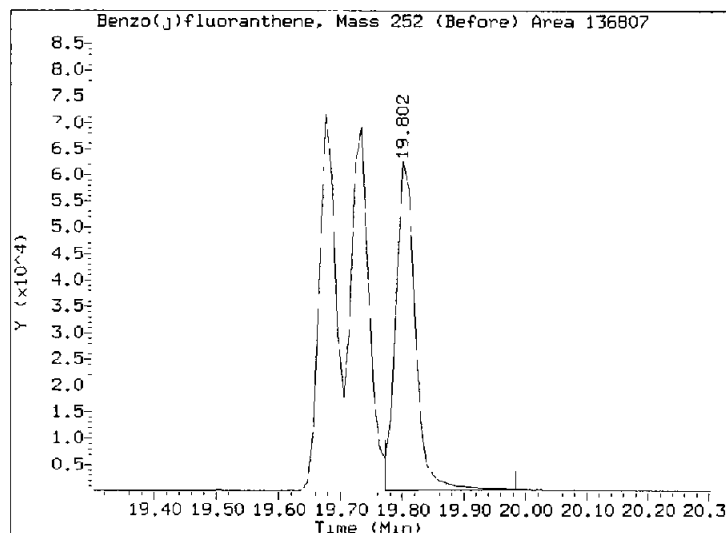
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161231.b/N1116123107.D

Injection Date: 31-DEC-2016 11:04

Lab ID:SEL0401-CAL3 Client ID:

Report Date: 12/31/2016 12:39



Data File: \\target\share\chem3\nt11.1\20161231.6\NH116123108.D

Date: 31-DEC-2016 11:35

Client ID:

Sample Info: SEL0401-SCW1

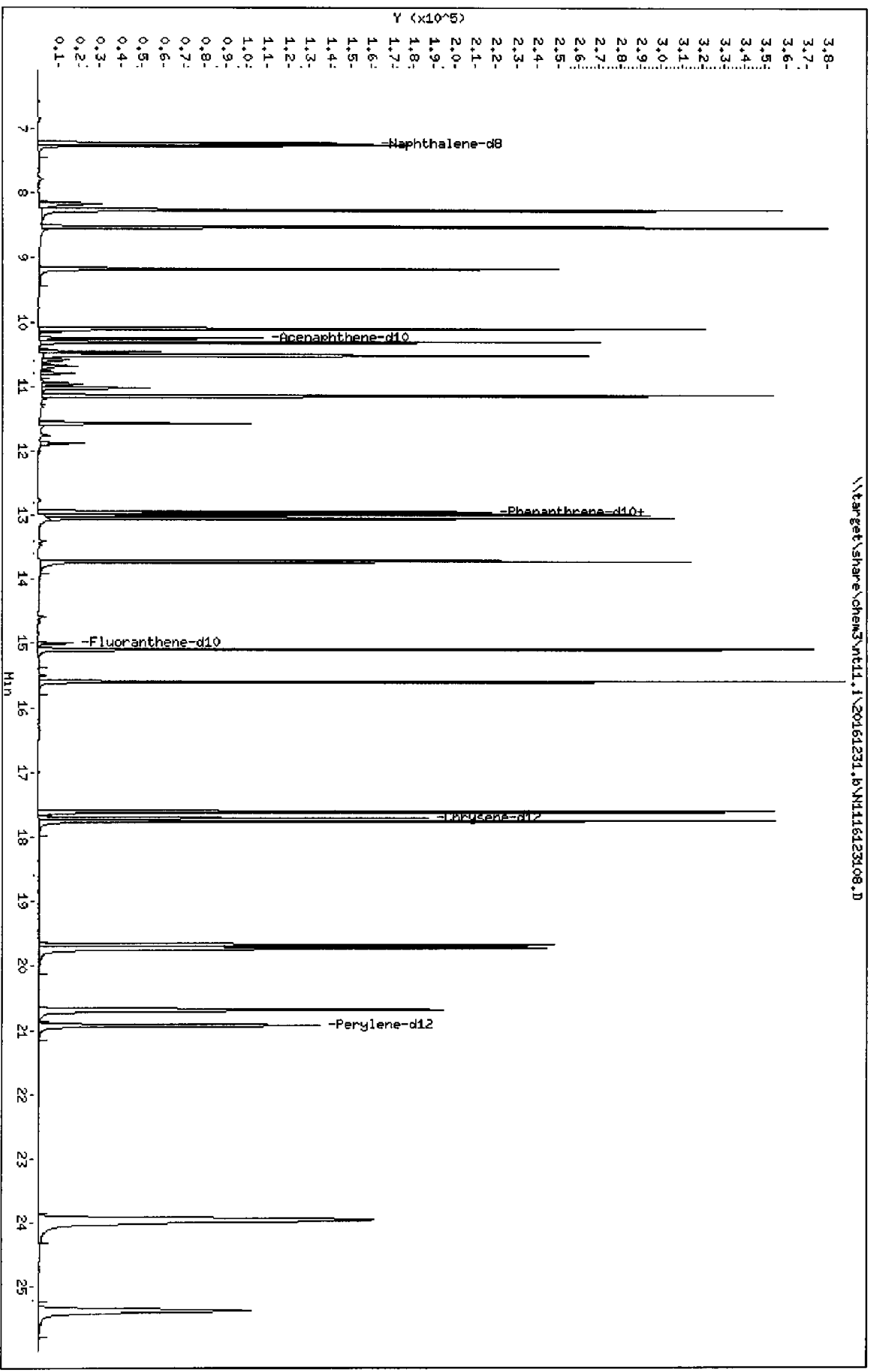
Column phase: Kx1-17311 MS

Instrument: nt11.1

Operator: WTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N116123108.D
 Lab Smp Id: SEL0401-SCV1
 Inj Date : 31-DEC-2016 11:35 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: newpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compound#	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (rg/mL)
* 1 Naphthalene-c8	136	7.225	7.225	(1.000)	210327	200.000	
2 Naphthalene	128	7.253	7.253	(1.004)	263035	250.596	251
\$ 4 2-Methylnaphthalene-d10	152	Compound Not Detected.					
5 7-Methylnaphthalene	142	8.253	8.253	(1.142)	257930	249.327	249
6 1-Methylnaphthalene	142	8.516	8.516	(1.179)	246162	236.587	237
10 Acenaphthylene	152	10.098	10.098	(0.985)	293179	254.726	255
* 11 Acenaphthene-d10	164	10.252	10.252	(1.000)	128092	200.000	
12 Acenaphthene	153	10.315	10.315	(1.006)	209513	276.477	276
13 Dibenzofuran	168	10.519	10.519	(1.026)	321591	285.478	285
16 Fluorene	166	11.138	11.151	(1.086)	240770	268.478	268
* 18 Phenanthrene-d10	168	12.945	12.945	(1.000)	246665	200.000	
19 Phenanthrene	178	12.987	12.987	(1.003)	354560	251.418	251
21 Anthracene	178	13.040	13.040	(1.007)	334329	237.762	238
\$ 24 Fluoranthene-d10	212	15.007	15.055	(1.159)	1972	1.50522	1.51
25 Fluoranthene	202	15.084	15.084	(1.165)	404582	252.915	253
26 Tyrene	202	15.593	15.593	(0.881)	409198	246.982	247
27 Benzo(a)anthracene	228	17.602	17.602	(0.994)	388934	253.509	254
* 28 Chrysene-d12	240	17.702	17.702	(1.000)	255043	200.000	
29 Chrysene	228	17.751	17.751	(1.003)	380528	241.811	242
30 Benzo(b)fluoranthene	252	19.676	19.677	(0.941)	361602	252.797	253
31 Benzo(k)fluoranthene	252	19.734	19.725	(0.943)	403824	262.109	262
32 Benzo(j)fluoranthene	252	Compound Not Detected.					
35 Benzo(a)pyrene	252	20.685	20.685	(0.989)	331475	248.577	249
* 36 Perylene-d12	264	20.916	20.916	(1.000)	265358	200.000	
37 Perylene	252	Compound Not Detected.					
\$ 38 Dibenz(a,h)anthracene-d14	276	Compound Not Detected.					
39 Dibenz(a,h)anthracene	278	23.941	23.941	(1.145)	280435	240.373	240
40 Indeno(1,2,3-cd)pyrene	276	23.974	23.974	(1.146)	361280	248.156	248
41 Benzo(g,h,i)perylene	276	25.370	25.370	(1.213)	322290	246.575	247

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: N1116123108.D
 Lab Smp Id: SEL0401-SCV1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Calibration Date: 31-DEC-2016
 Calibration Time: 08:28
 Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	210327	-4.25
11 Acenaphthene-d10	135248	67624	270496	128092	-5.29
18 Phenanthrene-d10	257021	128511	514042	246665	-4.03
28 Chrysene-d12	259511	129756	519022	255043	-1.72
36 Perylene-d12	257535	128768	515070	265358	3.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N1116123108.D

Lab ID: SEL0401-SCV1
nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 11:35

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, newpna.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: Fluoranthene-d10 (Surr) 0.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000



Calibration Report

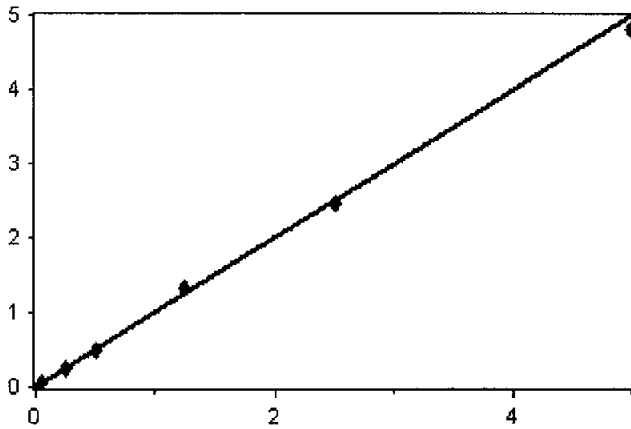
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Naphthalene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Naphthalene



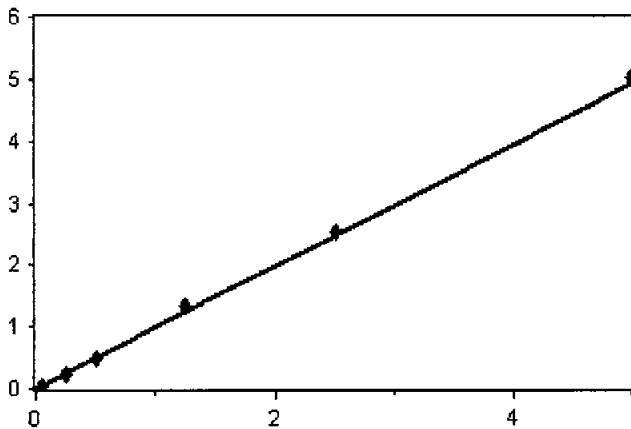
Average RF

RF RSD: 3.5253

$$[\text{Conc}] = 0.9981003 * [\text{Response}]$$

2-Methylnaphthalene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 2-Methylnaphthalene



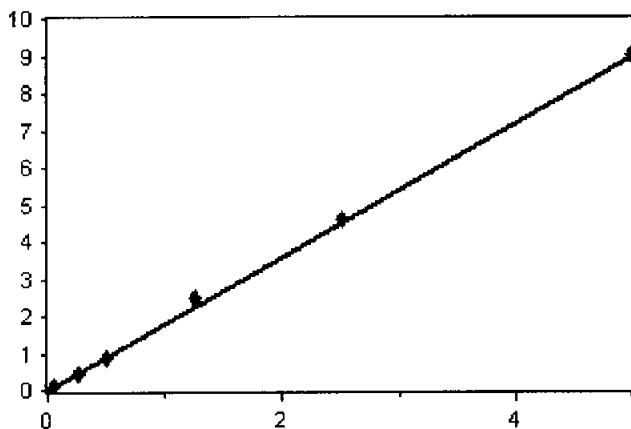
Average RF

RF RSD: 5.634266

$$[\text{Conc}] = 0.9837101 * [\text{Response}]$$

Acenaphthylene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Acenaphthylene



Average RF

RF RSD: 6.436631

$$[\text{Conc}] = 1.797084 * [\text{Response}]$$



Calibration Report

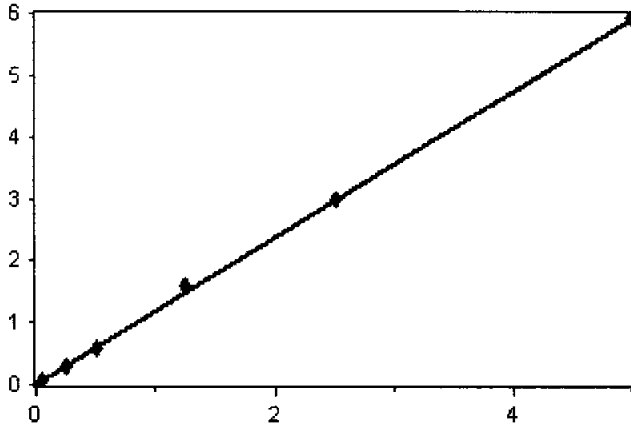
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Acenaphthene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Acenaphthene



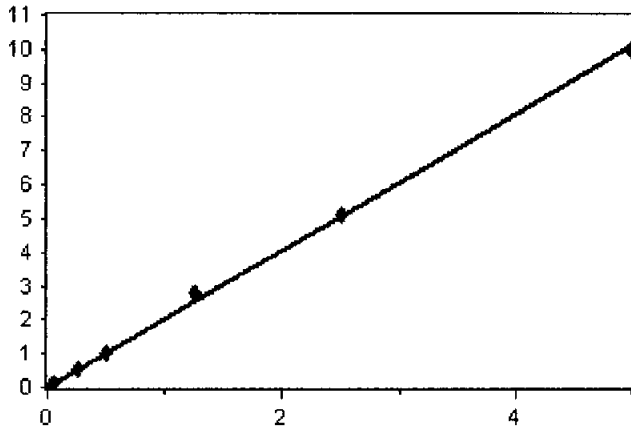
Average RF

RF RSD: 4.850335 ✓

[Conc] = 1.183206 * [Response]

Biphenyl

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Biphenyl



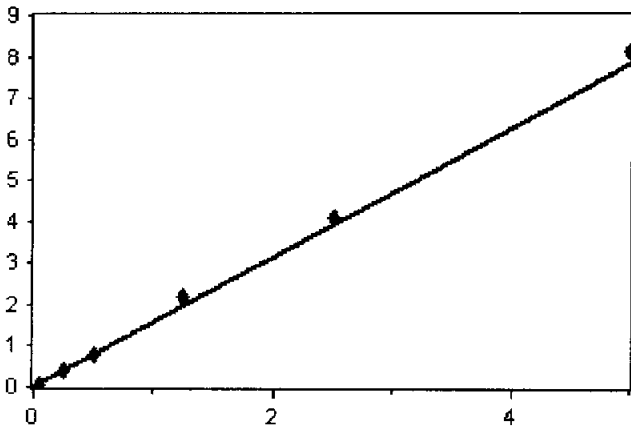
Average RF

RF RSD: 6.633739 ✓

[Conc] = 2.018666 * [Response]

2,6-Dimethylnaphthalene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 2,6-Dimethylnaphthalene



Average RF

RF RSD: 8.153153 ✓

[Conc] = 1.565384 * [Response]



Calibration Report

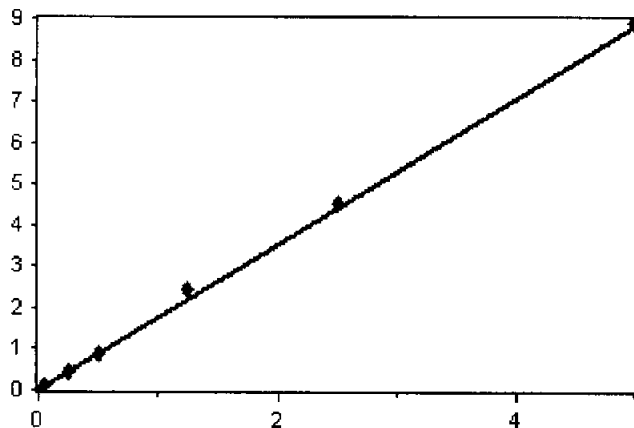
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Dibenzofuran

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Dibenzofuran



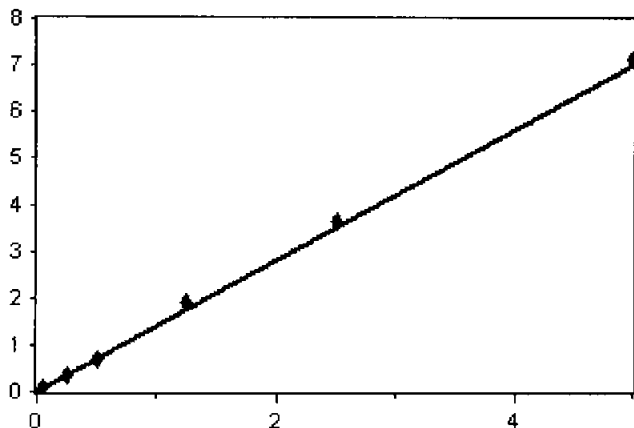
Average RF

RF RSD: 6.590145 ✓

[Conc] = 1.758895 * [Response]

Fluorene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Fluorene



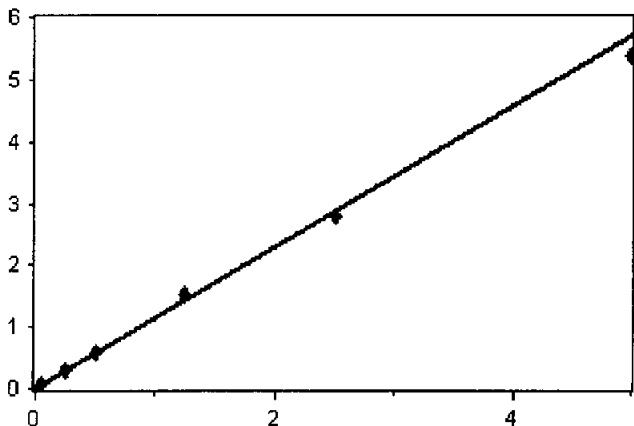
Average RF

RF RSD: 5.920069 ✓

[Conc] = 1.400239 * [Response]

Phenanthrene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Phenanthrene



Average RF

RF RSD: 4.370087 ✓

[Conc] = 1.143447 * [Response]



Calibration Report

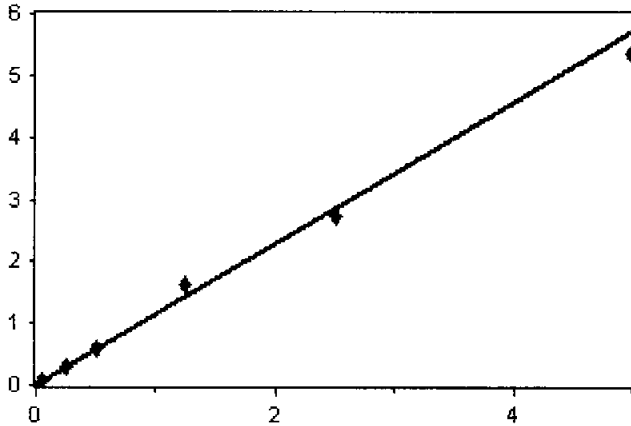
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Anthracene

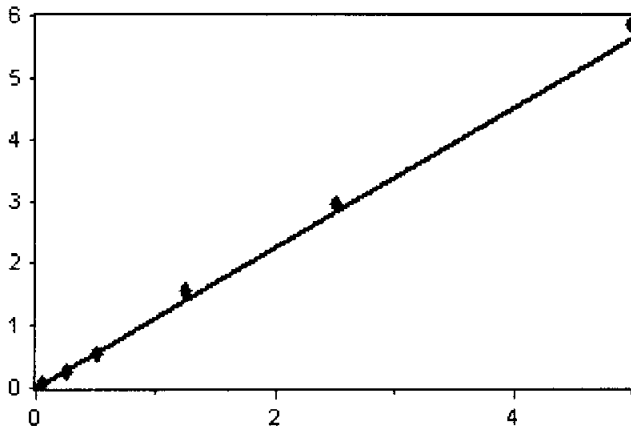
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Anthracene



Average RF
RF RSD: 7.165979 ✓
[Conc] = 1.140131 * [Response]

2,3,5-Trimethylnaphthalene

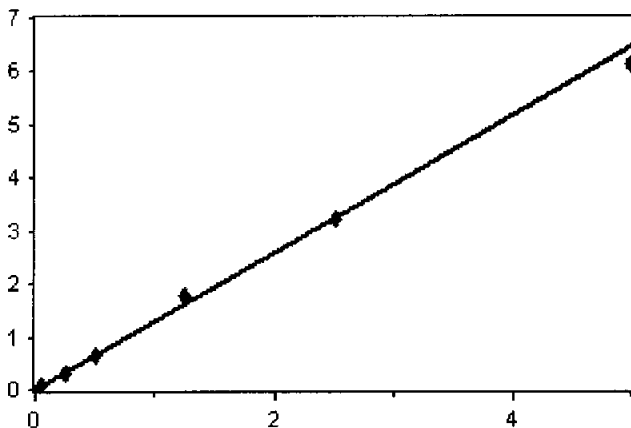
270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 2,3,5-Trimethylnaphthe



Average RF
RF RSD: 8.281944 ✓
[Conc] = 1.125509 * [Response]

Fluoranthene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Fluoranthene



Average RF
RF RSD: 4.813317 ✓
[Conc] = 1.297041 * [Response]



Calibration Report

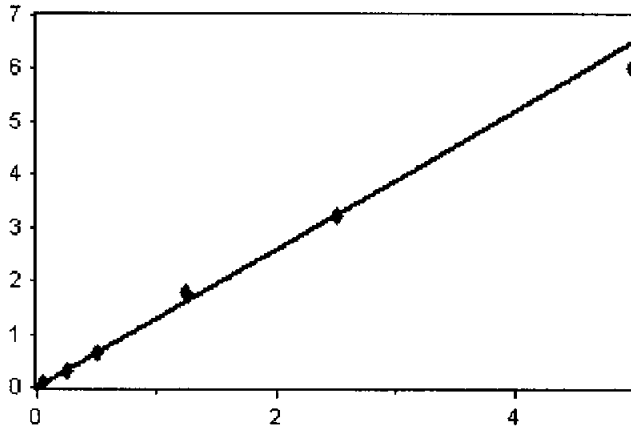
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Pyrene

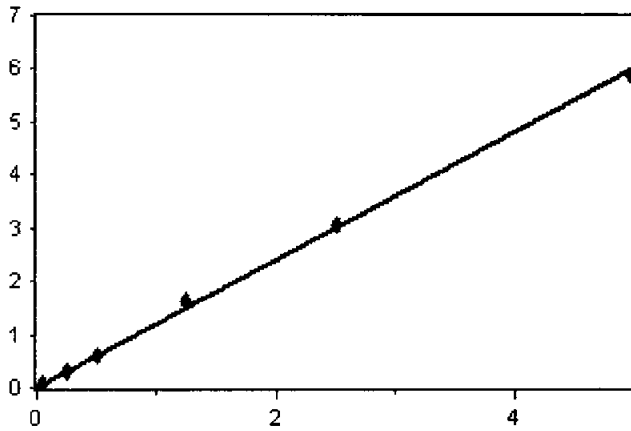
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Pyrene



Average RF
RF RSD: 5.436503 ✓
[Conc] = 1.299195 * [Response]

Benzo(a)anthracene

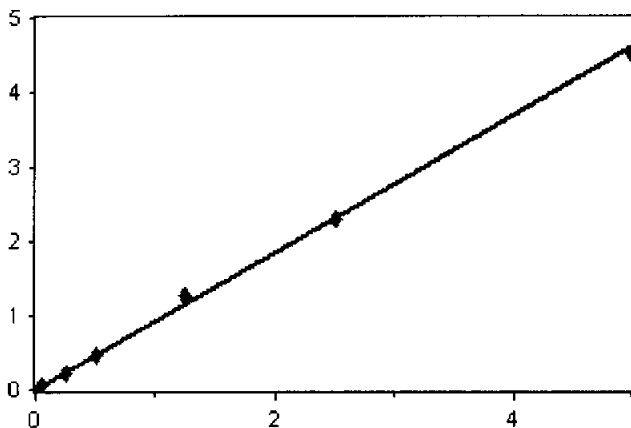
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(a)anthracene



Average RF
RF RSD: 4.362763 ✓
[Conc] = 1.202617 * [Response]

Dibenzothiophene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Dibenzothiophene



Average RF
RF RSD: 5.101806 ✓
[Conc] = 0.9235267 * [Response]



Calibration Report

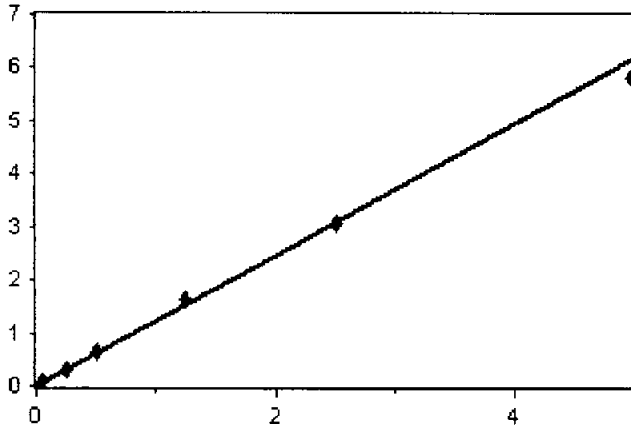
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Chrysene

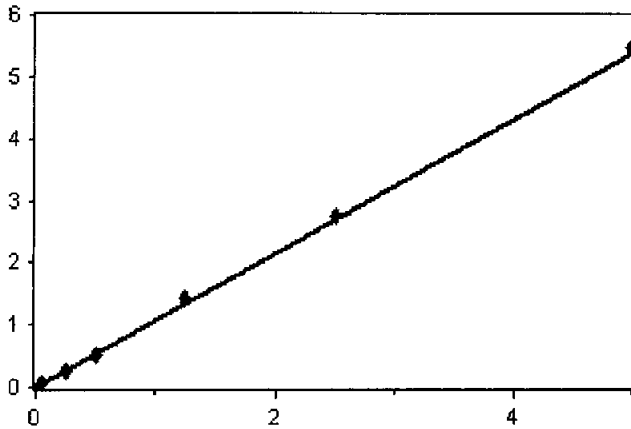
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Chrysene



Average RF
RF RSD: 3.940153 ✓
[Conc] = 1.234032 * [Response]

Benzo(b)fluoranthene

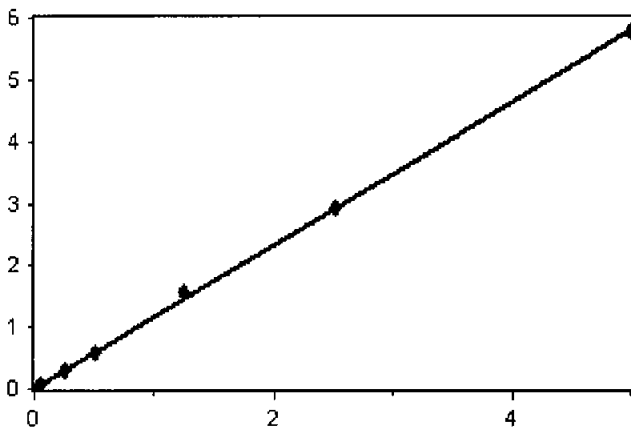
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(b)fluoranthene



Average RF
RF RSD: 4.34092 ✓
[Conc] = 1.078092 * [Response]

Benzo(k)fluoranthene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(k)fluoranthene



Average RF
RF RSD: 4.41446 ✓
[Conc] = 1.161201 * [Response]



Calibration Report

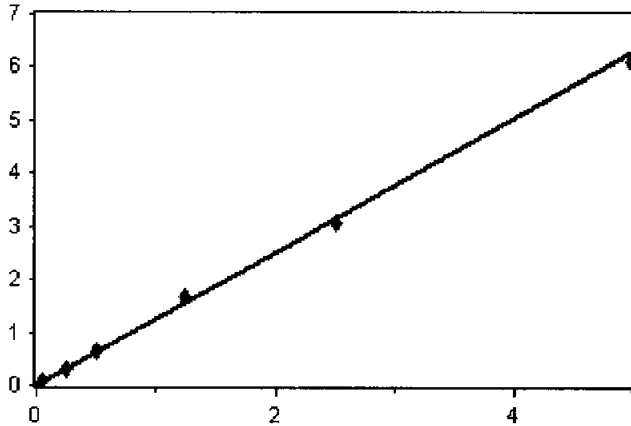
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Carbazole

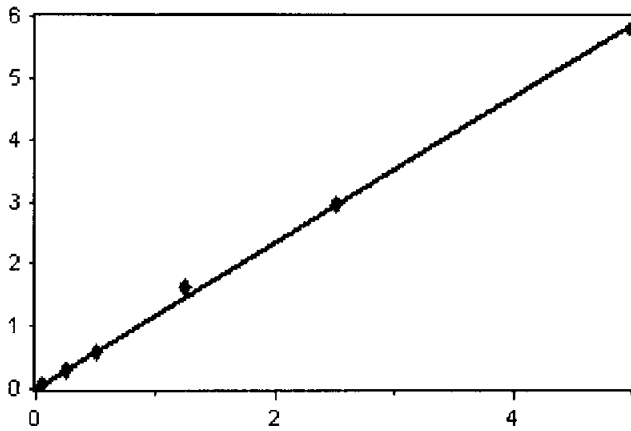
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Carbazole



Average RF
RF RSD: 3.212159 ✓
[Conc] = 1.258224 * [Response]

1-Methylphenanthrene

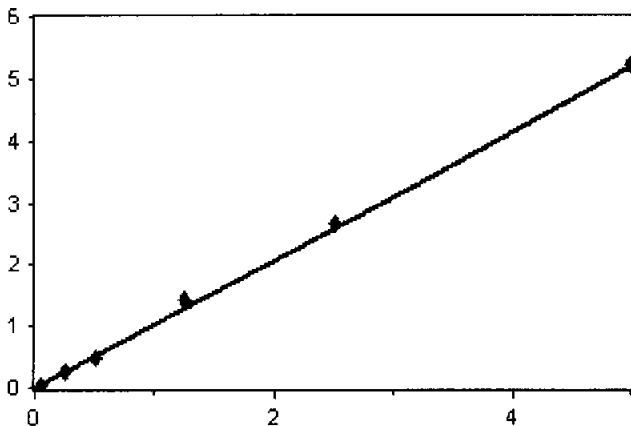
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 1-Methylphenanthrene



Average RF
RF RSD: 5.816212 ✓
[Conc] = 1.172626 * [Response]

Benzo(j)fluoranthene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(j)fluoranthene



Average RF
RF RSD: 6.615181 ✓
[Conc] = 1.035077 * [Response]



Calibration Report

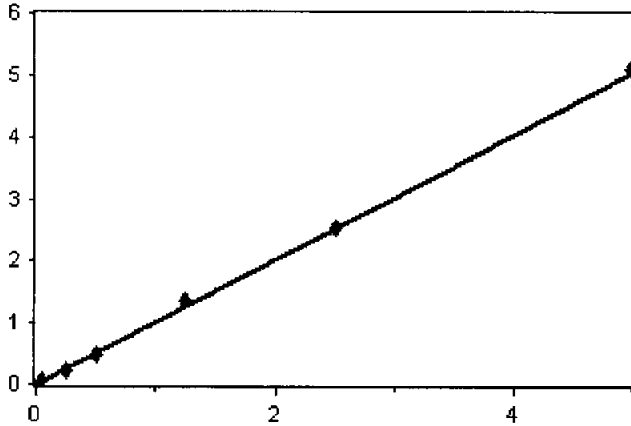
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Benzo(a)pyrene

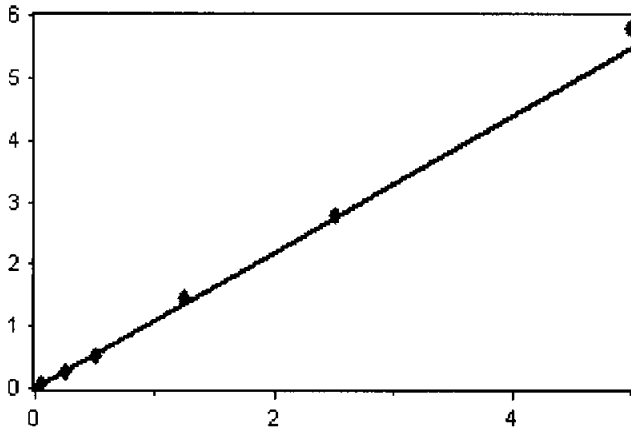
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(a)pyrene



Average RF
RF RSD: 4.453594 ✓
[Conc] = 1.005051 * [Response]

Indeno(1,2,3-cd)pyrene

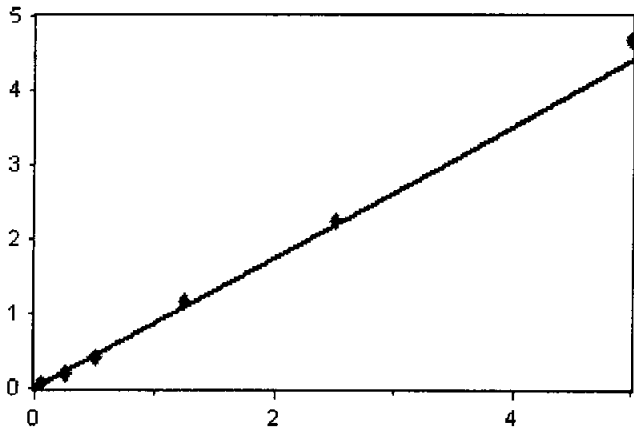
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Indeno(1,2,3-cd)pyrene



Average RF
RF RSD: 6.535008 ✓
[Conc] = 1.09728 * [Response]

Dibenzo(a,h)anthracene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Dibenzo(a,h)anthracene



Average RF
RF RSD: 6.951658 ✓
[Conc] = 0.879316 * [Response]



Calibration Report

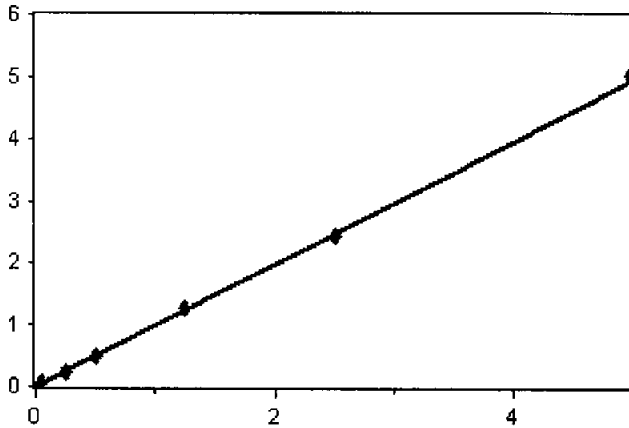
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0)

Benzo(g,h,i)perylene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(g,h,i)perylene



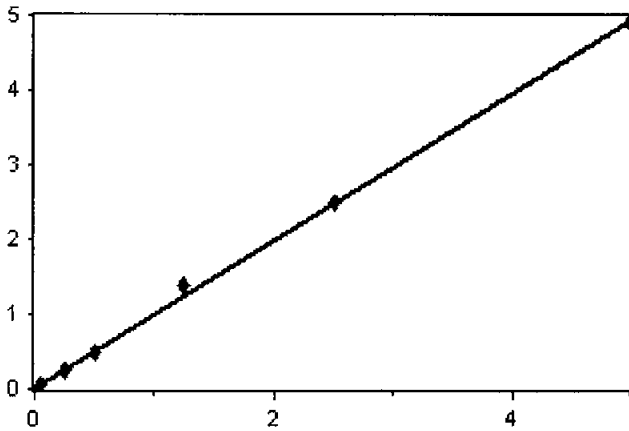
Average RF

RF RSD: 4.659534 ✓

[Conc] = 0.9851335 * [Response]

1-Methylnaphthalene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 1-Methylnaphthalene



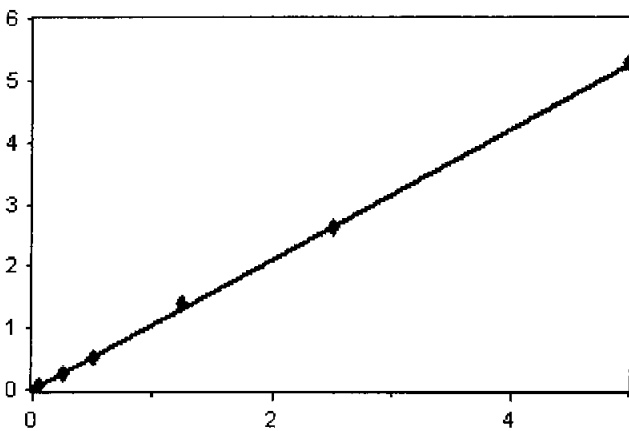
Average RF

RF RSD: 6.086142 ✓

[Conc] = 0.9893853 * [Response]

Perylene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Perylene



Average RF

RF RSD: 3.866678 ✓

[Conc] = 1.049366 * [Response]



Calibration Report

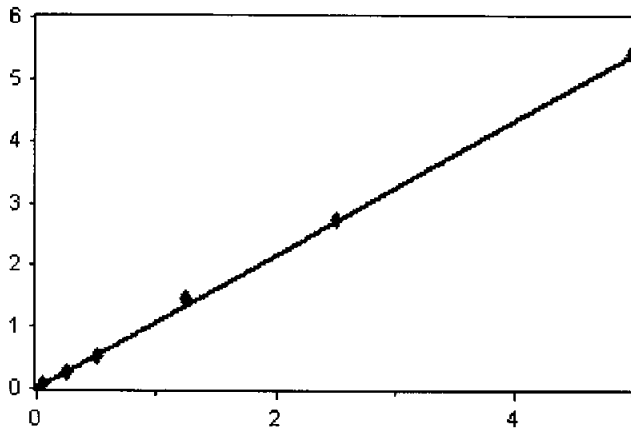
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

Benzo(e)pyrene

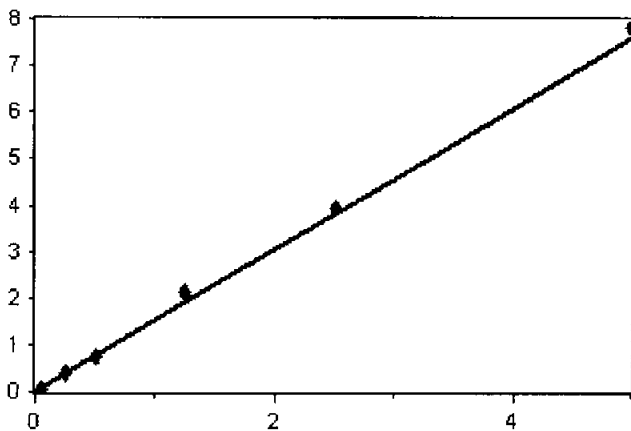
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(e)pyrene



Average RF ✓
RF RSD: 4.396722
[Conc] = 1.075401 * [Response]

2-Chloronaphthalene

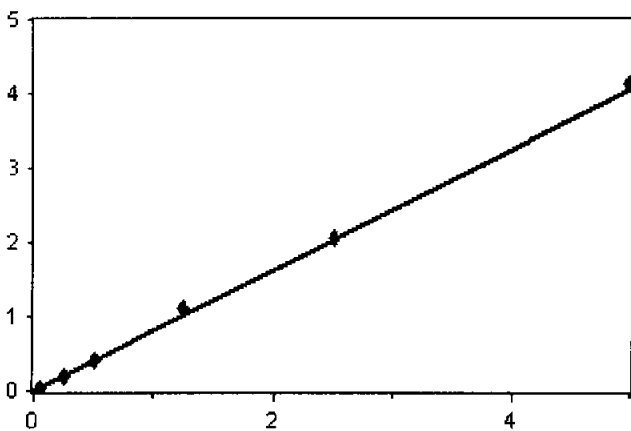
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 2-Chloronaphthalene



Average RF ✓
RF RSD: 8.565905
[Conc] = 1.518089 * [Response]

Benzo(b)thiophene

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Benzo(b)thiophene



Average RF ✓
RF RSD: 5.149146
[Conc] = 0.8125076 * [Response]



Calibration Report

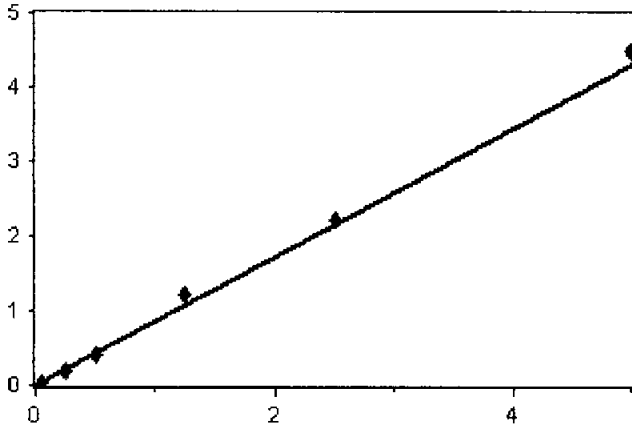
Instrument: NT11
Calibration ID: ZL00083

Calibration Date: 31-Dec-2016 12:55 By VTS
Last Edit Date: 31-Dec-2016 12:56 By VTS

8270D-SIM PAH Low (0.0

2-Methylnaphthalene-d10

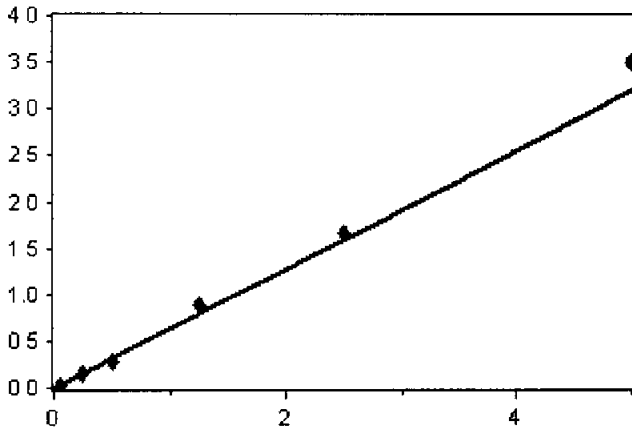
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - 2-Methylnaphthalene-



Average RF
RF RSD: 8.841695 ✓
[Conc] = 0.8589433 * [Response]

Dibenzo[a,h]anthracene-d14

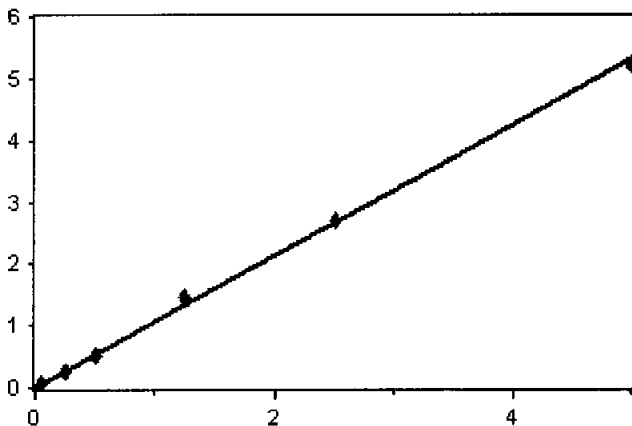
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Dibenzo[a,h]anthracene-



Average RF
RF RSD: 9.3605 ✓
[Conc] = 0.6386966 * [Response]

Fluoranthene-d10

8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg) - Fluoranthene-d10



Average RF
RF RSD: 5.376334 ✓
[Conc] = 1.062255 * [Response]

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Calibration: ZL00083

Laboratory ID: SEL0401-SCV1

Sequence: SEL0401

Sequence Name: SIMPNA SCV

Standard ID: E007699

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Naphthalene	250.00	251	0.2	20.00
2-Methylnaphthalene	250.00	249	-0.3	20.00
Acenaphthylene	250.00	255	1.9	20.00
Acenaphthene	250.00	276	10.6	20.00
Dibenzofuran	250.00	285	14.2	20.00
Fluorene	250.00	268	7.4	20.00
Phenanthrene	250.00	251	0.6	20.00
Anthracene	250.00	238	-4.9	20.00
Fluoranthene	250.00	253	1.2	20.00
Pyrene	250.00	247	-1.2	20.00
Benzo(a)anthracene	250.00	254	1.4	20.00
Chrysene	250.00	242	-3.3	20.00
Benzo(b)fluoranthene	250.00	253	1.1	20.00
Benzo(k)fluoranthene	250.00	262	4.8	20.00
Benzo(a)pyrene	250.00	249	-0.6	20.00
Indeno(1,2,3-cd)pyrene	250.00	248	-0.7	20.00
Dibenzo(a,h)anthracene	250.00	240	-3.9	20.00
Benzo(g,h,i)perylene	250.00	247	-1.4	20.00
1-Methylnaphthalene	250.00	237	-5.4	20.00
Benzofluoranthenes, Total	500.00	515	3.0	

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20161231.16\N1116123108.D

Date : 31-DEC-2016 11:35

Client ID:

Sample Info: SEL0401-SCW1

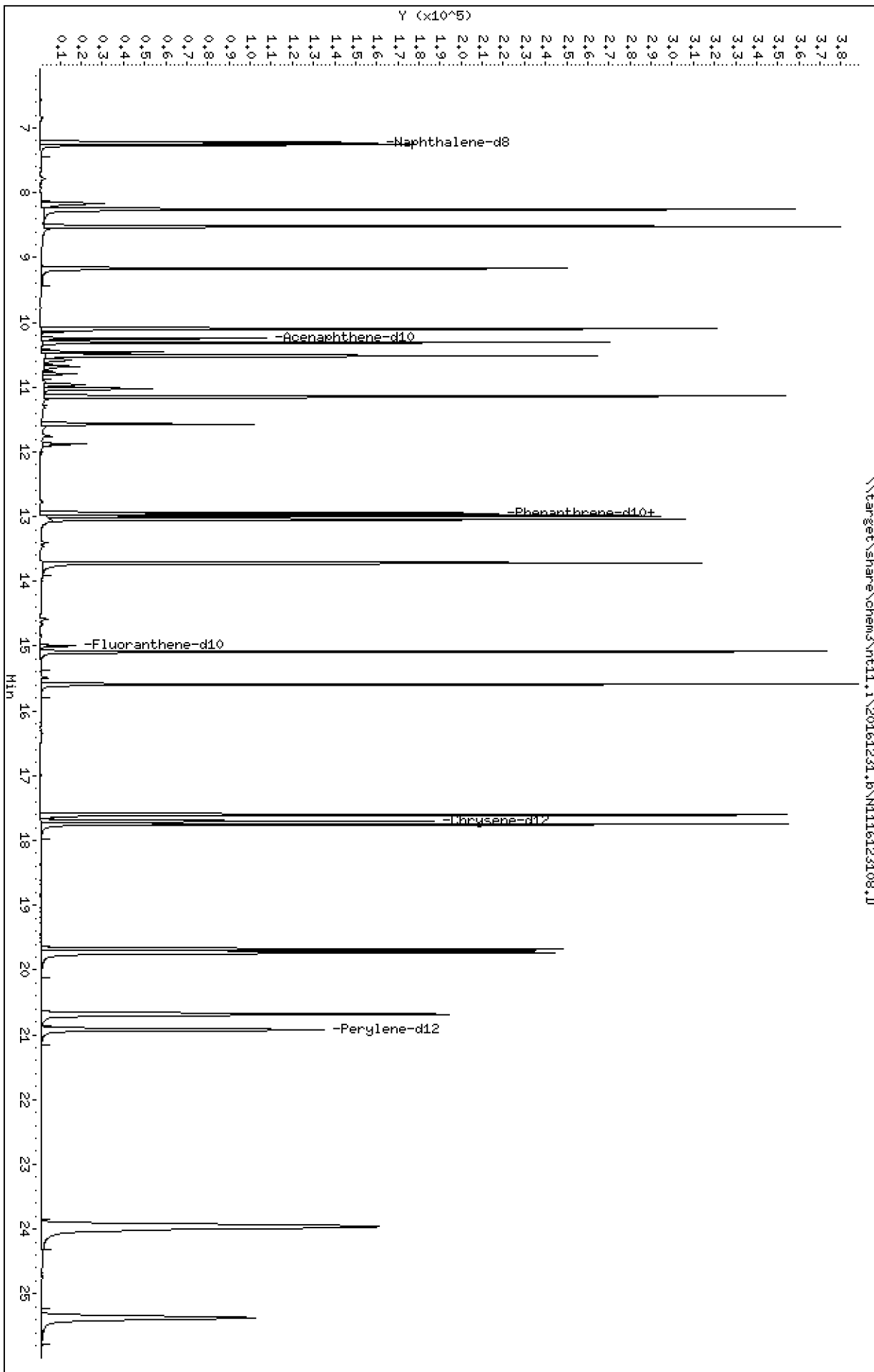
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

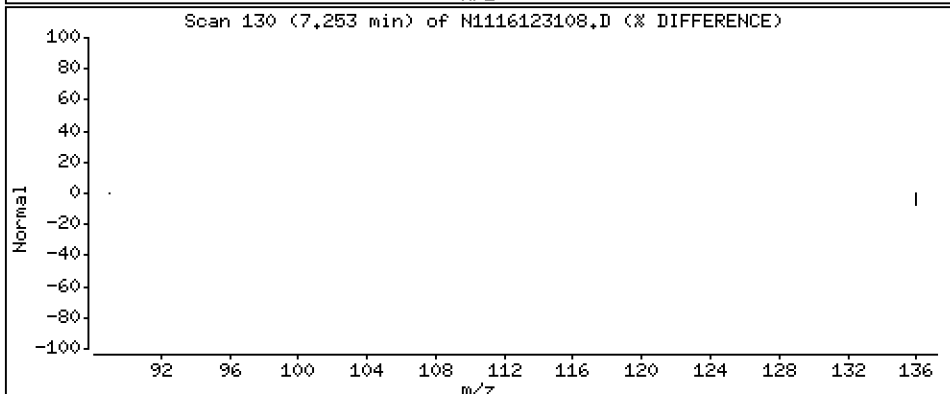
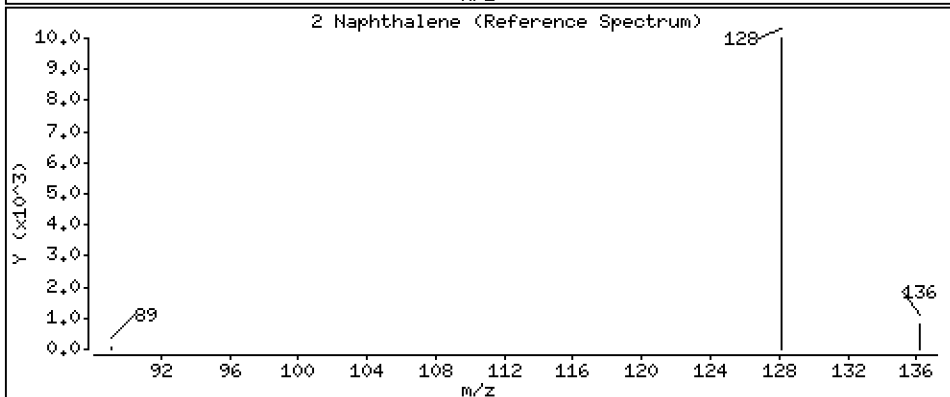
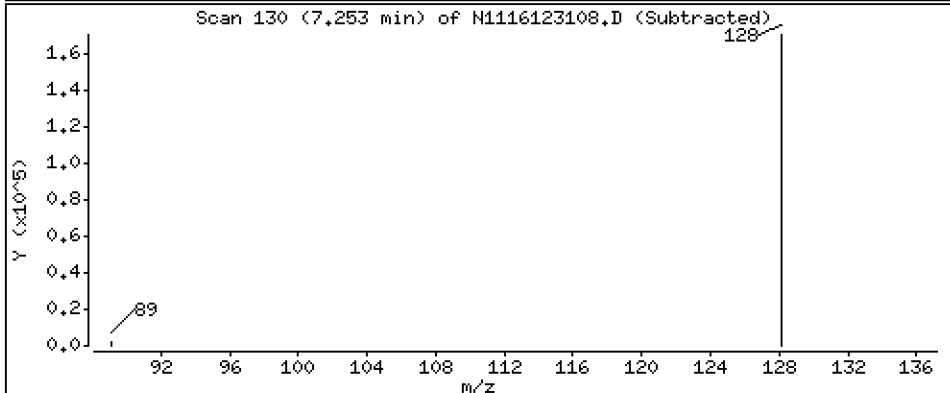
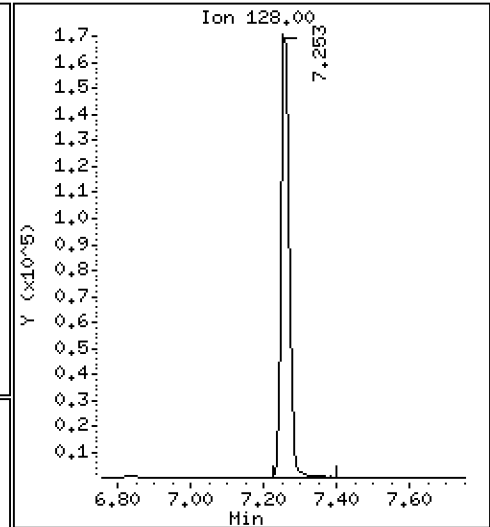
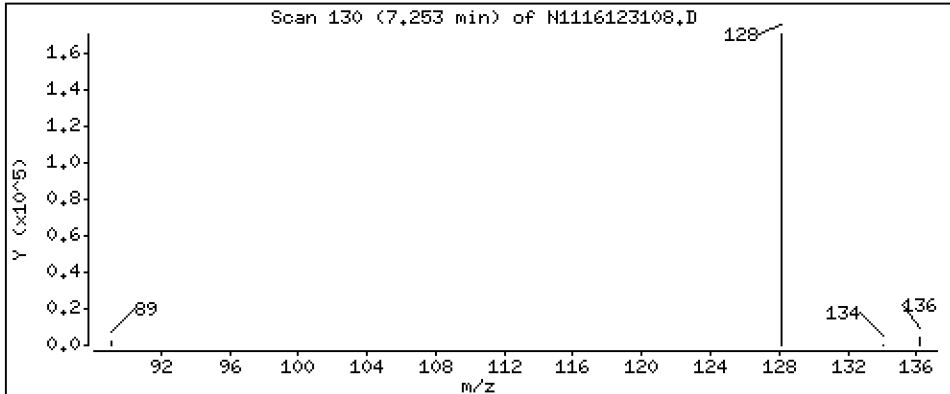
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 251 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

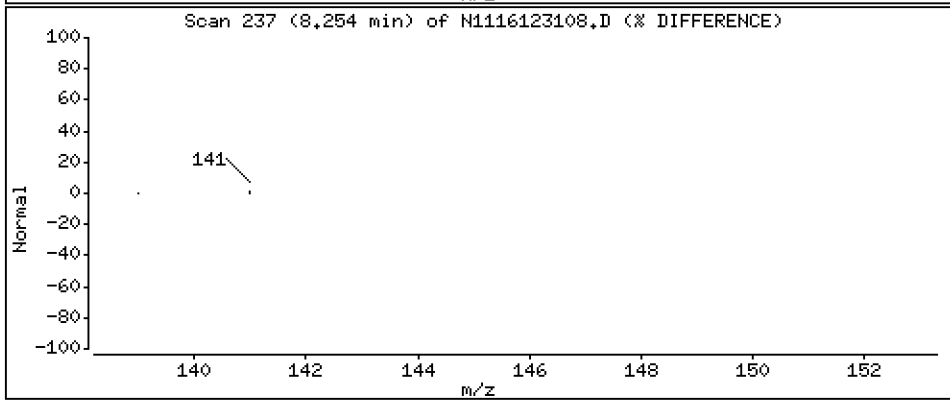
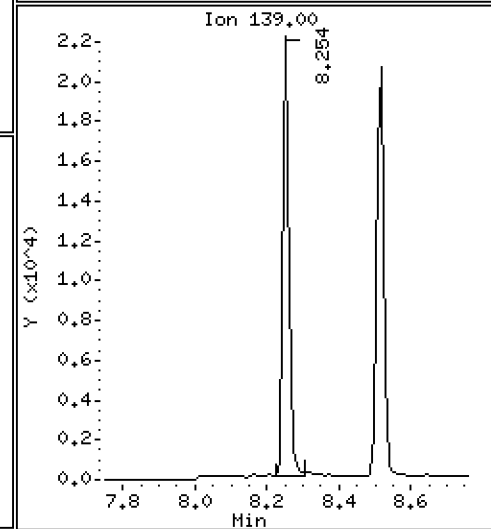
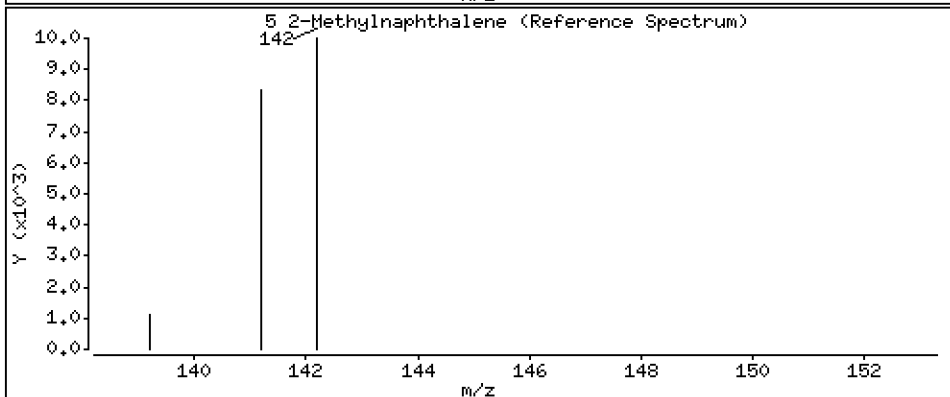
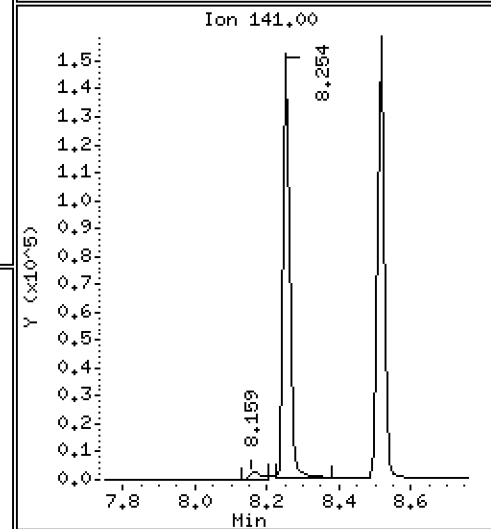
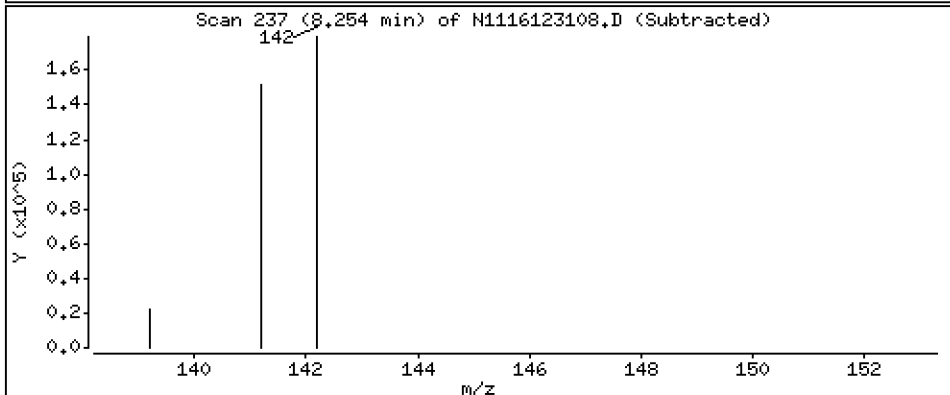
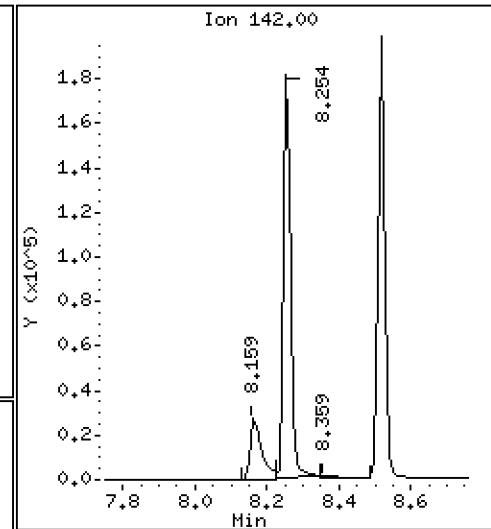
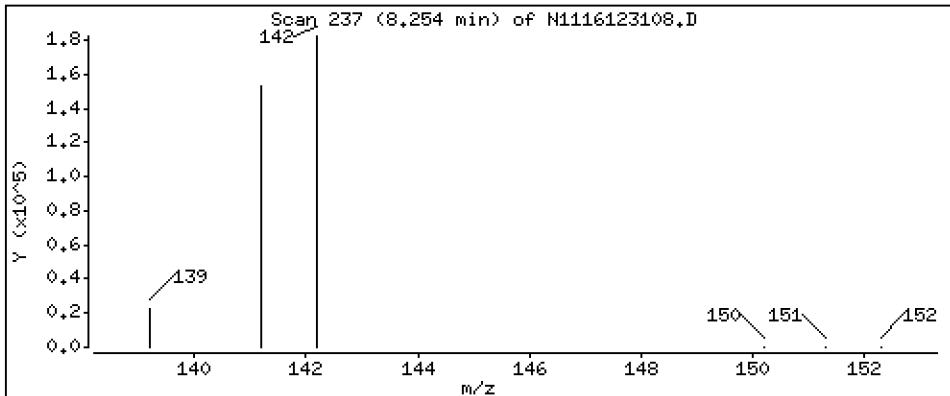
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 249 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

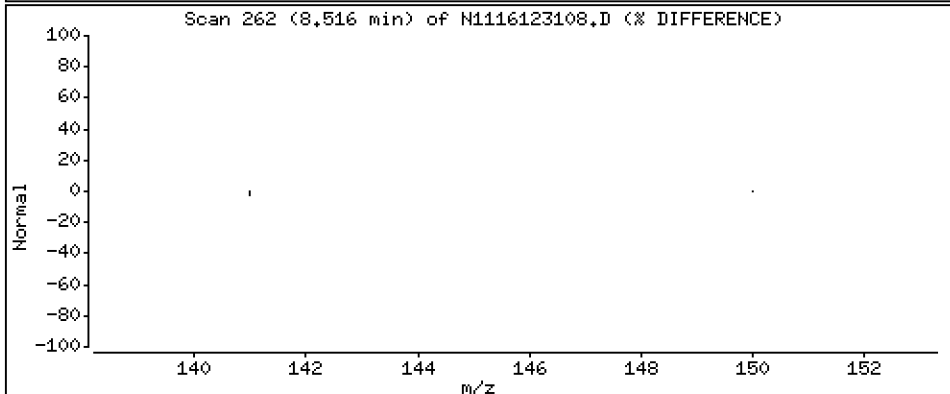
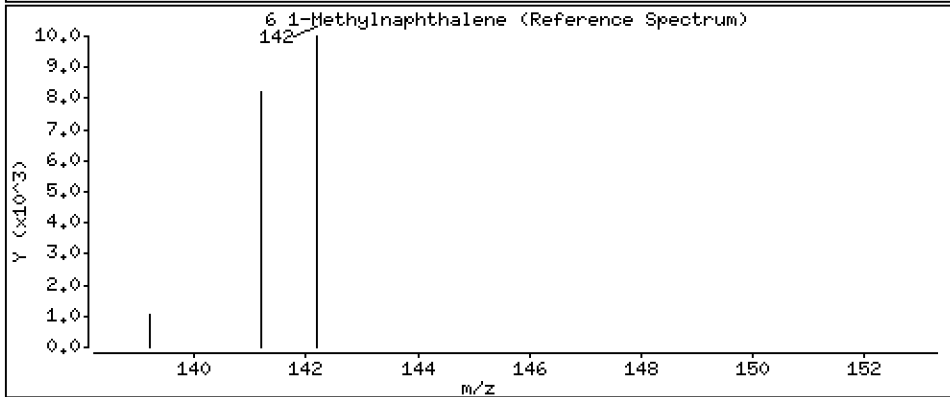
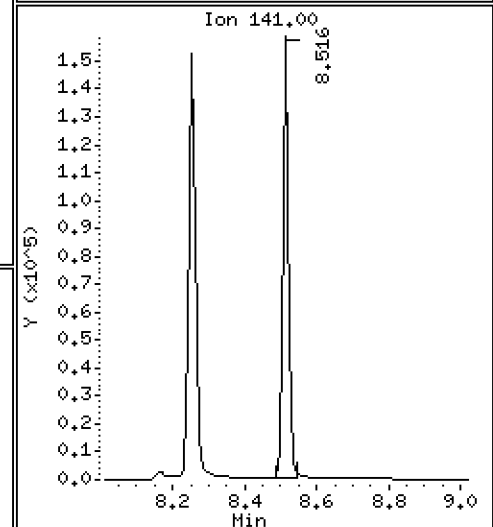
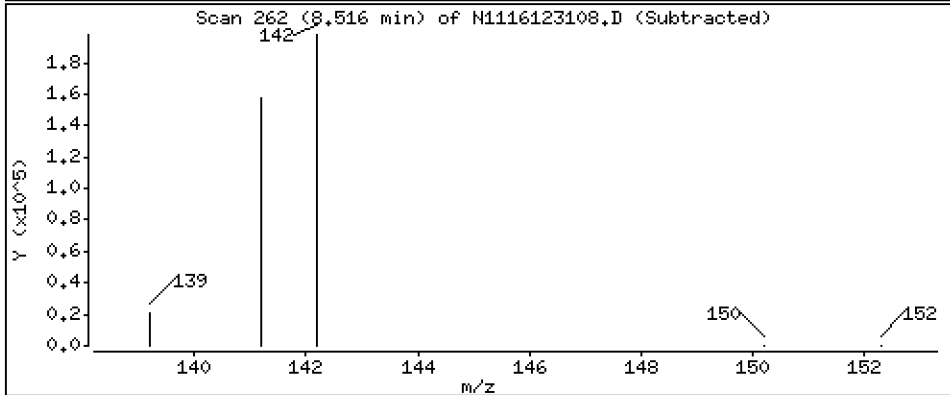
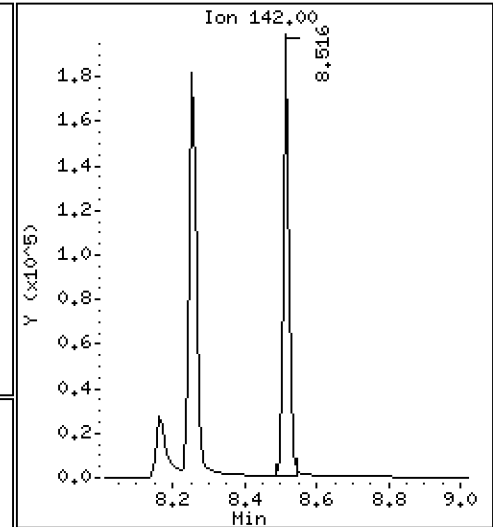
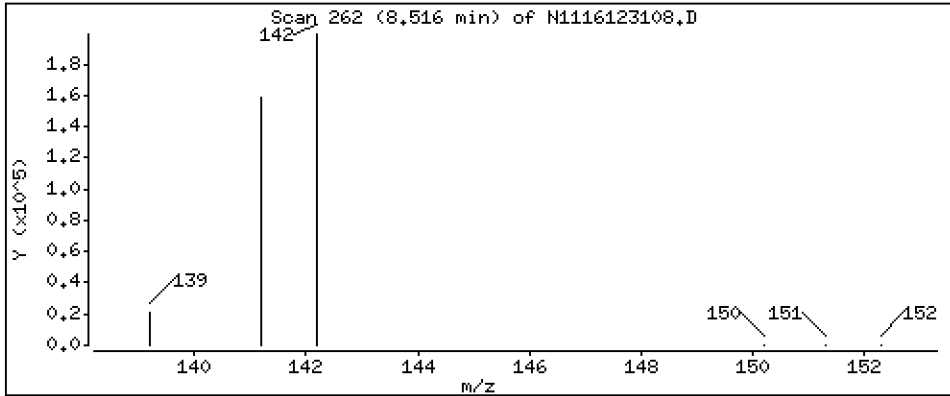
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 237 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

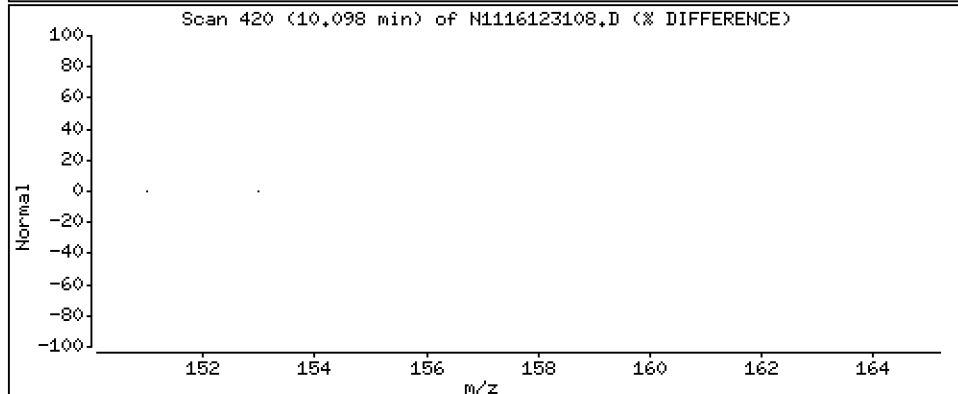
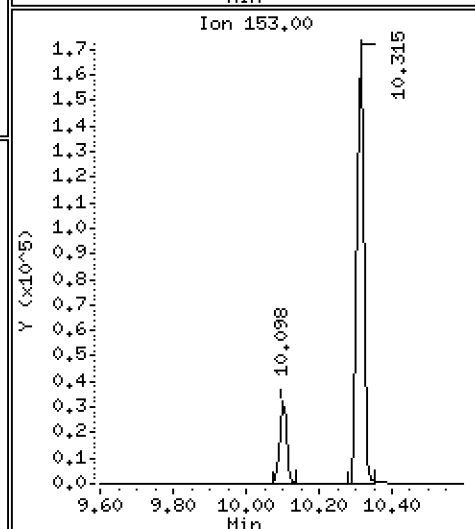
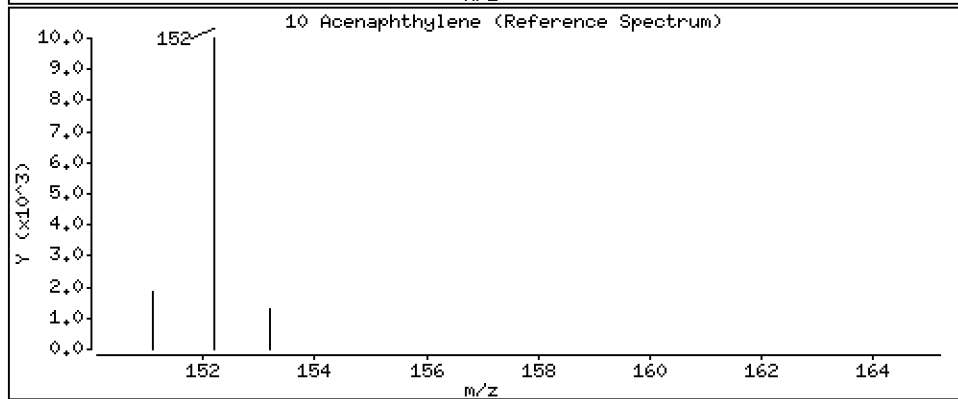
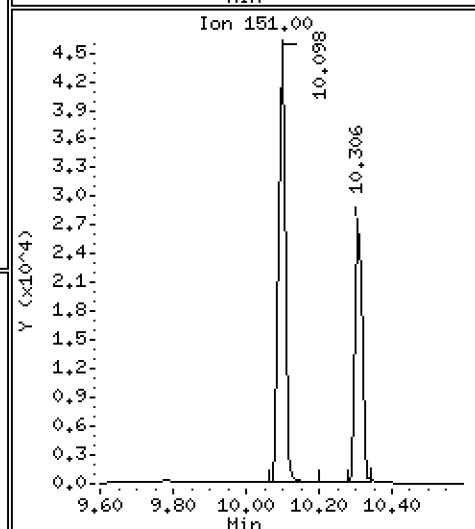
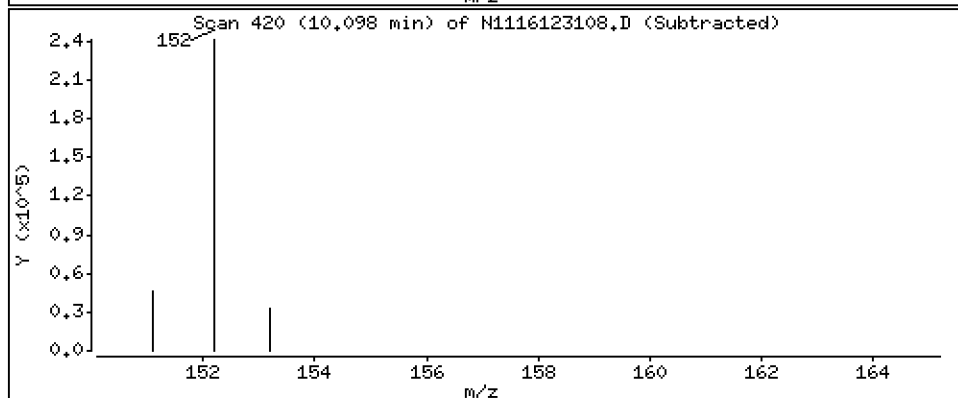
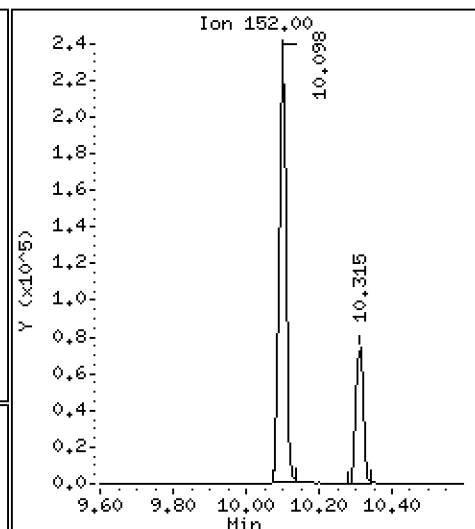
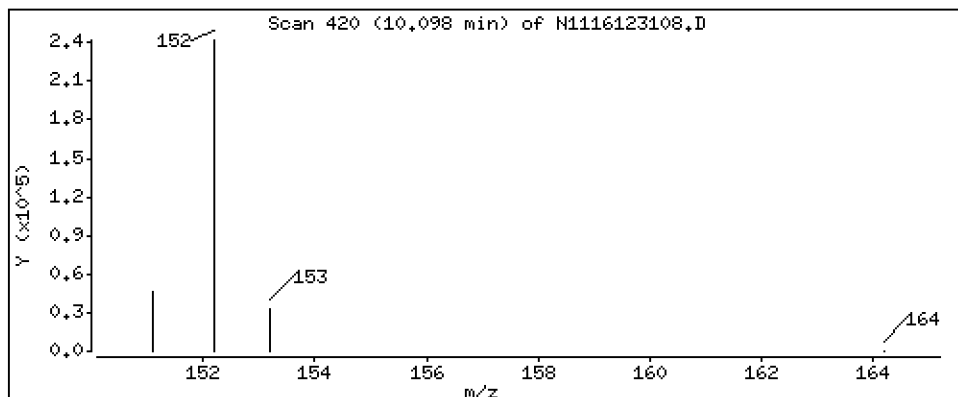
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 255 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

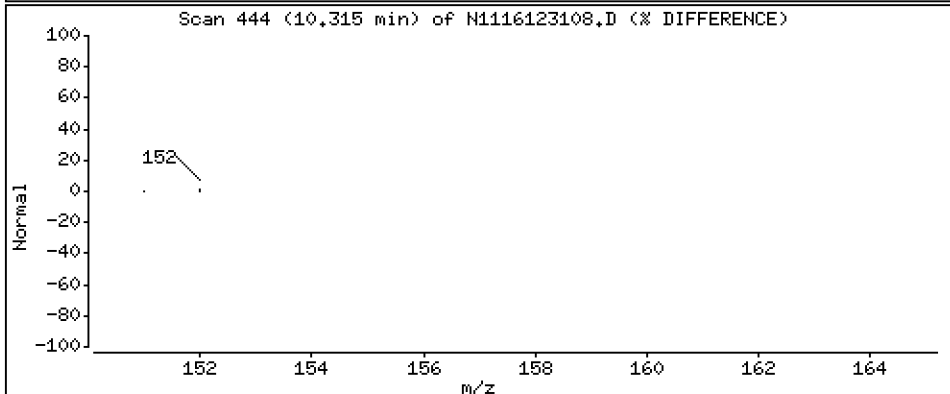
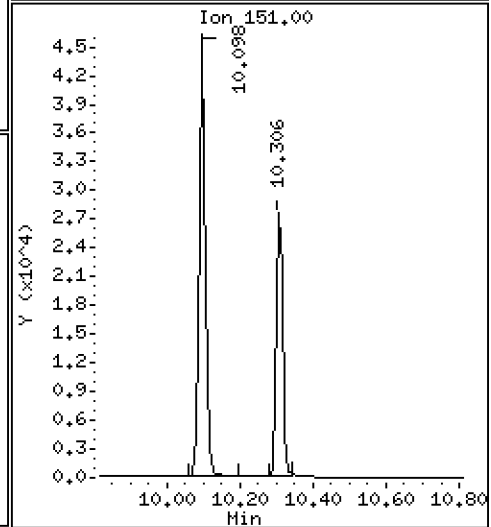
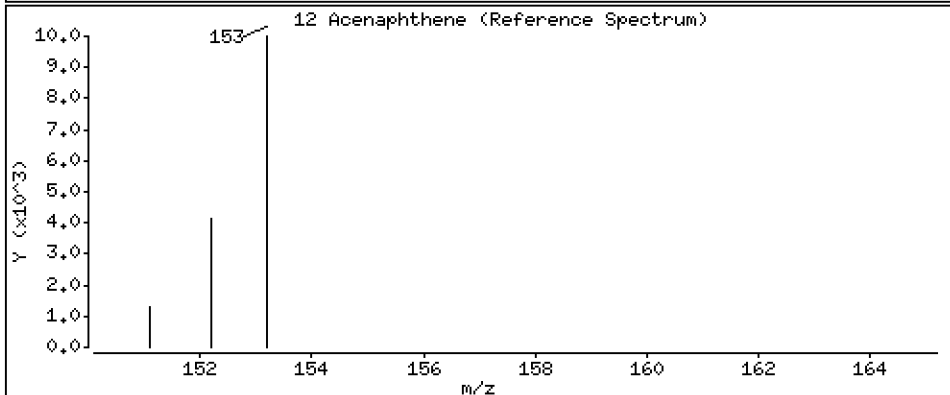
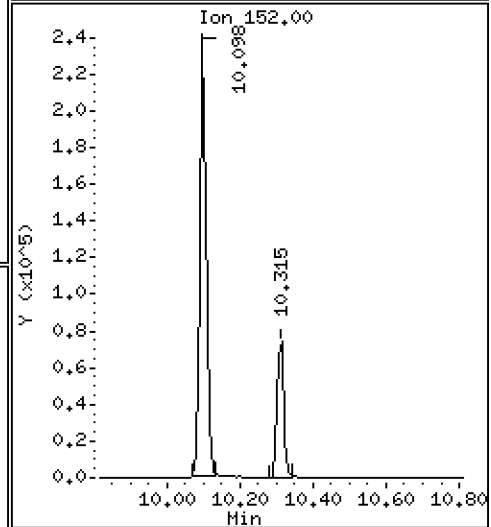
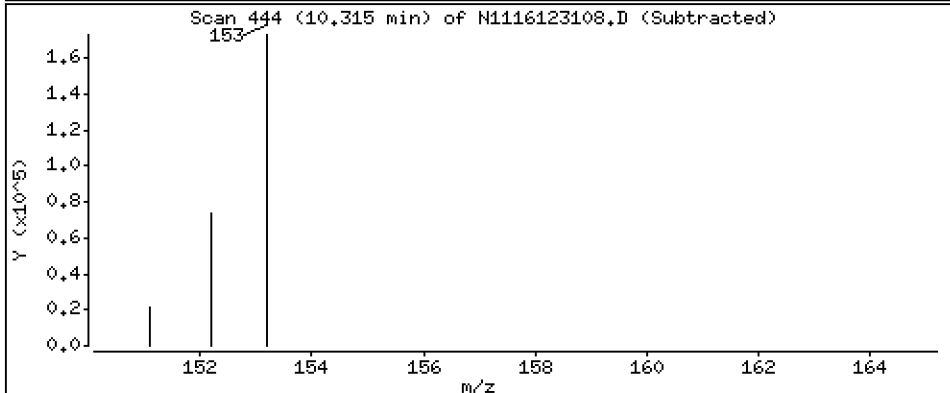
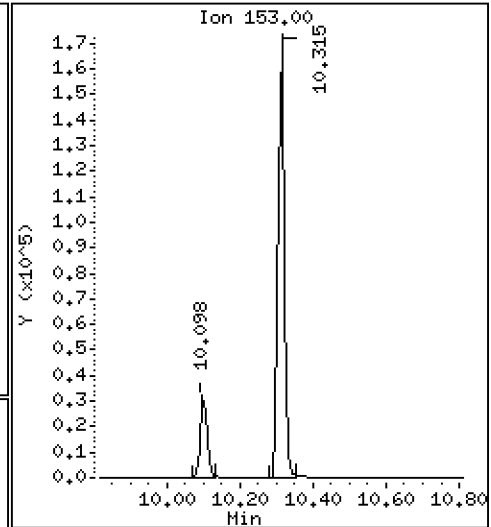
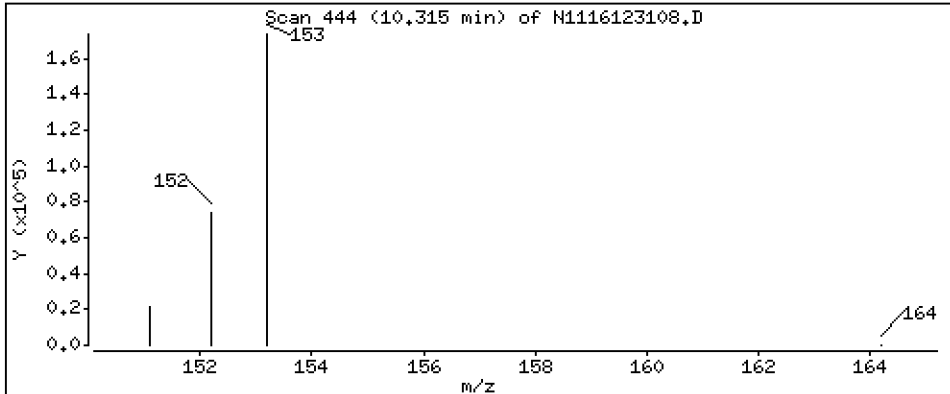
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 276 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

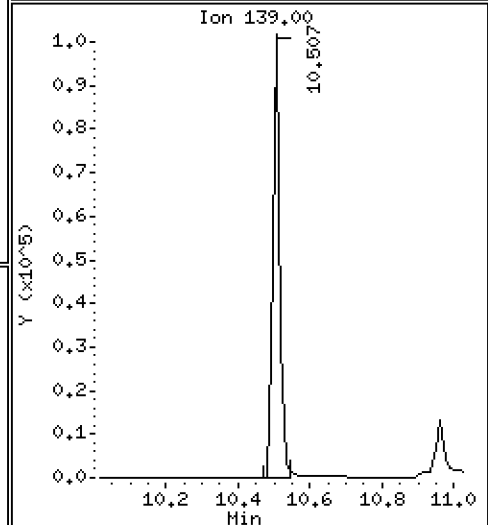
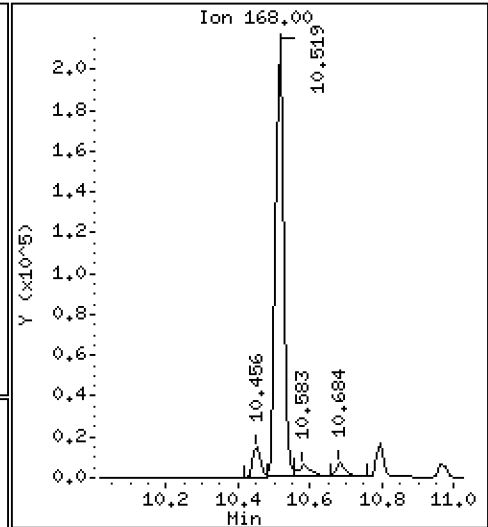
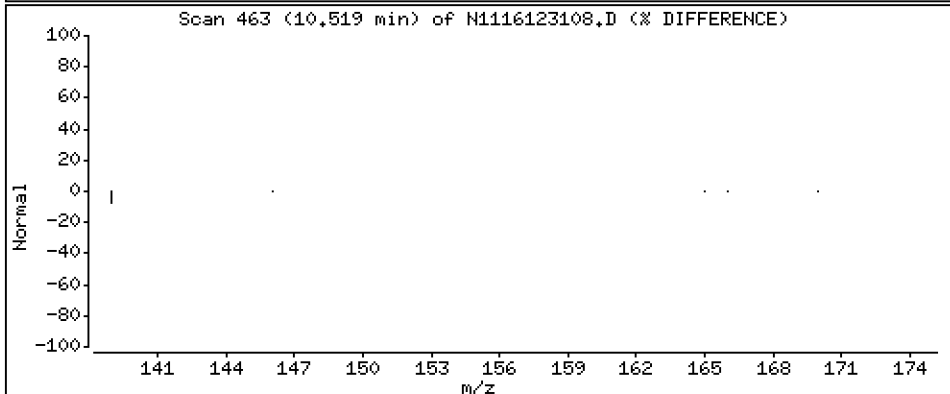
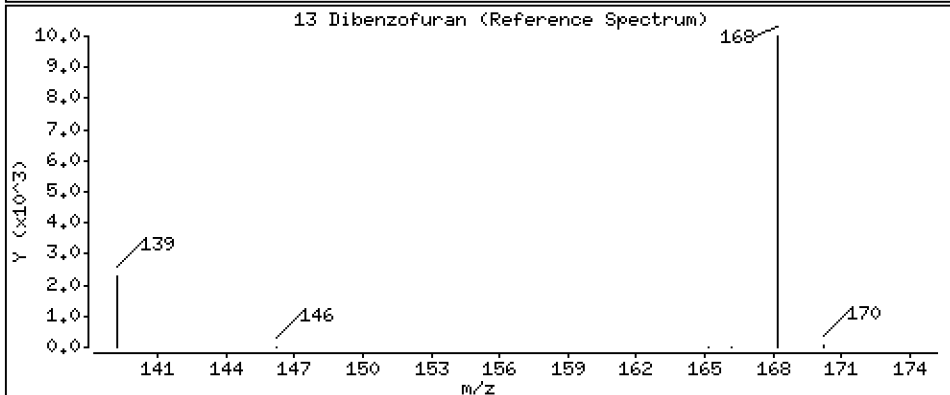
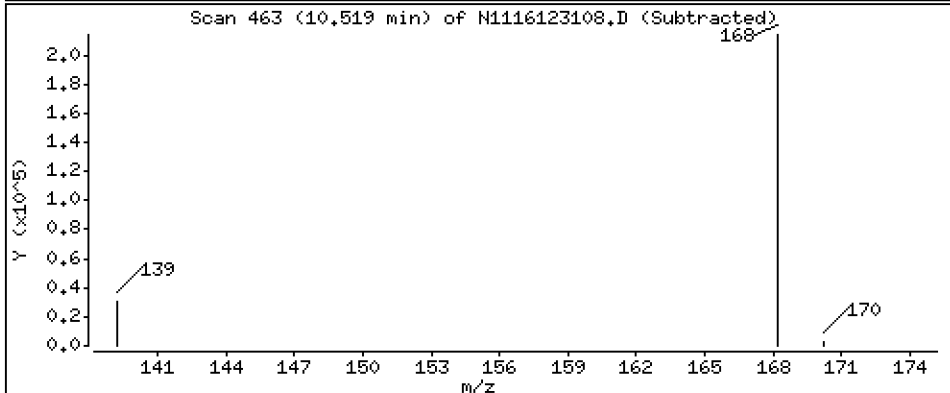
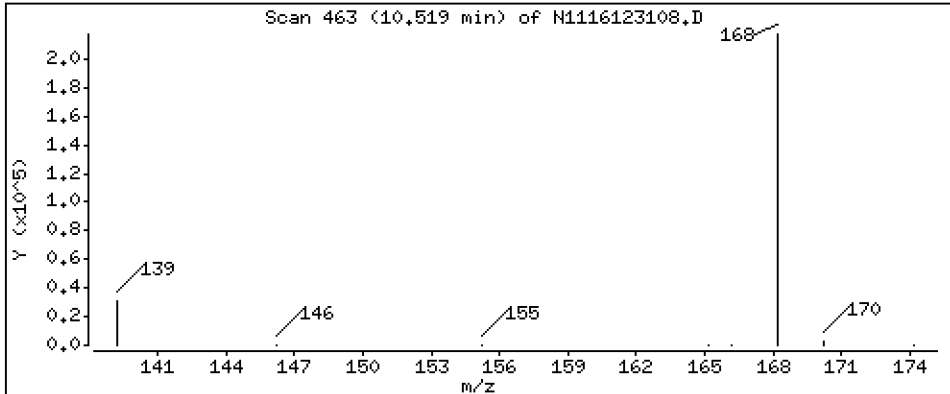
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 285 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

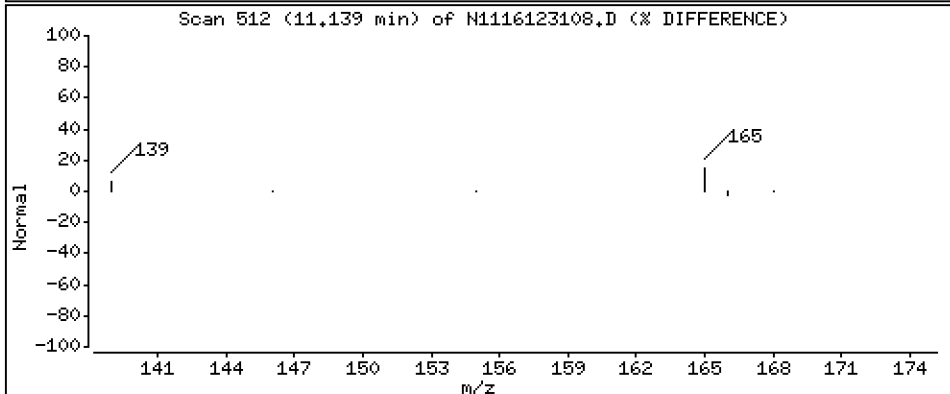
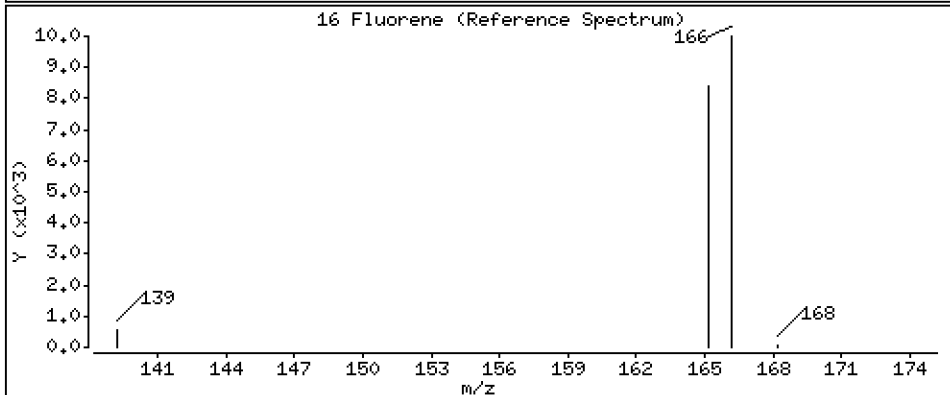
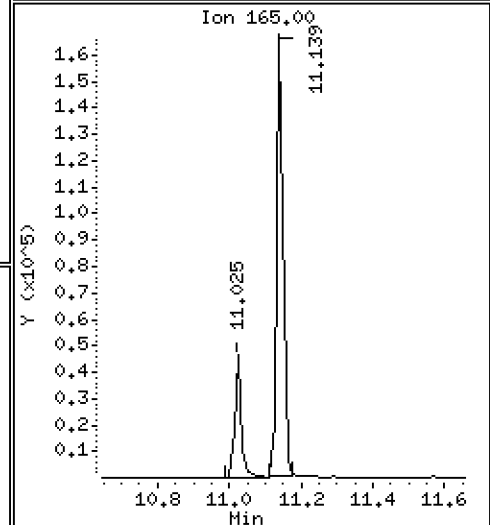
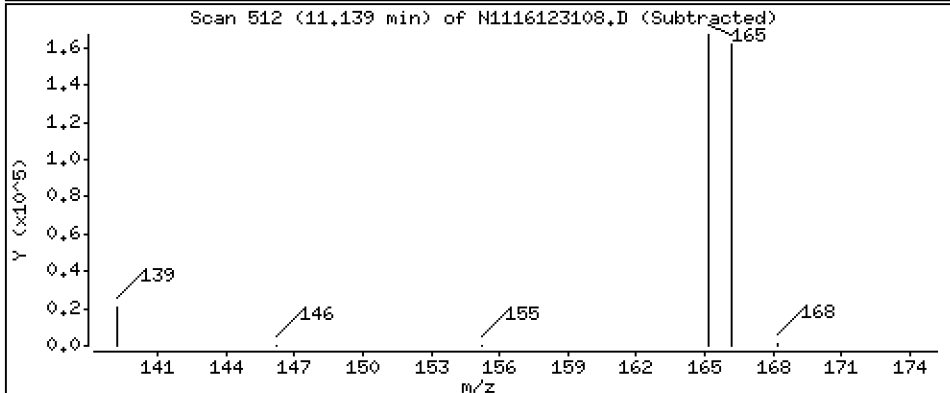
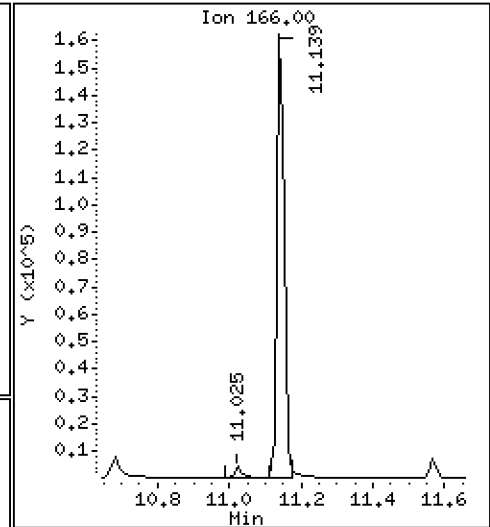
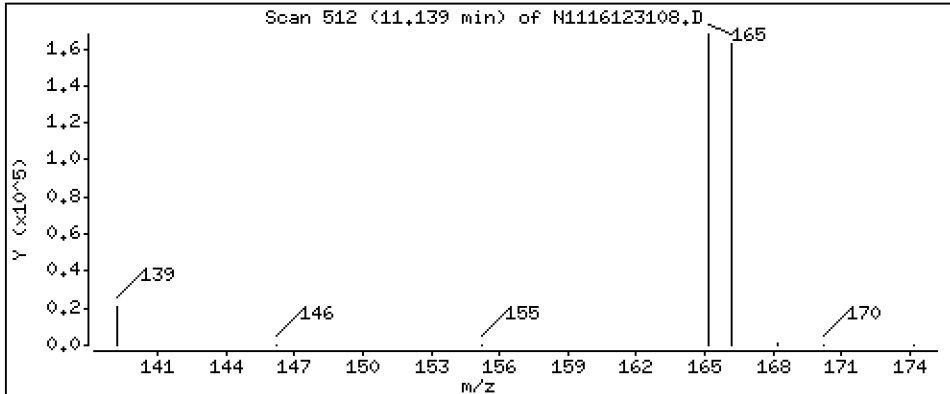
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 268 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

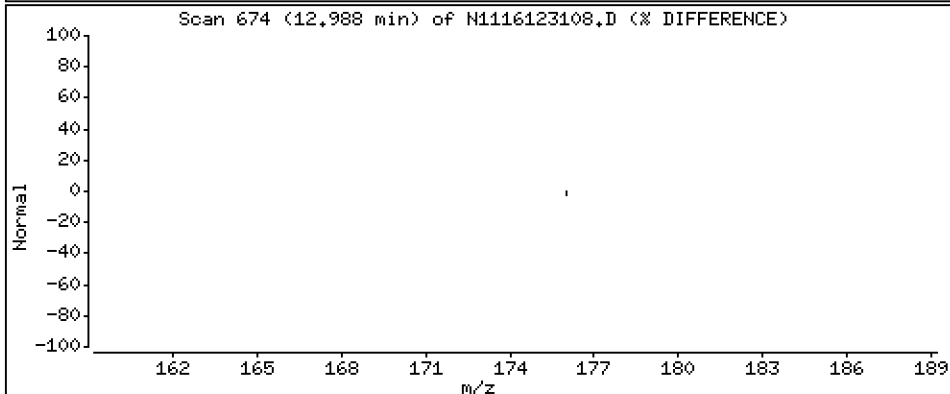
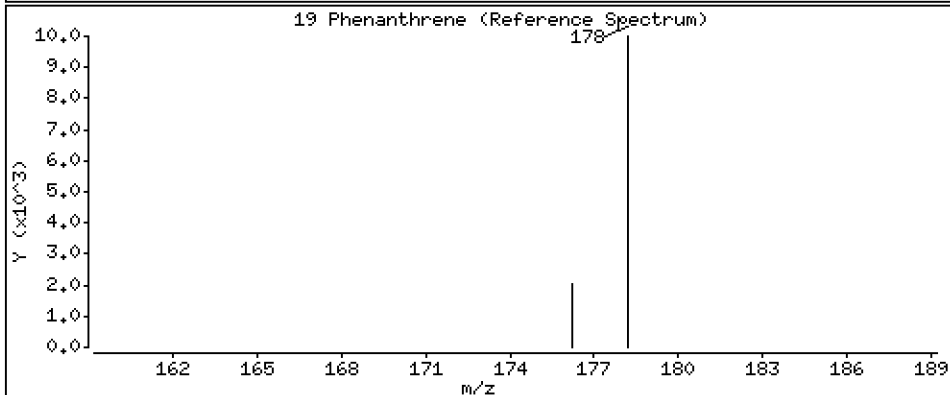
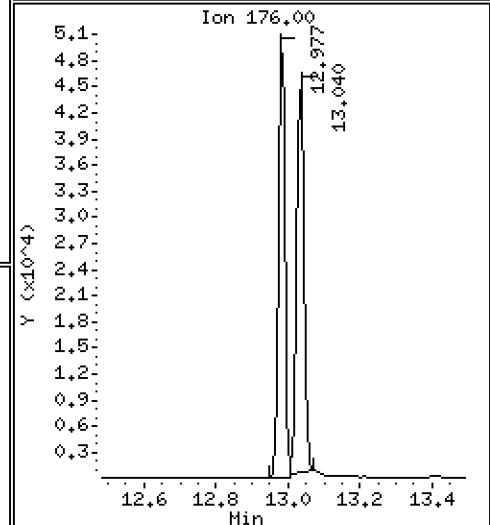
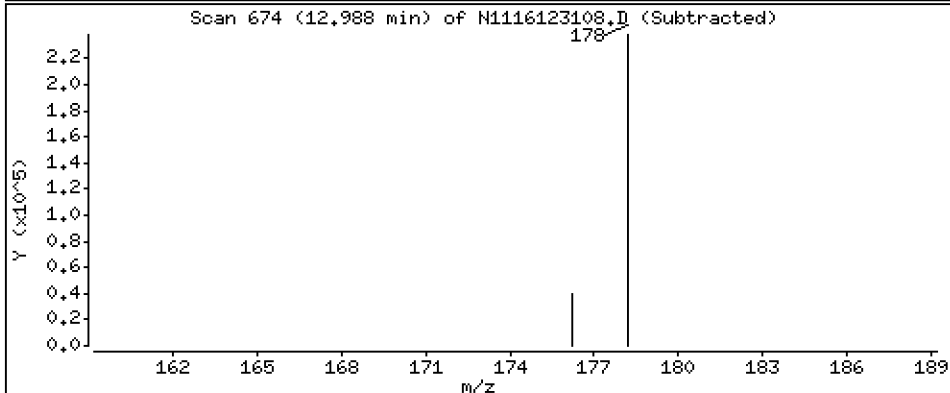
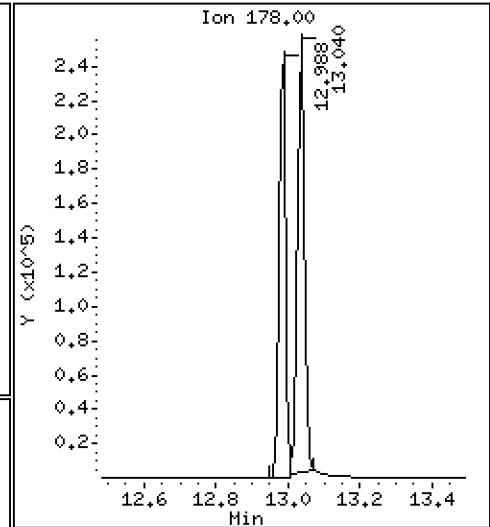
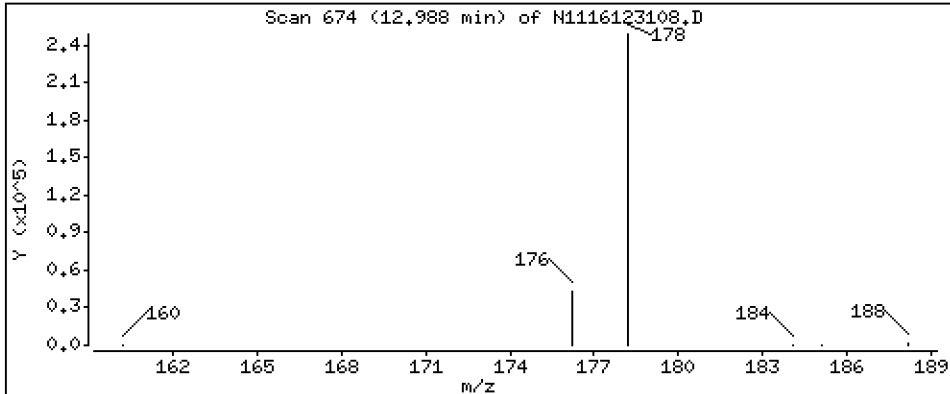
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 251 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

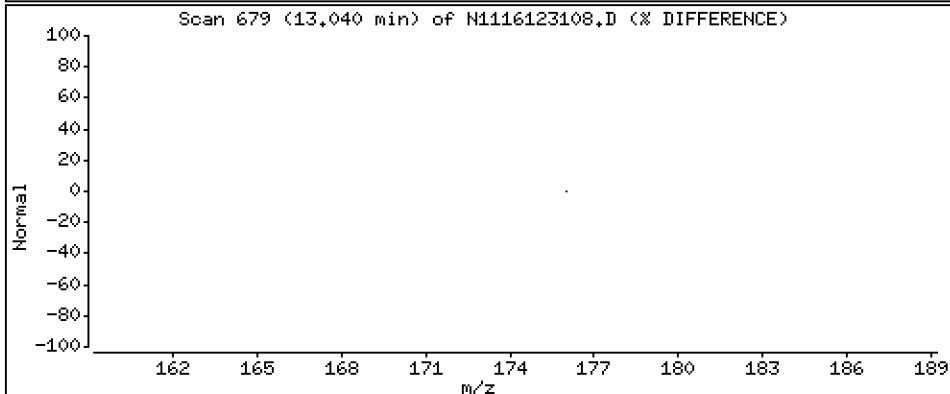
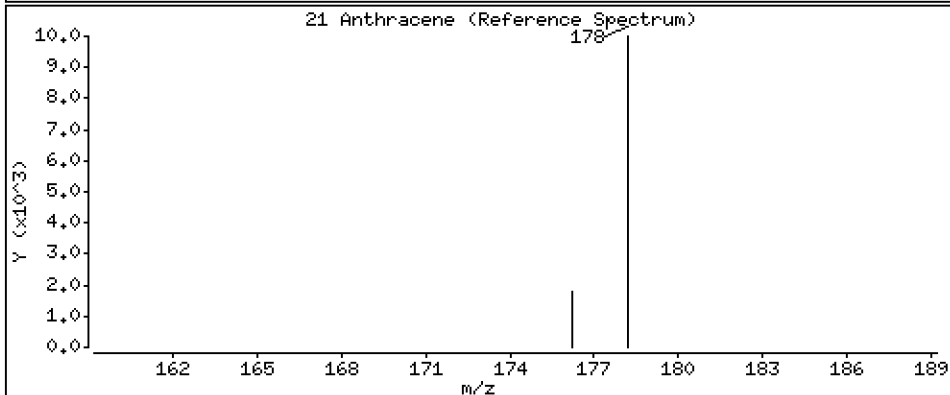
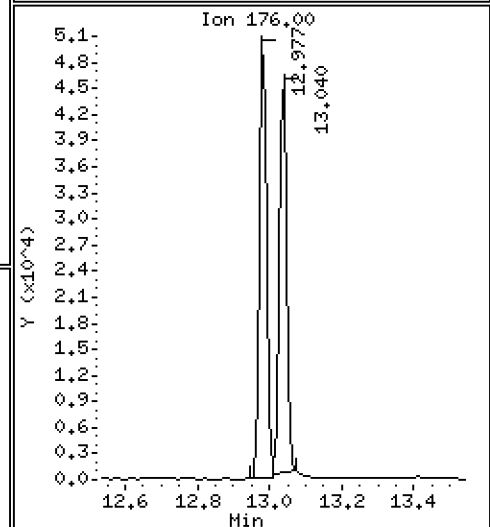
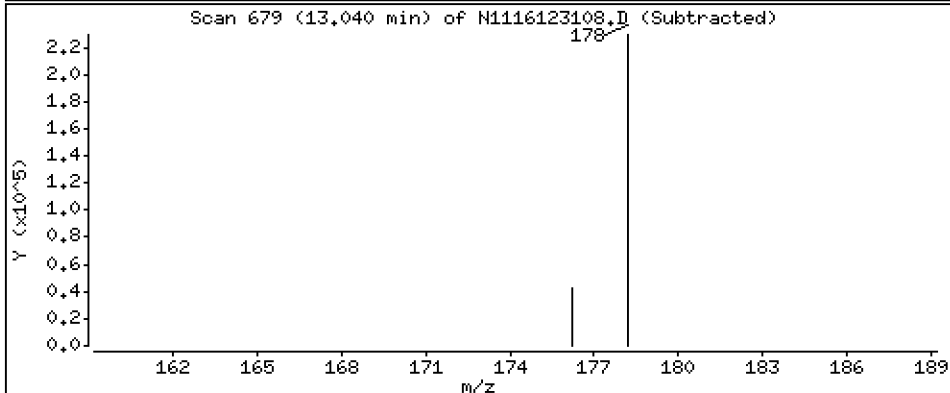
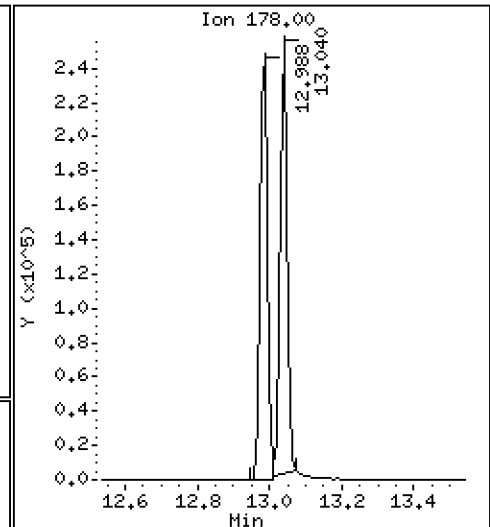
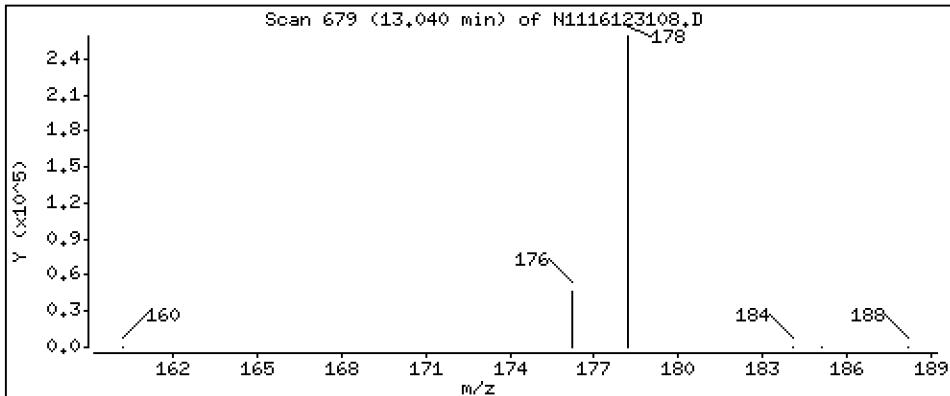
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 238 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

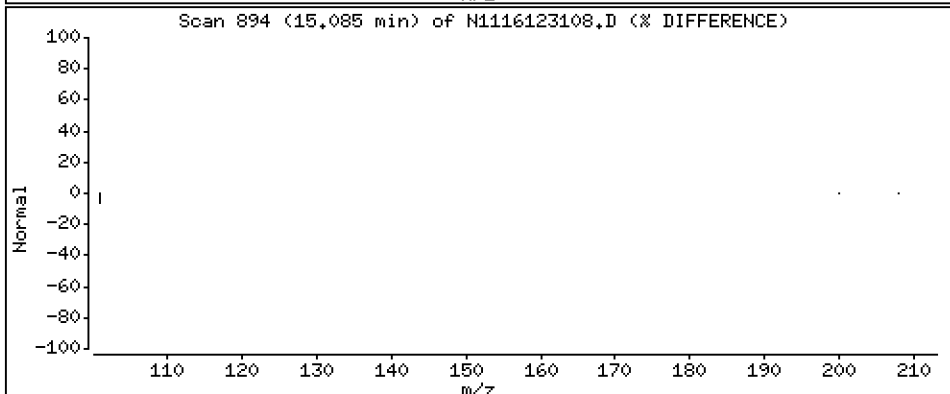
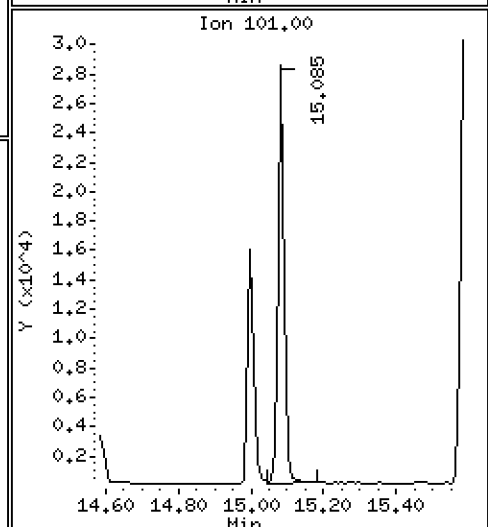
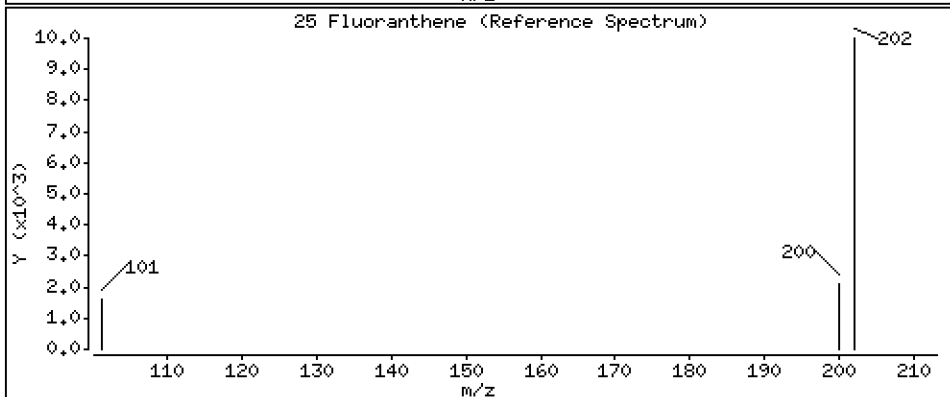
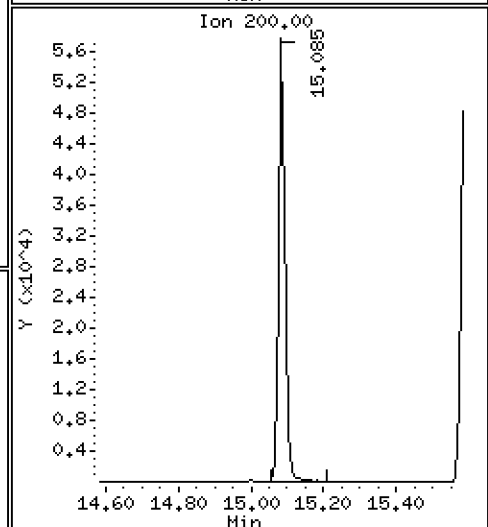
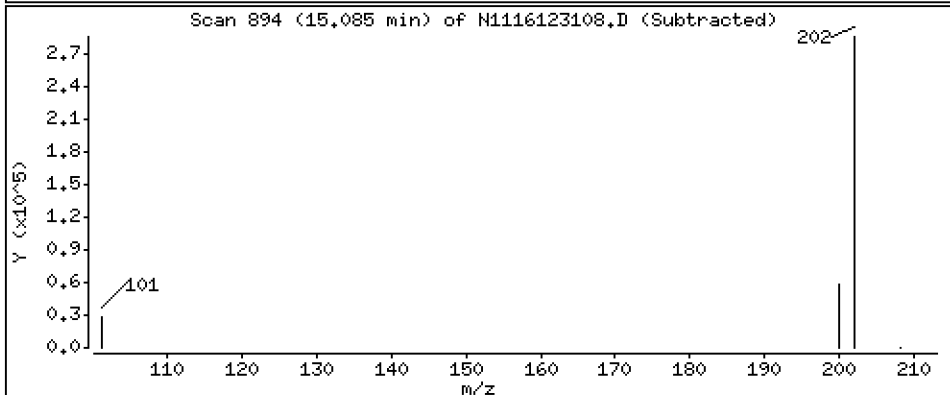
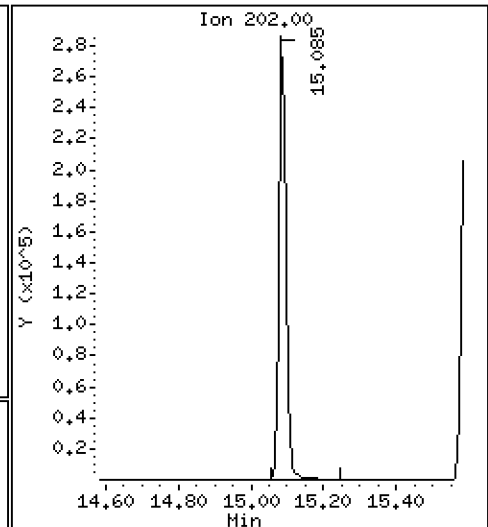
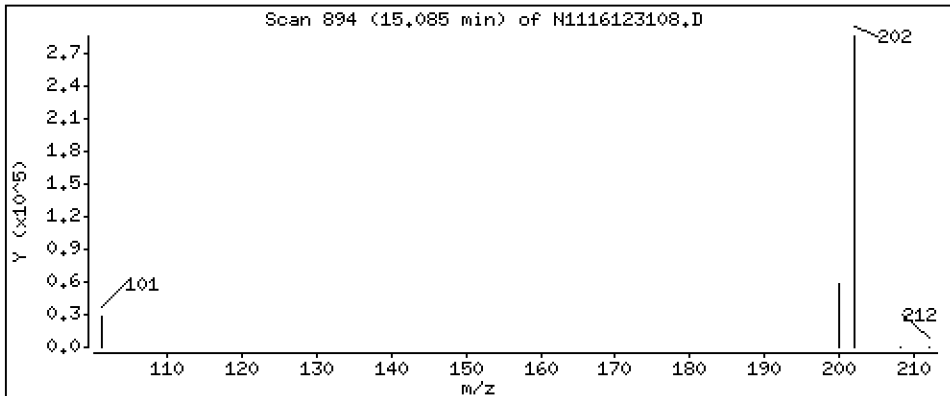
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 253 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

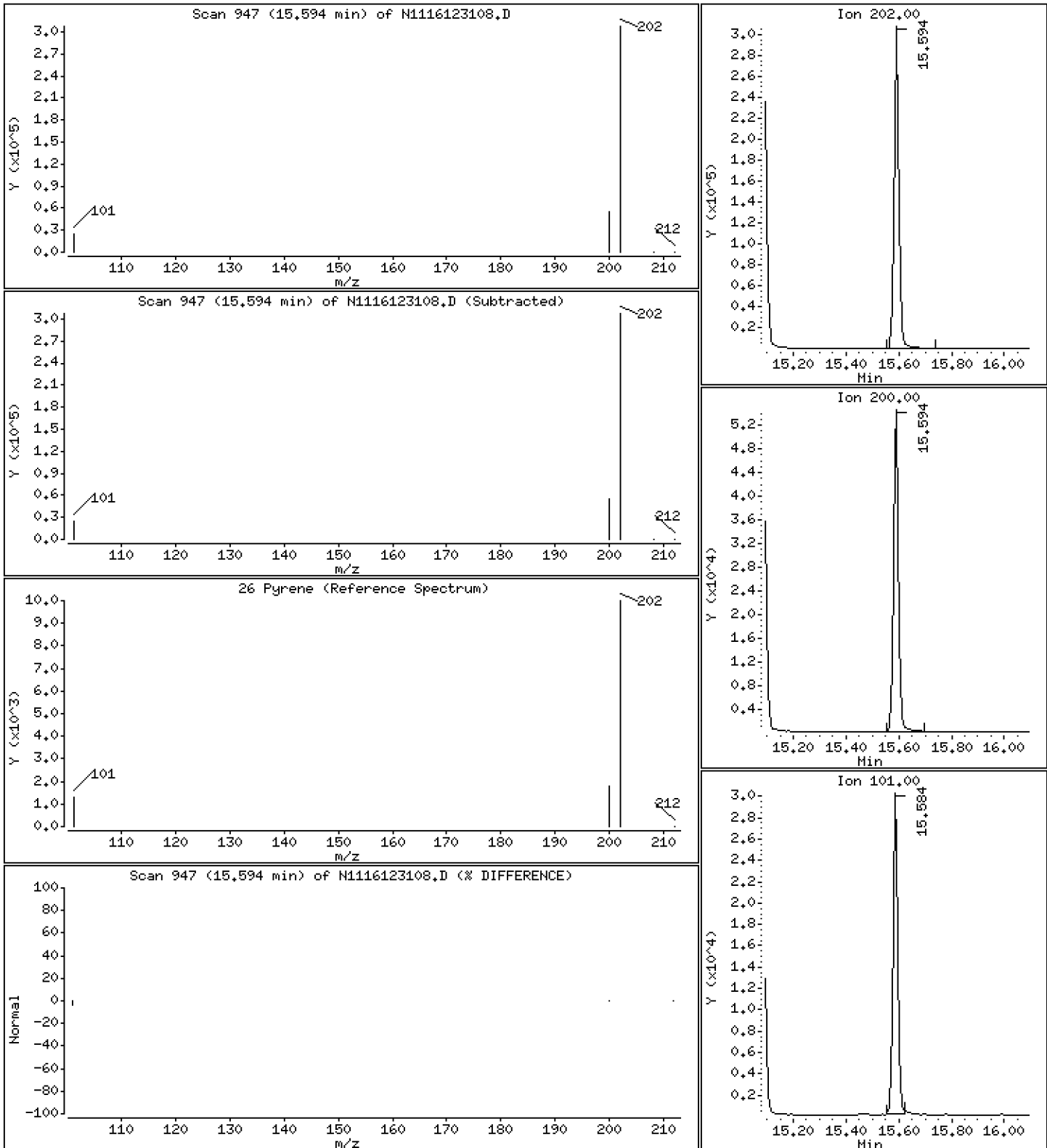
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 247 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

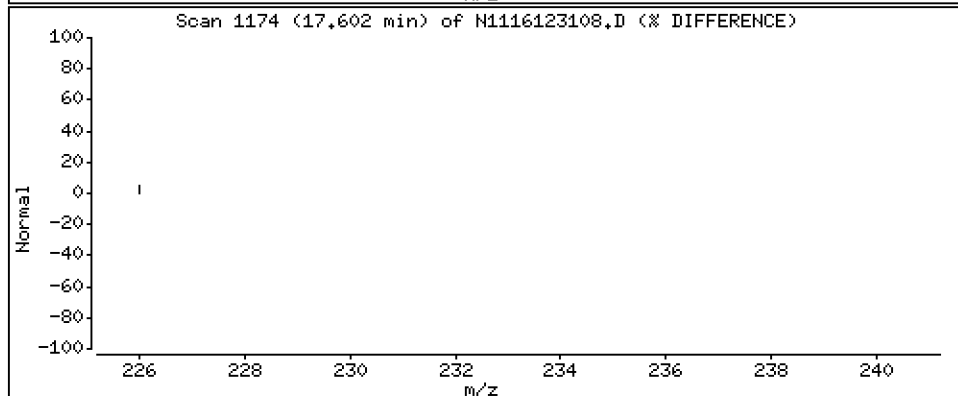
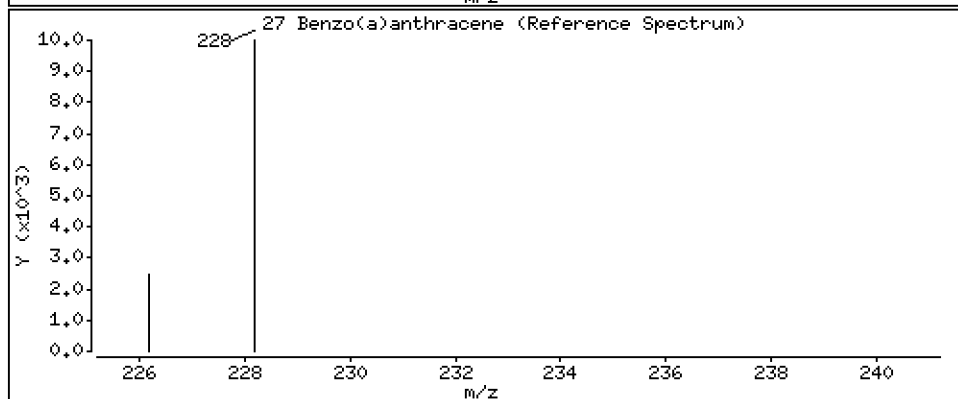
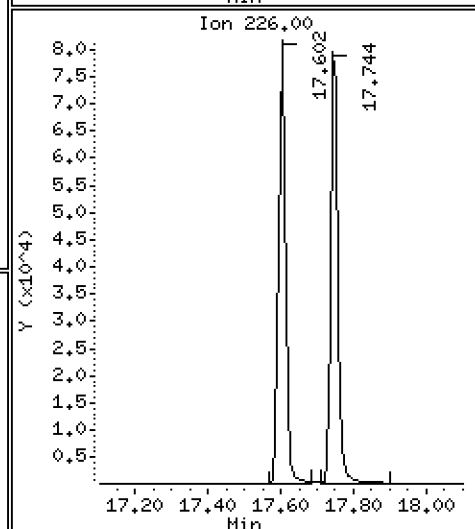
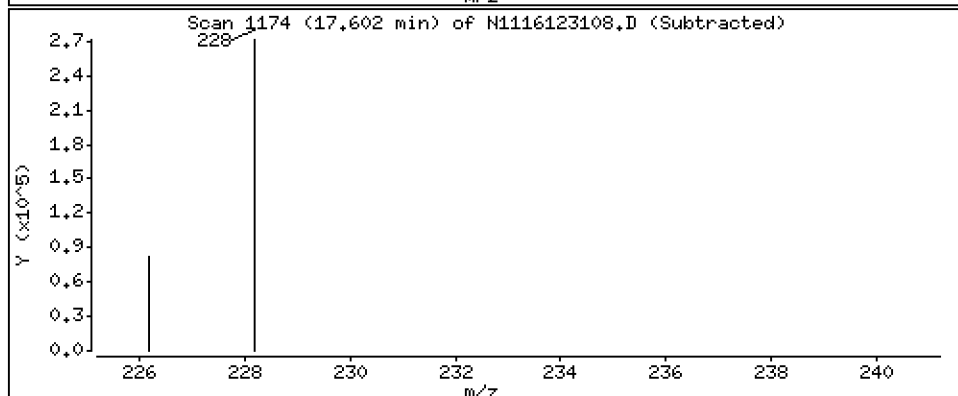
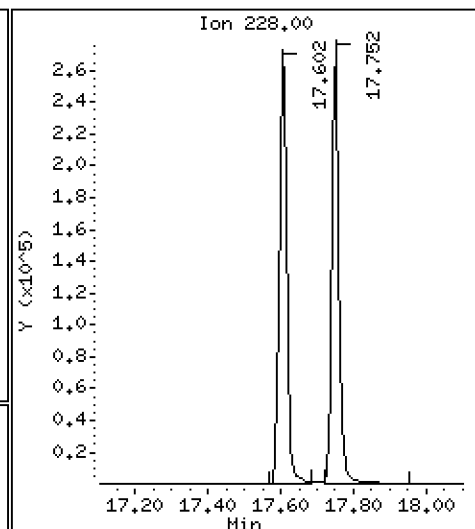
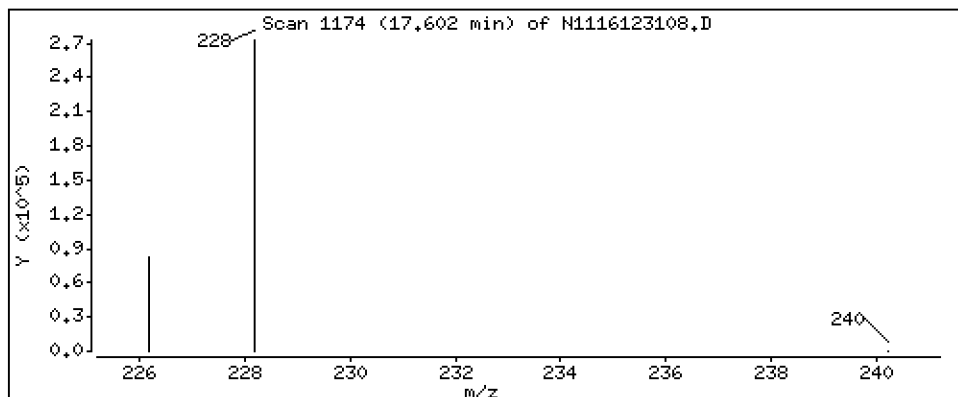
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 254 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

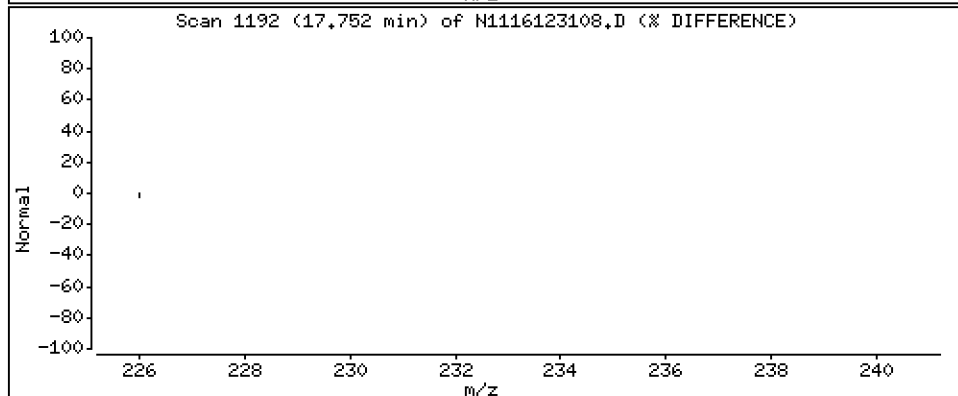
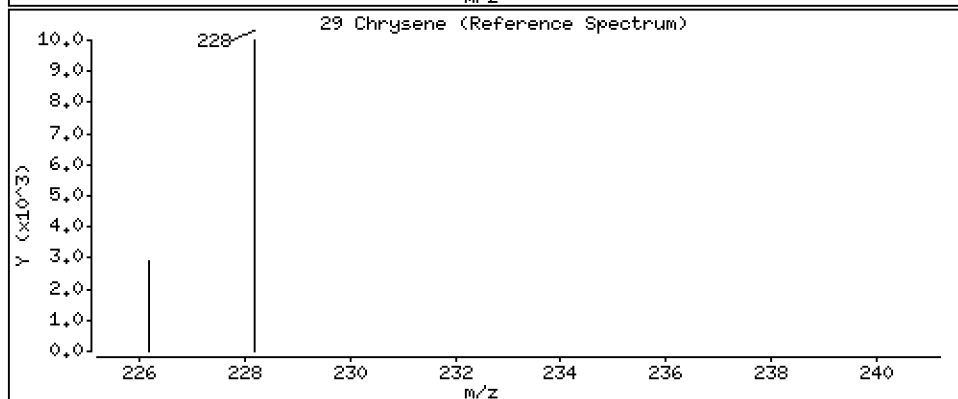
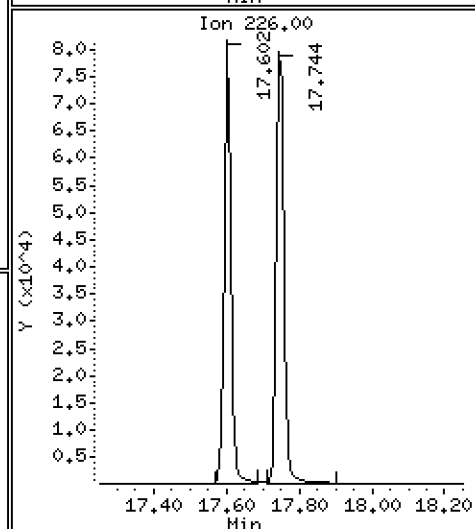
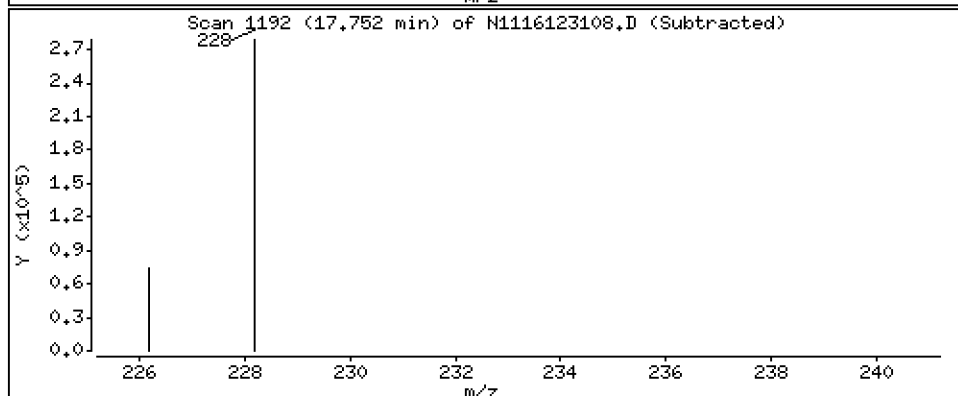
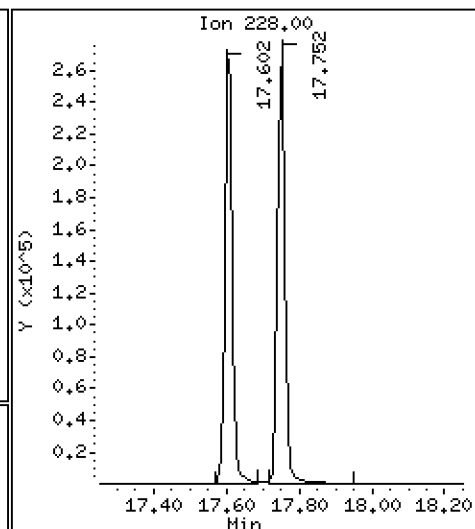
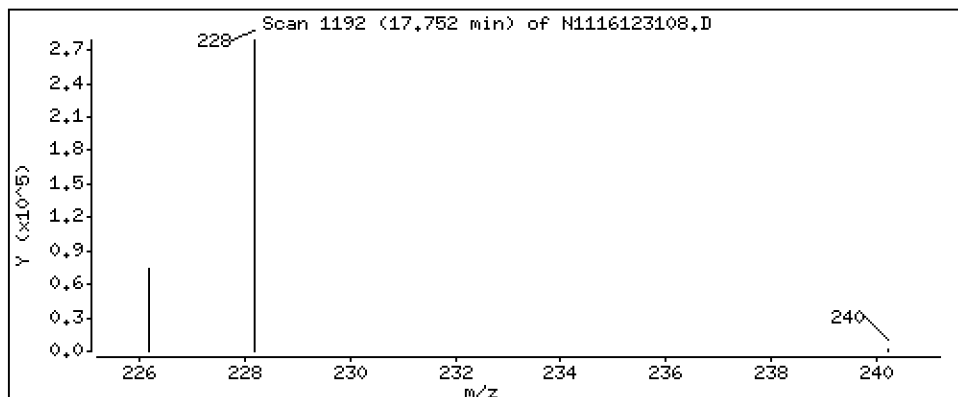
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 242 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

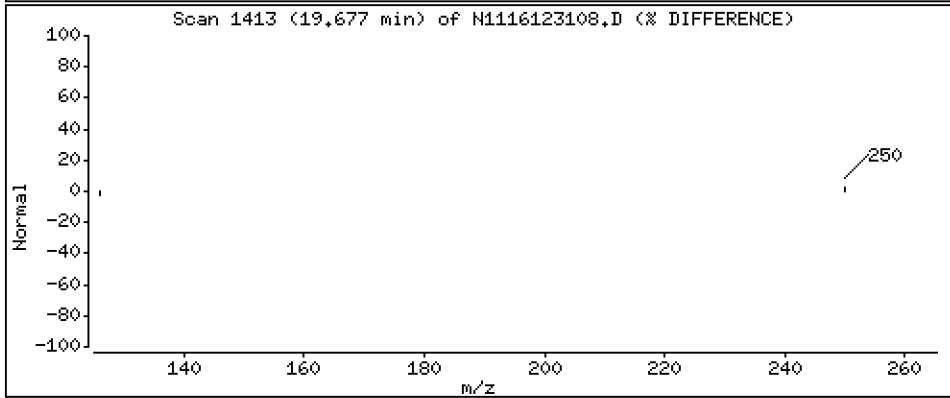
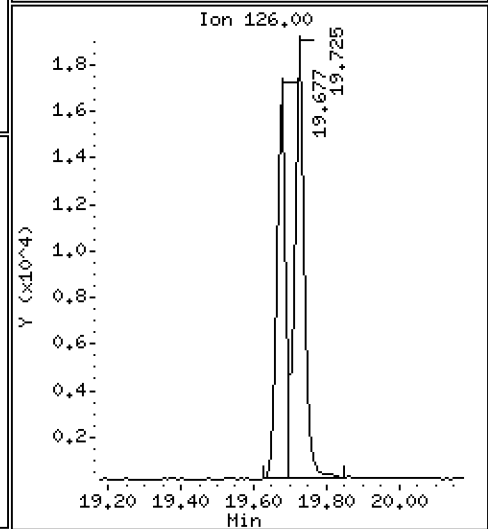
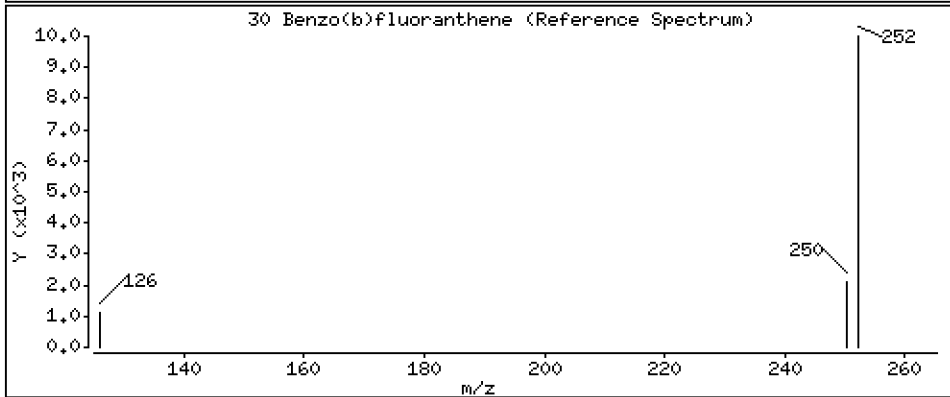
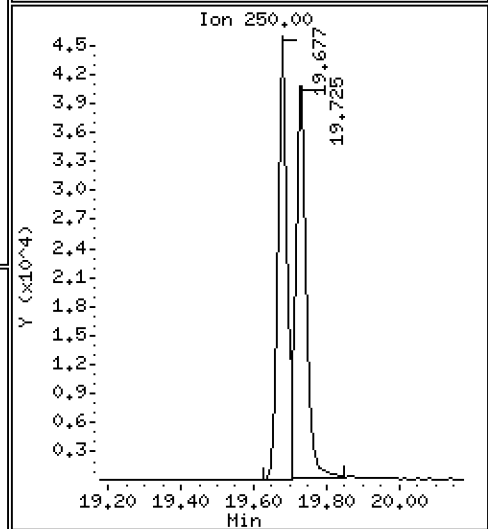
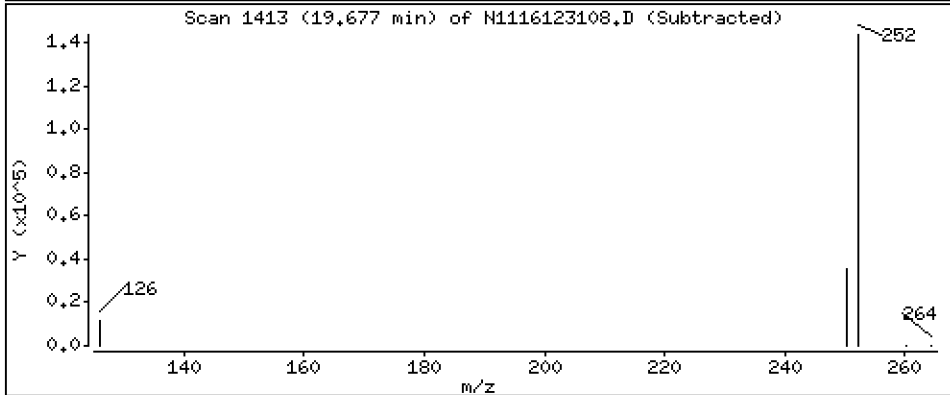
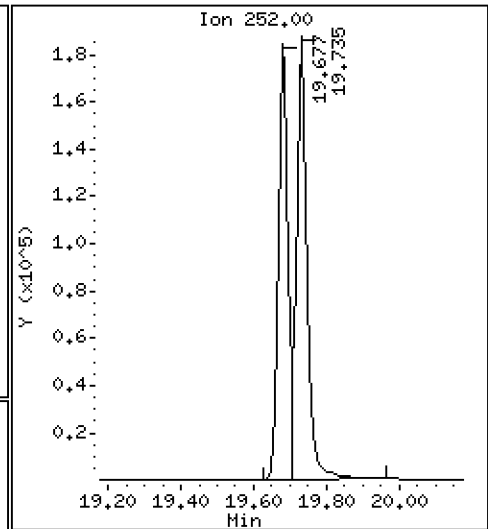
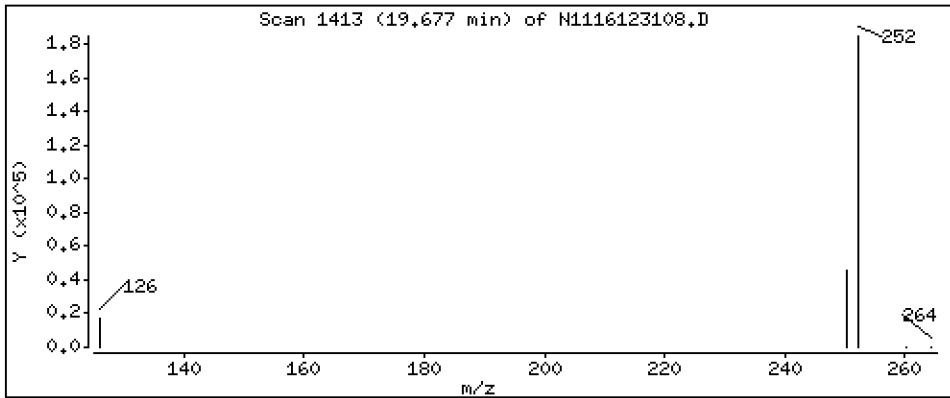
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 253 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

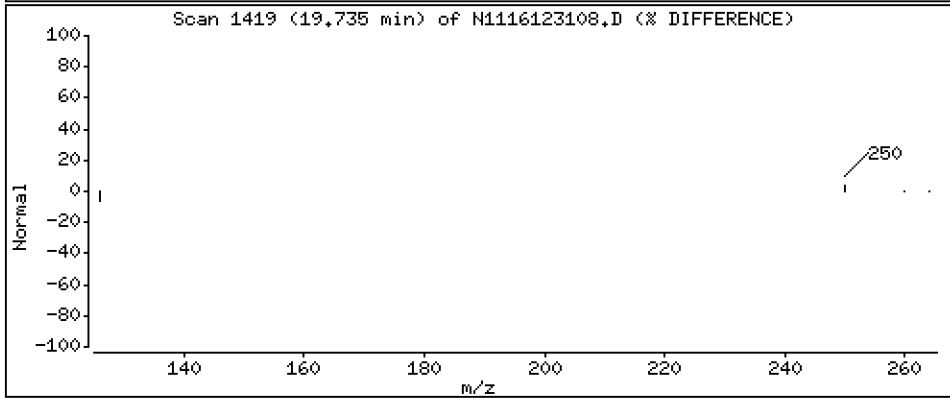
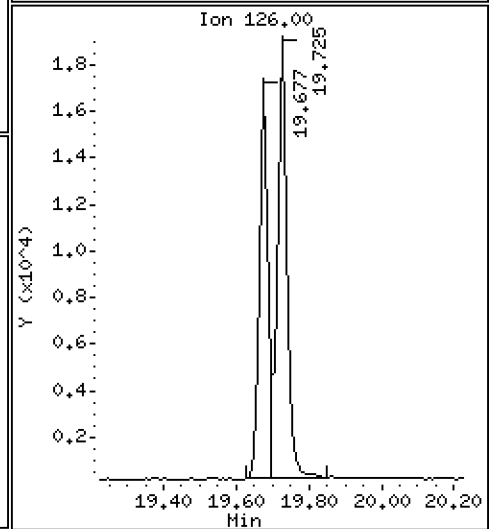
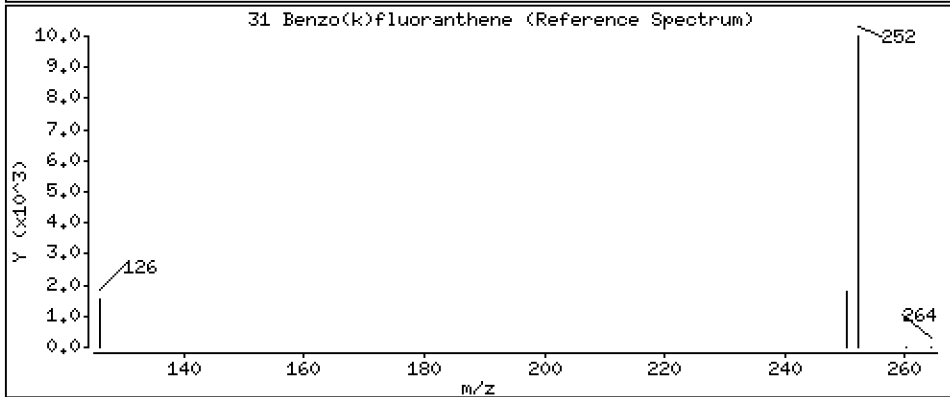
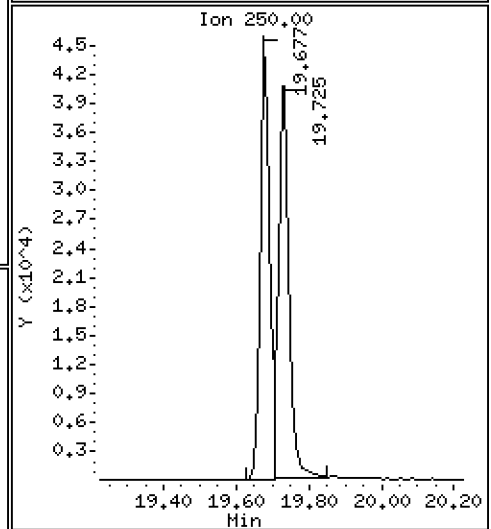
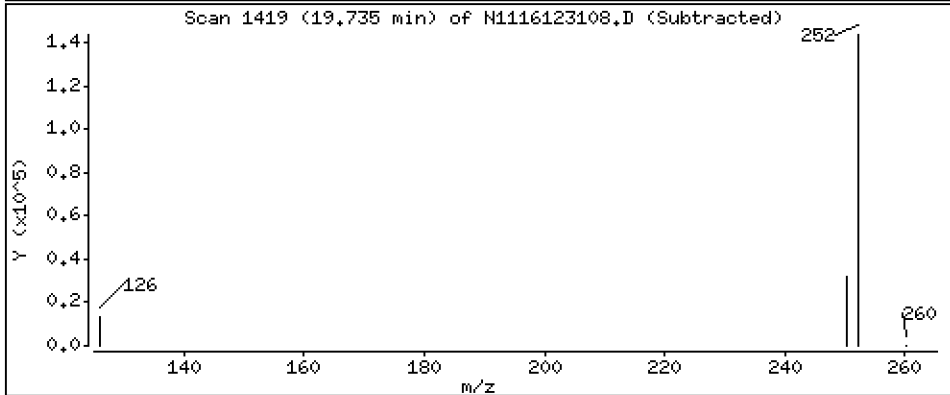
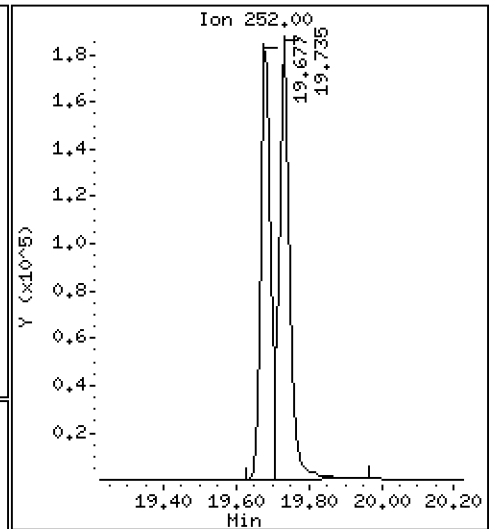
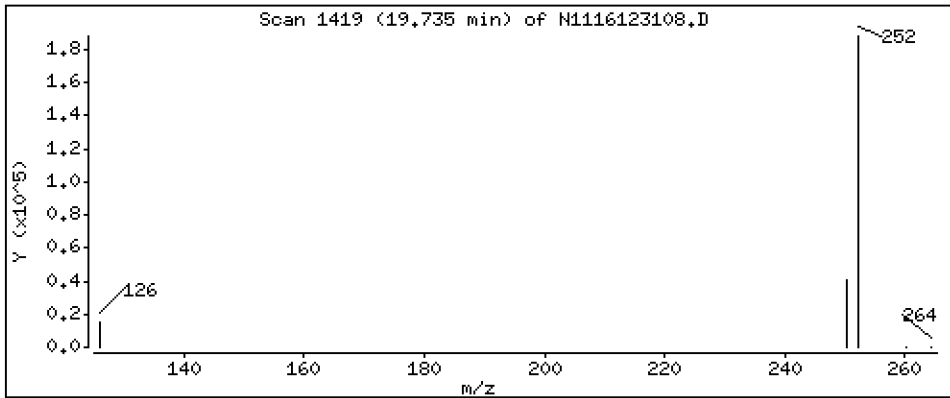
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 262 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

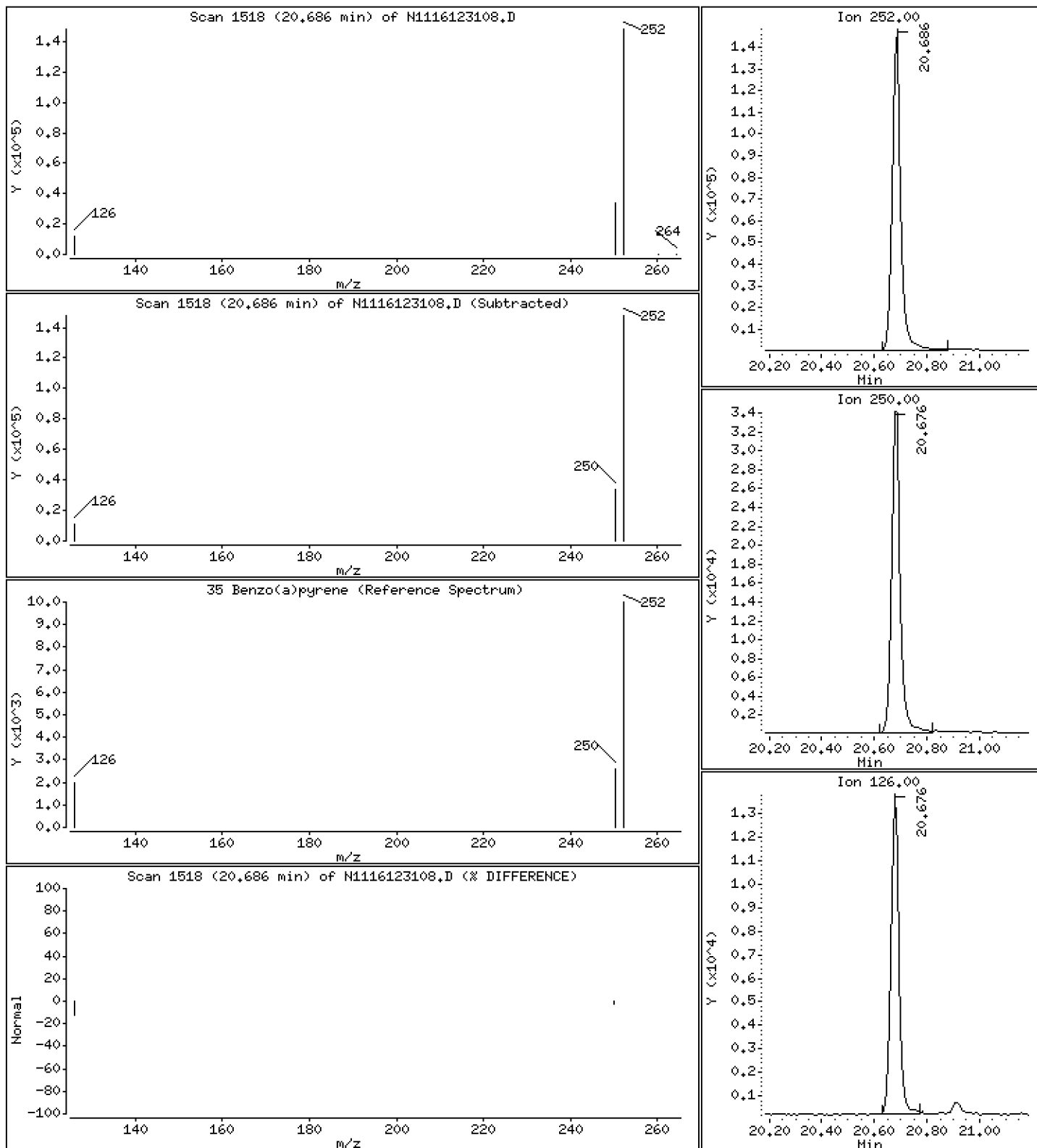
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 249 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

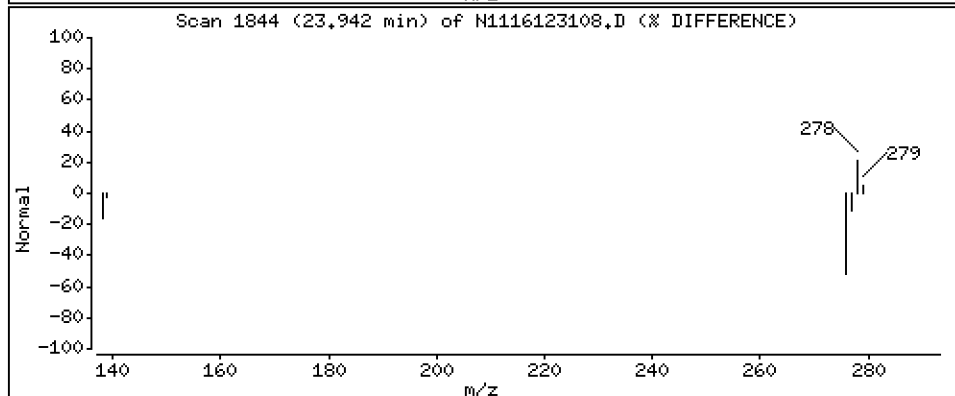
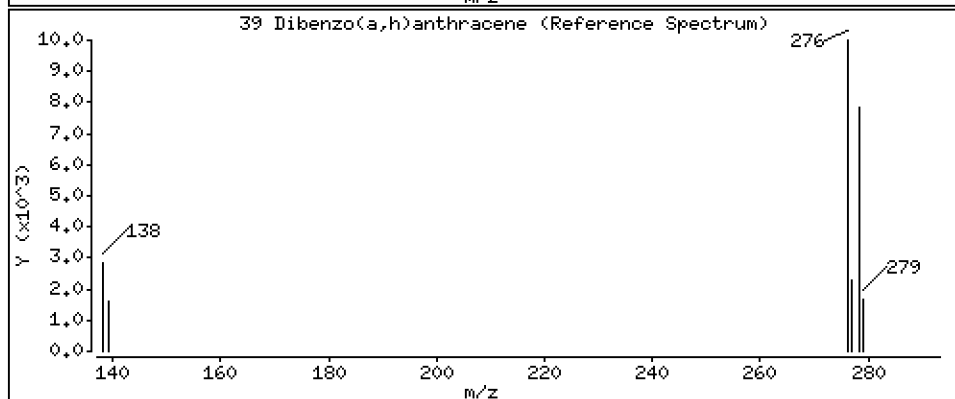
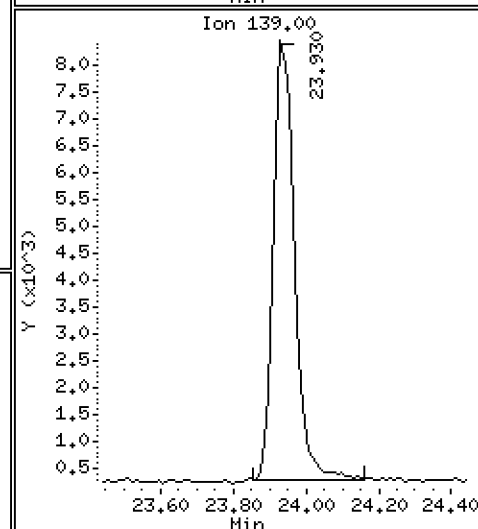
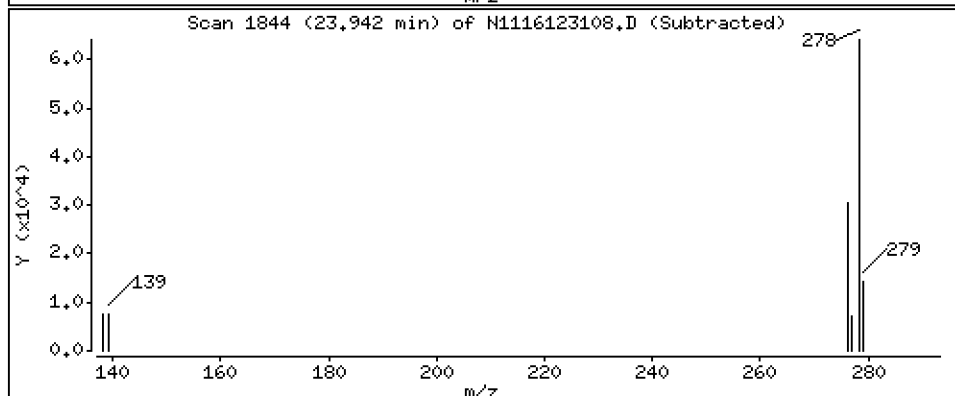
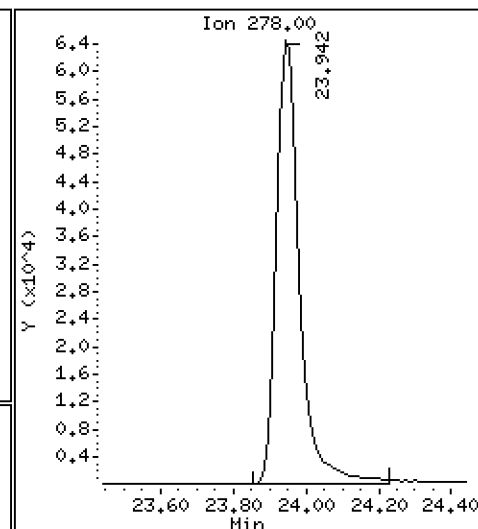
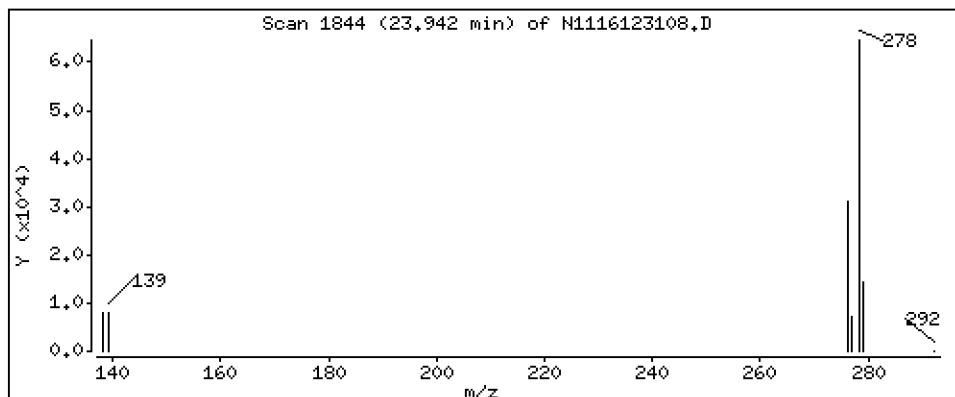
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 240 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

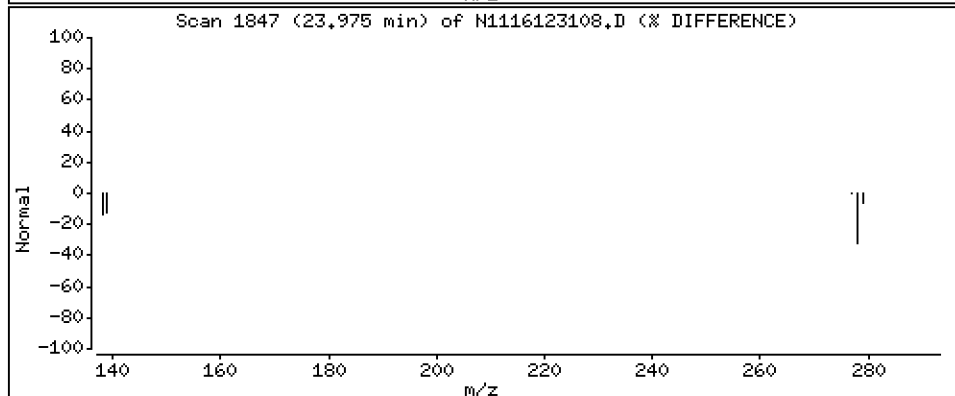
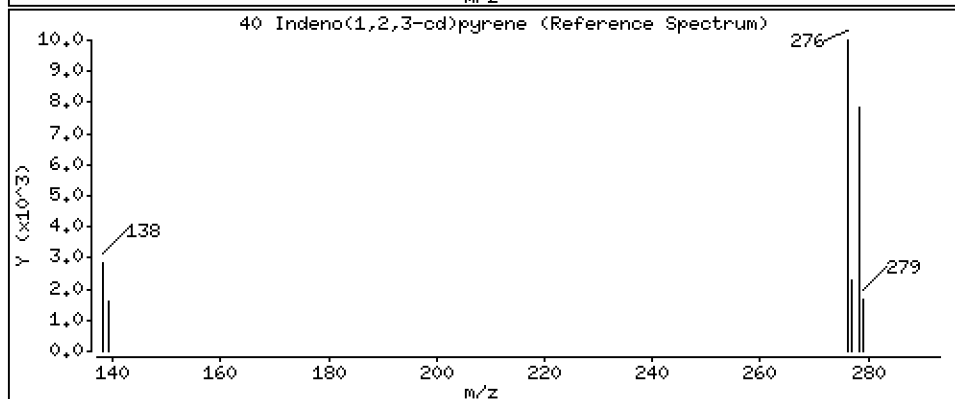
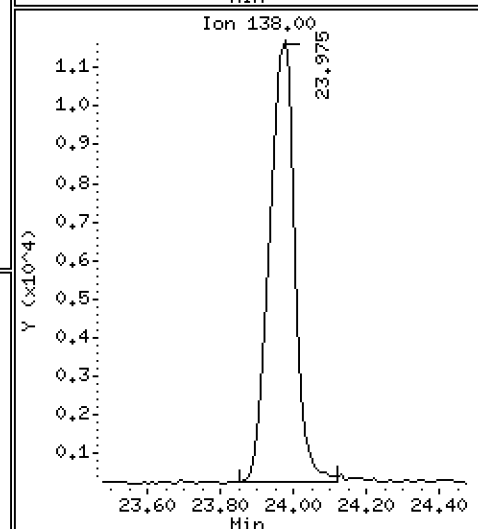
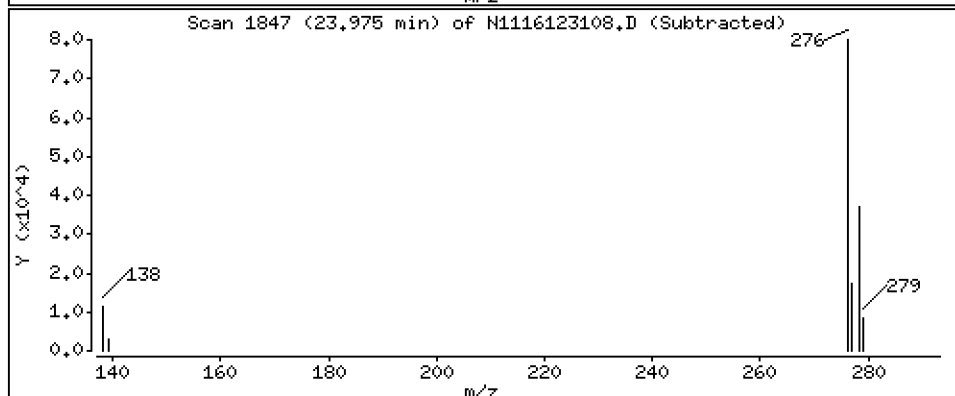
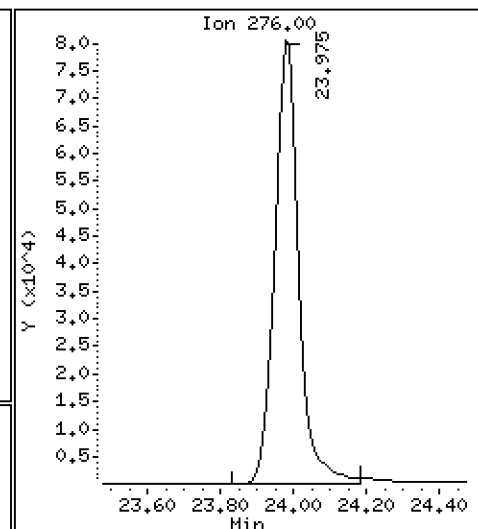
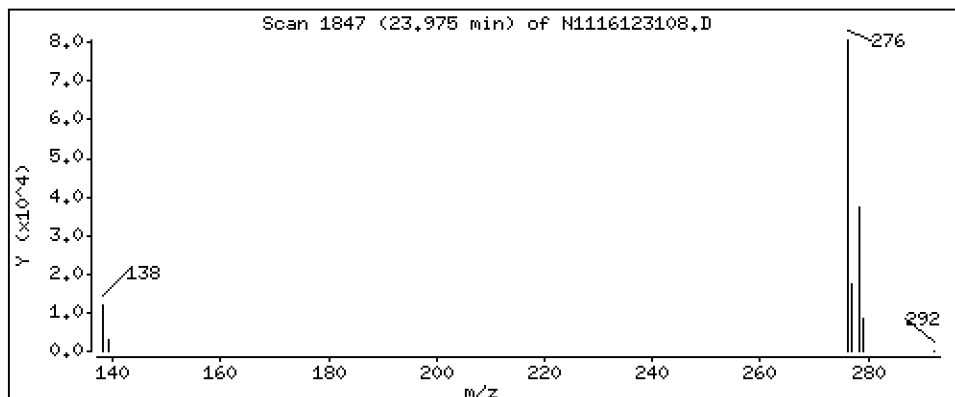
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 248 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

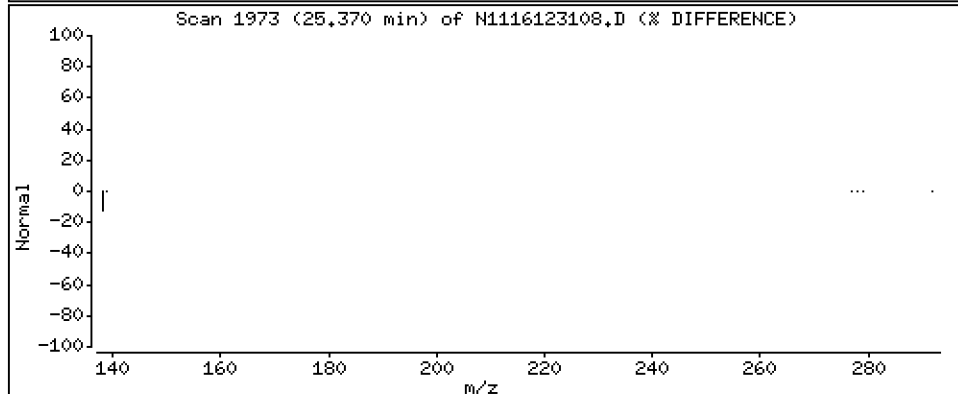
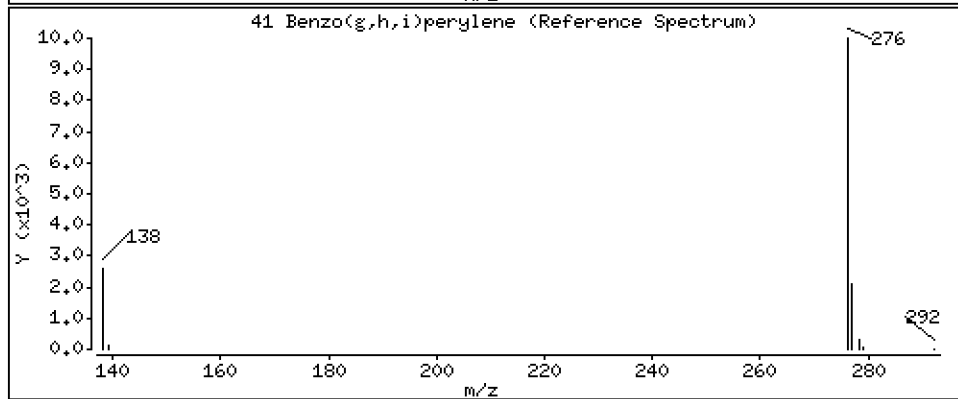
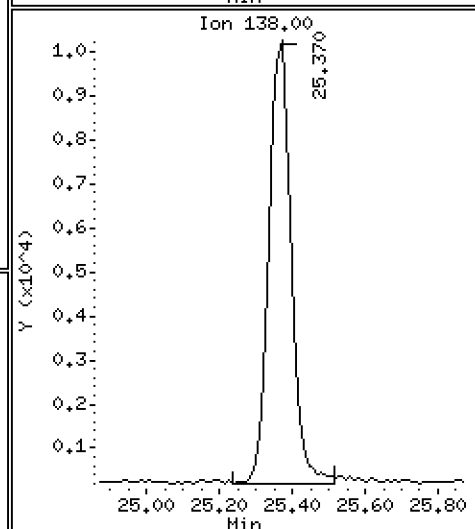
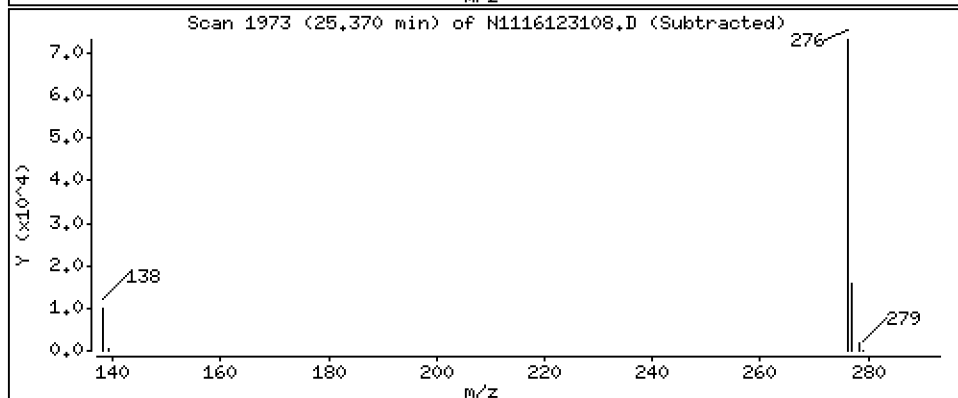
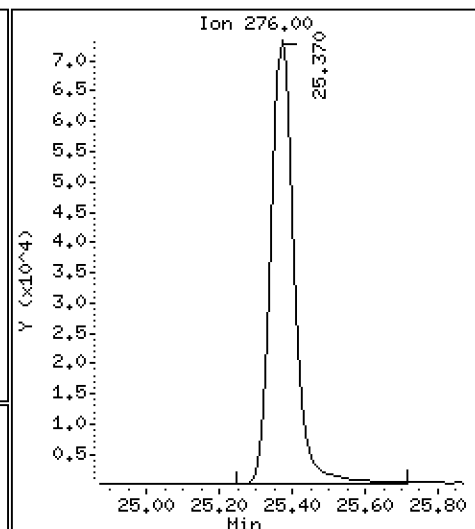
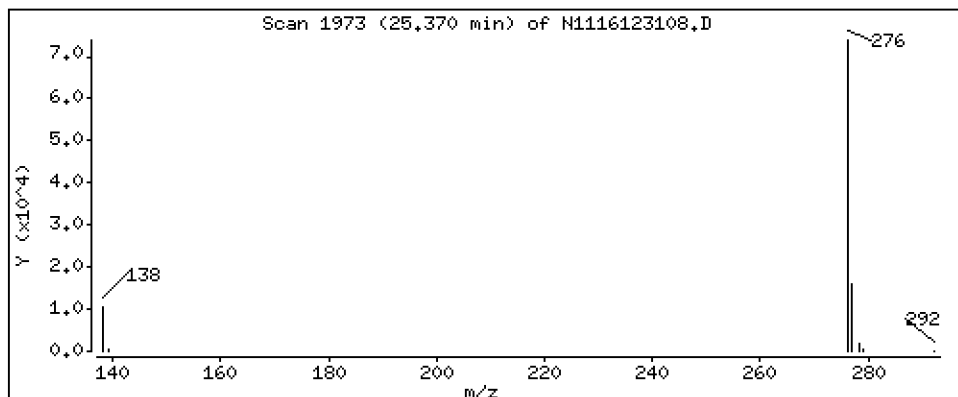
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 247 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123108.D
 Lab Smp Id: SEL0401-SCV1
 Inj Date : 31-DEC-2016 11:35 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: newpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.225	7.225	(1.000)	210327	200.000	
2 Naphthalene	128		7.253	7.253	(1.004)	263035	250.596	251
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		8.253	8.253	(1.142)	257930	249.327	249
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	246162	236.587	237
10 Acenaphthylene	152		10.098	10.098	(0.985)	293179	254.726	255
* 11 Acenaphthene-d10	164		10.252	10.252	(1.000)	128092	200.000	
12 Acenaphthene	153		10.315	10.315	(1.006)	209513	276.477	276
13 Dibenzofuran	168		10.519	10.519	(1.026)	321591	285.478	285
16 Fluorene	166		11.138	11.151	(1.086)	240770	268.478	268
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	246665	200.000	
19 Phenanthrene	178		12.987	12.987	(1.003)	354560	251.418	251
21 Anthracene	178		13.040	13.040	(1.007)	334329	237.762	238
\$ 24 Fluoranthene-d10	212		15.007	15.055	(1.159)	1972	1.50522	1.51
25 Fluoranthene	202		15.084	15.084	(1.165)	404582	252.915	253
26 Pyrene	202		15.593	15.593	(0.881)	409188	246.982	247
27 Benzo(a)anthracene	228		17.602	17.602	(0.994)	388934	253.609	254
* 28 Chrysene-d12	240		17.702	17.702	(1.000)	255043	200.000	
29 Chrysene	228		17.751	17.751	(1.003)	380528	241.811	242
30 Benzo(b)fluoranthene	252		19.676	19.677	(0.941)	361602	252.797	253
31 Benzo(k)fluoranthene	252		19.734	19.725	(0.943)	403824	262.109	262
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		20.685	20.685	(0.989)	331475	248.577	249
* 36 Perylene-d12	264		20.916	20.916	(1.000)	265358	200.000	
37 Perylene	252		Compound Not Detected.					
\$ 38 Dibenzo(a,h)anthracene-d14	292		Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278		23.941	23.941	(1.145)	280435	240.373	240
40 Indeno(1,2,3-cd)pyrene	276		23.974	23.974	(1.146)	361280	248.156	248
41 Benzo(g,h,i)perylene	276		25.370	25.370	(1.213)	322290	246.575	247

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 31-DEC-2016
 Lab File ID: N1116123108.D Calibration Time: 08:28
 Lab Smp Id: SEL0401-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	210327	-4.25
11 Acenaphthene-d10	135248	67624	270496	128092	-5.29
18 Phenanthrene-d10	257021	128511	514042	246665	-4.03
28 Chrysene-d12	259511	129756	519022	255043	-1.72
36 Perylene-d12	257535	128768	515070	265358	3.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N1116123108.D

Lab ID: SEL0401-SCV1

nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 11:35

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161231.b\lowsim.m, newpna.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: Fluoranthene-d10 (Surr) 0.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Calibration: ZL00083

Laboratory ID: SEL0401-SCV1

Sequence: SEL0401

Standard ID: E007699

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Naphthalene	250.00	251	0.2	20.00
2-Methylnaphthalene	250.00	249	-0.3	20.00
Acenaphthylene	250.00	255	1.9	20.00
Acenaphthene	250.00	276	10.6	20.00
Dibenzofuran	250.00	285	14.2	20.00
Fluorene	250.00	268	7.4	20.00
Phenanthrene	250.00	251	0.6	20.00
Anthracene	250.00	238	-4.9	20.00
Fluoranthene	250.00	253	1.2	20.00
Pyrene	250.00	247	-1.2	20.00
Benzo(a)anthracene	250.00	254	1.4	20.00
Chrysene	250.00	242	-3.3	20.00
Benzo(b)fluoranthene	250.00	253	1.1	20.00
Benzo(k)fluoranthene	250.00	262	4.8	20.00
Benzo(a)pyrene	250.00	249	-0.6	20.00
Indeno(1,2,3-cd)pyrene	250.00	248	-0.7	20.00
Dibenzo(a,h)anthracene	250.00	240	-3.9	20.00
Benzo(g,h,i)perylene	250.00	247	-1.4	20.00
1-Methylnaphthalene	250.00	237	-5.4	20.00
Benzofluoranthenes, Total	500.00	515	3.0	

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20161231.16\N1116123108.D

Date : 31-DEC-2016 11:35

Client ID:

Sample Info: SEL0401-SCW1

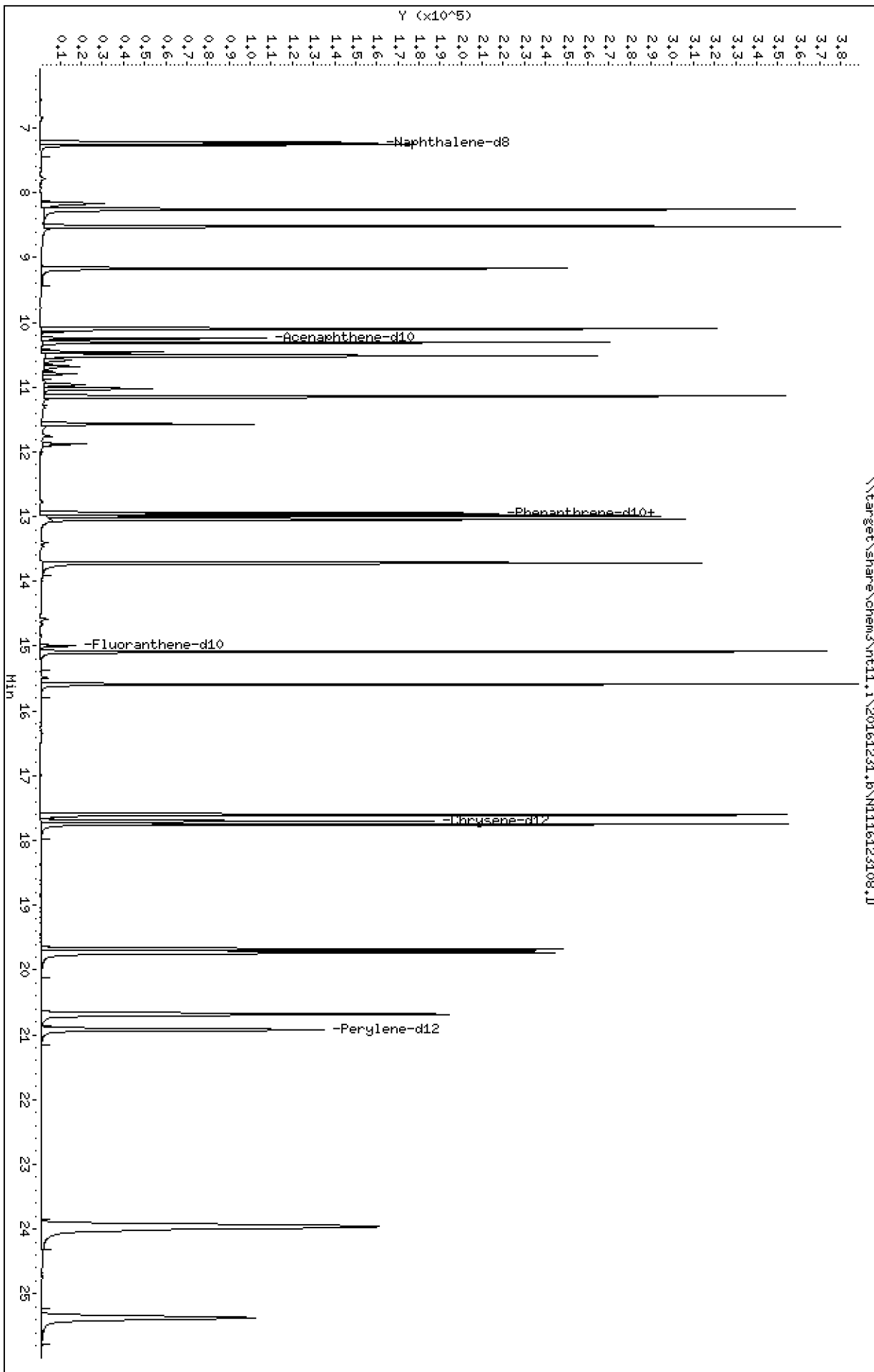
Column phase: Rxi-17Si11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

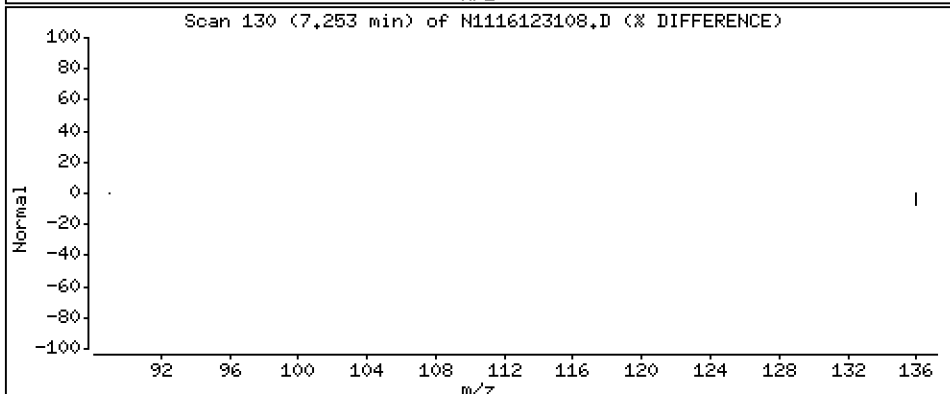
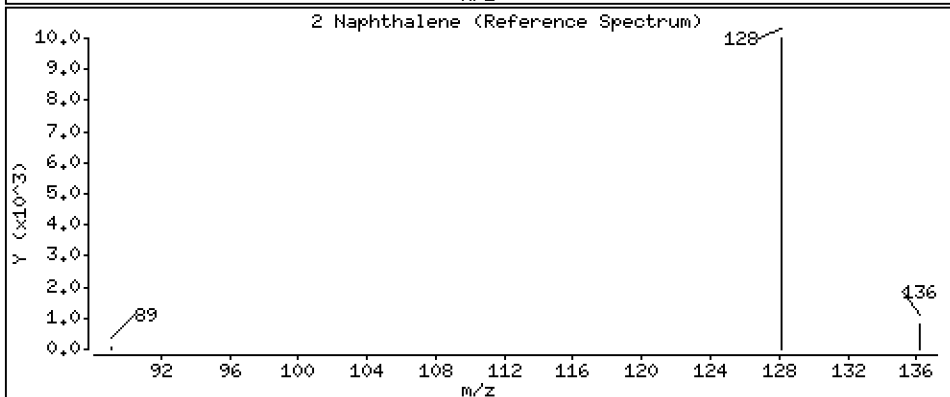
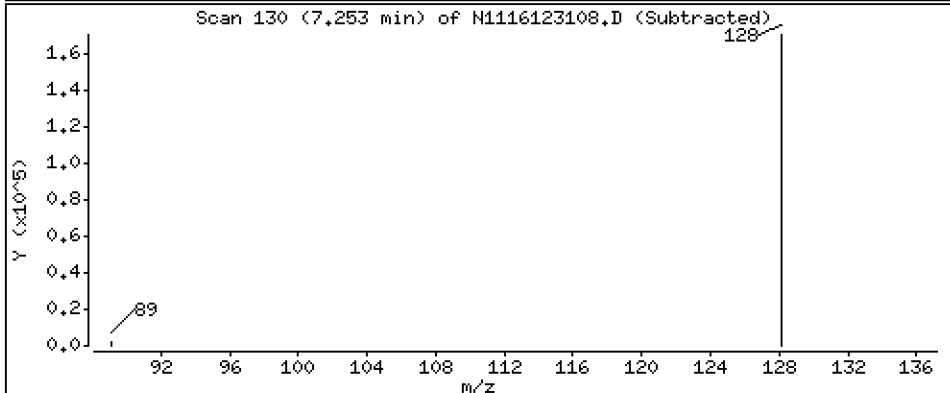
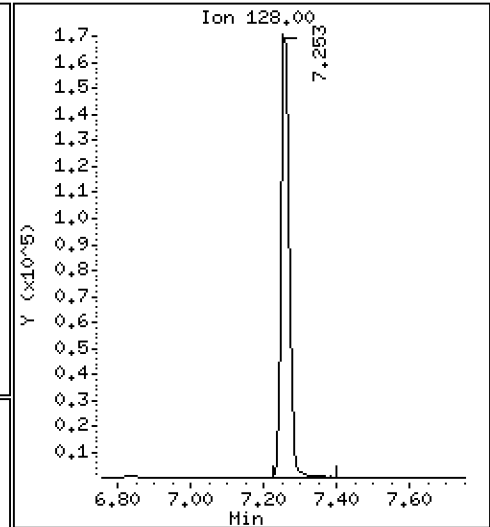
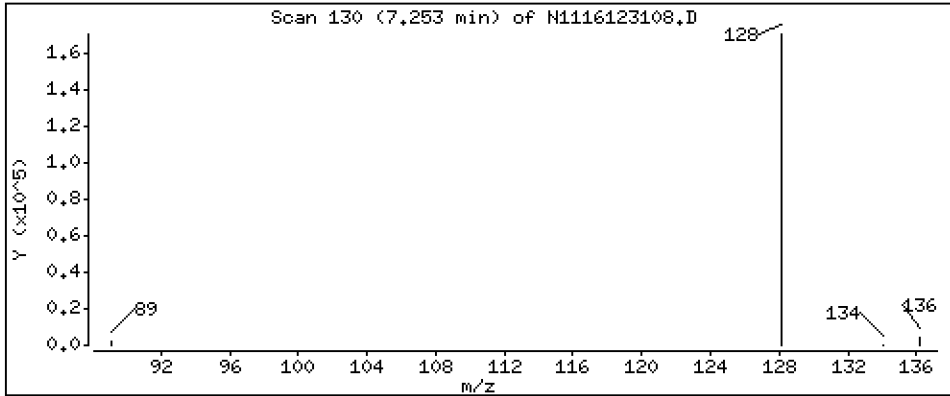
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 251 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

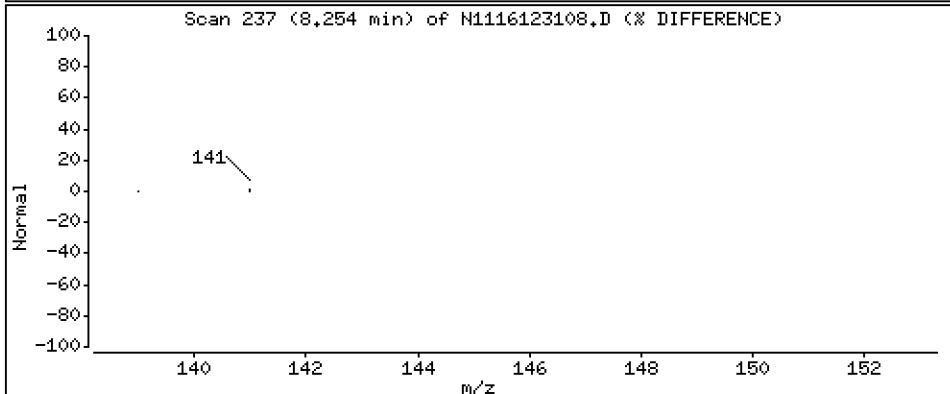
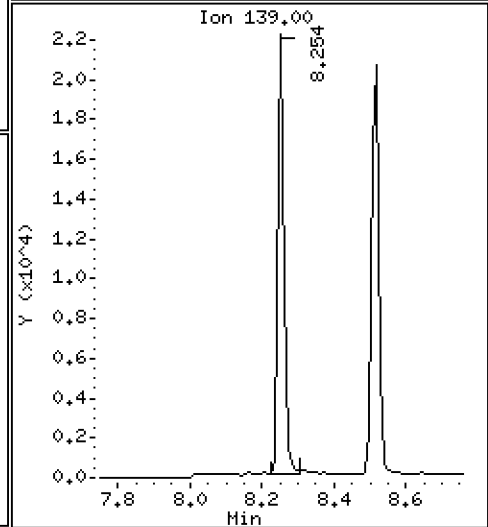
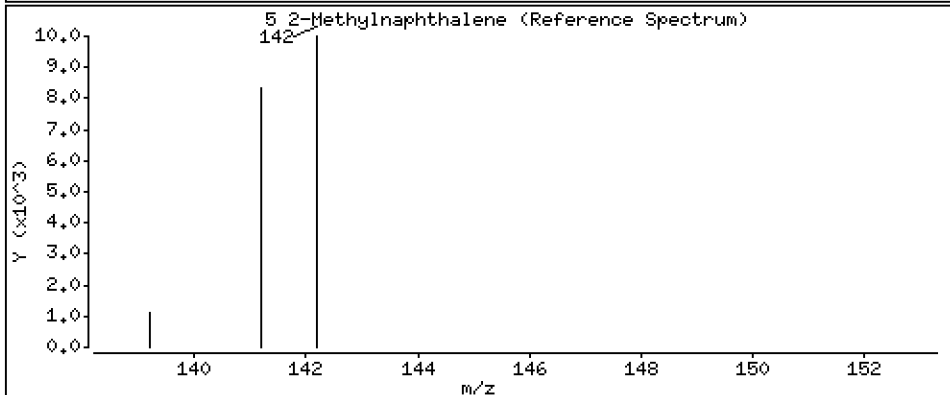
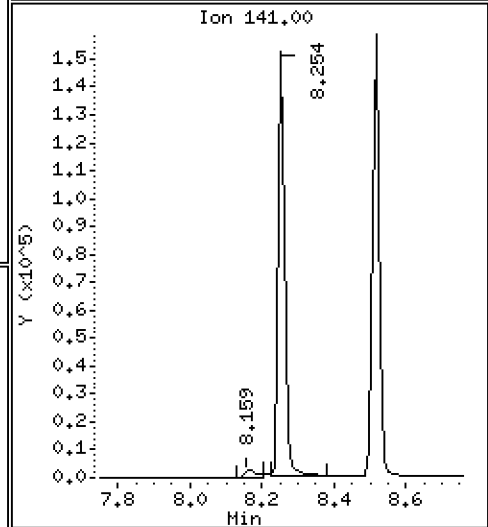
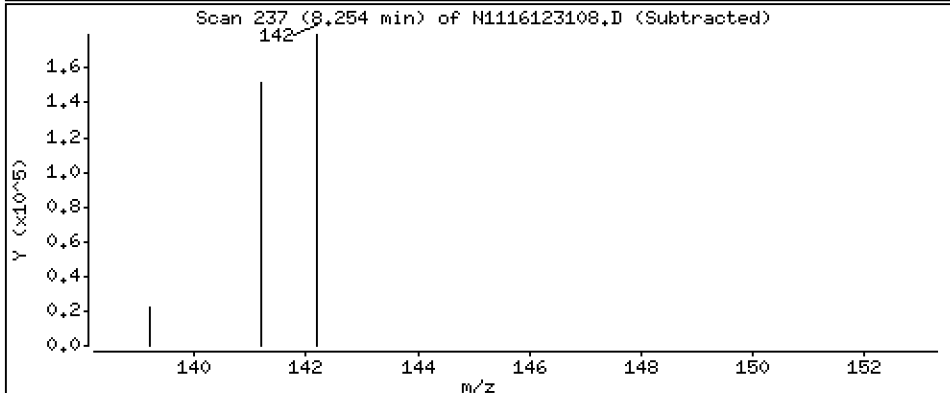
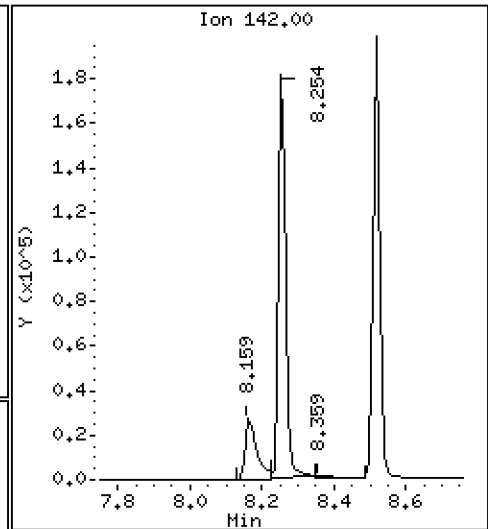
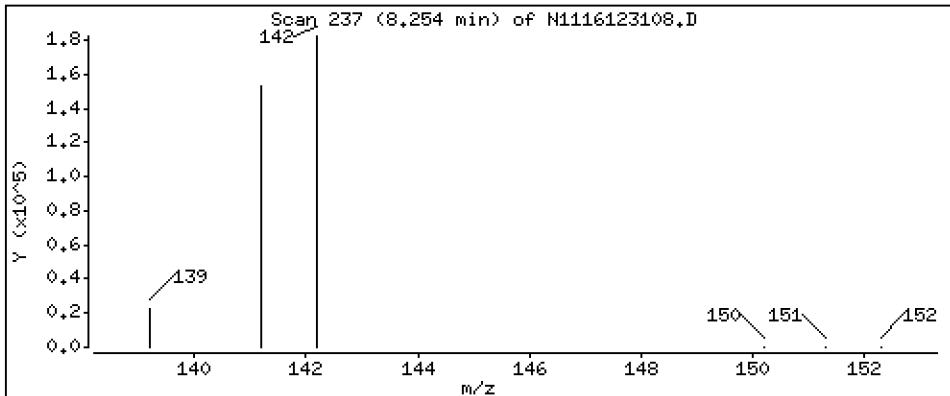
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 249 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

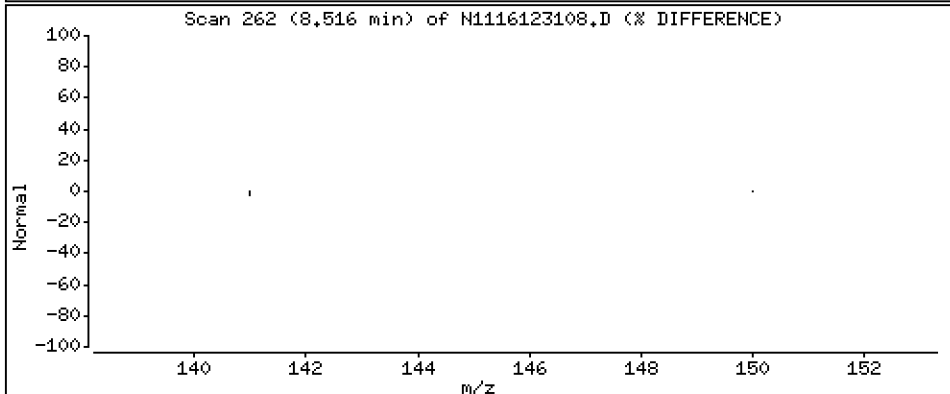
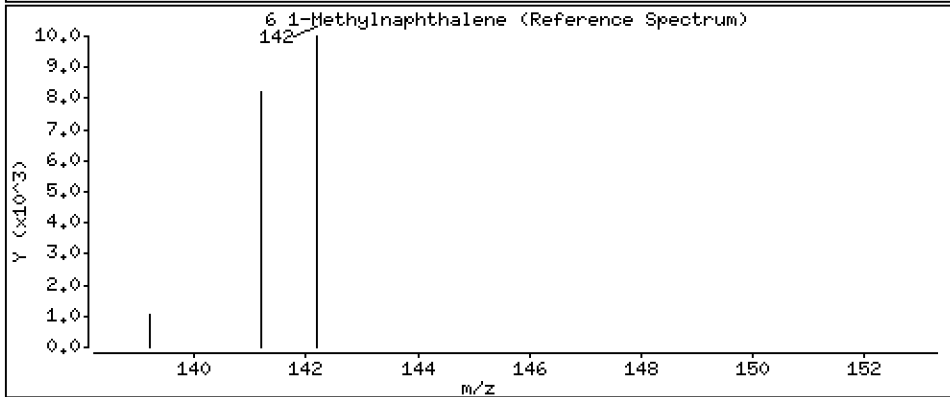
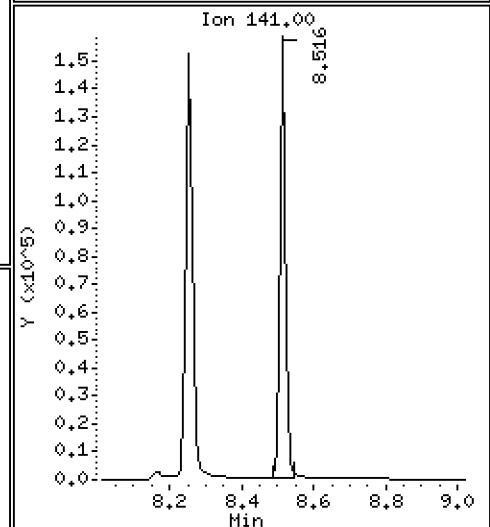
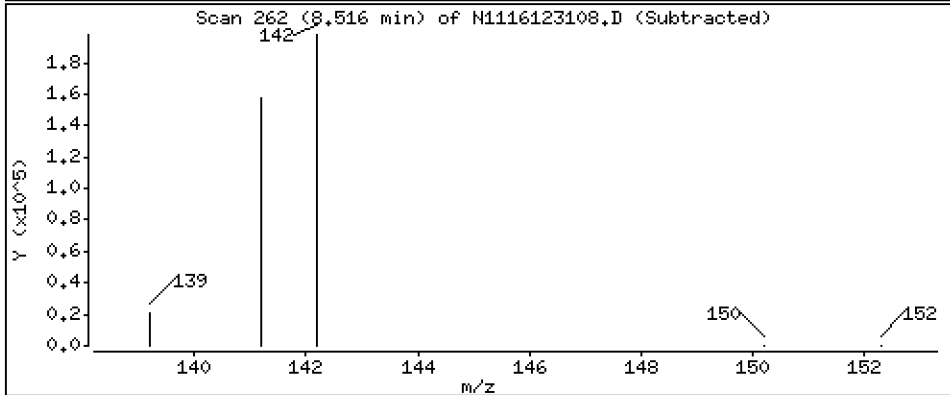
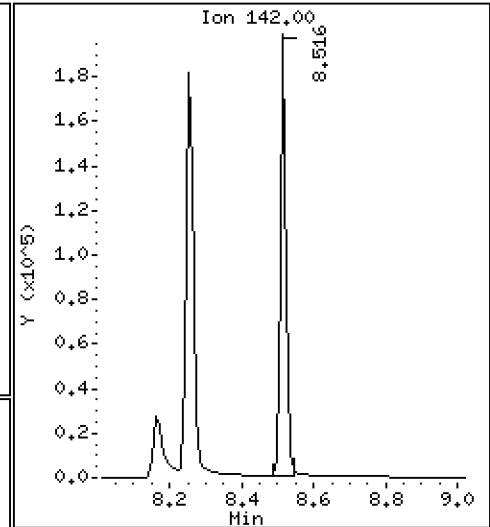
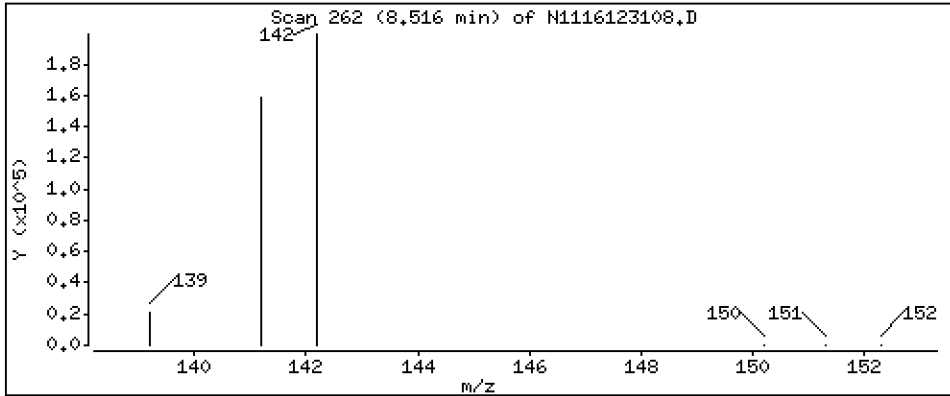
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 237 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

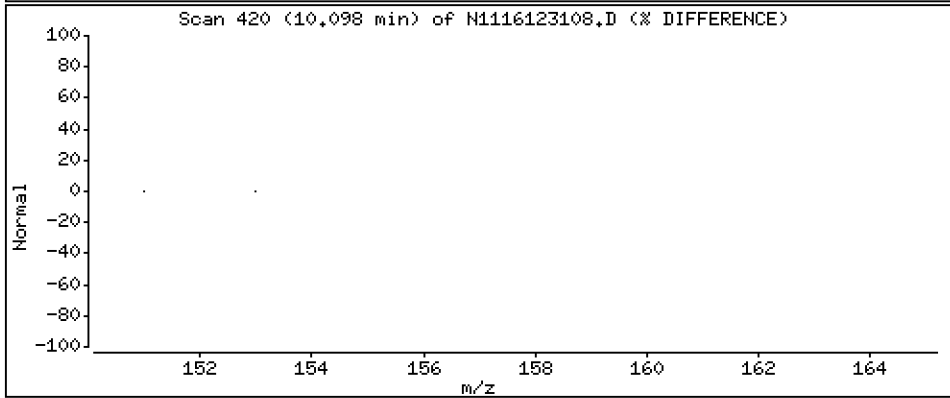
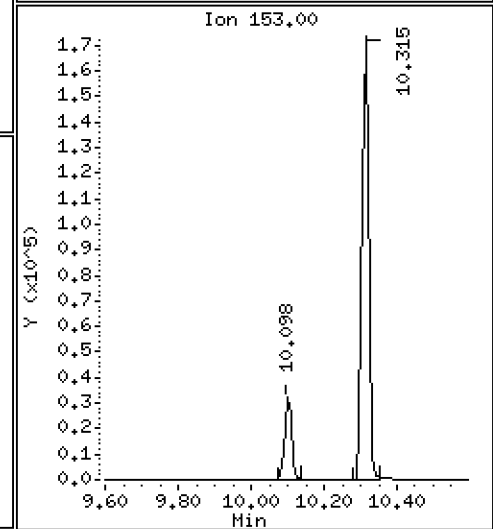
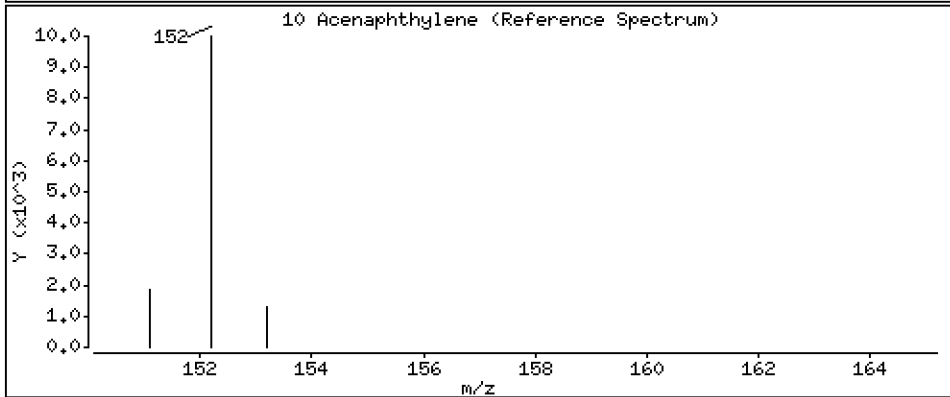
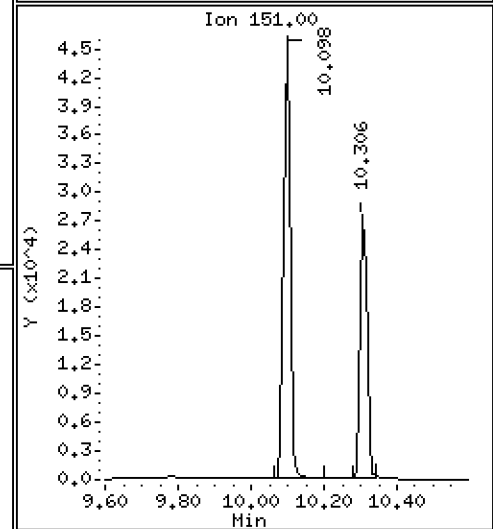
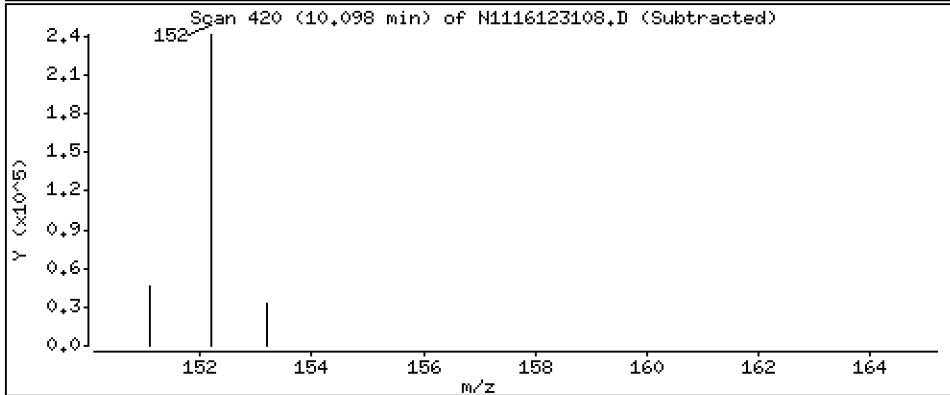
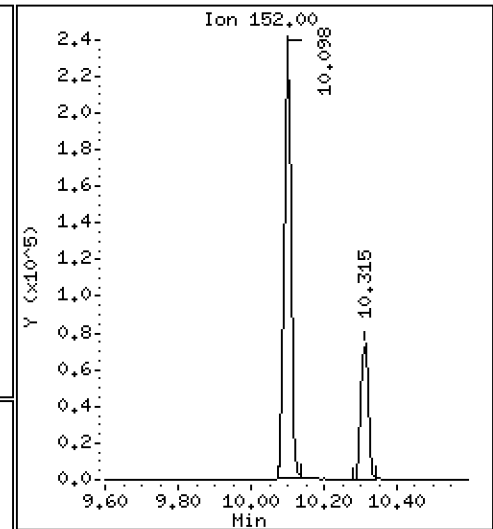
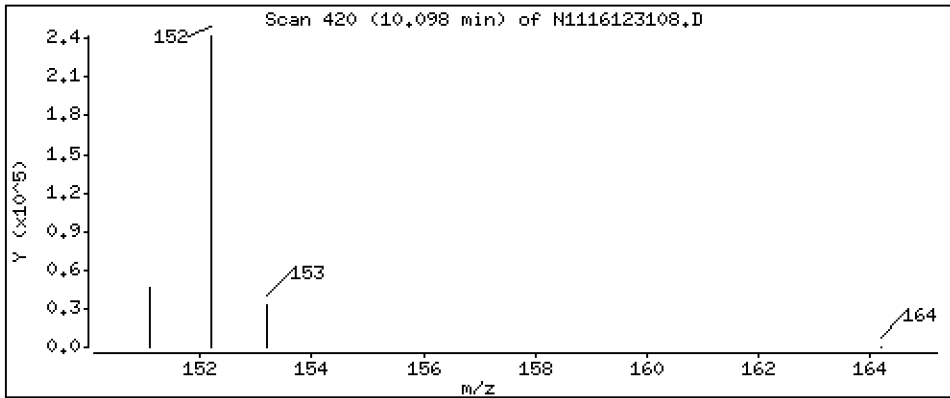
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 255 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

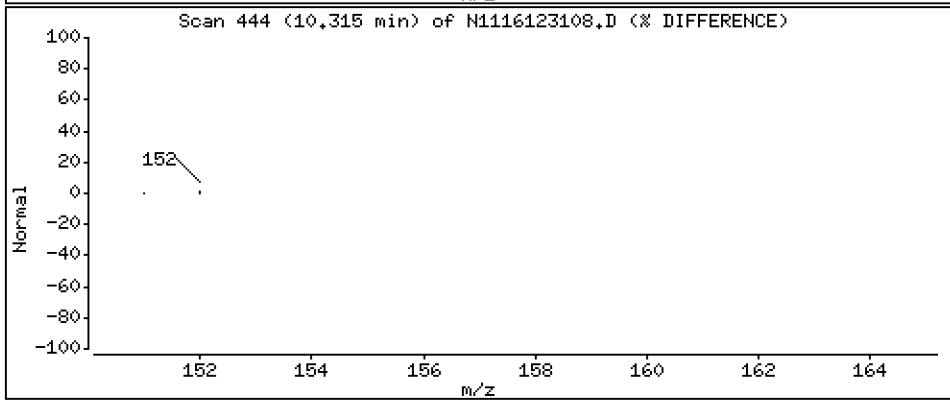
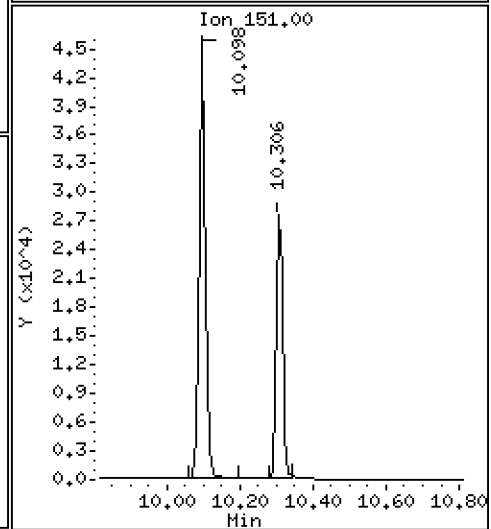
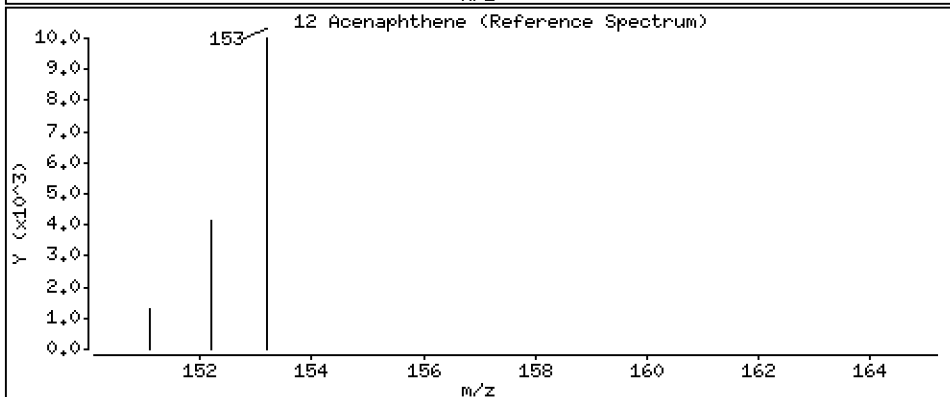
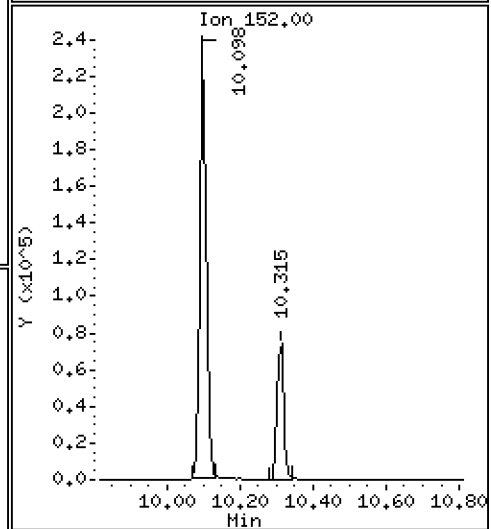
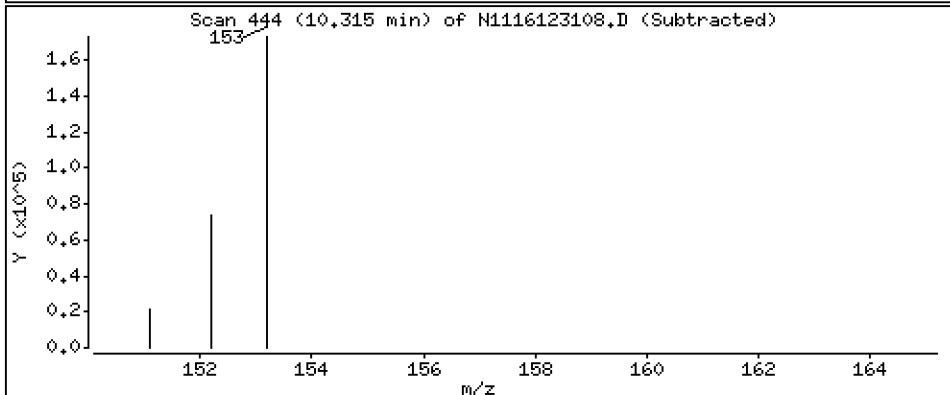
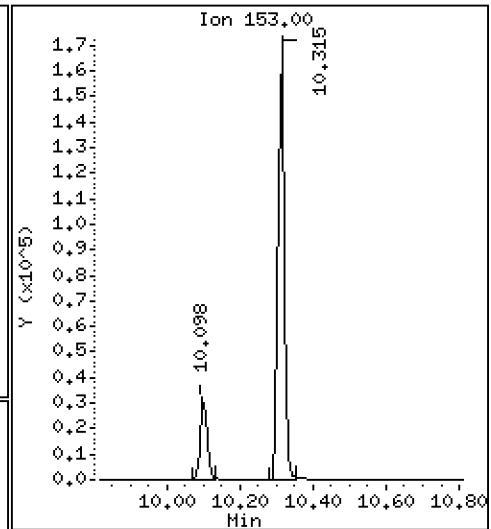
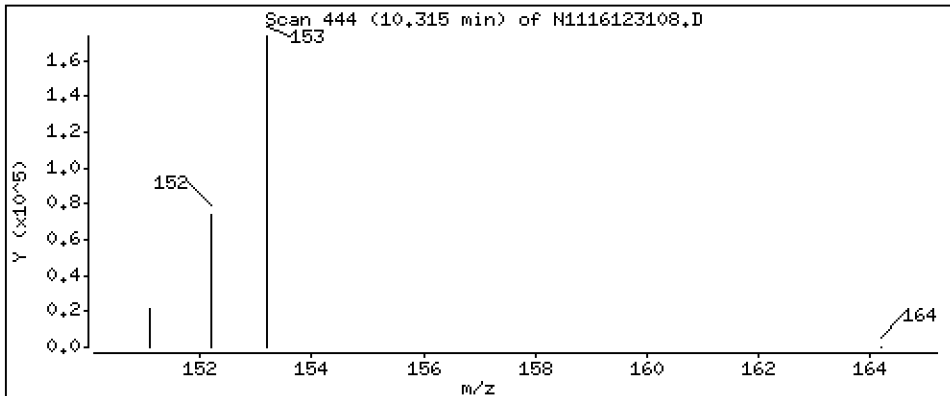
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 276 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

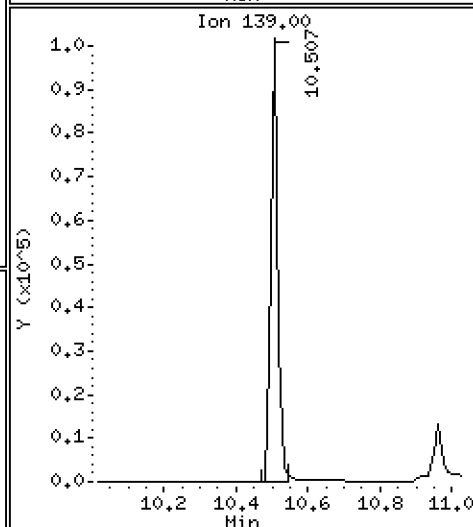
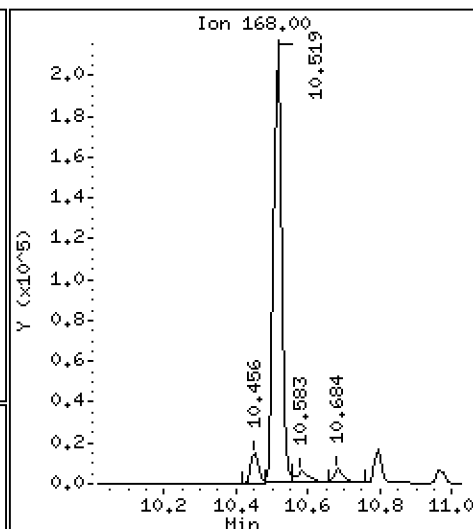
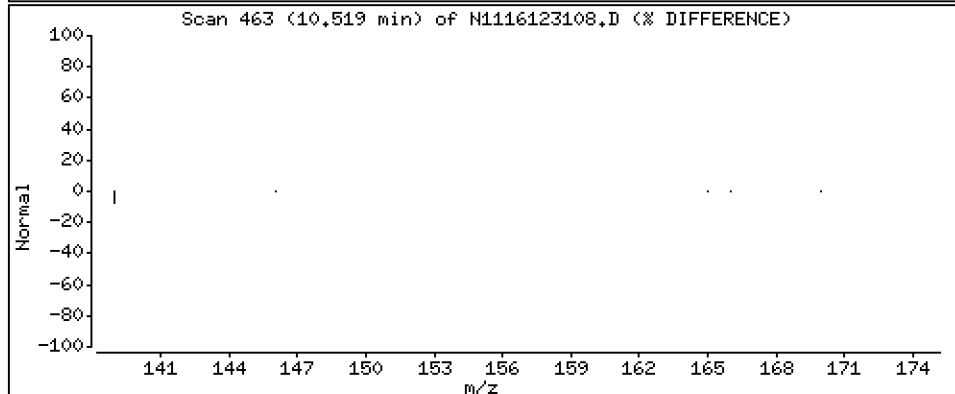
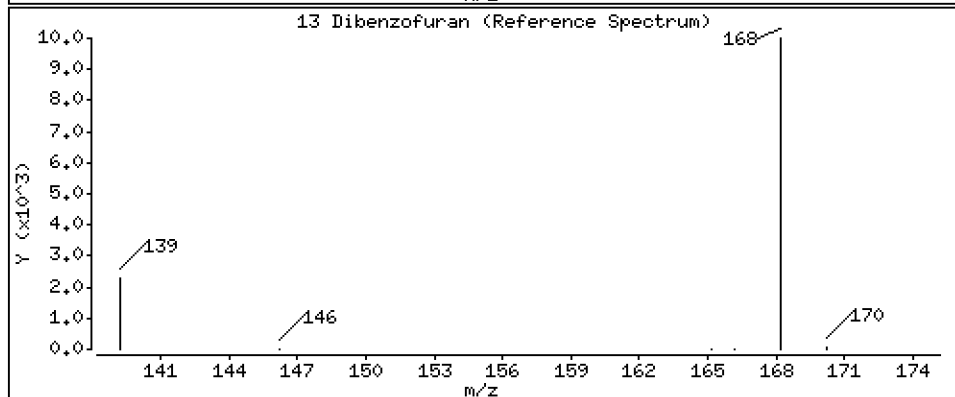
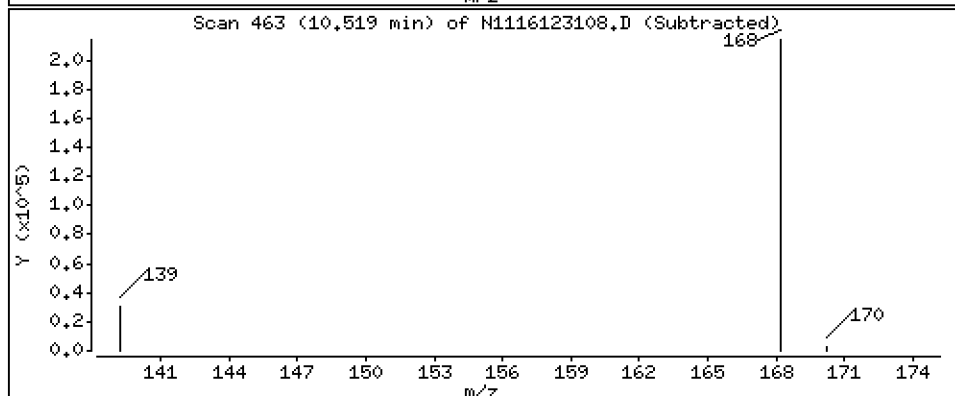
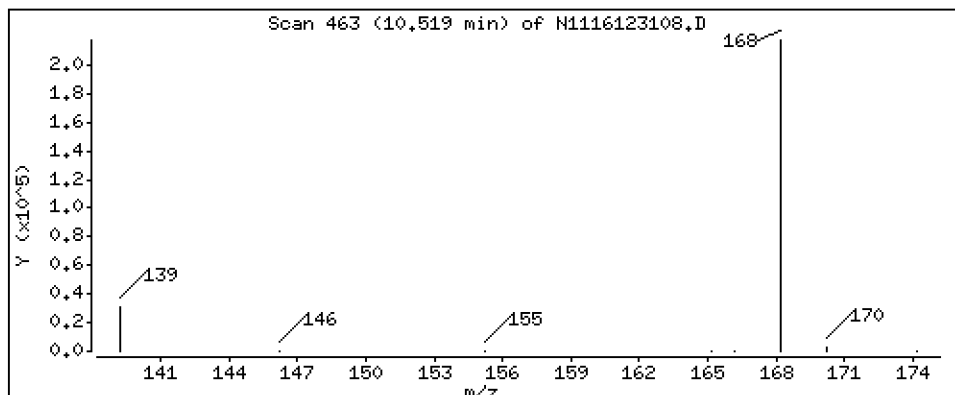
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 285 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

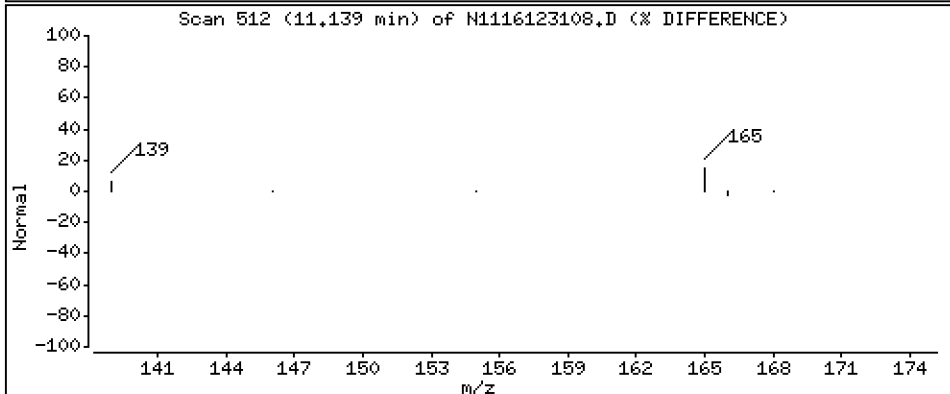
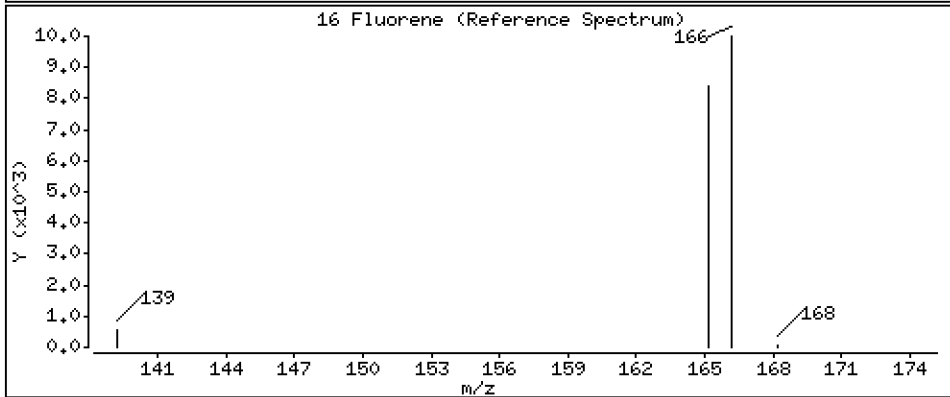
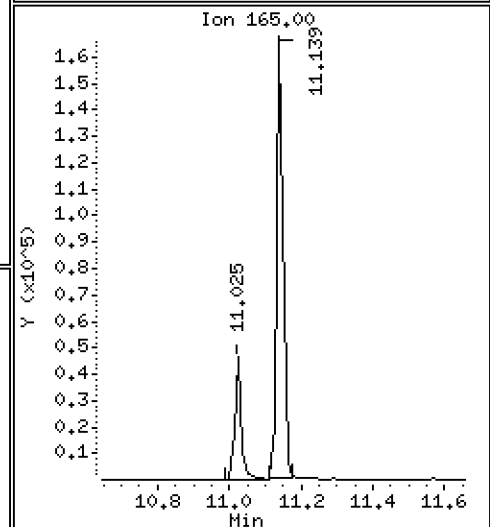
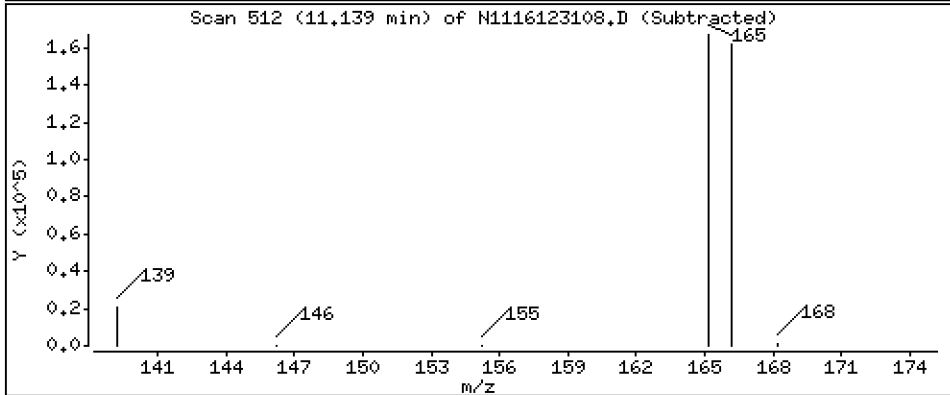
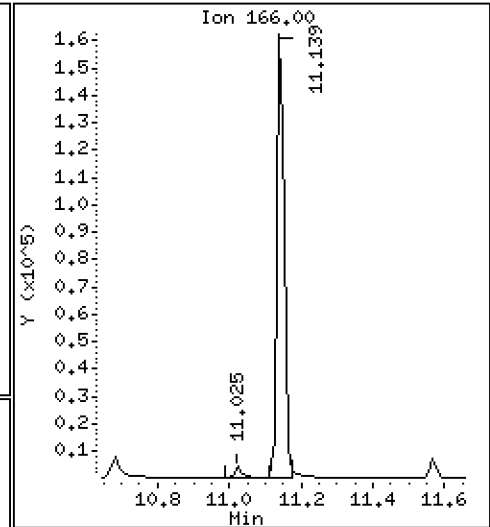
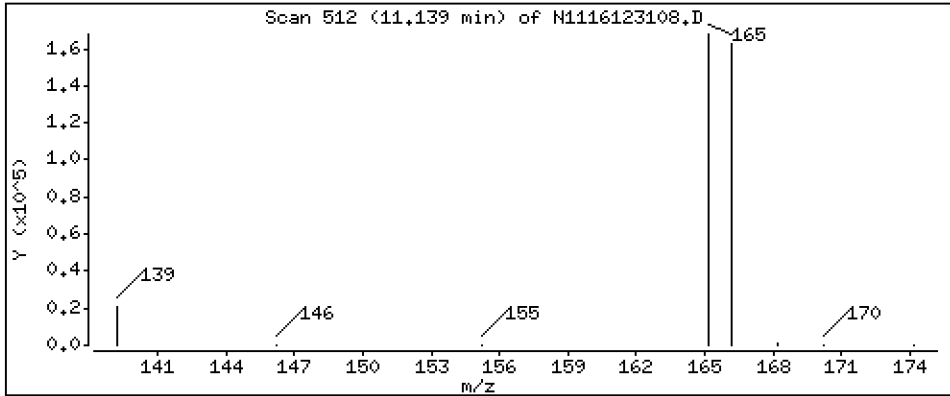
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 268 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

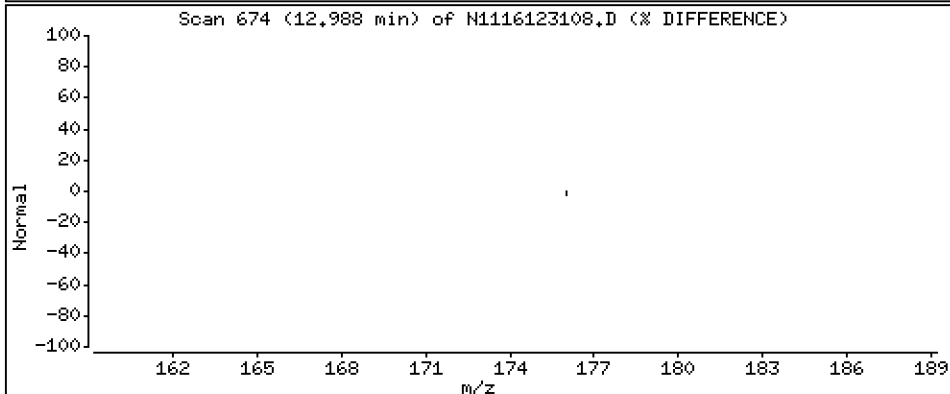
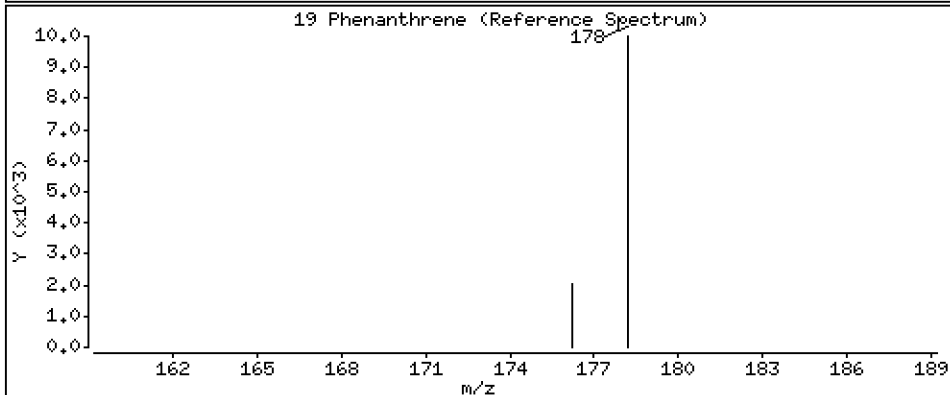
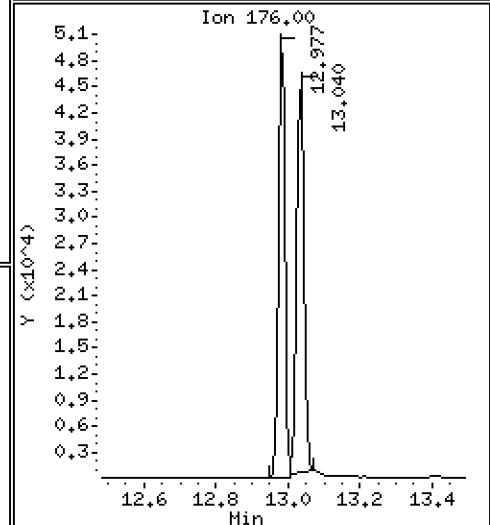
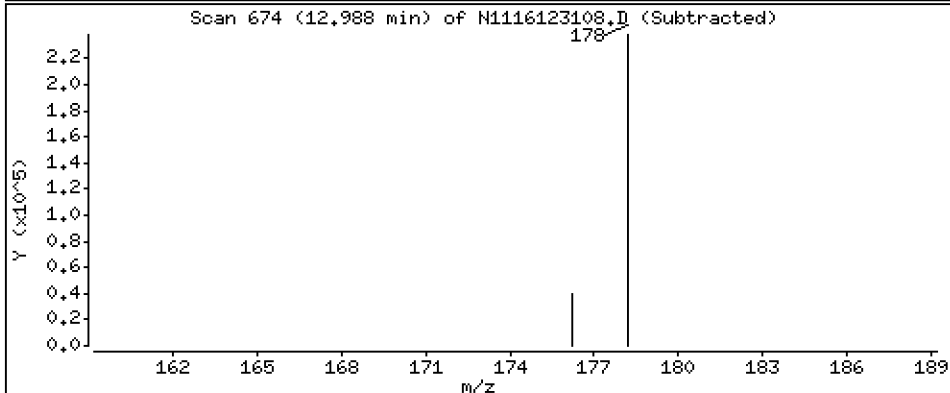
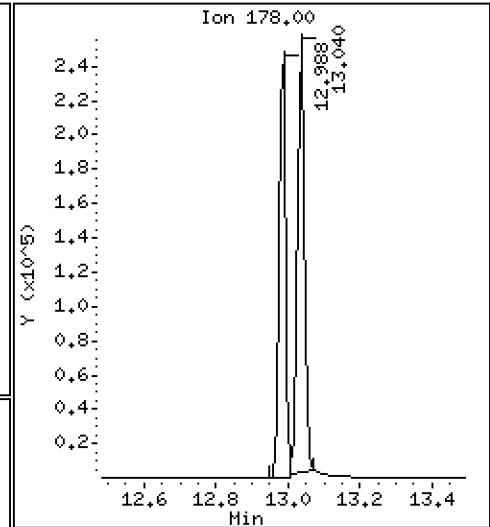
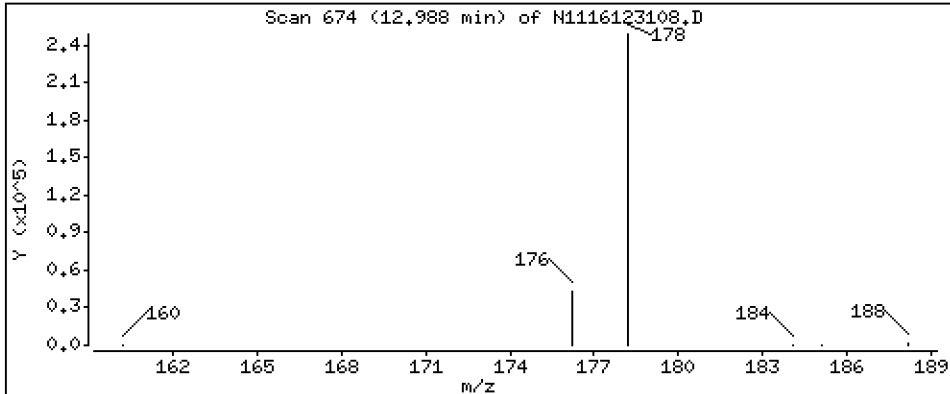
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 251 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

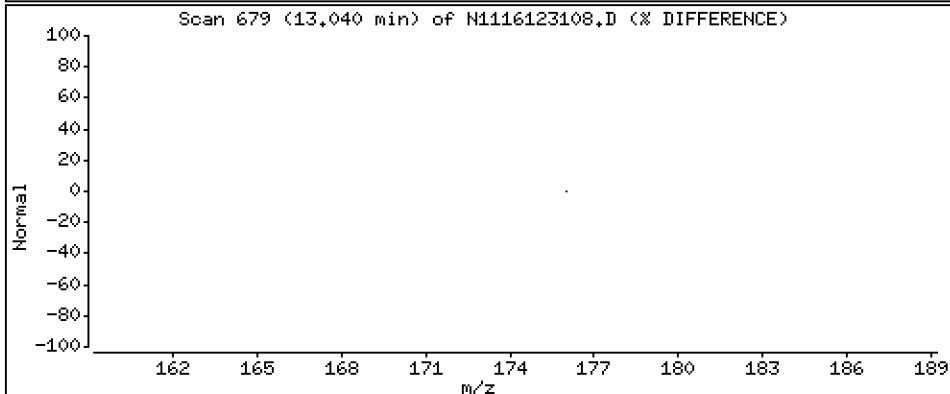
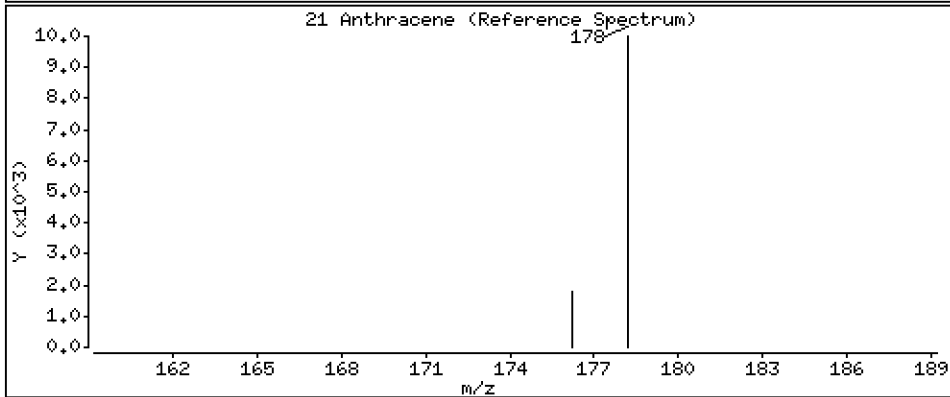
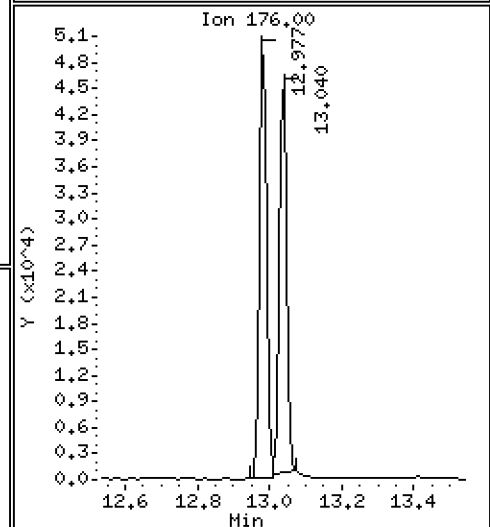
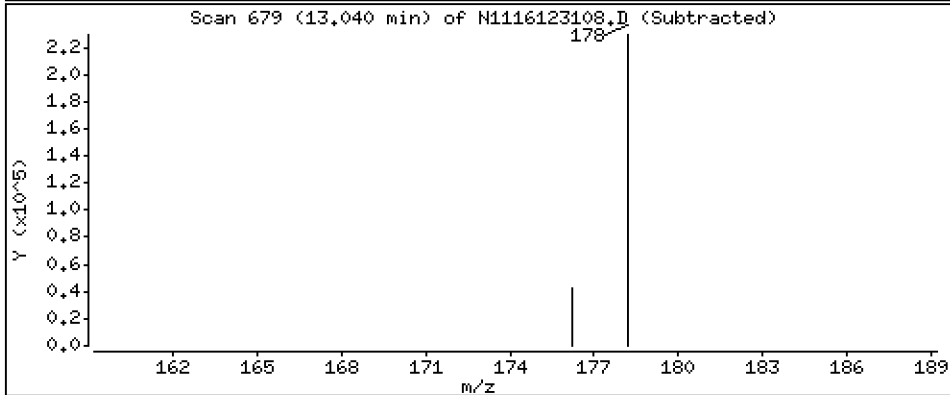
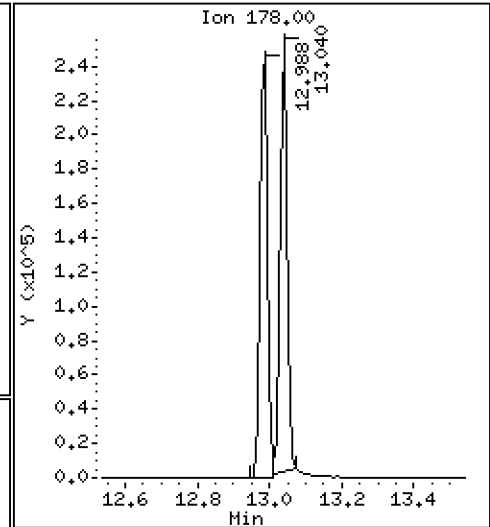
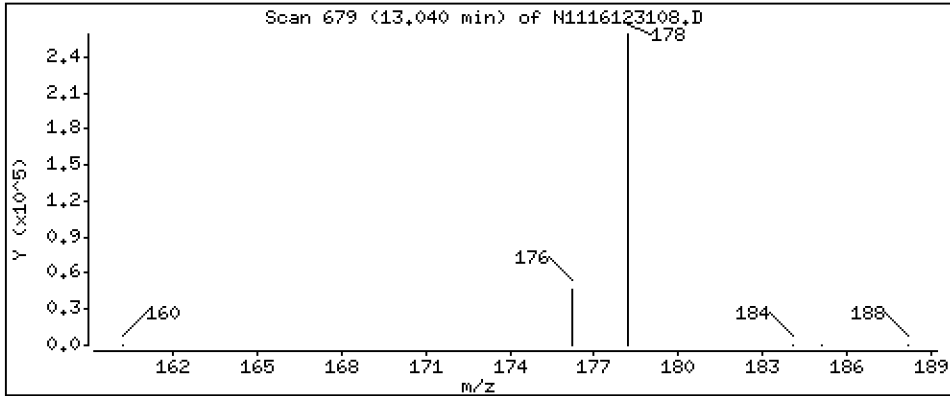
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 238 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

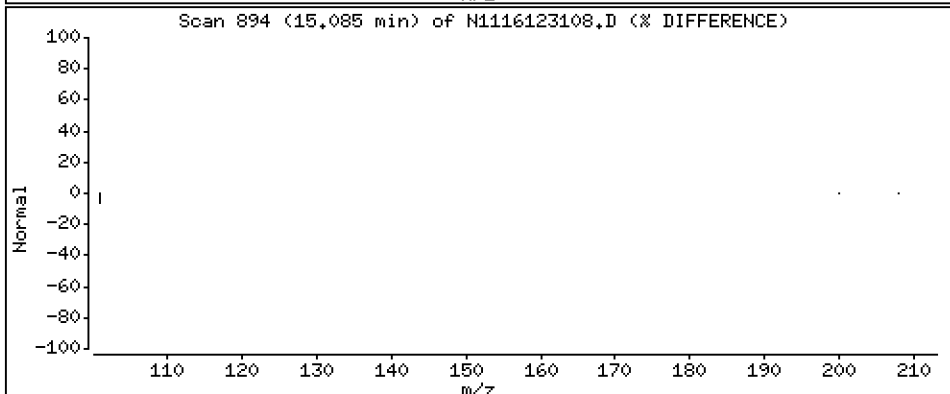
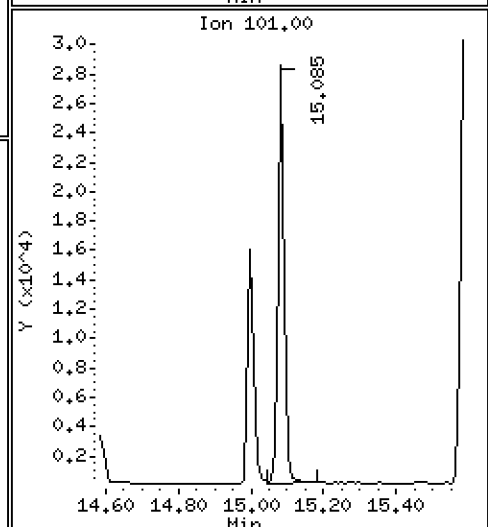
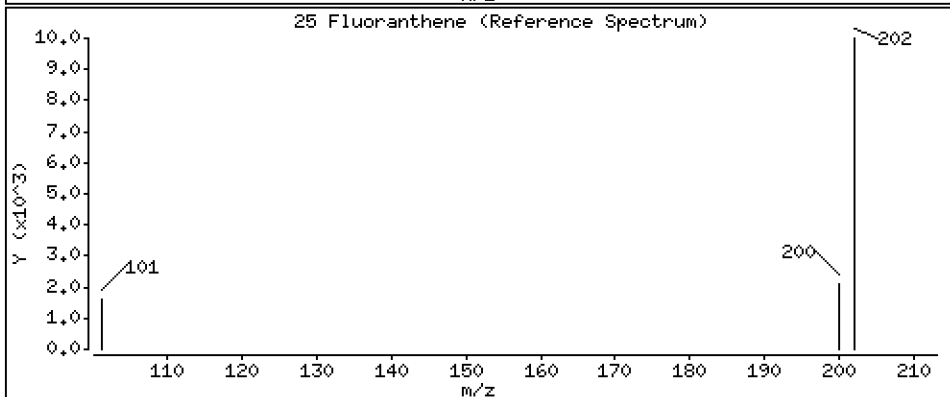
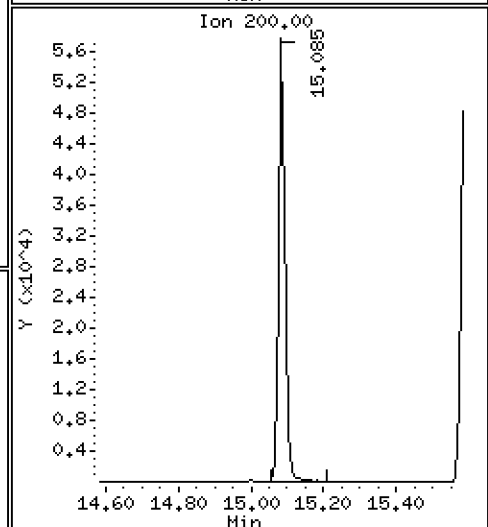
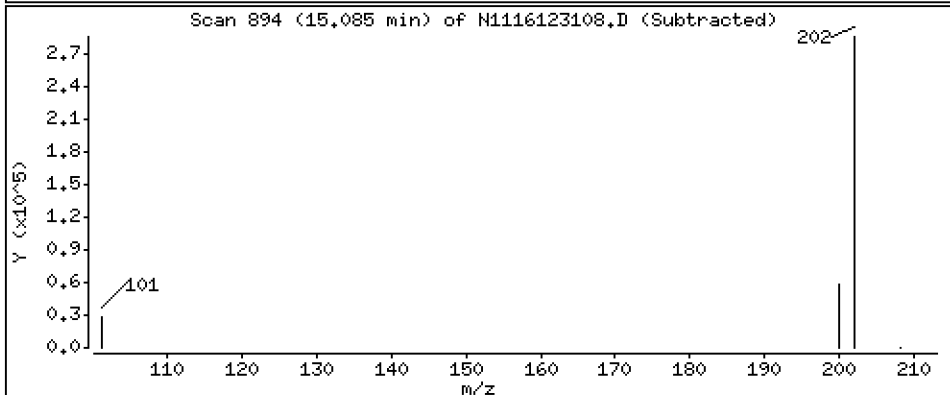
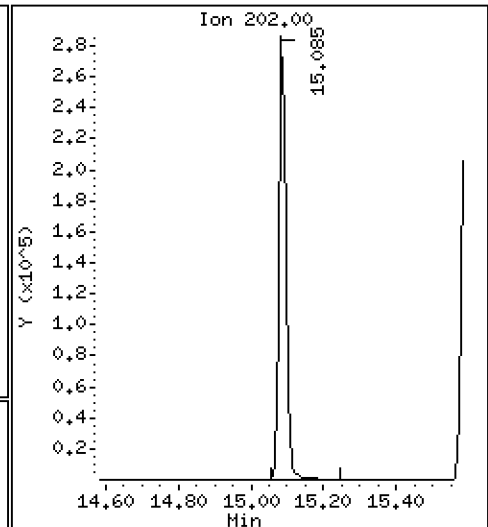
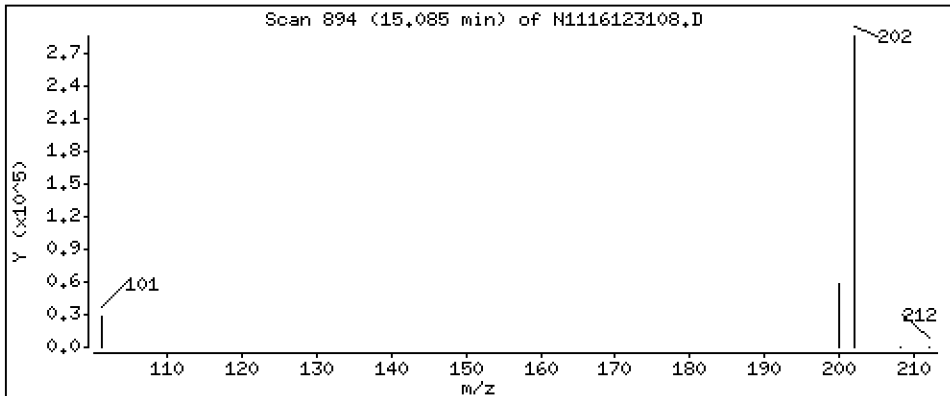
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 253 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

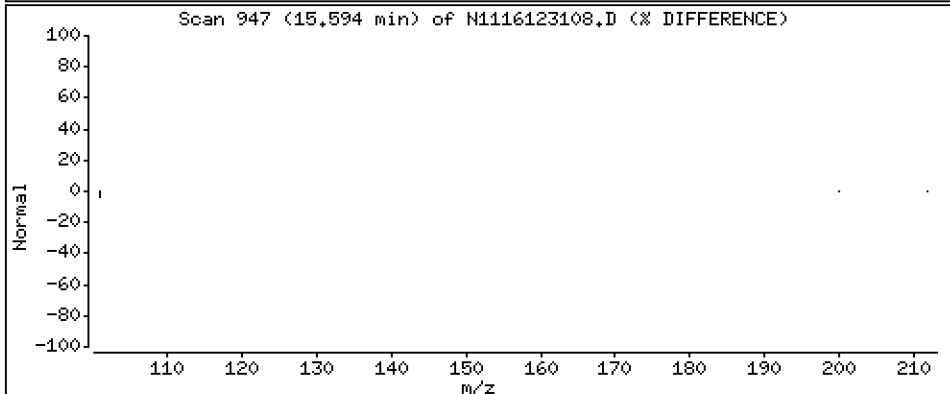
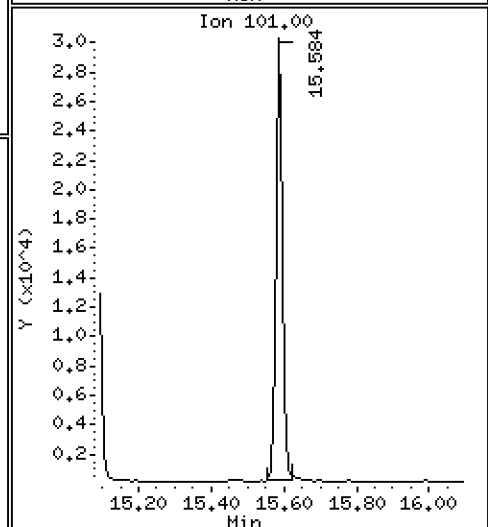
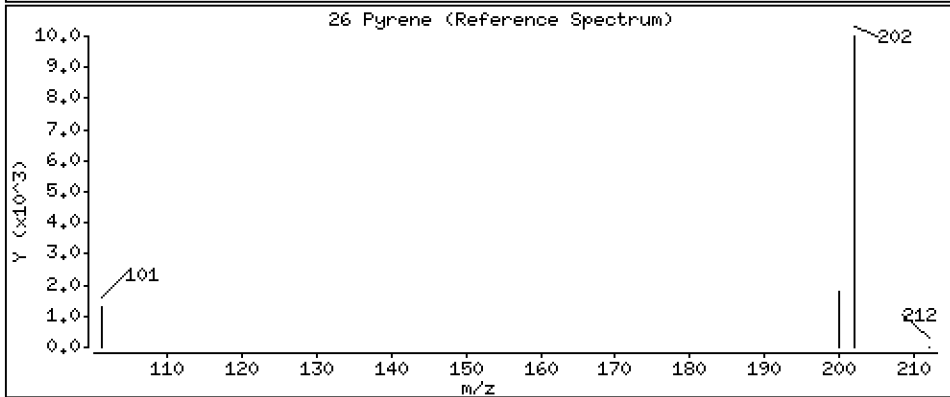
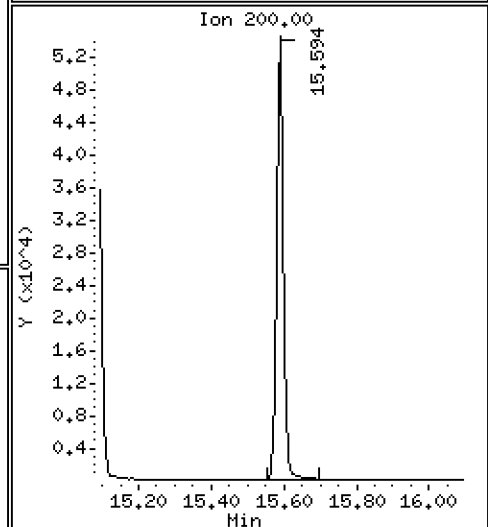
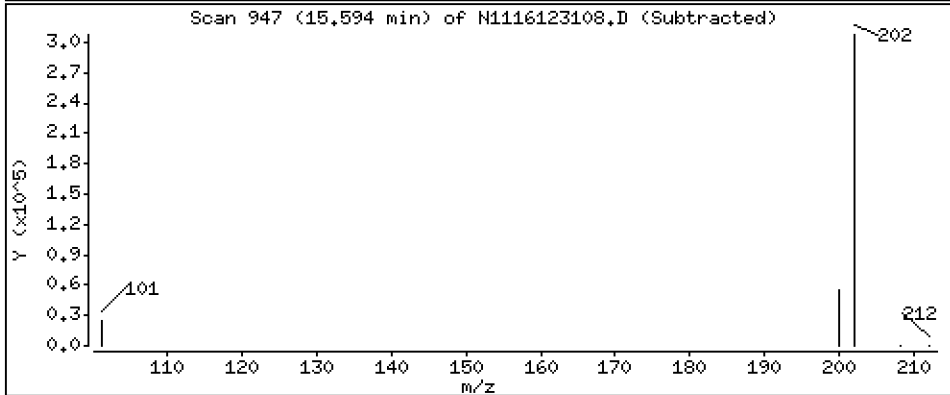
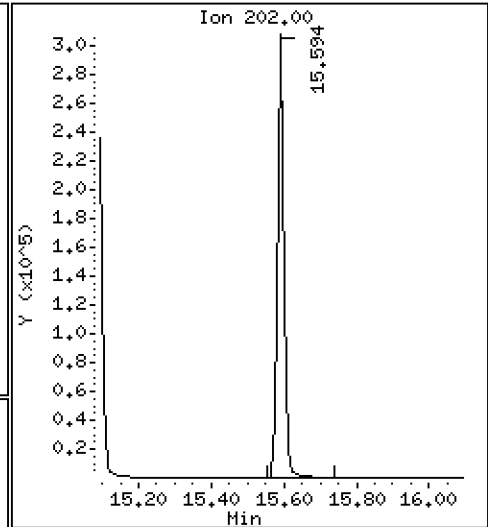
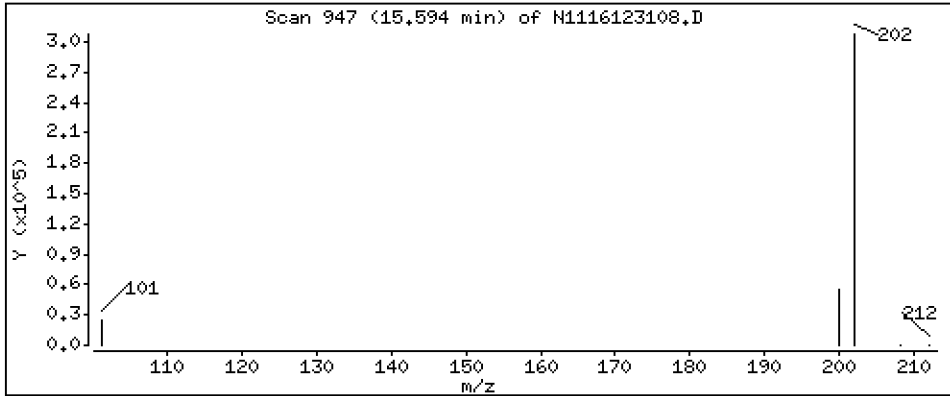
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 247 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

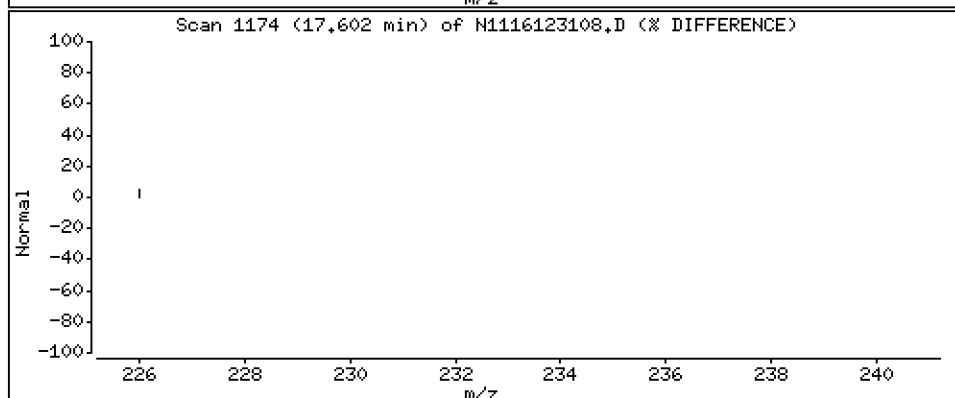
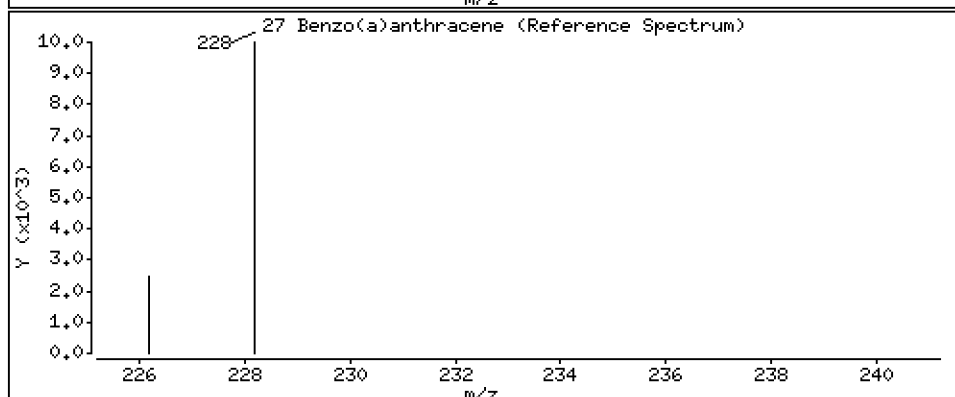
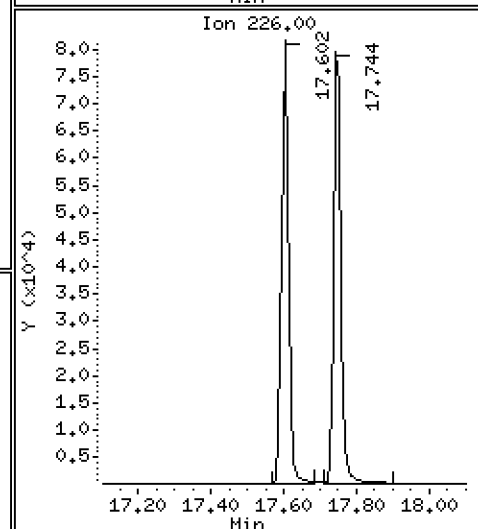
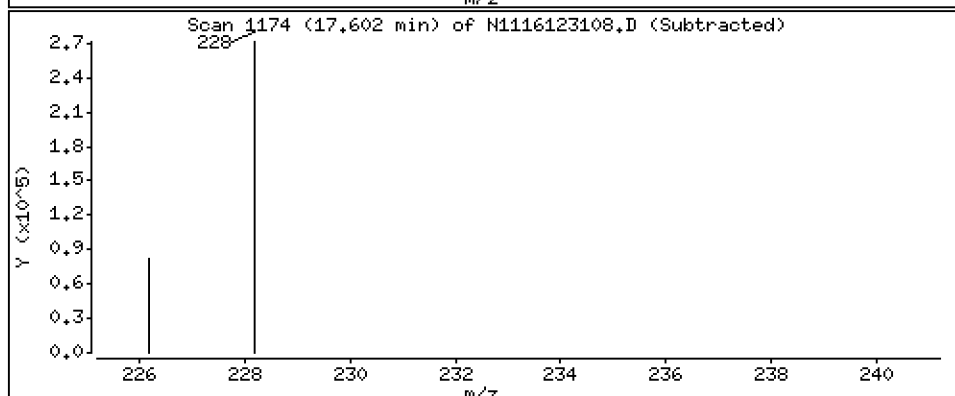
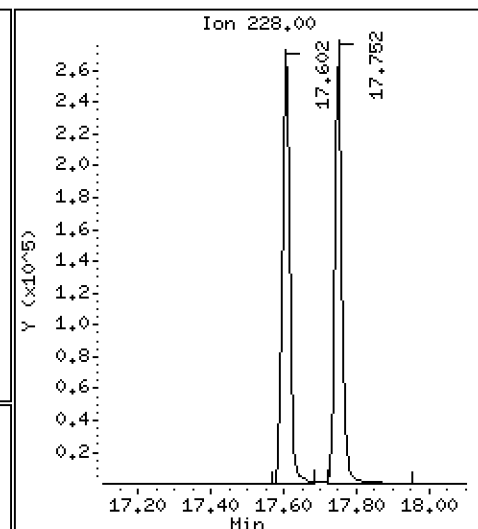
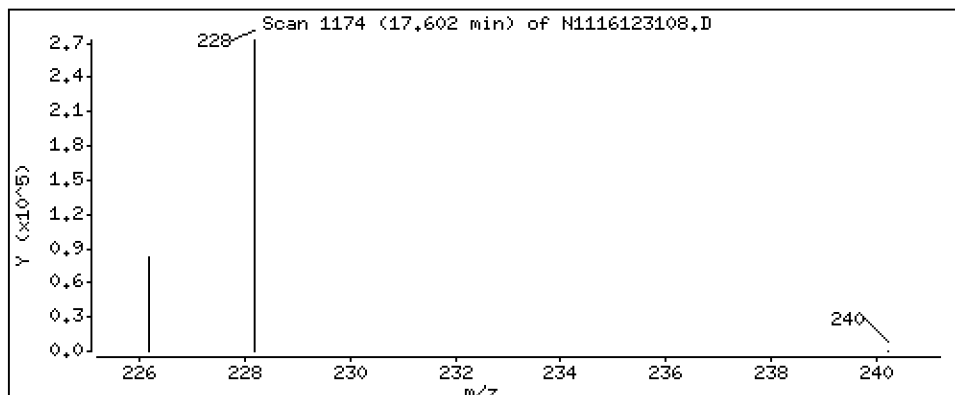
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 254 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

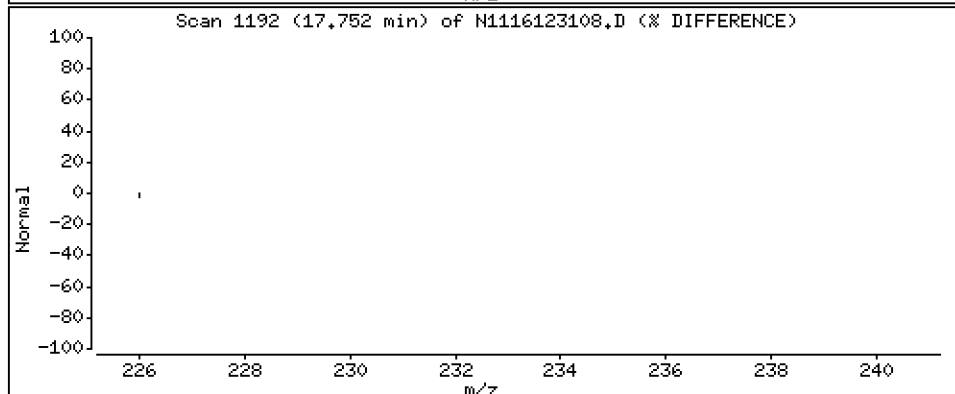
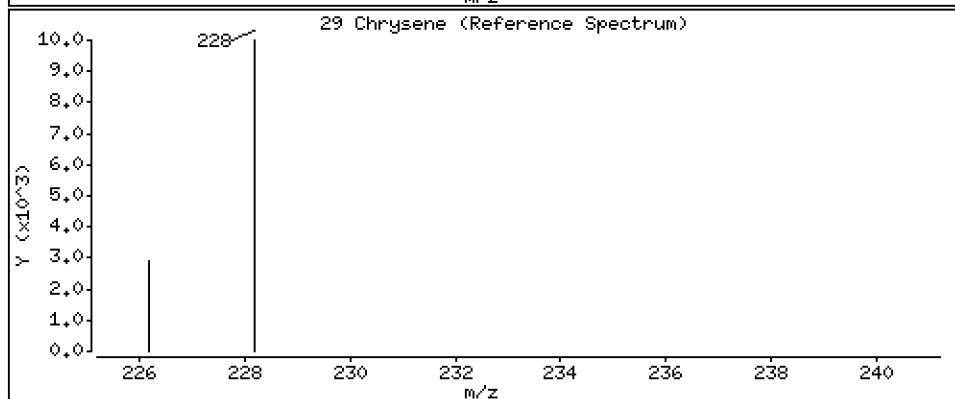
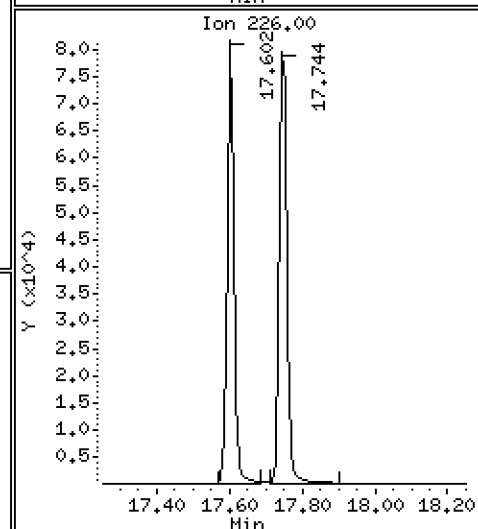
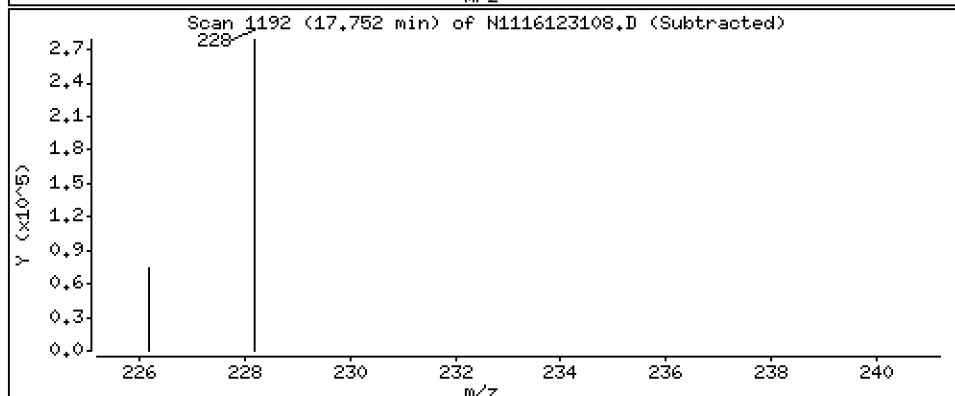
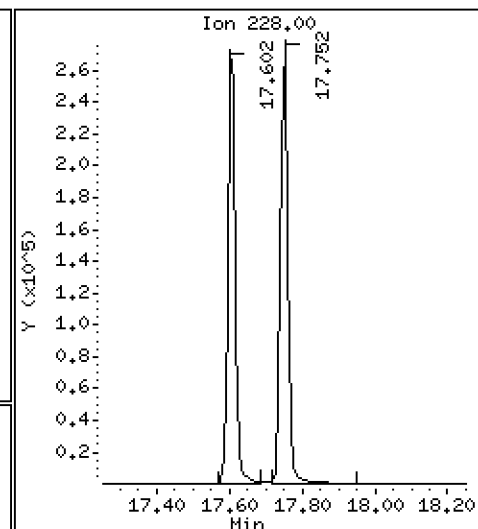
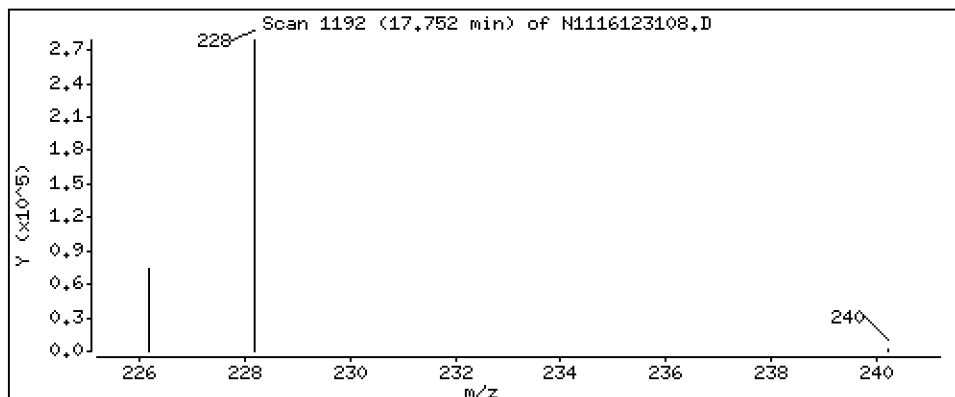
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 242 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

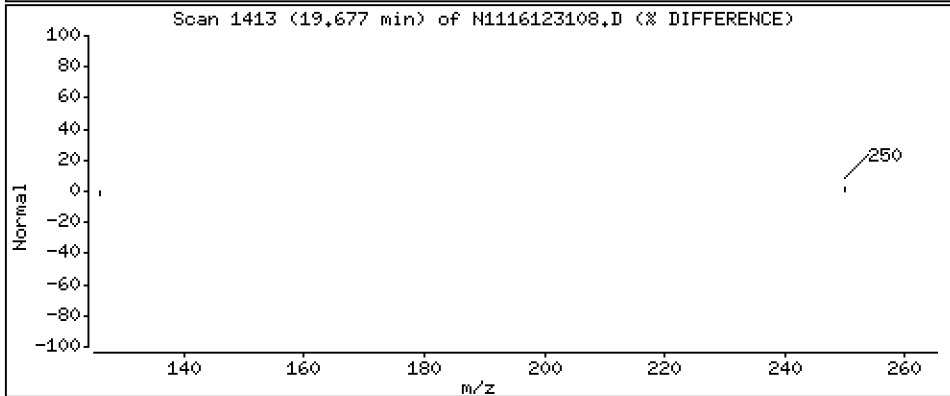
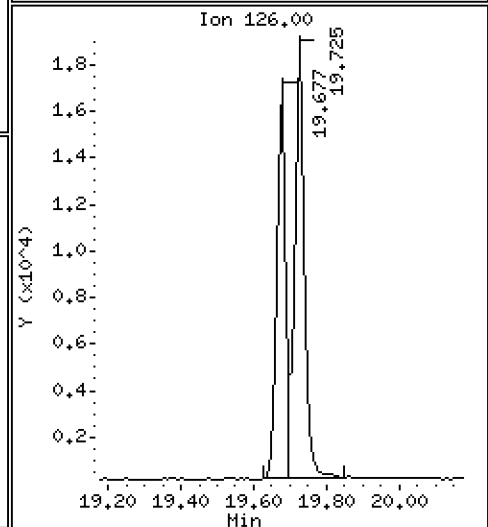
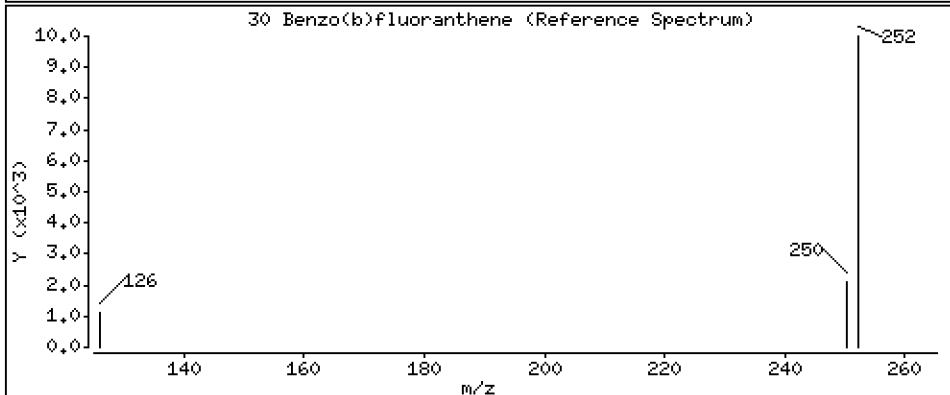
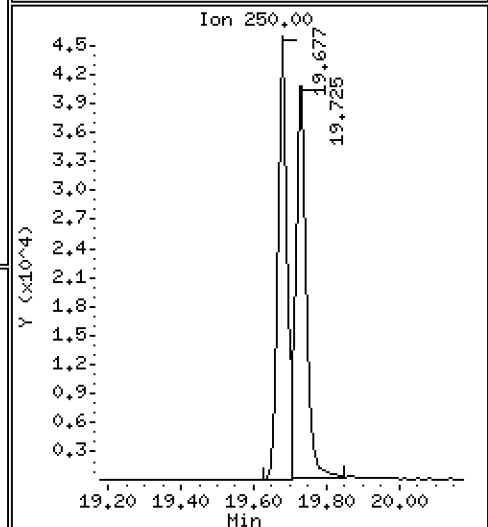
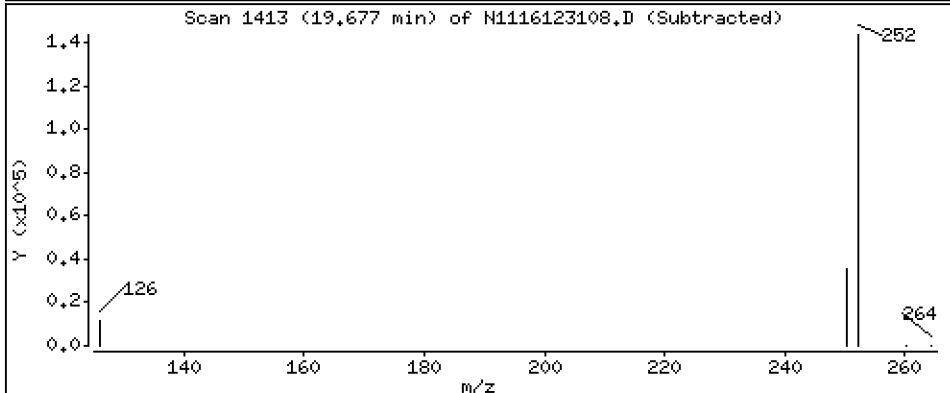
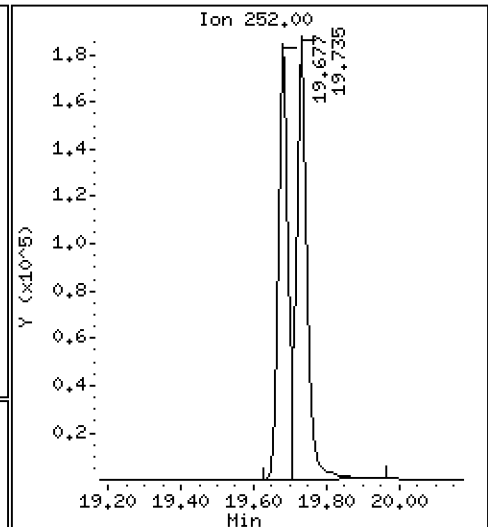
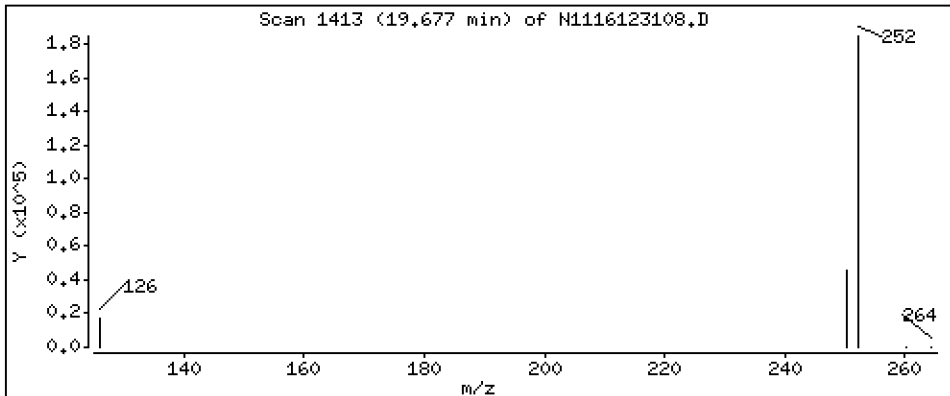
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 253 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

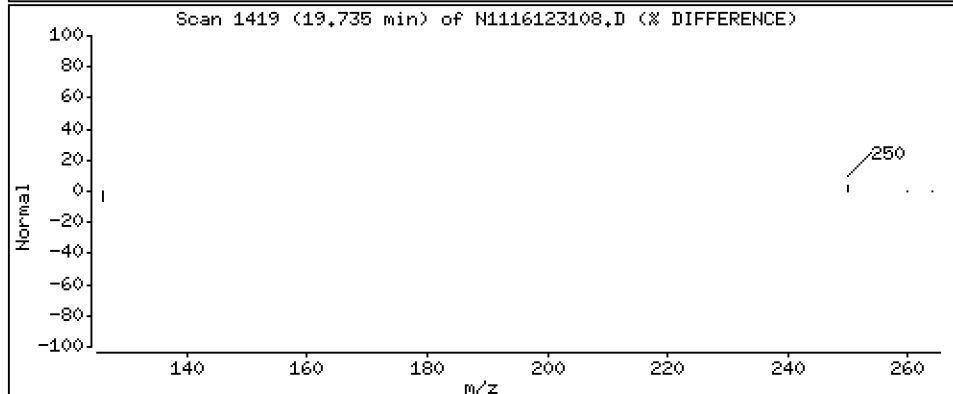
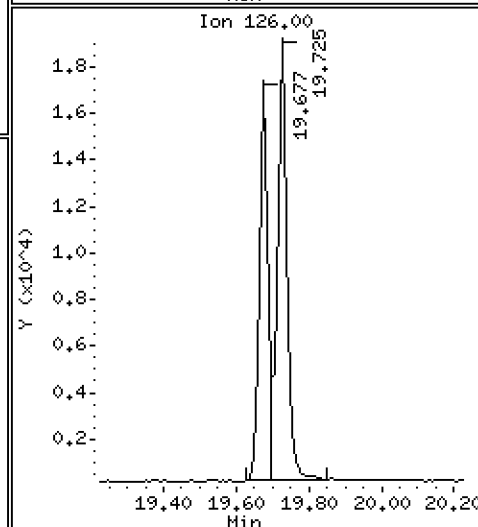
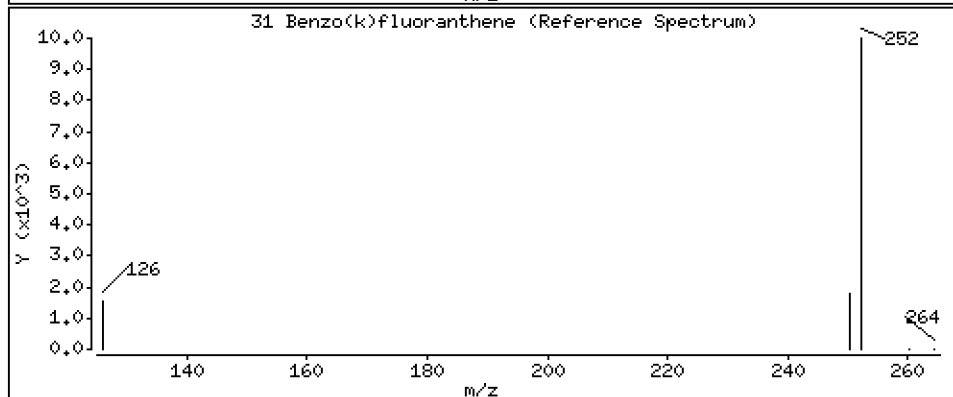
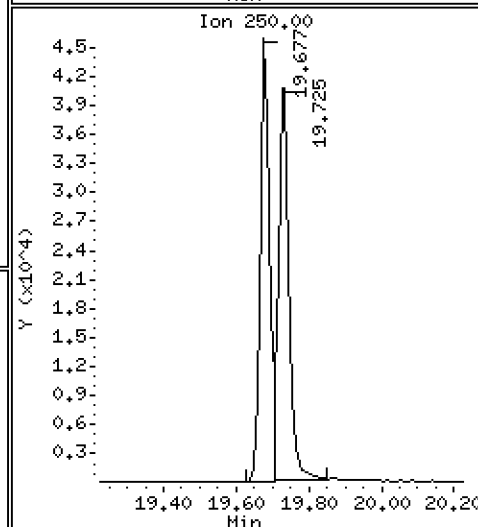
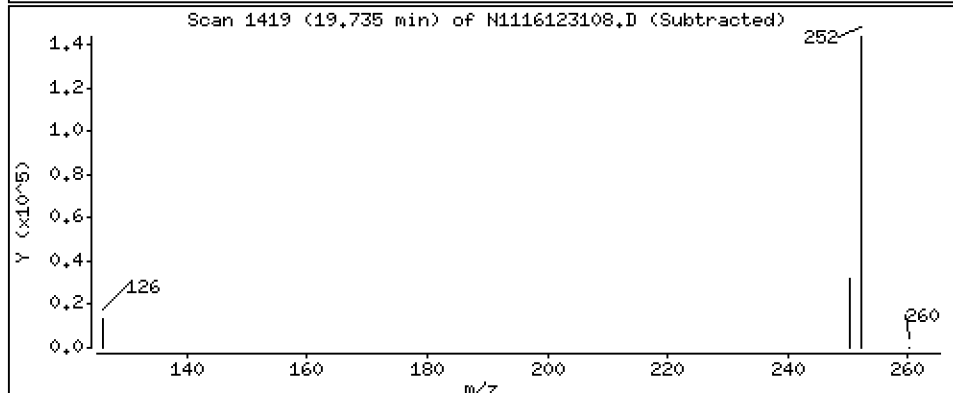
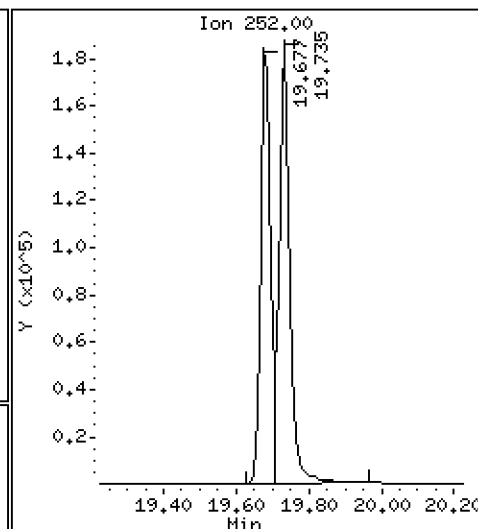
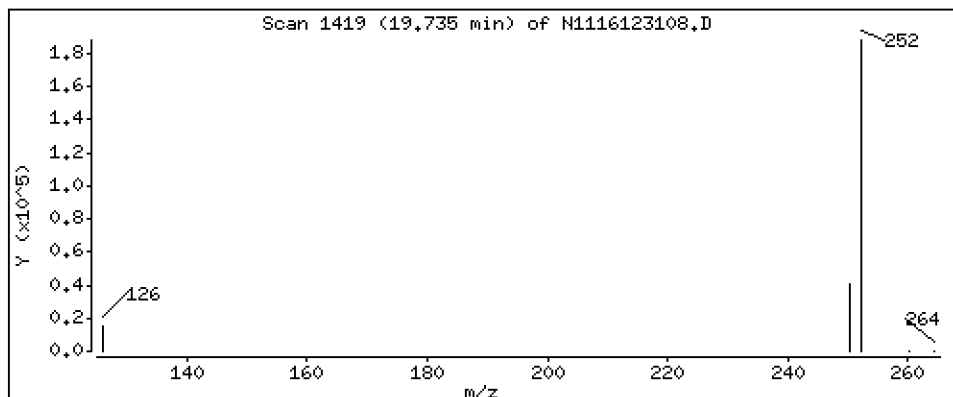
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 262 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

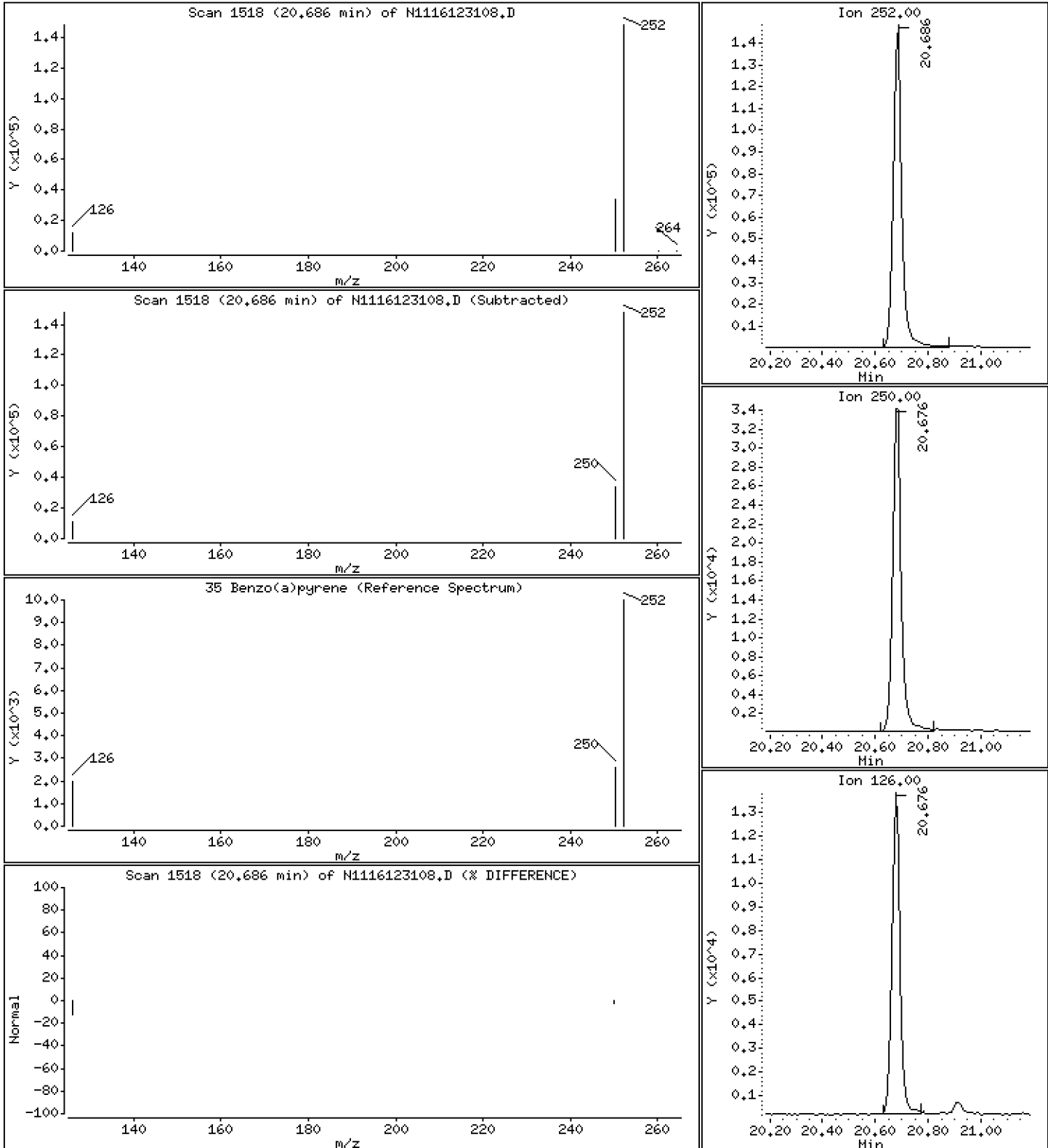
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 249 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

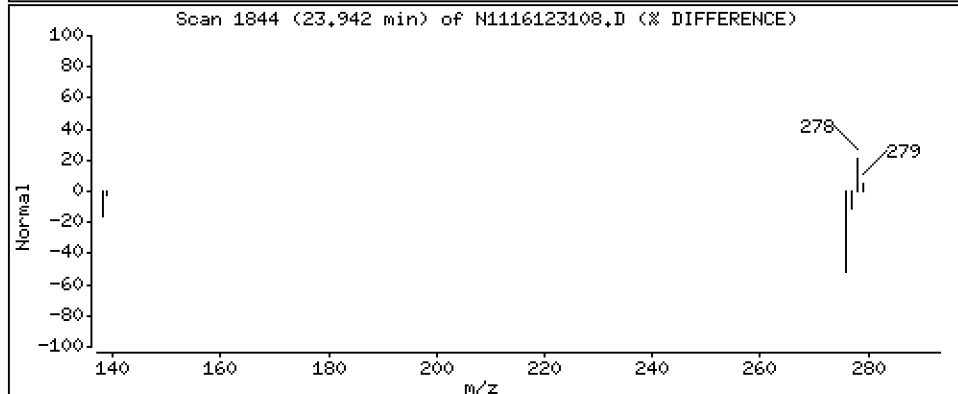
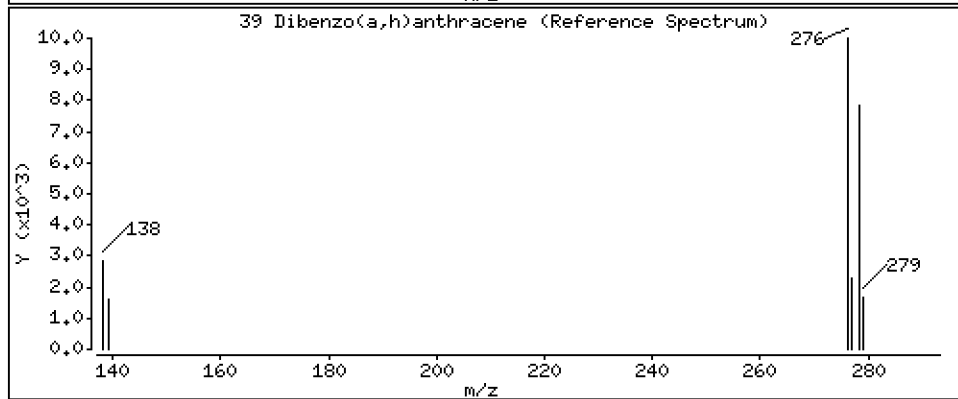
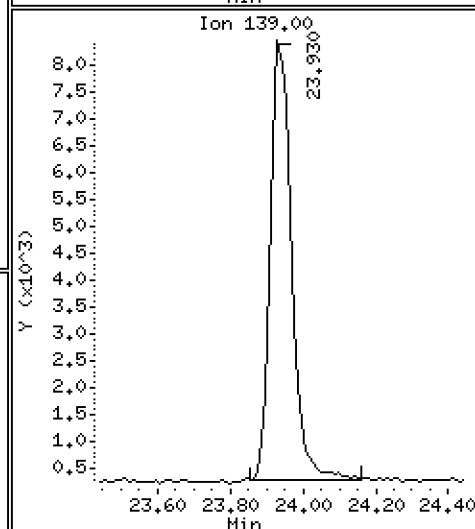
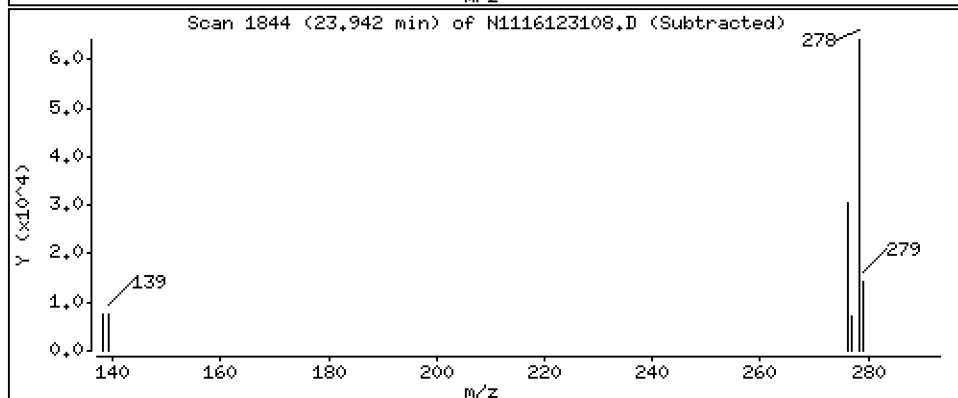
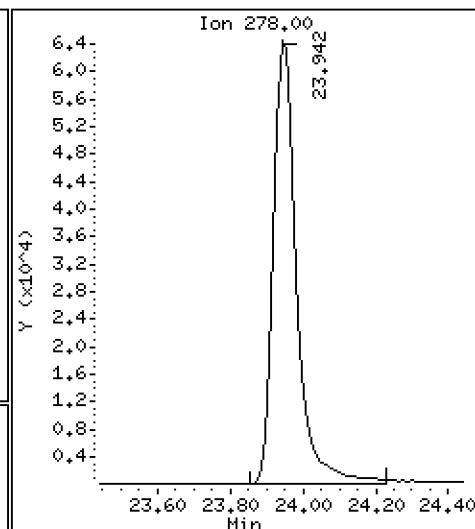
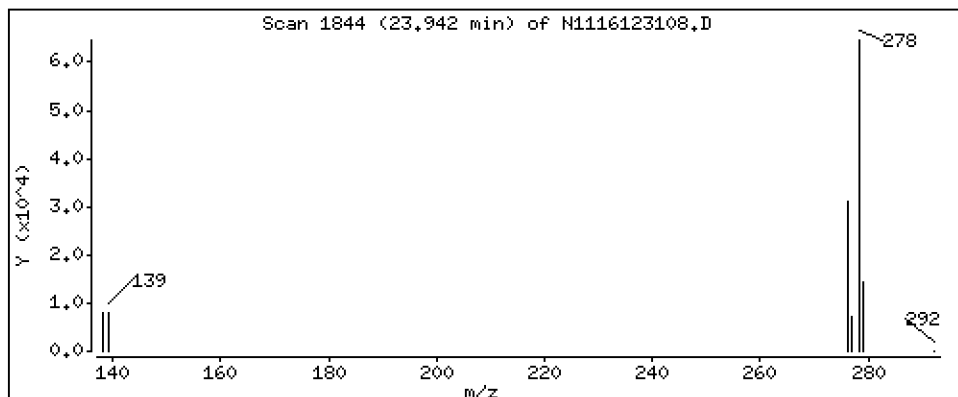
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 240 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

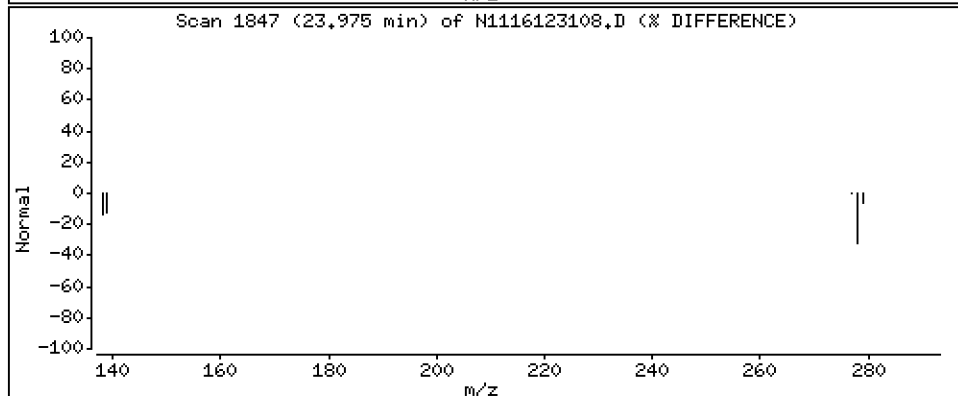
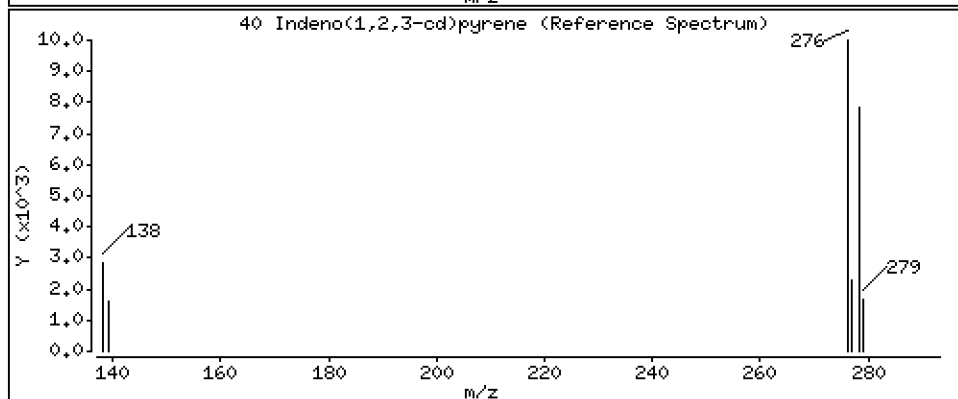
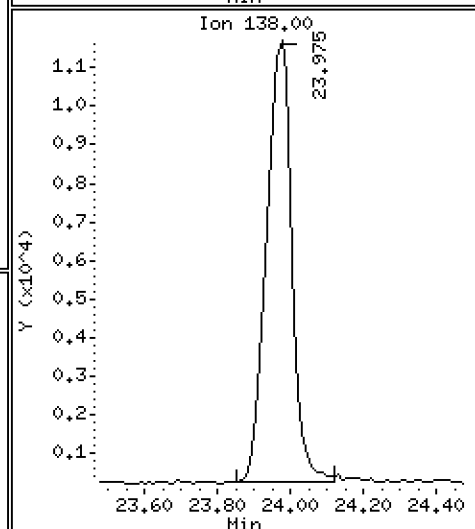
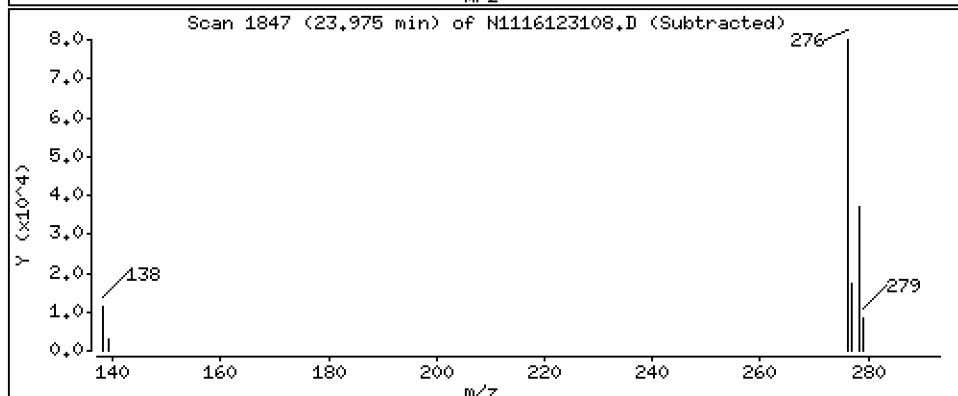
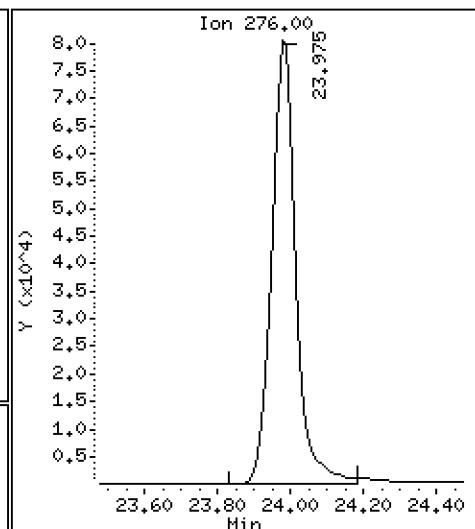
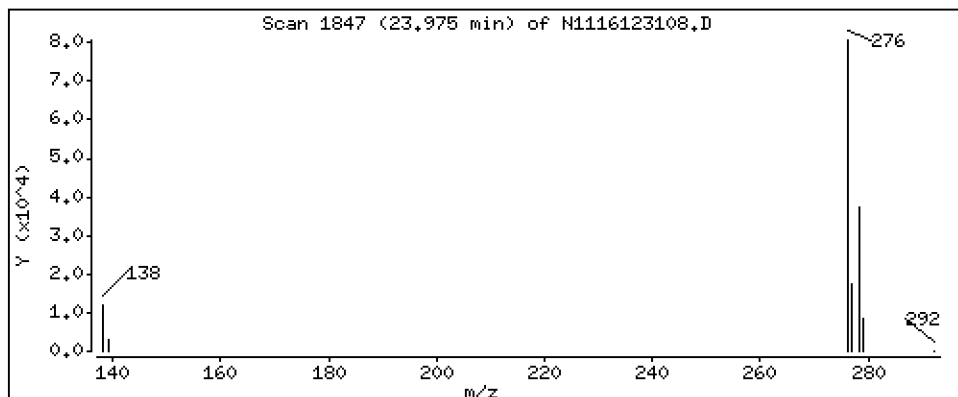
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 248 ng/mL



Date : 31-DEC-2016 11:35

Client ID:

Instrument: nt11.i

Sample Info: SEL0401-SCV1

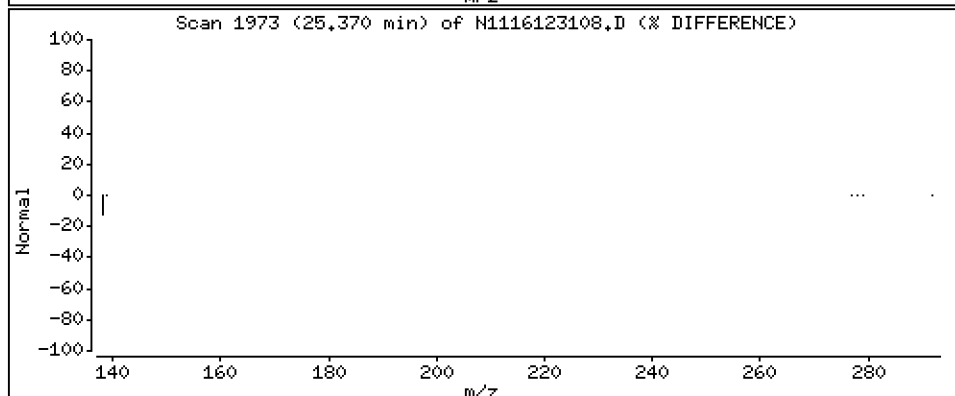
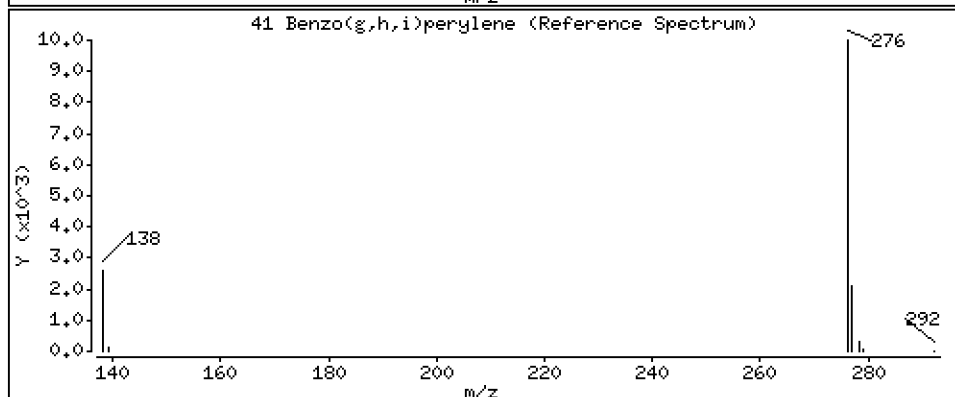
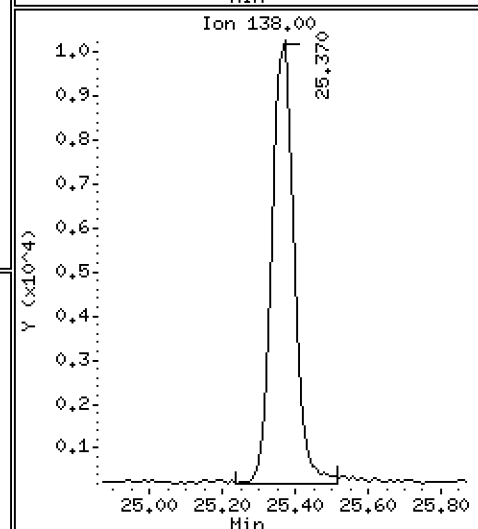
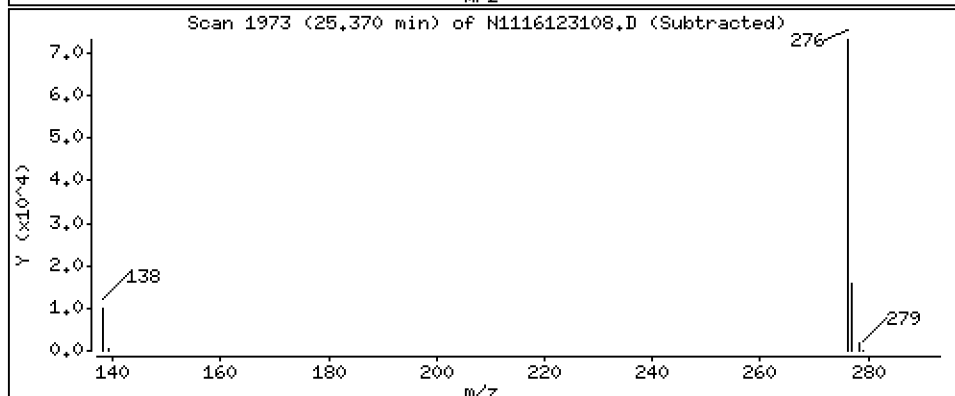
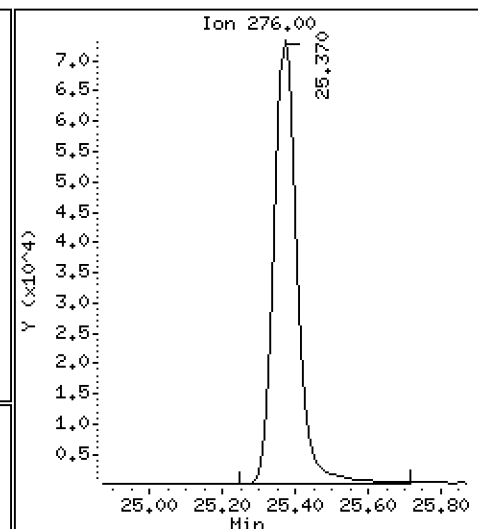
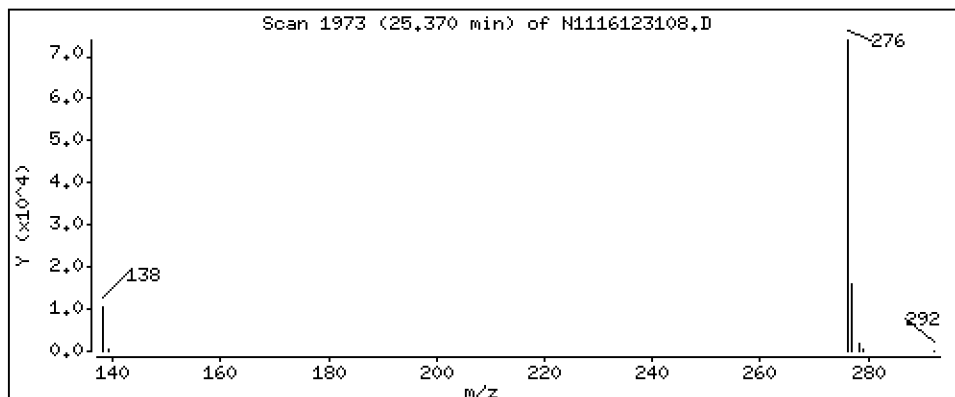
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 247 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\N1116123108.D
 Lab Smp Id: SEL0401-SCV1
 Inj Date : 31-DEC-2016 11:35 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SEL0401-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Meth Date : 31-Dec-2016 12:34 van Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: newpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.225	7.225	(1.000)	210327	200.000	
2 Naphthalene	128		7.253	7.253	(1.004)	263035	250.596	251
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		8.253	8.253	(1.142)	257930	249.327	249
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	246162	236.587	237
10 Acenaphthylene	152		10.098	10.098	(0.985)	293179	254.726	255
* 11 Acenaphthene-d10	164		10.252	10.252	(1.000)	128092	200.000	
12 Acenaphthene	153		10.315	10.315	(1.006)	209513	276.477	276
13 Dibenzofuran	168		10.519	10.519	(1.026)	321591	285.478	285
16 Fluorene	166		11.138	11.151	(1.086)	240770	268.478	268
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	246665	200.000	
19 Phenanthrene	178		12.987	12.987	(1.003)	354560	251.418	251
21 Anthracene	178		13.040	13.040	(1.007)	334329	237.762	238
\$ 24 Fluoranthene-d10	212		15.007	15.055	(1.159)	1972	1.50522	1.51
25 Fluoranthene	202		15.084	15.084	(1.165)	404582	252.915	253
26 Pyrene	202		15.593	15.593	(0.881)	409188	246.982	247
27 Benzo(a)anthracene	228		17.602	17.602	(0.994)	388934	253.609	254
* 28 Chrysene-d12	240		17.702	17.702	(1.000)	255043	200.000	
29 Chrysene	228		17.751	17.751	(1.003)	380528	241.811	242
30 Benzo(b)fluoranthene	252		19.676	19.677	(0.941)	361602	252.797	253
31 Benzo(k)fluoranthene	252		19.734	19.725	(0.943)	403824	262.109	262
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		20.685	20.685	(0.989)	331475	248.577	249
* 36 Perylene-d12	264		20.916	20.916	(1.000)	265358	200.000	
37 Perylene	252		Compound Not Detected.					
\$ 38 Dibenzo(a,h)anthracene-d14	292		Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278		23.941	23.941	(1.145)	280435	240.373	240
40 Indeno(1,2,3-cd)pyrene	276		23.974	23.974	(1.146)	361280	248.156	248
41 Benzo(g,h,i)perylene	276		25.370	25.370	(1.213)	322290	246.575	247

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 31-DEC-2016
 Lab File ID: N1116123108.D Calibration Time: 08:28
 Lab Smp Id: SEL0401-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	210327	-4.25
11 Acenaphthene-d10	135248	67624	270496	128092	-5.29
18 Phenanthrene-d10	257021	128511	514042	246665	-4.03
28 Chrysene-d12	259511	129756	519022	255043	-1.72
36 Perylene-d12	257535	128768	515070	265358	3.04

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.92	-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.

REVIEW SUMMARY FOR FILE - N1116123108.D

Lab ID: SEL0401-SCV1

nt11.i, 20161231.b\lowsim.m, 31-DEC-2016 11:35

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, 20161231.b\lowsim.m, newpna.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: Fluoranthene-d10 (Surr) 0.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000



INITIAL CALIBRATION CHECK EPA 8270D-SIM

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>16K0124</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>Port Gamble Shellfish Monitoring</u>
Instrument ID: <u>NT11</u>	Calibration: <u>ZL00083</u>
Lab File ID: <u>N1116123102ICV.D</u>	Calibration Date: <u>12/31/16 12:55</u>
Sequence: <u>SEL0401</u>	Injection Date: <u>12/31/16</u>
Lab Sample ID: <u>SEL0401-ICV1</u>	Injection Time: <u>08:28</u>
Sequence Name: <u>Initial Cal Check</u>	

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Naphthalene	A	250.00	266	0.9981003	1.0626020		6.4	20
2-Methylnaphthalene	A	250.00	271	0.9837101	1.0678100		8.4	20
1-Methylnaphthalene	A	250.00	279	0.9893853	1.1032080		11.6	20
Acenaphthylene	A	250.00	277	1.7970840	1.9939840		10.8	20
Acenaphthene	A	250.00	271	1.1832060	1.2813730		8.4	20
Dibenzofuran	A	250.00	275	1.7588950	1.9362060		10.0	20
Fluorene	A	250.00	272	1.4002390	1.5228970		8.8	20
Phenanthrene	A	250.00	268	1.1434470	1.2265460		7.2	20
Anthracene	A	250.00	284	1.1401310	1.2950380		13.6	20
Fluoranthene	A	250.00	272	1.2970410	1.4106580		8.8	20
Pyrene	A	250.00	272	1.2991950	1.4120400		8.8	20
Benzo(a)anthracene	A	250.00	270	1.2026170	1.2991360		8.0	20
Chrysene	A	250.00	266	1.2340320	1.3126160		6.4	20
Benzo(b)fluoranthene	A	250.00	267	1.0780920	1.1511260		6.8	20
Benzo(k)fluoranthene	A	250.00	271	1.1612010	1.2581470		8.4	20
Benzo(j)fluoranthene	A	250.00	278	1.0350770	1.1529520		11.2	20
Benzo(a)pyrene	A	250.00	269	1.0050510	1.0830870		7.6	20
Perylene	A	250.00	267	1.0493660	1.1209130		6.8	20
Indeno(1,2,3-cd)pyrene	A	250.00	266	1.0972800	1.1669900		6.4	20
Dibenzo(a,h)anthracene	A	250.00	265	0.8793160	0.9318345		6.0	20
Benzo(g,h,i)perylene	A	250.00	259	0.9851335	1.0216460		3.6	20
2-Methylnaphthalene-d10	A	250.00	284	0.8589433	0.9750899		13.6	20
Dibenzo[a,h]anthracene-d14	A	250.00	274	0.6386966	0.7010340		9.6	20
Fluoranthene-d10	A	250.00	274	1.0622550	1.1627440		9.6	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20161231.6\ICV\M1161231021CV.D

Date: 31-DEC-2016 08:28

Client ID:

Sample Info: SEL0401-ICV1

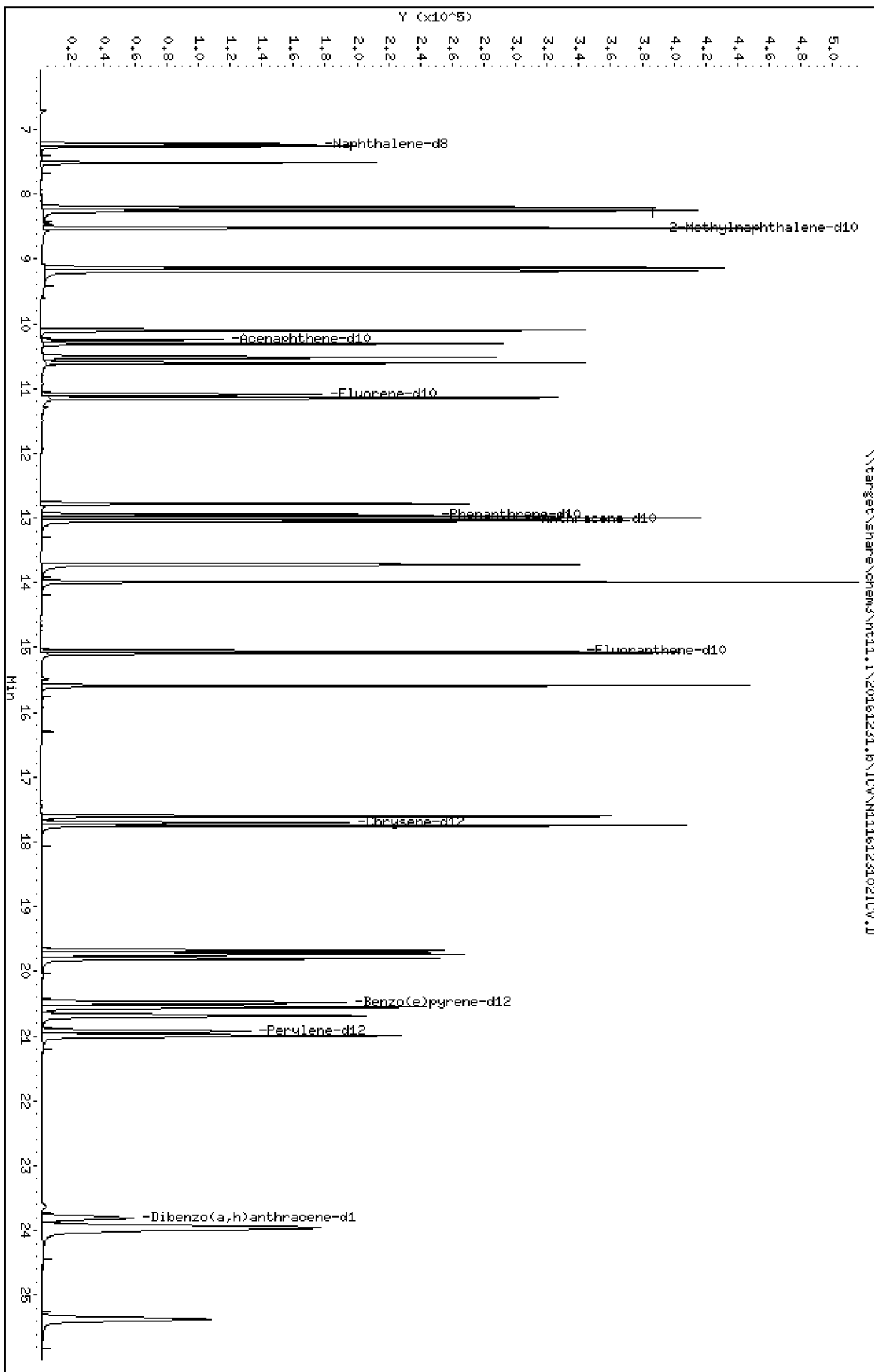
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161231.b\ICV\N1116123102ICV.D

Lab Smp Id: SEL0401-ICV1

Inj Date : 31-DEC-2016 08:28

MS Autotune Date: 15-JAN-2015 15:59

Operator : VTS

Inst ID: nt11.i

Smp Info : SEL0401-ICV1

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20161231.b\ICV\lowsim.m

Meth Date : 04-Jan-2017 08:31 nt11.i

Quant Type: ISTD

Cal Date : 31-DEC-2016 09:30

Cal File: N1116123104.D

Als bottle: 2

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: allpna.sub

Target Version: 4.14

Processing Host: VANS

Compounds	QUANT	SIG	AMOUNTS					ON-COL
			MASS	RT	EXP RT	REL RT	RESPONSE	
* 1 Naphthalene-d8	136		7.225	7.225	(1.000)	219654	200.000	
2 Naphthalene	128		7.261	7.261	(1.005)	291756	250.000	266
3 Benzo(b)thiophene	134		7.514	7.514	(1.040)	242046	250.000	271
\$ 4 2-Methylnaphthalene-d10	152		8.201	8.201	(1.135)	267728	250.000	284
5 2-Methylnaphthalene	142		8.253	8.253	(1.142)	293186	250.000	271
6 1-Methylnaphthalene	142		8.516	8.516	(1.179)	302905	250.000	279
7 2-Chloronaphthalene	162		9.167	9.167	(0.894)	284135	250.000	277
8 Biphenyl	154		9.136	9.136	(0.891)	375678	250.000	275
9 2,6-Dimethylnaphthalene	156		9.188	9.188	(0.896)	296448	250.000	280
10 Acenaphthylene	152		10.098	10.098	(0.985)	337103	250.000	277
* 11 Acenaphthene-d10	164		10.251	10.251	(1.000)	135248	200.000	
12 Acenaphthene	153		10.315	10.315	(1.006)	216629	250.000	271
13 Dibenzofuran	168		10.519	10.519	(1.026)	327335	250.000	275
14 2,3,5-Trimethylnaphthalene	170		10.607	10.607	(1.035)	211917	250.000	278
\$ 15 Fluorene-d10	174		11.087	11.087	(1.082)	177097	250.000	273
16 Fluorene	166		11.151	11.151	(1.088)	257461	250.000	272
17 Dibenzothiophene	184		12.777	12.777	(0.987)	324162	250.000	273
* 18 Phenanthrene-d10	188		12.945	12.945	(1.000)	257021	200.000	
19 Phenanthrene	178		12.987	12.987	(1.003)	394060	250.000	268
\$ 20 Anthracene-d10	188		13.008	13.008	(1.005)	335193	250.000	264
21 Anthracene	178		13.040	13.040	(1.007)	416065	250.000	284
22 Carbazole	167		13.713	13.713	(1.059)	427208	250.000	264
23 1-Methylphenanthrene	192		13.984	13.984	(1.080)	415765	250.000	276
\$ 24 Fluoranthene-d10	212		15.055	15.055	(1.163)	373562	250.000	274
25 Fluoranthene	202		15.084	15.084	(1.165)	453211	250.000	272
26 Pyrene	202		15.593	15.593	(0.881)	458050	250.000	272
27 Benzo(a)anthracene	228		17.610	17.610	(0.995)	421425	250.000	270
* 28 Chrysene-d12	240		17.701	17.701	(1.000)	259511	200.000	
29 Chrysene	228		17.751	17.751	(1.003)	425798	250.000	266
30 Benzo(b)fluoranthene	252		19.676	19.676	(0.940)	370569	250.000	267
31 Benzo(k)fluoranthene	252		19.734	19.734	(0.943)	405021	250.000	271
32 Benzo(j)fluoranthene	252		19.801	19.801	(0.946)	371157	250.000	278
\$ 33 Benzo(e)pyrene-d12	264		20.483	20.483	(0.979)	341312	250.000	267

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
34 Benzo(e)pyrene	252		20.551	20.551	(0.982)	372033	250.000	269
35 Benzo(a)pyrene	252		20.685	20.685	(0.989)	348666	250.000	269
* 36 Perylene-d12	264		20.925	20.925	(1.000)	257535	200.000	
37 Perylene	252		20.993	20.993	(1.003)	360843	250.000	267
§ 38 Dibenzo(a,h)anthracene-d14	292		23.808	23.808	(1.138)	225676	250.000	274
39 Dibenzo(a,h)anthracene	278		23.941	23.941	(1.144)	299975	250.000	265
40 Indeno(1,2,3-cd)pyrene	276		23.985	23.985	(1.146)	375676	250.000	266
41 Benzo(g,h,i)perylene	276		25.370	25.370	(1.212)	328887	250.000	259

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: N1116123102ICV.D
 Lab Smp Id: SEL0401-ICV1
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161231.b\ICV\lowsim.m
 Misc Info:

Calibration Date: 31-DEC-2016
 Calibration Time: 08:28
 Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	219654	0.00
11 Acenaphthene-d10	135248	67624	270496	135248	0.00
18 Phenanthrene-d10	257021	128511	514042	257021	0.00
28 Chrysene-d12	259511	129756	519022	259511	0.00
36 Perylene-d12	257535	128768	515070	257535	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.25	9.75	10.75	10.25	0.00
18 Phenanthrene-d10	12.95	12.45	13.45	12.95	0.00
28 Chrysene-d12	17.70	17.20	18.20	17.70	0.00
36 Perylene-d12	20.93	20.43	21.43	20.93	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 - N1116123102ICV.D

Lab ID: SEL0401-ICV1

nt11.i, 20161231.b\ICV\lowsim.m, 31-DEC-2016 08:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i, 20161231.b\ICV\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b\ICV

Instrument: nt11.i Date: 31-DEC-2016 Method: 20161231.b\ICV\lowsim.m

INITIAL CAL: 31-DEC-2016

Compound	%RSD or R ²

NO Q-FLAGS	

ICV CAL: N1116123102ICV.D 31-DEC-2016 08:28

Compound	%D

NO Q-FLAGS	



INITIAL CALIBRATION CHECK

EPA 8270D-SIM

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>16K0124</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>Port Gamble Shellfish Monitoring</u>
Instrument ID: <u>NT11</u>	Calibration: <u>ZL00083</u>
Lab File ID: <u>N1117021005.D</u>	Calibration Date: <u>12/31/16 12:55</u>
Sequence: <u>SFB0130</u>	Injection Date: <u>02/10/17</u>
Lab Sample ID: <u>SFB0130-ICV1</u>	Injection Time: <u>13:29</u>
Sequence Name: <u>Initial Cal Check</u>	

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Naphthalene	A	250.00	229	0.9981003	0.9151454		-8.4	20
1-Methylnaphthalene	A	250.00	222	0.9893853	0.8784468		-11.2	20
2-Methylnaphthalene	A	250.00	229	0.9837101	0.9027099		-8.4	20
2-Chloronaphthalene	A	250.00	223	1.5180890	1.3549880		-10.8	20
Acenaphthylene	A	250.00	208	1.7970840	1.4961190		-16.8	20
Acenaphthene	A	250.00	211	1.1832060	0.9998882		-15.6	20
Dibenzofuran	A	250.00	221	1.7588950	1.5513930		-11.6	20
Fluorene	A	250.00	224	1.4002390	1.2528700		-10.4	20
Phenanthrene	A	250.00	220	1.1434470	1.0062620		-12.0	20
Anthracene	A	250.00	212	1.1401310	0.9682720		-15.2	20
Fluoranthene	A	250.00	211	1.2970410	1.0944750		-15.6	20
Pyrene	A	250.00	213	1.2991950	1.1063230		-14.8	20
Benzo(a)anthracene	A	250.00	212	1.2026170	1.0203560		-15.2	20
Chrysene	A	250.00	214	1.2340320	1.0580040		-14.4	20
Benzo(b)fluoranthene	A	250.00	252	1.0780920	1.0846830		0.8	20
Benzo(k)fluoranthene	A	250.00	235	1.1612010	1.0924460		-6.0	20
Benzo(j)fluoranthene	A	250.00	252	1.0350770	1.0413970		0.8	20
Benzo(e)pyrene	A	250.00	229	1.0754010	0.9866981		-8.4	20
Benzo(a)pyrene	A	250.00	230	1.0050510	0.9246120		-8.0	20
Indeno(1,2,3-cd)pyrene	A	250.00	225	1.0972800	0.9879481		-10.0	20
Dibenzo(a,h)anthracene	A	250.00	232	0.8793160	0.8174673		-7.2	20
Benzo(g,h,i)perylene	A	250.00	219	0.9851335	0.8644457		-12.4	20
Perylene	A	250.00	220	1.0493660	0.9254683		-12.0	20
Benzo(b)thiophene	A	250.00	236	0.8125076	0.7678584		-5.6	20
2-Methylnaphthalene-d10	A	250.00	236	0.8589433	0.8125483		-5.6	20
Dibenzo[a,h]anthracene-d14	A	250.00	239	0.6386966	0.6108019		-4.4	20
Fluoranthene-d10	A	250.00	216	1.0622550	0.9175729		-13.6	20

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021005.D

Date: 10-FEB-2017 13:29

Client ID:

Sample Info: SFB0130-ICW1

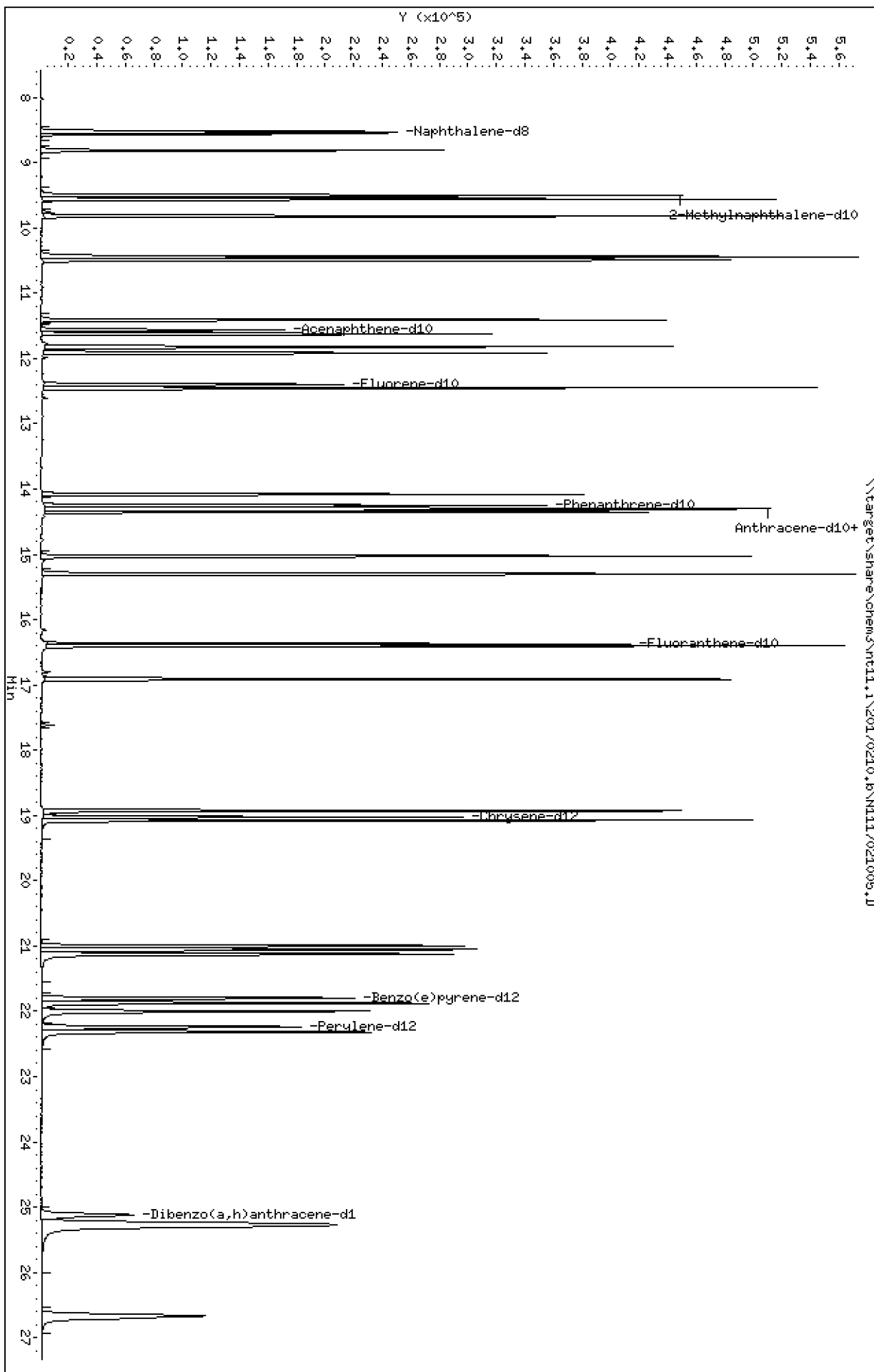
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021005.D
 Lab Smp Id: SFB0130-ICV1
 Inj Date : 10-FEB-2017 13:29 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SFB0130-ICV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		8.526	8.526	(1.000)	326356	200.000	
2 Naphthalene	128		8.554	8.554	(1.003)	373329	250.000	229
3 Benzo(b)thiophene	134		8.816	8.816	(1.034)	313244	250.000	236
\$ 4 2-Methylnaphthalene-d10	152		9.508	9.508	(1.115)	331475	250.000	236
5 2-Methylnaphthalene	142		9.561	9.561	(1.121)	368256	250.000	229
6 1-Methylnaphthalene	142		9.823	9.823	(1.152)	358358	250.000	222
7 2-Chloronaphthalene	162		10.475	10.475	(0.906)	372708	250.000	223
8 Biphenyl	154		10.443	10.443	(0.903)	471651	250.000	212
9 2,6-Dimethylnaphthalene	156		10.496	10.496	(0.908)	372643	250.000	216
10 Acenaphthylene	152		11.410	11.410	(0.987)	411528	250.000	208
* 11 Acenaphthene-d10	164		11.564	11.564	(1.000)	220051	200.000	
12 Acenaphthene	153		11.627	11.627	(1.005)	275033	250.000	211
13 Dibenzofuran	168		11.822	11.822	(1.022)	426732	250.000	221
14 2,3,5-Trimethylnaphthalene	170		11.923	11.923	(1.031)	285211	250.000	230
\$ 15 Fluorene-d10	174		12.404	12.404	(1.073)	235930	250.000	223
16 Fluorene	166		12.454	12.454	(1.077)	344619	250.000	224
17 Dibenzothiophene	184		14.083	14.083	(0.987)	441155	250.000	225
* 18 Phenanthrene-d10	188		14.262	14.262	(1.000)	424023	200.000	
19 Phenanthrene	178		14.293	14.293	(1.002)	533348	250.000	220
\$ 20 Anthracene-d10	188		14.314	14.314	(1.004)	453093	250.000	216
21 Anthracene	178		14.356	14.356	(1.007)	513212	250.000	212
22 Carbazole	167		15.027	15.027	(1.054)	535271	250.000	201
23 1-Methylphenanthrene	192		15.307	15.307	(1.073)	503765	250.000	203
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	486340	250.000	216
25 Fluoranthene	202		16.405	16.405	(1.150)	580103	250.000	211
26 Pyrene	202		16.915	16.915	(0.889)	565995	250.000	213
27 Benzo(a)anthracene	228		18.933	18.933	(0.995)	522014	250.000	212
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	409280	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	541275	250.000	214
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	471200	250.000	252
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	474572	250.000	235
32 Benzo(j)fluoranthene	252		21.125	21.125	(0.950)	452396	250.000	252
\$ 33 Benzo(e)pyrene-d12	264		21.798	21.798	(0.980)	392619	250.000	228

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
34 Benzo(e)pyrene	252	21.875	21.875	(0.984)	428634	250.000	229
35 Benzo(a)pyrene	252	22.000	22.000	(0.989)	401663	250.000	230
* 36 Perylene-d12	264	22.240	22.240	(1.000)	347530	200.000	
37 Perylene	252	22.317	22.317	(1.003)	402035	250.000	220
§ 38 Dibenzo(a,h)anthracene-d14	292	25.116	25.116	(1.129)	265340	250.000	239
39 Dibenzo(a,h)anthracene	278	25.260	25.260	(1.136)	355118	250.000	232
40 Indeno(1,2,3-cd)pyrene	276	25.282	25.282	(1.137)	429177	250.000	225
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.199)	375526	250.000	219

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021005.D Calibration Time: 12:05
 Lab Smp Id: SFB0130-ICV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	326356	48.58
11 Acenaphthene-d10	135248	67624	270496	220051	62.70
18 Phenanthrene-d10	257021	128511	514042	424023	64.98
28 Chrysene-d12	259511	129756	519022	409280	57.71
36 Perylene-d12	257535	128768	515070	347530	34.94

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.53	0.00
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	0.00
18 Phenanthrene-d10	14.26	13.76	14.76	14.26	0.00
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	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 - N1117021005.D

Lab ID: SFB0130-ICV1
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 13:29

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20170210.b

Instrument: nt11.i Date: 10-FEB-2017 Method: 20170210.b\LOWSIM.m

INITIAL CAL: 31-DEC-2016

Compound	%RSD or R ²

NO Q-FLAGS	

ICV CAL: N1117021005.D 10-FEB-2017 13:29

Compound	%D

NO Q-FLAGS	



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SEL0401

Instrument: NT11

Calibration: ZL00083

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DFTPP	SEL0401-TUN1	N1116123101.D	Water	12/31/16 08:12
Initial Cal Check	SEL0401-ICV1	N1116123102ICV.D	Water	12/31/16 08:28
Cal Standard	SEL0401-CAL4	N1116123102.D	Water	12/31/16 08:28
Cal Standard	SEL0401-CAL6	N1116123103.D	Water	12/31/16 08:59
Cal Standard	SEL0401-CAL1	N1116123104.D	Water	12/31/16 09:30
Cal Standard	SEL0401-CAL5	N1116123105.D	Water	12/31/16 10:01
Cal Standard	SEL0401-CAL2	N1116123106.D	Water	12/31/16 10:32
Cal Standard	SEL0401-CAL3	N1116123107.D	Water	12/31/16 11:04
SIMPNA SCV	SEL0401-SCV1	N1116123108.D	Water	12/31/16 11:35
ZZZZZ	BEL0603-BLK1	N1116123109.D	Water	12/31/16 12:06
ZZZZZ	BEL0603-BS1	N1116123110.D	Water	12/31/16 12:37
ZZZZZ	16L0317-01	N1116123111.D	Water	12/31/16 13:08
ZZZZZ	16L0317-02	N1116123114.D	Water	12/31/16 14:42
ZZZZZ	16L0317-03	N1116123115.D	Water	12/31/16 15:13
ZZZZZ	16L0317-04	N1116123116.D	Water	12/31/16 15:45
ZZZZZ	16L0317-05	N1116123117.D	Water	12/31/16 16:16
ZZZZZ	16L0317-06	N1116123118.D	Water	12/31/16 16:47
ZZZZZ	16L0317-07	N1116123119.D	Water	12/31/16 17:18
ZZZZZ	16L0317-08	N1116123120.D	Water	12/31/16 17:50
ZZZZZ	16L0317-09	N1116123121.D	Water	12/31/16 18:21
ZZZZZ	16L0326-01	N1116123122.D	Water	12/31/16 18:52
SIM PAH 250	SEL0401-CCV1	N1116123125.D	Water	12/31/16 20:26



ANALYSIS SEQUENCE

SEL0401

Instrument: NT11 Element Column ID: E006480
 Calibration ID: ZL00052 Tune File: 161216.U
 EM Voltage: 2353

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SEL0401-TUN1	DFTPP	QC		1	E007446		
SEL0401-CAL4	Cal Standard	QC		2	E006577	E002870	
SEL0401-CAL6	Cal Standard	QC		3	E006579	E002870	
SEL0401-CAL1	Cal Standard	QC		4	E006574	E002870	
SEL0401-CAL5	Cal Standard	QC		5	E006578	E002870	
SEL0401-CAL2	Cal Standard	QC		6	E006575	E002870	
SEL0401-CAL3	Cal Standard	QC		7	E006576	E002870	
SEL0401-SCV1	SIMPNA SCV	QC		8	E007699	E002870	
SEL0401-ICV1	Initial Cal Check	QC		9	E006577	E002870	
BEL0603-BLK1	Blank	QC		10		E002870	
BEL0603-BS1	LCS	QC		11		E002870	
16L0317-01	A-HCMW2-122116	SIM PAH Low (0.01 ug/L - 0.	D 01	12		E002870	
BEL0603-MS1	Matrix Spike	QC		13		E002870	
BEL0603-MSD1	Matrix Spike Dup	QC		14		E002870	
16L0317-02	A-DOTMW4-122116	SIM PAH Low (0.01 ug/L - 0.	D 01	15		E002870	
16L0317-03	A-MW16-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	16		E002870	
16L0317-04	A-MW24-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	17		E002870	
16L0317-05	A-MW26-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	18		E002870	
16L0317-06	A-MW28-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	19		E002870	
16L0317-07	A-MW29-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	20		E002870	
16L0317-08	A-MW30-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	21		E002870	
16L0317-09	A-DUP1-122016	SIM PAH Low (0.01 ug/L - 0.	D 01	22		E002870	



ANALYSIS SEQUENCE

SEL0401

Instrument: NT11 Element Column ID: E006480
Calibration ID: ZL00052 Tune File: 161216.U
EM Voltage: 2353

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
16L0326-01	MW-6	SIM PAH Low (0.01 ug/L - 0.	D 01	23		E002870	
BEL0603-MS2	Matrix Spike	QC		24		E002870	
BEL0603-MSD2	Matrix Spike Dup	QC		25		E002870	
SEL0401-CCV1	SIM PAH 250	QC		26	E006577	E002870	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b

Time	Filename	LabID	ClientID	DF										
1	0812	N1116123101.D	SEL0401-TUN1	1	NO ISTDs FOUND									
2	0828	N1116123102.D	SEL0401-CAL4	1	7.23	219654	10.25	135248	12.95	257021	17.70	259511	20.93	257535
3	0859	N1116123103.D	SEL0401-CAL6	1	7.23	213511	10.25	133595	12.95	256606	17.70	268214	20.92	279143
4	0930	N1116123104.D	SEL0401-CAL1	1	7.23	239658	10.25	148389	12.95	283739	17.70	283072	20.92	287631
5	1001	N1116123105.D	SEL0401-CAL5	1	7.23	218999	10.25	137033	12.95	265632	17.70	271314	20.92	280262
6	1032	N1116123106.D	SEL0401-CAL2	1	7.23	212581	10.25	132827	12.95	247500	17.70	256124	20.92	263051
7	1104	N1116123107.D	SEL0401-CAL3	1	7.23	208170	10.25	127832	12.95	237418	17.70	244102	20.92	258780
8	1135	N1116123108.D	SEL0401-SCV1	1	7.23	210327	10.25	128092	12.95	246665	17.70	255043	20.92	265358
9	1206	N1116123109.D	BEL0603-BLK1	1	7.23	215545	10.25	128323	12.95	248564	17.70	249010	20.93	243234
10	1237	N1116123110.D	BEL0603-BS1	1	7.23	206110	10.25	126178	12.95	240860	17.70	244295	20.93	246679
11	1308	N1116123111.D	16L0317-01	1	7.23	204933	10.25	119575	12.95	233788	17.70	233370	20.93	240033
12	1340	N1116123112.D	BEL0603-MS1	1	7.23	210247	10.25	127026	12.95	247336	17.70	253277	20.93	259486
13	1411	N1116123113.D	BEL0603-MSD1	1	7.23	216185	10.25	131547	12.95	254742	17.70	259479	20.93	272609
14	1442	N1116123114.D	16L0317-02	1	7.23	219441	10.25	127259	12.95	244027	17.70	255696	20.93	274985
15	1513	N1116123115.D	16L0317-03	1	7.23	201908	10.25	116067	12.95	214738	17.70	228289	20.93	251376
16	1545	N1116123116.D	16L0317-04	1	7.23	200171	10.26	148127	12.95	228712	17.70	217290	20.93	252799
17	1616	N1116123117.D	16L0317-05	1	7.23	211331	10.25	129954	12.95	237454	17.70	229653	20.93	246879
18	1647	N1116123118.D	16L0317-06	1	7.23	192570	10.25	111434	12.95	209330	17.70	201850	20.93	236366
19	1718	N1116123119.D	16L0317-07	1	7.23	215538	10.25	129527	12.95	243632	17.70	251142	20.93	273122
20	1750	N1116123120.D	16L0317-08	1	7.23	212351	10.25	124164	12.95	241635	17.70	251376	20.93	278226

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b

Time	Filename	LabID	ClientID	DF										
21	N1116123121.D	16L0317-09		1	7.23	200623	10.25	115063	12.95	219070	17.70	227704	20.93	245014
22	N1116123122.D	16L0326-01		1	7.23	198305	10.25	116953	12.95	216978	17.70	219572	20.93	251218
23	N1116123123.D	BEL0603-MS2		1	7.23	187113	10.25	111583	12.95	209184	17.70	223098	20.93	256608
24	N1116123124.D	BEL0603-MSD2		1	7.23	209921	10.25	128082	12.95	240741	17.70	250308	20.93	282454
25	N1116123125.D	SEL0401-CCV1		1	7.23	189529	10.25	116816	12.95	224943	17.70	244863	20.93	252132

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b

ARI Job No.: SEL0 Method: DFPPP.m Instrument: nt11.i Date: 31-DEC-2016

Time Filename LabID ClientID DF Manually Integrated Compounds

0812	N1116123101.D	SEL0401-TUN1	1	NO MANUAL INTEGRATION	
0828	N1116123102.D	SEL0401-CAL4	1	NO MANUAL INTEGRATION	
0859	N1116123103.D	SEL0401-CAL6	1	NO MANUAL INTEGRATION	
0930	N1116123104.D	SEL0401-CAL1	1	Benzo (b) thiophene, 2-Chloronaphthalene, 2,3,5-Trimethylnaphthalene, Dibenzo (a,h) anthracene-d14, Fluorene-d10,	
1001	N1116123105.D	SEL0401-CAL5	1	NO MANUAL INTEGRATION	
1032	N1116123106.D	SEL0401-CAL2	1	Benzo (j) fluoranthene, Benzo (b) thiophene, 2,6-Dimethylnaphthalene, 2,3,5-Trimethylnaphthalene, 2-Methylnaphthalene-d10, Dibenz (e) pyrene-d12,	
1104	N1116123107.D	SEL0401-CAL3	1	Benzo (j) fluoranthene, Benzo (b) thiophene, 2-Chloronaphthalene, 2,6-Dimethylnaphthalene, 2,3,5-Trimethylnaphthalene, Biphenyl, 2-Methylnaphthalene-d10, Dibenzo (a,h) anthracene-d14, Benzo (e) pyrene-d12,	
1135	N1116123108.D	SEL0401-SCV1	1	NO MANUAL INTEGRATION	
1206	N1116123109.D	BEL0603-BLK1	1	NO MANUAL INTEGRATION	
1237	N1116123110.D	BEL0603-BS1	1	NO MANUAL INTEGRATION	
1308	N1116123111.D	16L0317-01	1	NO MANUAL INTEGRATION	
1340	N1116123112.D	BEL0603-MS1	1	NO MANUAL INTEGRATION	
1411	N1116123113.D	BEL0603-MSD1	1	NO MANUAL INTEGRATION	
1442	N1116123114.D	16L0317-02	1	NO MANUAL INTEGRATION	
1513	N1116123115.D	16L0317-03	1	NO MANUAL INTEGRATION	
1549	N1116123116.D	16L0317-04	1	NO MANUAL INTEGRATION	
1616	N1116123117.D	16L0317-05	1	NO MANUAL INTEGRATION	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20161231.b

Time Filename LabID ClientId DF Manually Integrated Compounds

1647 N1116123118.D 16L0317-06 1 NO MANUAL INTEGRATION

1718 N1116123119.D 16L0317-07 1 NO MANUAL INTEGRATION

1750 N1116123120.D 16L0317-08 1 NO MANUAL INTEGRATION

1821 N1116123121.D 16L0317-09 1 NO MANUAL INTEGRATION

1852 N1116123122.D 16L0326-01 1 NO MANUAL INTEGRATION

1923 N1116123123.D BEL0603-MS2 1 NO MANUAL INTEGRATION

1955 N1116123124.D BEL0603-MSD2 1 NO MANUAL INTEGRATION

2026 N1116123125.D SEL0401-CCV1 1 NO MANUAL INTEGRATION



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0130

Instrument: NT11

Calibration: ZL00083

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DFTPP	SFB0130-TUN1	N1117021004.D	Tissue	02/10/17 13:08
Initial Cal Check	SFB0130-ICV1	N1117021005.D	Tissue	02/10/17 13:29
Blank	BFA0647-BLK1	N1117021007.D	Tissue	02/10/17 14:40
LCS	BFA0647-BS1	N1117021008.D	Tissue	02/10/17 15:16
PG-T0-MUS-COC-161109	16K0124-01	N1117021009.D	Tissue	02/10/17 15:52
ZZZZZ	17A0053-01	N1117021010.D	Tissue	02/10/17 16:27
ZZZZZ	17A0053-04	N1117021011.D	Tissue	02/10/17 17:03
ZZZZZ	17A0053-05	N1117021012.D	Tissue	02/10/17 17:39
ZZZZZ	17A0053-06	N1117021013.D	Tissue	02/10/17 18:14
ZZZZZ	17A0053-07	N1117021014.D	Tissue	02/10/17 18:50
ZZZZZ	17A0053-08	N1117021015.D	Tissue	02/10/17 19:25
ZZZZZ	17A0053-09	N1117021016.D	Tissue	02/10/17 20:01
ZZZZZ	17A0053-11	N1117021018.D	Tissue	02/10/17 21:12
ZZZZZ	17A0053-12	N1117021019.D	Tissue	02/10/17 21:48
SIM PAH 250	SFB0130-CCV1	N1117021022.D	Tissue	02/10/17 23:35

Port Gamble Shellfish Monitoring**16K0124**

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)	Tissue	EPA 8270D-SIM

Checklist: Analyst Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
1	DFTPP abundance and time criteria met	YES	VTS	02/11/2017
2	DDT Breakdown <20% and Peak Tailing <=2	YES	VTS	02/11/2017
3	ICV/CCV Meets %D	YES	VTS	02/11/2017
4	ICAL/ICV/CCV Q Flag - NONE required	YES	VTS	02/11/2017
5	Internal Standard areas within 50-200%	YES	VTS	02/11/2017
	Comments: <i>Samples 16K0124-01, 17a0053-01 and -05 are within limits. See dod-istd report.</i>			
6	Retention times within windows and Coelution summary checked	YES	VTS	02/11/2017
7	Manual integrations include summary and before/after pictures	YES	VTS	02/11/2017
8	Project specific requirements have been met	YES	VTS	02/11/2017
9	Sample dilution factors have been correctly applied	NA	VTS	02/11/2017
10	AUTOCHECK: Blank checked for exceedence of criteria	YES *	VTS	02/11/2017
11	AUTOCHECK: Check blank spike recovery	YES *	VTS	02/11/2017
12	AUTOCHECK: Check blank spike/blank spike duplicate RPD. If exceeded include outliers in exception report.	NA *	VTS	02/11/2017
13	AUTOCHECK: Compounds in method designated as blank spike compounds are present	YES *	VTS	02/11/2017
14	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	VTS	02/11/2017
15	AUTOCHECK: Matrix spike recoveries within limits	NO *	VTS	02/11/2017

Comments:

*Recoveries are advisory for tissue MS and MSD.**Matrix Spike Recovery for Benzo(b)thiophene (27.0%) was outside acceptance limits (30-160) in BFA0647-MSI for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)**- Flagged value is not within established control limits.**Matrix Spike Recovery for Fluoranthene (24.7%) was outside acceptance limits (30-160) in BFA0647-MSI for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)**- Flagged value is not within established control limits.**Matrix Spike Recovery for Naphthalene (27.2%) was outside acceptance limits (30-160) in BFA0647-MSI for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)**- Flagged value is not within established control limits.*

16	AUTOCHECK: Matrix spike/matrix spike duplicate RPD within limits	NO *	VTS	02/11/2017
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Comments:

*In general the MS recoveries are about 1/2 of msd including the surrogates which indicates an overall loss while processing the extracts. No corrective action taken. All recoveries and %RPD are advisory for a tissue matrix**Matrix Spike Duplicate RPD for 1-Methylnaphthalene (55.9%) was above the acceptance limit (30) in BFA0647-MSDI for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)*

Port Gamble Shellfish Monitoring

16K0124

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)	Tissue	EPA 8270D-SIM

Checklist: Analyst Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for 2-Chloronaphthalene (58.4%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for 2-Methylnaphthalene (54.8%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Acenaphthene (52.3%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Acenaphthylene (53.5%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Anthracene (51.5%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(a)anthracene (54.3%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(a)pyrene (51.4%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(b)fluoranthene (51.4%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(b)thiophene (60.4%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(g,h,i)perylene (52.2%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(j)fluoranthene (52.5%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Benzo(k)fluoranthene (52.2%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			

* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring**16K0124****Analysis****Matrix****Method****8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)****Tissue****EPA 8270D-SIM****Checklist: Analyst Checklist-SVOA**

#	Checklist Item	Response	Analyst Initials	Date
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Chrysene (53.8%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Dibenzo(a,h)anthracene (50.6%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Dibenzofuran (52.7%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Fluoranthene (51.6%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Fluorene (48.7%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Indeno(1,2,3-cd)pyrene (51.2%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Naphthalene (59.1%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Phenanthrene (50.1%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
	Matrix Spike Duplicate RPD for Pyrene (52.5%) was above the acceptance limit (30) in BFA0647-MSD1 for 8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)			
	- Flagged value is not within established control limits.			
17	AUTOCHECK: List of compounds listed as spiked are present	YES *	VTS	02/11/2017
18	AUTOCHECK: Check SRM limits for exceedance	NA *	VTS	02/11/2017
19	AUTOCHECK: Check Surrogate recoveries	YES *	VTS	02/11/2017
20	AUTOCHECK: Checks Surrogate spike list against Analysis	YES *	VTS	02/11/2017
21	Analyst checklist completed (PEER)	YES	BB	02/13/2017
22	Data is locked and Status is Analyzed (PEER)	YES	BB	02/13/2017
23	Data file, Calibration, Sequence, Batch, and Cleanup PDF's are attached (PEER)	YES	BB	02/13/2017

* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring

16K0124

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg)	Tissue	EPA 8270D-SIM

Checklist: Analyst Checklist-SVOA

#	Checklist Item	Response	Analyst Initials	Date
24	Color warnings have been addressed and (or) qualified (PEER)	YES	BB	02/13/2017
25	Qualifiers have been correctly added (PEER)	YES	BB	02/13/2017
26	Checklist completed and status is peer reviewed (REVIEWER)	YES	BB	02/13/2017
27	Dilutions are linear (50-200%) and appropriate (REVIEWER)	NA	BB	02/13/2017
28	All requested samples have been reported (REVIEWER)	YES	BB	02/13/2017
29	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	BB	02/13/2017
30	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)	YES	VTS	02/11/2017
	Comments: <i>Sample 17A0053-10 was mis-injected by the autosampler and is being rerun today in next sequence.</i>			
31	List of samples in this sequence that are re-analysis or dilutions of samples (ANALYST)	NA	VTS	02/11/2017
32	Additional Notes (ANALYST, PEER, and REVIEWER)	YES	VTS	02/11/2017

Comments:

Sample 17A0053-10 was mis-injected by the autosampler and is being rerun today in next sequence.

MS LOOKS TO BE 1/2 OF MSD (WIDE RPD'S) SEE #15,16



ANALYSIS SEQUENCE

SFB0130

Instrument: NT11 Element Column ID: E006481
 Calibration ID: ZL00083 Tune File: 161216.U
 EM Voltage: 2247

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SFB0130-TUN1	DFTPP	QC		1	E007446		
SFB0130-ICV1	Initial Cal Check	QC		2	E006577	E002870	
BFA0647-BLK1	Blank	QC		3		E002870	
BFA0647-BS1	LCS	QC		4		E002870	
16K0124-01	PG-T0-MUS-COC-161109	SIM PAH Low (0.01 ug/L - 0.	A 02	5		E002870	
17A0053-01	PG-SMA1-1-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	6		E002870	
17A0053-04	PG-SMA2-1-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	7		E002870	
17A0053-05	PG-SMA2-2-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	8		E002870	
17A0053-06	PG-SMA2-3-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	9		E002870	
17A0053-07	PG-SMA2-4-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	10		E002870	
17A0053-08	PG-SMA2-5-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	11		E002870	
17A0053-09	PG-PJ-1-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	12		E002870	
17A0053-11	PG-WS-1-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	13		E002870	
17A0053-12	PG-SMA1-2-3-MUS-170105	SIM PAH Low (0.01 ug/L - 0.	A 02	14		E002870	LIMITED VOLUME, only take minimum amount
BFA0647-MS1	Matrix Spike	QC		15		E002870	
BFA0647-MSD1	Matrix Spike Dup	QC		16		E002870	
SFB0130-CCV1	SIM PAH 250	QC		17	E006577	E002870	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20170210.b

Time	Filename	LabID	ClientID	DF	1	NO	ISTDS	FOUND	1	NO	ISTDS	FOUND	1	NO	ISTDS	FOUND	1	NO	ISTDS	FOUND	
1	1145	N1117021001.D	SFB0130-TUNL		1	8.53	508392	11.56	354460	14.26	673289	19.02	627104	22.24	522109						
2	1205	N1117021002.D	SFB0130-ICV1		1	8.53	501918	11.56	350269	14.25	674154	19.02	619406	22.24	552136						
4	1308	N1117021004.D	SFB0130-TUNL		1	NO	ISTDS	FOUND													
5	1329	N1117021005.D	SFB0130-ICV1		1	8.53	326356	11.56	220051	14.26	424023	19.02	409280	22.24	347530						
6	1405	N1117021006.D	SFB0130-ICV1		1	8.53	319083	11.56	212604	14.25	420984	19.02	391743	22.24	351171						
7	1440	N1117021007.D	BFA0647-BLK1		1	8.51	263642	11.56	181252	14.25	354769	19.02	344497	22.24	338290						
8	1516	N1117021008.D	BFA0647-BS1		1	8.51	263463	11.56	184009	14.25	363382	19.02	352838	22.24	341159						
9	1552	N1117021009.D	16K0124-01		1	8.51	251510	11.56	149373	14.25	238222	19.02	198528	22.24	214455						
10	1627	N1117021010.D	17A0053-01		1	8.52	214273	11.56	144698	14.25	234960	19.02	201157	22.24	213059						
11	1703	N1117021011.D	17A0053-04		1	8.51	214970	11.56	145064	14.25	237830	19.02	206658	22.24	216657						
12	1739	N1117021012.D	17A0053-05		1	8.51	218333	11.56	147879	14.25	236713	19.02	203457	22.24	217634						
13	1814	N1117021013.D	17A0053-06		1	8.52	220641	11.56	149754	14.25	241636	19.02	208692	22.24	226680						
14	1850	N1117021014.D	17A0053-07		1	8.52	228488	11.56	156874	14.25	250109	19.02	219541	22.24	233325						
15	1925	N1117021015.D	17A0053-08		1	8.52	219069	11.56	148509	14.25	240804	19.02	211300	22.24	224848						
16	2001	N1117021016.D	17A0053-09		1	8.51	219004	11.56	151898	14.25	243924	19.02	208748	22.24	221150						
17	2036	N1117021017.D	17A0053-10		1	NO	ISTDS	FOUND													
18	2012	N1117021018.D	17A0053-11		1	8.52	224155	11.56	150650	14.25	240836	19.02	214297	22.24	224273						
19	2048	N1117021019.D	17A0053-12		1	8.52	227725	11.56	158745	14.25	251996	19.02	207529	22.23	228830						
20	2223	N1117021020.D	BFA0647-MS1		1	8.52	240715	11.56	173279	14.25	262158	19.03	222392	22.23	238610						

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20170210.b

Time	Filename	LabID	ClientID	DF
21	N1117021021.D	BFA0647-MSDI		
			1 8.52	226075 11.56
			157597 14.25	247966 19.02
			209184 22.24	230152
22	N1117021022.D	SFB0130-CCV1		
			1 8.53	278606 11.56
			216962 14.25	406542 19.02
			325570 22.23	266441

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20170210.b

ARI Job No.: SFB0 Method: DFIPP.m Instrument: nt11.i Date: 10-FEB-2017

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1145	N1117021001.D	SFB0130-TUN1		1	NO MANUAL INTEGRATION
1205	N1117021002.D	SFB0130-ICV1		1	NO MANUAL INTEGRATION
1240	N1117021003.D			1	NO MANUAL INTEGRATION
1308	N1117021004.D	SFB0130-TUN1		1	NO MANUAL INTEGRATION
1329	N1117021005.D	SFB0130-ICV1		1	NO MANUAL INTEGRATION
1405	N1117021006.D	SFB0130-LCV1		1	NO MANUAL INTEGRATION
1440	N1117021007.D	BFA0647-BLK1		1	NO MANUAL INTEGRATION
1516	N1117021008.D	BFA0647-BS1		1	NO MANUAL INTEGRATION
1552	N1117021009.D	16K0124-01		1	NO MANUAL INTEGRATION
1627	N1117021010.D	17A0053-01		1	Acenaphthene, 1-Methylphenanthrene,
1703	N1117021011.D	17A0053-04		1	Acenaphthene, 1-Methylphenanthrene,
1739	N1117021012.D	17A0053-05		1	Acenaphthene, 1-Methylphenanthrene,
1814	N1117021013.D	17A0053-06		1	Acenaphthene, 2,3,5-Trimethylnaphthalene, 1-Methylphenanthrene, Dibenzothiophene,
1850	N1117021014.D	17A0053-07		1	Acenaphthene, 1-Methylphenanthrene, Dibenzothiophene,
1925	N1117021015.D	17A0053-08		1	2,3,5-Trimethylnaphthalene, 1-Methylphenanthrene,
2001	N1117021016.D	17A0053-09		1	Acenaphthene, 1-Methylphenanthrene,
2036	N1117021017.D	17A0053-10		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20170210.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2112	N1117021018.D	17A0053-11		1	1-Methylphenanthrene, Dibenzothiophene,
2148	N1117021019.D	17A0053-12		1	2,3,5-Trimethylnaphthalene, 1-Methylphenanthrene, Dibenzothiophene,
2223	N1117021020.D	BFA0647-MS1		1	NO MANUAL INTEGRATION
2259	N1117021021.D	BFA0647-MSD1		1	NO MANUAL INTEGRATION
2335	N1117021022.D	SFB0130-CCV1		1	NO MANUAL INTEGRATION



SURROGATE RECOVERY AND RT SUMMARY
EPA 8270D-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG/WO:	<u>16K0124</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Sequence:	<u>SEL0401</u>	Instrument:	<u>NT11</u>
Calibration:	<u>ZL00083</u>	Calibration Date:	<u>12/31/2016</u>

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SEL0401-ICV1 (Water)		Lab File ID: N1116123102ICV.D			Analyzed: 12/31/16 08:28			
2-Methylnaphthalene-d10	250.00	114	80 - 120	8.201	8.201	0.0000	N/A	
Dibenzo[a,h]anthracene-d14	250.00	110	80 - 120	23.808	23.80433	0.0037	N/A	
Fluoranthene-d10	250.00	110	80 - 120	15.055	15.055	0.0000	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Sequence: SFB0130
Calibration: ZL00083

SDG/WO: 16K0124
Project: Port Gamble Shellfish Monitoring
Instrument: NT11
Calibration Date: 12/31/2016

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SFB0130-ICV1 (Tissue)			Lab File ID: N1117021005.D			Analyzed: 02/10/17 13:29		
2-Methylnaphthalene-d10	250.00	94.4	80 - 120	9.508	8.201	1.3070	N/A	
Dibenzo[a,h]anthracene-d14	250.00	95.6	80 - 120	25.116	23.80433	1.3117	N/A	
Fluoranthene-d10	250.00	86.4	80 - 120	16.367	15.055	1.3120	N/A	
BFA0647-BLK1 (Tissue)			Lab File ID: N1117021007.D			Analyzed: 02/10/17 14:40		
2-Methylnaphthalene-d10	15.000	52.5	30 - 160	9.498	8.201	1.2970	N/A	
Dibenzo[a,h]anthracene-d14	15.000	65.0	30 - 160	25.116	23.80433	1.3117	N/A	
Fluoranthene-d10	15.000	64.2	30 - 160	16.367	15.055	1.3120	N/A	
BFA0647-BS1 (Tissue)			Lab File ID: N1117021008.D			Analyzed: 02/10/17 15:16		
2-Methylnaphthalene-d10	15.000	56.2	30 - 160	9.498	8.201	1.2970	N/A	
Dibenzo[a,h]anthracene-d14	15.000	75.0	30 - 160	25.116	23.80433	1.3117	N/A	
Fluoranthene-d10	15.000	67.5	30 - 160	16.367	15.055	1.3120	N/A	
16K0124-01 (Tissue)			Lab File ID: N1117021009.D			Analyzed: 02/10/17 15:52		
2-Methylnaphthalene-d10	14.735	52.3	30 - 160	9.498	8.201	1.2970	N/A	
Dibenzo[a,h]anthracene-d14	14.735	65.7	30 - 160	25.116	23.80433	1.3117	N/A	
Fluoranthene-d10	14.735	59.3	30 - 160	16.367	15.055	1.3120	N/A	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0130

Instrument: NT11

Calibration: ZL00083

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SFB0130-ICV1)		(Tissue)	Lab File ID: N1117021005.D			Analyzed: 02/10/17 13:29			
Naphthalene-d8	326356	8.526	219654	7.225	149	50 - 200	-1.3010	+/-0.50	
Acenaphthene-d10	220051	11.564	135248	10.251	163	50 - 200	-1.3130	+/-0.50	
Phenanthrene-d10	424023	14.262	257021	12.945	165	50 - 200	-1.3170	+/-0.50	
Chrysene-d12	409280	19.024	259511	17.701	158	50 - 200	-1.3230	+/-0.50	
Perylene-d12	347530	22.24	257535	20.925	135	50 - 200	-1.3150	+/-0.50	
Blank (BFA0647-BLK1)		(Tissue)	Lab File ID: N1117021007.D			Analyzed: 02/10/17 14:40			
Naphthalene-d8	263642	8.509	219654	7.225	120	50 - 200	-1.2840	+/-0.50	
Acenaphthene-d10	181252	11.555	135248	10.251	134	50 - 200	-1.3040	+/-0.50	
Phenanthrene-d10	354769	14.252	257021	12.945	138	50 - 200	-1.3070	+/-0.50	
Chrysene-d12	344497	19.024	259511	17.701	133	50 - 200	-1.3230	+/-0.50	
Perylene-d12	338290	22.24	257535	20.925	131	50 - 200	-1.3150	+/-0.50	
LCS (BFA0647-BS1)		(Tissue)	Lab File ID: N1117021008.D			Analyzed: 02/10/17 15:16			
Naphthalene-d8	263463	8.509	219654	7.225	120	50 - 200	-1.2840	+/-0.50	
Acenaphthene-d10	184009	11.555	135248	10.251	136	50 - 200	-1.3040	+/-0.50	
Phenanthrene-d10	363382	14.252	257021	12.945	141	50 - 200	-1.3070	+/-0.50	
Chrysene-d12	352838	19.024	259511	17.701	136	50 - 200	-1.3230	+/-0.50	
Perylene-d12	341159	22.24	257535	20.925	132	50 - 200	-1.3150	+/-0.50	
PG-T0-MUS-COC-161109 (16K0124-01)		(Tissue)	Lab File ID: N1117021009.D			Analyzed: 02/10/17 15:52			
Naphthalene-d8	251510	8.508	219654	7.225	115	50 - 200	-1.2830	+/-0.50	
Acenaphthene-d10	149373	11.555	135248	10.251	110	50 - 200	-1.3040	+/-0.50	
Phenanthrene-d10	238222	14.251	257021	12.945	93	50 - 200	-1.3060	+/-0.50	
Chrysene-d12	198528	19.024	259511	17.701	77	50 - 200	-1.3230	+/-0.50	
Perylene-d12	214455	22.24	257535	20.925	83	50 - 200	-1.3150	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SEL0401

Instrument: NT11

Calibration: ZL00083

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SEL0401-ICV1)		(Water)	Lab File ID: N1116123102ICV.D			Analyzed: 12/31/16 08:28			
Naphthalene-d8	219654	7.225	219654	7.225	100	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	135248	10.251	135248	10.251	100	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10	257021	12.945	257021	12.945	100	50 - 200	0.0000	+/-0.50	
Chrysene-d12	259511	17.701	259511	17.701	100	50 - 200	0.0000	+/-0.50	
Perylene-d12	257535	20.925	257535	20.925	100	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (SEL0401-SCV1)		(Water)	Lab File ID: N1116123108.D			Analyzed: 12/31/16 11:35			
Naphthalene-d8	210327	7.225	219654	7.225	96	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	128092	10.252	135248	10.251	95	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10	246665	12.945	257021	12.945	96	50 - 200	0.0000	+/-0.50	
Chrysene-d12	255043	17.702	259511	17.701	98	50 - 200	-0.0010	+/-0.50	
Perylene-d12	265358	20.916	257535	20.925	103	50 - 200	0.0090	+/-0.50	



HOLDING TIME SUMMARY

Analysis: EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-T0-MUS-COC-161109 16K0124-01	11/09/16 09:00	11/09/16 09:01	01/31/17 13:45	83	365	02/10/17 15:52	10	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument: NT11

Analyte	MDL	RL	Units
Naphthalene	0.50	0.60	ug/kg
1-Methylnaphthalene	0.50	0.50	ug/kg
2-Methylnaphthalene	0.50	0.50	ug/kg
2-Chloronaphthalene	0.50	0.50	ug/kg
Acenaphthylene	0.50	0.50	ug/kg
Acenaphthene	0.50	0.50	ug/kg
Dibenzofuran	0.50	0.50	ug/kg
Fluorene	0.50	0.50	ug/kg
Phenanthrene	0.50	0.50	ug/kg
Anthracene	0.50	0.50	ug/kg
Fluoranthene	0.50	0.50	ug/kg
Pyrene	0.50	0.50	ug/kg
Benzo(a)anthracene	0.50	0.50	ug/kg
Chrysene	0.50	0.50	ug/kg
Benzo(b)fluoranthene	0.50	0.50	ug/kg
Benzo(k)fluoranthene	0.50	0.50	ug/kg
Benzo(j)fluoranthene	0.50	0.50	ug/kg
Benzo(a)pyrene	0.50	0.50	ug/kg
Indeno(1,2,3-cd)pyrene	0.50	0.50	ug/kg
Dibenzo(a,h)anthracene	0.50	0.50	ug/kg
Benzo(g,h,i)perylene	0.50	0.50	ug/kg
Benzo(b)thiophene	0.50	0.50	ug/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D-SIM

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Water

Instrument: NT11

Analyte	MDL	RL	Units
Naphthalene	0.001	0.010	ug/L
2-Methylnaphthalene	0.001	0.010	ug/L
1-Methylnaphthalene	0.0009	0.010	ug/L
2-Chloronaphthalene	0.001	0.010	ug/L
Acenaphthylene	0.002	0.010	ug/L
Acenaphthene	0.003	0.010	ug/L
Dibenzofuran	0.002	0.010	ug/L
Fluorene	0.002	0.010	ug/L
Phenanthrene	0.001	0.010	ug/L
Anthracene	0.001	0.010	ug/L
Carbazole	0.001	0.010	ug/L
Fluoranthene	0.002	0.010	ug/L
Pyrene	0.001	0.010	ug/L
Benzo(a)anthracene	0.0008	0.010	ug/L
Chrysene	0.0009	0.010	ug/L
Benzo(b)fluoranthene	0.0005	0.010	ug/L
Benzo(k)fluoranthene	0.003	0.010	ug/L
Benzo(j)fluoranthene	0.002	0.010	ug/L
Benzo(a)fluoranthene, Total	0.004	0.010	ug/L
Benzo(a)pyrene	0.002	0.010	ug/L
Perylene	0.006	0.010	ug/L
Indeno(1,2,3-cd)pyrene	0.001	0.010	ug/L
Dibenzo(a,h)anthracene	0.001	0.010	ug/L
Benzo(g,h,i)perylene	0.001	0.010	ug/L



Form I
INORGANIC ANALYSIS DATA SHEET

PG-T0-MUS-COC-161109

SM 2540 G-97
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 16K0124

Matrix: Tissue

Laboratory ID: 16K0124-01

File ID:

Sampled: 11/09/16 09:00

Prepared: 01/30/17 14:08

Analyzed: 01/31/17 09:54

Solids (wt%): 0.00

Preparation: No Prep Extractions

Initial/Final: 1 g / 1 g

Batch: BFA0625

Sequence:

Calibration:

Instrument: NA

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	20.0	1		0.0400	



HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-T0-MUS-COC-161109 16K0124-01	11/09/16 09:00	11/09/16 09:01	01/30/17 14:08	82	365	01/31/17 09:54	83	365	

* Indicates hold time exceedance.



Analytical
Resources,
Incorporated

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.

SDG: 16K0124

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument:

Analyte	MDL	RL	Units
Total Solids		0.0400	%



22 December 2016

Nathan Soccorsy
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

RE: Port Gamble Shellfish Monitoring (PEMD)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
16K0321

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Cheronne Oreiro, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



1610321

Chain of Custody Record & Laboratory Analysis Request

Laboratory Number: _____

Date: November 22, 2016

Project Name: Port Gamble Bay Shellfish Monitoring

Project Number: 160388-01.01

Project Manager: Nathan Socorsy

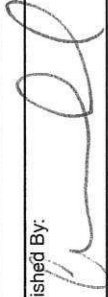
Phone Number: 206.287.9130

Shipment Method: _____



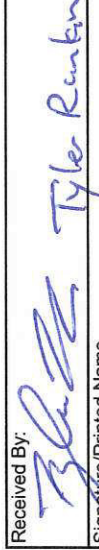
Line	Field Sample ID	Collection Date/Time	Matrix	Containers		Comments/Preservation
				PAHs	Archive	
1	PG-SMA1-1-PEMD-161122-A	11/22/2016 11:21	PEMD 1	x		
2	PG-SMA1-1-PEMD-161122-B	11/22/2016 11:31	PEMD 1	x	x	Extract and archive
3	PG-SMA1-2-PEMD-161122-A	11/22/2016 11:47	PEMD 1	x		
4	PG-SMA1-2-PEMD-161122-B	11/22/2016 11:47	PEMD 1	x	x	Extract and archive
5	PG-SMA1-3-PEMD-161122-A	11/22/2016 12:10	PEMD 1	x		
6	PG-SMA1-103-PEMD-161122-A	11/22/2016 12:10	PEMD 1	x		
7	PG-SMA2-1-PEMD-161122-A	11/22/2016 10:53	PEMD 1	x		
8	PG-SMA2-1-PEMD-161122-B	11/22/2016 10:53	PEMD 1	x	x	Extract and archive
9	PG-SMA2-2-PEMD-161122-A	11/22/2016 10:26	PEMD 1	x		
10	PG-SMA2-102-PEMD-161122-A	11/22/2016 10:26	PEMD 1	x		
11	PG-SMA2-3-PEMD-161122-A	11/22/2016 09:45	PEMD 1	x		
12	PG-SMA2-3-PEMD-161122-B	11/22/2016 09:45	PEMD 1	x	x	Extract and archive
13	PG-SMA2-4-PEMD-161122-A	11/22/2016 09:20	PEMD 1	x		
14	PG-SMA2-4-PEMD-161122-B	11/22/2016 09:20	PEMD 1	x	x	Extract and archive
15	PG-SMA2-5-PEMD-161122-A	11/22/2016 08:57	PEMD 1	x		

Notes: All "B" samples to be extracted then archived

Relinquished By: 

Signature/Printed Name: _____ Date/Time: 11/22/16 17:50

Company: Anchor QEA, LLC

Received By: 

Signature/Printed Name: Tyler Runkin Date/Time: 11-22-16 17:56

Company: ARJ

Relinquished By: _____

Signature/Printed Name: _____ Date/Time: _____

Company: _____

Received By: _____

Signature/Printed Name: _____ Date/Time: _____

Company: _____

16K0321

Chain of Custody Record & Laboratory Analysis Request

Laboratory Number: _____

Date: November 22, 2016

Project Name: Port Gamble Bay Shellfish Monitoring

Project Number: 160388-01.01

Project Manager: Nathan Soccorso

Phone Number: 206.287.9130

Shipment Method: _____



Line	Field Sample ID	Collection Date/Time	Matrix	Containers		Comments/Preservation
				TAHs	Archive	
16	PG-SMA2-5-PEMD-161122-B	11/22/2016 0857	PEMD	1	x	Extract and archive
17	PG-PJ-1-PEMD-161122-A	11/22/2016 1235	PEMD	1	x	Extract and archive
18	PG-PJ-1-PEMD-161122-B	11/22/2016 1235	PEMD	1	x	Extract and archive
19	PG-GP-1-PEMD-161122-A	11/22/2016 1253	PEMD	1	x	Extract and archive
20	PG-GP-1-PEMD-161122-B	11/22/2016 1253	PEMD	1	x	Extract and archive
21	PG-WS-1-PEMD-161122-A	11/22/2016 1316	PEMD	1	x	Extract and archive
22	PG-WS-1-PEMD-161122-B	11/22/2016 1316	PEMD	1	x	Extract and archive
23	PG-FB-SMA1-PEMD-161122	11/22/2016 1210	PEMD	1	x	
24	PG-FB-SMA2-PEMD-161122	11/22/2016 0950	PEMD	1	x	
25	PG-TB-PEMD-161122	11/22/2016 1320	PEMD	1	x	
26						
27						
28						
29						
30						

Notes: All "-B" samples to be extracted then archived

Relinquished By:

Signature/Printed Name: _____ Date/Time: 11/22/16 1750

Company: Anchor QEA, LLC

Received By:

Signature/Printed Name: Tyler Rankin Date/Time: 11-22-16 1756

Company: ART

Relinquished By: _____

Signature/Printed Name: _____ Date/Time: _____

Company: _____

Received By: _____

Signature/Printed Name: _____ Date/Time: _____

Company: _____



Cooler Receipt Form

ARI Client: Anchor

Project Name: Port Gamble Bay Shellfish Monitoring

COC No(s): _____ NA

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

Assigned ARI Job No: 16K0321

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) 5.1 2.7

Time: _____

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

Temp Gun ID#: D005276

Cooler Accepted by: TJZ Date: 11-22-16 Time: 1756

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: JM Date: 11/23/16 Time: 10:05

**** 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>	Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle WA, 98101

Project: Port Gamble Shellfish Monitoring (PEMD)
Project Number: 160388-01.01
Project Manager: Nathan Soccororsy

Reported:
22-Dec-2016 15:00

Case Narrative

Sample receipt

Fifteen PEMD samples were received November 22, 2016 under ARI workorder 16K0321. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

Select samples were extracted within recommended holding times and then archived.

Select samples were extracted and analyzed within the recommended holding times.

Initial calibrations were within method requirements.

The initial calibration verification (ICV) on 12/13/16 were outside the 20% control limit high for Anthracene and the surrogate Anthracene-d10. All detected results for Anthracene associated with this ICV have been flagged with a "Q" qualifier. No further corrective action was taken.

The ICV on 12/16/16 fell outside the 20% control limit low for Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene, and the surrogates Dibenzo(a,h)anthracene-d14. The ICV was also outside the control limit high for the surrogate Fluoranthene-d10. Sample results associated with this ICV were undetected for Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, and Benzo(g,h,i)perylene. No corrective action was taken.

The internal standard areas of Acenaphthene-d10, Phenanthrene-d10, and Perylene-d12 were outside the control limits high for BEK0657-BLK1. All other internal standard areas were within control limits.

The surrogate percent recoveries of 2-Methylnaphthalene-d10 and Dibenzo(a,h)anthracene-d14 fell outside the control limits low for **BEK0657-BLK1**. No corrective action was taken.

The field surrogate percent recoveries of Fluorene-d10 and Anthracene-d10 fell outside the control limits low for all samples except for **PG-FB-SMA1-PEMD-161122**, **PG-FB-SMA2-PEMD-161122**, and **PG-TB-PEMD-161122**. All samples except for **PG-FB-SMA1-PEMD-161122**, **PG-FB-SMA2-PEMD-161122**, and **PG-TB-PEMD-161122**, were re-analyzed at dilutions and the surrogate percent recoveries were comparable to the initial analyses. No further corrective action was taken.

Naphthalene and 2-Methylnaphthalene were present in the PEMD Day 0 prep blank BEK0657-BLK2 at levels greater than the reporting limit. All detected results associated with this blank have been flagged with a "B" qualifier. No further corrective action was taken.

Naphthalene was present in the method blank BEK0658-BLK1 at a level that was greater than the reporting limit. All detected results associated with this method blank have been flagged with a "B" qualifier. No further corrective action was taken.

The LCS percent recoveries of Perylene fell outside the control limits low for the LCS BEK0657-BS1 and the PEMD Day 0 LCS, BEK0657-BS2. All other percent recoveries were within control limits. No corrective action was taken.

The LCS percent recovery of Perylene fell outside the control limits low for the LCS BEK0658-BS1. All other percent recoveries were within control limits. No corrective action was taken.



Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

Project: Port Gamble Shellfish Monitoring (PEMD)
Project Number: 160388-01.01
Project Manager: Nathan Soccorsy

Reported:
12/22/2016 15:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PG-FB-SMA1-PEMD-161122	16K0321-23	Tissue	11/22/16 12:10	11/22/16 17:56
PG-FB-SMA2-PEMD-161122	16K0321-24	Tissue	11/22/16 09:50	11/22/16 17:56
PG-GP-1-PEMD-161122-A	16K0321-19	Tissue	11/22/16 12:53	11/22/16 17:56
PG-GP-1-PEMD-161122-B	16K0321-20	Tissue	11/22/16 12:53	11/22/16 17:56
PG-PJ-1-PEMD-161122-A	16K0321-17	Tissue	11/22/16 12:35	11/22/16 17:56
PG-PJ-1-PEMD-161122-B	16K0321-18	Tissue	11/22/16 12:35	11/22/16 17:56
PG-SMA1-103-PEMD-161122-A	16K0321-06	Tissue	11/22/16 12:10	11/22/16 17:56
PG-SMA1-1-PEMD-161122-A	16K0321-01	Tissue	11/22/16 11:31	11/22/16 17:56
PG-SMA1-1-PEMD-161122-B	16K0321-02	Tissue	11/22/16 11:31	11/22/16 17:56
PG-SMA1-2-PEMD-161122-A	16K0321-03	Tissue	11/22/16 11:47	11/22/16 17:56
PG-SMA1-2-PEMD-161122-B	16K0321-04	Tissue	11/22/16 11:47	11/22/16 17:56
PG-SMA1-3-PEMD-161122-A	16K0321-05	Tissue	11/22/16 12:10	11/22/16 17:56
PG-SMA2-102-PEMD-161122-A	16K0321-10	Tissue	11/22/16 10:26	11/22/16 17:56
PG-SMA2-1-PEMD-161122-A	16K0321-07	Tissue	11/22/16 10:53	11/22/16 17:56
PG-SMA2-1-PEMD-161122-B	16K0321-08	Tissue	11/22/16 10:53	11/22/16 17:56
PG-SMA2-2-PEMD-161122-A	16K0321-09	Tissue	11/22/16 10:26	11/22/16 17:56
PG-SMA2-3-PEMD-161122-A	16K0321-11	Tissue	11/22/16 09:45	11/22/16 17:56
PG-SMA2-3-PEMD-161122-B	16K0321-12	Tissue	11/22/16 09:45	11/22/16 17:56
PG-SMA2-4-PEMD-161122-A	16K0321-13	Tissue	11/22/16 09:20	11/22/16 17:56
PG-SMA2-4-PEMD-161122-B	16K0321-14	Tissue	11/22/16 09:20	11/22/16 17:56
PG-SMA2-5-PEMD-161122-A	16K0321-15	Tissue	11/22/16 08:57	11/22/16 17:56
PG-SMA2-5-PEMD-161122-B	16K0321-16	Tissue	11/22/16 08:57	11/22/16 17:56
PG-TB-PEMD-161122	16K0321-25	Tissue	11/22/16 13:20	11/22/16 17:56
PG-WS-1-PEMD-161122-A	16K0321-21	Tissue	11/22/16 13:16	11/22/16 17:56
PG-WS-1-PEMD-161122-B	16K0321-22	Tissue	11/22/16 13:16	11/22/16 17:56

Internal Chain of Custody

Client: Anchor QEA, LLC	Received: 22-Nov-2016 17:56
Project: Port Gamble Shellfish Monitoring (PEMD)	Received By: Justin Meyer
Number: 160388-01.01	Temp (°C): 5.10

16K0321-01 (PG-SMA1-1-PEMD-161122-A) Sampled 11/22/2016 11:31

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-01 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:13 by JEM	***START***	11/23/2016 10:13 by JEM	
	11/23/2016 10:37 by JEM	F-05	11/23/2016 10:37 by JEM	

16K0321-03 (PG-SMA1-2-PEMD-161122-A) Sampled 11/22/2016 11:47

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-03 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:14 by JEM	***START***	11/23/2016 10:14 by JEM	
	11/23/2016 10:37 by JEM	F-05	11/23/2016 10:37 by JEM	

16K0321-05 (PG-SMA1-3-PEMD-161122-A) Sampled 11/22/2016 12:10

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-05 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:15 by JEM	***START***	11/23/2016 10:15 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

16K0321-06 (PG-SMA1-103-PEMD-161122-A) Sampled 11/22/2016 12:10

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-06 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:15 by JEM	***START***	11/23/2016 10:15 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

16K0321-07 (PG-SMA2-1-PEMD-161122-A) Sampled 11/22/2016 10:53

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-07 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:16 by JEM	***START***	11/23/2016 10:16 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

16K0321-09 (PG-SMA2-2-PEMD-161122-A) Sampled 11/22/2016 10:26

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-09 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:17 by JEM	***START***	11/23/2016 10:17 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

16K0321-10 (PG-SMA2-102-PEMD-161122-A) Sampled 11/22/2016 10:26

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-10 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:17 by JEM	***START***	11/23/2016 10:17 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

16K0321-11 (PG-SMA2-3-PEMD-161122-A) Sampled 11/22/2016 09:45

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-11 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:17 by JEM	***START***	11/23/2016 10:17 by JEM	
	11/23/2016 10:39 by JEM	F-05	11/23/2016 10:39 by JEM	

Internal Chain of Custody

Client: Anchor QEA, LLC	Received: 22-Nov-2016 17:56
Project: Port Gamble Shellfish Monitoring (PEMD)	Received By: Justin Meyer
Number: 160388-01.01	Temp (°C): 5.10

16K0321-13 (PG-SMA2-4-PEMD-161122-A) Sampled 11/22/2016 09:20

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-13 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:19 by JEM	***START***	11/23/2016 10:19 by JEM	
	11/23/2016 10:40 by JEM	F-05	11/23/2016 10:40 by JEM	

16K0321-15 (PG-SMA2-5-PEMD-161122-A) Sampled 11/22/2016 08:57

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-15 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:21 by JEM	***START***	11/23/2016 10:21 by JEM	
	11/23/2016 10:43 by JEM	F-05	11/23/2016 10:43 by JEM	

16K0321-17 (PG-PJ-1-PEMD-161122-A) Sampled 11/22/2016 12:35

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-17 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:23 by JEM	***START***	11/23/2016 10:23 by JEM	
	11/23/2016 10:43 by JEM	F-05	11/23/2016 10:43 by JEM	

16K0321-19 (PG-GP-1-PEMD-161122-A) Sampled 11/22/2016 12:53

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-19 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:24 by JEM	***START***	11/23/2016 10:24 by JEM	
	11/23/2016 10:43 by JEM	F-05	11/23/2016 10:43 by JEM	

16K0321-21 (PG-WS-1-PEMD-161122-A) Sampled 11/22/2016 13:16

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-21 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:25 by JEM	***START***	11/23/2016 10:25 by JEM	
	11/23/2016 10:43 by JEM	F-05	11/23/2016 10:43 by JEM	

16K0321-23 (PG-FB-SMA1-PEMD-161122) Sampled 11/22/2016 12:10

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-23 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:26 by JEM	***START***	11/23/2016 10:26 by JEM	
	11/23/2016 10:43 by JEM	F-05	11/23/2016 10:43 by JEM	

16K0321-24 (PG-FB-SMA2-PEMD-161122) Sampled 11/22/2016 09:50

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-24 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:27 by JEM	***START***	11/23/2016 10:27 by JEM	
	11/23/2016 10:44 by JEM	F-05	11/23/2016 10:44 by JEM	

16K0321-25 (PG-TB-PEMD-161122) Sampled 11/22/2016 13:20

<i>Current Status</i>	<i>Out</i>	<i>Location</i>	<i>In</i>	<i>Hazard Info:</i>
<i>16K0321-25 A [Miscellaneous Container]</i>				
Sample Receiving	11/23/2016 10:28 by JEM	***START***	11/23/2016 10:28 by JEM	
	11/23/2016 10:44 by JEM	F-05	11/23/2016 10:44 by JEM	

Qualifier	Definition
U	This analyte is not detected above the applicable reporting or detection limit.
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)
NRS	This surrogate not reported due to chromatographic interference
J	Estimated concentration value detected below the reporting limit.
H	Hold time violation - Hold time was exceeded.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D	The reported value is from a dilution
B	This analyte was detected in the method blank.
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



Form I
ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-01 File ID: N1116121209.D
 Sampled: 11/22/16 11:31 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 12:28
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	21.1	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	40.2	B	1.13	1.13
208-96-8	Acenaphthylene	1	3.43		1.13	1.13
83-32-9	Acenaphthene	1	162	E	1.13	1.13
86-73-7	Fluorene	1	156	E	1.13	1.13
85-01-8	Phenanthrene	1	421	E	1.13	1.13
120-12-7	Anthracene	1	55.5		1.13	1.13
206-44-0	Fluoranthene	1	329	E	1.13	1.13
129-00-0	Pyrene	1	255	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	33.3		1.13	1.13
218-01-9	Chrysene	1	23.9		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	6.46		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	3.26		1.13	1.13
50-32-8	Benzo(a)pyrene	1	3.60		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	4.03		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	16.2	48.0	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	18.2	53.7	30 - 160	
Fluoranthene-d10	33.860	20.9	61.6	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	11.0	52.1	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121209.D

Date: 12-DEC-2016 12:28

Client ID:

Sample Info: 16K0321-01

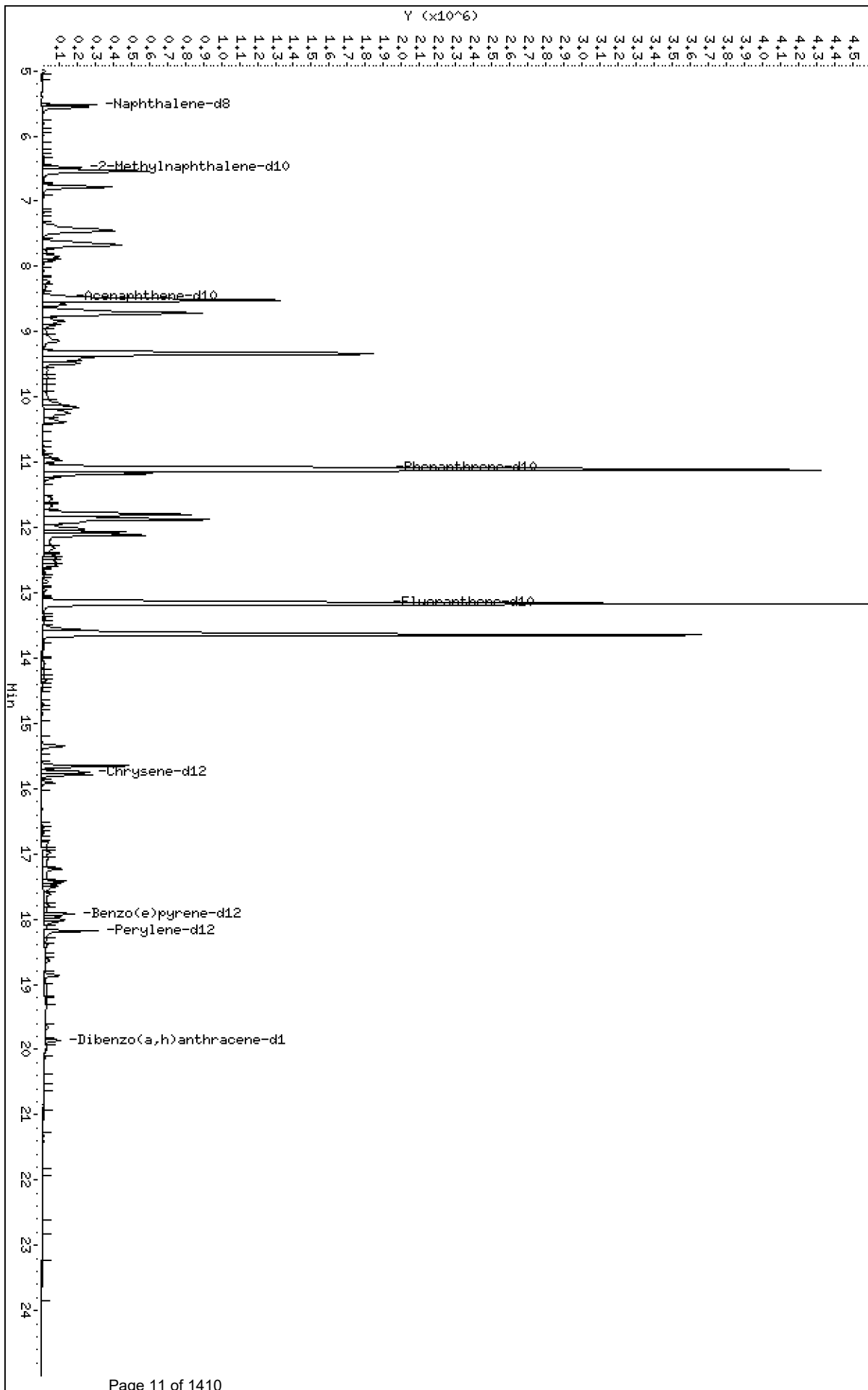
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

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Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

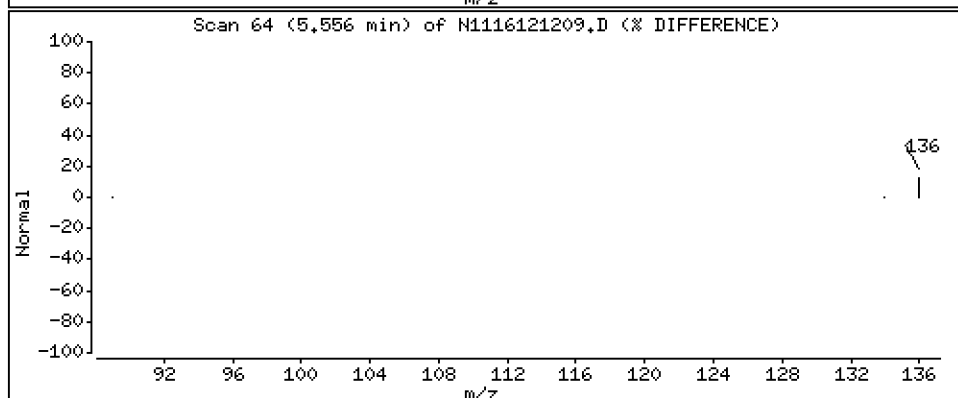
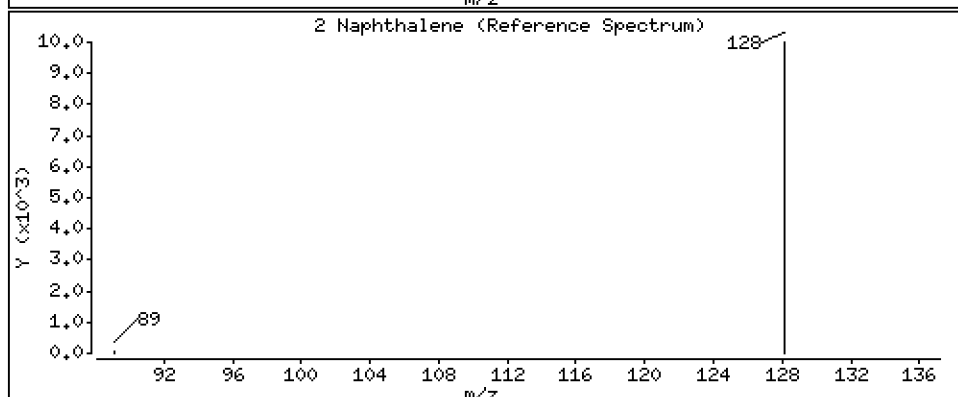
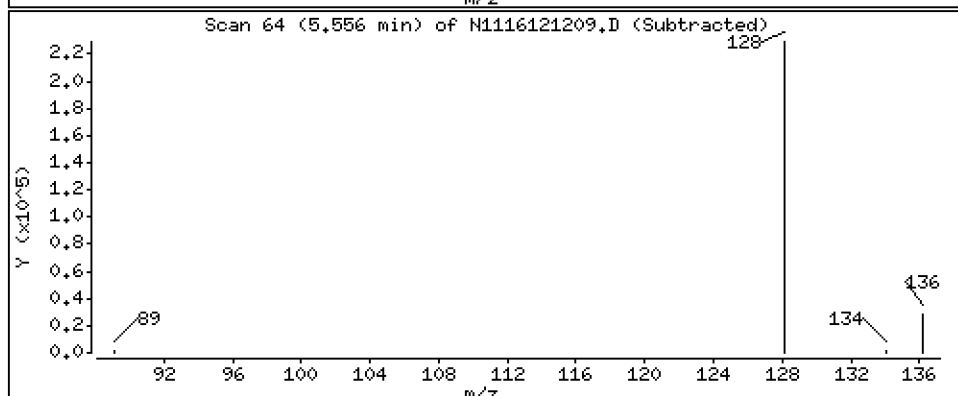
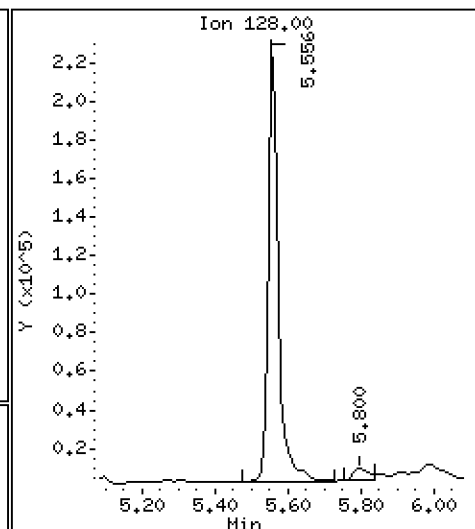
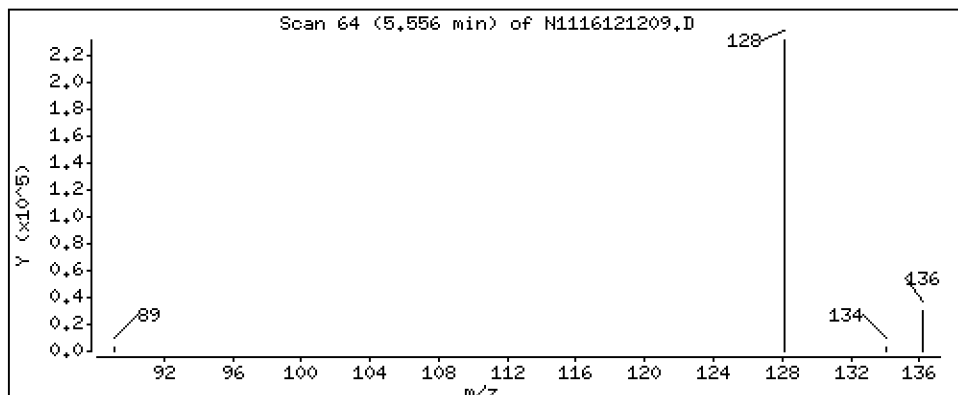
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 187 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

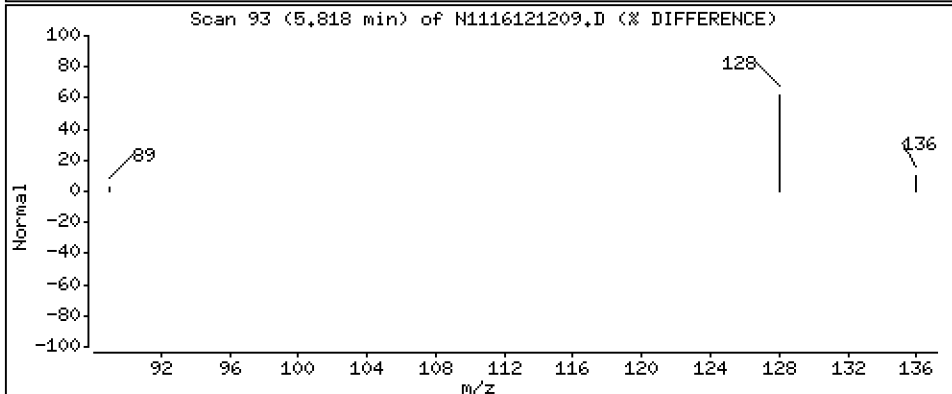
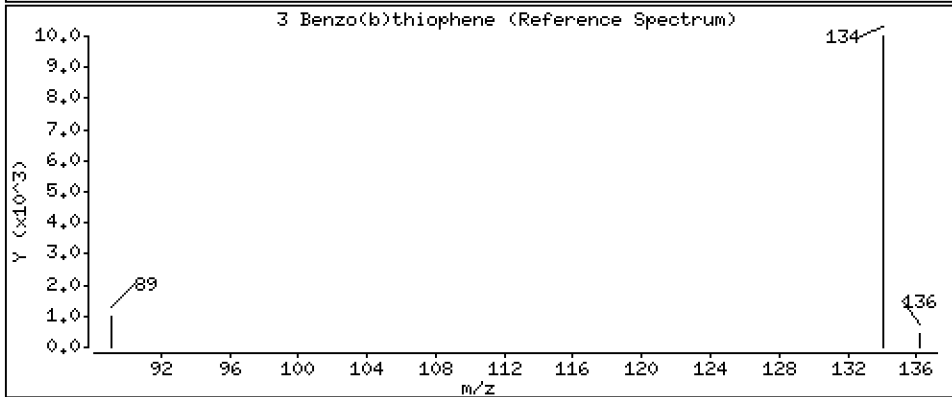
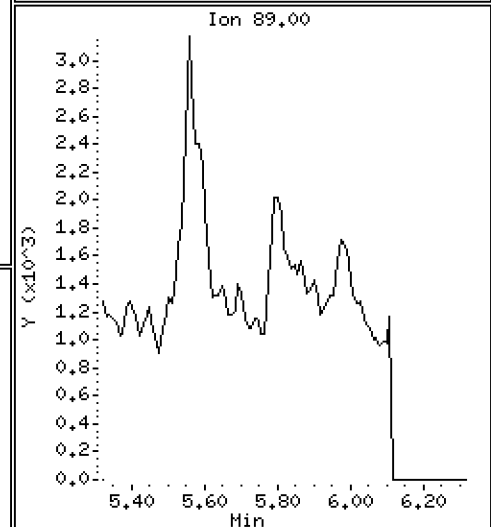
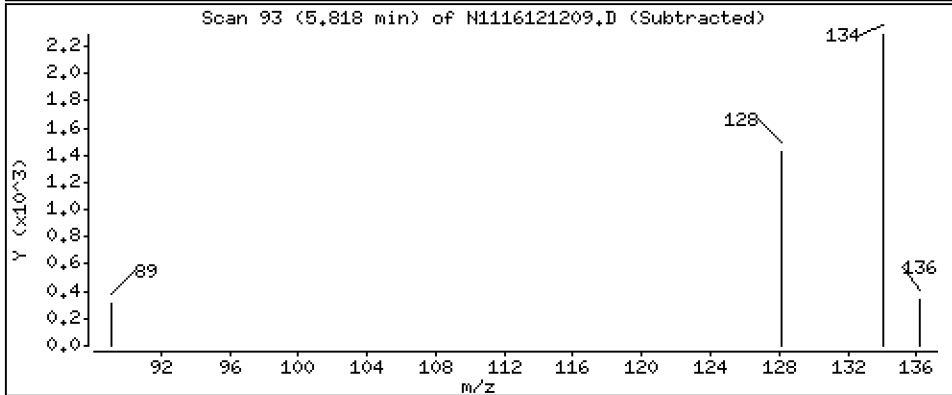
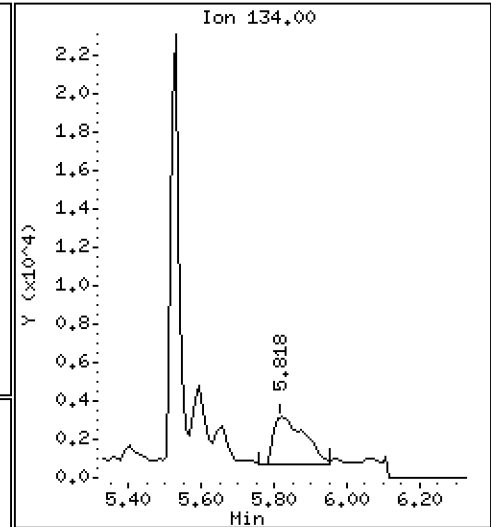
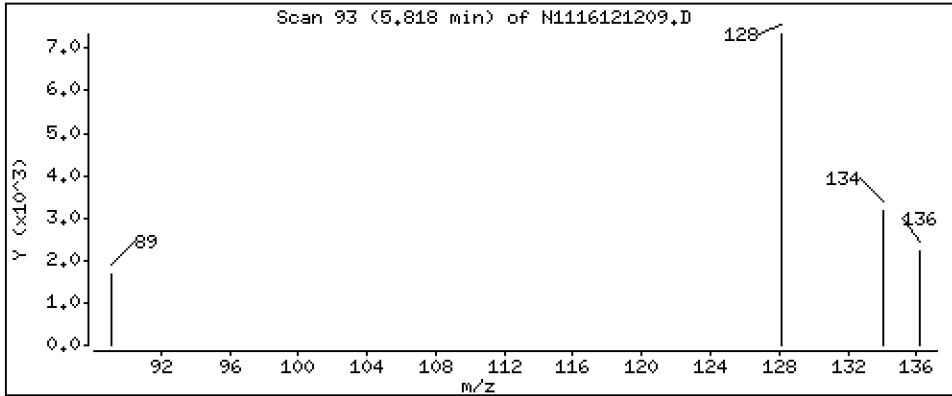
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 7,33 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

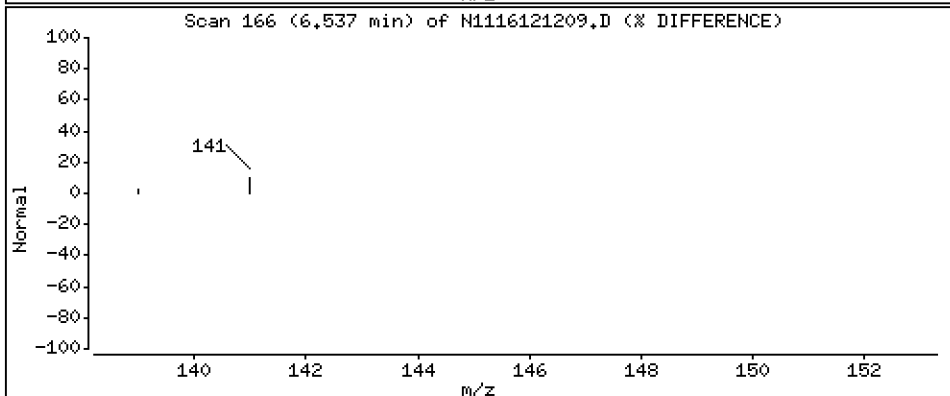
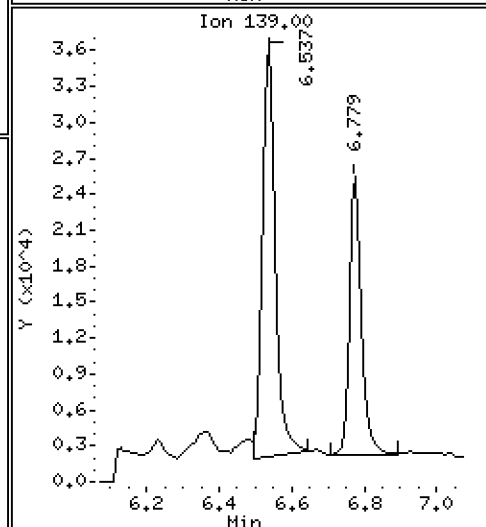
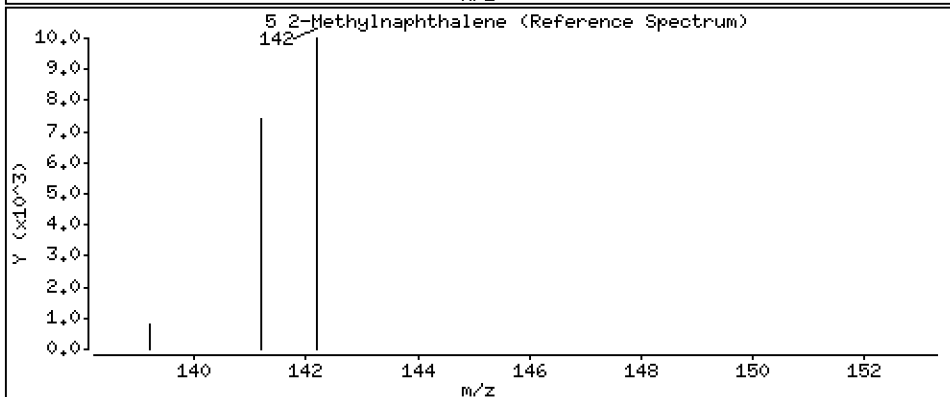
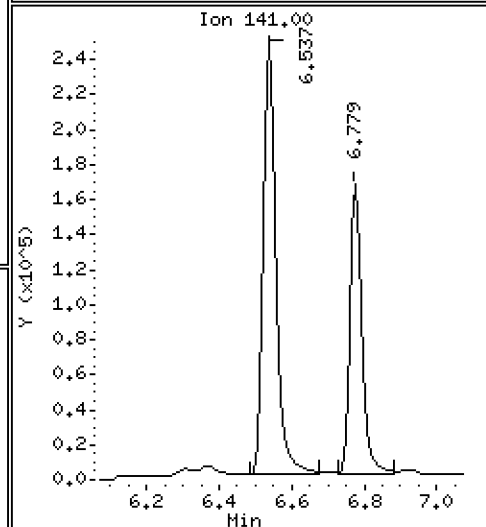
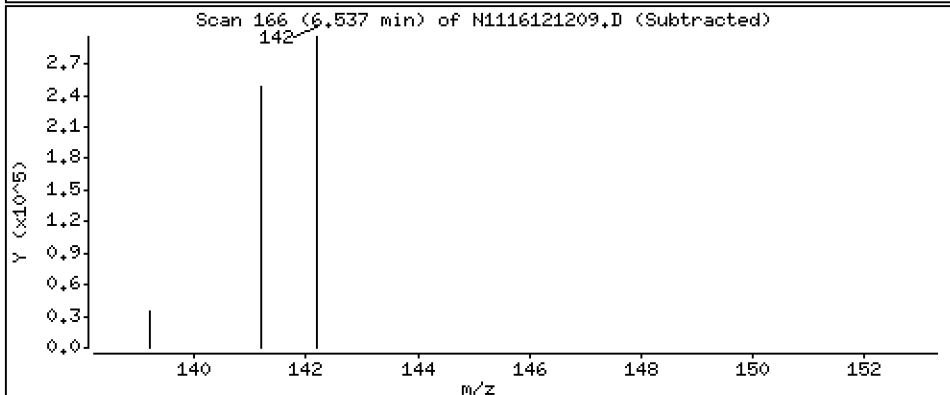
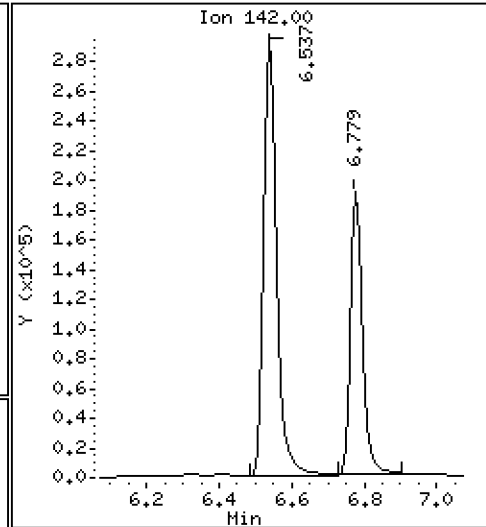
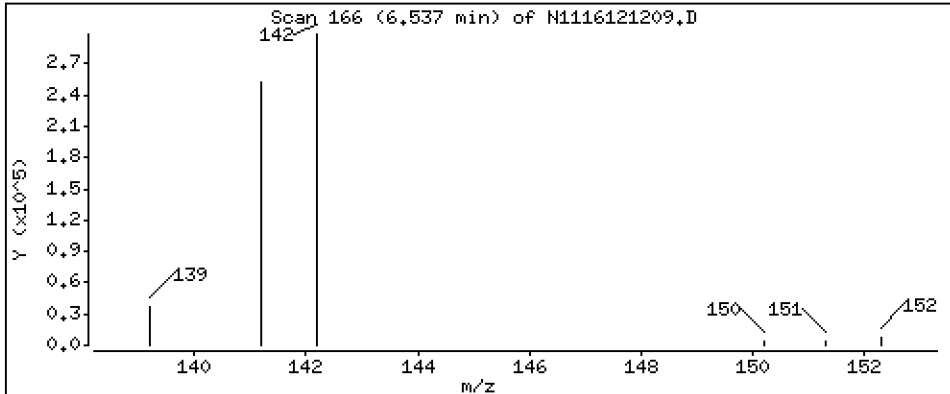
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 356 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

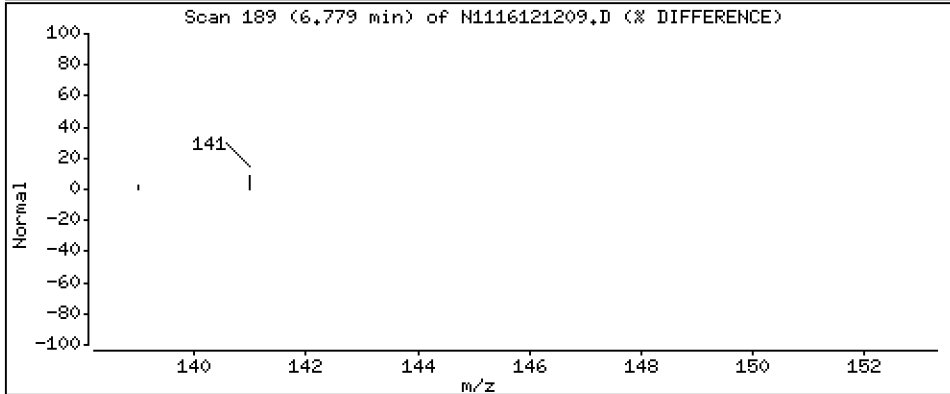
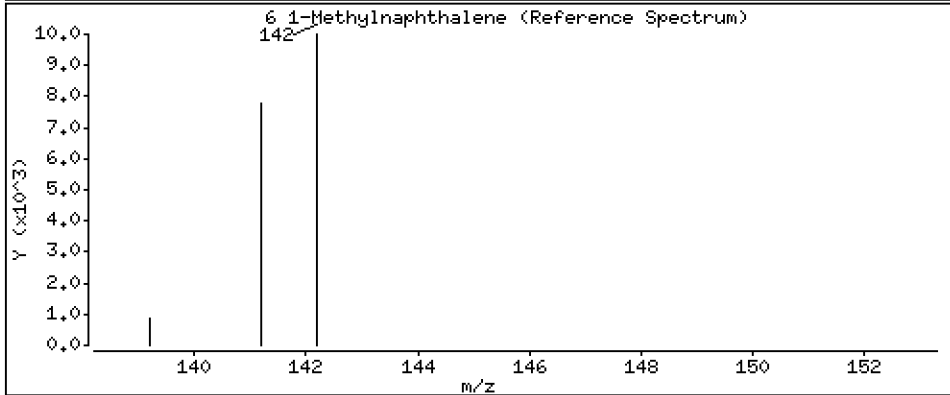
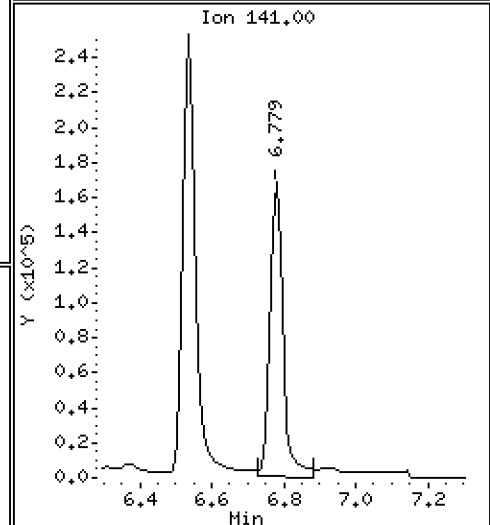
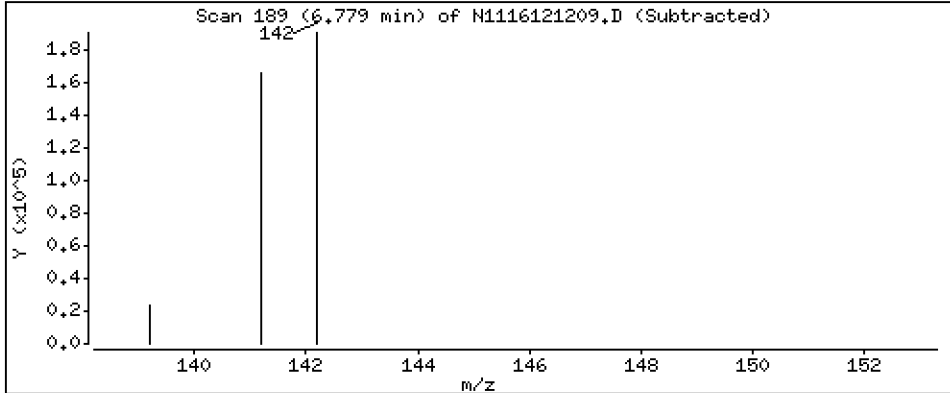
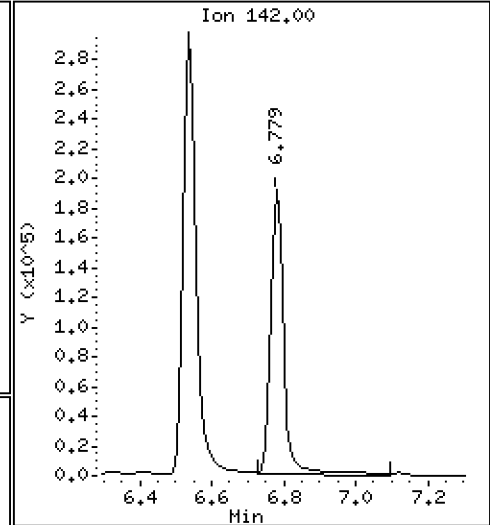
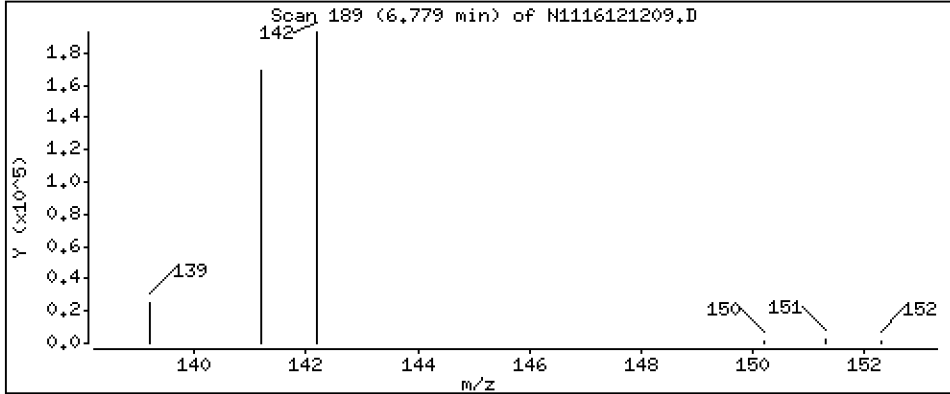
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 255 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

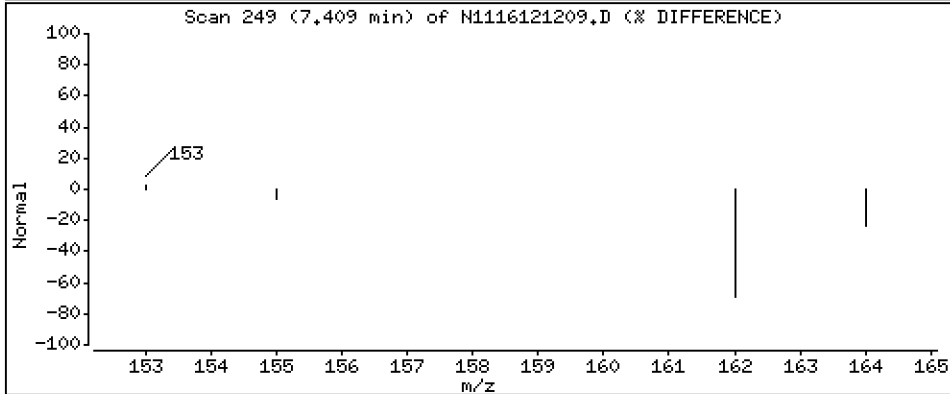
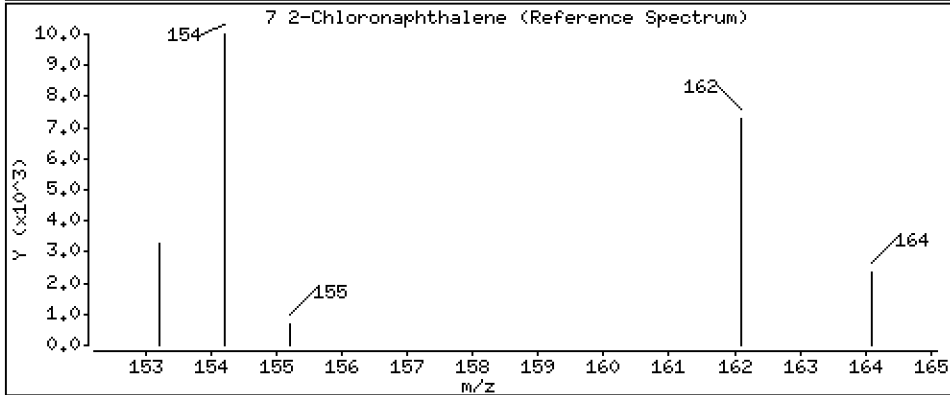
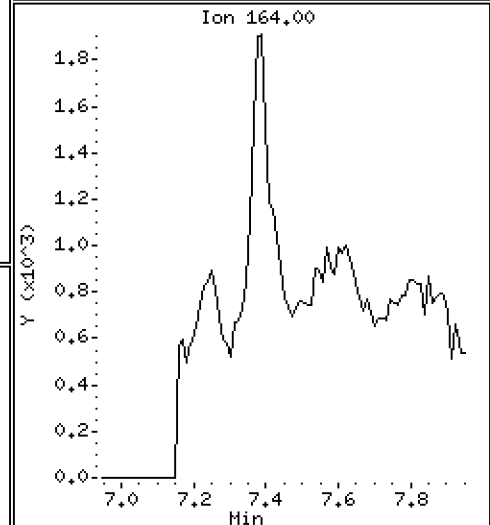
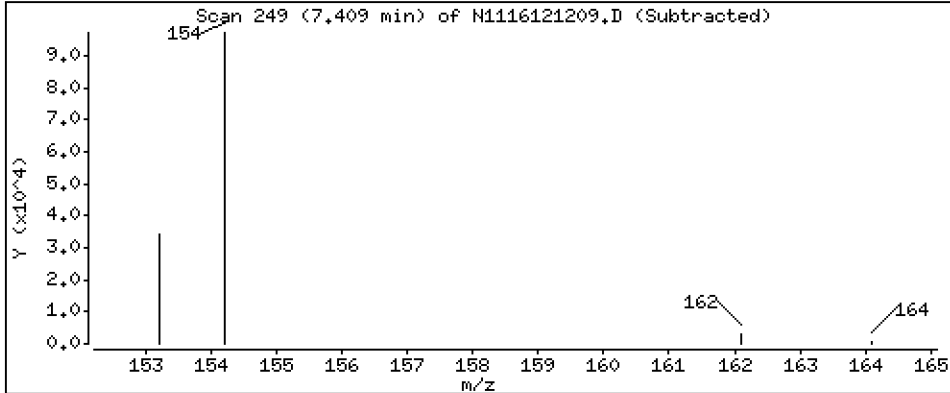
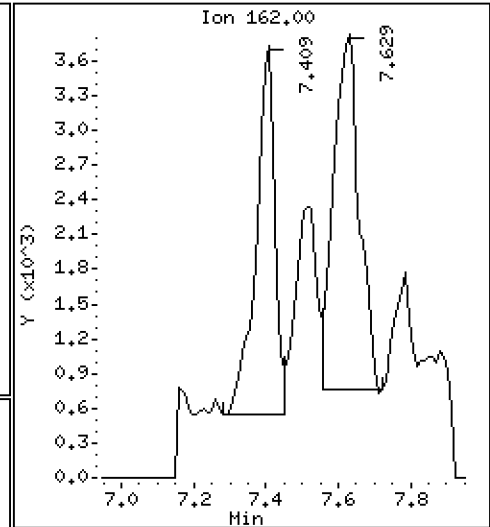
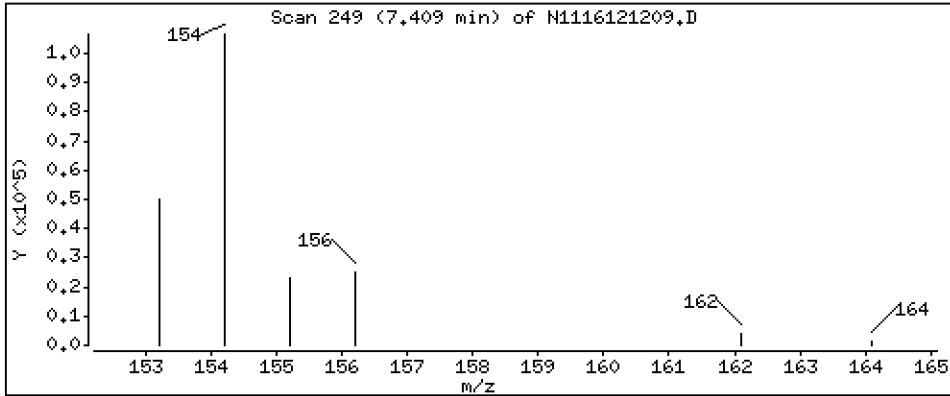
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 5,26 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

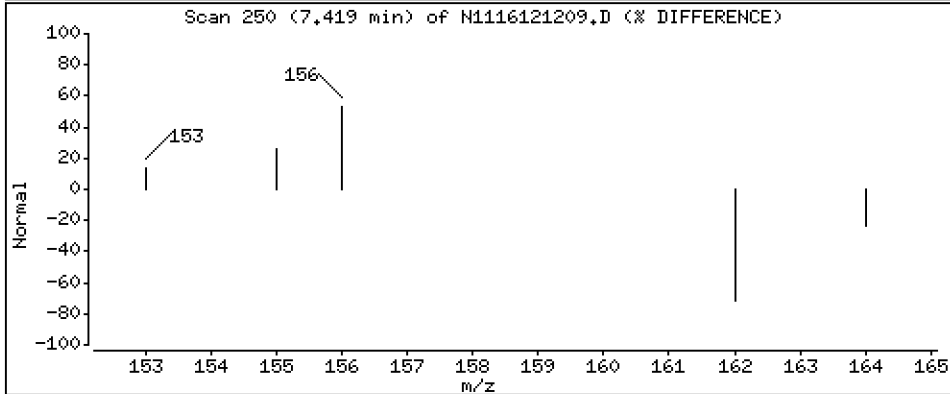
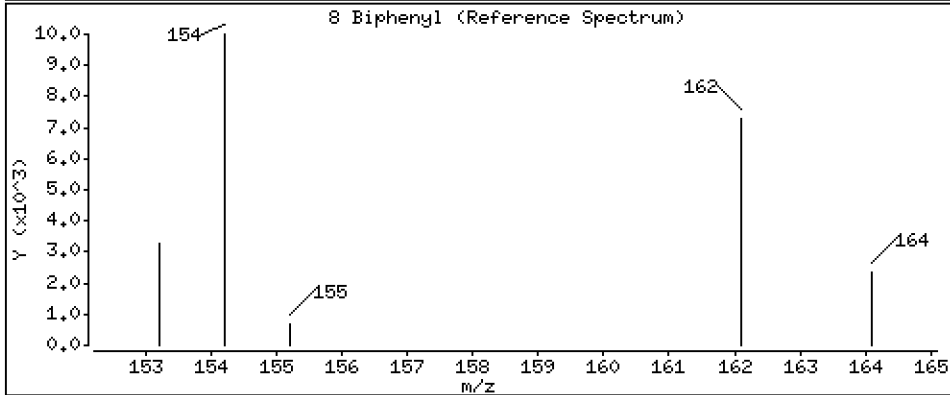
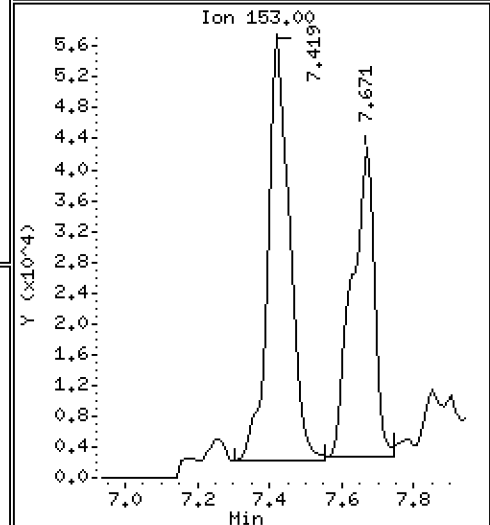
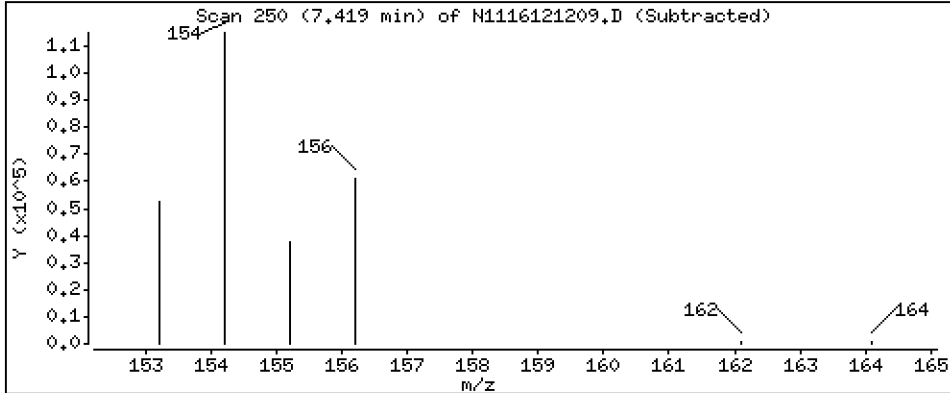
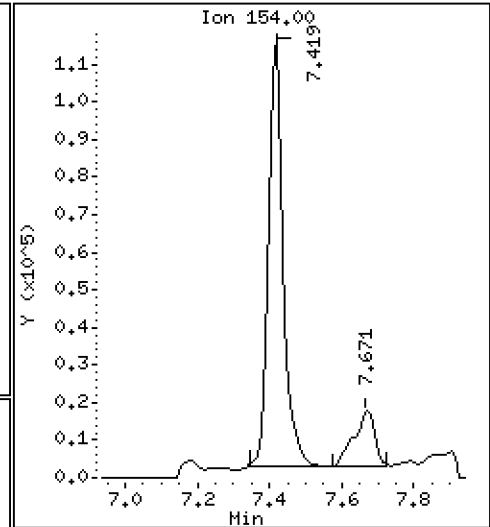
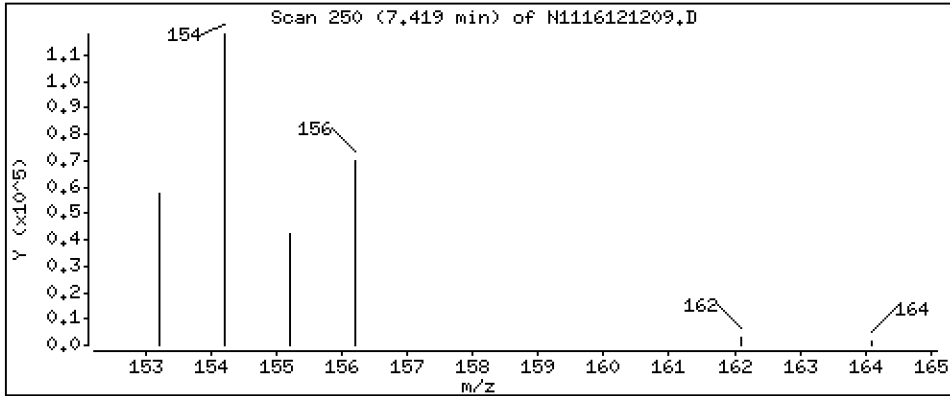
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 107 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

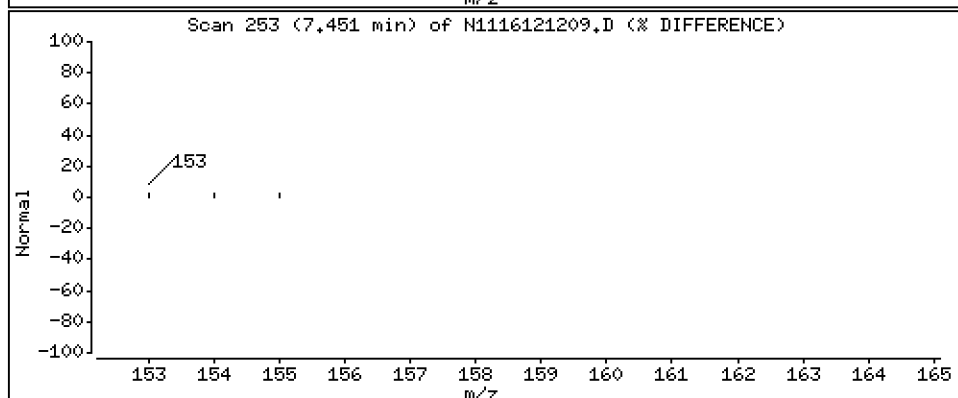
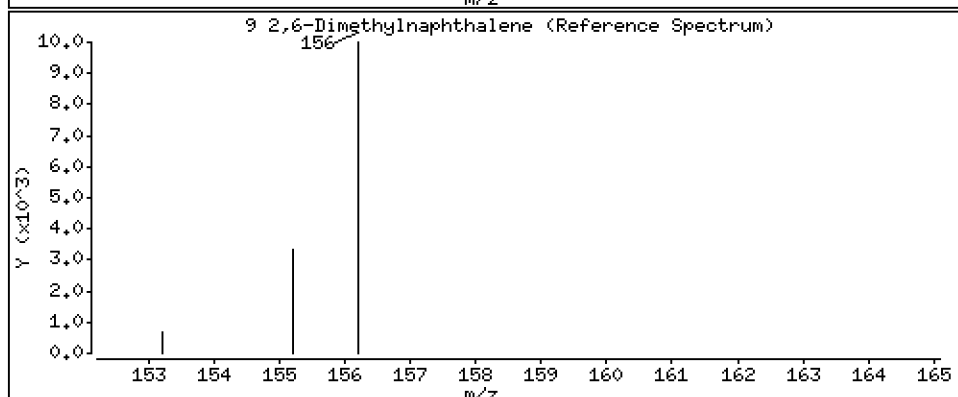
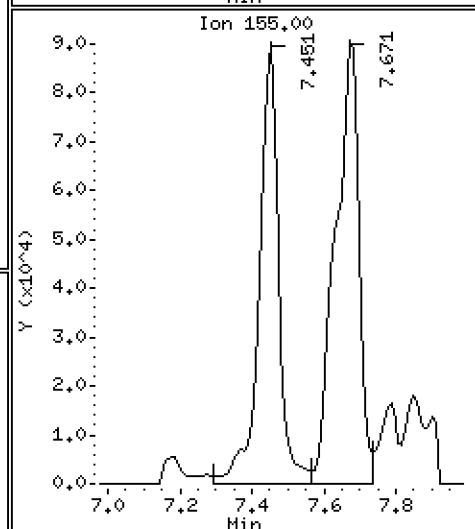
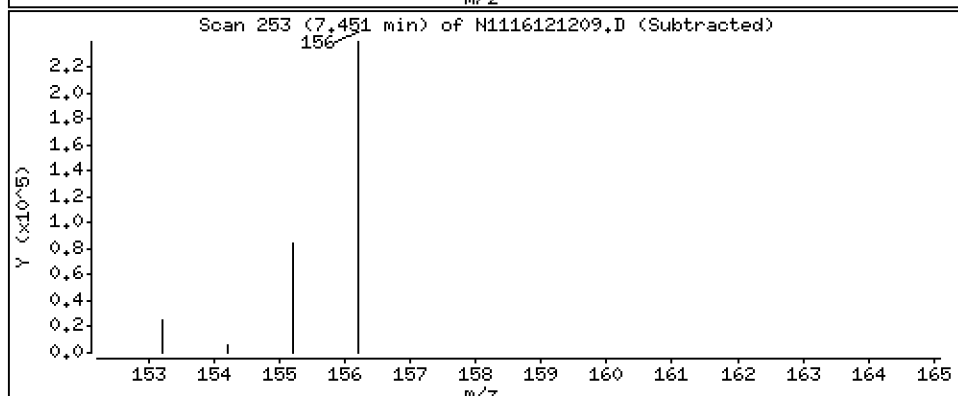
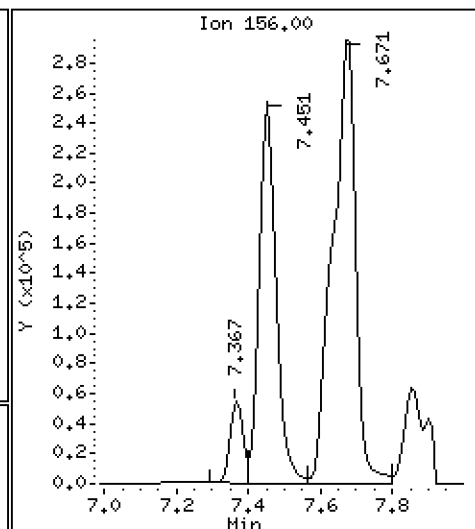
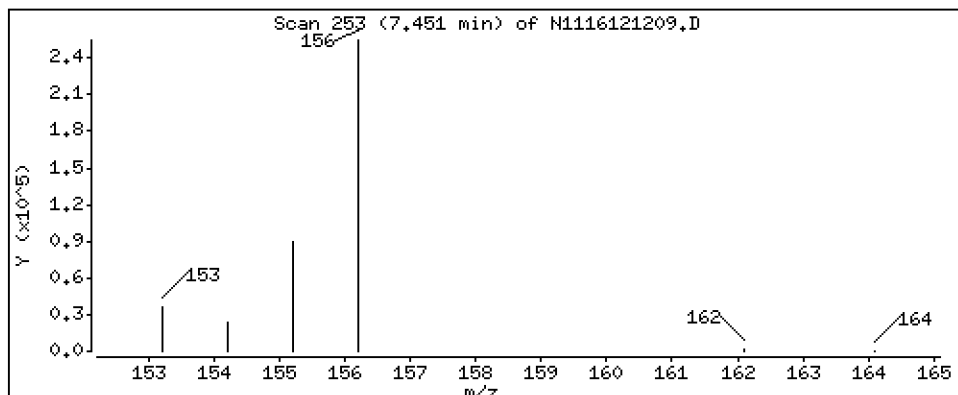
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 385 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

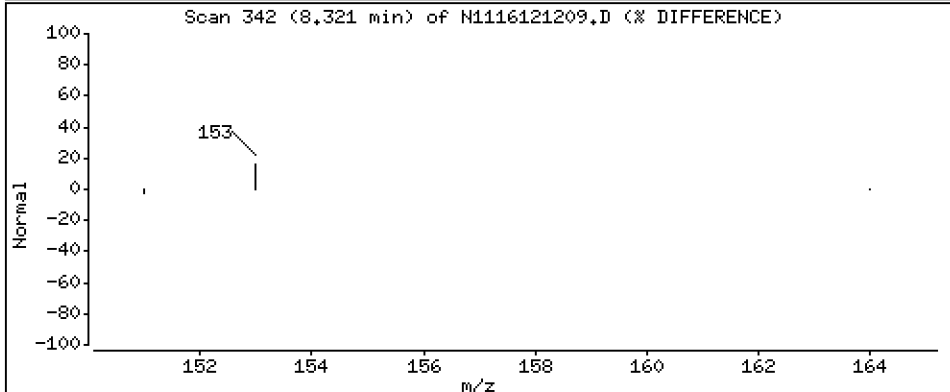
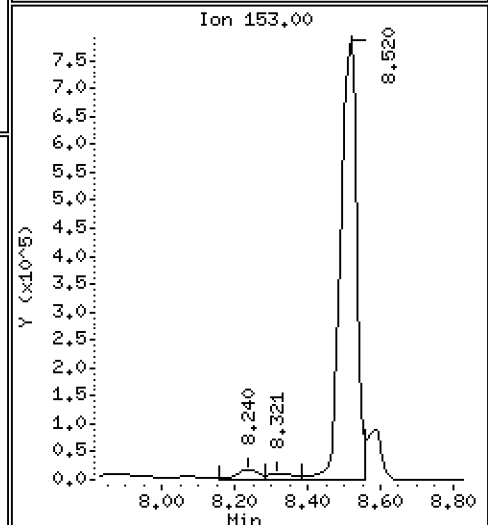
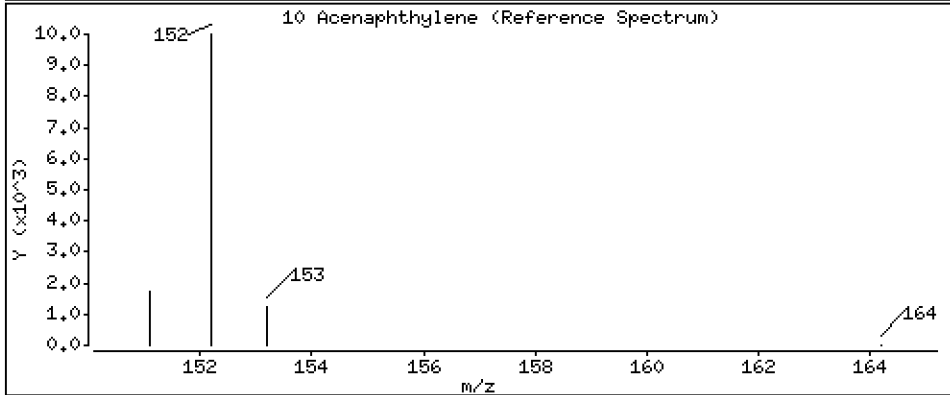
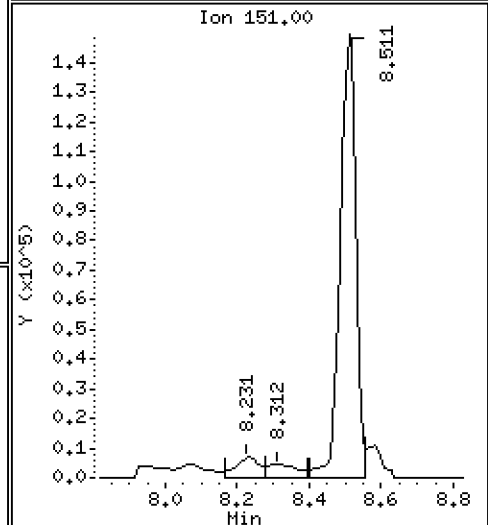
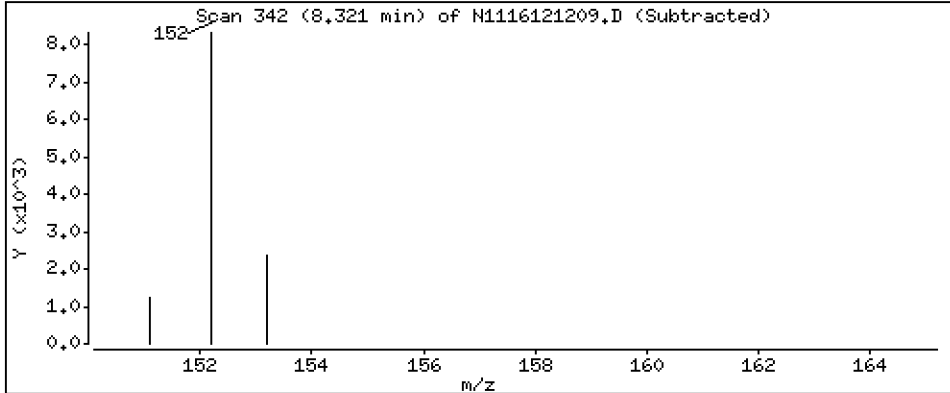
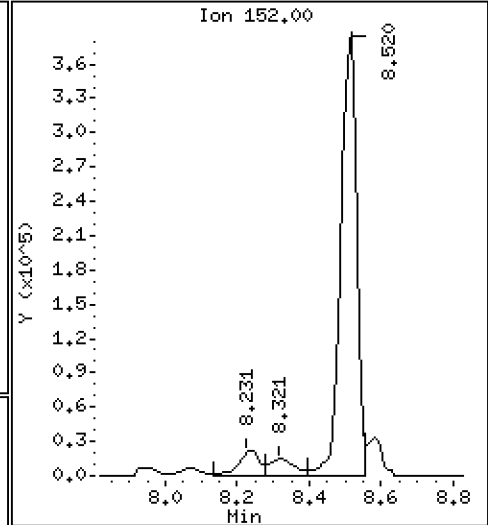
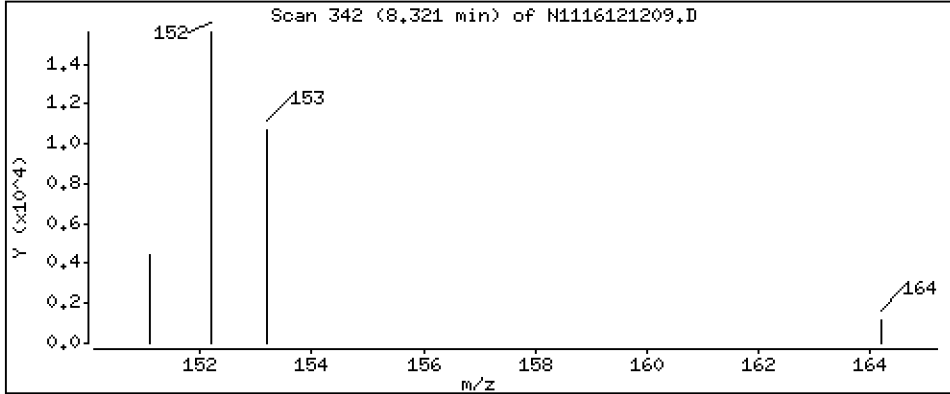
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 30,4 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

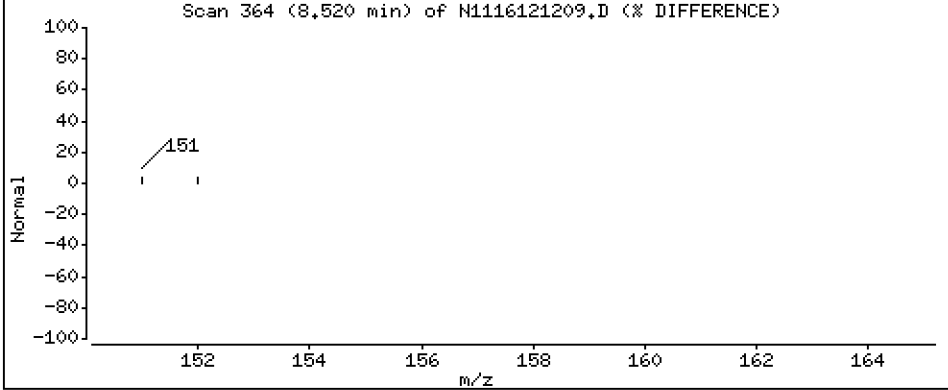
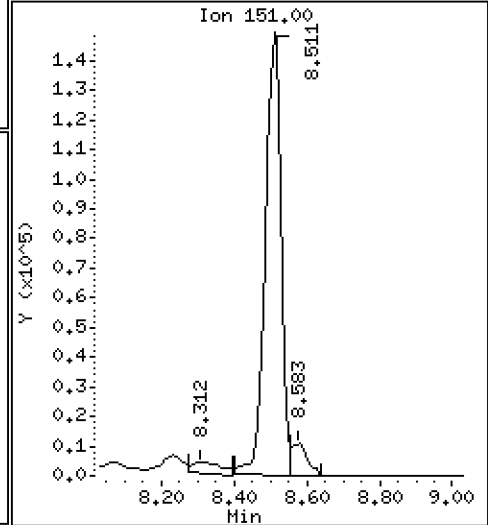
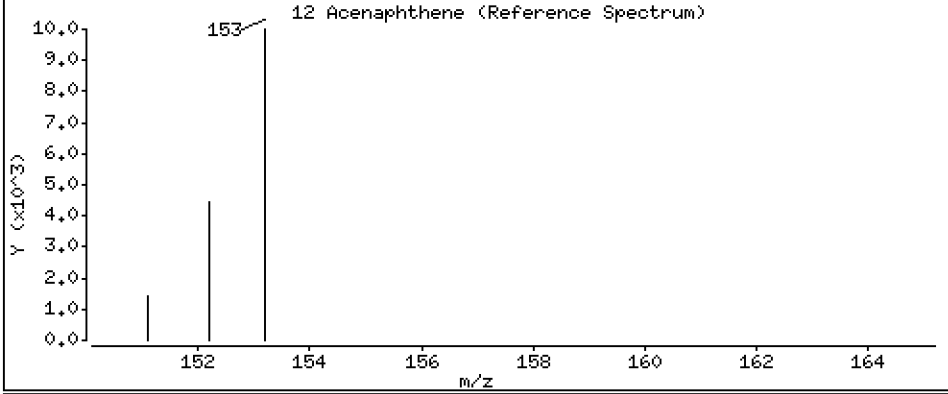
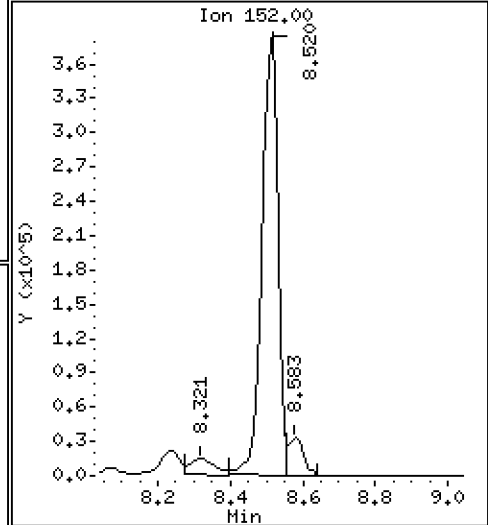
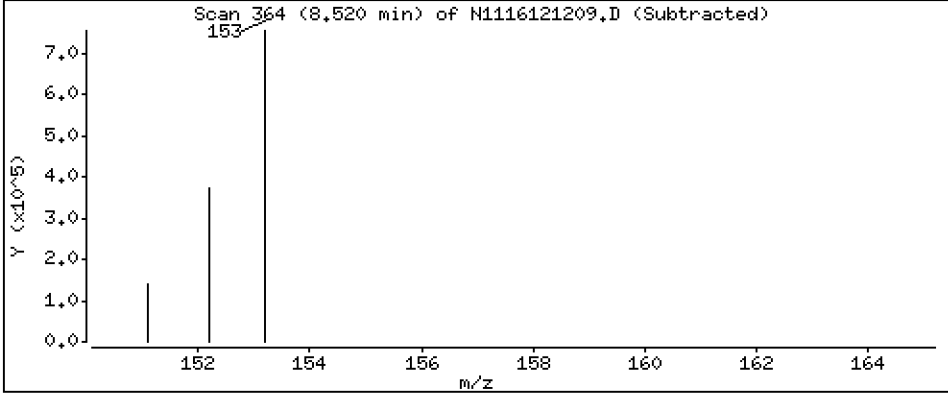
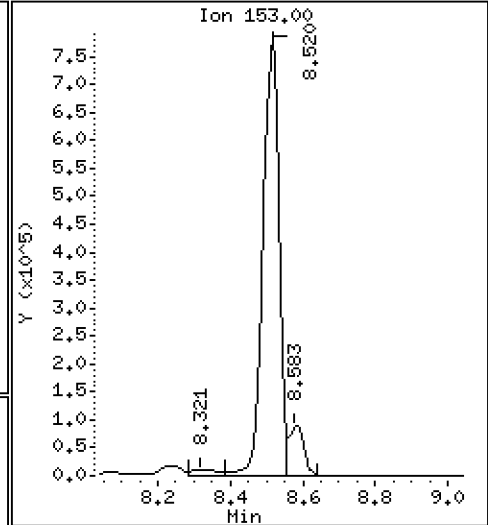
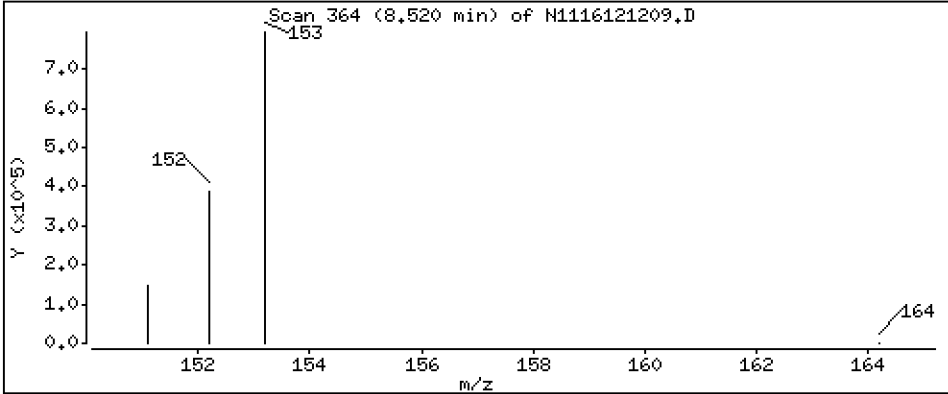
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 1430 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

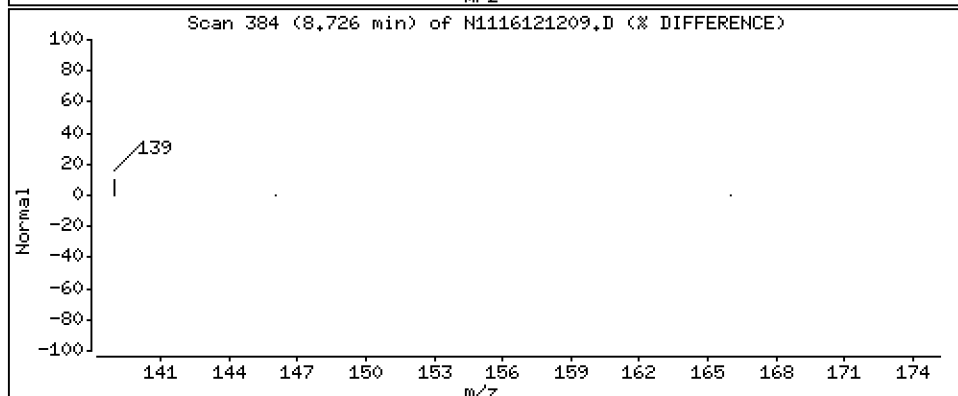
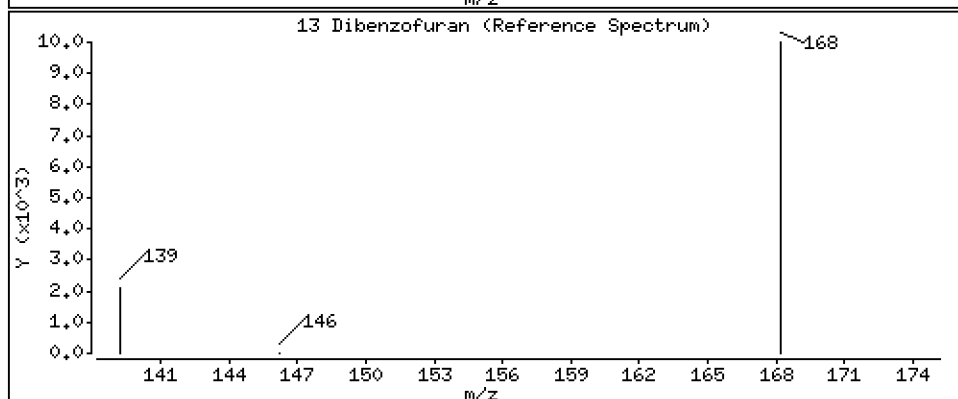
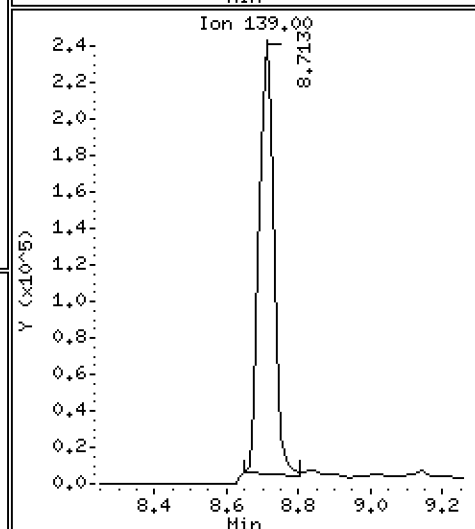
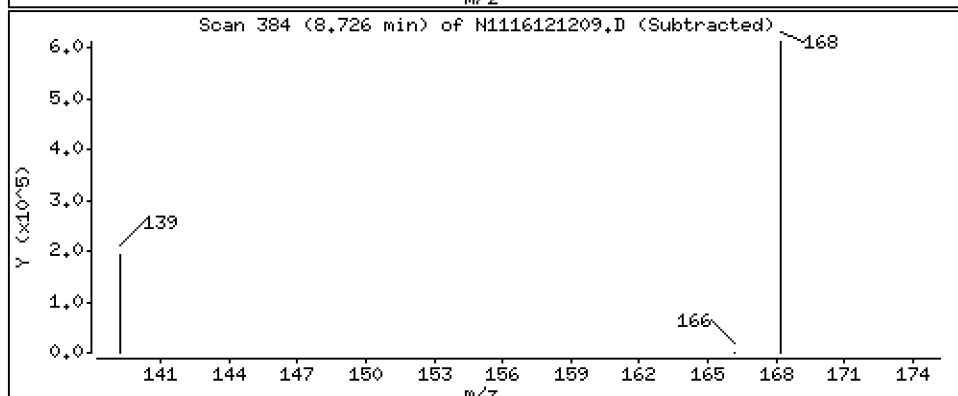
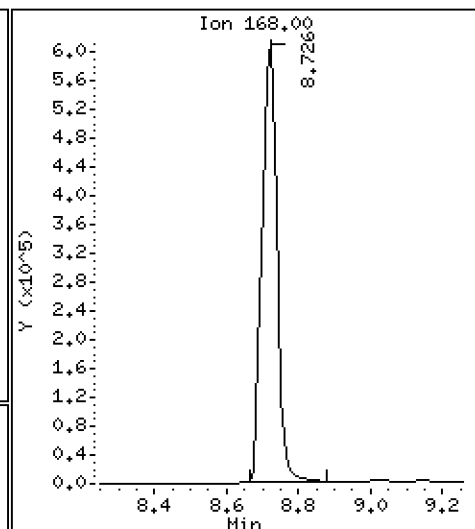
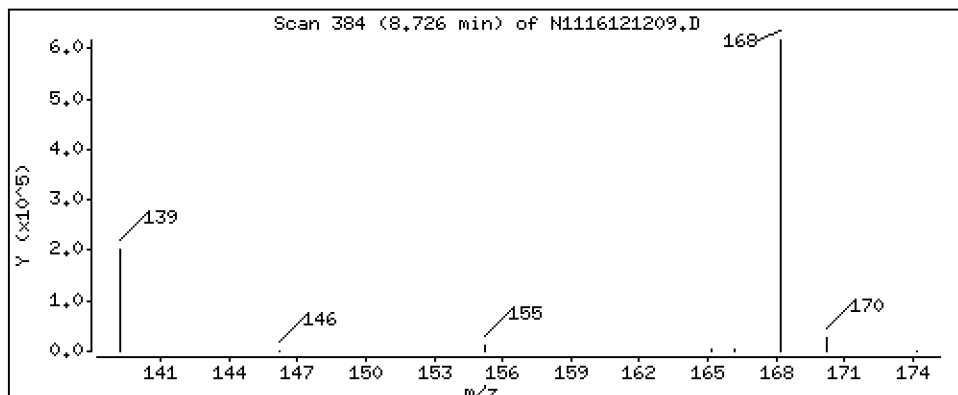
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 740 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

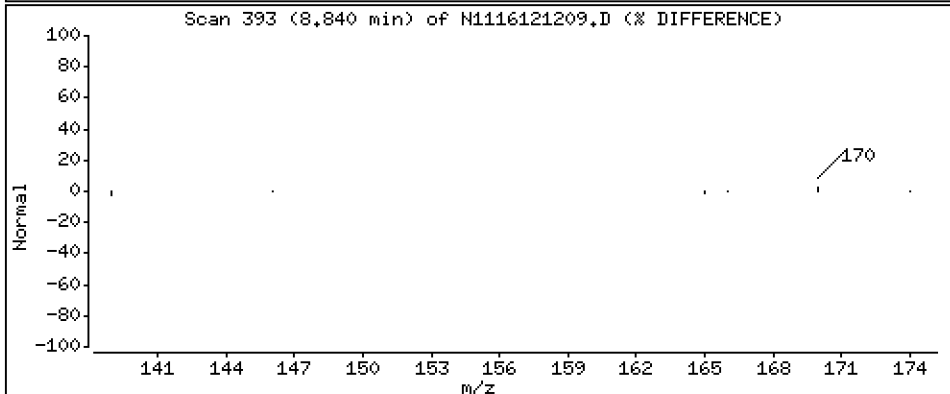
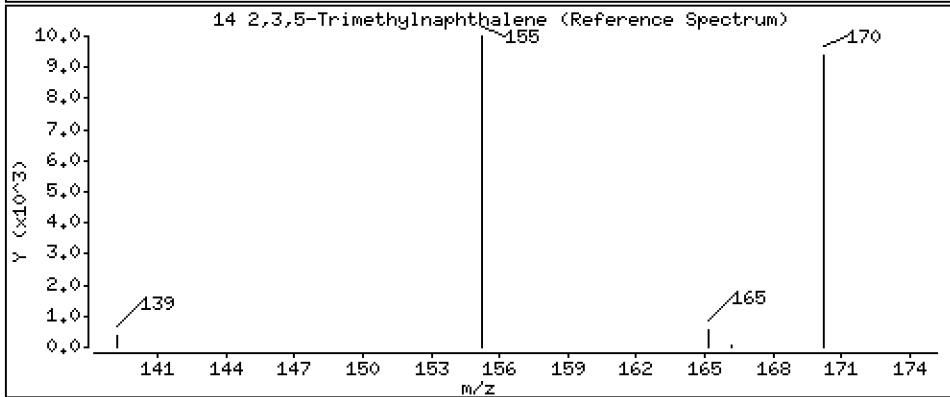
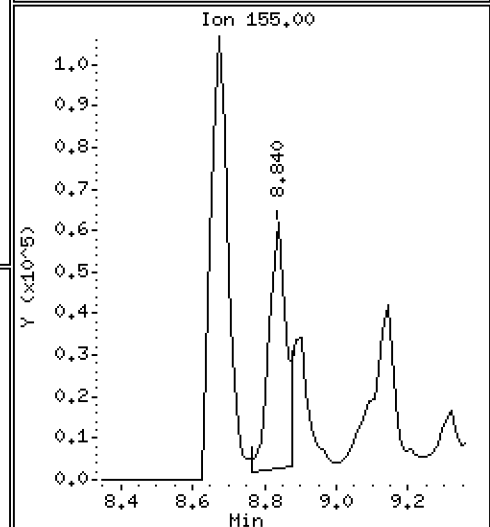
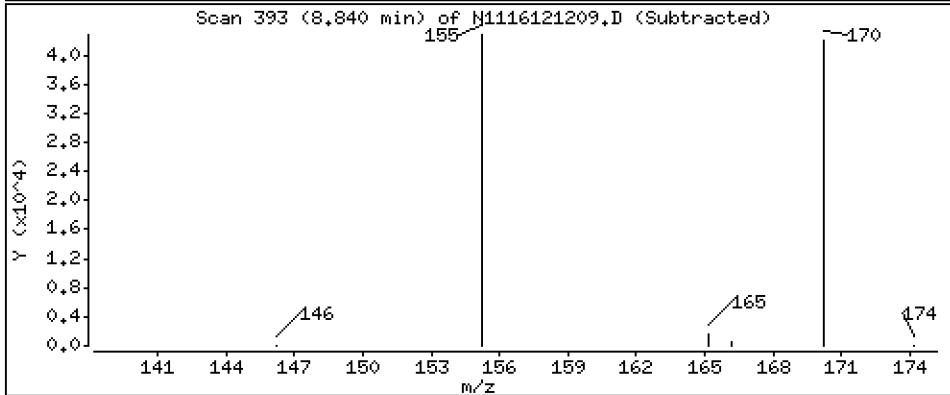
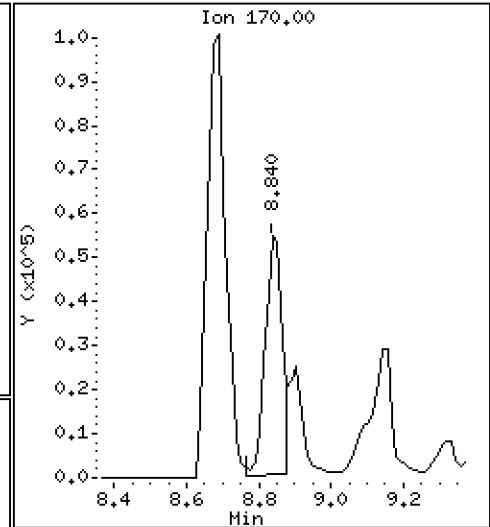
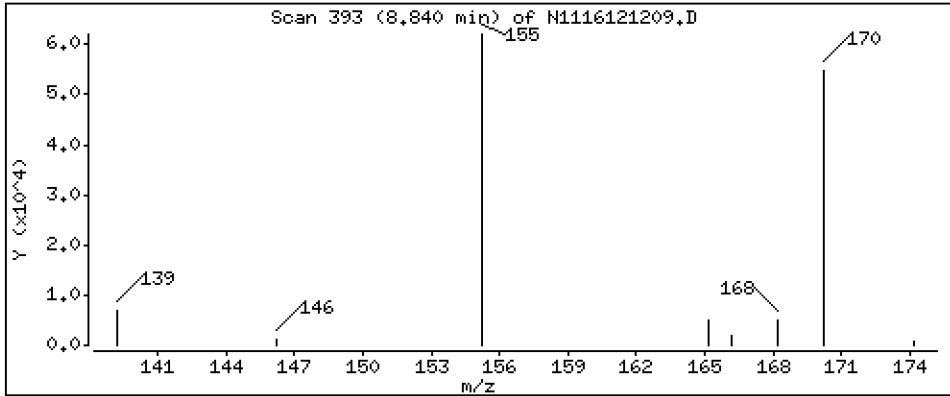
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 123 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

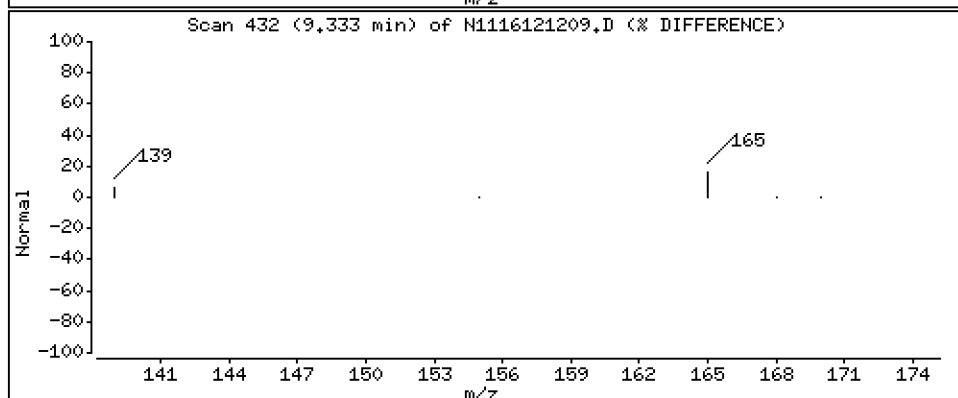
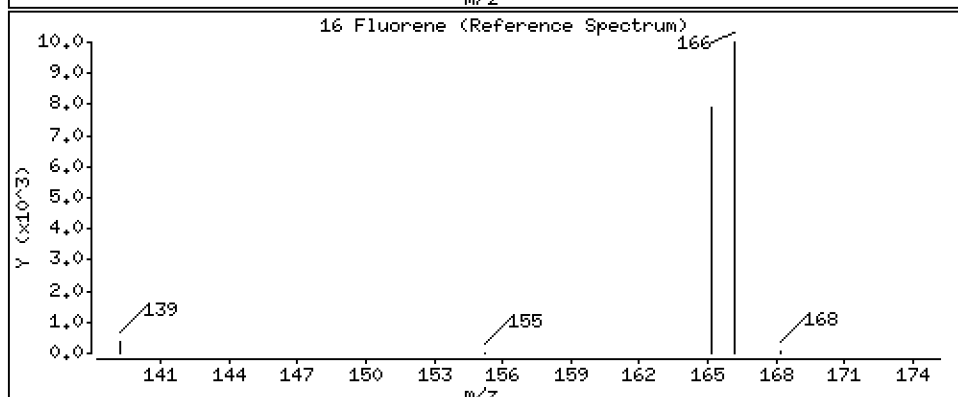
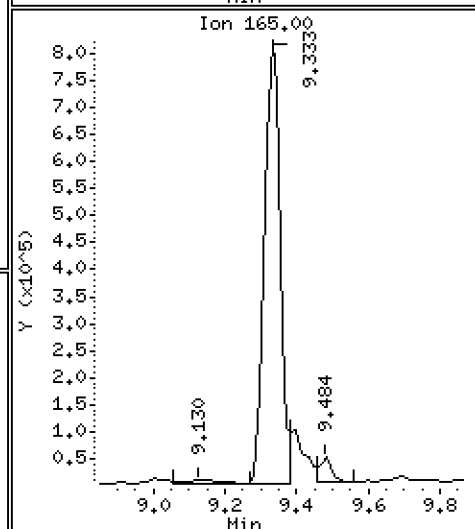
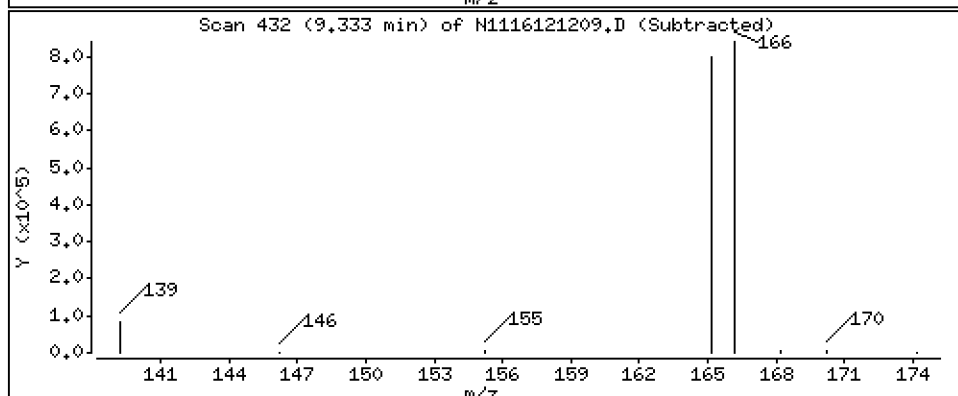
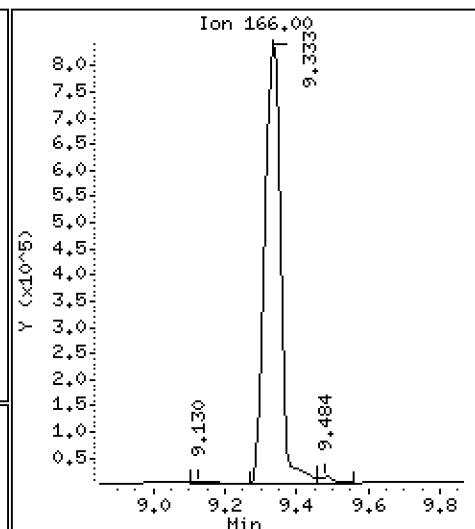
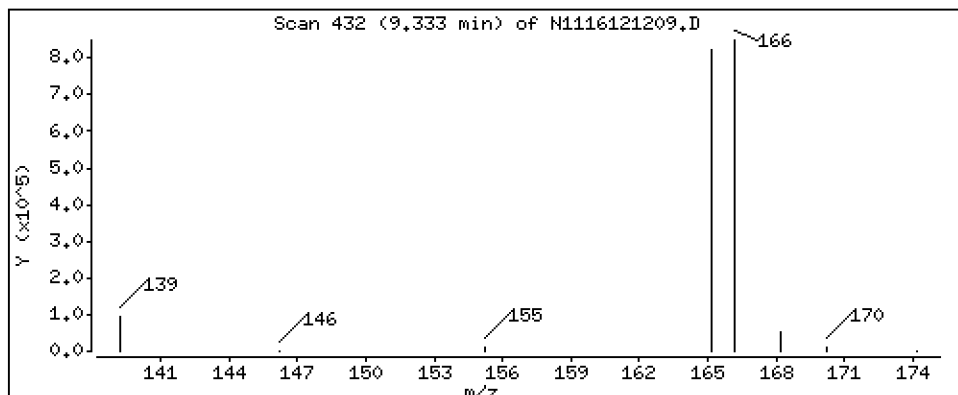
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

16 Fluorene

Concentration: 1380 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

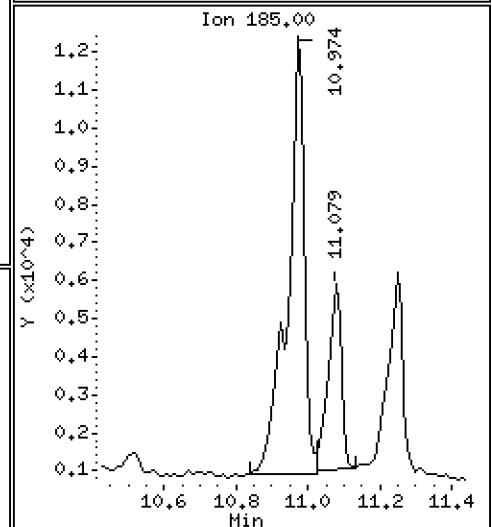
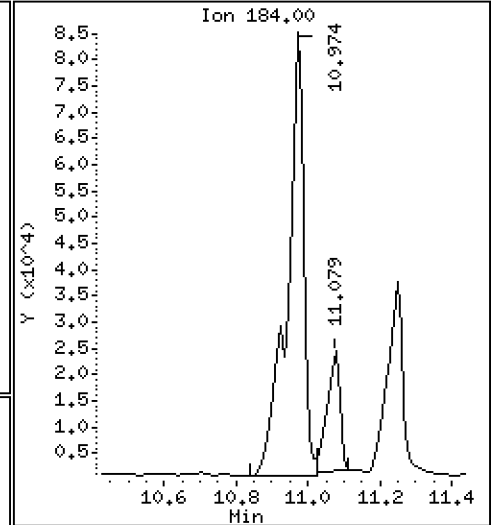
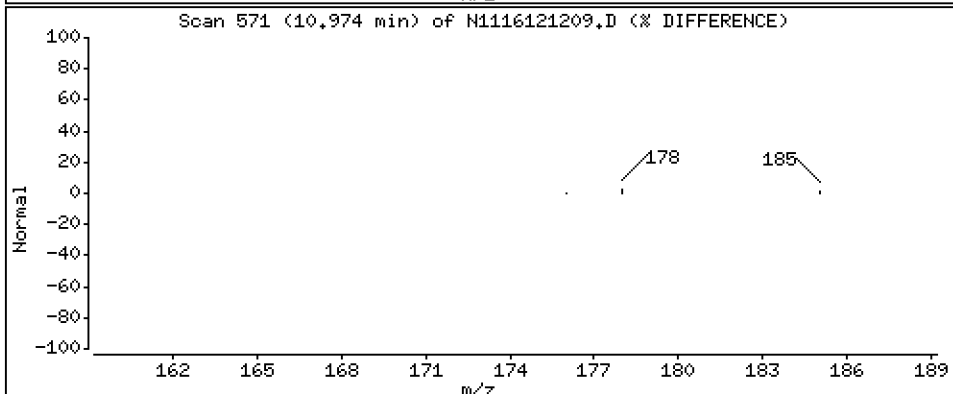
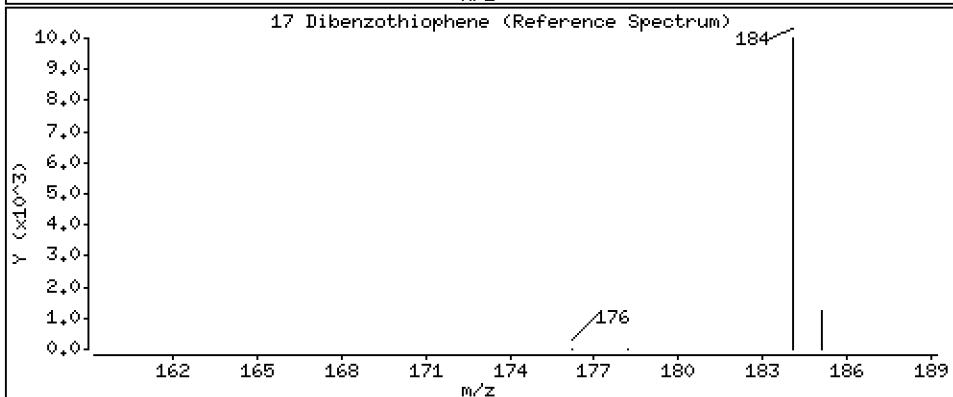
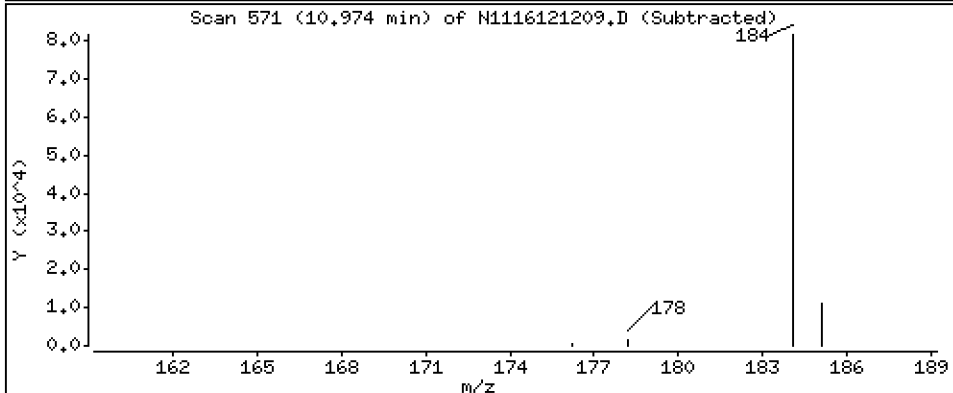
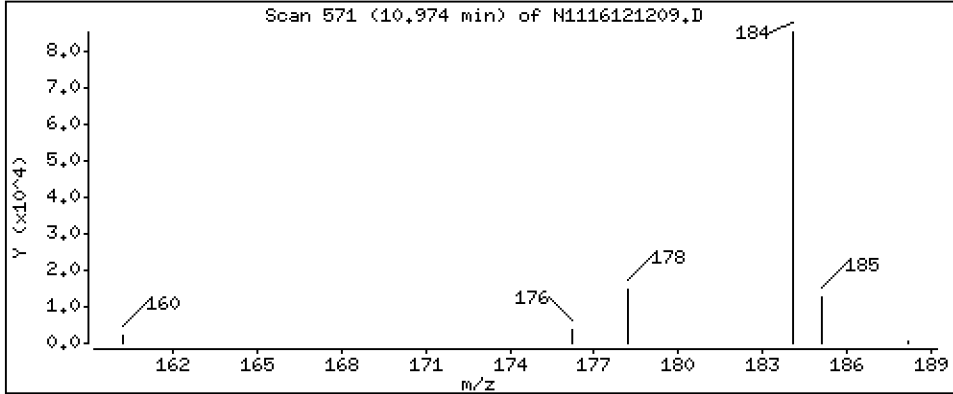
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 119 ng/mL

17 Dibenzothiophene



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

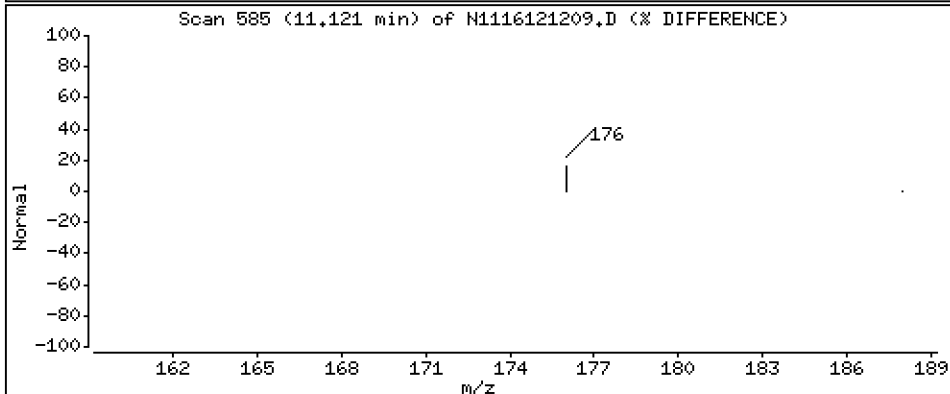
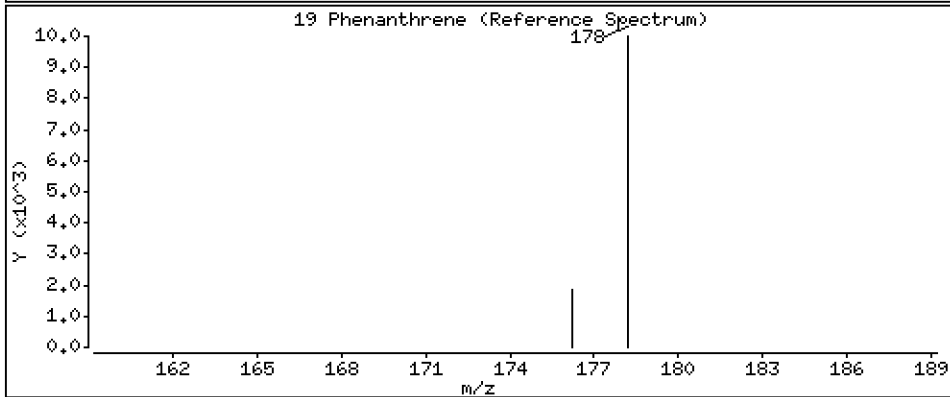
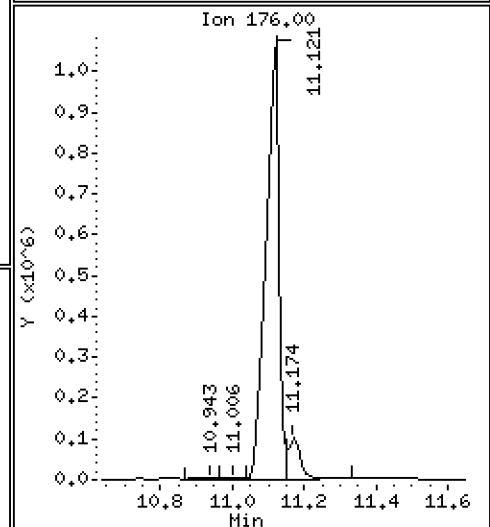
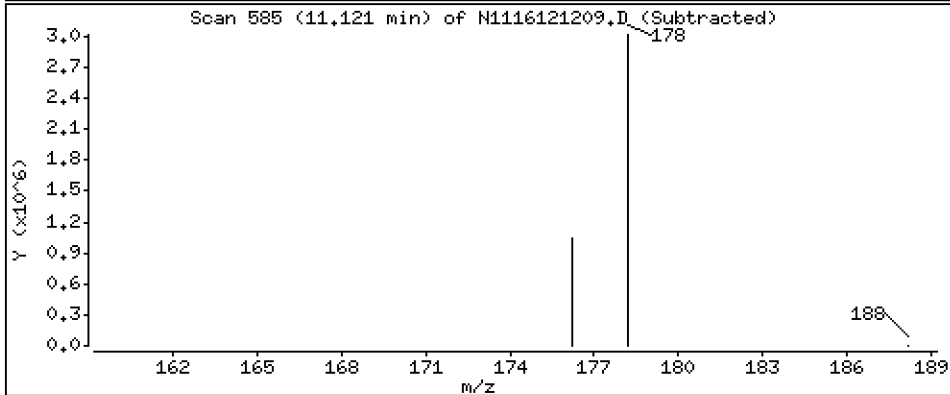
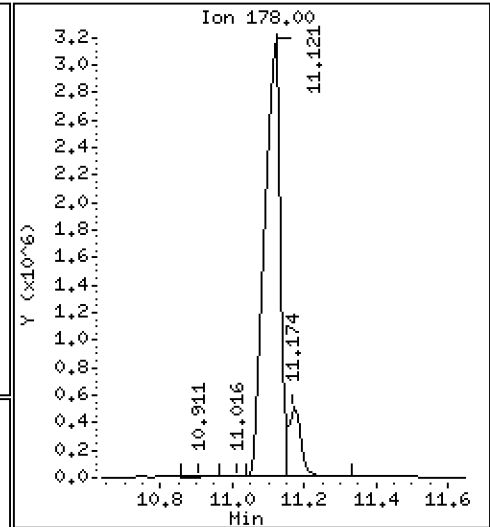
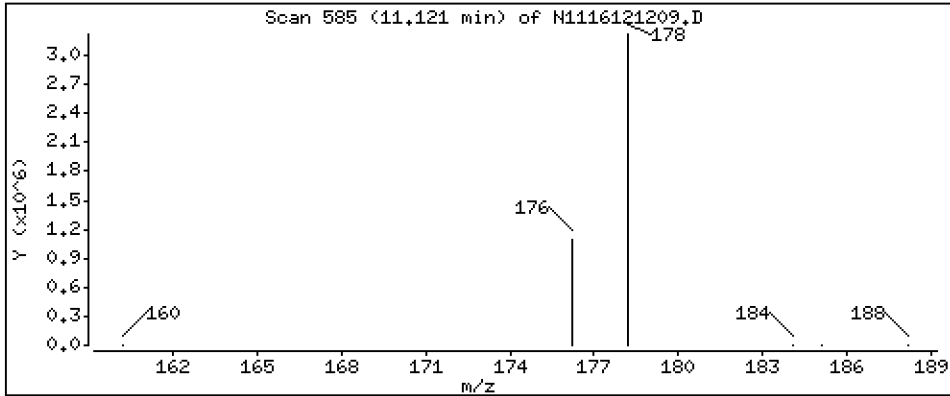
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 3730 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

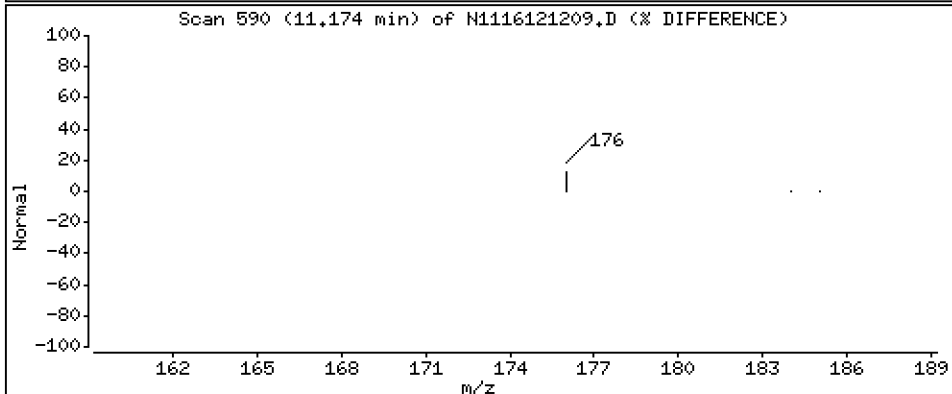
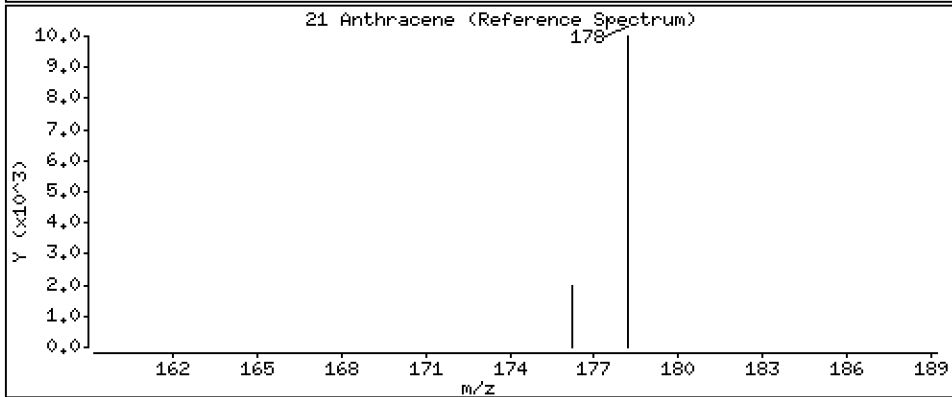
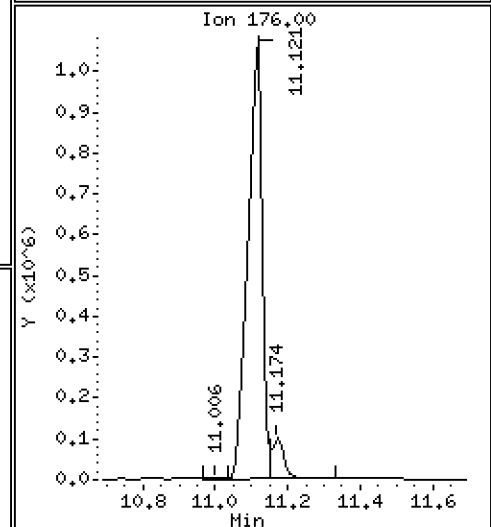
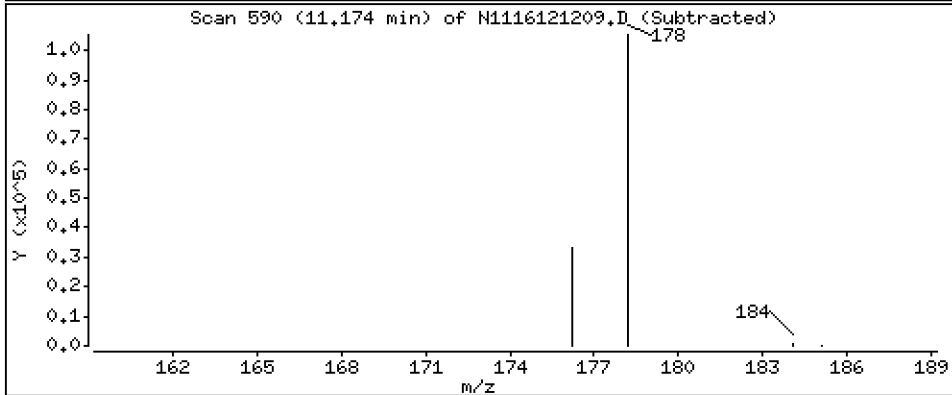
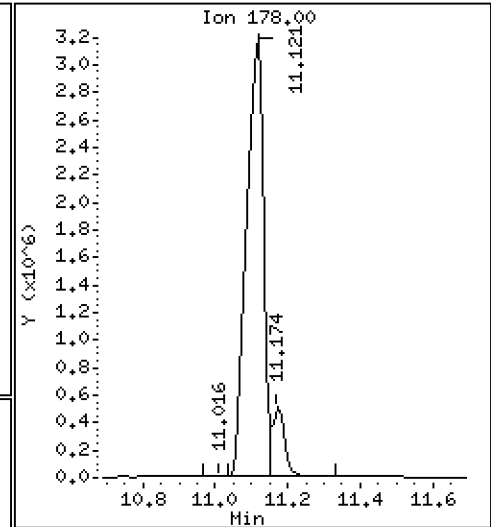
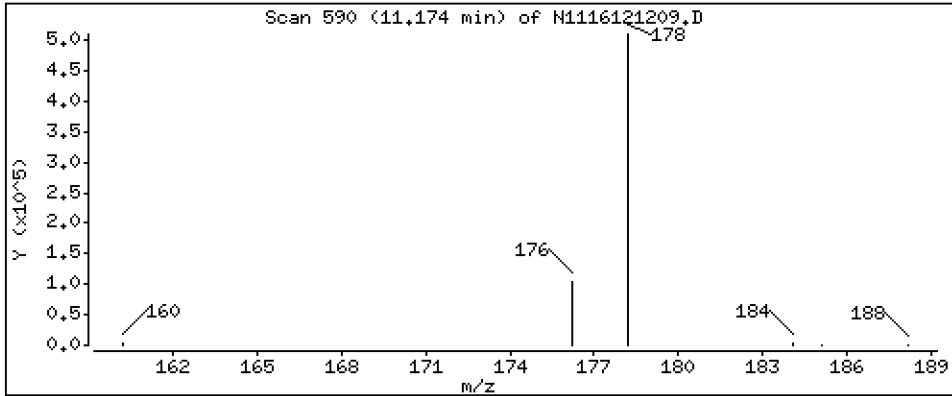
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 492 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

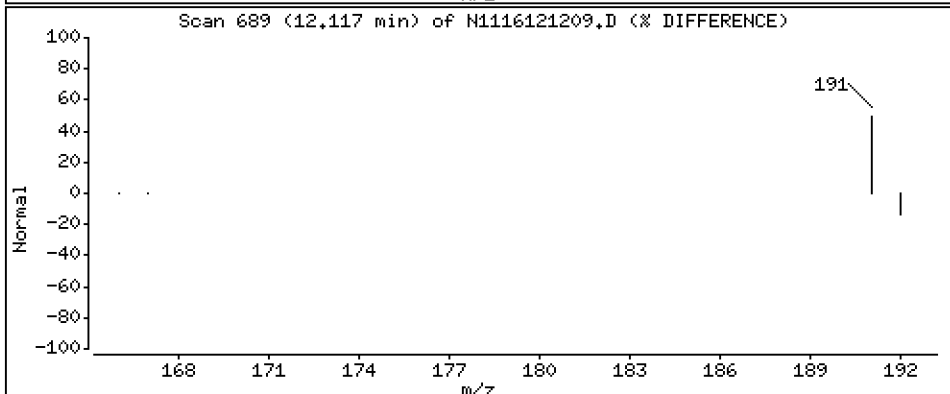
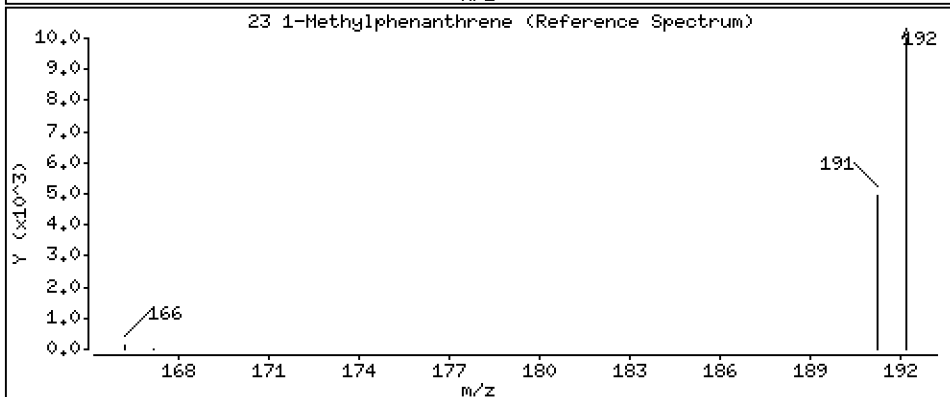
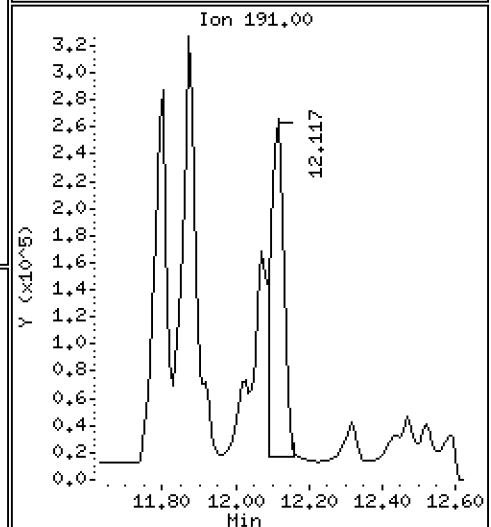
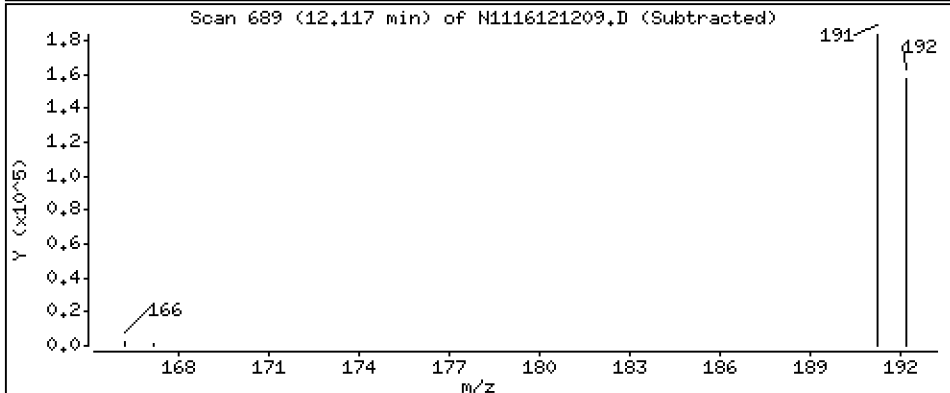
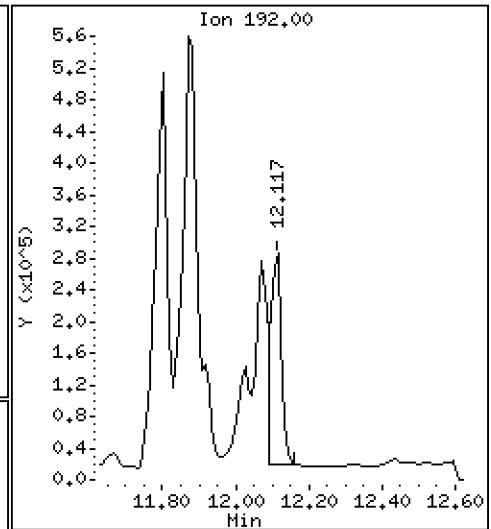
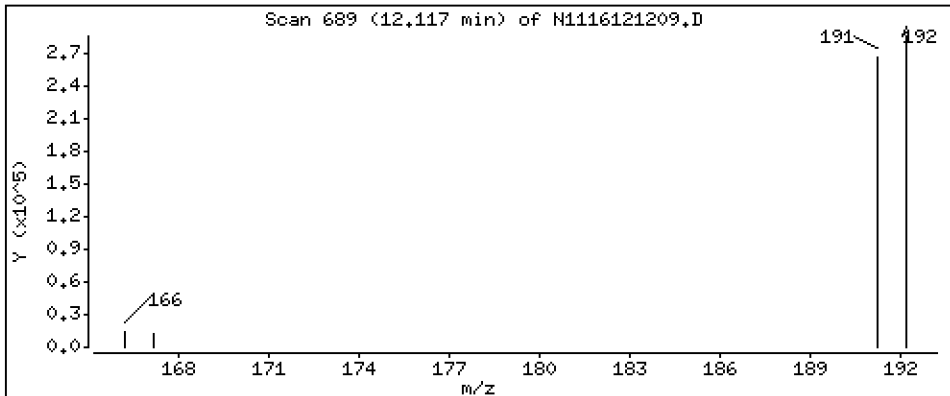
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 243 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

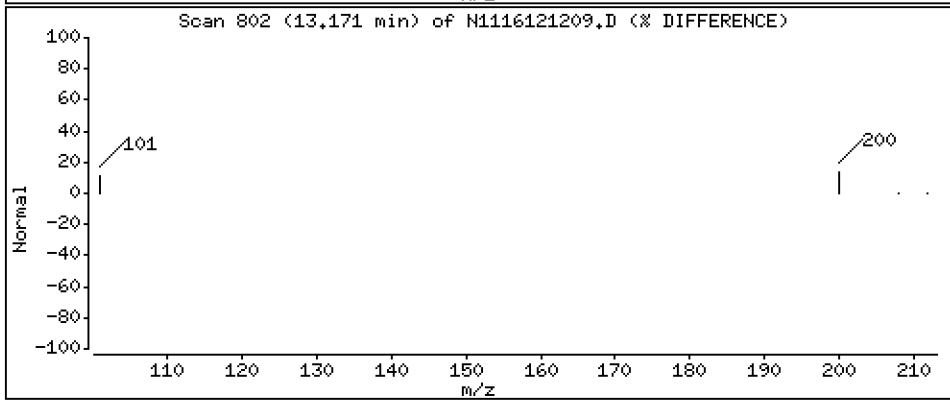
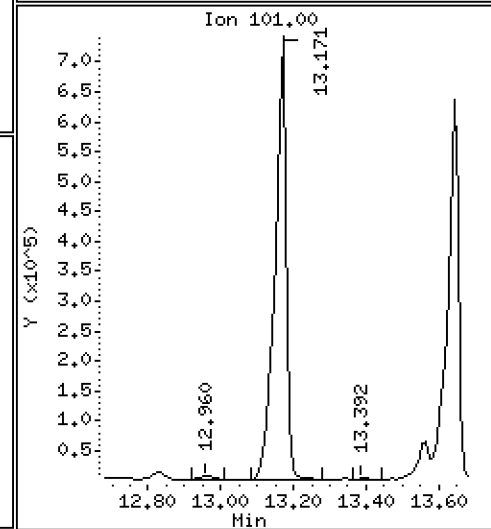
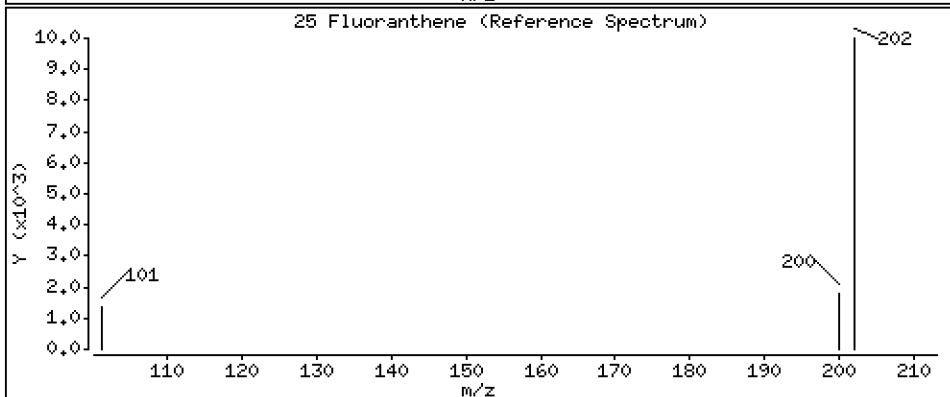
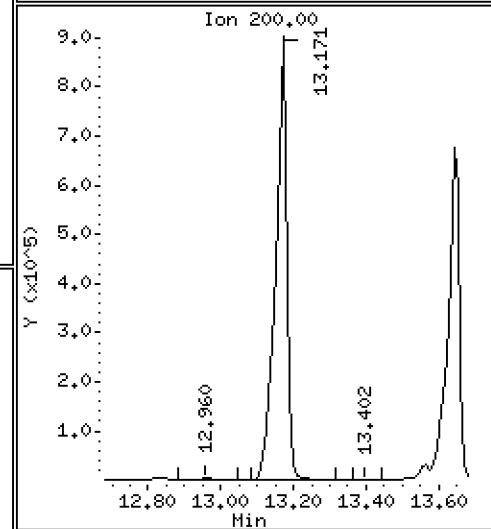
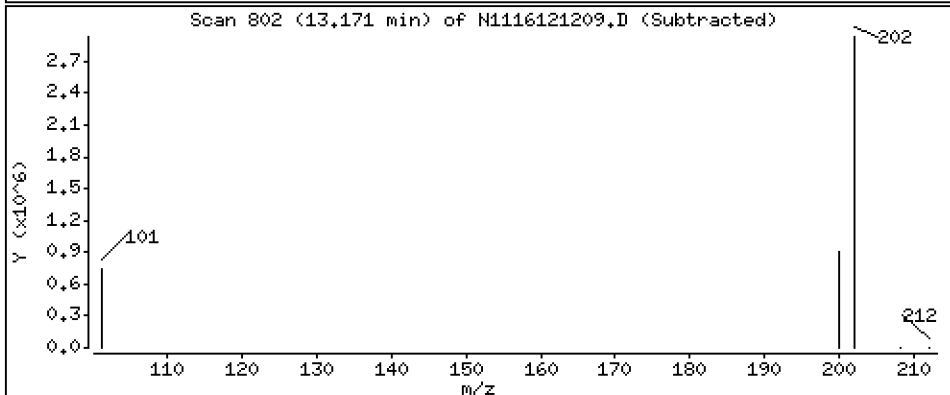
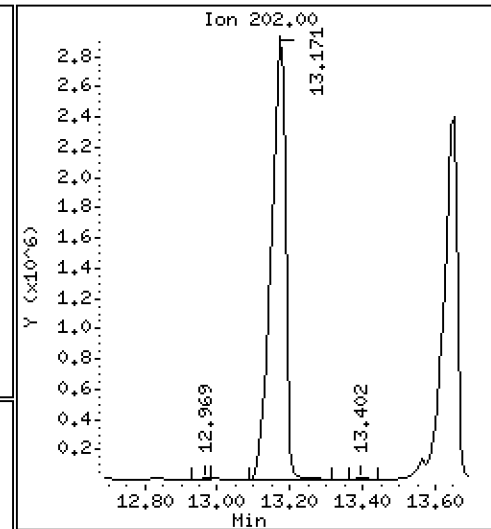
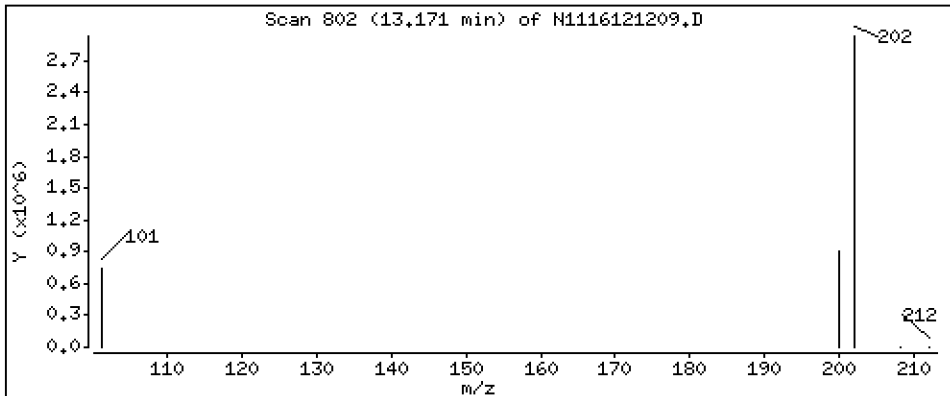
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2920 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

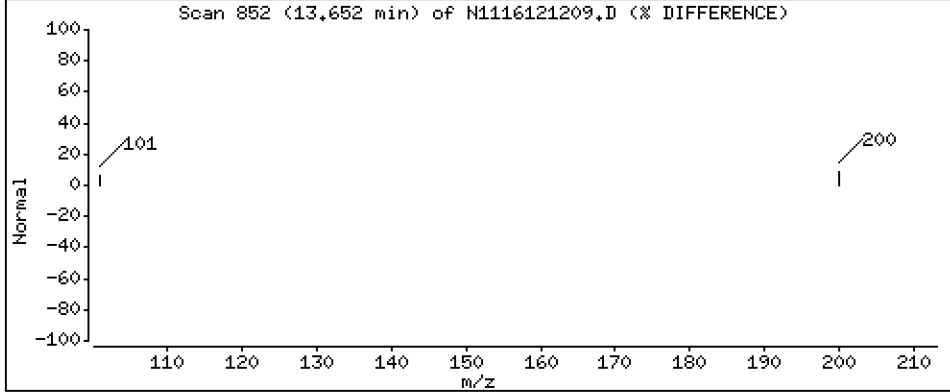
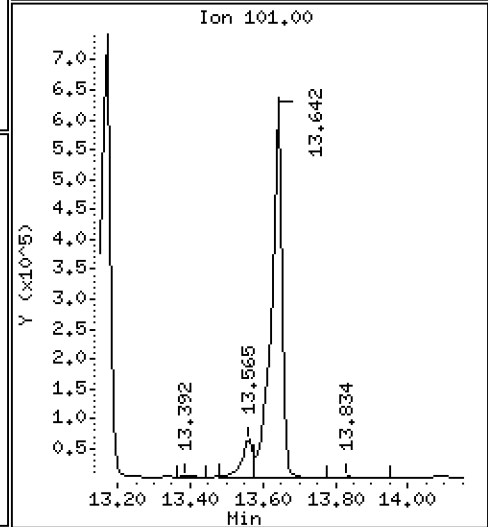
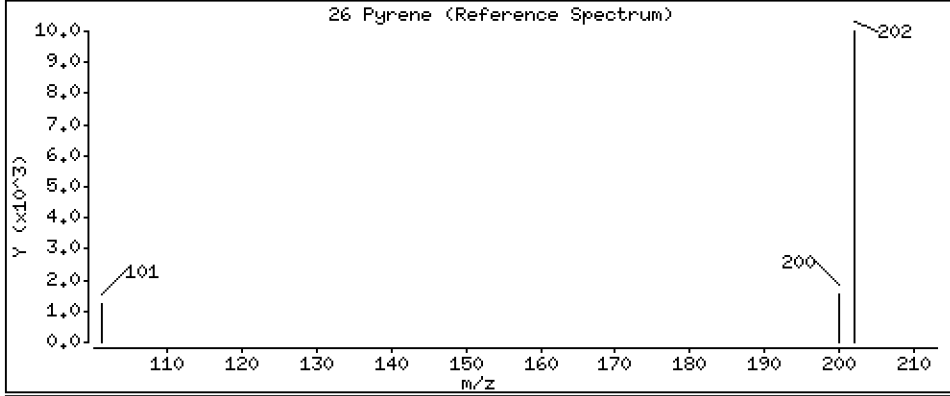
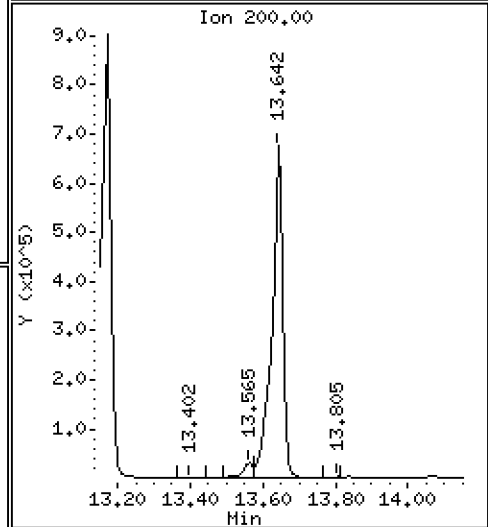
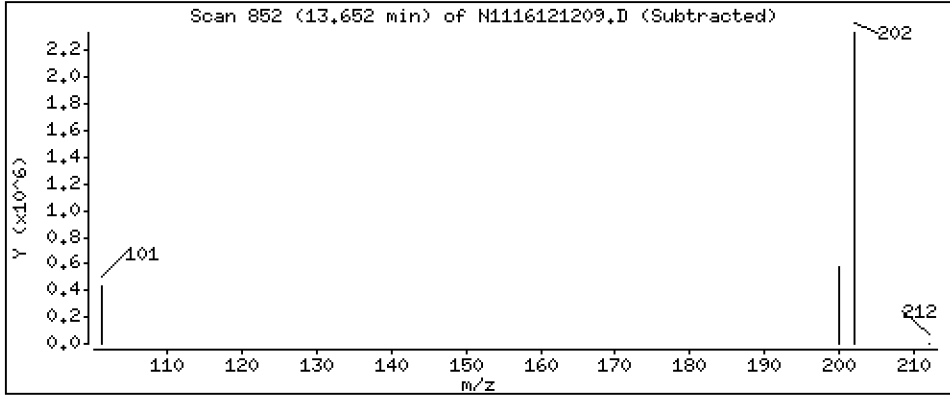
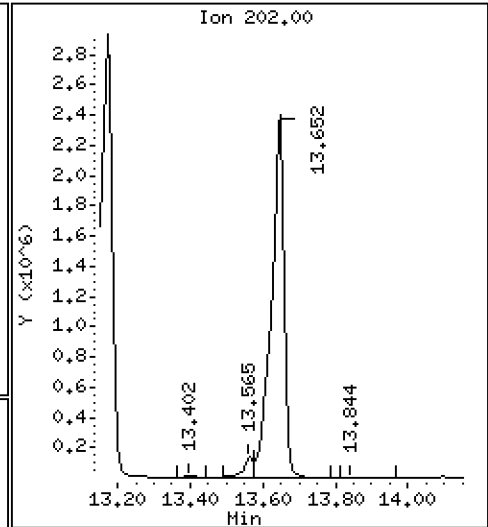
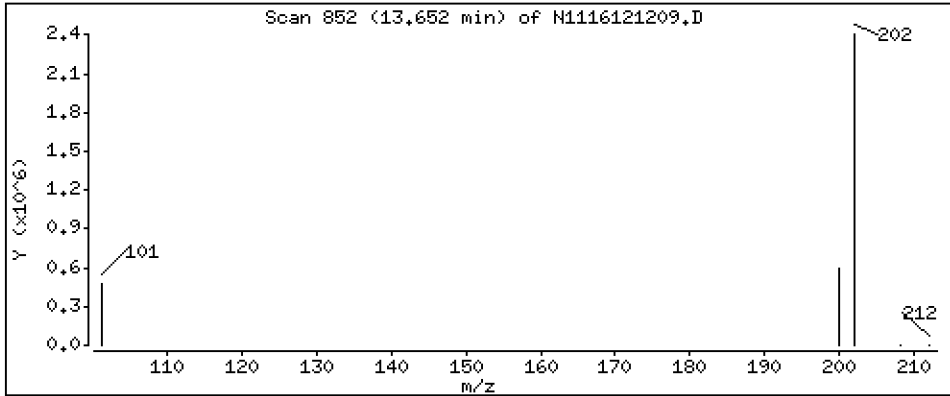
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 2260 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

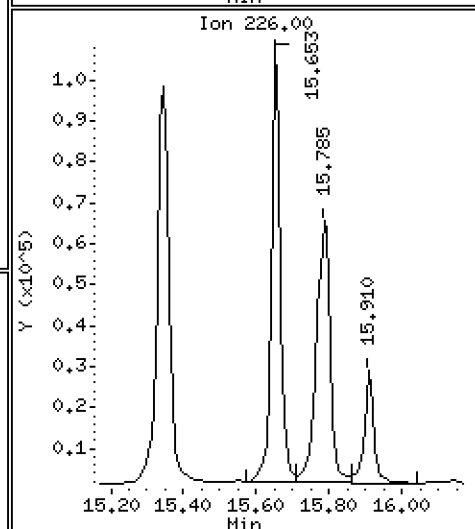
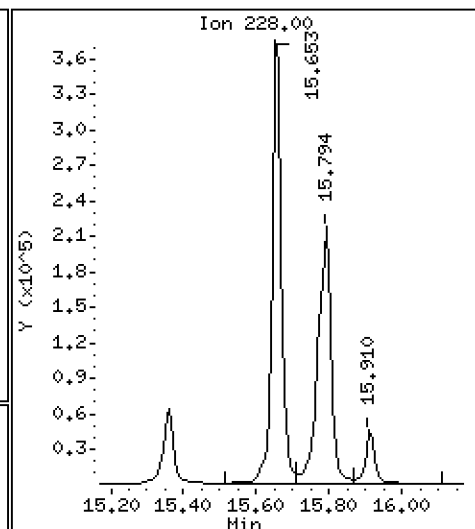
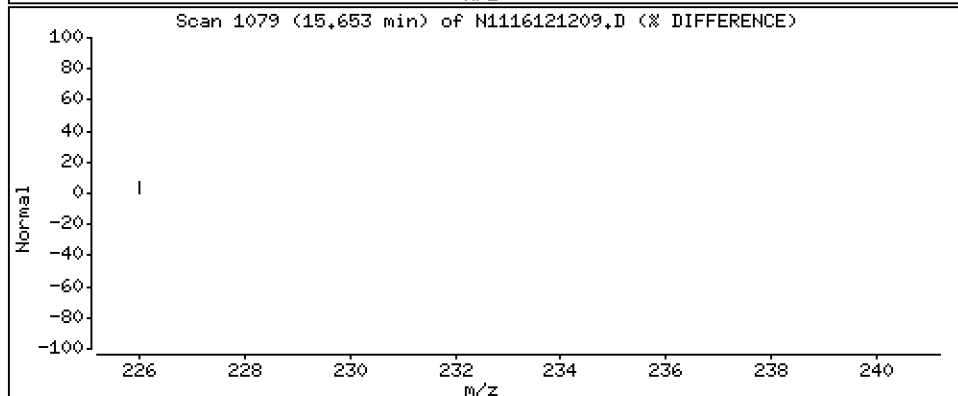
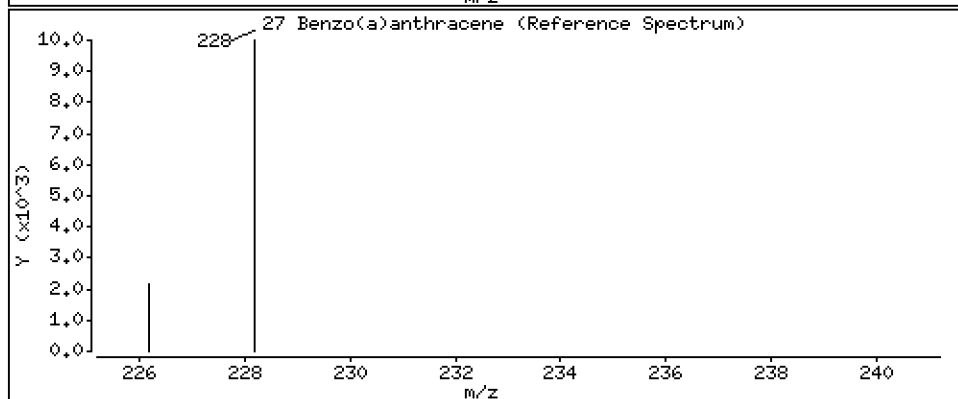
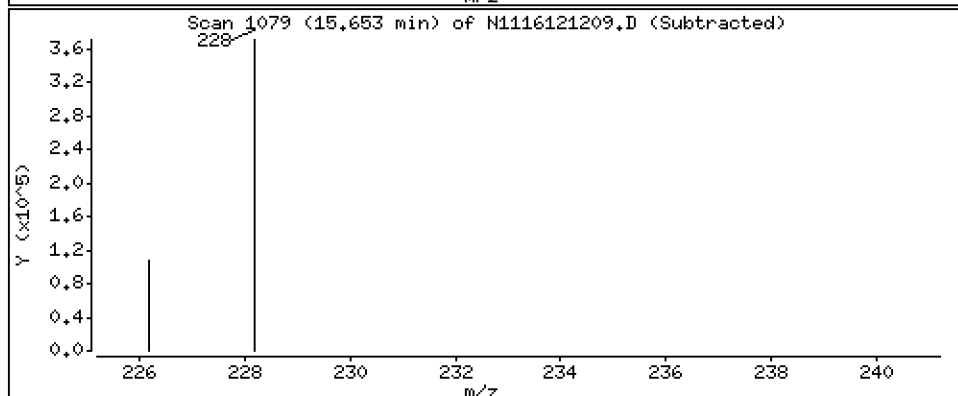
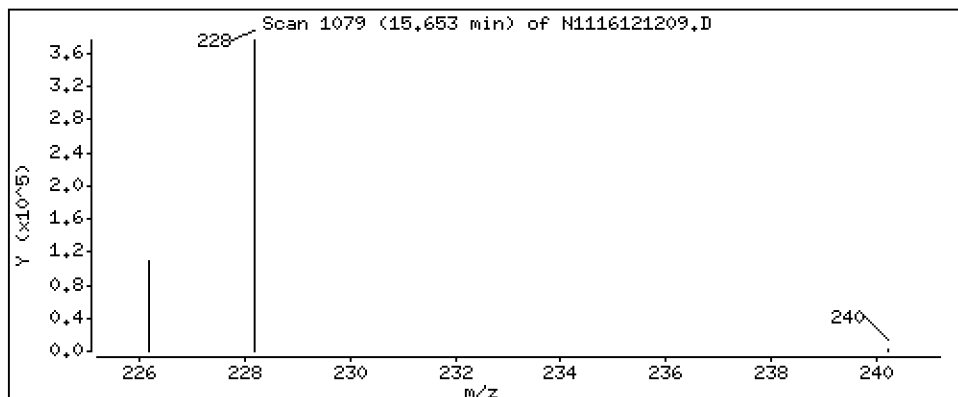
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 295 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

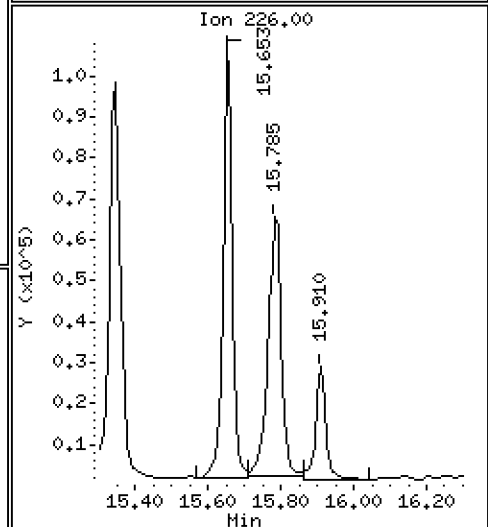
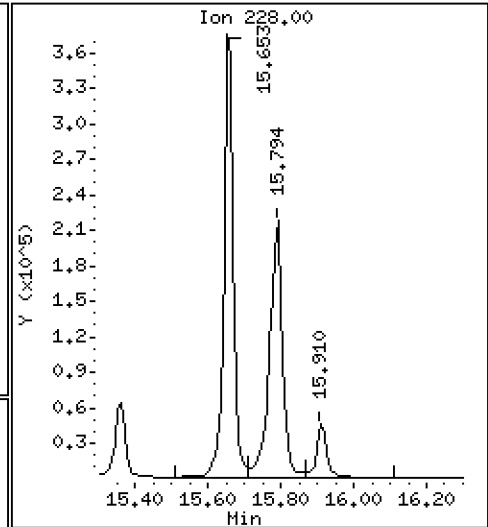
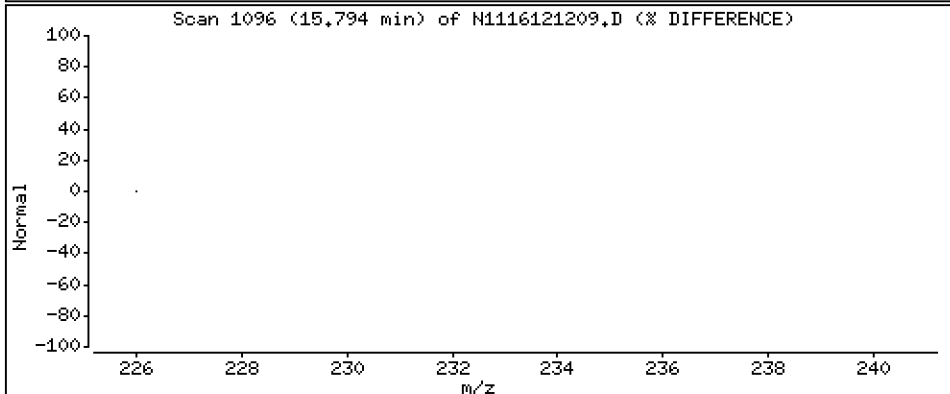
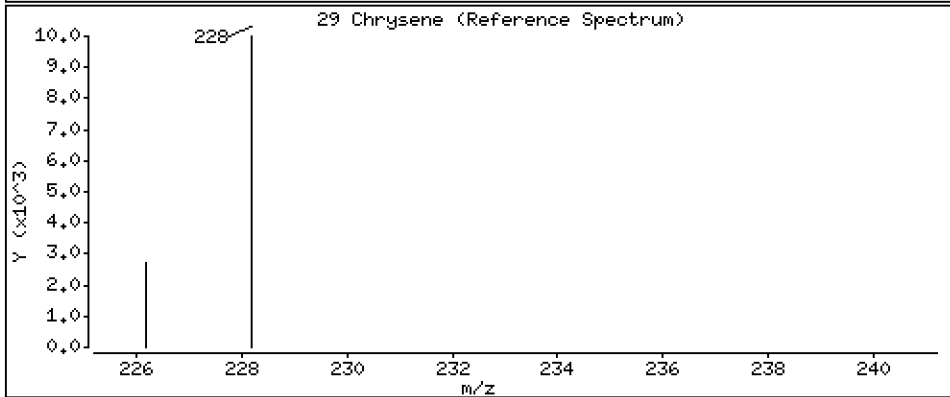
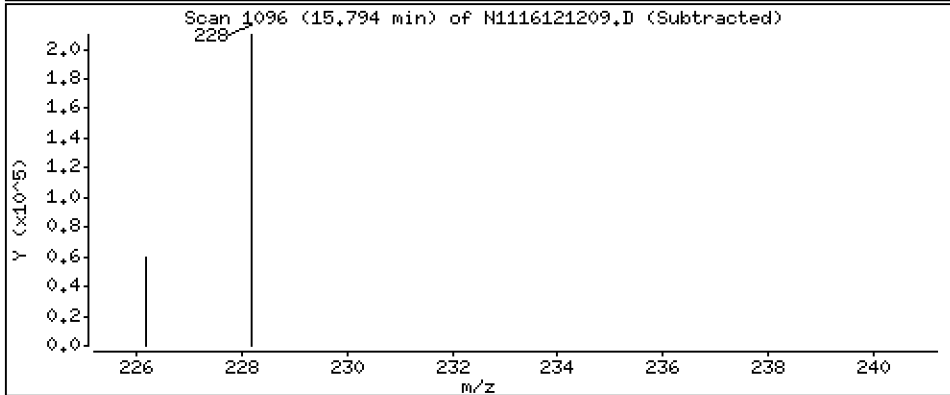
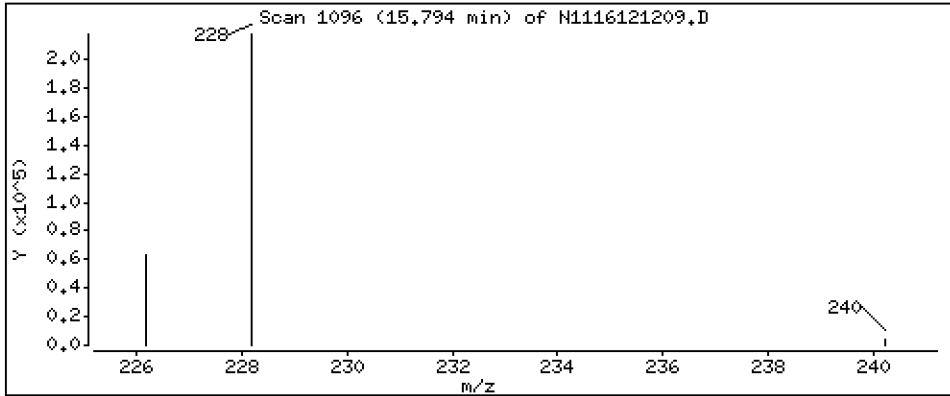
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 212 ng/mL

29 Chrysene



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

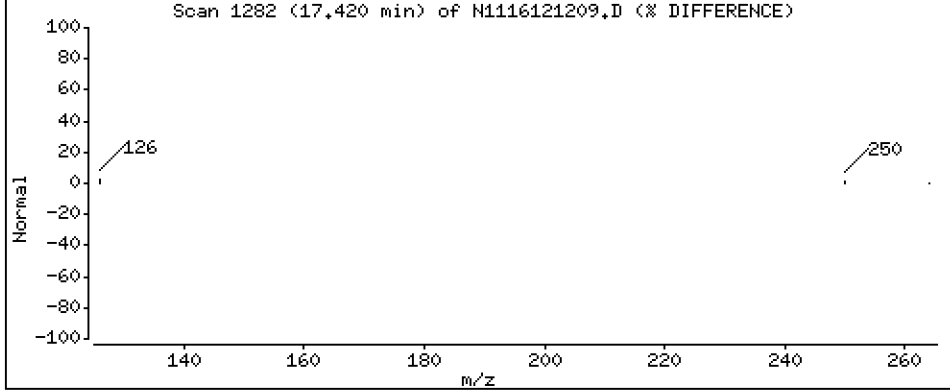
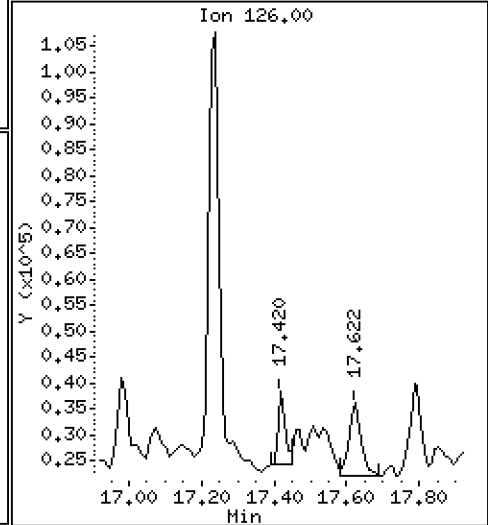
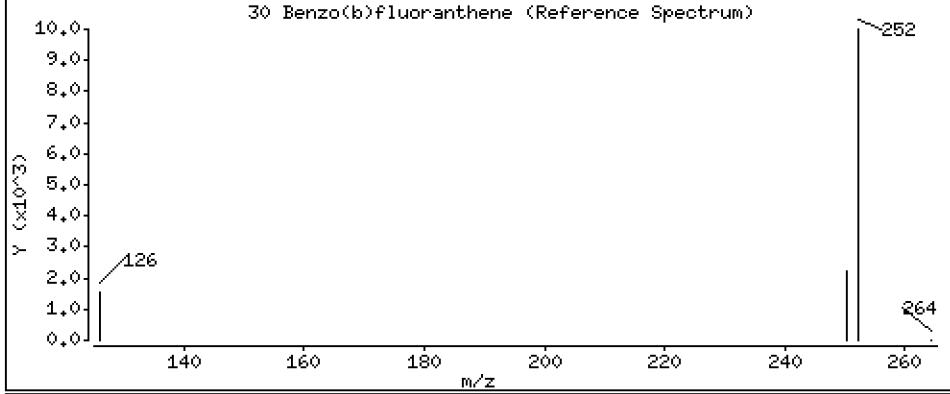
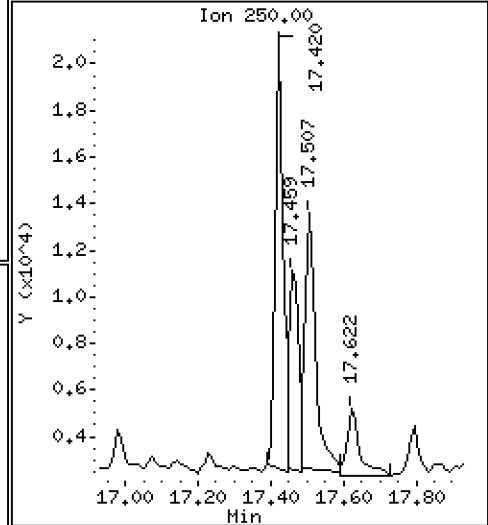
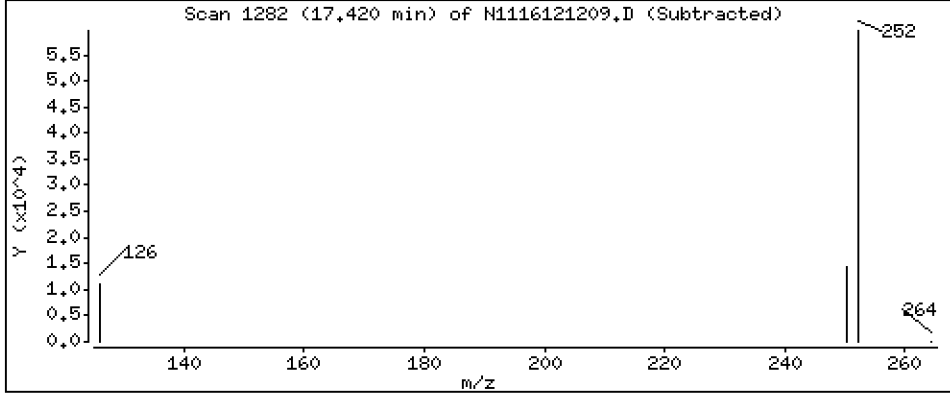
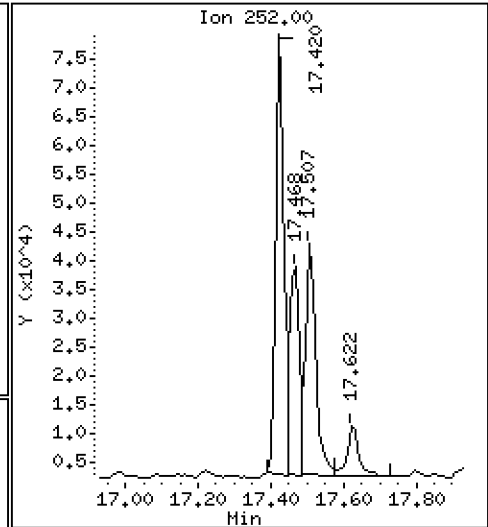
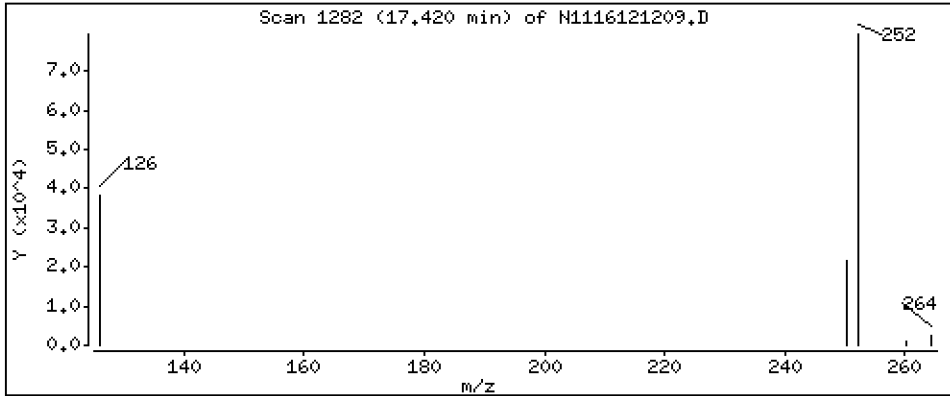
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 57,3 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

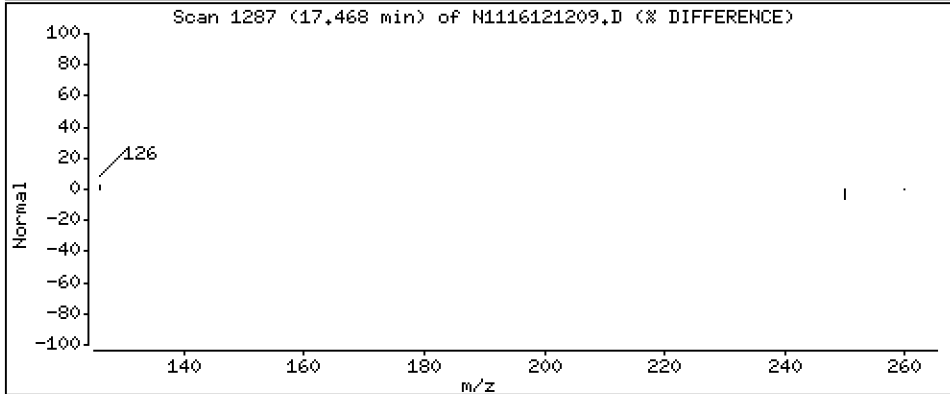
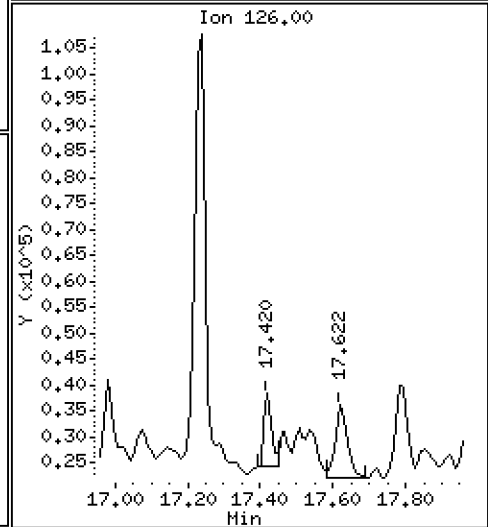
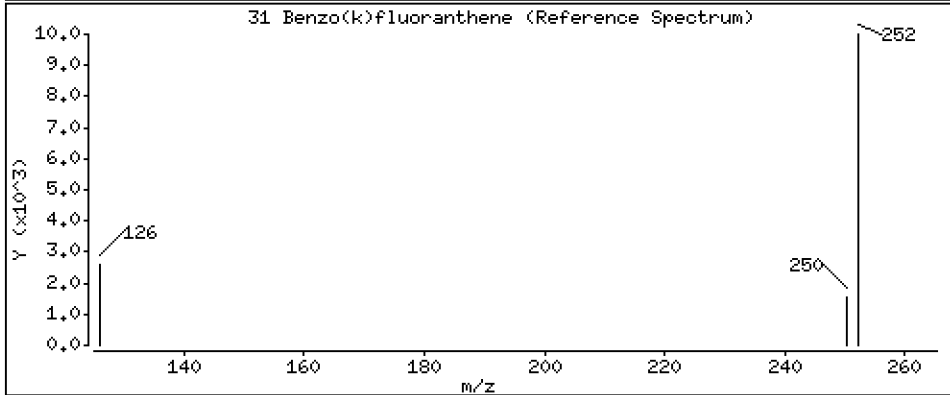
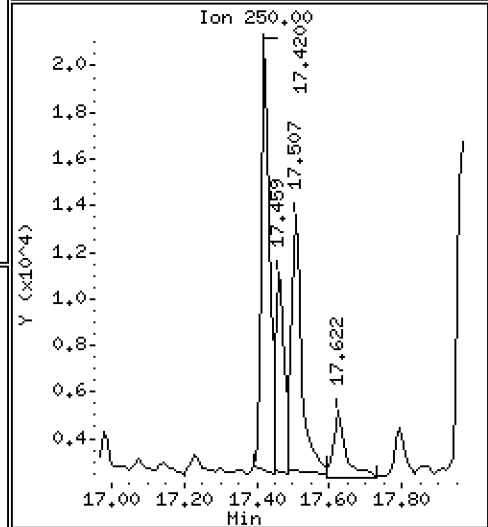
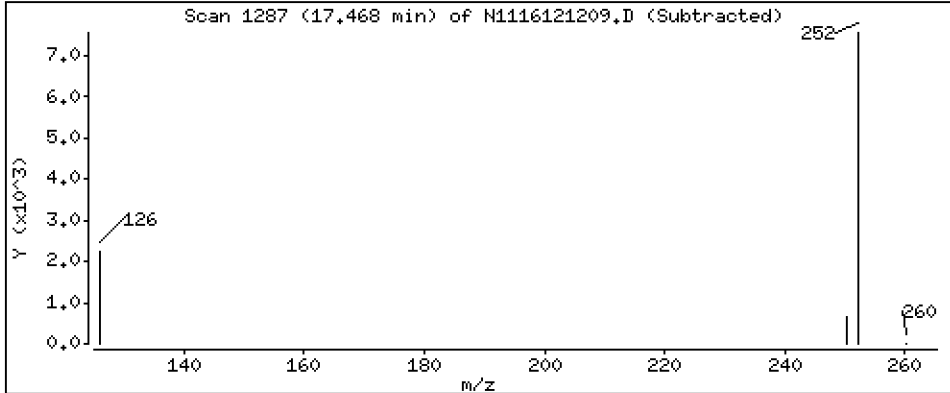
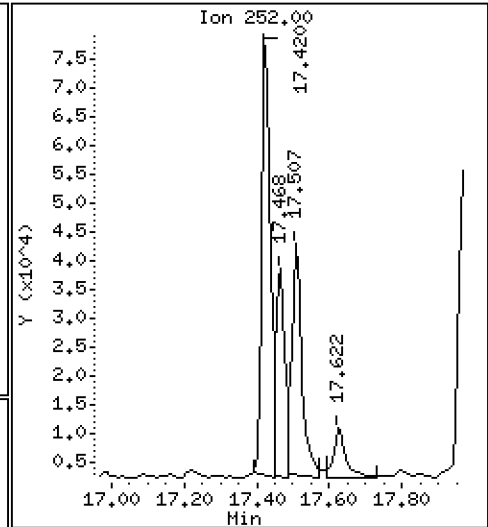
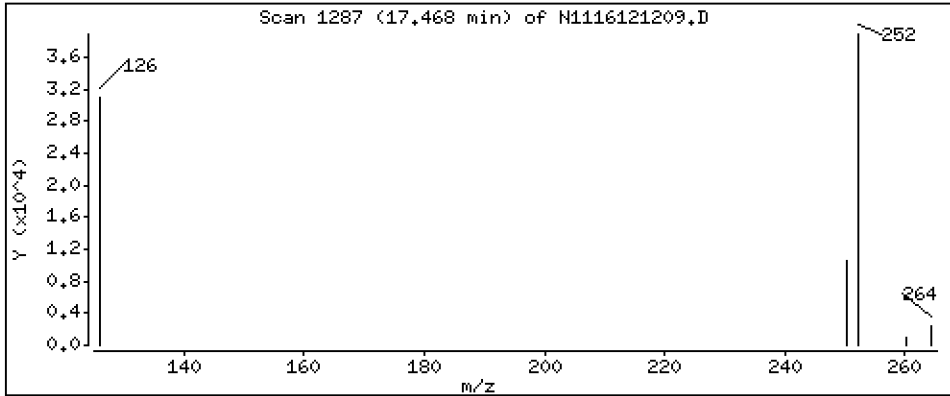
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 28,8 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

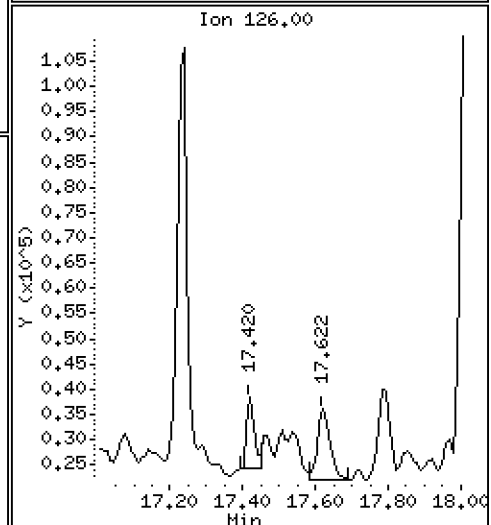
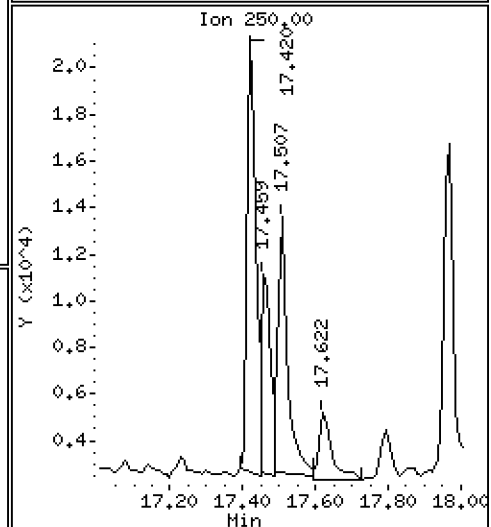
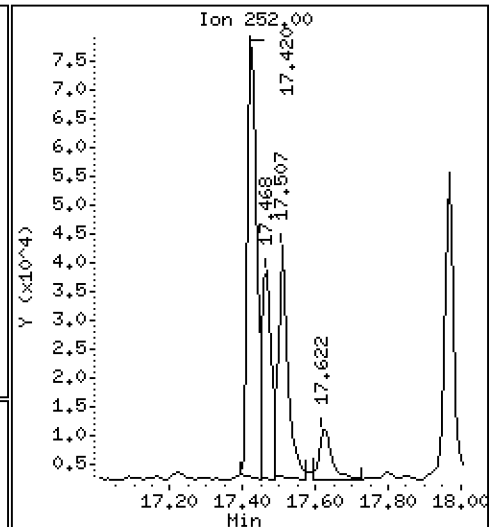
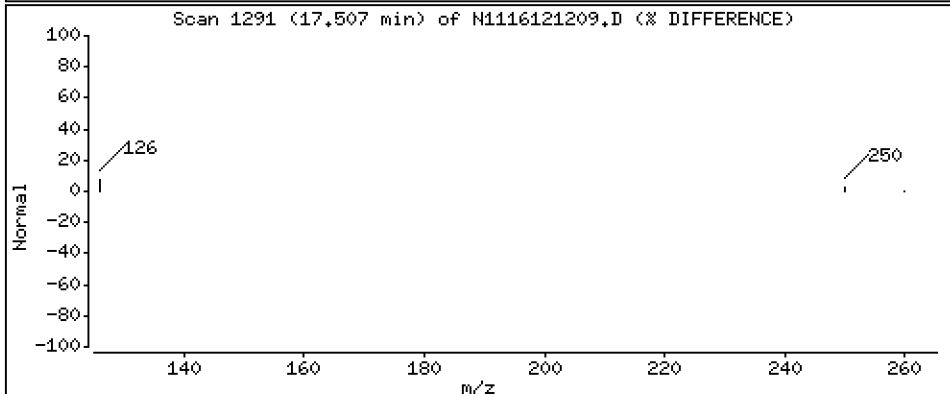
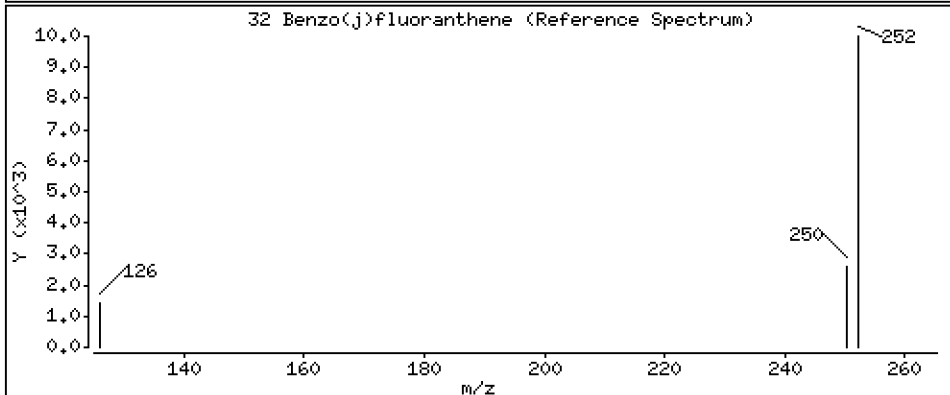
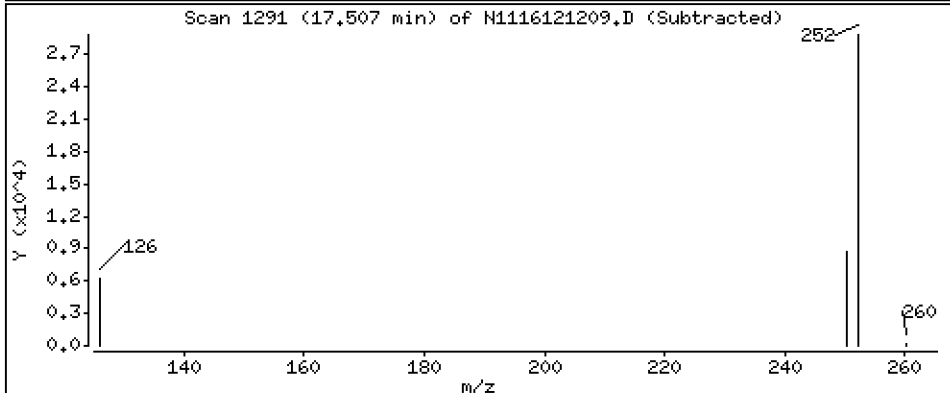
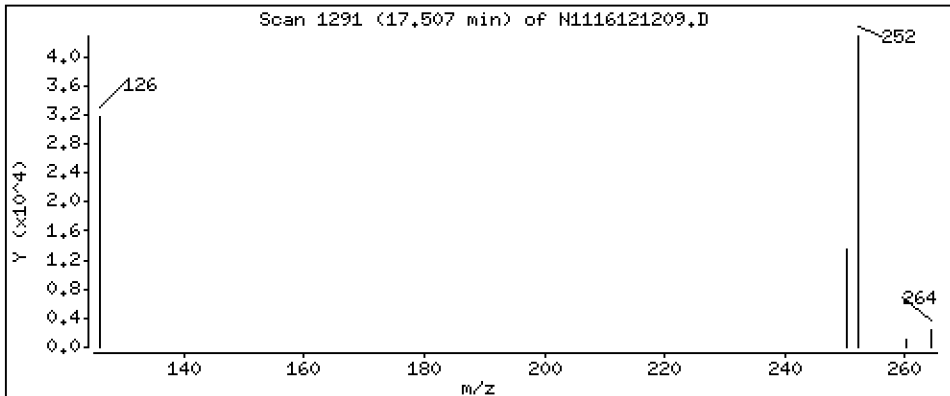
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 34,6 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

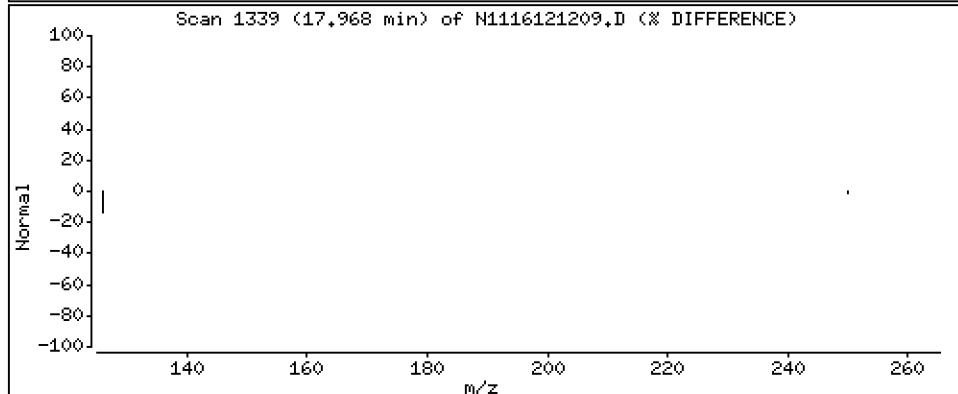
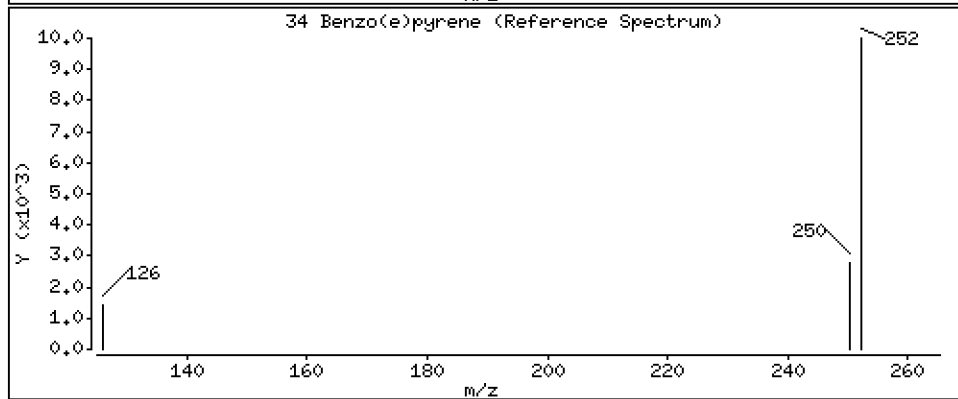
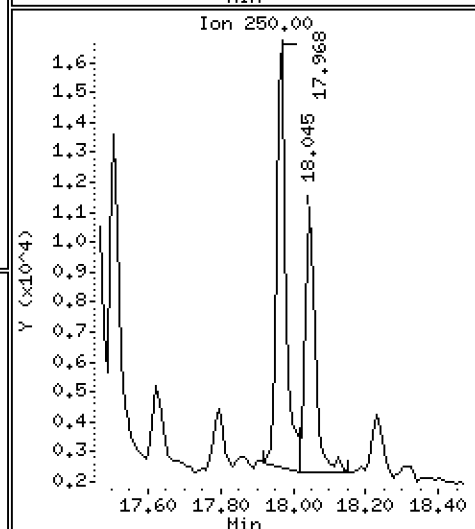
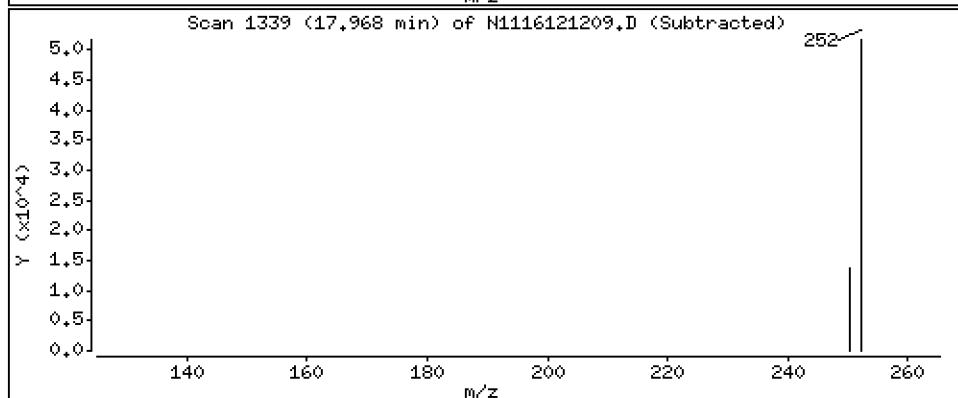
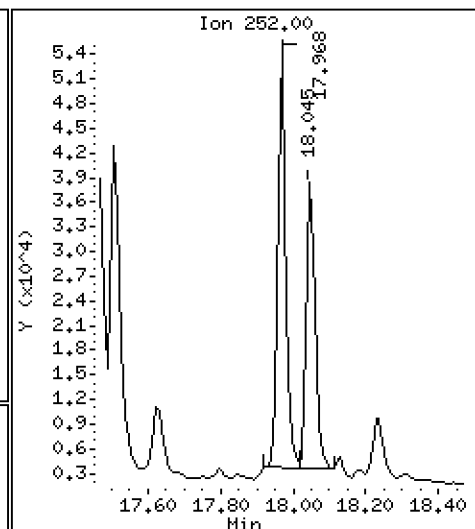
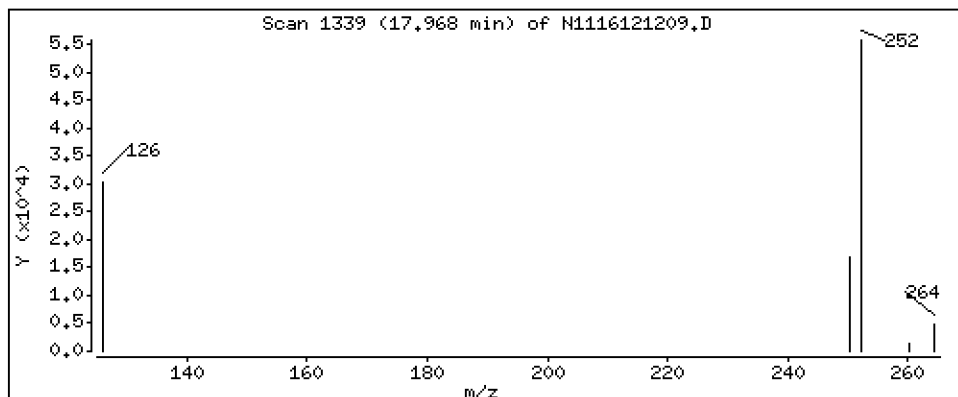
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 35,7 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

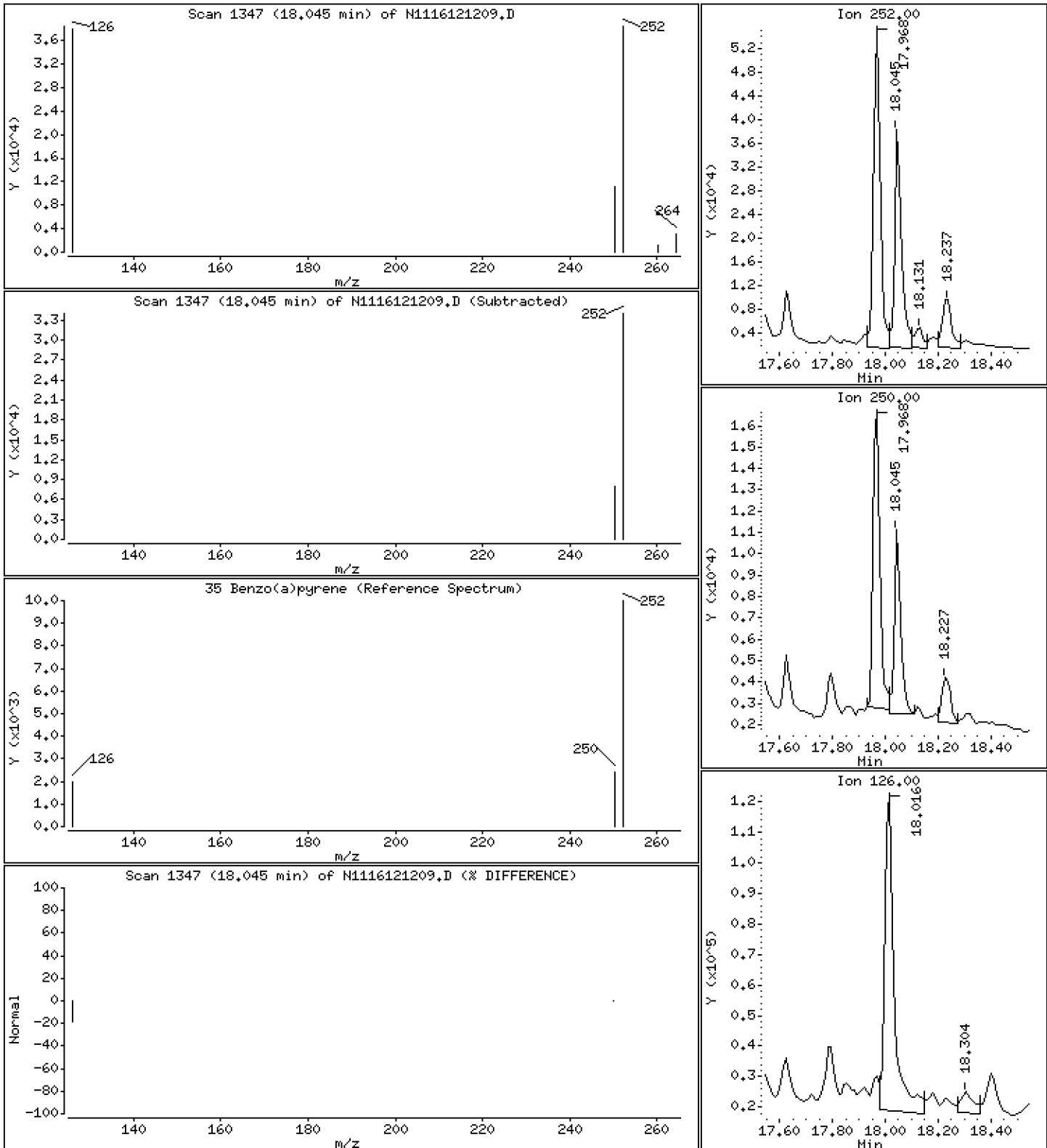
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 31,9 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

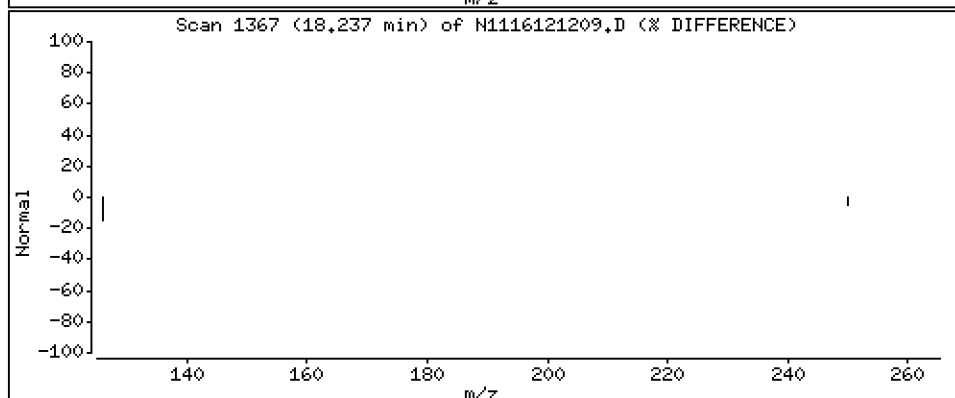
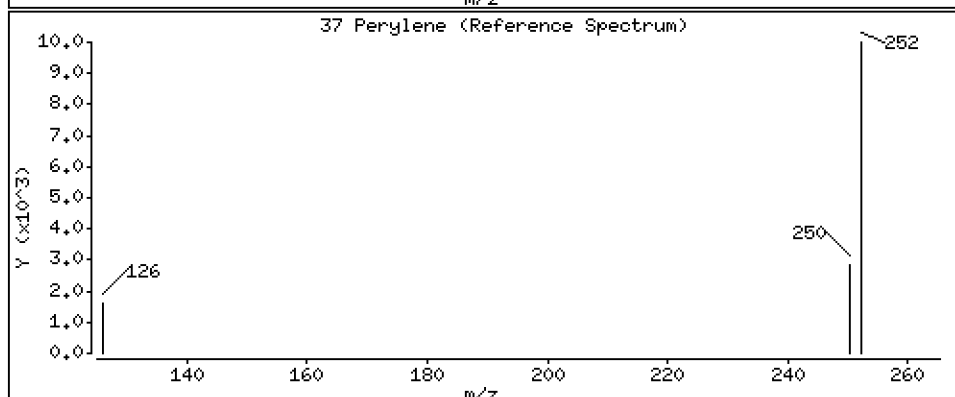
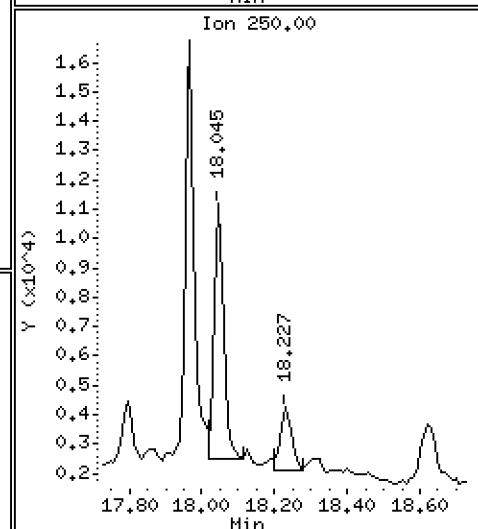
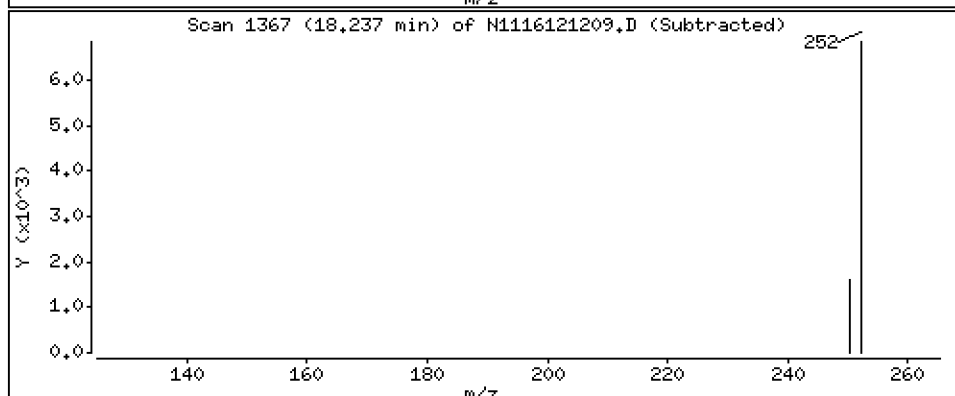
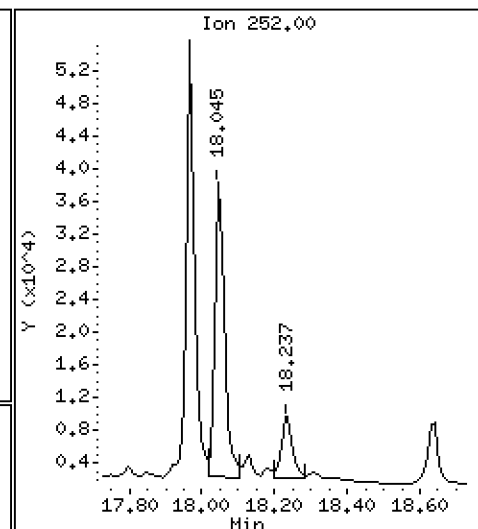
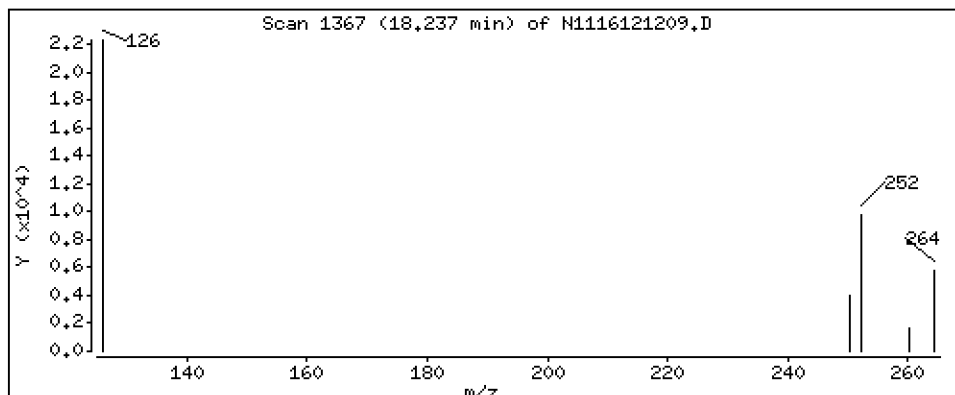
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 7,56 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

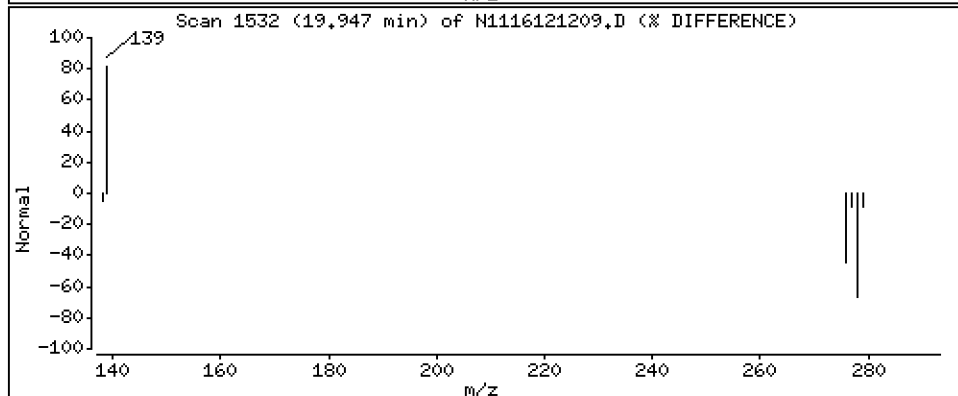
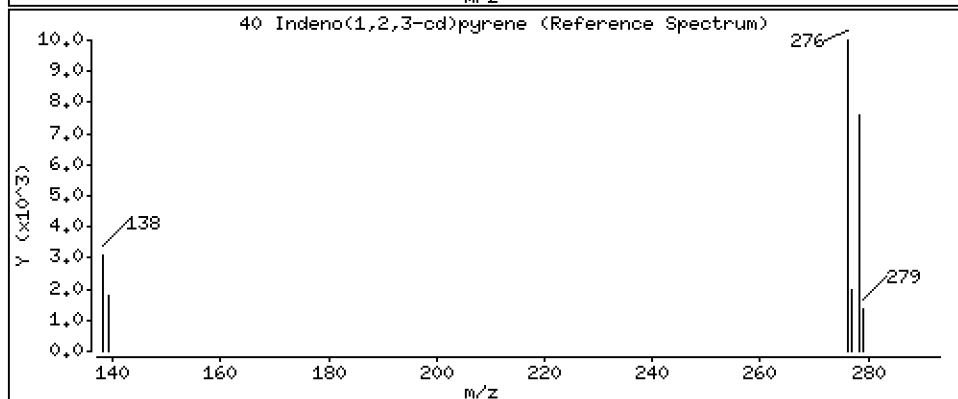
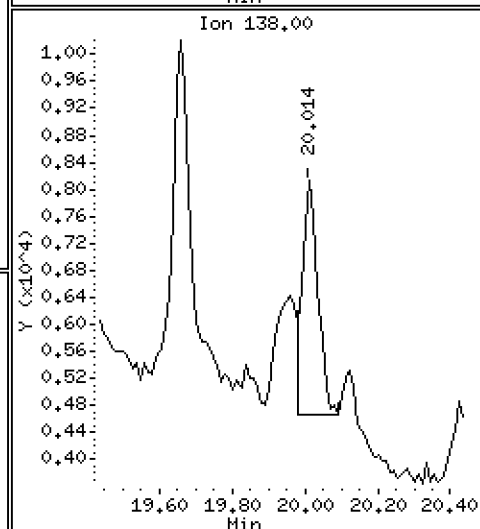
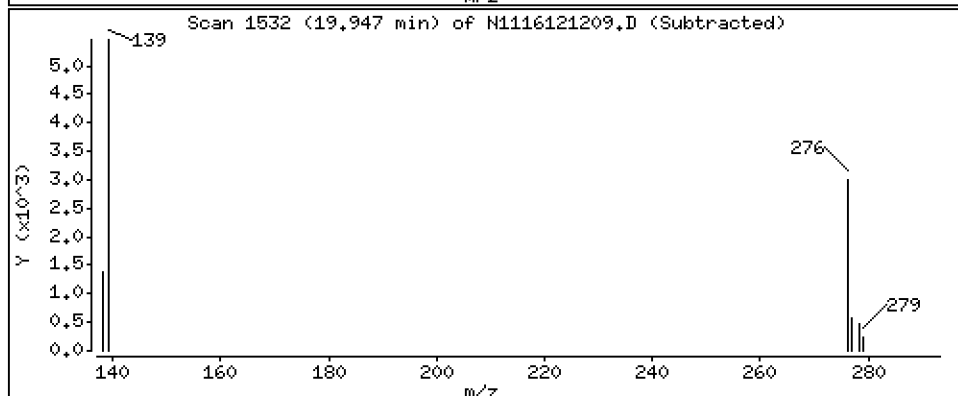
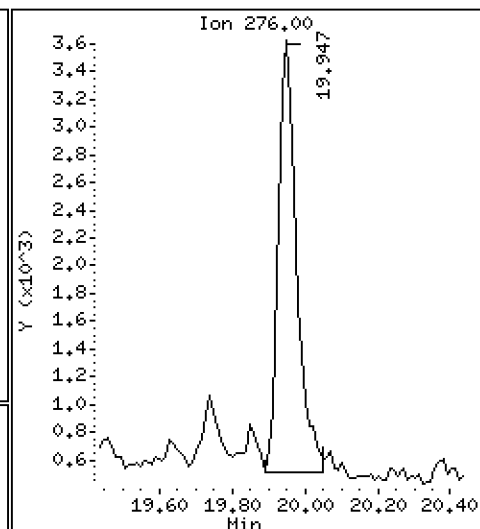
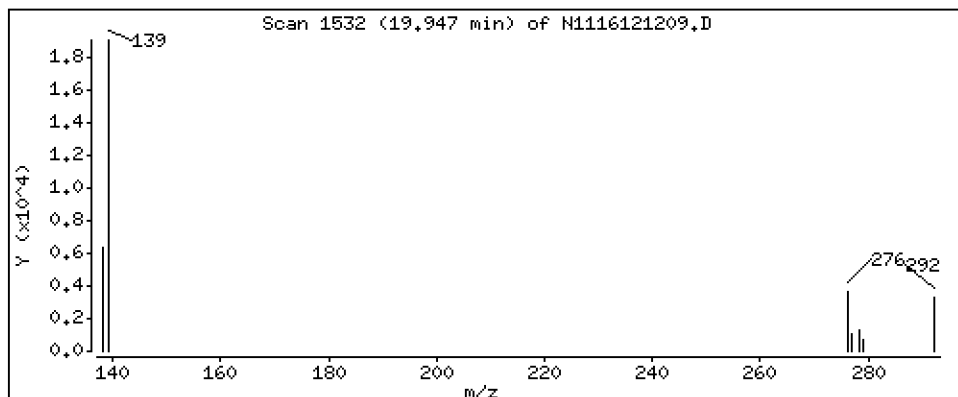
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 4,50 ng/mL



Date : 12-DEC-2016 12:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-01

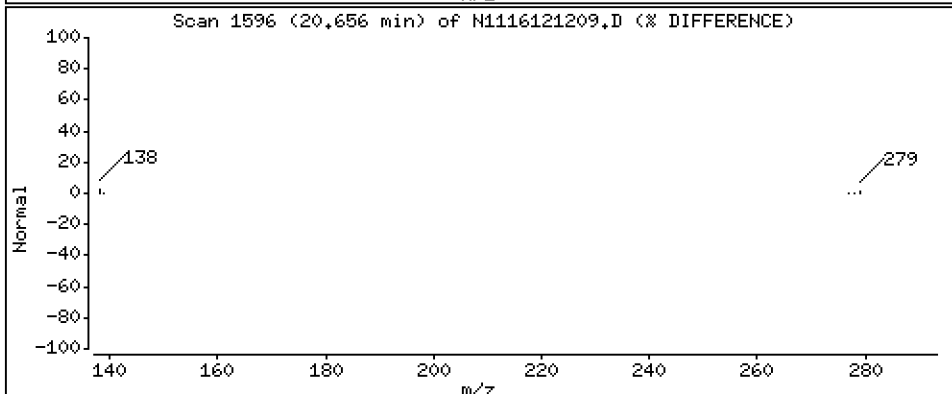
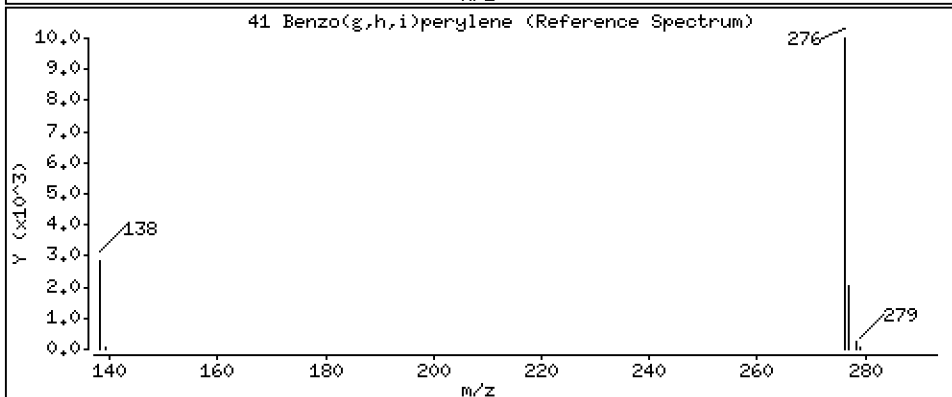
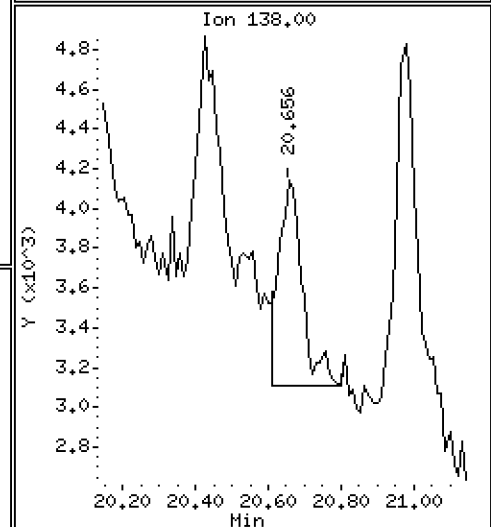
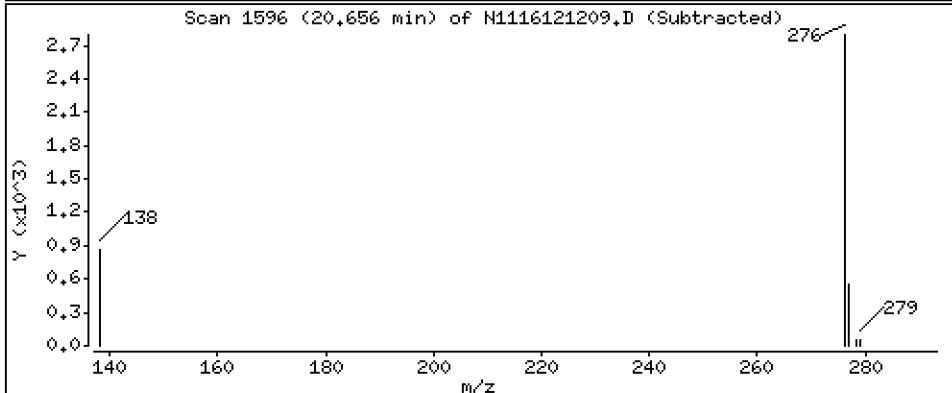
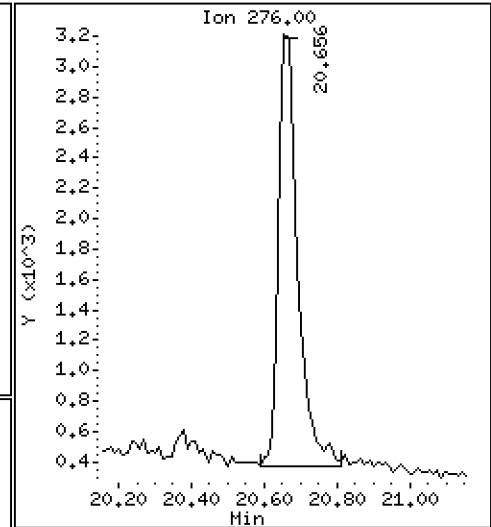
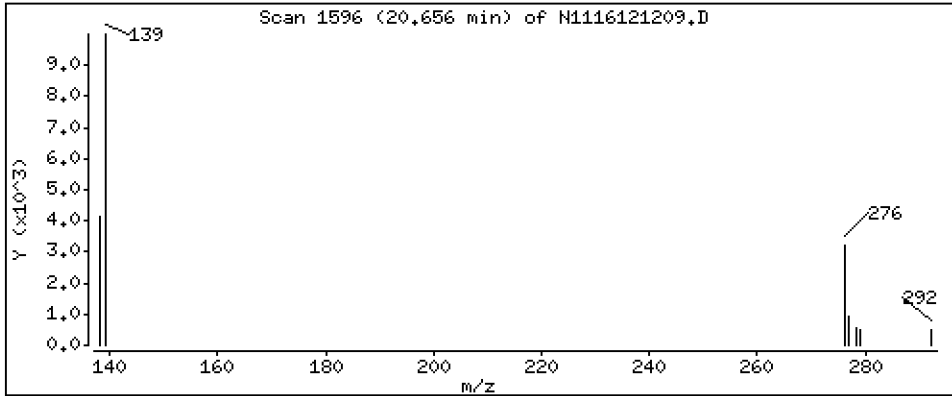
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,91 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121209.D
 Lab Smp Id: 16K0321-01
 Inj Date : 12-DEC-2016 12:28 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-01
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	476179	200.000	
2 Naphthalene	128		5.556	5.574	(1.005)	456782	186.575	187
3 Benzo(b)thiophene	134		5.818	5.818	(1.052)	14837	7.32653	7.33
\$ 4 2-Methylnaphthalene-d10	152		6.494	6.505	(1.175)	258332	143.899	144
5 2-Methylnaphthalene	142		6.536	6.557	(1.182)	732303	356.264	356
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	513829	254.873	255
7 2-Chloronaphthalene	162		7.408	7.429	(0.876)	11385	5.25519	5.26
8 Biphenyl	154		7.419	7.429	(0.877)	318364	107.086	107
9 2,6-Dimethylnaphthalene	156		7.450	7.482	(0.881)	821663	384.609	385
10 Acenaphthylene	152		8.321	8.321	(0.984)	74875	30.4066	30.4
* 11 Acenaphthene-d10	164		8.456	8.474	(1.000)	266531	200.000	
12 Acenaphthene	153		8.519	8.538	(1.007)	2423034	1434.21	1430
13 Dibenzofuran	168		8.725	8.738	(1.032)	1776012	739.730	740
14 2,3,5-Trimethylnaphthalene	170		8.839	8.852	(1.045)	182933	122.562	123 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.332	9.357	(1.104)	2561881	1381.15	1380
17 Dibenzothiophene	184		10.974	10.921	(0.991)	271543	118.688	119
* 18 Phenanthrene-d10	188		11.079	11.089	(1.000)	462877	200.000	
19 Phenanthrene	178		11.121	11.131	(1.004)	10372242	3730.50	3730
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.173	11.184	(1.009)	1287679	492.168	492
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.116	12.116	(1.094)	594677	242.735	243 (M)
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.186)	381728	184.750	185
25 Fluoranthene	202		13.171	13.180	(1.189)	7875632	2919.22	2920
26 Pyrene	202		13.651	13.651	(0.867)	6110890	2257.71	2260
27 Benzo(a)anthracene	228		15.652	15.660	(0.994)	690195	294.683	295
* 28 Chrysene-d12	240		15.743	15.743	(1.000)	416008	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	551069	212.132	212
30 Benzo(b)fluoranthene	252		17.420	17.420	(0.958)	134666	57.2612	57.3
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.961)	73699	28.8414	28.8
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.963)	82051	34.6394	34.6
\$ 33 Benzo(e)pyrene-d12	264		17.919	17.919	(0.986)	194931	97.7690	97.8

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	17.967	17.958	(0.988)	81596	35.7044	35.7	
35 Benzo(a)pyrene	252	18.044	18.044	(0.993)	68652	31.8828	31.9	
* 36 Perylene-d12	264	18.179	18.179	(1.000)	413732	200.000		
37 Perylene	252	18.237	18.227	(1.003)	16891	7.55571	7.56	
§ 38 Dibenzo(a,h)anthracene-d14	292	19.858	19.858	(1.092)	223105	160.989	161	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	10762	4.50269	4.50	
41 Benzo(g,h,i)perylene	276	20.656	20.644	(1.136)	10143	4.91213	4.91	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121209.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-01
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	476179	-3.52
11 Acenaphthene-d10	240770	120385	481540	266531	10.70
18 Phenanthrene-d10	429271	214636	858542	462877	7.83
28 Chrysene-d12	387691	193846	775382	416008	7.30
36 Perylene-d12	386259	193130	772518	413732	7.11

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.33
11 Acenaphthene-d10	8.47	7.97	8.97	8.46	-0.21
18 Phenanthrene-d10	11.09	10.59	11.59	11.08	-0.09
28 Chrysene-d12	15.74	15.24	16.24	15.74	0.00
36 Perylene-d12	18.18	17.68	18.68	18.18	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 - N1116121209.D

Lab ID: 16K0321-01
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 12:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

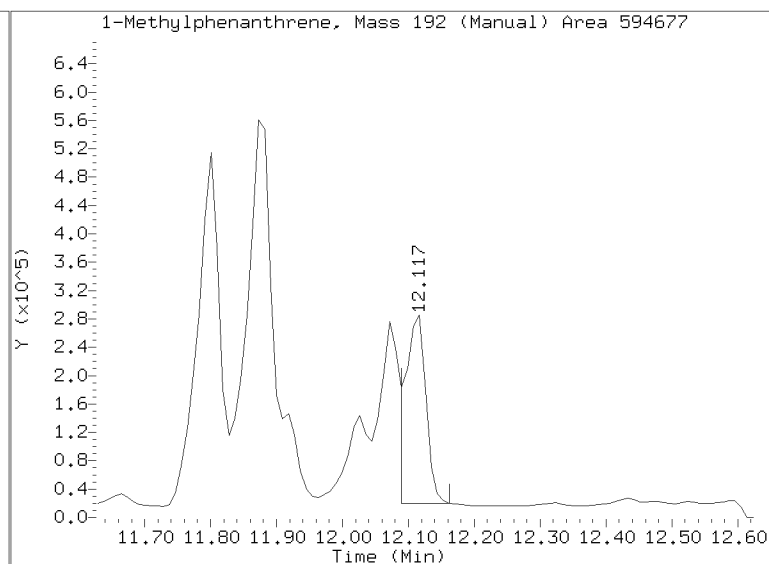
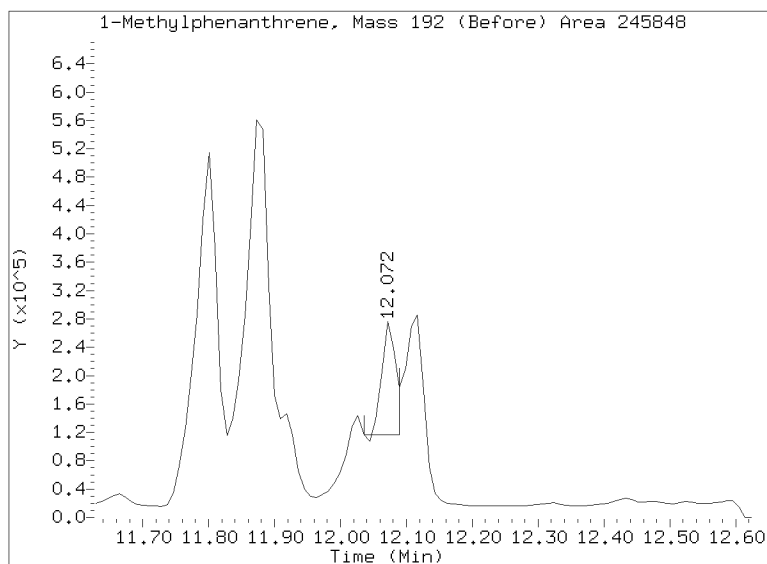
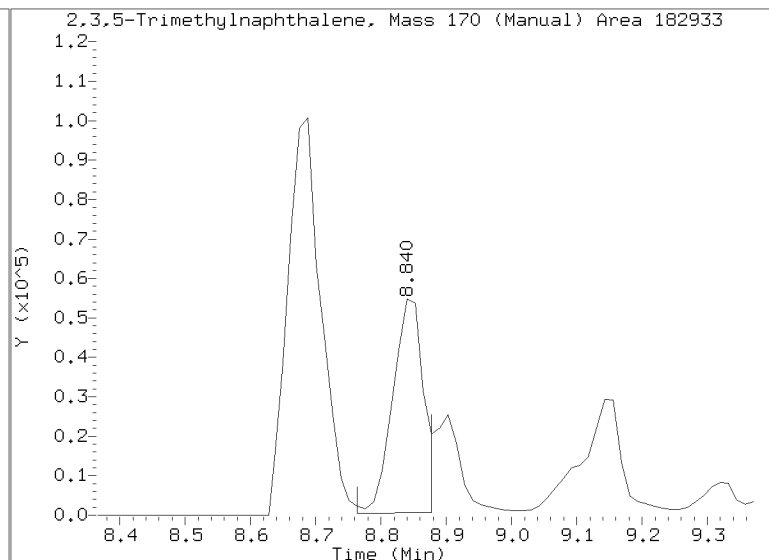
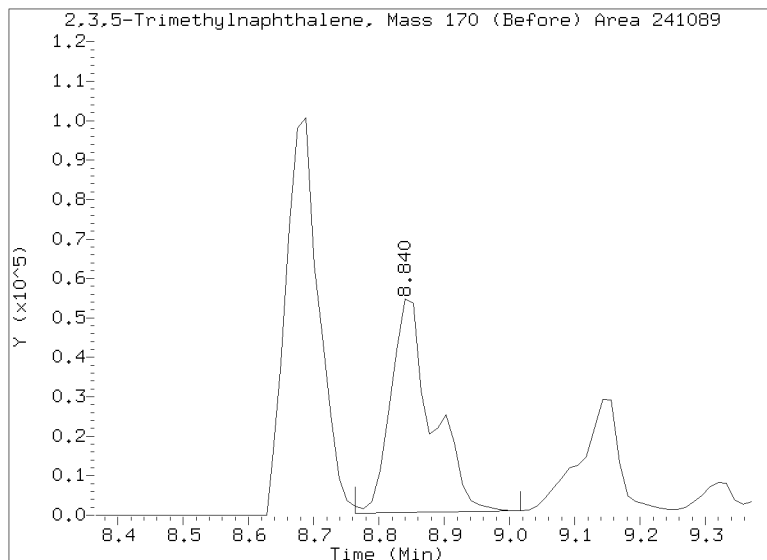
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121209.D

Injection Date: 12-DEC-2016 12:28

Lab ID:16K0321-01 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>16K0321</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Matrix:	<u>Tissue</u>	Laboratory ID:	<u>16K0321-01RE1</u>
Sampled:	<u>11/22/16 11:31</u>	File ID:	<u>N1116121604.D</u>
Solids:		Prepared:	<u>11/24/16 08:25</u>
Batch:	<u>BEK0657</u>	Analyzed:	<u>12/16/16 11:03</u>
Instrument:	<u>NT11</u>	Preparation:	<u>EPA 3550C-Mod (Ultrasonic)</u>
Column:	<u>RXi-17Sil-MS</u>	Initial/Final:	<u>0.886 g / 0.1 mL</u>
		Sequence:	<u>SEL0234</u>
		Calibration:	<u>ZK00080</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	10	21.6	D, B	11.3	13.5
91-57-6	2-Methylnaphthalene	10	47.8	D, B	11.3	11.3
208-96-8	Acenaphthylene	10	11.3	U	11.3	11.3
83-32-9	Acenaphthene	10	179	D	11.3	11.3
86-73-7	Fluorene	10	184	D	11.3	11.3
85-01-8	Phenanthrene	10	655	D	11.3	11.3
120-12-7	Anthracene	10	71.2	D	11.3	11.3
206-44-0	Fluoranthene	10	532	D	11.3	11.3
129-00-0	Pyrene	10	319	D	11.3	11.3
56-55-3	Benzo(a)anthracene	10	40.1	D	11.3	11.3
218-01-9	Chrysene	10	29.9	D	11.3	11.3
205-99-2	Benzo(b)fluoranthene	10	11.3	U	11.3	11.3
207-08-9	Benzo(k)fluoranthene	10	11.3	U	11.3	11.3
50-32-8	Benzo(a)pyrene	10	11.3	U	11.3	11.3
193-39-5	Indeno(1,2,3-cd)pyrene	10	11.3	U	11.3	11.3
53-70-3	Dibenzo(a,h)anthracene	10	11.3	U	11.3	11.3
191-24-2	Benzo(g,h,i)perylene	10	11.3	U	11.3	11.3
1985-5-0	Perylene	10	11.3	U	11.3	11.3
197-97-2	Benzo(e)pyrene	10	11.3	U	11.3	11.3

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	19.5	57.5	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	7.85	23.2	30 - 160	*
Fluoranthene-d10	33.860	25.3	74.6	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	12.7	60.1	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161216.16\N1116121604.D

Date: 16-DEC-2016 11:03

Client ID:

Sample Info: 16K0321-1.10

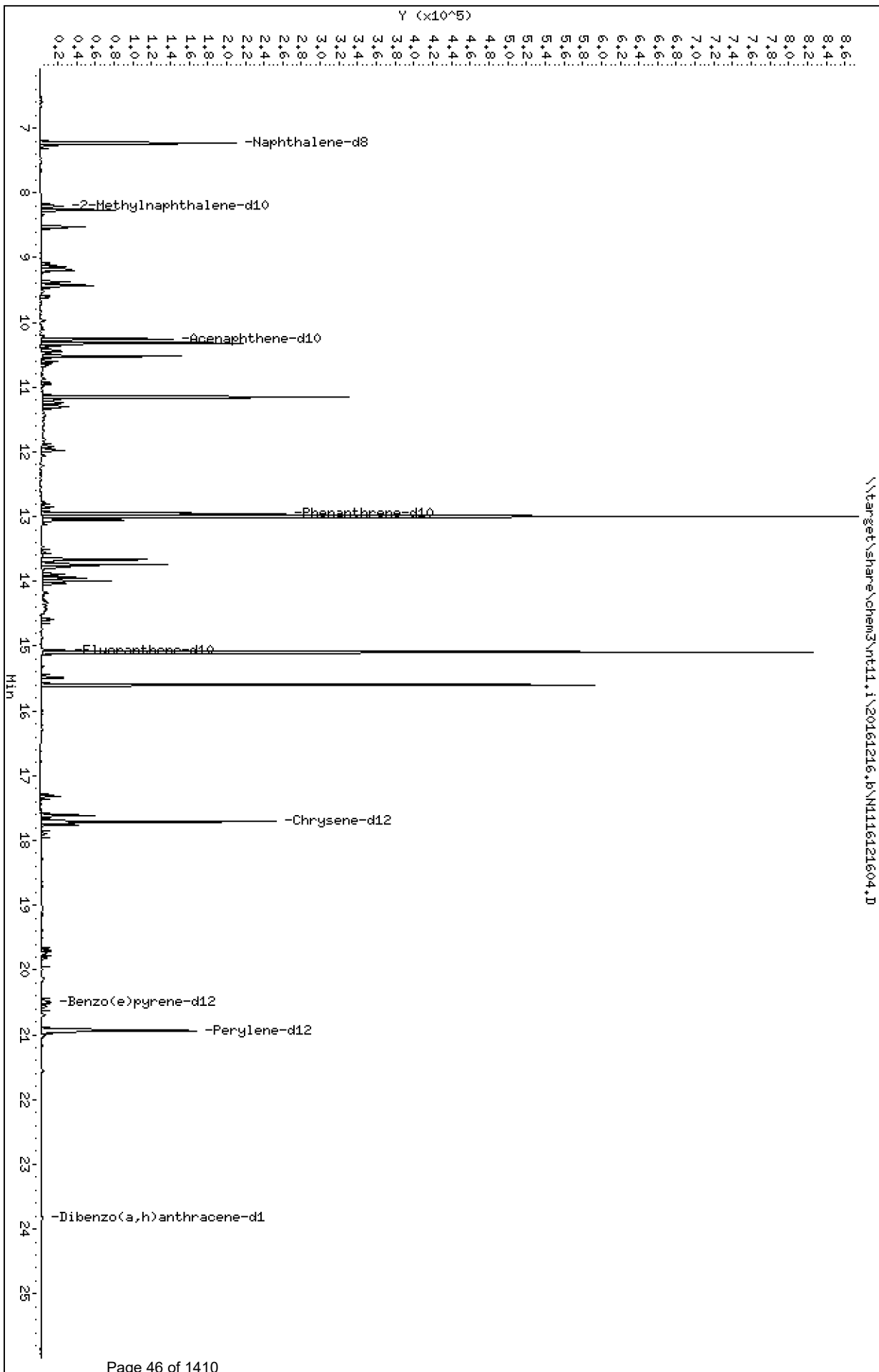
Column phase: Rxi-17Si11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

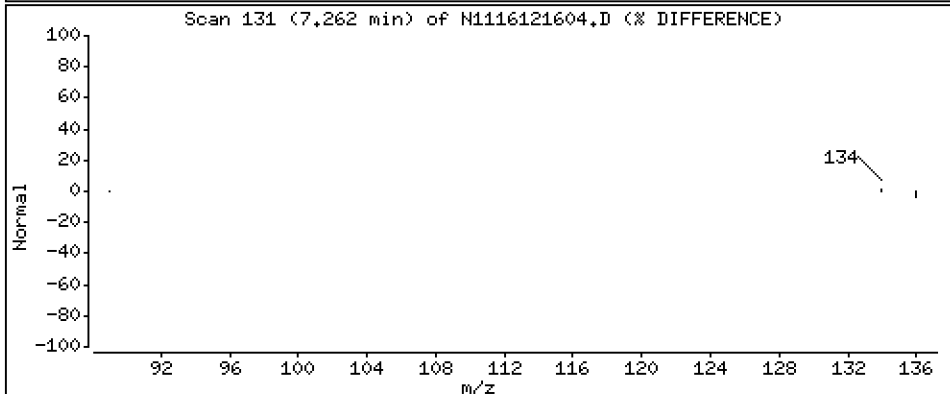
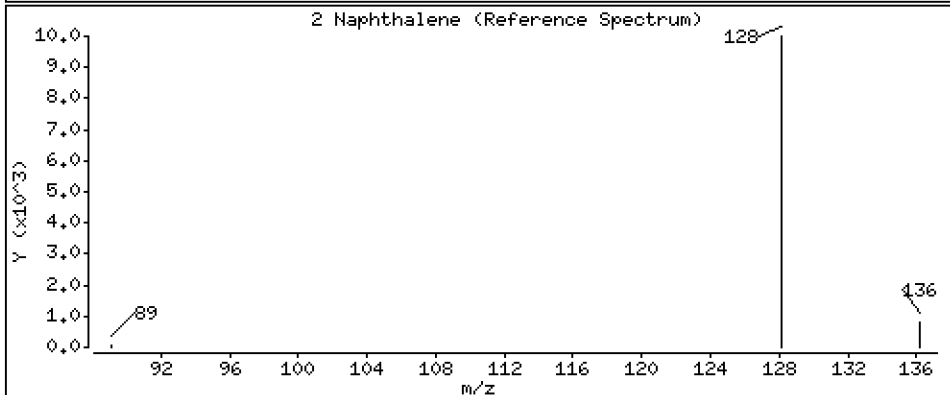
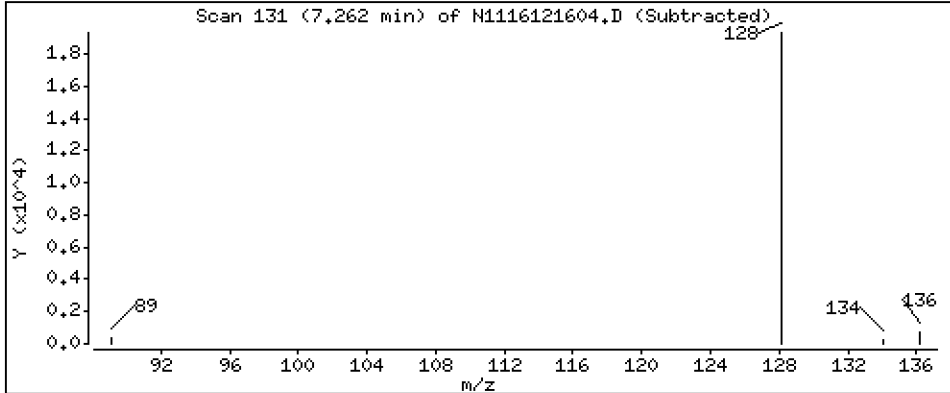
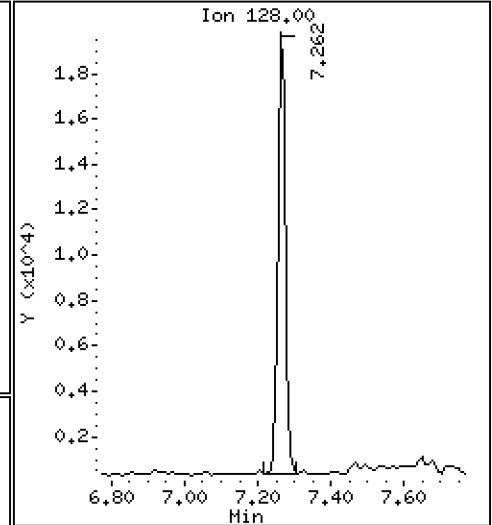
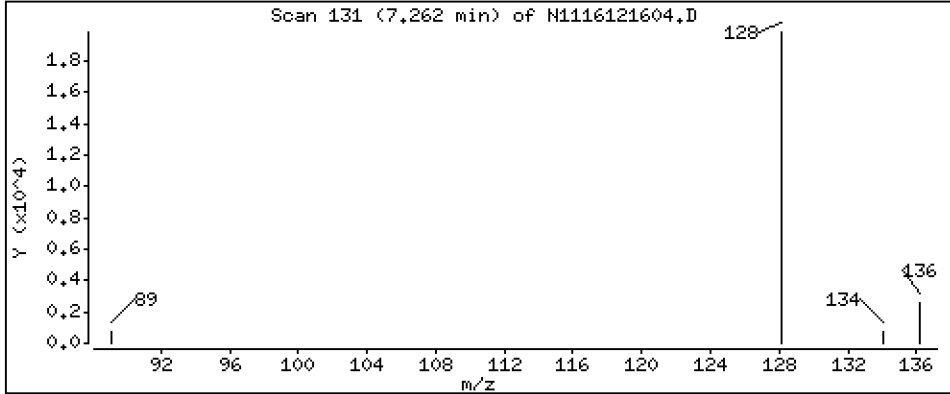
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 19,1 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

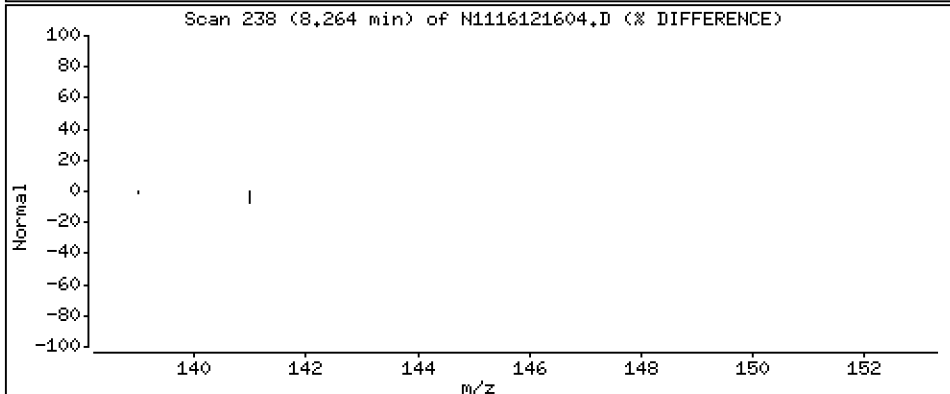
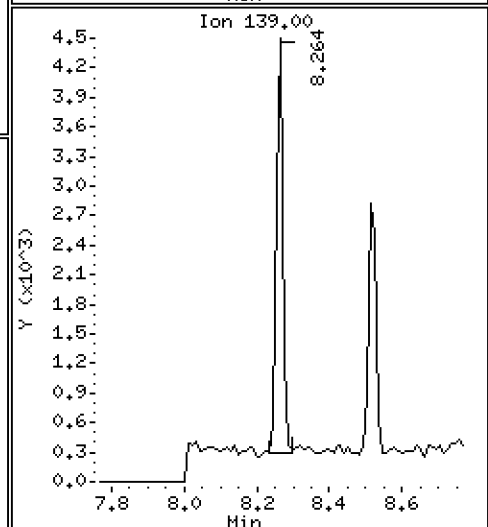
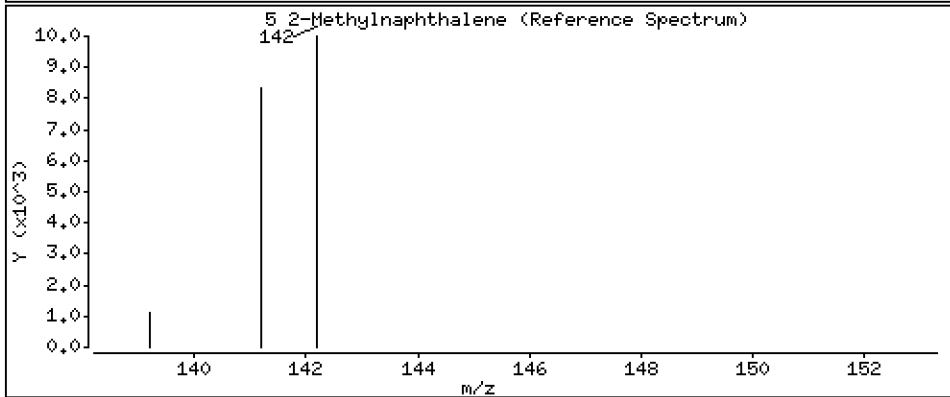
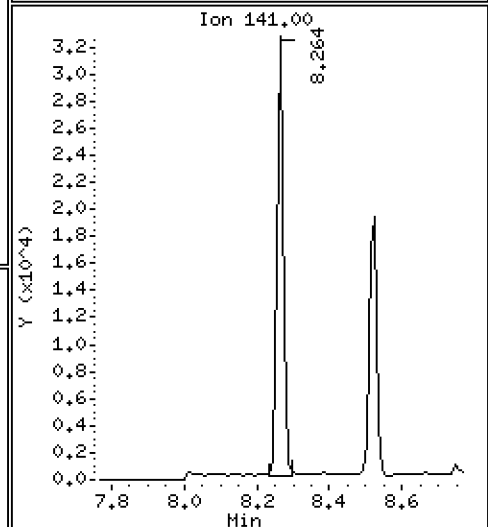
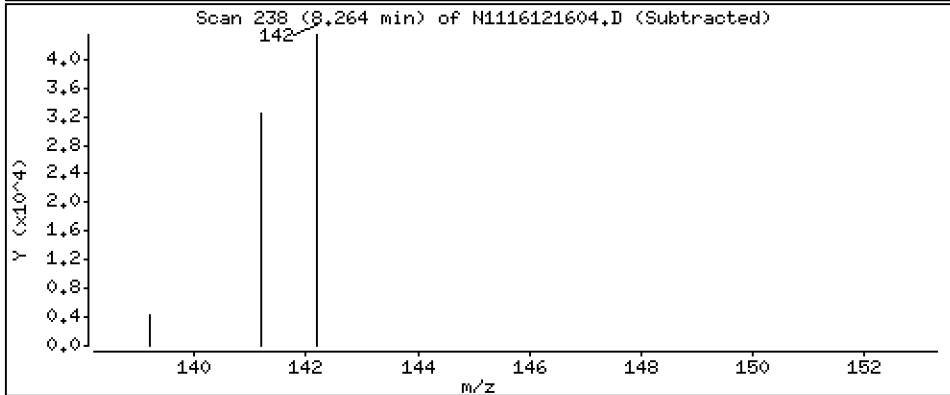
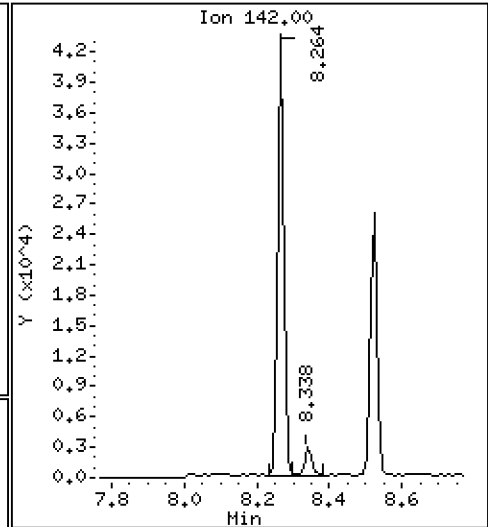
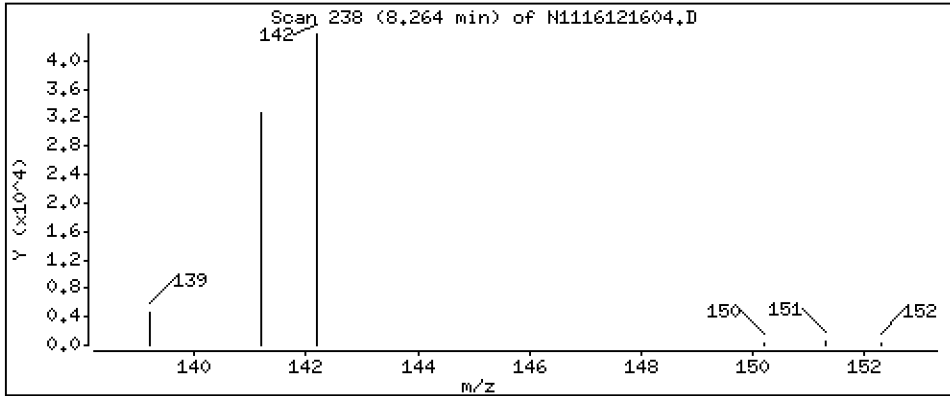
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 42,4 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

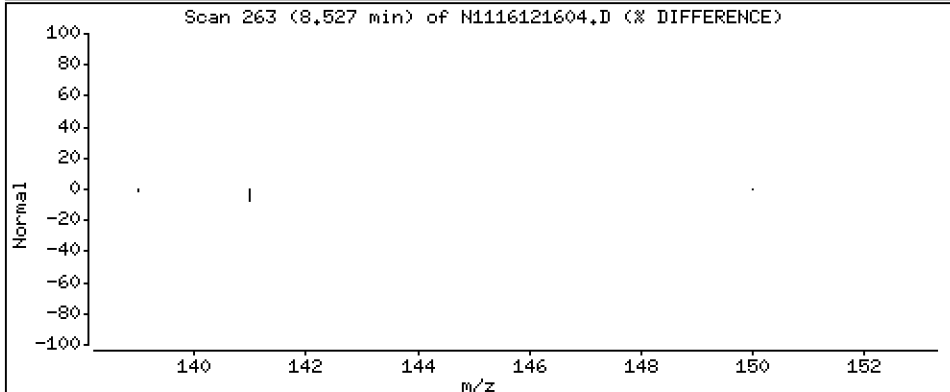
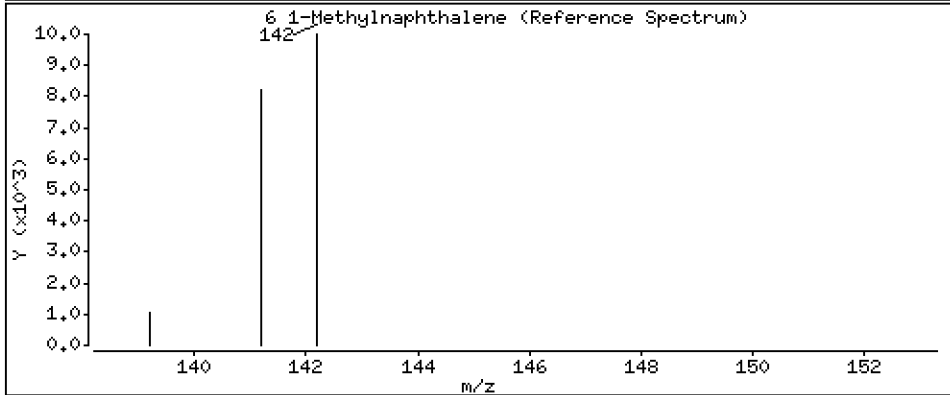
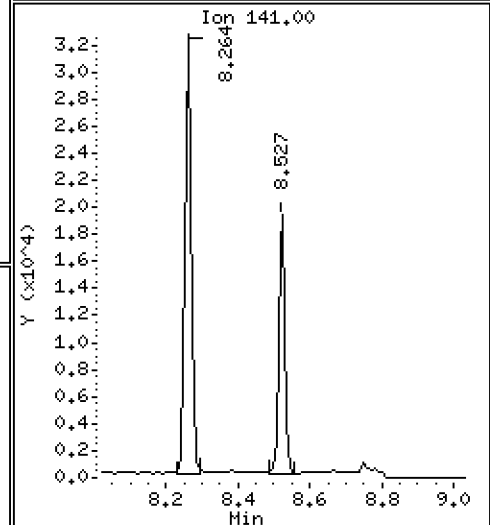
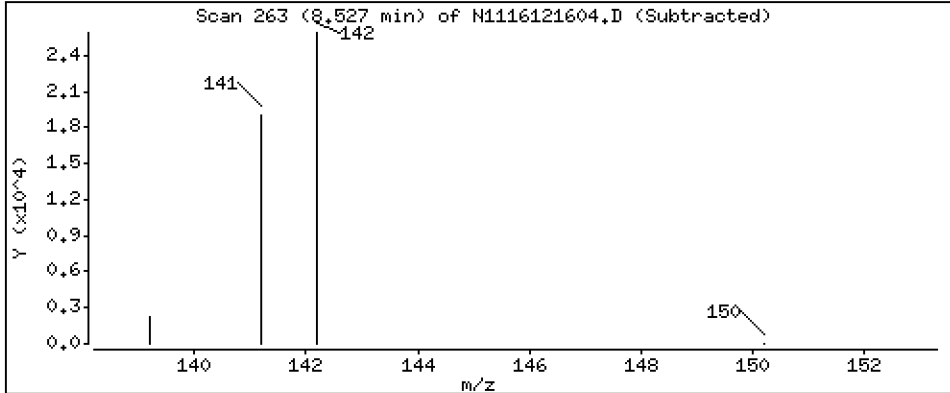
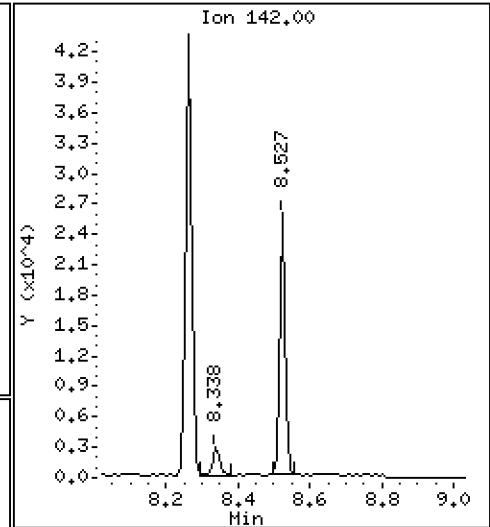
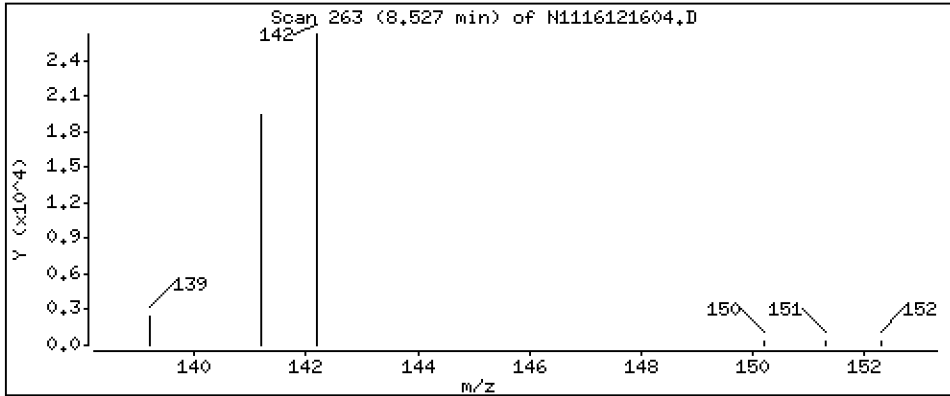
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 28,4 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

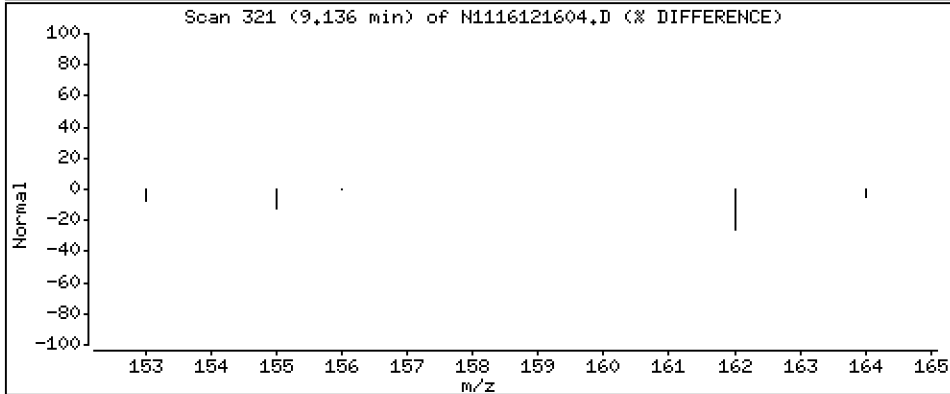
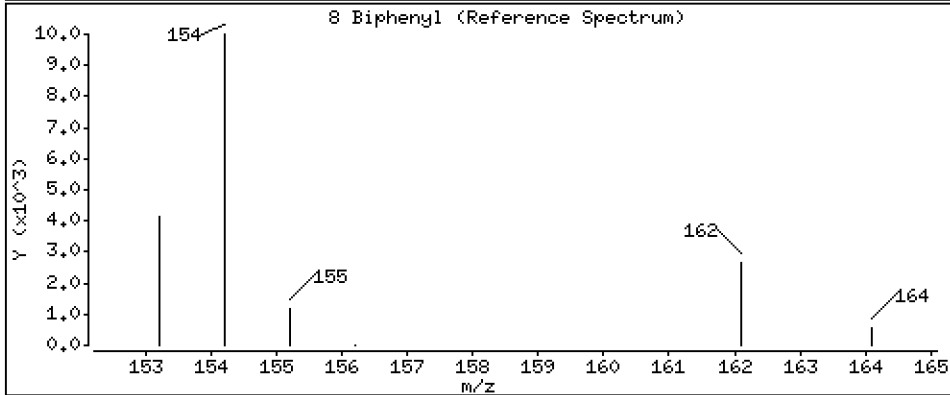
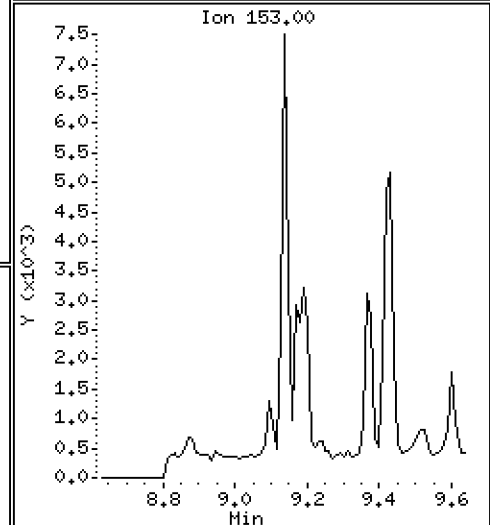
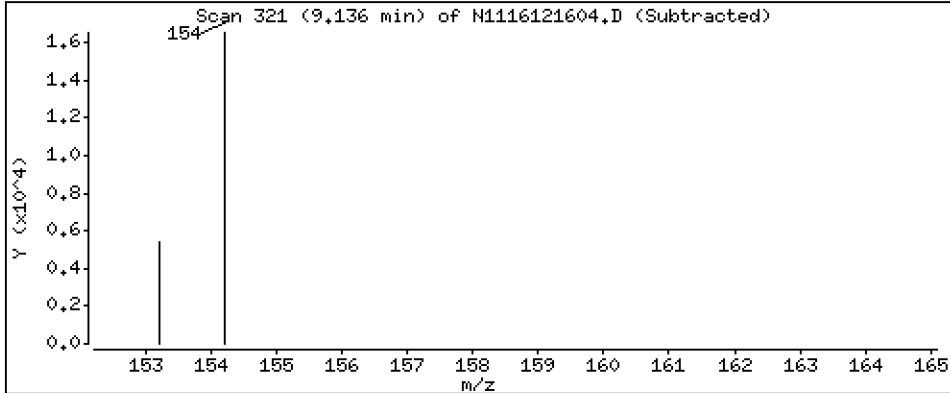
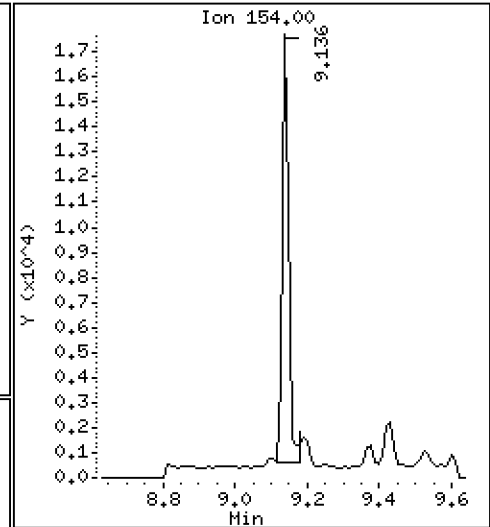
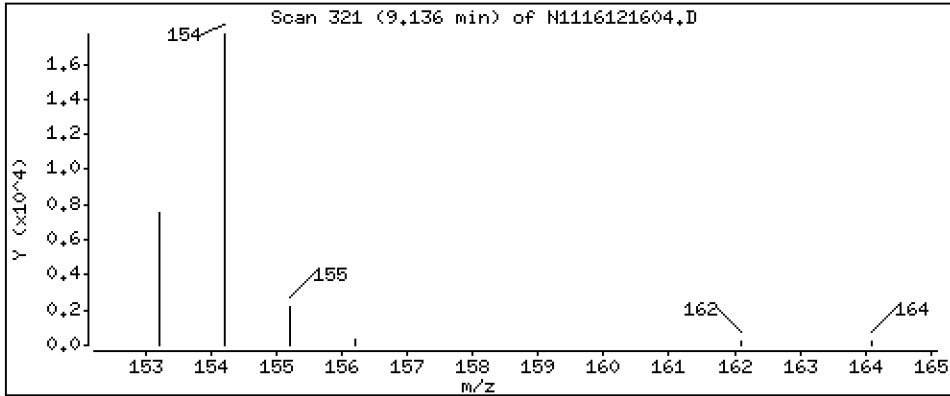
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 11,3 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

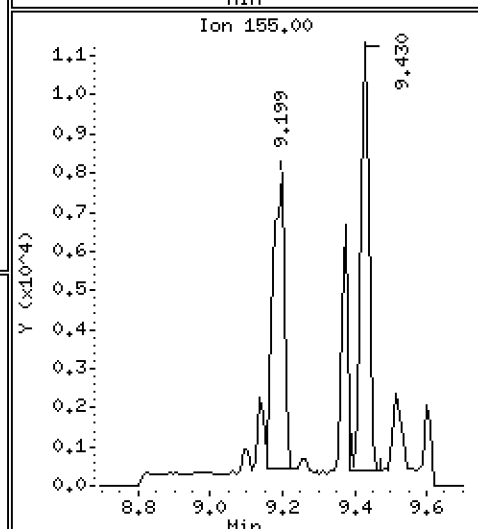
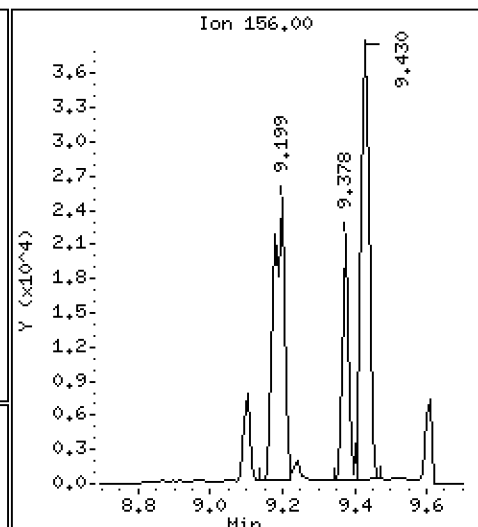
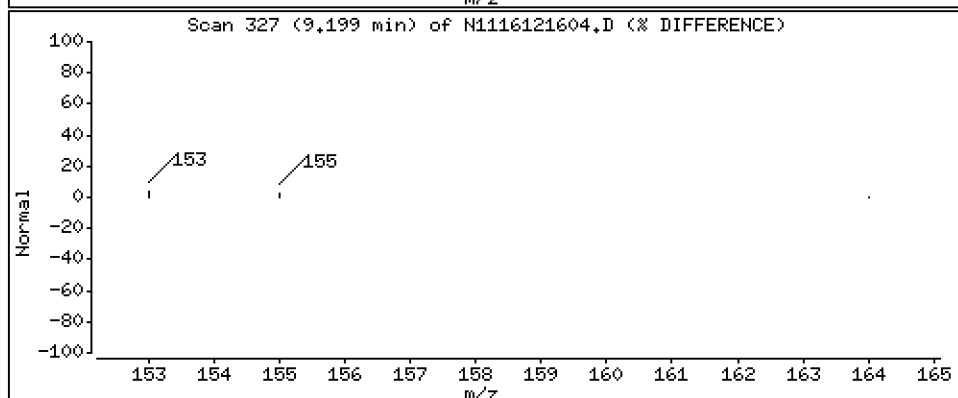
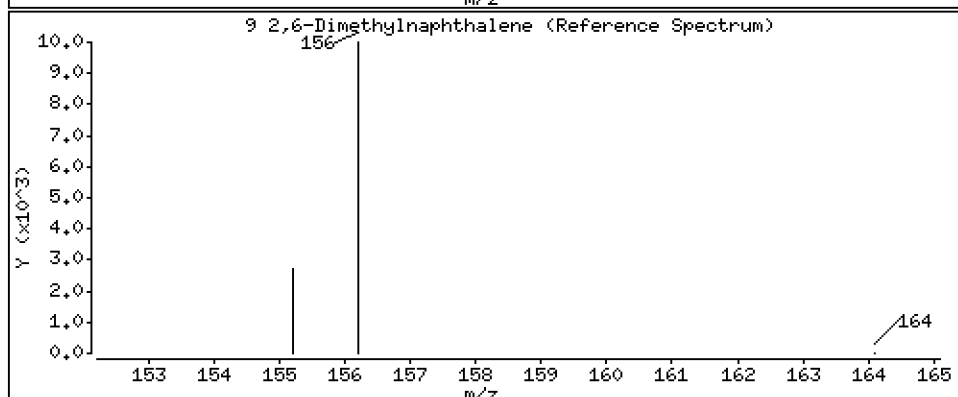
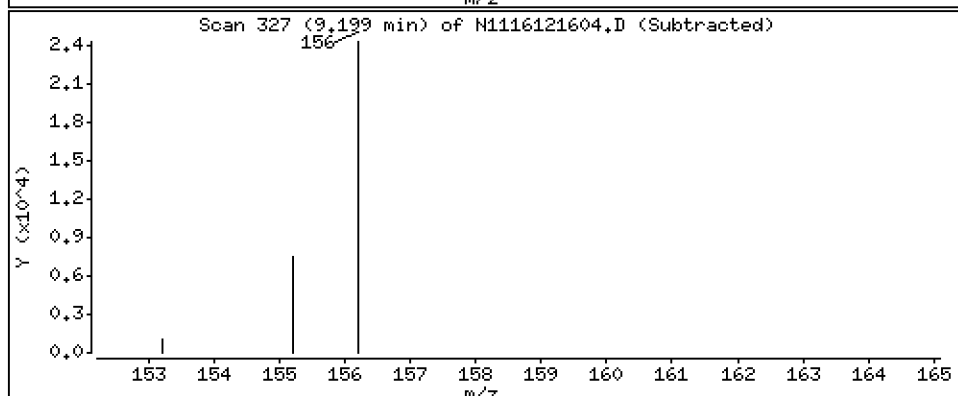
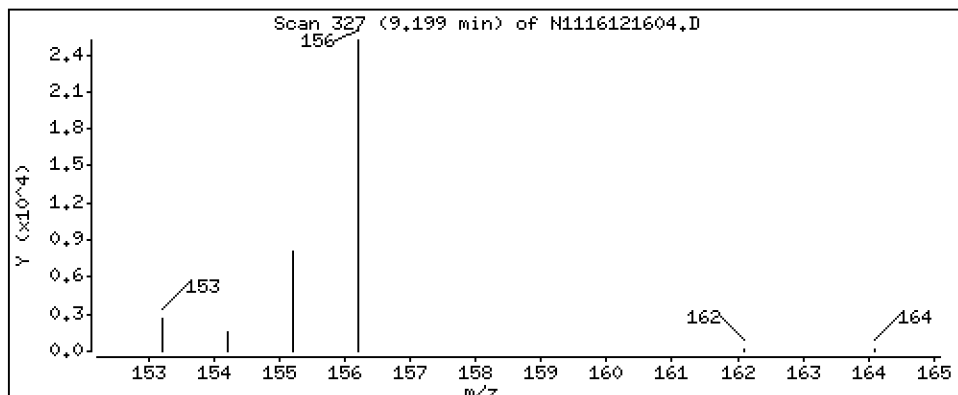
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 39,3 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

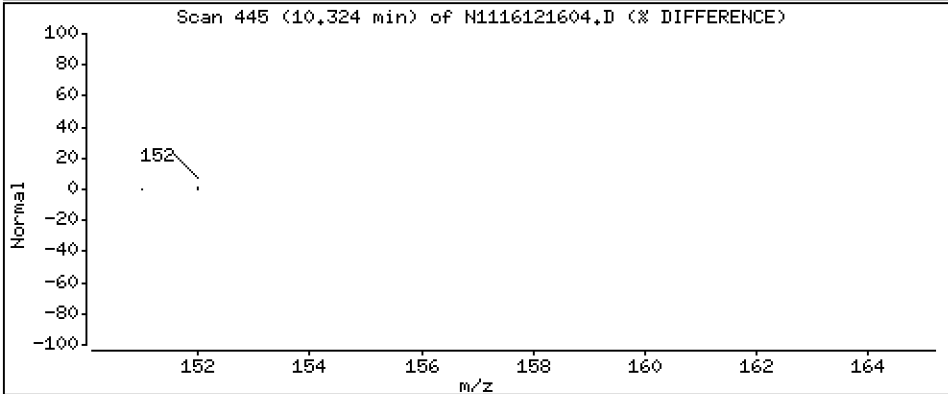
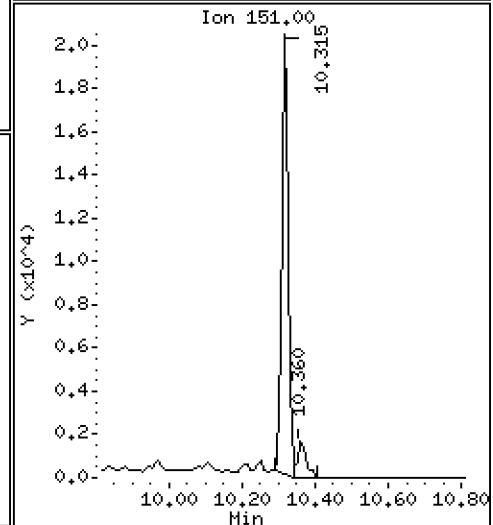
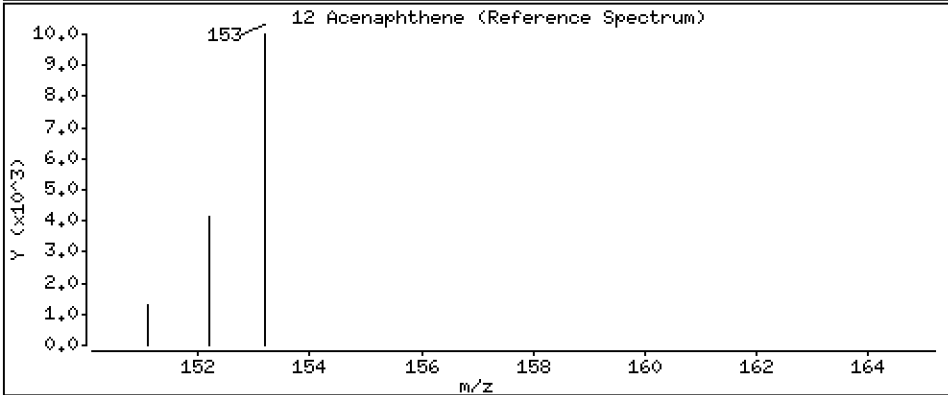
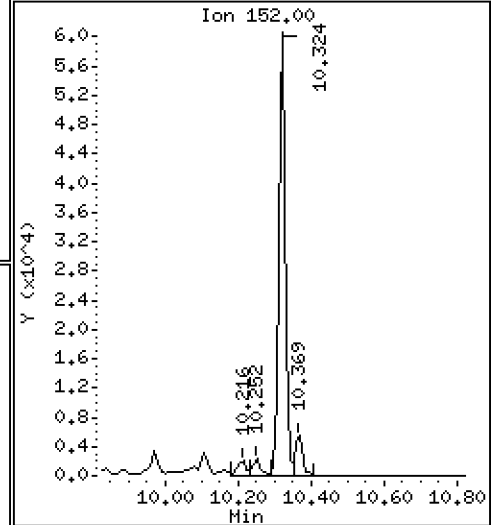
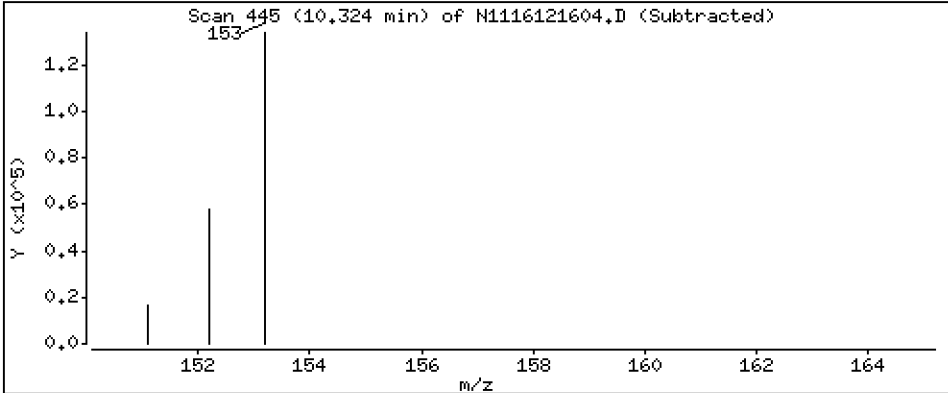
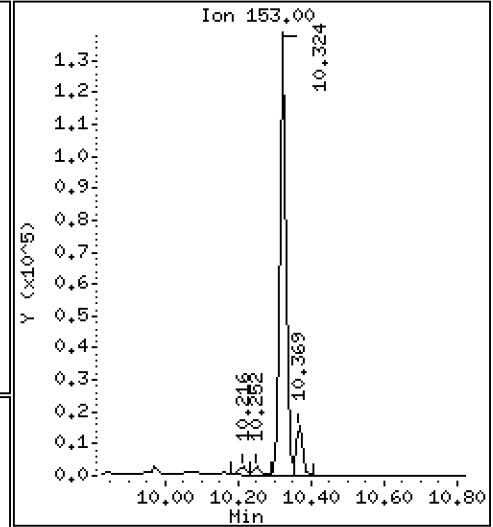
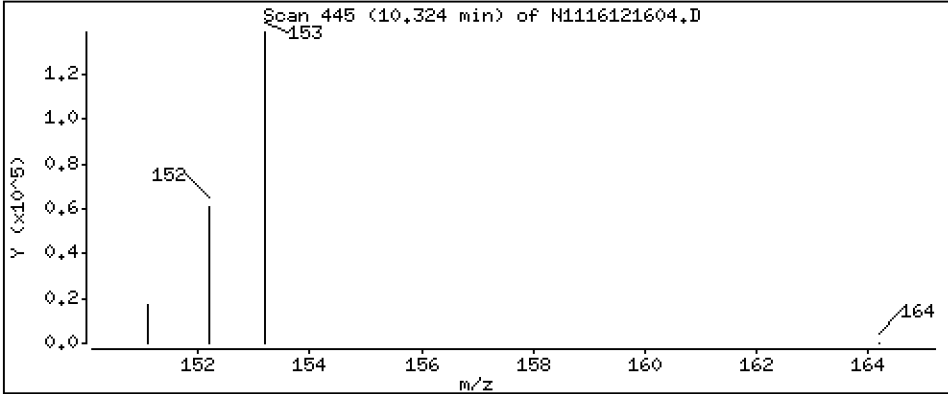
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 159 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

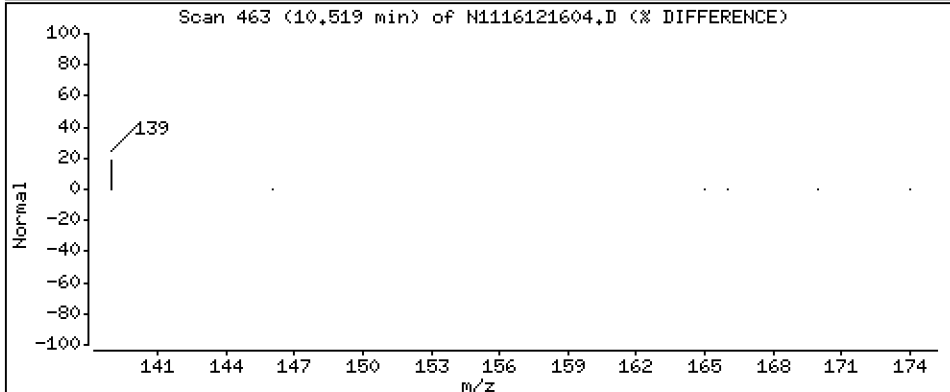
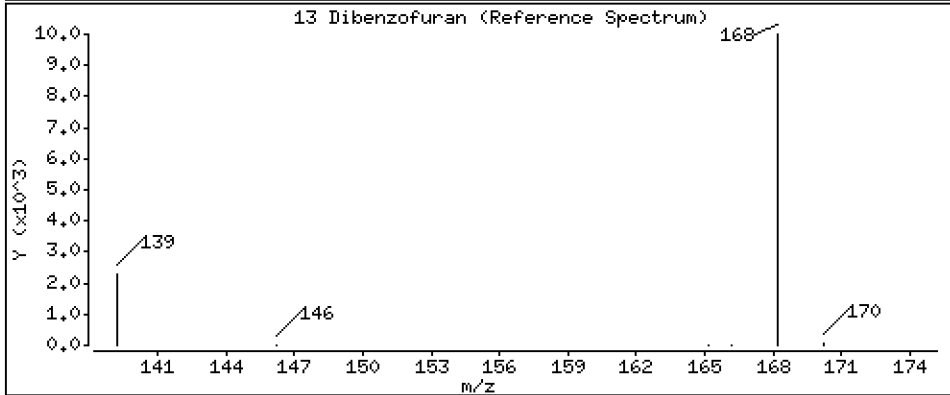
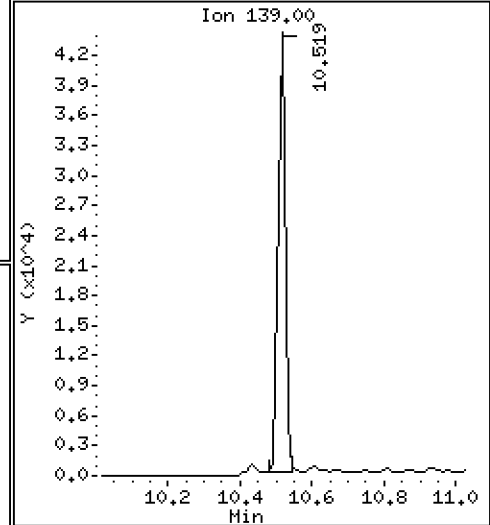
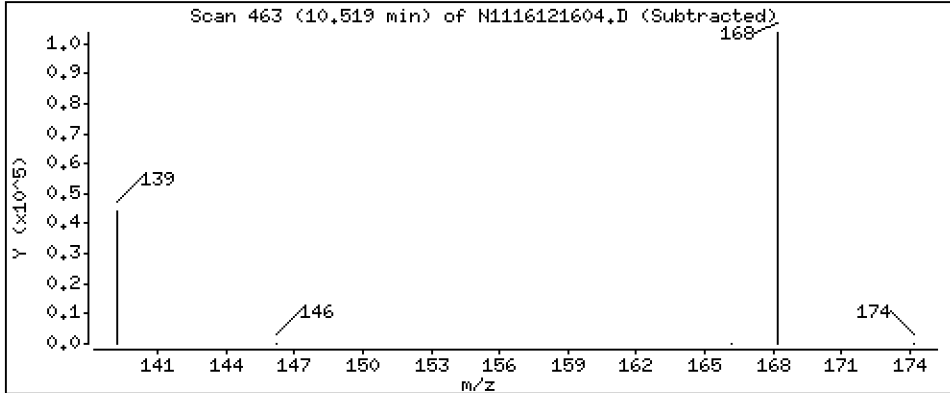
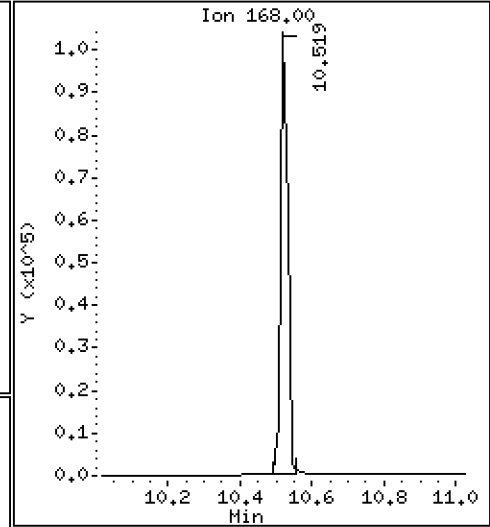
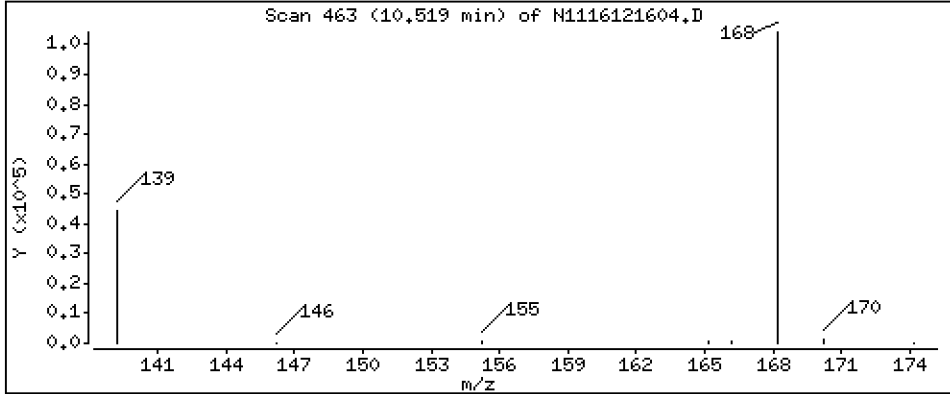
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 91,8 ng/mL

13 Dibenzofuran



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

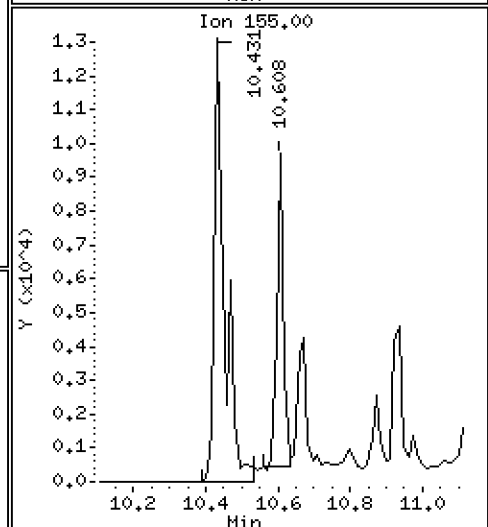
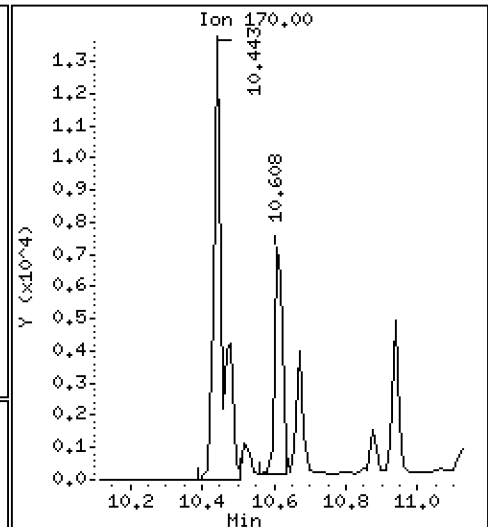
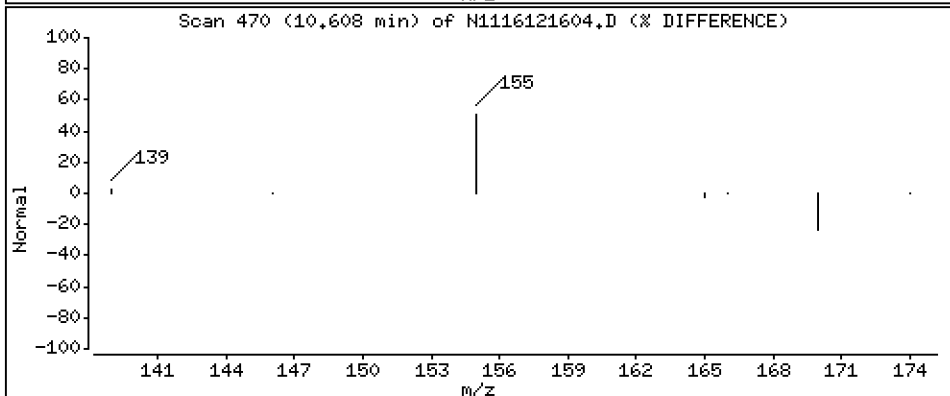
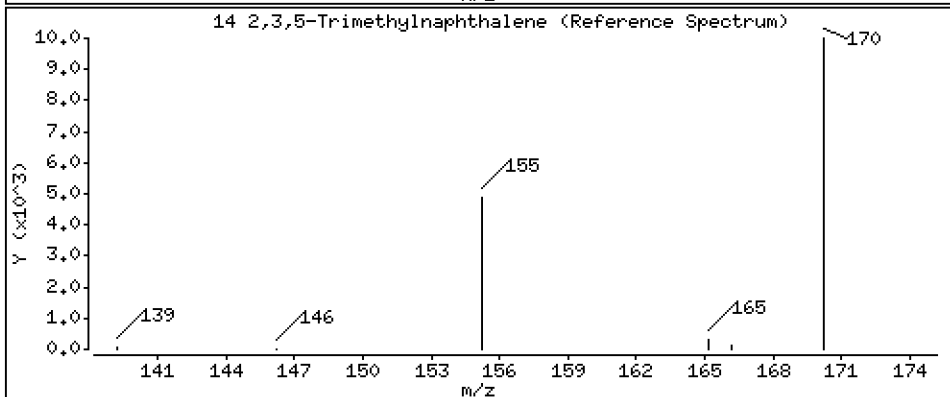
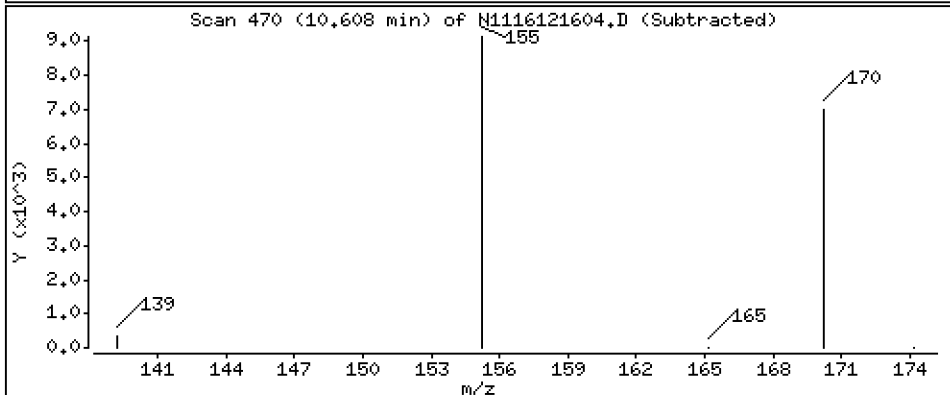
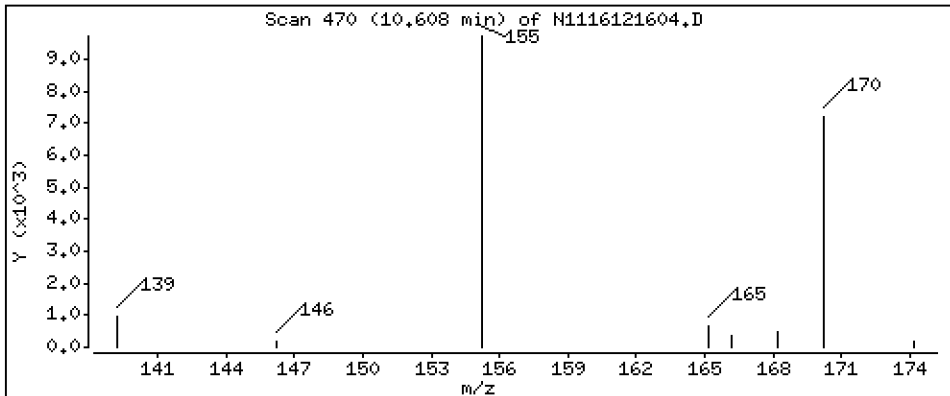
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 12,0 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

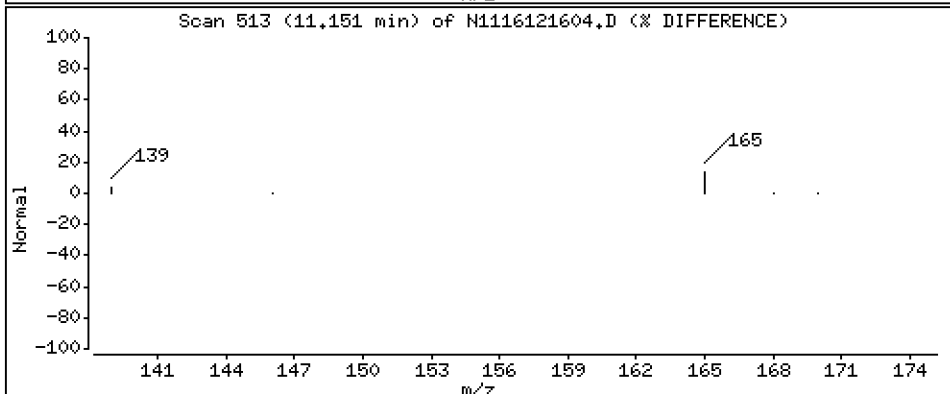
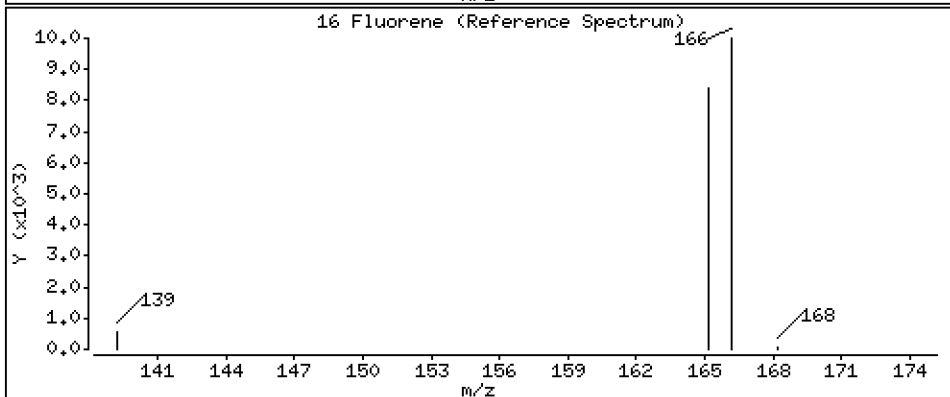
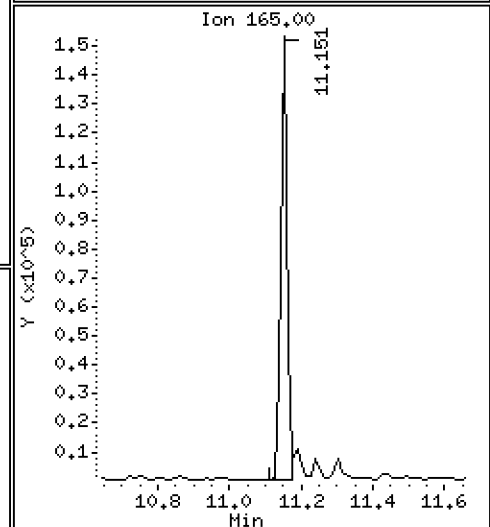
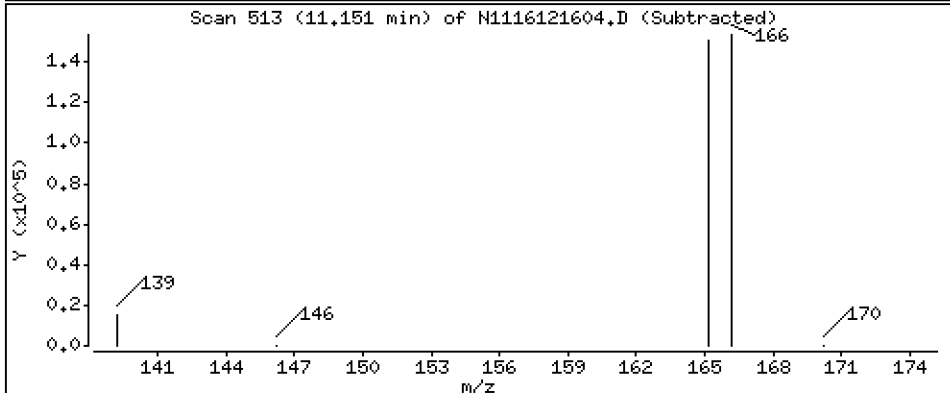
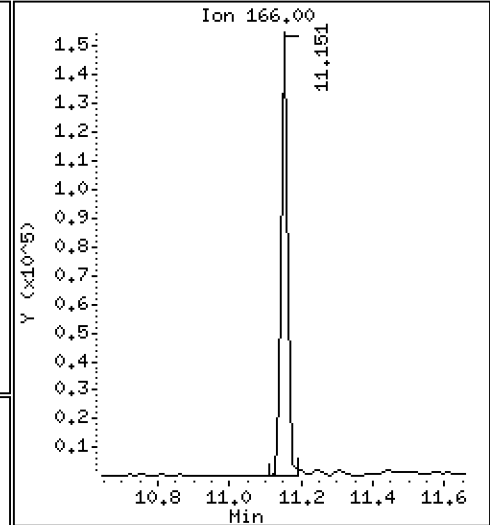
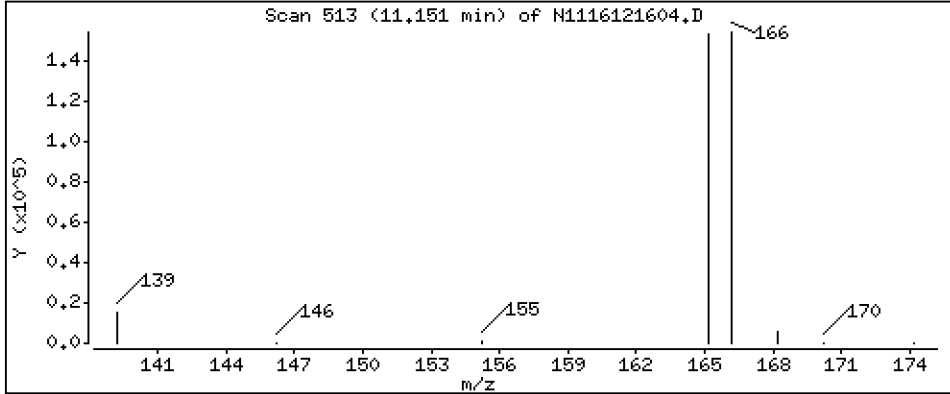
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 163 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

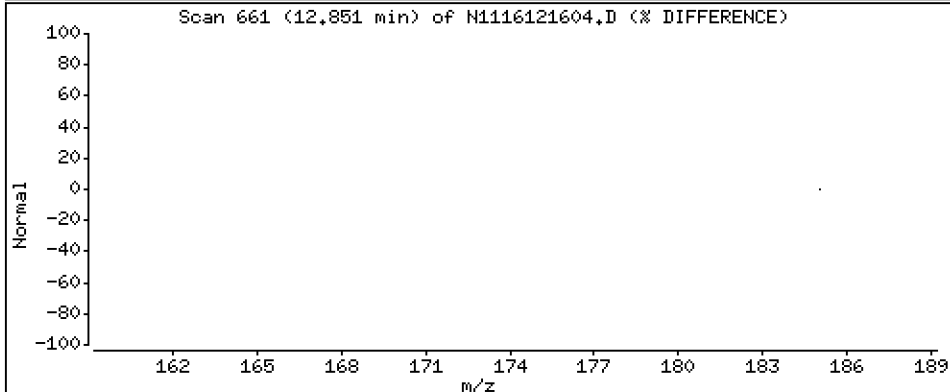
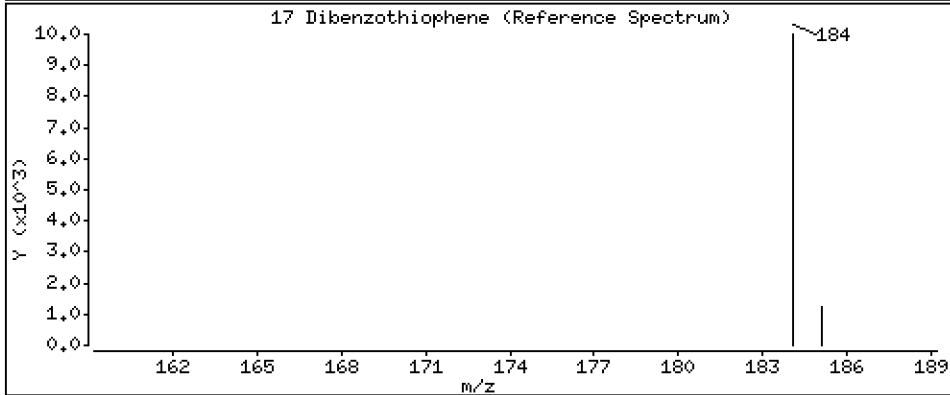
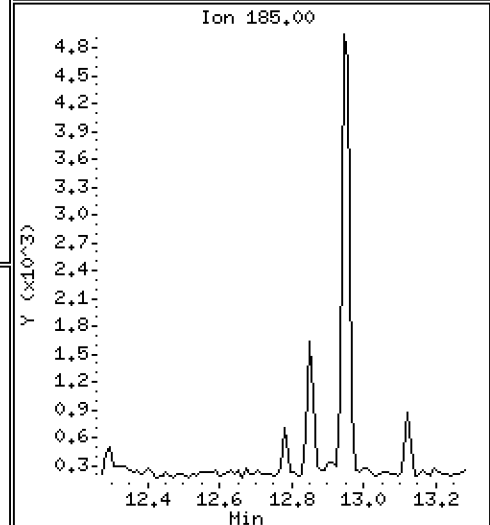
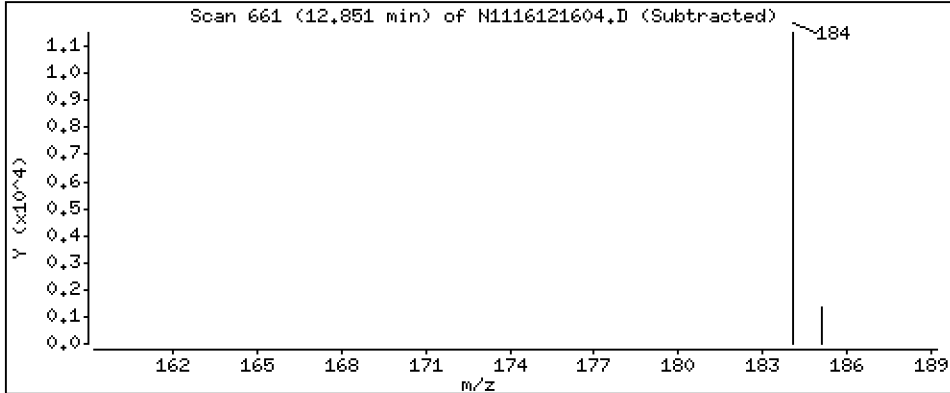
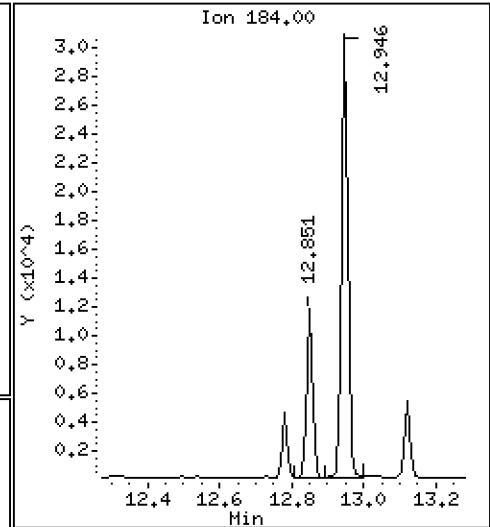
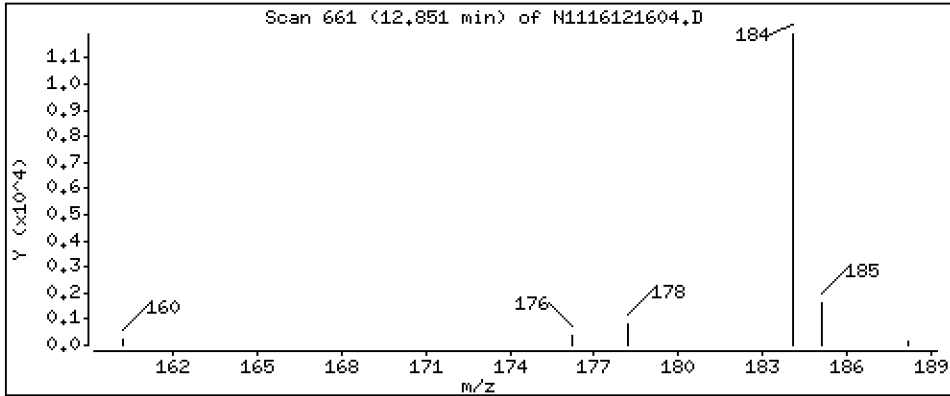
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 8,83 ng/mL

17 Dibenzothiophene



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

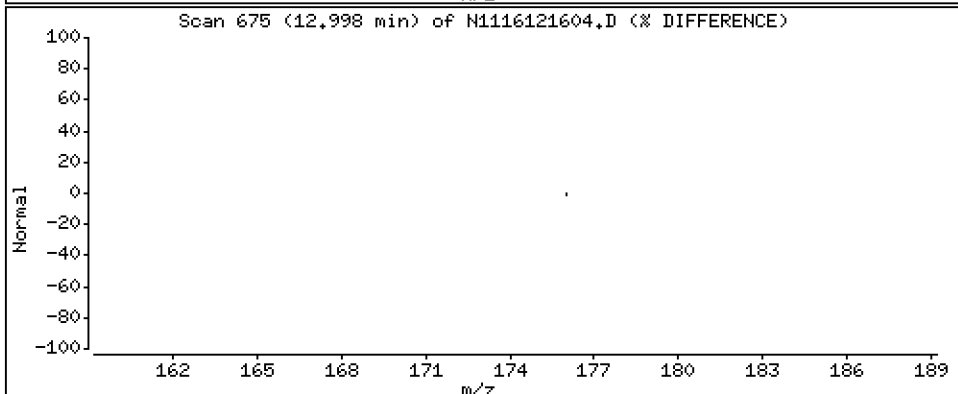
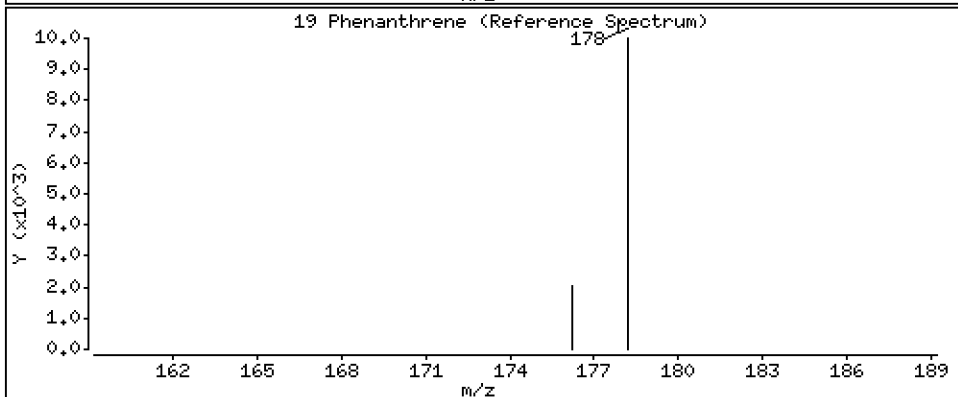
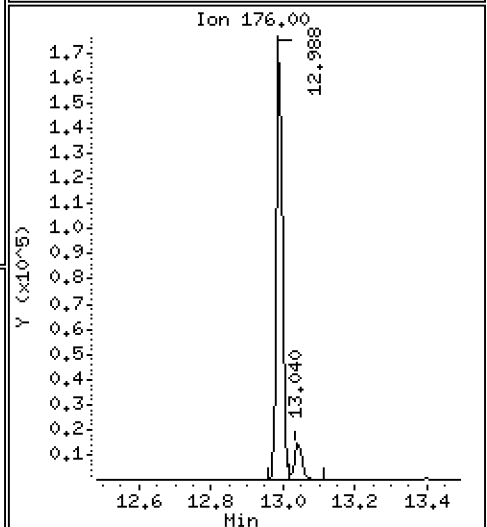
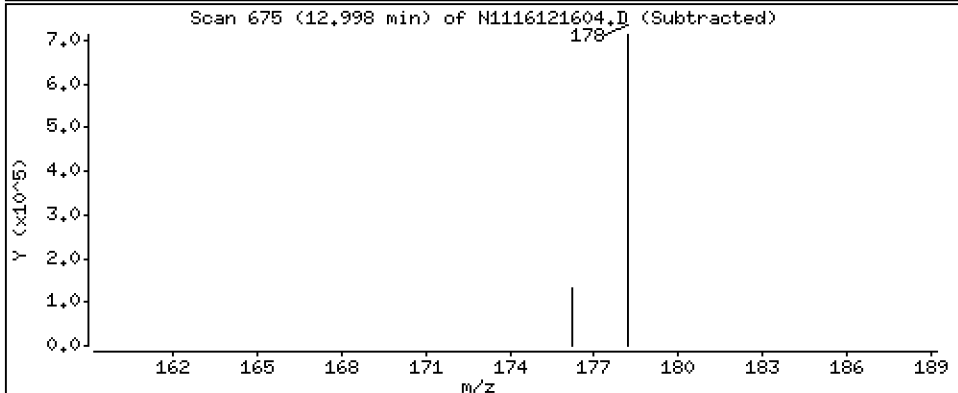
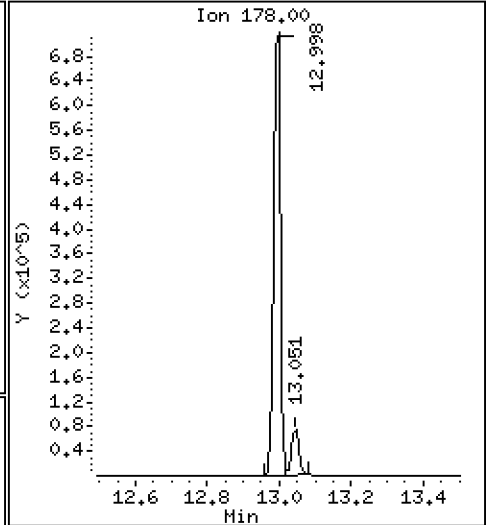
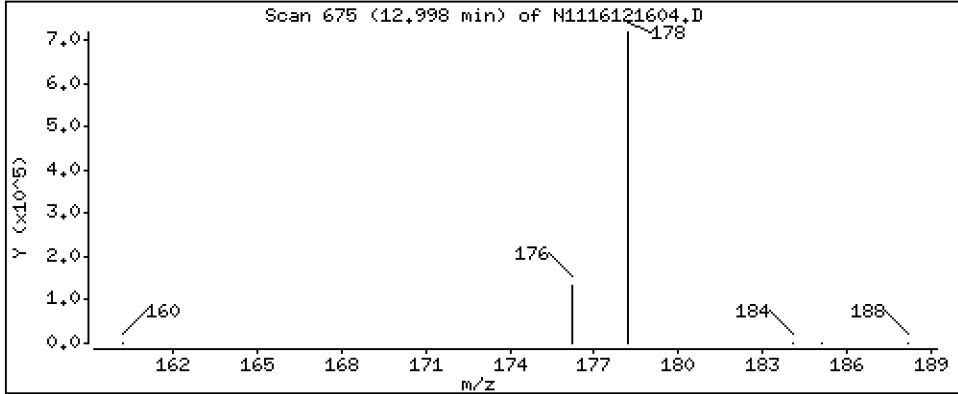
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 580 ng/mL

19 Phenanthrene



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

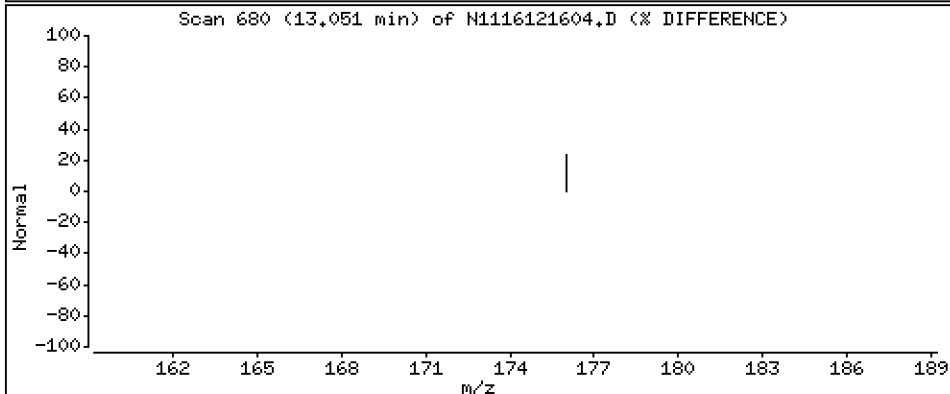
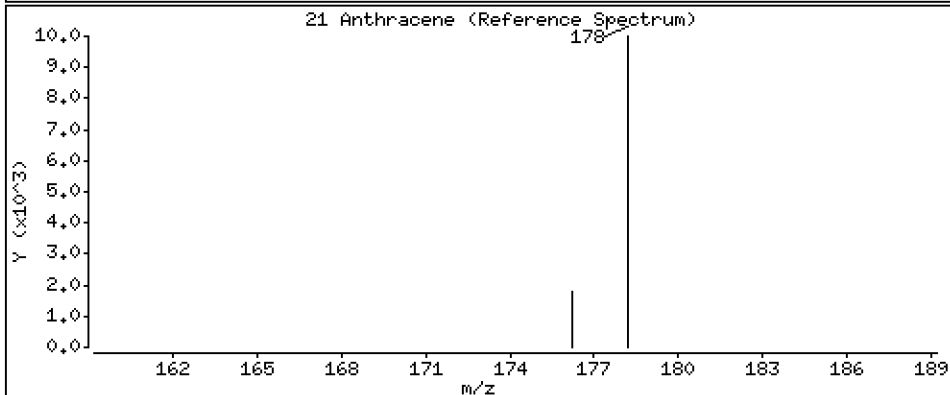
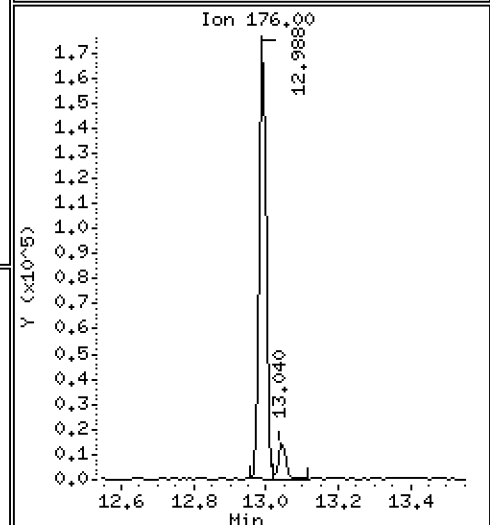
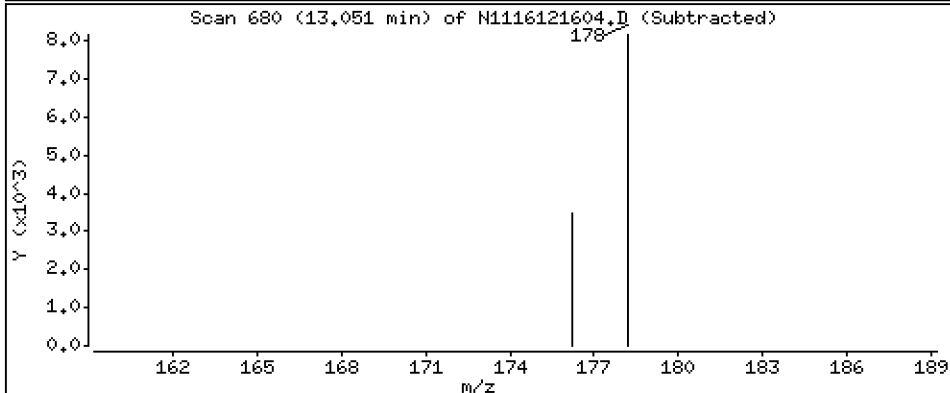
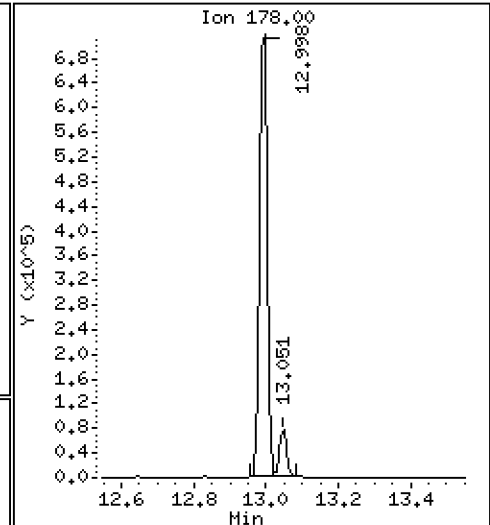
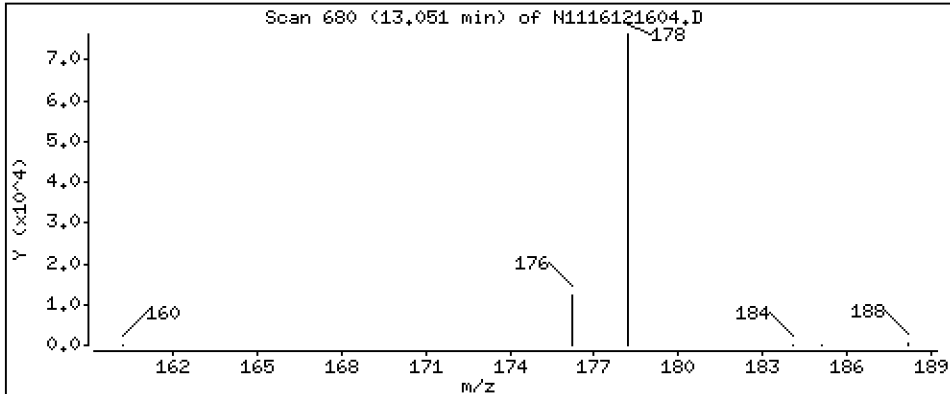
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 63,1 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

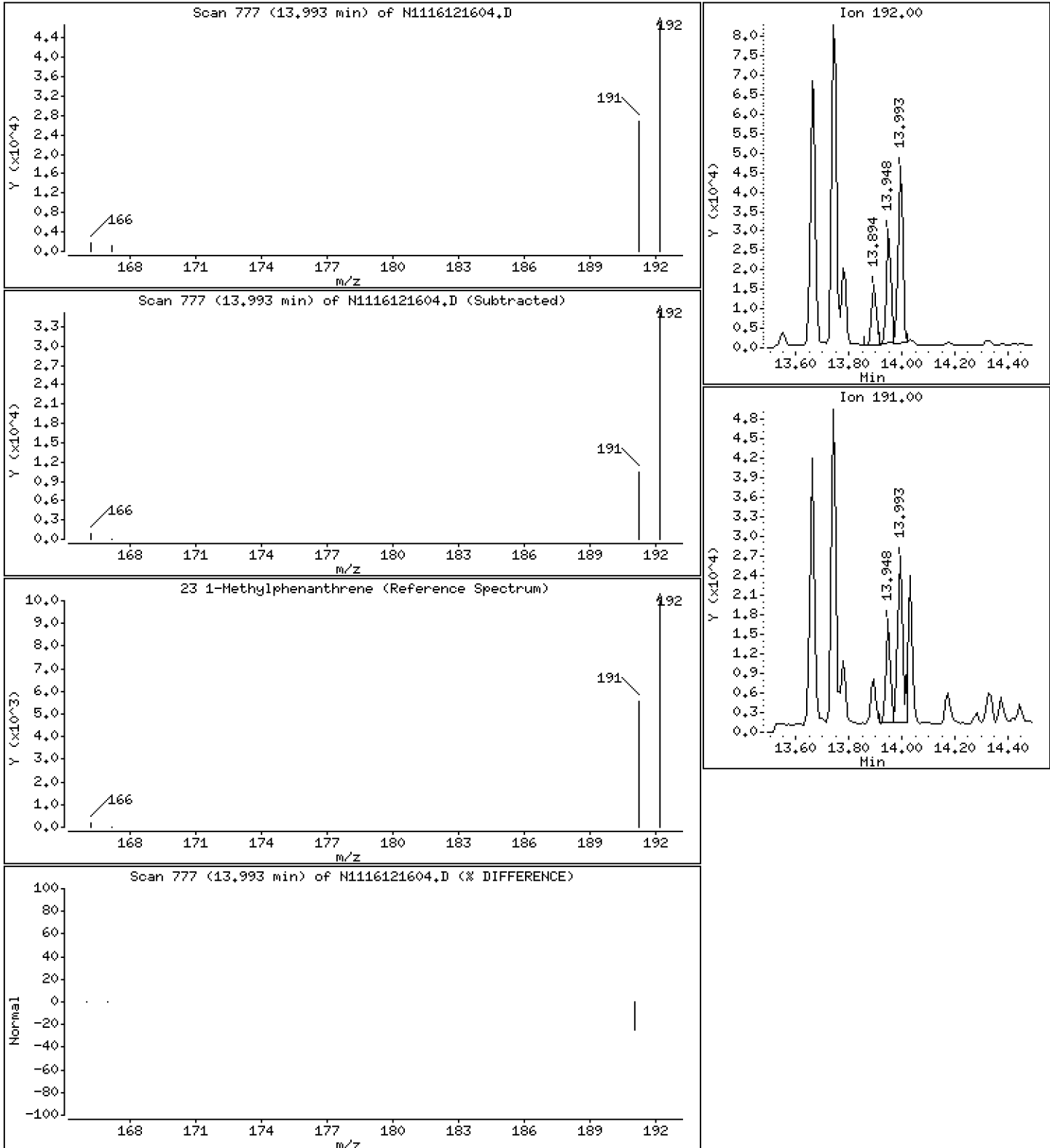
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 33,6 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

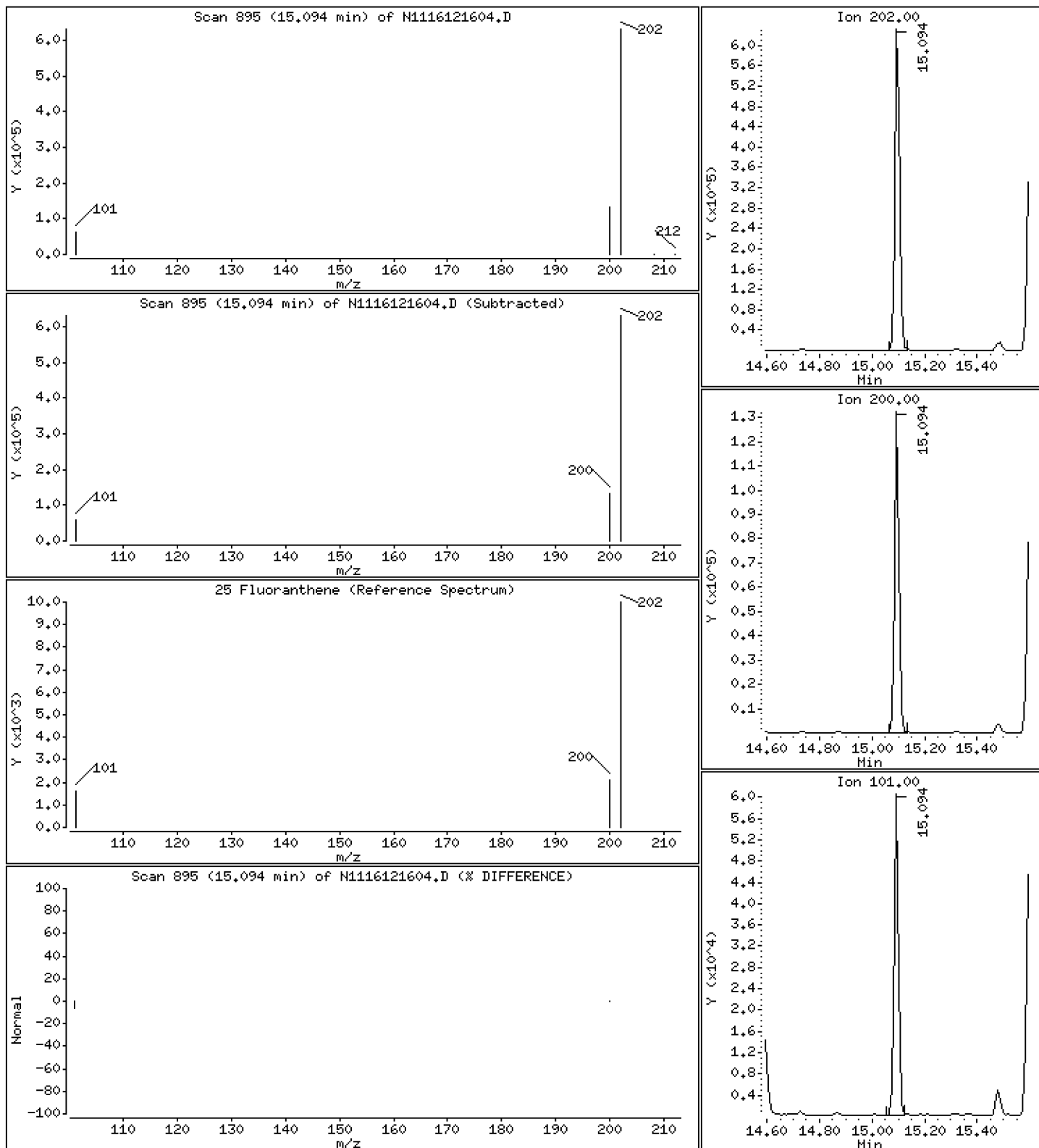
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 472 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

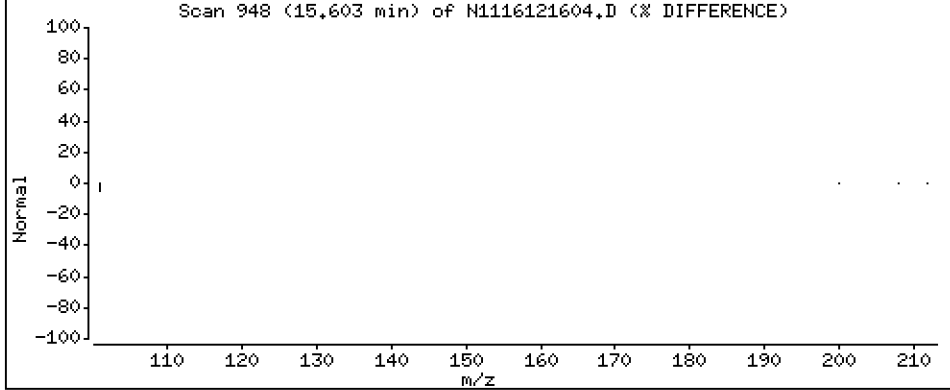
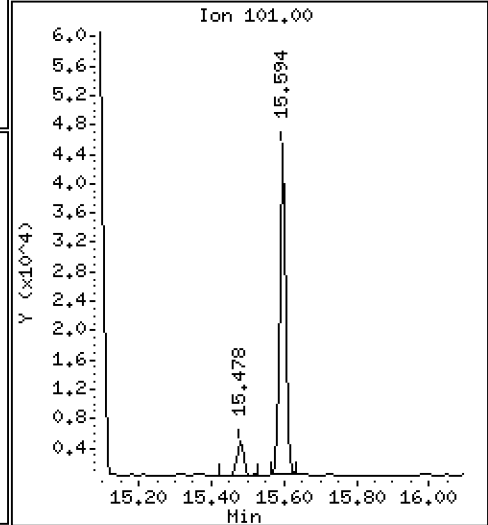
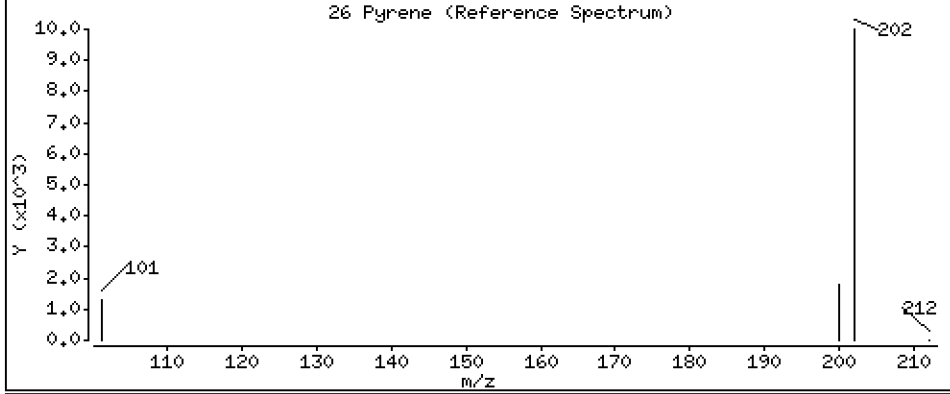
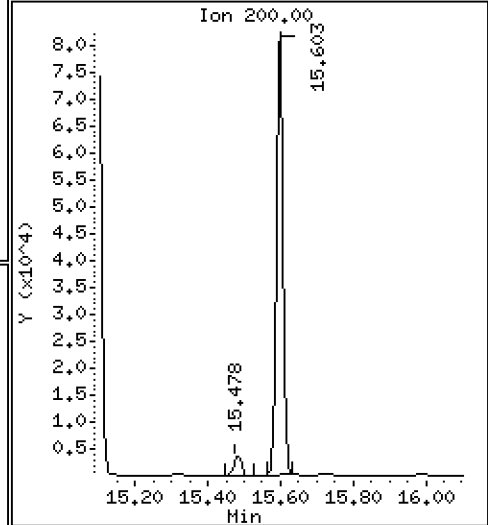
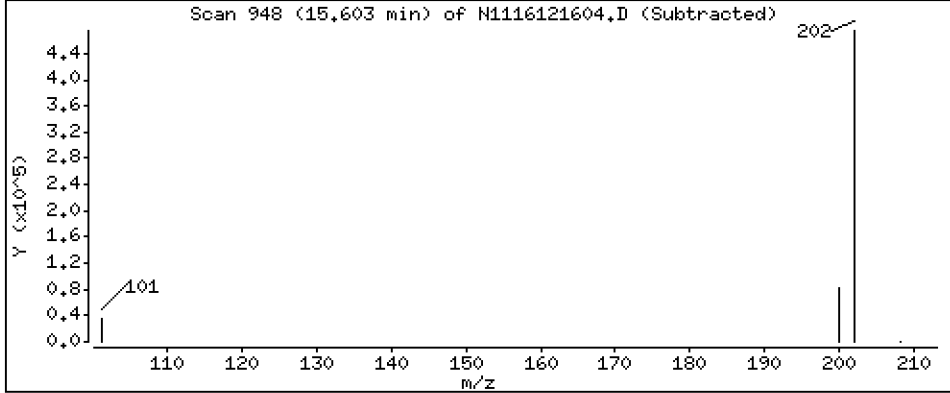
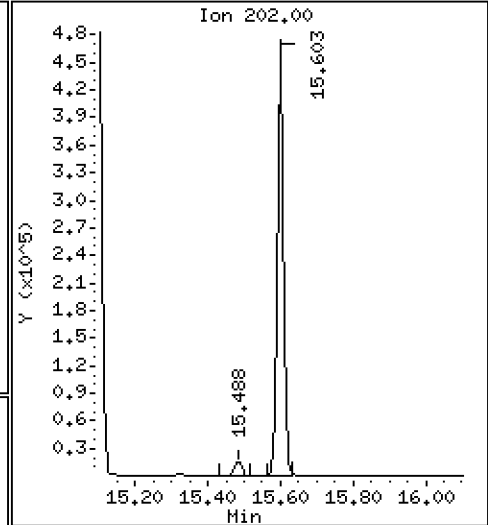
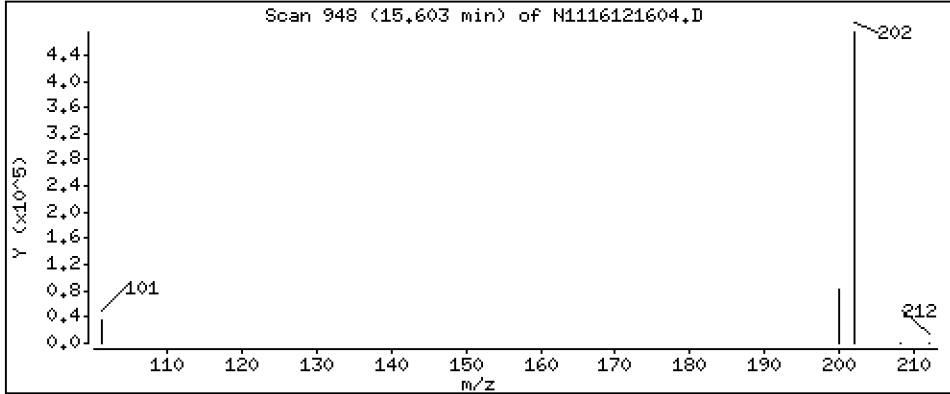
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 283 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

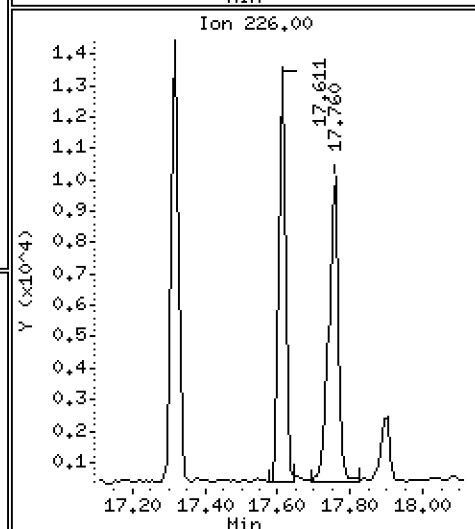
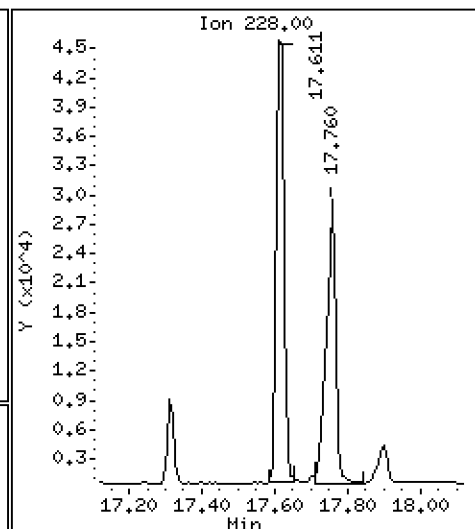
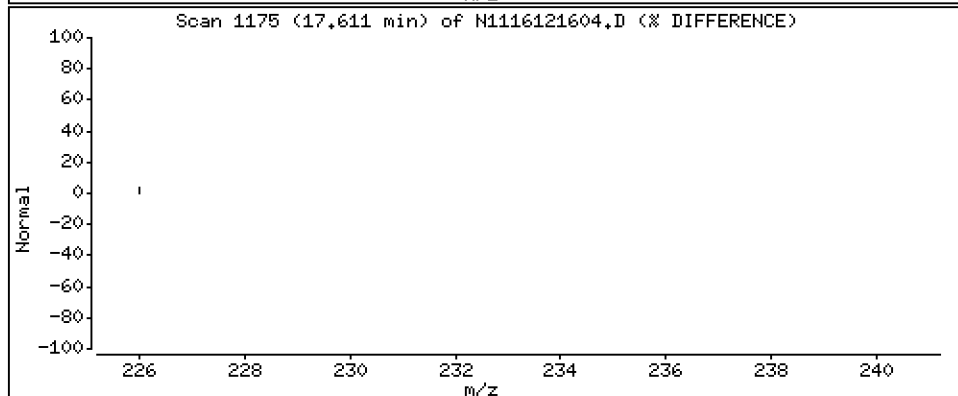
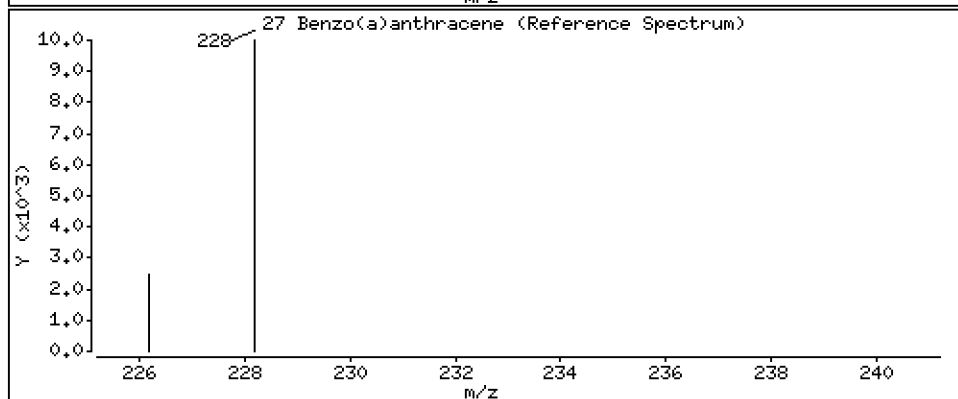
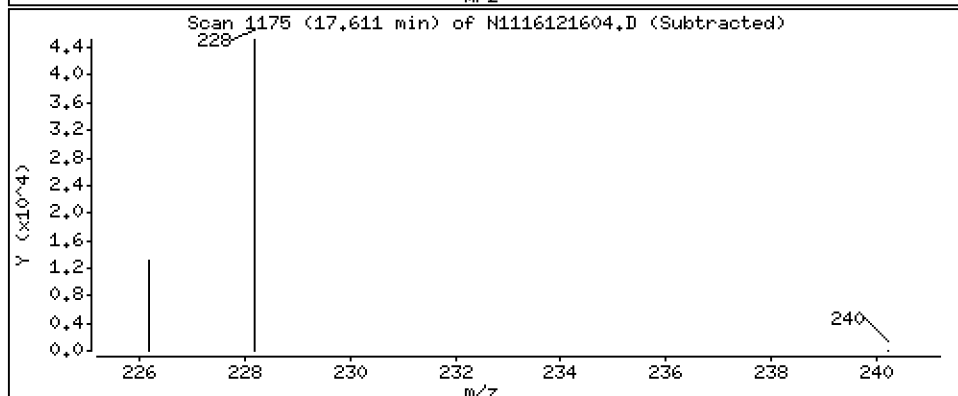
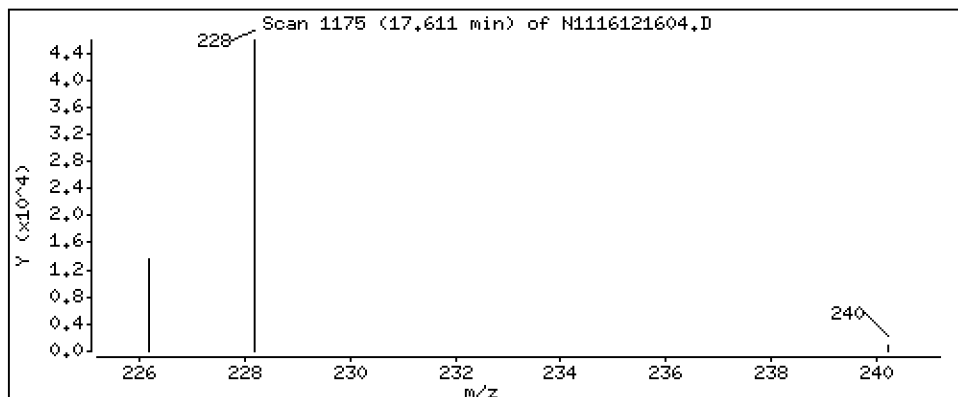
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 35,5 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

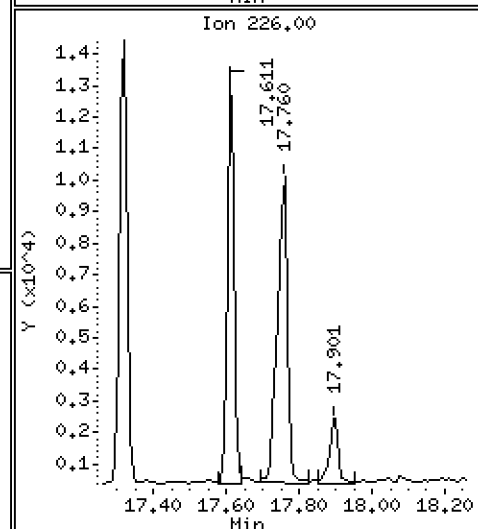
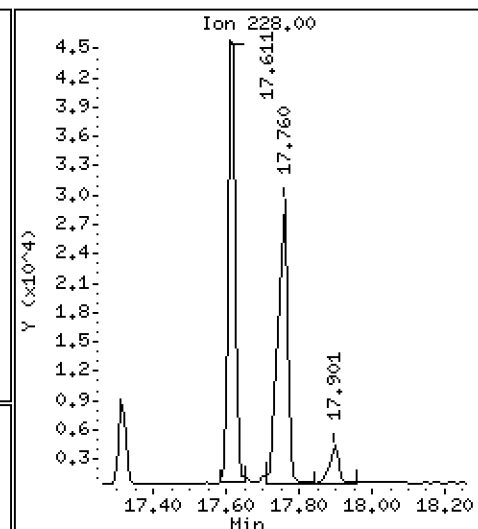
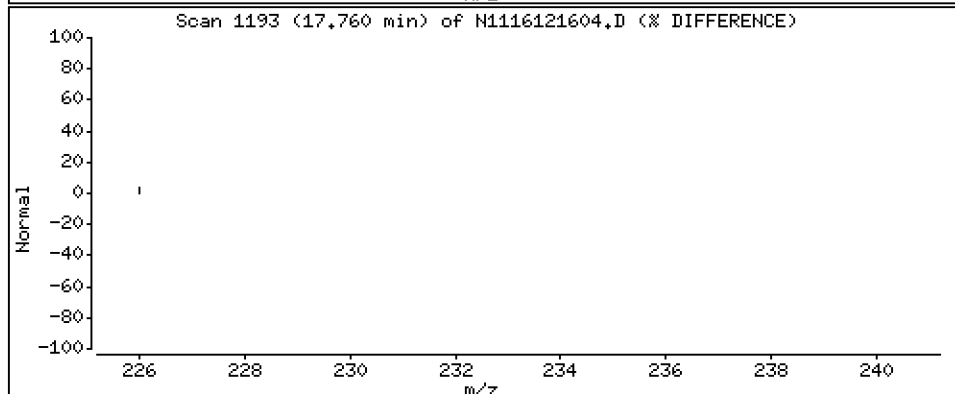
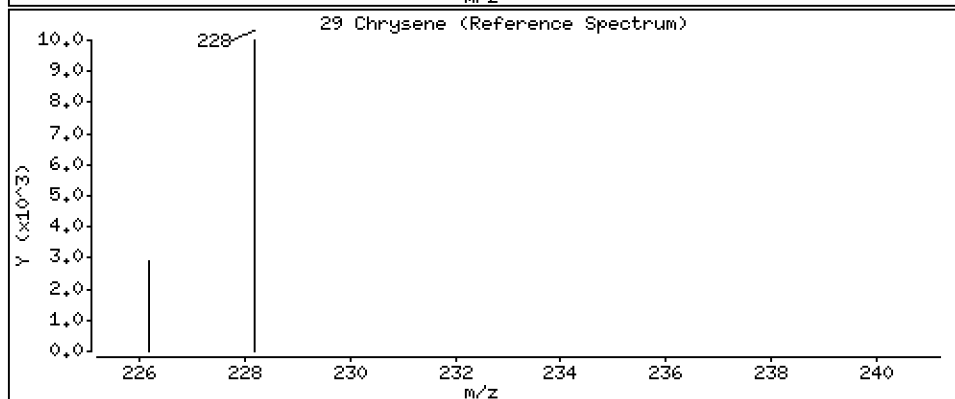
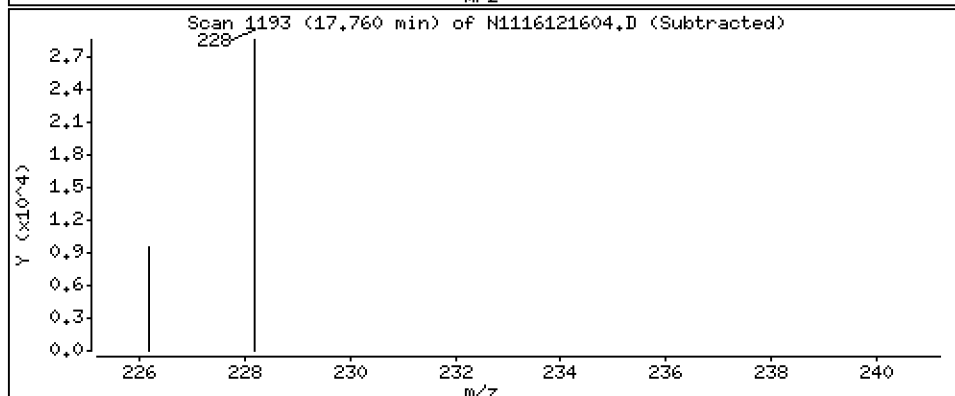
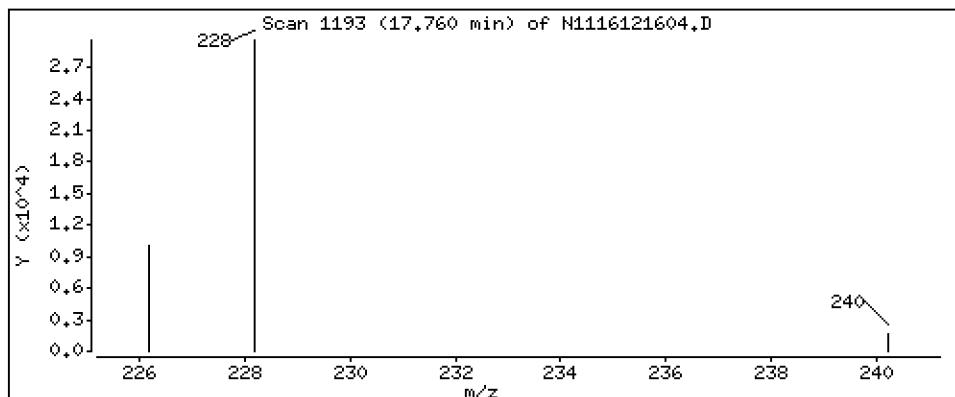
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 26,5 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

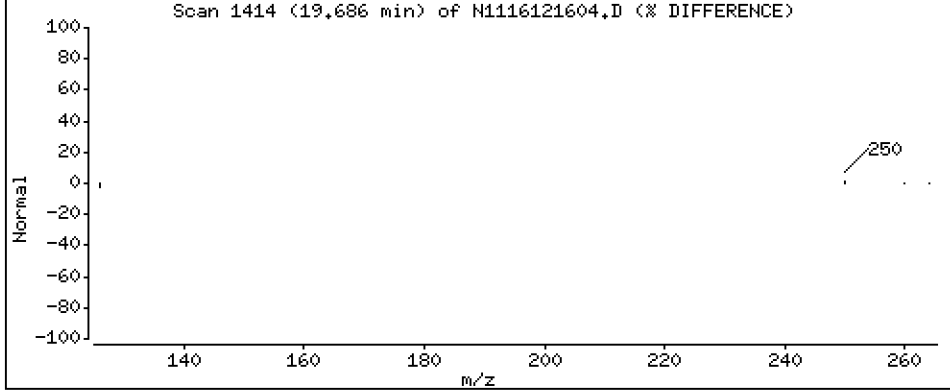
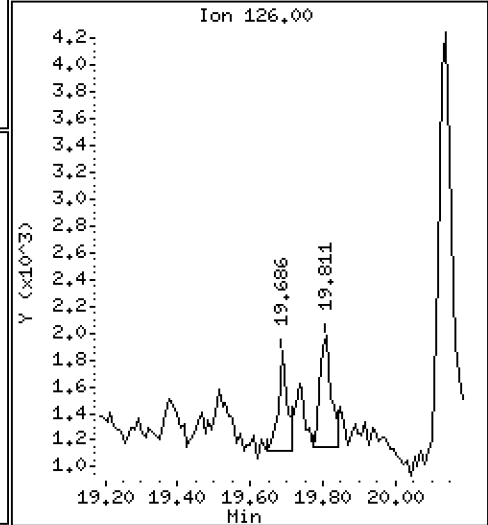
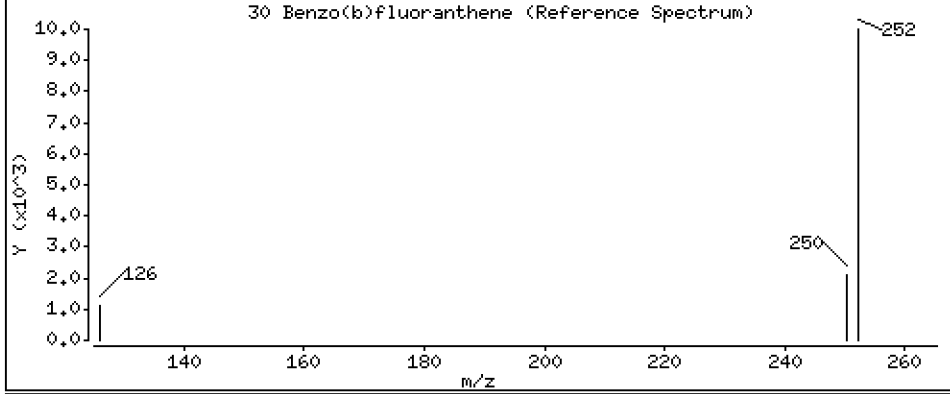
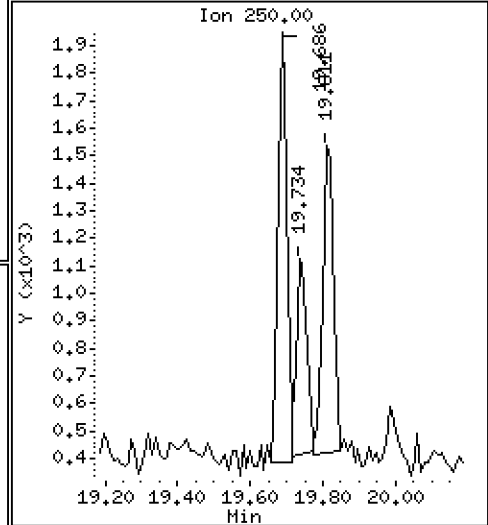
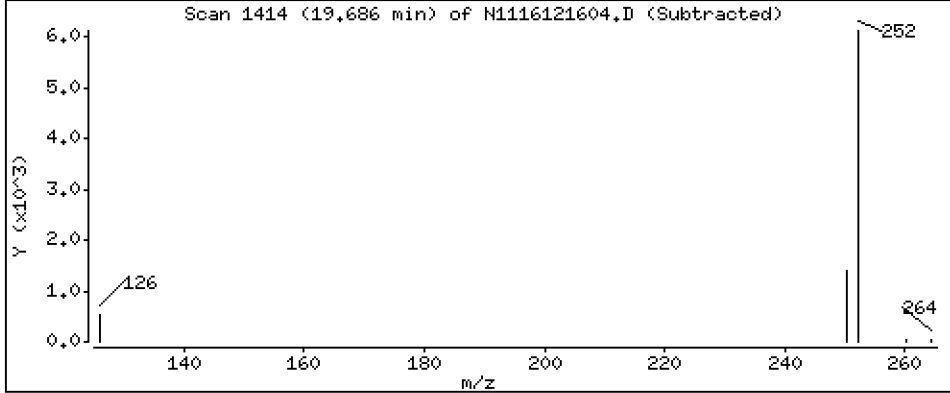
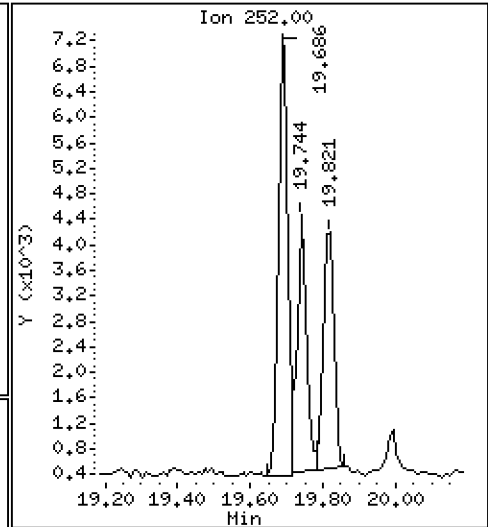
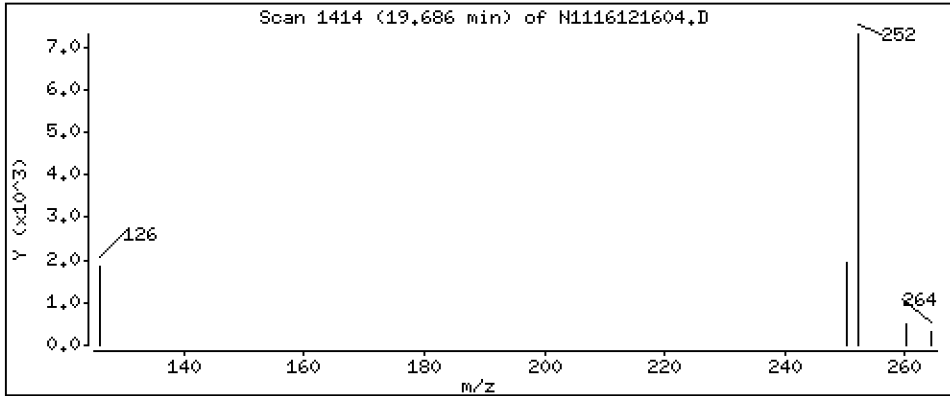
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 7,55 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

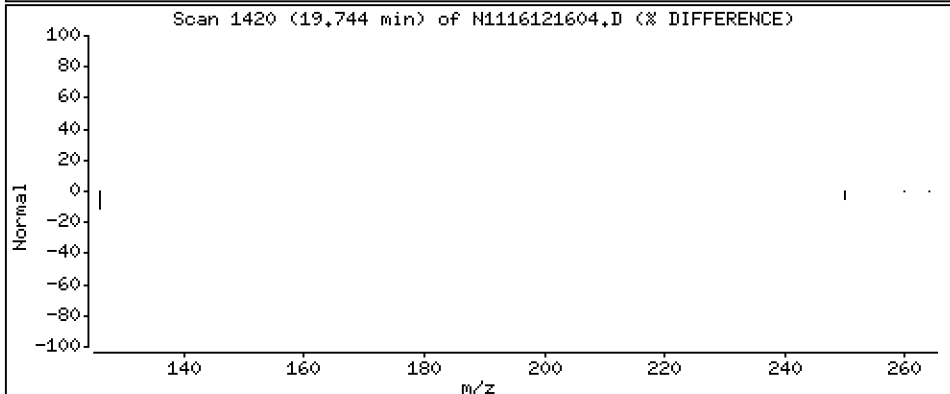
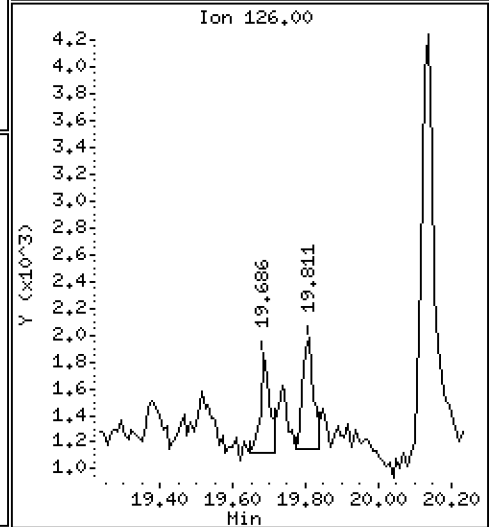
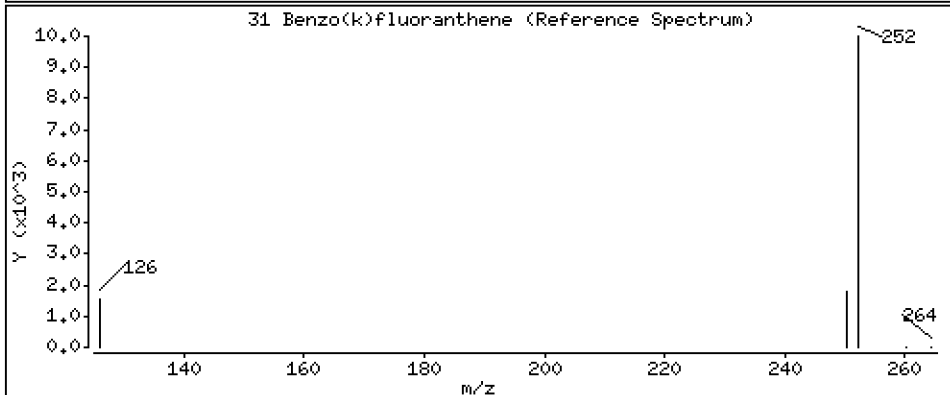
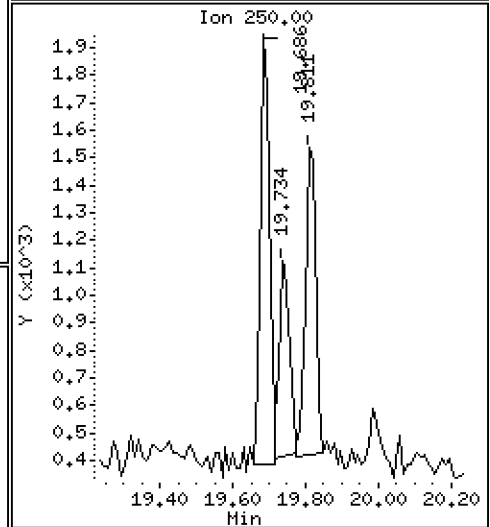
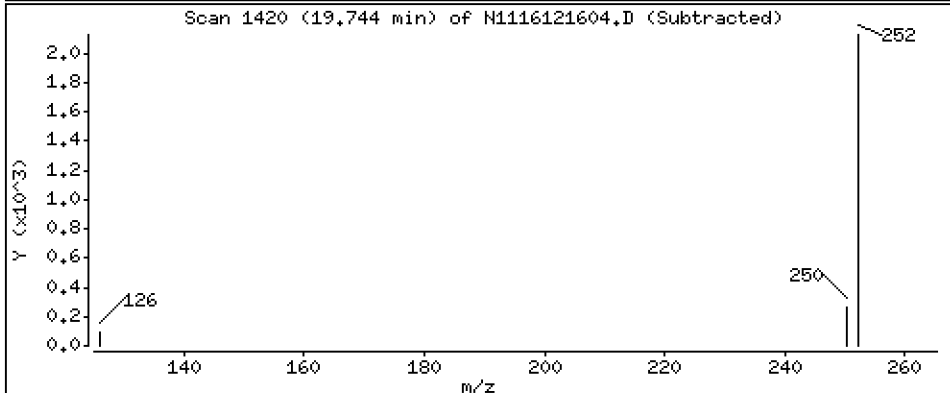
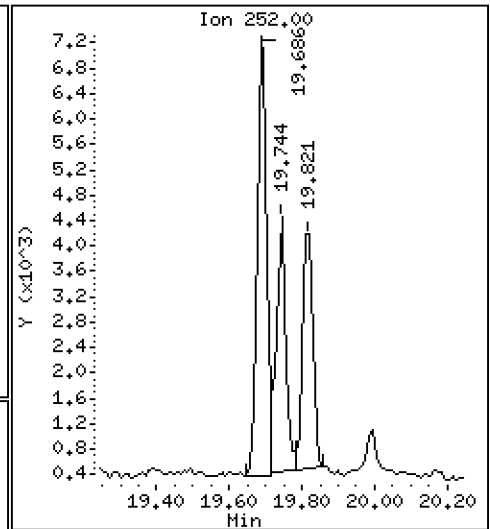
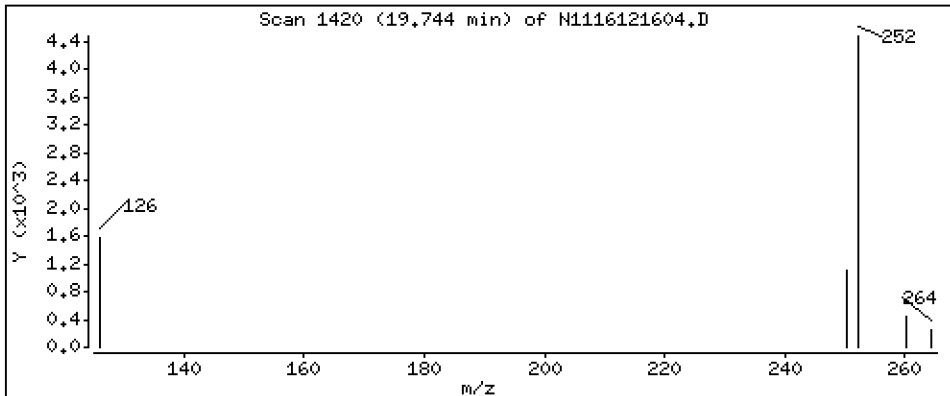
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 4,16 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

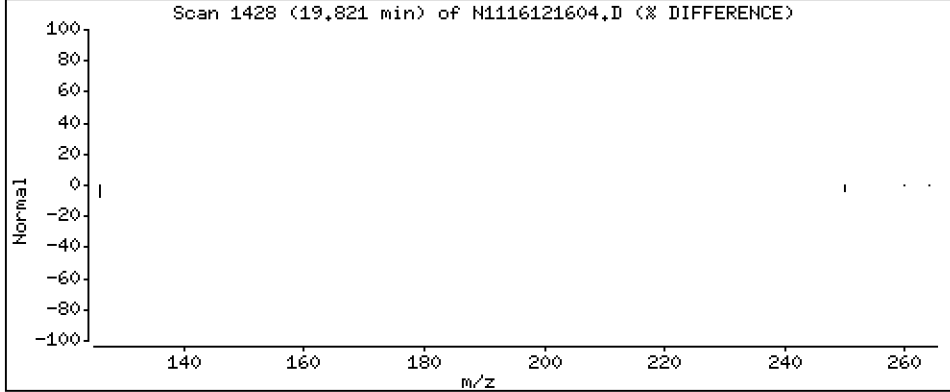
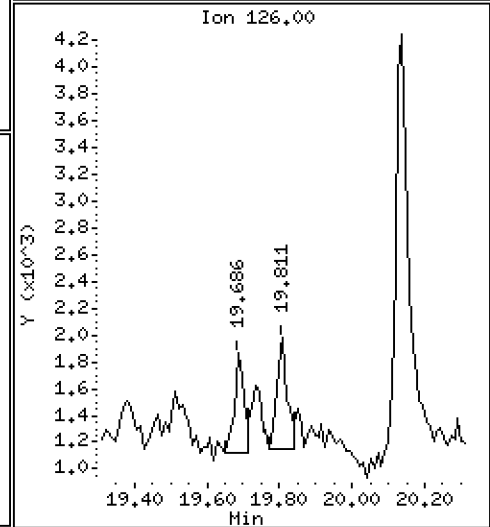
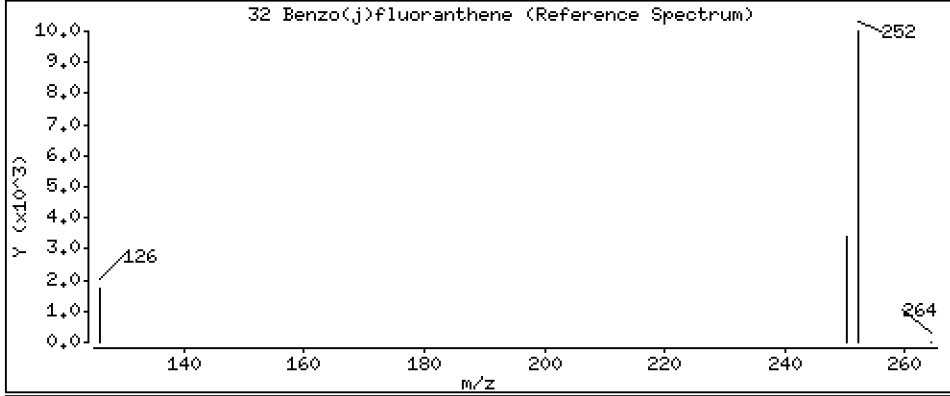
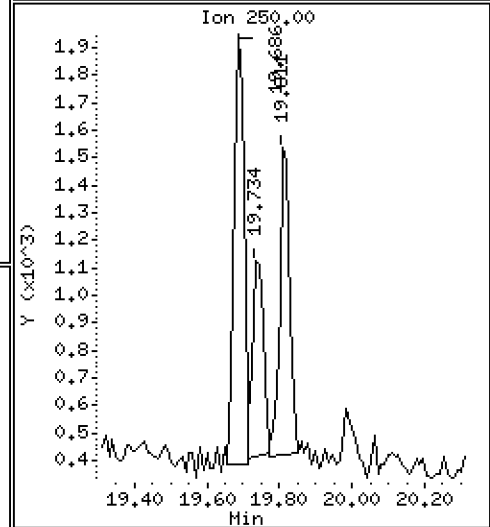
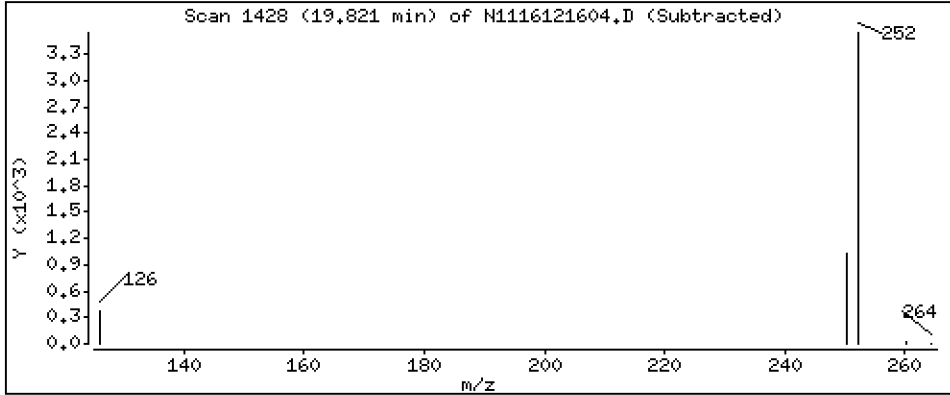
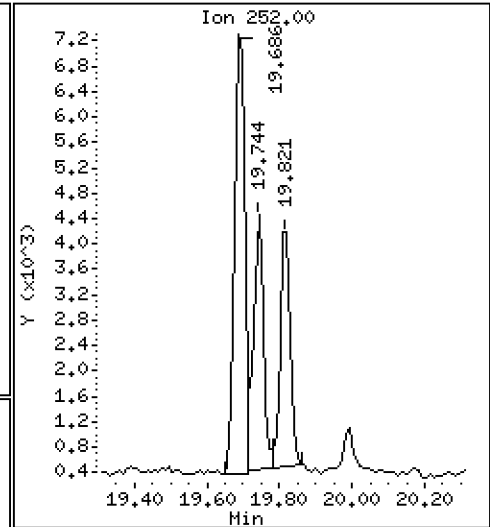
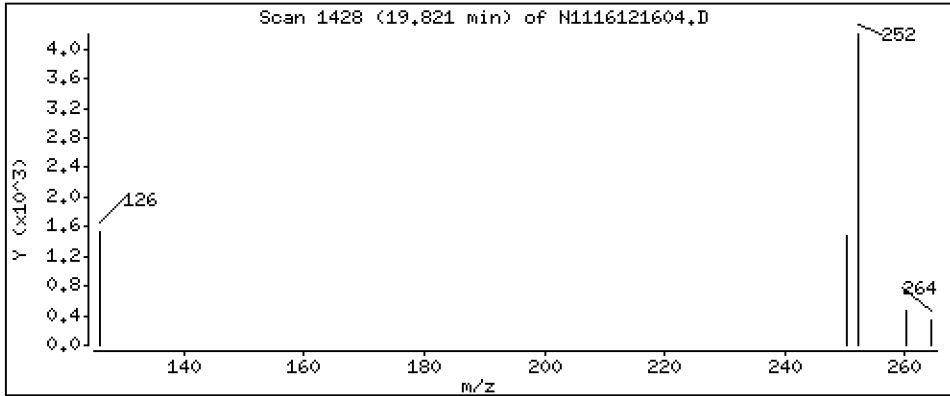
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 4,13 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

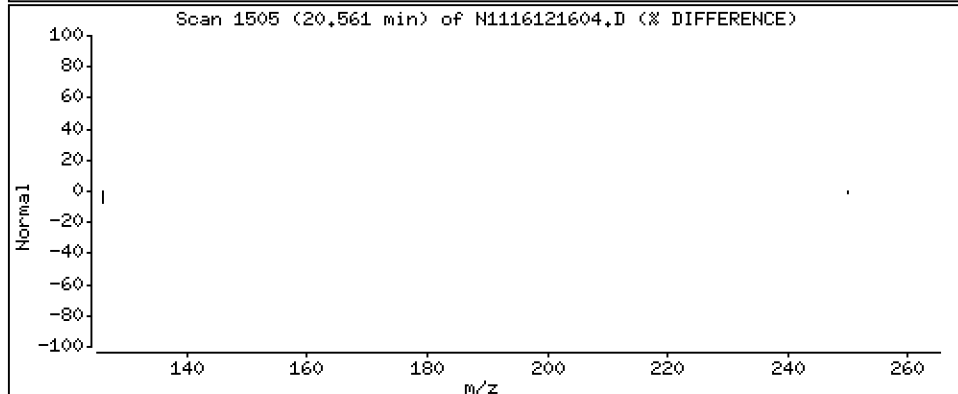
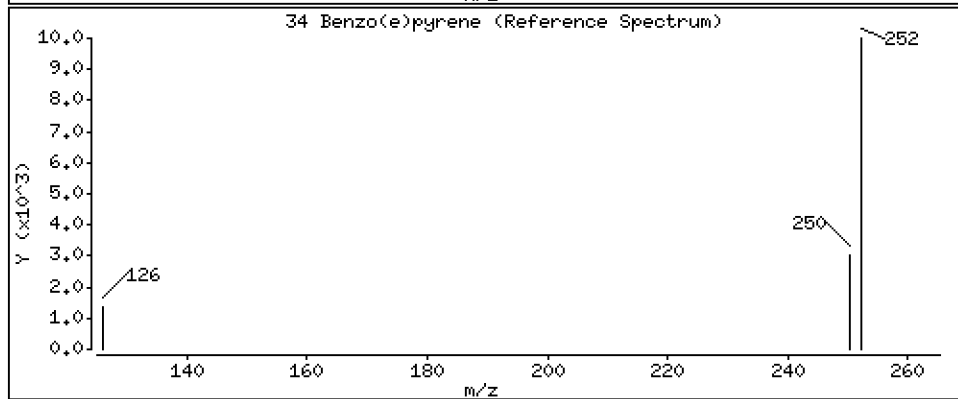
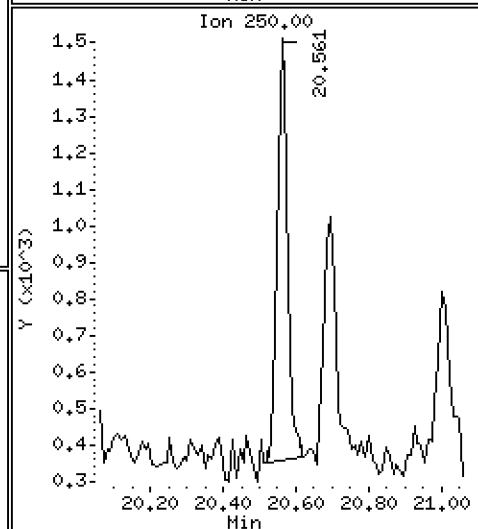
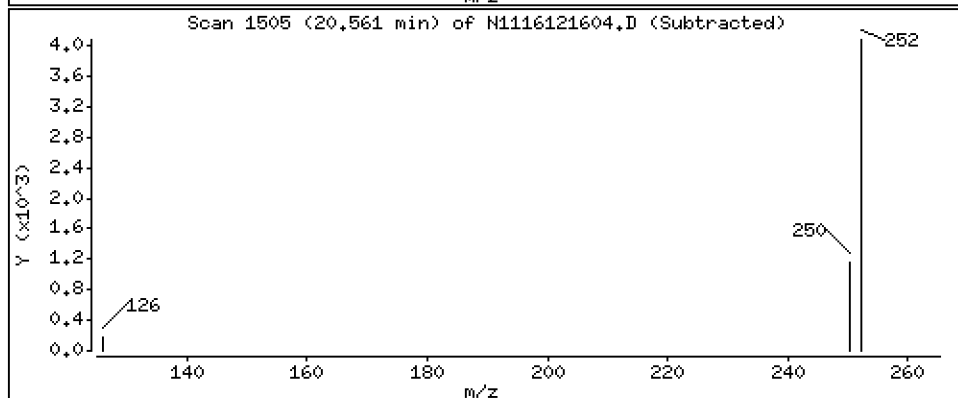
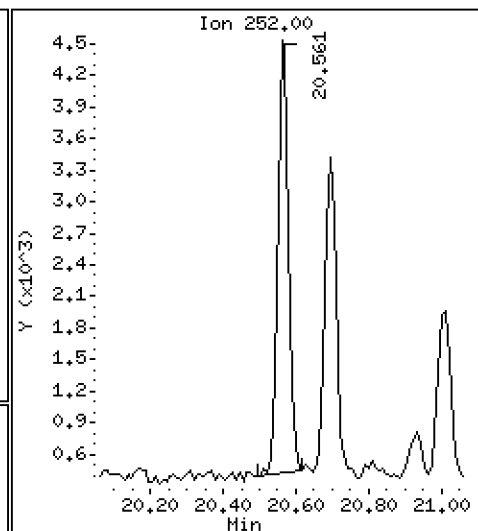
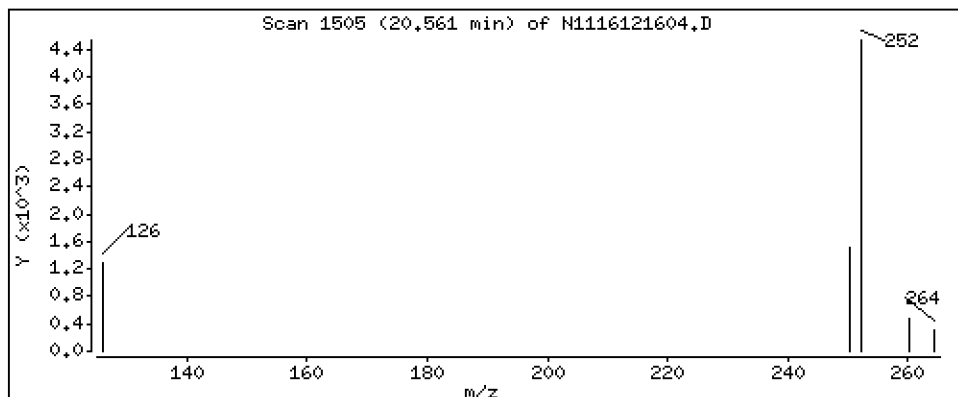
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 5,13 ng/mL



Date : 16-DEC-2016 11:03

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-1,10

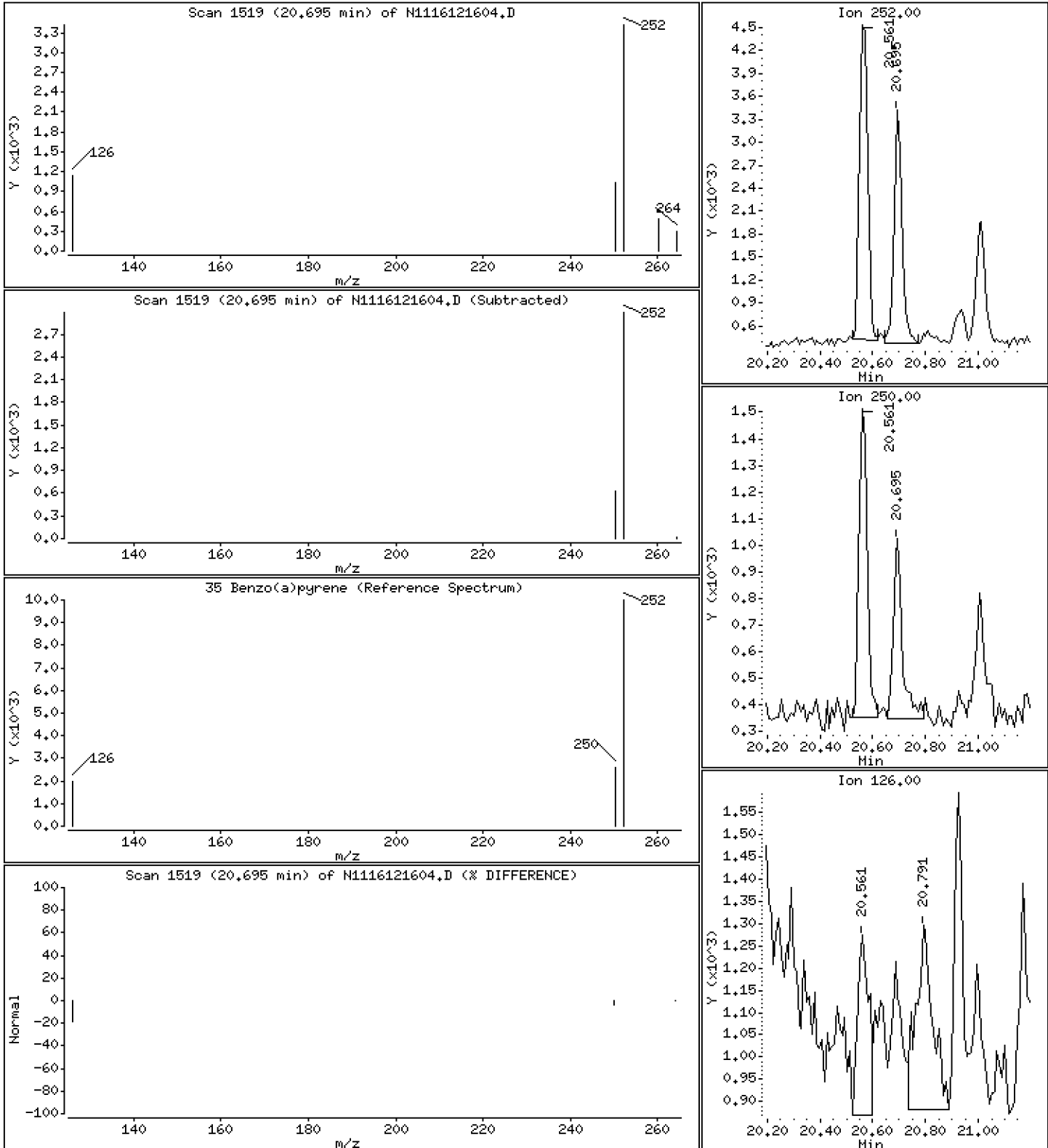
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 4,09 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161216.b\N1116121604.D
 Lab Smp Id:
 Inj Date : 16-DEC-2016 11:03 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-1,10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Meth Date : 17-Dec-2016 10:59 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	273849	200.000	
2 Naphthalene	128		7.261	7.271	(1.004)	26920	19.1196	19.1
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	17804	17.2447	17.2
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	50067	42.3538	42.4
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	32932	28.4042	28.4
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		9.136	9.136	(0.890)	20945	11.3088	11.3
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	52254	39.2620	39.3
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		10.260	10.261	(1.000)	166043	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	166933	158.607	159
13 Dibenzofuran	168		10.519	10.519	(1.025)	137301	91.7969	91.8
14 2,3,5-Trimethylnaphthalene	170		10.607	10.620	(1.034)	11120	11.9590	12.0
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	188475	163.104	163
17 Dibenzothiophene	184		12.851	12.788	(0.992)	13334	8.82945	8.83
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	305534	200.000	
19 Phenanthrene	178		12.998	12.998	(1.003)	1065287	580.452	580
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		13.050	13.050	(1.007)	108957	63.0909	63.1
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.080)	54289	33.5714	33.6
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	30541	22.3934	22.4
25 Fluoranthene	202		15.093	15.094	(1.165)	839882	471.634	472
26 Pyrene	202		15.603	15.603	(0.881)	596201	282.658	283
27 Benzo(a)anthracene	228		17.610	17.619	(0.994)	64773	35.4880	35.5
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	324188	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	53696	26.5244	26.5
30 Benzo(b)fluoranthene	252		19.686	19.696	(0.940)	13296	7.55248	7.55
31 Benzo(k)fluoranthene	252		19.744	19.744	(0.943)	7954	4.15821	4.16
32 Benzo(j)fluoranthene	252		19.820	19.821	(0.947)	7323	4.12993	4.13
\$ 33 Benzo(e)pyrene-d12	264		20.493	20.493	(0.979)	16807	11.2610	11.3

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	20.560	20.570	(0.982)	8770	5.12647	5.13 (M)
35 Benzo(a)pyrene	252	20.695	20.695	(0.989)	6599	4.09401	4.09
* 36 Perylene-d12	264	20.935	20.935	(1.000)	309708	200.000	
37 Perylene	252	Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292	23.819	23.830	(1.138)	7218	6.95778	6.96
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 16-DEC-2016
 Lab File ID: N1116121604.D Calibration Time: 09:46
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	273849	-44.51
11 Acenaphthene-d10	240770	120385	481540	166043	-31.04
18 Phenanthrene-d10	429271	214636	858542	305534	-28.82
28 Chrysene-d12	387691	193846	775382	324188	-16.38
36 Perylene-d12	386259	193130	772518	309708	-19.82

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	-0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	-0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	-0.00
28 Chrysene-d12	17.71	17.21	18.21	17.71	-0.00
36 Perylene-d12	20.94	20.44	21.44	20.94	-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 - N1116121604.D

Lab ID:

nt11.i, 20161216.b\LOWSIM.m, 16-DEC-2016 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, 20161216.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

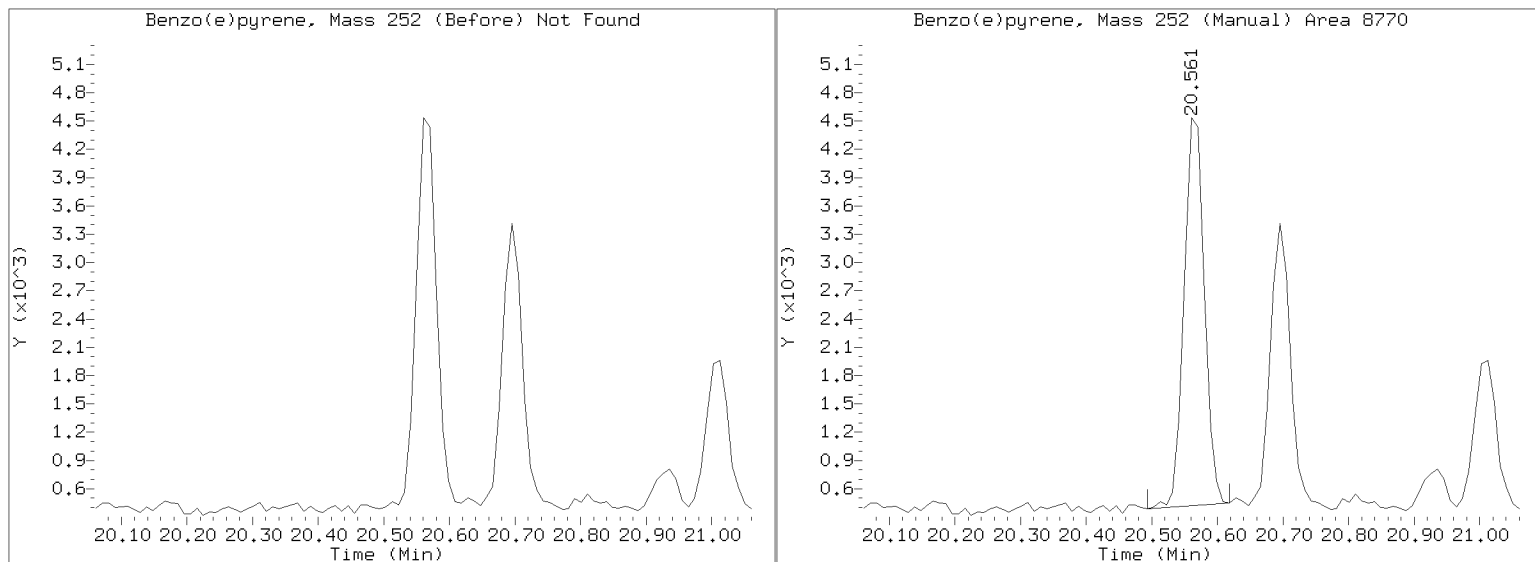
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161216.b/N1116121604.D

Injection Date: 16-DEC-2016 11:03

Lab ID: Client ID:

Report Date: 12/17/2016 10:59





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-03 File ID: N1116121210.D
 Sampled: 11/22/16 11:47 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 12:58
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	10.8	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	26.6	B	1.13	1.13
208-96-8	Acenaphthylene	1	3.16		1.13	1.13
83-32-9	Acenaphthene	1	97.5		1.13	1.13
86-73-7	Fluorene	1	93.9		1.13	1.13
85-01-8	Phenanthrene	1	311	E	1.13	1.13
120-12-7	Anthracene	1	37.2		1.13	1.13
206-44-0	Fluoranthene	1	235	E	1.13	1.13
129-00-0	Pyrene	1	175	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	20.5		1.13	1.13
218-01-9	Chrysene	1	15.4		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	3.99		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	2.22		1.13	1.13
50-32-8	Benzo(a)pyrene	1	2.54		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	2.62		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	14.7	43.3	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	16.7	49.2	30 - 160	
Fluoranthene-d10	33.860	18.9	55.8	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	11.5	54.2	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121210.D

Date: 12-DEC-2016 12:58

Client ID:

Sample Info: 16K0321-03

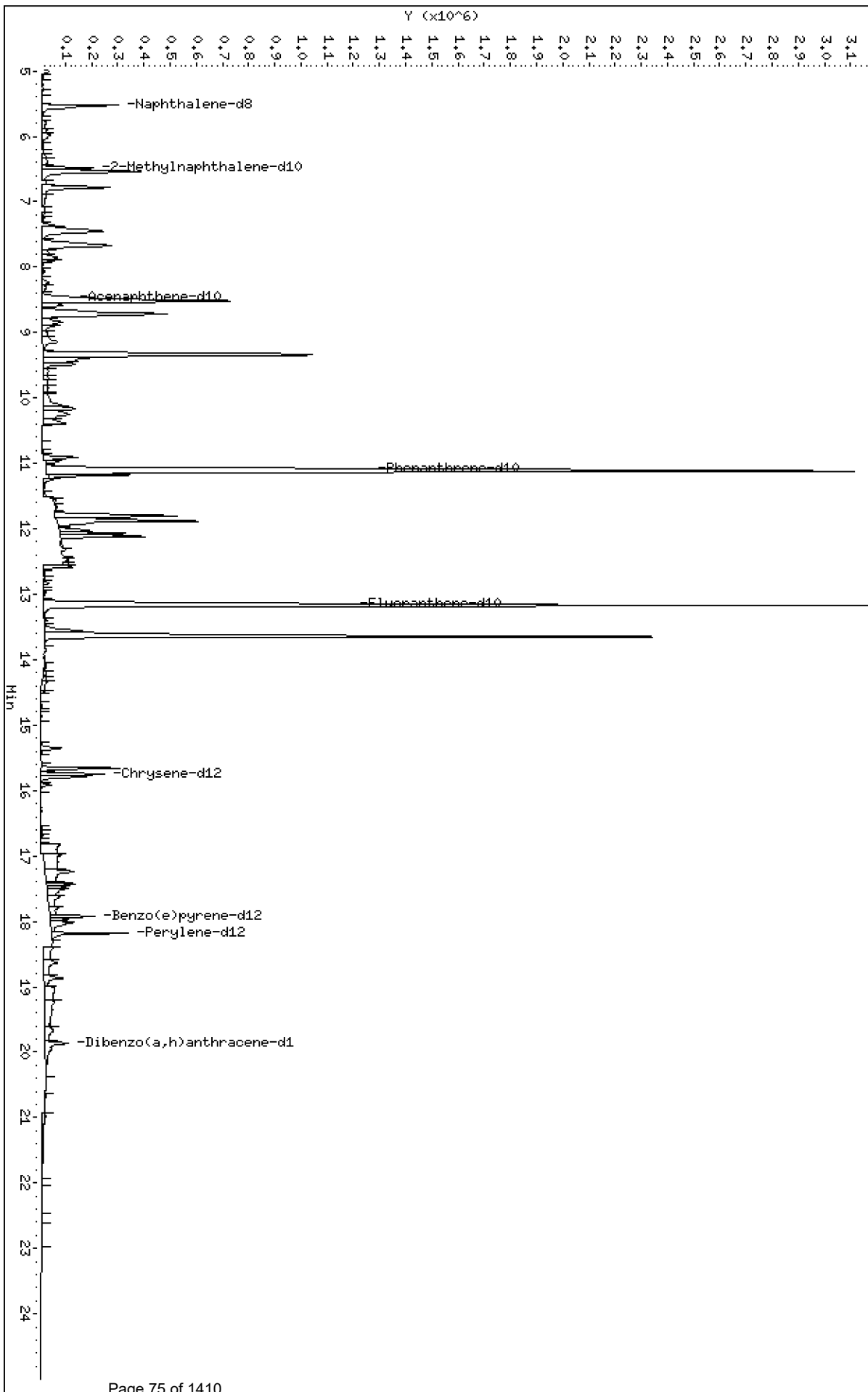
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161212.16\N1116121210.D



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

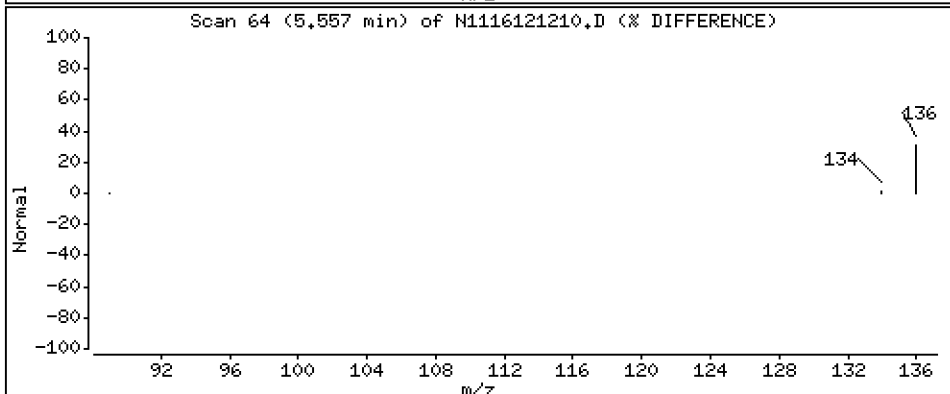
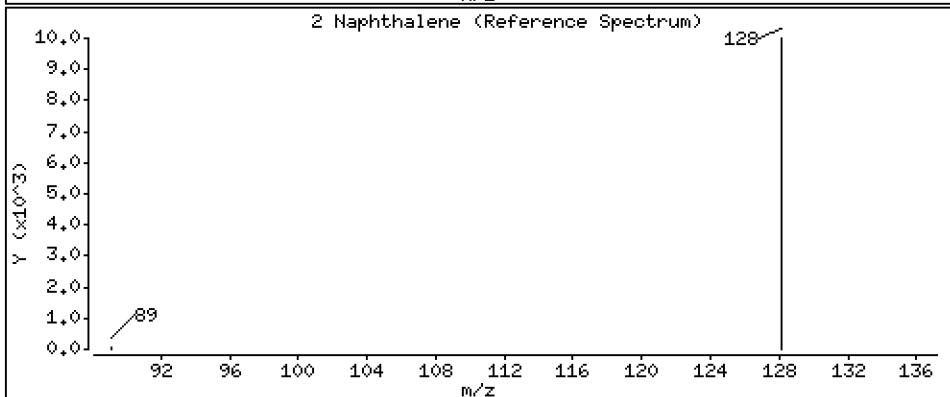
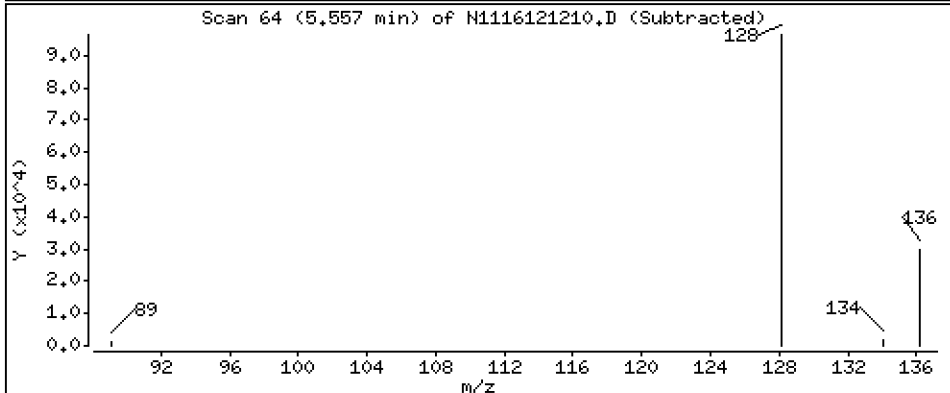
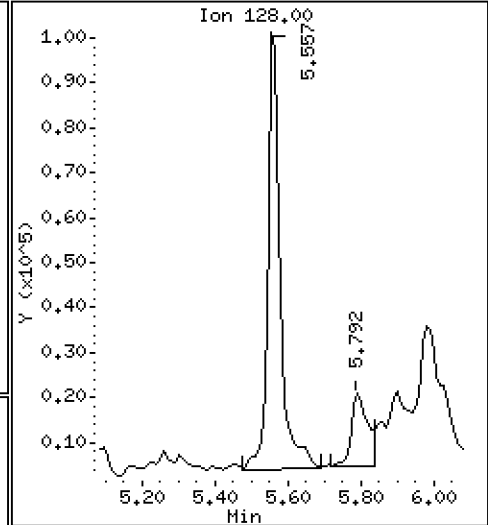
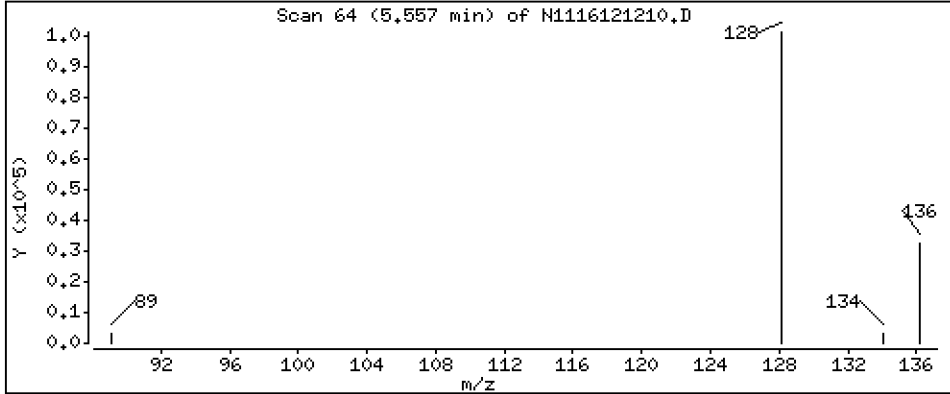
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 95,7 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

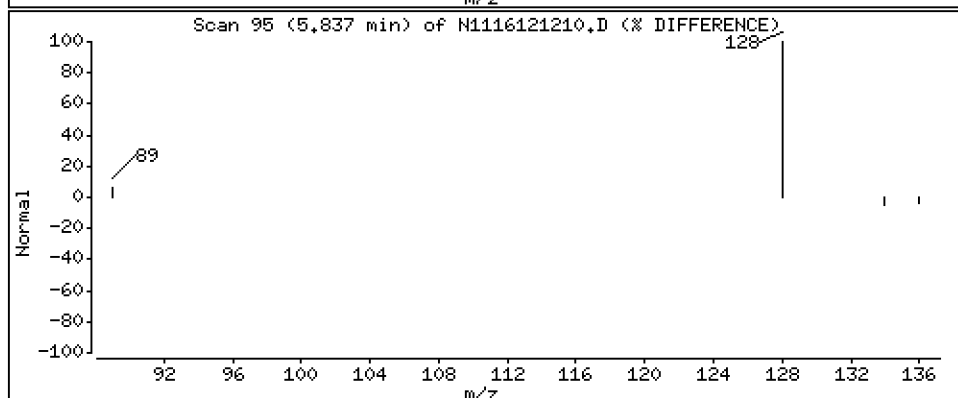
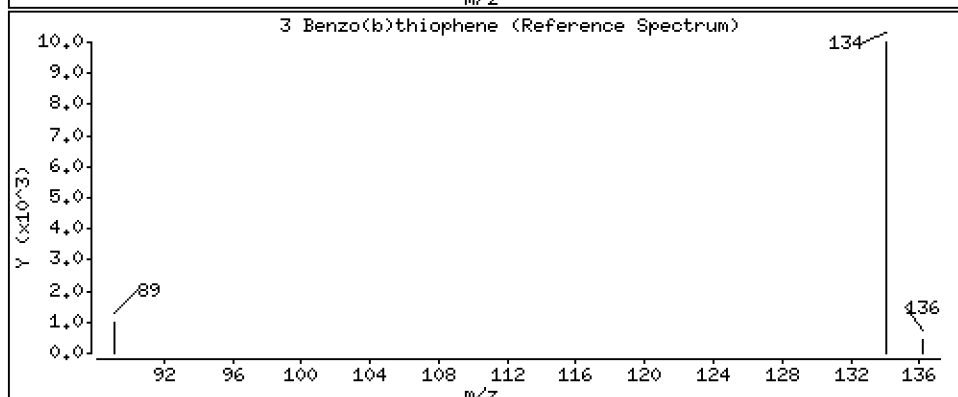
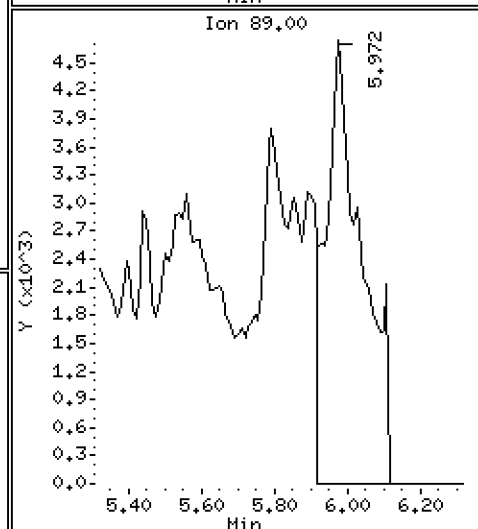
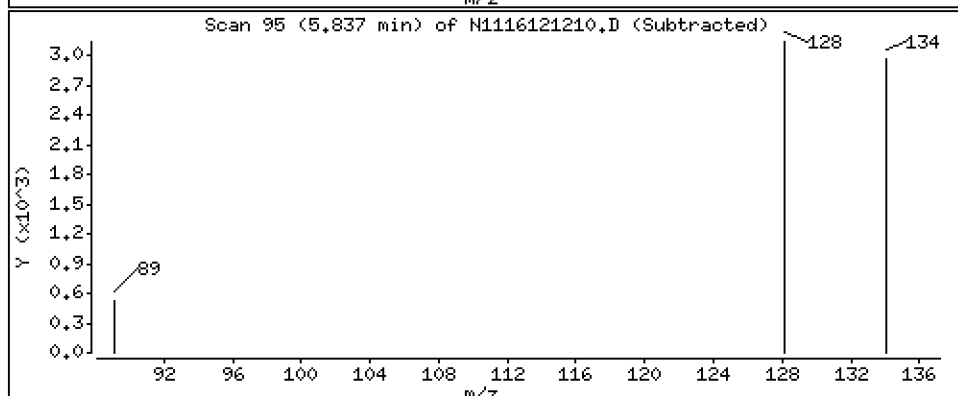
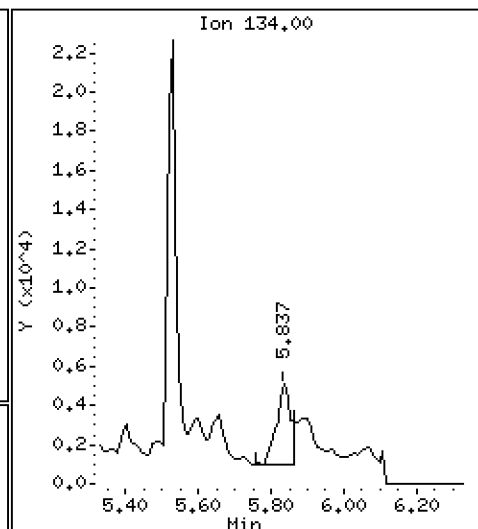
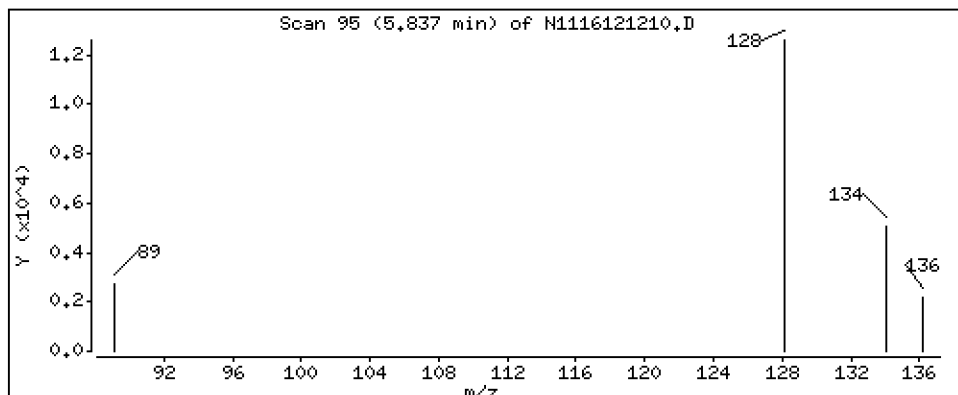
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 5,75 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

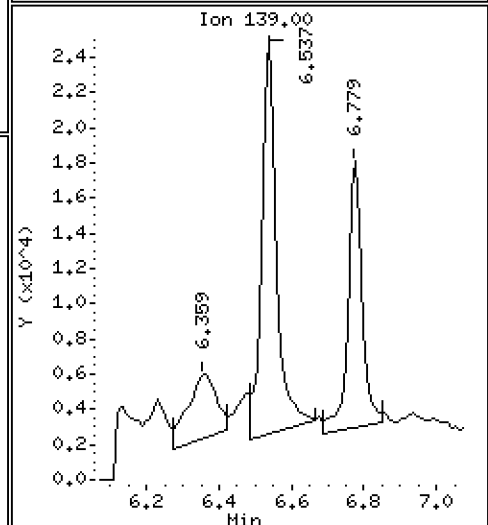
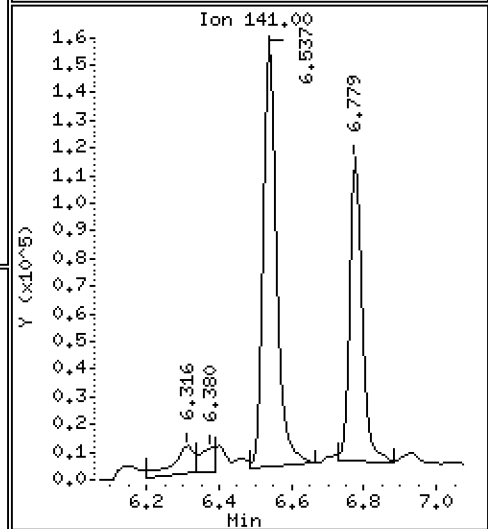
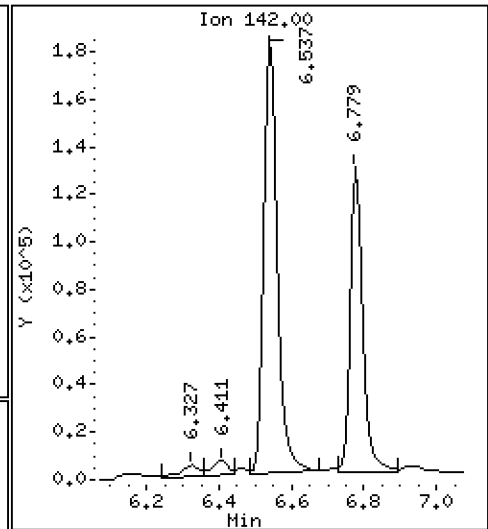
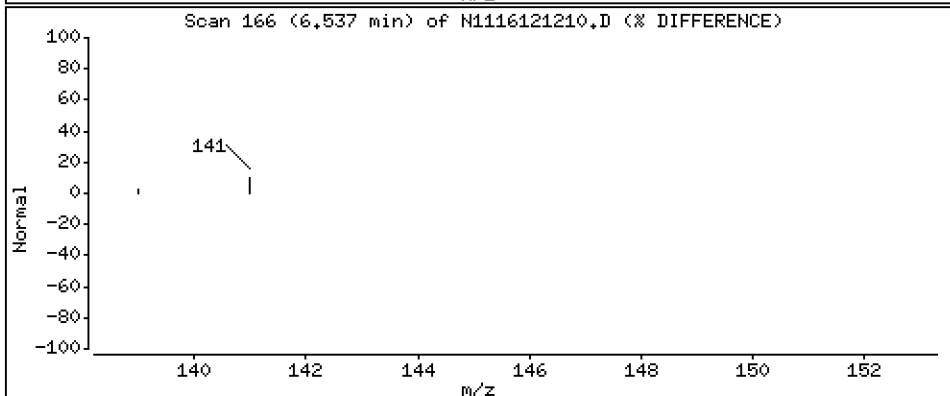
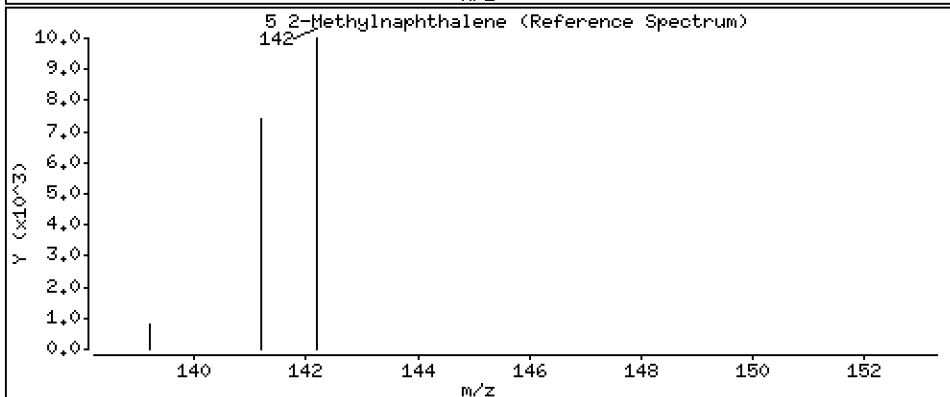
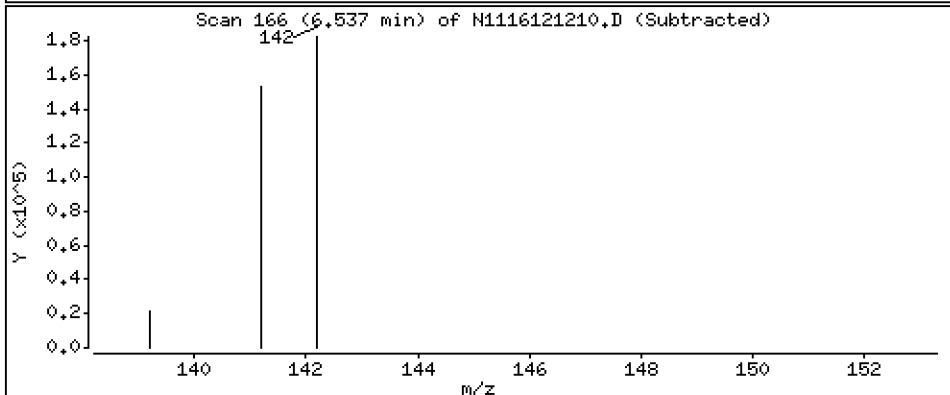
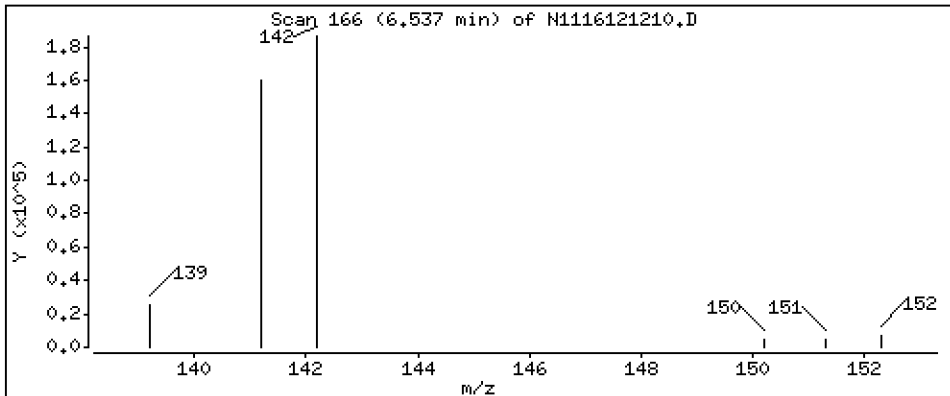
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 2-Methylnaphthalene

Concentration: 236 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

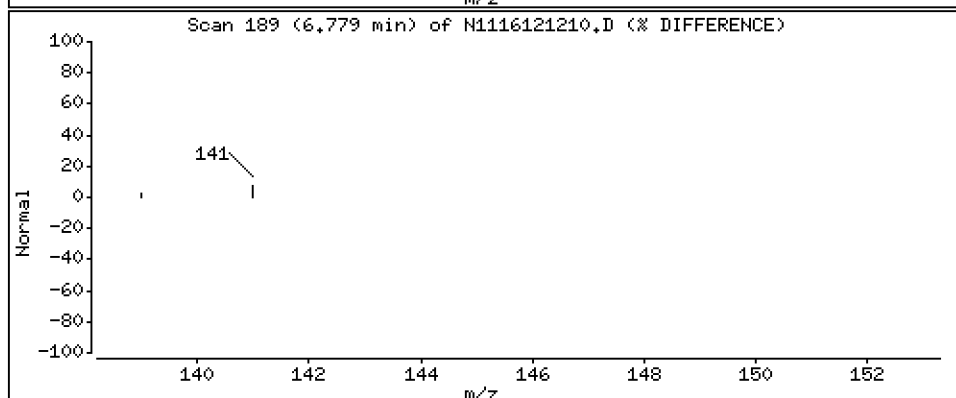
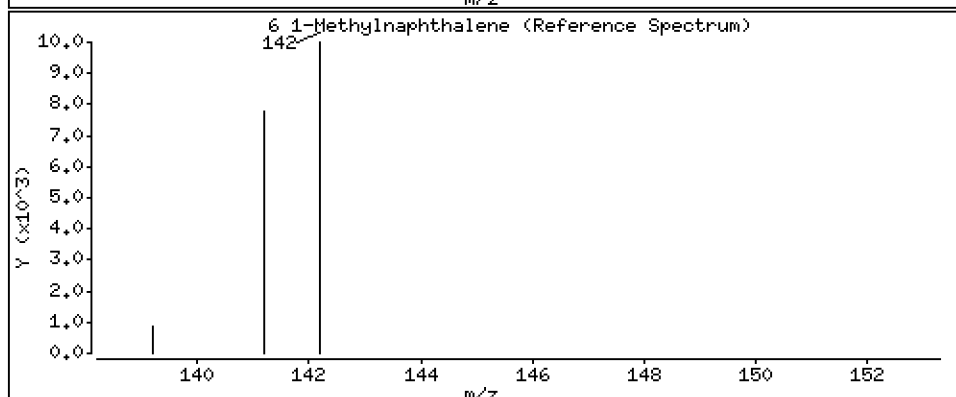
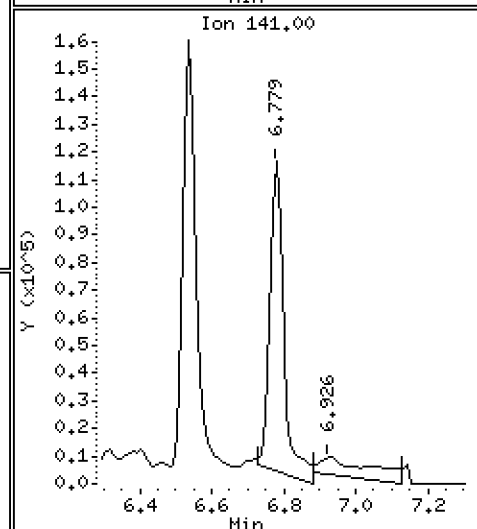
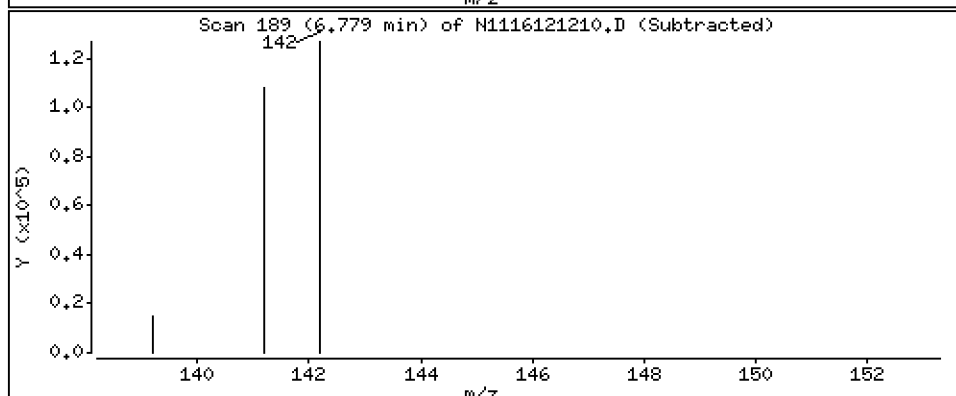
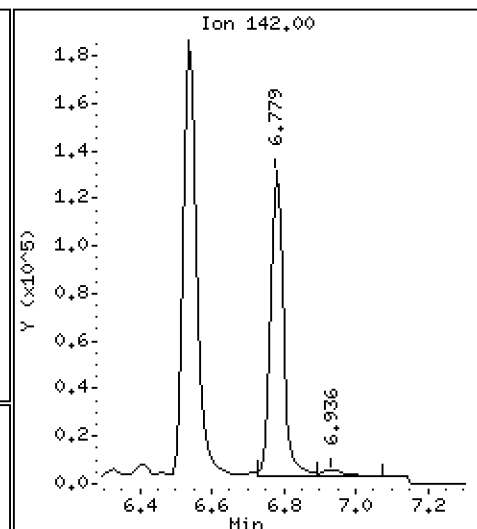
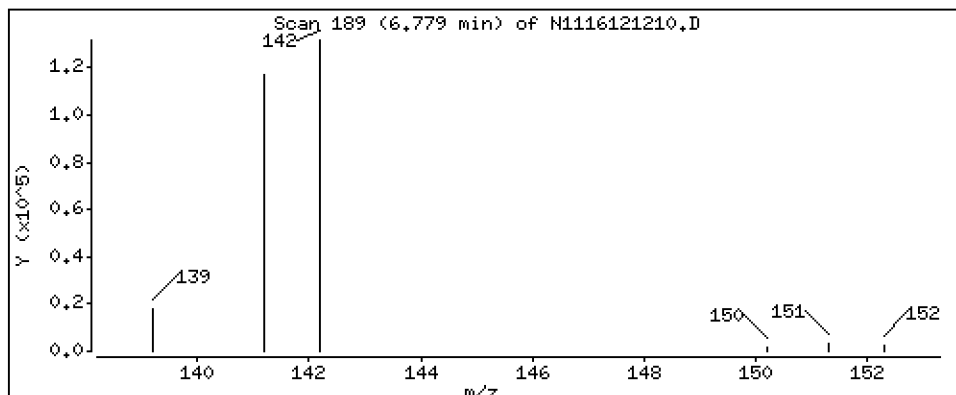
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 168 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

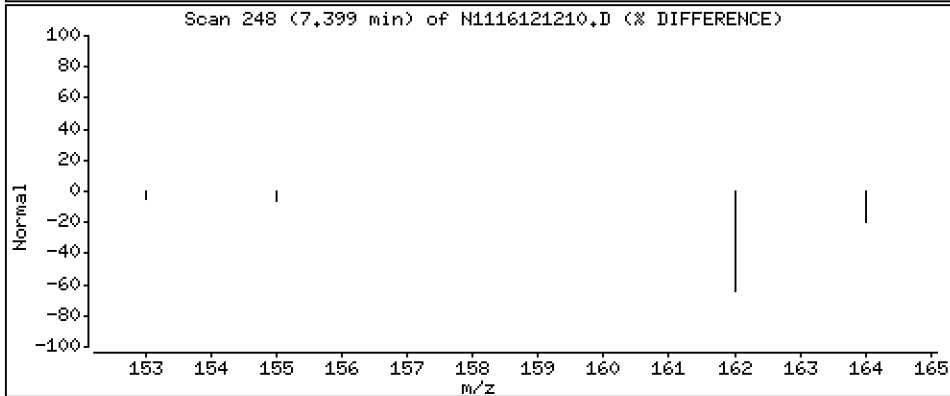
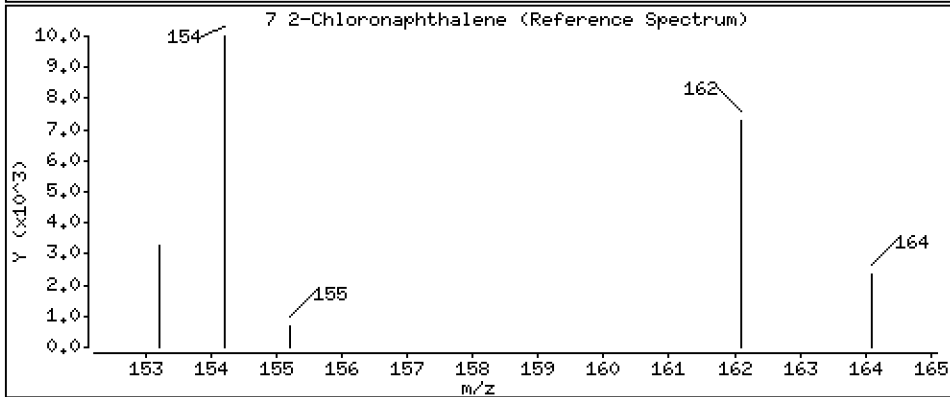
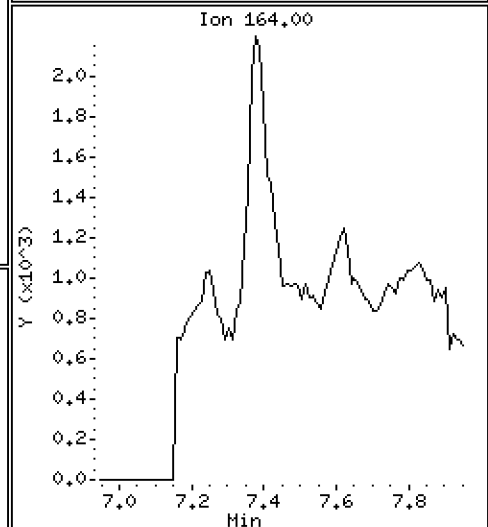
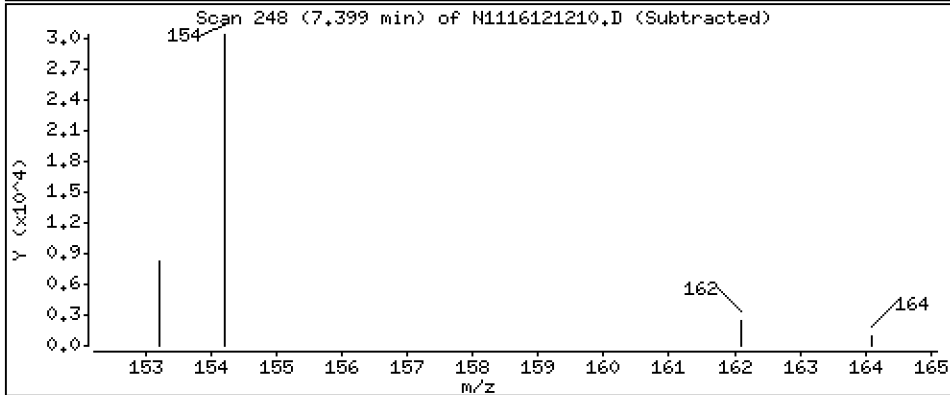
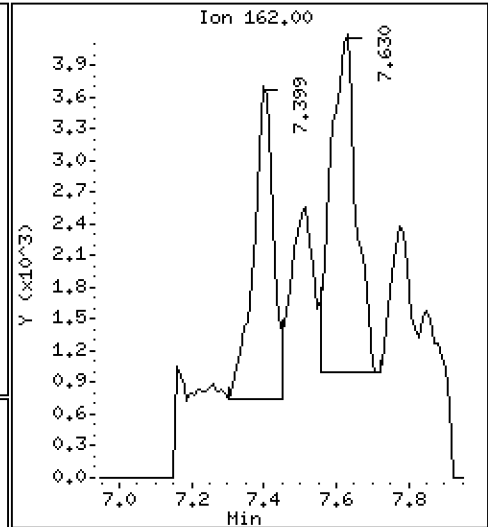
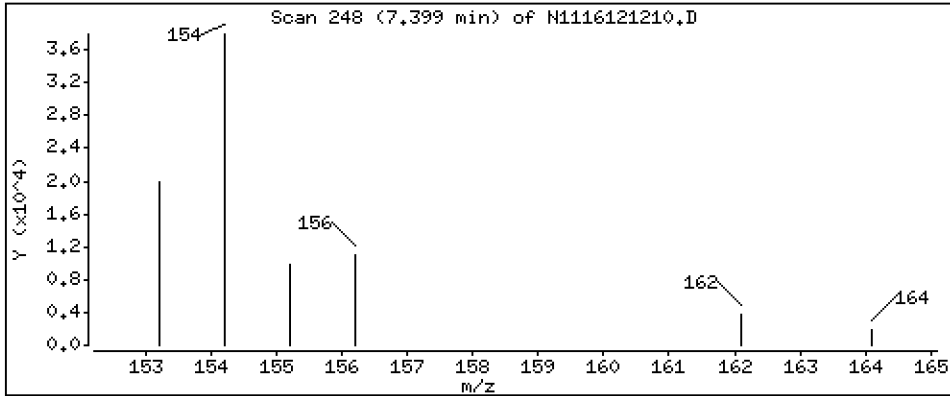
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 5,51 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

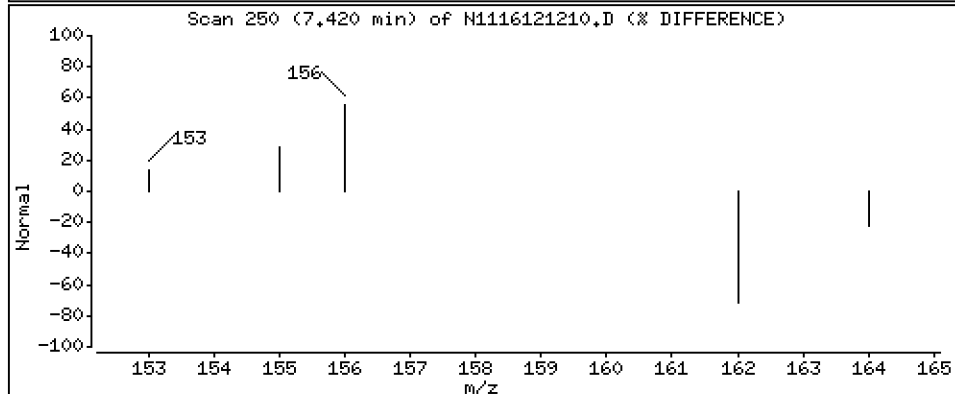
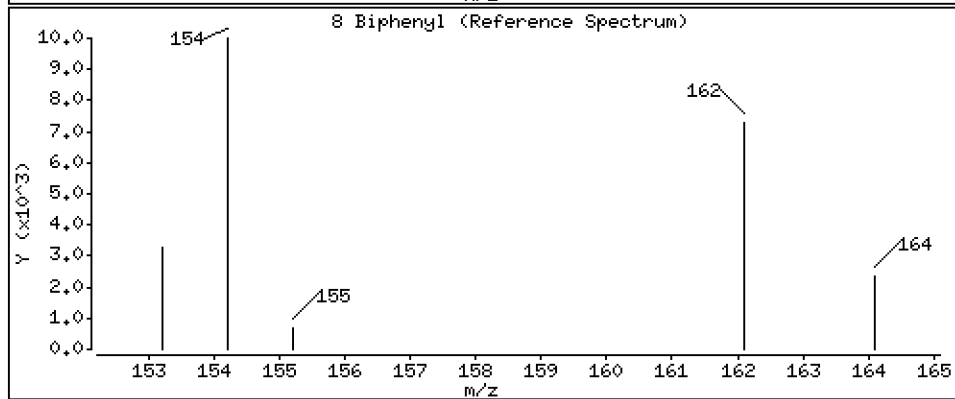
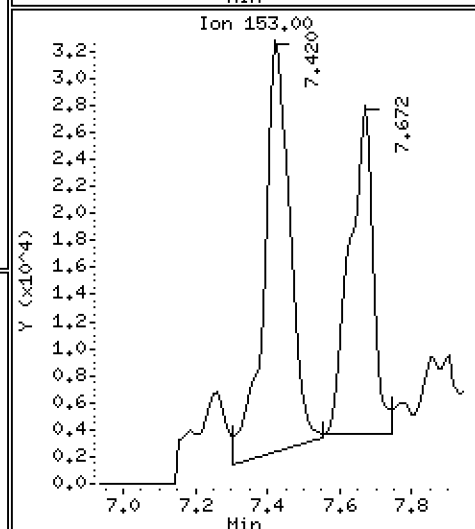
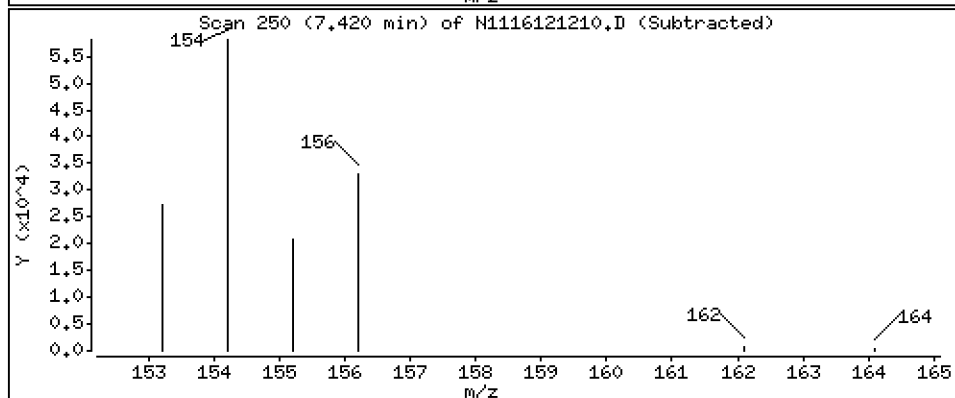
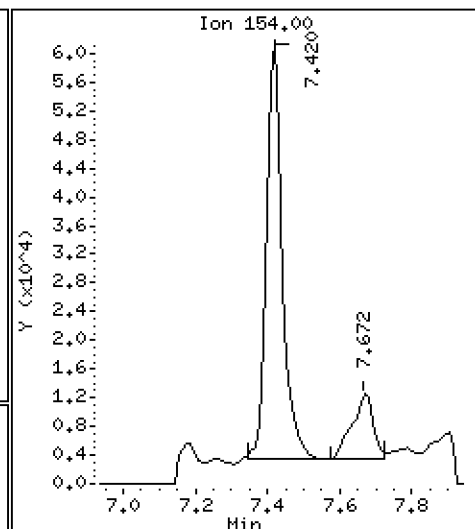
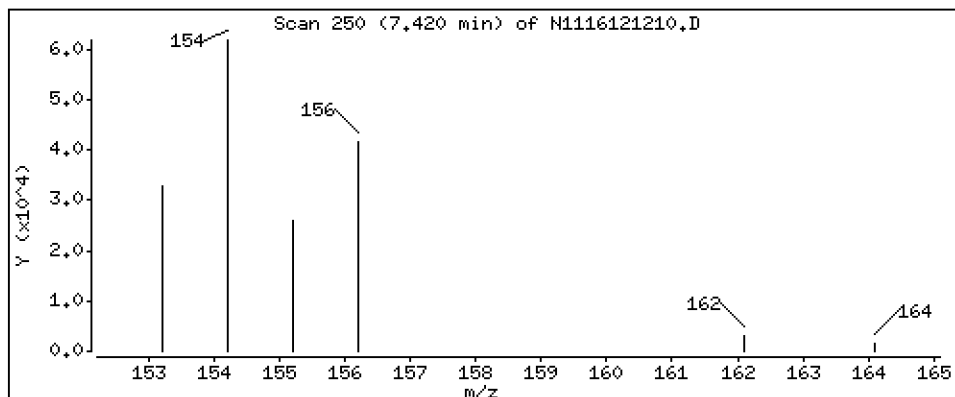
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 61.7 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

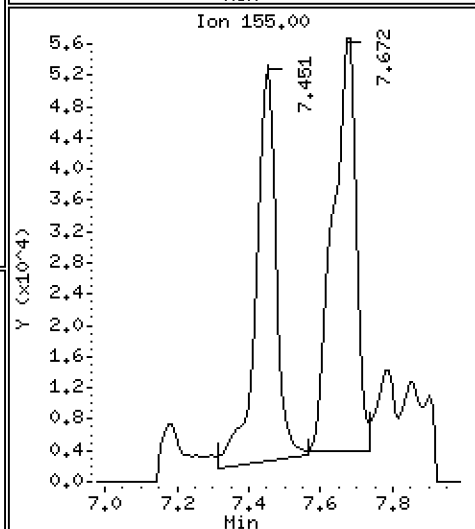
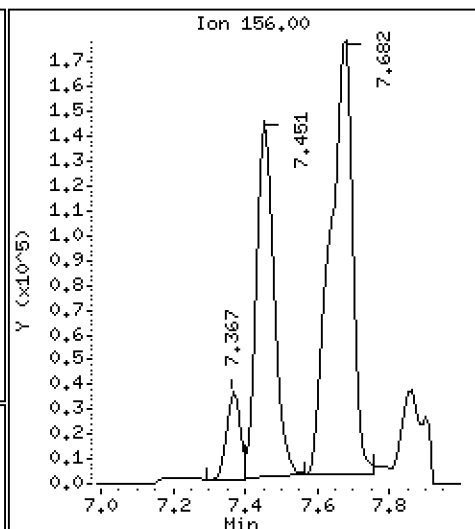
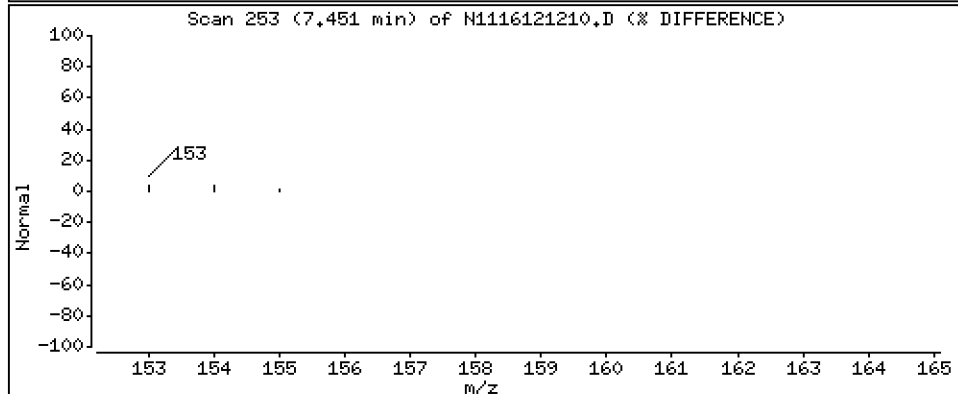
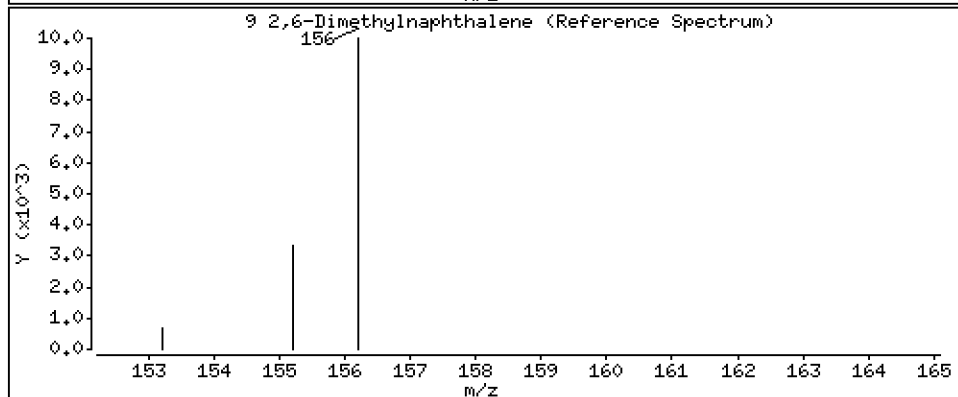
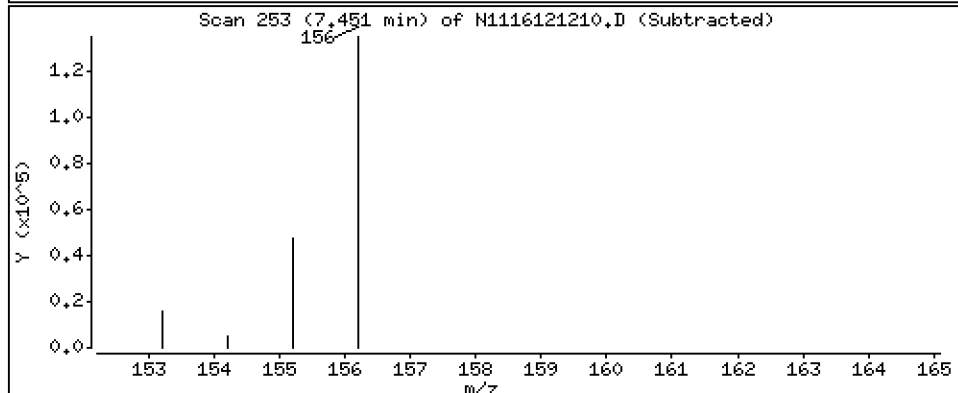
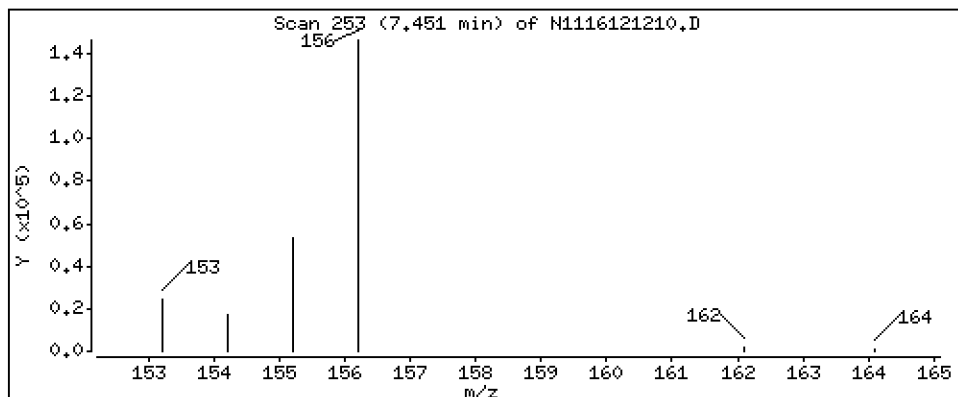
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 239 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

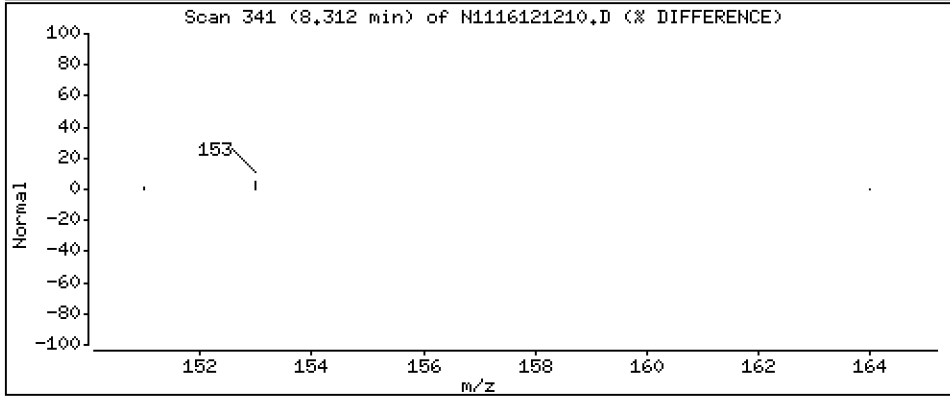
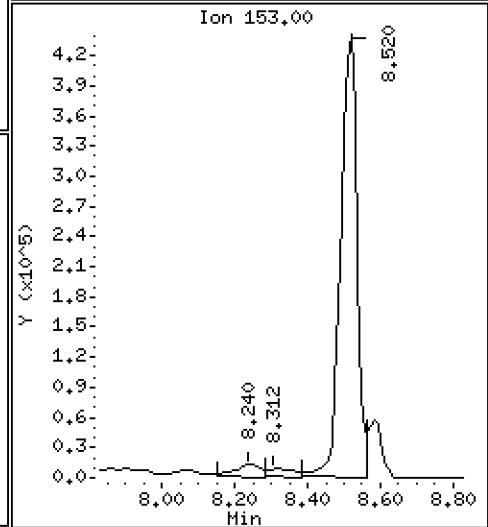
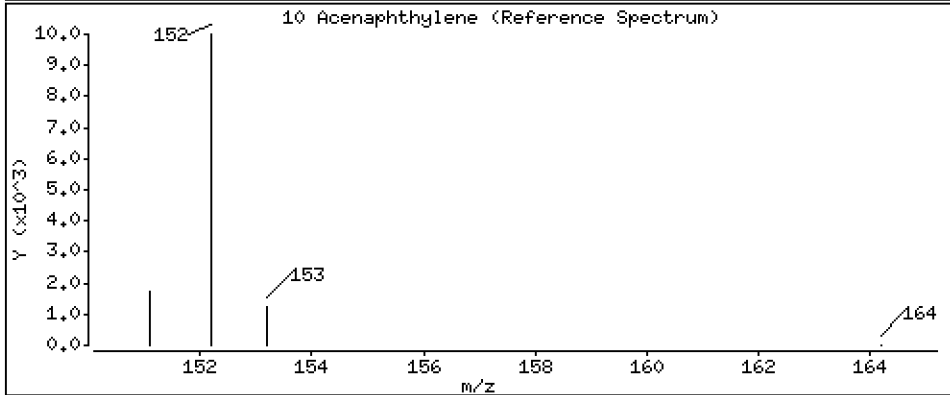
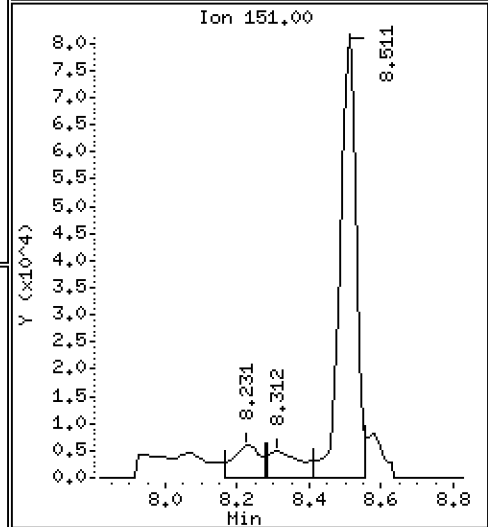
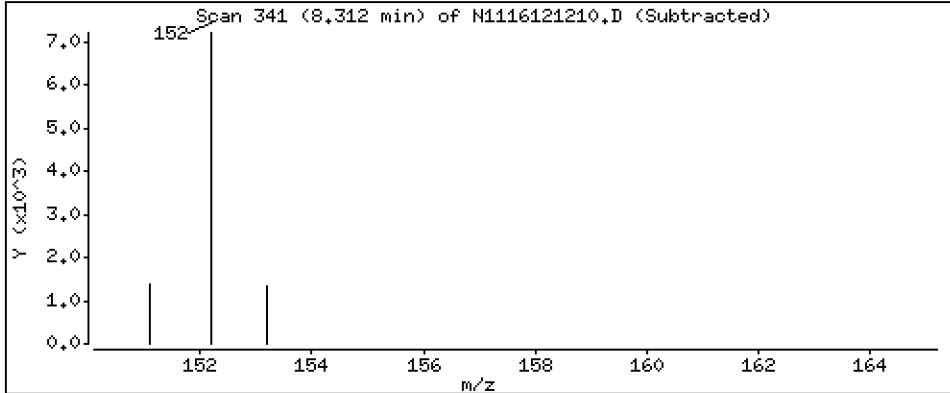
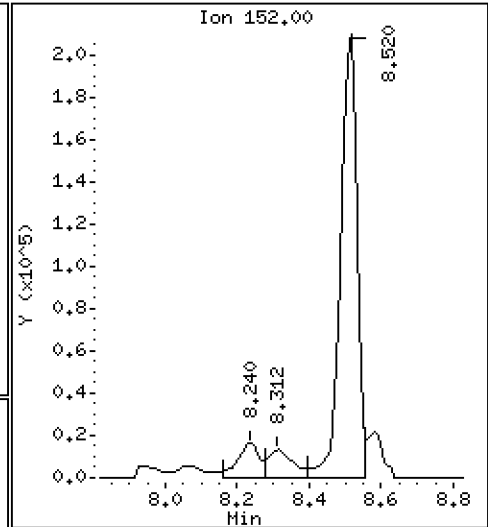
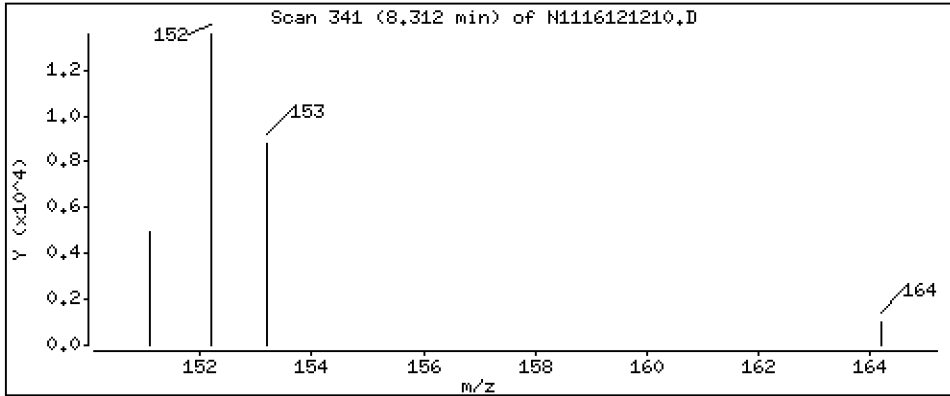
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 28,0 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

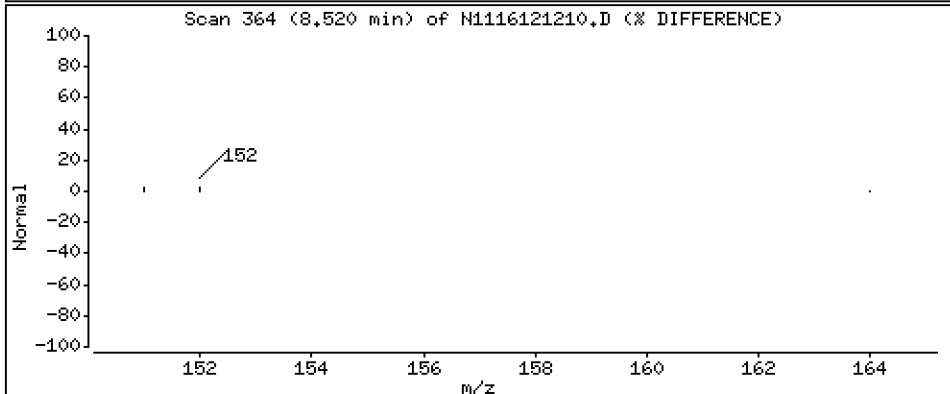
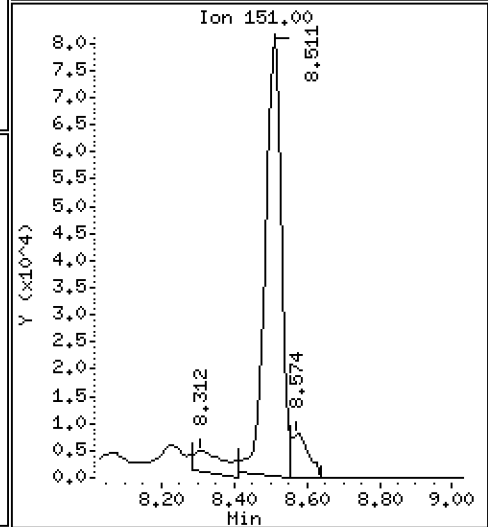
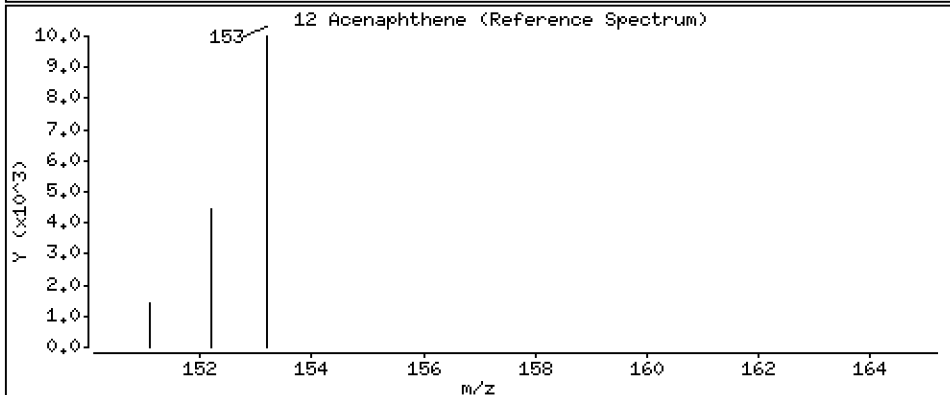
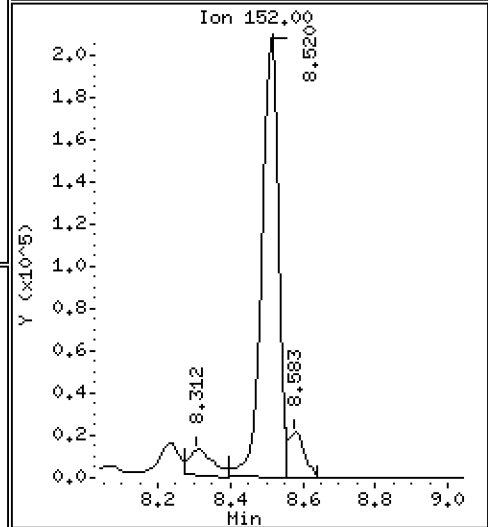
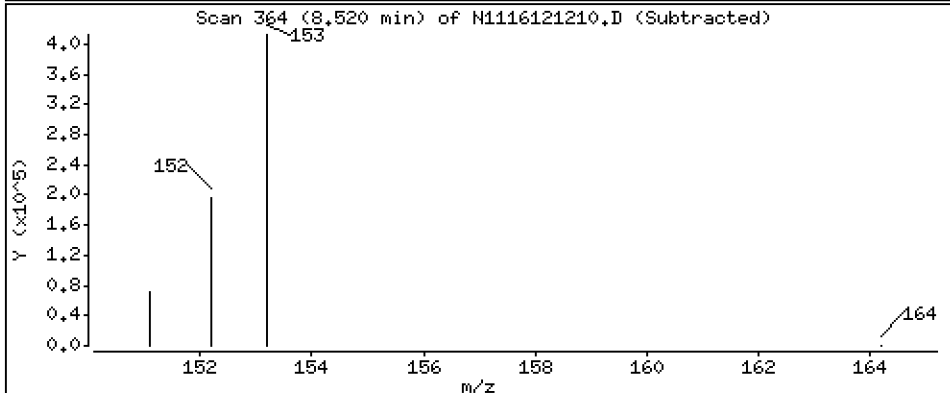
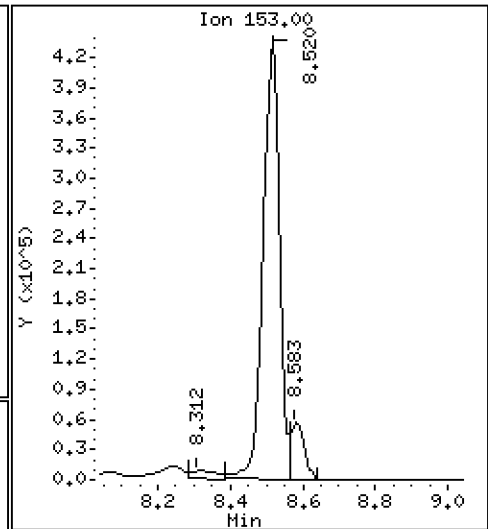
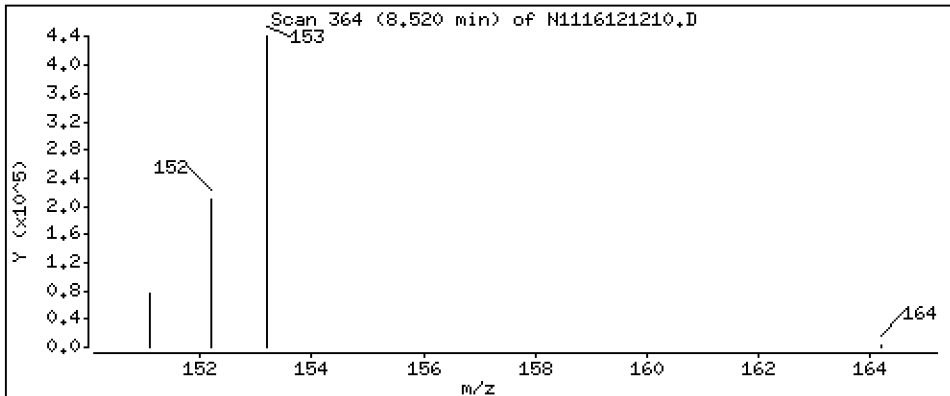
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 863 ng/mL

12 Acenaphthene



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

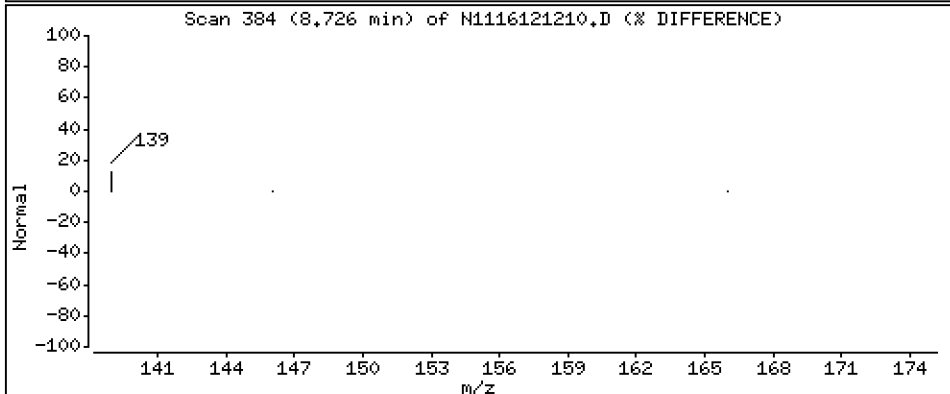
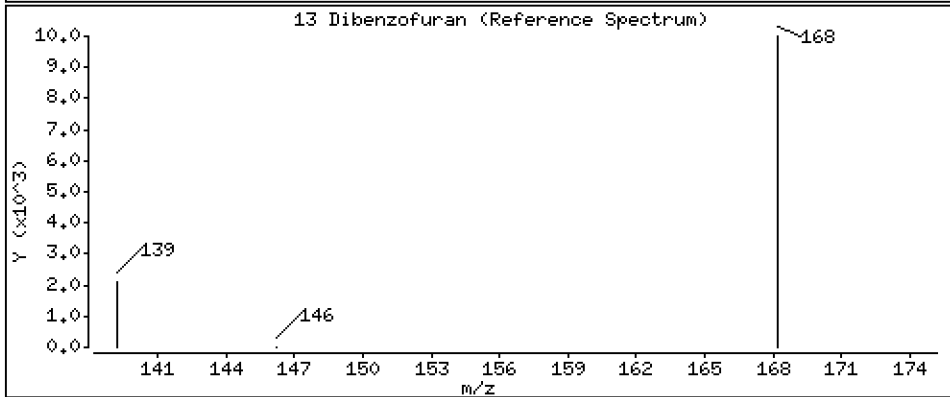
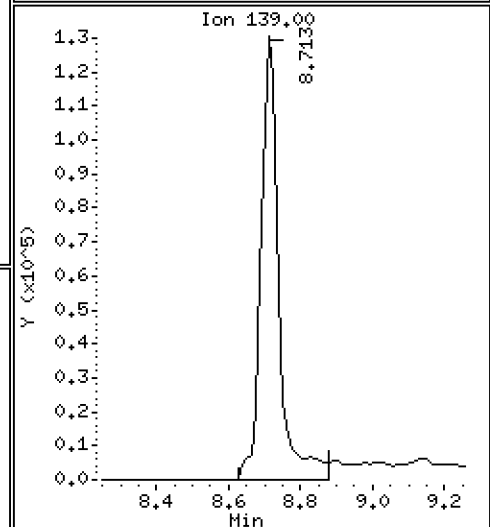
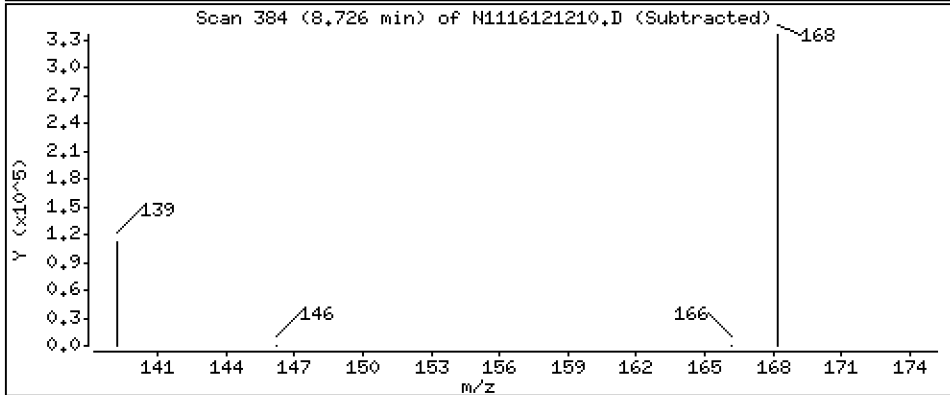
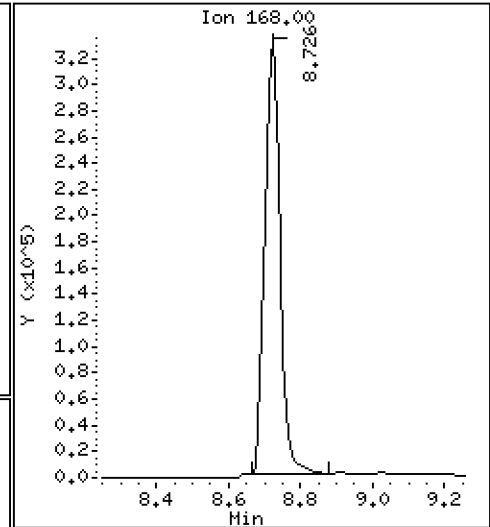
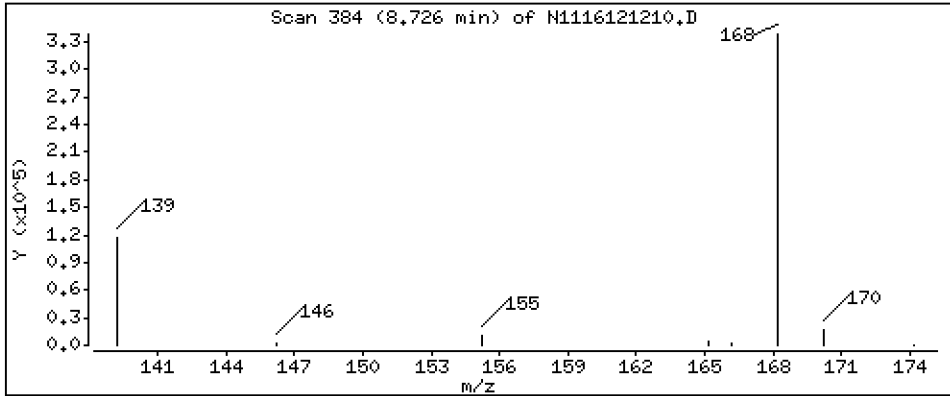
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 429 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

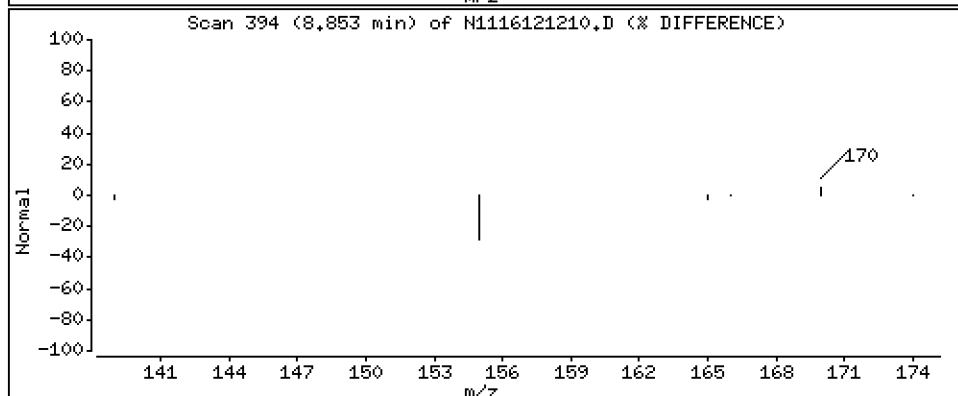
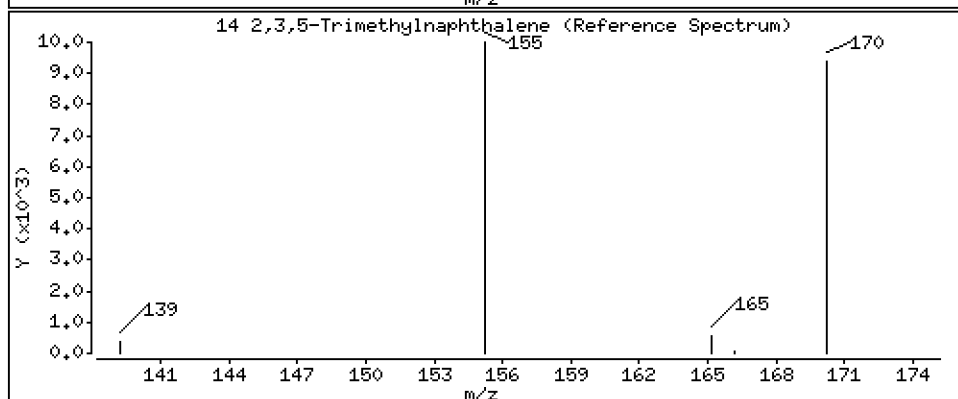
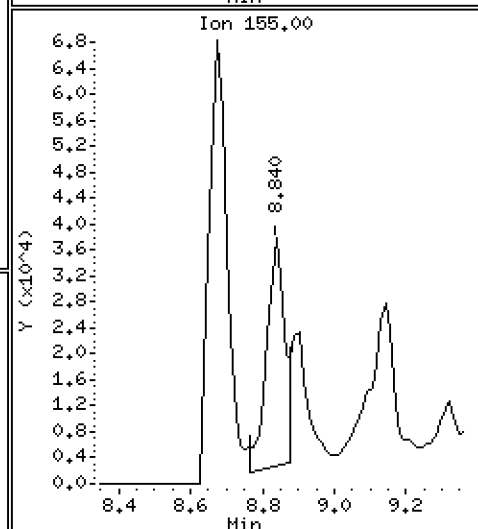
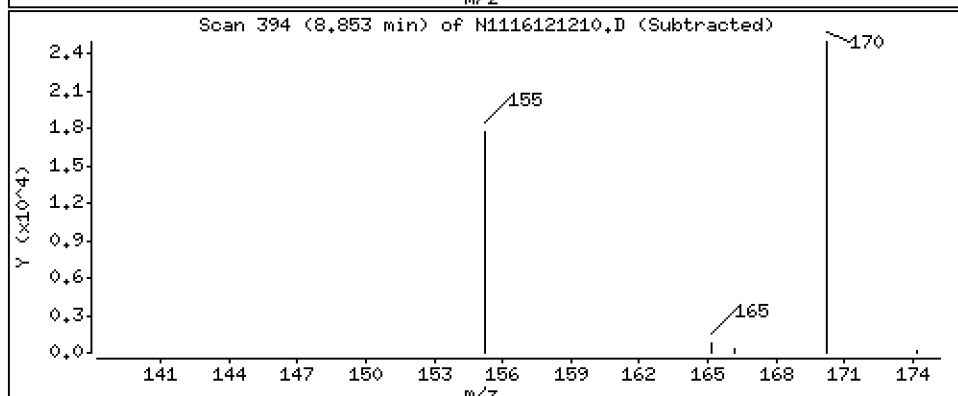
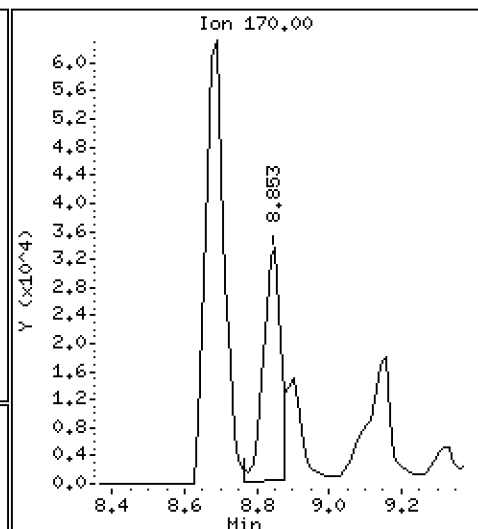
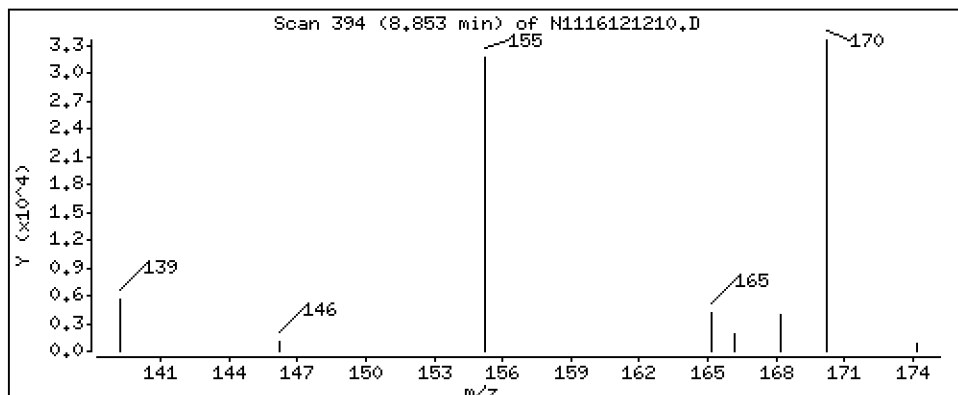
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 78,3 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

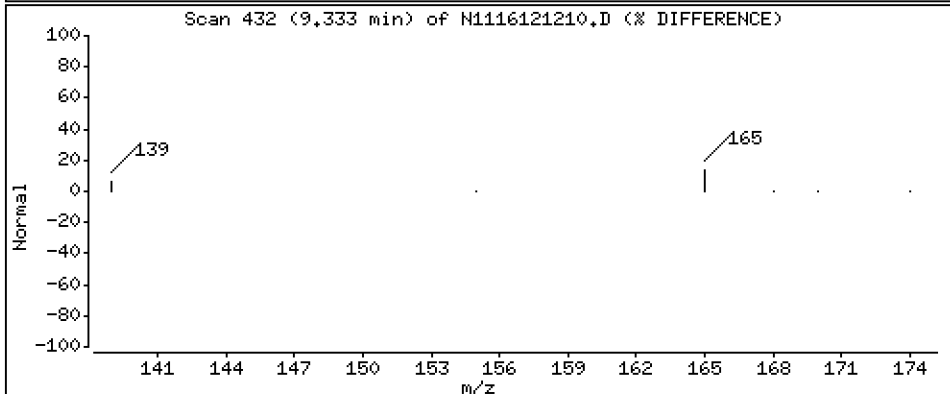
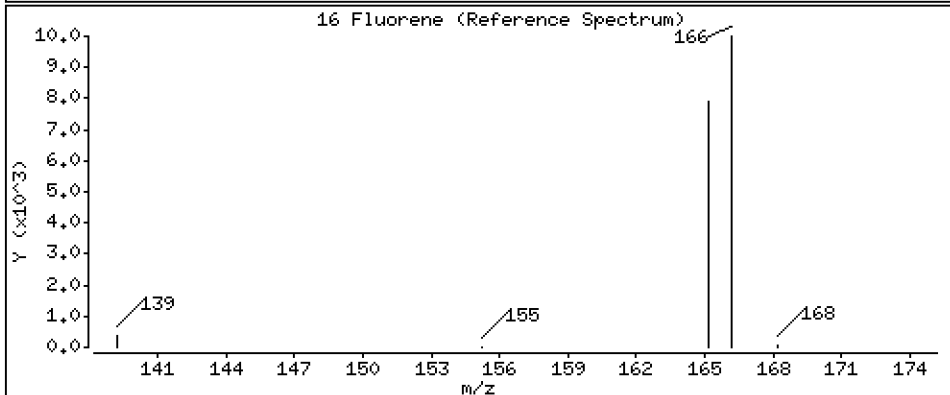
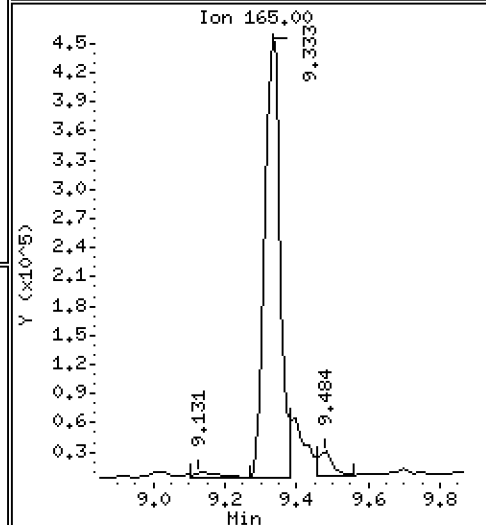
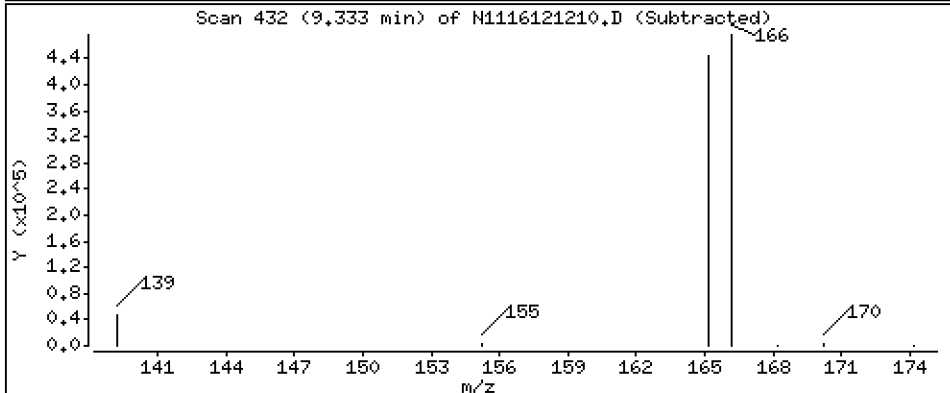
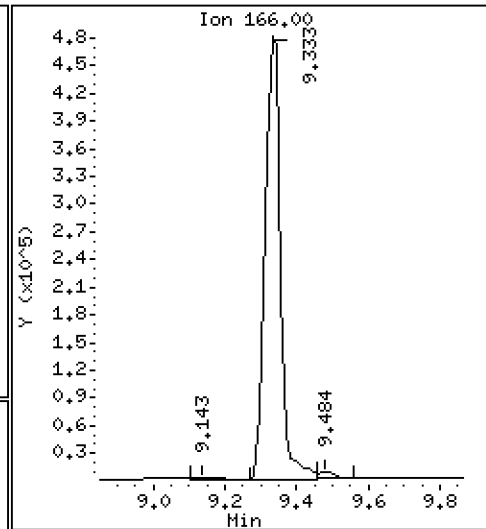
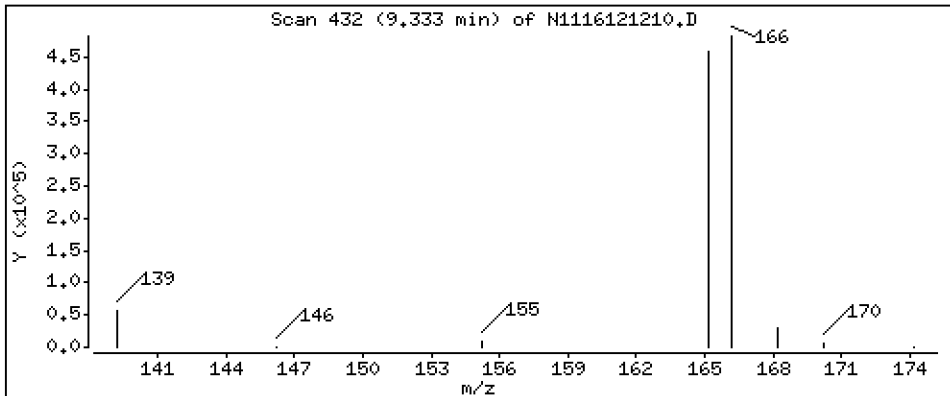
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

16 Fluorene

Concentration: 832 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

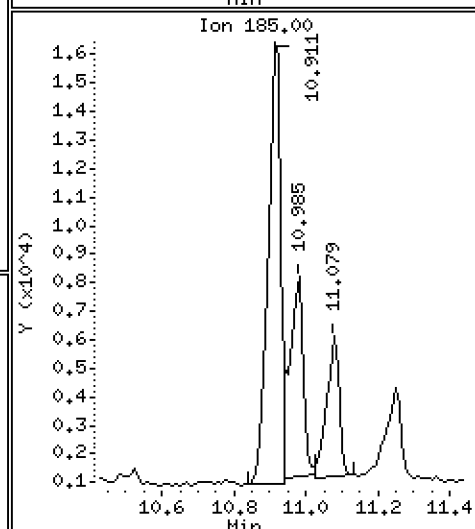
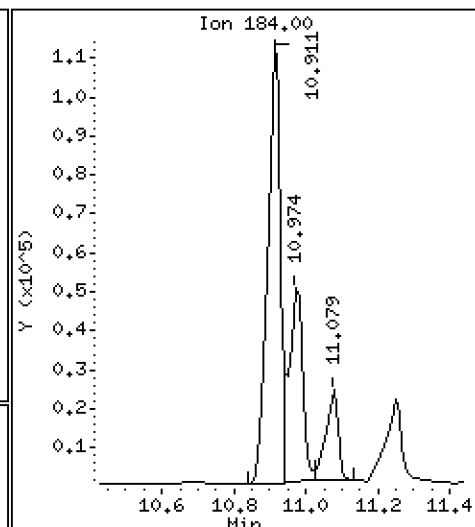
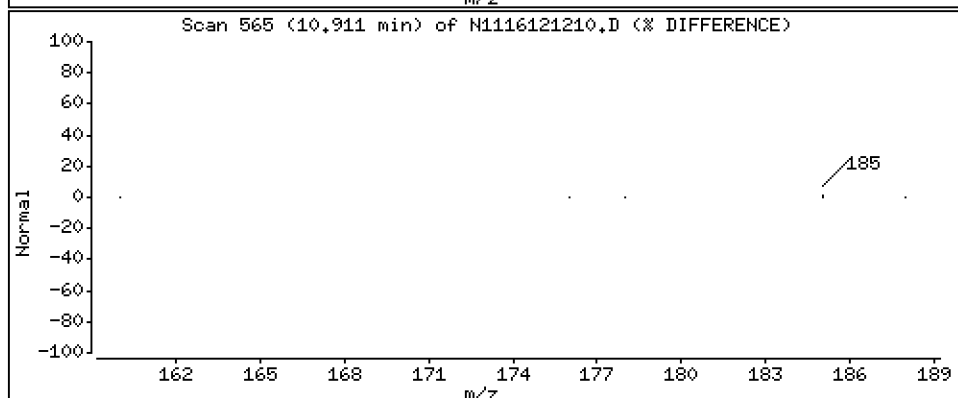
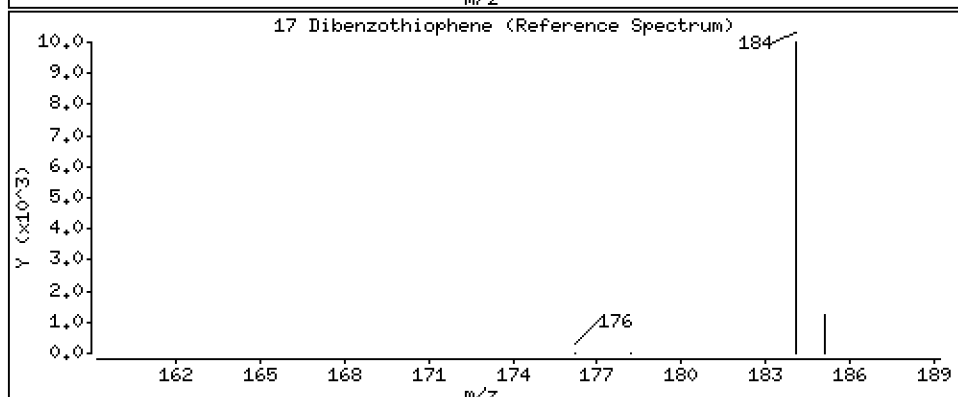
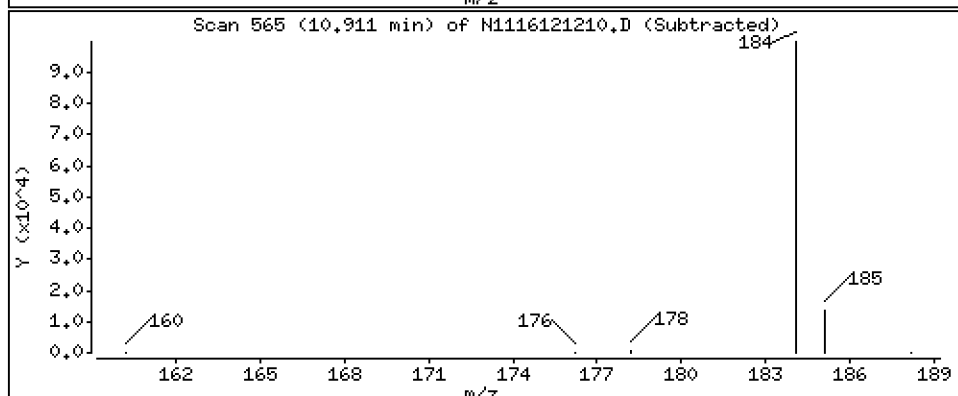
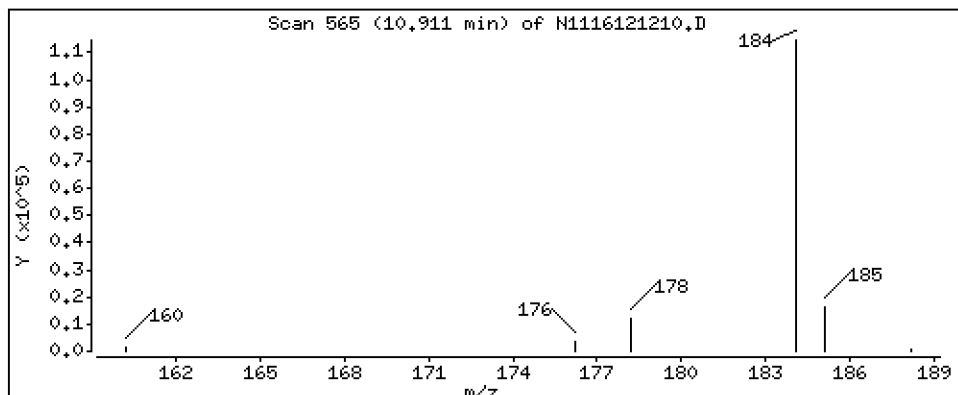
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 135 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

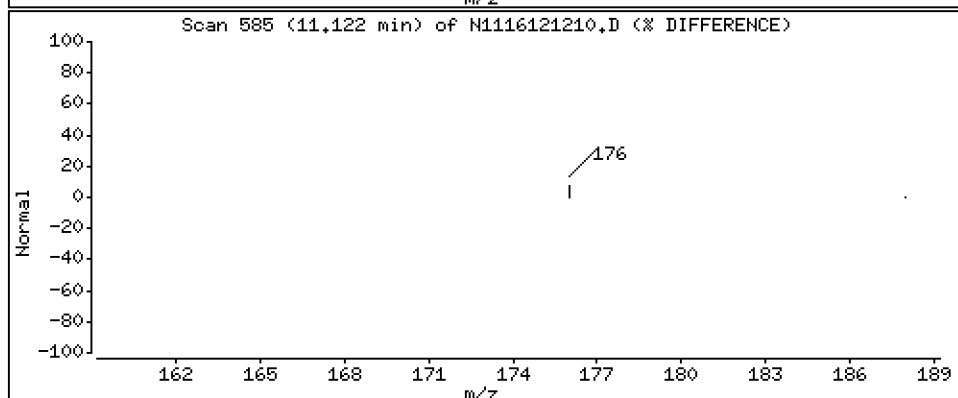
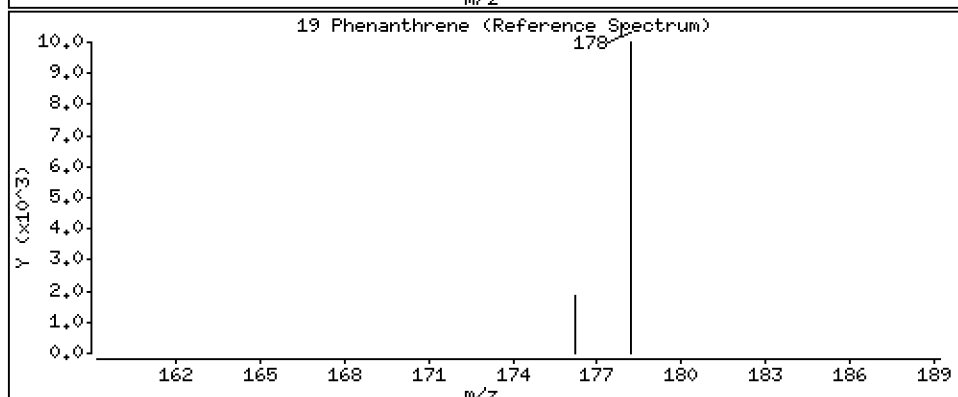
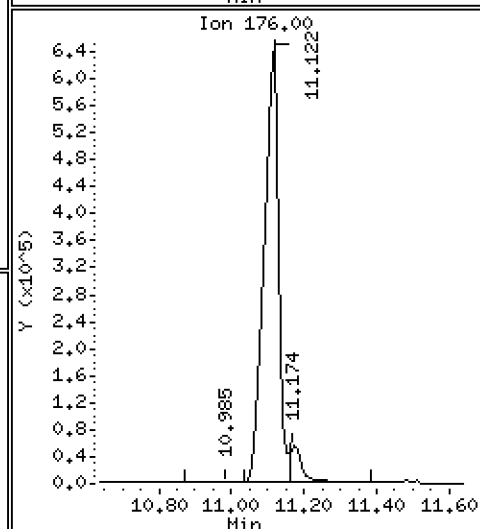
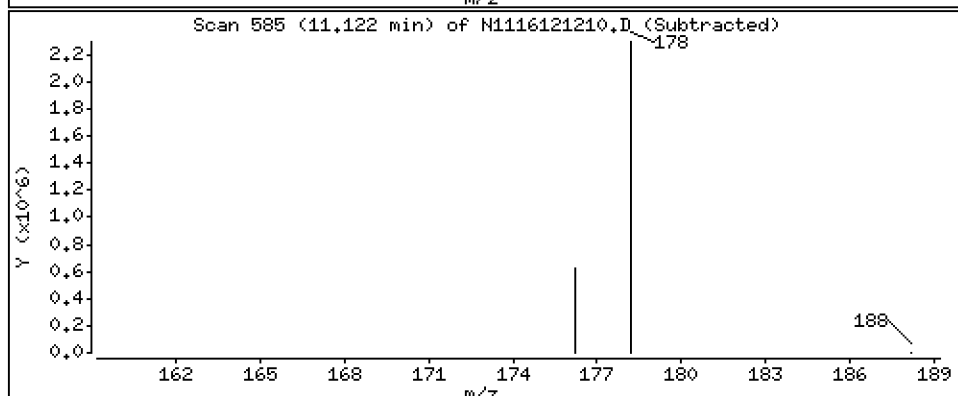
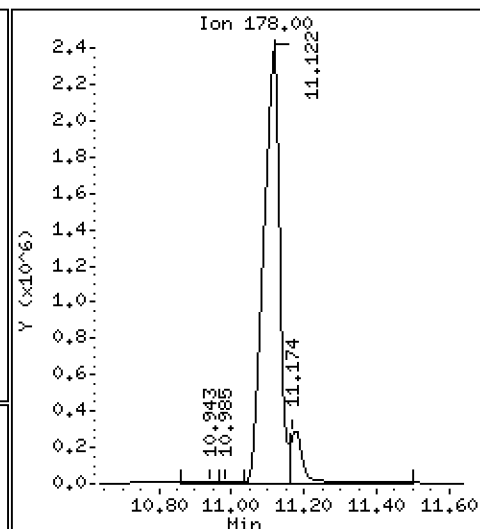
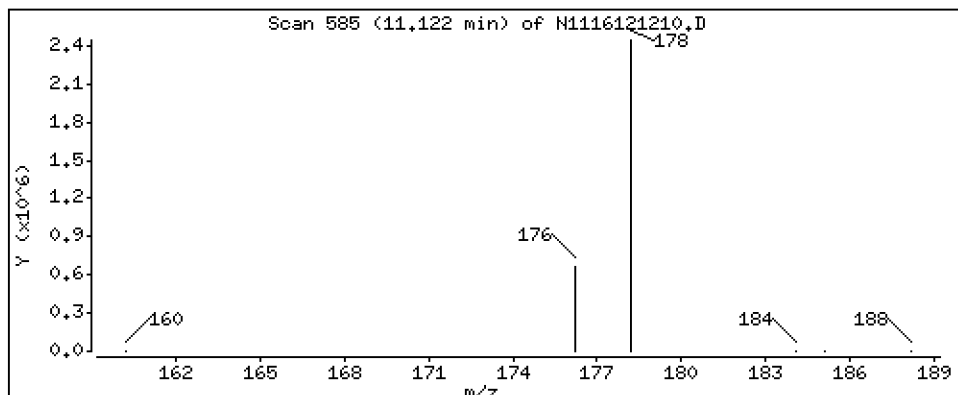
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 2760 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

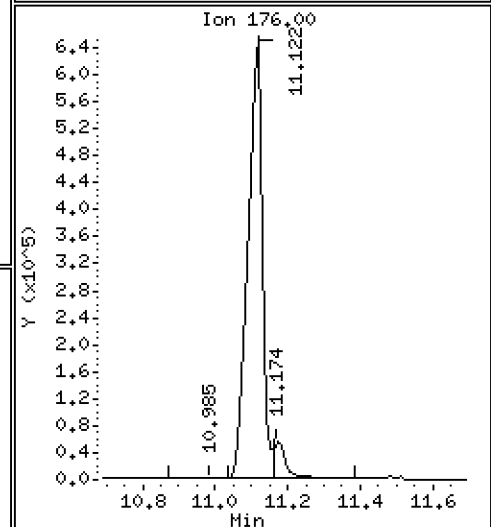
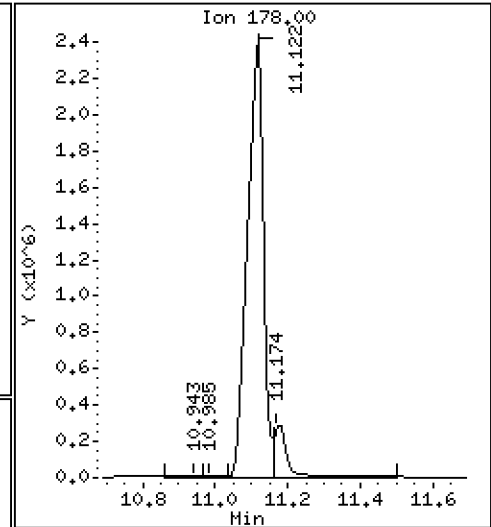
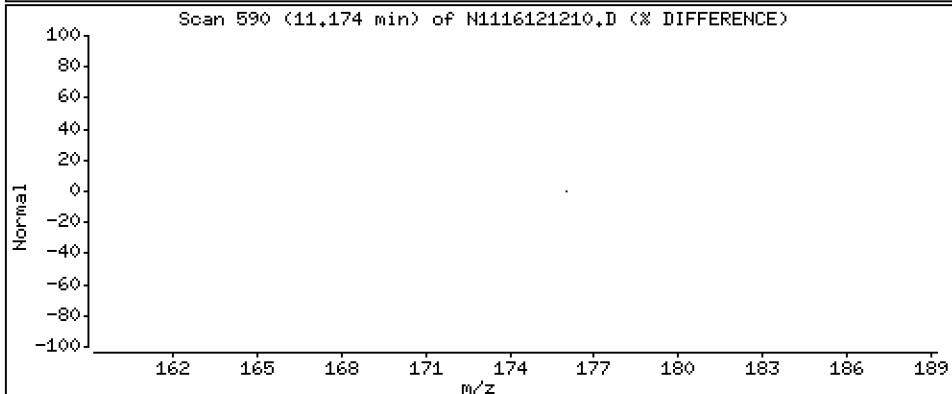
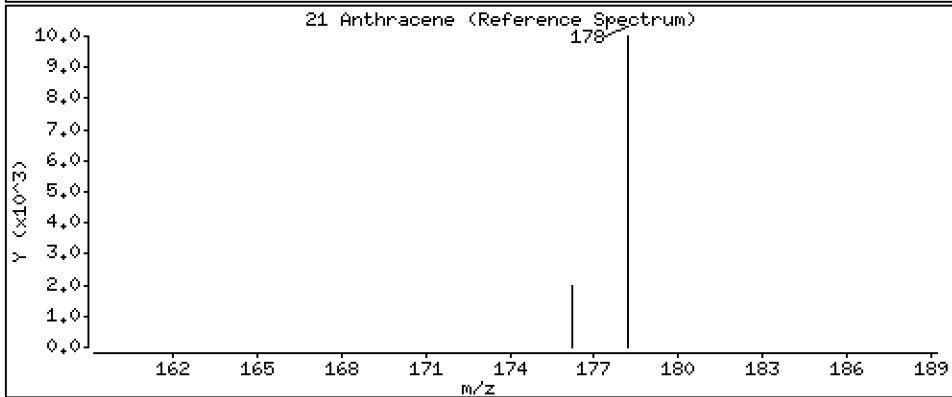
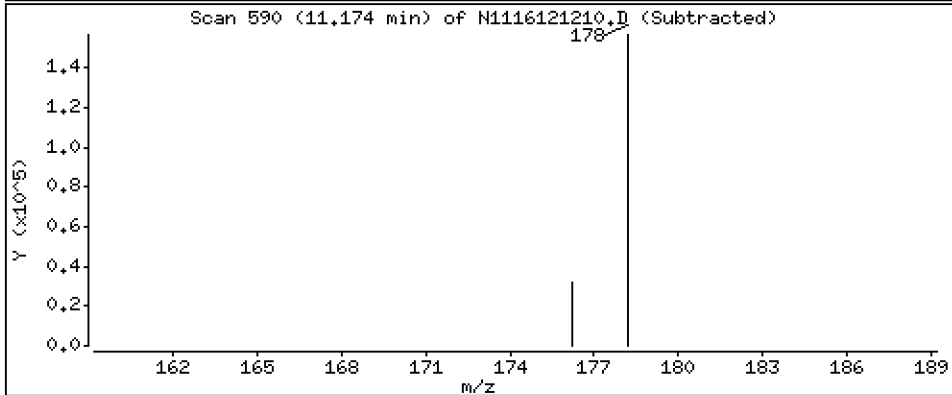
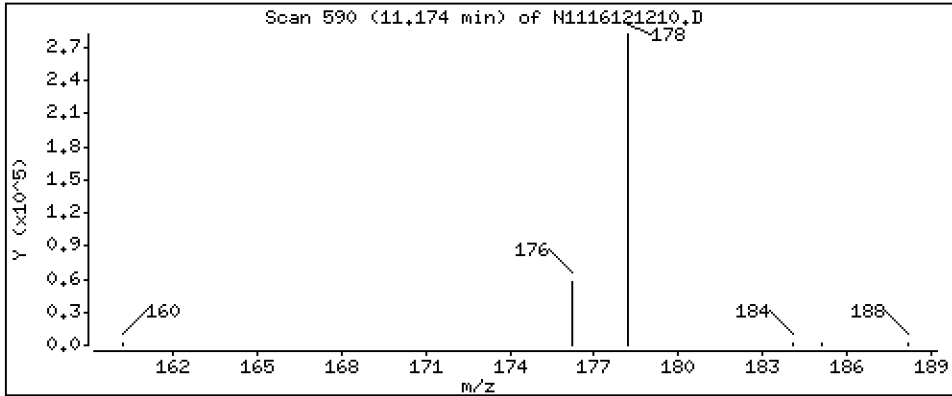
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 330 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

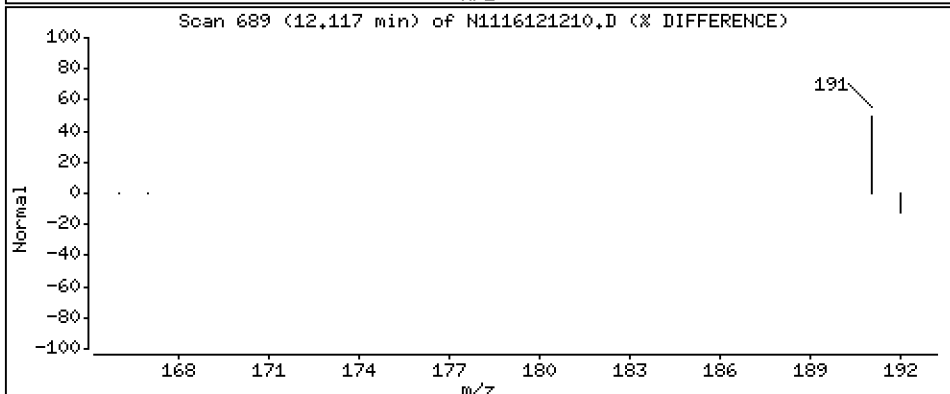
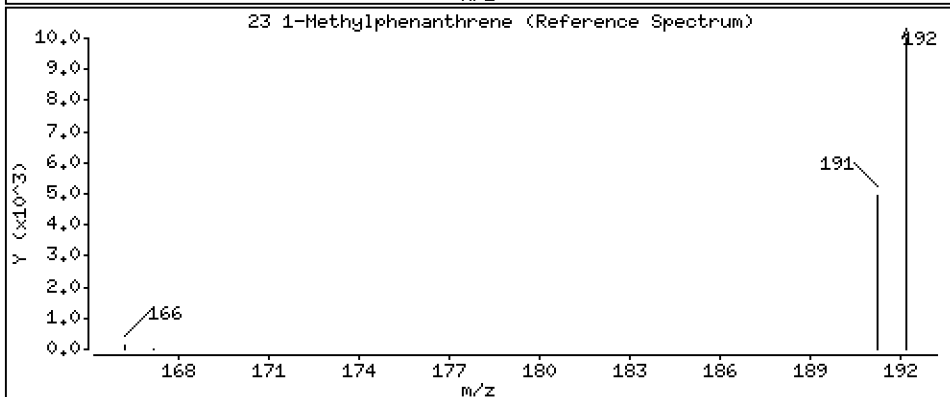
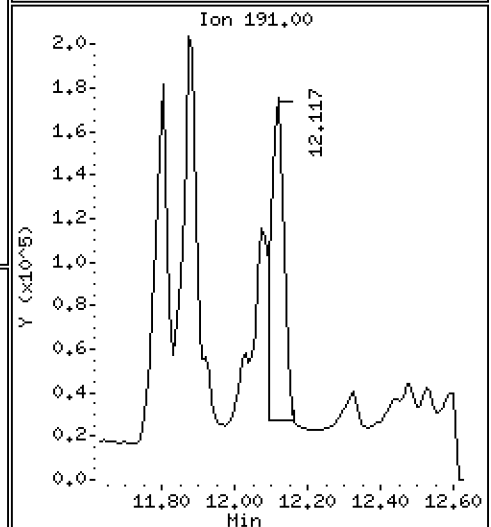
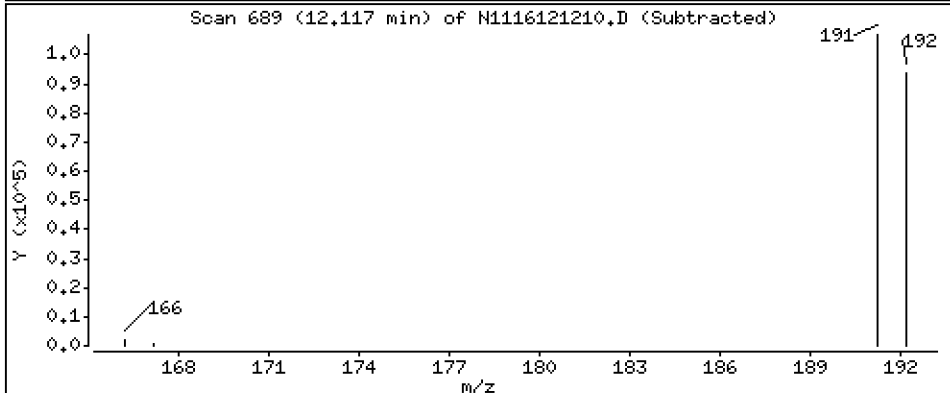
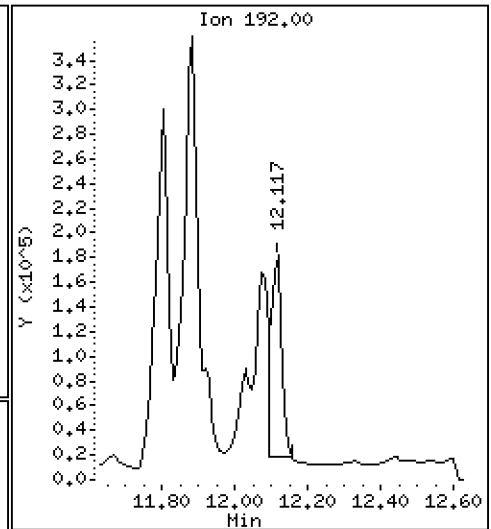
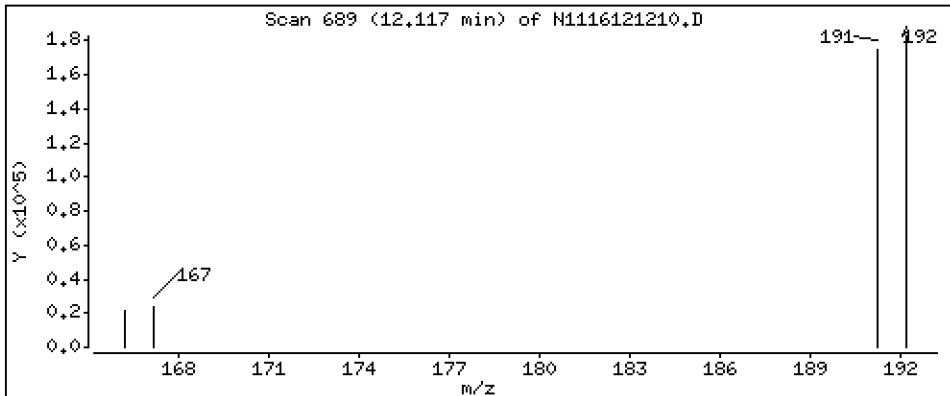
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 156 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

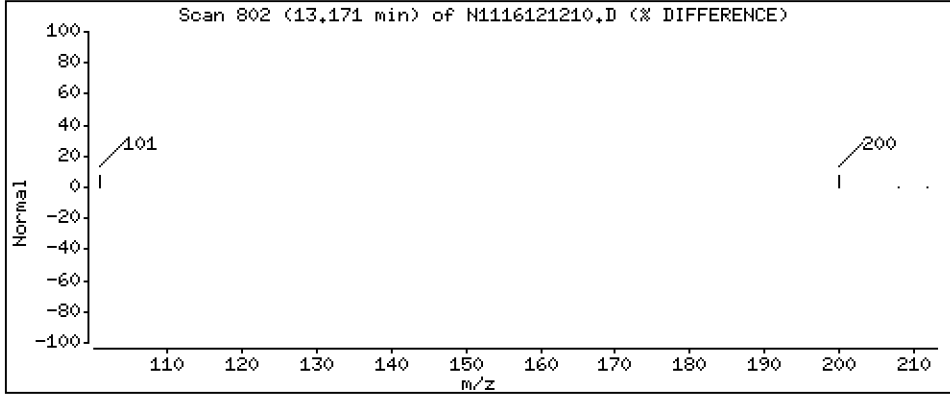
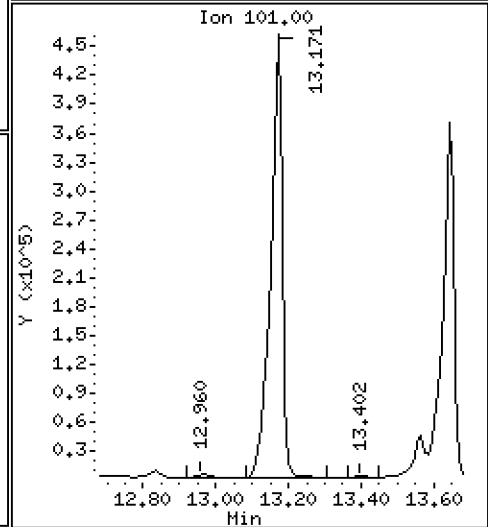
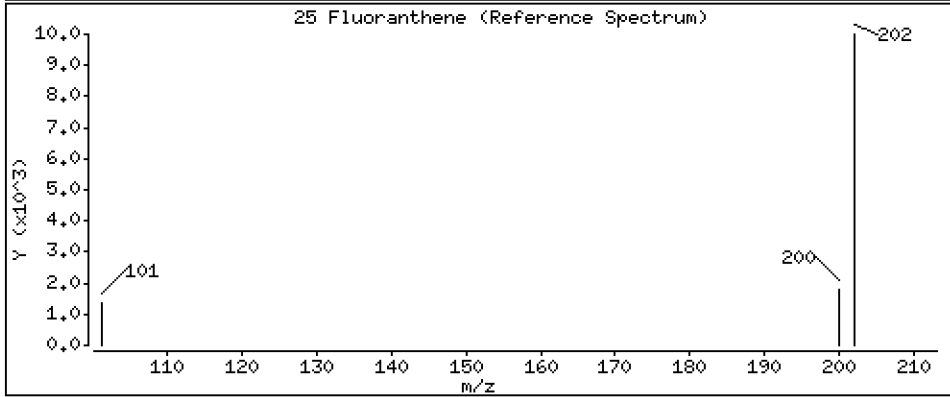
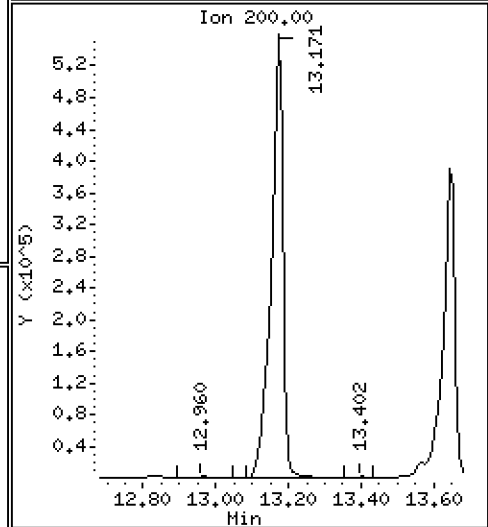
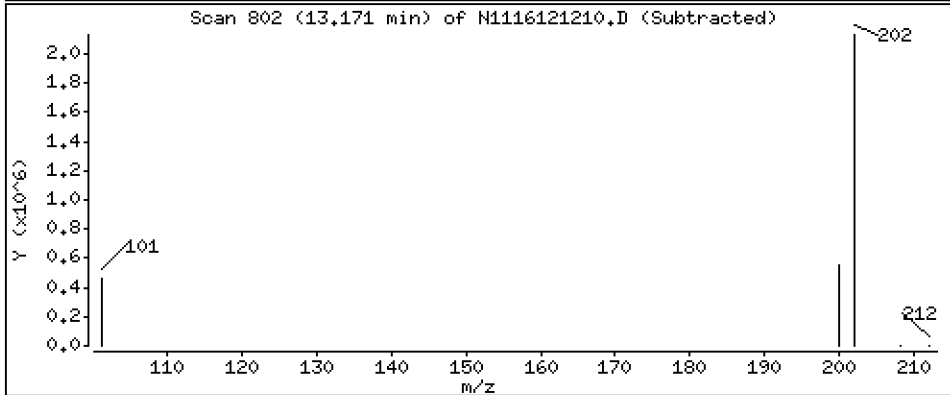
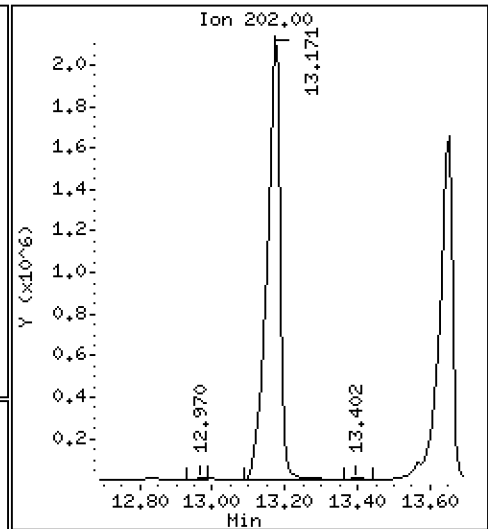
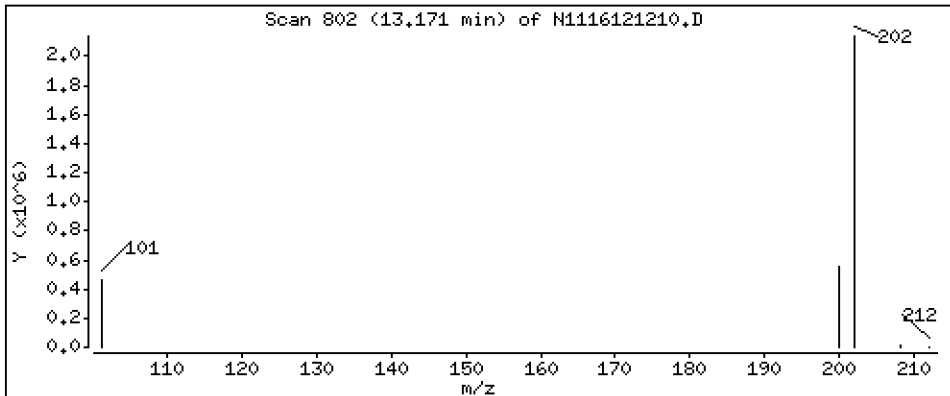
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2080 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

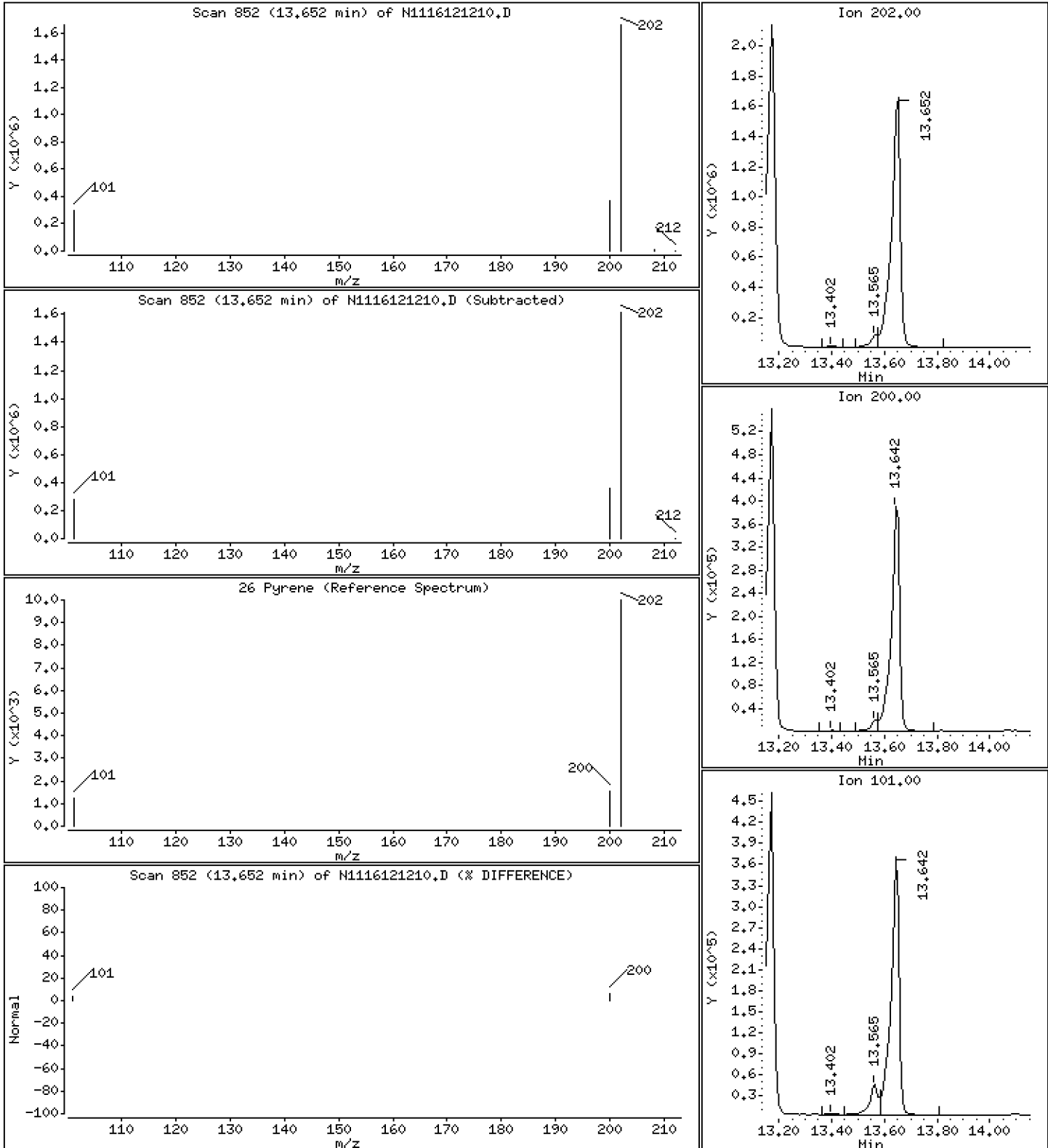
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1550 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

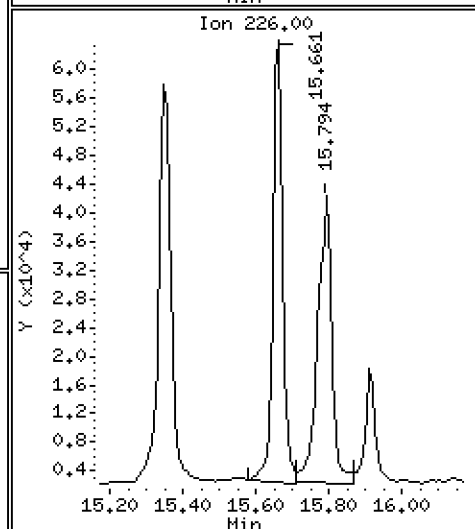
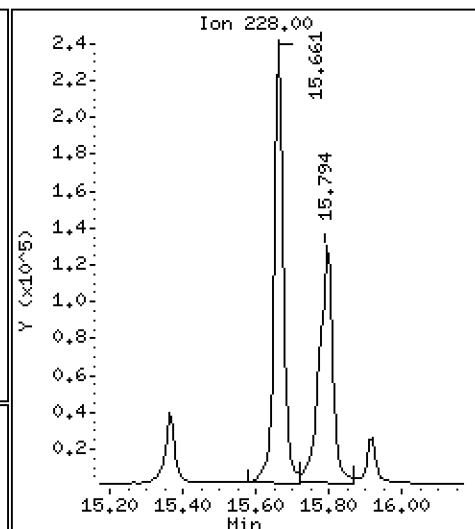
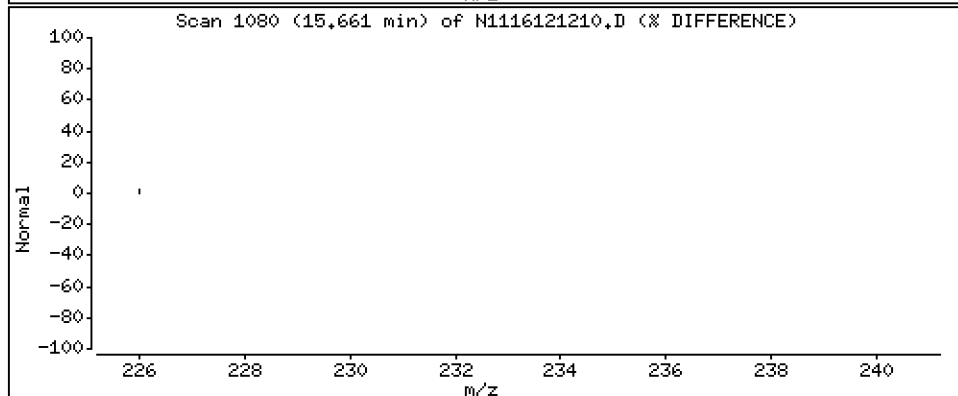
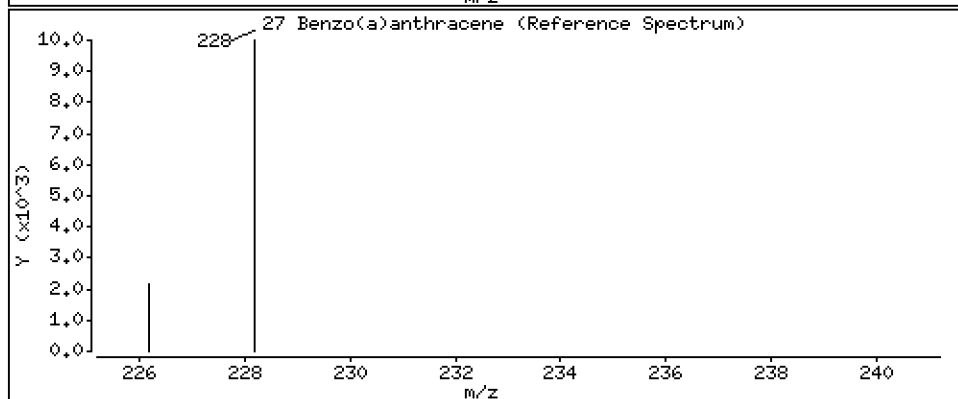
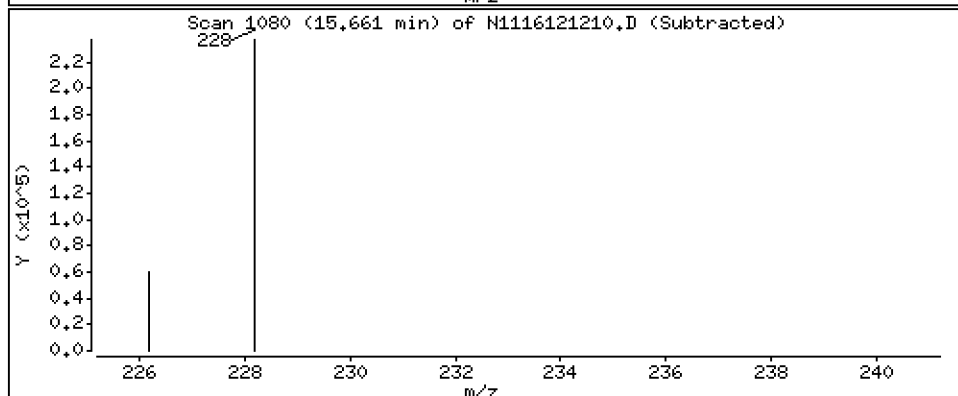
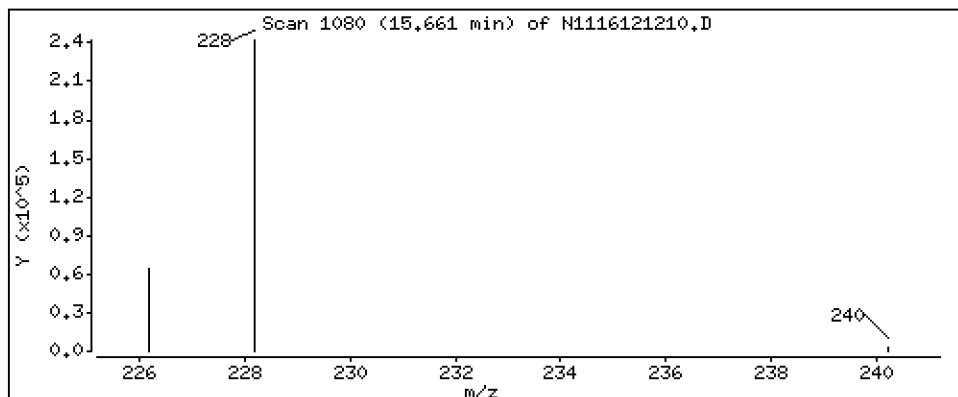
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 181 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

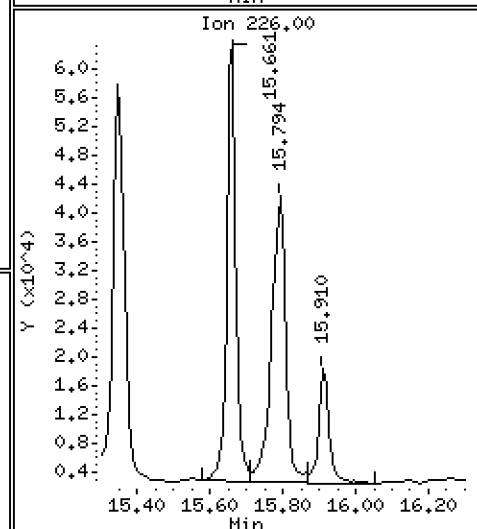
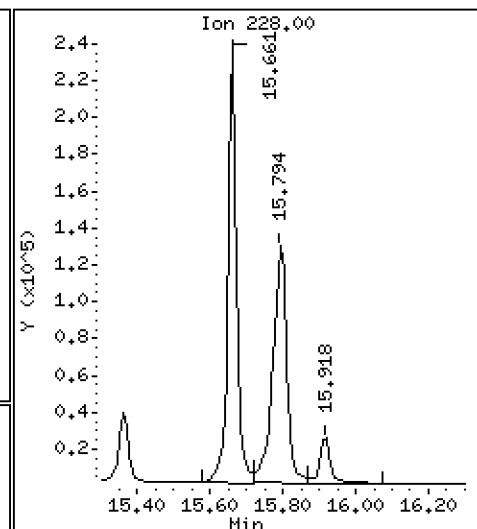
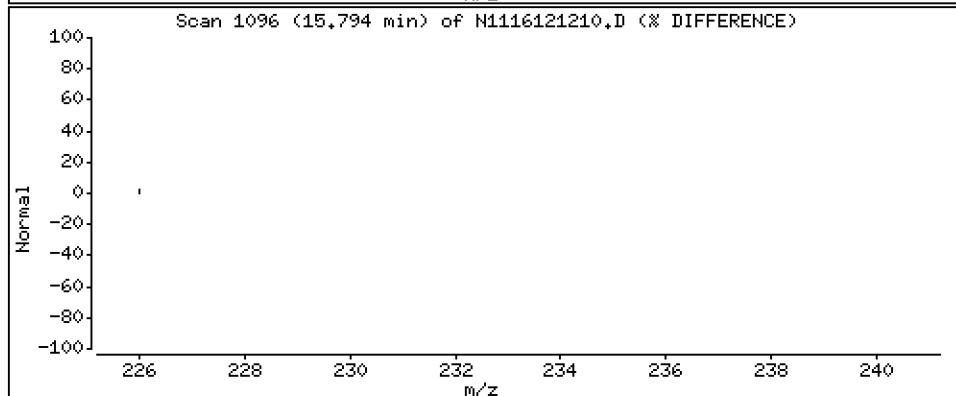
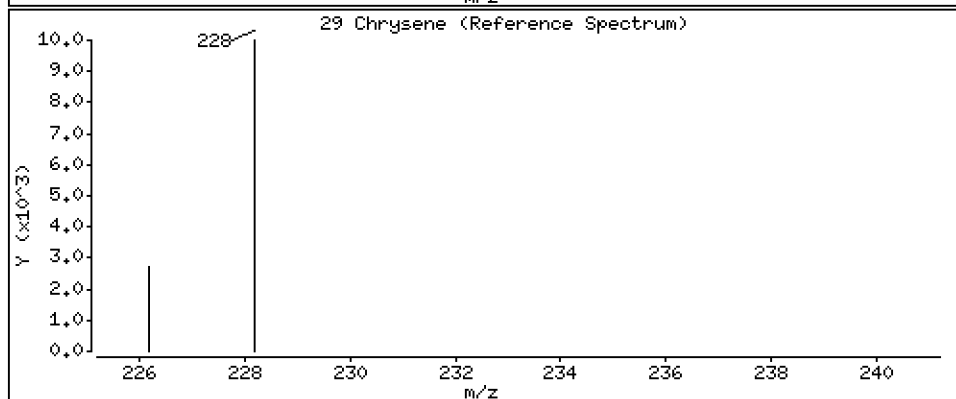
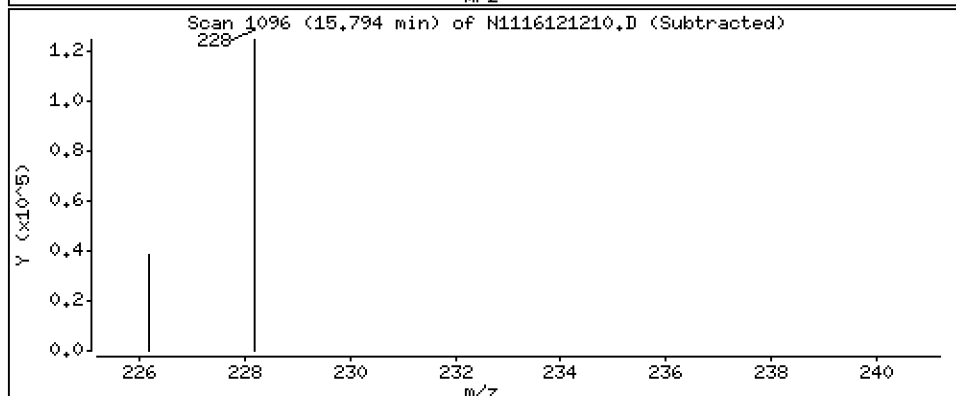
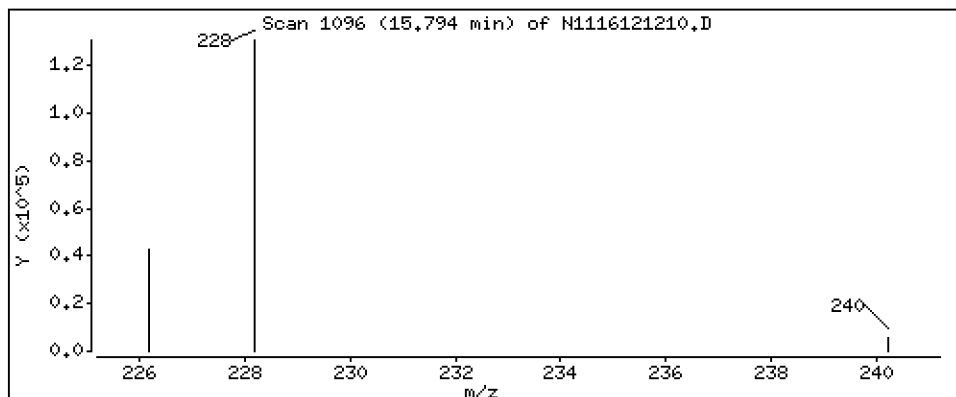
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 136 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

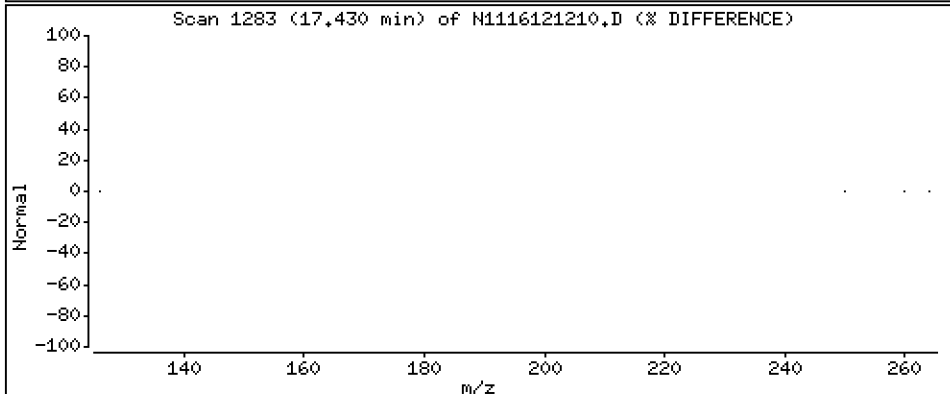
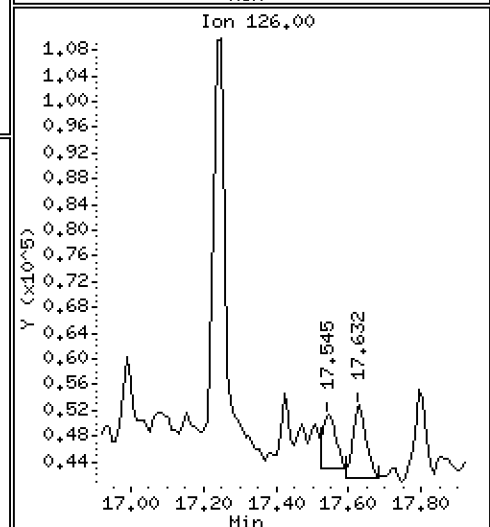
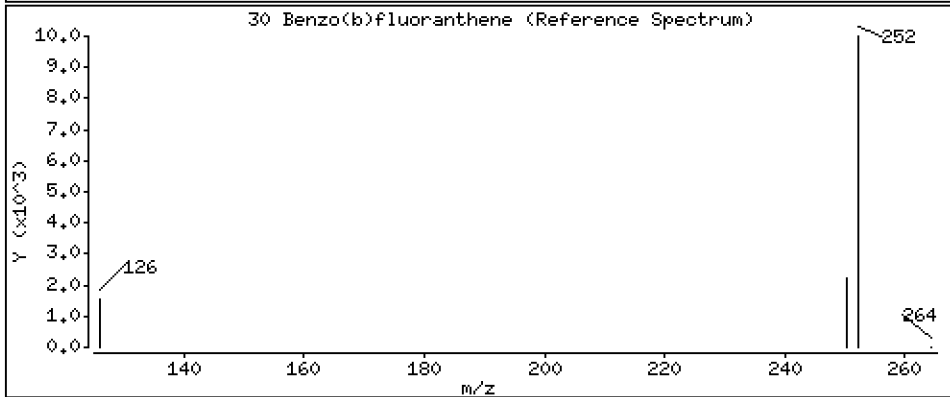
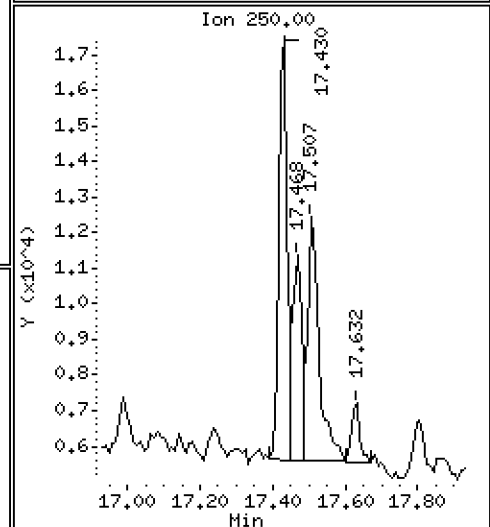
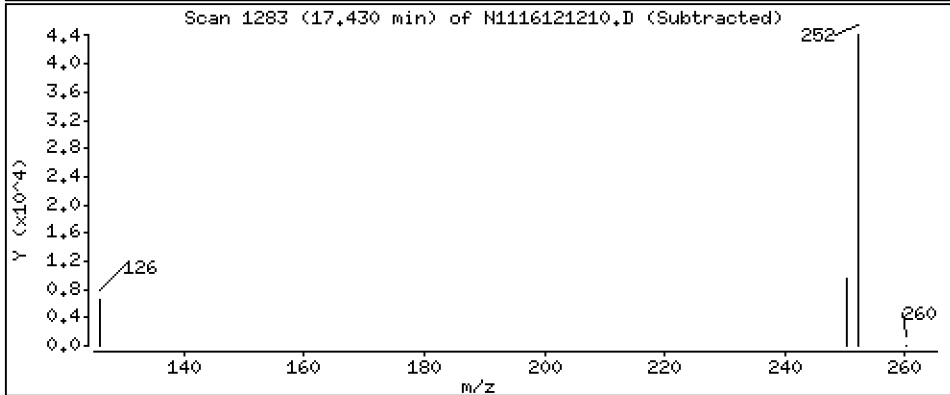
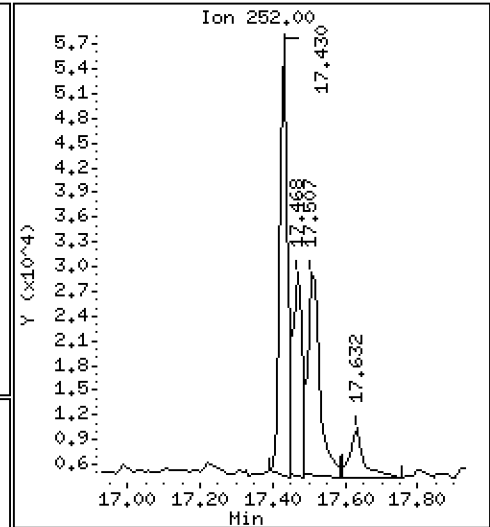
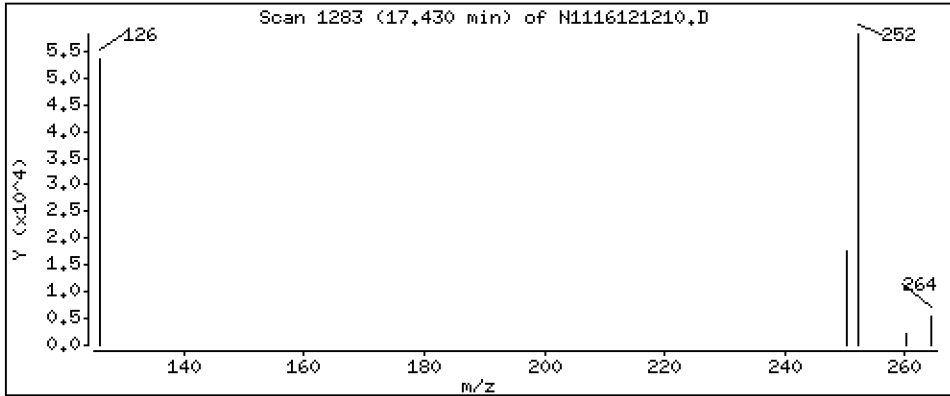
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 35,3 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

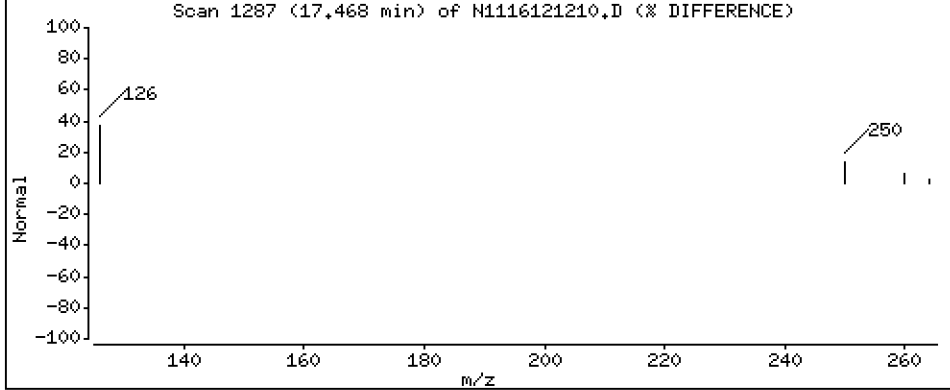
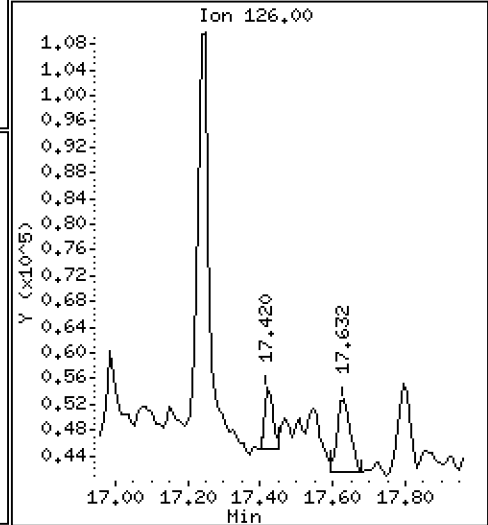
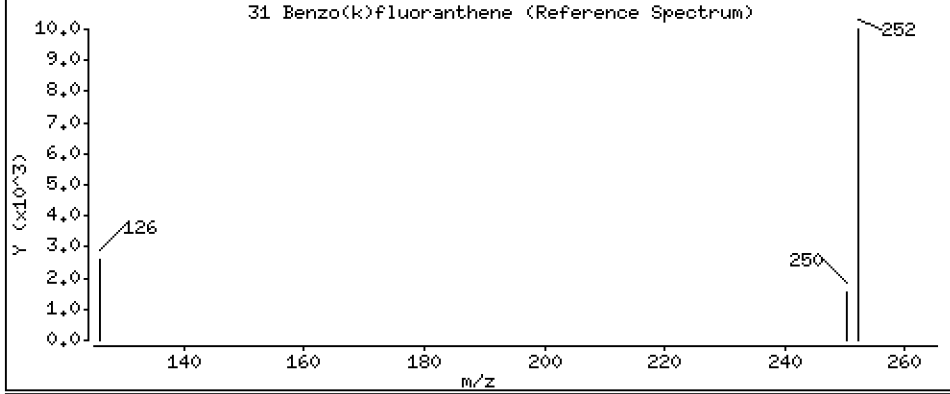
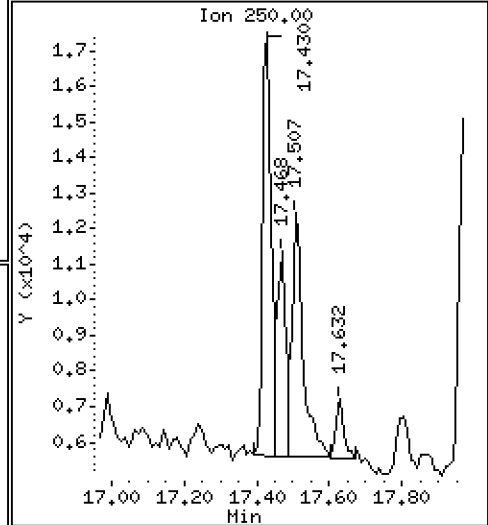
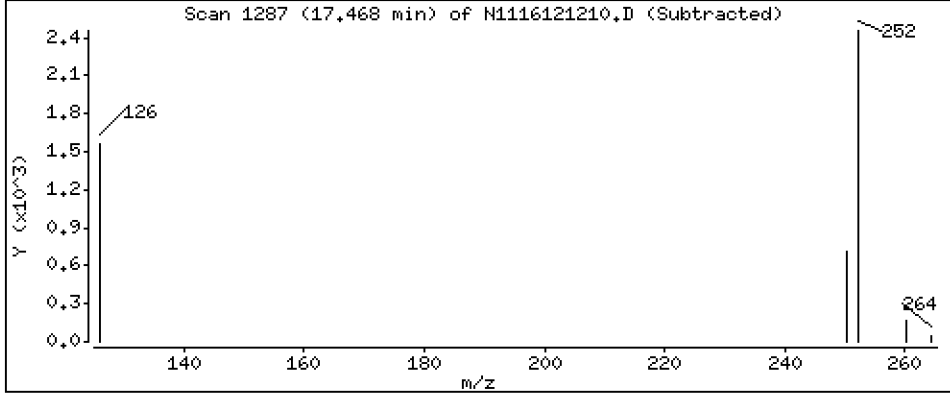
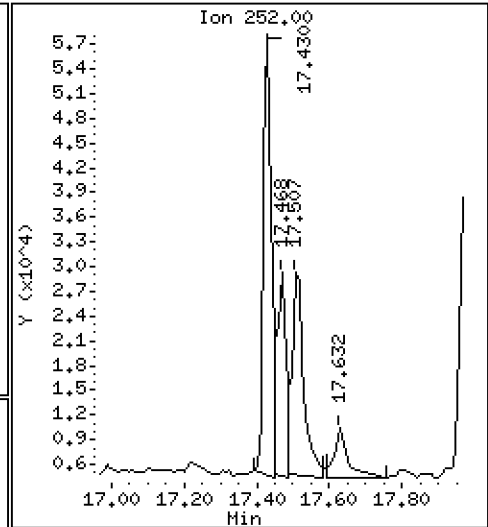
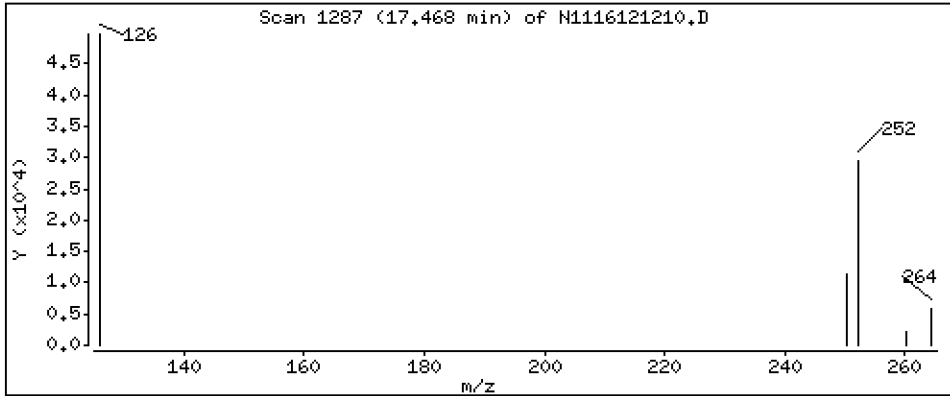
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 19,7 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

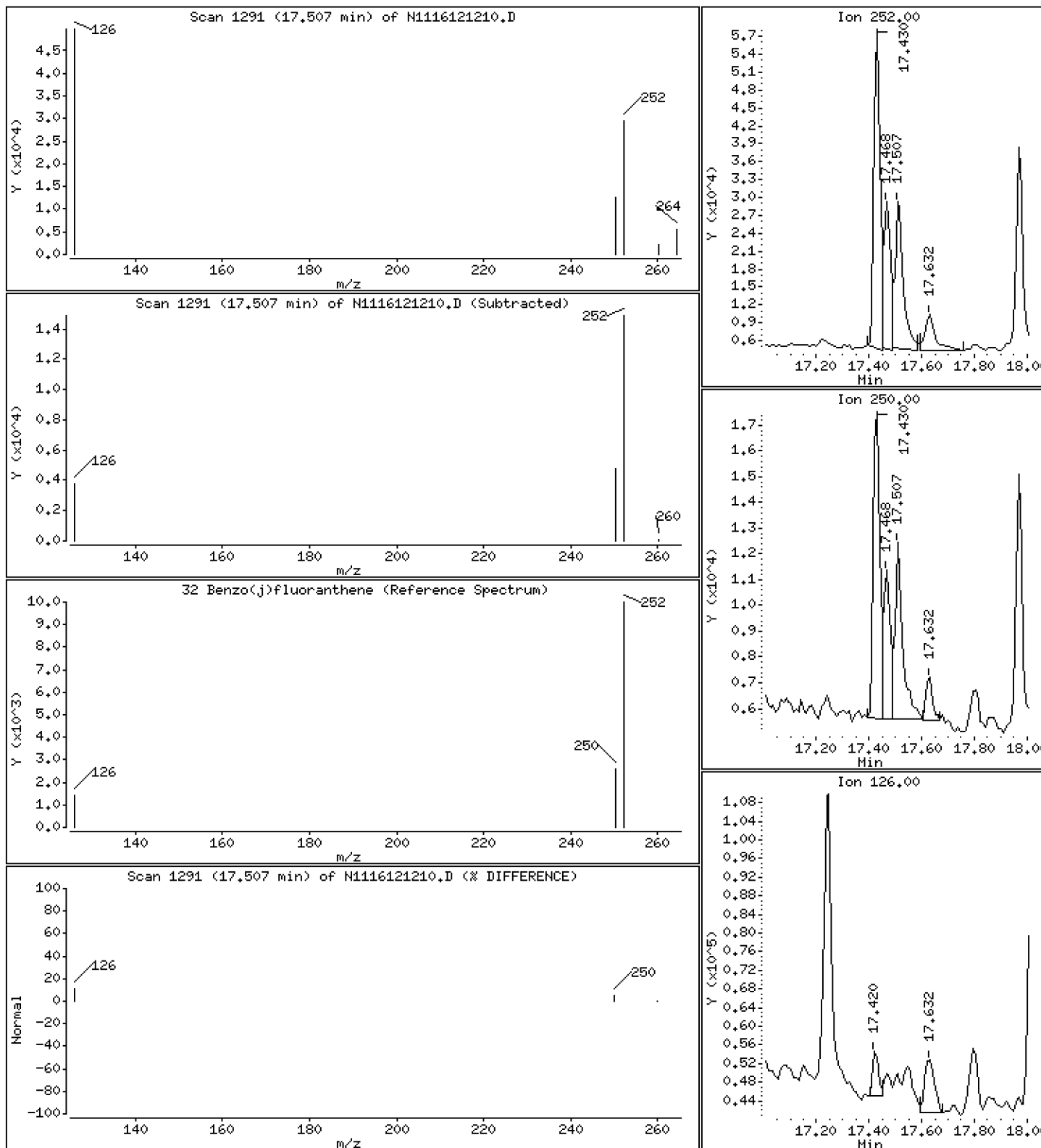
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 24,6 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

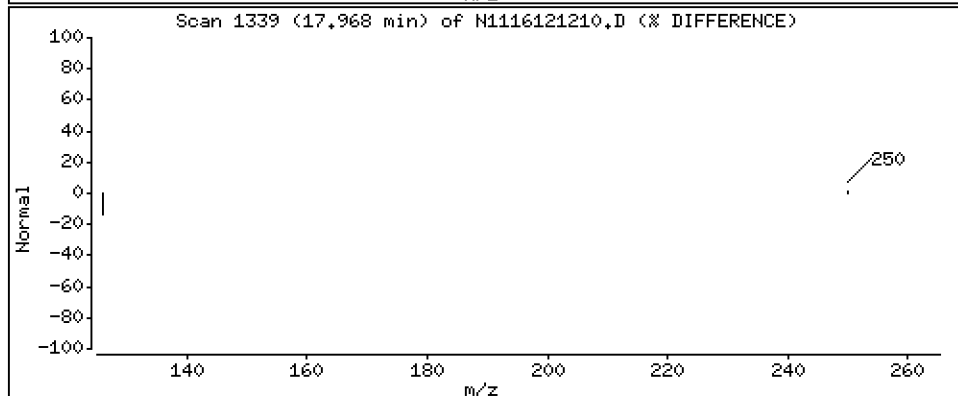
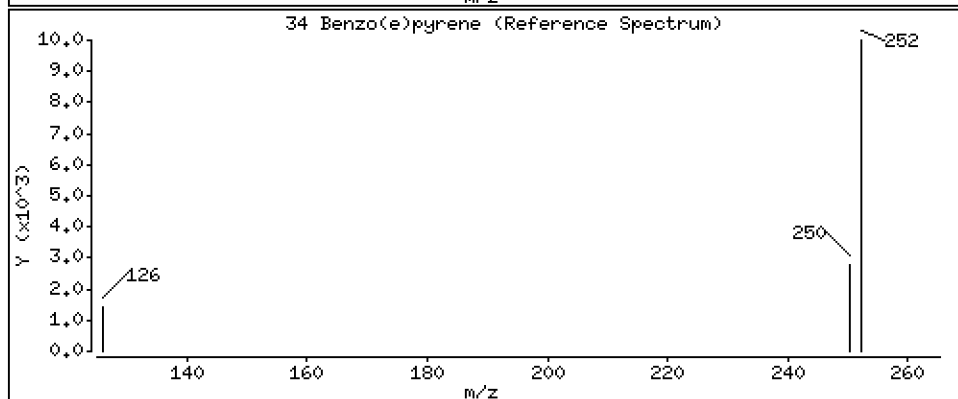
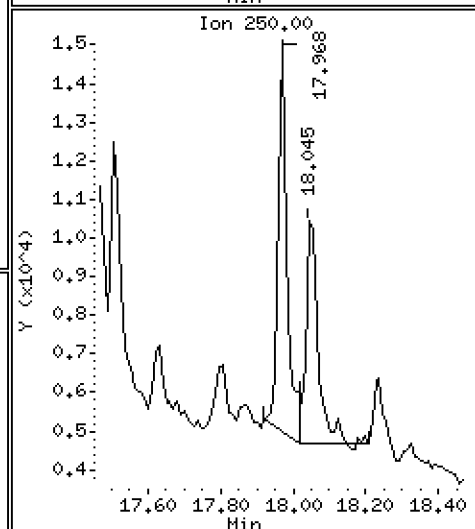
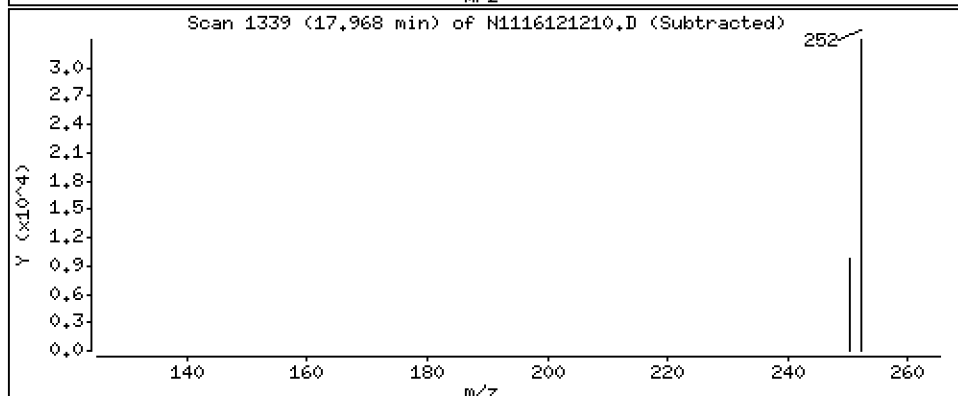
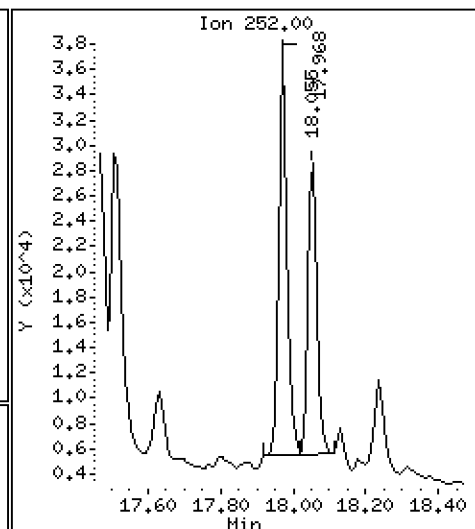
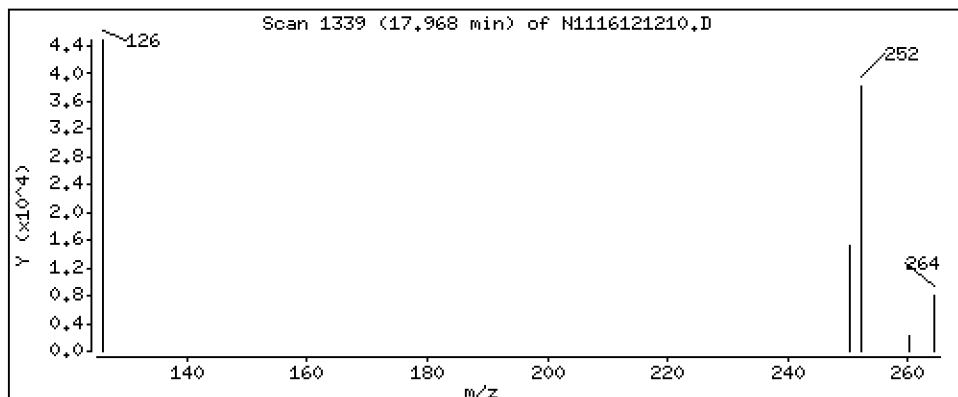
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 23,2 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

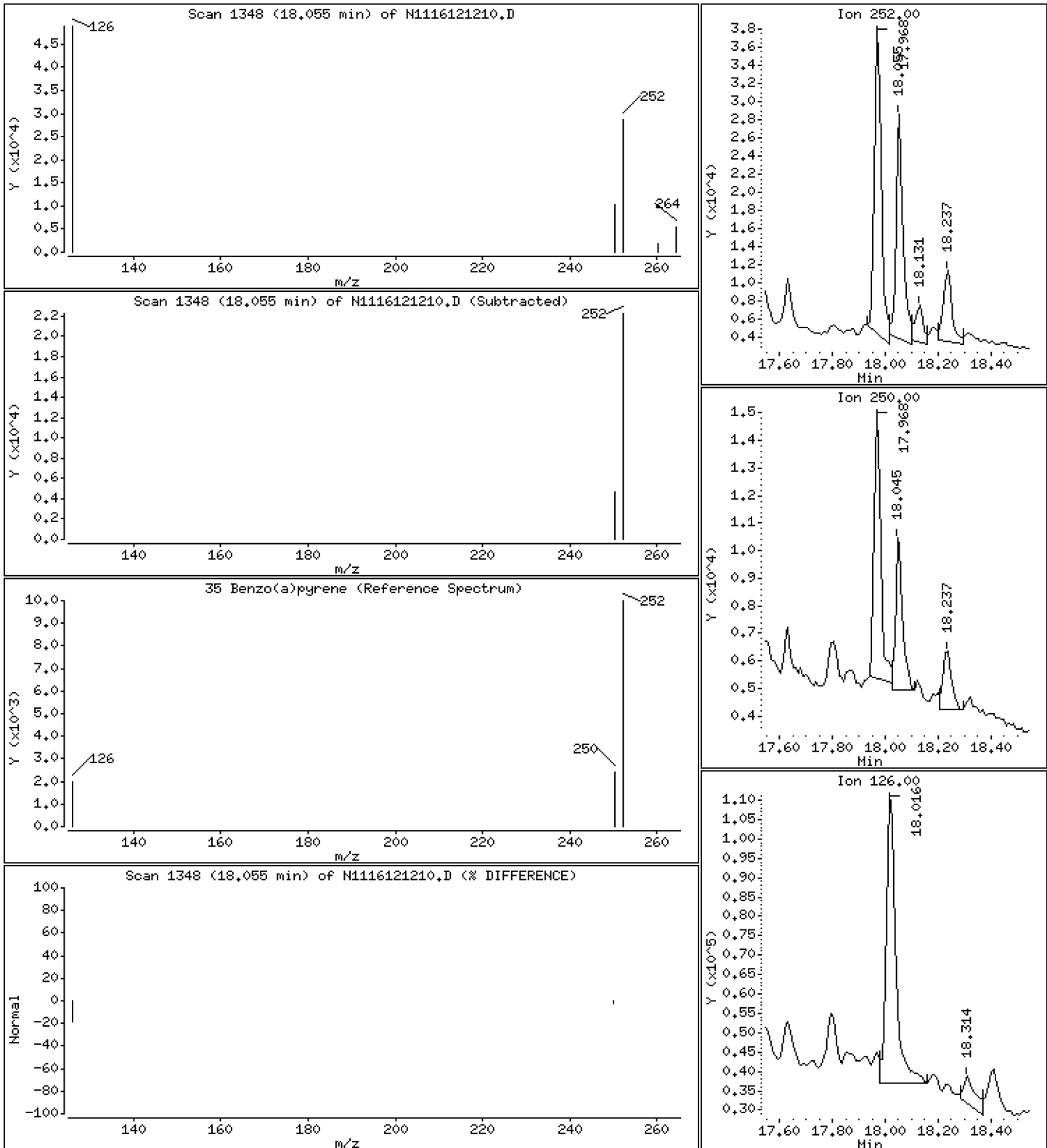
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 22,5 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

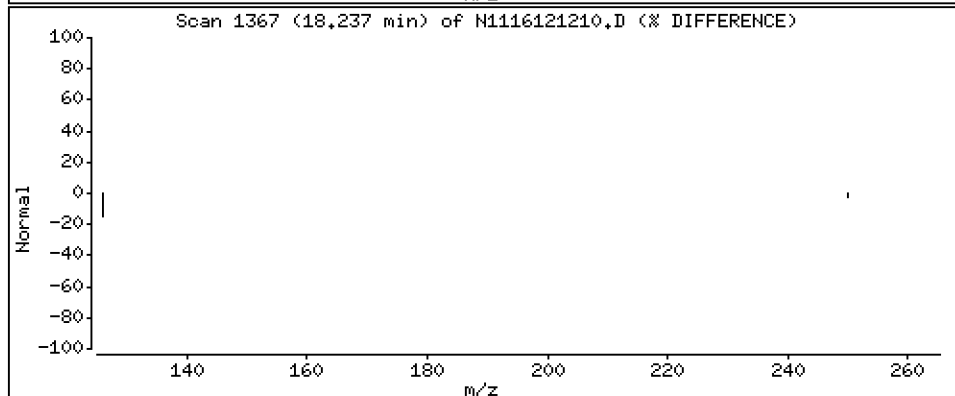
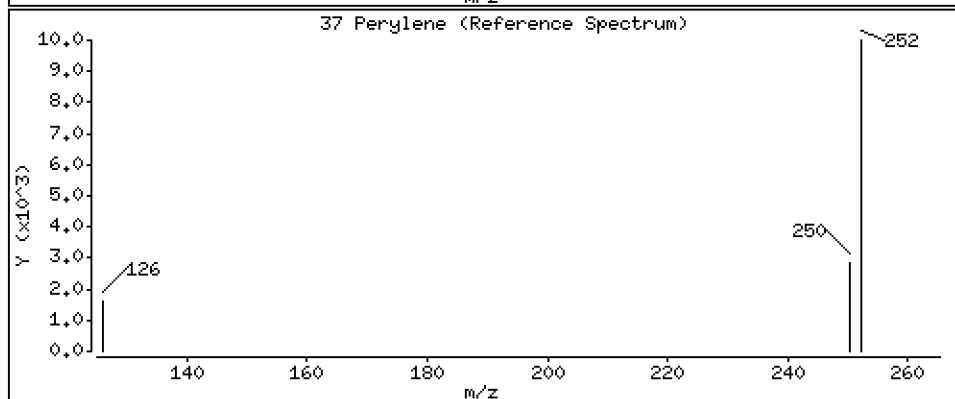
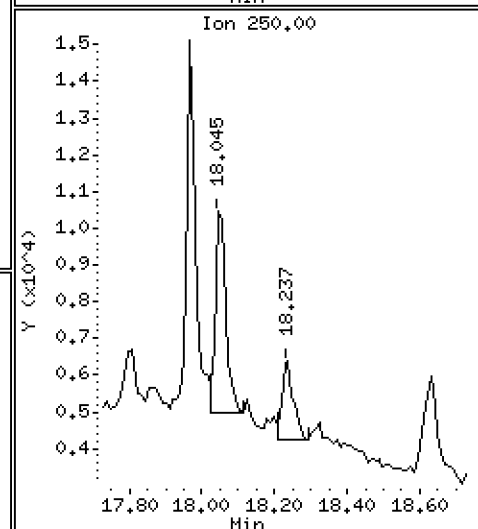
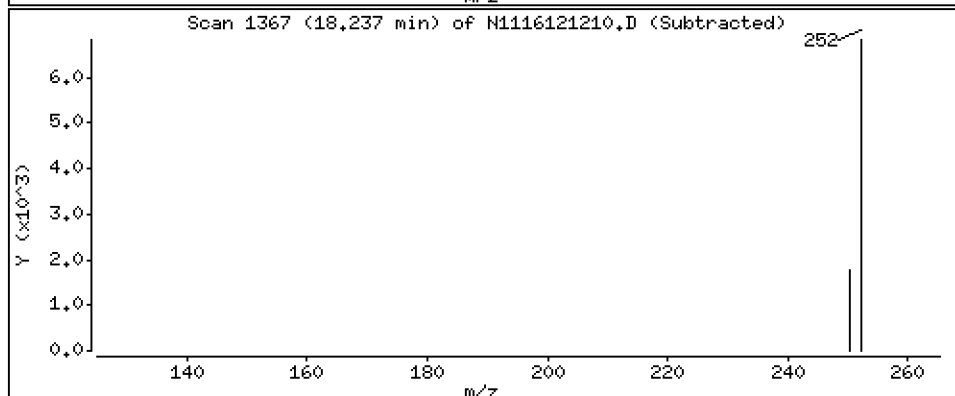
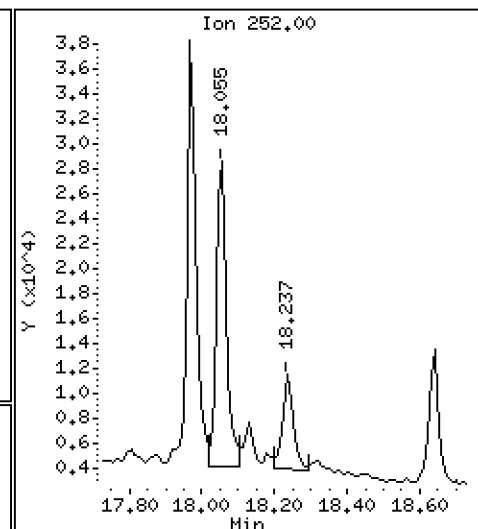
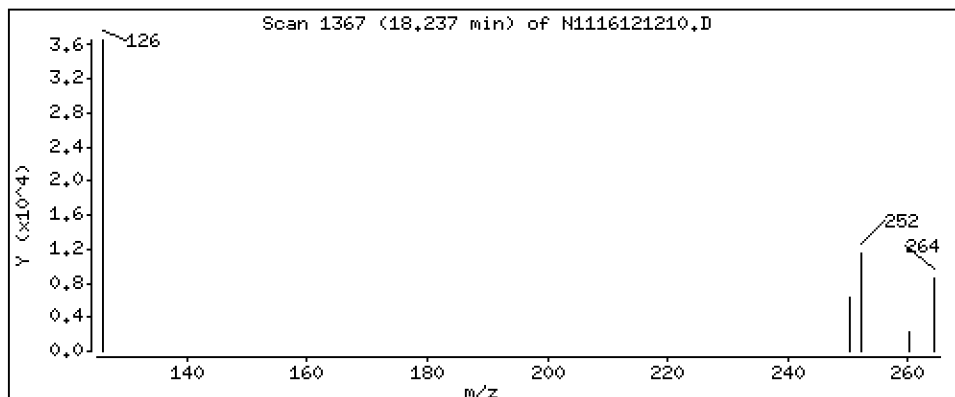
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 7,37 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

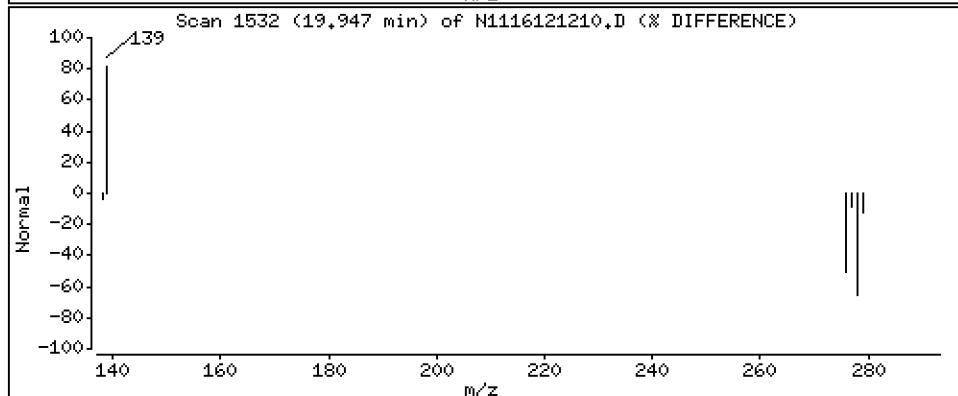
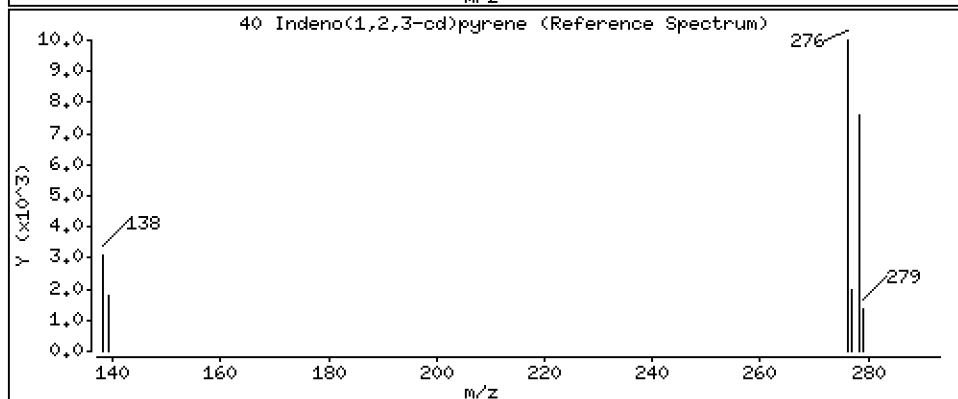
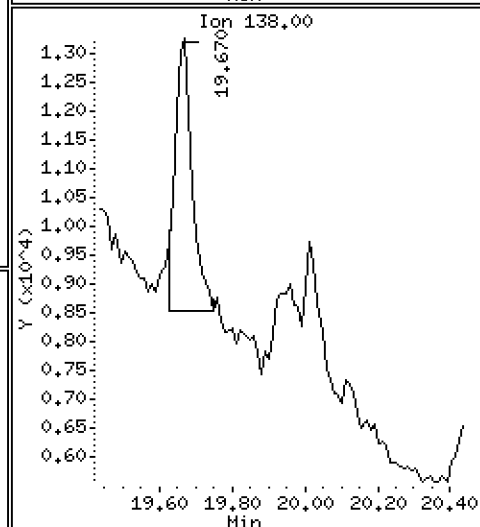
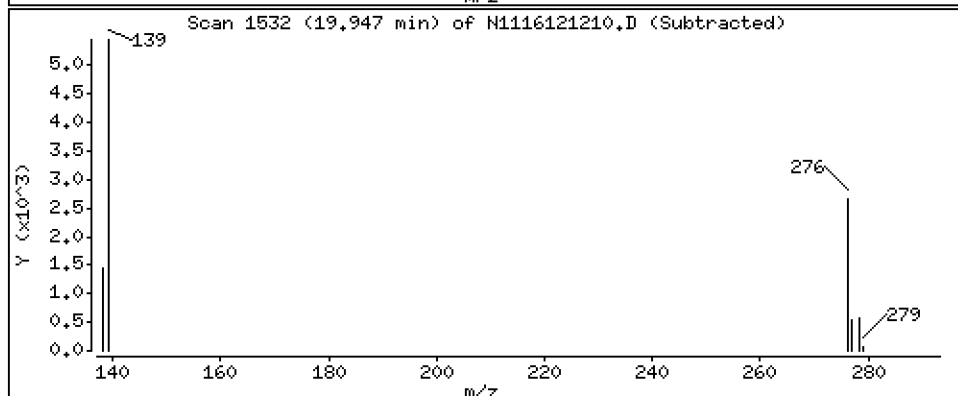
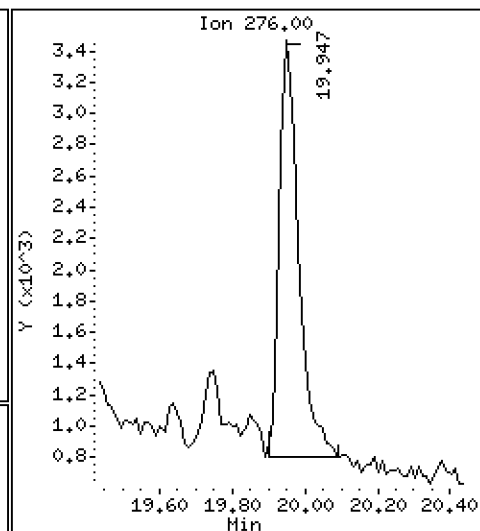
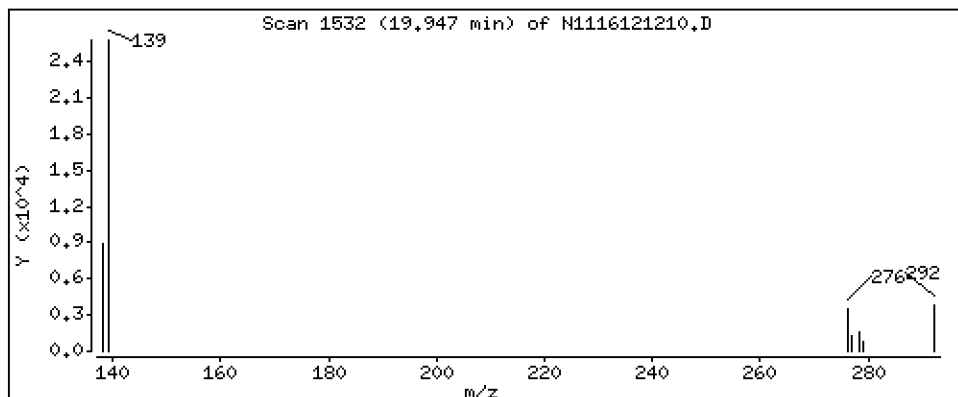
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 3,92 ng/mL



Date : 12-DEC-2016 12:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03

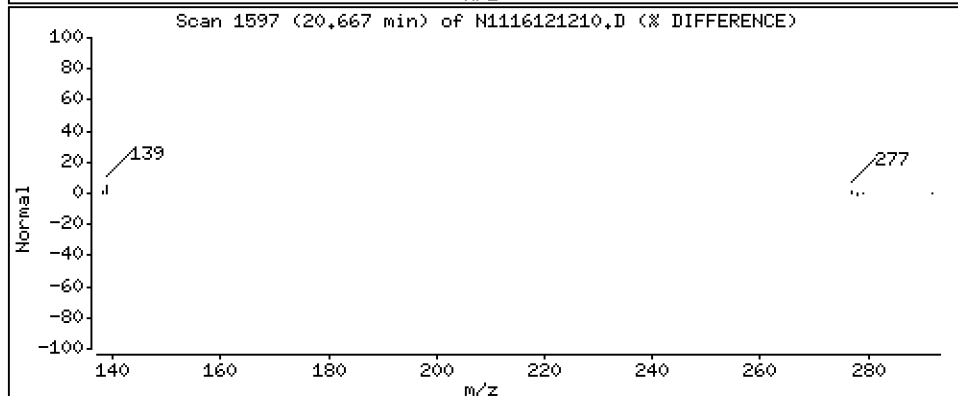
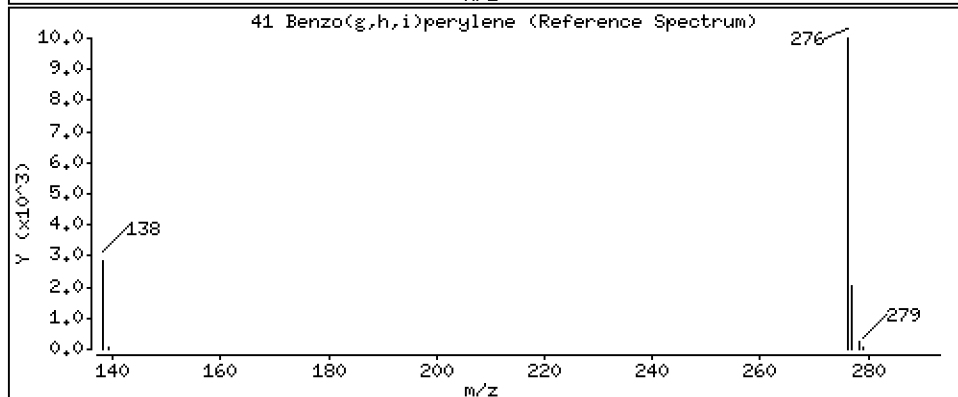
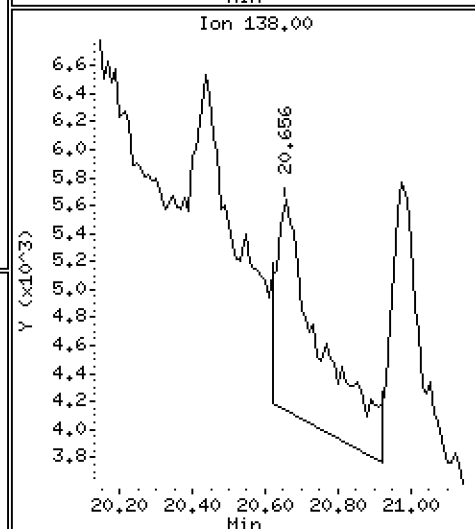
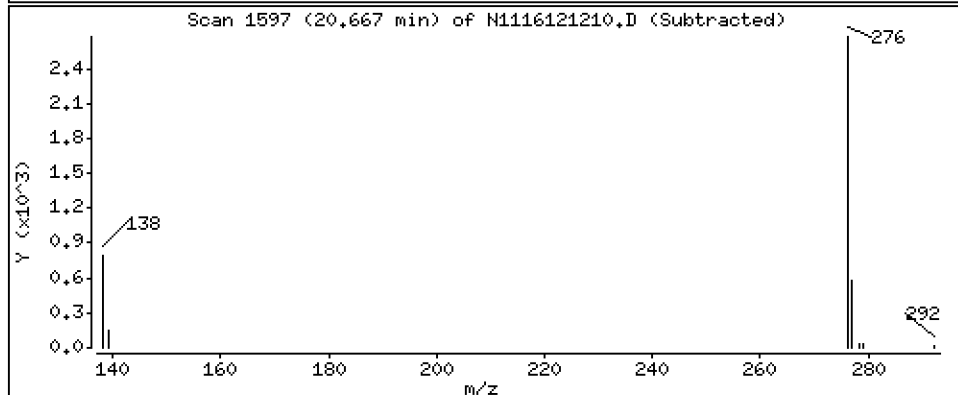
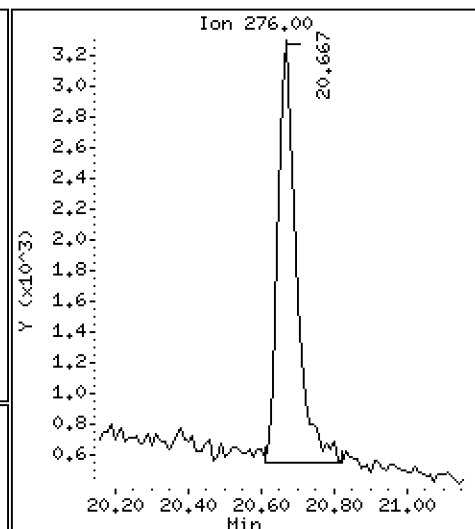
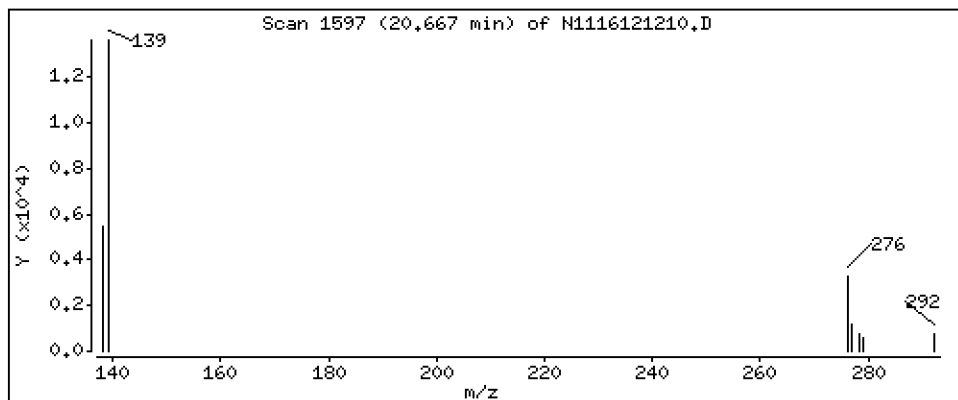
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,51 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121210.D
 Lab Smp Id: 16K0321-03
 Inj Date : 12-DEC-2016 12:58 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-03
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	464434	200.000	
2 Naphthalene	128		5.556	5.574	(1.005)	228454	95.6731	95.7
3 Benzo(b)thiophene	134		5.836	5.818	(1.056)	11355	5.74891	5.75
\$ 4 2-Methylnaphthalene-d10	152		6.484	6.505	(1.173)	227612	129.993	130
5 2-Methylnaphthalene	142		6.537	6.557	(1.182)	472239	235.554	236
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	330661	168.165	168
7 2-Chloronaphthalene	162		7.398	7.429	(0.875)	11345	5.51018	5.51
8 Biphenyl	154		7.419	7.429	(0.877)	174413	61.7297	61.7
9 2,6-Dimethylnaphthalene	156		7.451	7.482	(0.881)	484331	238.547	239
10 Acenaphthylene	152		8.312	8.321	(0.983)	65562	28.0148	28.0
* 11 Acenaphthene-d10	164		8.456	8.474	(1.000)	253304	200.000	
12 Acenaphthene	153		8.520	8.538	(1.007)	1386368	863.453	863
13 Dibenzofuran	168		8.726	8.738	(1.032)	978150	428.685	429
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.047)	111076	78.3049	78.3 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.332	9.357	(1.104)	1466890	832.120	832
17 Dibenzothiophene	184		10.911	10.921	(0.985)	298478	135.100	135
* 18 Phenanthrene-d10	188		11.079	11.089	(1.000)	446982	200.000	
19 Phenanthrene	178		11.121	11.131	(1.004)	7398890	2755.73	2760
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.174	11.184	(1.009)	832930	329.678	330
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.094)	369641	156.245	156 (M)
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.186)	334114	167.456	167
25 Fluoranthene	202		13.171	13.180	(1.189)	5417248	2079.39	2080
26 Pyrene	202		13.651	13.651	(0.867)	3989698	1550.56	1550
27 Benzo(a)anthracene	228		15.661	15.660	(0.994)	403583	181.260	181
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	395473	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	336899	136.422	136
30 Benzo(b)fluoranthene	252		17.430	17.420	(0.958)	84737	35.3155	35.3
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.960)	51308	19.6802	19.7
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.962)	59425	24.5893	24.6
\$ 33 Benzo(e)pyrene-d12	264		17.920	17.919	(0.985)	206687	101.607	102

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	54030	23.1728	23.2	
35 Benzo(a)pyrene	252	18.054	18.044	(0.993)	49392	22.4828	22.5	
* 36 Perylene-d12	264	18.189	18.179	(1.000)	422113	200.000		
37 Perylene	252	18.237	18.227	(1.003)	16818	7.37369	7.37	
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	208796	147.672	148	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	9566	3.92284	3.92	
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.136)	9499	4.50891	4.51	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121210.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-03
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	464434	-5.90
11 Acenaphthene-d10	240770	120385	481540	253304	5.21
18 Phenanthrene-d10	429271	214636	858542	446982	4.13
28 Chrysene-d12	387691	193846	775382	395473	2.01
36 Perylene-d12	386259	193130	772518	422113	9.28

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.46	-0.21
18 Phenanthrene-d10	11.09	10.59	11.59	11.08	-0.09
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121210.D

Lab ID: 16K0321-03

nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 12:58

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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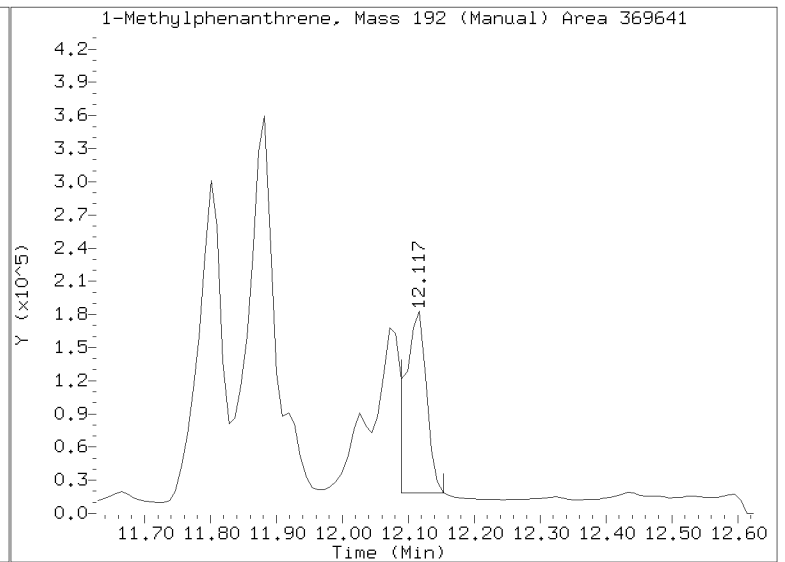
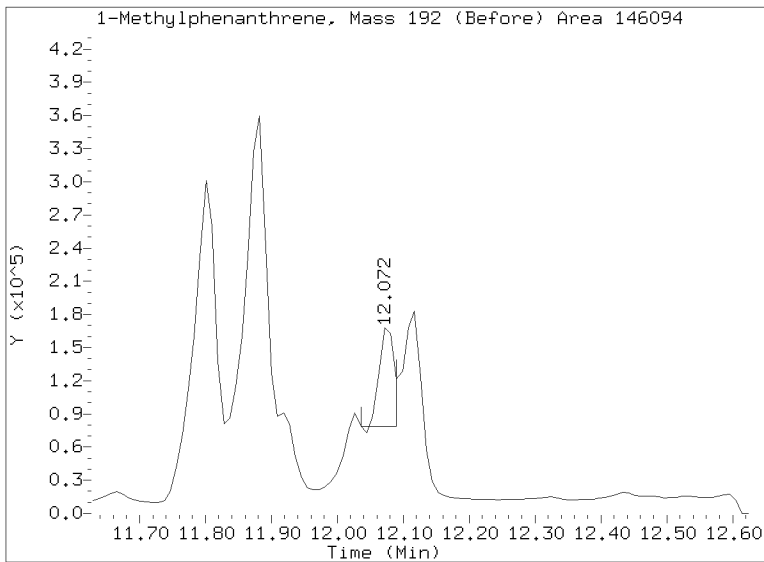
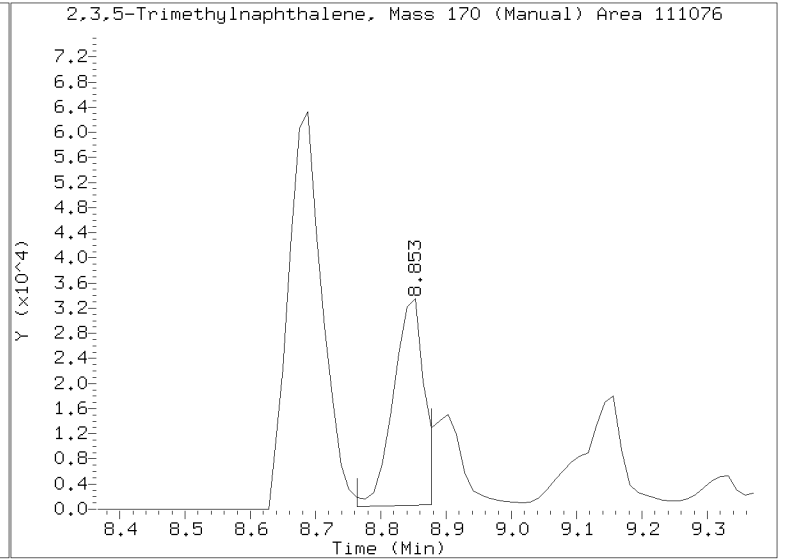
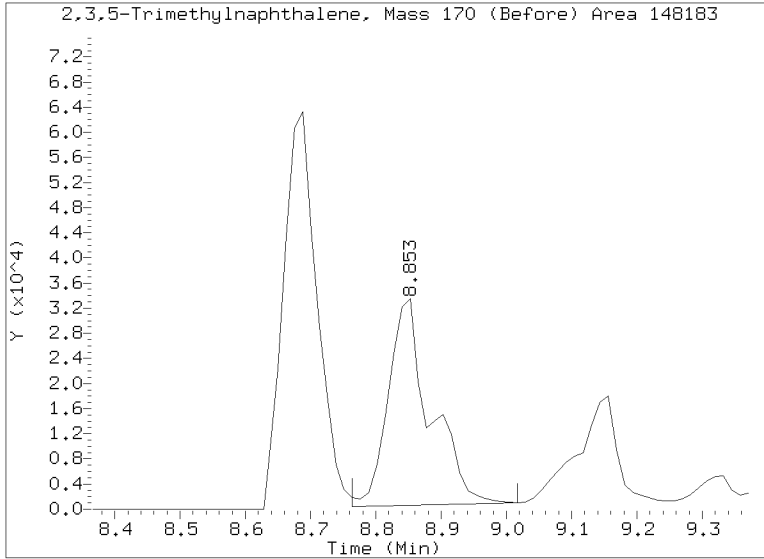
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On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.sub = 3.0000

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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121210.D
Injection Date: 12-DEC-2016 12:58
Lab ID:16K0321-03 Client ID:
Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-03RE1 File ID: N1116121319.D
 Sampled: 11/22/16 11:47 Prepared: 11/24/16 08:25 Analyzed: 12/13/16 21:04
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	5	9.76	D, B	5.64	6.77
91-57-6	2-Methylnaphthalene	5	21.1	D, B	5.64	5.64
208-96-8	Acenaphthylene	5	5.64	U	5.64	5.64
83-32-9	Acenaphthene	5	99.9	D	5.64	5.64
86-73-7	Fluorene	5	107	D	5.64	5.64
85-01-8	Phenanthrene	5	424	D	5.64	5.64
120-12-7	Anthracene	5	92.0	Q, D	5.64	5.64
206-44-0	Fluoranthene	5	326	D	5.64	5.64
129-00-0	Pyrene	5	233	D	5.64	5.64
56-55-3	Benzo(a)anthracene	5	21.1	D	5.64	5.64
218-01-9	Chrysene	5	19.9	D	5.64	5.64
205-99-2	Benzo(b)fluoranthene	5	5.64	U	5.64	5.64
207-08-9	Benzo(k)fluoranthene	5	5.64	U	5.64	5.64
50-32-8	Benzo(a)pyrene	5	5.64	U	5.64	5.64
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.64	U	5.64	5.64
53-70-3	Dibenzo(a,h)anthracene	5	5.64	U	5.64	5.64
191-24-2	Benzo(g,h,i)perylene	5	5.64	U	5.64	5.64
1985-5-0	Perylene	5	5.64	U	5.64	5.64
197-97-2	Benzo(e)pyrene	5	5.64	U	5.64	5.64

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	11.8	34.8	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	18.4	54.2	30 - 160	
Fluoranthene-d10	33.860	19.7	58.2	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	14.1	66.8	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161213.16\N1116121319.D

Date: 13-DEC-2016 21:04

Client ID:

Sample Info: 16K0321-03.5

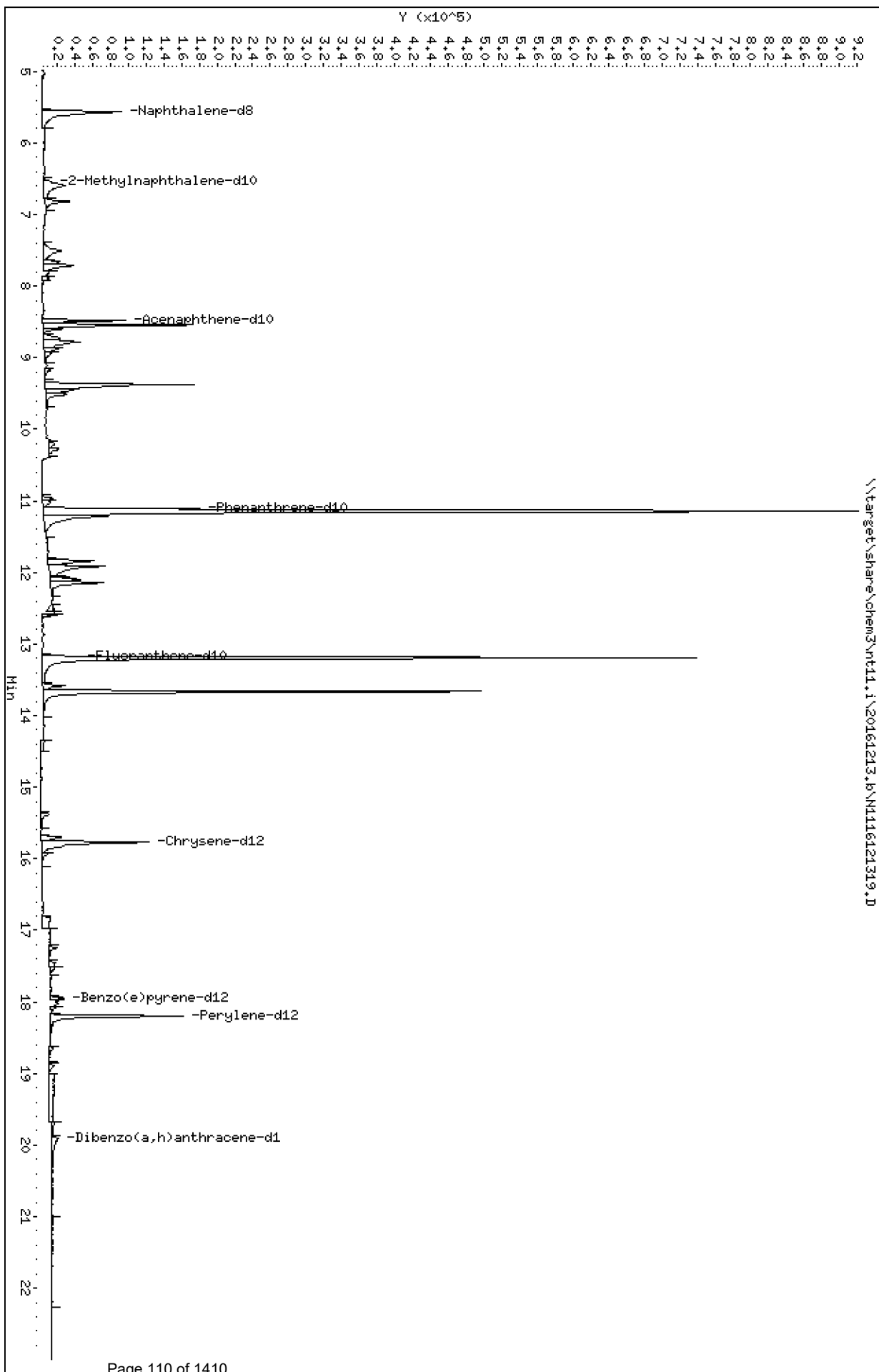
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

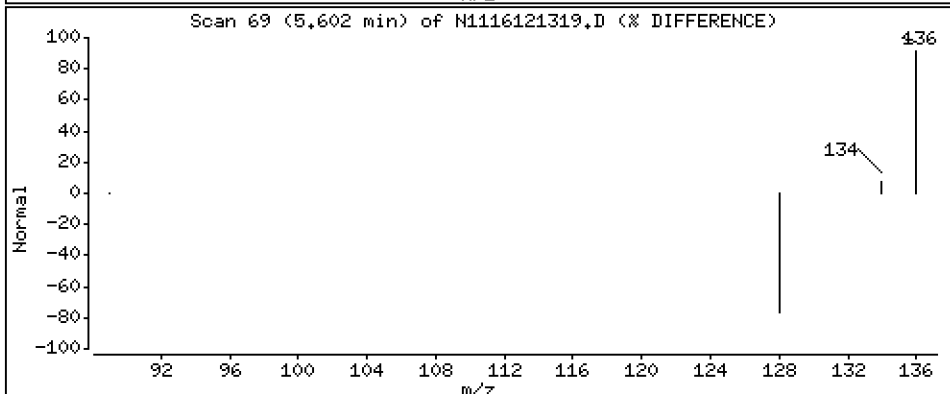
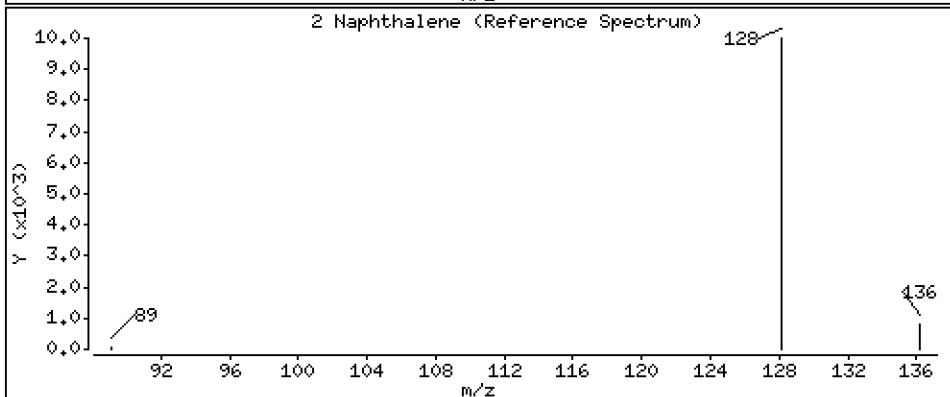
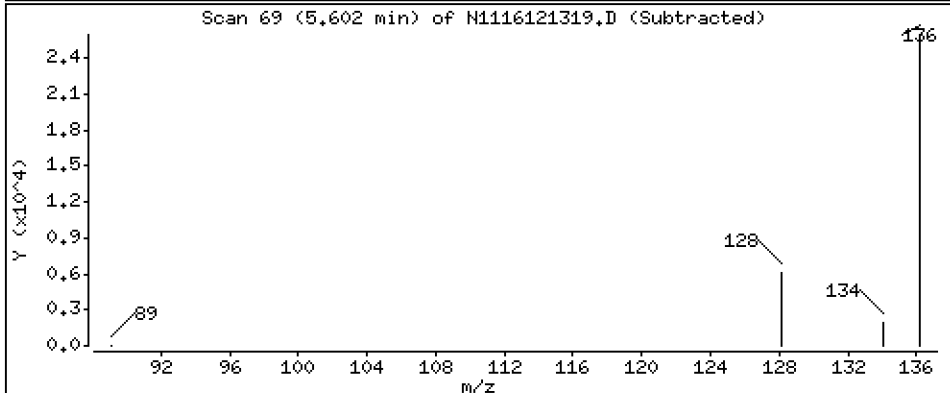
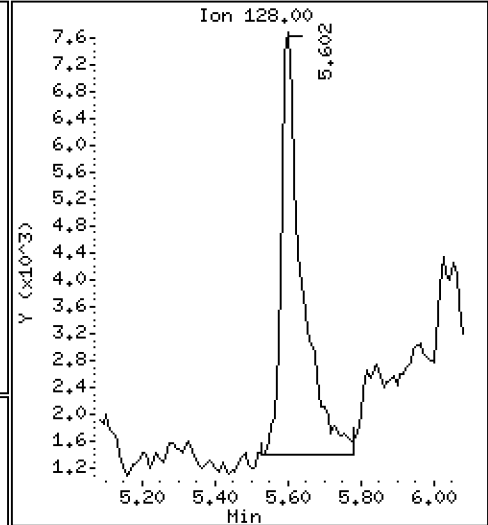
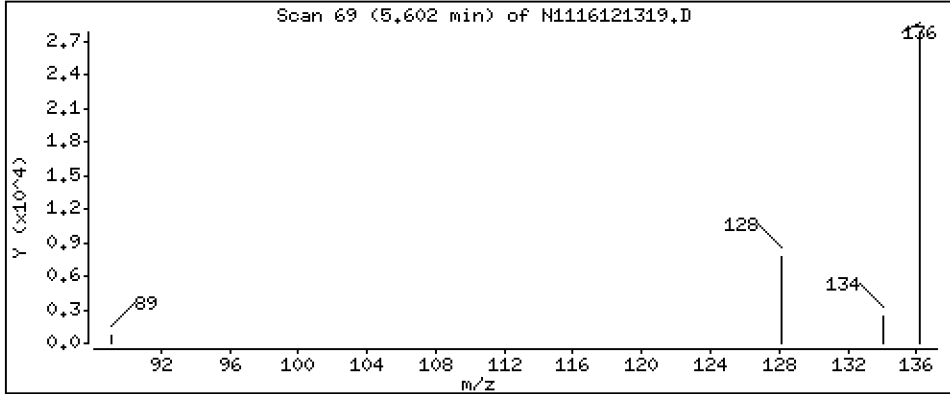
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 86,5 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

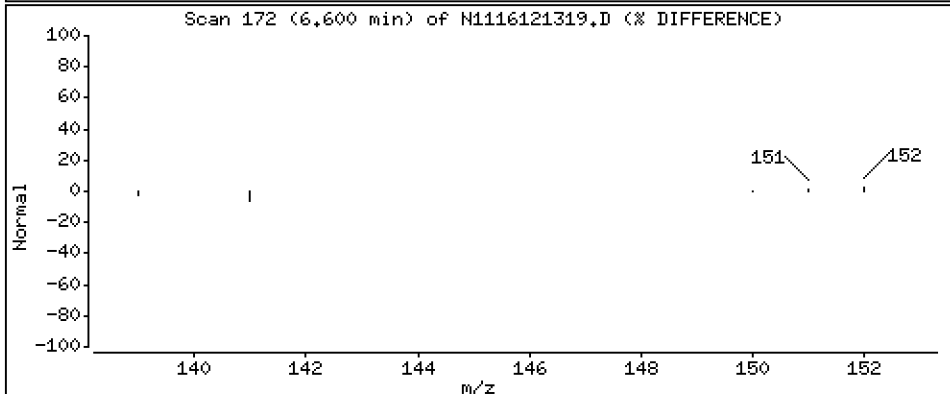
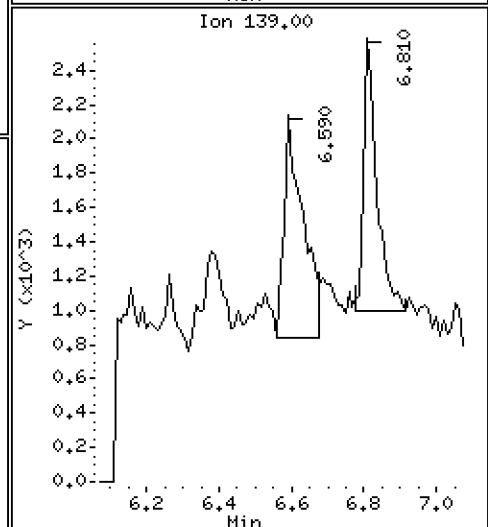
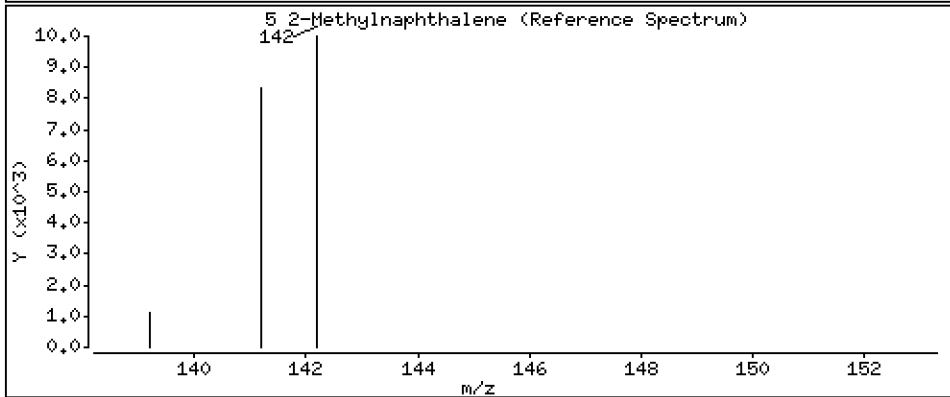
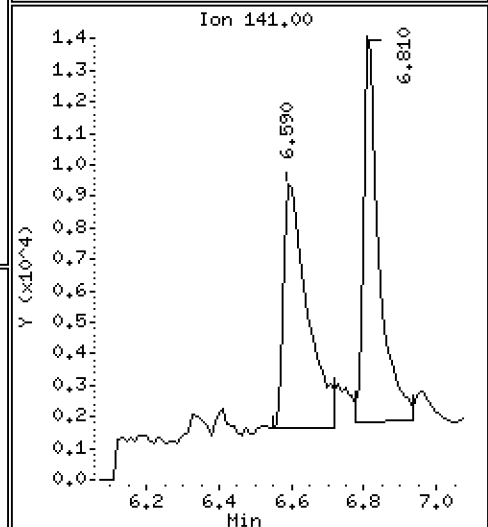
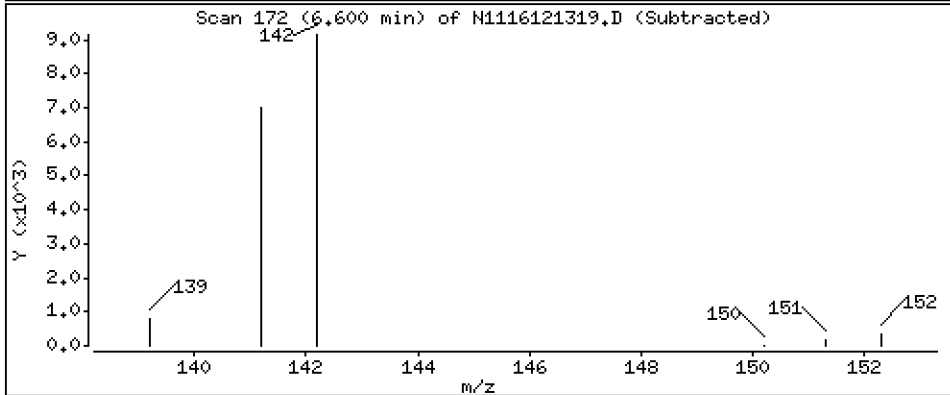
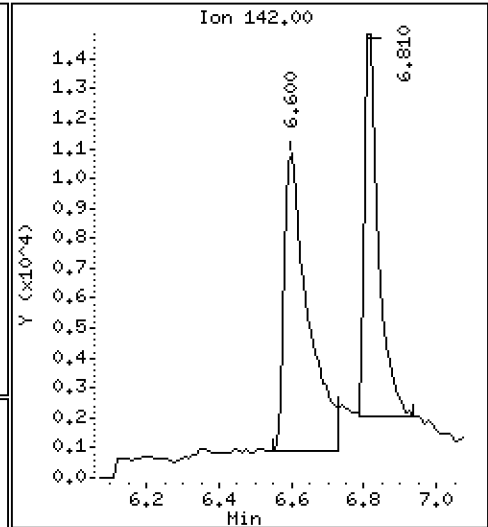
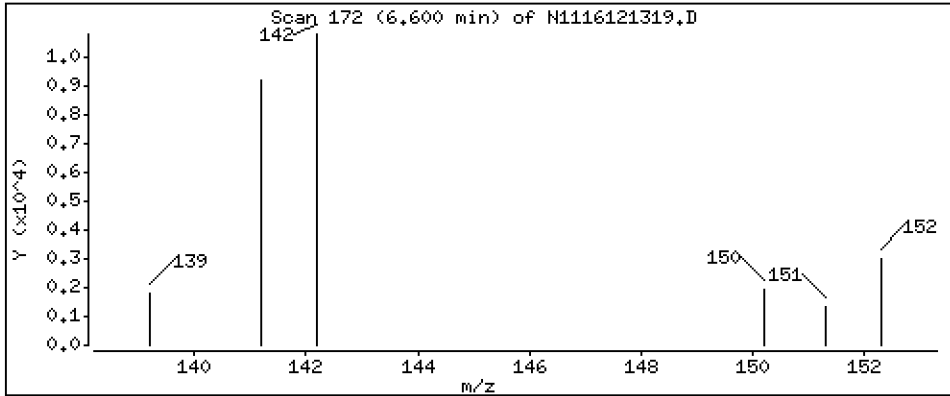
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 187 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

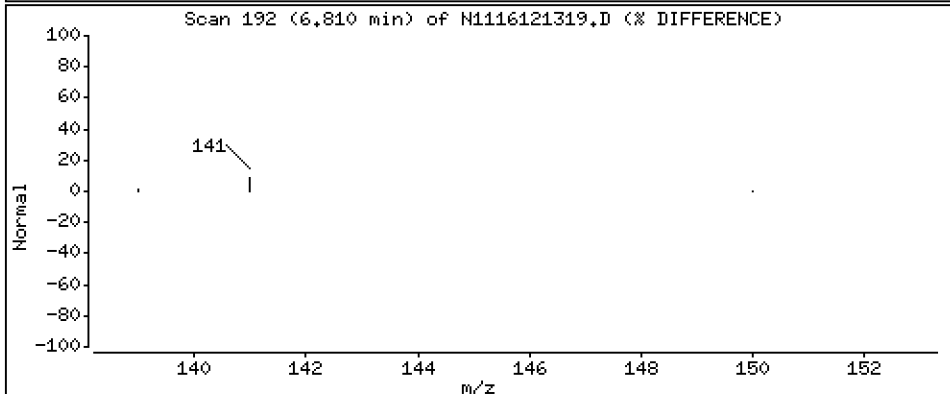
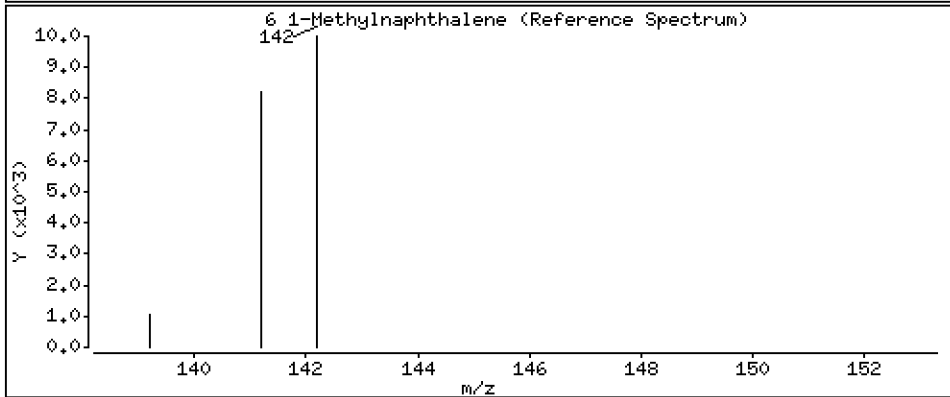
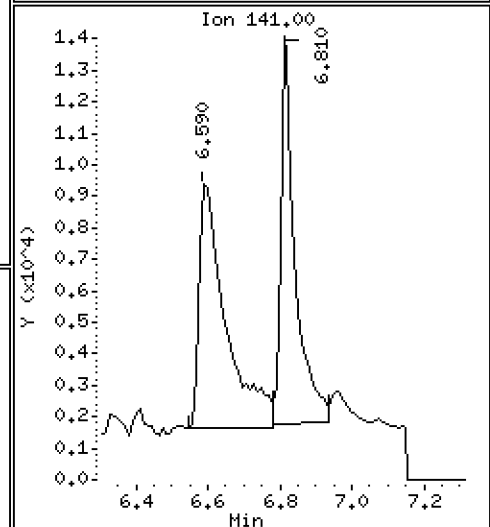
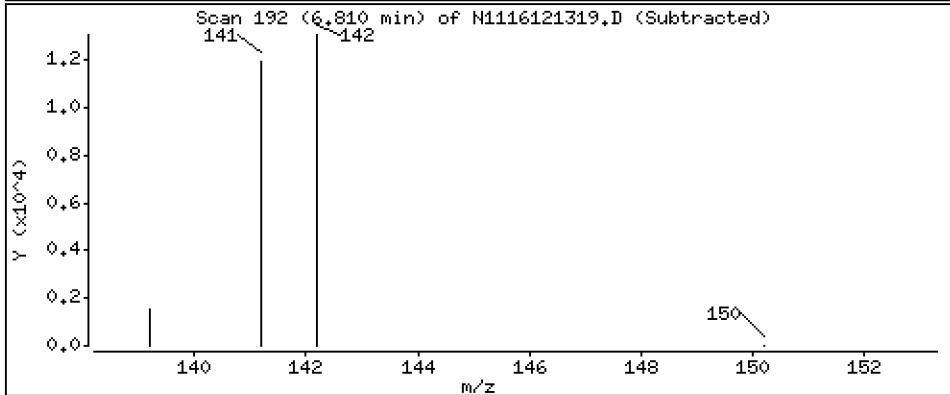
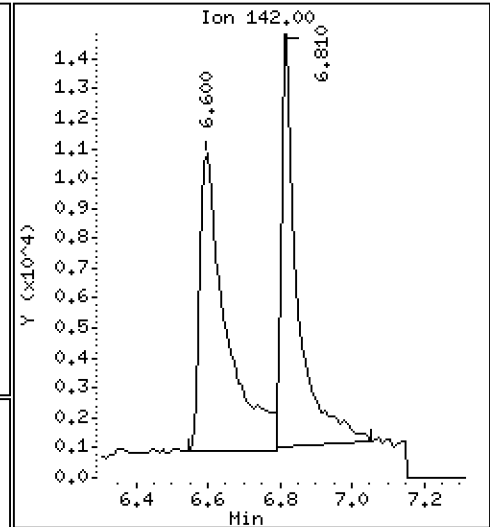
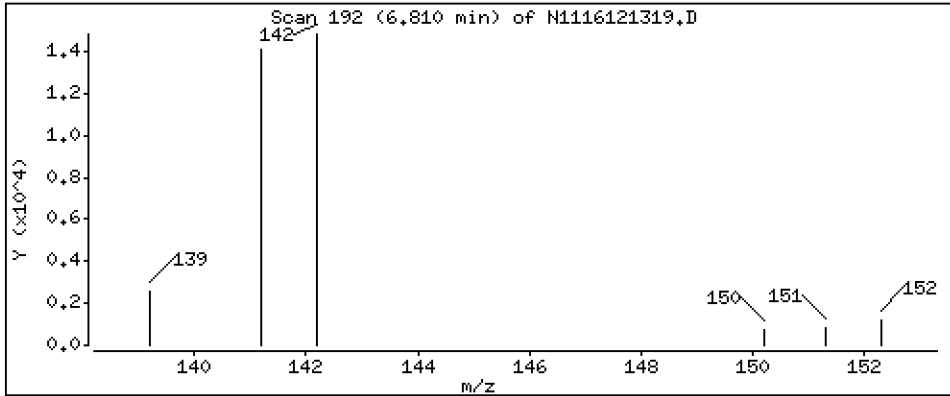
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 193 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

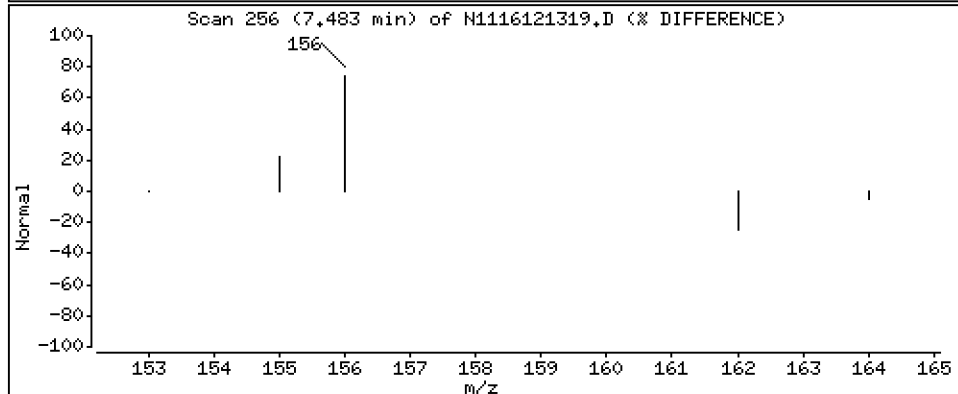
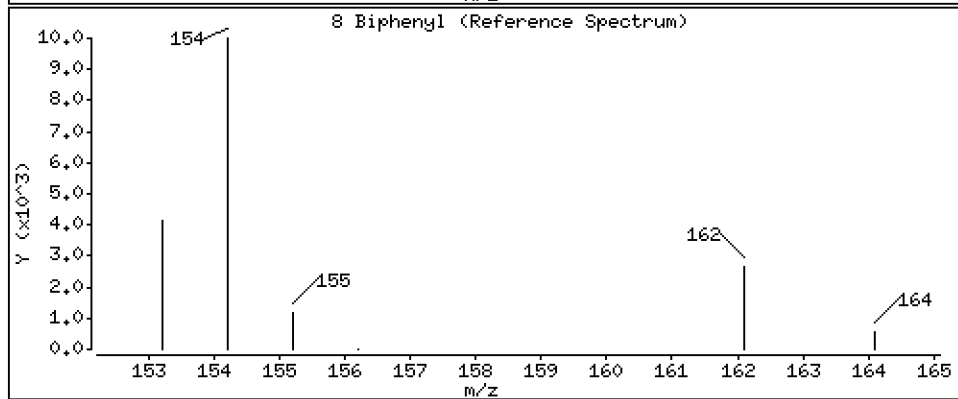
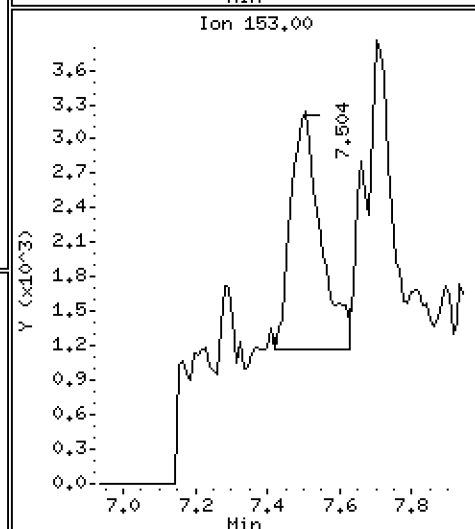
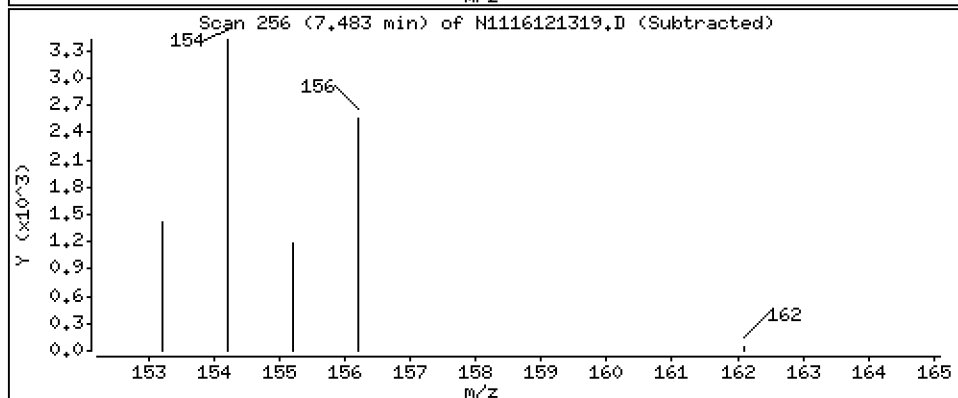
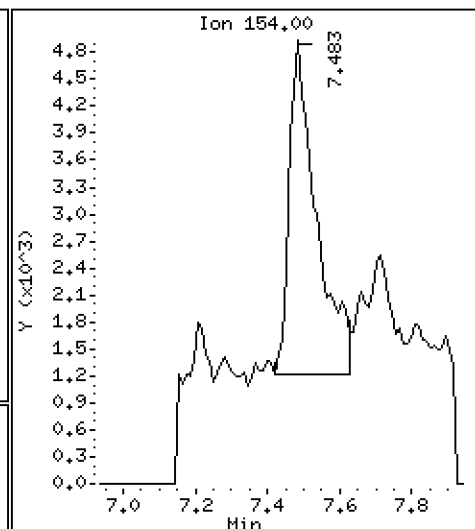
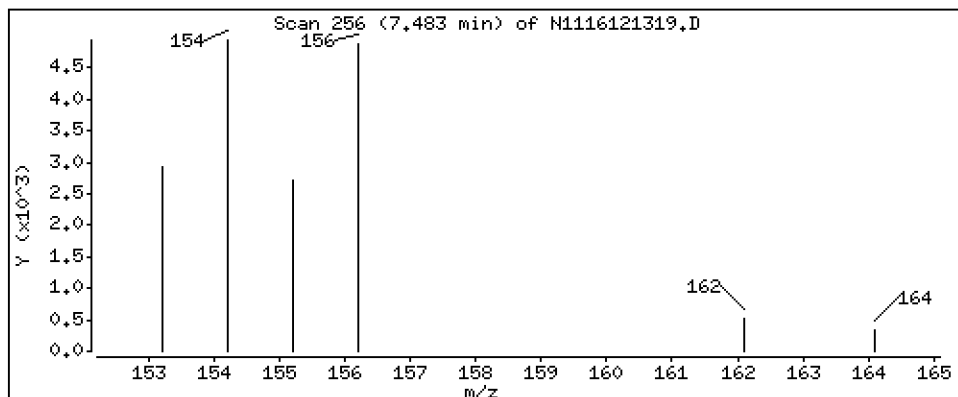
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 54,7 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

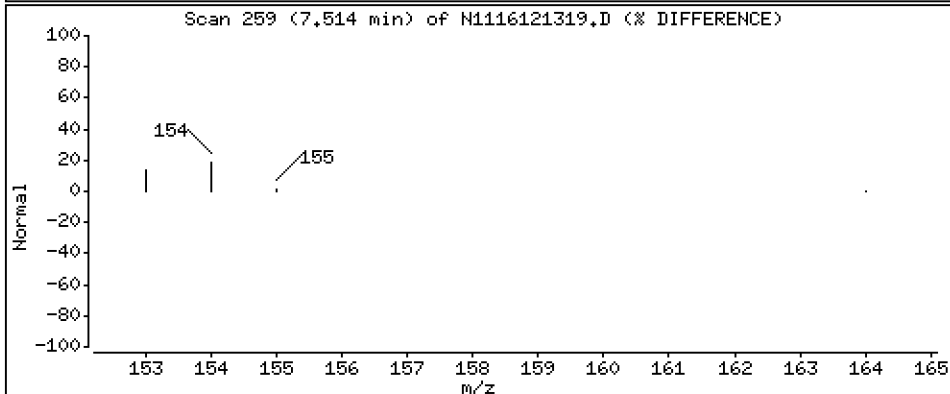
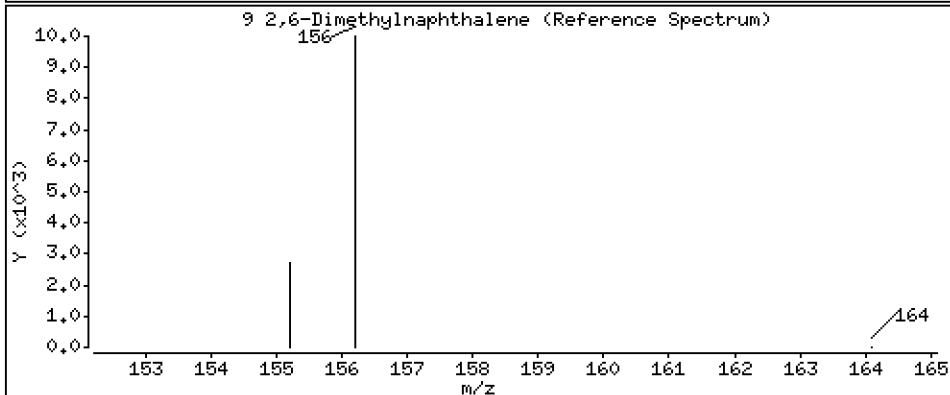
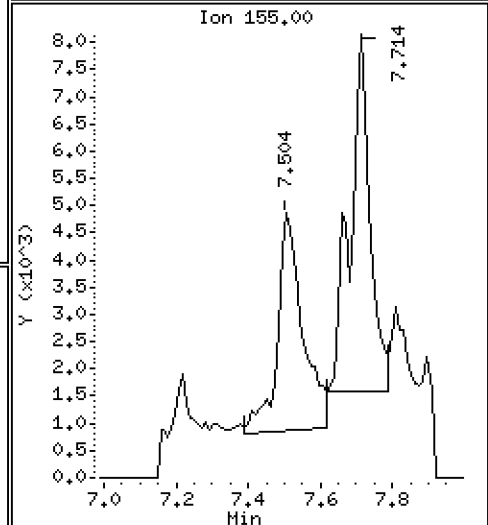
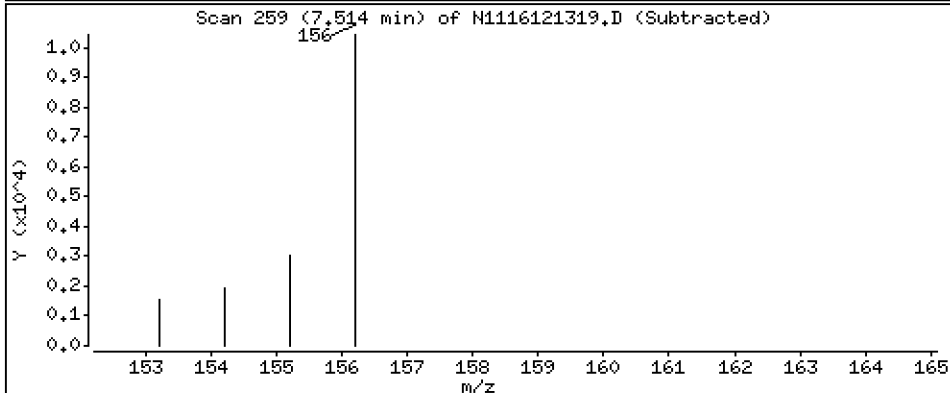
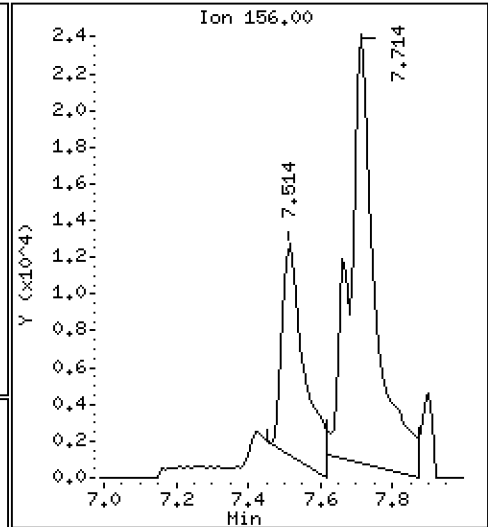
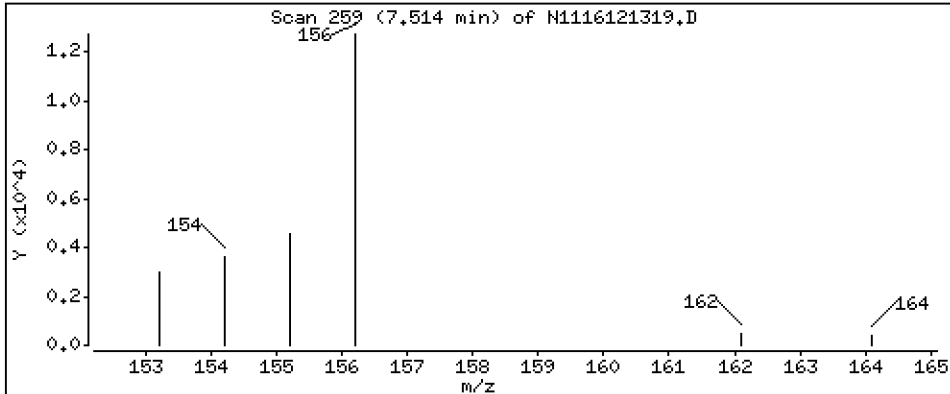
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 200 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

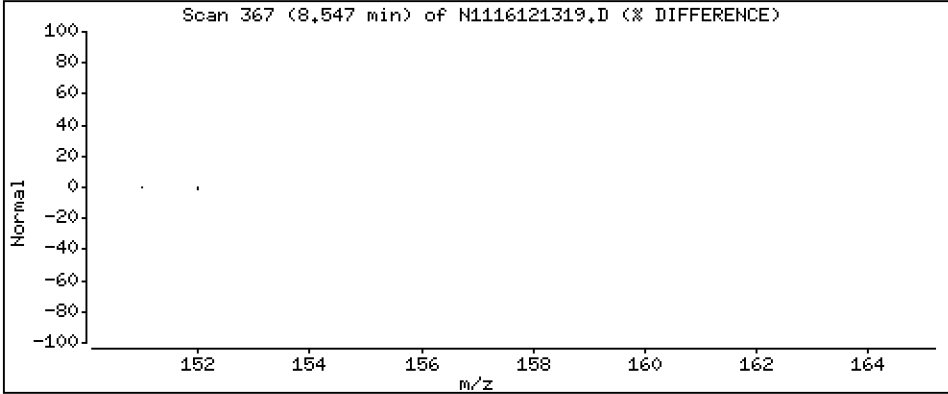
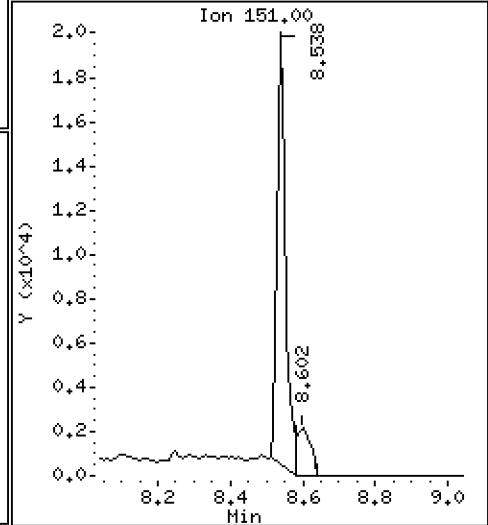
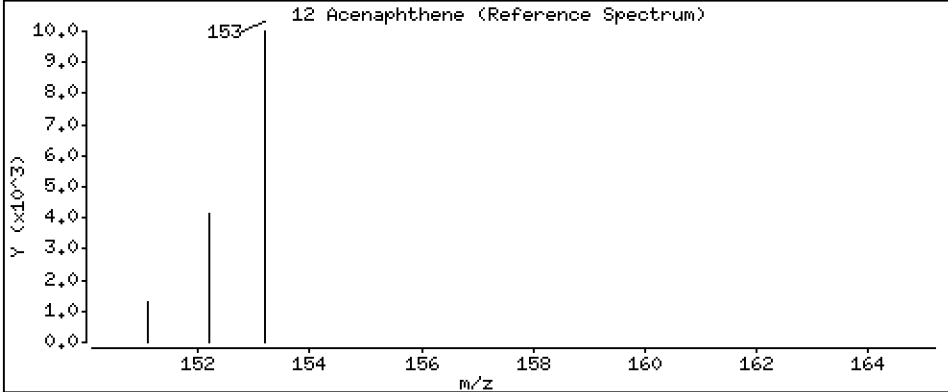
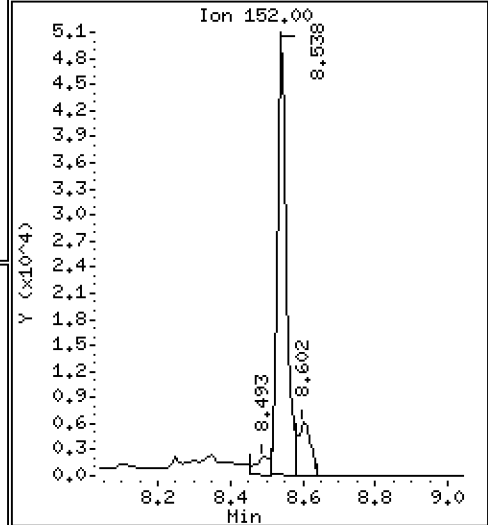
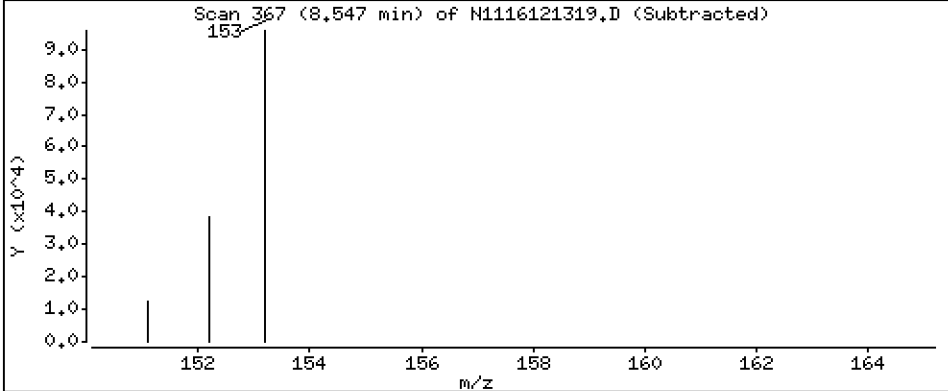
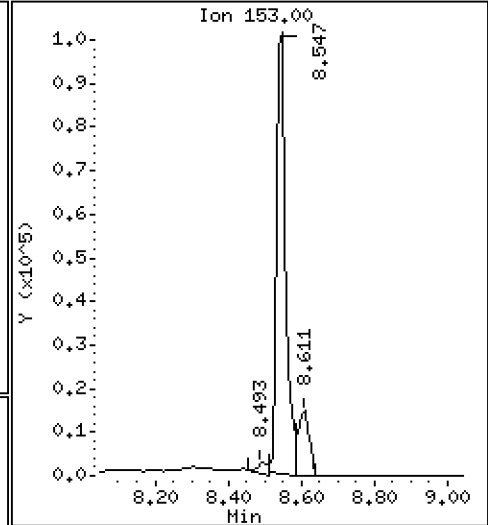
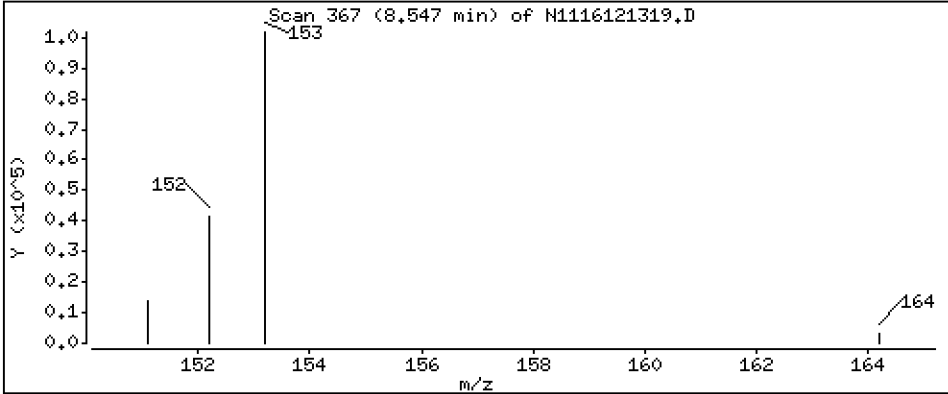
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 885 ng/mL

12 Acenaphthene



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

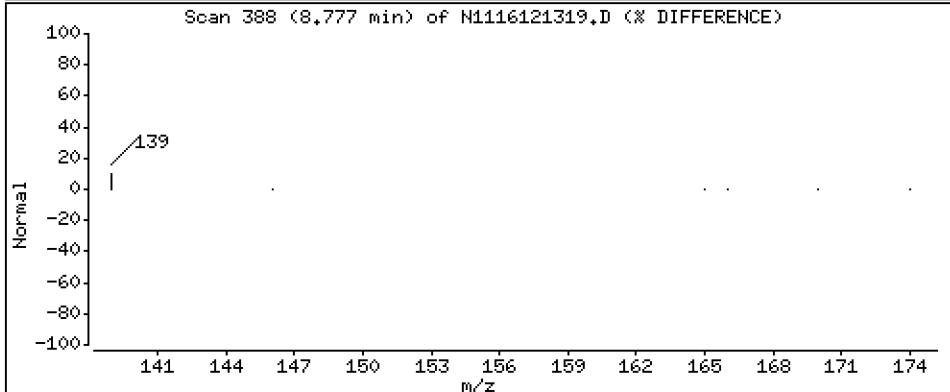
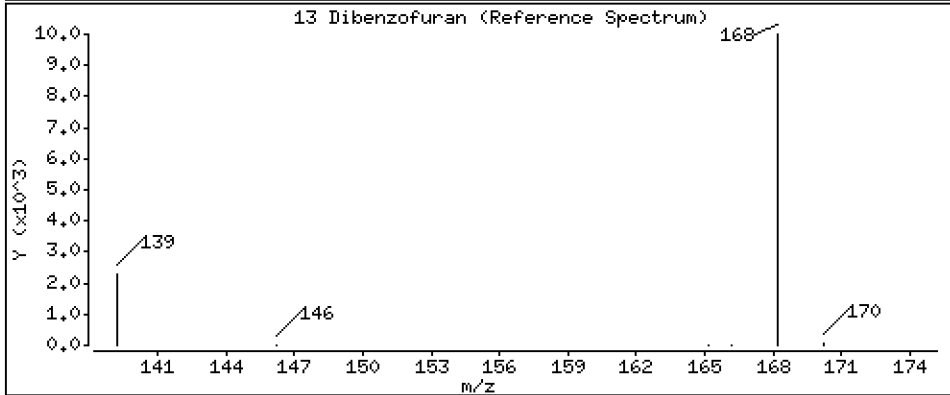
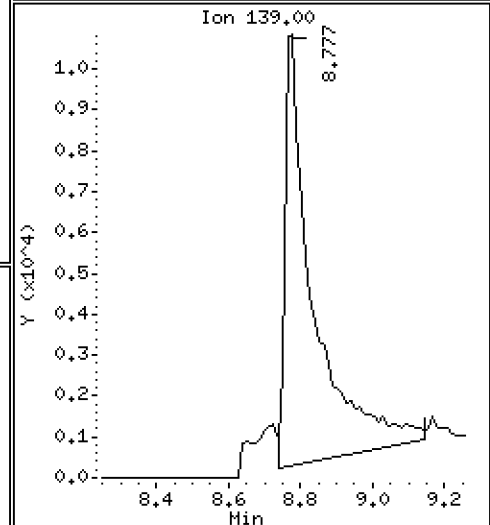
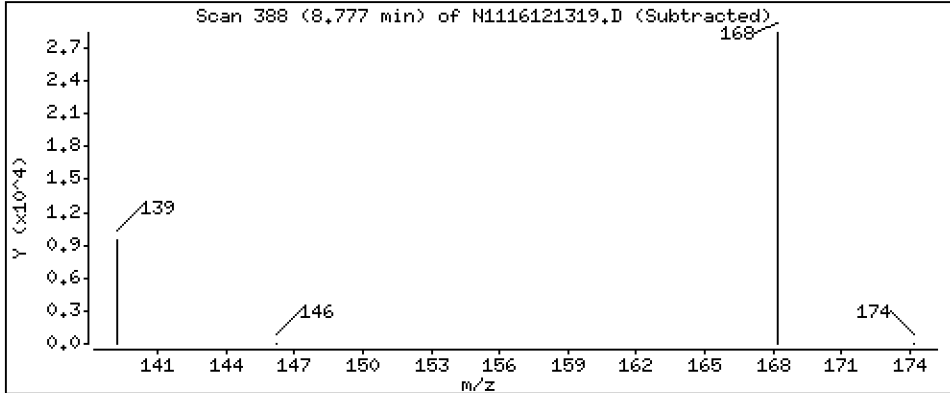
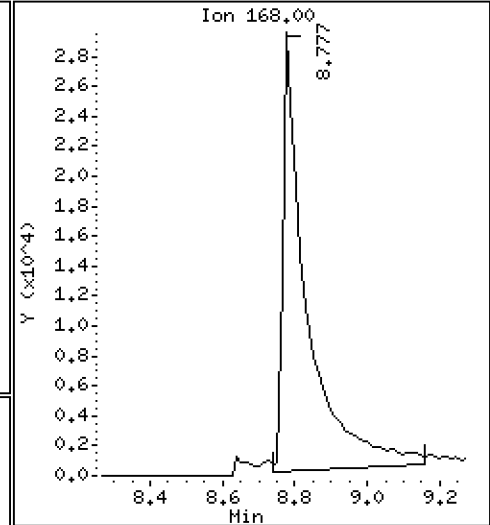
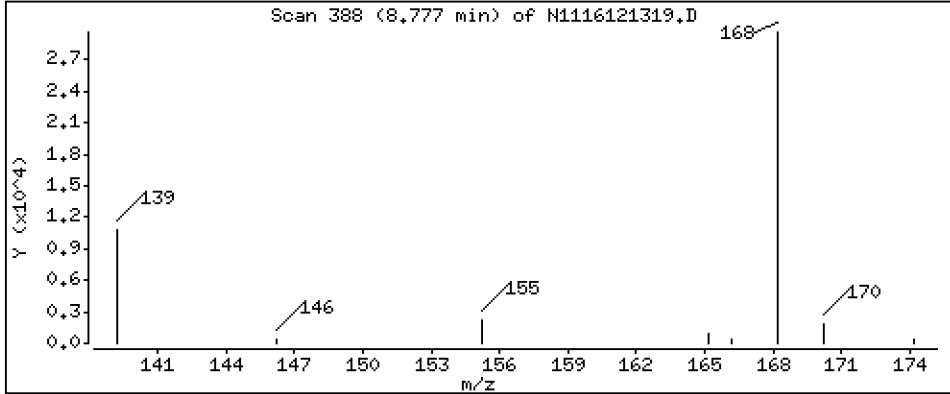
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 465 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

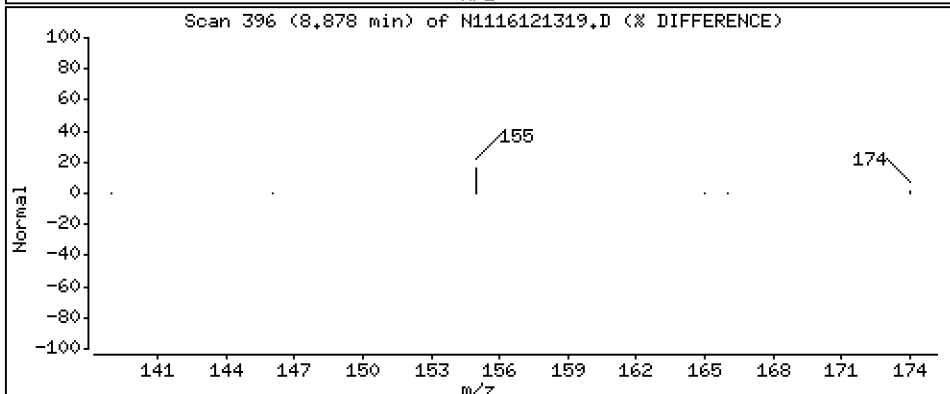
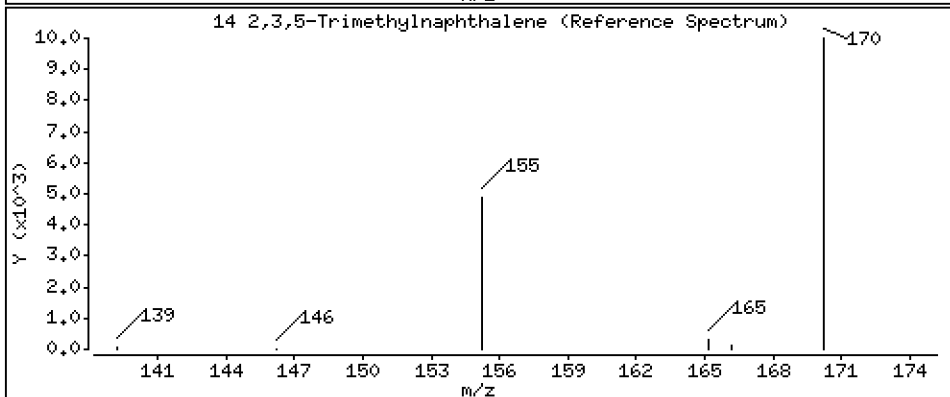
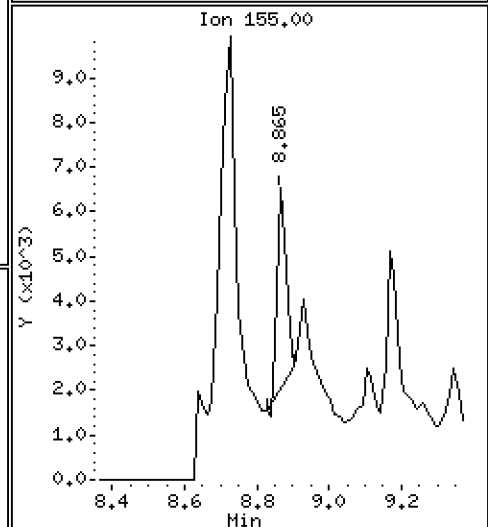
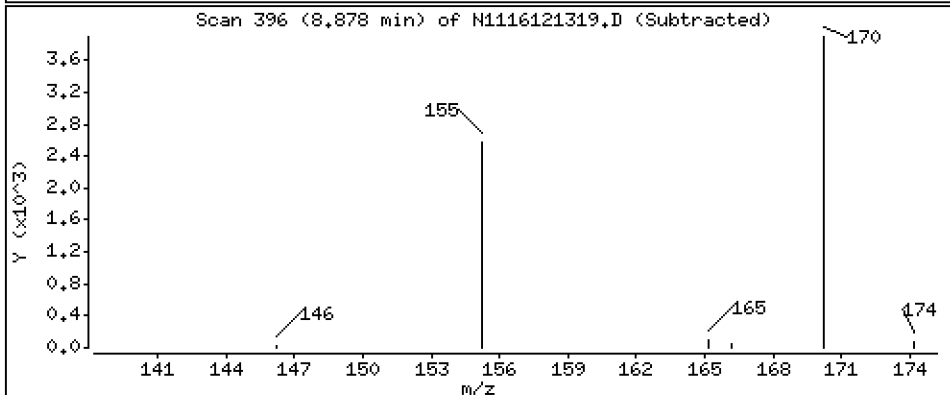
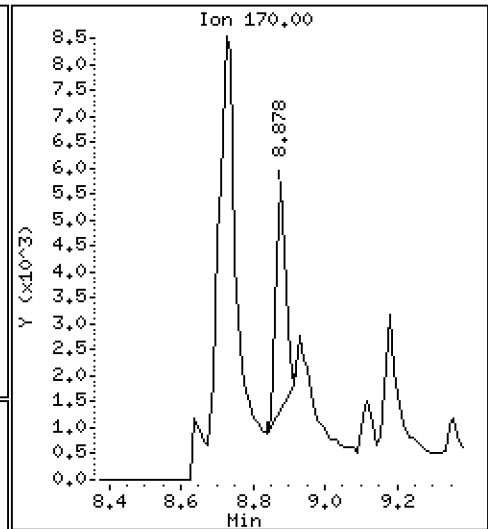
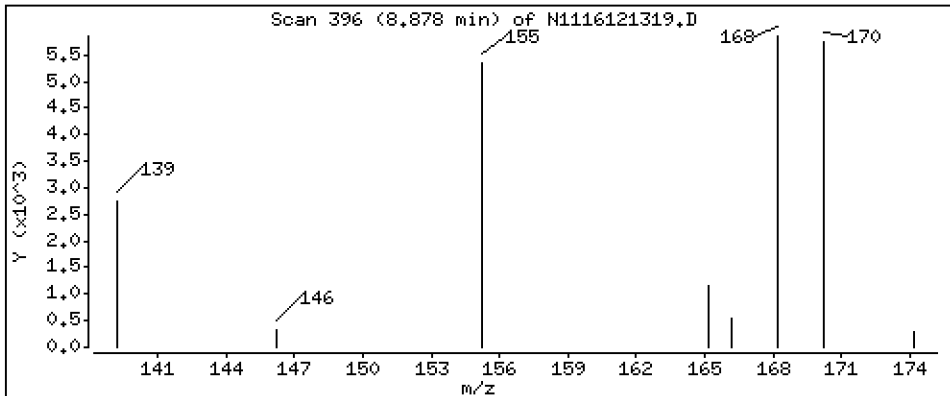
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 44,3 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

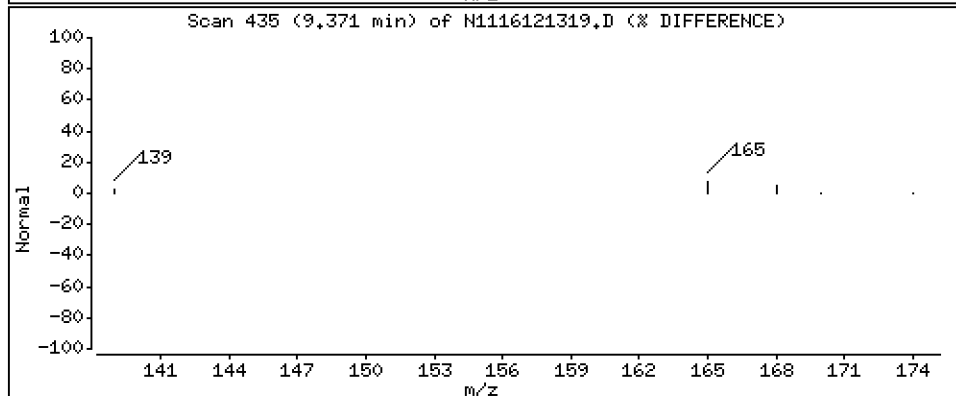
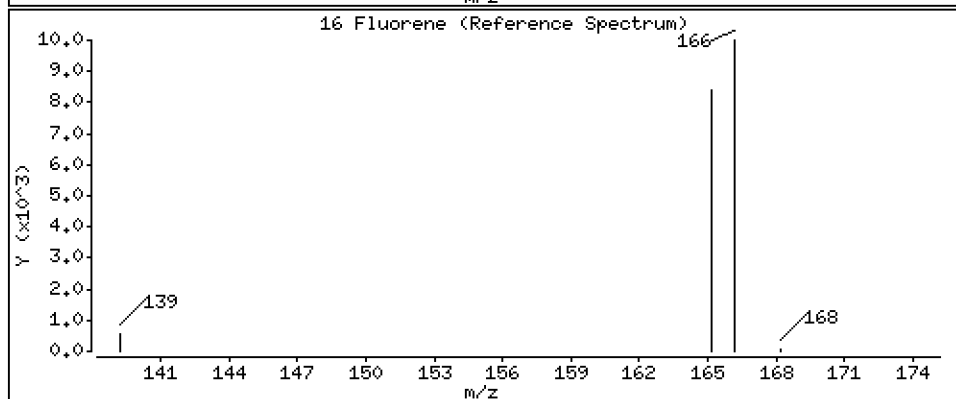
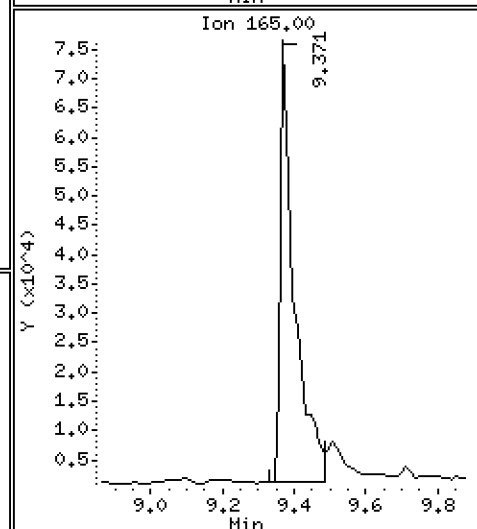
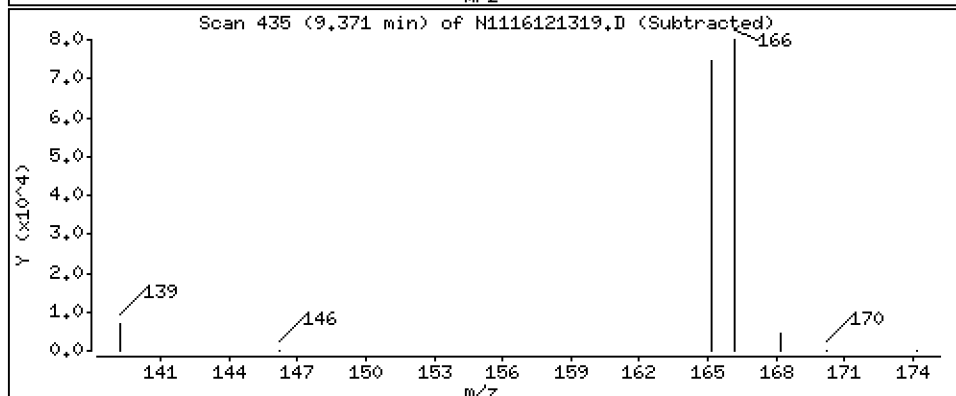
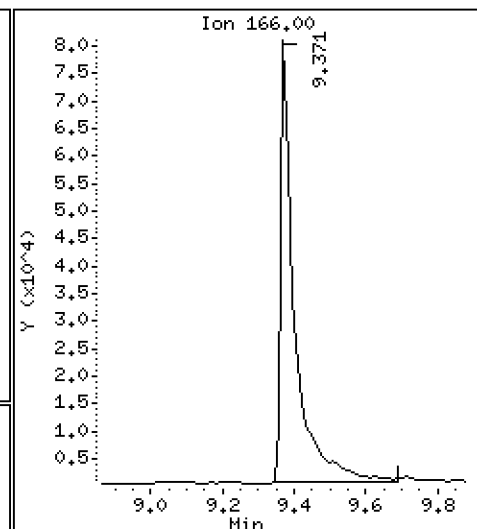
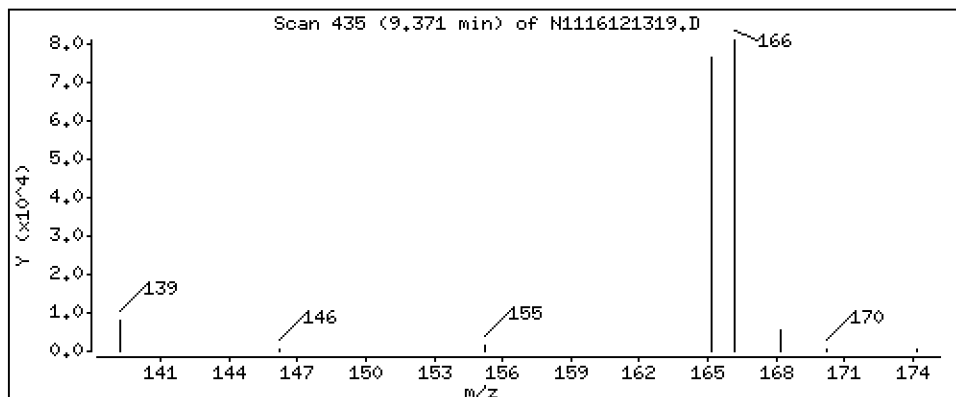
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 947 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

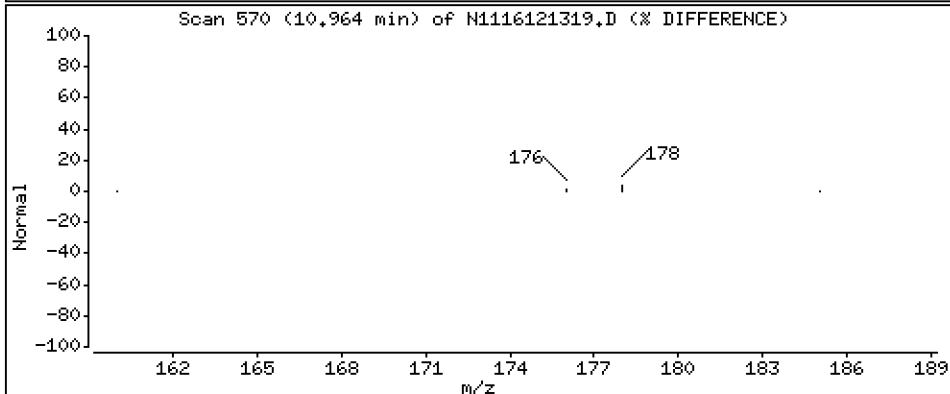
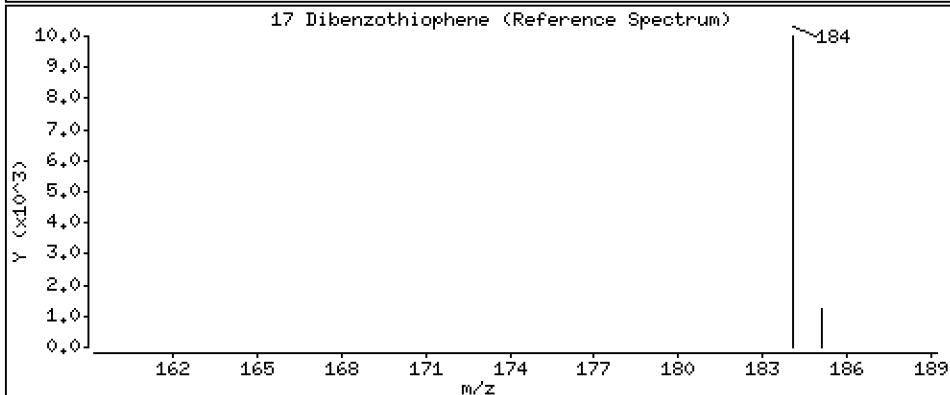
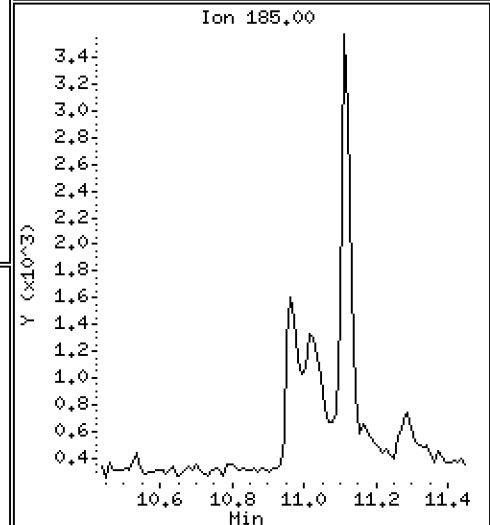
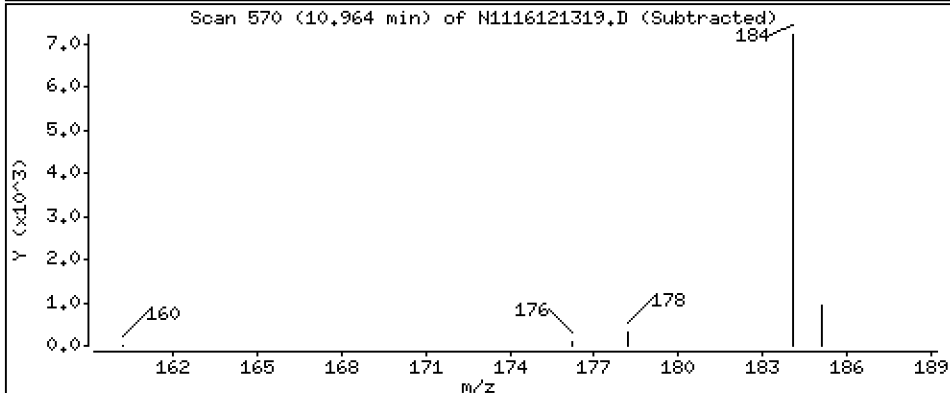
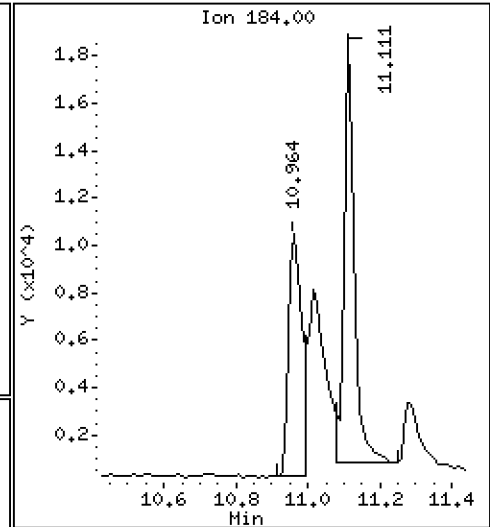
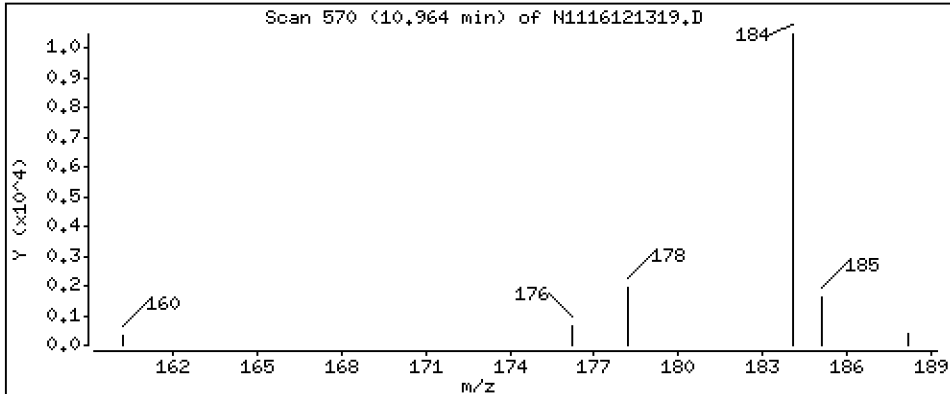
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 97,0 ng/mL

17 Dibenzothiophene



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

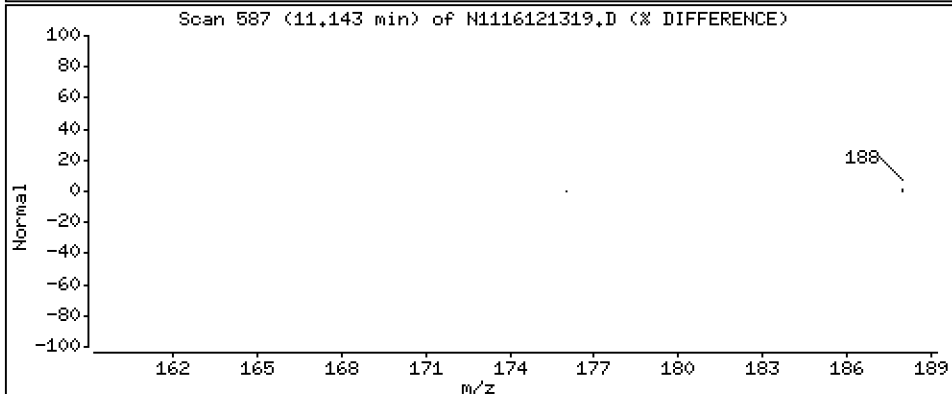
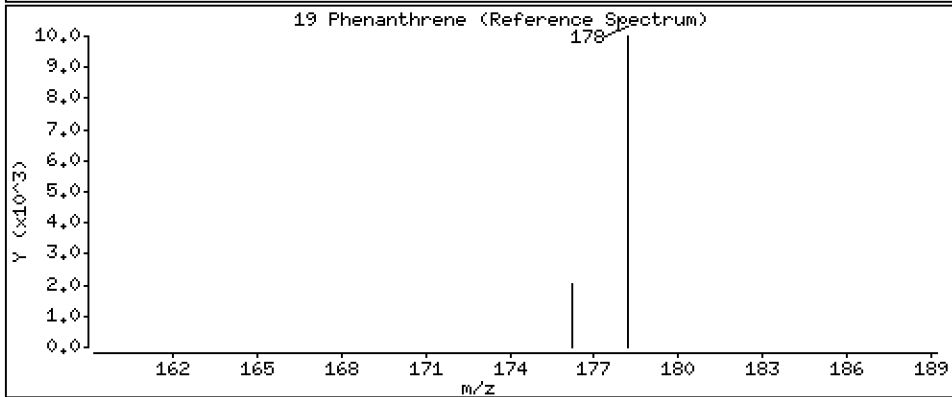
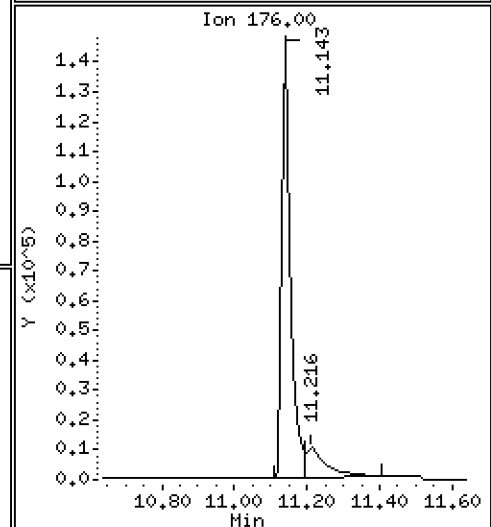
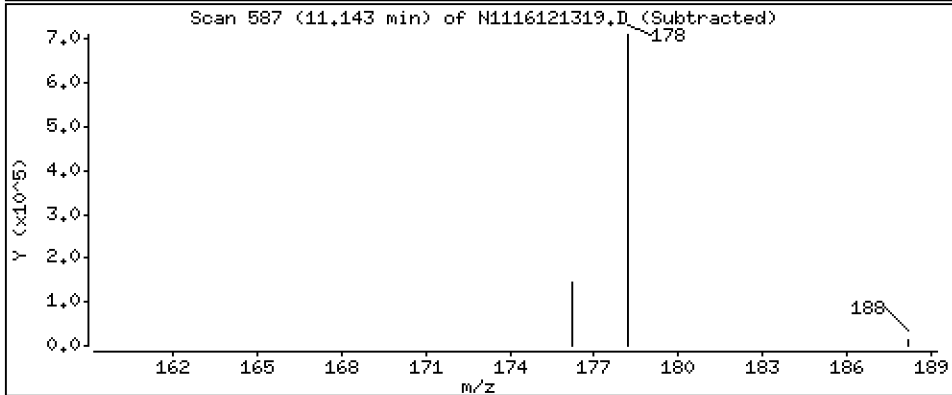
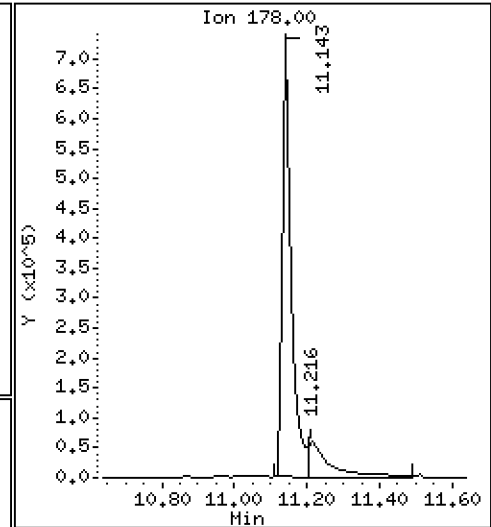
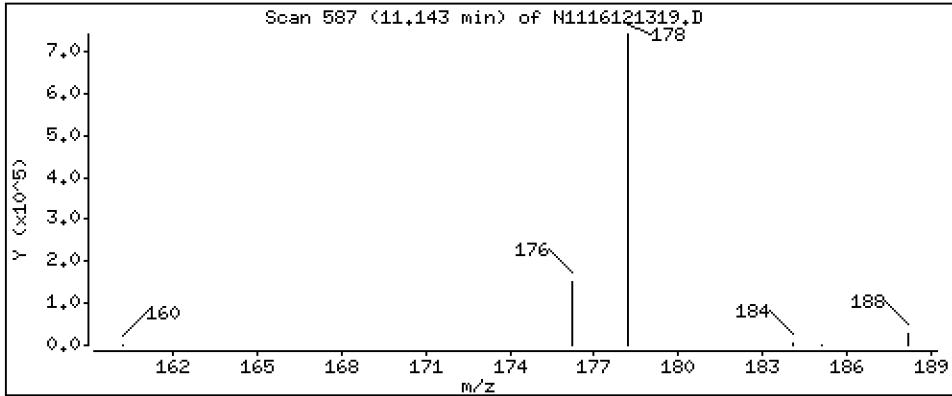
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 3750 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

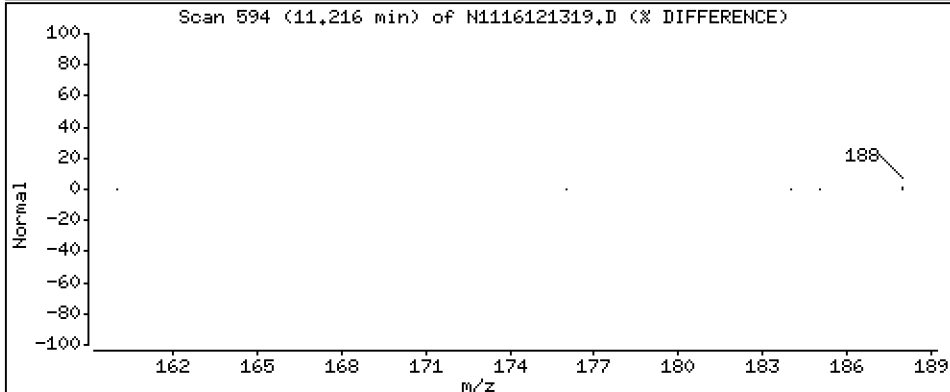
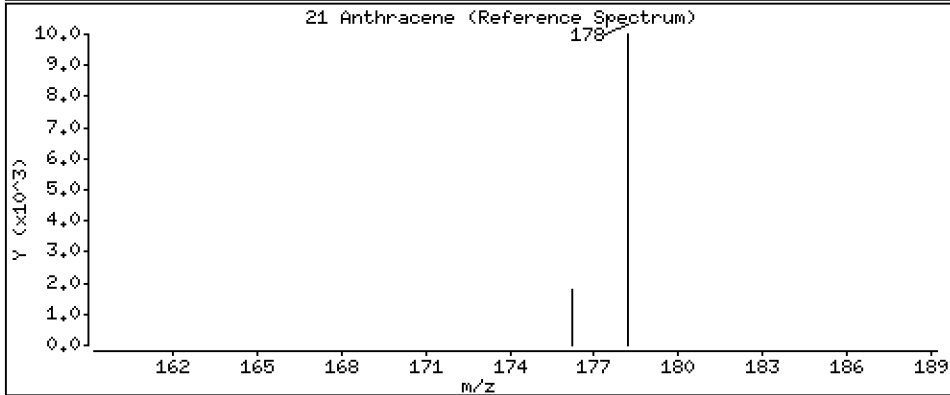
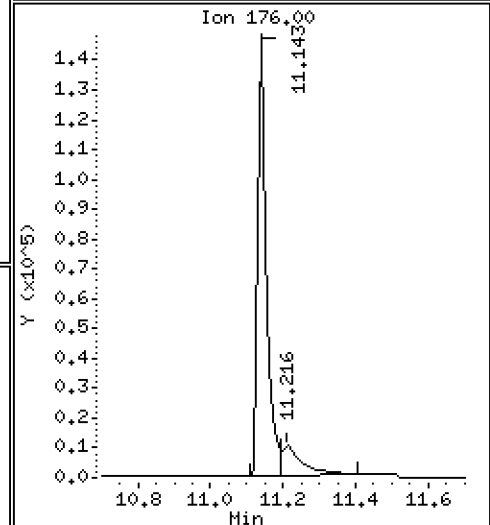
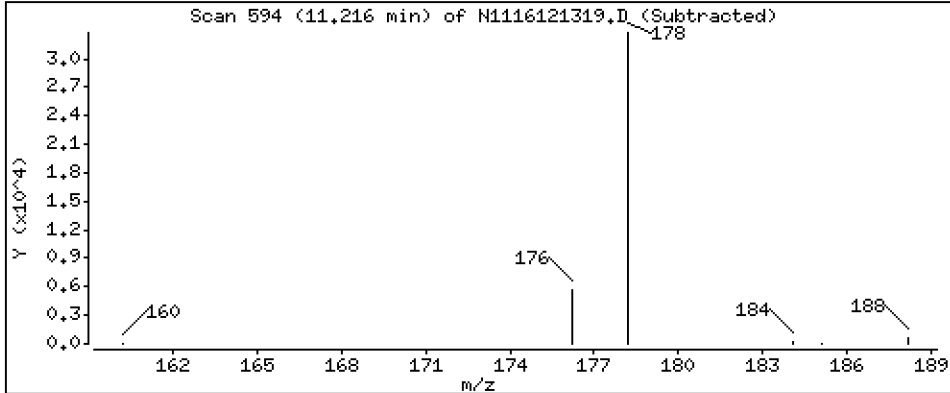
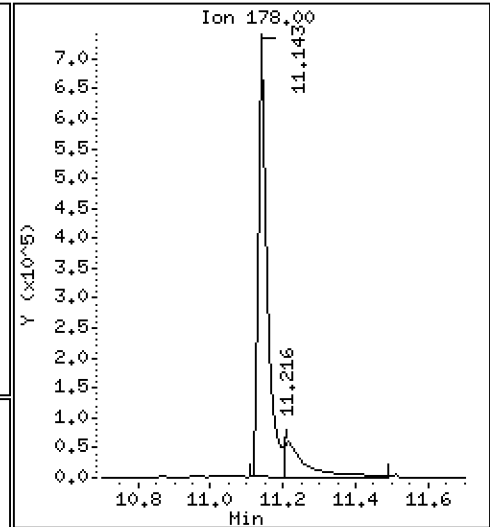
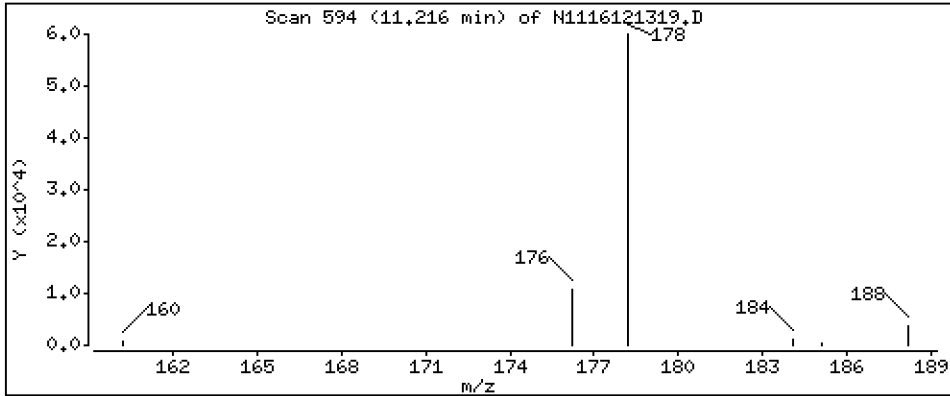
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 815 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

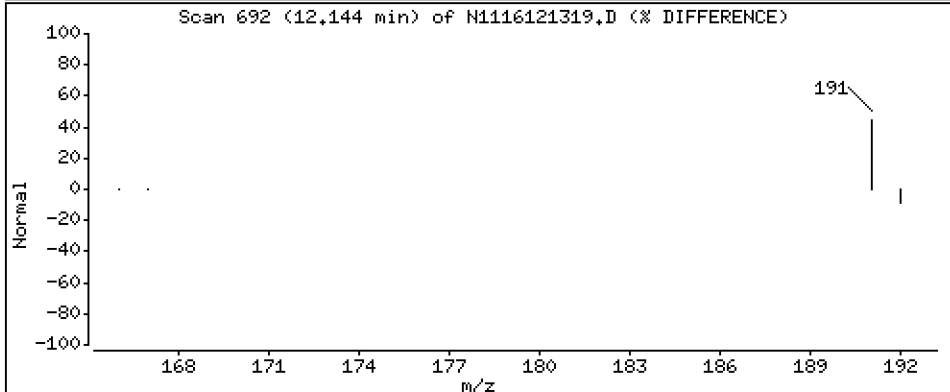
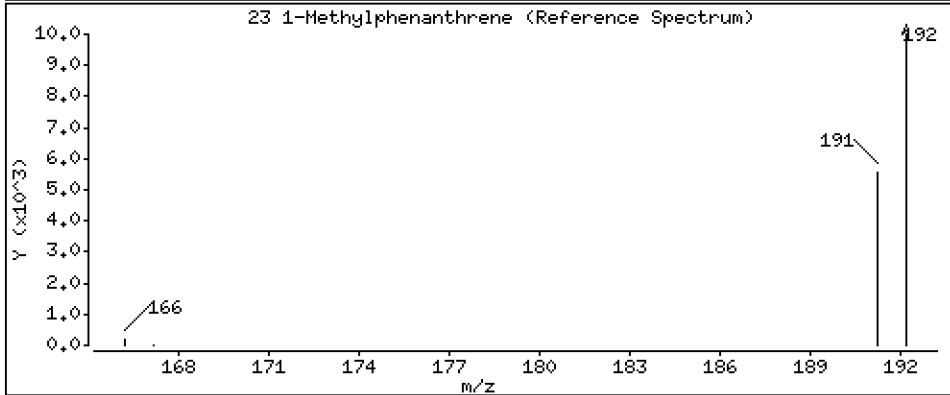
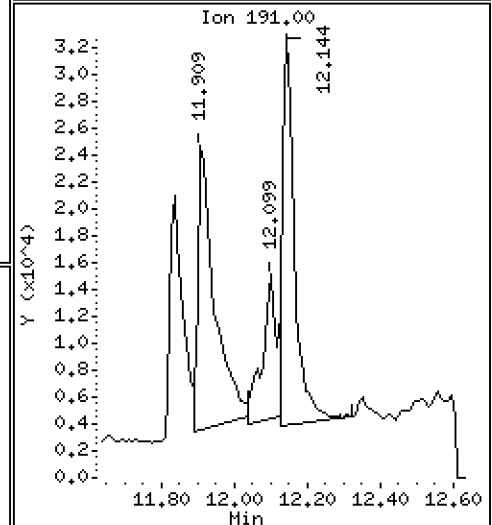
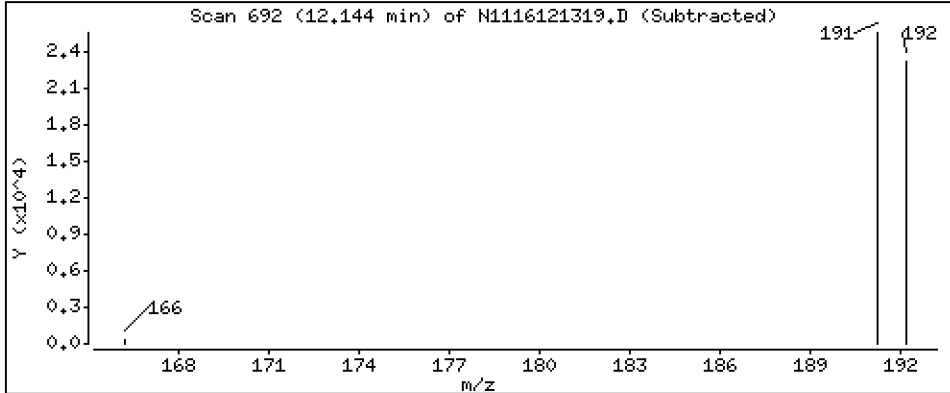
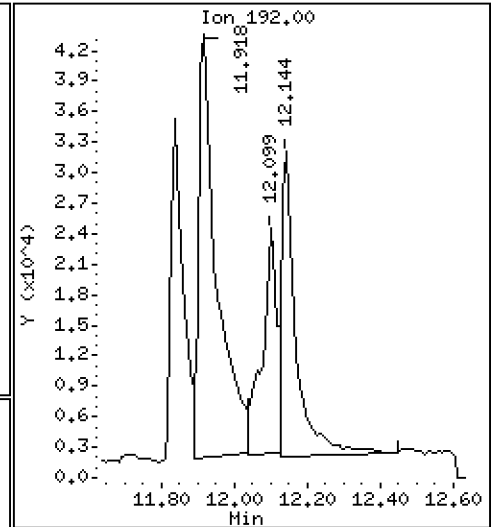
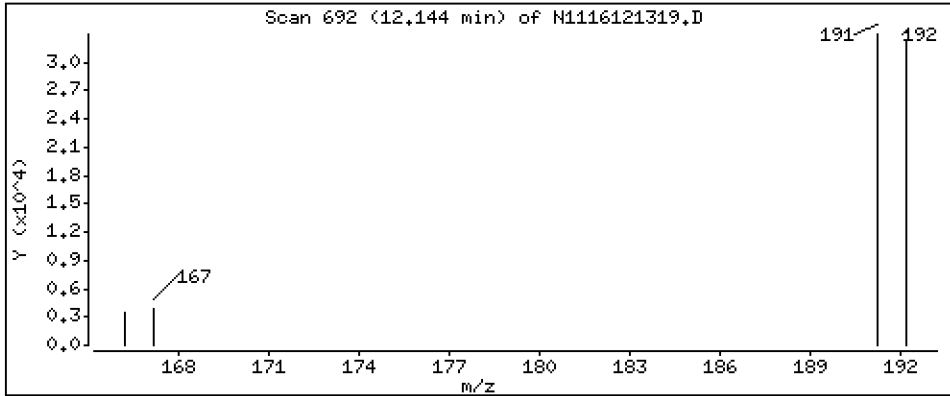
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 287 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

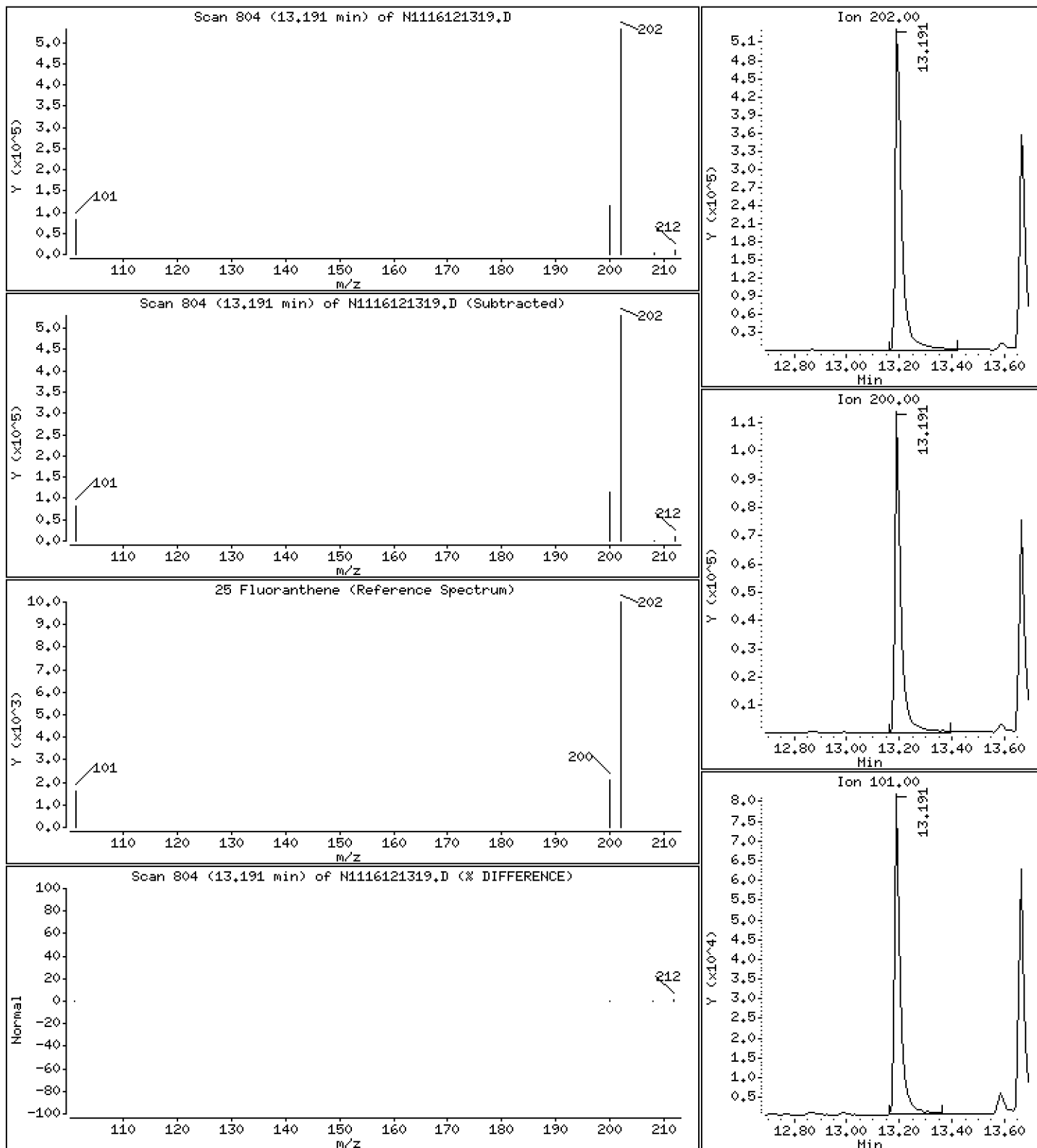
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2890 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

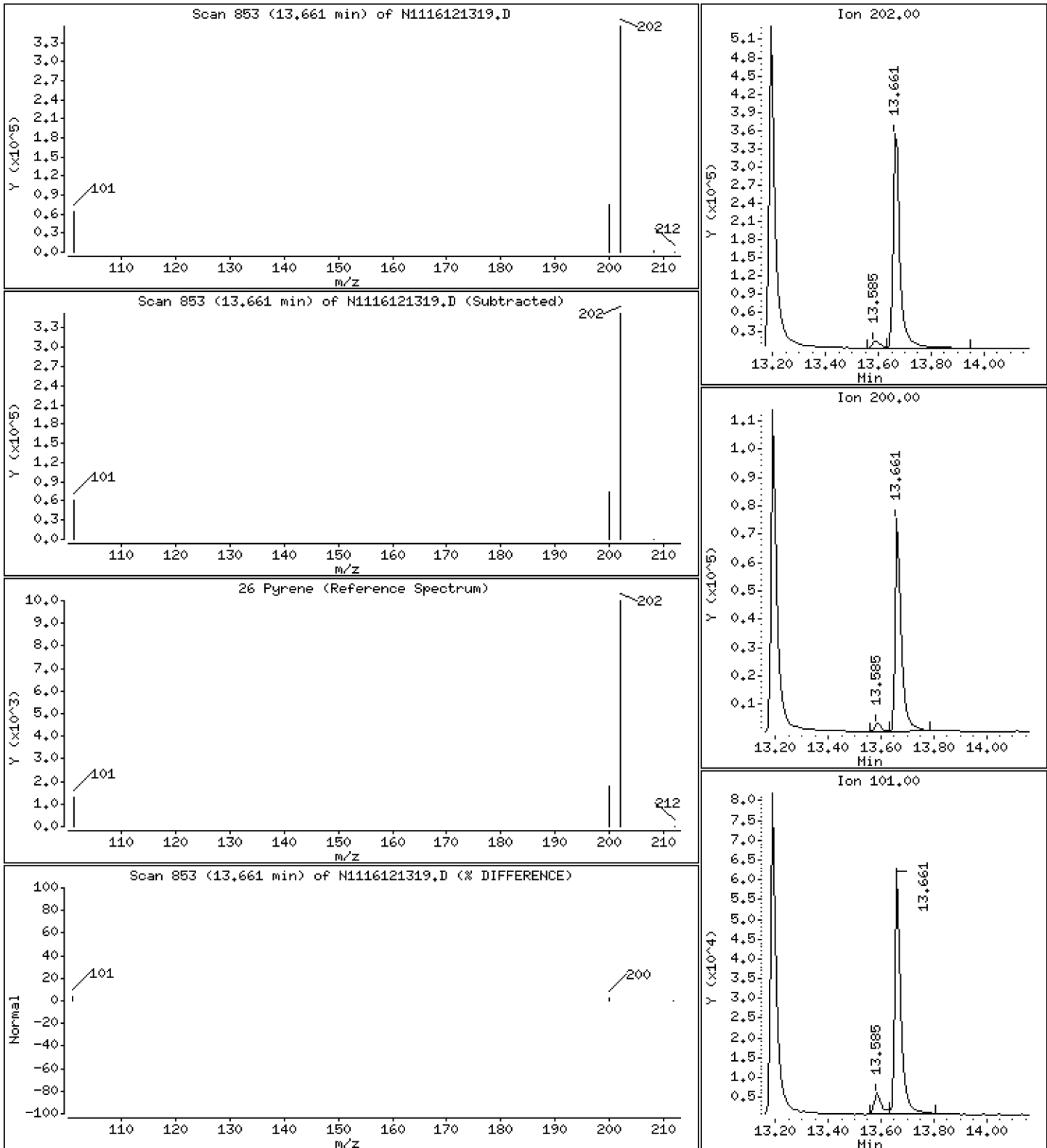
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 2060 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

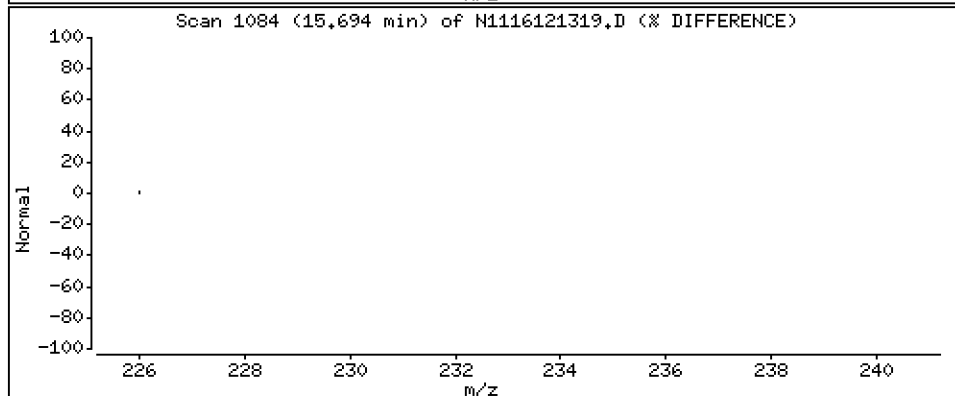
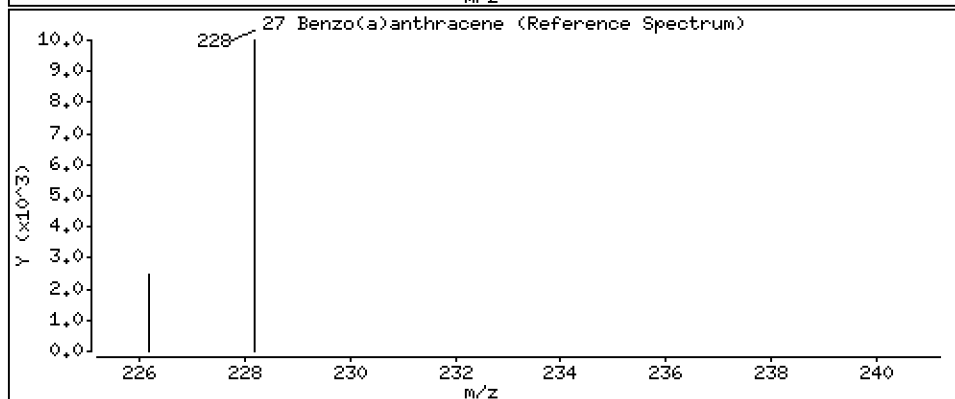
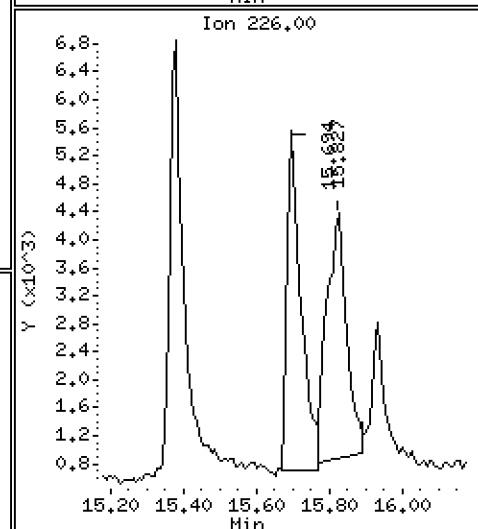
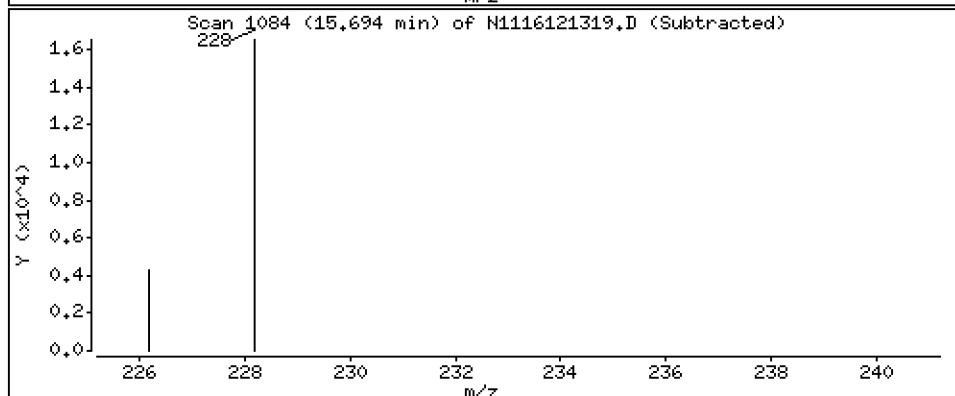
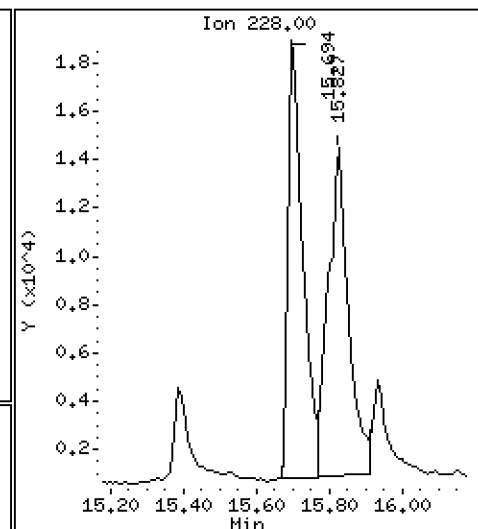
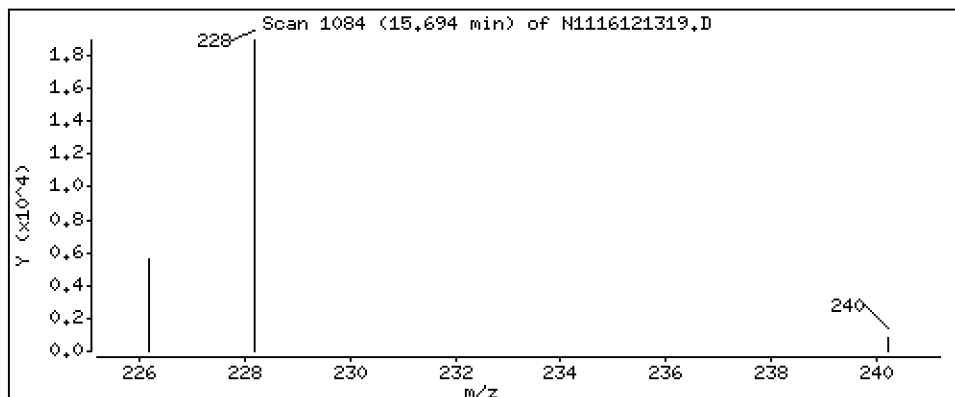
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 187 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

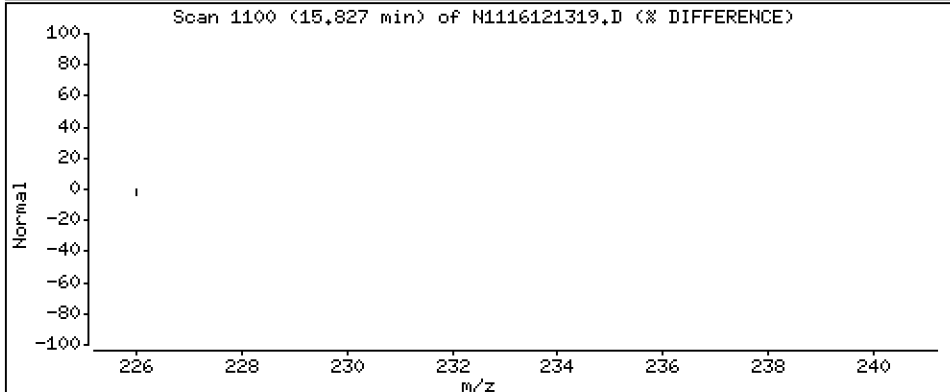
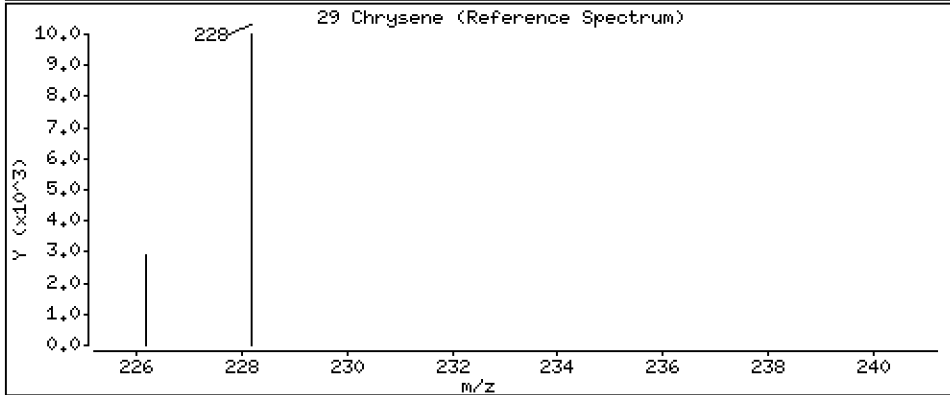
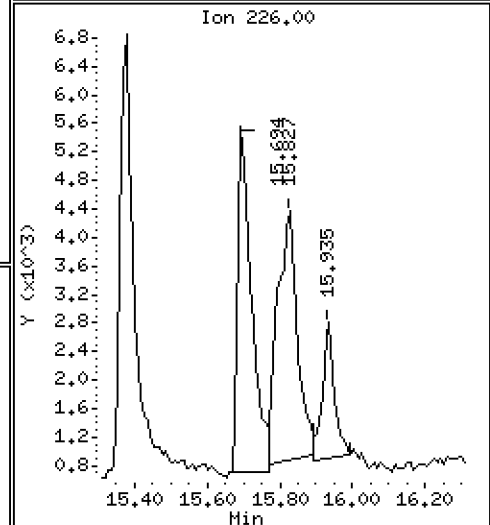
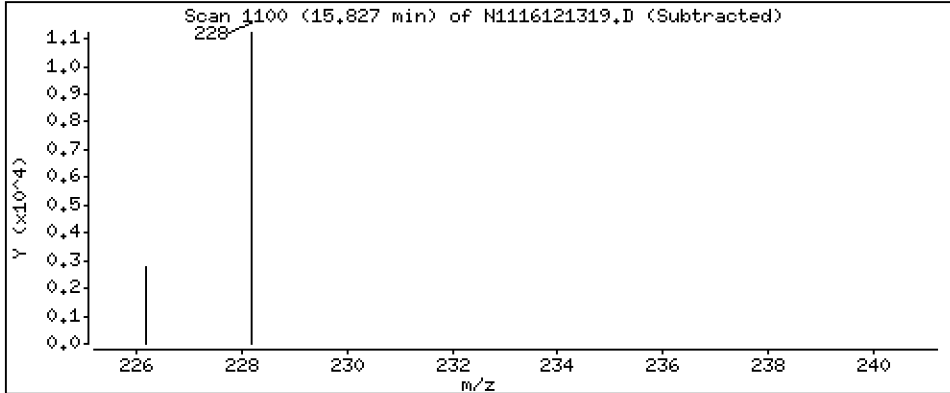
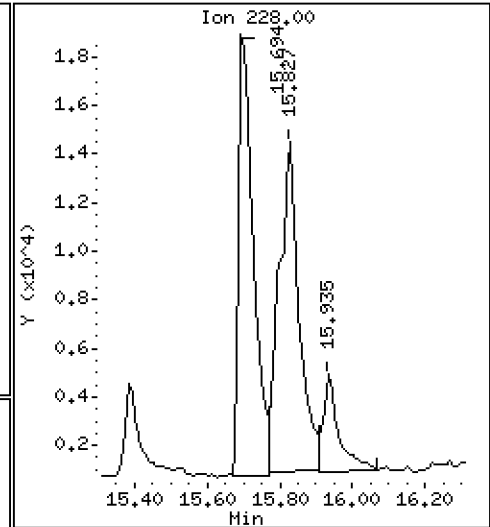
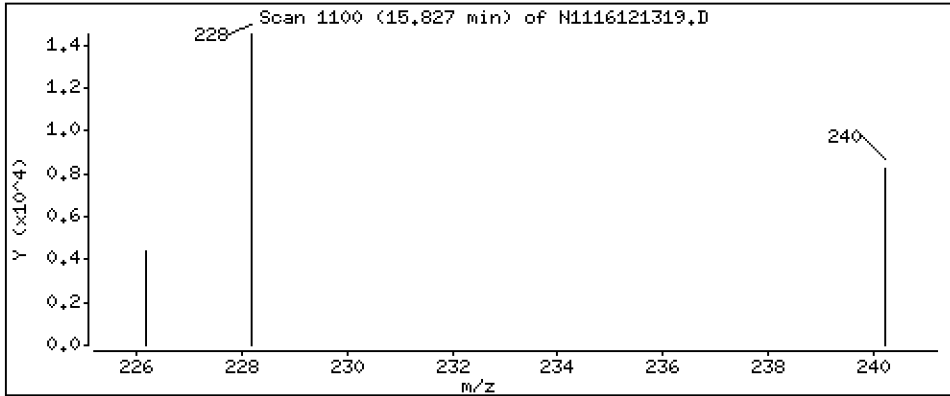
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 176 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

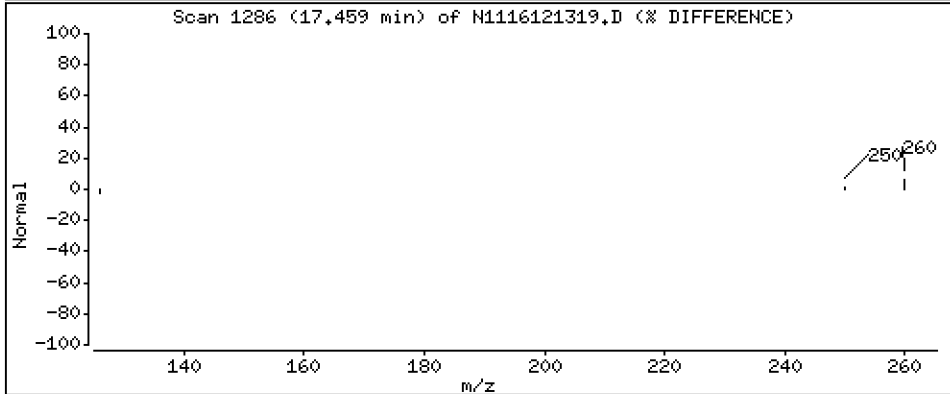
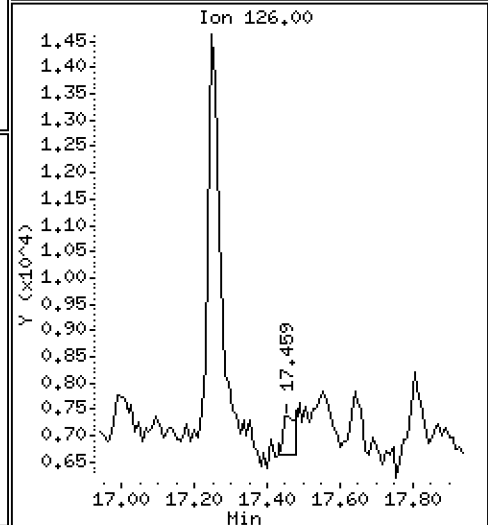
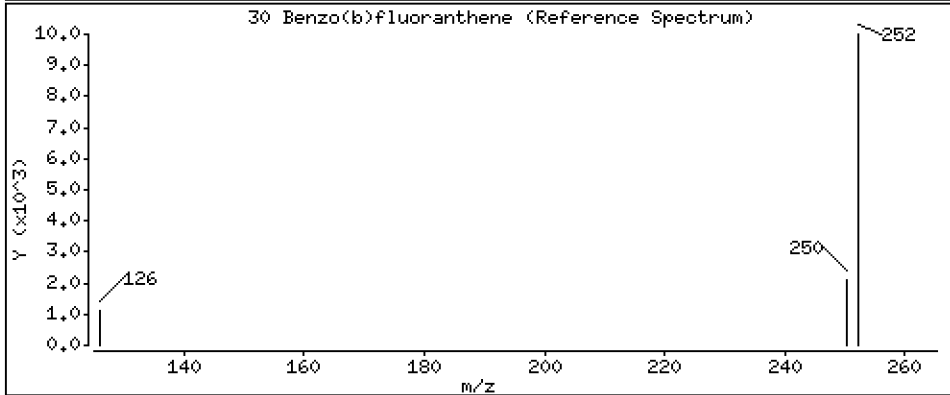
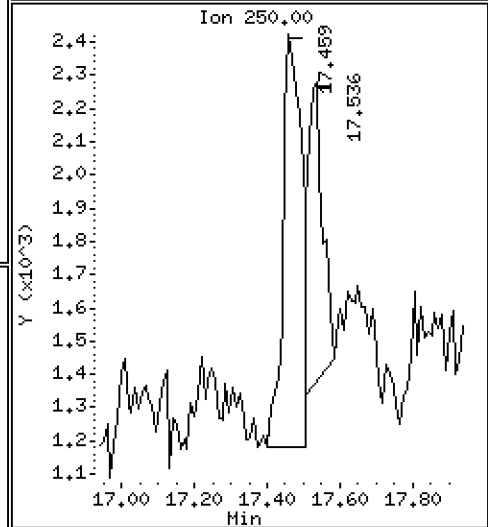
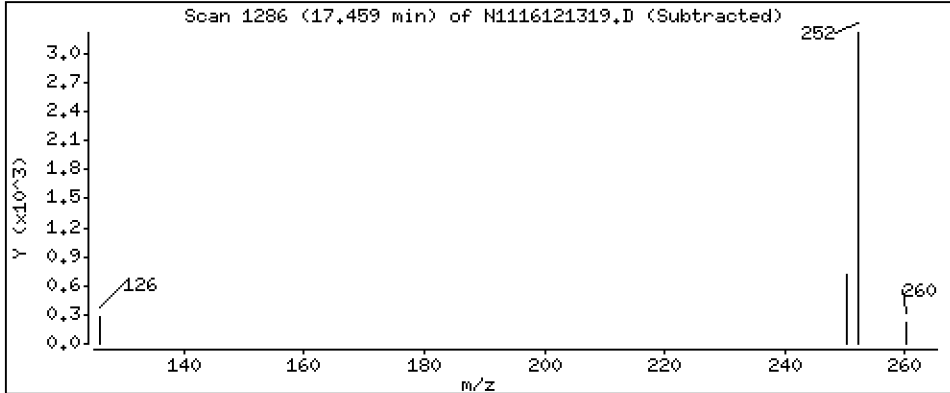
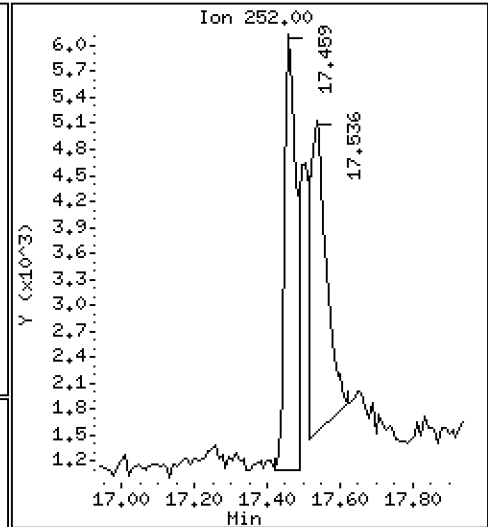
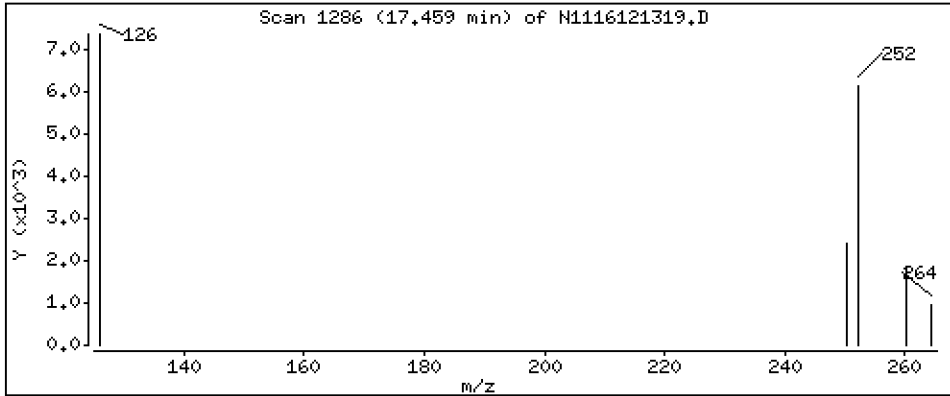
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 41,4 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

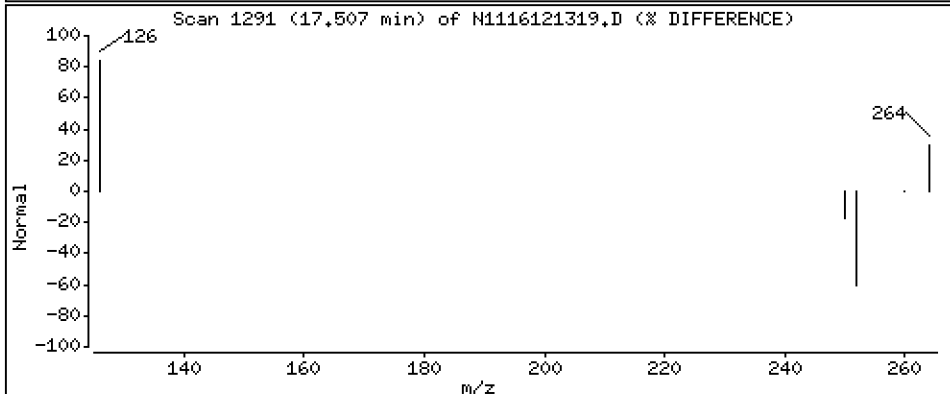
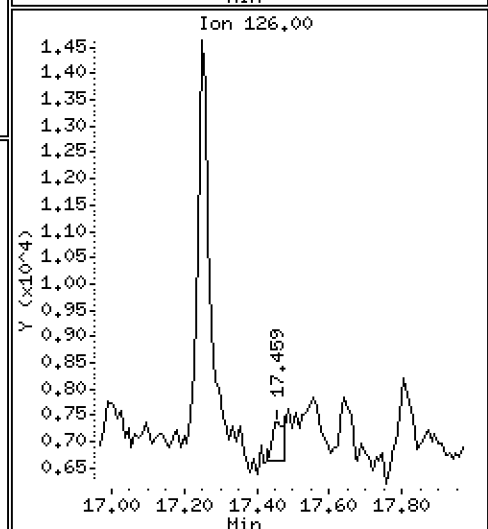
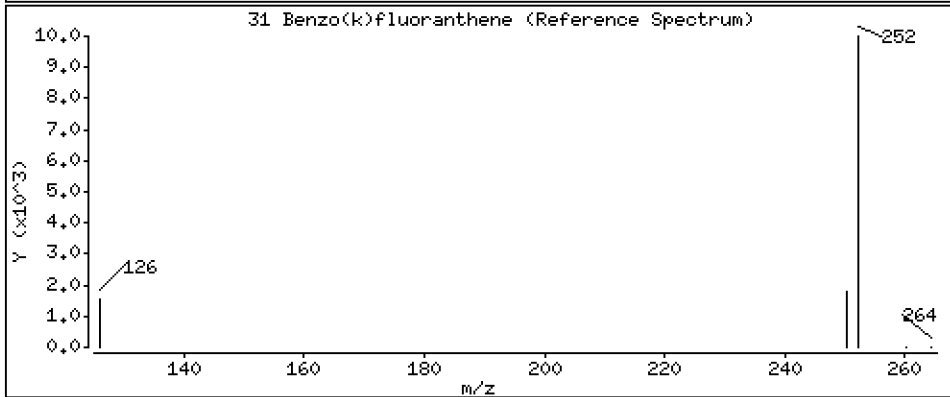
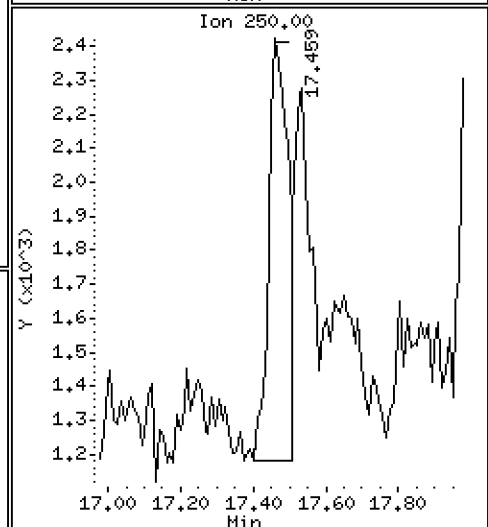
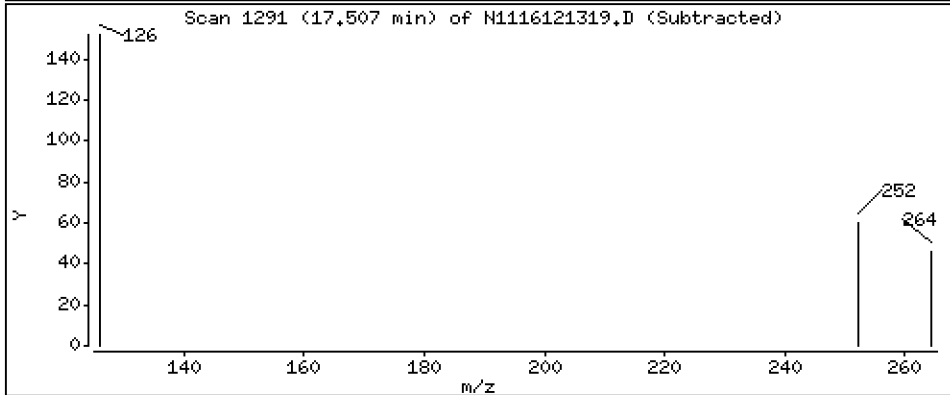
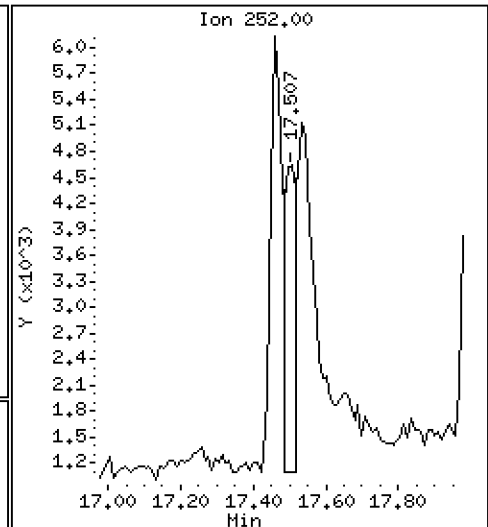
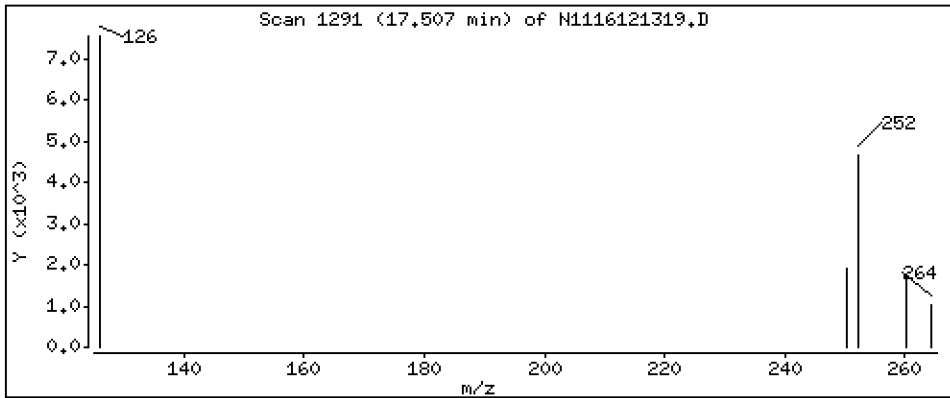
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 25,3 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

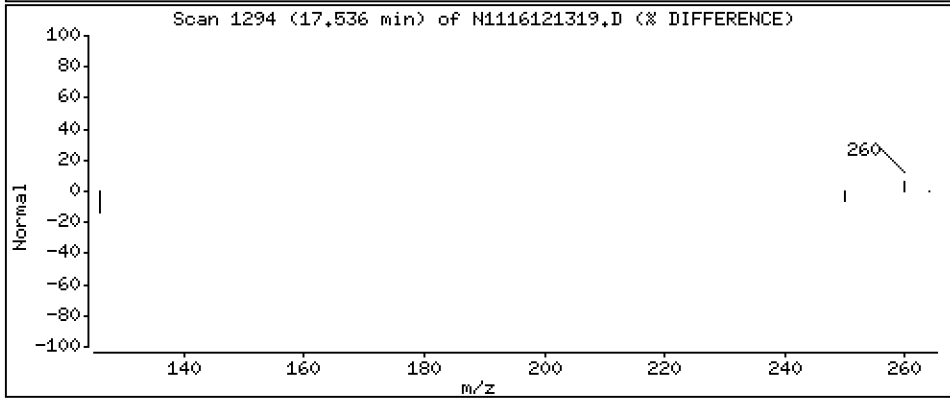
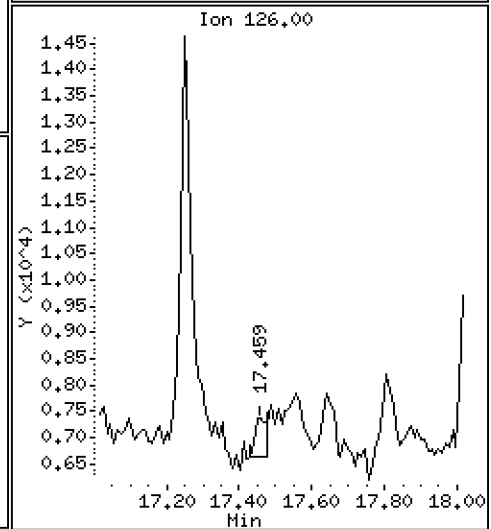
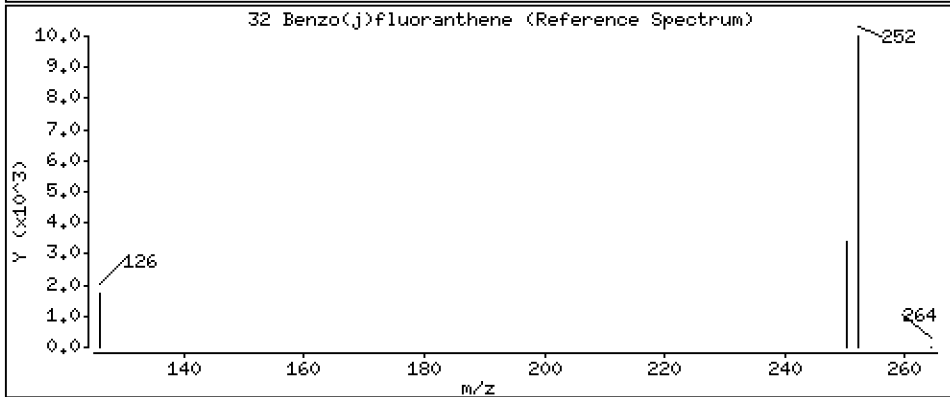
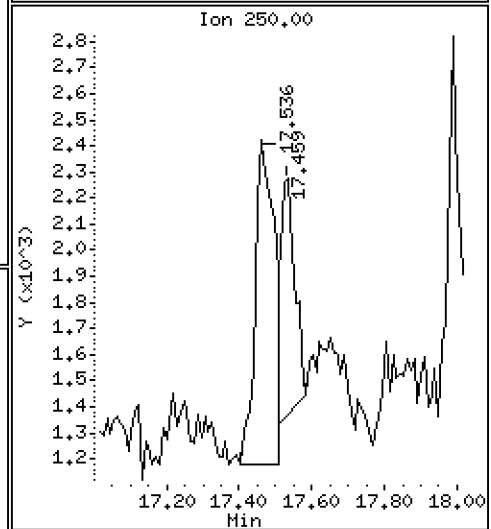
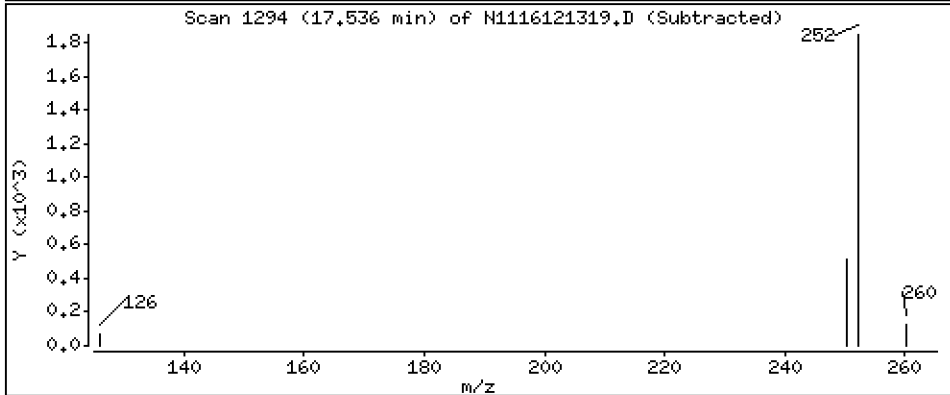
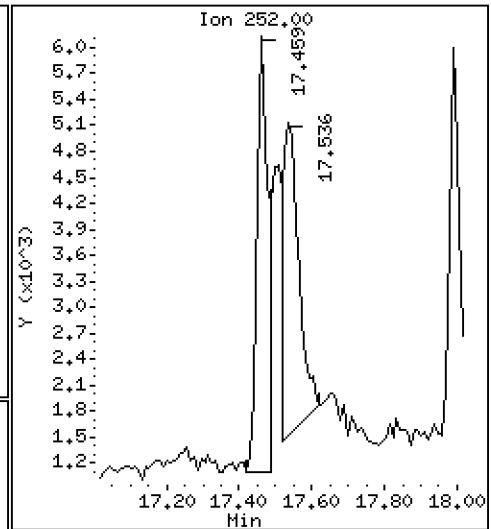
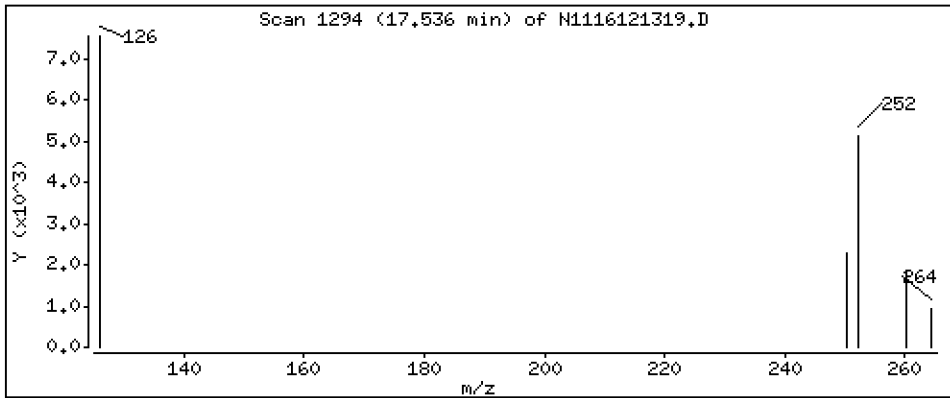
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 40,9 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

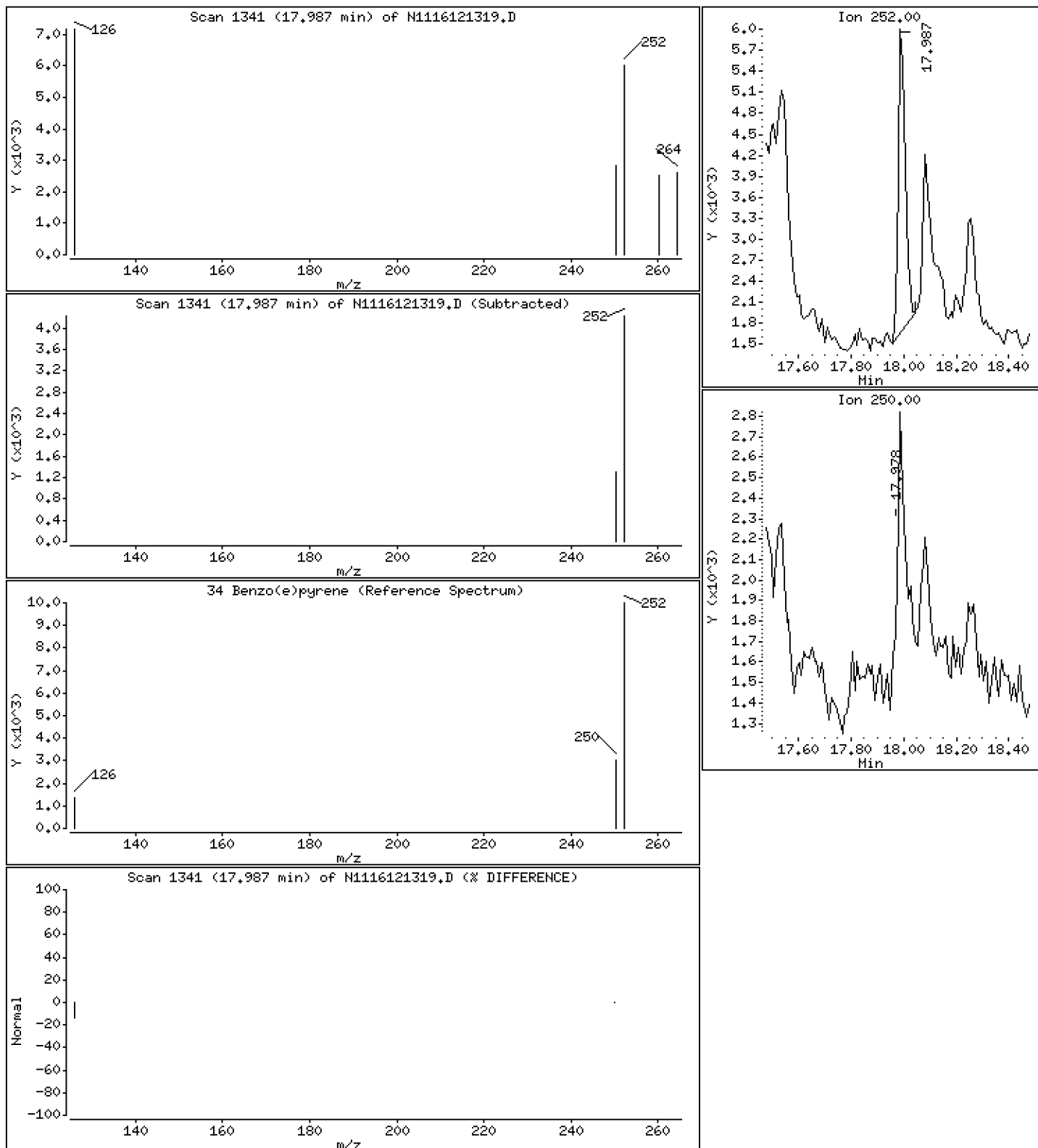
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 30,3 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

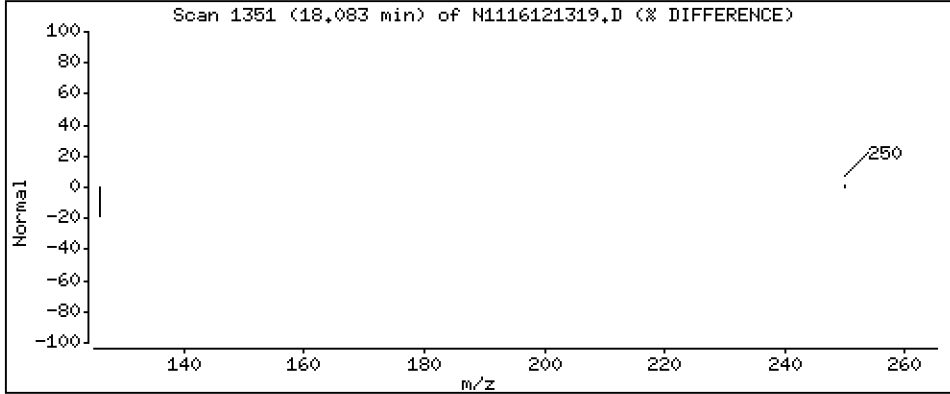
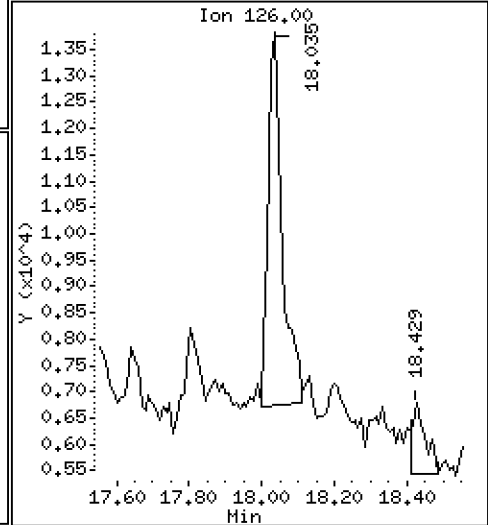
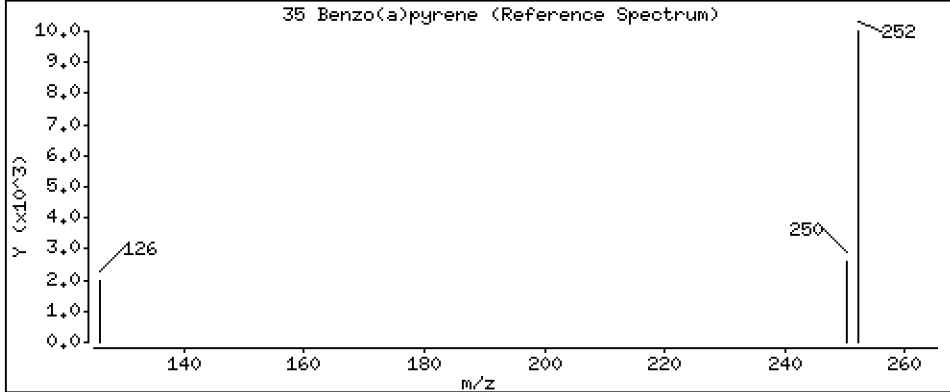
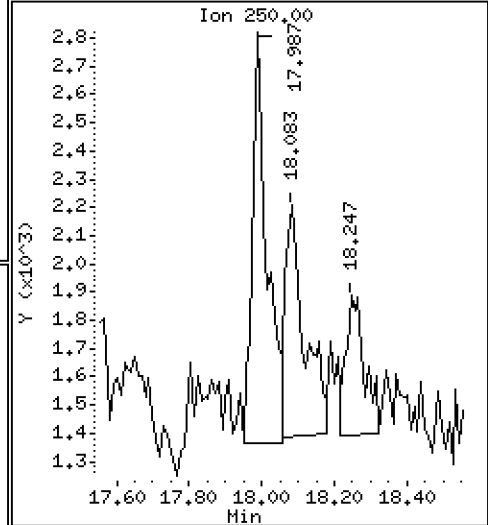
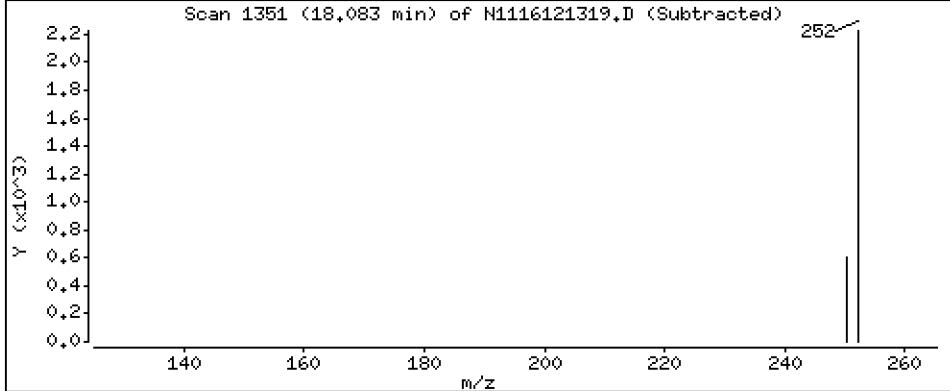
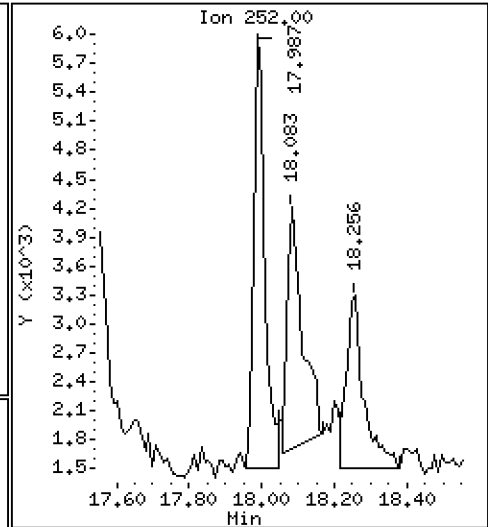
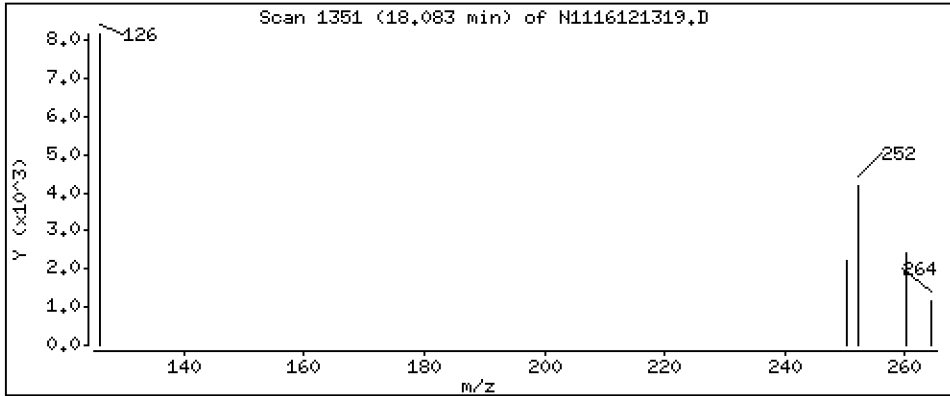
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 28,0 ng/mL



Date : 13-DEC-2016 21:04

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-03,5

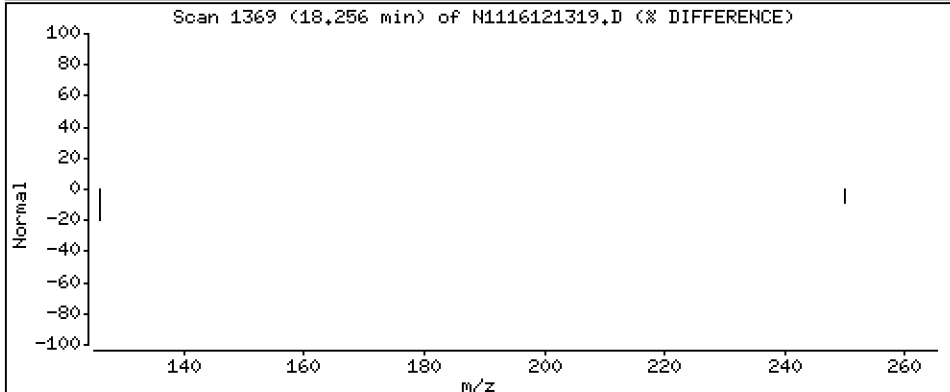
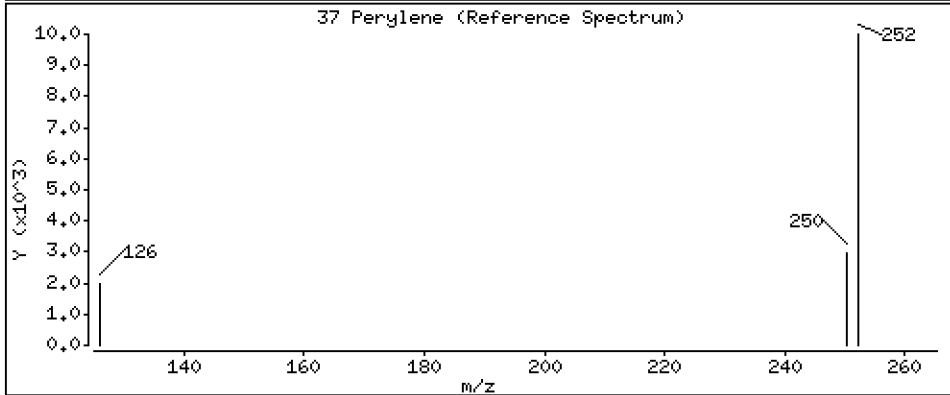
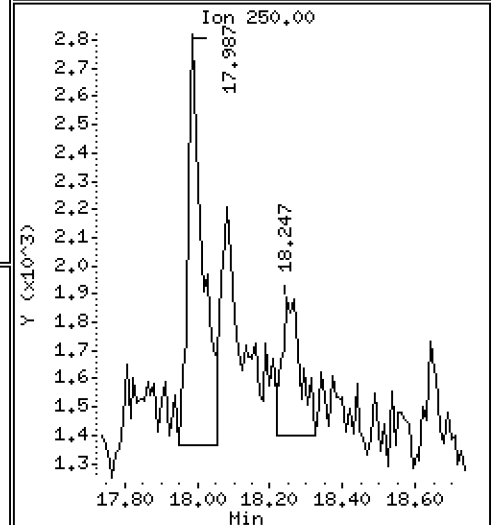
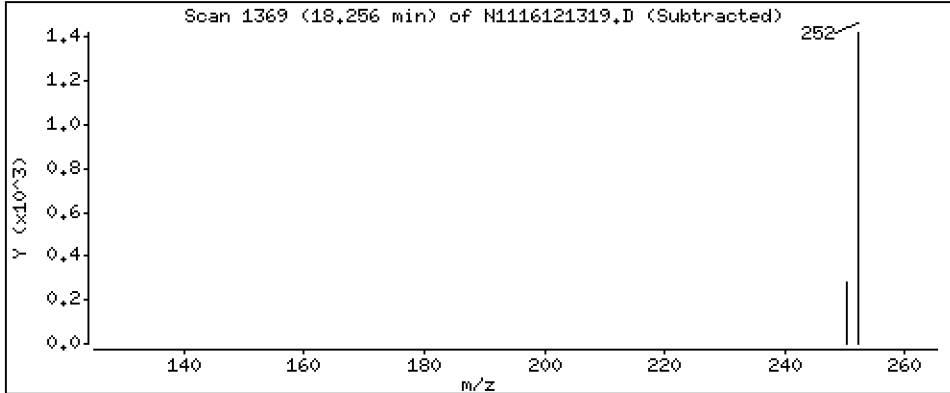
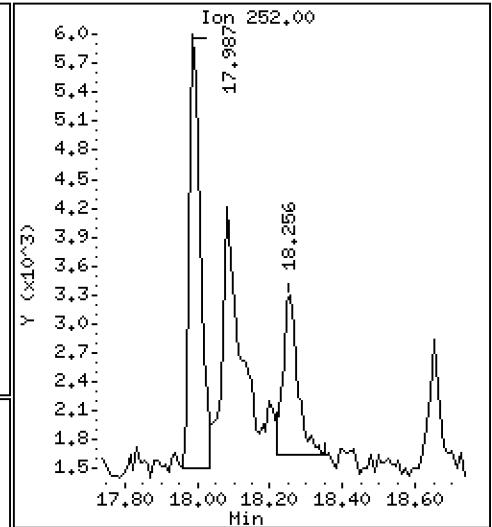
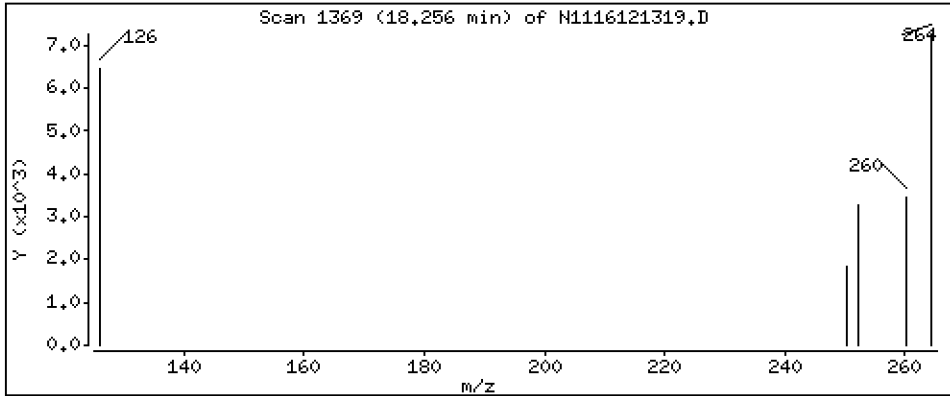
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 18,4 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121319.D
 Lab Smp Id: 16K0321-03
 Inj Date : 13-DEC-2016 21:04 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-03,5
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 14
 Dil Factor: 5.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.565	5.556	(1.000)	283110	200.000	
2 Naphthalene	128		5.601	5.583	(1.006)	25184	17.3015	86.5
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.547	6.516	(1.176)	22303	20.8957	104
5 2-Methylnaphthalene	142		6.600	6.568	(1.186)	45691	37.3876	187
6 1-Methylnaphthalene	142		6.810	6.810	(1.224)	46350	38.6697	193
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		7.482	7.440	(0.882)	19604	10.9347	54.7
9 2,6-Dimethylnaphthalene	156		7.514	7.493	(0.886)	51575	40.0330	200
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.484	8.483	(1.000)	160729	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	180423	177.092	885
13 Dibenzofuran	168		8.776	8.763	(1.034)	134518	92.9097	465
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	7969	8.85361	44.3 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.370	9.370	(1.105)	211785	189.335	947
17 Dibenzothiophene	184		10.963	10.932	(0.987)	26638	19.3988	97.0
* 18 Phenanthrene-d10	188		11.111	11.110	(1.000)	277818	200.000	
19 Phenanthrene	178		11.142	11.142	(1.003)	1253152	750.936	3750
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.216	11.205	(1.009)	255972	163.006	815
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.144	12.135	(1.093)	84269	57.3092	287
\$ 24 Fluoranthene-d10	212		13.171	13.161	(1.185)	43295	34.9119	175
25 Fluoranthene	202		13.190	13.190	(1.187)	935758	577.896	2890
26 Pyrene	202		13.661	13.670	(0.866)	654541	412.608	2060
27 Benzo(a)anthracene	228		15.694	15.677	(0.995)	51324	37.3886	187
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	243818	200.000	
29 Chrysene	228		15.827	15.810	(1.004)	53687	35.2618	176
30 Benzo(b)fluoranthene	252		17.458	17.439	(0.959)	11695	8.27706	41.4
31 Benzo(k)fluoranthene	252		17.506	17.478	(0.962)	7766	5.05855	25.3 (M)
32 Benzo(j)fluoranthene	252		17.535	17.516	(0.964)	11633	8.17433	40.9
\$ 33 Benzo(e)pyrene-d12	264		17.948	17.939	(0.986)	29992	25.0380	125

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.987	17.977	(0.988)	8325	6.06332	30.3 (M)
35 Benzo(a)pyrene	252	18.083	18.054	(0.994)	7252	5.60577	28.0
* 36 Perylene-d12	264	18.198	18.198	(1.000)	248568	200.000	
37 Perylene	252	18.256	18.237	(1.003)	4933	3.67287	18.4
§ 38 Dibenzo(a,h)anthracene-d14	292	19.914	19.891	(1.094)	27094	32.5412	163
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121319.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-03
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	283110	-42.64
11 Acenaphthene-d10	240770	120385	481540	160729	-33.24
18 Phenanthrene-d10	429271	214636	858542	277818	-35.28
28 Chrysene-d12	387691	193846	775382	243818	-37.11
36 Perylene-d12	386259	193130	772518	248568	-35.65

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.16
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.11	0.00
28 Chrysene-d12	15.77	15.27	16.27	15.77	0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	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 - N1116121319.D

Lab ID: 16K0321-03

nt11.i, 20161213.b\lowsim.m, 13-DEC-2016 21:04

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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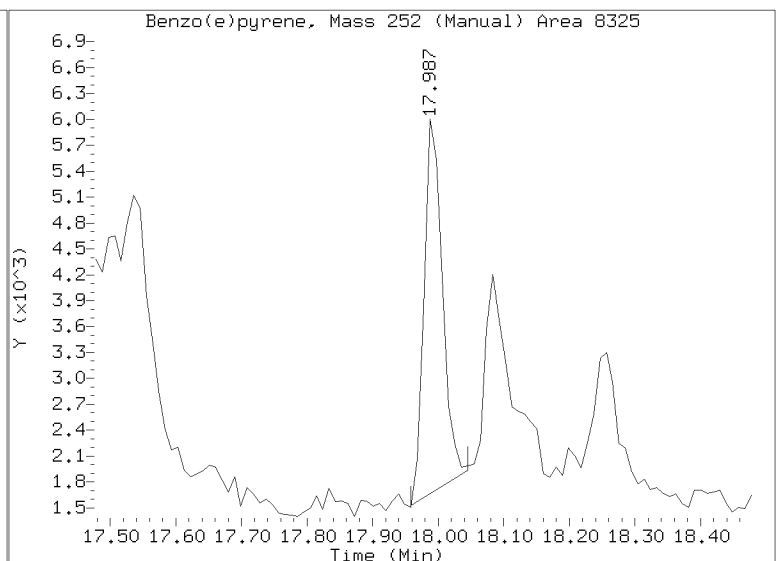
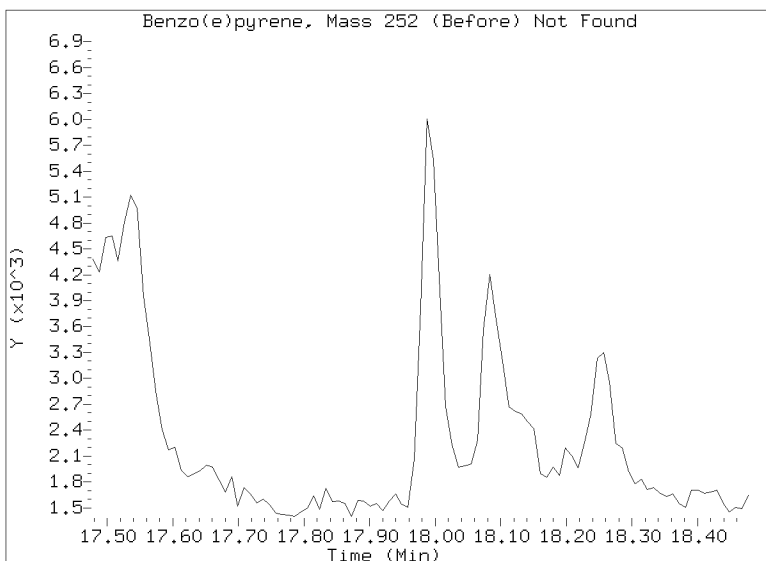
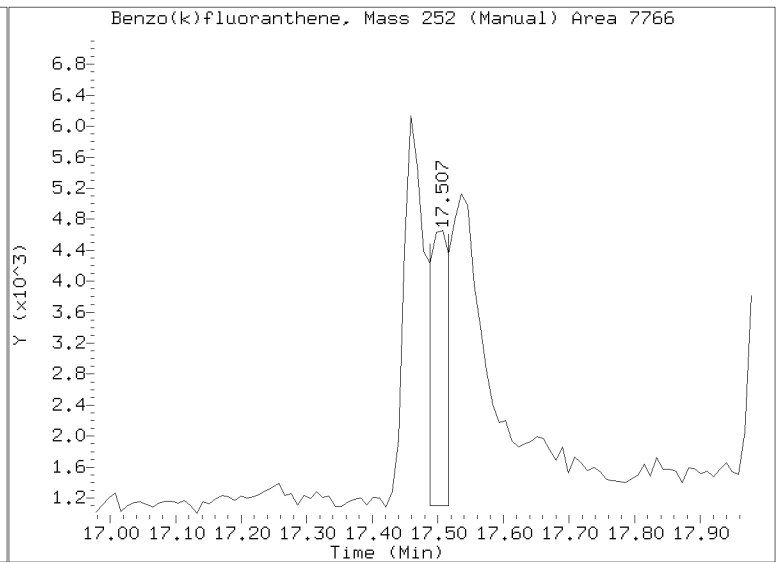
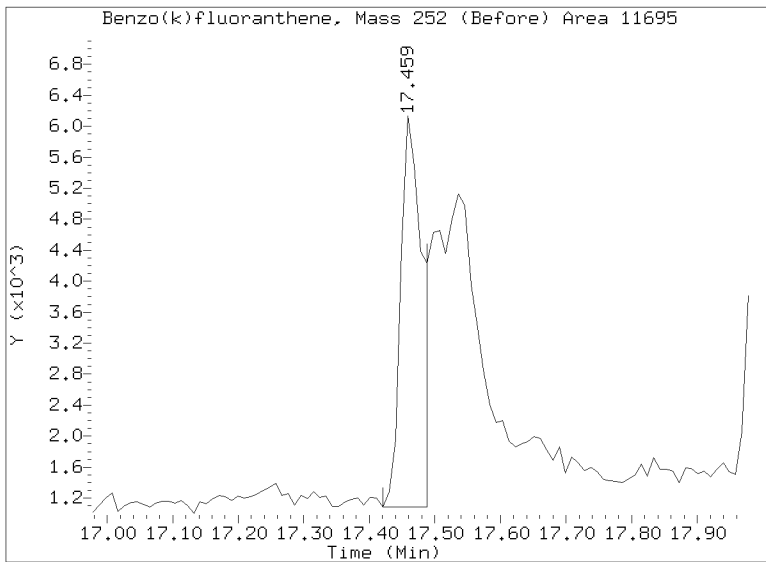
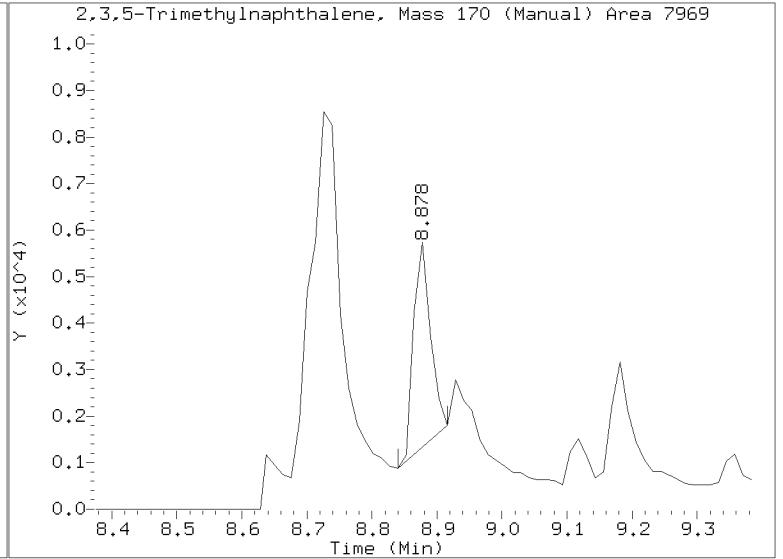
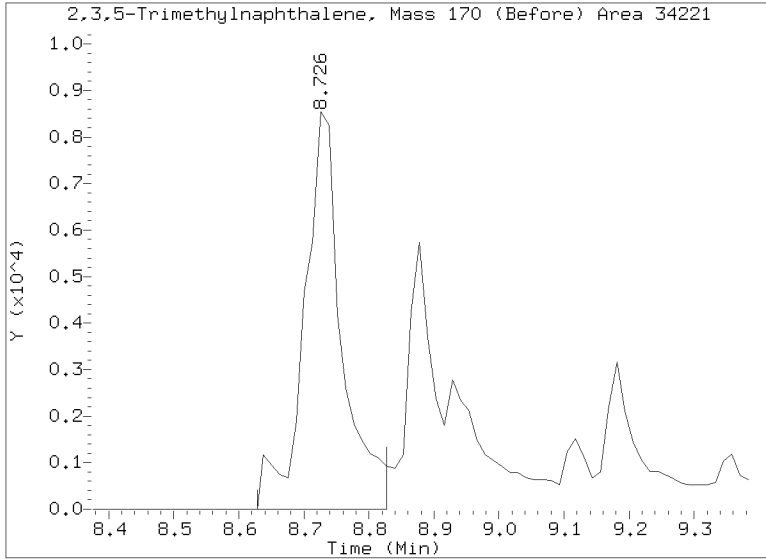
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Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121319.D
Injection Date: 13-DEC-2016 21:04
Lab ID:16K0321-03 Client ID:
Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>16K0321</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Matrix:	<u>Tissue</u>	Laboratory ID:	<u>16K0321-05</u>
Sampled:	<u>11/22/16 12:10</u>	File ID:	<u>N1116121211.D</u>
Solids:		Prepared:	<u>11/24/16 08:25</u>
Batch:	<u>BEK0657</u>	Analyzed:	<u>12/12/16 13:28</u>
Instrument:	<u>NT11</u>	Preparation:	<u>EPA 3550C-Mod (Ultrasonic)</u> Initial/Final: <u>0.886 g / 0.1 mL</u>
Column:	<u>RXi-17Sil-MS</u>	Sequence:	<u>SEL0155</u>
		Calibration:	<u>ZK00080</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	5.67	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	11.8	B	1.13	1.13
208-96-8	Acenaphthylene	1	2.07		1.13	1.13
83-32-9	Acenaphthene	1	61.3		1.13	1.13
86-73-7	Fluorene	1	65.9		1.13	1.13
85-01-8	Phenanthrene	1	249	E	1.13	1.13
120-12-7	Anthracene	1	25.2		1.13	1.13
206-44-0	Fluoranthene	1	209	E	1.13	1.13
129-00-0	Pyrene	1	141	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	19.8		1.13	1.13
218-01-9	Chrysene	1	14.7		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	4.42		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	2.11		1.13	1.13
50-32-8	Benzo(a)pyrene	1	2.78		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	2.72		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	13.6	40.3	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	13.1	38.7	30 - 160	
Fluoranthene-d10	33.860	16.8	49.6	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	7.62	36.0	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121211.D

Date: 12-DEC-2016 13:28

Client ID:

Sample Info: 16K0321-05

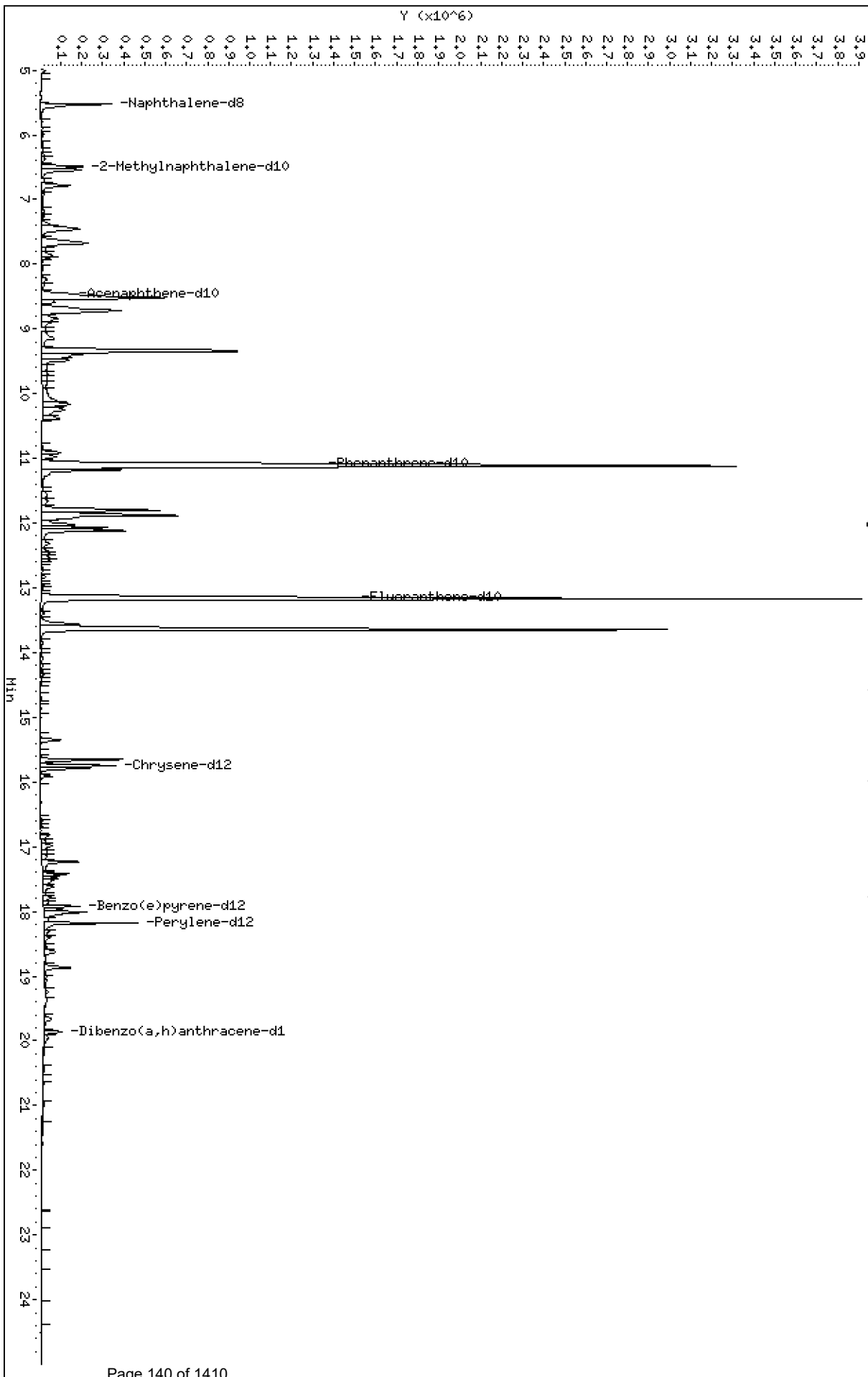
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

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Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

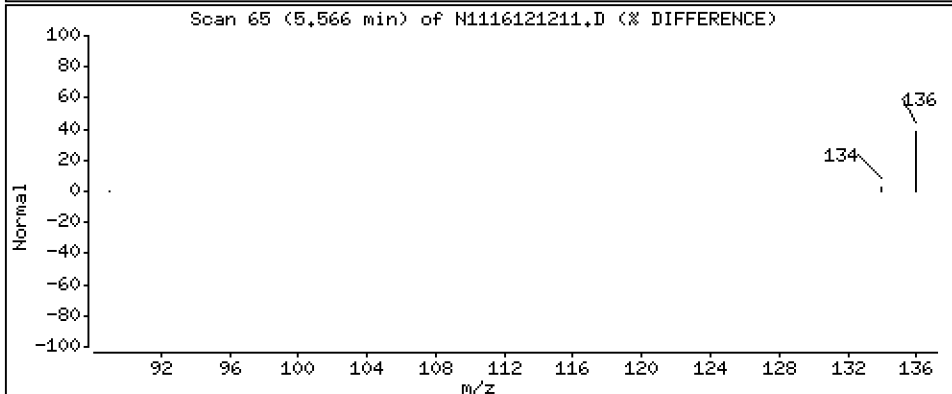
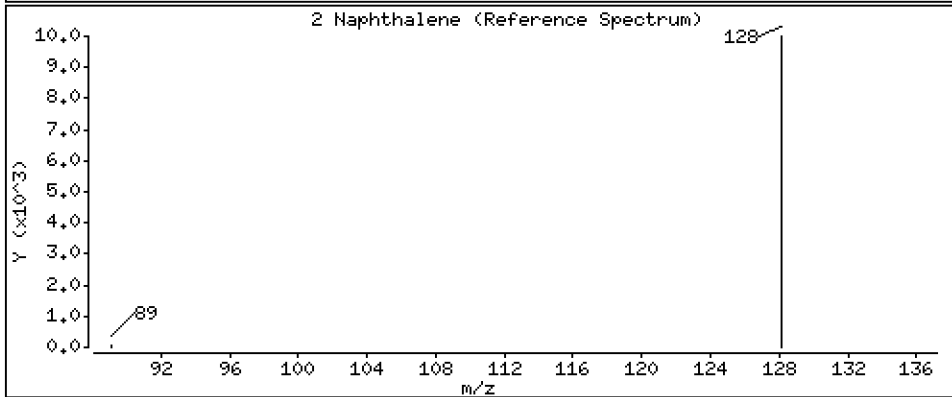
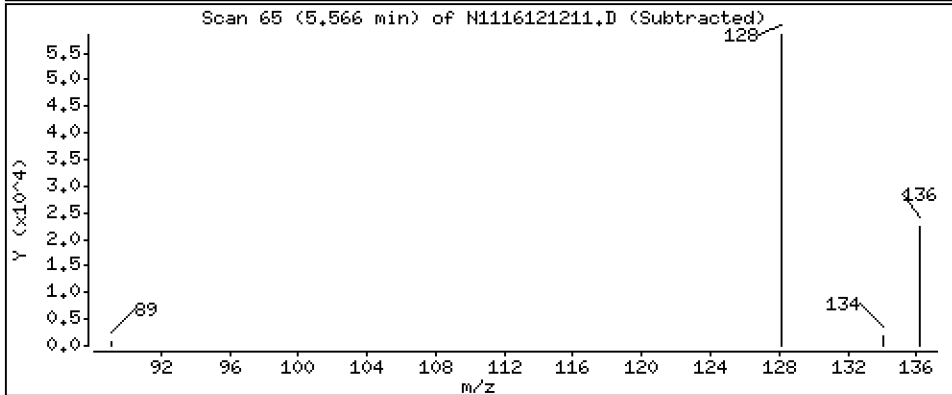
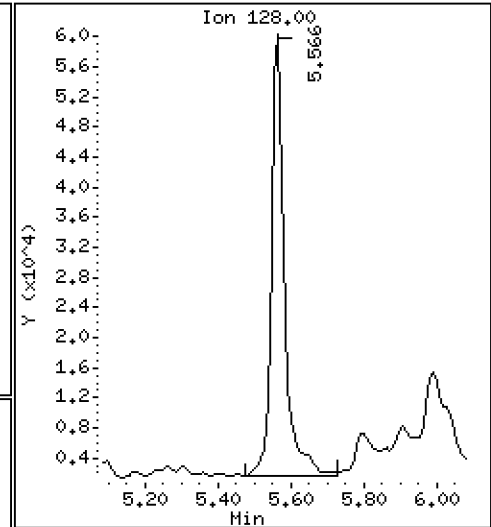
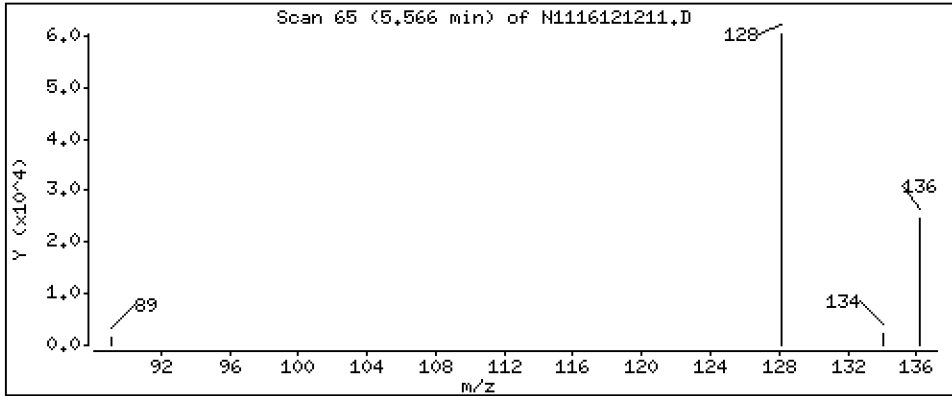
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 50,2 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

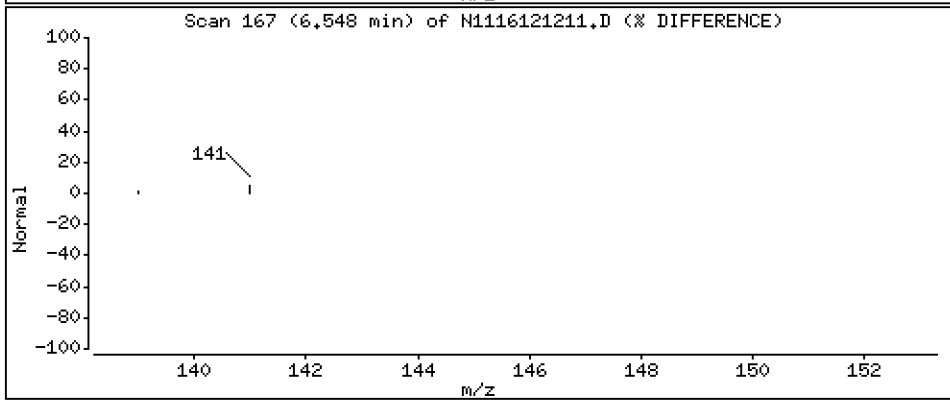
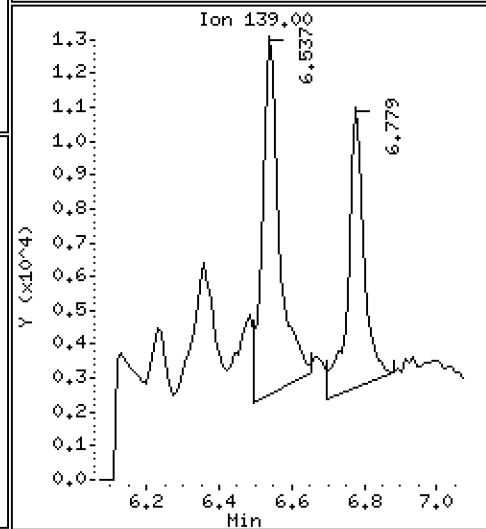
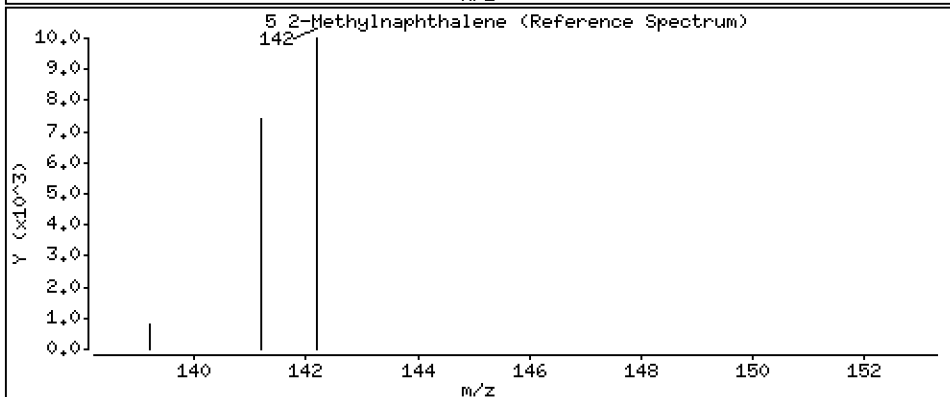
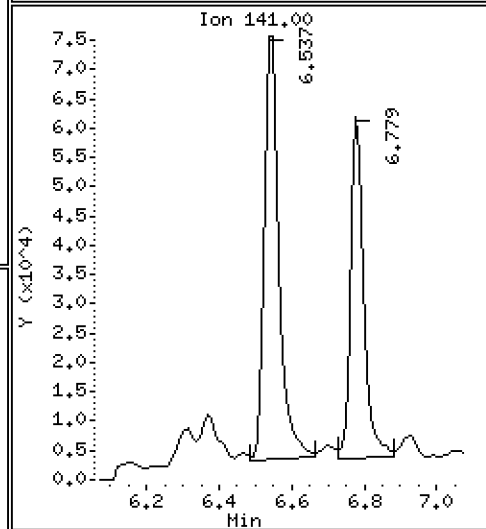
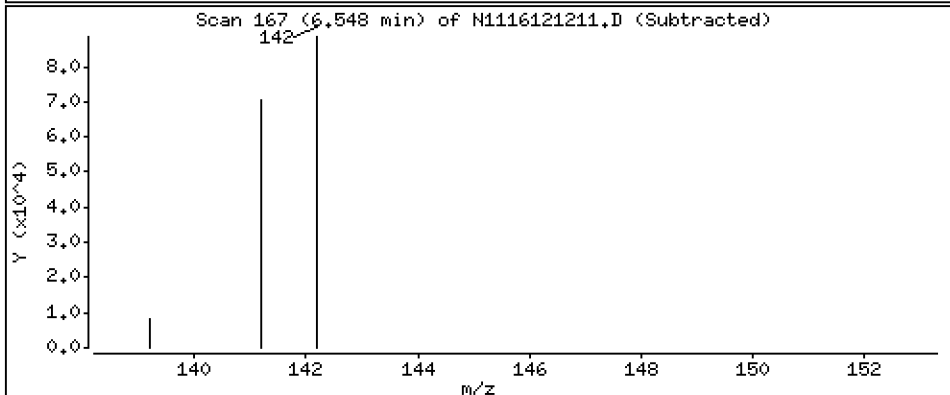
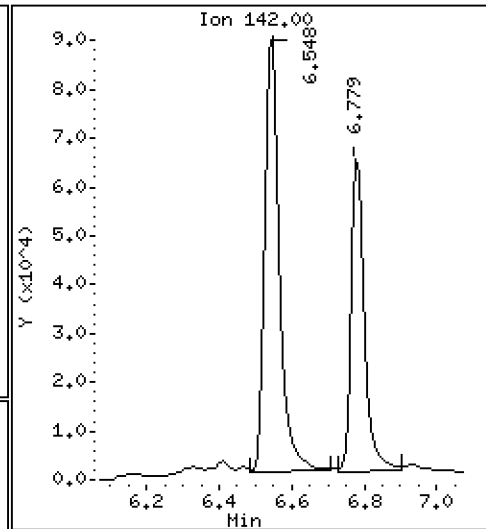
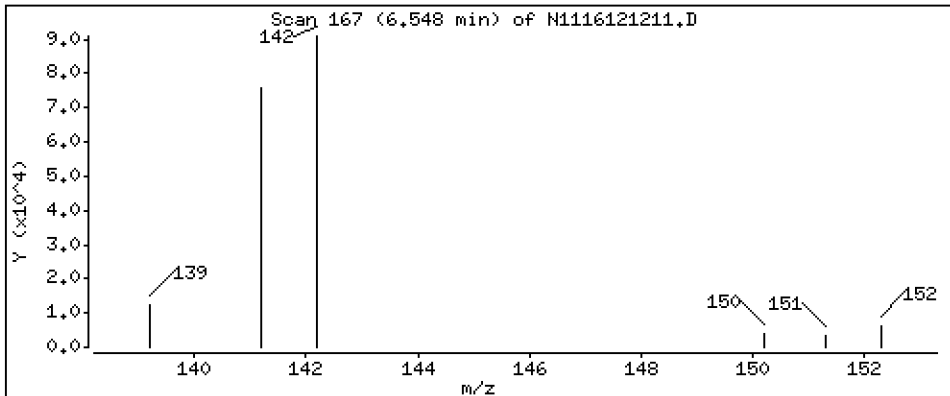
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 105 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

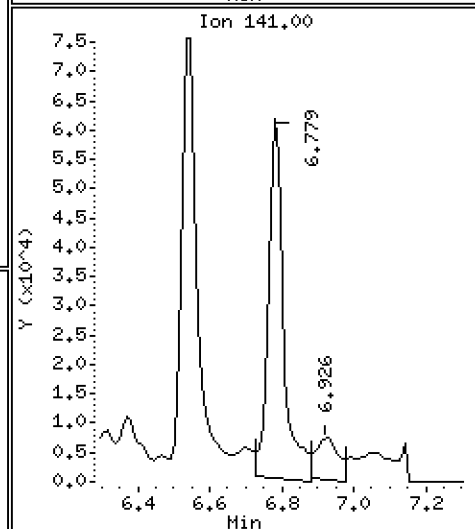
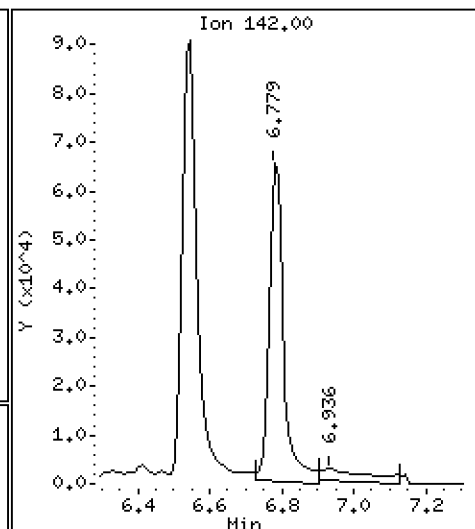
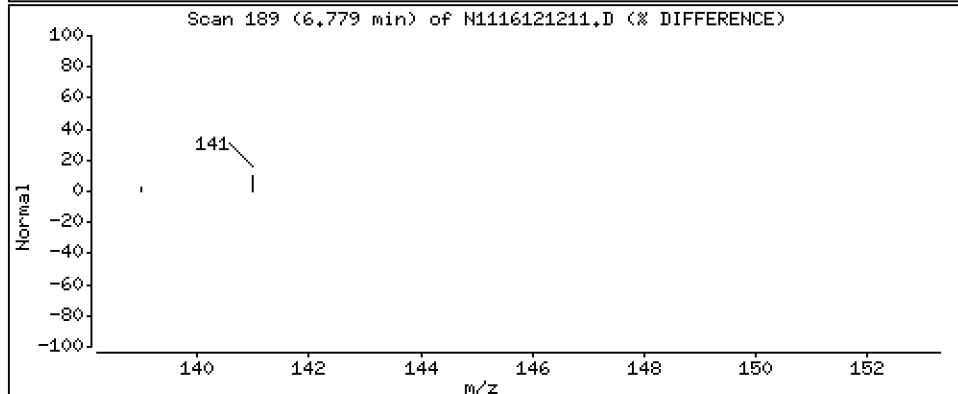
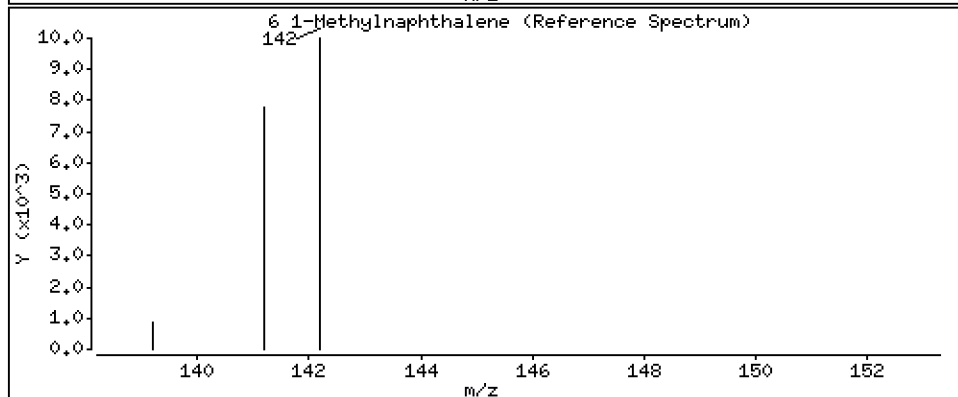
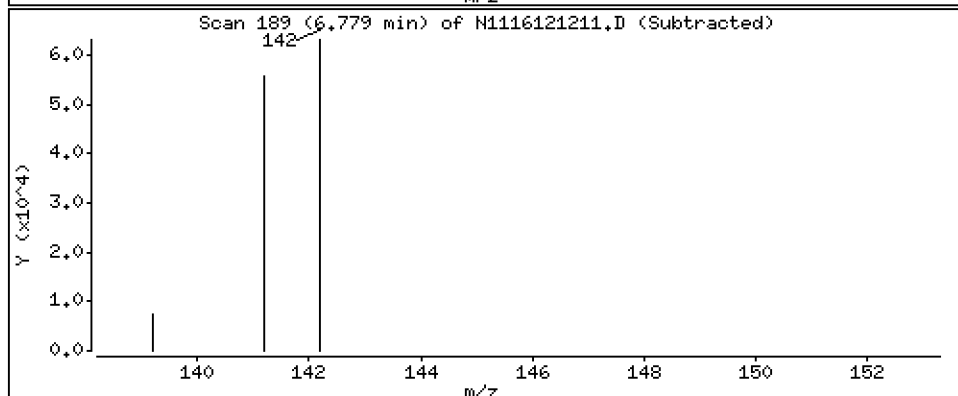
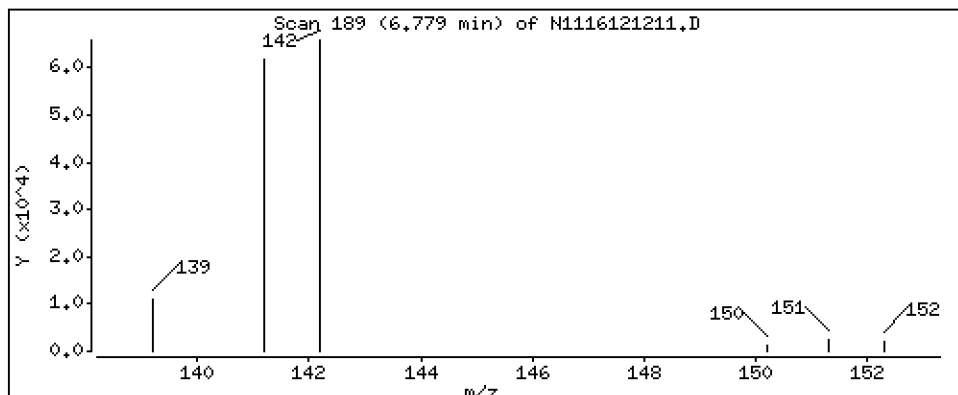
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 80,9 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

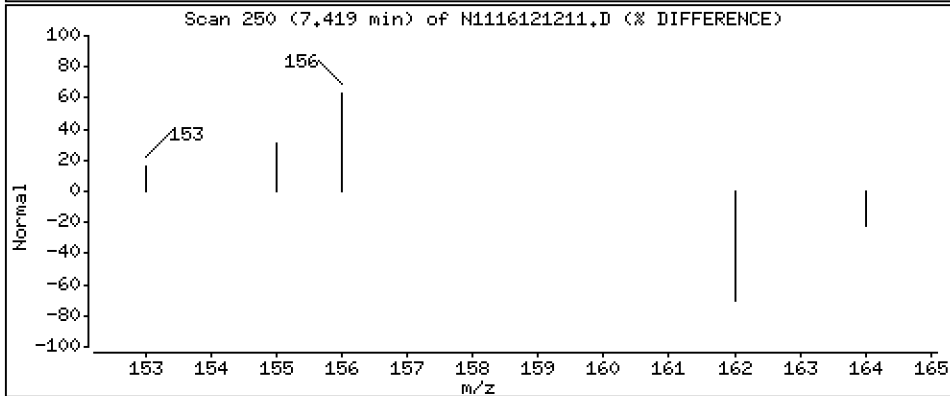
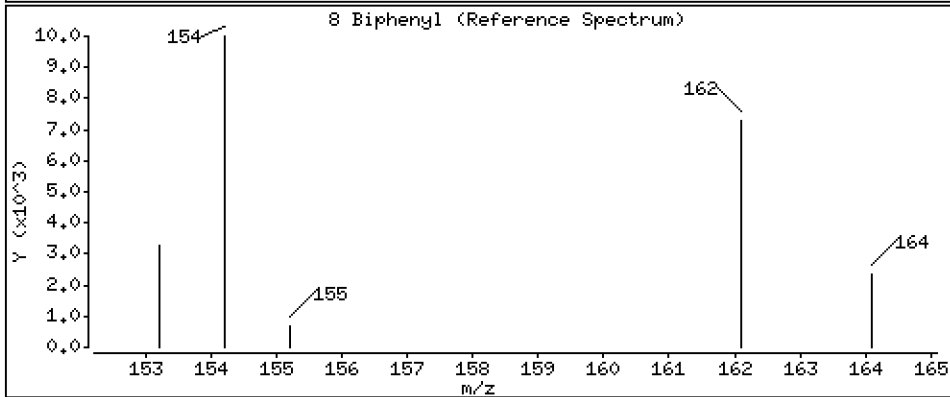
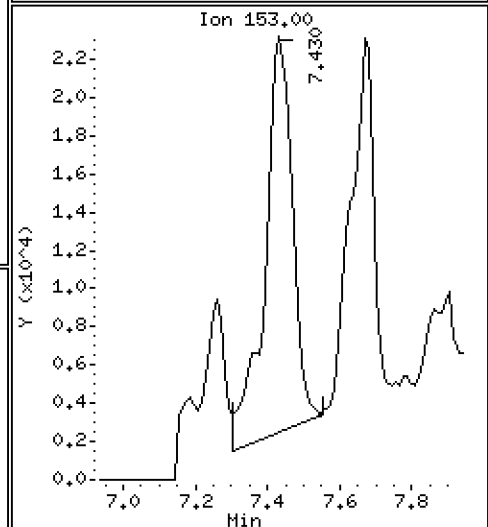
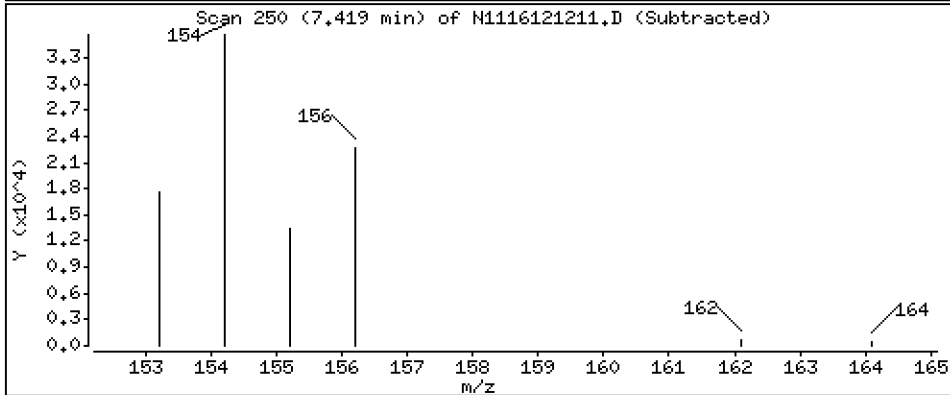
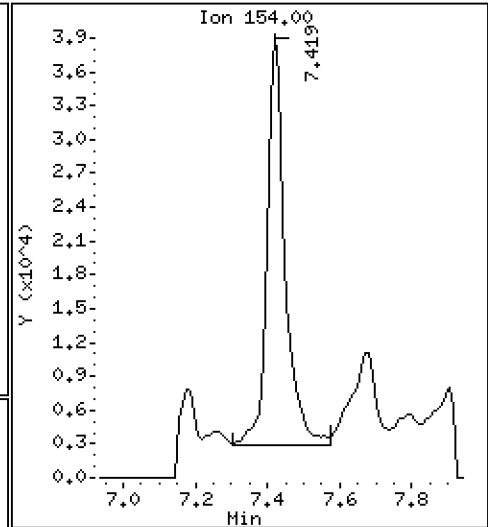
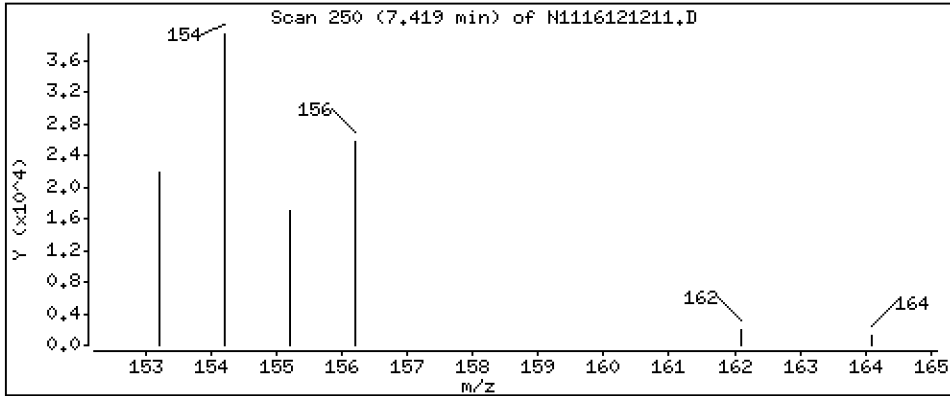
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 34,4 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

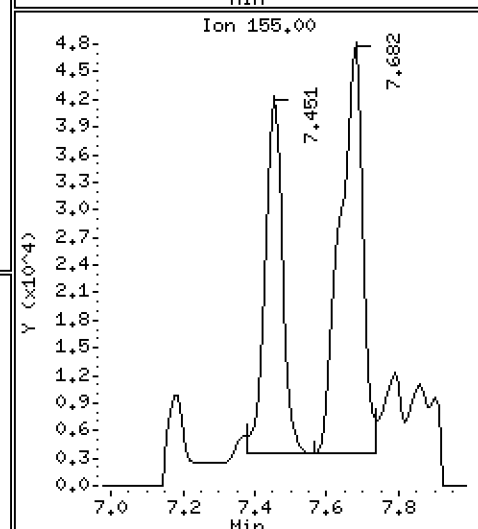
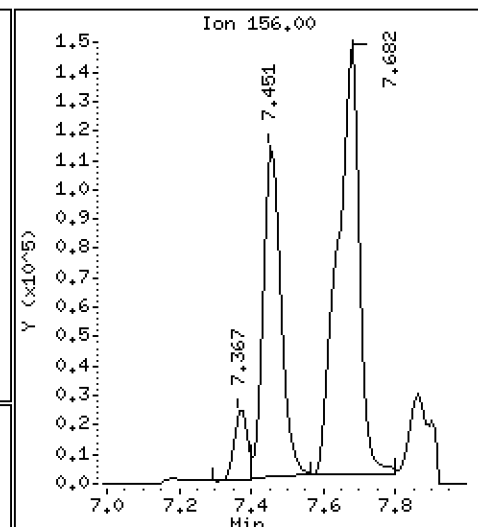
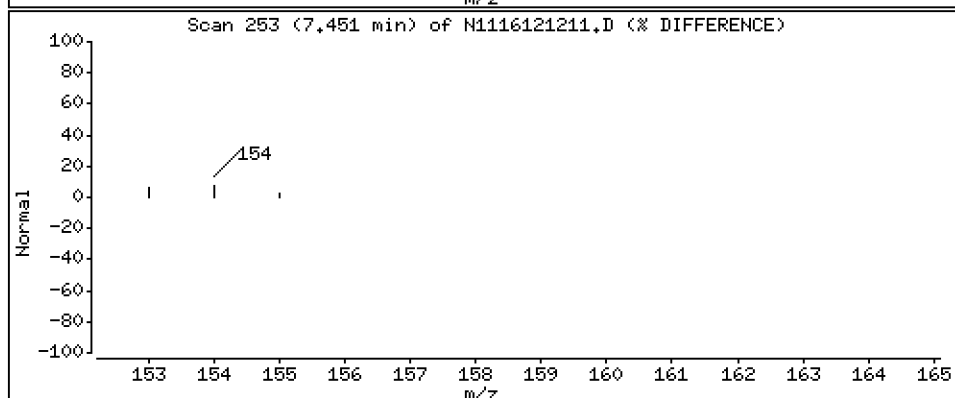
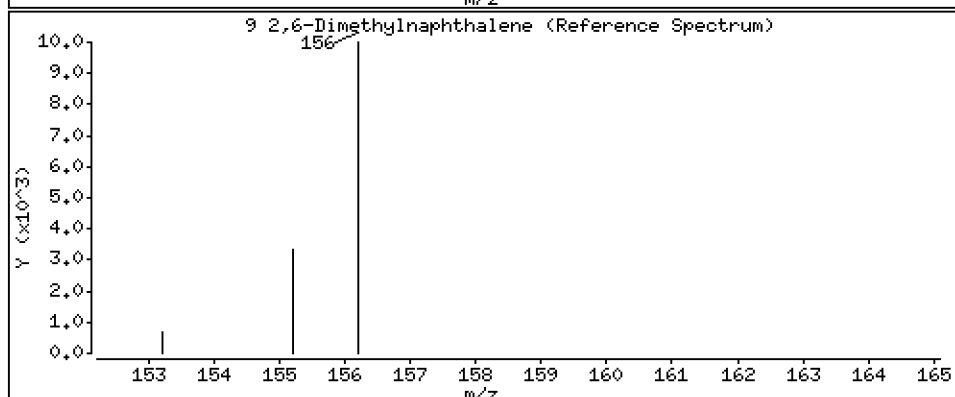
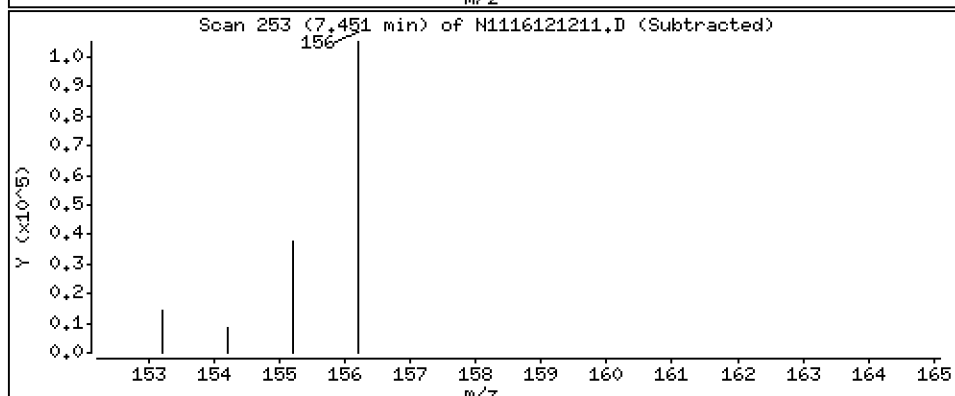
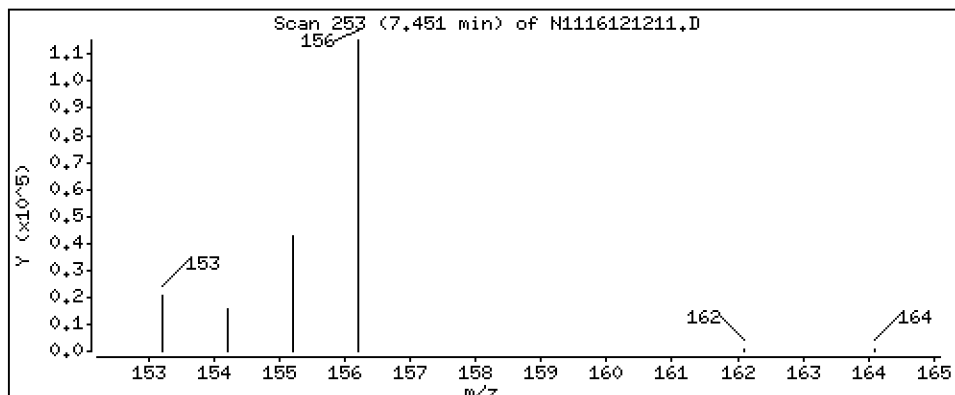
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 149 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

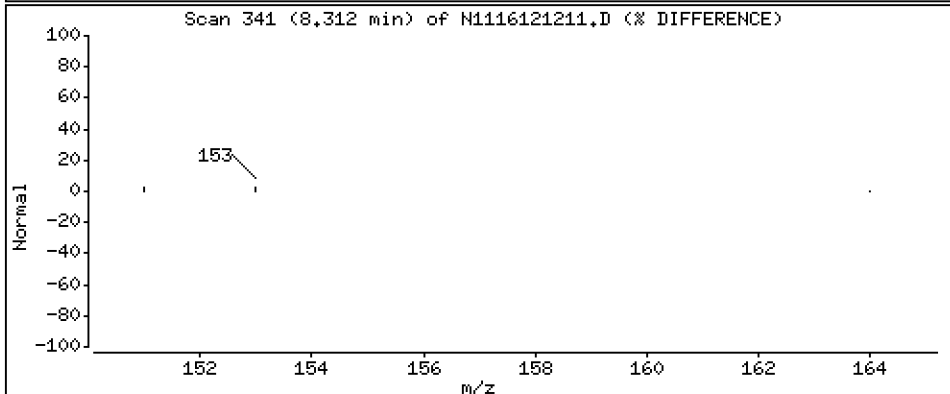
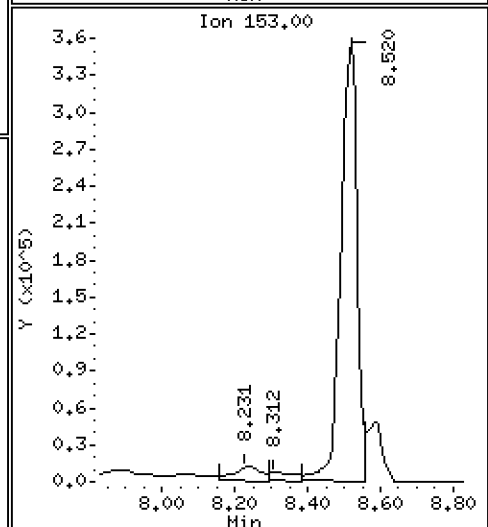
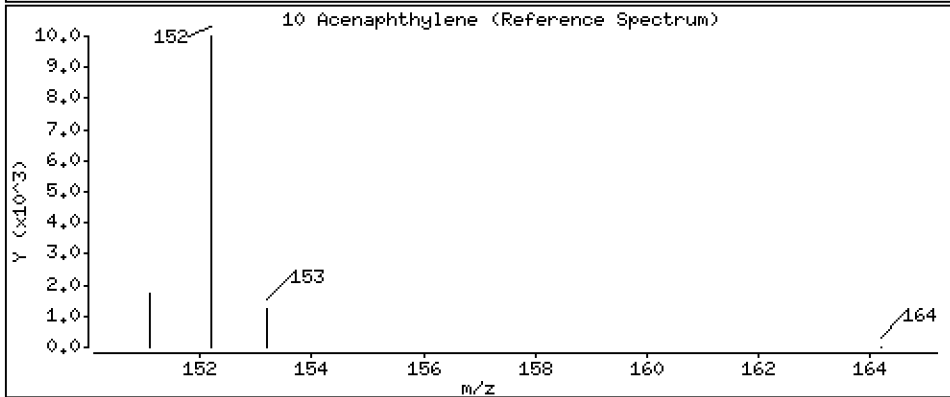
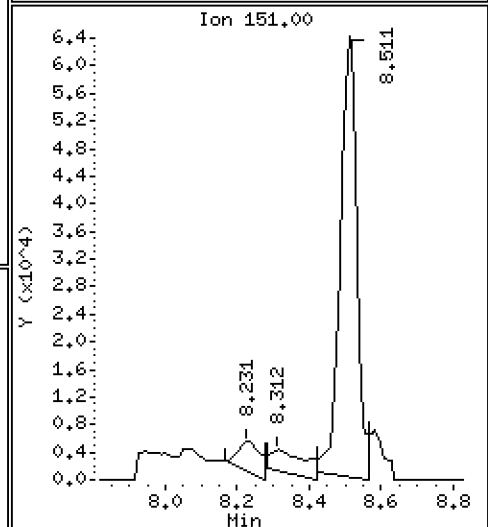
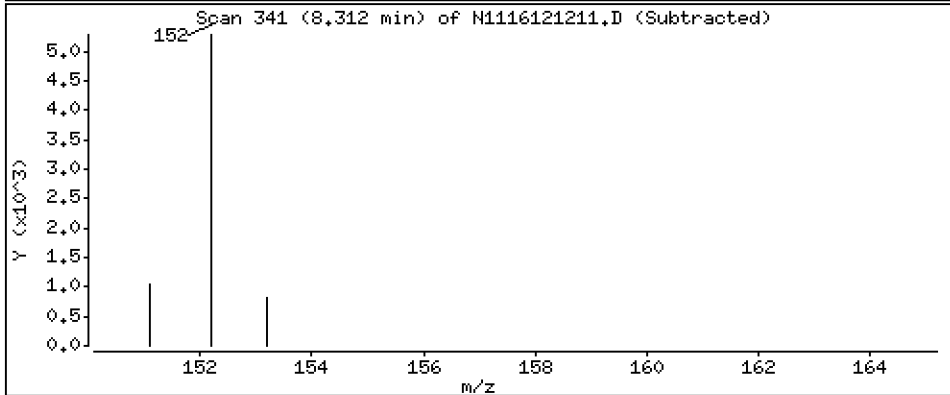
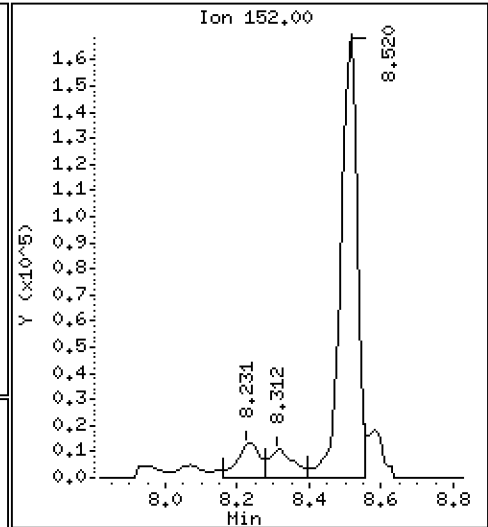
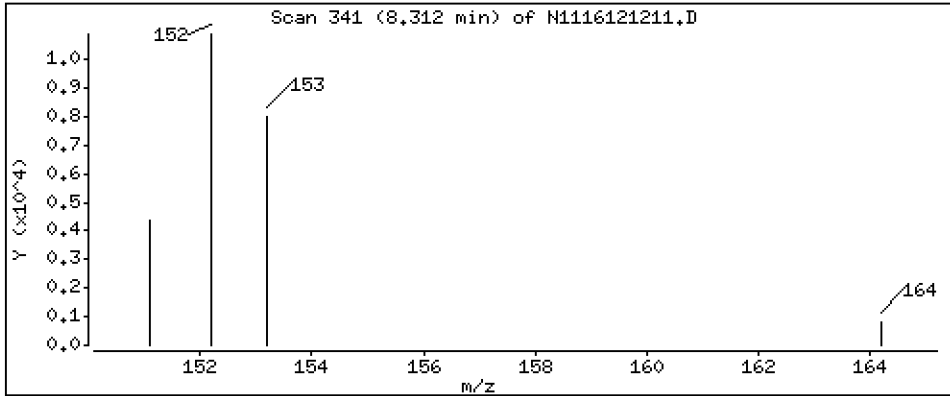
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 18,3 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

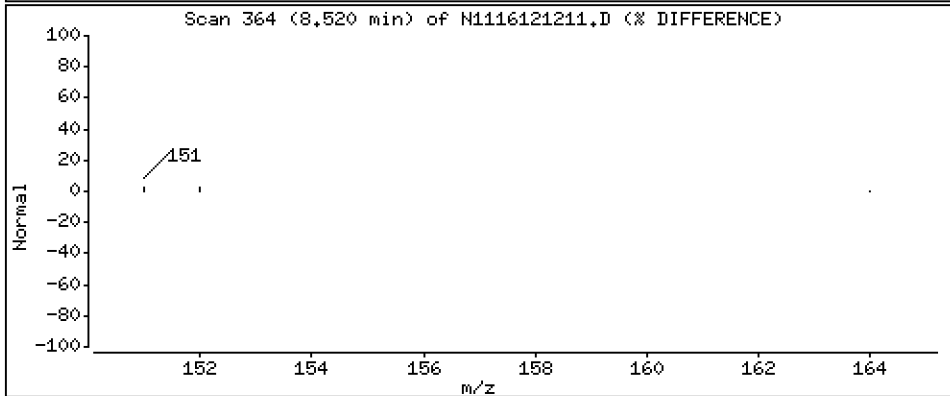
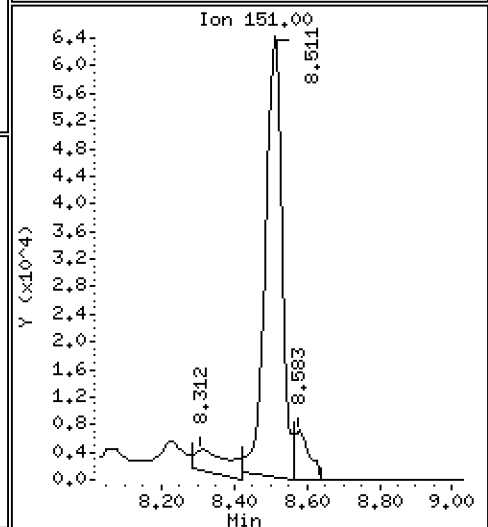
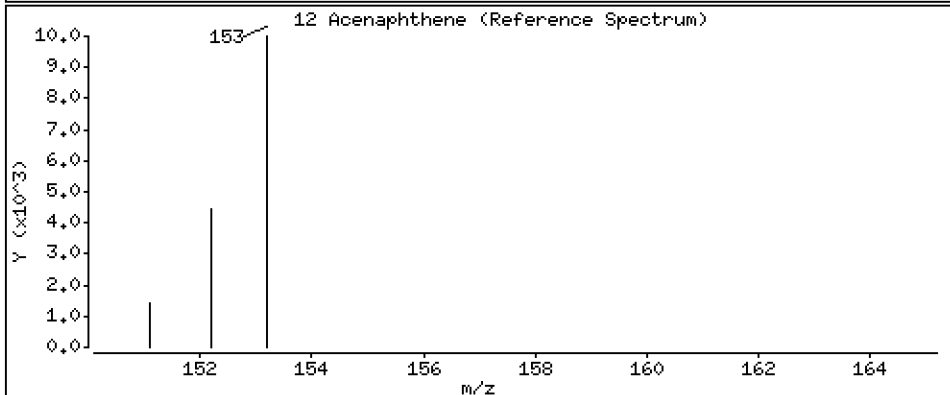
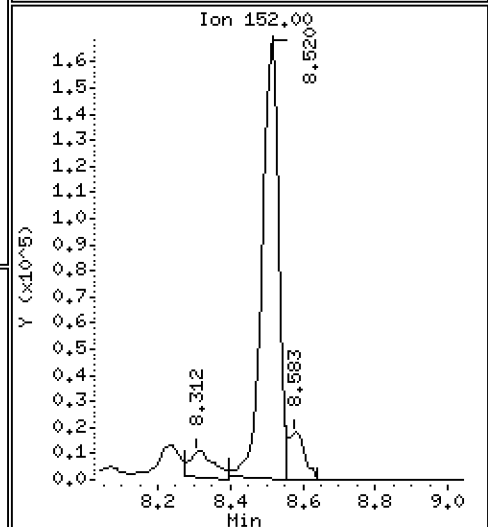
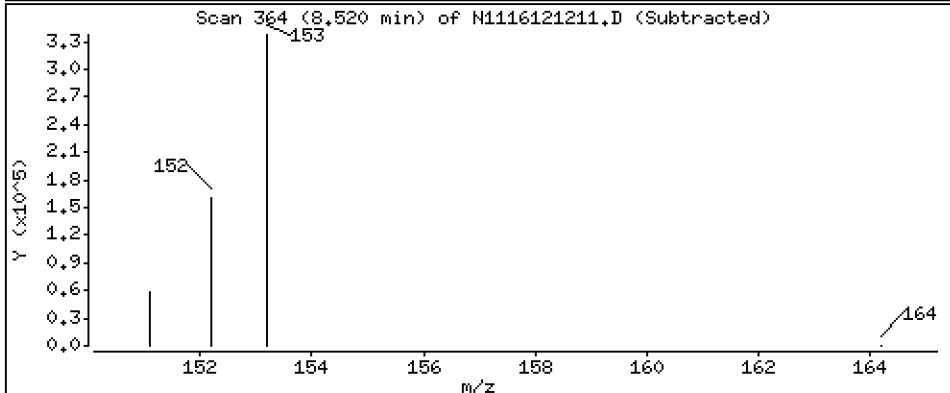
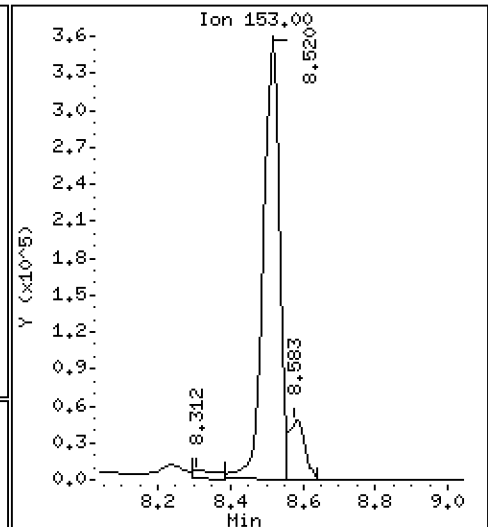
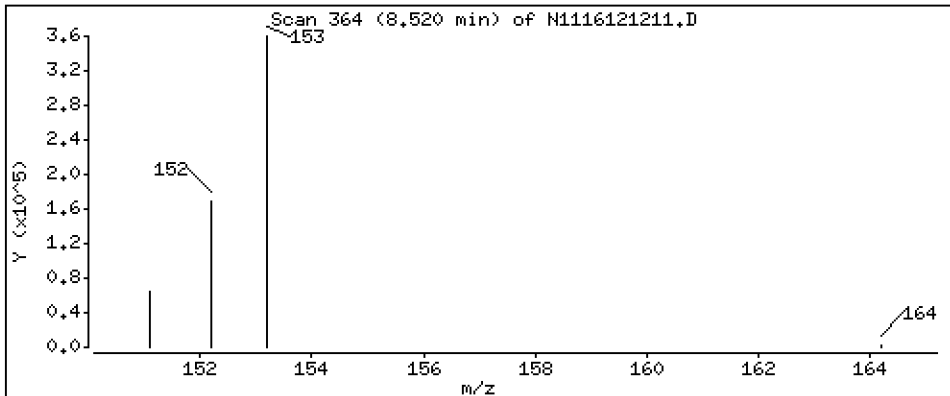
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 543 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

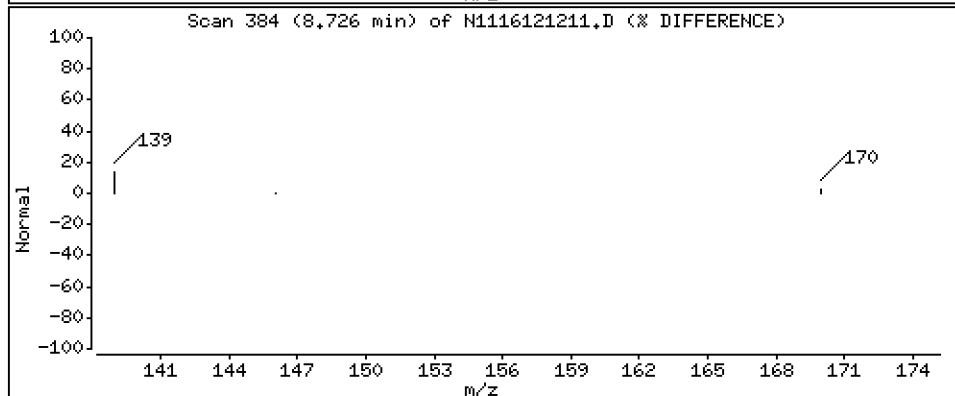
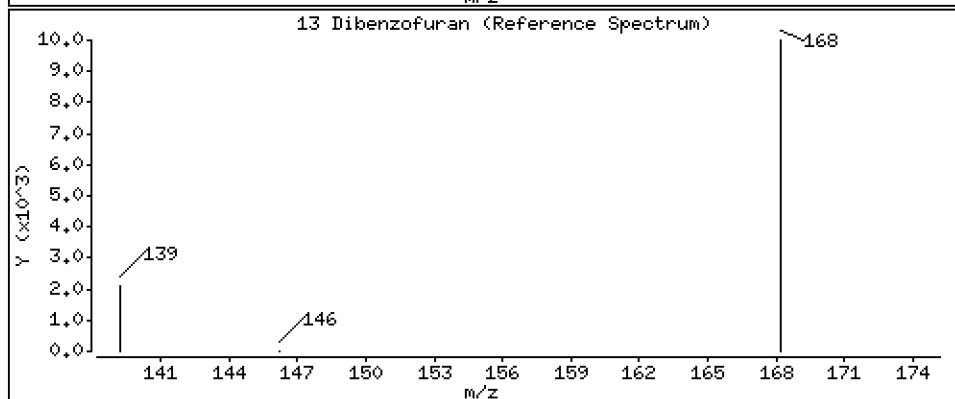
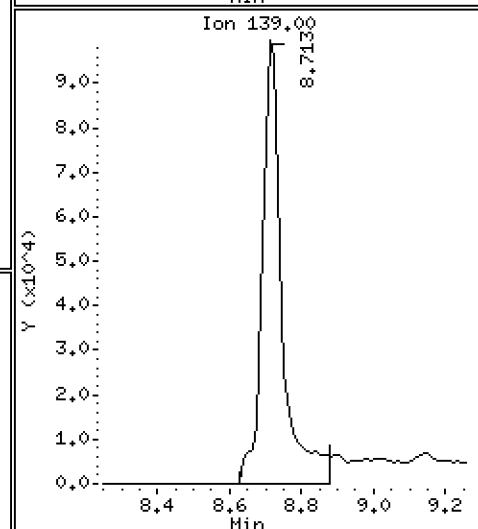
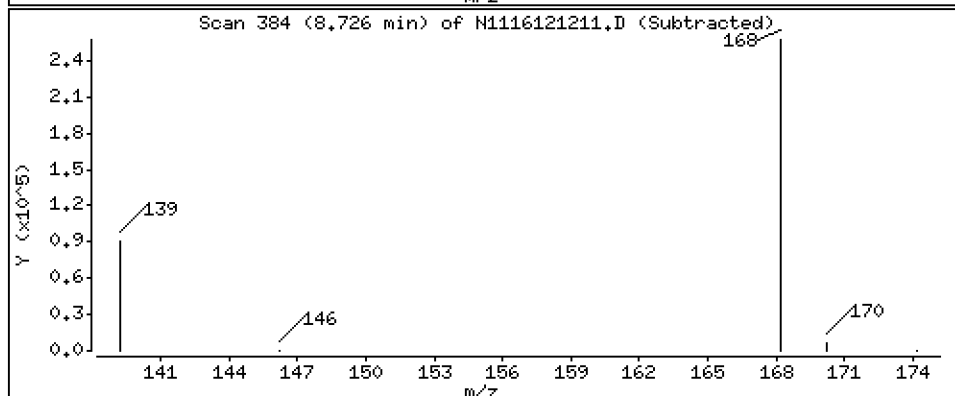
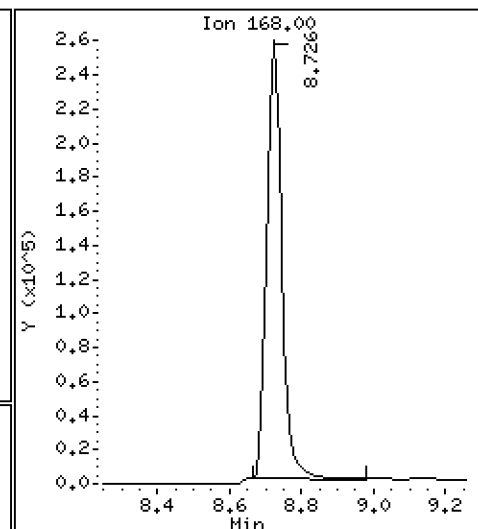
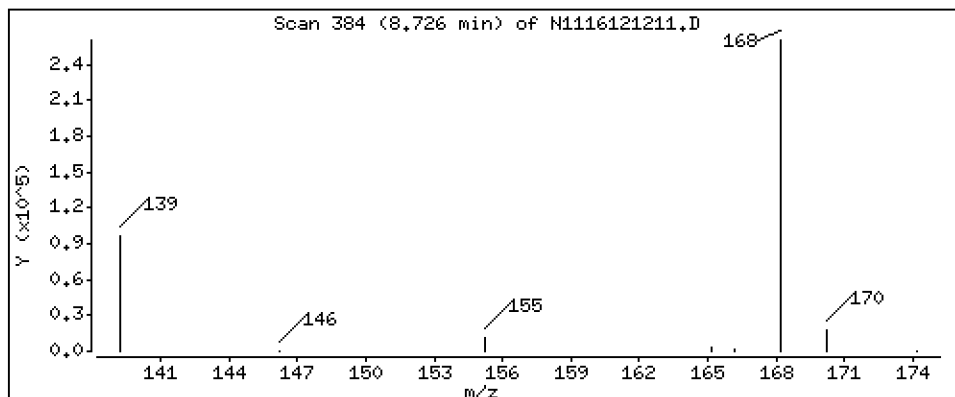
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 261 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

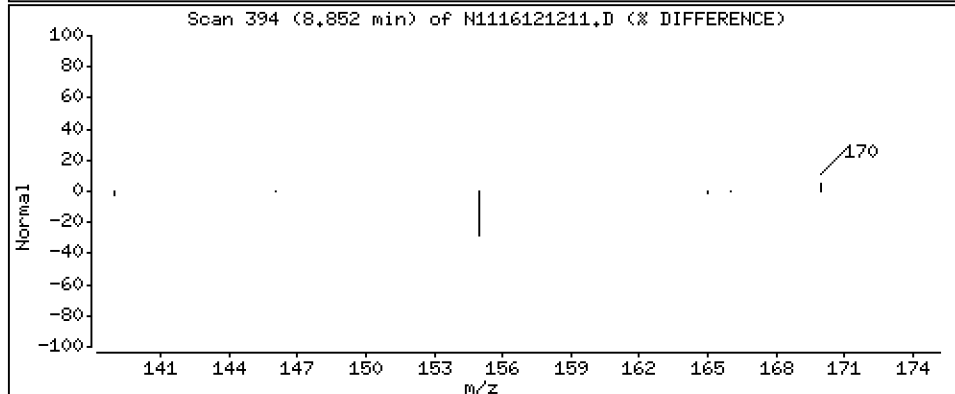
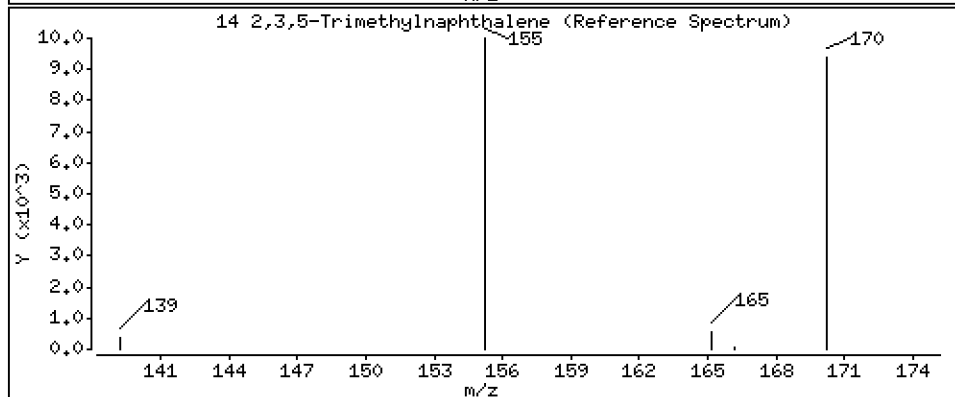
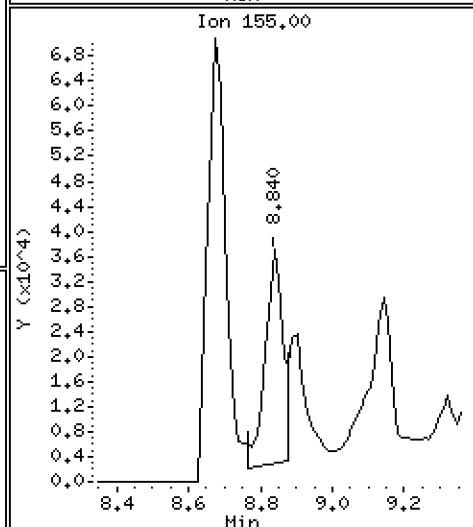
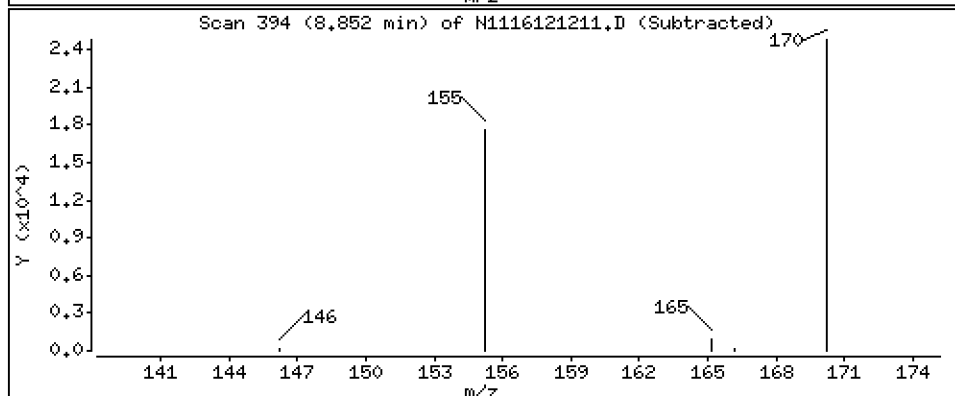
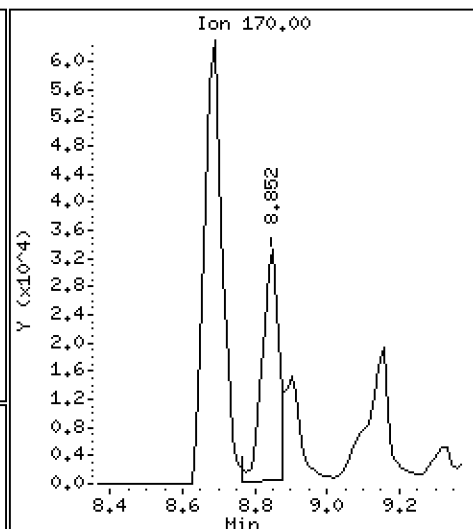
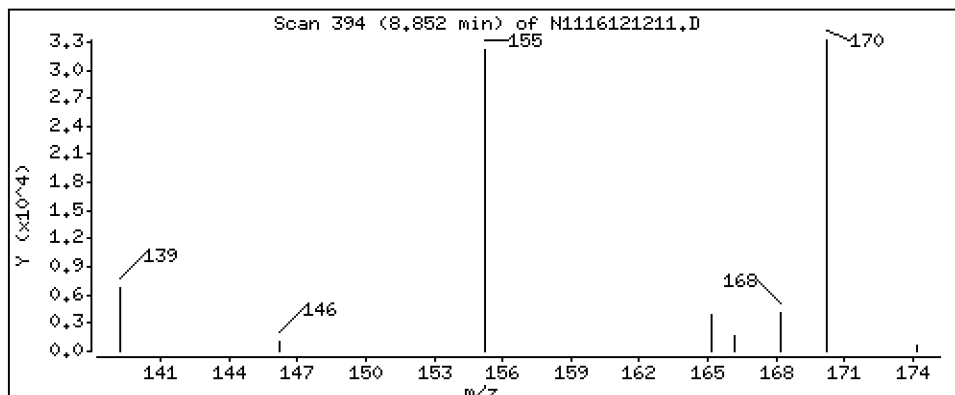
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 59,4 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

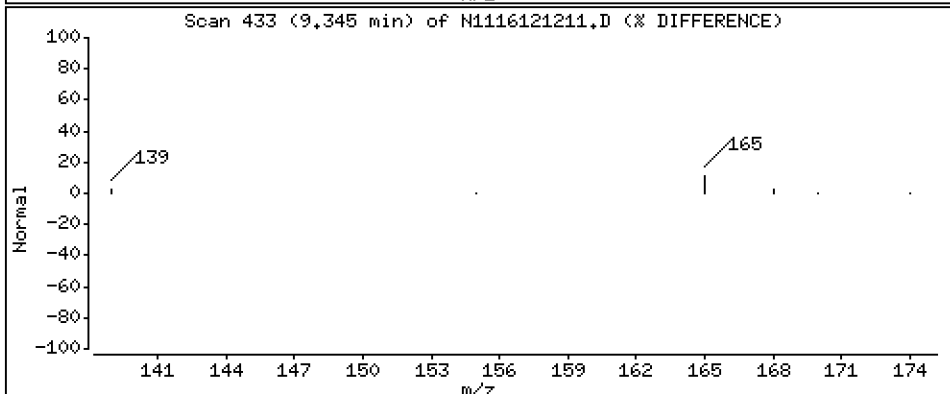
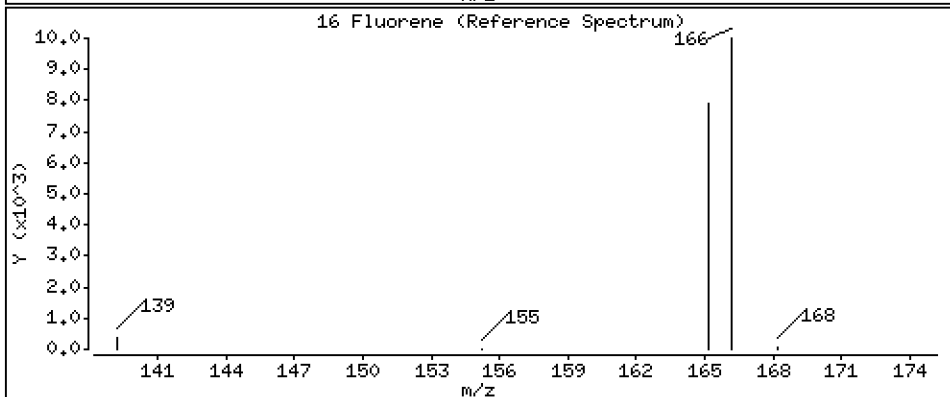
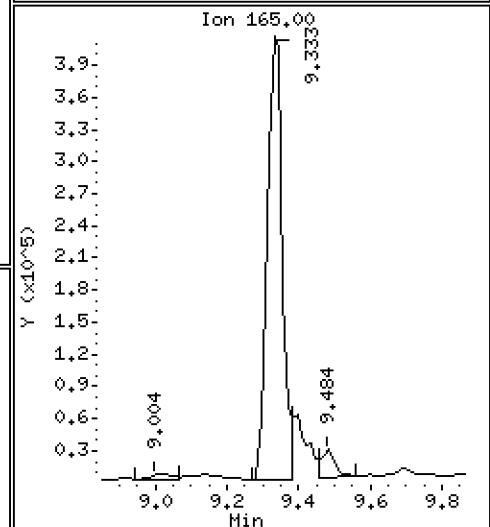
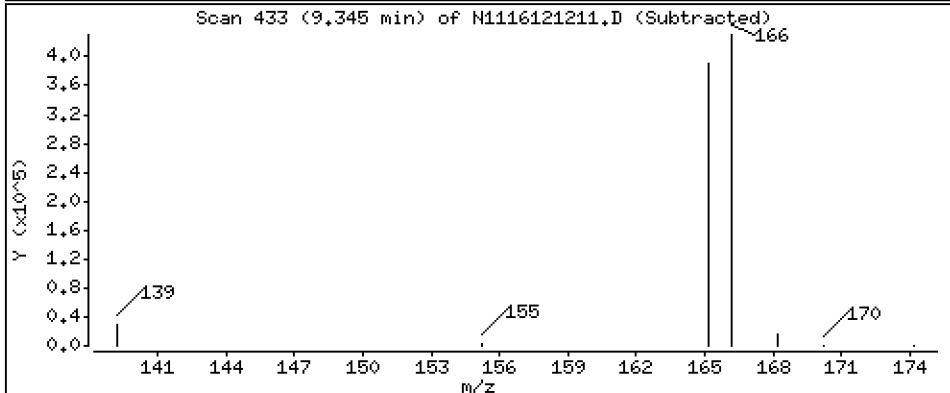
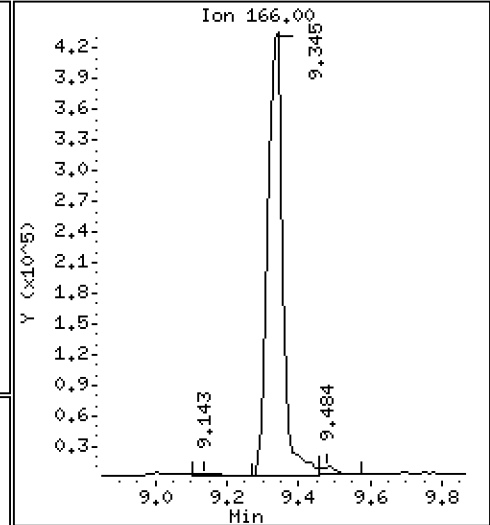
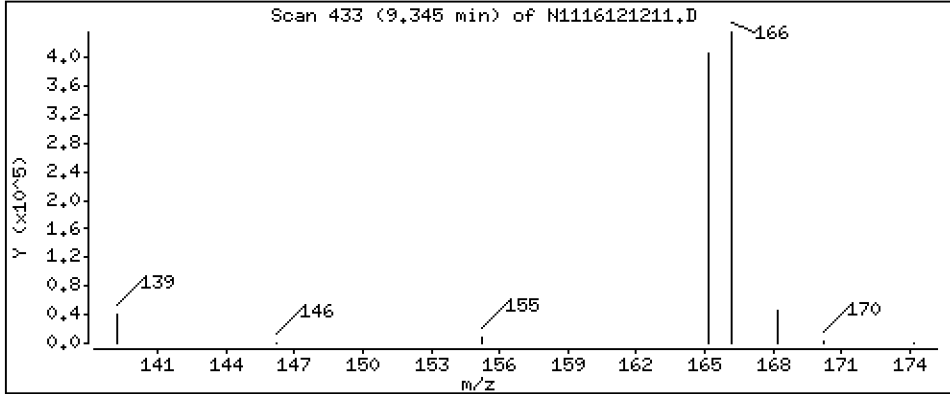
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 583 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

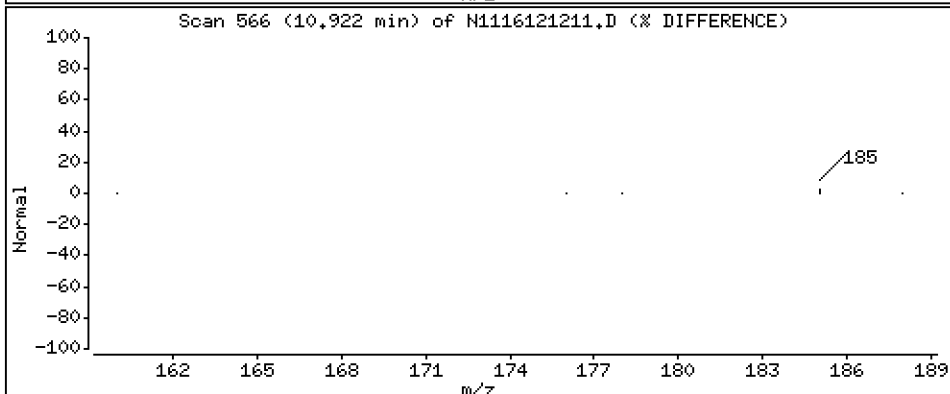
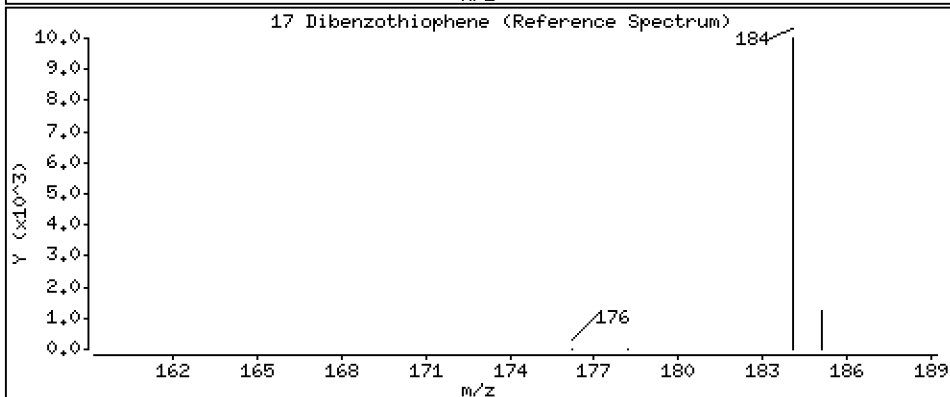
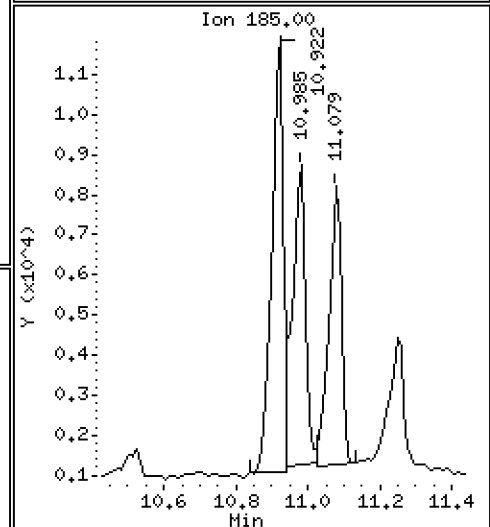
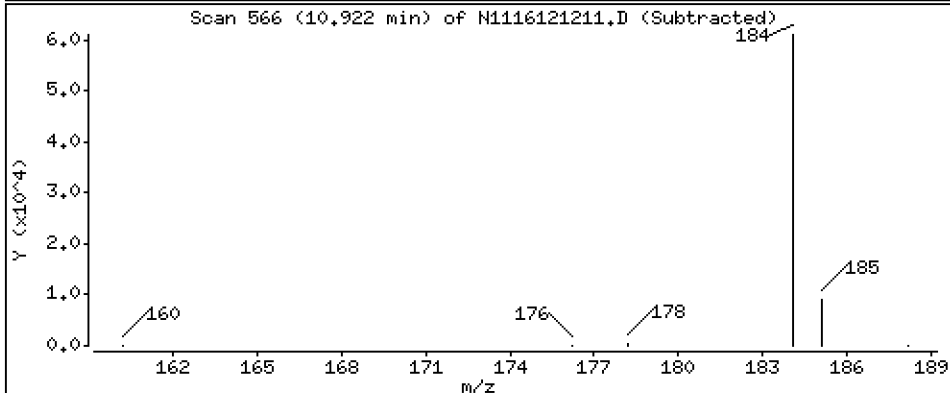
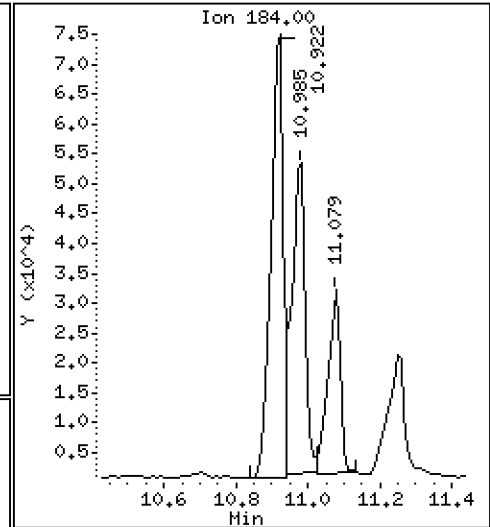
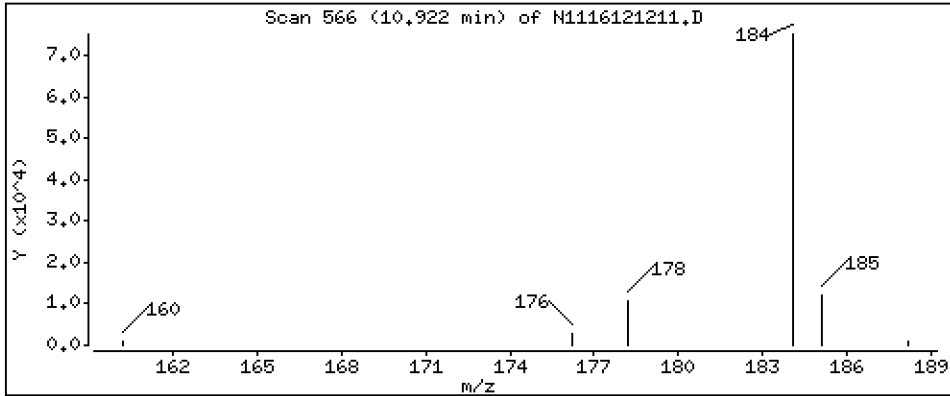
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 68,6 ng/mL

17 Dibenzothiophene



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

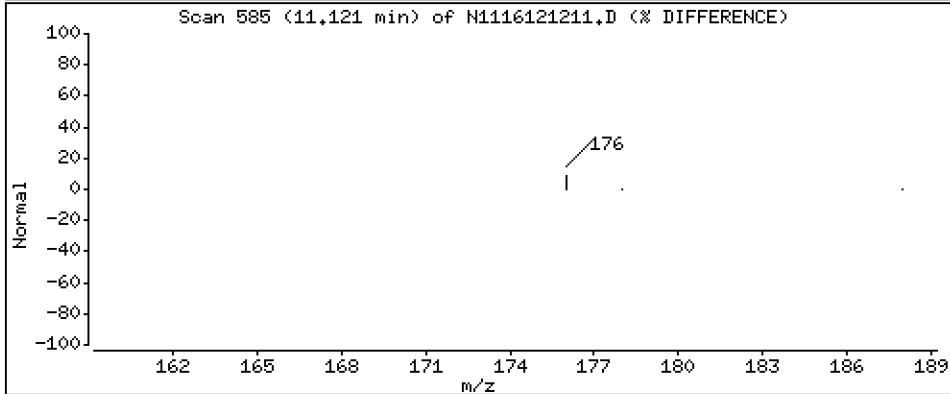
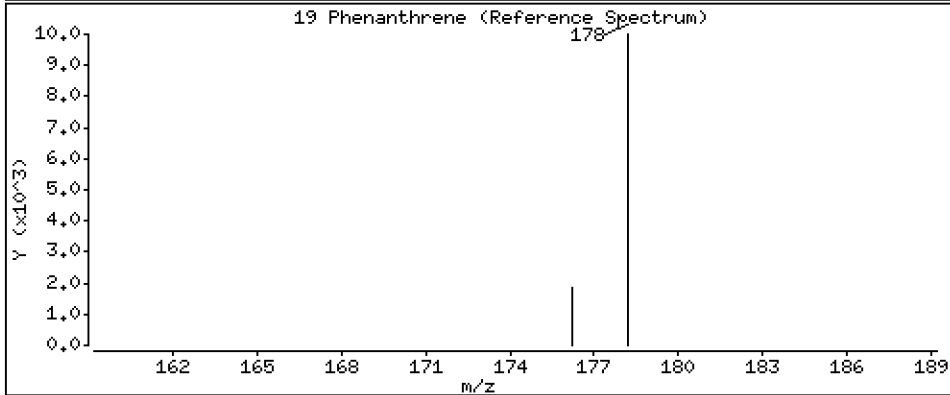
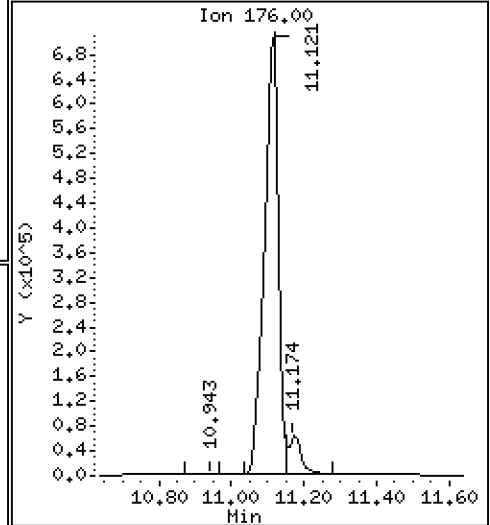
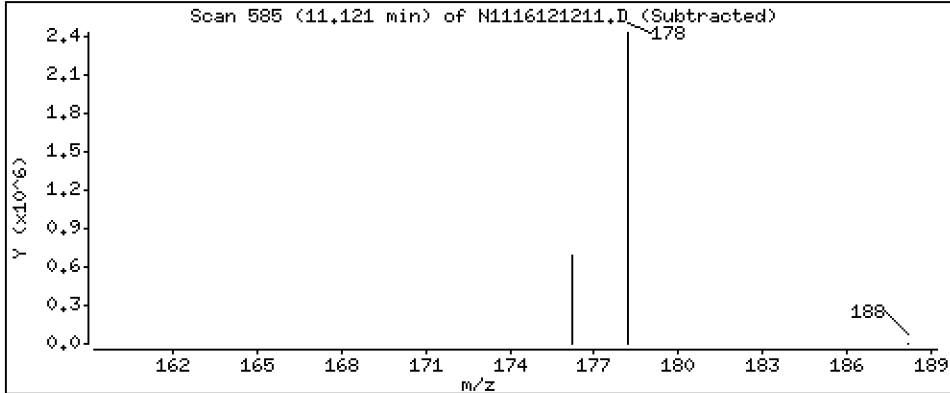
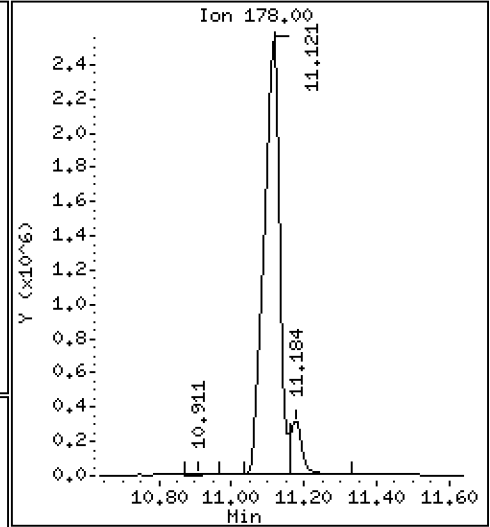
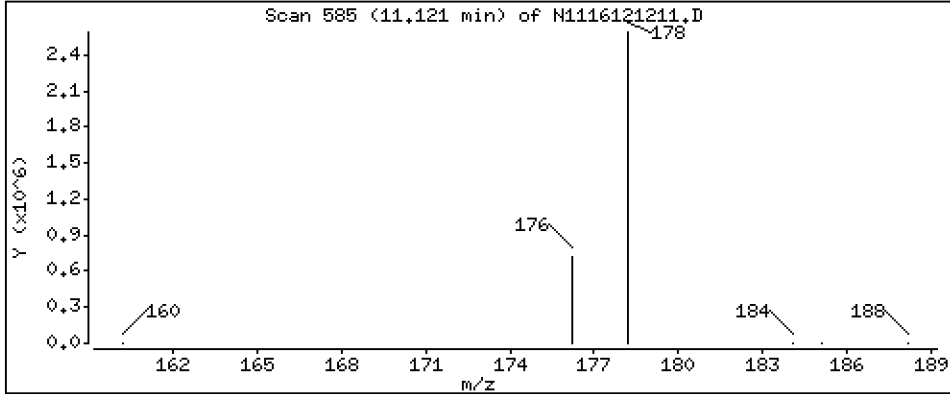
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 2210 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

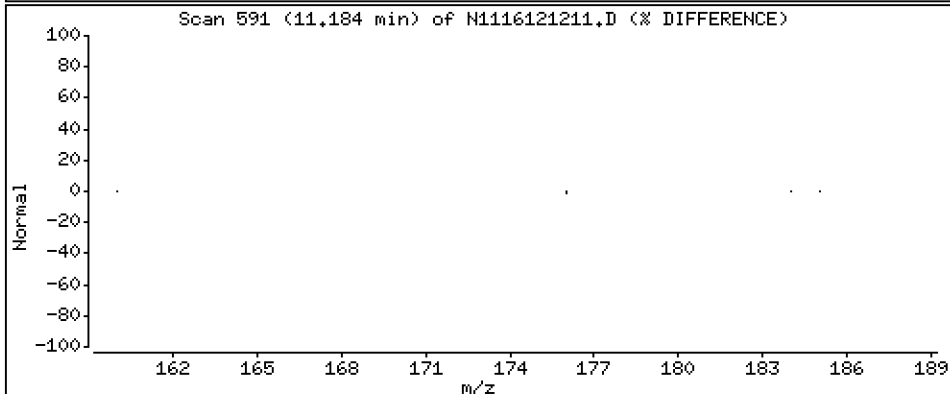
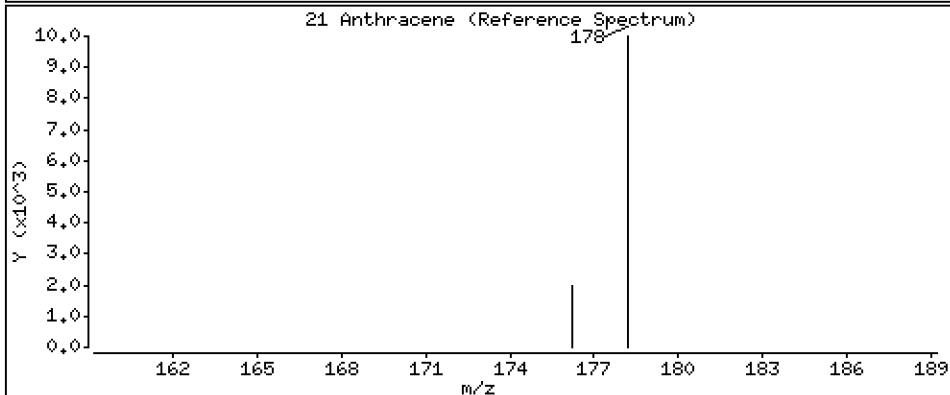
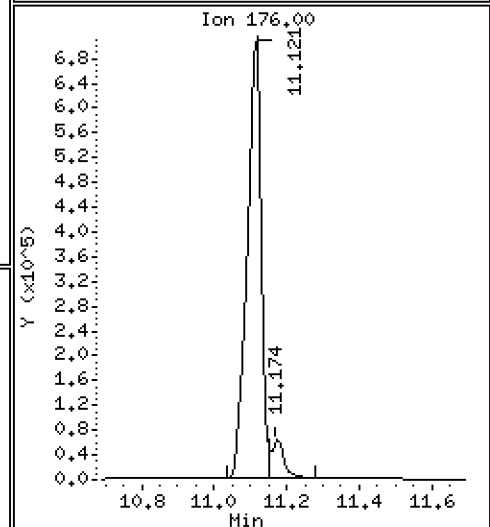
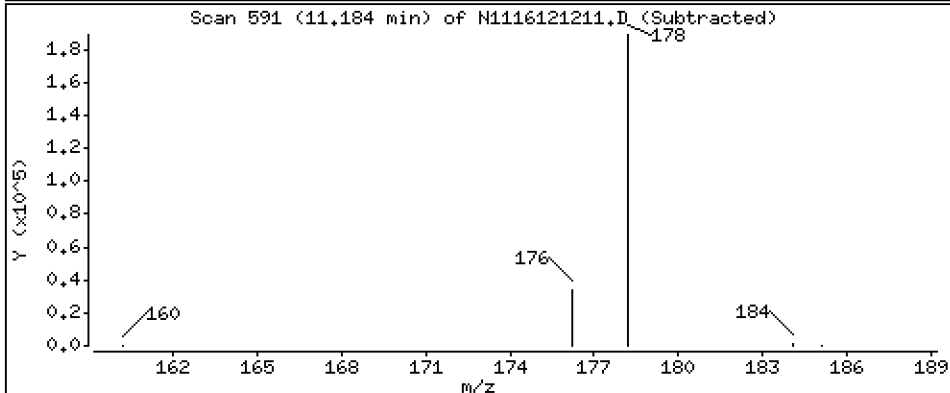
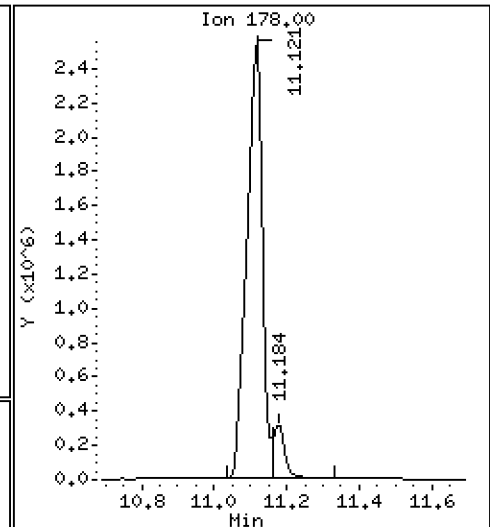
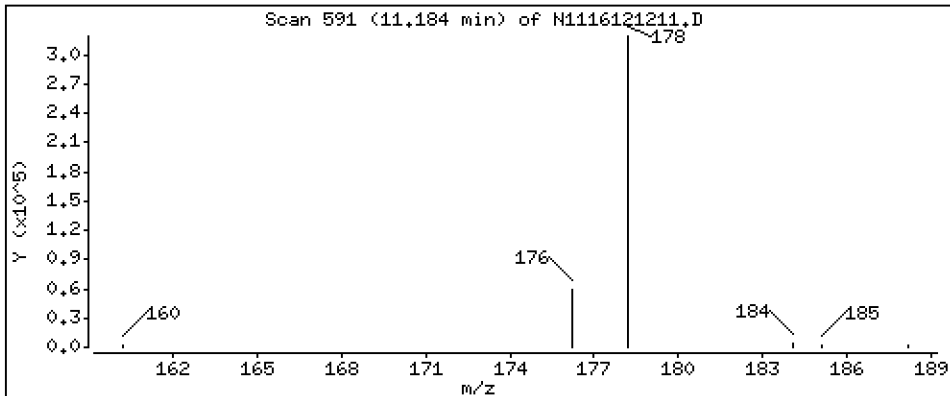
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 223 ng/mL



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Instrument: nt11.i

Sample Info: 16K0321-05

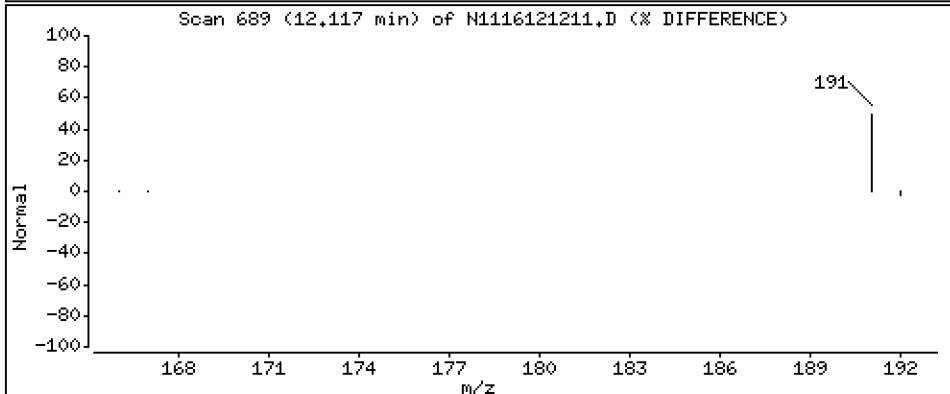
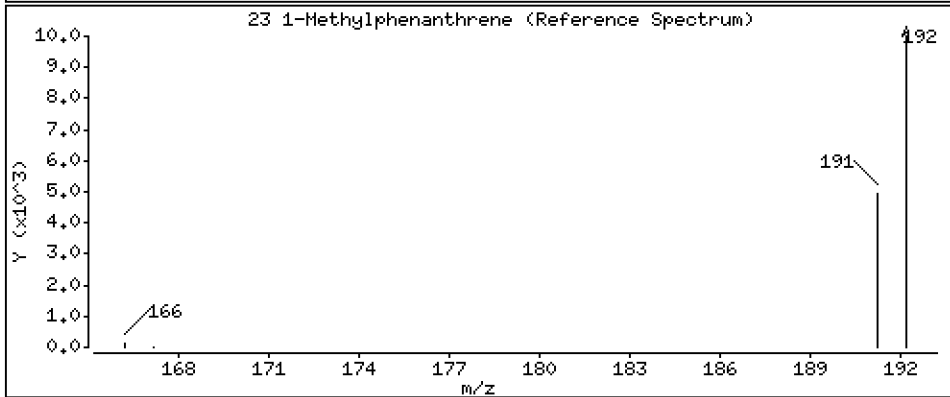
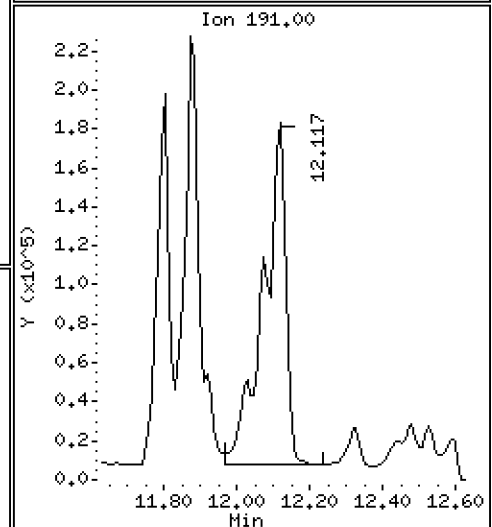
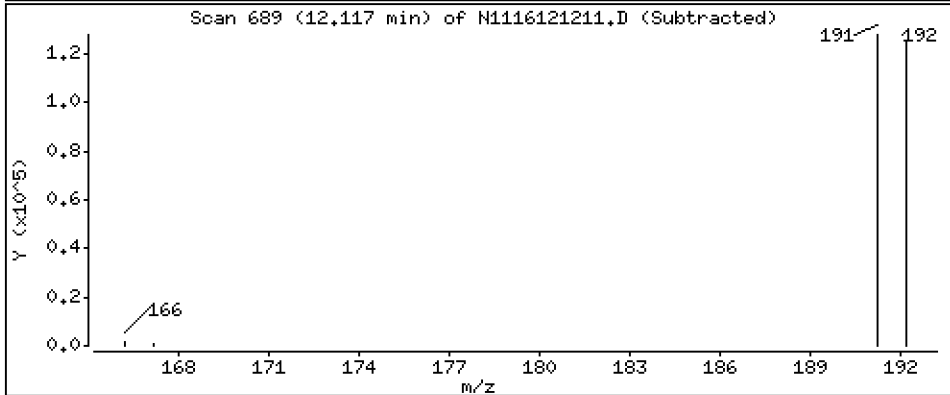
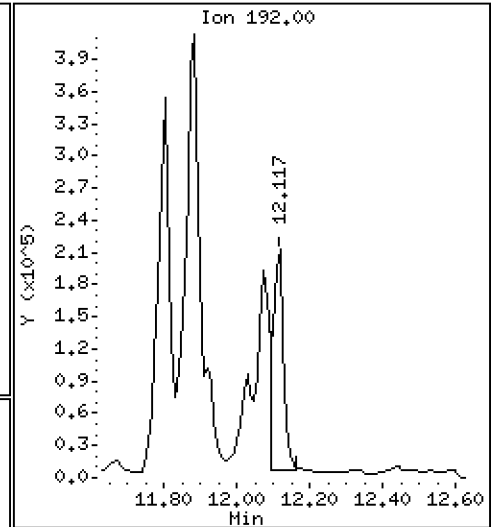
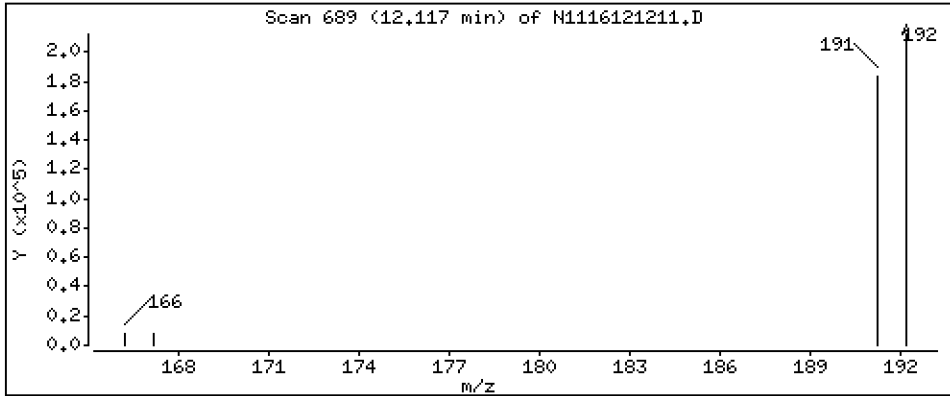
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 148 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

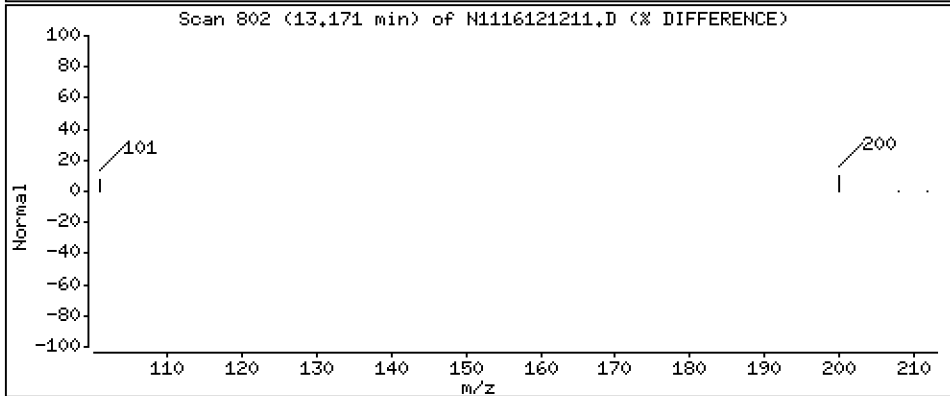
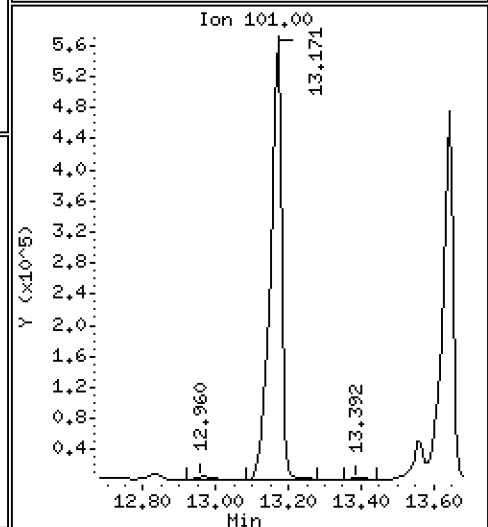
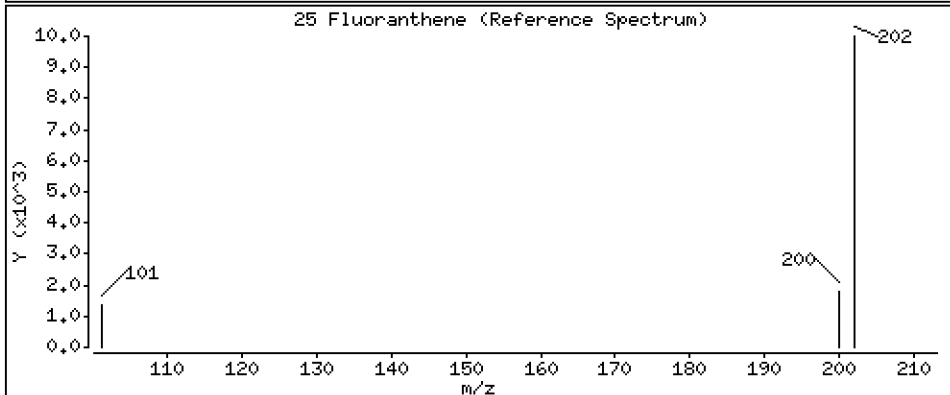
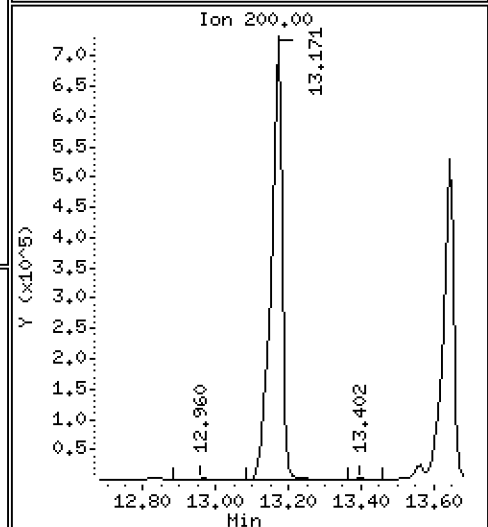
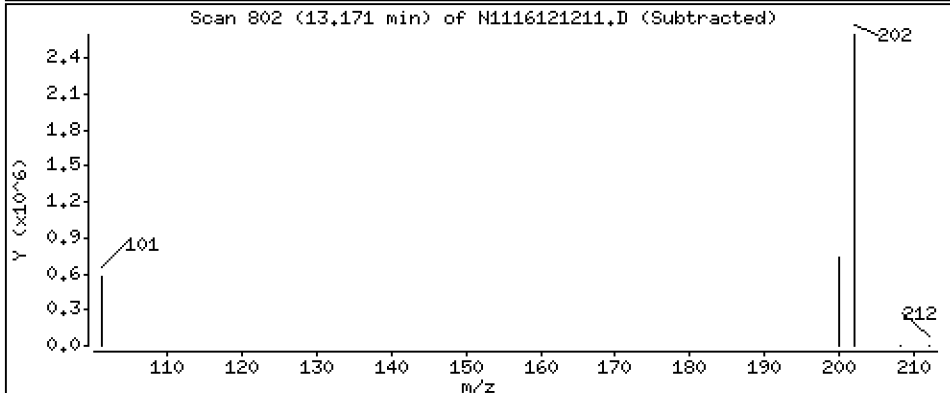
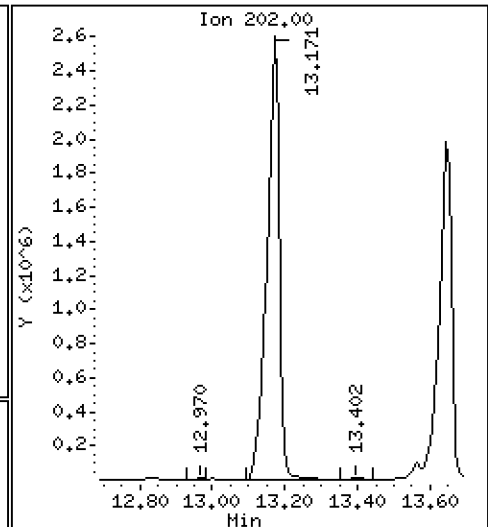
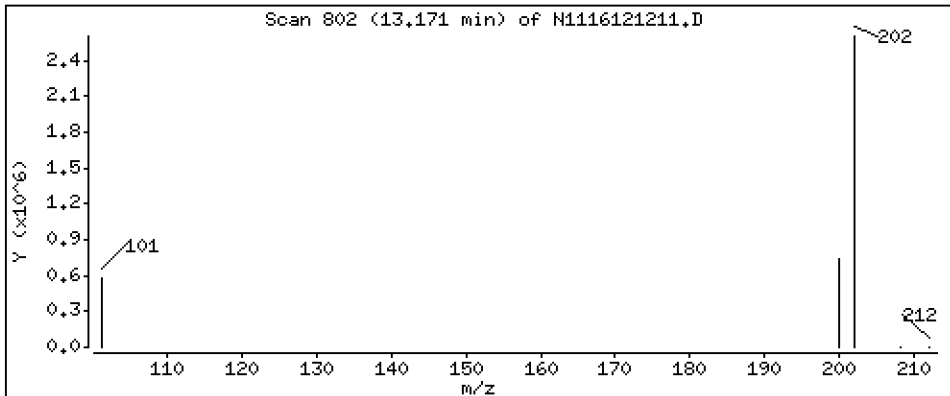
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 1850 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

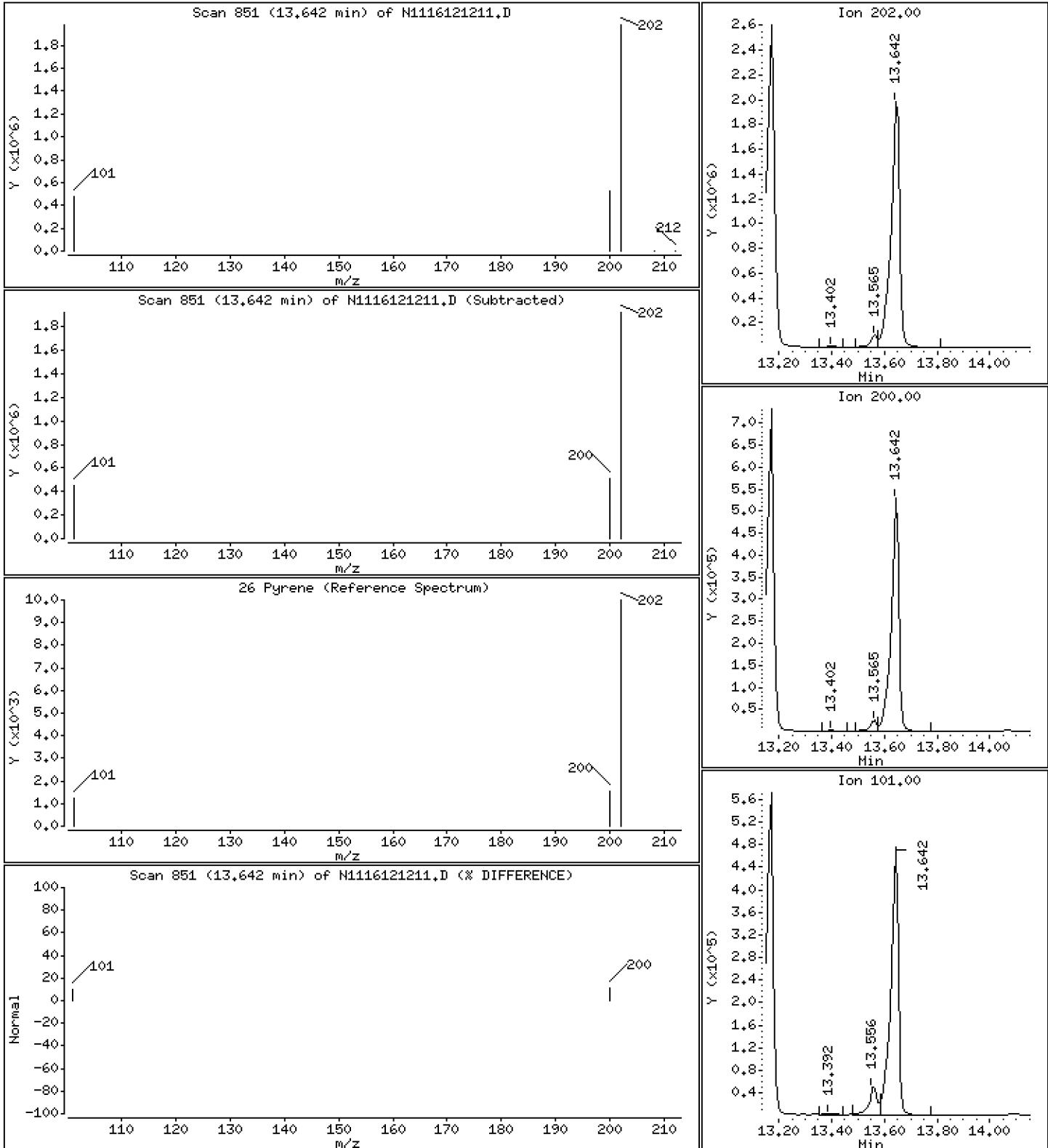
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1250 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

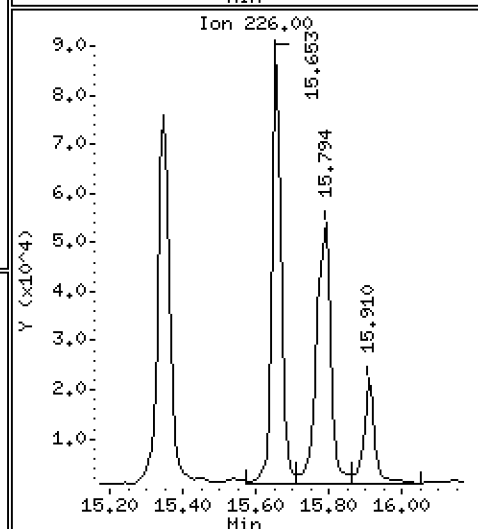
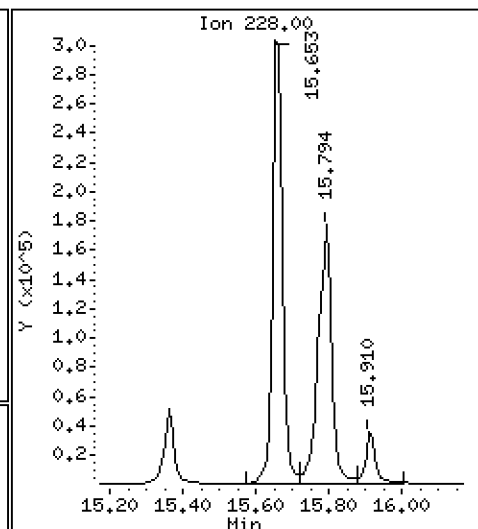
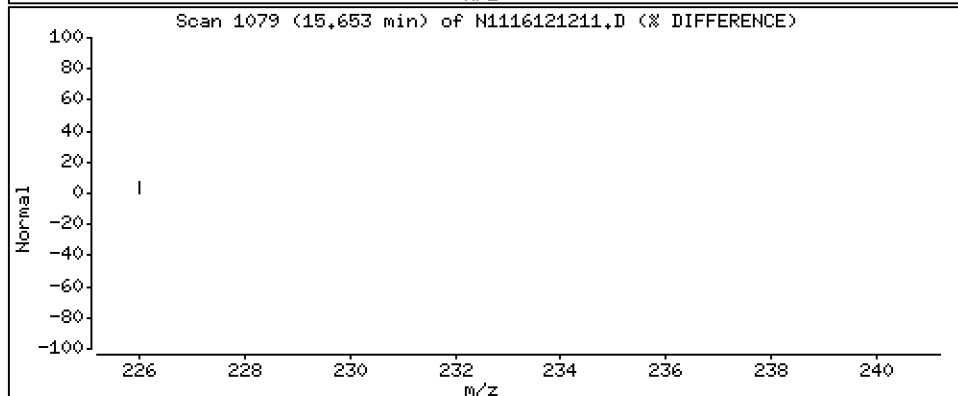
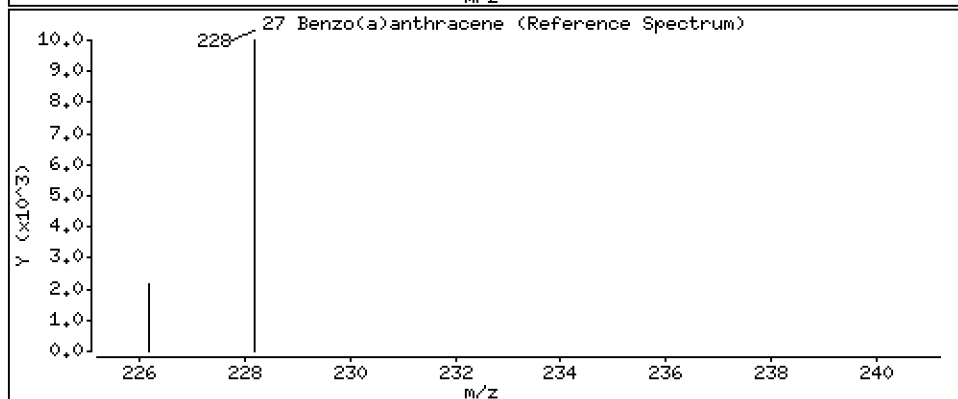
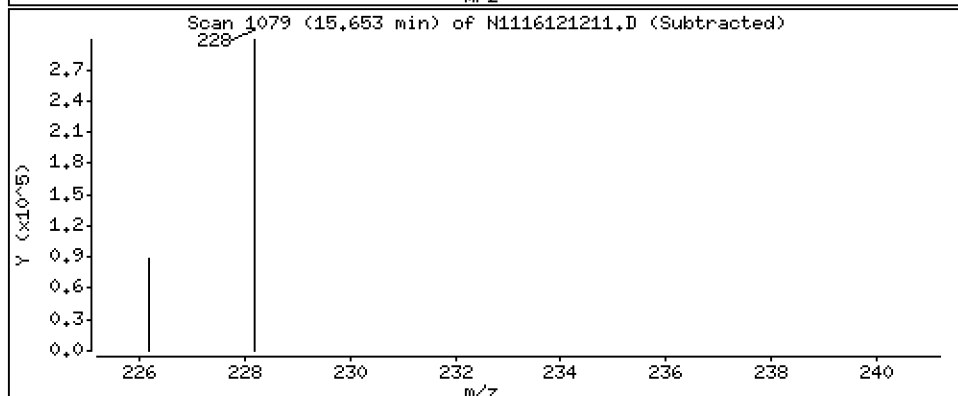
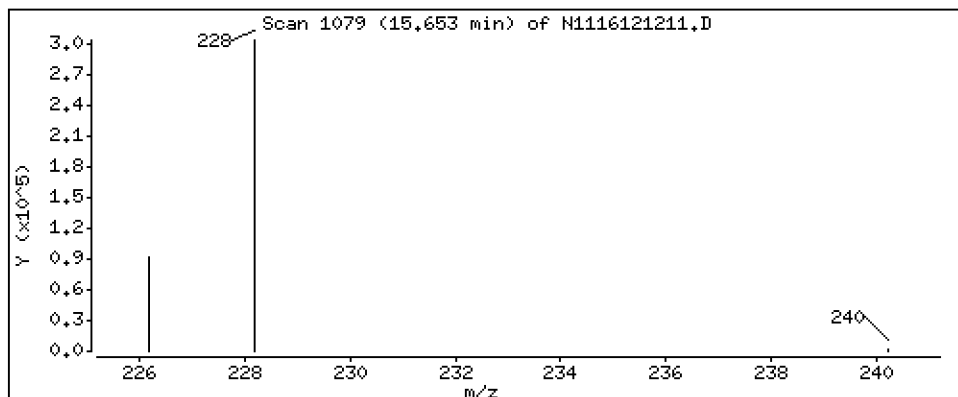
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 175 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

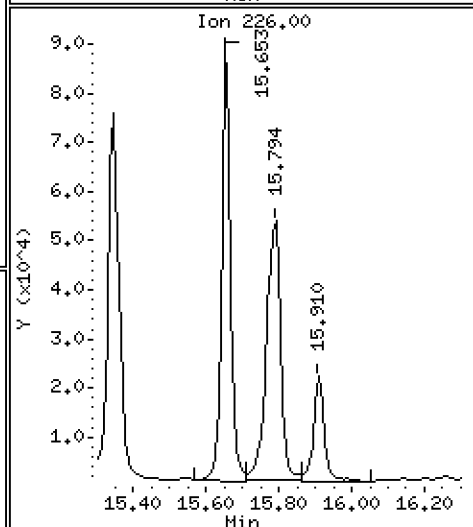
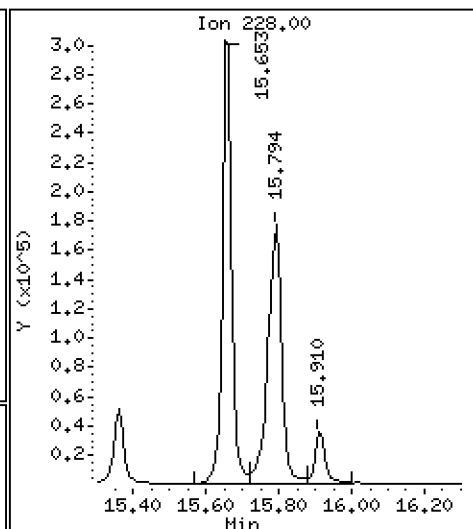
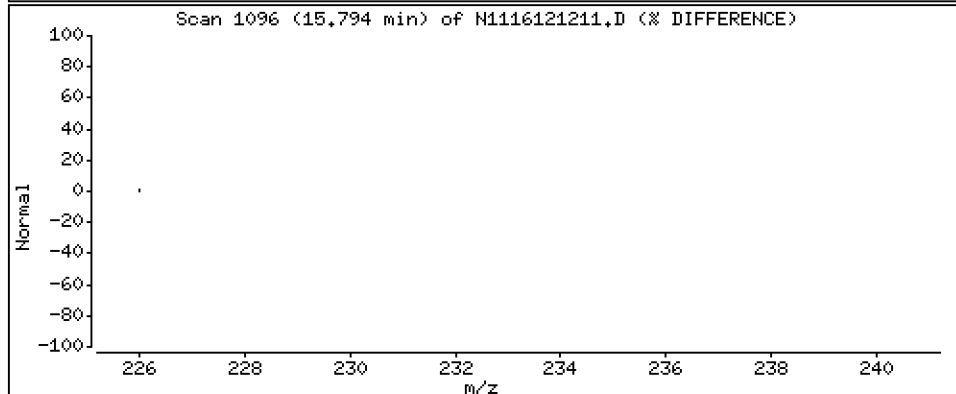
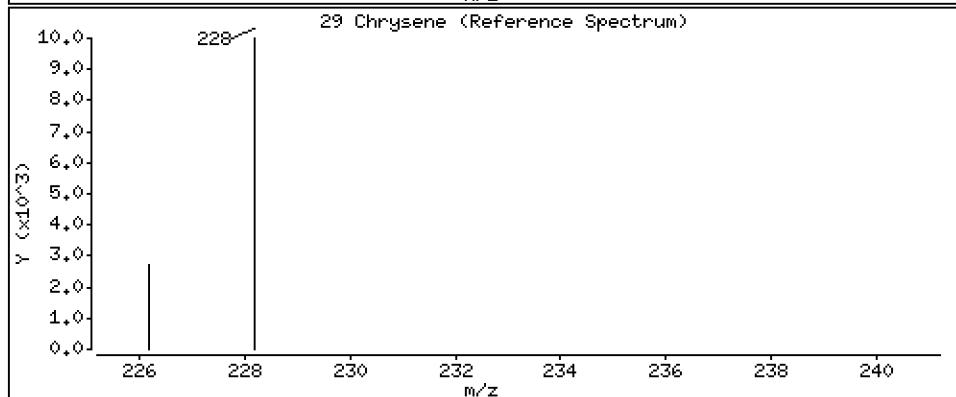
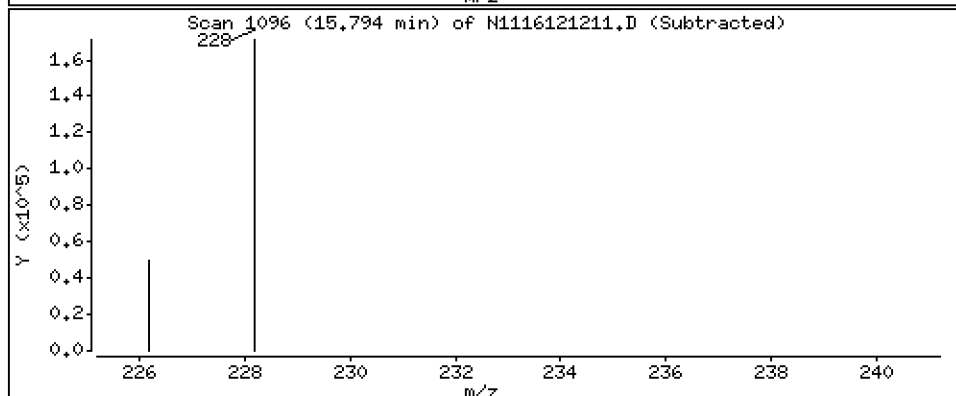
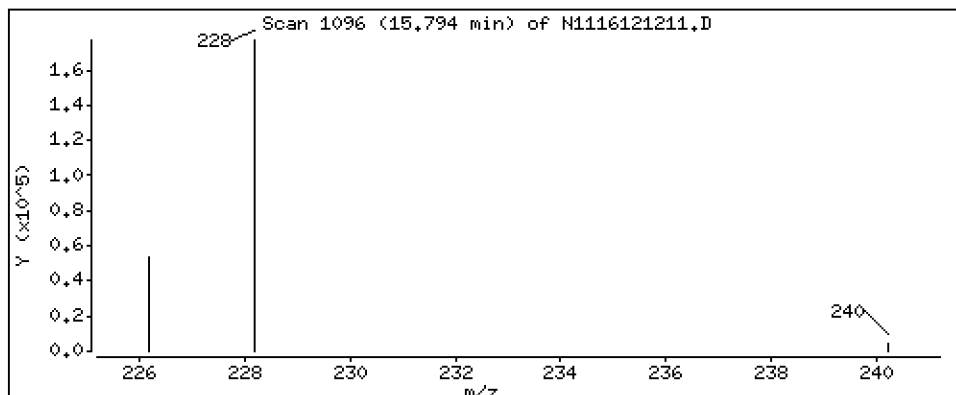
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 130 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

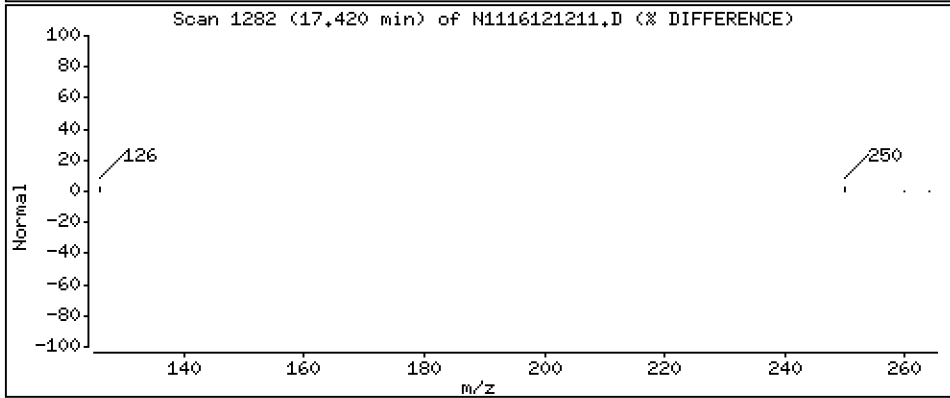
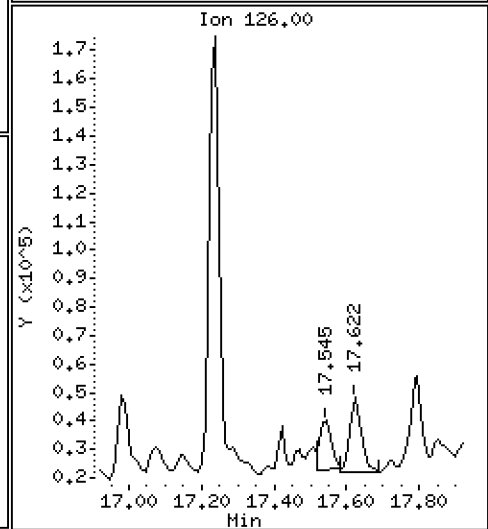
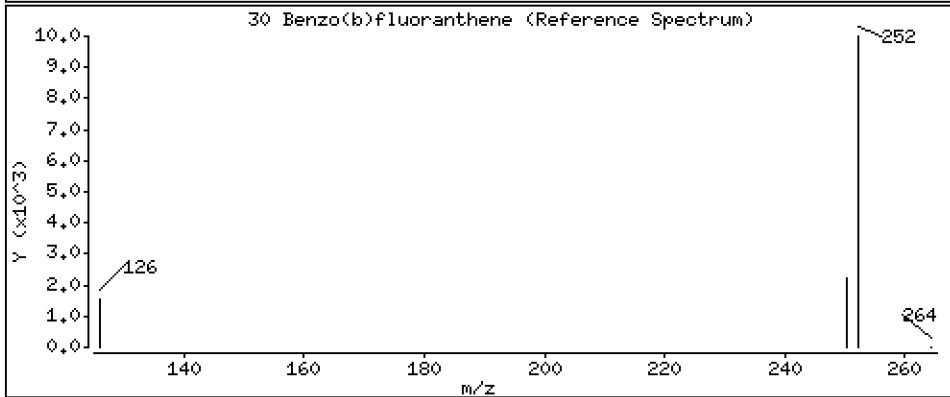
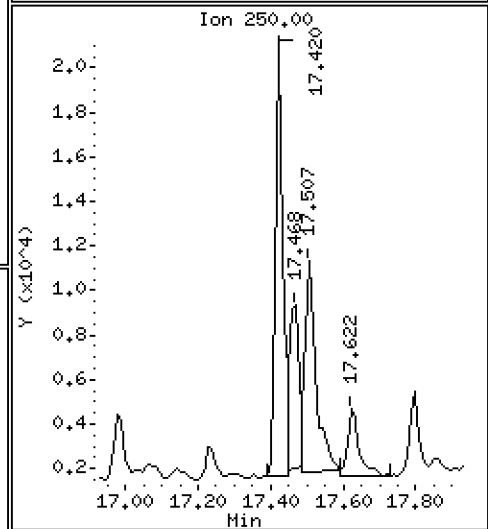
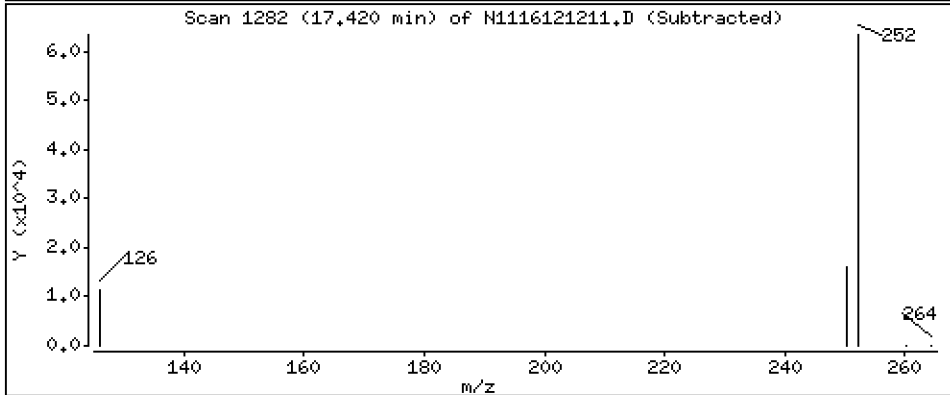
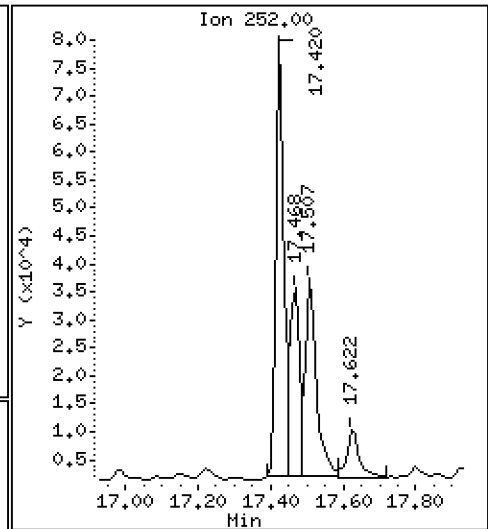
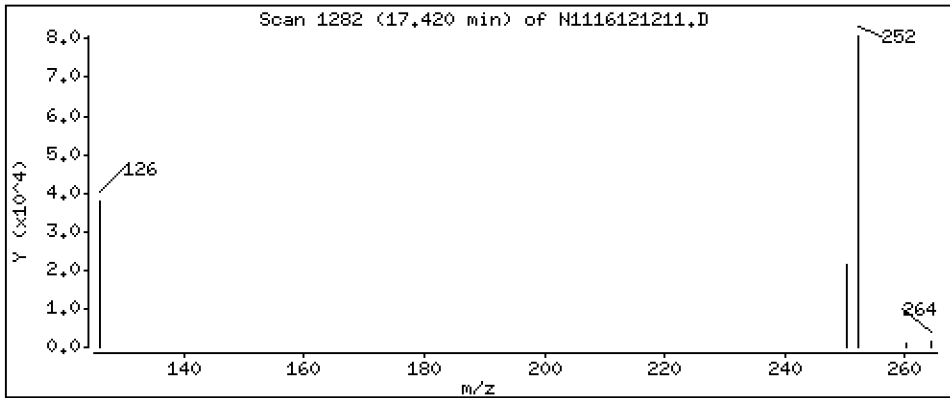
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 39,2 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

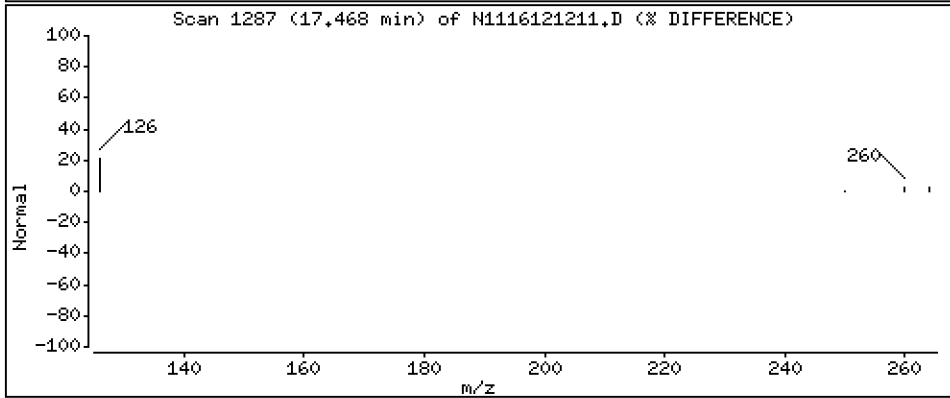
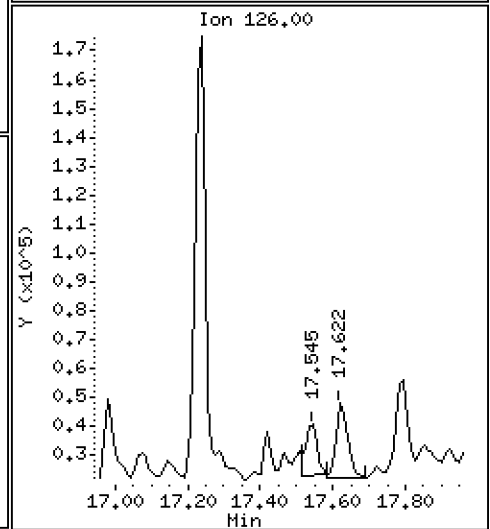
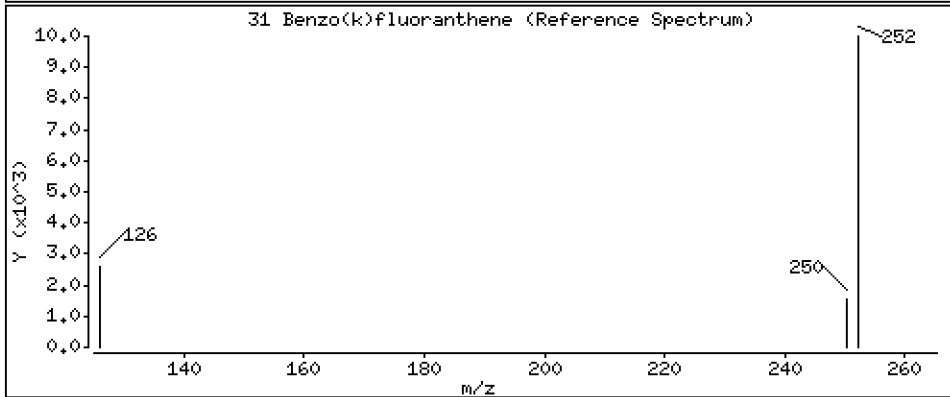
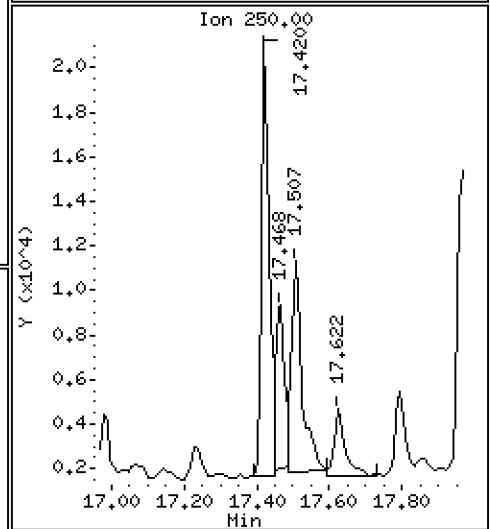
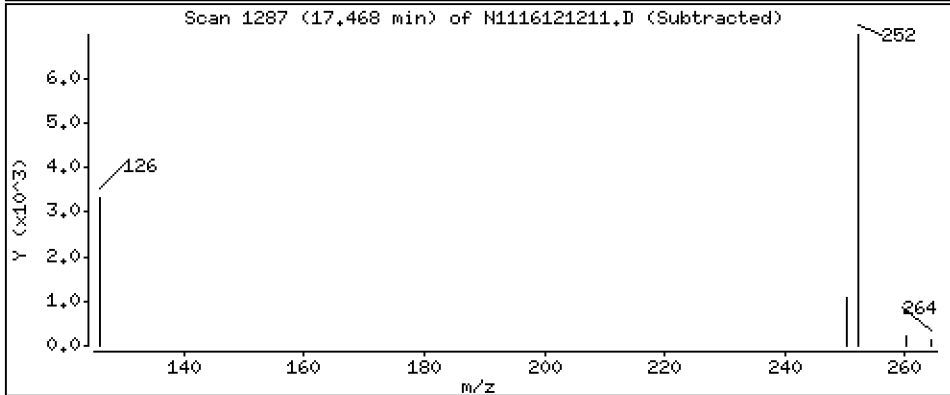
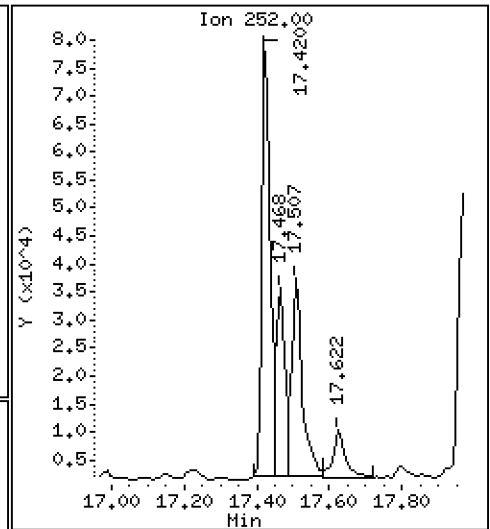
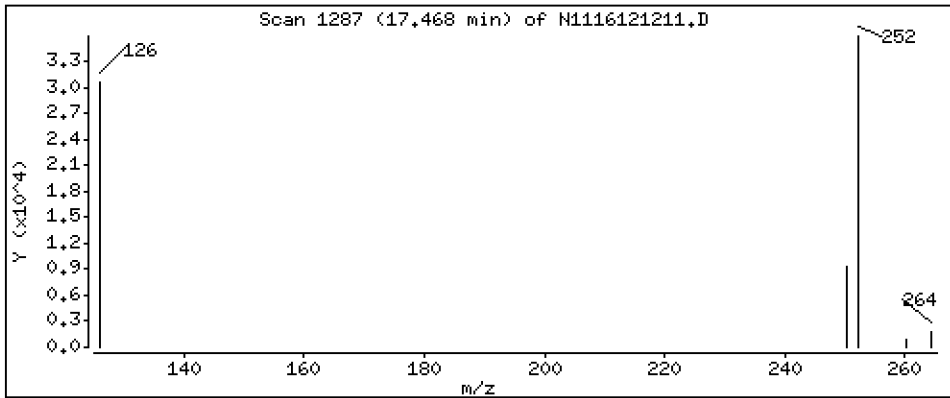
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 18,7 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

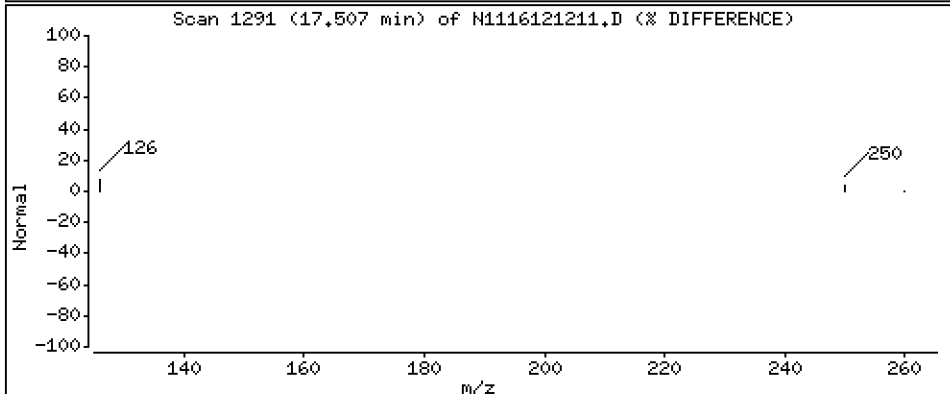
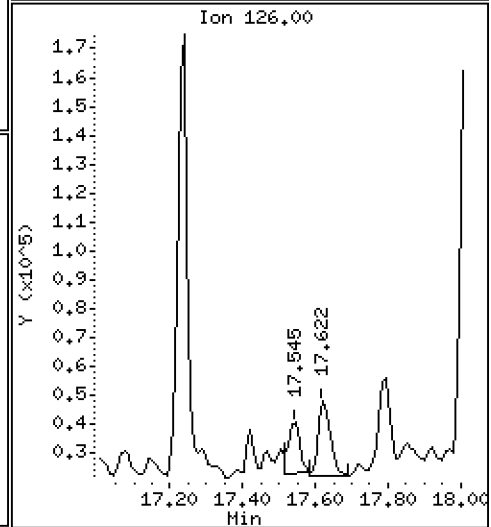
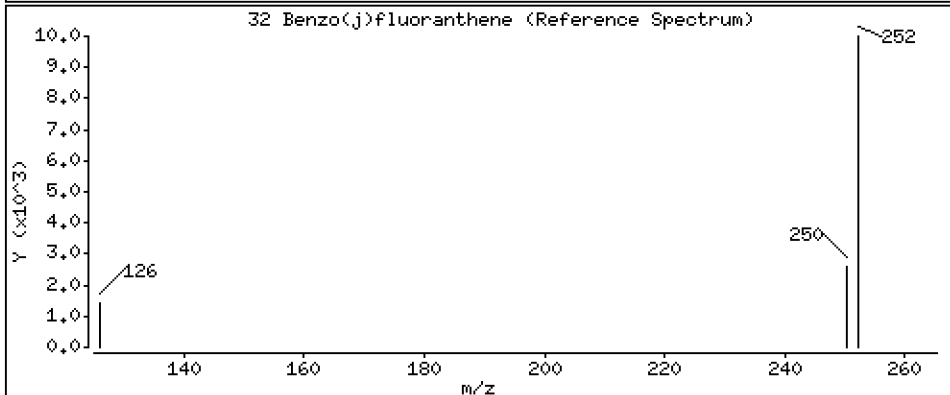
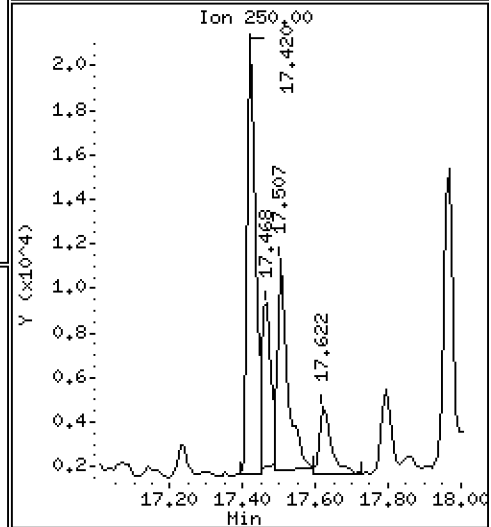
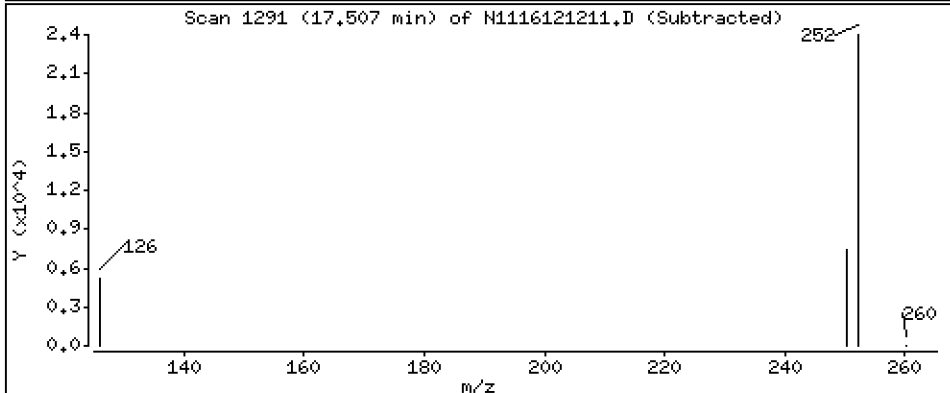
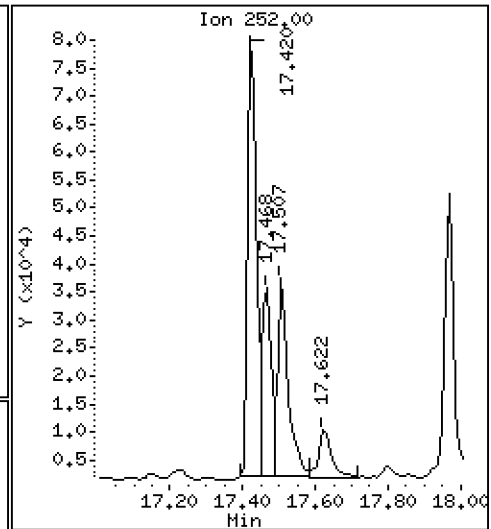
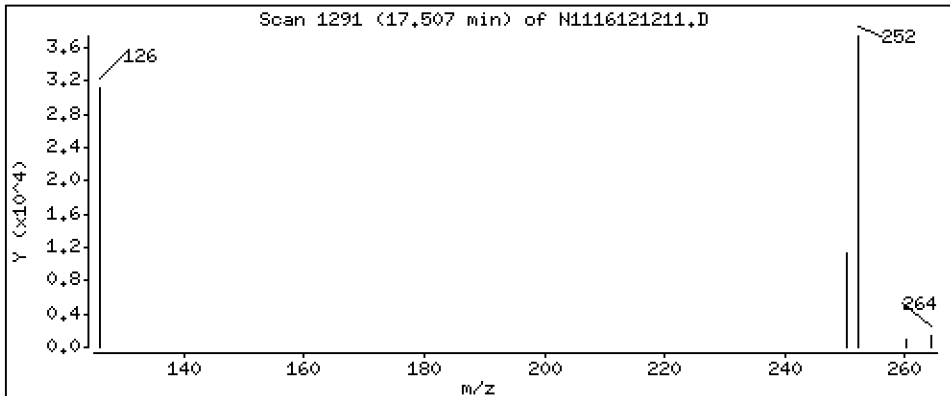
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 22,5 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

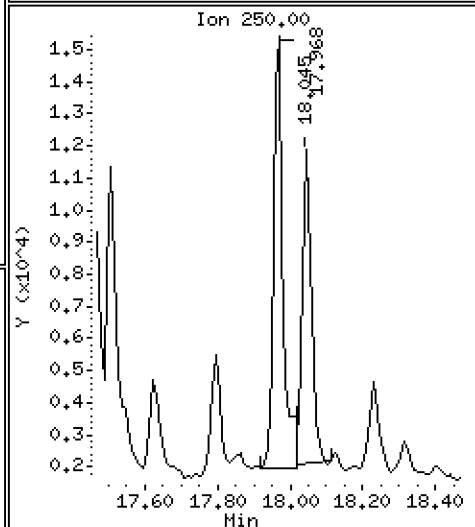
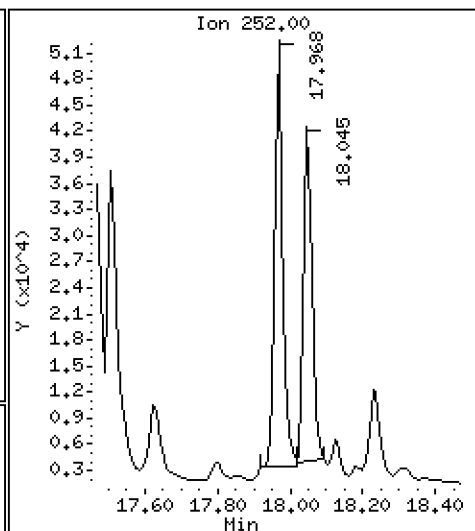
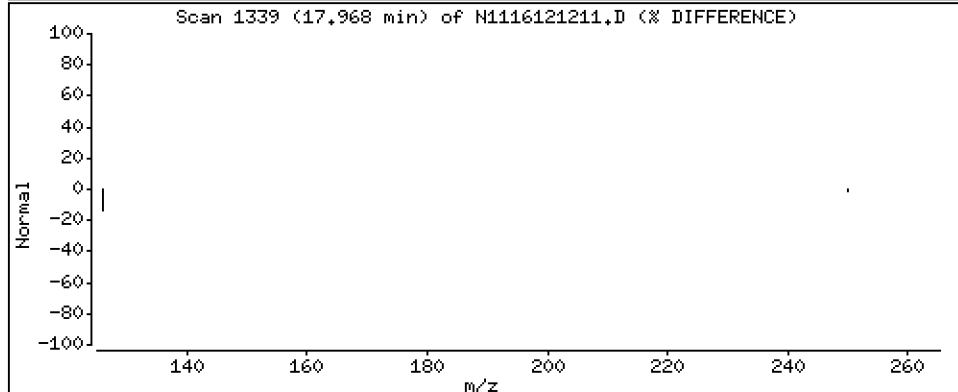
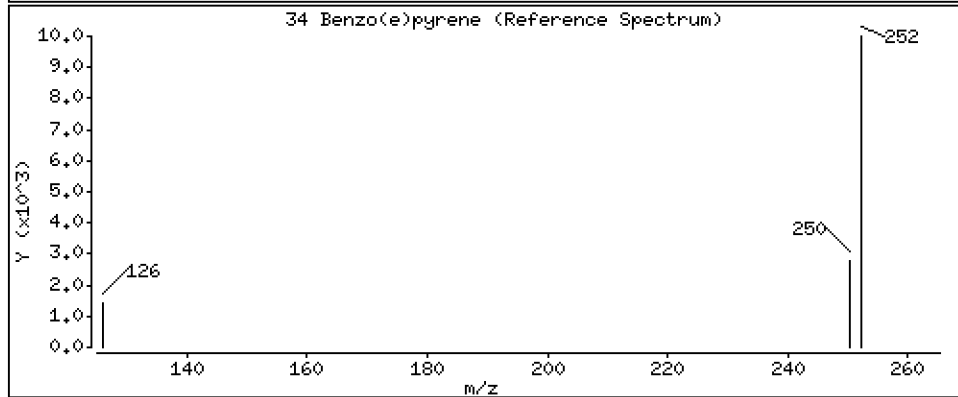
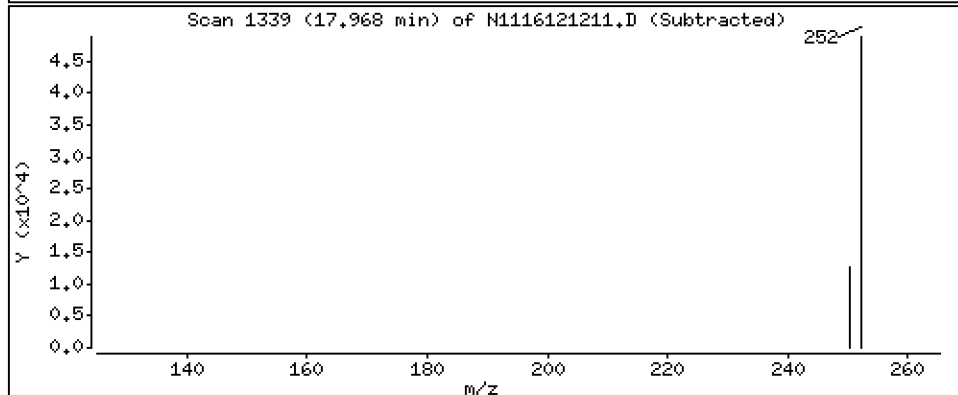
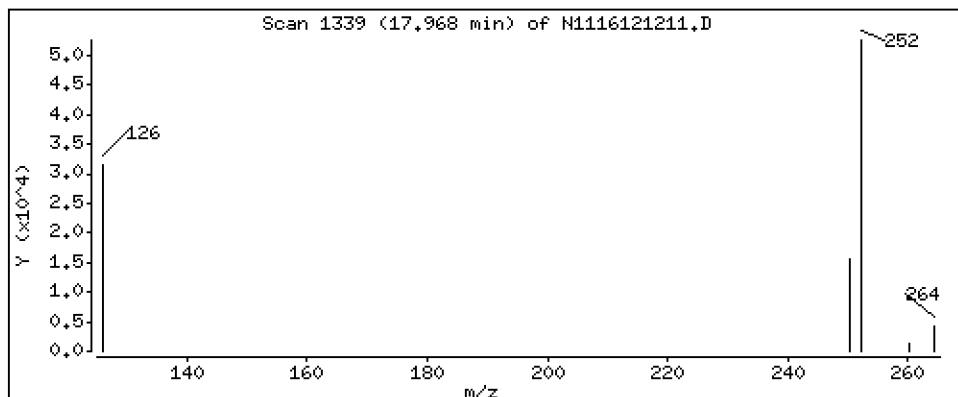
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 24,1 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

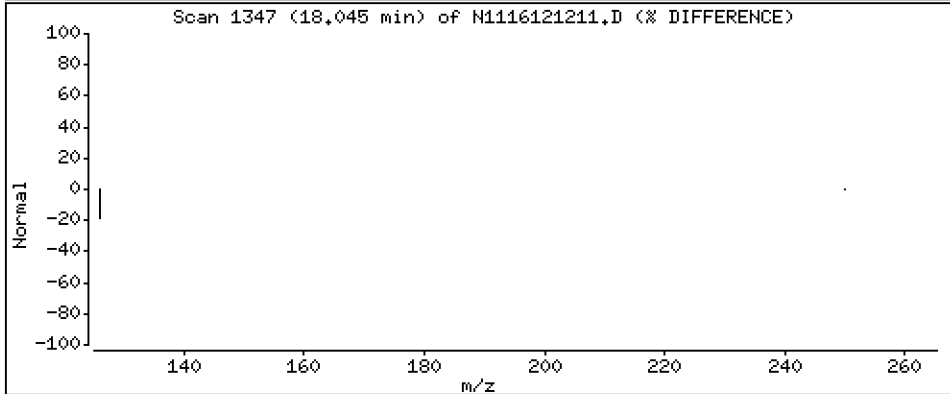
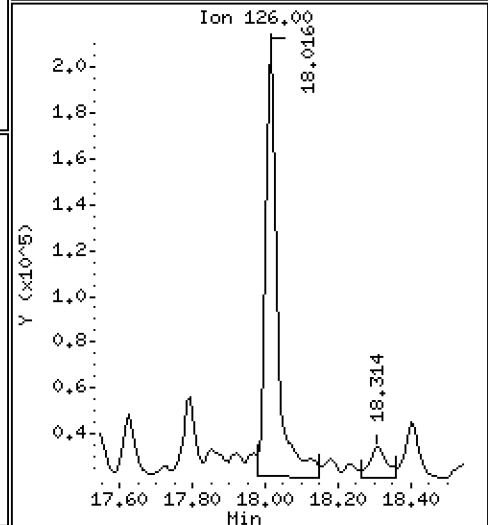
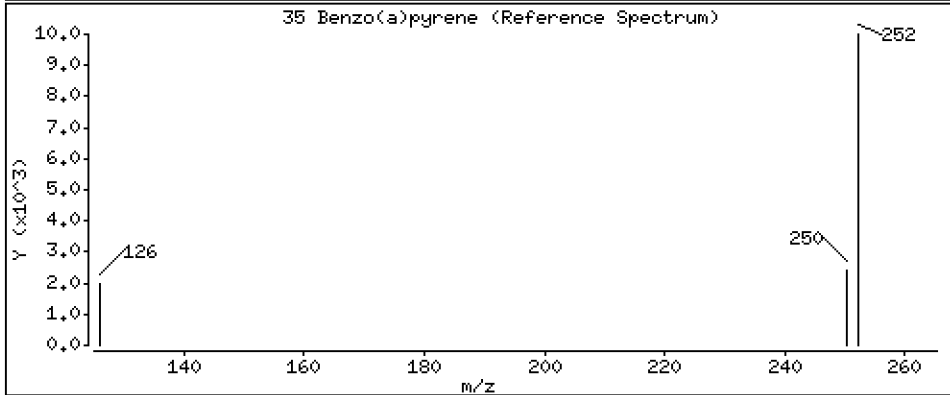
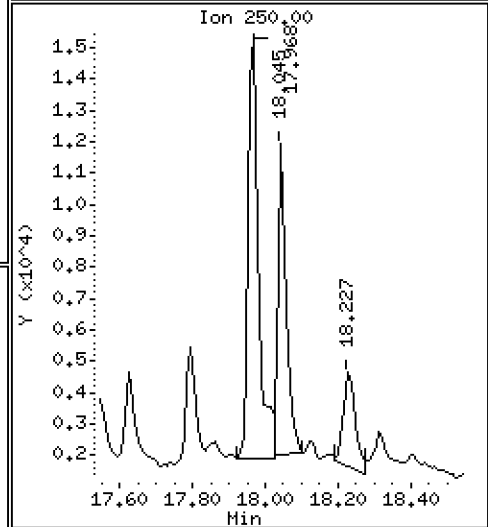
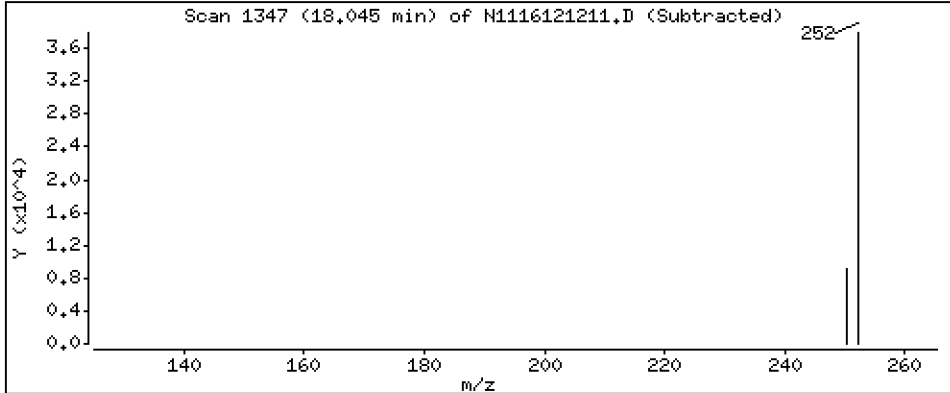
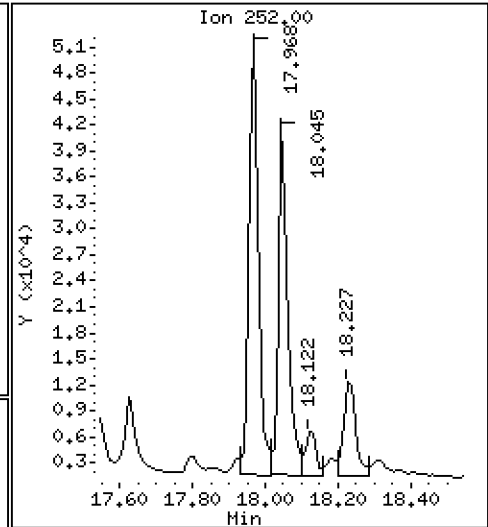
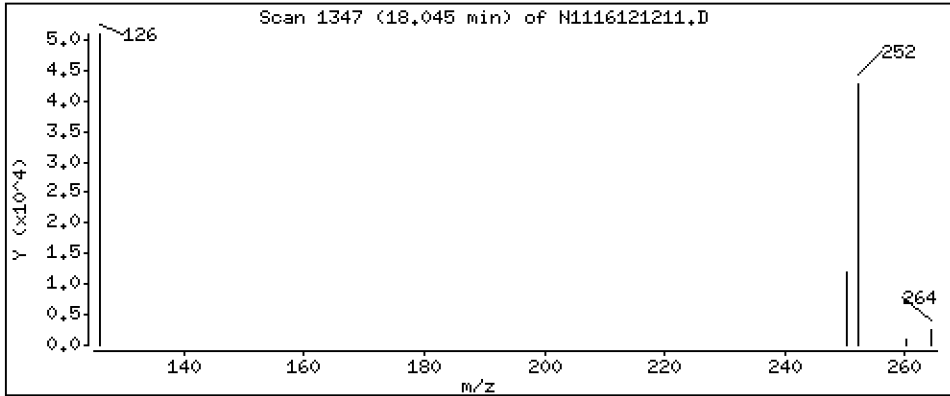
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 24,7 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

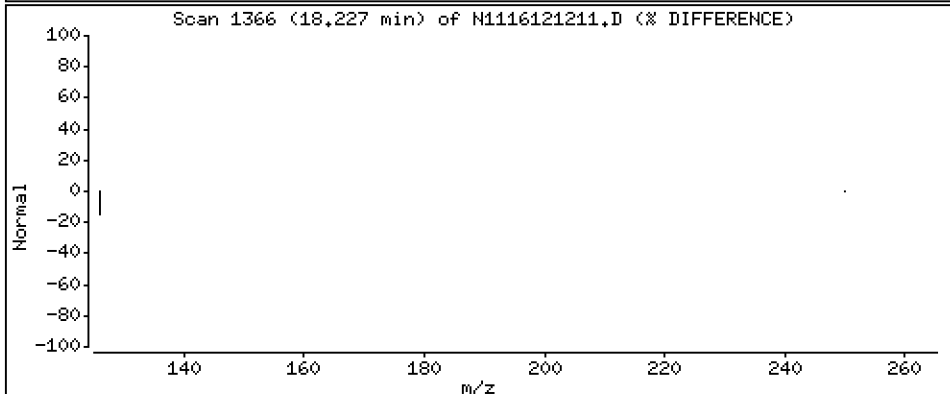
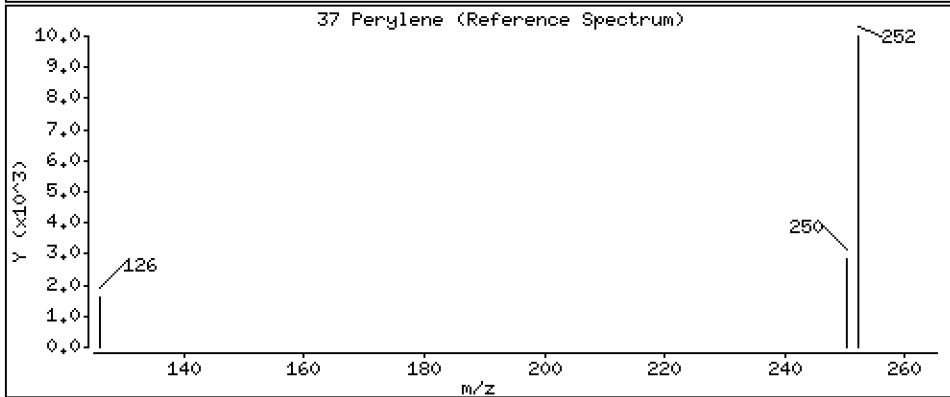
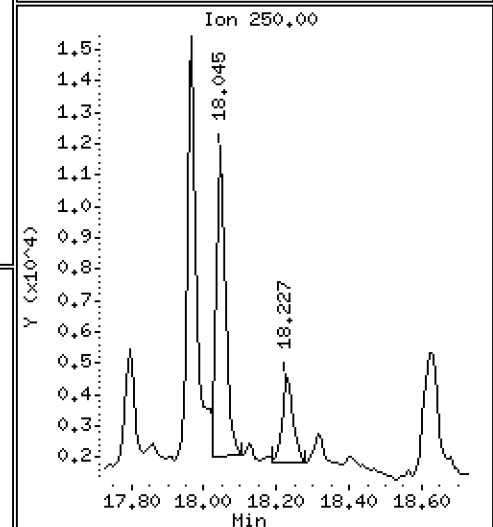
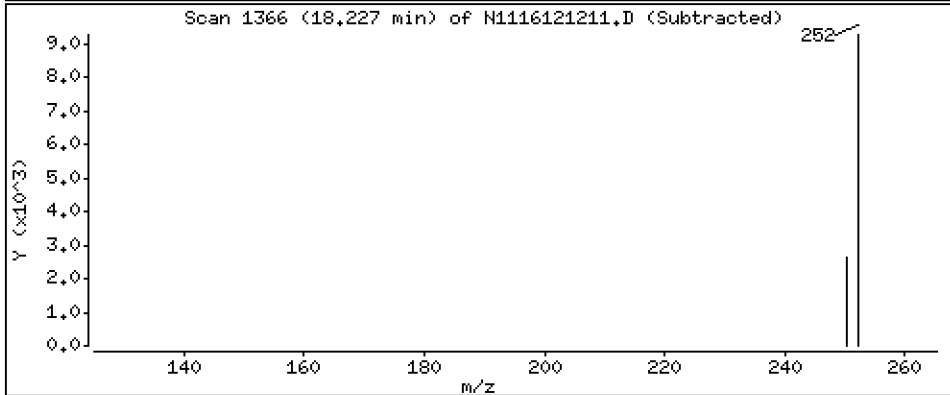
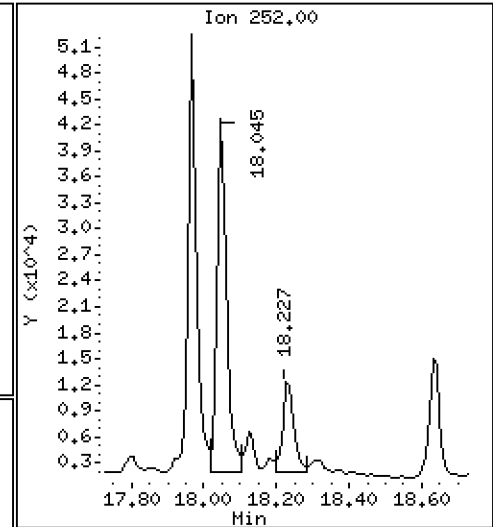
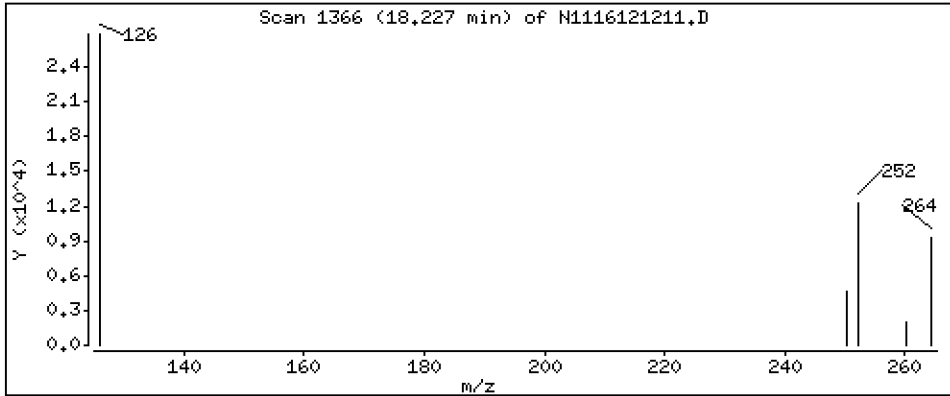
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 7,06 ng/mL

37 Perylene



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

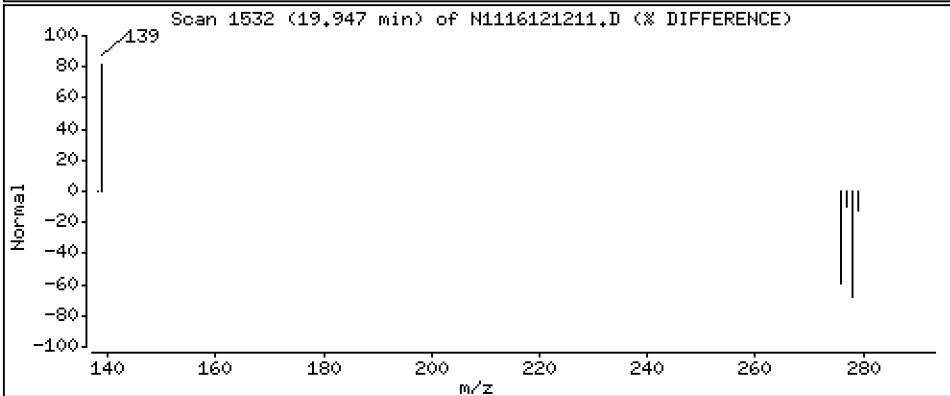
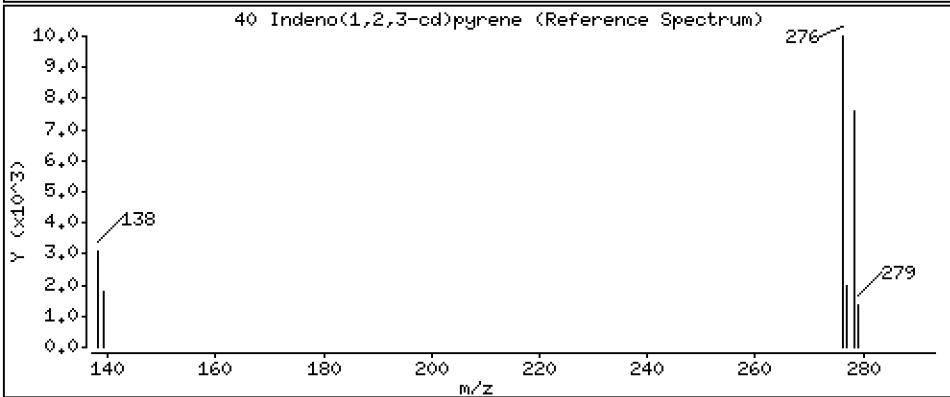
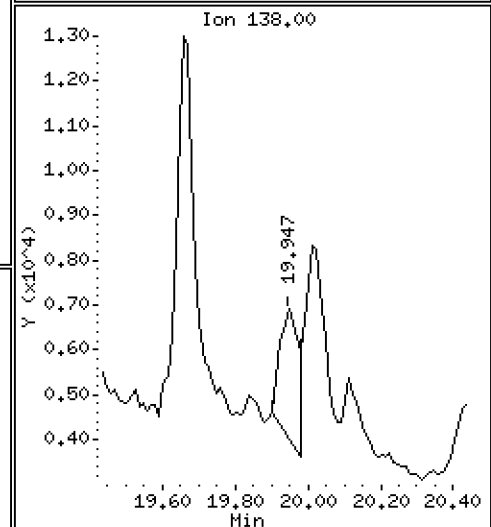
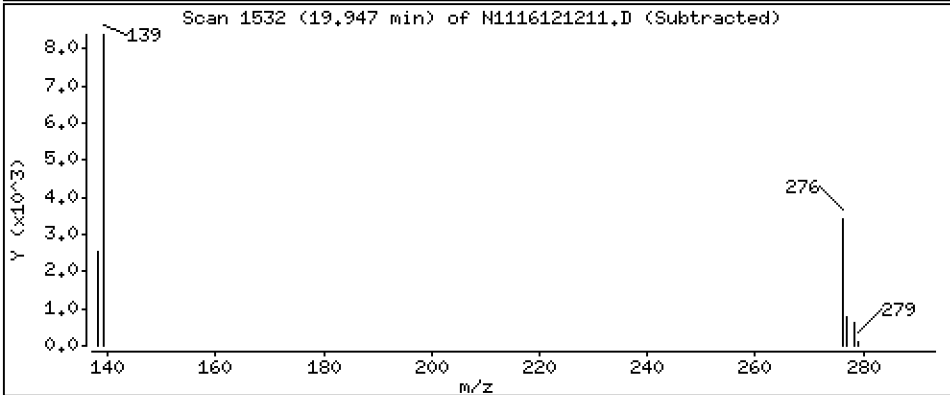
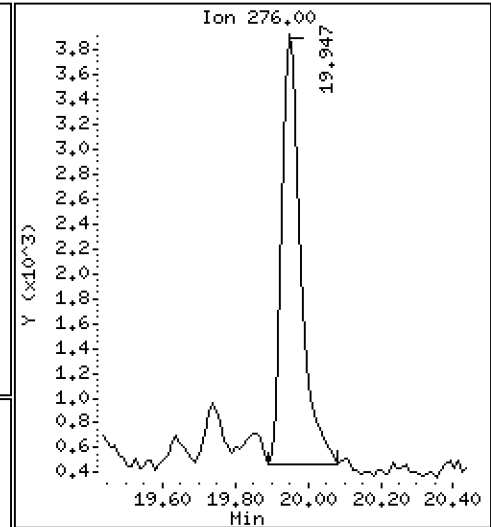
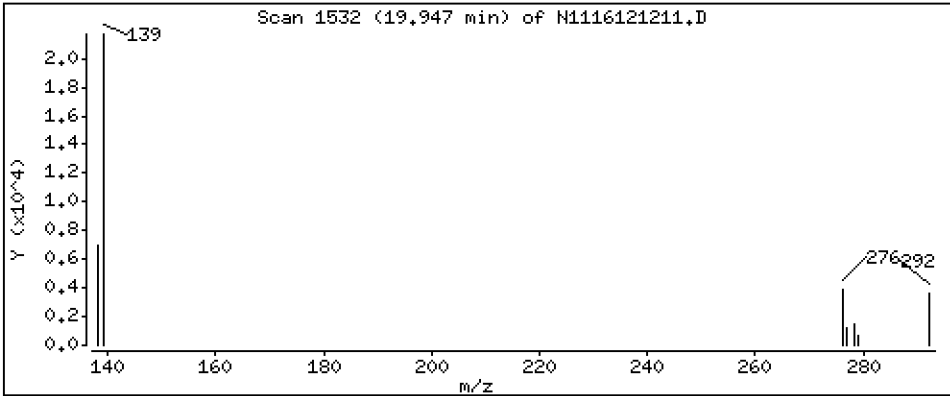
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 3,65 ng/mL



Date : 12-DEC-2016 13:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-05

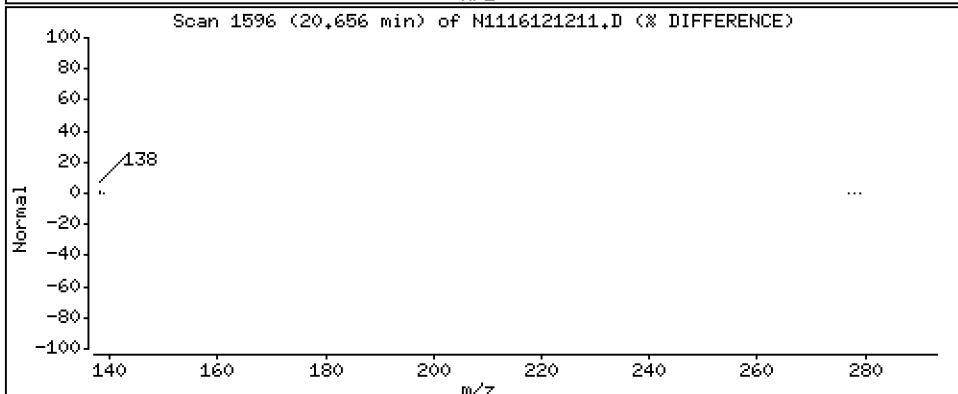
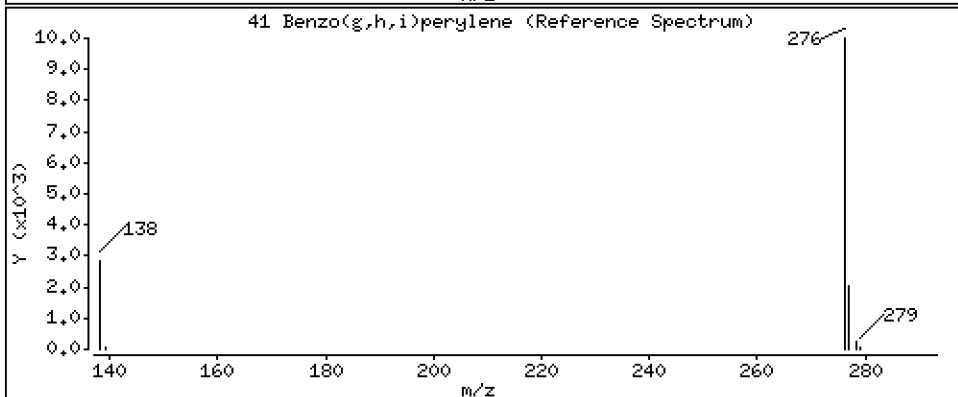
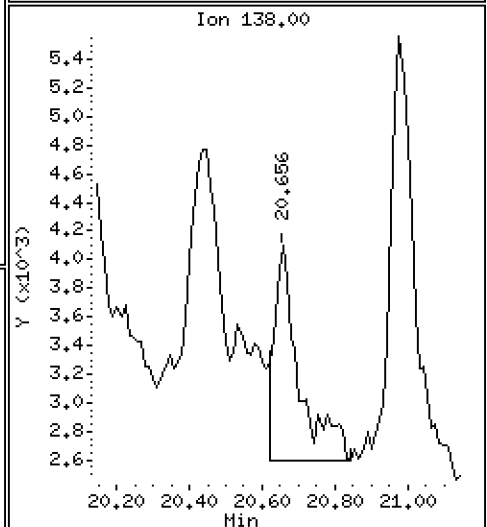
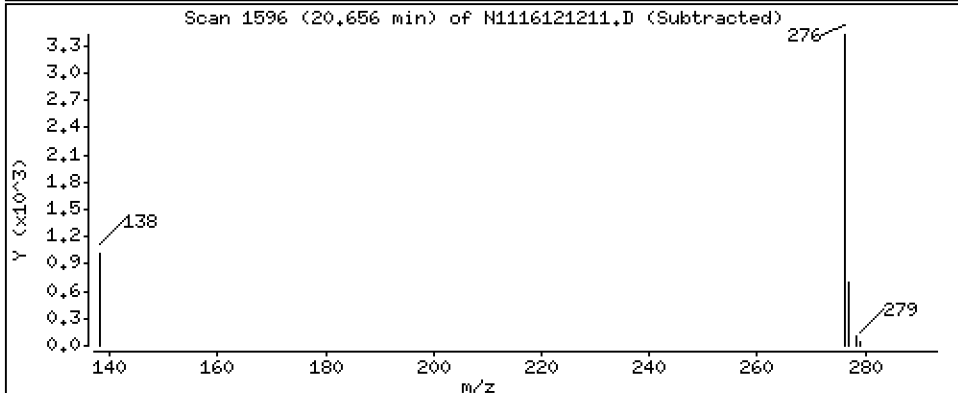
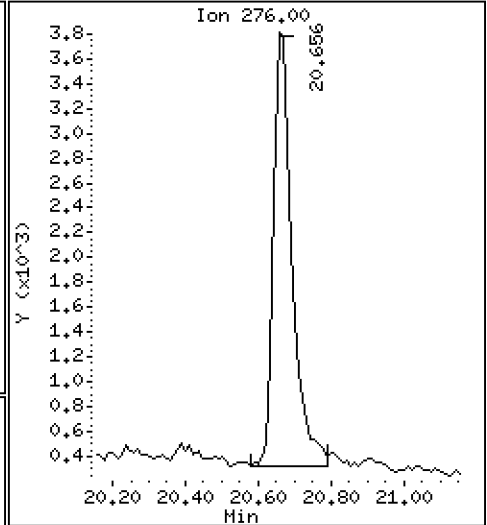
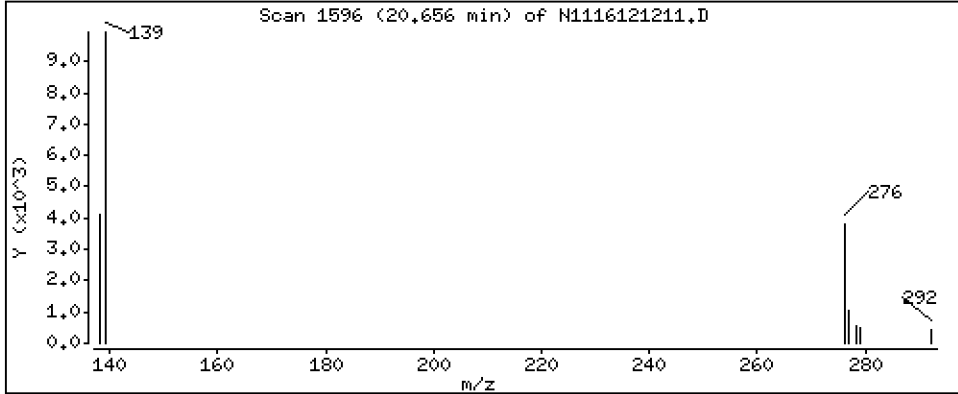
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,14 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121211.D
 Lab Smp Id: 16K0321-05
 Inj Date : 12-DEC-2016 13:28 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-05
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 10
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	555673	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	143531	50.2390	50.2
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.495	6.505	(1.175)	253192	120.859	121
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	251743	104.952	105
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	190256	80.8714	80.9
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		7.419	7.429	(0.877)	123307	34.3708	34.4
9 2,6-Dimethylnaphthalene	156		7.450	7.482	(0.881)	383089	148.600	149
10 Acenaphthylene	152		8.312	8.321	(0.983)	54438	18.3200	18.3
* 11 Acenaphthene-d10	164		8.456	8.474	(1.000)	321629	200.000	
12 Acenaphthene	153		8.520	8.538	(1.007)	1107470	543.224	543
13 Dibenzofuran	168		8.726	8.738	(1.032)	756063	260.962	261
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.047)	106956	59.3828	59.4 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.105)	1305979	583.460	583
17 Dibenzothiophene	184		10.921	10.921	(0.986)	196002	68.6276	68.6
* 18 Phenanthrene-d10	188		11.079	11.089	(1.000)	577822	200.000	
19 Phenanthrene	178		11.121	11.131	(1.004)	7661366	2207.35	2210
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.184	11.184	(1.009)	729468	223.349	223
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.094)	452627	148.000	148 (M)
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.186)	383818	148.808	149
25 Fluoranthene	202		13.171	13.180	(1.189)	6223832	1848.03	1850
26 Pyrene	202		13.642	13.651	(0.866)	4576743	1246.62	1250
27 Benzo(a)anthracene	228		15.652	15.660	(0.994)	556324	175.115	175
* 28 Chrysene-d12	240		15.743	15.743	(1.000)	564273	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	458764	130.197	130
30 Benzo(b)fluoranthene	252		17.420	17.420	(0.958)	131214	39.1906	39.2
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.961)	67884	18.6604	18.7
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.963)	75984	22.5324	22.5
\$ 33 Benzo(e)pyrene-d12	264		17.920	17.919	(0.986)	191697	67.5359	67.5

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	78550	24.1434	24.1
35 Benzo(a)pyrene	252	18.044	18.044	(0.993)	75636	24.6736	24.7
* 36 Perylene-d12	264	18.179	18.179	(1.000)	589006	200.000	
37 Perylene	252	18.227	18.227	(1.003)	22454	7.05526	7.06
§ 38 Dibenzo(a,h)anthracene-d14	292	19.858	19.858	(1.092)	228910	116.025	116
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	12426	3.65183	3.65
41 Benzo(g,h,i)perylene	276	20.656	20.644	(1.136)	12177	4.14232	4.14

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121211.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-05
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	555673	12.59
11 Acenaphthene-d10	240770	120385	481540	321629	33.58
18 Phenanthrene-d10	429271	214636	858542	577822	34.61
28 Chrysene-d12	387691	193846	775382	564273	45.55
36 Perylene-d12	386259	193130	772518	589006	52.49

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.46	-0.21
18 Phenanthrene-d10	11.09	10.59	11.59	11.08	-0.09
28 Chrysene-d12	15.74	15.24	16.24	15.74	0.00
36 Perylene-d12	18.18	17.68	18.68	18.18	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 - N1116121211.D

Lab ID: 16K0321-05

nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 13:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

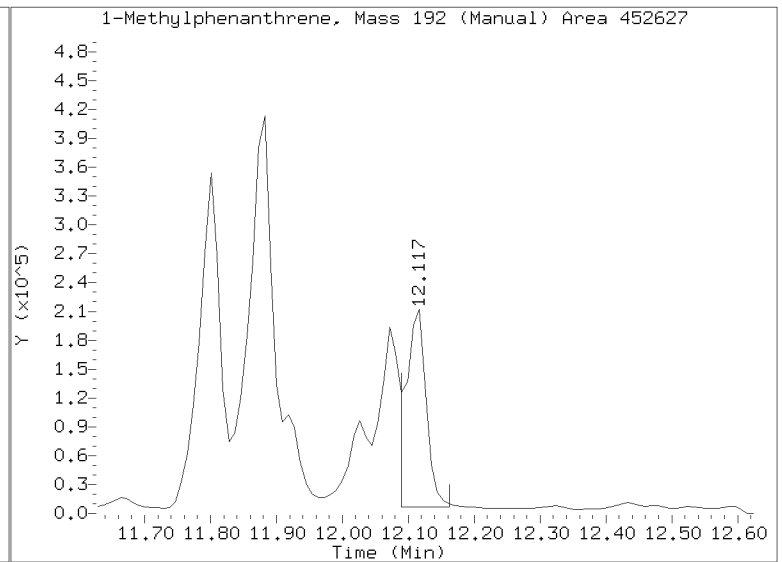
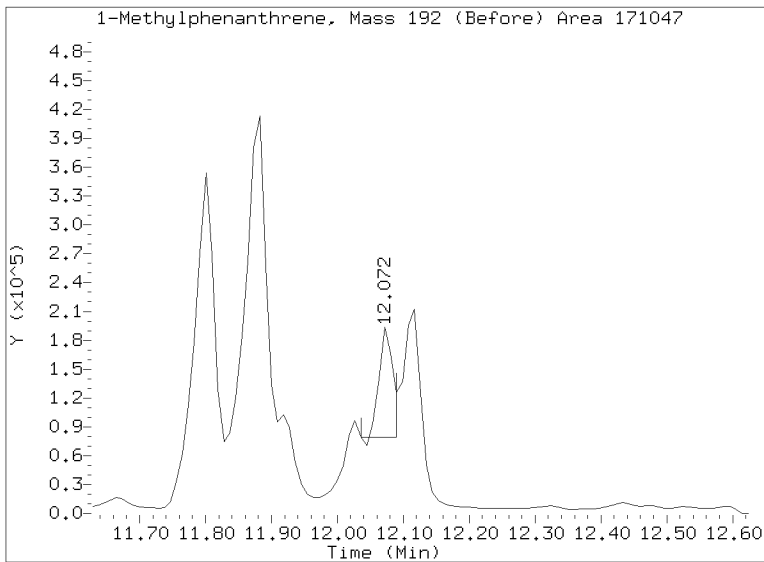
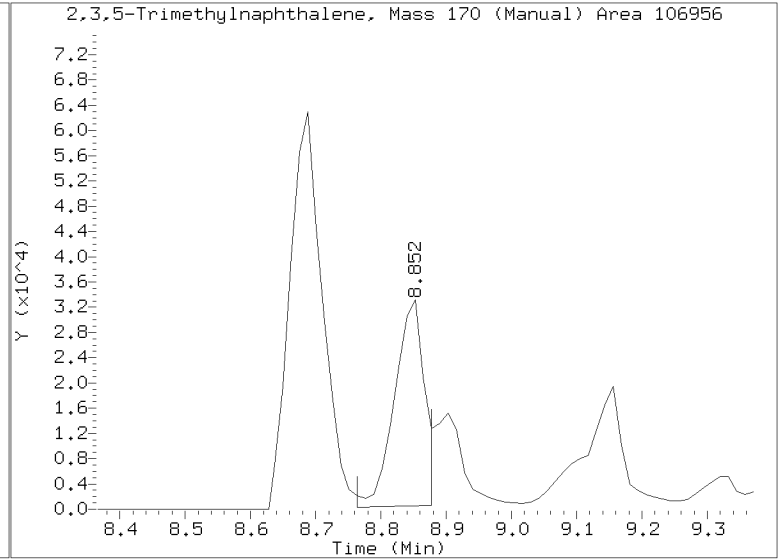
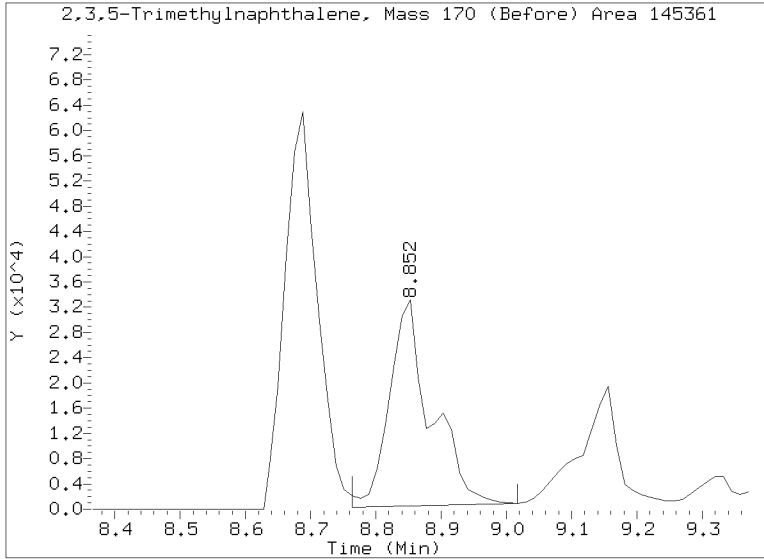
NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121211.D
Injection Date: 12-DEC-2016 13:28
Lab ID:16K0321-05 Client ID:
Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-05RE1 File ID: N1116121605.D
 Sampled: 11/22/16 12:10 Prepared: 11/24/16 08:25 Analyzed: 12/16/16 11:34
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0234 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	5	6.90	D, B	5.64	6.77
91-57-6	2-Methylnaphthalene	5	17.9	D, B	5.64	5.64
208-96-8	Acenaphthylene	5	5.64	U	5.64	5.64
83-32-9	Acenaphthene	5	84.7	D	5.64	5.64
86-73-7	Fluorene	5	98.0	D	5.64	5.64
85-01-8	Phenanthrene	5	423	D	5.64	5.64
120-12-7	Anthracene	5	47.9	D	5.64	5.64
206-44-0	Fluoranthene	5	401	D	5.64	5.64
129-00-0	Pyrene	5	238	D	5.64	5.64
56-55-3	Benzo(a)anthracene	5	33.0	D	5.64	5.64
218-01-9	Chrysene	5	24.2	D	5.64	5.64
205-99-2	Benzo(b)fluoranthene	5	7.43	D	5.64	5.64
207-08-9	Benzo(k)fluoranthene	5	5.64	U	5.64	5.64
50-32-8	Benzo(a)pyrene	5	5.64	U	5.64	5.64
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.64	U	5.64	5.64
53-70-3	Dibenzo(a,h)anthracene	5	5.64	U	5.64	5.64
191-24-2	Benzo(g,h,i)perylene	5	5.64	U	5.64	5.64
1985-5-0	Perylene	5	5.64	U	5.64	5.64
197-97-2	Benzo(e)pyrene	5	5.64	U	5.64	5.64

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	21.0	62.0	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	14.9	43.9	30 - 160	
Fluoranthene-d10	33.860	27.1	80.1	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	13.4	63.2	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161216.16\N1116121605.D

Date: 16-DEC-2016 11:34

Client ID:

Sample Info: 16K0321-5.5

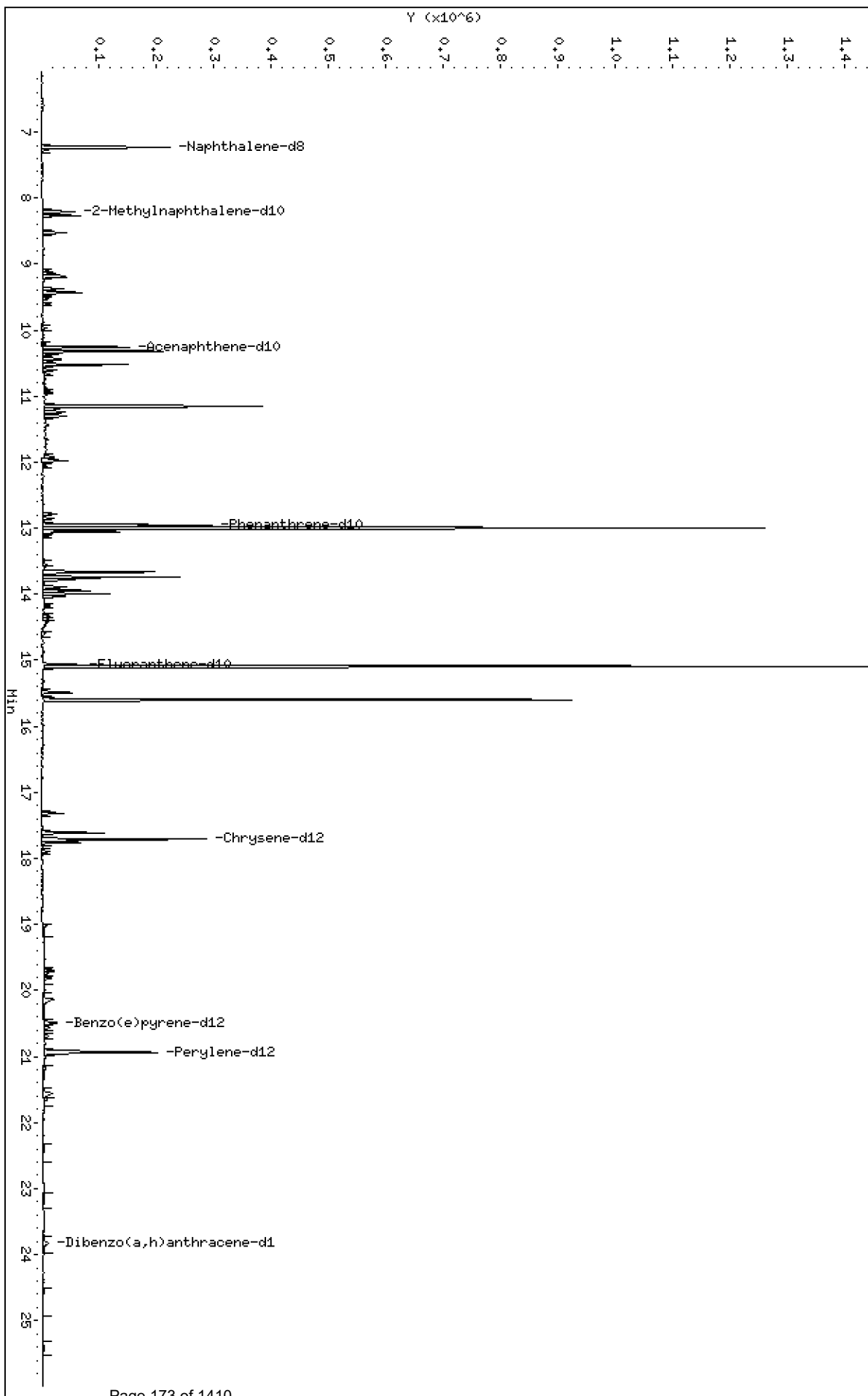
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161216.16\N1116121605.D



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

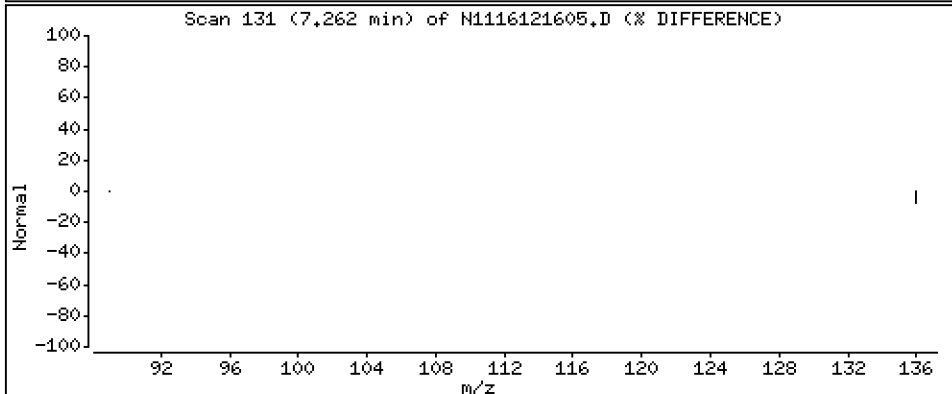
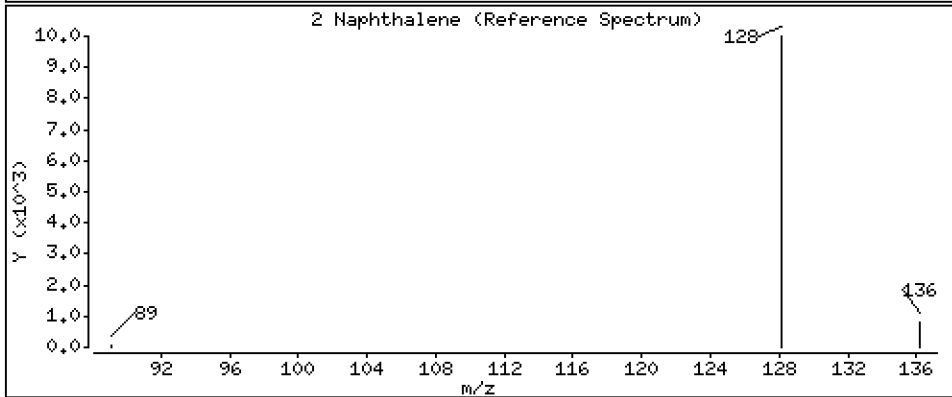
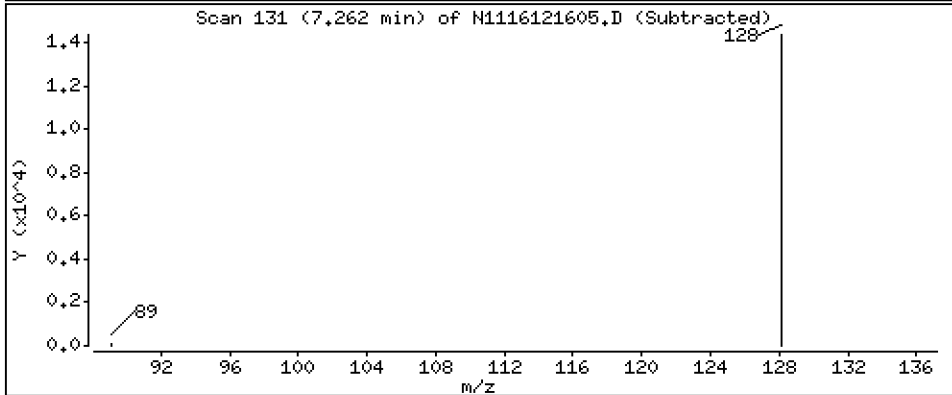
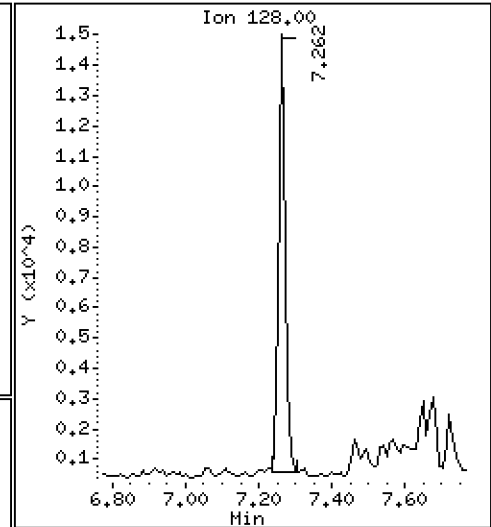
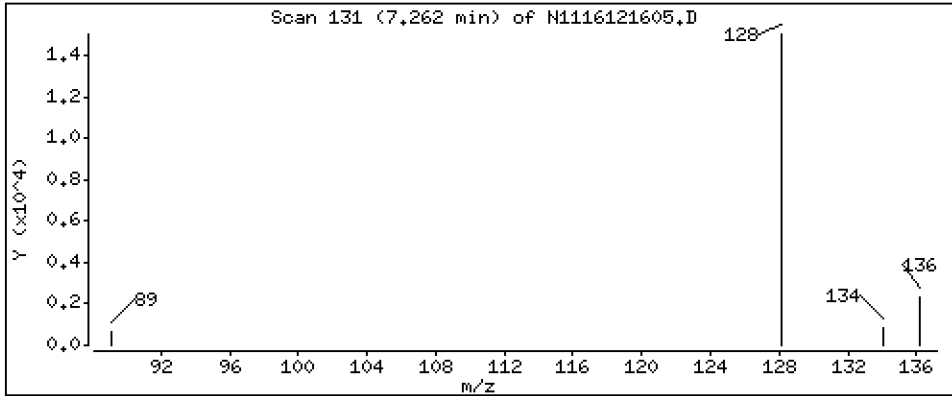
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 12,2 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

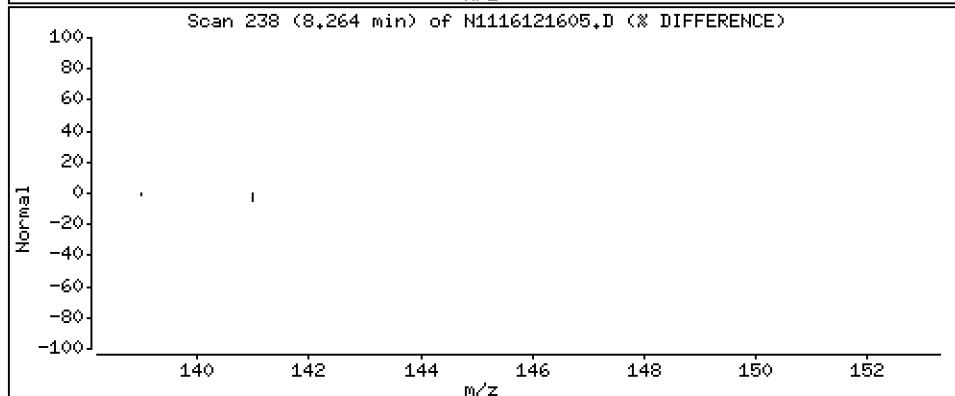
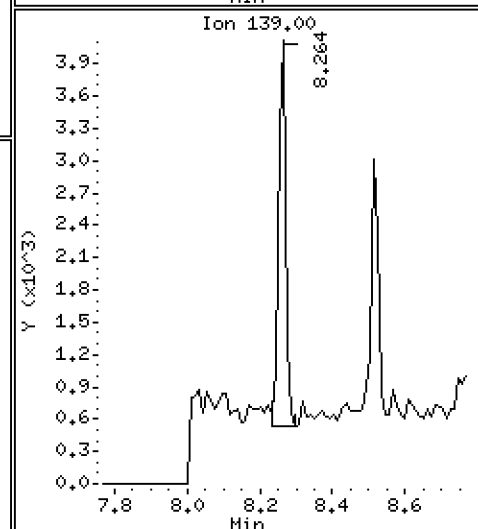
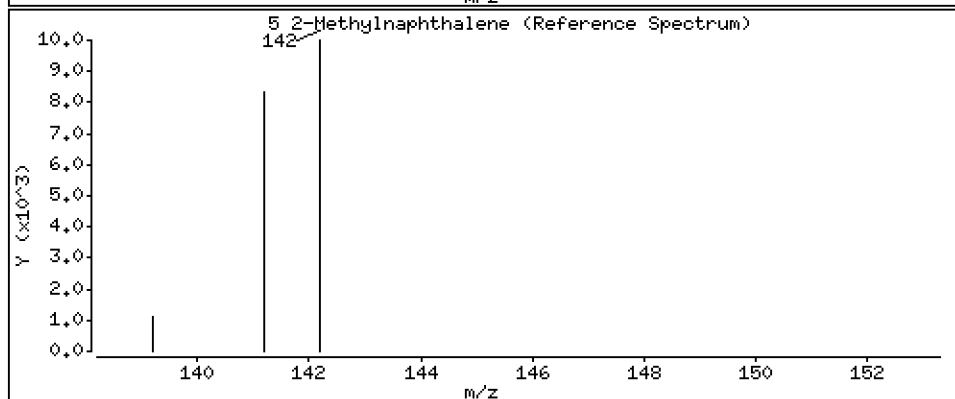
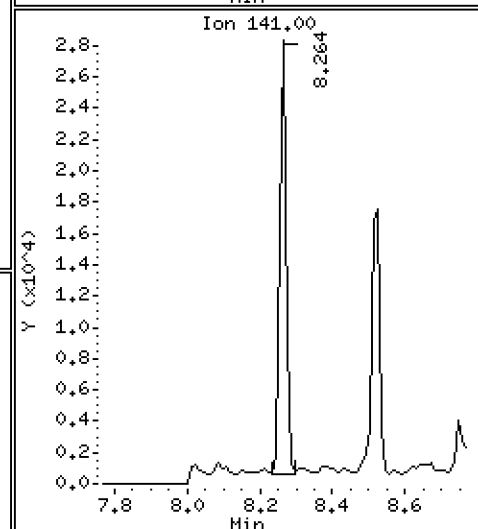
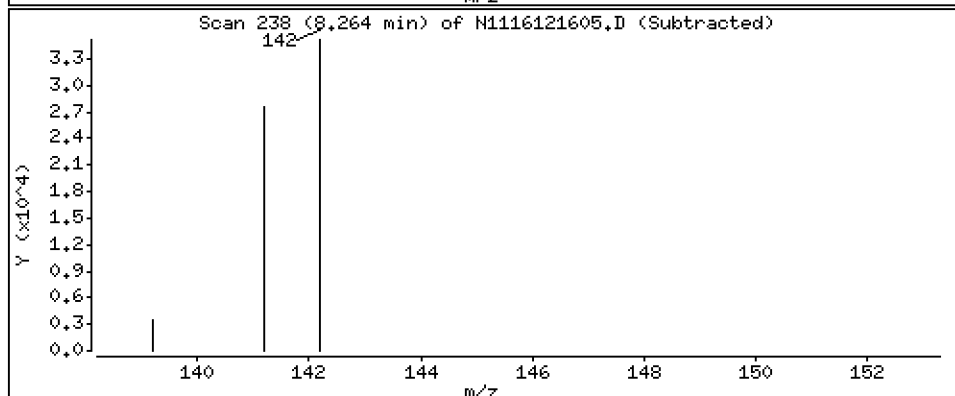
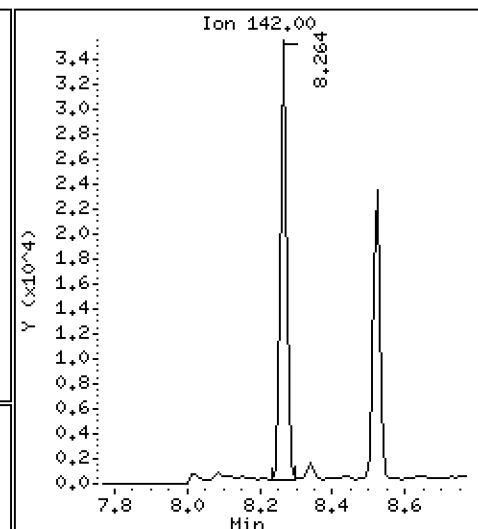
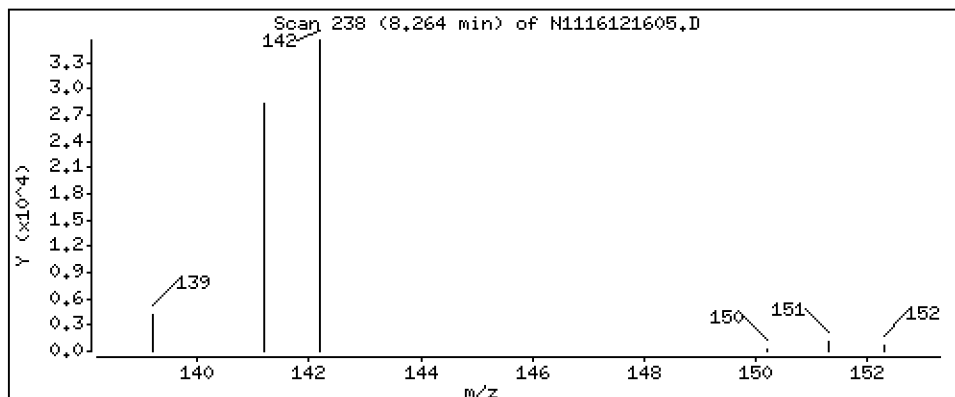
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 31,7 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

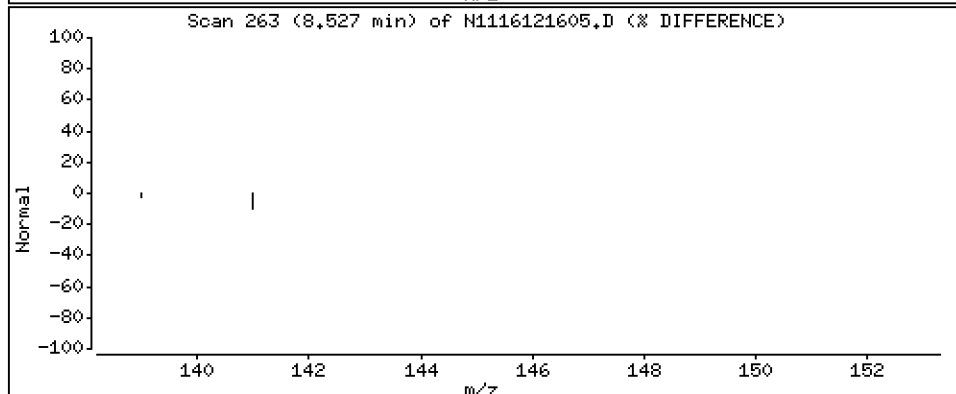
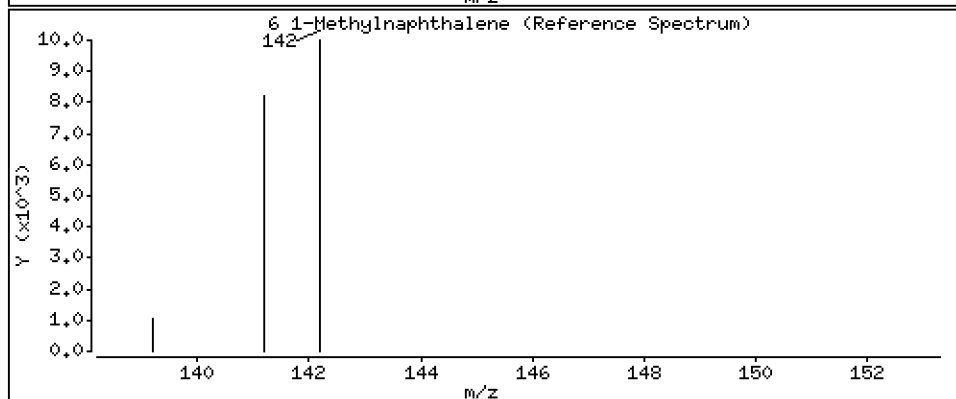
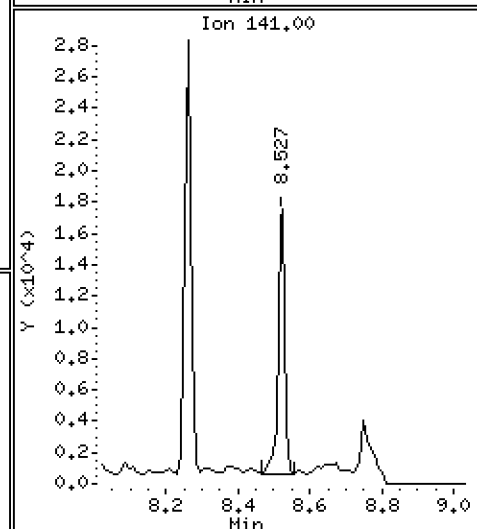
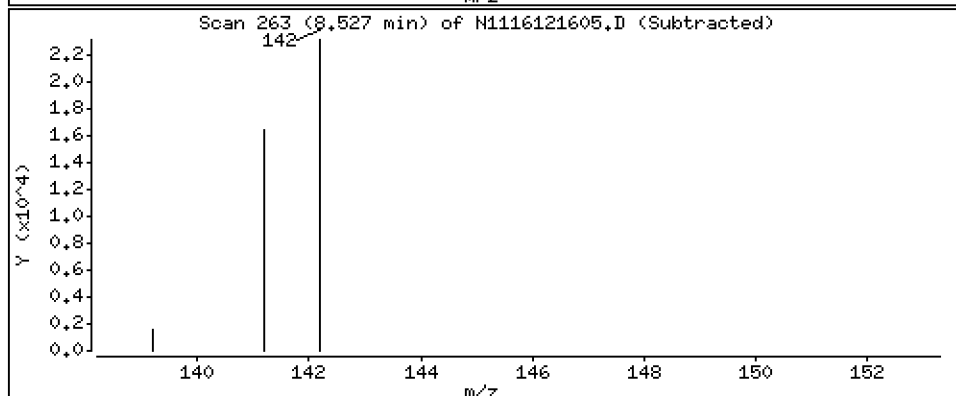
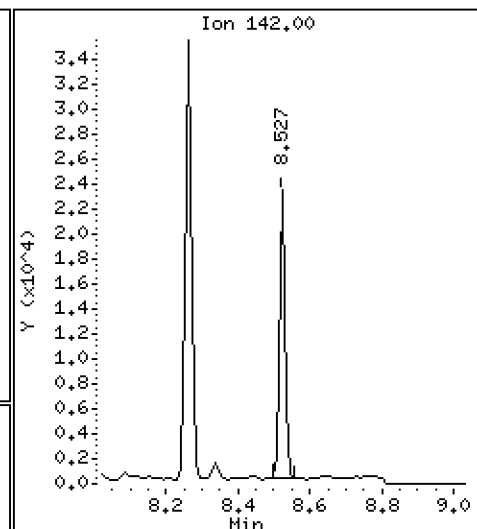
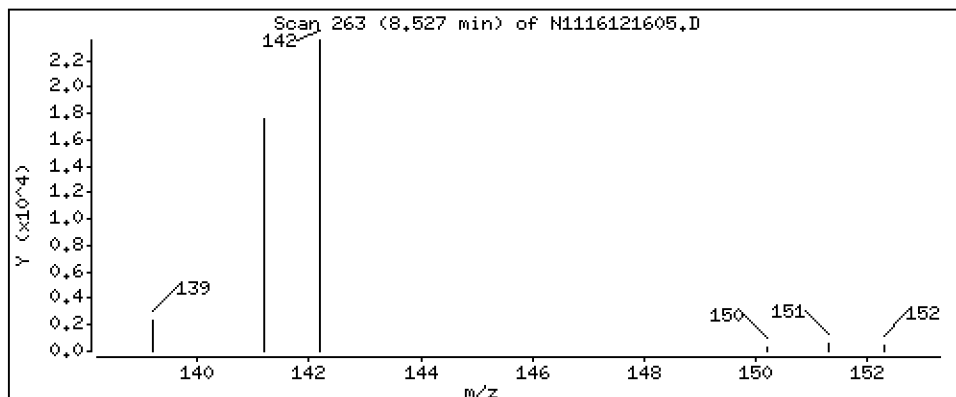
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 23,1 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

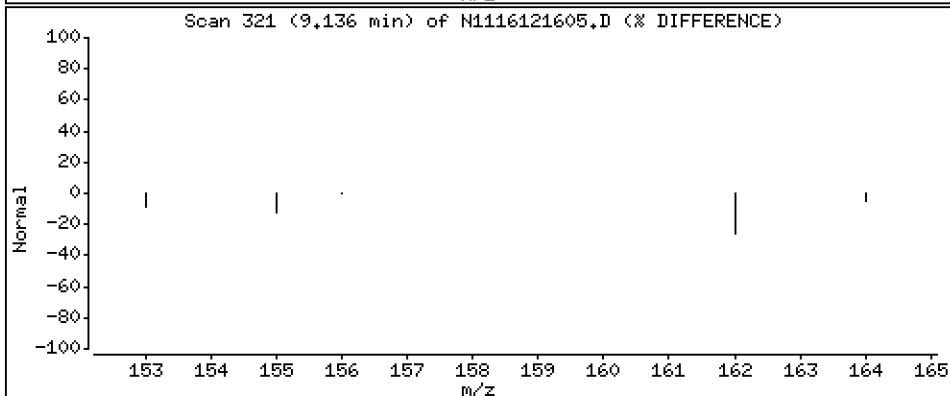
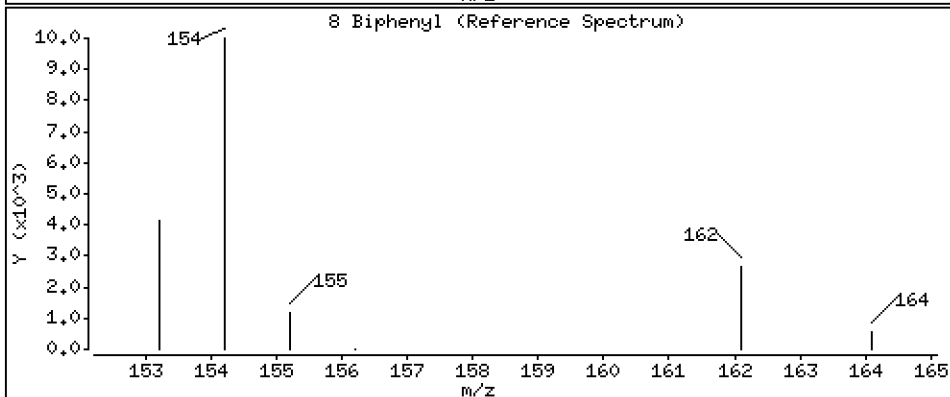
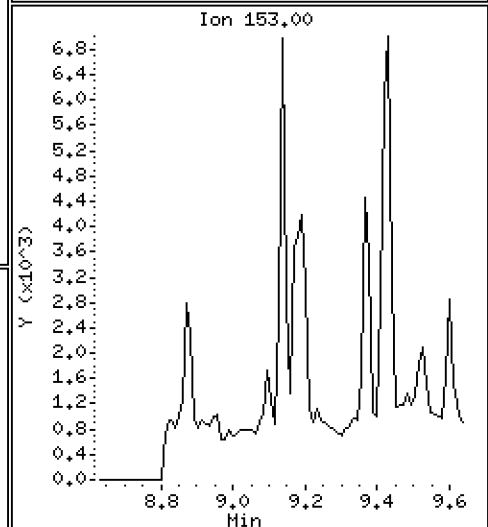
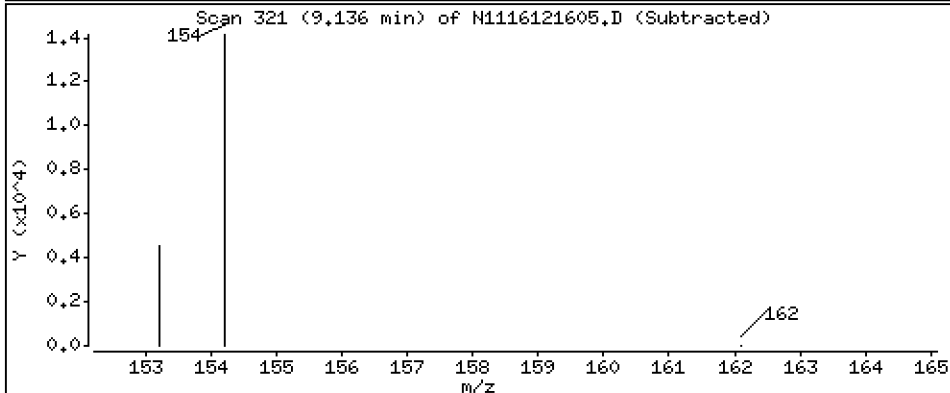
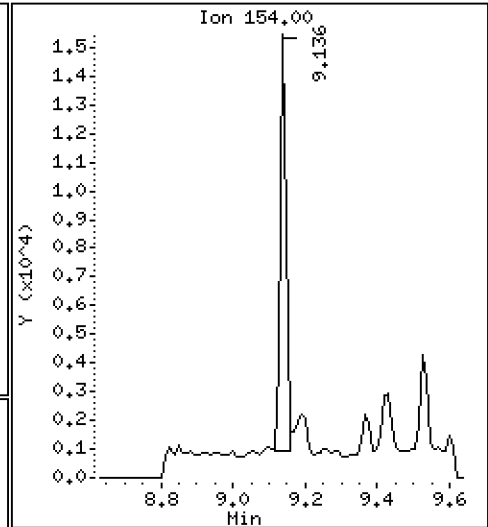
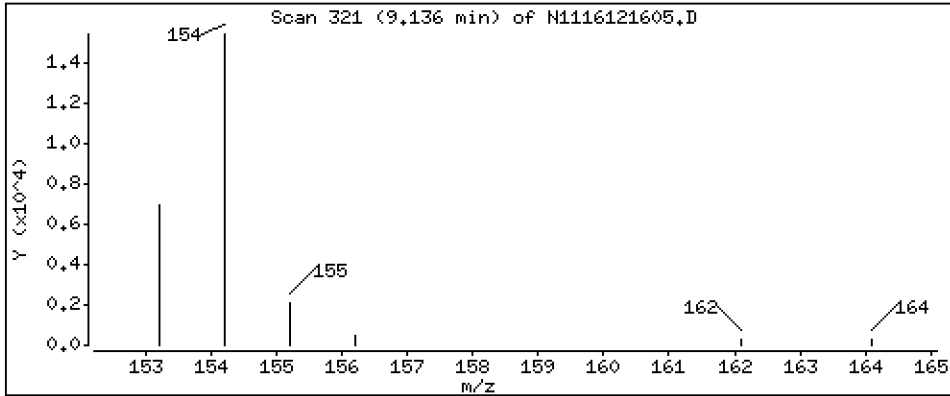
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 8,03 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

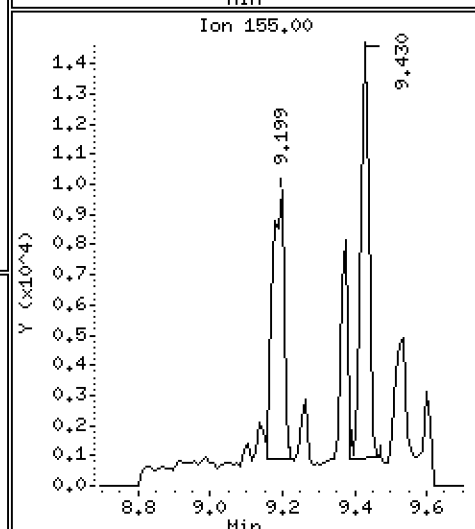
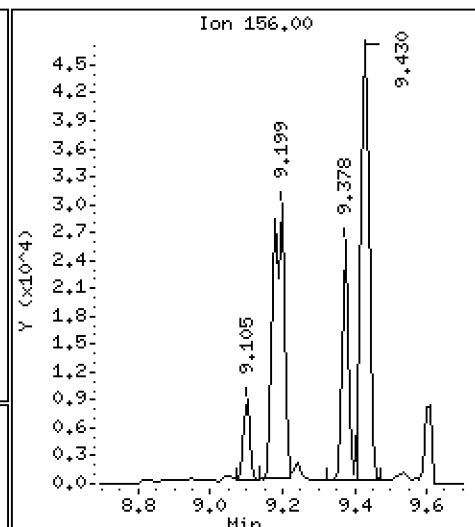
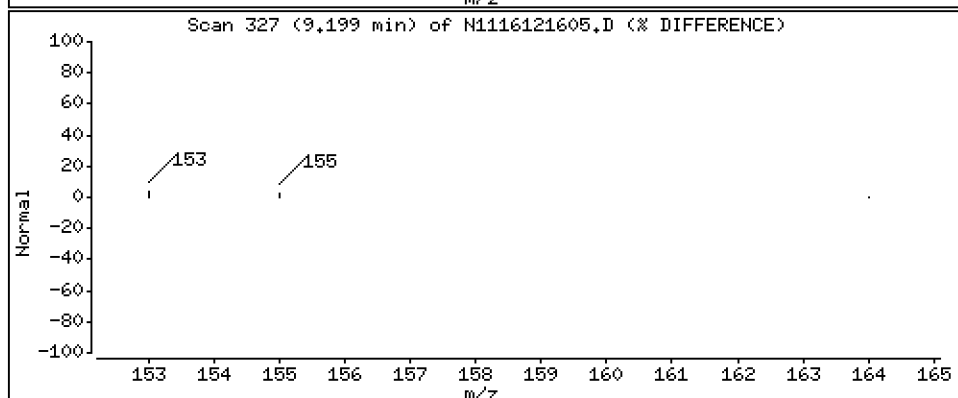
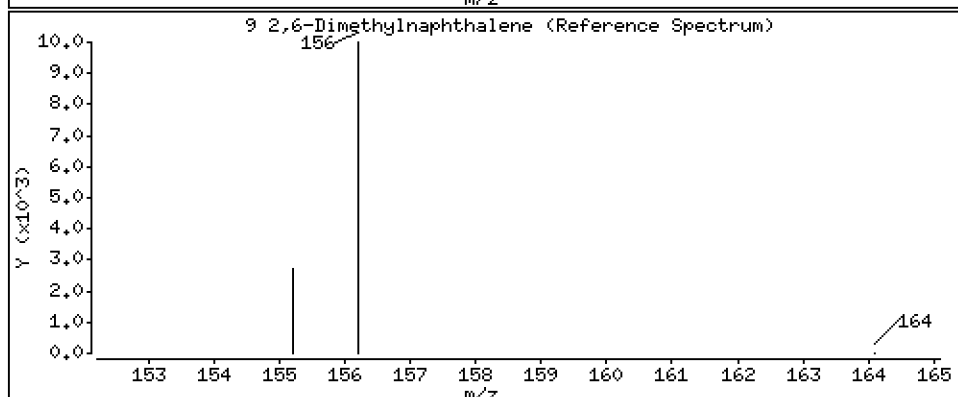
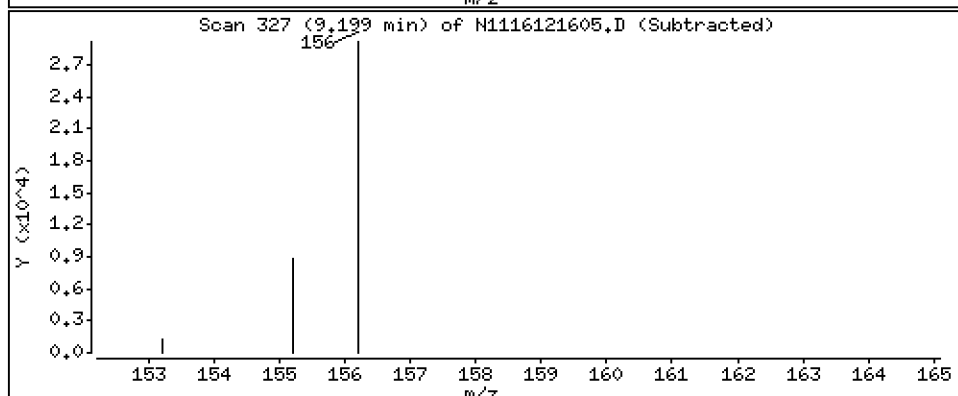
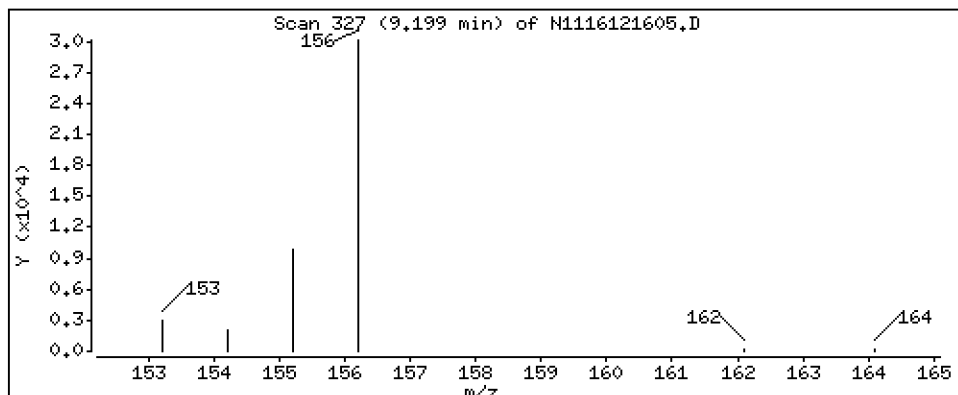
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 44,2 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

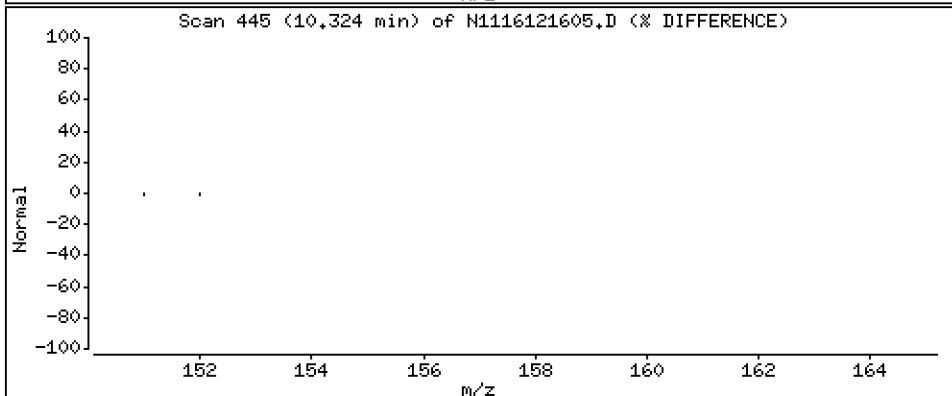
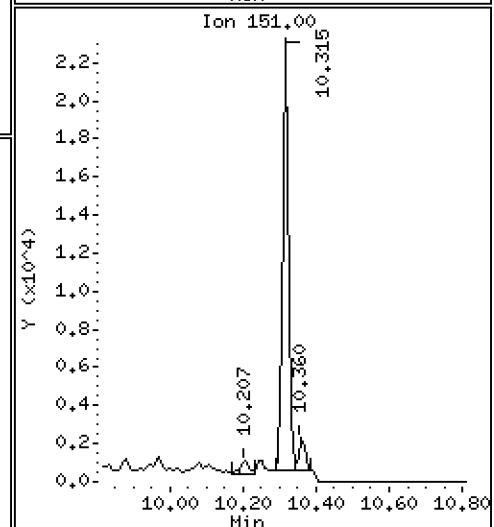
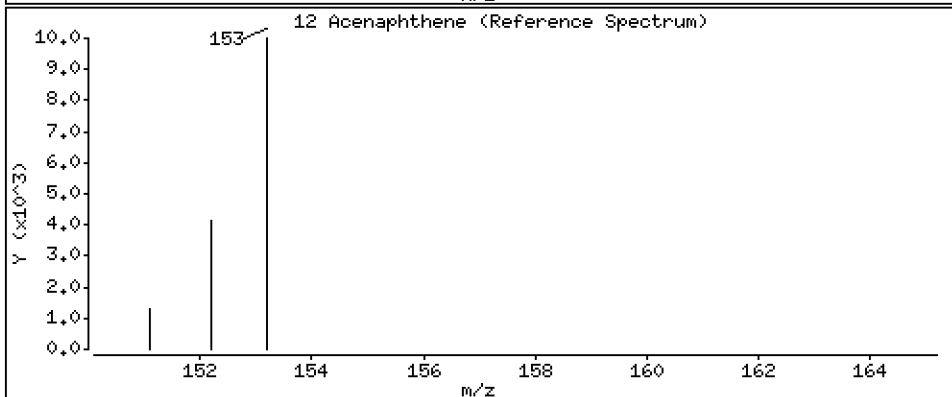
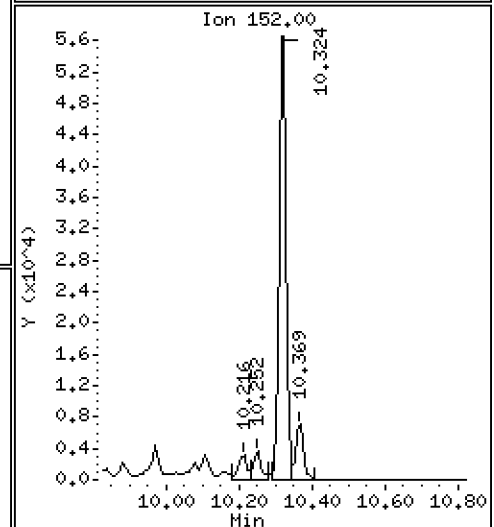
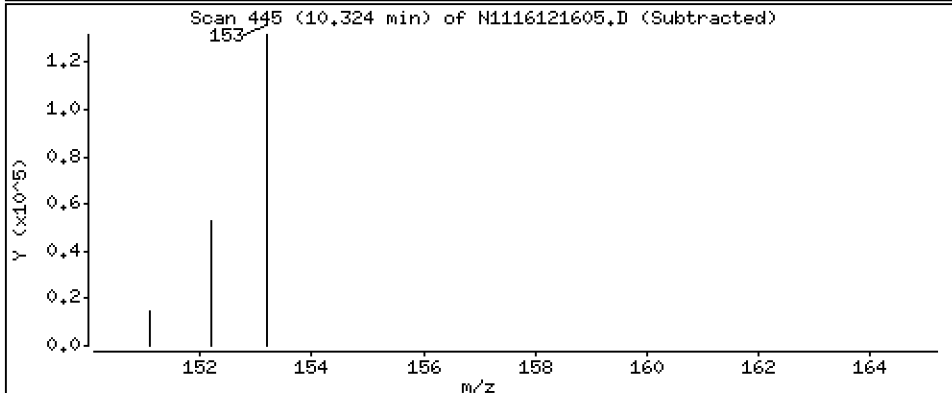
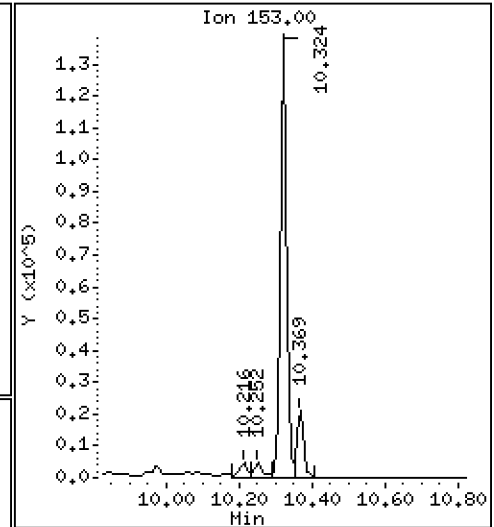
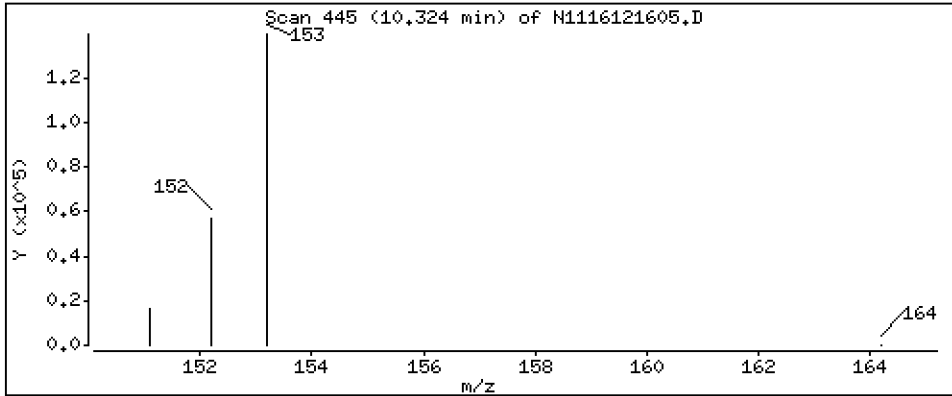
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 150 ng/mL

12 Acenaphthene



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

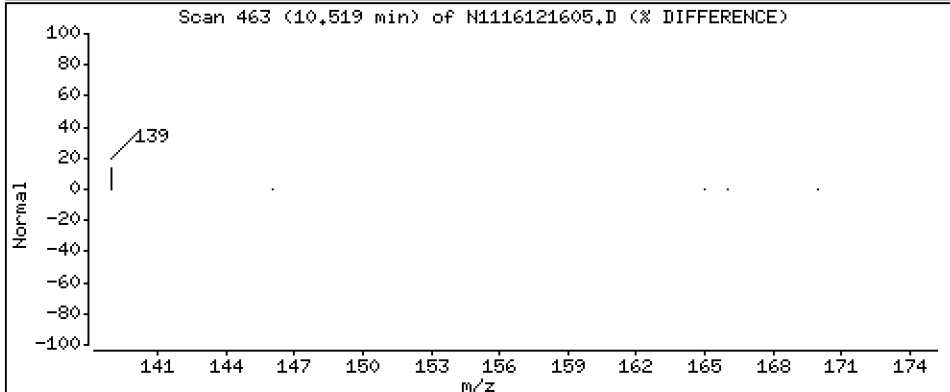
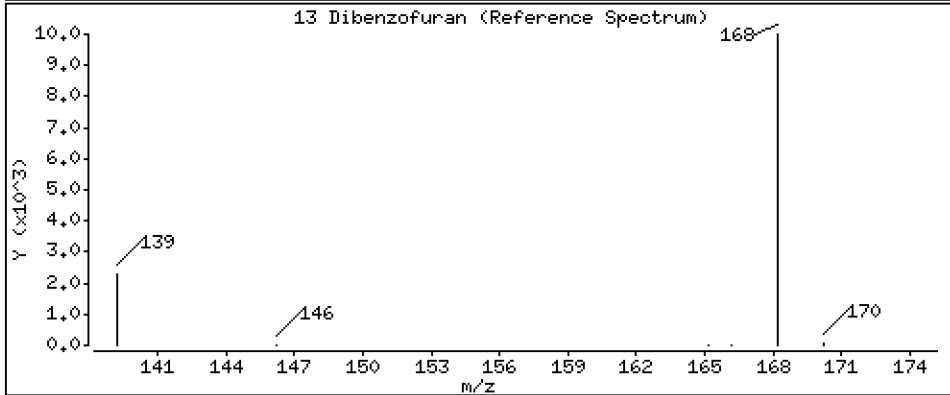
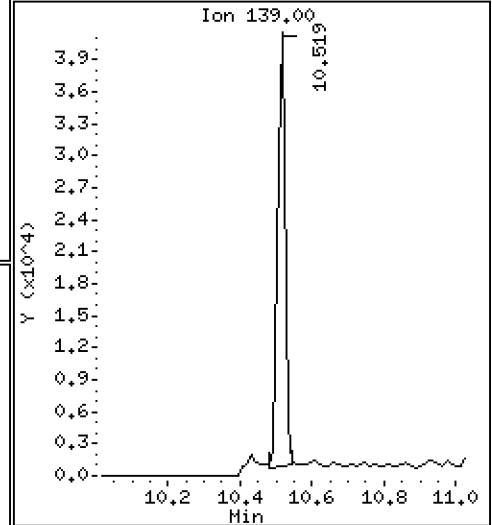
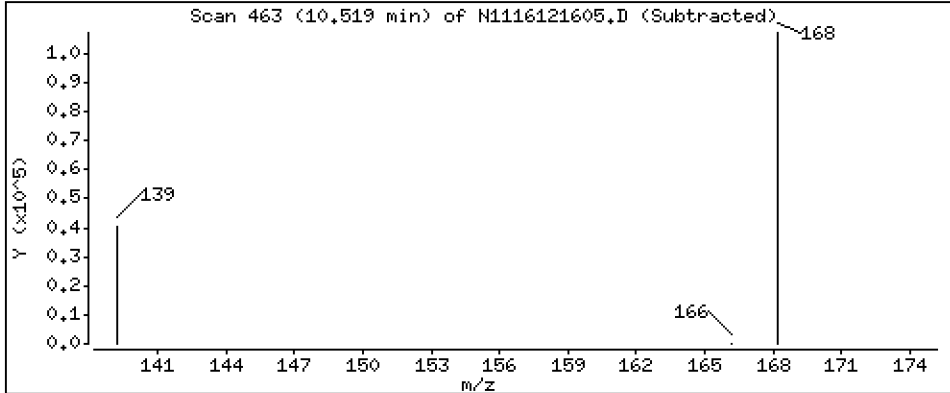
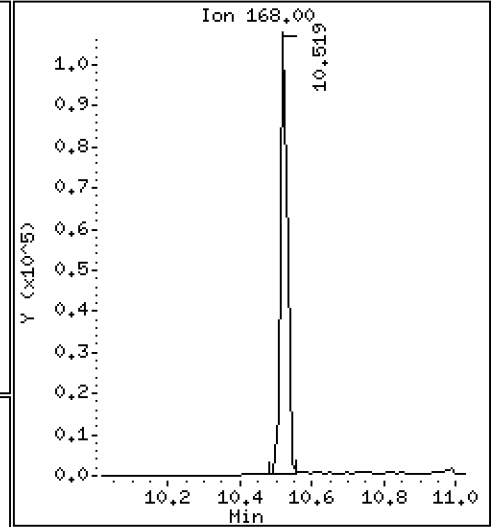
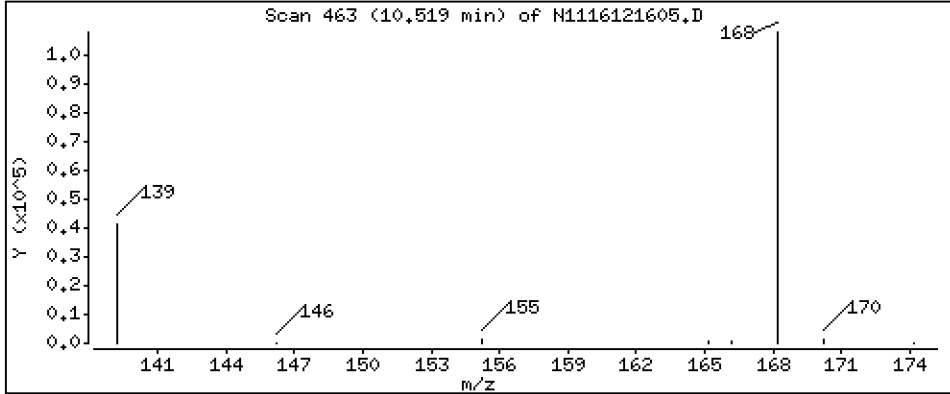
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 82,2 ng/mL

13 Dibenzofuran



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

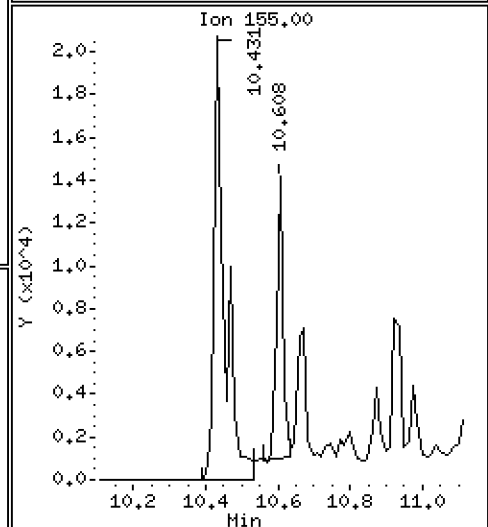
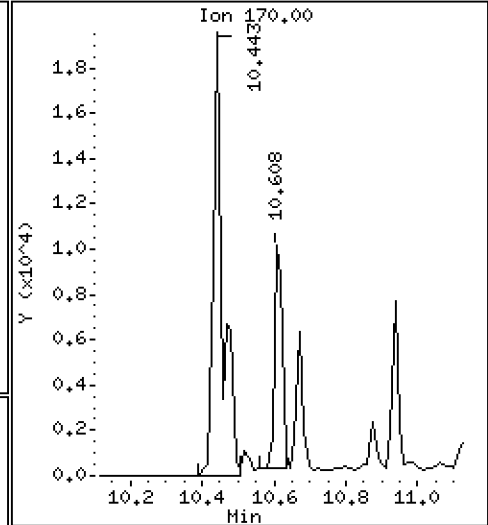
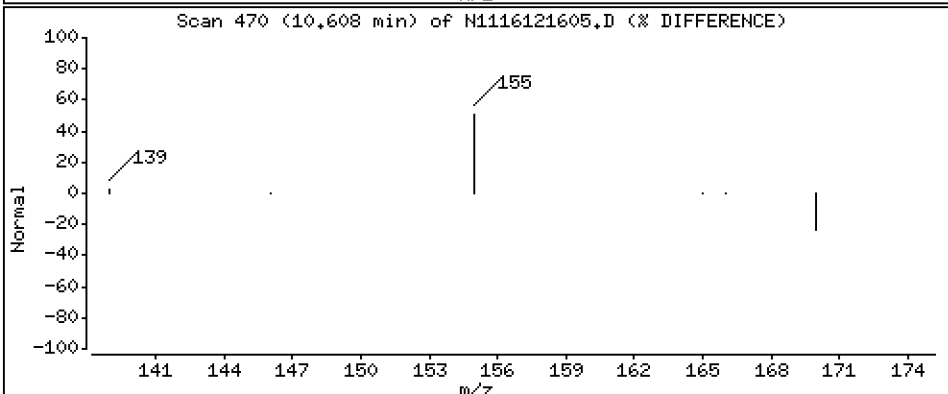
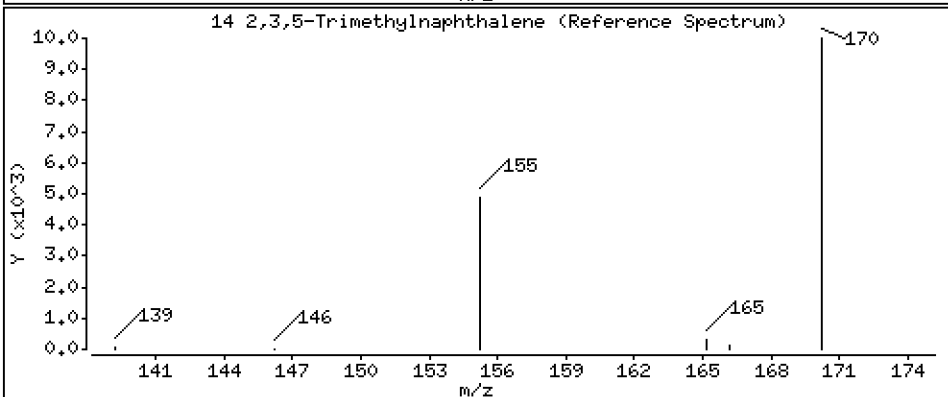
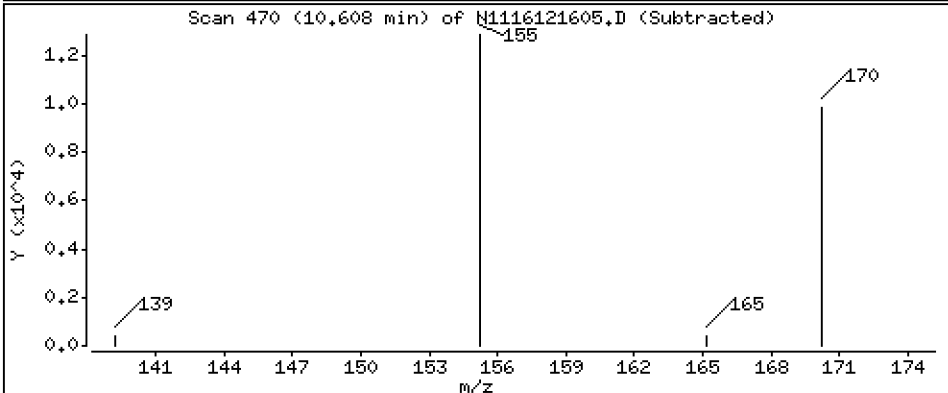
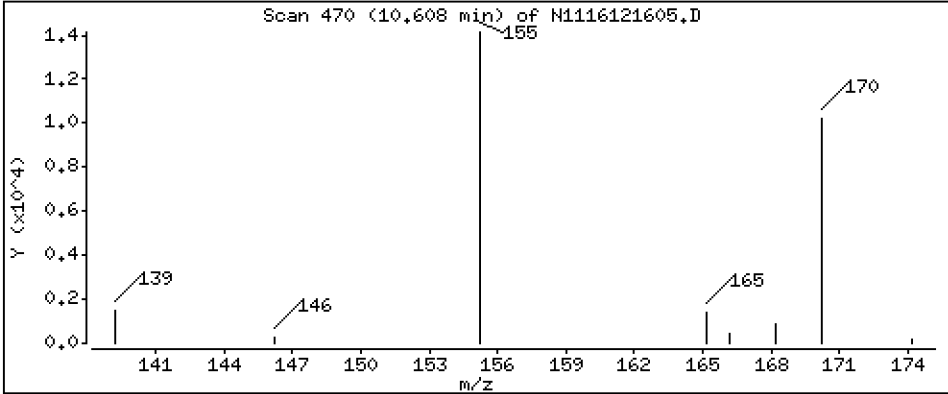
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 15,2 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

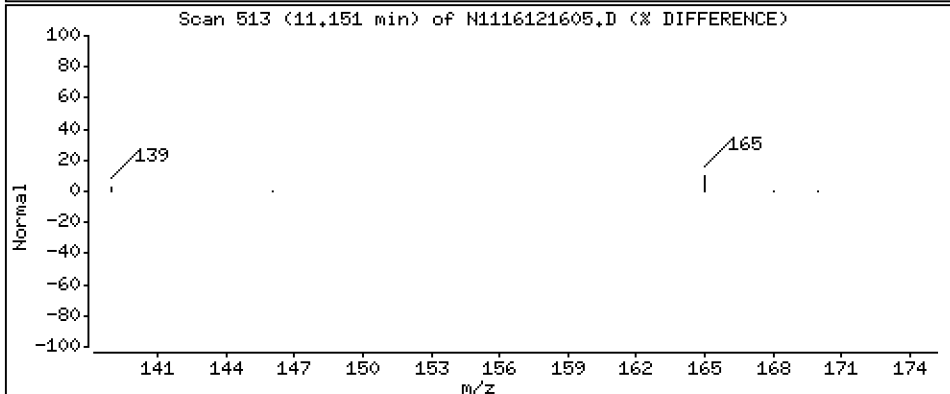
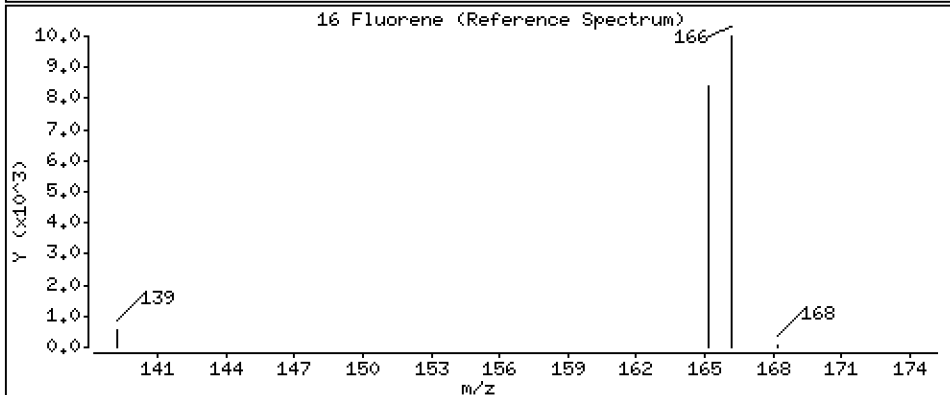
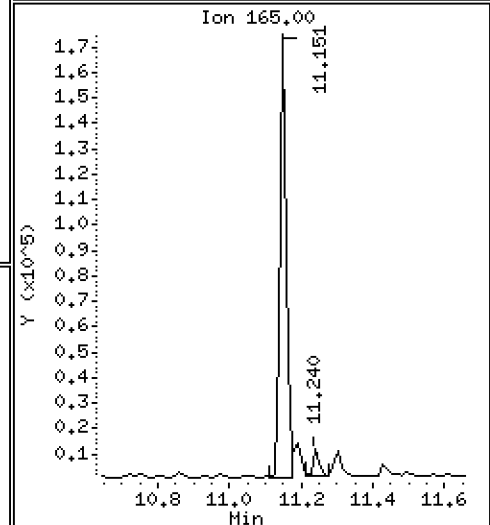
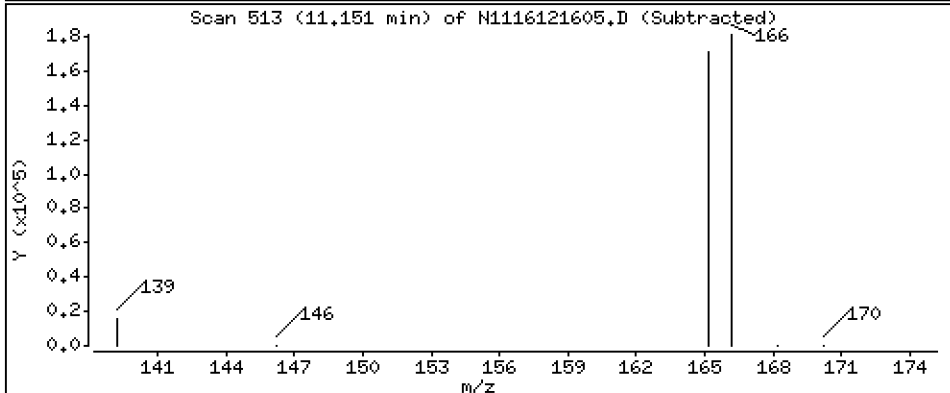
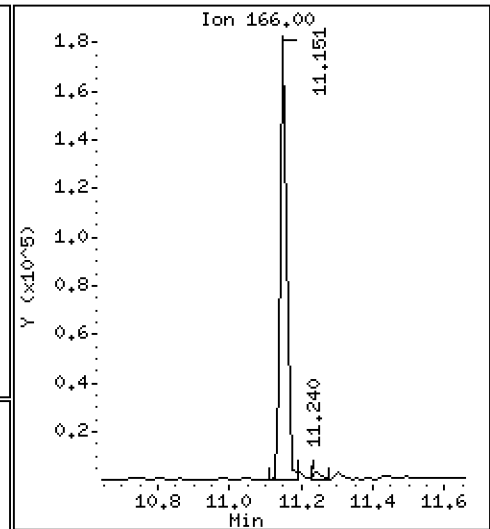
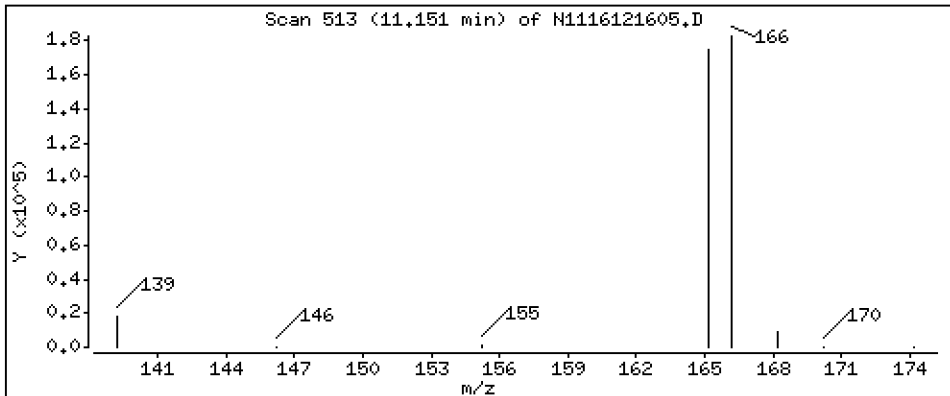
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 174 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

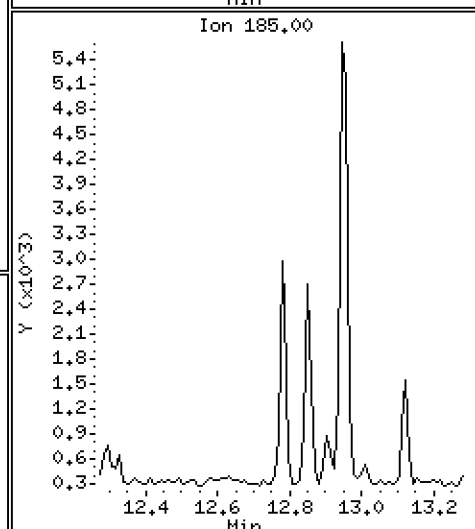
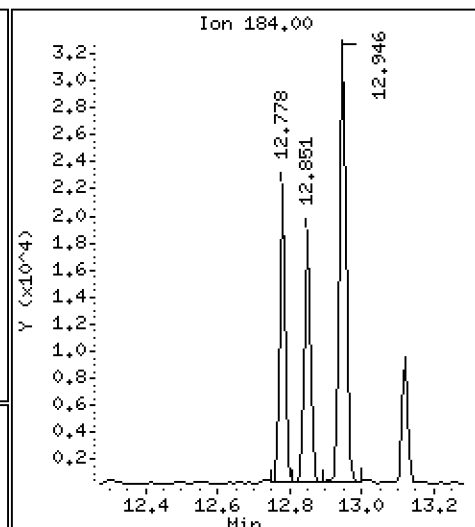
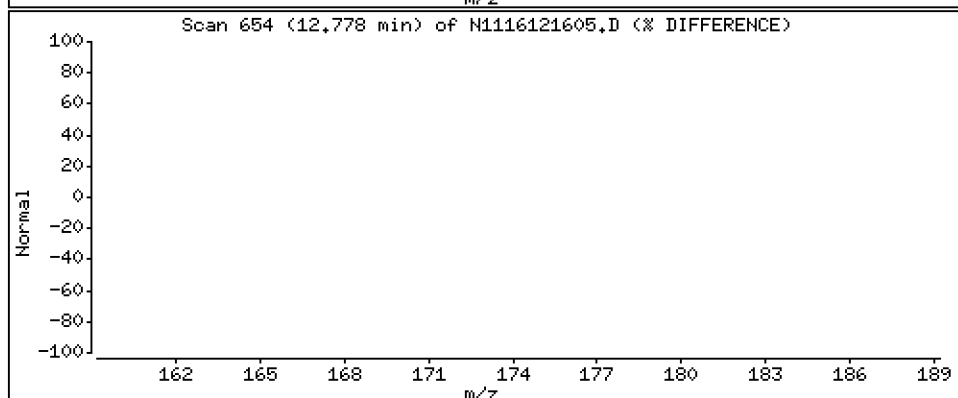
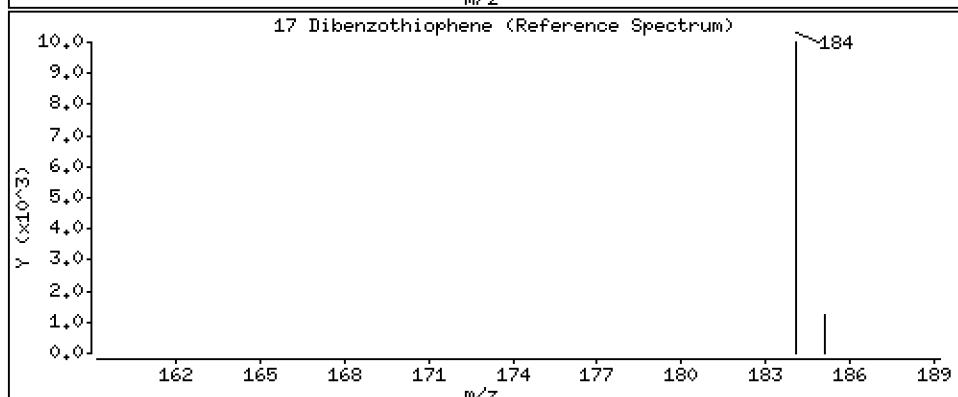
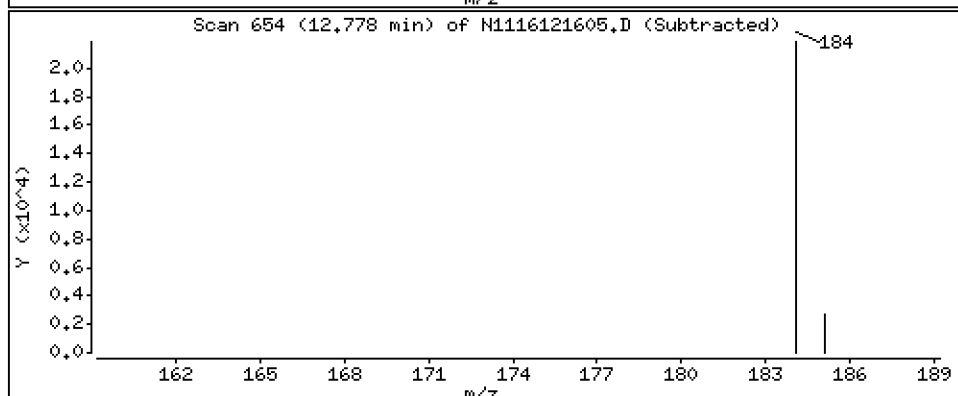
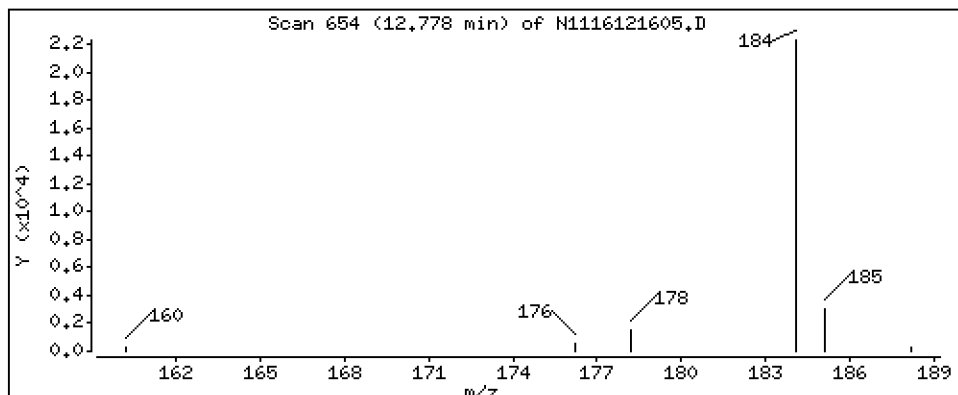
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 16,5 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

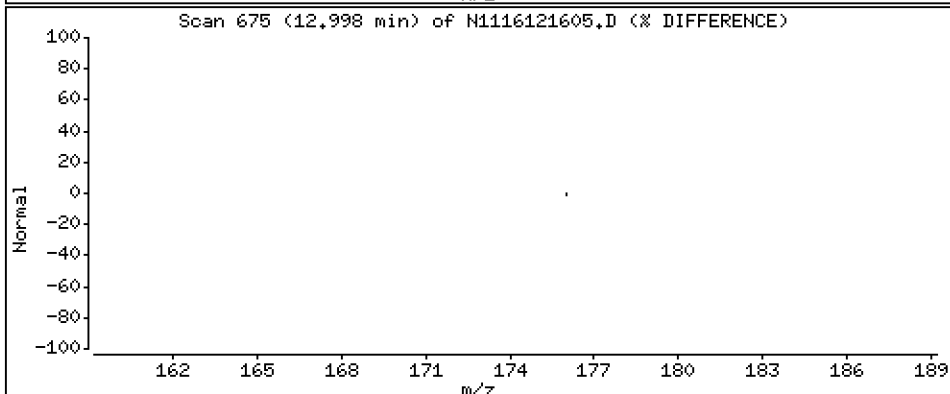
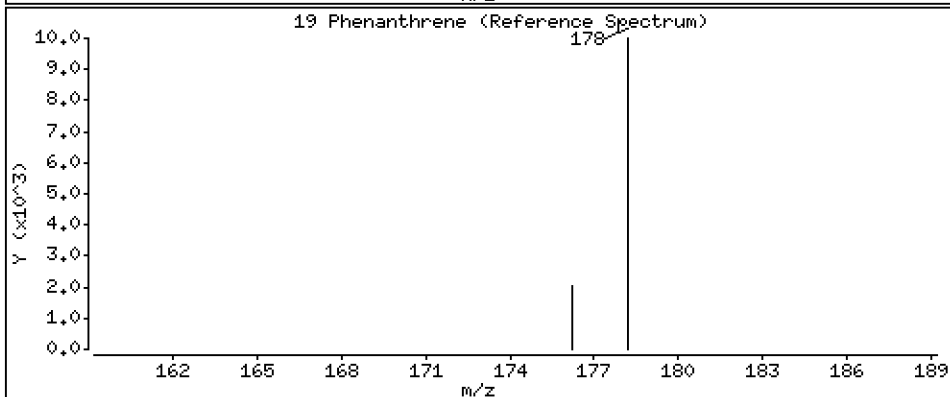
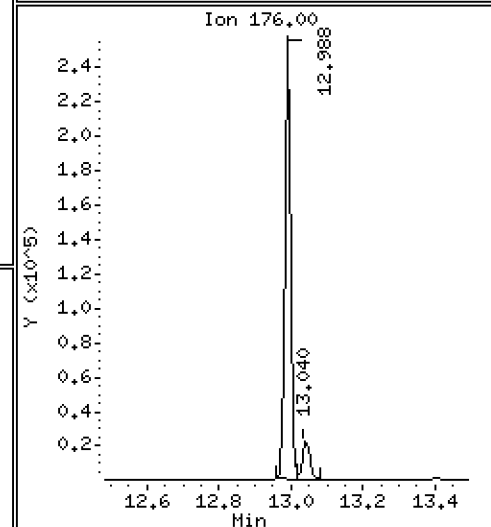
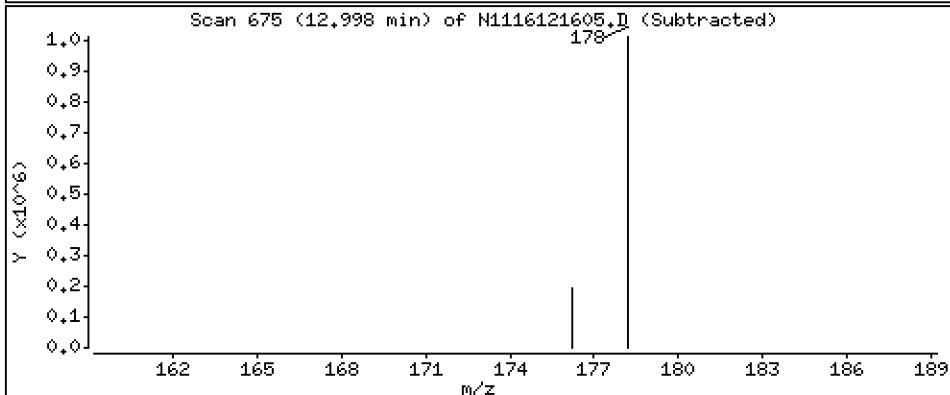
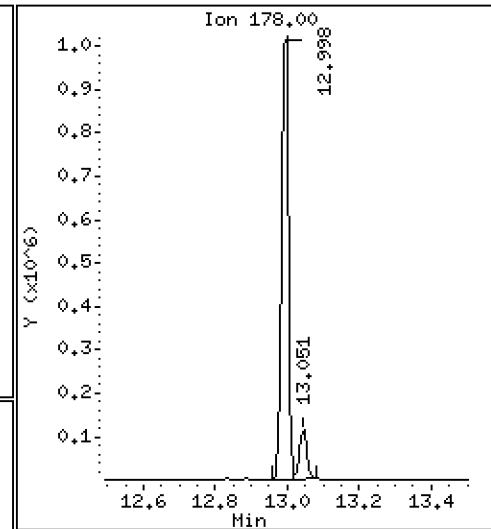
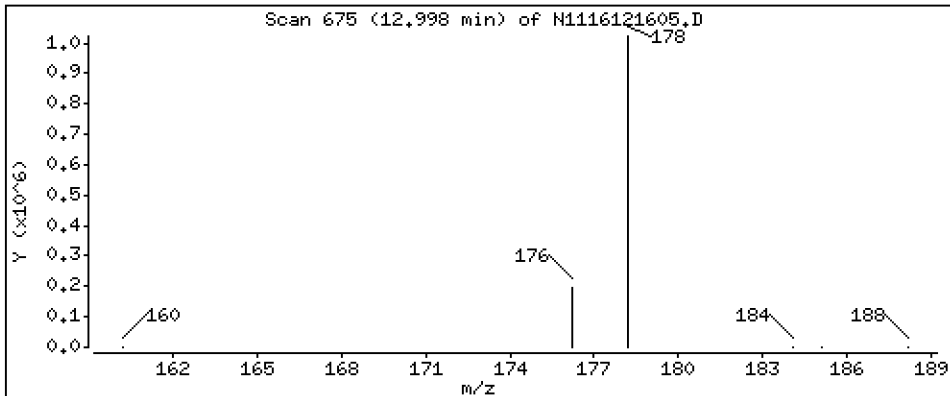
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 750 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

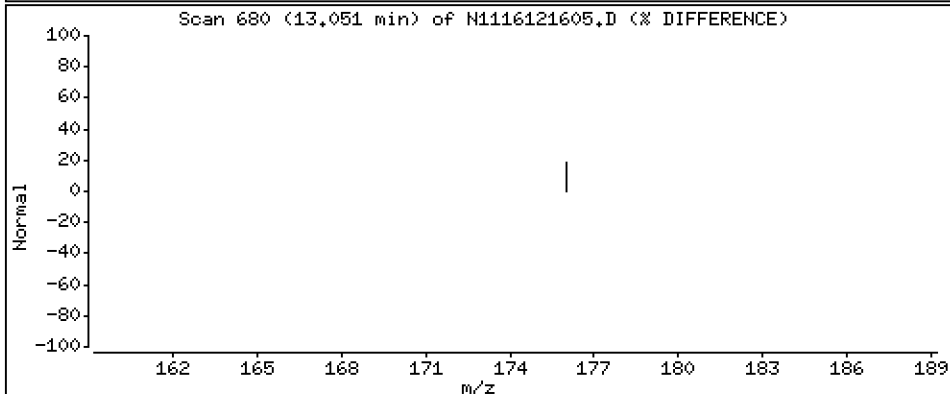
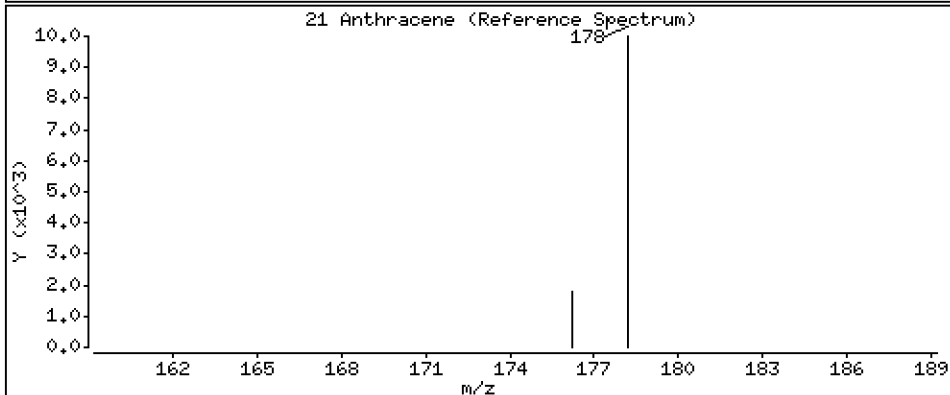
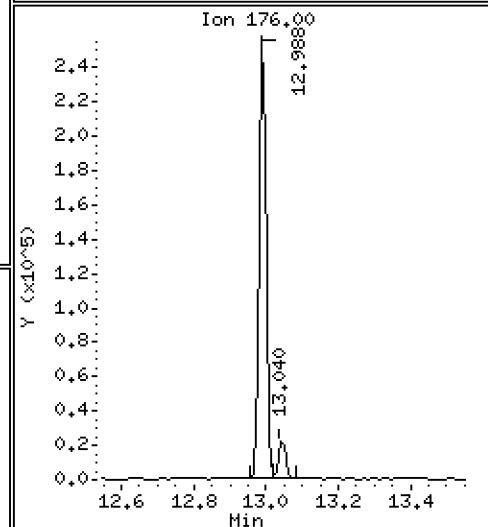
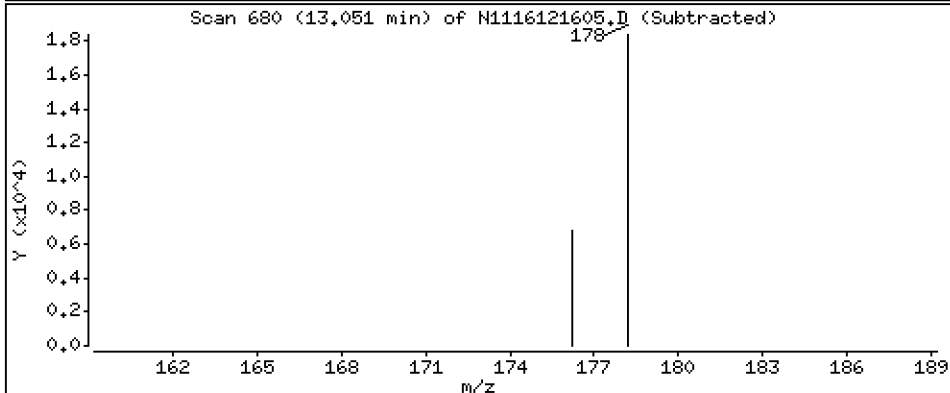
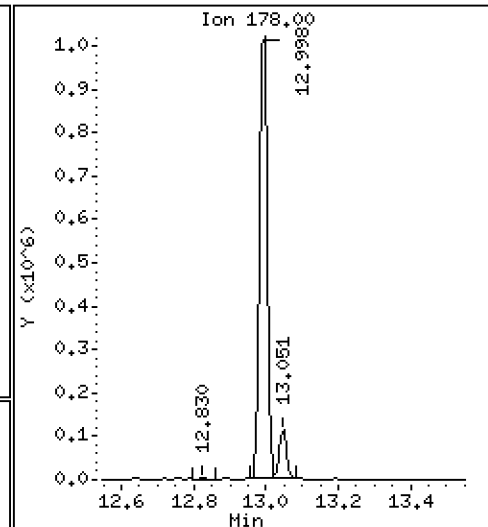
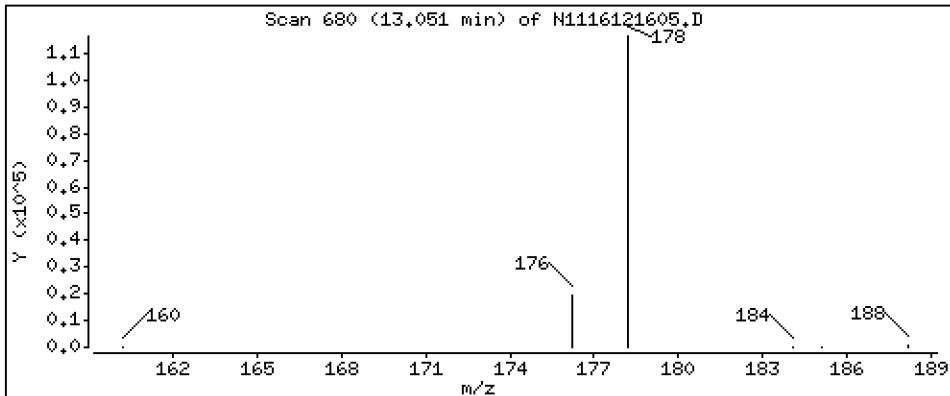
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 84,9 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

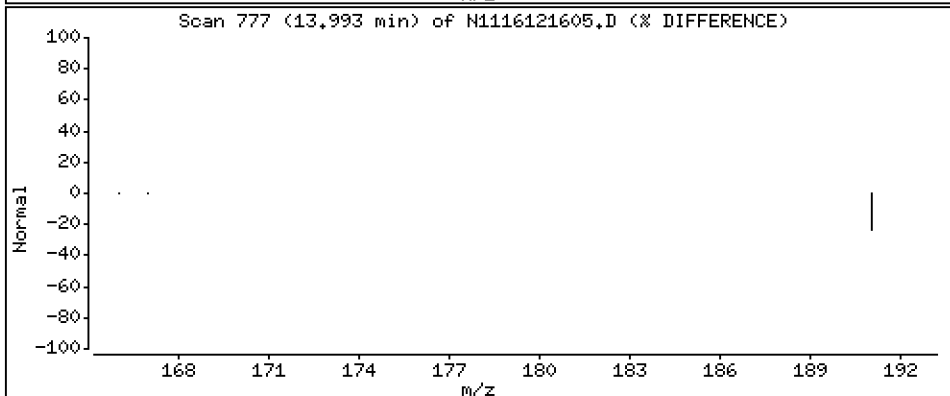
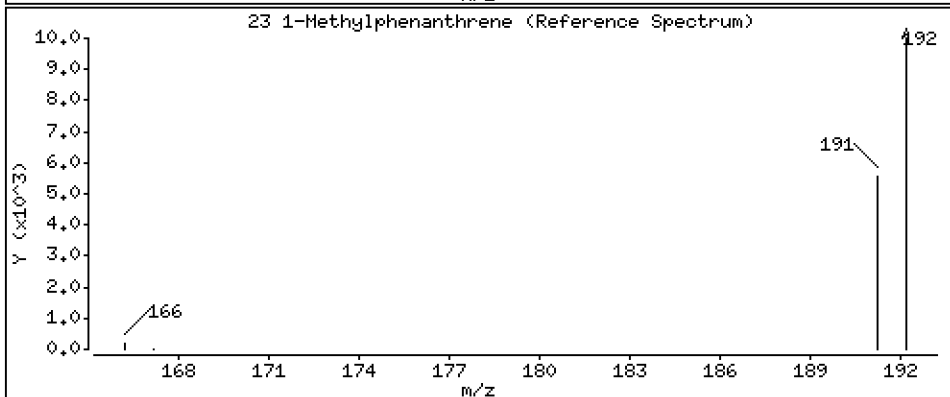
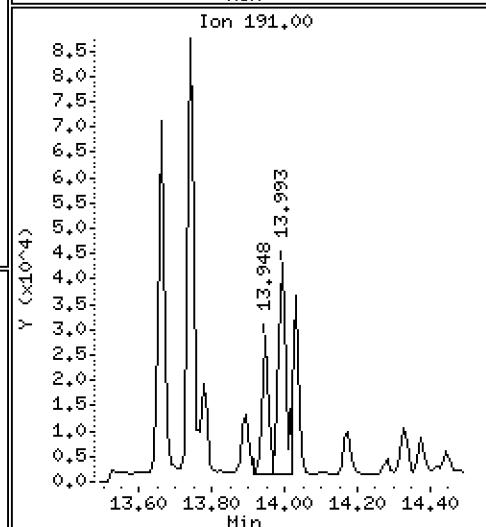
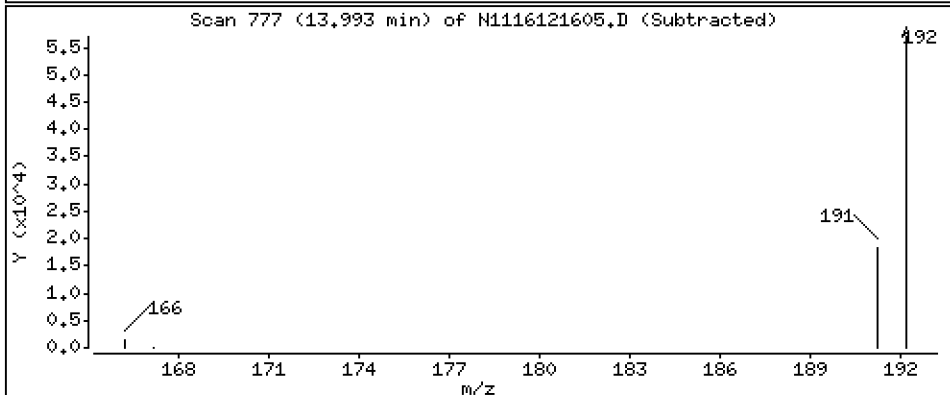
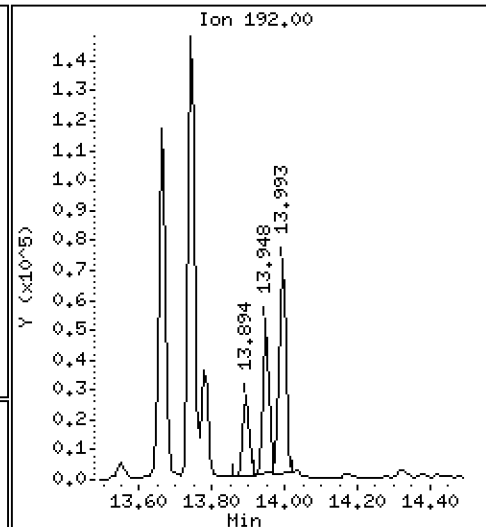
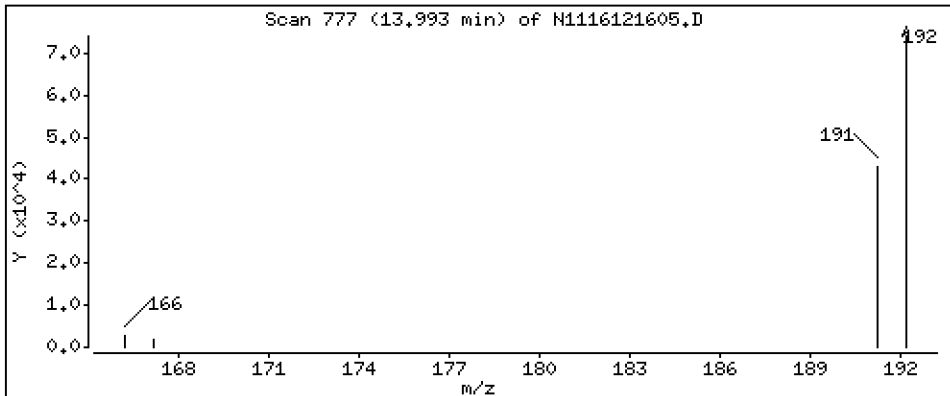
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 49,8 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

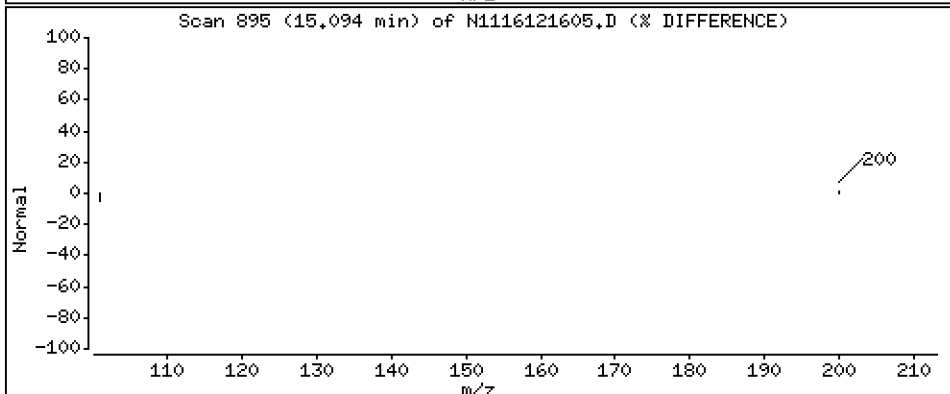
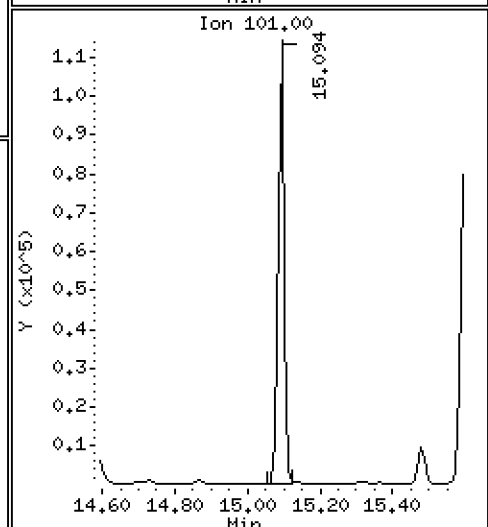
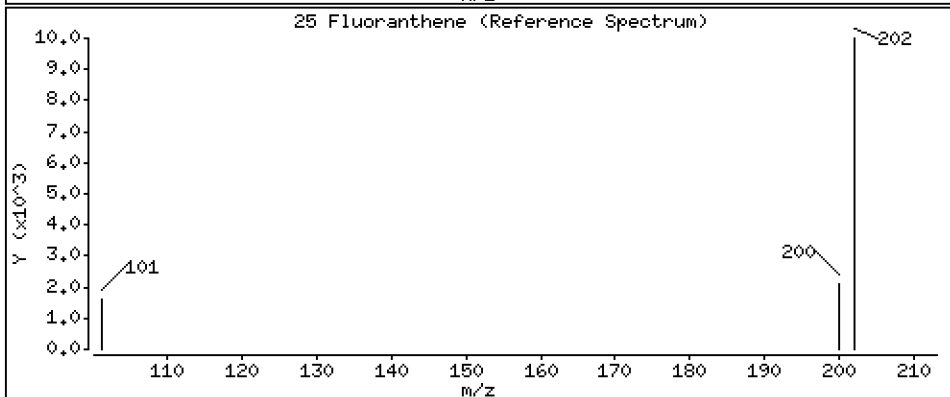
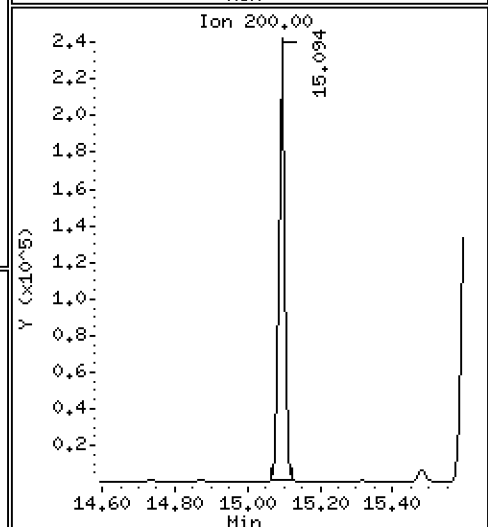
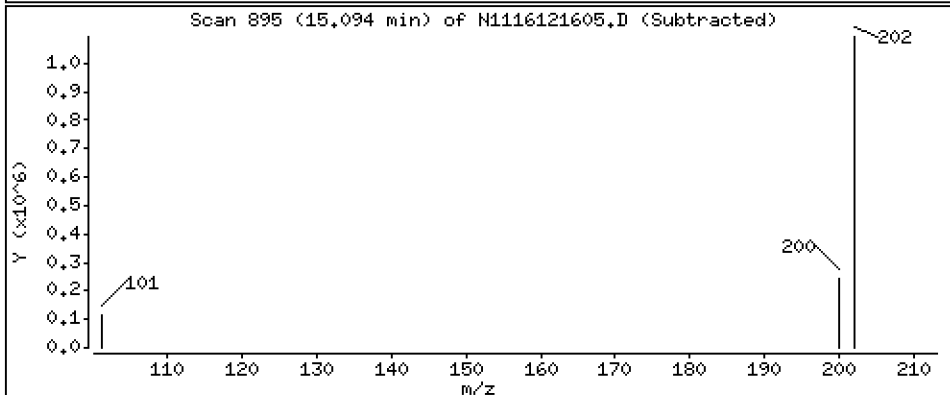
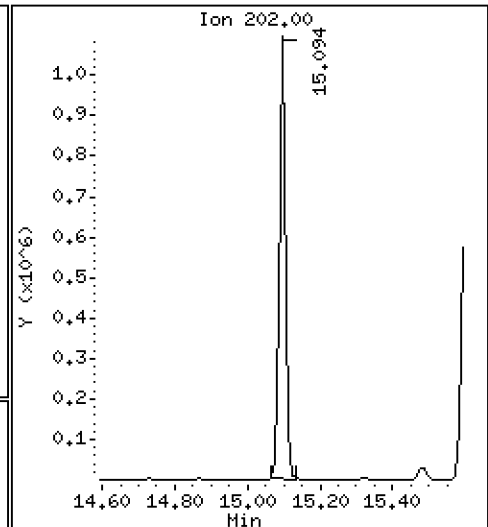
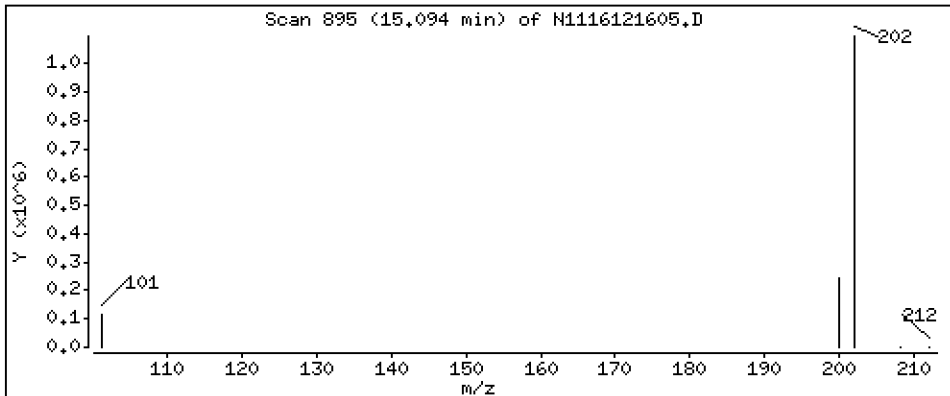
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 710 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

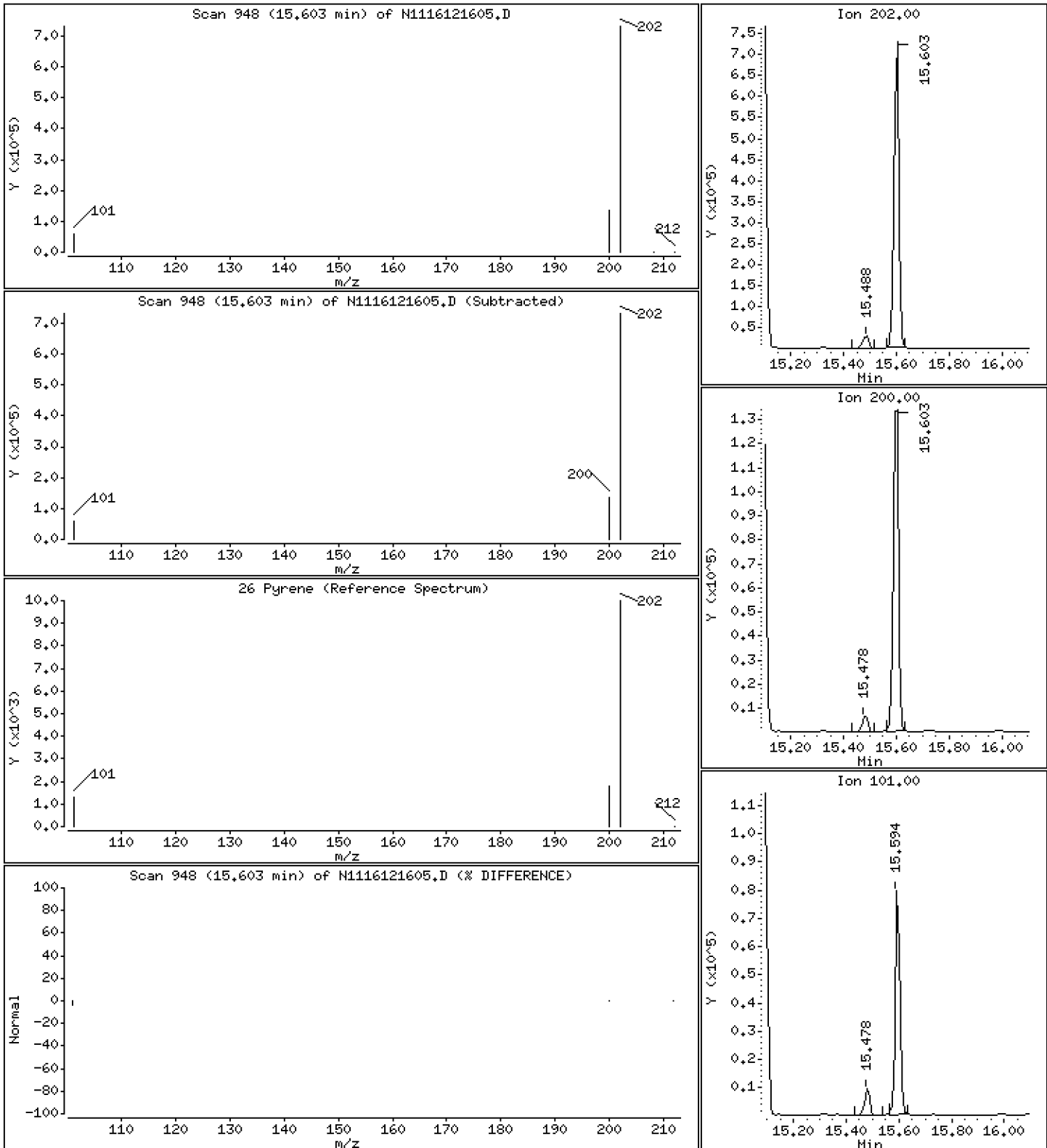
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 422 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

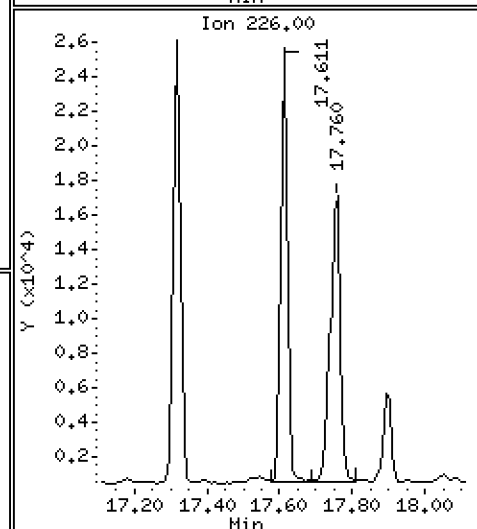
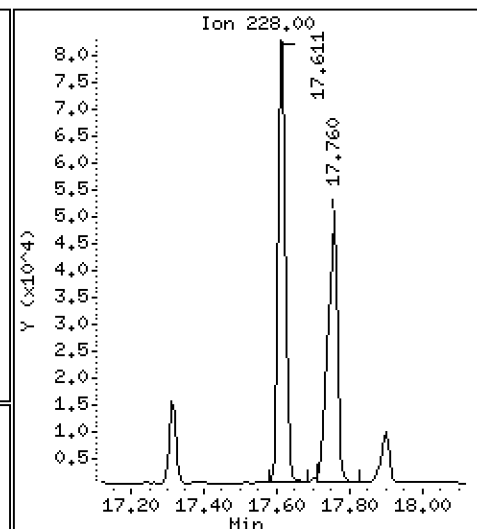
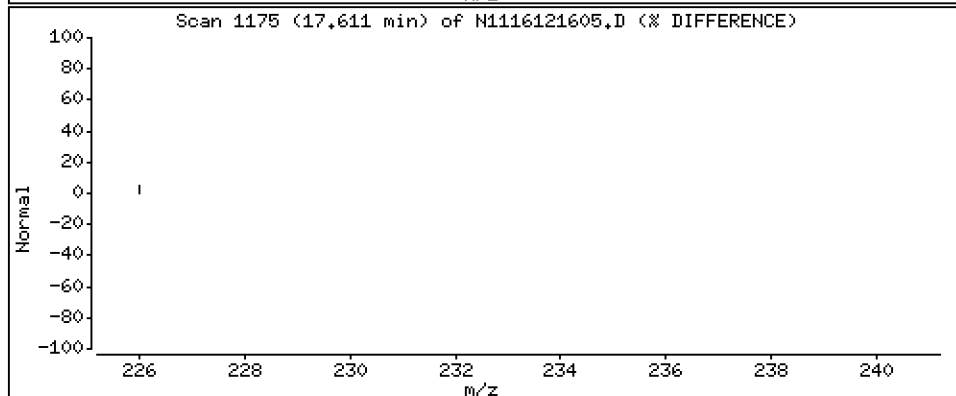
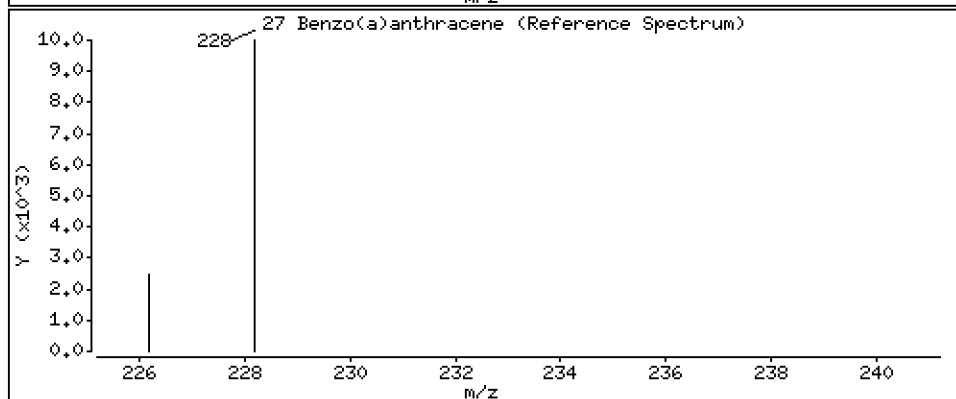
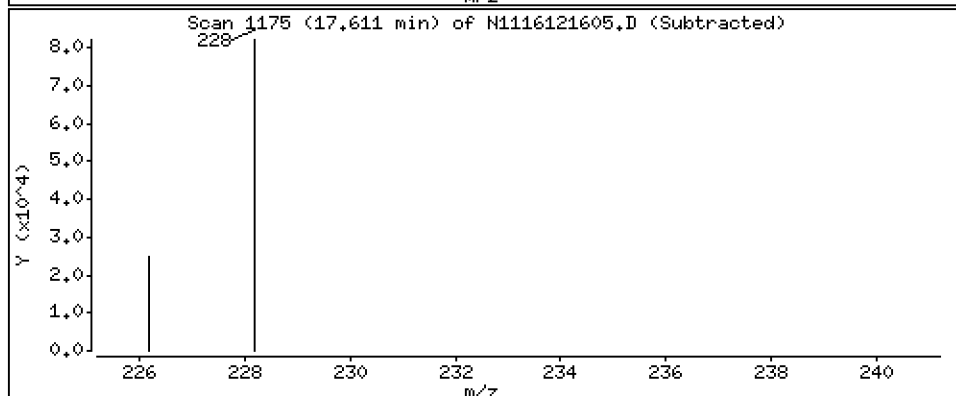
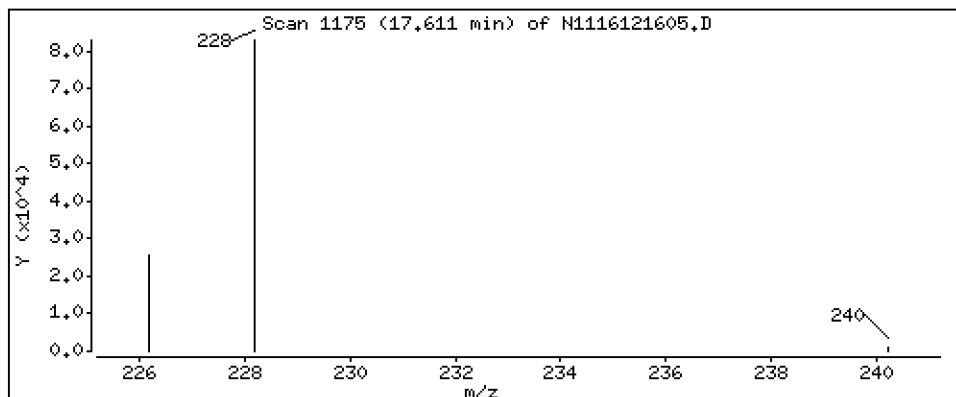
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 58,4 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

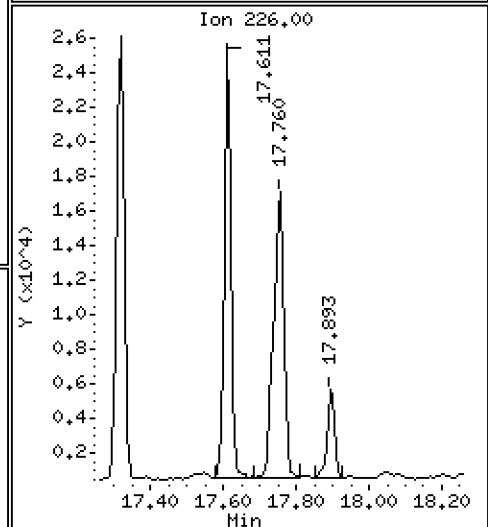
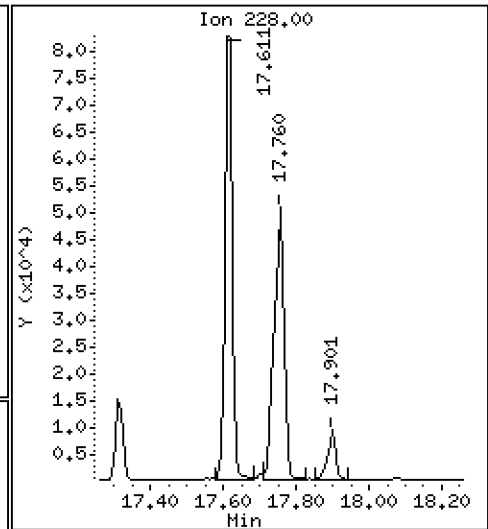
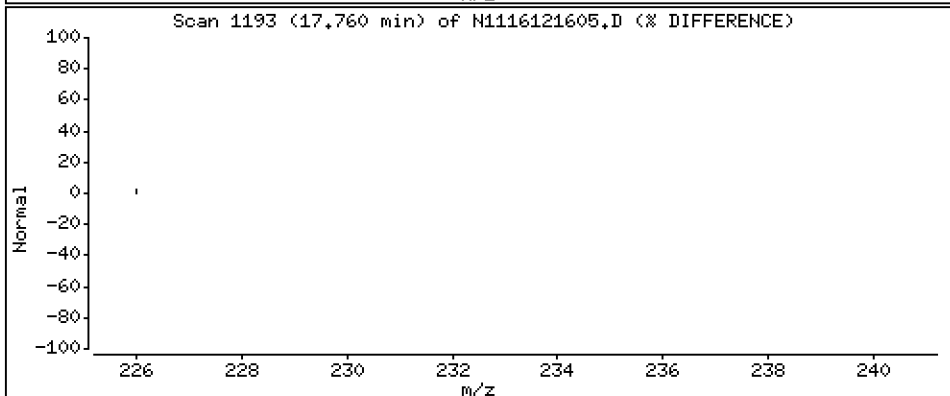
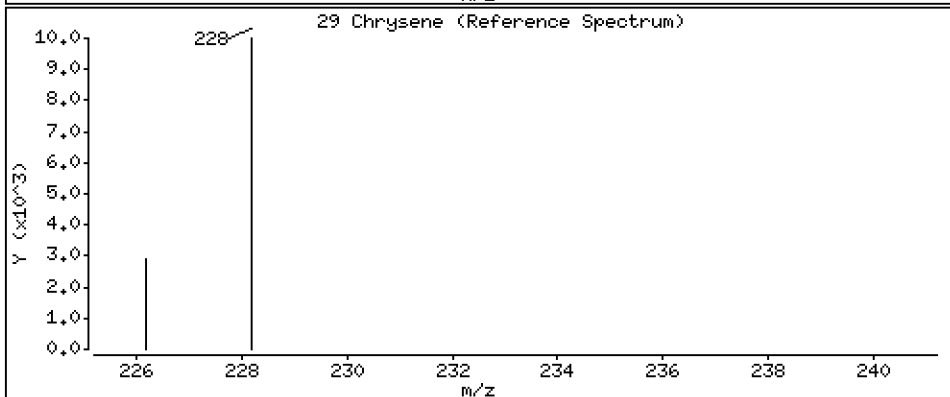
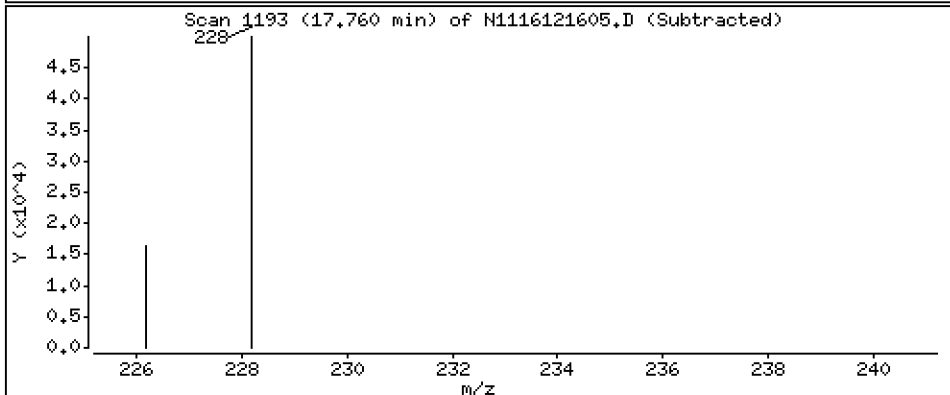
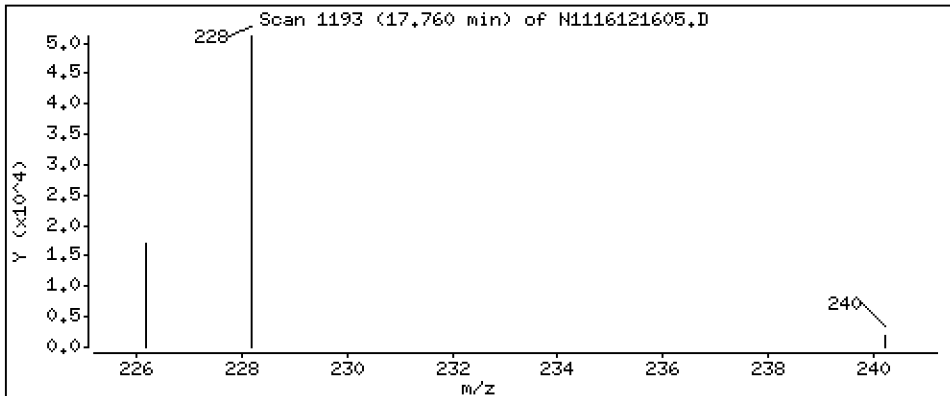
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 42,8 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

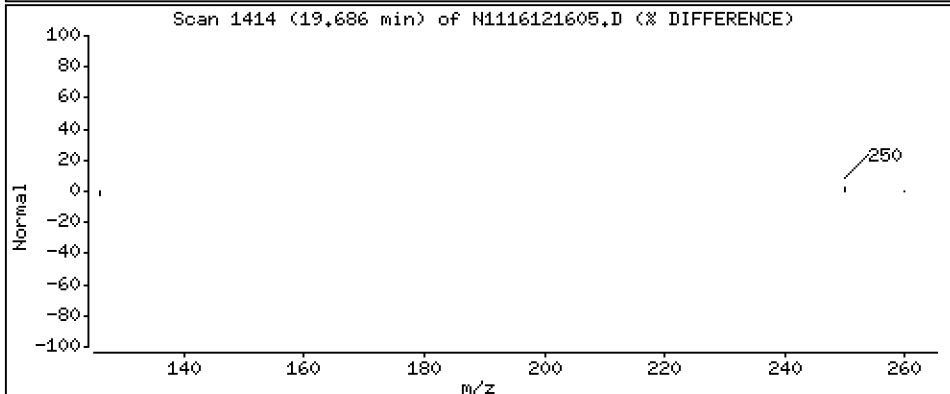
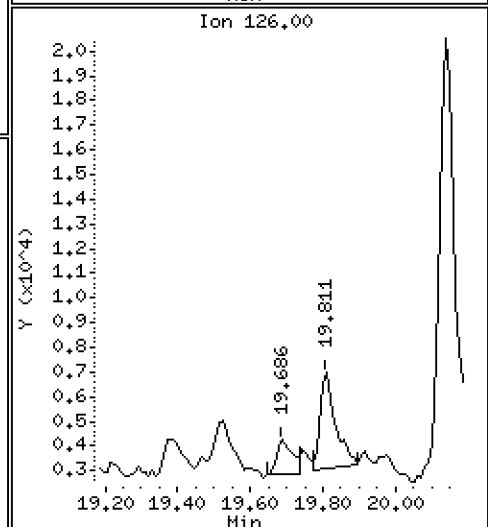
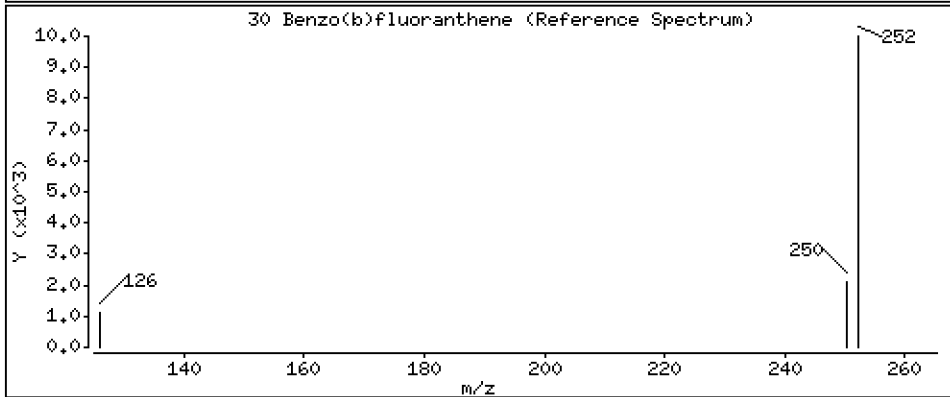
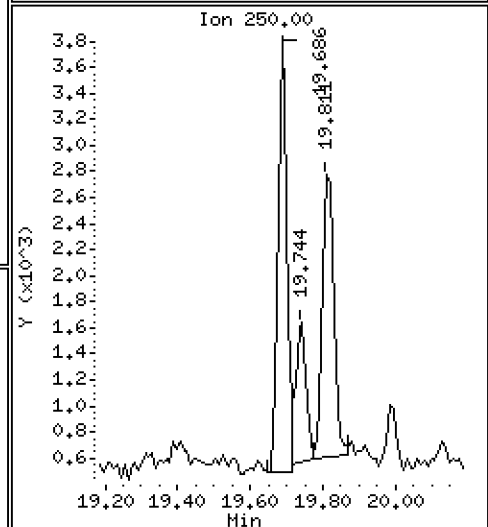
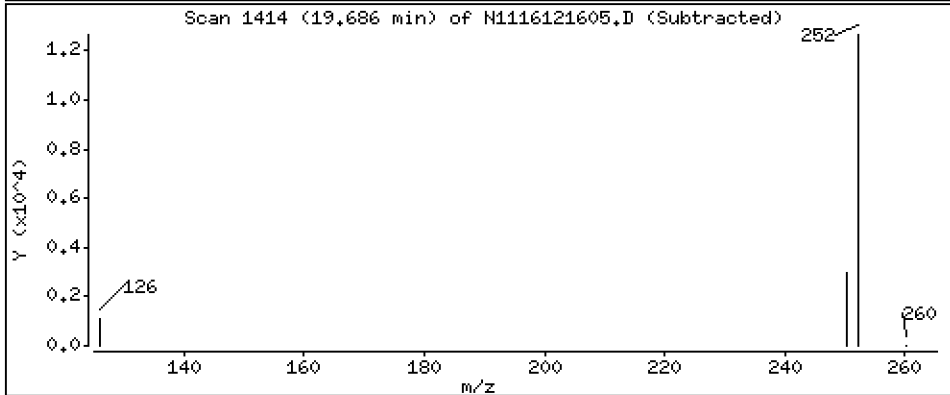
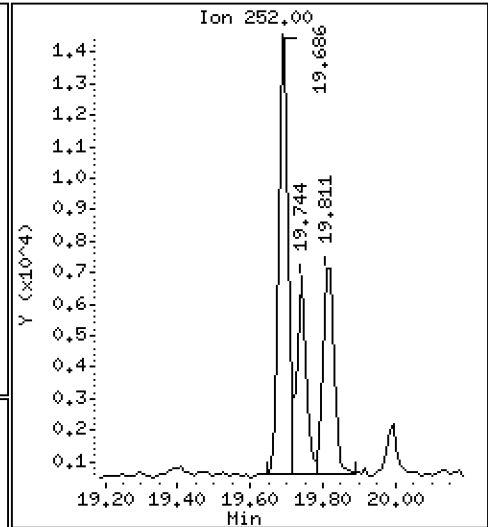
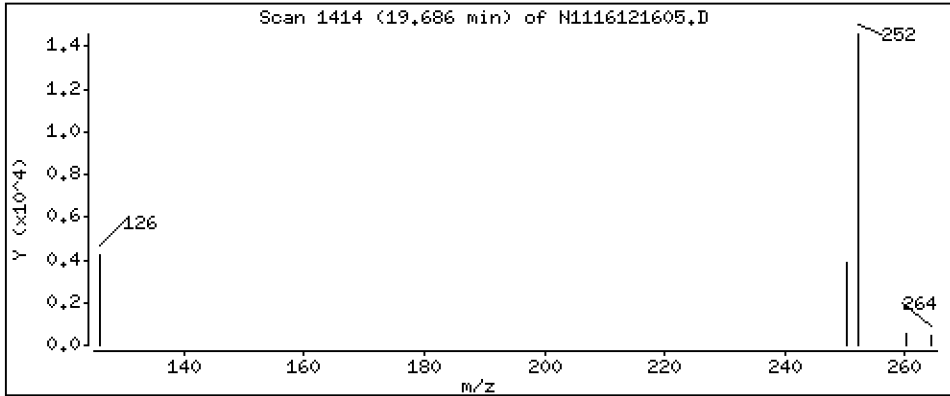
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 13,2 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

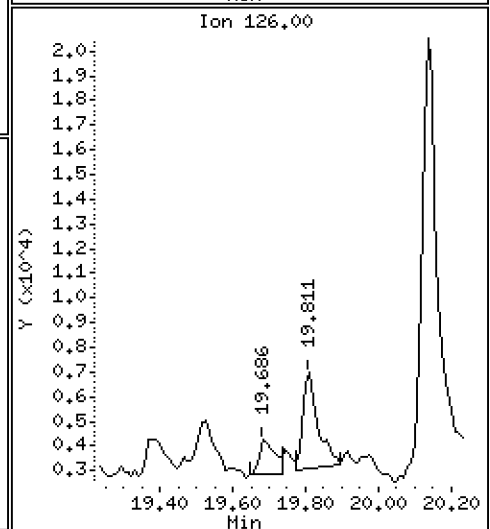
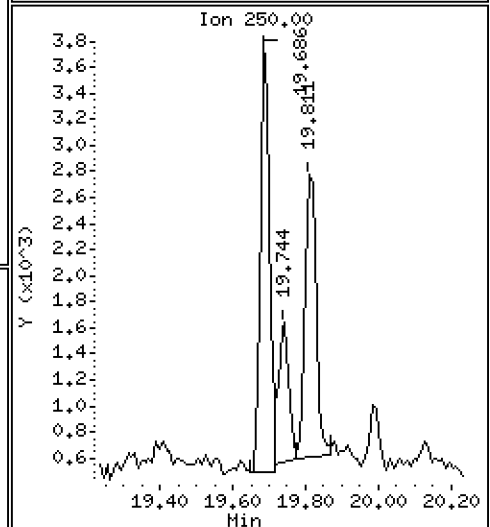
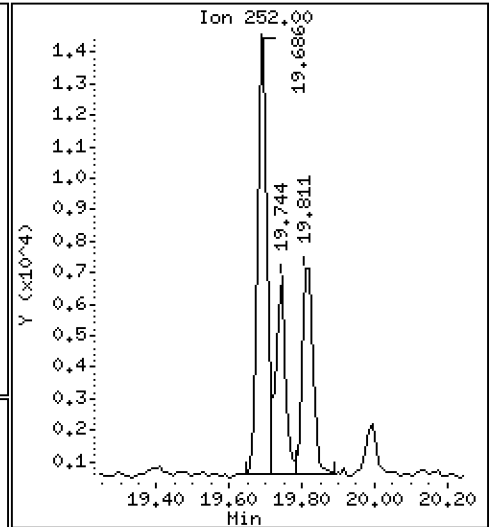
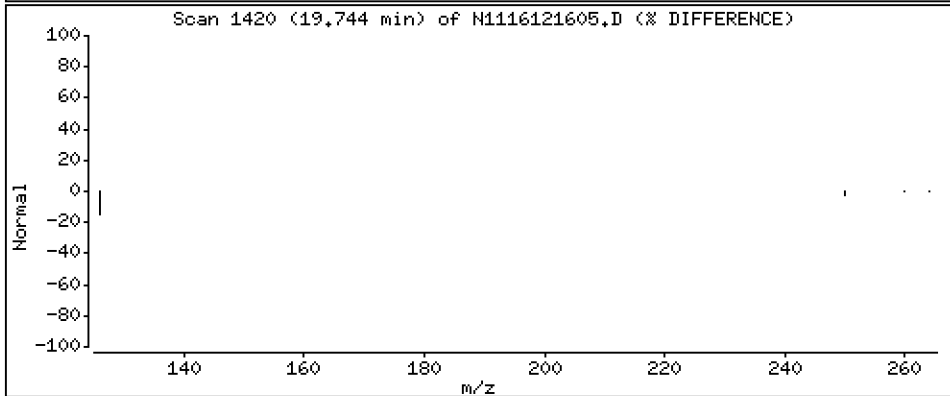
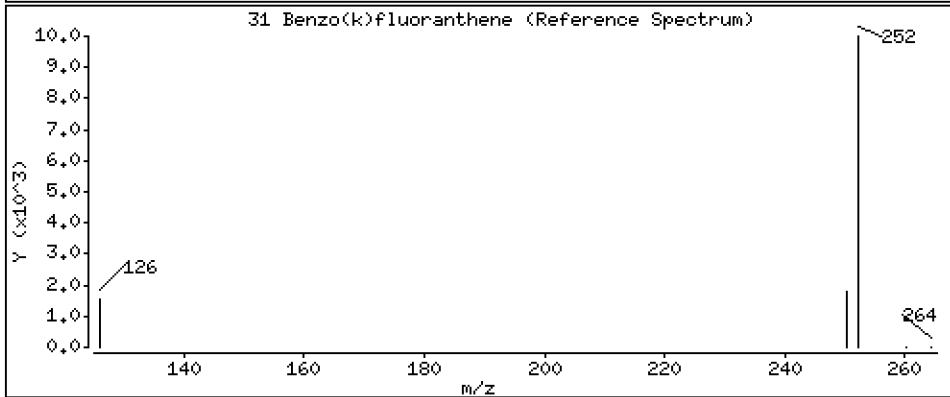
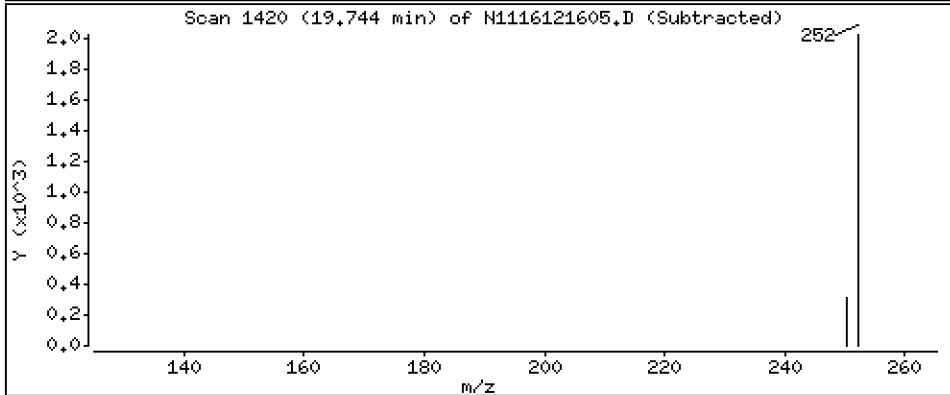
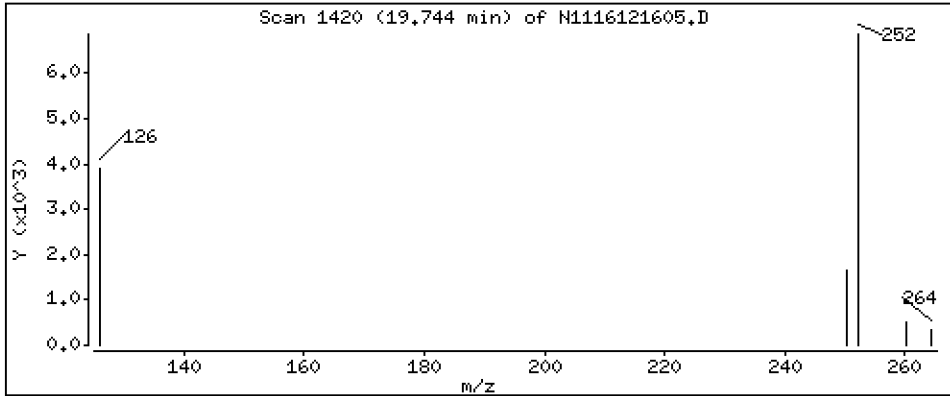
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 5,73 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

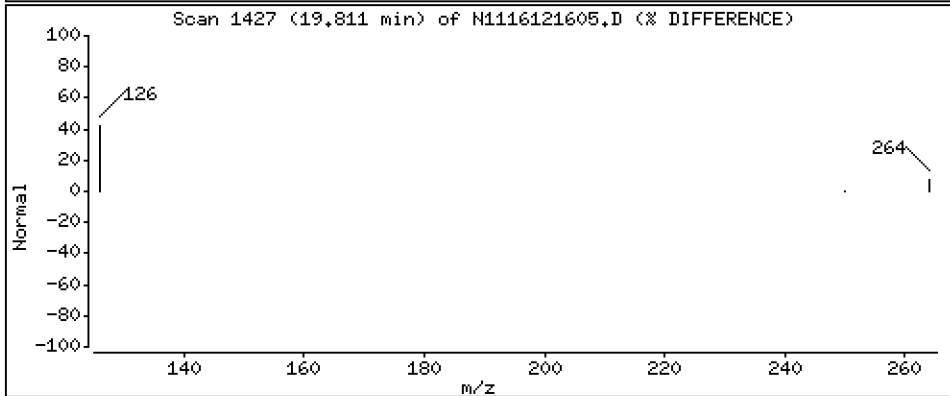
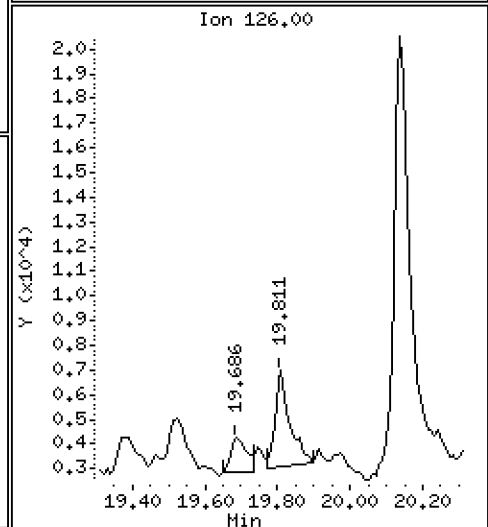
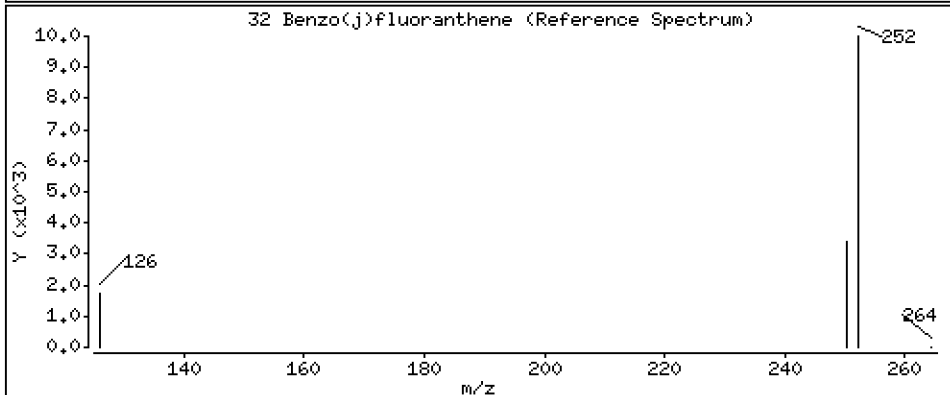
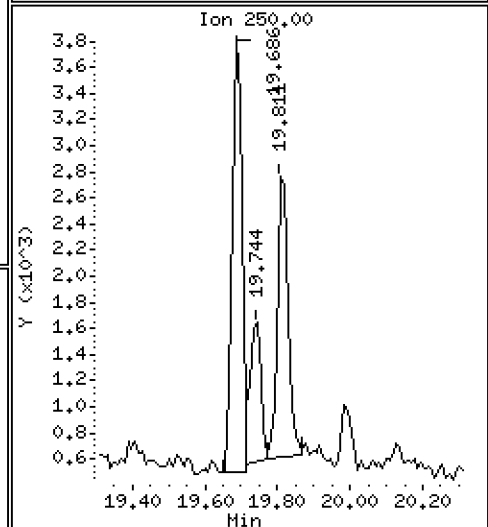
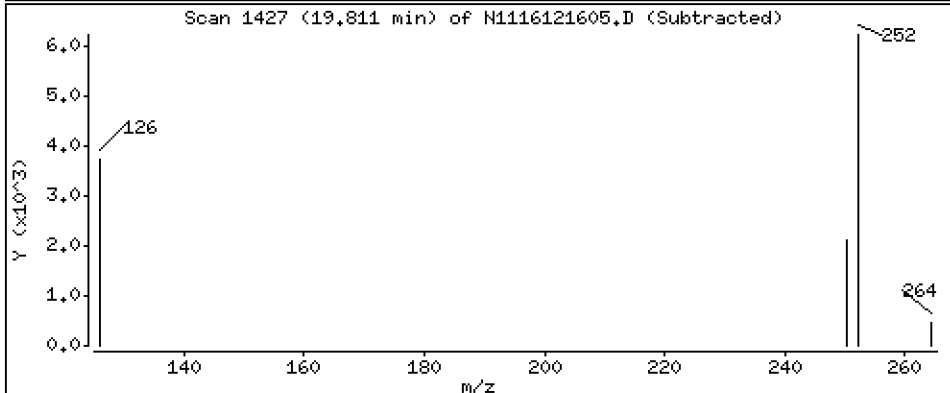
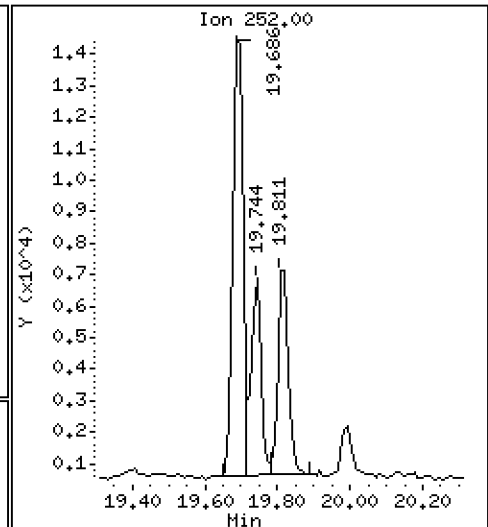
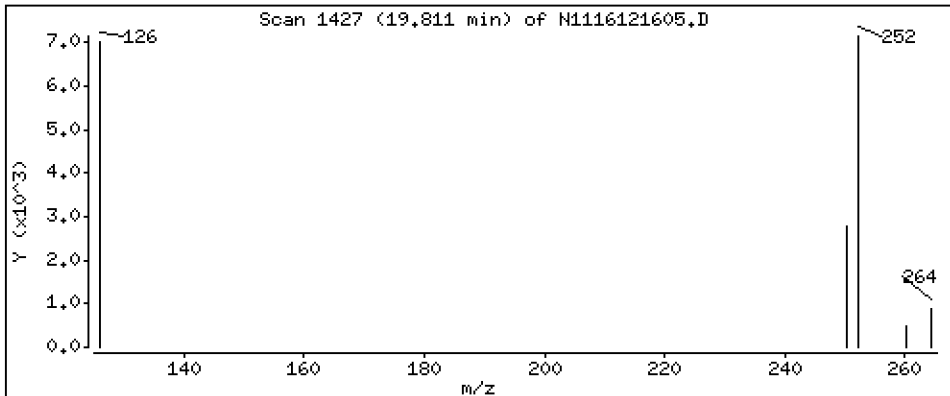
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 6,49 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

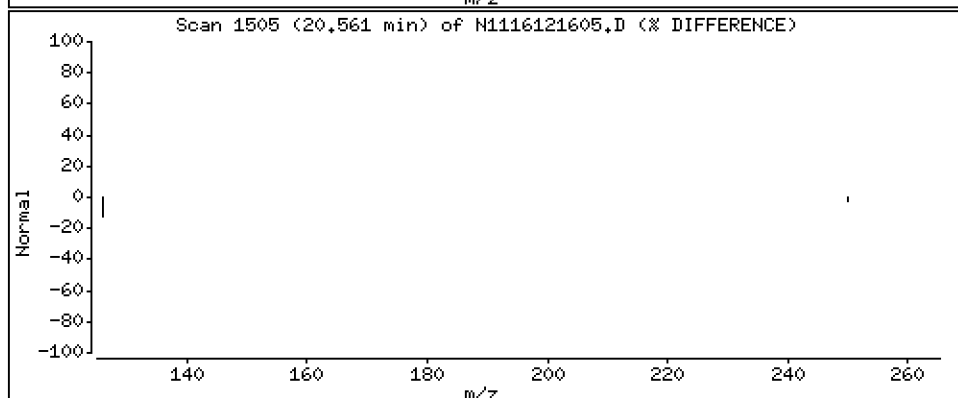
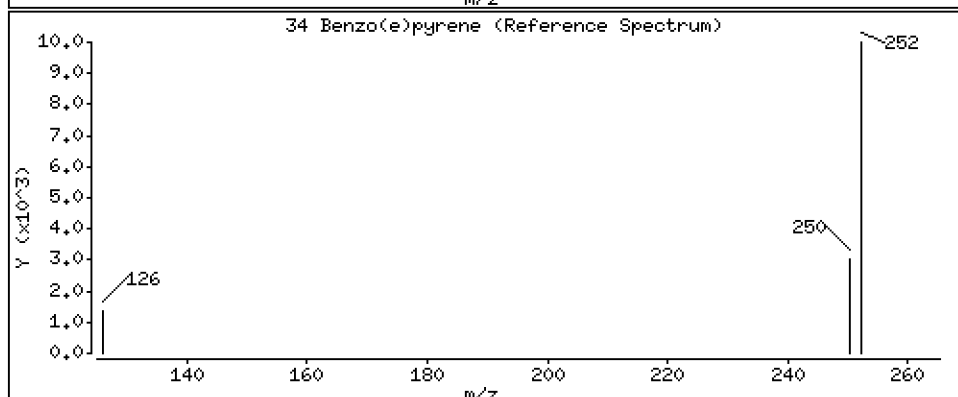
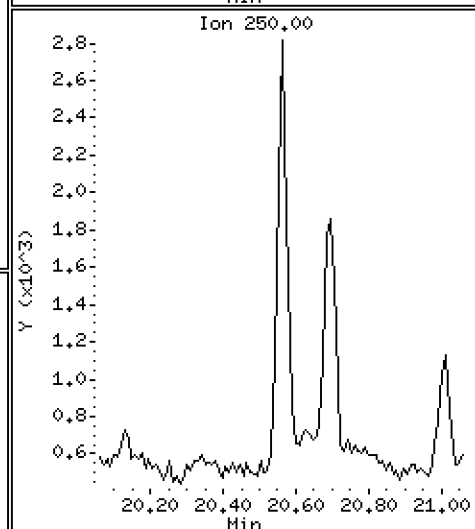
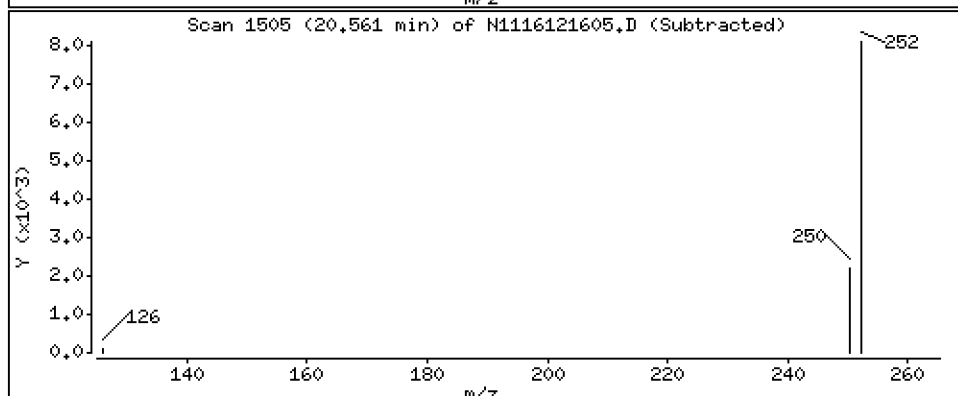
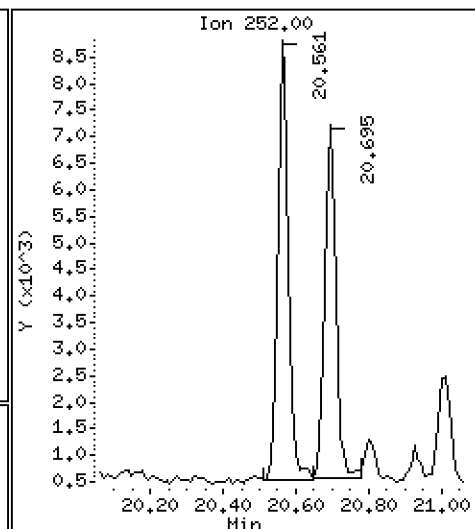
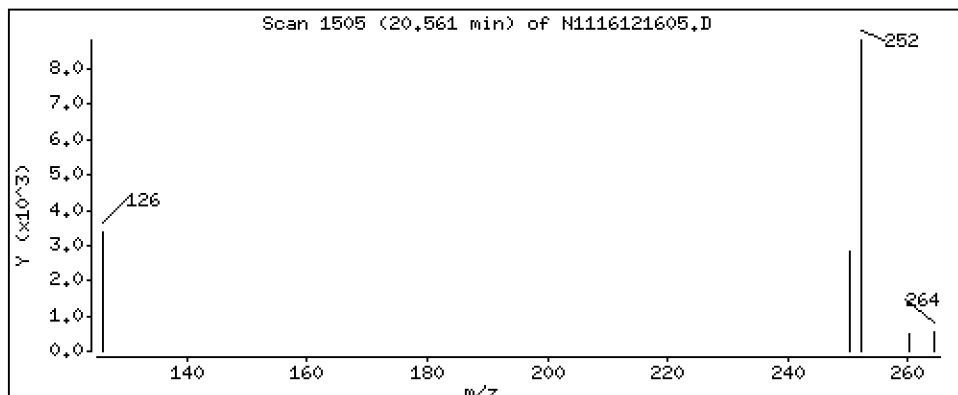
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 8,85 ng/mL



Date : 16-DEC-2016 11:34

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-5,5

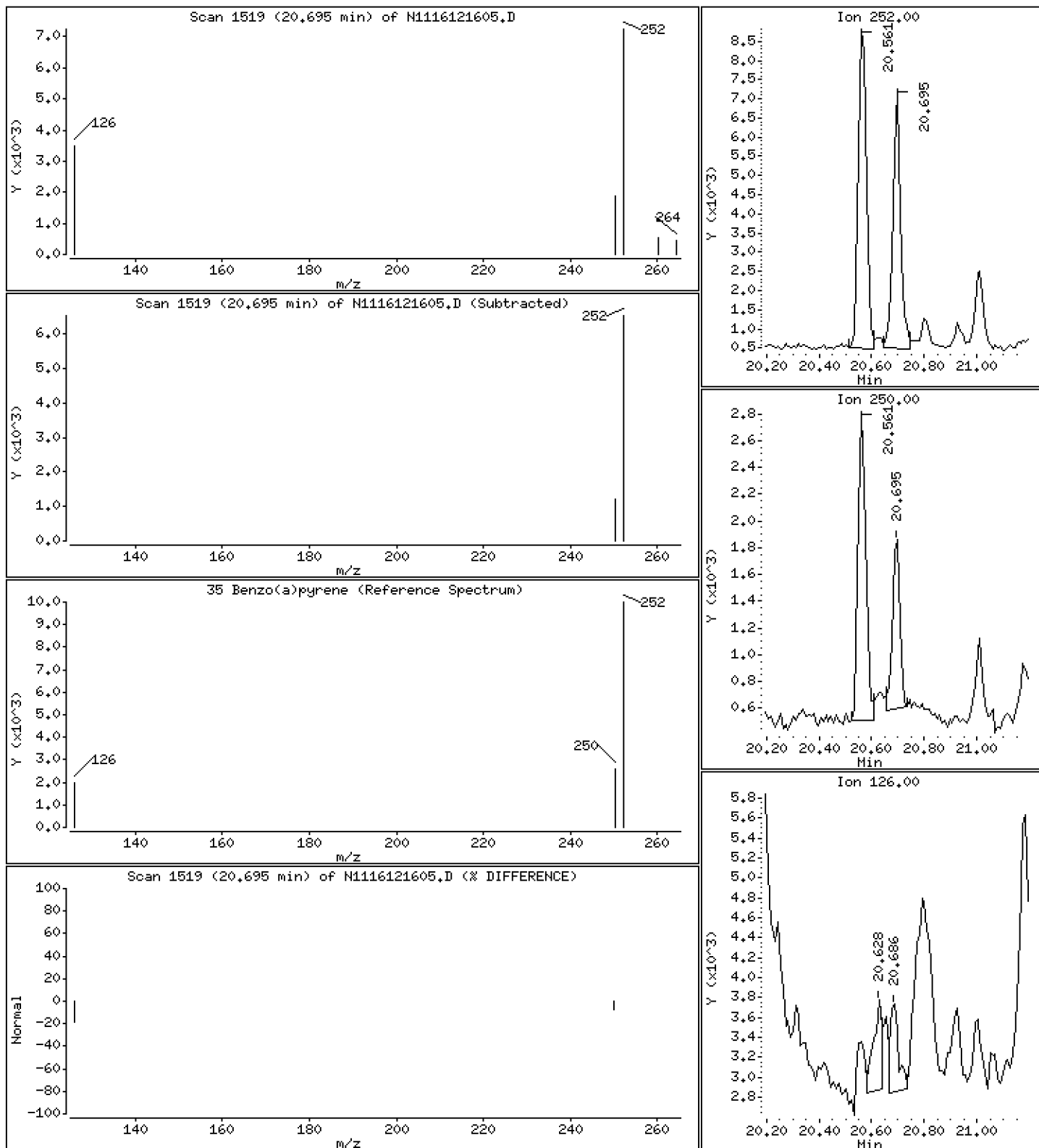
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 7,48 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161216.b\N1116121605.D
Lab Smp Id:
Inj Date : 16-DEC-2016 11:34 MS Autotune Date: 15-JAN-2015 15:59
Operator : VTS Inst ID: nt11.i
Smp Info : 16K0321-5,5
Misc Info :
Comment :
Method : \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
Meth Date : 17-Dec-2016 10:59 nt11.i Quant Type: ISTD
Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: allpna.sub
Target Version: 4.14
Processing Host: VANS

Compounds	QUANT	SIG	CONCENTRATIONS					
			MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	304081	200.000	
2 Naphthalene	128		7.261	7.271	(1.004)	19107	12.2213	12.2
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	42676	37.2258	37.2
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	41575	31.6734	31.7
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	29799	23.1467	23.1
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		9.136	9.136	(0.890)	16259	8.02826	8.03
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	64294	44.1788	44.2
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		10.260	10.261	(1.000)	181564	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	172662	150.027	150
13 Dibenzofuran	168		10.519	10.519	(1.025)	134436	82.1979	82.2
14 2,3,5-Trimethylnaphthalene	170		10.607	10.620	(1.034)	15445	15.1904	15.2
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	219523	173.732	174
17 Dibenzothiophene	184		12.777	12.788	(0.986)	27776	16.5148	16.5
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	340274	200.000	
19 Phenanthrene	178		12.998	12.998	(1.003)	1533856	750.439	750
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		13.050	13.050	(1.007)	163202	84.8531	84.9
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.080)	89695	49.8031	49.8
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	72962	48.0356	48.0
25 Fluoranthene	202		15.093	15.094	(1.165)	1409003	710.443	710
26 Pyrene	202		15.603	15.603	(0.881)	988702	422.057	422
27 Benzo(a)anthracene	228		17.610	17.619	(0.994)	118484	58.4499	58.4
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	360048	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	96307	42.8350	42.8
30 Benzo(b)fluoranthene	252		19.686	19.696	(0.940)	26815	13.1637	13.2
31 Benzo(k)fluoranthene	252		19.744	19.744	(0.943)	12672	5.72530	5.73
32 Benzo(j)fluoranthene	252		19.811	19.821	(0.946)	13317	6.49070	6.49
\$ 33 Benzo(e)pyrene-d12	264		20.493	20.493	(0.979)	40943	23.7082	23.7

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	20.560	20.570	(0.982)	17511	8.84630	8.85
35 Benzo(a)pyrene	252	20.695	20.695	(0.989)	13949	7.47903	7.48
* 36 Perylene-d12	264	20.935	20.935	(1.000)	358361	200.000	
37 Perylene	252	Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292	23.819	23.830	(1.138)	31634	26.3536	26.4
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 16-DEC-2016
 Lab File ID: N1116121605.D Calibration Time: 09:46
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	304081	-38.39
11 Acenaphthene-d10	240770	120385	481540	181564	-24.59
18 Phenanthrene-d10	429271	214636	858542	340274	-20.73
28 Chrysene-d12	387691	193846	775382	360048	-7.13
36 Perylene-d12	386259	193130	772518	358361	-7.22

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	-0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	-0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	-0.00
28 Chrysene-d12	17.71	17.21	18.21	17.71	-0.00
36 Perylene-d12	20.94	20.44	21.44	20.94	-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 - N1116121605.D

Lab ID:

nt11.i, 20161216.b\LOWSIM.m, 16-DEC-2016 11:34

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161216.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-06 File ID: N1116121212.D
 Sampled: 11/22/16 12:10 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 13:58
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	11.2	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	18.2	B	1.13	1.13
208-96-8	Acenaphthylene	1	3.19		1.13	1.13
83-32-9	Acenaphthene	1	92.2		1.13	1.13
86-73-7	Fluorene	1	94.7		1.13	1.13
85-01-8	Phenanthrene	1	360	E	1.13	1.13
120-12-7	Anthracene	1	42.7		1.13	1.13
206-44-0	Fluoranthene	1	293	E	1.13	1.13
129-00-0	Pyrene	1	210	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	23.3		1.13	1.13
218-01-9	Chrysene	1	18.4		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	4.11		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.63		1.13	1.13
50-32-8	Benzo(a)pyrene	1	2.04		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	2.61		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	21.0	62.1	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	24.0	70.9	30 - 160	
Fluoranthene-d10	33.860	29.0	85.8	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	8.38	39.6	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121212.D

Date: 12-DEC-2016 13:58

Client ID:

Sample Info: 16K0321-06

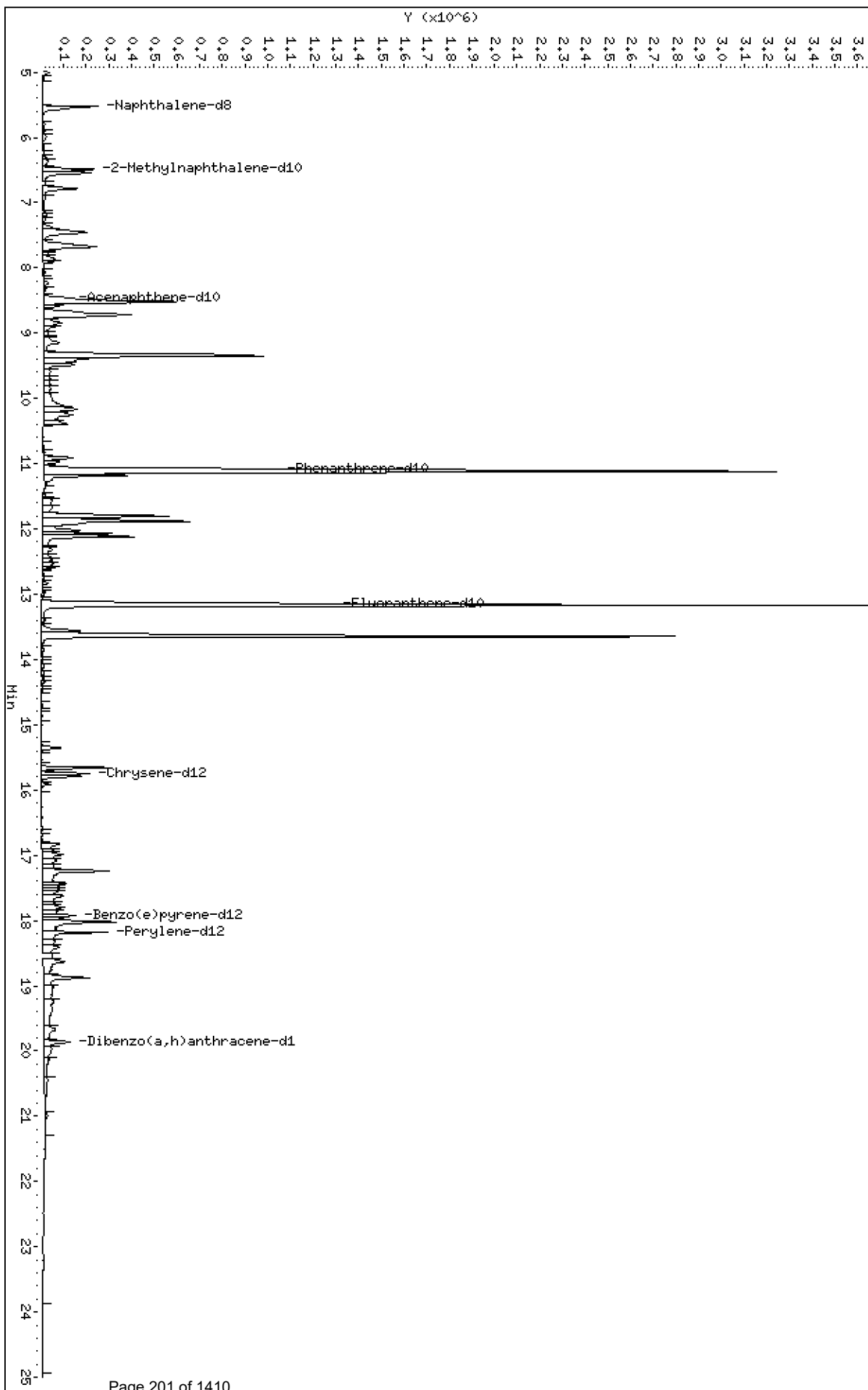
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161212.16\N1116121212.D



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

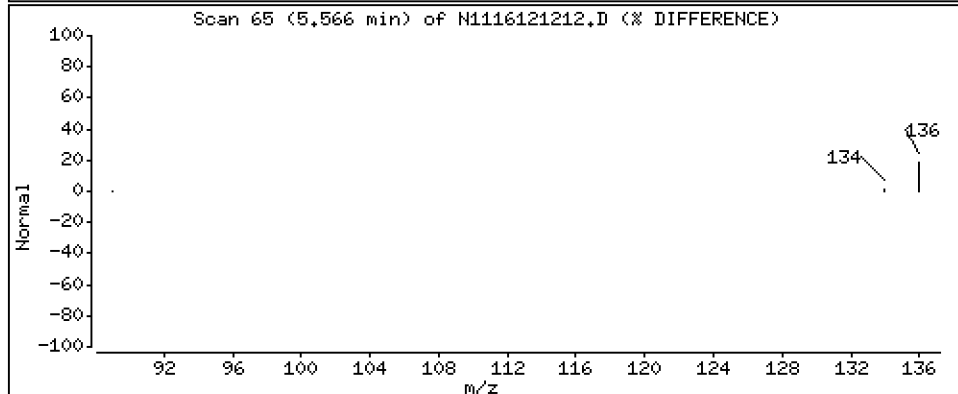
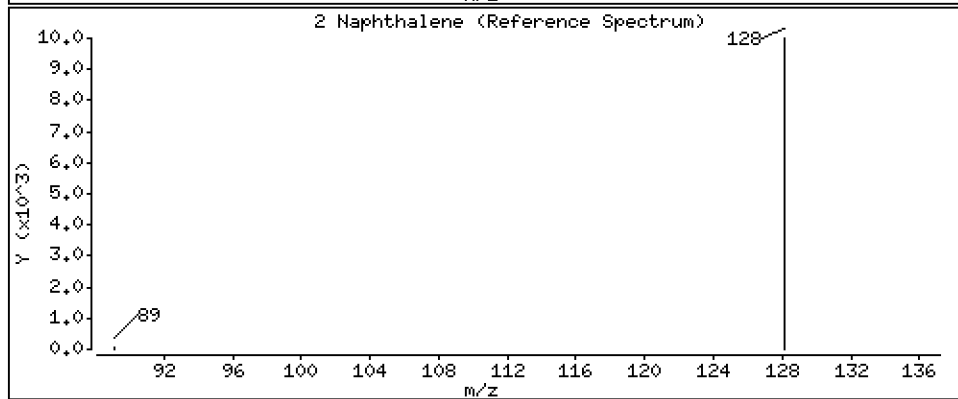
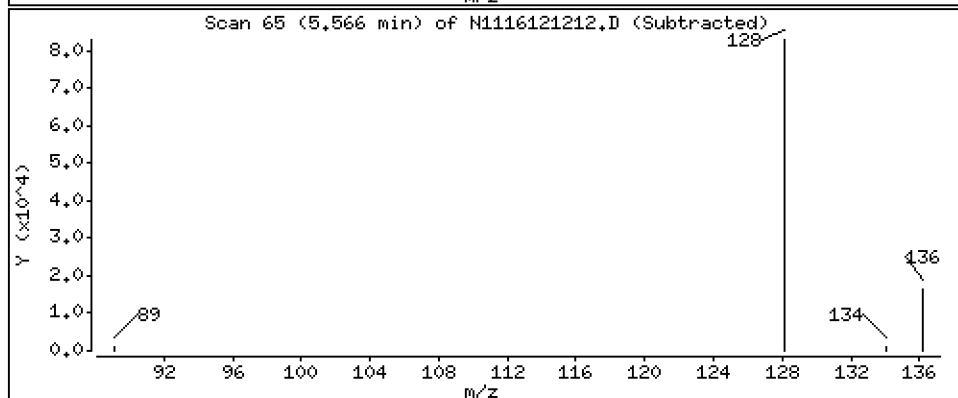
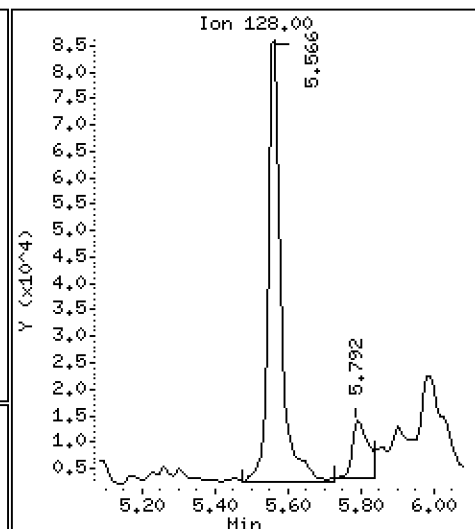
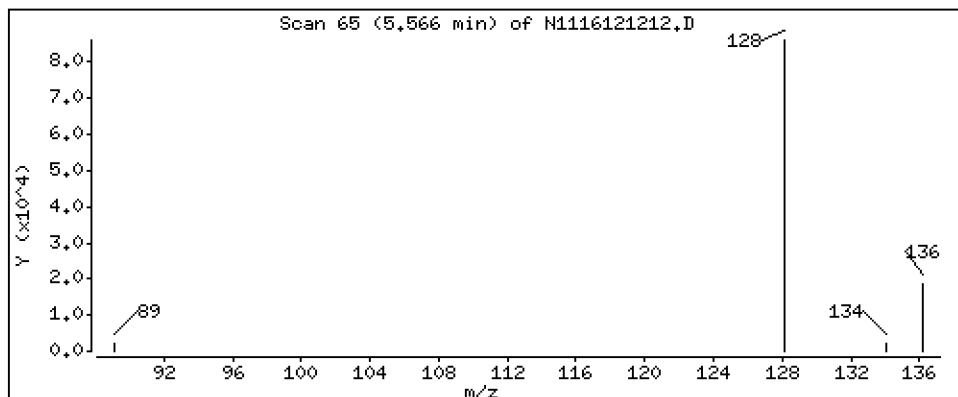
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 99,5 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

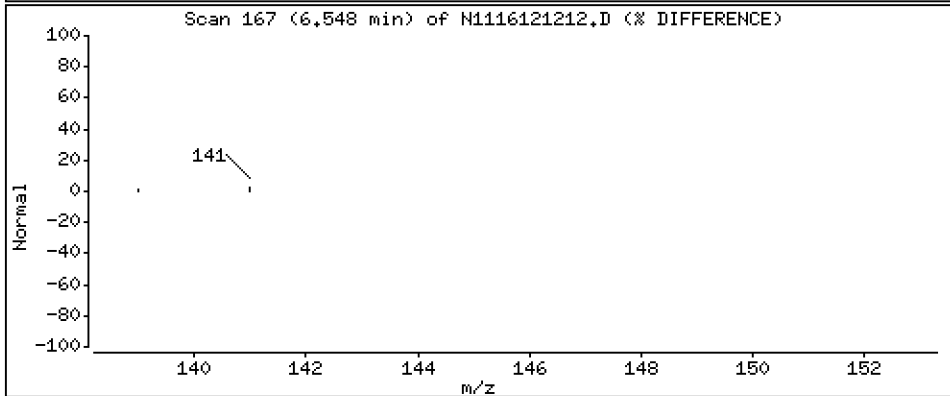
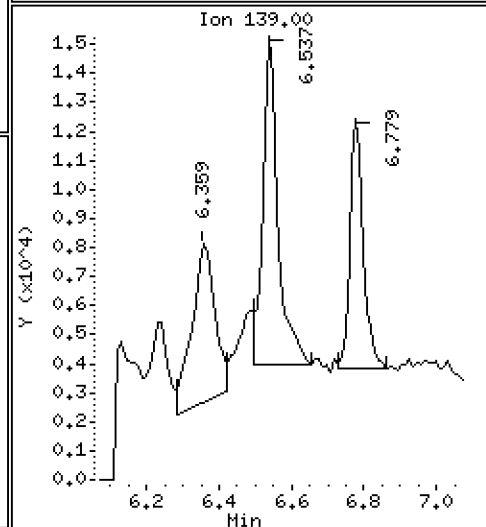
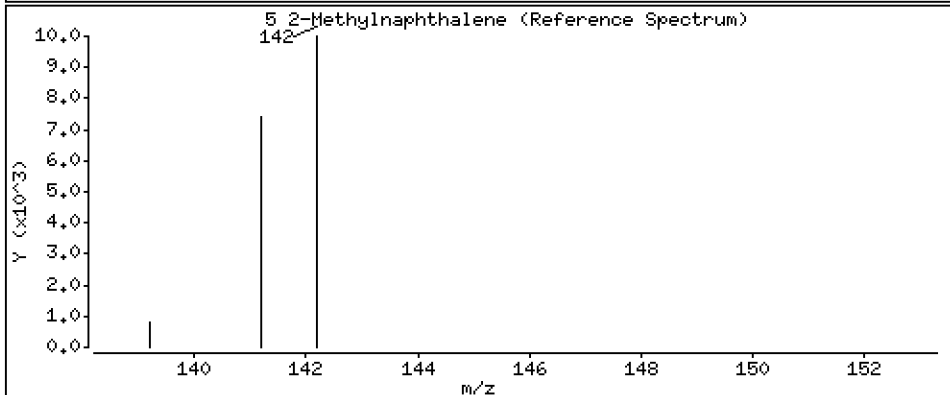
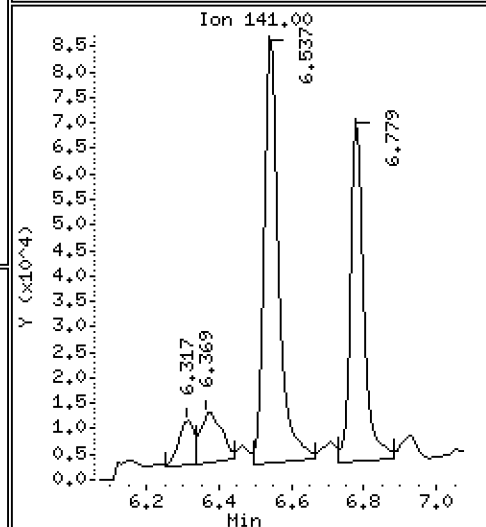
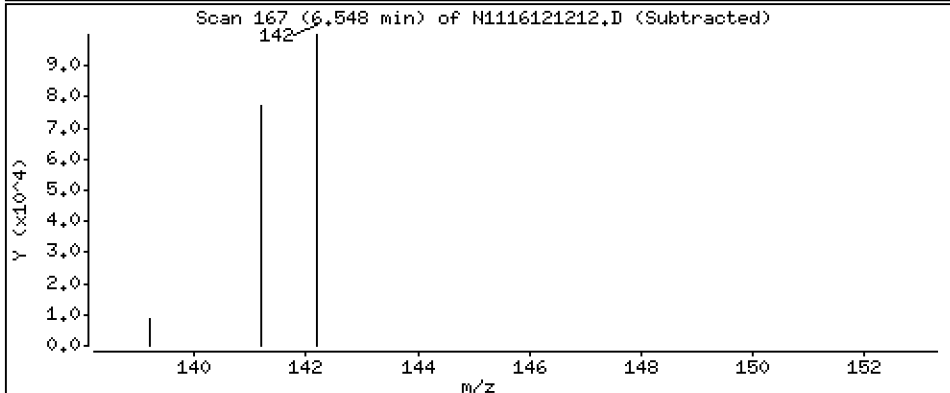
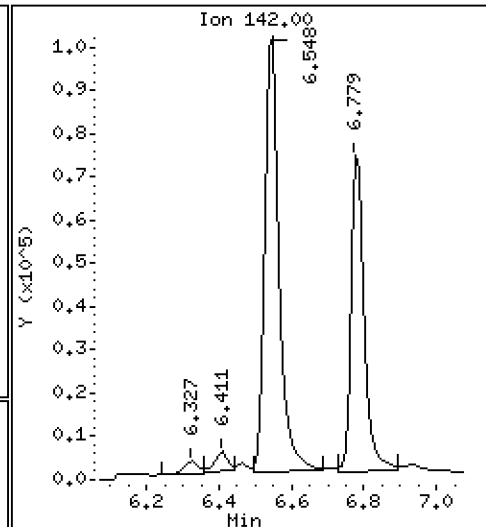
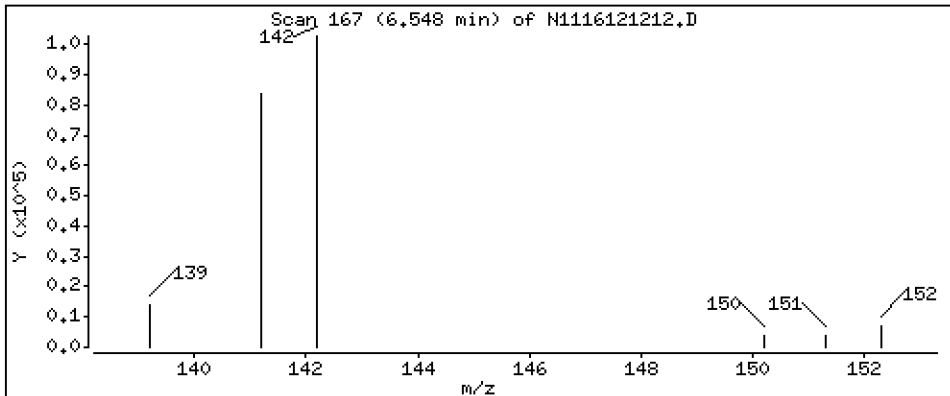
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 161 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

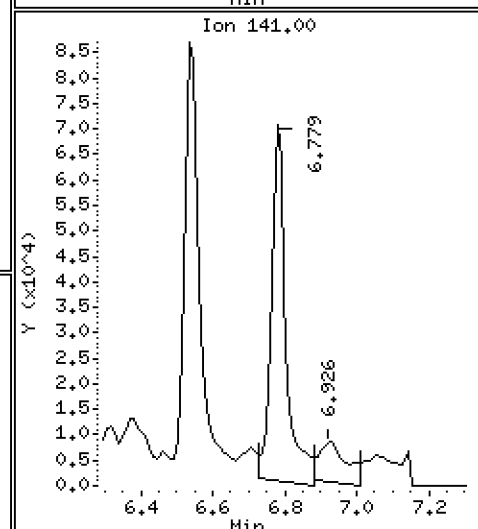
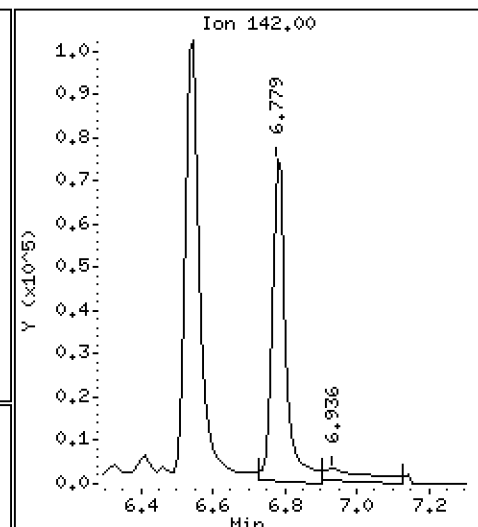
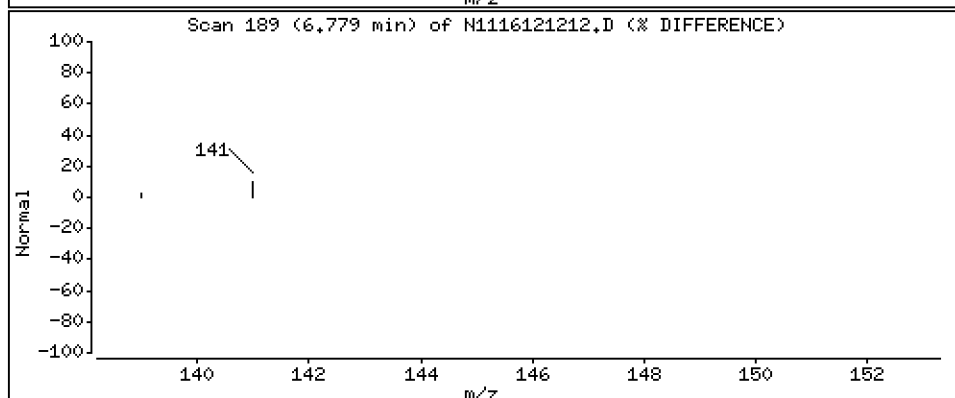
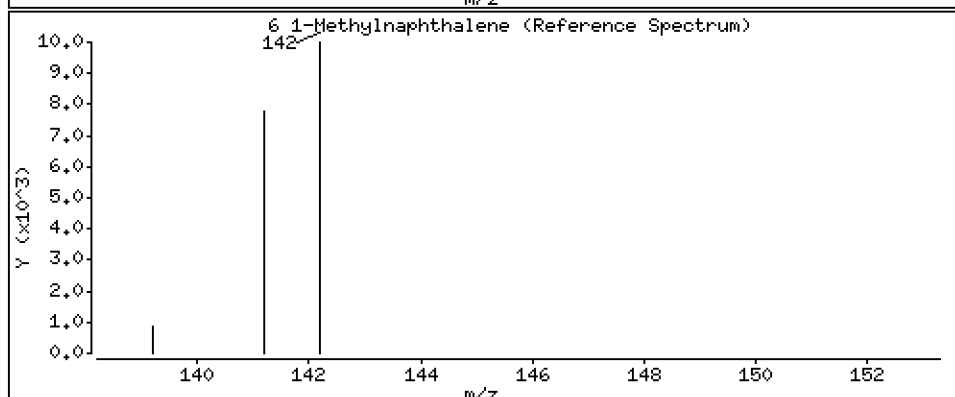
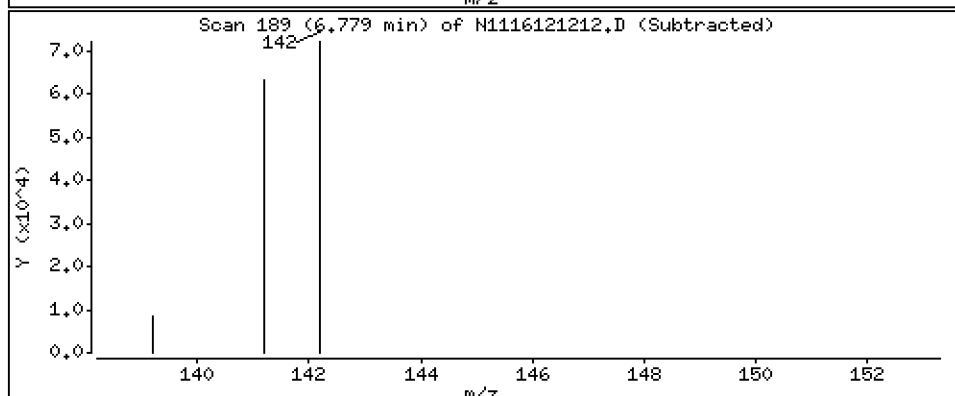
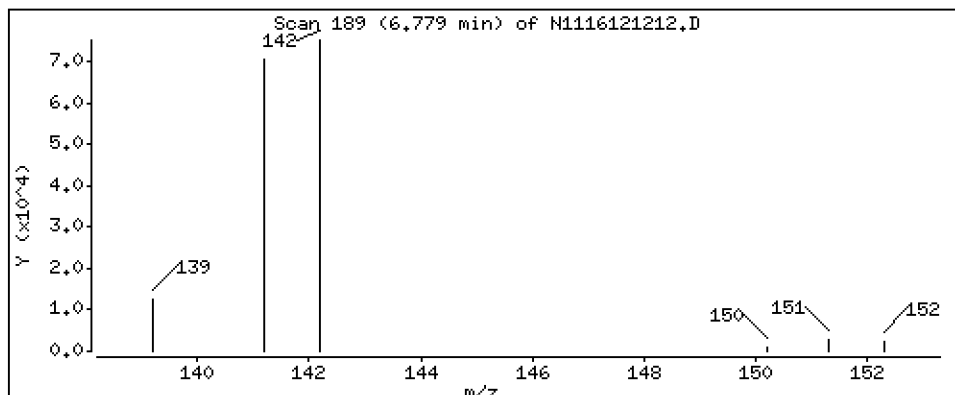
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 128 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

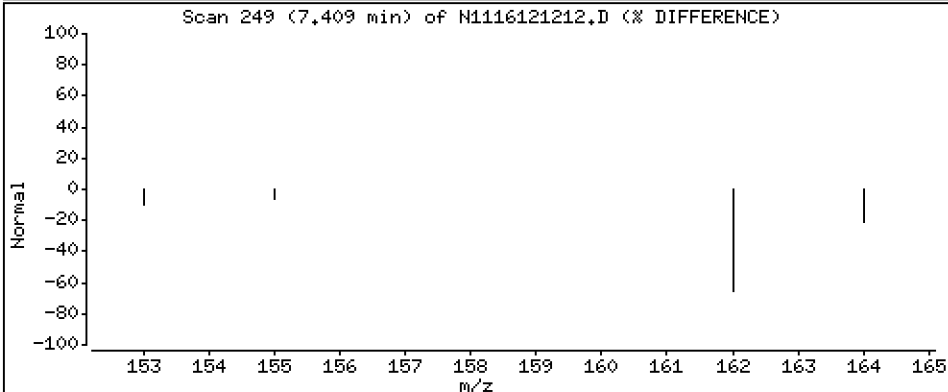
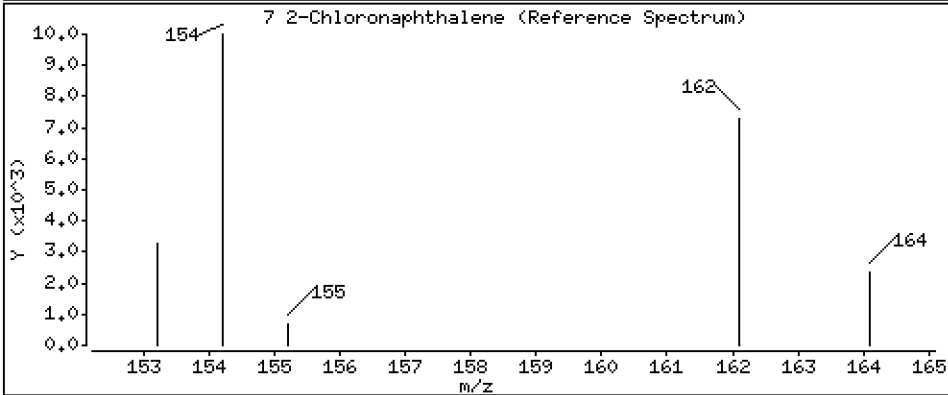
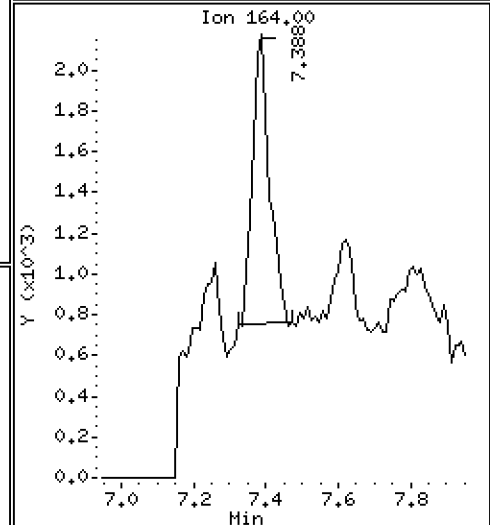
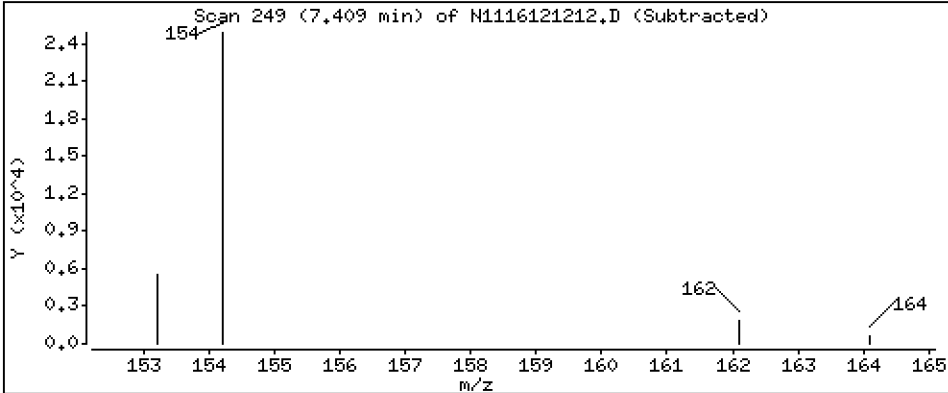
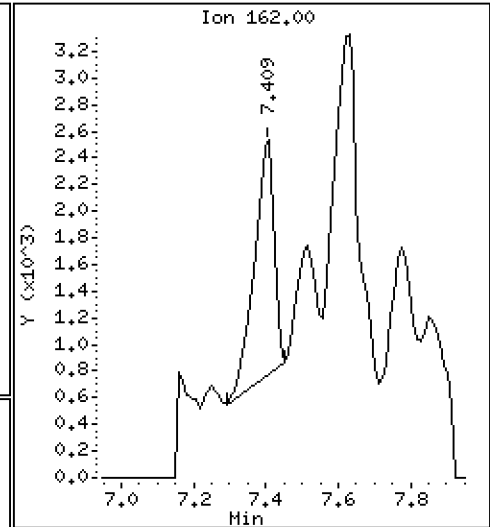
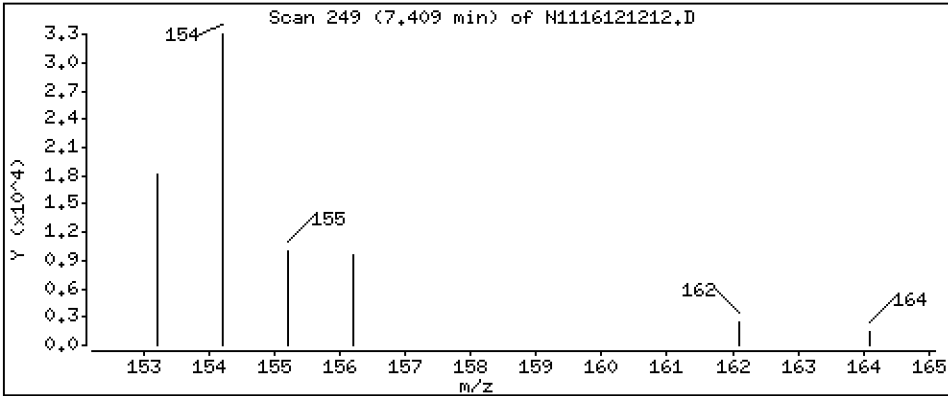
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 3,77 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

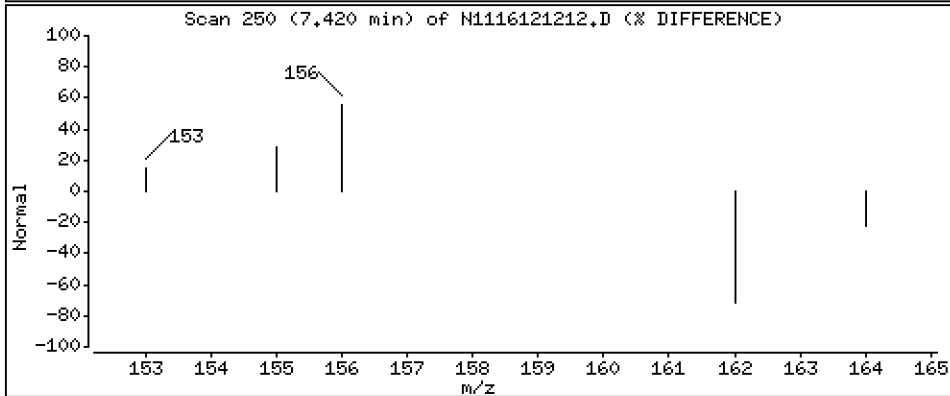
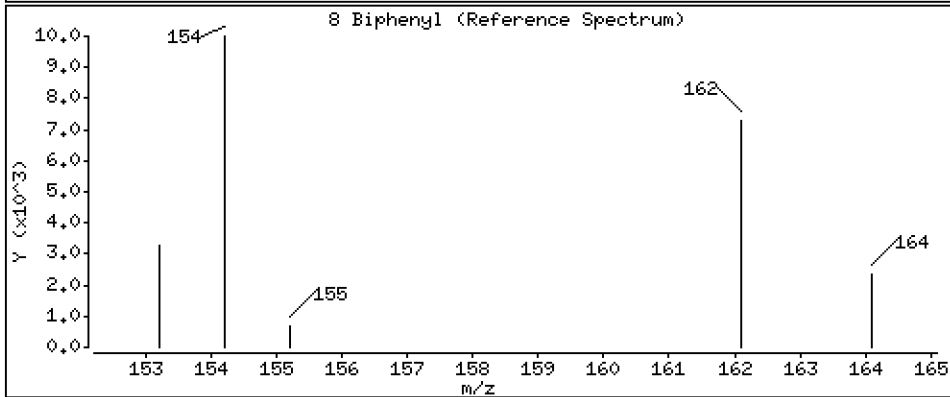
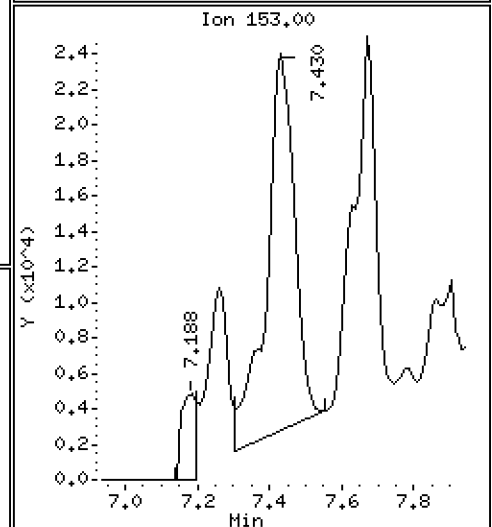
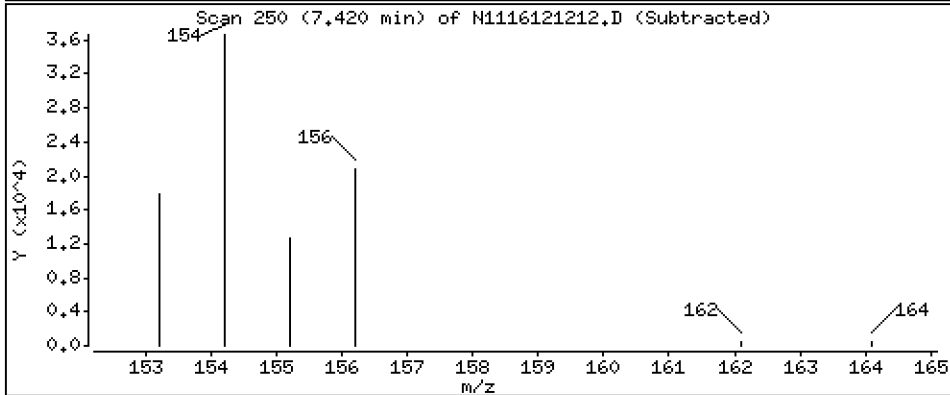
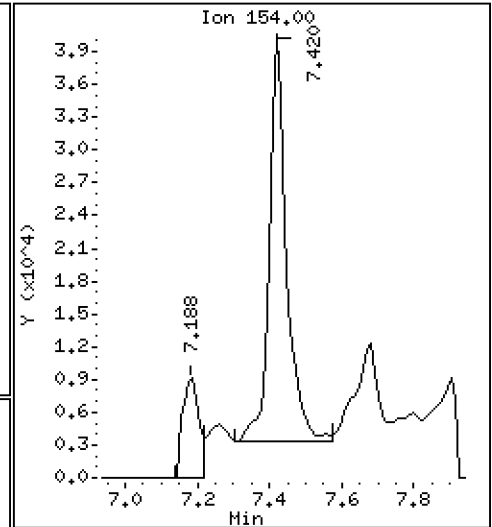
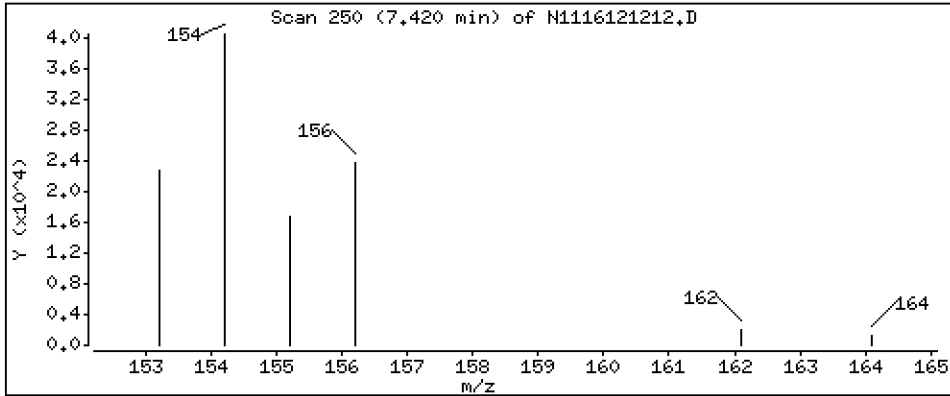
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 49,9 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

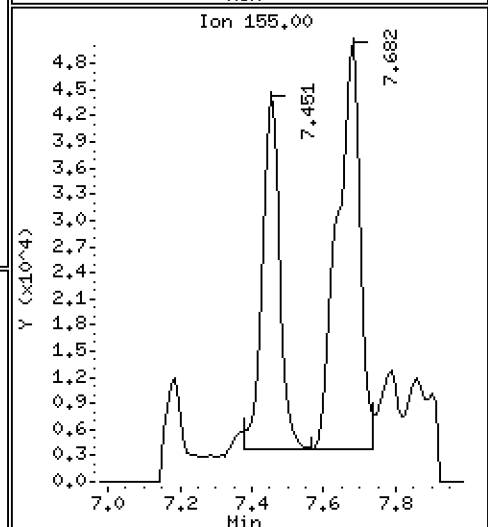
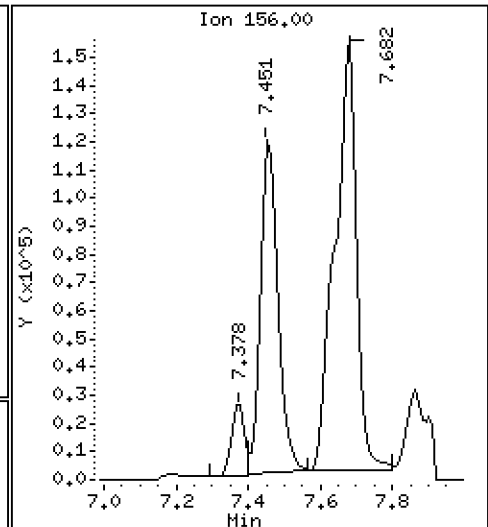
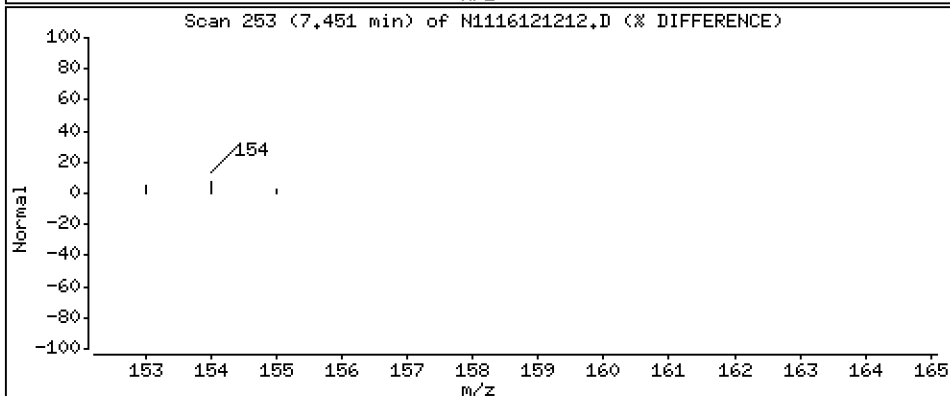
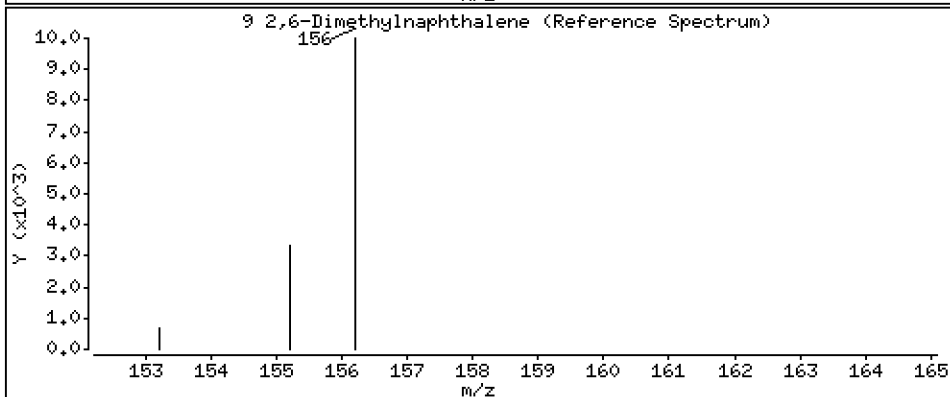
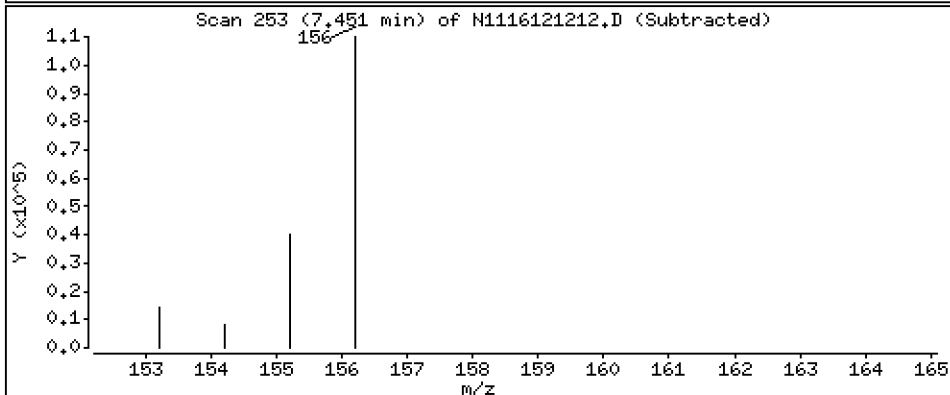
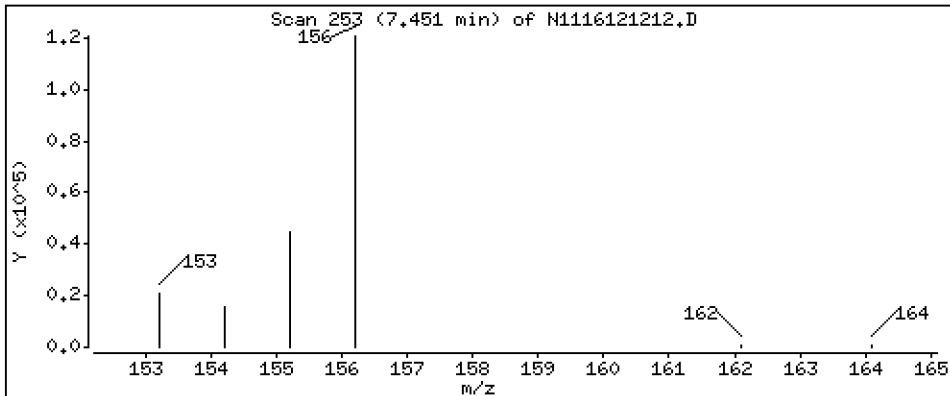
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 227 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

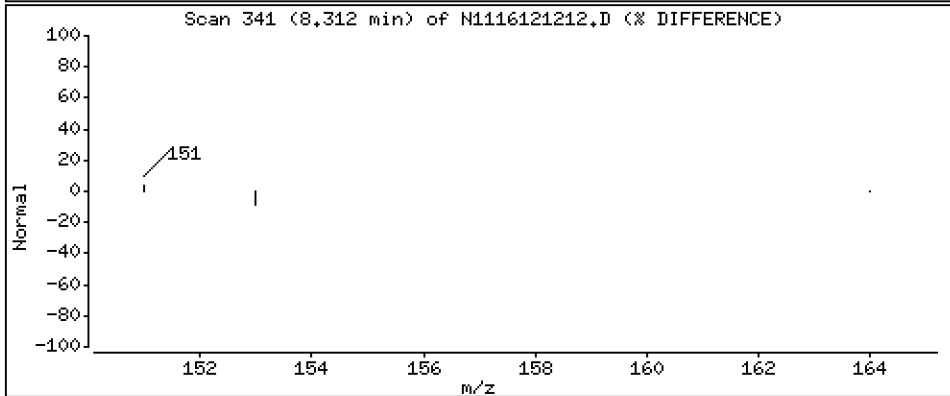
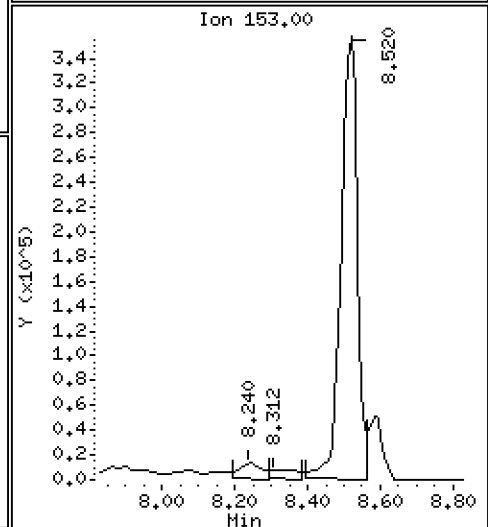
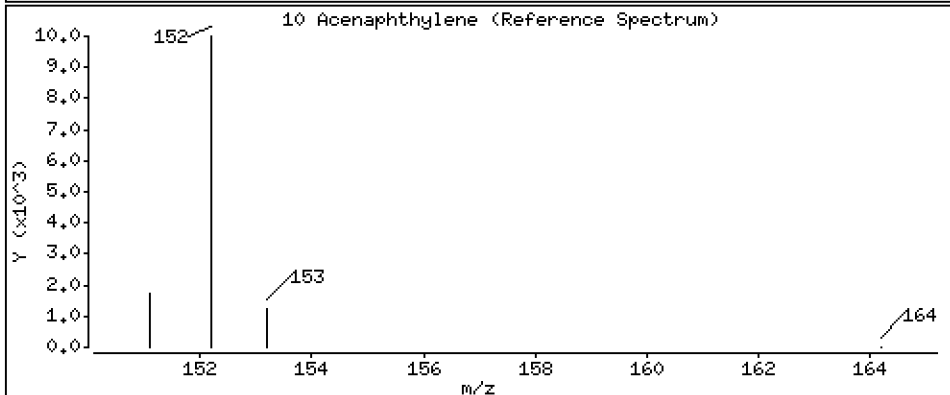
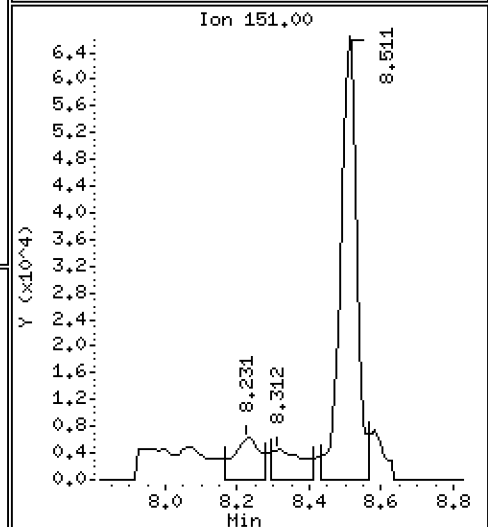
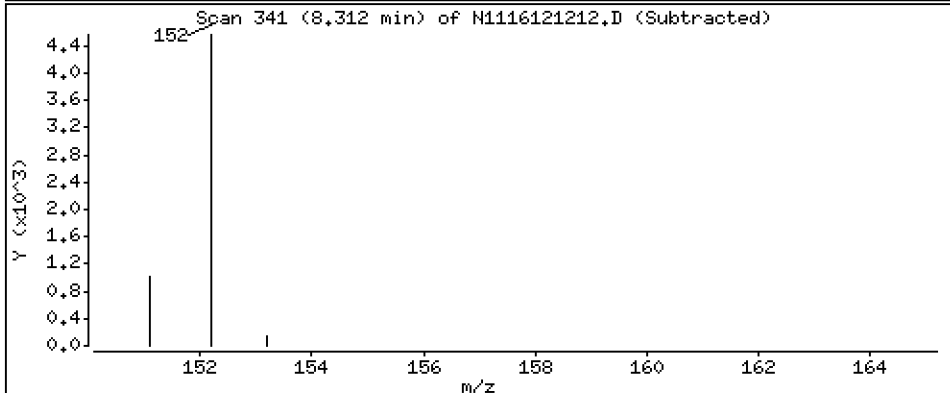
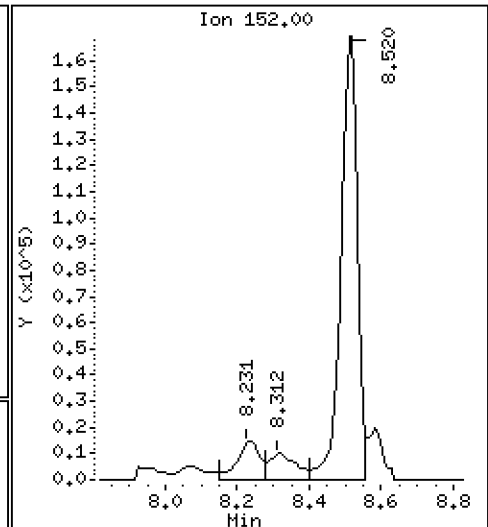
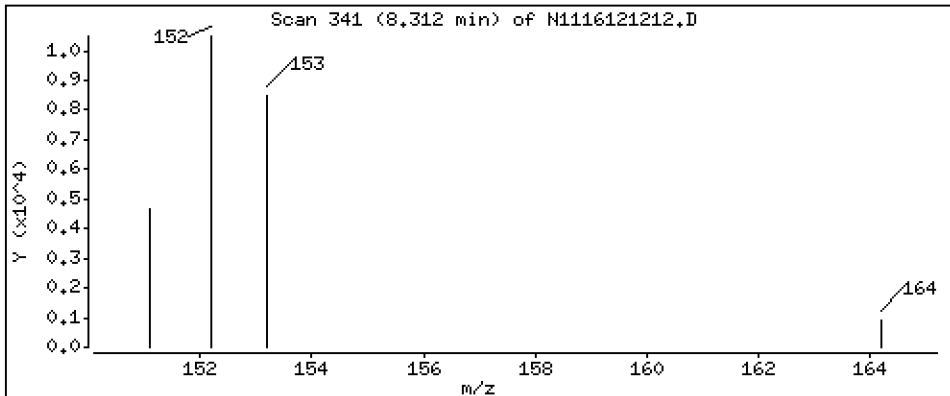
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 28,3 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

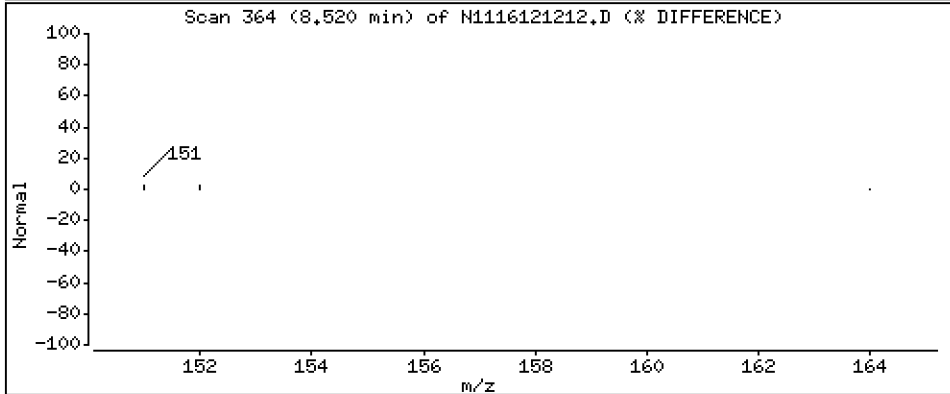
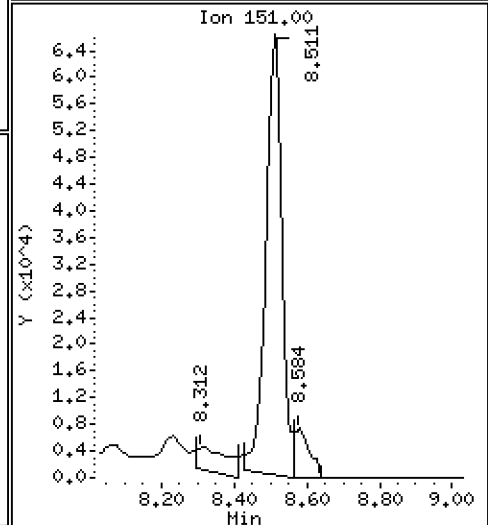
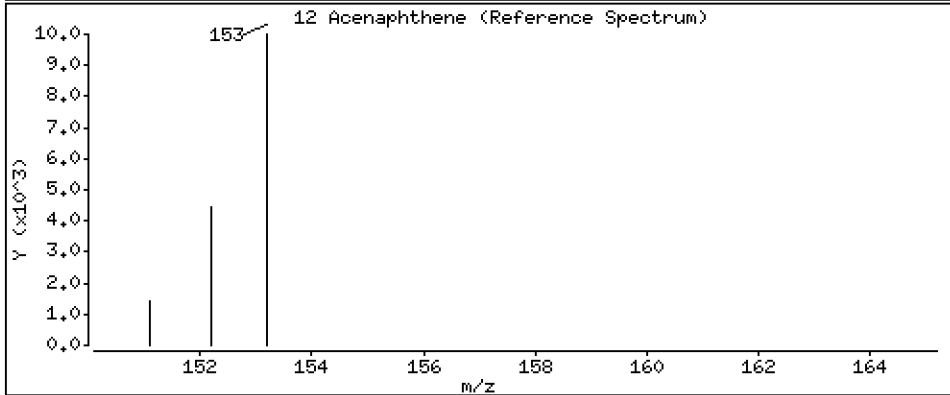
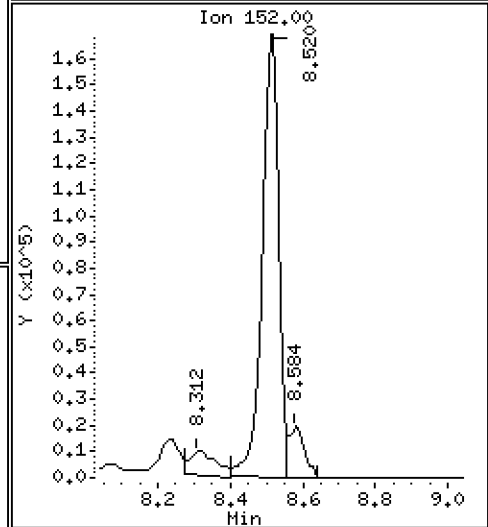
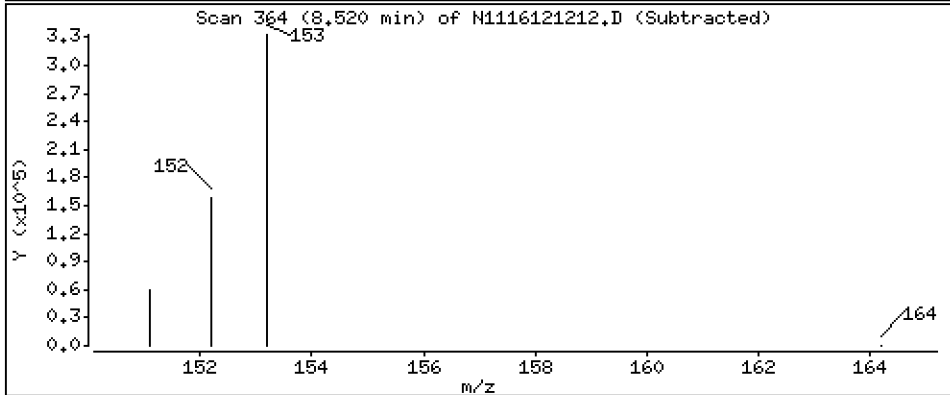
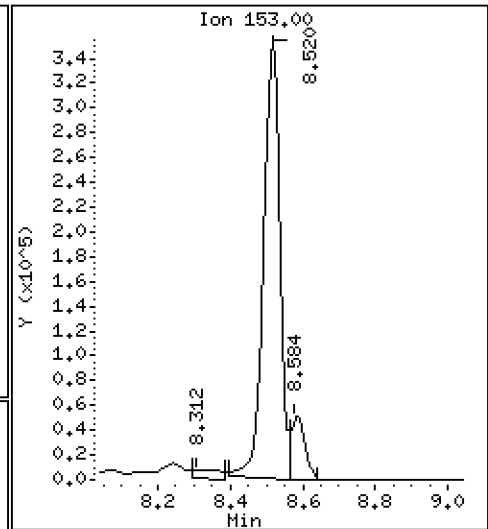
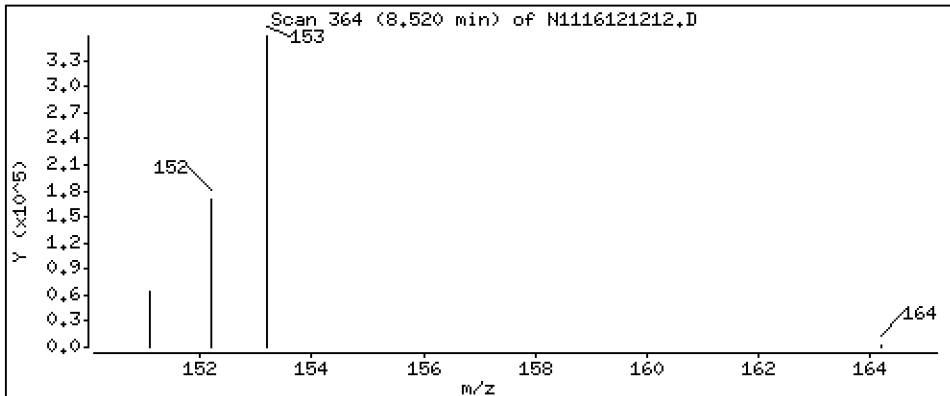
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 817 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

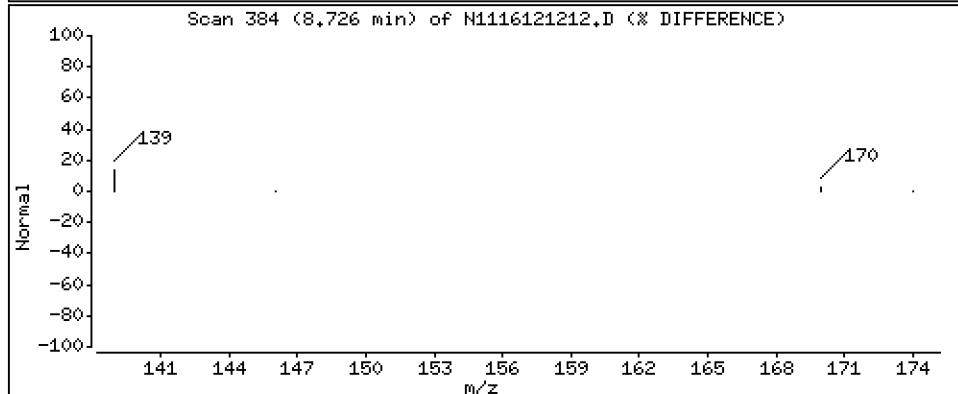
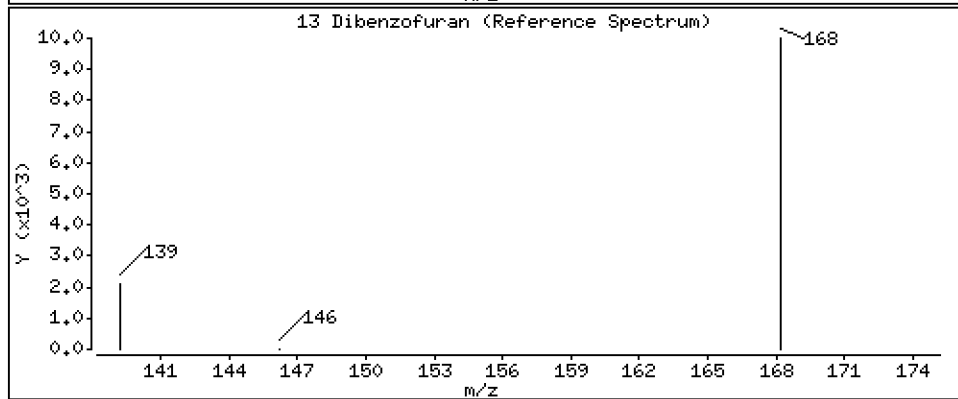
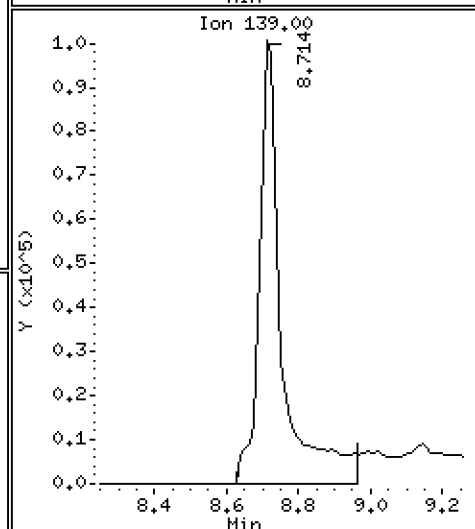
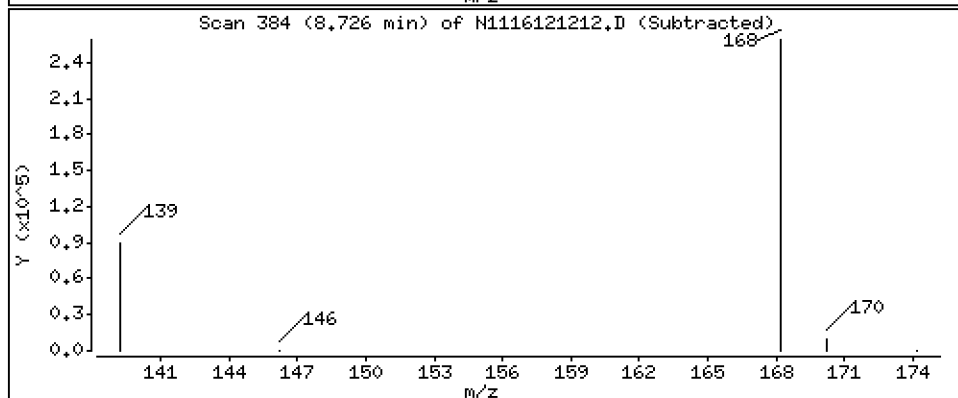
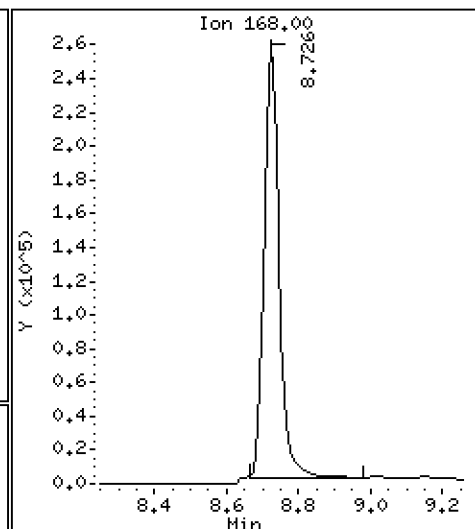
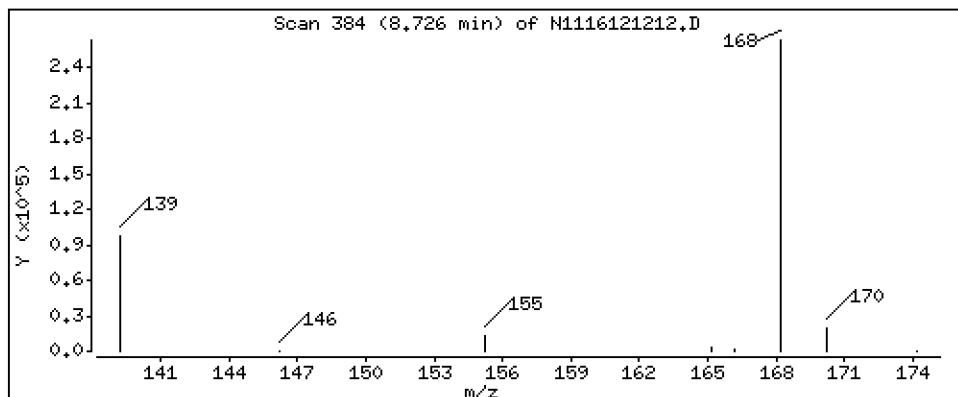
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 381 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

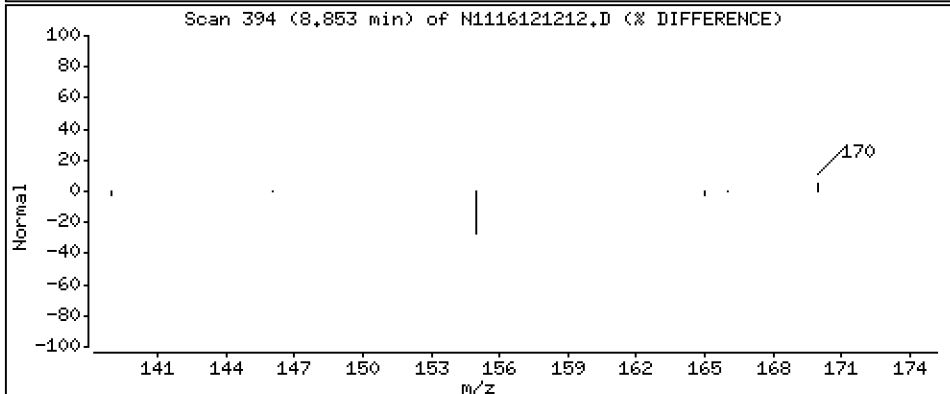
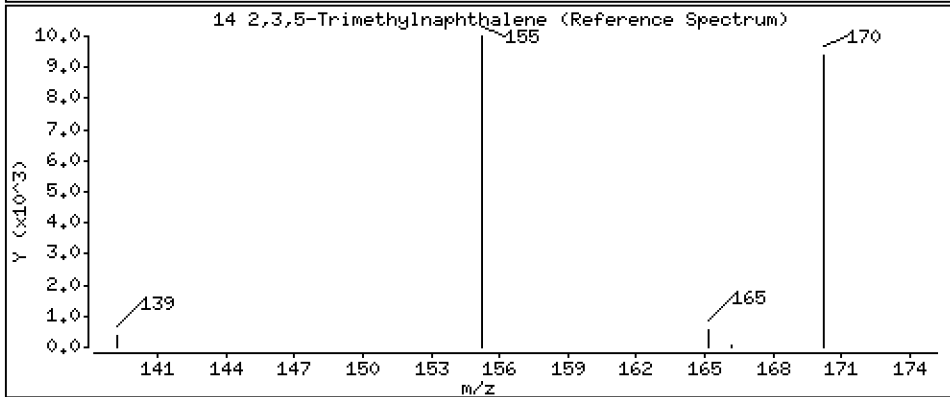
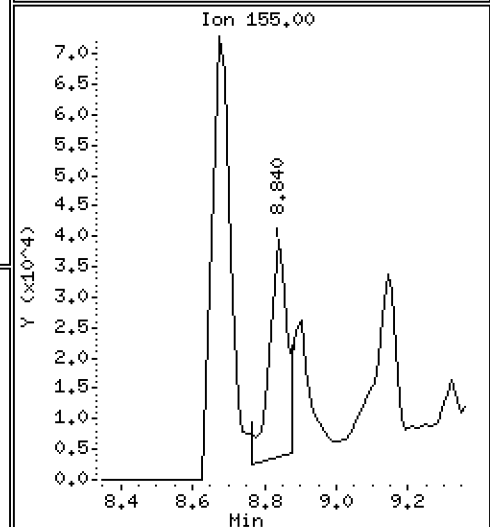
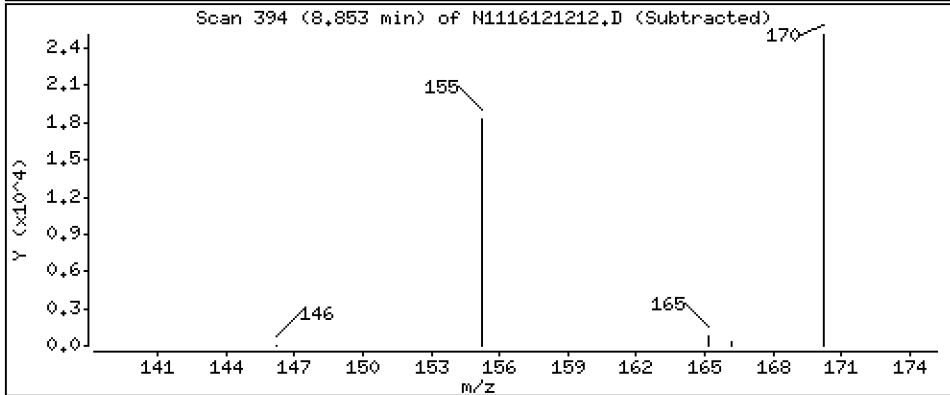
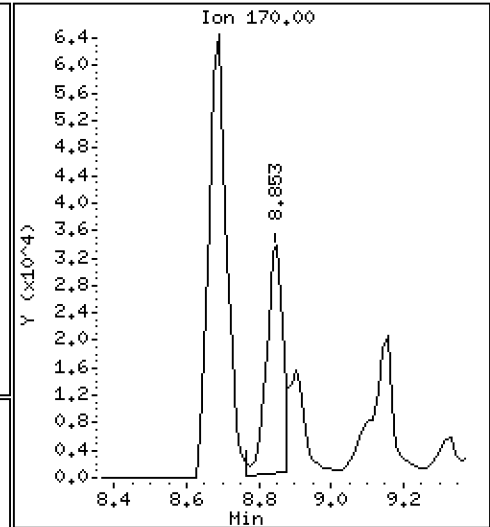
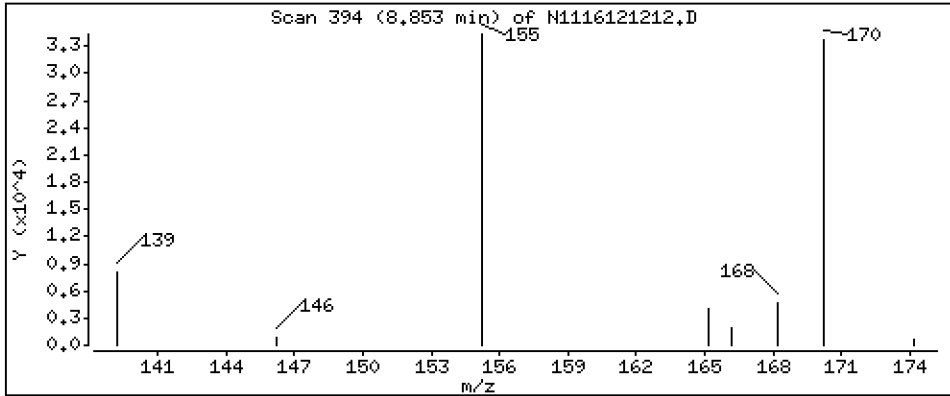
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 88,8 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

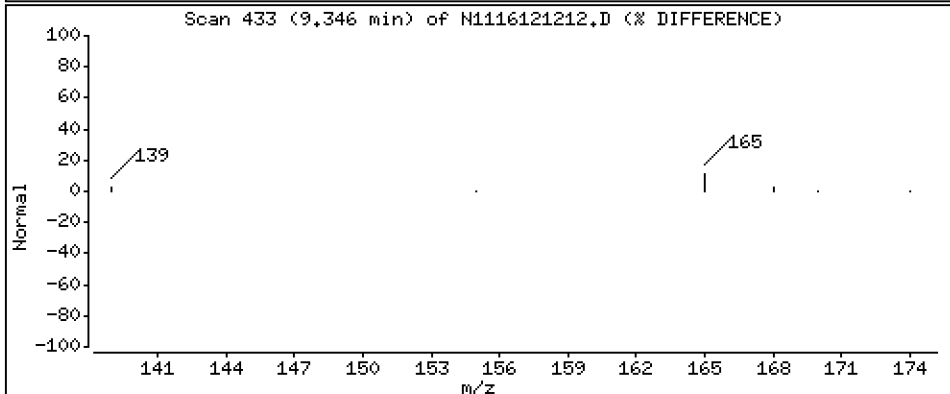
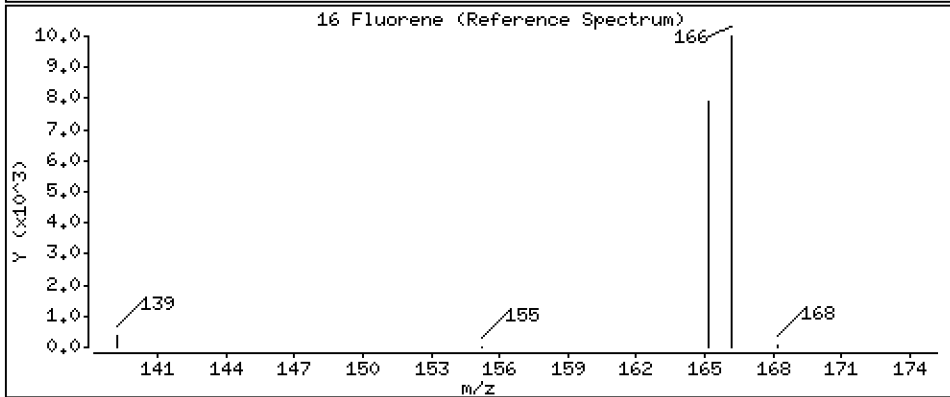
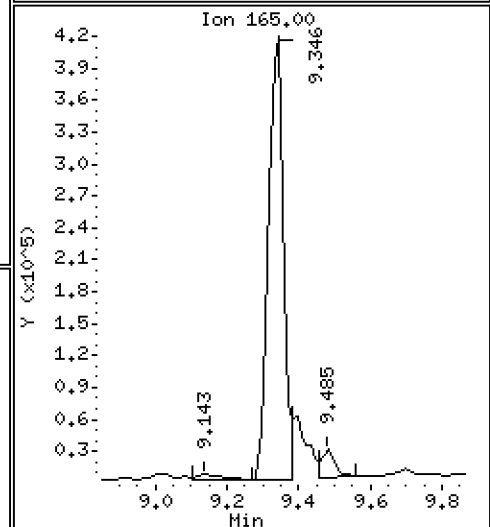
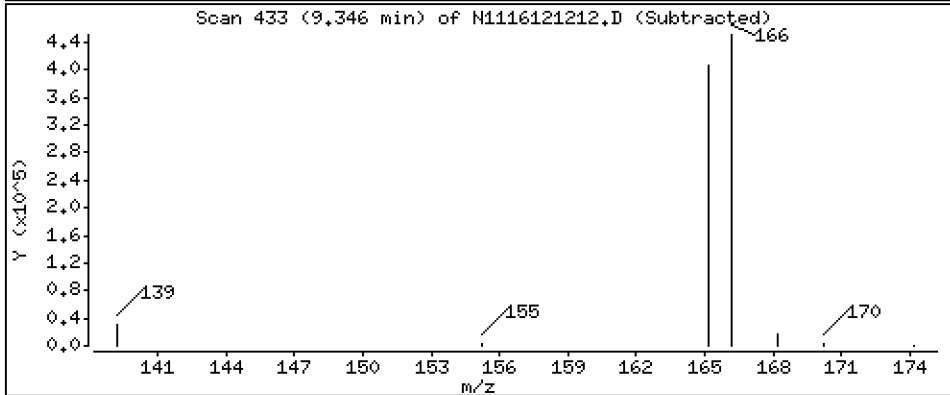
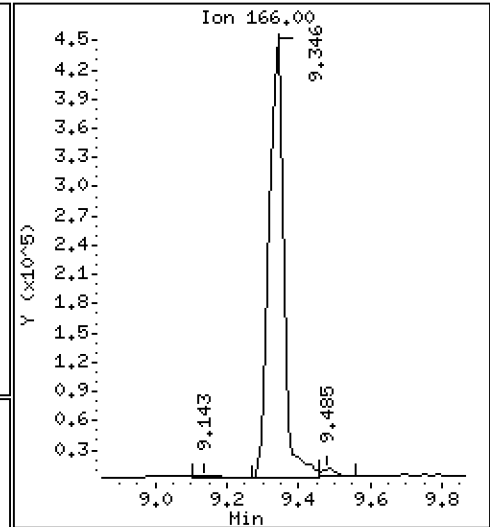
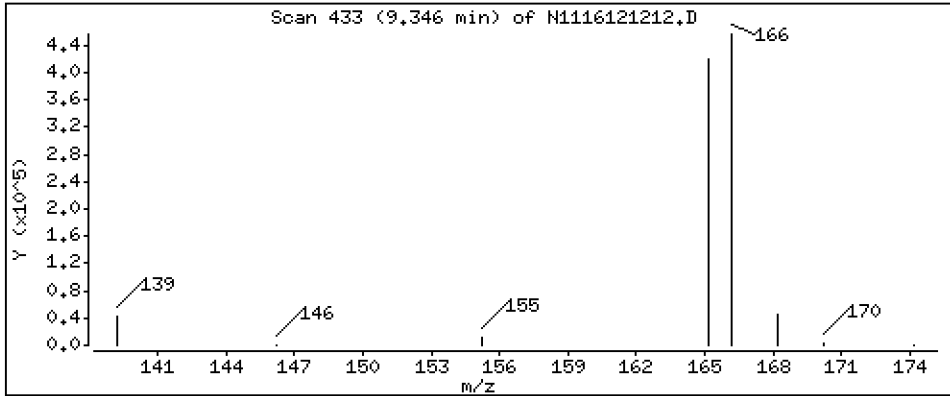
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 839 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

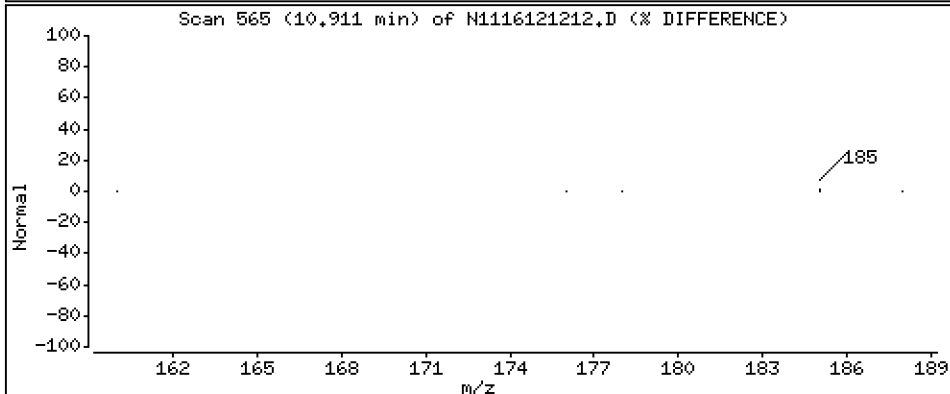
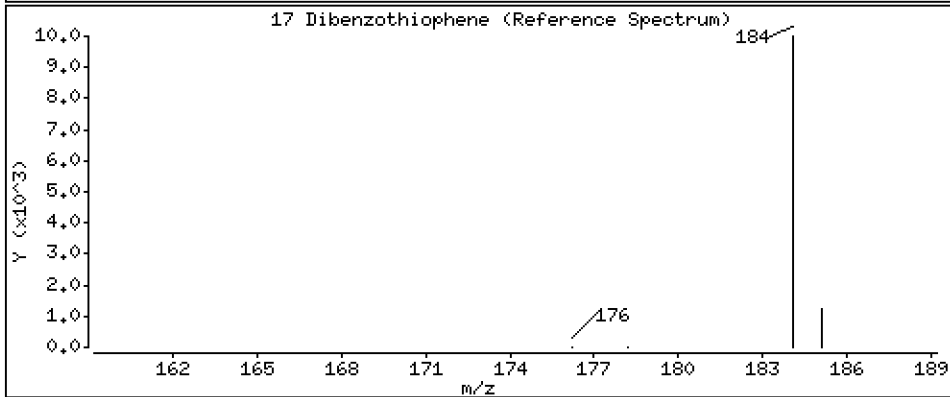
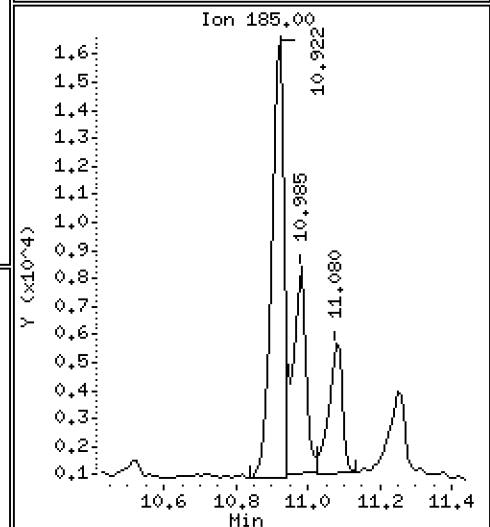
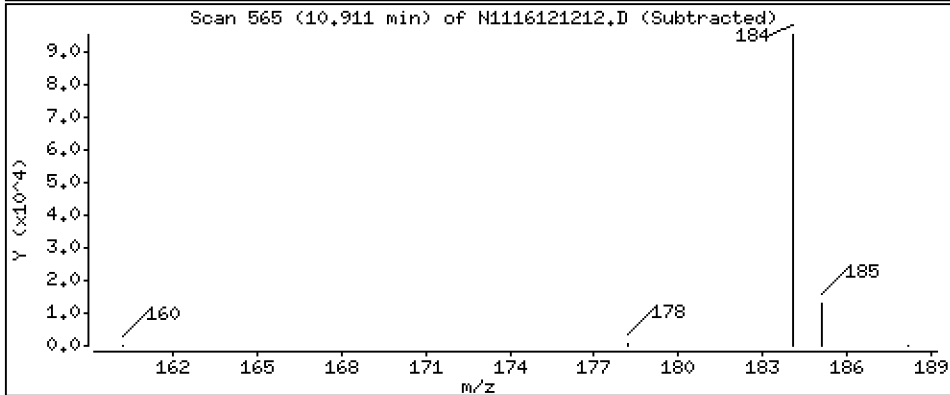
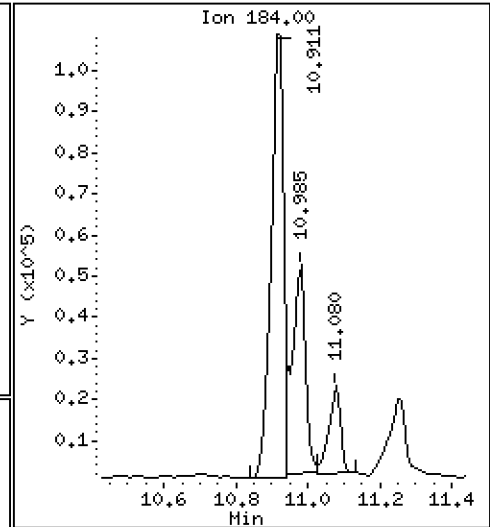
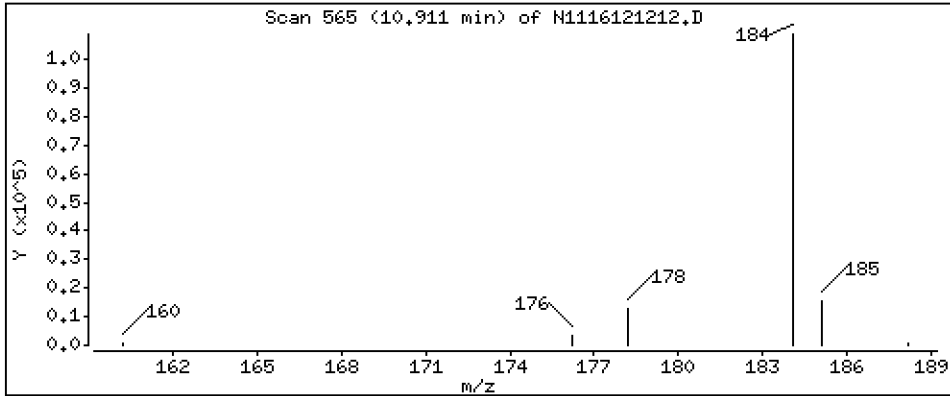
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

17 Dibenzothiophene

Concentration: 146 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

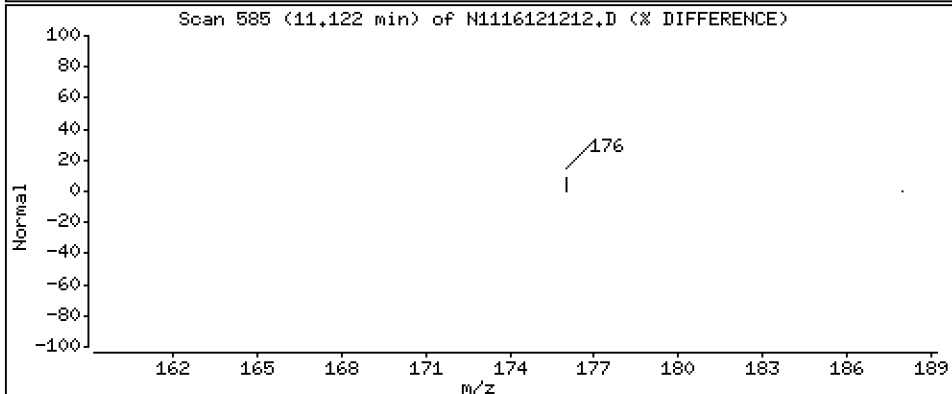
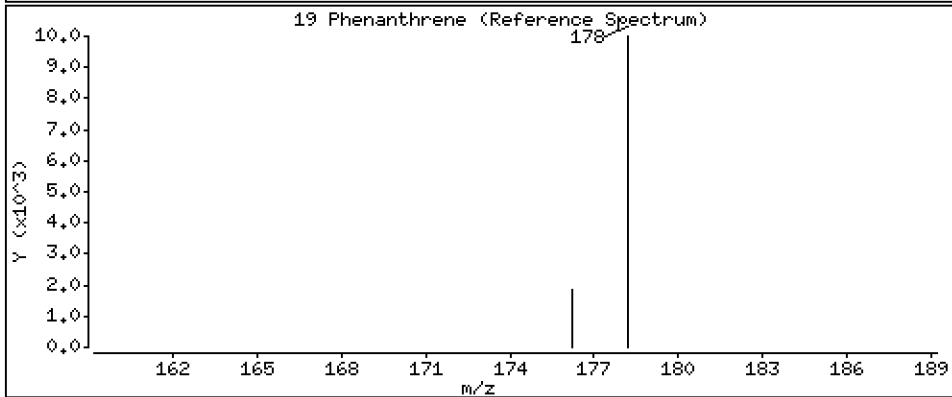
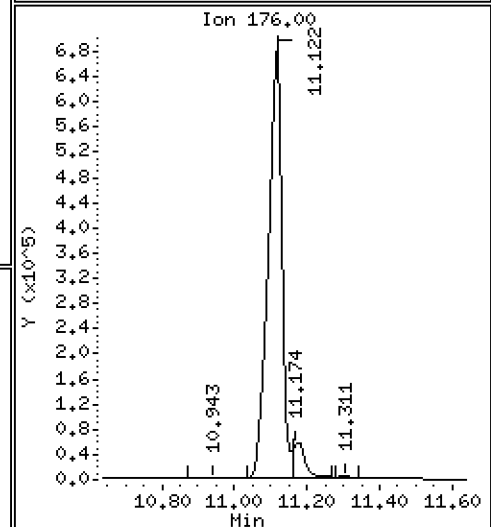
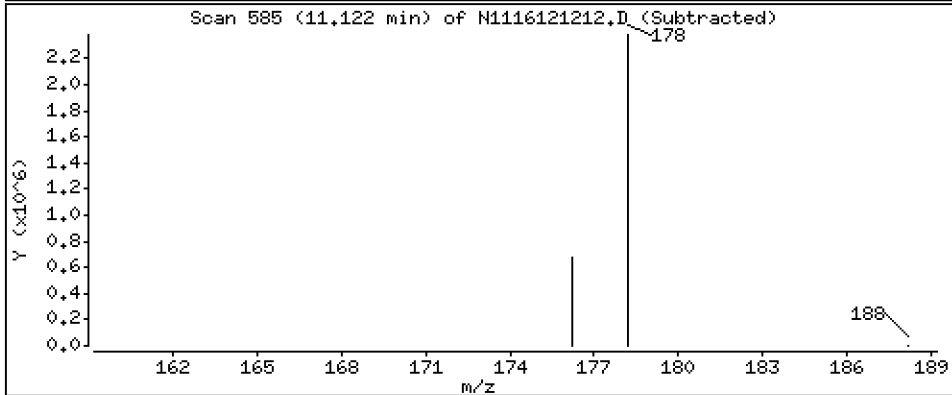
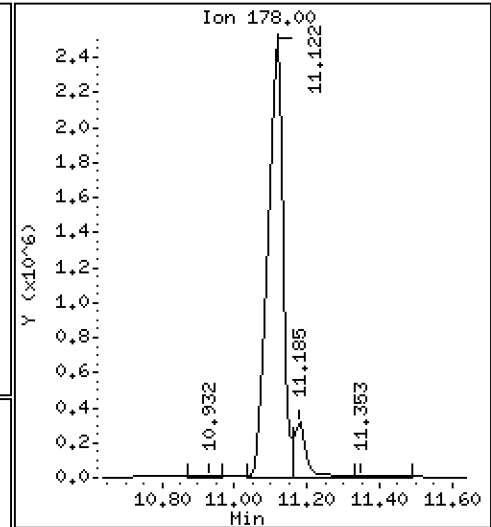
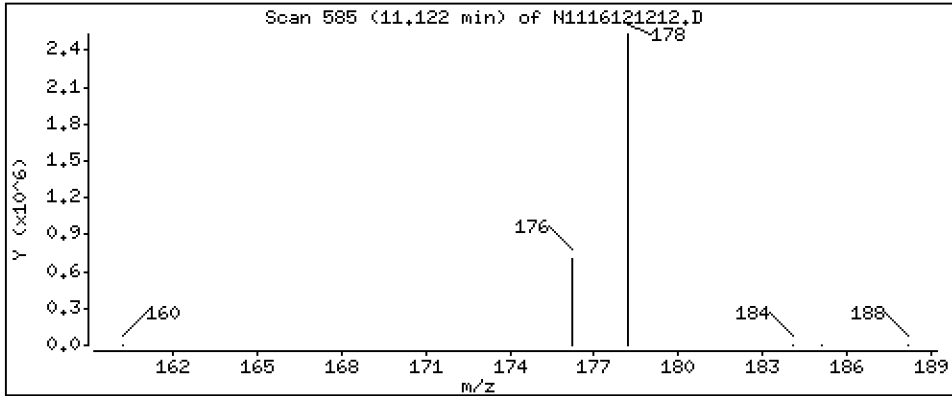
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 3190 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

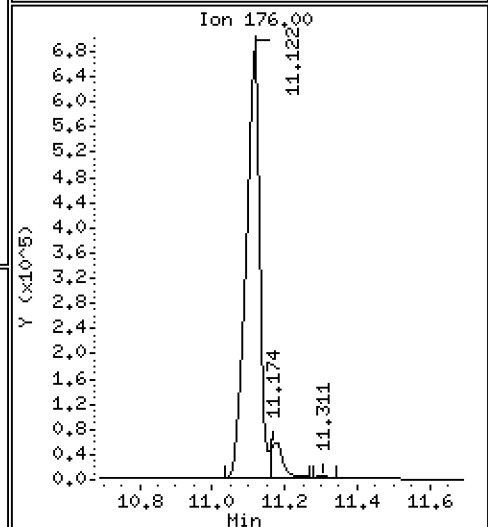
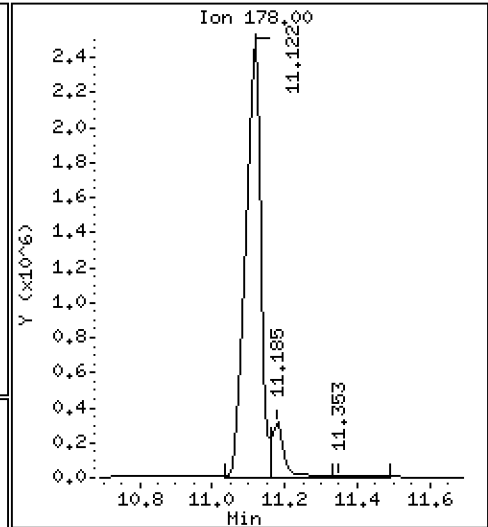
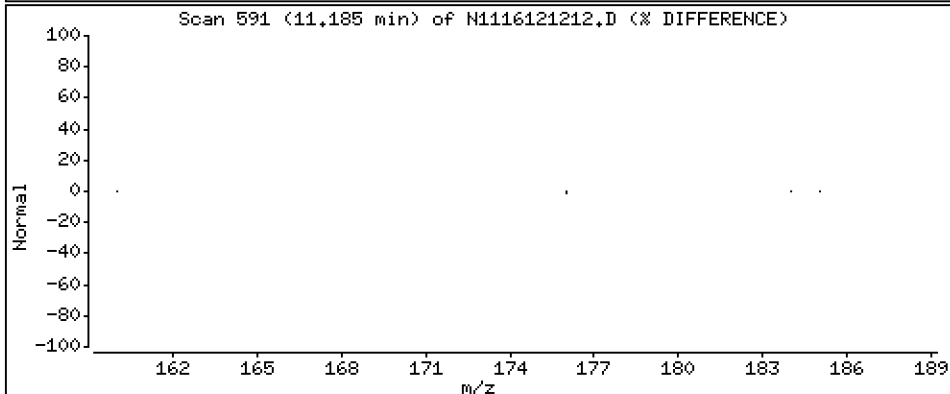
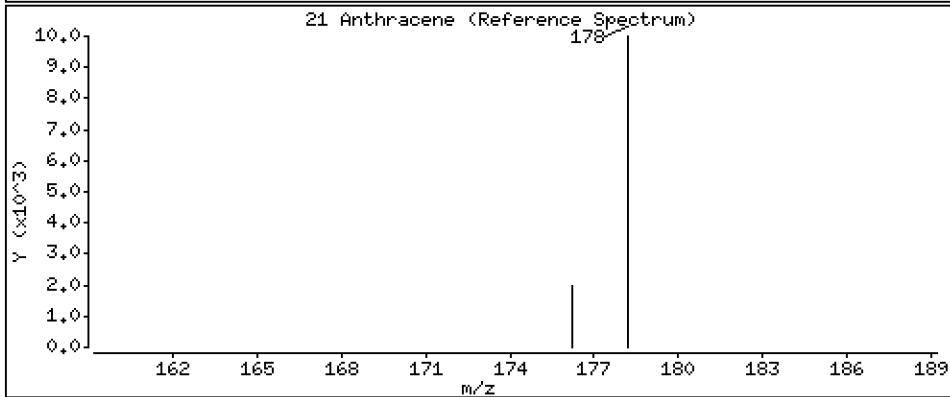
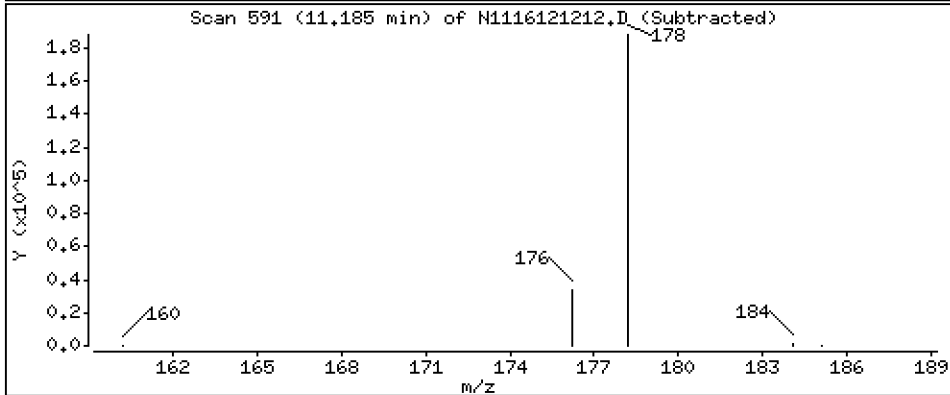
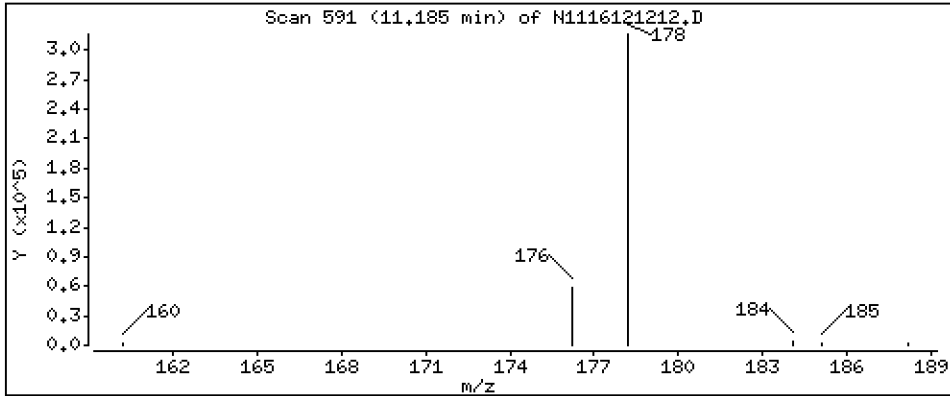
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 379 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

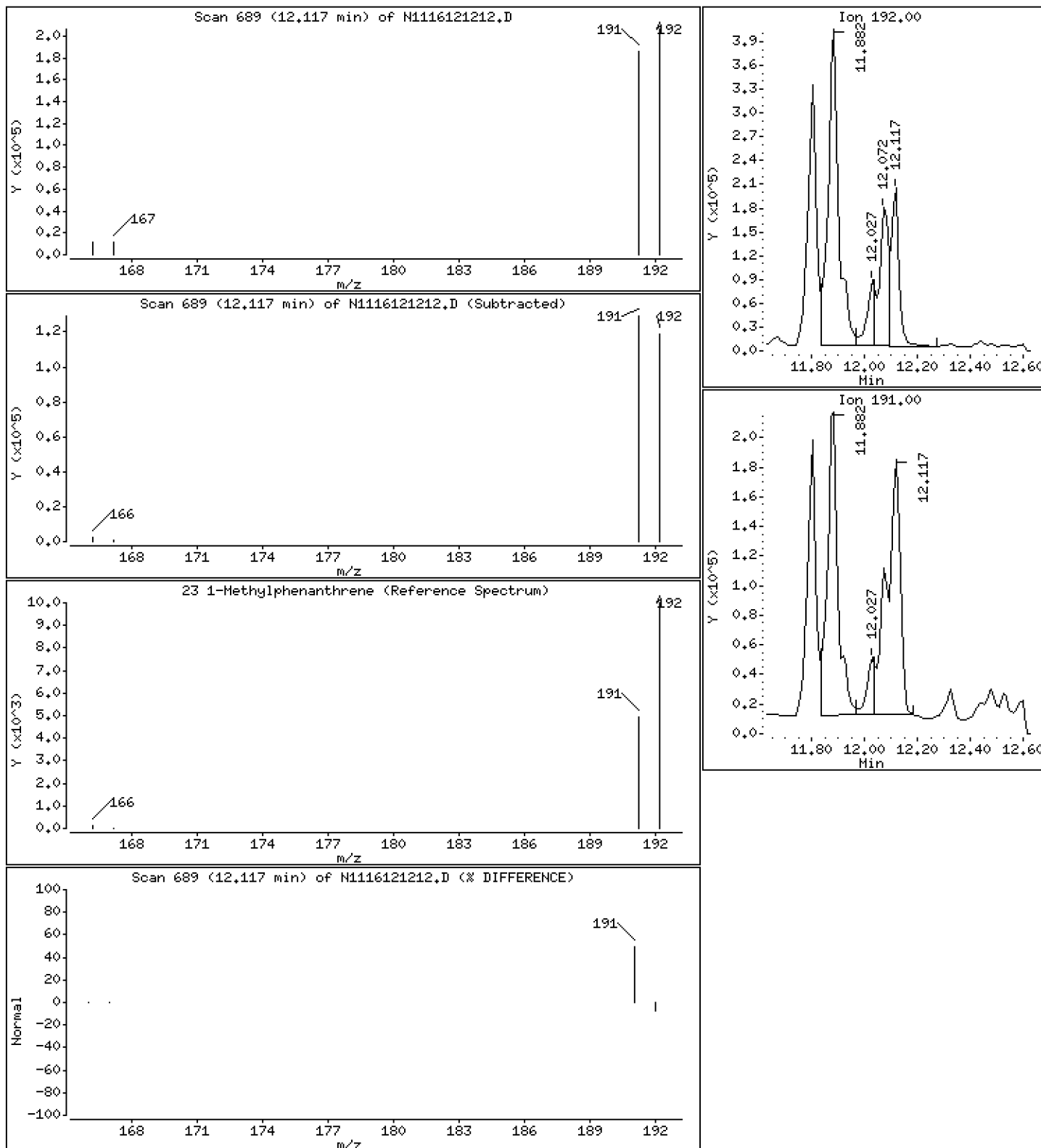
Operator: JW

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 227 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

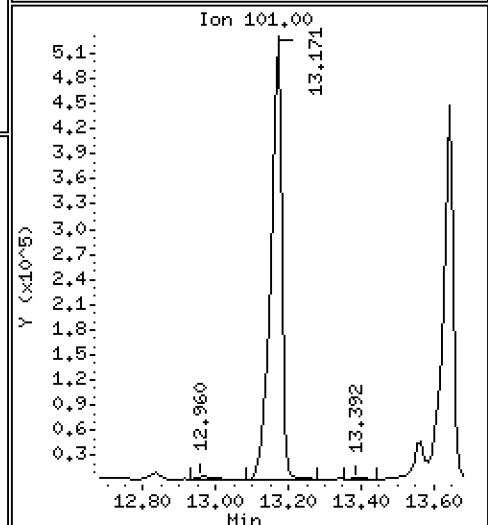
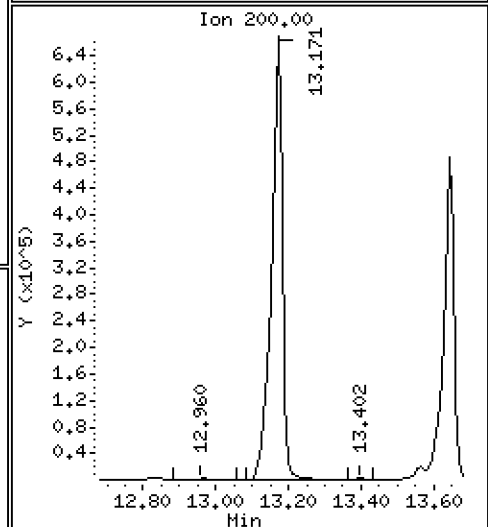
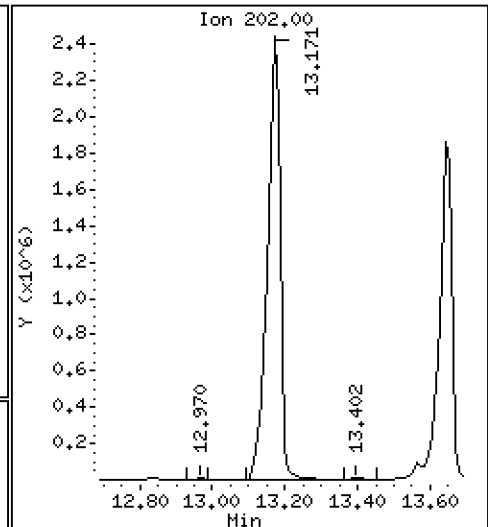
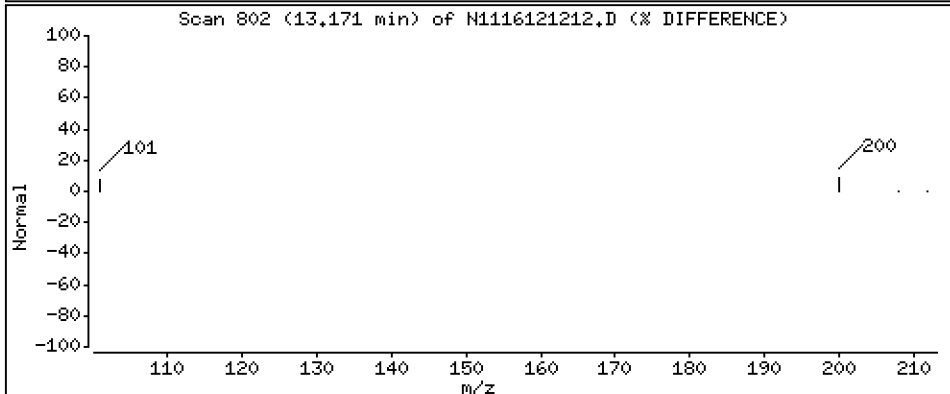
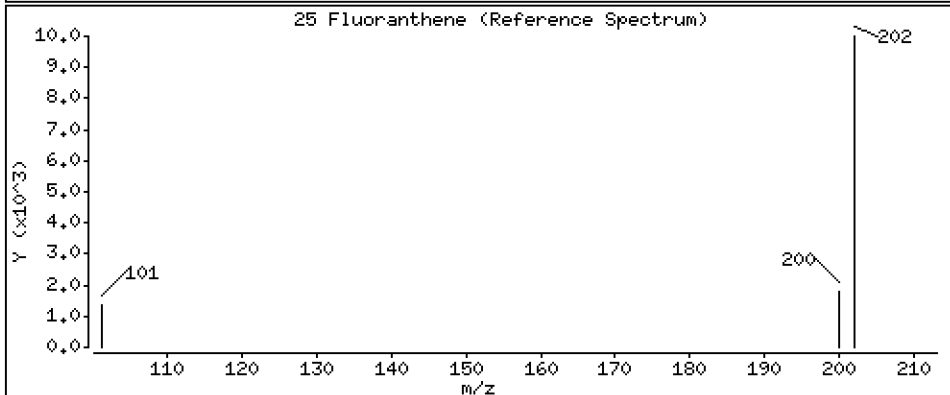
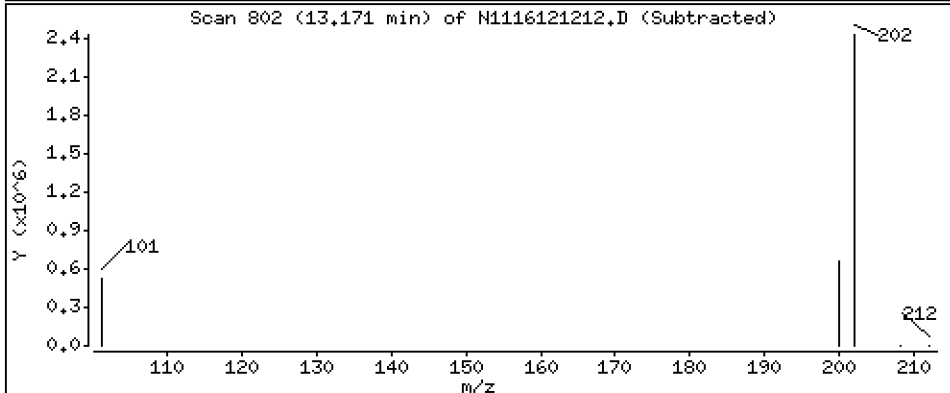
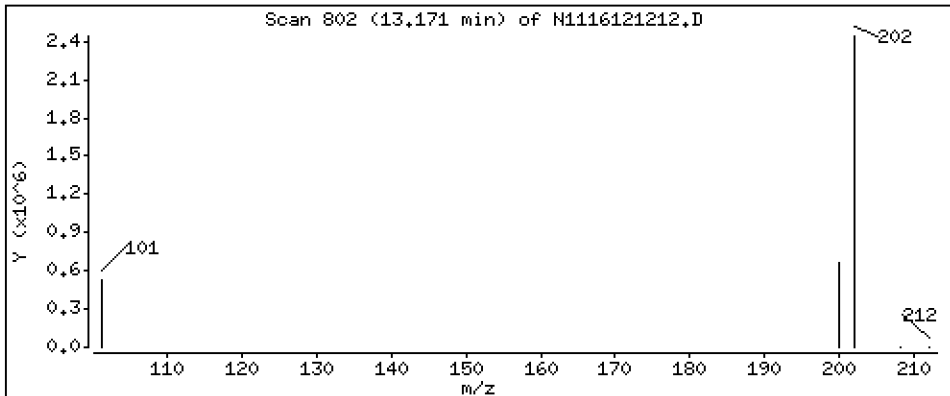
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2600 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

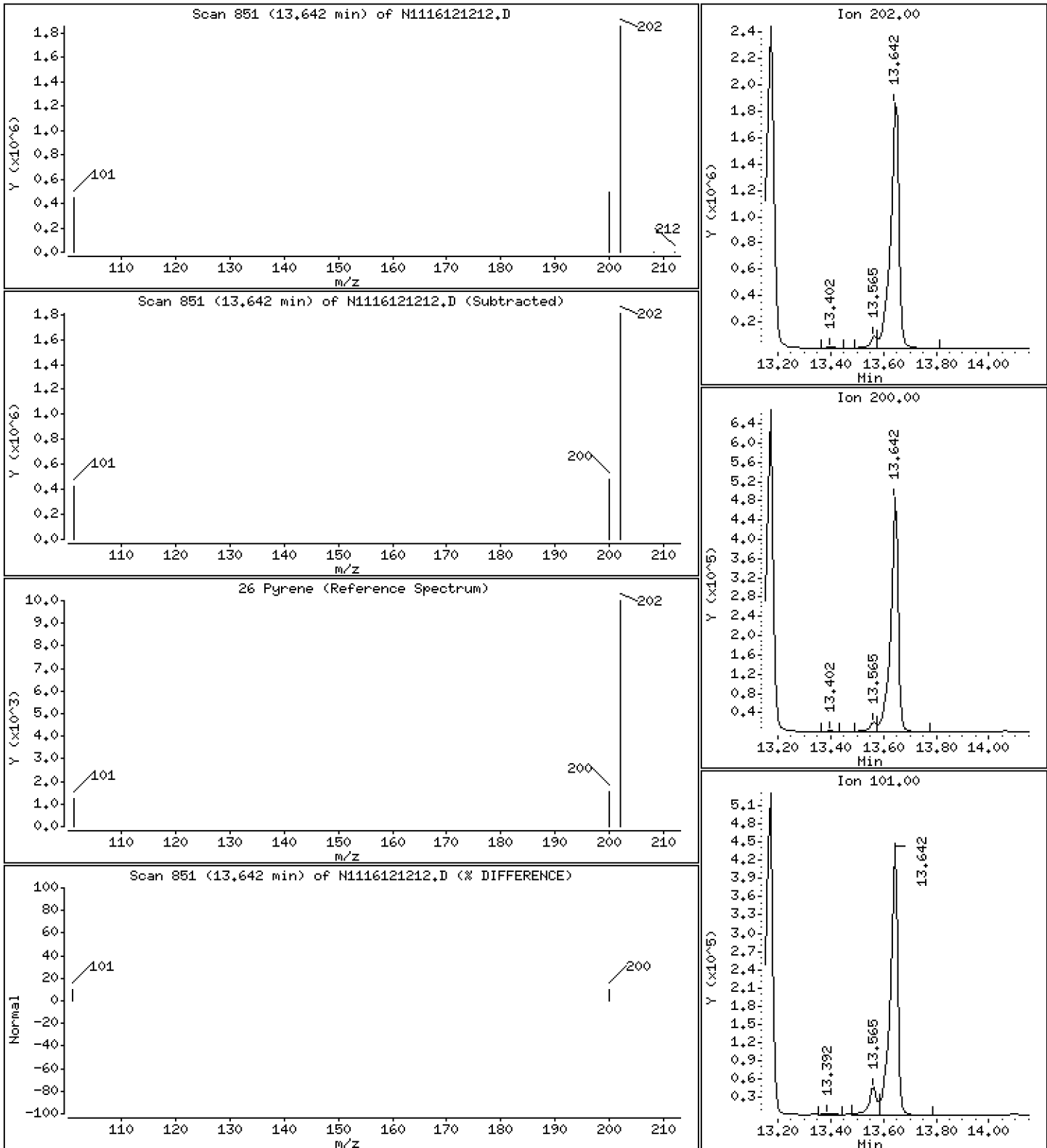
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 1860 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

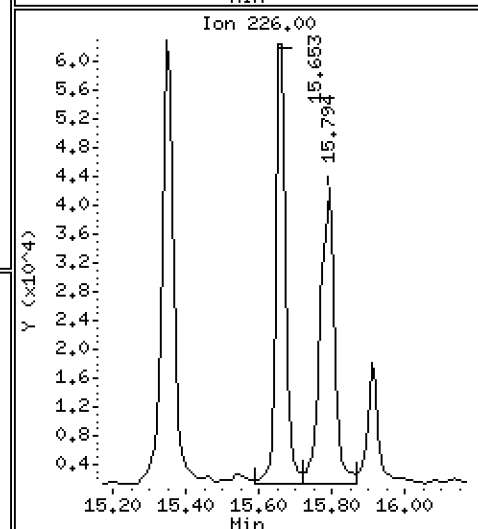
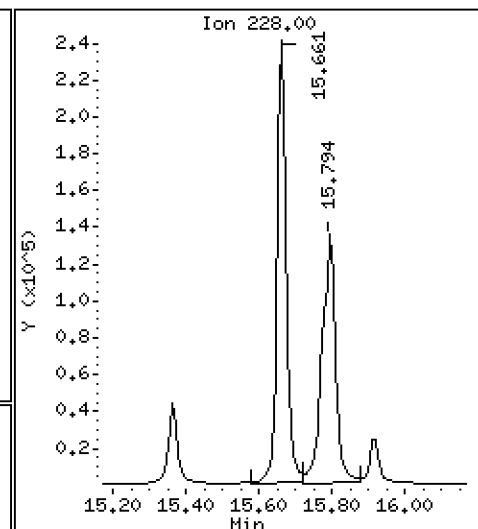
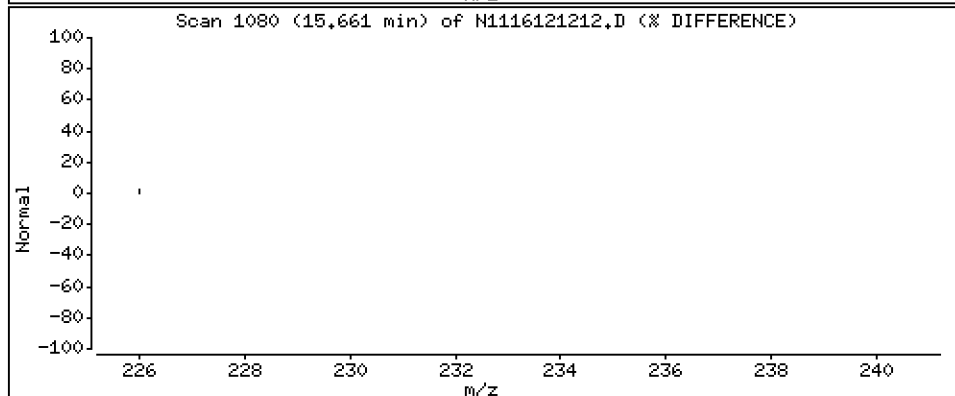
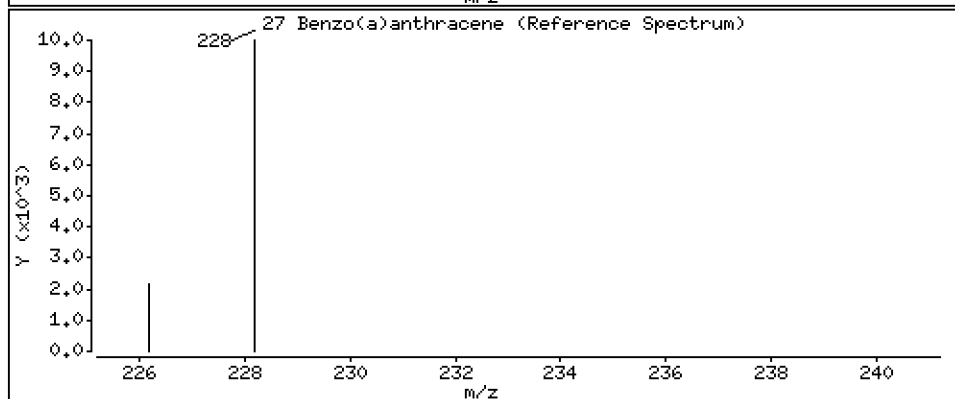
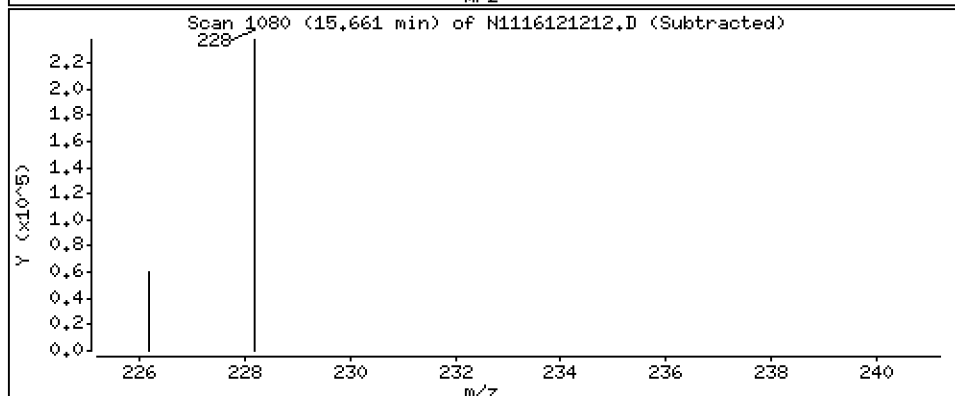
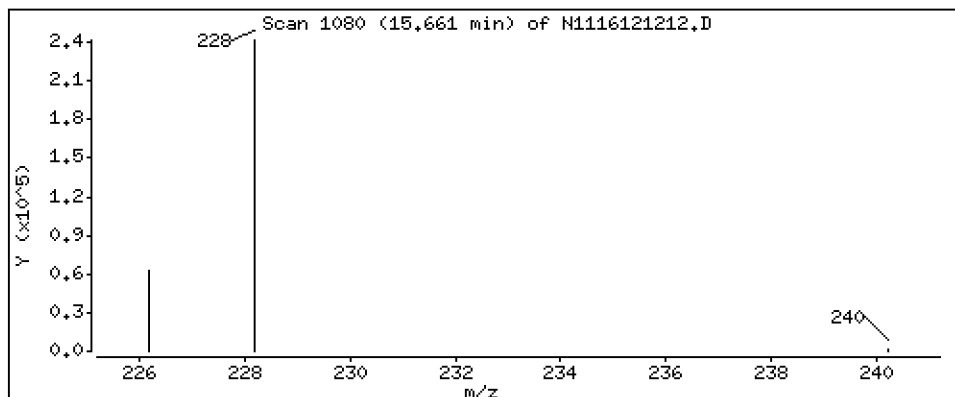
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 206 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

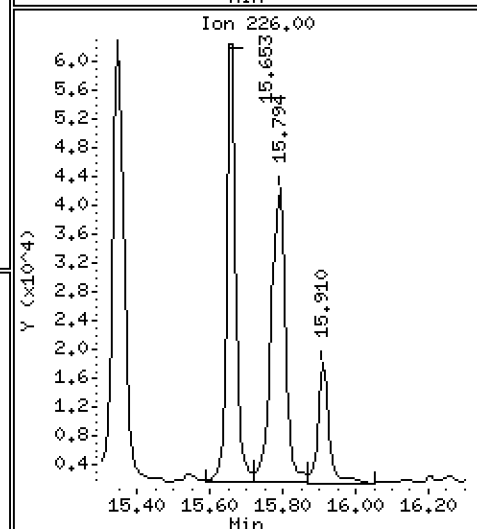
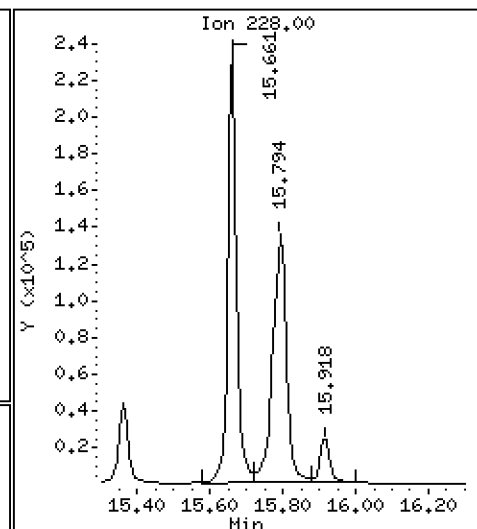
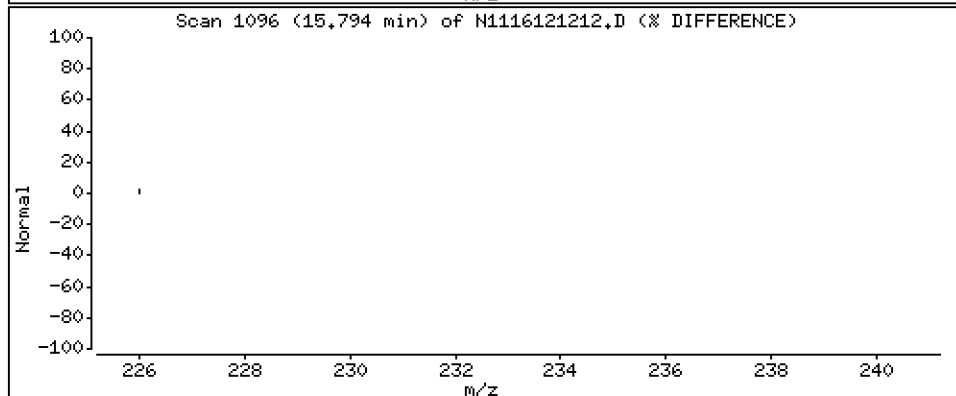
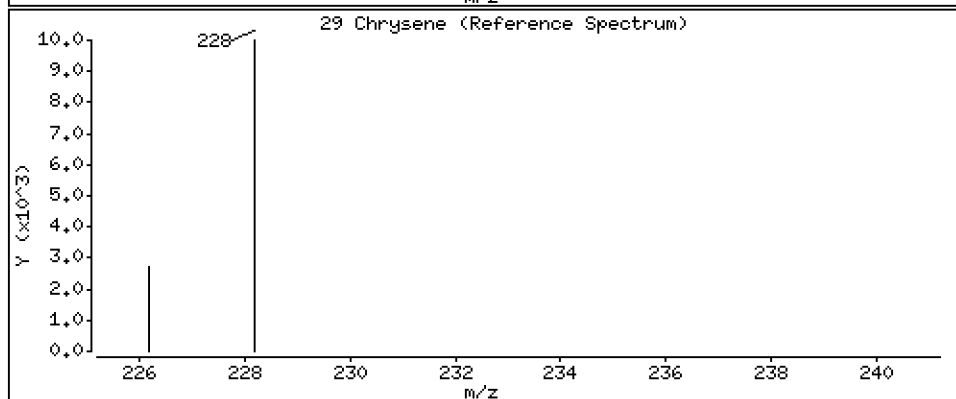
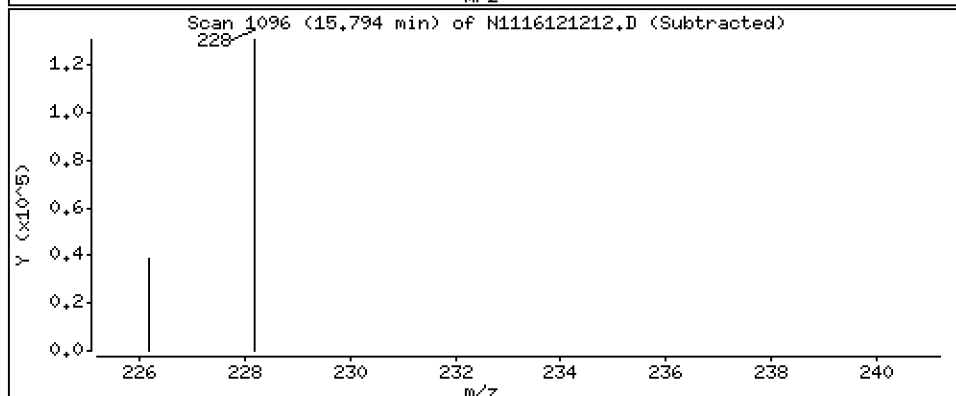
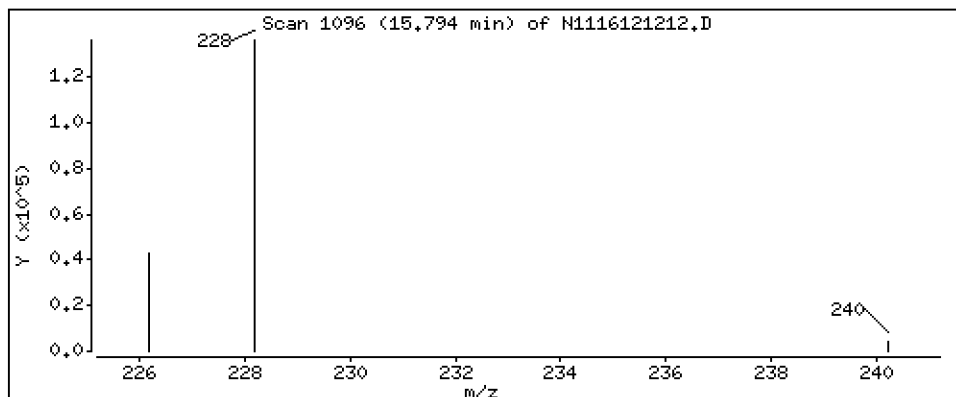
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 163 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

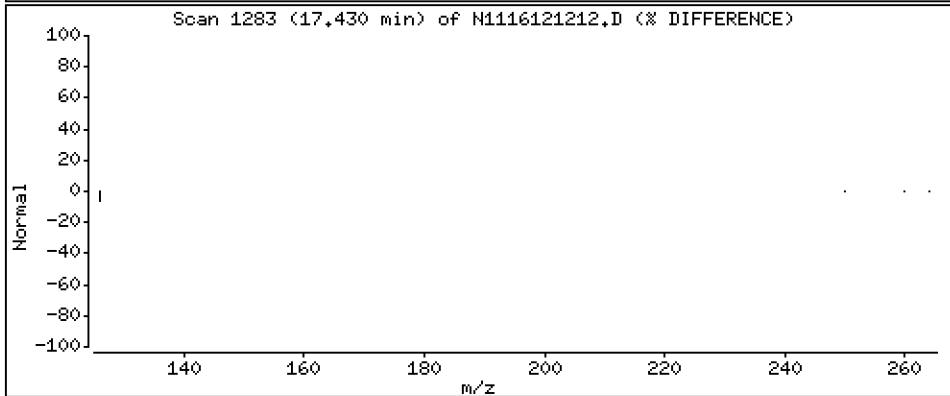
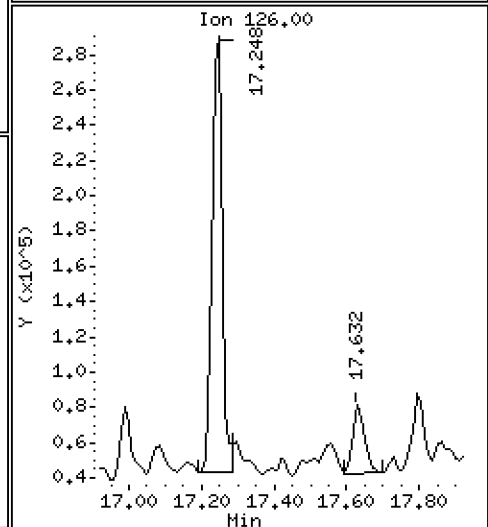
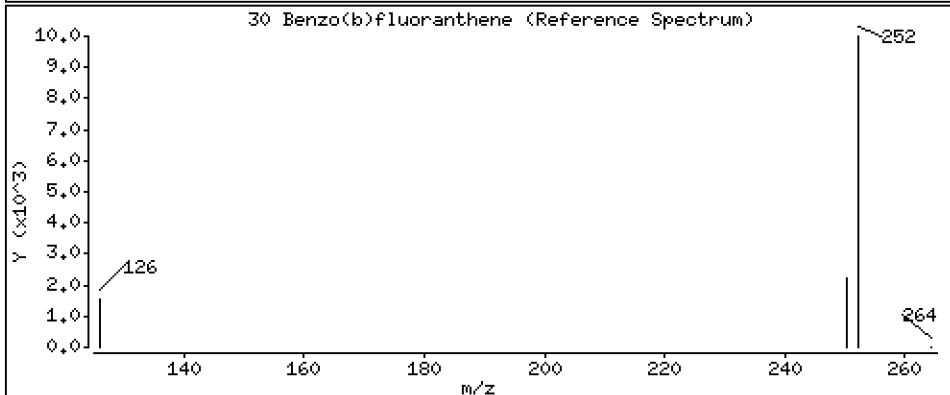
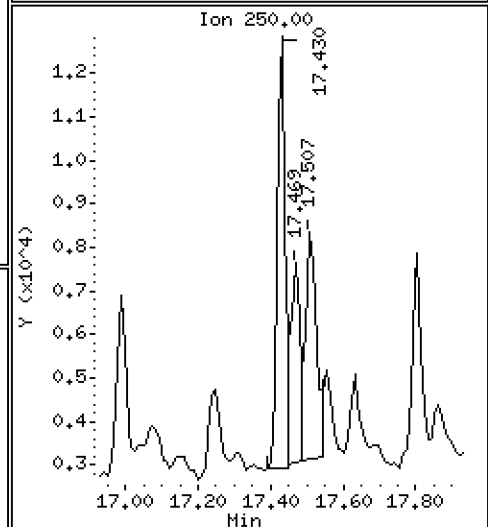
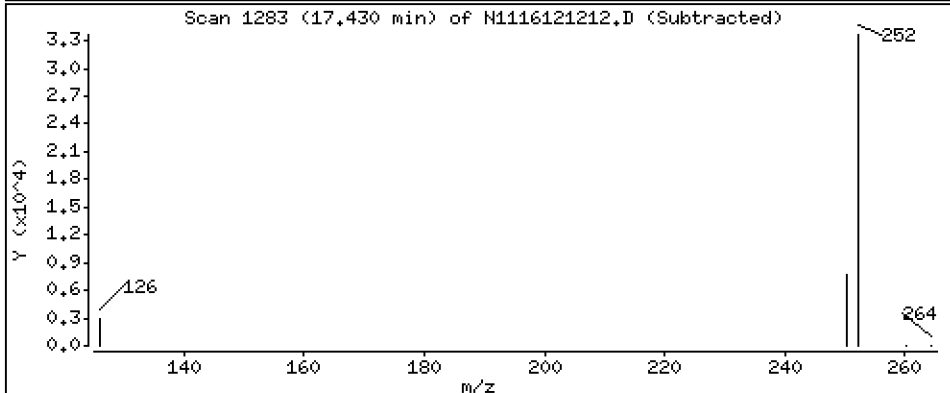
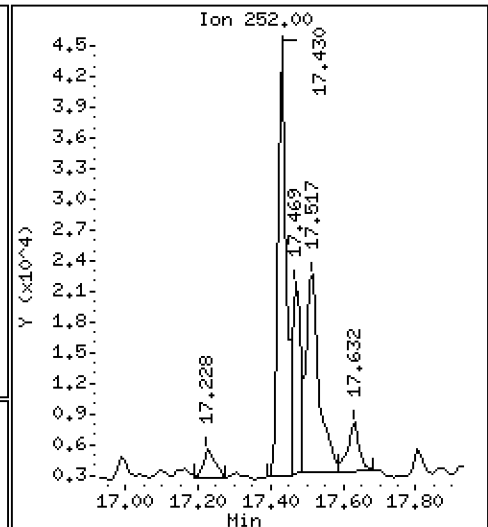
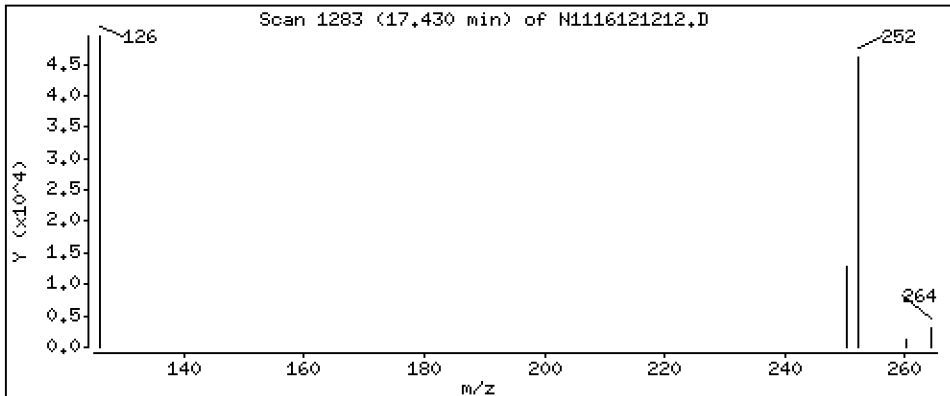
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 36,4 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

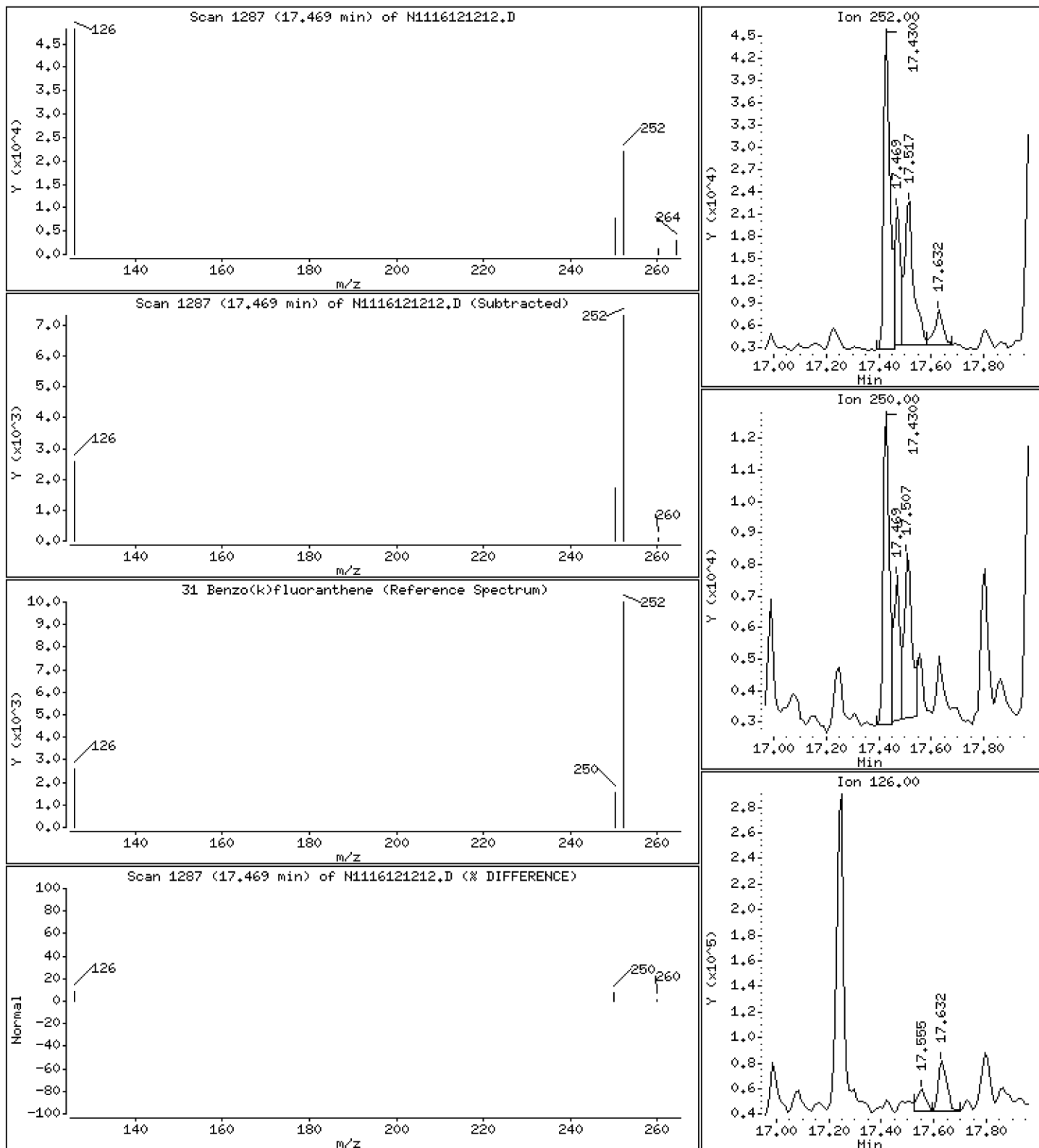
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 14,4 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

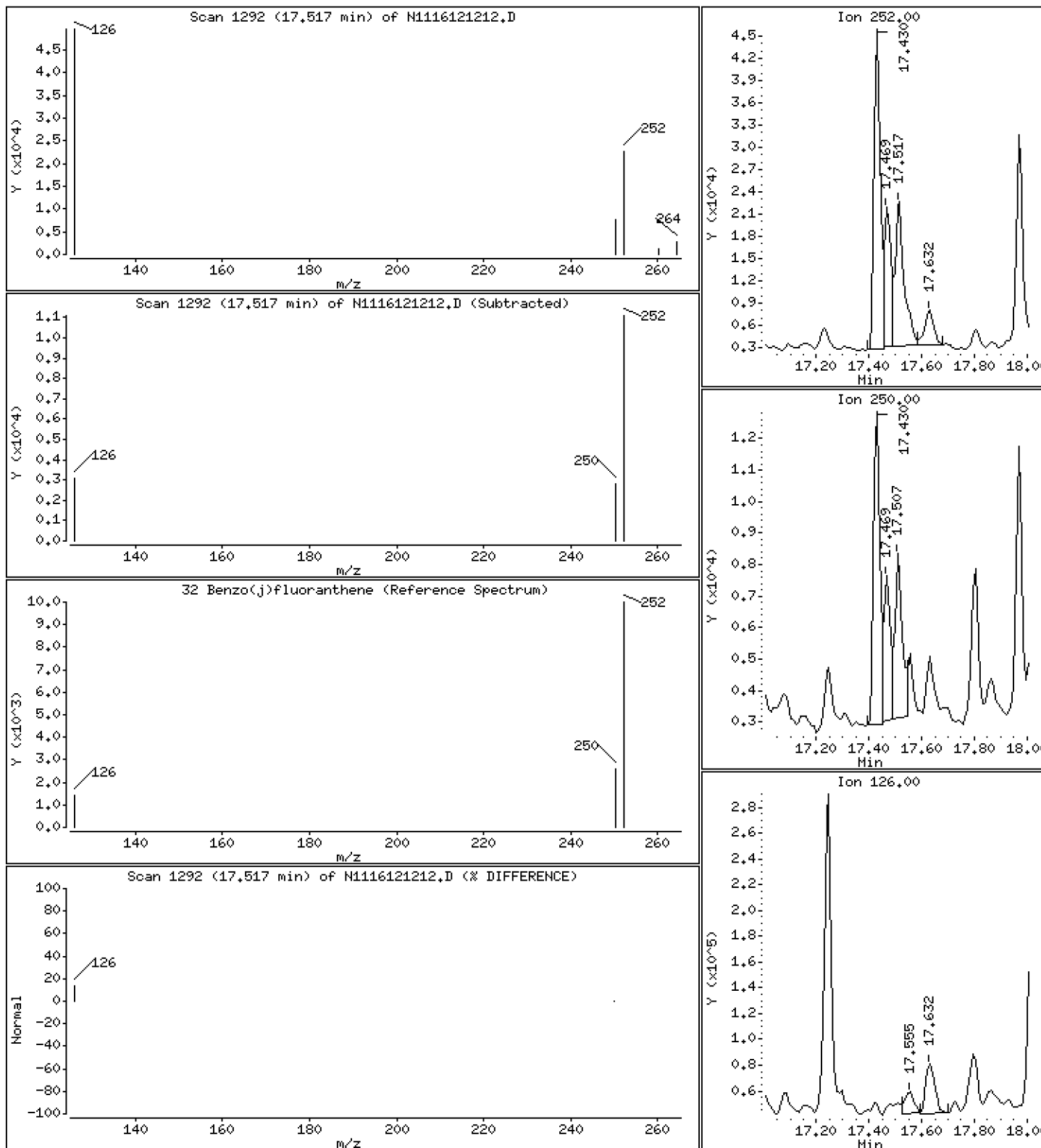
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 24,9 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

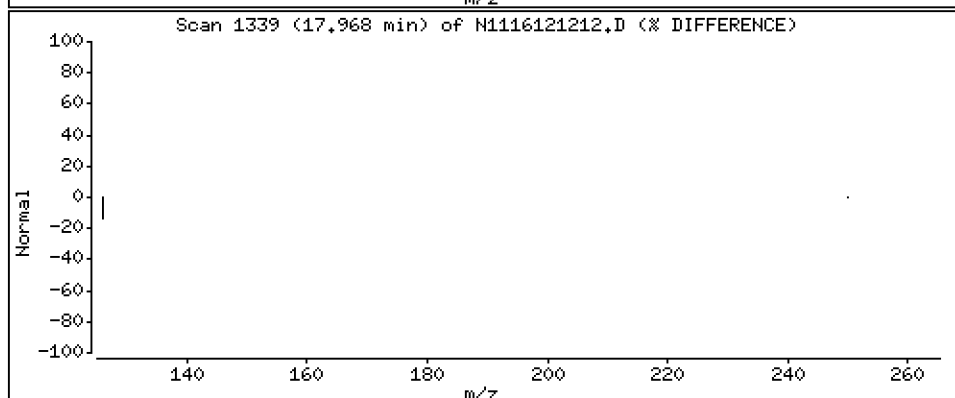
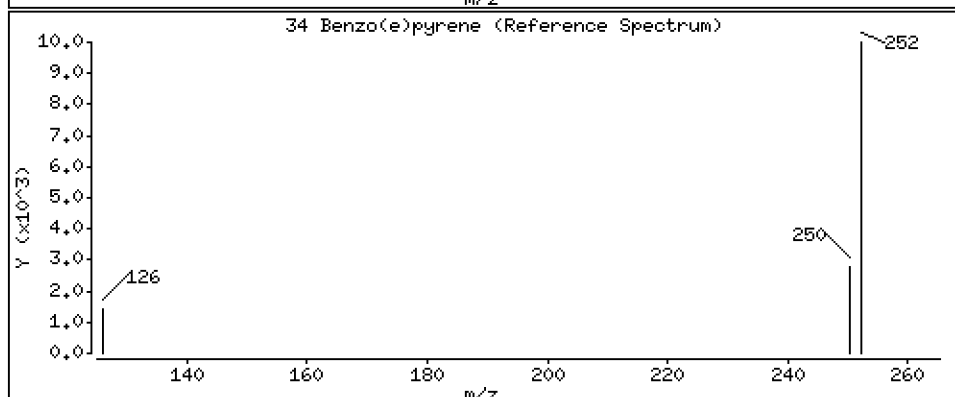
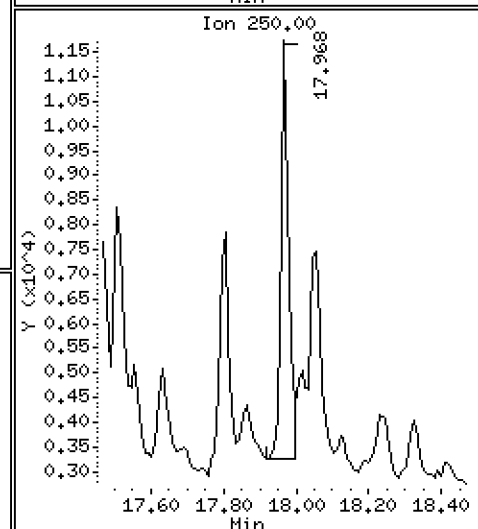
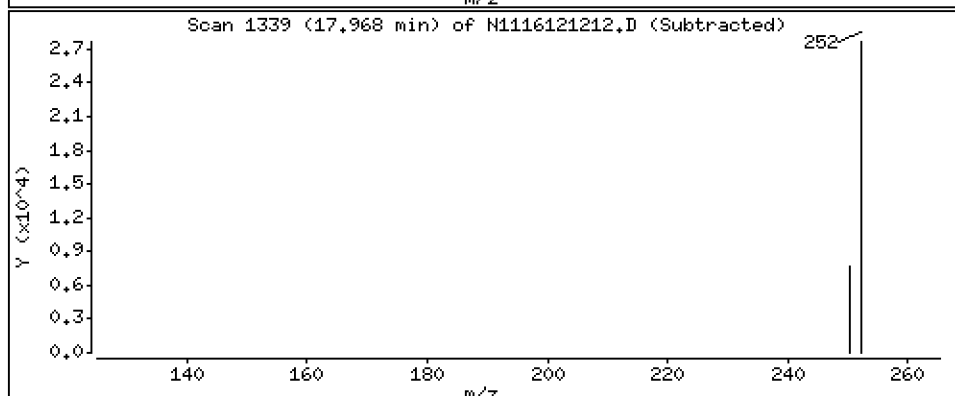
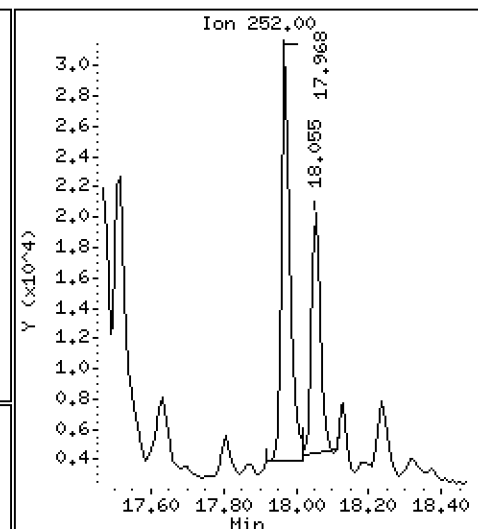
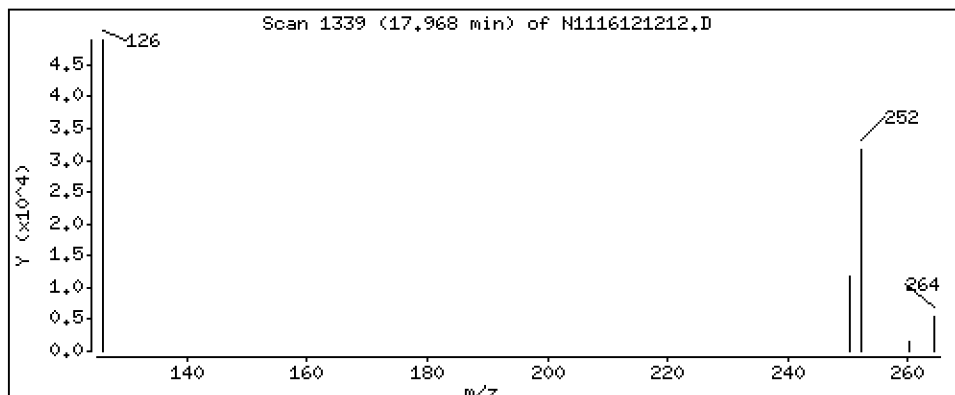
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 23,2 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

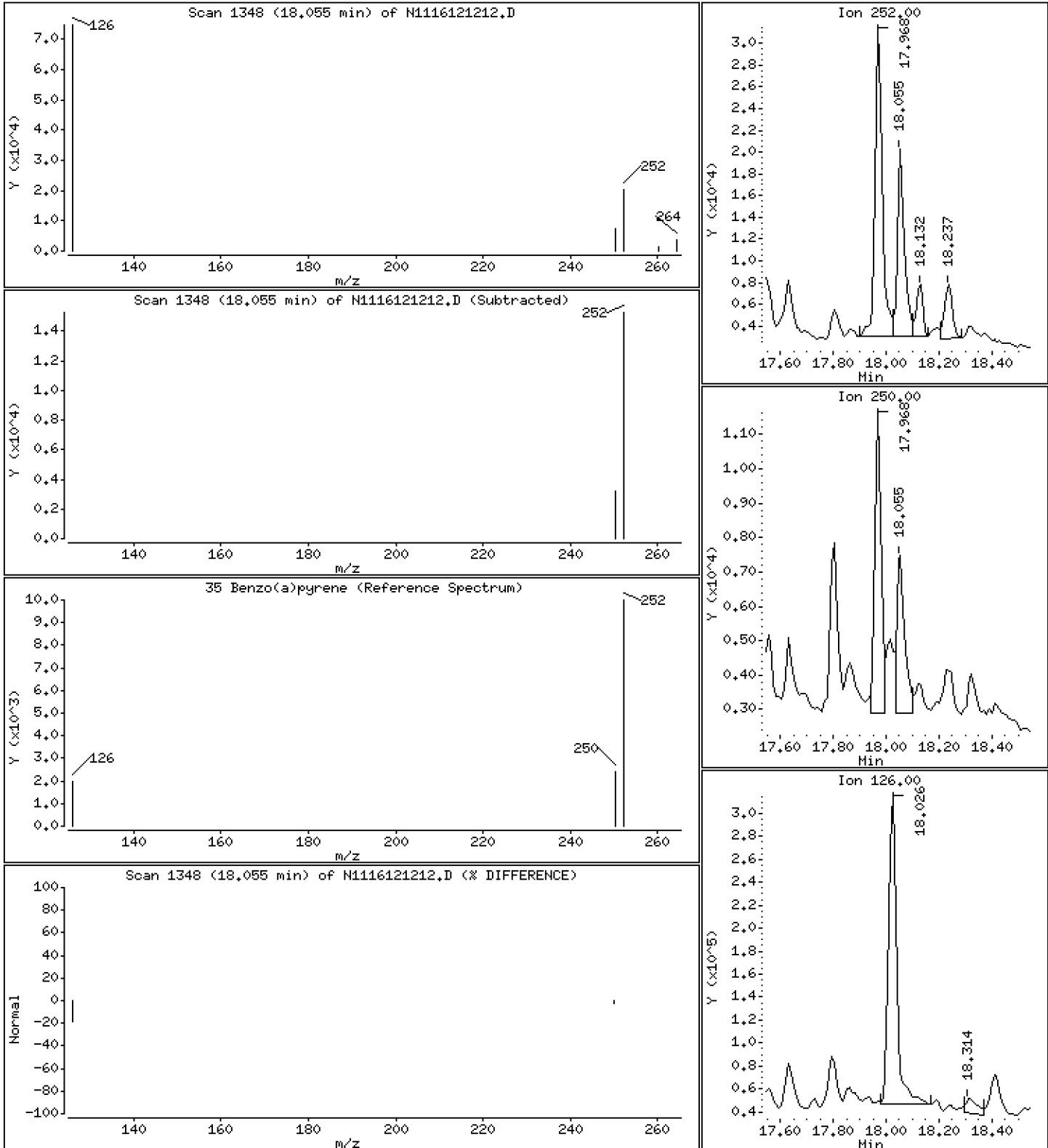
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 18,1 ng/mL



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

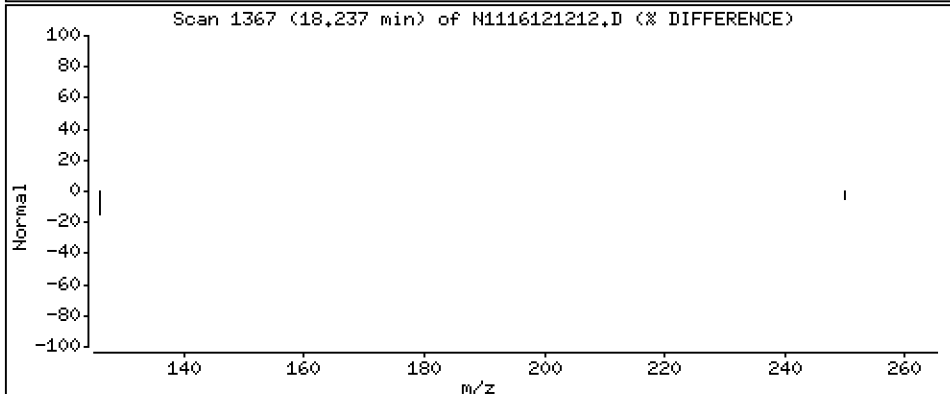
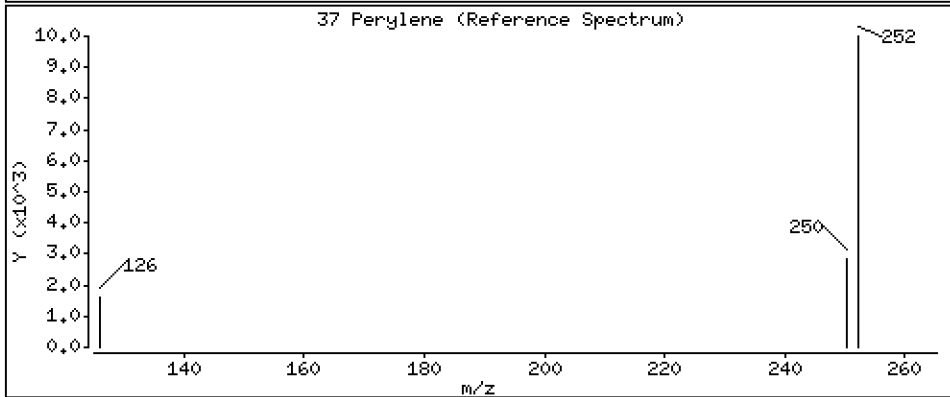
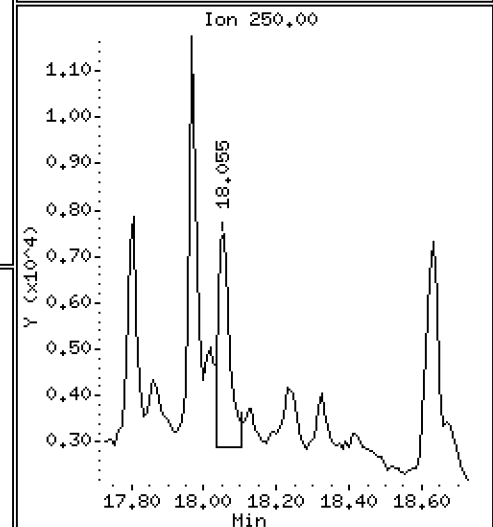
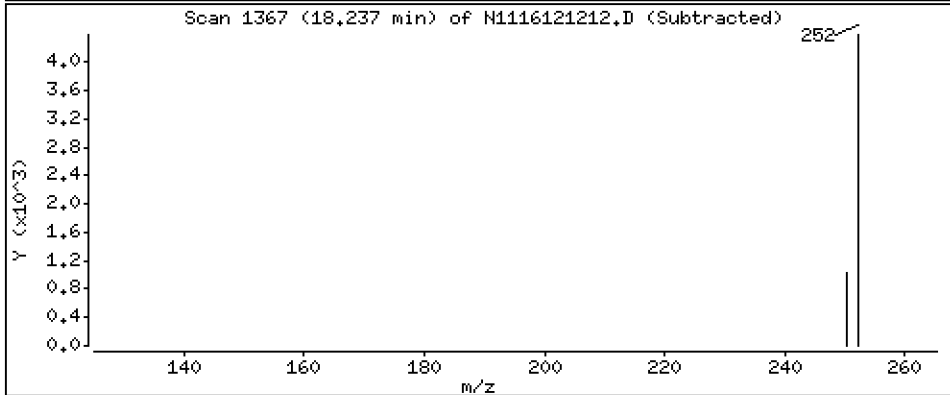
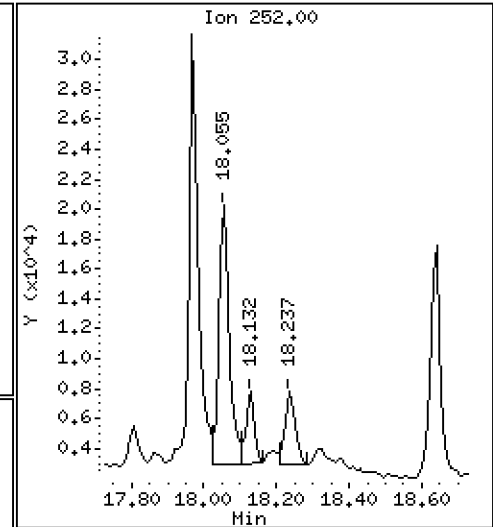
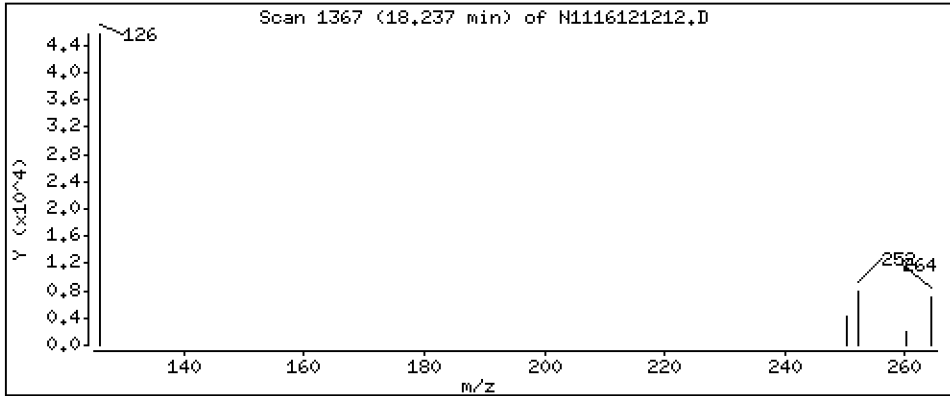
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 5,34 ng/mL

37 Perylene



Date : 12-DEC-2016 13:58

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06

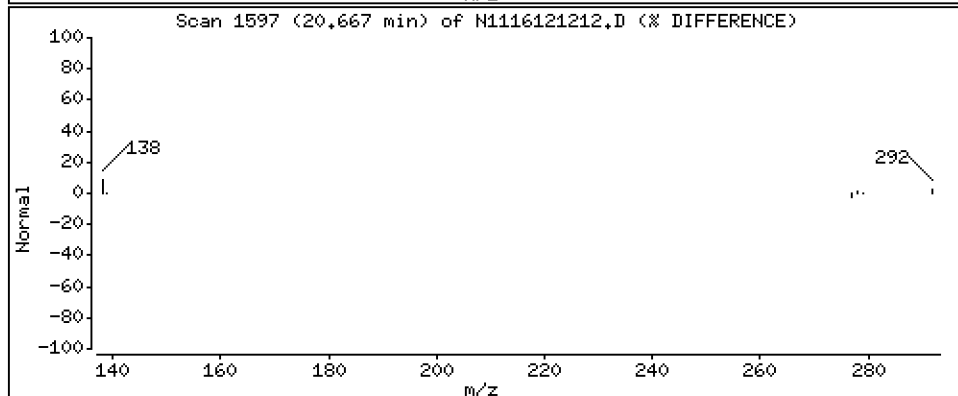
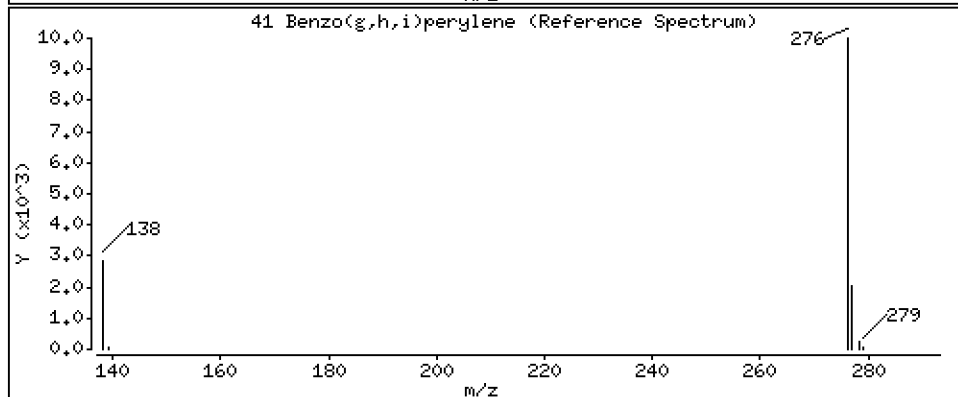
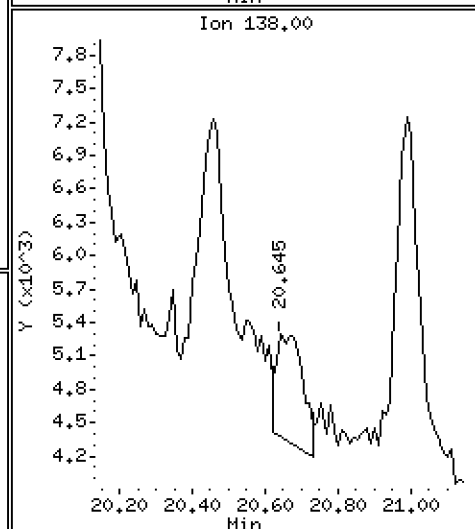
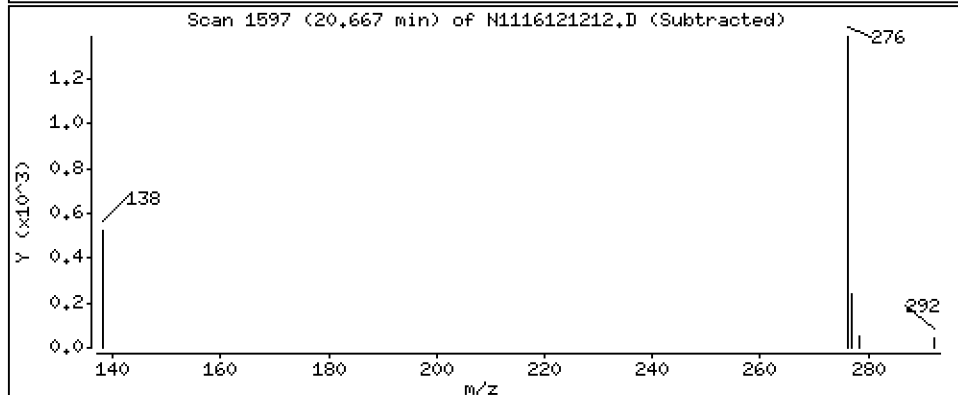
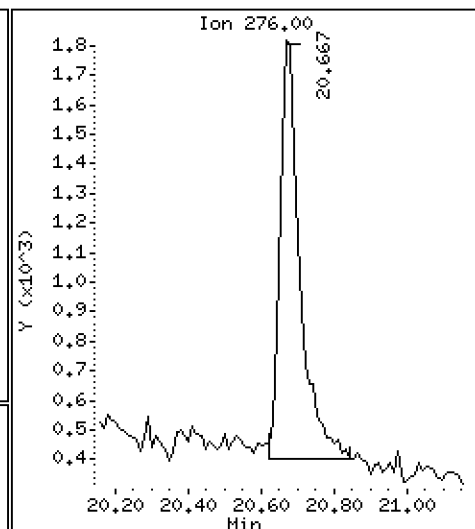
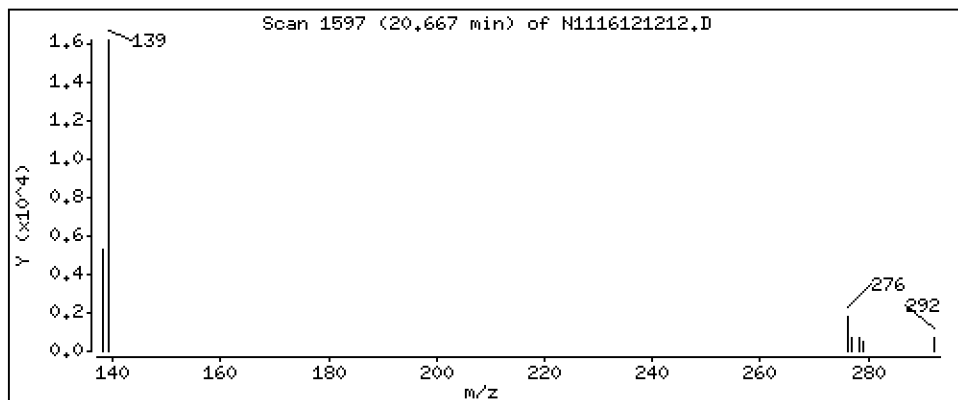
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 3,00 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121212.D
 Lab Smp Id: 16K0321-06
 Inj Date : 12-DEC-2016 13:58 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-06
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 11
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	394012	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	201540	99.4871	99.5
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.495	6.505	(1.175)	276952	186.442	186
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	274466	161.373	161
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	214025	128.301	128
7 2-Chloronaphthalene	162		7.409	7.429	(0.875)	6640	3.77421	3.77 (M)
8 Biphenyl	154		7.419	7.429	(0.876)	120543	49.9291	49.9
9 2,6-Dimethylnaphthalene	156		7.451	7.482	(0.880)	393418	226.768	227
10 Acenaphthylene	152		8.312	8.321	(0.982)	56578	28.2931	28.3
* 11 Acenaphthene-d10	164		8.466	8.474	(1.000)	216444	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	1120516	816.723	817
13 Dibenzofuran	168		8.726	8.738	(1.031)	743091	381.128	381
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	107638	88.8037	88.8 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	1264264	839.310	839
17 Dibenzothiophene	184		10.911	10.921	(0.985)	275129	146.198	146
* 18 Phenanthrene-d10	188		11.079	11.089	(1.000)	380739	200.000	
19 Phenanthrene	178		11.121	11.131	(1.004)	7293861	3189.26	3190
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.184	11.184	(1.009)	814922	378.669	379
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.094)	457414	226.986	227
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.186)	437244	257.272	257
25 Fluoranthene	202		13.171	13.180	(1.189)	5769330	2599.83	2600
26 Pyrene	202		13.642	13.651	(0.867)	4216647	1862.85	1860
27 Benzo(a)anthracene	228		15.661	15.660	(0.995)	404269	206.395	206
* 28 Chrysene-d12	240		15.744	15.743	(1.000)	347901	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	353765	162.840	163
30 Benzo(b)fluoranthene	252		17.430	17.420	(0.959)	74761	36.3884	36.4
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.961)	32219	14.4328	14.4
32 Benzo(j)fluoranthene	252		17.516	17.506	(0.964)	51528	24.9009	24.9
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	129350	74.2629	74.3

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	46226	23.1539	23.2
35 Benzo(a)pyrene	252	18.054	18.044	(0.993)	33971	18.0592	18.1
* 36 Perylene-d12	264	18.179	18.179	(1.000)	361438	200.000	
37 Perylene	252	18.237	18.227	(1.003)	10438	5.34469	5.34
§ 38 Dibenzo(a,h)anthracene-d14	292	19.858	19.858	(1.092)	257358	212.574	213
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.137)	5412	3.00018	3.00

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121212.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-06
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	394012	-20.17
11 Acenaphthene-d10	240770	120385	481540	216444	-10.10
18 Phenanthrene-d10	429271	214636	858542	380739	-11.31
28 Chrysene-d12	387691	193846	775382	347901	-10.26
36 Perylene-d12	386259	193130	772518	361438	-6.43

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.10
18 Phenanthrene-d10	11.09	10.59	11.59	11.08	-0.09
28 Chrysene-d12	15.74	15.24	16.24	15.74	0.00
36 Perylene-d12	18.18	17.68	18.68	18.18	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 - N1116121212.D

Lab ID: 16K0321-06

nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 13:58

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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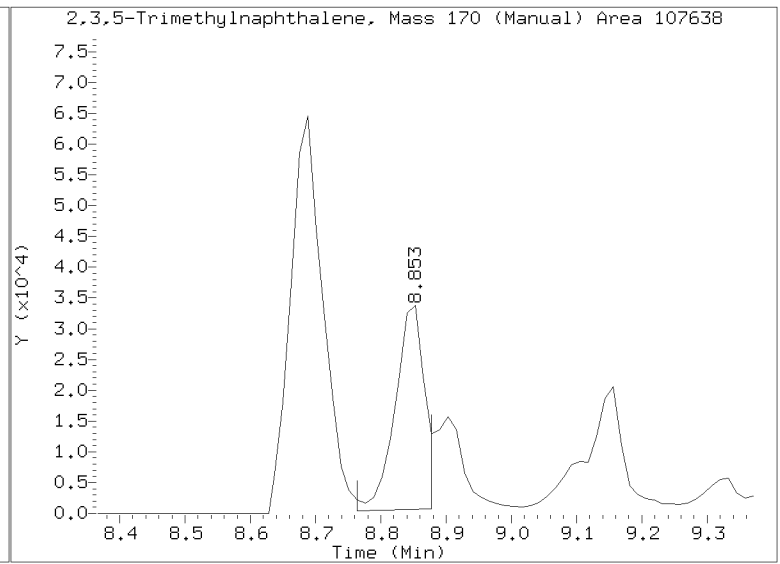
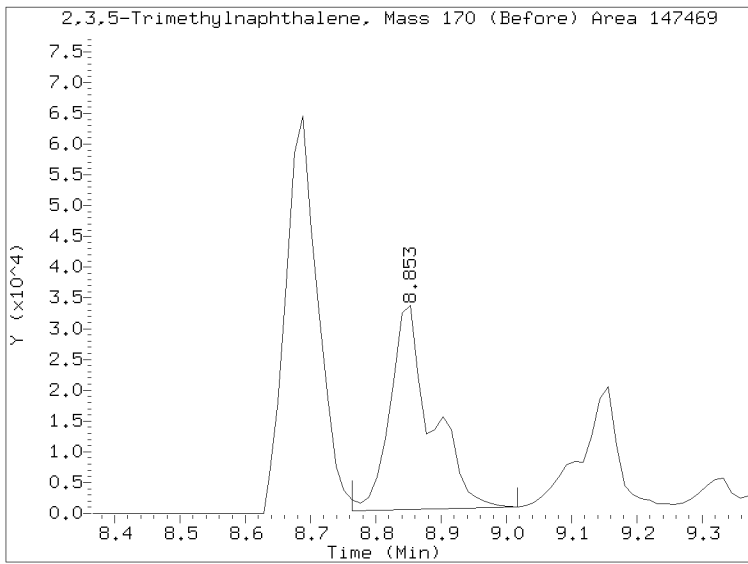
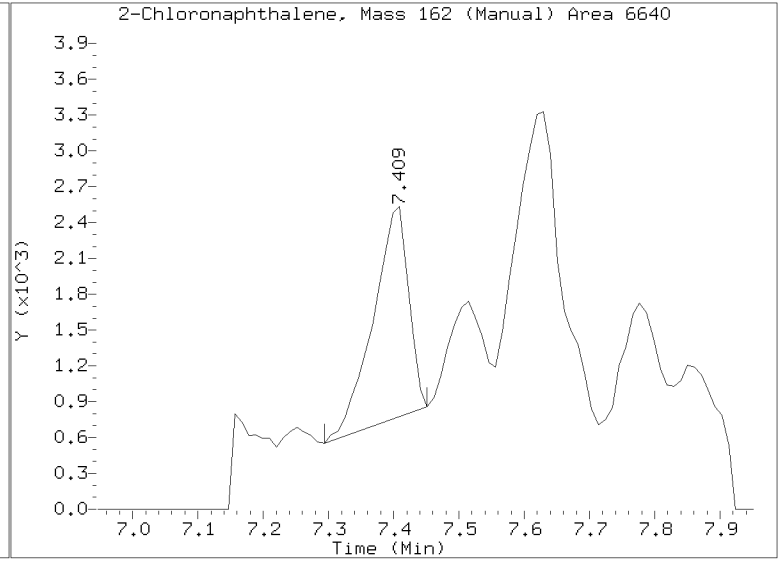
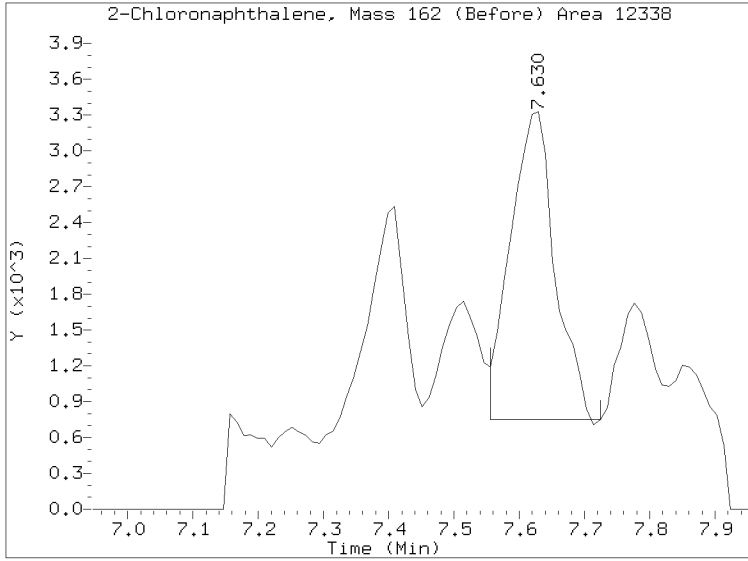
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On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.sub = 3.0000

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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121212.D
Injection Date: 12-DEC-2016 13:58
Lab ID:16K0321-06 Client ID:
Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
Matrix: Tissue Laboratory ID: 16K0321-06RE1 File ID: N1116121321.D
Sampled: 11/22/16 12:10 Prepared: 11/24/16 08:25 Analyzed: 12/13/16 22:00
Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	10	13.5	U	11.3	13.5
91-57-6	2-Methylnaphthalene	10	11.3	U	11.3	11.3
208-96-8	Acenaphthylene	10	11.3	U	11.3	11.3
83-32-9	Acenaphthene	10	73.0	D	11.3	11.3
86-73-7	Fluorene	10	76.7	D	11.3	11.3
85-01-8	Phenanthrene	10	387	D	11.3	11.3
120-12-7	Anthracene	10	94.2	Q, D	11.3	11.3
206-44-0	Fluoranthene	10	331	D	11.3	11.3
129-00-0	Pyrene	10	228	D	11.3	11.3
56-55-3	Benzo(a)anthracene	10	16.0	D	11.3	11.3
218-01-9	Chrysene	10	18.8	D	11.3	11.3
205-99-2	Benzo(b)fluoranthene	10	11.3	U	11.3	11.3
207-08-9	Benzo(k)fluoranthene	10	11.3	U	11.3	11.3
50-32-8	Benzo(a)pyrene	10	11.3	U	11.3	11.3
193-39-5	Indeno(1,2,3-cd)pyrene	10	11.3	U	11.3	11.3
53-70-3	Dibenzo(a,h)anthracene	10	11.3	U	11.3	11.3
191-24-2	Benzo(g,h,i)perylene	10	11.3	U	11.3	11.3
1985-5-0	Perylene	10	11.3	U	11.3	11.3
197-97-2	Benzo(e)pyrene	10	11.3	U	11.3	11.3

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	12.5	36.9	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	18.7	55.3	30 - 160	
Fluoranthene-d10	33.860	24.2	71.5	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	5.81	27.5	30 - 160	*

Data File: \\target\share\chem3\nt11.1\20161213.16\N1116121321.D

Date: 13-DEC-2016 22:00

Client ID:

Sample Info: 16K0321-06.10

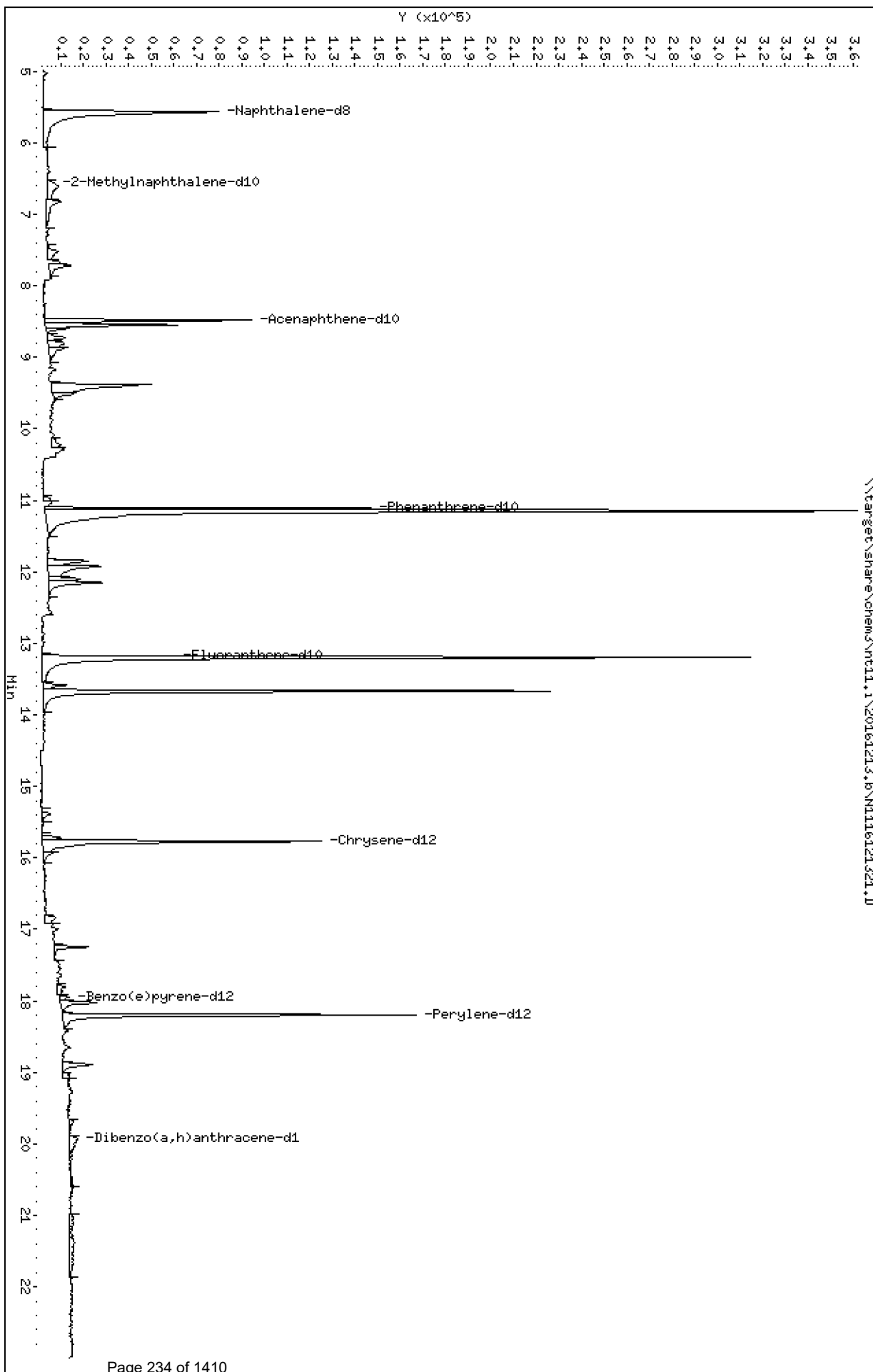
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

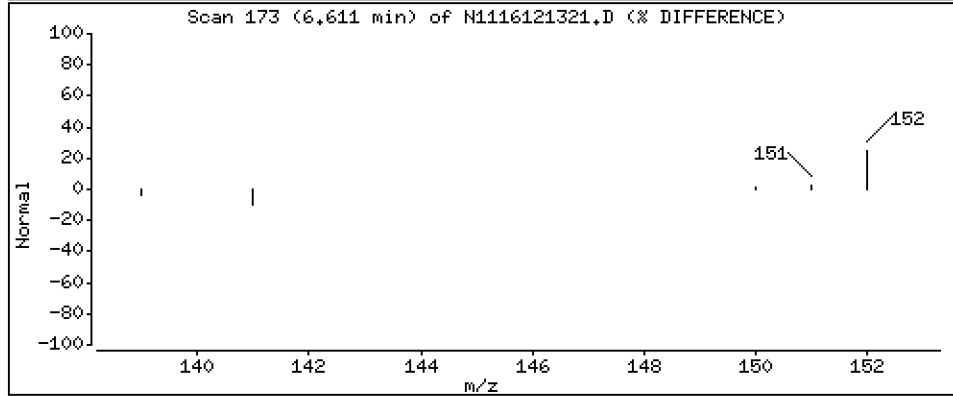
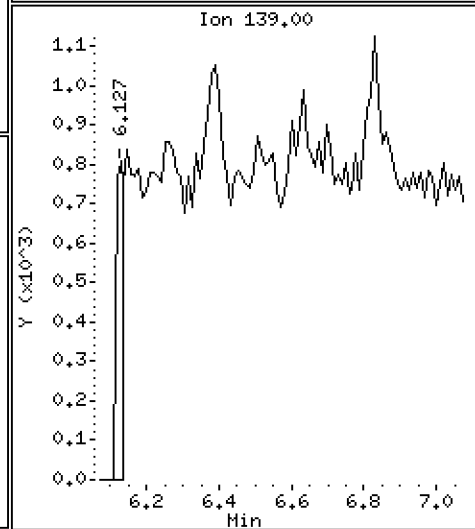
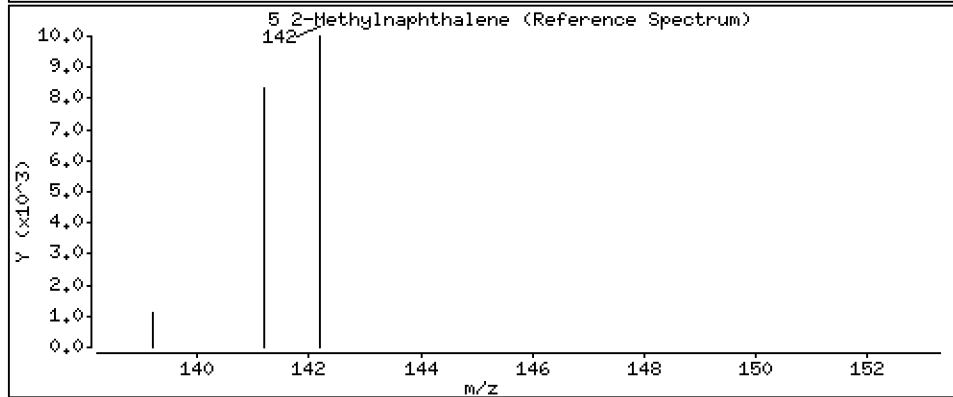
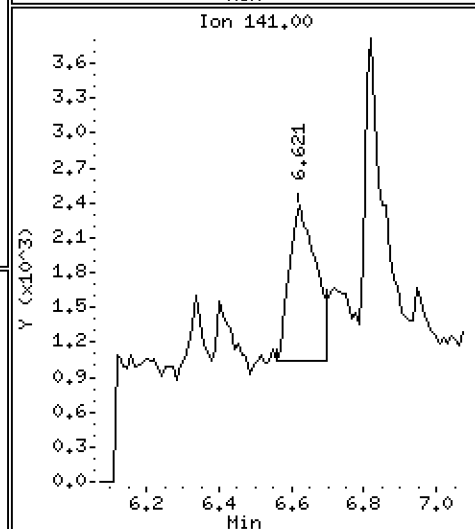
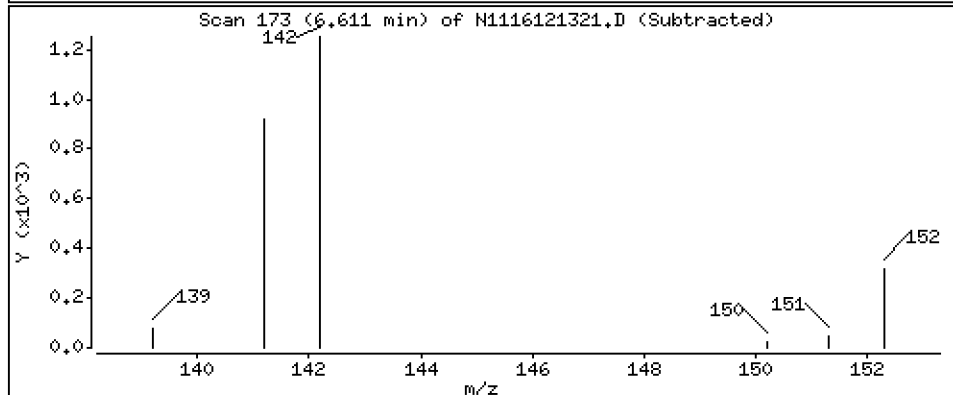
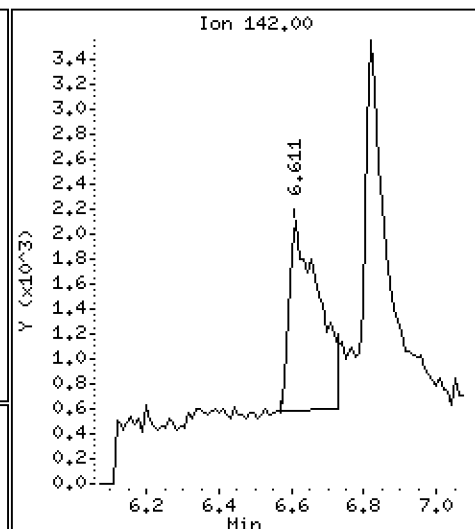
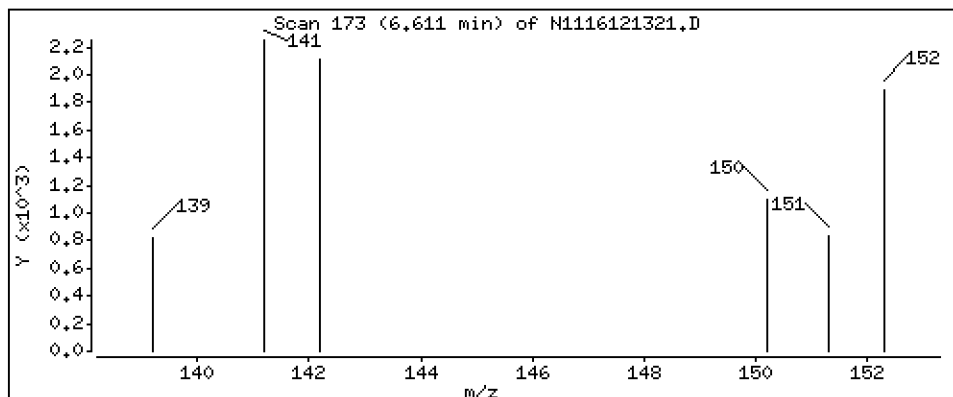
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 68,8 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

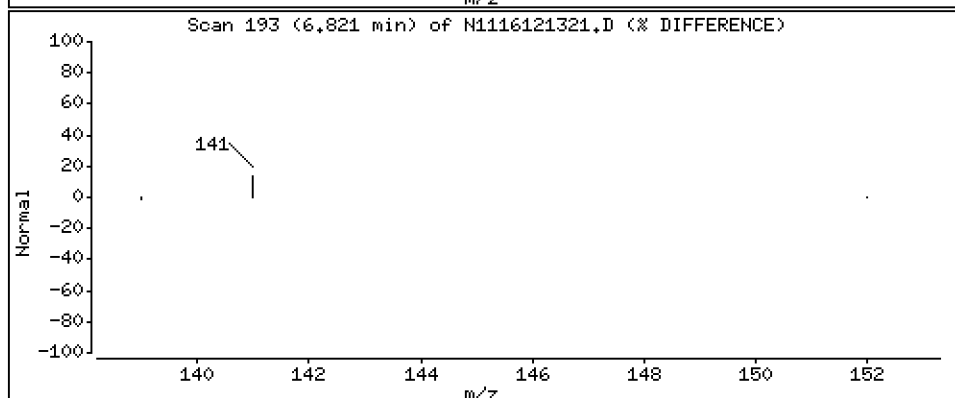
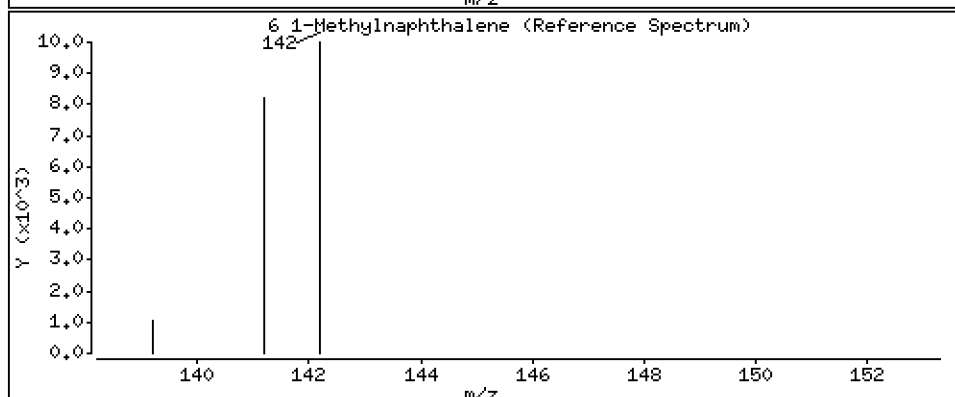
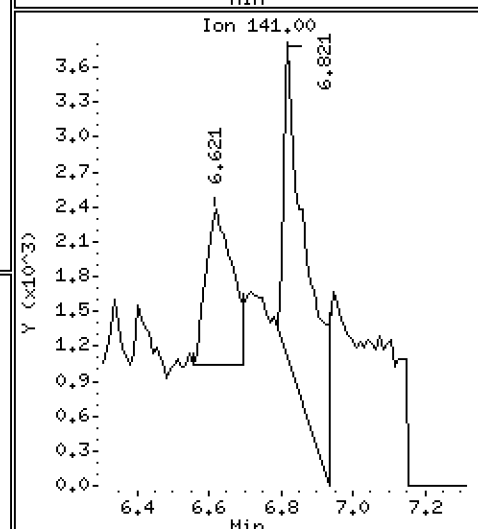
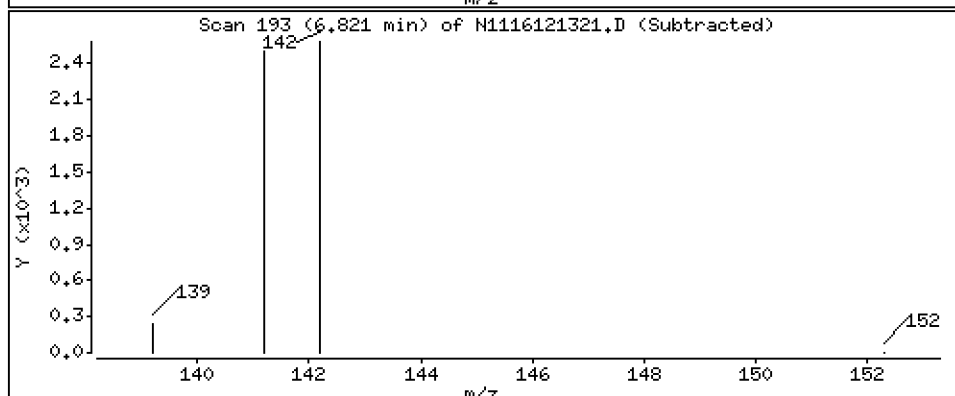
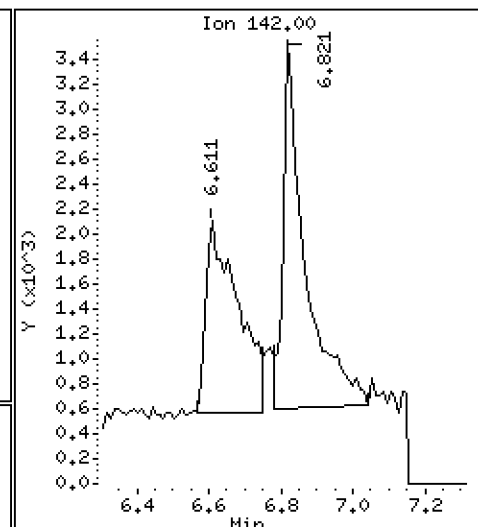
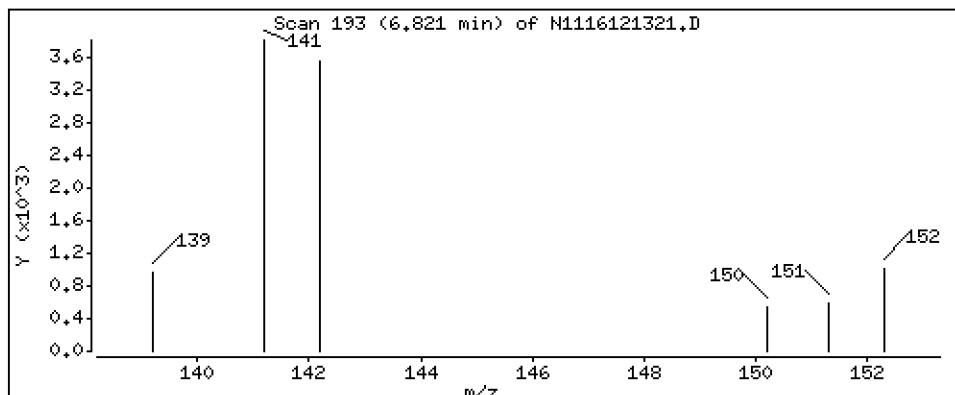
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 106 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

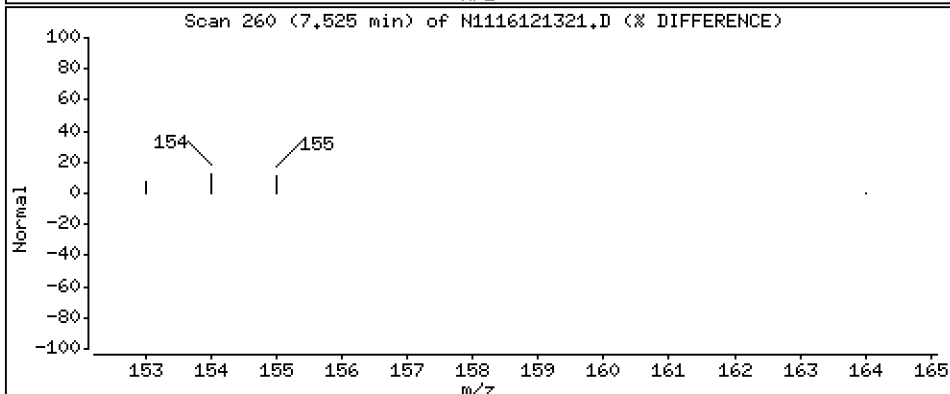
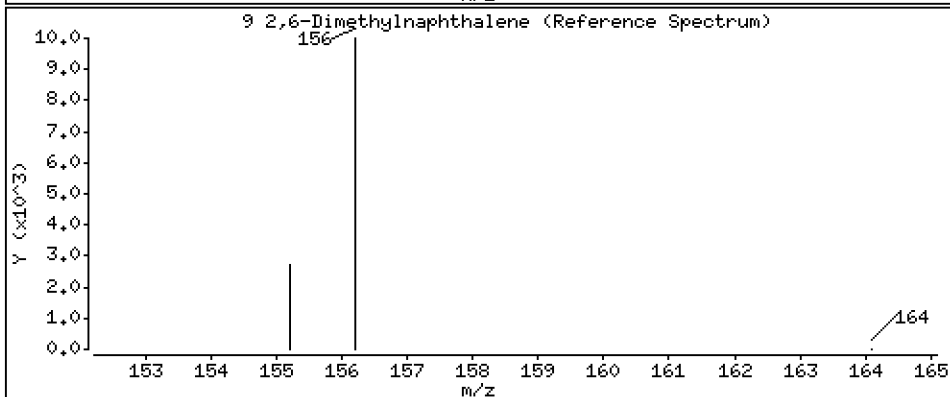
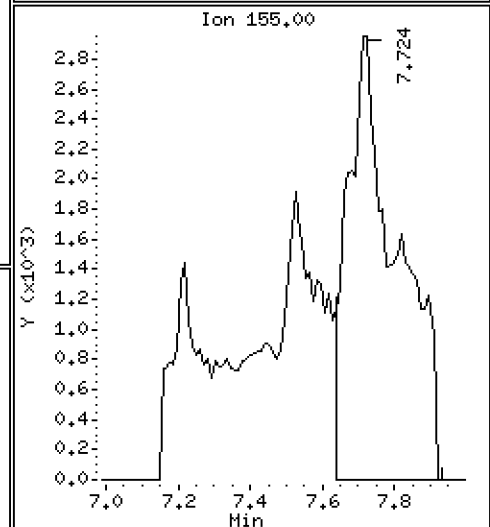
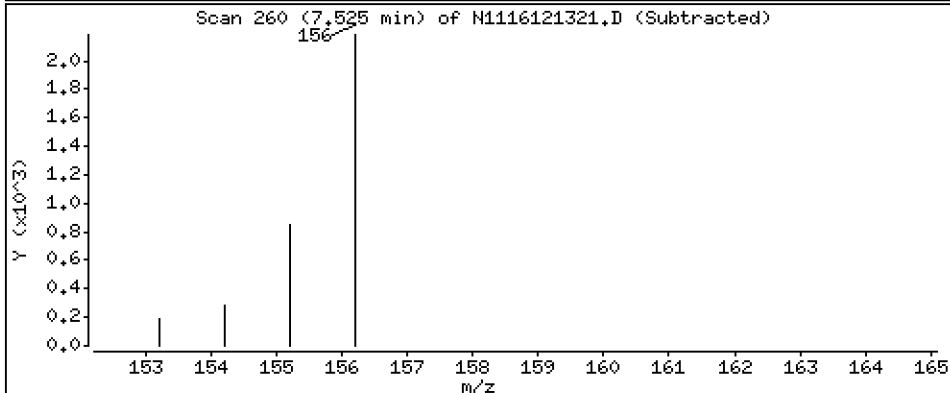
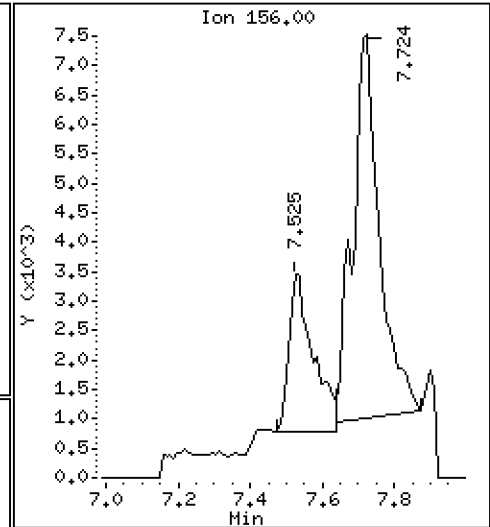
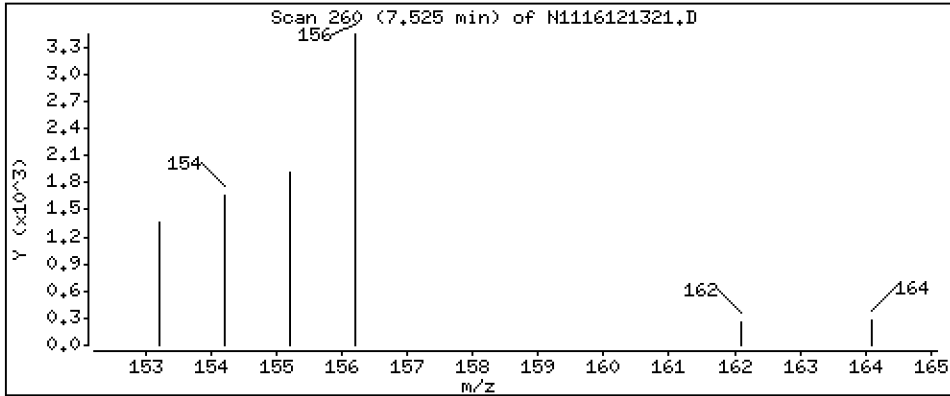
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 98,4 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

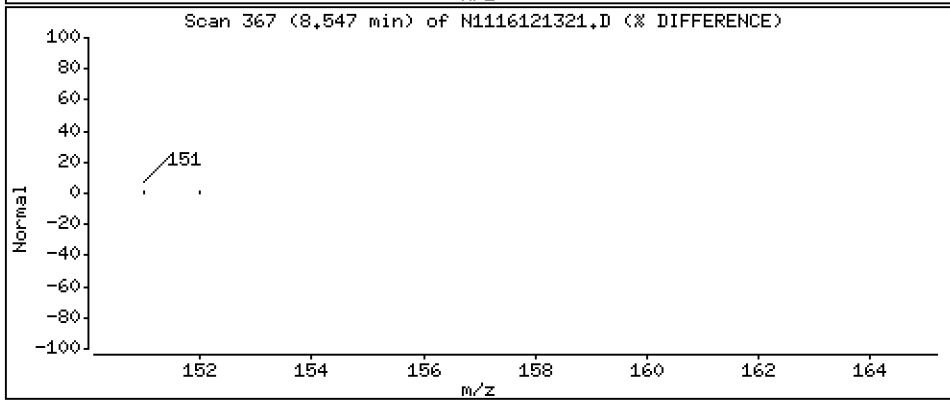
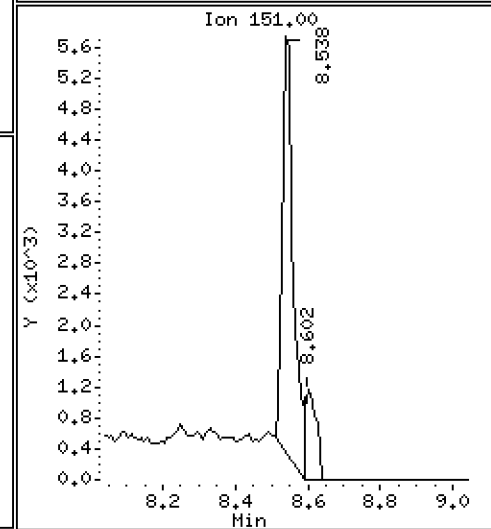
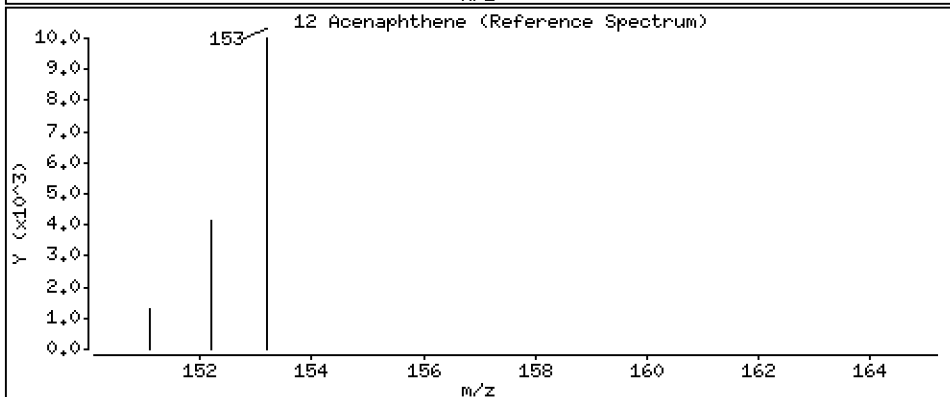
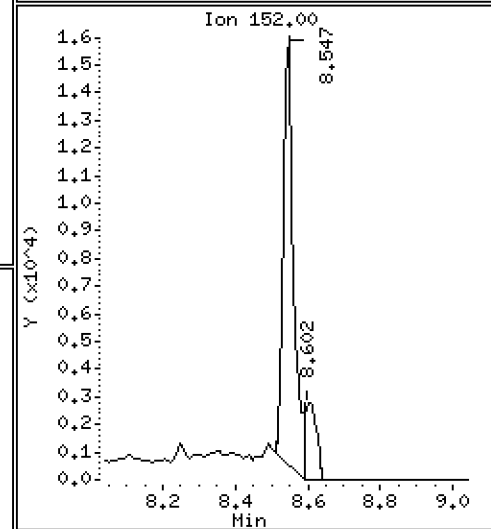
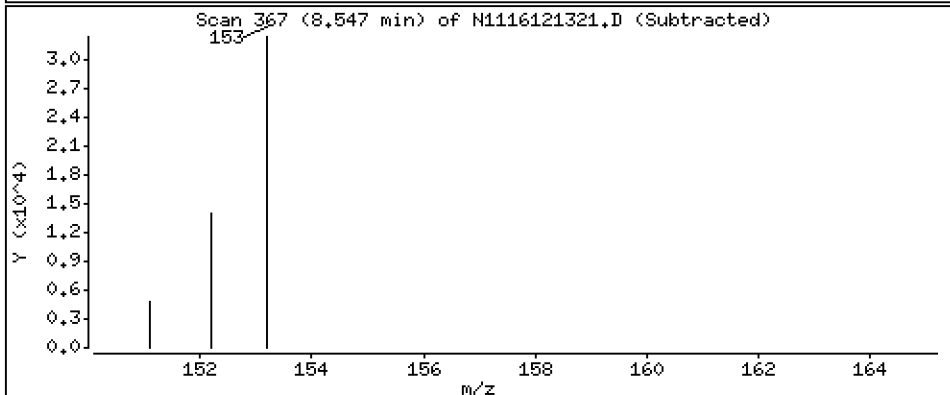
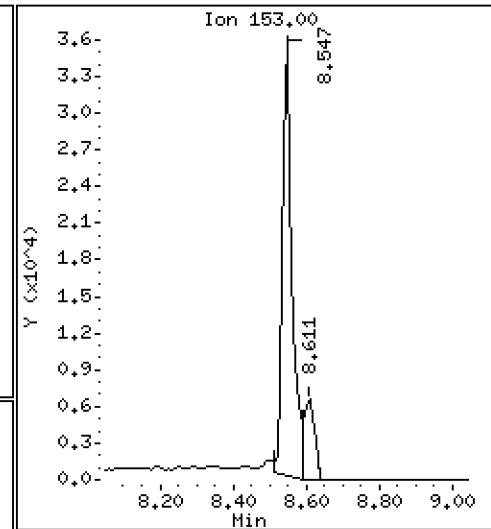
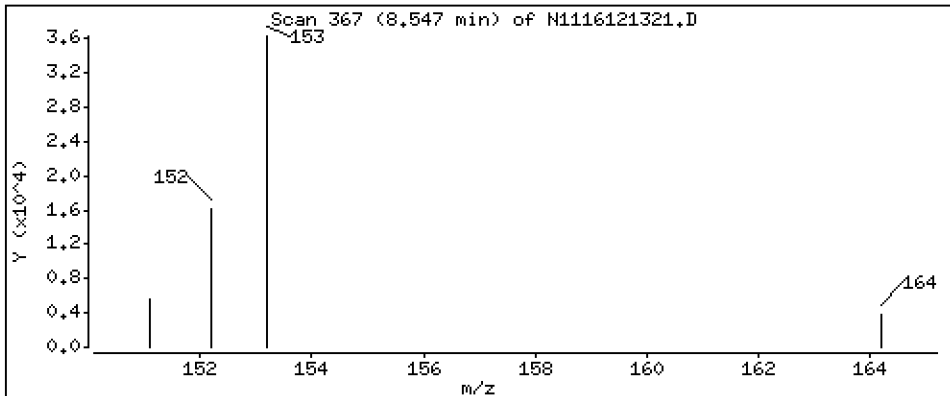
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 647 ng/mL

12 Acenaphthene



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

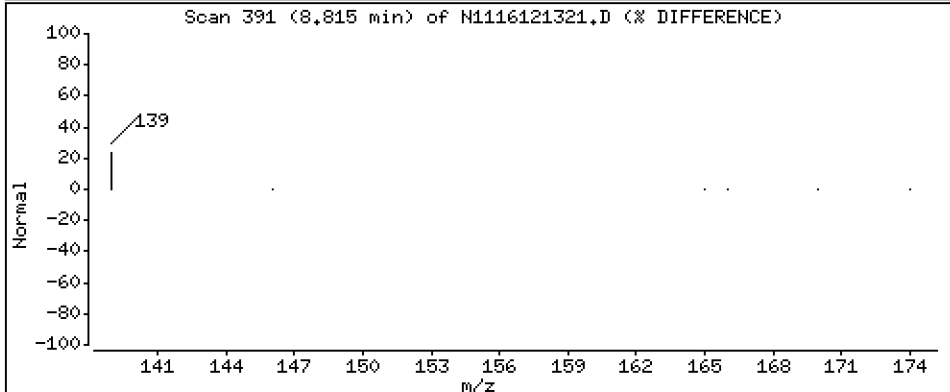
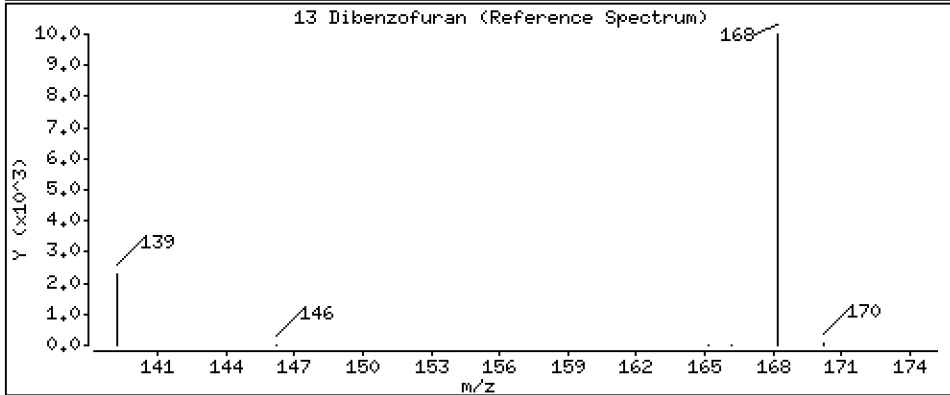
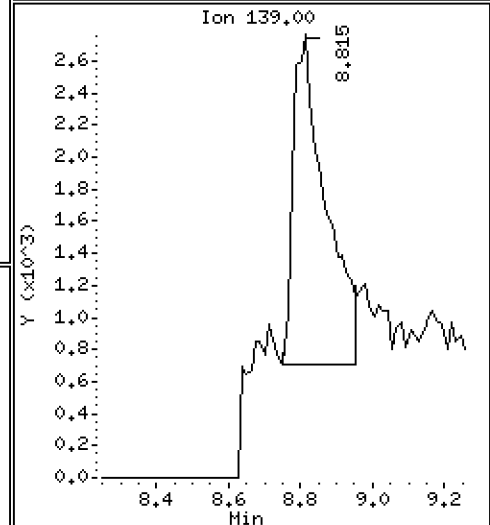
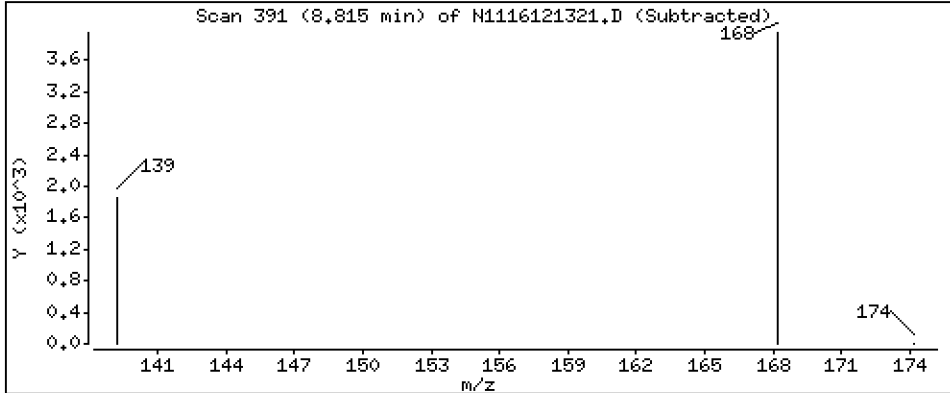
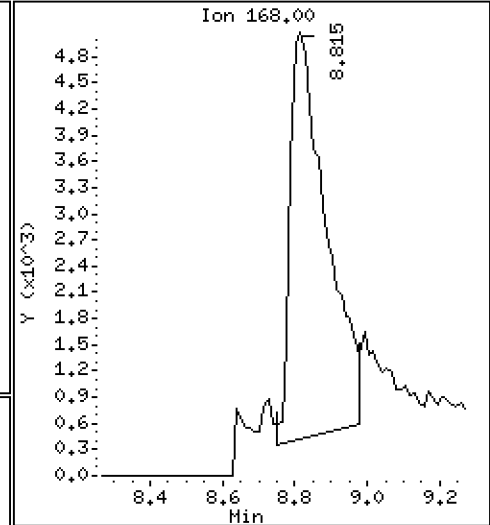
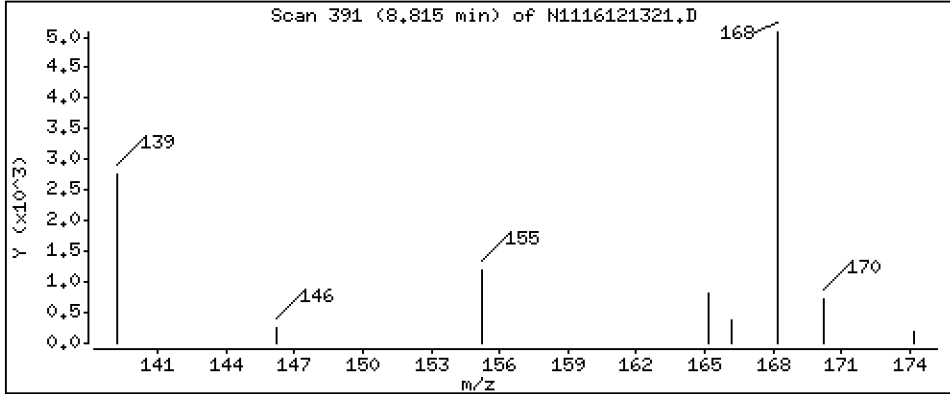
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 219 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

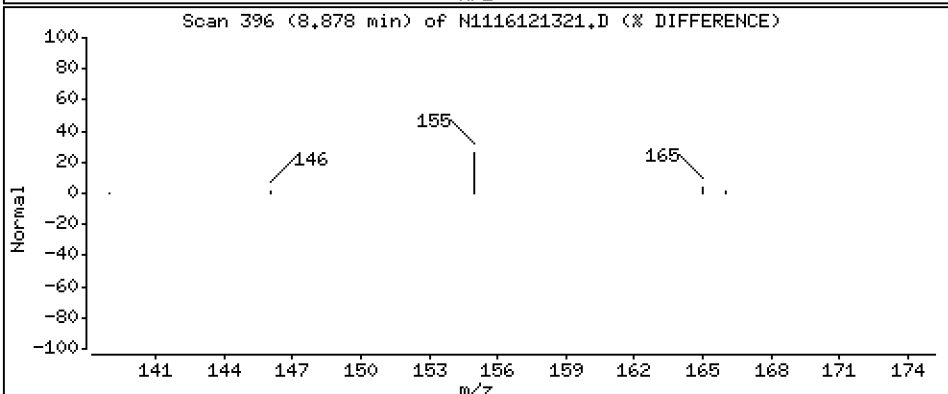
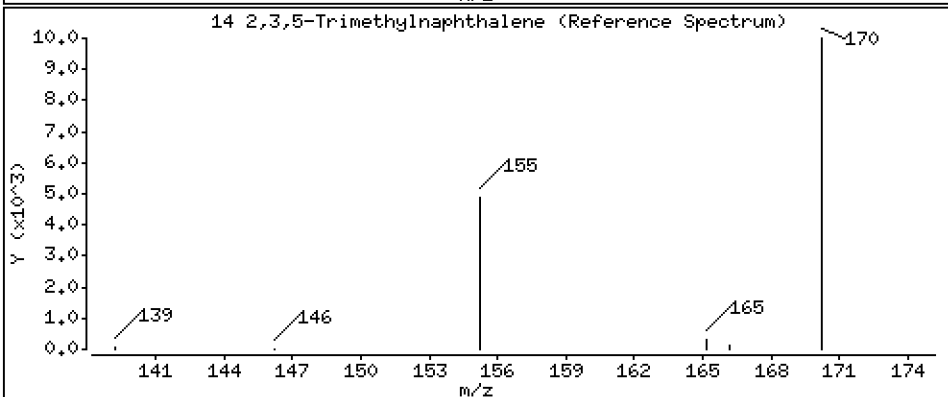
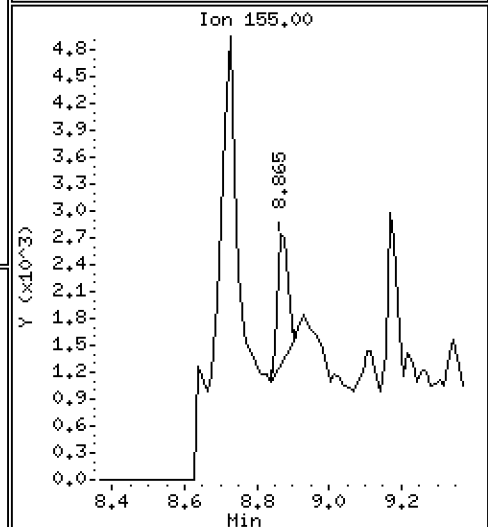
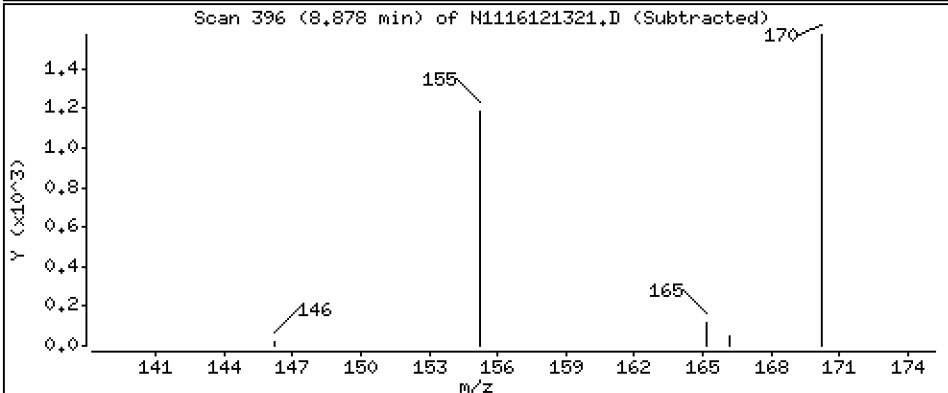
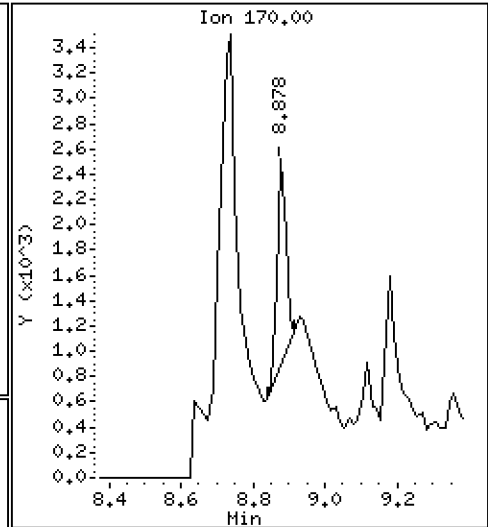
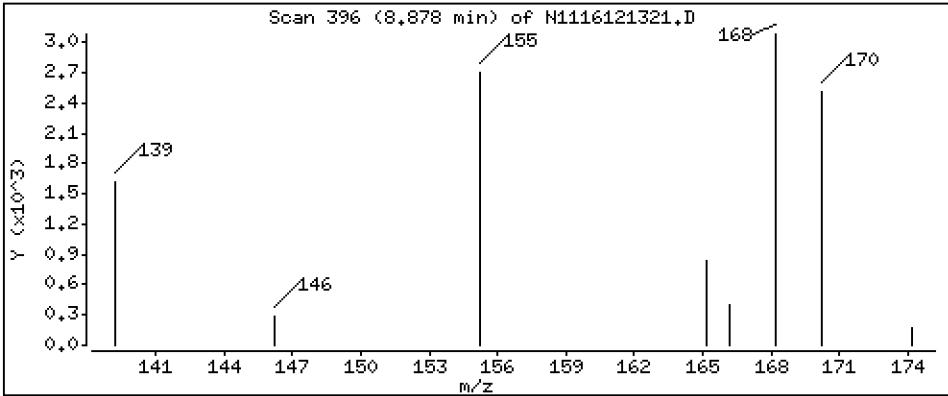
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 29,0 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

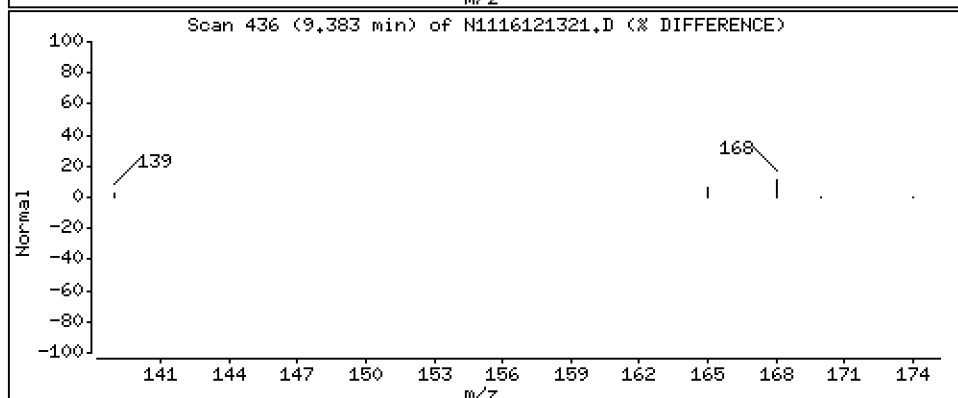
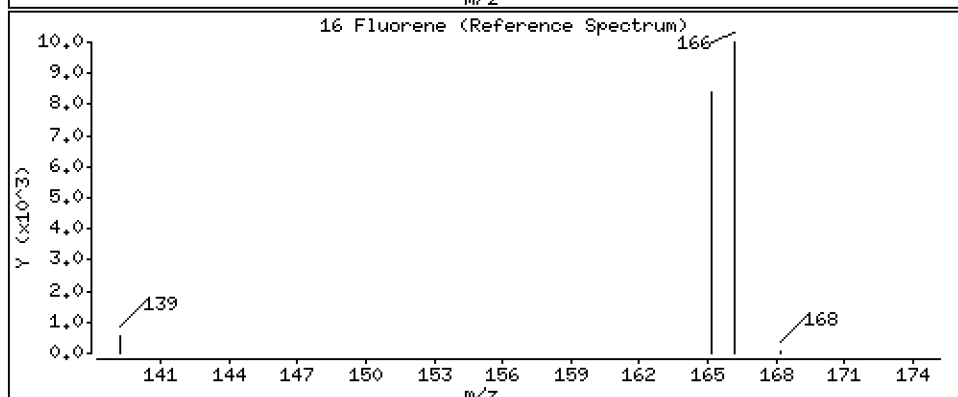
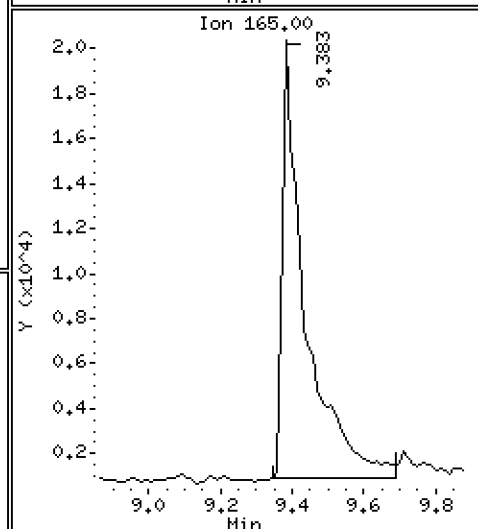
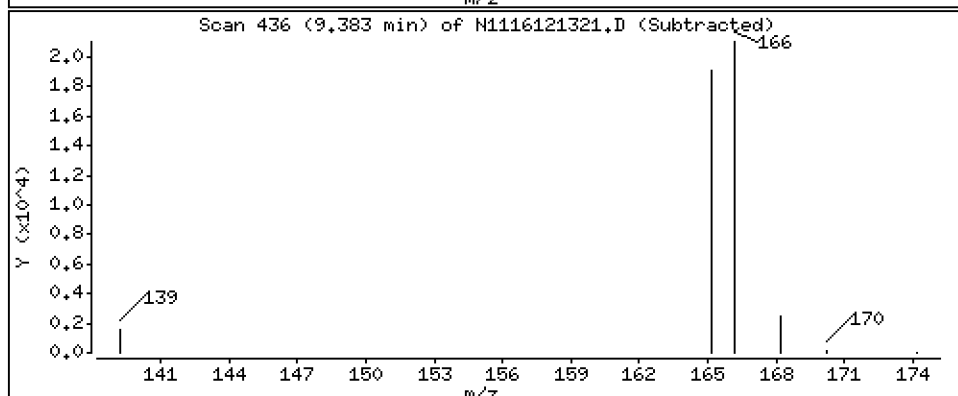
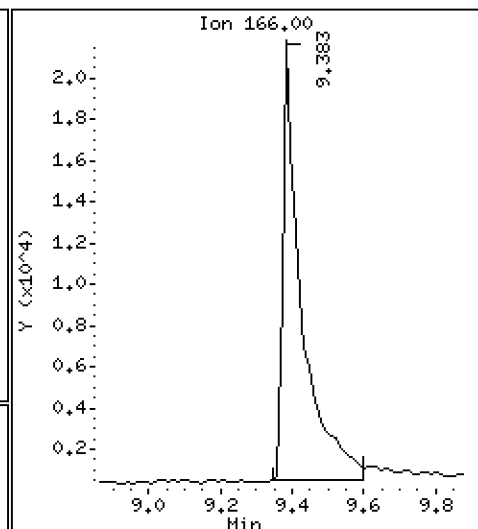
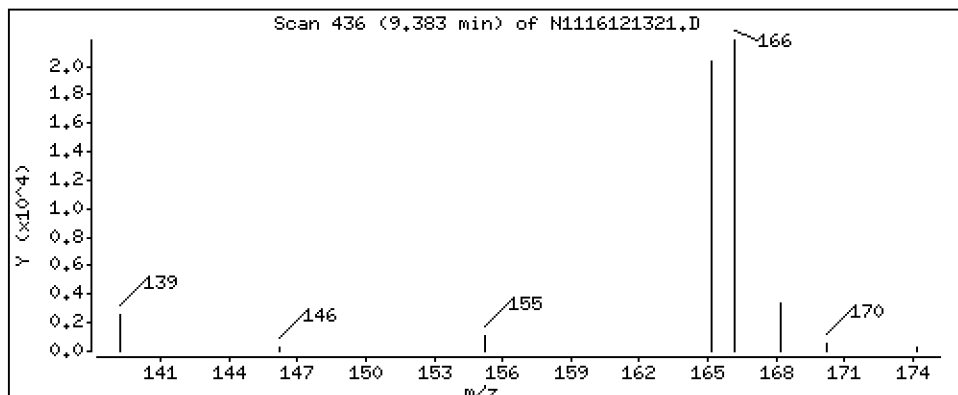
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 679 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

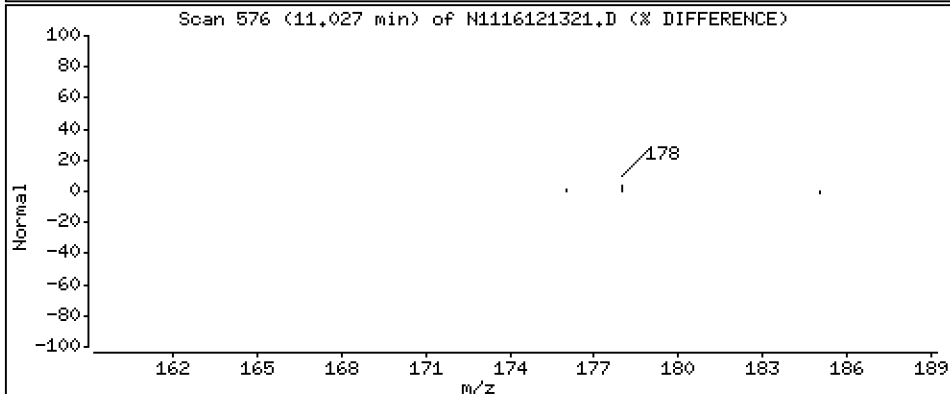
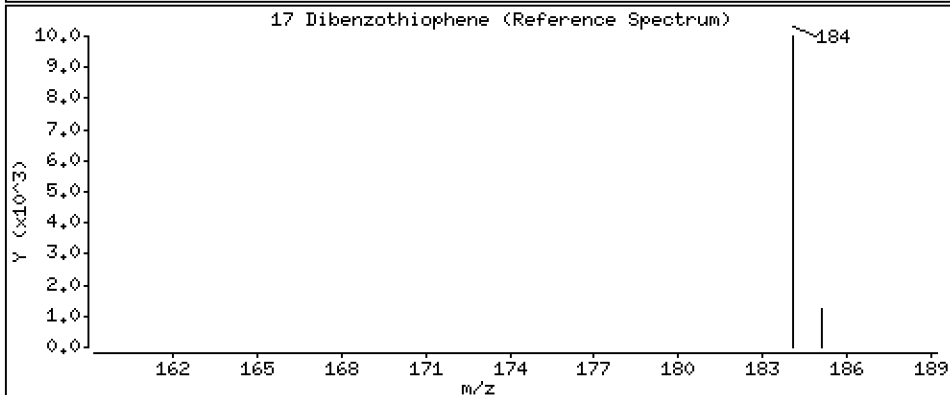
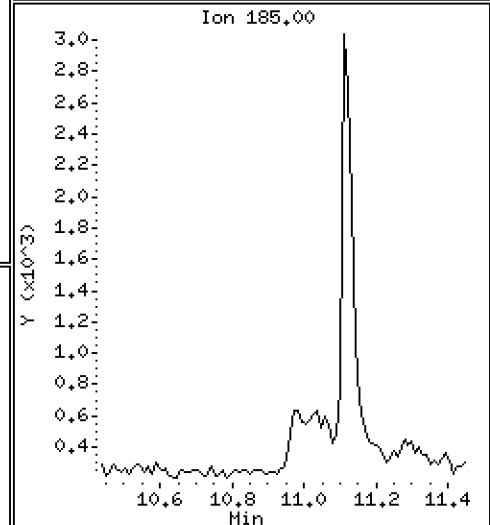
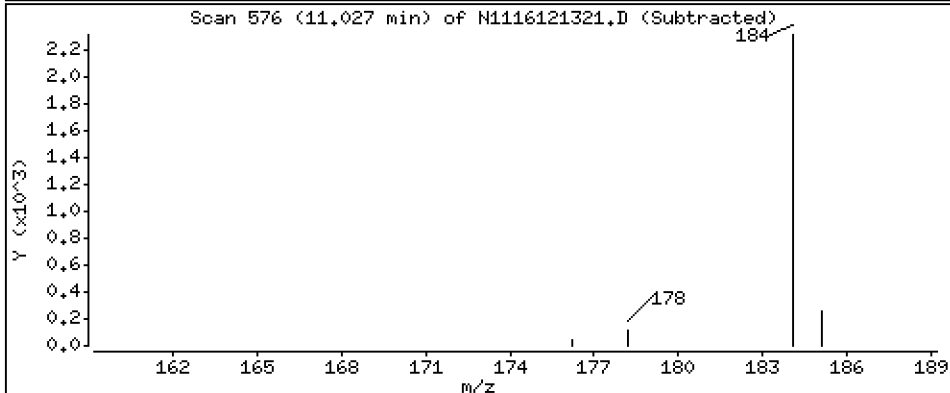
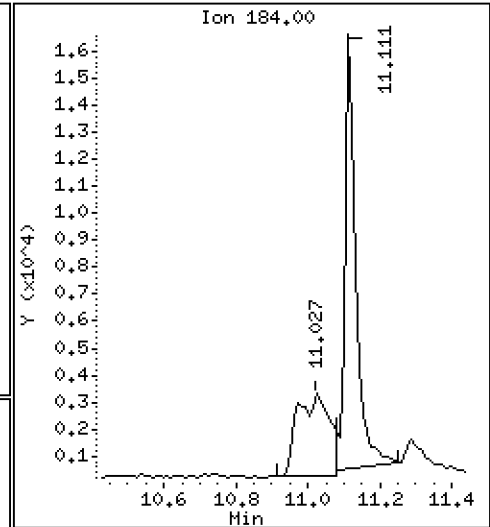
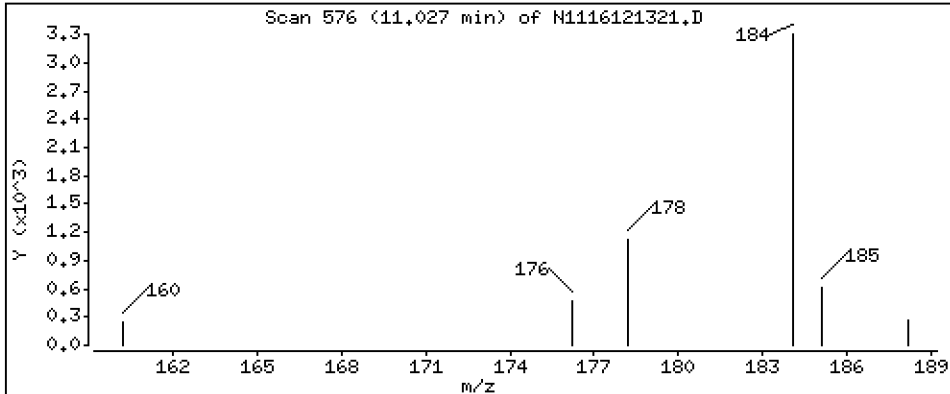
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 136 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

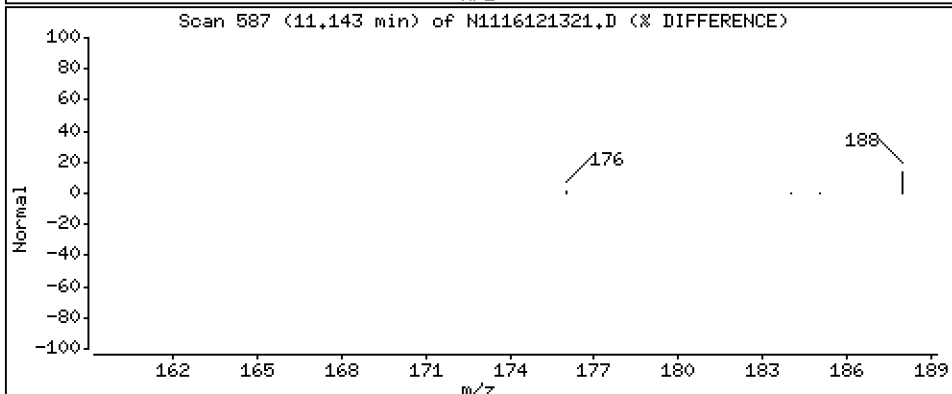
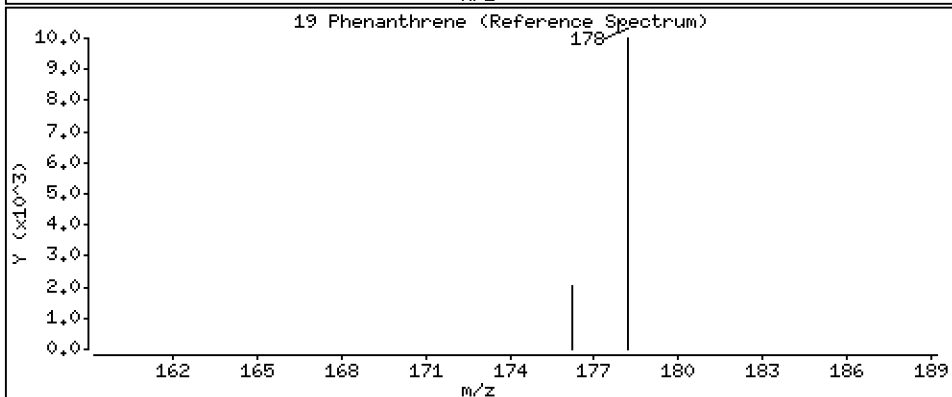
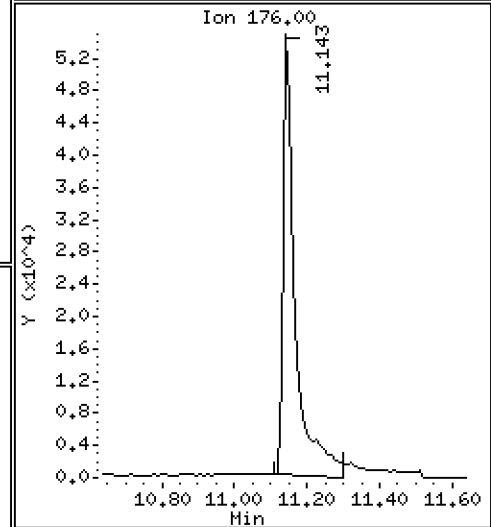
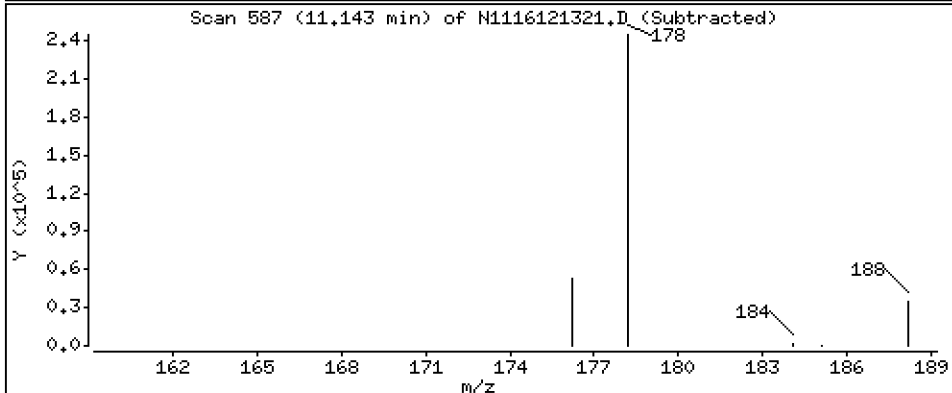
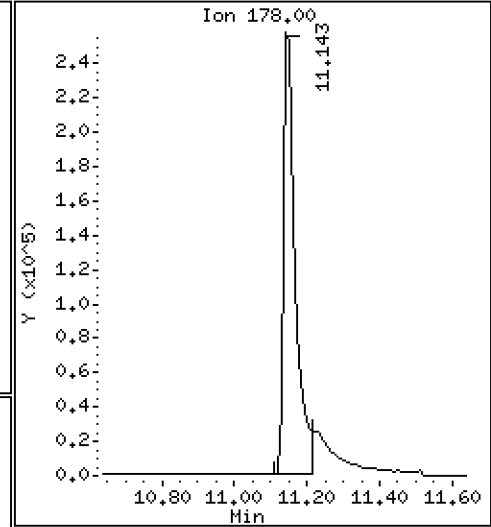
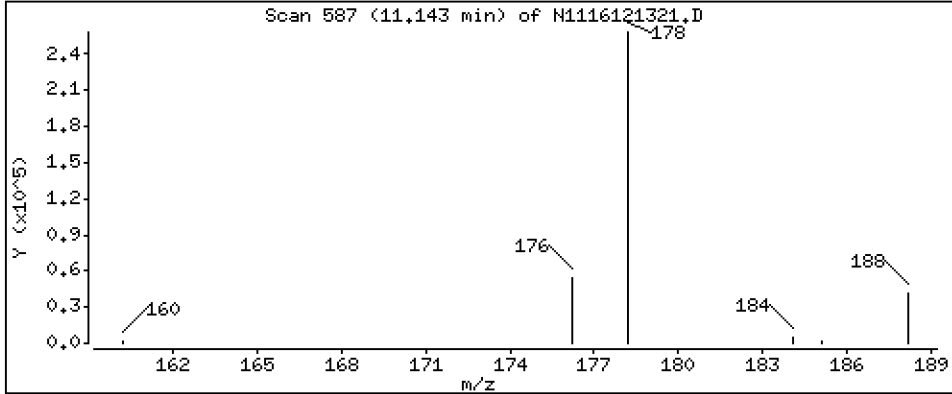
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 3430 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

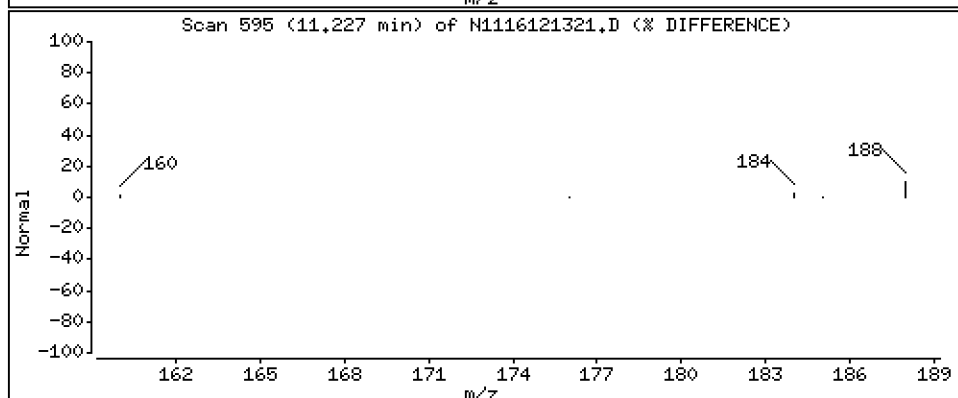
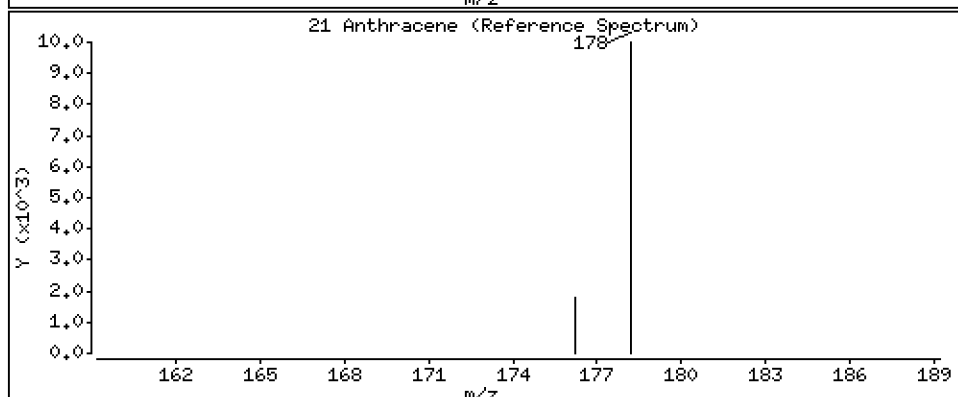
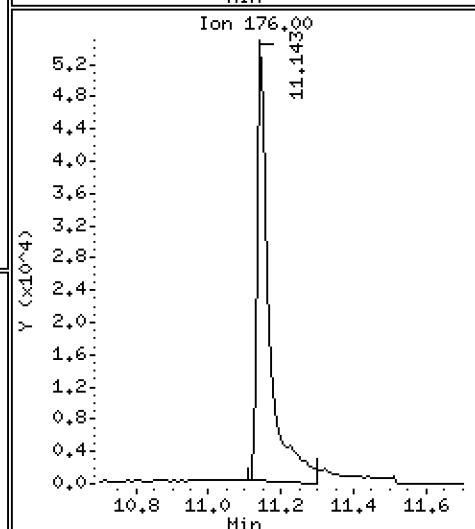
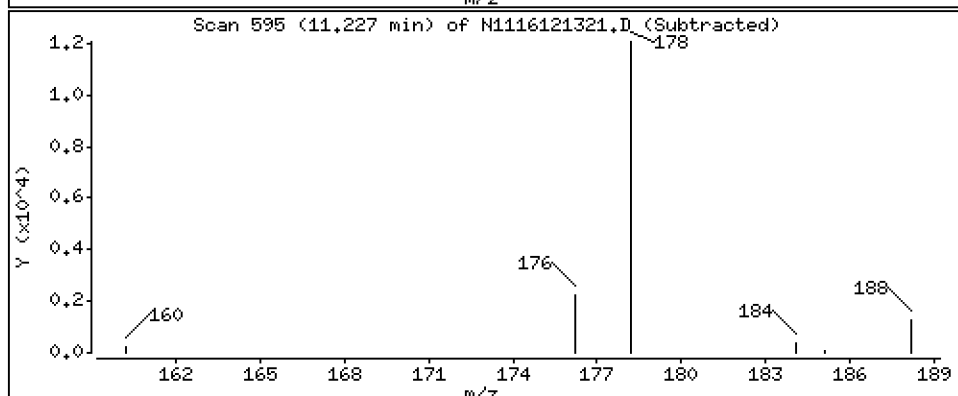
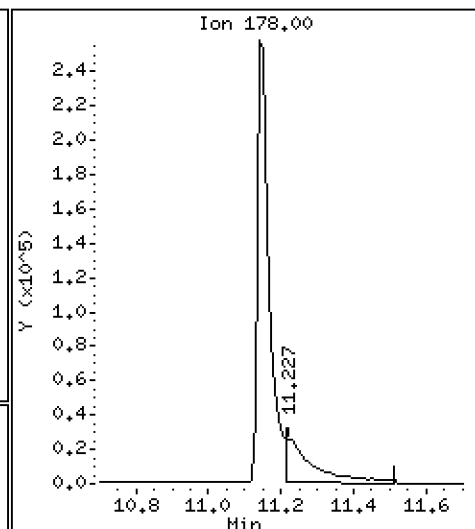
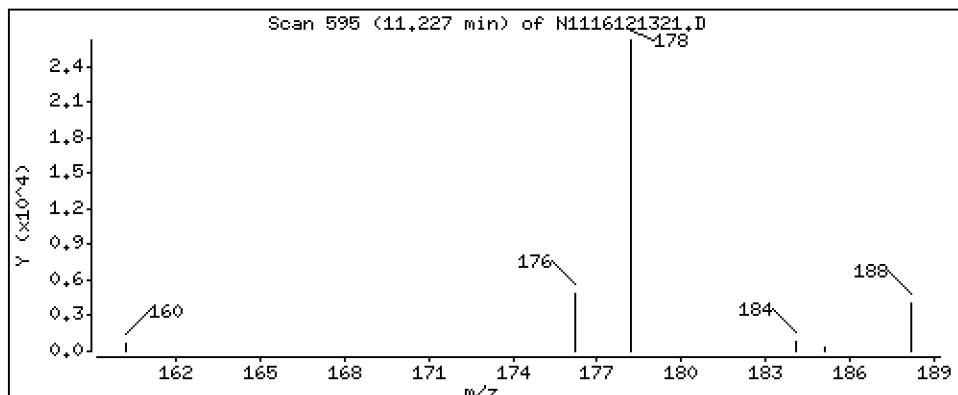
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 834 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

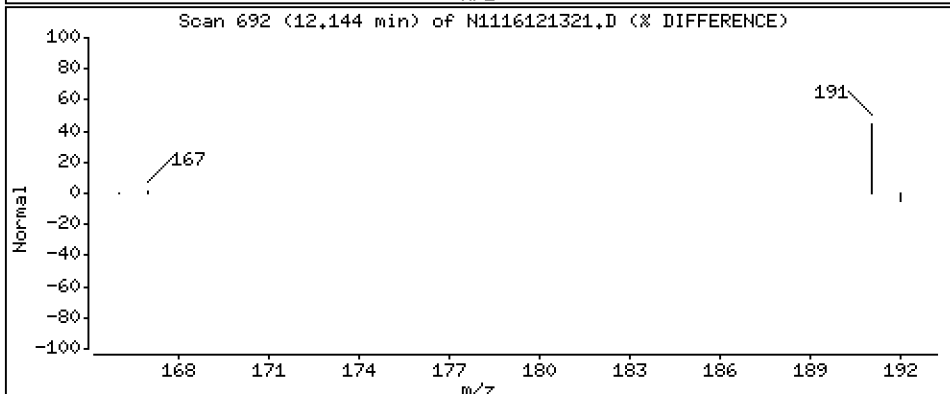
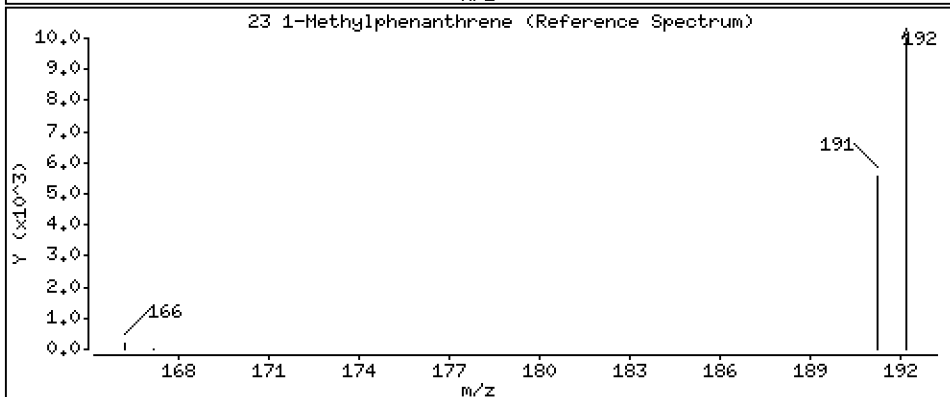
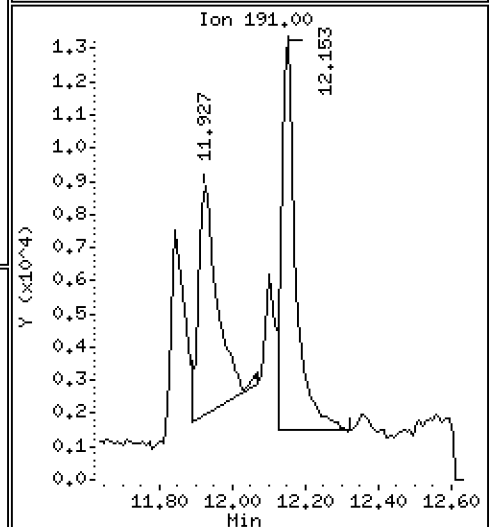
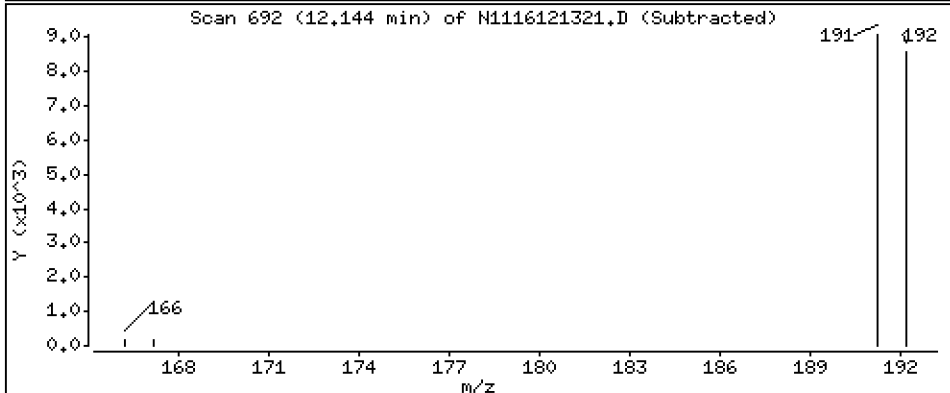
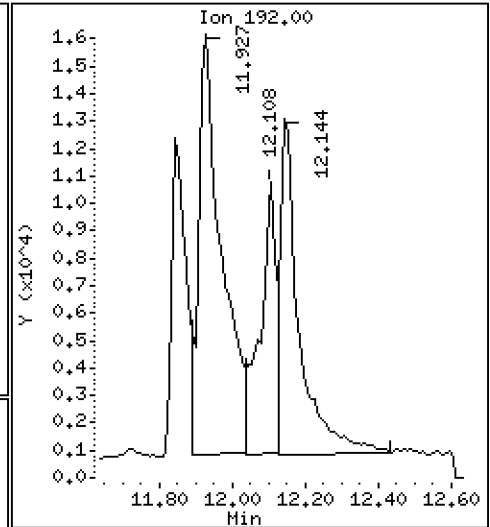
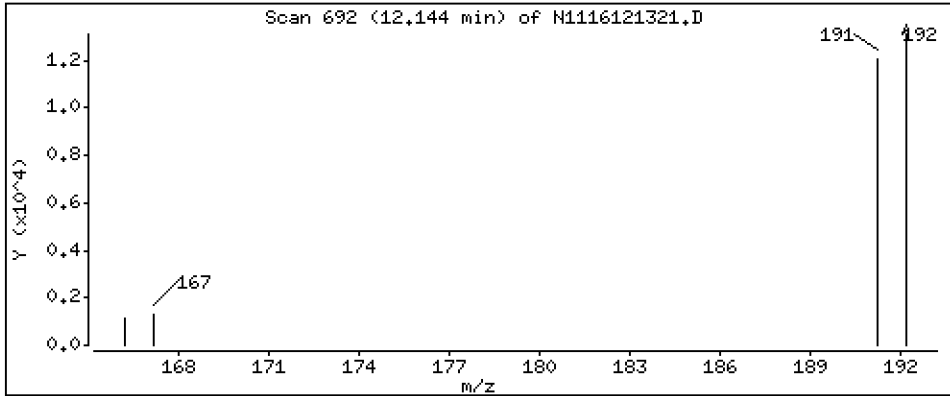
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 300 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

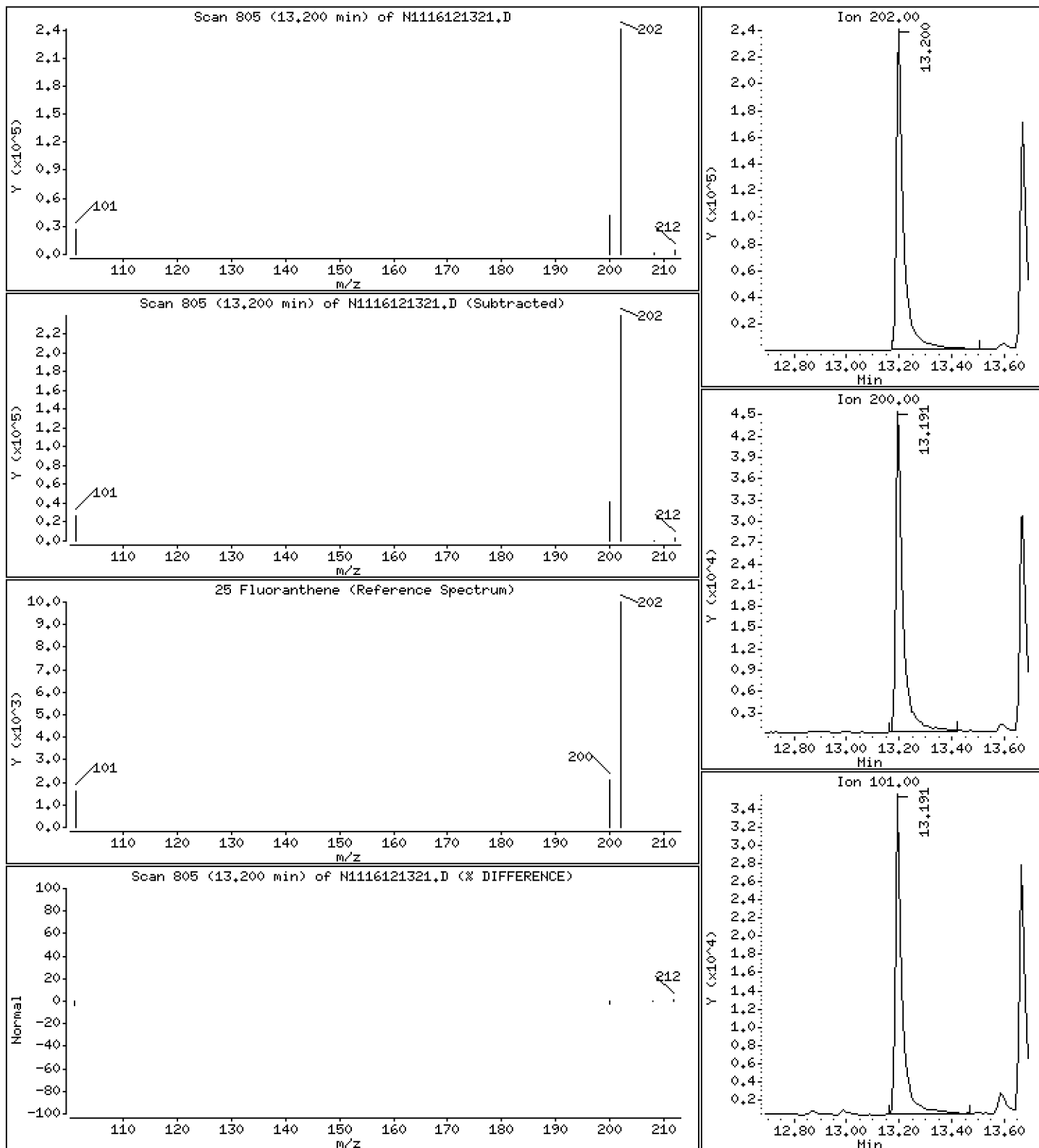
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2930 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

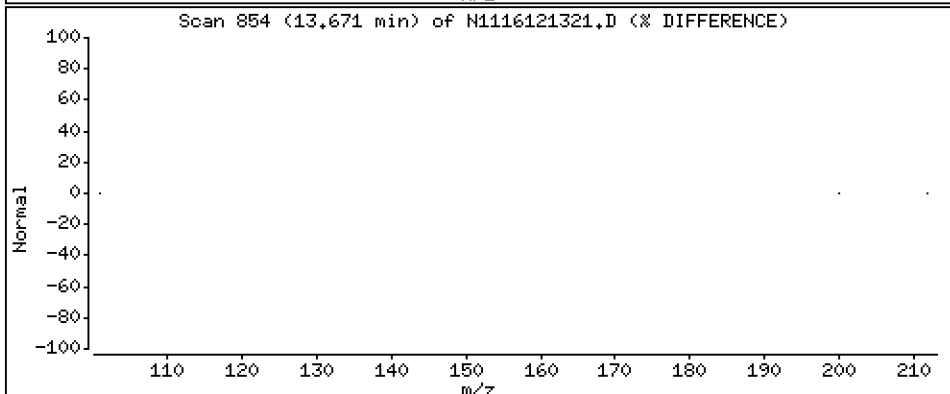
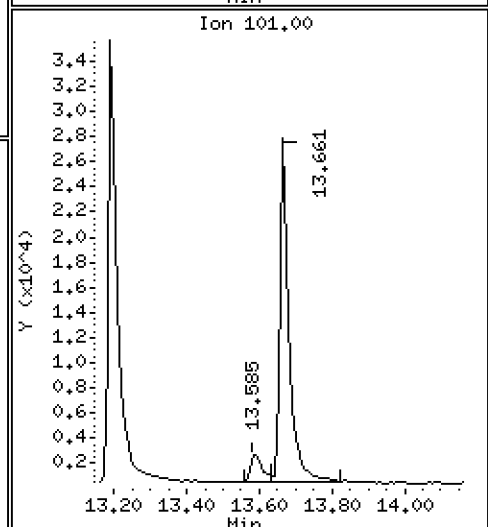
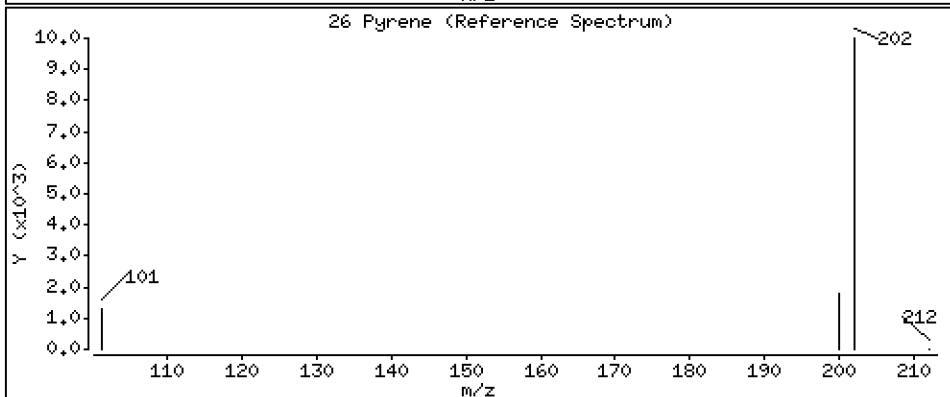
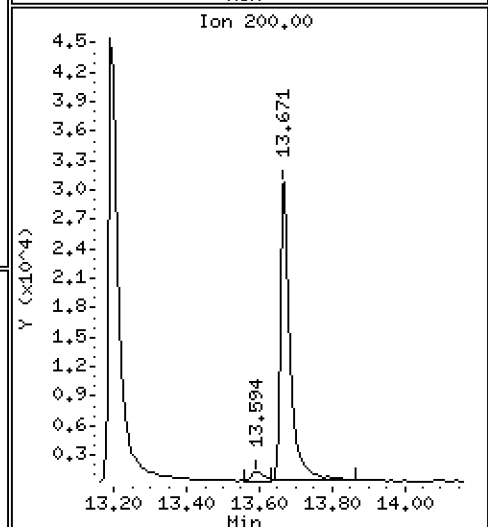
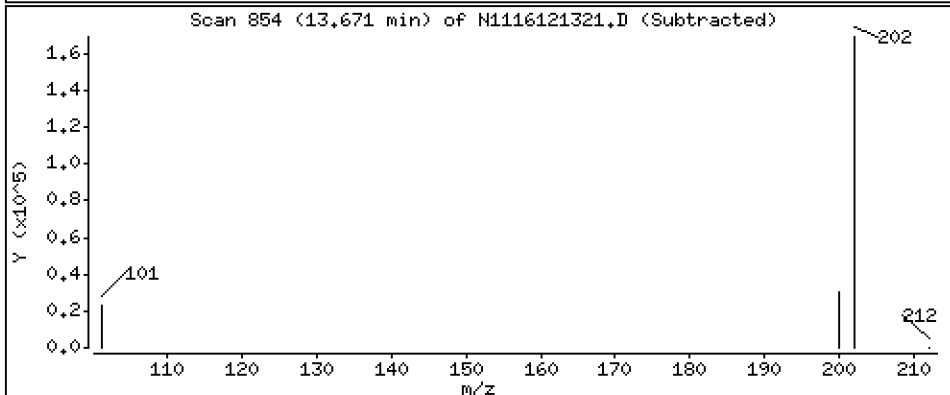
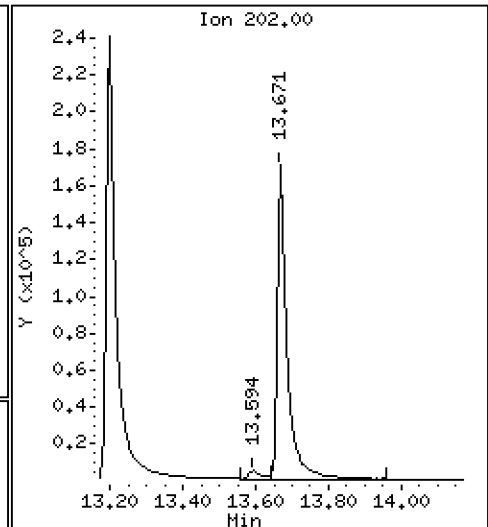
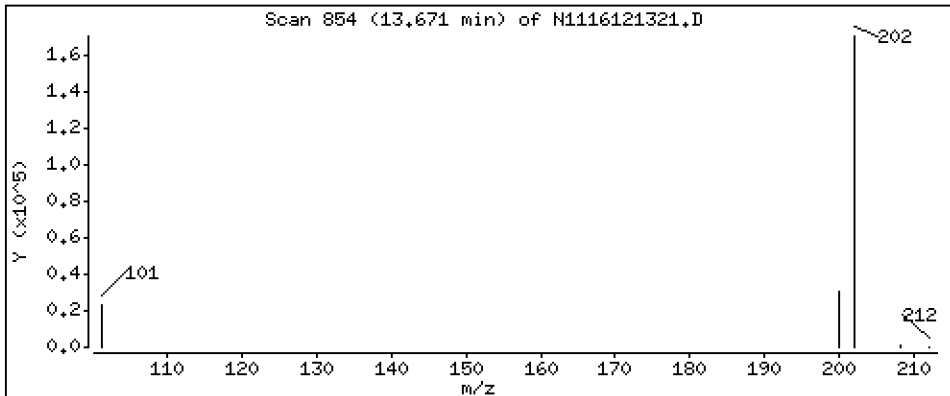
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 2020 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

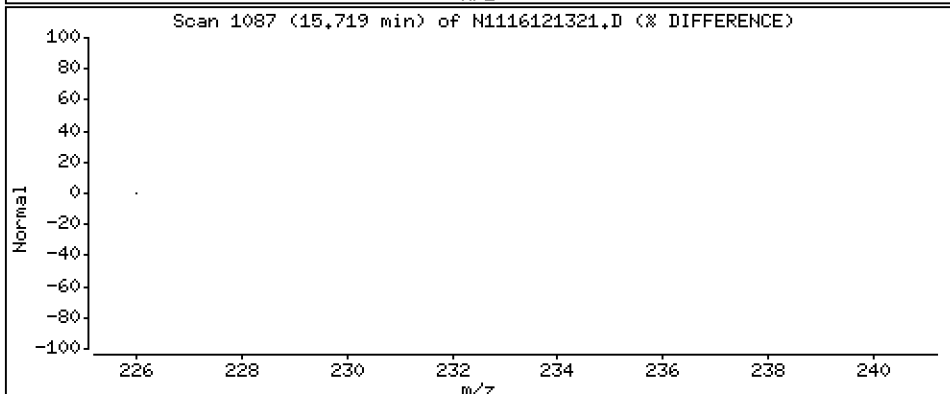
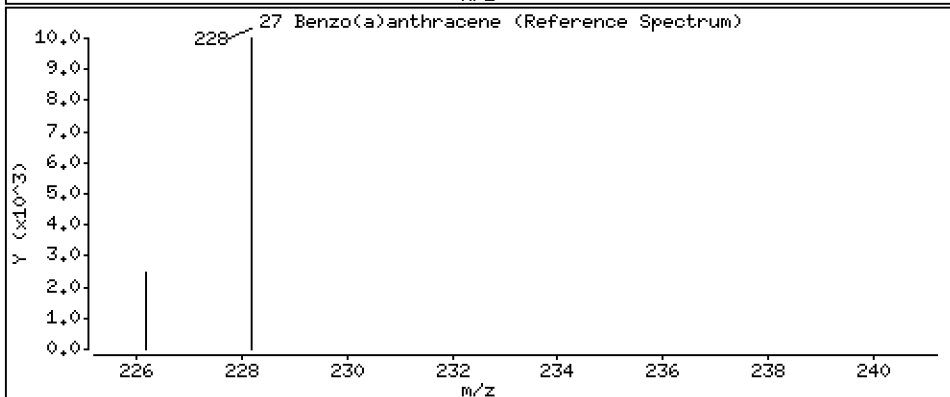
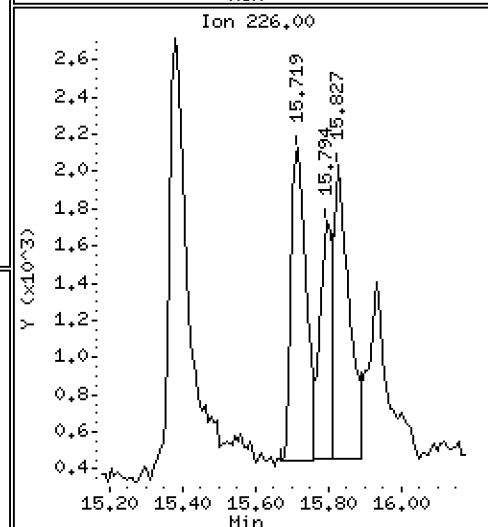
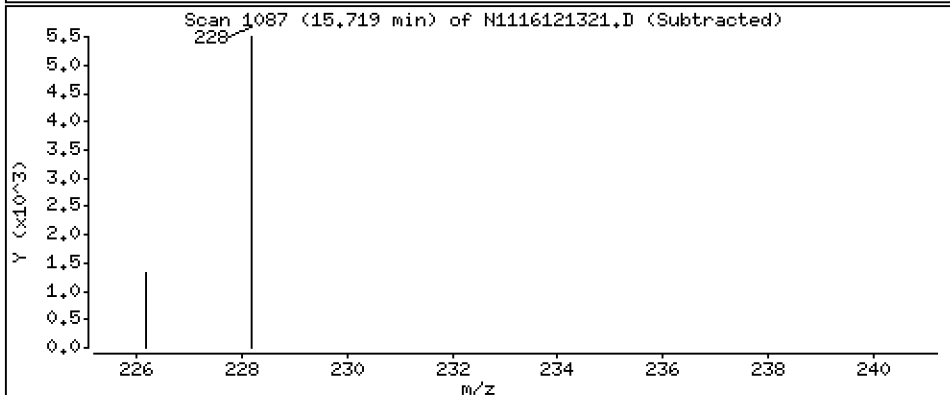
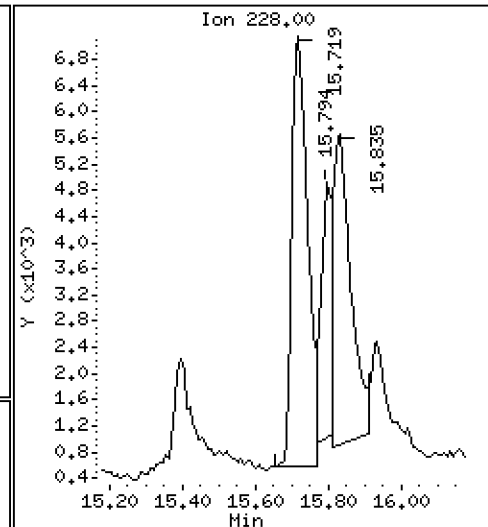
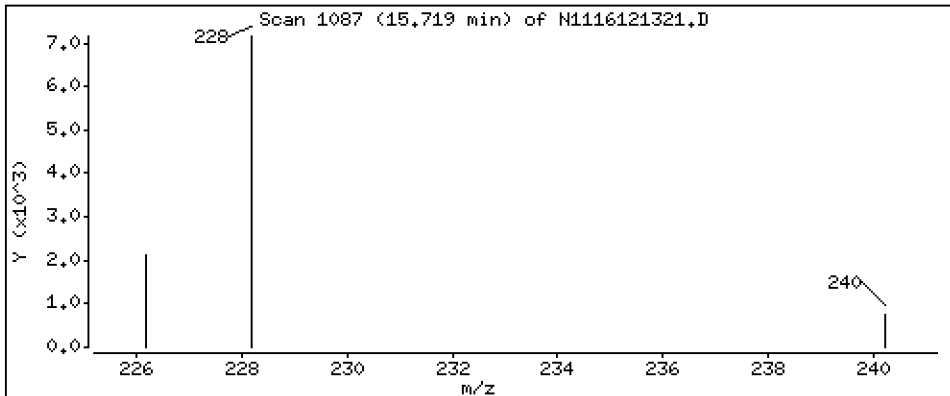
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 142 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

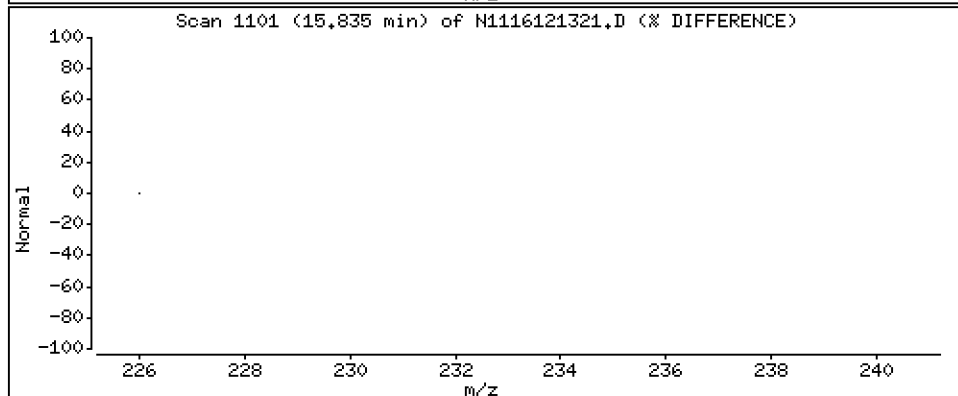
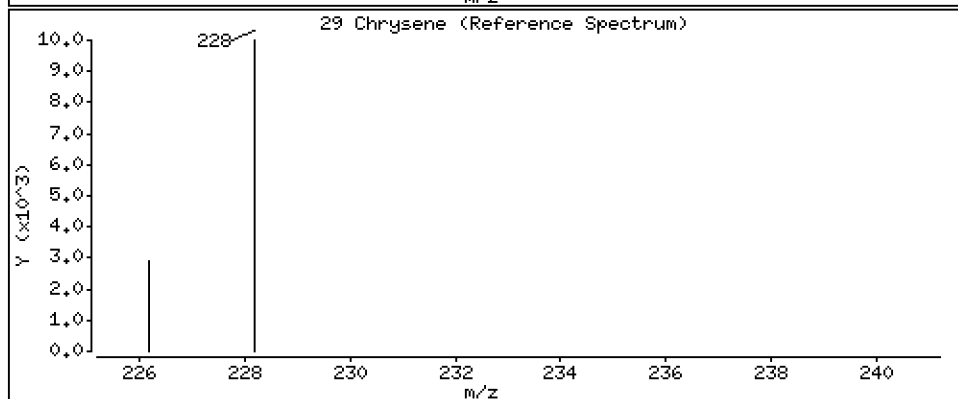
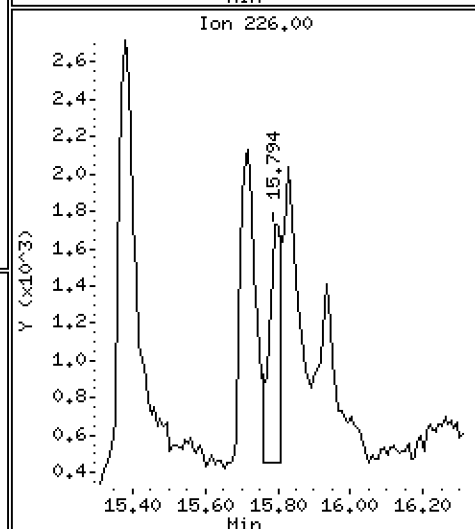
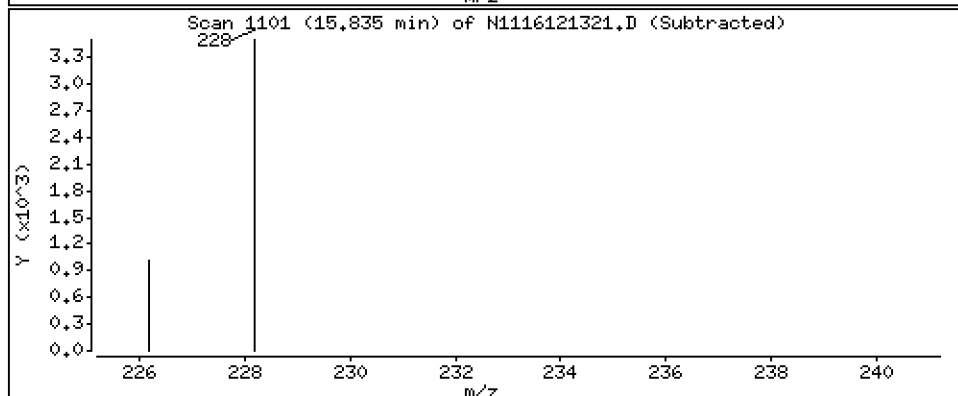
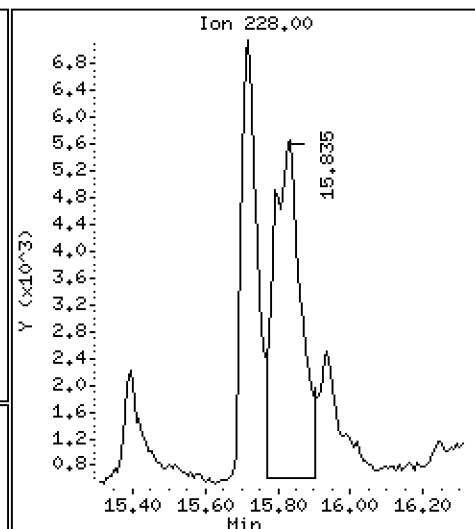
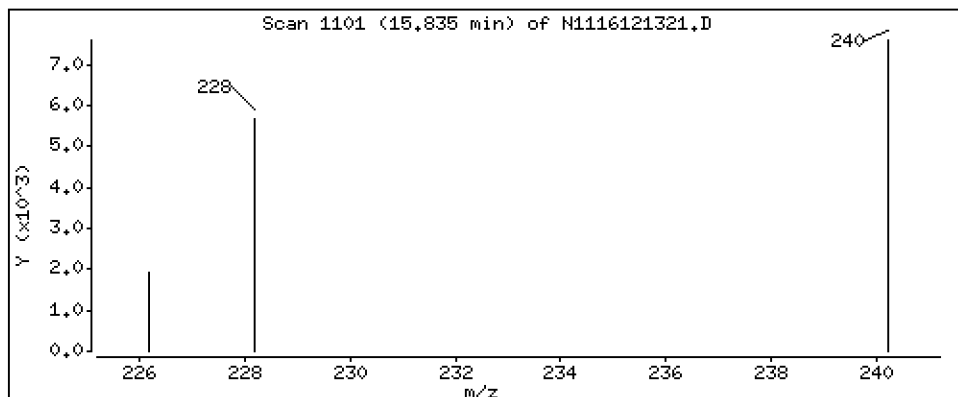
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 166 ng/mL



Date : 13-DEC-2016 22:00

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-06,10

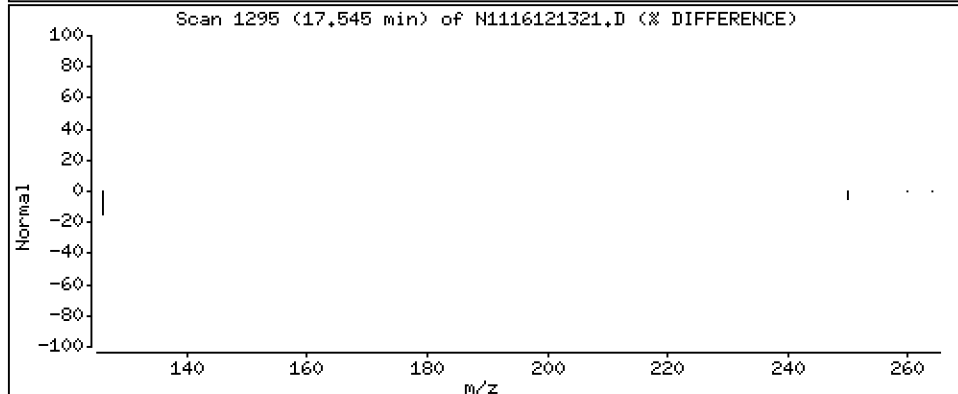
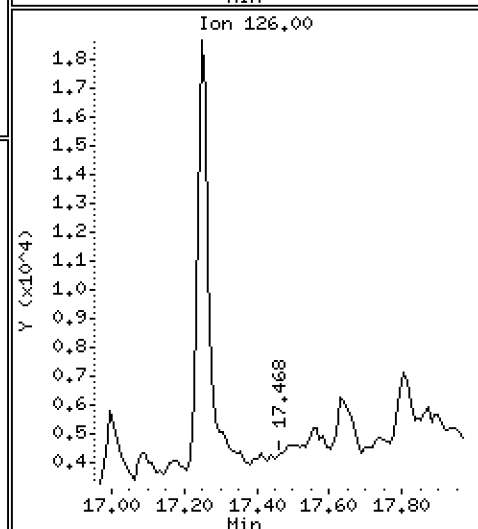
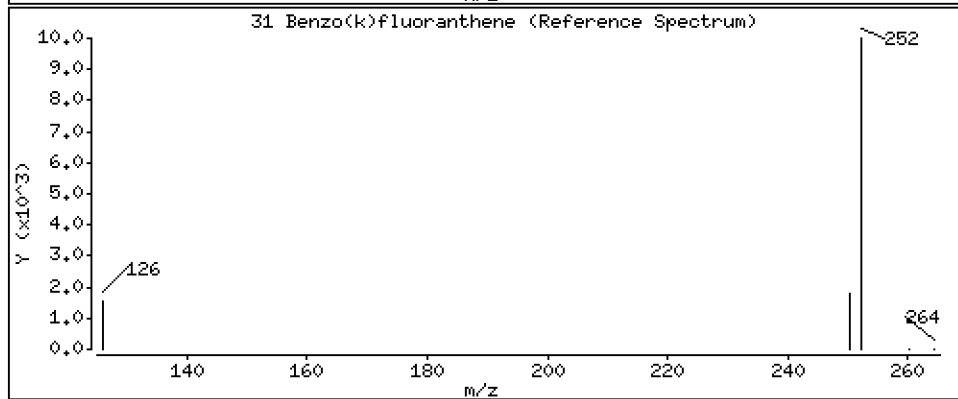
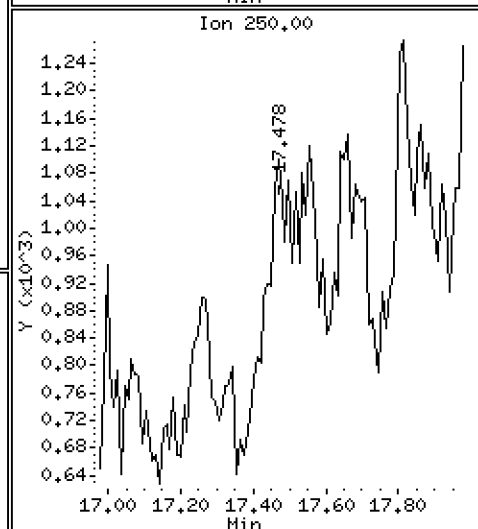
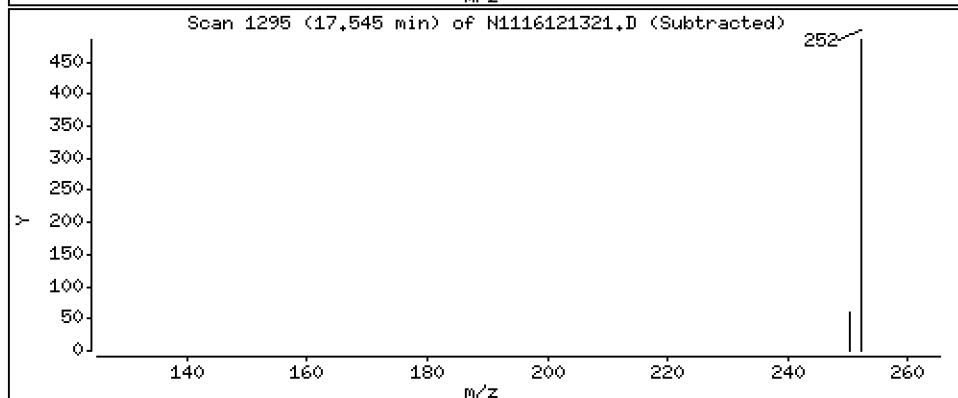
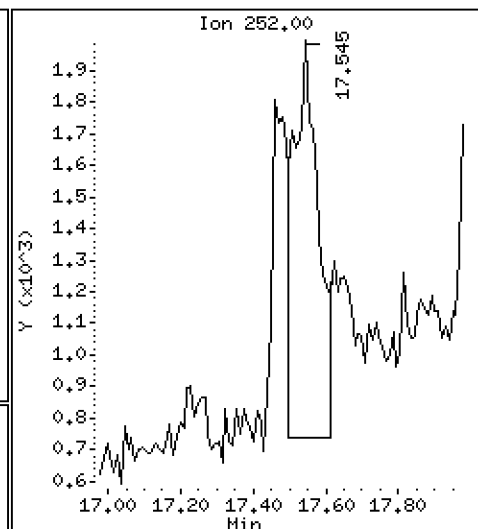
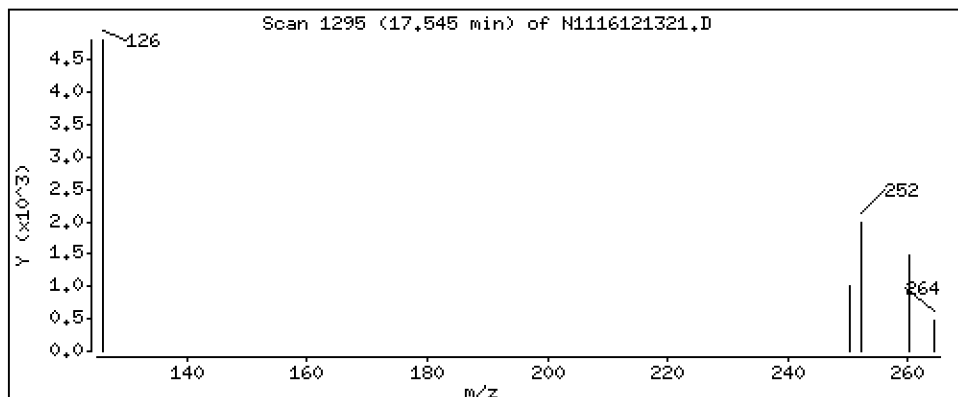
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 39,3 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121321.D
 Lab Smp Id: 16K0321-06
 Inj Date : 13-DEC-2016 22:00 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-06,10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 16
 Dil Factor: 10.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.565	5.556	(1.000)	293444	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.568	6.516	(1.180)	12251	11.0738	111
5 2-Methylnaphthalene	142		6.610	6.568	(1.188)	8717	6.88167	68.8 (M)
6 1-Methylnaphthalene	142		6.820	6.810	(1.226)	13167	10.5983	106
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		7.524	7.493	(0.887)	13026	9.83750	98.4
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.484	8.483	(1.000)	165196	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	67731	64.6830	647
13 Dibenzofuran	168		8.814	8.763	(1.039)	32531	21.8611	219
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	2679	2.89590	29.0 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.383	9.370	(1.106)	78094	67.9280	679
17 Dibenzothiophene	184		11.026	10.932	(0.991)	19008	13.6231	136
* 18 Phenanthrene-d10	188		11.121	11.110	(1.000)	282288	200.000	
19 Phenanthrene	178		11.142	11.142	(1.002)	580822	342.539	3430 (M)
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.226	11.205	(1.009)	133120	83.4300	834 (M)
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.144	12.135	(1.092)	44871	30.0324	300
\$ 24 Fluoranthene-d10	212		13.181	13.161	(1.185)	27022	21.4447	214
25 Fluoranthene	202		13.200	13.190	(1.187)	482029	292.973	2930
26 Pyrene	202		13.671	13.670	(0.867)	334890	202.395	2020
27 Benzo(a)anthracene	228		15.719	15.677	(0.997)	20264	14.1528	142
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	254313	200.000	
29 Chrysene	228		15.835	15.810	(1.004)	26424	16.6391	166 (M)
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		17.545	17.478	(0.964)	6216	3.93208	39.3 (M)
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		17.948	17.939	(0.986)	6349	5.14734	51.5 (M)
34 Benzo(e)pyrene	252		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ng/mL)	(ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
35 Benzo(a)pyrene	252					Compound Not Detected.		
* 36 Perylene-d12	264		18.198	18.198	(1.000)	255954	200.000	
37 Perylene	252					Compound Not Detected.		
\$ 38 Dibenzo(a,h)anthracene-d14	292		19.936	19.891	(1.095)	14225	16.5919	166
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121321.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-06
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	293444	-40.54
11 Acenaphthene-d10	240770	120385	481540	165196	-31.39
18 Phenanthrene-d10	429271	214636	858542	282288	-34.24
28 Chrysene-d12	387691	193846	775382	254313	-34.40
36 Perylene-d12	386259	193130	772518	255954	-33.74

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.16
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.12	0.10
28 Chrysene-d12	15.77	15.27	16.27	15.77	0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	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 - N1116121321.D

Lab ID: 16K0321-06
nt11.i, 20161213.b\lowsim.m, 13-DEC-2016 22:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

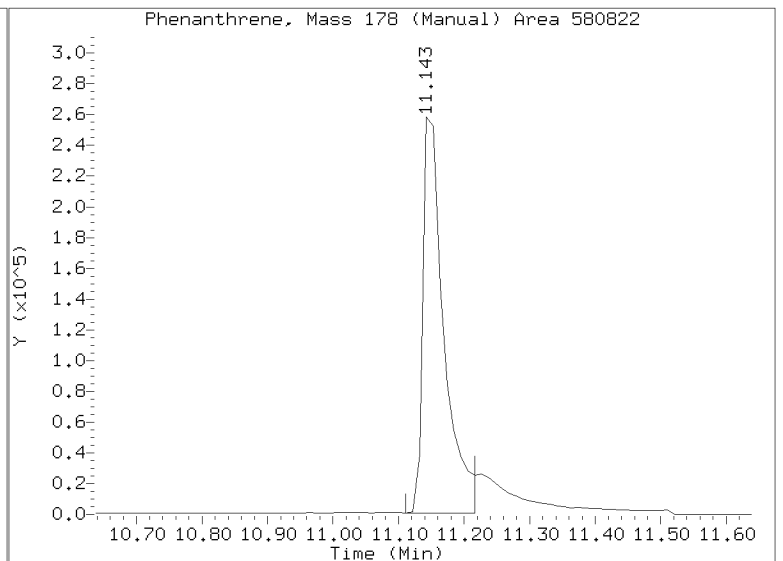
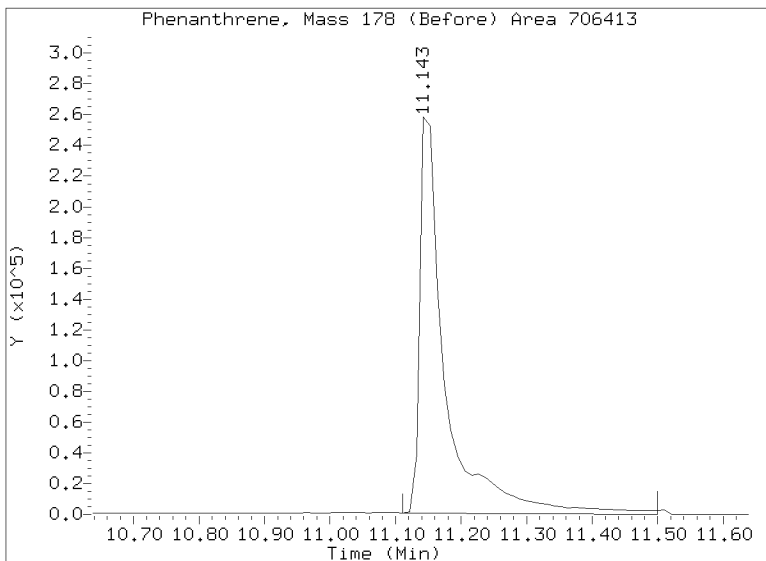
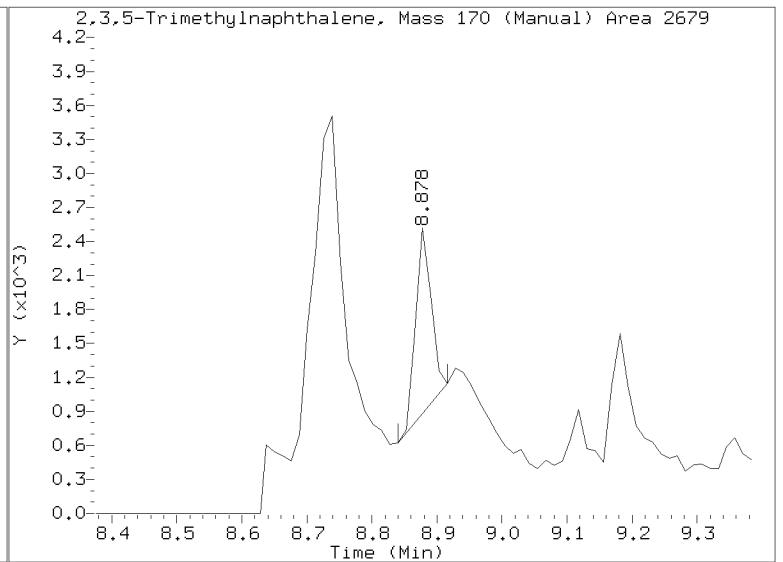
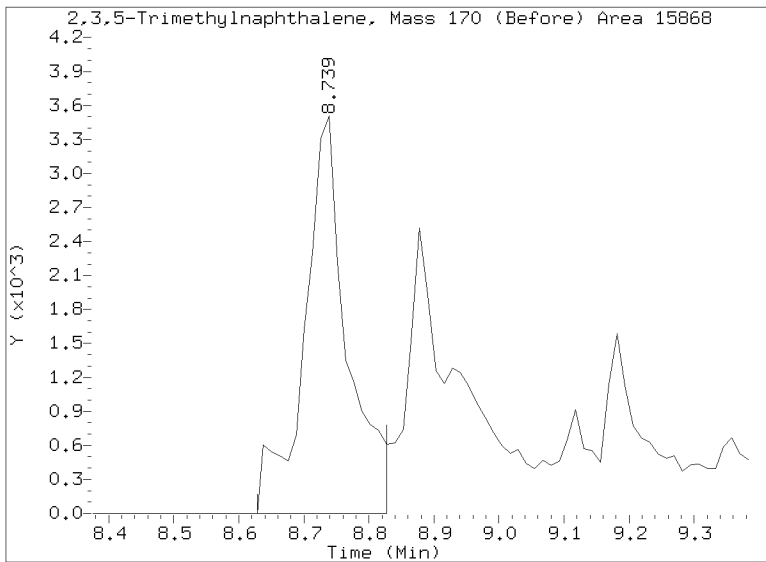
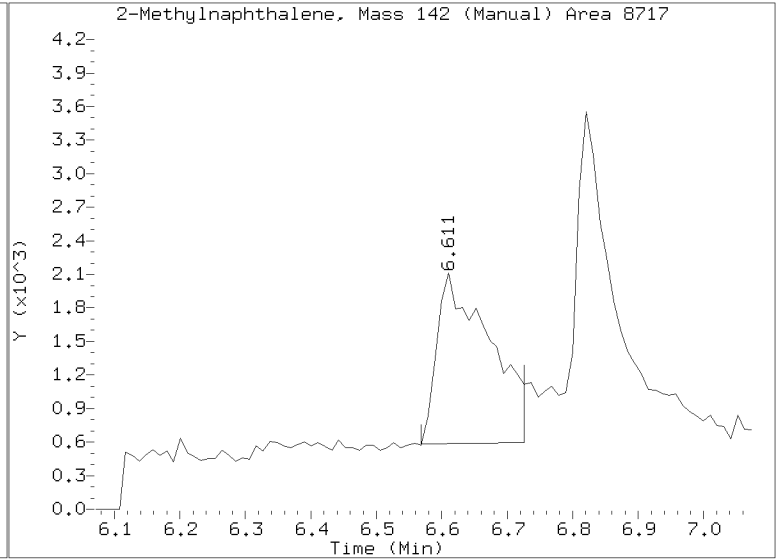
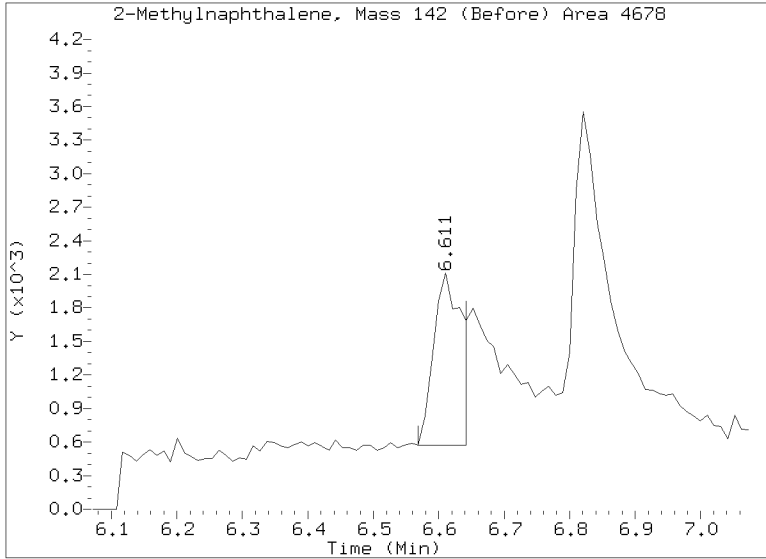
NONE

On Column LOD for nt11.i, 20161213.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

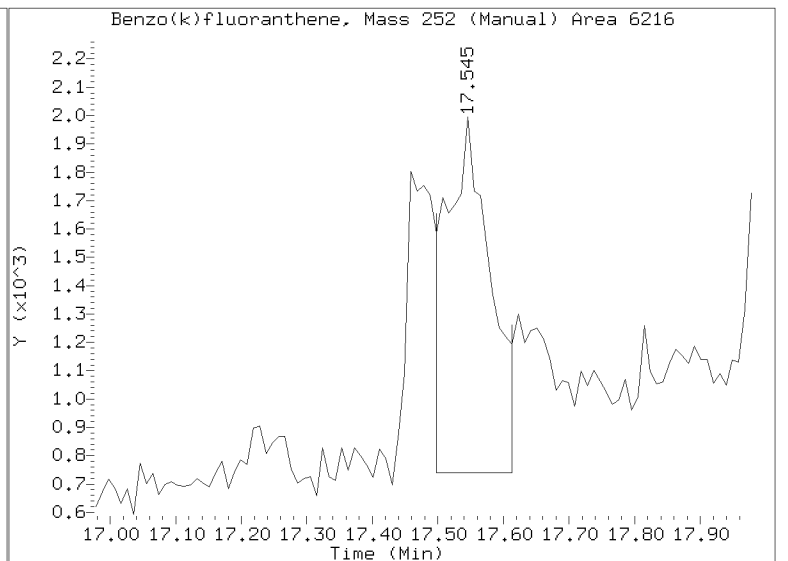
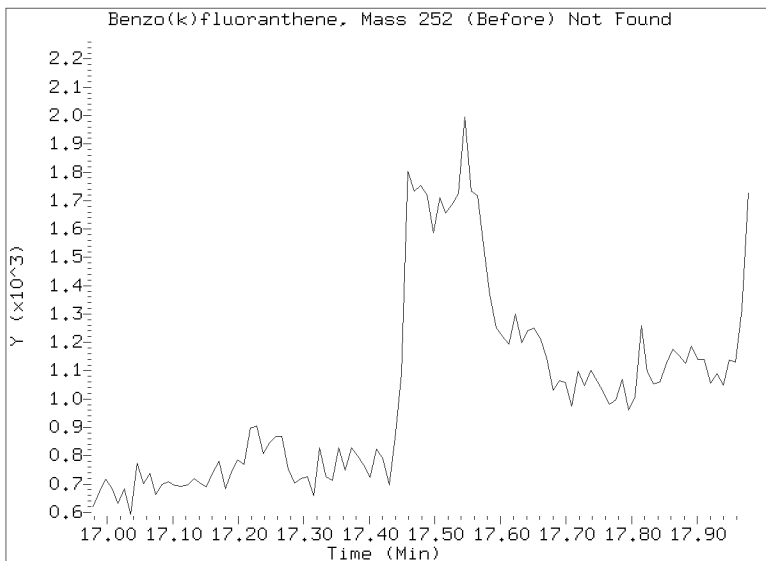
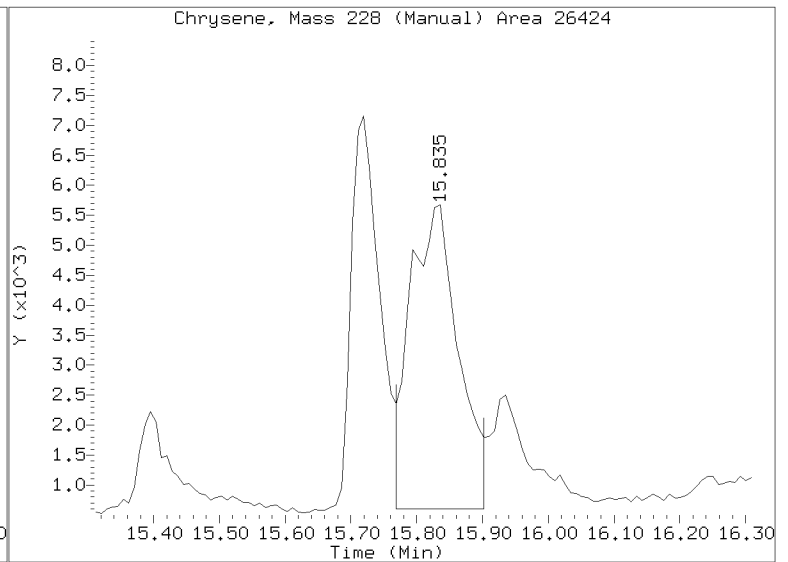
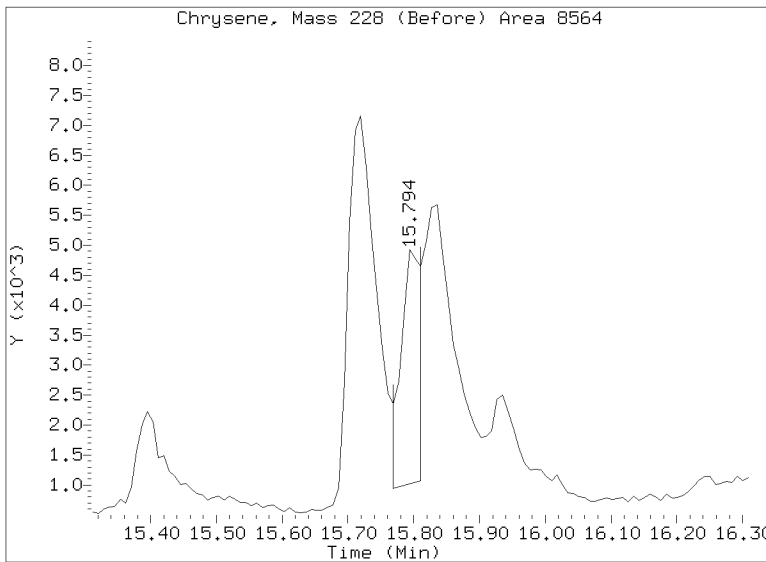
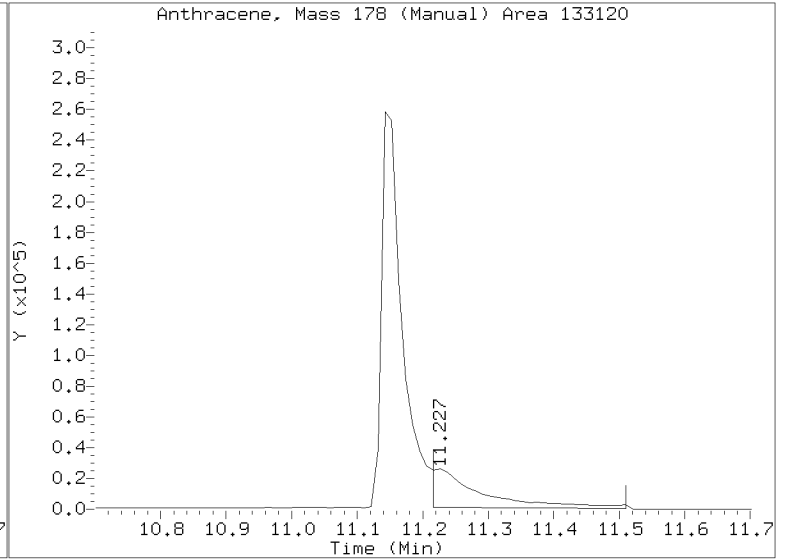
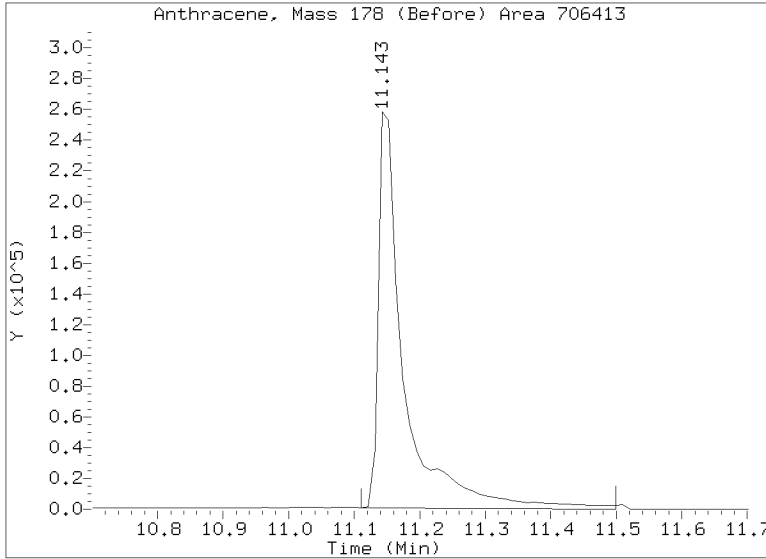
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121321.D
Injection Date: 13-DEC-2016 22:00
Lab ID:16K0321-06 Client ID:
Report Date: 12/16/2016 07:49



Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121321.D
Injection Date: 13-DEC-2016 22:00
Lab ID:16K0321-06 Client ID:
Report Date: 12/16/2016 07:49



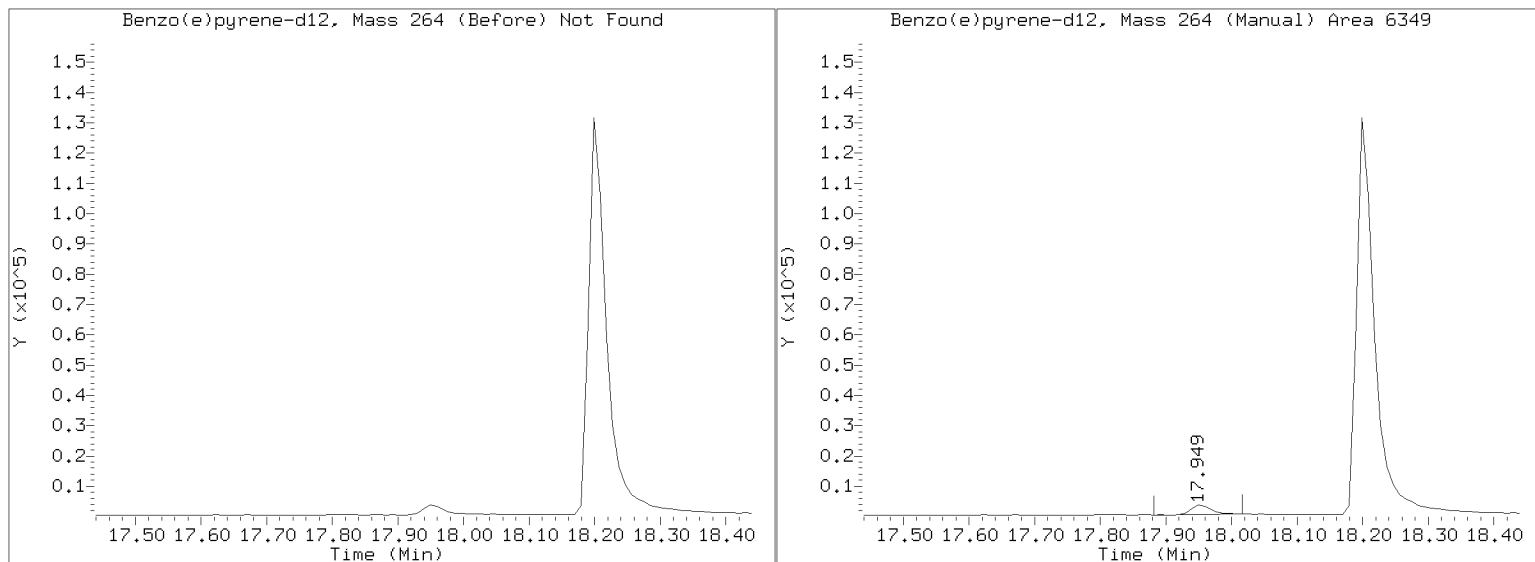
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121321.D

Injection Date: 13-DEC-2016 22:00

Lab ID:16K0321-06 Client ID:

Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-07 File ID: N1116121213.D
 Sampled: 11/22/16 10:53 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 14:28
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	9.58	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	14.6	B	1.13	1.13
208-96-8	Acenaphthylene	1	3.57		1.13	1.13
83-32-9	Acenaphthene	1	62.9		1.13	1.13
86-73-7	Fluorene	1	68.2		1.13	1.13
85-01-8	Phenanthrene	1	250	E	1.13	1.13
120-12-7	Anthracene	1	26.8		1.13	1.13
206-44-0	Fluoranthene	1	204	E	1.13	1.13
129-00-0	Pyrene	1	138	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	16.3		1.13	1.13
218-01-9	Chrysene	1	12.9		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	3.11		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.97		1.13	1.13
50-32-8	Benzo(a)pyrene	1	1.75		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	2.19		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	14.5	42.7	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	14.5	43.0	30 - 160	
Fluoranthene-d10	33.860	19.3	56.9	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	11.3	53.3	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121213.D

Date: 12-DEC-2016 14:28

Client ID:

Sample Info: 16K0321-07

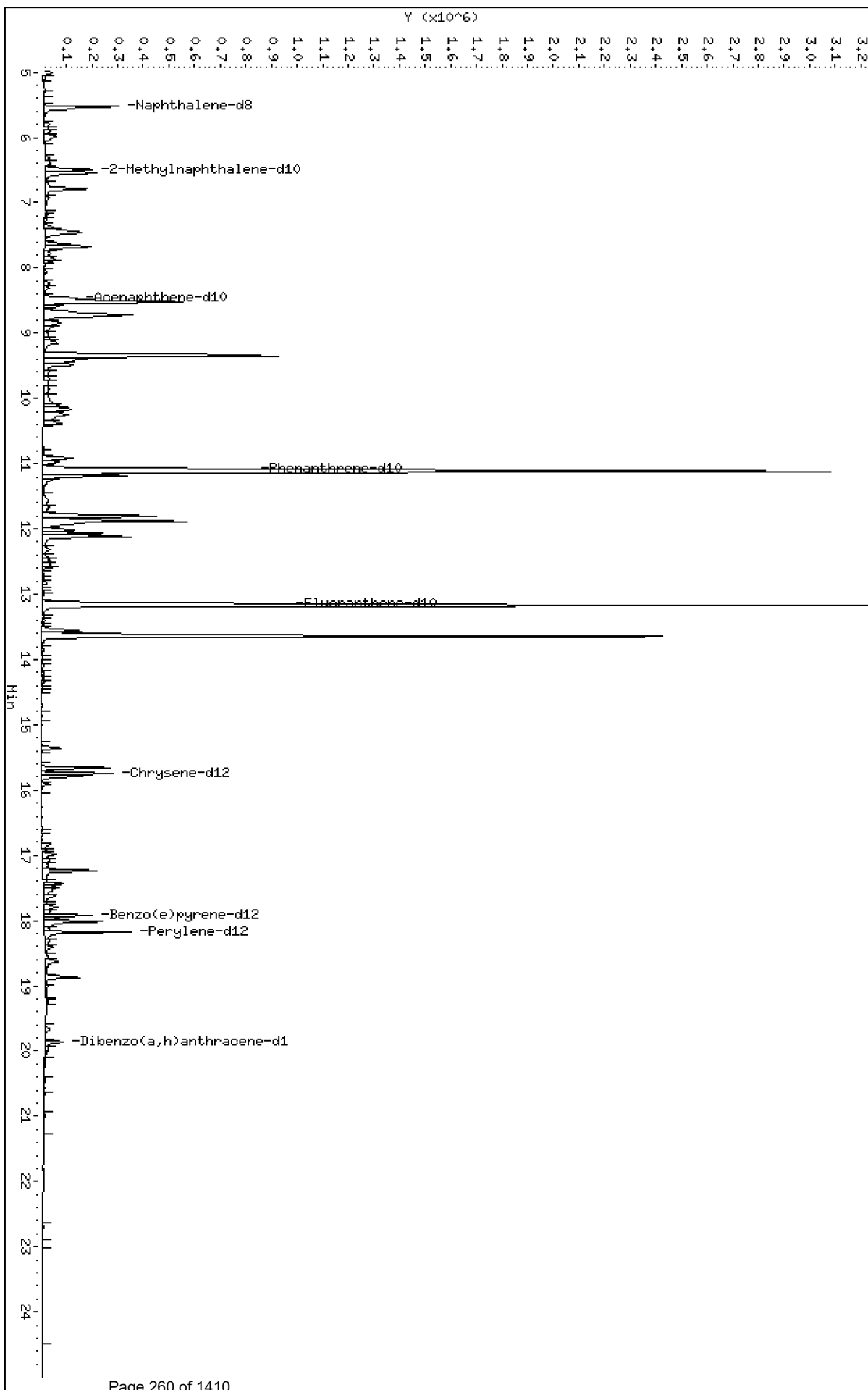
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

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Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

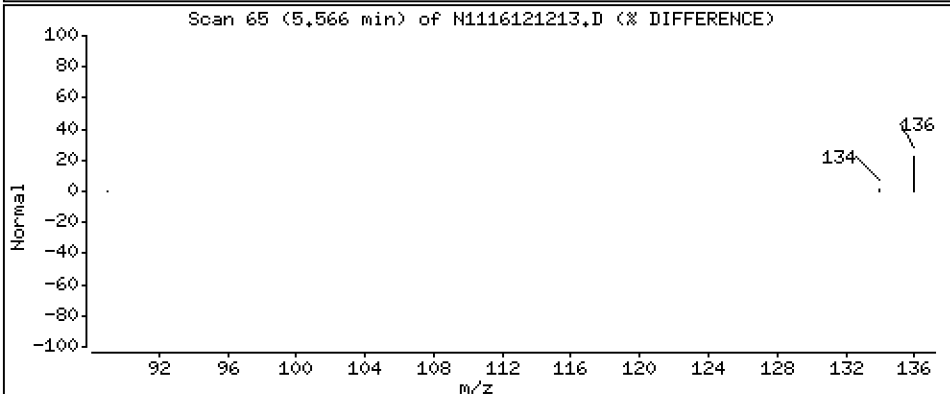
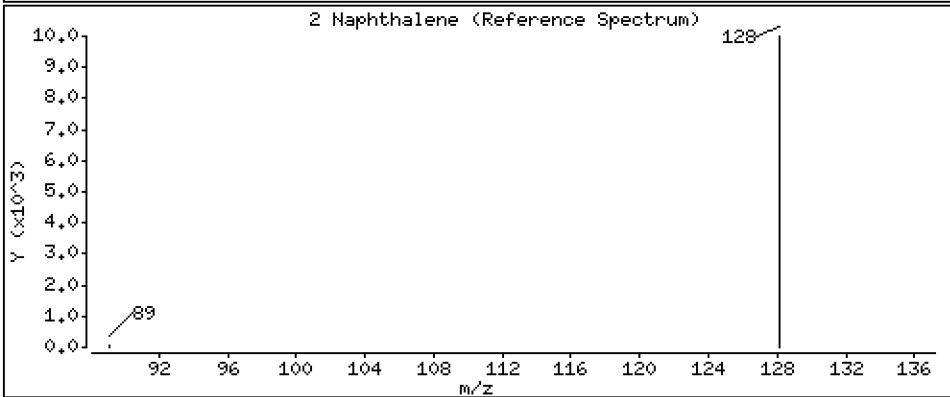
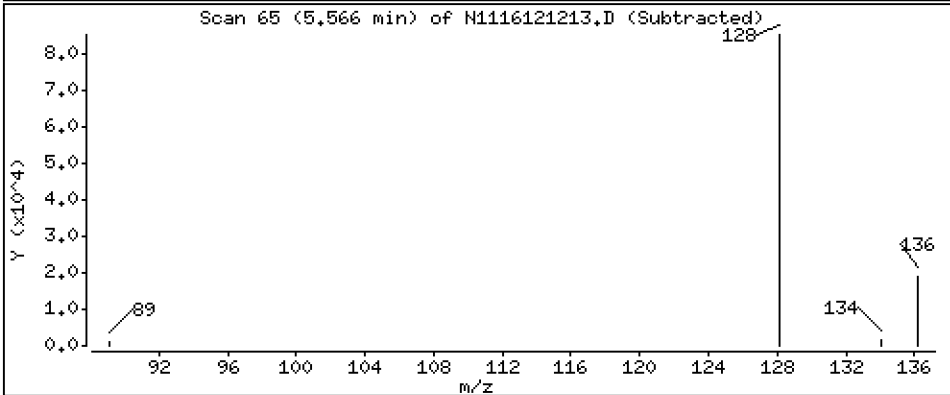
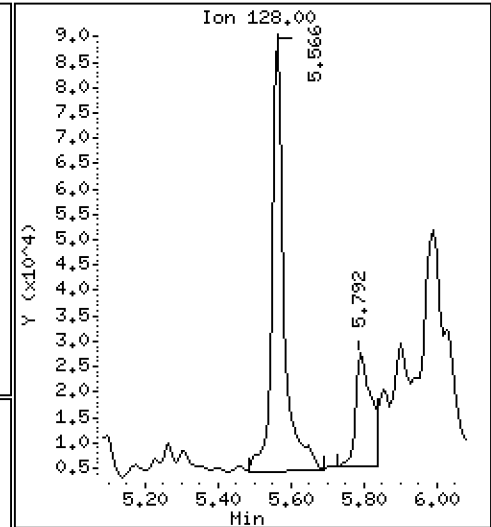
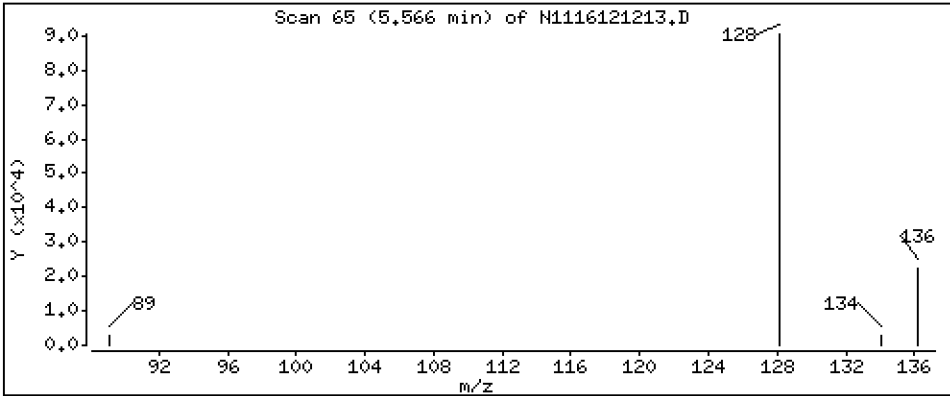
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 84,8 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

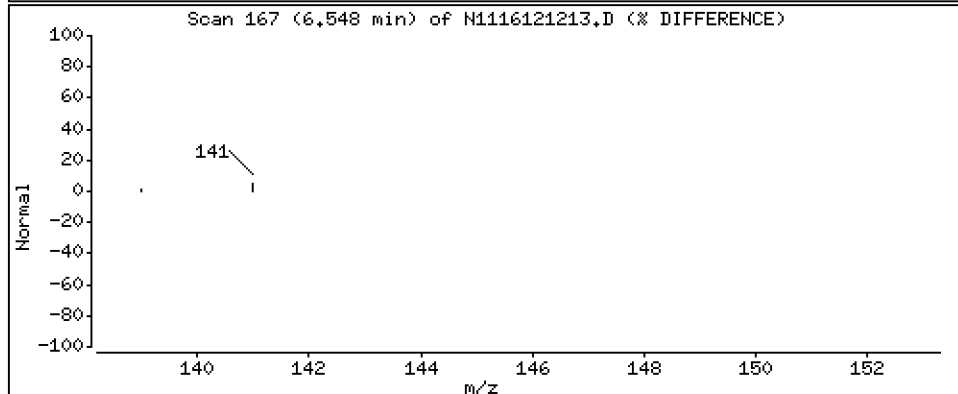
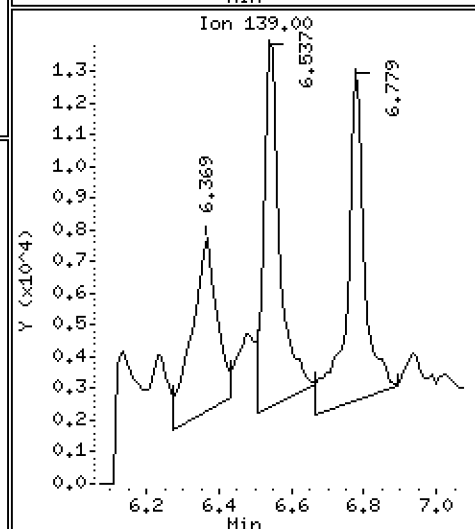
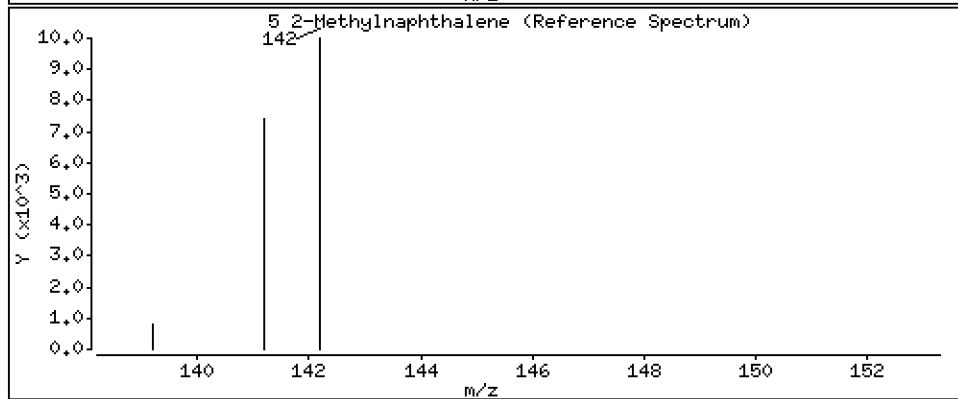
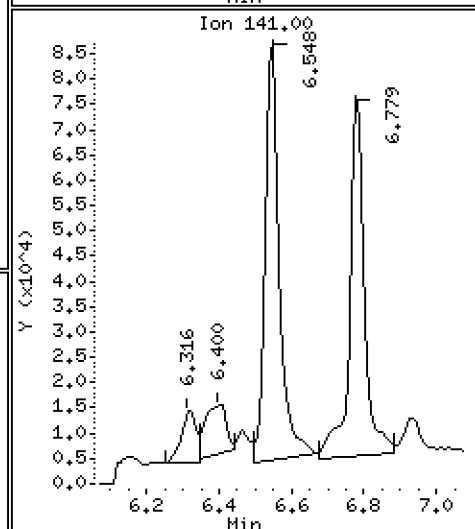
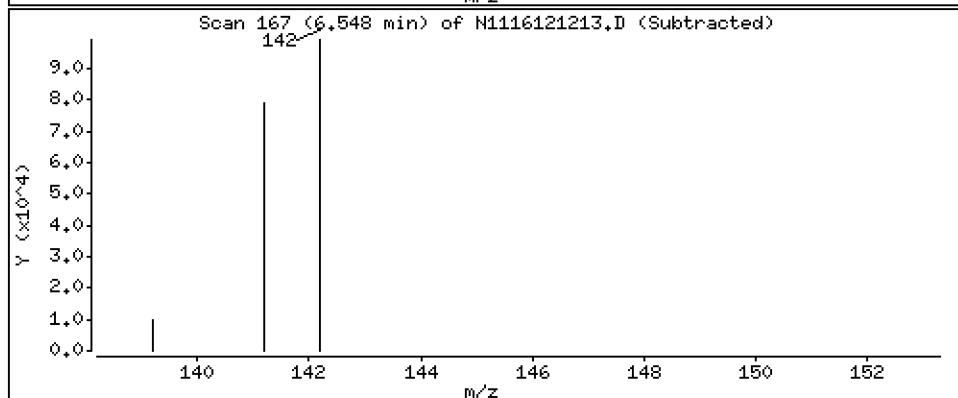
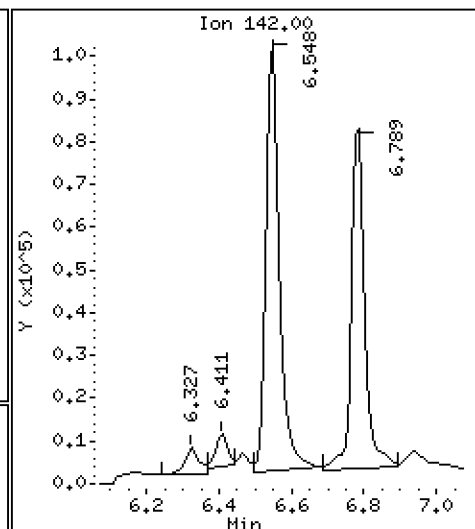
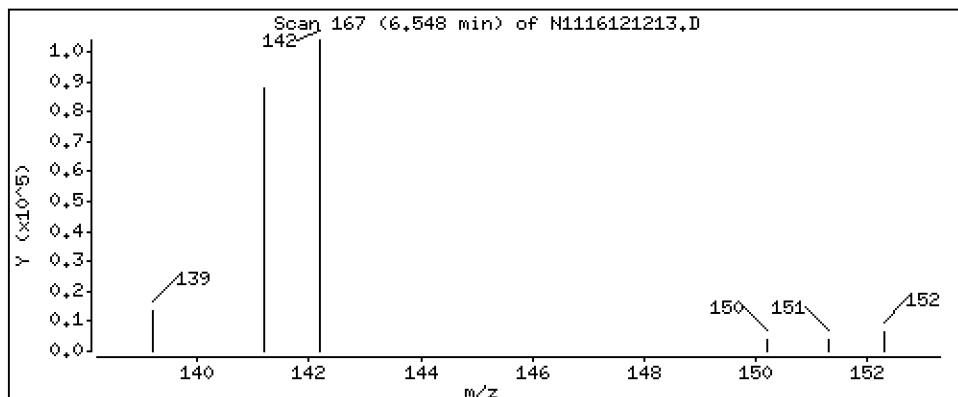
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 2-Methylnaphthalene

Concentration: 129 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

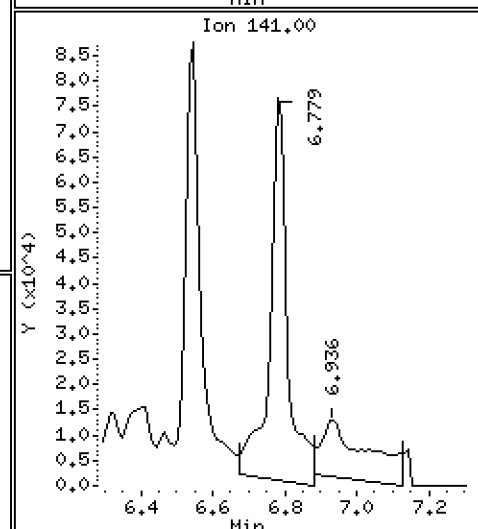
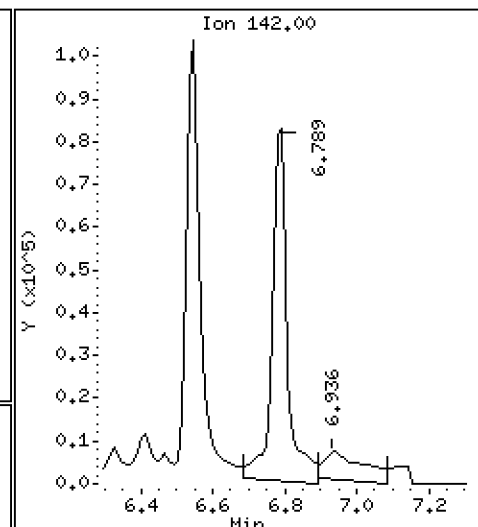
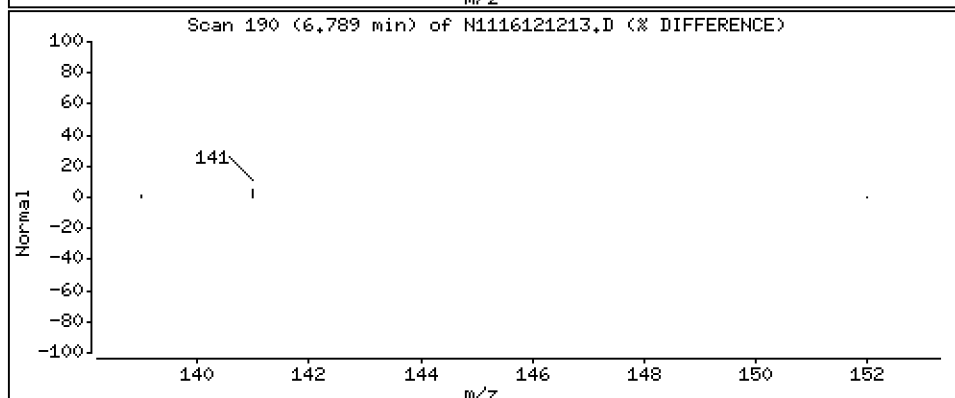
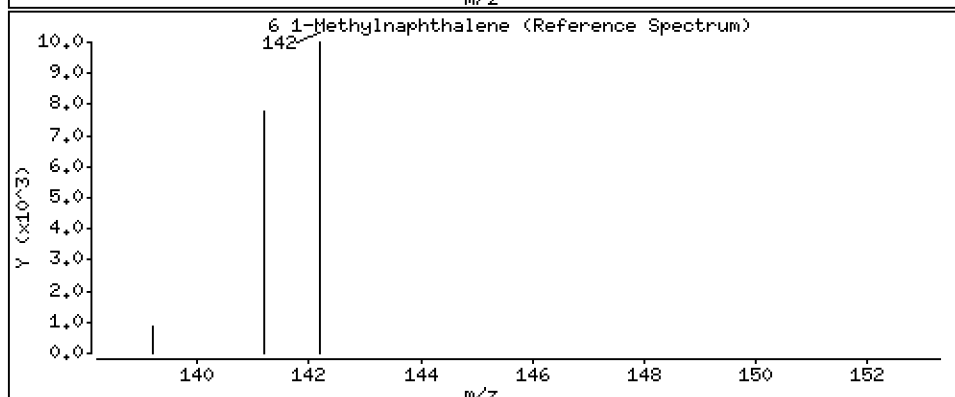
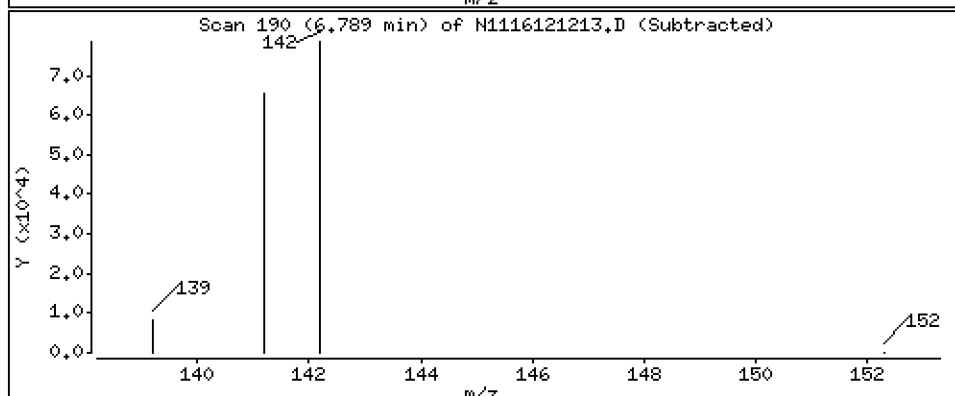
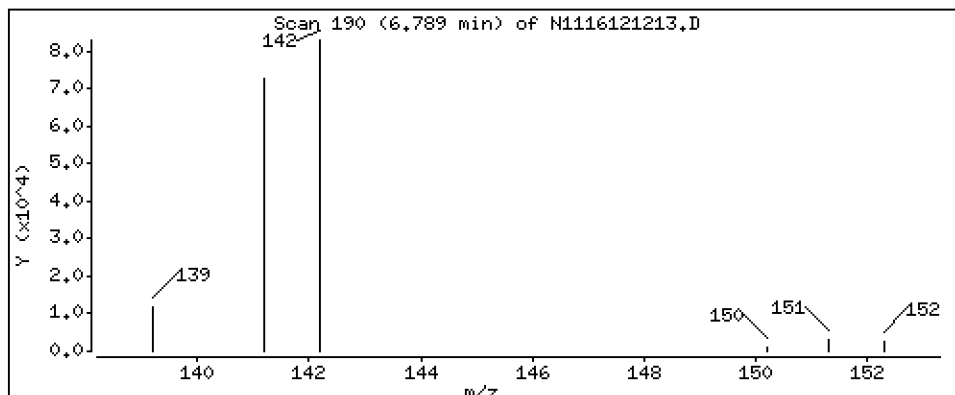
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 130 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

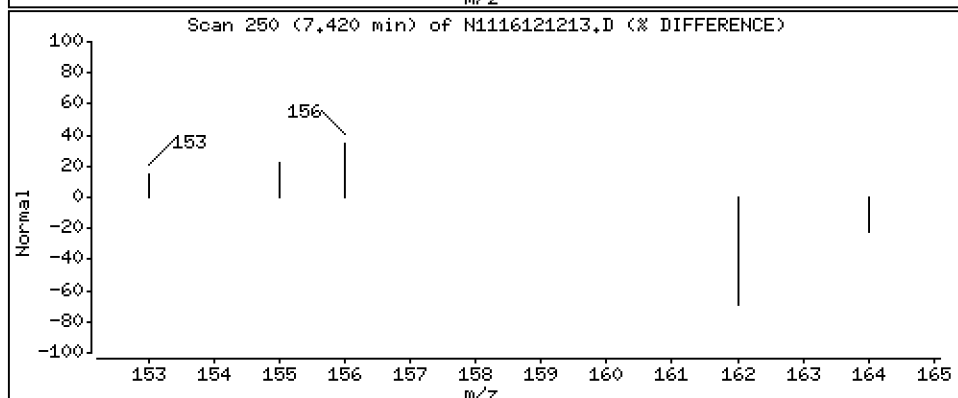
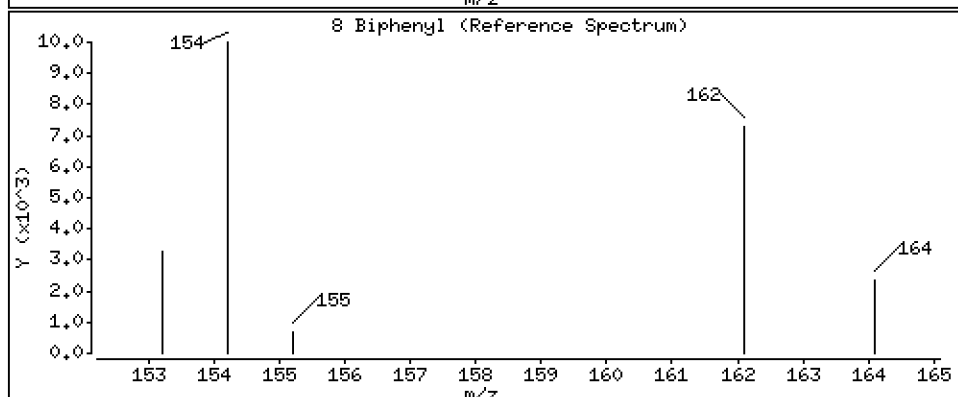
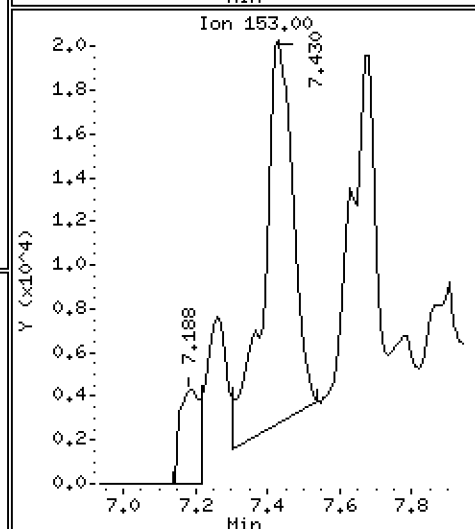
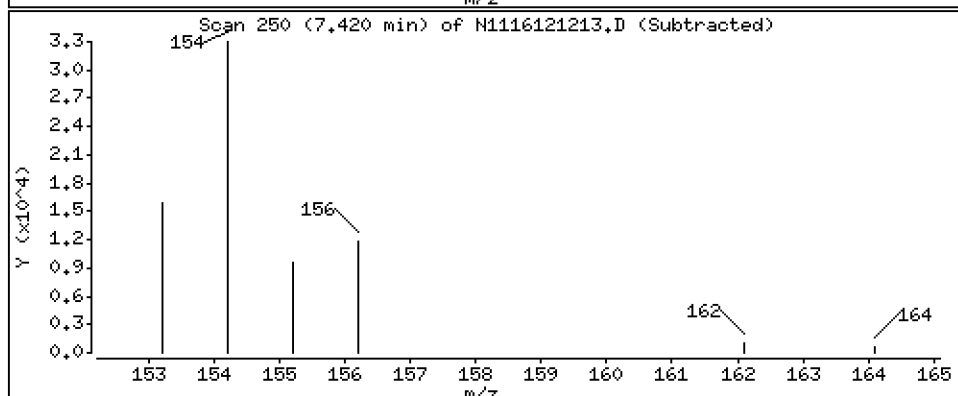
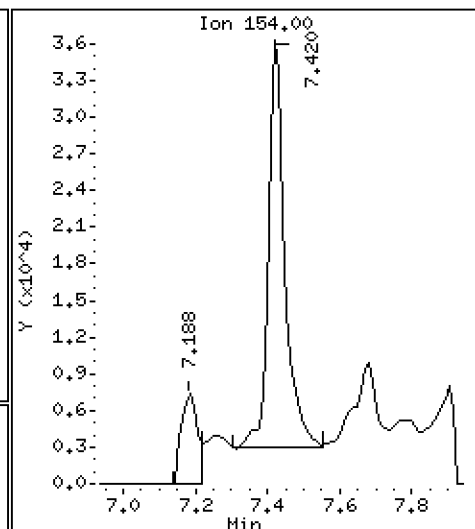
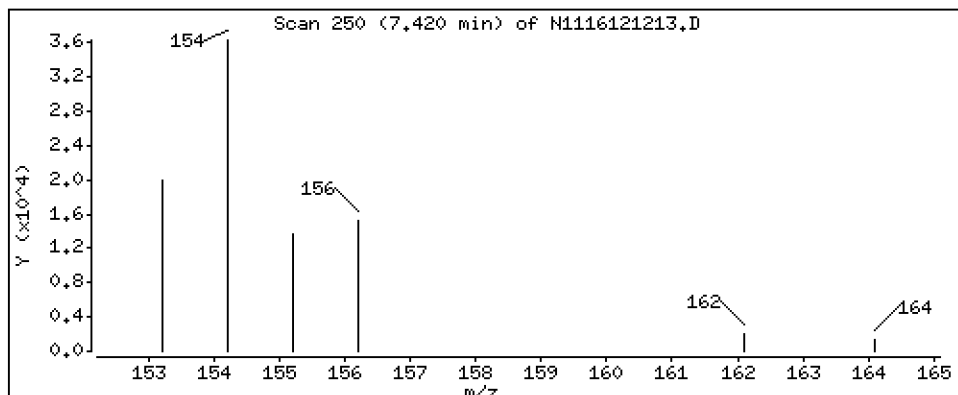
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 34,9 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

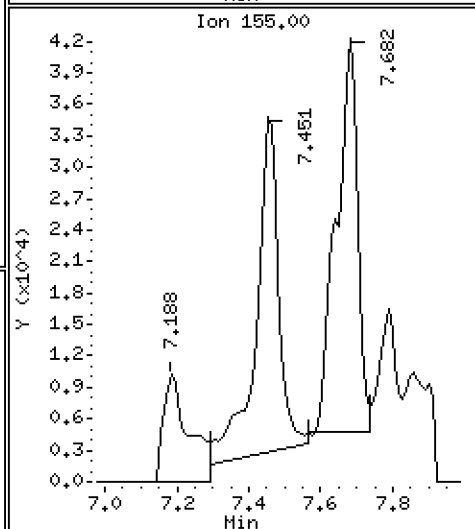
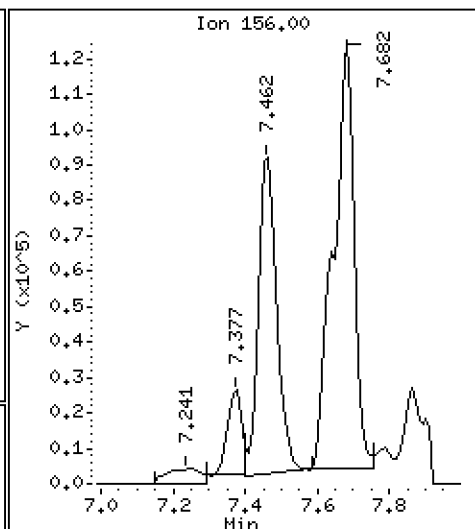
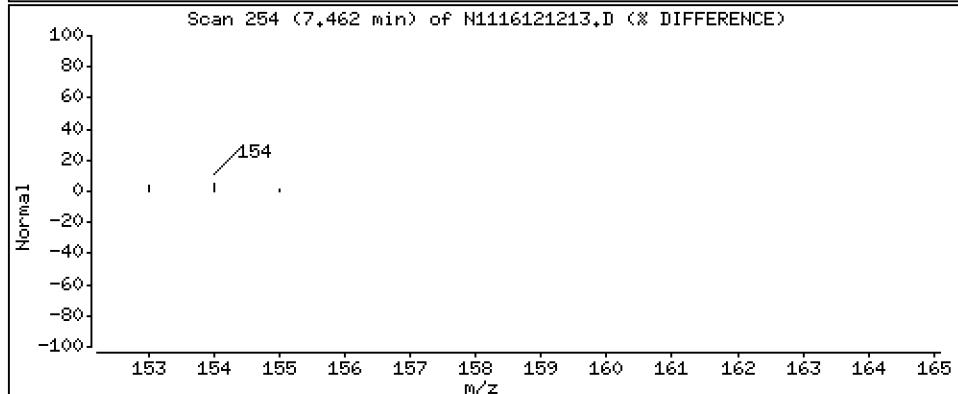
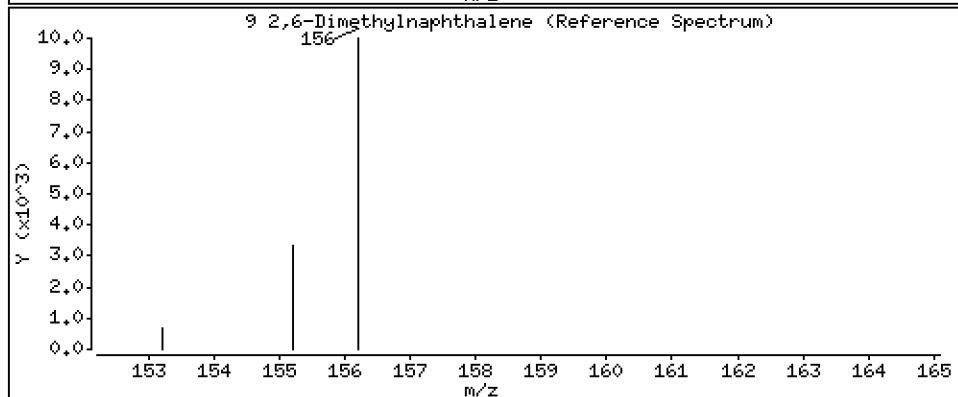
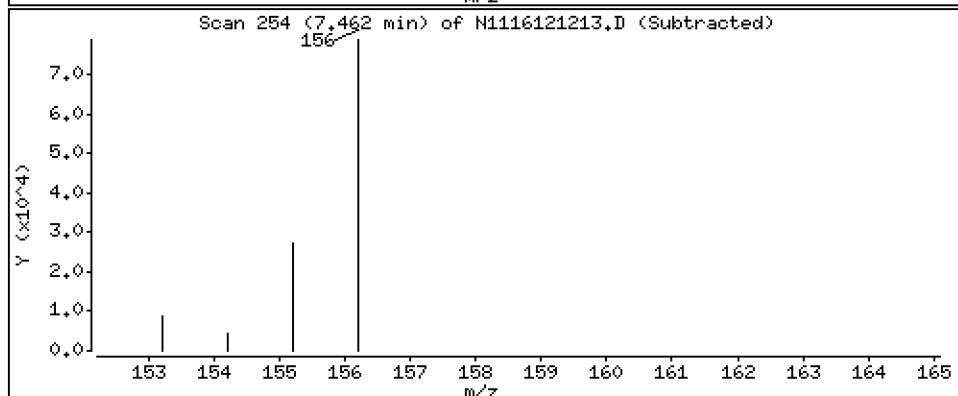
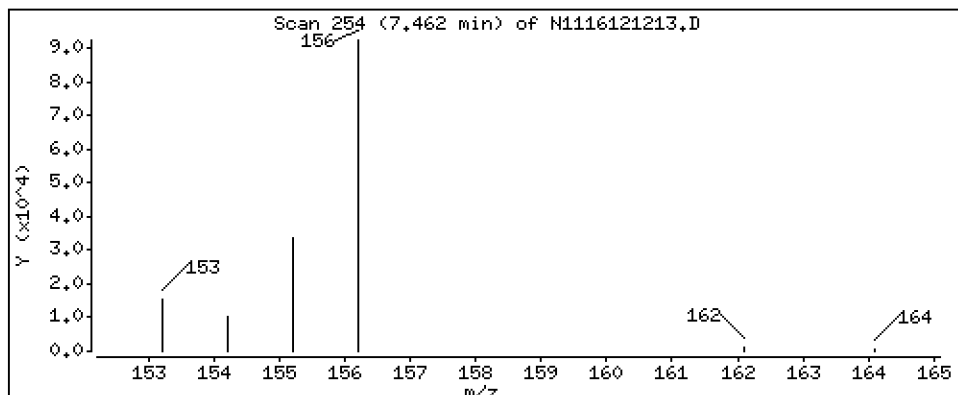
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 149 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

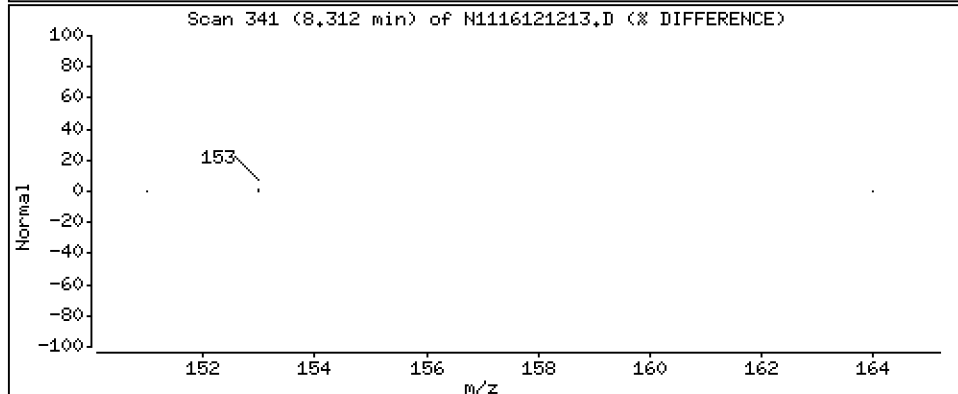
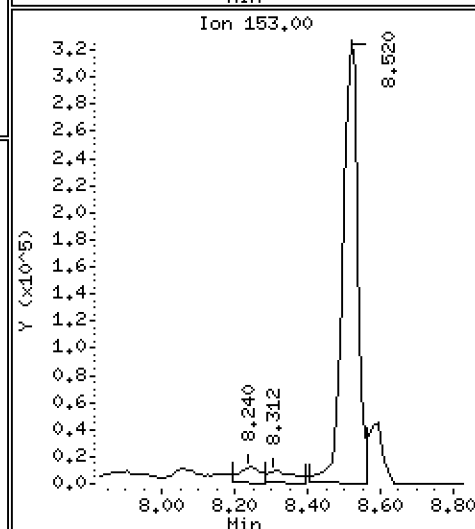
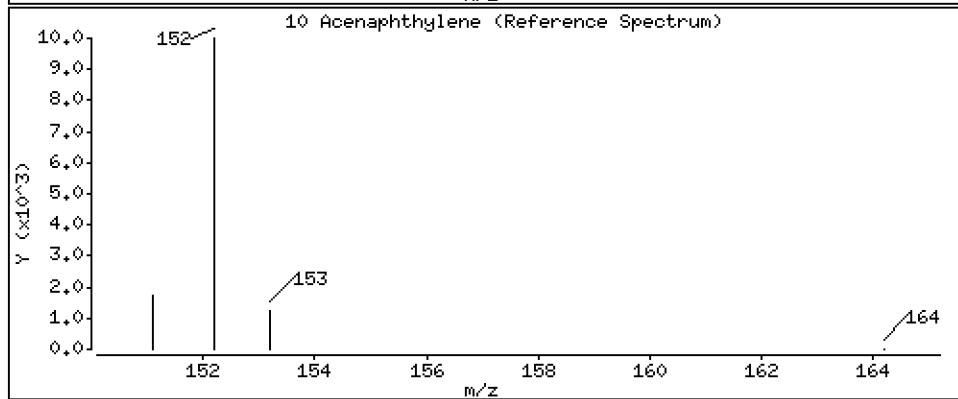
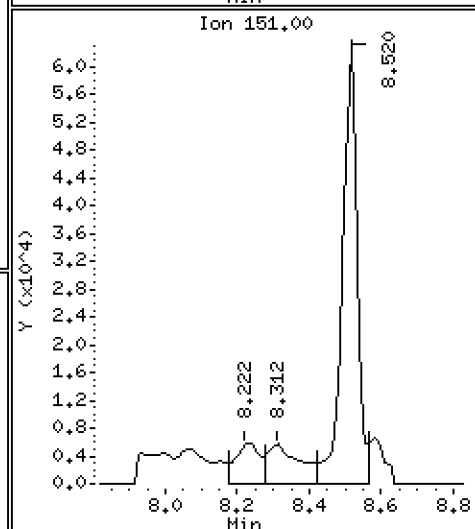
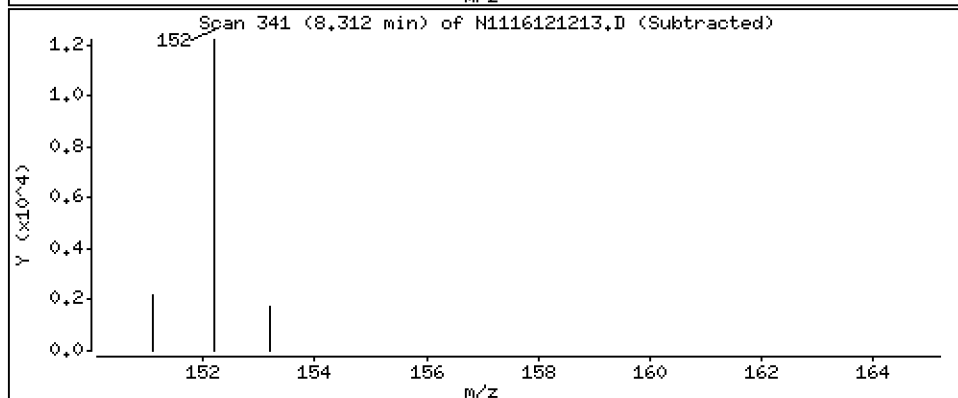
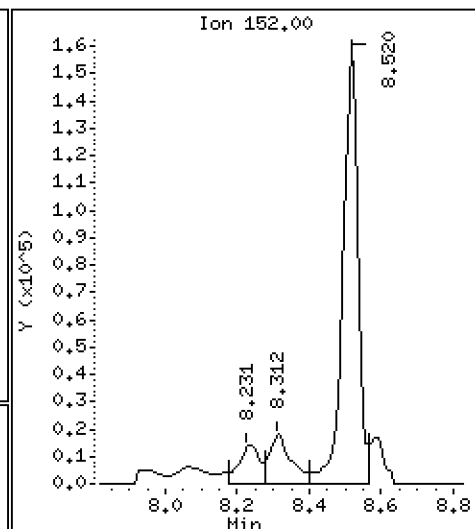
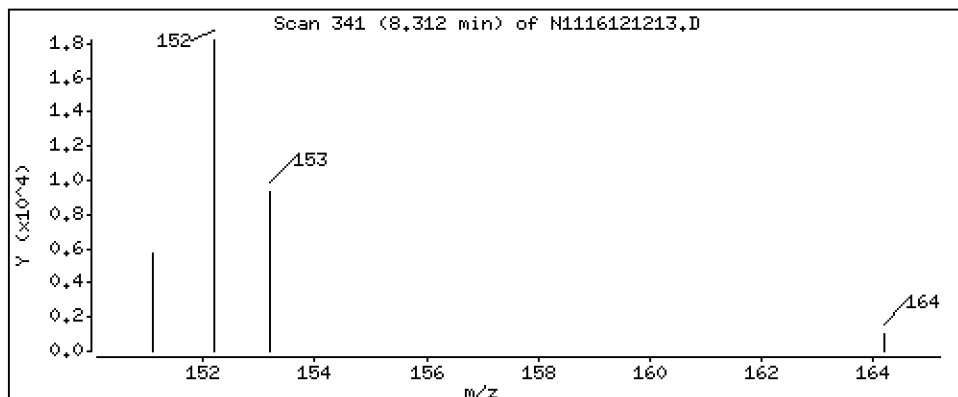
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 31,6 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

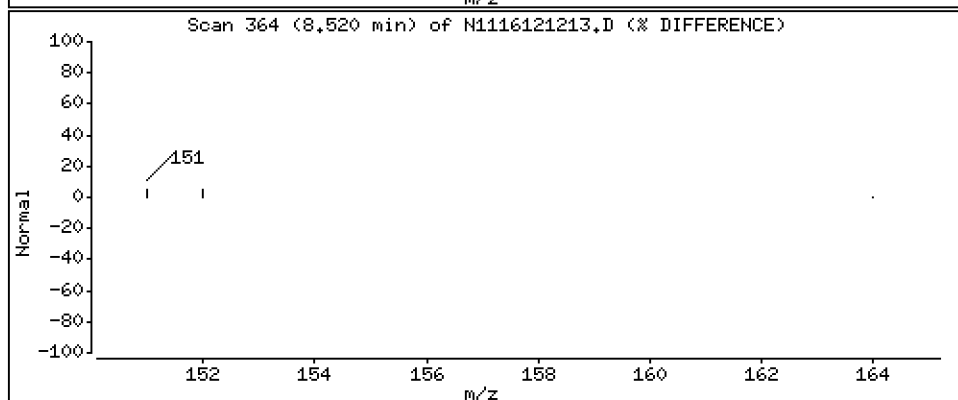
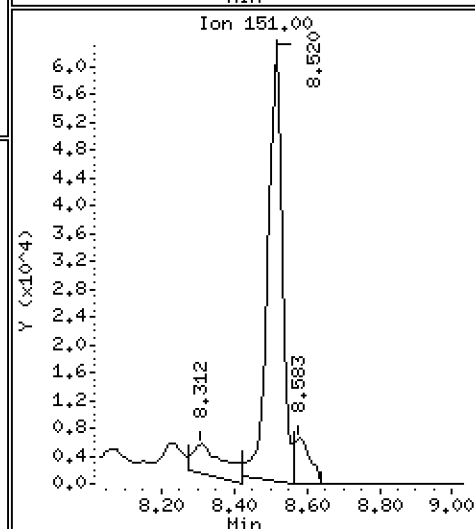
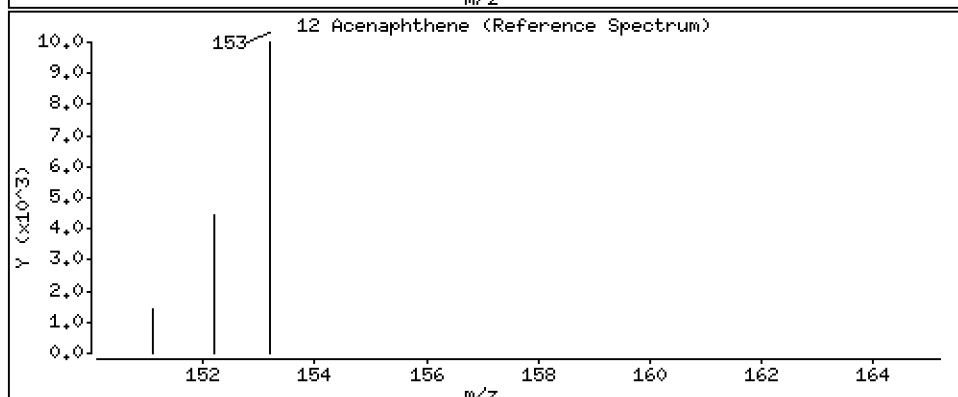
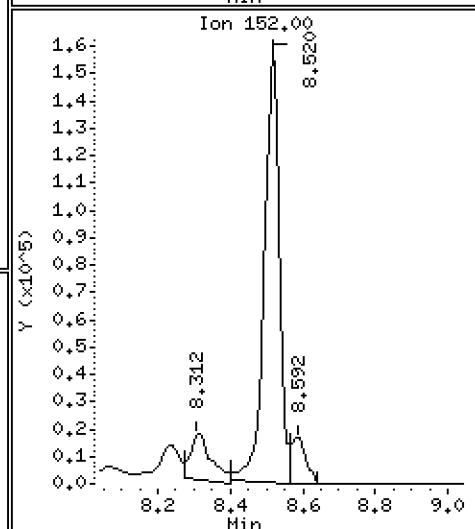
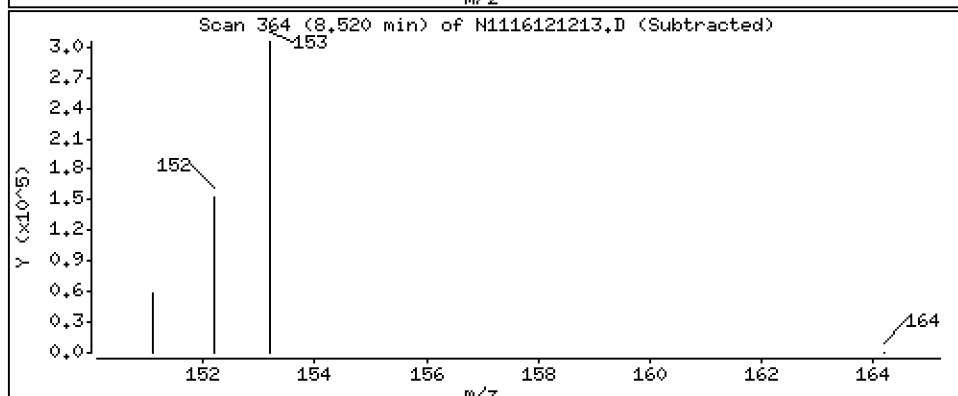
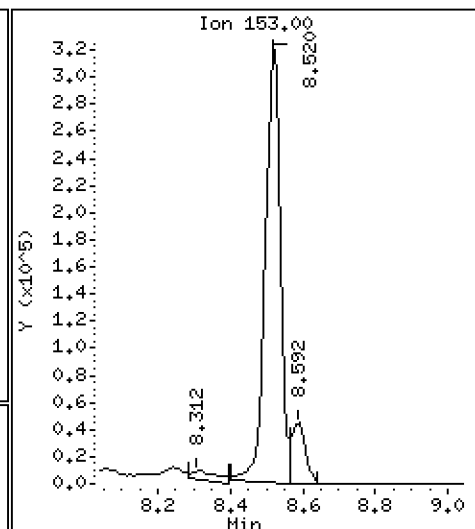
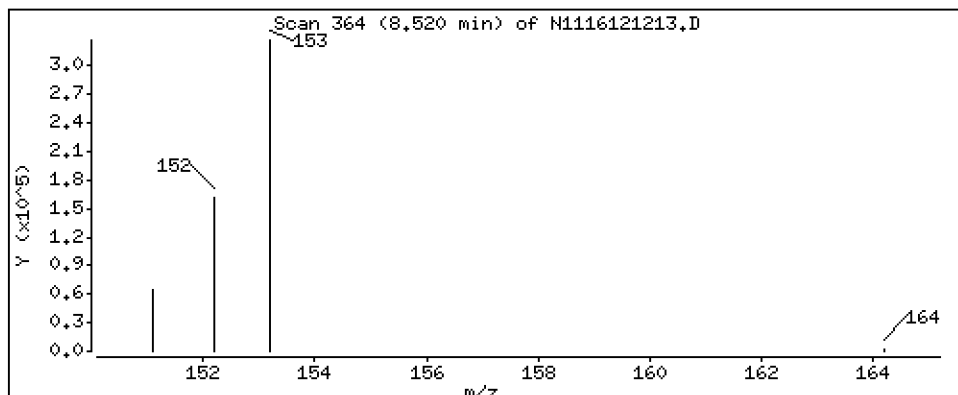
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 557 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

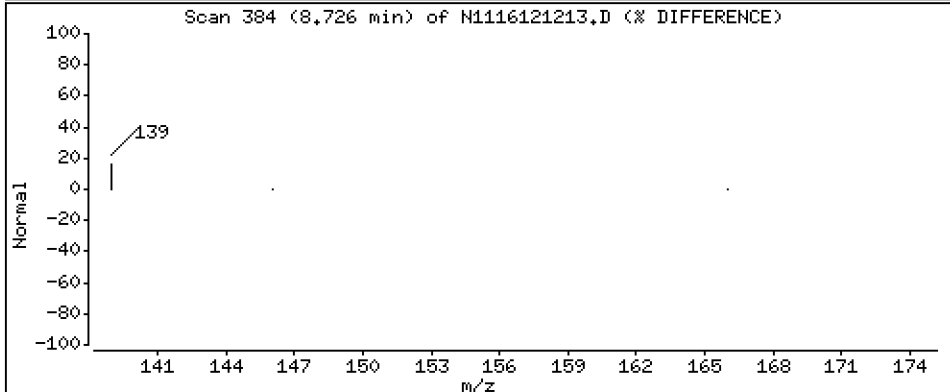
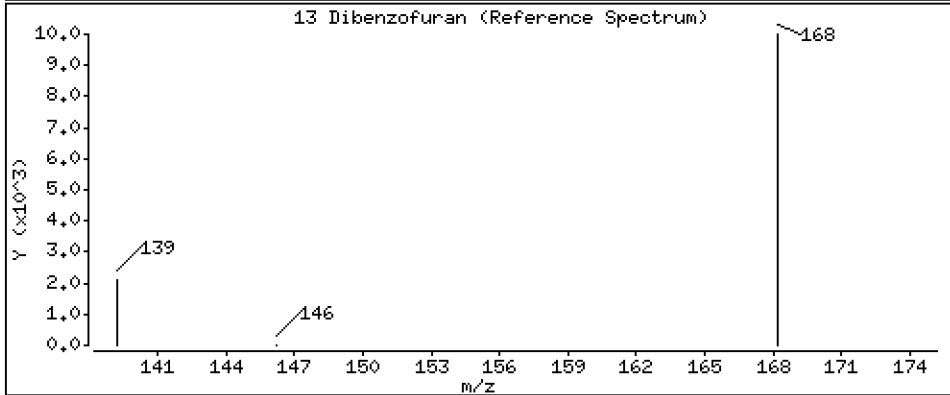
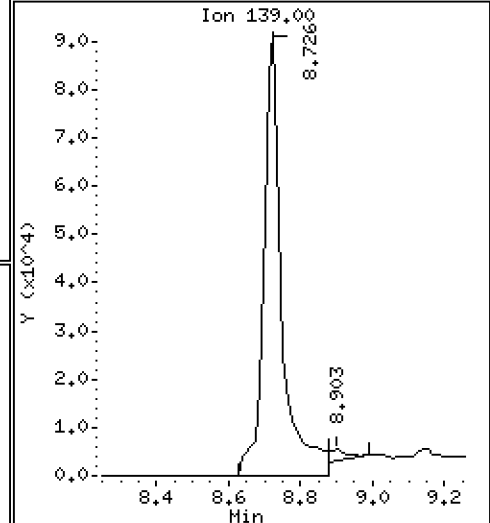
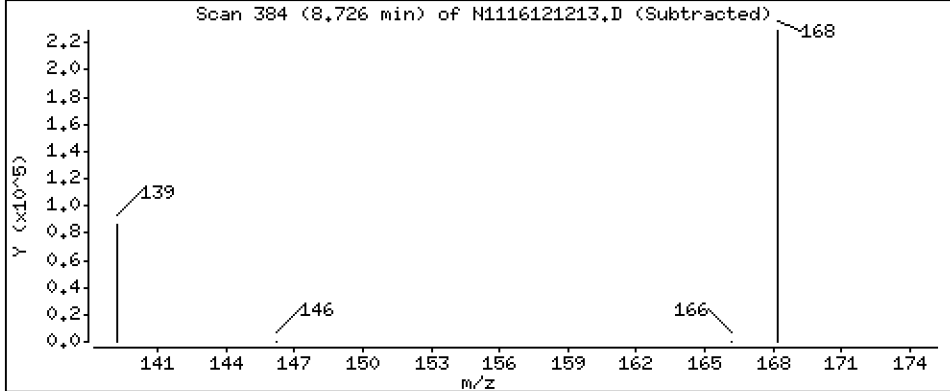
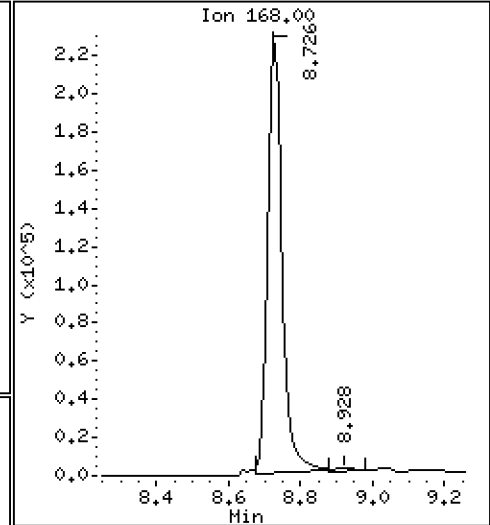
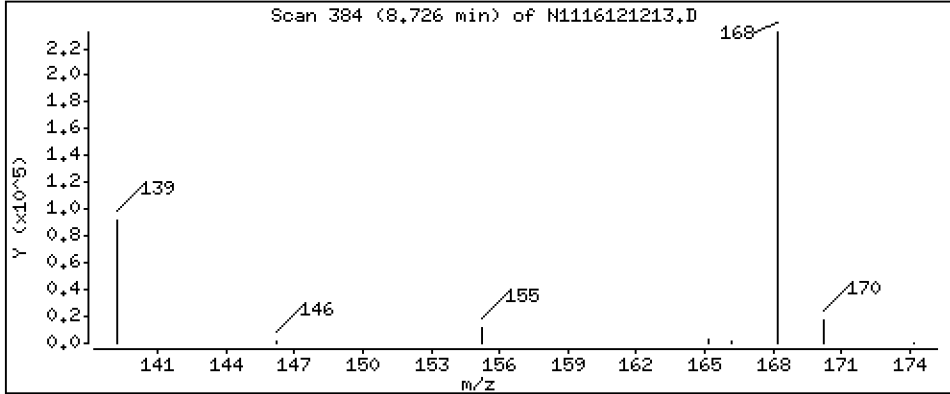
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 269 ng/mL

13 Dibenzofuran



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

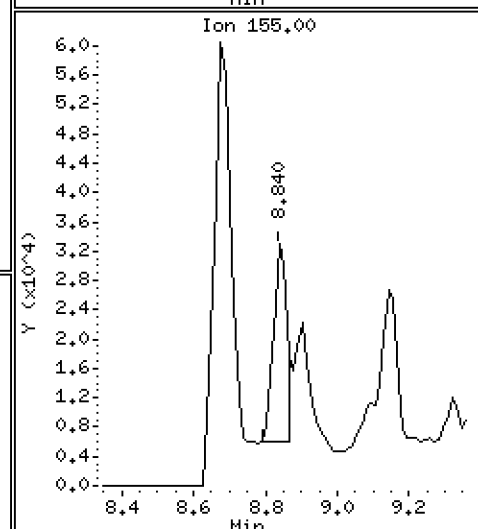
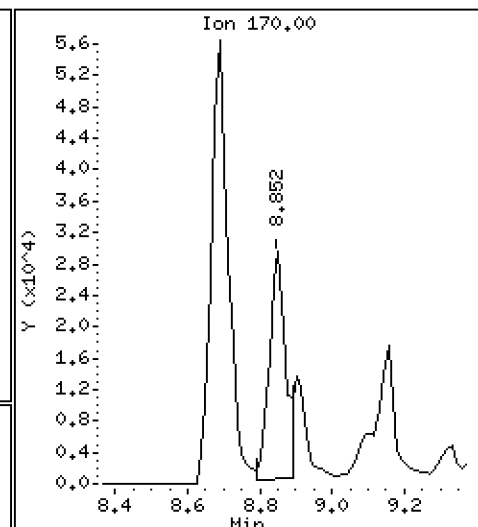
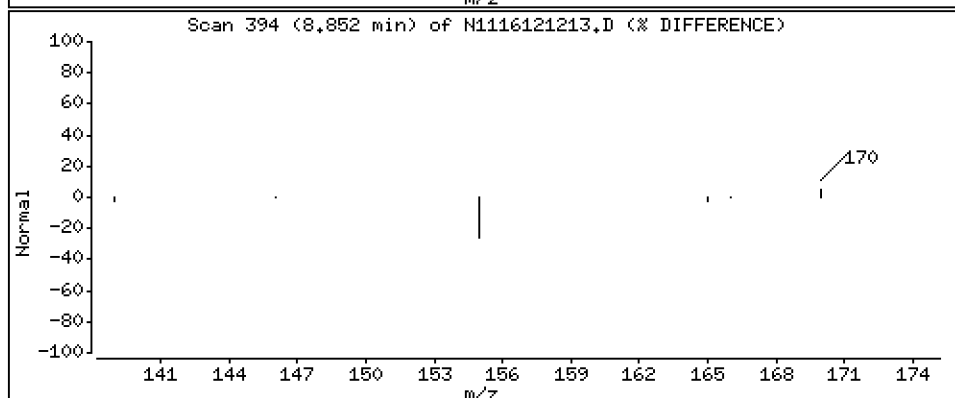
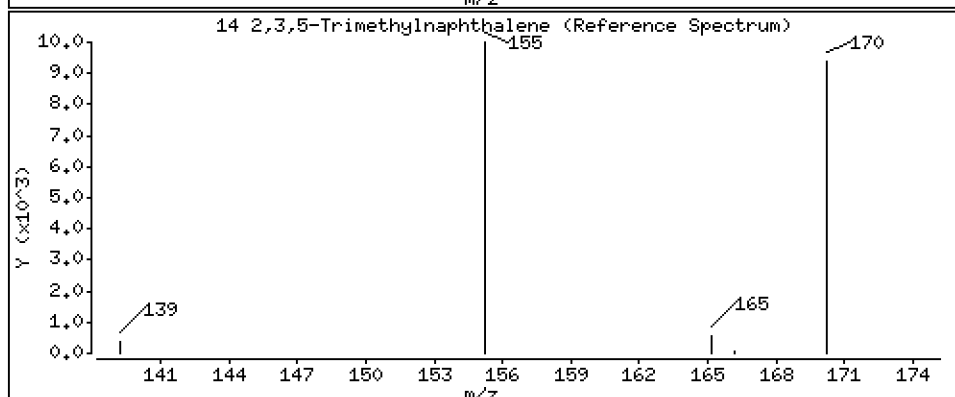
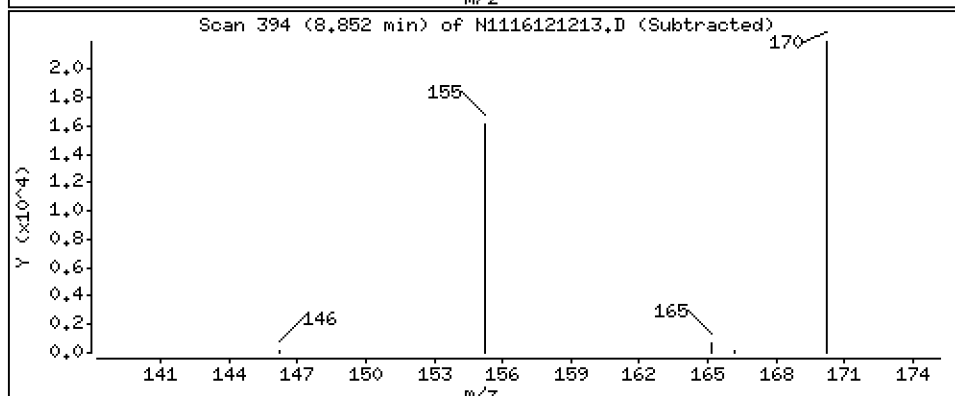
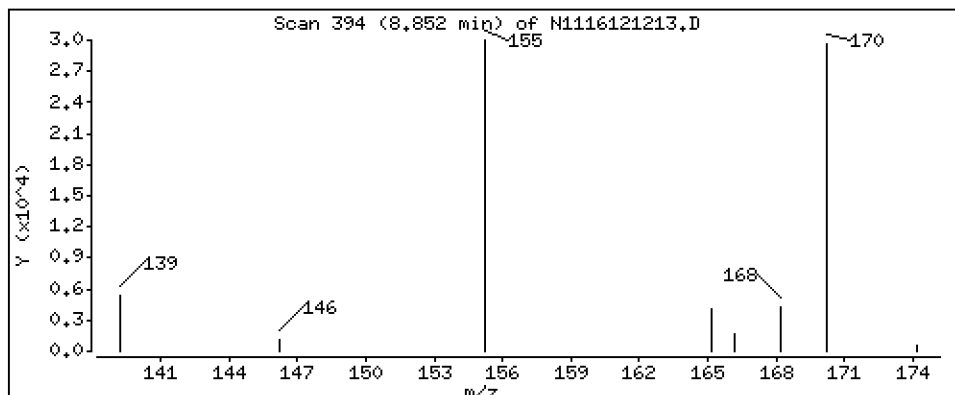
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 61,8 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

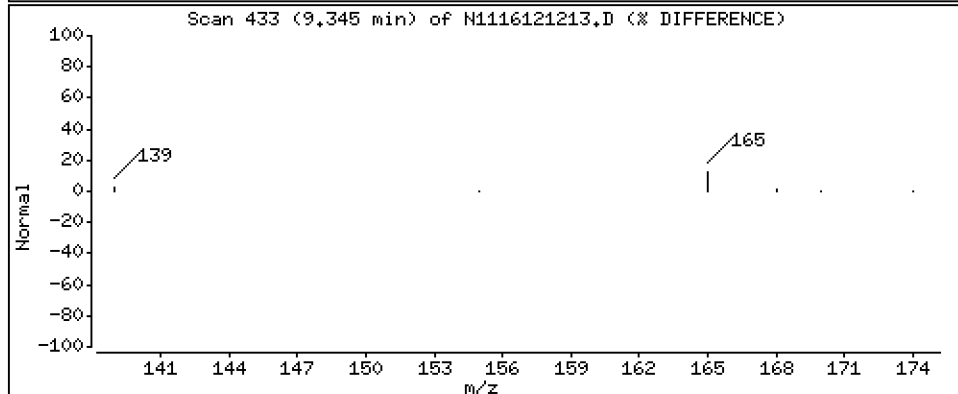
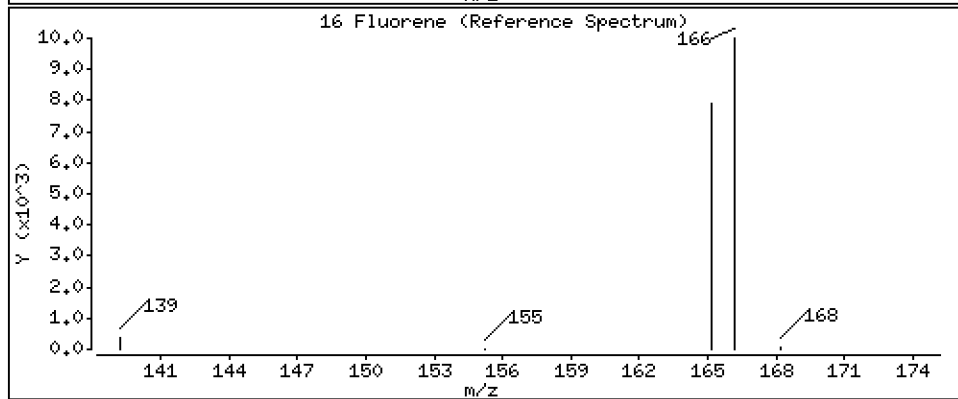
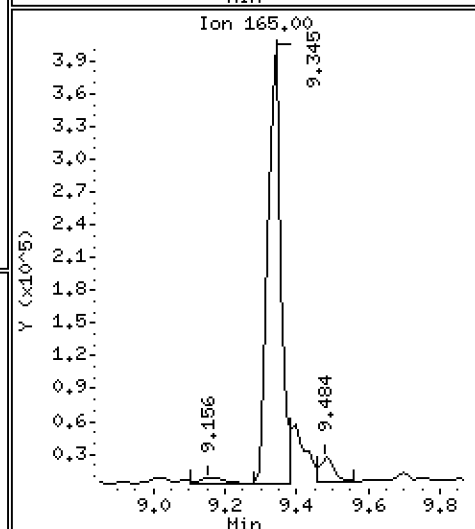
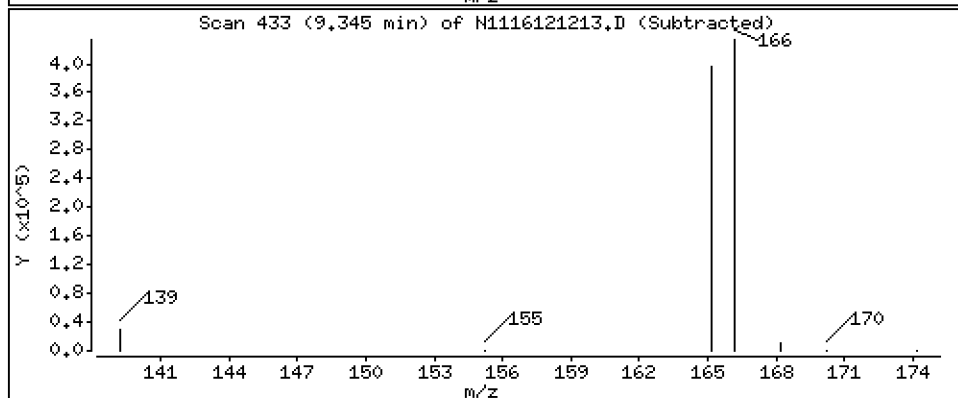
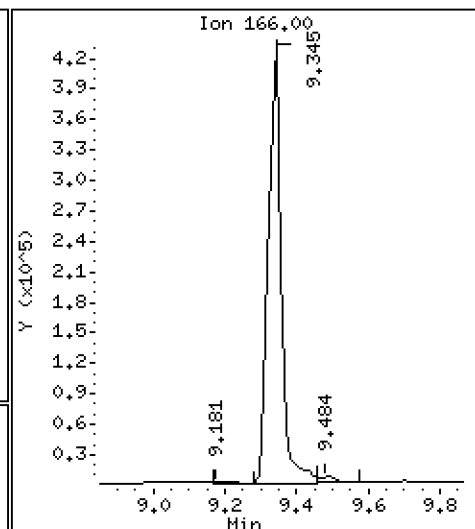
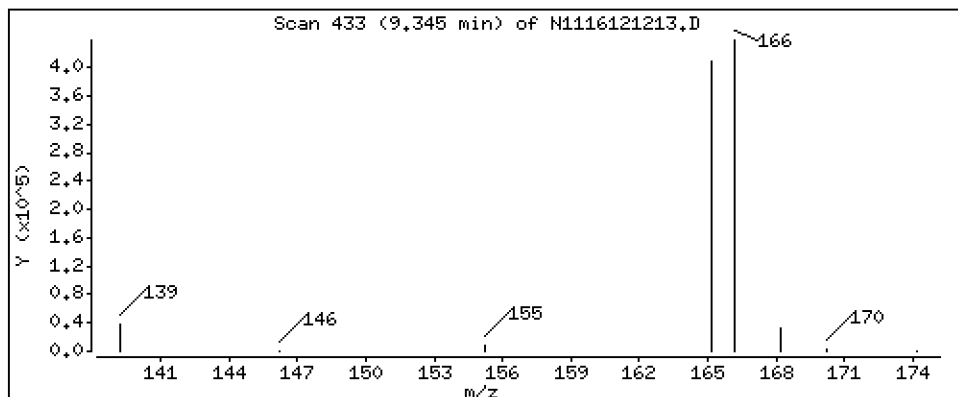
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 604 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

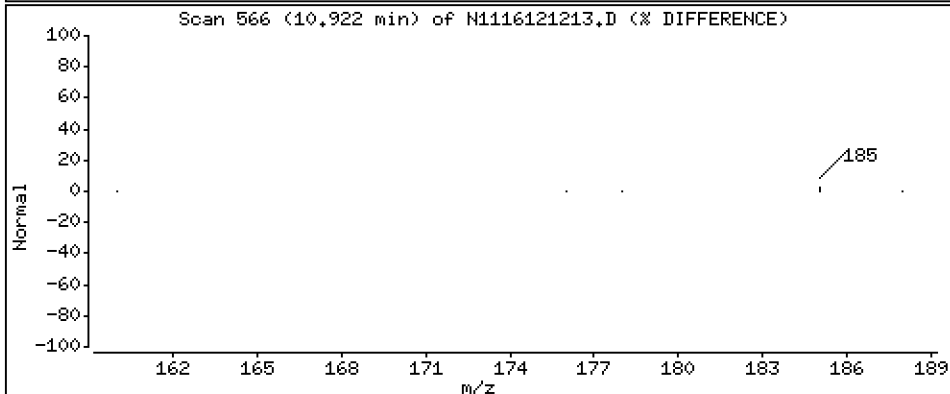
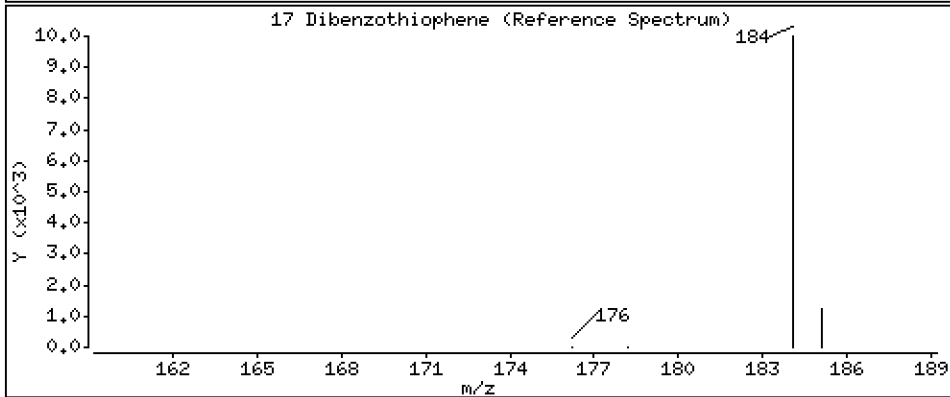
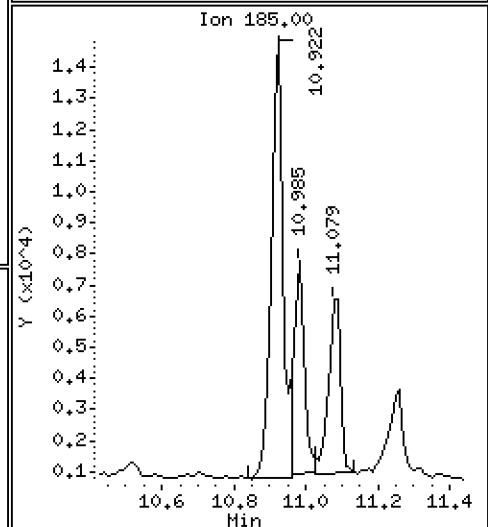
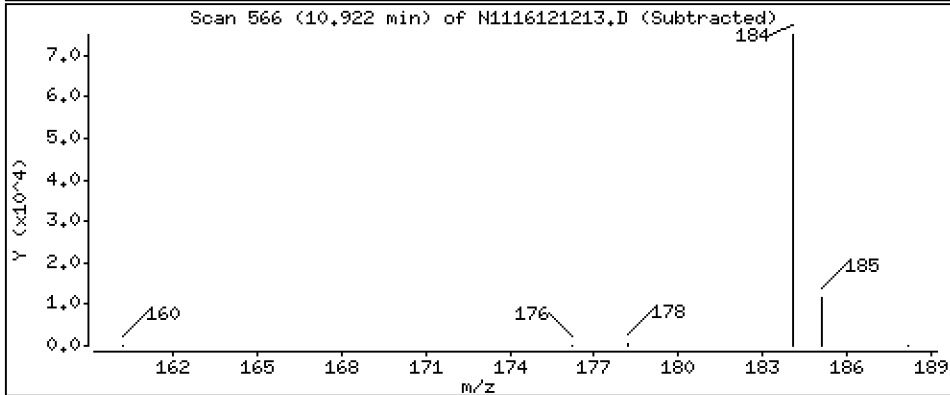
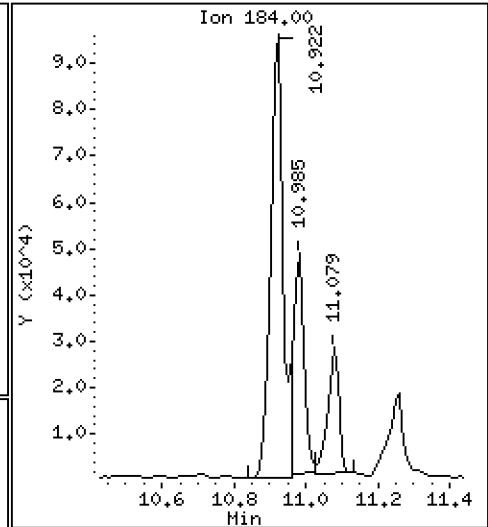
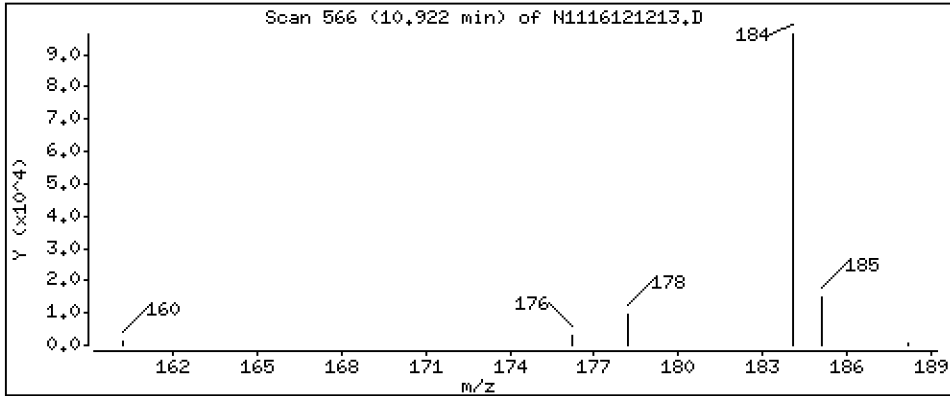
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 108 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

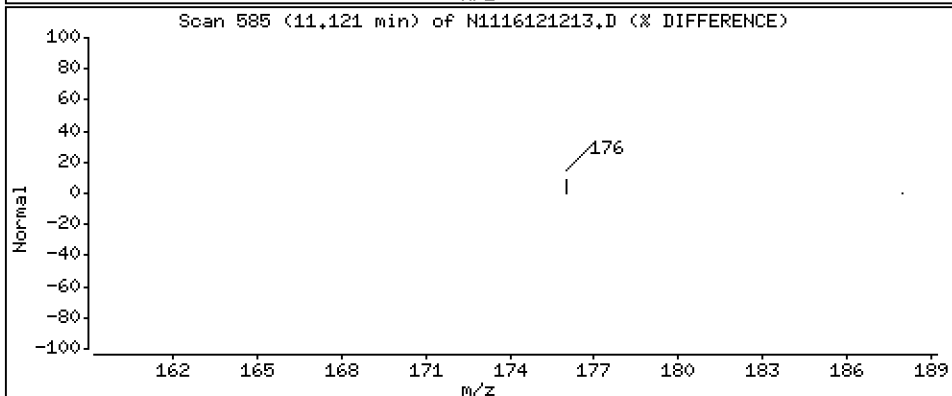
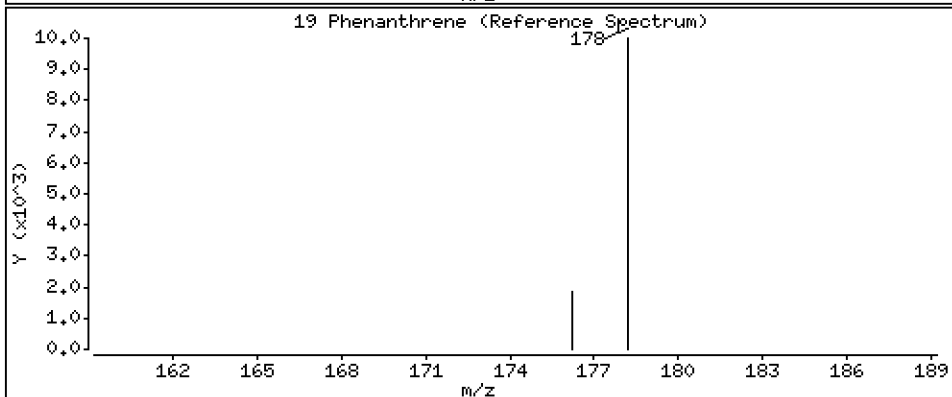
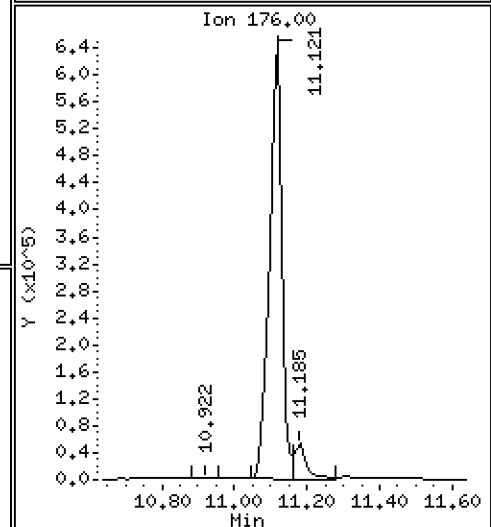
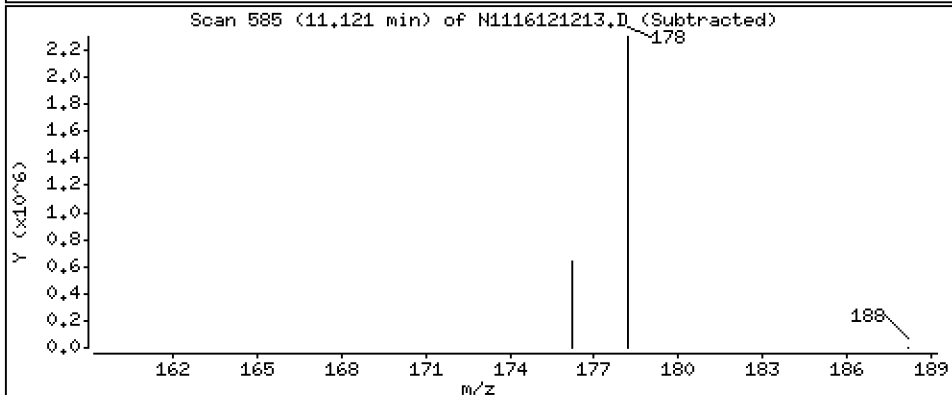
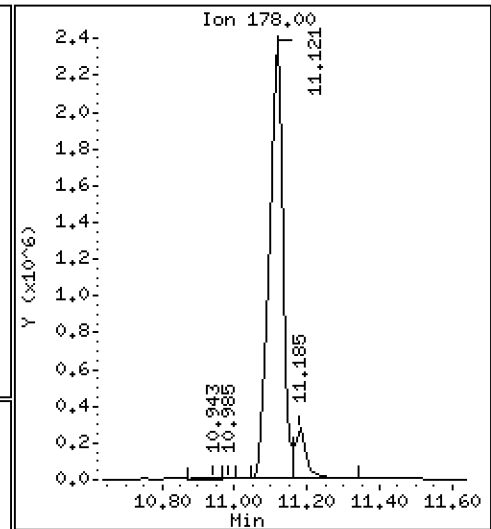
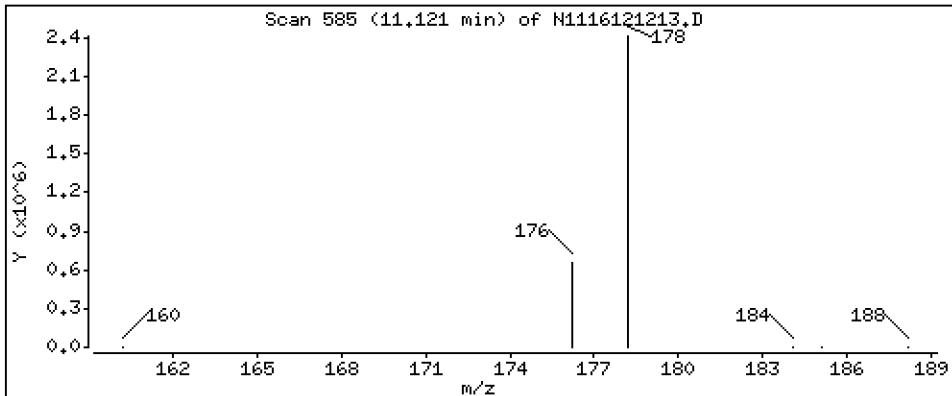
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 2220 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

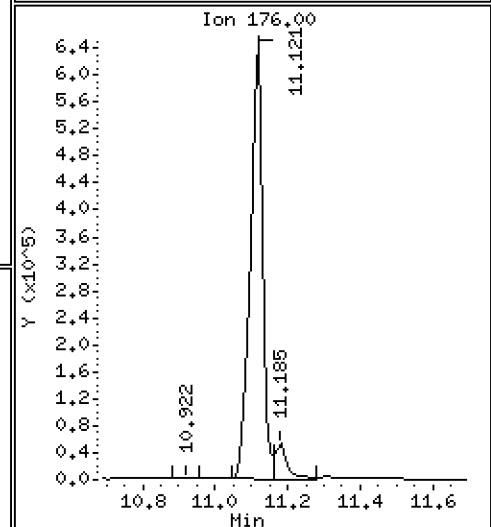
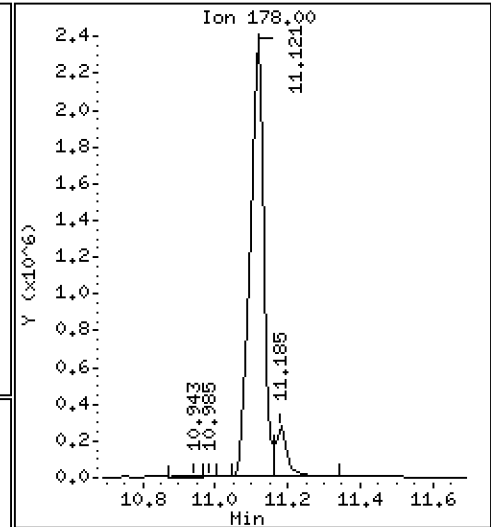
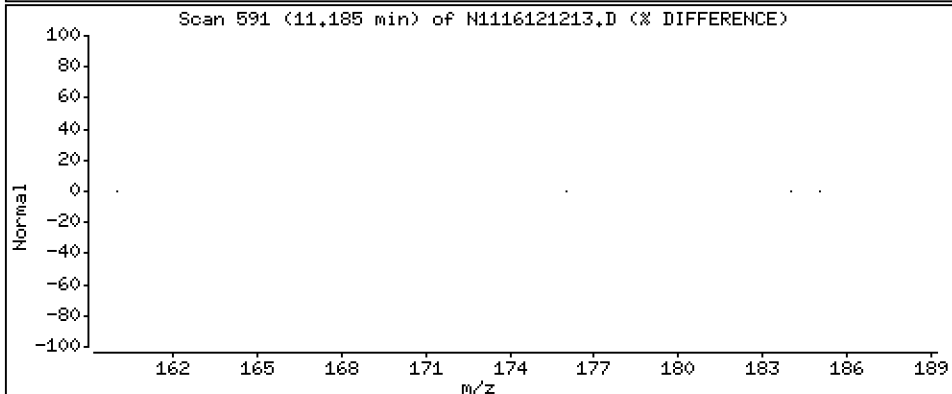
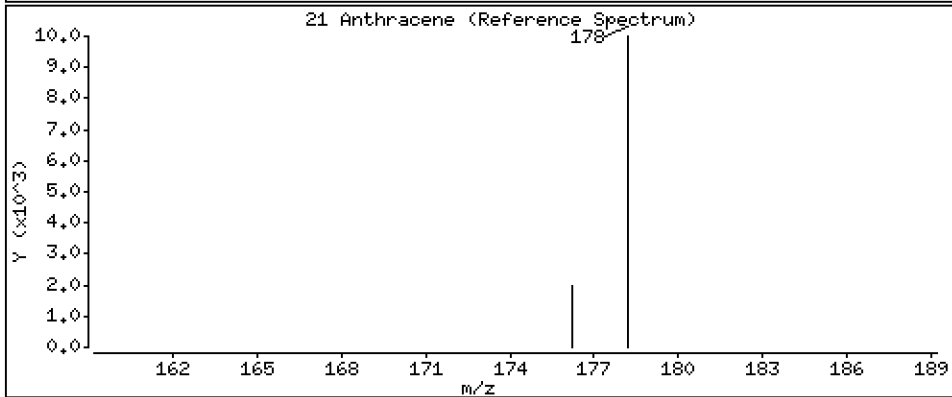
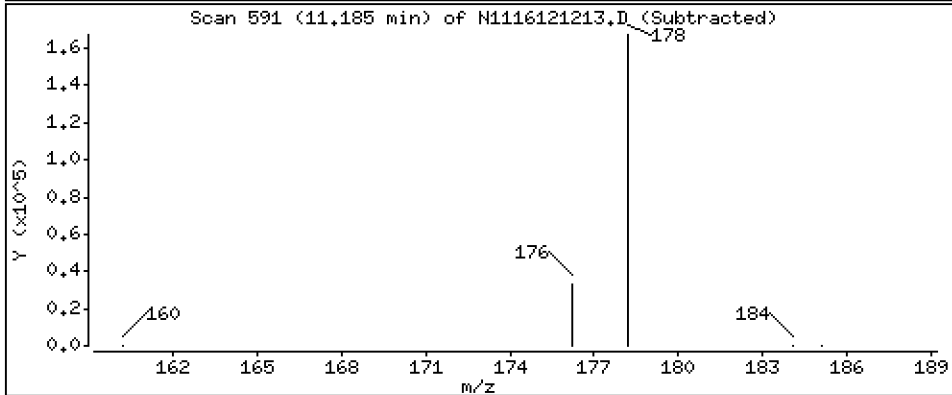
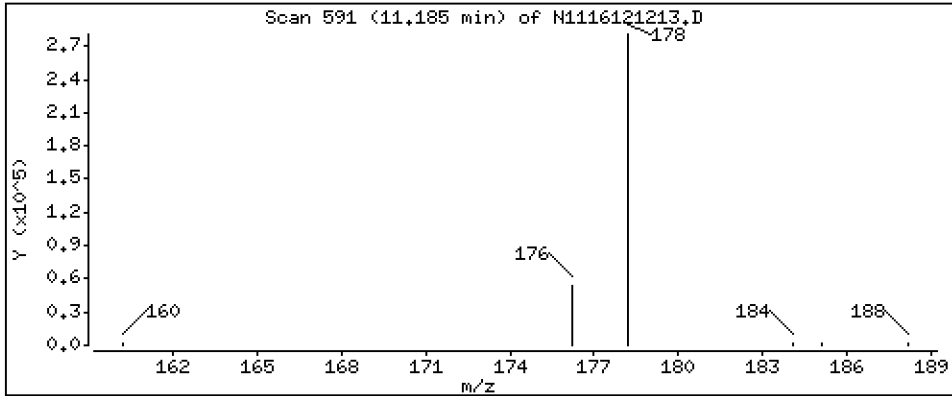
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 237 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

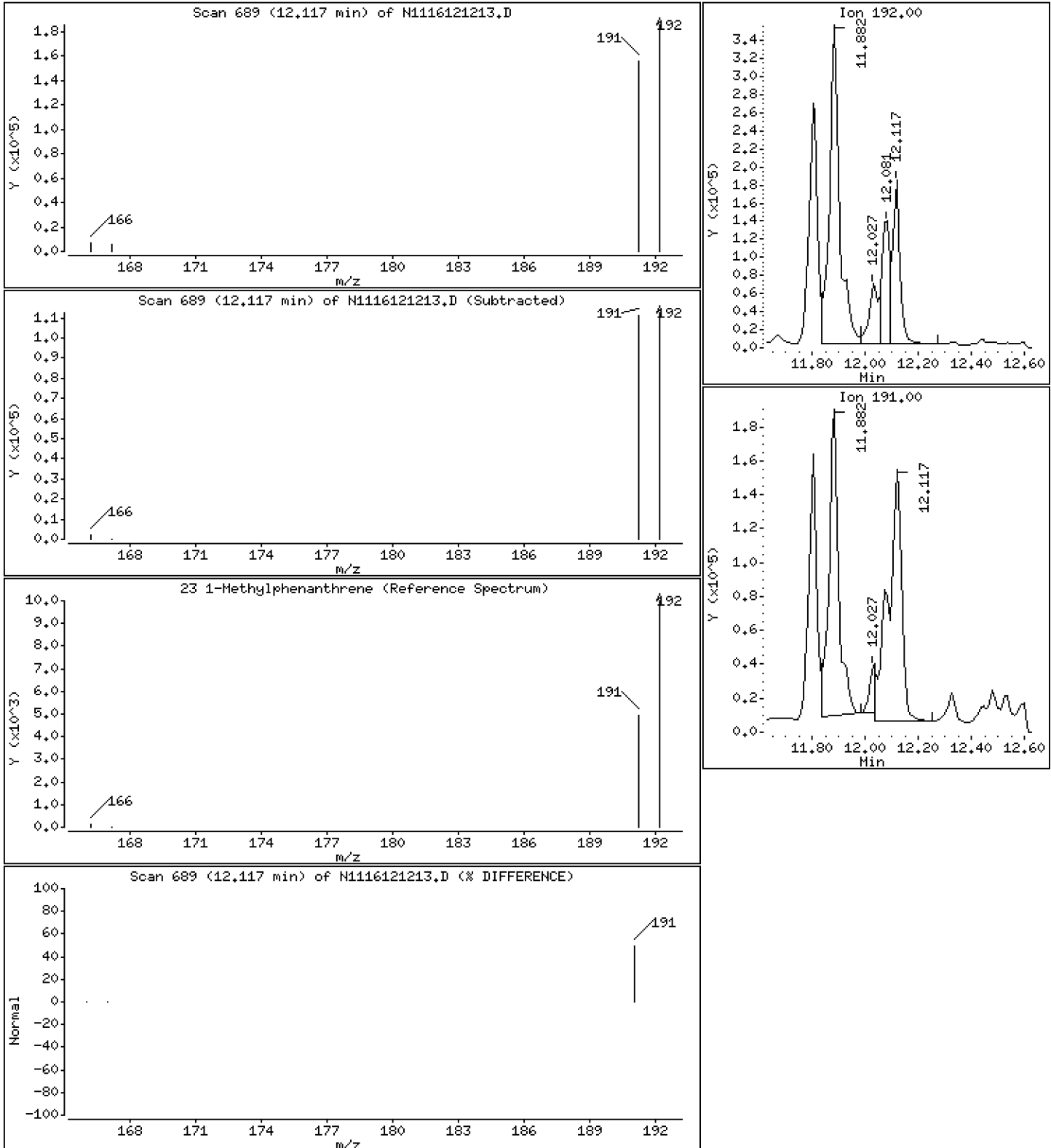
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 159 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

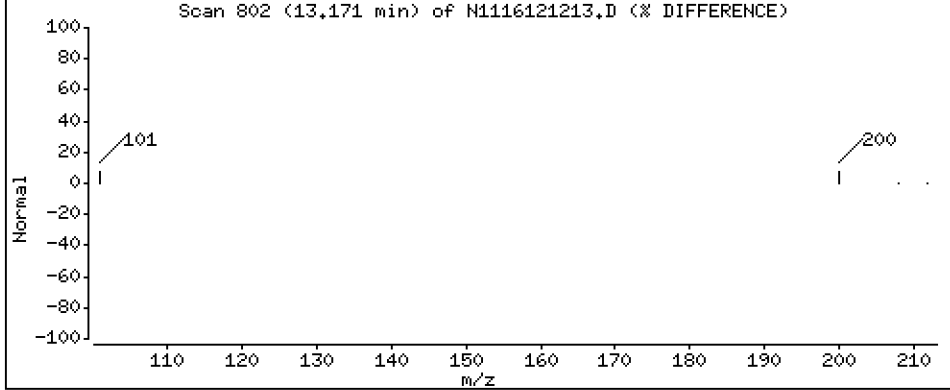
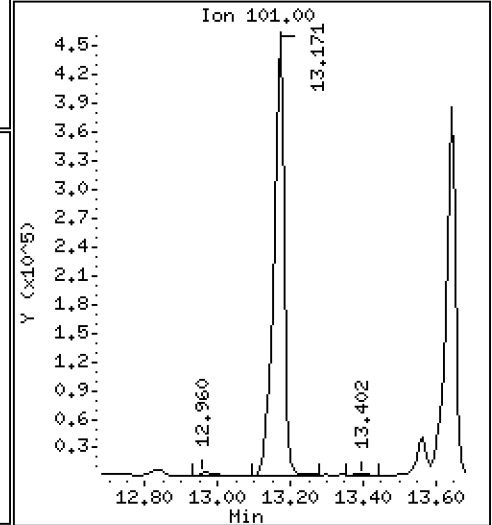
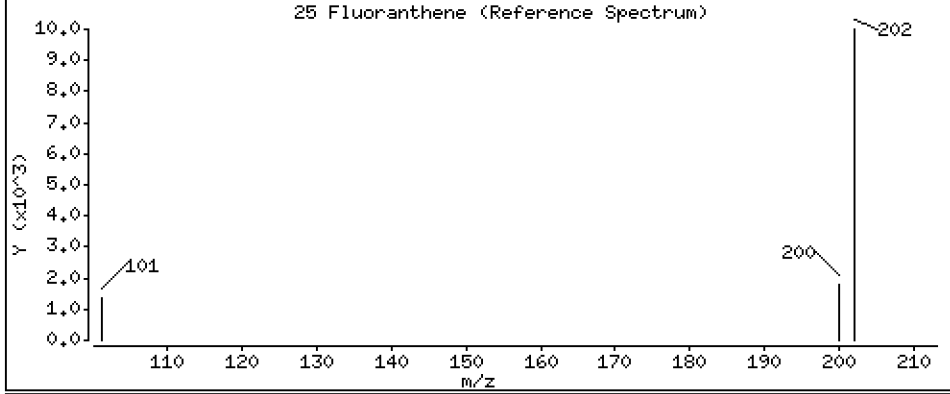
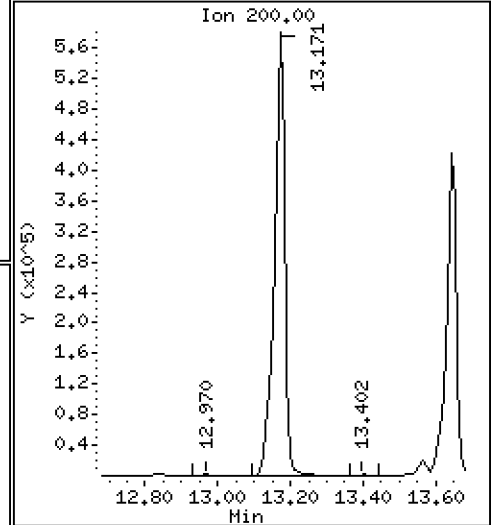
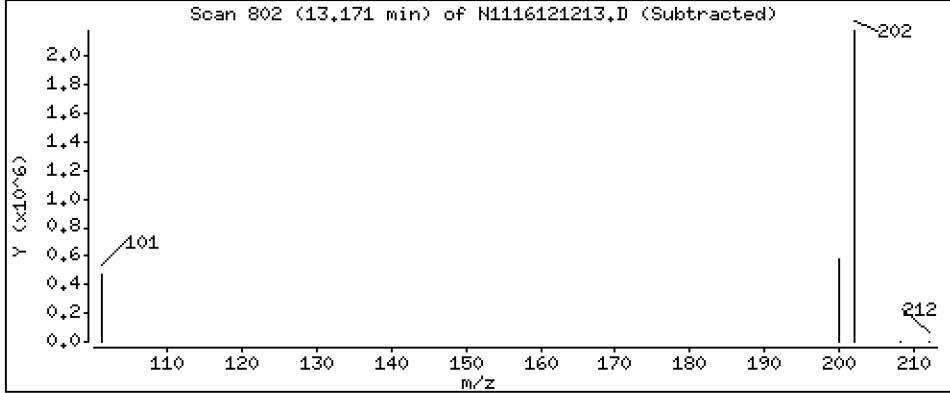
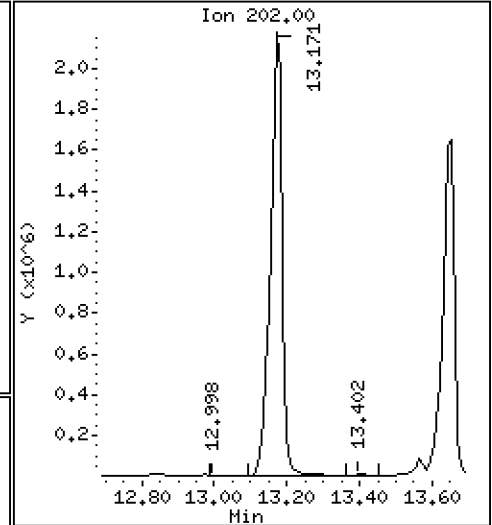
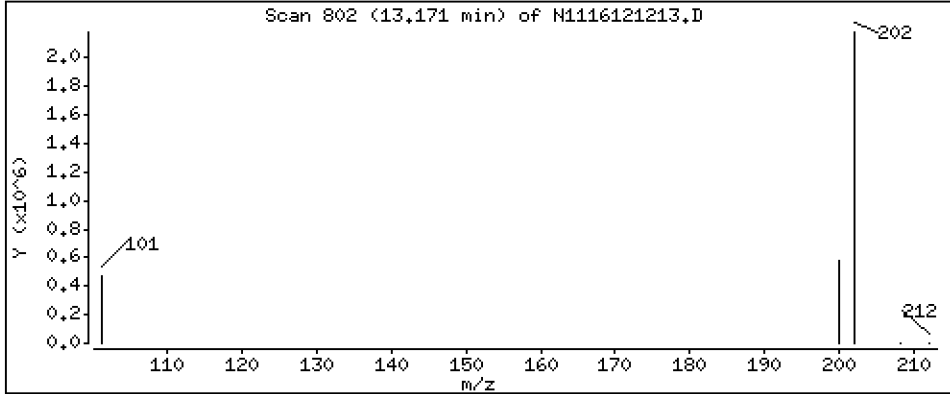
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 1810 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

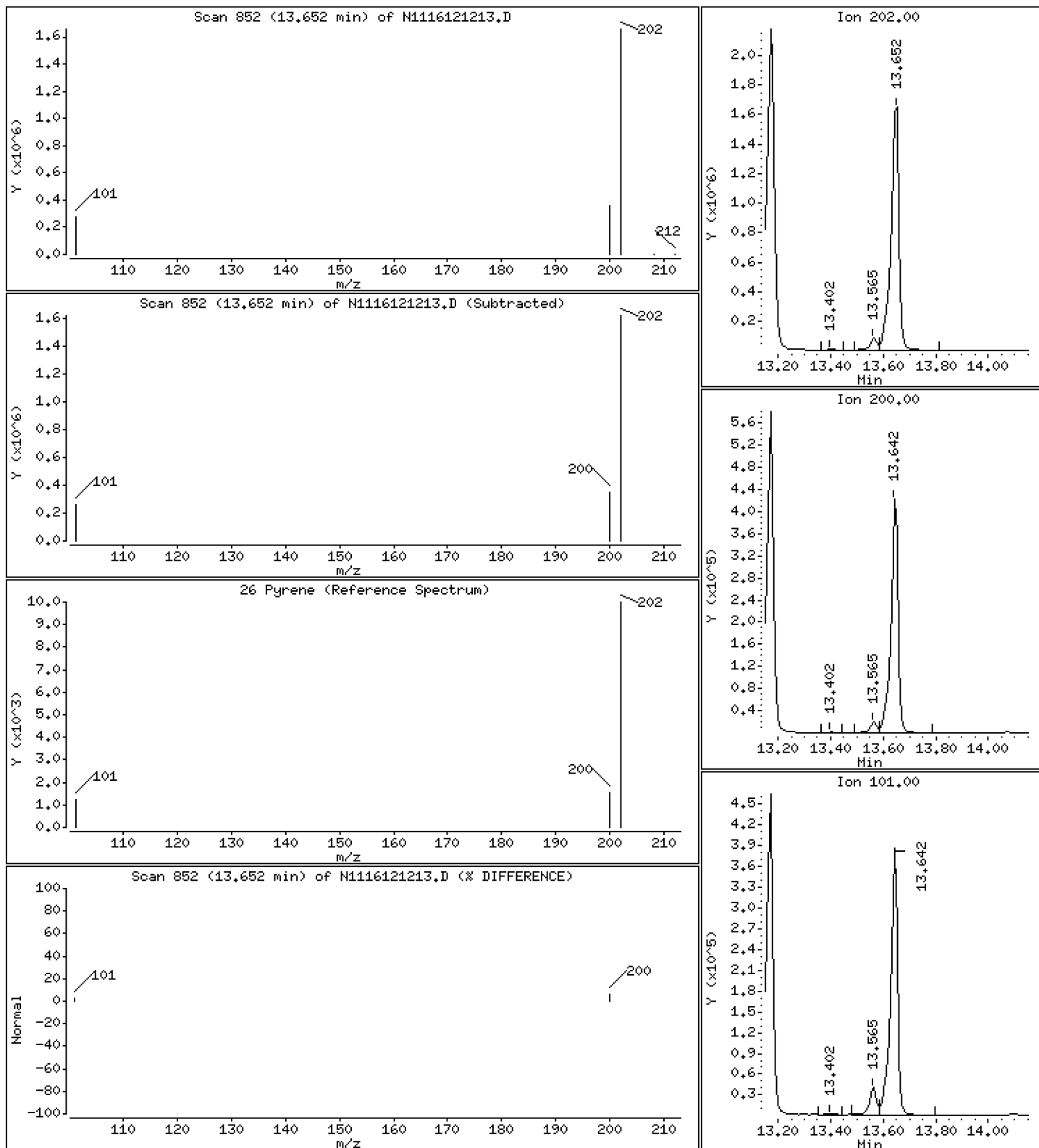
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1230 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

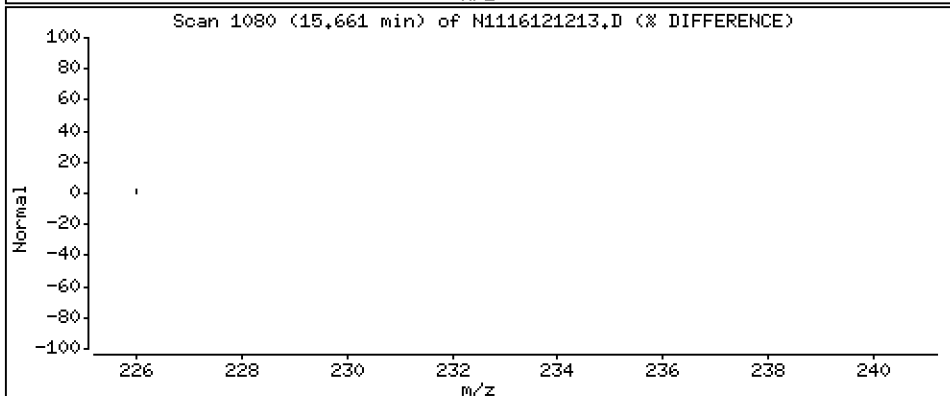
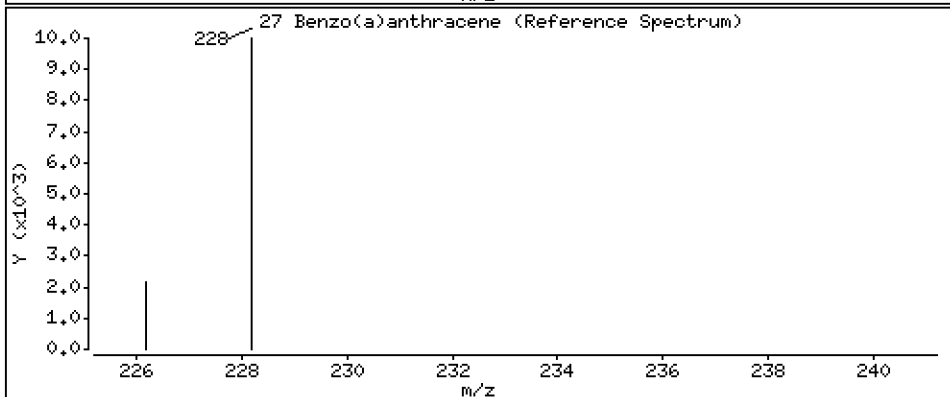
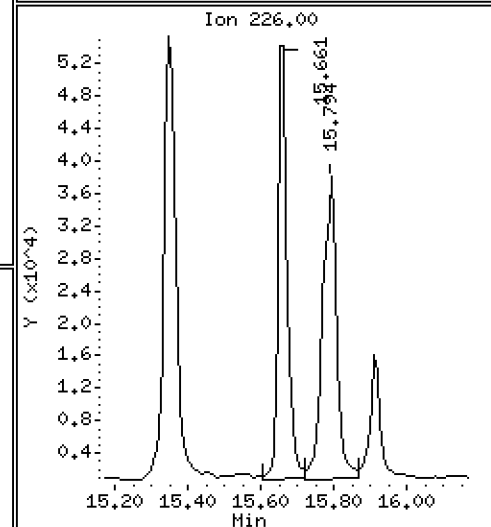
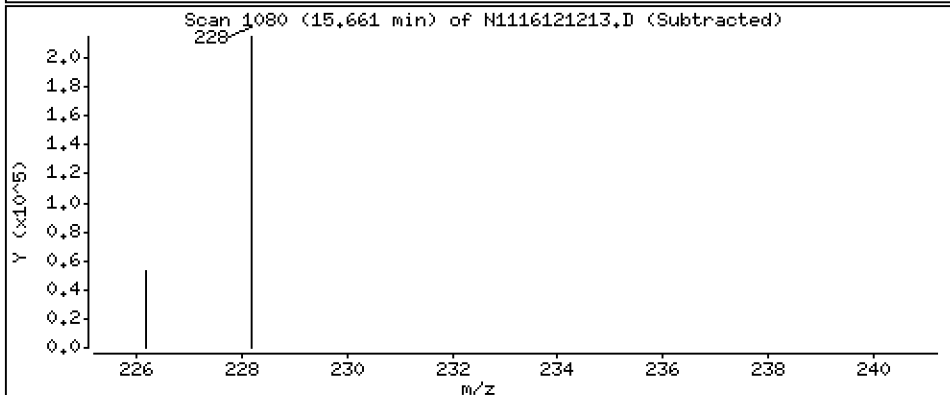
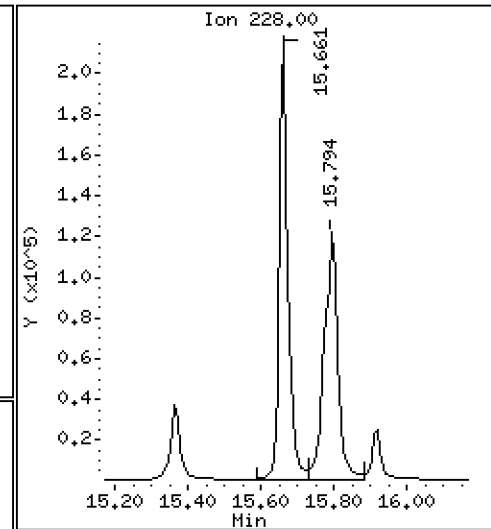
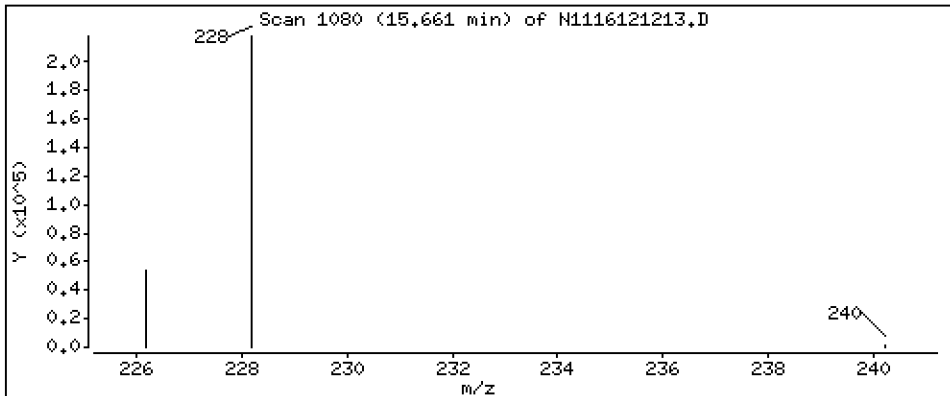
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 144 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

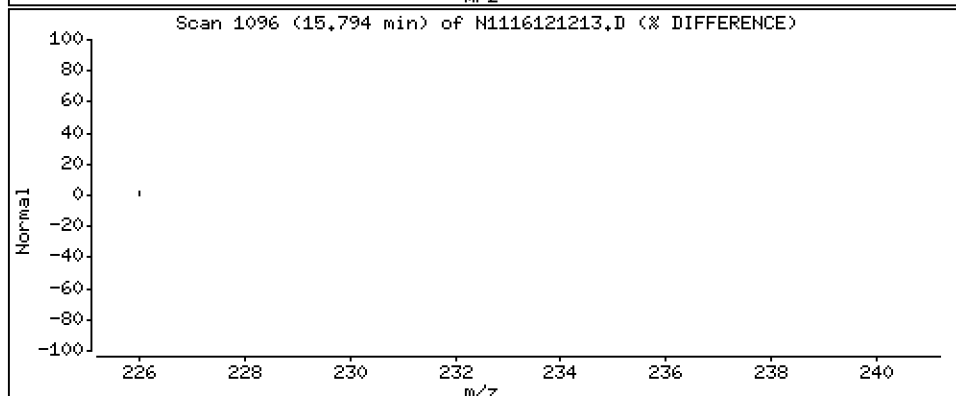
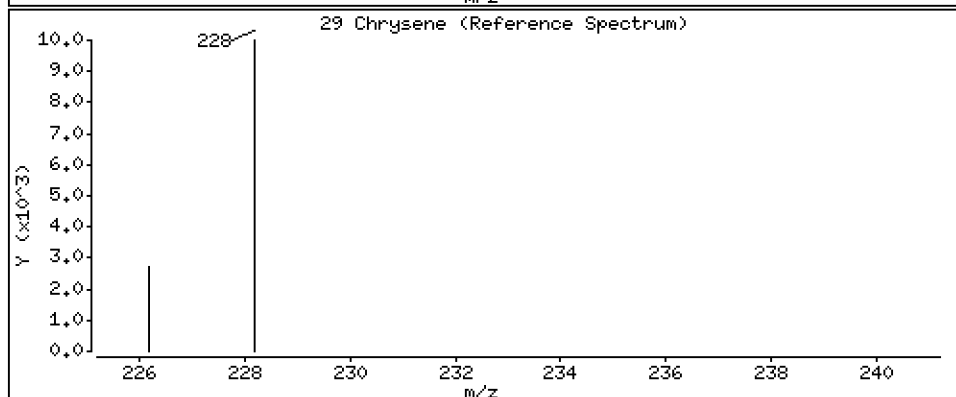
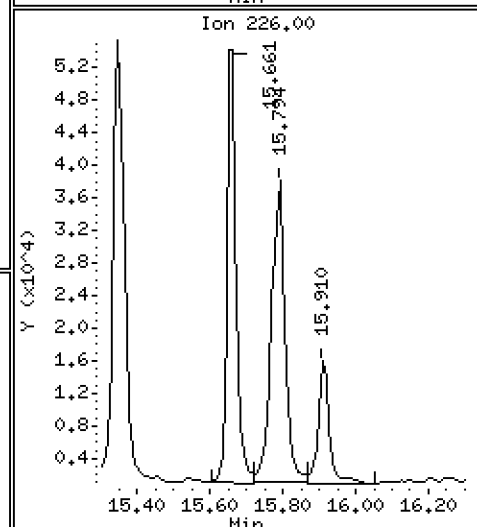
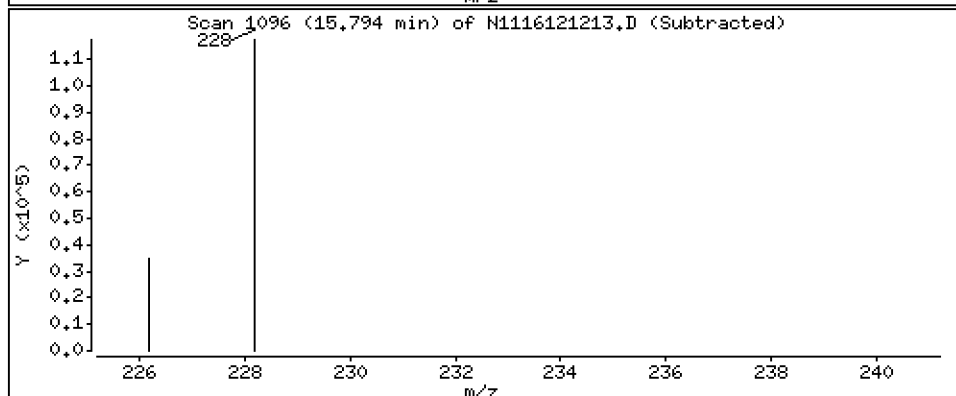
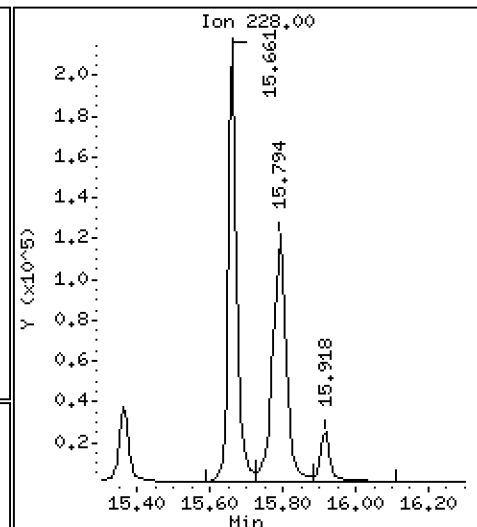
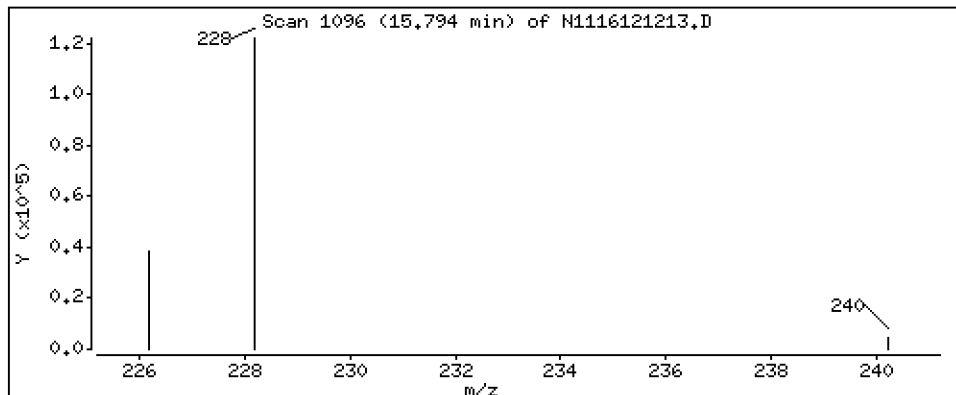
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 114 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

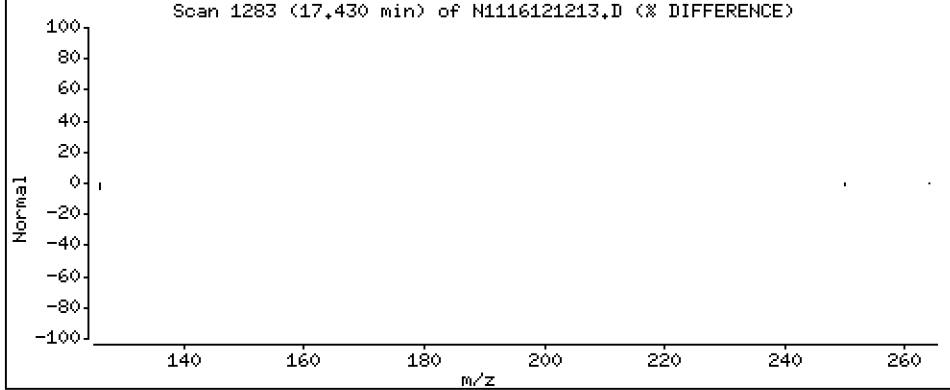
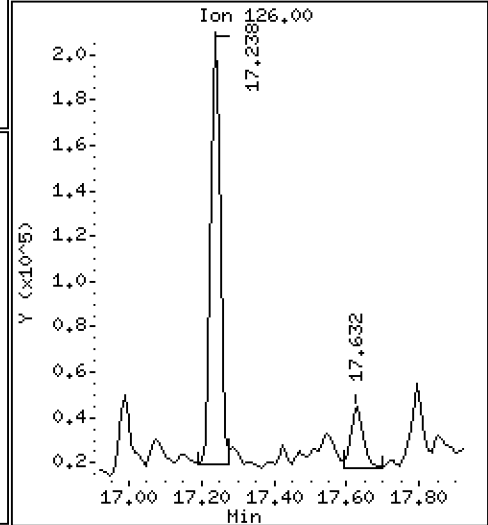
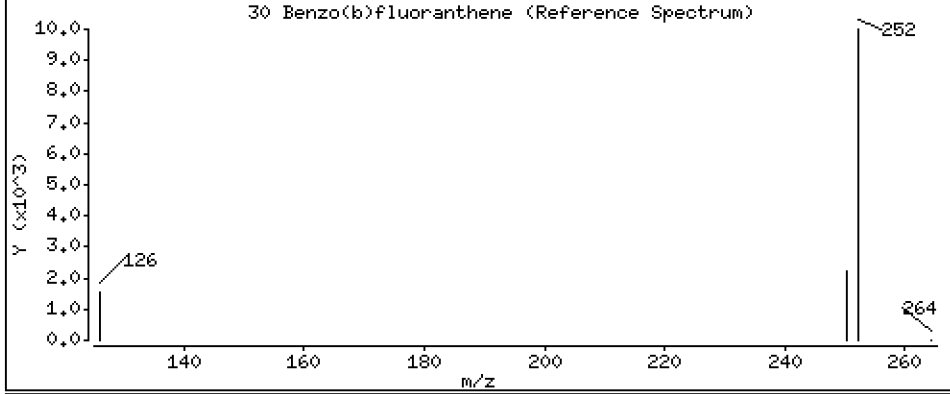
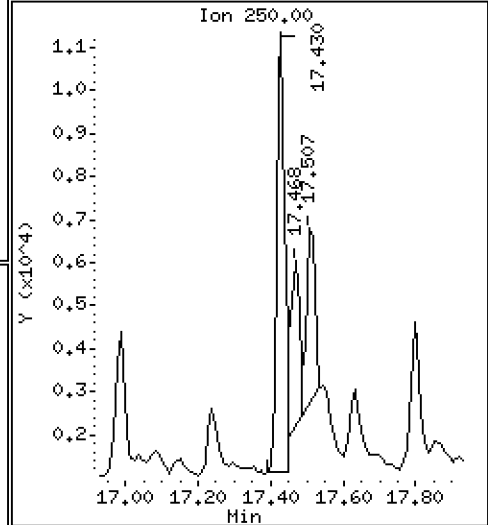
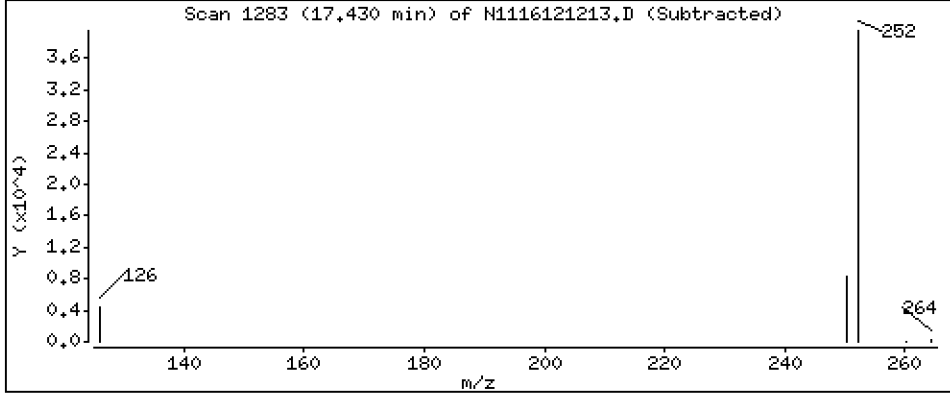
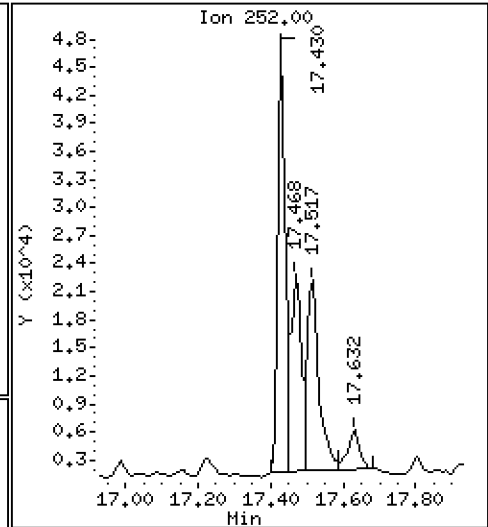
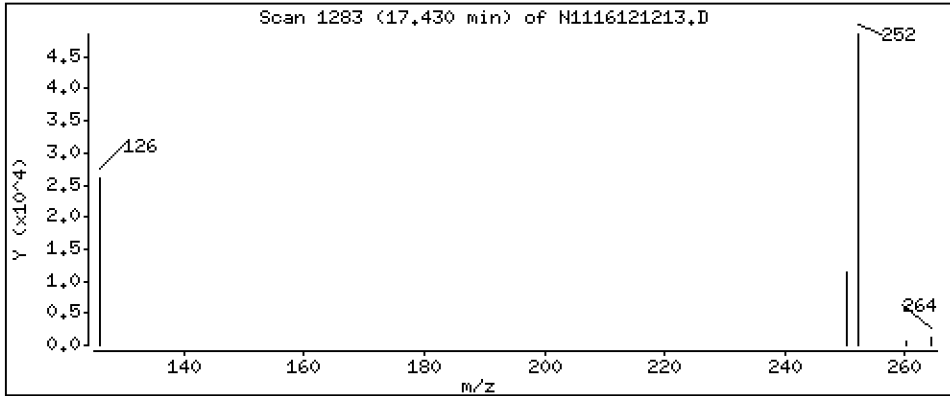
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 27,5 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

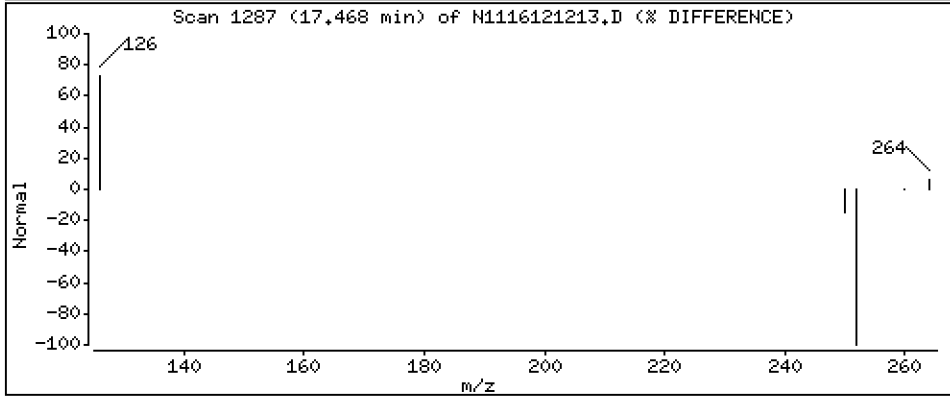
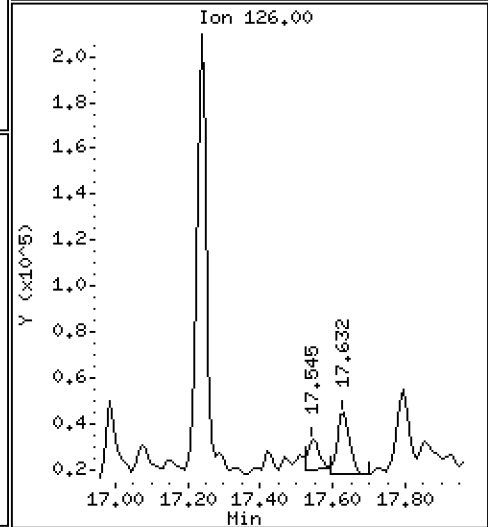
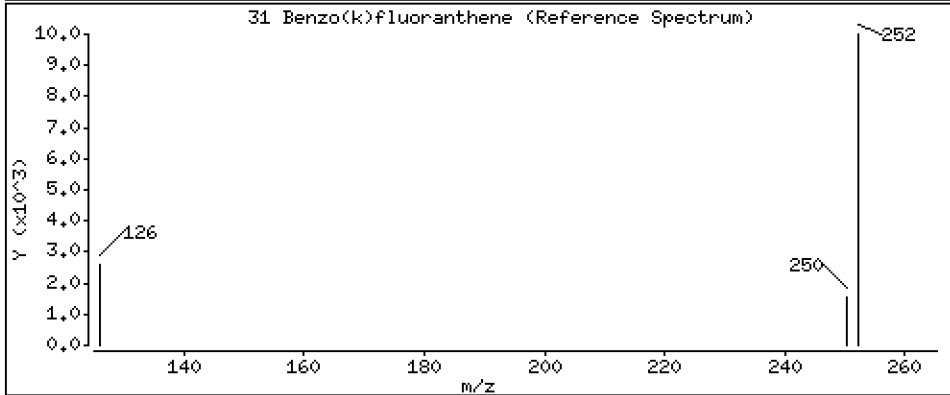
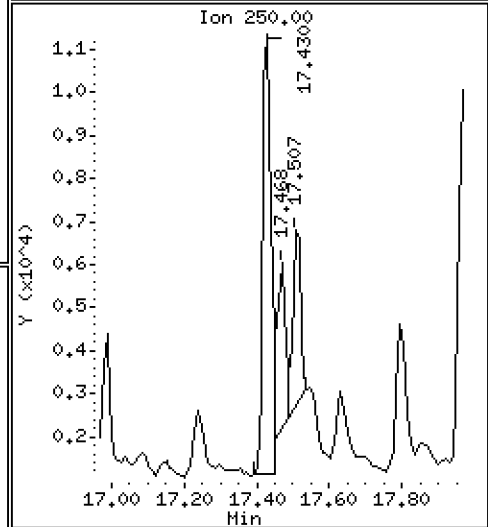
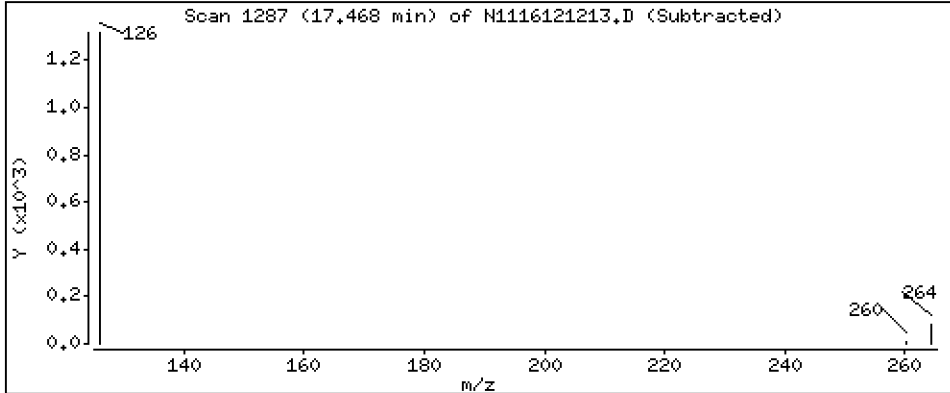
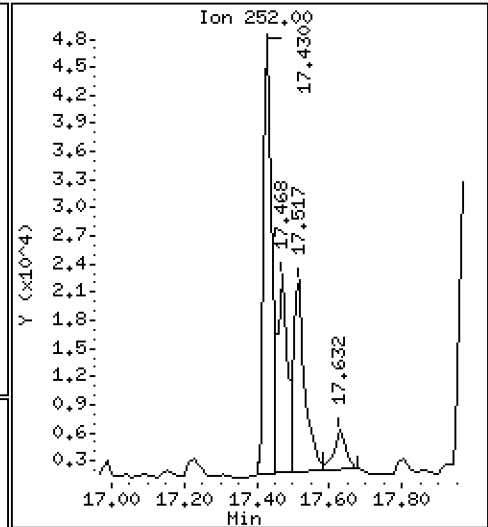
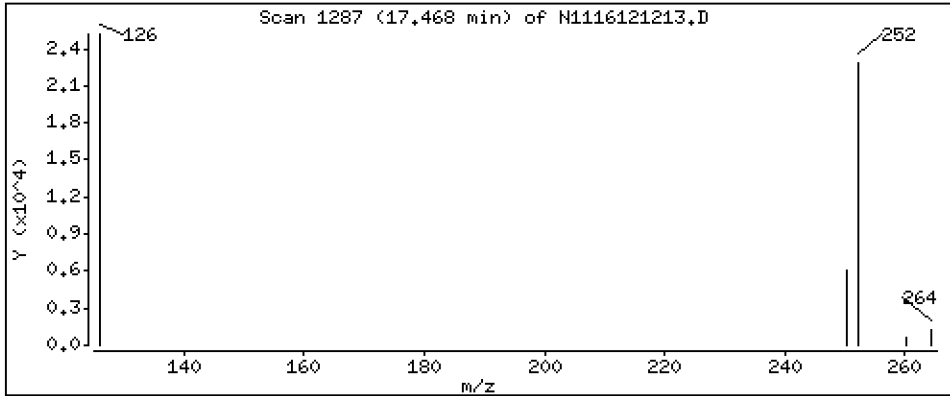
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 17,5 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

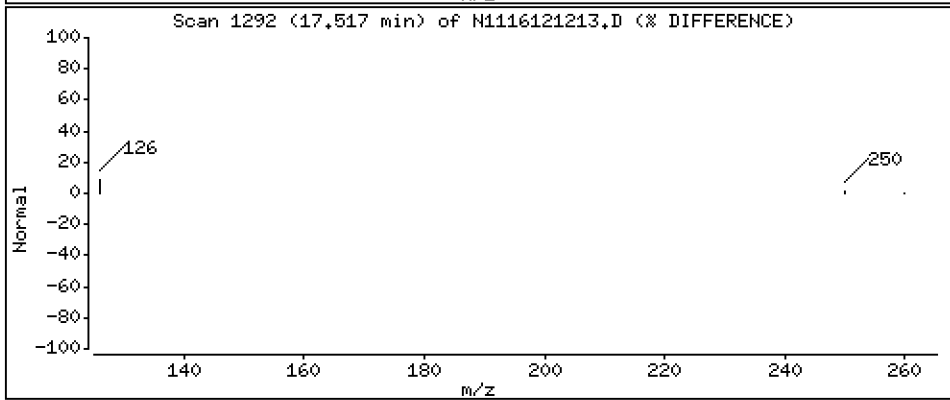
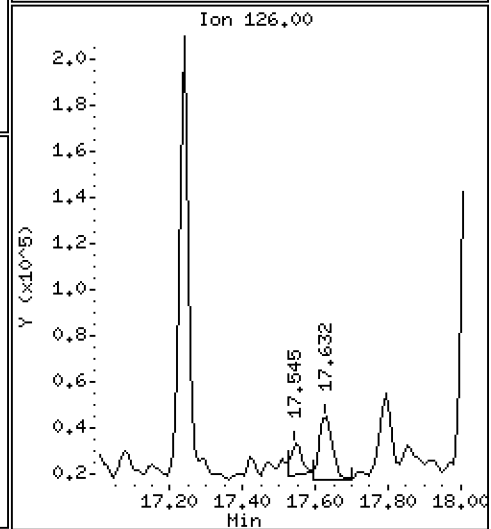
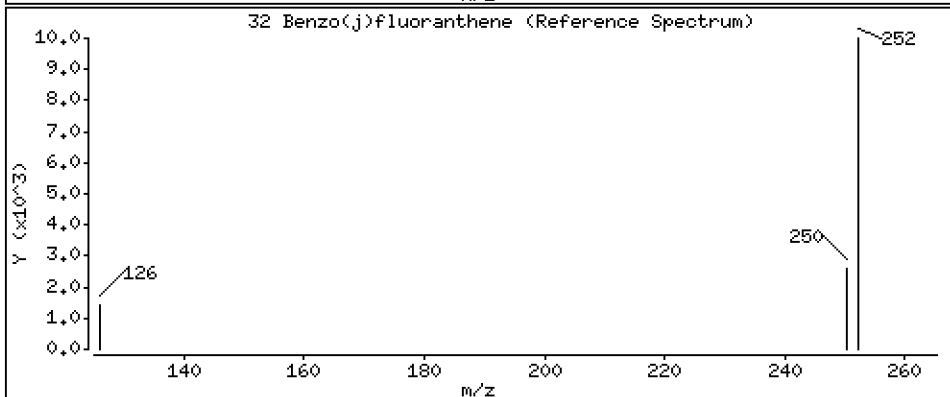
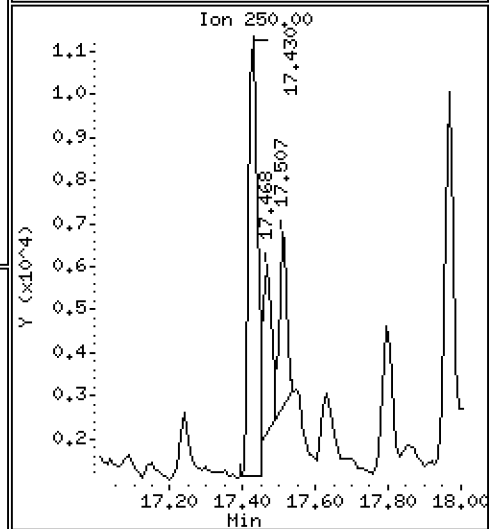
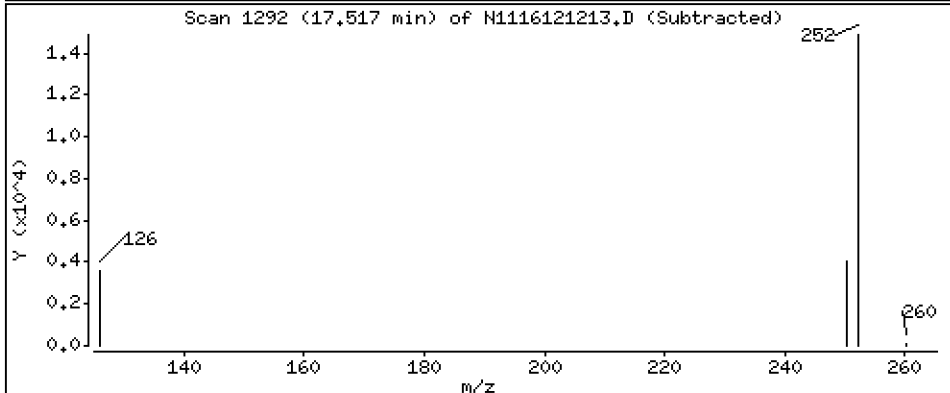
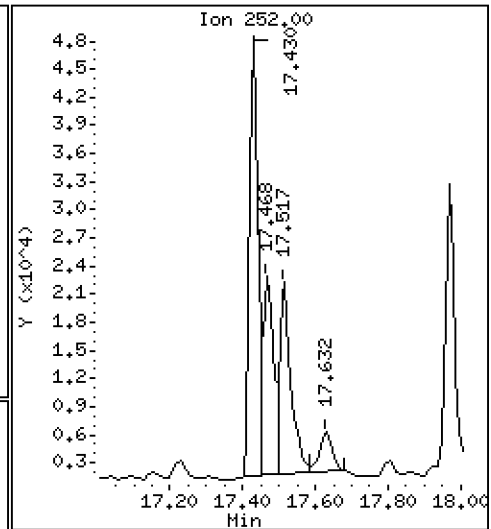
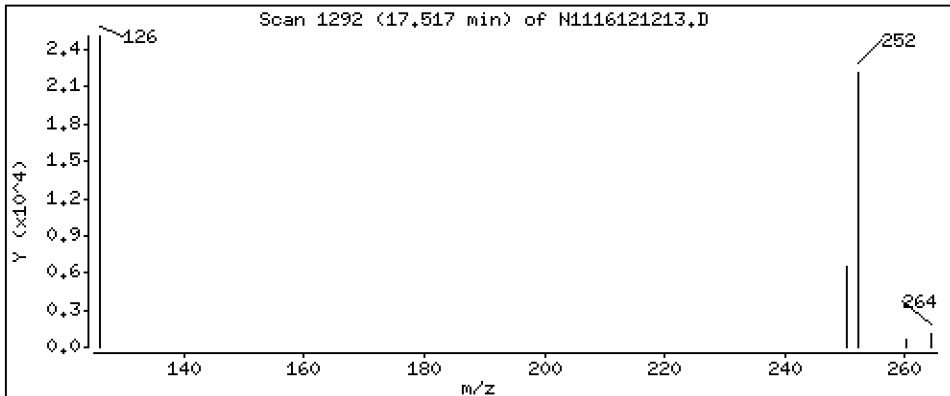
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 17,5 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

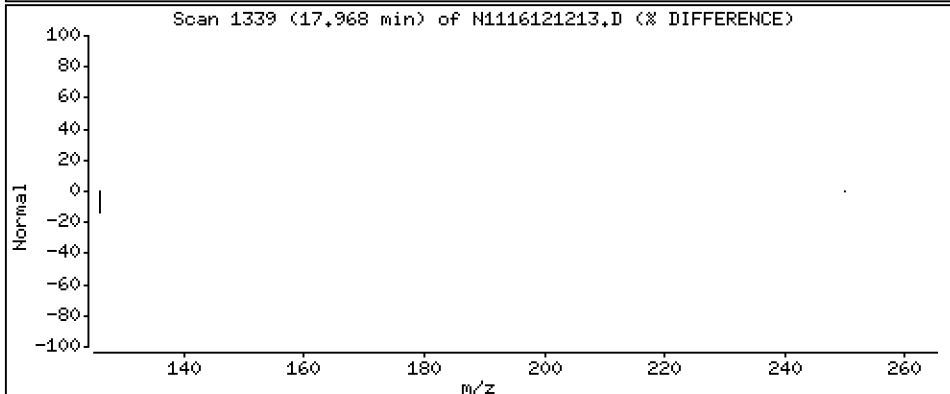
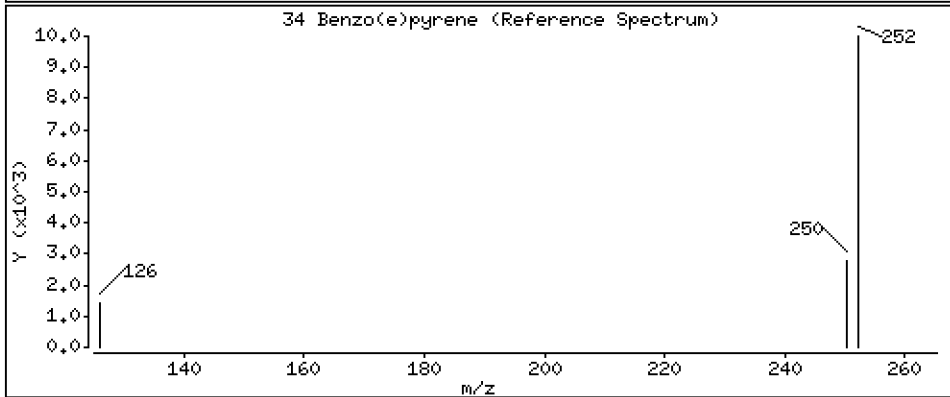
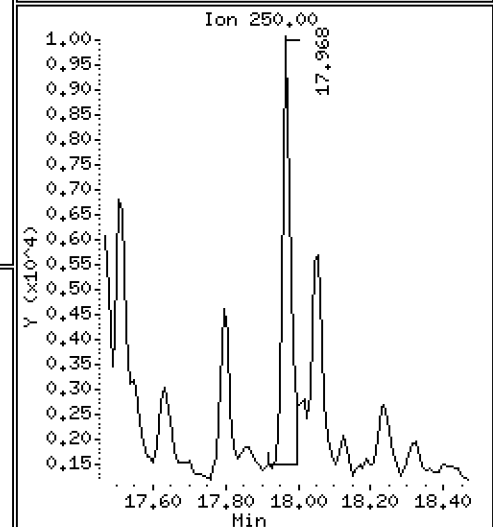
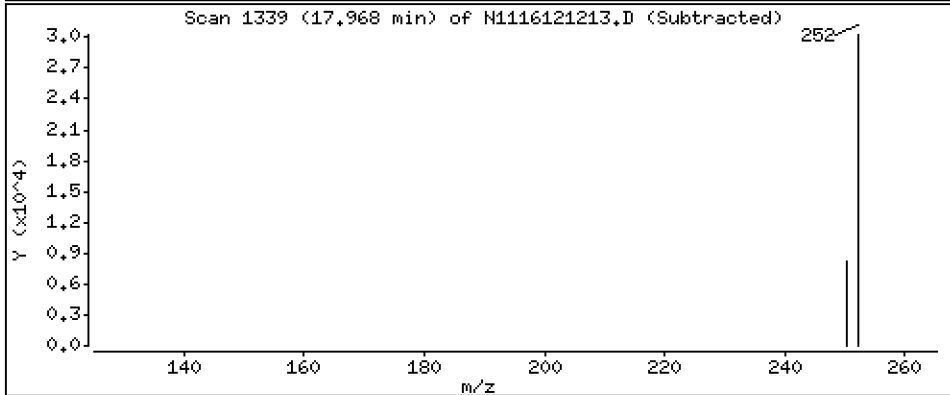
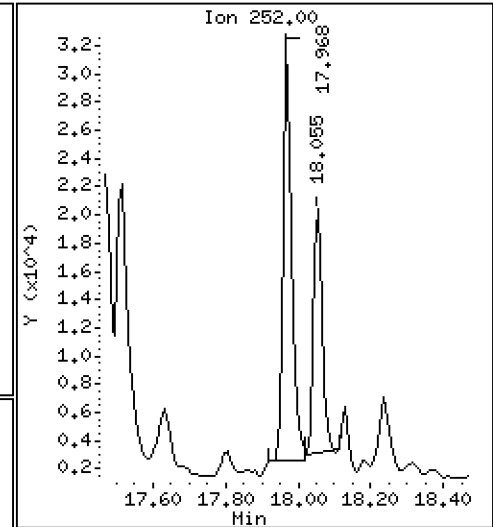
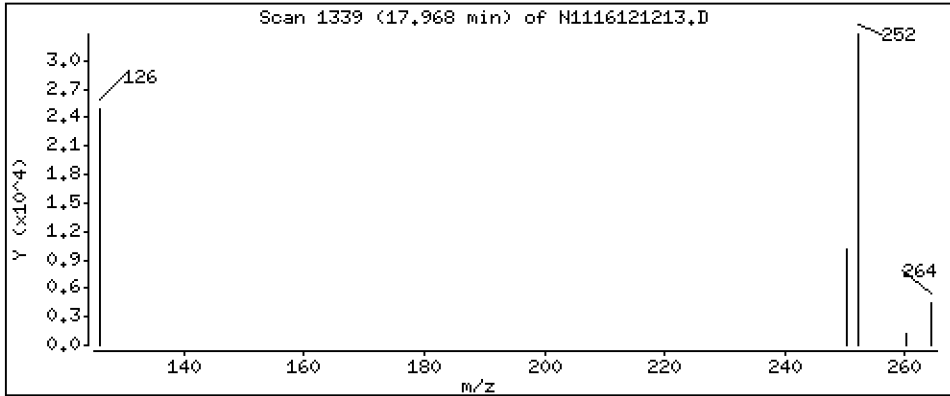
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 19,4 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

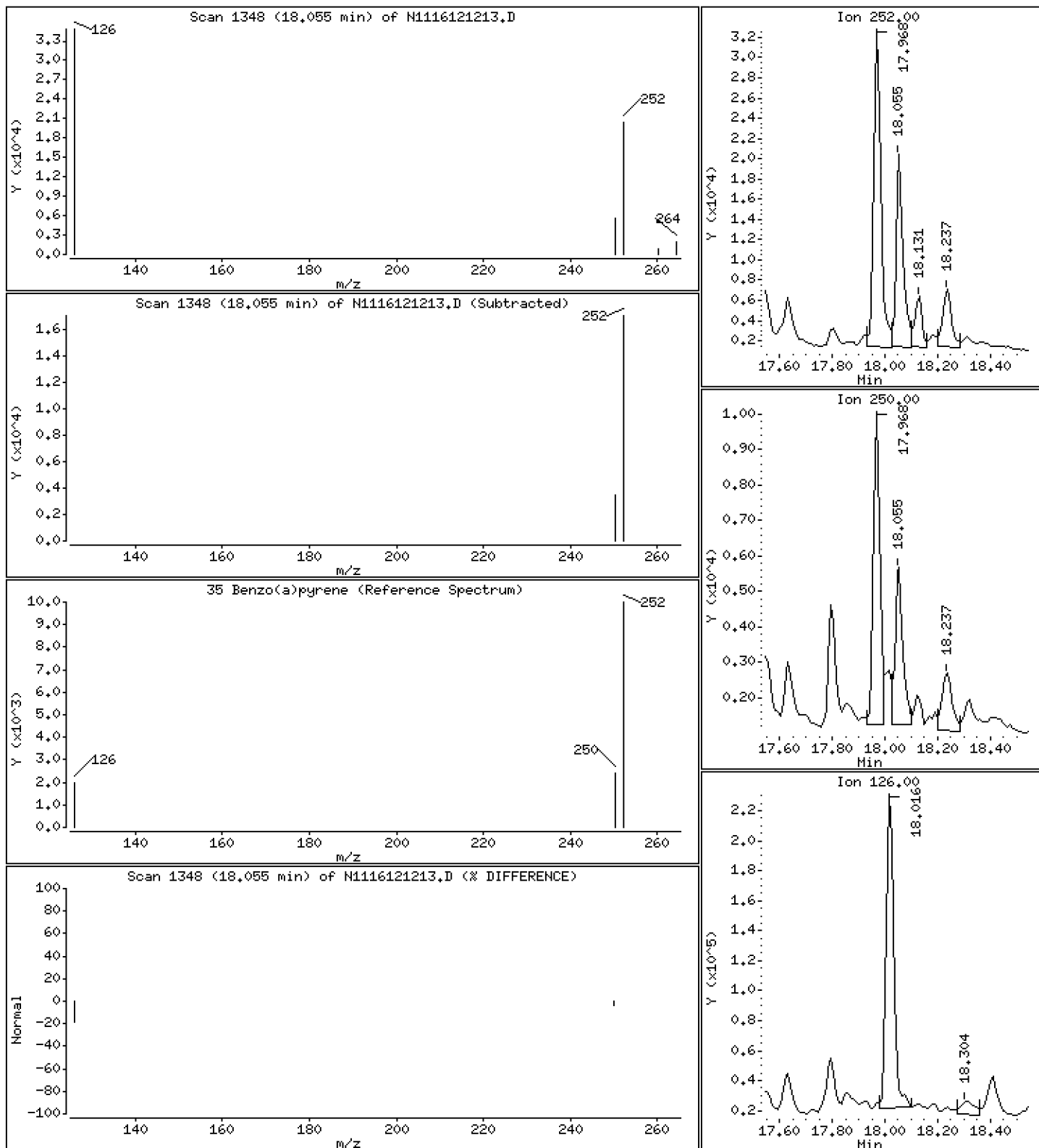
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 15,5 ng/mL



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

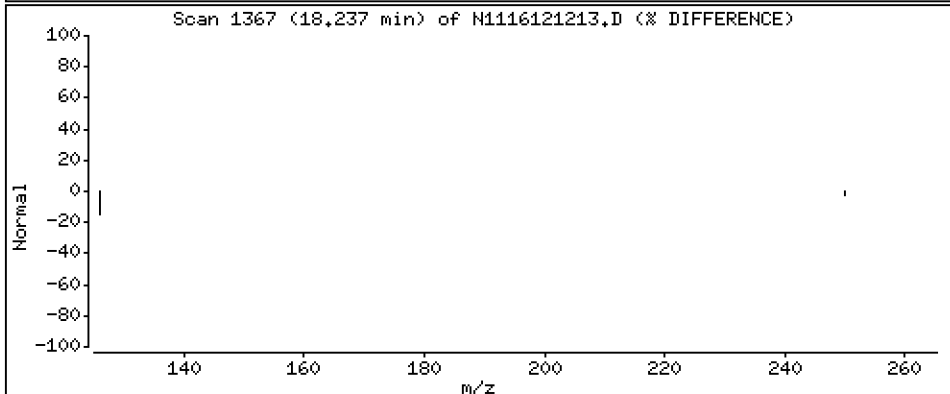
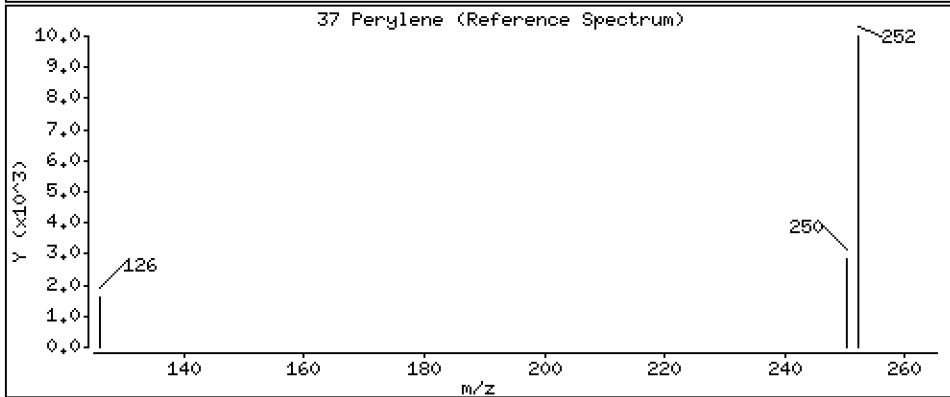
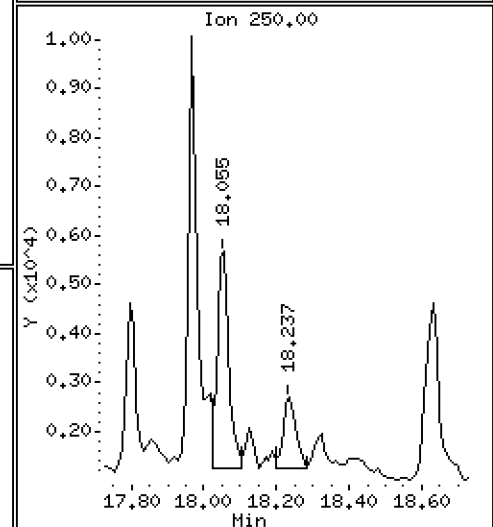
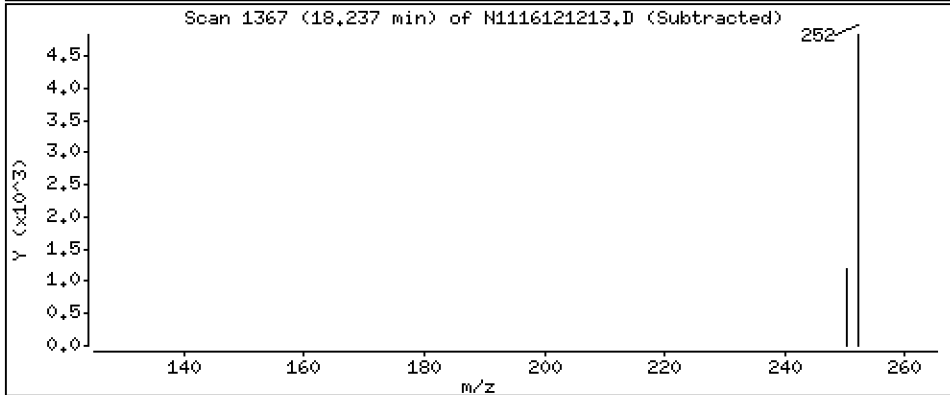
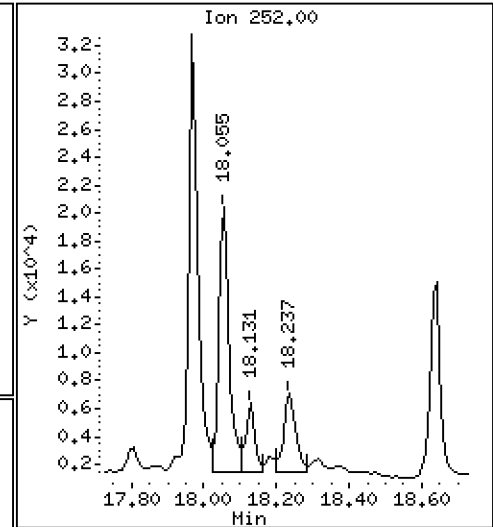
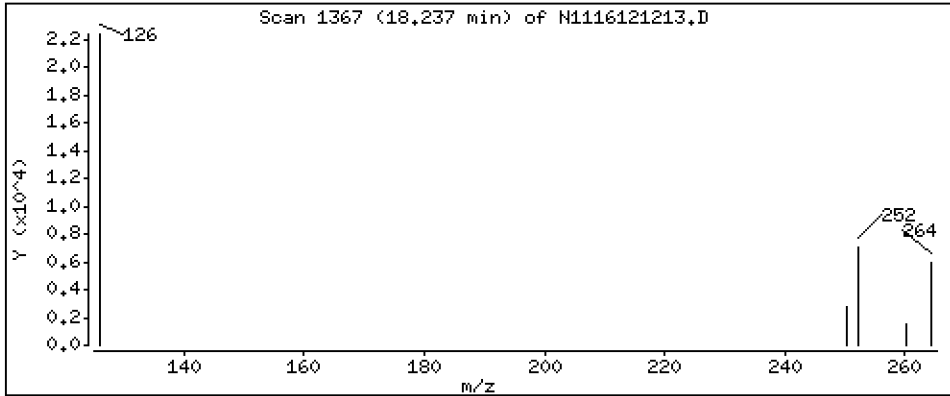
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 5,28 ng/mL

37 Perylene



Date : 12-DEC-2016 14:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07

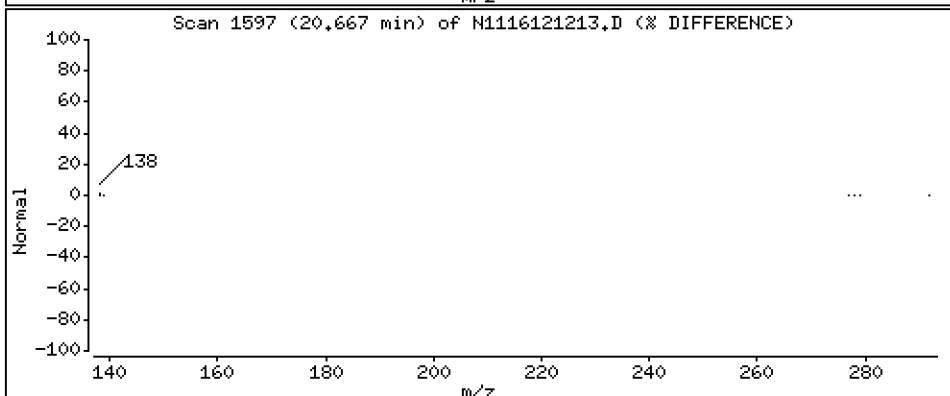
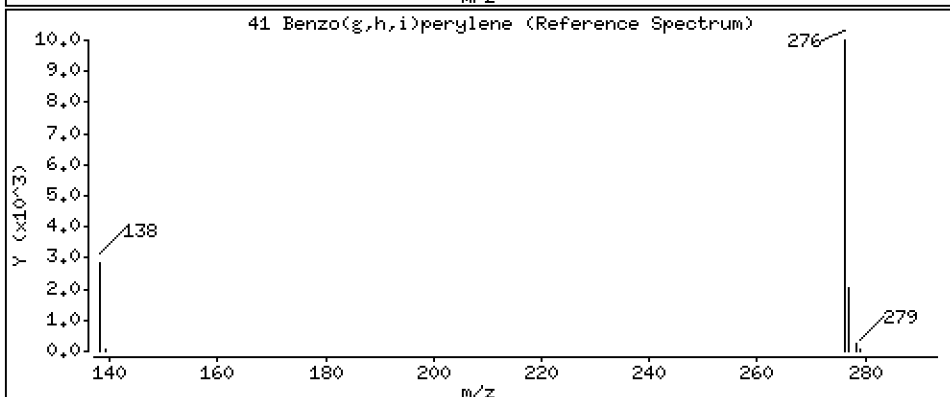
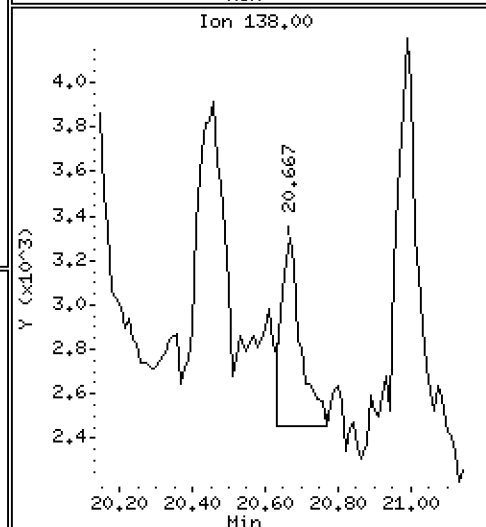
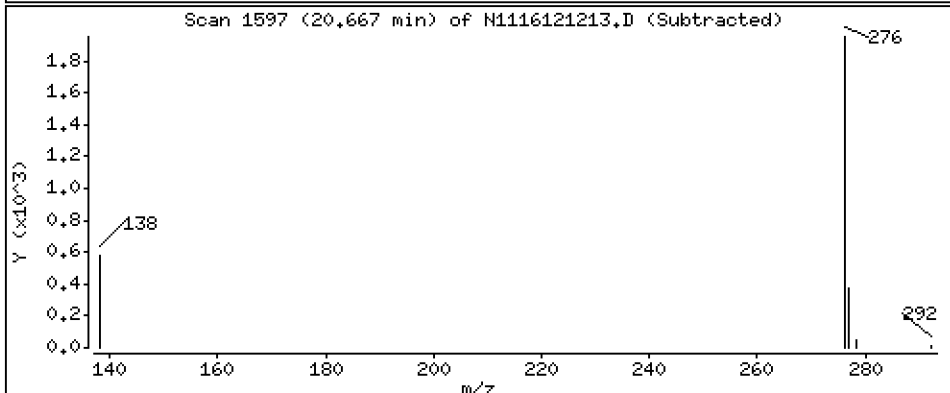
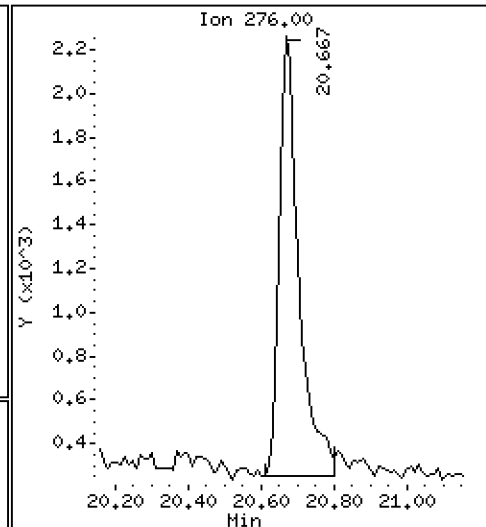
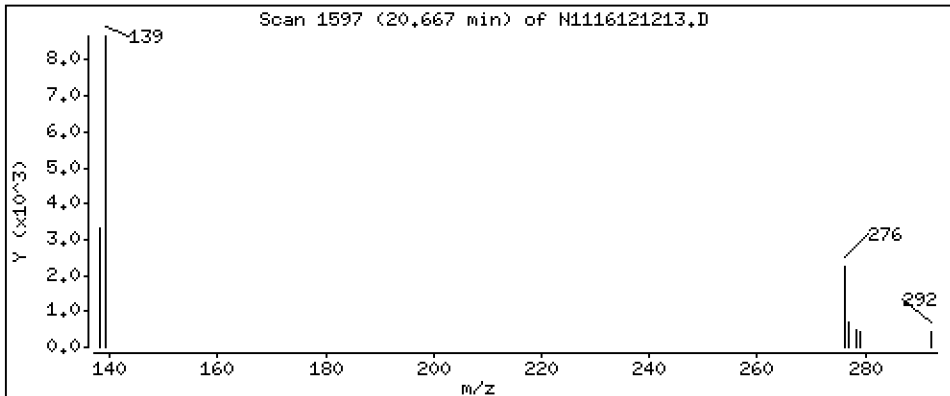
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 3,23 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121213.D
 Lab Smp Id: 16K0321-07
 Inj Date : 12-DEC-2016 14:28 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-07
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 12
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	460120	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	200721	84.8470	84.8
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.495	6.505	(1.175)	222223	128.105	128
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	256289	129.036	129
6 1-Methylnaphthalene	142		6.789	6.799	(1.228)	252620	129.680	130
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		7.419	7.429	(0.876)	103263	34.8763	34.9
9 2,6-Dimethylnaphthalene	156		7.461	7.482	(0.881)	316252	148.640	149
10 Acenaphthylene	152		8.312	8.321	(0.982)	77502	31.6024	31.6
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	265443	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	937906	557.430	557
13 Dibenzofuran	168		8.726	8.738	(1.031)	642450	268.685	269
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	91804	61.7591	61.8 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	1115632	603.921	604
17 Dibenzothiophene	184		10.921	10.921	(0.986)	248804	107.746	108
* 18 Phenanthrene-d10	188		11.079	11.089	(1.000)	467186	200.000	
19 Phenanthrene	178		11.121	11.131	(1.004)	6228108	2219.35	2220
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.184	11.184	(1.009)	626399	237.210	237
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.094)	392969	158.922	159
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.186)	356240	170.824	171
25 Fluoranthene	202		13.171	13.180	(1.189)	4920331	1806.97	1810
26 Pyrene	202		13.651	13.651	(0.867)	3562103	1225.86	1230
27 Benzo(a)anthracene	228		15.660	15.660	(0.995)	362820	144.293	144
* 28 Chrysene-d12	240		15.744	15.743	(1.000)	446613	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	318912	114.351	114
30 Benzo(b)fluoranthene	252		17.430	17.420	(0.959)	73406	27.5113	27.5
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.961)	50600	17.4535	17.5
32 Benzo(j)fluoranthene	252		17.516	17.506	(0.964)	46982	17.4822	17.5
\$ 33 Benzo(e)pyrene-d12	264		17.920	17.919	(0.986)	226208	100.001	100

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	50413	19.4434	19.4	
35 Benzo(a)pyrene	252	18.054	18.044	(0.993)	37957	15.5372	15.5	
* 36 Perylene-d12	264	18.179	18.179	(1.000)	469399	200.000		
37 Perylene	252	18.237	18.227	(1.003)	13386	5.27774	5.28	
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.093)	202592	128.851	129	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.137)	7567	3.23001	3.23	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121213.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-07
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	460120	-6.77
11 Acenaphthene-d10	240770	120385	481540	265443	10.25
18 Phenanthrene-d10	429271	214636	858542	467186	8.83
28 Chrysene-d12	387691	193846	775382	446613	15.20
36 Perylene-d12	386259	193130	772518	469399	21.52

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.08	-0.09
28 Chrysene-d12	15.74	15.24	16.24	15.74	0.00
36 Perylene-d12	18.18	17.68	18.68	18.18	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 - N1116121213.D

Lab ID: 16K0321-07

nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 14:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

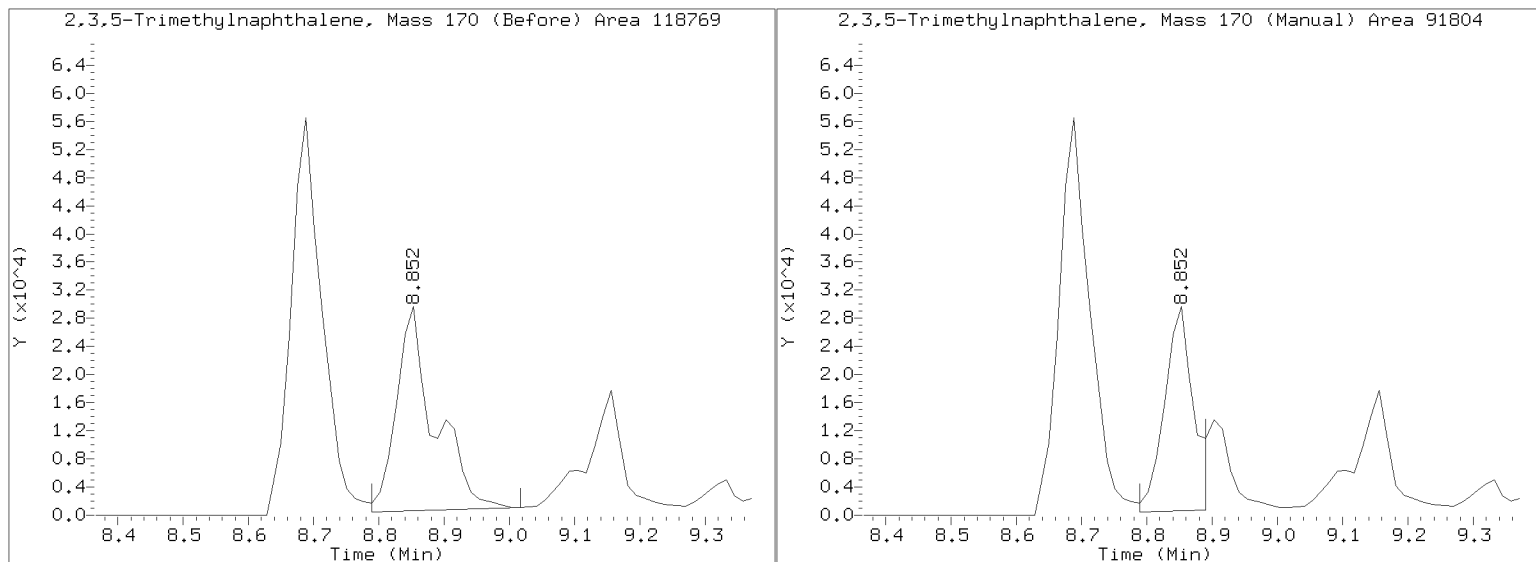
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121213.D

Injection Date: 12-DEC-2016 14:28

Lab ID:16K0321-07 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-07RE1 File ID: N1116121322.D
 Sampled: 11/22/16 10:53 Prepared: 11/24/16 08:25 Analyzed: 12/13/16 22:28
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	5	9.22	D, B	5.64	6.77
91-57-6	2-Methylnaphthalene	5	9.92	D, B	5.64	5.64
208-96-8	Acenaphthylene	5	5.64	U	5.64	5.64
83-32-9	Acenaphthene	5	65.6	D	5.64	5.64
86-73-7	Fluorene	5	74.8	D	5.64	5.64
85-01-8	Phenanthrene	5	343	D	5.64	5.64
120-12-7	Anthracene	5	64.6	Q, D	5.64	5.64
206-44-0	Fluoranthene	5	285	D	5.64	5.64
129-00-0	Pyrene	5	198	D	5.64	5.64
56-55-3	Benzo(a)anthracene	5	14.8	D	5.64	5.64
218-01-9	Chrysene	5	16.6	D	5.64	5.64
205-99-2	Benzo(b)fluoranthene	5	5.64	U	5.64	5.64
207-08-9	Benzo(k)fluoranthene	5	5.64	U	5.64	5.64
50-32-8	Benzo(a)pyrene	5	5.64	U	5.64	5.64
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.64	U	5.64	5.64
53-70-3	Dibenzo(a,h)anthracene	5	5.64	U	5.64	5.64
191-24-2	Benzo(g,h,i)perylene	5	5.64	U	5.64	5.64
1985-5-0	Perylene	5	5.64	U	5.64	5.64
197-97-2	Benzo(e)pyrene	5	5.64	U	5.64	5.64

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	11.0	32.5	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	17.0	50.2	30 - 160	
Fluoranthene-d10	33.860	20.8	61.4	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	14.3	67.8	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161213.16\N1116121322.D

Date: 13-DEC-2016 22:28

Client ID:

Sample Info: 16K0321-07.5

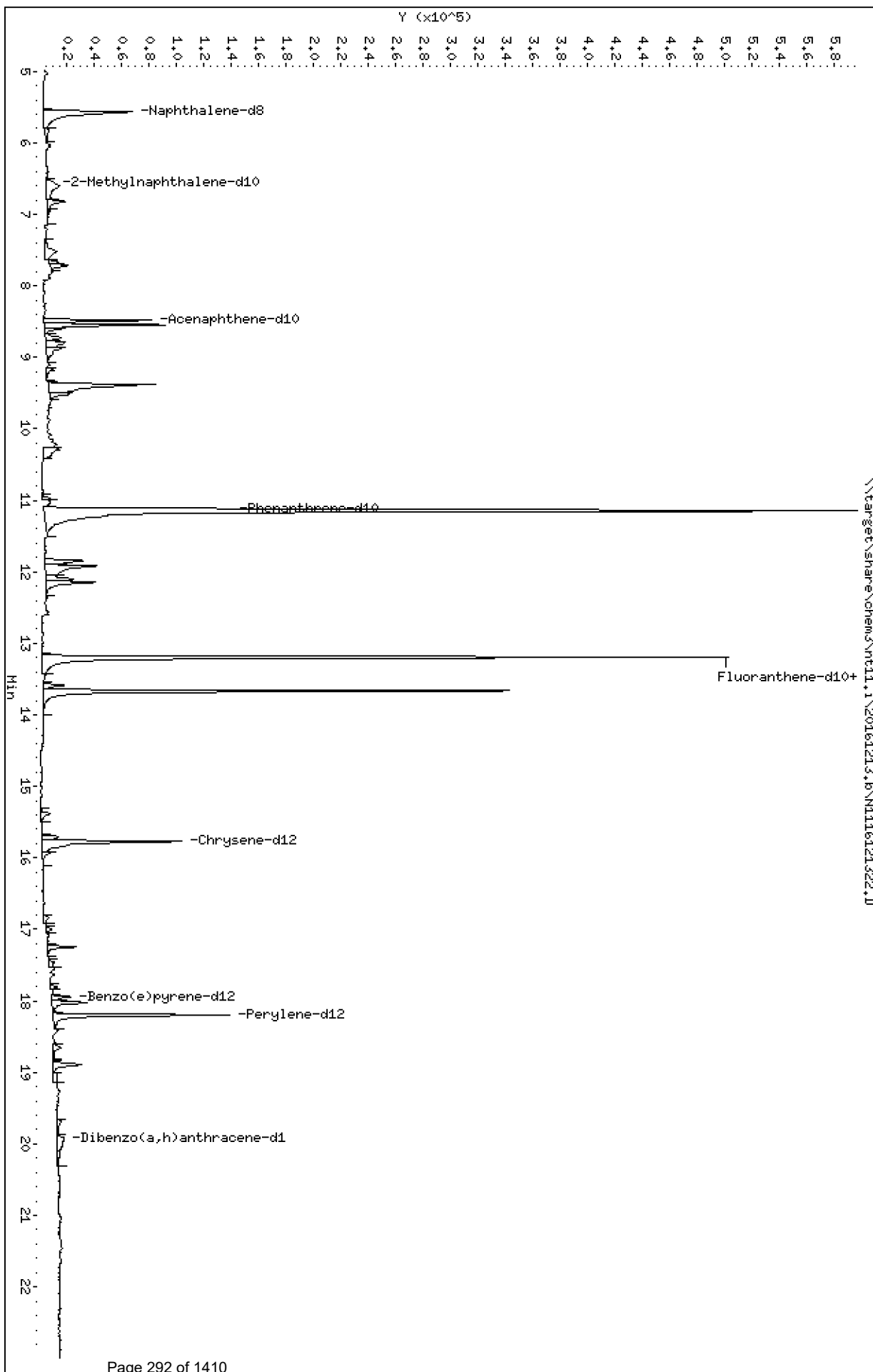
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

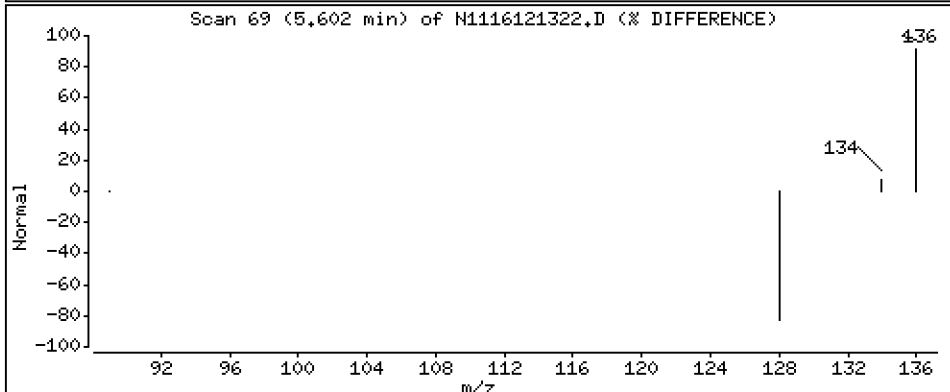
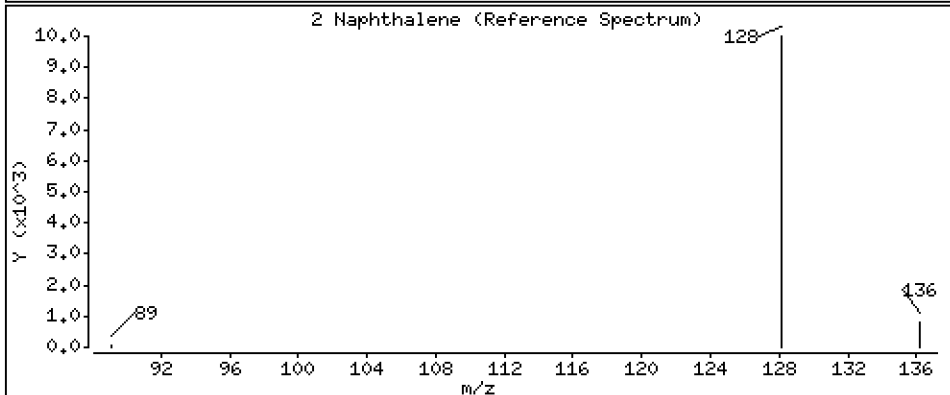
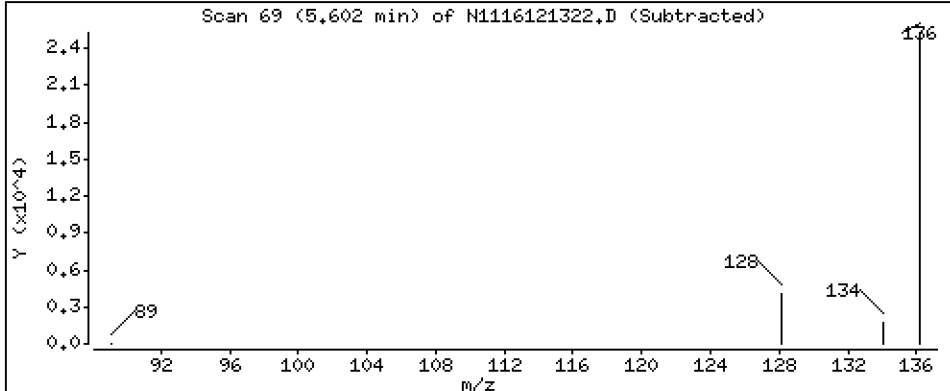
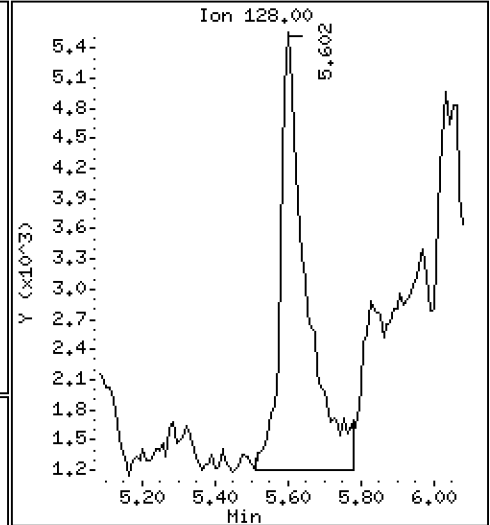
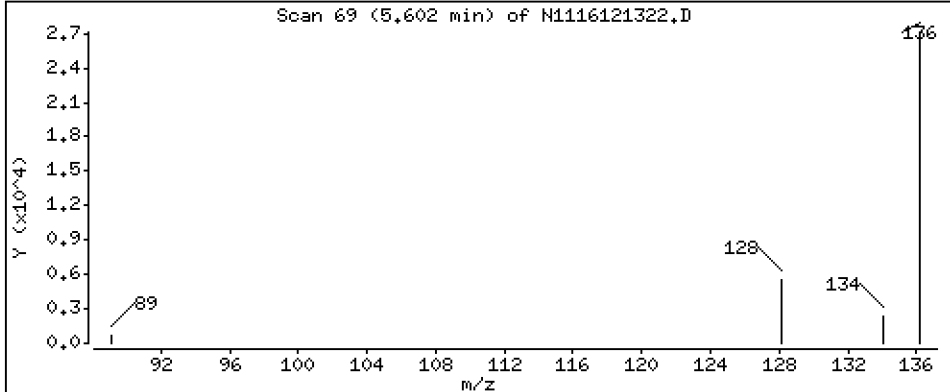
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 81,7 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

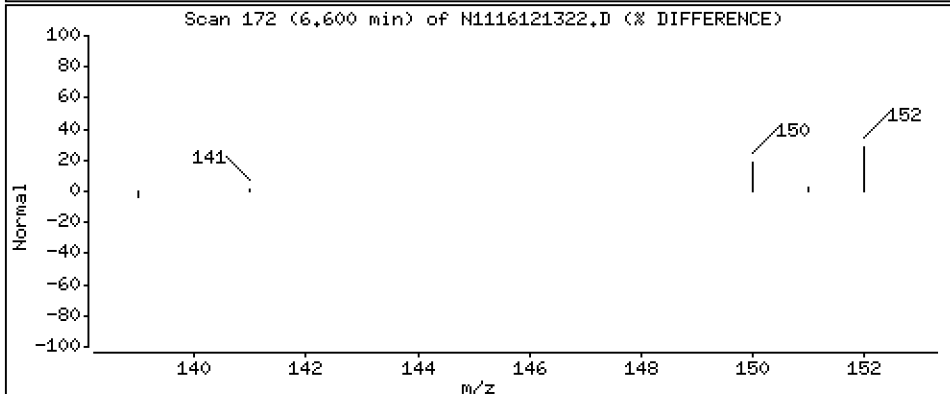
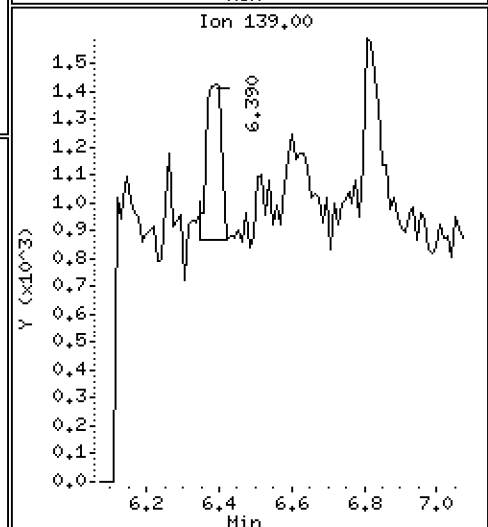
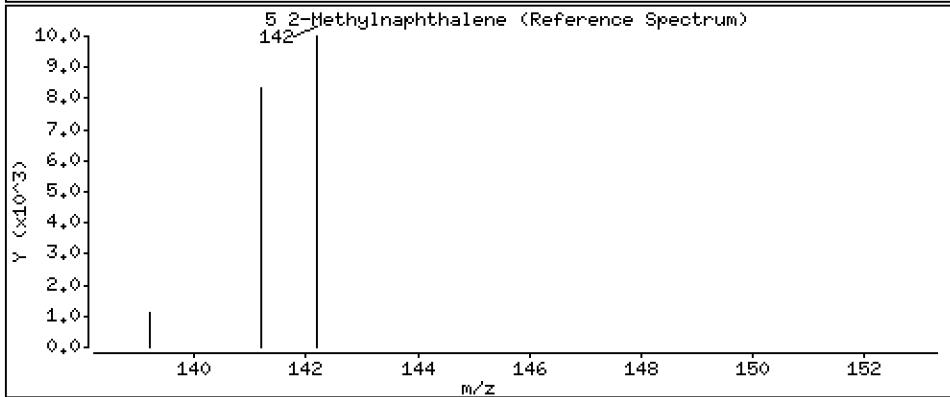
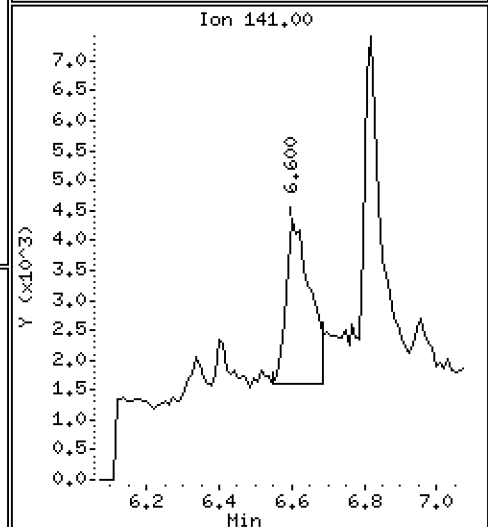
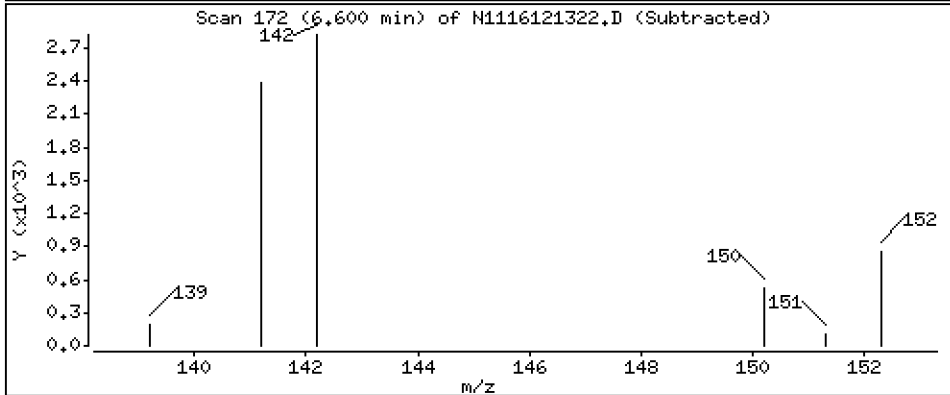
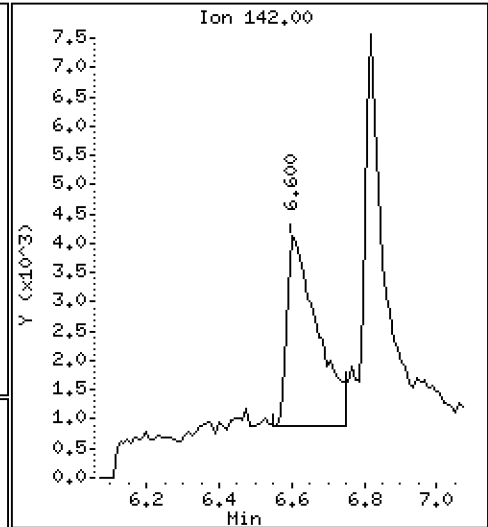
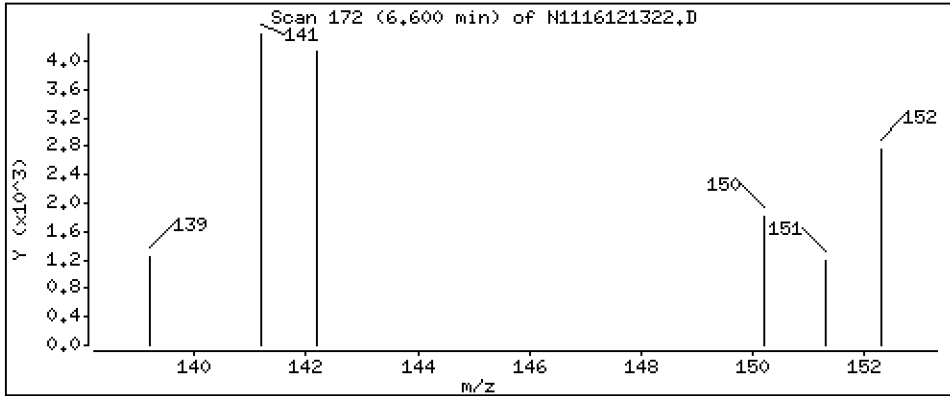
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 87,9 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

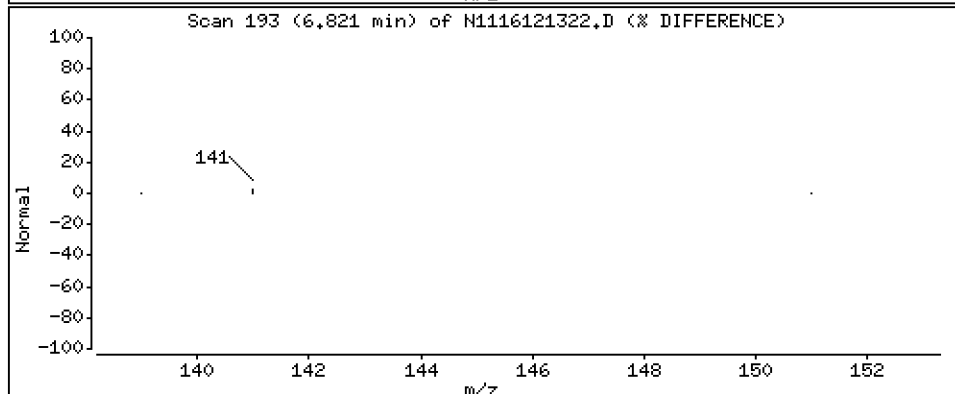
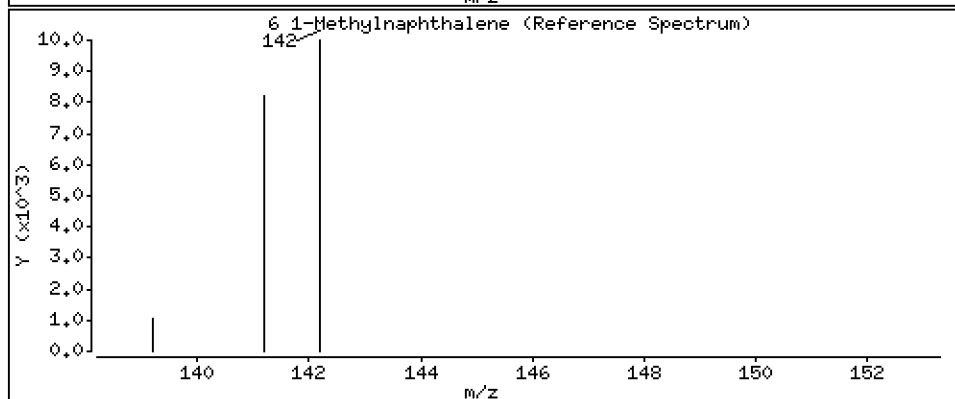
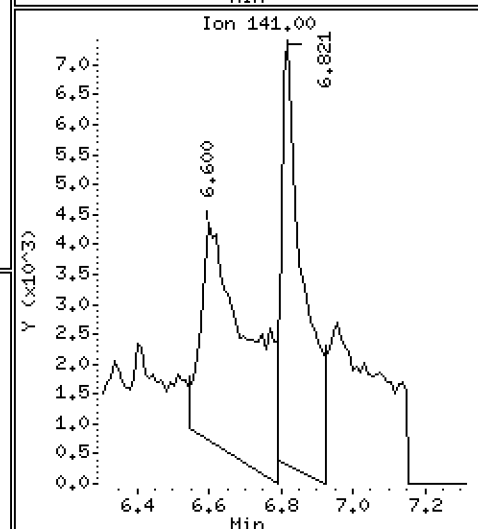
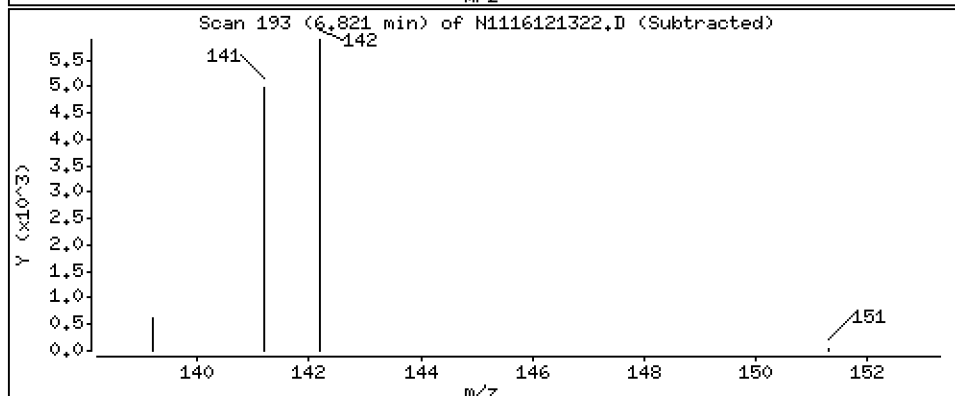
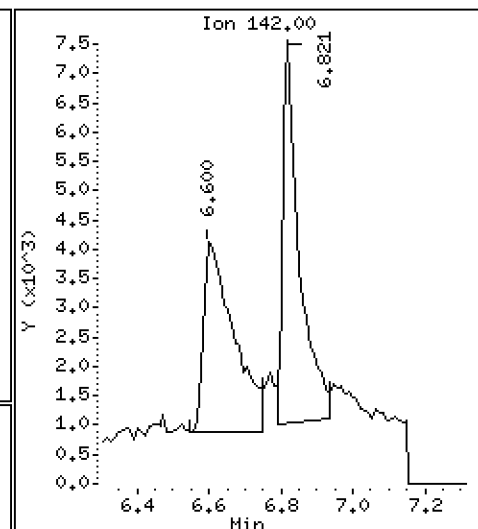
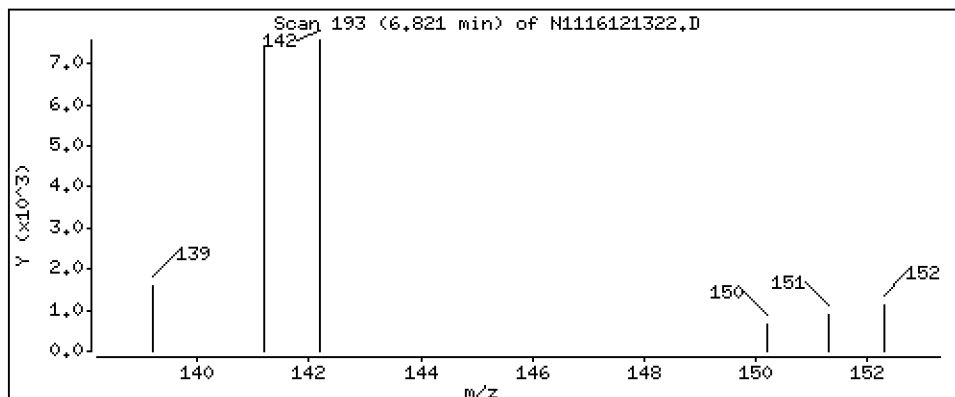
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 103 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

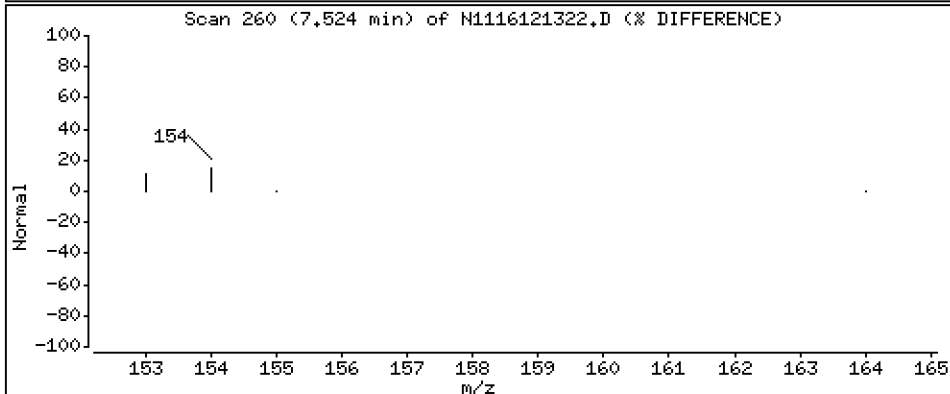
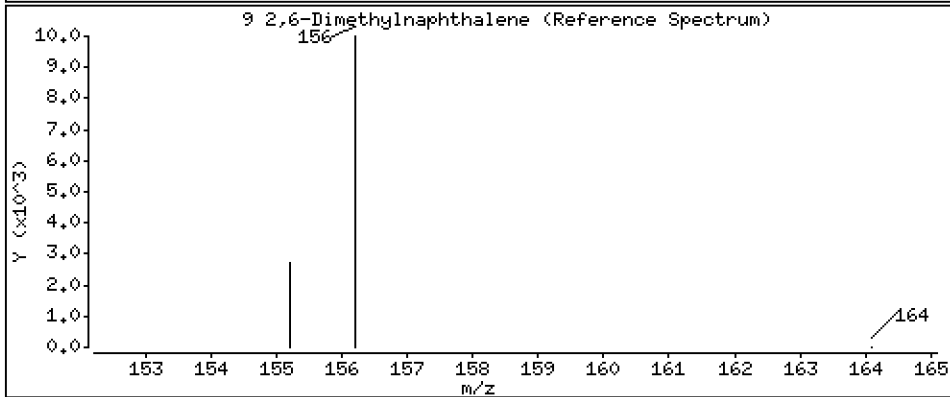
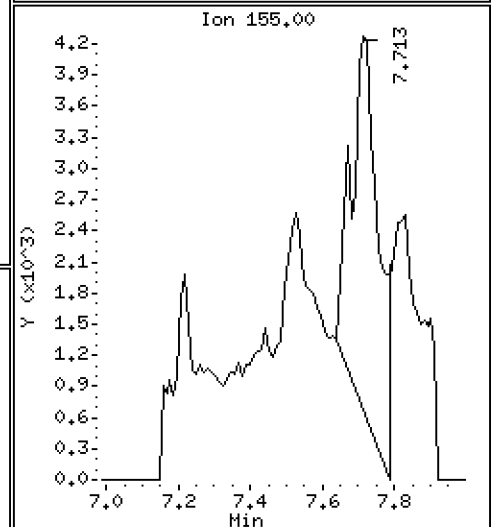
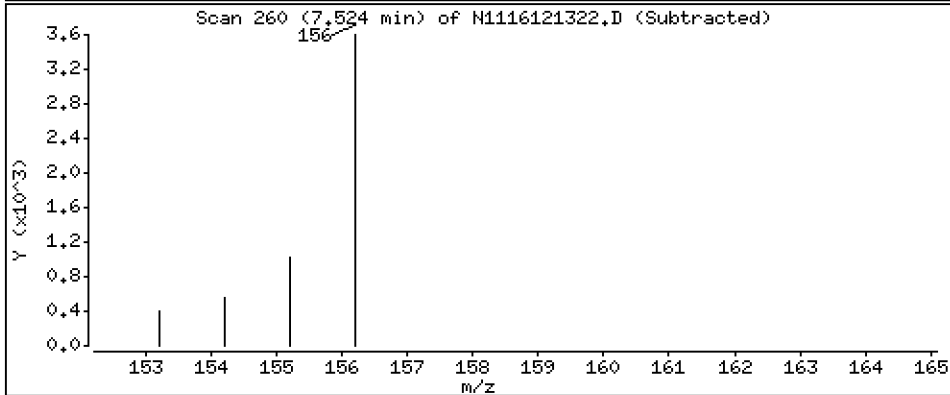
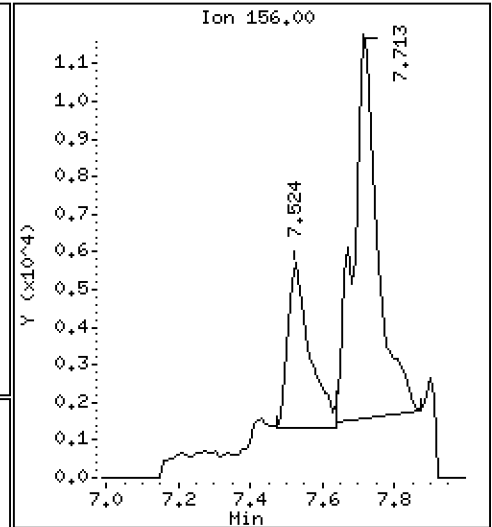
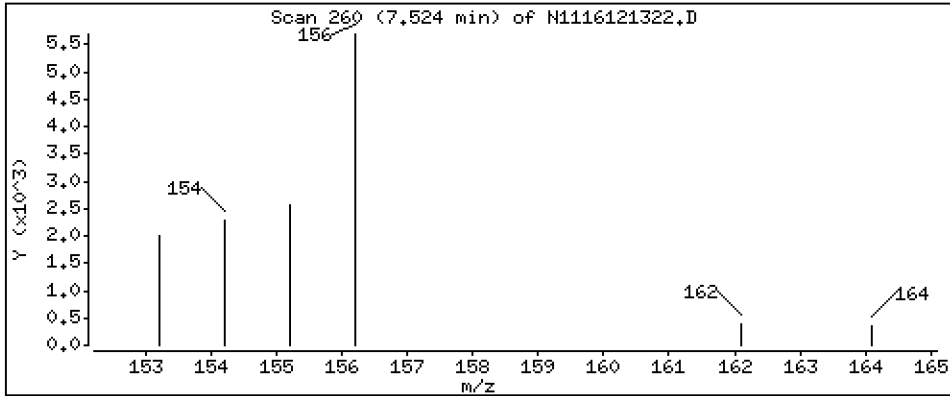
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 87,1 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

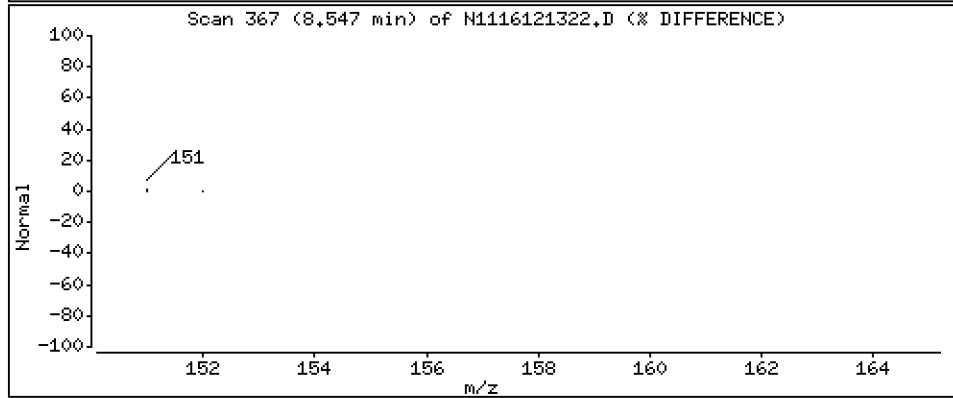
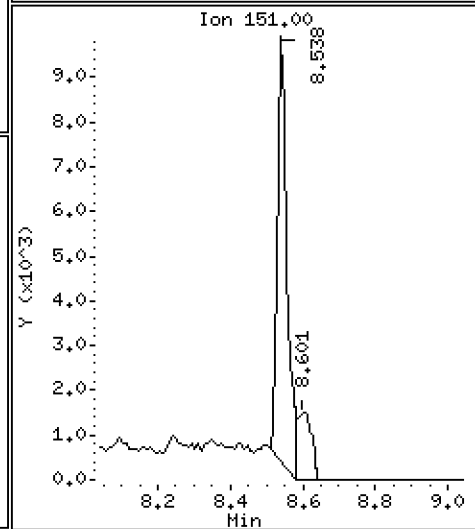
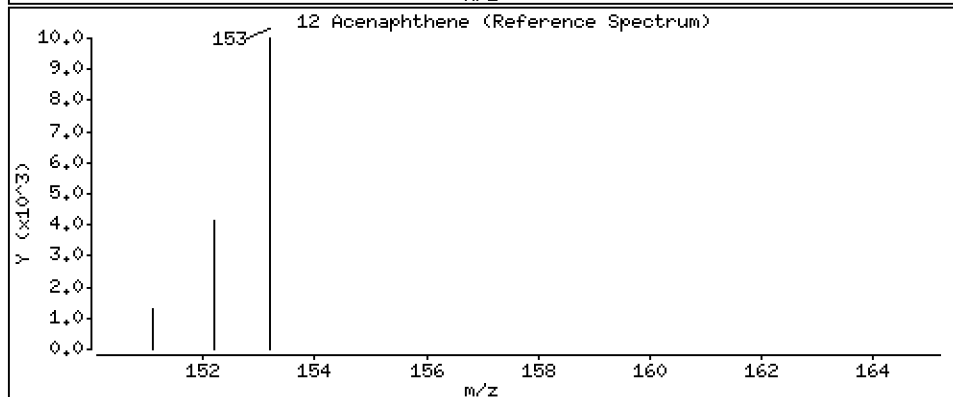
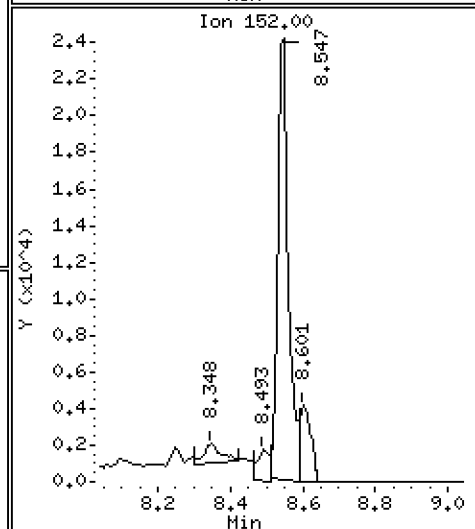
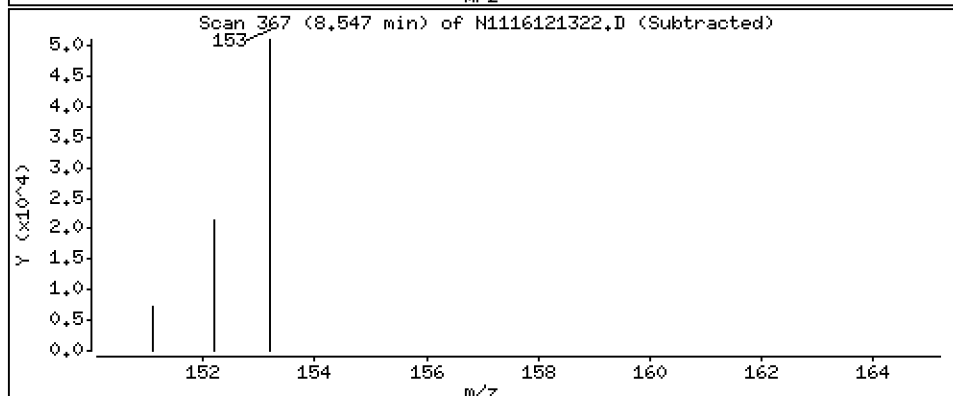
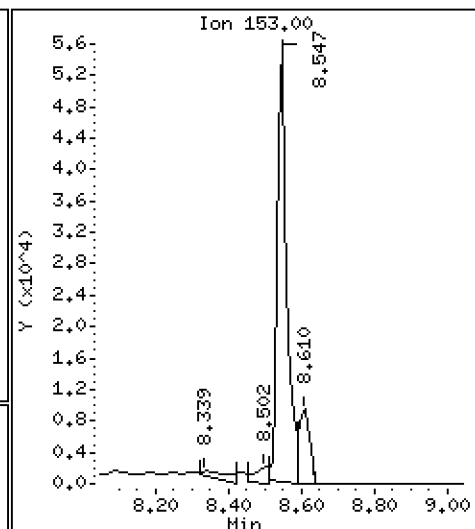
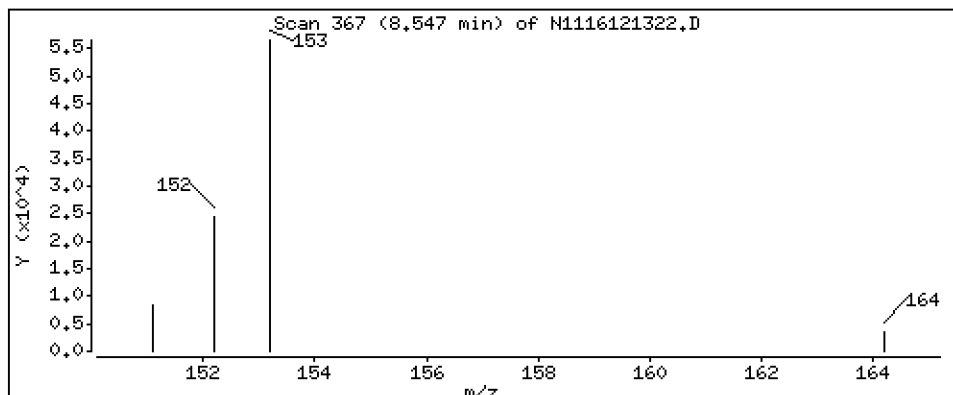
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 581 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

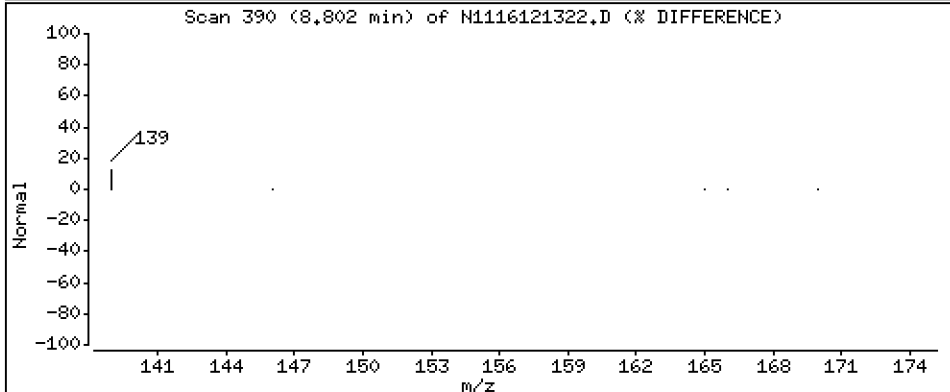
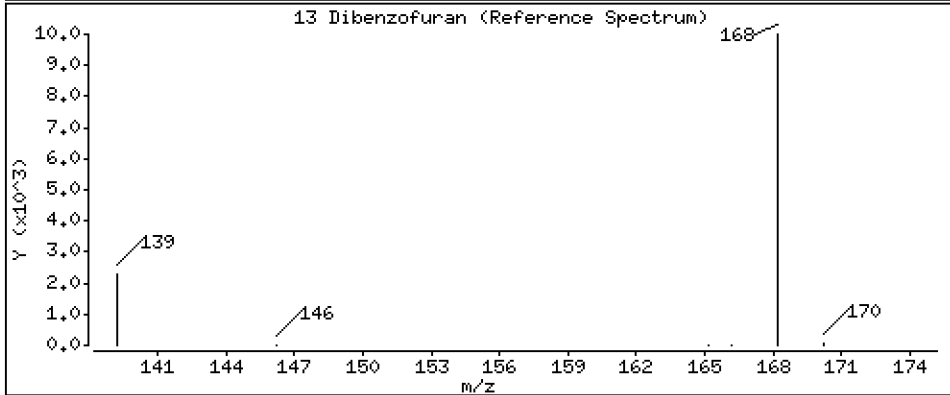
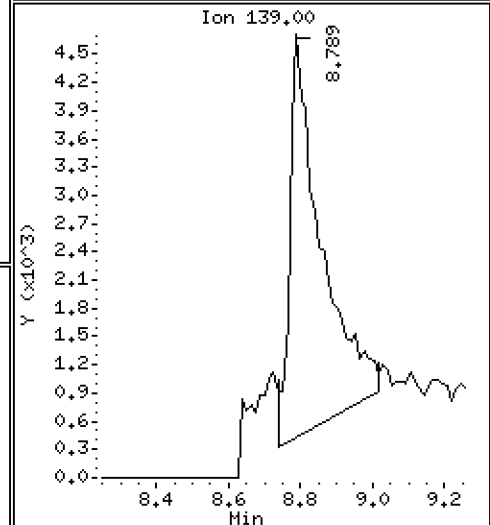
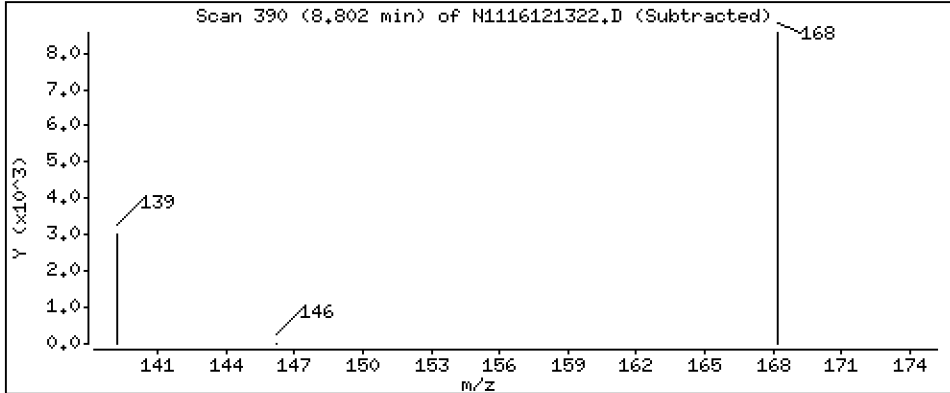
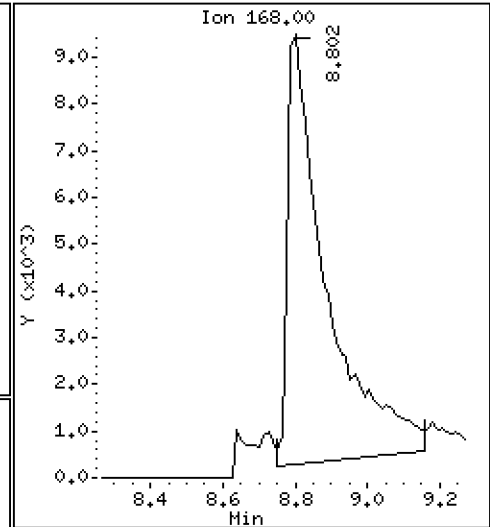
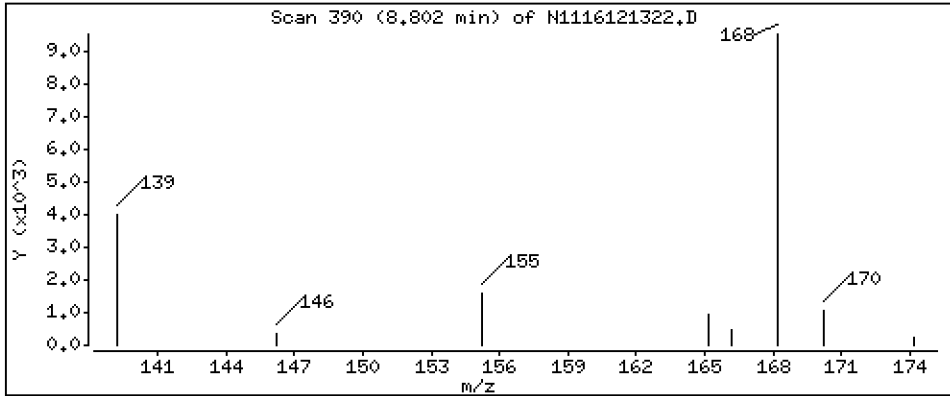
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 269 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

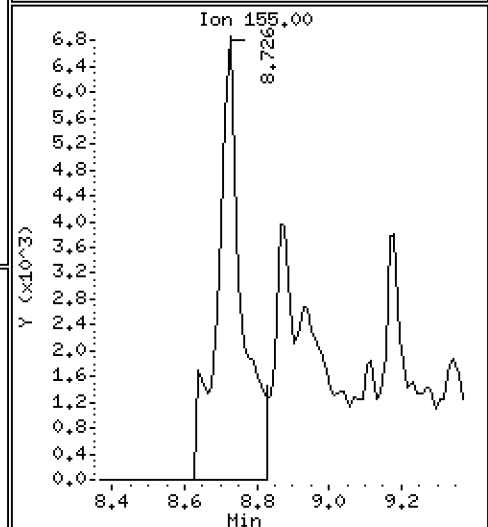
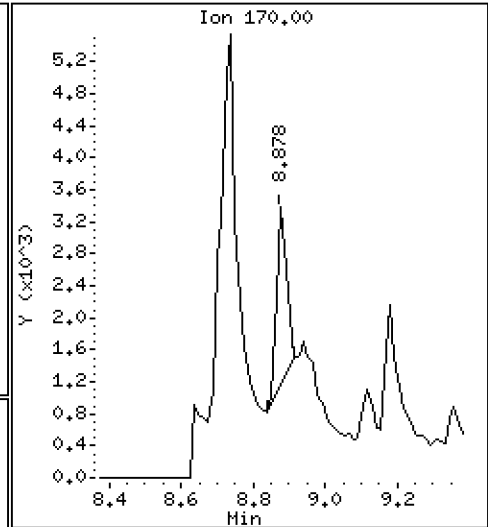
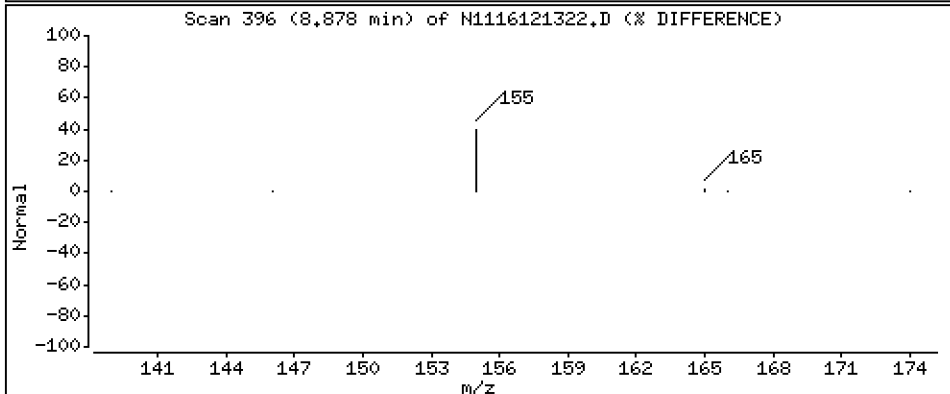
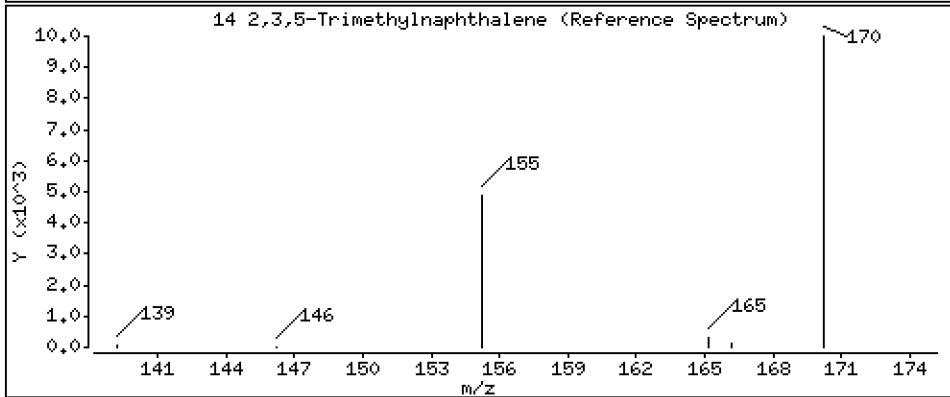
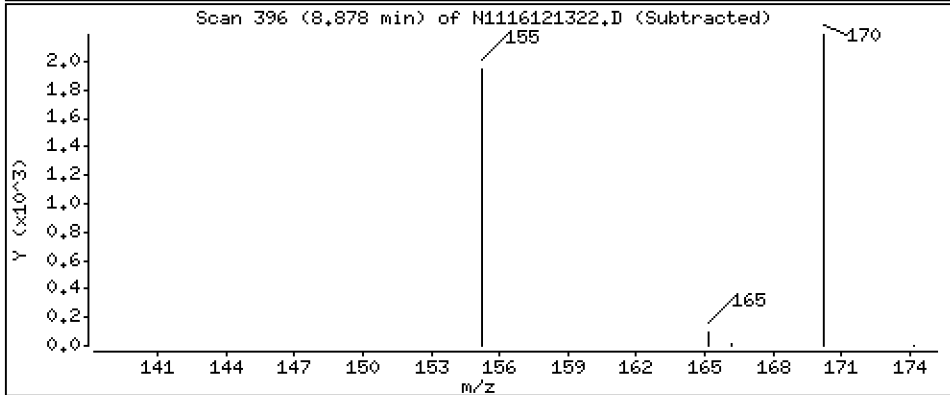
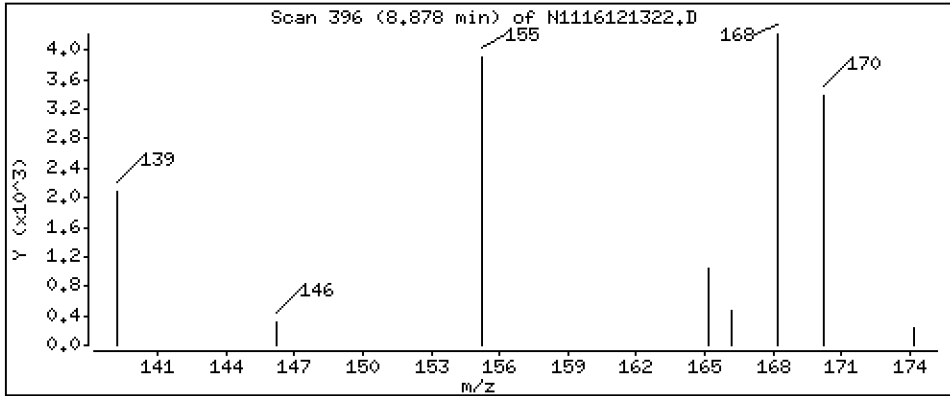
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 26,2 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

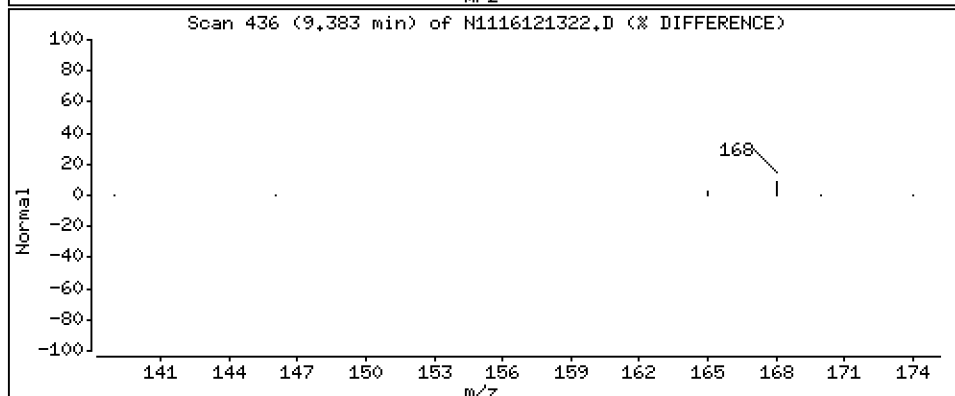
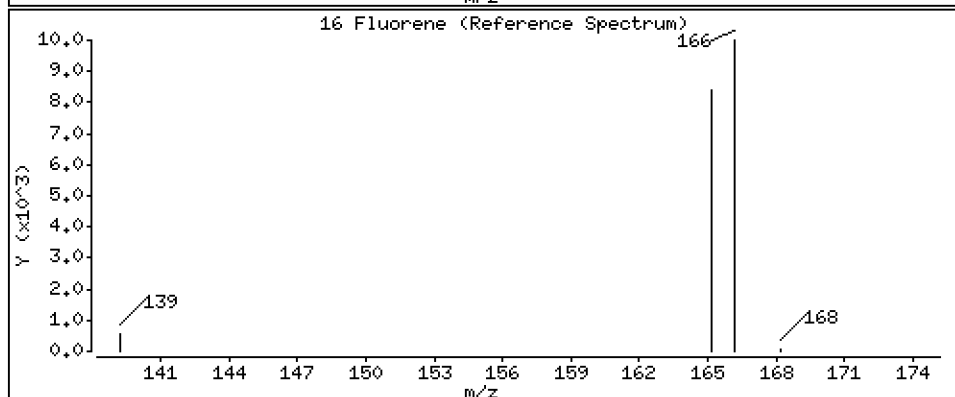
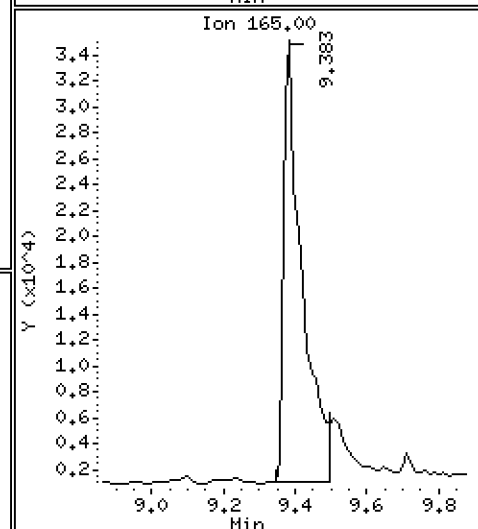
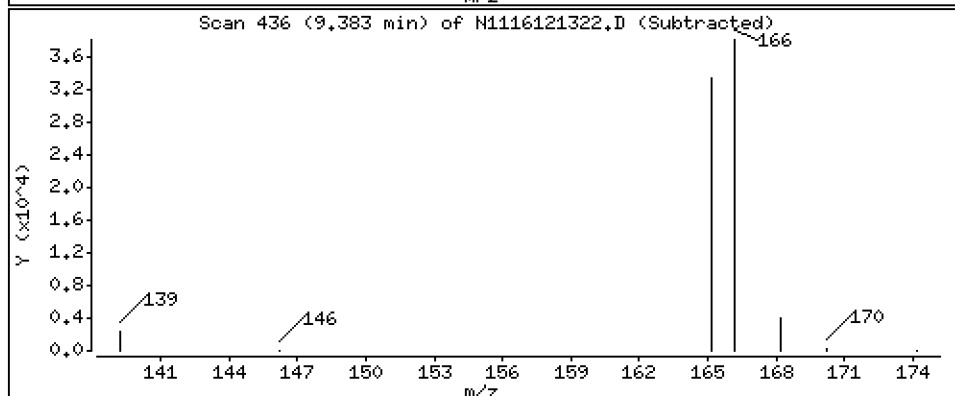
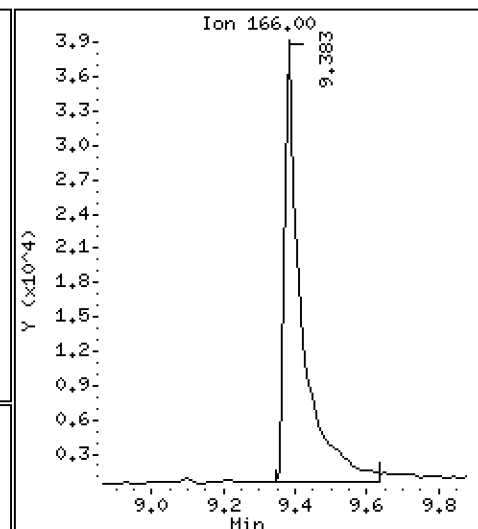
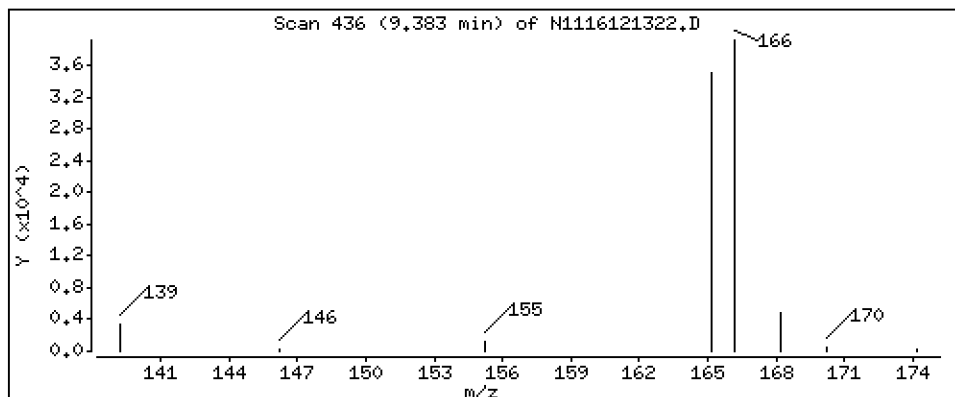
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 663 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

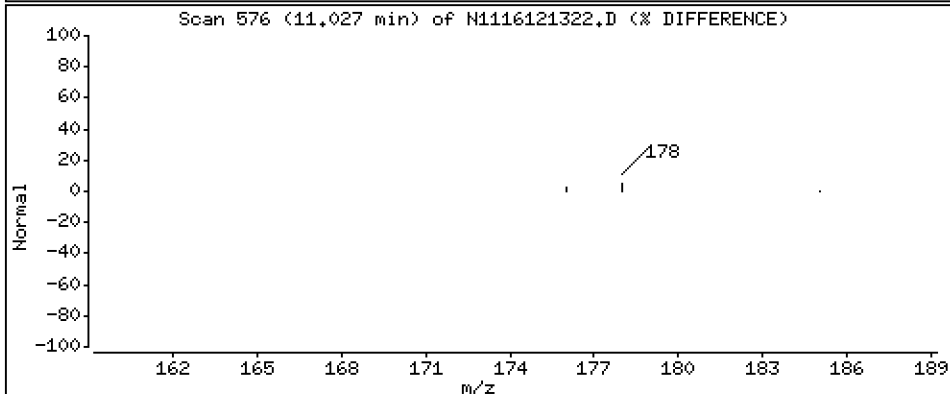
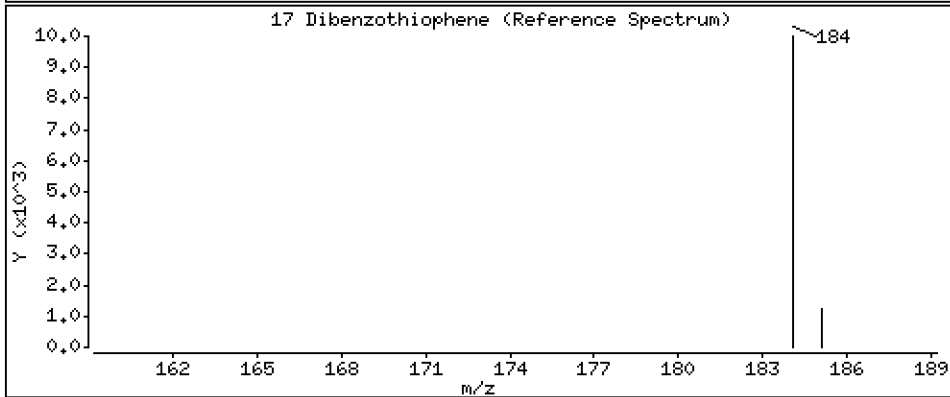
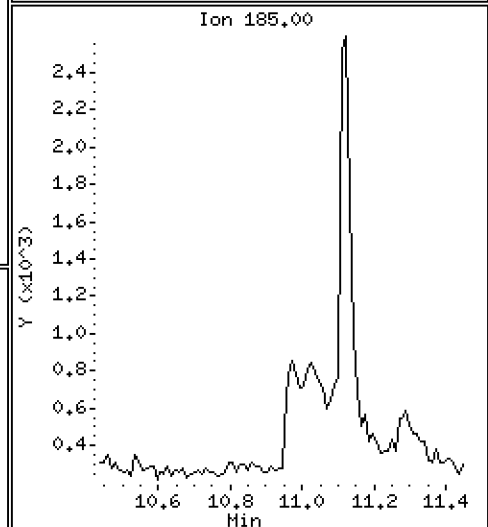
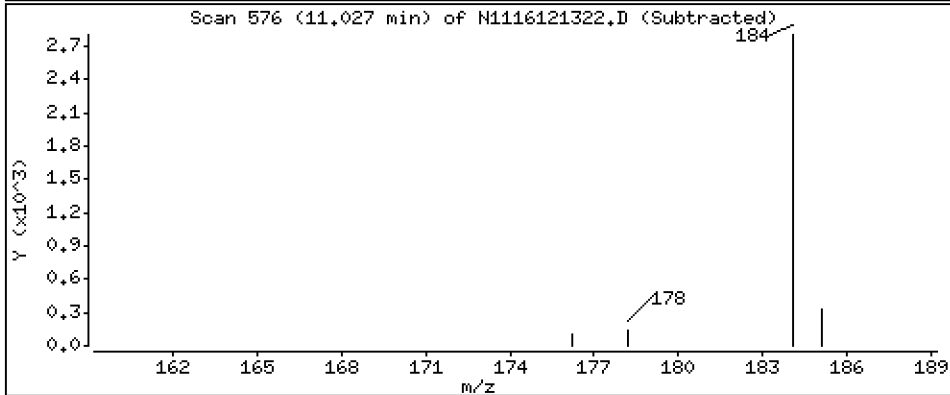
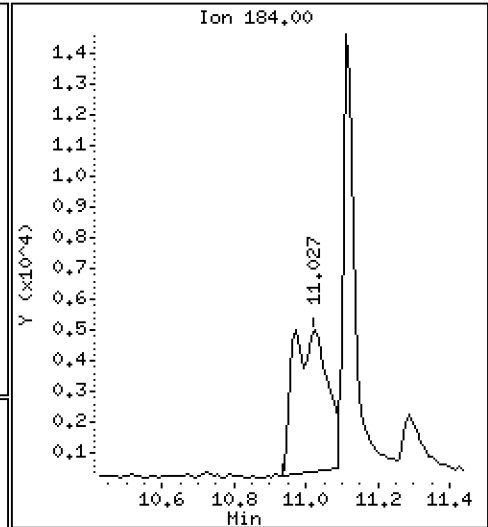
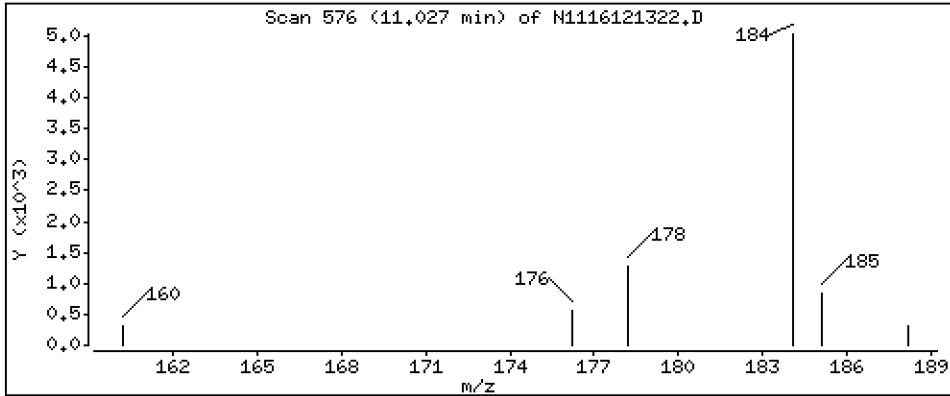
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 128 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

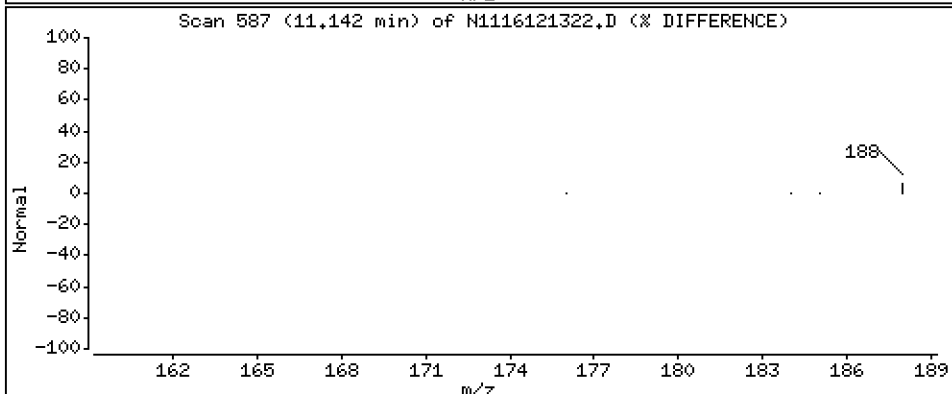
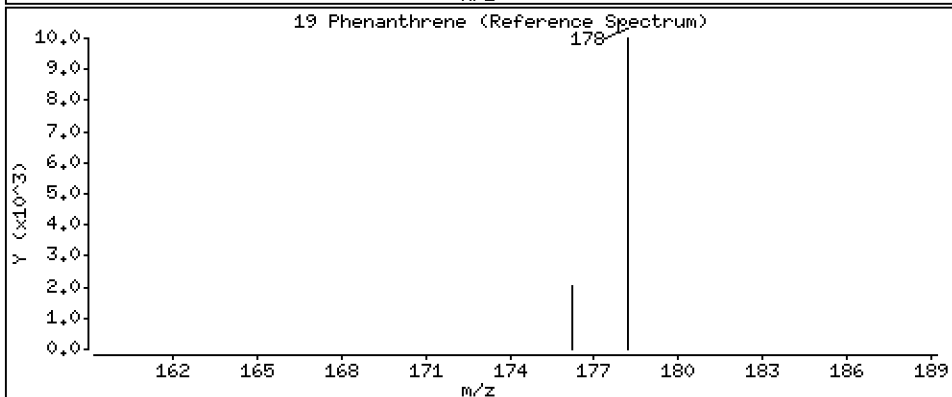
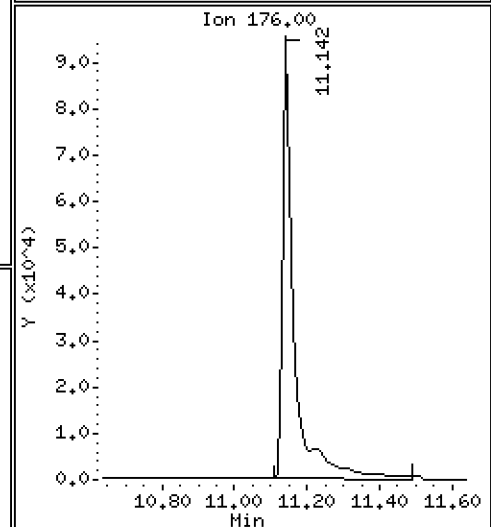
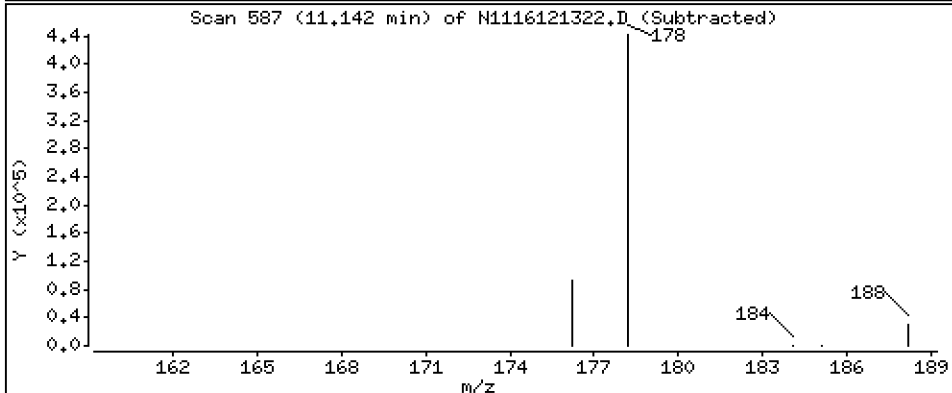
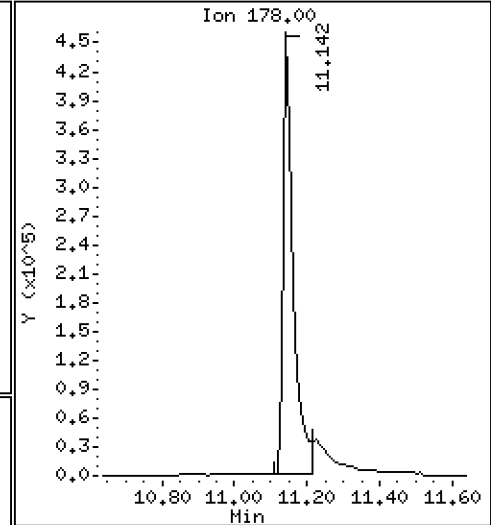
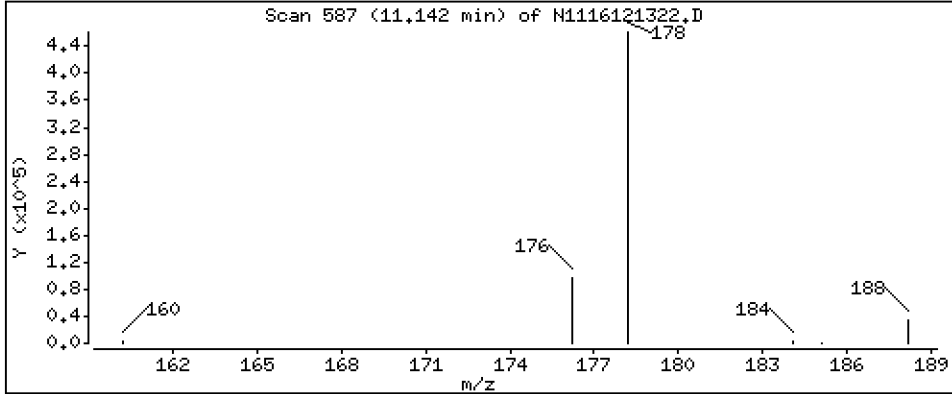
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 3040 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

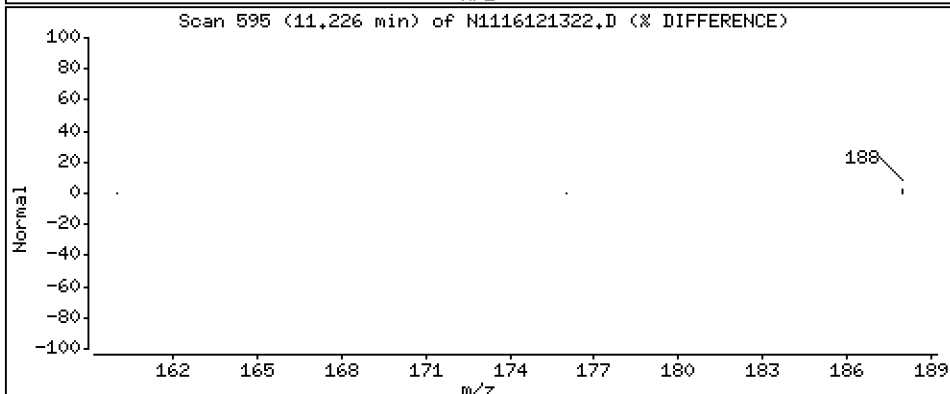
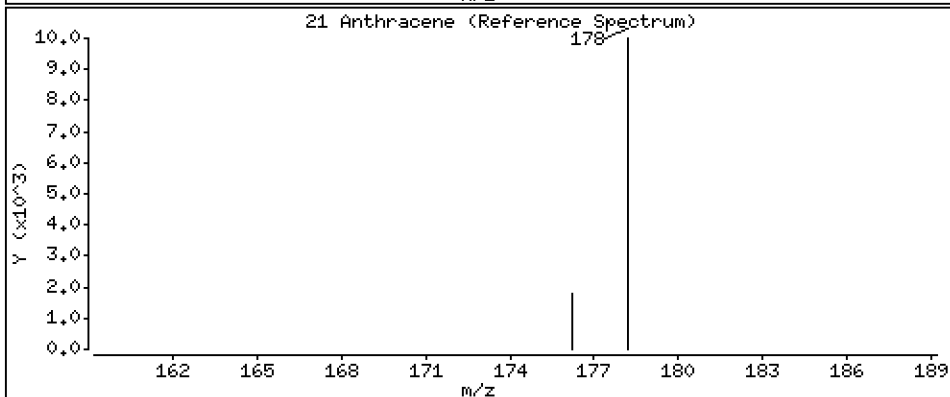
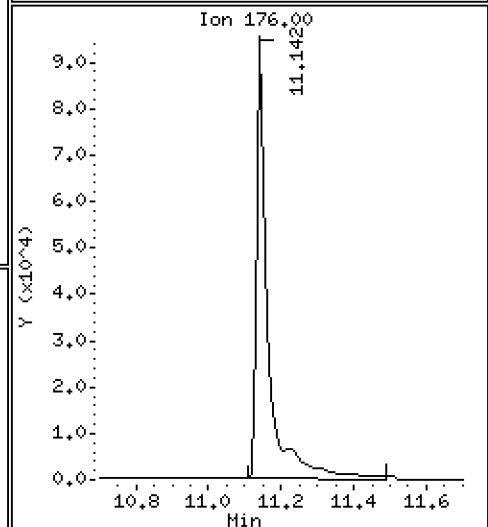
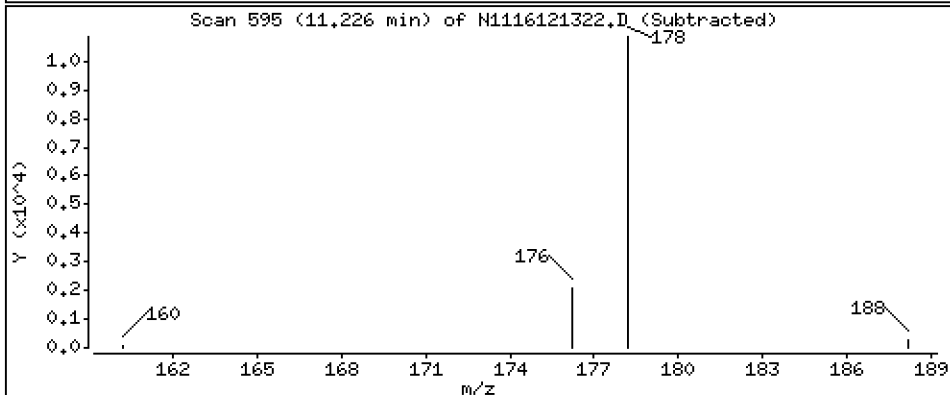
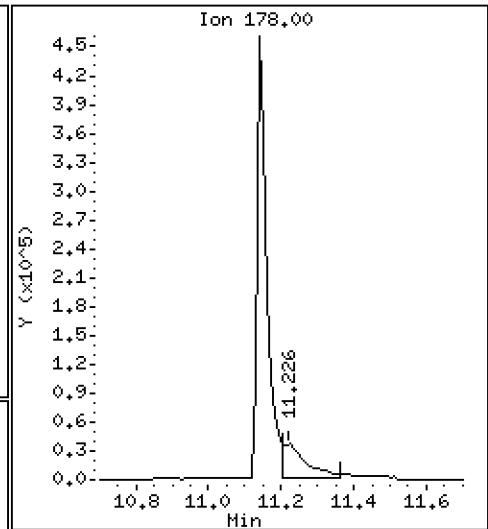
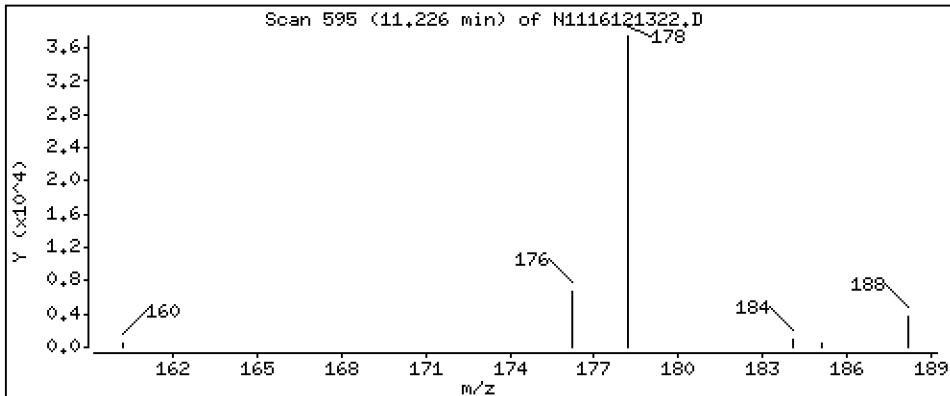
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 572 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

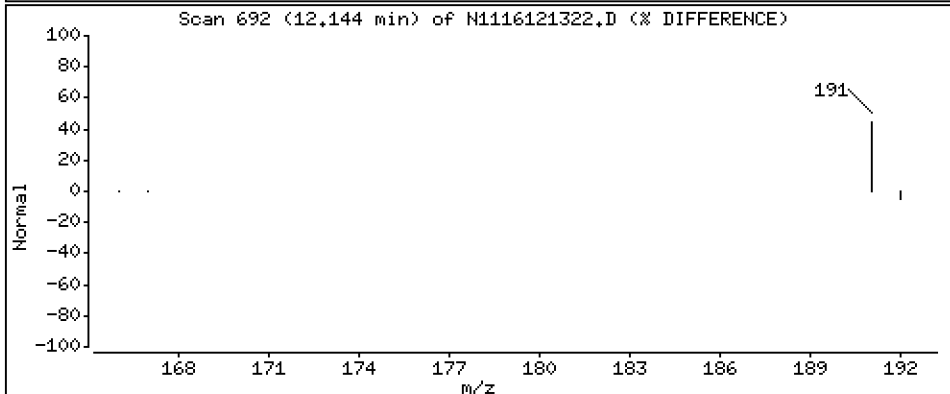
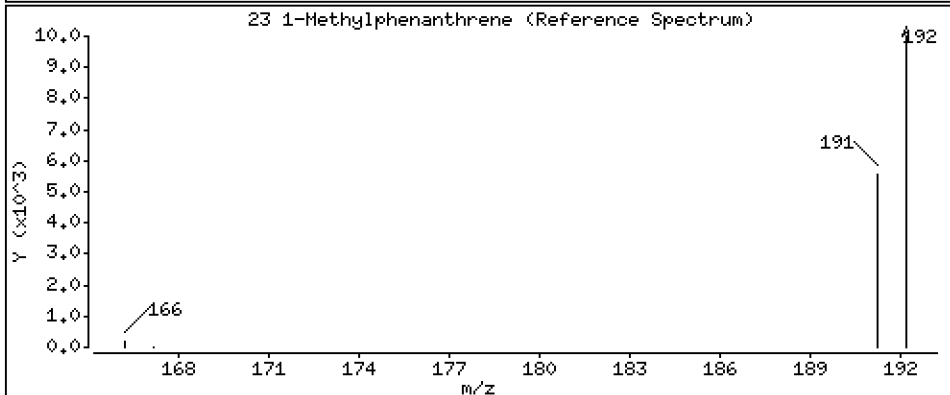
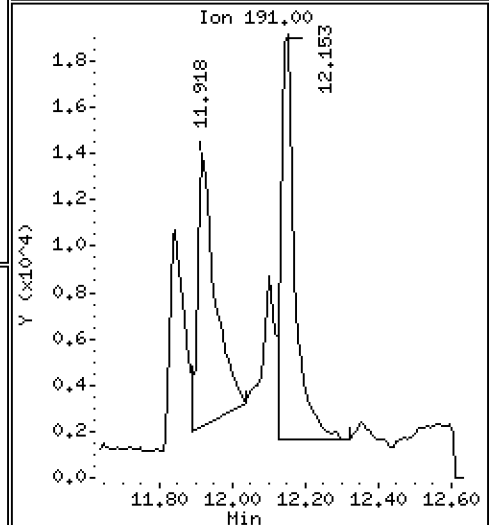
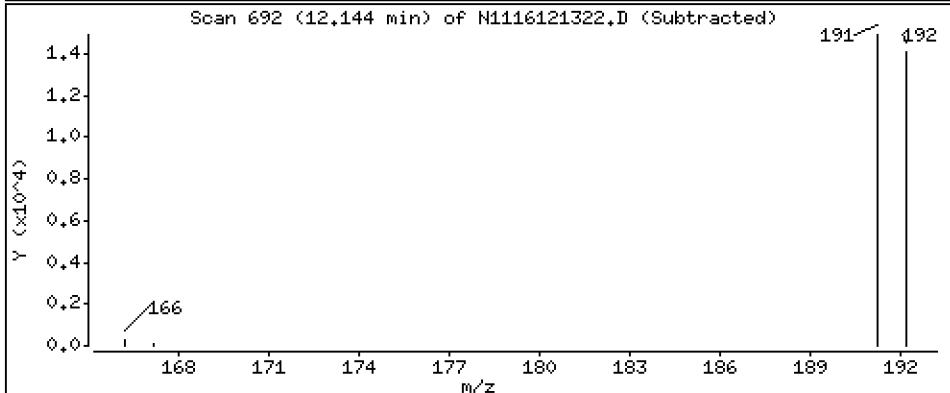
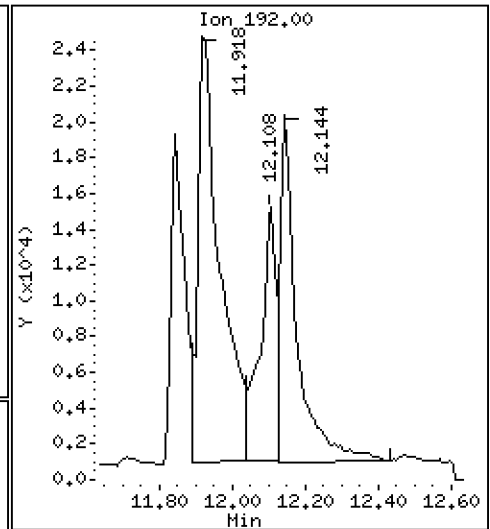
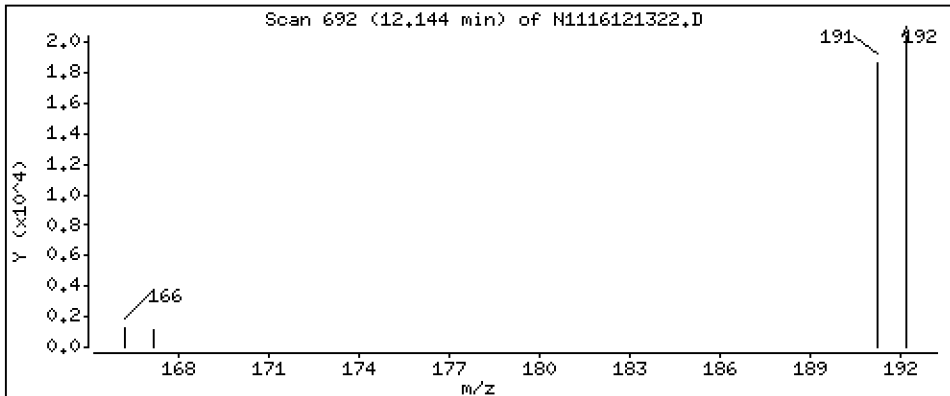
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 244 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

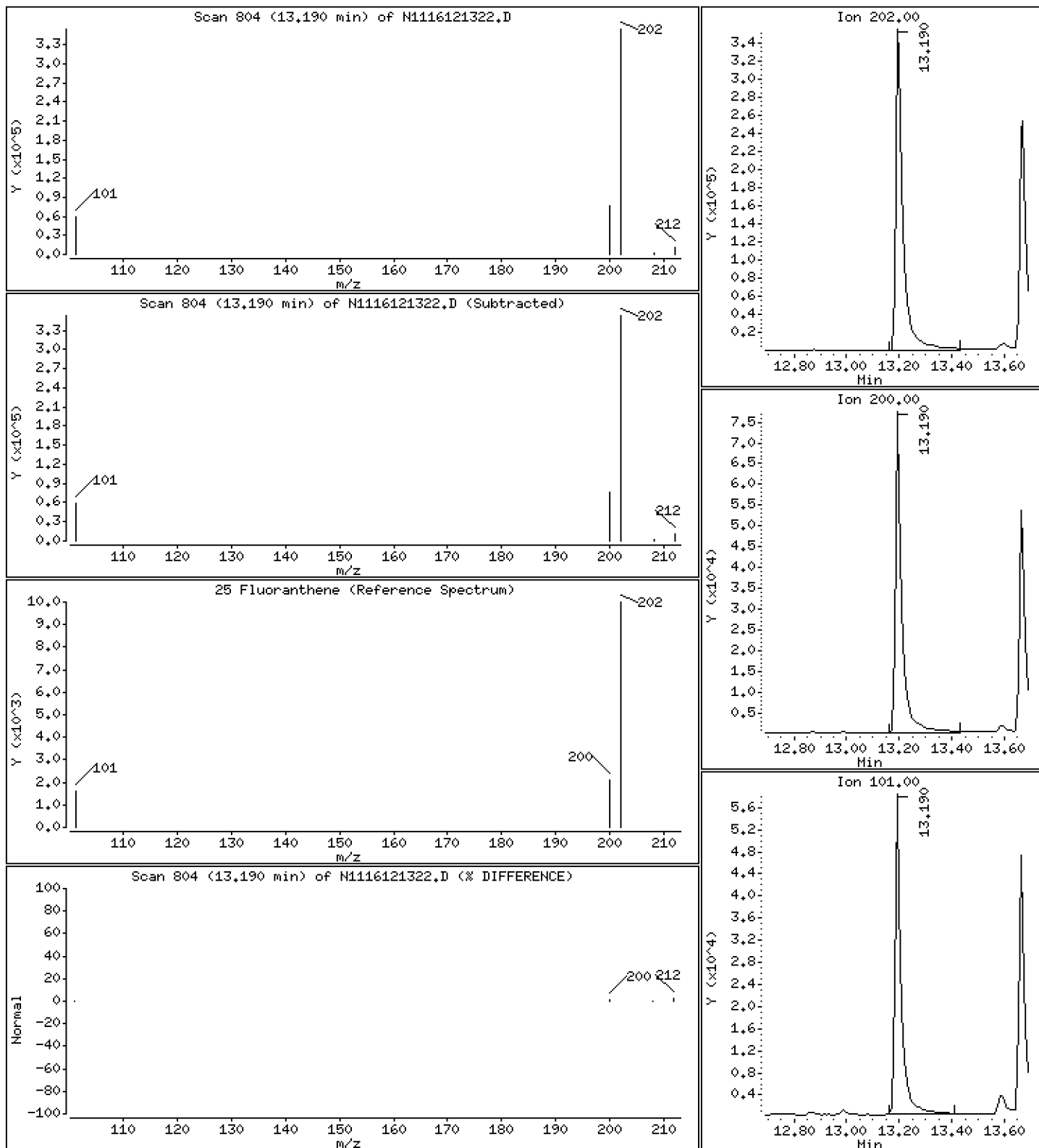
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 2530 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

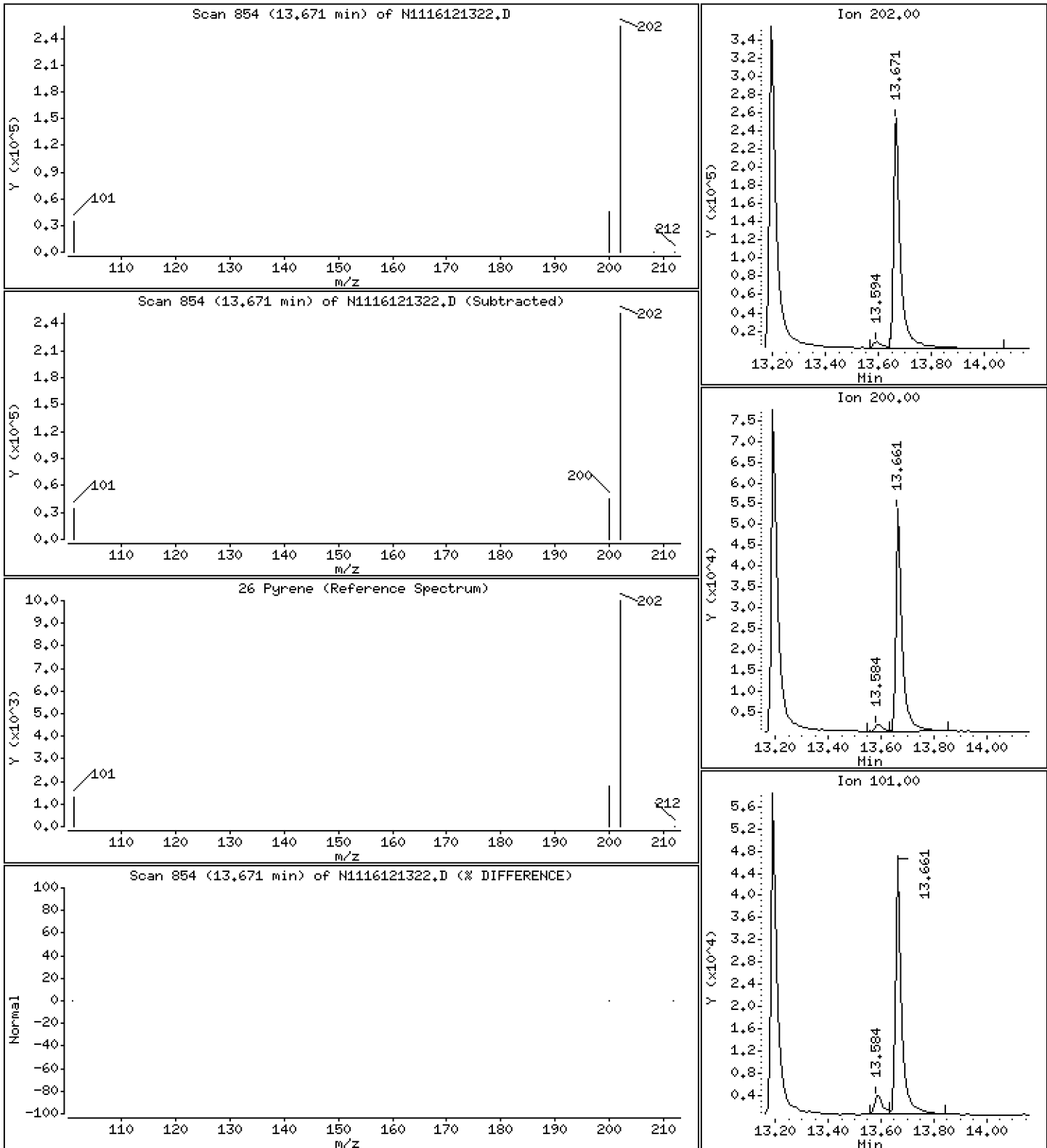
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1750 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

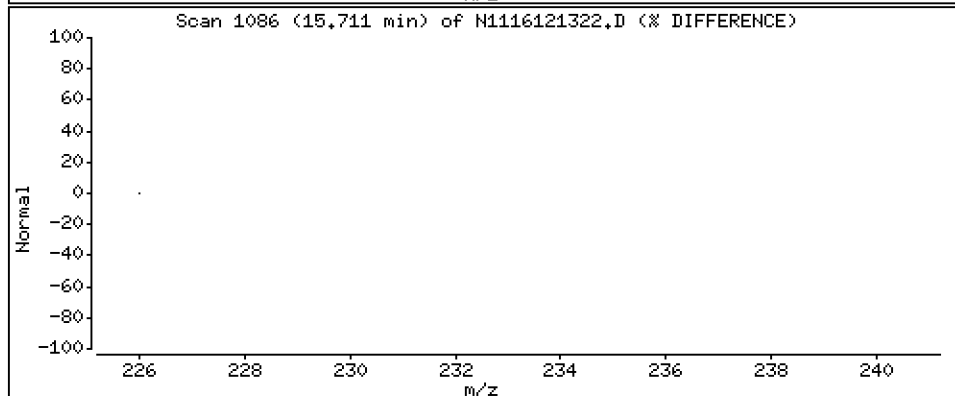
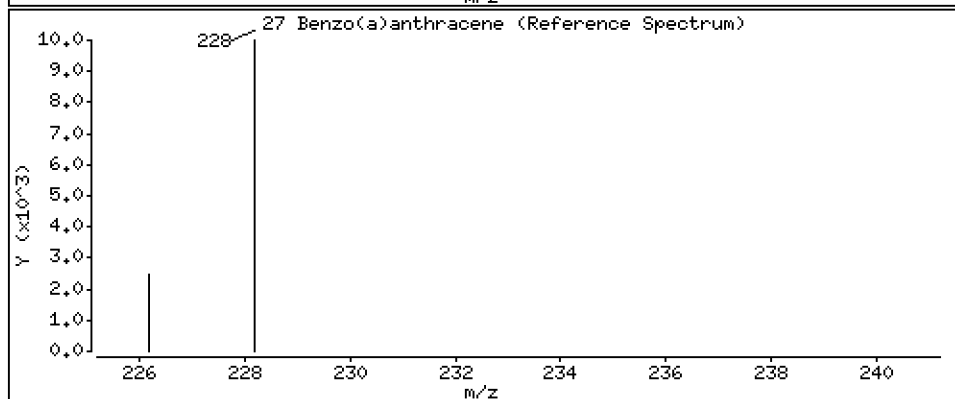
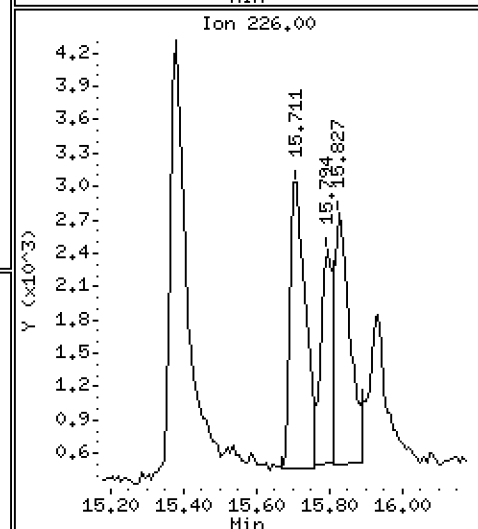
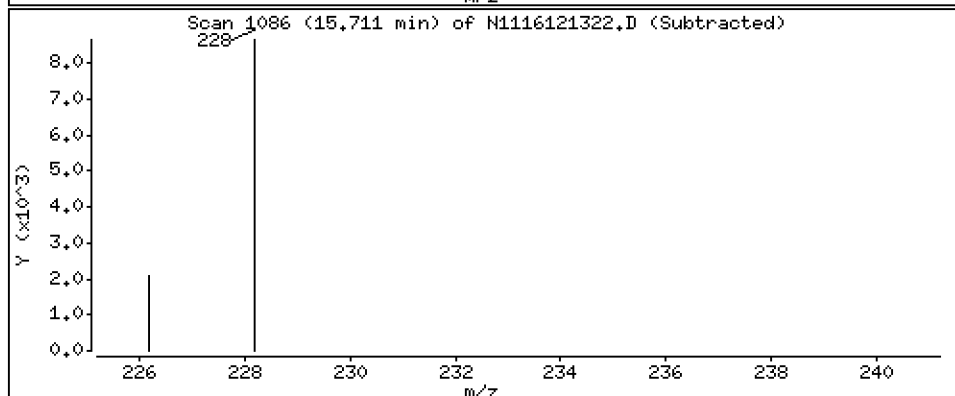
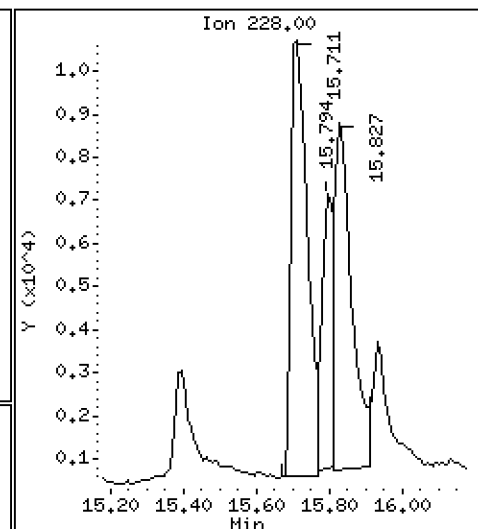
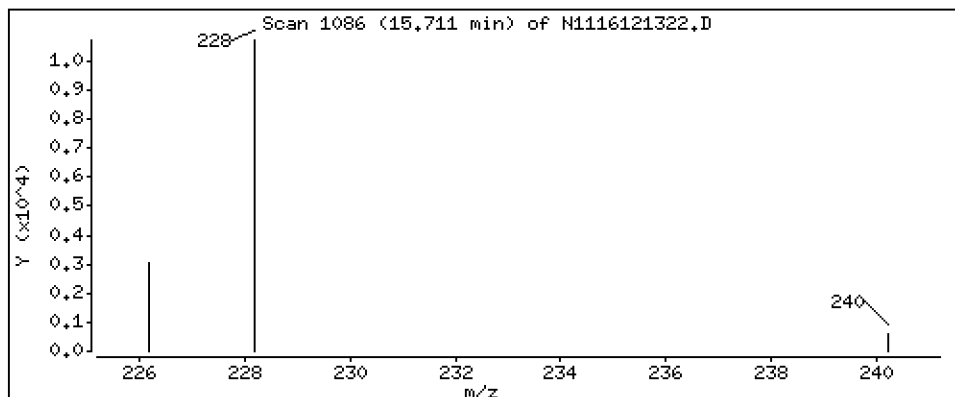
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 131 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

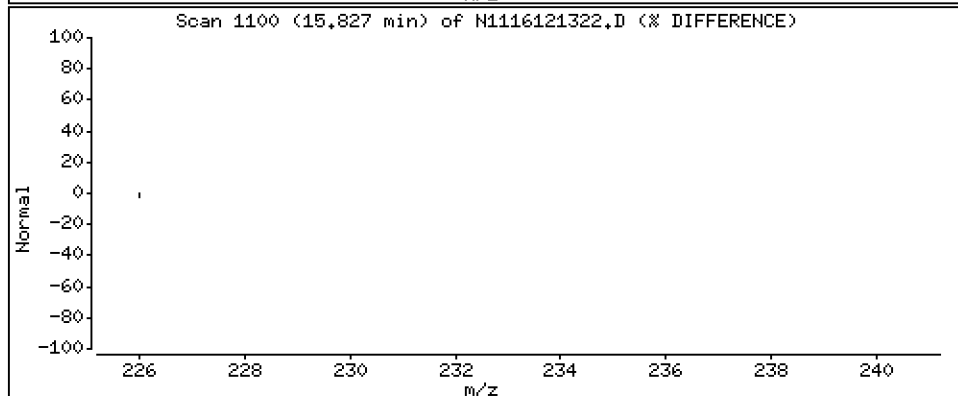
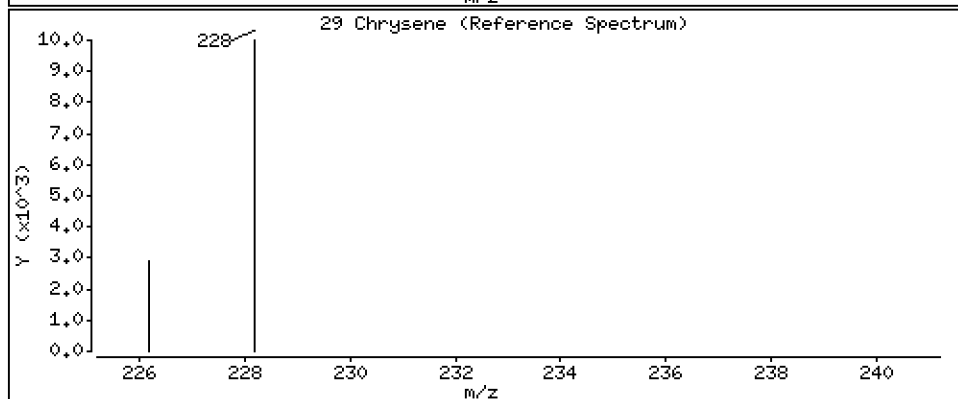
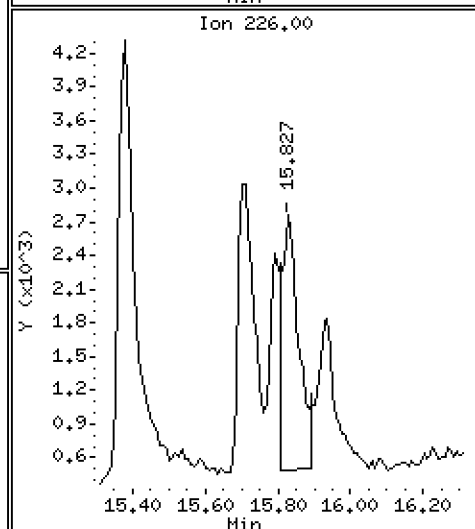
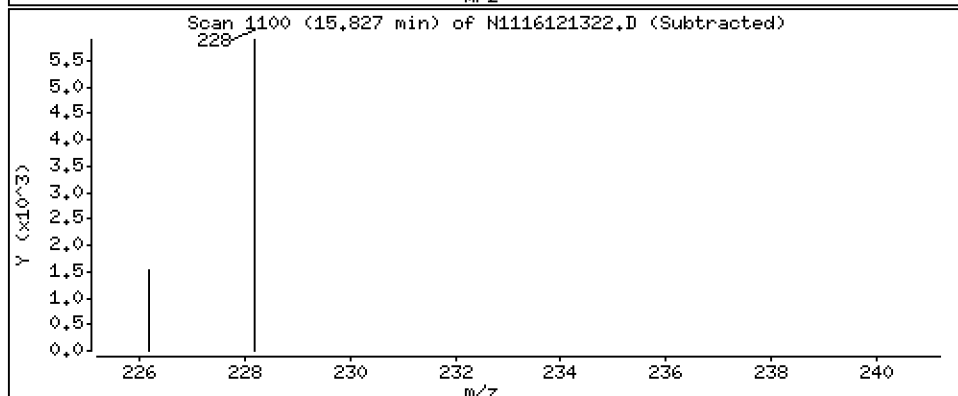
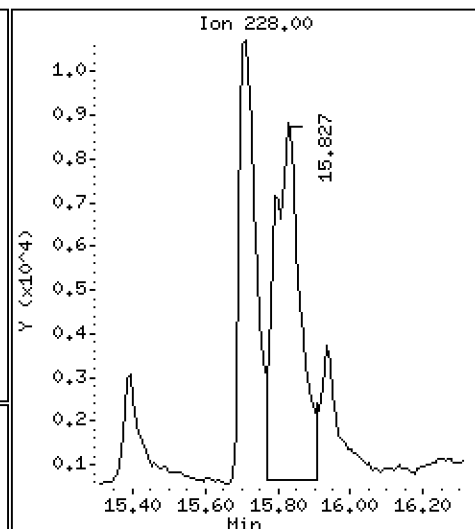
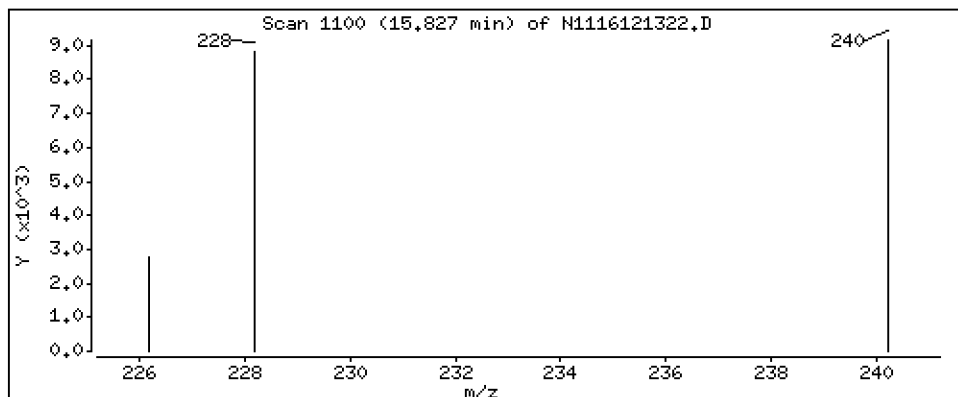
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 147 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

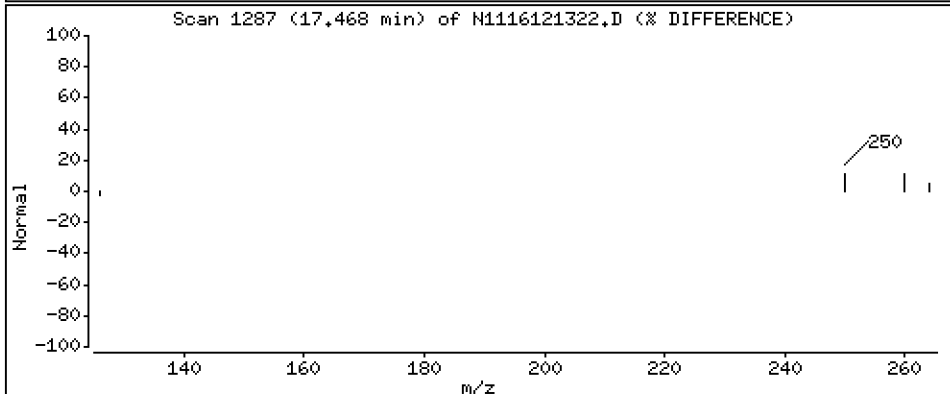
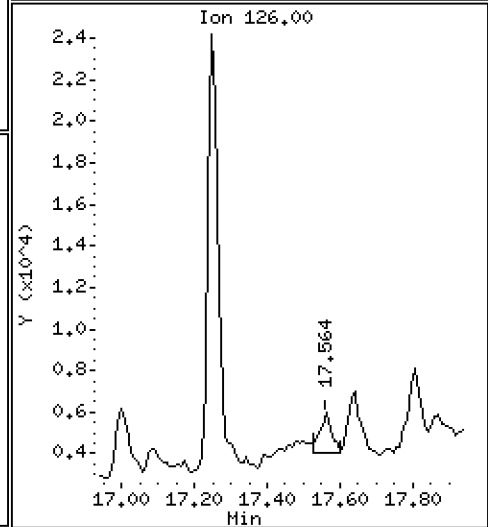
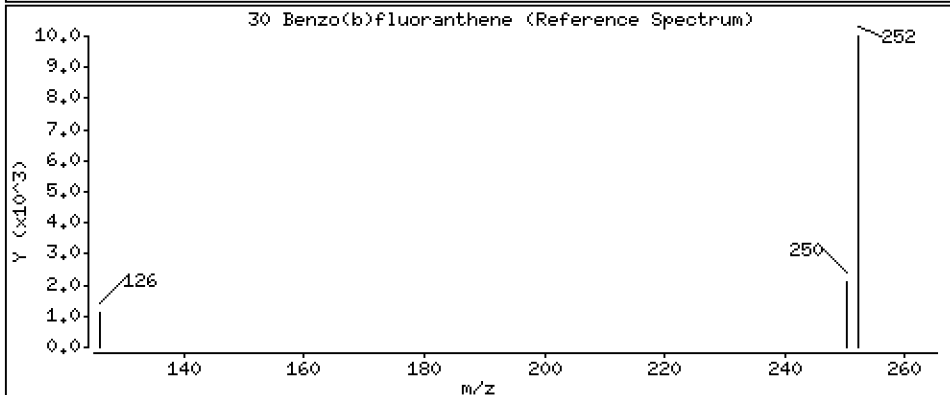
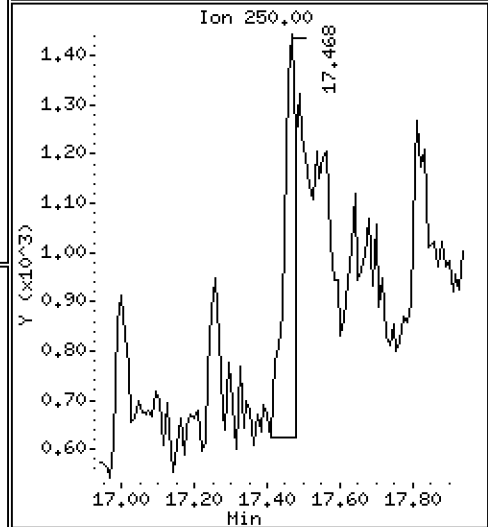
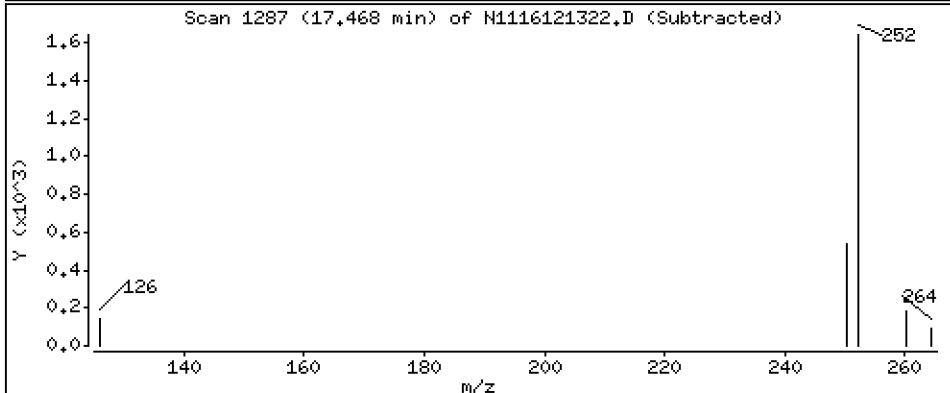
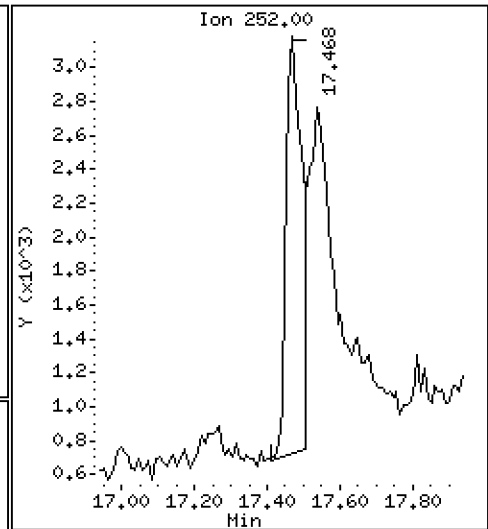
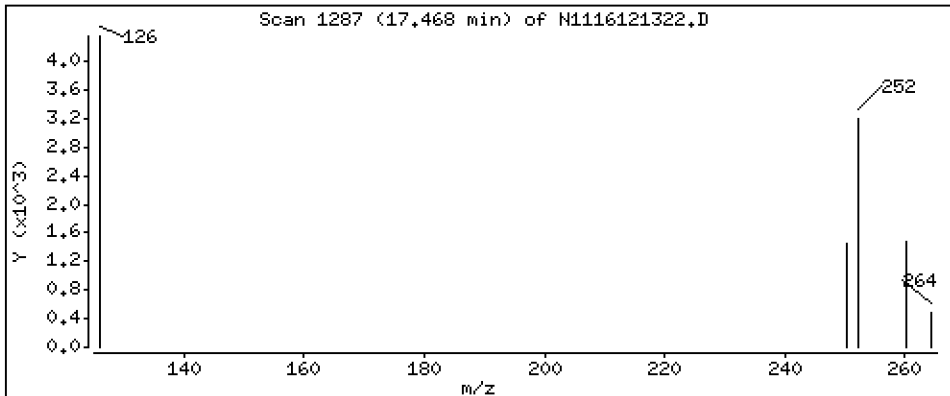
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 31,4 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

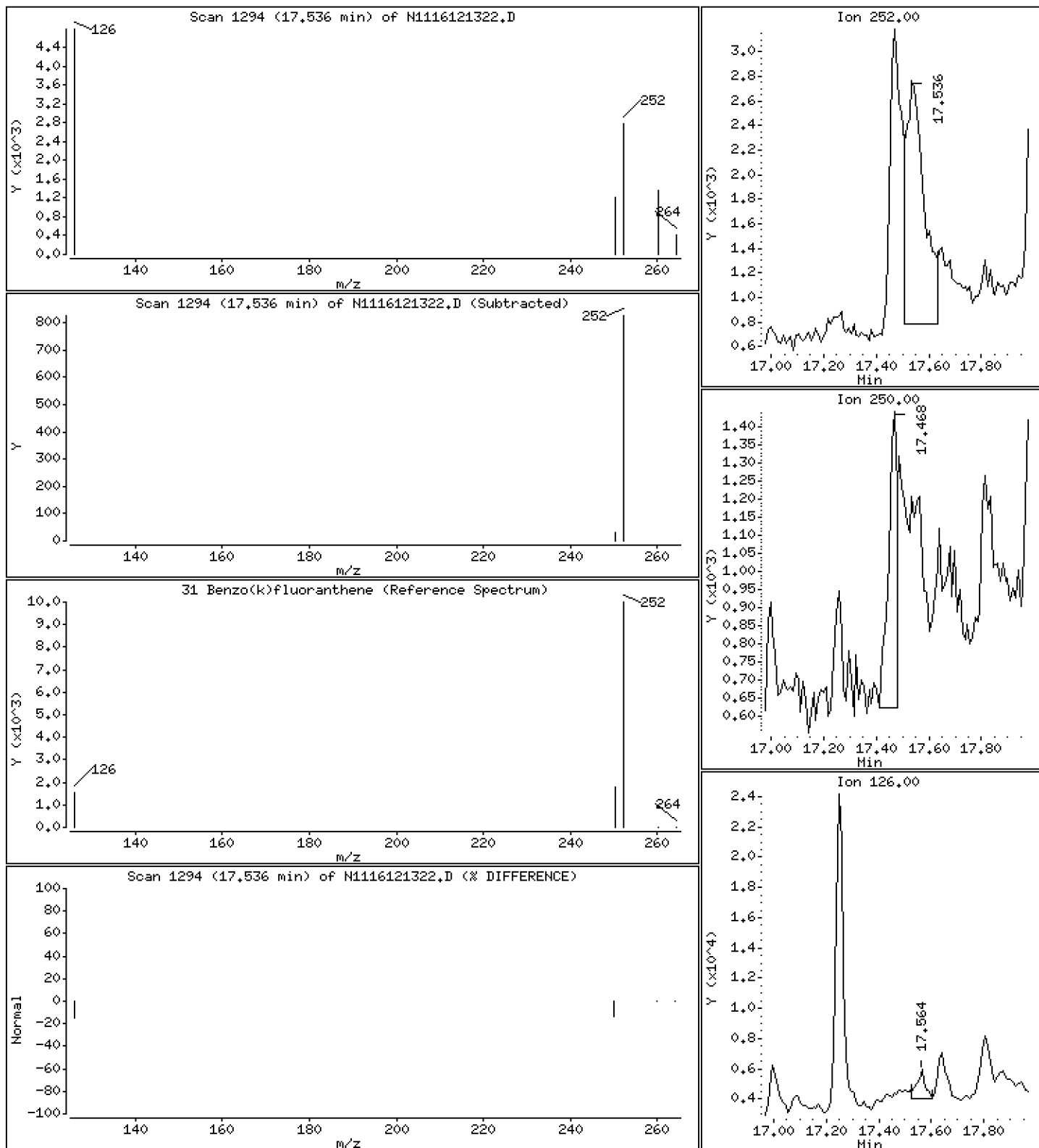
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 37,2 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

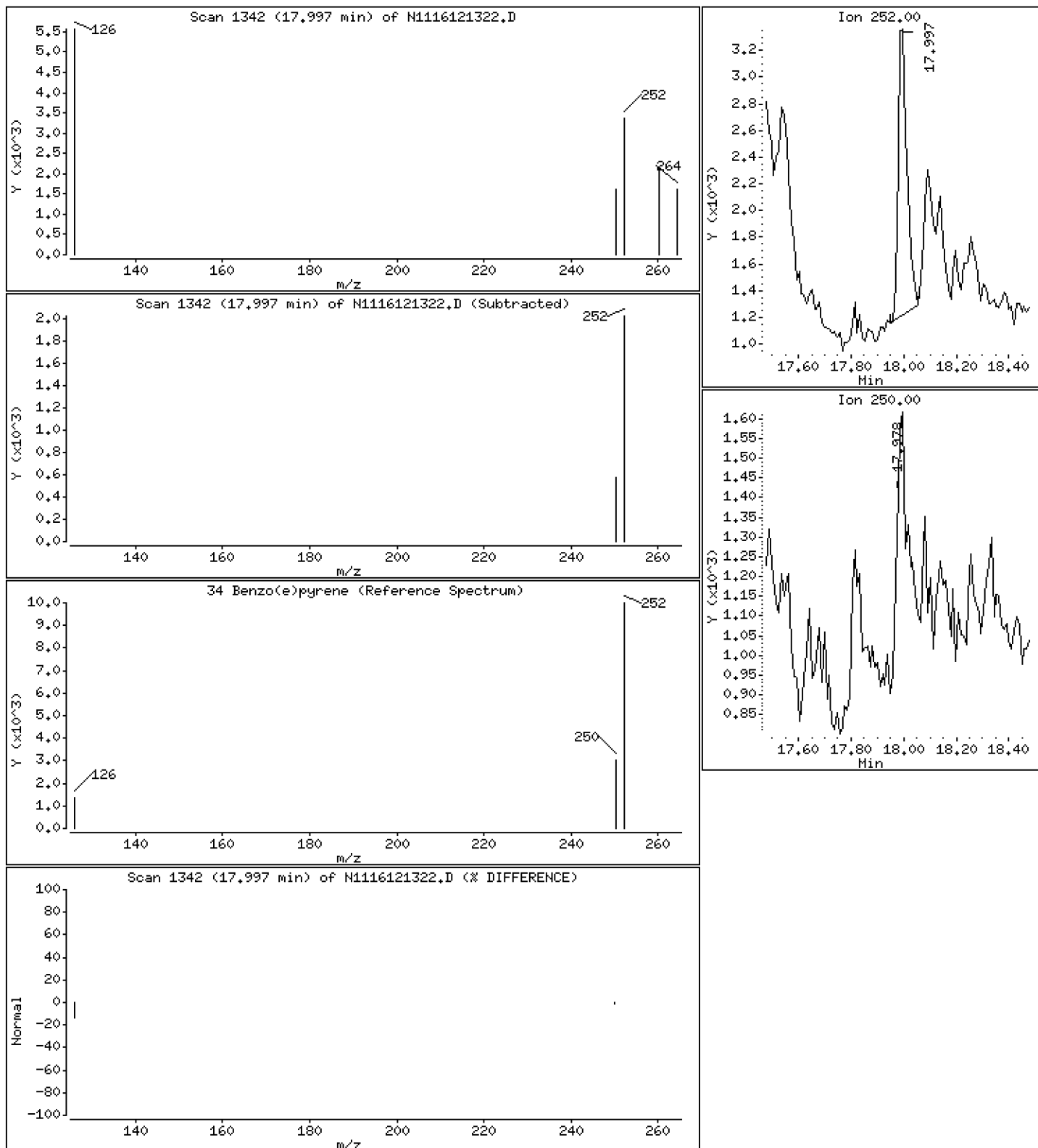
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 21,4 ng/mL



Date : 13-DEC-2016 22:28

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-07,5

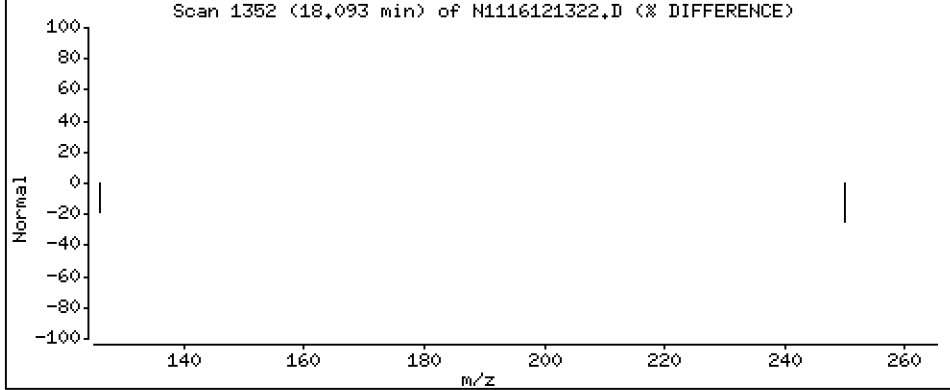
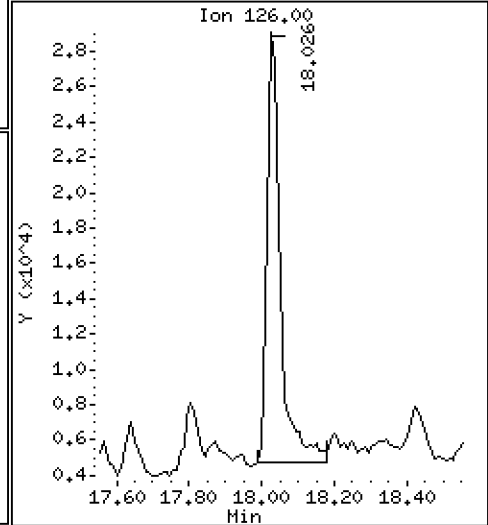
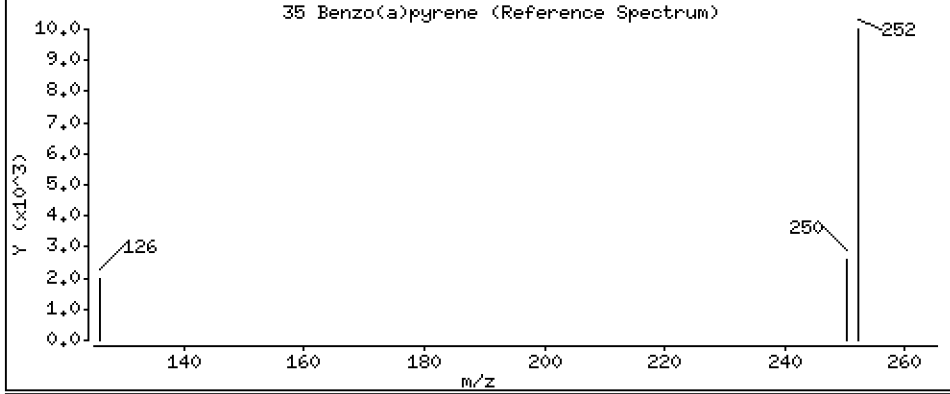
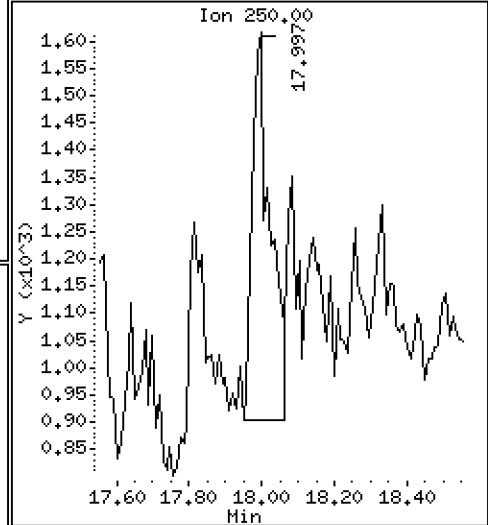
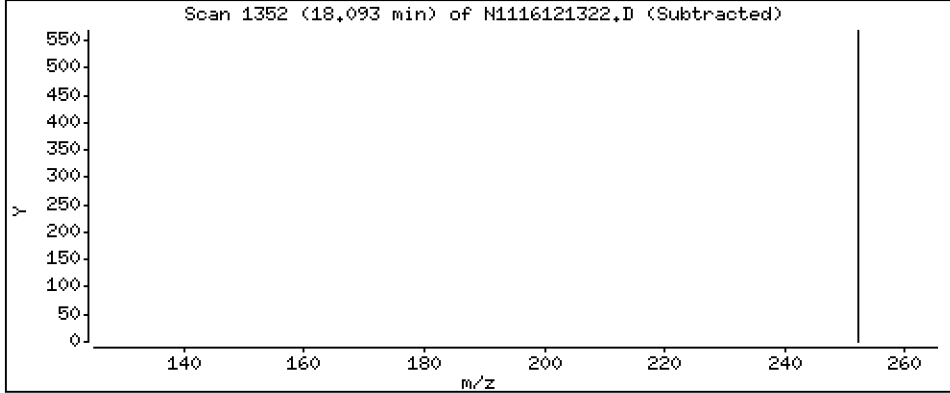
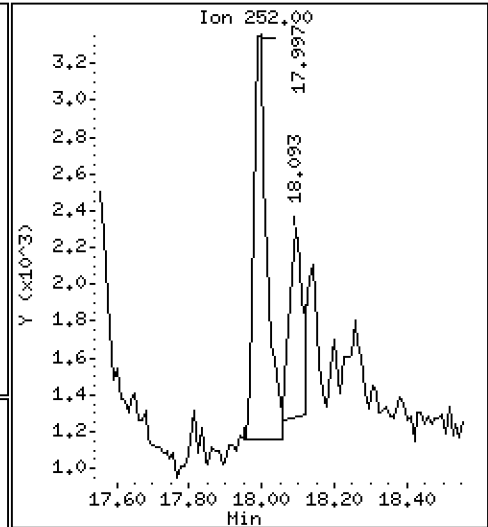
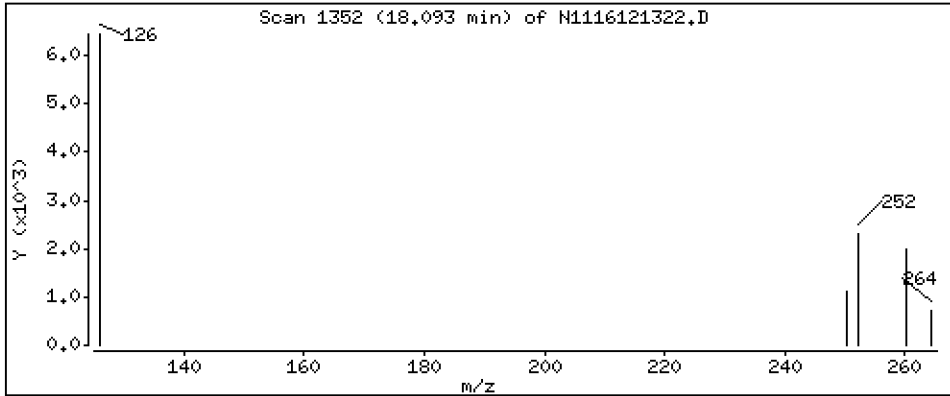
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 11,7 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121322.D
 Lab Smp Id: 16K0321-07
 Inj Date : 13-DEC-2016 22:28 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-07,5
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 17
 Dil Factor: 5.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.565	5.556	(1.000)	248596	200.000	
2 Naphthalene	128		5.601	5.583	(1.006)	20880	16.3362	81.7
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.557	6.516	(1.178)	18299	19.5246	97.6
5 2-Methylnaphthalene	142		6.599	6.568	(1.186)	18859	17.5742	87.9
6 1-Methylnaphthalene	142		6.820	6.810	(1.226)	21685	20.6035	103
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		7.524	7.493	(0.887)	19772	17.4103	87.1
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.483	8.483	(1.000)	141683	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	104351	116.193	581
13 Dibenzofuran	168		8.801	8.763	(1.037)	68594	53.7457	269
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	4157	5.23930	26.2 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.383	9.370	(1.106)	130711	132.564	663
17 Dibenzothiophene	184		11.026	10.932	(0.991)	30451	25.5045	128 (M)
* 18 Phenanthrene-d10	188		11.121	11.110	(1.000)	241556	200.000	
19 Phenanthrene	178		11.142	11.142	(1.002)	880887	607.102	3040
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.226	11.205	(1.009)	156289	114.467	572 (M)
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.144	12.135	(1.092)	62442	48.8400	244
\$ 24 Fluoranthene-d10	212		13.180	13.161	(1.185)	39705	36.8233	184
25 Fluoranthene	202		13.190	13.190	(1.186)	711687	505.496	2530
26 Pyrene	202		13.670	13.670	(0.867)	502158	350.673	1750
27 Benzo(a)anthracene	228		15.710	15.677	(0.996)	32458	26.1940	131
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	220092	200.000	
29 Chrysene	228		15.826	15.810	(1.004)	40356	29.3633	147 (M)
30 Benzo(b)fluoranthene	252		17.468	17.439	(0.960)	7675	6.28660	31.4 (M)
31 Benzo(k)fluoranthene	252		17.535	17.478	(0.964)	9856	7.43003	37.2 (M)
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		17.948	17.939	(0.986)	26318	25.4278	127

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.996	17.977	(0.989)	5084	4.28542	21.4 (M)
35 Benzo(a)pyrene	252	18.092	18.054	(0.994)	2607	2.33228	11.7
* 36 Perylene-d12	264	18.198	18.198	(1.000)	214775	200.000	
37 Perylene	252	Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292	19.924	19.891	(1.095)	21670	30.1218	151
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121322.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-07
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	248596	-49.63
11 Acenaphthene-d10	240770	120385	481540	141683	-41.15
18 Phenanthrene-d10	429271	214636	858542	241556	-43.73
28 Chrysene-d12	387691	193846	775382	220092	-43.23
36 Perylene-d12	386259	193130	772518	214775	-44.40

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.16
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	-0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.12	0.09
28 Chrysene-d12	15.77	15.27	16.27	15.77	-0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	-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 - N1116121322.D

Lab ID: 16K0321-07

nt11.i, 20161213.b\lowsim.m, 13-DEC-2016 22:28

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

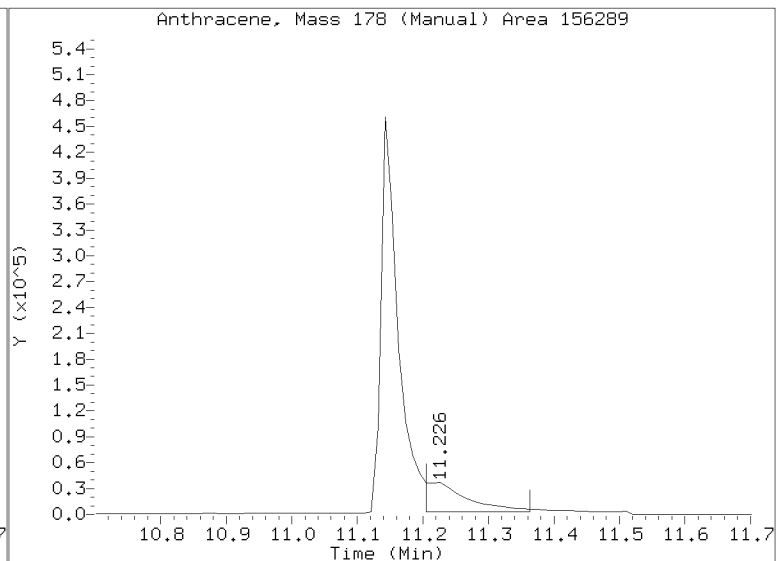
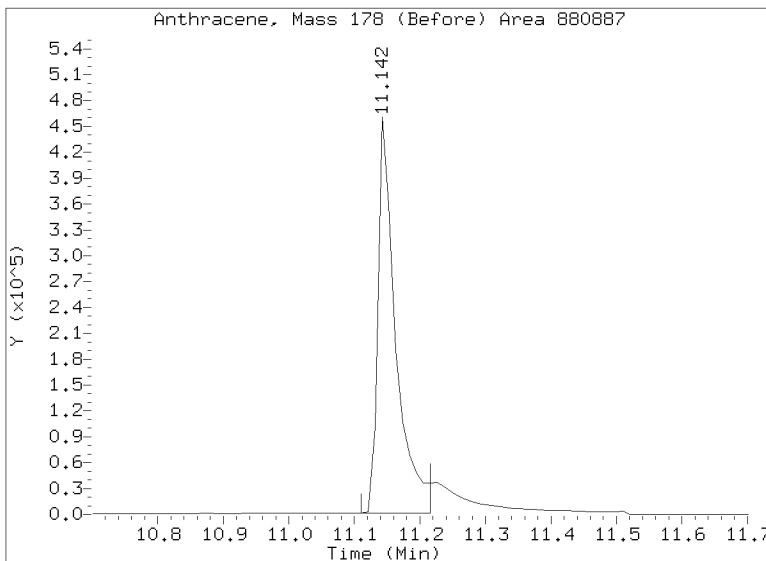
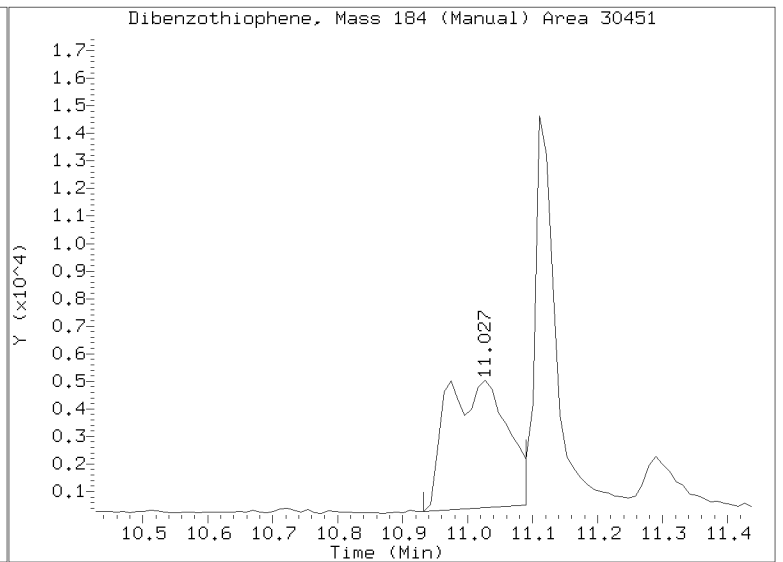
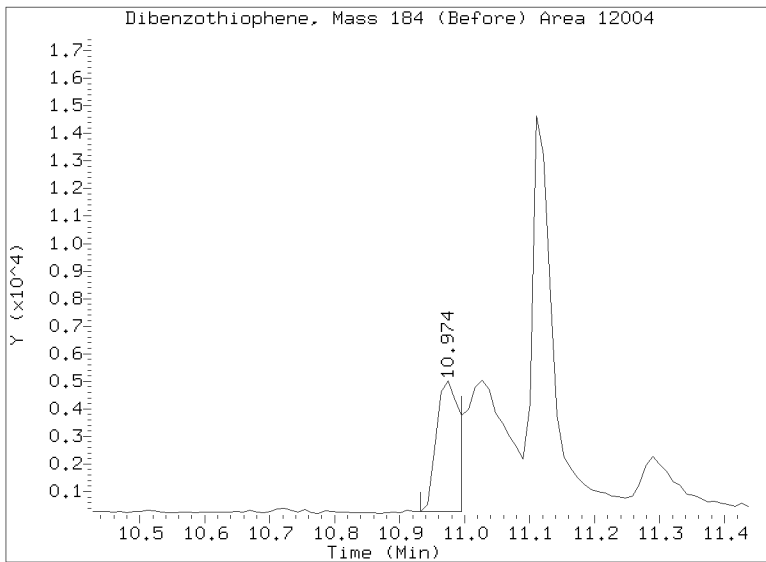
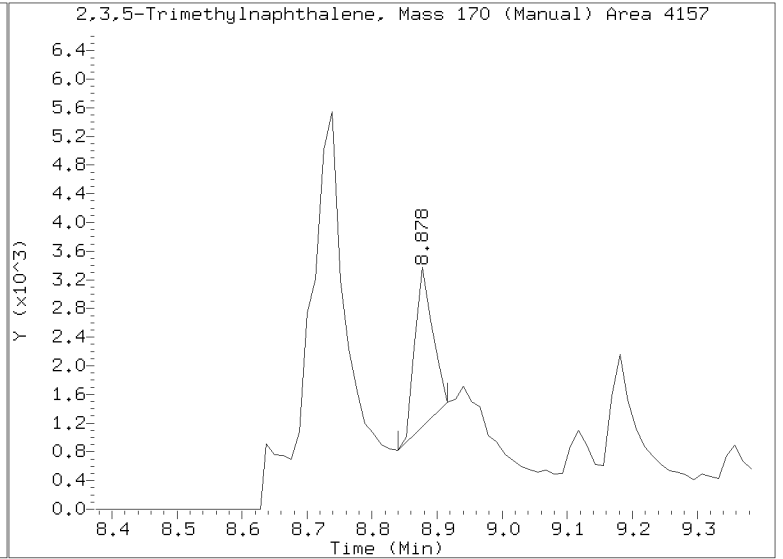
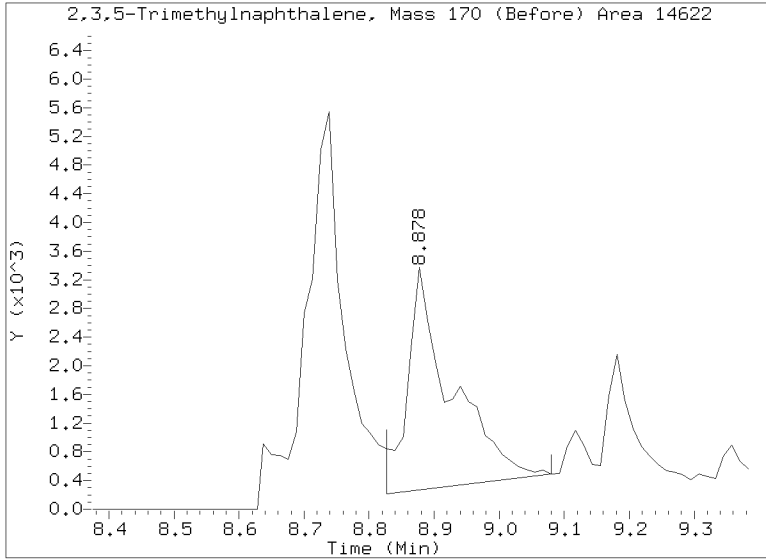
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On Column LOD for nt11.i, 20161213.b\lowsim.m, allpna.sub = 3.0000

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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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121322.D
Injection Date: 13-DEC-2016 22:28
Lab ID:16K0321-07 Client ID:
Report Date: 12/16/2016 07:49



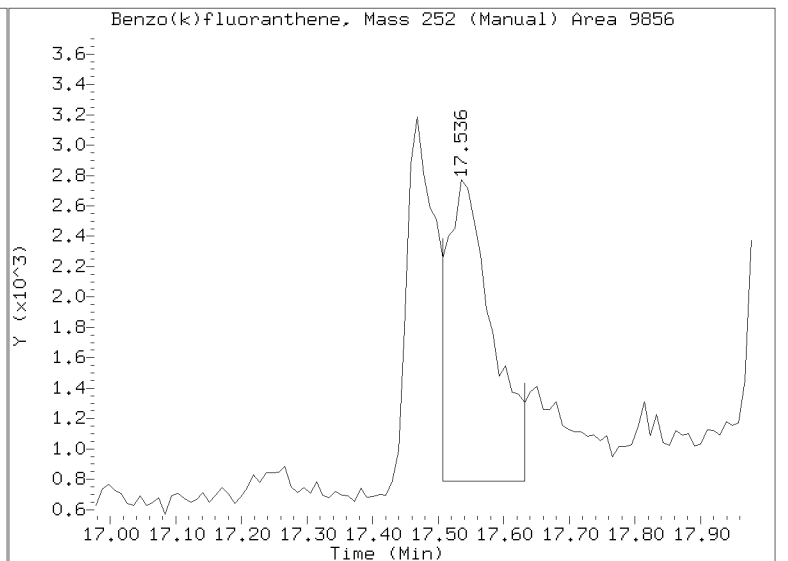
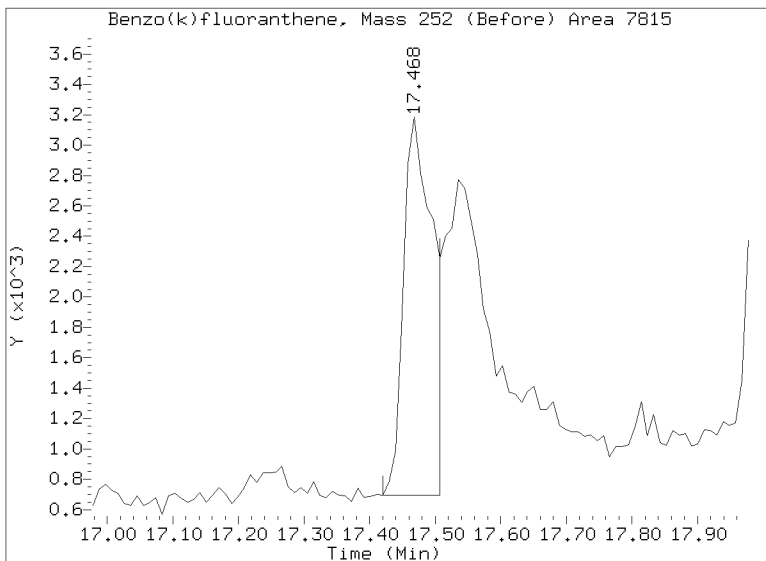
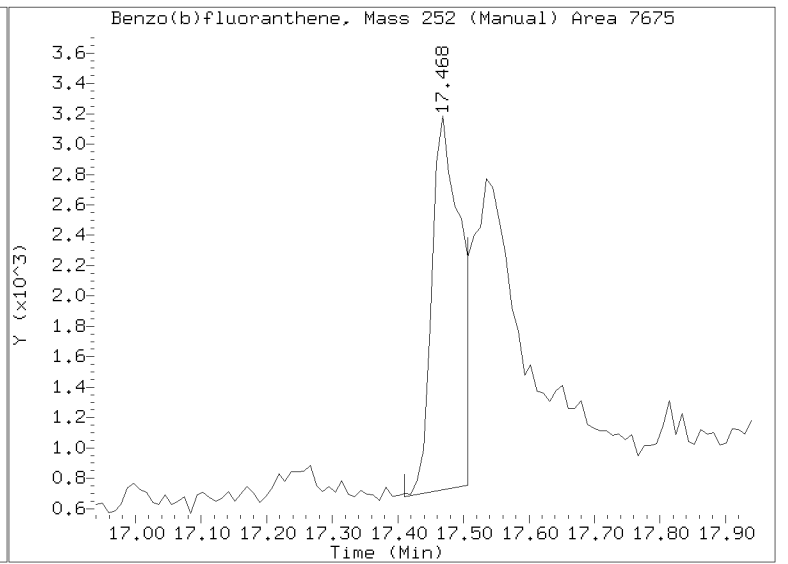
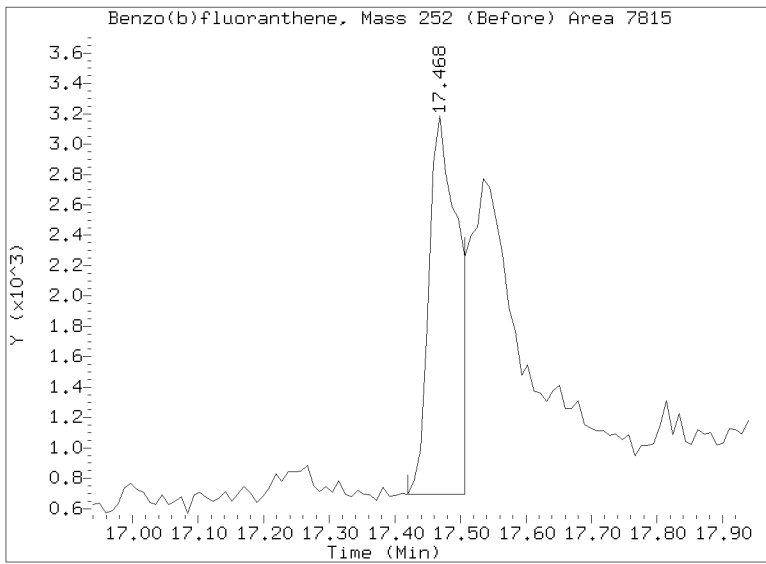
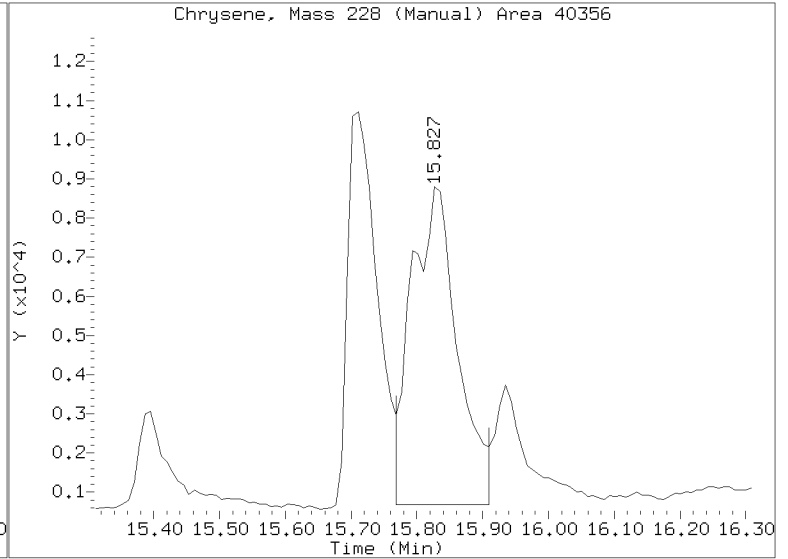
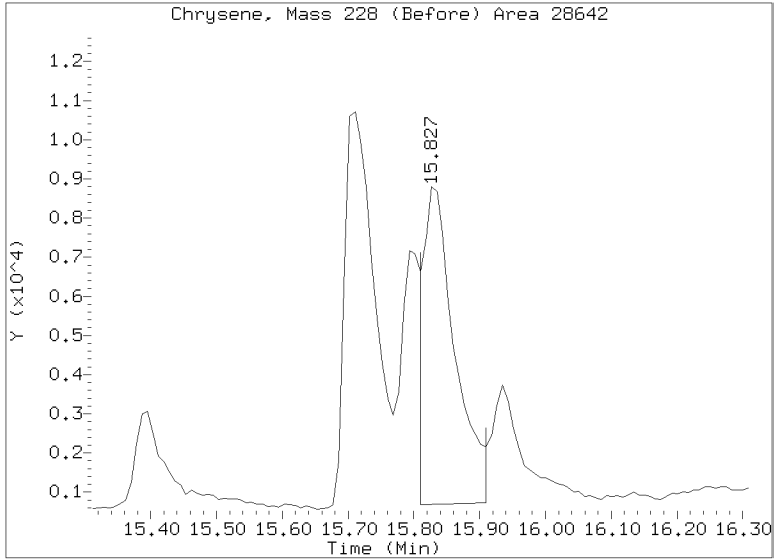
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121322.D

Injection Date: 13-DEC-2016 22:28

Lab ID:16K0321-07 Client ID:

Report Date: 12/16/2016 07:49



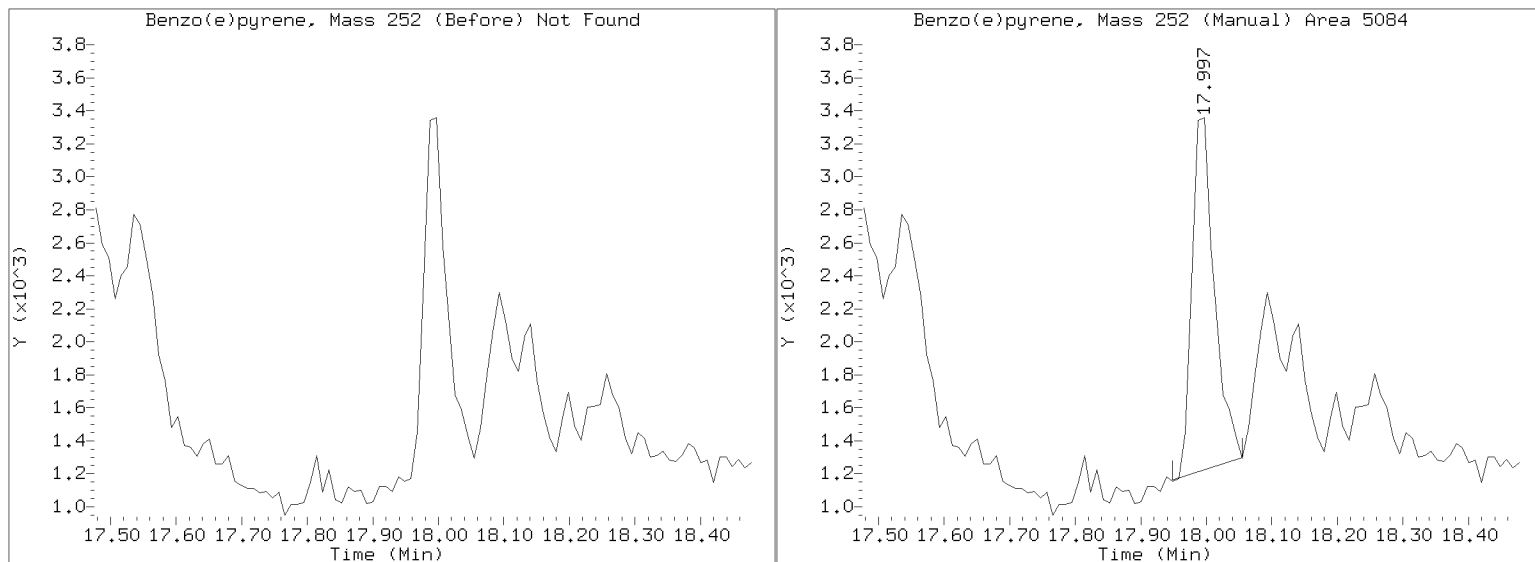
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121322.D

Injection Date: 13-DEC-2016 22:28

Lab ID:16K0321-07 Client ID:

Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-09 File ID: N1116121214.D
 Sampled: 11/22/16 10:26 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 14:59
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	12.6	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	87.3	B	1.13	1.13
208-96-8	Acenaphthylene	1	9.45		1.13	1.13
83-32-9	Acenaphthene	1	479	E	1.13	1.13
86-73-7	Fluorene	1	440	E	1.13	1.13
85-01-8	Phenanthrene	1	741	E	1.13	1.13
120-12-7	Anthracene	1	166	E	1.13	1.13
206-44-0	Fluoranthene	1	546	E	1.13	1.13
129-00-0	Pyrene	1	441	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	66.3		1.13	1.13
218-01-9	Chrysene	1	42.4		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	11.3		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	5.87		1.13	1.13
50-32-8	Benzo(a)pyrene	1	8.02		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.16		1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.18		1.13	1.13
1985-5-0	Perylene	1	1.87		1.13	1.13
197-97-2	Benzo(e)pyrene	1	7.17		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	18.3	54.1	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	21.3	62.9	30 - 160	
Fluoranthene-d10	33.860	25.2	74.5	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	11.7	55.5	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121214.D

Date: 12-DEC-2016 14:59

Client ID:

Sample Info: 16K0321-09

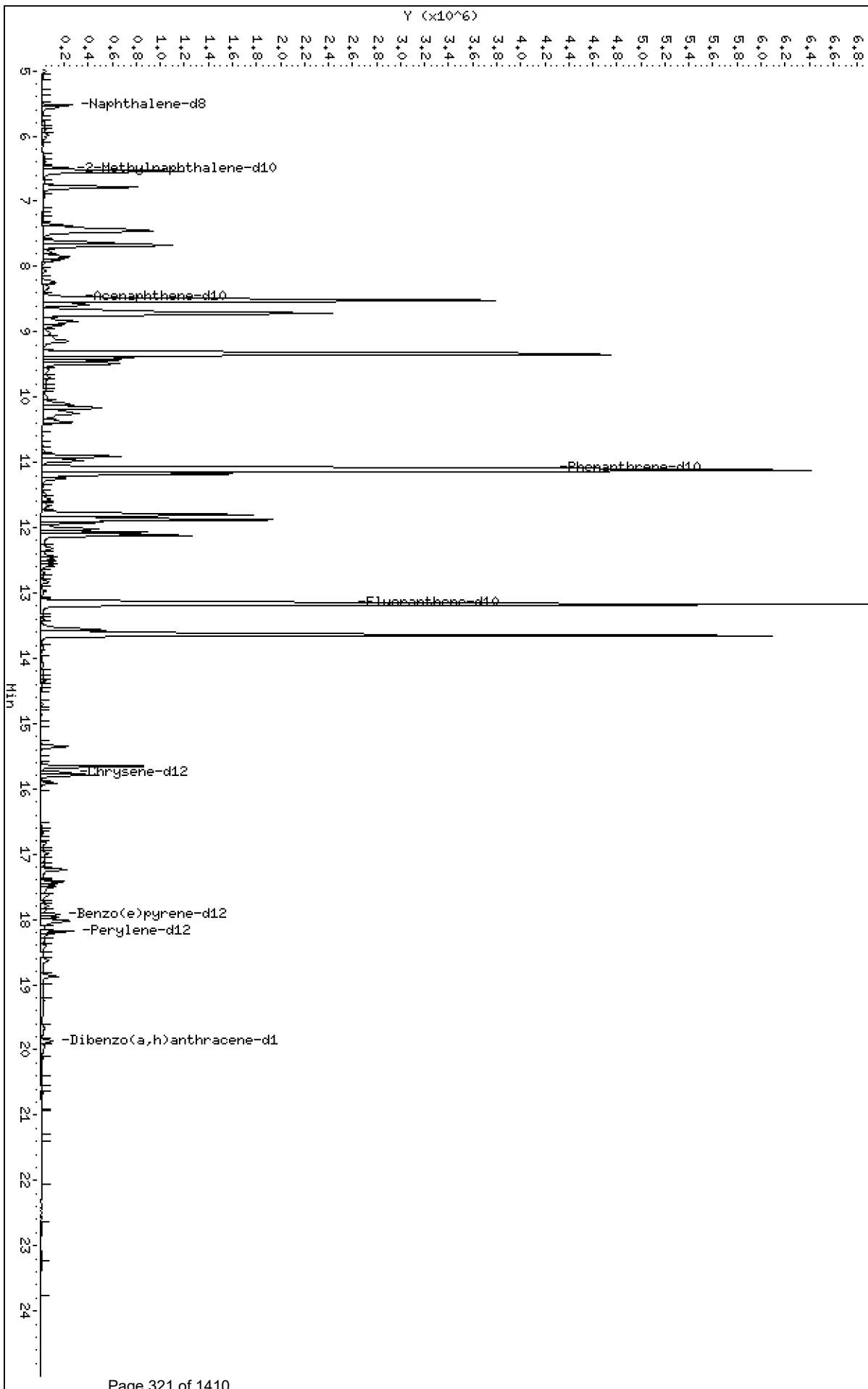
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161212.16\N1116121214.D



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

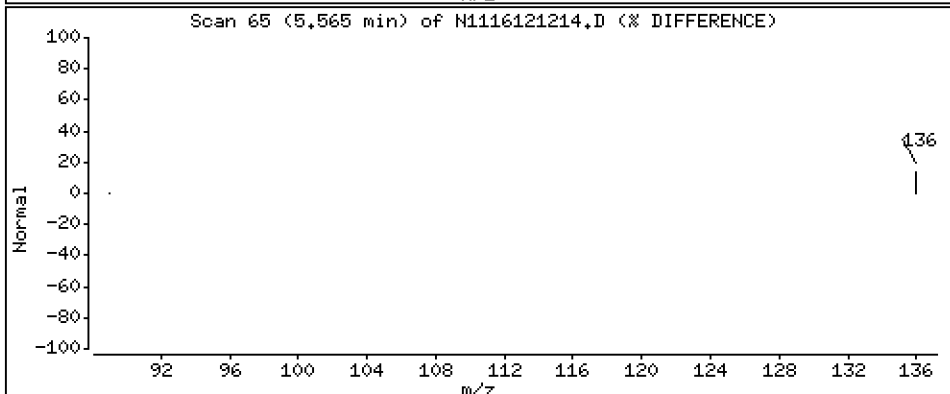
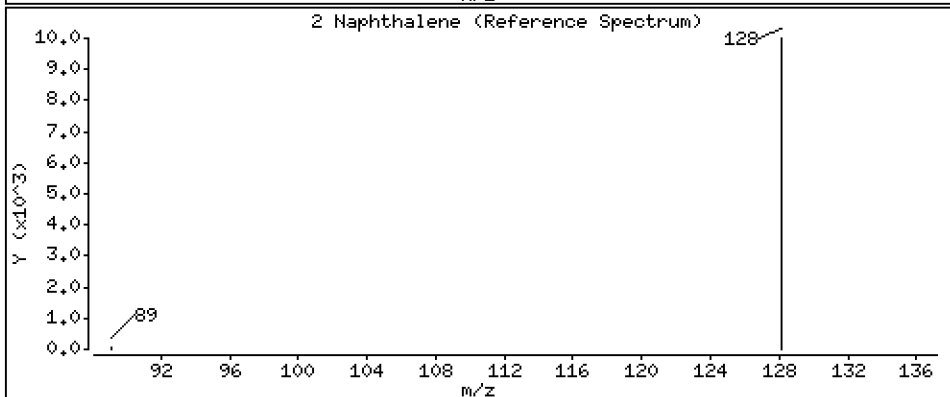
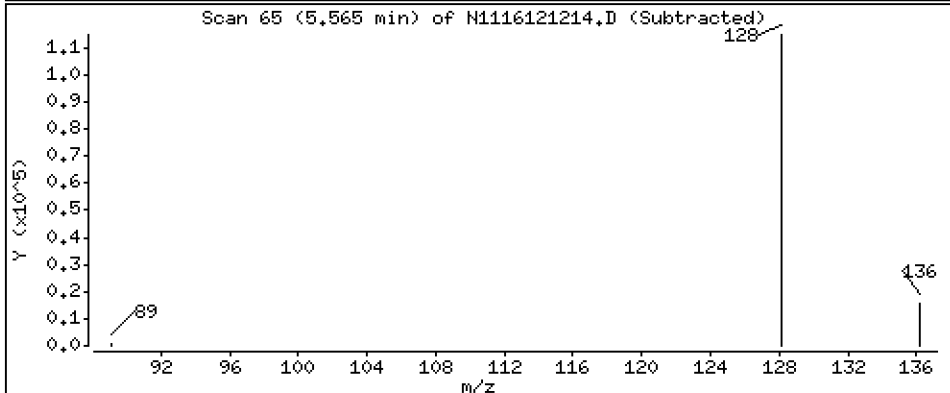
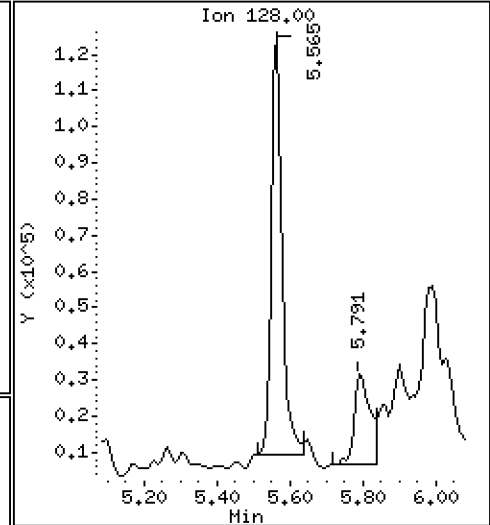
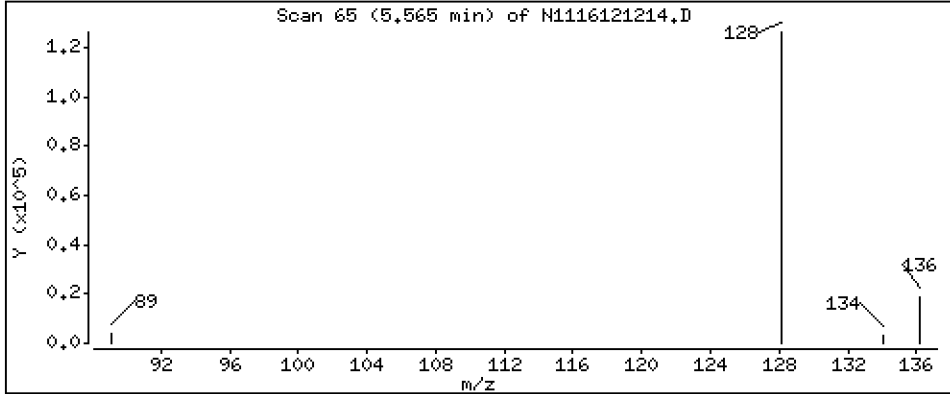
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 112 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

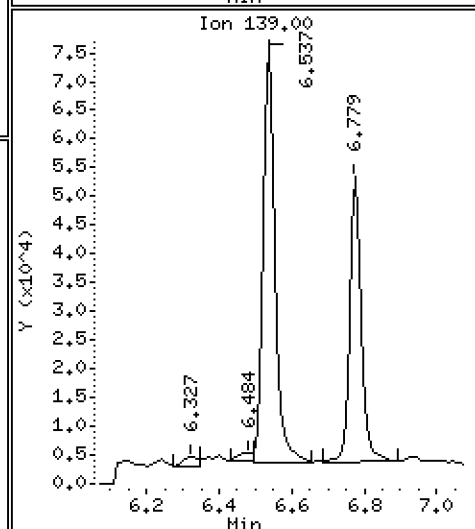
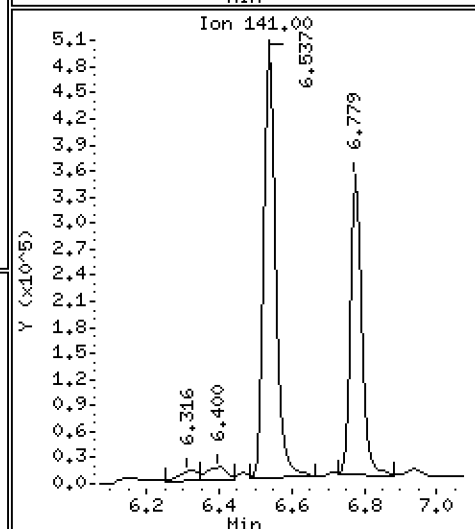
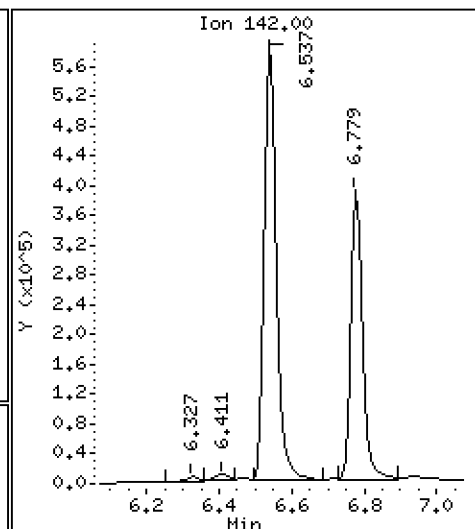
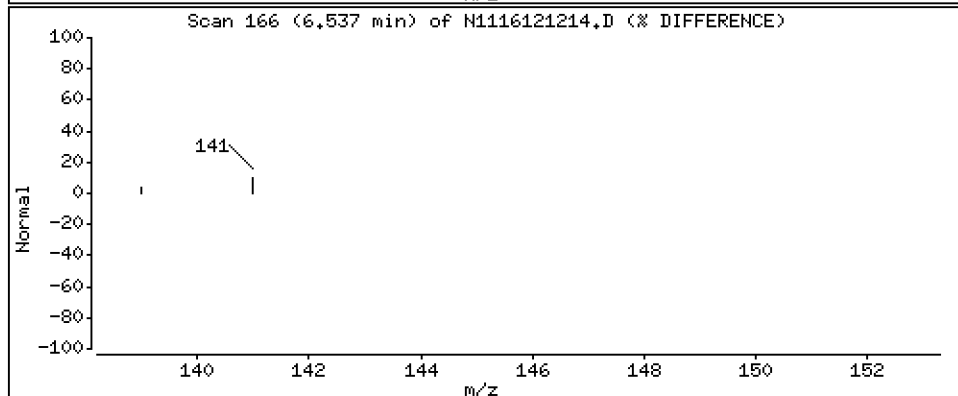
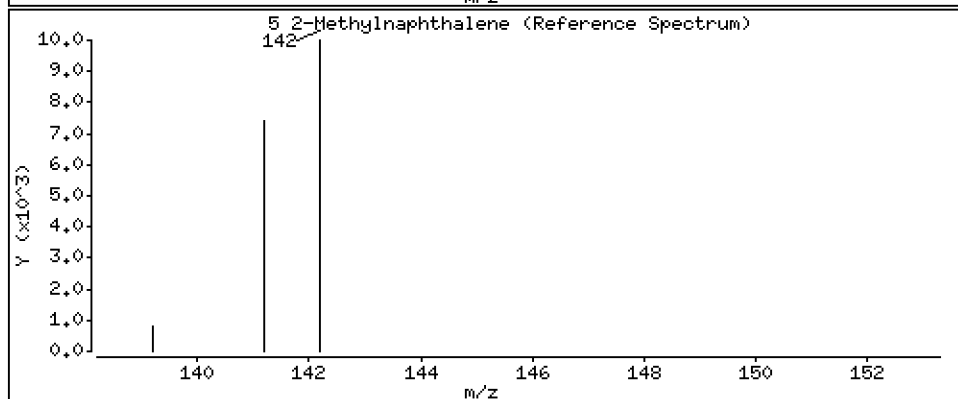
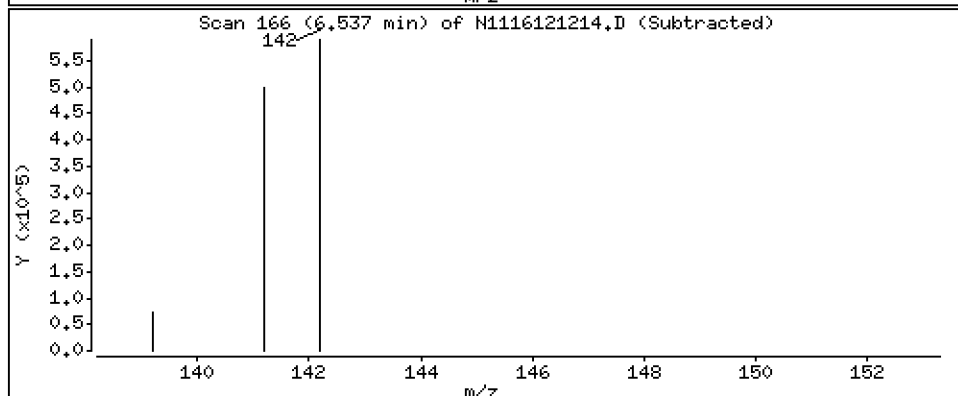
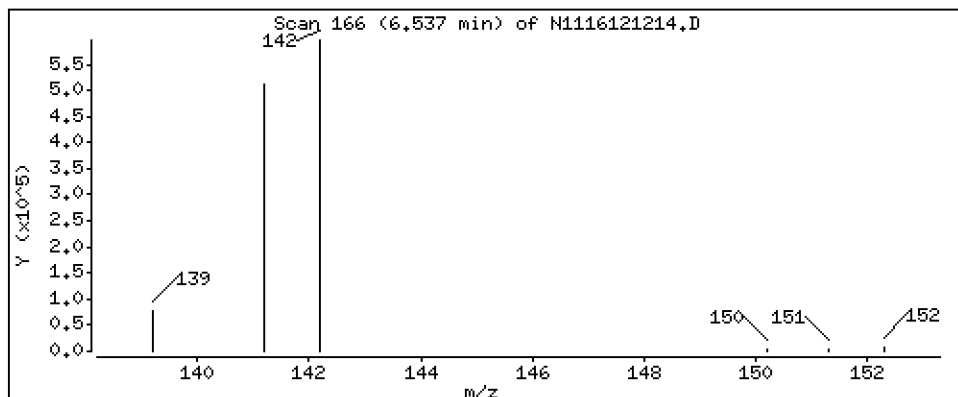
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 773 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

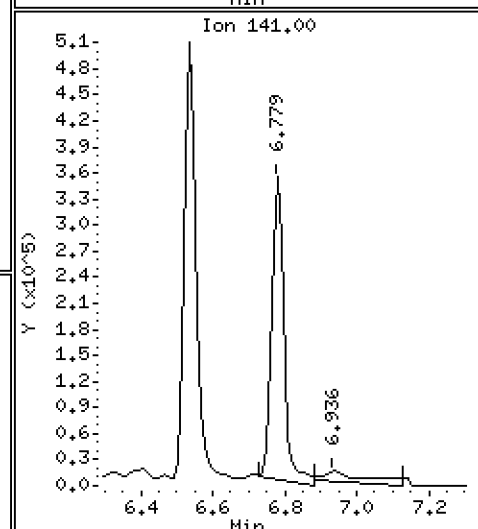
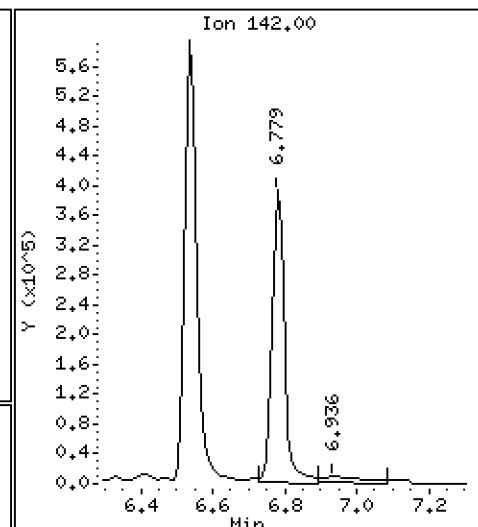
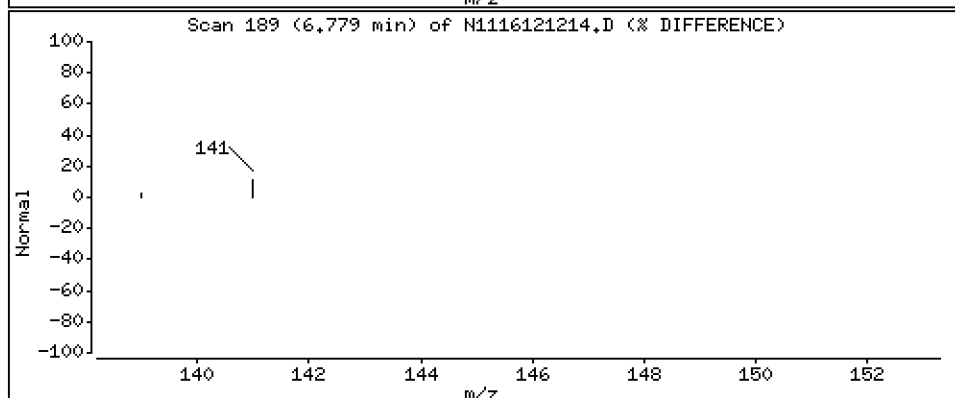
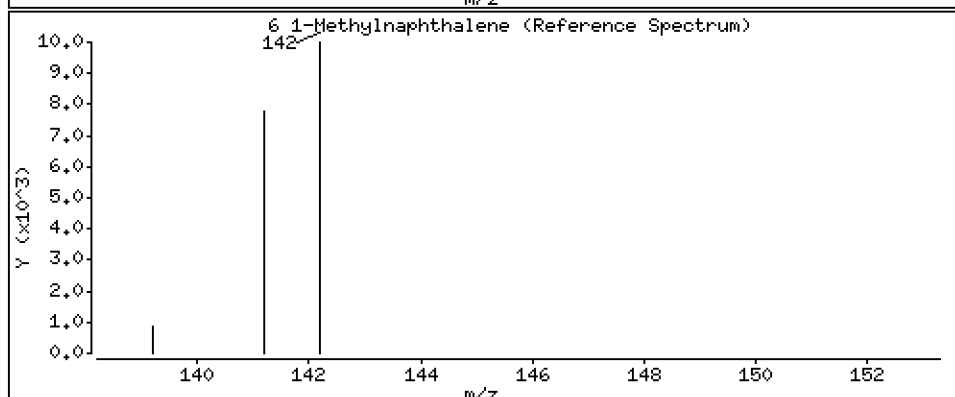
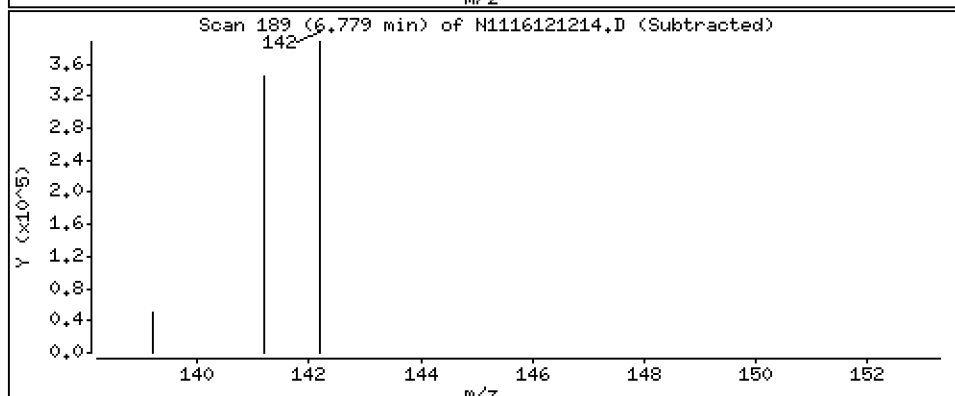
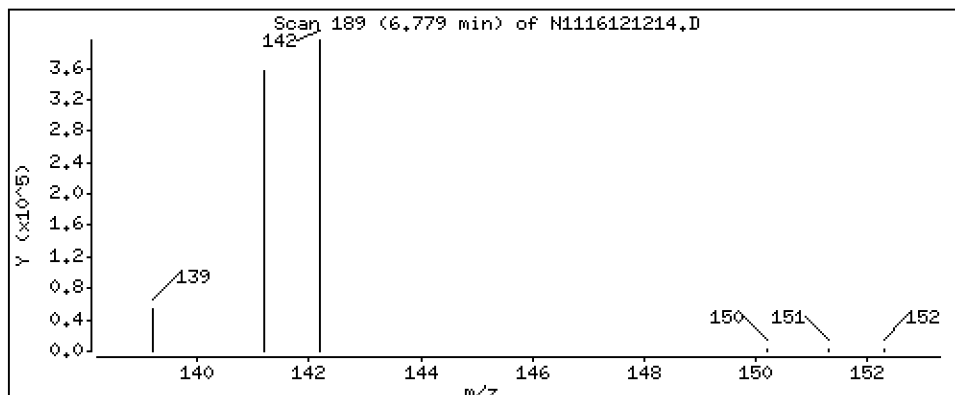
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 574 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

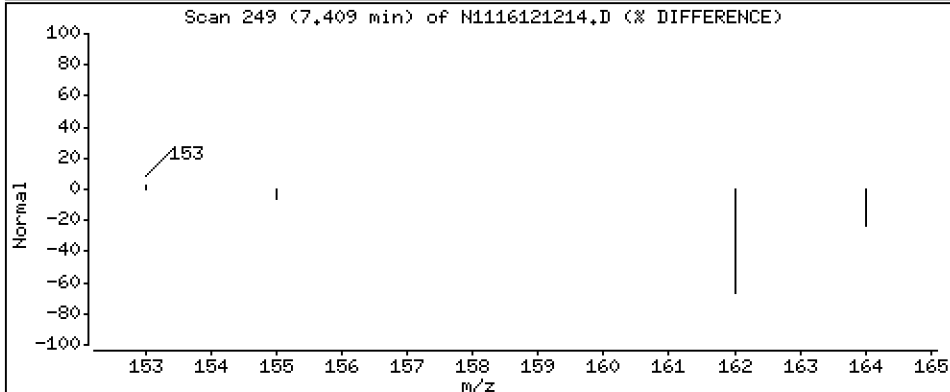
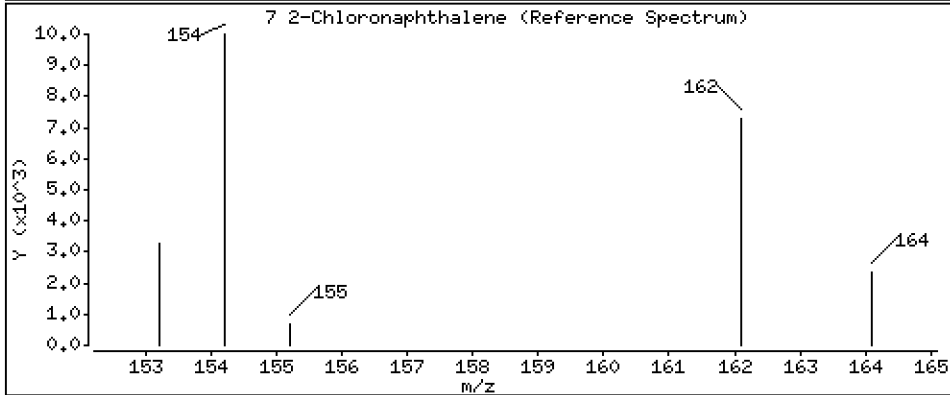
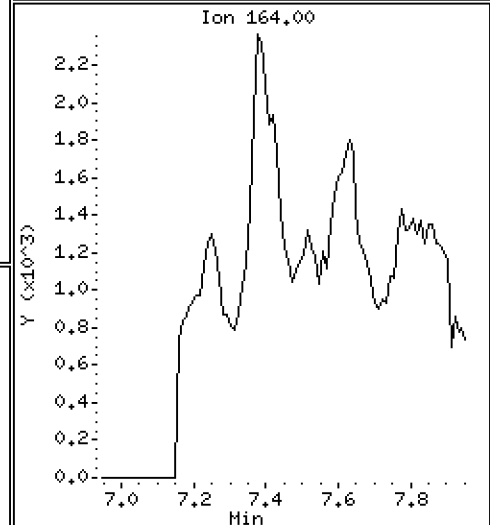
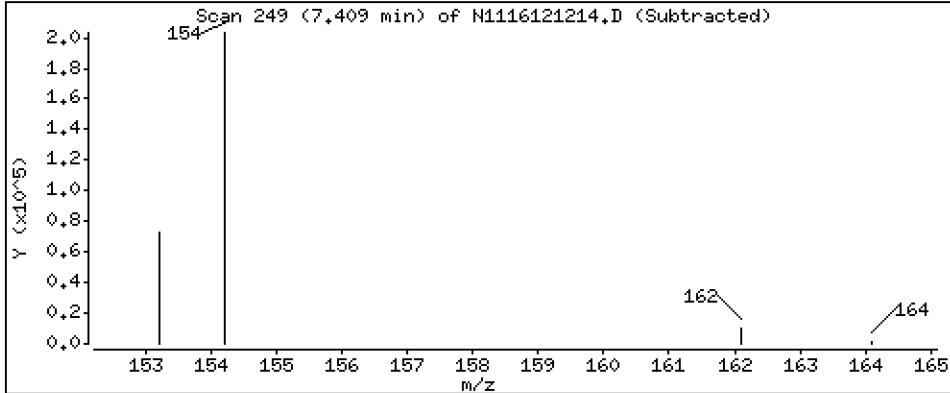
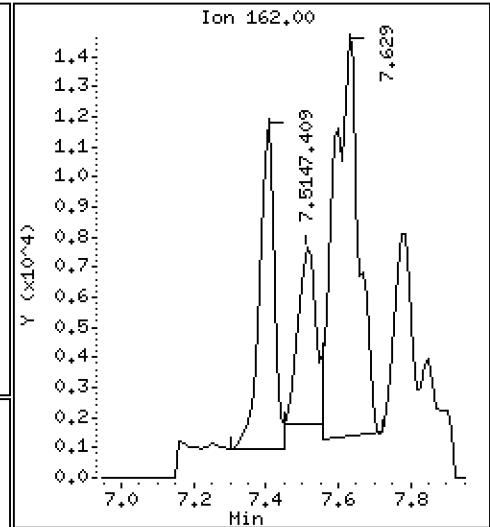
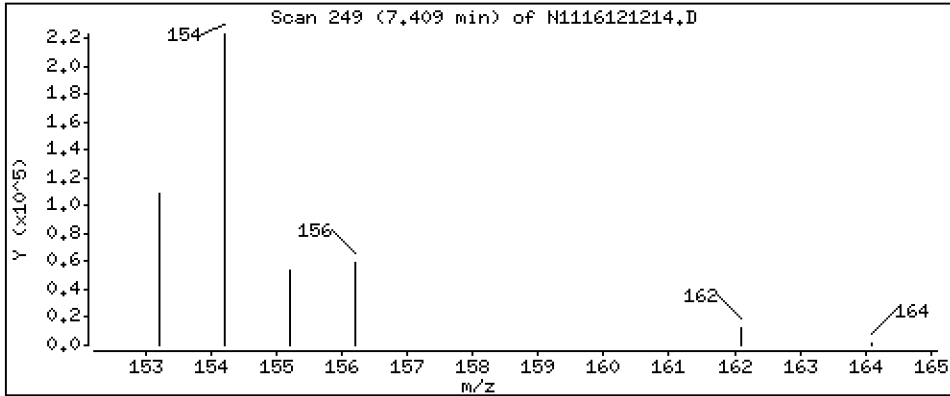
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 16,1 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

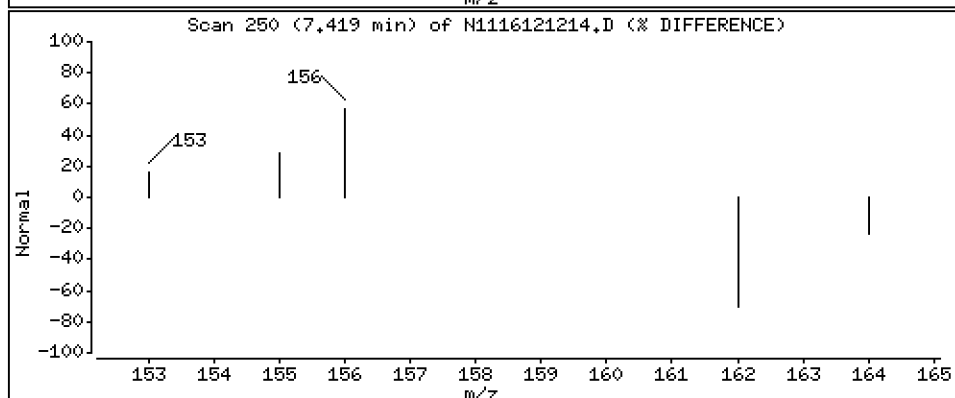
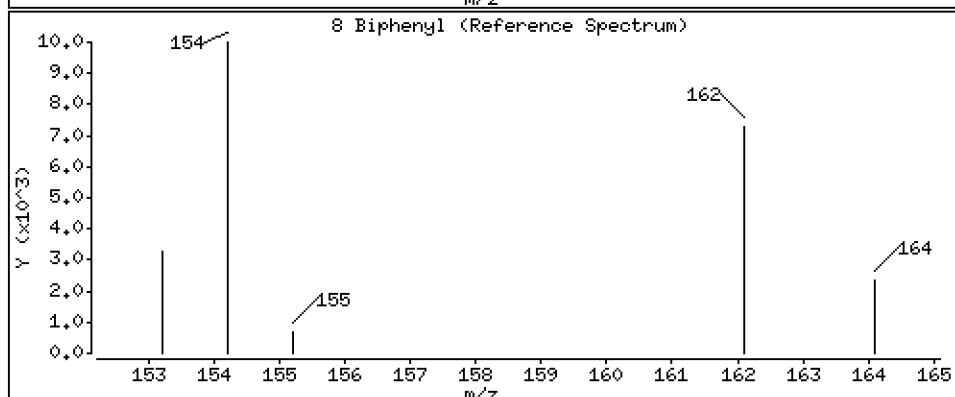
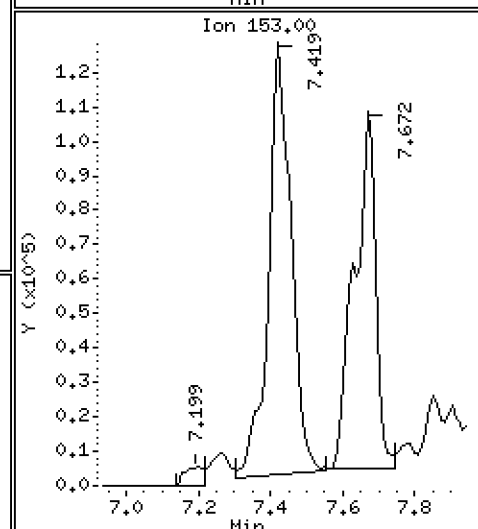
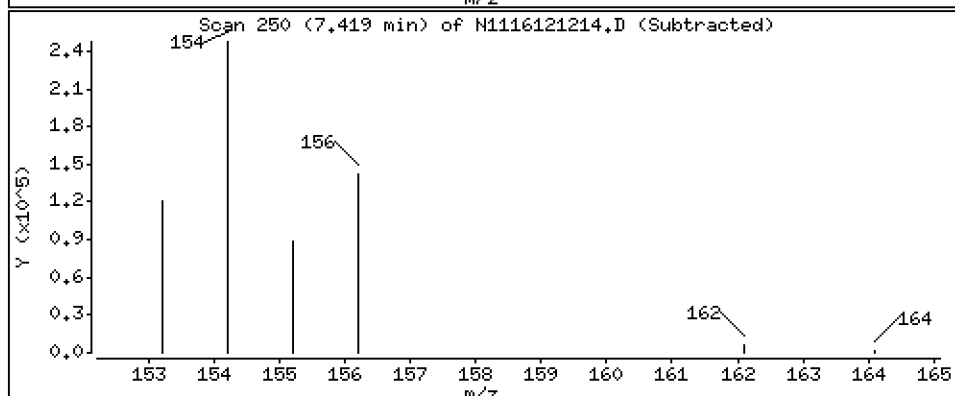
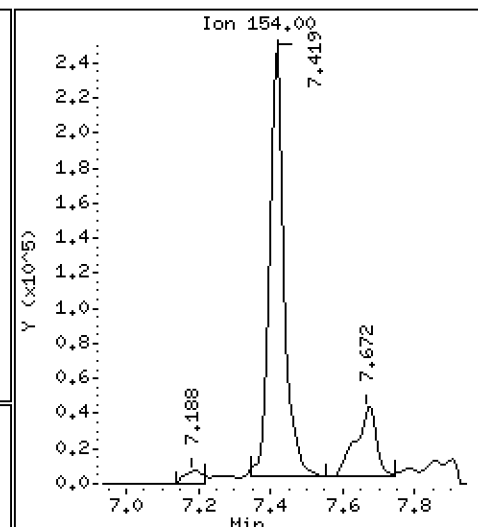
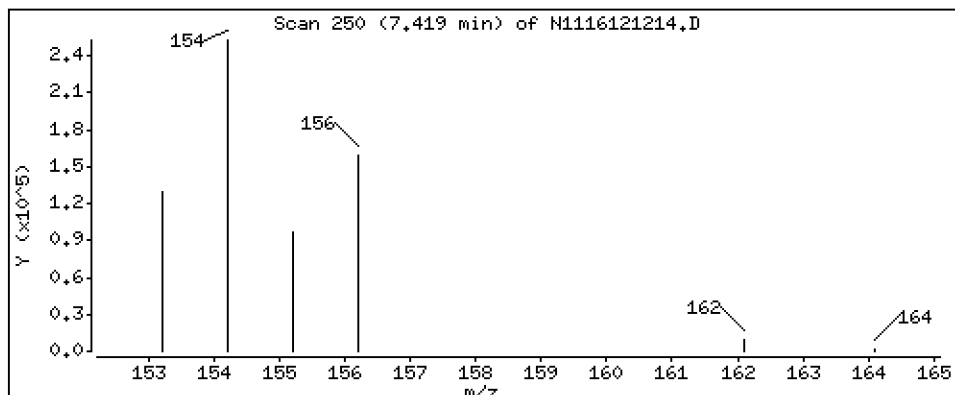
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 255 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

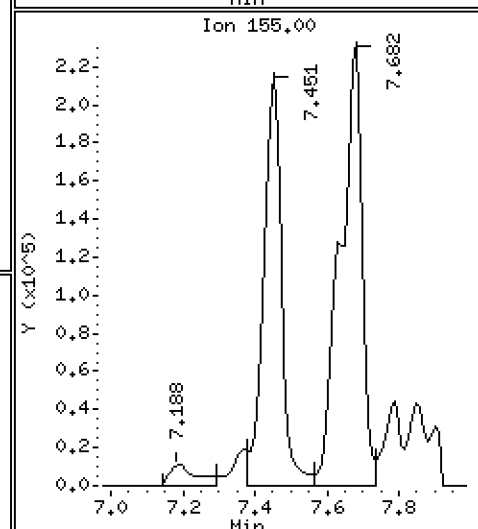
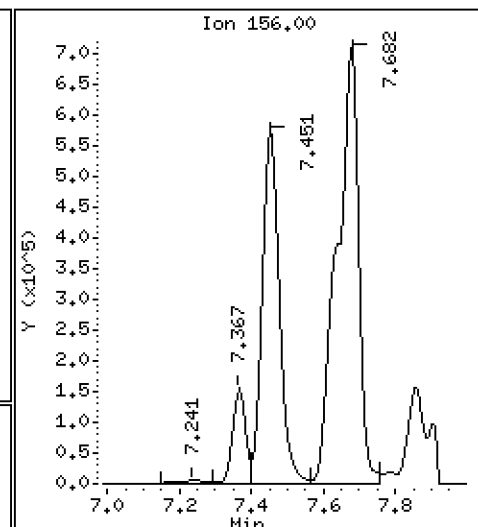
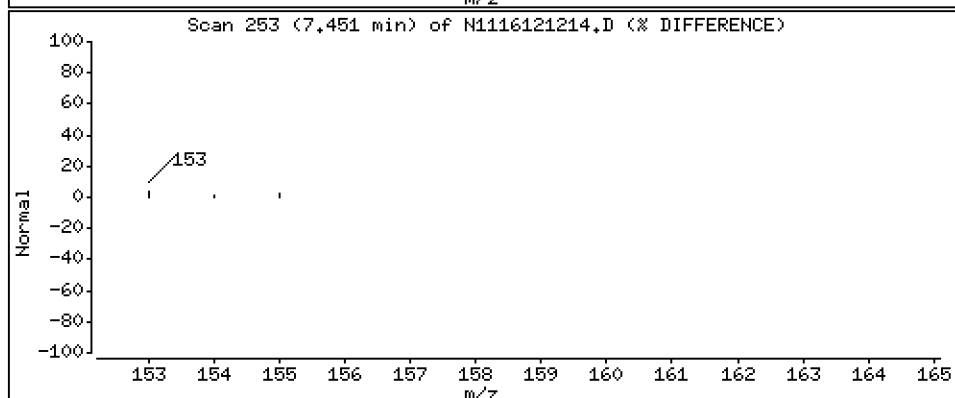
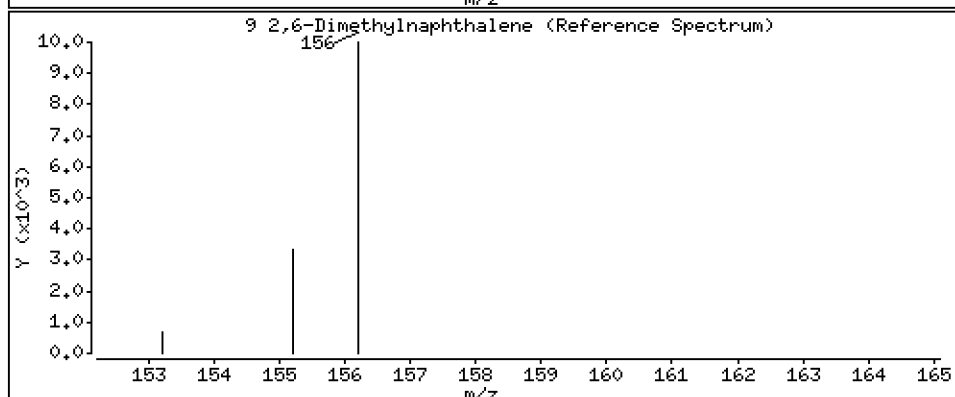
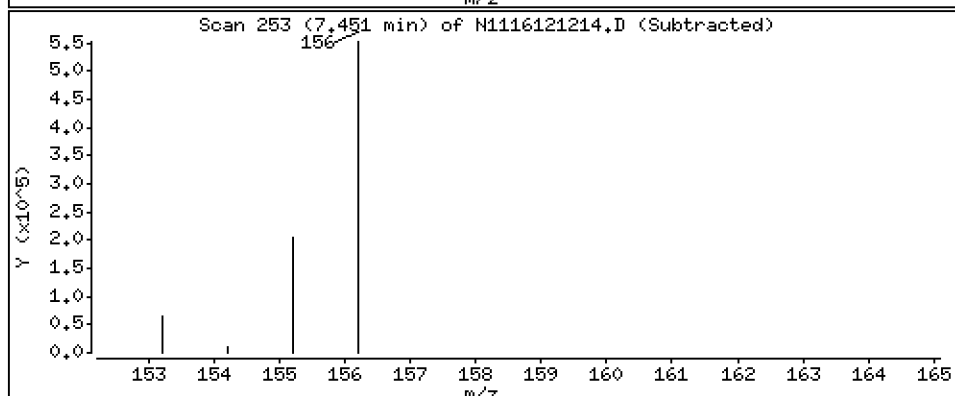
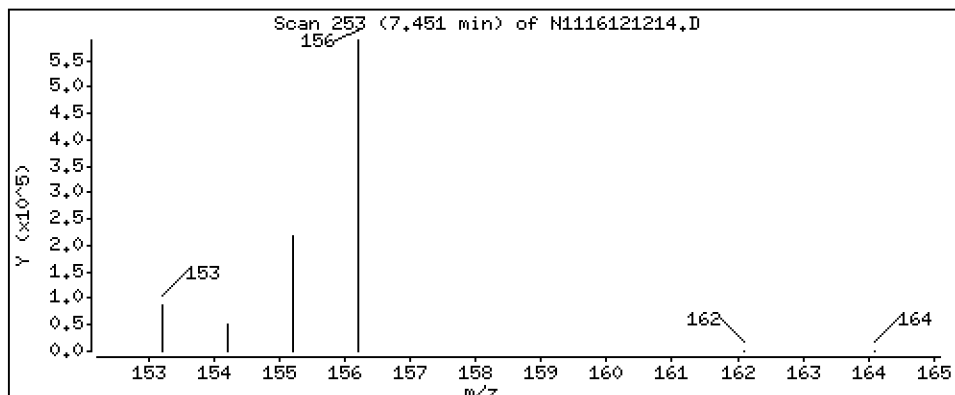
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 1000 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

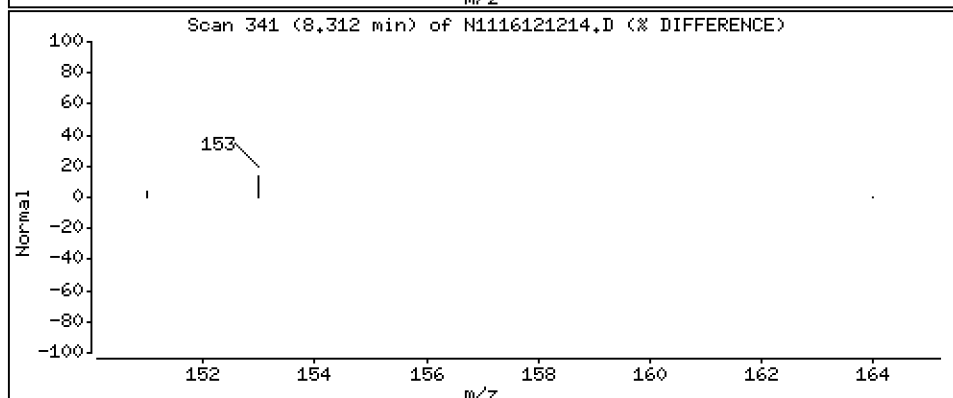
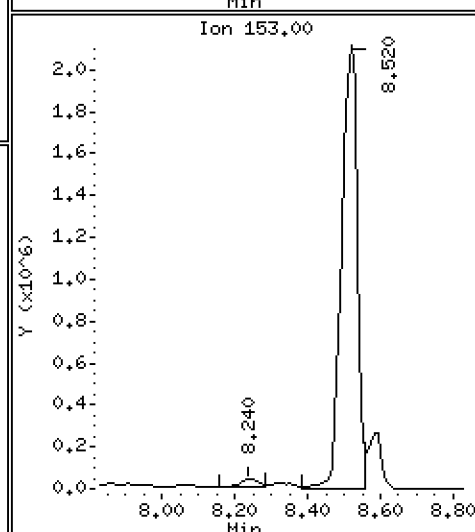
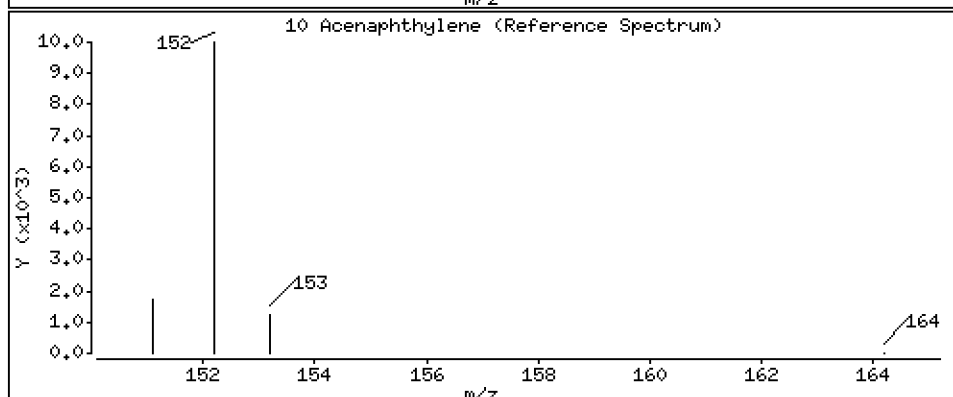
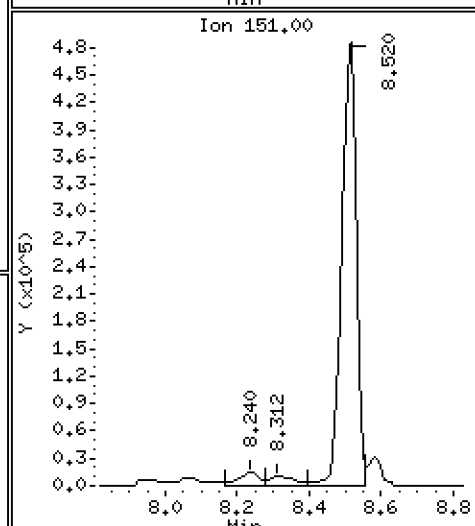
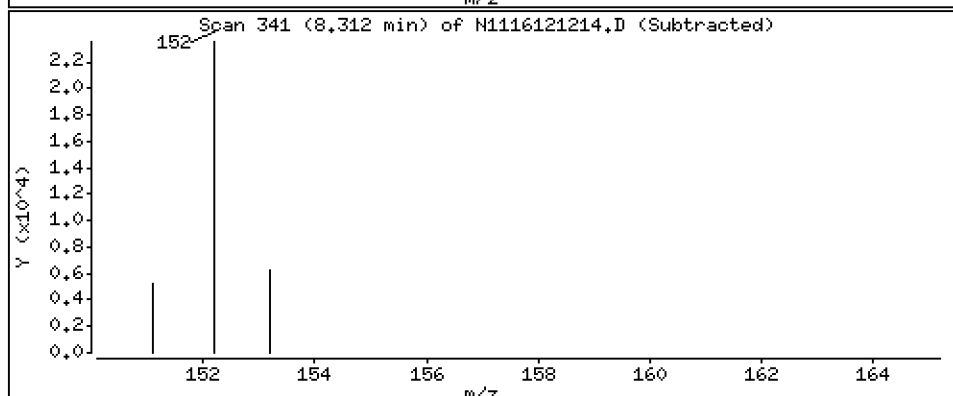
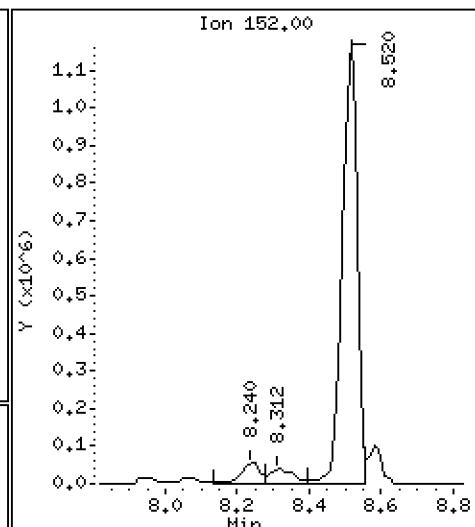
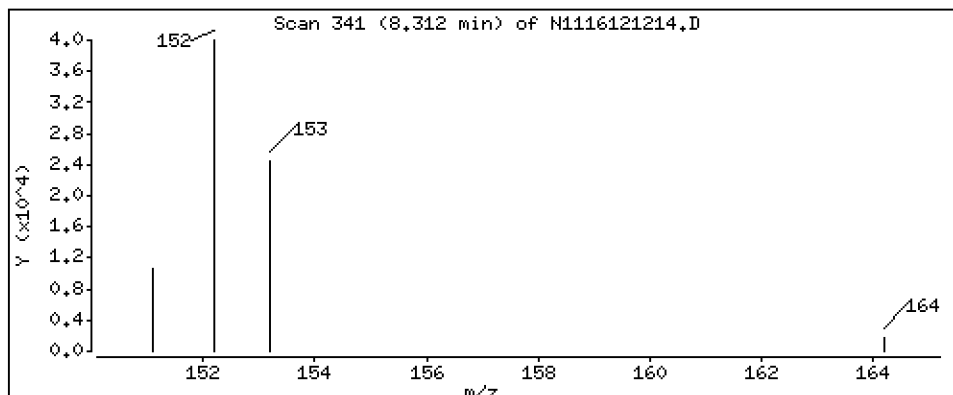
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 83,7 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

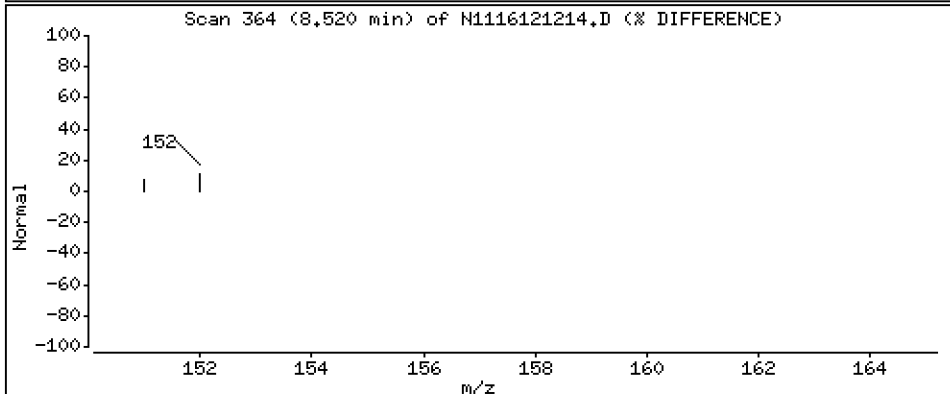
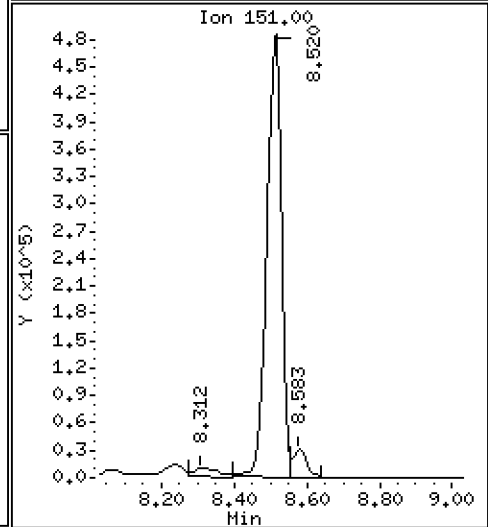
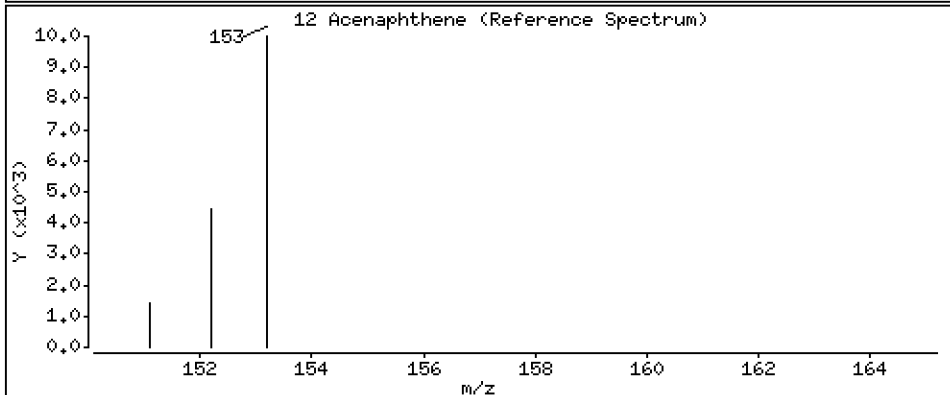
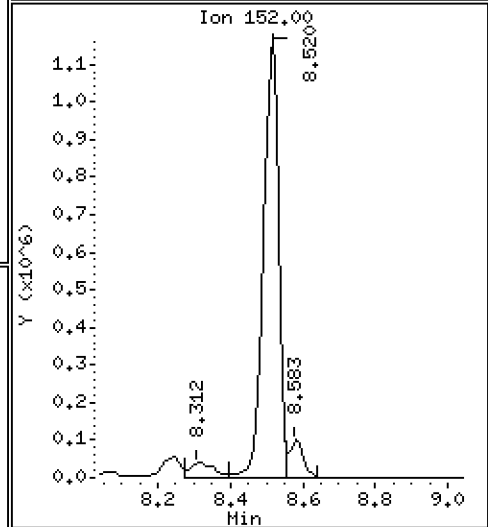
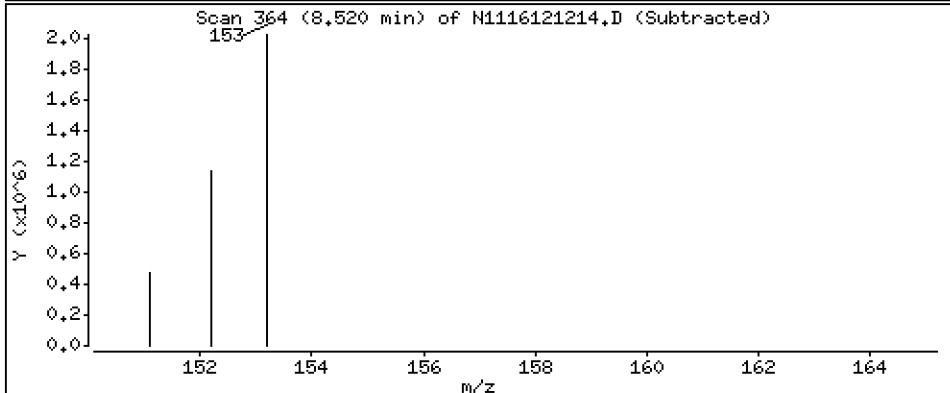
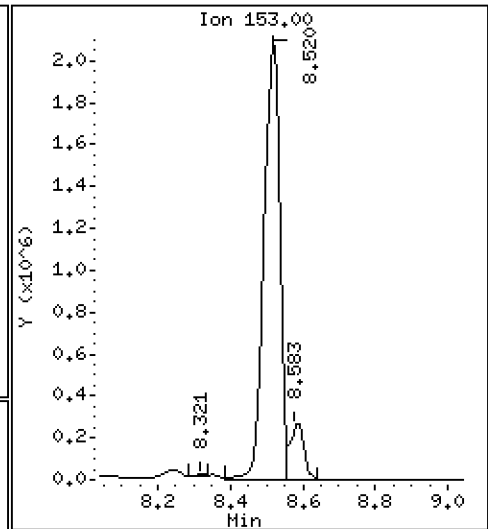
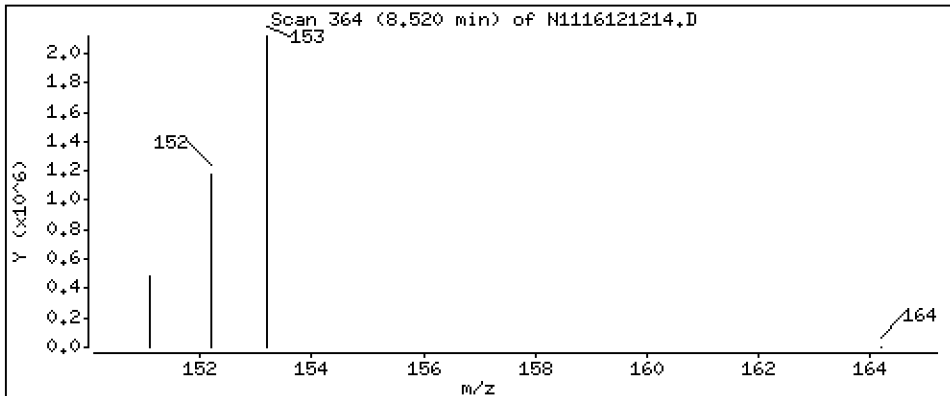
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 4240 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

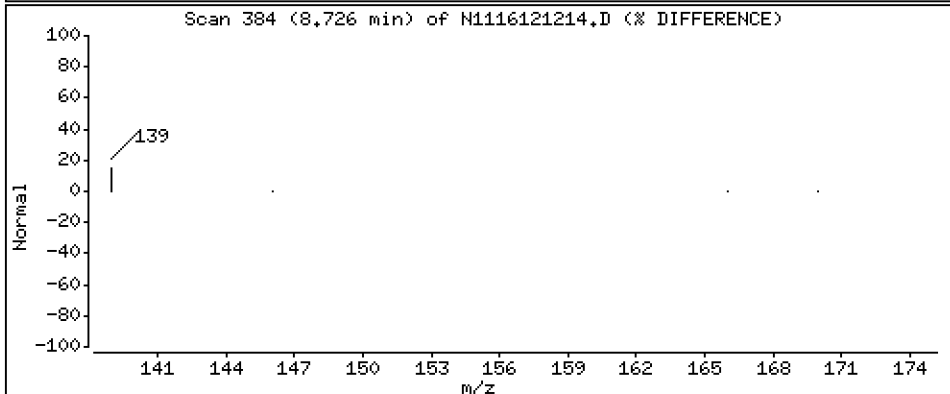
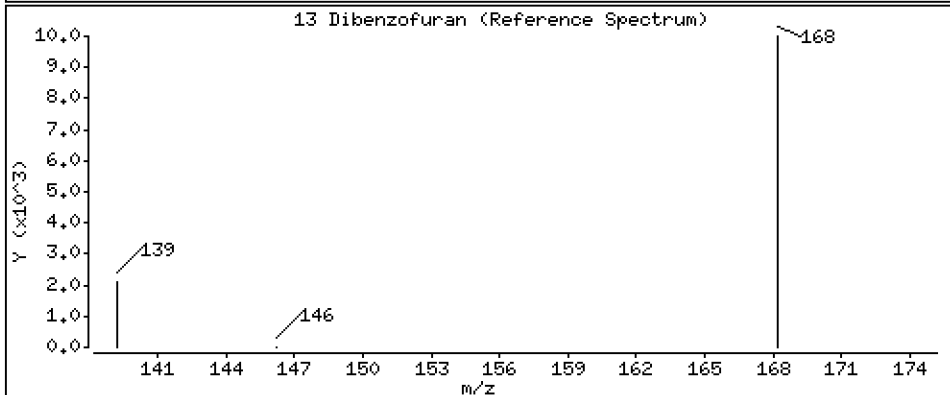
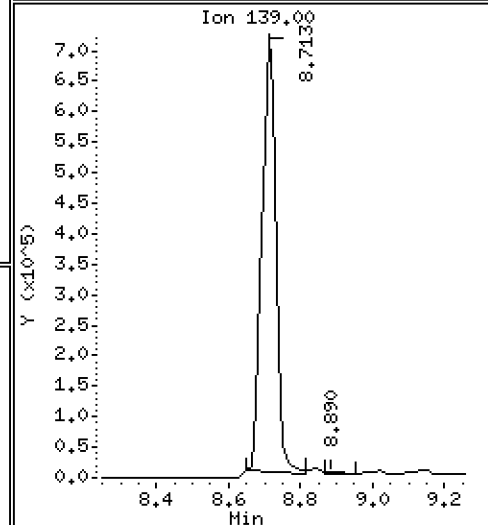
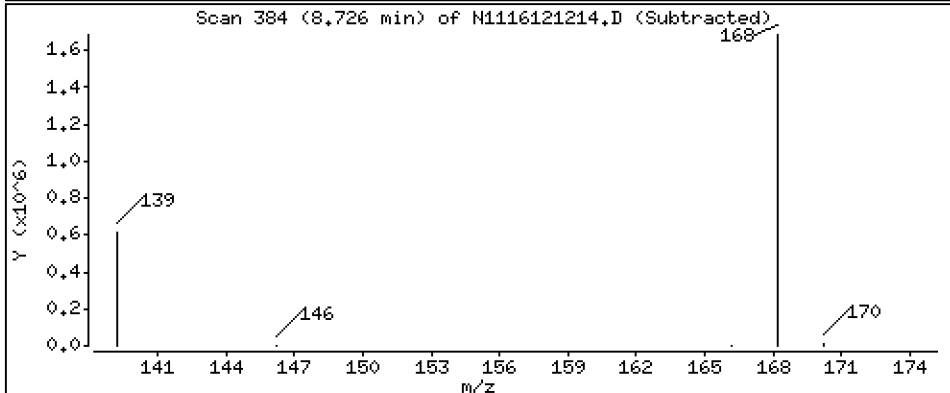
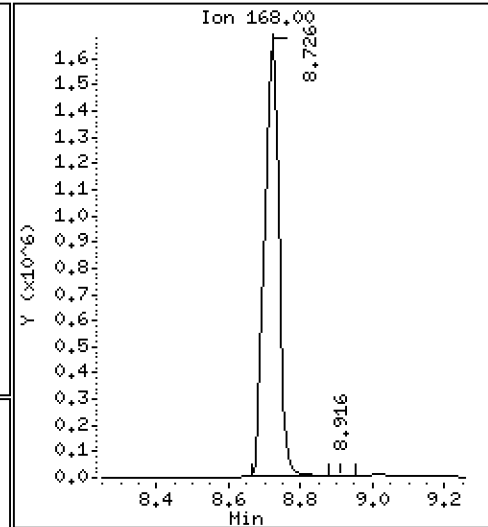
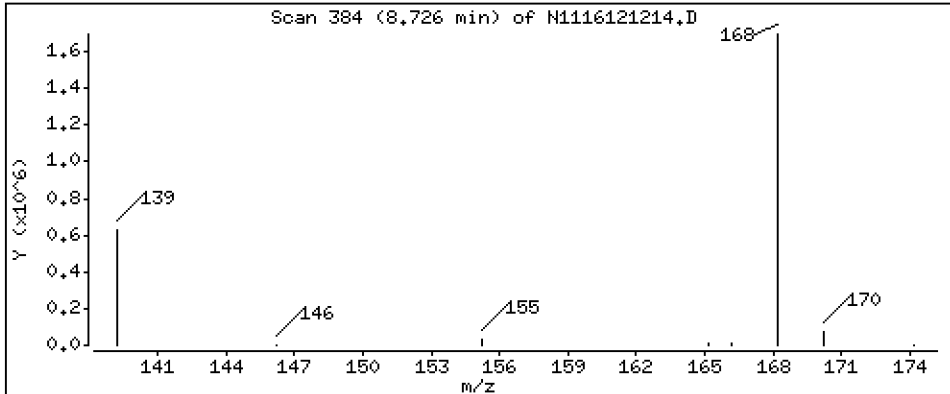
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 2200 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

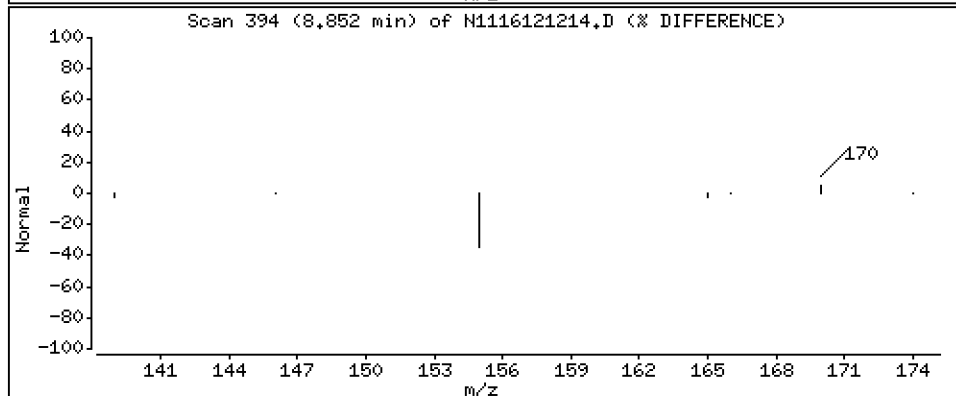
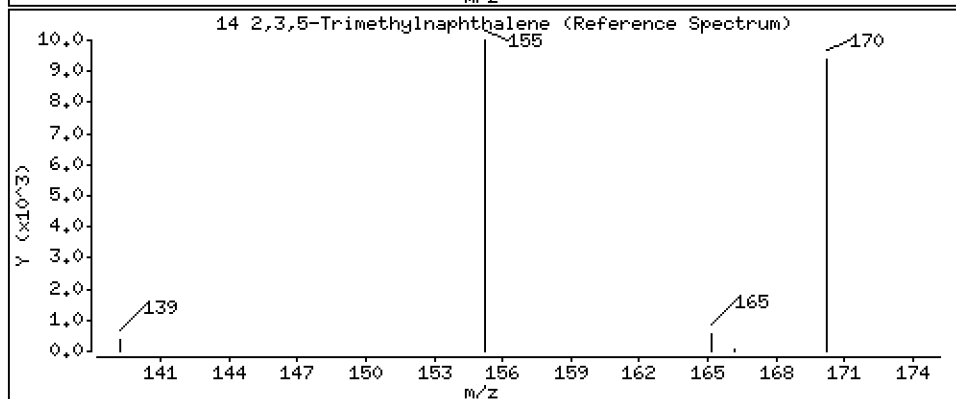
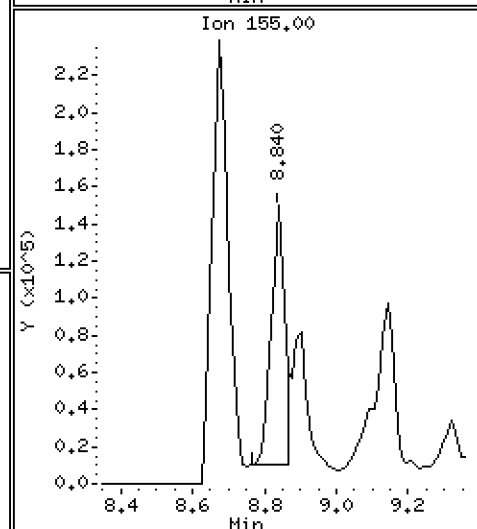
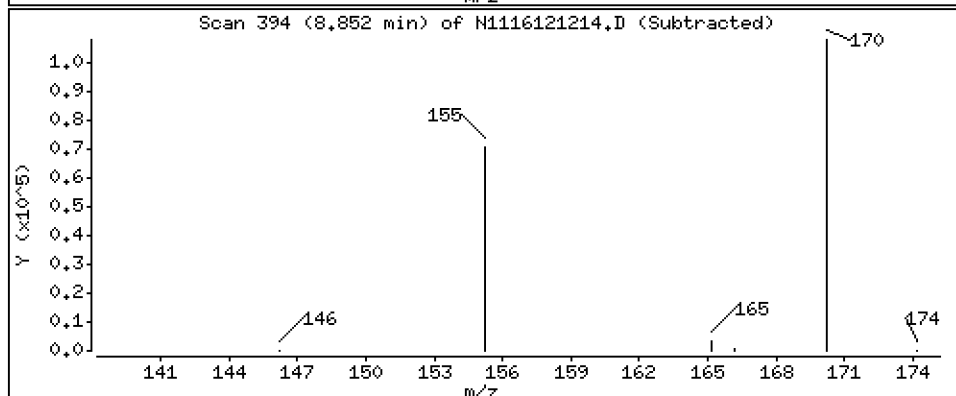
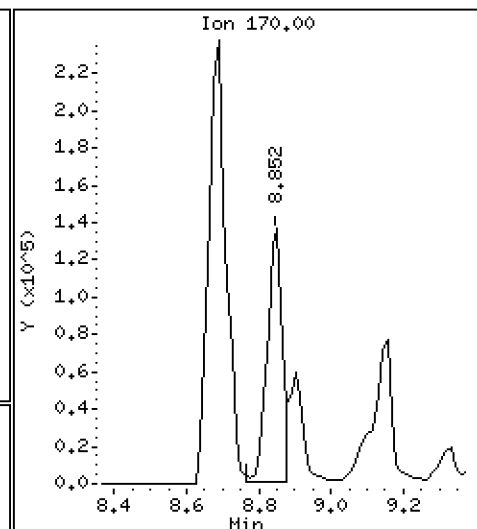
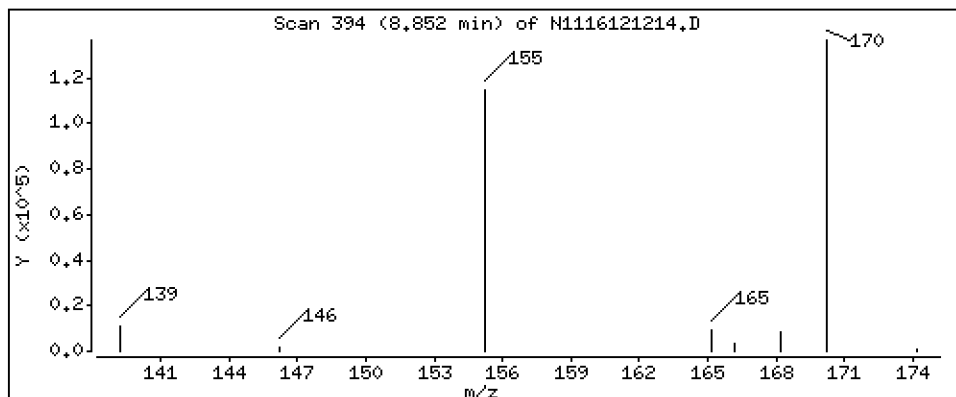
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 304 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

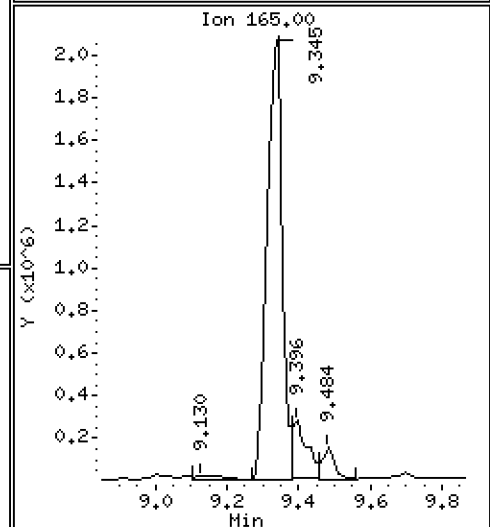
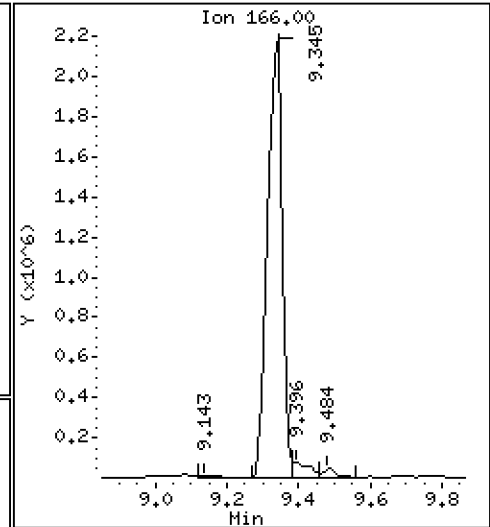
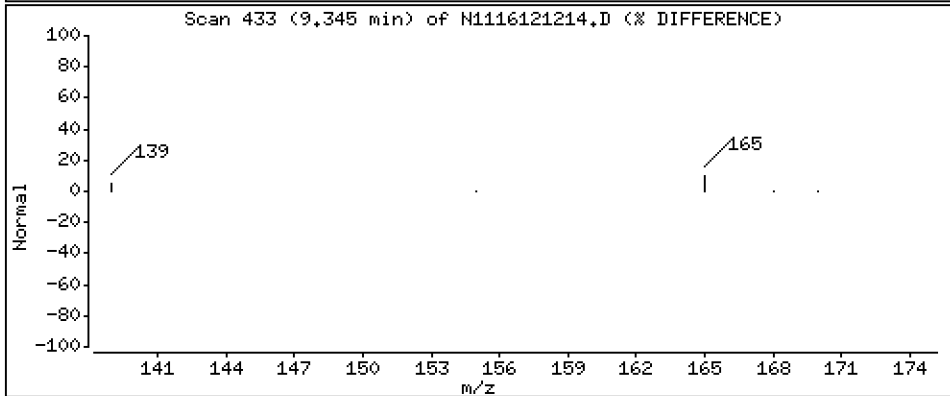
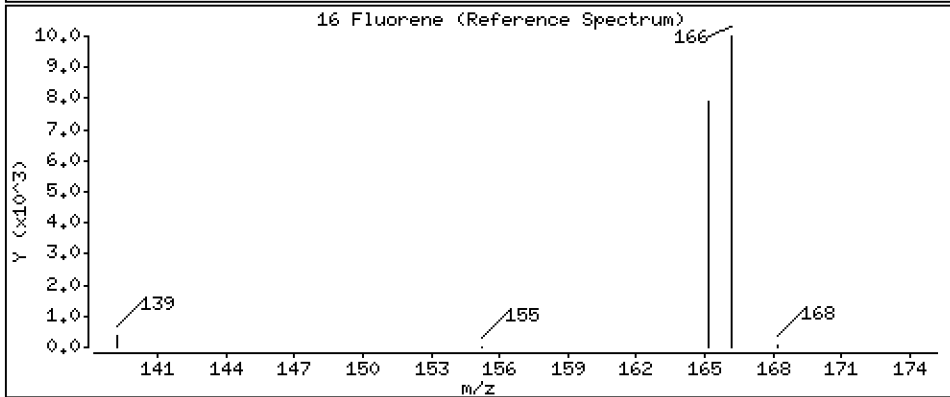
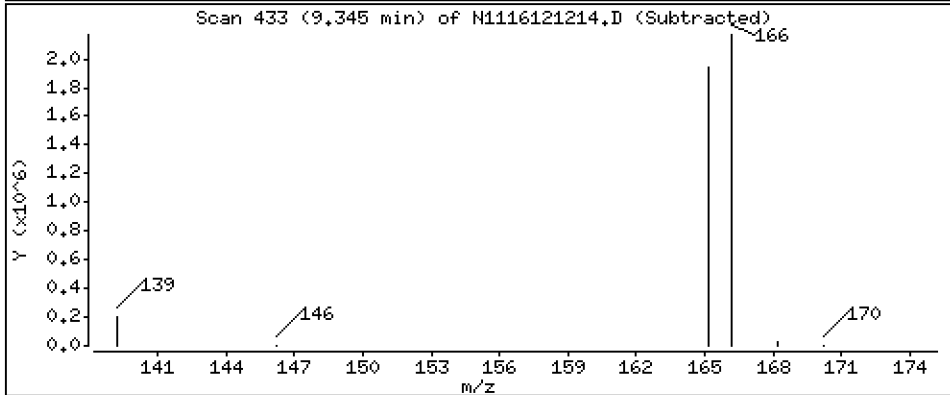
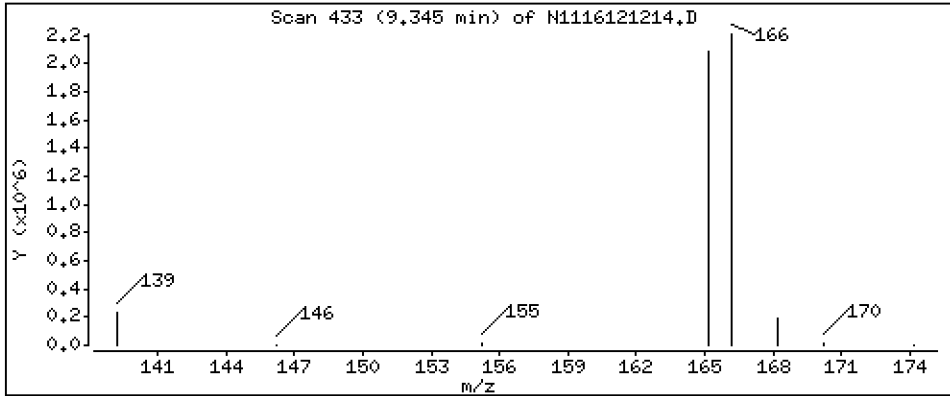
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 3900 ng/mL

16 Fluorene



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

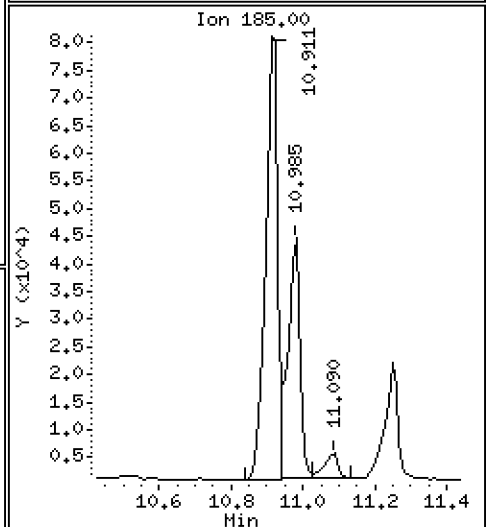
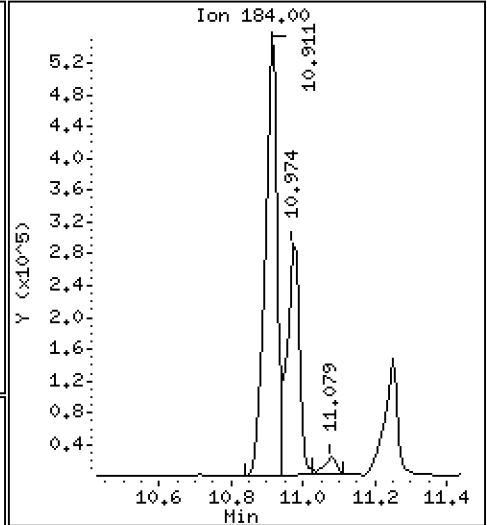
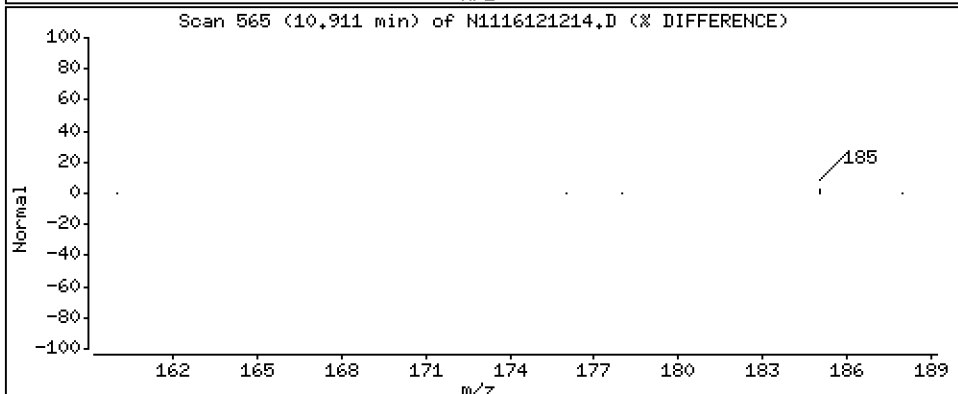
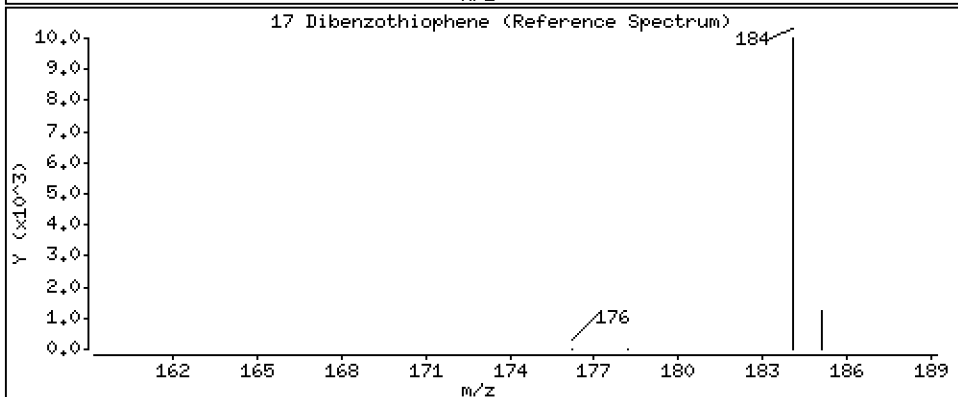
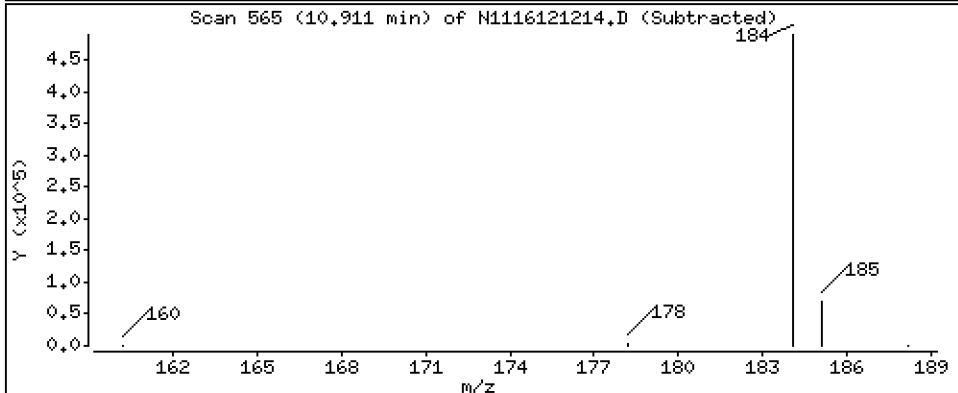
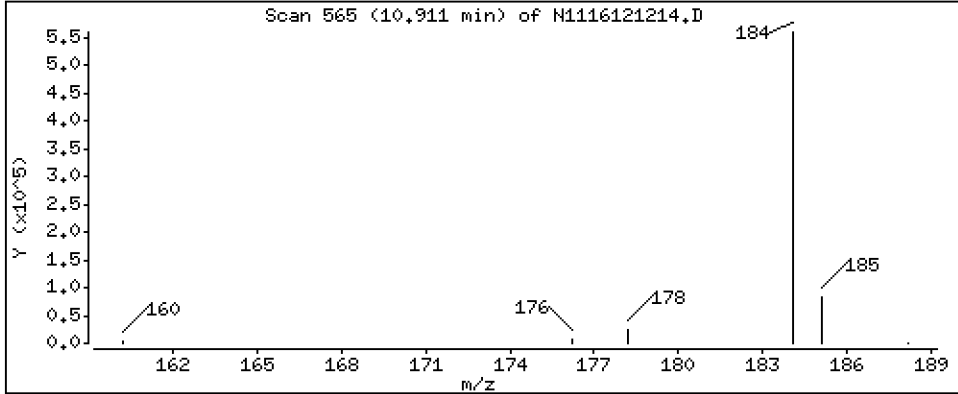
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 683 ng/mL

17 Dibenzothiophene



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

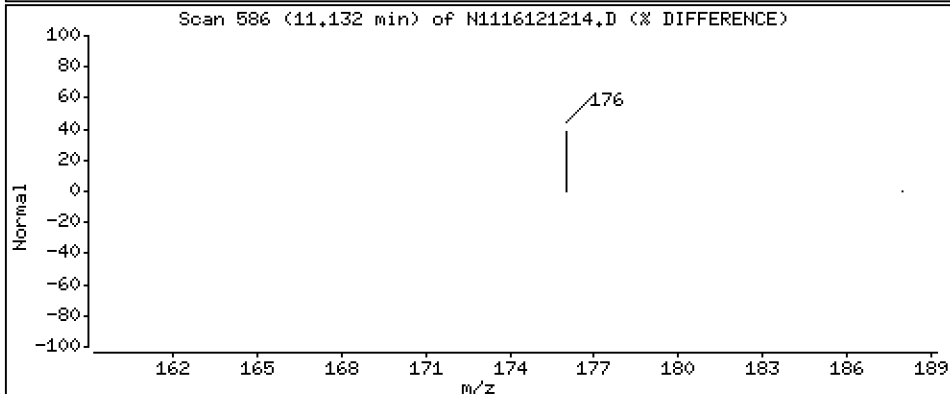
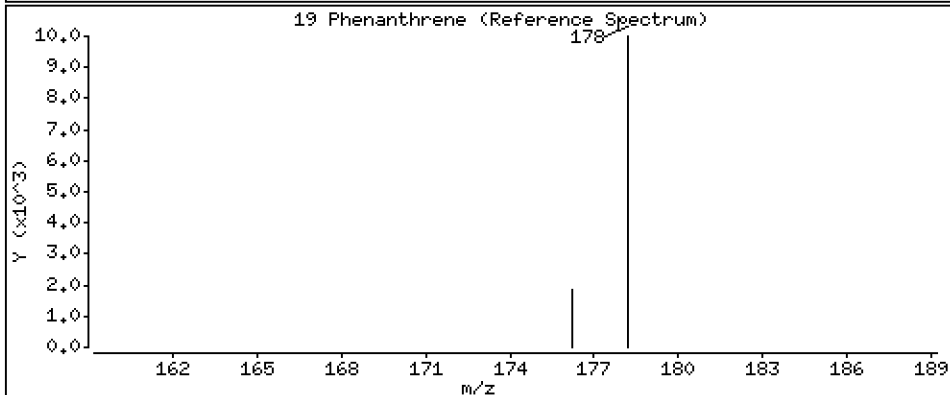
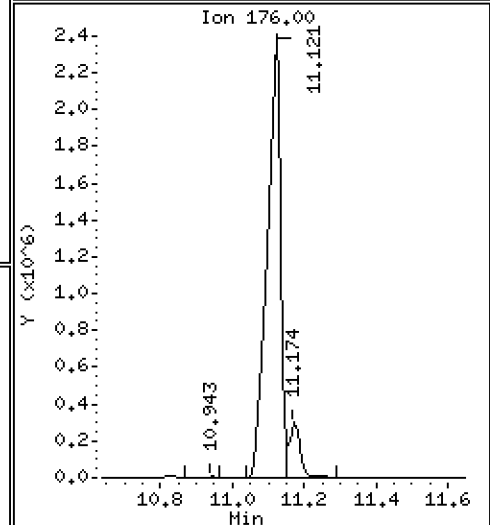
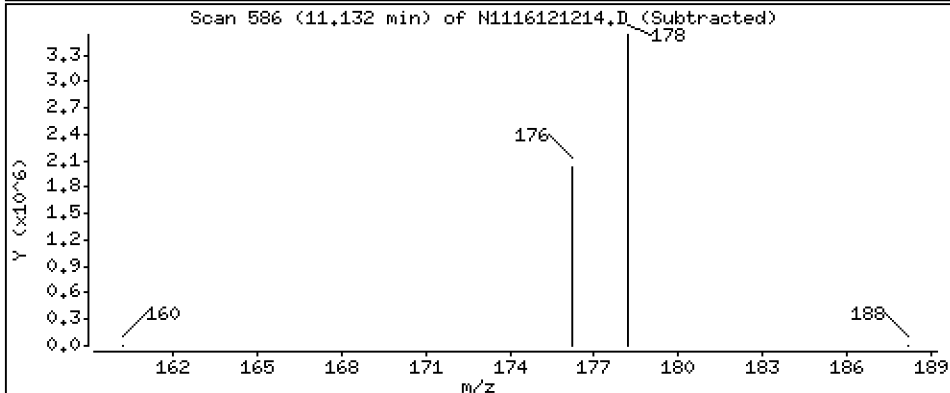
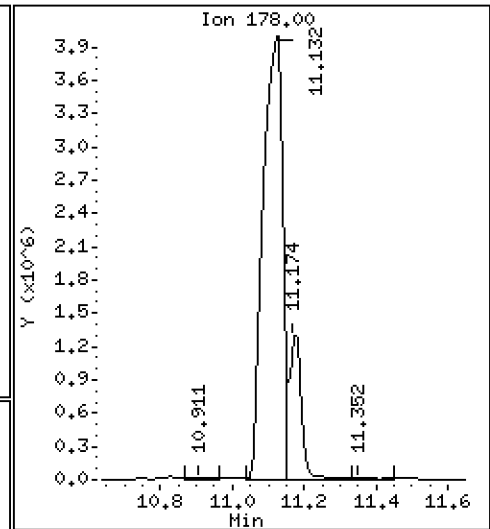
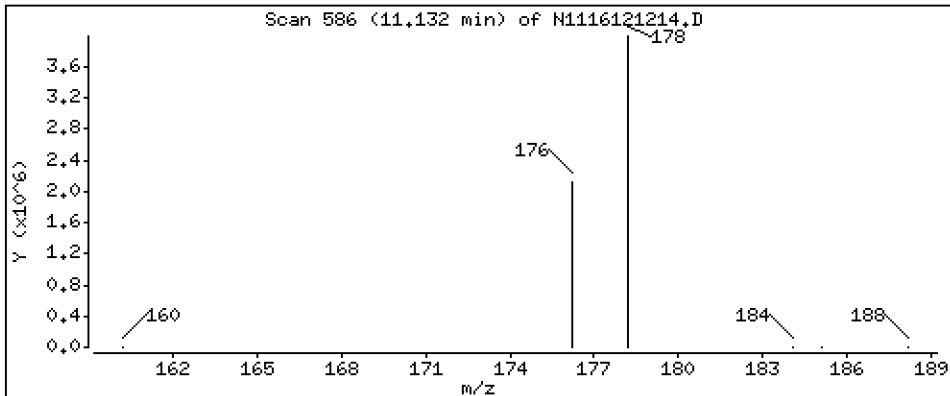
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 6570 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

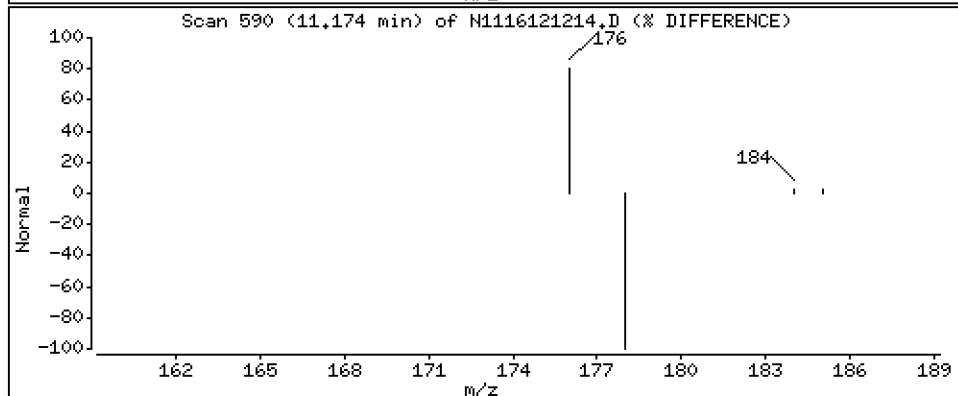
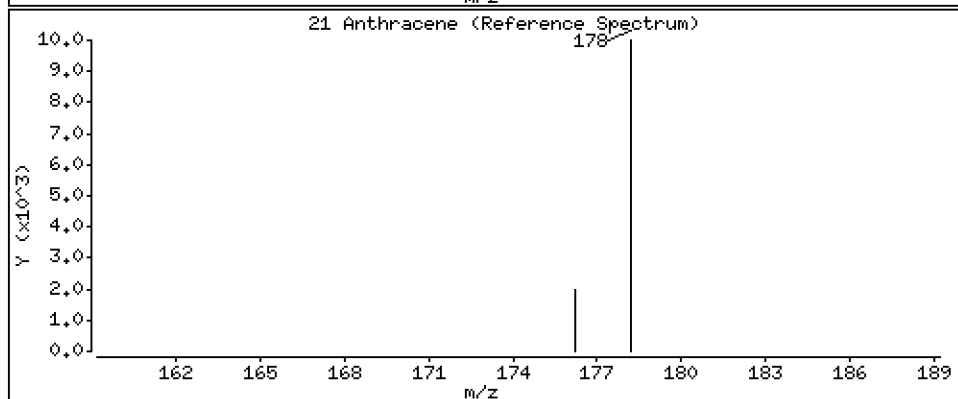
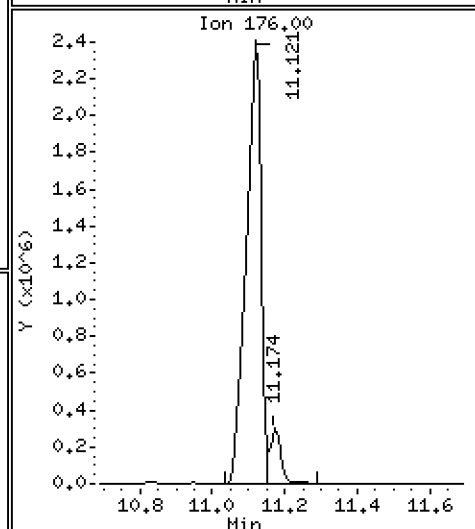
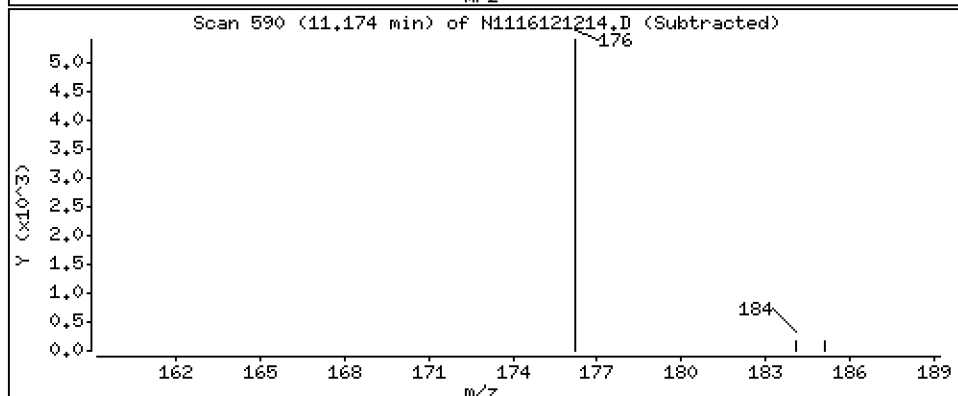
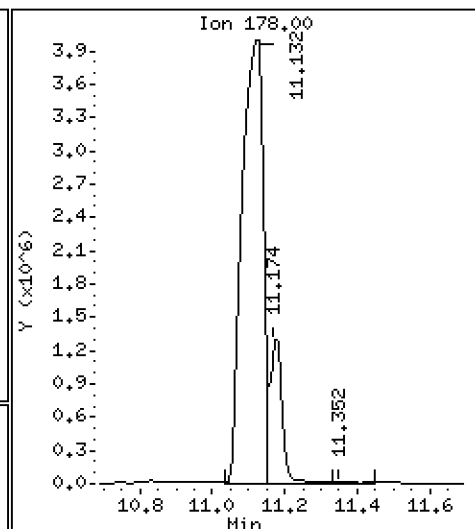
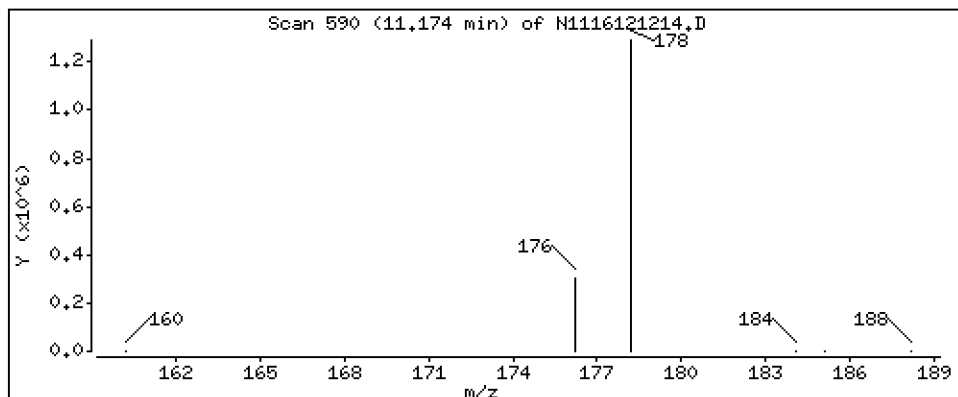
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 1470 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

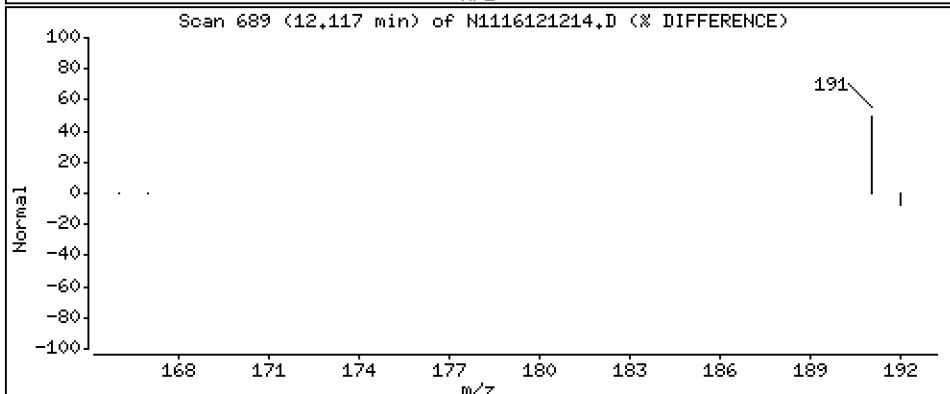
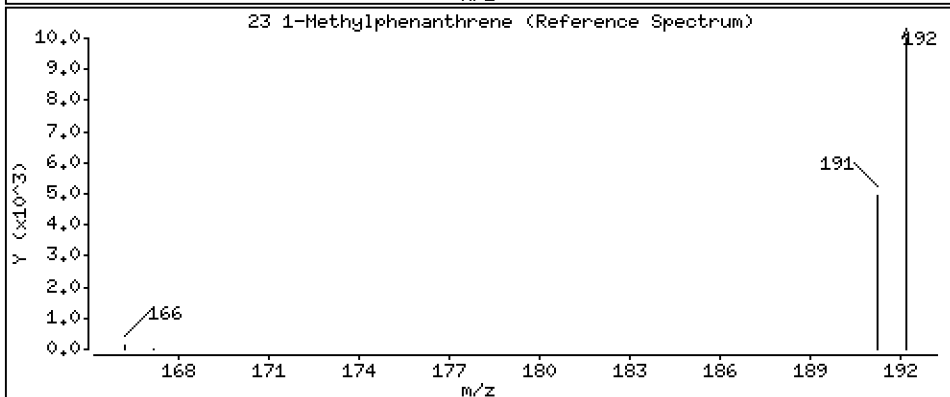
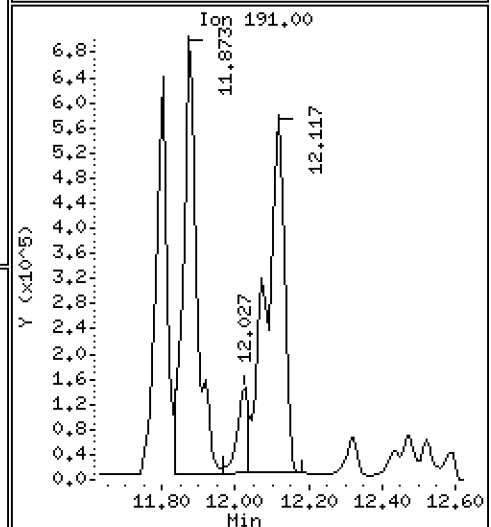
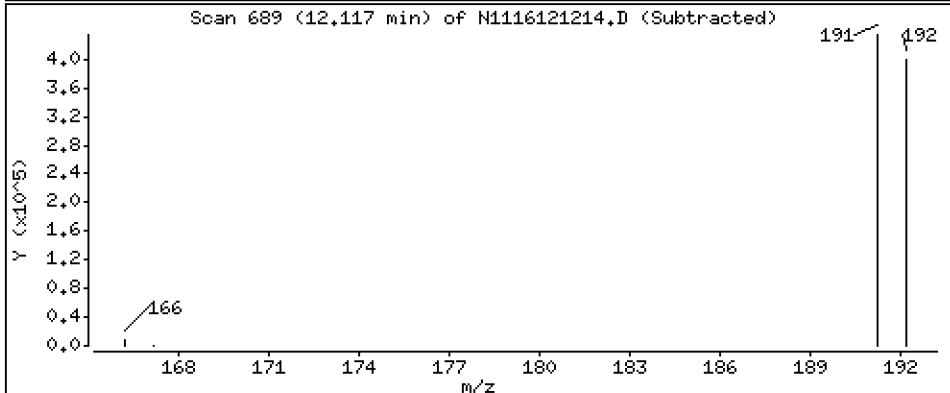
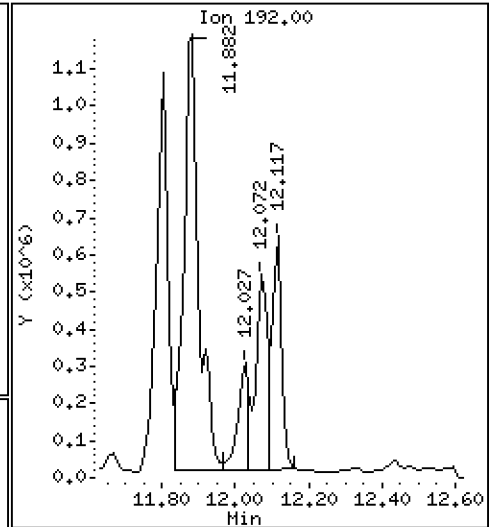
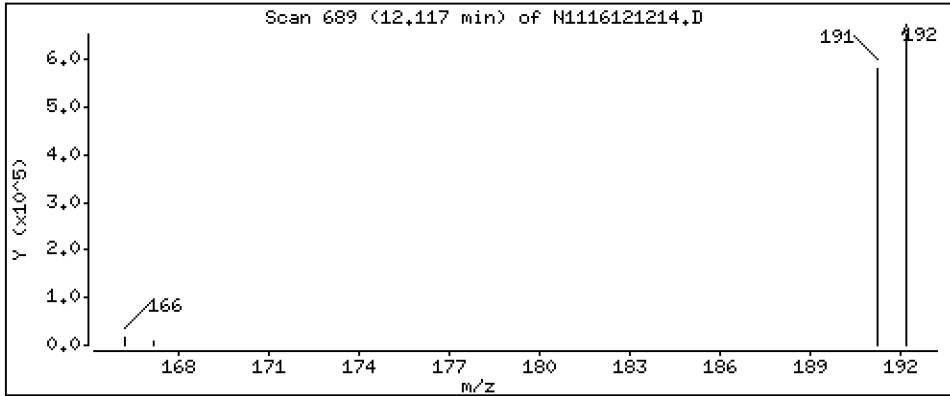
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 592 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

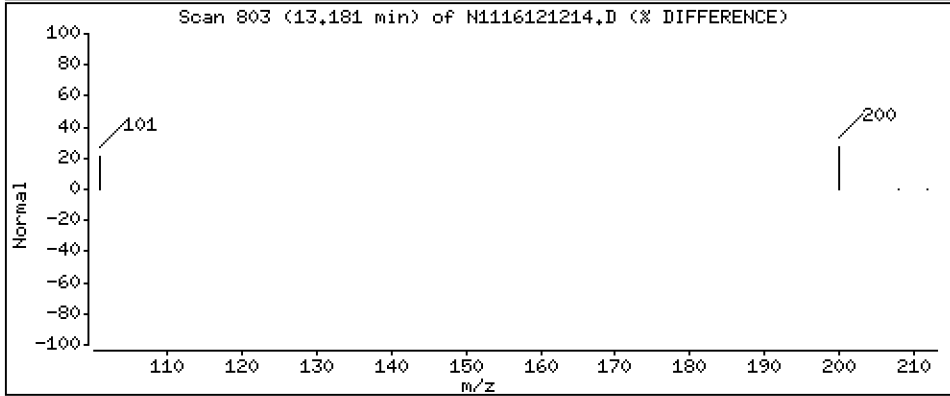
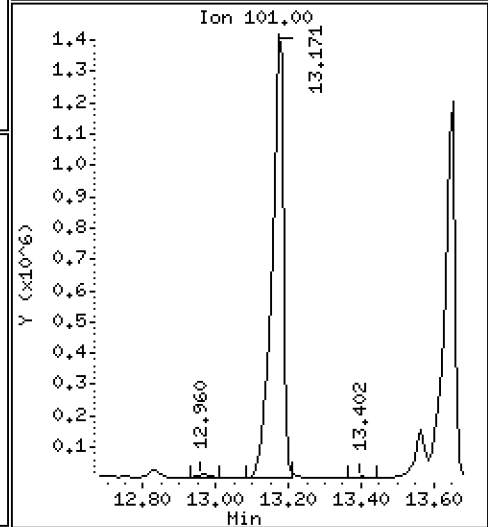
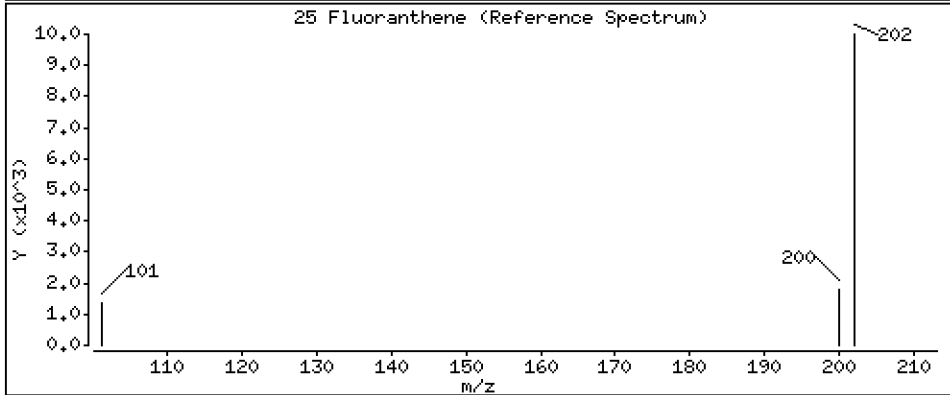
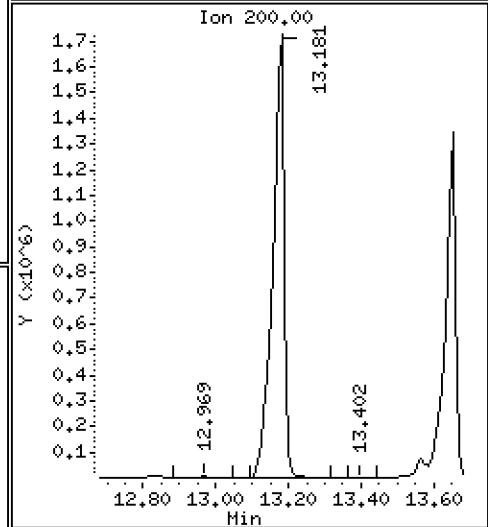
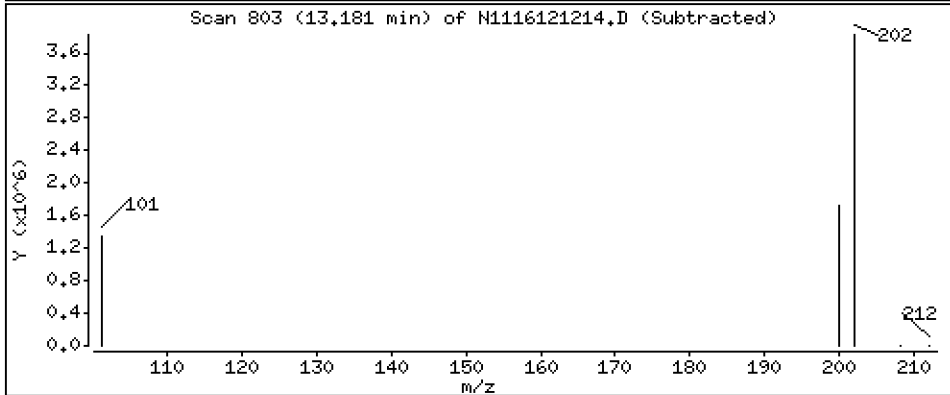
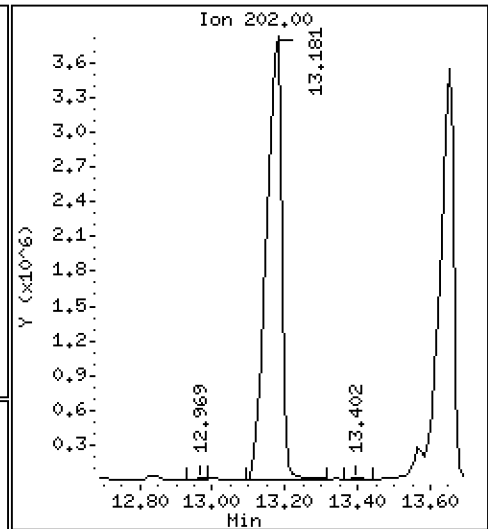
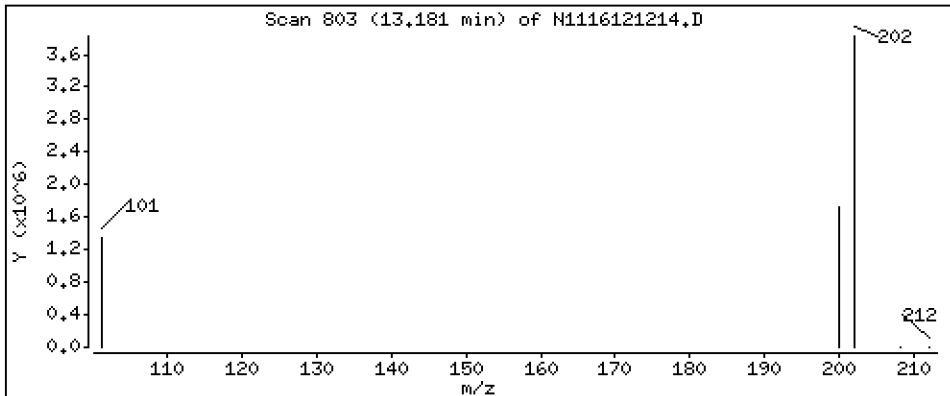
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 4840 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

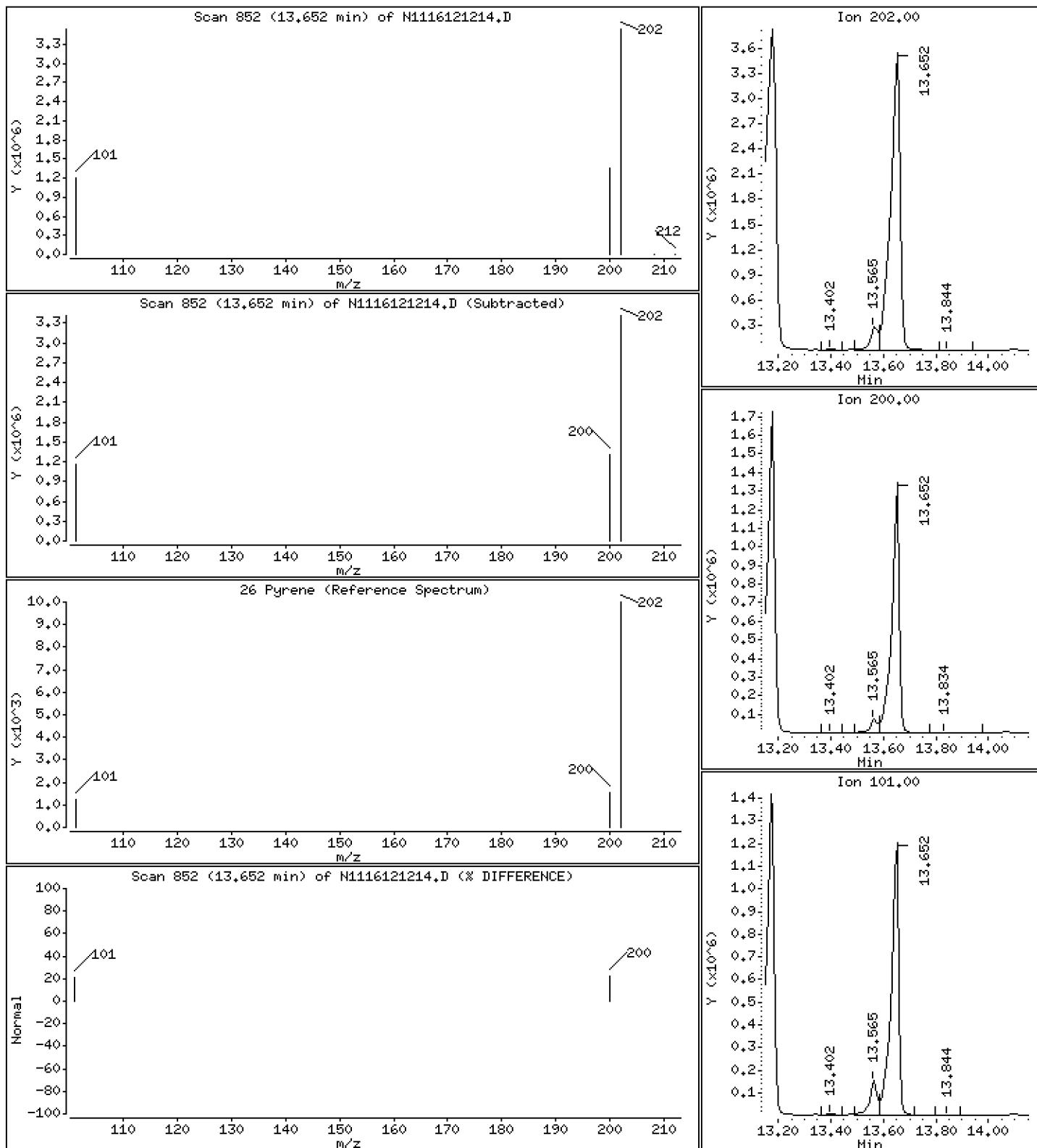
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 3900 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

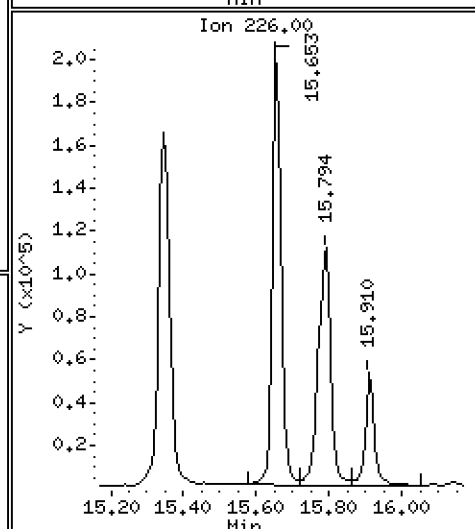
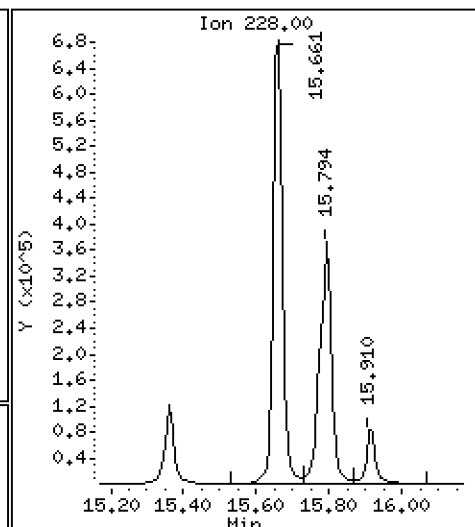
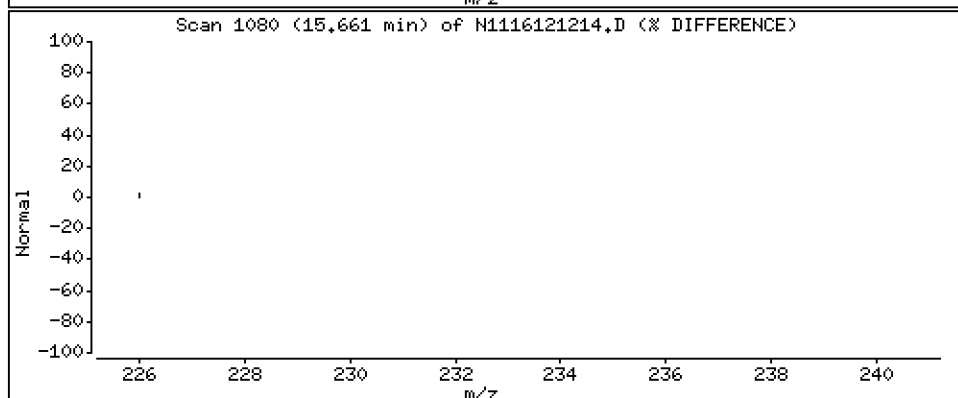
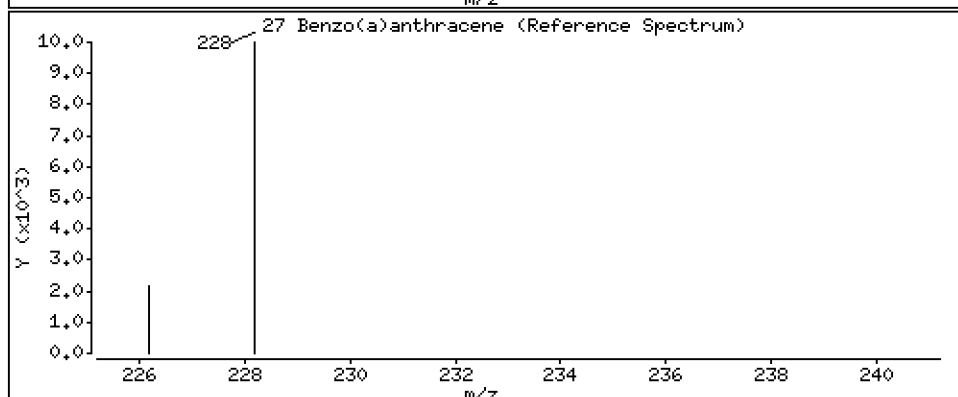
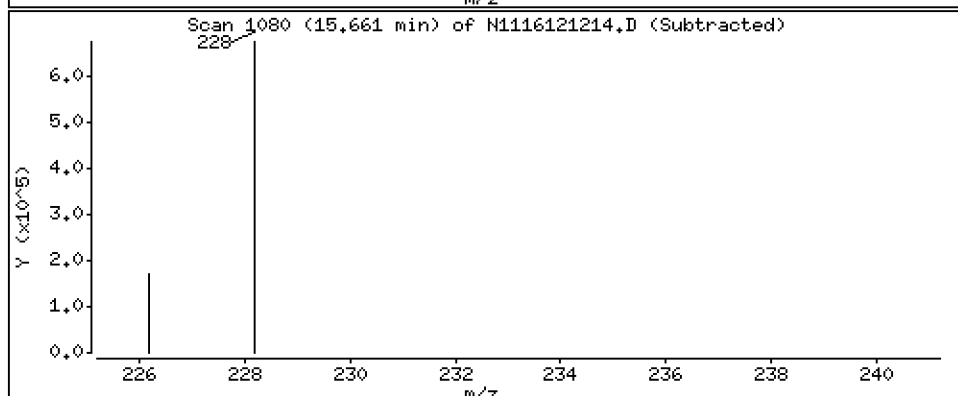
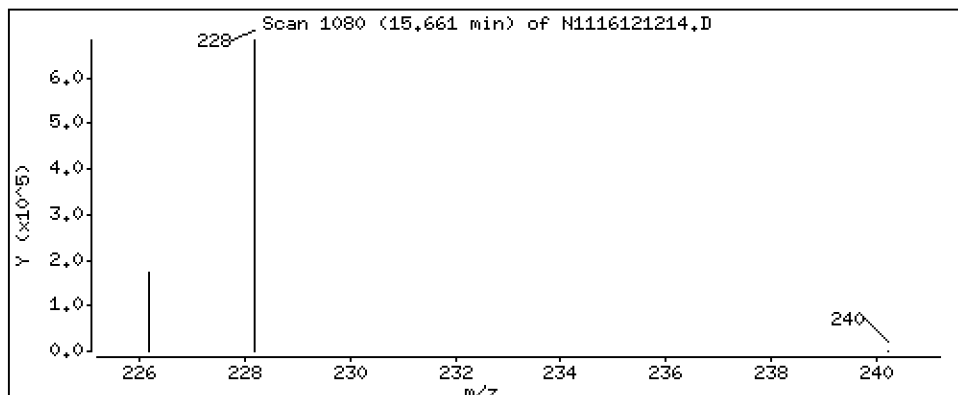
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 587 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

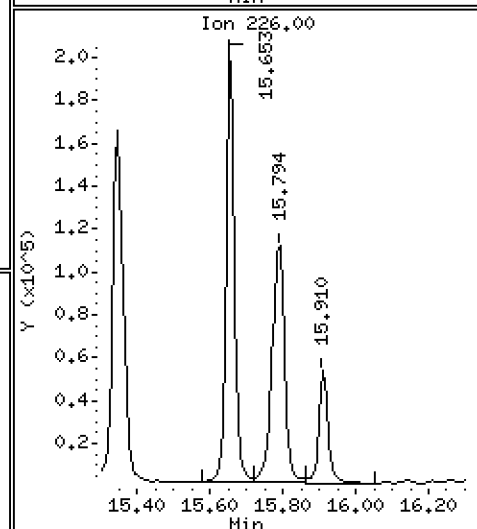
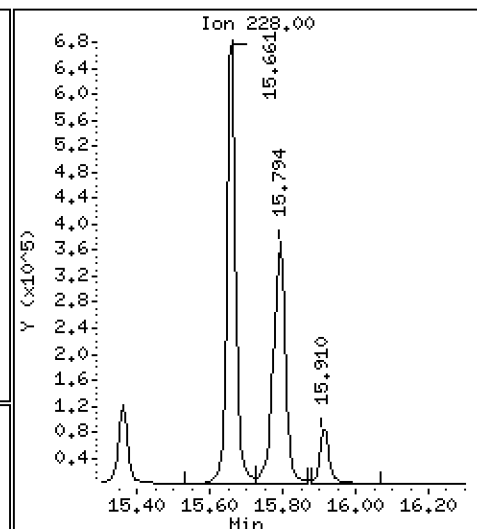
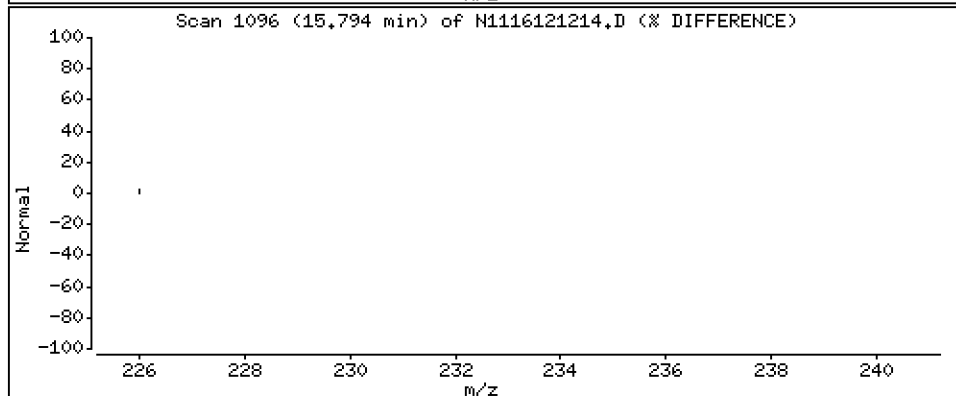
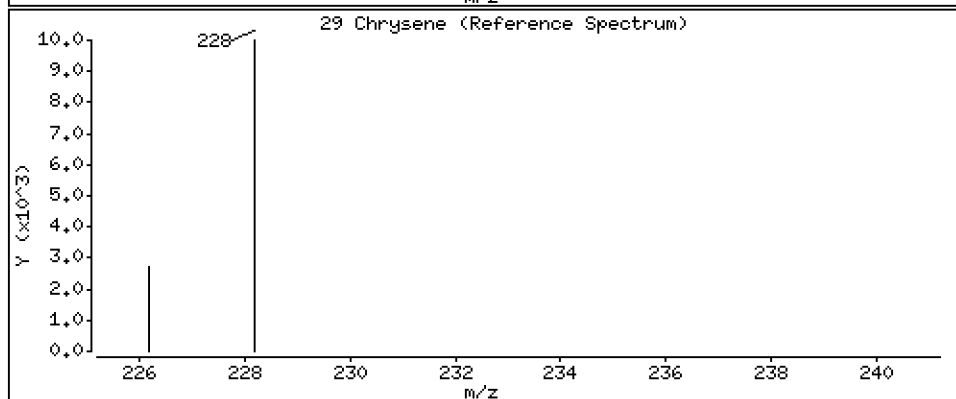
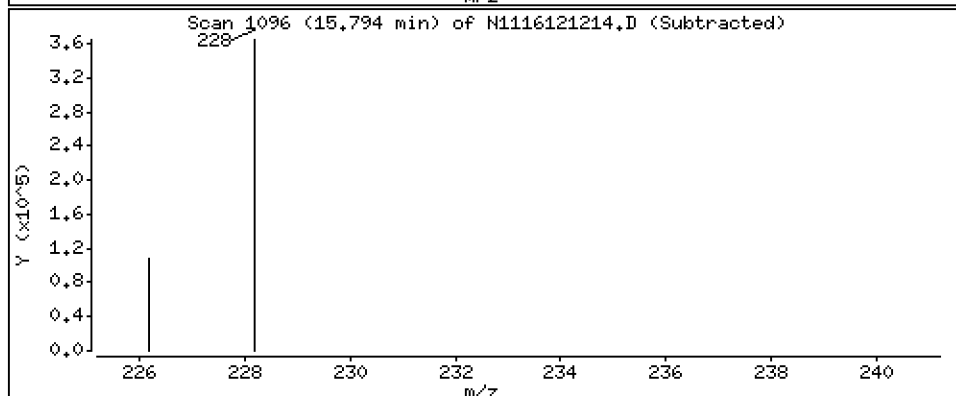
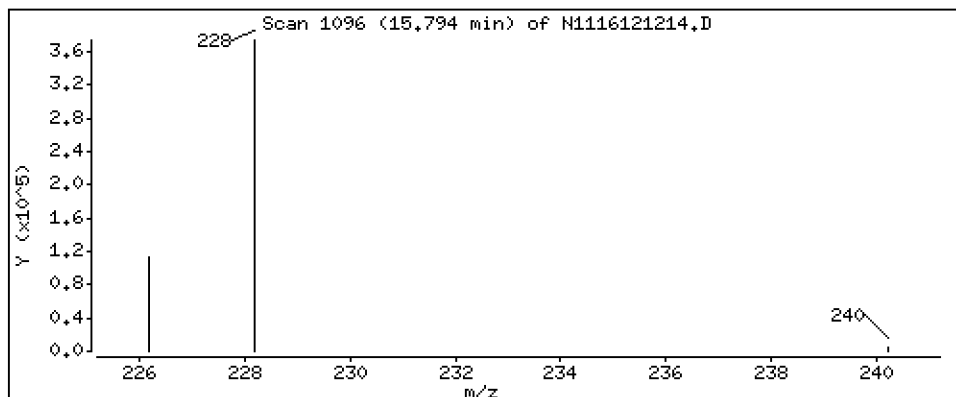
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 376 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

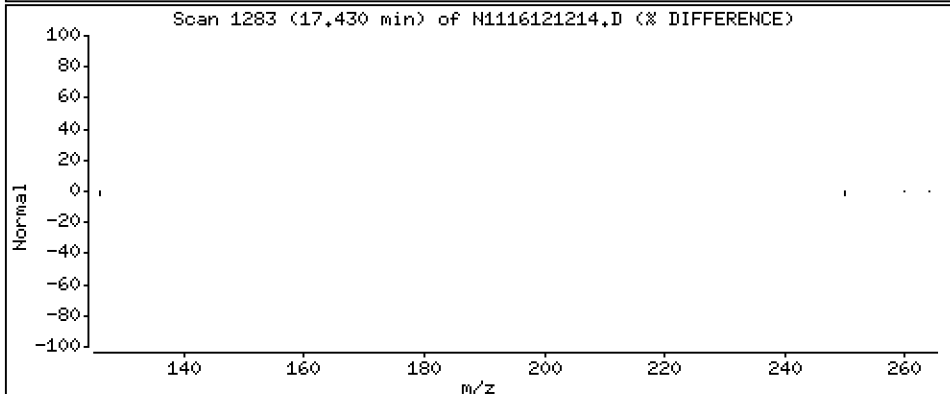
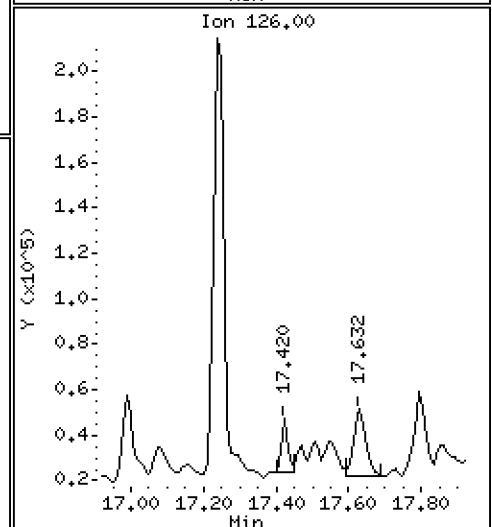
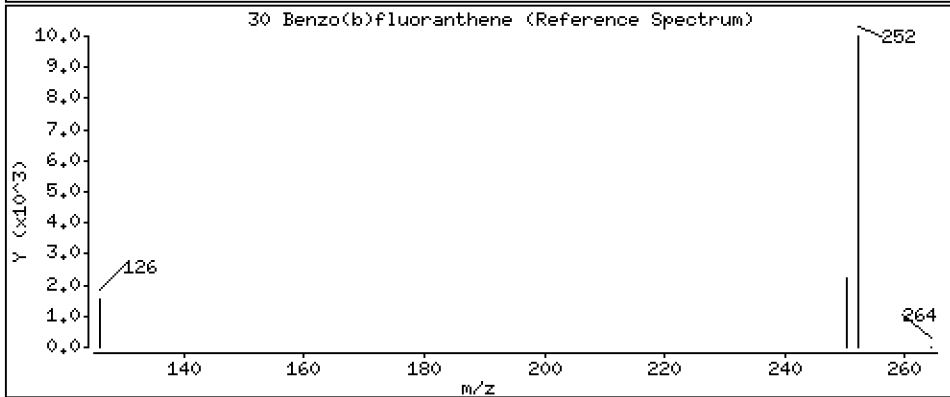
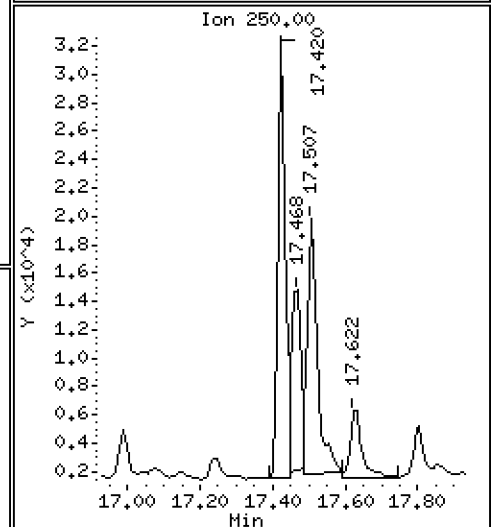
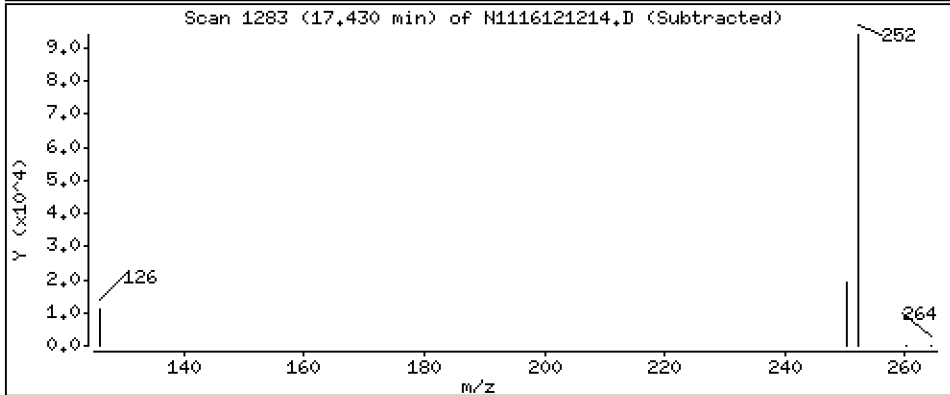
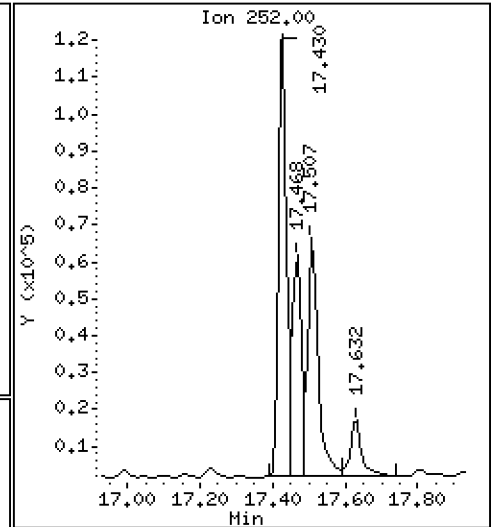
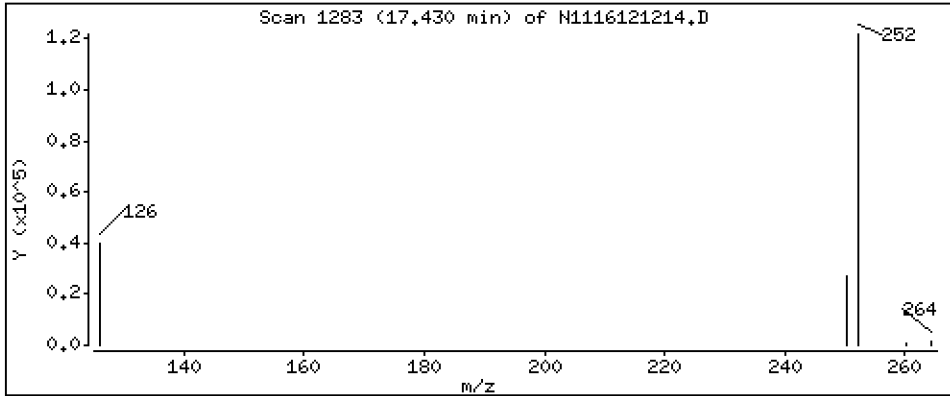
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 101 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

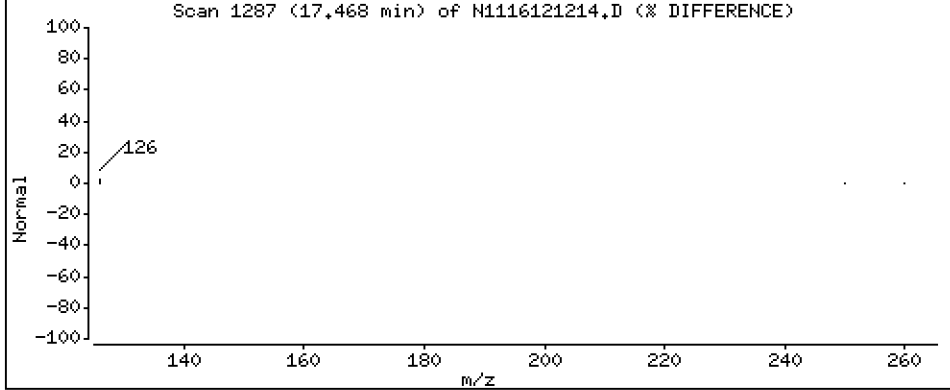
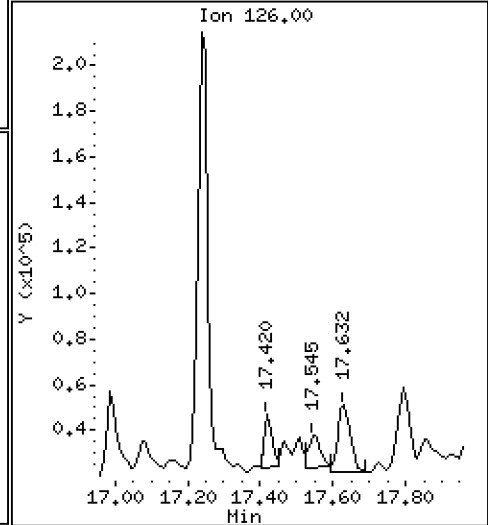
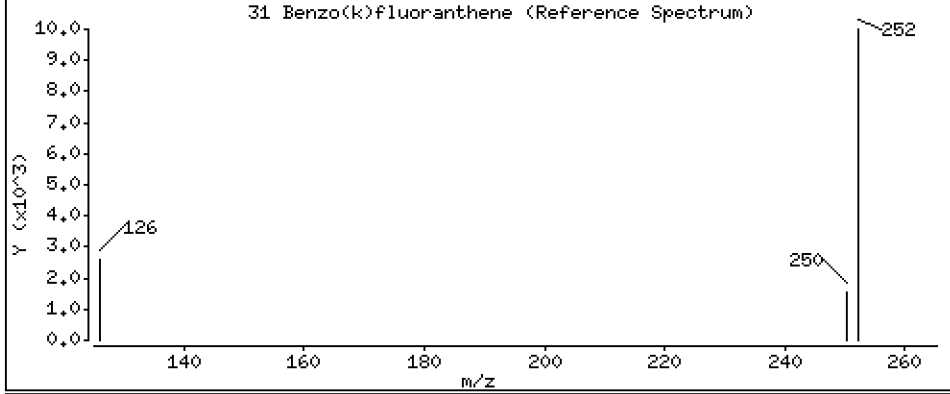
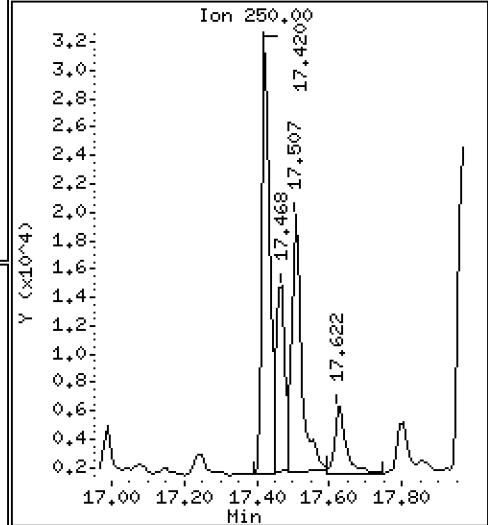
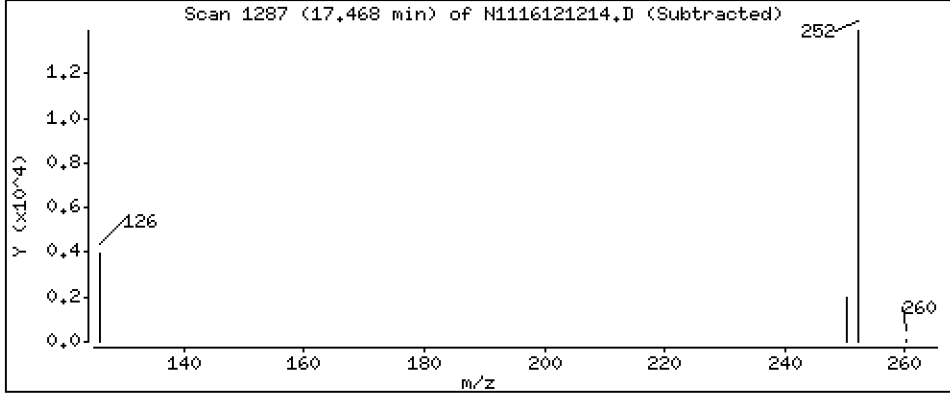
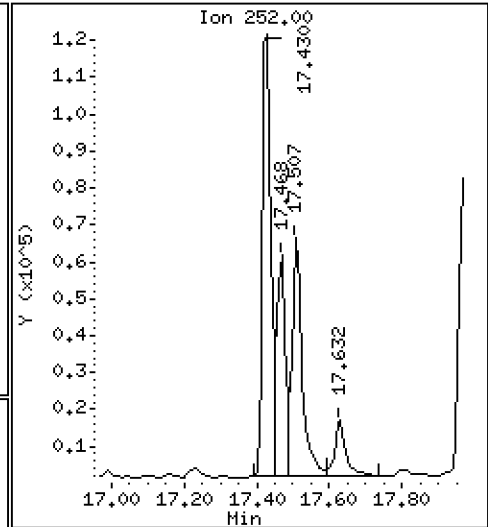
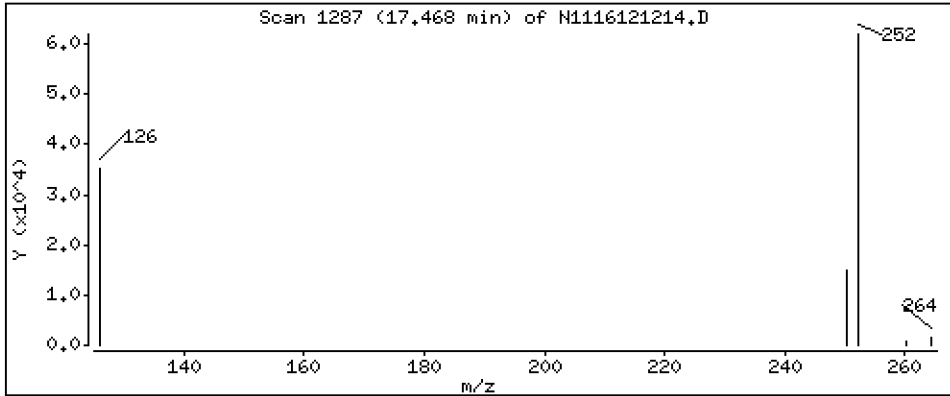
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 52,0 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

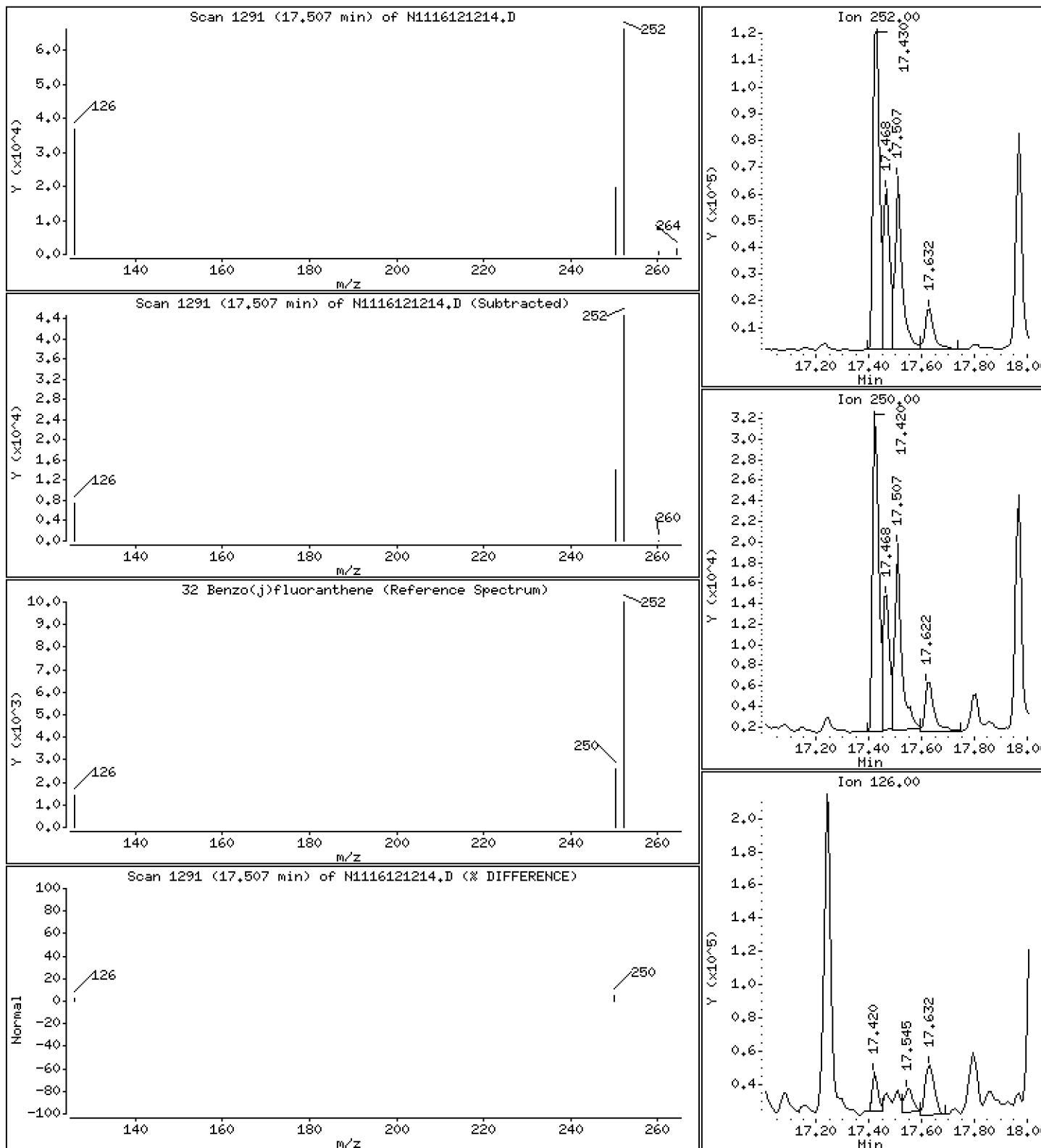
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 64,0 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

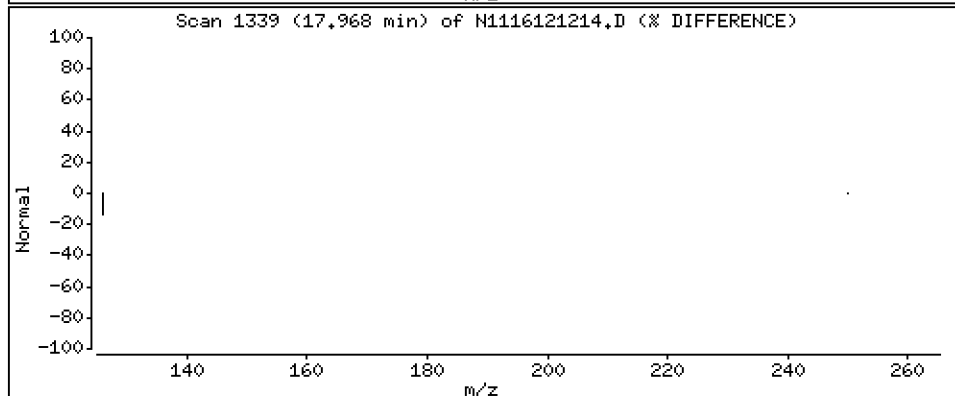
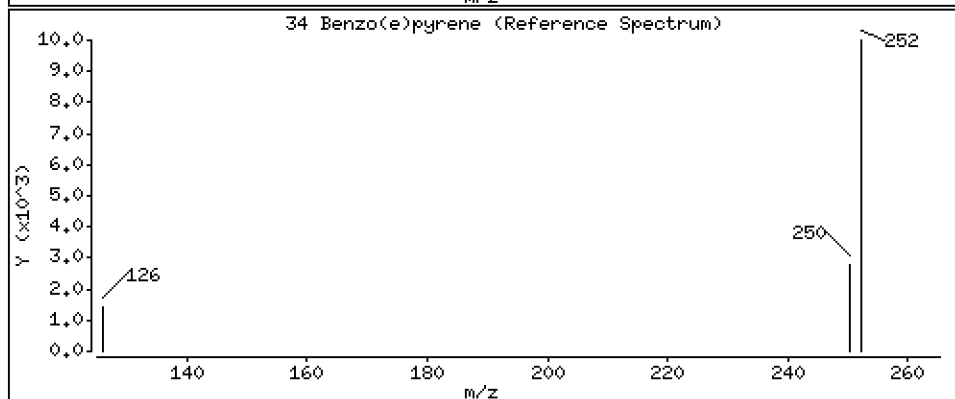
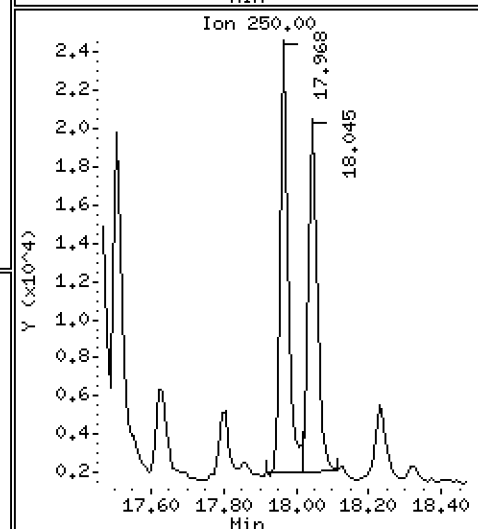
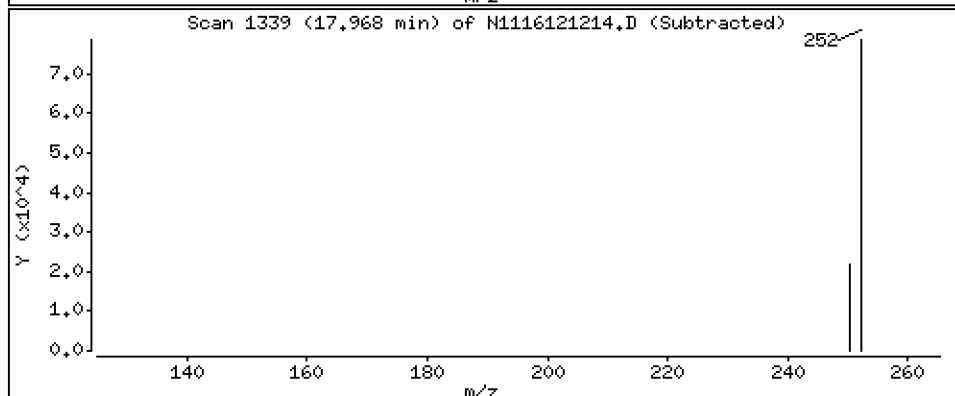
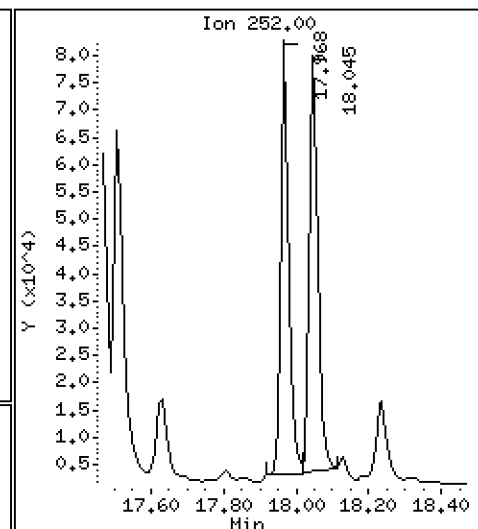
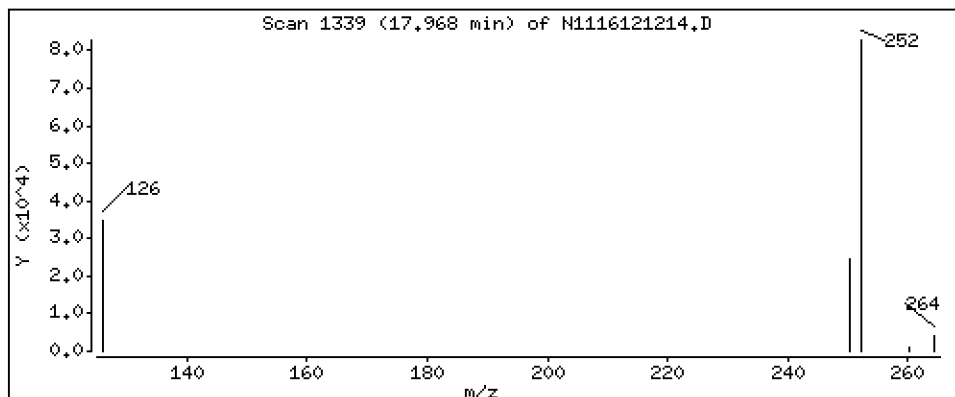
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 63,5 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

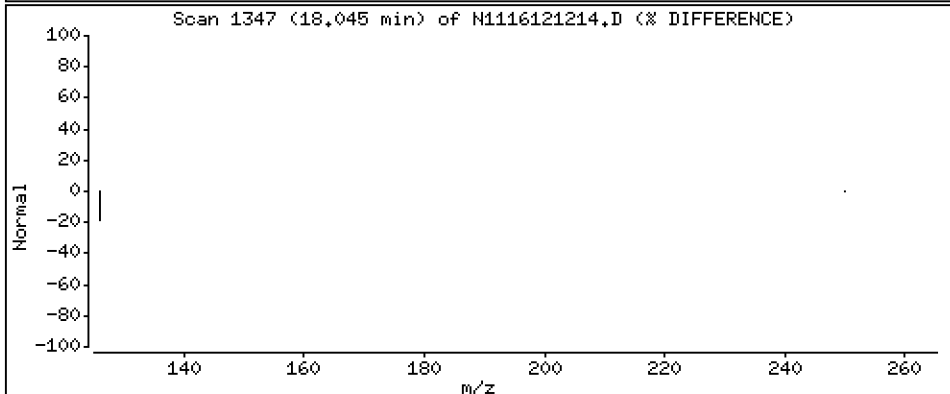
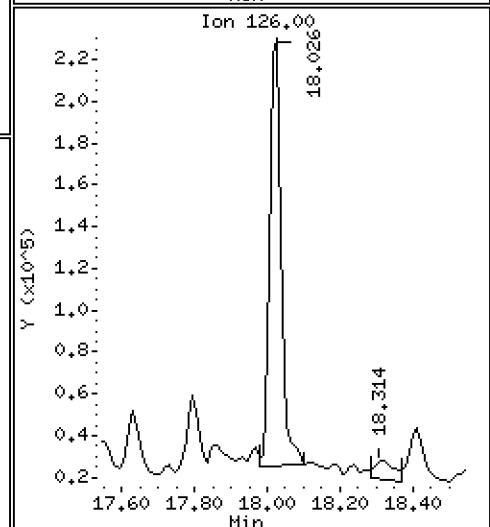
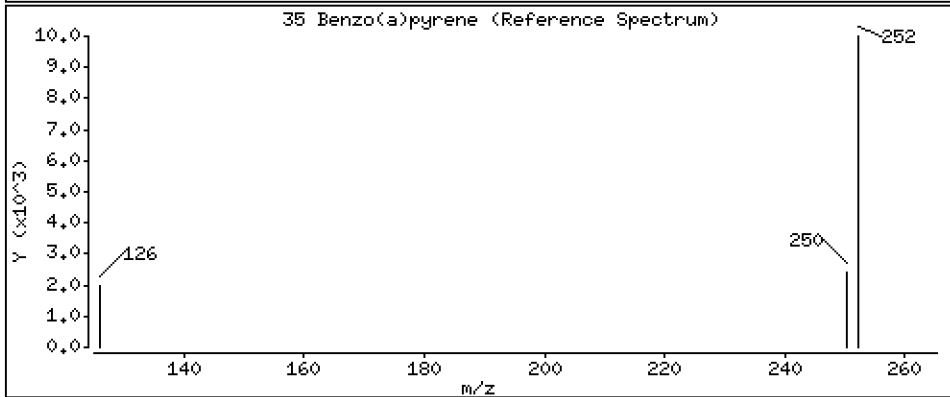
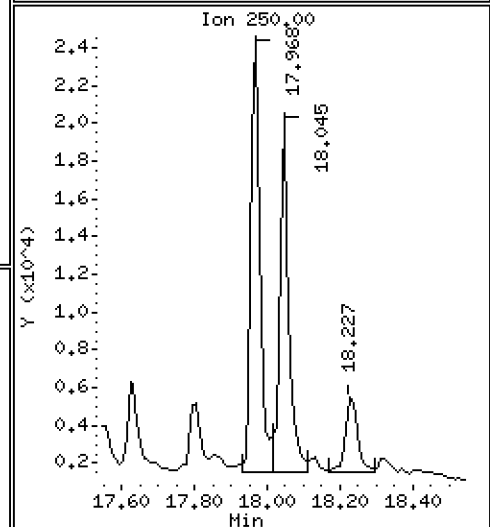
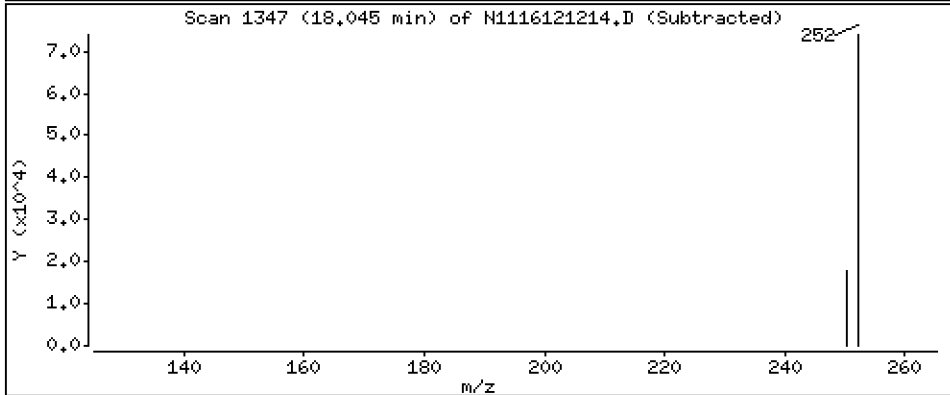
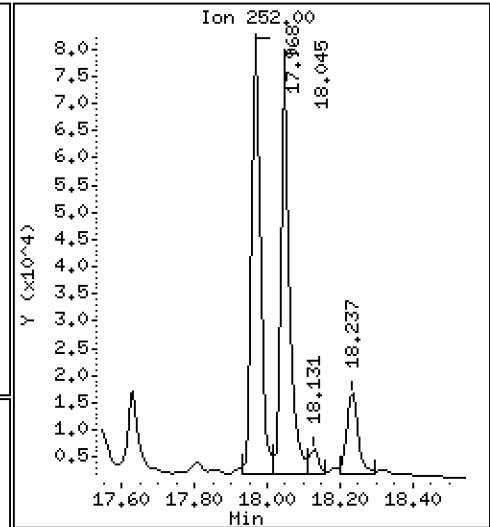
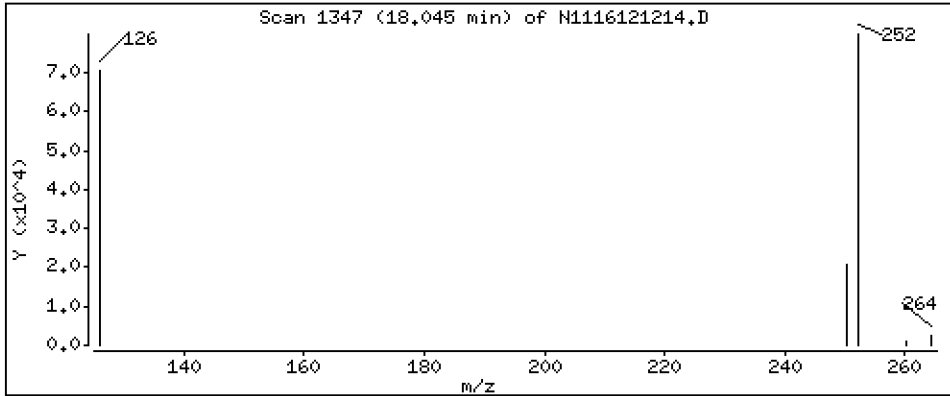
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 71,1 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

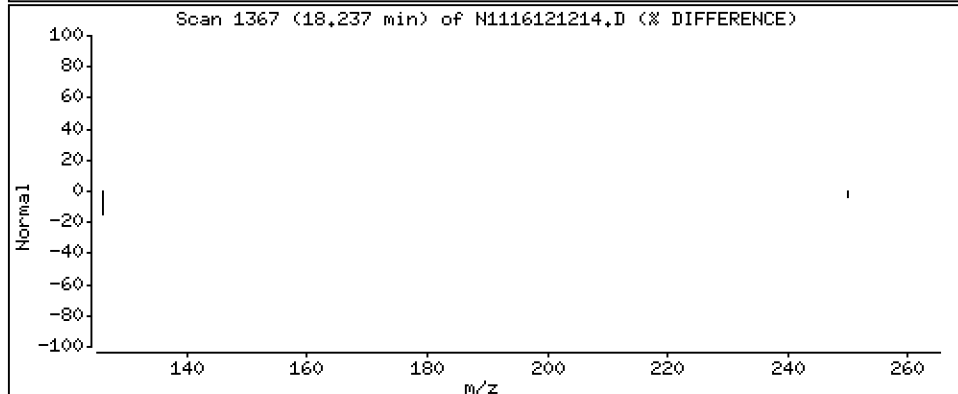
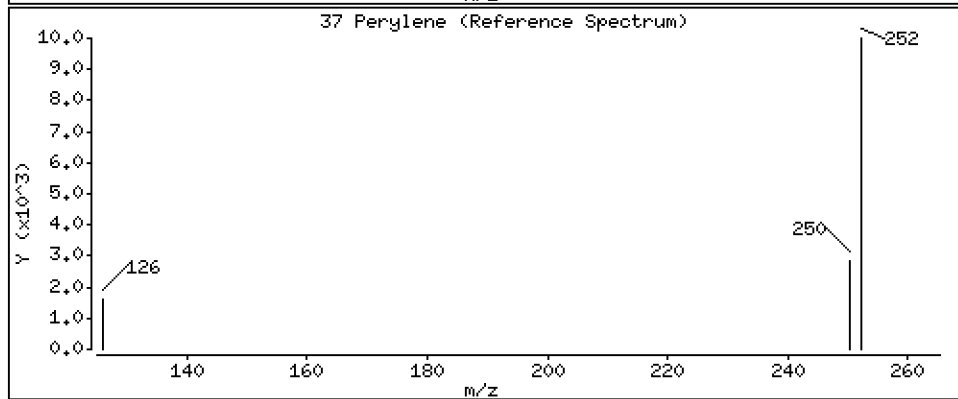
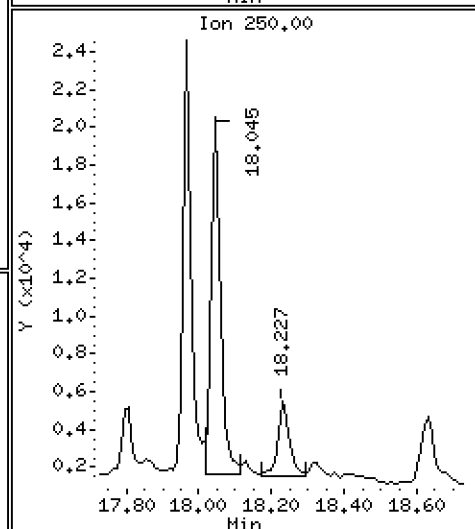
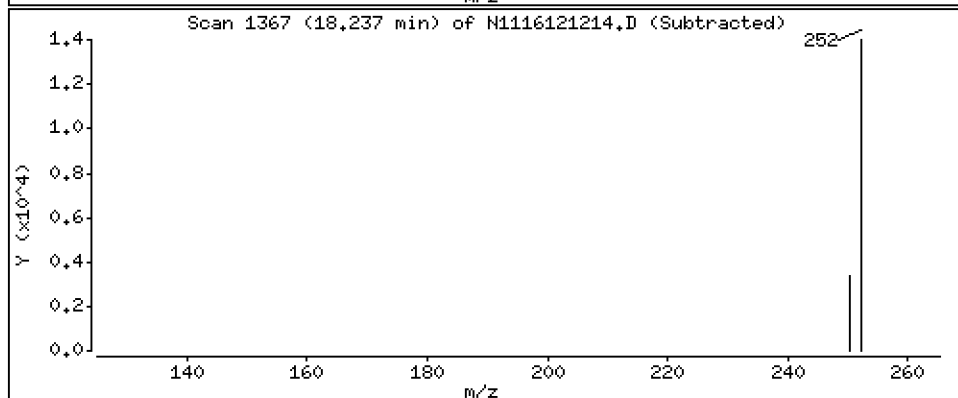
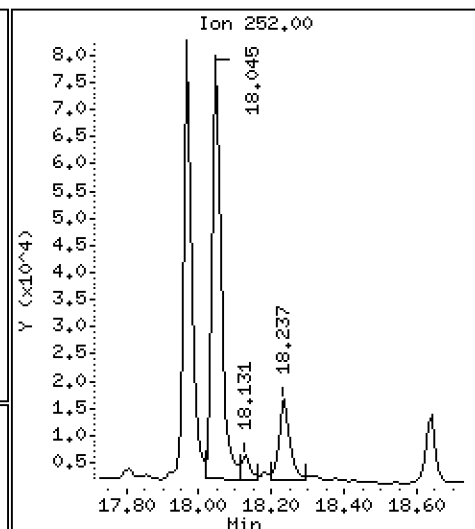
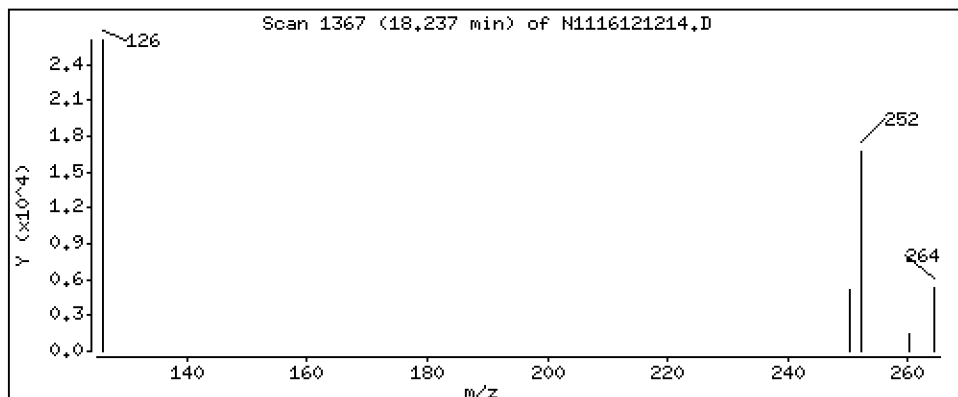
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 16,5 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

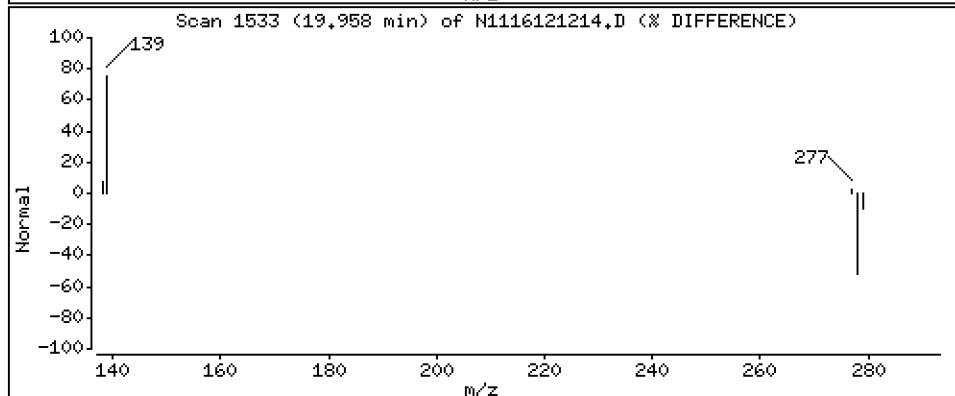
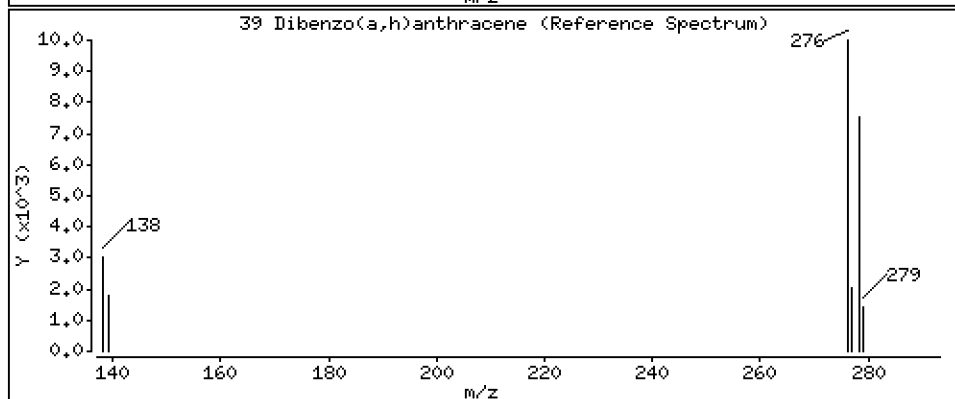
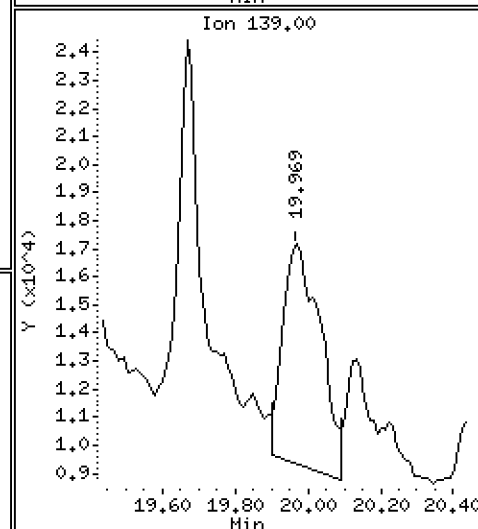
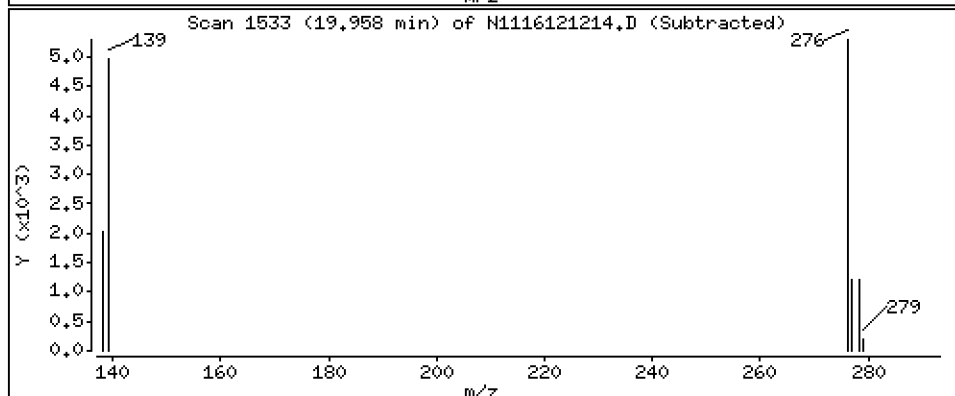
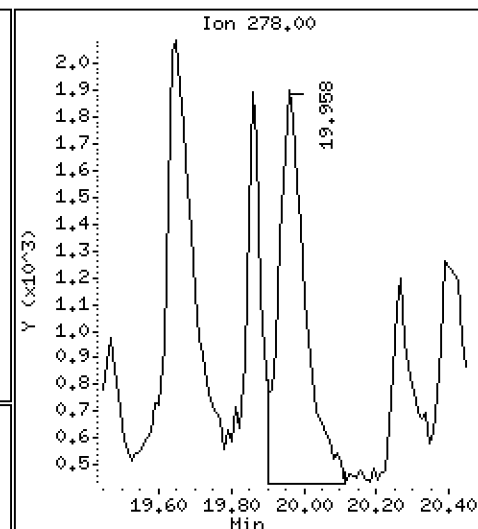
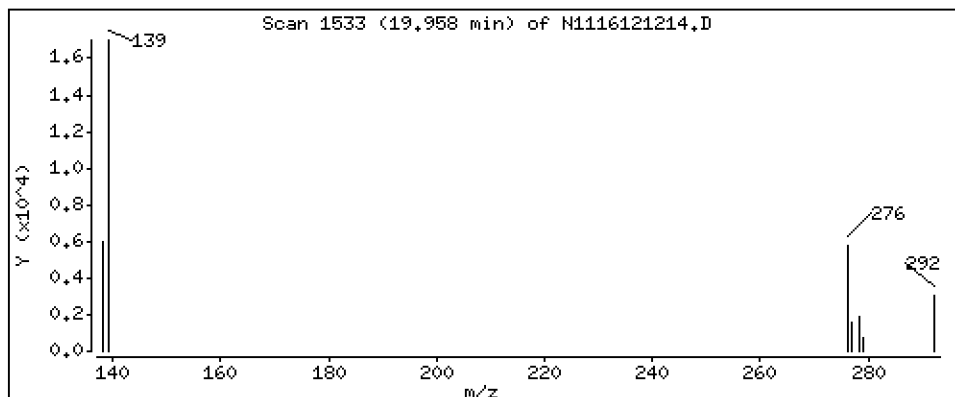
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 4,34 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

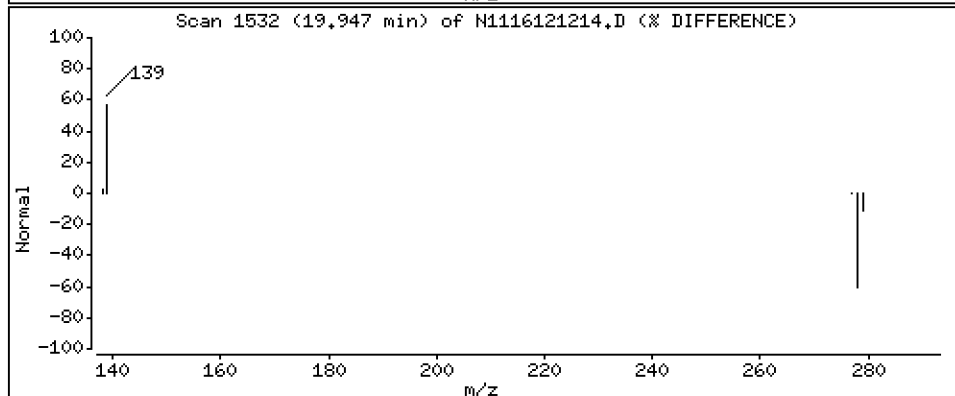
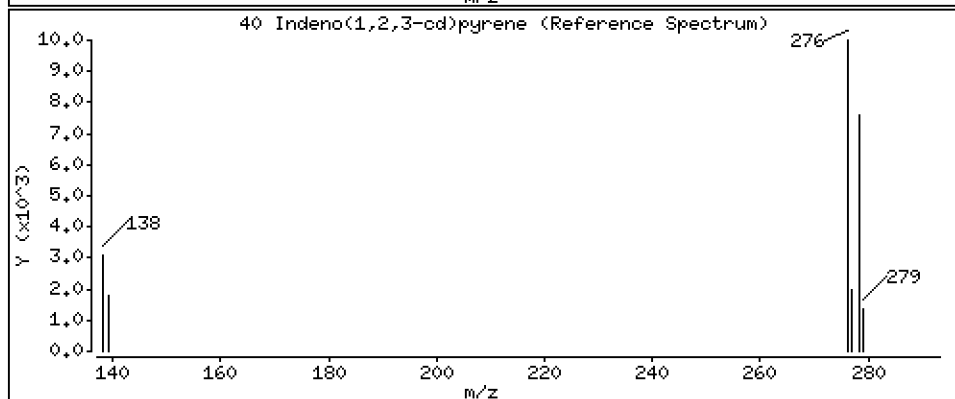
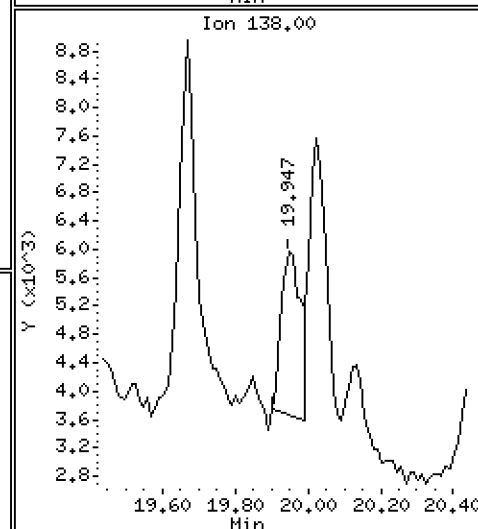
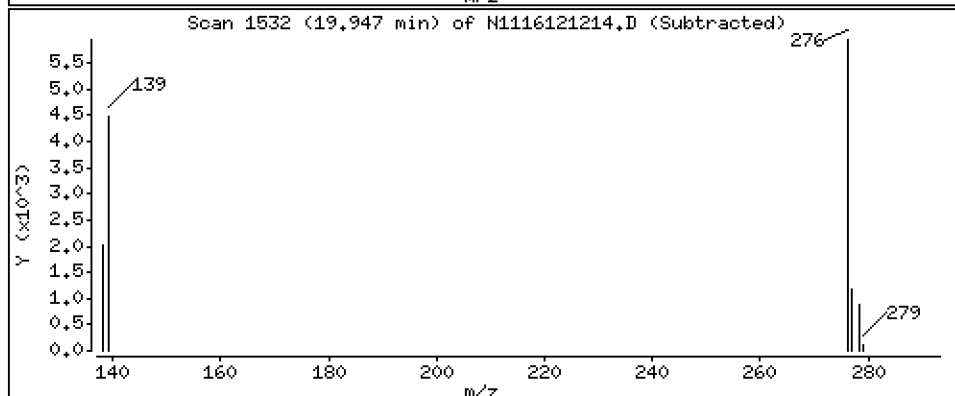
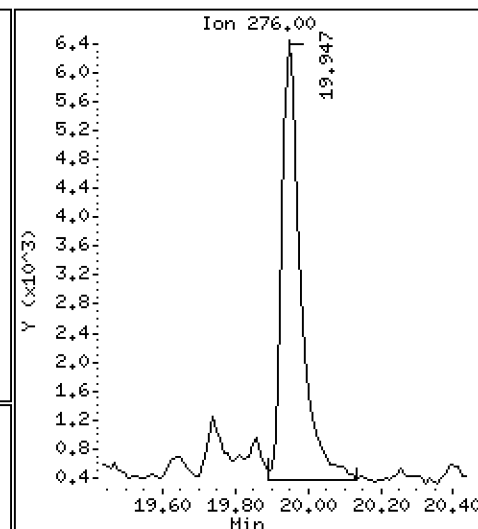
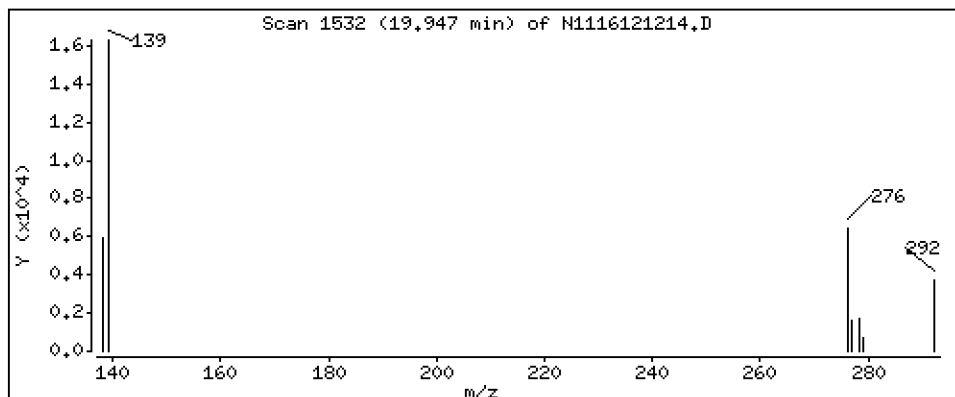
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 10,3 ng/mL



Date : 12-DEC-2016 14:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09

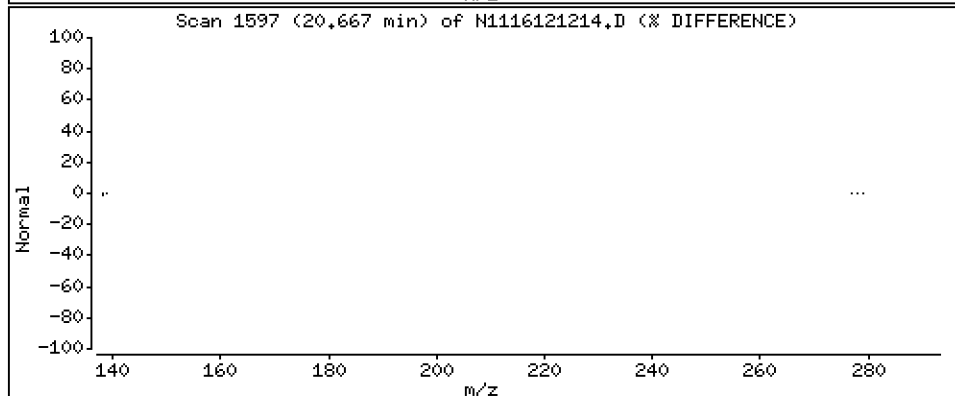
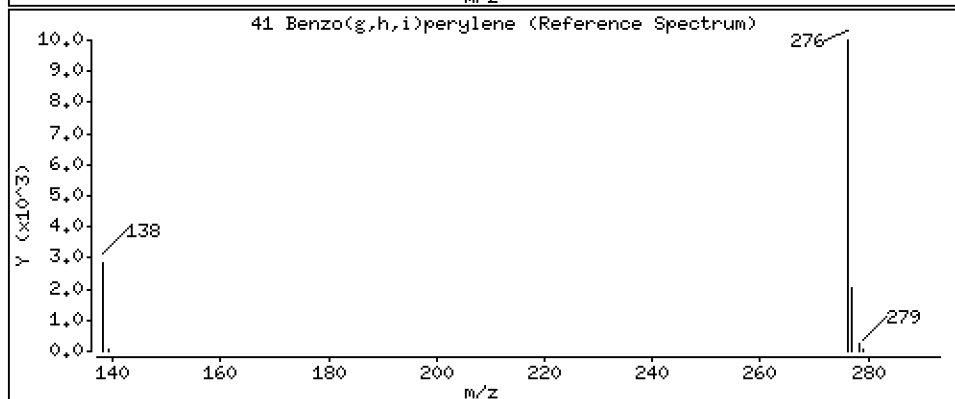
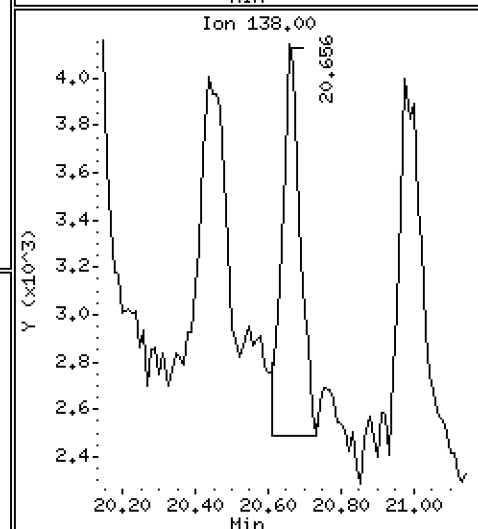
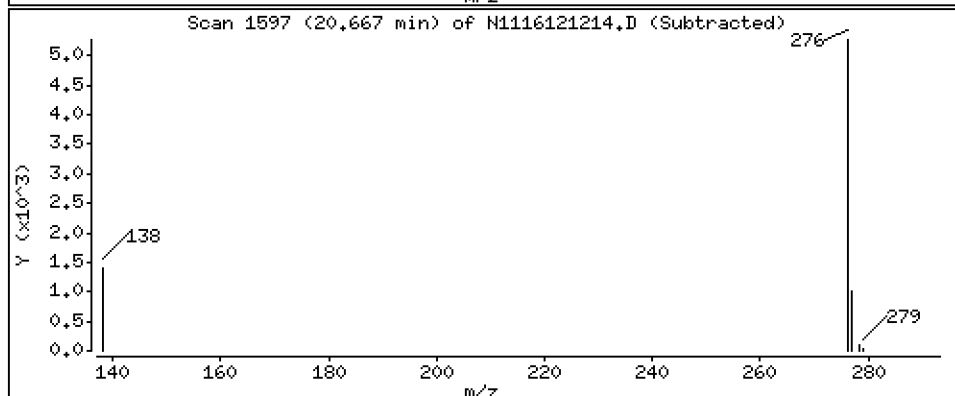
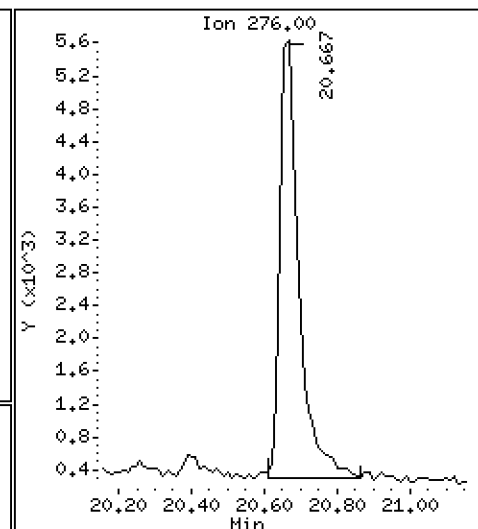
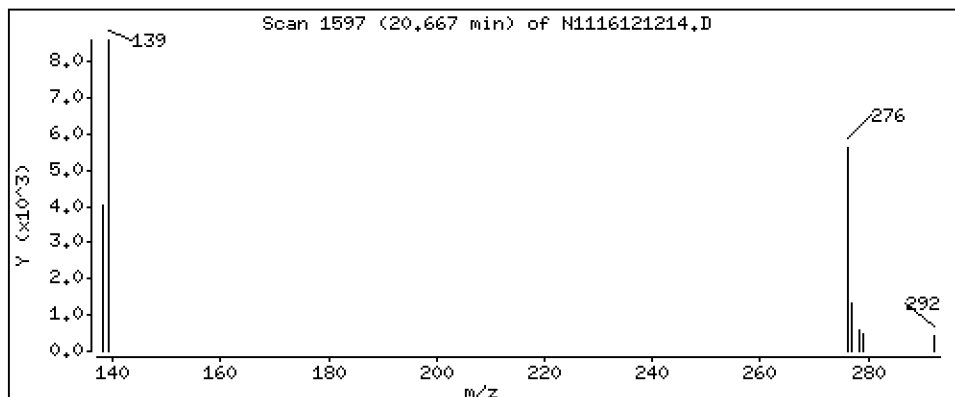
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 10,5 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121214.D
 Lab Smp Id: 16K0321-09
 Inj Date : 12-DEC-2016 14:59 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-09
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 13
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	404827	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	233084	111.985	112
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.494	6.505	(1.175)	247723	162.310	162
5 2-Methylnaphthalene	142		6.536	6.557	(1.182)	1351440	773.355	773
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	984518	574.421	574
7 2-Chloronaphthalene	162		7.408	7.429	(0.875)	30946	16.0827	16.1
8 Biphenyl	154		7.419	7.429	(0.876)	672122	254.541	255
9 2,6-Dimethylnaphthalene	156		7.450	7.482	(0.880)	1897895	1000.22	1000
10 Acenaphthylene	152		8.312	8.321	(0.982)	183041	83.6910	83.7
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	236727	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	6369558	4244.86	4240
13 Dibenzofuran	168		8.725	8.738	(1.031)	4681344	2195.32	2200
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	403023	304.014	304 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	6419877	3896.81	3900
17 Dibenzothiophene	184		10.911	10.921	(0.984)	1385675	683.006	683
* 18 Phenanthrene-d10	188		11.089	11.089	(1.000)	410459	200.000	
19 Phenanthrene	178		11.131	11.131	(1.004)	16194678	6568.44	6570
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.173	11.184	(1.008)	3406872	1468.44	1470
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.116	12.116	(1.093)	1285108	591.543	592
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.185)	409302	223.393	223
25 Fluoranthene	202		13.180	13.180	(1.189)	11568141	4835.49	4840
26 Pyrene	202		13.651	13.651	(0.867)	9162730	3903.61	3900
27 Benzo(a)anthracene	228		15.660	15.660	(0.994)	1192395	587.057	587
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	360765	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	846852	375.910	376
30 Benzo(b)fluoranthene	252		17.429	17.420	(0.958)	206556	100.538	101
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.960)	116121	52.0184	52.0
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.962)	132392	63.9793	64.0
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	181273	104.075	104

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.967	17.958	(0.988)	126871	63.5486	63.5
35 Benzo(a)pyrene	252	18.044	18.044	(0.992)	133719	71.0867	71.1
* 36 Perylene-d12	264	18.188	18.179	(1.000)	361433	200.000	
37 Perylene	252	18.237	18.227	(1.003)	32298	16.5381	16.5
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	228629	188.847	189
39 Dibenzo(a,h)anthracene	278	19.958	19.925	(1.097)	7366	4.34175	4.34
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	21540	10.3161	10.3
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.136)	18930	10.4941	10.5

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121214.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-09
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	404827	-17.98
11 Acenaphthene-d10	240770	120385	481540	236727	-1.68
18 Phenanthrene-d10	429271	214636	858542	410459	-4.38
28 Chrysene-d12	387691	193846	775382	360765	-6.95
36 Perylene-d12	386259	193130	772518	361433	-6.43

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.33
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121214.D

Lab ID: 16K0321-09
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 14:59

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, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

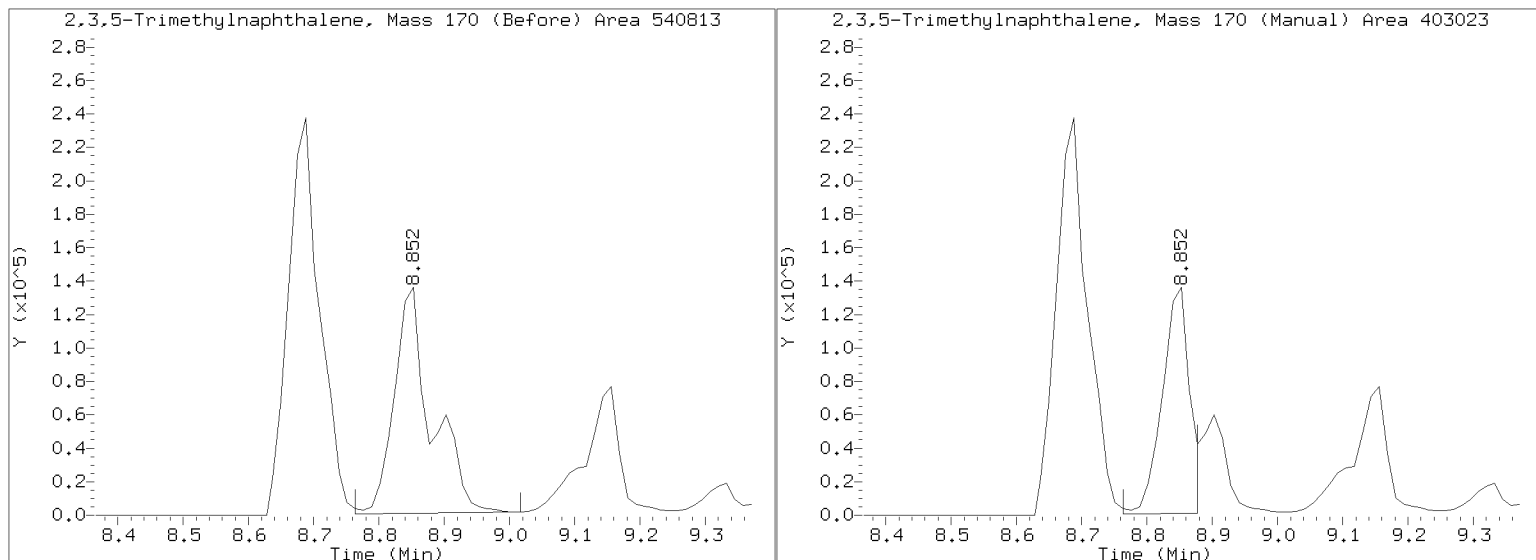
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121214.D

Injection Date: 12-DEC-2016 14:59

Lab ID:16K0321-09 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-09RE1 File ID: N1116121323.D
 Sampled: 11/22/16 10:26 Prepared: 11/24/16 08:25 Analyzed: 12/13/16 22:56
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	20	27.1	U	22.6	27.1
91-57-6	2-Methylnaphthalene	20	33.6	D, B	22.6	22.6
208-96-8	Acenaphthylene	20	22.6	U	22.6	22.6
83-32-9	Acenaphthene	20	454	D	22.6	22.6
86-73-7	Fluorene	20	452	D	22.6	22.6
85-01-8	Phenanthrene	20	1490	D	22.6	22.6
120-12-7	Anthracene	20	319	Q, D	22.6	22.6
206-44-0	Fluoranthene	20	834	D	22.6	22.6
129-00-0	Pyrene	20	578	D	22.6	22.6
56-55-3	Benzo(a)anthracene	20	40.2	D	22.6	22.6
218-01-9	Chrysene	20	29.3	D	22.6	22.6
205-99-2	Benzo(b)fluoranthene	20	22.6	U	22.6	22.6
207-08-9	Benzo(k)fluoranthene	20	22.6	U	22.6	22.6
50-32-8	Benzo(a)pyrene	20	22.6	U	22.6	22.6
193-39-5	Indeno(1,2,3-cd)pyrene	20	22.6	U	22.6	22.6
53-70-3	Dibenzo(a,h)anthracene	20	22.6	U	22.6	22.6
191-24-2	Benzo(g,h,i)perylene	20	22.6	U	22.6	22.6
1985-5-0	Perylene	20	22.6	U	22.6	22.6
197-97-2	Benzo(e)pyrene	20	22.6	U	22.6	22.6

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	0.00		30 - 160	NRS
Dibenzo[a,h]anthracene-d14	33.860	0.00		30 - 160	NRS
Fluoranthene-d10	33.860	0.00		30 - 160	NRS
Fluorene-d10	21.163	0.00		30 - 160	NRS
Anthracene-d10	21.163	0.00		30 - 160	NRS
Benzo(e)pyrene-d12	21.163	0.00		30 - 160	NRS

Data File: \\target\share\chem3\ntf11.1\20161213.16\N1116121323.D

Date : 13-DEC-2016 22:56

Client ID:

Sample Info: 16K0321-09,20

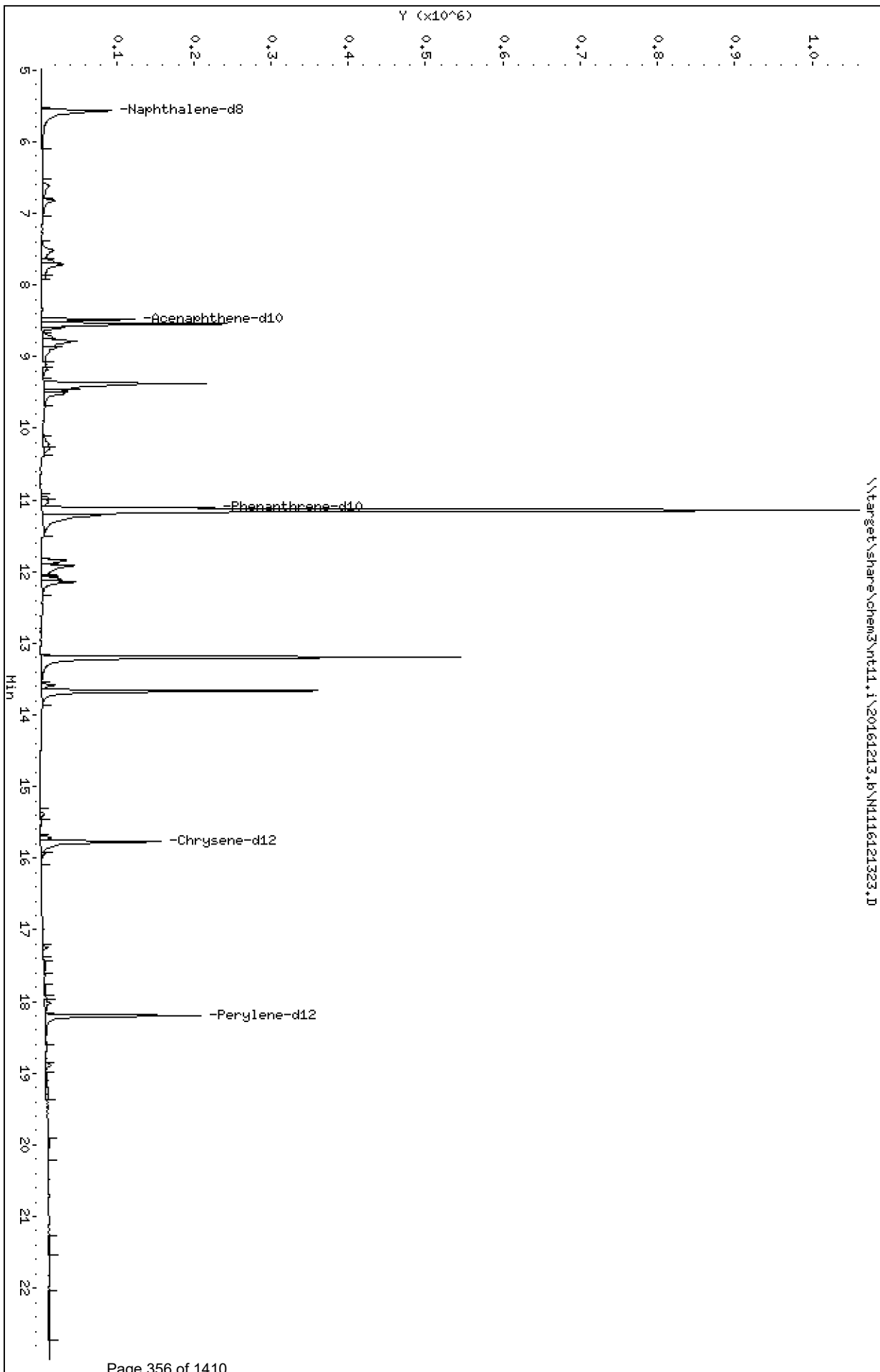
Column phase: Rxi-17S11 MS

Instrument: ntl1.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\ntf11.1\20161213.16\N1116121323.D



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

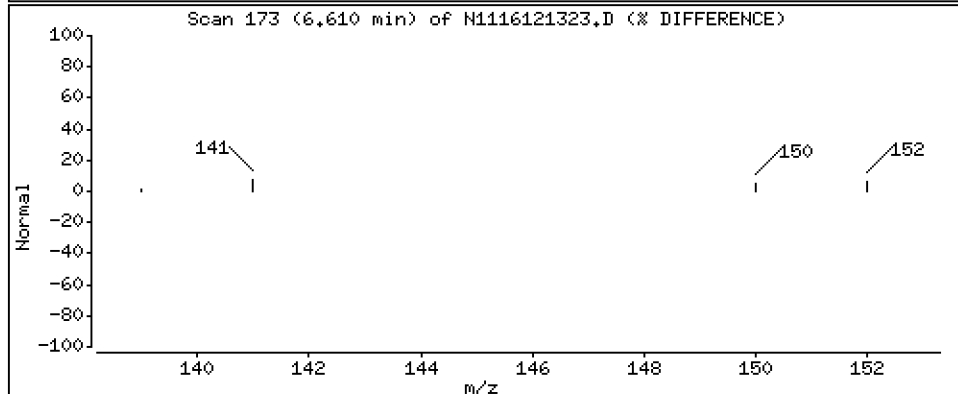
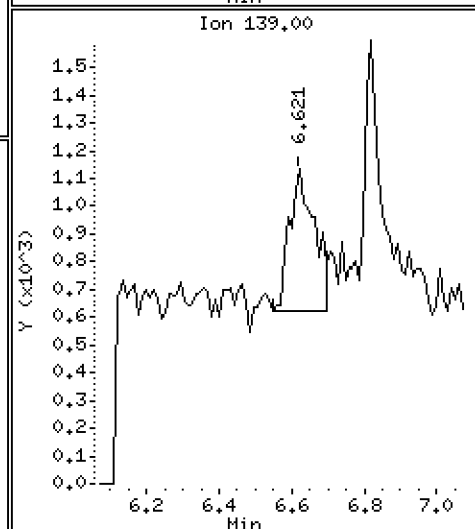
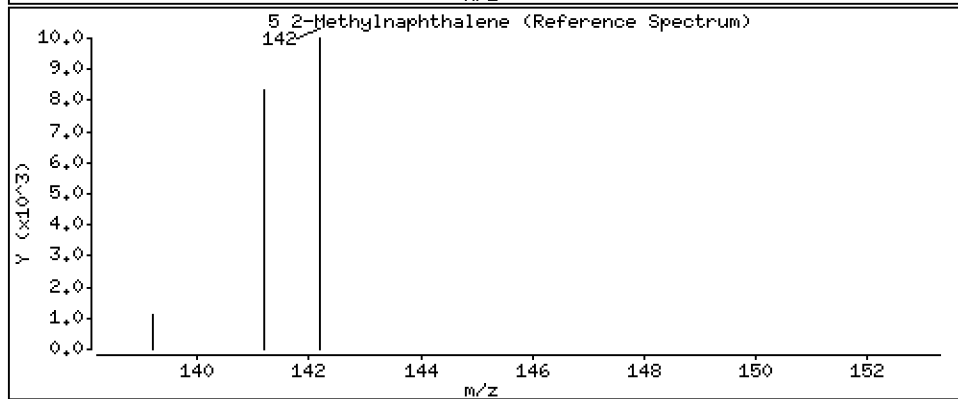
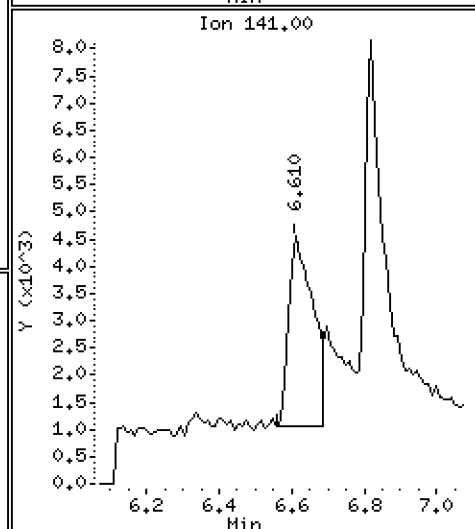
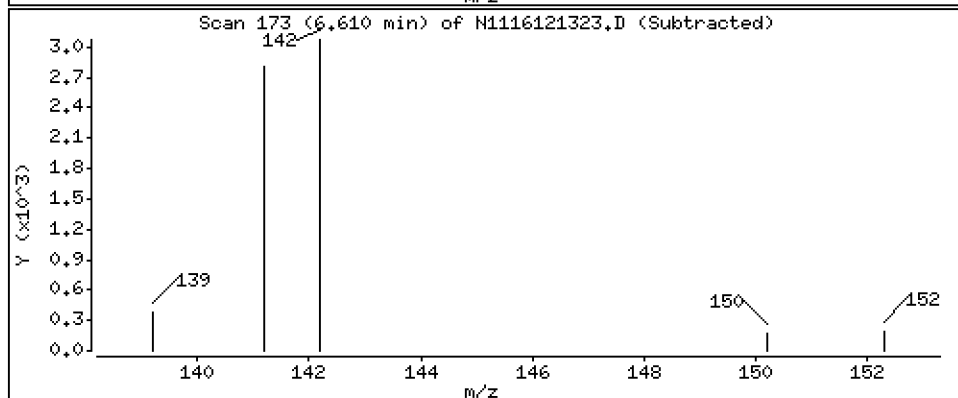
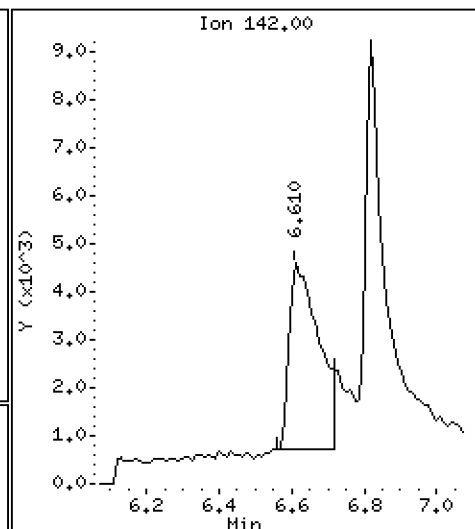
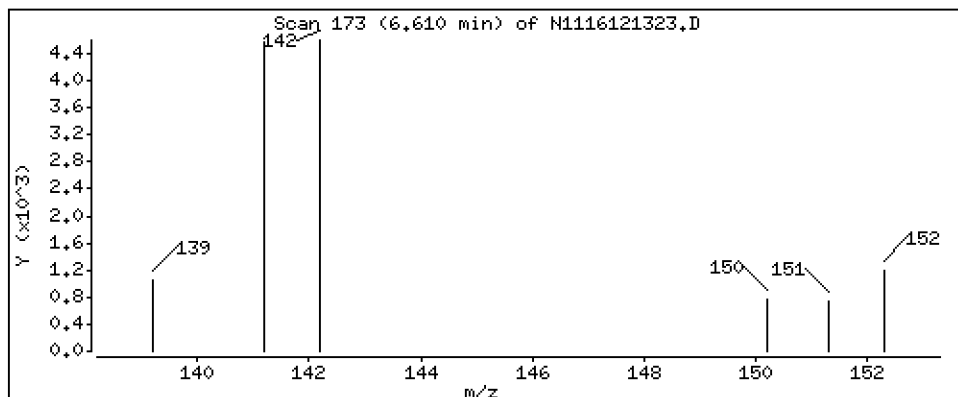
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 298 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

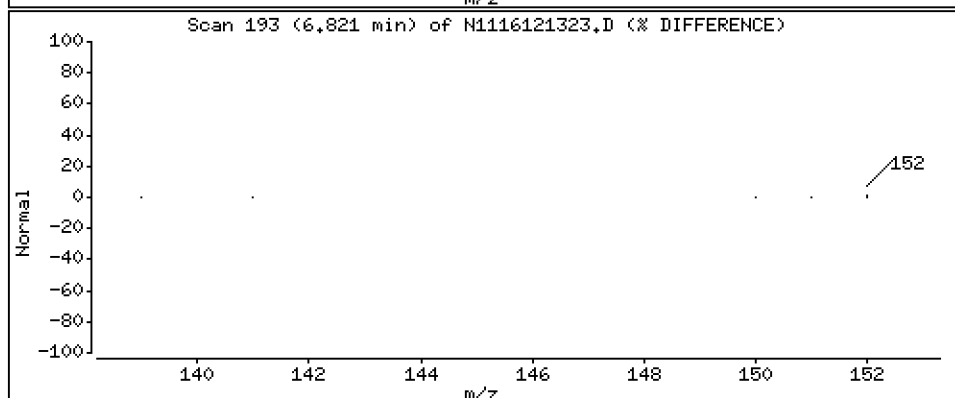
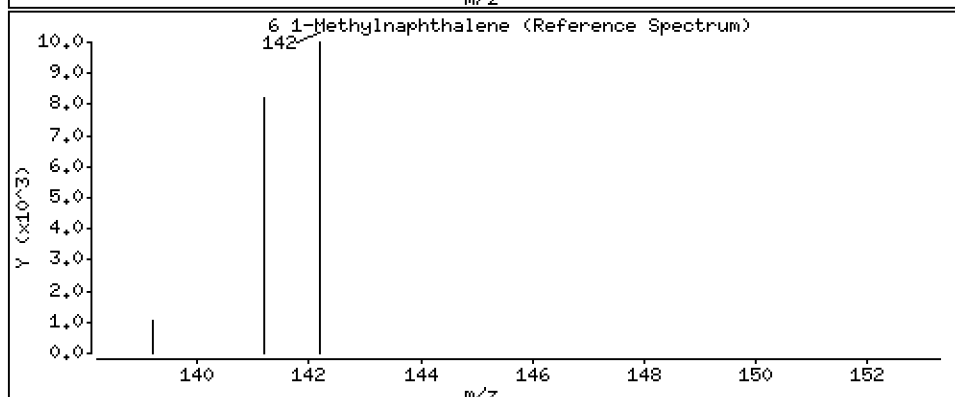
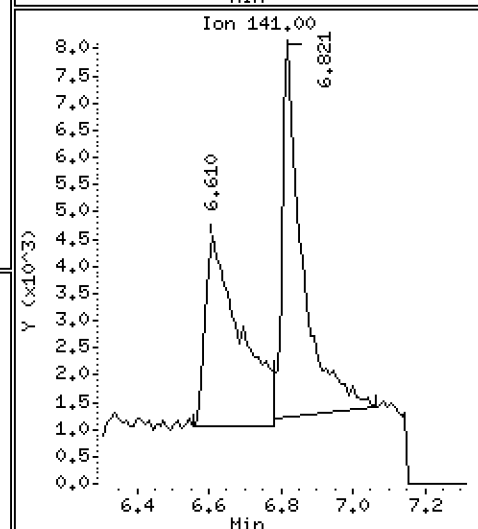
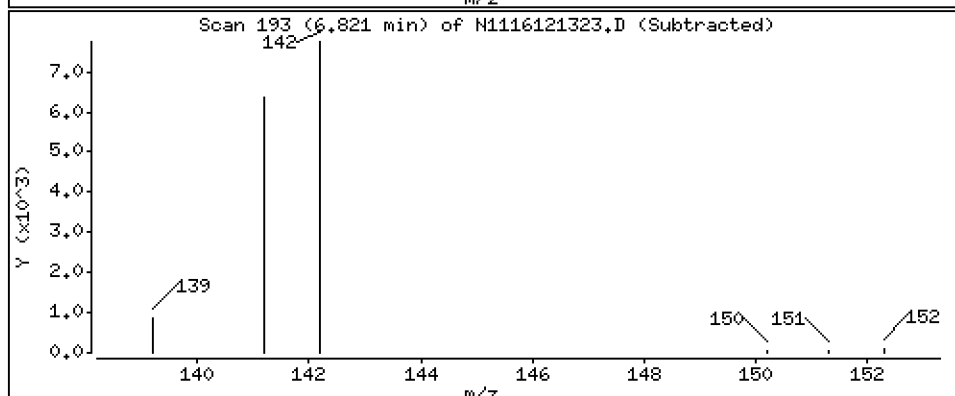
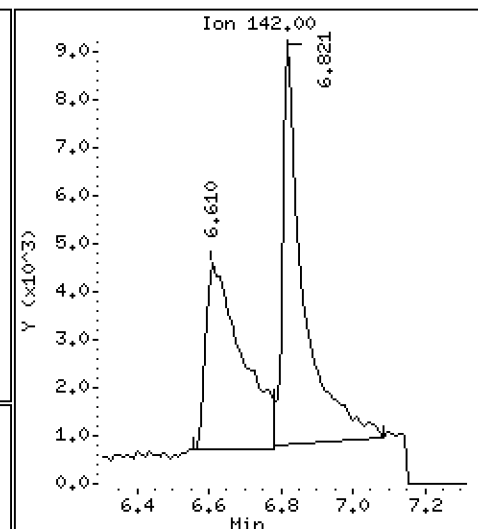
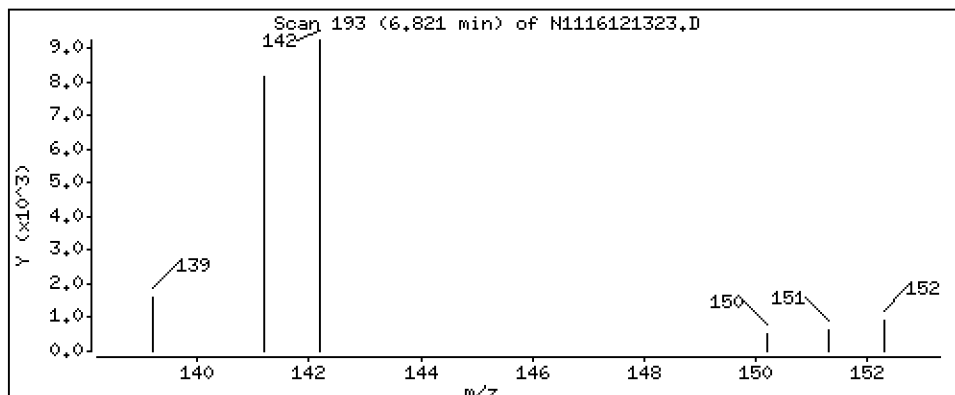
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 467 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

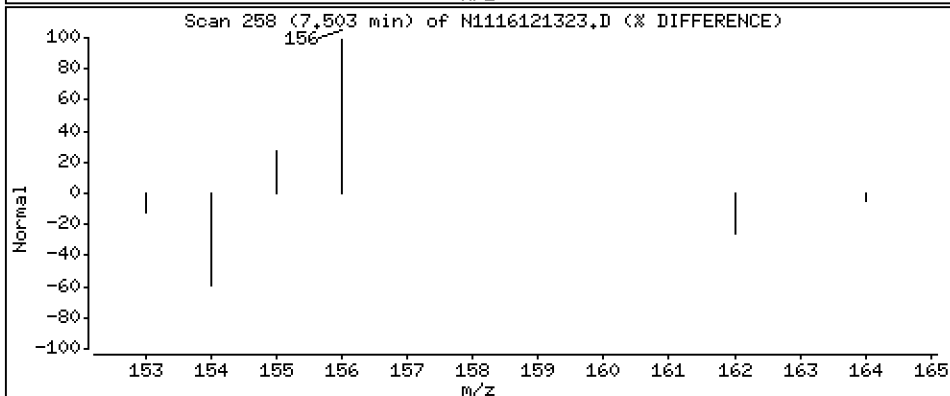
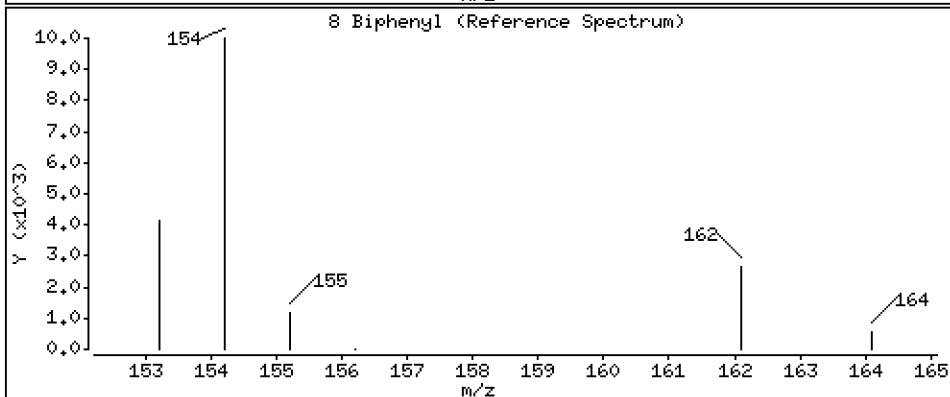
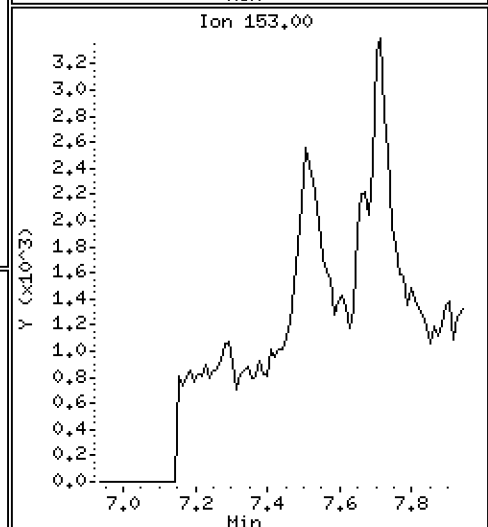
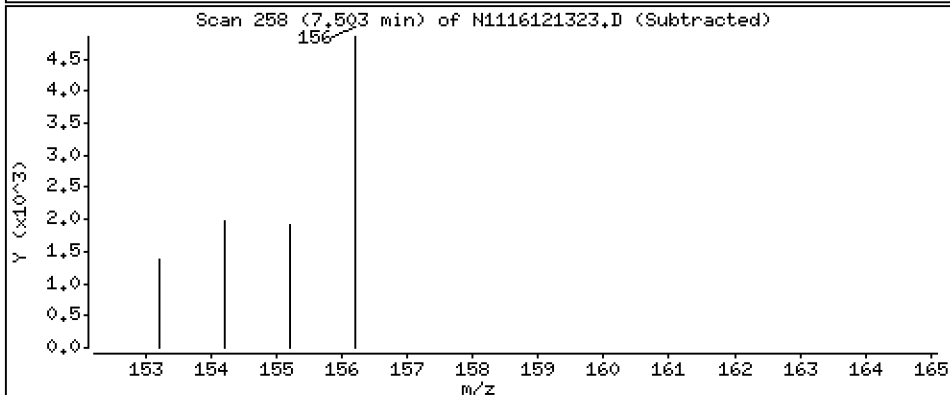
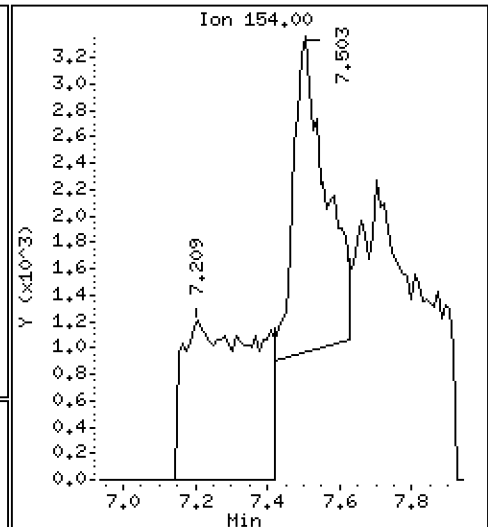
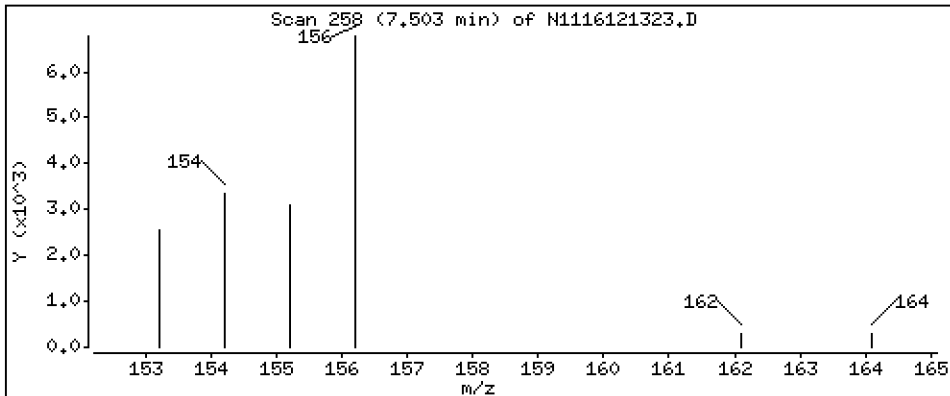
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 133 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

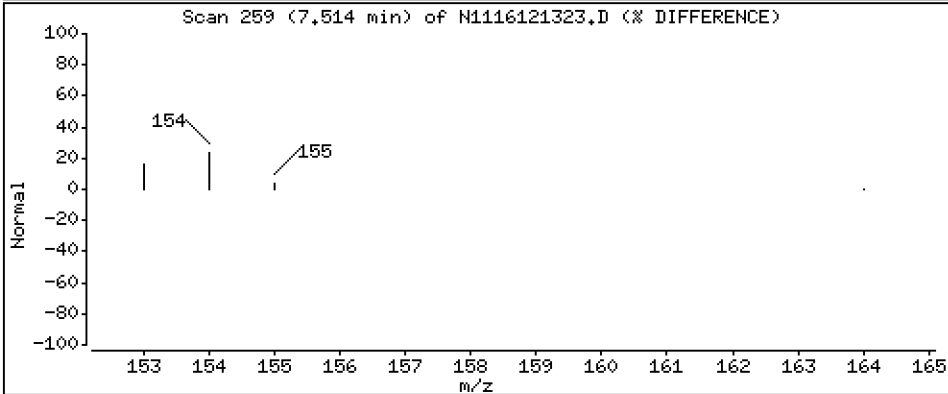
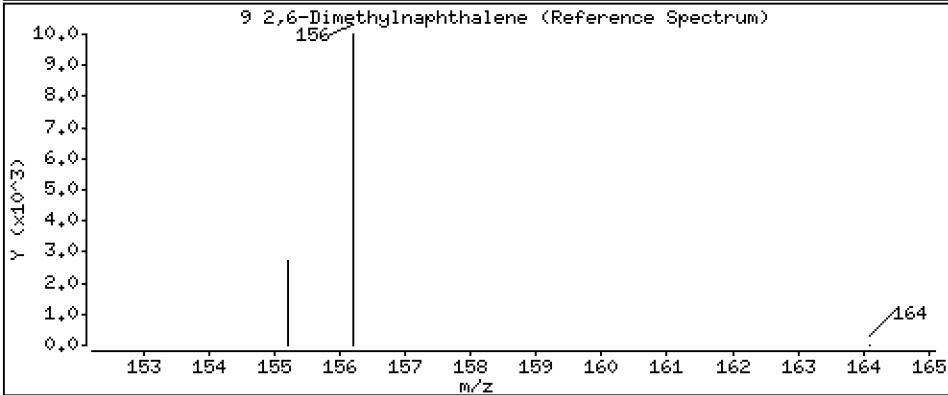
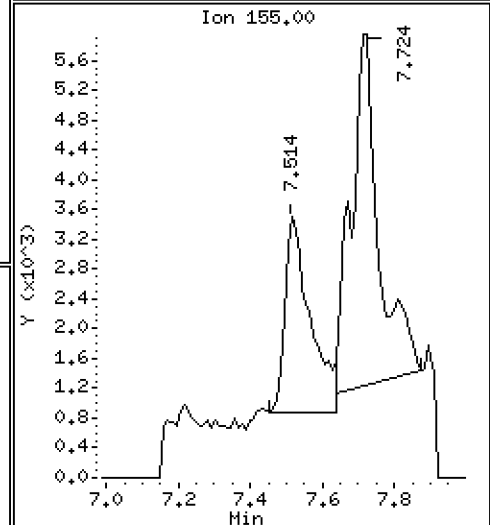
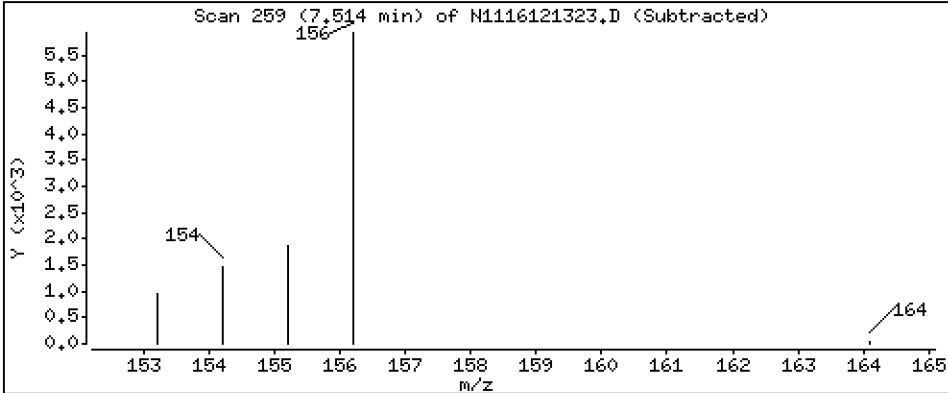
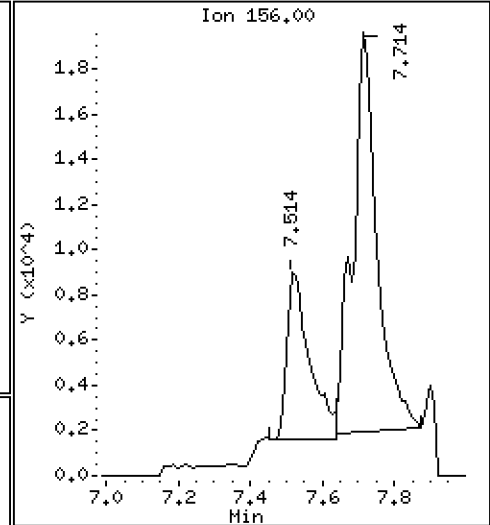
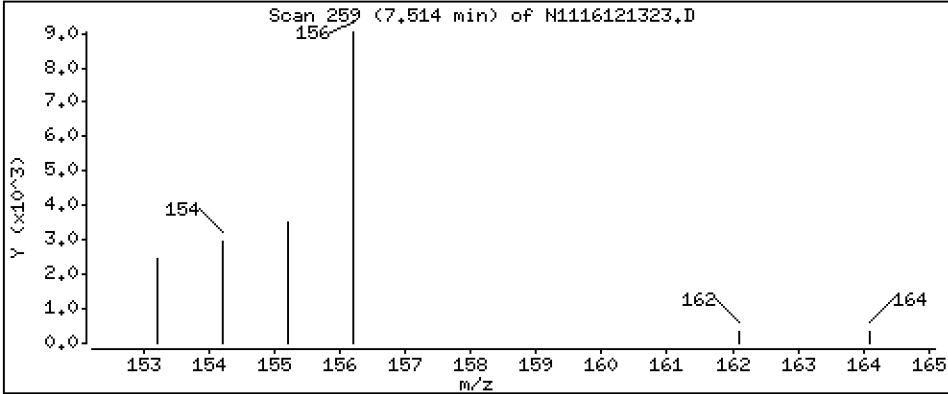
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 421 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

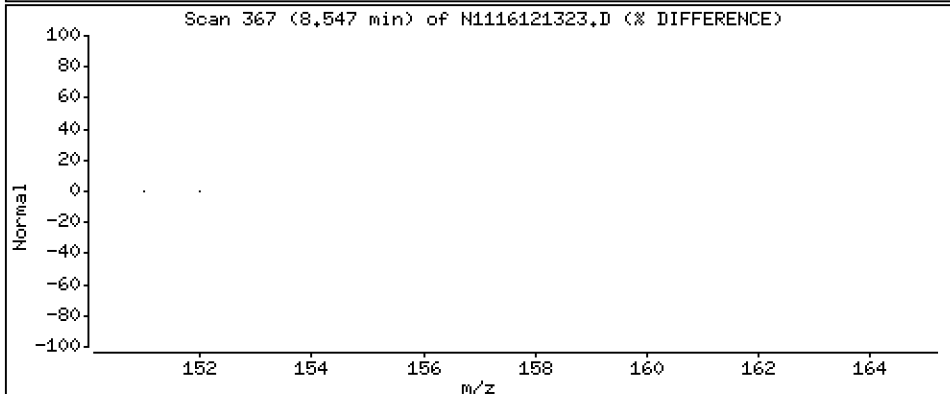
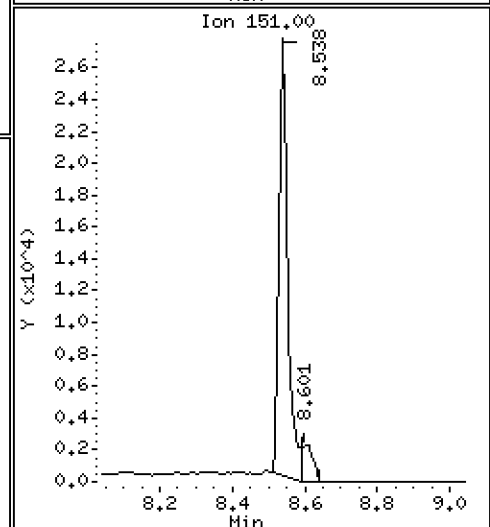
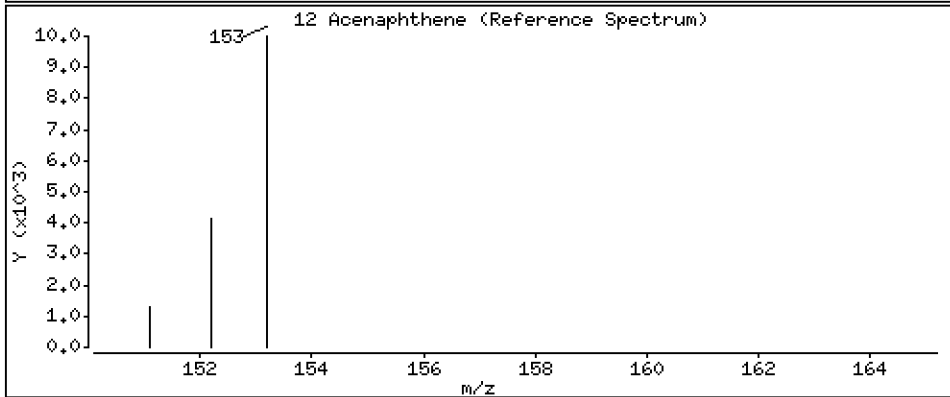
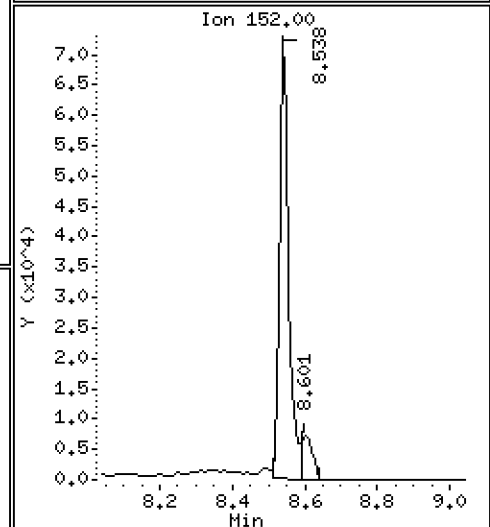
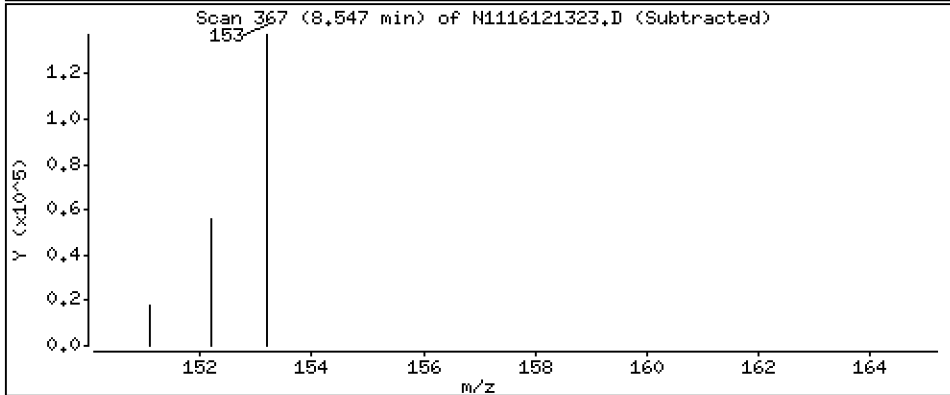
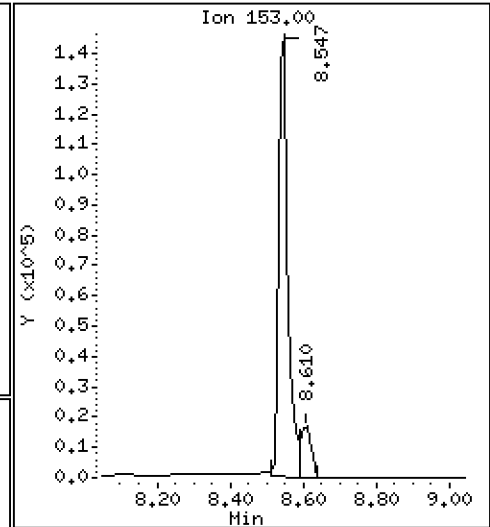
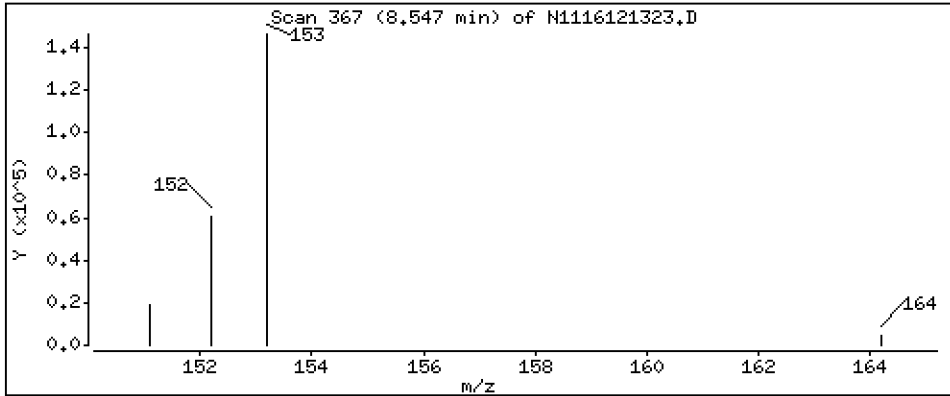
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 4020 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

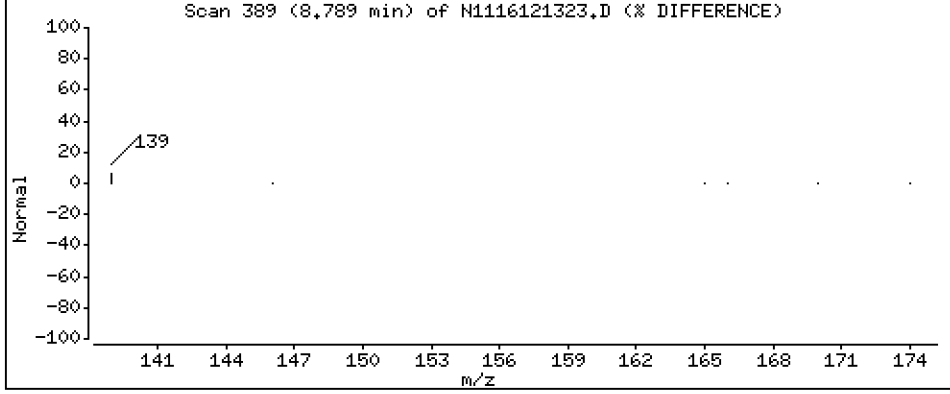
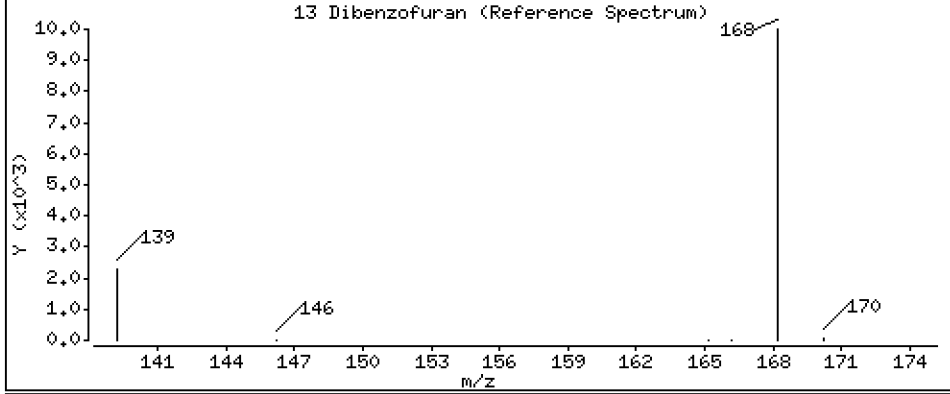
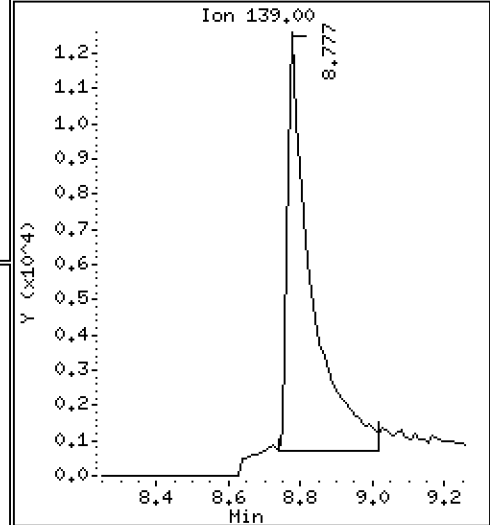
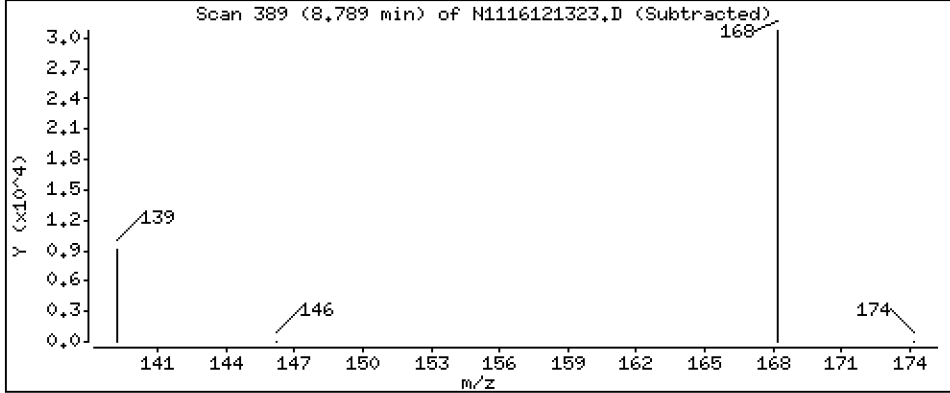
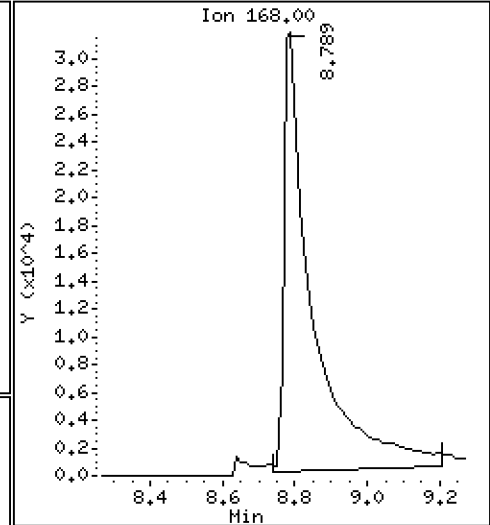
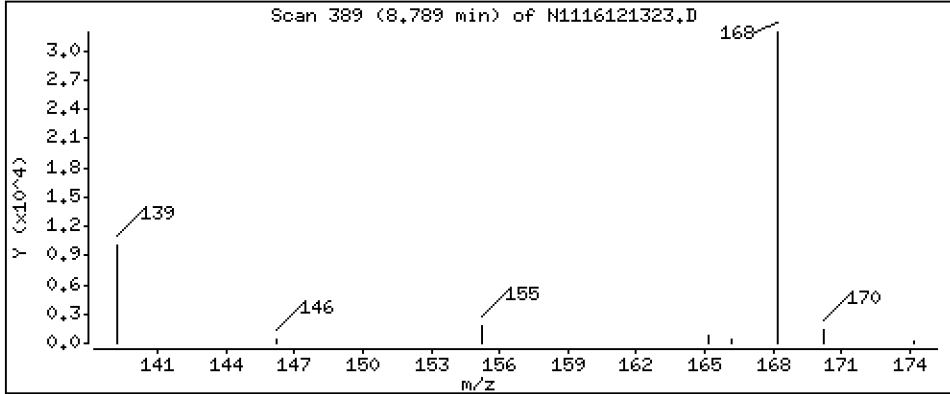
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 1880 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

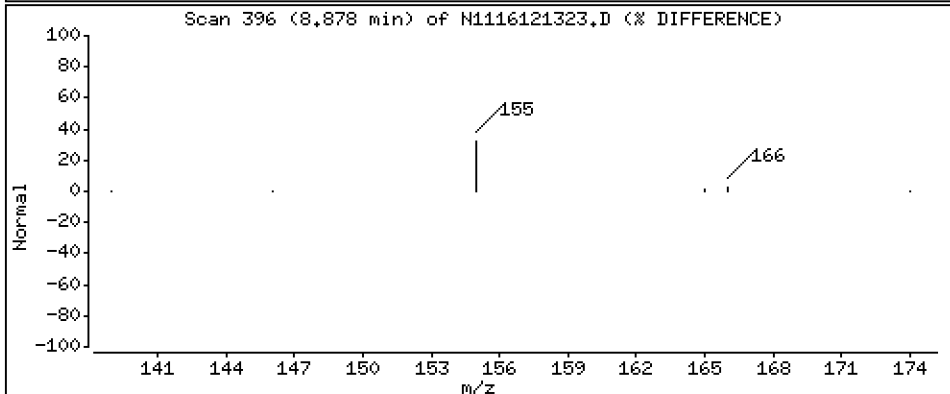
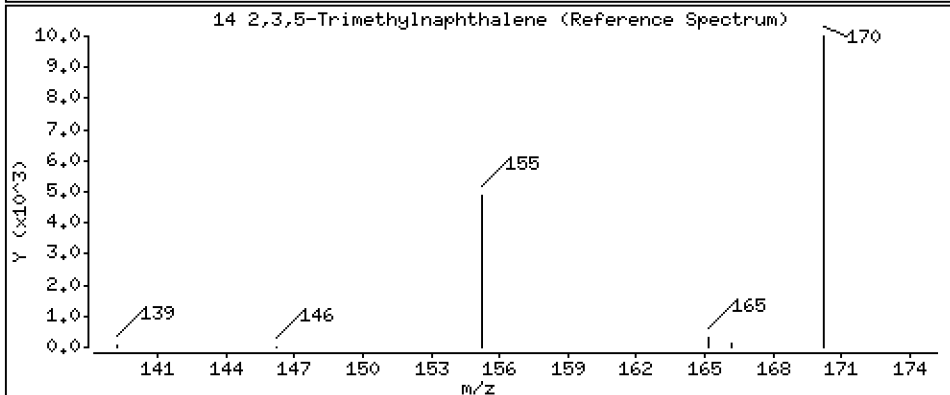
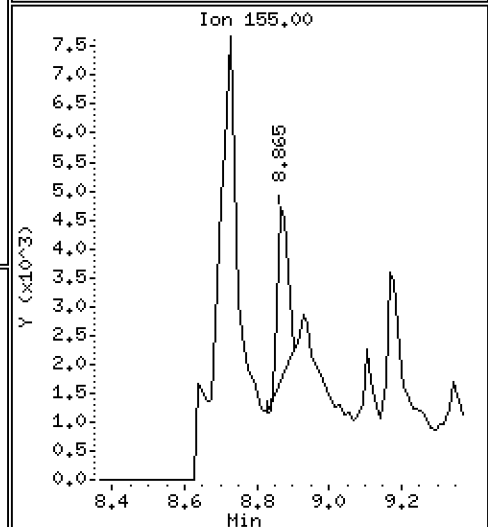
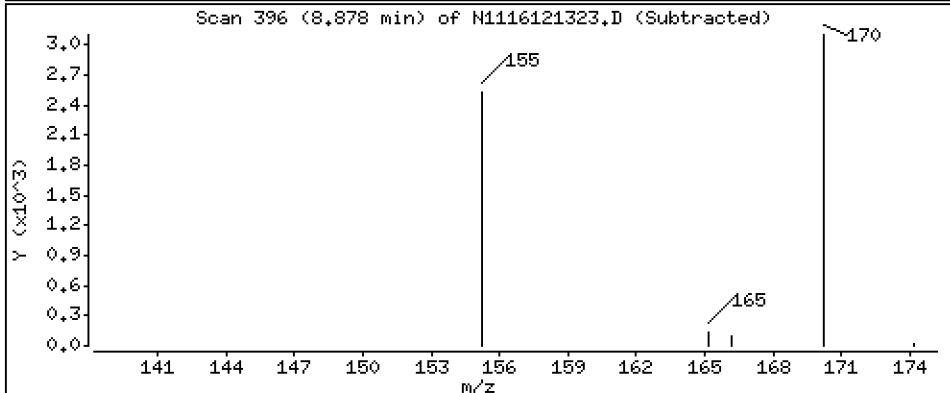
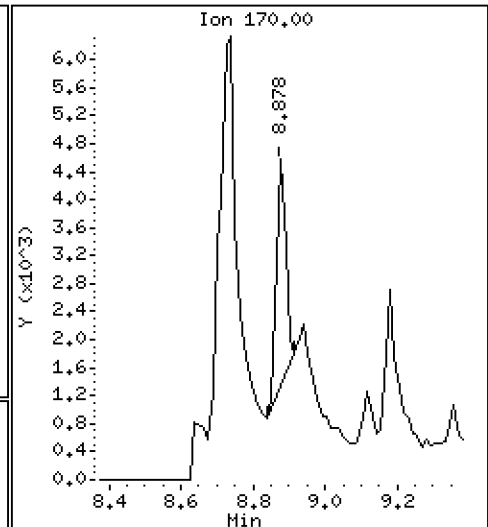
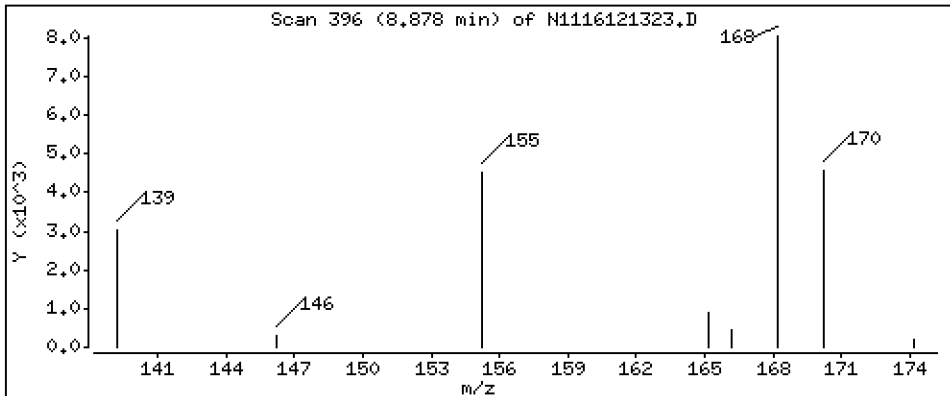
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 98,7 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

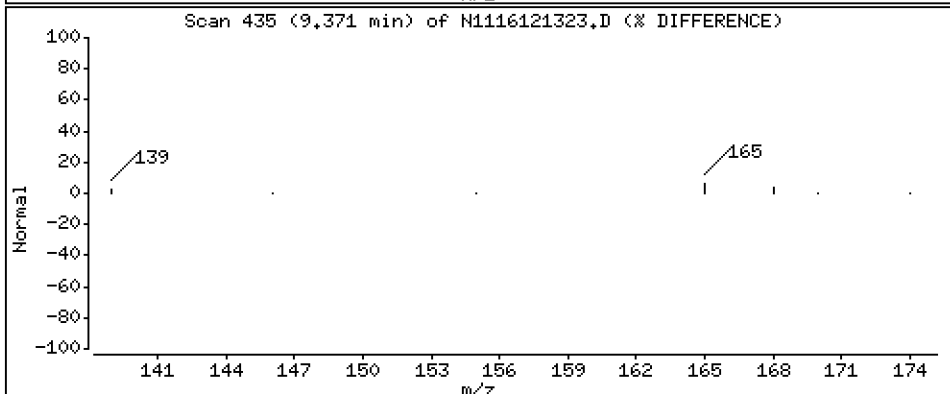
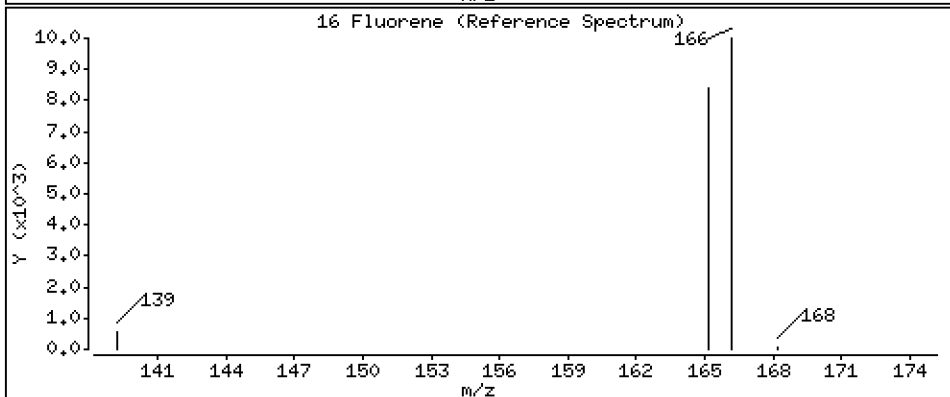
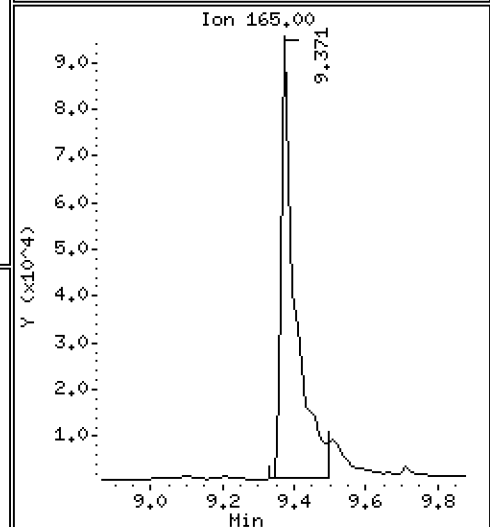
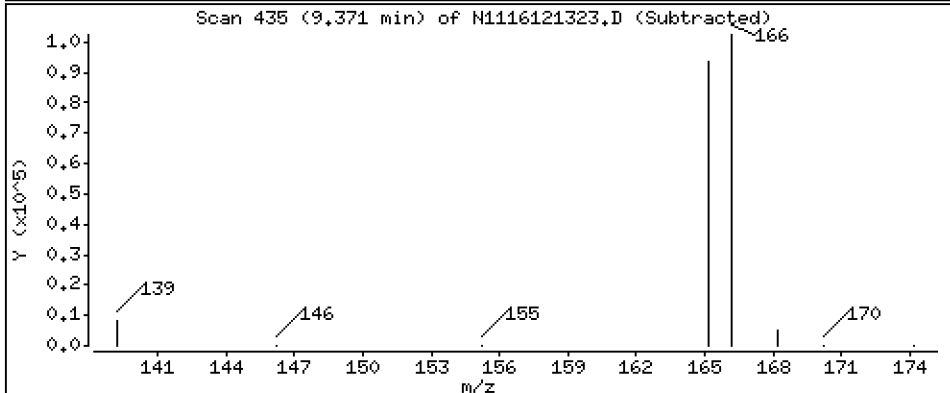
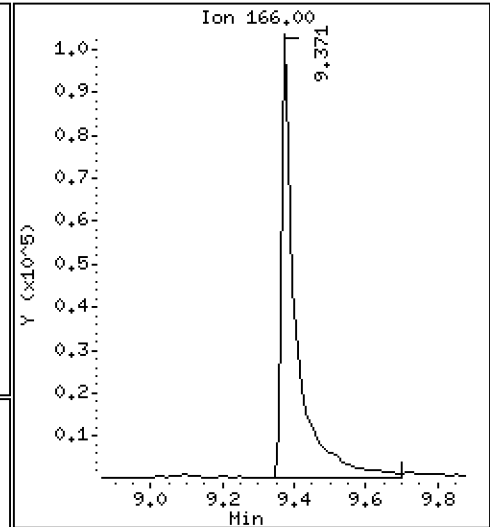
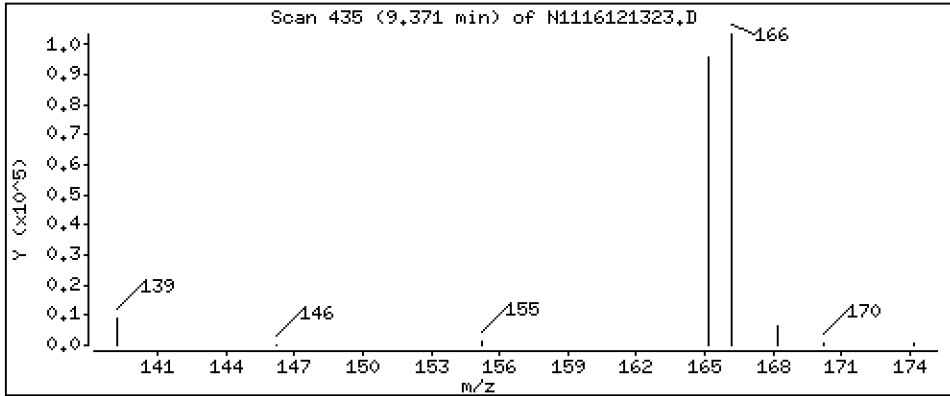
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 4000 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

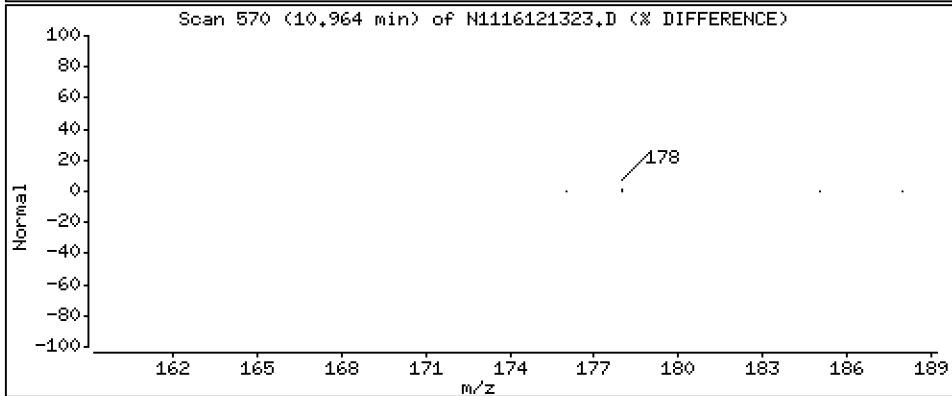
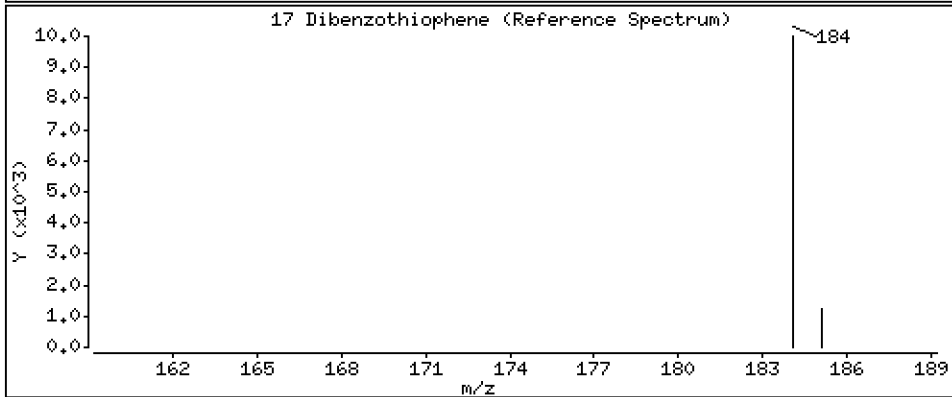
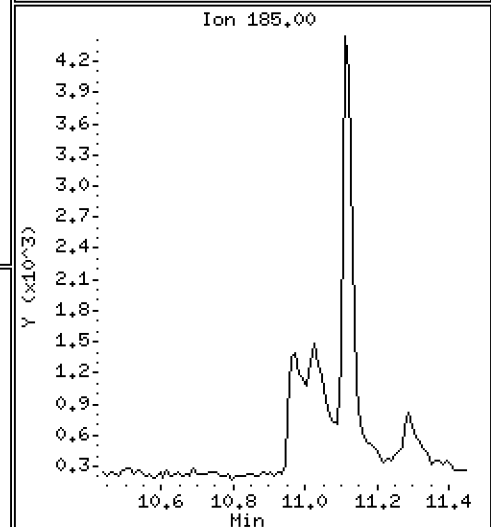
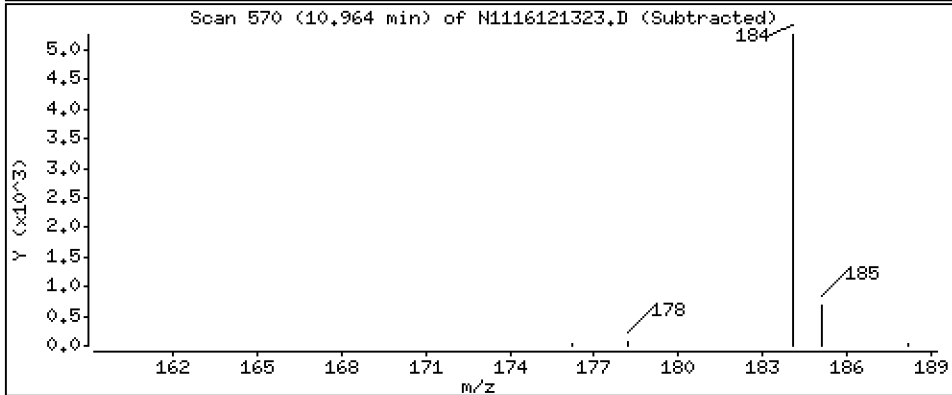
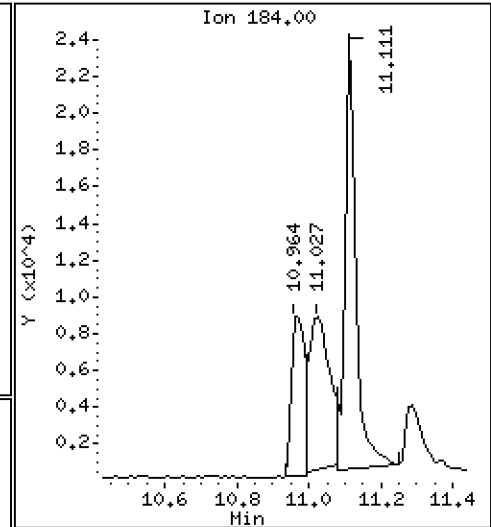
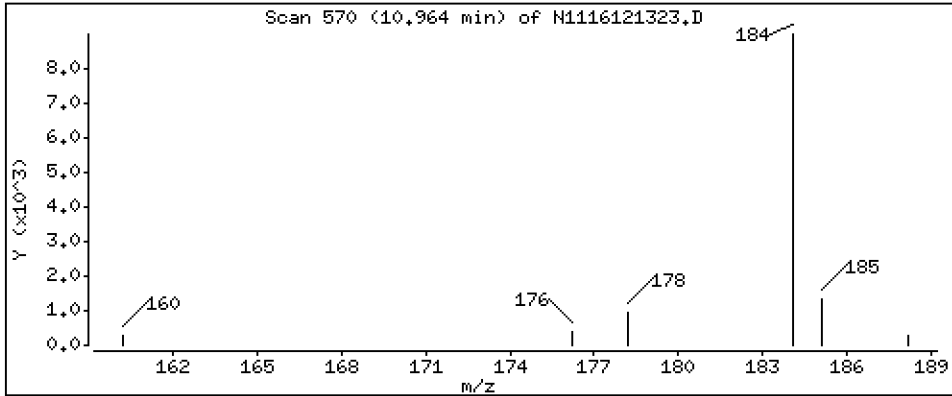
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 256 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

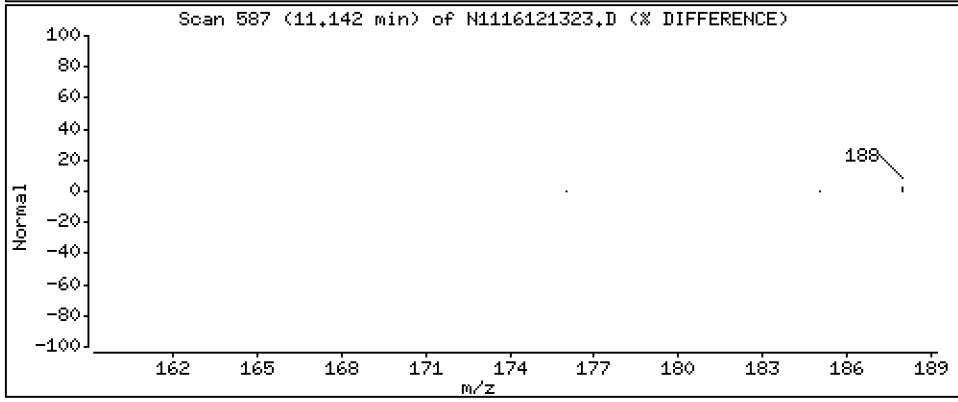
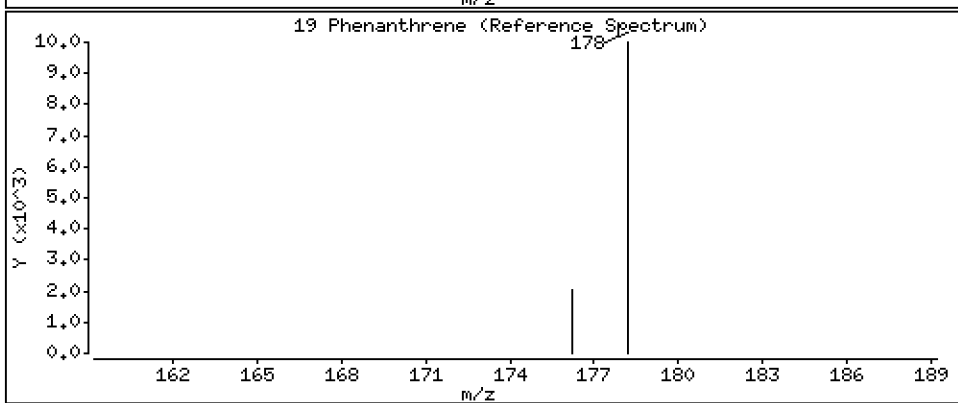
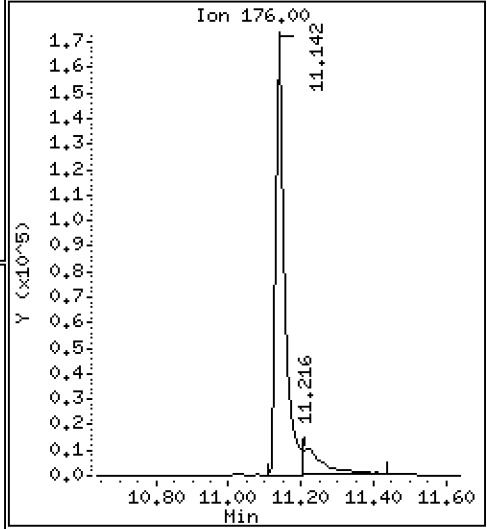
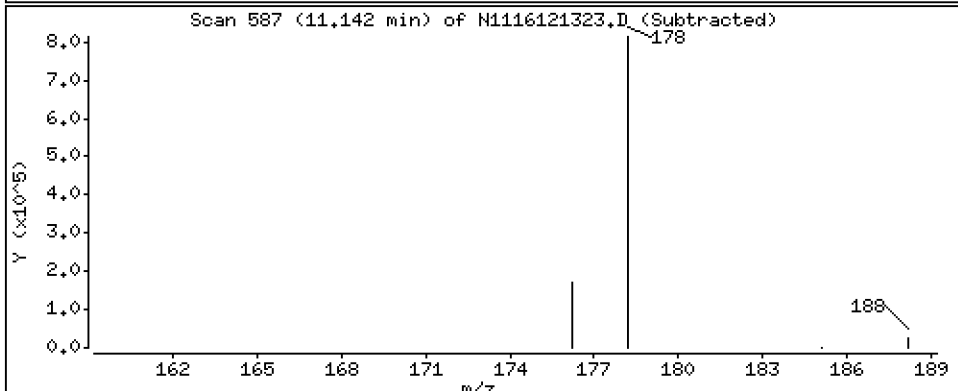
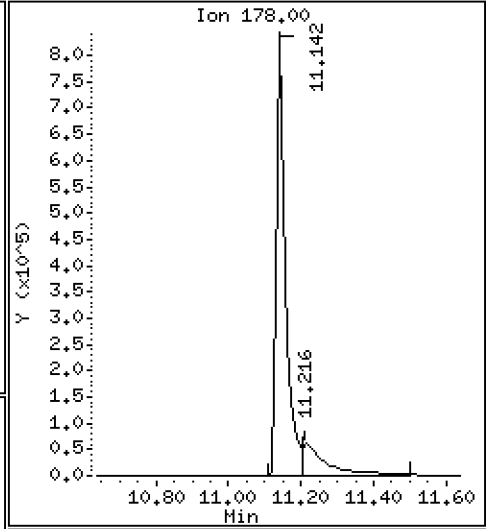
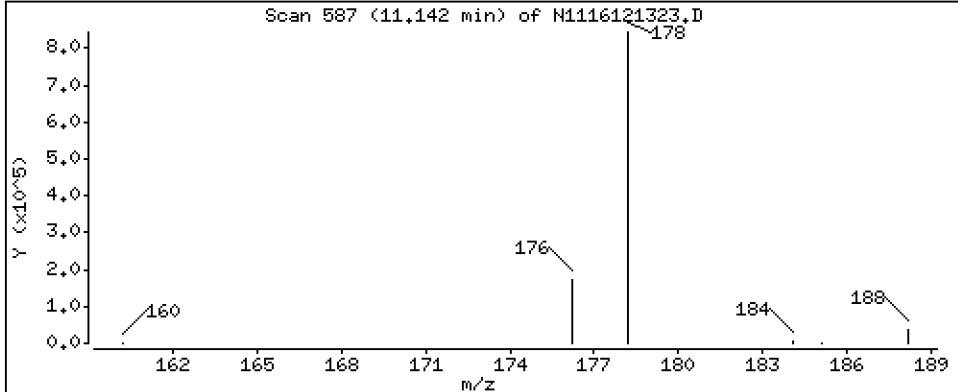
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 13200 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

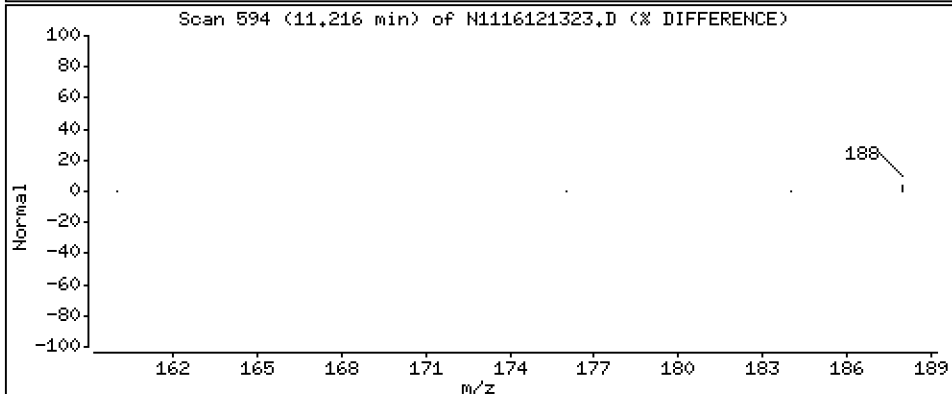
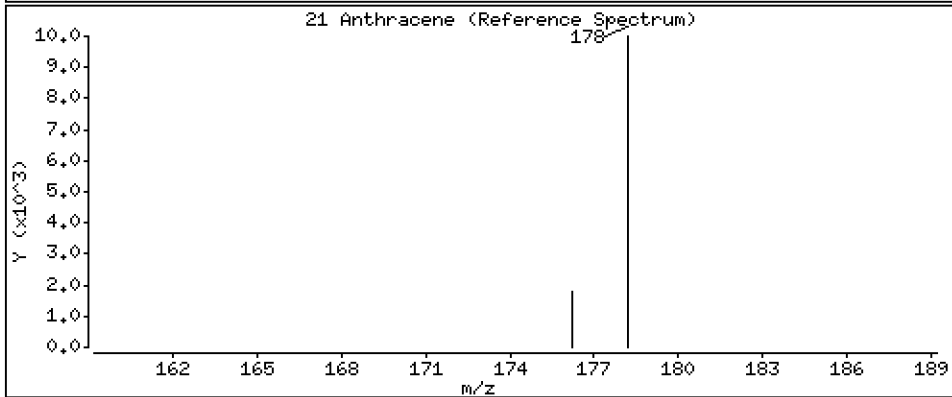
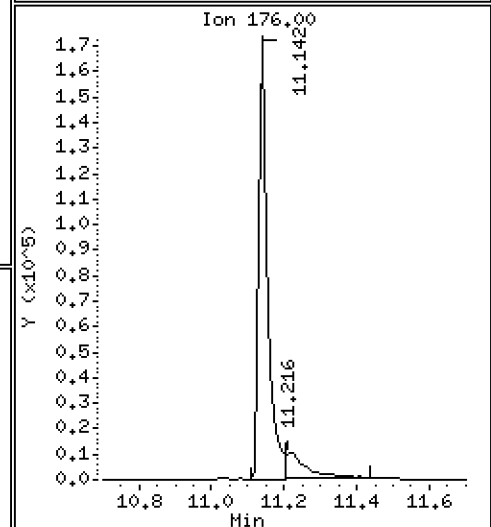
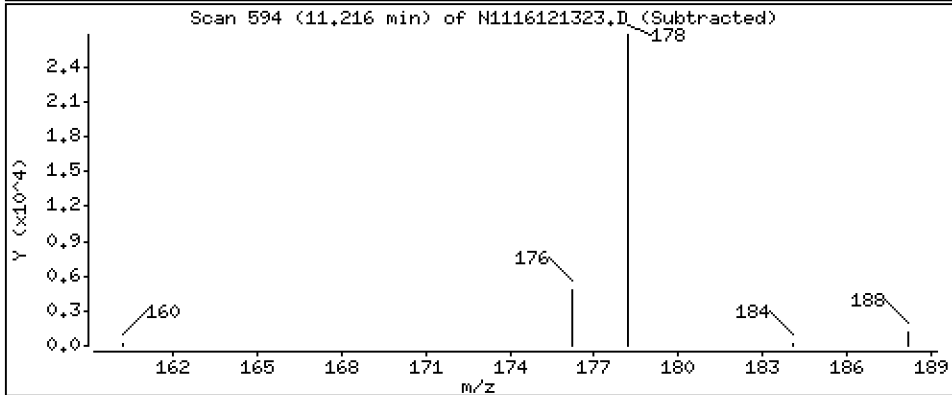
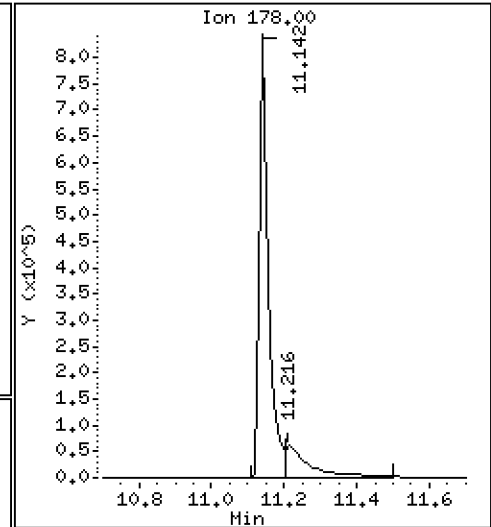
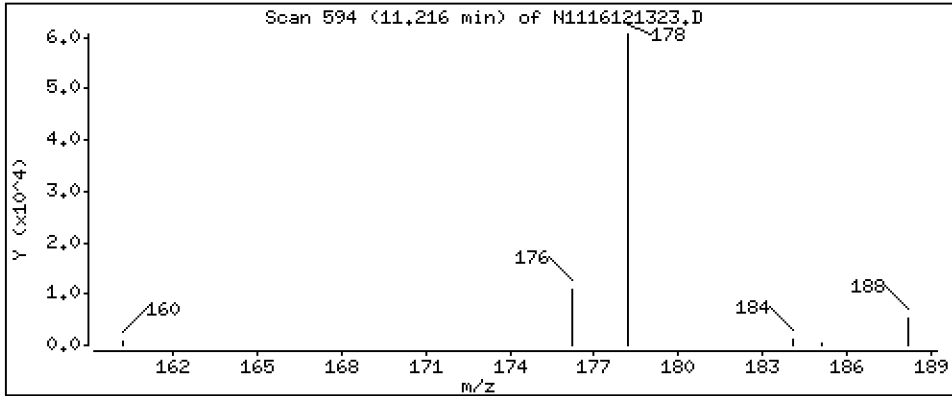
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 2820 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

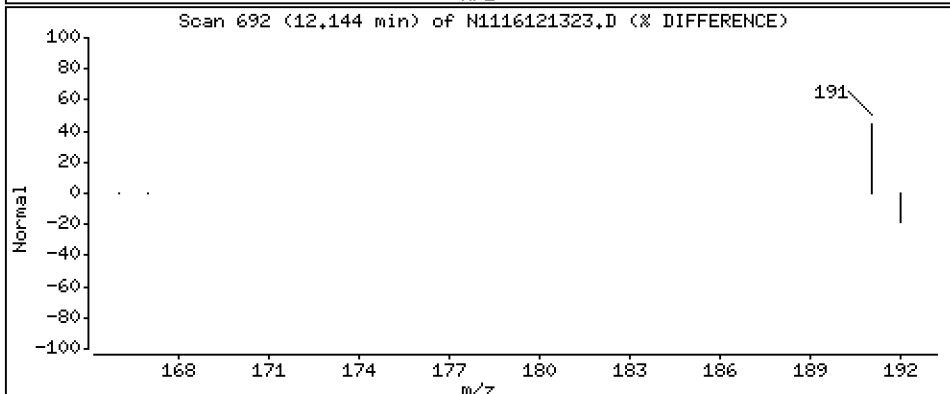
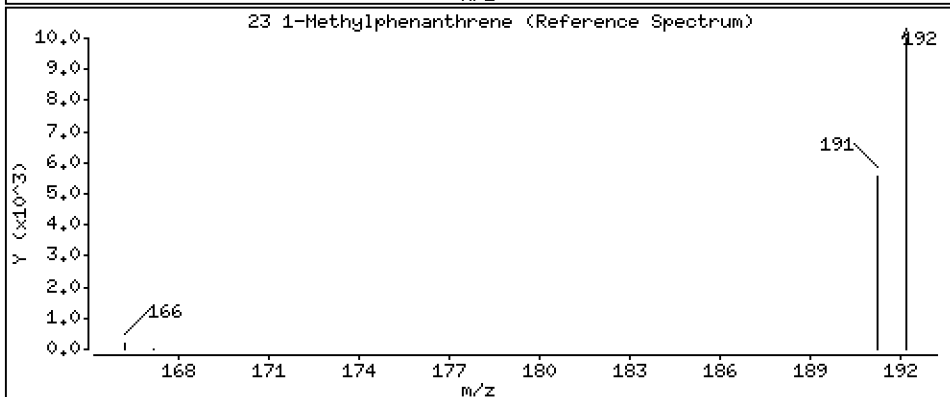
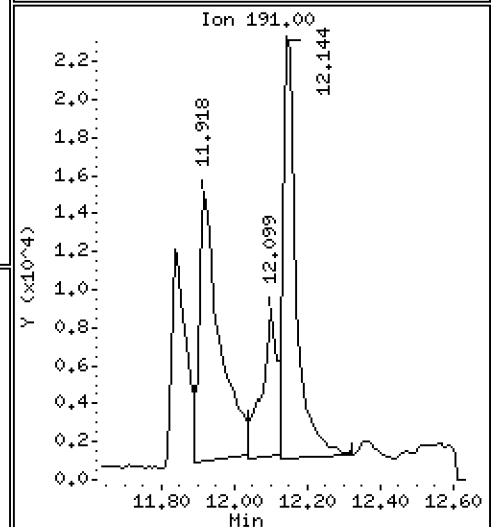
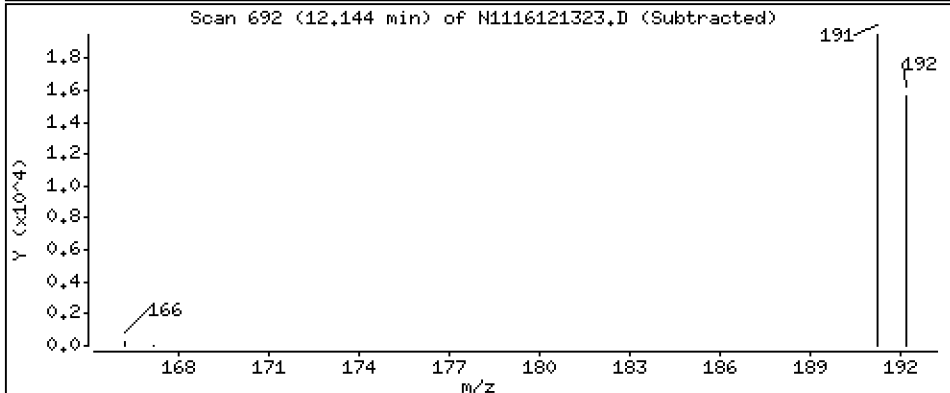
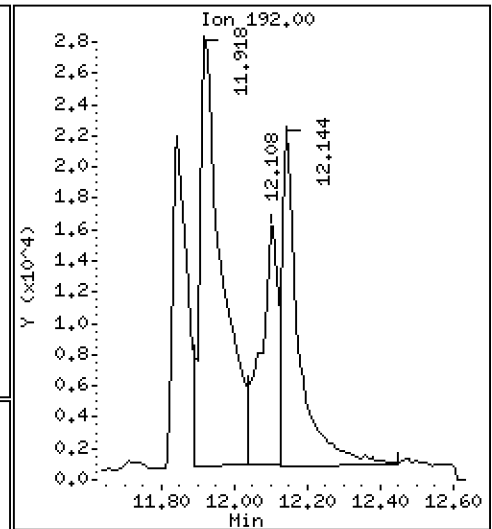
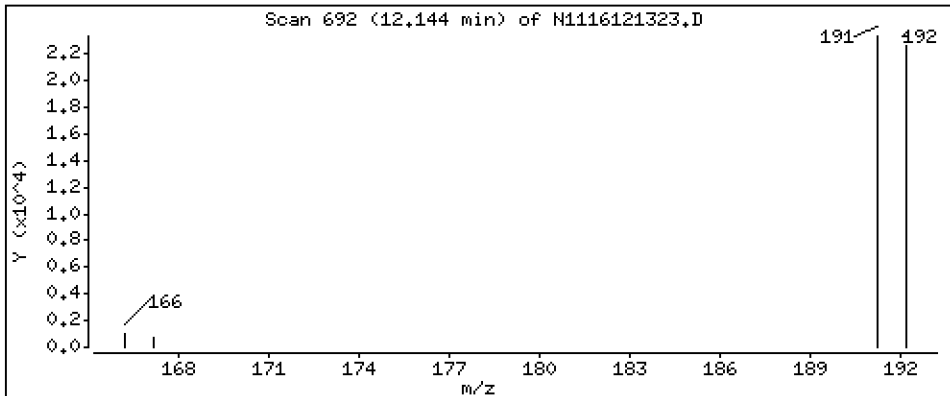
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 713 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

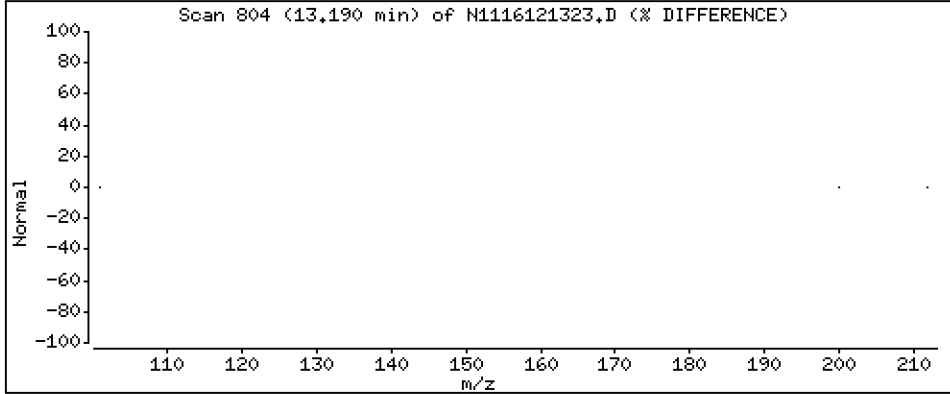
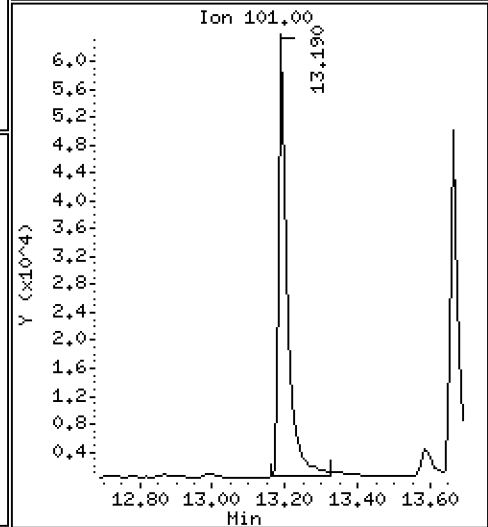
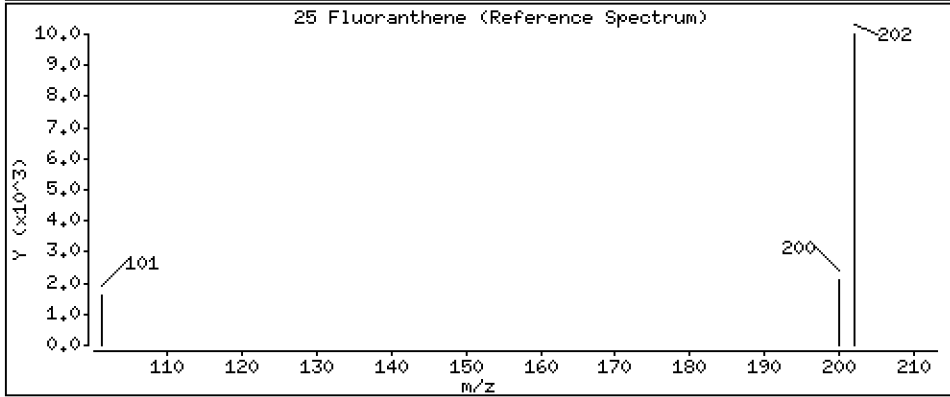
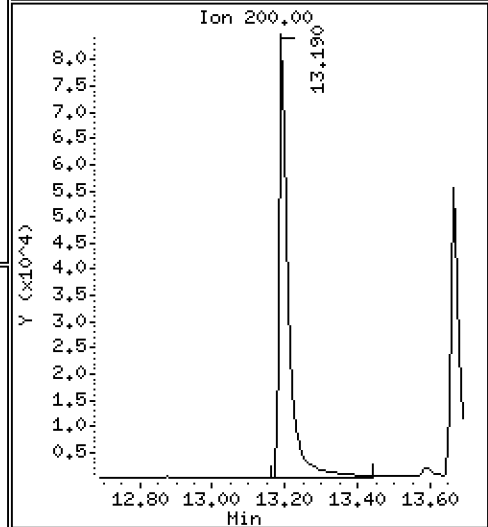
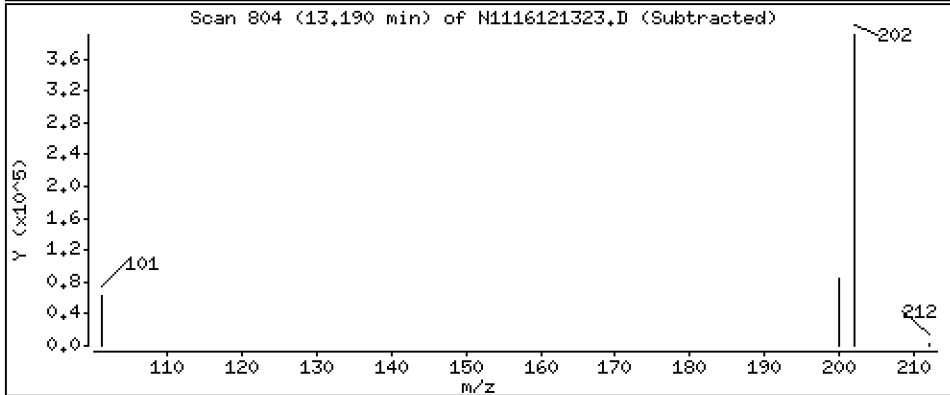
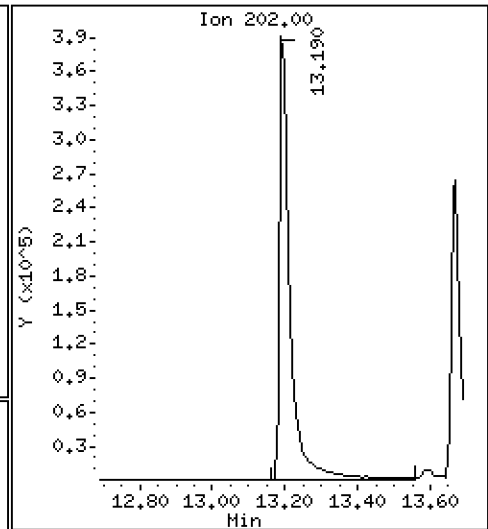
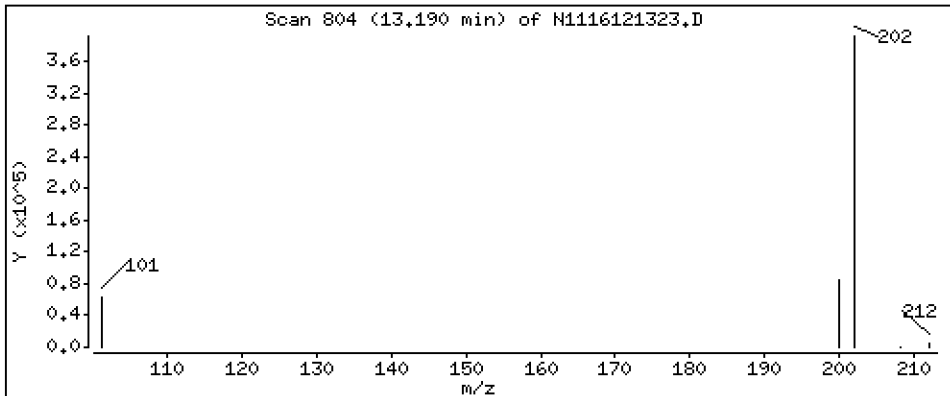
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 7390 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

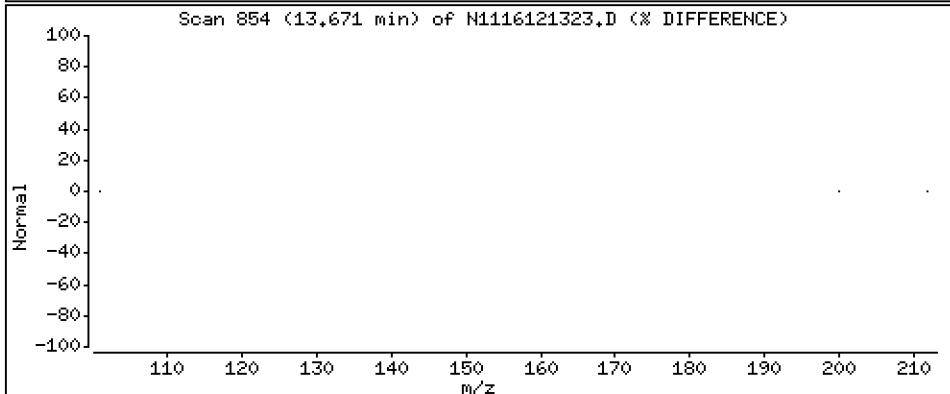
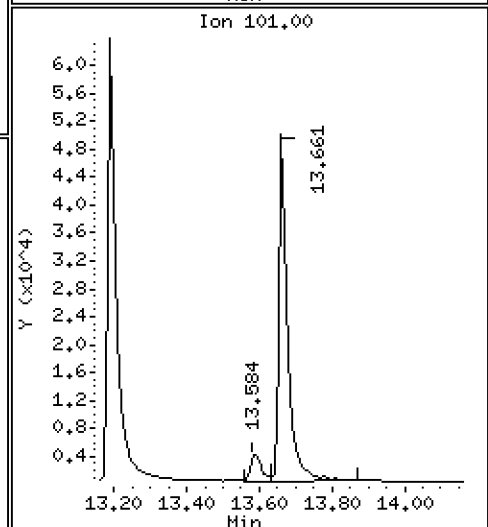
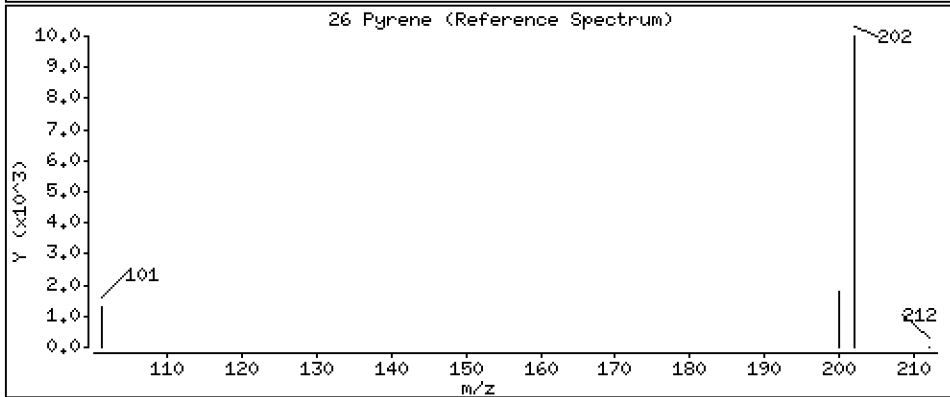
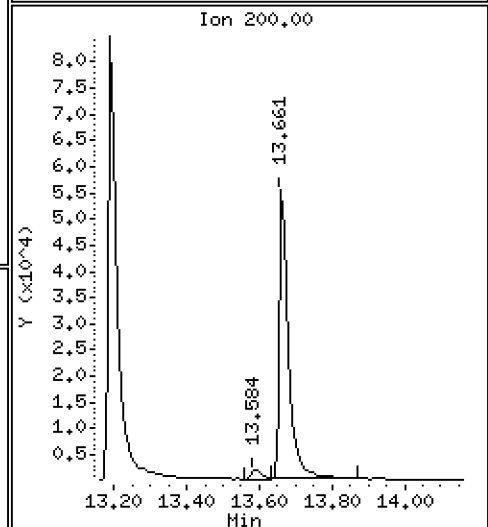
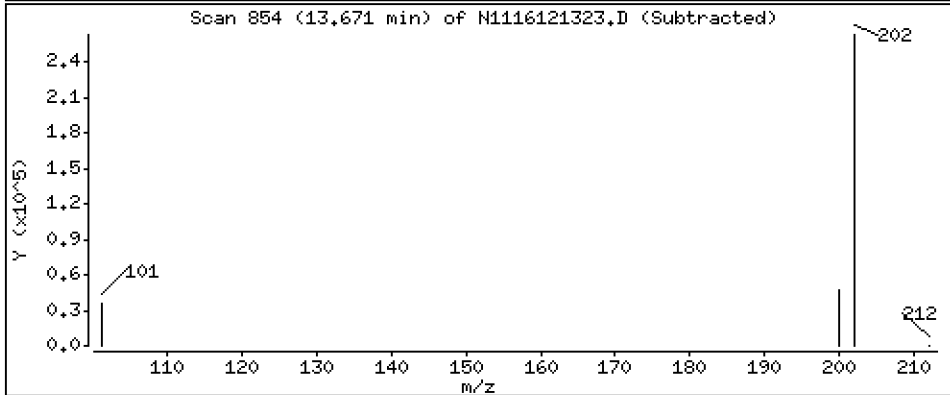
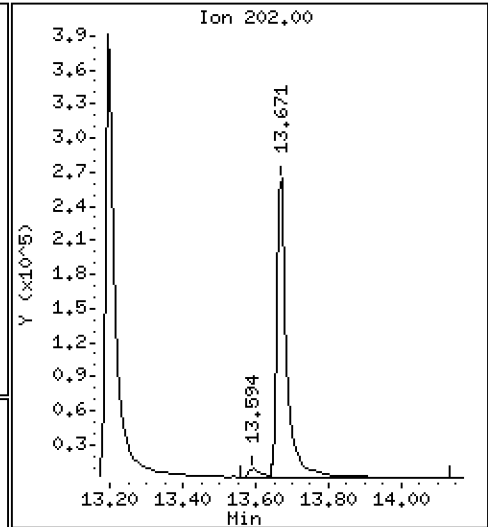
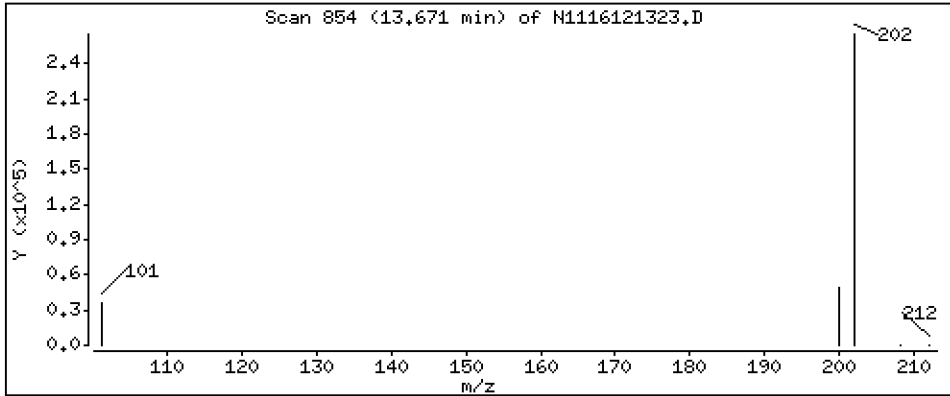
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 5120 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

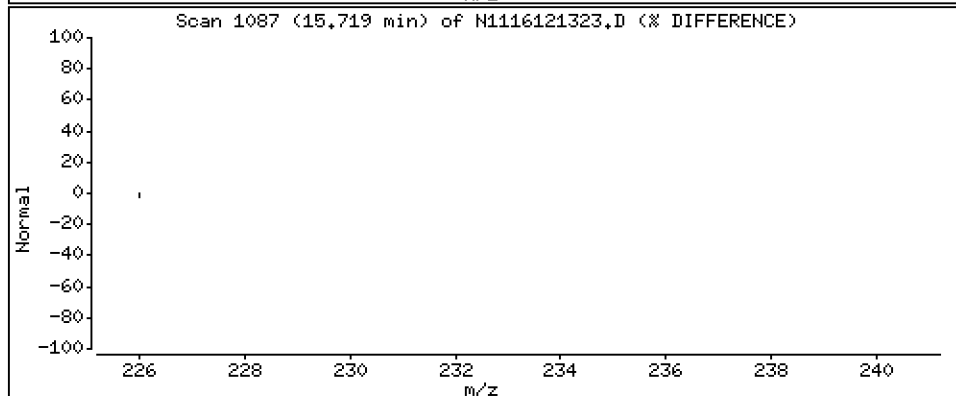
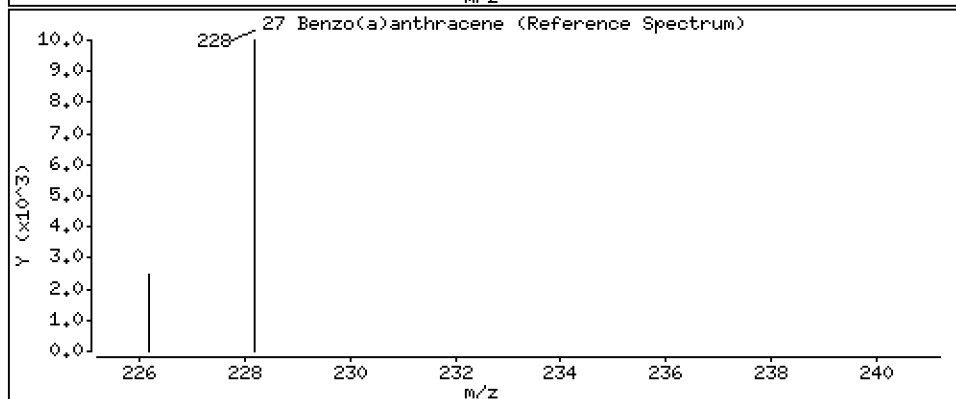
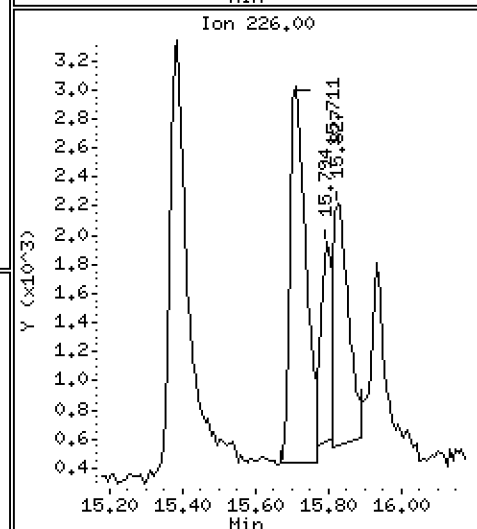
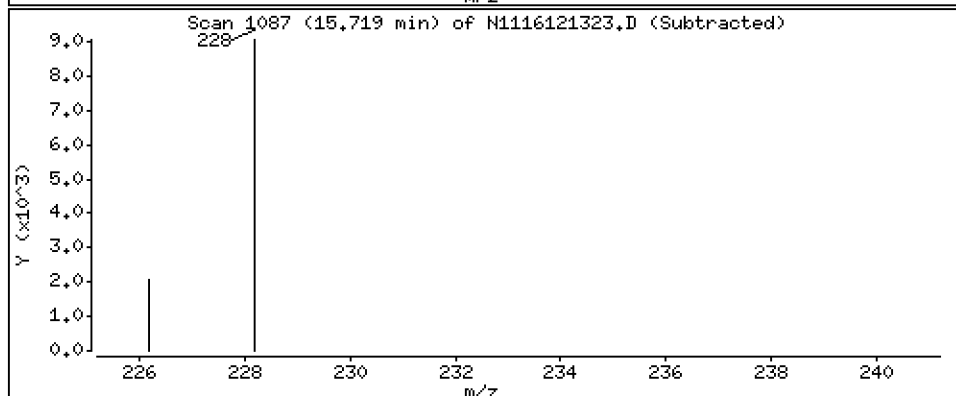
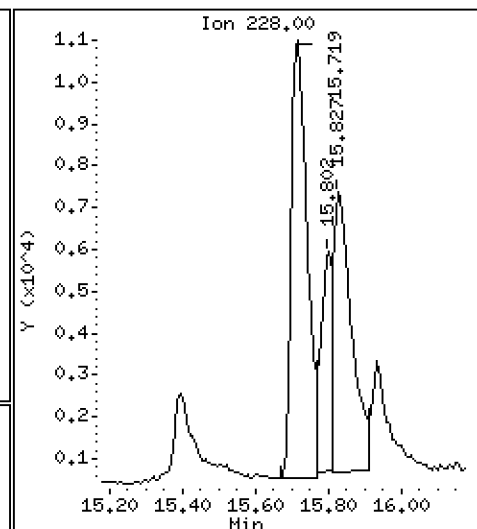
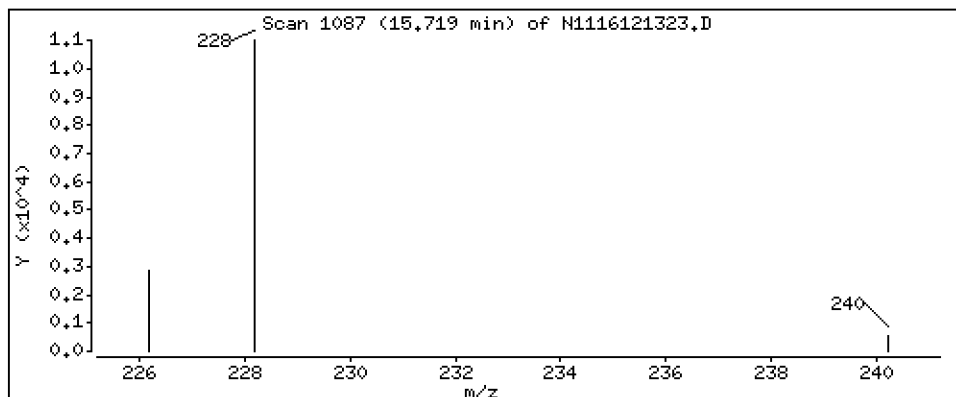
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 356 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

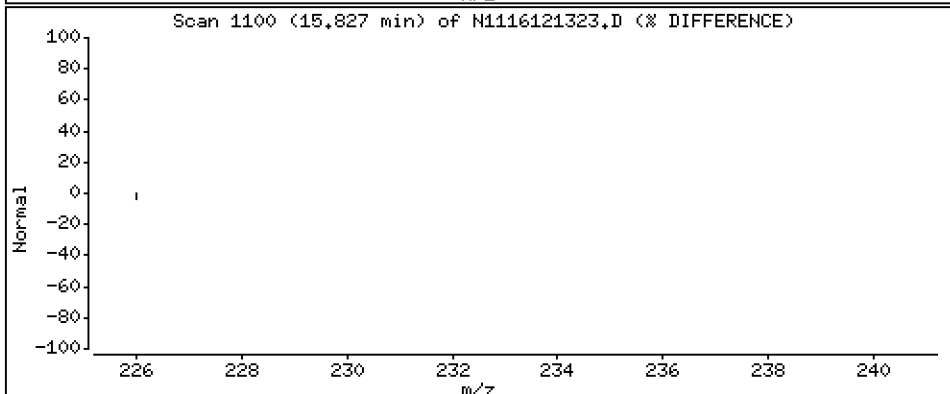
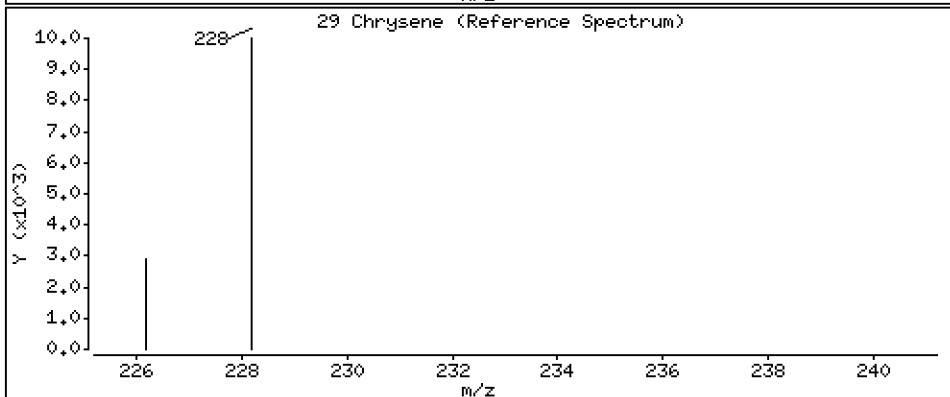
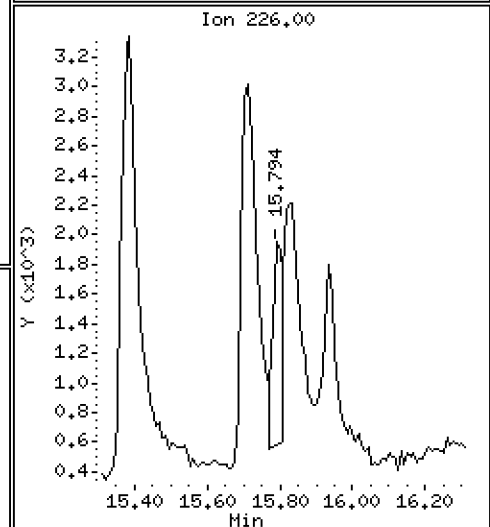
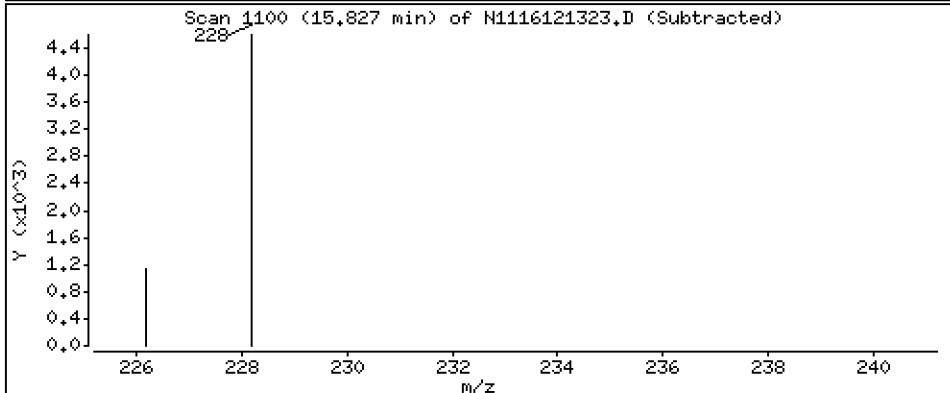
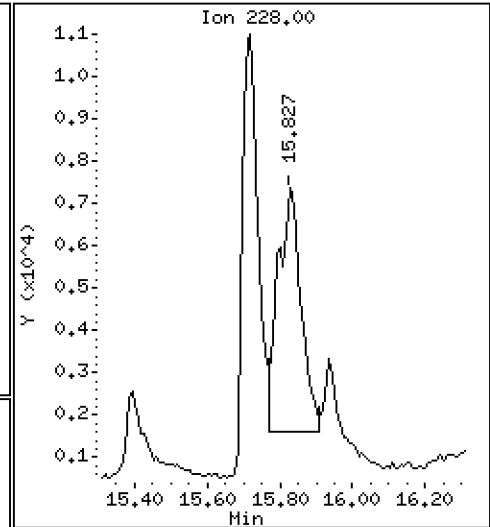
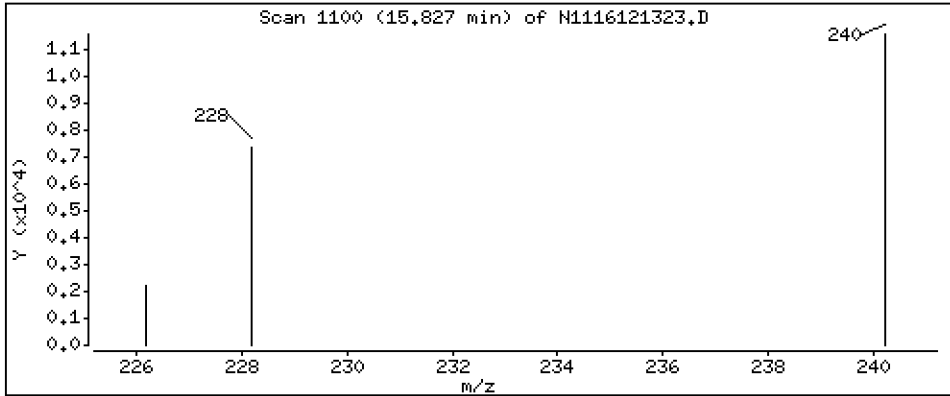
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 259 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

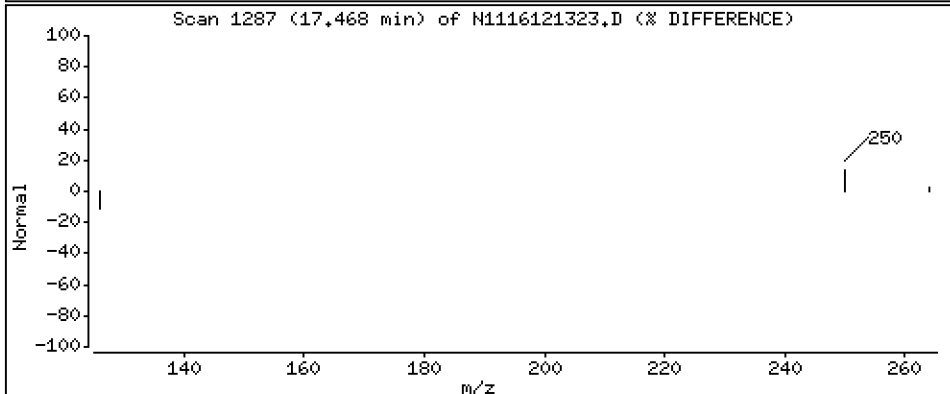
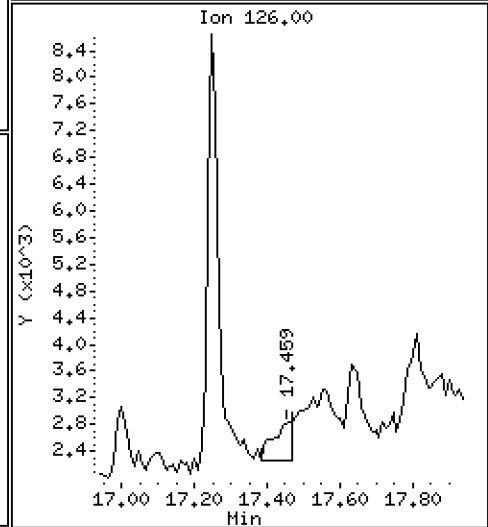
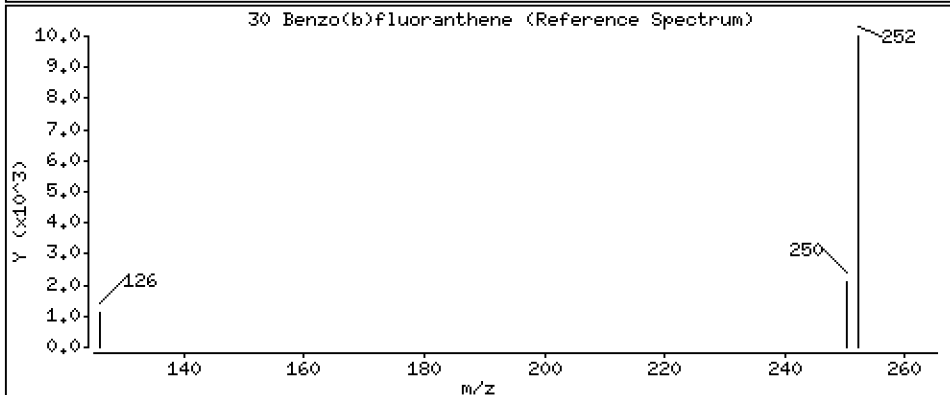
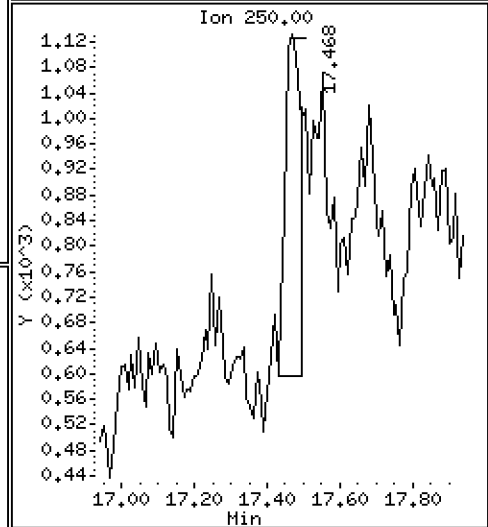
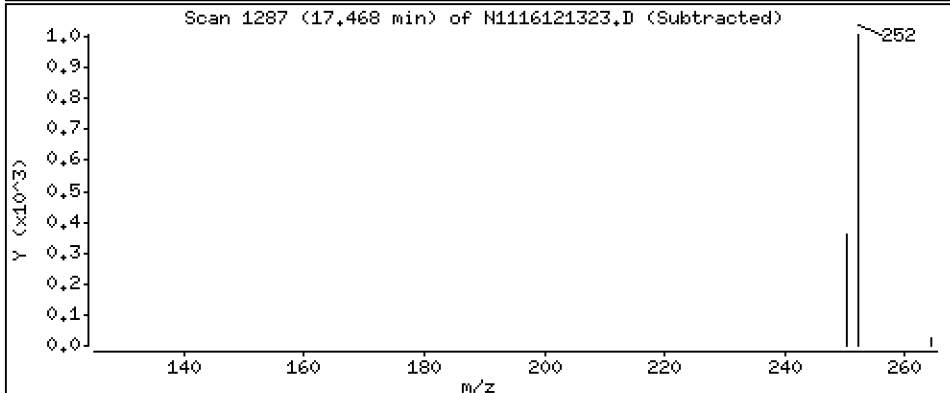
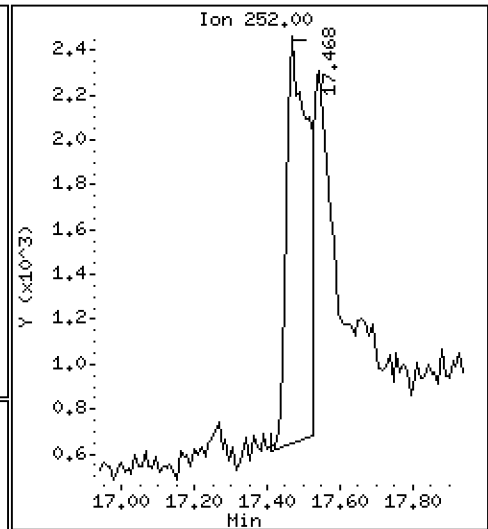
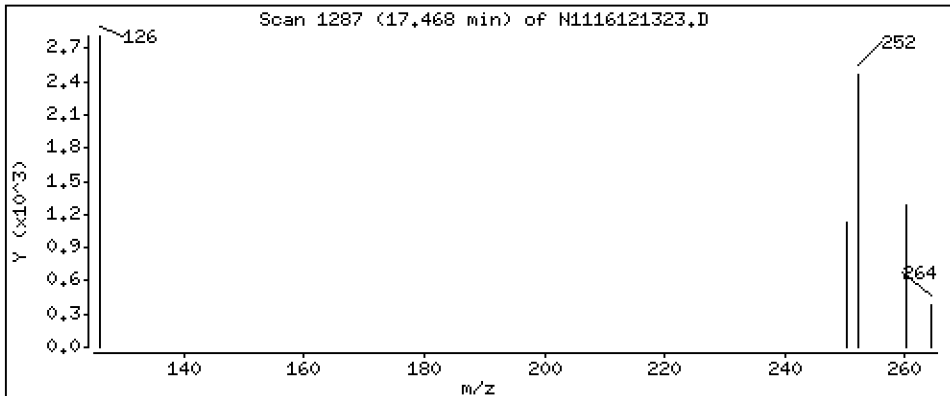
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 82,1 ng/mL



Date : 13-DEC-2016 22:56

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-09,20

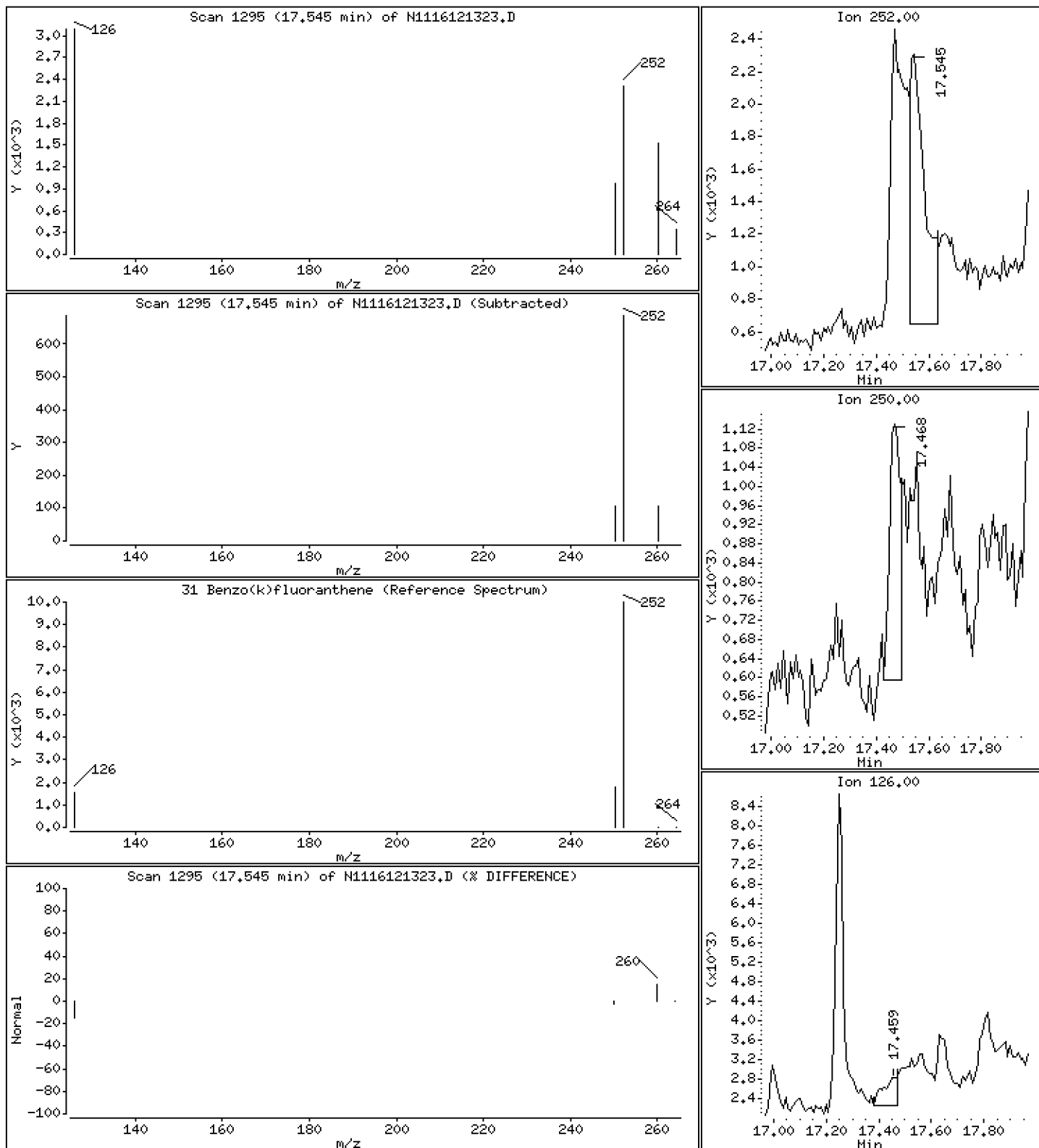
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 69,7 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121323.D
 Lab Smp Id: 16K0321-09
 Inj Date : 13-DEC-2016 22:56 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-09,20
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 18
 Dil Factor: 20.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.565	5.556	(1.000)	347730	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		6.610	6.568	(1.188)	22342	14.8844	298
6 1-Methylnaphthalene	142		6.820	6.810	(1.226)	34408	23.3719	467
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		7.503	7.440	(0.884)	15244	6.67132	133
9 2,6-Dimethylnaphthalene	156		7.513	7.493	(0.886)	34601	21.0726	421
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.483	8.483	(1.000)	204854	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	260894	200.919	4020
13 Dibenzofuran	168		8.789	8.763	(1.036)	173462	94.0015	1880
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	5662	4.93556	98.7 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.370	9.370	(1.105)	285441	200.218	4000
17 Dibenzothiophene	184		10.963	10.932	(0.987)	23316	12.7851	256
* 18 Phenanthrene-d10	188		11.110	11.110	(1.000)	368963	200.000	
19 Phenanthrene	178		11.142	11.142	(1.003)	1459674	658.616	13200
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.215	11.205	(1.009)	294293	141.113	2820
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.144	12.135	(1.093)	69577	35.6287	713
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		13.190	13.190	(1.187)	794393	369.402	7390
26 Pyrene	202		13.670	13.670	(0.867)	535007	255.833	5120
27 Benzo(a)anthracene	228		15.718	15.677	(0.997)	32211	17.8000	356
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	321417	200.000	
29 Chrysene	228		15.826	15.810	(1.004)	26024	12.9660	259 (M)
30 Benzo(b)fluoranthene	252		17.468	17.439	(0.960)	7488	4.10531	82.1 (M)
31 Benzo(k)fluoranthene	252		17.545	17.478	(0.964)	6908	3.48566	69.7 (M)
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252				Compound Not Detected.		
35 Benzo(a)pyrene	252				Compound Not Detected.		
* 36 Perylene-d12	264	18.198	18.198	(1.000)	320879	200.000	
37 Perylene	252				Compound Not Detected.		
§ 38 Dibenzo(a,h)anthracene-d14	292				Compound Not Detected.		
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121323.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-09
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	347730	-29.55
11 Acenaphthene-d10	240770	120385	481540	204854	-14.92
18 Phenanthrene-d10	429271	214636	858542	368963	-14.05
28 Chrysene-d12	387691	193846	775382	321417	-17.09
36 Perylene-d12	386259	193130	772518	320879	-16.93

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.16
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	-0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.11	-0.00
28 Chrysene-d12	15.77	15.27	16.27	15.77	-0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	-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 - N1116121323.D

Lab ID: 16K0321-09

nt11.i, 20161213.b\lowsim.m, 13-DEC-2016 22:56

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

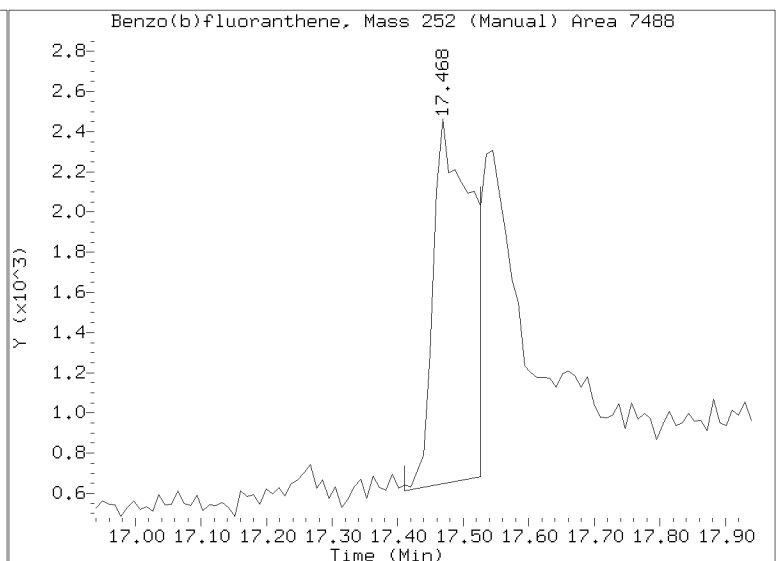
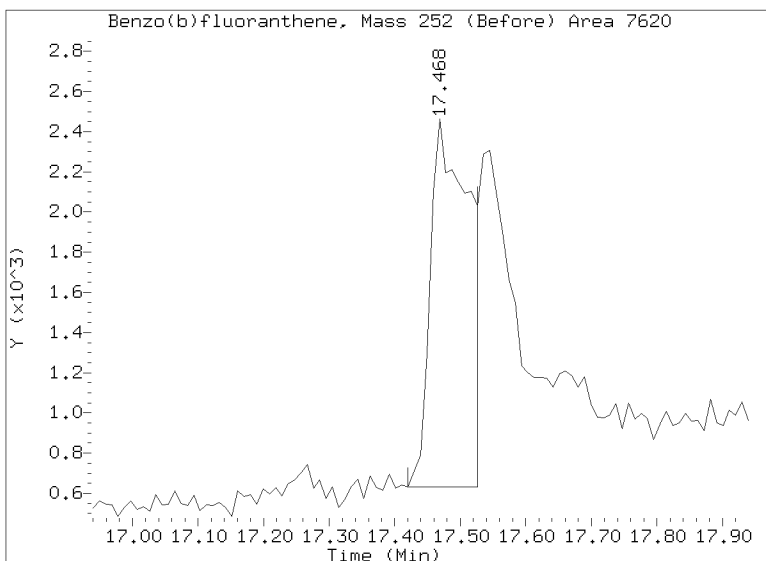
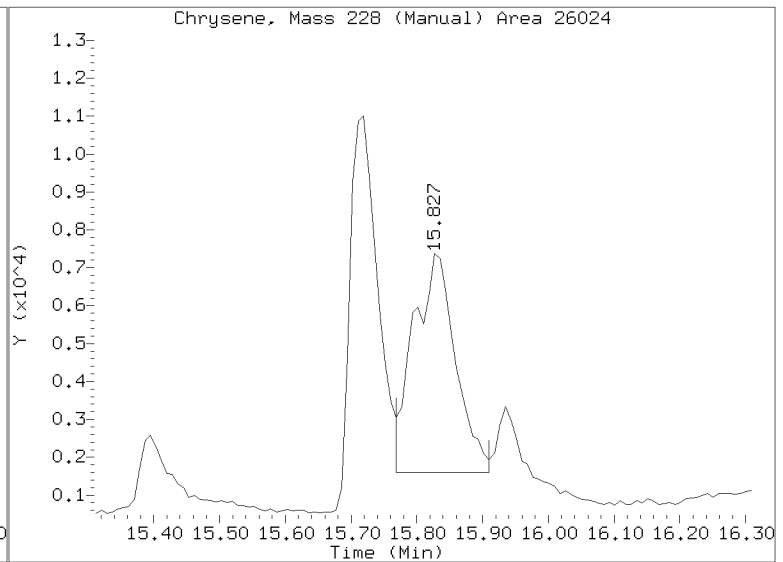
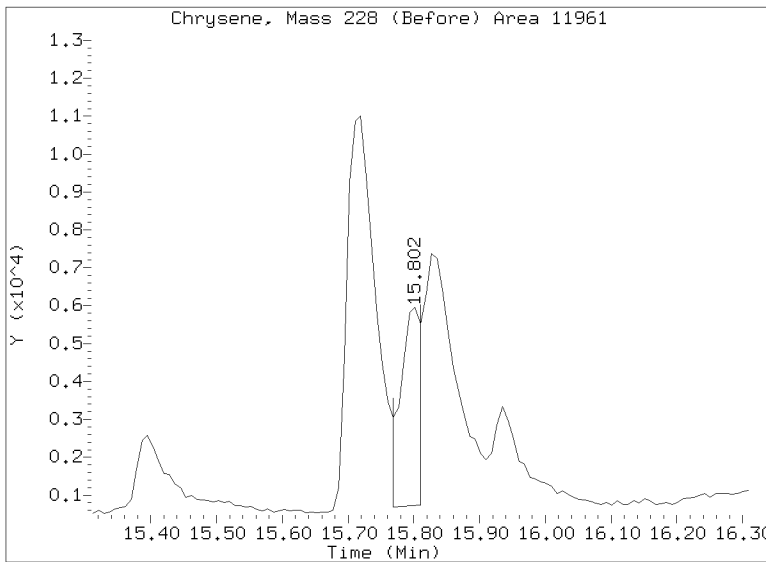
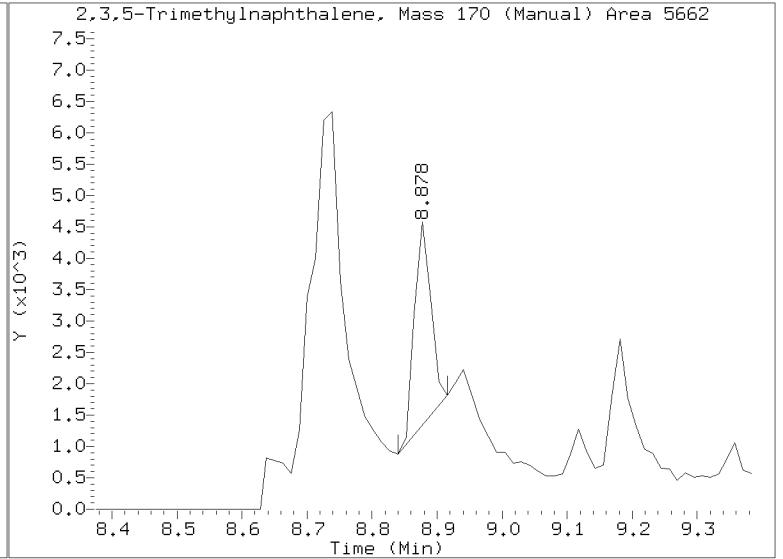
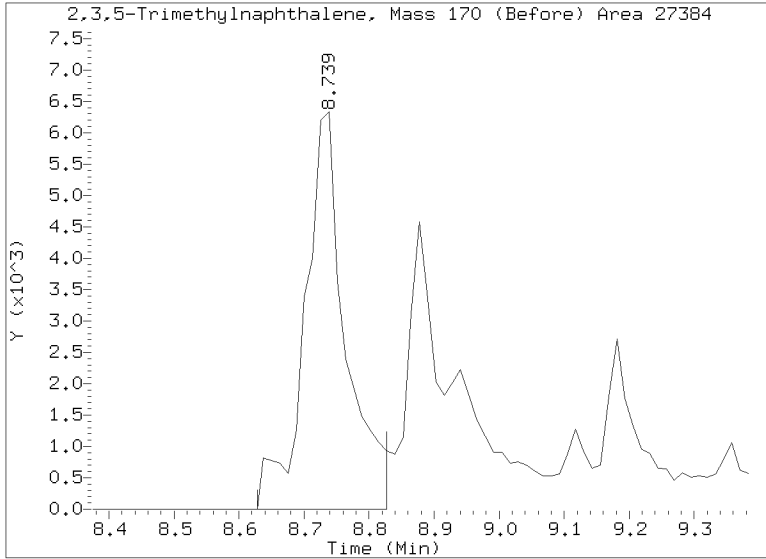
NONE

On Column LOD for nt11.i, 20161213.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

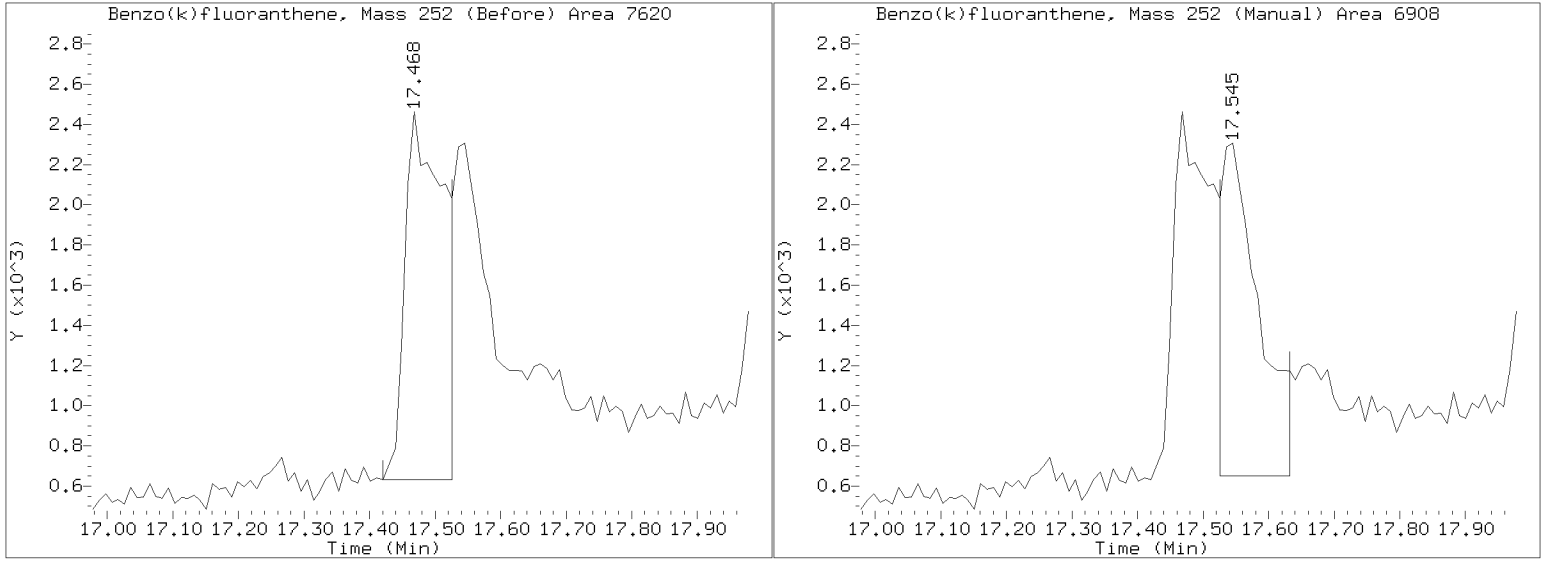
Quant Ion Manual Peak Adjustment Report

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Injection Date: 13-DEC-2016 22:56
Lab ID:16K0321-09 Client ID:
Report Date: 12/16/2016 07:49



Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121323.D
Injection Date: 13-DEC-2016 22:56
Lab ID:16K0321-09 Client ID:
Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-10 File ID: N1116121215.D
 Sampled: 11/22/16 10:26 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 15:29
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	25.6	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	176	B, E	1.13	1.13
208-96-8	Acenaphthylene	1	9.93		1.13	1.13
83-32-9	Acenaphthene	1	622	E	1.13	1.13
86-73-7	Fluorene	1	575	E	1.13	1.13
85-01-8	Phenanthrene	1	801	E	1.13	1.13
120-12-7	Anthracene	1	150	E	1.13	1.13
206-44-0	Fluoranthene	1	557	E	1.13	1.13
129-00-0	Pyrene	1	500	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	84.6		1.13	1.13
218-01-9	Chrysene	1	50.0		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	19.0		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	8.56		1.13	1.13
50-32-8	Benzo(a)pyrene	1	12.3		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.50		1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.61		1.13	1.13
1985-5-0	Perylene	1	3.40		1.13	1.13
197-97-2	Benzo(e)pyrene	1	11.1		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	18.0	53.1	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	23.8	70.2	30 - 160	
Fluoranthene-d10	33.860	26.0	76.8	30 - 160	
Fluorene-d10	21.163	1.87	8.82	30 - 160	*
Anthracene-d10	21.163	0.921	4.35	30 - 160	*
Benzo(e)pyrene-d12	21.163	17.2	81.5	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121215.D

Date: 12-DEC-2016 15:29

Client ID:

Sample Info: 16K0321-10

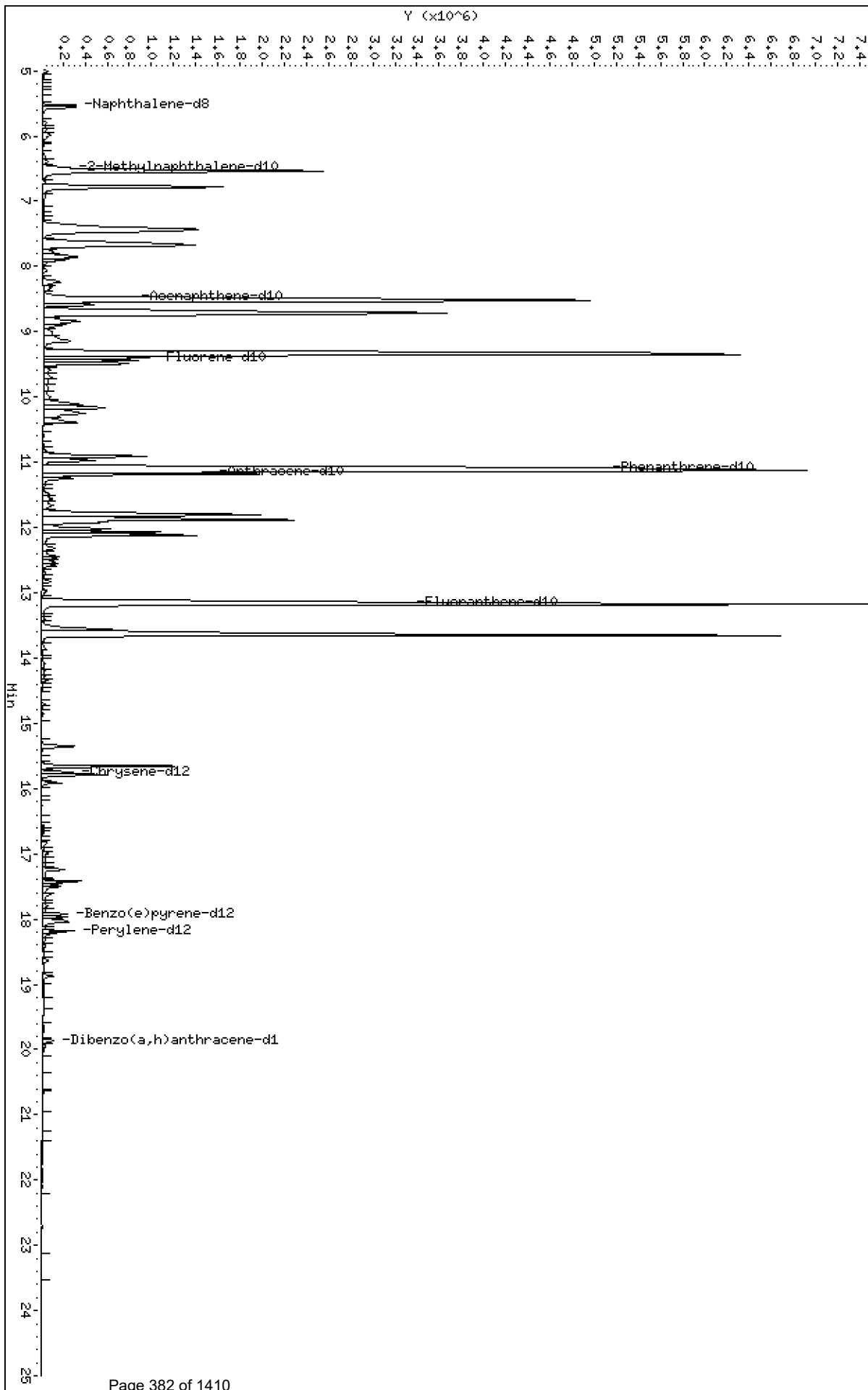
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161212.16\N1116121215.D



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

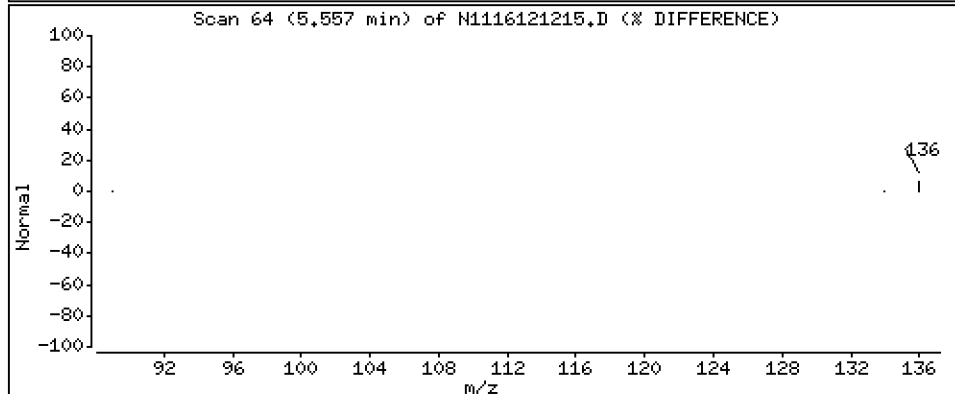
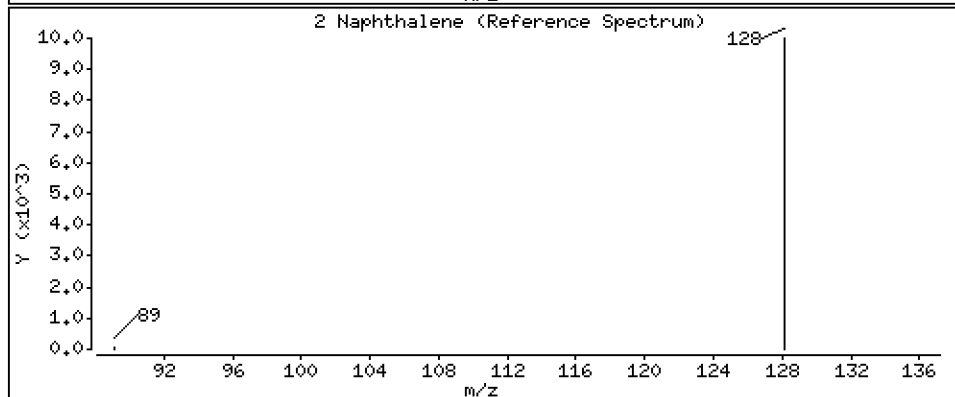
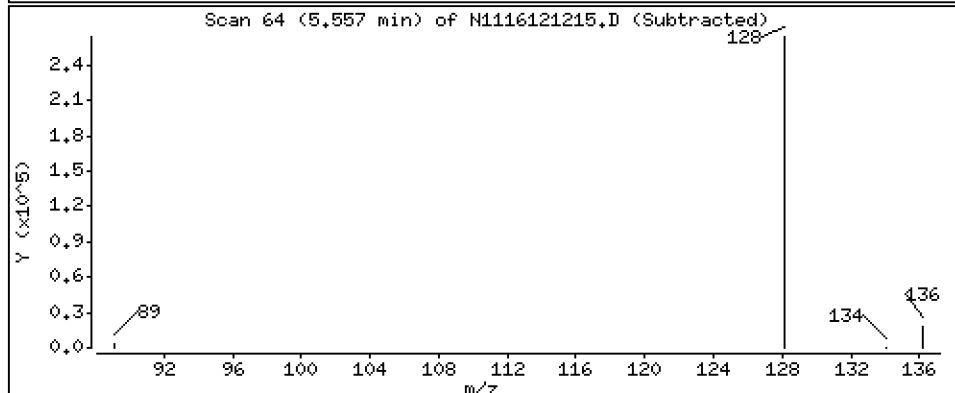
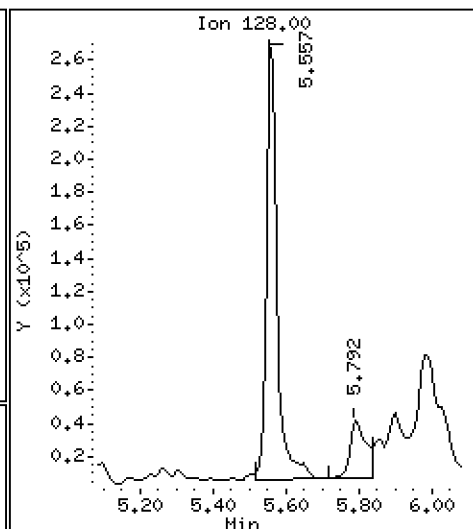
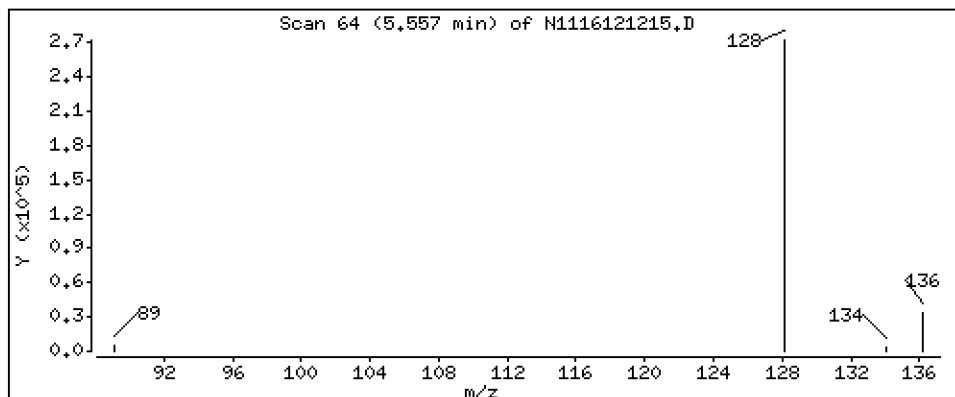
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 227 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

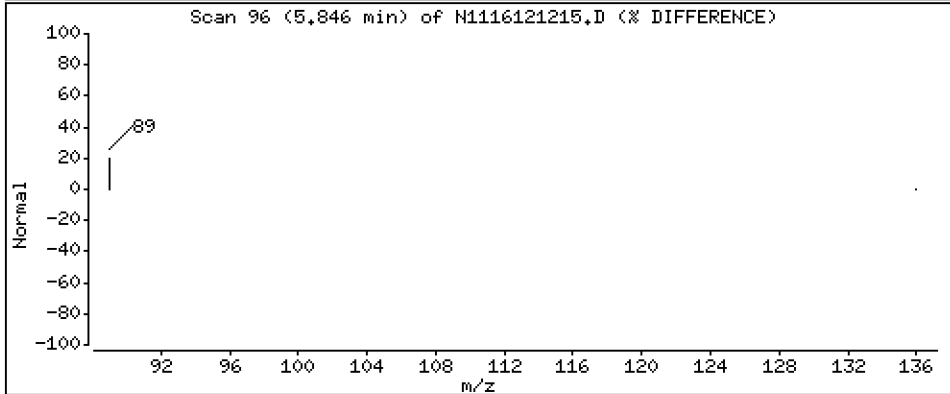
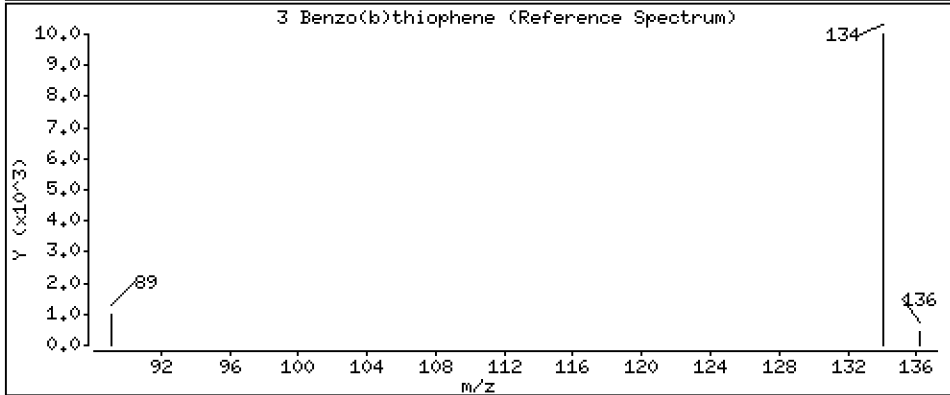
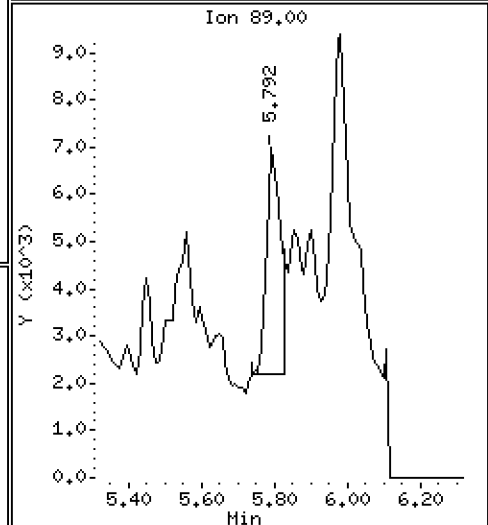
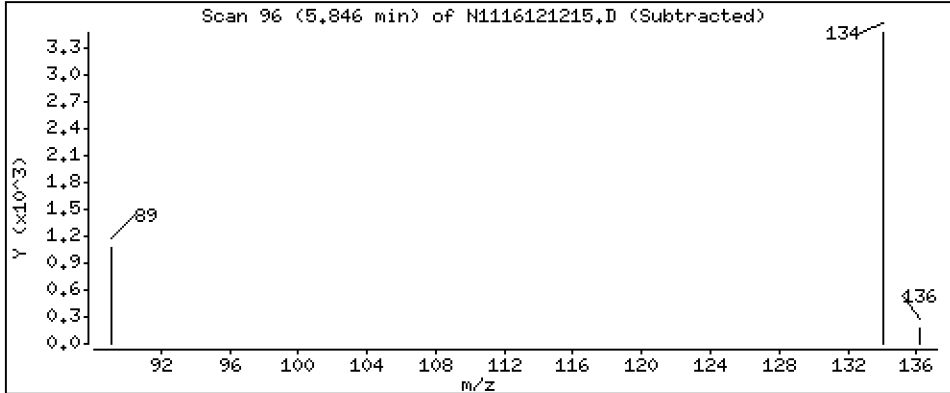
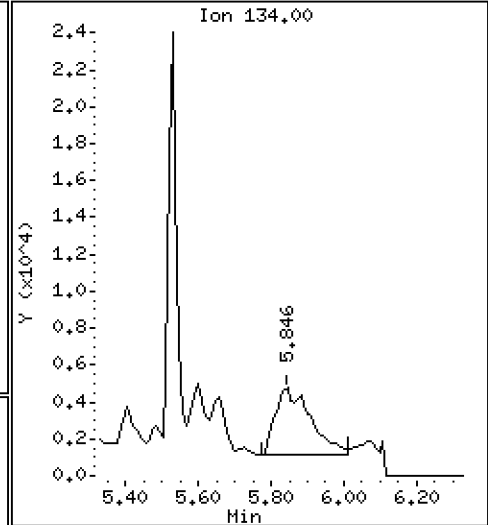
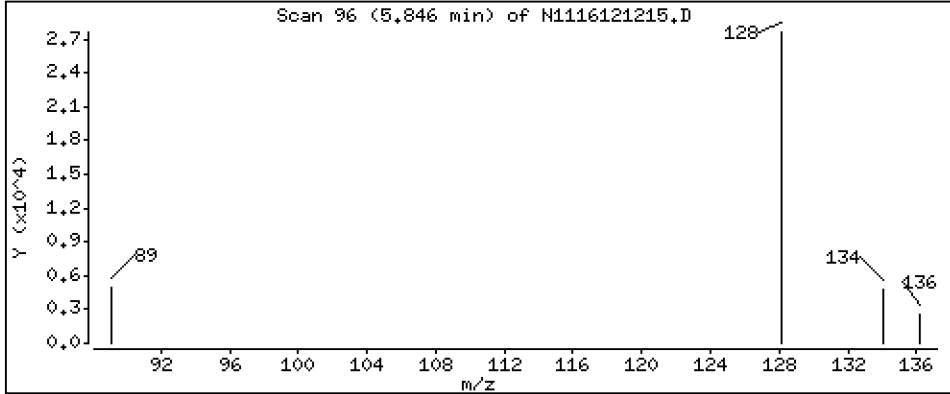
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 12,2 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

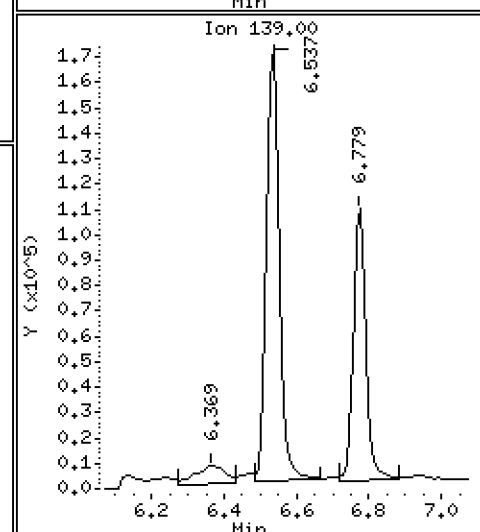
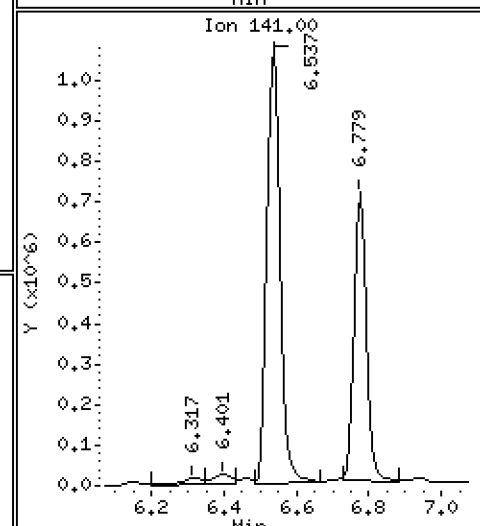
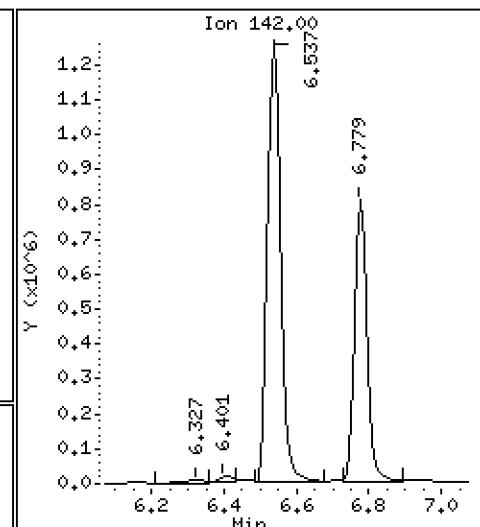
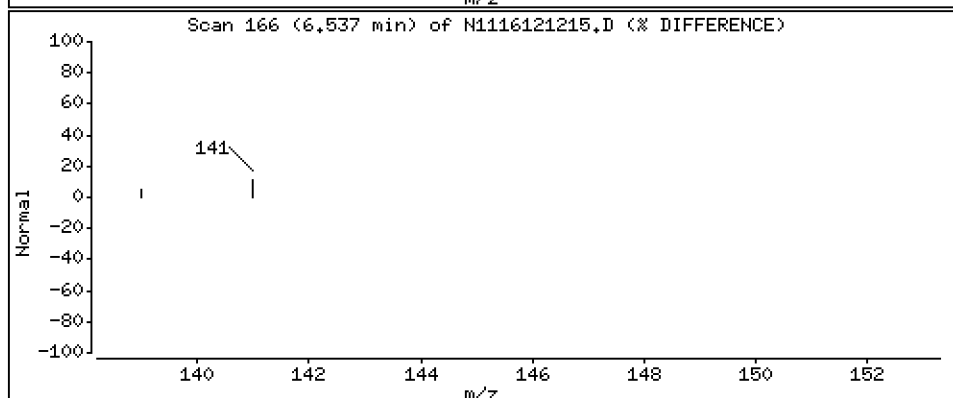
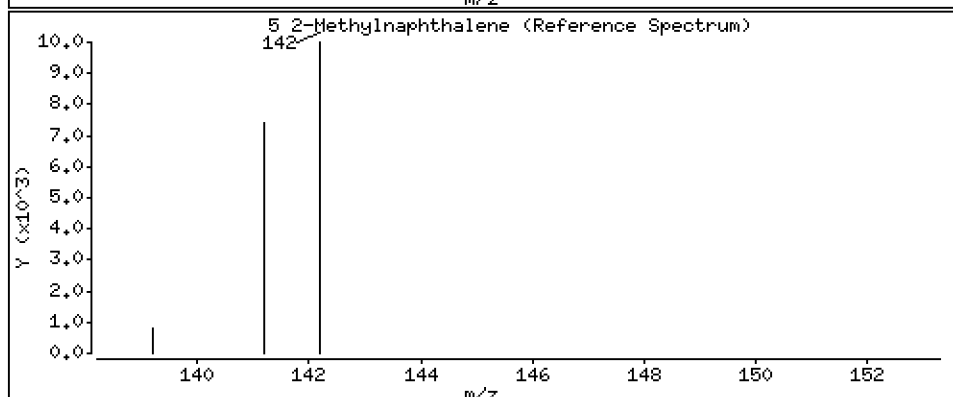
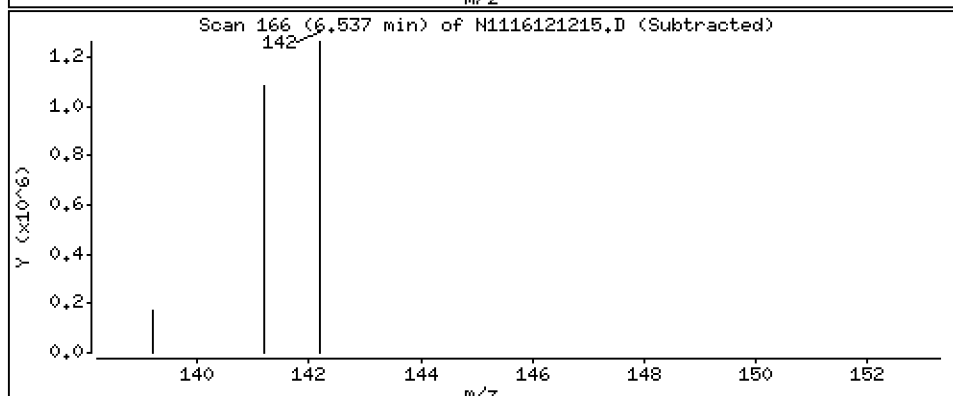
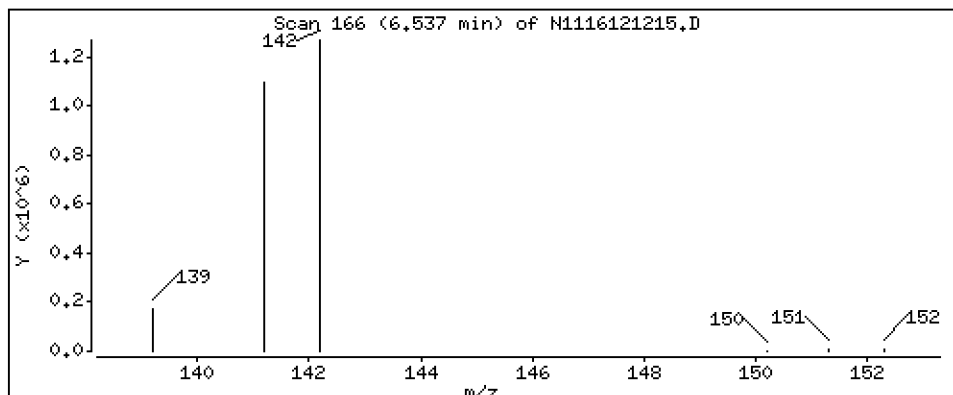
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5 2-Methylnaphthalene

Concentration: 1560 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

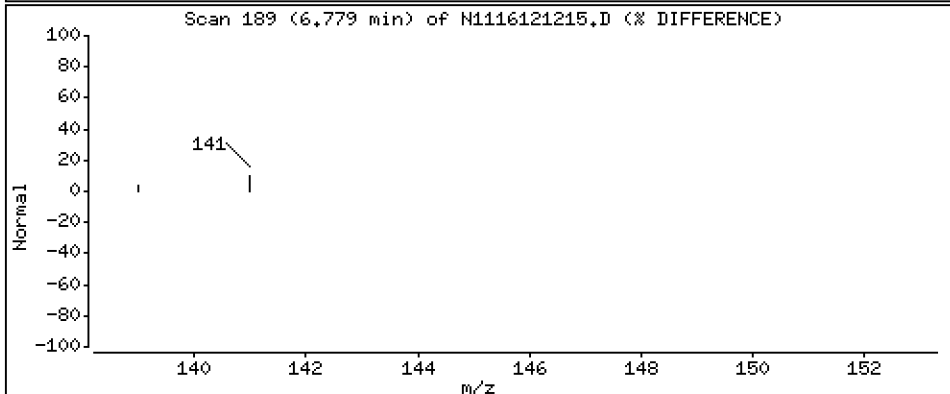
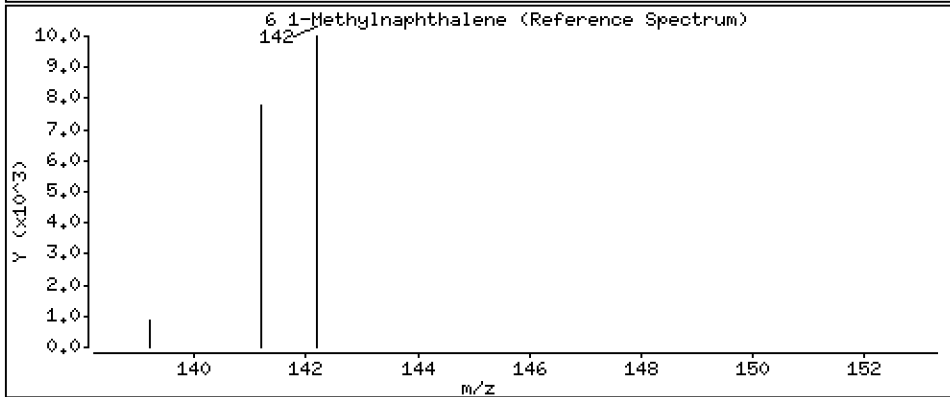
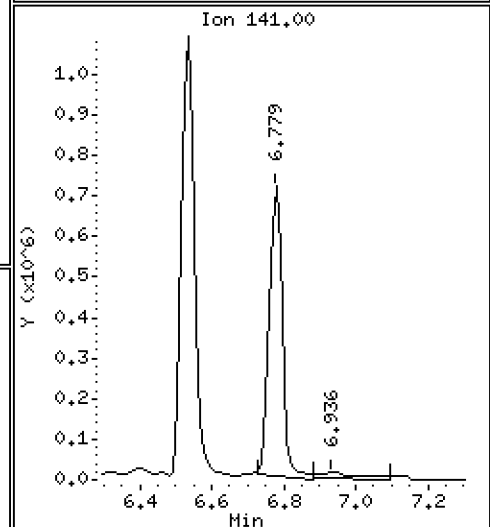
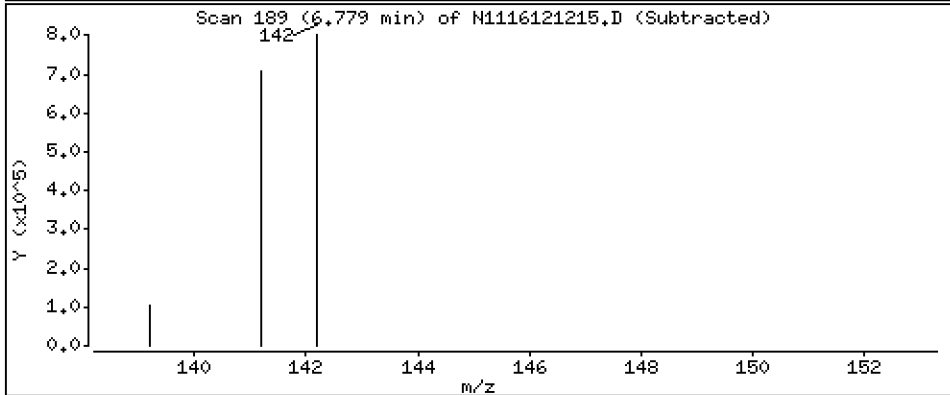
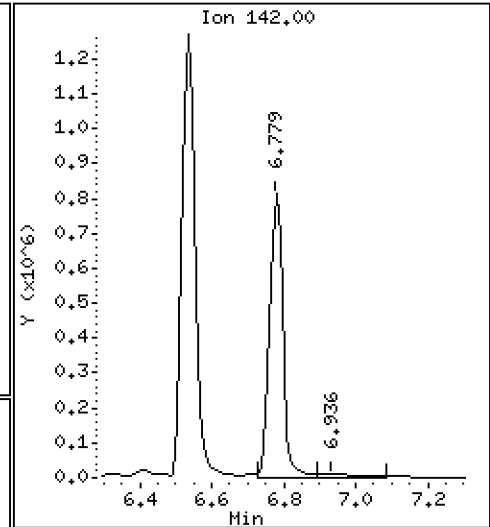
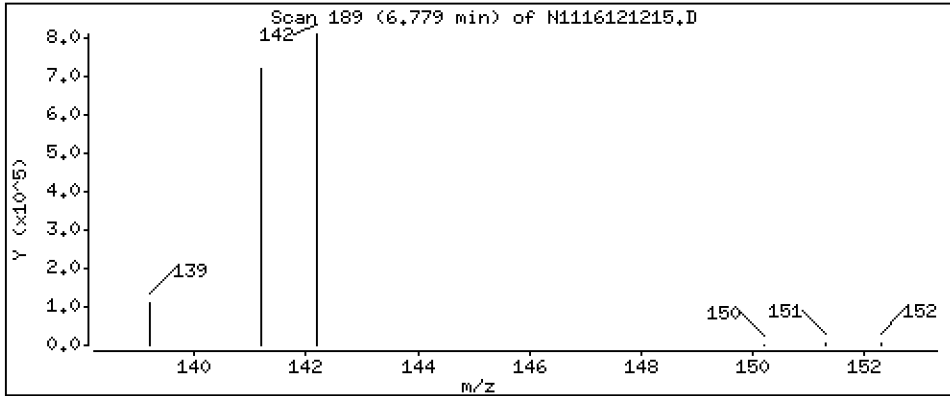
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

6 1-Methylnaphthalene

Concentration: 1080 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

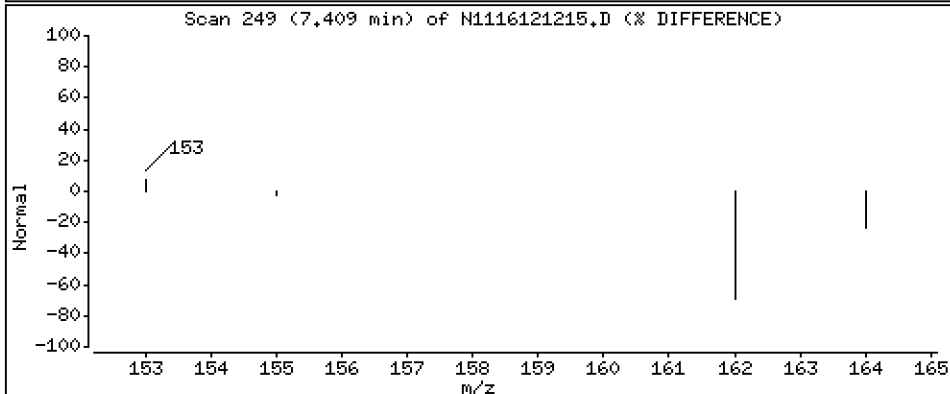
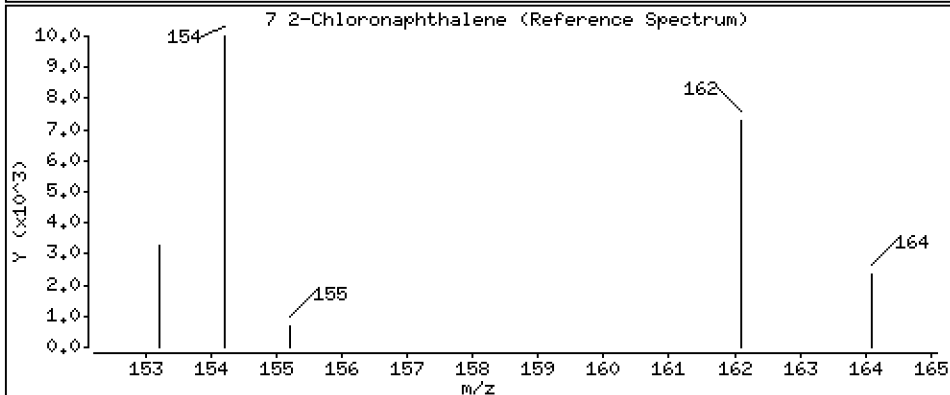
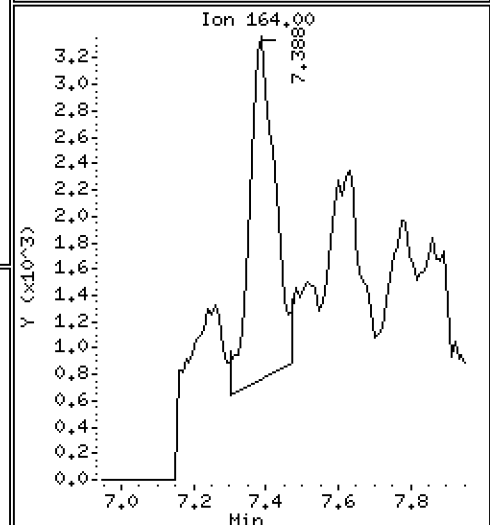
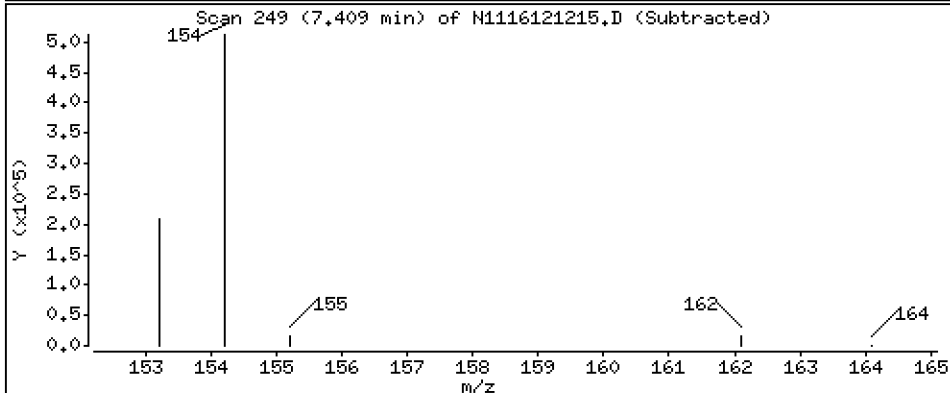
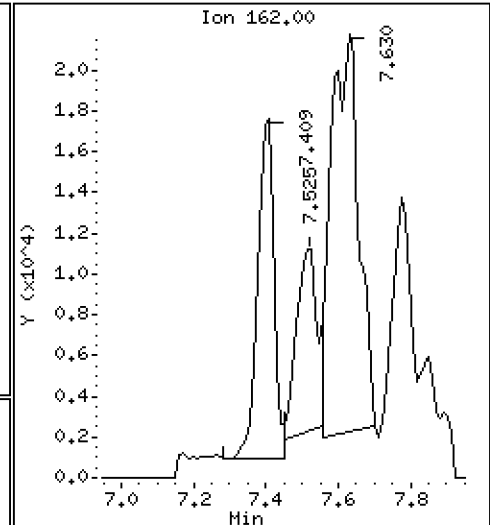
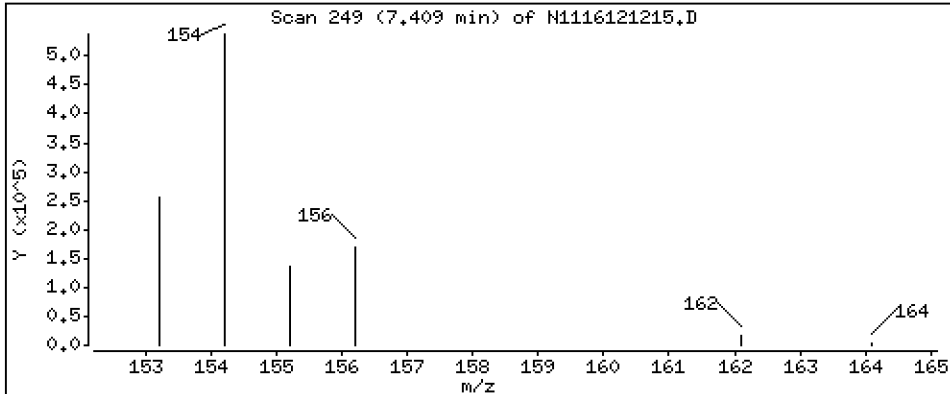
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 23,5 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

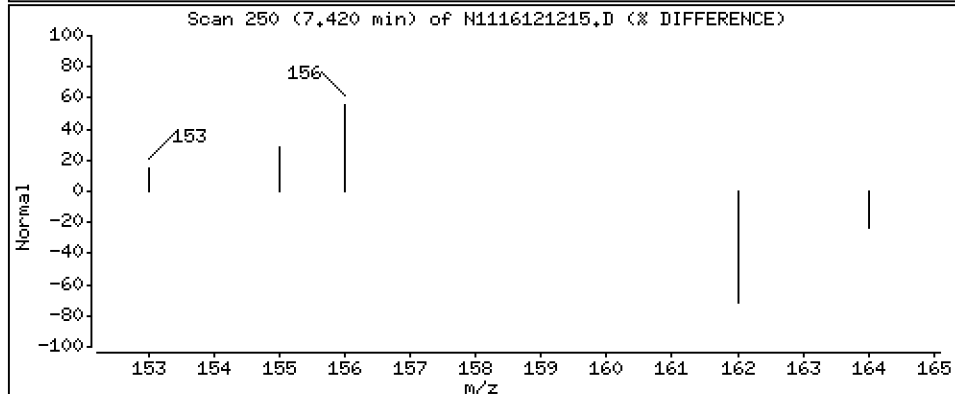
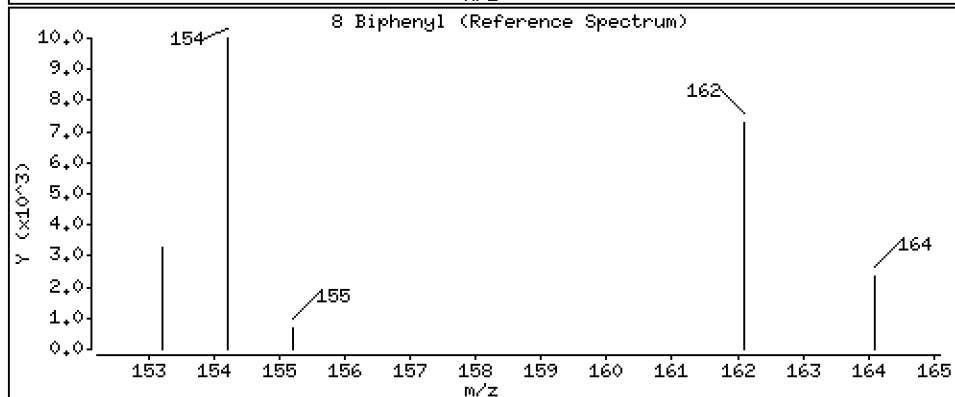
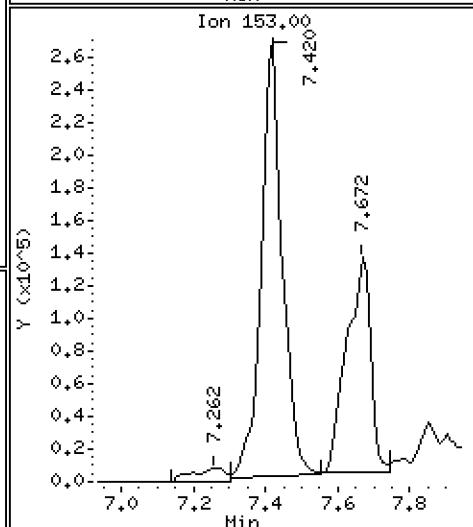
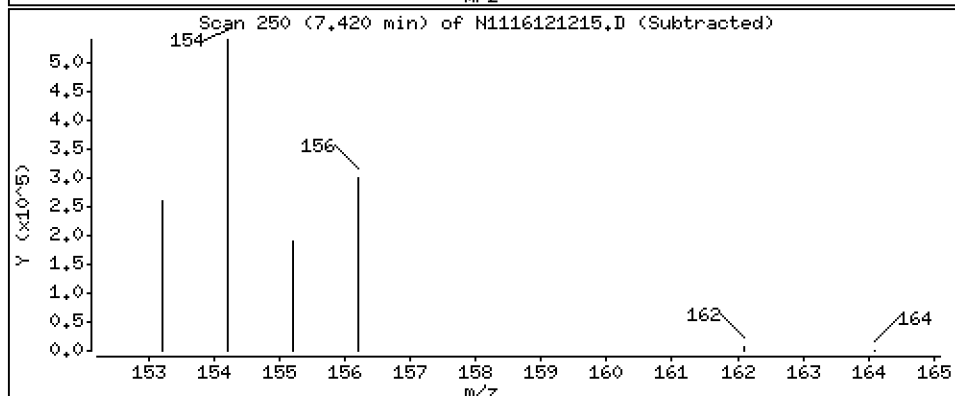
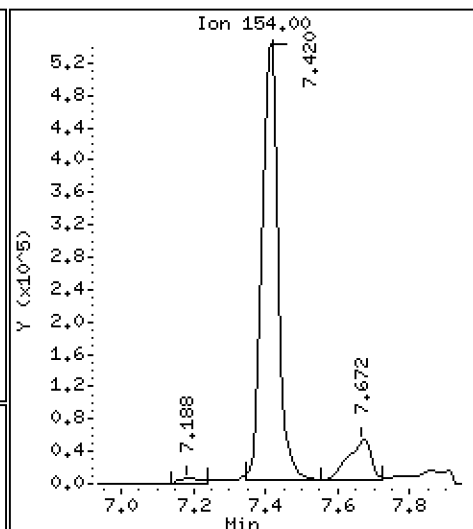
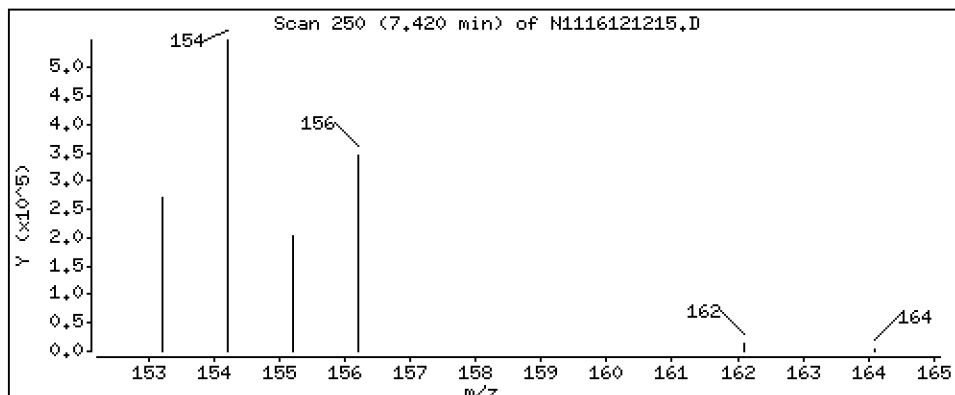
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 541 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

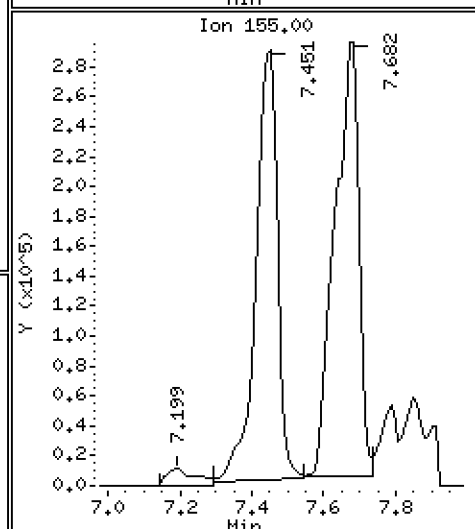
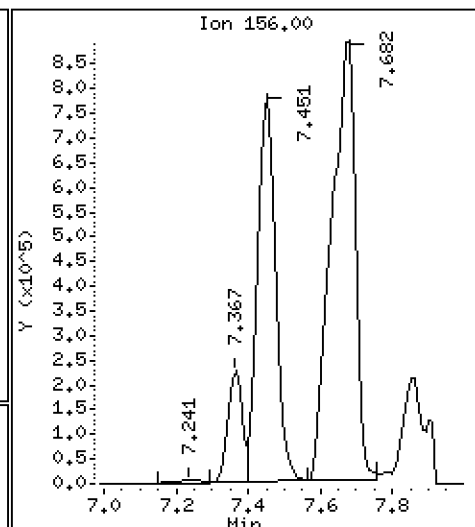
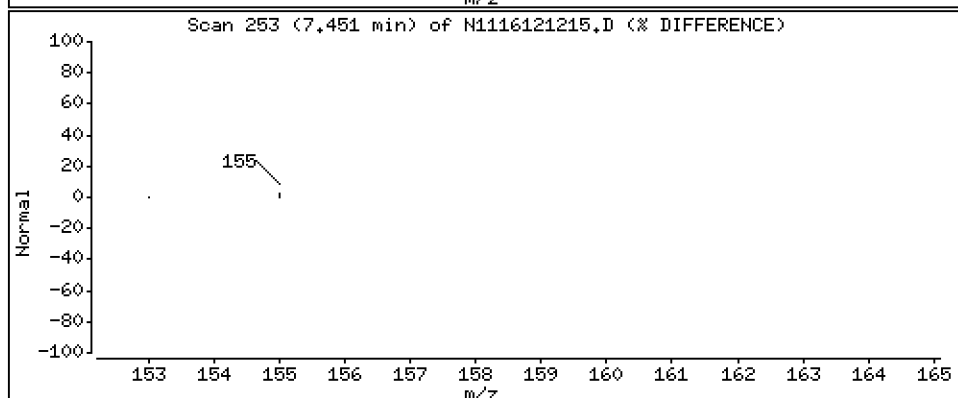
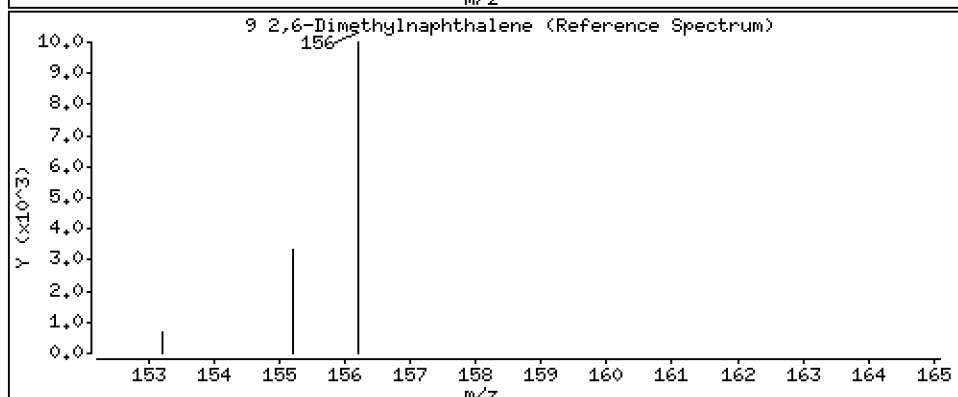
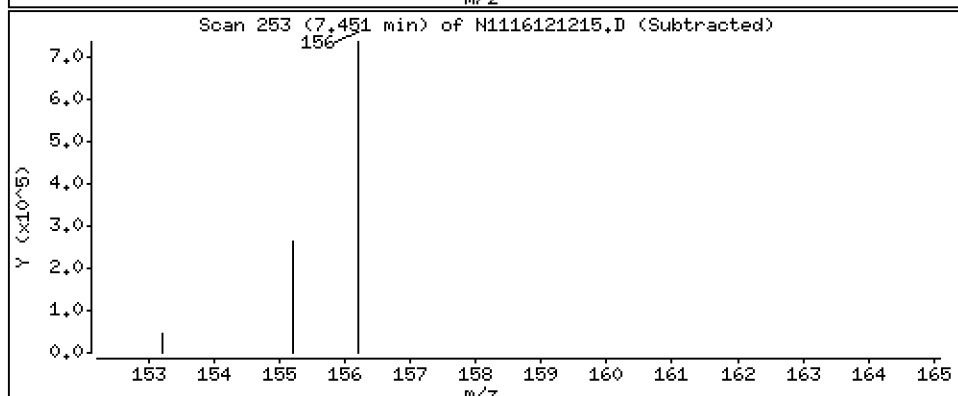
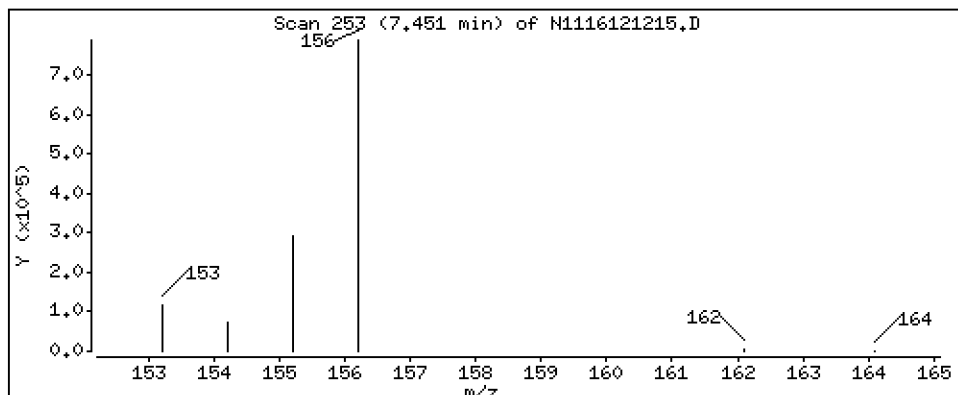
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 1230 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

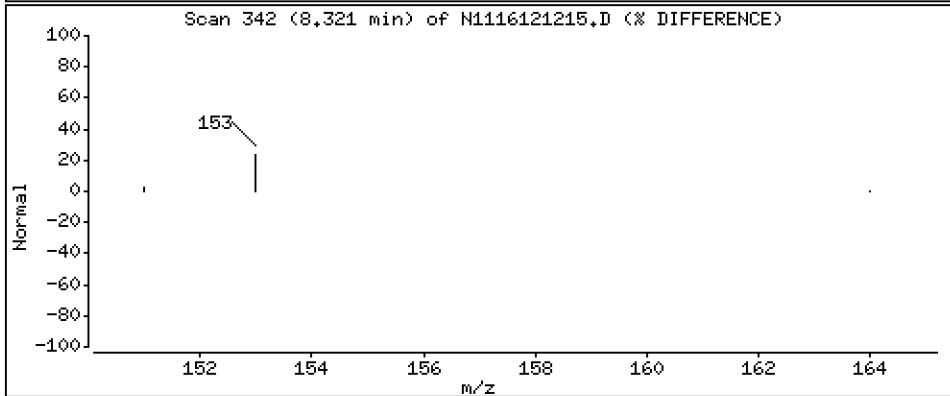
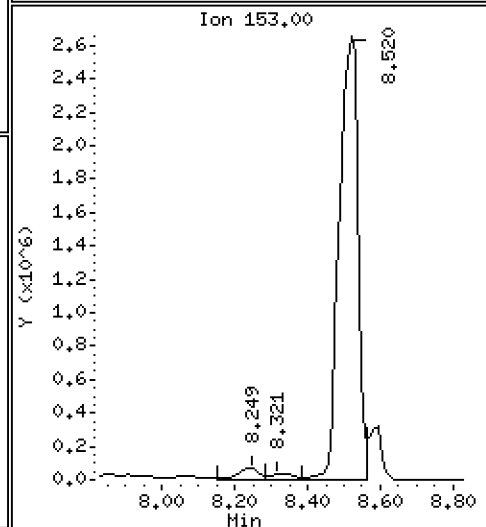
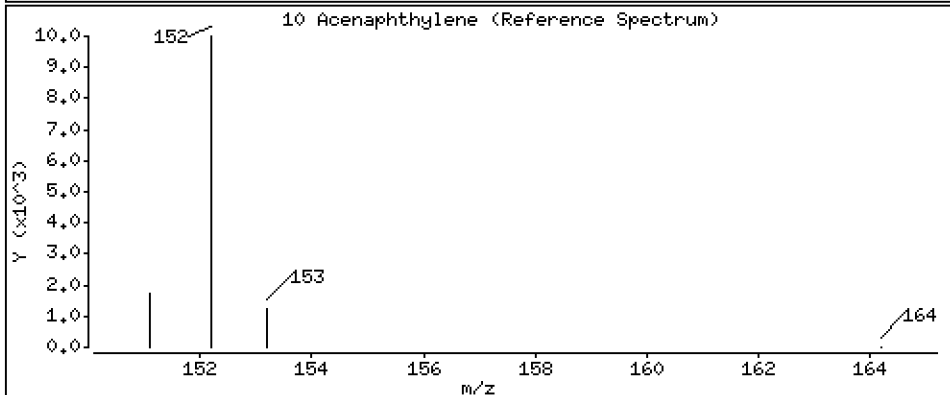
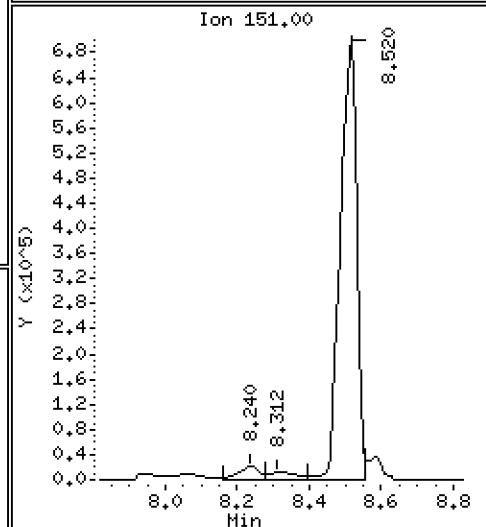
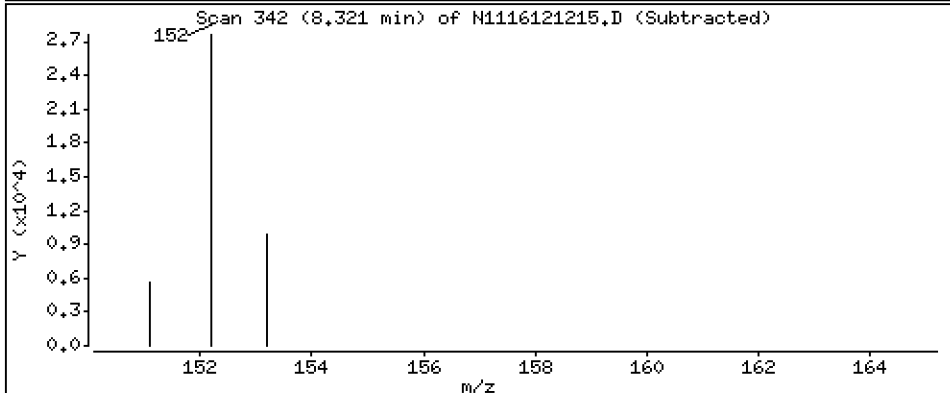
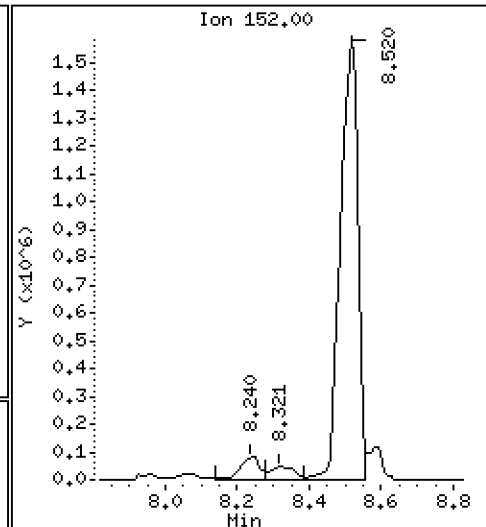
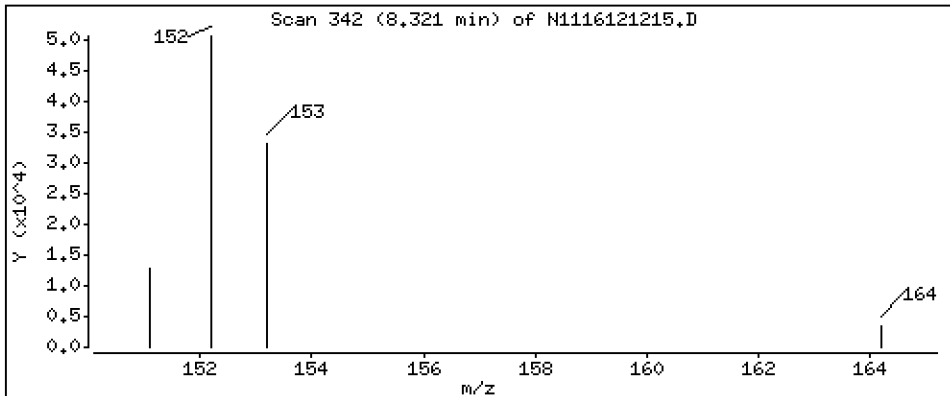
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 87,9 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

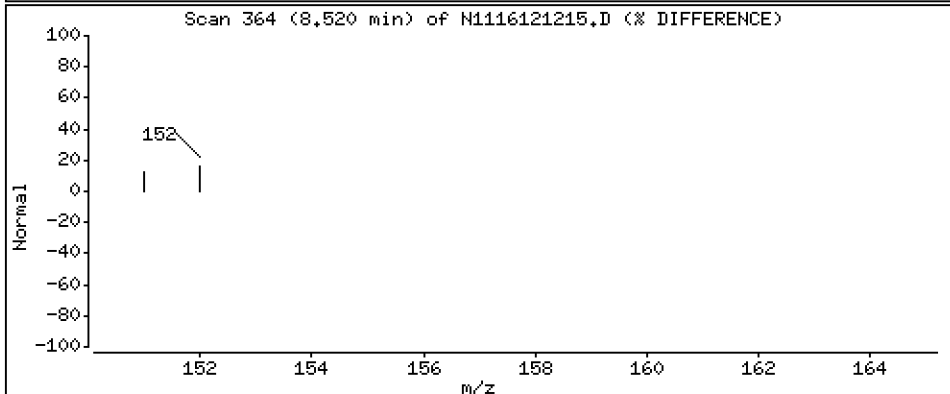
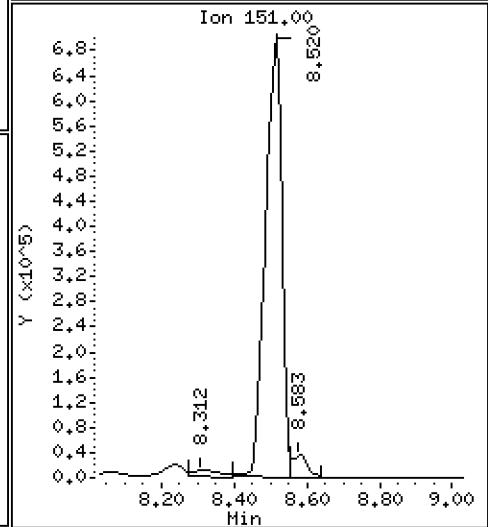
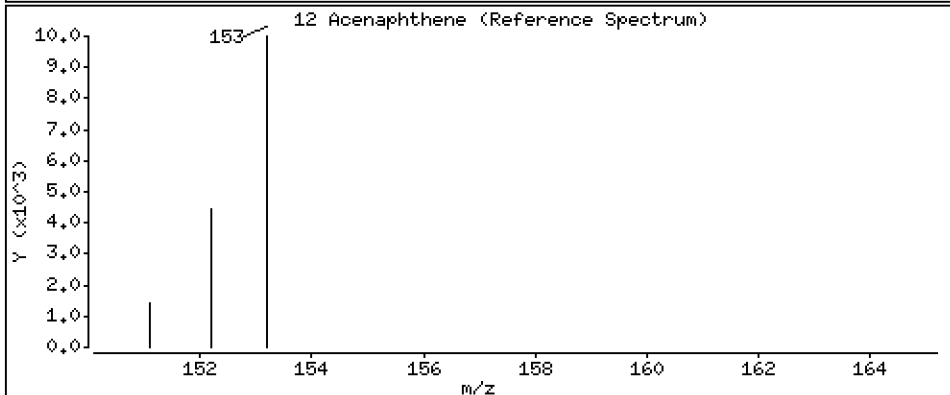
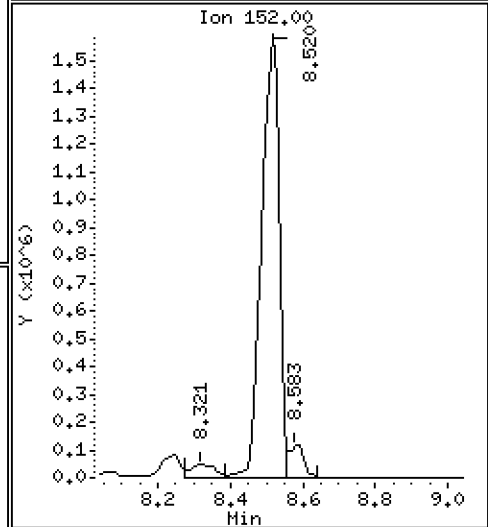
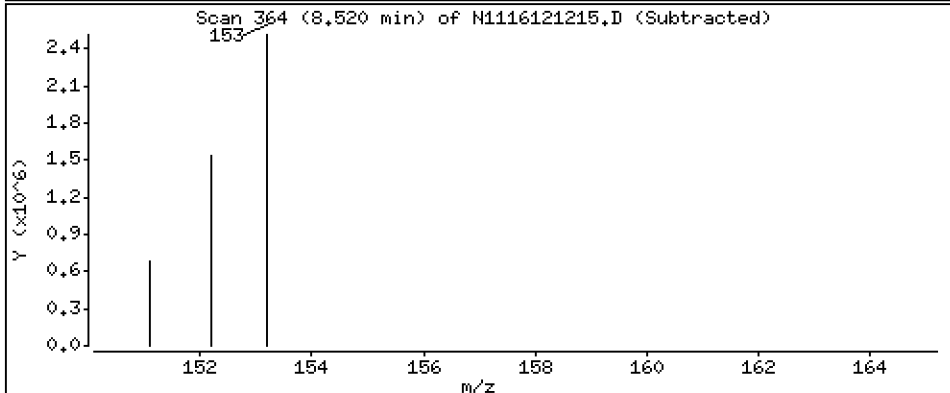
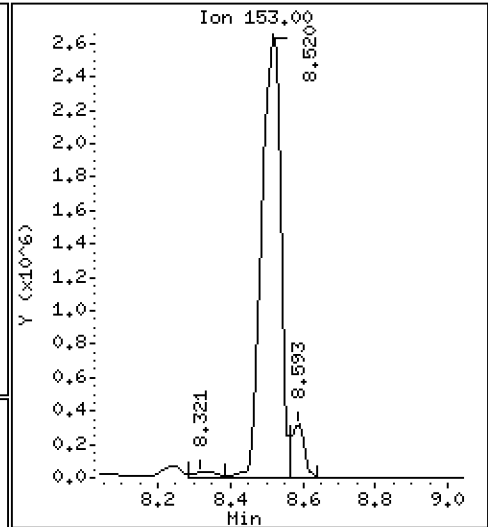
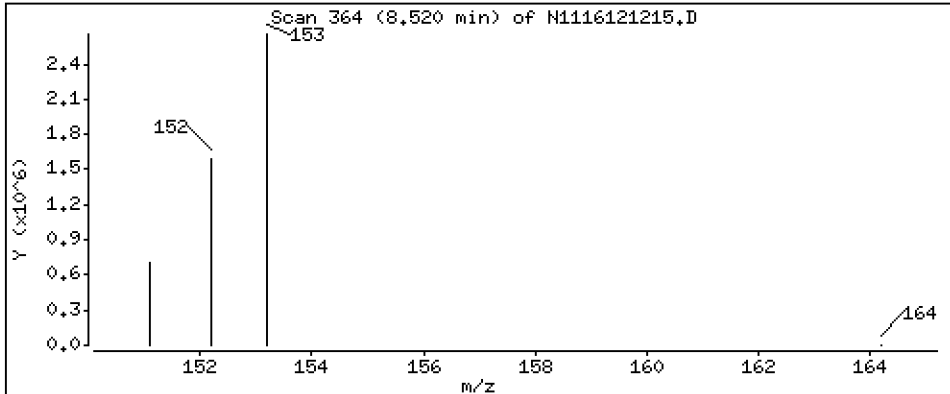
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 5510 ng/mL

12 Acenaphthene



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

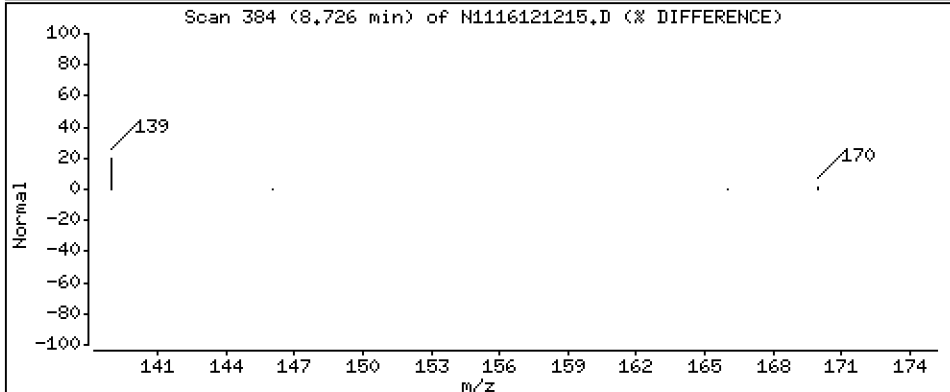
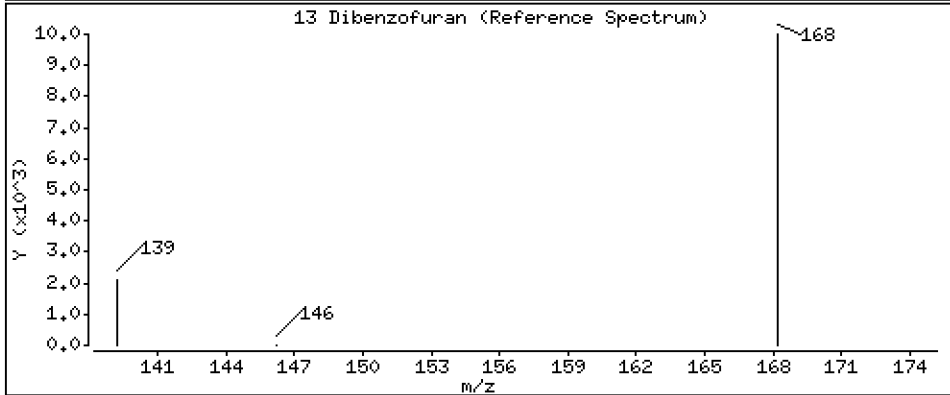
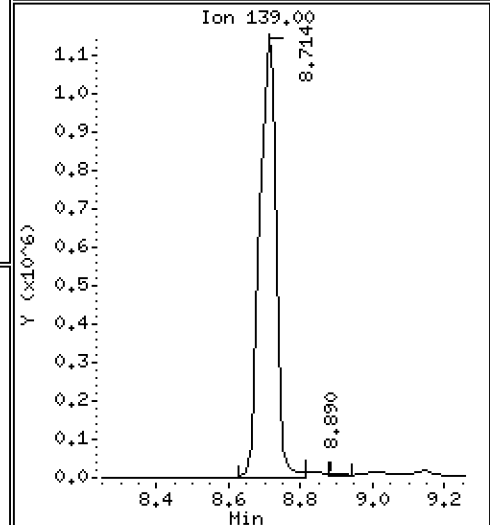
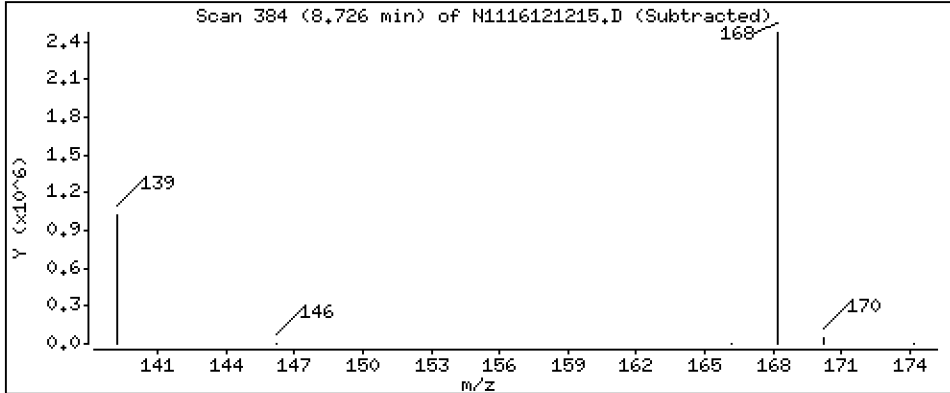
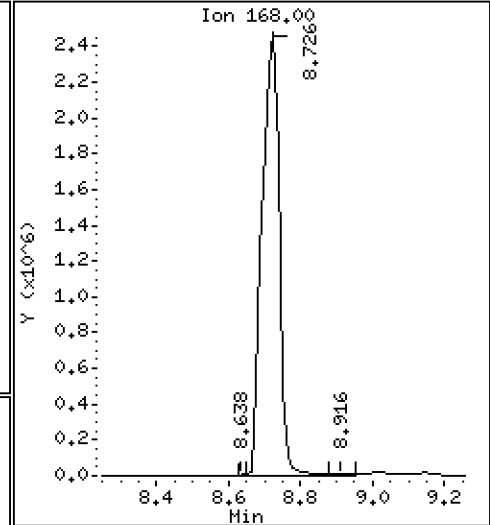
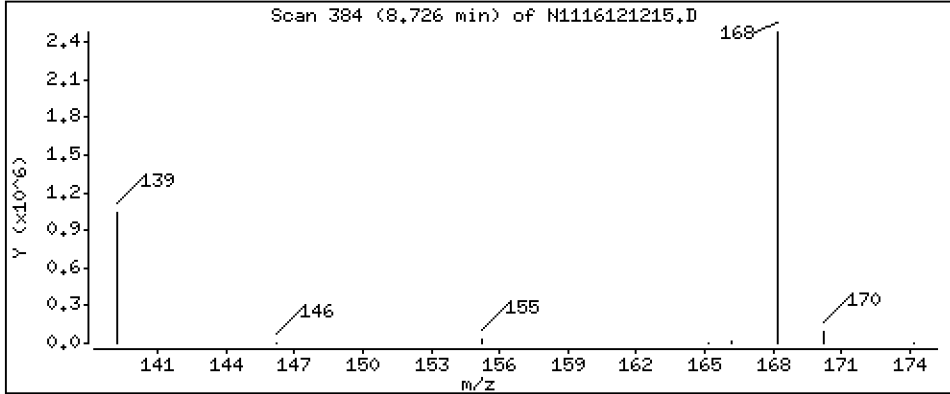
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 3320 ng/mL

13 Dibenzofuran



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

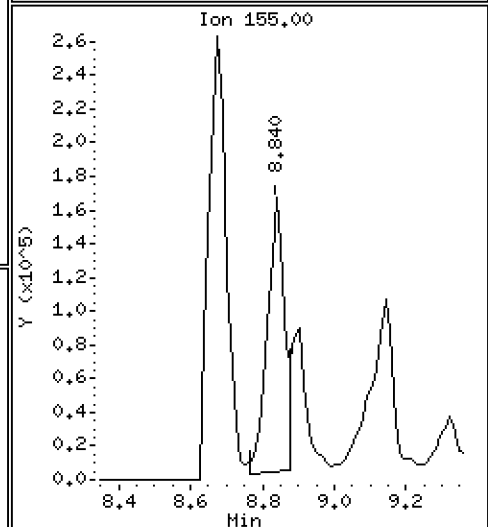
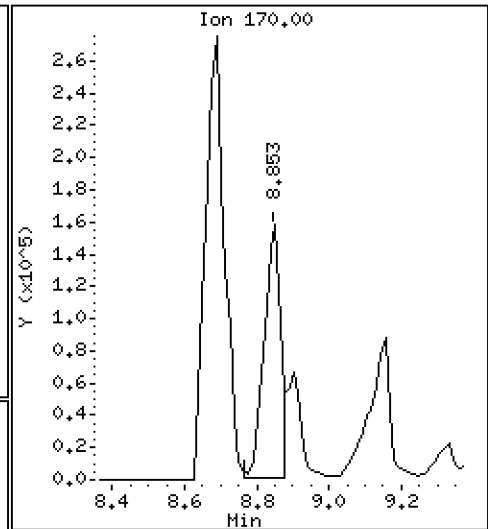
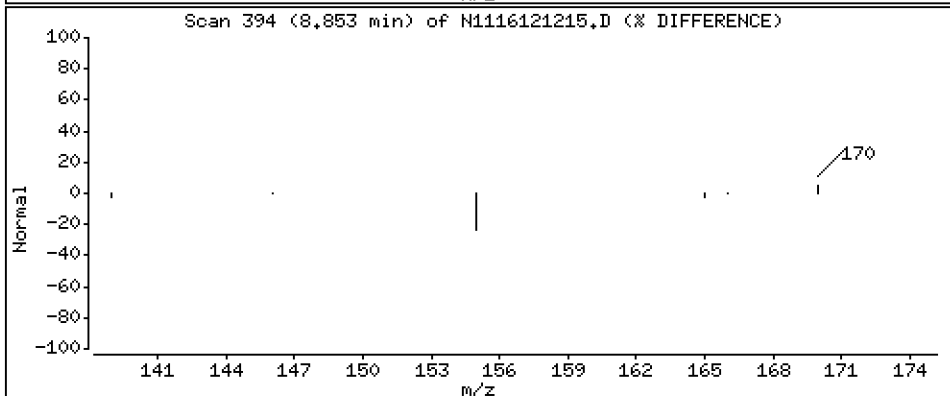
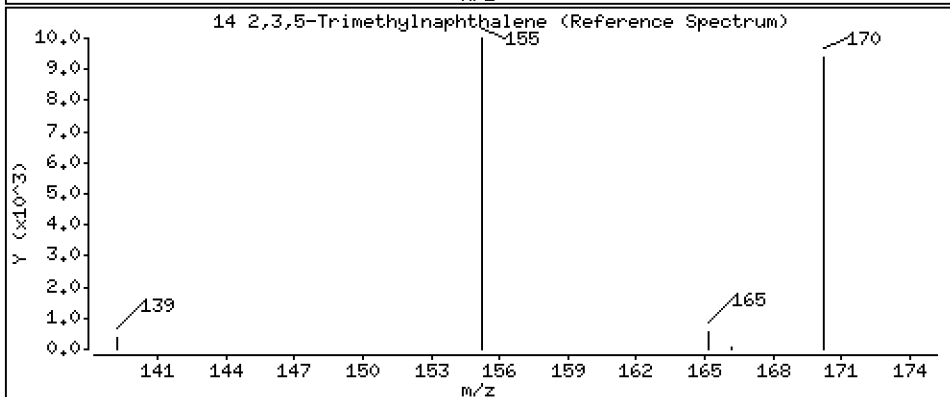
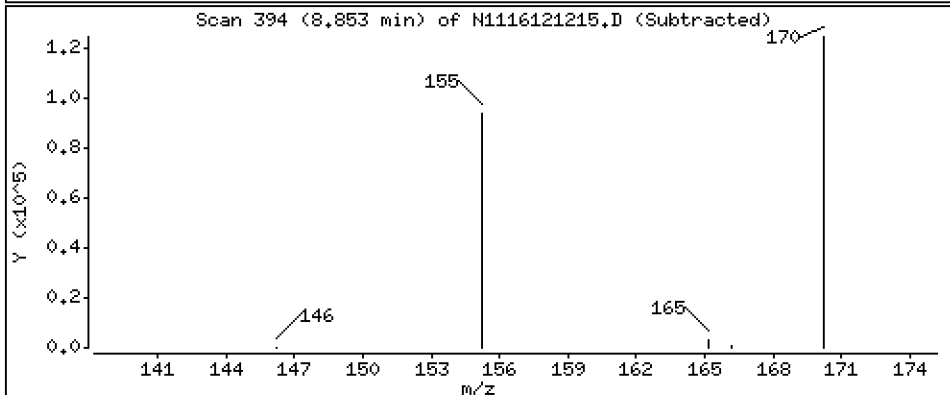
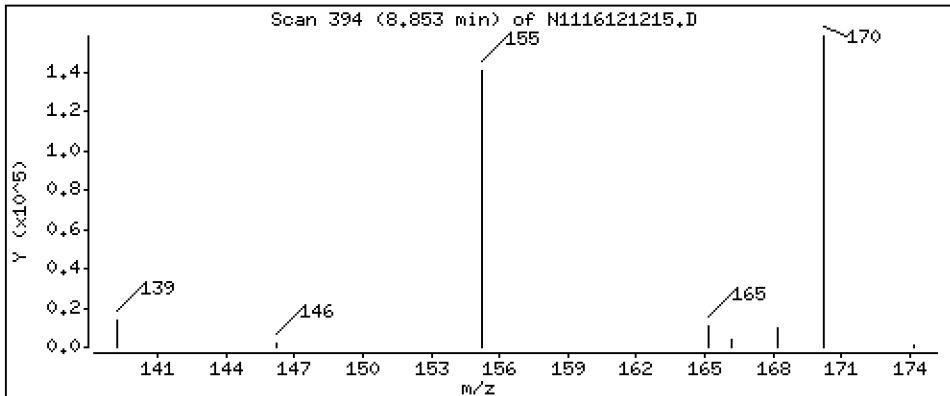
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 331 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

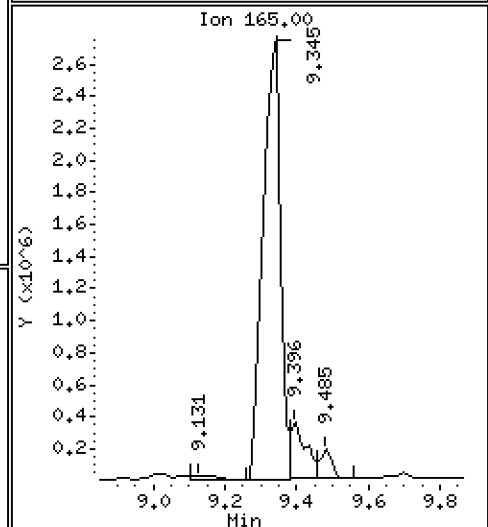
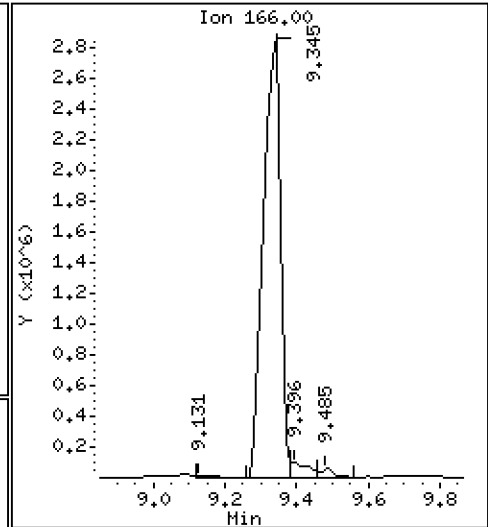
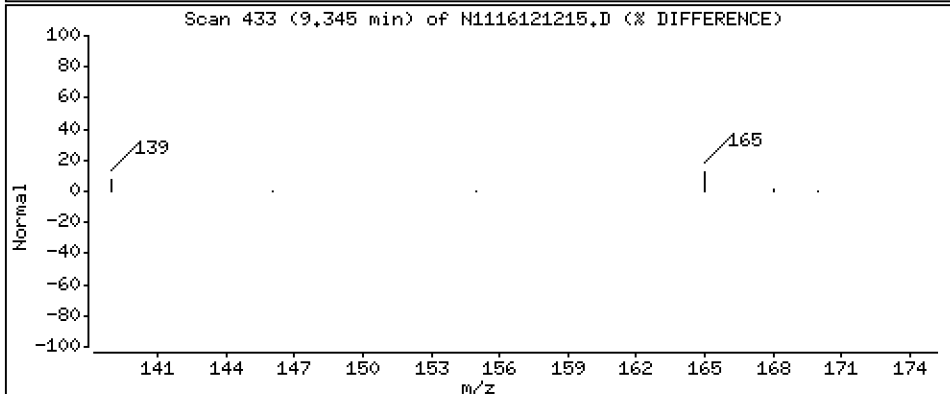
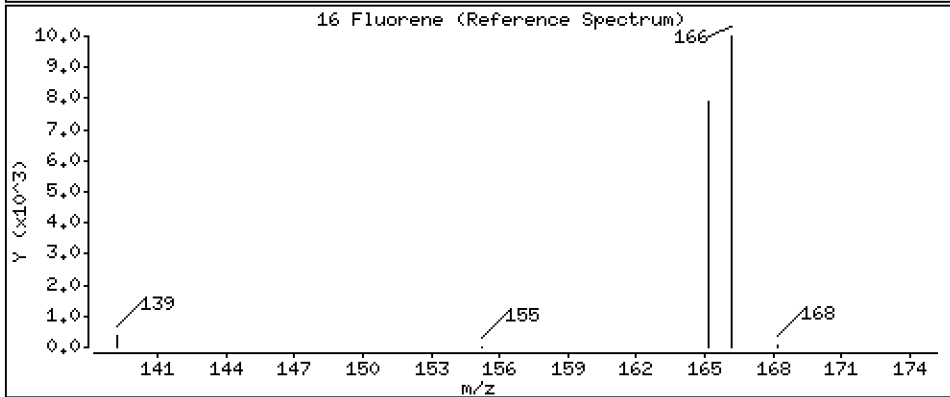
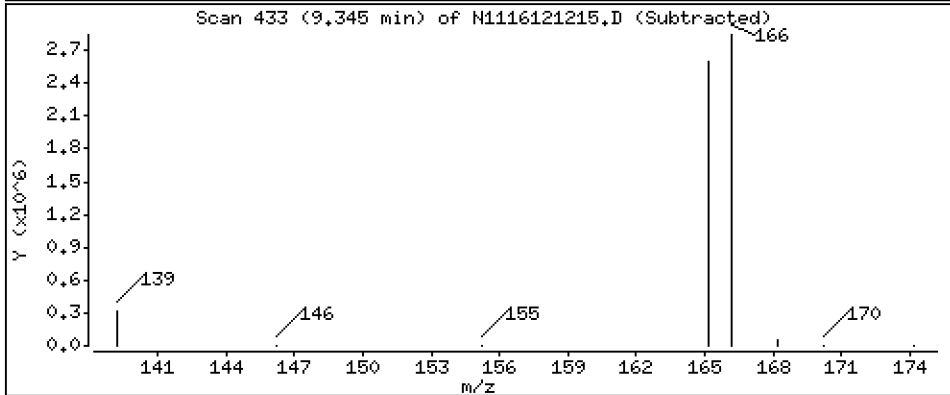
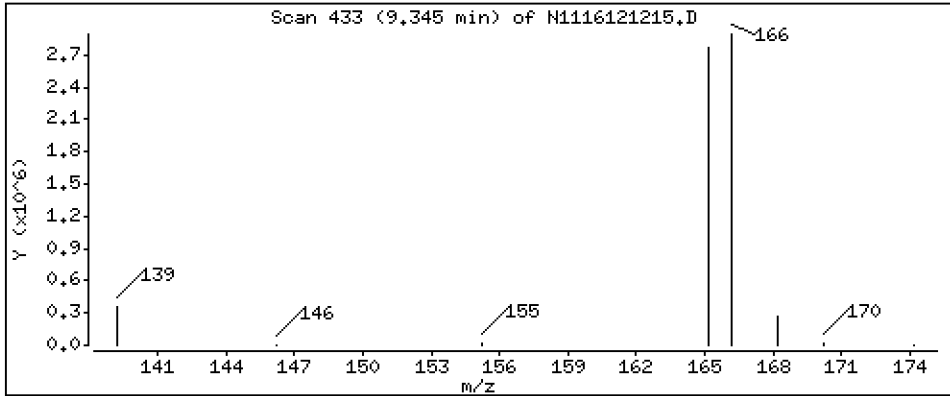
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 5100 ng/mL

16 Fluorene



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

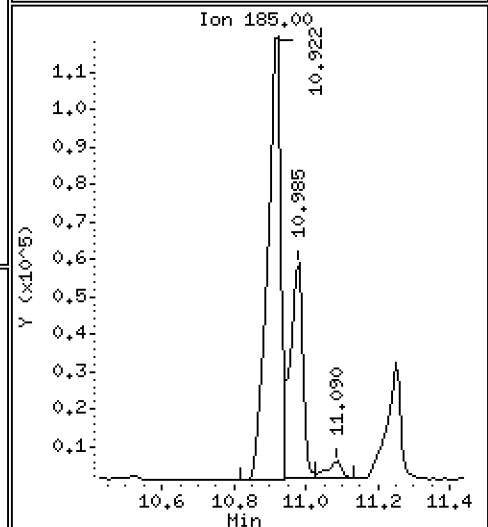
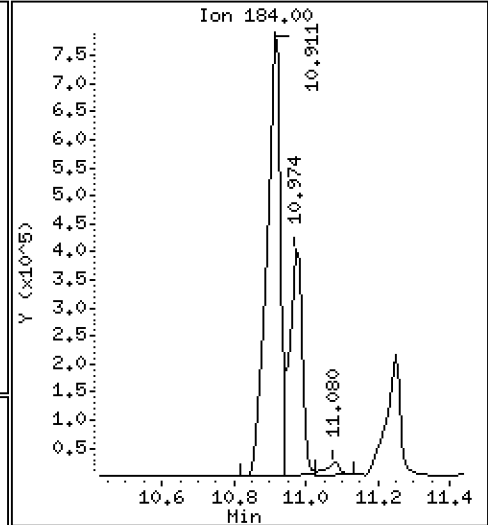
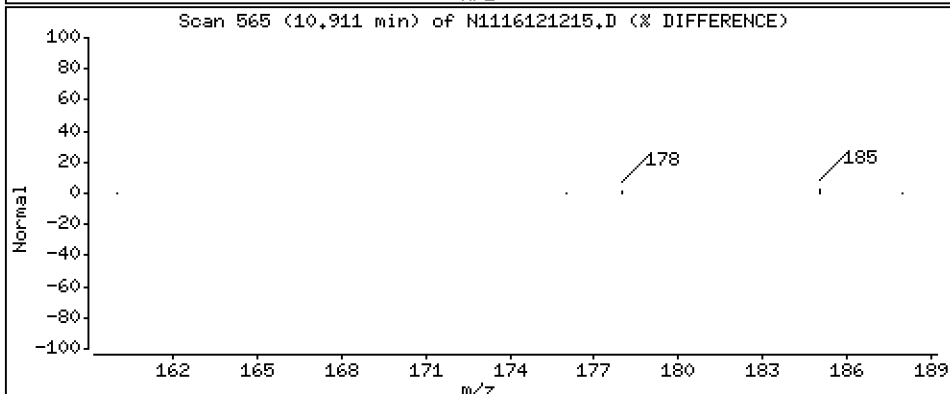
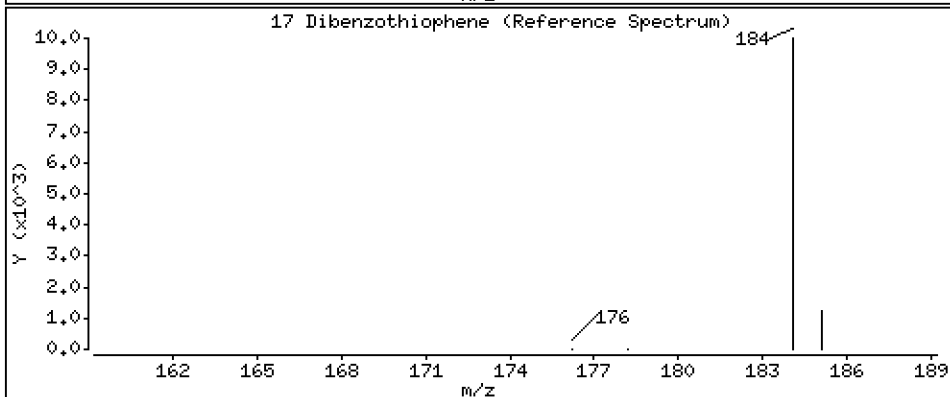
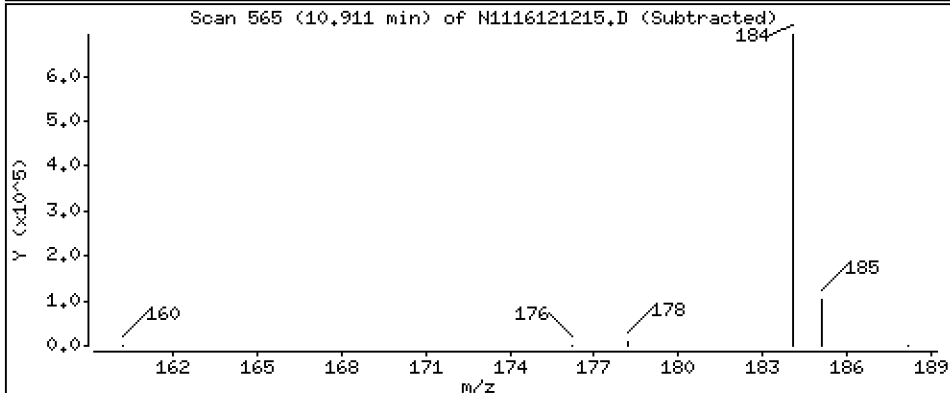
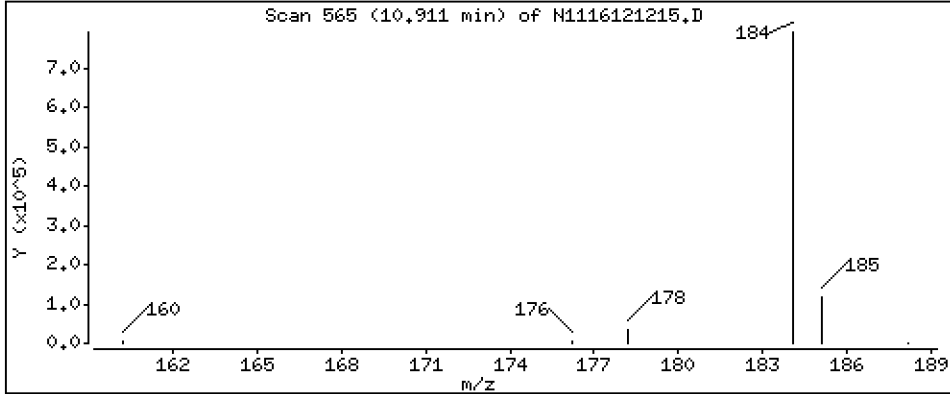
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 947 ng/mL

17 Dibenzothiophene



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

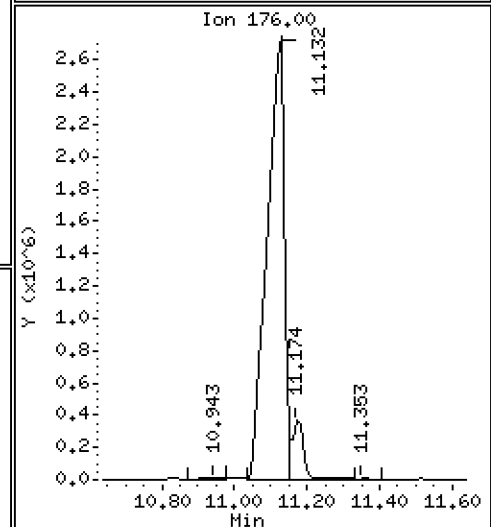
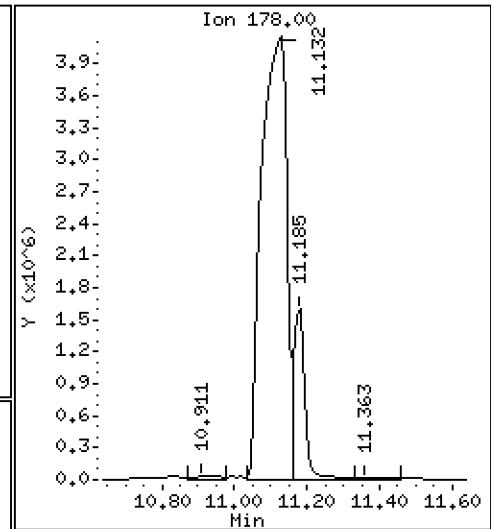
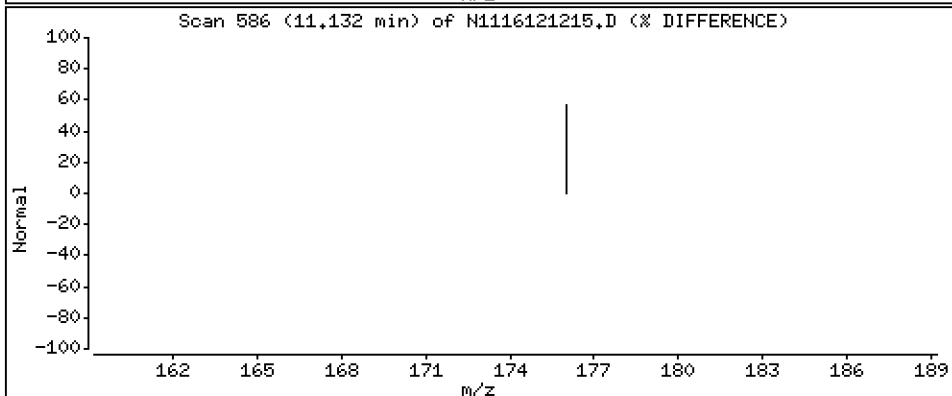
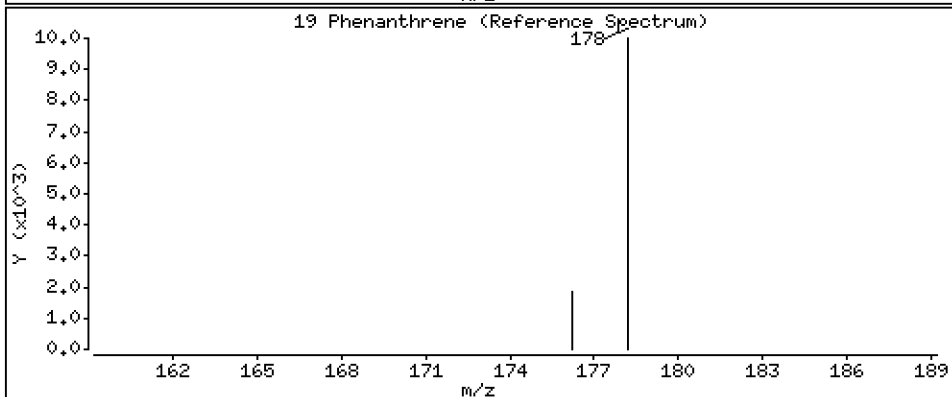
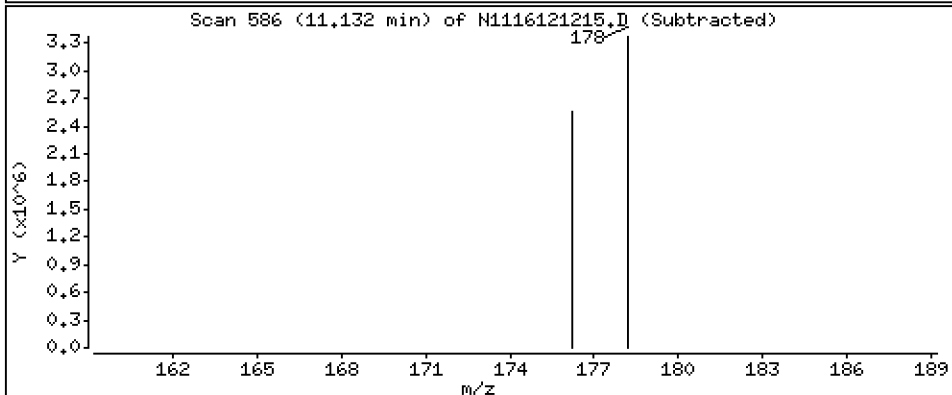
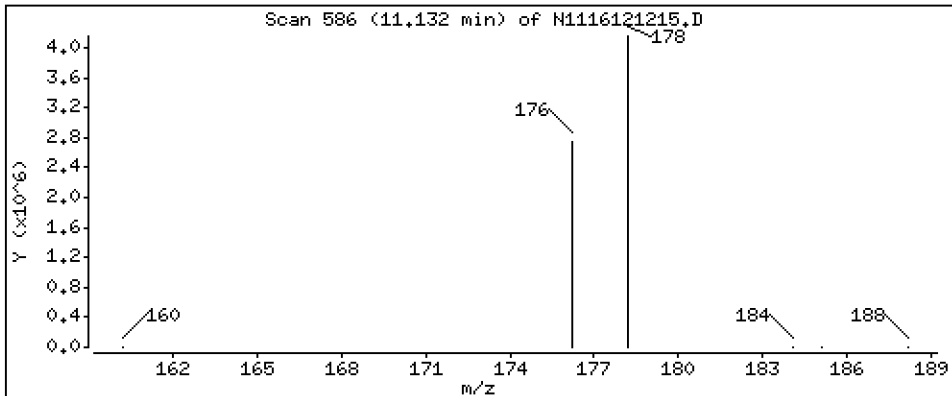
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 7090 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

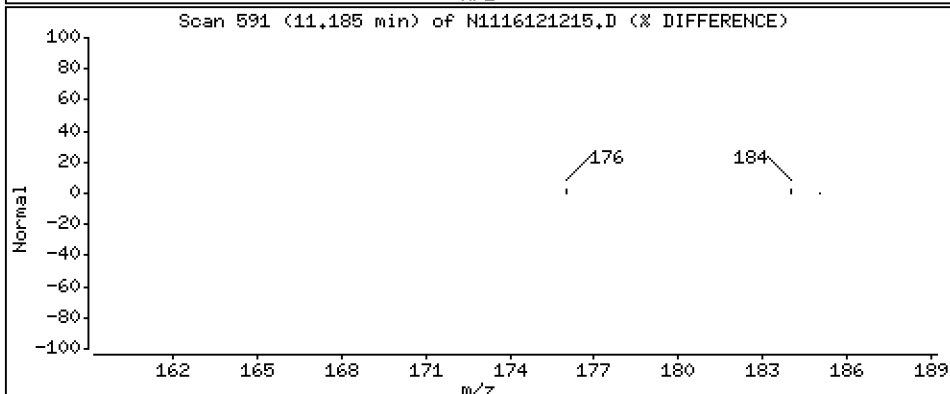
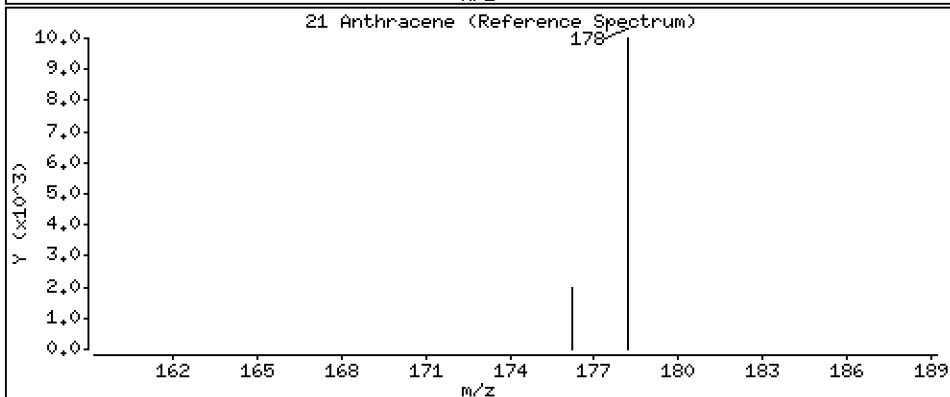
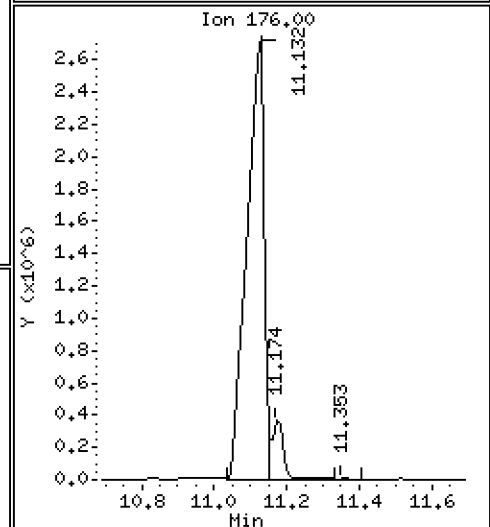
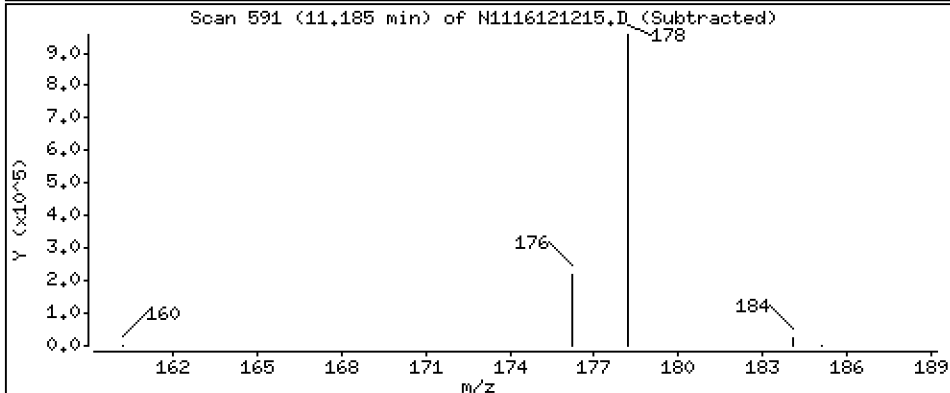
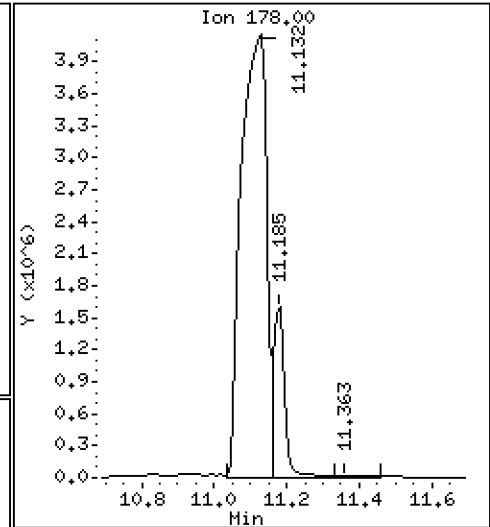
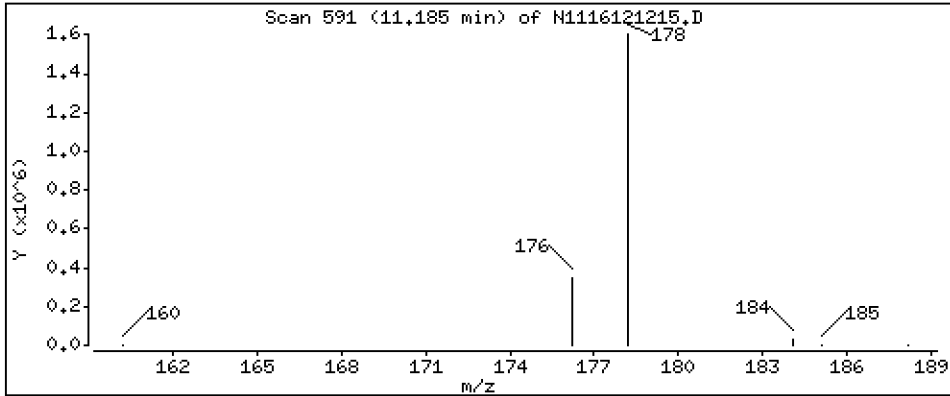
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 1330 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

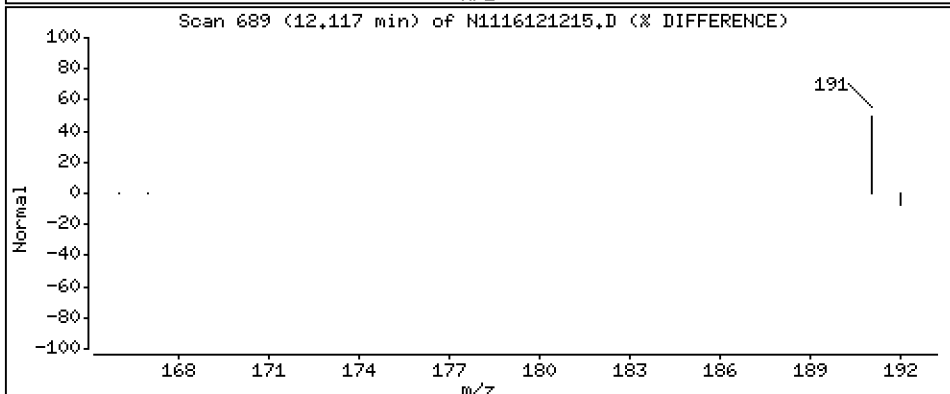
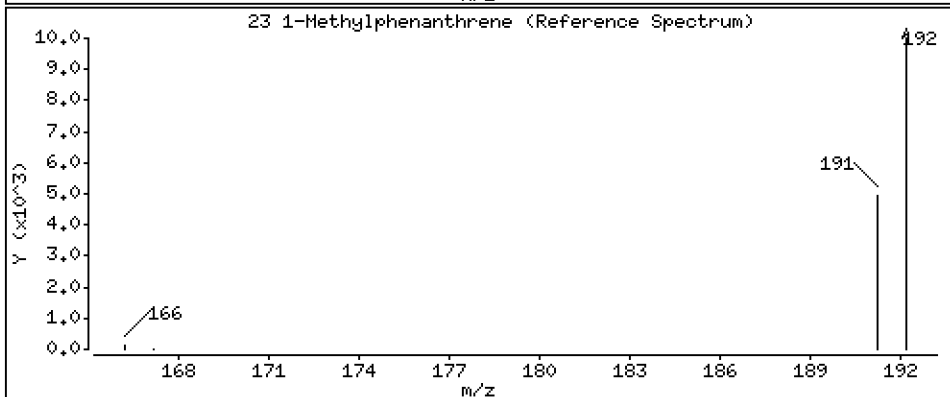
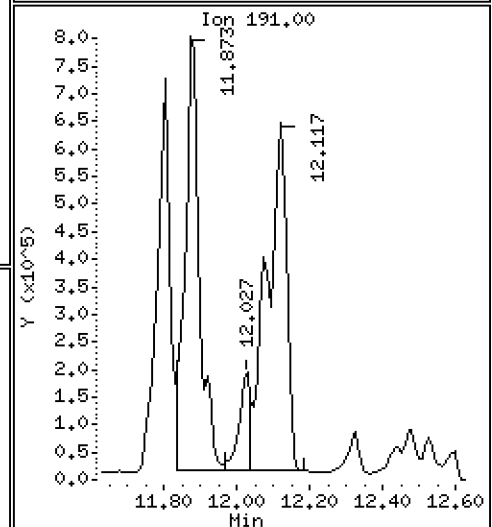
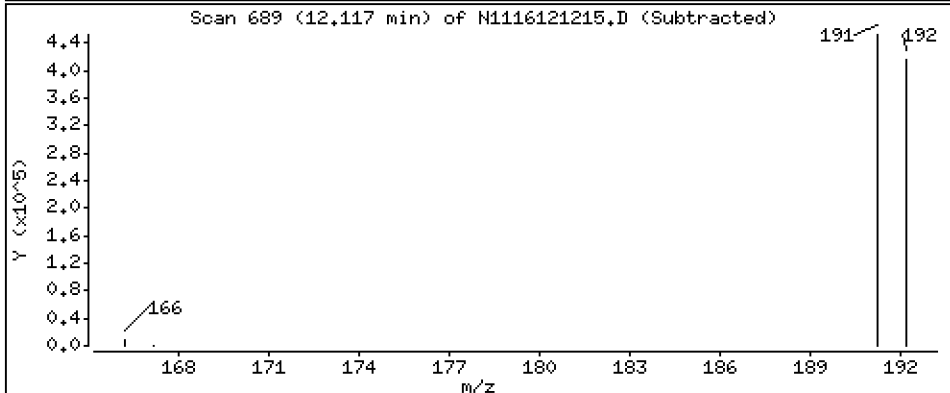
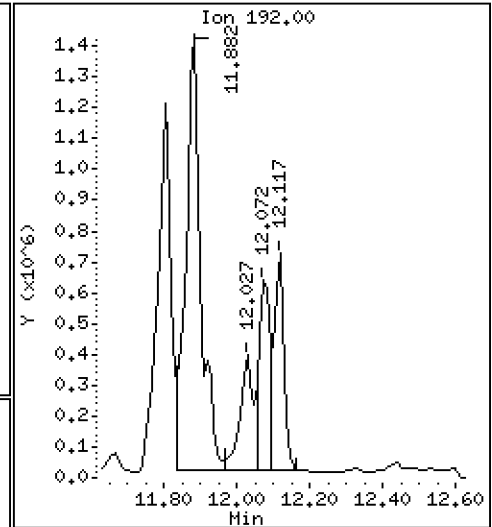
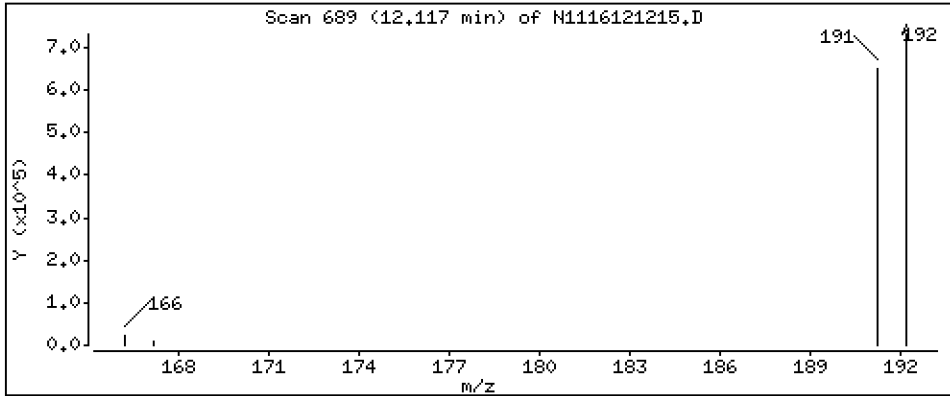
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 598 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

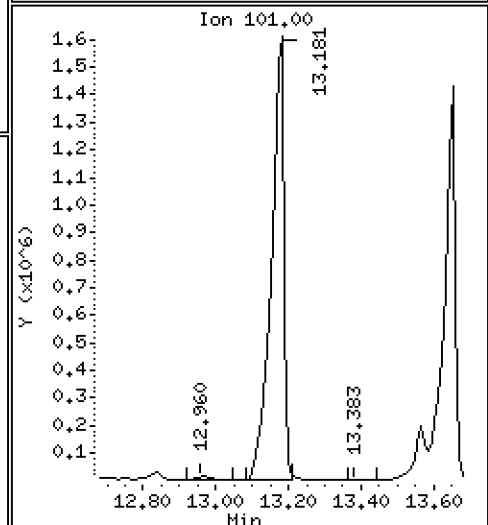
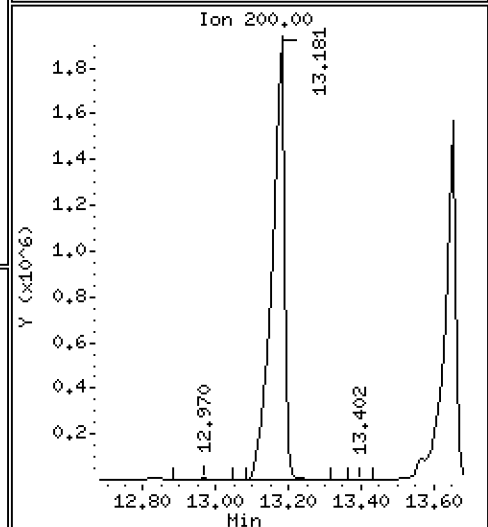
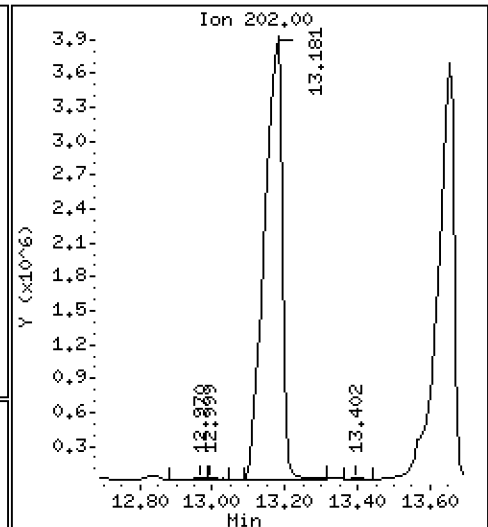
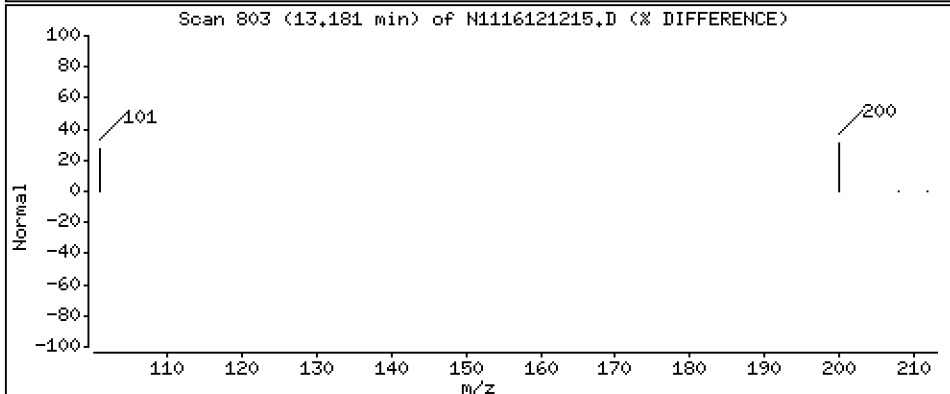
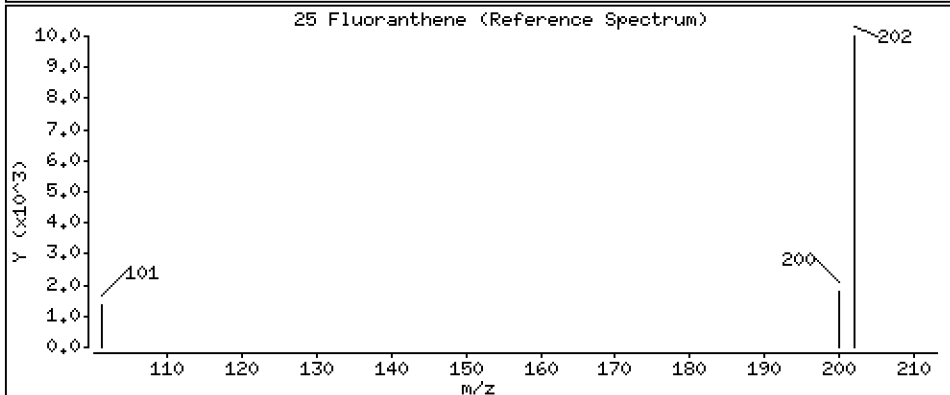
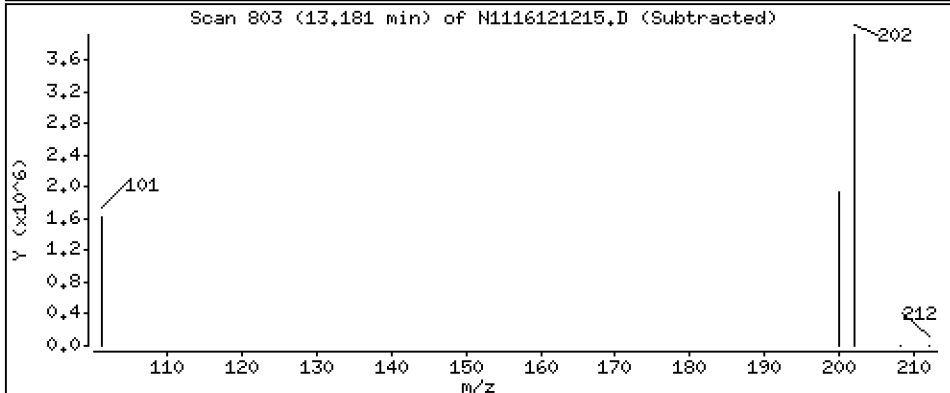
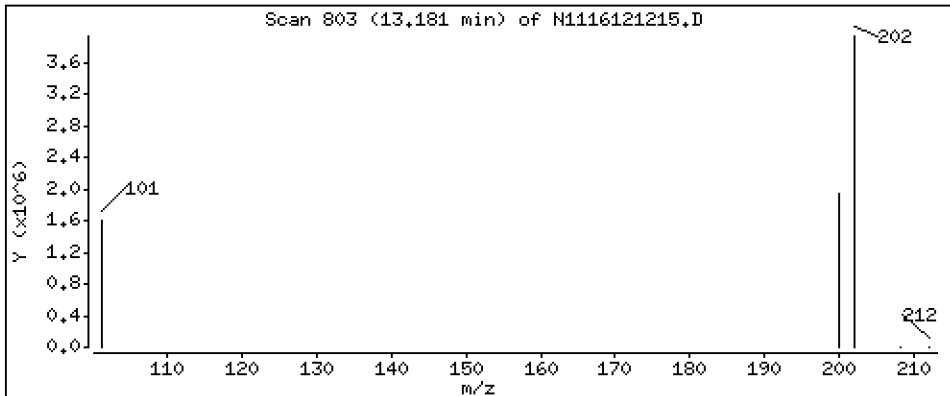
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 4940 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

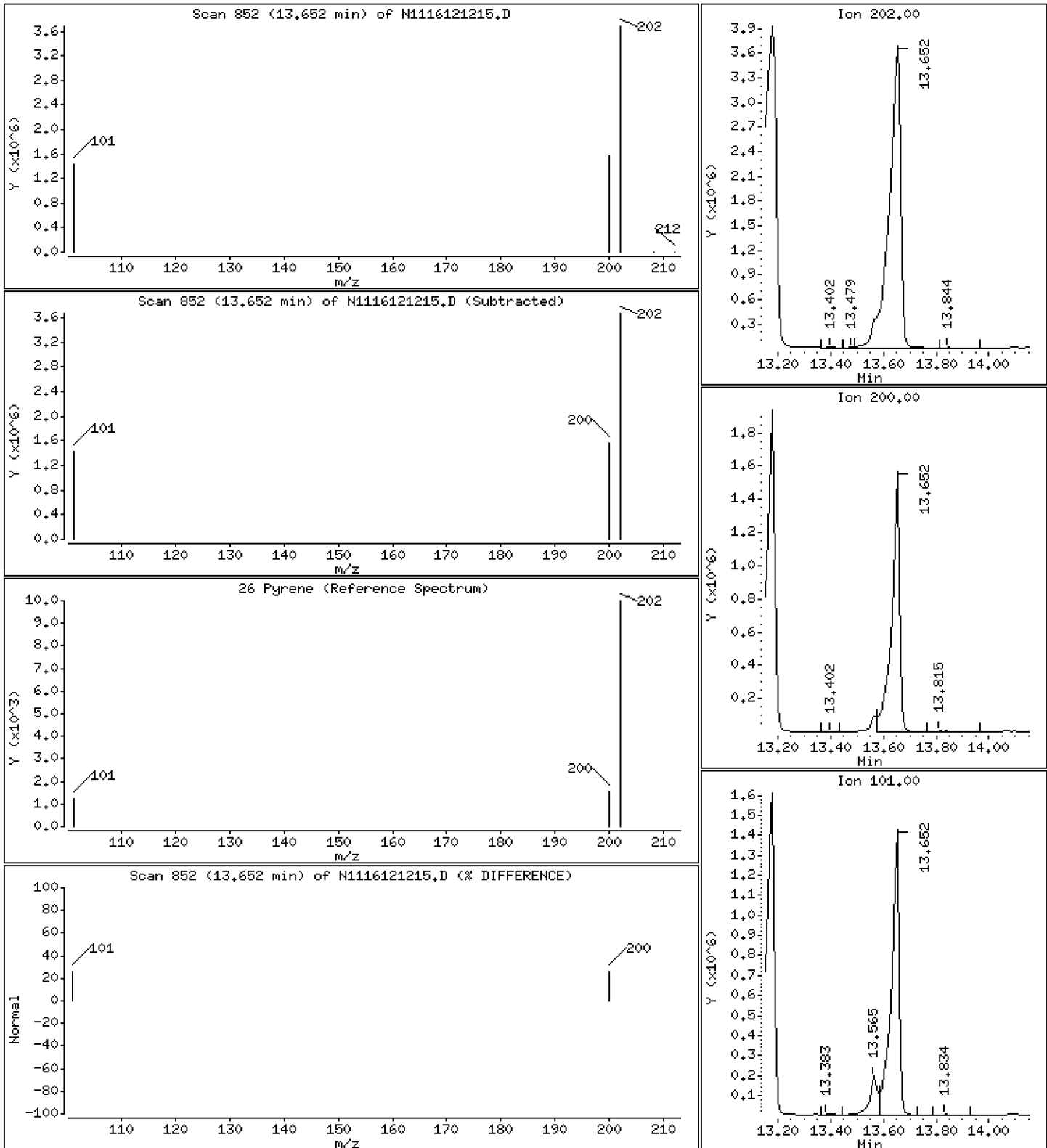
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 4430 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

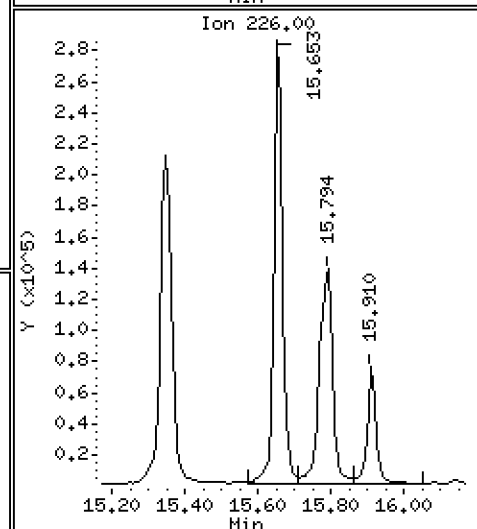
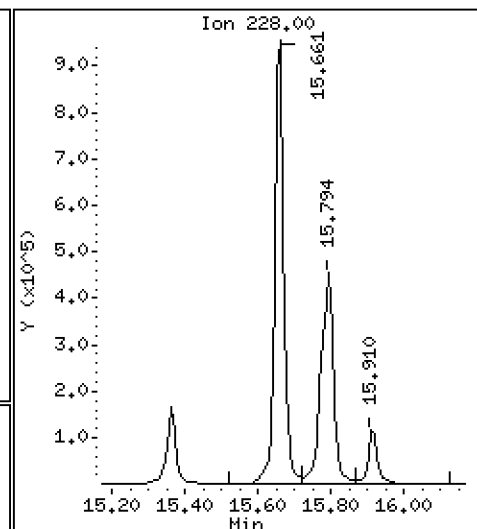
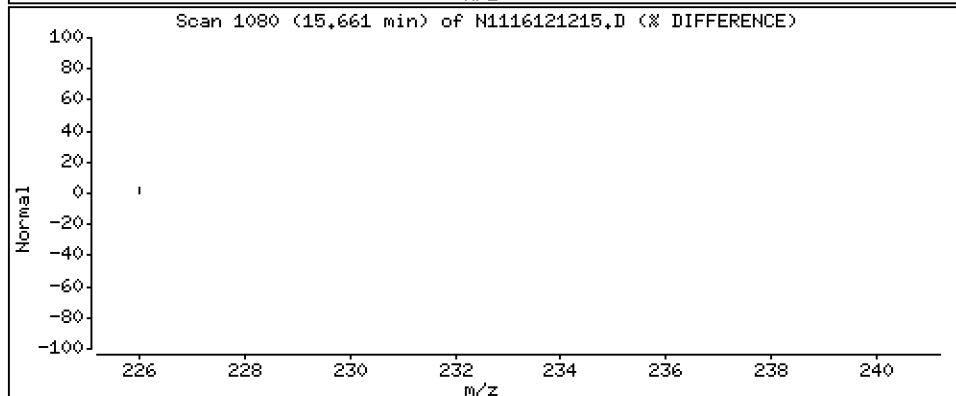
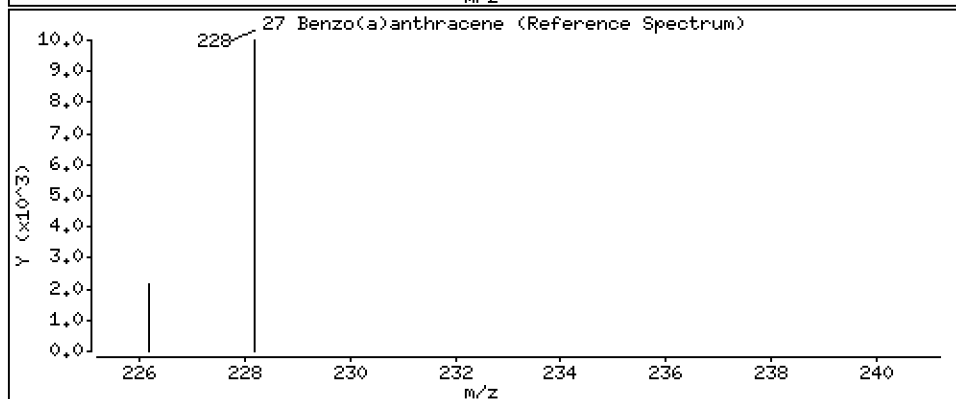
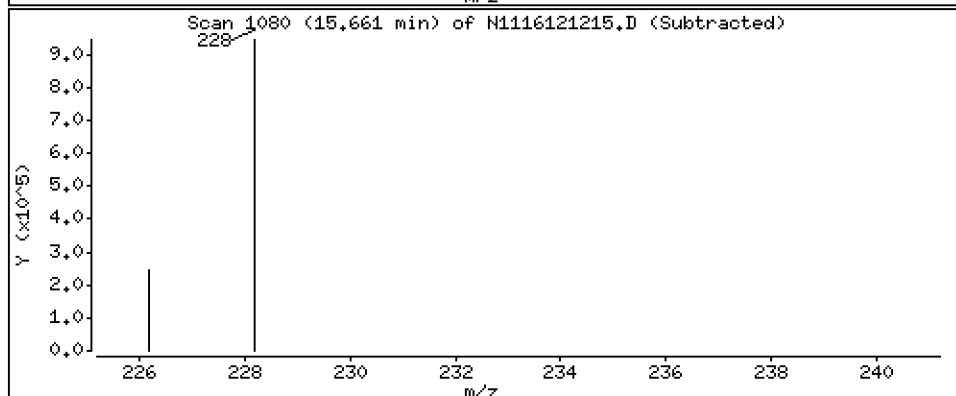
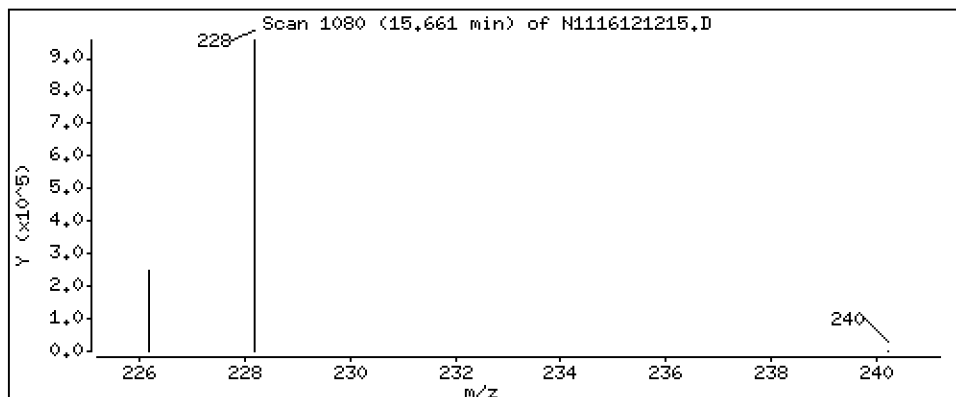
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 750 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

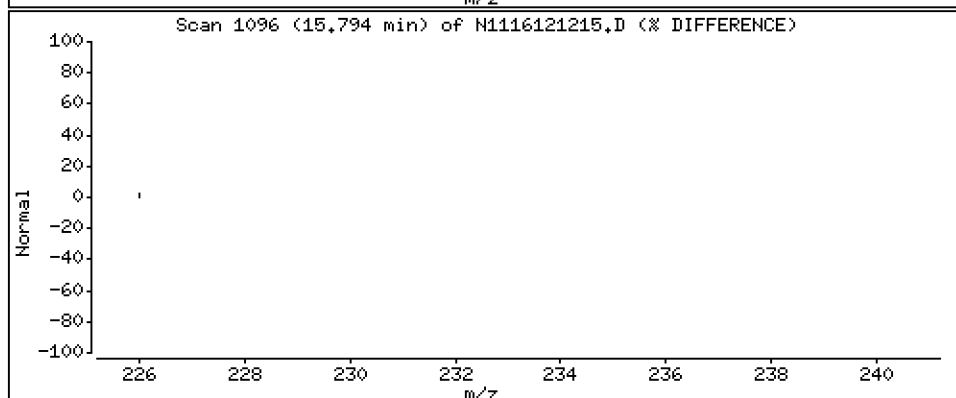
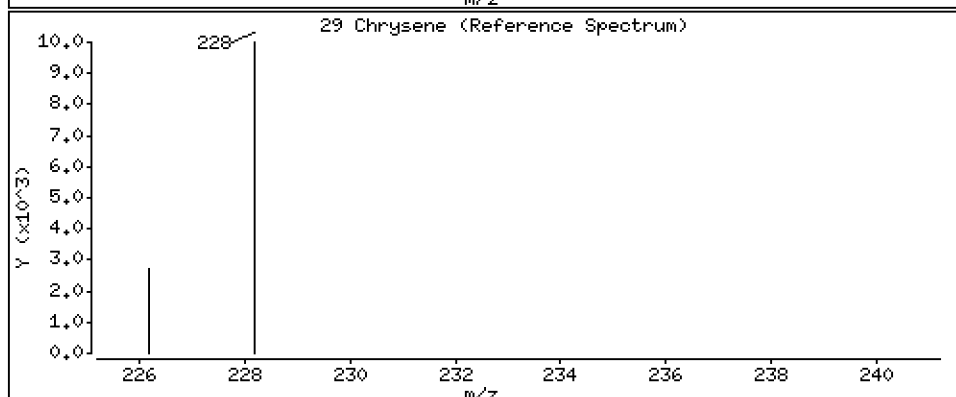
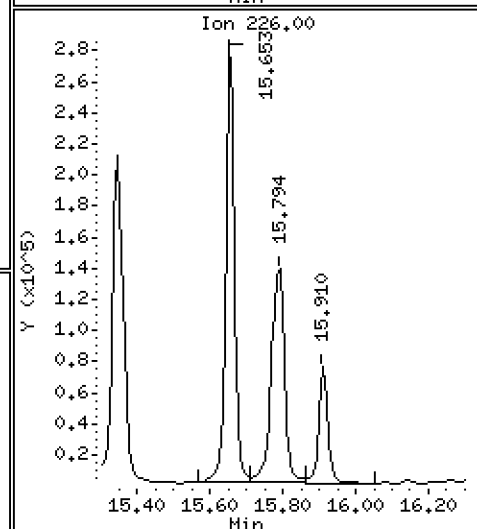
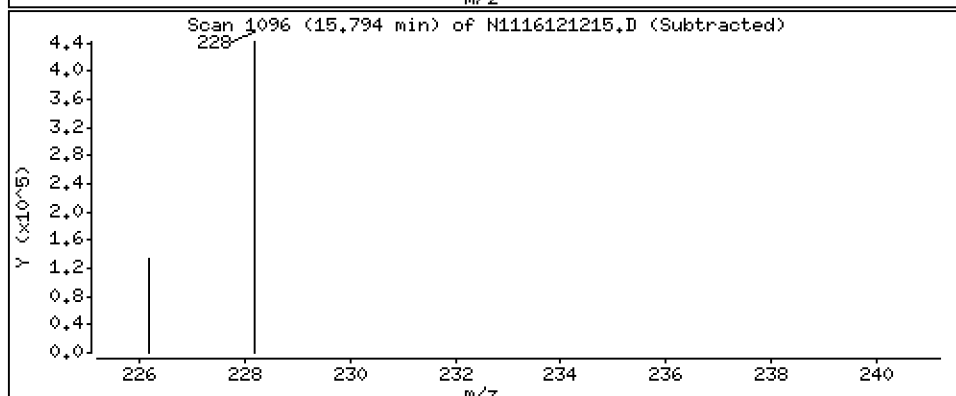
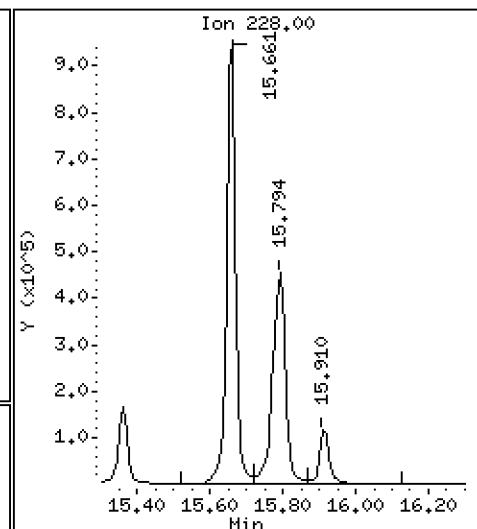
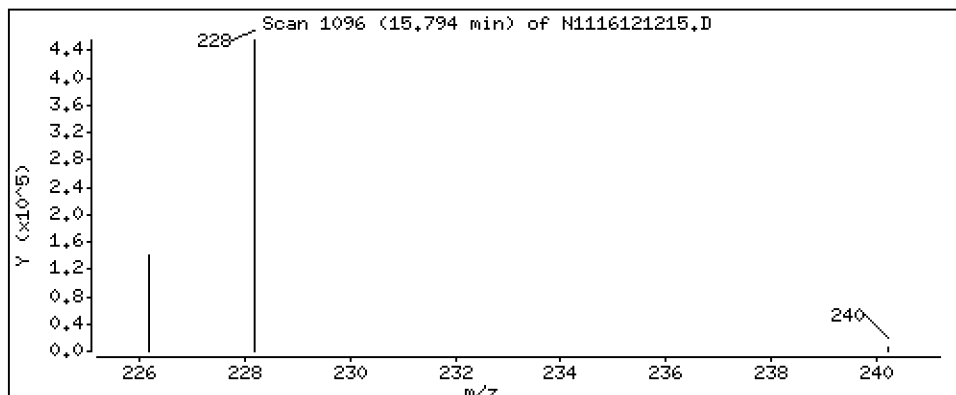
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 443 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

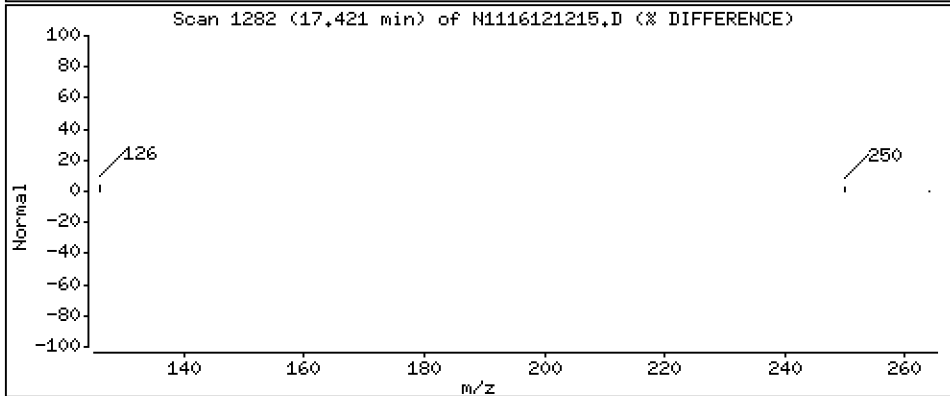
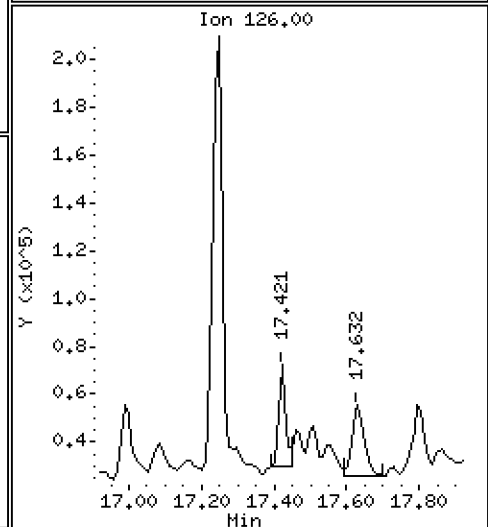
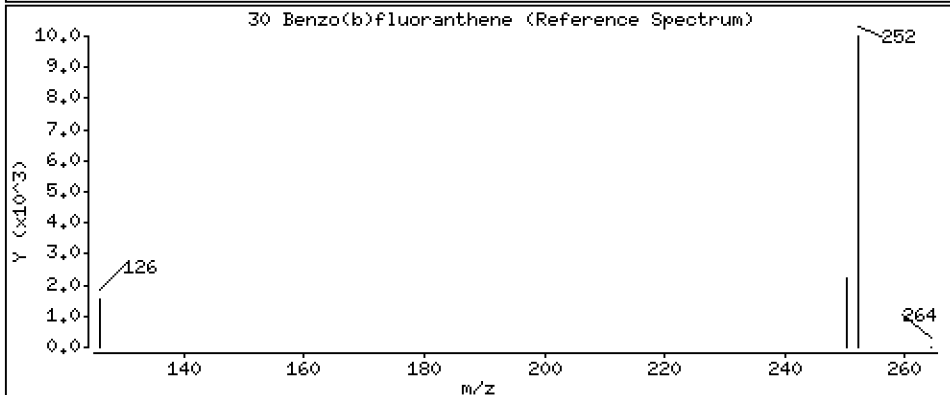
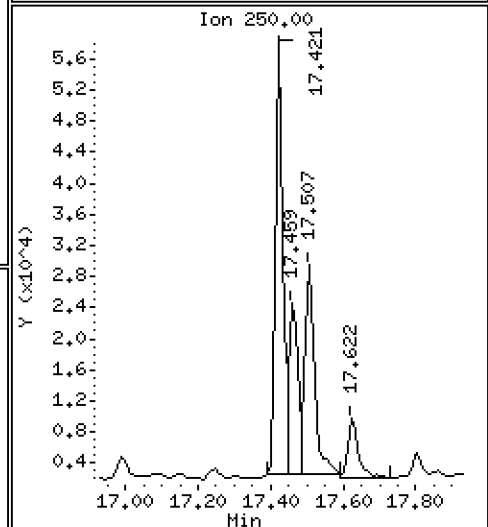
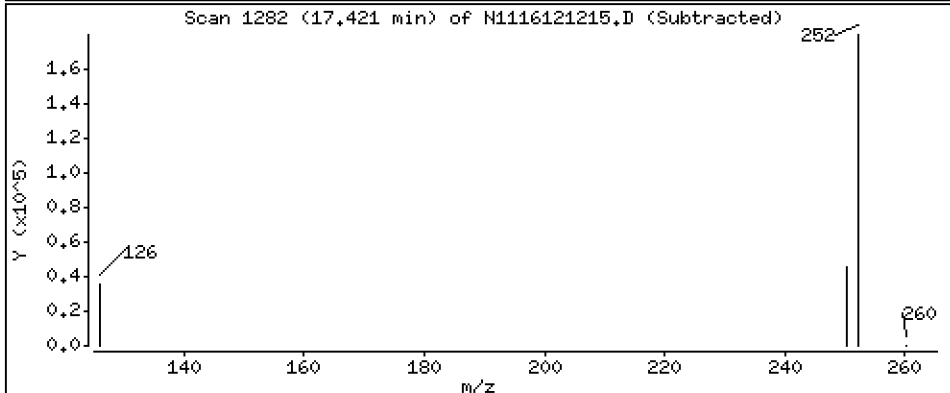
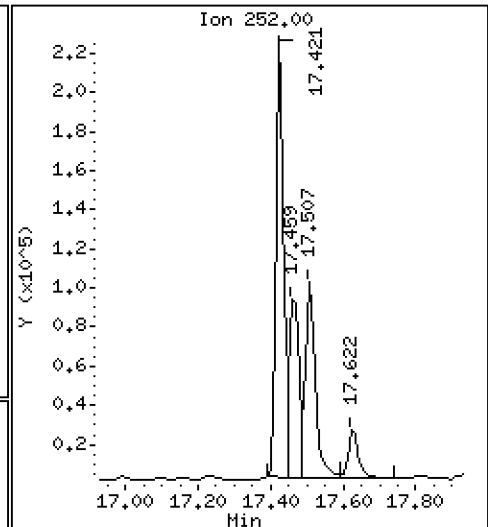
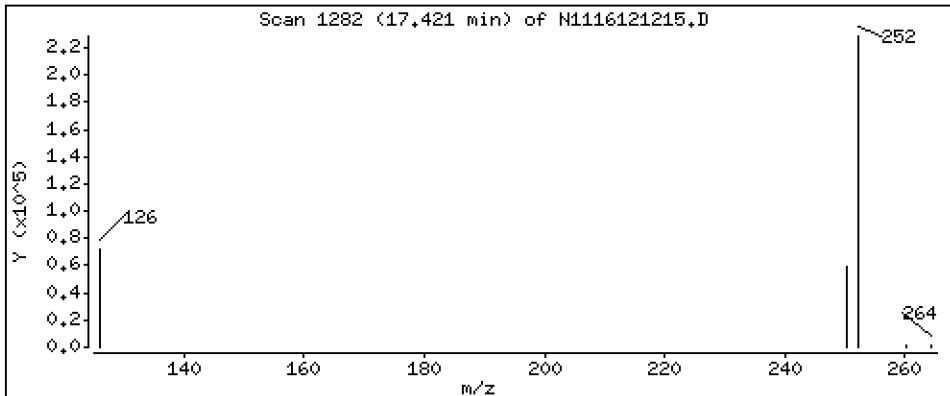
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 169 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

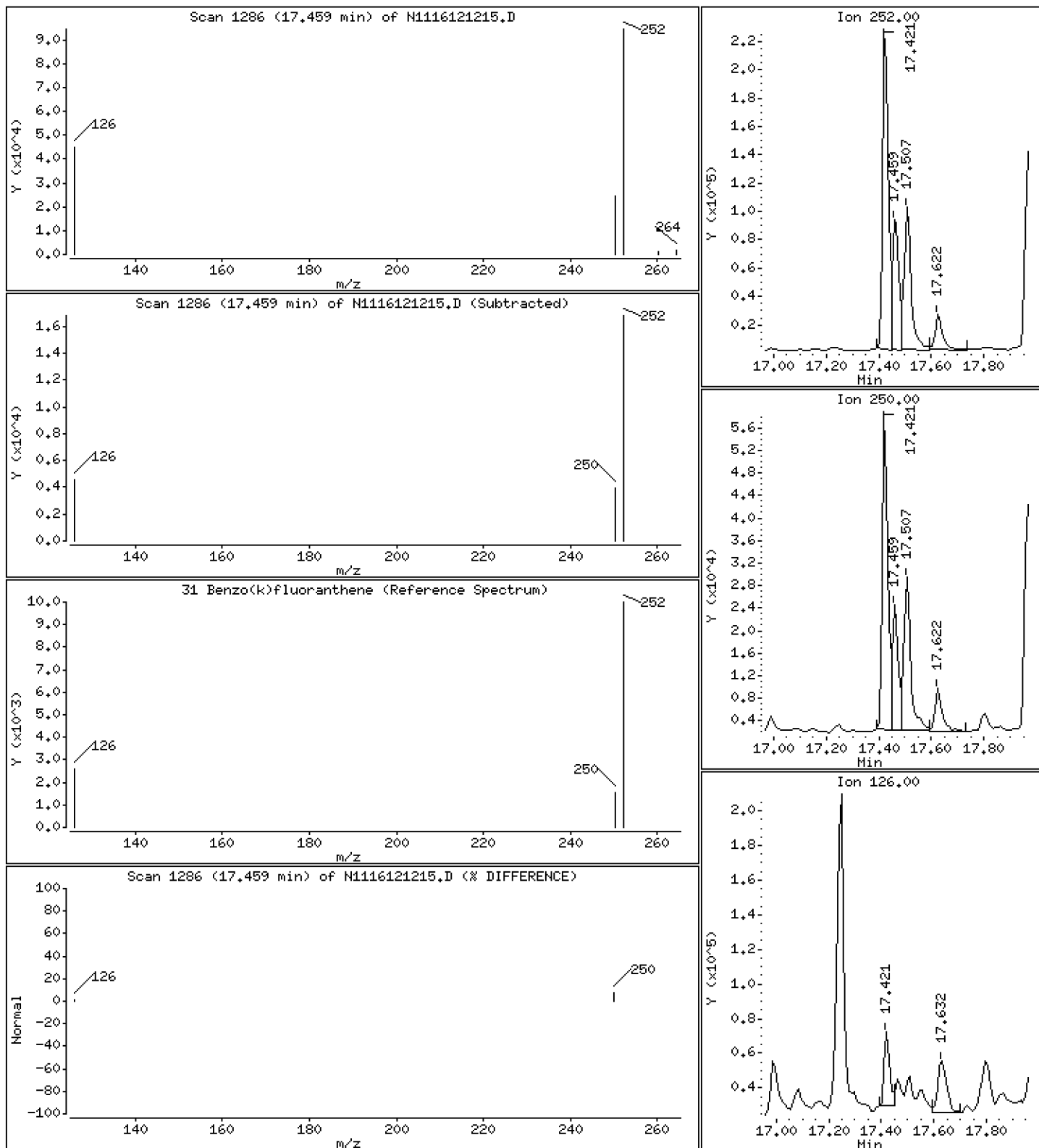
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 75,8 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

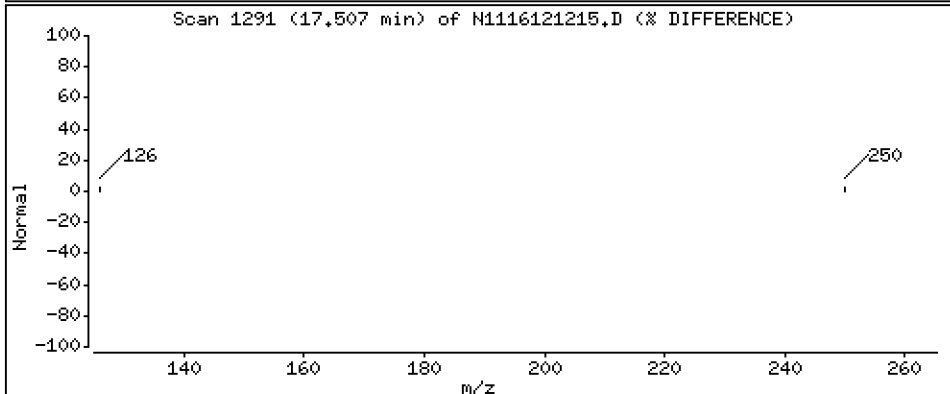
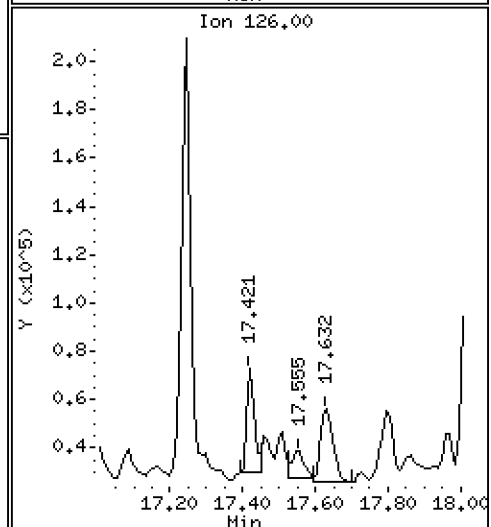
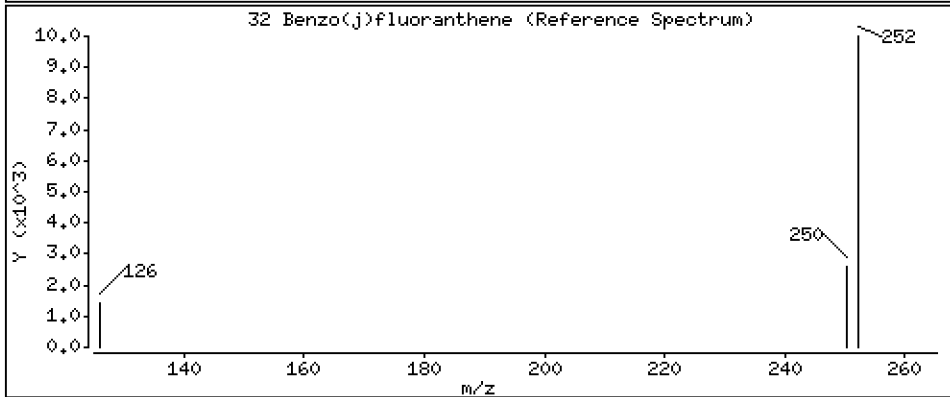
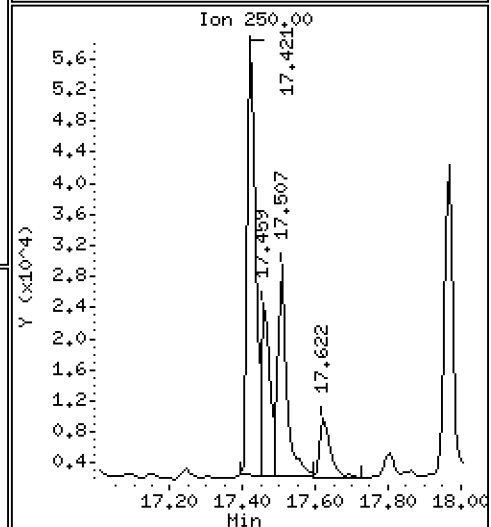
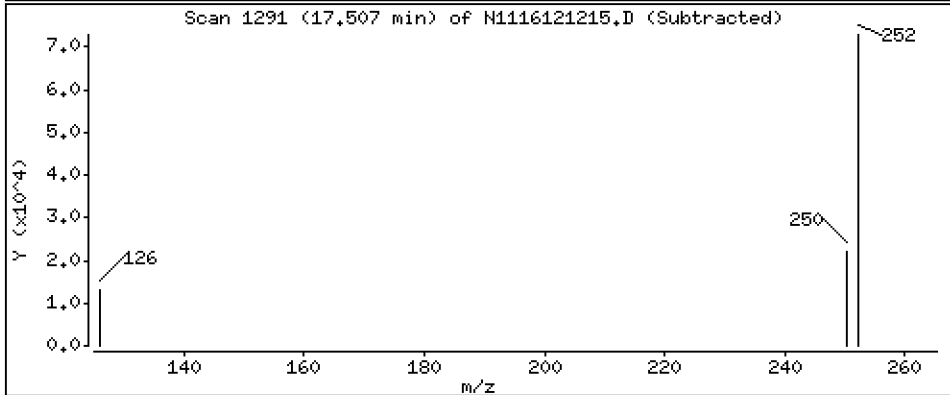
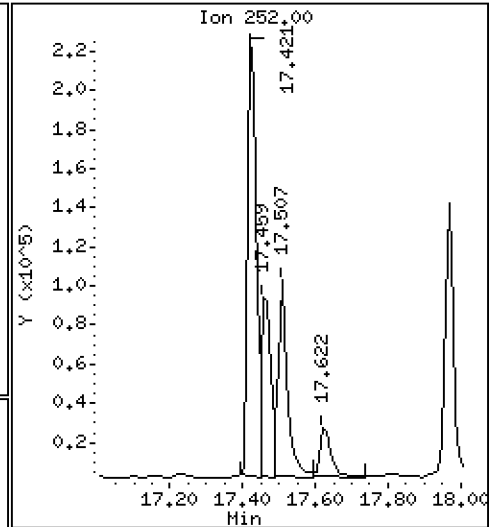
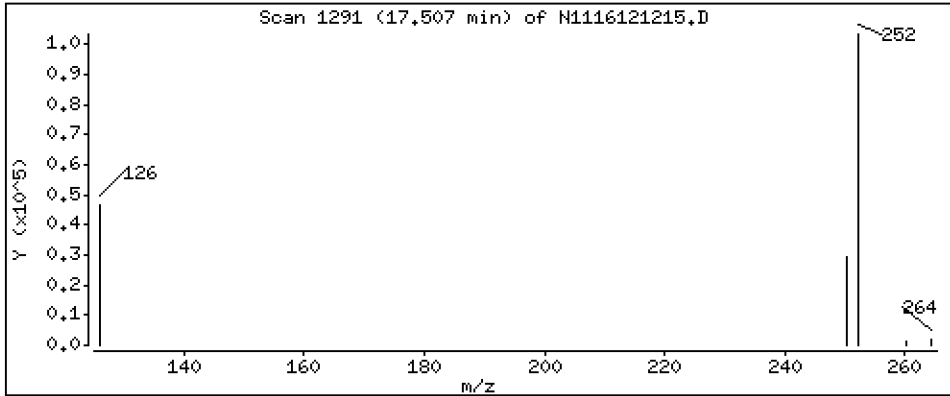
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 86,7 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

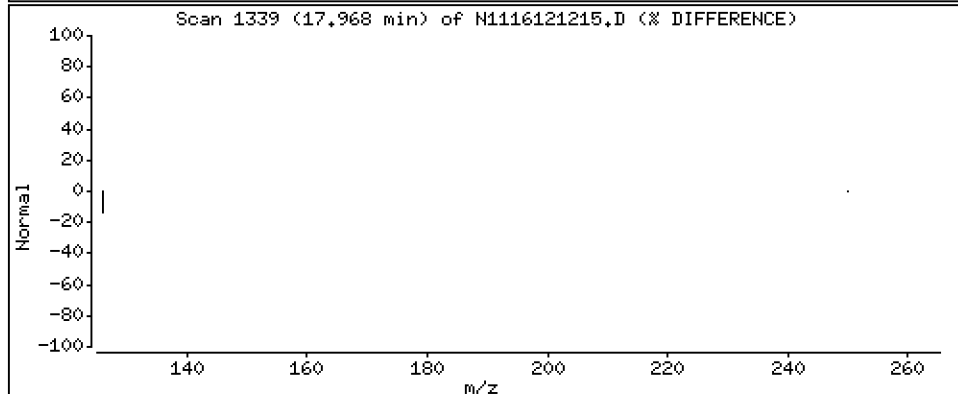
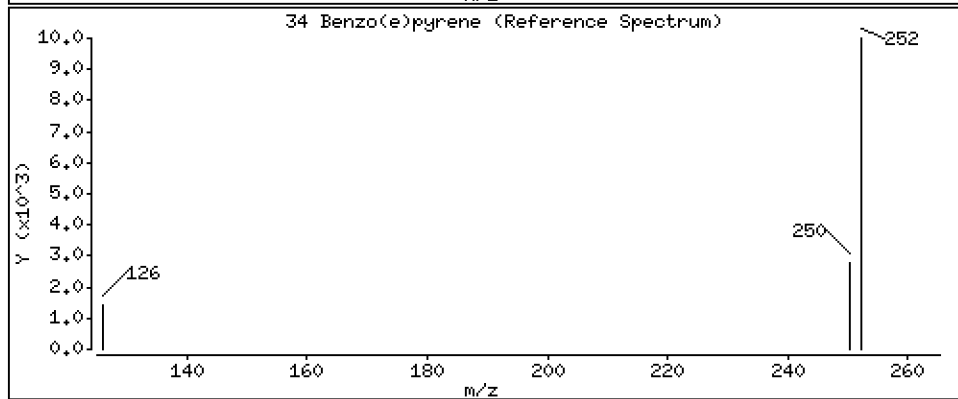
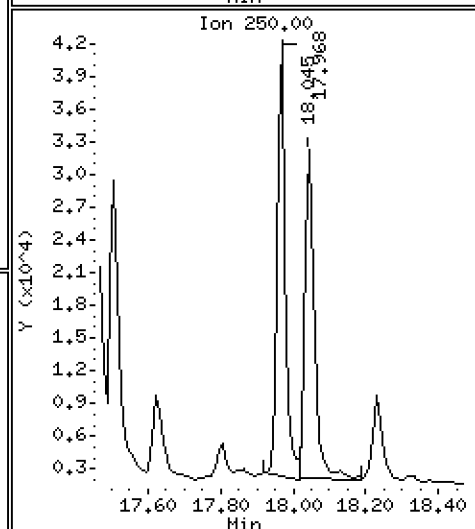
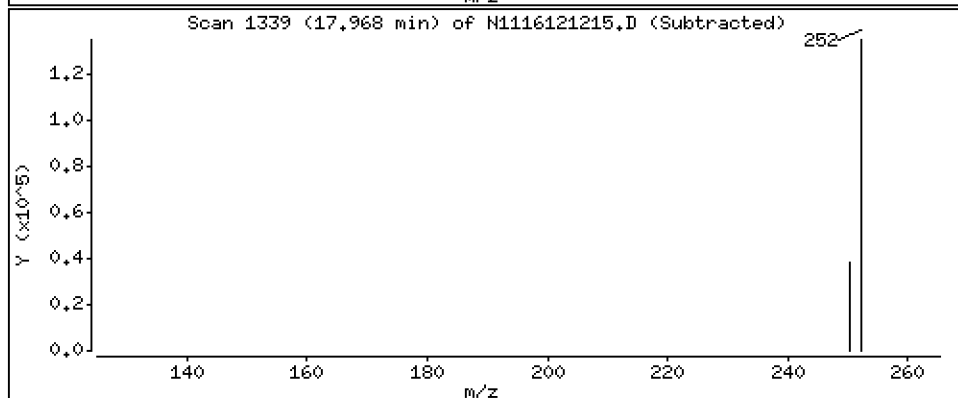
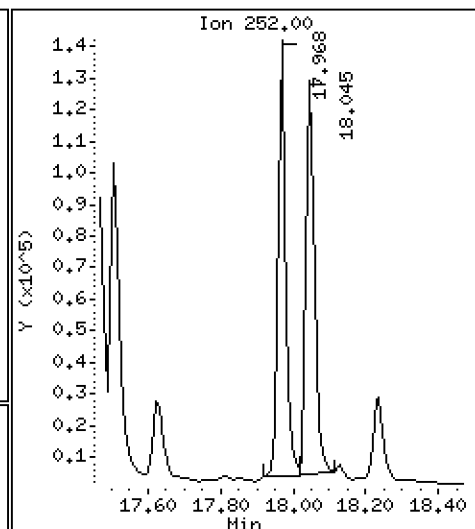
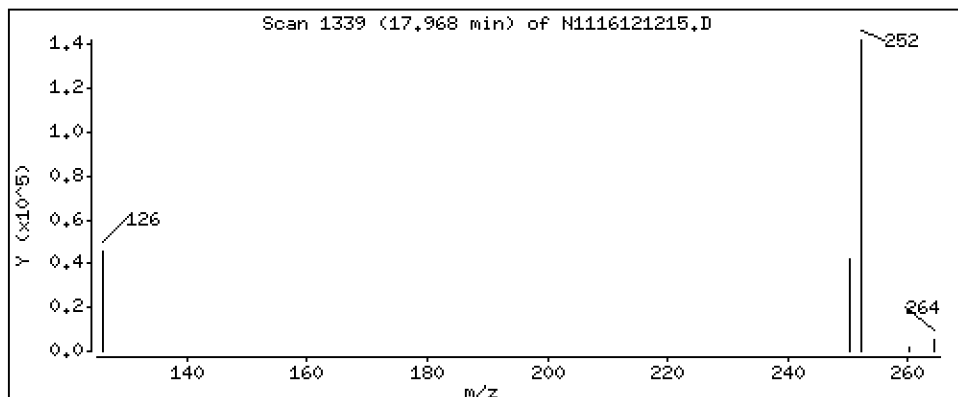
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 98,2 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

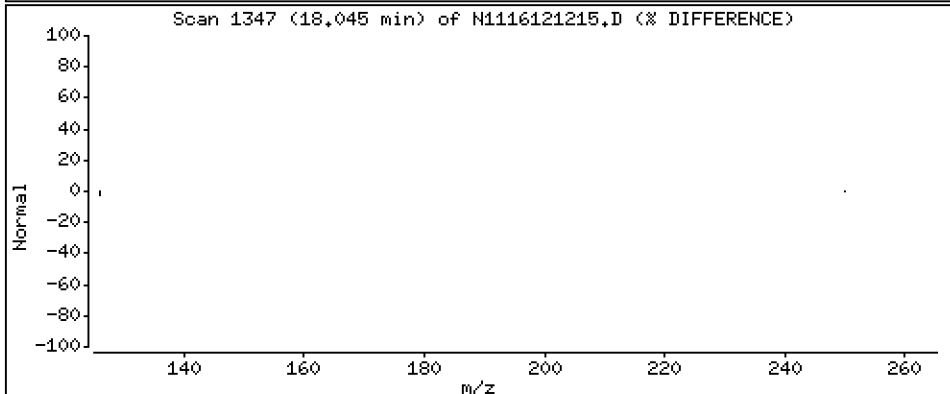
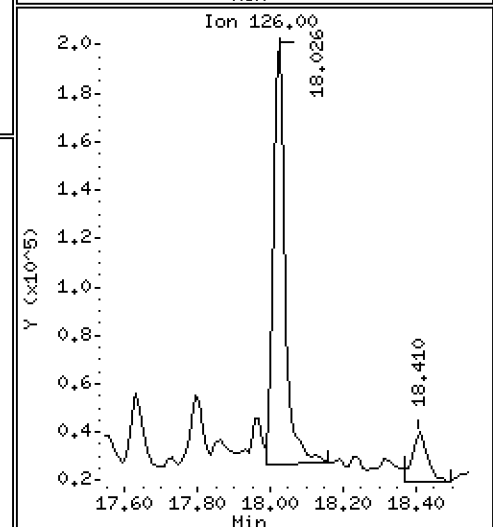
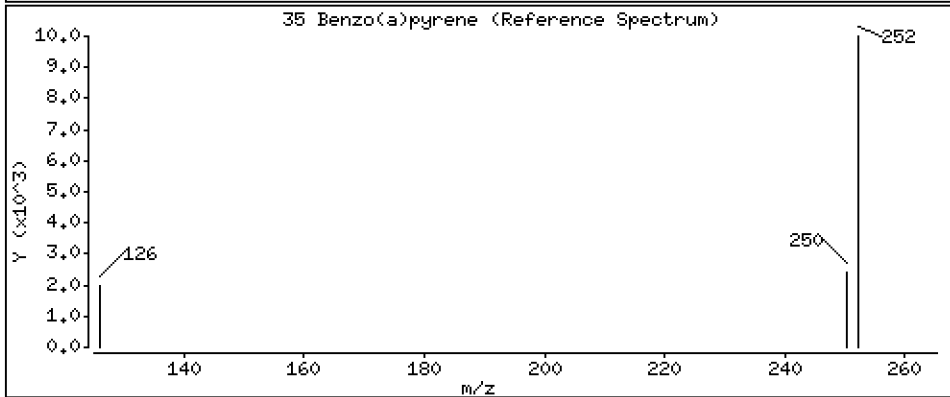
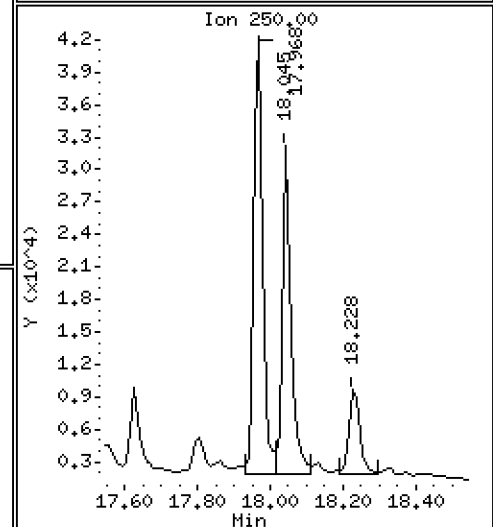
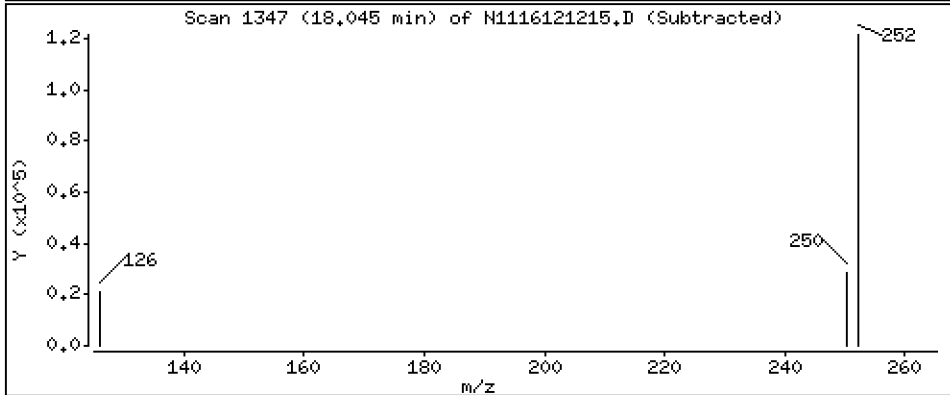
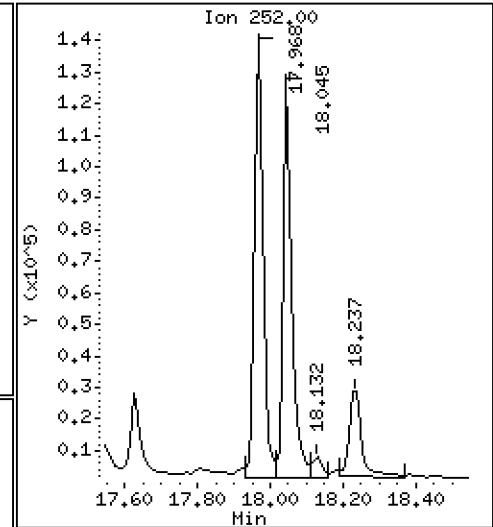
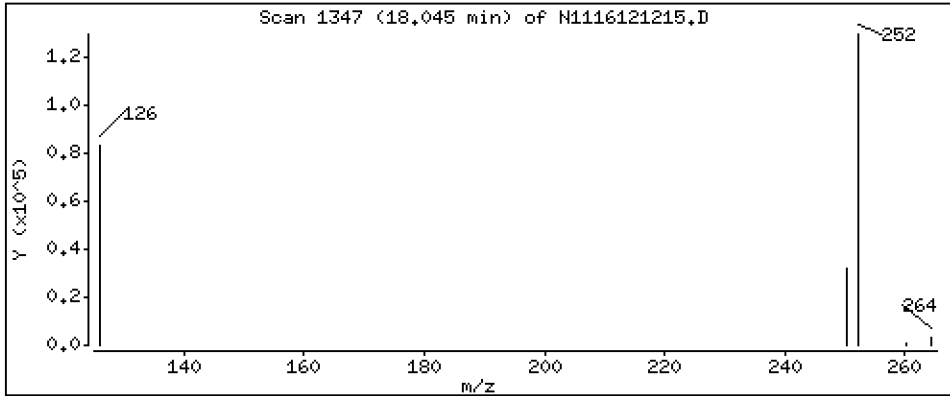
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 109 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

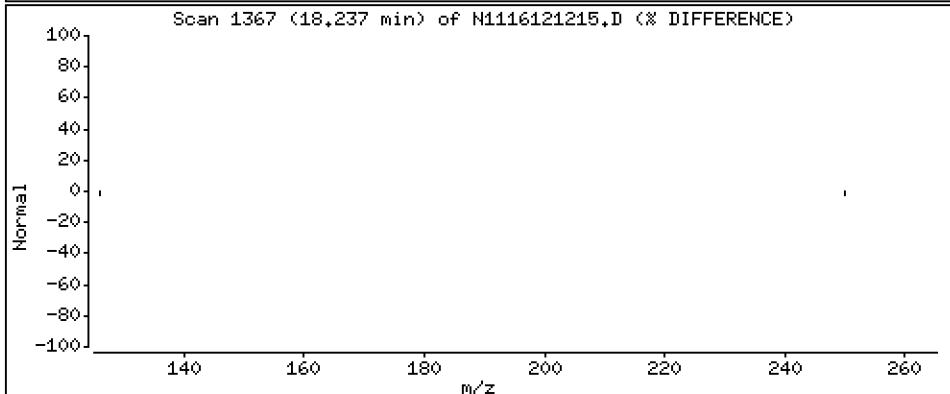
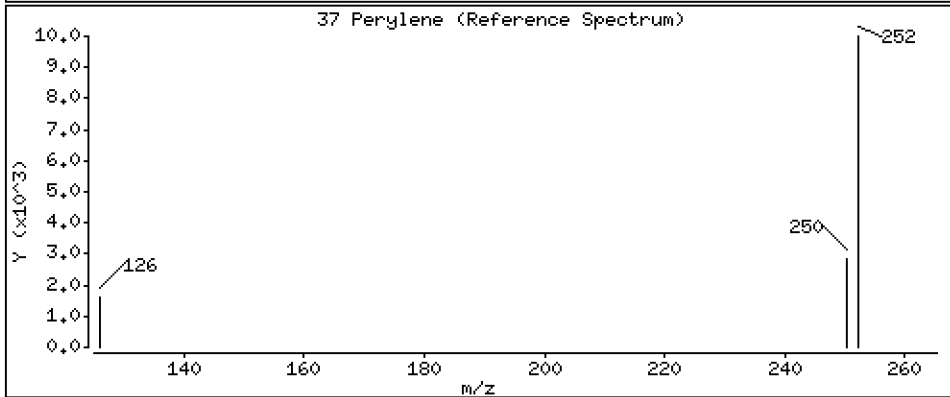
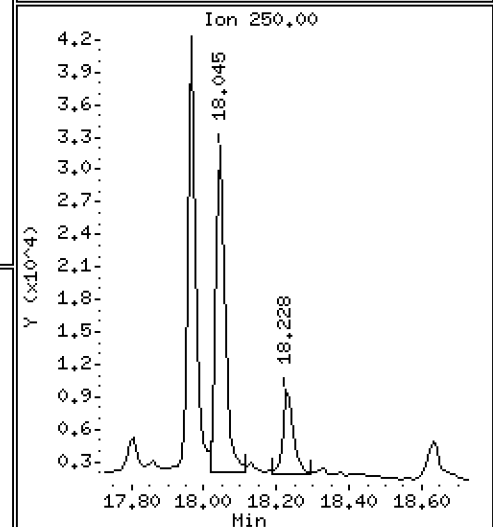
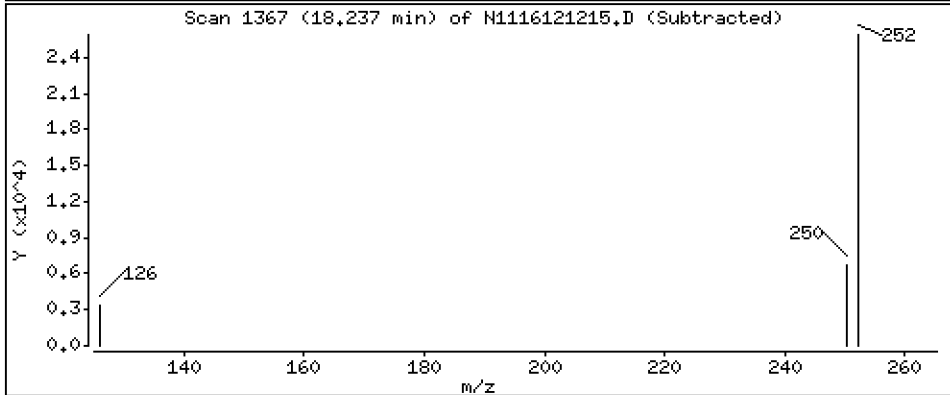
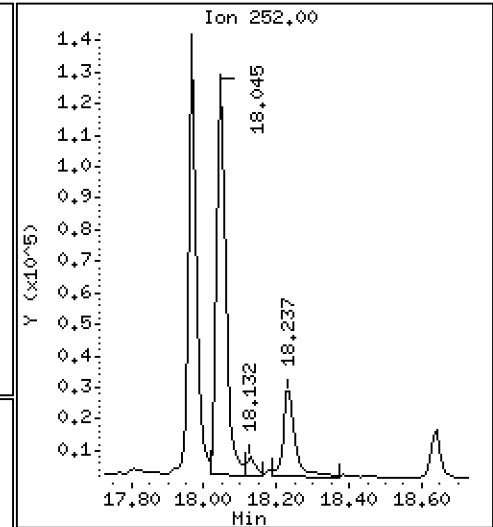
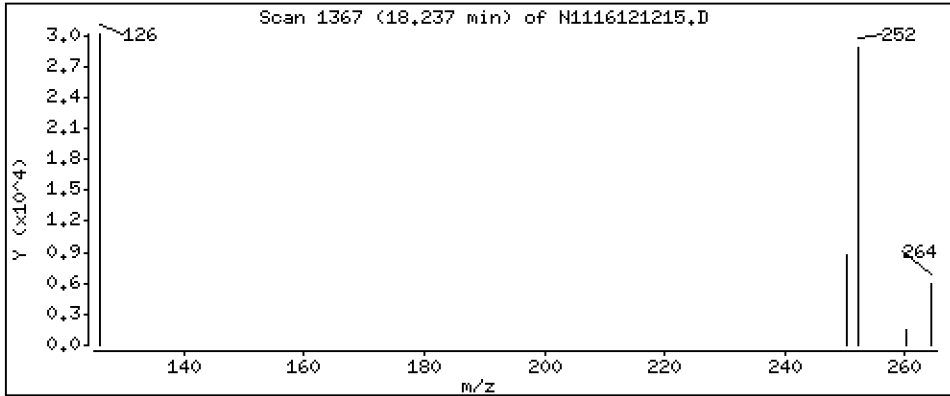
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 30,1 ng/mL

37 Perylene



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

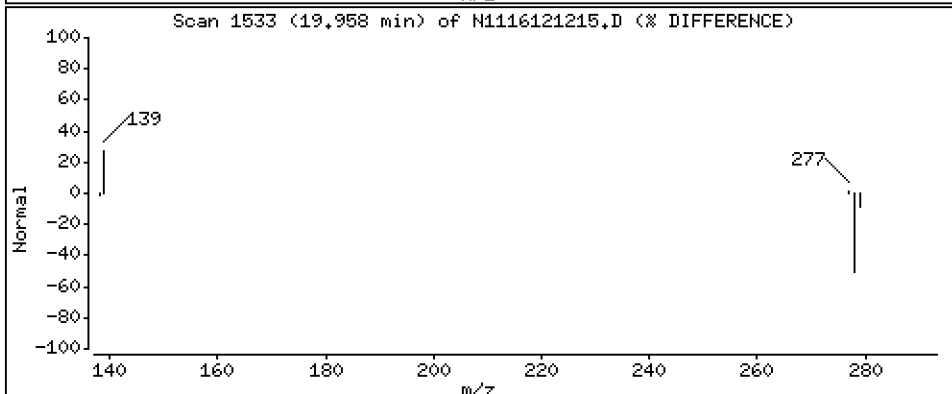
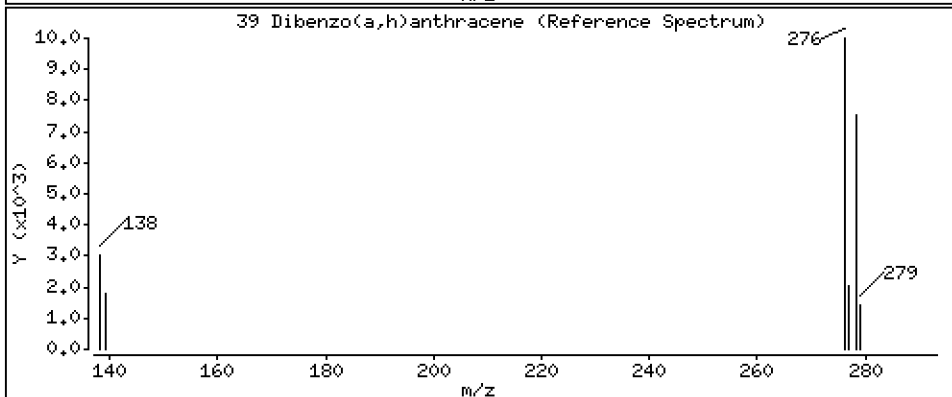
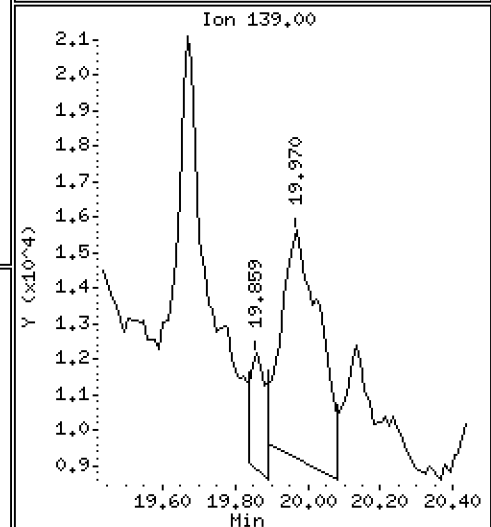
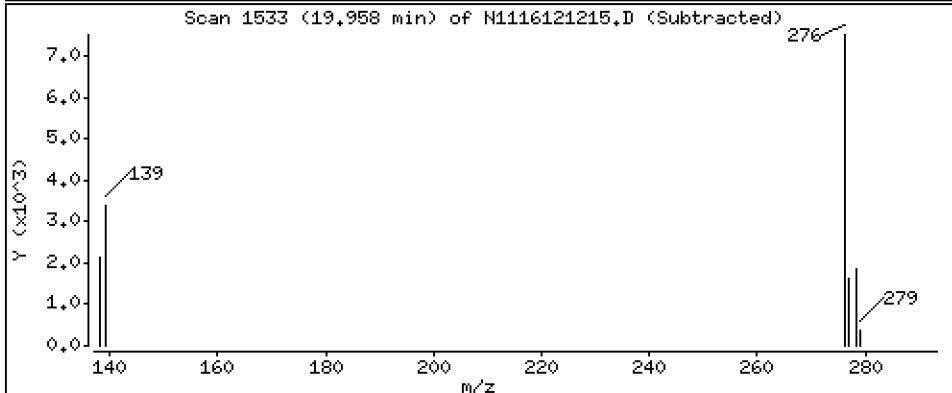
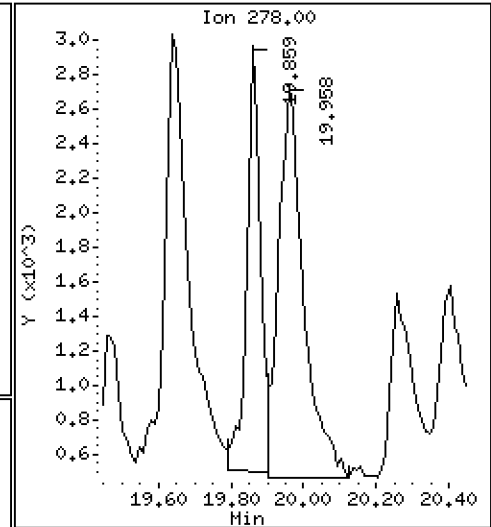
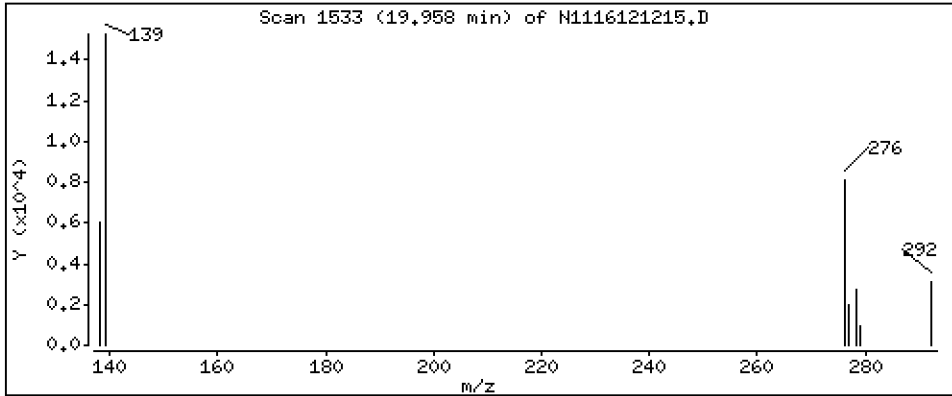
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 5,99 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

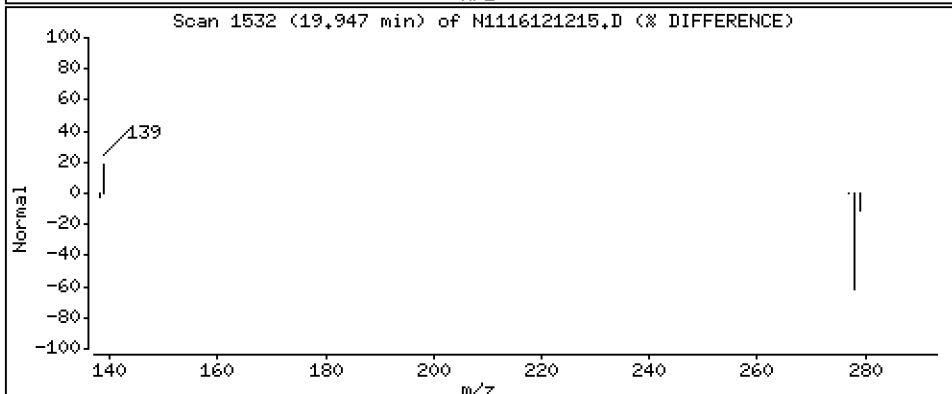
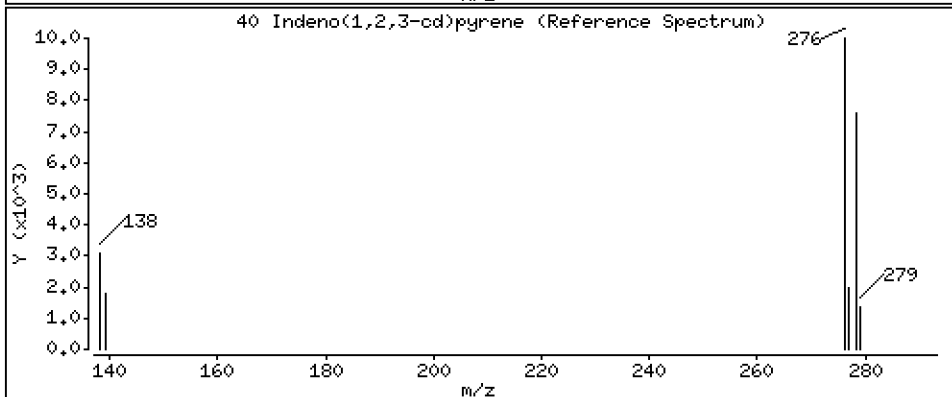
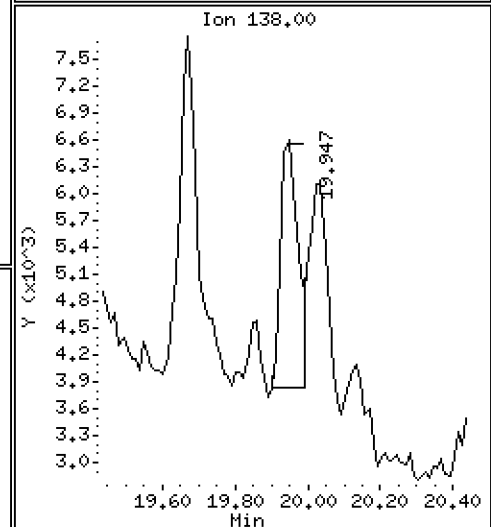
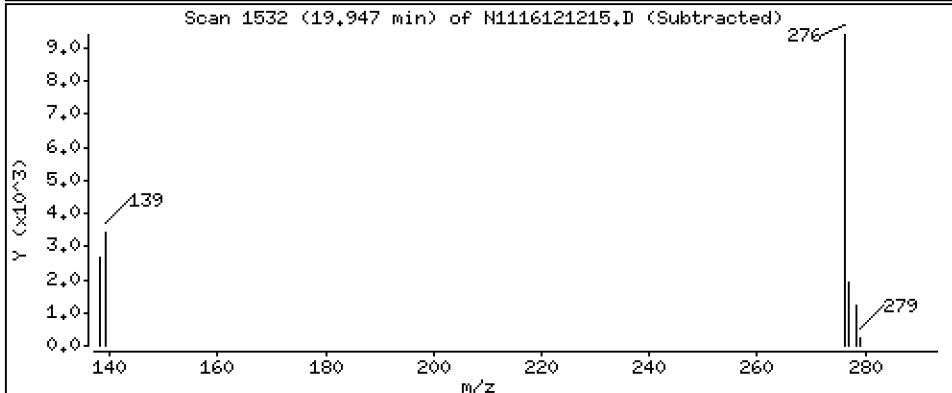
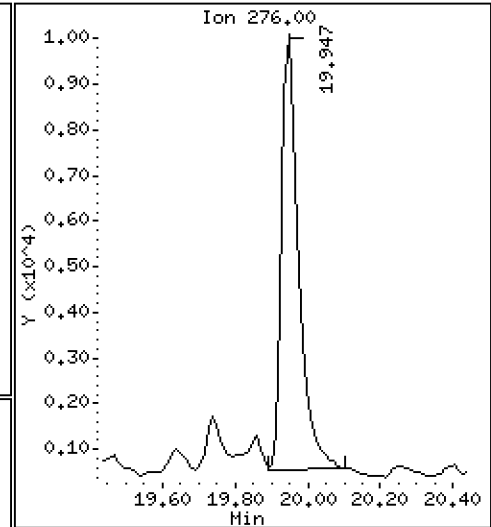
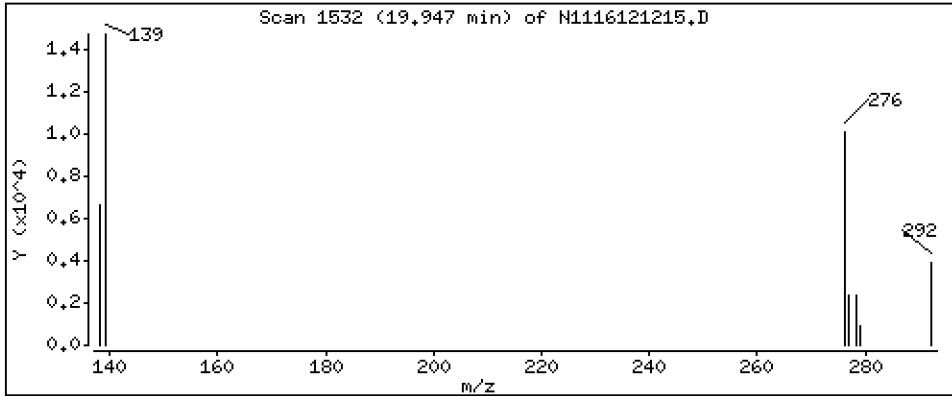
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 13,3 ng/mL



Date : 12-DEC-2016 15:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10

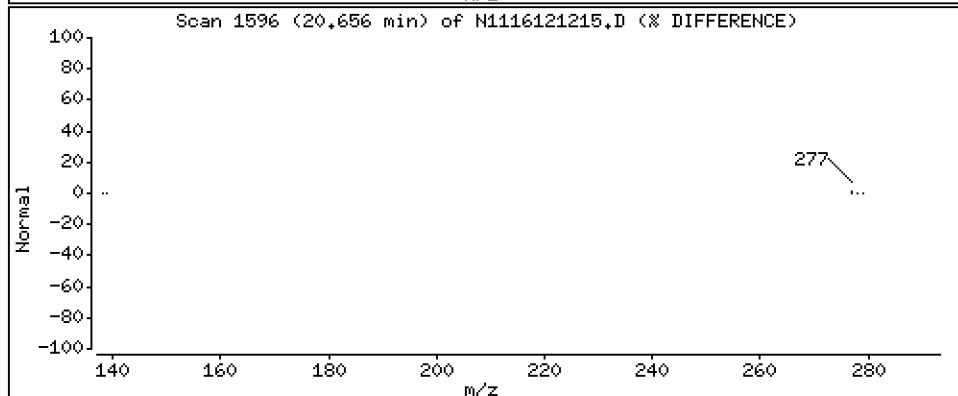
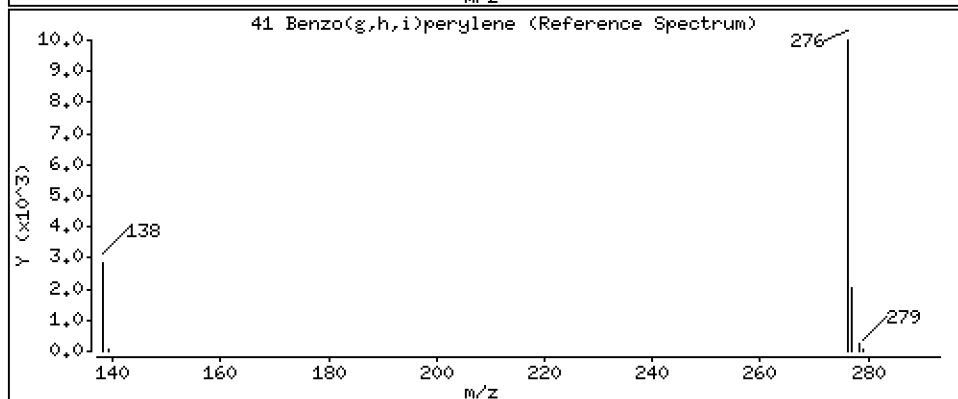
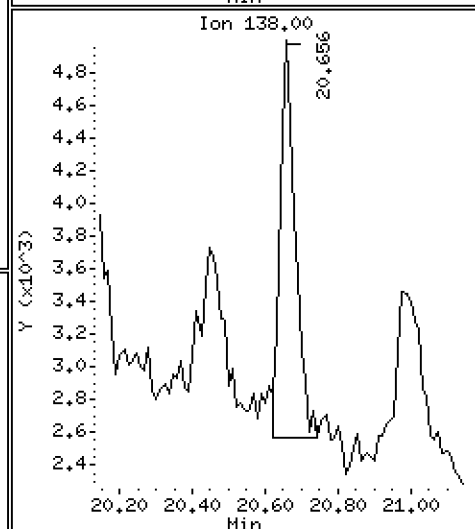
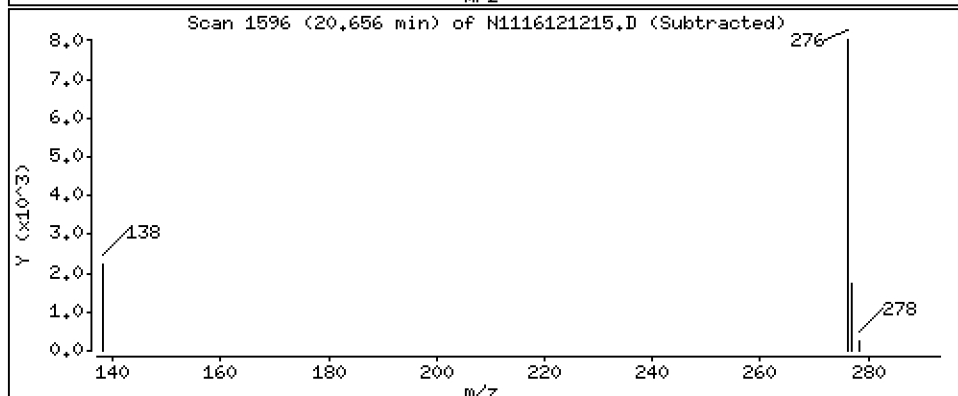
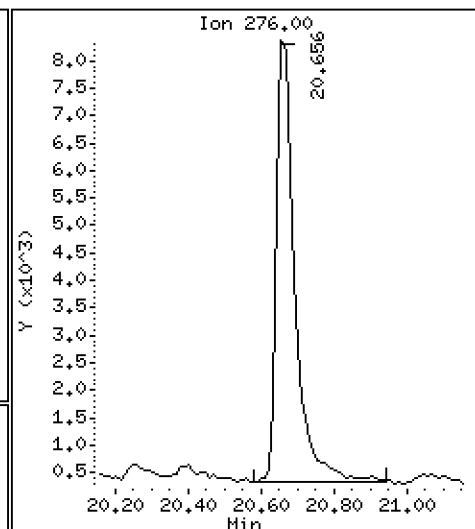
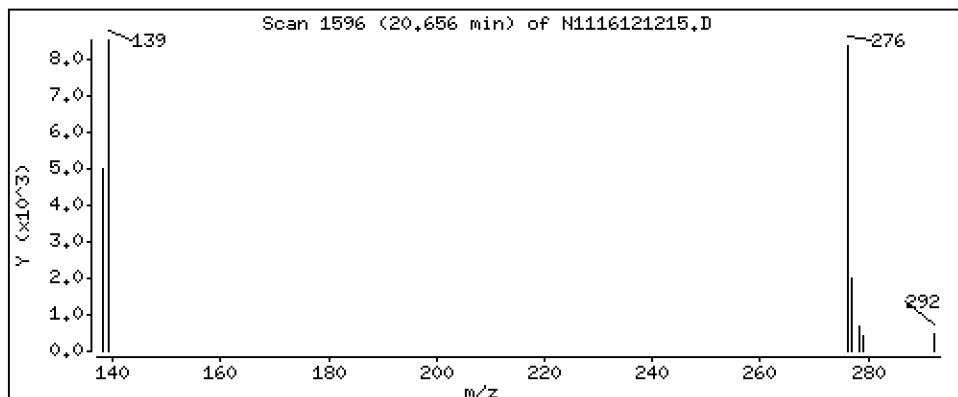
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 14,3 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121215.D
 Lab Smp Id: 16K0321-10
 Inj Date : 12-DEC-2016 15:29 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 14
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	474132	200.000	
2 Naphthalene	128		5.556	5.574	(1.005)	552871	226.798	227
3 Benzo(b)thiophene	134		5.845	5.818	(1.057)	24645	12.2223	12.2
\$ 4 2-Methylnaphthalene-d10	152		6.484	6.505	(1.173)	284622	159.228	159
5 2-Methylnaphthalene	142		6.537	6.557	(1.182)	3198229	1562.65	1560
6 1-Methylnaphthalene	142		6.778	6.799	(1.226)	2160394	1076.24	1080
7 2-Chloronaphthalene	162		7.409	7.429	(0.875)	52573	23.4919	23.5
8 Biphenyl	154		7.419	7.429	(0.876)	1660183	540.588	541
9 2,6-Dimethylnaphthalene	156		7.451	7.482	(0.880)	2705467	1225.94	1230
10 Acenaphthylene	152		8.321	8.321	(0.983)	223686	87.9366	87.9
* 11 Acenaphthene-d10	164		8.466	8.474	(1.000)	275326	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	9617161	5510.64	5510
13 Dibenzofuran	168		8.726	8.738	(1.031)	8223422	3315.74	3320
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	509942	330.738	331 (M)
\$ 15 Fluorene-d10	174		9.383	9.294	(1.108)	22232	16.5356	16.5
16 Fluorene	166		9.345	9.357	(1.104)	9767311	5097.51	5100
17 Dibenzothiophene	184		10.911	10.921	(0.984)	2236435	947.264	947
* 18 Phenanthrene-d10	188		11.090	11.089	(1.000)	477659	200.000	
19 Phenanthrene	178		11.132	11.131	(1.004)	20356803	7094.98	7090
\$ 20 Anthracene-d10	188		11.153	11.152	(1.006)	17658	8.15959	8.16
21 Anthracene	178		11.184	11.184	(1.009)	3578518	1325.43	1330
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.093)	1510813	597.598	598
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.185)	491255	230.401	230
25 Fluoranthene	202		13.181	13.180	(1.189)	13742484	4936.21	4940
26 Pyrene	202		13.651	13.651	(0.867)	11509541	4425.87	4430
27 Benzo(a)anthracene	228		15.661	15.660	(0.994)	1687214	749.773	750
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	399692	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	1104674	442.598	443
30 Benzo(b)fluoranthene	252		17.420	17.420	(0.958)	372149	168.588	169
31 Benzo(k)fluoranthene	252		17.458	17.458	(0.960)	181869	75.8265	75.8
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.962)	192742	86.6904	86.7
\$ 33 Benzo(e)pyrene-d12	264		17.920	17.919	(0.985)	285920	152.782	153

Compounds	QUANT SIG		CONCENTRATIONS				
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	210624	98.1902	98.2
35 Benzo(a)pyrene	252	18.045	18.044	(0.992)	219892	108.798	109
* 36 Perylene-d12	264	18.189	18.179	(1.000)	388339	200.000	
37 Perylene	252	18.237	18.227	(1.003)	63141	30.0912	30.1
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	273937	210.594	211
39 Dibenzo(a,h)anthracene	278	19.958	19.925	(1.097)	10919	5.99008	5.99
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	29892	13.3242	13.3
41 Benzo(g,h,i)perylene	276	20.656	20.644	(1.136)	27712	14.2981	14.3

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121215.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-10
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	474132	-3.94
11 Acenaphthene-d10	240770	120385	481540	275326	14.35
18 Phenanthrene-d10	429271	214636	858542	477659	11.27
28 Chrysene-d12	387691	193846	775382	399692	3.10
36 Perylene-d12	386259	193130	772518	388339	0.54

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.10
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121215.D

Lab ID: 16K0321-10
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 15:29

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

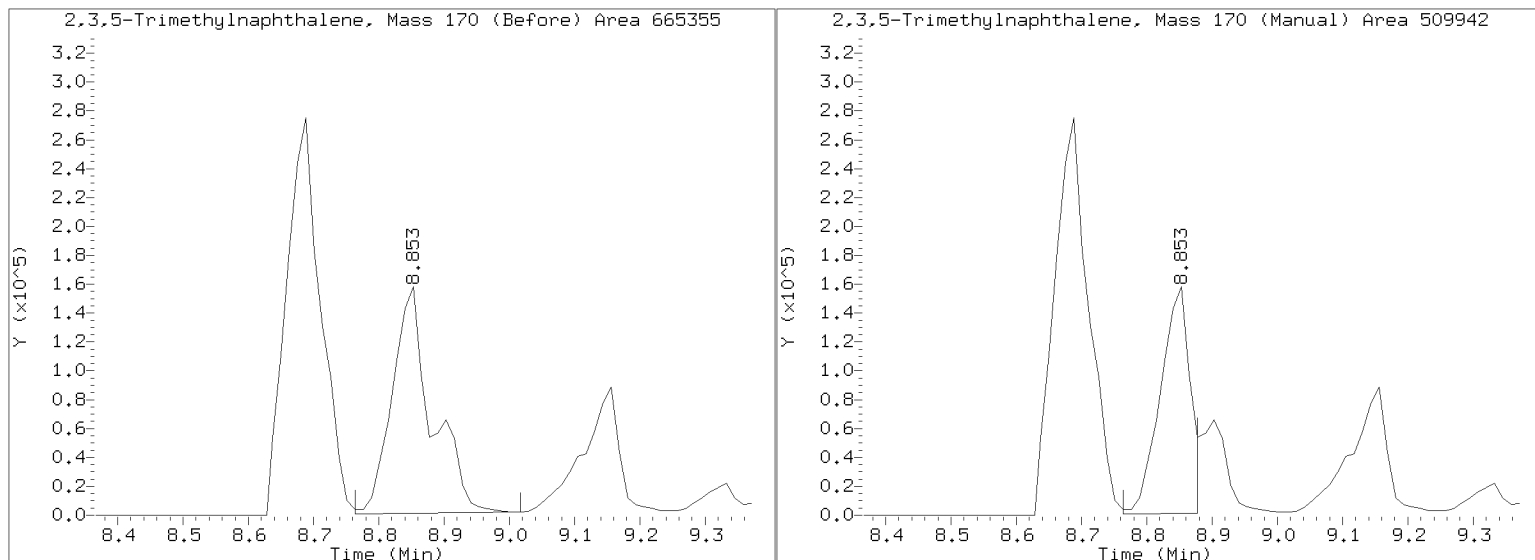
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121215.D

Injection Date: 12-DEC-2016 15:29

Lab ID:16K0321-10 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-10RE1 File ID: N1116121324.D
 Sampled: 11/22/16 10:26 Prepared: 11/24/16 08:25 Analyzed: 12/13/16 23:24
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	20	27.1	U	22.6	27.1
91-57-6	2-Methylnaphthalene	20	112	D, B	22.6	22.6
208-96-8	Acenaphthylene	20	22.6	U	22.6	22.6
83-32-9	Acenaphthene	20	696	D	22.6	22.6
86-73-7	Fluorene	20	715	D	22.6	22.6
85-01-8	Phenanthrene	20	1890	D	22.6	22.6
120-12-7	Anthracene	20	319	Q, D	22.6	22.6
206-44-0	Fluoranthene	20	949	D	22.6	22.6
129-00-0	Pyrene	20	671	D	22.6	22.6
56-55-3	Benzo(a)anthracene	20	53.3	D	22.6	22.6
218-01-9	Chrysene	20	48.4	D	22.6	22.6
205-99-2	Benzo(b)fluoranthene	20	22.6	U	22.6	22.6
207-08-9	Benzo(k)fluoranthene	20	22.6	U	22.6	22.6
50-32-8	Benzo(a)pyrene	20	22.6	U	22.6	22.6
193-39-5	Indeno(1,2,3-cd)pyrene	20	22.6	U	22.6	22.6
53-70-3	Dibenzo(a,h)anthracene	20	22.6	U	22.6	22.6
191-24-2	Benzo(g,h,i)perylene	20	22.6	U	22.6	22.6
1985-5-0	Perylene	20	22.6	U	22.6	22.6
197-97-2	Benzo(e)pyrene	20	22.6	U	22.6	22.6

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	0.00		30 - 160	NRS
Dibenzo[a,h]anthracene-d14	33.860	0.00		30 - 160	NRS
Fluoranthene-d10	33.860	0.00		30 - 160	NRS
Fluorene-d10	21.163	0.00		30 - 160	NRS
Anthracene-d10	21.163	0.00		30 - 160	NRS
Benzo(e)pyrene-d12	21.163	0.00		30 - 160	NRS

Data File: \\target\share\chem3\ntf11.1\20161213.6\N1116121324.D

Date : 13-DEC-2016 23:24

Client ID:

Sample Info: 16K0321-10,20

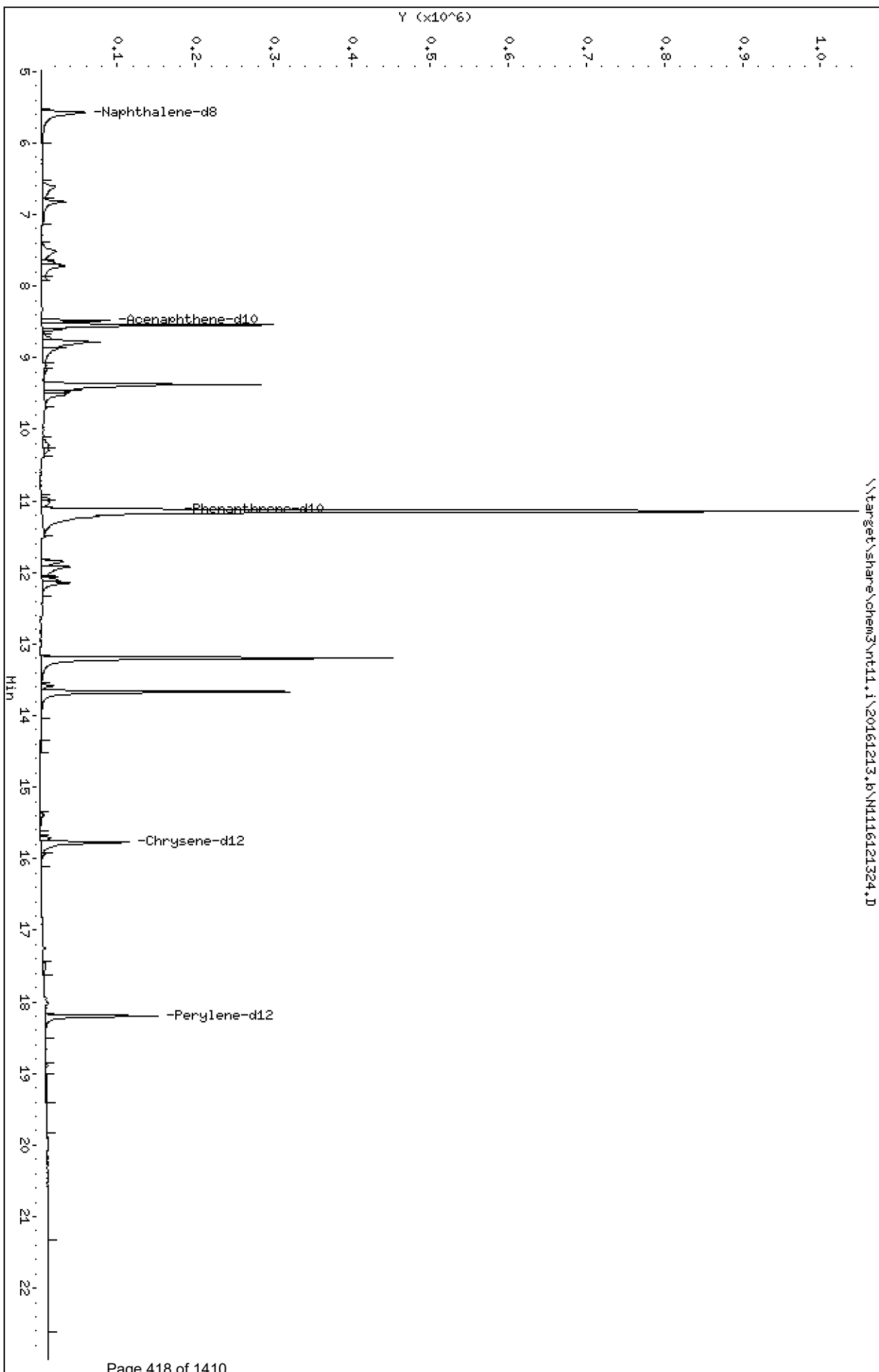
Column phase: Rxi-17S11 MS

Instrument: ntl1.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\ntf11.1\20161213.6\N1116121324.D



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

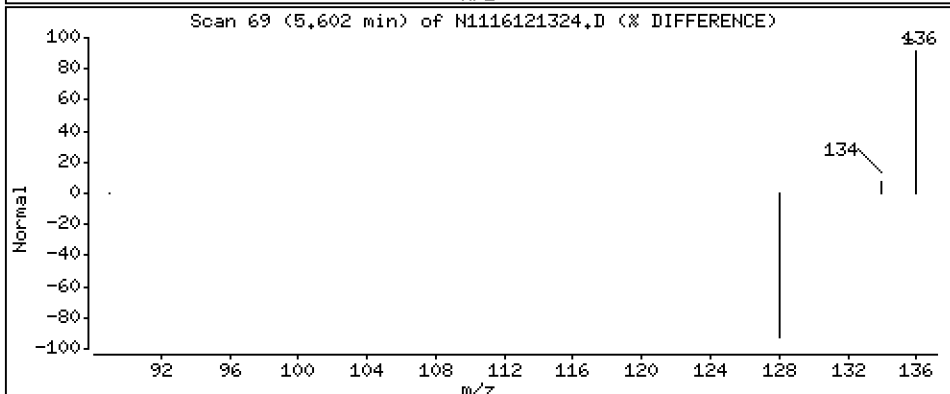
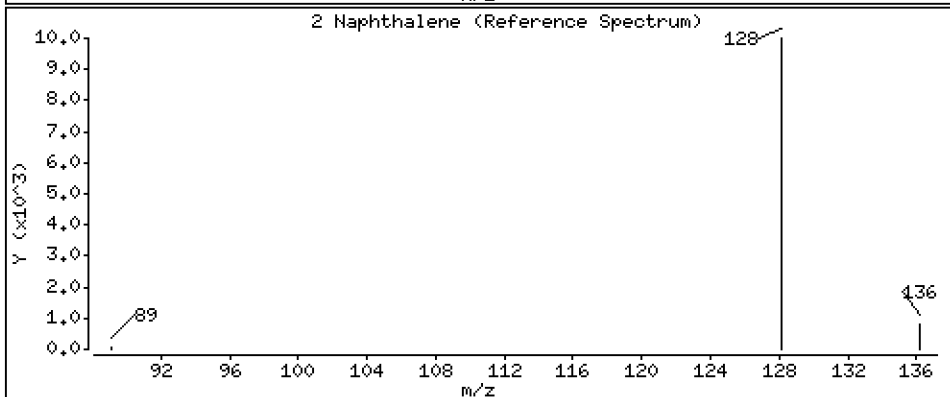
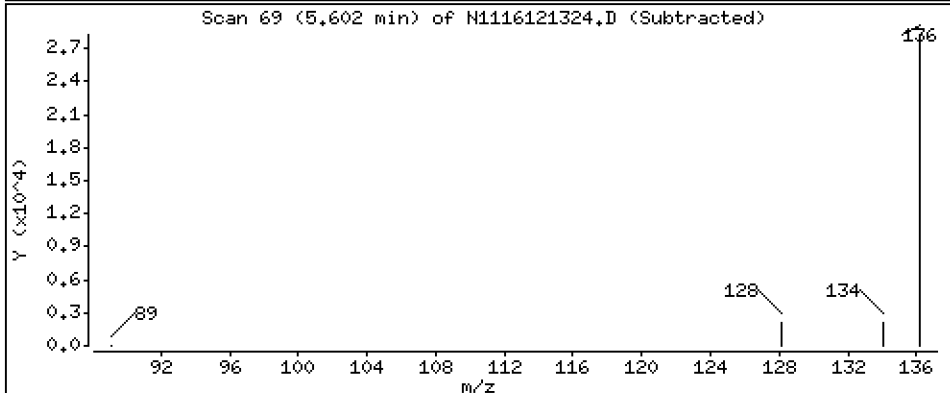
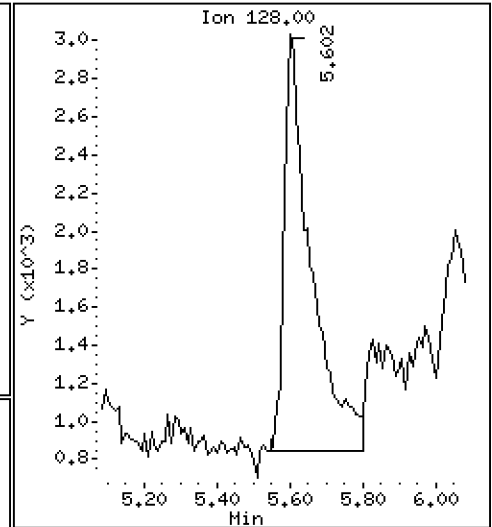
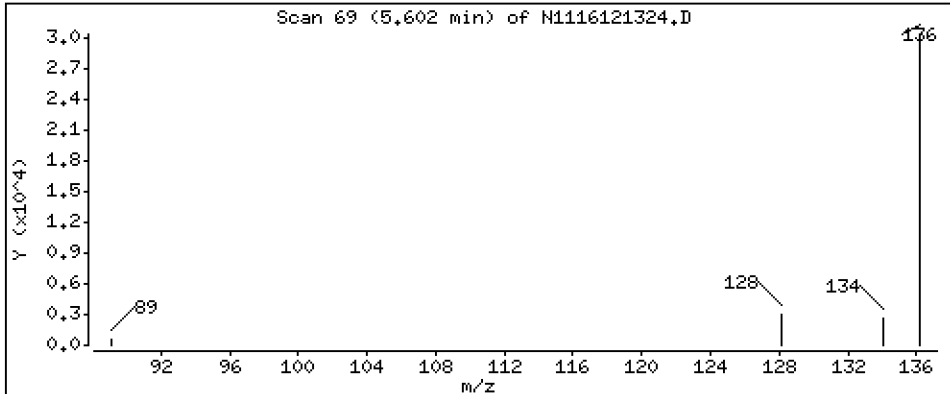
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 165 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

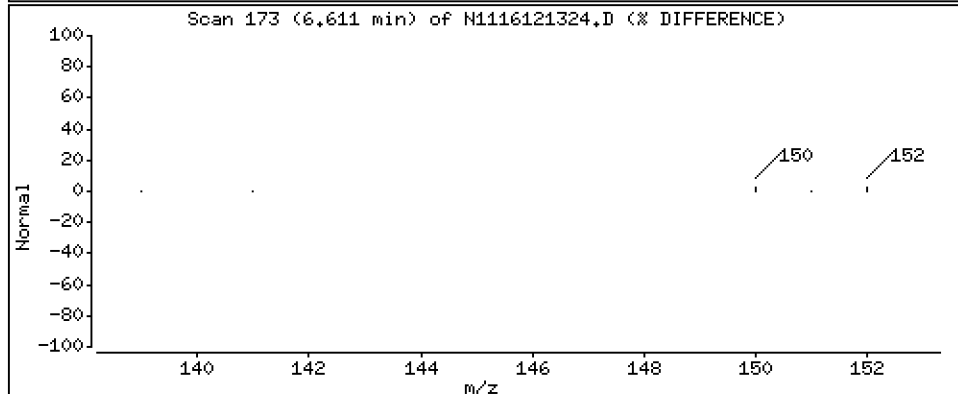
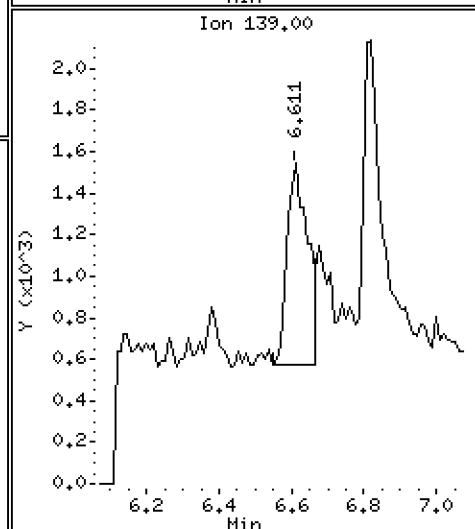
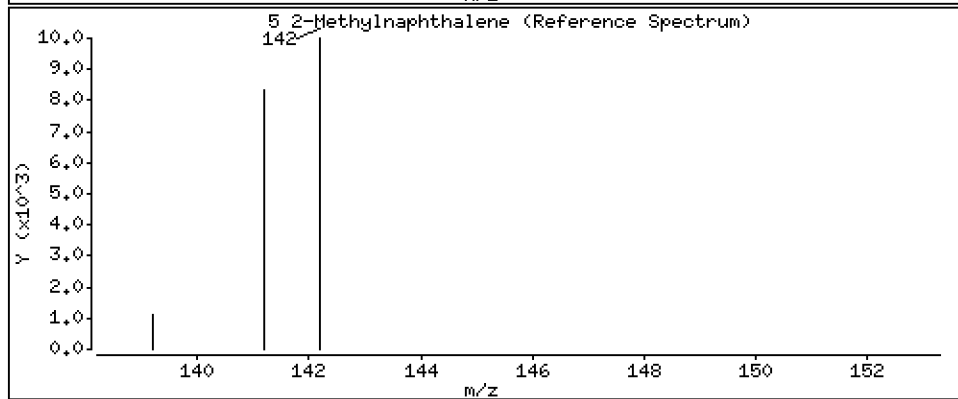
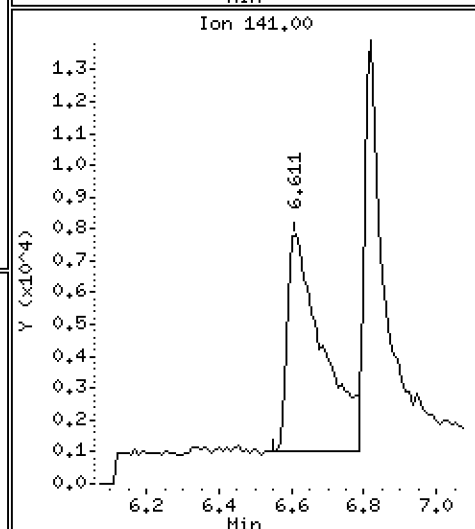
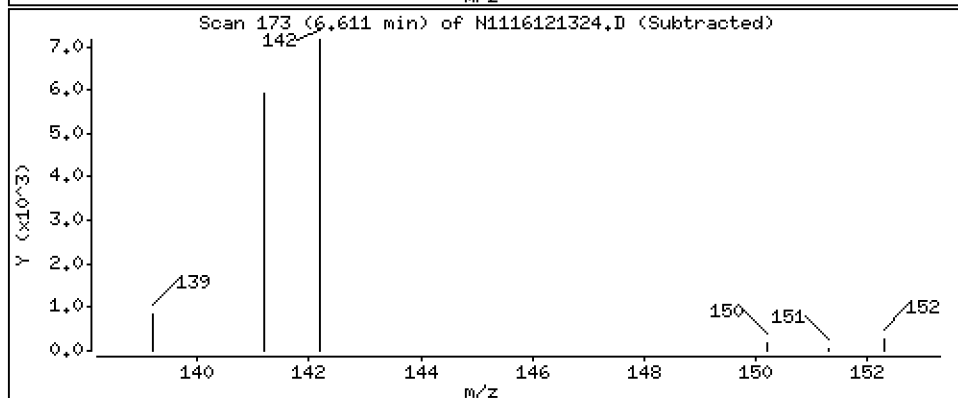
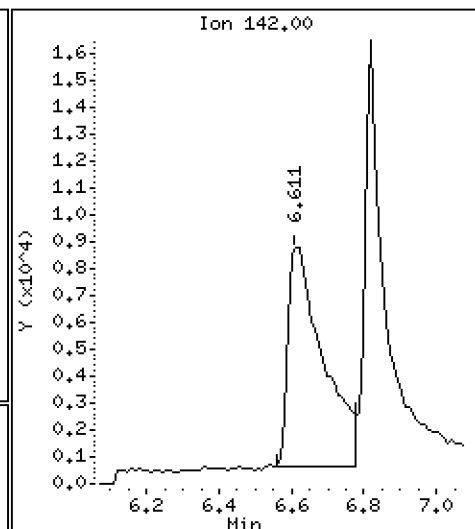
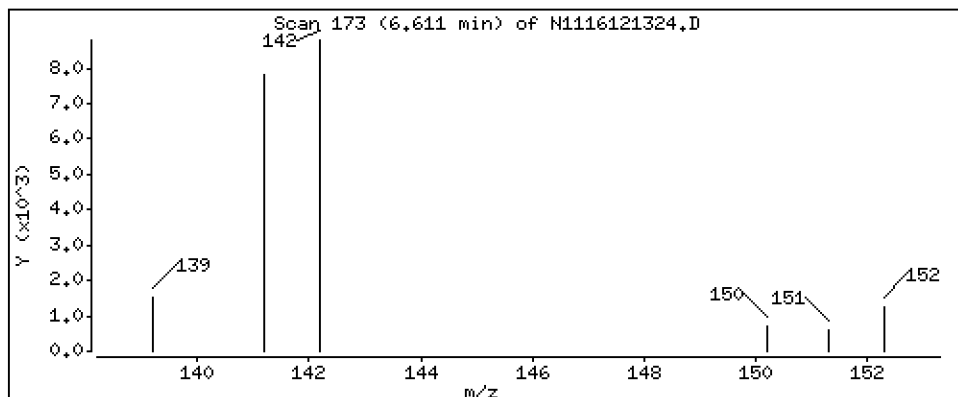
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 988 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

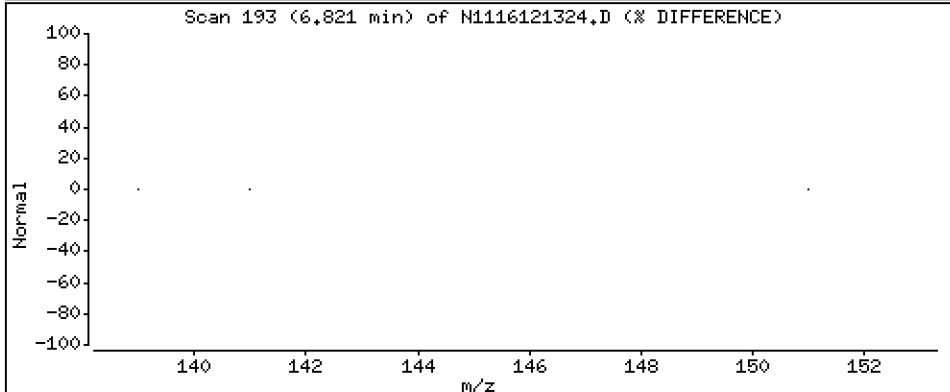
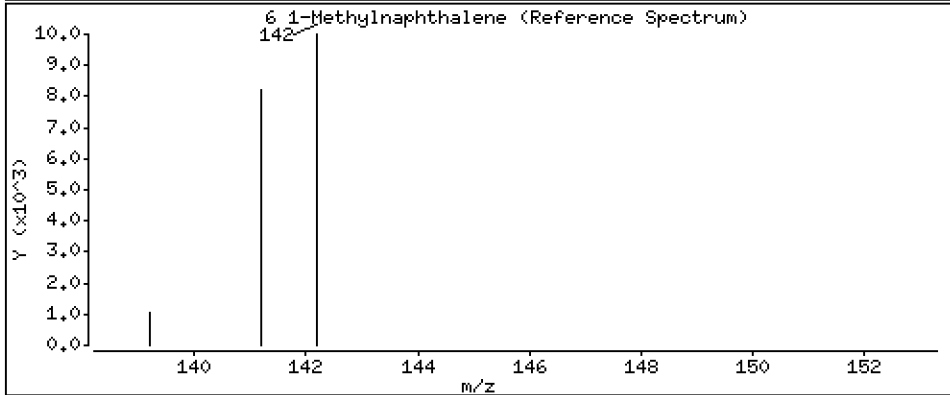
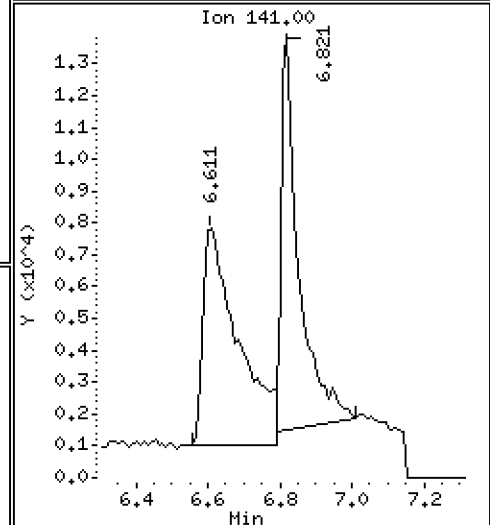
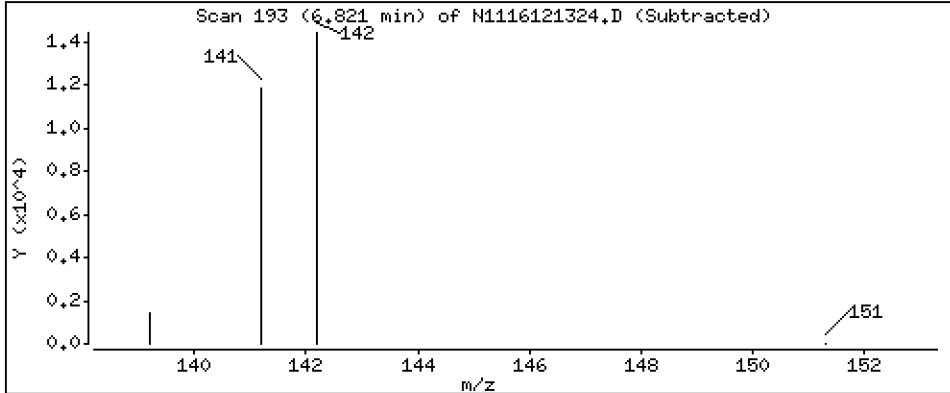
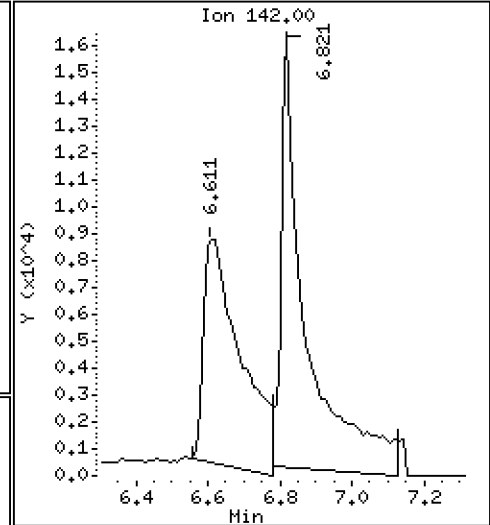
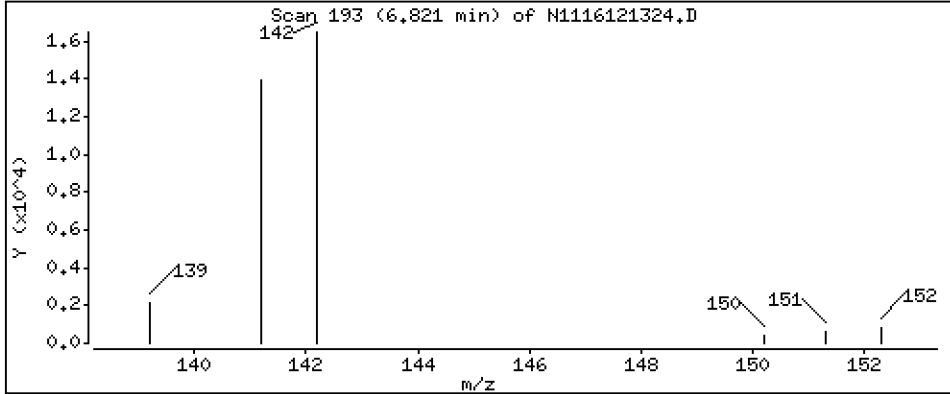
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 1420 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

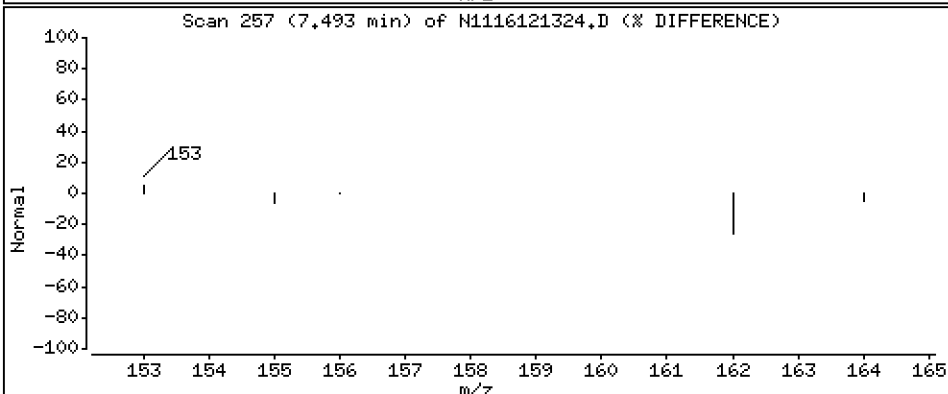
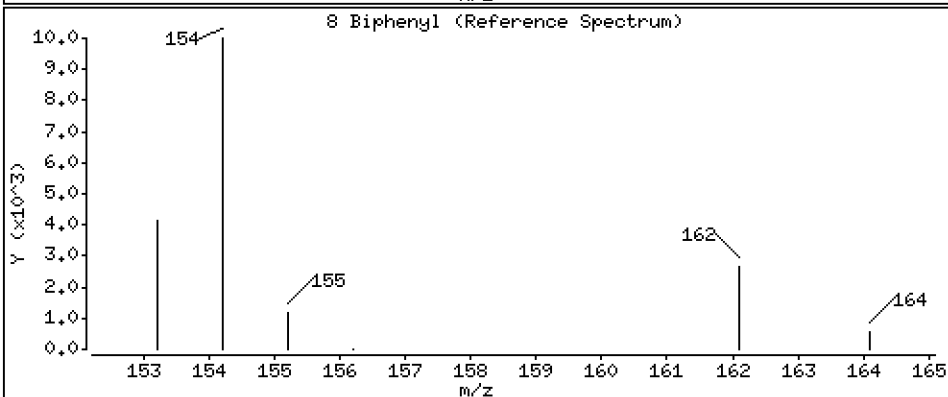
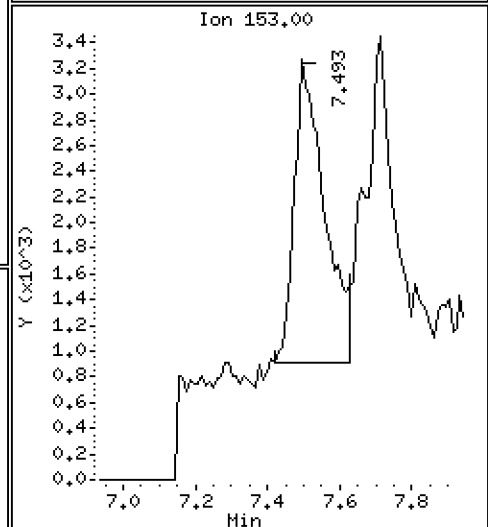
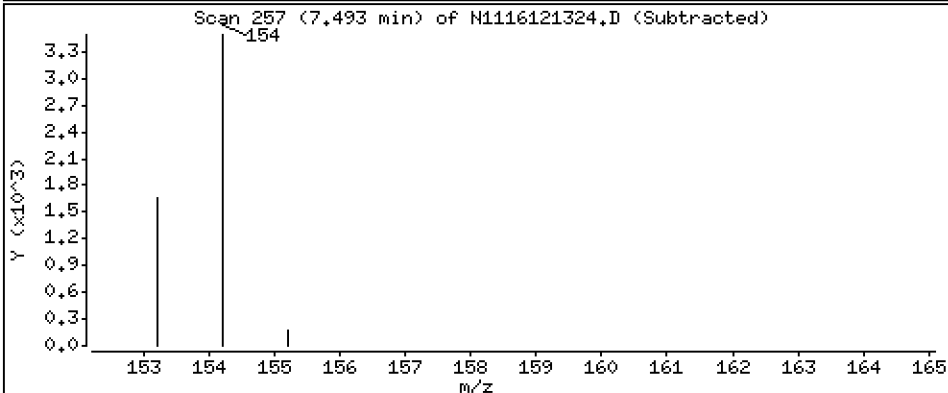
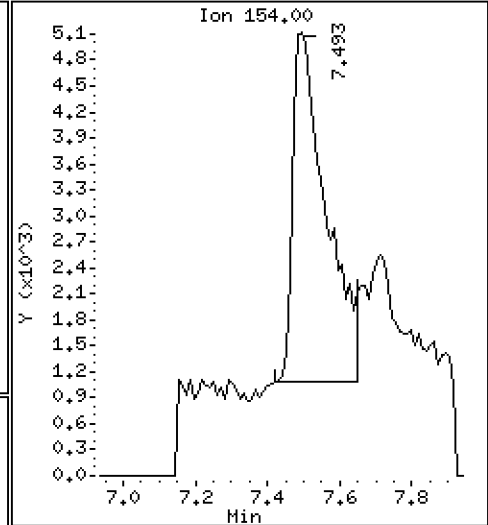
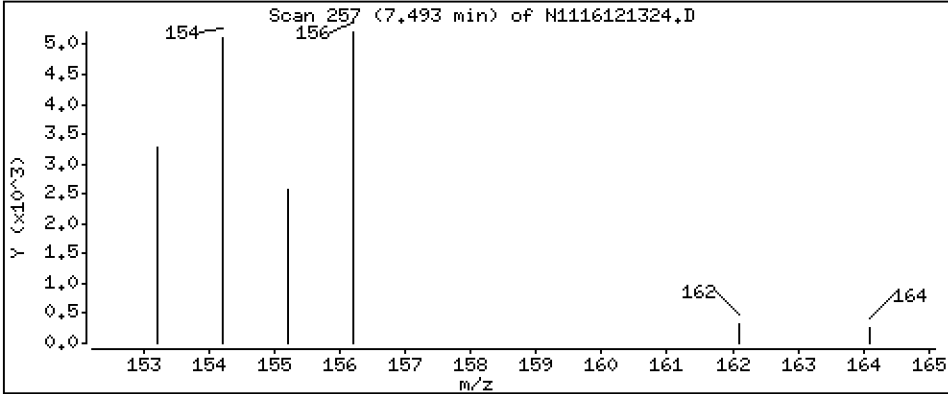
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 295 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

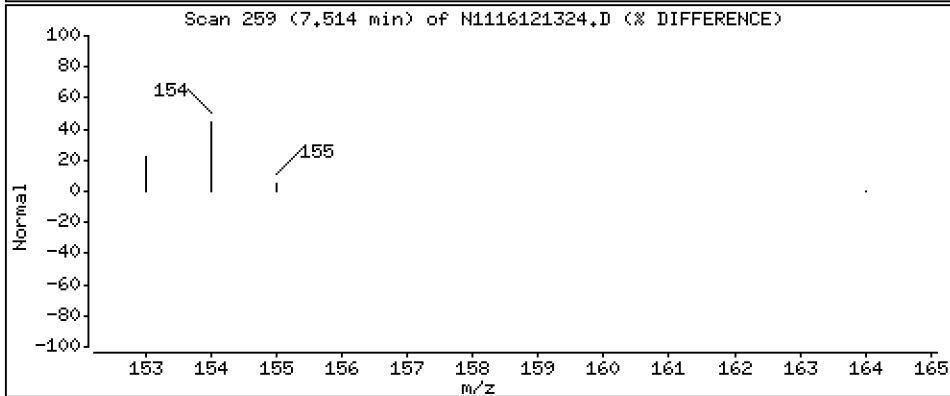
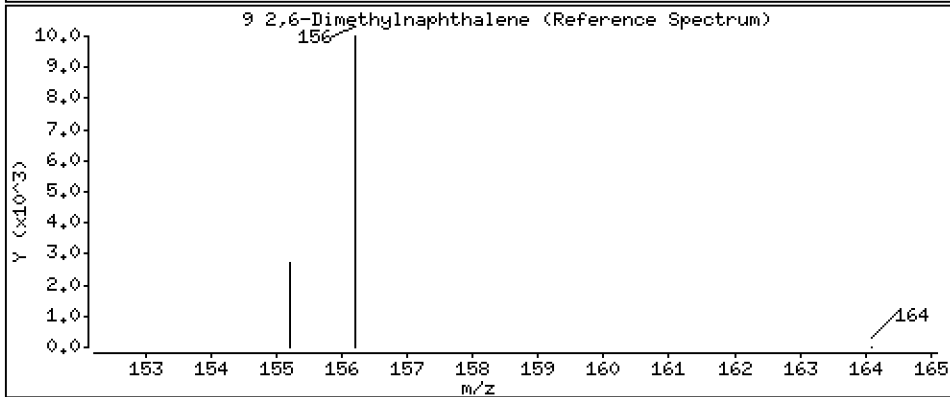
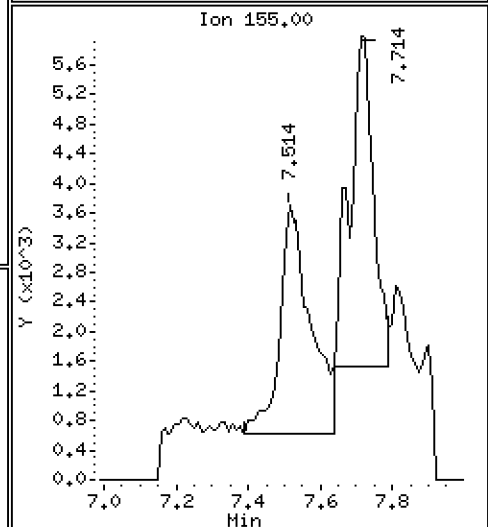
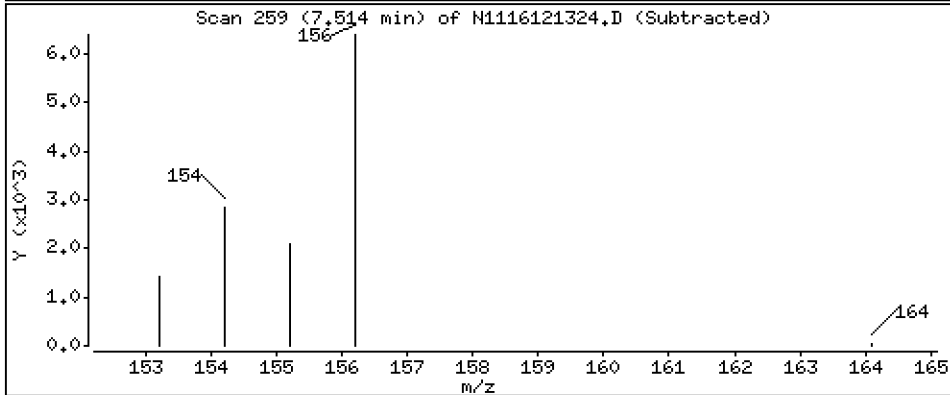
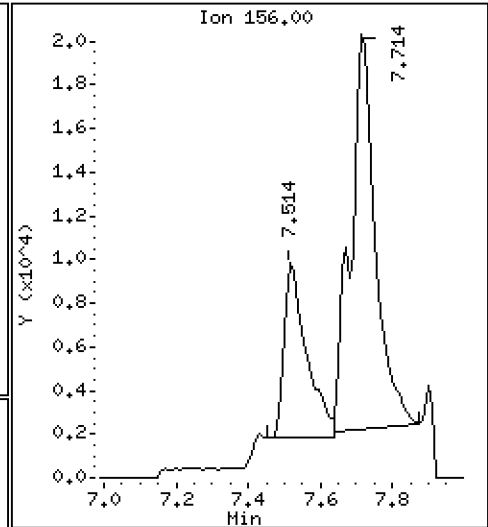
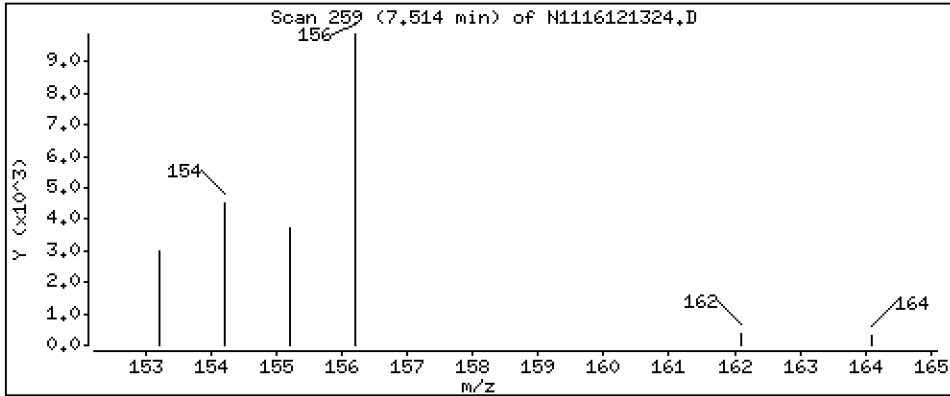
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 567 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

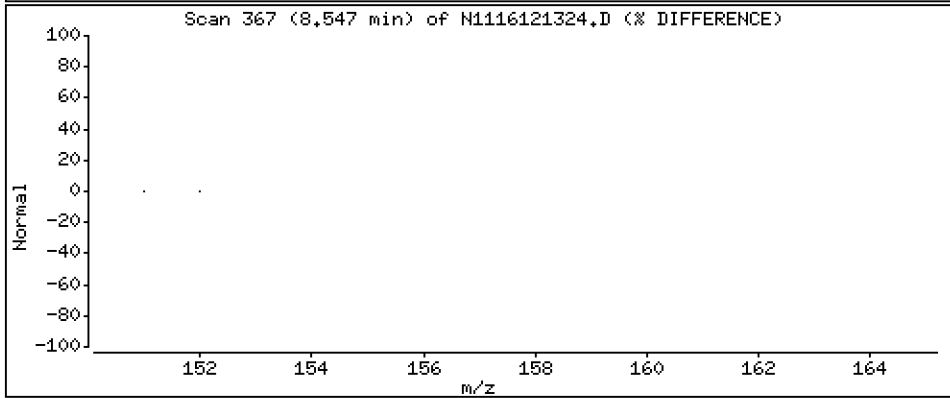
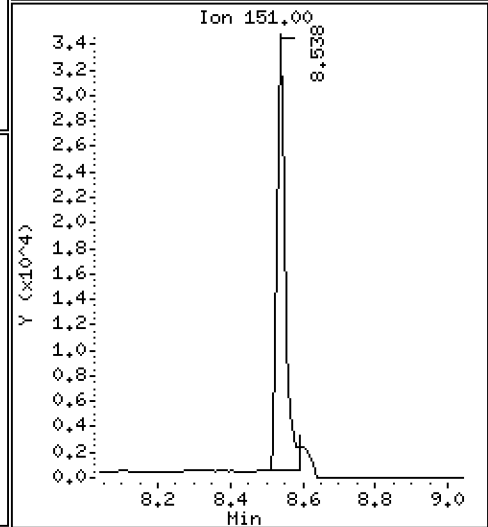
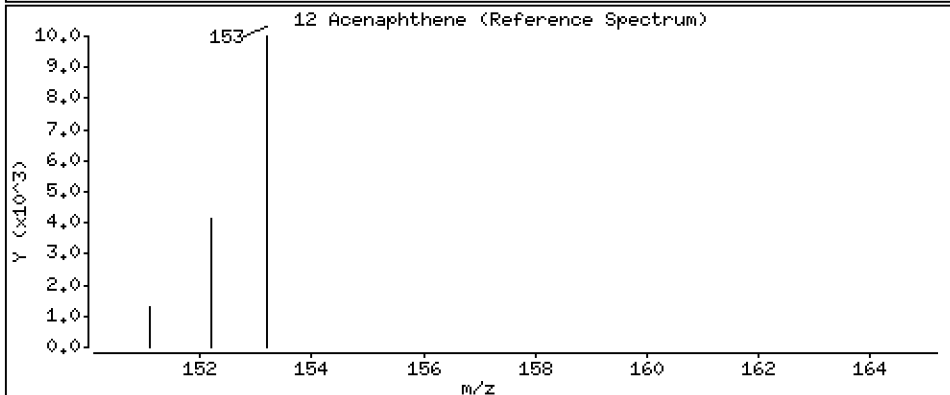
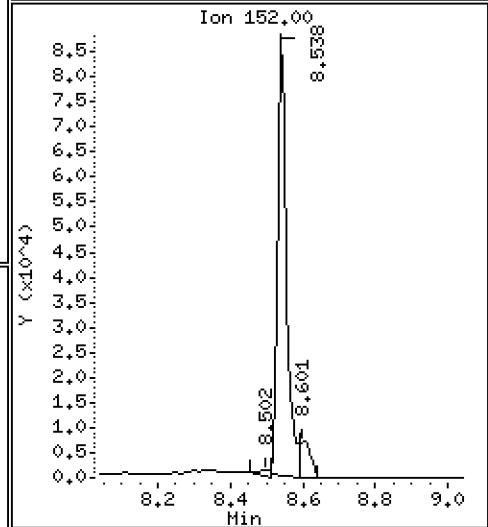
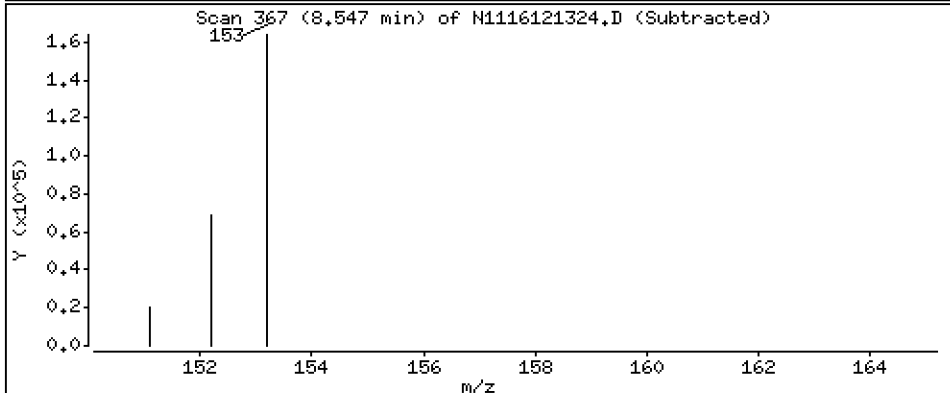
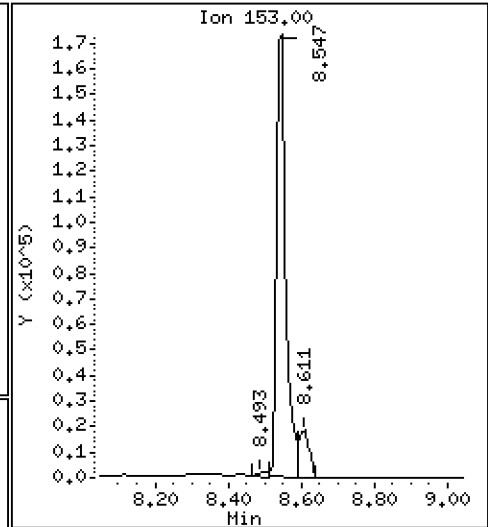
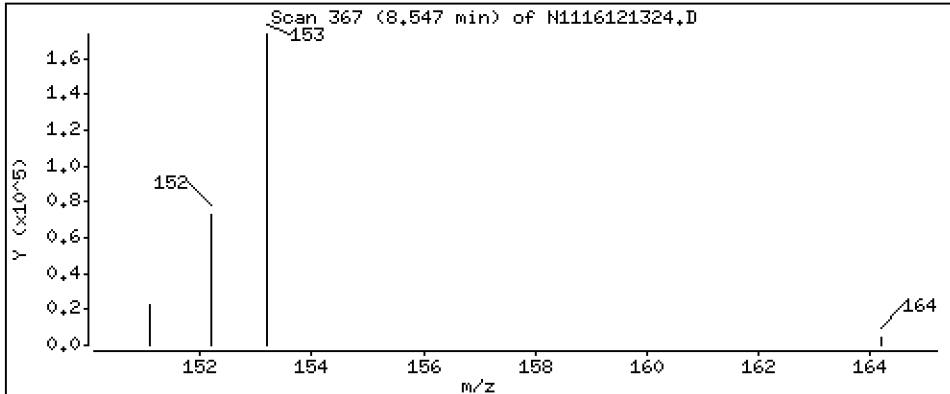
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 6160 ng/mL

12 Acenaphthene



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

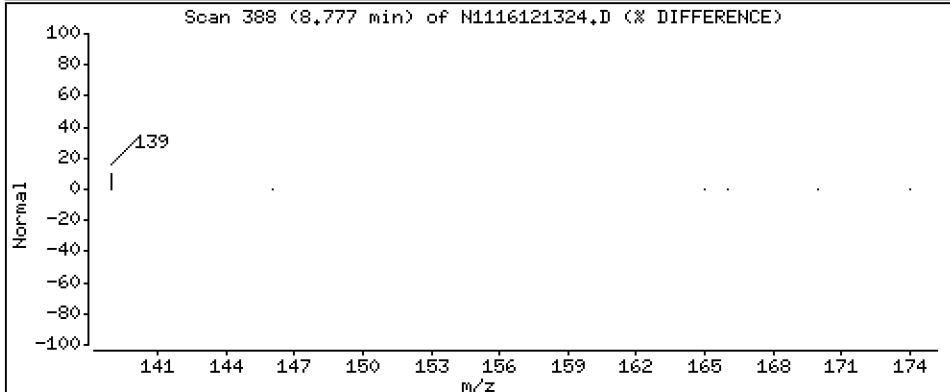
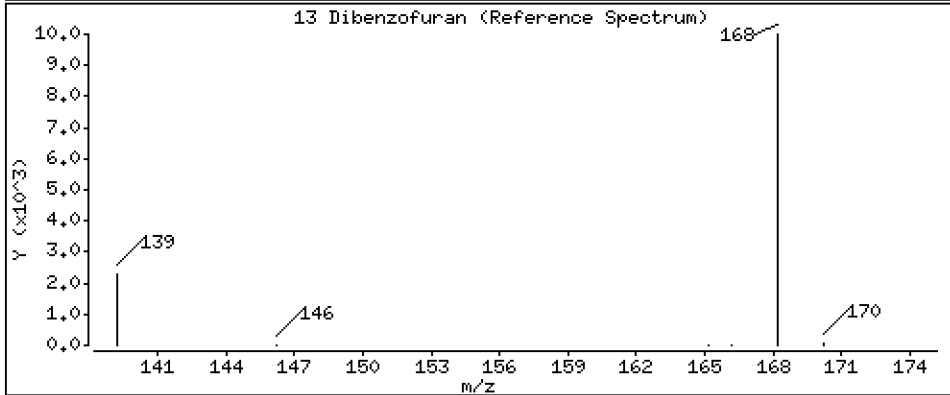
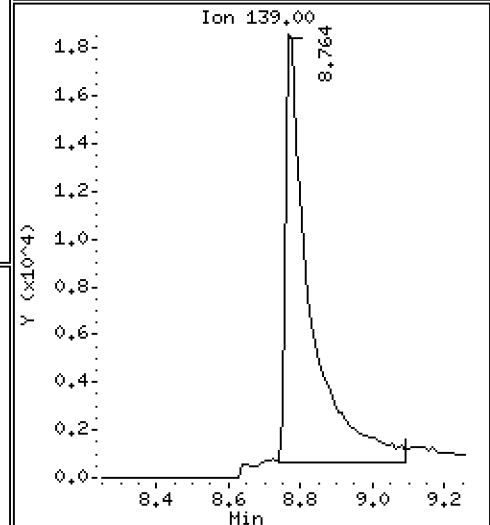
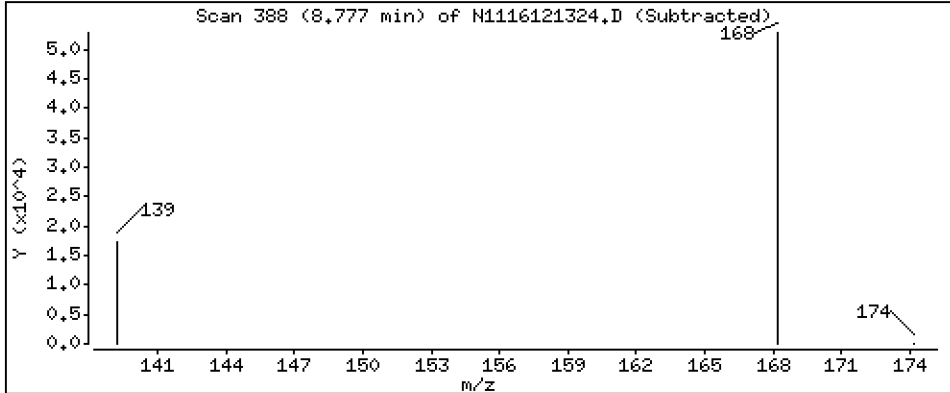
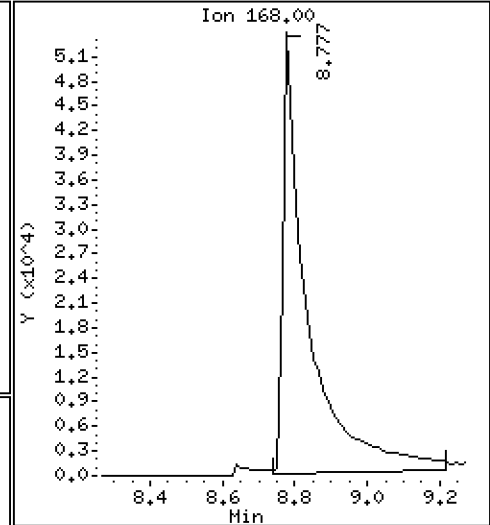
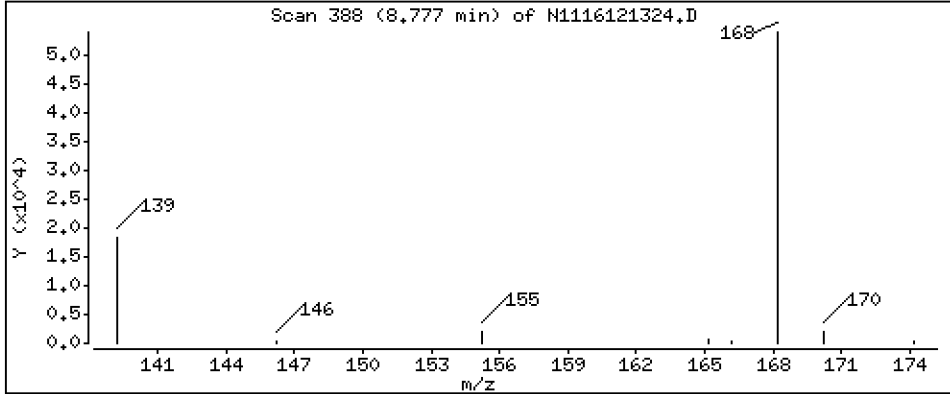
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 3550 ng/mL

13 Dibenzofuran



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

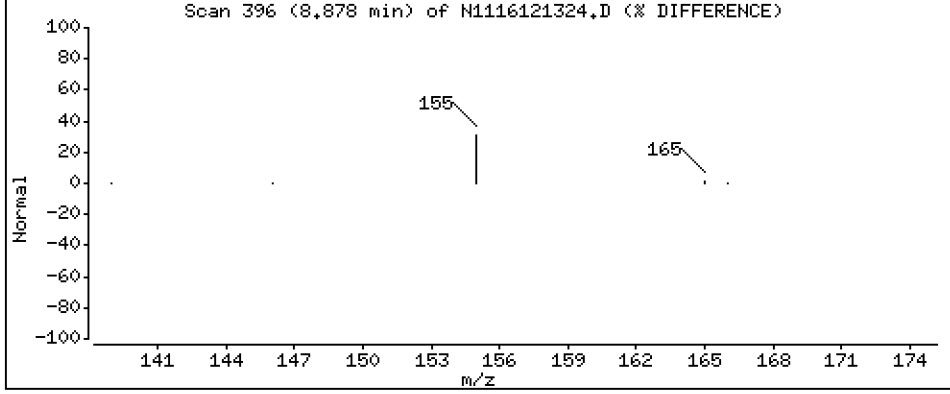
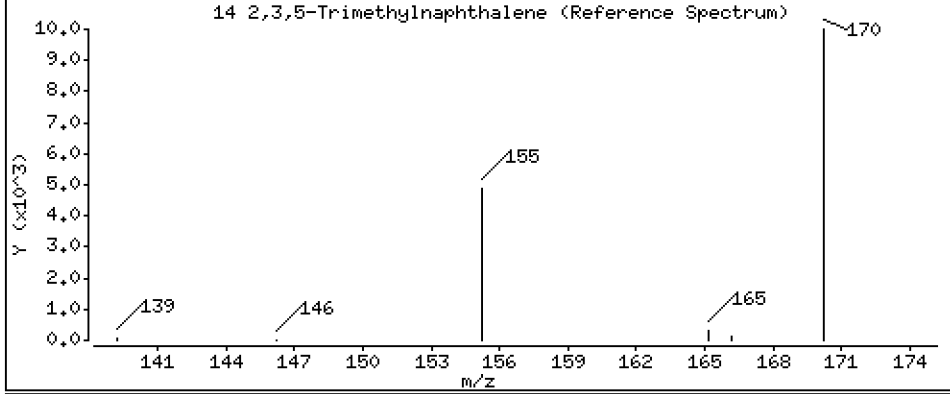
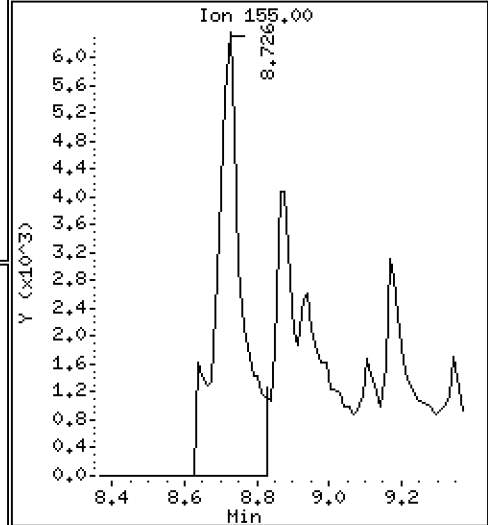
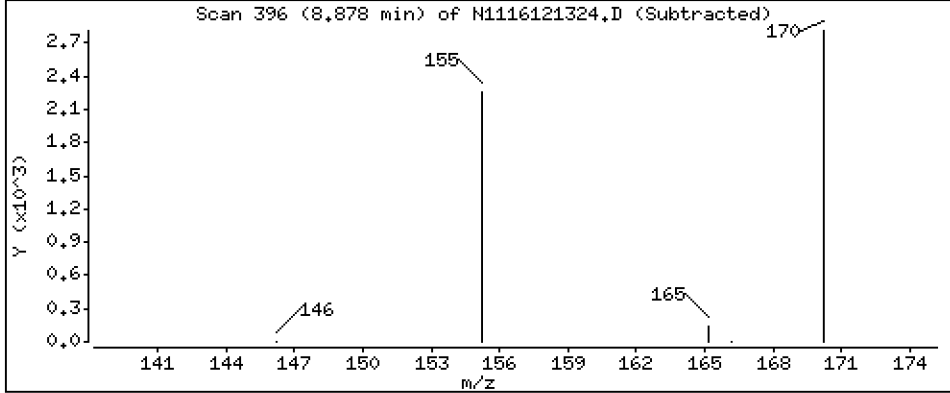
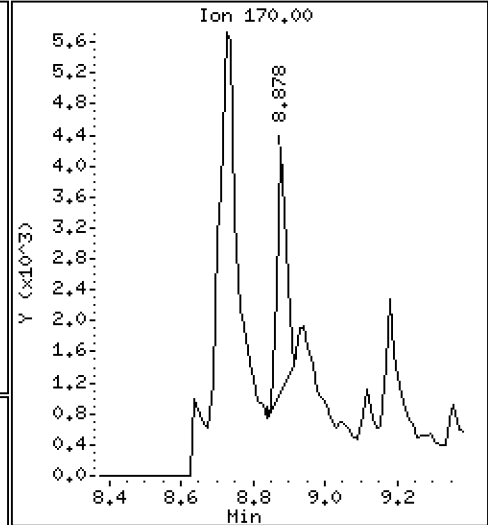
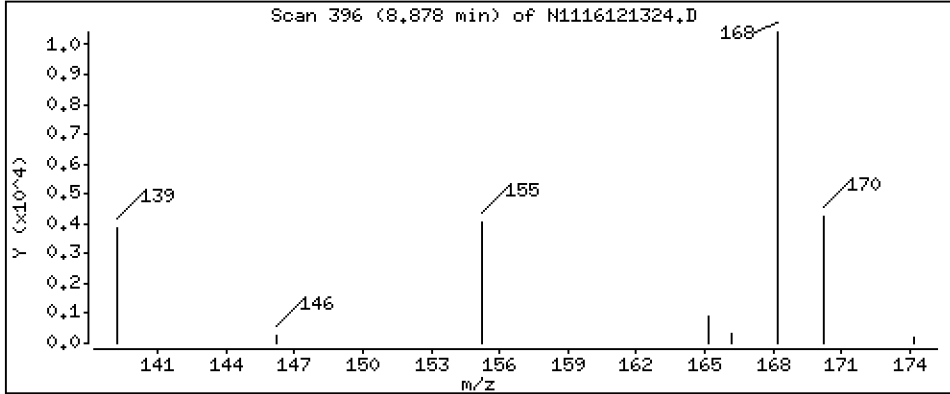
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 120 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

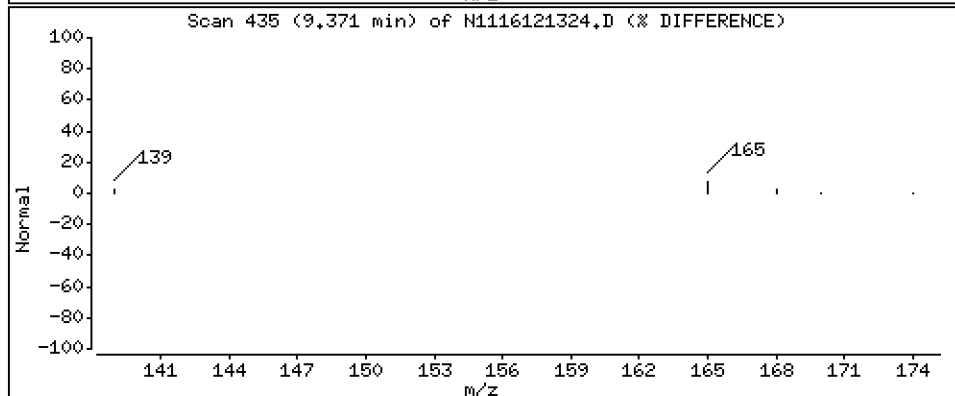
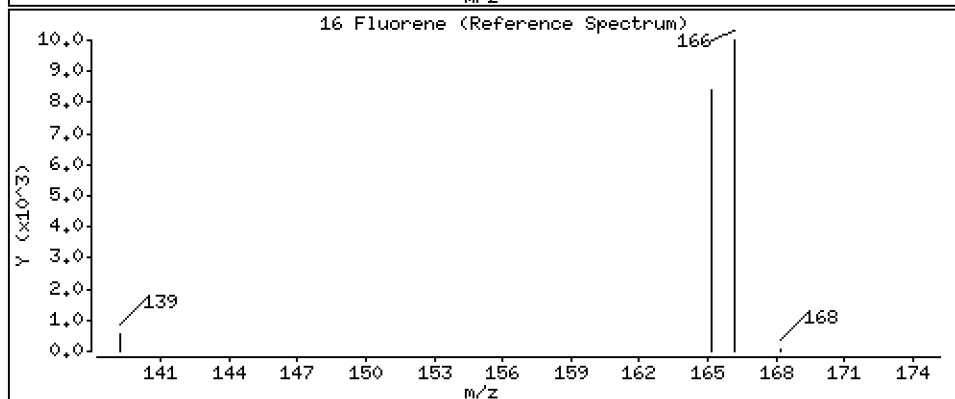
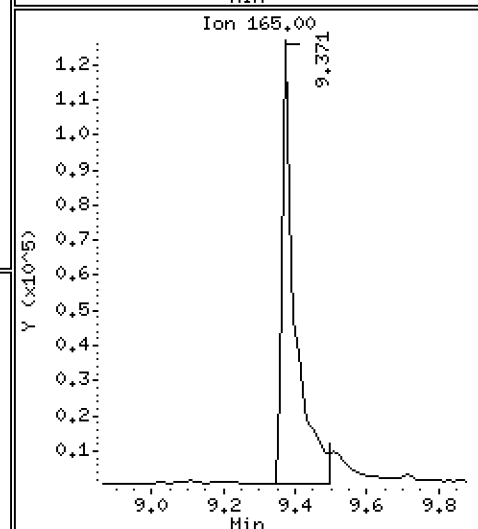
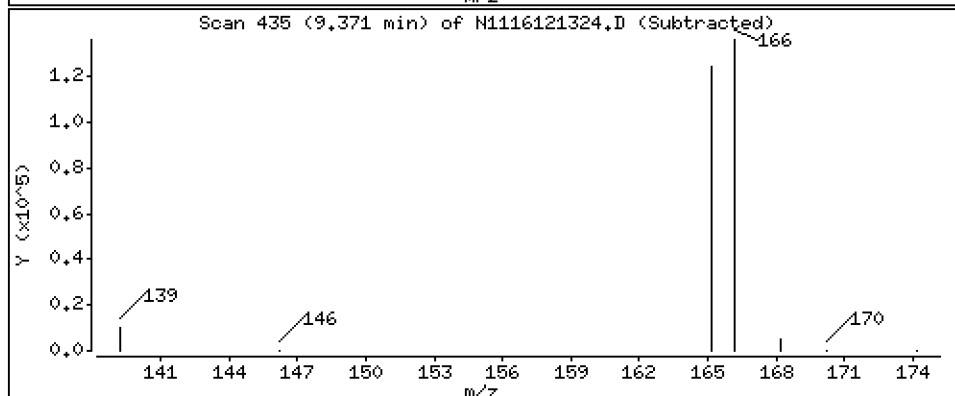
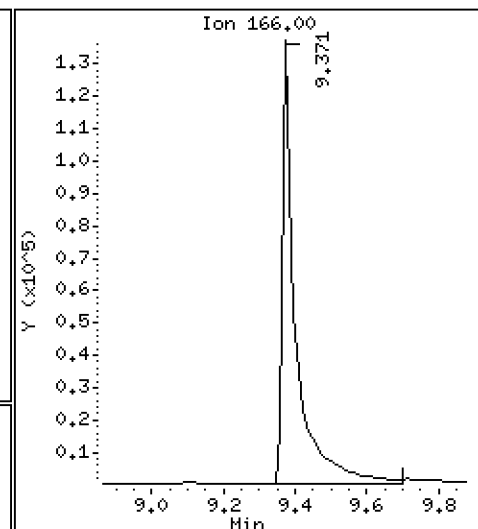
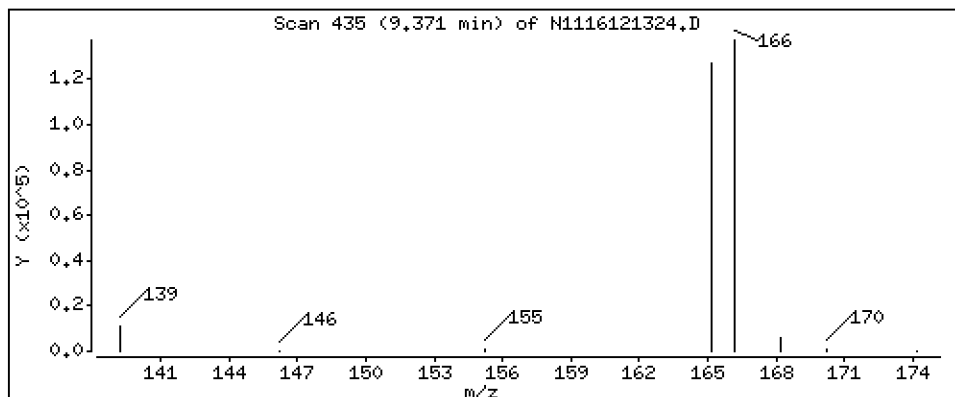
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 6330 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

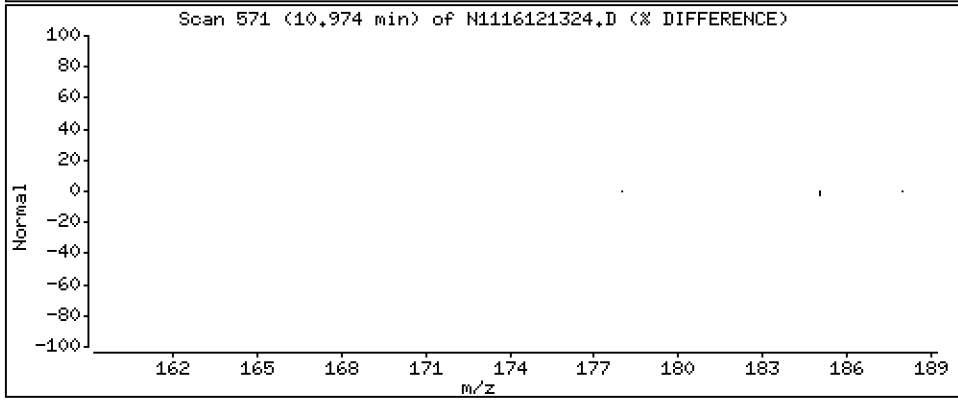
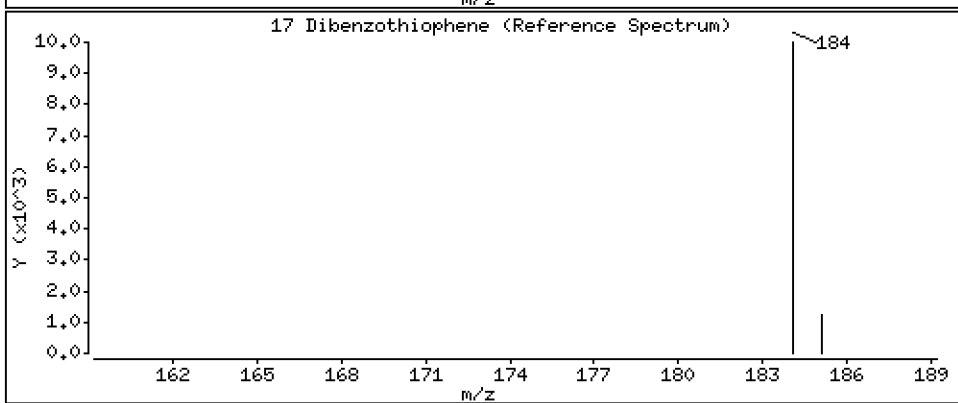
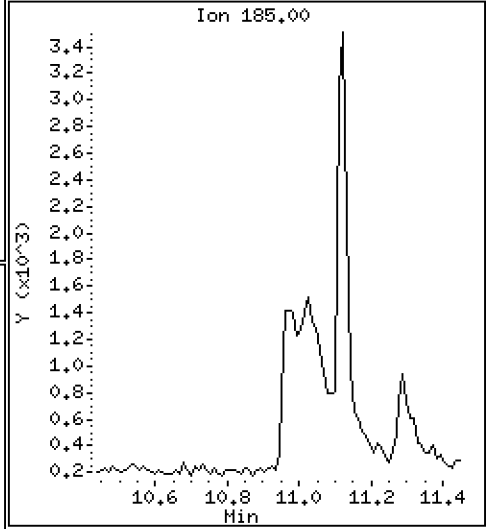
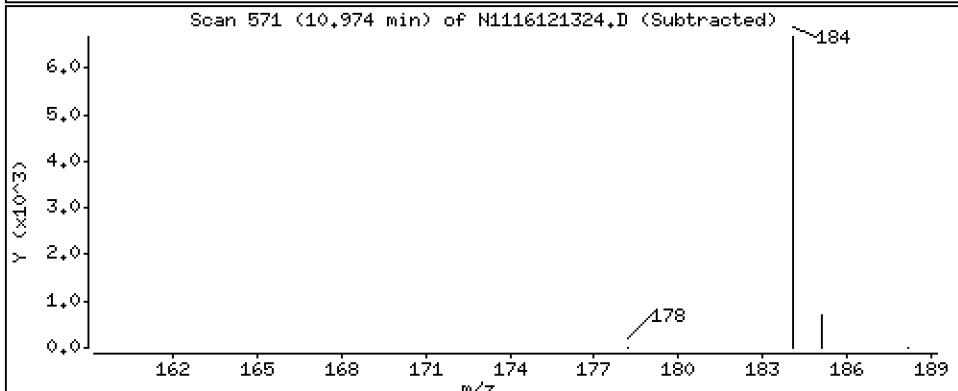
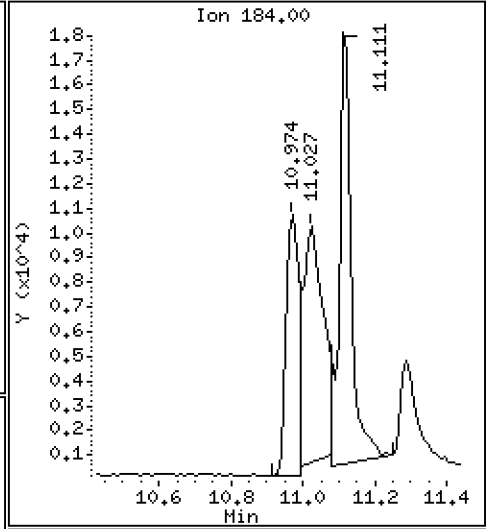
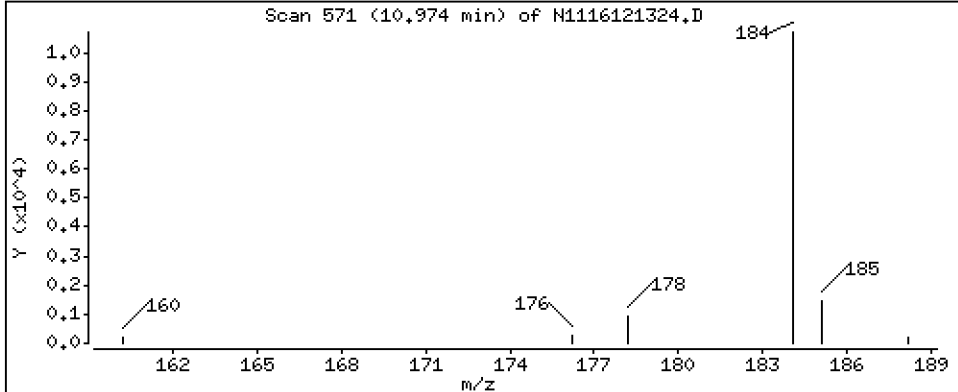
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 381 ng/mL

17 Dibenzothiophene



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

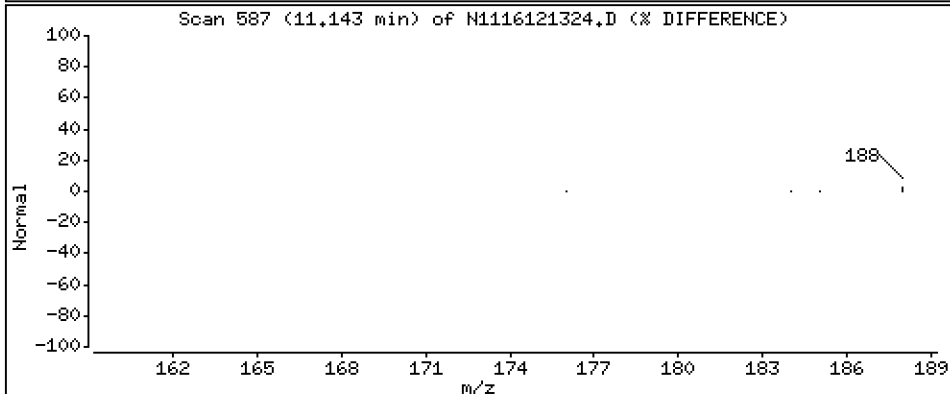
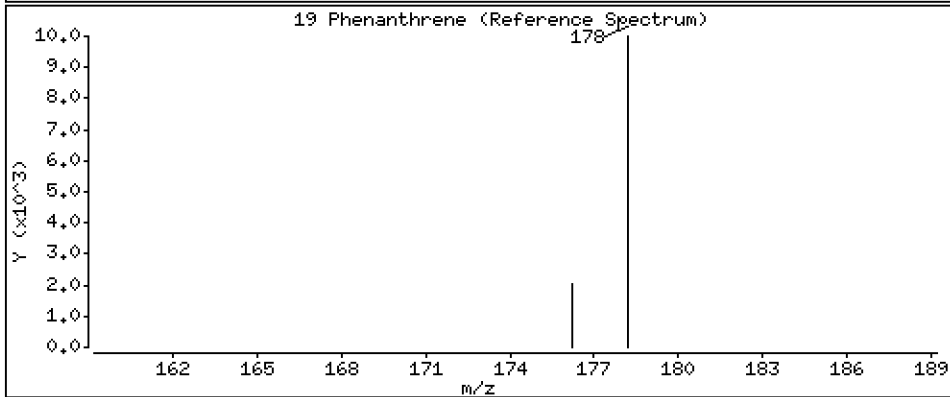
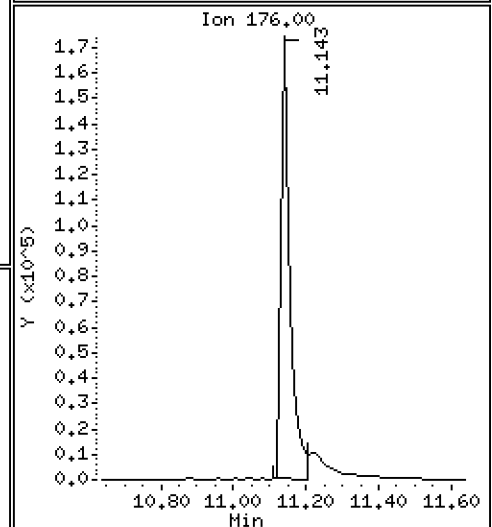
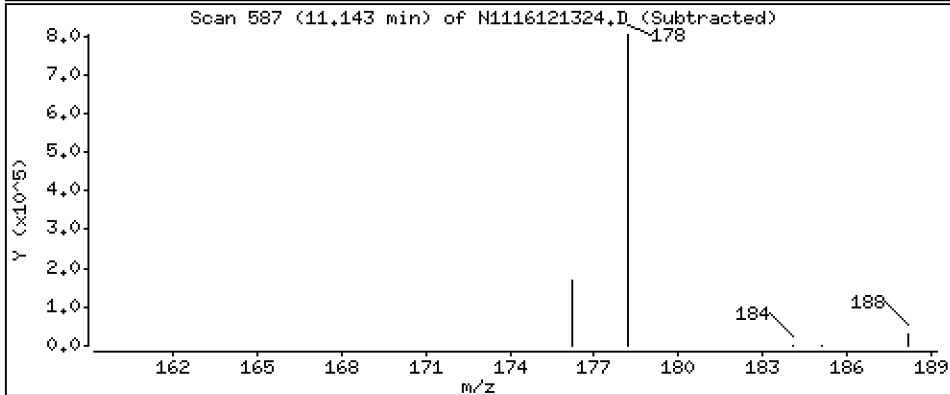
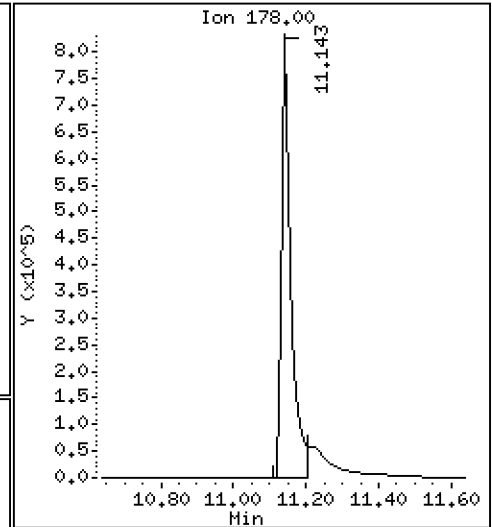
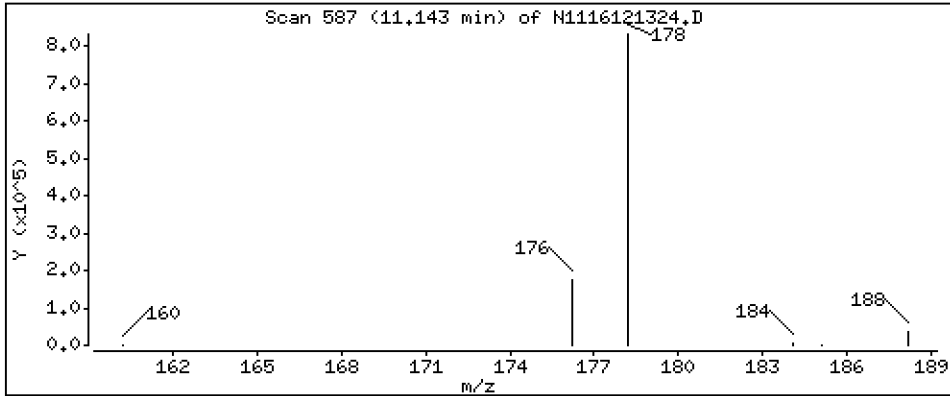
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 16700 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

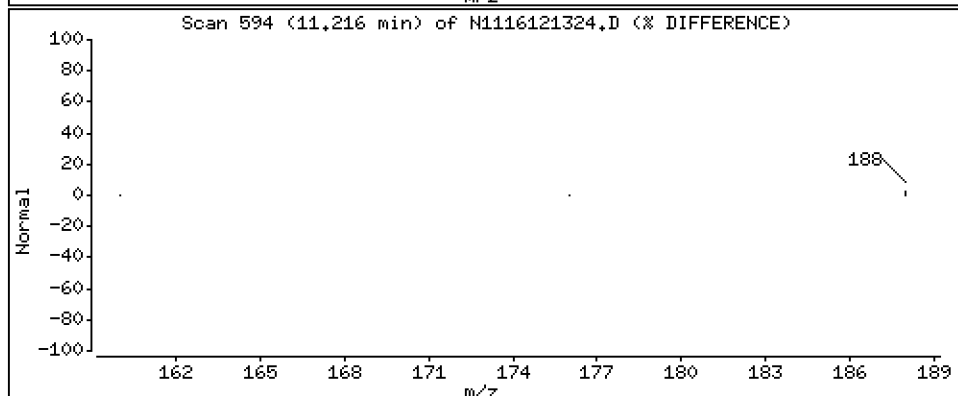
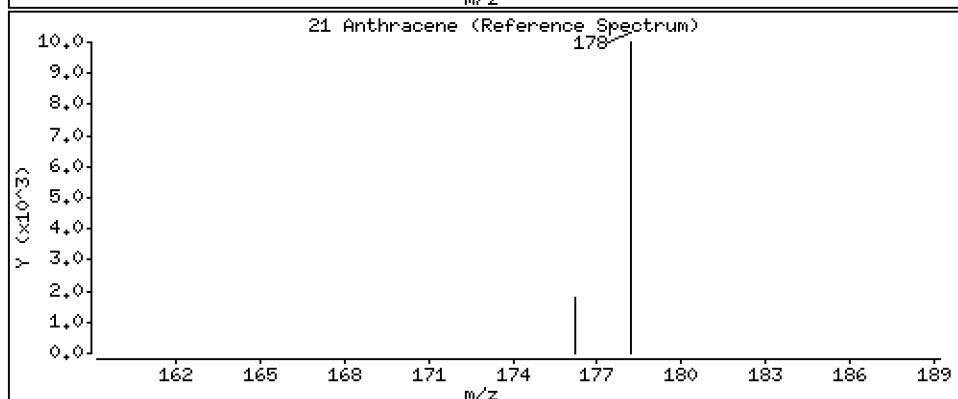
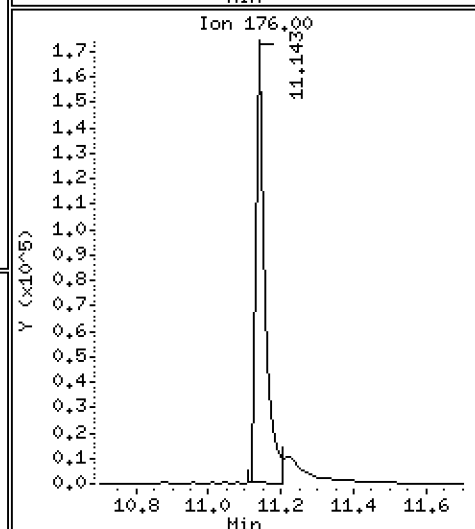
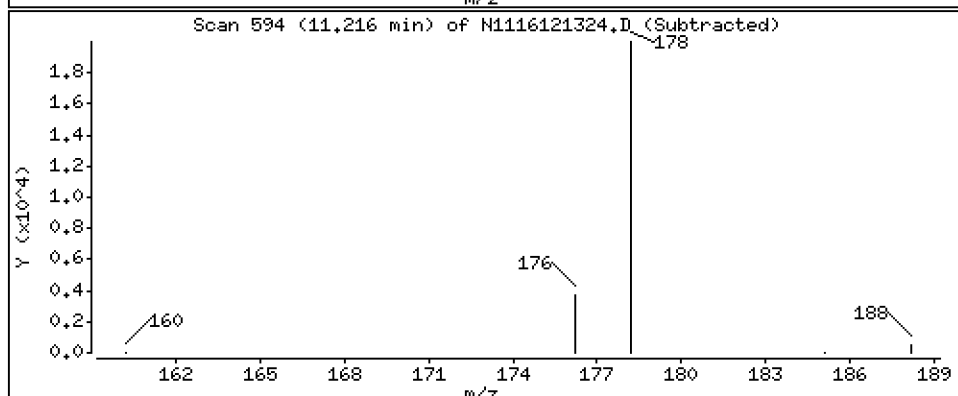
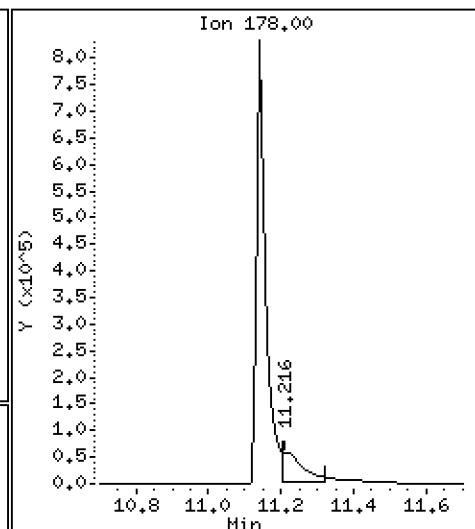
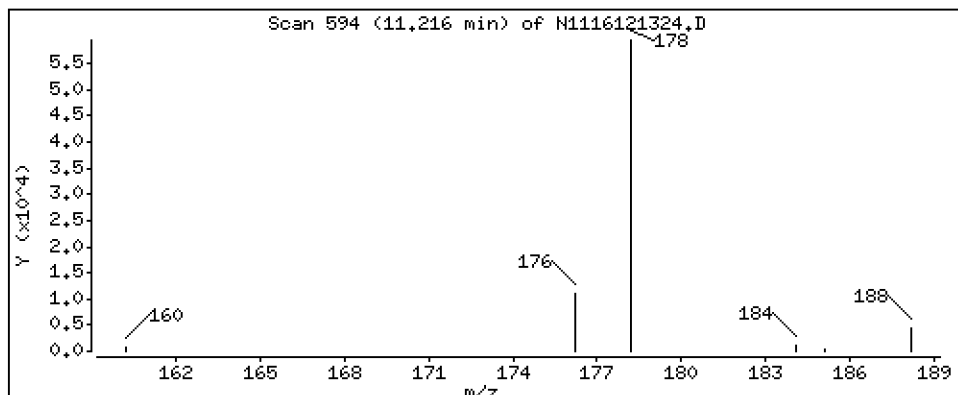
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 2820 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

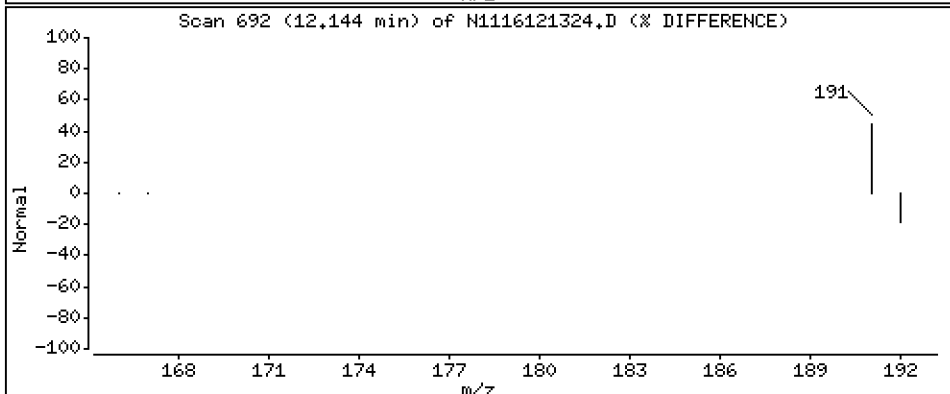
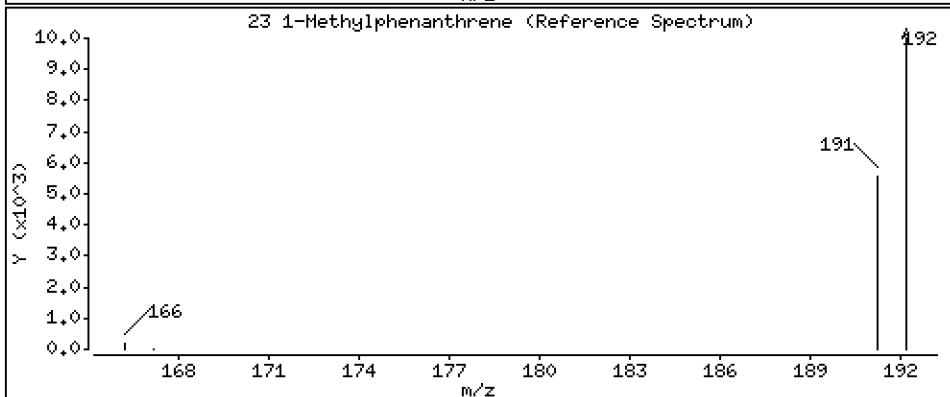
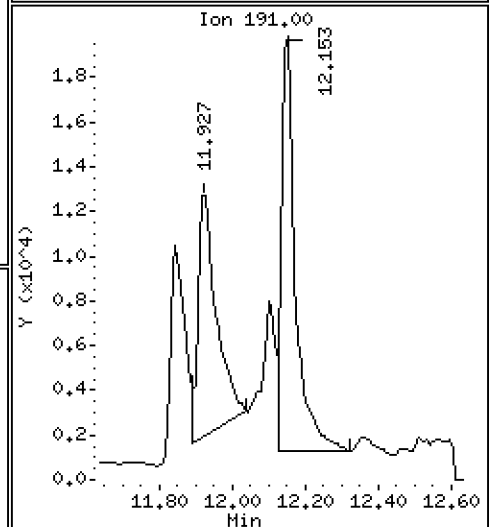
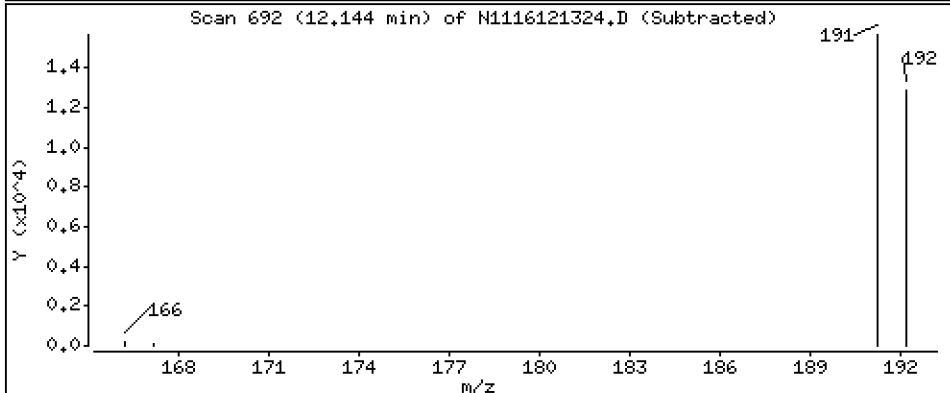
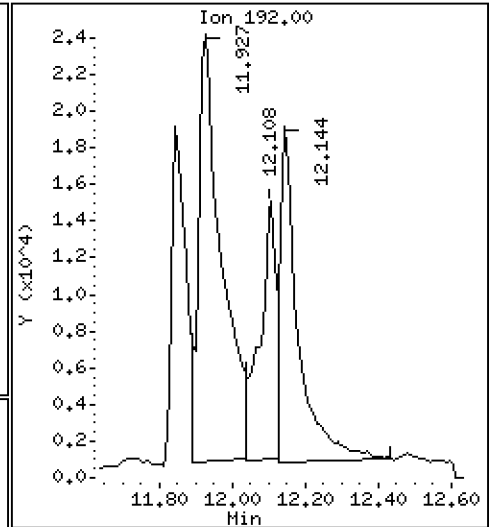
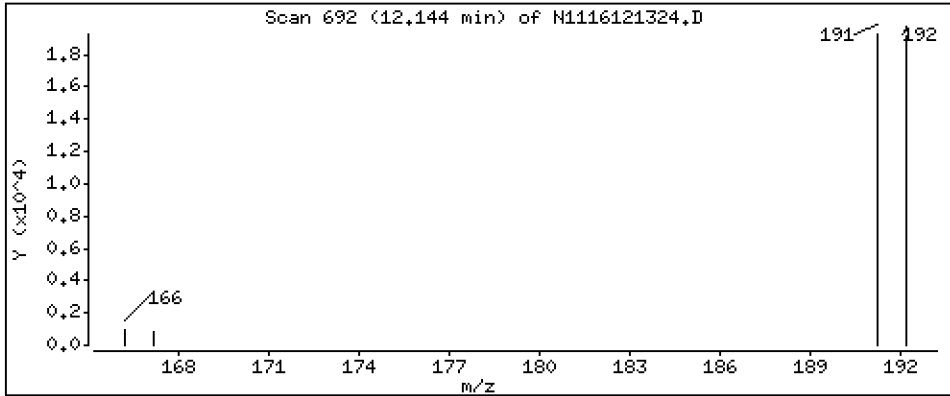
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 828 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

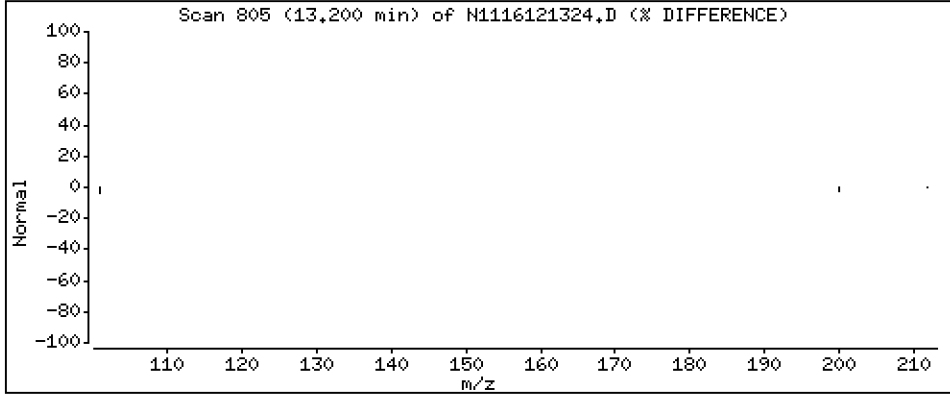
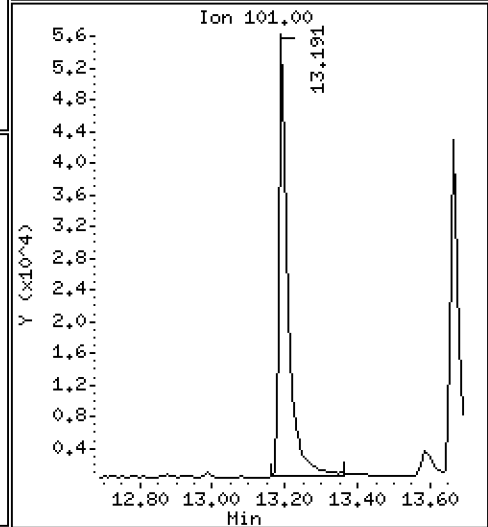
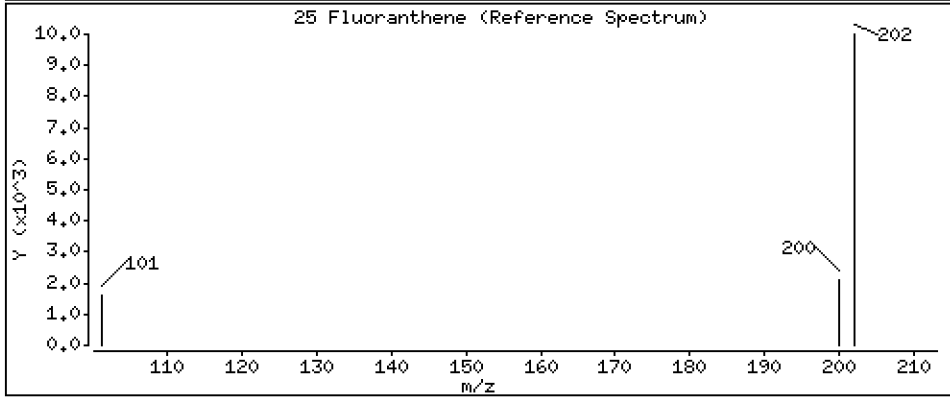
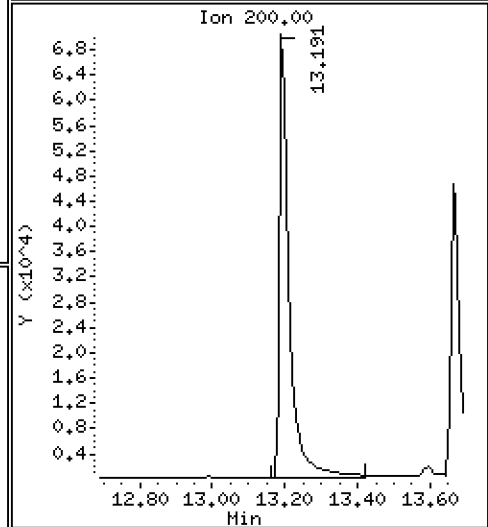
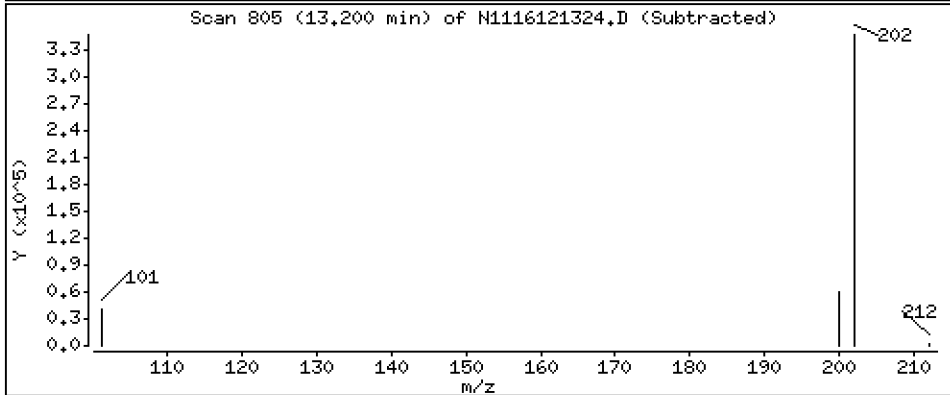
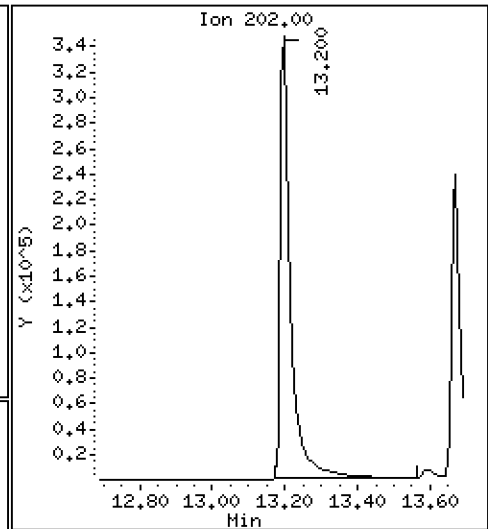
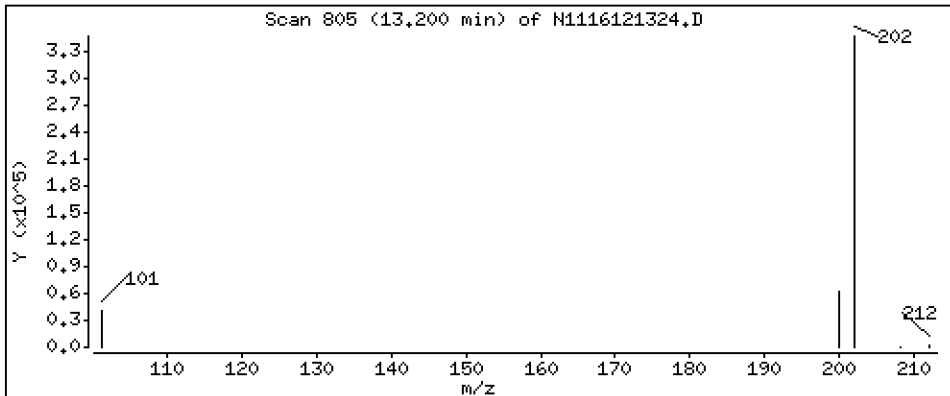
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 8410 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

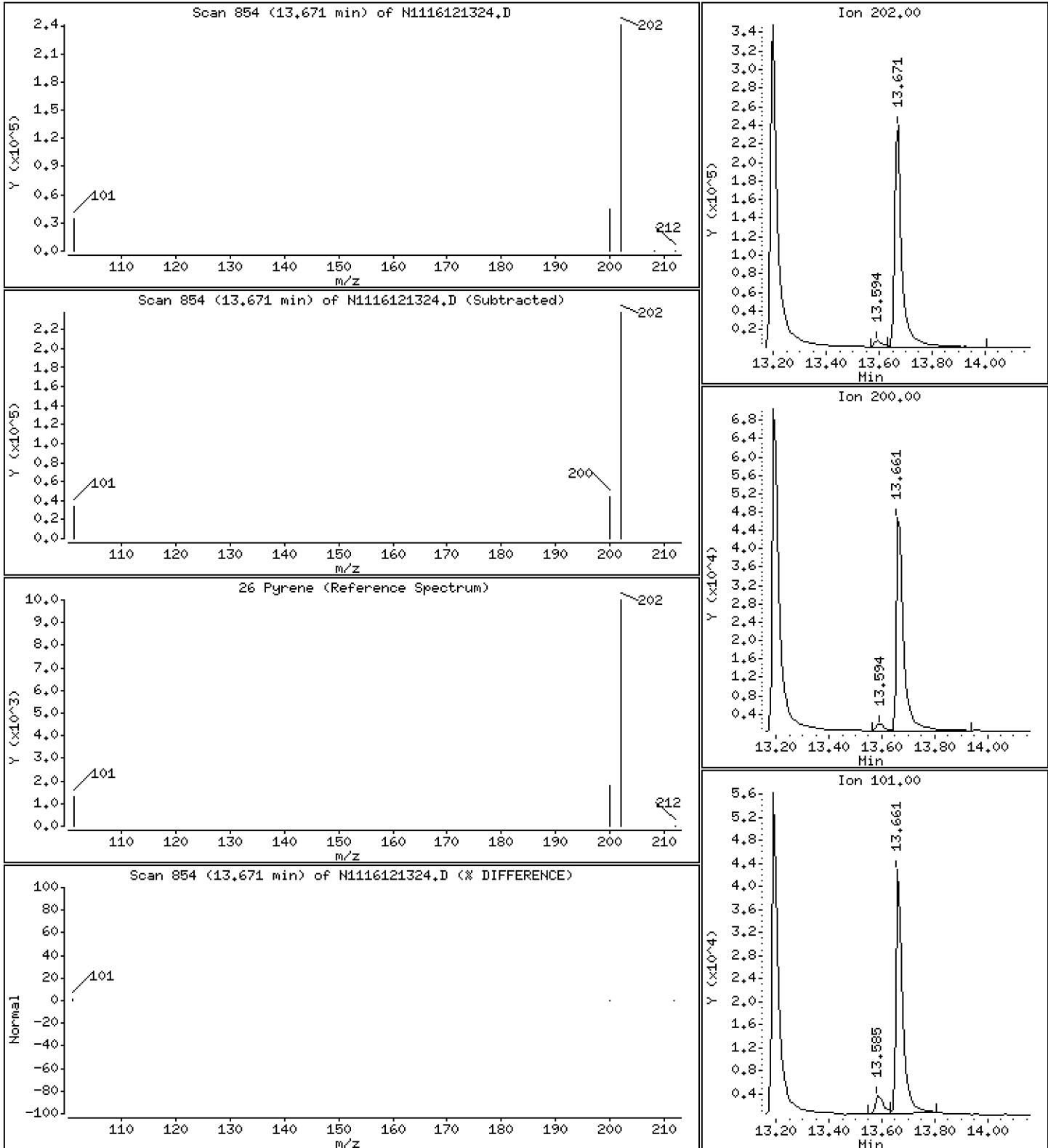
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 5940 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

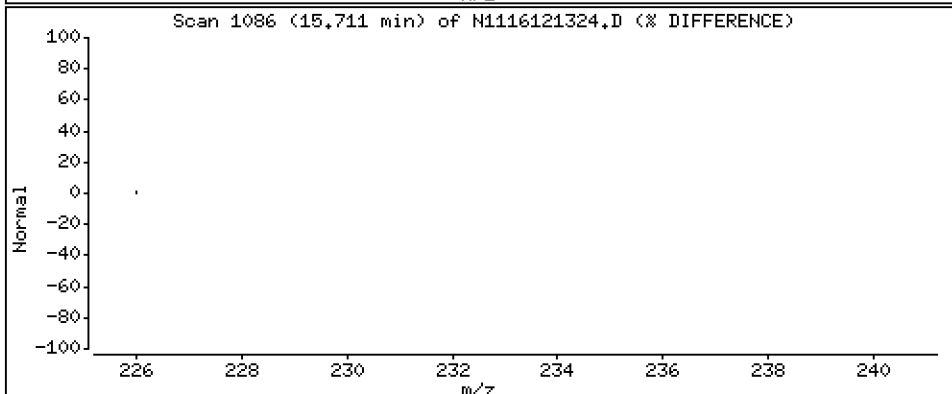
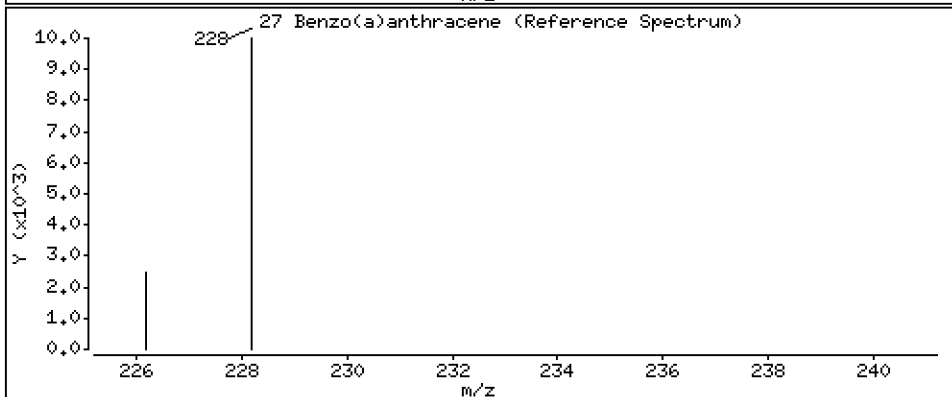
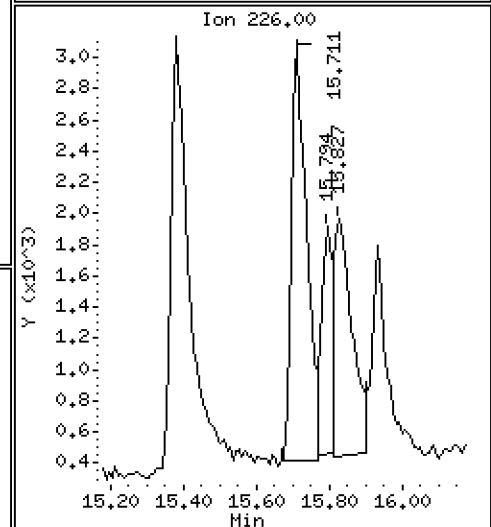
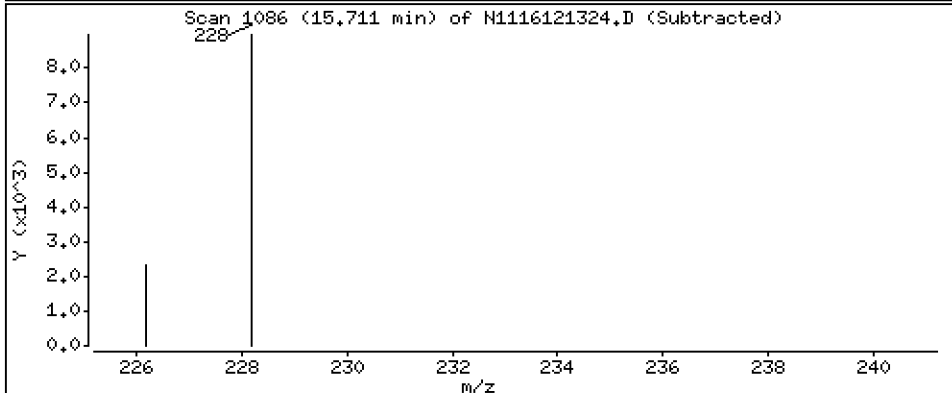
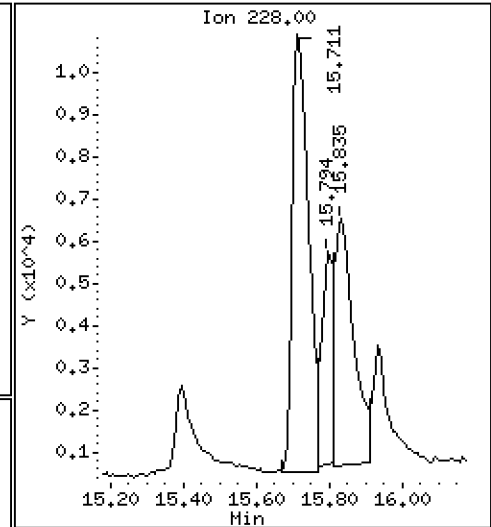
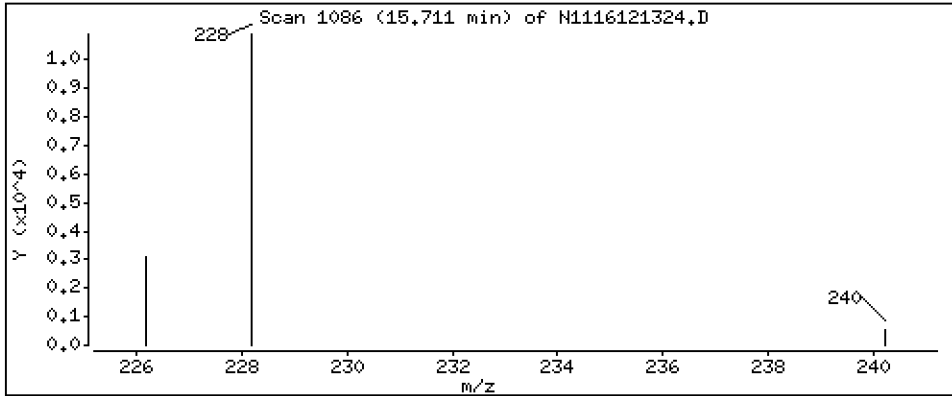
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 472 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

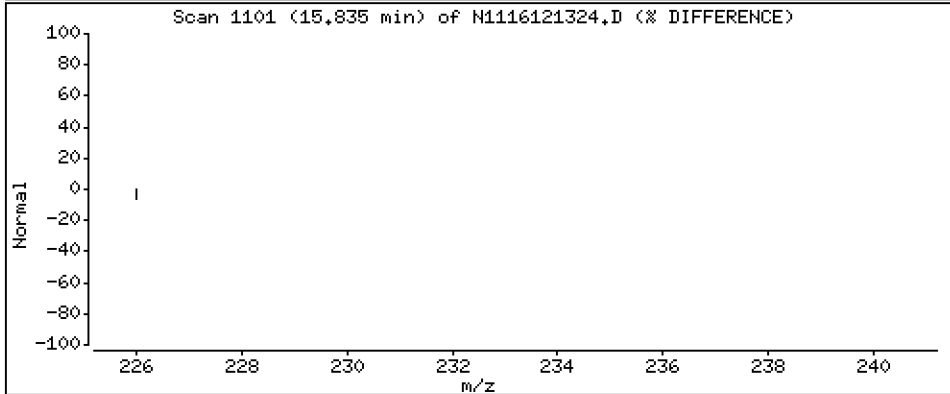
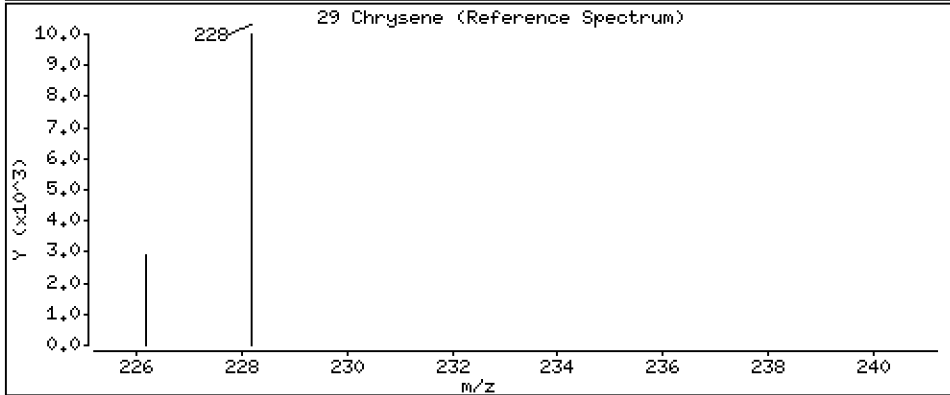
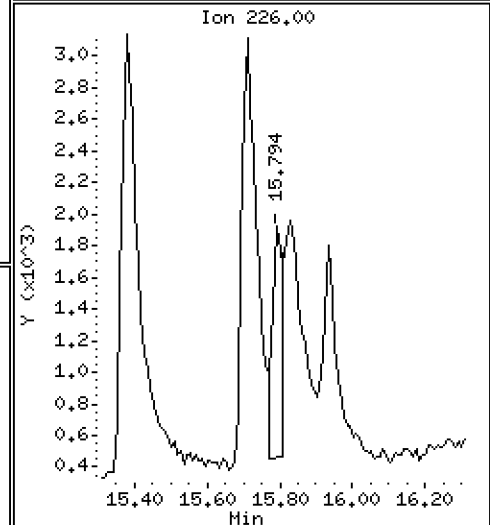
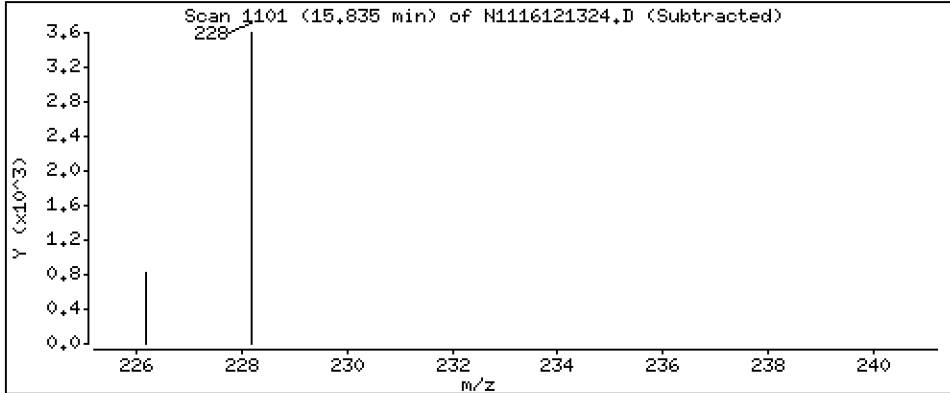
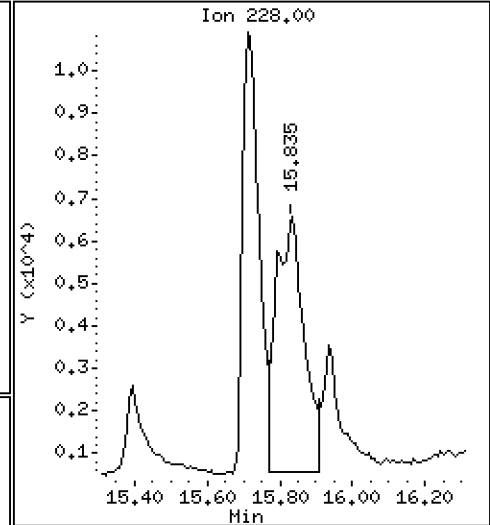
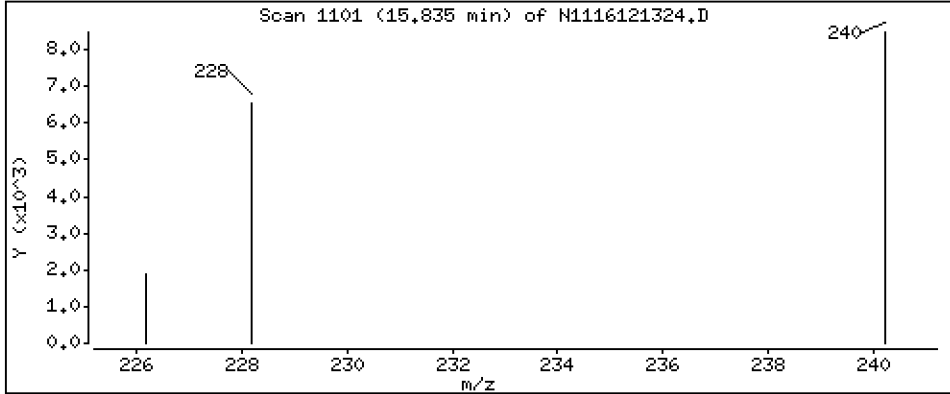
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 429 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

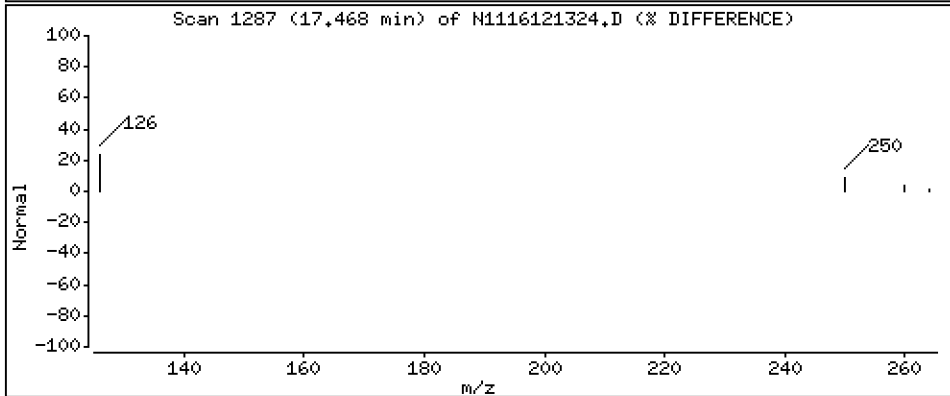
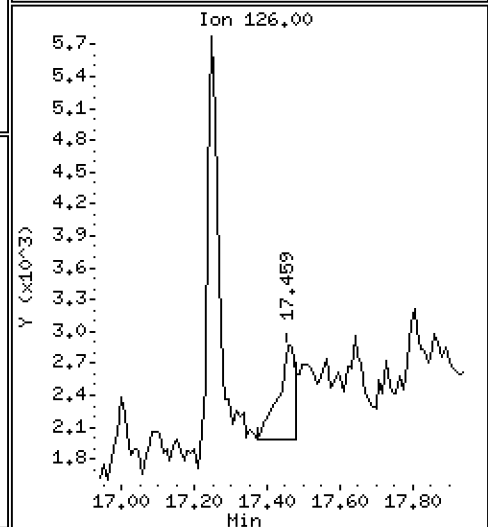
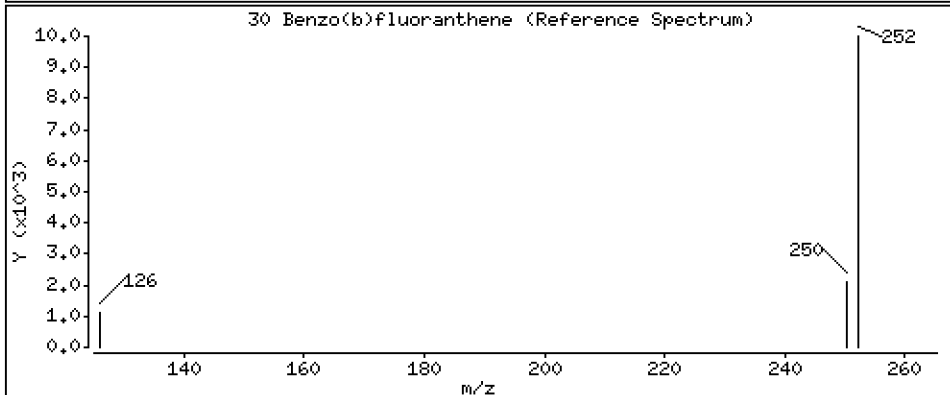
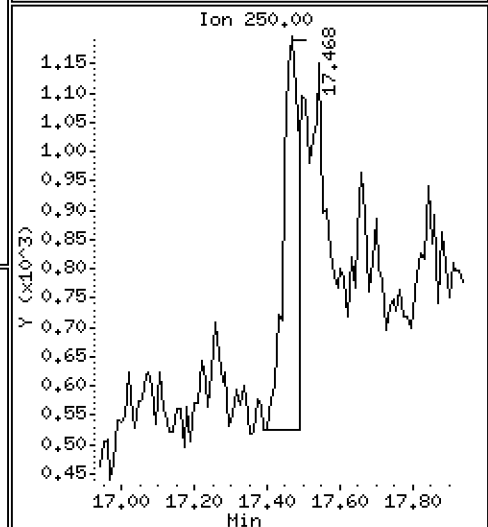
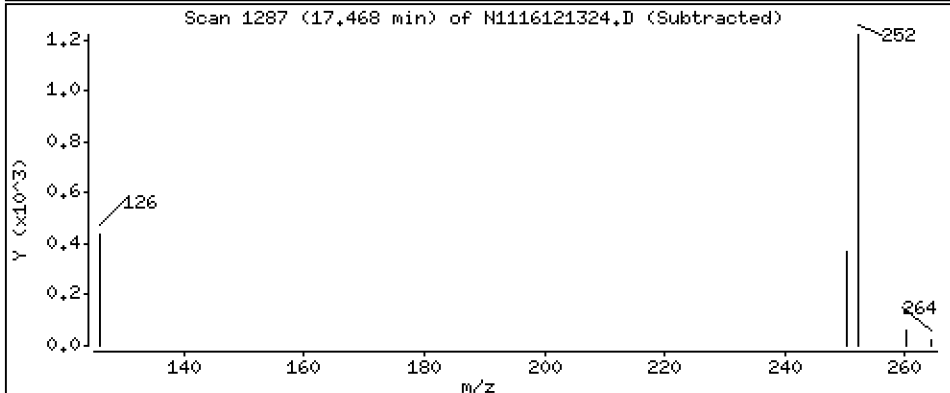
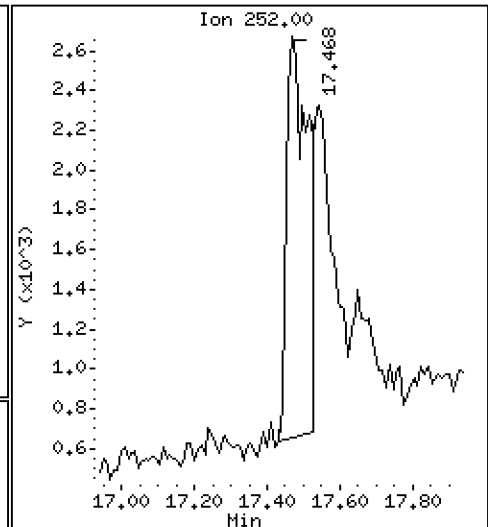
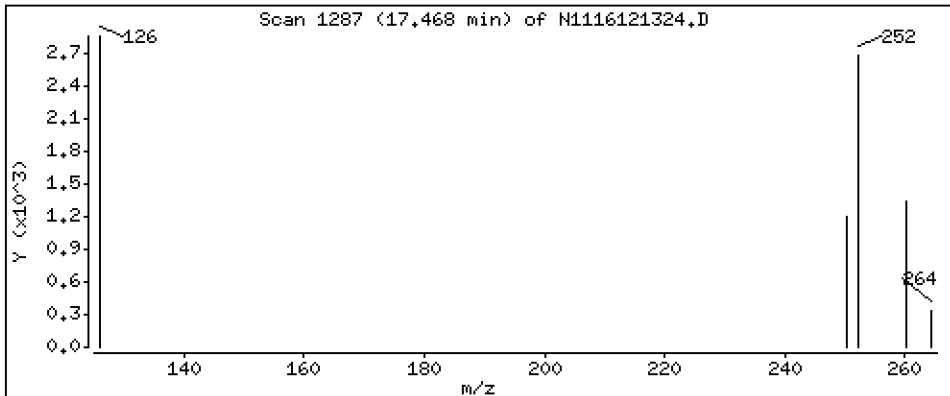
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 119 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

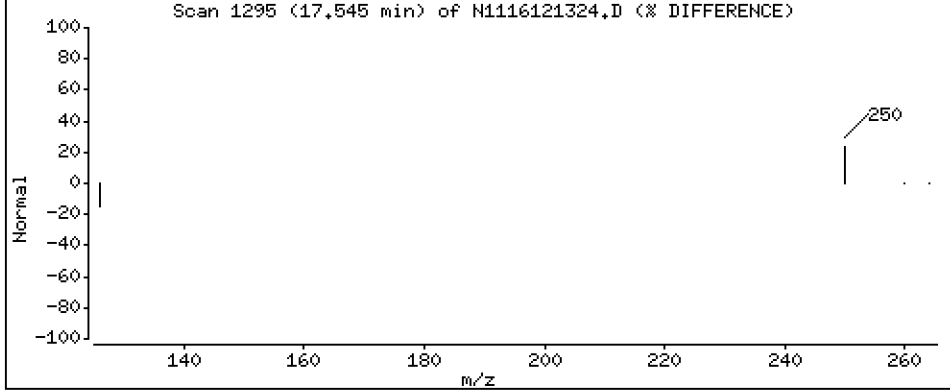
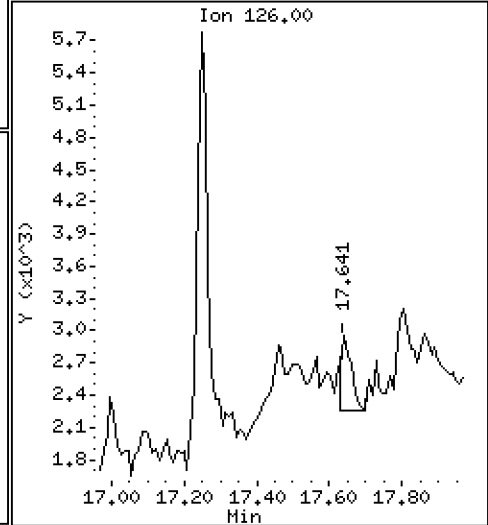
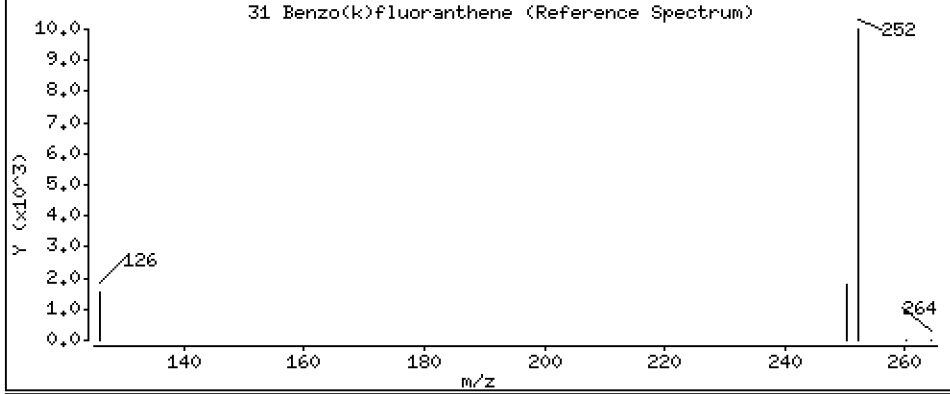
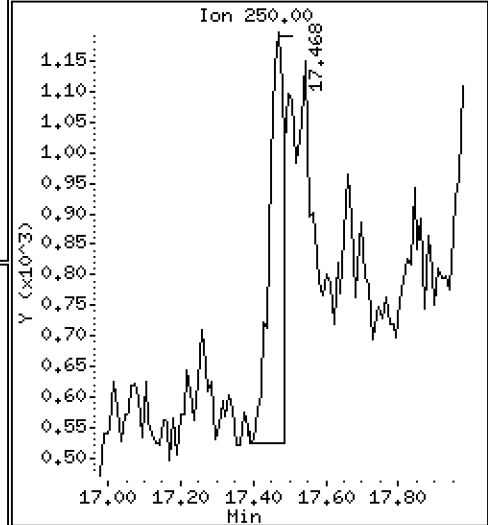
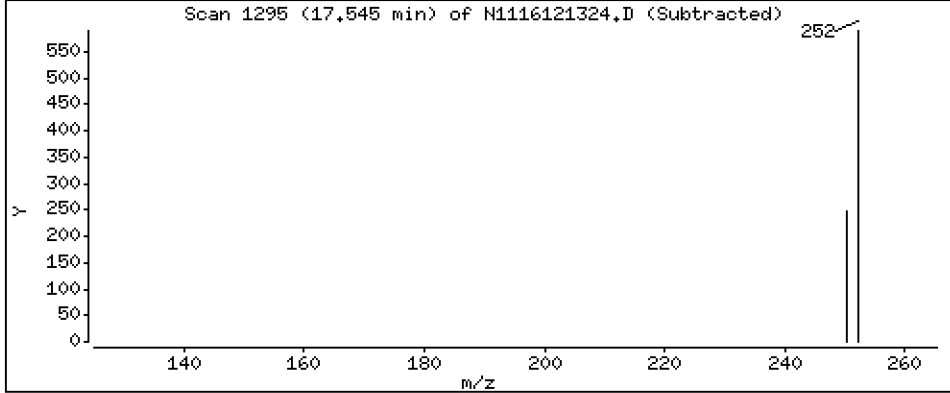
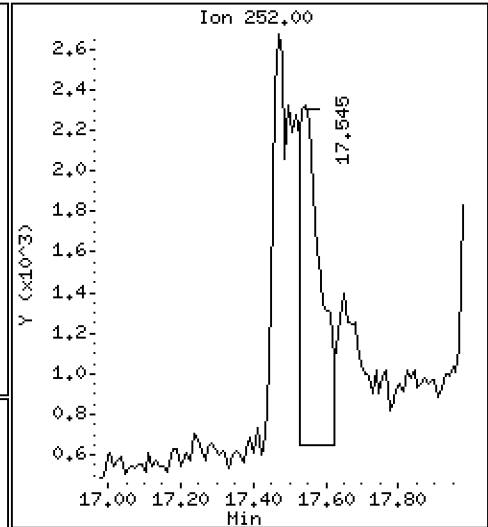
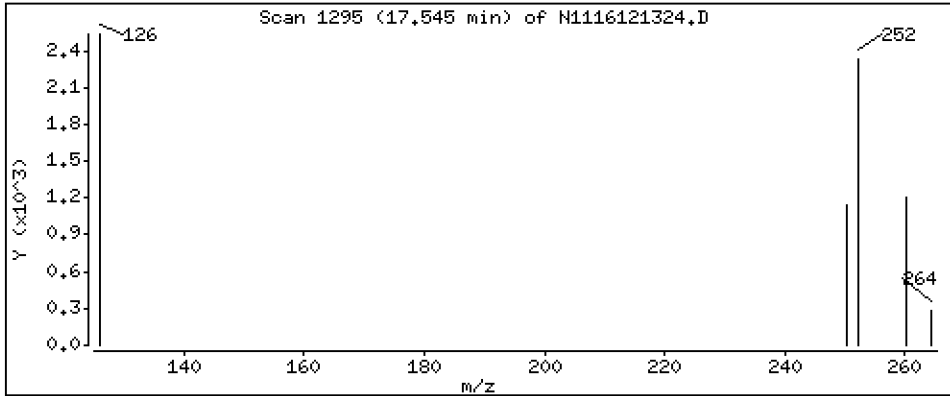
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 92,2 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

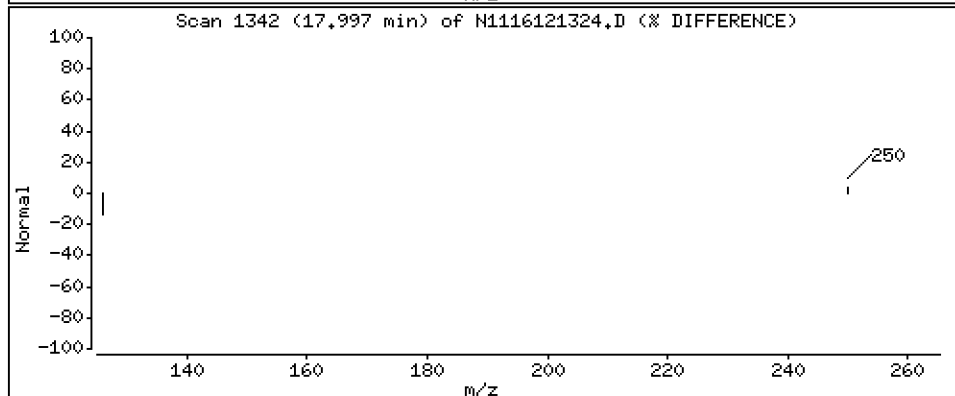
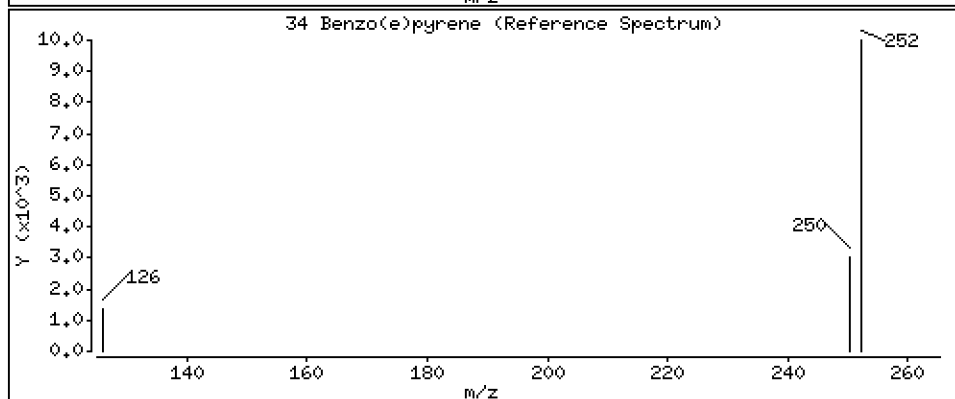
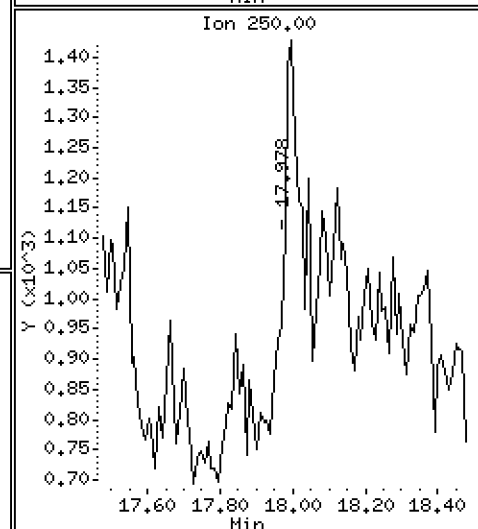
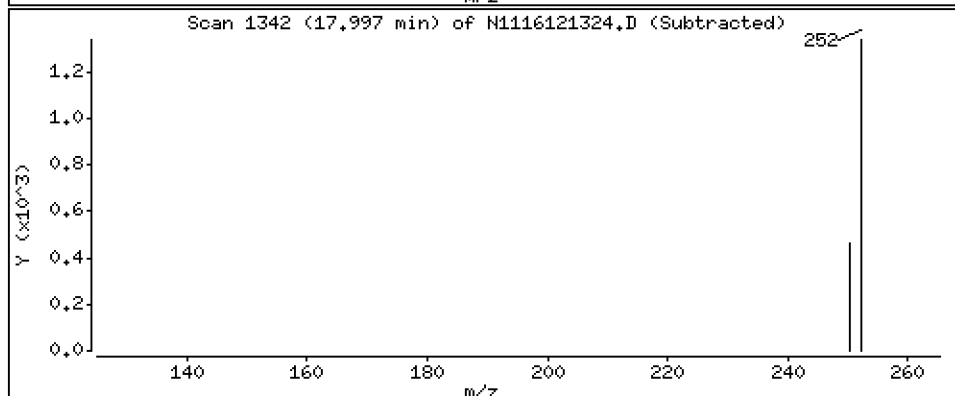
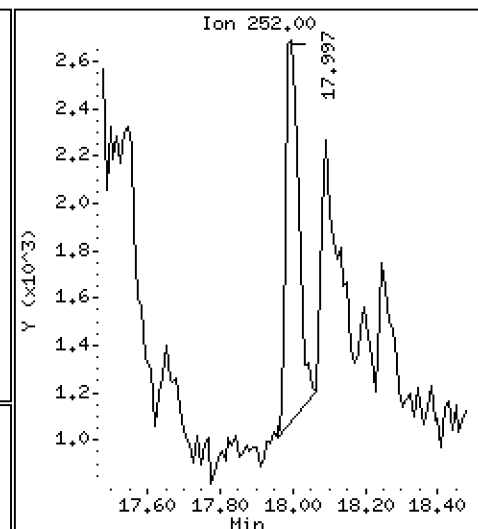
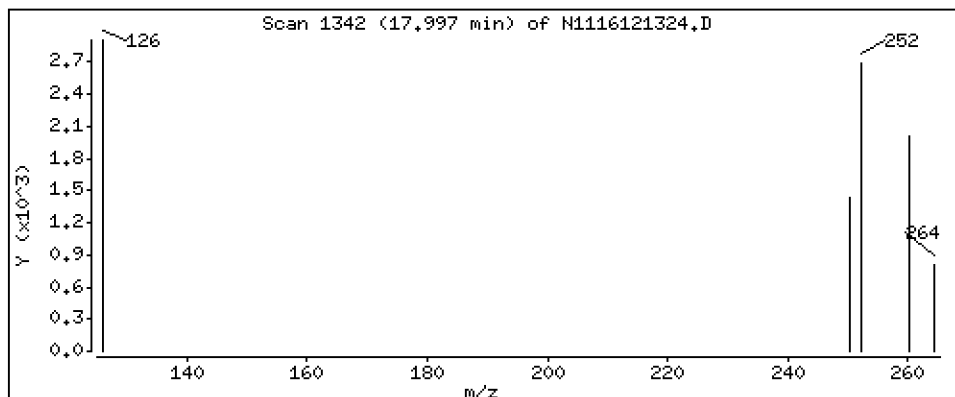
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 61,1 ng/mL



Date : 13-DEC-2016 23:24

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-10,20

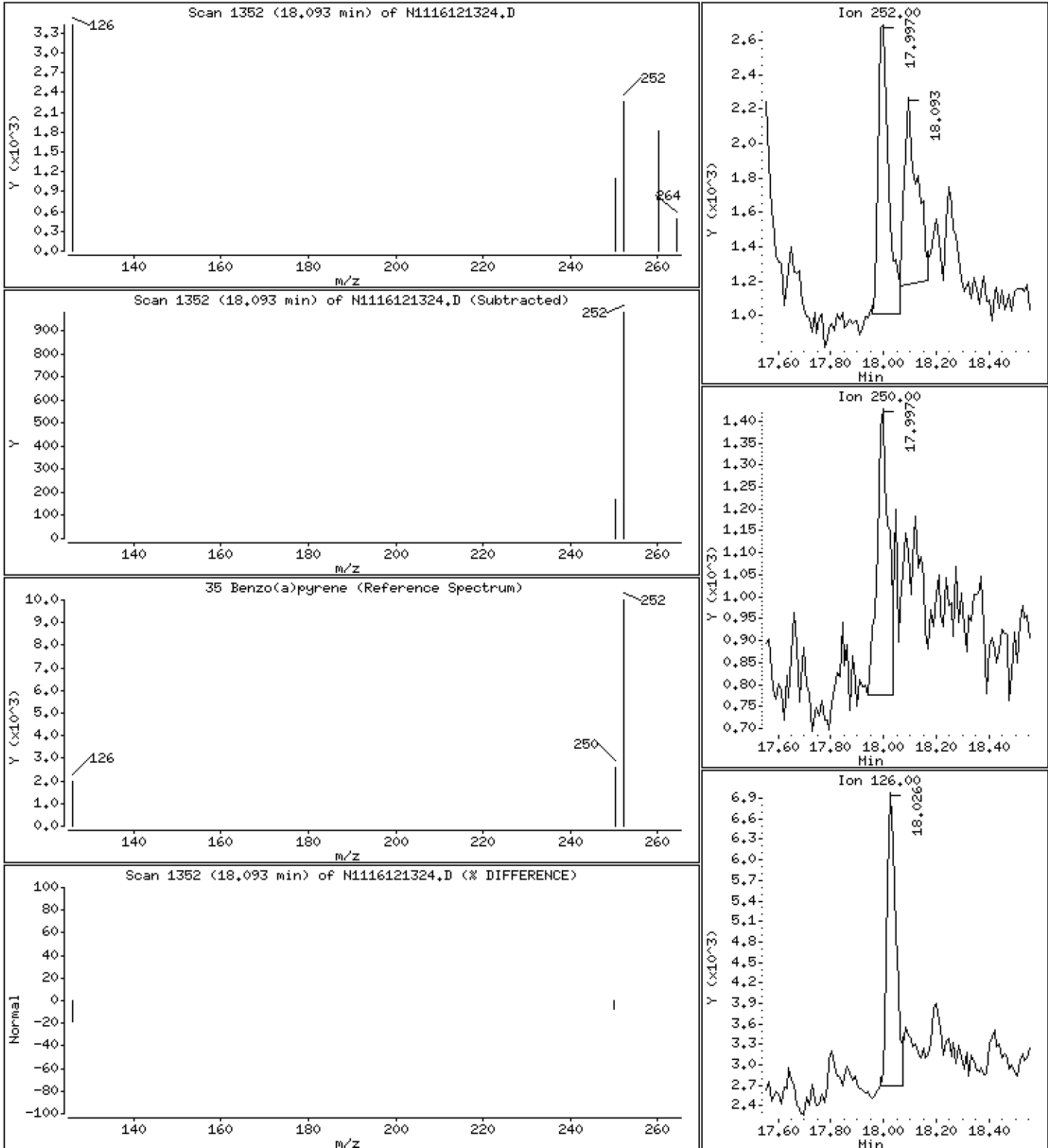
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 57,1 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121324.D
 Lab Smp Id: 16K0321-10
 Inj Date : 13-DEC-2016 23:24 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-10,20
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 19
 Dil Factor: 20.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.574	5.556	(1.000)	260614	200.000	
2 Naphthalene	128		5.601	5.583	(1.005)	11081	8.26982	165
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		6.610	6.568	(1.186)	55596	49.4194	988
6 1-Methylnaphthalene	142		6.820	6.810	(1.224)	78325	70.9870	1420
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		7.493	7.440	(0.883)	26427	14.7617	295
9 2,6-Dimethylnaphthalene	156		7.514	7.493	(0.886)	36493	28.3670	567
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.484	8.483	(1.000)	160498	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	313514	308.169	6160
13 Dibenzofuran	168		8.776	8.763	(1.034)	256978	177.747	3550
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	5411	6.02031	120 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.370	9.370	(1.105)	353667	316.632	6330
17 Dibenzothiophene	184		10.974	10.932	(0.987)	27251	19.0701	381
* 18 Phenanthrene-d10	188		11.121	11.110	(1.000)	289110	200.000	
19 Phenanthrene	178		11.142	11.142	(1.002)	1453565	837.010	16700
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.216	11.205	(1.009)	230755	141.208	2820 (M)
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.144	12.135	(1.092)	63325	41.3836	828
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		13.200	13.190	(1.187)	708364	420.378	8410
26 Pyrene	202		13.671	13.670	(0.867)	477317	297.069	5940
27 Benzo(a)anthracene	228		15.710	15.677	(0.996)	32829	23.6117	472
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	246954	200.000	
29 Chrysene	228		15.835	15.810	(1.004)	33061	21.4388	429 (M)
30 Benzo(b)fluoranthene	252		17.468	17.439	(0.960)	8217	5.94617	119 (M)
31 Benzo(k)fluoranthene	252		17.545	17.478	(0.964)	6920	4.60874	92.2 (M)
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.996	17.977	(0.989)	4103	3.05545	61.1 (M)
35 Benzo(a)pyrene	252	18.093	18.054	(0.994)	3612	2.85478	57.1
* 36 Perylene-d12	264	18.198	18.198	(1.000)	243107	200.000	
37 Perylene	252	Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121324.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-10
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	260614	-47.20
11 Acenaphthene-d10	240770	120385	481540	160498	-33.34
18 Phenanthrene-d10	429271	214636	858542	289110	-32.65
28 Chrysene-d12	387691	193846	775382	246954	-36.30
36 Perylene-d12	386259	193130	772518	243107	-37.06

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.33
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.12	0.09
28 Chrysene-d12	15.77	15.27	16.27	15.77	0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	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 - N1116121324.D

Lab ID: 16K0321-10
nt11.i, 20161213.b\lowsim.m, 13-DEC-2016 23:24

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

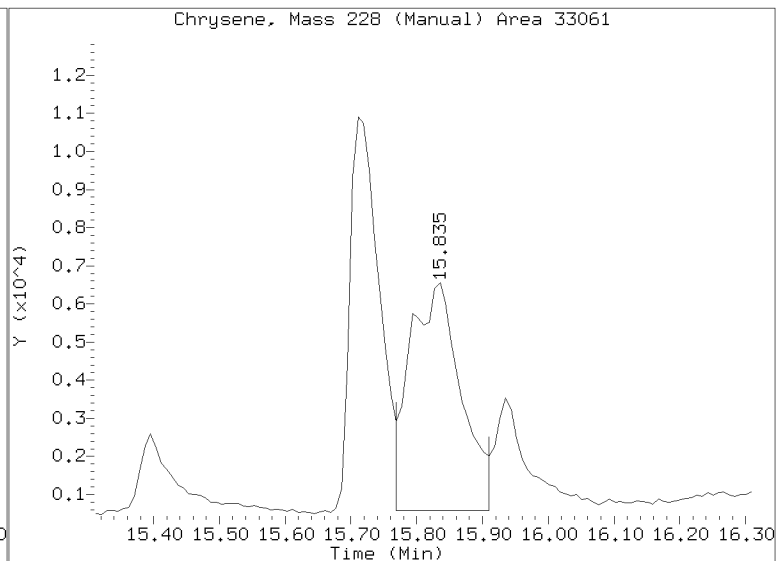
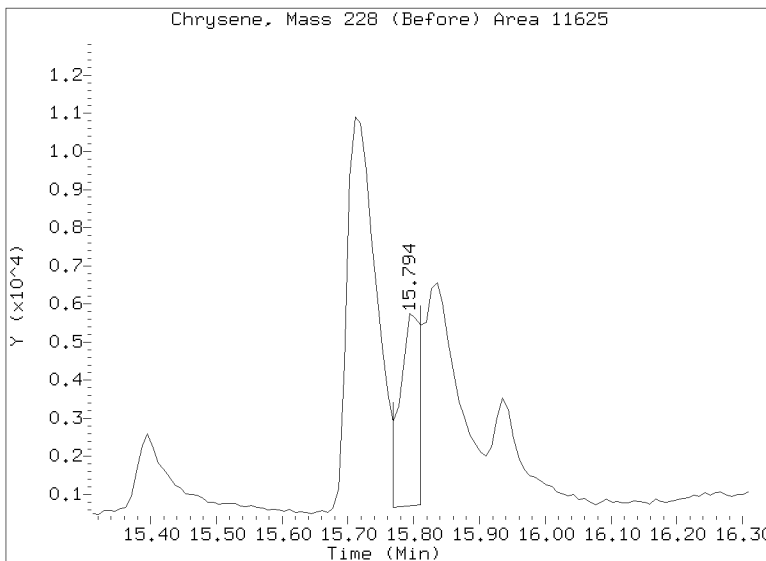
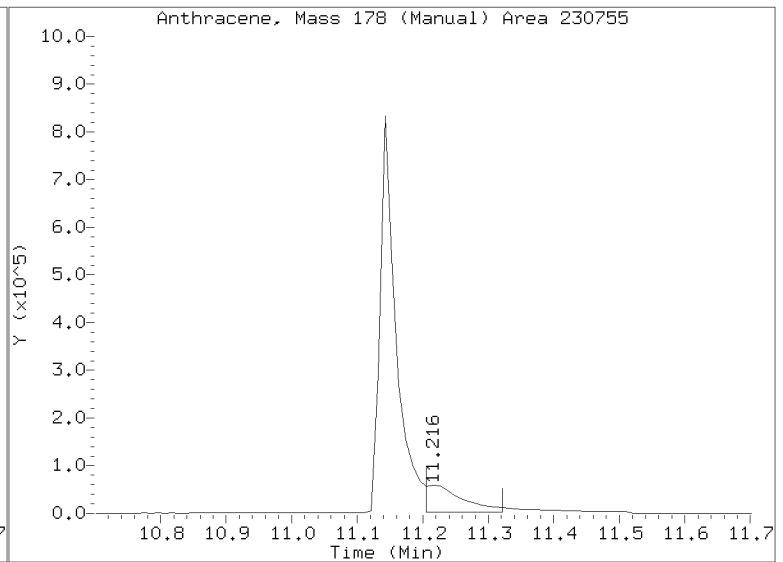
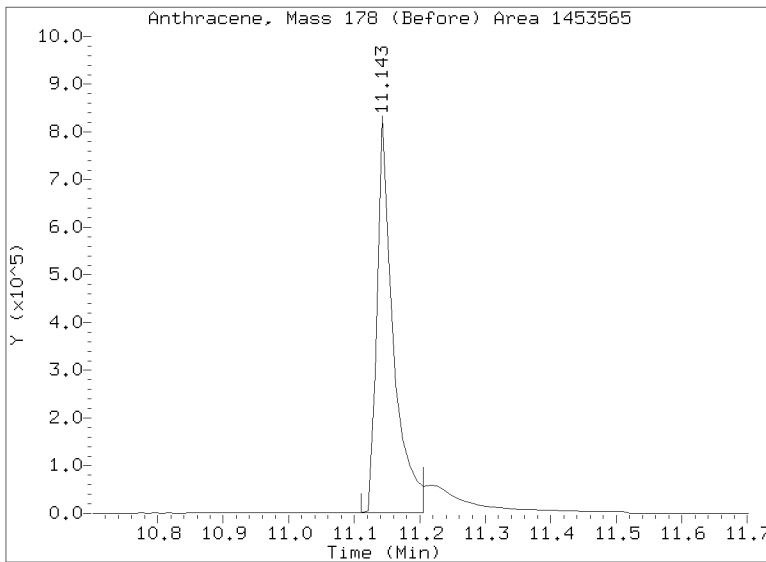
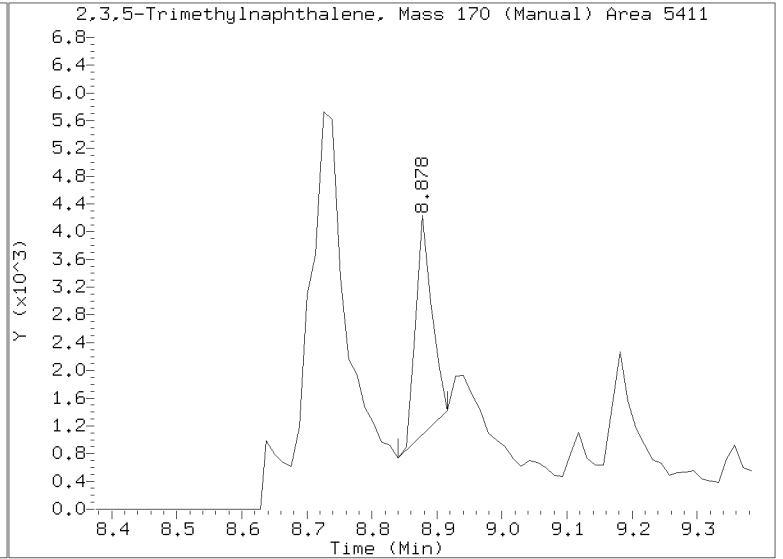
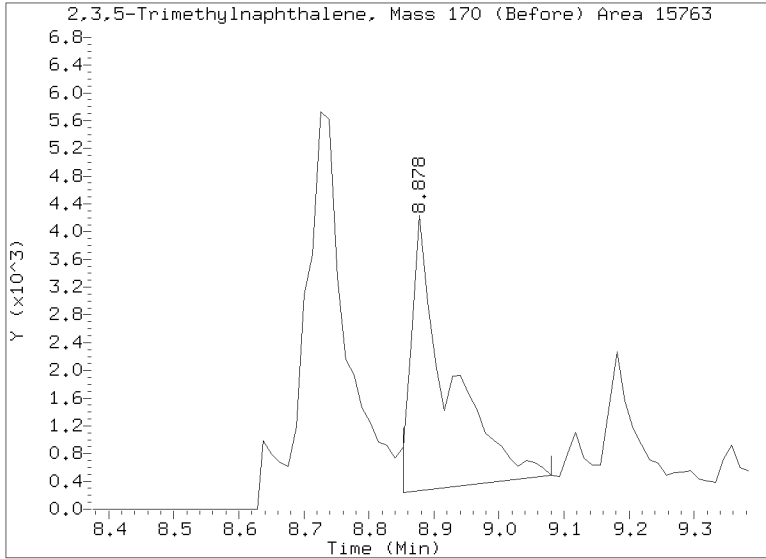
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Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121324.D
Injection Date: 13-DEC-2016 23:24
Lab ID:16K0321-10 Client ID:
Report Date: 12/16/2016 07:49



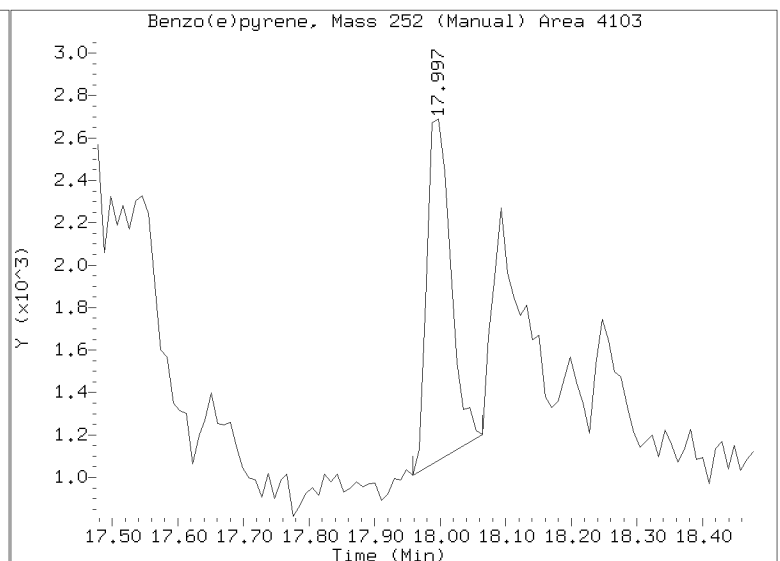
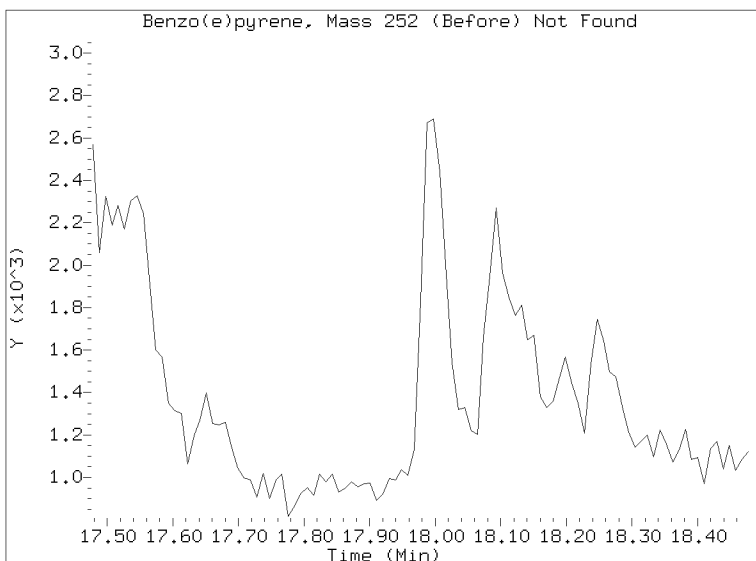
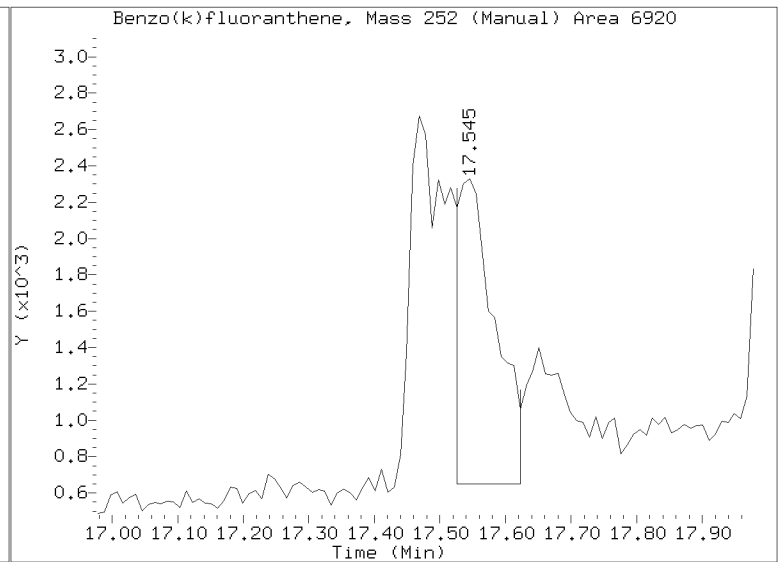
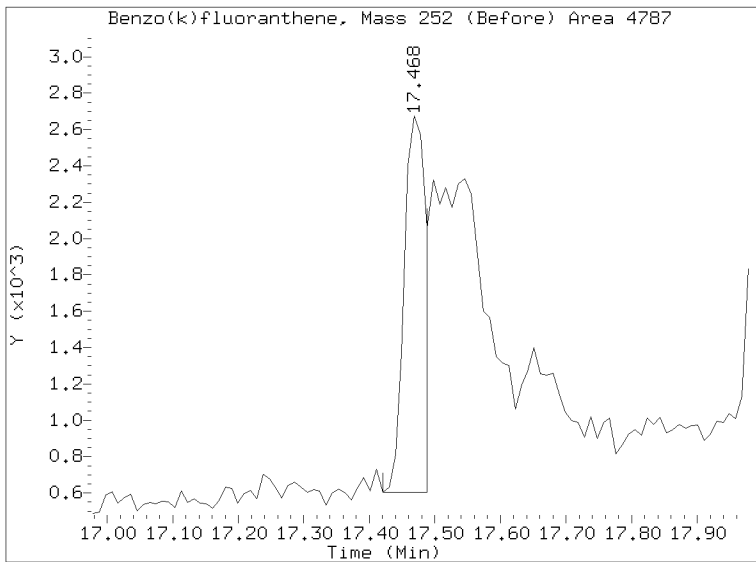
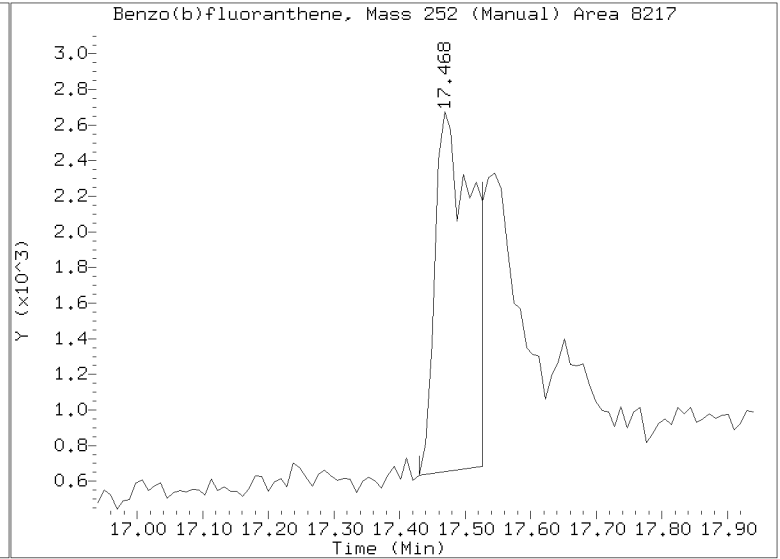
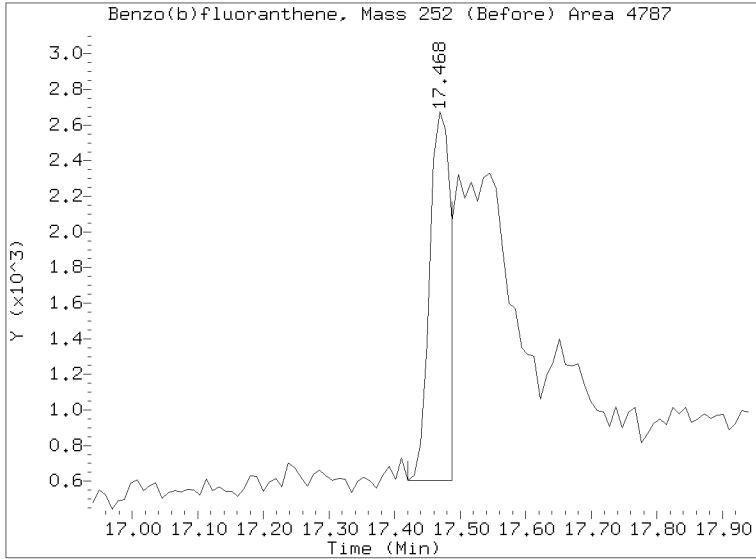
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161213.b/N1116121324.D

Injection Date: 13-DEC-2016 23:24

Lab ID:16K0321-10 Client ID:

Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-11 File ID: N1116121216.D
 Sampled: 11/22/16 09:45 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 15:59
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	15.0	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	31.0	B	1.13	1.13
208-96-8	Acenaphthylene	1	4.81		1.13	1.13
83-32-9	Acenaphthene	1	151	E	1.13	1.13
86-73-7	Fluorene	1	259	E	1.13	1.13
85-01-8	Phenanthrene	1	667	E	1.13	1.13
120-12-7	Anthracene	1	100		1.13	1.13
206-44-0	Fluoranthene	1	518	E	1.13	1.13
129-00-0	Pyrene	1	389	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	61.6		1.13	1.13
218-01-9	Chrysene	1	44.7		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	12.0		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	6.35		1.13	1.13
50-32-8	Benzo(a)pyrene	1	6.10		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	7.83		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	20.0	59.1	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	26.3	77.8	30 - 160	
Fluoranthene-d10	33.860	27.9	82.5	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	1.77	8.39	30 - 160	*
Benzo(e)pyrene-d12	21.163	7.32	34.6	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121216.D

Date: 12-DEC-2016 15:59

Client ID:

Sample Info: 16K0321-11

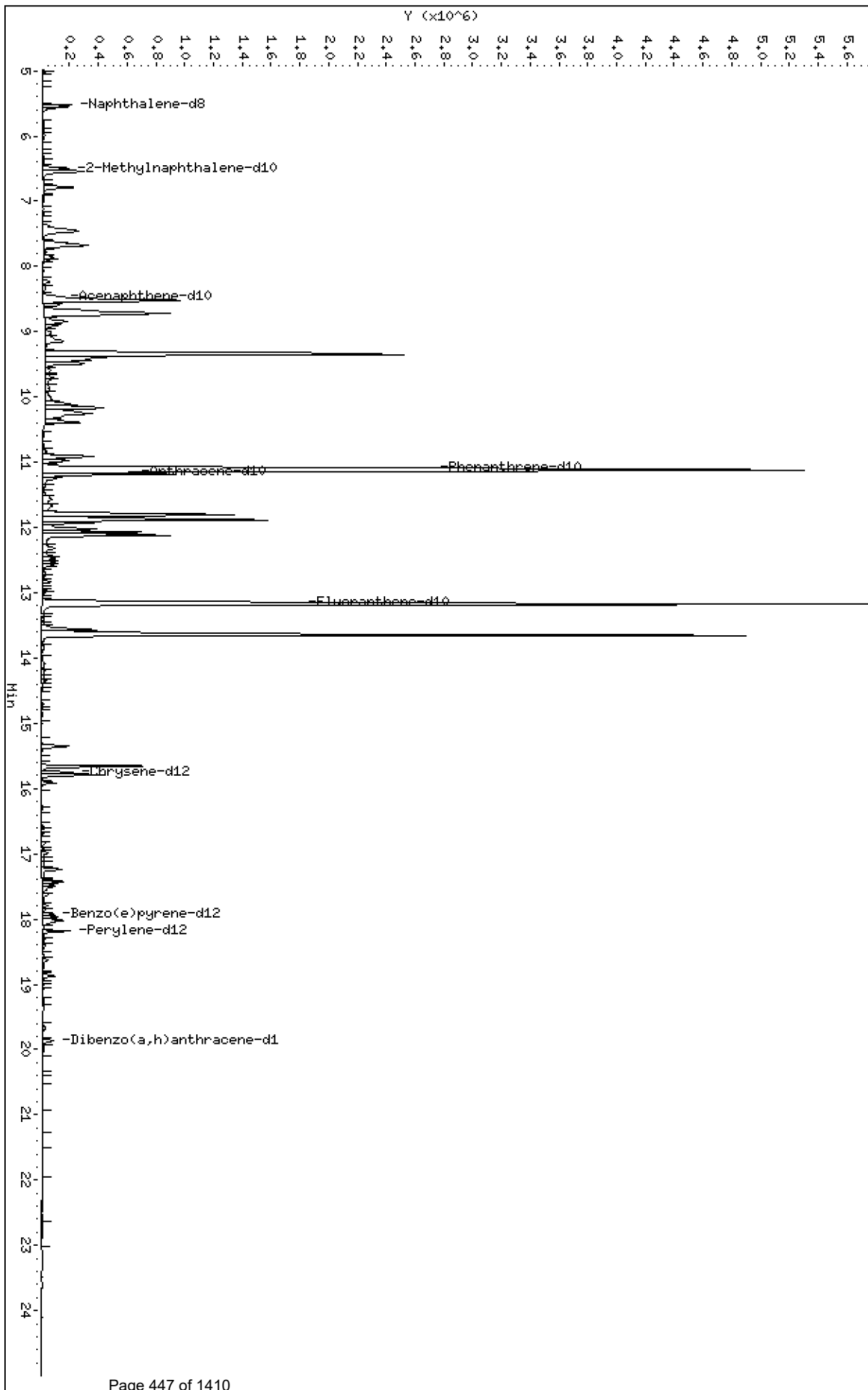
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

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Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

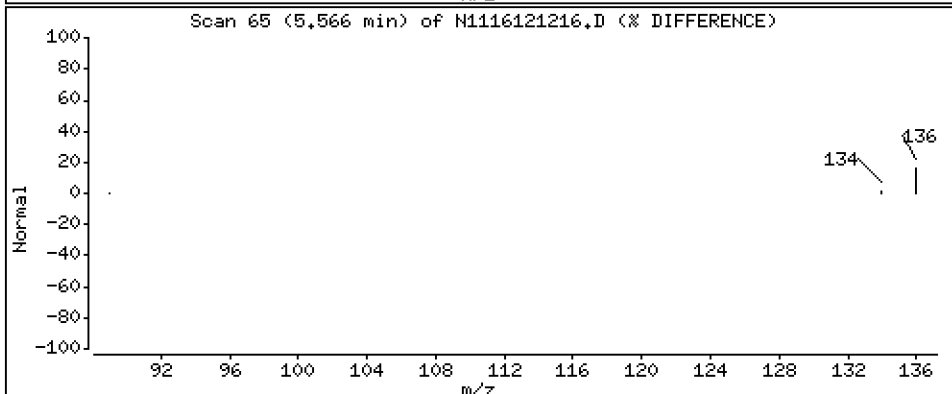
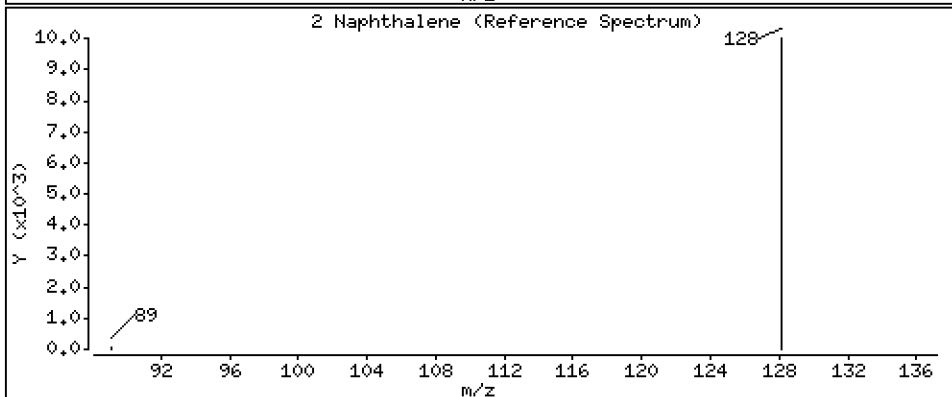
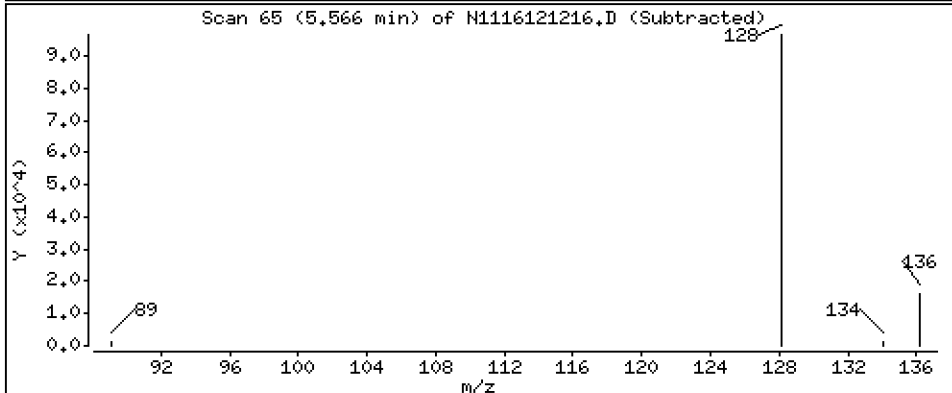
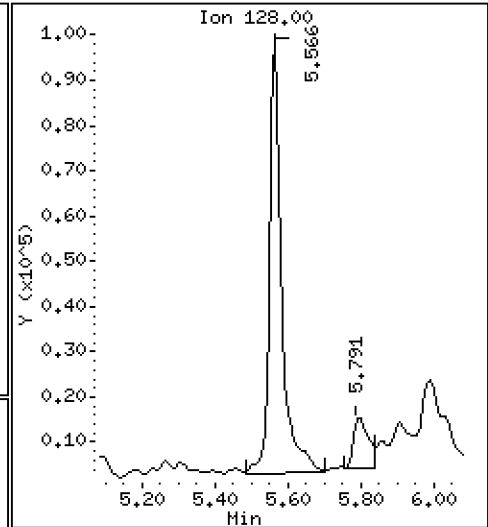
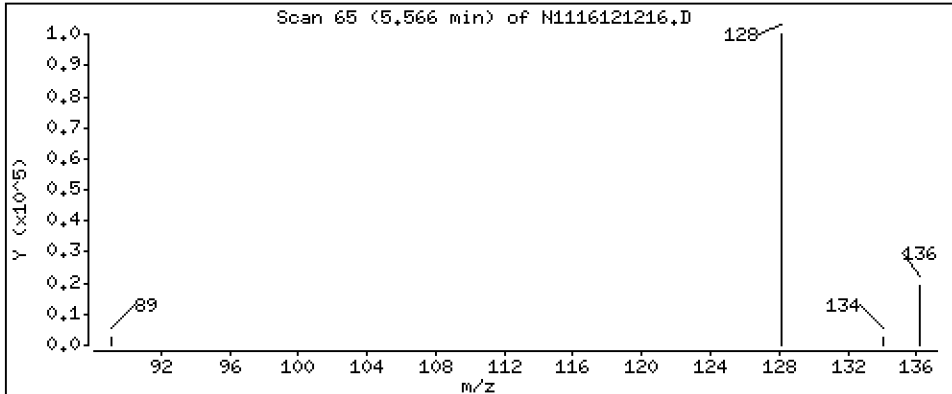
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 133 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

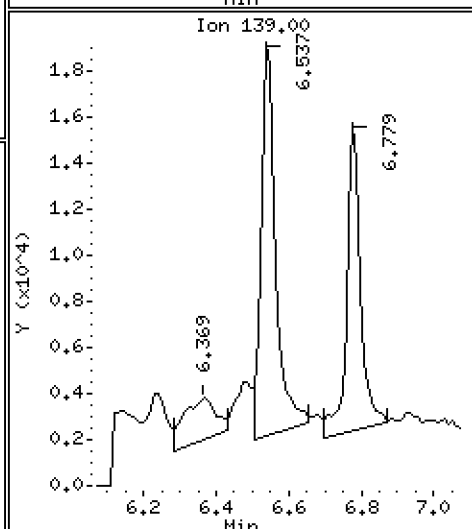
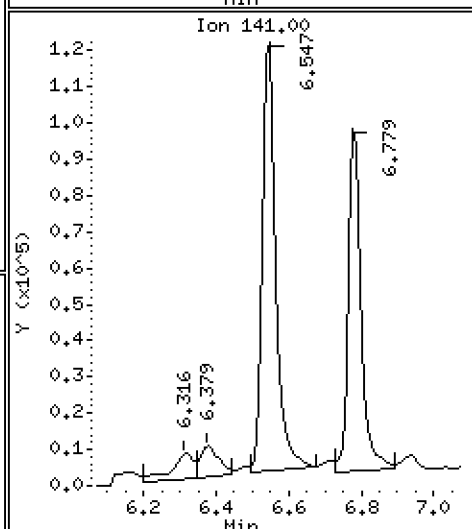
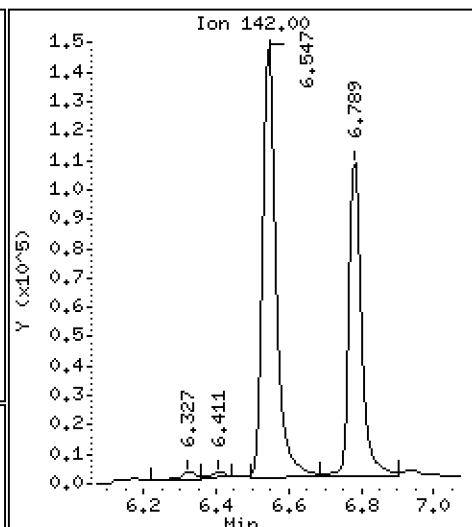
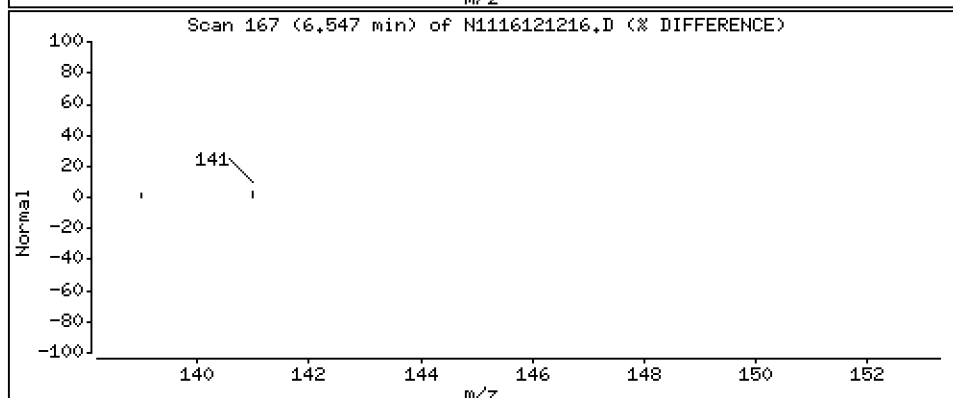
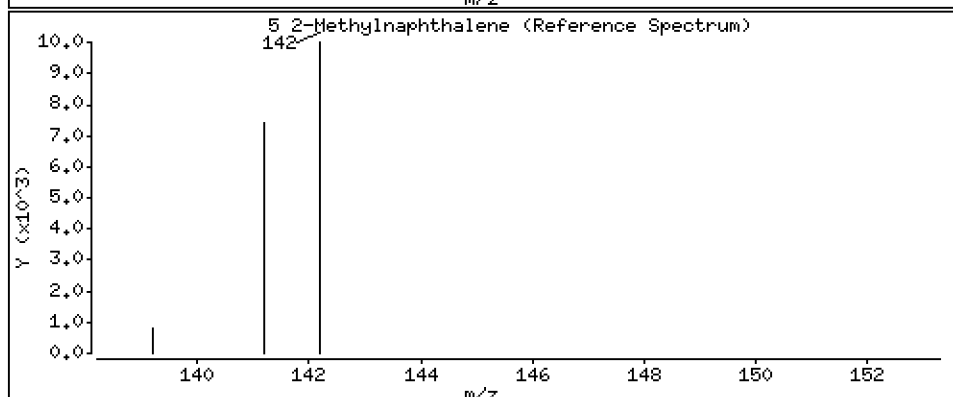
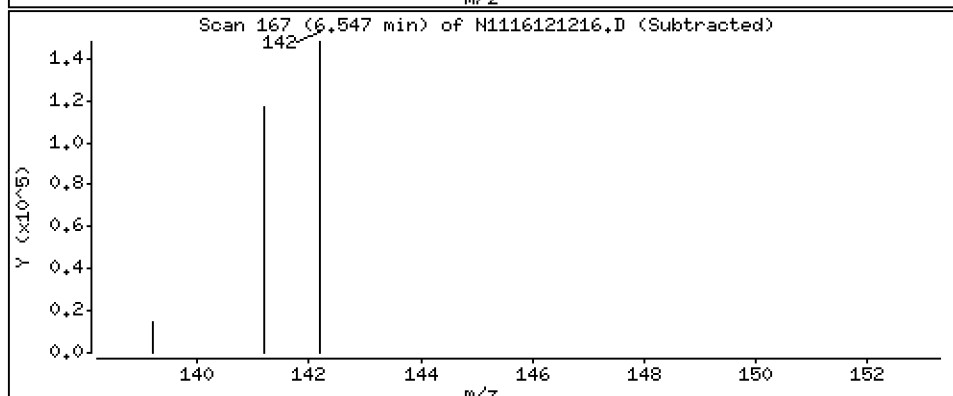
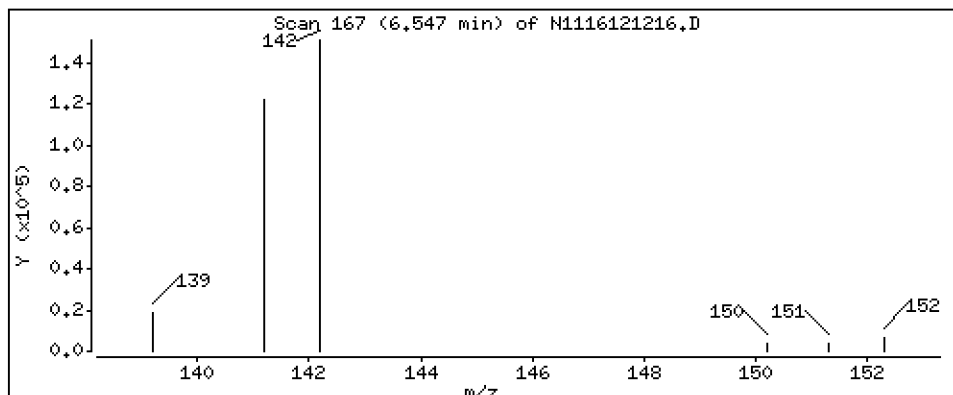
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 275 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

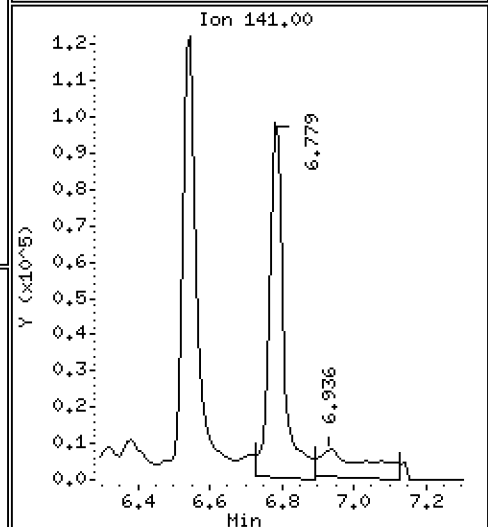
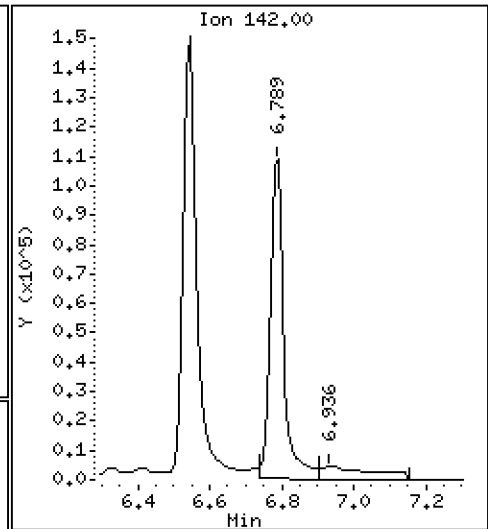
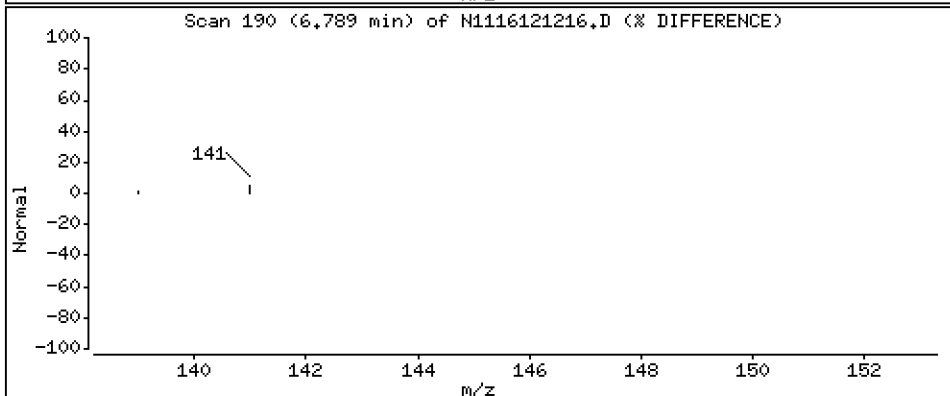
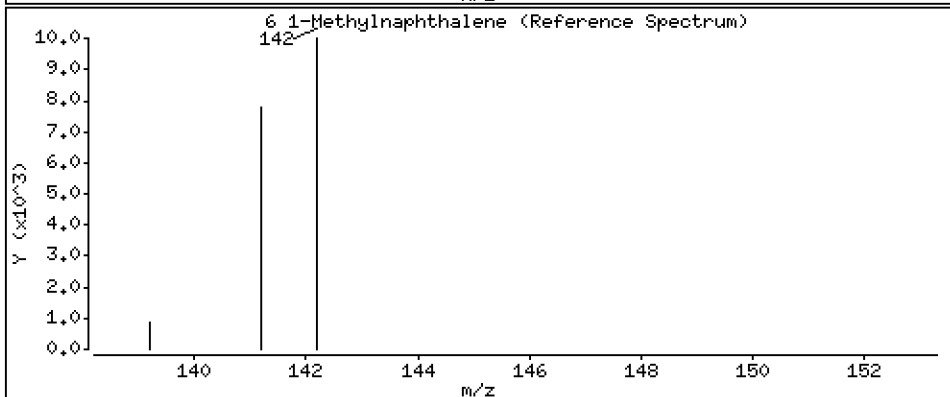
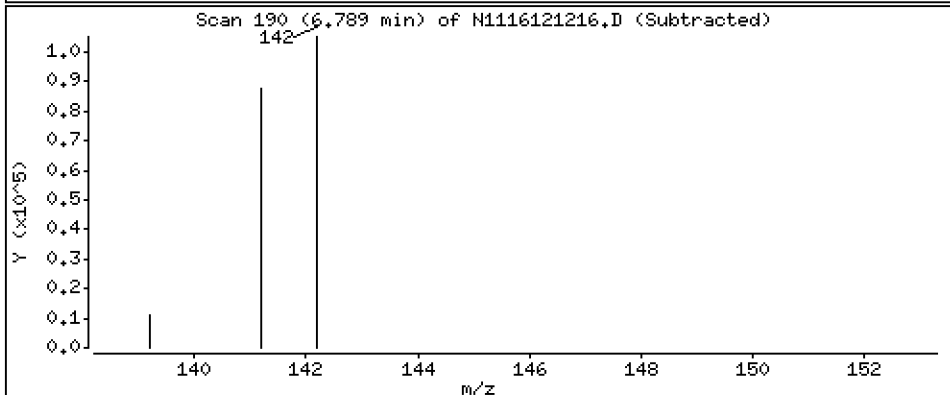
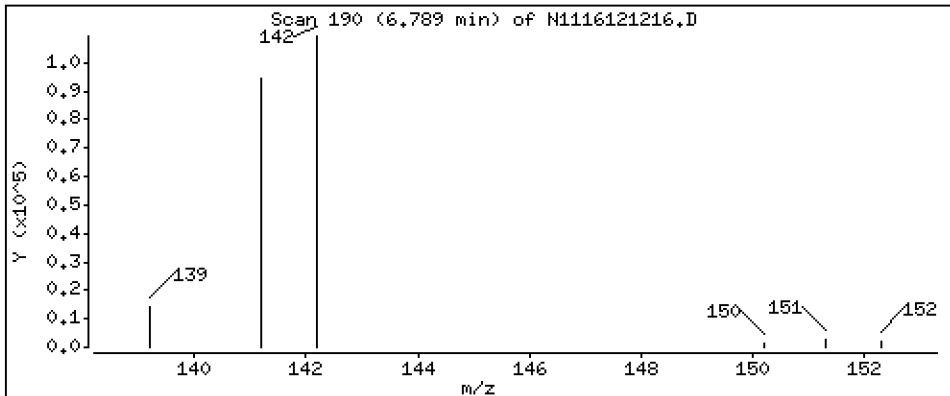
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 222 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

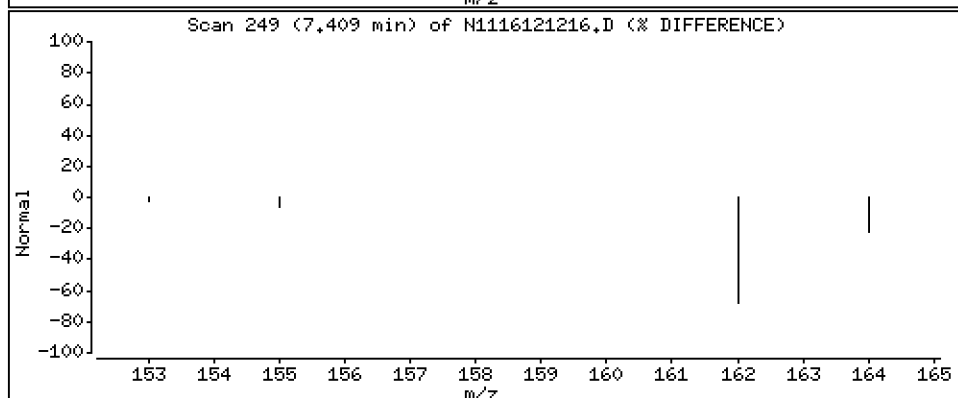
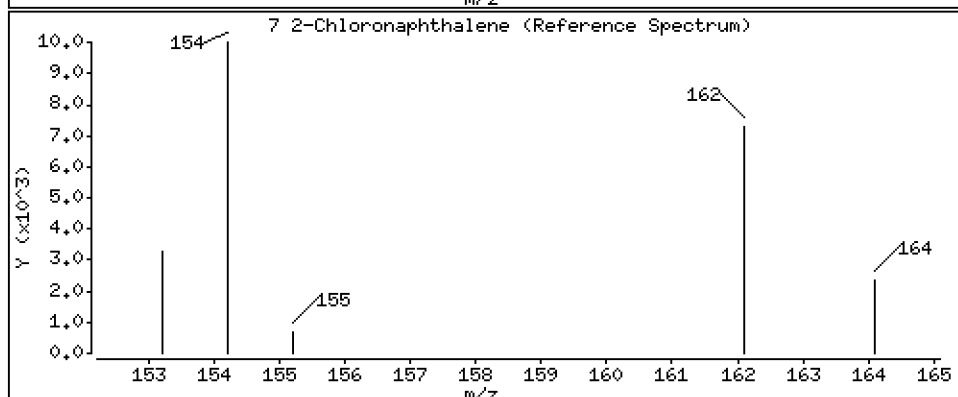
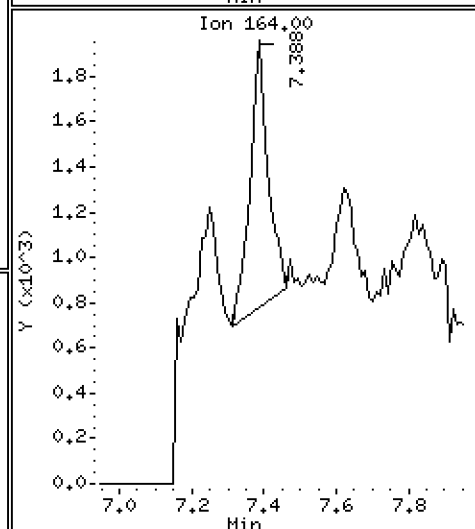
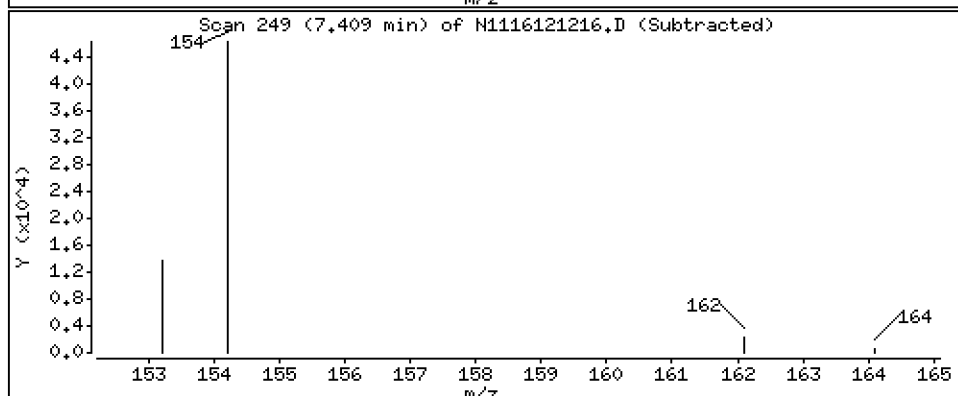
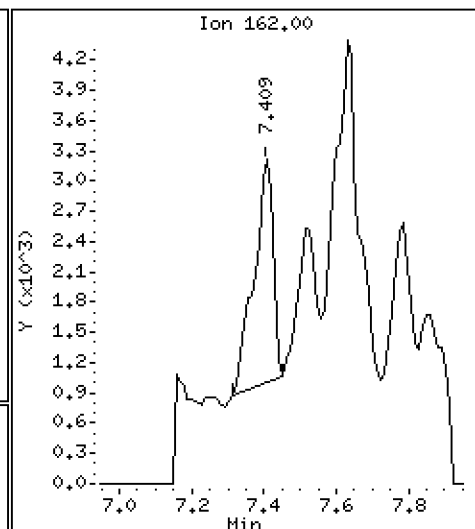
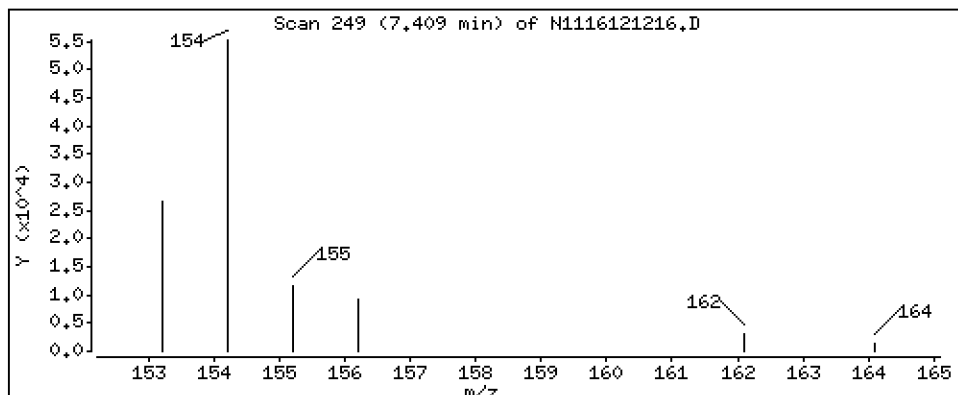
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 4,95 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

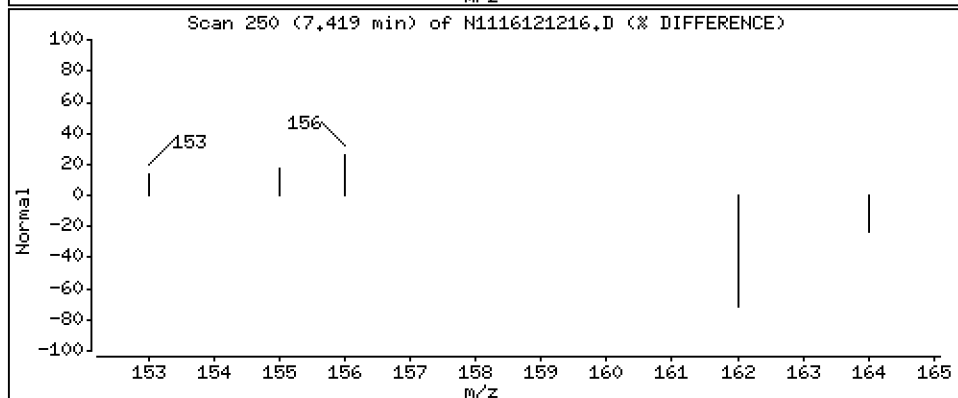
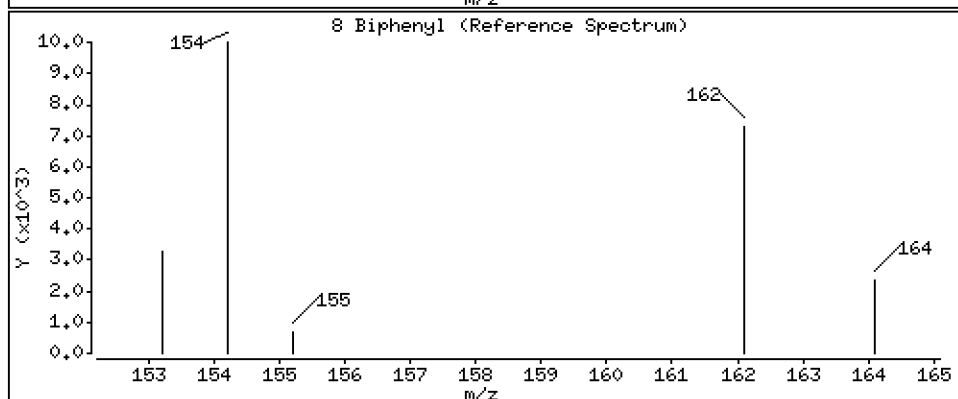
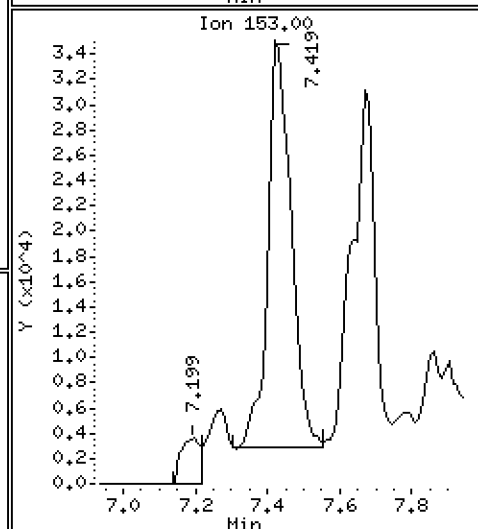
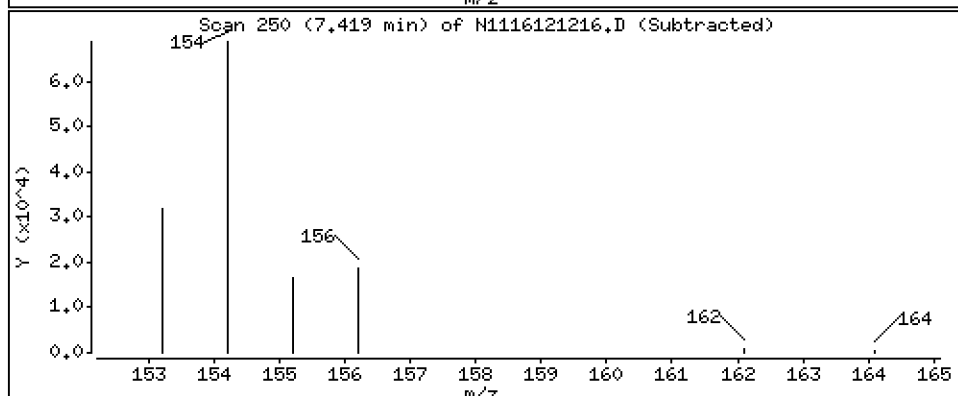
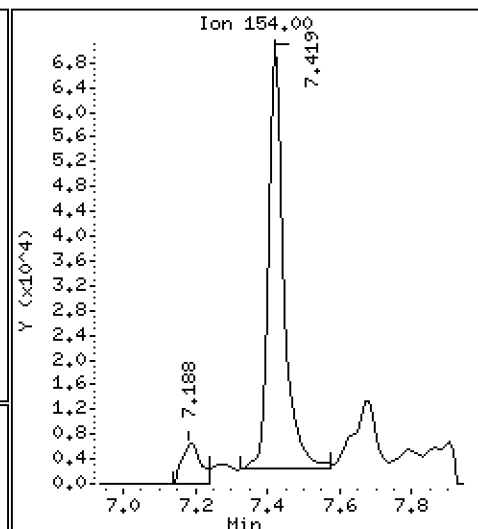
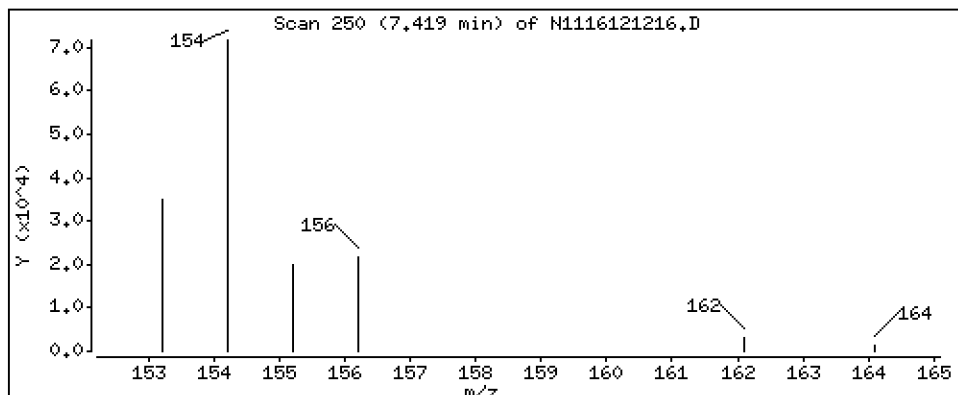
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 89,2 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

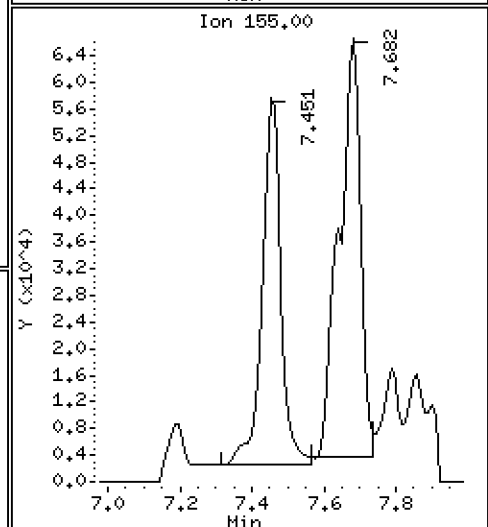
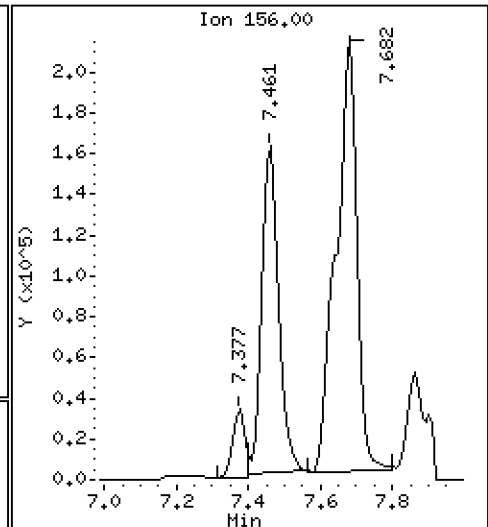
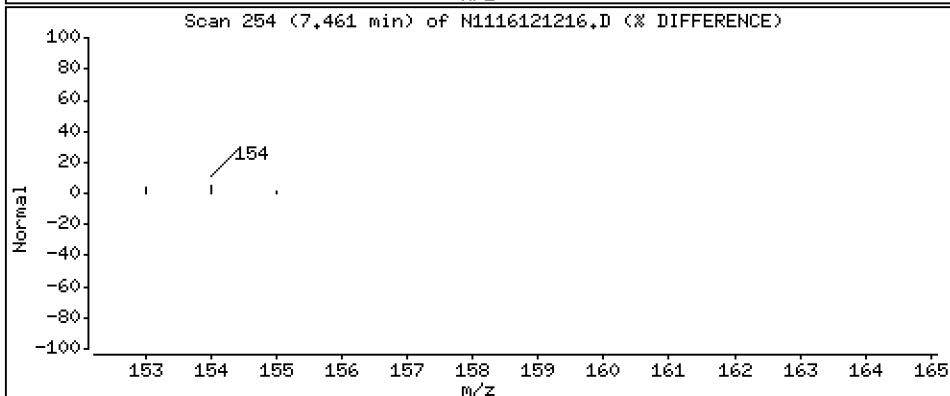
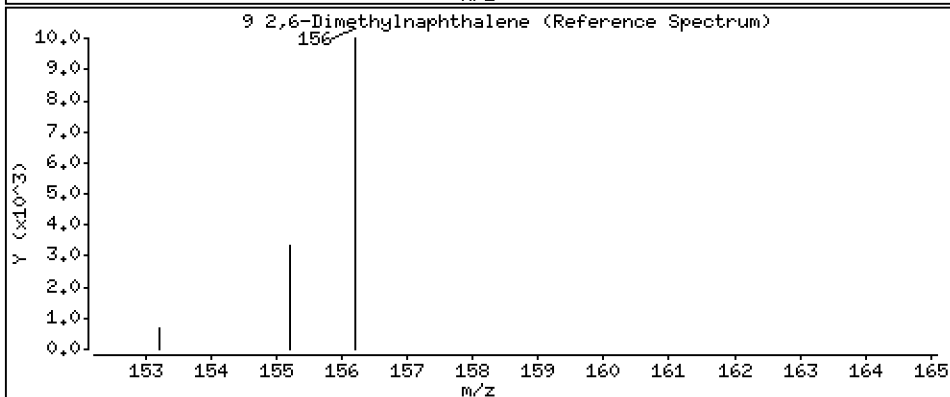
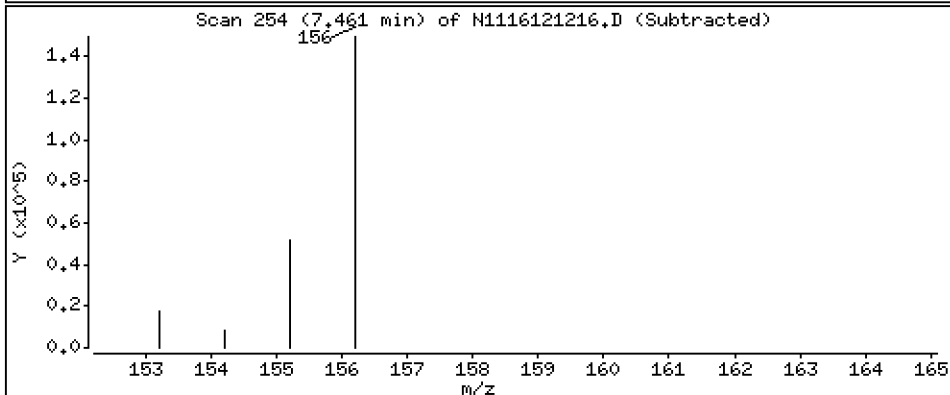
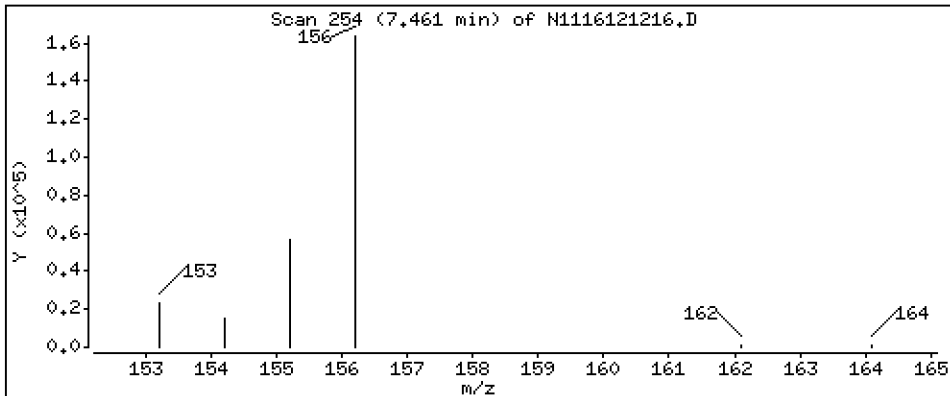
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 324 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

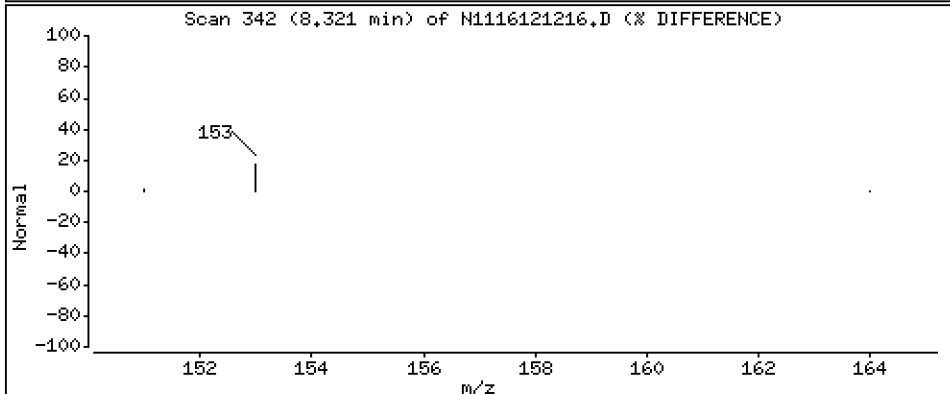
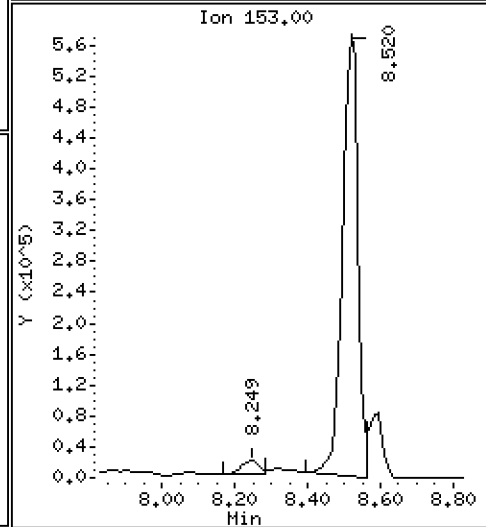
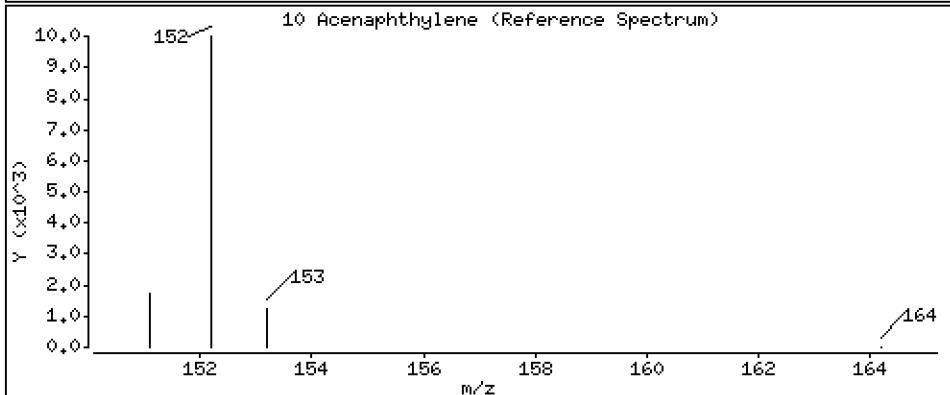
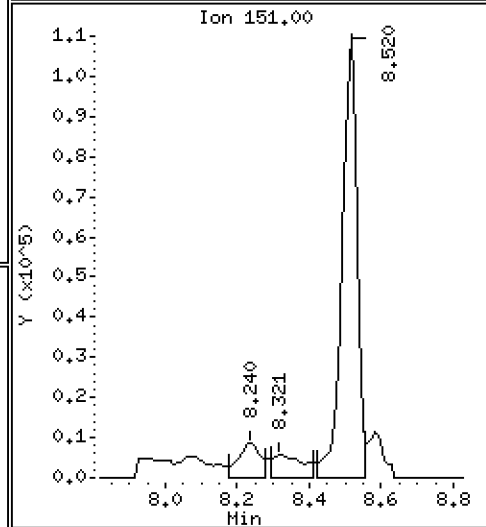
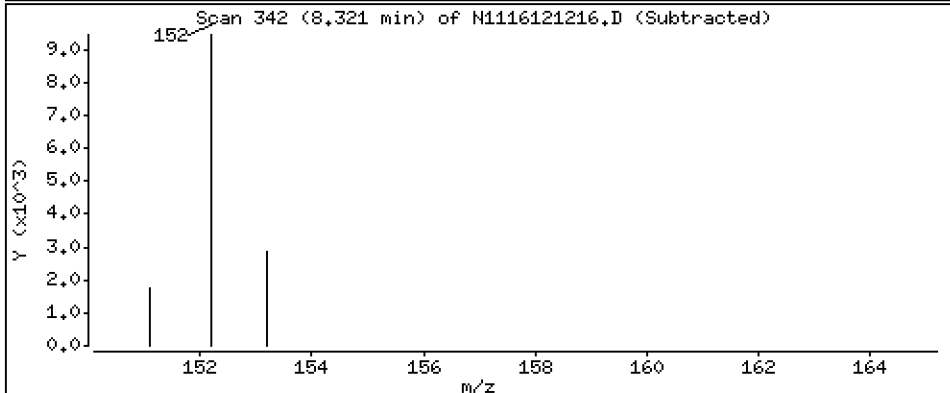
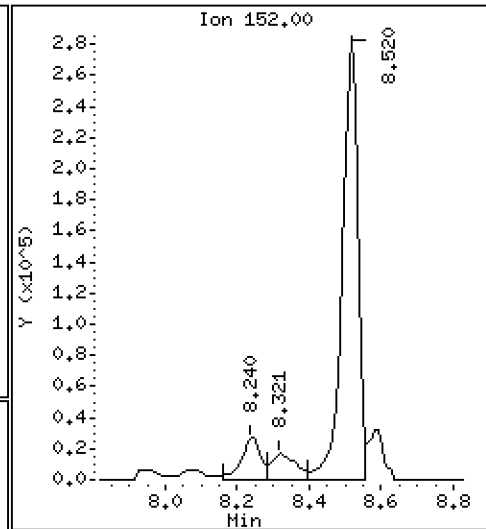
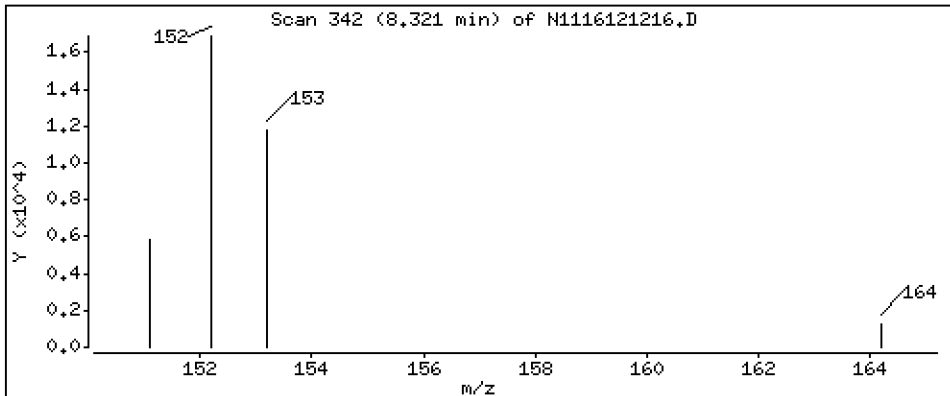
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 42,6 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

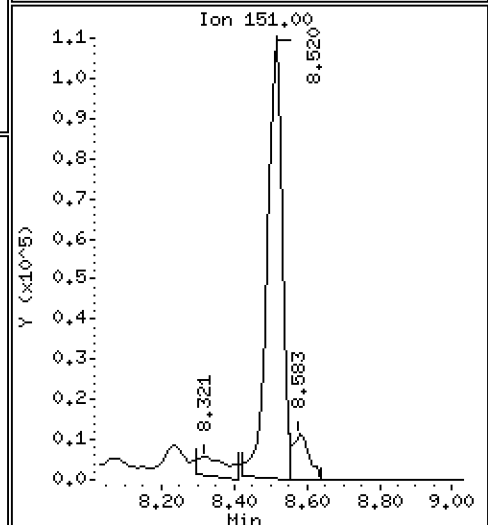
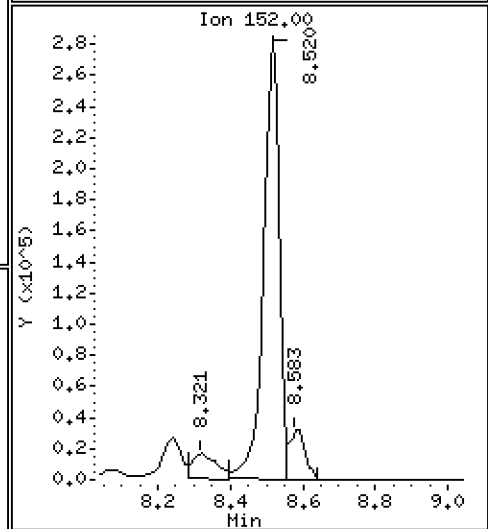
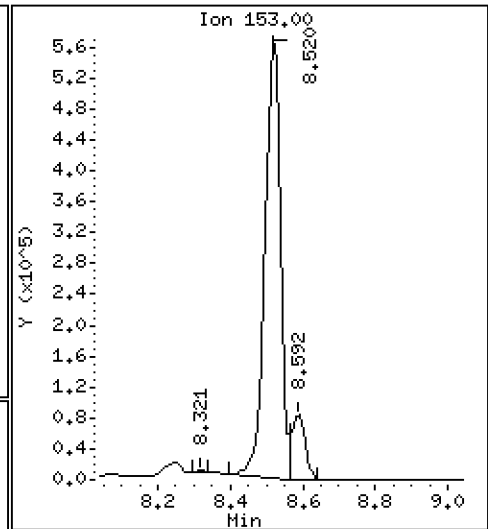
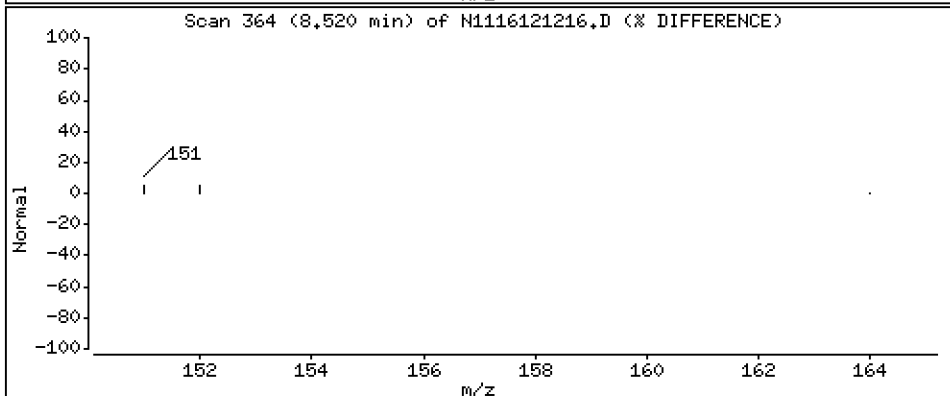
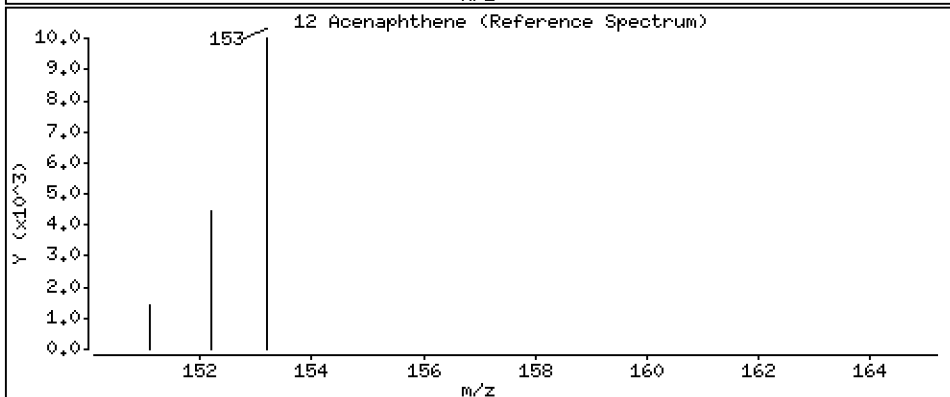
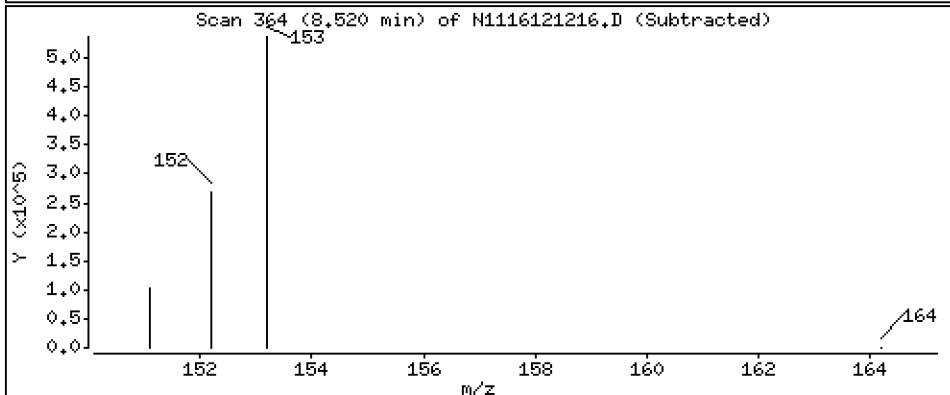
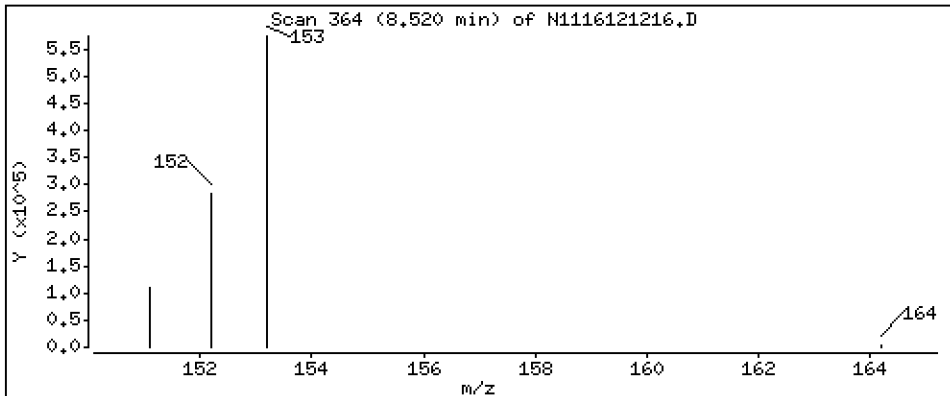
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 1340 ng/mL

12 Acenaphthene



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

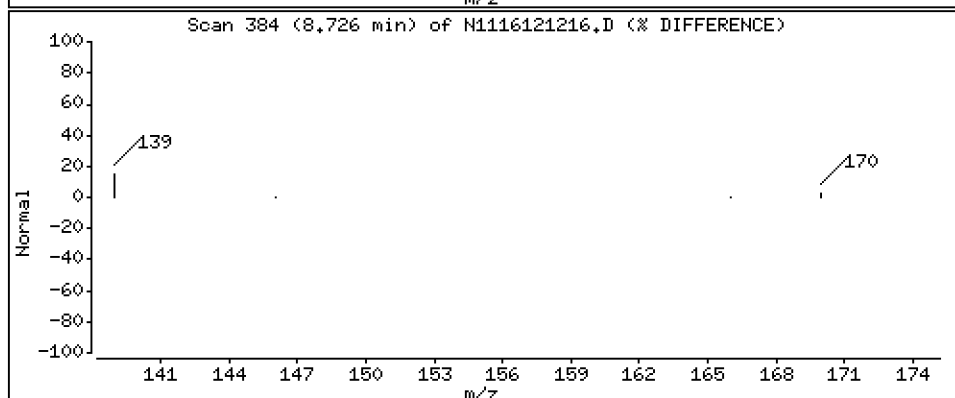
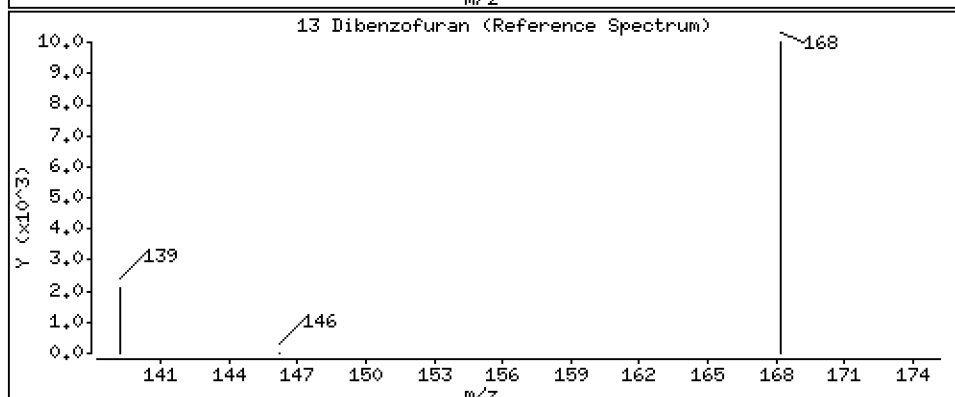
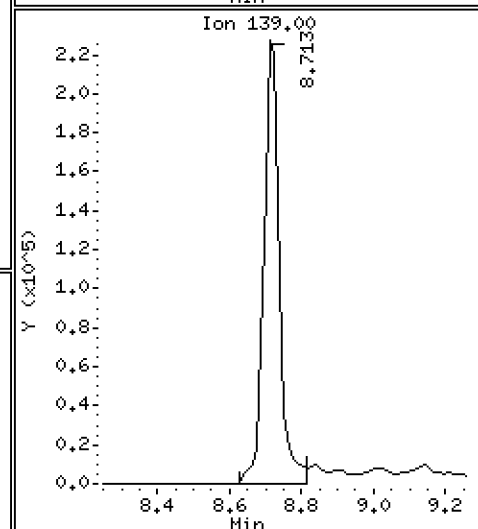
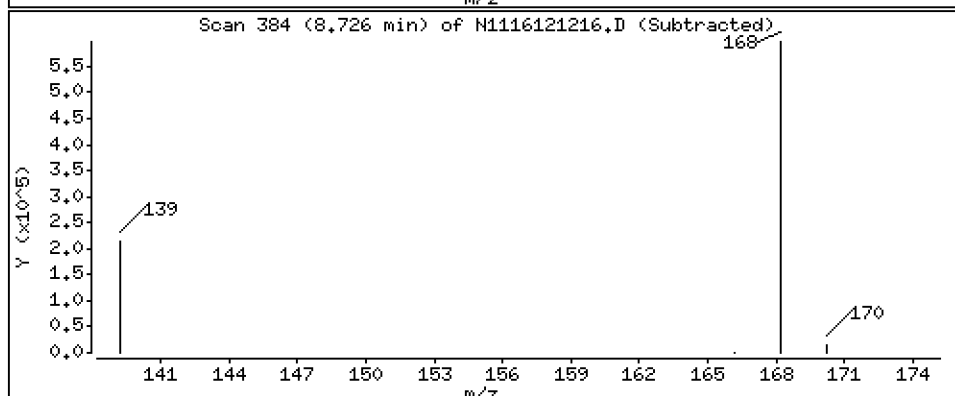
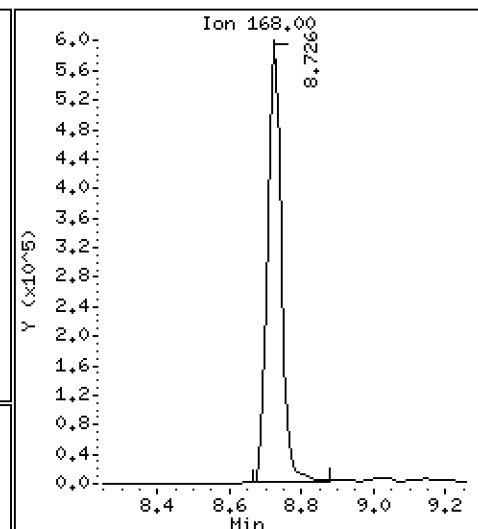
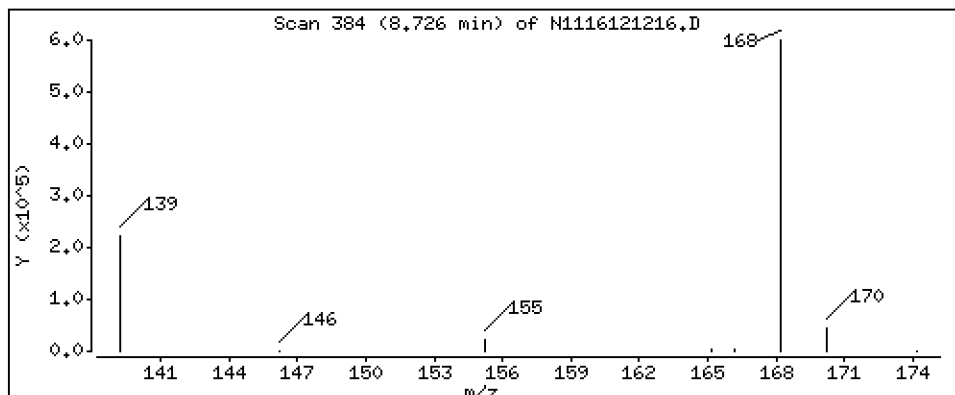
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 879 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

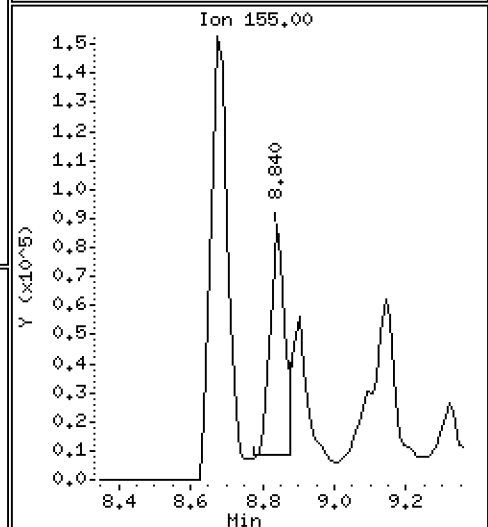
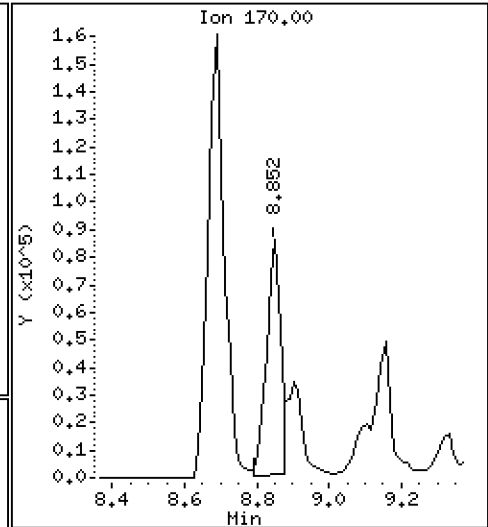
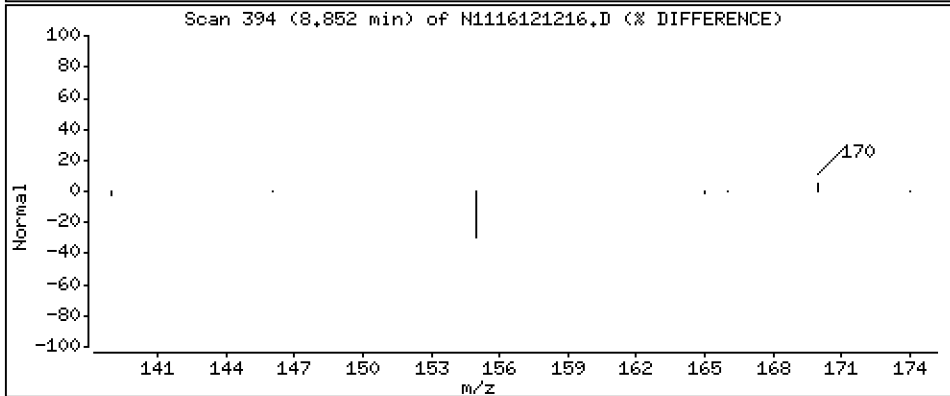
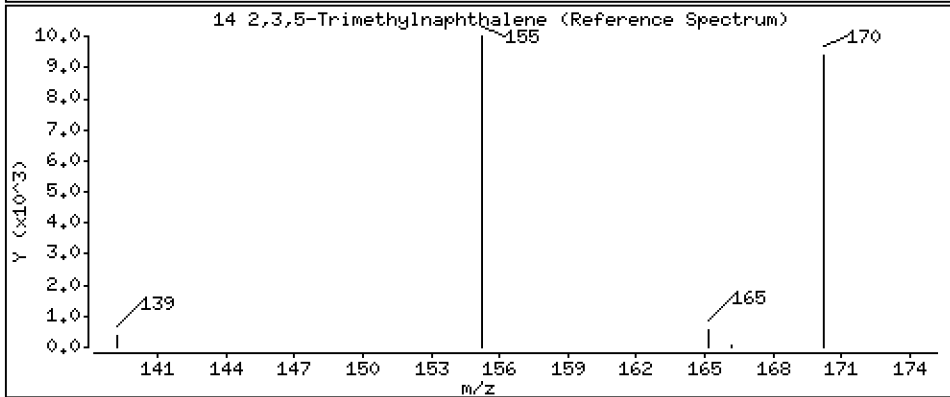
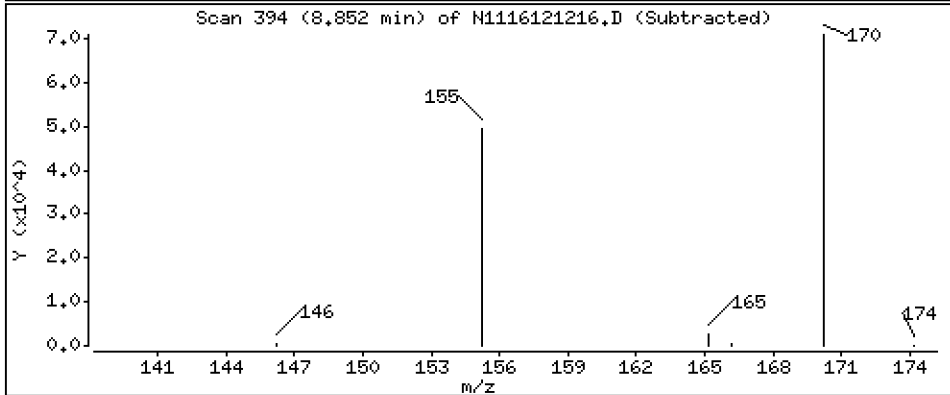
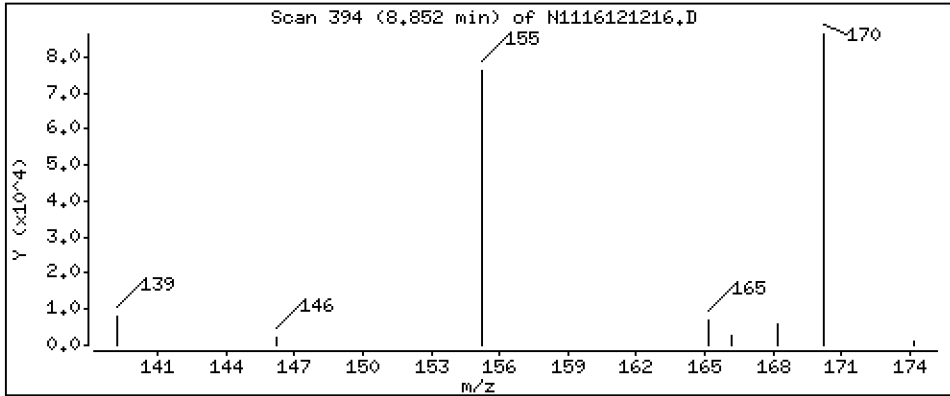
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 211 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

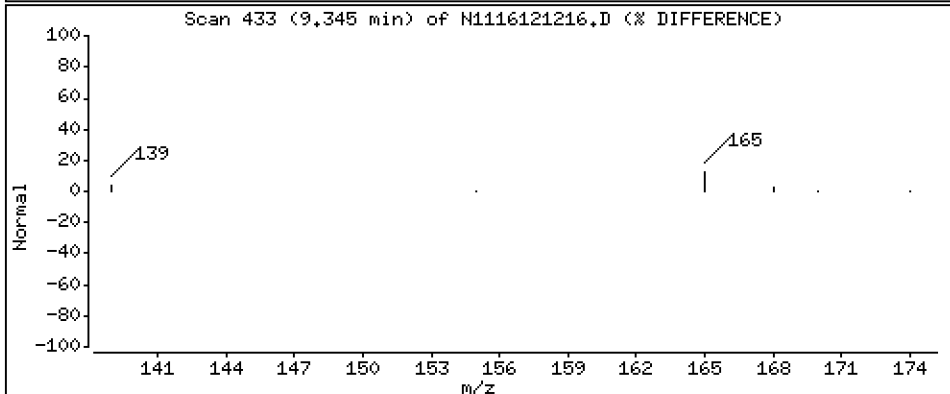
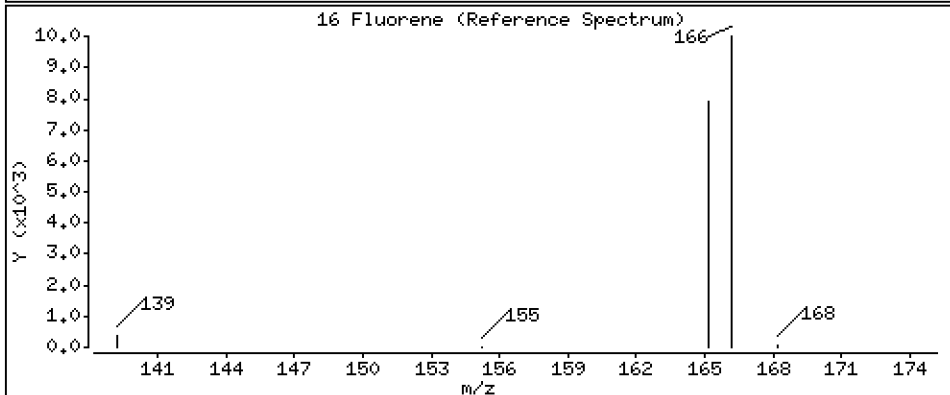
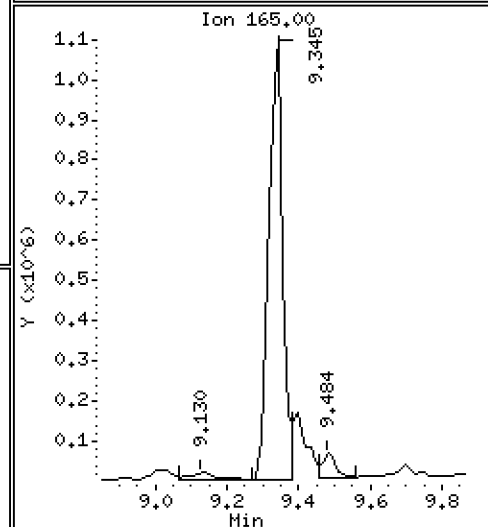
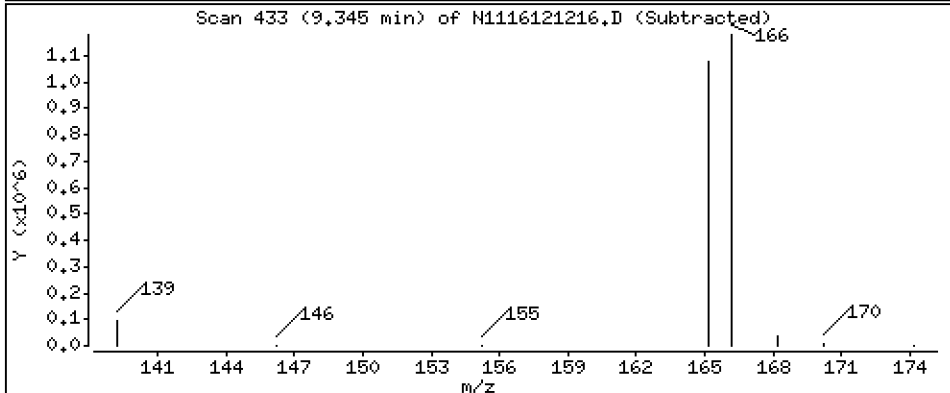
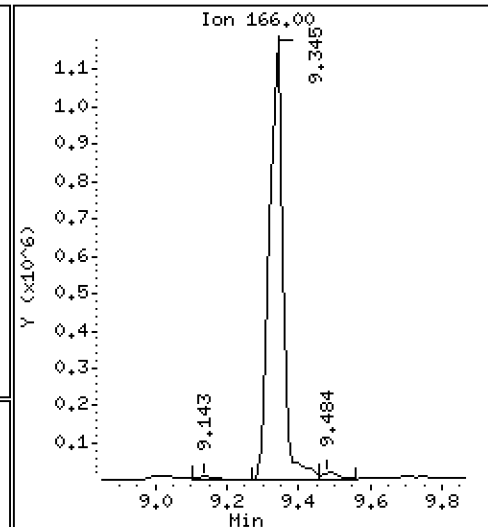
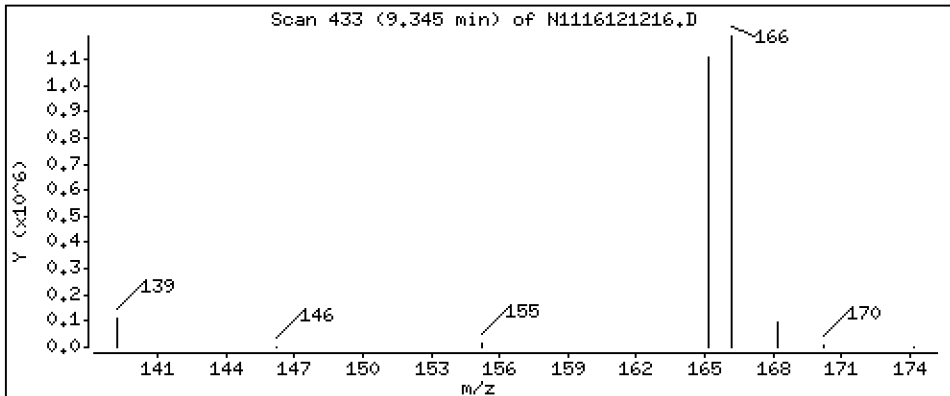
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

16 Fluorene

Concentration: 2290 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

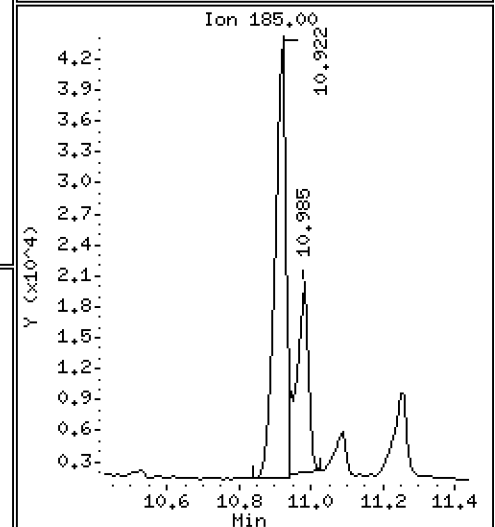
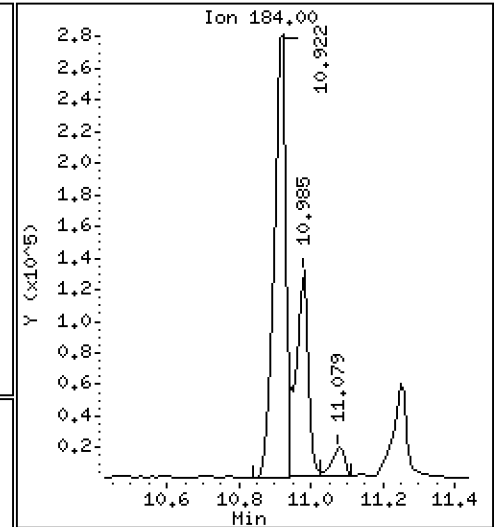
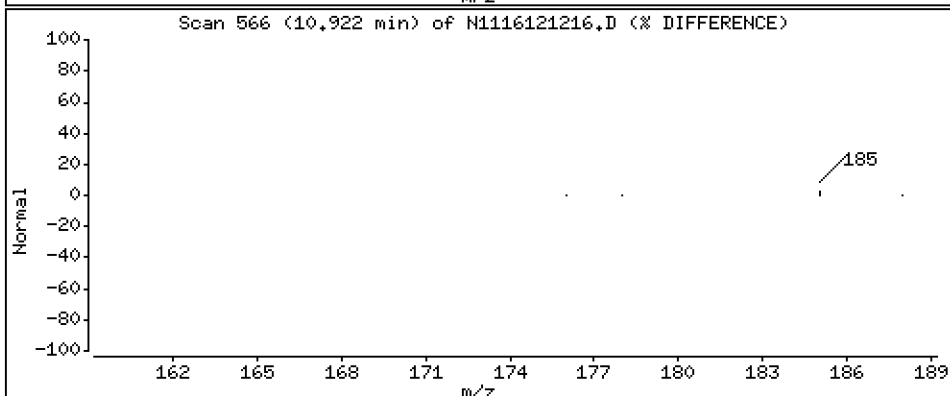
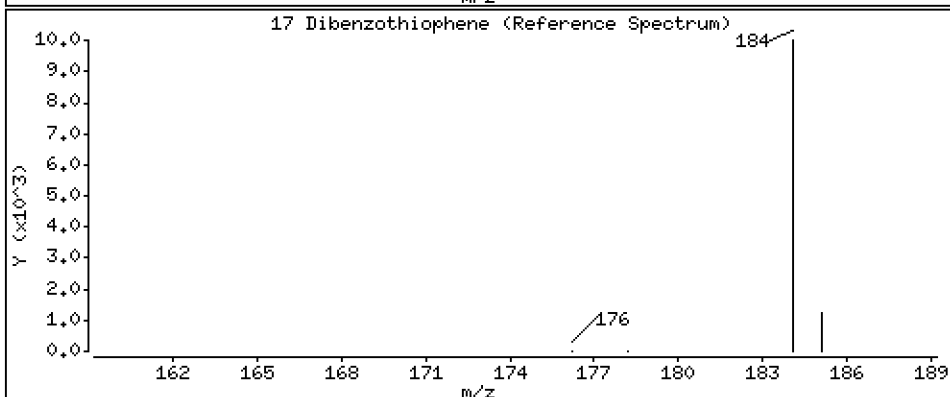
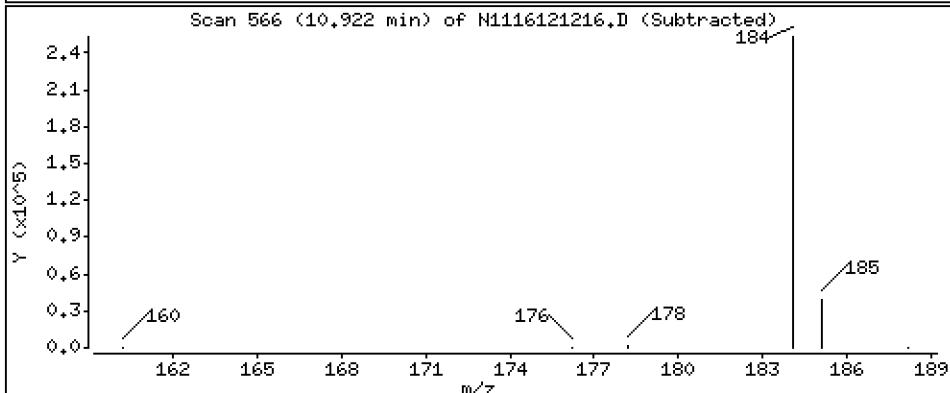
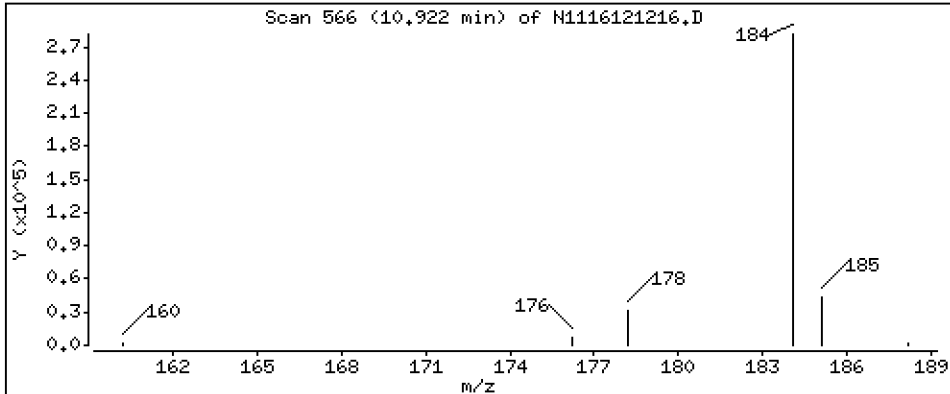
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 403 ng/mL

17 Dibenzothiophene



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

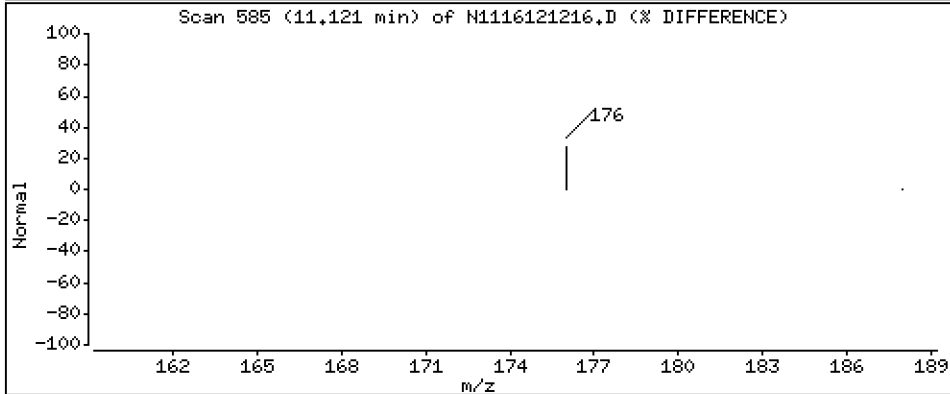
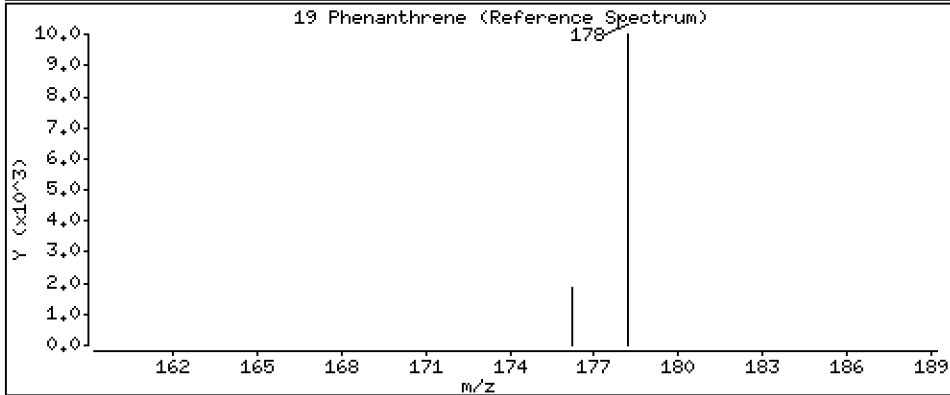
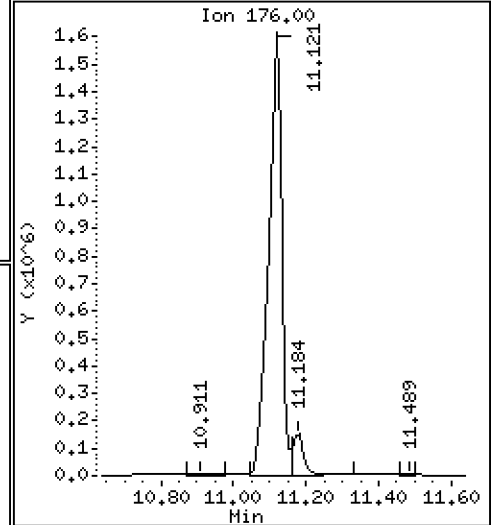
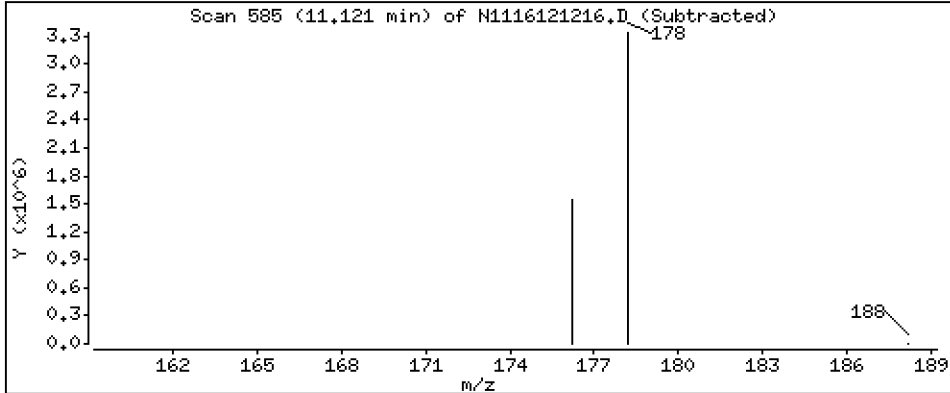
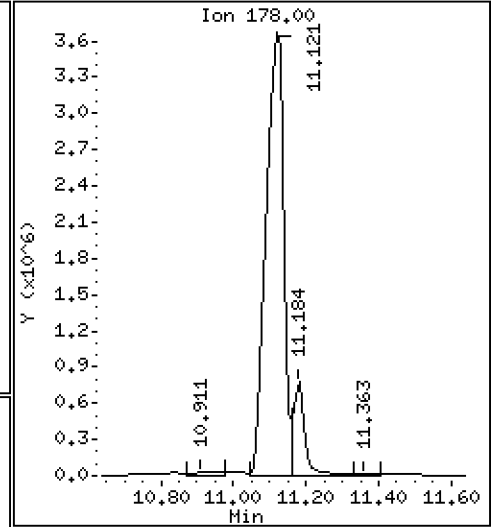
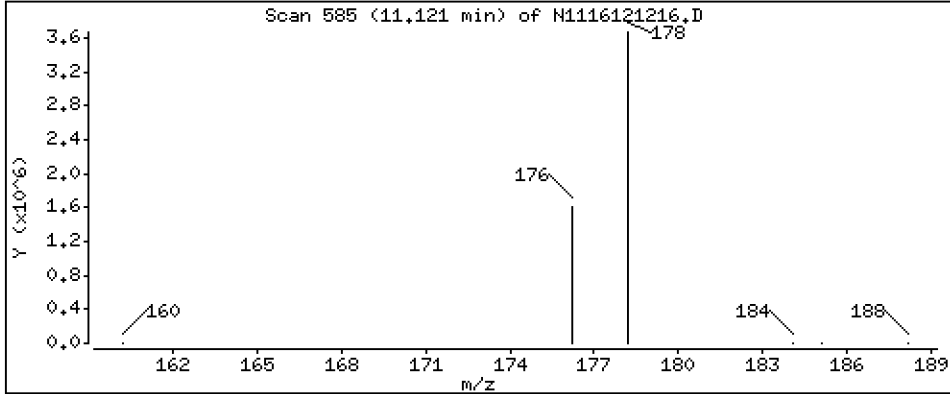
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 5910 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

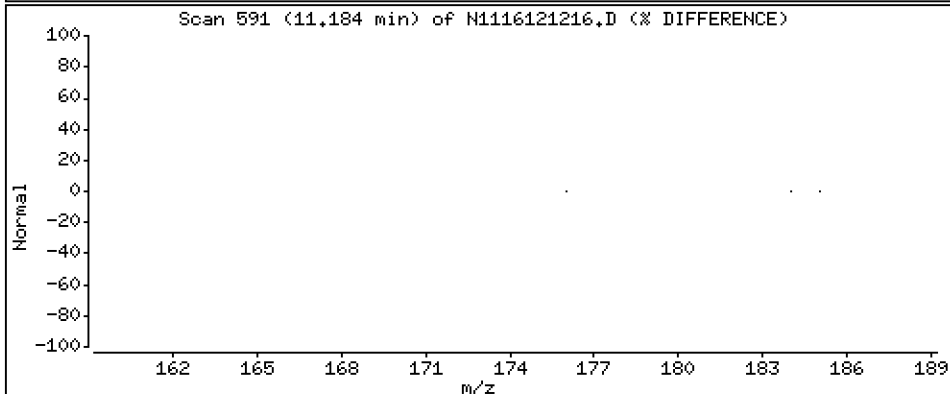
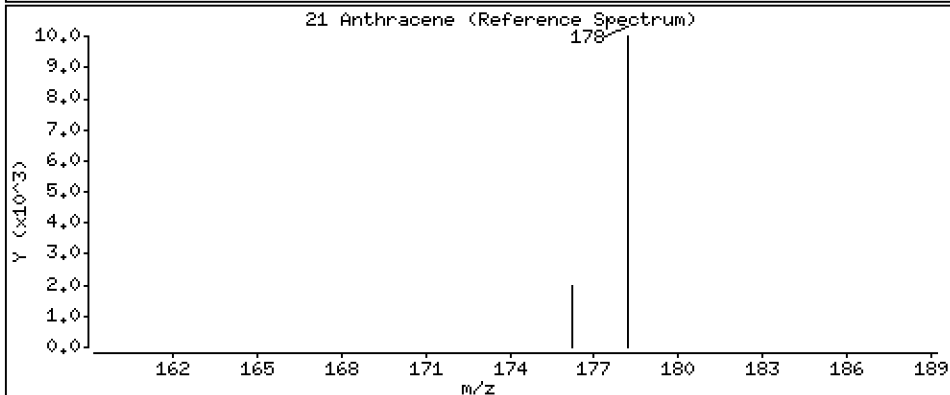
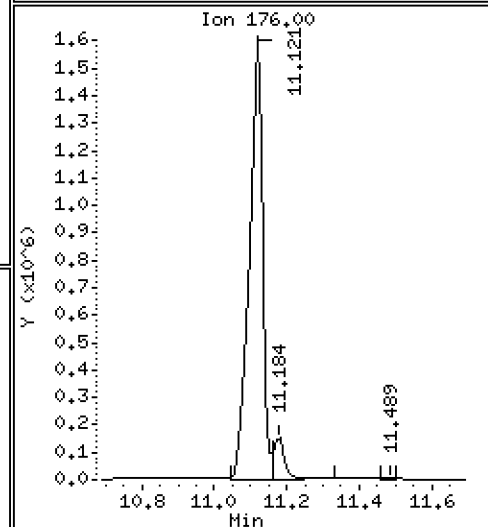
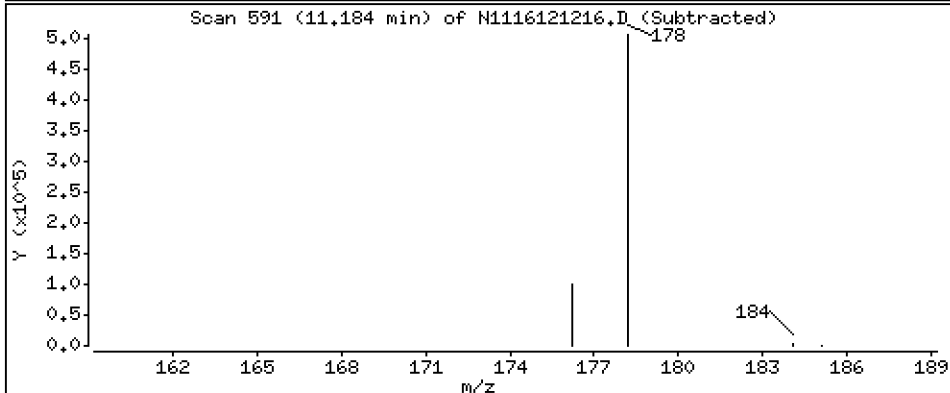
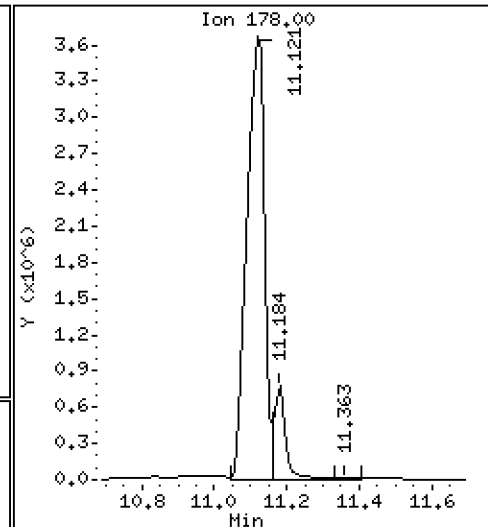
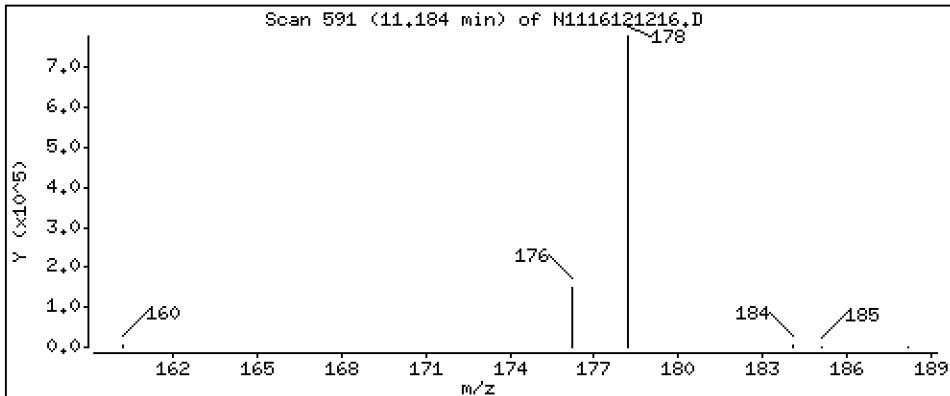
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 887 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

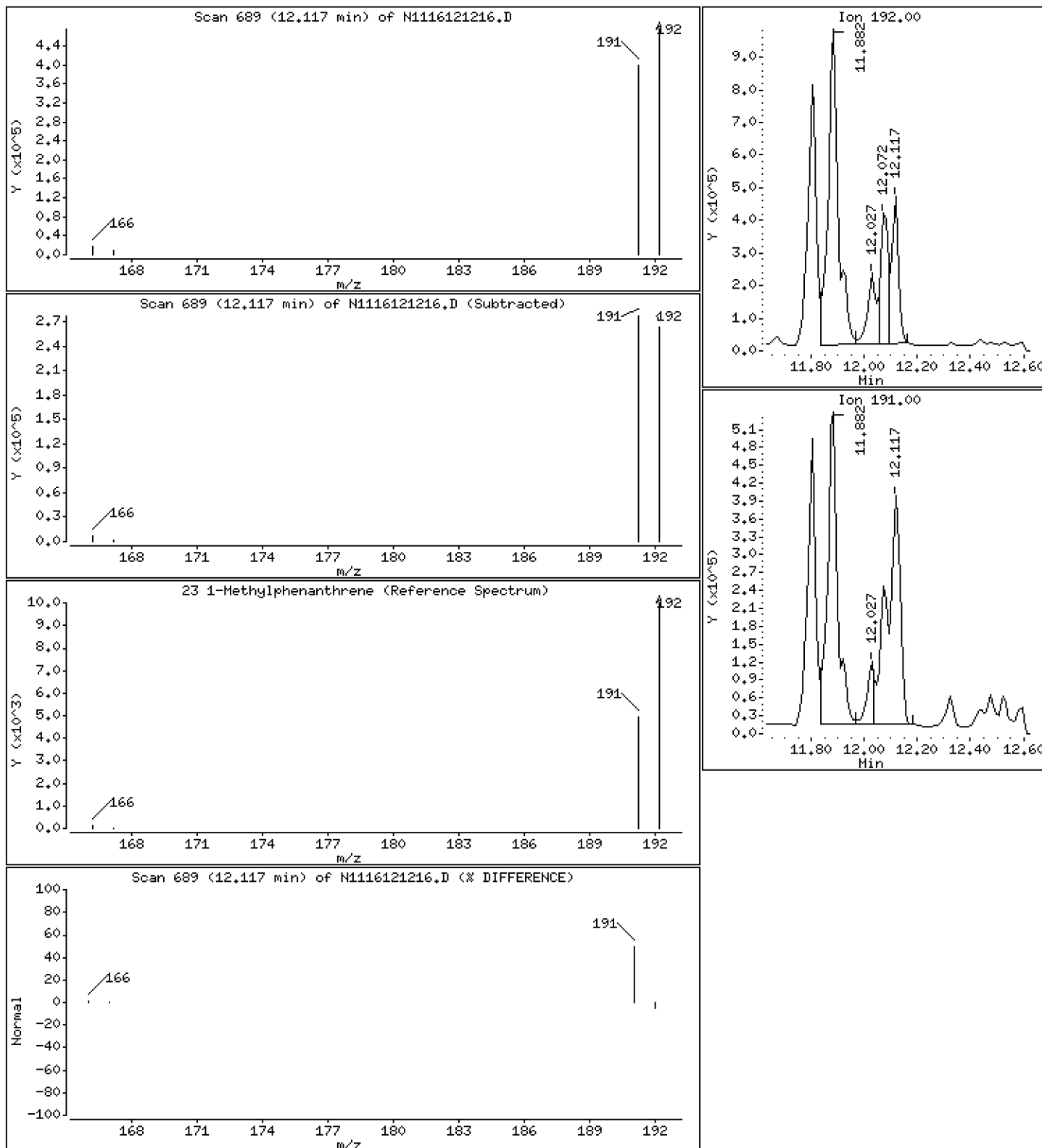
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 503 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

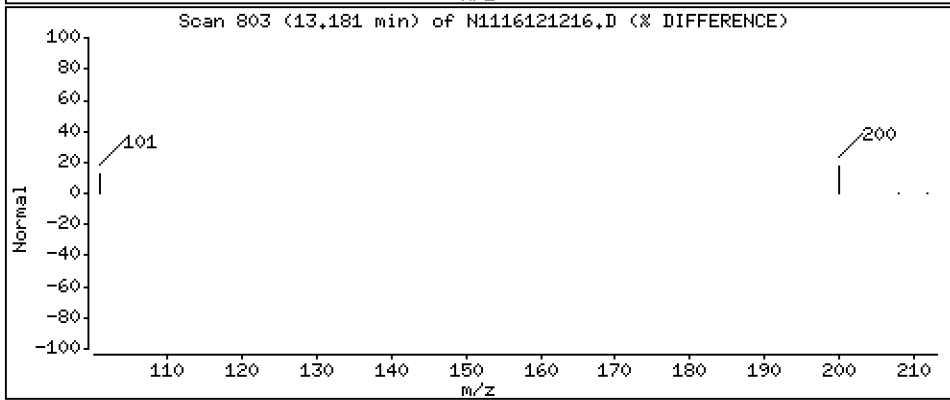
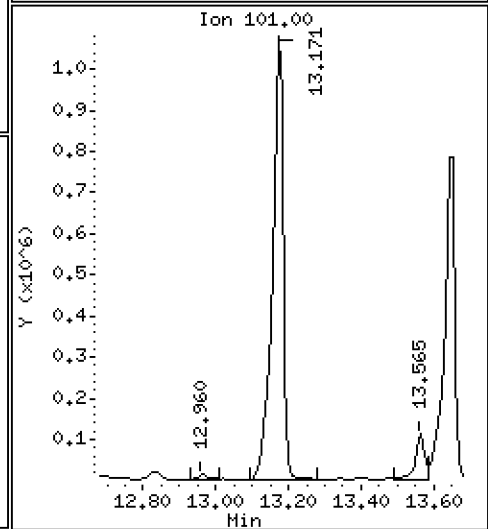
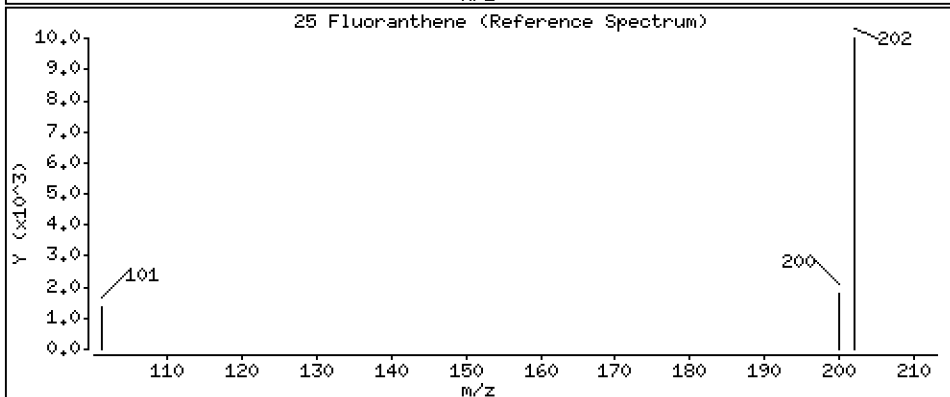
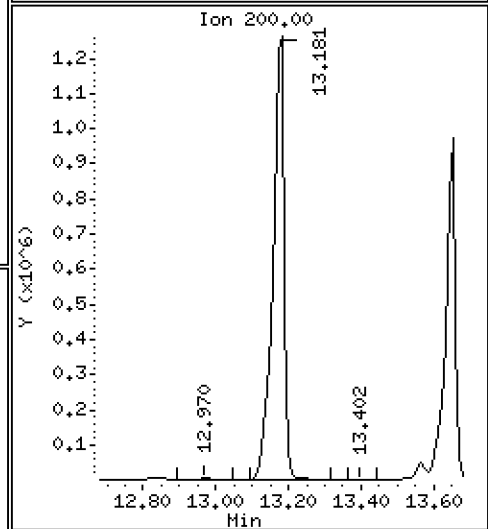
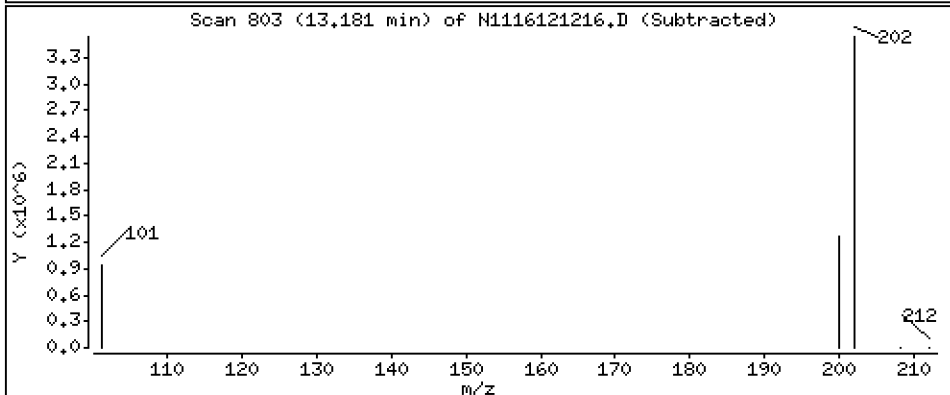
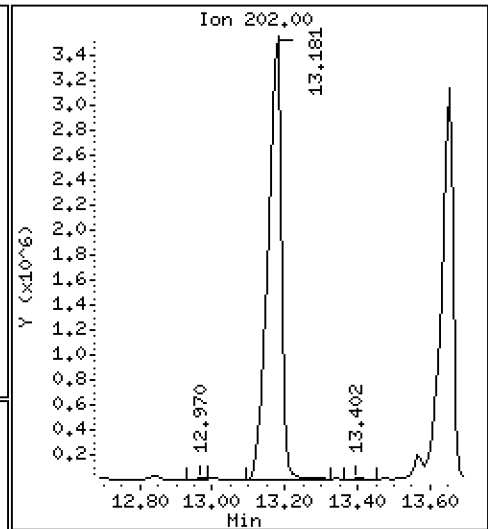
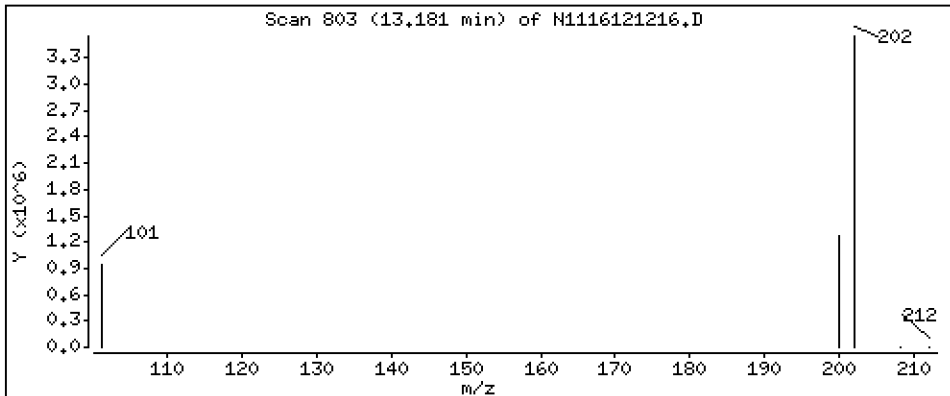
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 4590 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

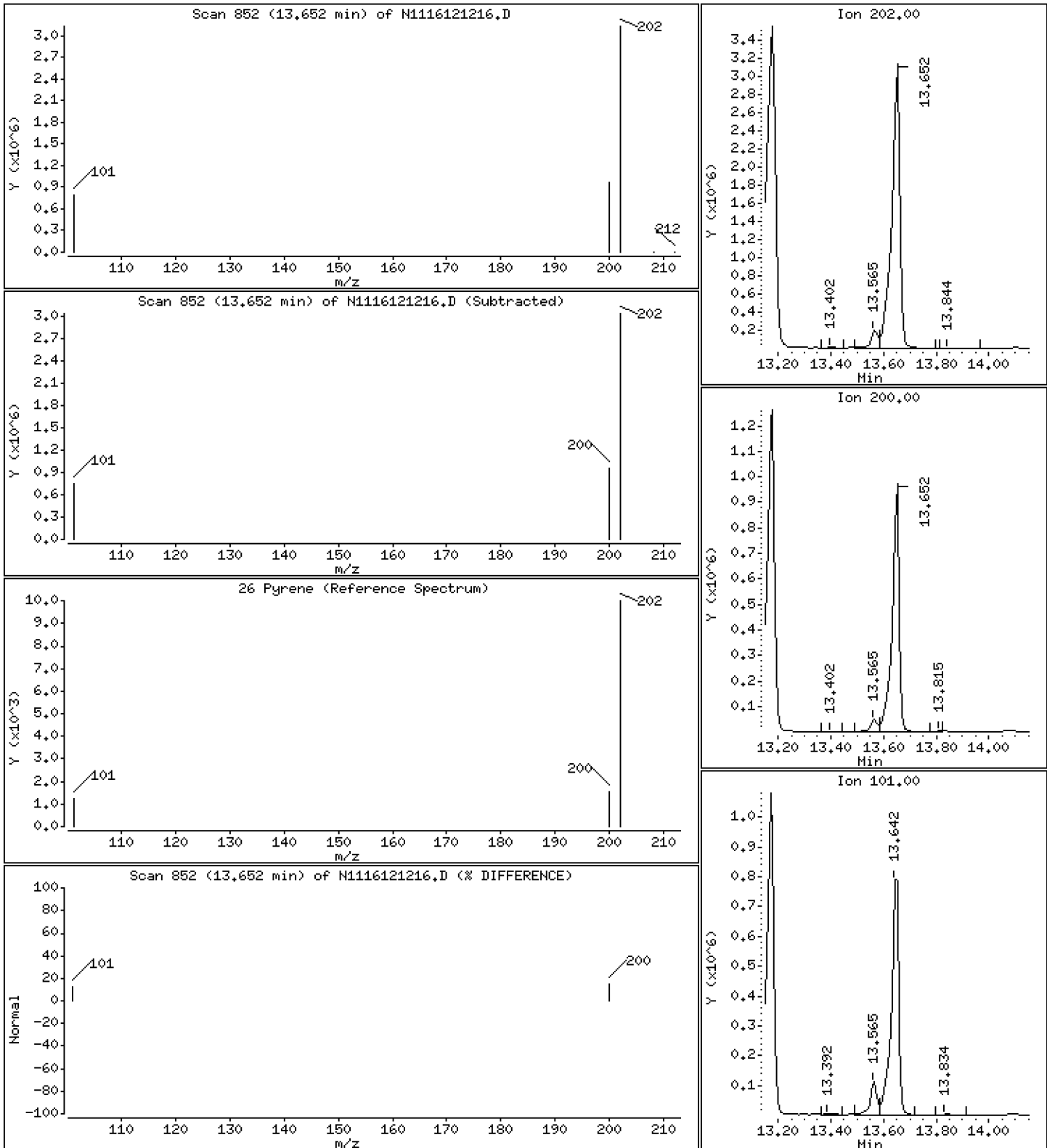
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 3440 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

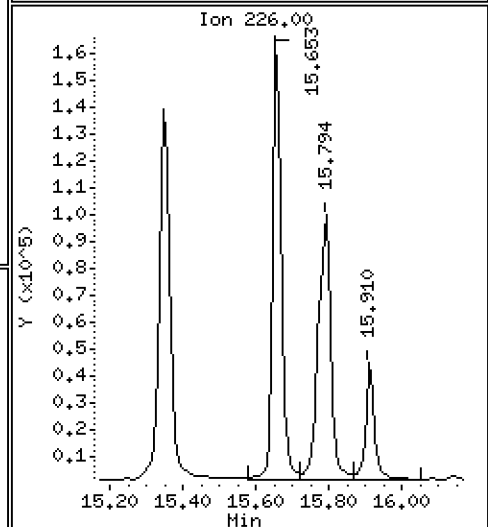
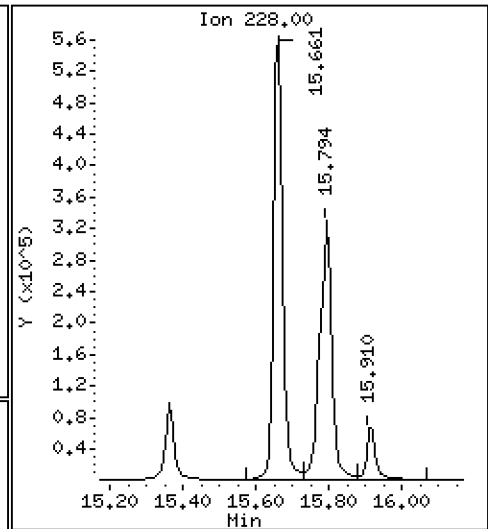
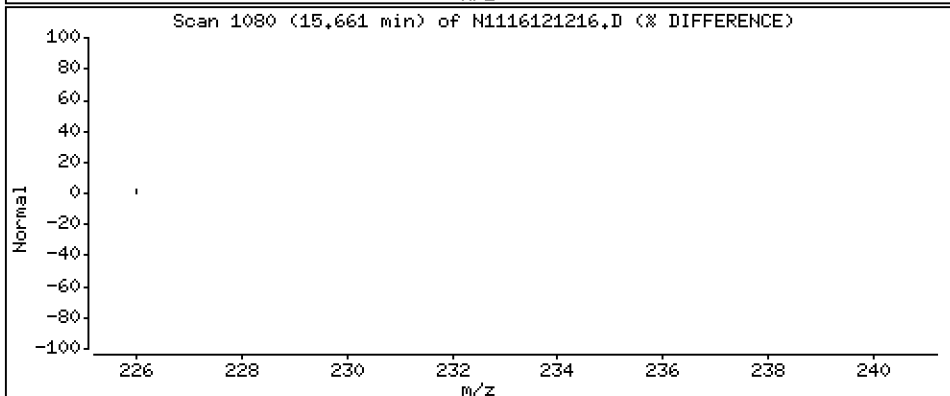
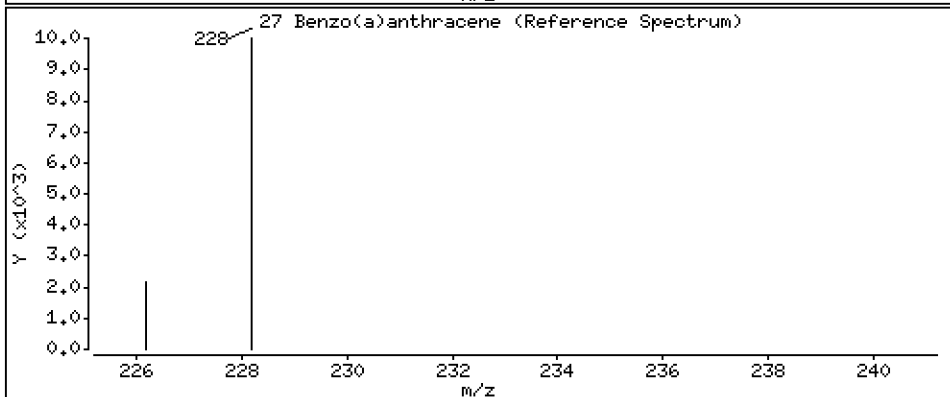
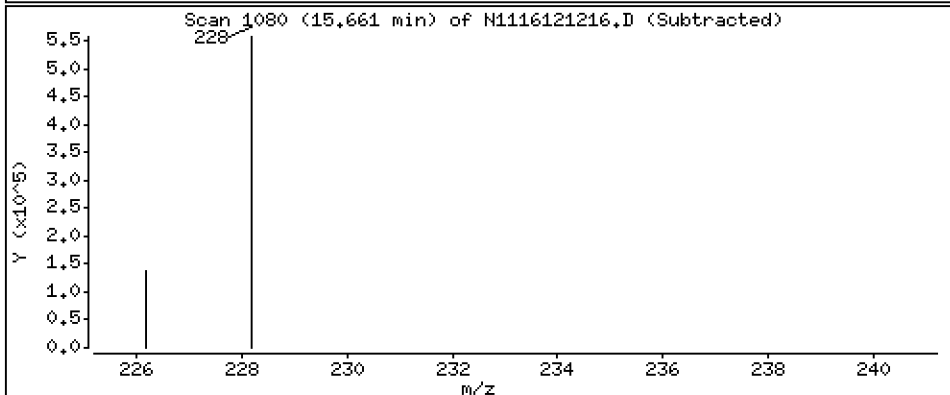
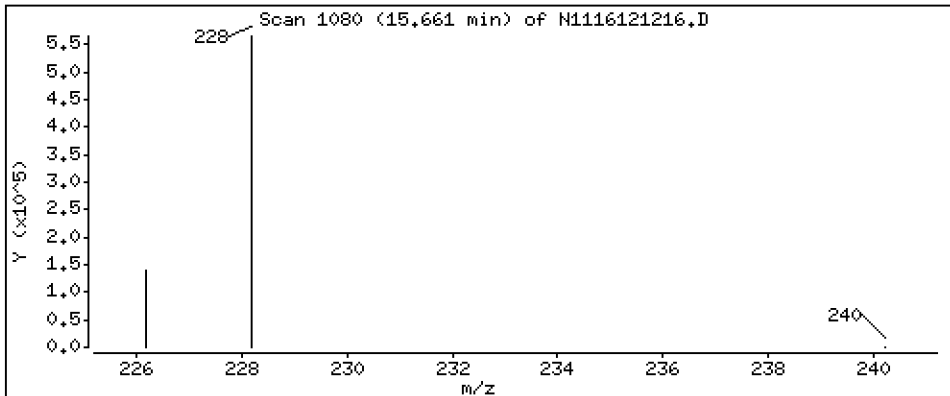
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 546 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

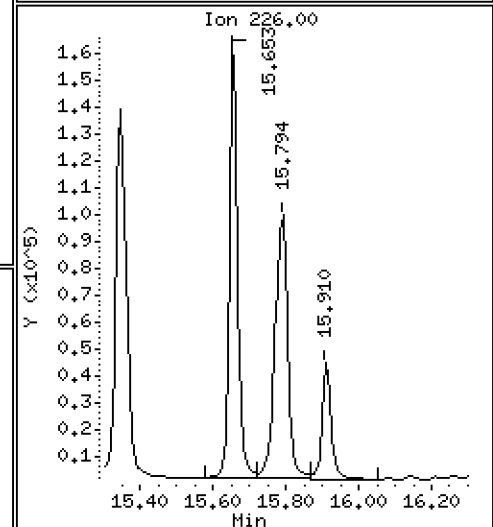
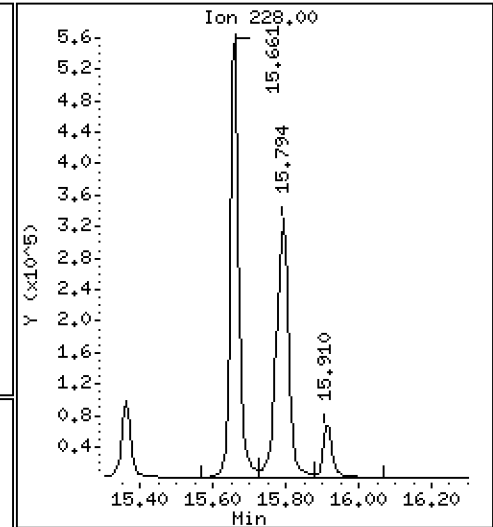
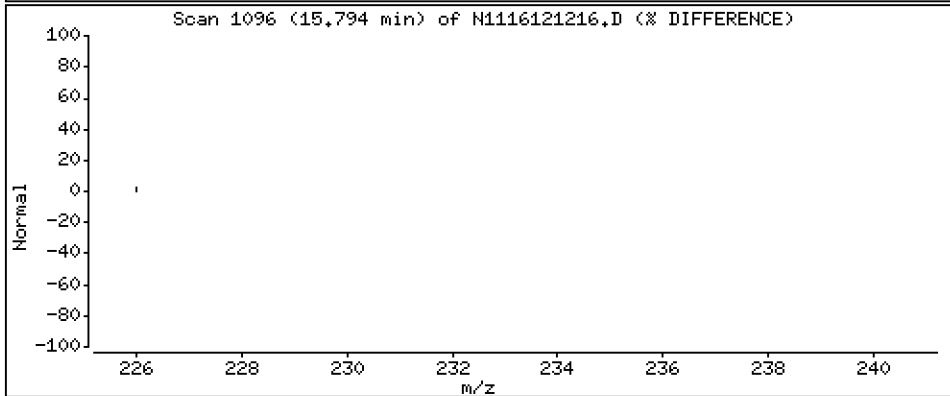
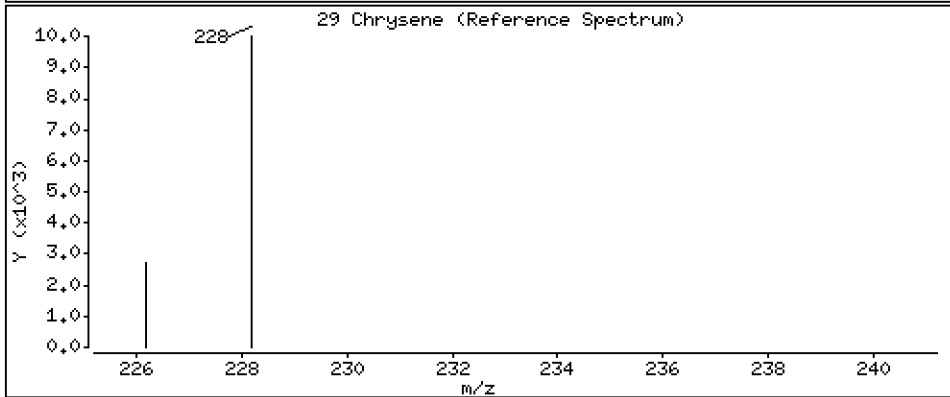
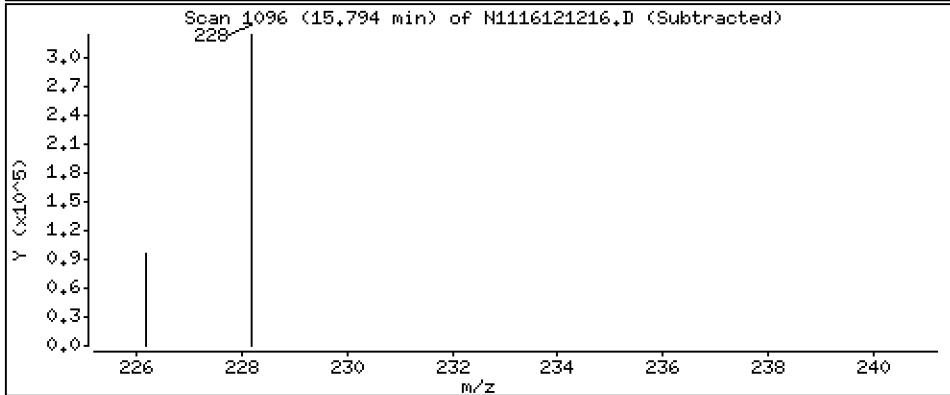
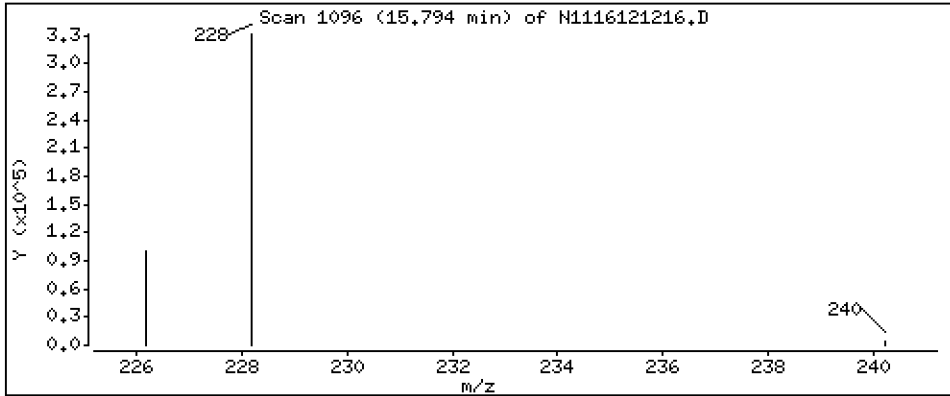
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 396 ng/mL

29 Chrysene



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

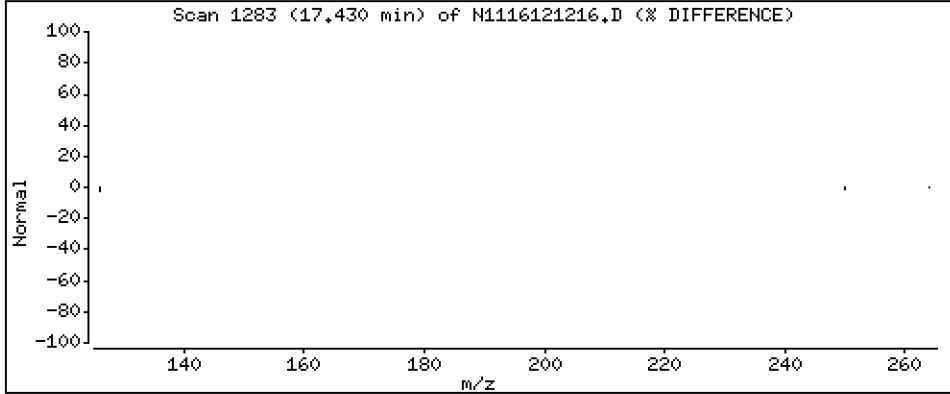
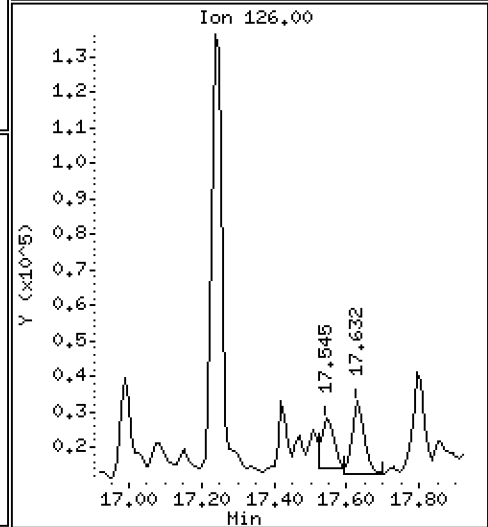
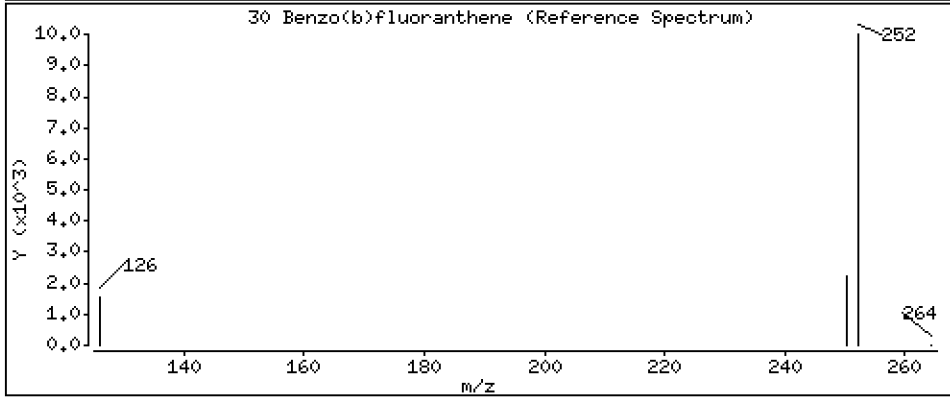
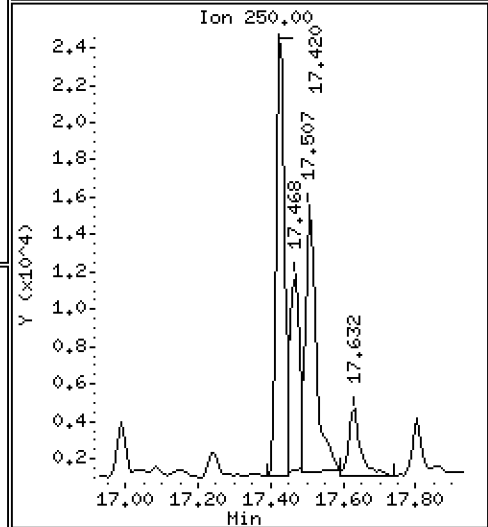
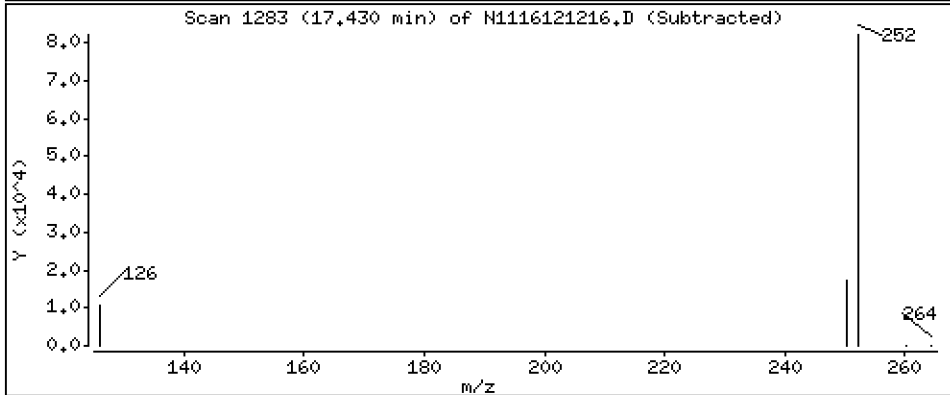
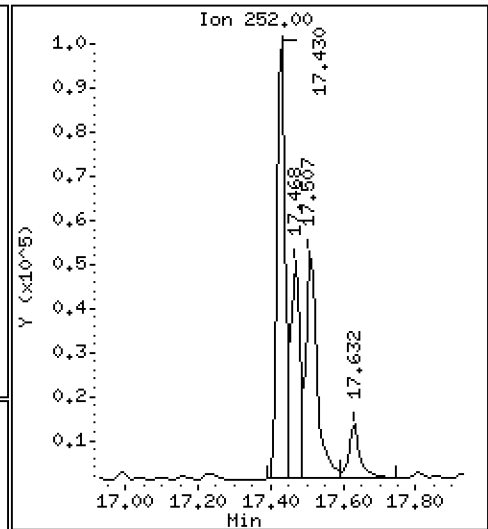
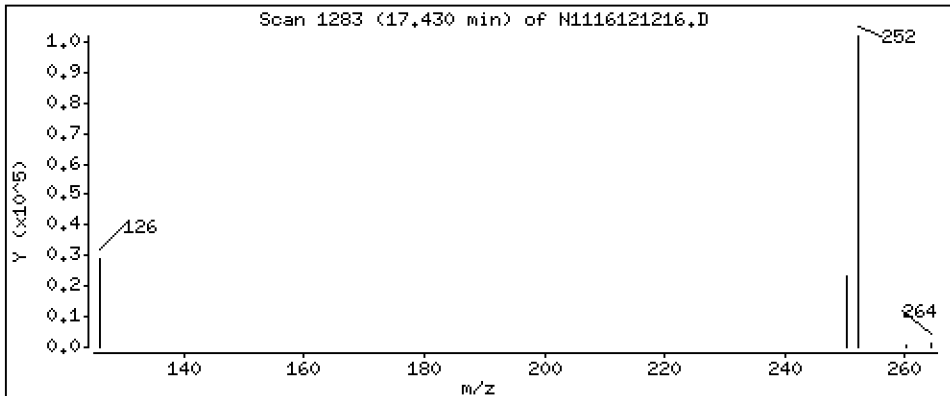
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 107 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

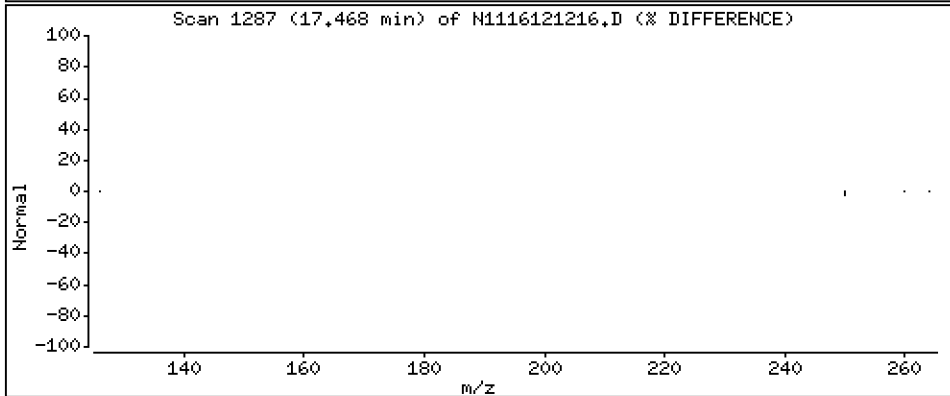
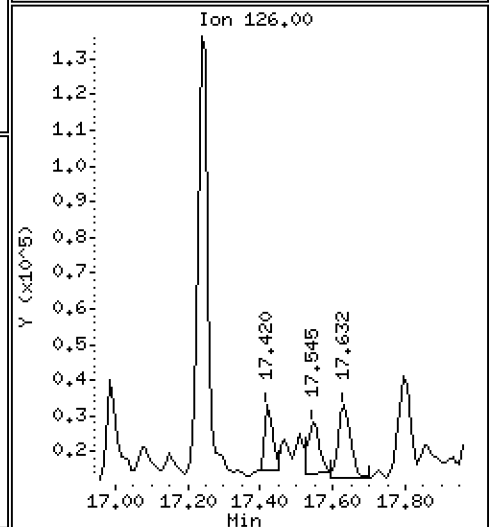
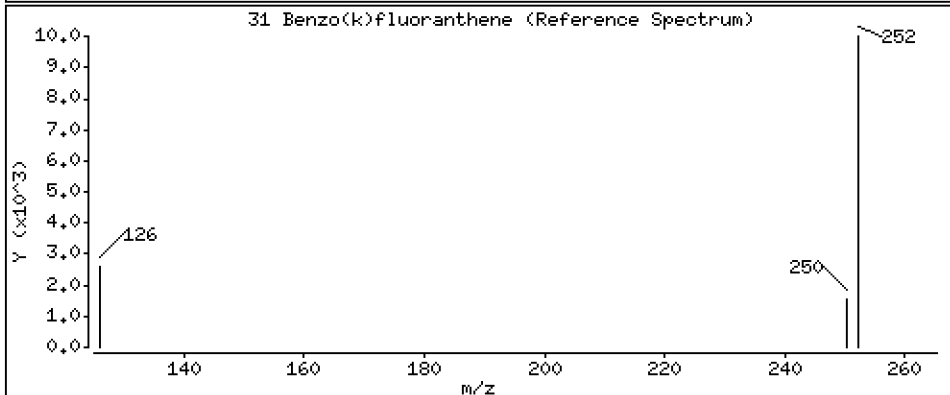
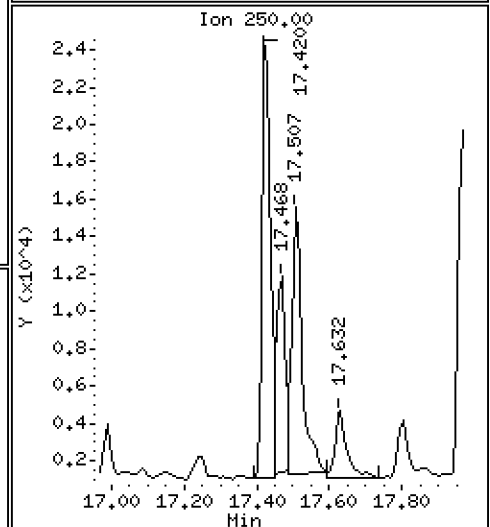
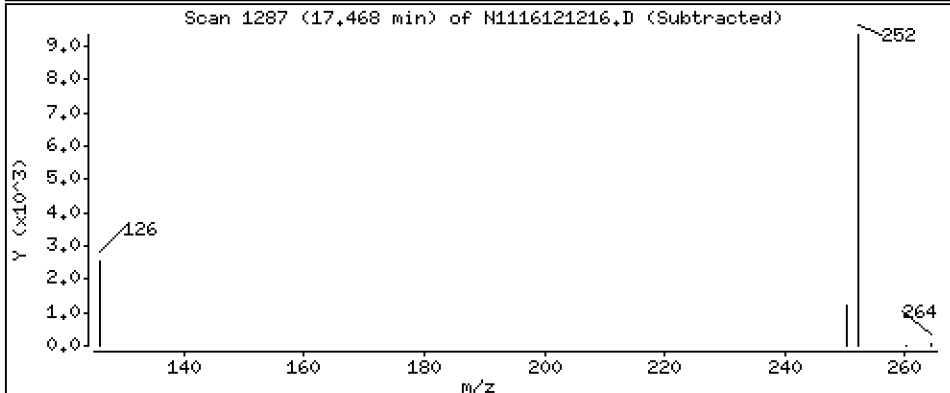
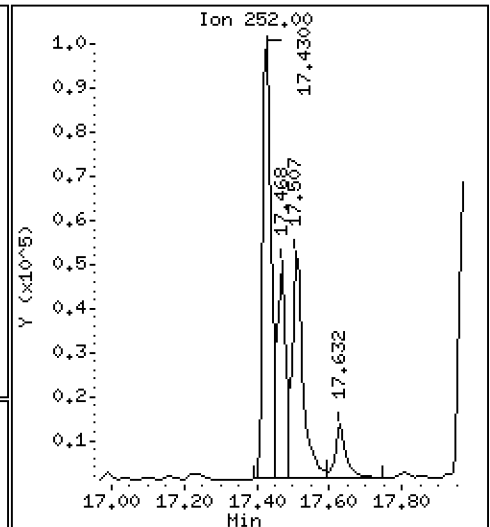
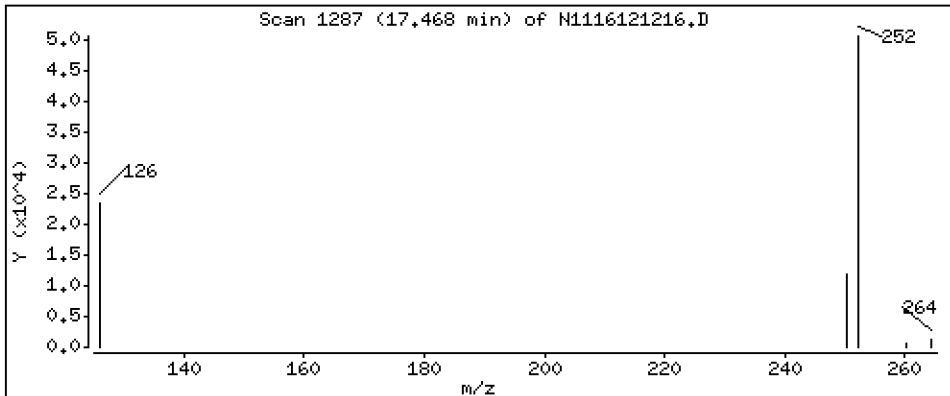
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 56,2 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

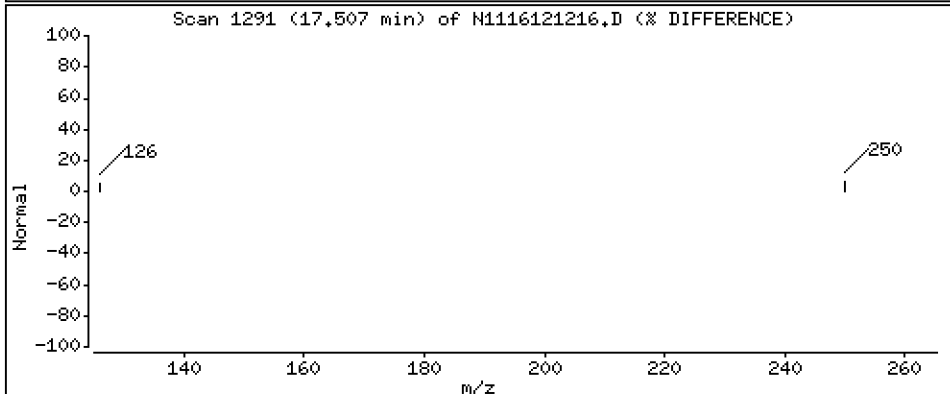
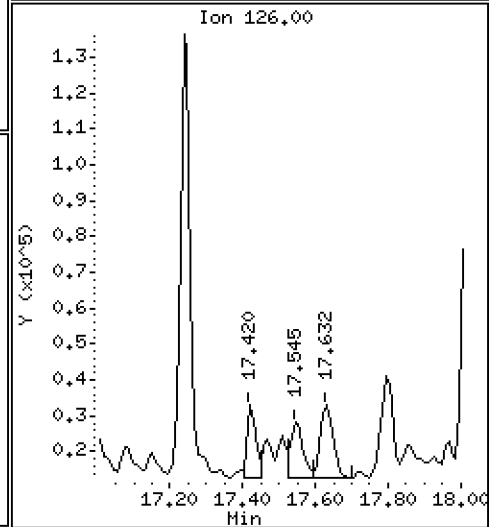
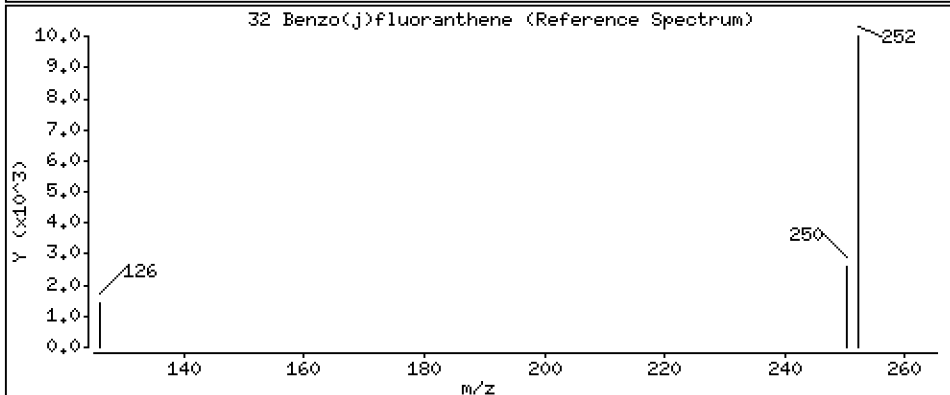
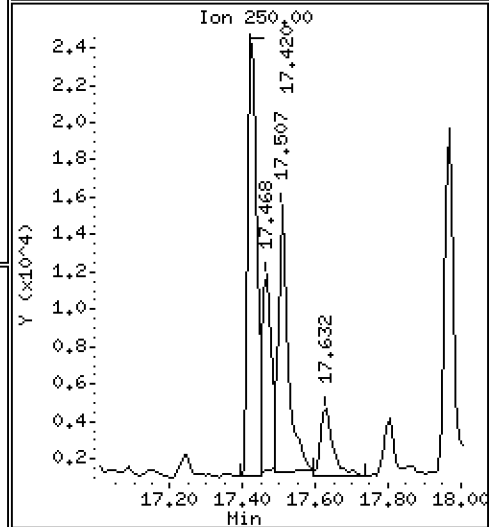
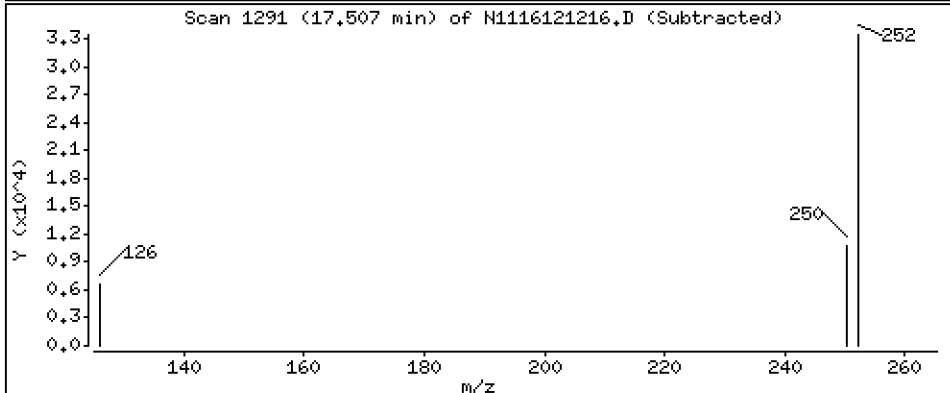
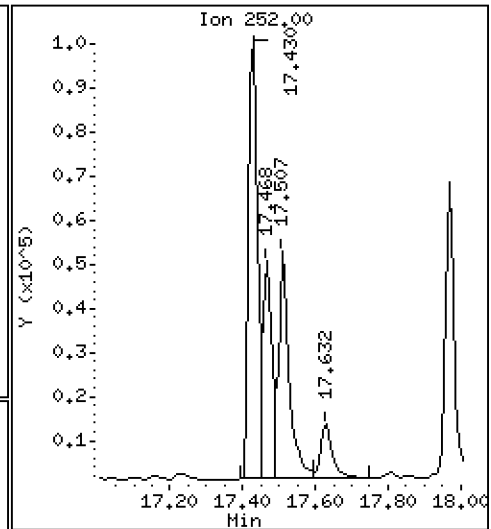
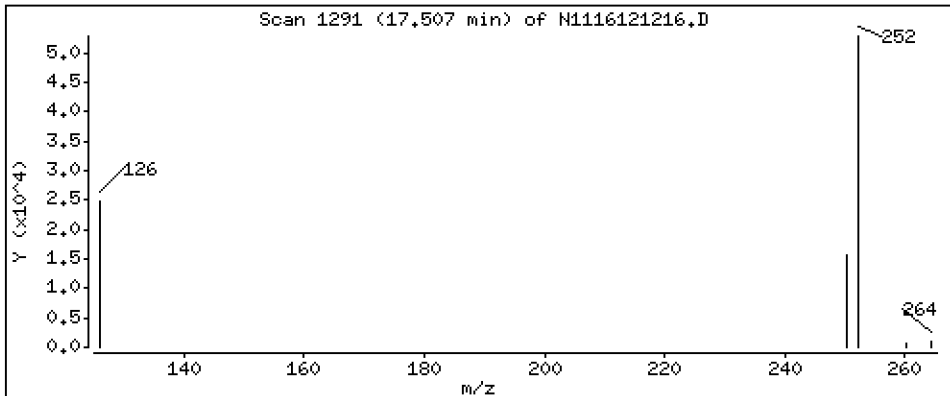
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 72,7 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

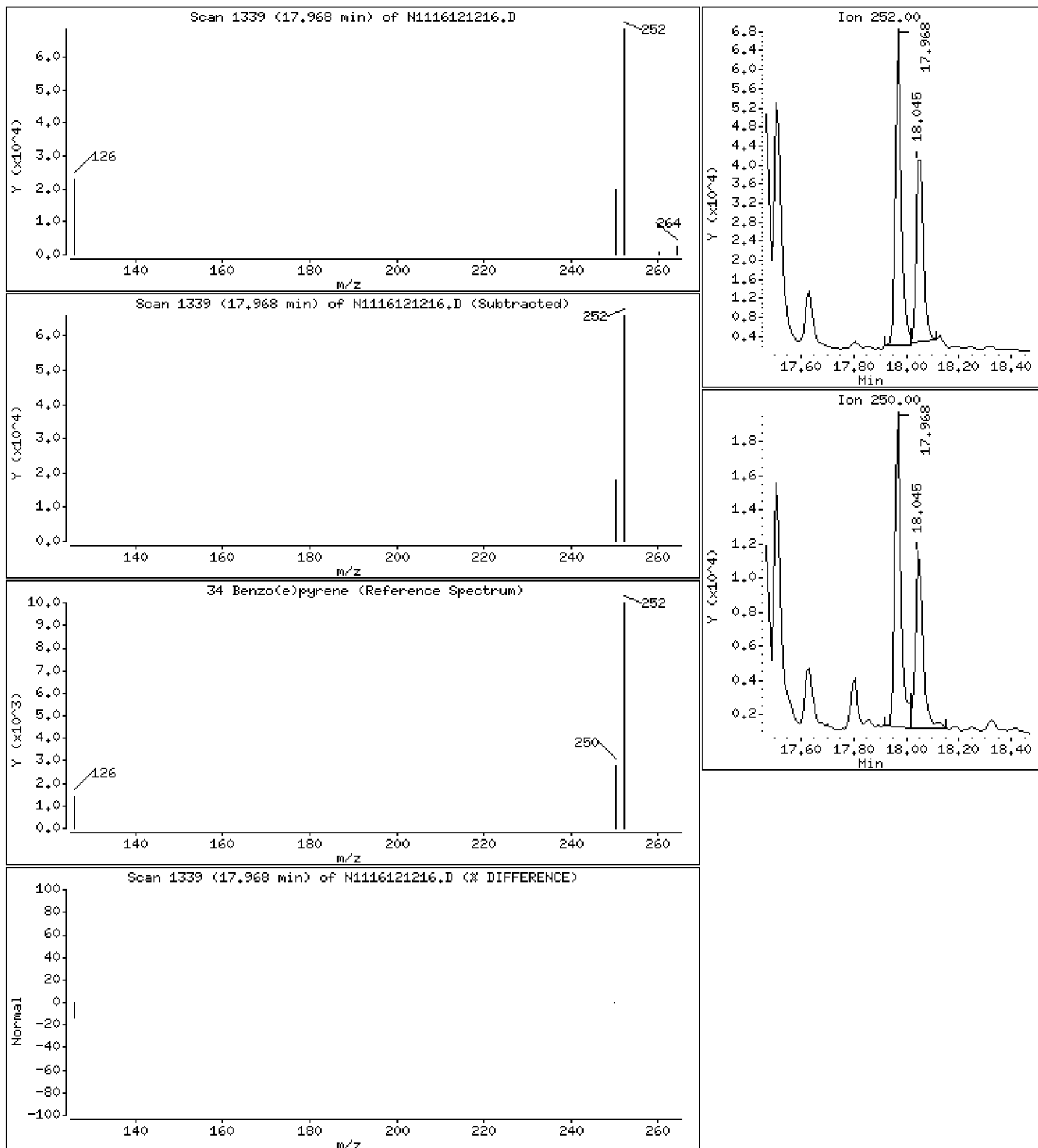
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 69,3 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

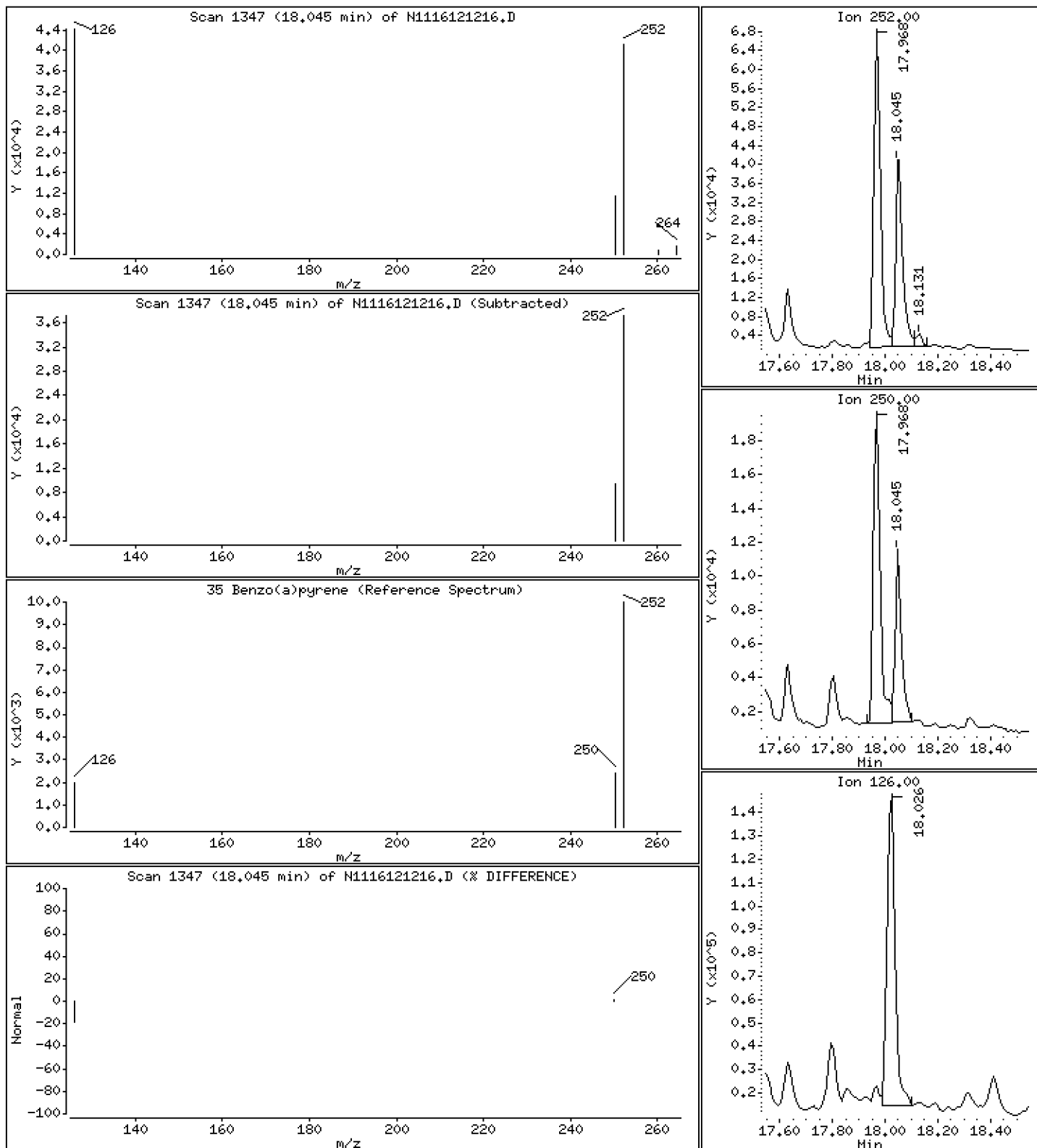
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 54,0 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

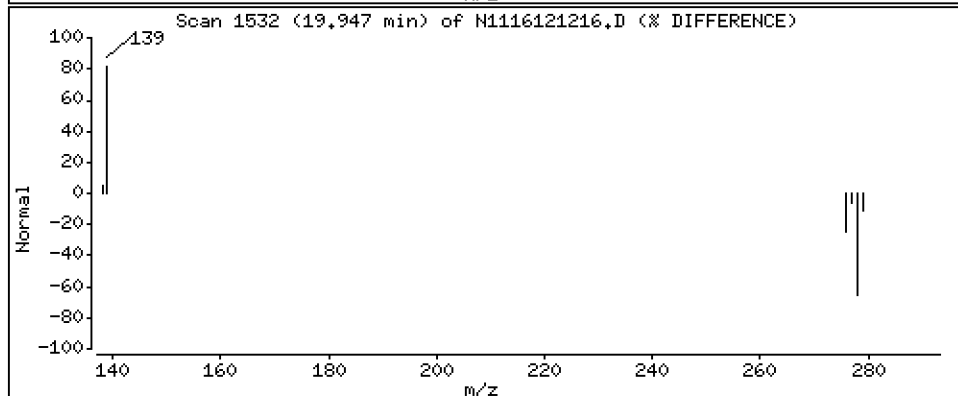
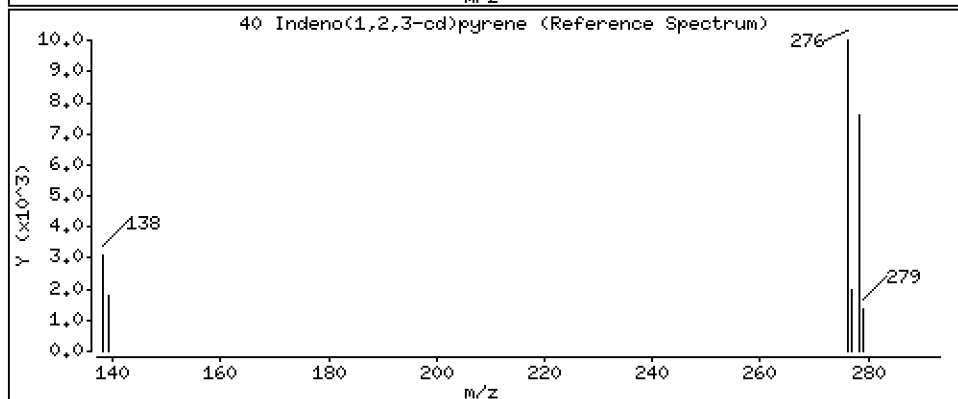
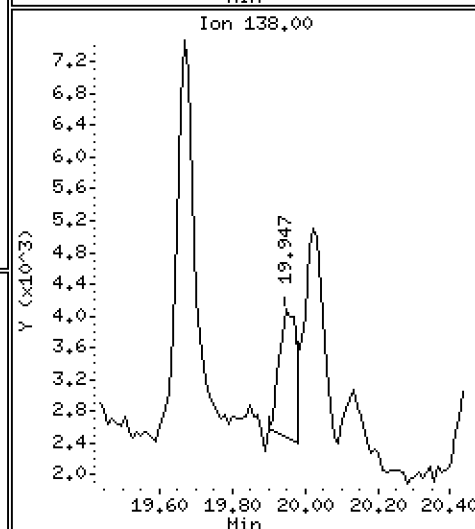
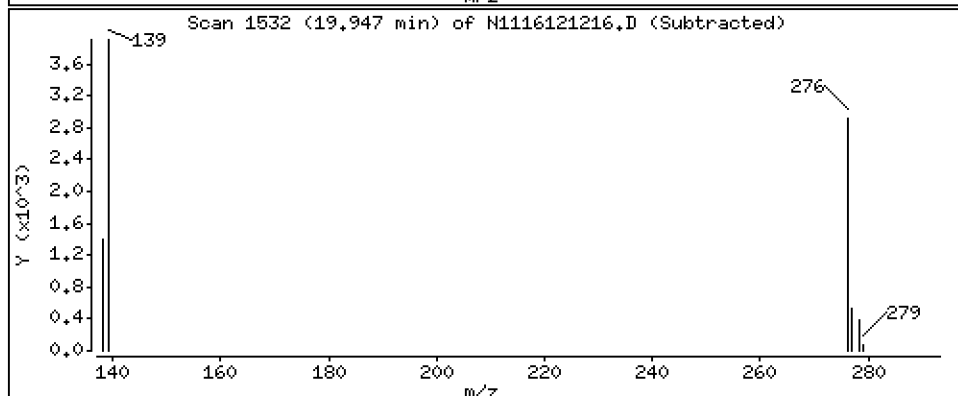
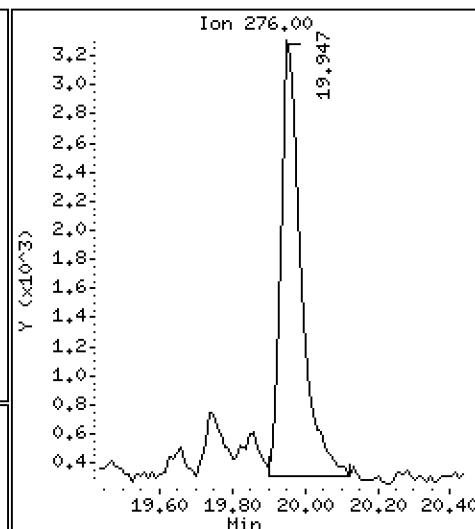
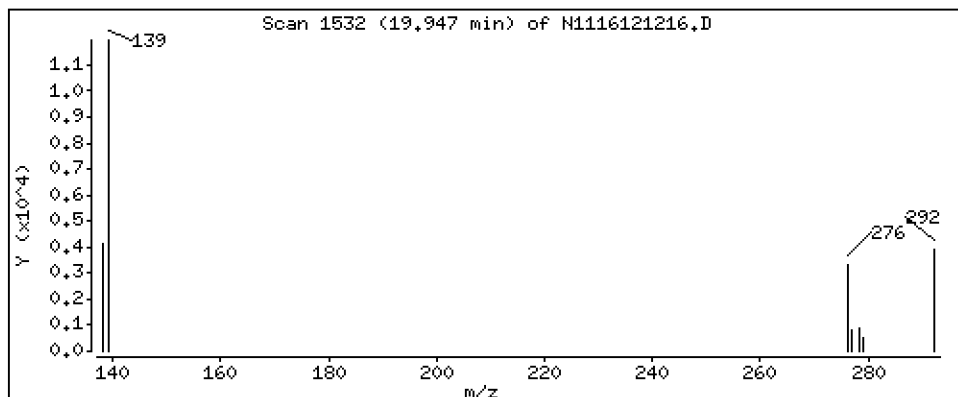
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 7,21 ng/mL



Date : 12-DEC-2016 15:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11

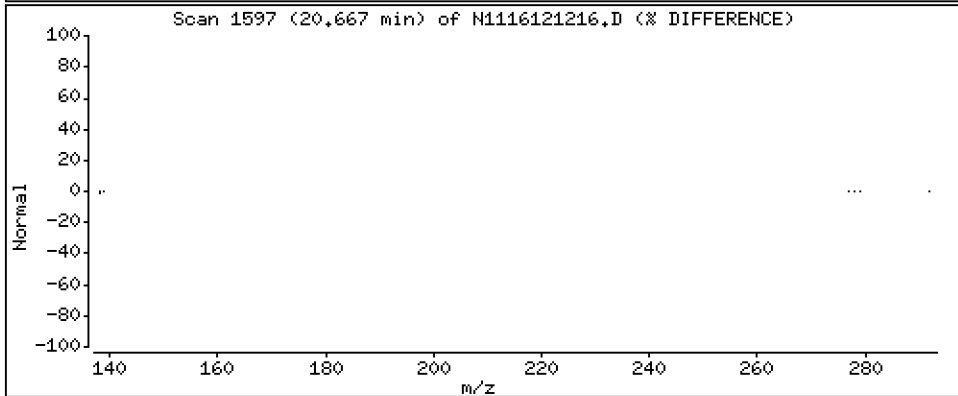
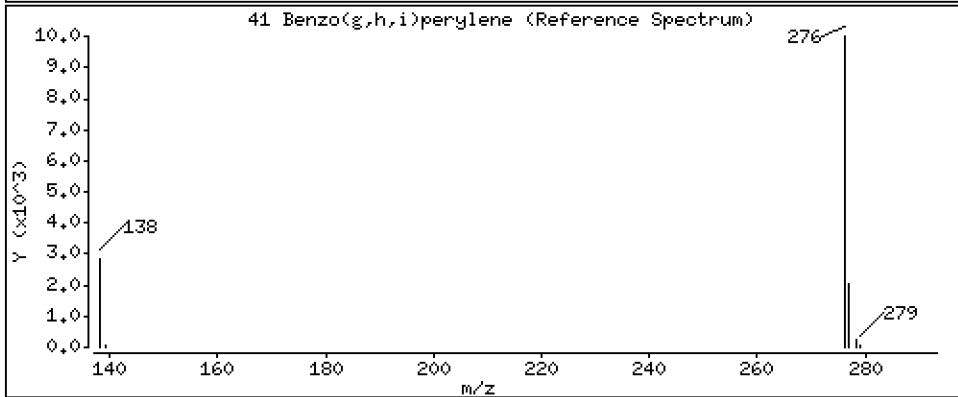
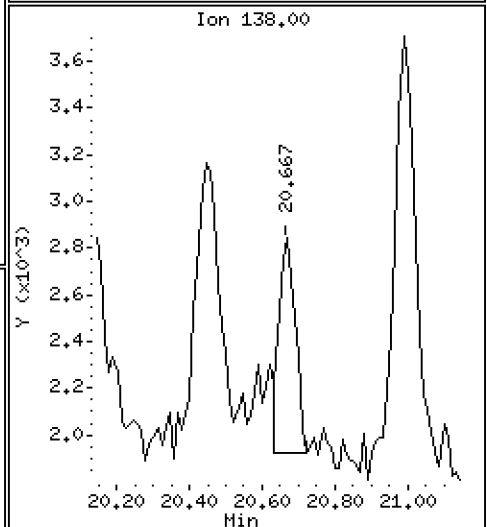
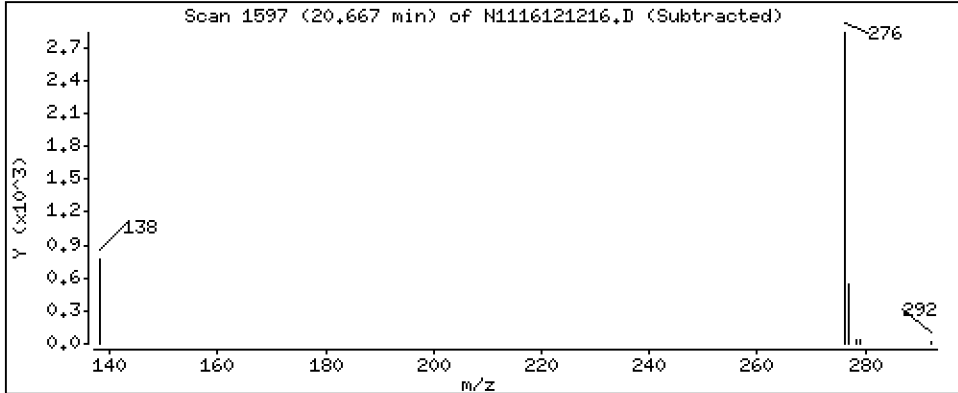
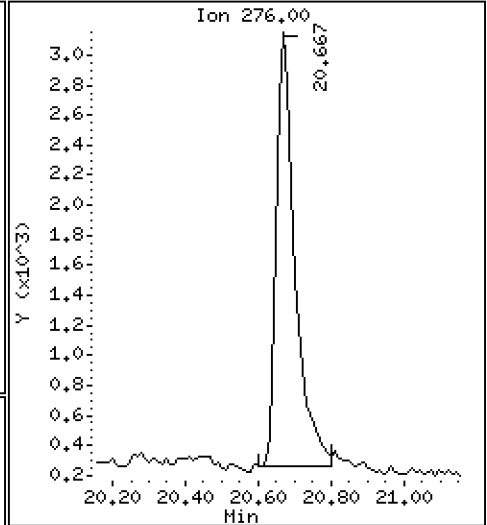
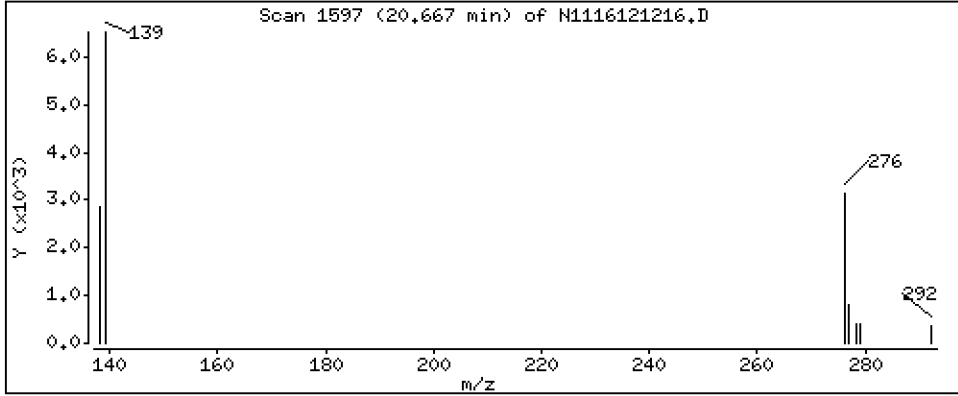
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 7,33 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121216.D
 Lab Smp Id: 16K0321-11
 Inj Date : 12-DEC-2016 15:59 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-11
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 15
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	316869	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	216734	133.034	133
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.494	6.505	(1.175)	211922	177.397	177
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	376204	275.040	275
6 1-Methylnaphthalene	142		6.789	6.799	(1.228)	297506	221.764	222
7 2-Chloronaphthalene	162		7.408	7.429	(0.875)	8068	4.94632	4.95 (M)
8 Biphenyl	154		7.419	7.429	(0.876)	199717	89.2248	89.2
9 2,6-Dimethylnaphthalene	156		7.461	7.482	(0.881)	521195	324.031	324
10 Acenaphthylene	152		8.321	8.321	(0.983)	78970	42.5945	42.6
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	200672	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	1702735	1338.64	1340
13 Dibenzofuran	168		8.726	8.738	(1.031)	1588357	878.691	879
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	237564	211.400	211 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	3202208	2292.94	2290
17 Dibenzothiophene	184		10.921	10.921	(0.985)	701123	403.141	403
* 18 Phenanthrene-d10	188		11.089	11.089	(1.000)	351860	200.000	
19 Phenanthrene	178		11.121	11.131	(1.003)	12497302	5912.97	5910
\$ 20 Anthracene-d10	188		11.152	11.152	(1.006)	25068	15.7251	15.7 (M)
21 Anthracene	178		11.184	11.184	(1.009)	1763363	886.631	887
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.093)	936325	502.775	503
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.185)	388570	247.397	247
25 Fluoranthene	202		13.180	13.180	(1.189)	9412627	4589.73	4590
26 Pyrene	202		13.651	13.651	(0.867)	6910483	3443.62	3440
27 Benzo(a)anthracene	228		15.660	15.660	(0.994)	947525	545.652	546
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	308432	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	763412	396.370	396
30 Benzo(b)fluoranthene	252		17.429	17.420	(0.958)	168858	106.612	107
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.960)	96802	56.2496	56.2
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.962)	116039	72.7396	72.7
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	87026	64.8111	64.8

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.968	17.958	(0.988)	106732	69.3469	69.3
35 Benzo(a)pyrene	252	18.044	18.044	(0.992)	78315	54.0044	54.0
* 36 Perylene-d12	264	18.189	18.179	(1.000)	278637	200.000	
37 Perylene	252	Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	217723	233.277	233
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	19.947	19.925	(1.097)	11600	7.20639	7.21
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.136)	10192	7.32898	7.33

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121216.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-11
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	316869	-35.80
11 Acenaphthene-d10	240770	120385	481540	200672	-16.65
18 Phenanthrene-d10	429271	214636	858542	351860	-18.03
28 Chrysene-d12	387691	193846	775382	308432	-20.44
36 Perylene-d12	386259	193130	772518	278637	-27.86

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121216.D

Lab ID: 16K0321-11
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 15:59

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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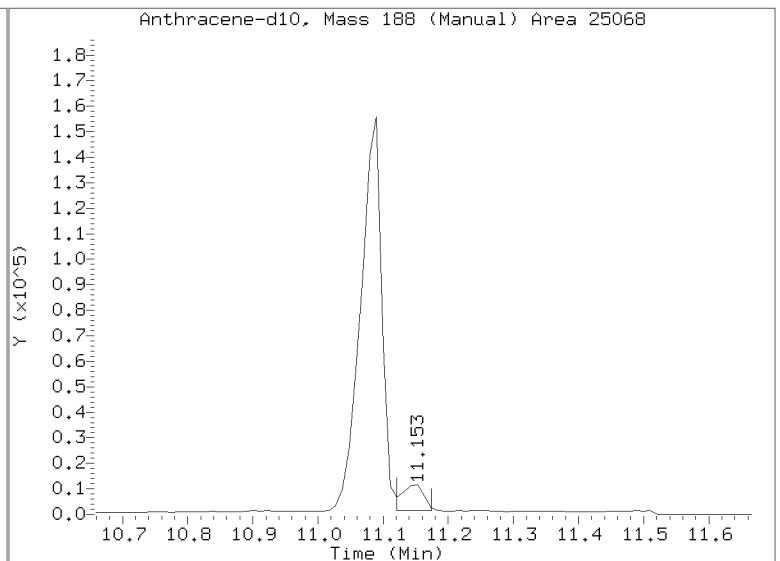
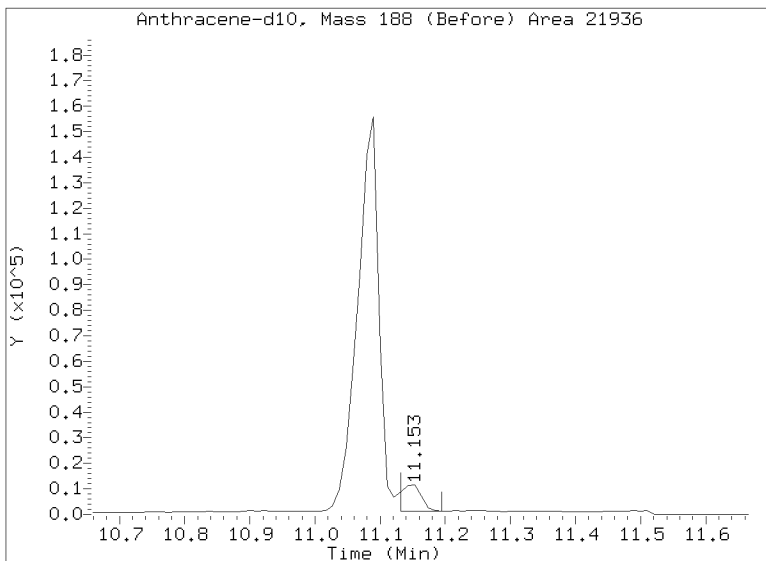
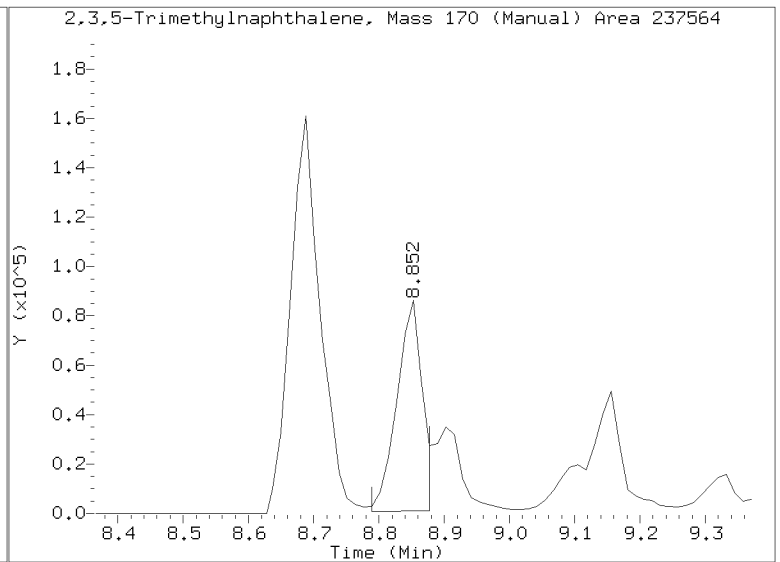
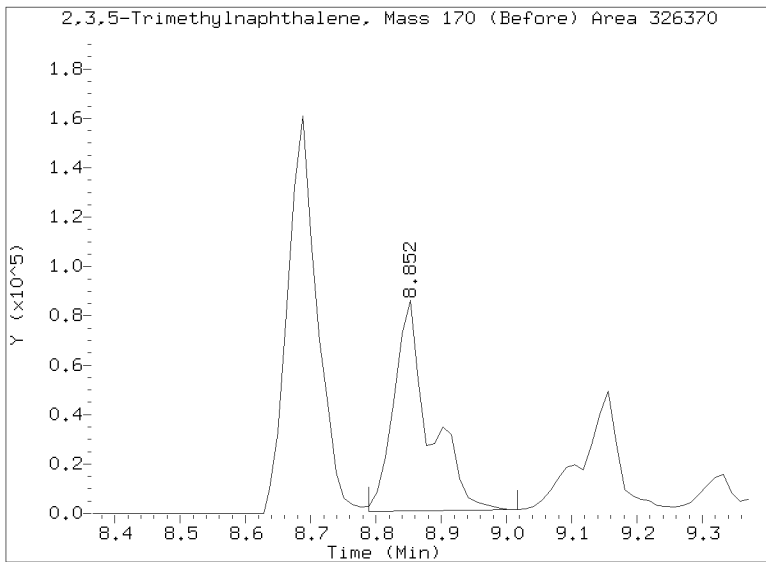
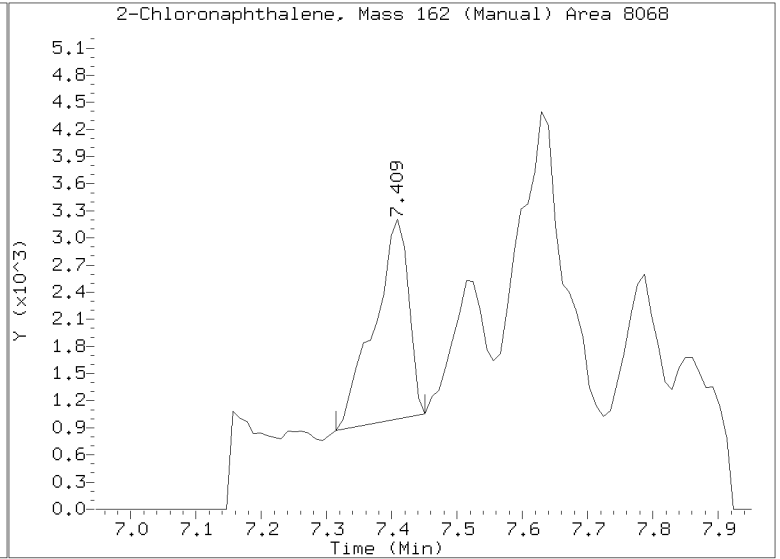
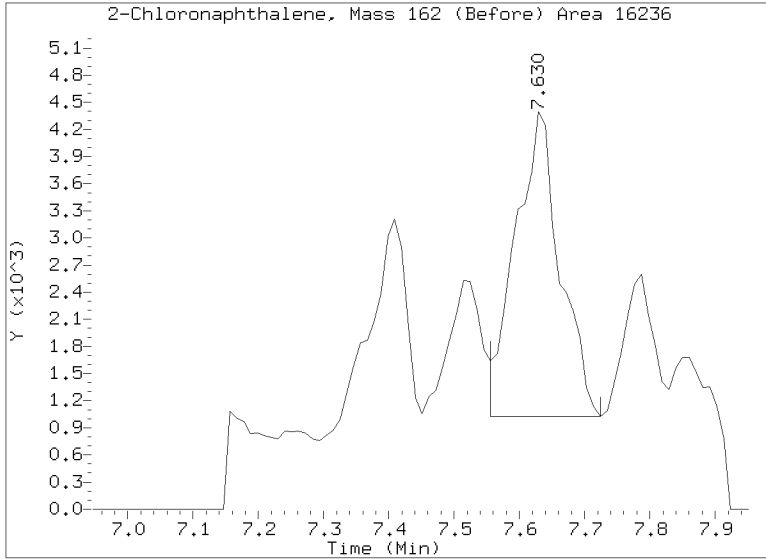
NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121216.D
Injection Date: 12-DEC-2016 15:59
Lab ID:16K0321-11 Client ID:
Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-11RE1 File ID: N1116121606.D
 Sampled: 11/22/16 09:45 Prepared: 11/24/16 08:25 Analyzed: 12/16/16 12:06
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0234 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	20	27.1	U	22.6	27.1
91-57-6	2-Methylnaphthalene	20	27.7	D, B	22.6	22.6
208-96-8	Acenaphthylene	20	22.6	U	22.6	22.6
83-32-9	Acenaphthene	20	129	D	22.6	22.6
86-73-7	Fluorene	20	251	D	22.6	22.6
85-01-8	Phenanthrene	20	1010	D	22.6	22.6
120-12-7	Anthracene	20	100	D	22.6	22.6
206-44-0	Fluoranthene	20	812	D	22.6	22.6
129-00-0	Pyrene	20	414	D	22.6	22.6
56-55-3	Benzo(a)anthracene	20	55.0	D	22.6	22.6
218-01-9	Chrysene	20	40.7	D	22.6	22.6
205-99-2	Benzo(b)fluoranthene	20	22.6	U	22.6	22.6
207-08-9	Benzo(k)fluoranthene	20	22.6	U	22.6	22.6
50-32-8	Benzo(a)pyrene	20	22.6	U	22.6	22.6
193-39-5	Indeno(1,2,3-cd)pyrene	20	22.6	U	22.6	22.6
53-70-3	Dibenzo(a,h)anthracene	20	22.6	U	22.6	22.6
191-24-2	Benzo(g,h,i)perylene	20	22.6	U	22.6	22.6
1985-5-0	Perylene	20	22.6	U	22.6	22.6
197-97-2	Benzo(e)pyrene	20	22.6	U	22.6	22.6

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	0.00		30 - 160	NRS
Dibenzo[a,h]anthracene-d14	33.860	0.00		30 - 160	NRS
Fluoranthene-d10	33.860	0.00		30 - 160	NRS
Fluorene-d10	21.163	0.00		30 - 160	NRS
Anthracene-d10	21.163	0.00		30 - 160	NRS
Benzo(e)pyrene-d12	21.163	0.00		30 - 160	NRS

Data File: \\target\share\chem3\nt11.1\20161216.16\N1116121606.D

Date : 16-DEC-2016 12:06

Client ID:

Sample Info: 16K0321-11,20

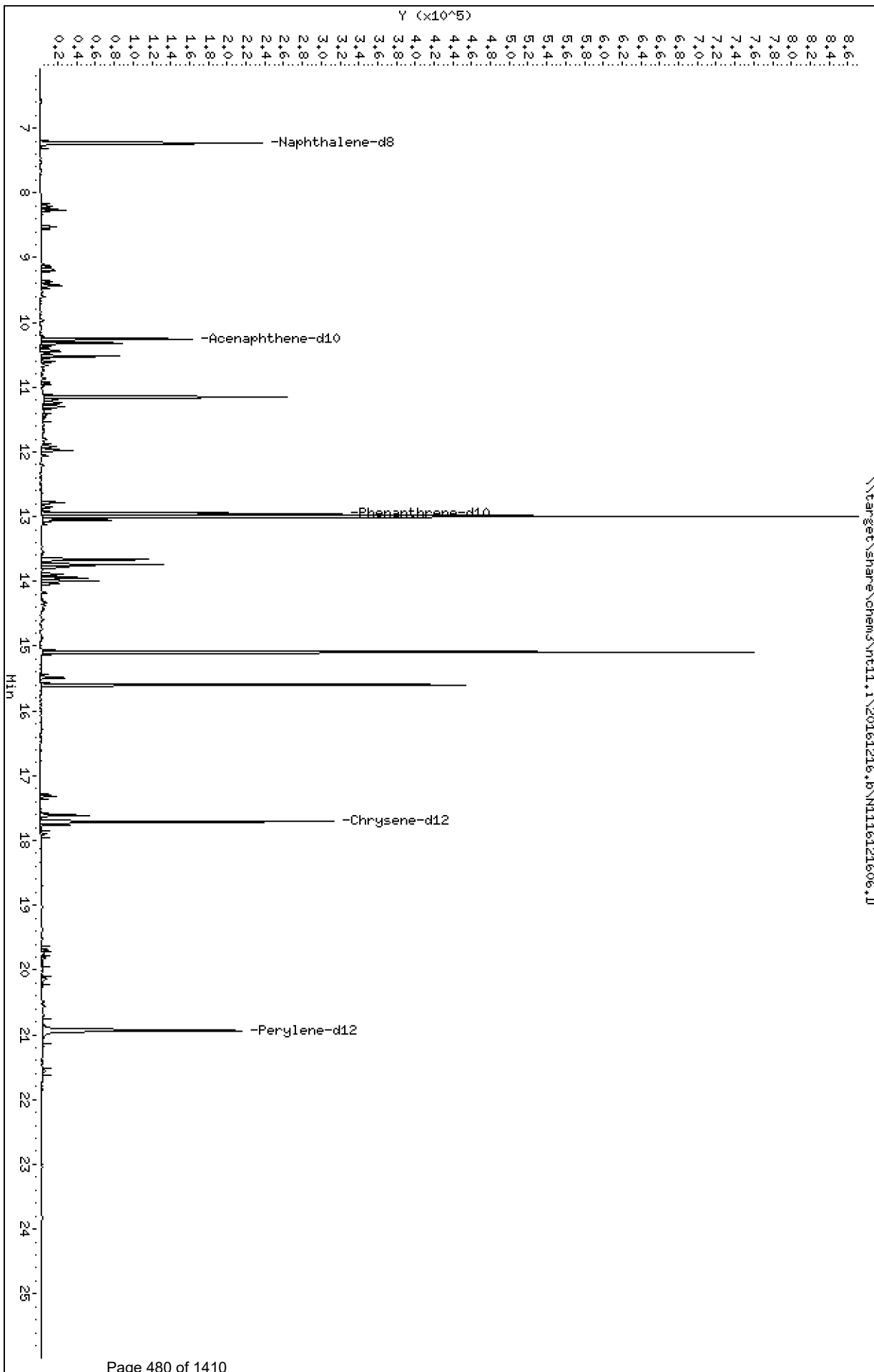
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

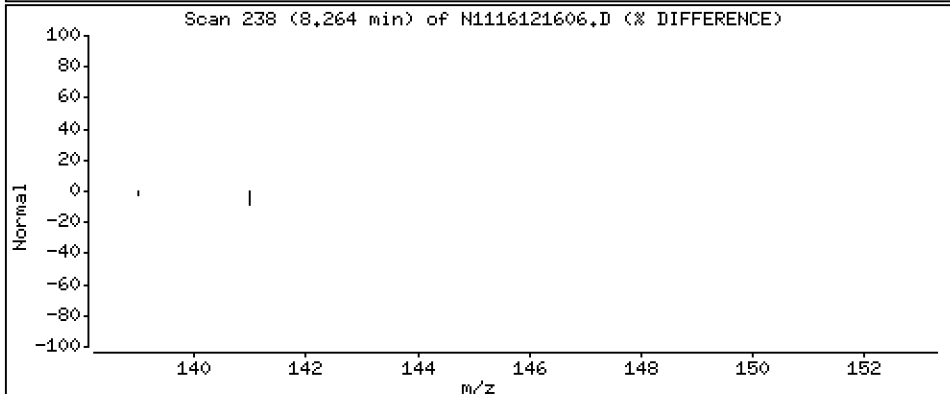
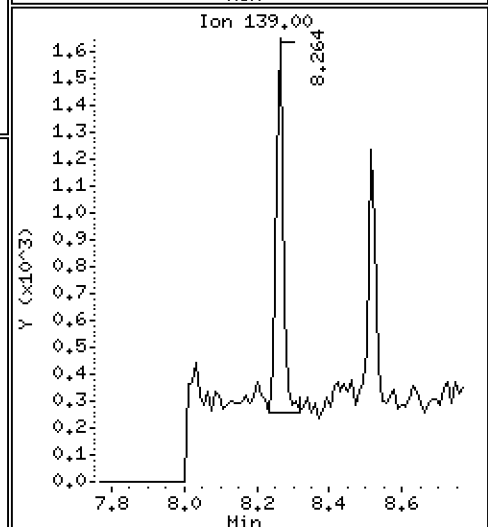
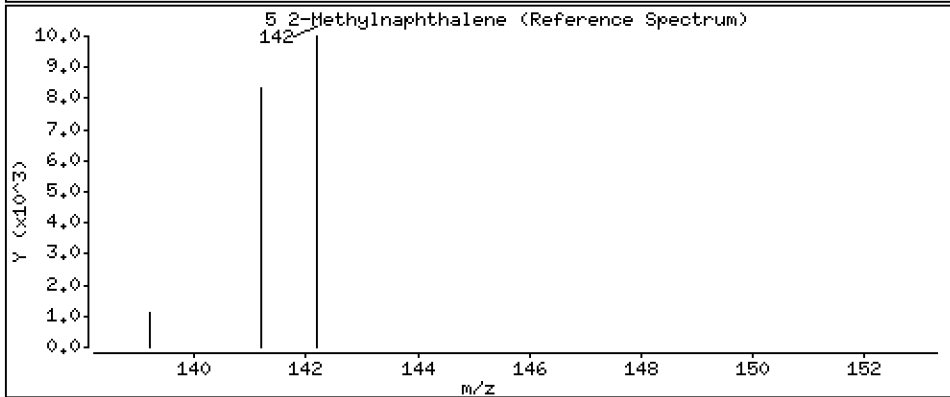
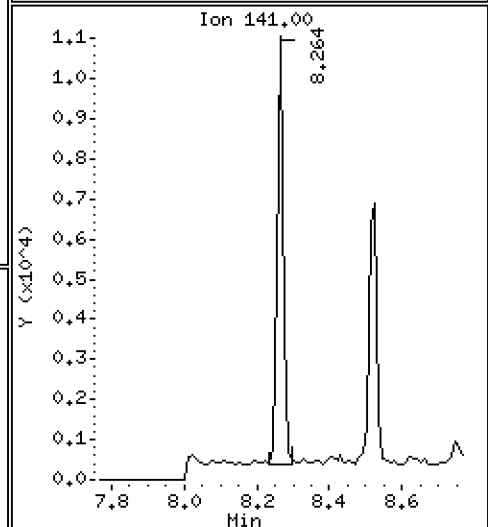
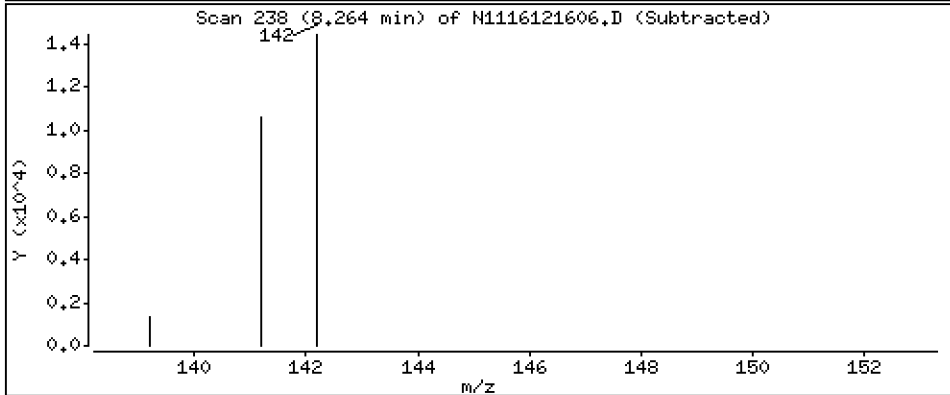
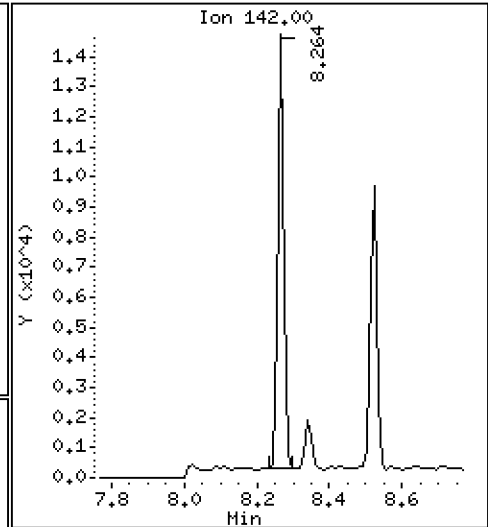
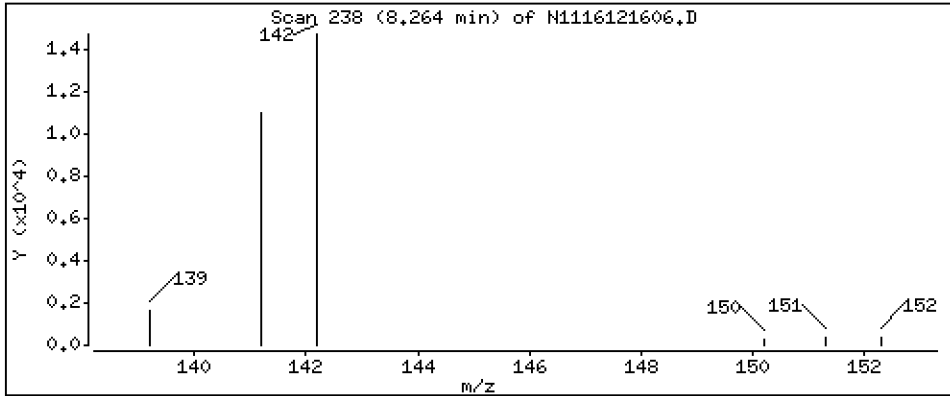
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 12,2 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

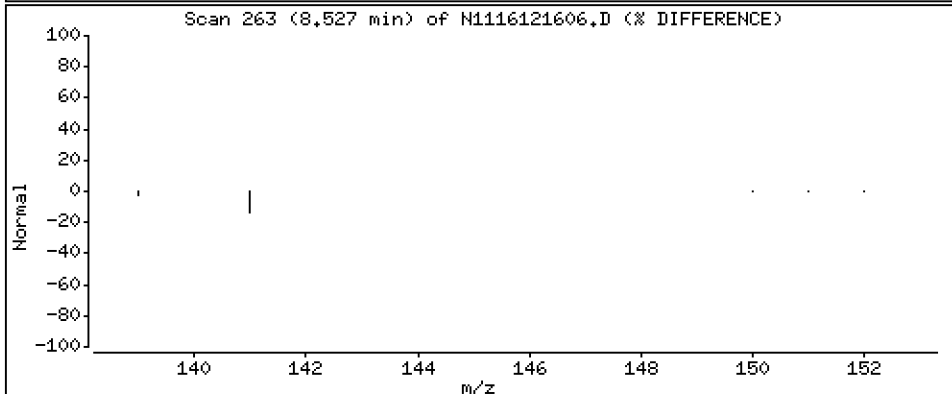
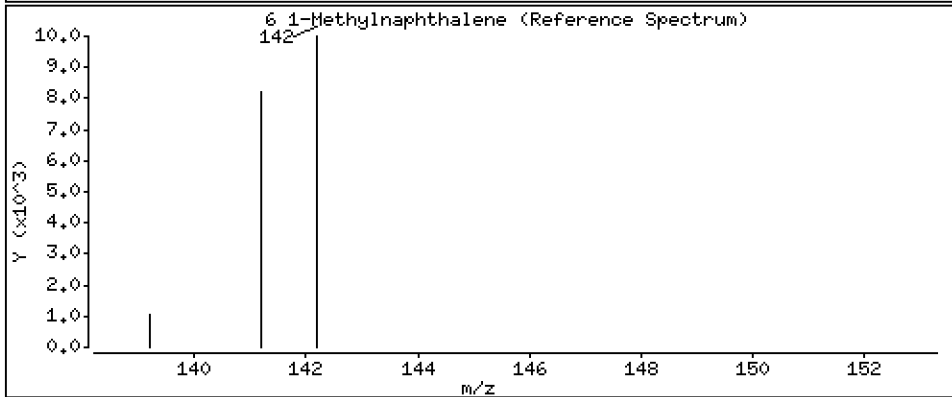
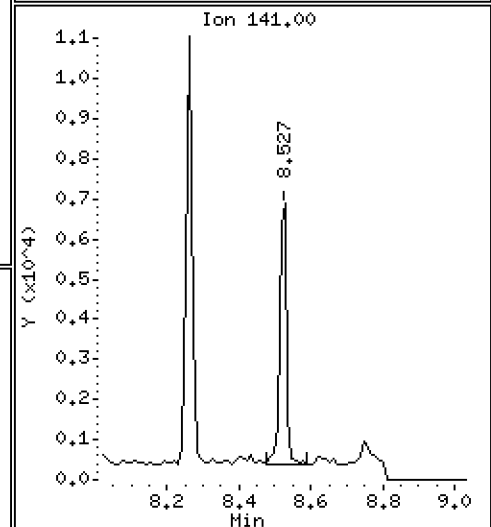
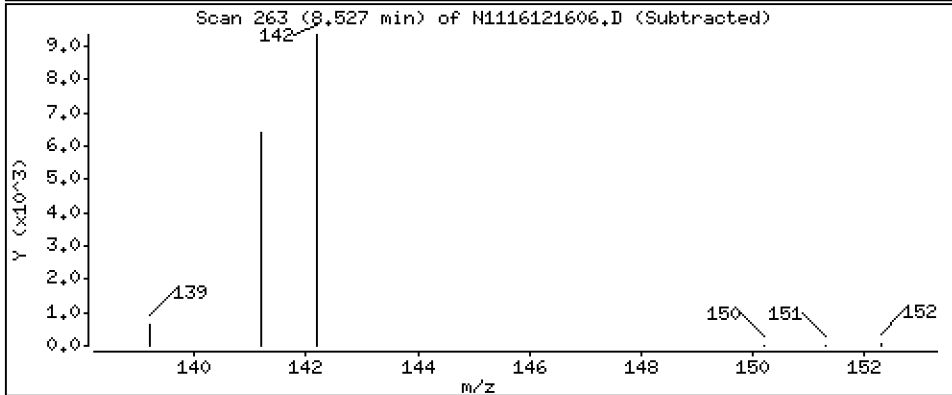
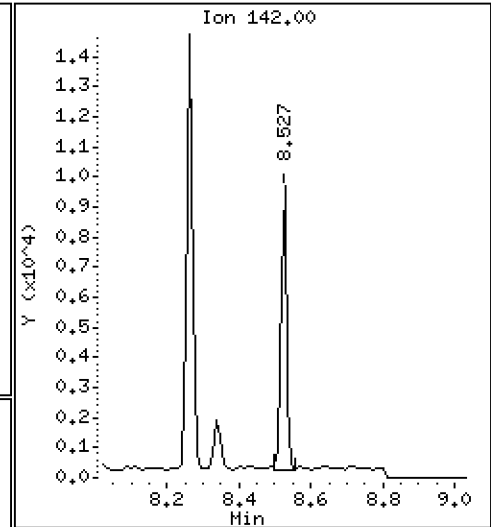
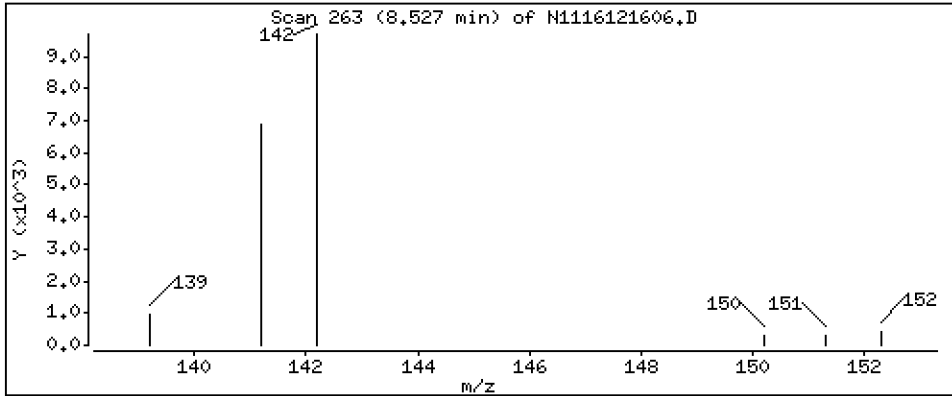
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 9,18 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

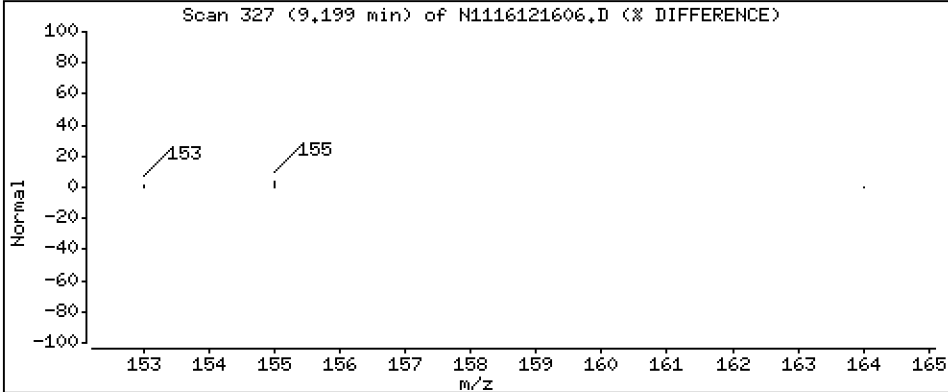
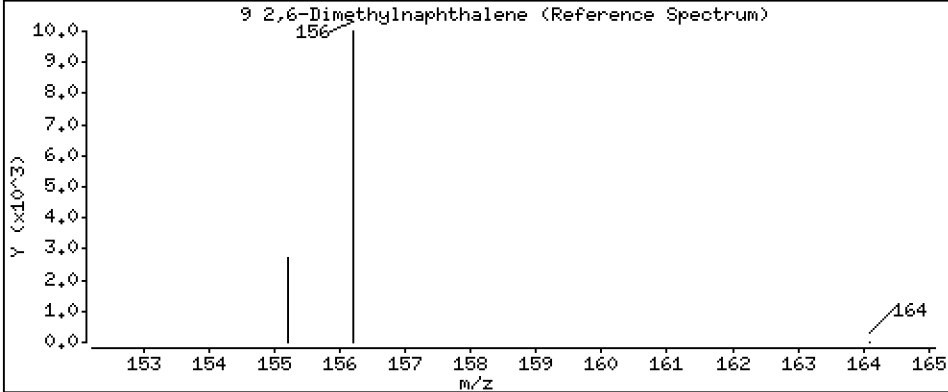
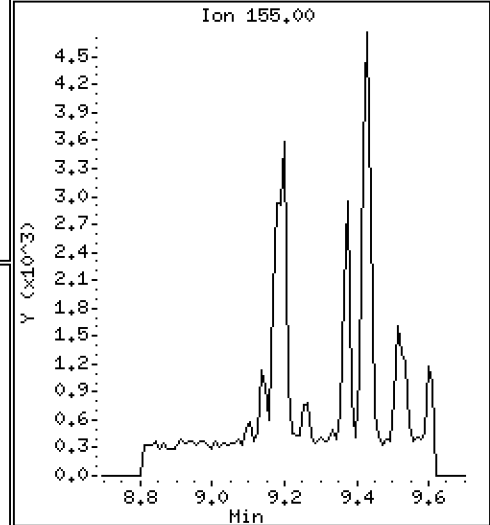
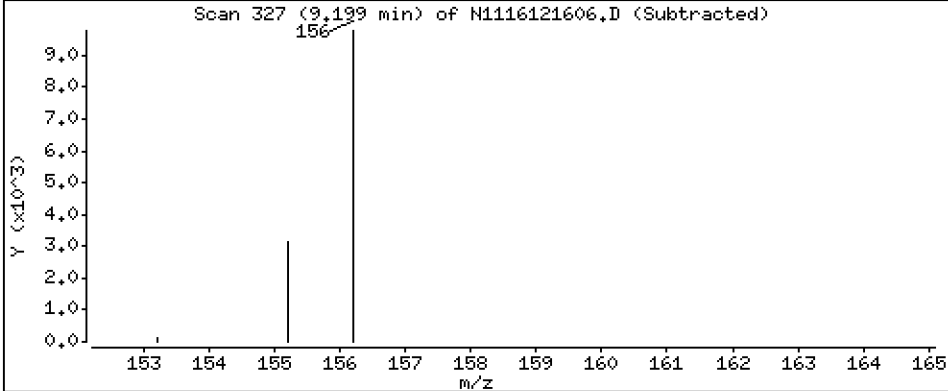
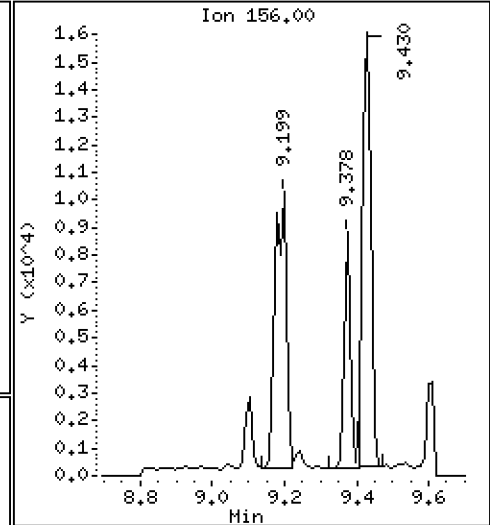
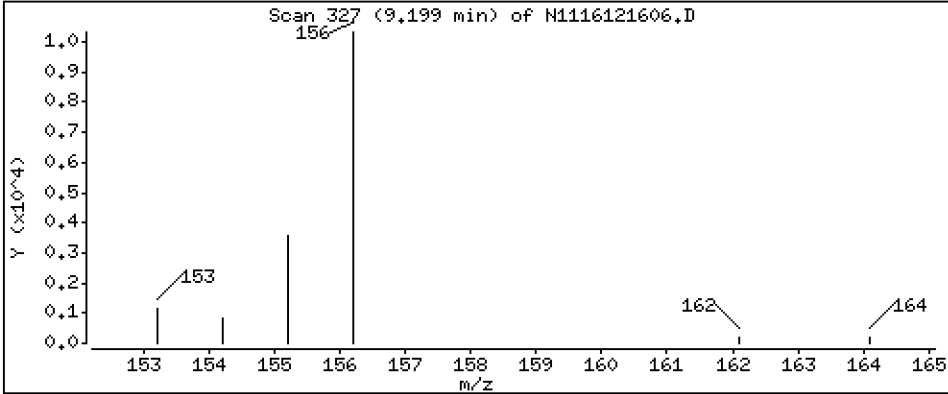
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 14,0 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

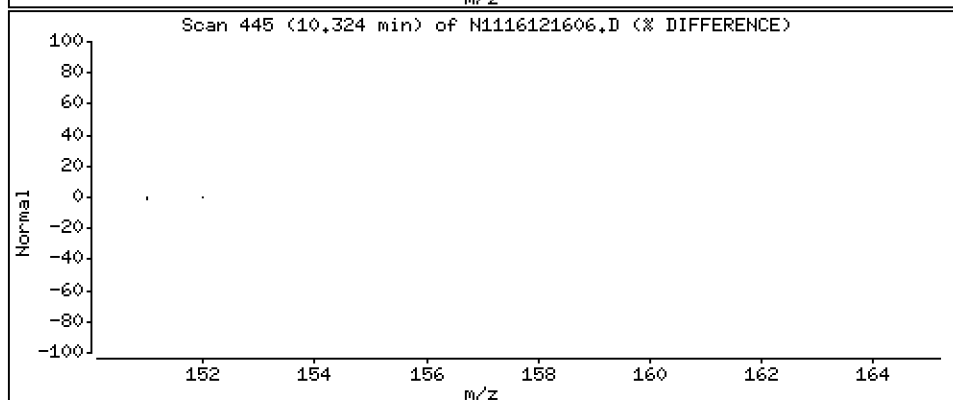
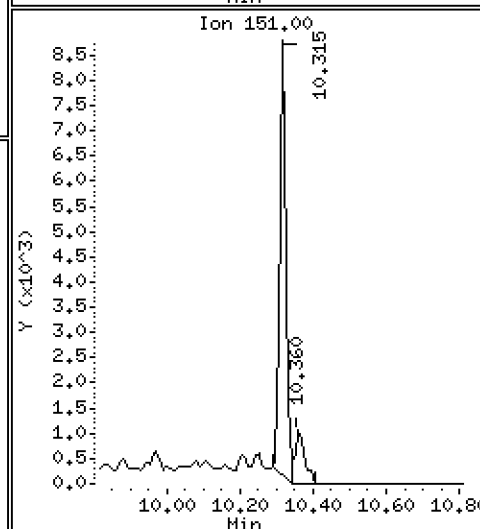
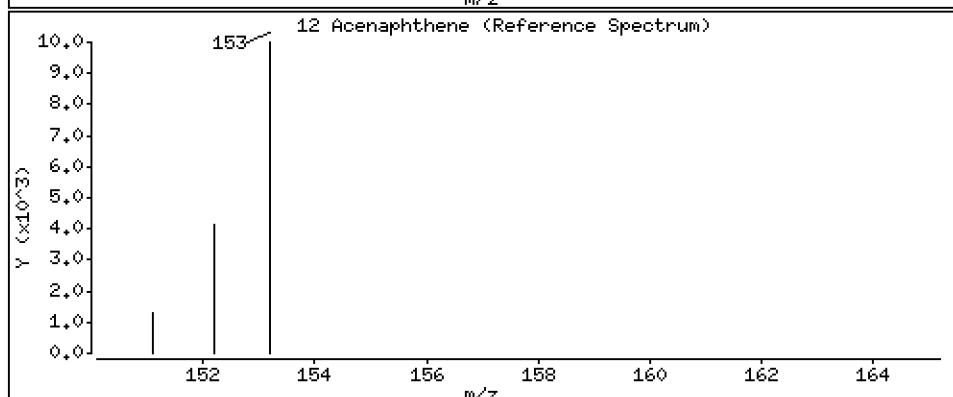
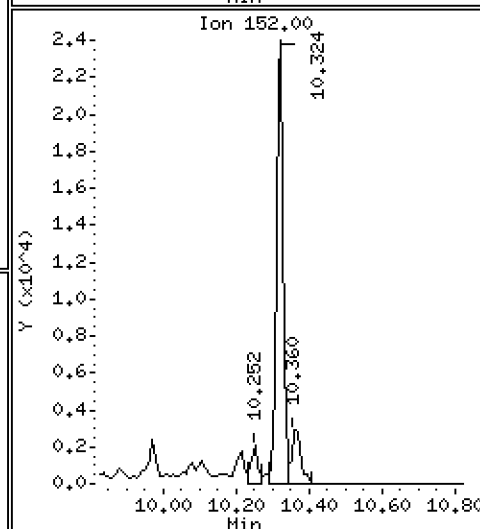
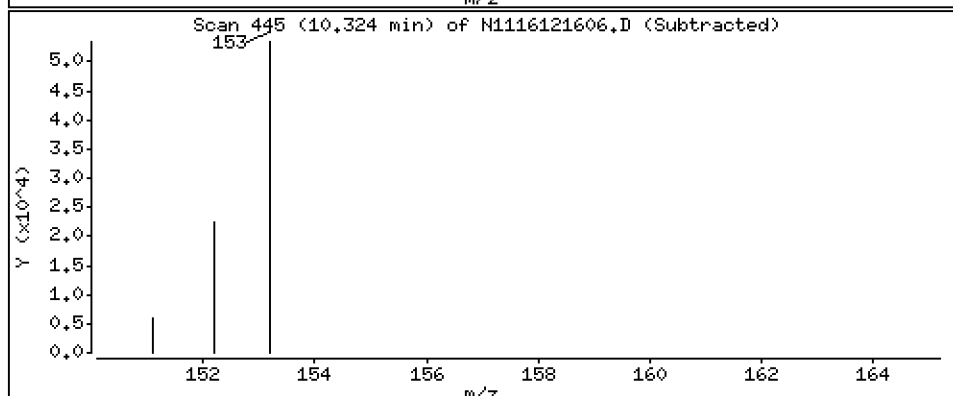
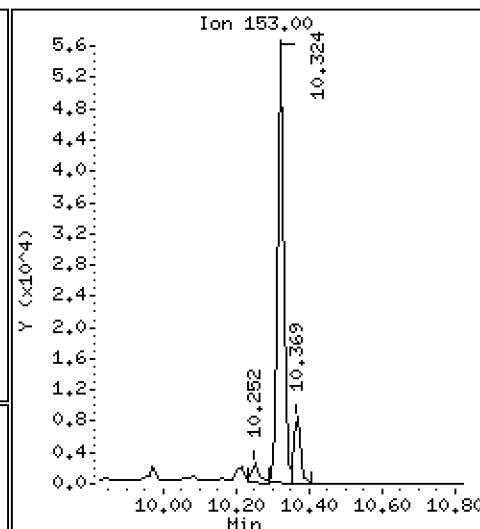
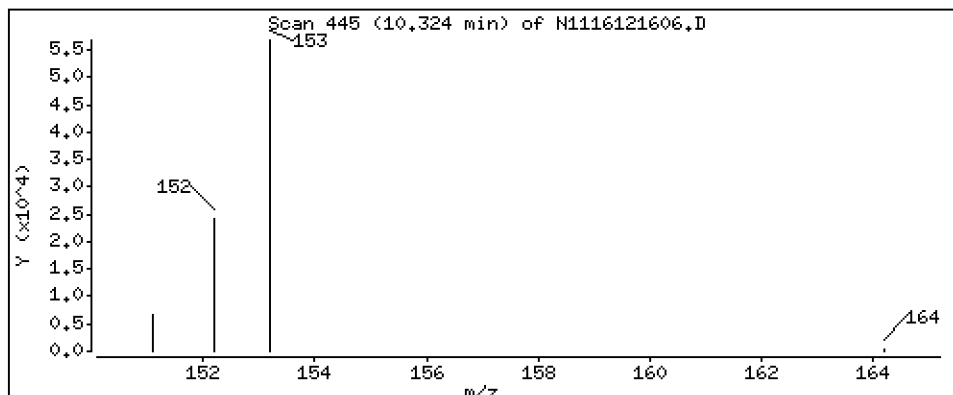
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 57,1 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

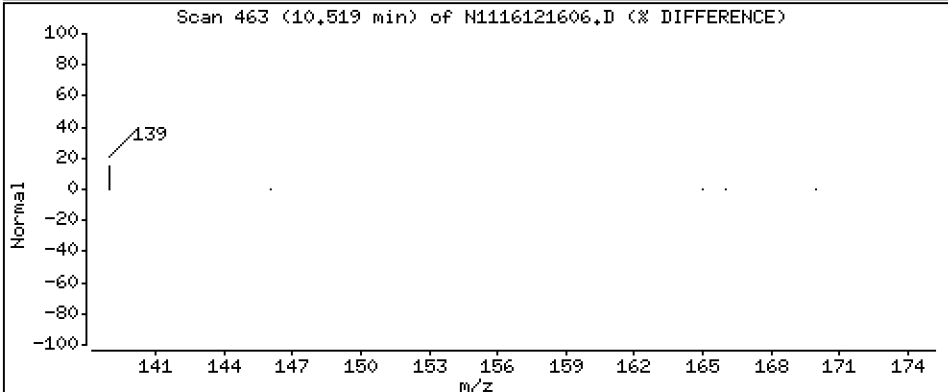
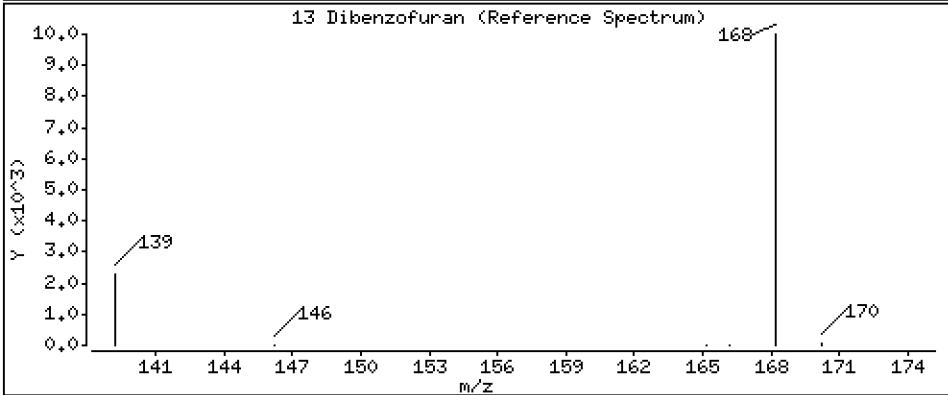
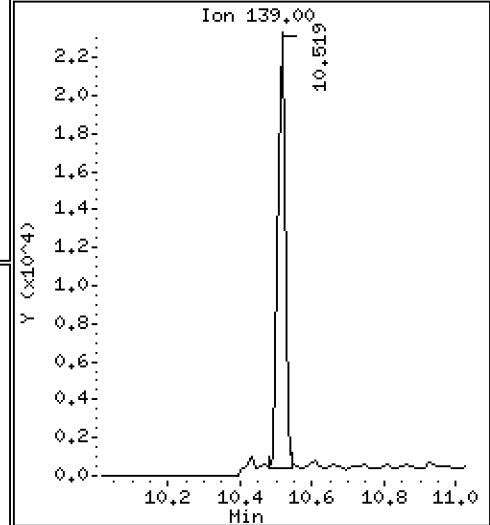
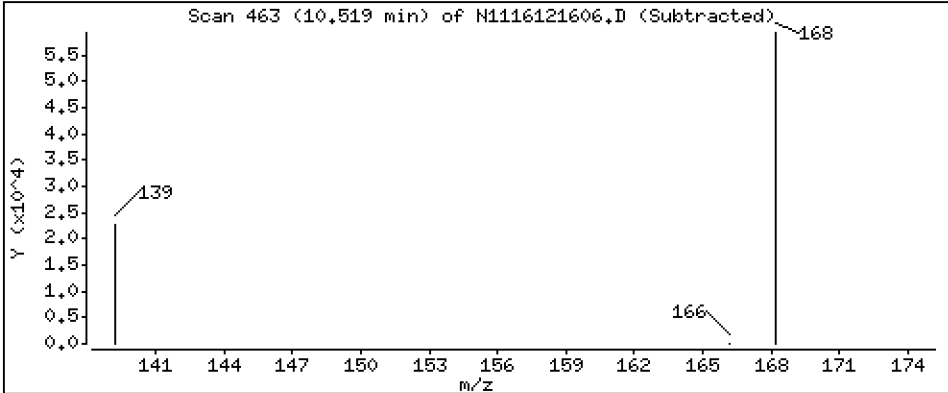
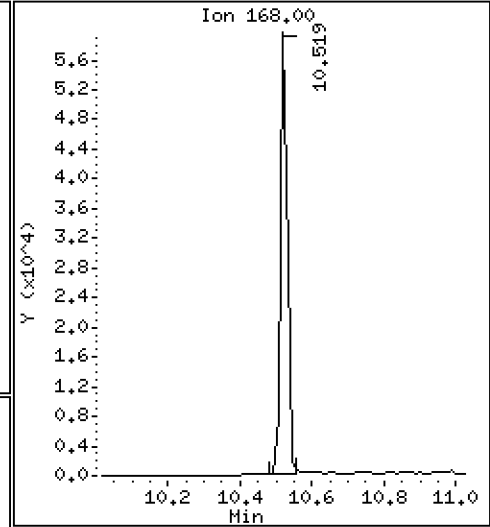
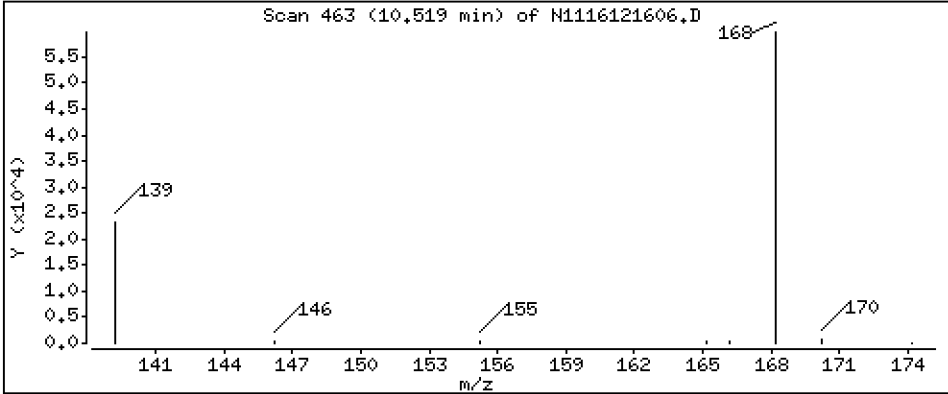
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 42,8 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

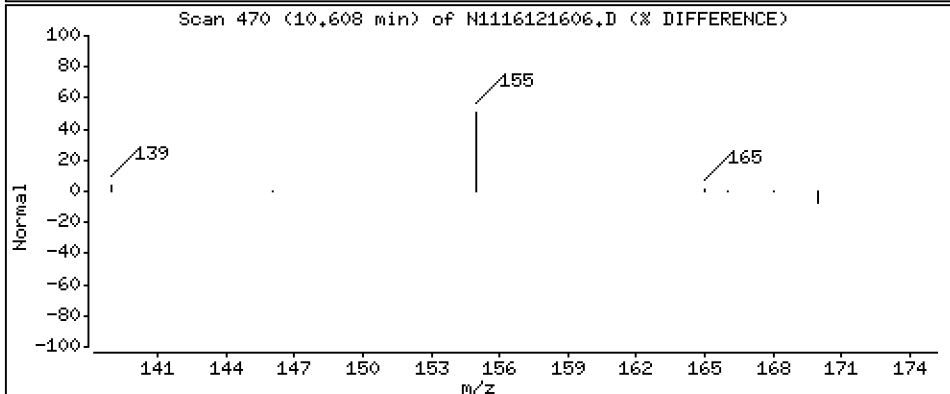
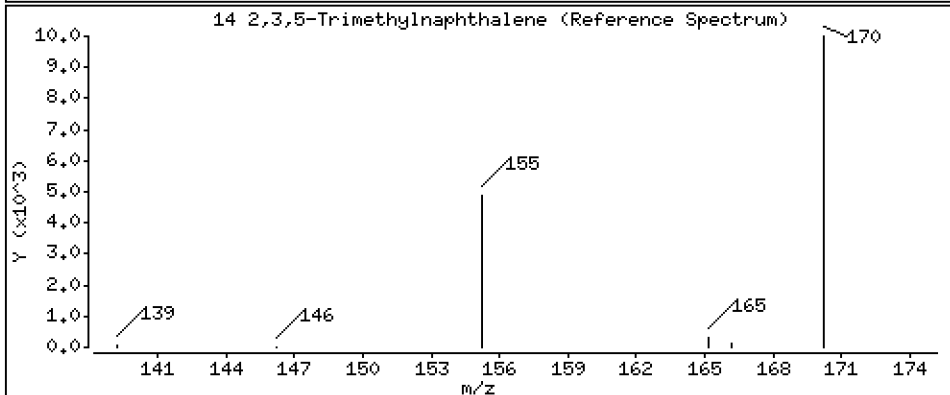
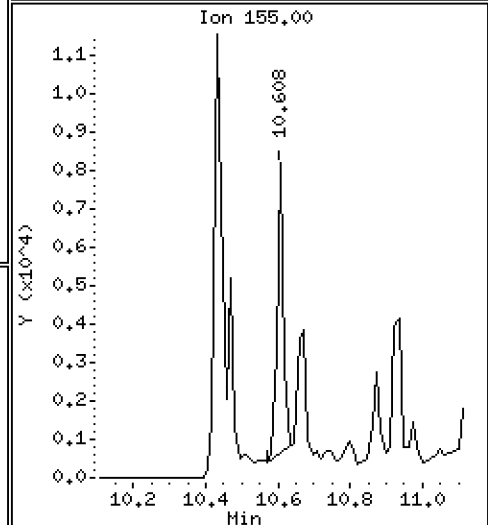
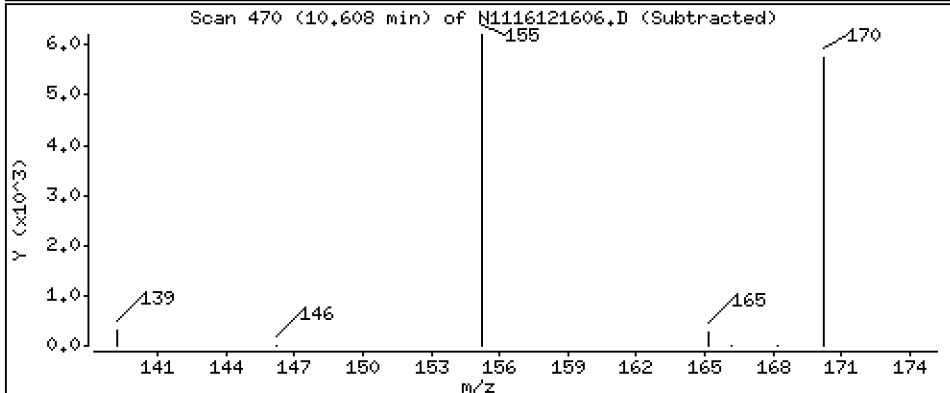
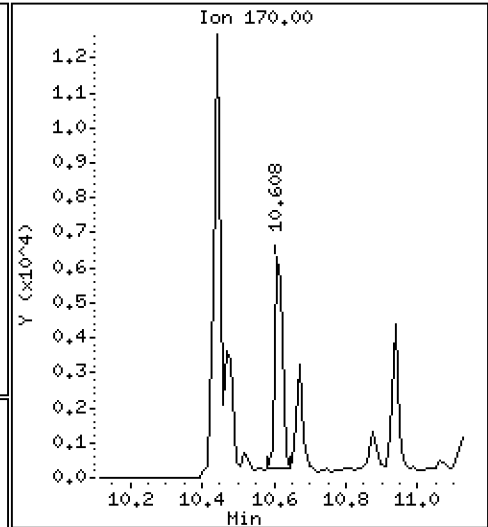
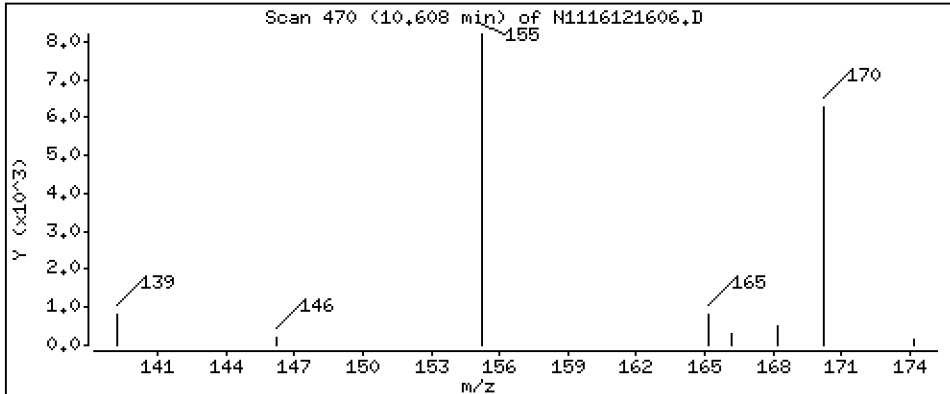
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 8,64 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

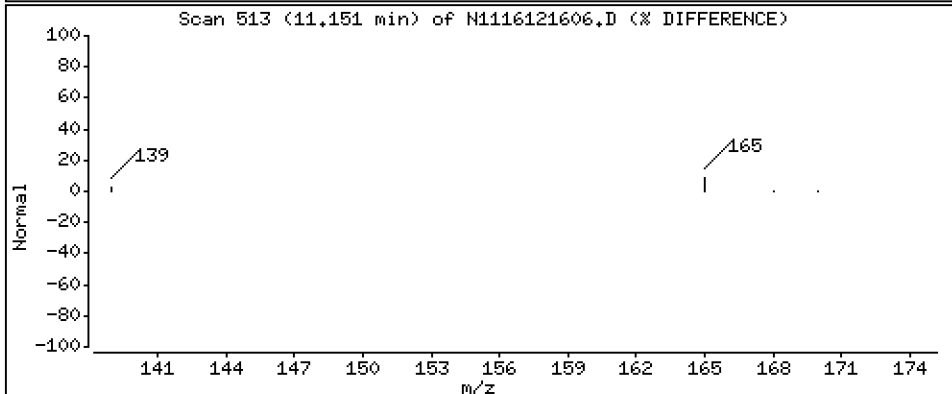
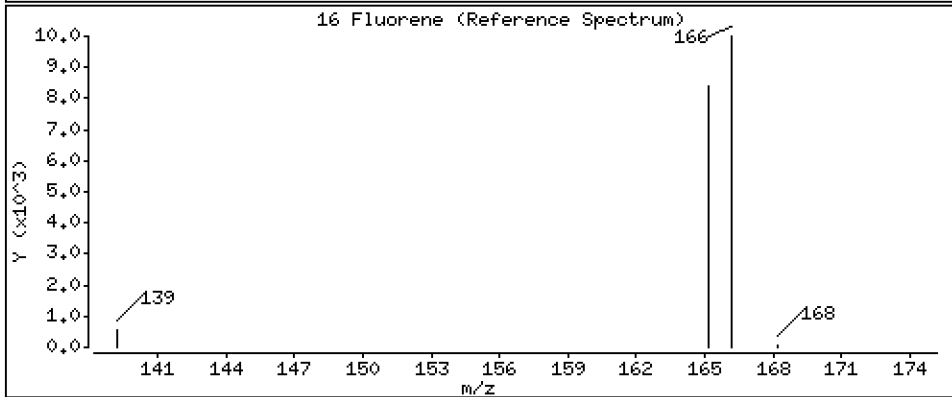
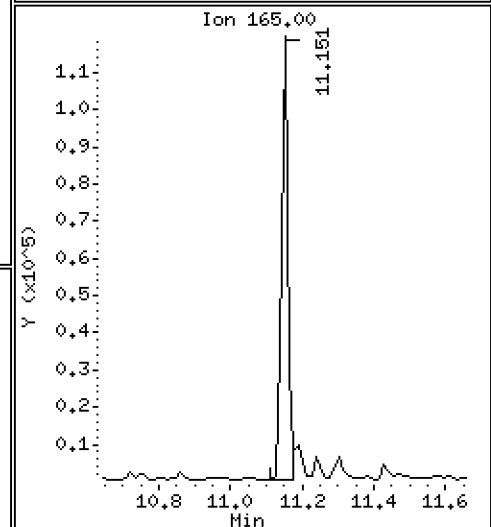
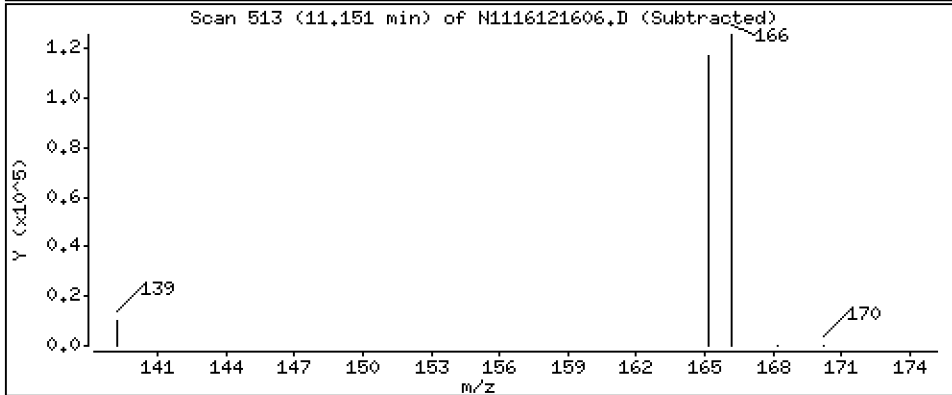
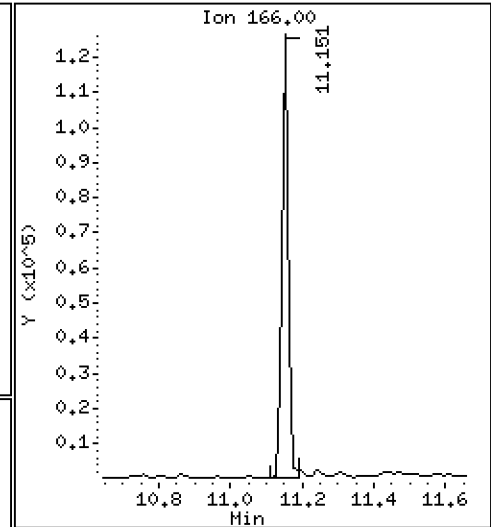
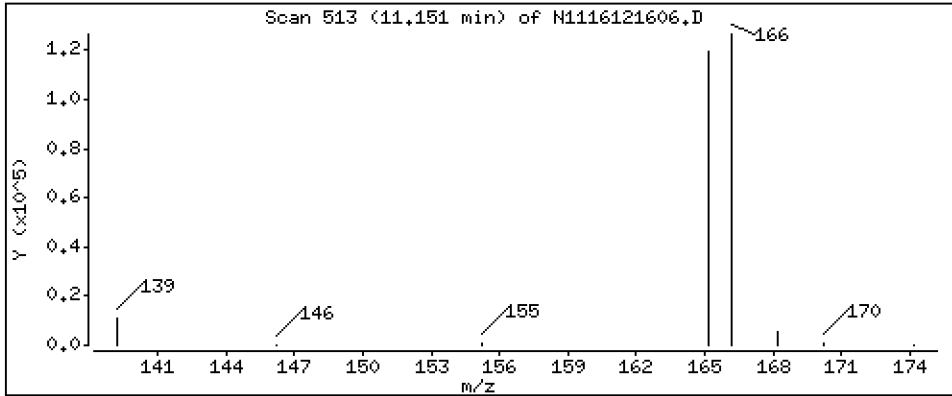
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 111 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

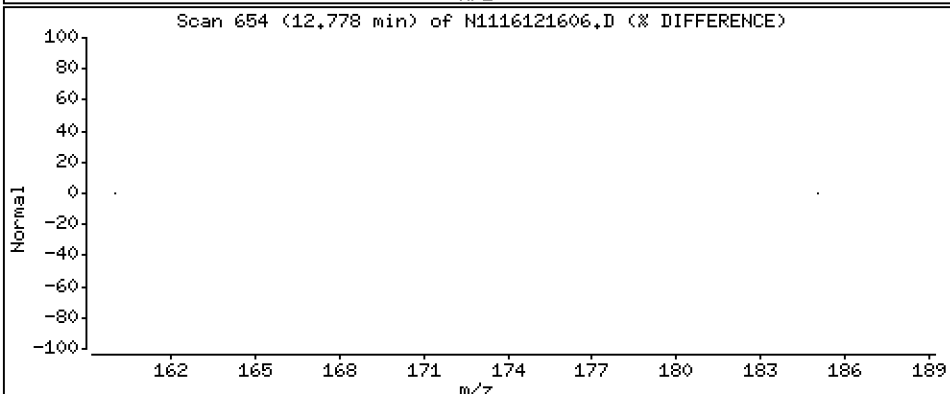
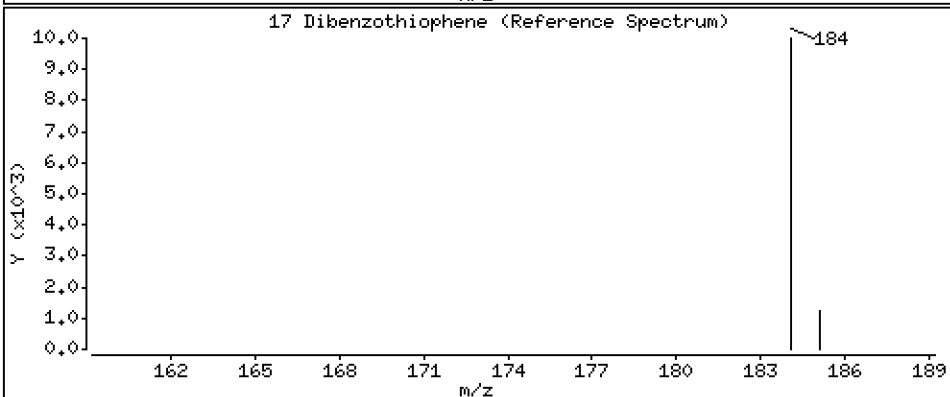
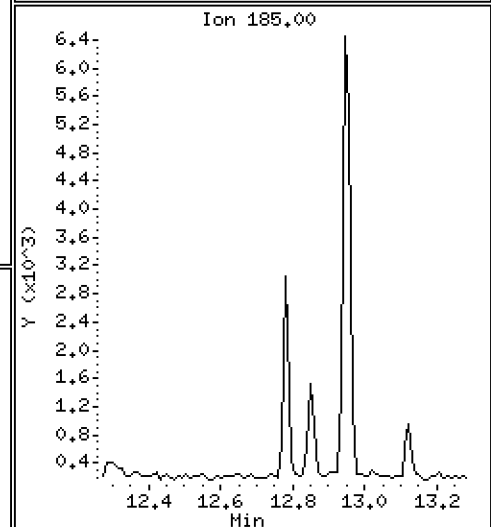
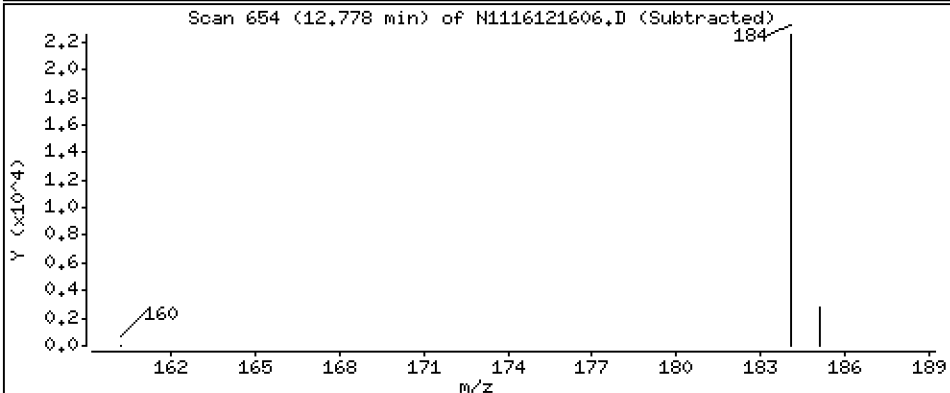
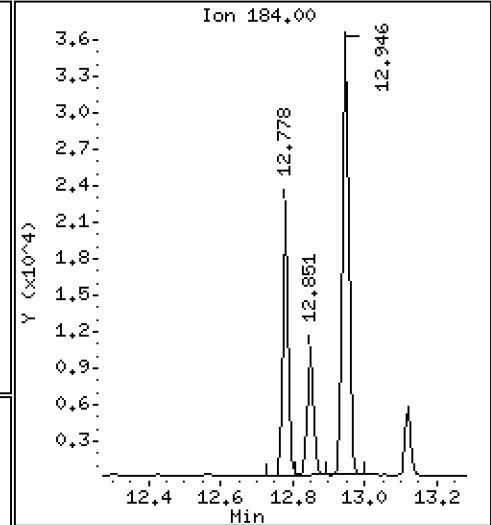
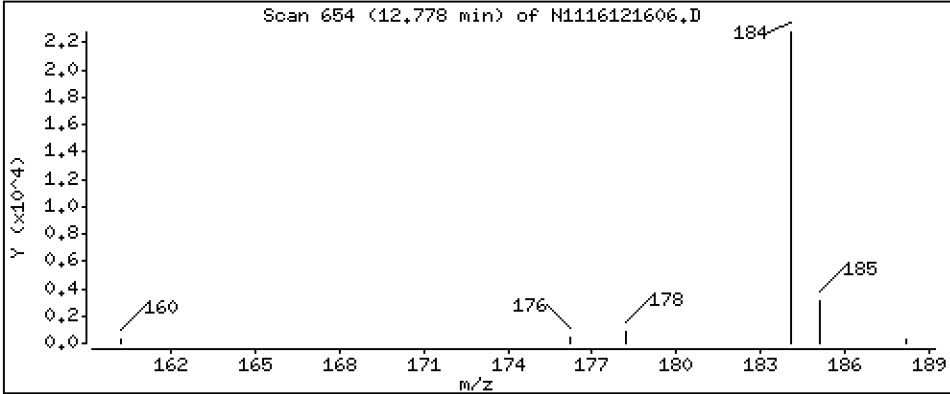
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 15,3 ng/mL

17 Dibenzothiophene



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

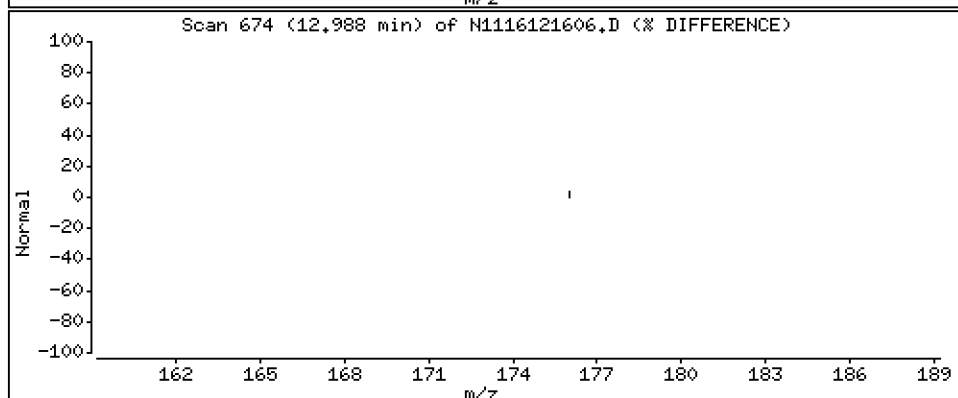
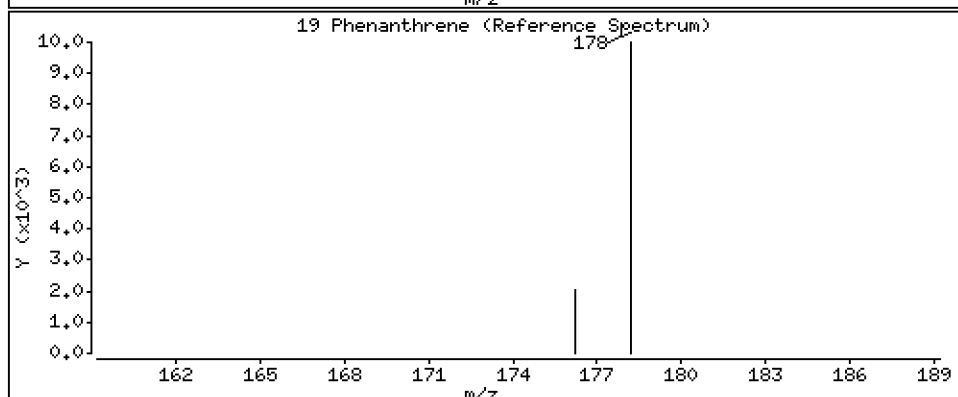
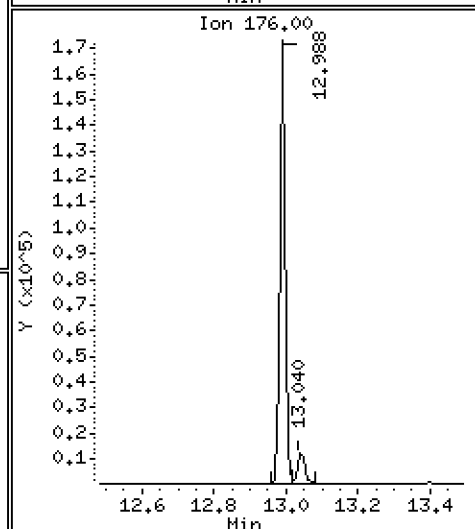
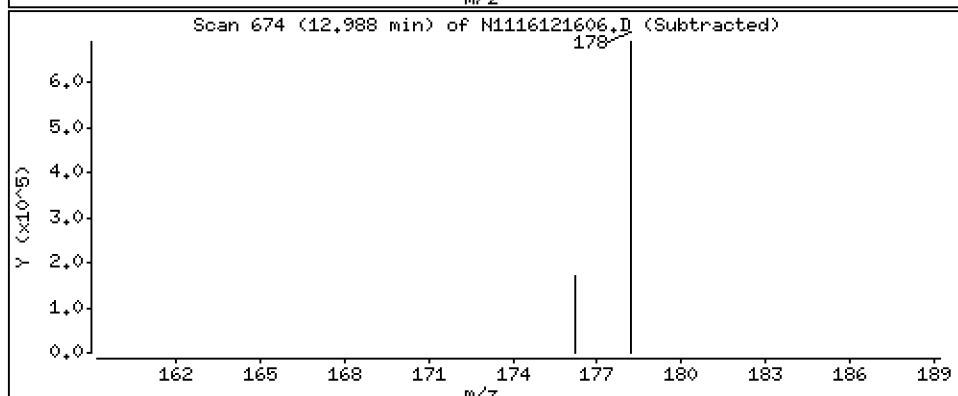
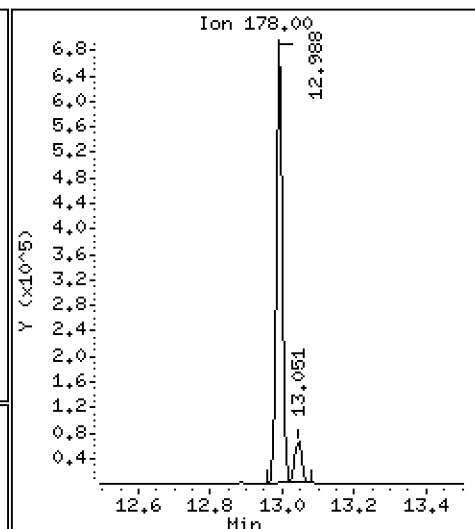
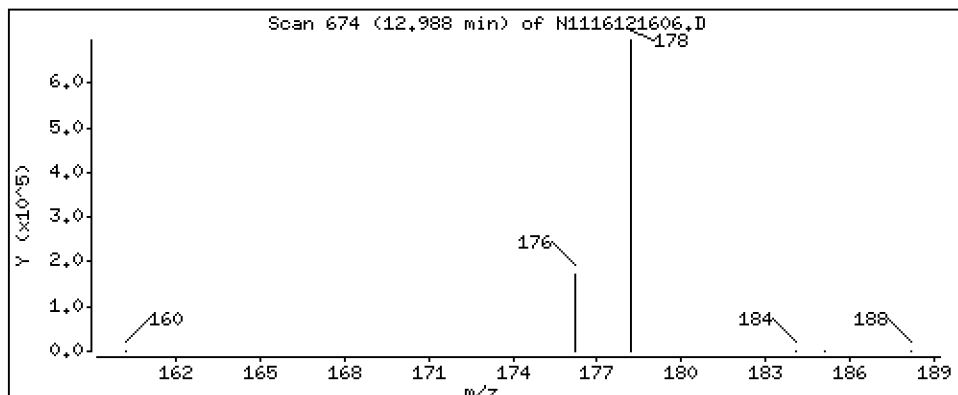
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 447 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

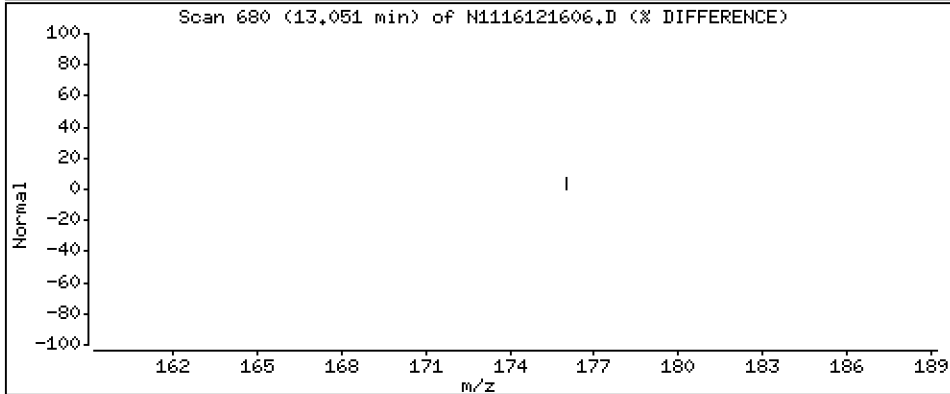
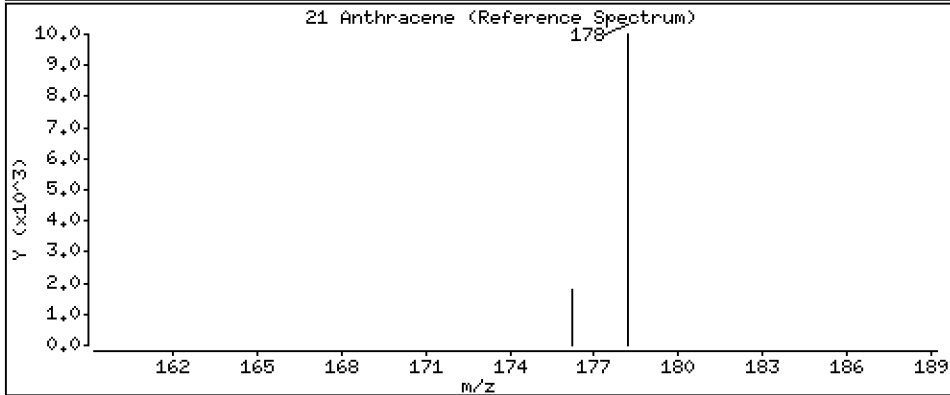
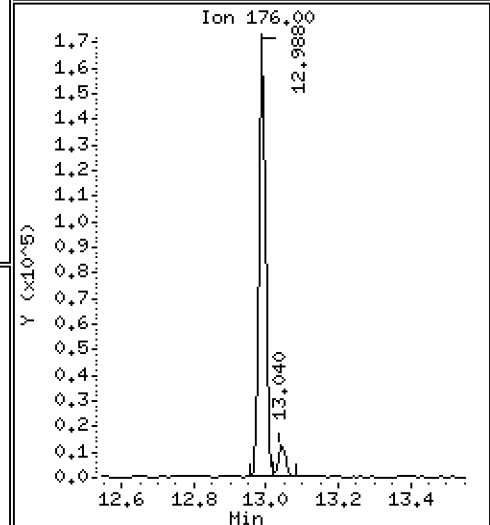
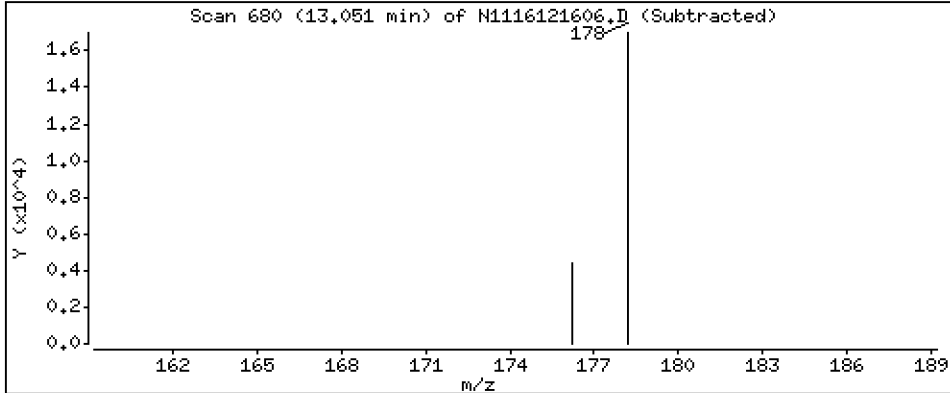
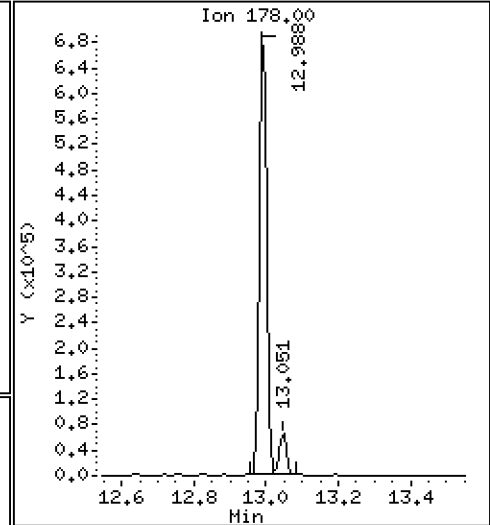
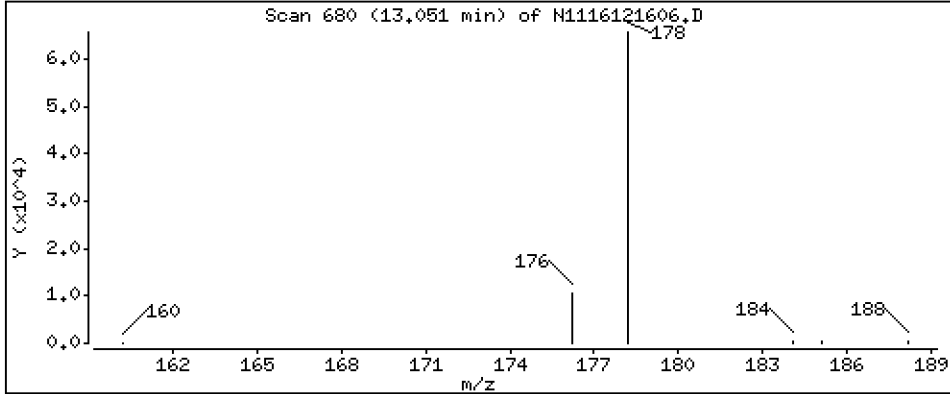
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 44,4 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

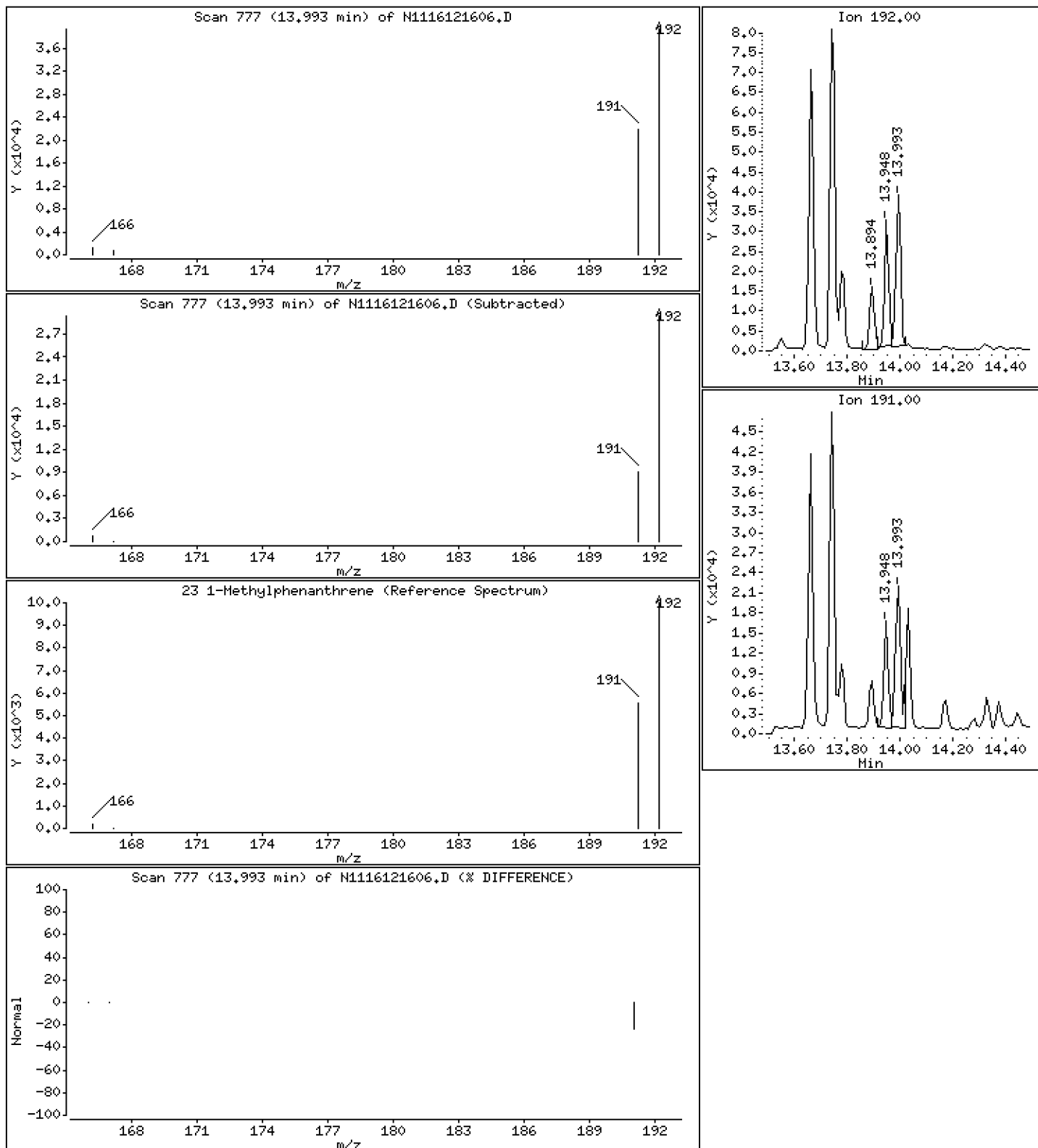
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 24,0 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

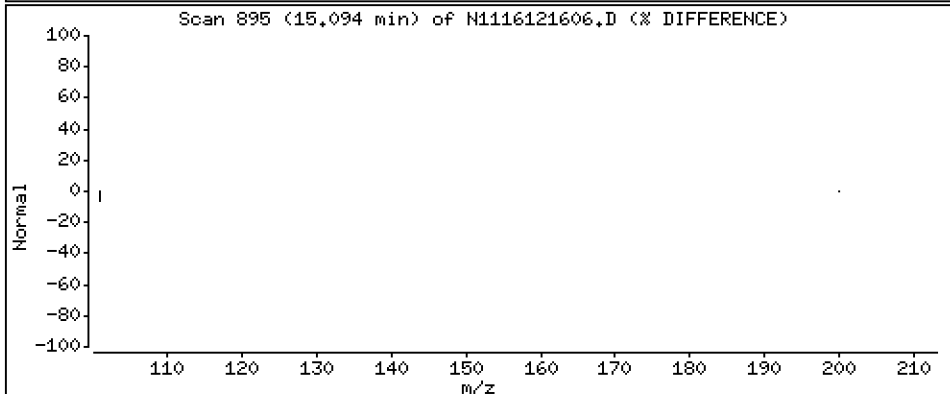
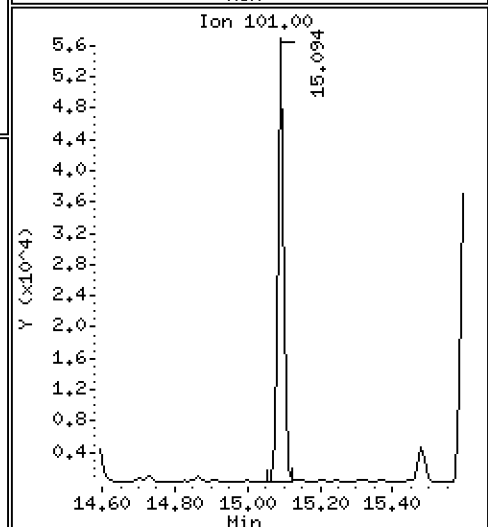
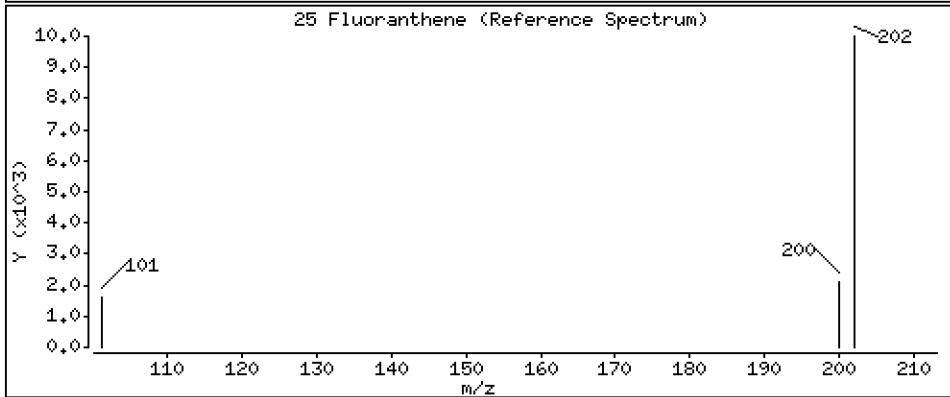
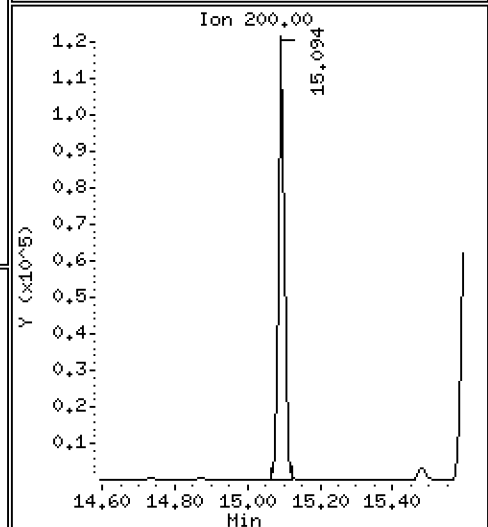
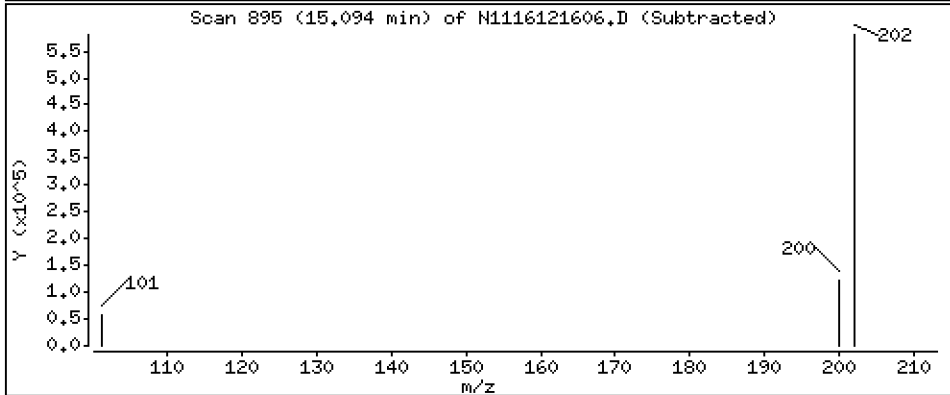
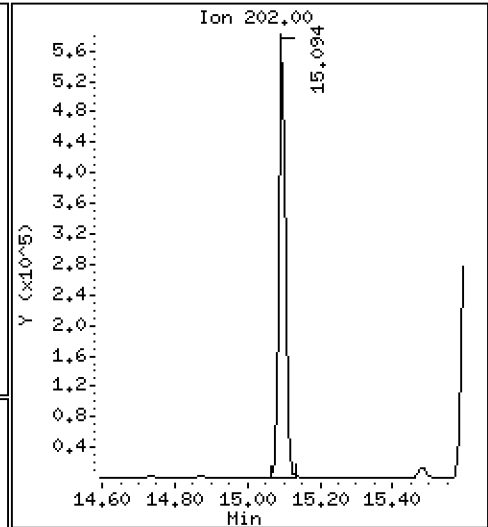
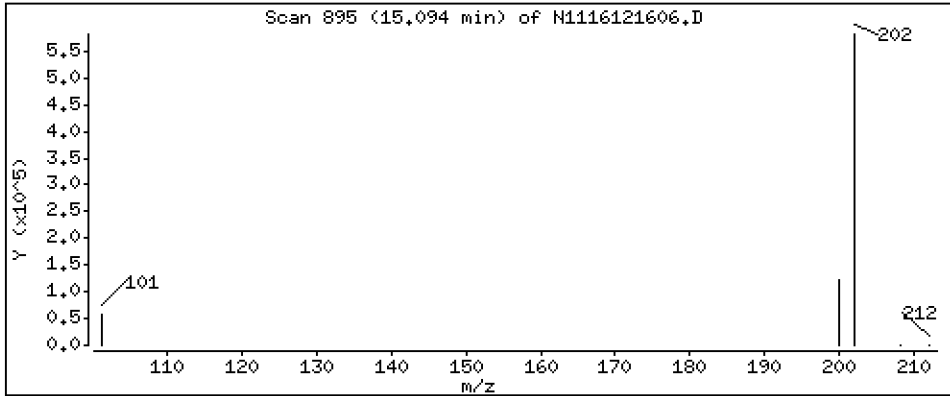
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 360 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

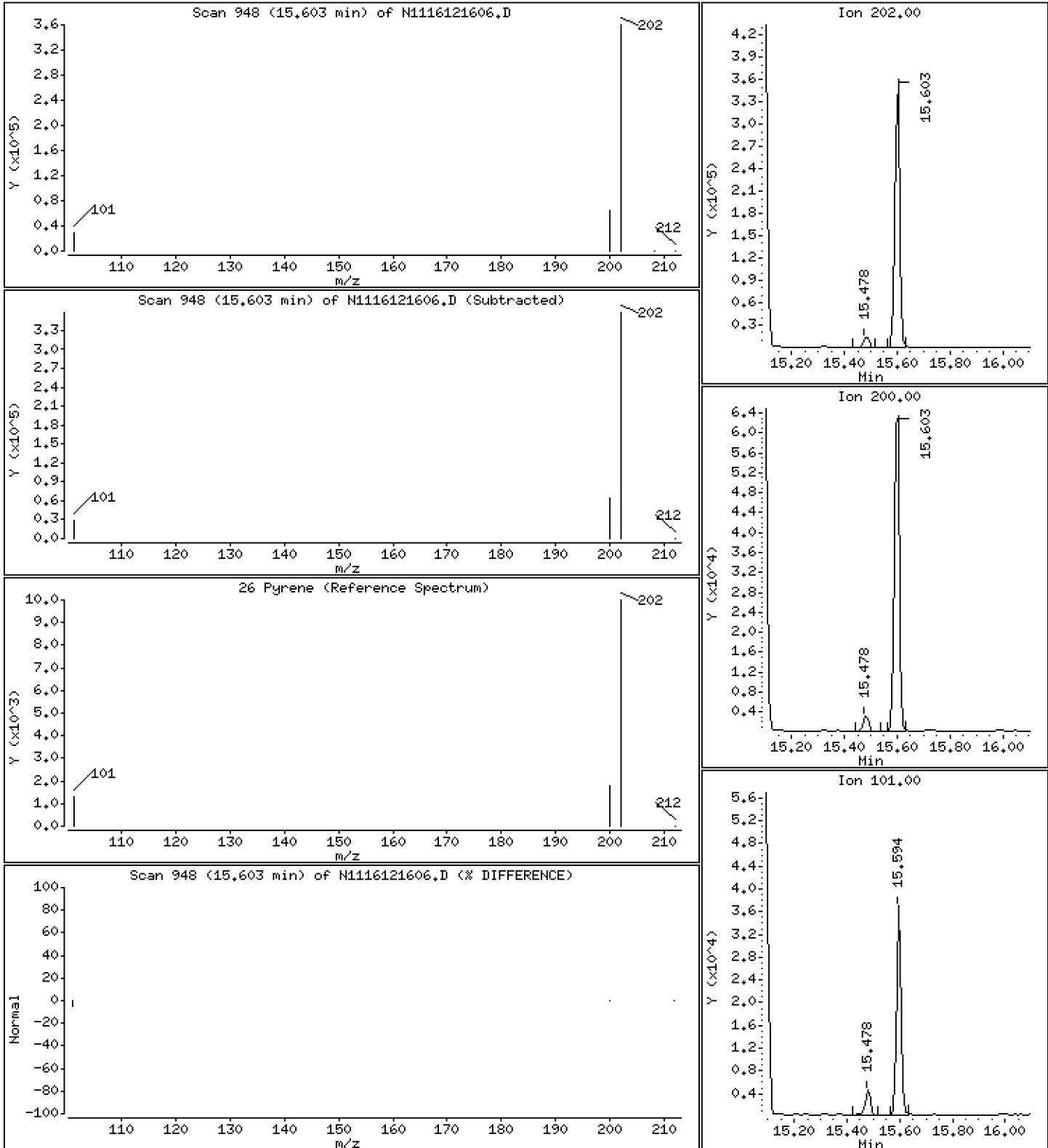
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 184 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

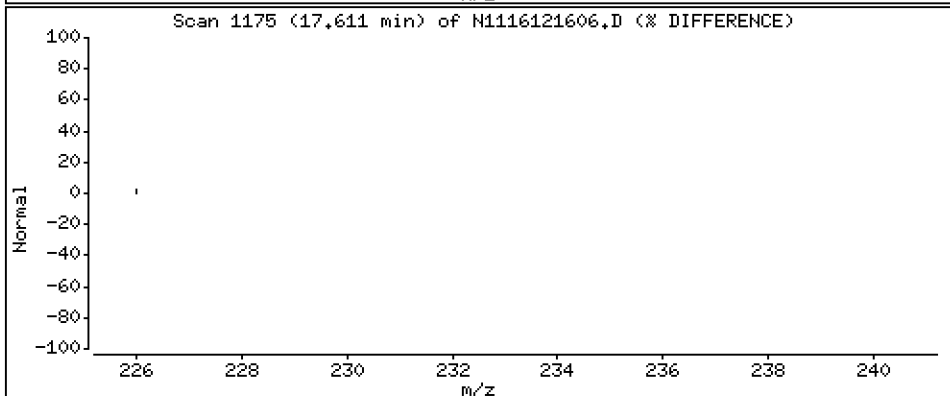
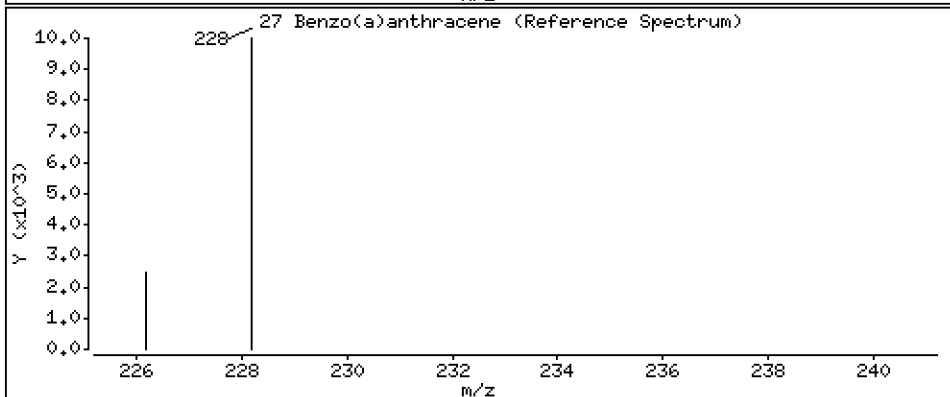
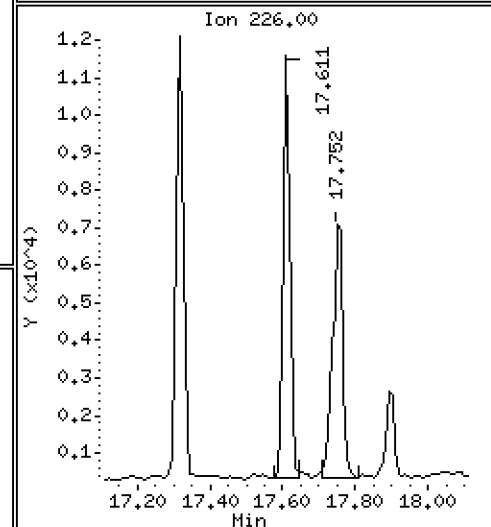
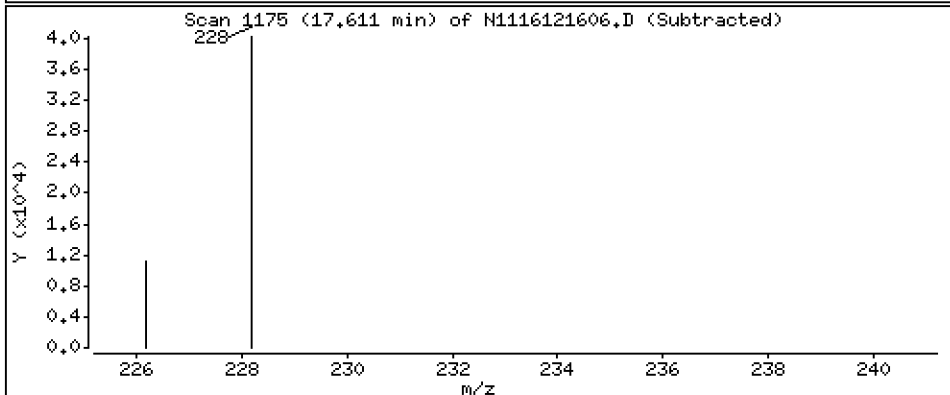
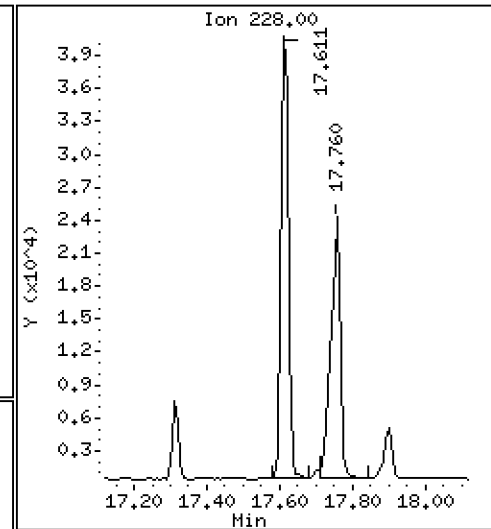
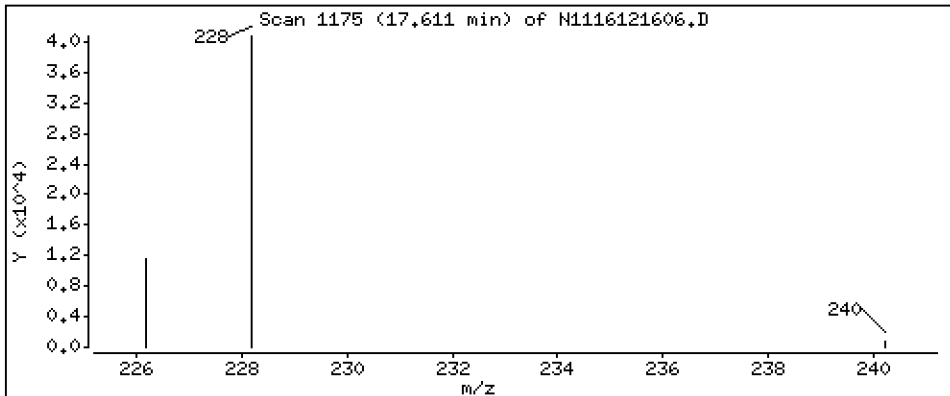
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 24,4 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

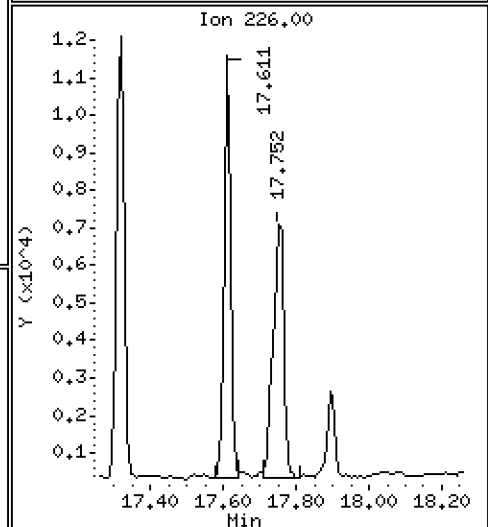
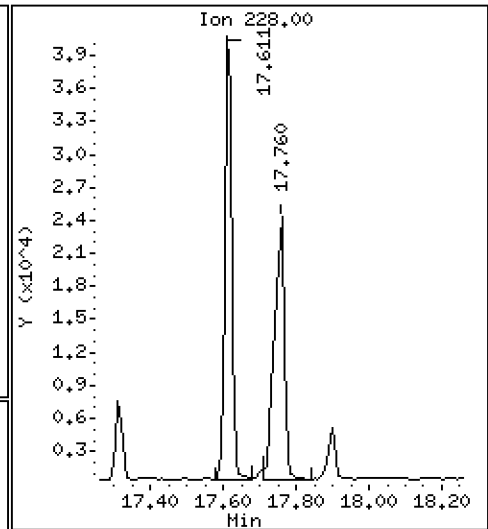
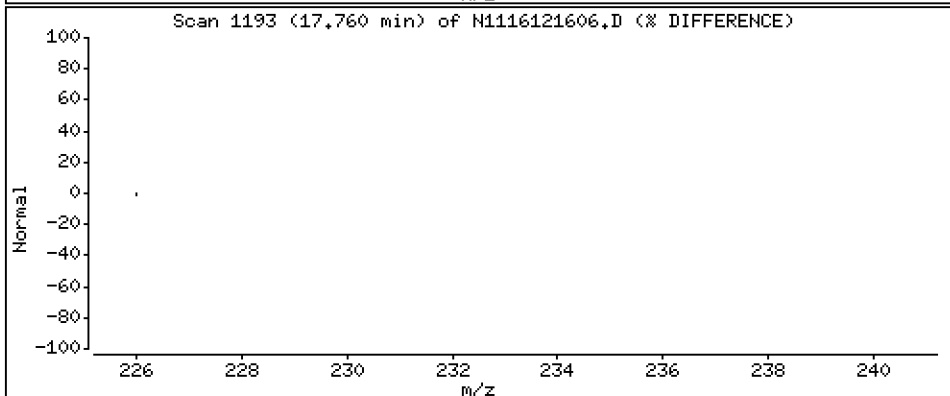
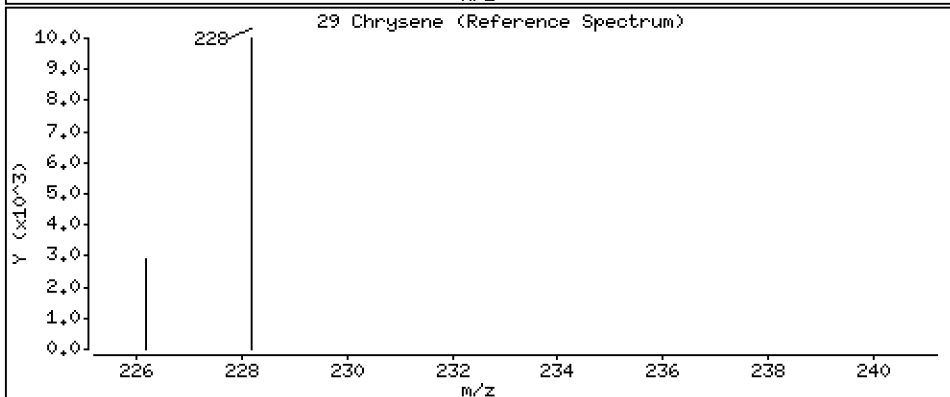
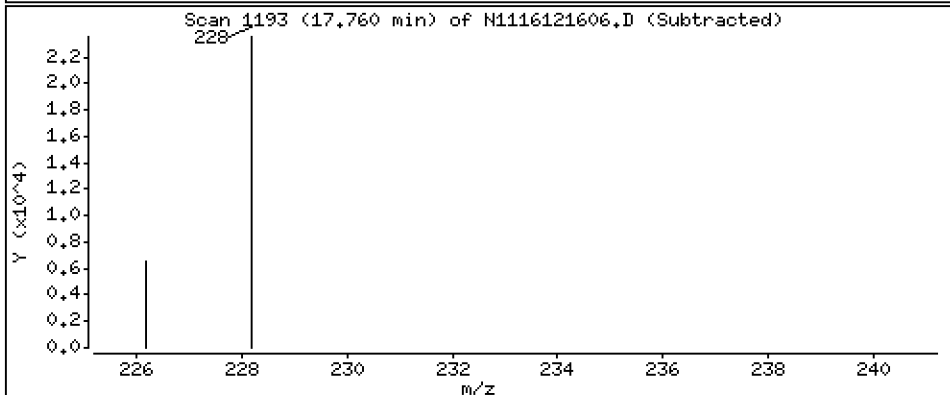
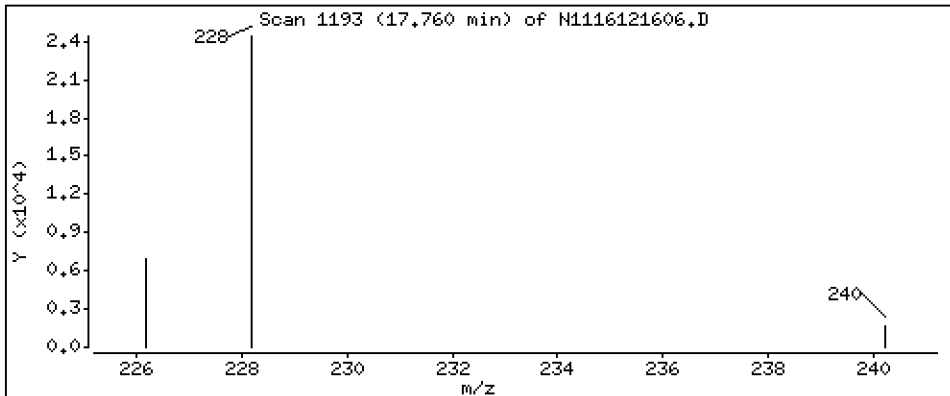
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 18,0 ng/mL

29 Chrysene



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

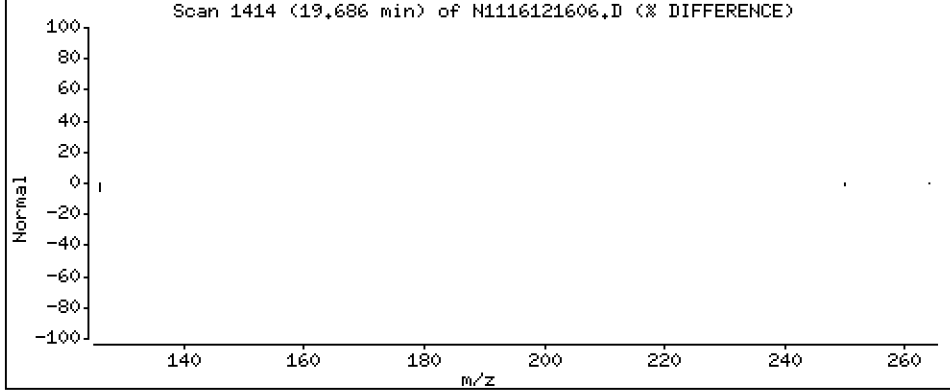
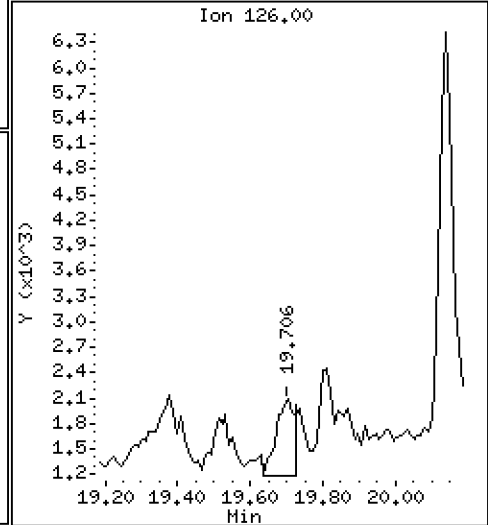
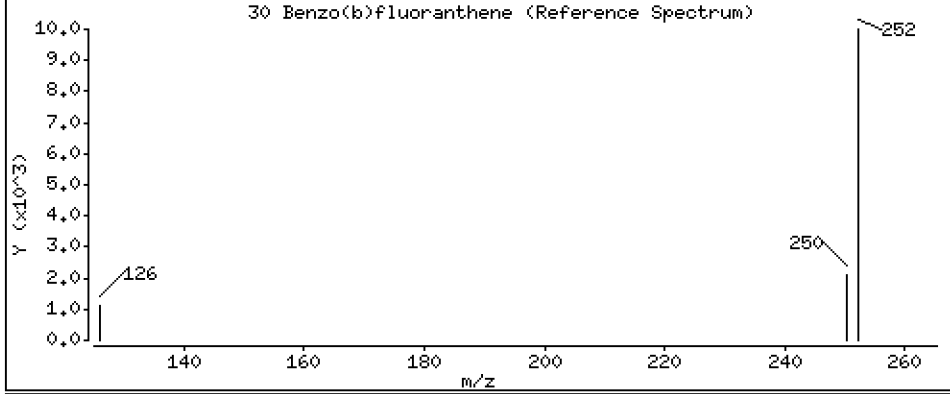
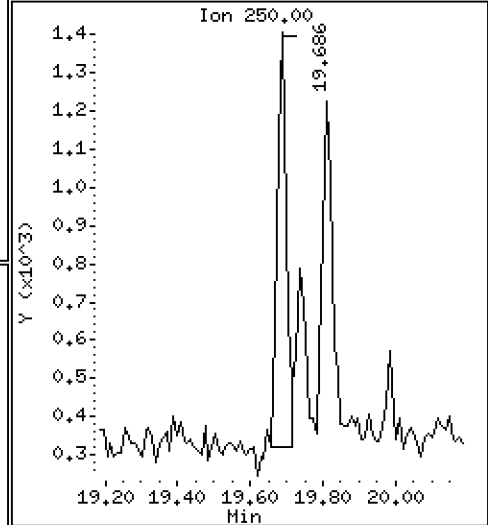
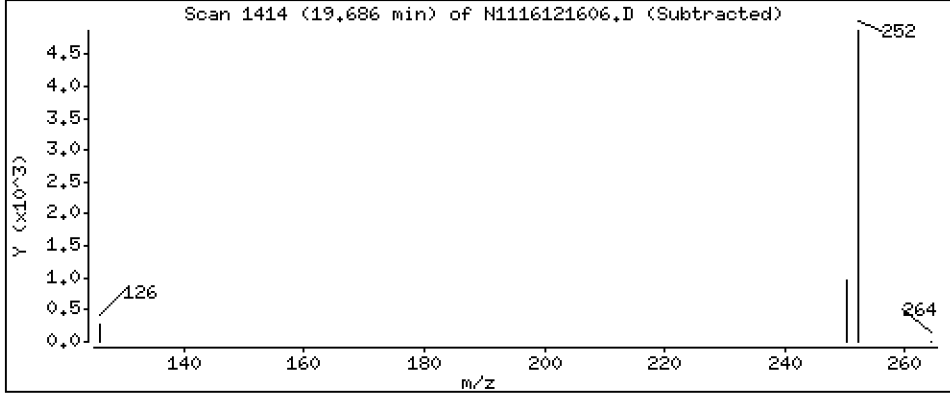
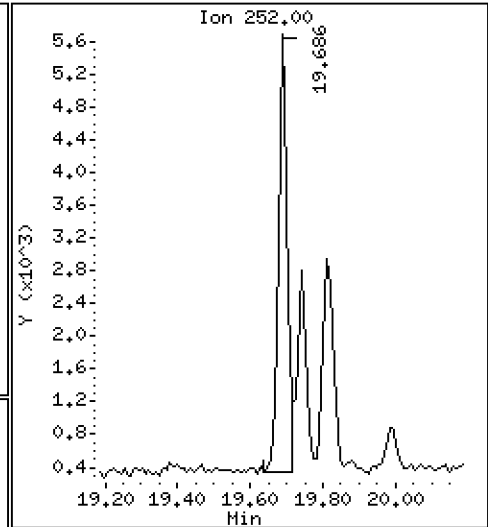
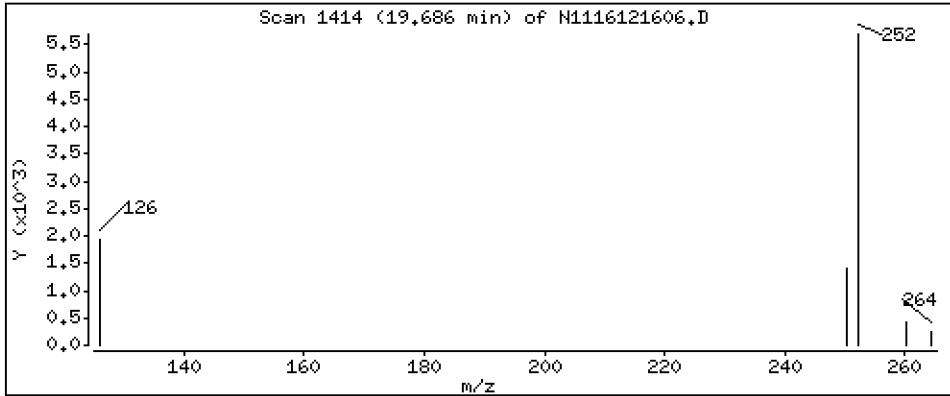
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 4,50 ng/mL



Date : 16-DEC-2016 12:06

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-11,20

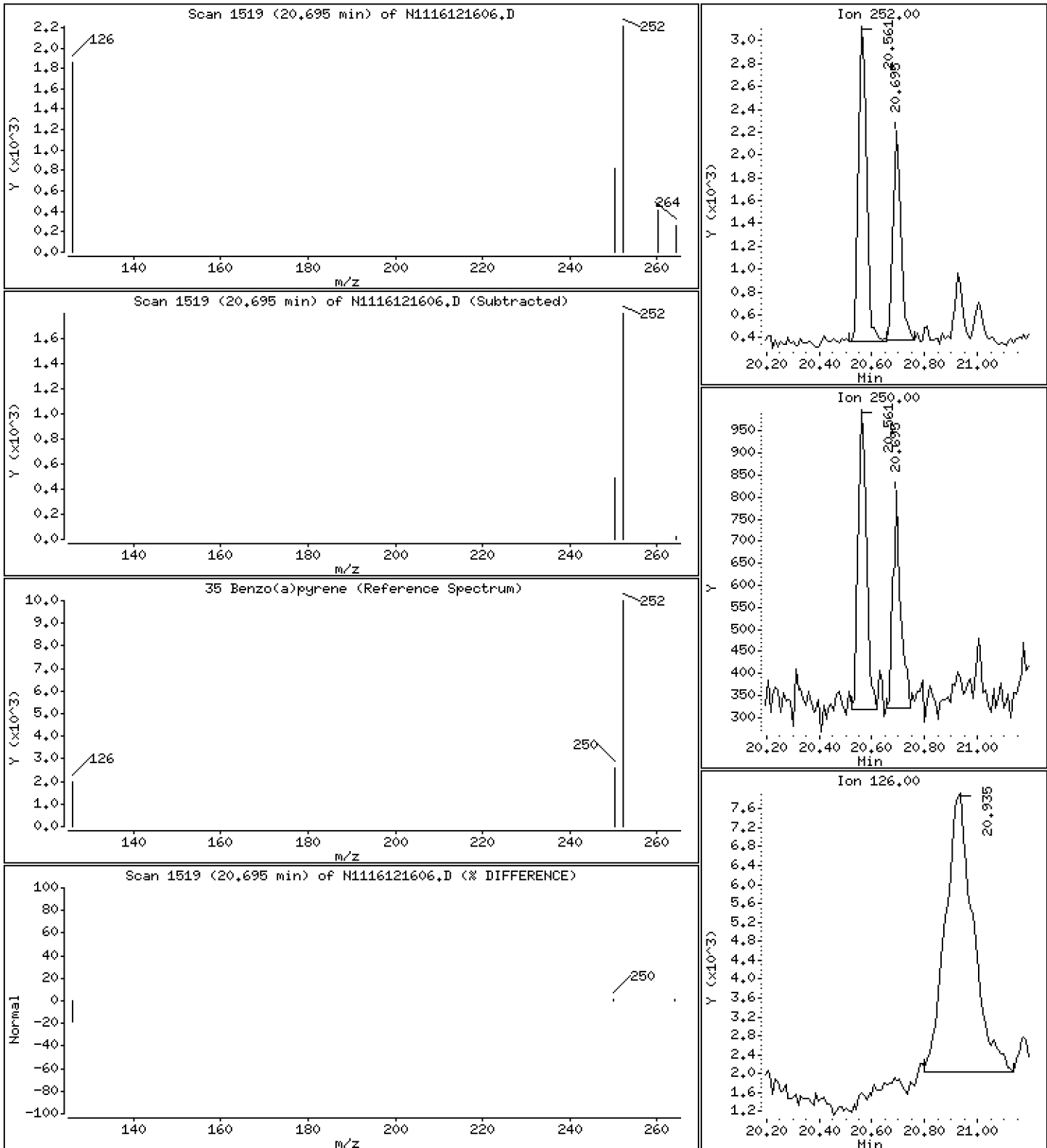
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 2,03 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161216.b\N1116121606.D
 Lab Smp Id:
 Inj Date : 16-DEC-2016 12:06 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-11,20
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Meth Date : 17-Dec-2016 10:59 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	305217	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	16139	12.2495	12.2
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	11859	9.17731	9.18
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	21707	13.9768	14.0
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		10.260	10.261	(1.000)	193760	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	70083	57.0625	57.1
13 Dibenzofuran	168		10.519	10.519	(1.025)	74787	42.8486	42.8
14 2,3,5-Trimethylnaphthalene	170		10.607	10.620	(1.034)	9377	8.64193	8.64 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	150003	111.241	111
17 Dibenzothiophene	184		12.777	12.788	(0.986)	27311	15.2747	15.3
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	361741	200.000	
19 Phenanthrene	178		12.987	12.998	(1.002)	971602	447.147	447
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		13.050	13.050	(1.007)	90835	44.4249	44.4
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.080)	46039	24.0461	24.0
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		15.093	15.094	(1.165)	758188	359.605	360
26 Pyrene	202		15.603	15.603	(0.881)	477290	183.622	184
27 Benzo(a)anthracene	228		17.610	17.619	(0.994)	54825	24.3747	24.4
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	399507	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	44936	18.0124	18.0
30 Benzo(b)fluoranthene	252		19.686	19.696	(0.940)	9602	4.49965	4.50
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252				Compound Not Detected.		
35 Benzo(a)pyrene	252	20.695	20.695	(0.989)	3968	2.03091	2.03
* 36 Perylene-d12	264	20.935	20.935	(1.000)	375409	200.000	
37 Perylene	252				Compound Not Detected.		
§ 38 Dibenzo(a,h)anthracene-d14	292				Compound Not Detected.		
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 16-DEC-2016
 Lab File ID: N1116121606.D Calibration Time: 09:46
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	305217	-38.16
11 Acenaphthene-d10	240770	120385	481540	193760	-19.52
18 Phenanthrene-d10	429271	214636	858542	361741	-15.73
28 Chrysene-d12	387691	193846	775382	399507	3.05
36 Perylene-d12	386259	193130	772518	375409	-2.81

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	-0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	-0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	-0.00
28 Chrysene-d12	17.71	17.21	18.21	17.71	-0.00
36 Perylene-d12	20.94	20.44	21.44	20.94	-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 - N1116121606.D

Lab ID:

nt11.i, 20161216.b\LOWSIM.m, 16-DEC-2016 12:06

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, 20161216.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

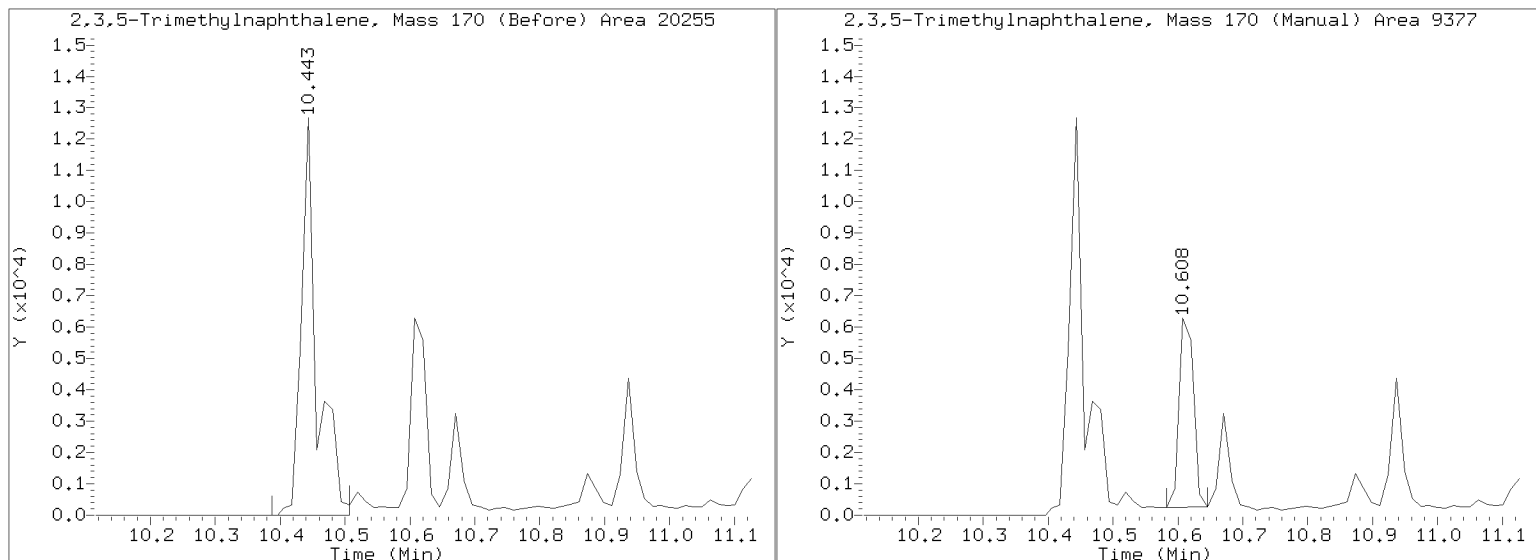
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161216.b/N1116121606.D

Injection Date: 16-DEC-2016 12:06

Lab ID: Client ID:

Report Date: 12/17/2016 10:59





Form I
ORGANIC ANALYSIS DATA SHEET

EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>16K0321</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Matrix:	<u>Tissue</u>	Laboratory ID:	<u>16K0321-13</u>
Sampled:	<u>11/22/16 09:20</u>	File ID:	<u>N1116121217.D</u>
Solids:		Prepared:	<u>11/24/16 08:25</u>
Batch:	<u>BEK0657</u>	Analyzed:	<u>12/12/16 16:29</u>
Instrument:	<u>NT11</u>	Preparation:	<u>EPA 3550C-Mod (Ultrasonic)</u>
Column:	<u>RXi-17Sil-MS</u>	Initial/Final:	<u>0.886 g / 0.1 mL</u>
		Sequence:	<u>SEL0155</u>
		Calibration:	<u>ZK00080</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	17.1	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	37.9	B	1.13	1.13
208-96-8	Acenaphthylene	1	5.73		1.13	1.13
83-32-9	Acenaphthene	1	214	E	1.13	1.13
86-73-7	Fluorene	1	187	E	1.13	1.13
85-01-8	Phenanthrene	1	595	E	1.13	1.13
120-12-7	Anthracene	1	85.5		1.13	1.13
206-44-0	Fluoranthene	1	546	E	1.13	1.13
129-00-0	Pyrene	1	425	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	61.0		1.13	1.13
218-01-9	Chrysene	1	43.1		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	11.4		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	5.46		1.13	1.13
50-32-8	Benzo(a)pyrene	1	6.69		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.56		1.13	1.13
197-97-2	Benzo(e)pyrene	1	7.16		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	20.8	61.6	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	26.4	78.0	30 - 160	
Fluoranthene-d10	33.860	29.2	86.3	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	1.99	9.43	30 - 160	*
Benzo(e)pyrene-d12	21.163	11.7	55.2	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121217.D

Date: 12-DEC-2016 16:29

Client ID:

Sample Info: 16K0321-13

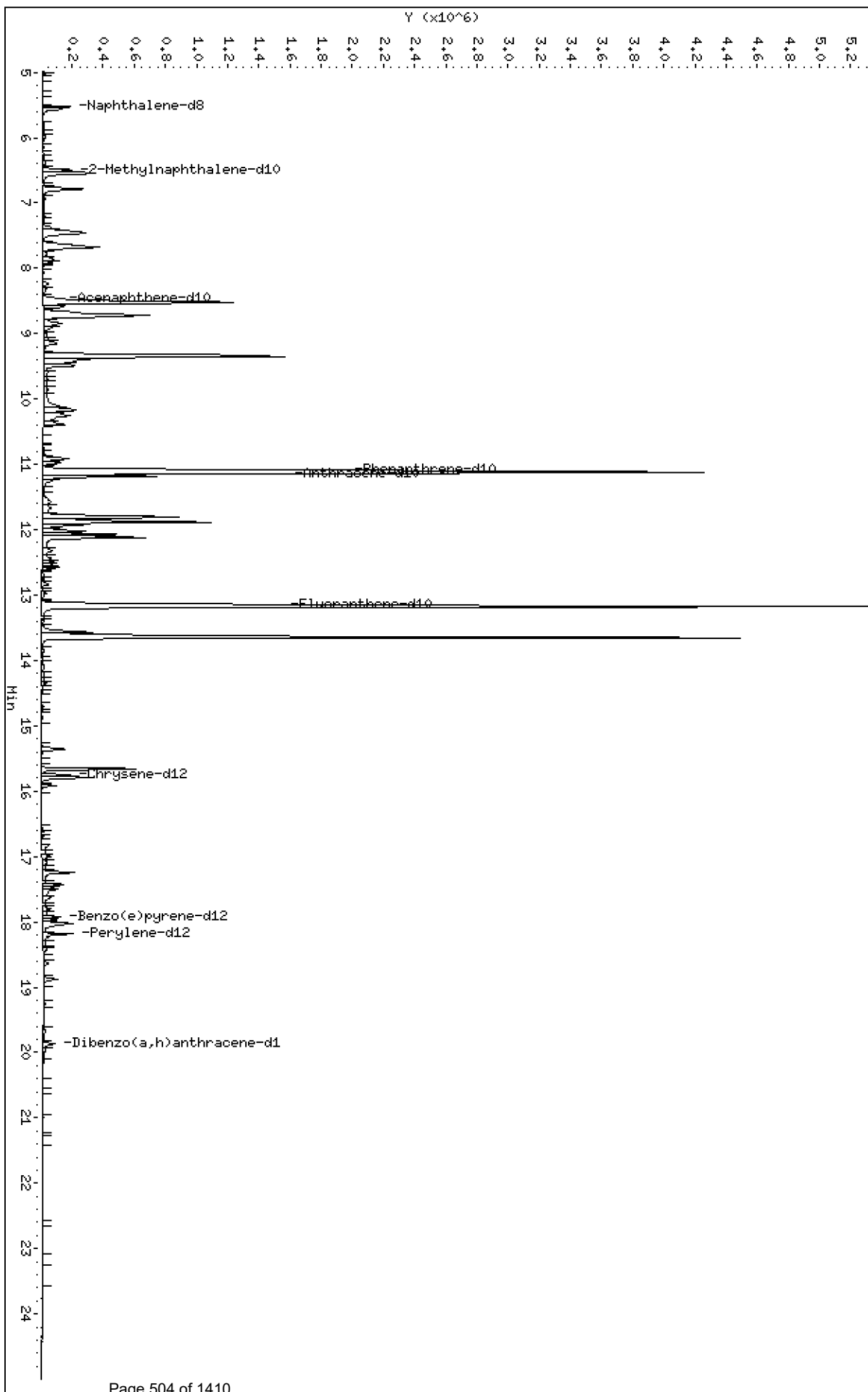
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161212.16\N1116121217.D



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

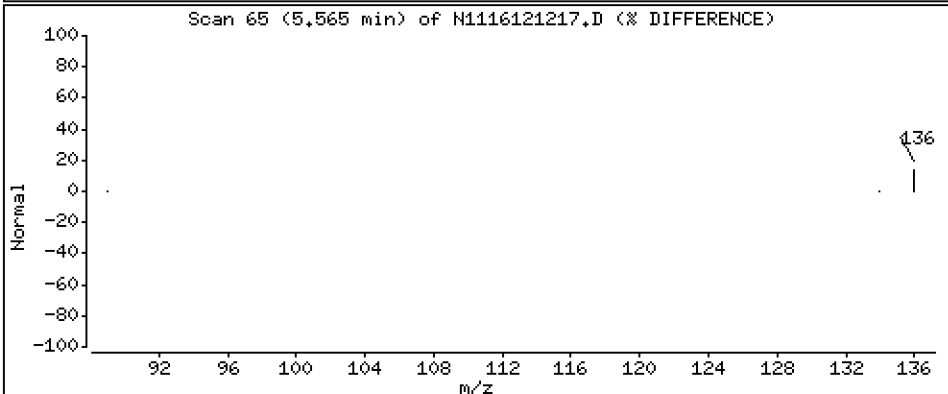
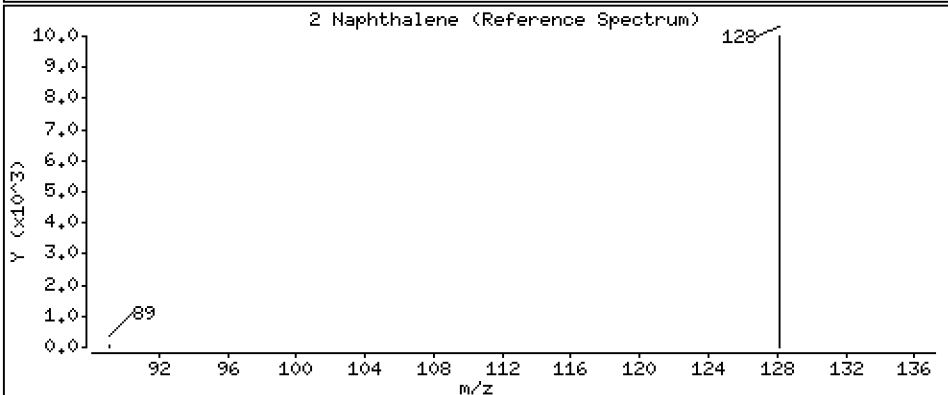
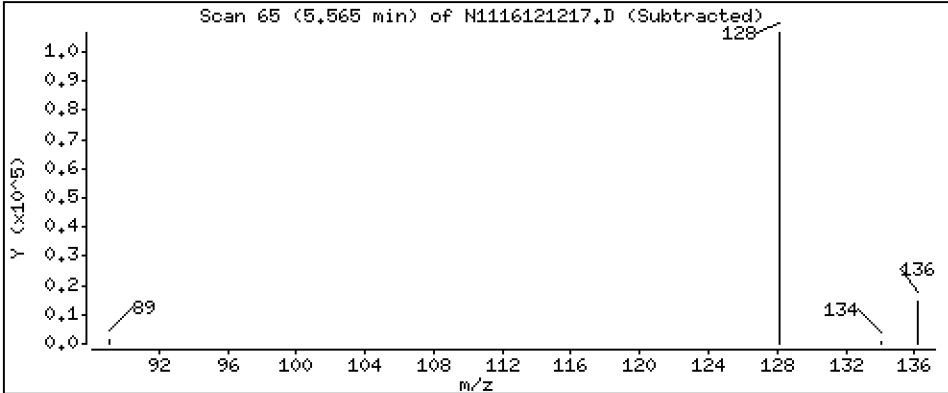
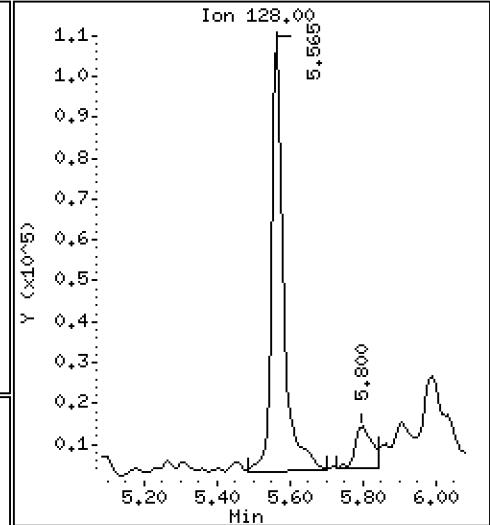
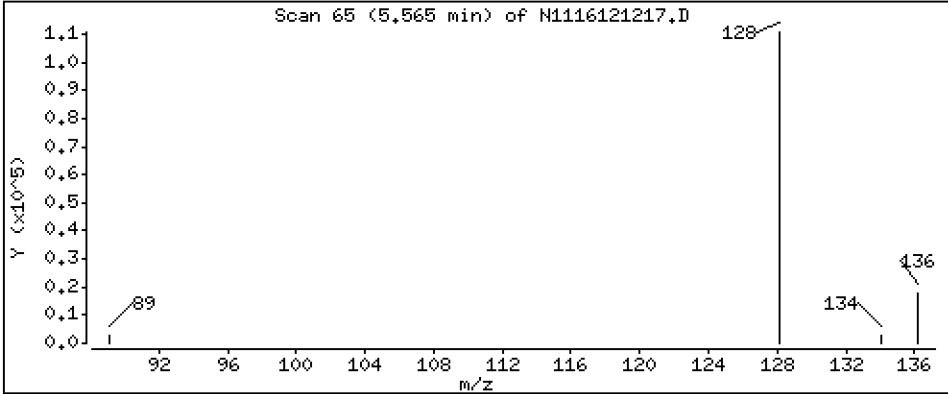
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 152 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

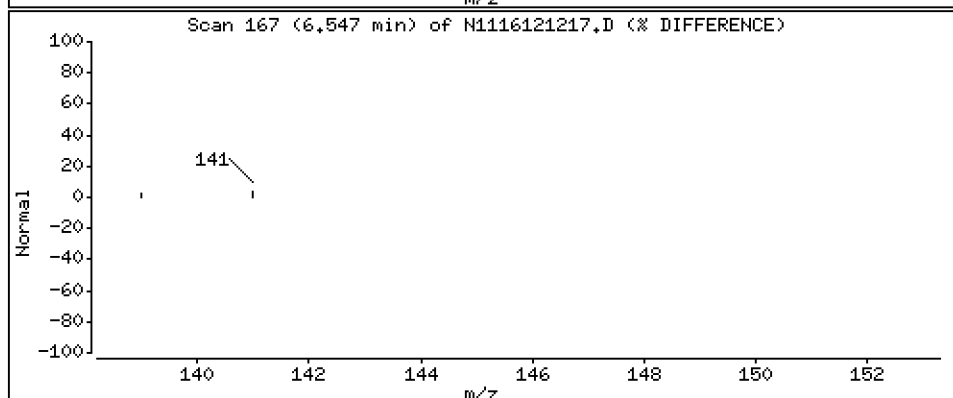
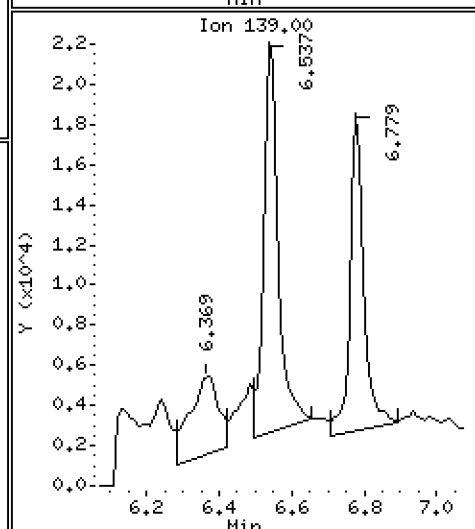
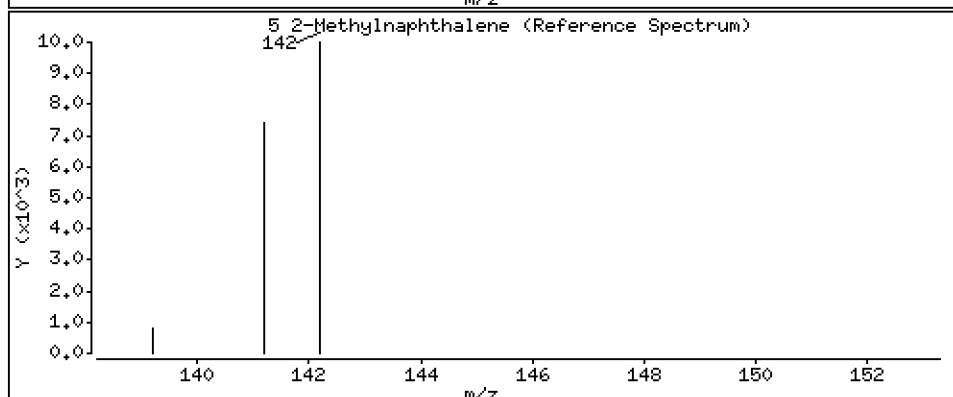
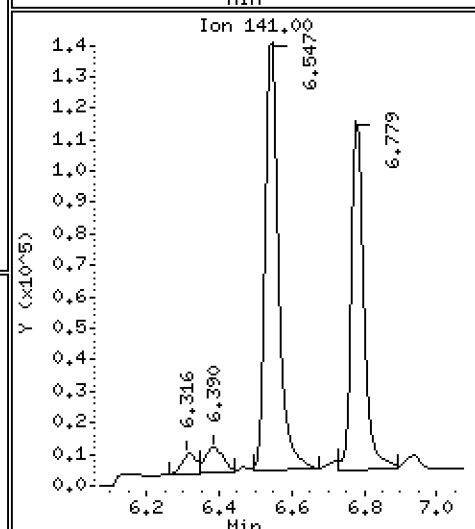
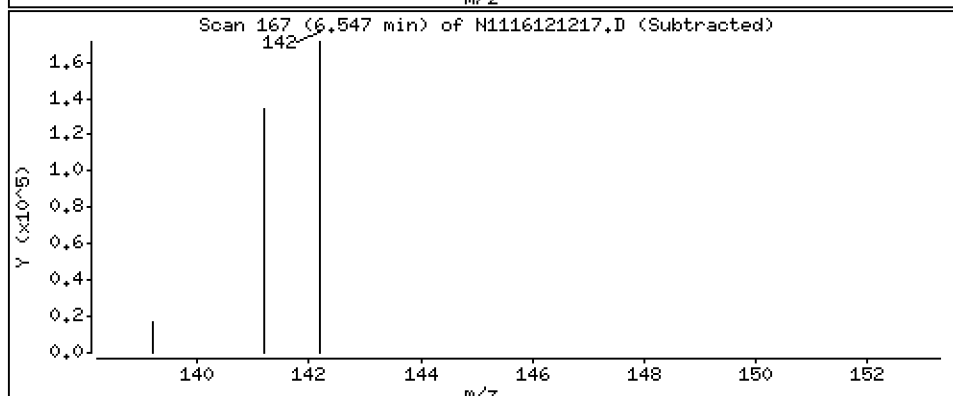
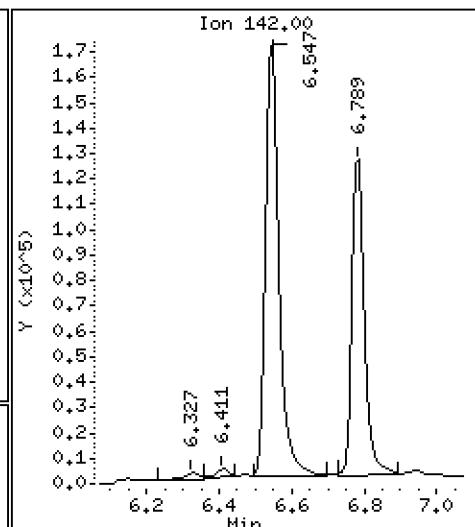
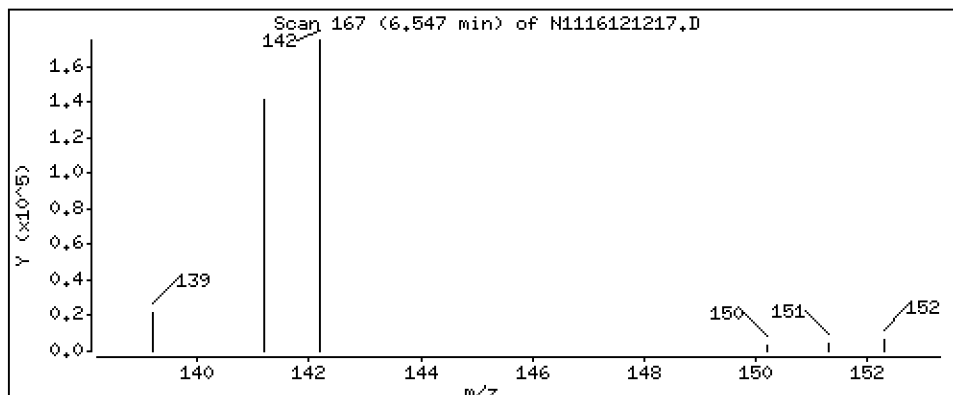
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 336 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

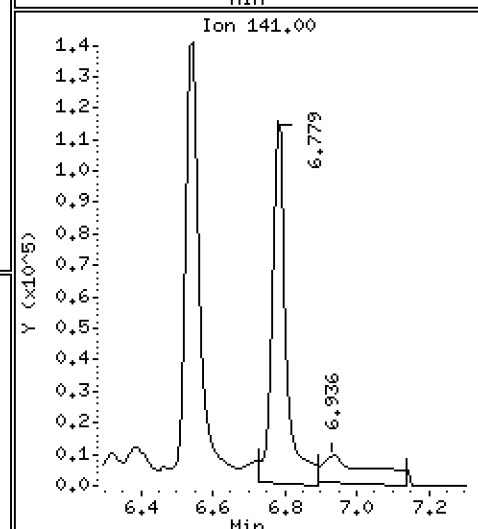
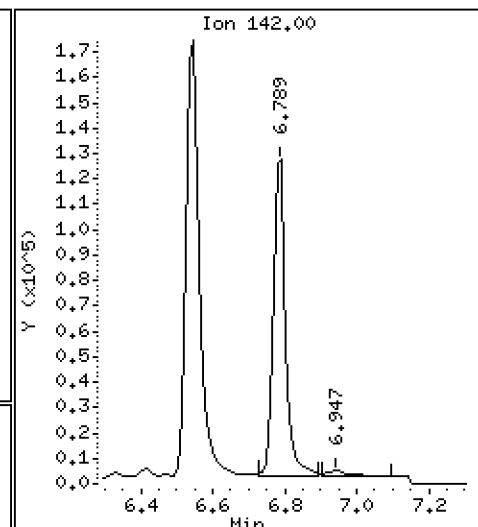
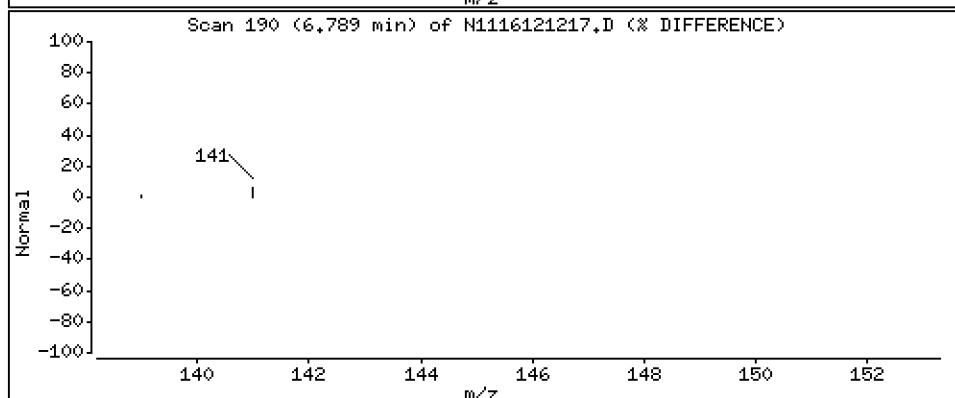
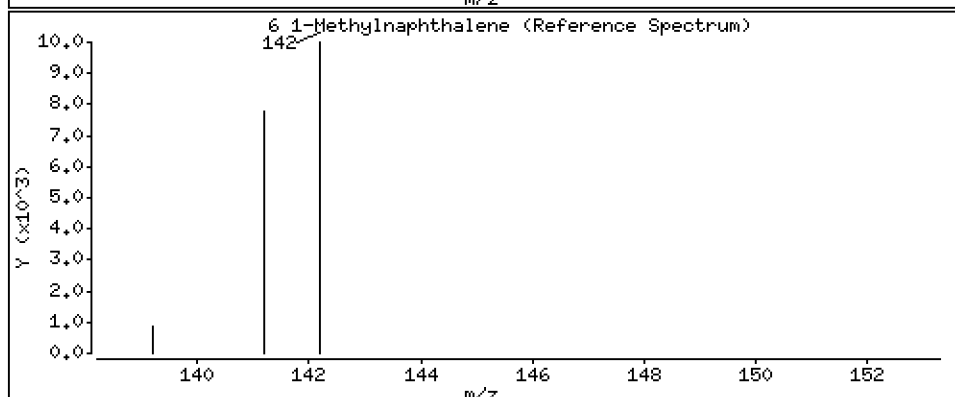
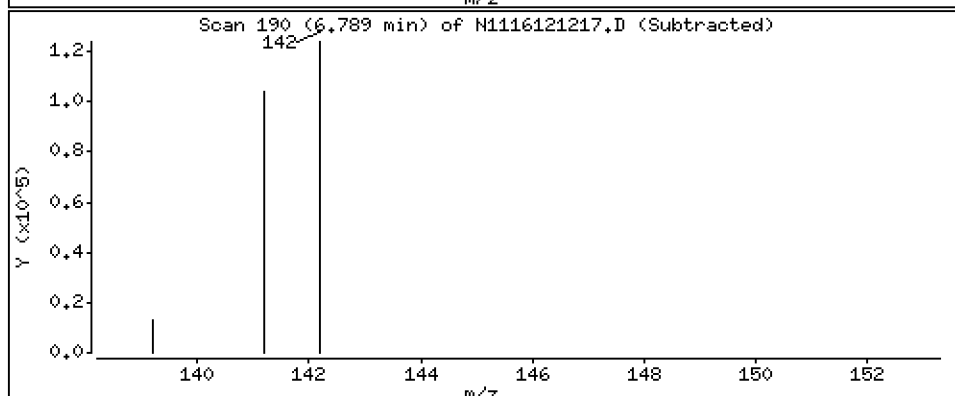
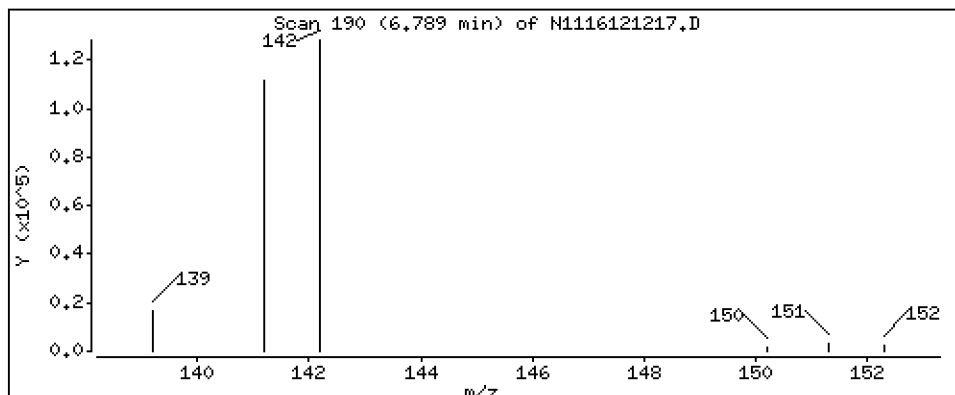
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 252 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

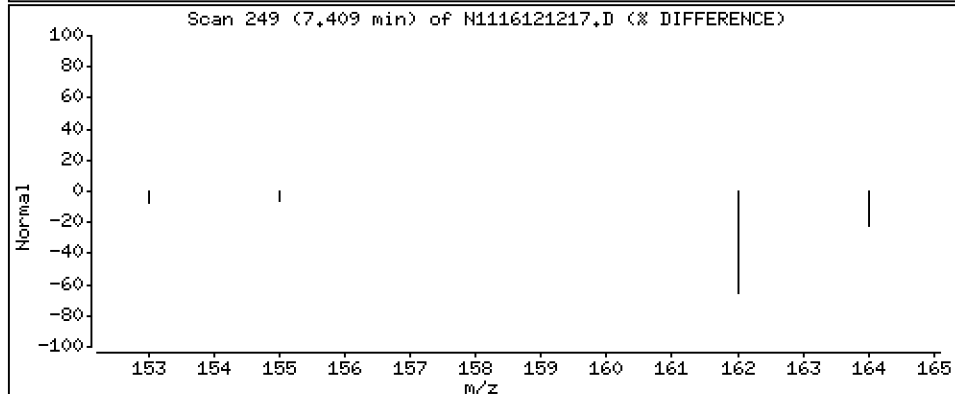
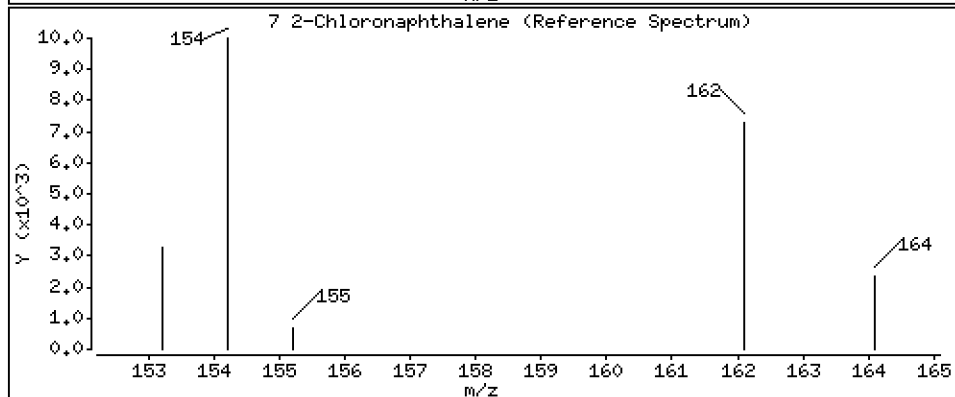
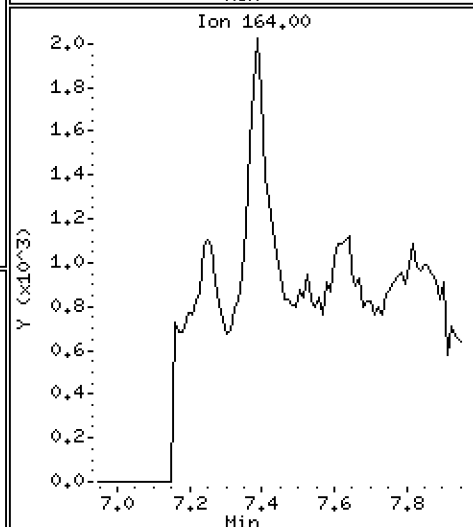
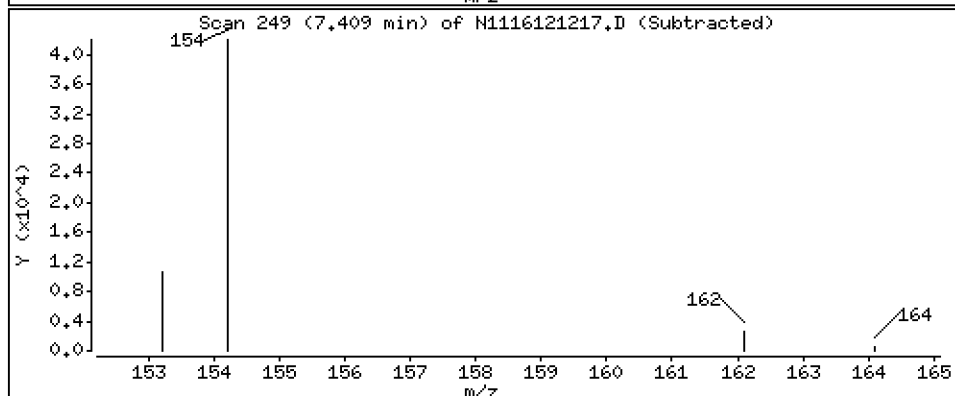
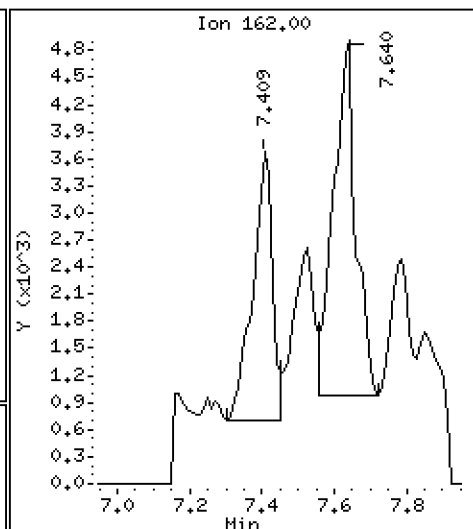
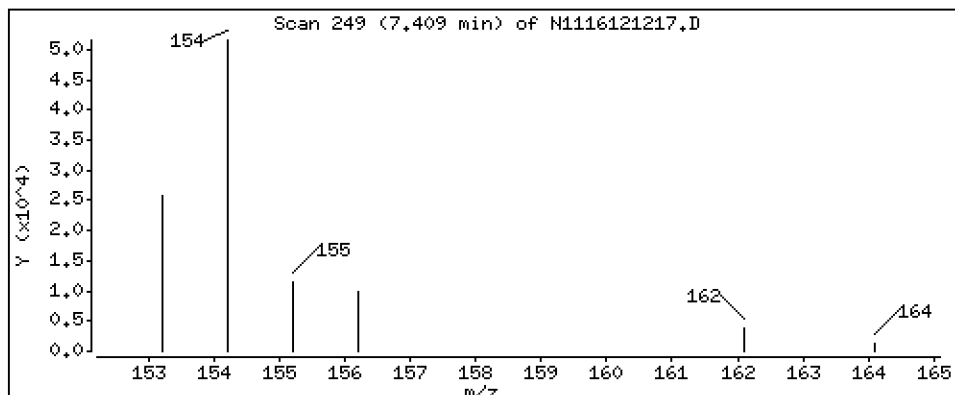
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 7,98 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

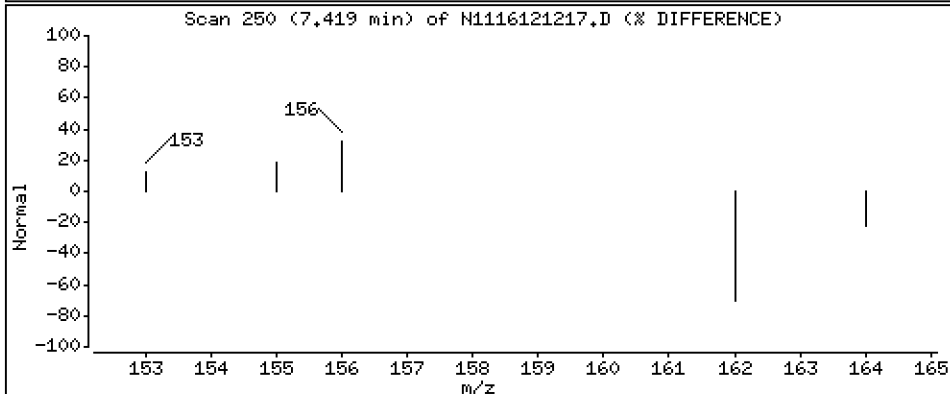
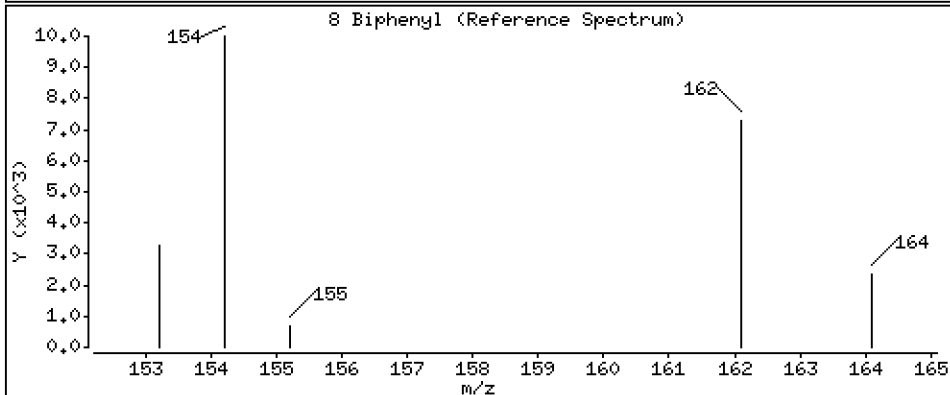
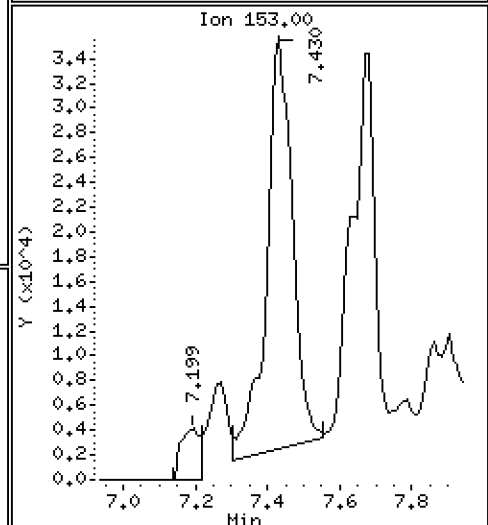
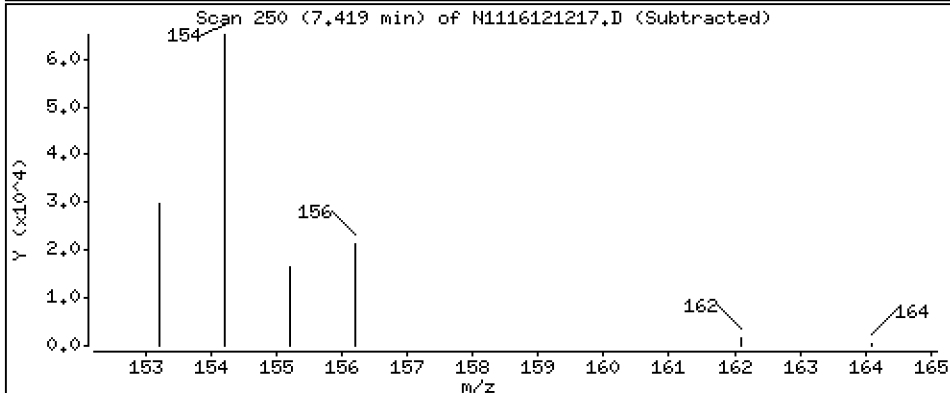
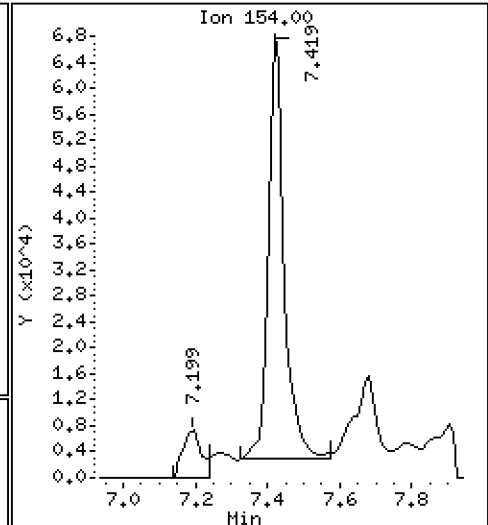
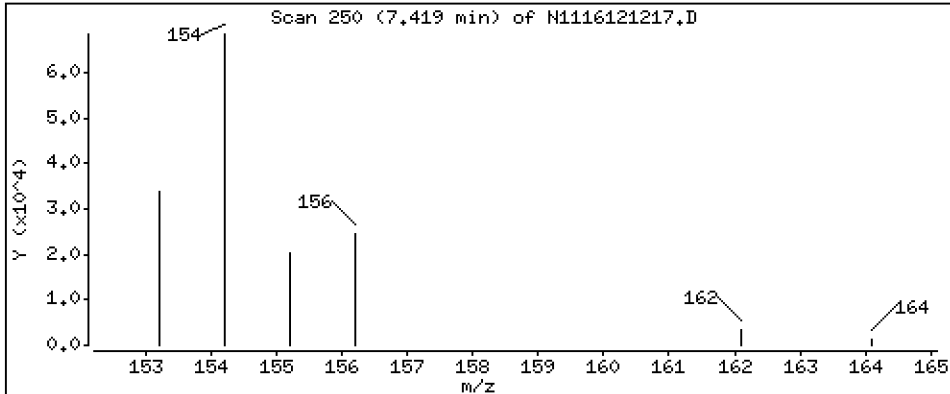
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 104 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

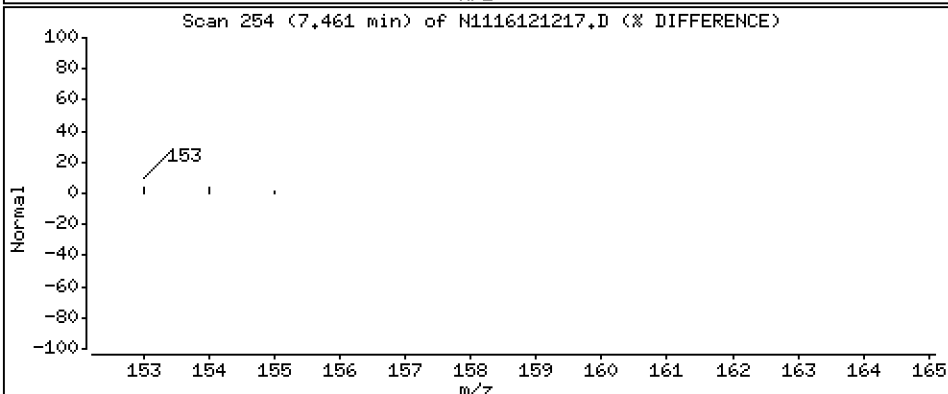
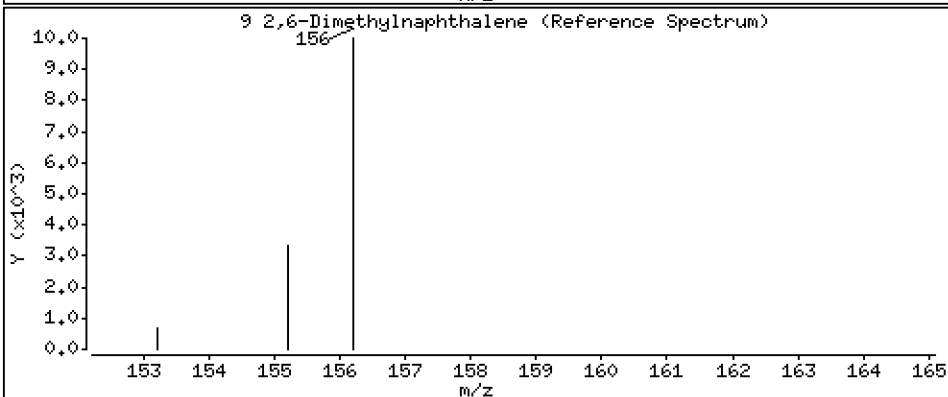
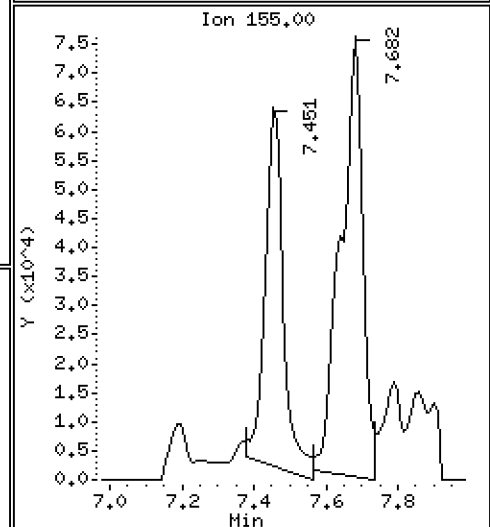
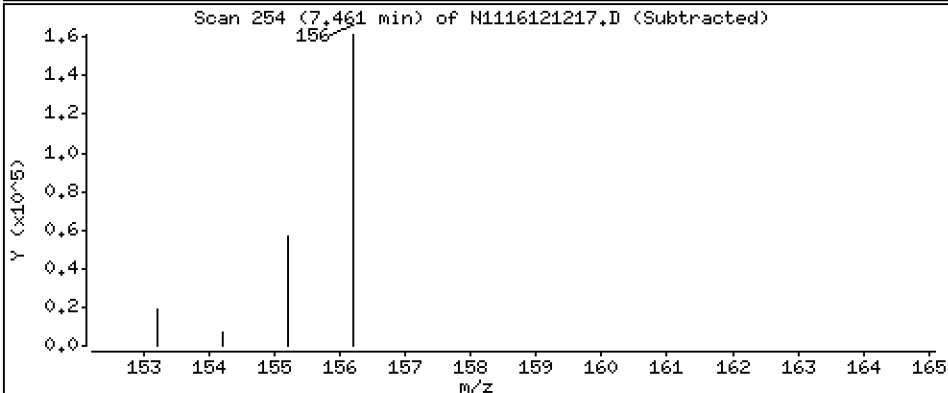
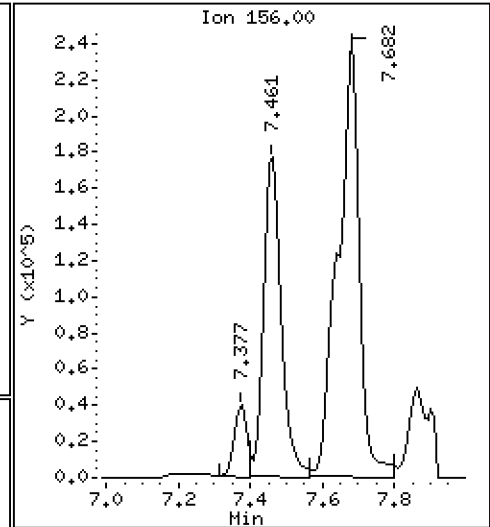
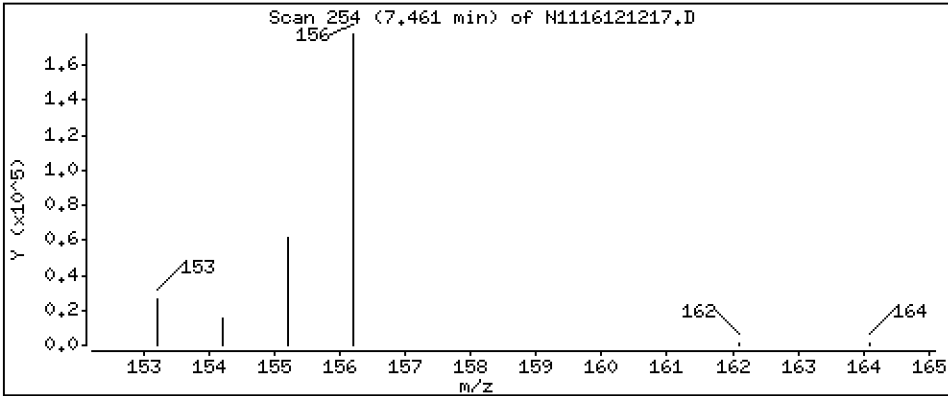
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 441 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

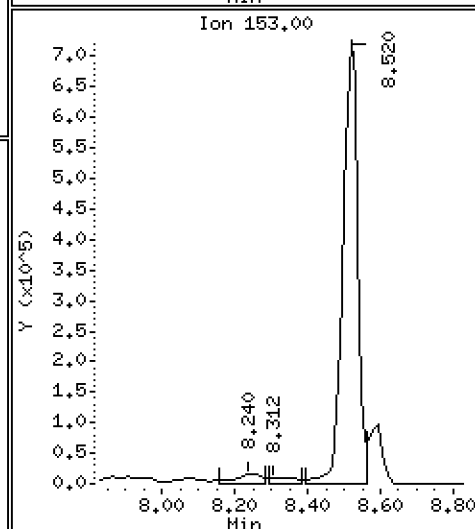
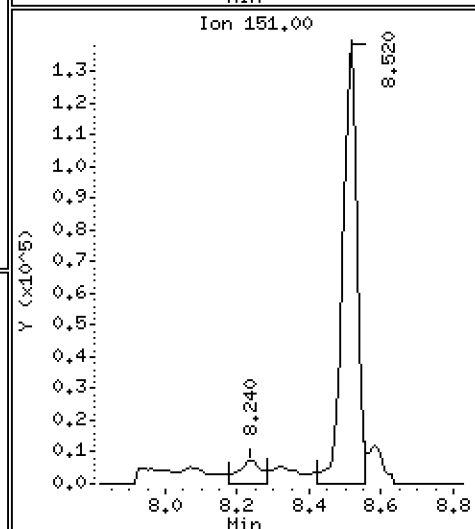
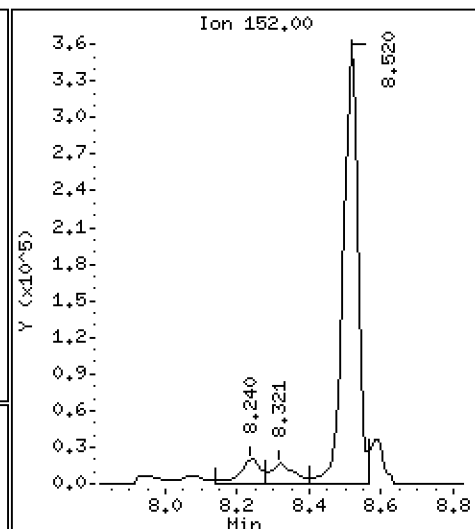
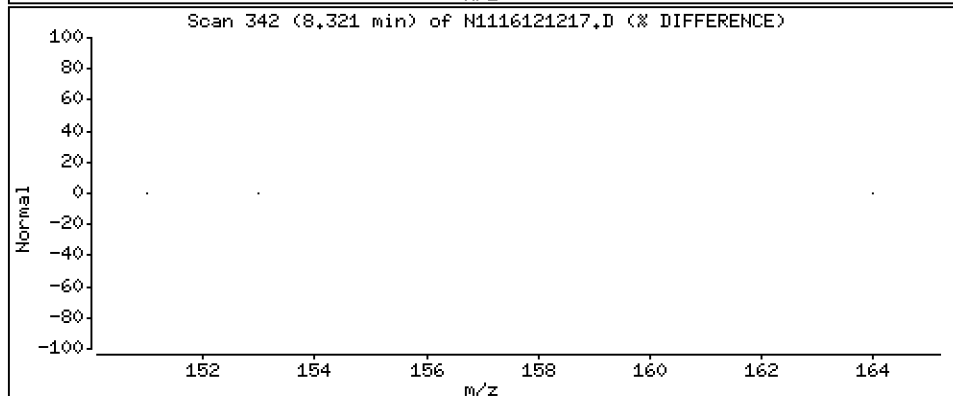
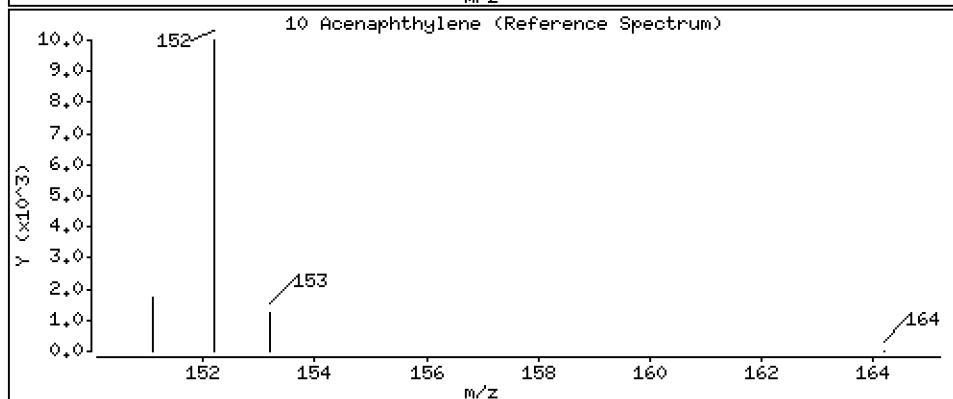
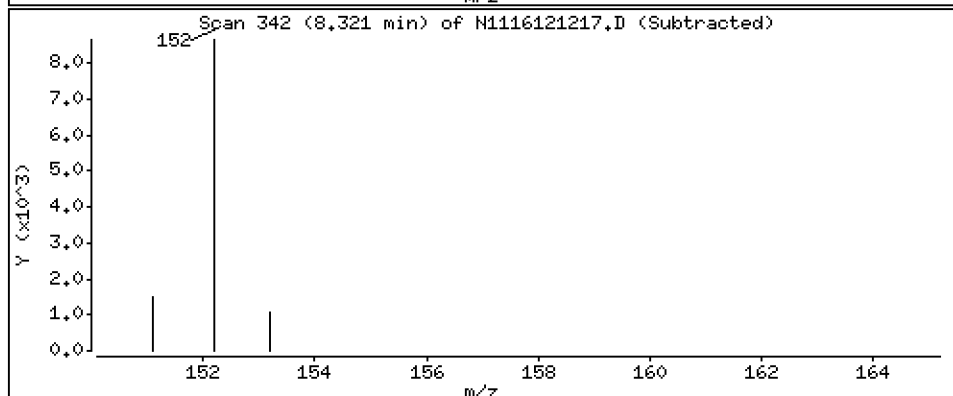
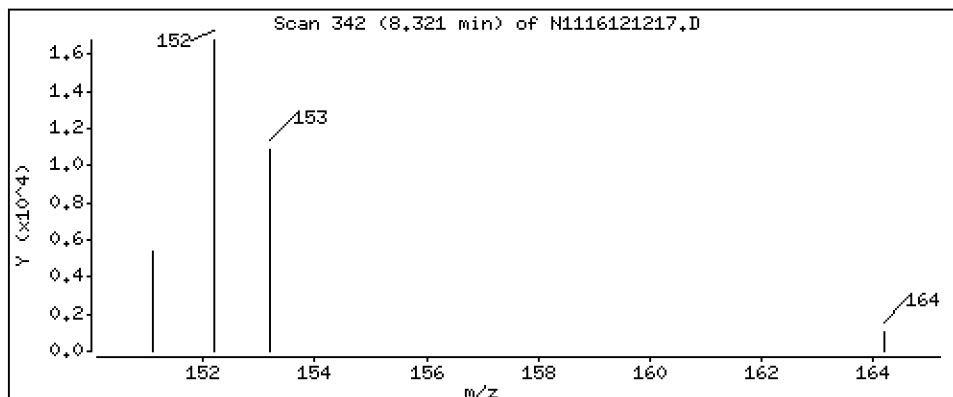
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 50,8 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

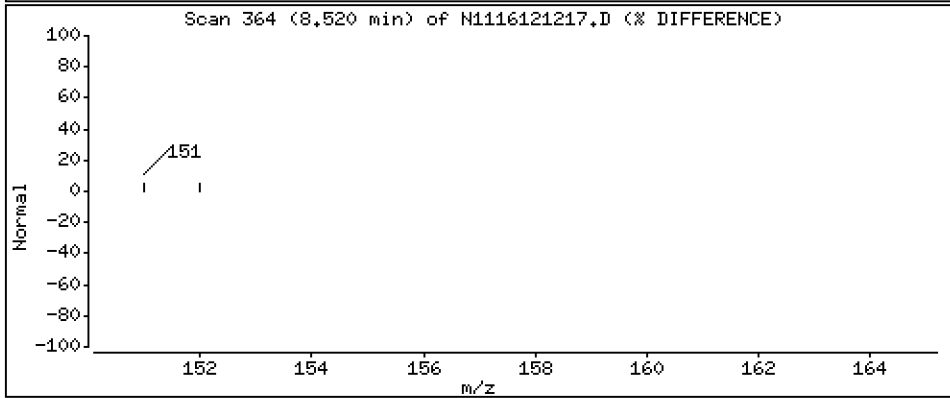
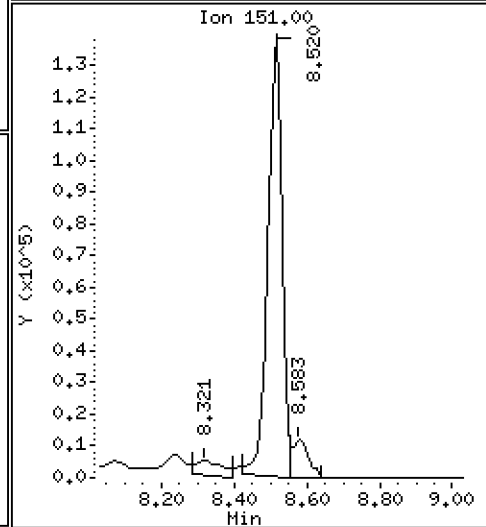
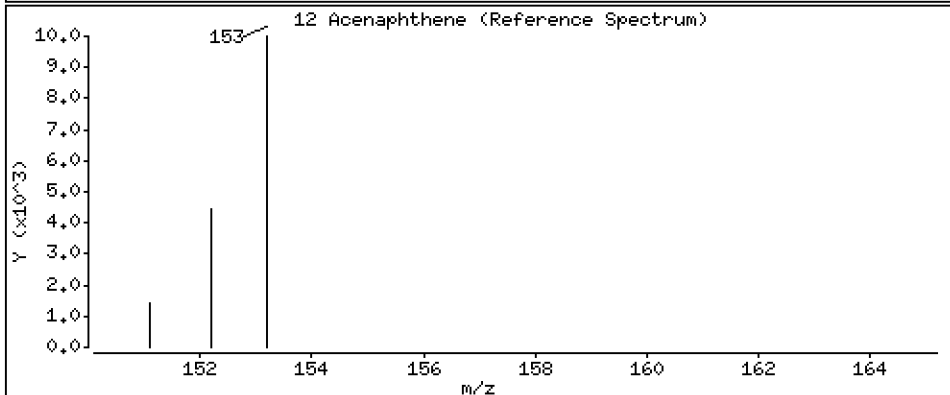
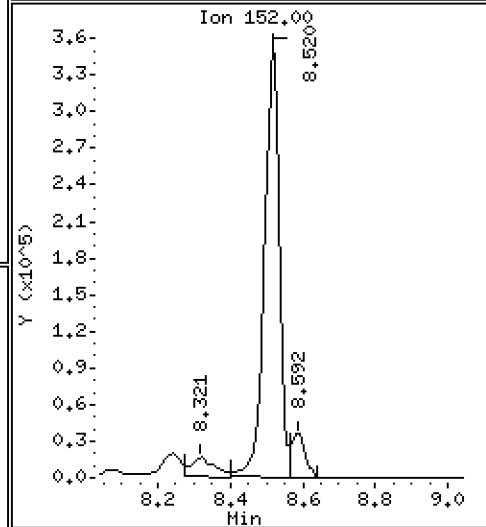
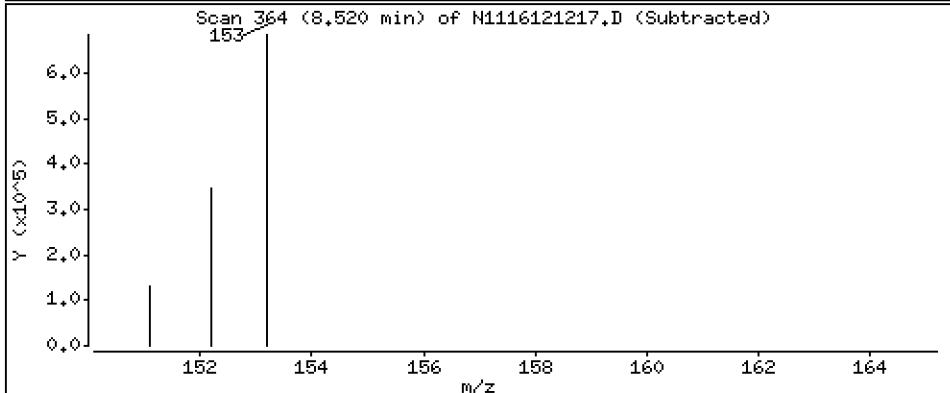
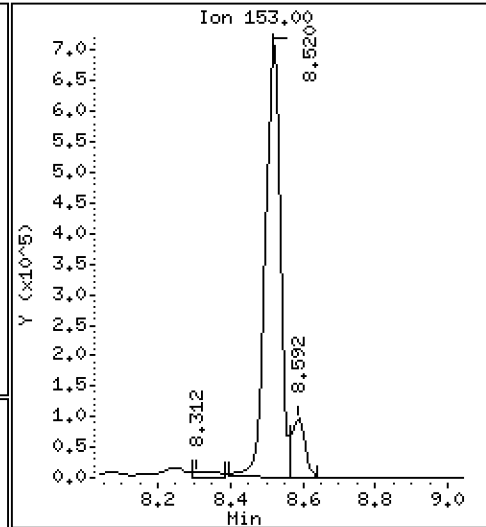
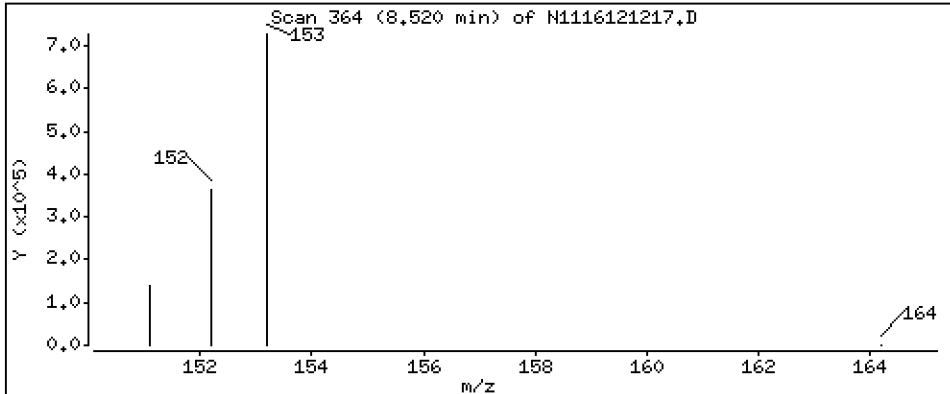
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 1900 ng/mL

12 Acenaphthene



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

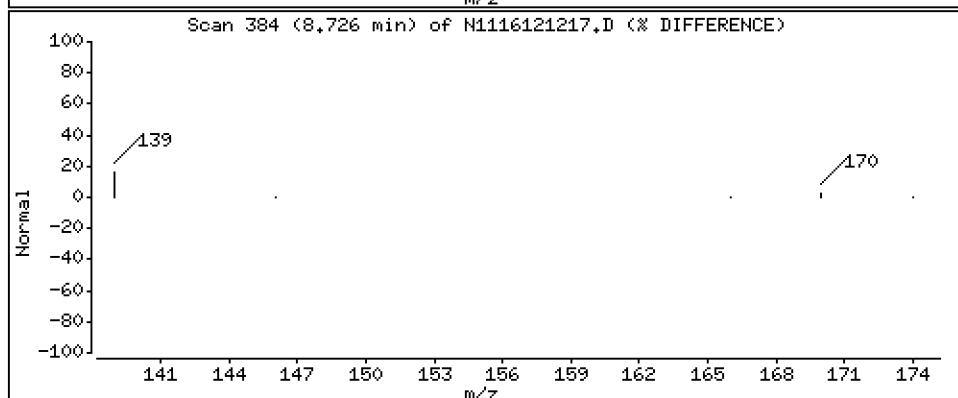
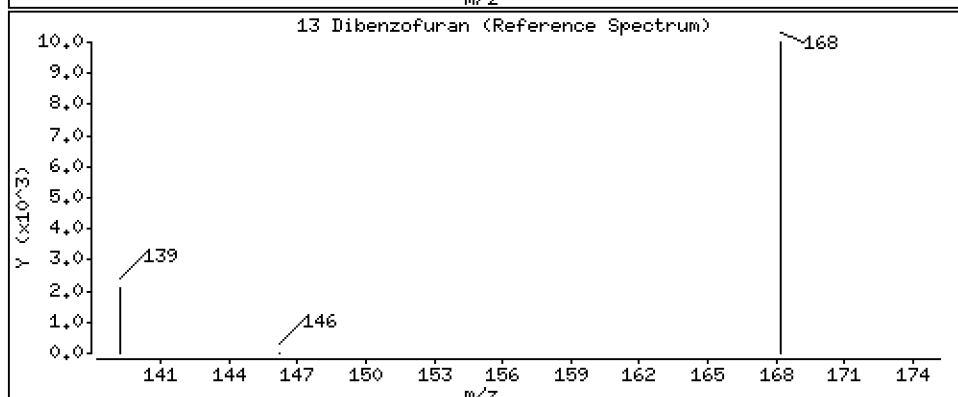
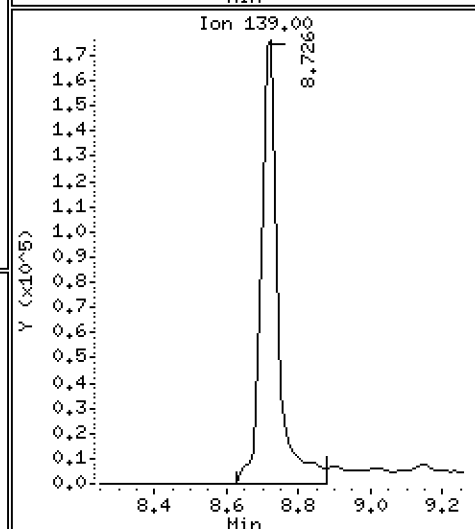
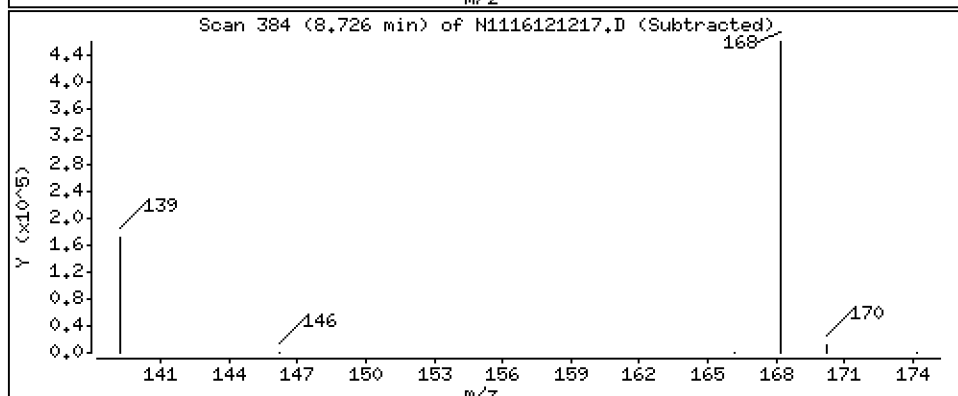
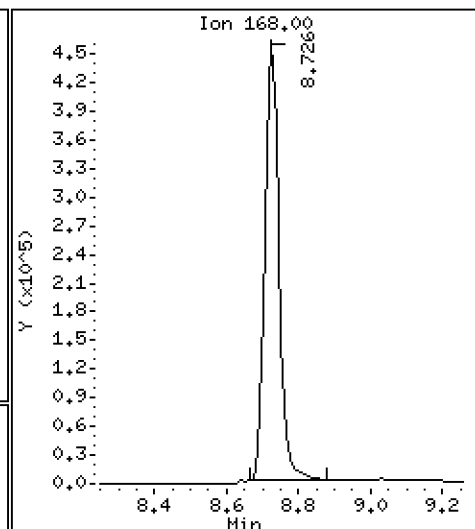
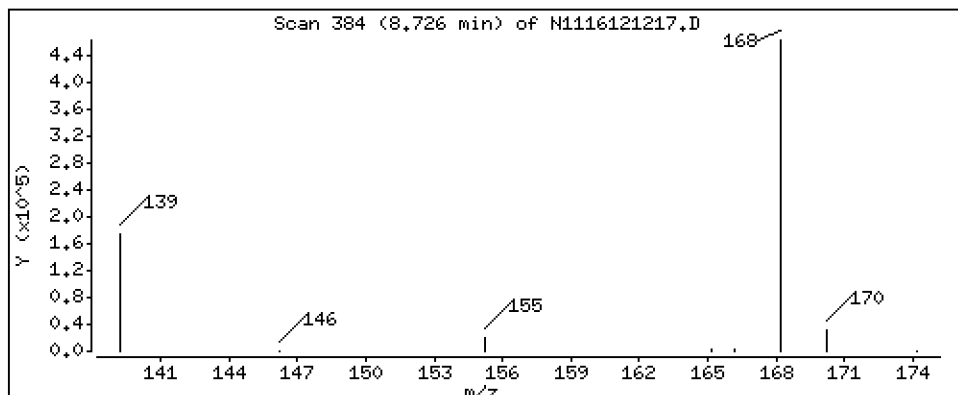
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 805 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

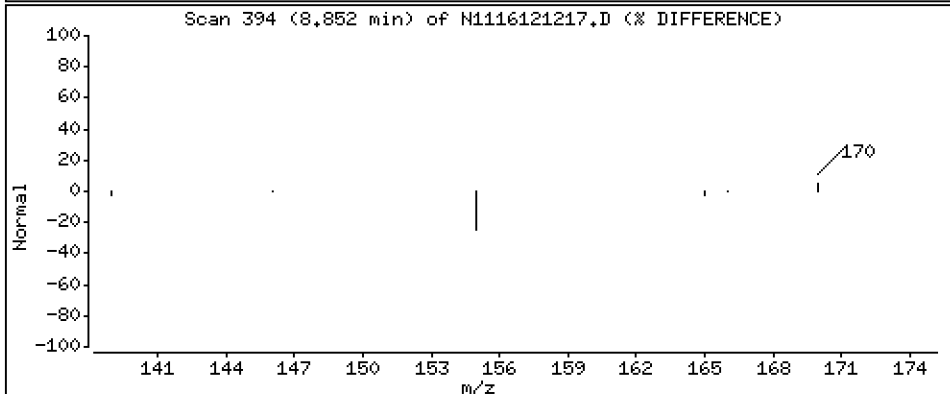
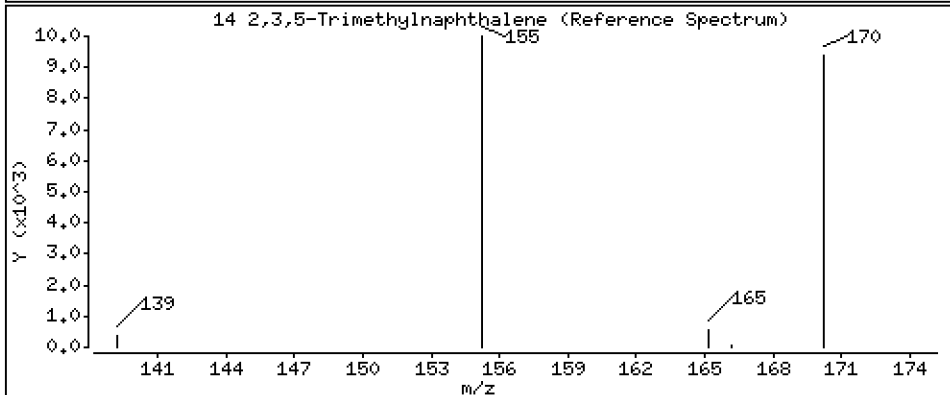
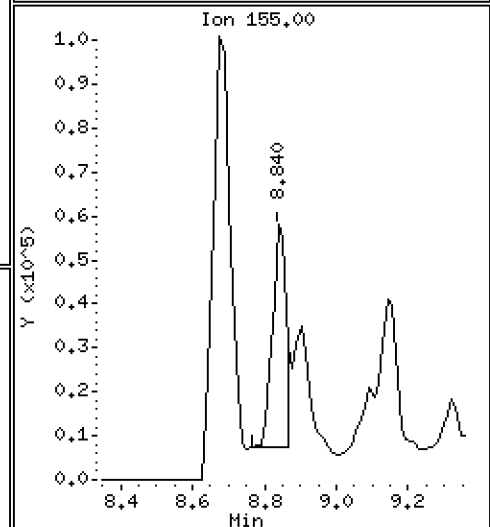
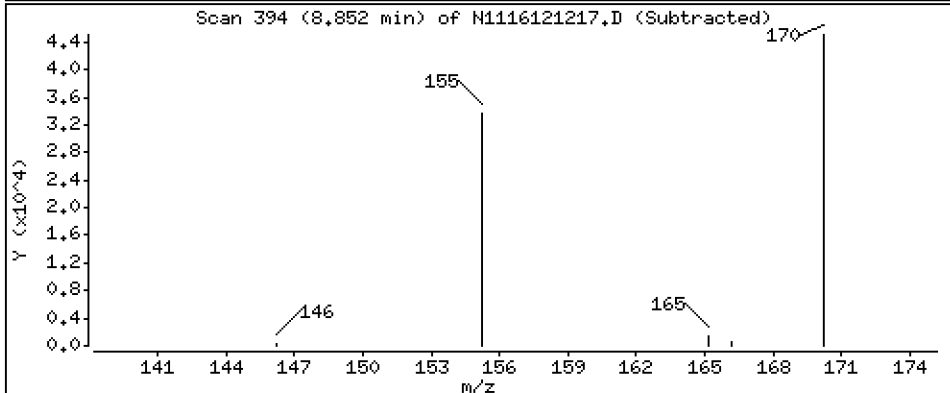
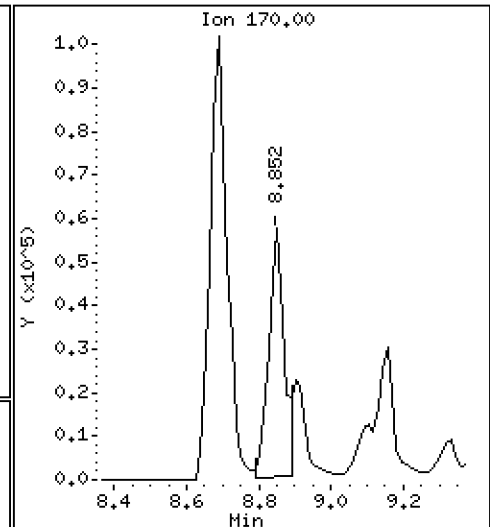
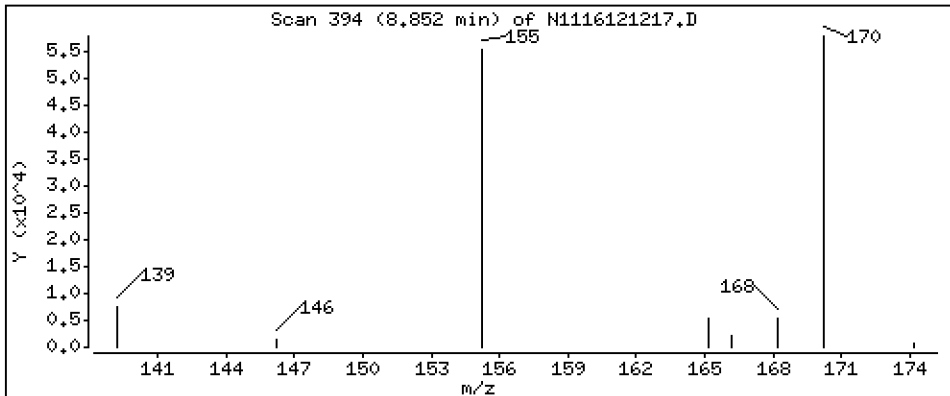
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 178 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

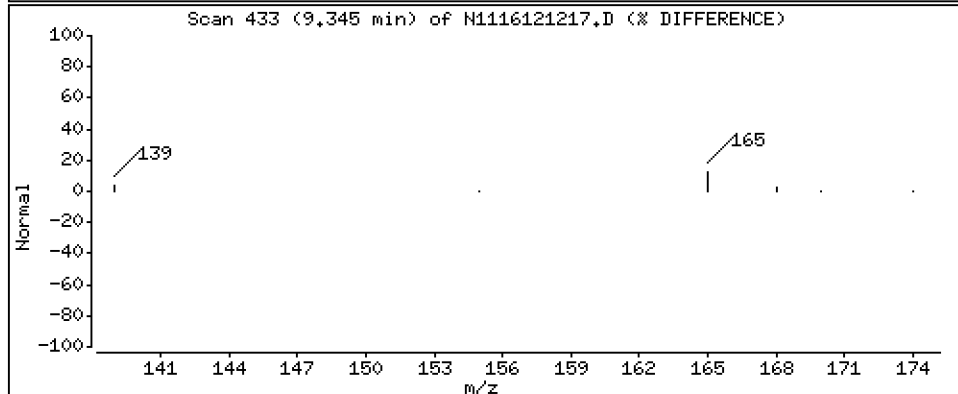
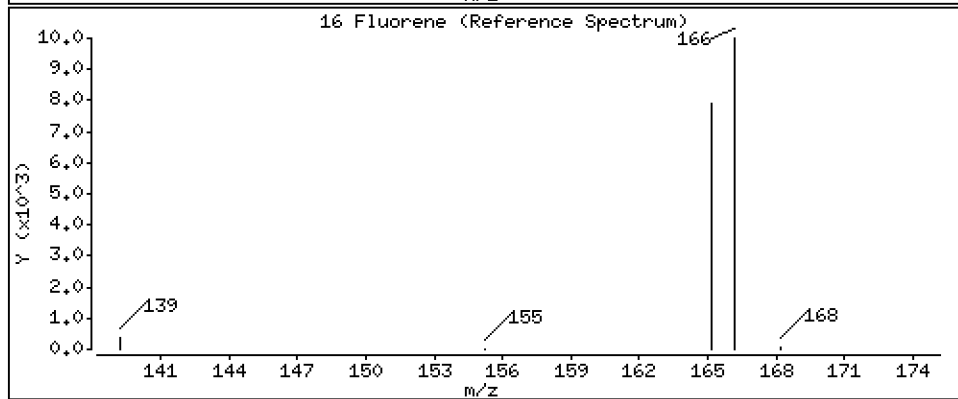
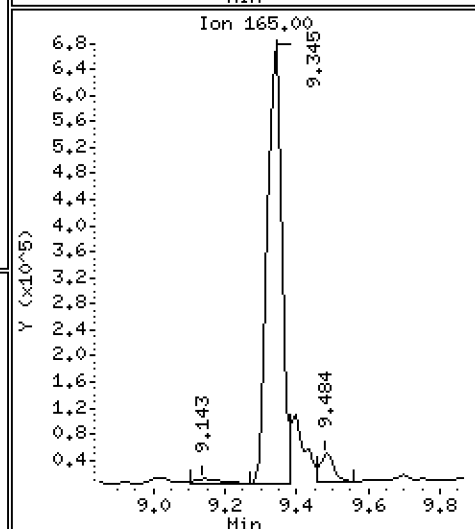
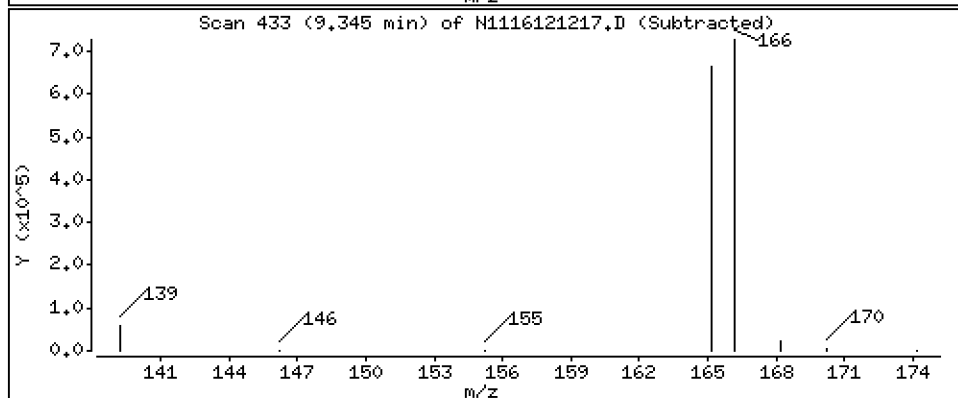
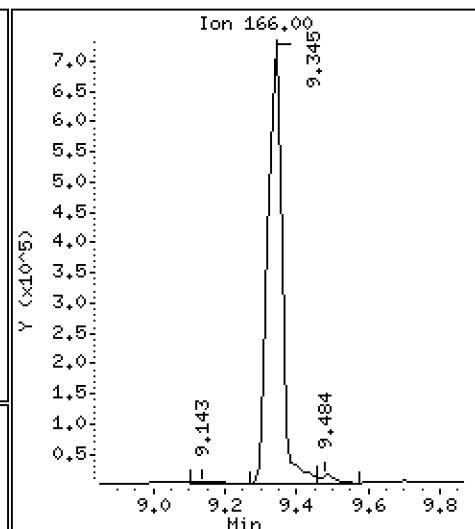
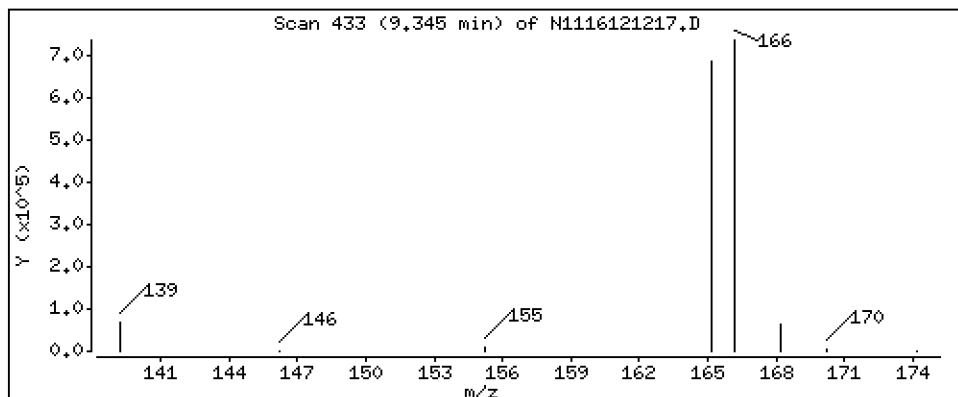
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 1650 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

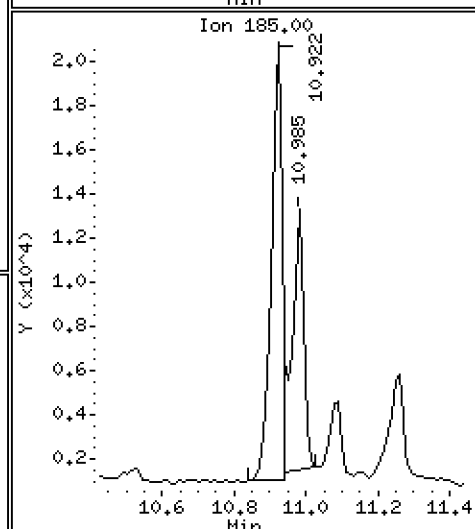
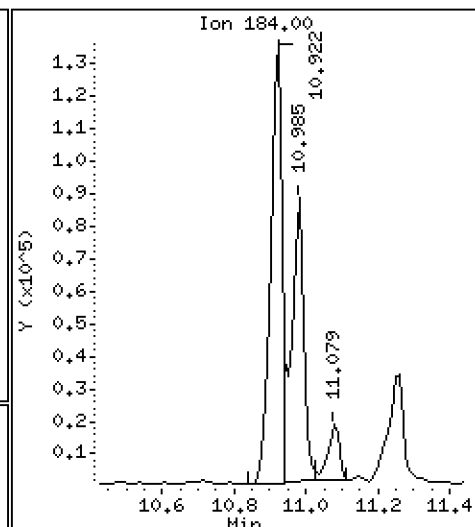
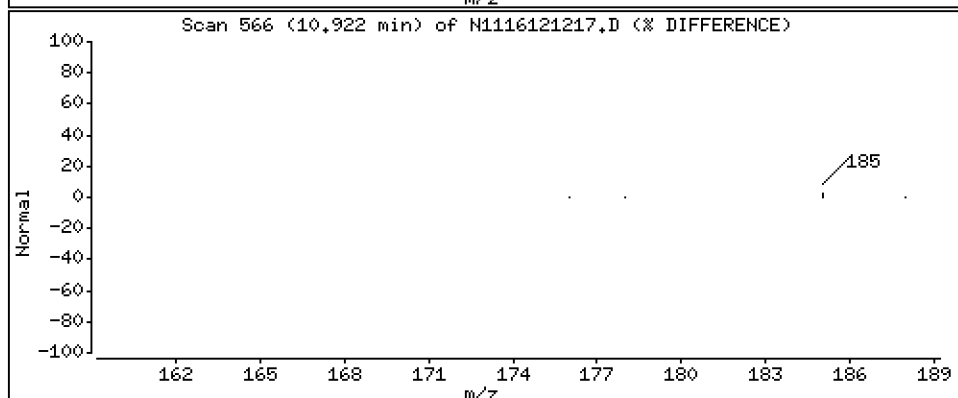
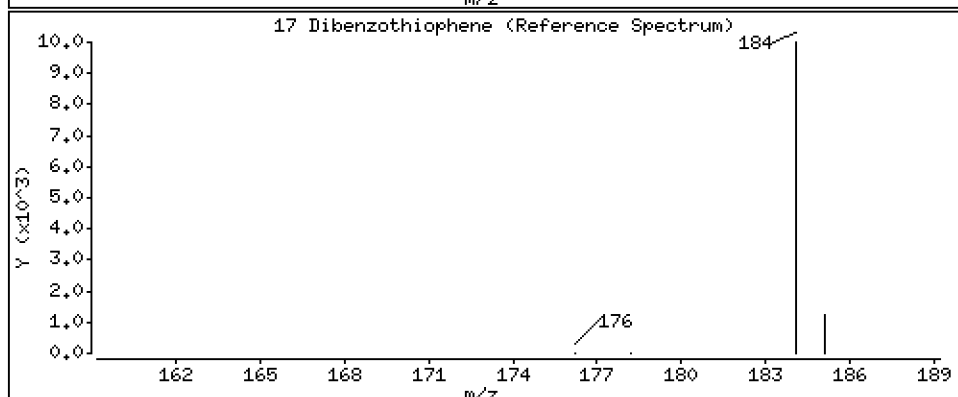
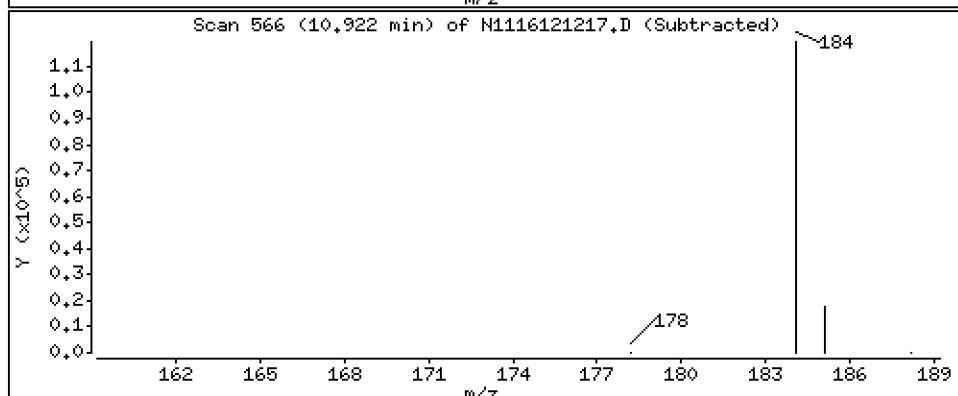
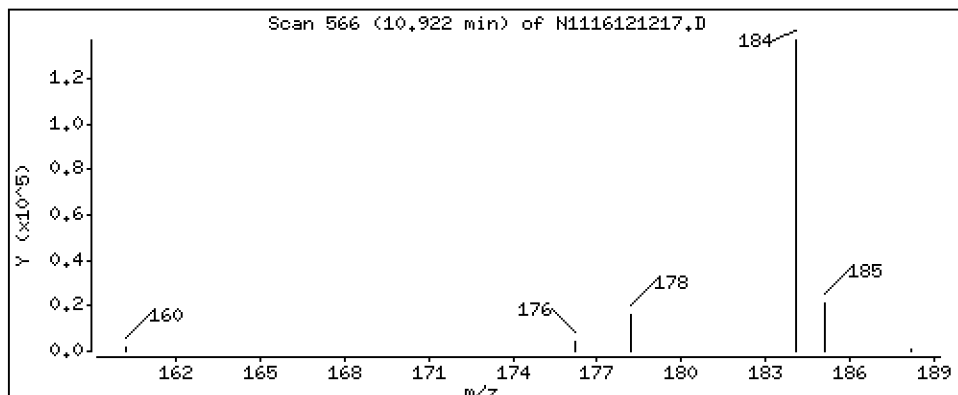
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 208 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

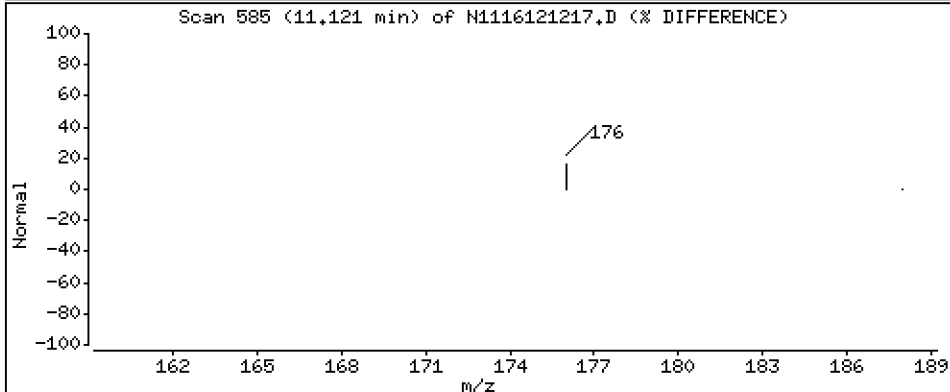
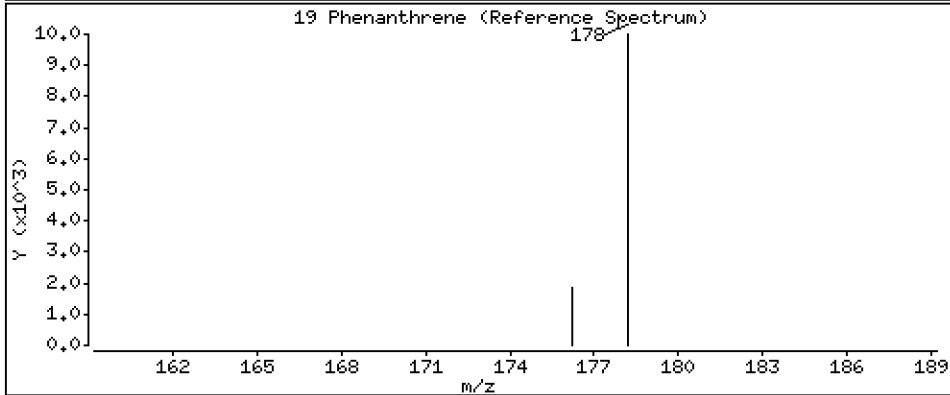
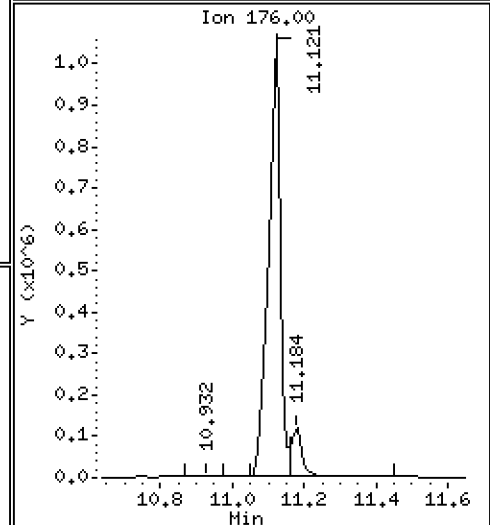
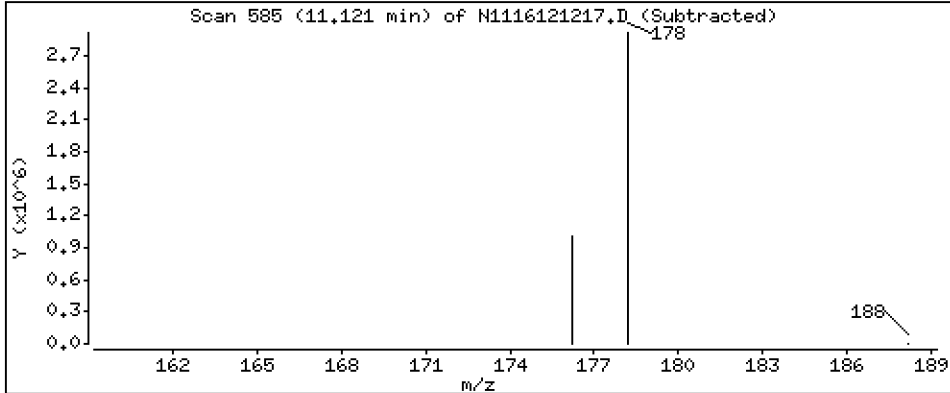
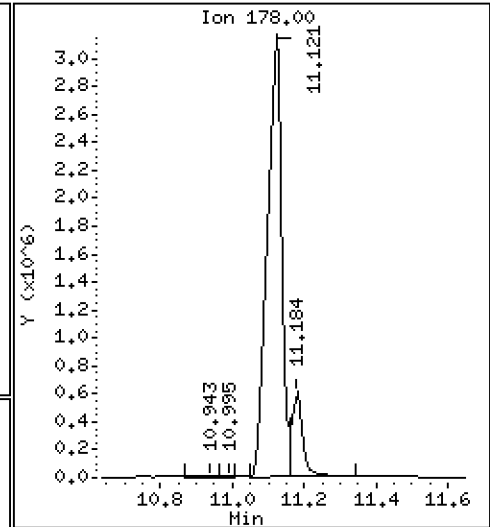
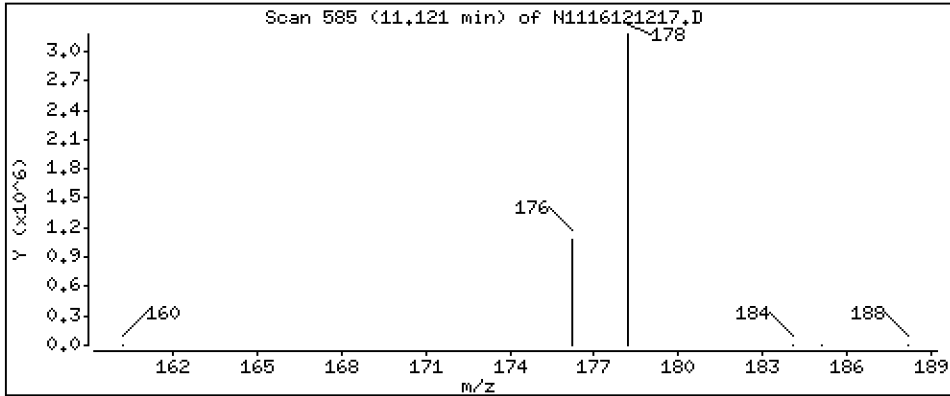
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 5270 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

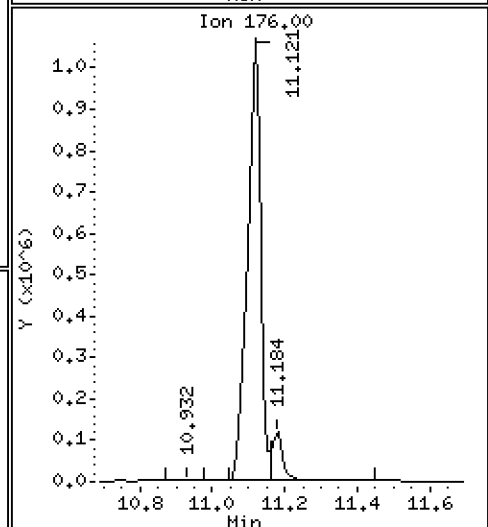
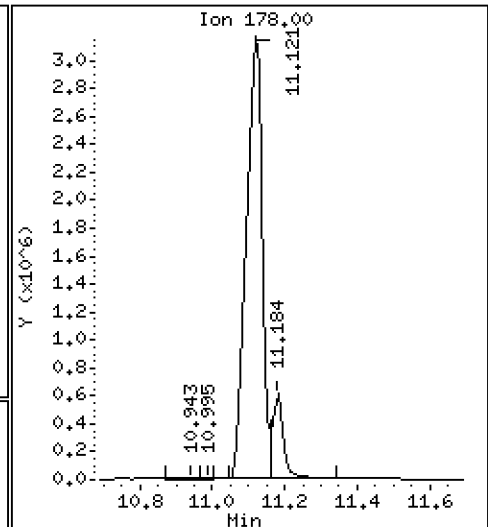
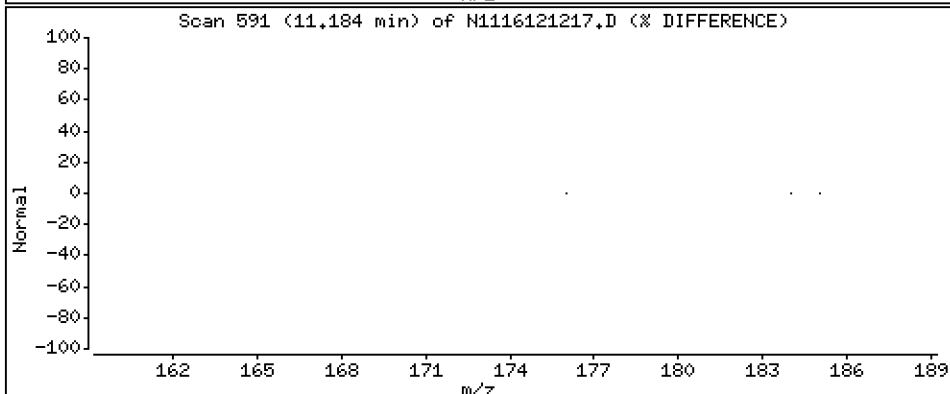
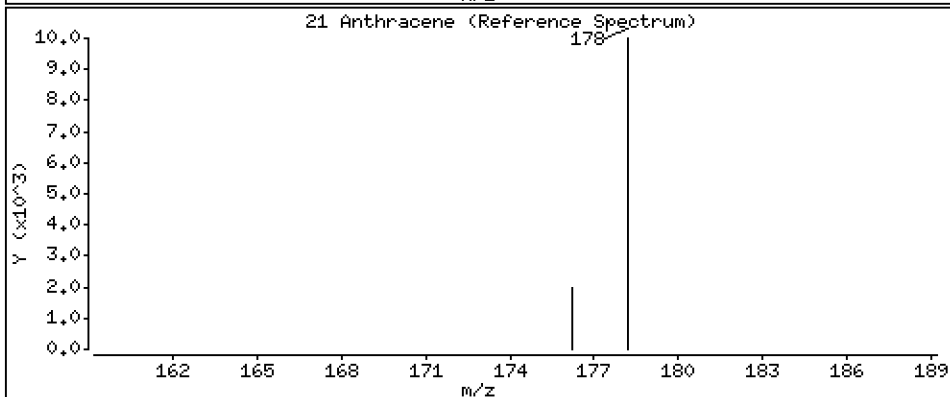
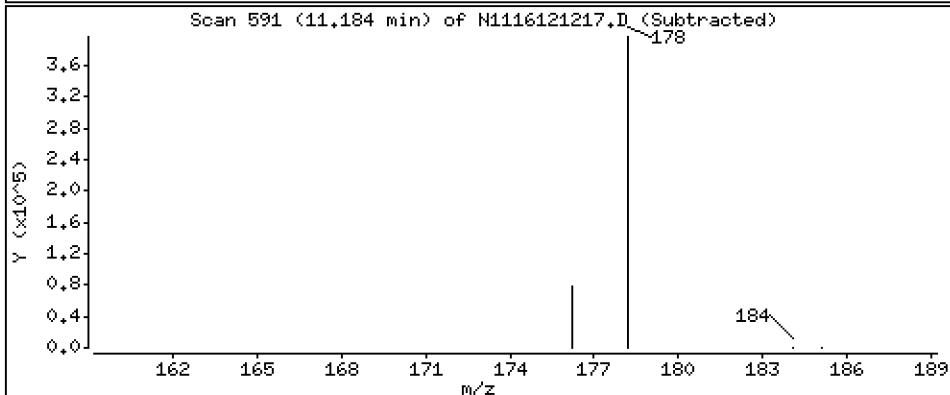
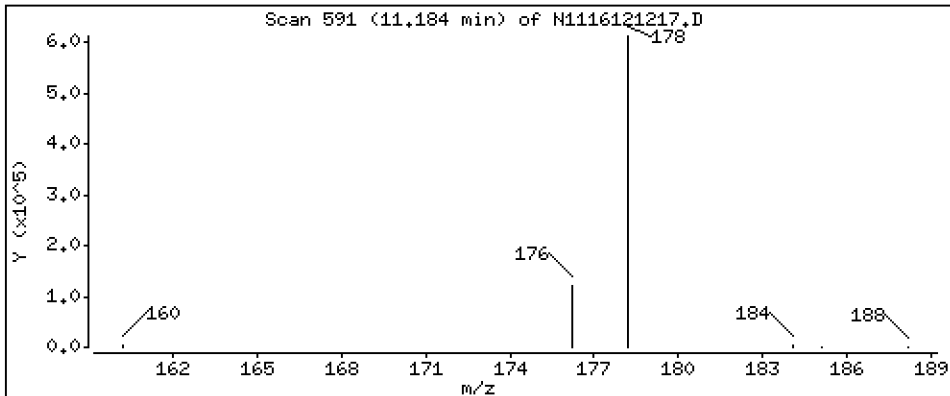
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 758 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

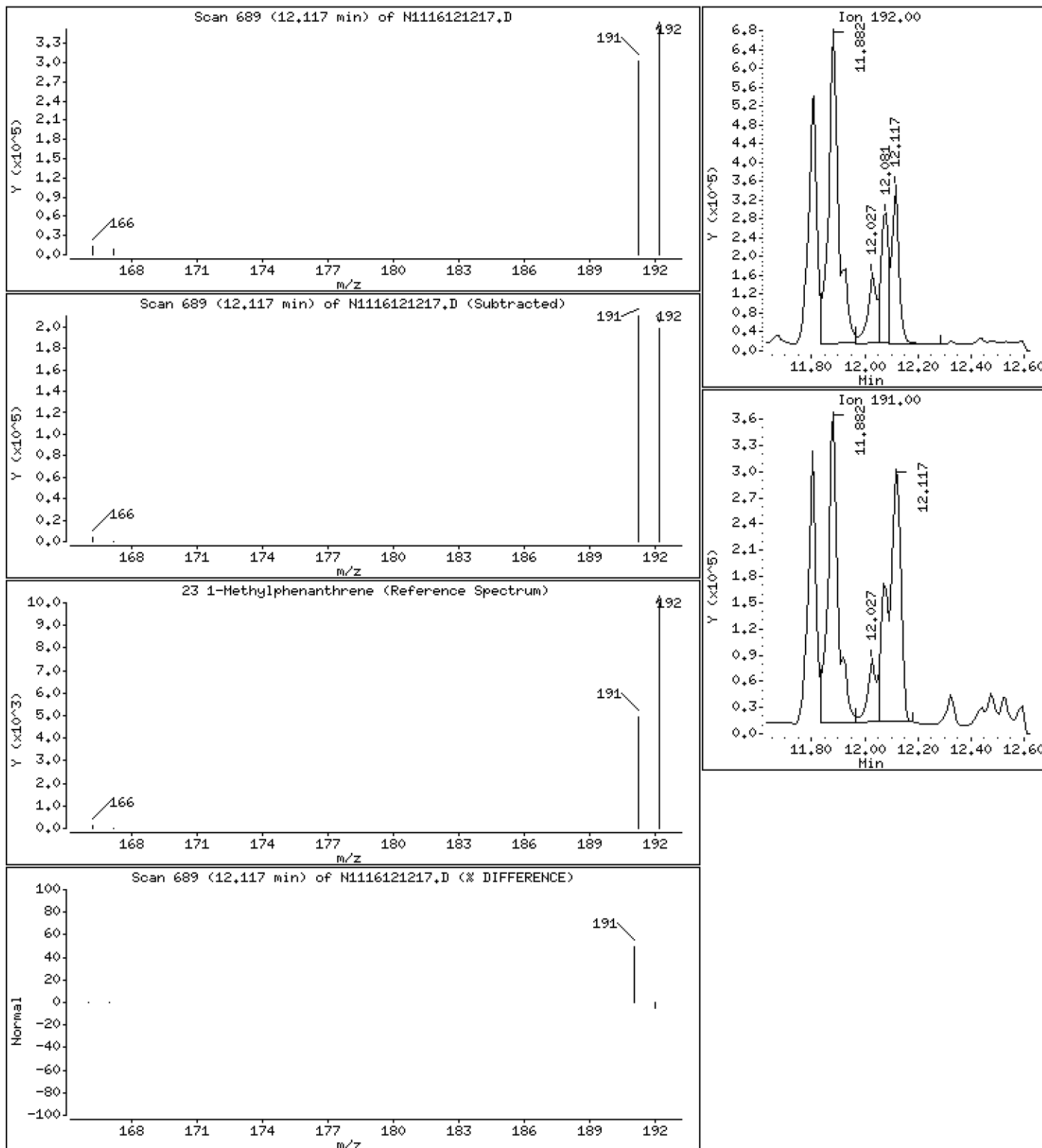
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 456 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

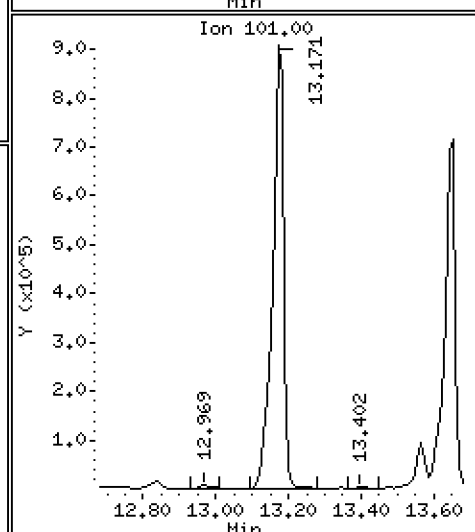
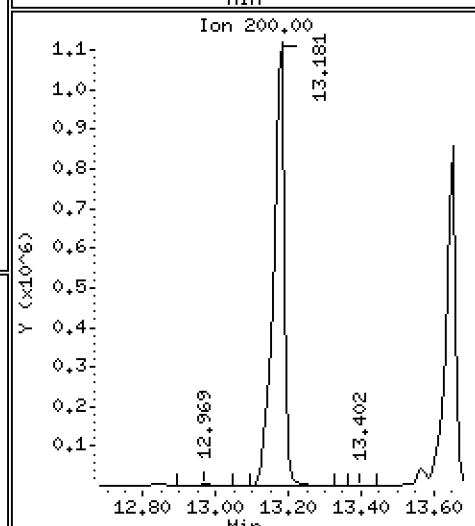
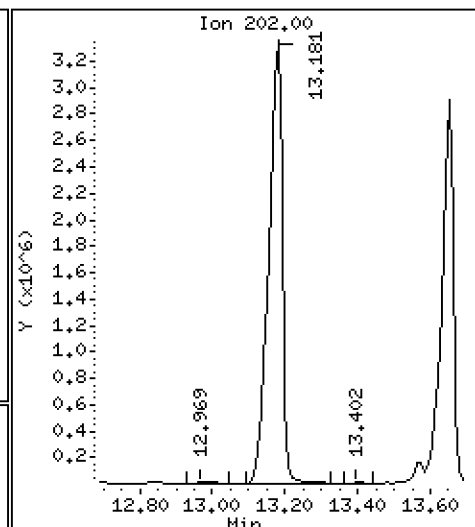
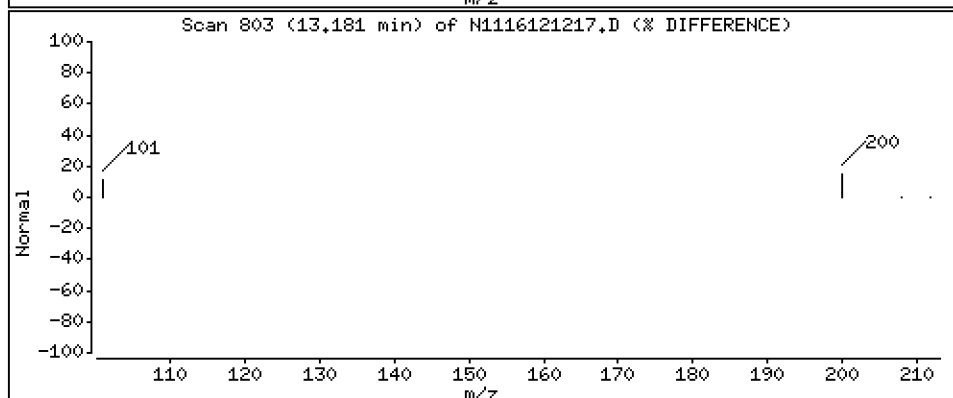
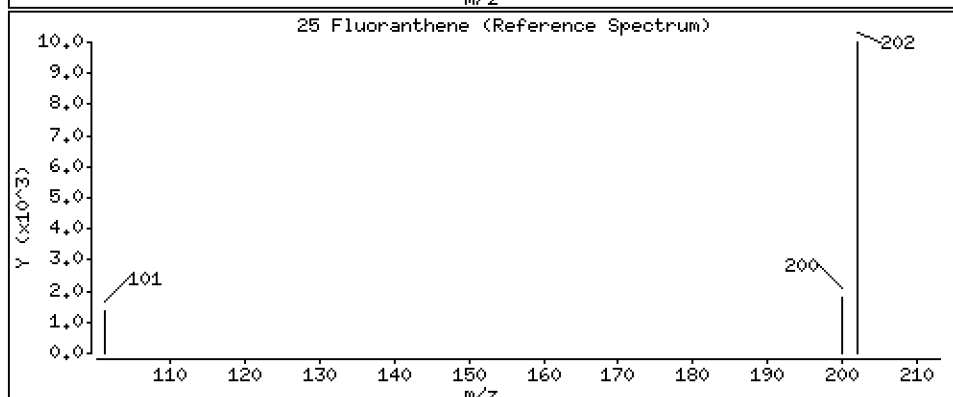
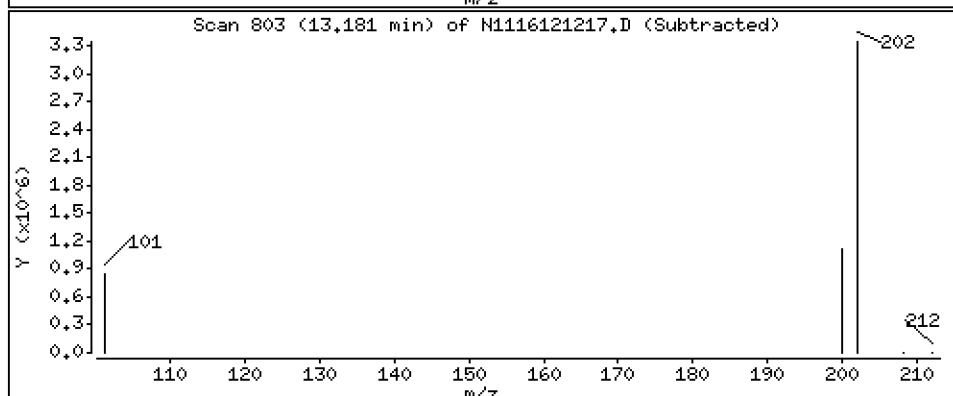
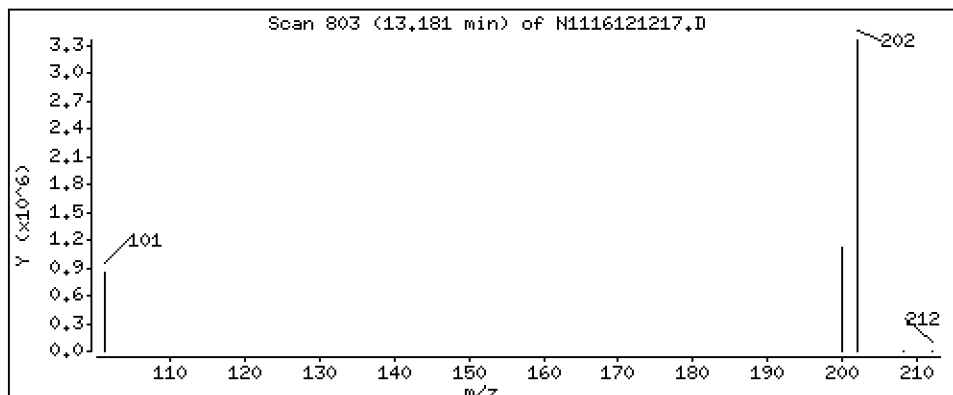
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 4830 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

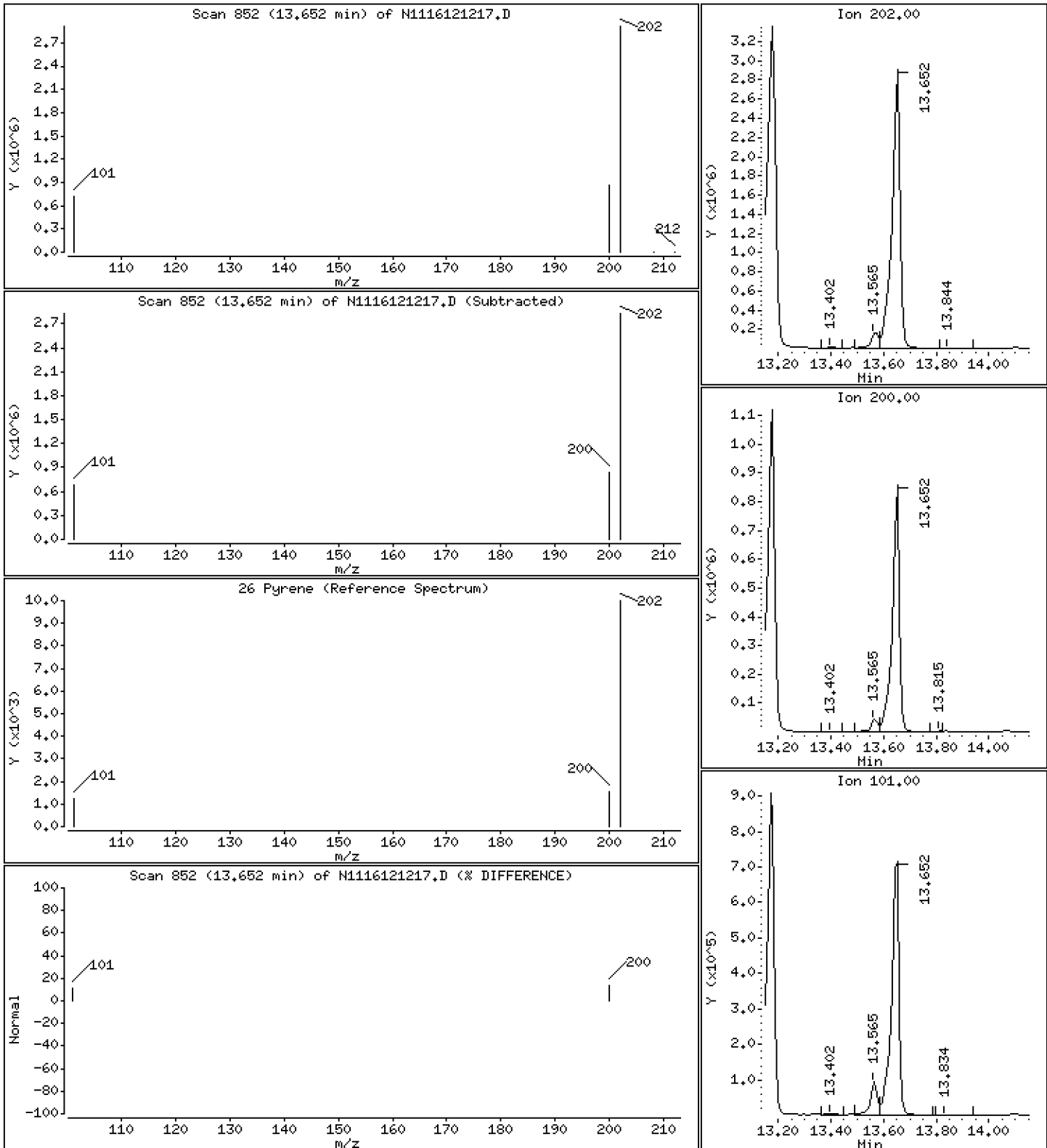
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 3770 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

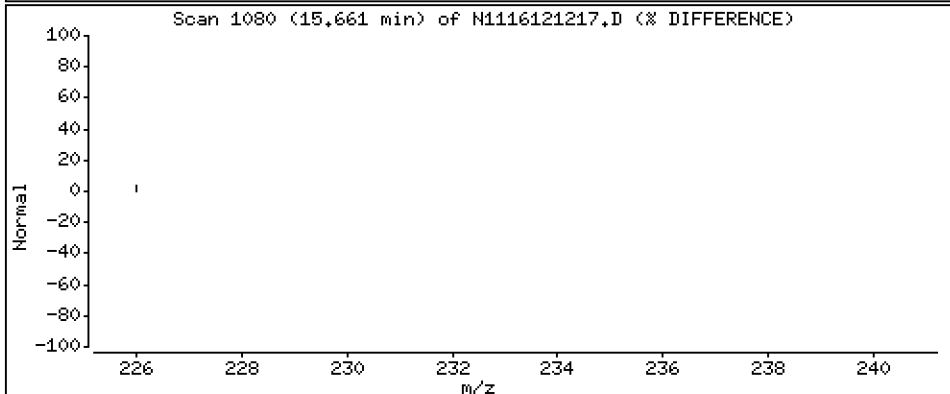
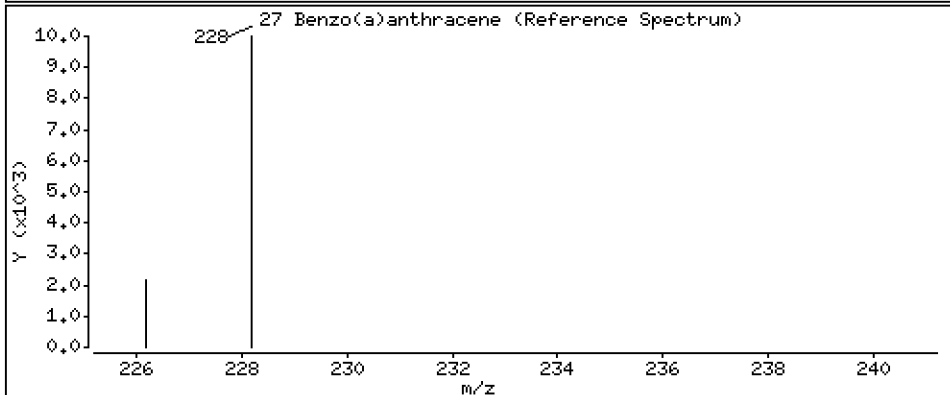
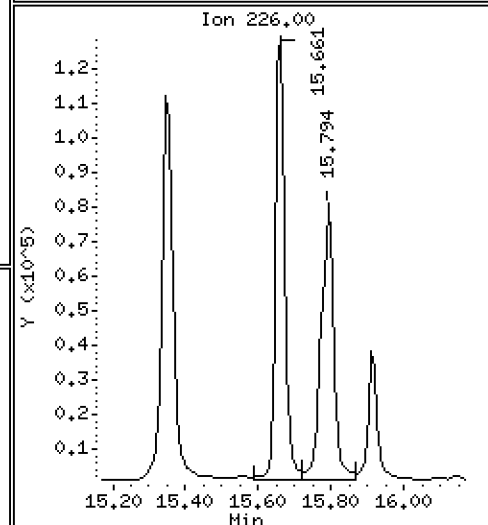
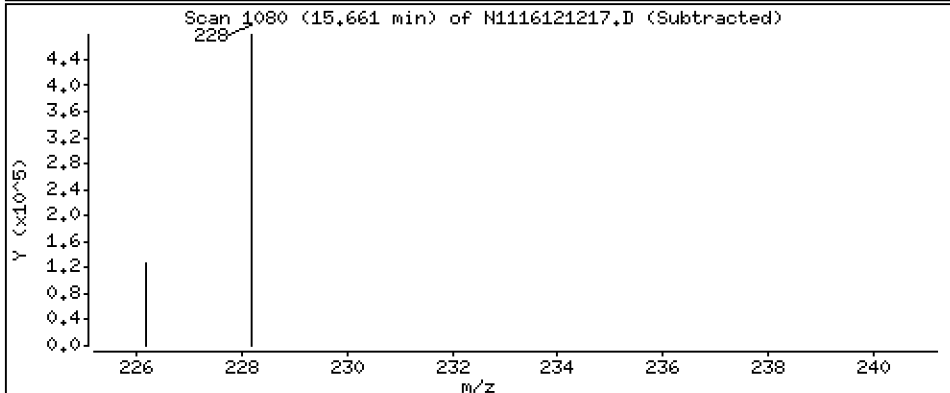
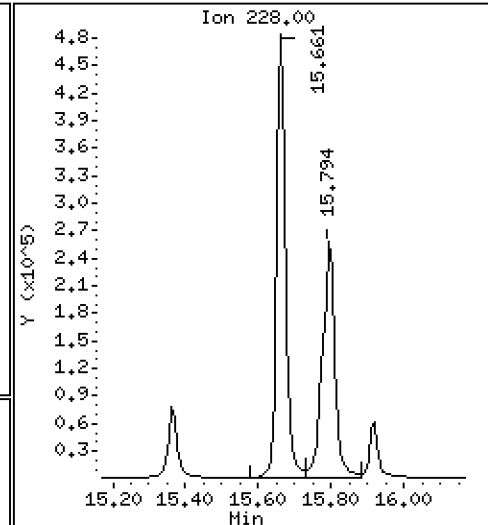
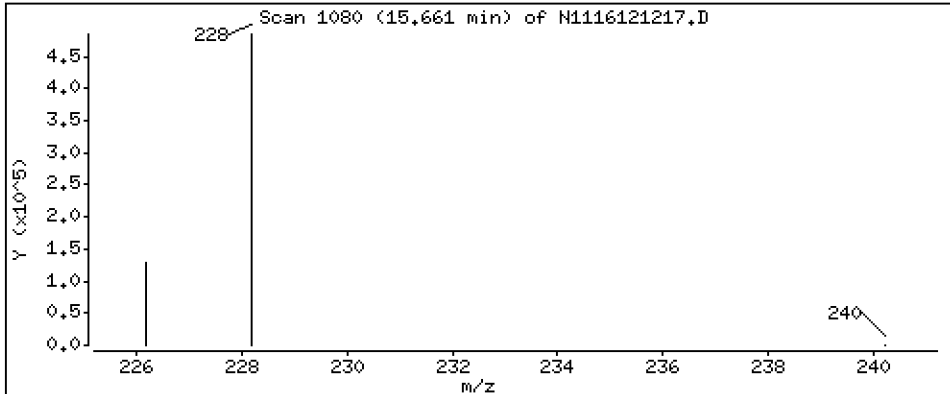
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 541 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

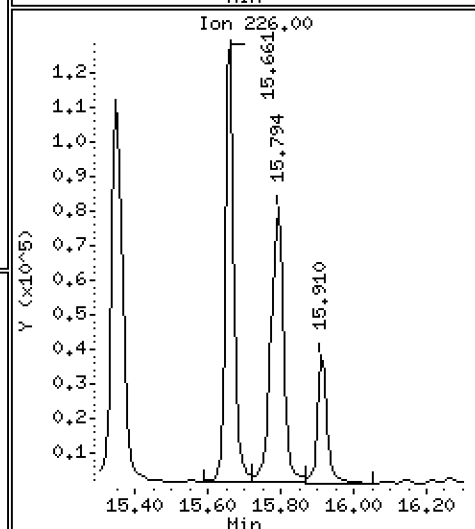
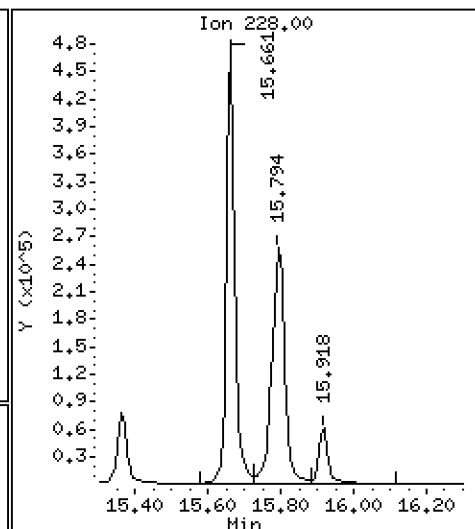
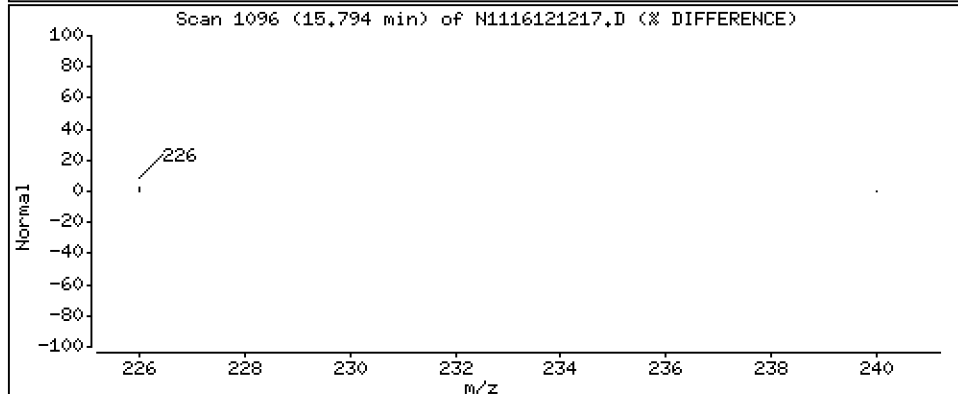
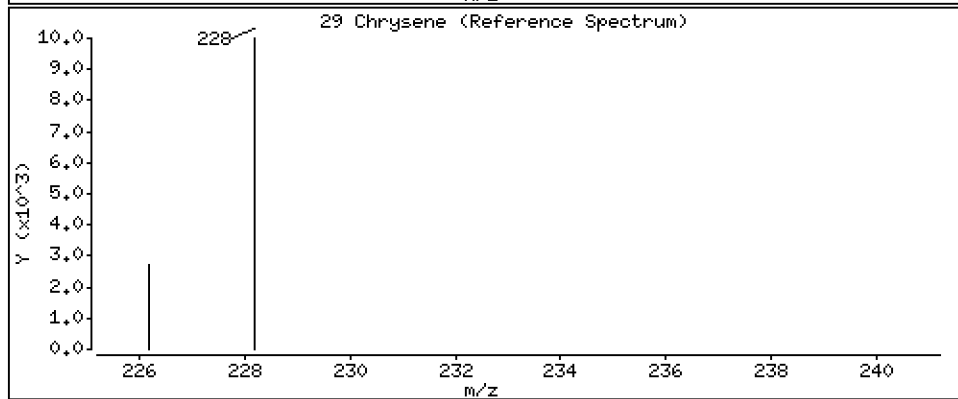
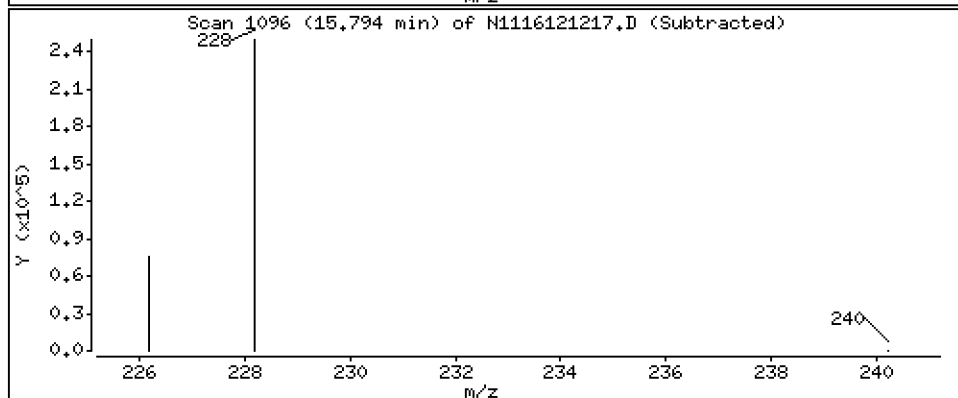
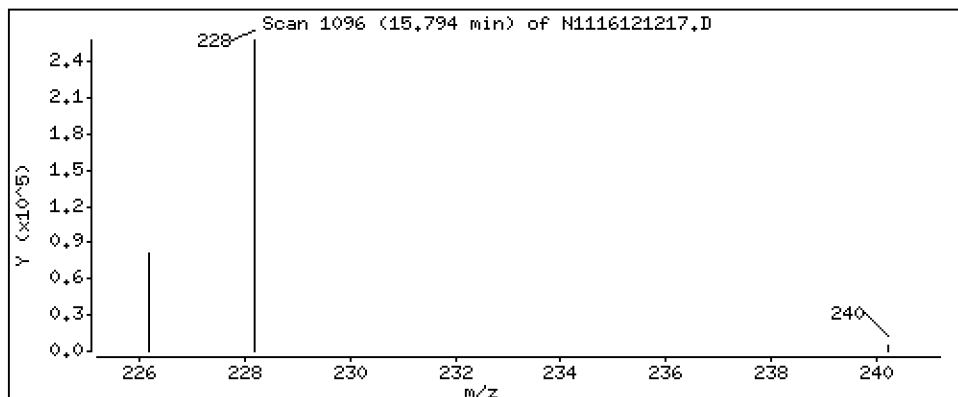
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 382 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

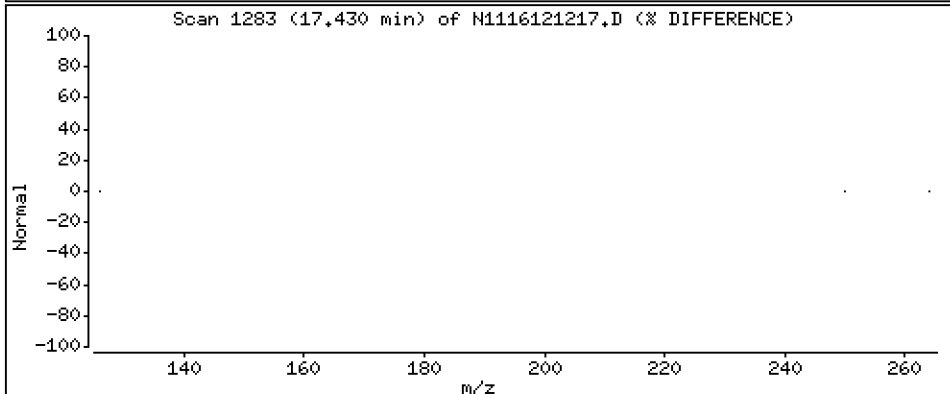
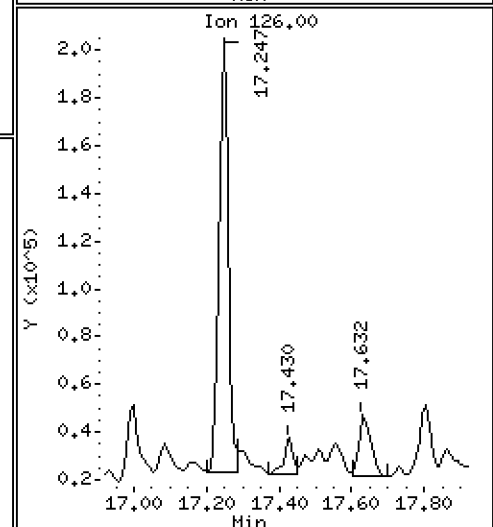
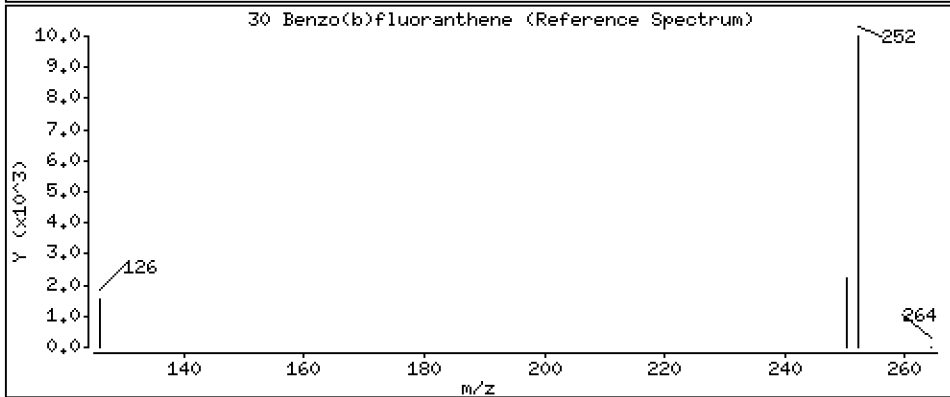
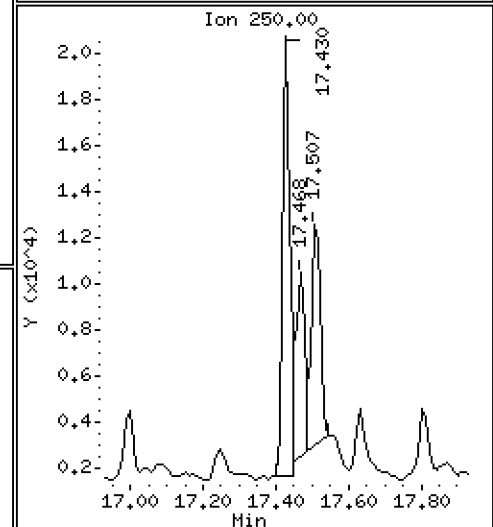
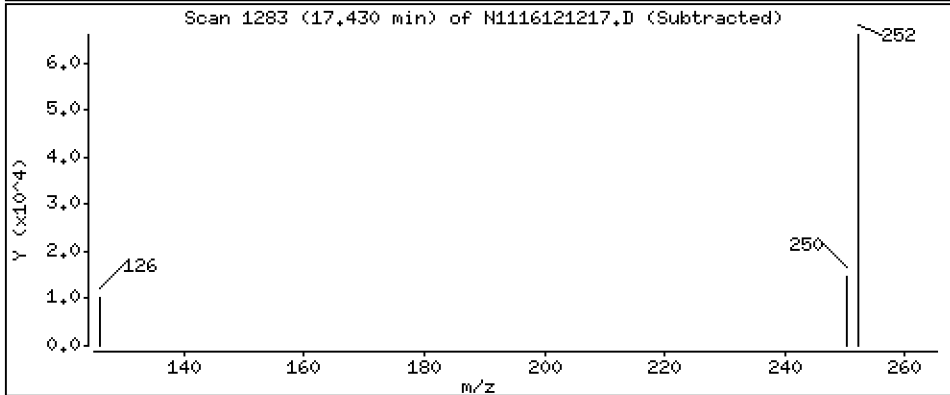
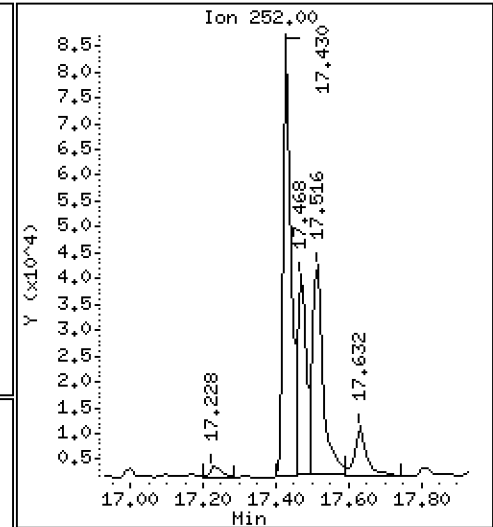
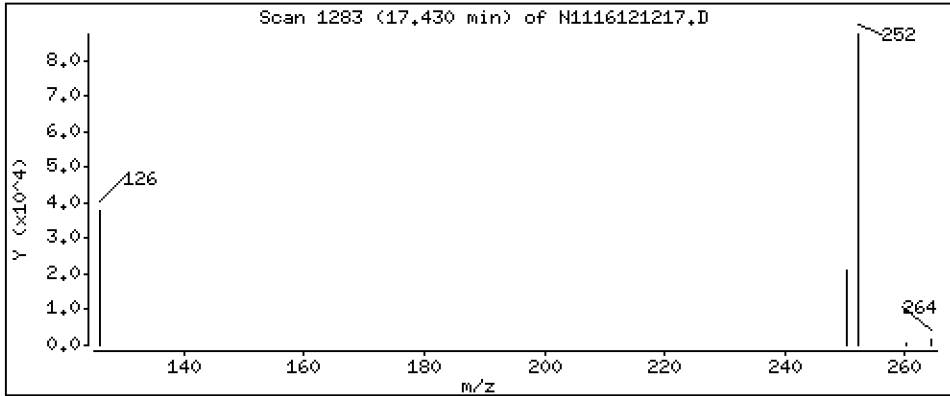
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 101 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

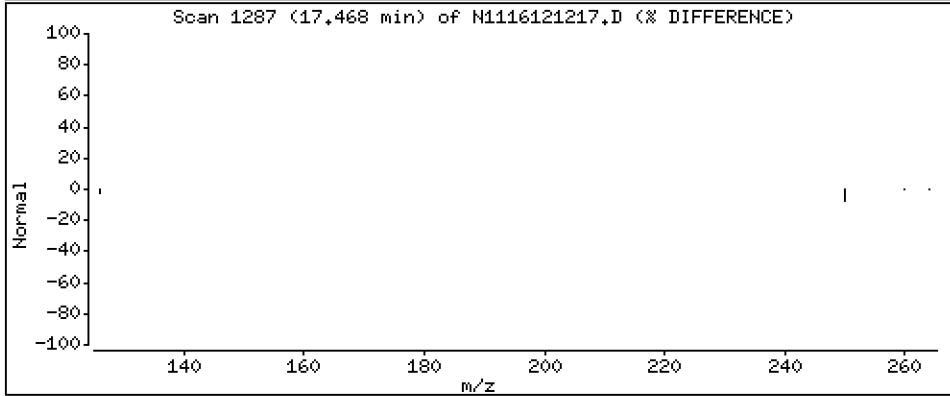
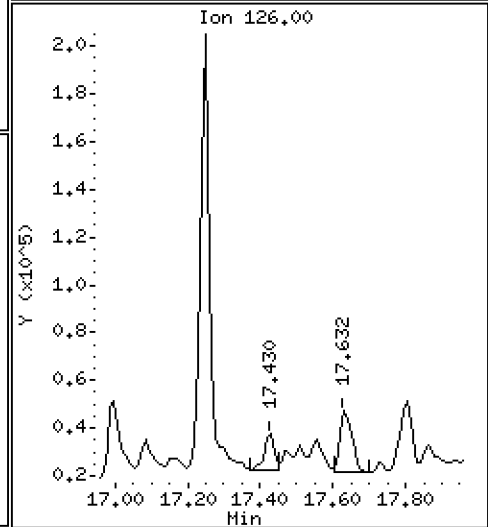
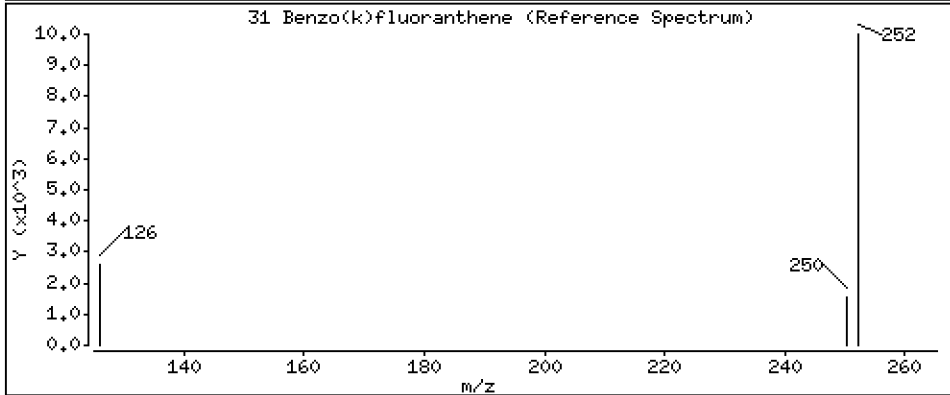
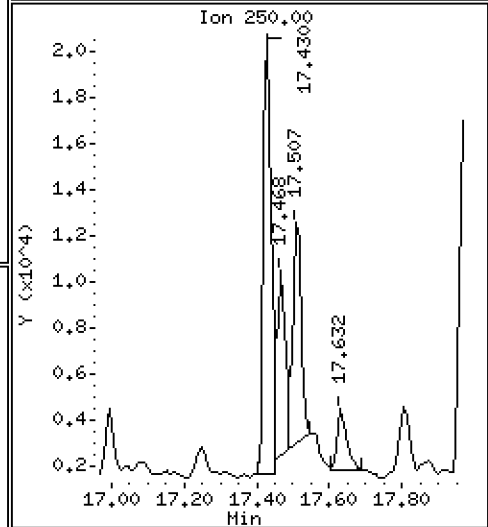
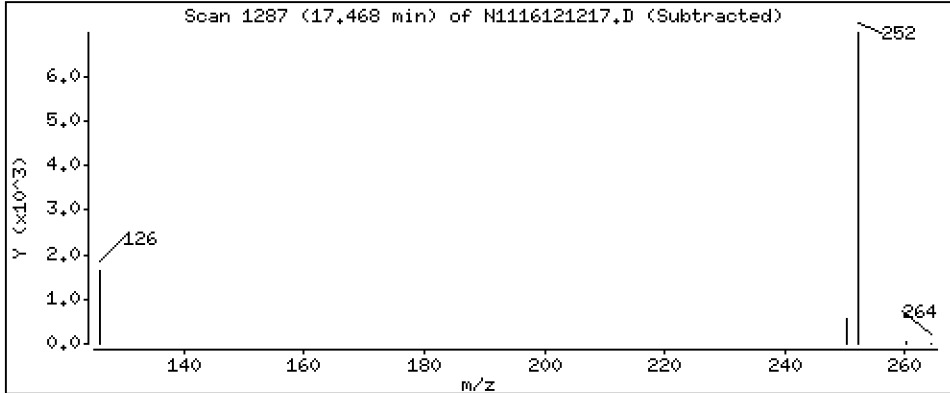
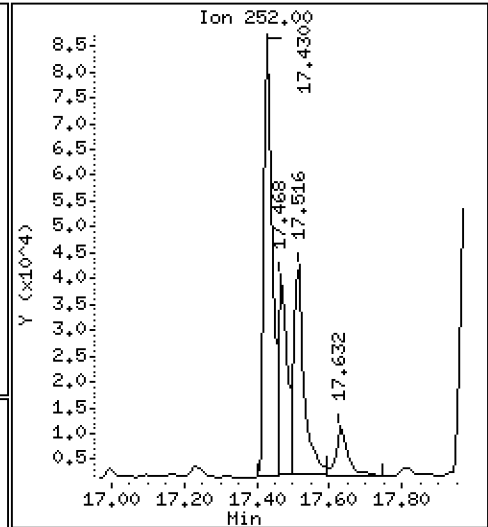
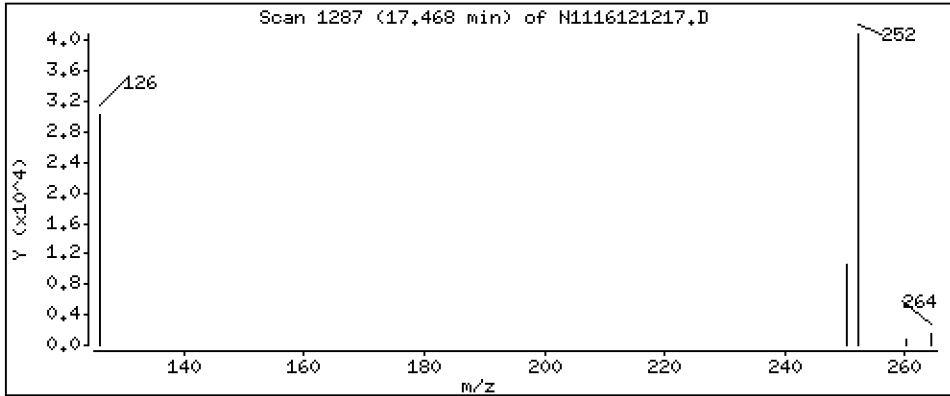
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 48,4 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

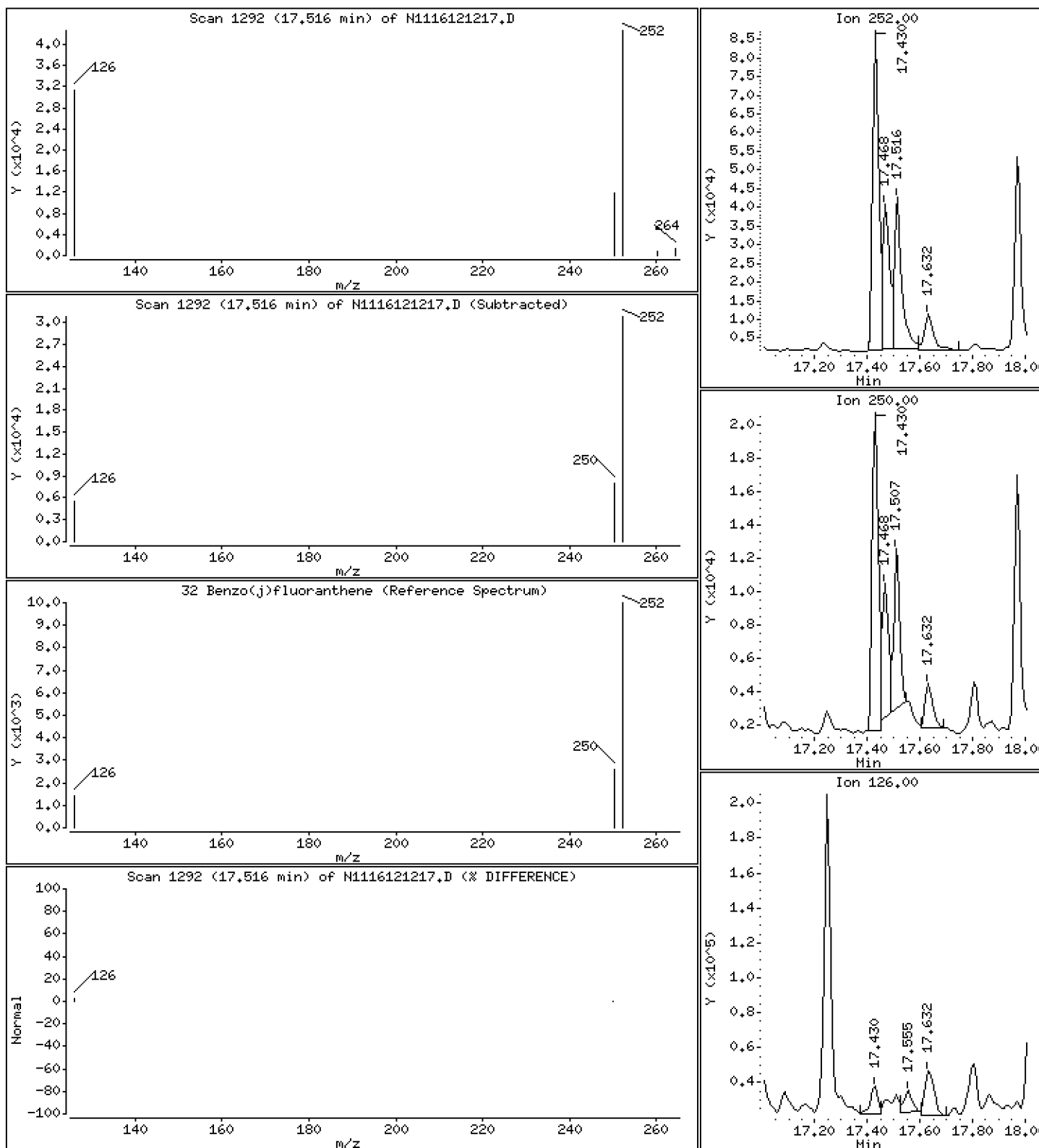
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 60,4 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

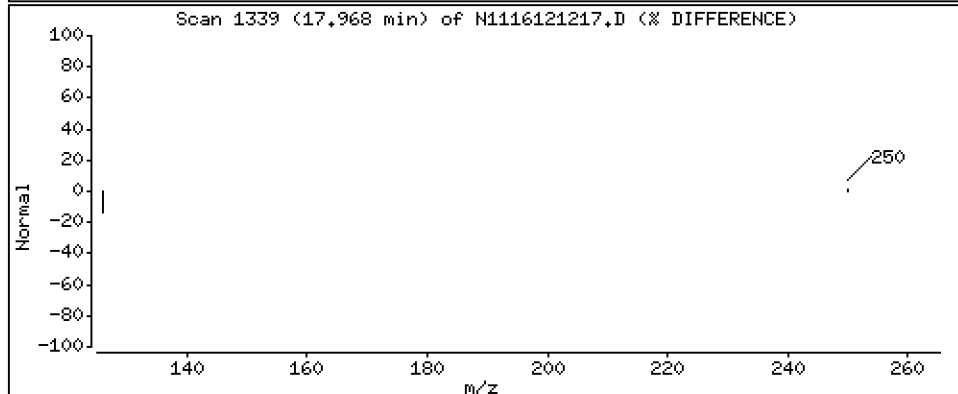
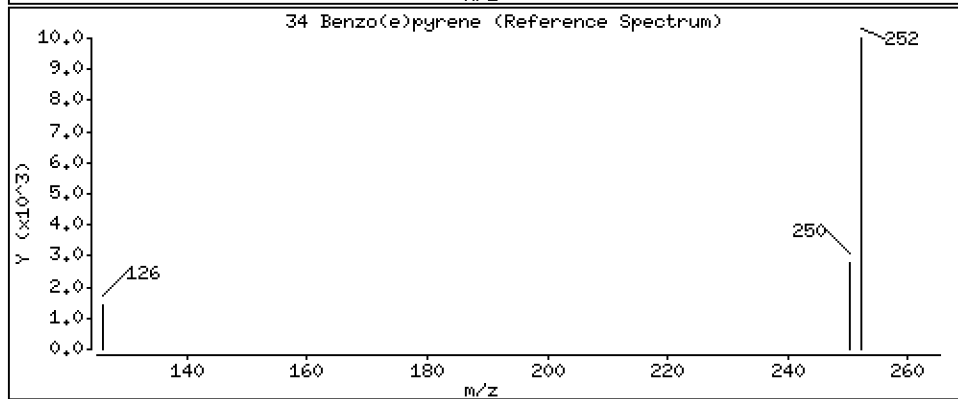
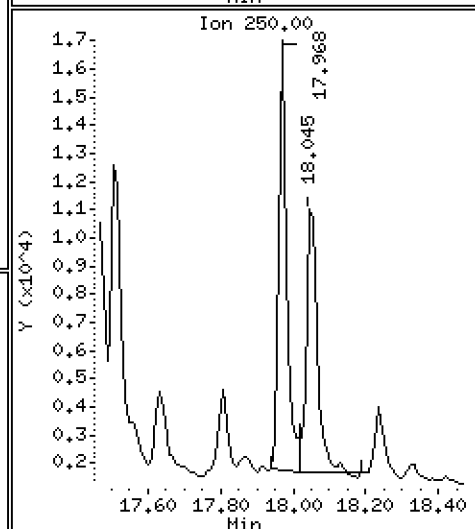
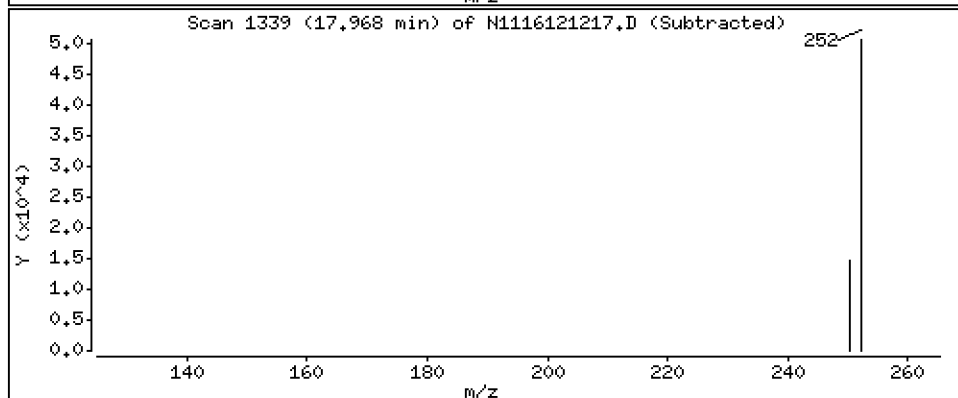
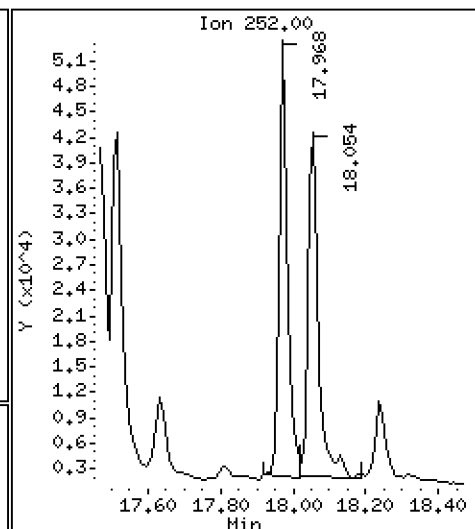
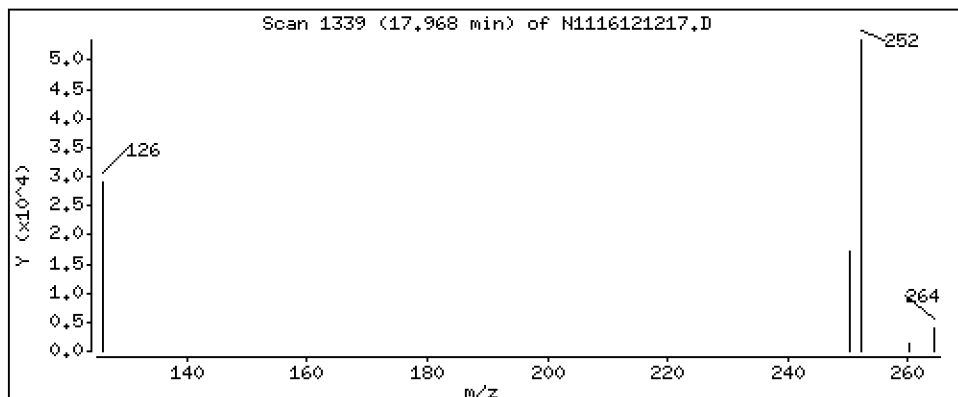
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 63,4 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

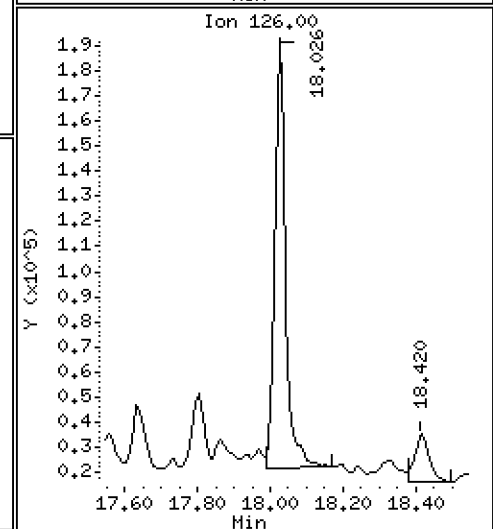
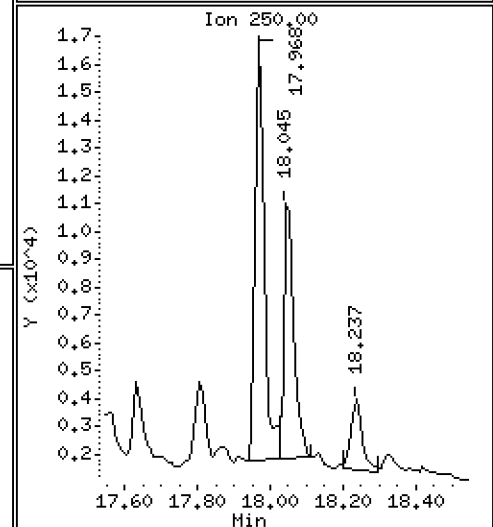
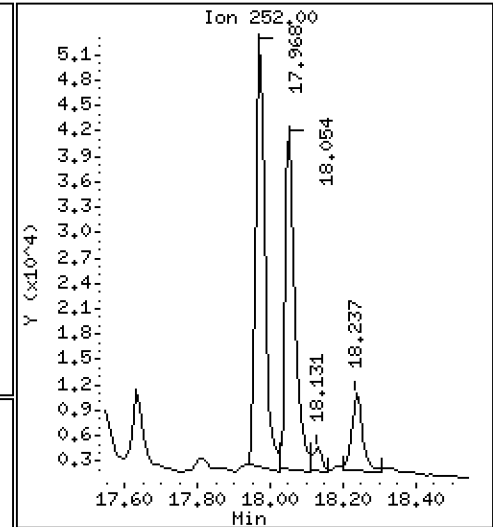
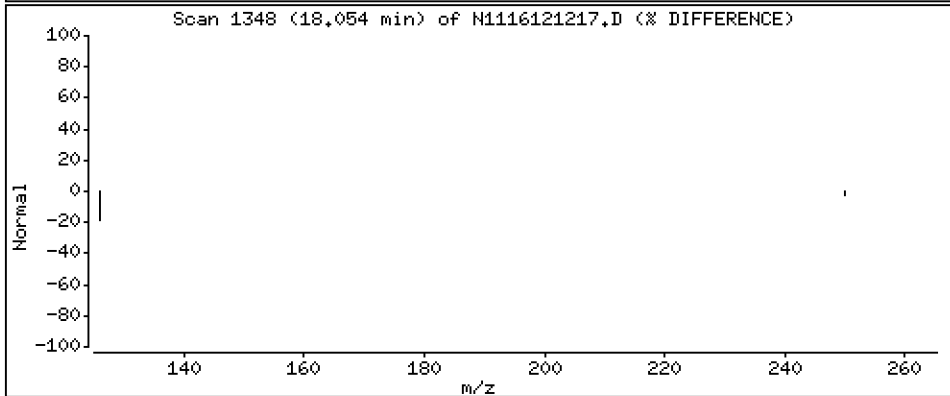
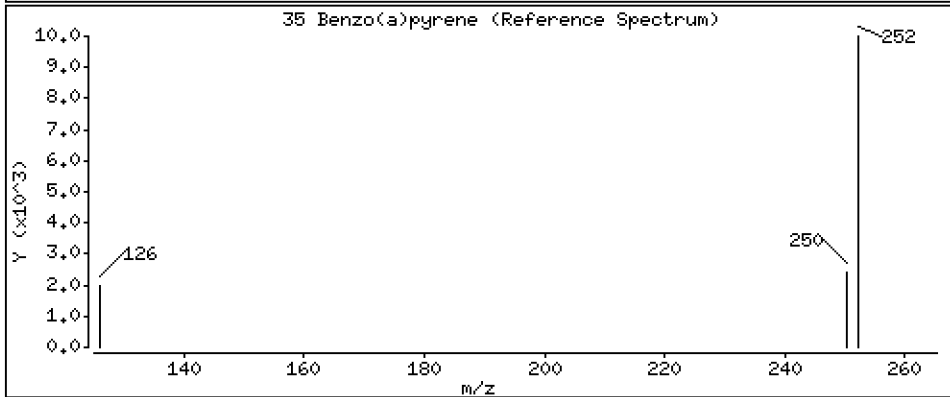
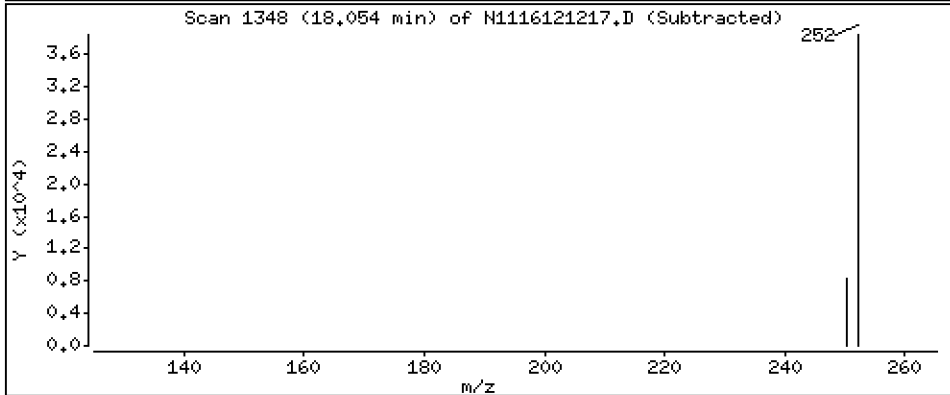
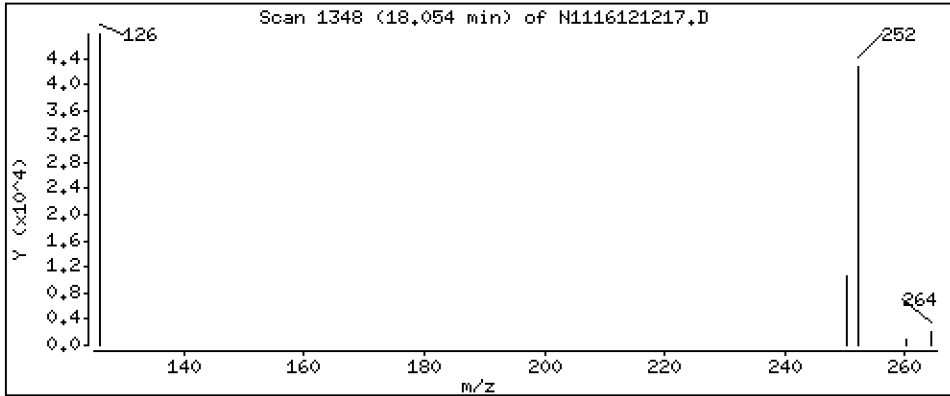
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 59,3 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

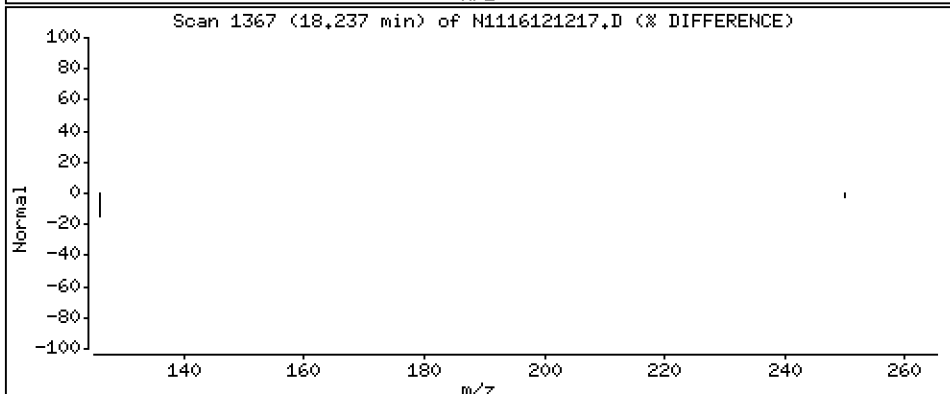
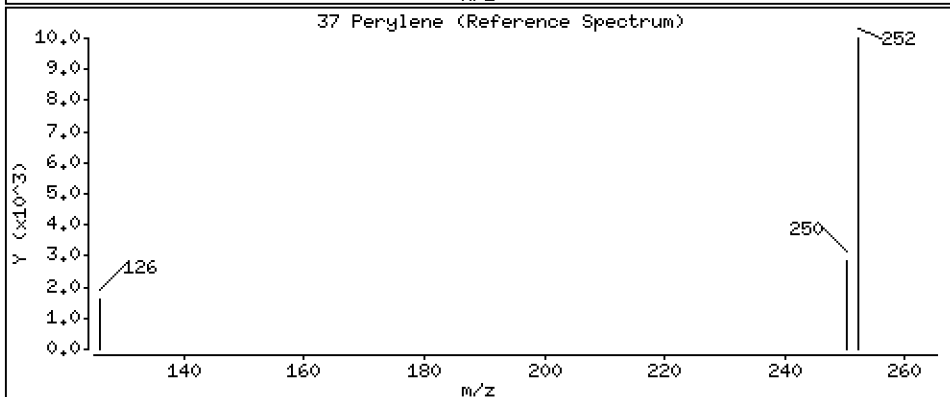
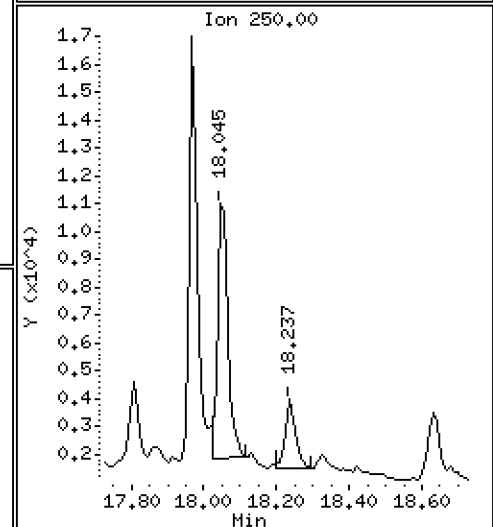
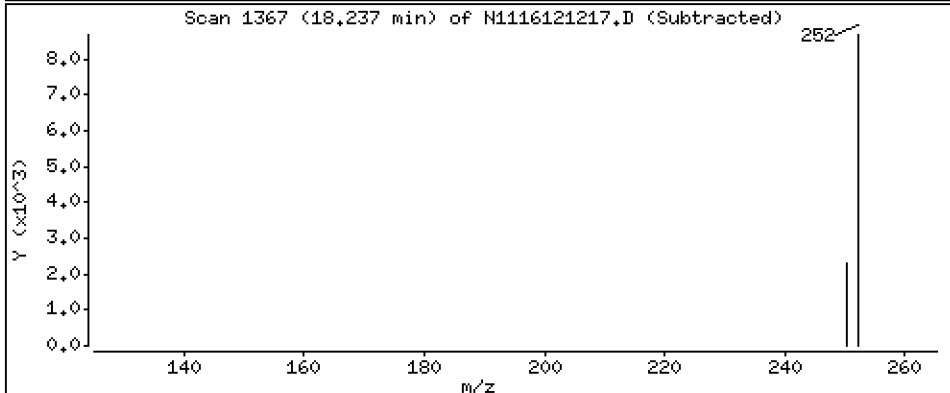
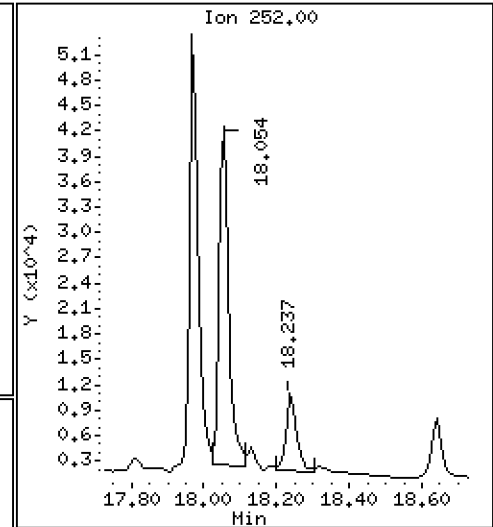
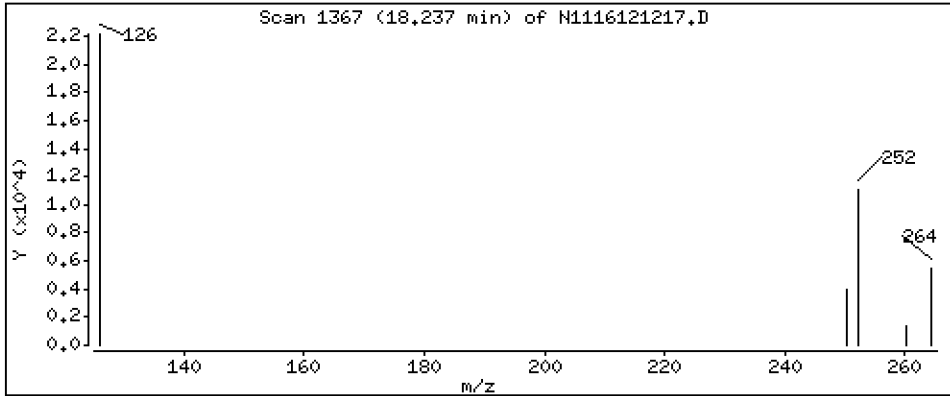
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 13,8 ng/mL

37 Perylene



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

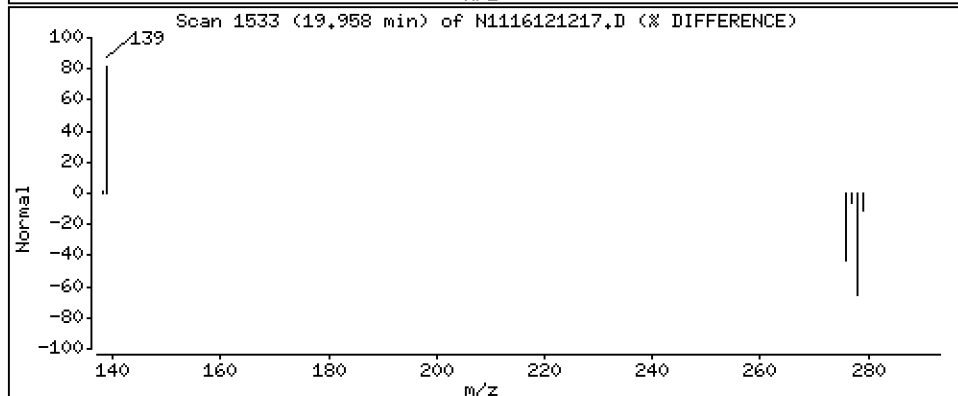
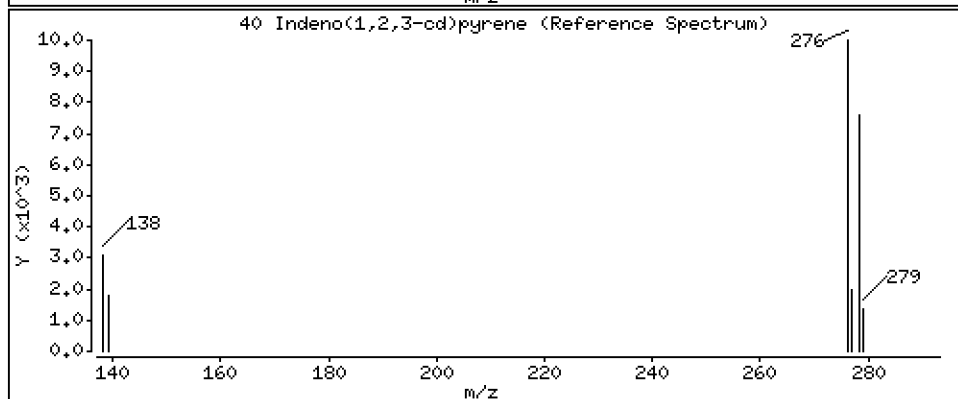
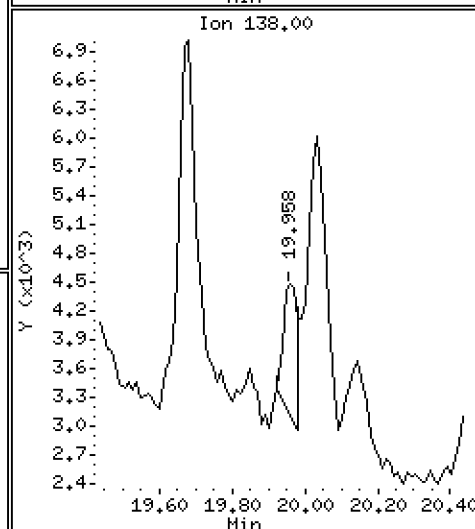
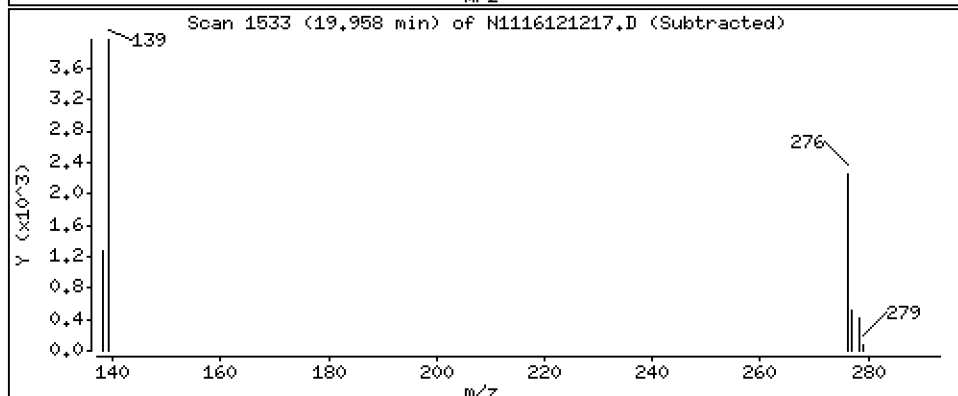
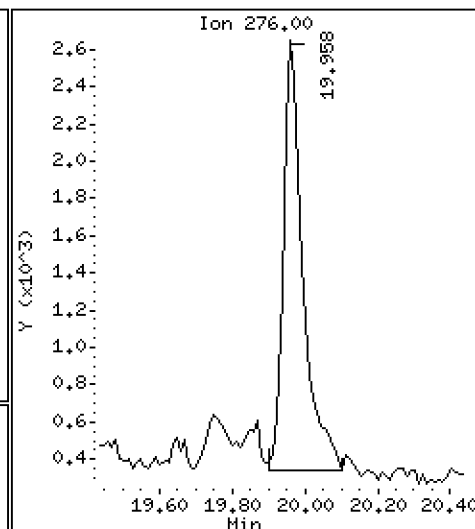
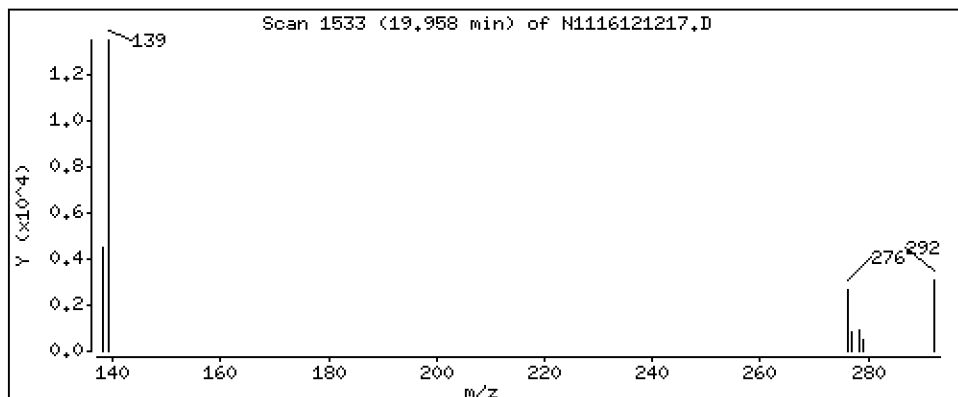
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 6,06 ng/mL



Date : 12-DEC-2016 16:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13

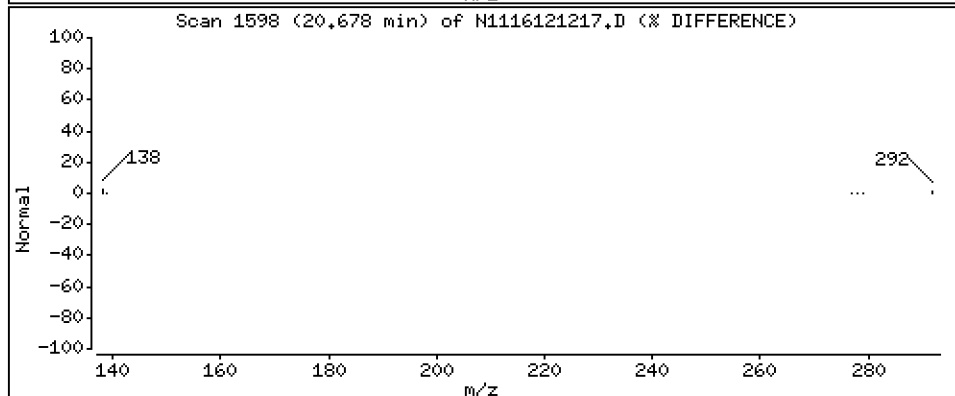
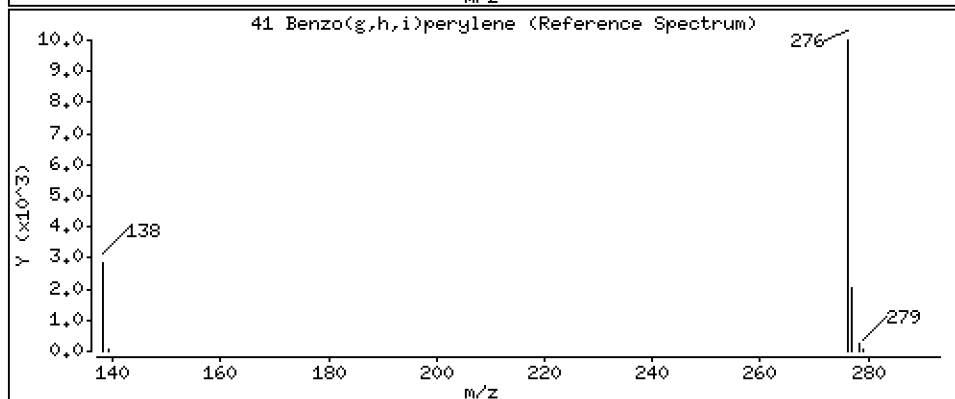
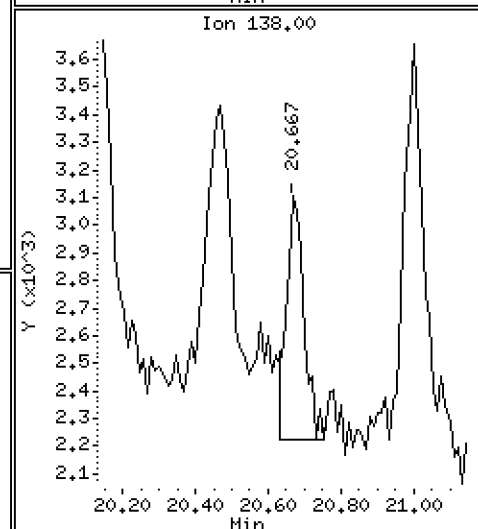
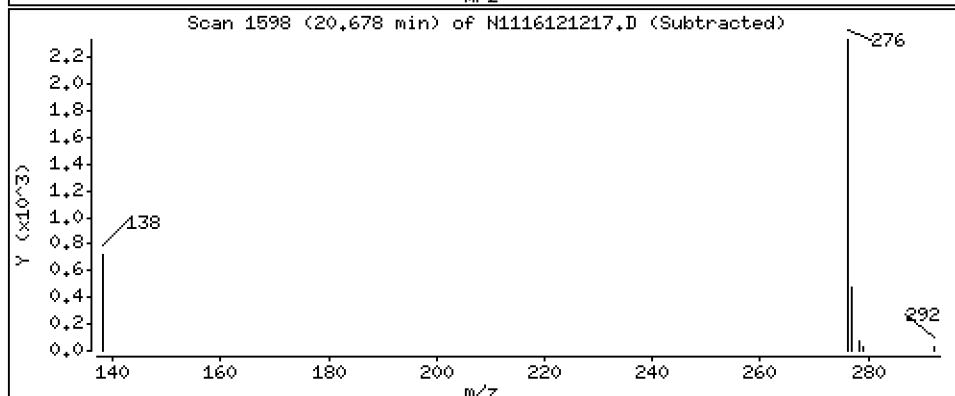
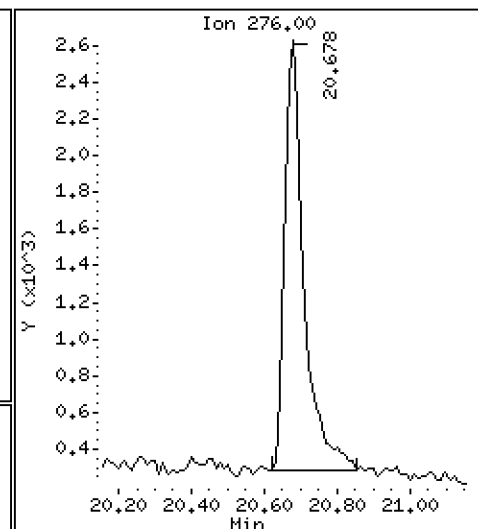
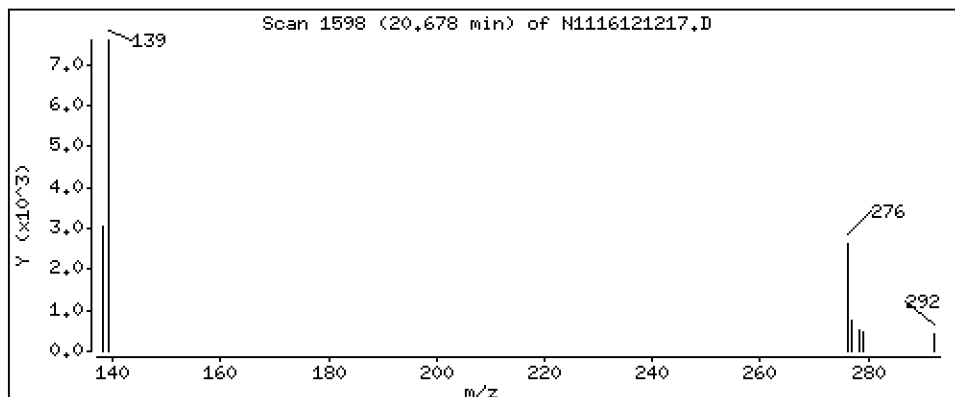
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 6,86 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121217.D
 Lab Smp Id: 16K0321-13
 Inj Date : 12-DEC-2016 16:29 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-13
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 16
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	303642	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	237206	151.942	152
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.494	6.505	(1.175)	211380	184.651	185
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	440623	336.169	336
6 1-Methylnaphthalene	142		6.789	6.799	(1.228)	323573	251.702	252
7 2-Chloronaphthalene	162		7.408	7.429	(0.875)	11110	7.97595	7.98
8 Biphenyl	154		7.419	7.429	(0.876)	198241	103.709	104
9 2,6-Dimethylnaphthalene	156		7.461	7.482	(0.881)	606033	441.199	441
10 Acenaphthylene	152		8.321	8.321	(0.983)	80370	50.7618	50.8
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	171370	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	2063006	1899.19	1900
13 Dibenzofuran	168		8.725	8.738	(1.031)	1243285	805.399	805
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	170687	177.859	178 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	1971563	1653.13	1650
17 Dibenzothiophene	184		10.921	10.921	(0.985)	315291	208.334	208
* 18 Phenanthrene-d10	188		11.089	11.089	(1.000)	306185	200.000	
19 Phenanthrene	178		11.121	11.131	(1.003)	9687688	5267.39	5270
\$ 20 Anthracene-d10	188		11.142	11.152	(1.005)	24515	17.6723	17.7
21 Anthracene	178		11.184	11.184	(1.009)	1311392	757.739	758
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.116	12.116	(1.093)	738310	455.587	456
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.185)	353727	258.809	259
25 Fluoranthene	202		13.180	13.180	(1.189)	8627280	4834.33	4830
26 Pyrene	202		13.651	13.651	(0.867)	6396287	3765.08	3770
27 Benzo(a)anthracene	228		15.660	15.660	(0.994)	794883	540.714	541
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	261108	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	622361	381.701	382
30 Benzo(b)fluoranthene	252		17.429	17.420	(0.958)	142717	100.753	101
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.960)	74433	48.3615	48.4
32 Benzo(j)fluoranthene	252		17.516	17.506	(0.963)	86149	60.3833	60.4
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	124403	103.593	104

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	17.967	17.958	(0.988)	87309	63.4295	63.4	
35 Benzo(a)pyrene	252	18.054	18.044	(0.993)	76888	59.2847	59.3	
* 36 Perylene-d12	264	18.188	18.179	(1.000)	249195	200.000		
37 Perylene	252	18.237	18.227	(1.003)	18601	13.8145	13.8	
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	195300	233.975	234	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	19.958	19.925	(1.097)	8724	6.06003	6.06	
41 Benzo(g,h,i)perylene	276	20.678	20.644	(1.137)	8537	6.86418	6.86	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121217.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-13
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	303642	-38.48
11 Acenaphthene-d10	240770	120385	481540	171370	-28.82
18 Phenanthrene-d10	429271	214636	858542	306185	-28.67
28 Chrysene-d12	387691	193846	775382	261108	-32.65
36 Perylene-d12	386259	193130	772518	249195	-35.48

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.33
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121217.D

Lab ID: 16K0321-13

nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 16:29

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
- Exception: 2-Chloronaphthalene 2.0000
- Exception: 2,6-Dimethylnaphthalene 2.0000
- Exception: 2,3,5-Trimethylnaphthalene 2.0000
- Exception: 1-Methylphenanthrene 2.0000
- Exception: Dibenzothiophene 2.0000
- Exception: Carbazole 2.0000
- Exception: Biphenyl 2.0000
- Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
- Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
- Exception: Fluoranthene-d10 (Surr) 0.1000
- Exception: Anthracene-d10 (Surr) 0.1000
- Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
- Exception: Fluorene-d10 (Surr) 0.1000

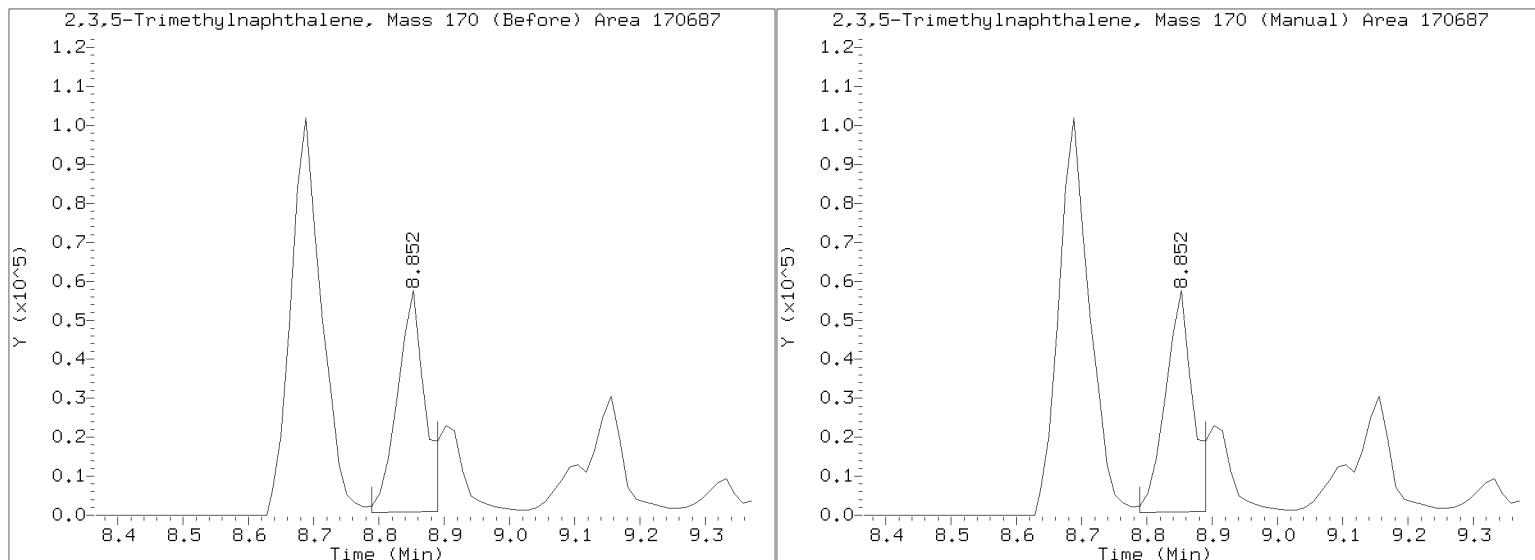
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121217.D

Injection Date: 12-DEC-2016 16:29

Lab ID:16K0321-13 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-13RE1 File ID: N1116121607.D
 Sampled: 11/22/16 09:20 Prepared: 11/24/16 08:25 Analyzed: 12/16/16 12:37
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0234 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	20	27.1	U	22.6	27.1
91-57-6	2-Methylnaphthalene	20	32.1	D, B	22.6	22.6
208-96-8	Acenaphthylene	20	52.1	D	22.6	22.6
83-32-9	Acenaphthene	20	165	D	22.6	22.6
86-73-7	Fluorene	20	153	D	22.6	22.6
85-01-8	Phenanthrene	20	681	D	22.6	22.6
120-12-7	Anthracene	20	79.5	D	22.6	22.6
206-44-0	Fluoranthene	20	715	D	22.6	22.6
129-00-0	Pyrene	20	390	D	22.6	22.6
56-55-3	Benzo(a)anthracene	20	47.2	D	22.6	22.6
218-01-9	Chrysene	20	34.4	D	22.6	22.6
205-99-2	Benzo(b)fluoranthene	20	22.6	U	22.6	22.6
207-08-9	Benzo(k)fluoranthene	20	22.6	U	22.6	22.6
50-32-8	Benzo(a)pyrene	20	22.6	U	22.6	22.6
193-39-5	Indeno(1,2,3-cd)pyrene	20	22.6	U	22.6	22.6
53-70-3	Dibenzo(a,h)anthracene	20	22.6	U	22.6	22.6
191-24-2	Benzo(g,h,i)perylene	20	22.6	U	22.6	22.6
1985-5-0	Perylene	20	22.6	U	22.6	22.6
197-97-2	Benzo(e)pyrene	20	22.6	U	22.6	22.6

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	18.1	53.6	30 - 160	NRS
Dibenzo[a,h]anthracene-d14	33.860	11.3	33.5	30 - 160	NRS
Fluoranthene-d10	33.860	24.7	73.0	30 - 160	NRS
Fluorene-d10	21.163	0.00		30 - 160	NRS
Anthracene-d10	21.163	500	2360	30 - 160	NRS
Benzo(e)pyrene-d12	21.163	0.00		30 - 160	NRS

Data File: \\target\share\chem3\nt11.1\20161216.16\N1116121607.D

Date: 16-DEC-2016 12:37

Client ID:

Sample Info: 16K0321-13.20

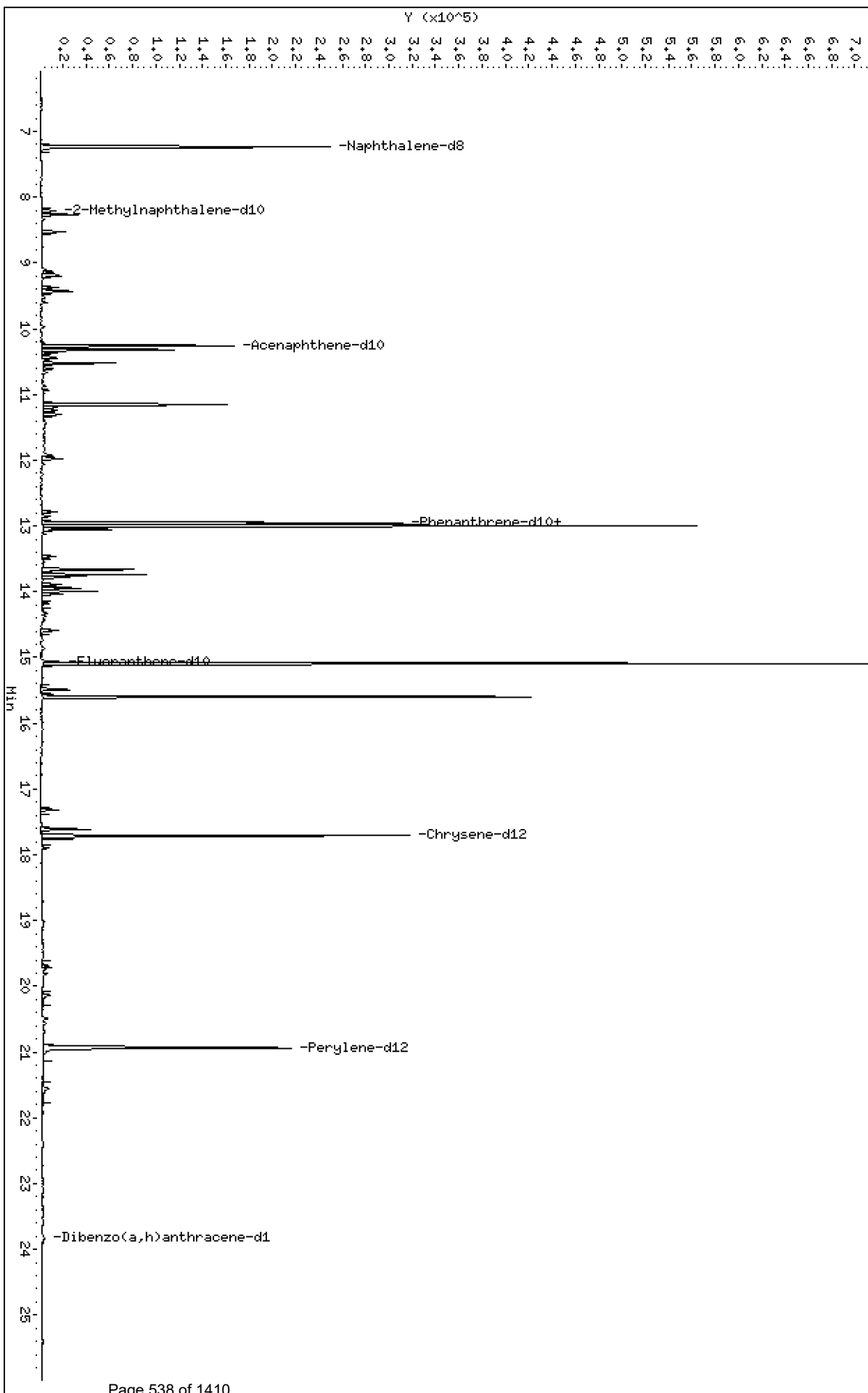
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161216.16\N1116121607.D



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

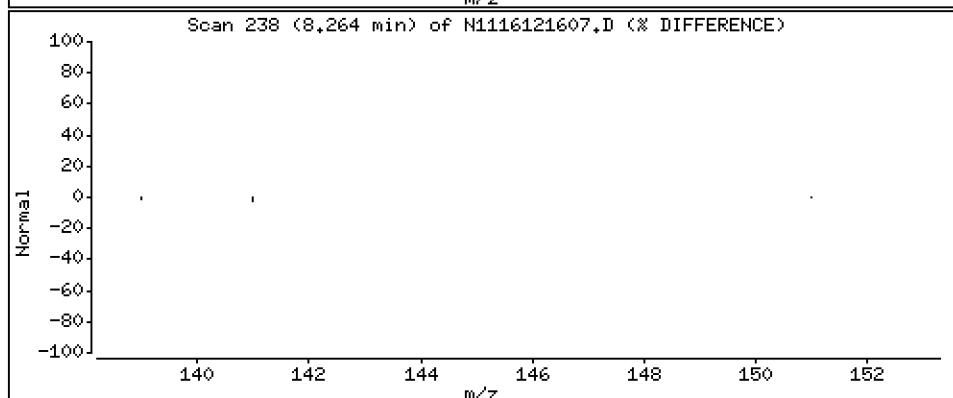
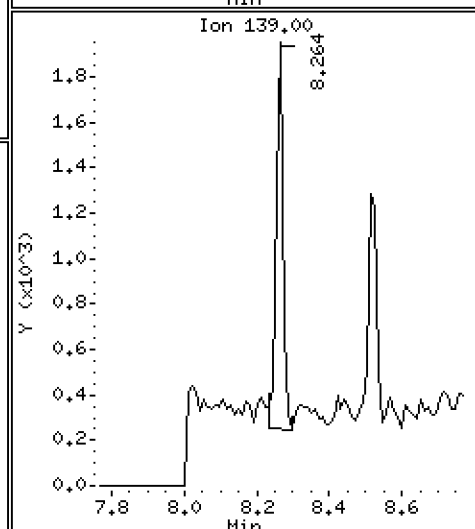
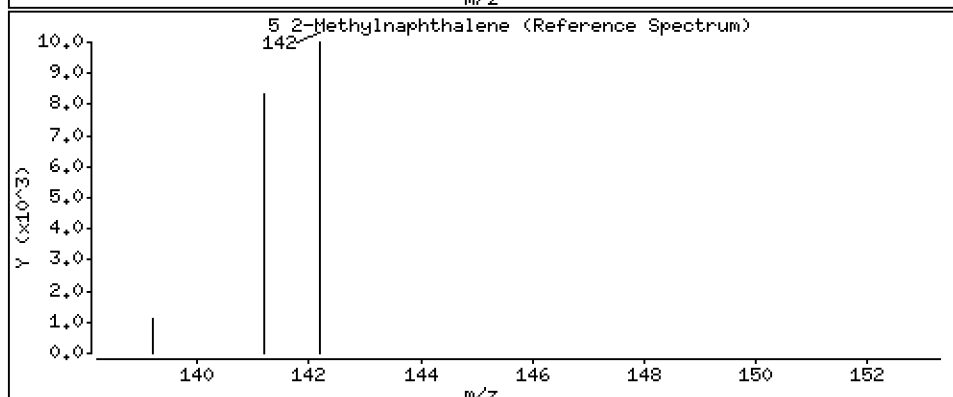
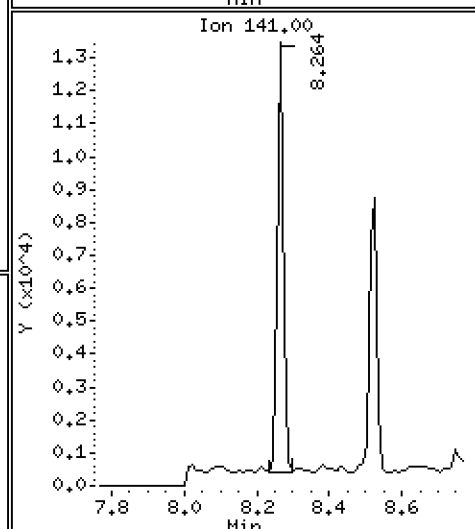
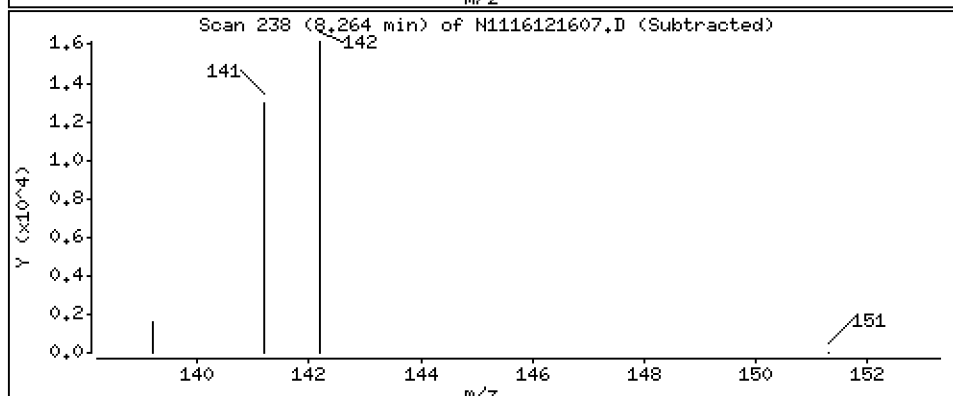
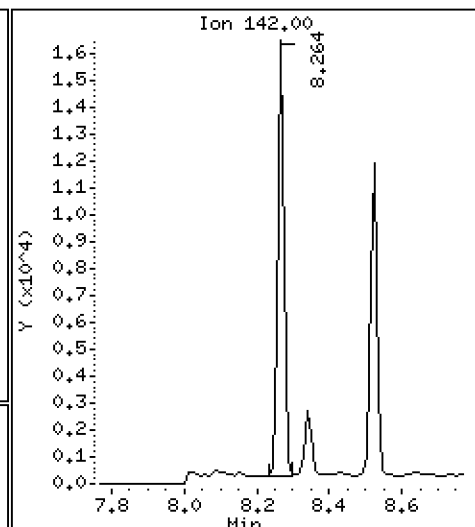
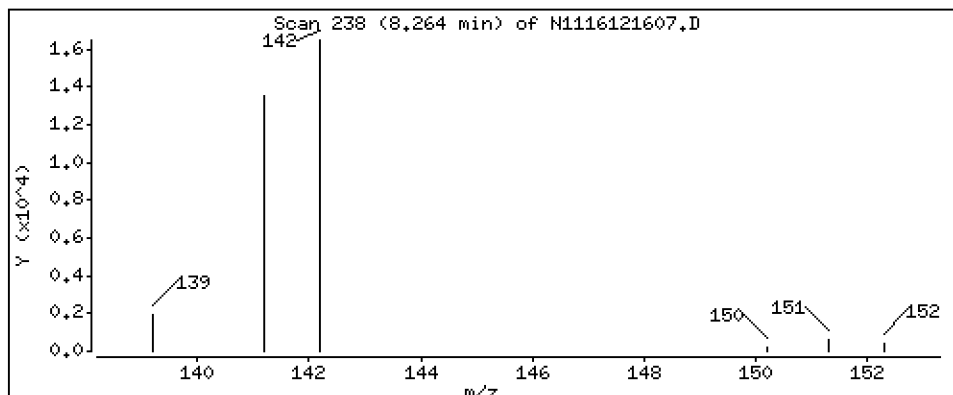
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 14,2 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

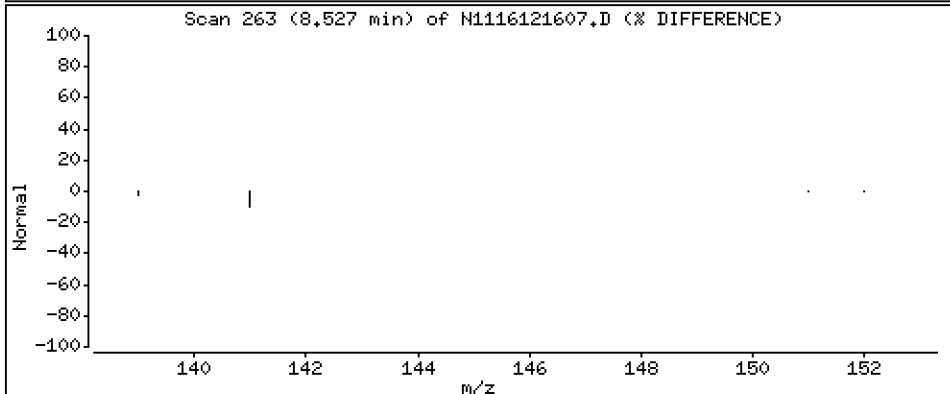
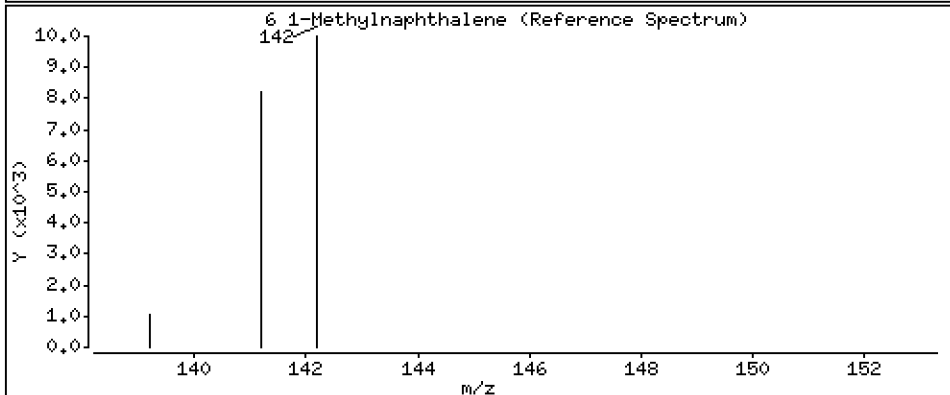
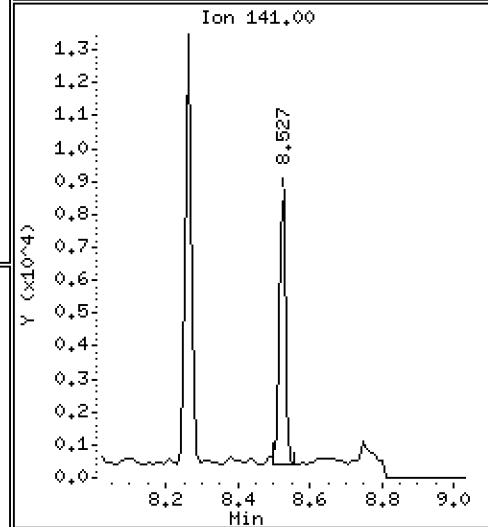
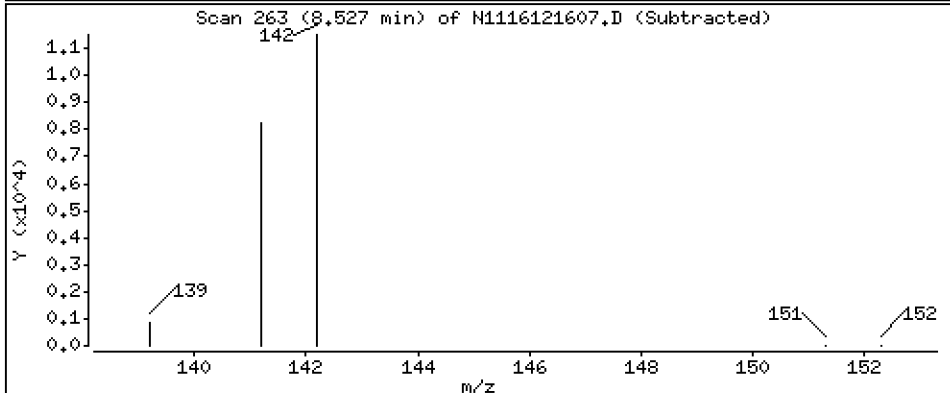
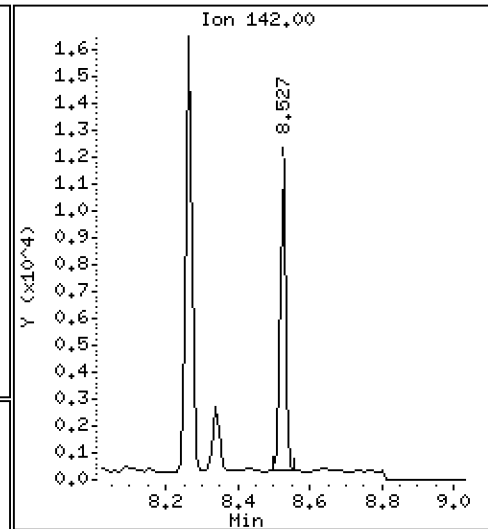
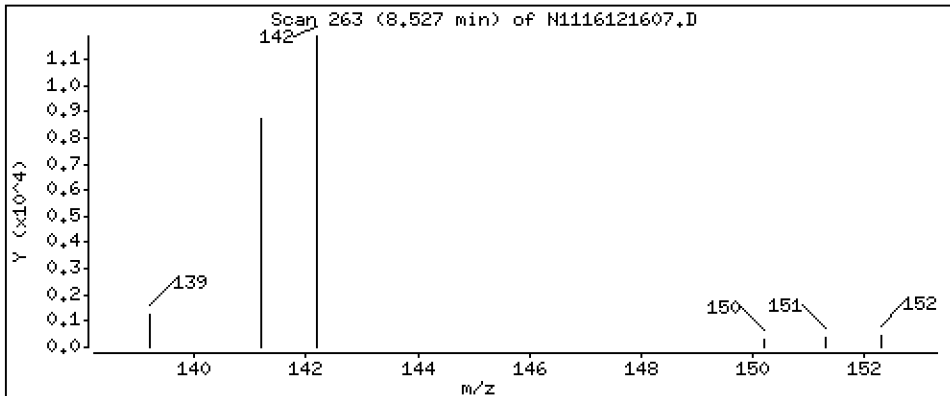
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 10,8 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

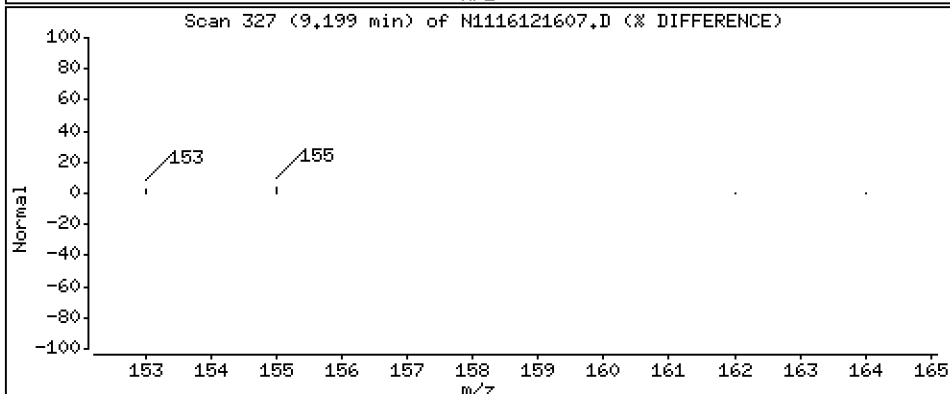
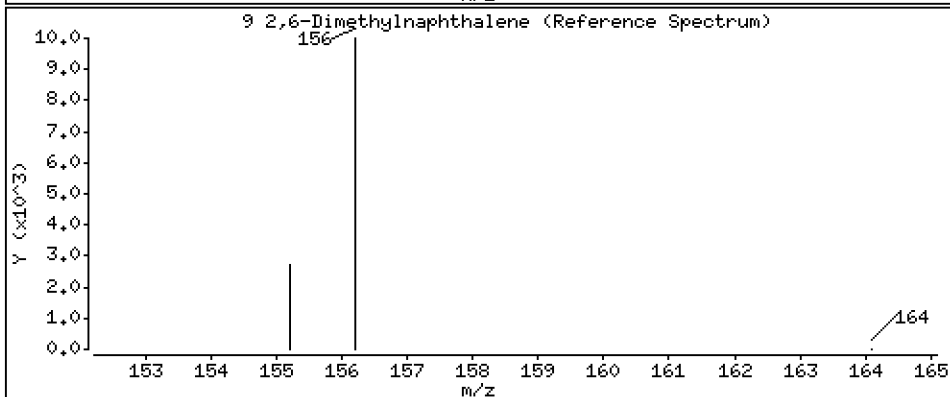
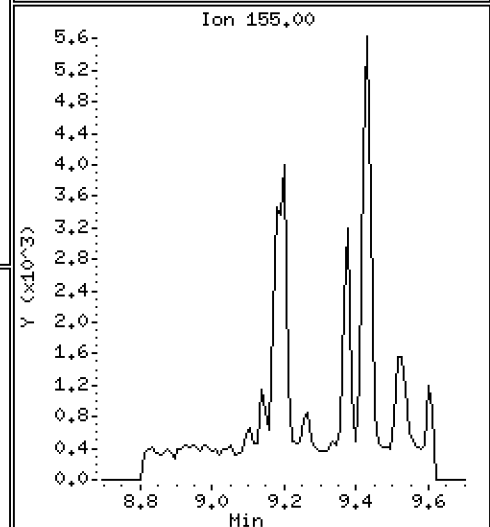
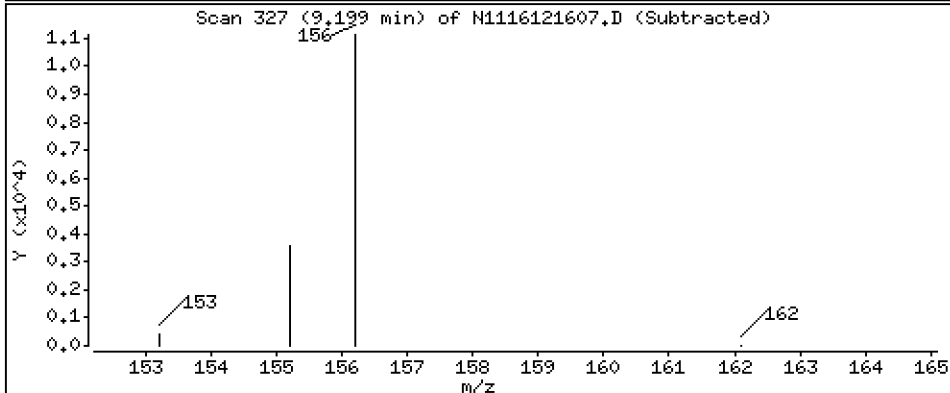
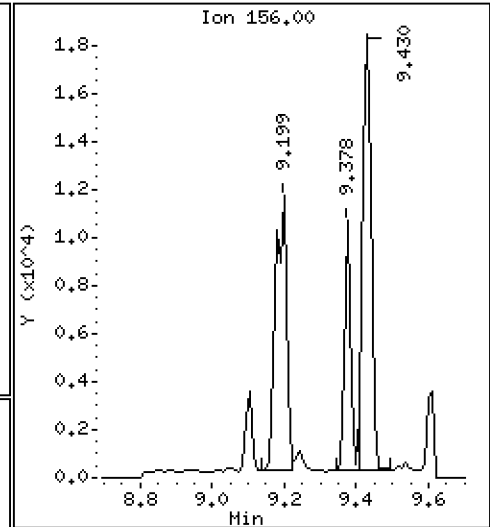
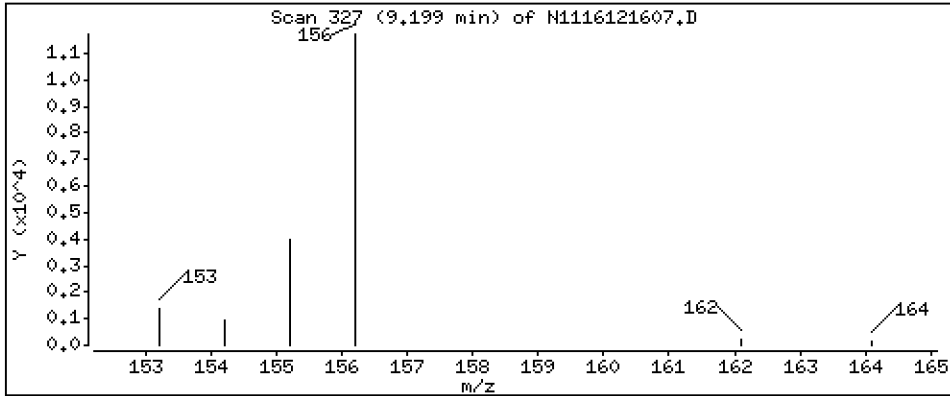
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 15,3 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

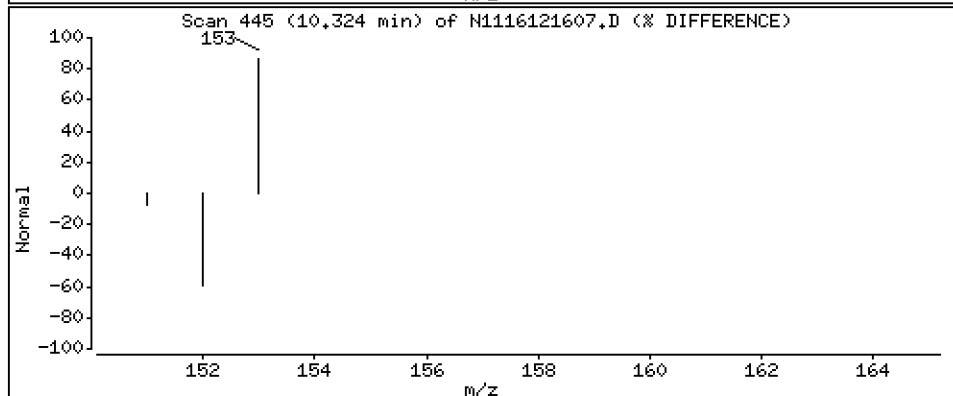
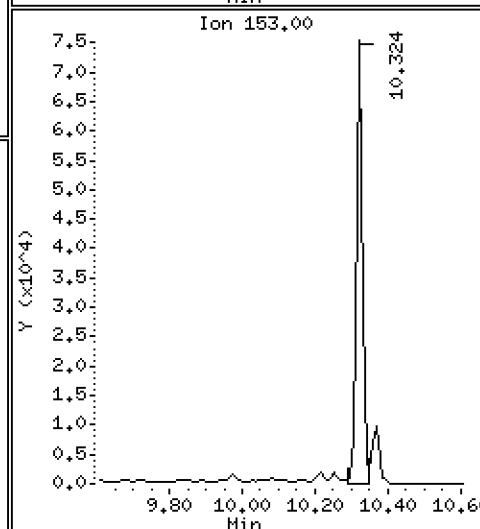
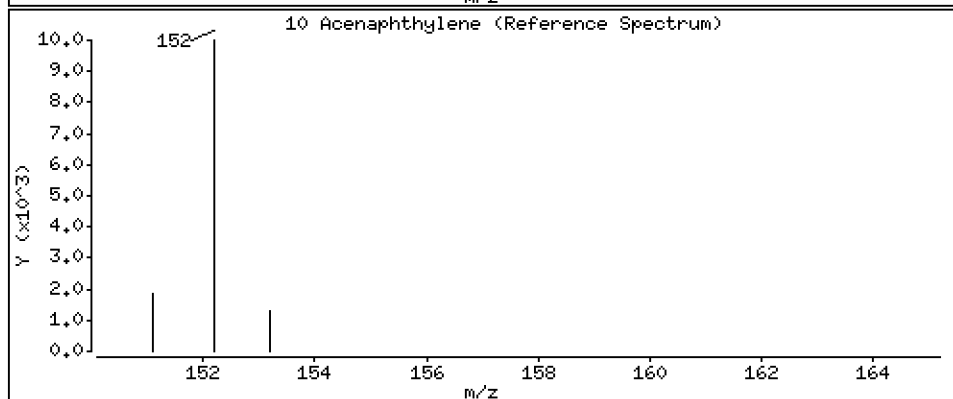
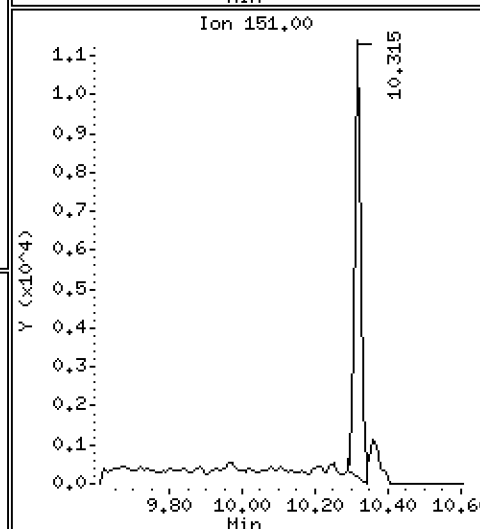
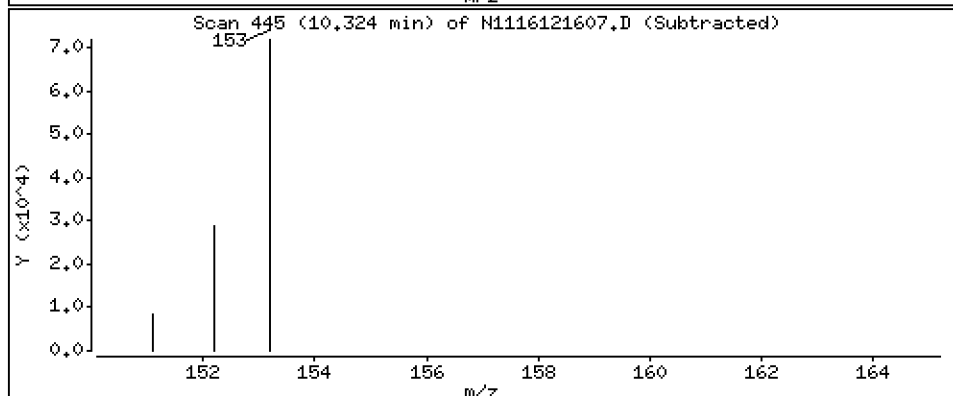
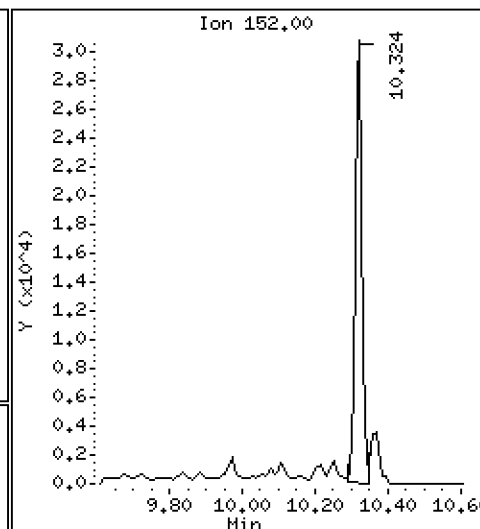
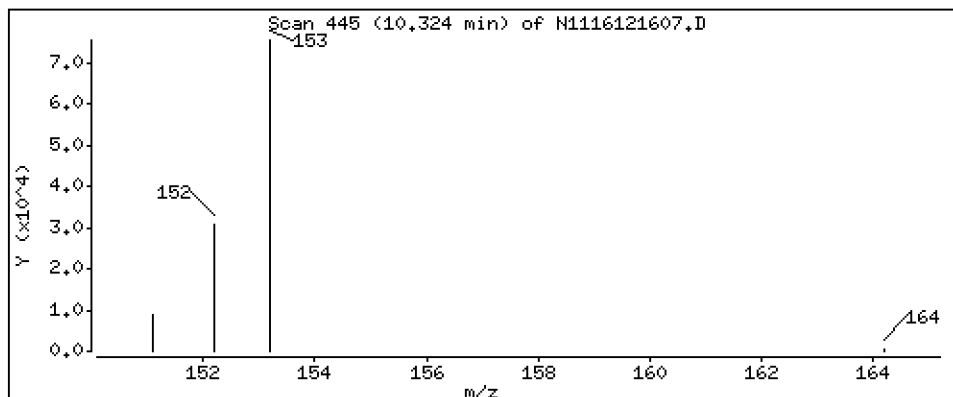
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 23,1 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

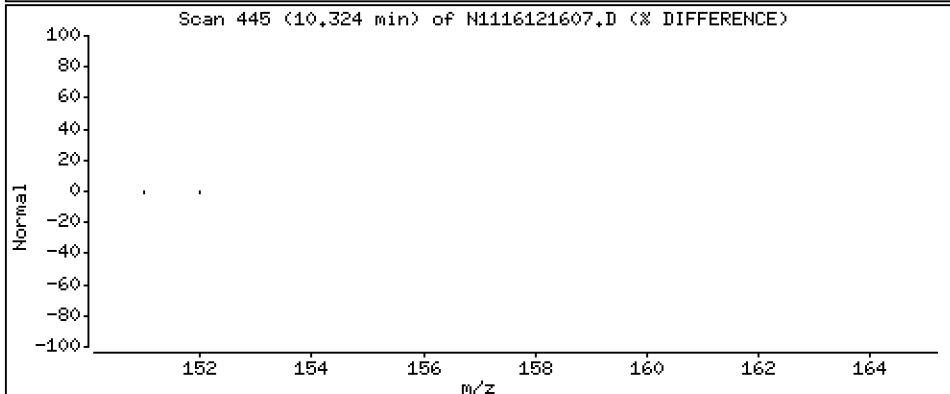
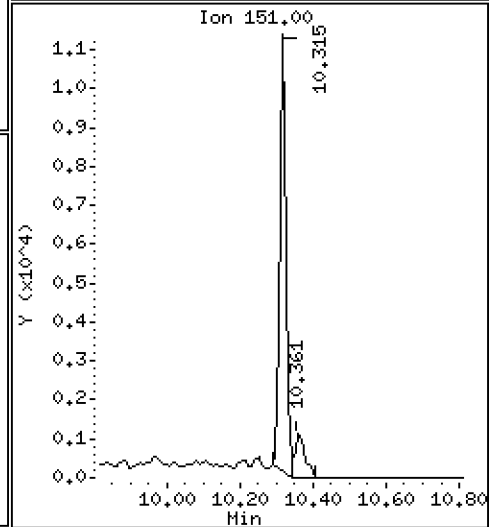
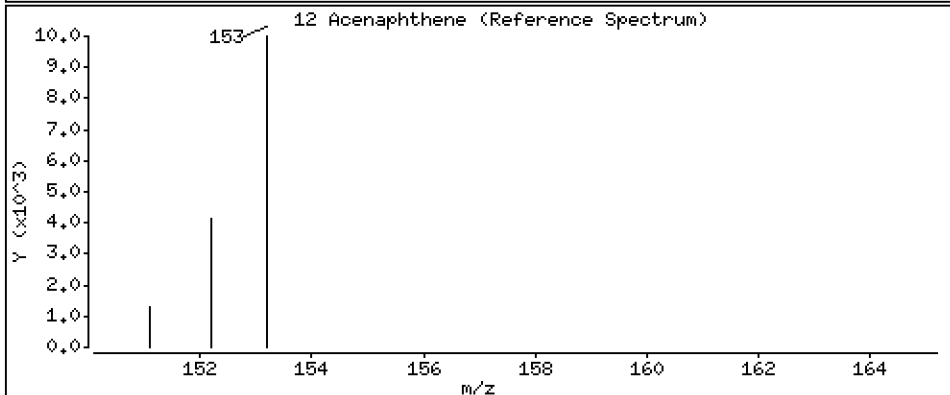
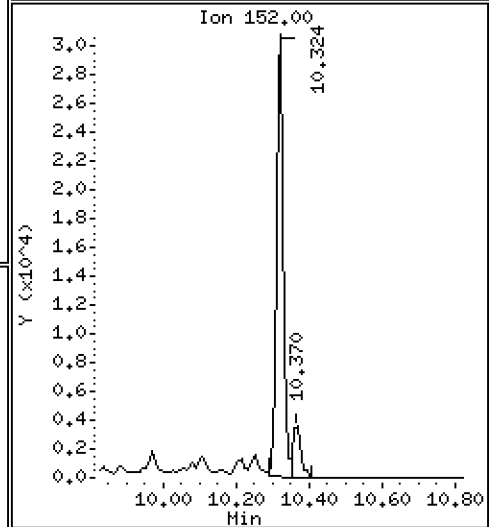
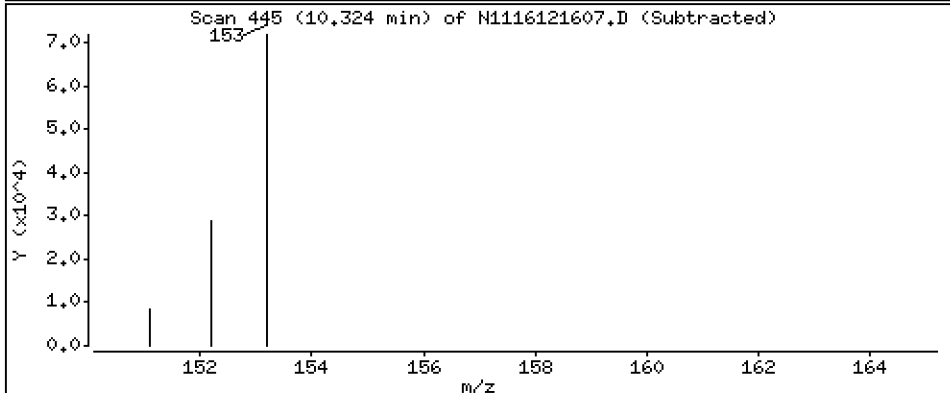
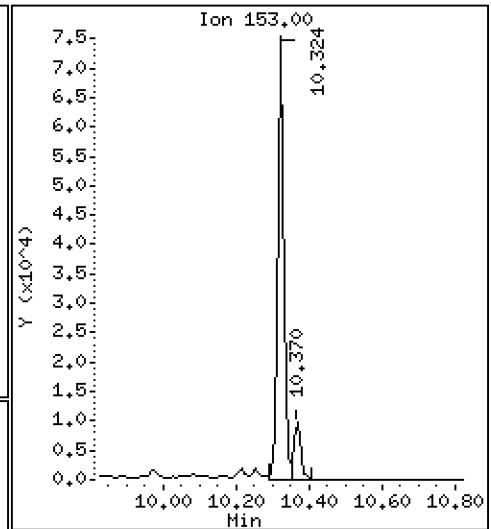
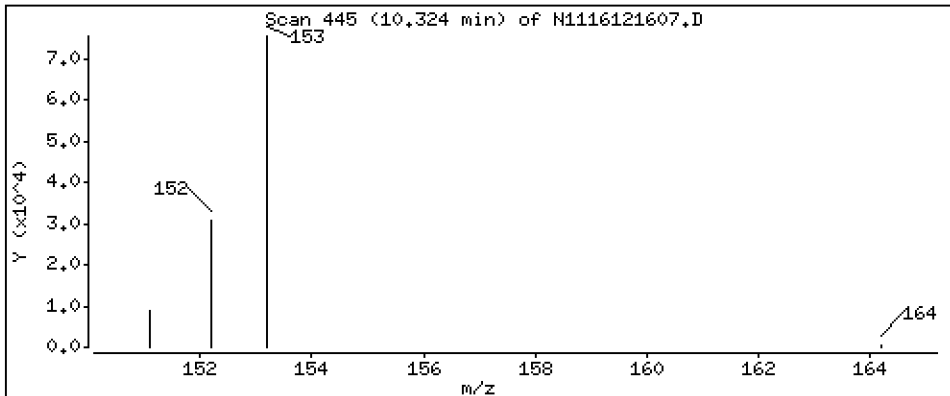
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 73,1 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

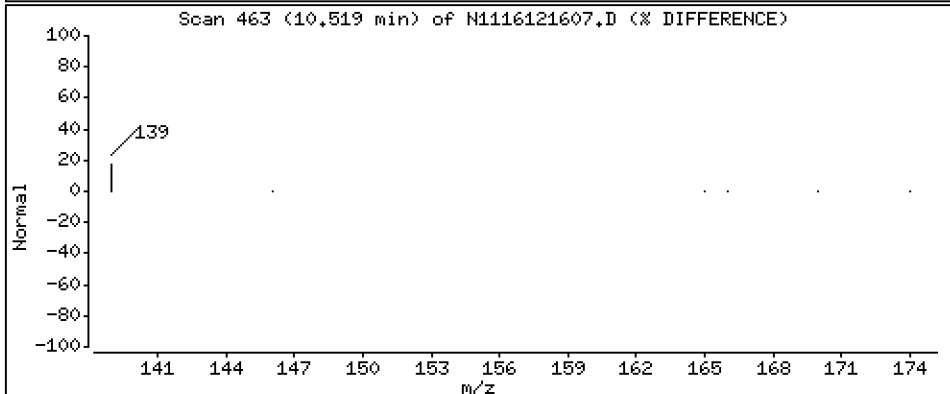
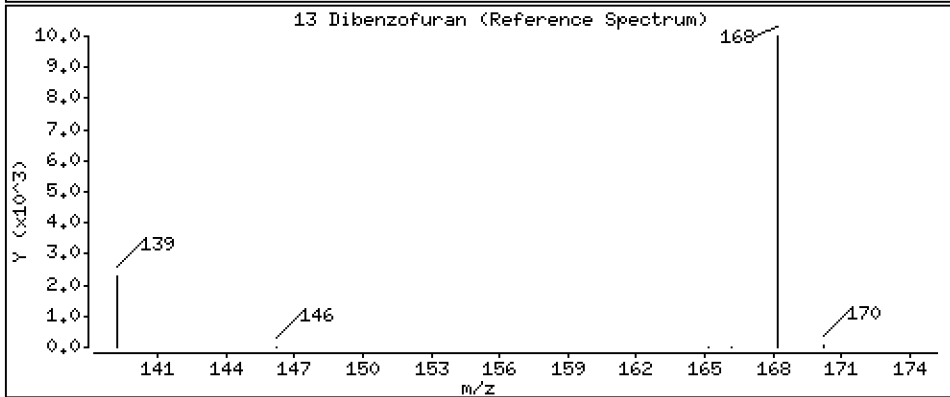
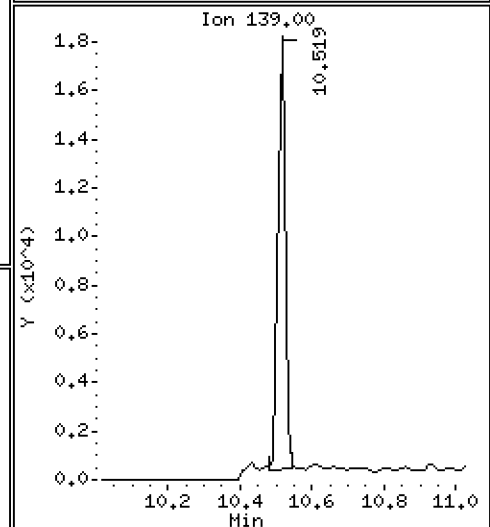
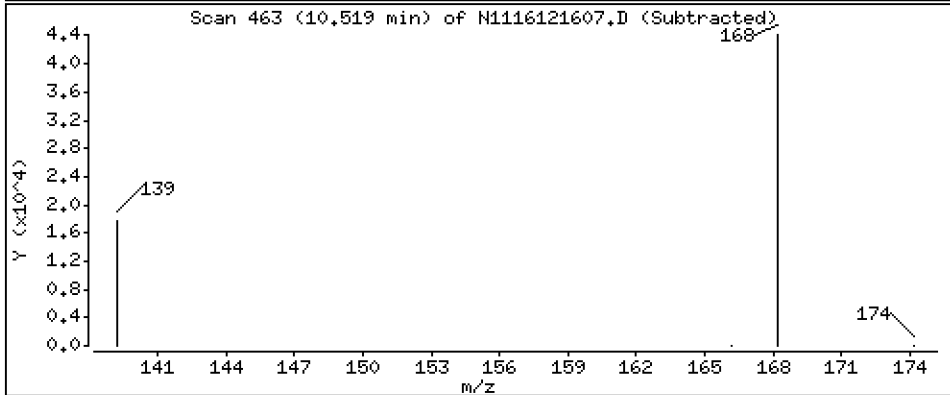
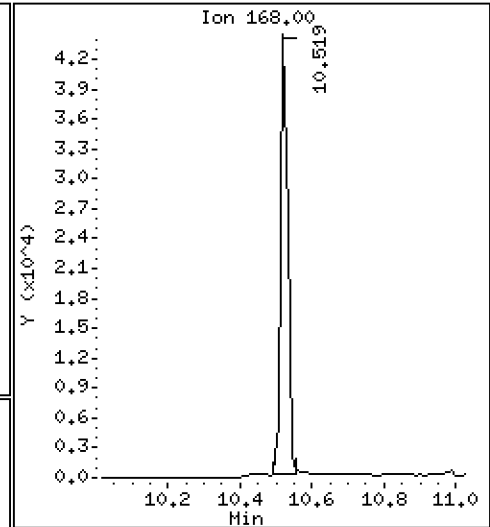
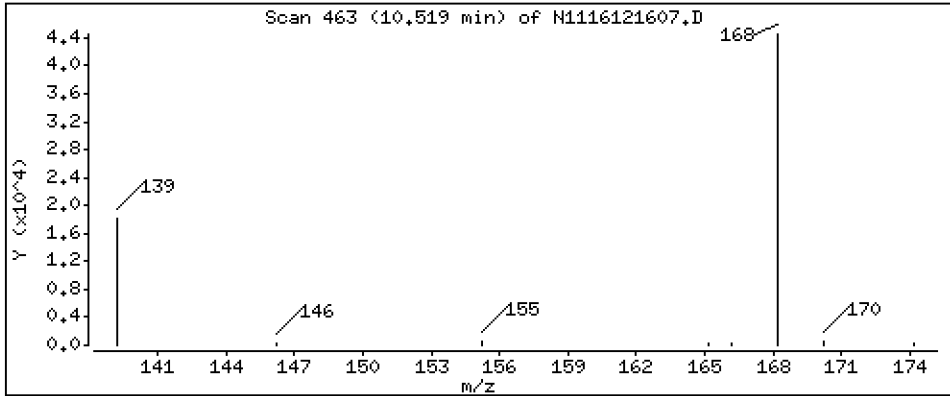
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 33,0 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

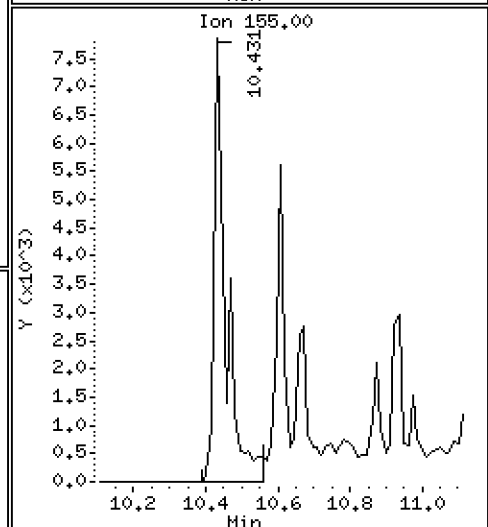
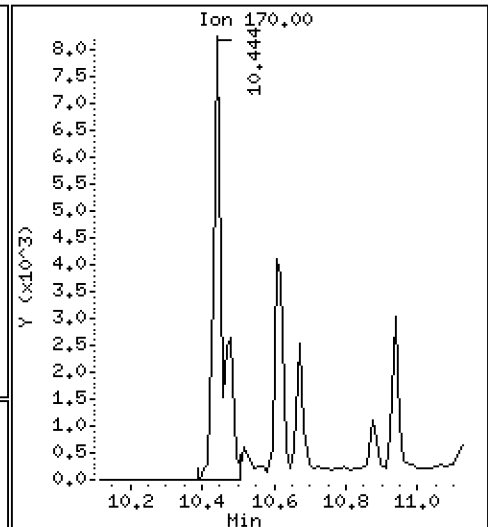
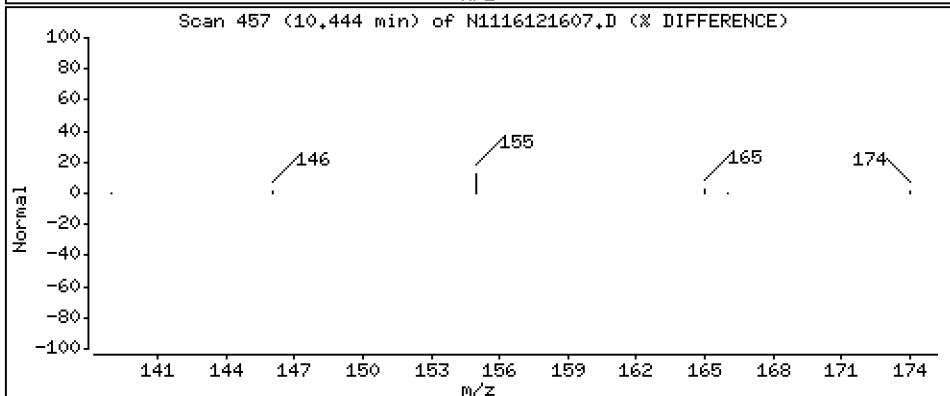
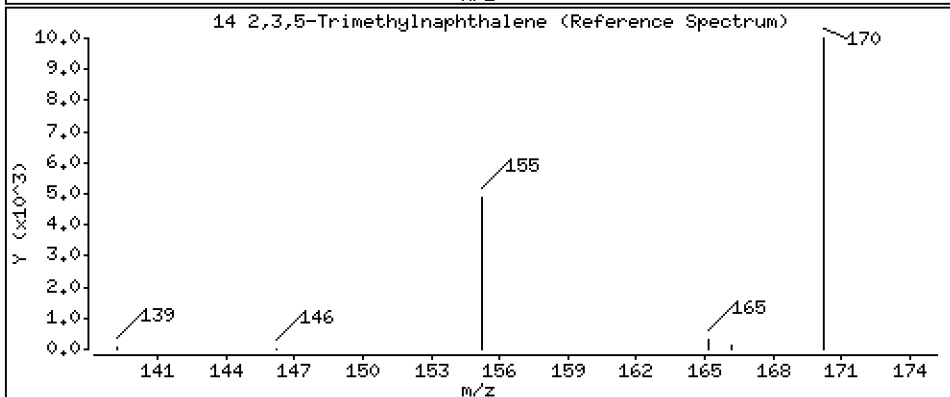
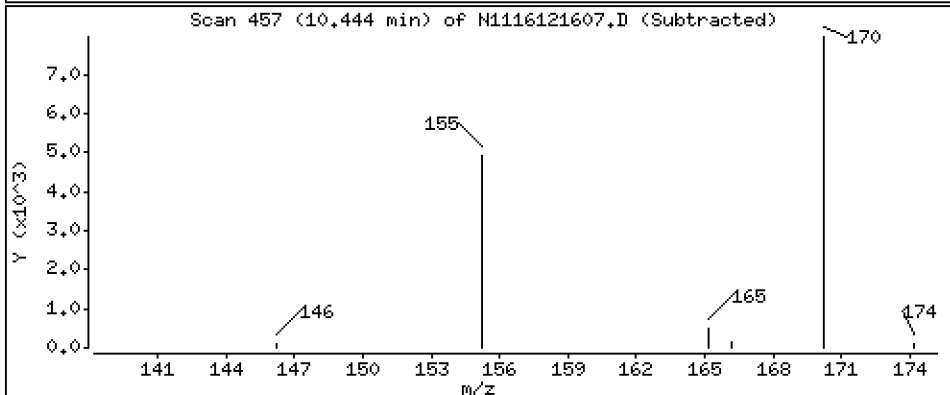
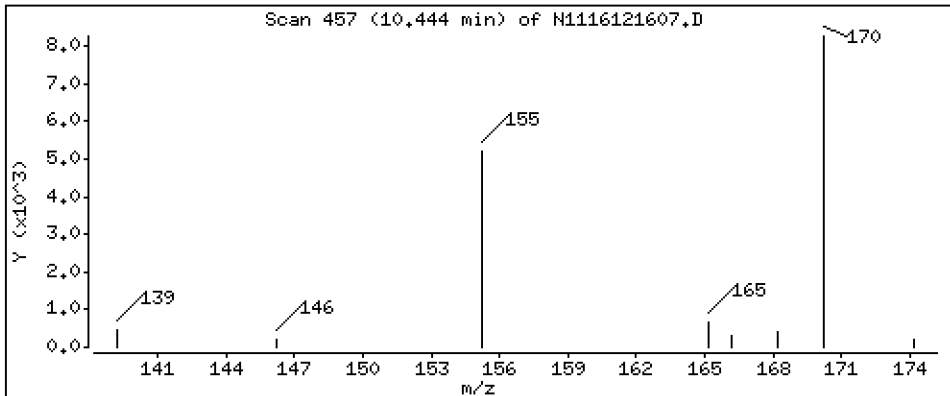
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 12,8 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

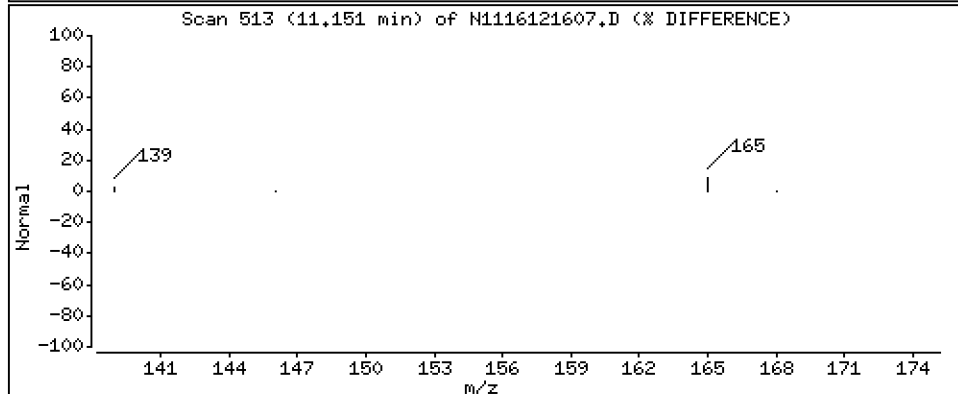
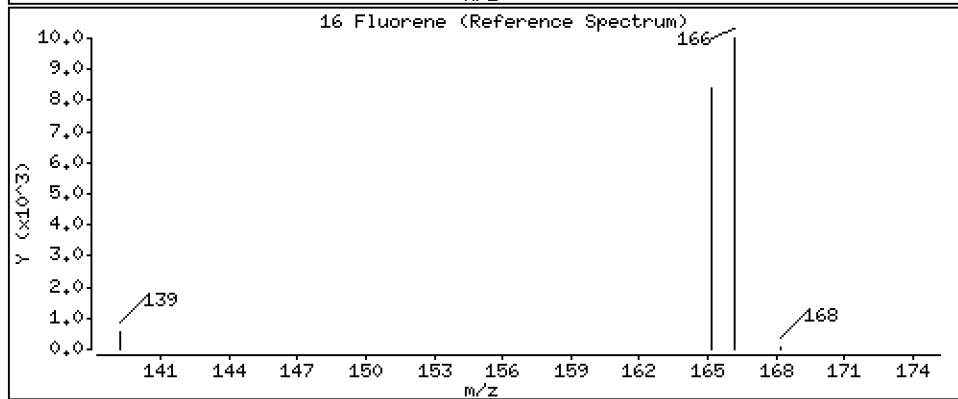
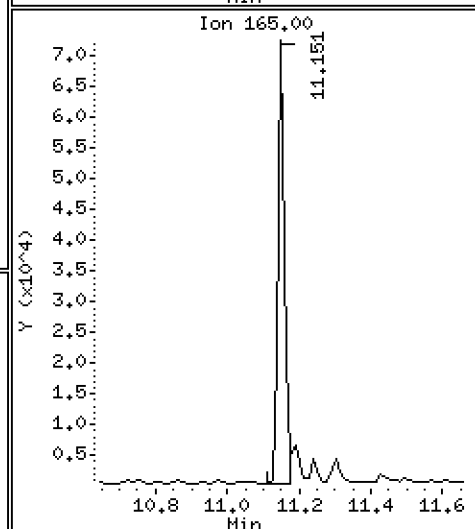
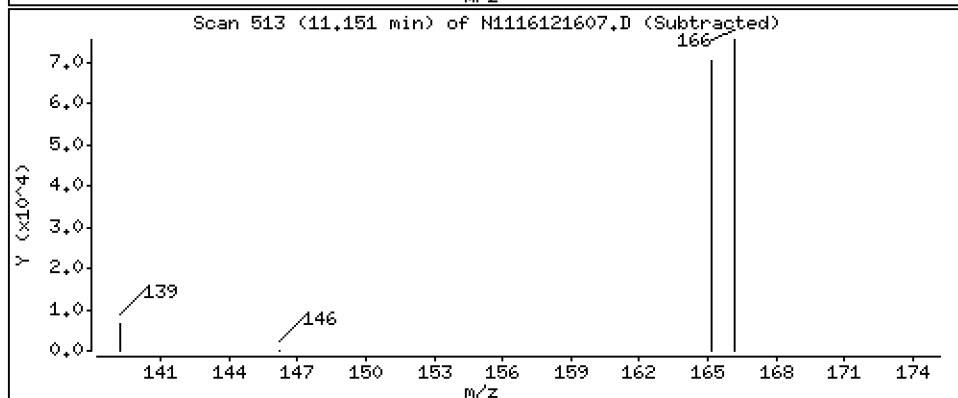
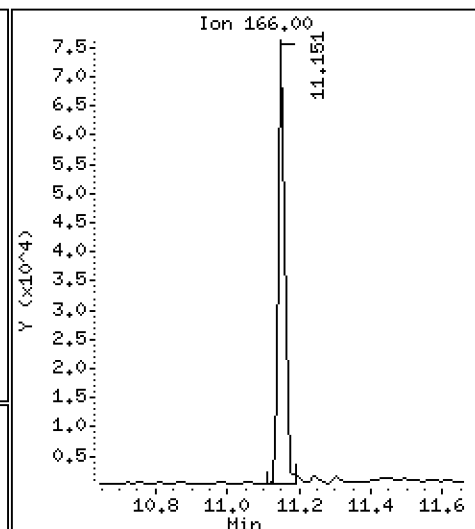
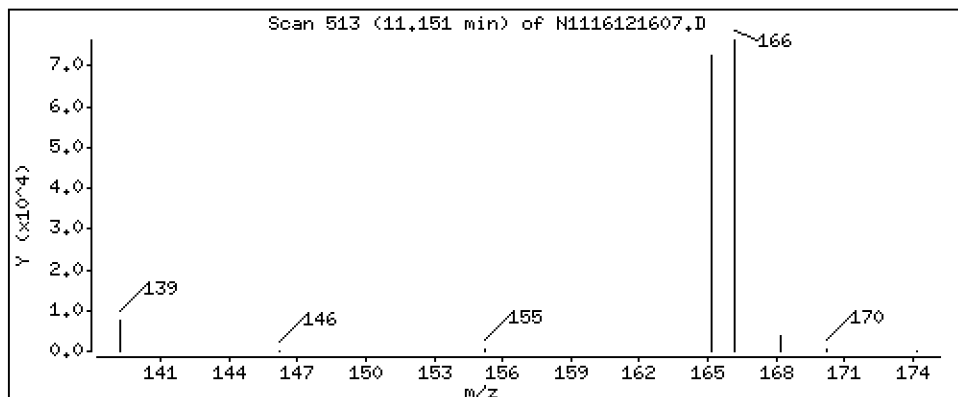
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 67,7 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

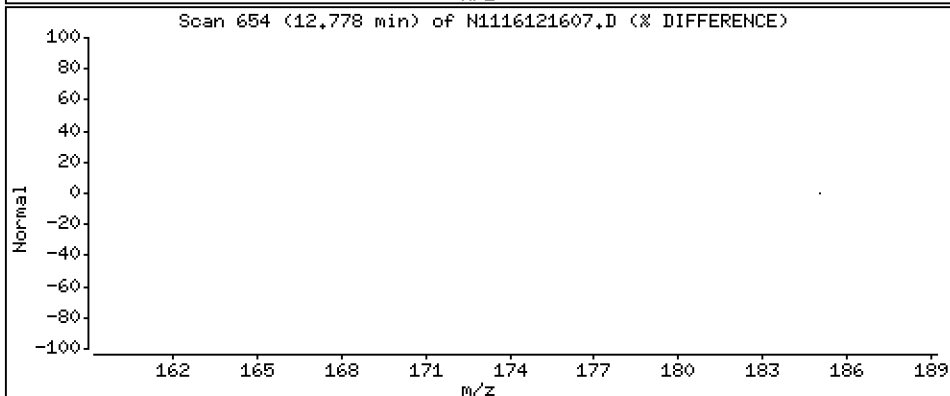
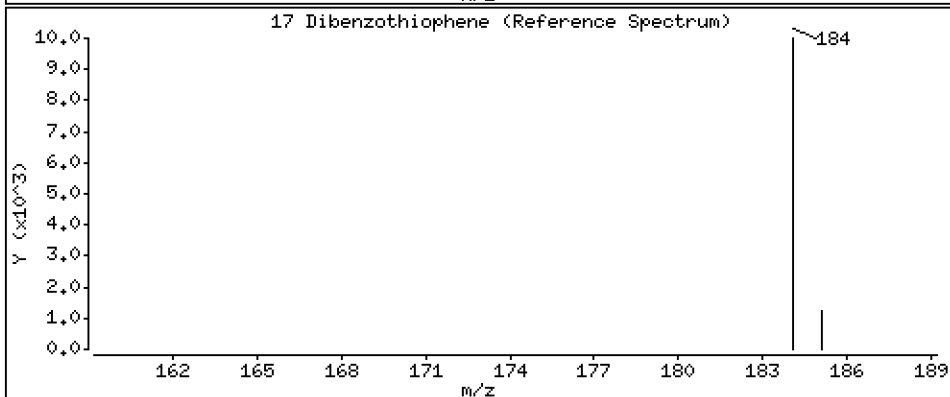
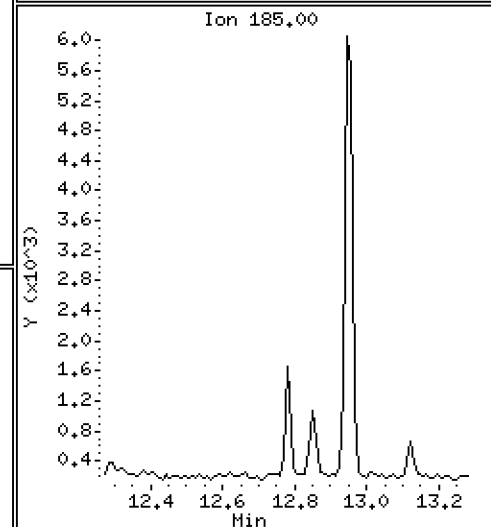
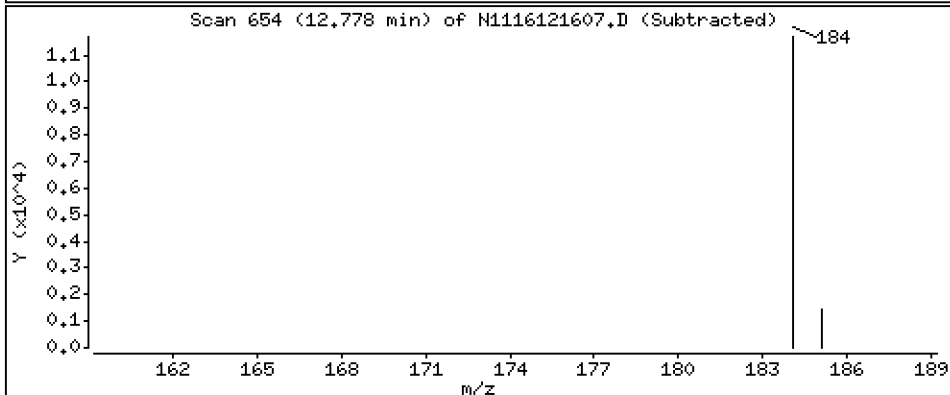
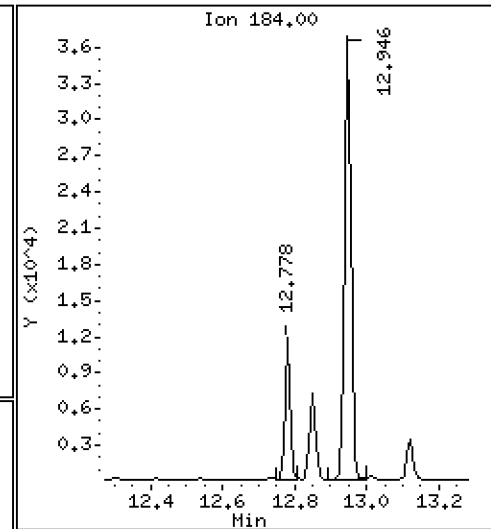
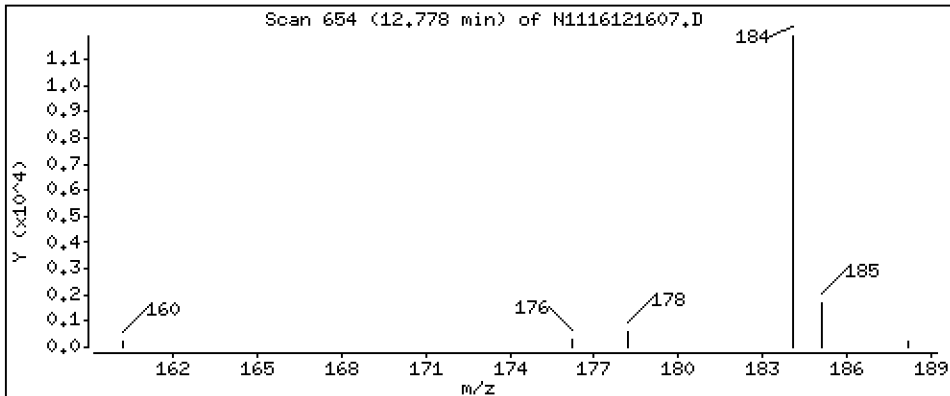
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 7,90 ng/mL

17 Dibenzothiophene



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

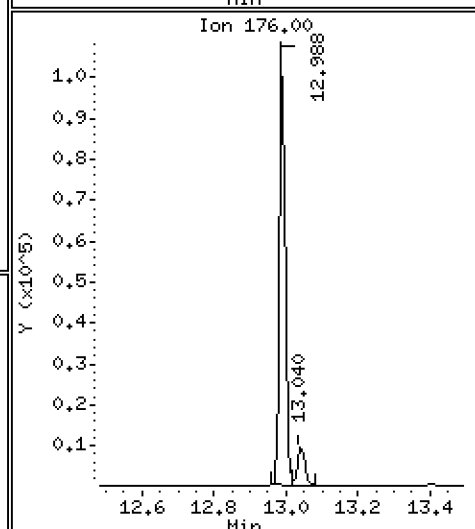
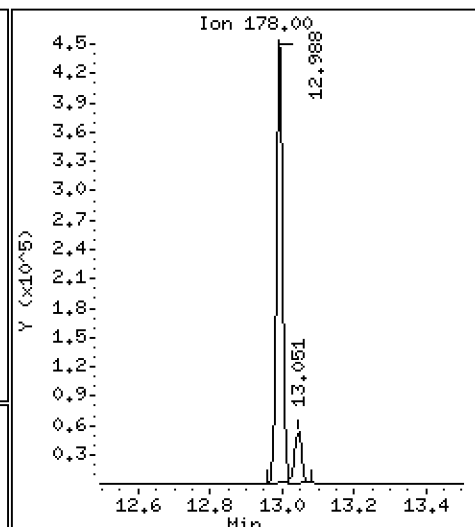
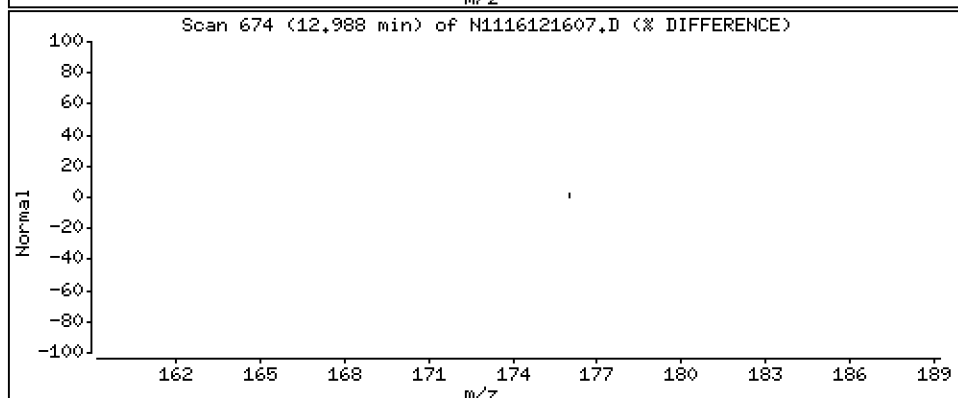
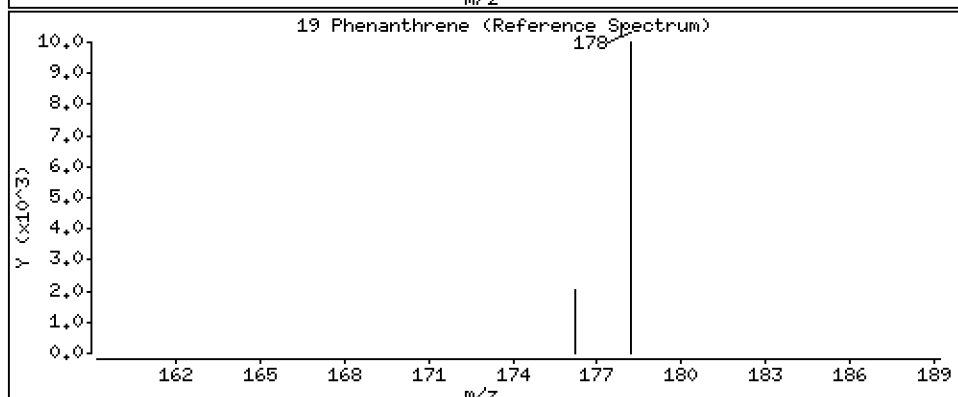
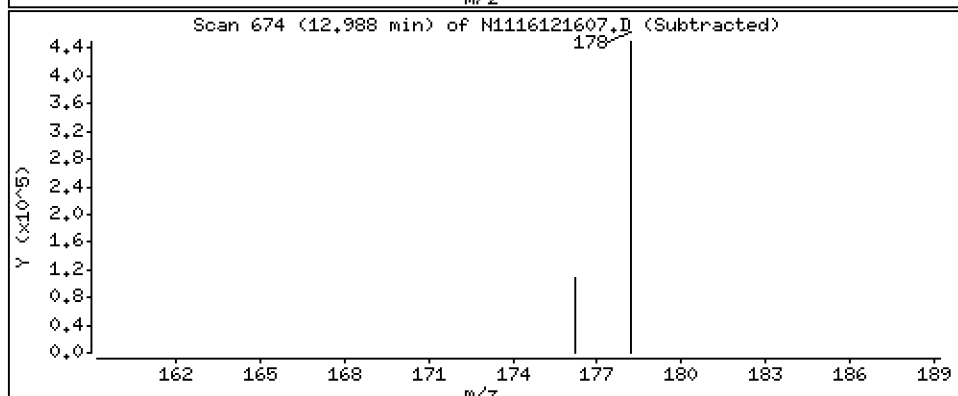
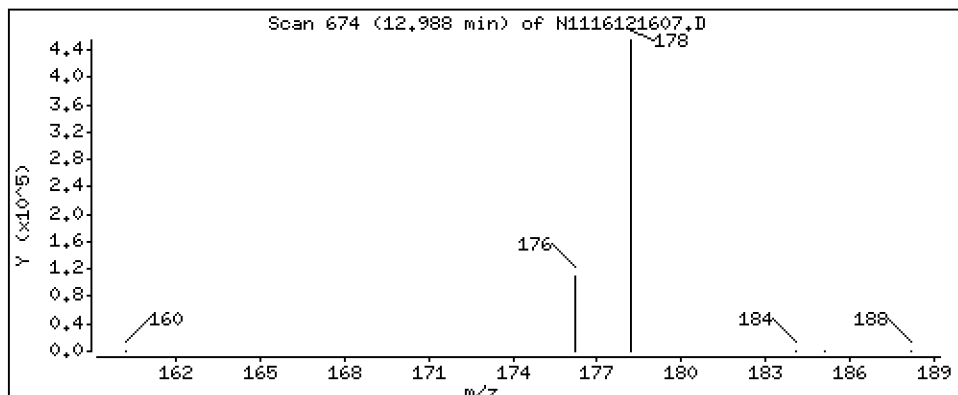
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 302 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

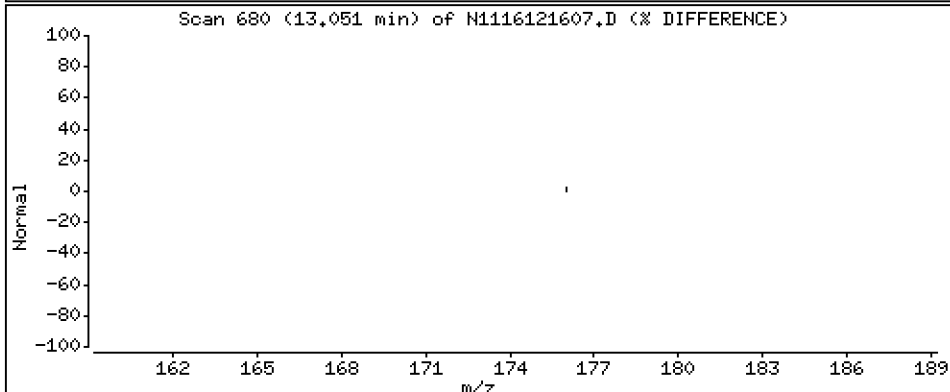
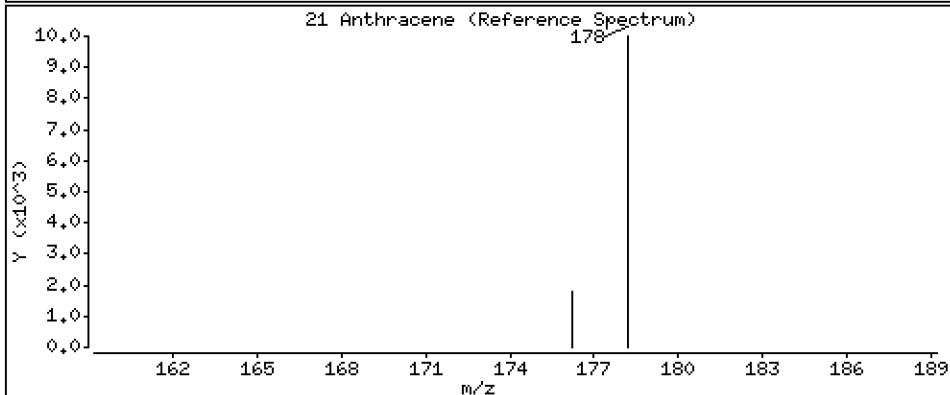
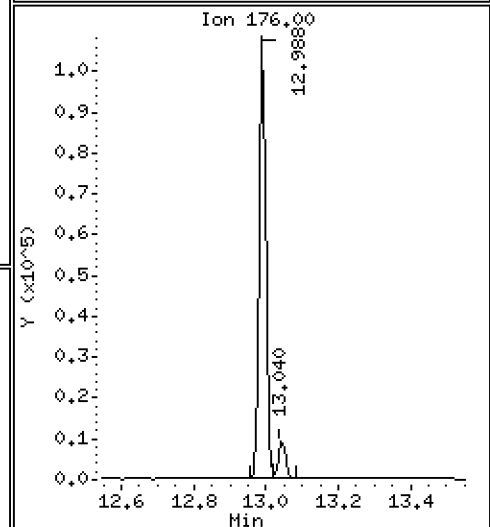
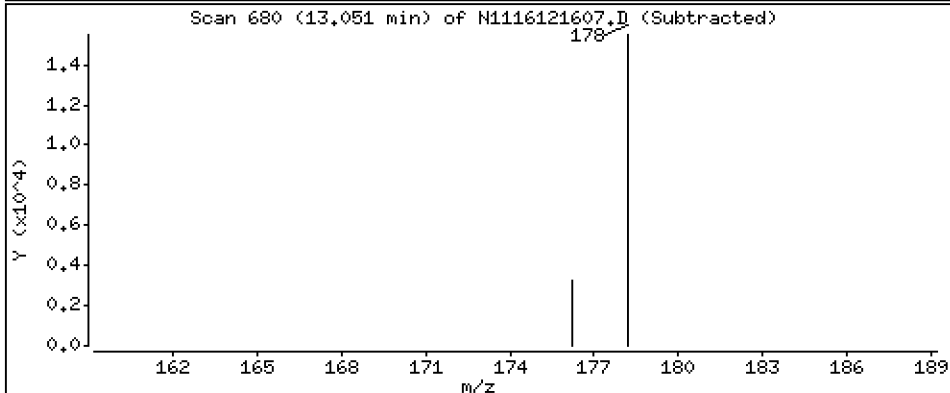
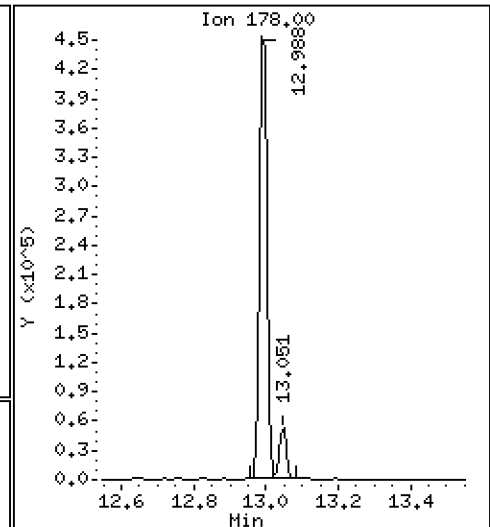
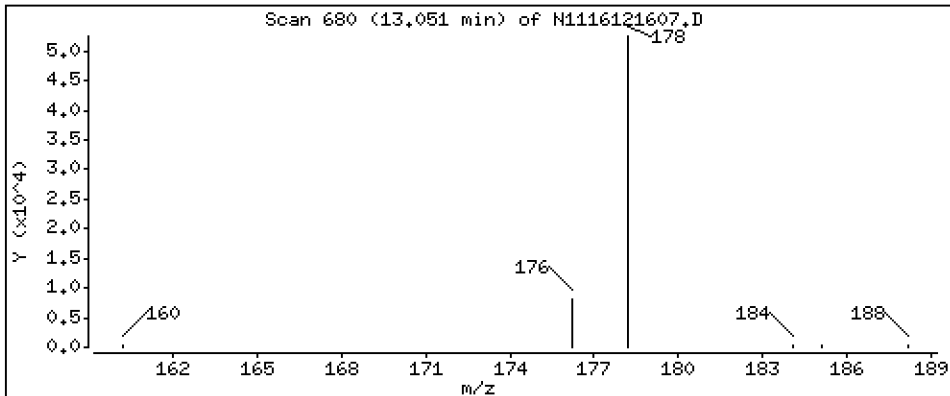
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 35,2 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

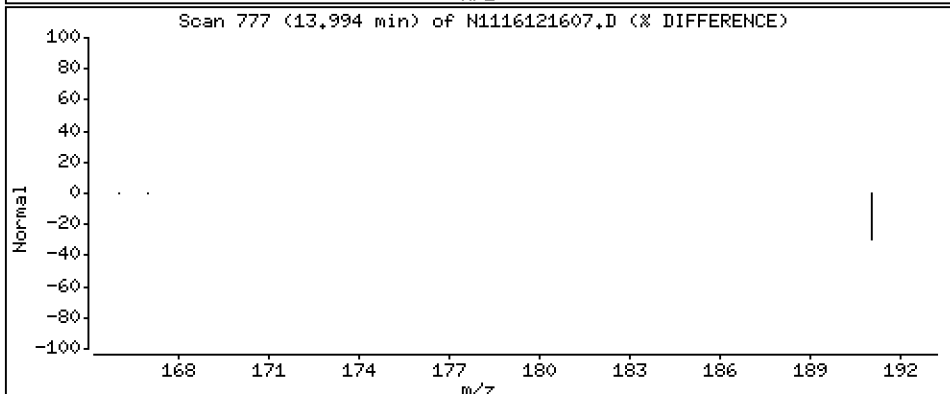
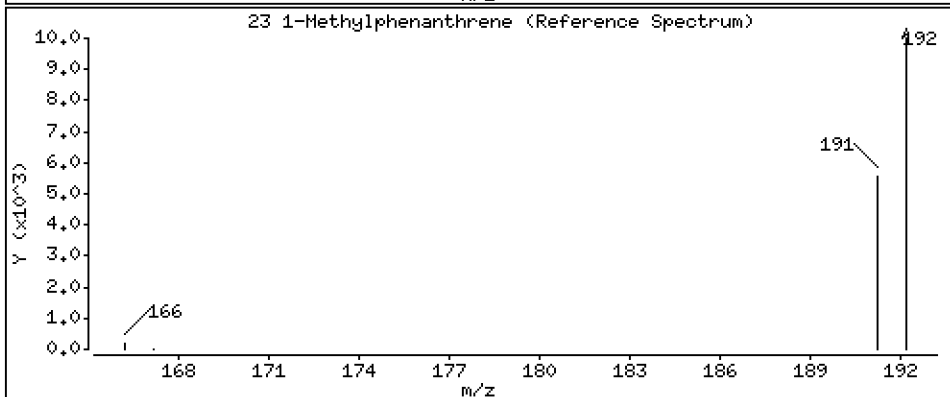
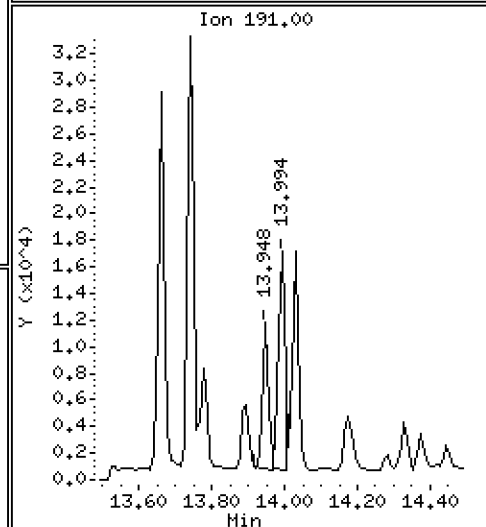
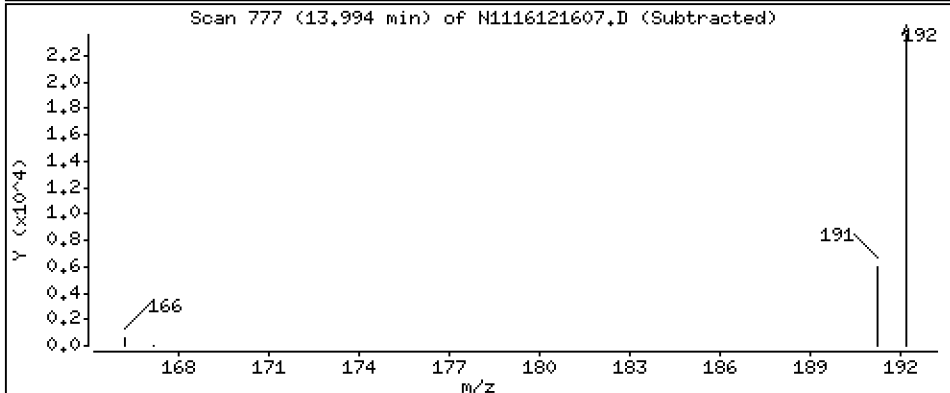
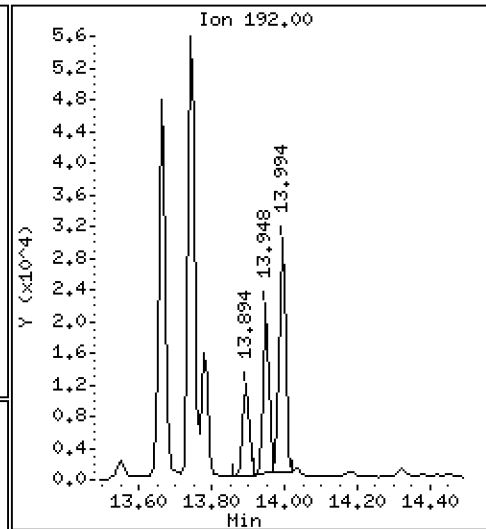
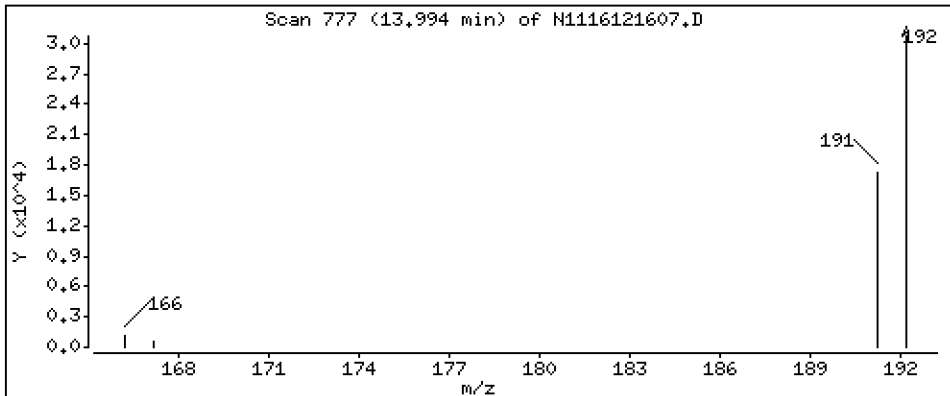
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 18,2 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

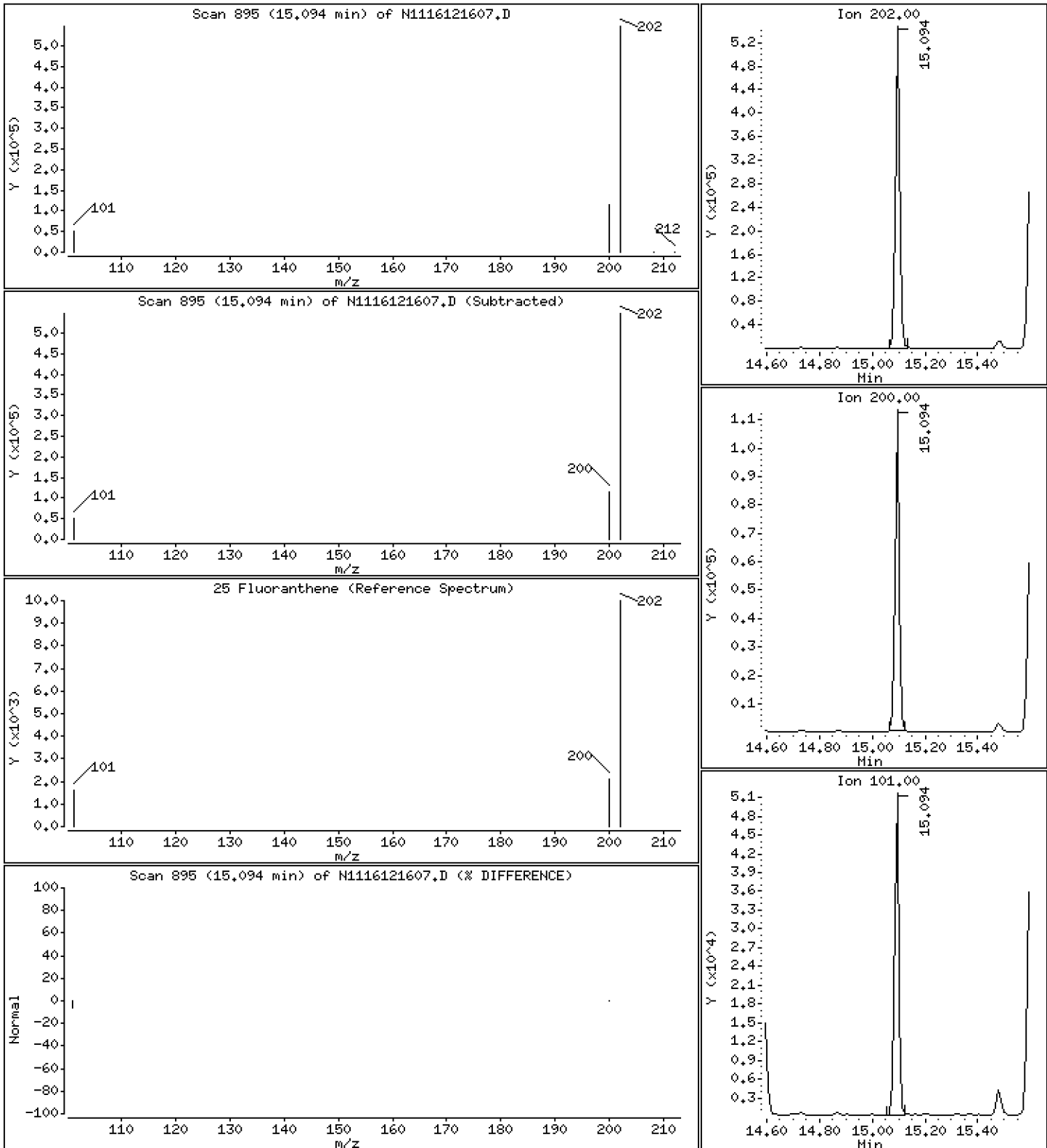
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 317 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

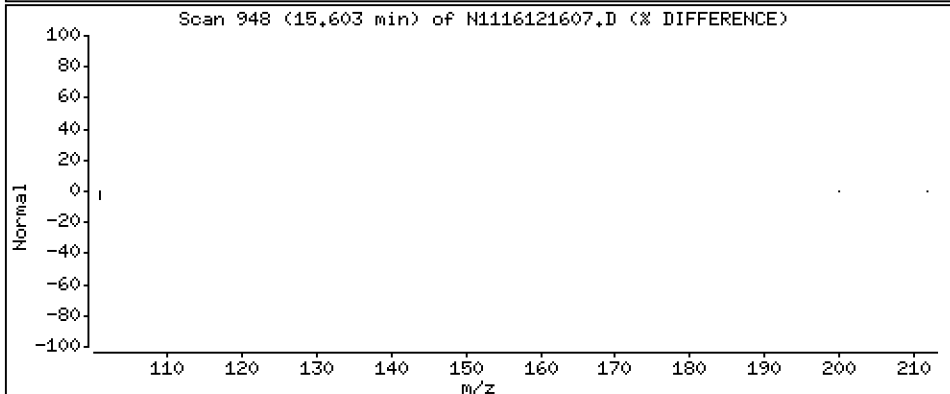
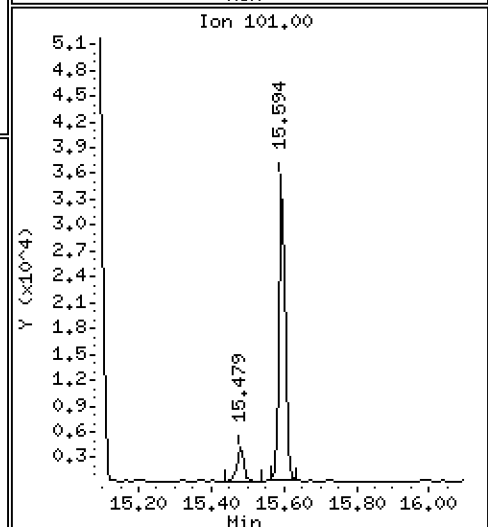
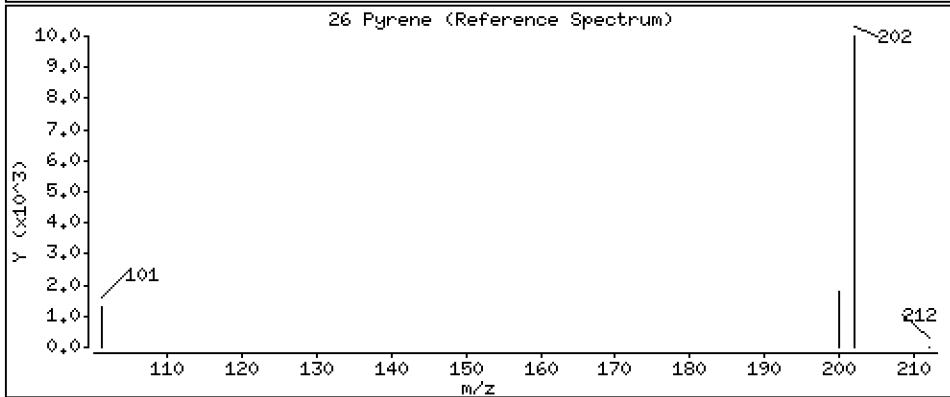
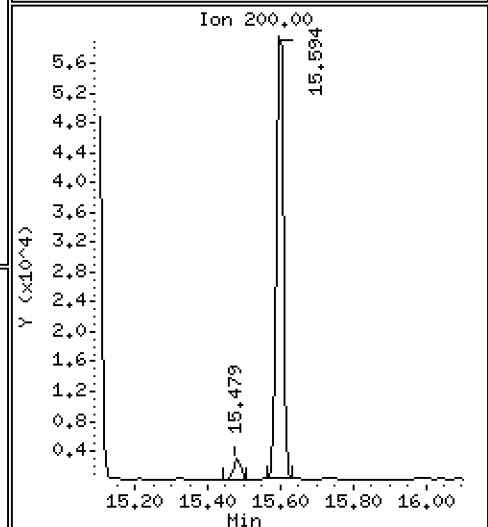
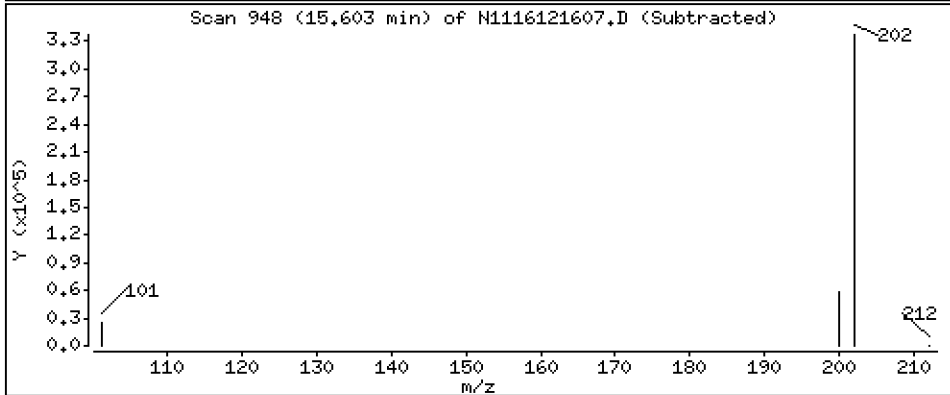
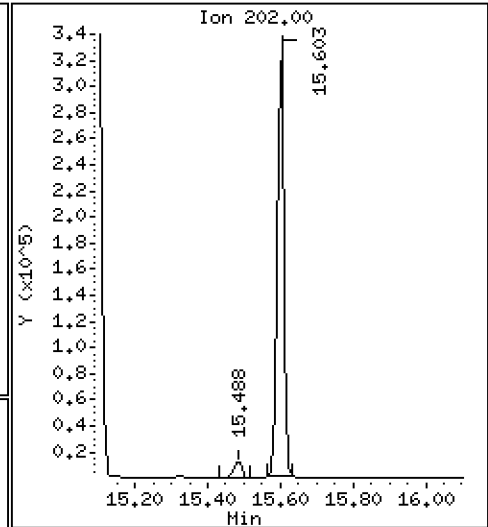
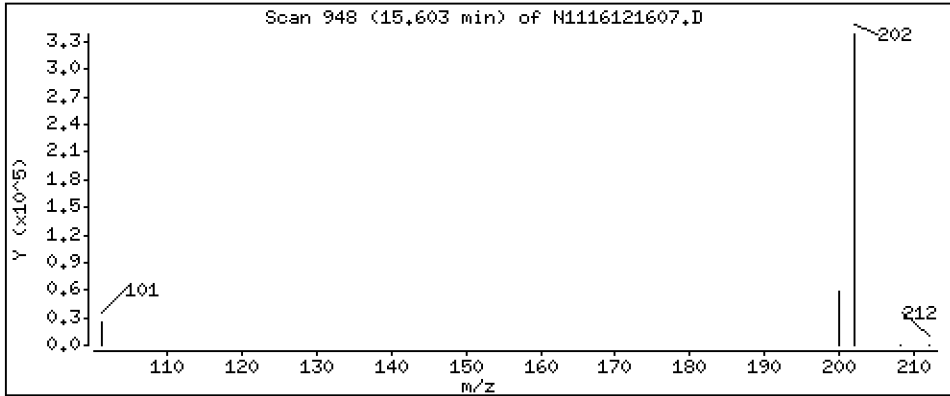
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 173 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

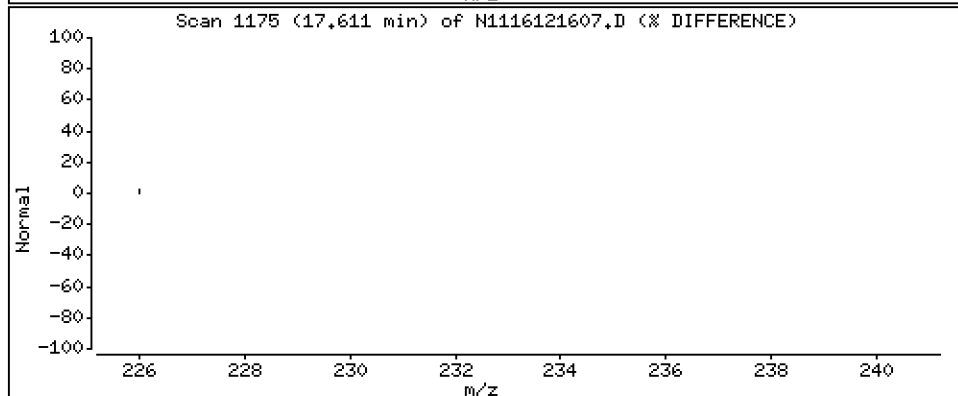
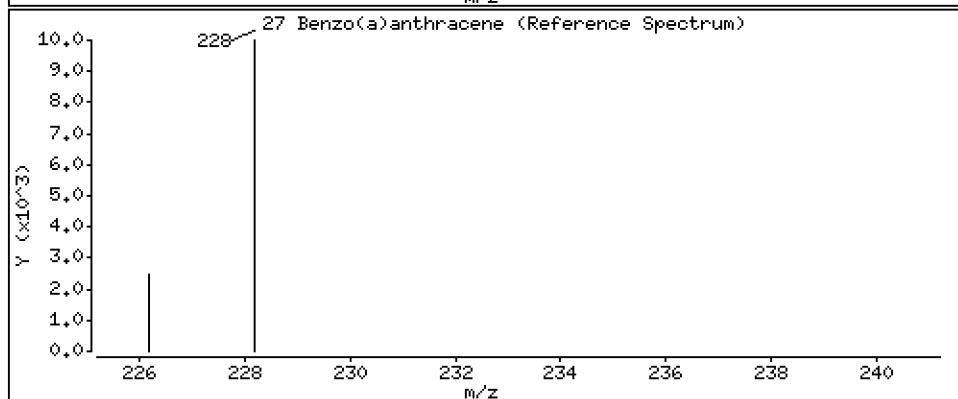
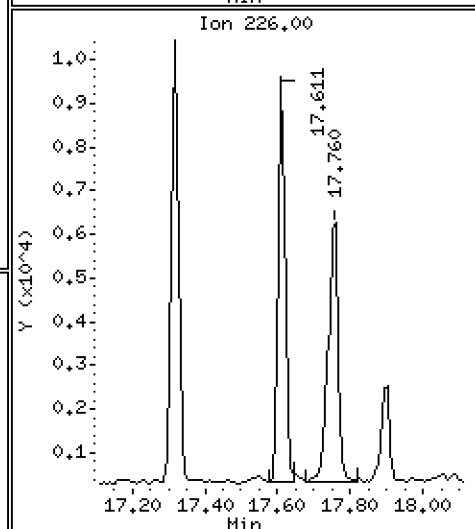
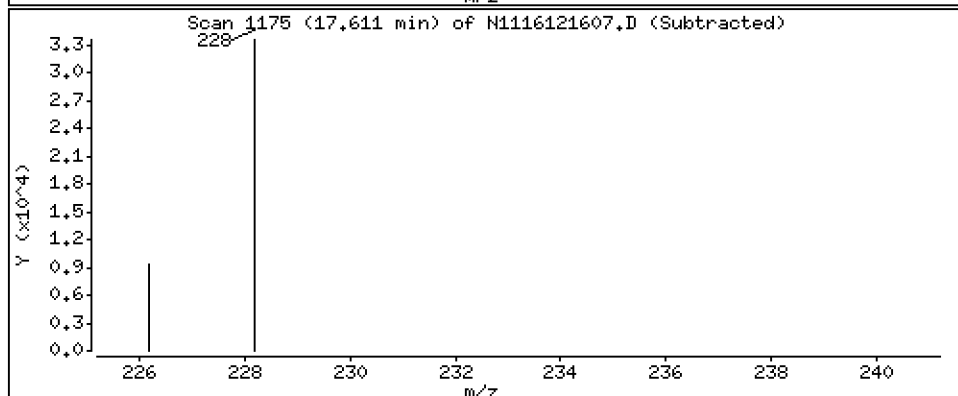
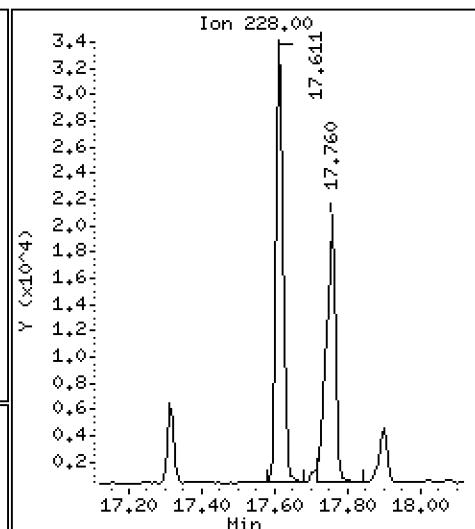
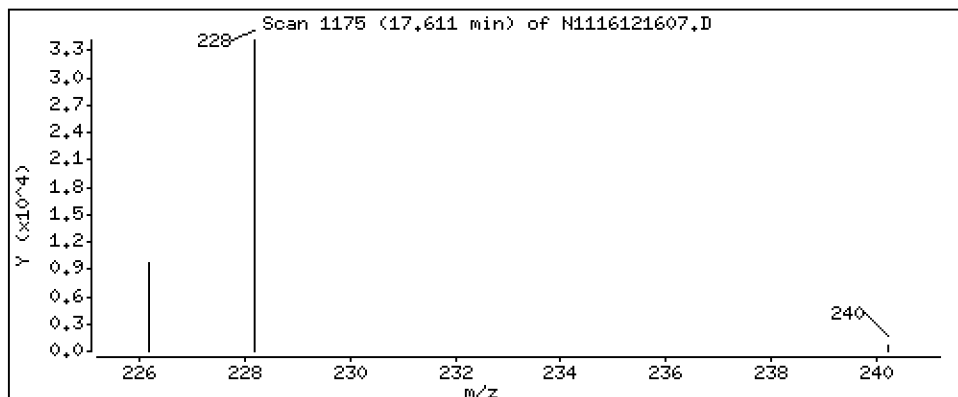
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 20,9 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

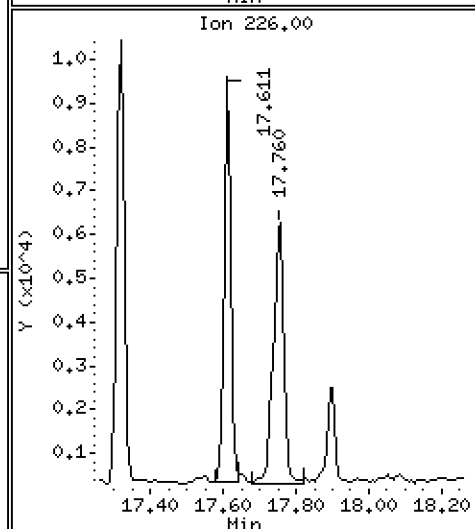
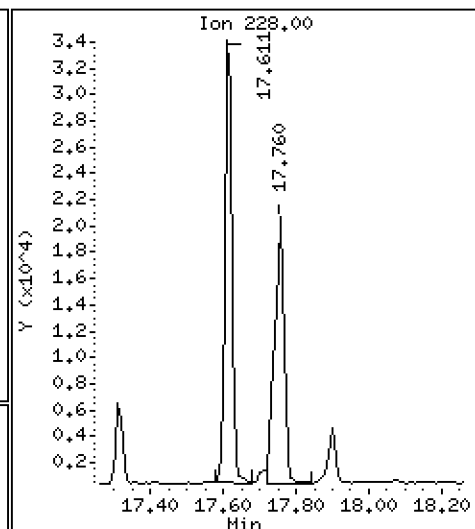
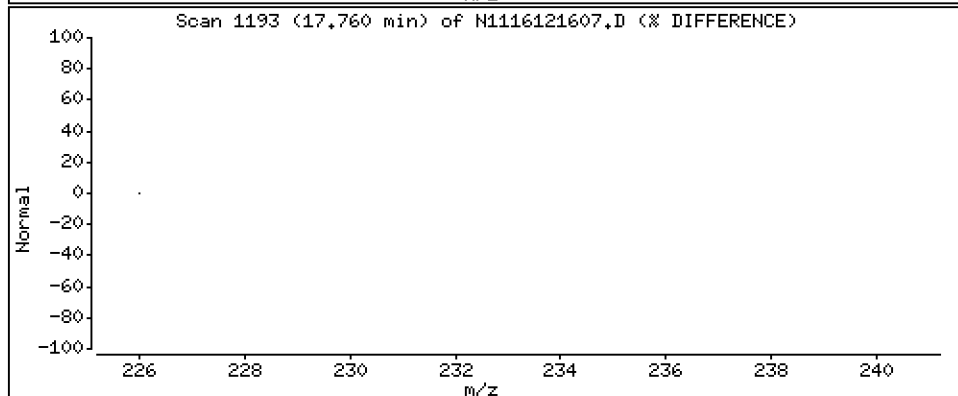
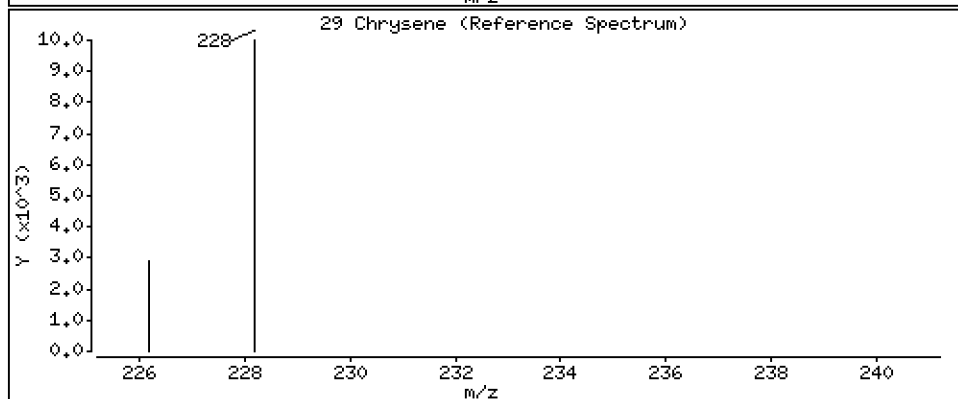
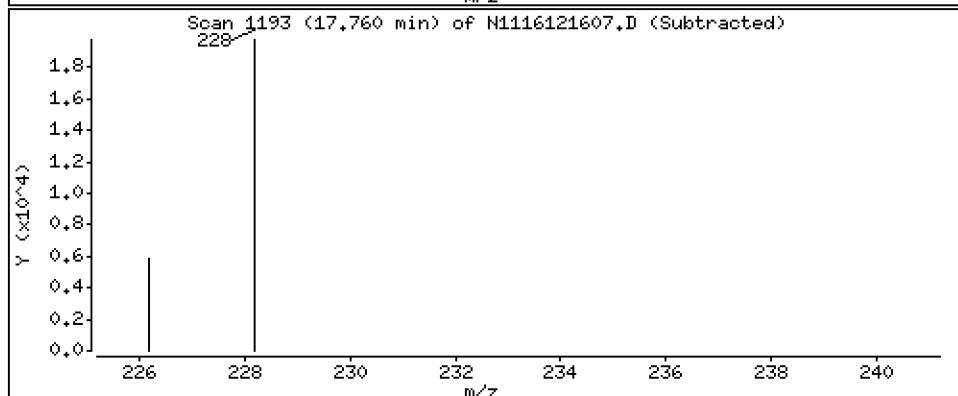
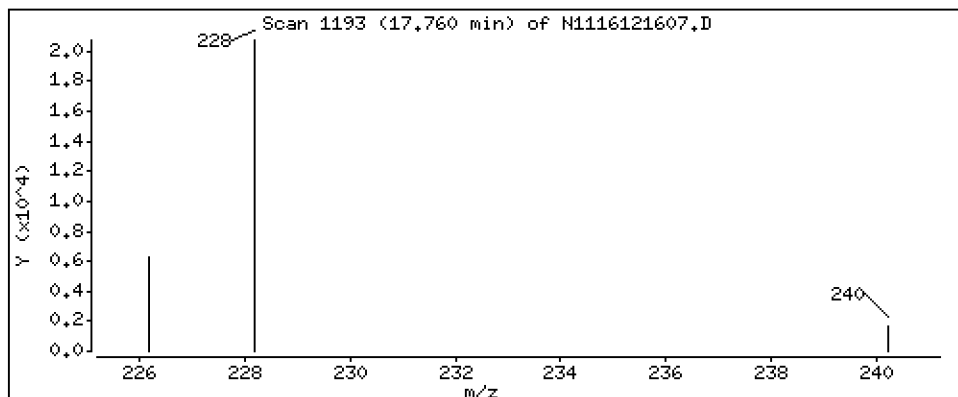
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 15,2 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

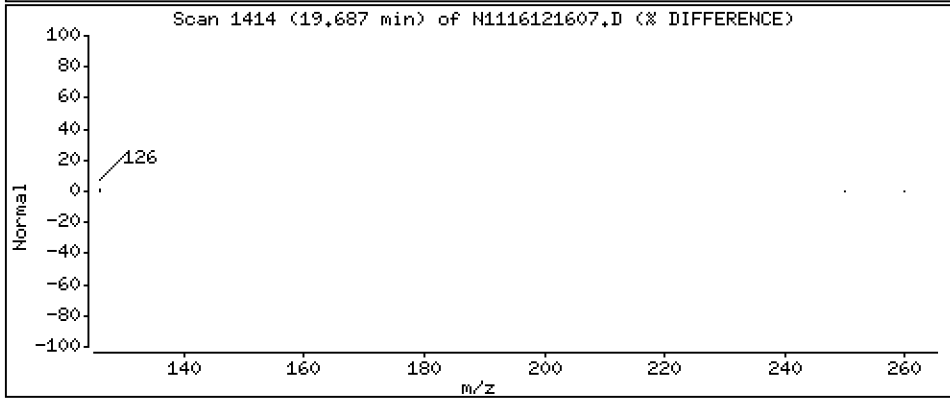
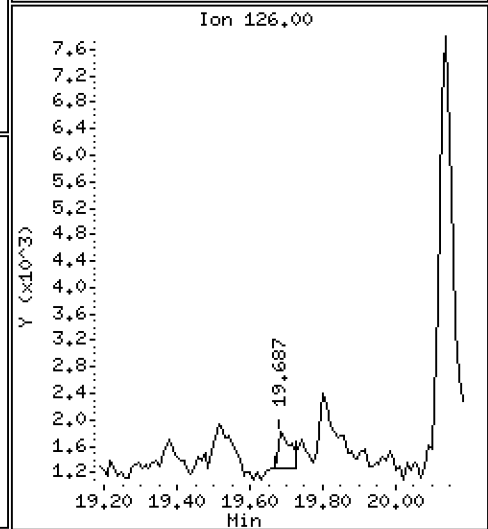
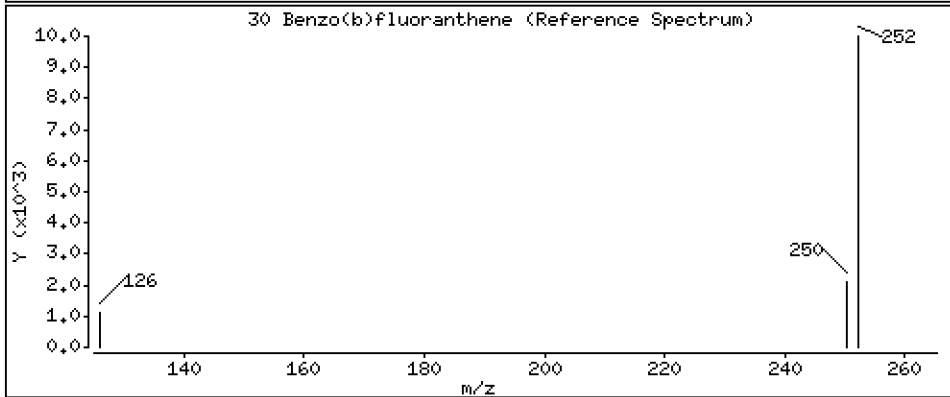
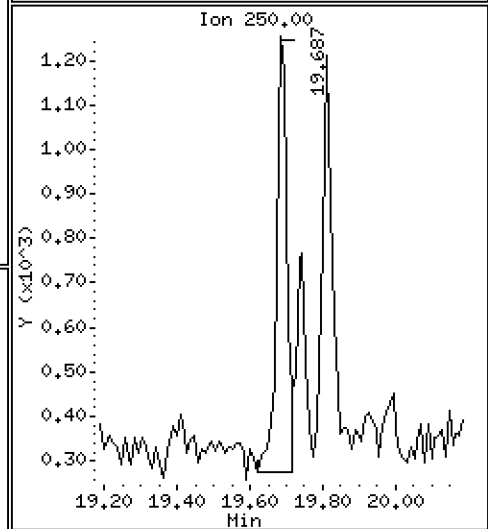
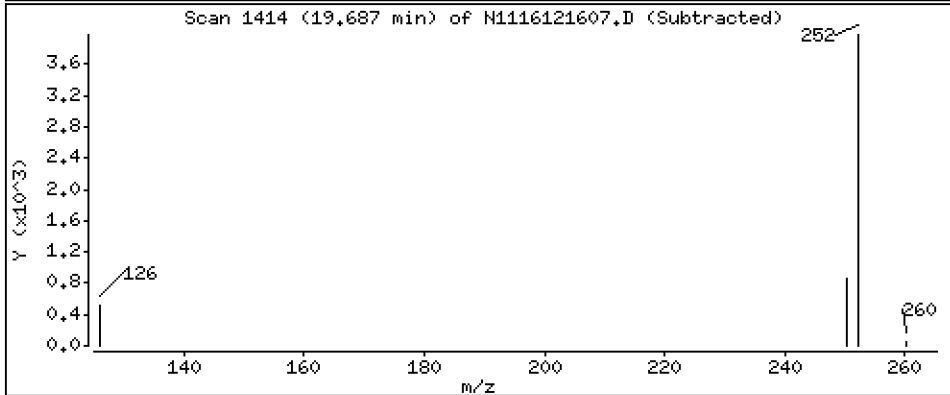
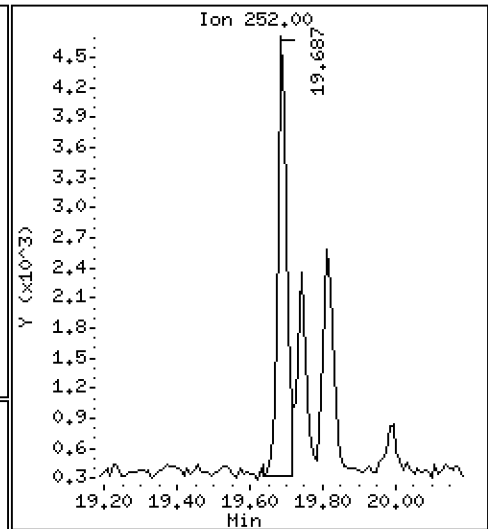
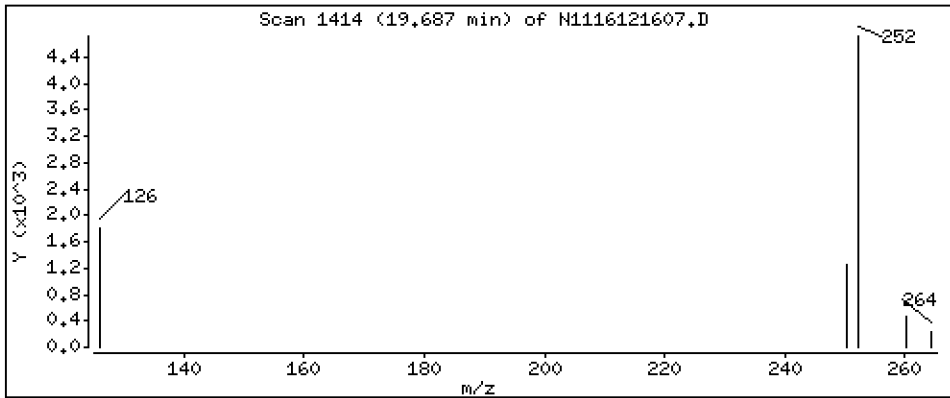
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 3,63 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

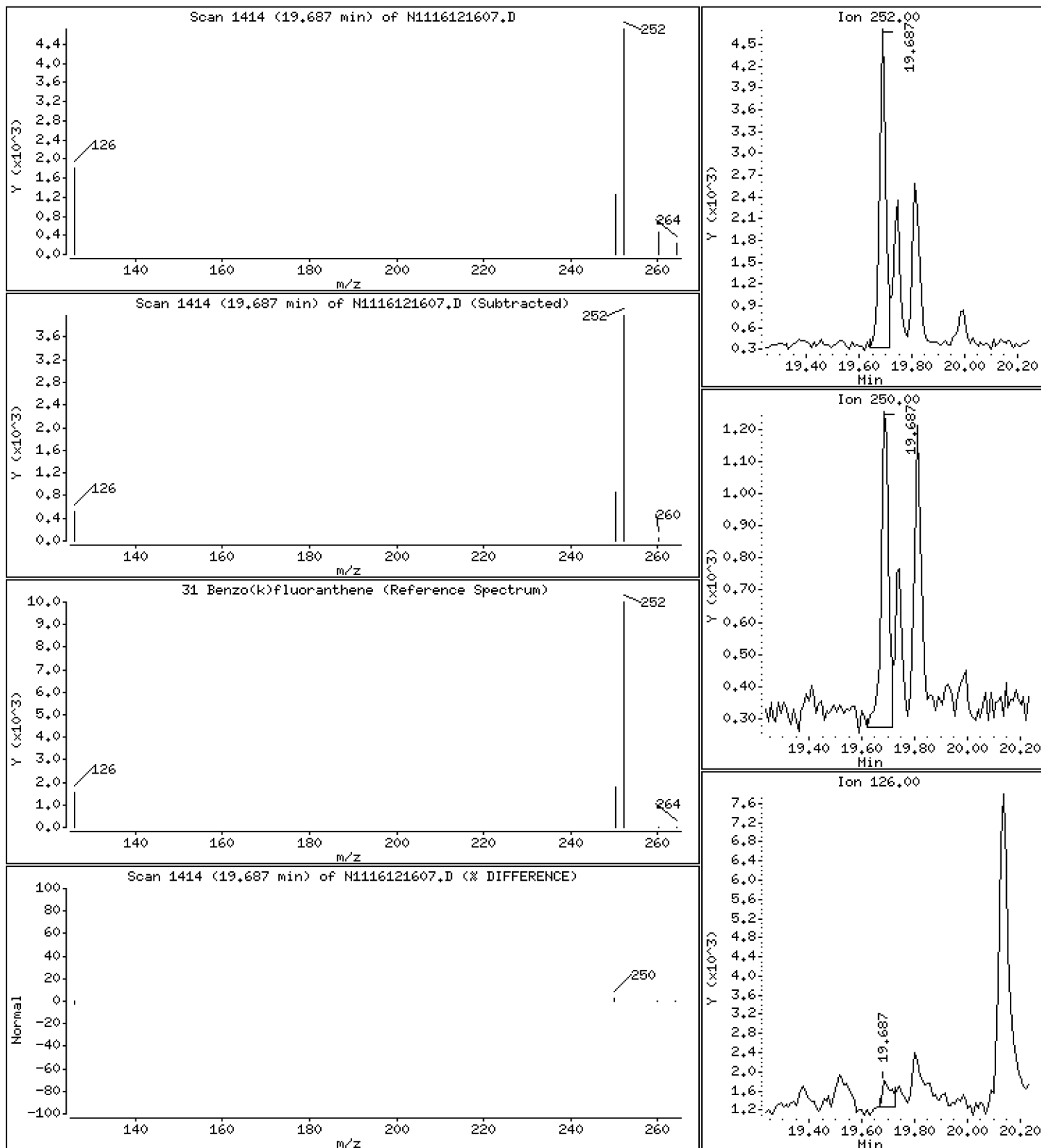
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 3,34 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

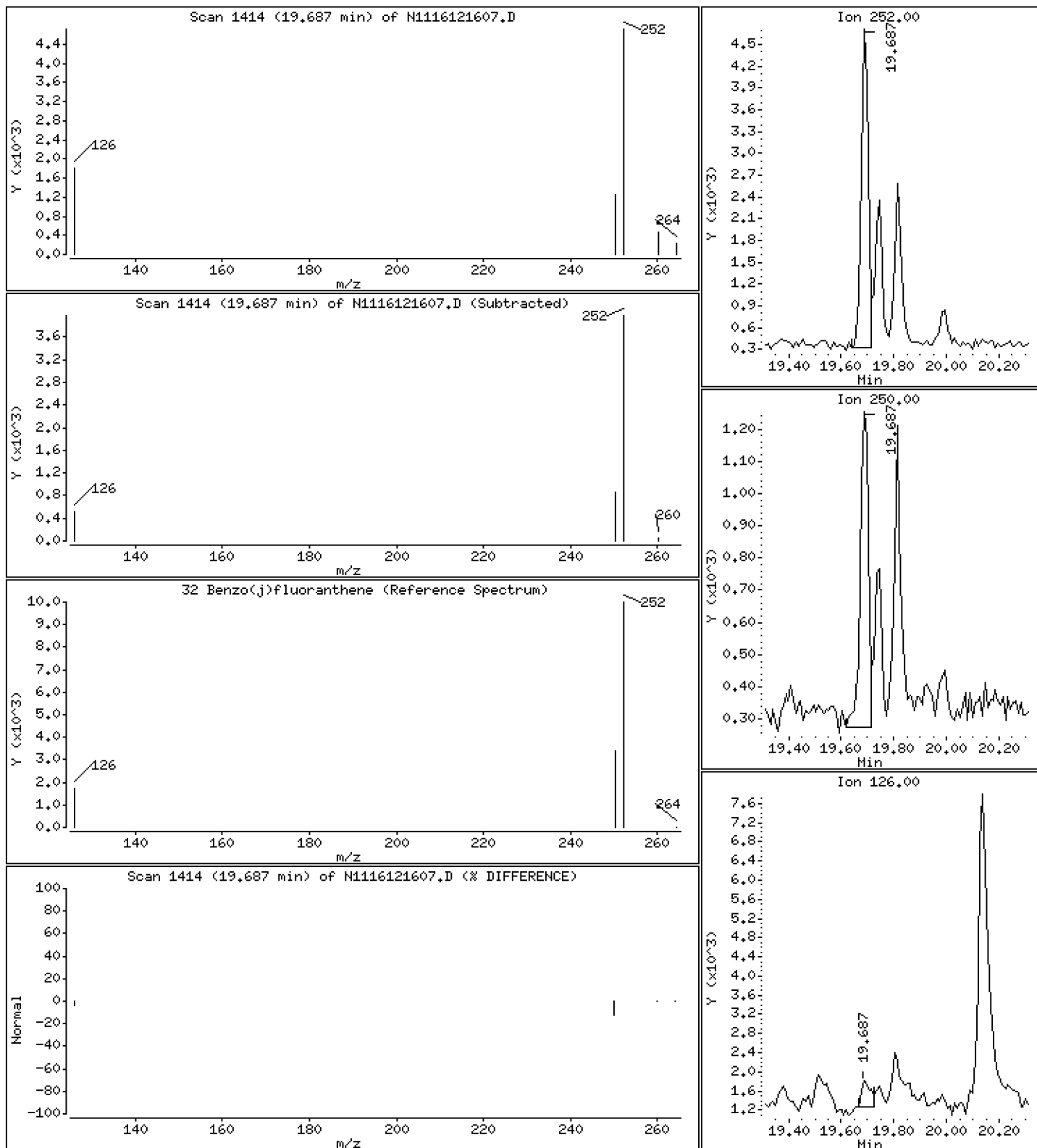
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 3,61 ng/mL



Date : 16-DEC-2016 12:37

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-13,20

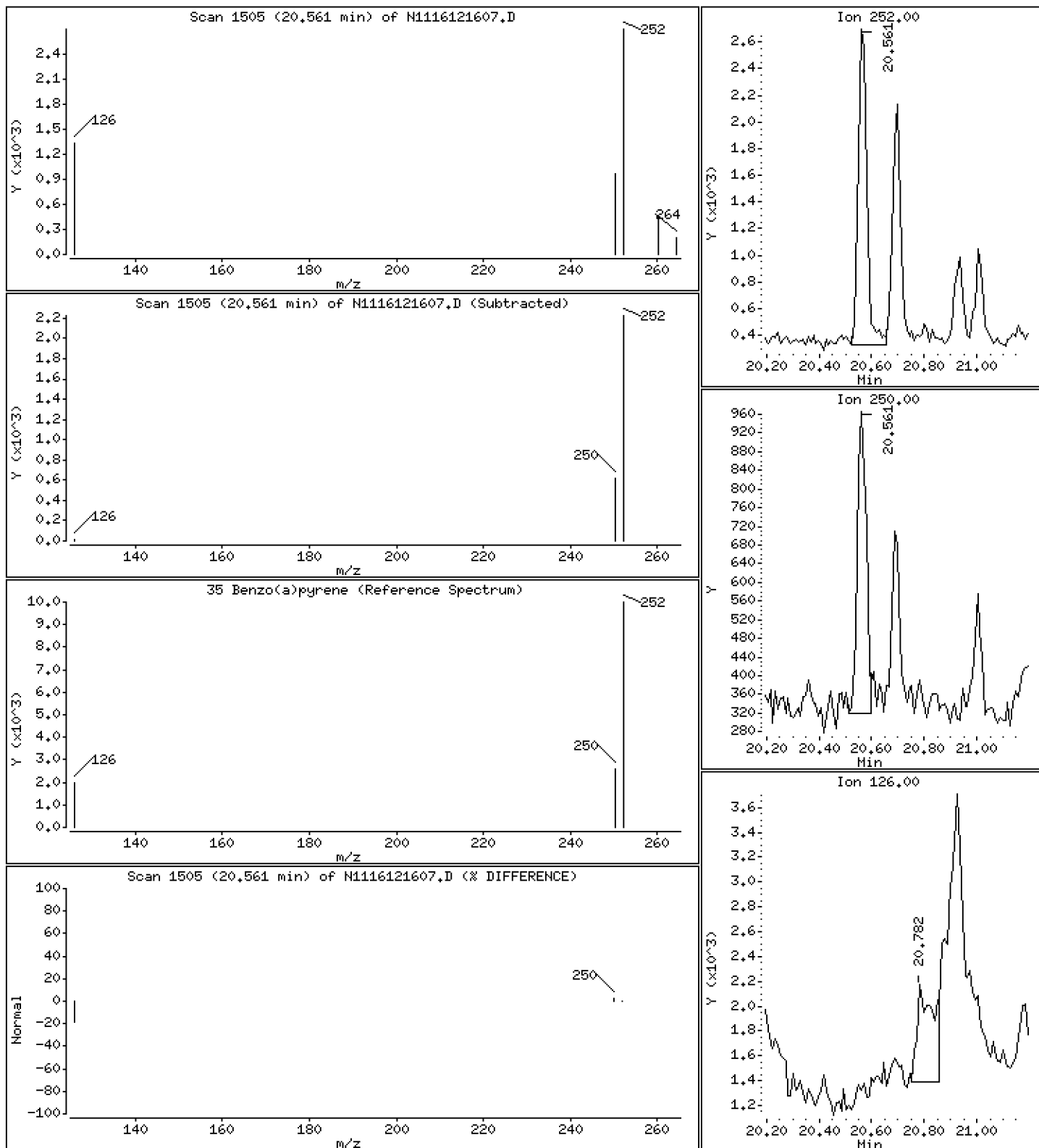
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 2,67 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161216.b\N1116121607.D
 Lab Smp Id:
 Inj Date : 16-DEC-2016 12:37 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-13,20
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Meth Date : 17-Dec-2016 10:59 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.235	7.234	(1.000)	312941	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	9485	8.03941	8.04
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	19230	14.2354	14.2
6 1-Methylnaphthalene	142		8.527	8.526	(1.179)	14299	10.7924	10.8
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	24045	15.2749	15.3
10 Acenaphthylene	152		10.324	10.107	(1.006)	41883	23.0832	23.1
* 11 Acenaphthene-d10	164		10.261	10.261	(1.000)	196390	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	90980	73.0851	73.1
13 Dibenzofuran	168		10.519	10.519	(1.025)	58384	33.0027	33.0
14 2,3,5-Trimethylnaphthalene	170		10.443	10.620	(1.018)	14039	12.7652	12.8
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	92565	67.7264	67.7
17 Dibenzothiophene	184		12.777	12.788	(0.986)	14232	7.90109	7.90
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	364428	200.000	
19 Phenanthrene	178		12.987	12.998	(1.002)	660047	301.524	302
\$ 20 Anthracene-d10	188		12.956	13.019	(1.000)	365368	221.291	221
21 Anthracene	178		13.050	13.050	(1.007)	72530	35.2109	35.2
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.080)	35086	18.1903	18.2
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	17819	10.9539	11.0
25 Fluoranthene	202		15.094	15.094	(1.165)	673221	316.951	317
26 Pyrene	202		15.603	15.603	(0.881)	441891	172.757	173
27 Benzo(a)anthracene	228		17.610	17.619	(0.994)	46237	20.8896	20.9
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	393138	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	37389	15.2300	15.2
30 Benzo(b)fluoranthene	252		19.686	19.696	(0.940)	7823	3.63147	3.63
31 Benzo(k)fluoranthene	252		19.686	19.744	(0.940)	7823	3.34222	3.34
32 Benzo(j)fluoranthene	252		19.686	19.821	(0.940)	7823	3.60552	3.61
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252				Compound Not Detected.		
35 Benzo(a)pyrene	252	20.561	20.695	(0.982)	5276	2.67495	2.67
* 36 Perylene-d12	264	20.935	20.935	(1.000)	378976	200.000	
37 Perylene	252				Compound Not Detected.		
§ 38 Dibenzo(a,h)anthracene-d14	292	23.819	23.830	(1.138)	6373	5.02040	5.02
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 16-DEC-2016
 Lab File ID: N1116121607.D Calibration Time: 09:46
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	312941	-36.59
11 Acenaphthene-d10	240770	120385	481540	196390	-18.43
18 Phenanthrene-d10	429271	214636	858542	364428	-15.11
28 Chrysene-d12	387691	193846	775382	393138	1.40
36 Perylene-d12	386259	193130	772518	378976	-1.89

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.24	0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	0.00
28 Chrysene-d12	17.71	17.21	18.21	17.71	0.00
36 Perylene-d12	20.94	20.44	21.44	20.94	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 - N1116121607.D

Lab ID:

nt11.i, 20161216.b\LOWSIM.m, 16-DEC-2016 12:37

RT CO-ELUTION COMPOUNDS

10.324 Acenaphthene and Acenaphthylene

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161216.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-15 File ID: N1116121218.D
 Sampled: 11/22/16 08:57 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 16:59
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	14.1	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	37.0	B	1.13	1.13
208-96-8	Acenaphthylene	1	7.07		1.13	1.13
83-32-9	Acenaphthene	1	406	E	1.13	1.13
86-73-7	Fluorene	1	202	E	1.13	1.13
85-01-8	Phenanthrene	1	623	E	1.13	1.13
120-12-7	Anthracene	1	118	E	1.13	1.13
206-44-0	Fluoranthene	1	722	E	1.13	1.13
129-00-0	Pyrene	1	488	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	92.2		1.13	1.13
218-01-9	Chrysene	1	70.5		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	16.9		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	9.31		1.13	1.13
50-32-8	Benzo(a)pyrene	1	11.3		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	3.29		1.13	1.13
197-97-2	Benzo(e)pyrene	1	11.1		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	19.3	57.0	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	24.7	73.1	30 - 160	
Fluoranthene-d10	33.860	28.7	84.6	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	5.42	25.6	30 - 160	*
Benzo(e)pyrene-d12	21.163	18.7	88.6	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121218.D

Date: 12-DEC-2016 16:59

Client ID:

Sample Info: 16K0321-15

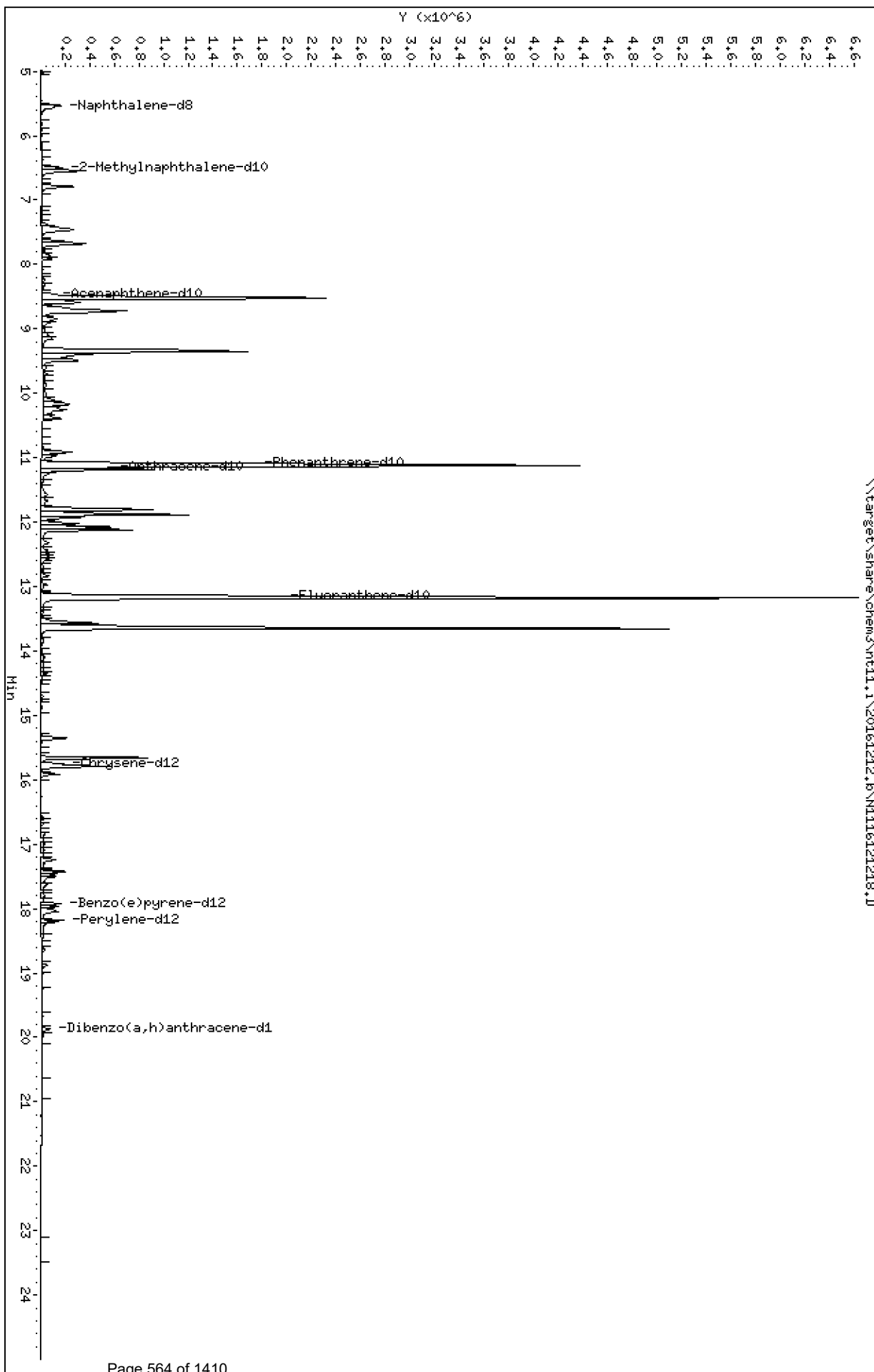
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

Page 1



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

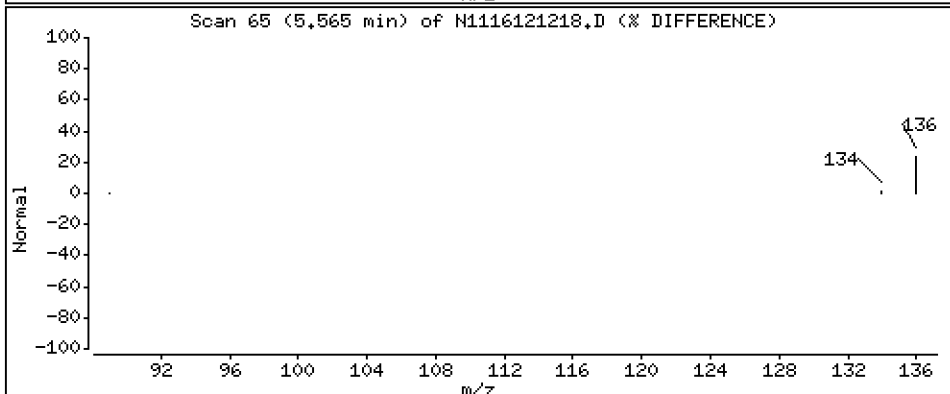
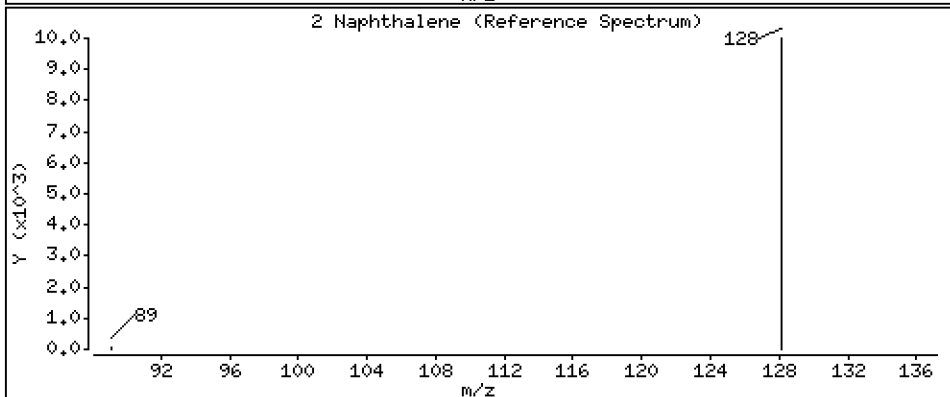
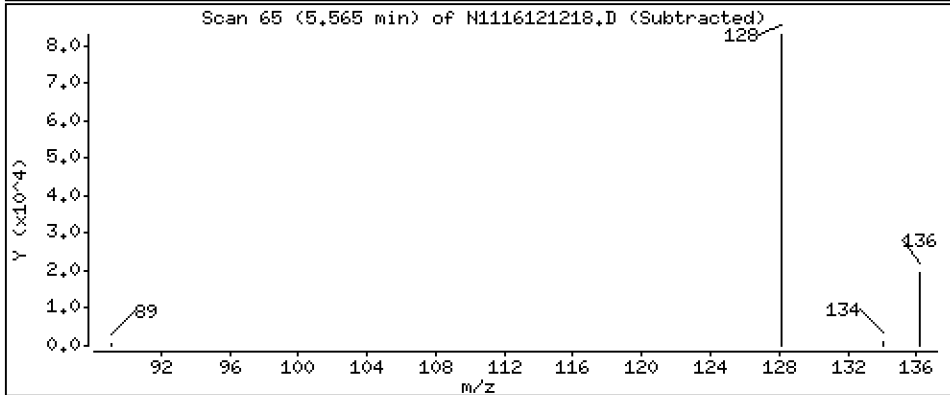
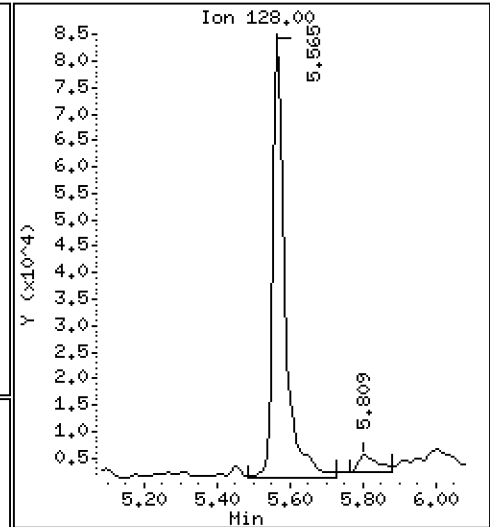
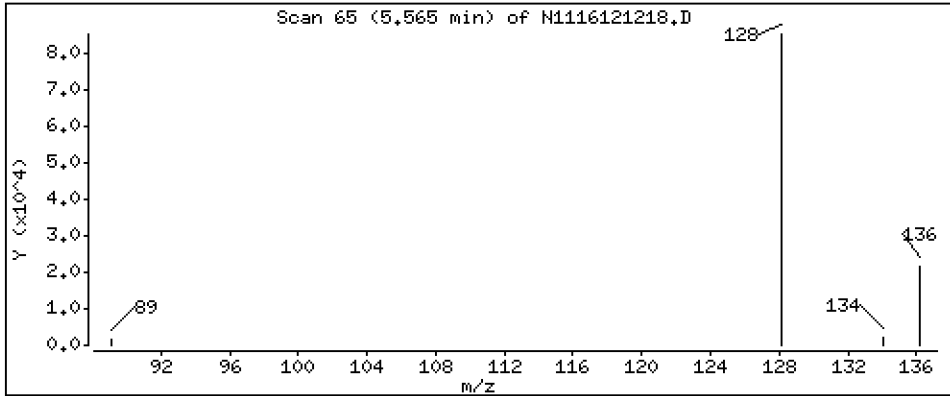
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 125 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

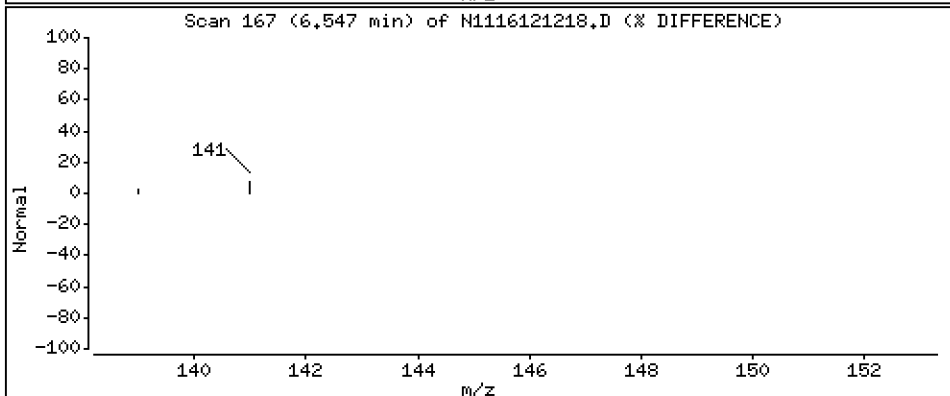
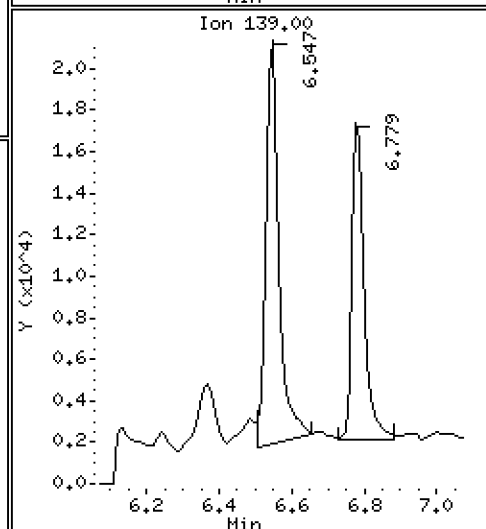
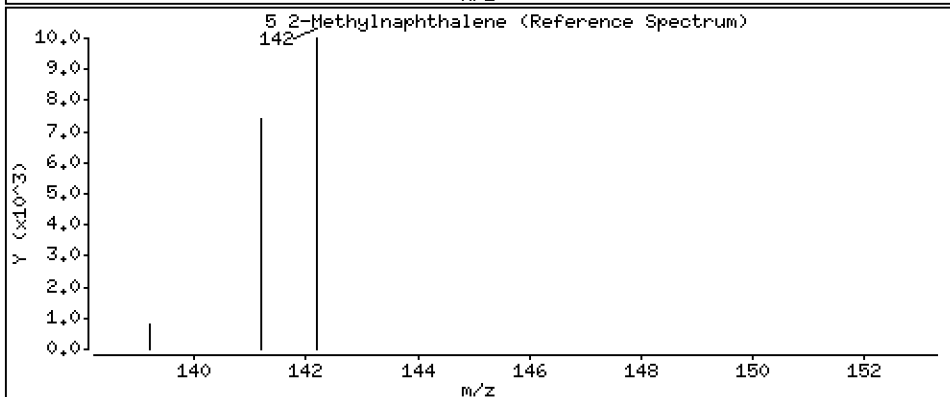
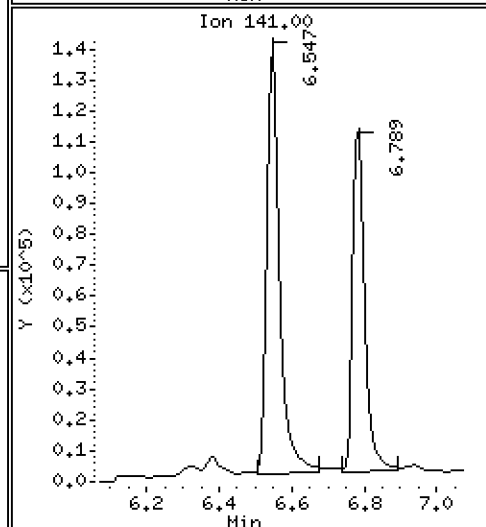
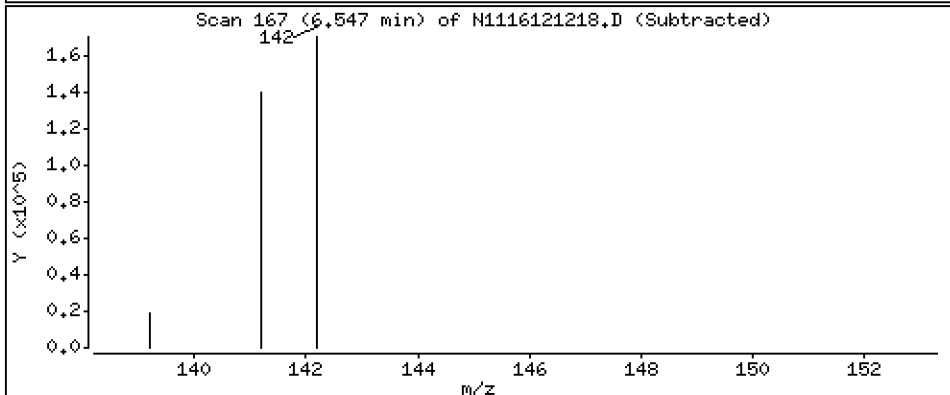
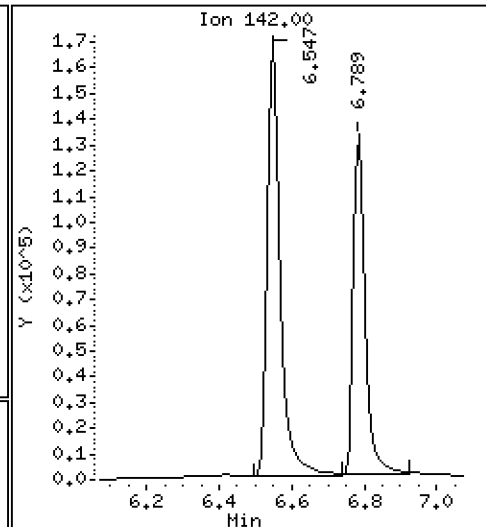
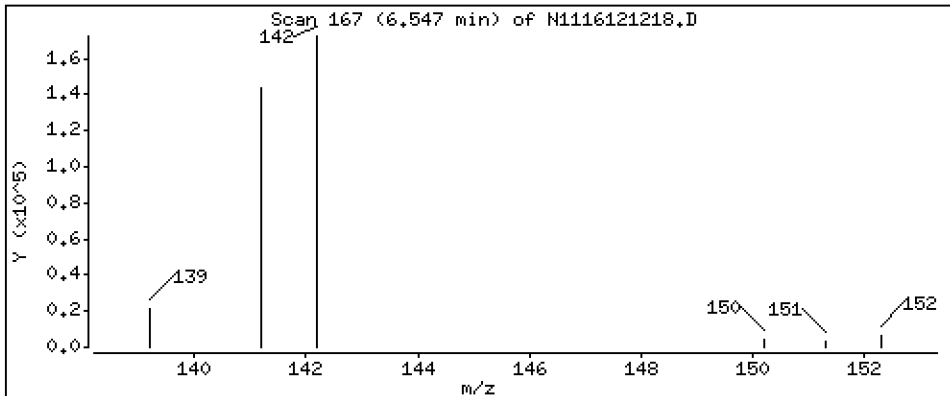
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 328 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

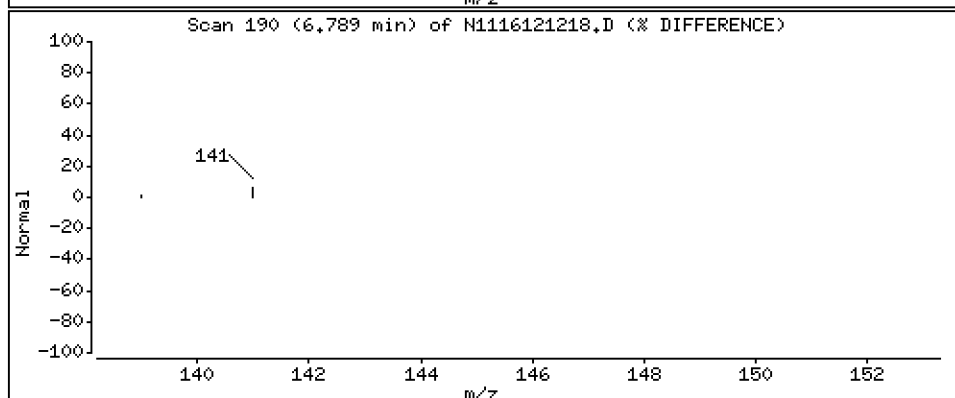
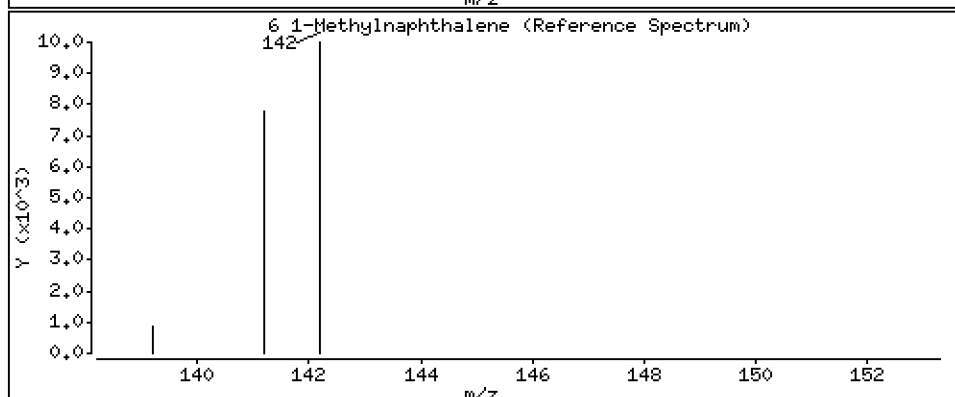
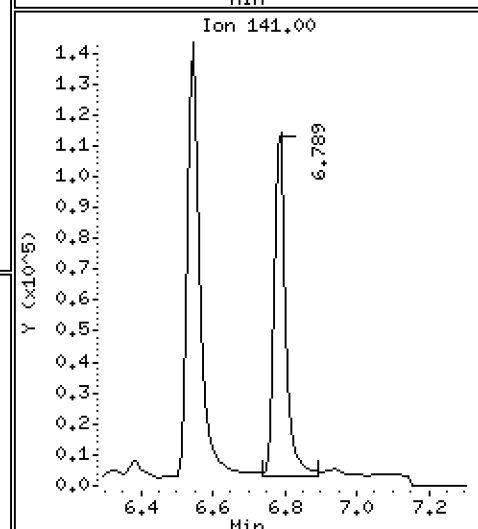
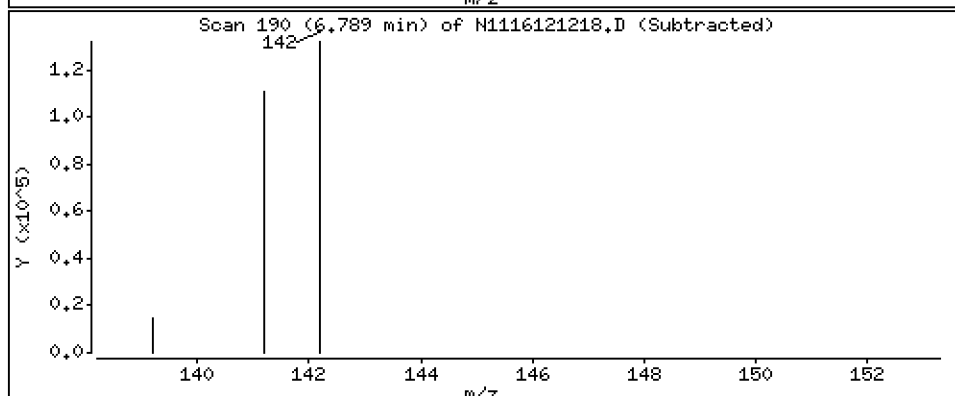
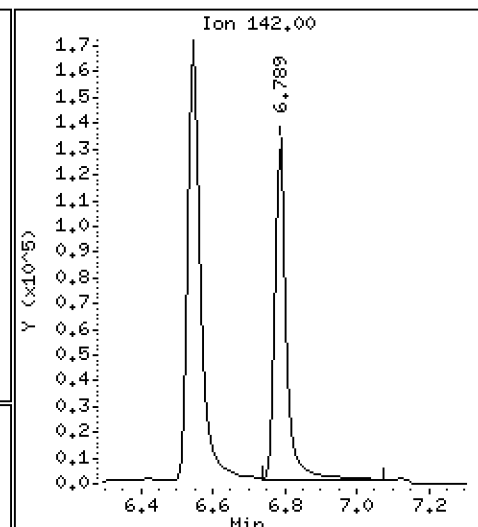
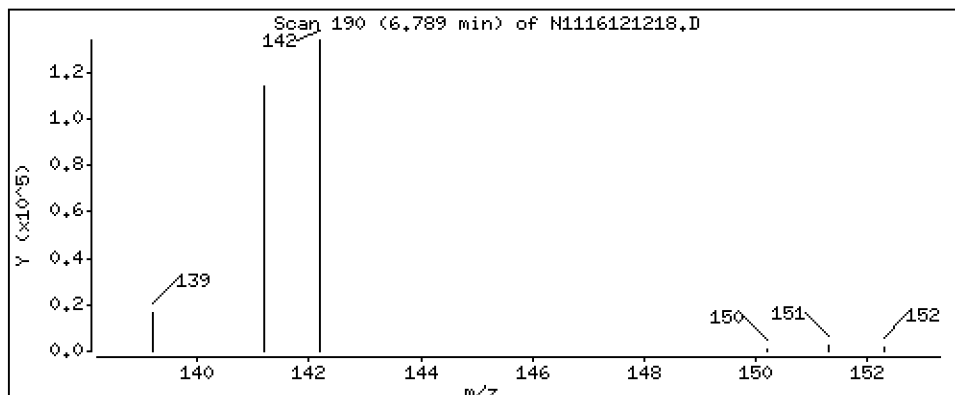
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 260 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

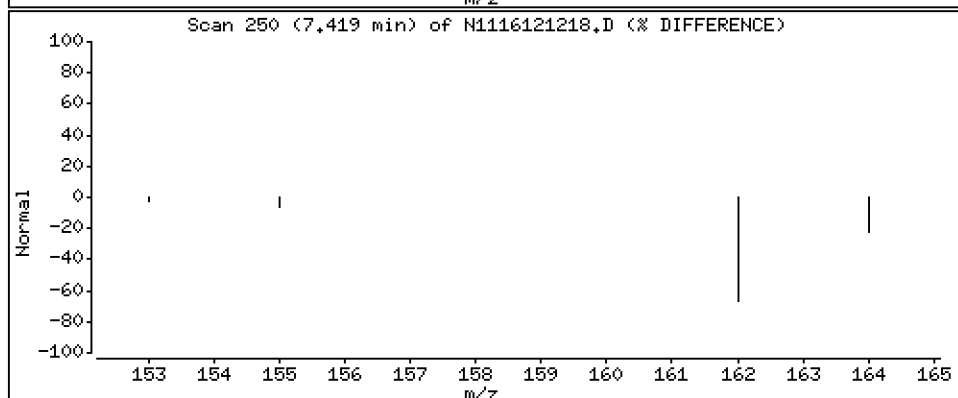
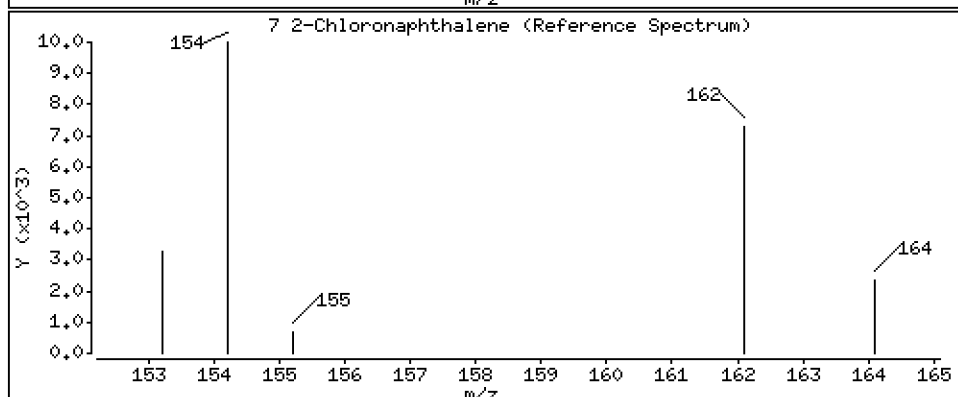
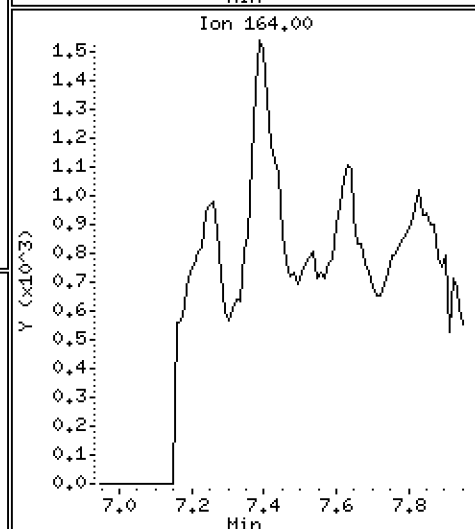
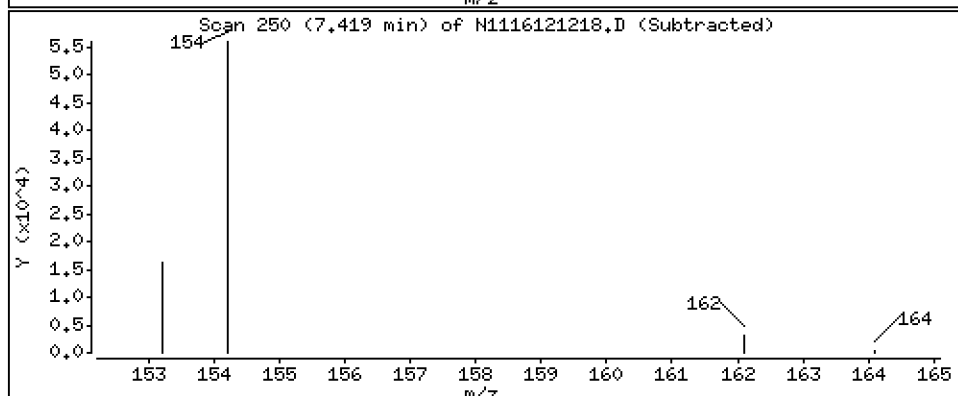
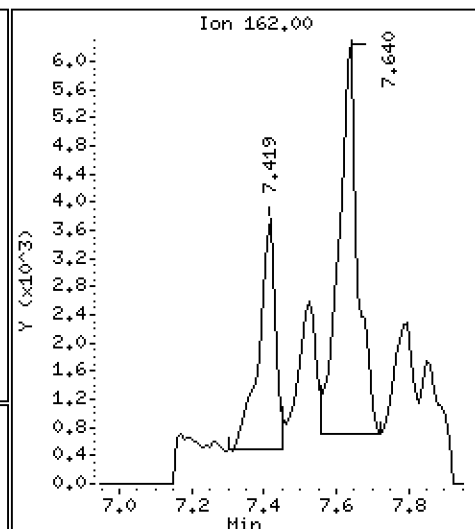
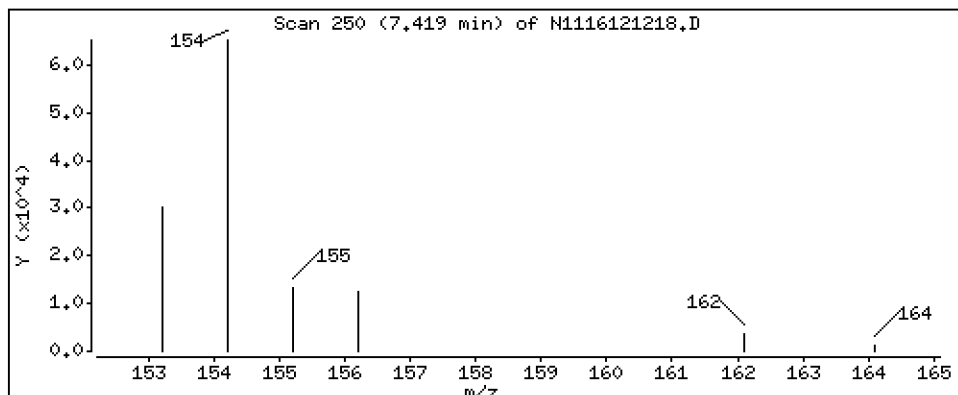
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Chloronaphthalene

Concentration: 8.00 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

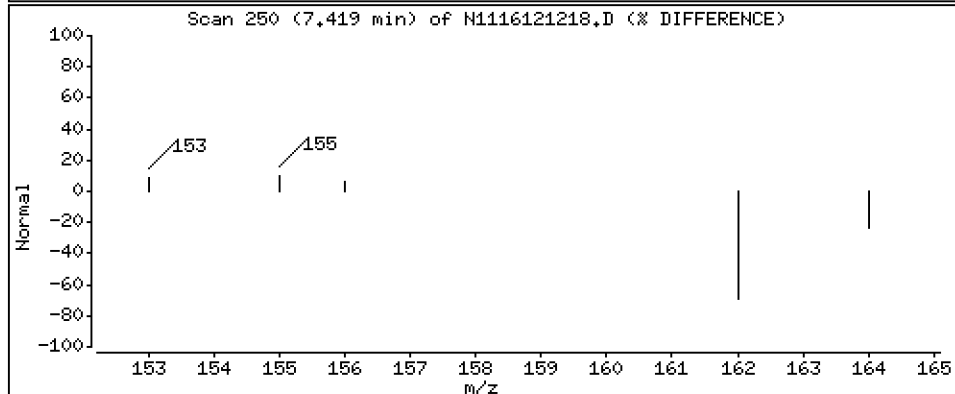
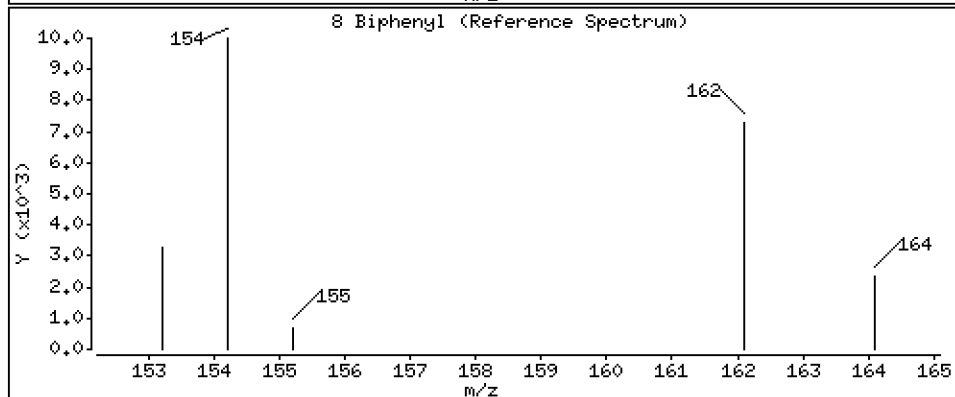
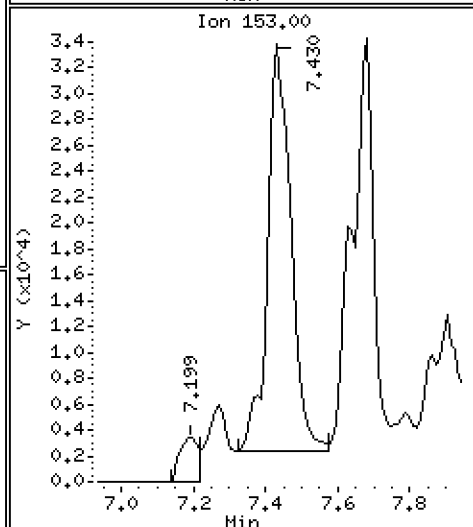
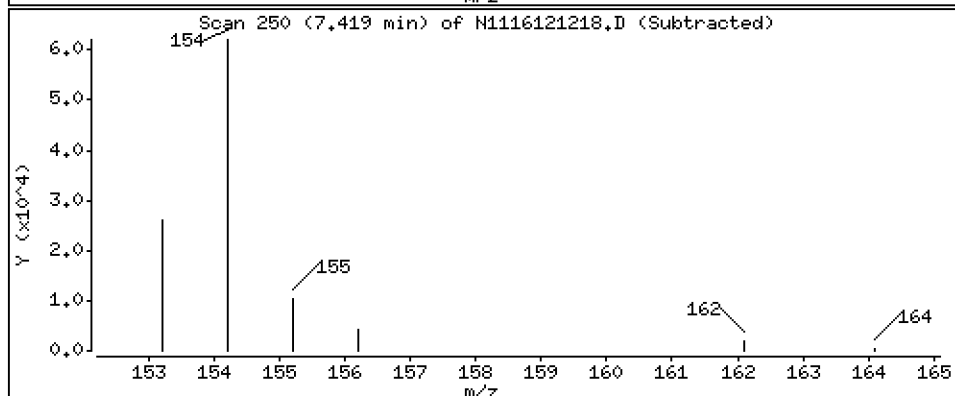
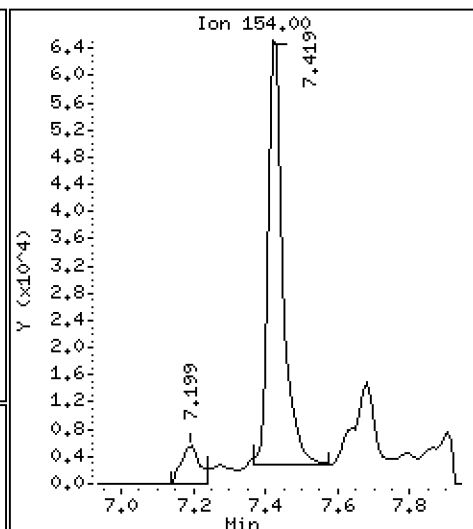
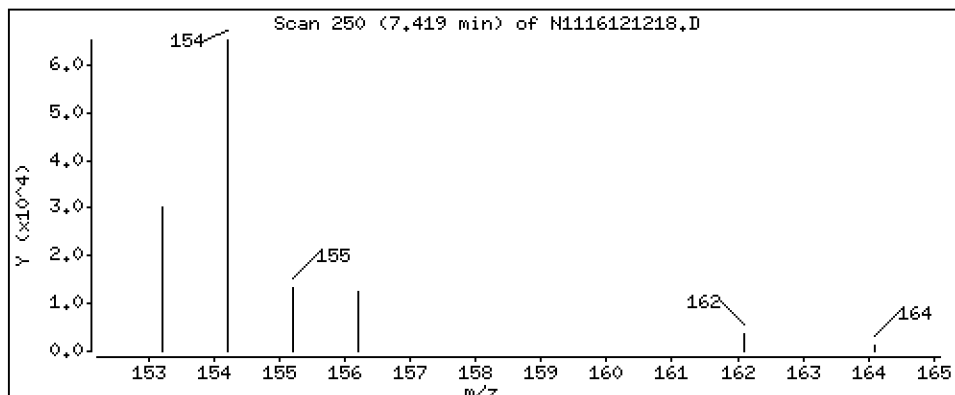
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 99,9 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

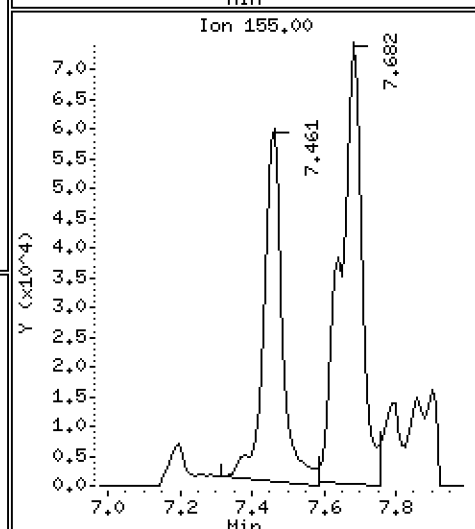
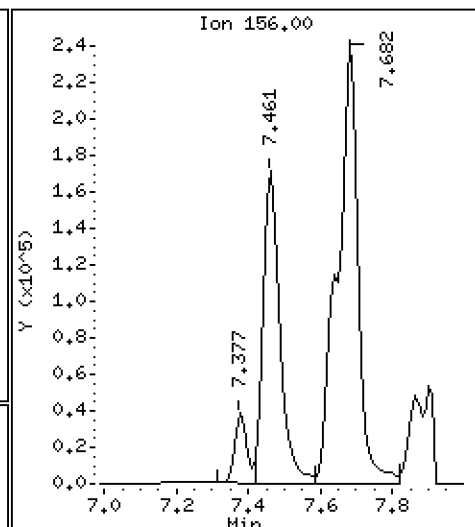
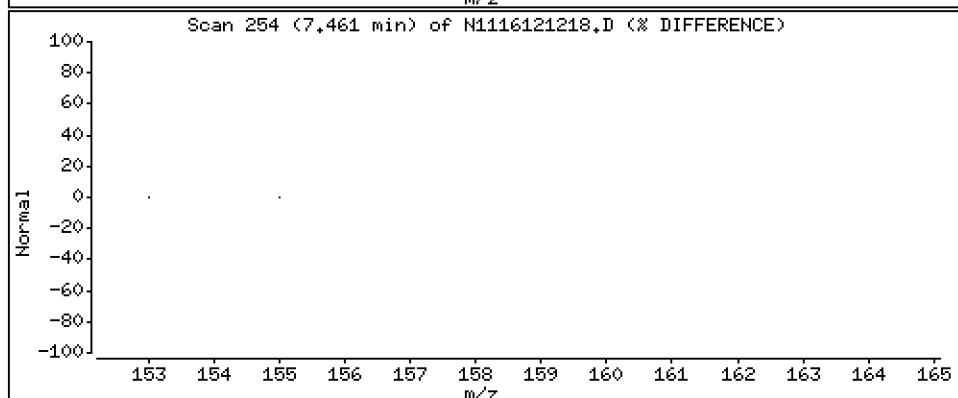
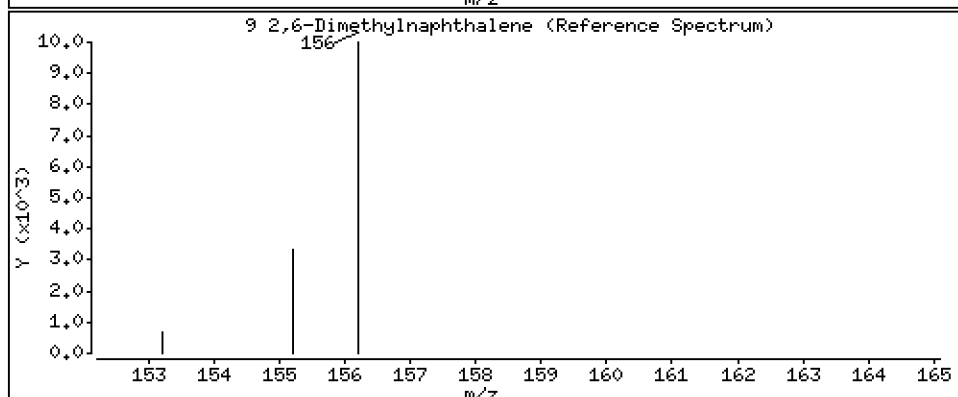
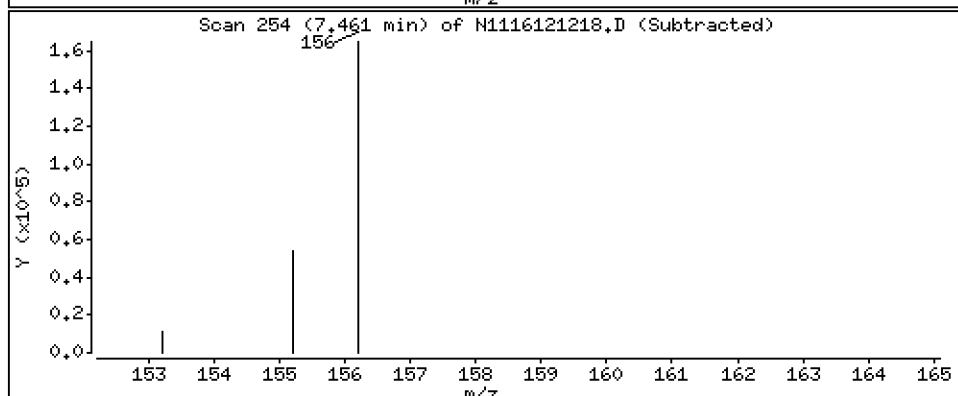
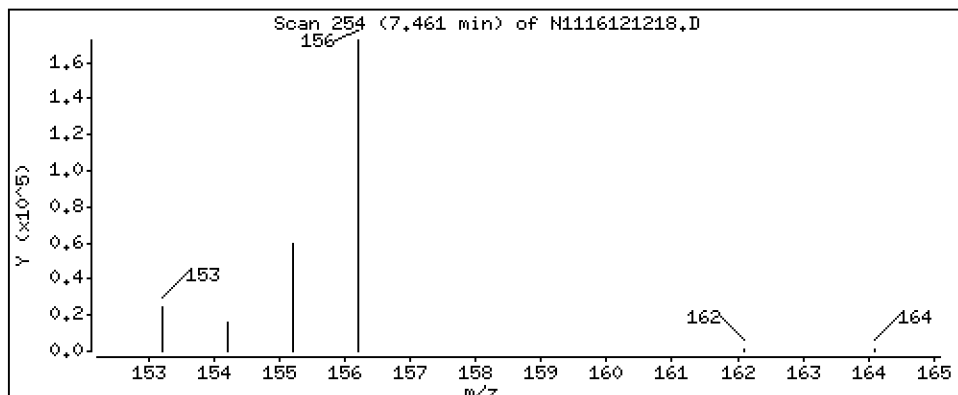
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 437 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

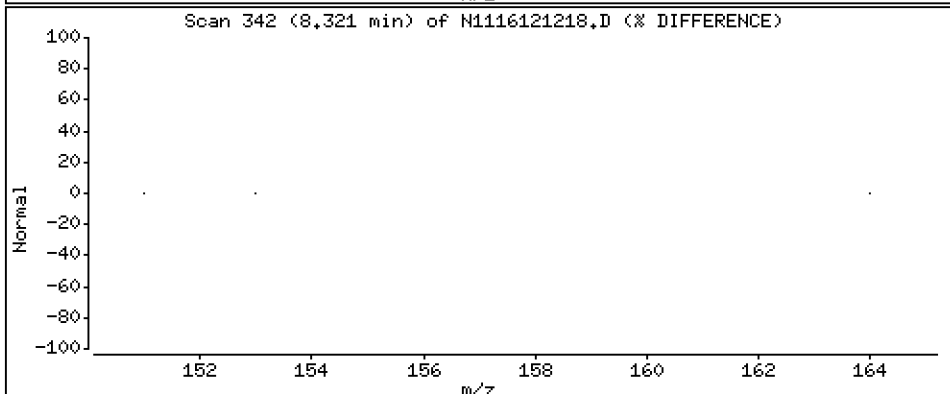
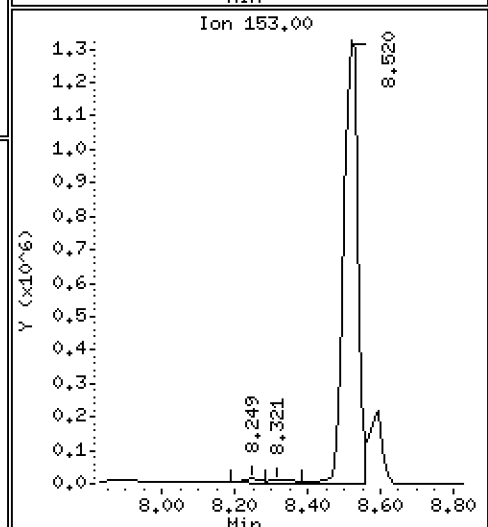
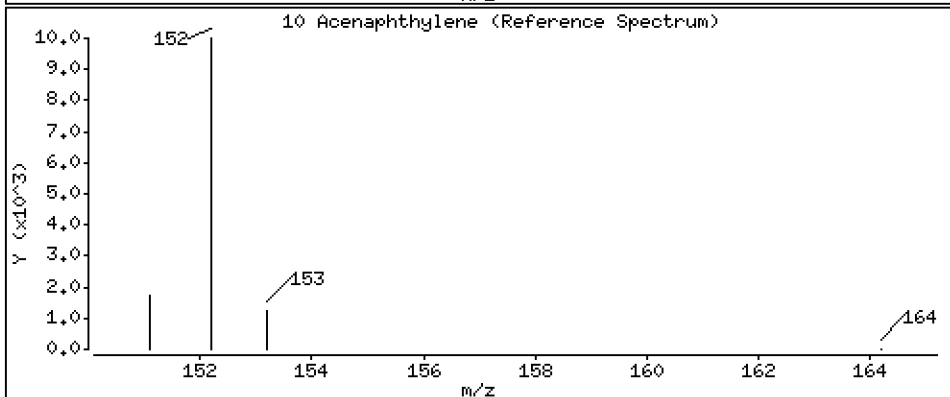
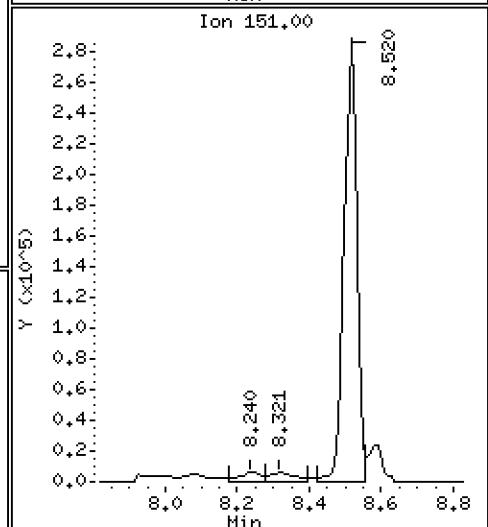
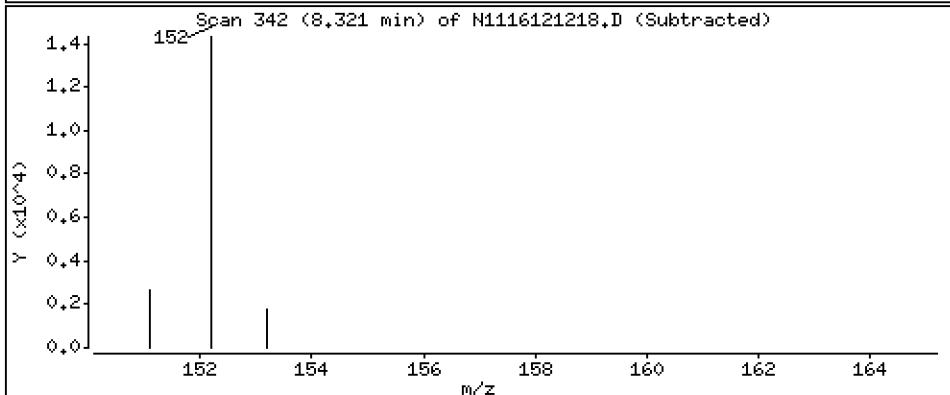
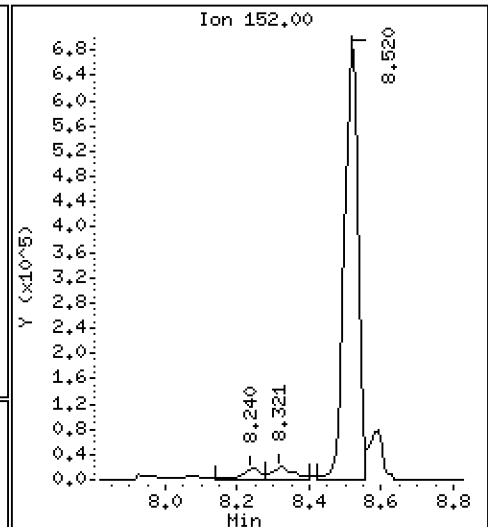
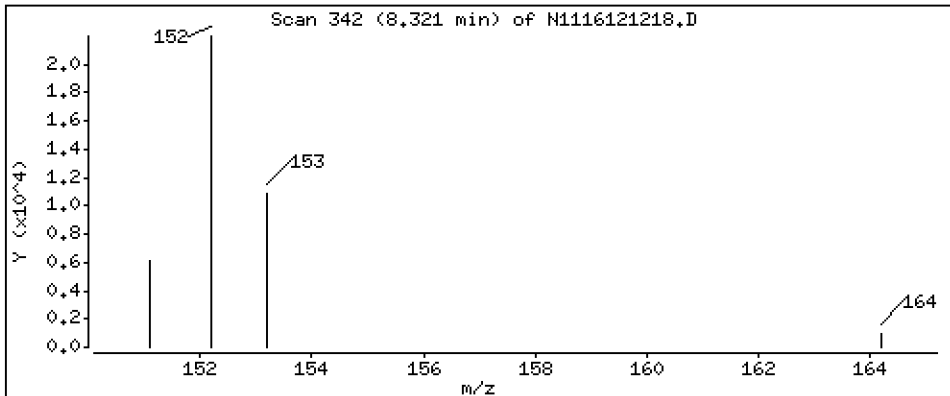
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 62,6 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

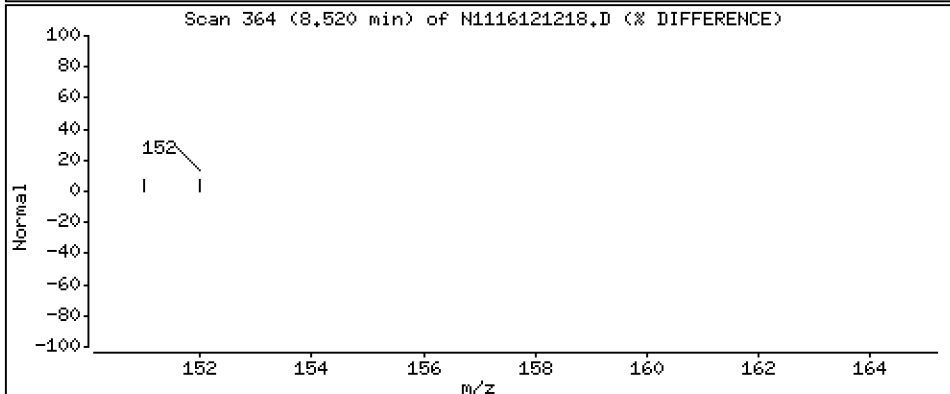
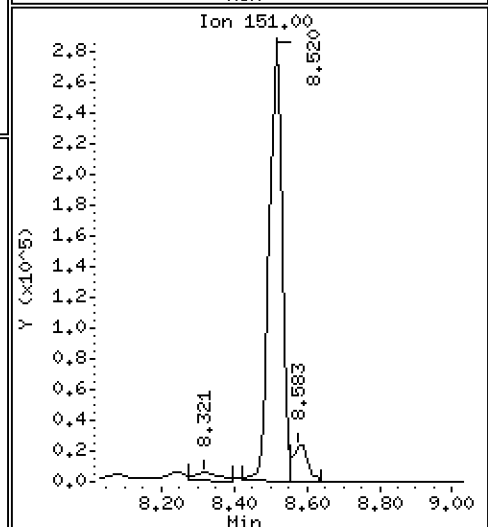
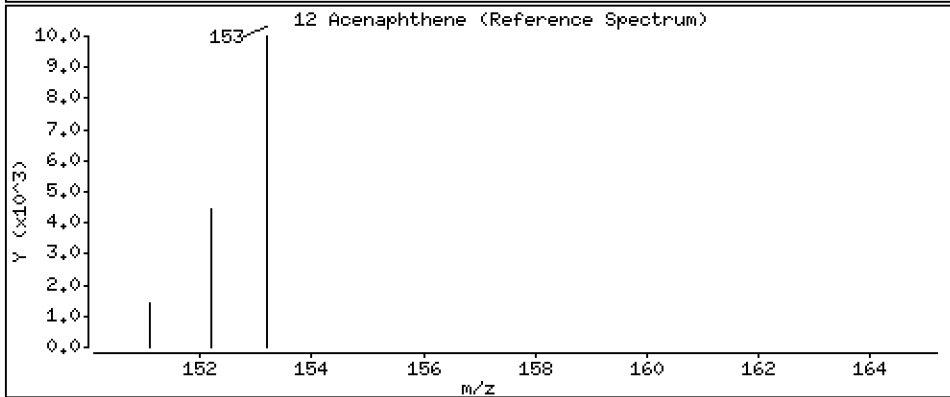
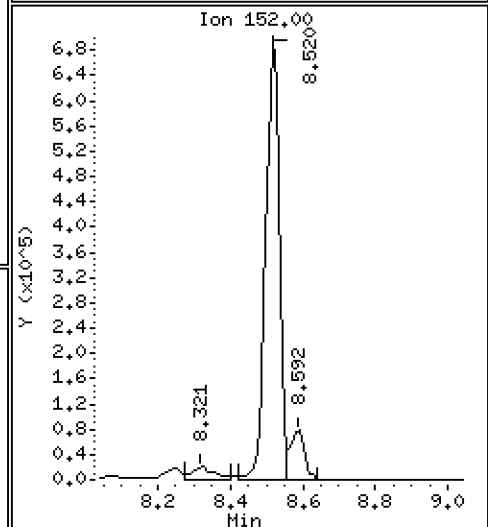
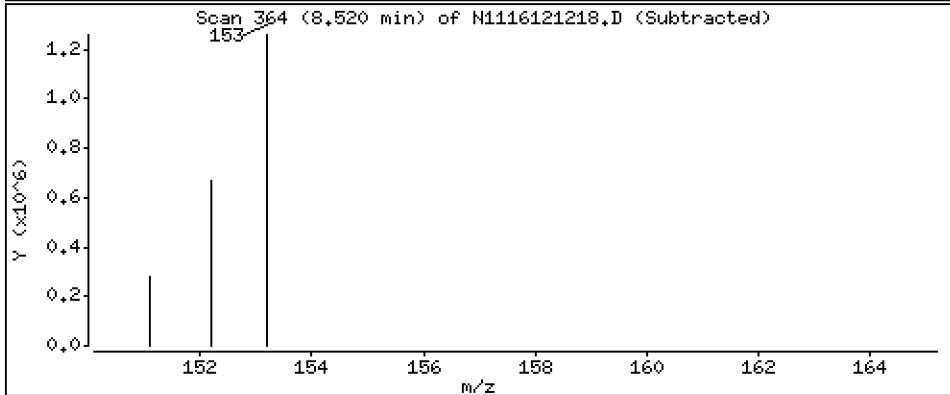
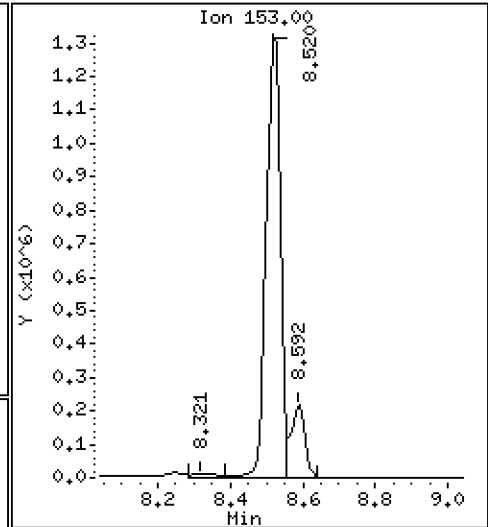
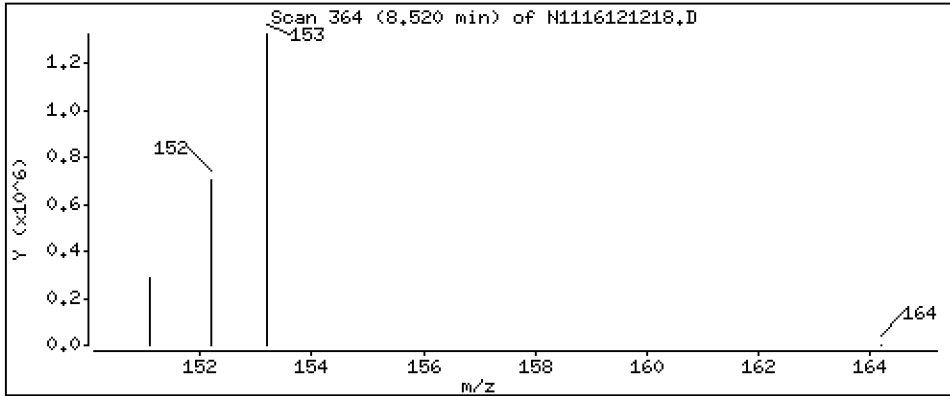
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 3590 ng/mL

12 Acenaphthene



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

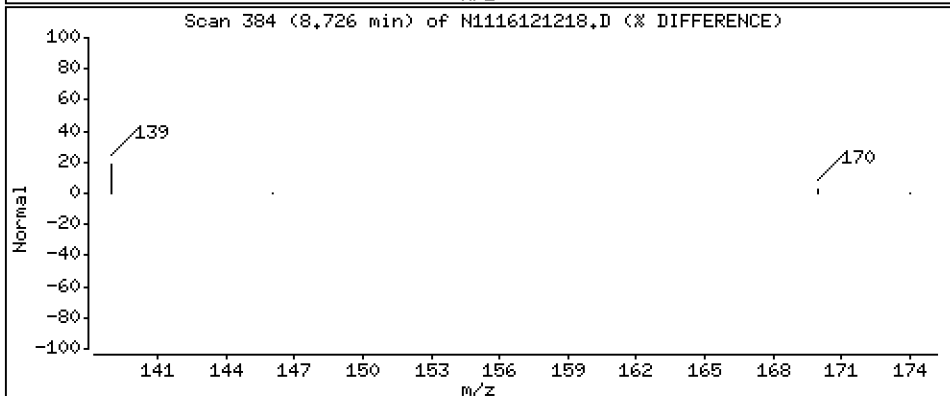
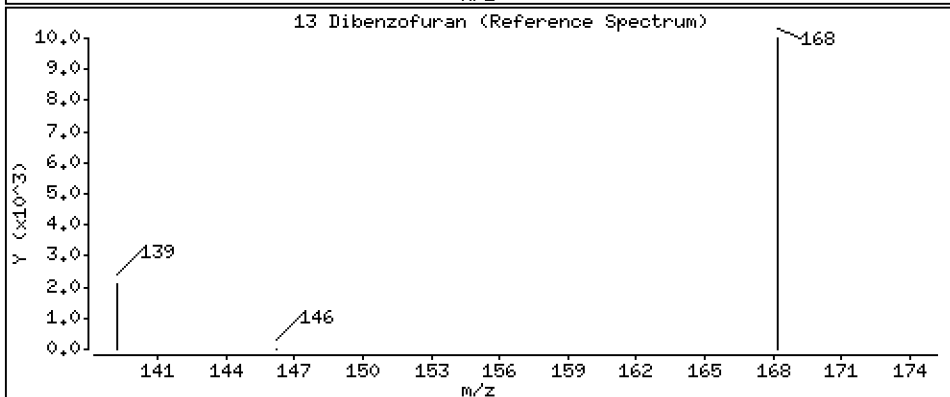
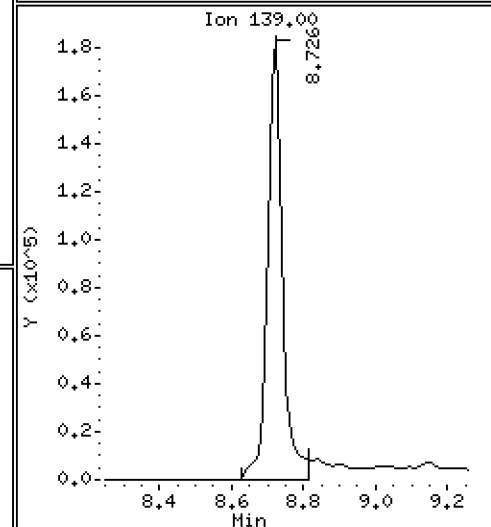
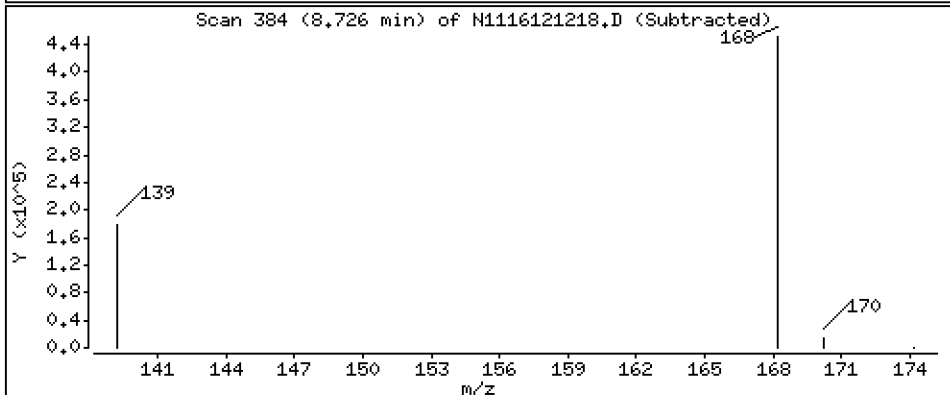
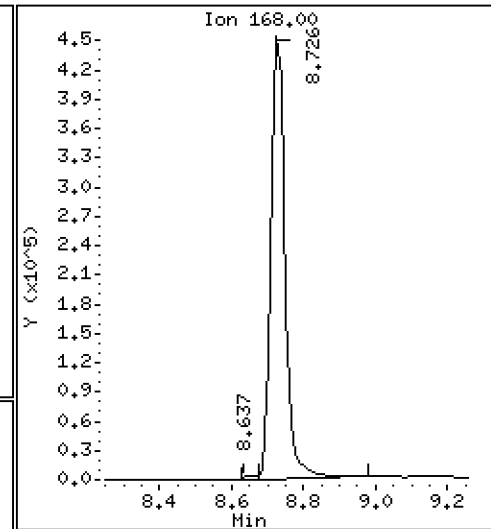
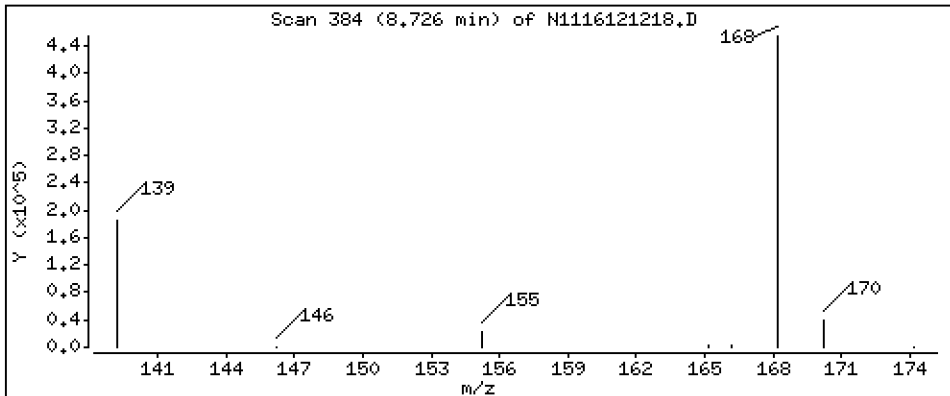
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 871 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

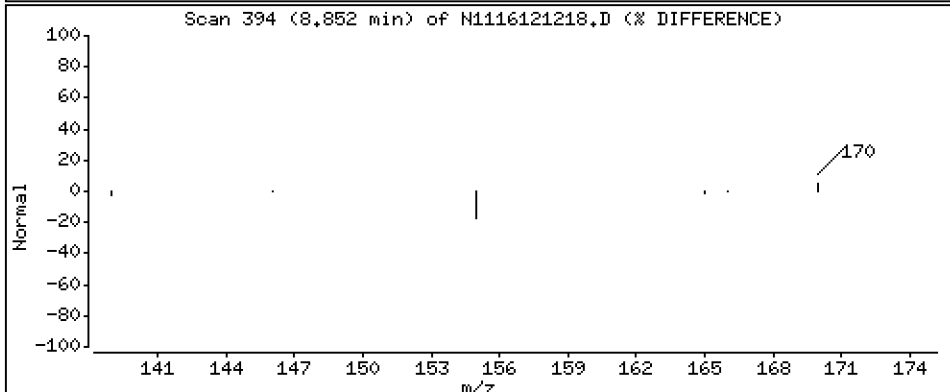
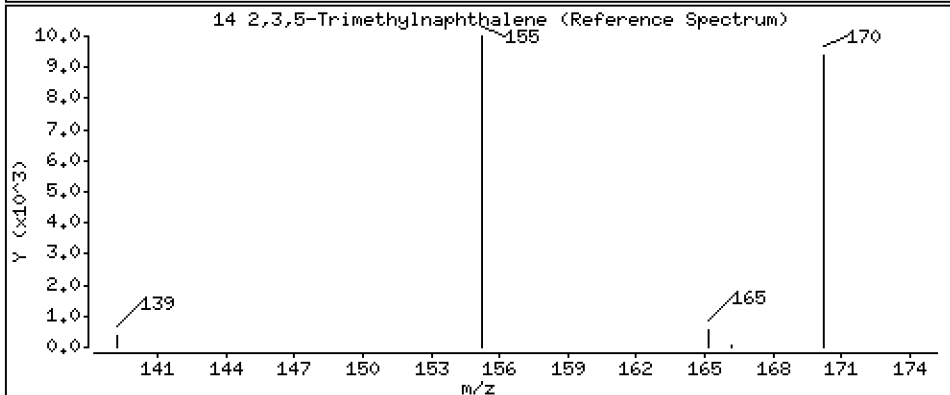
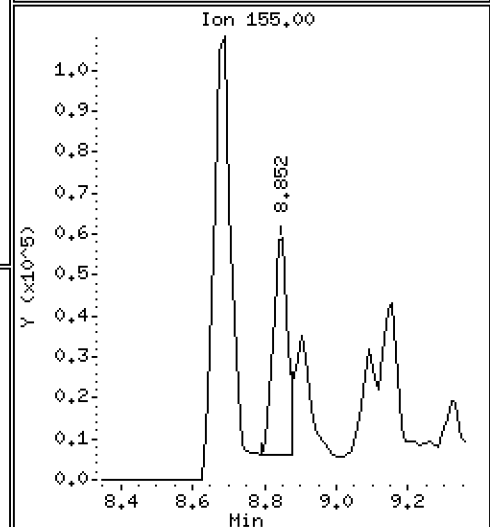
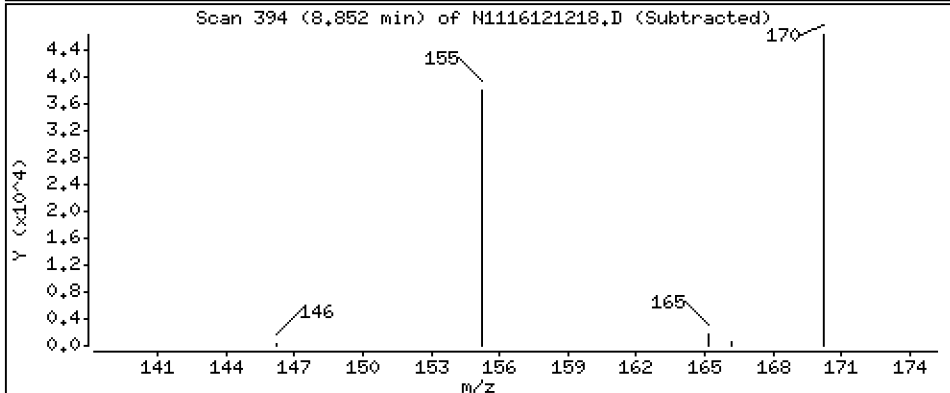
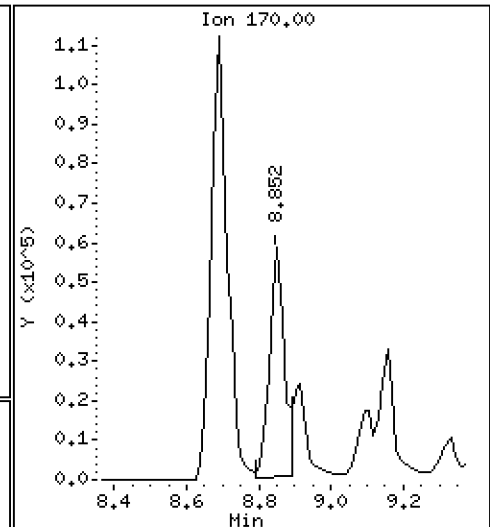
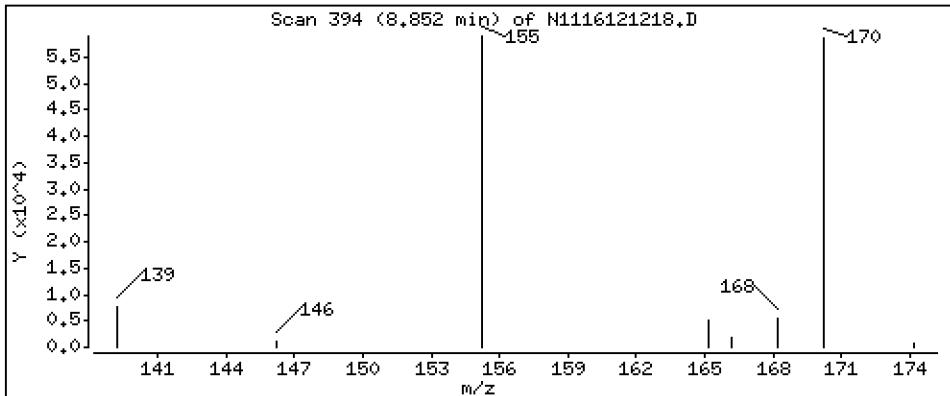
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 189 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

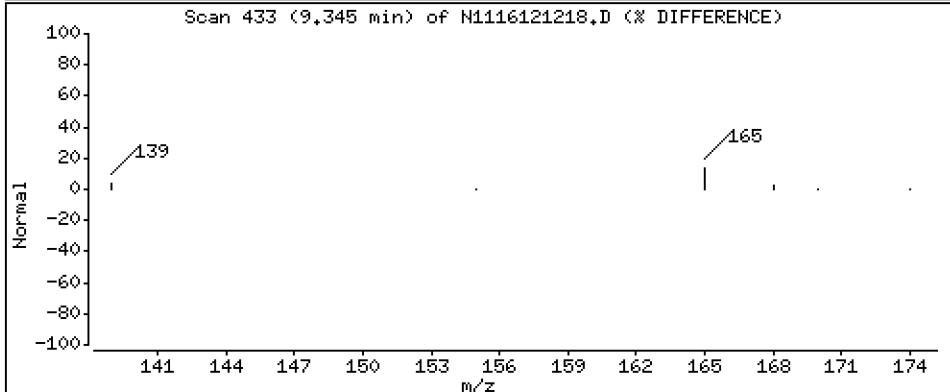
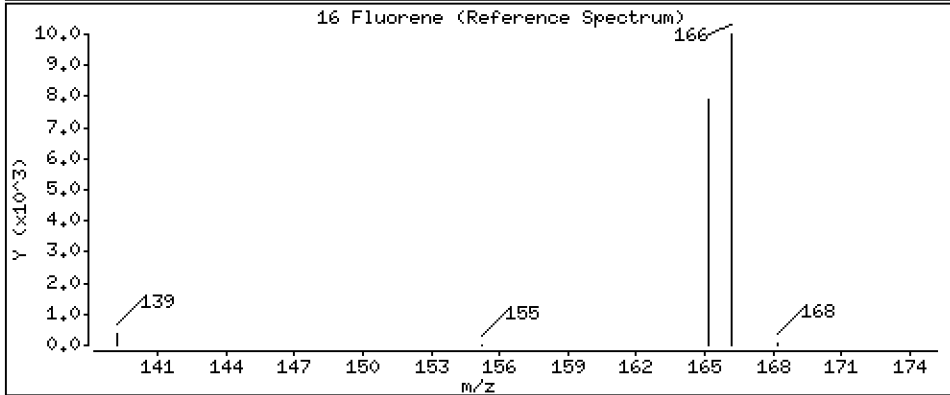
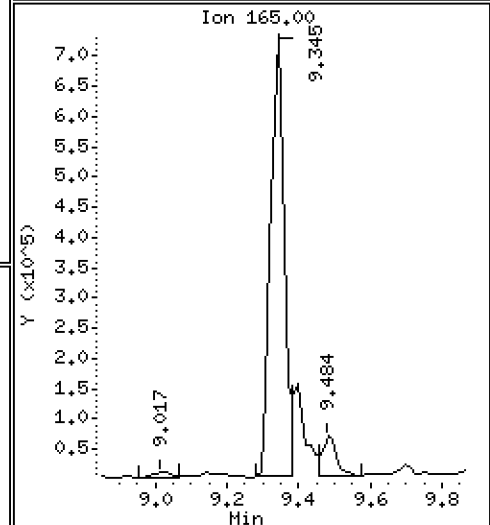
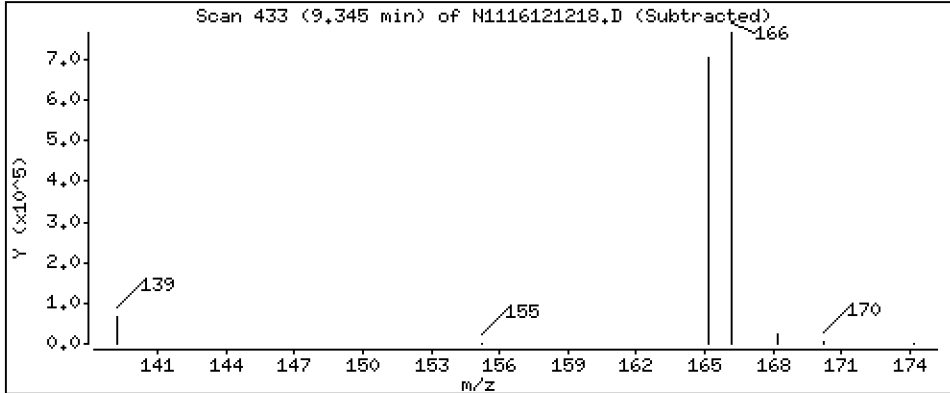
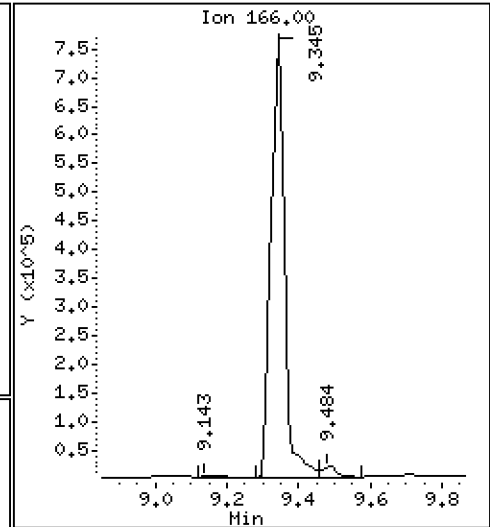
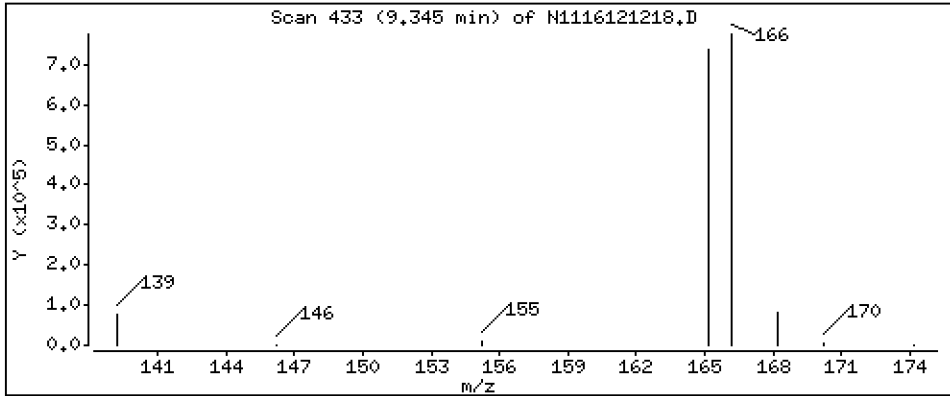
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 1790 ng/mL

16 Fluorene



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

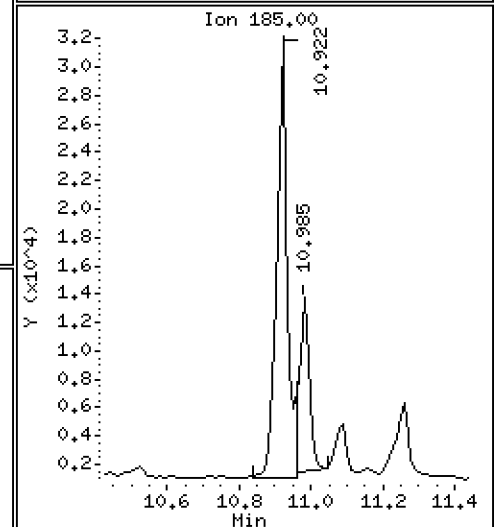
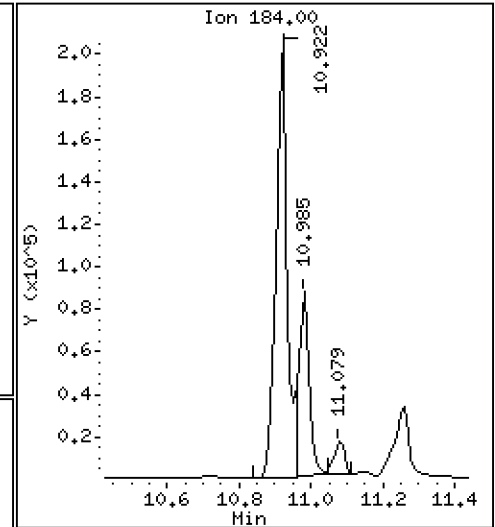
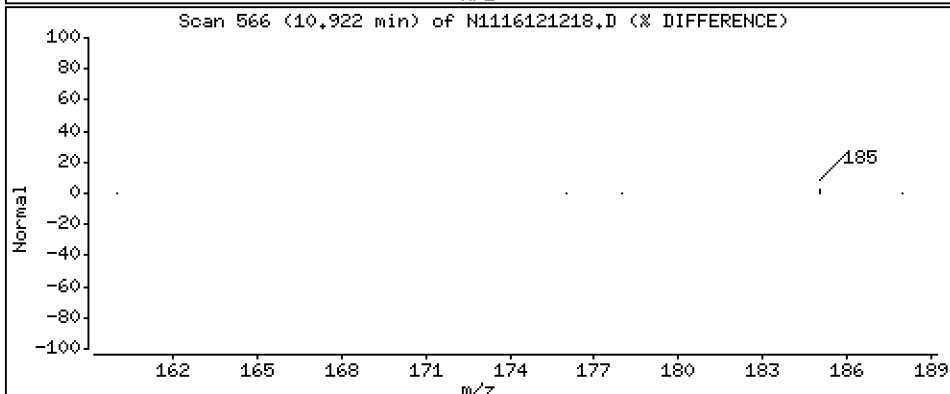
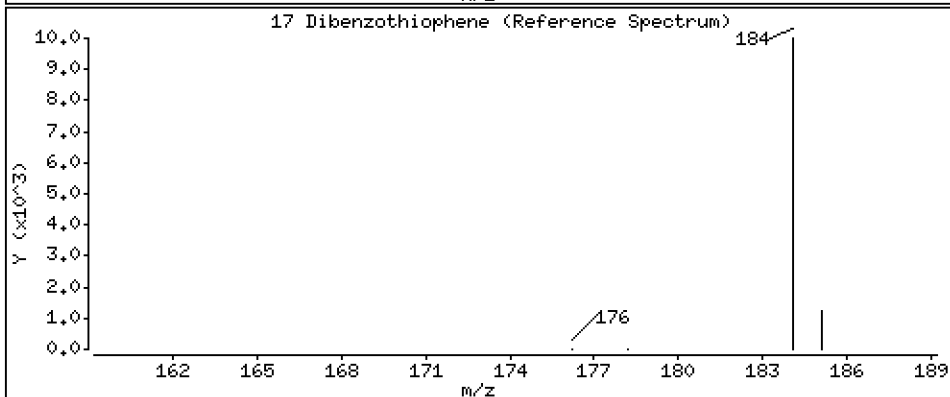
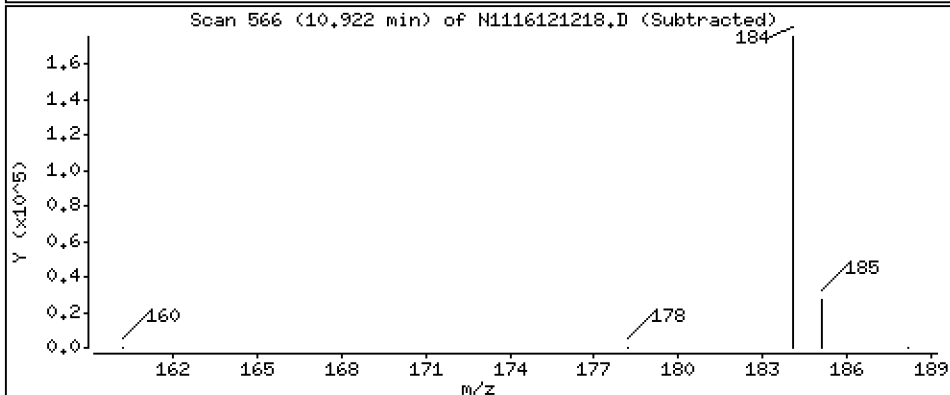
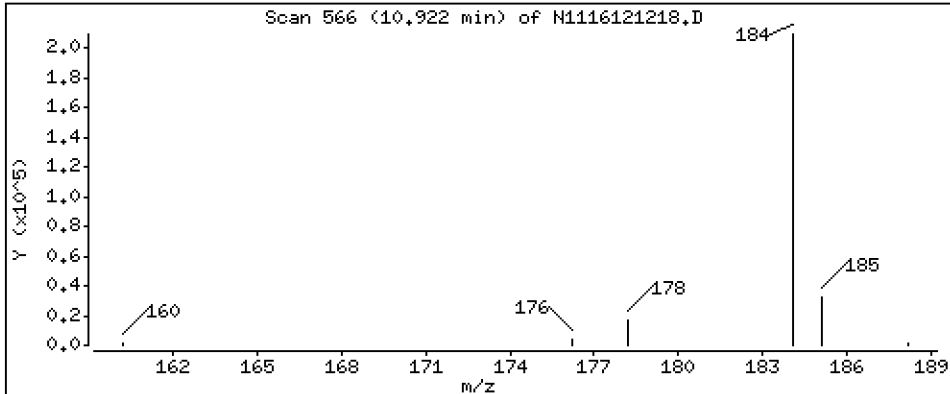
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 357 ng/mL

17 Dibenzothiophene



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

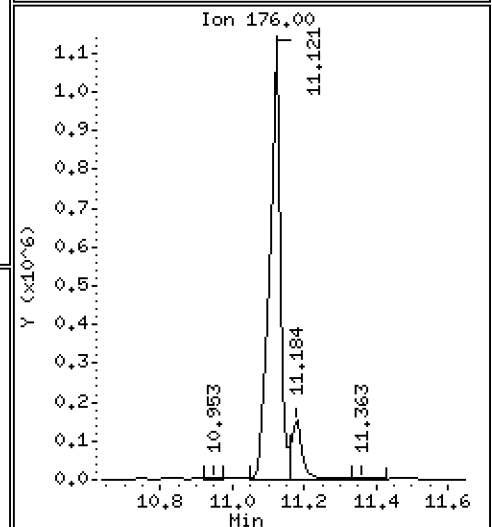
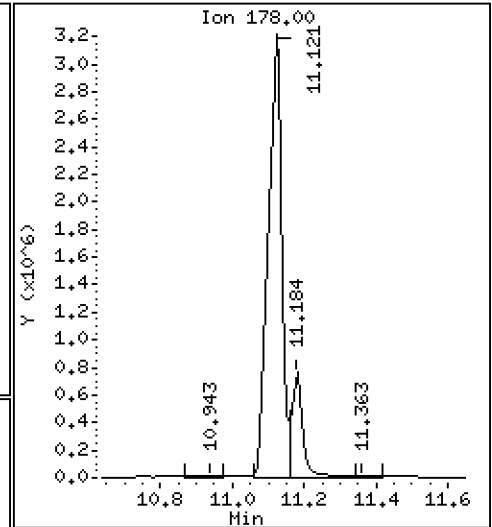
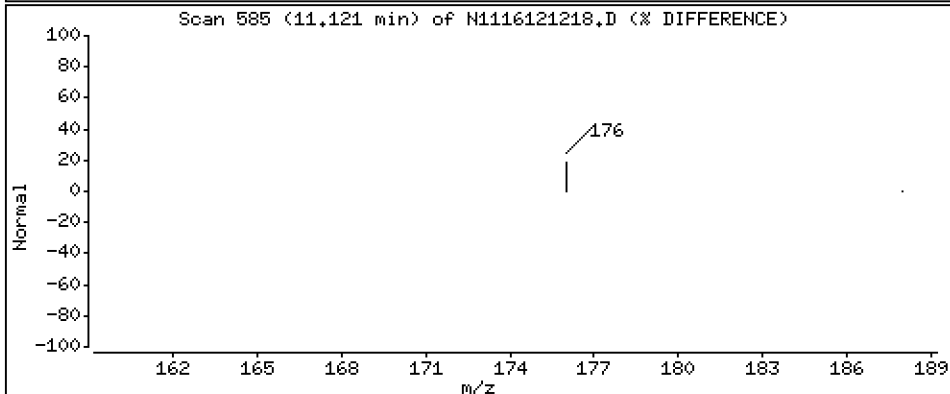
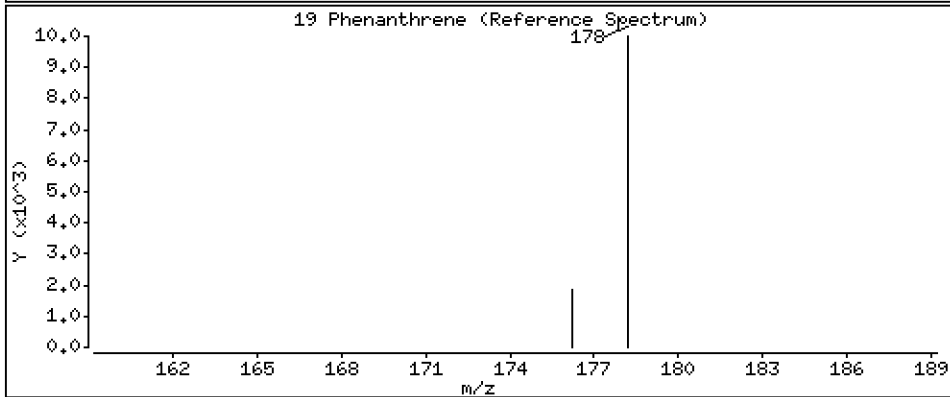
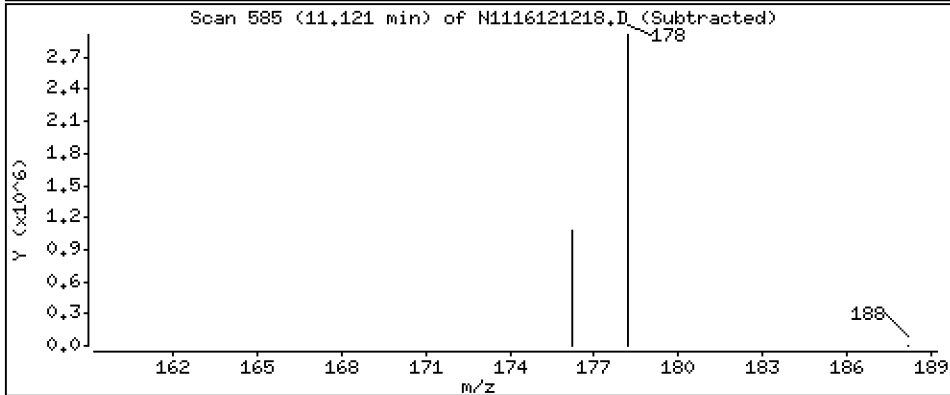
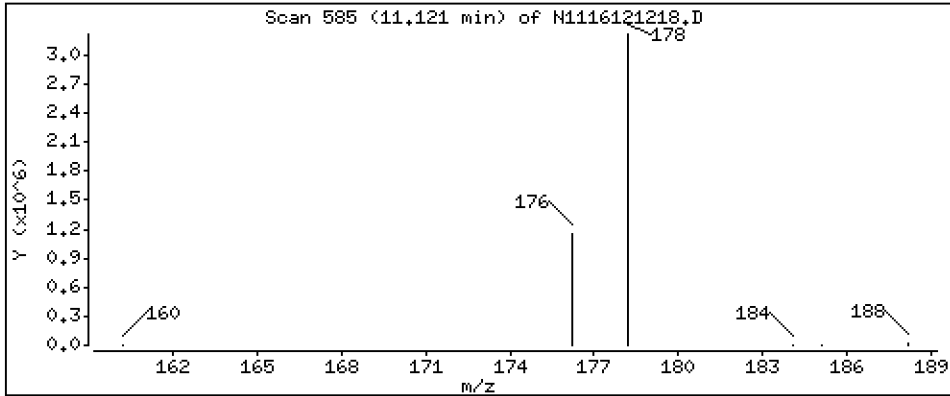
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 5520 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

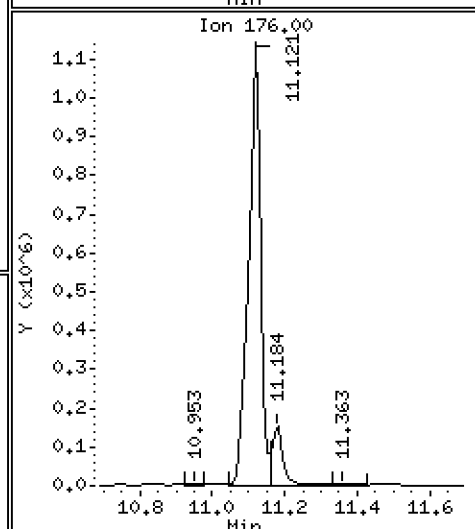
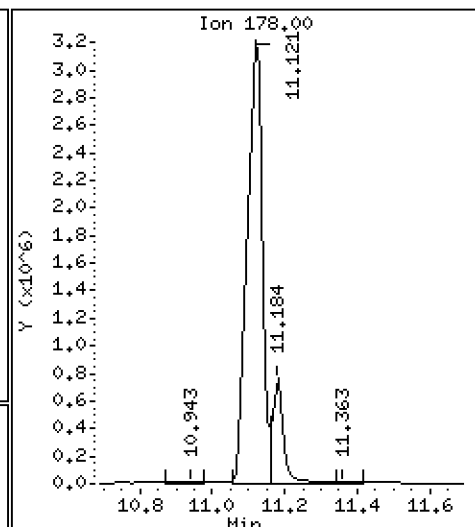
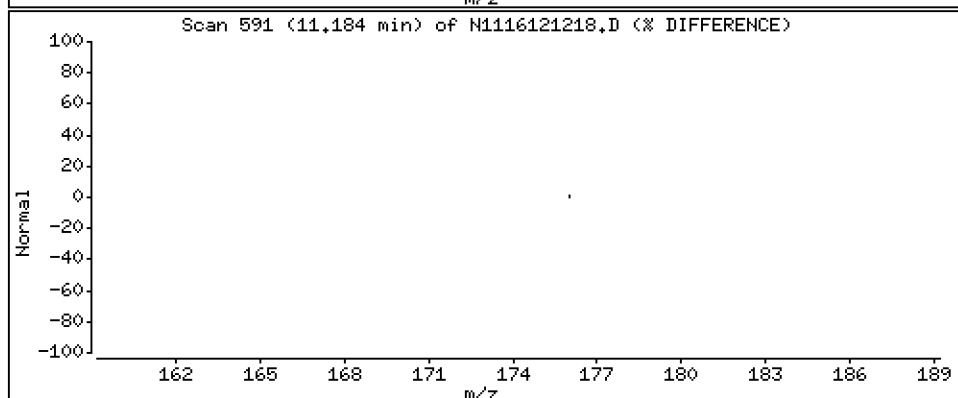
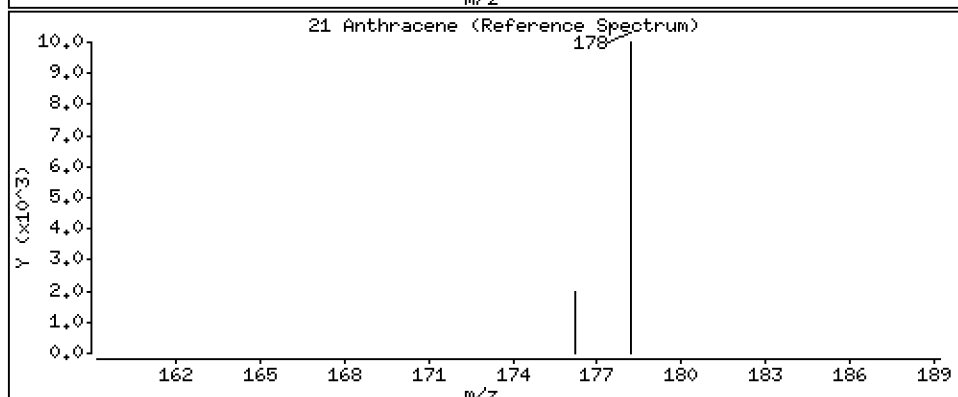
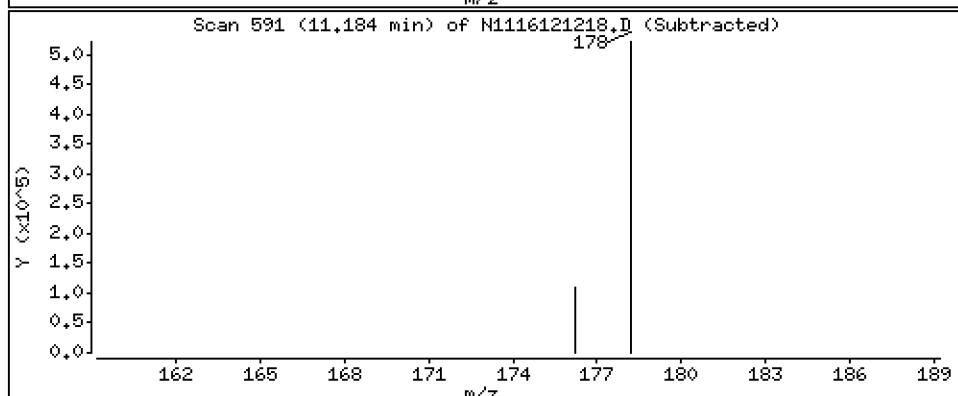
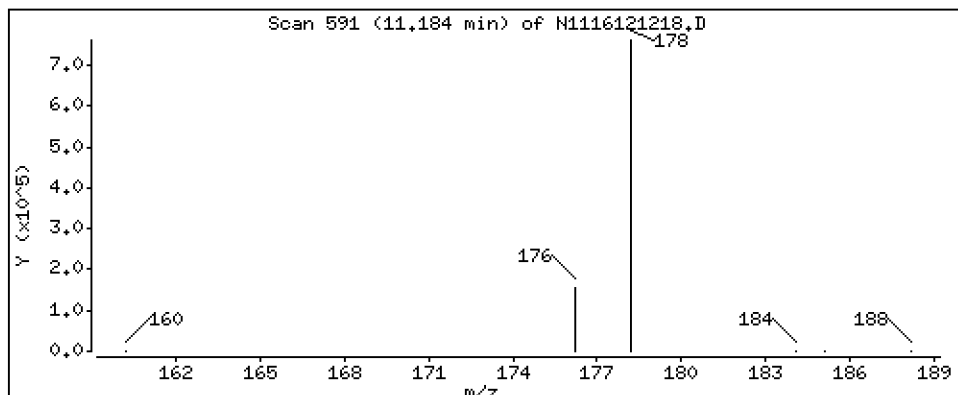
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 1040 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

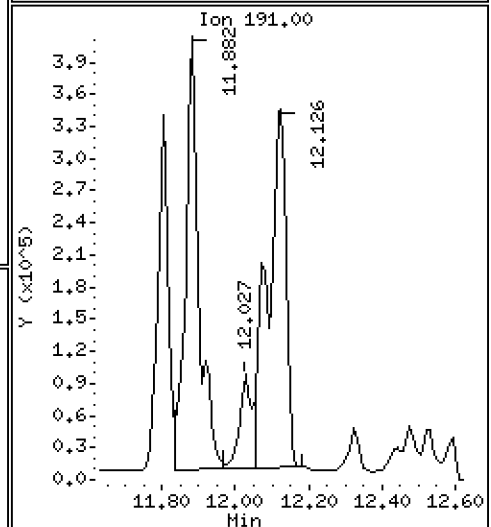
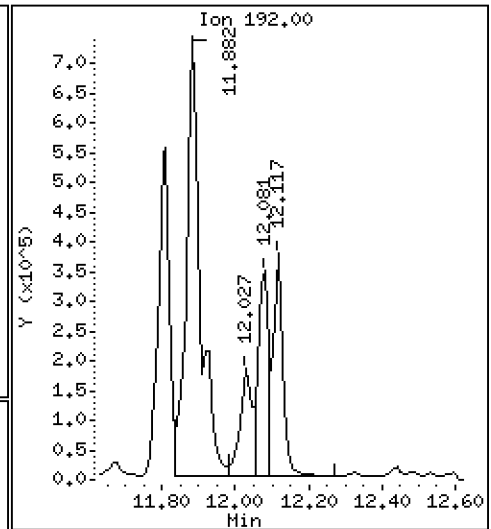
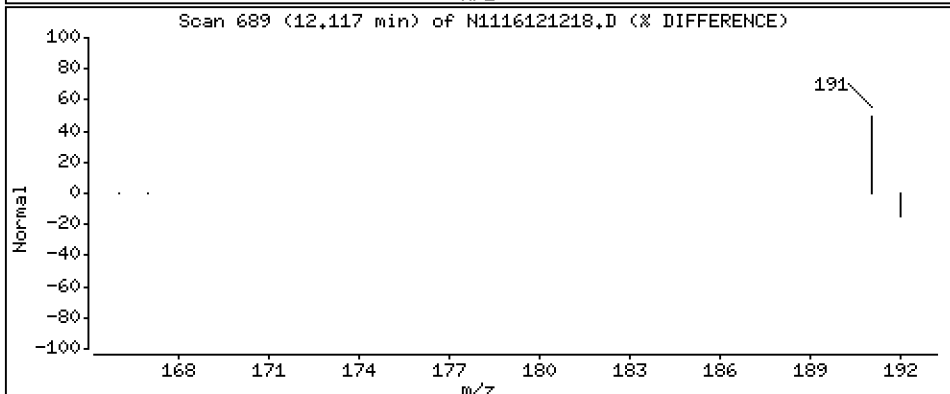
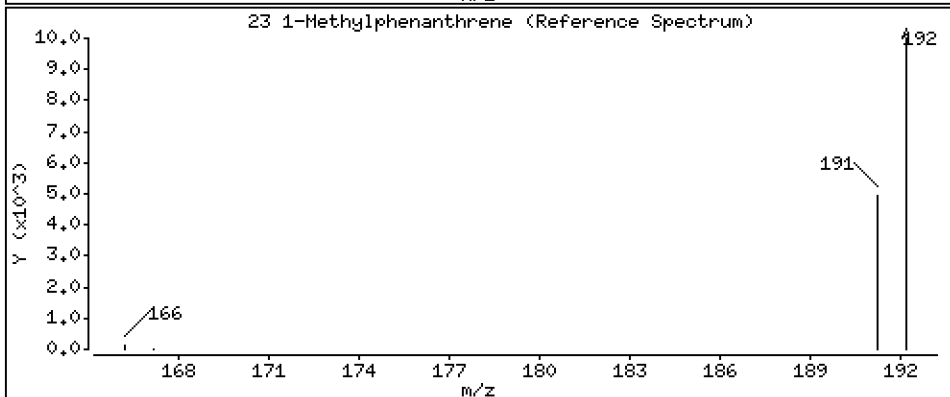
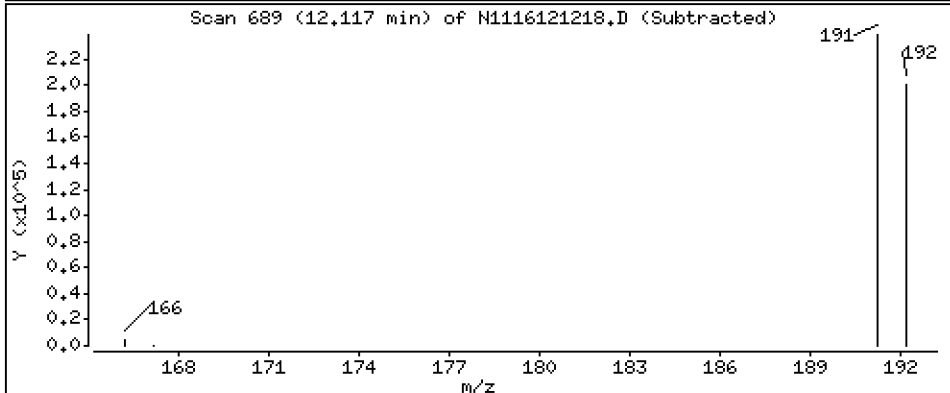
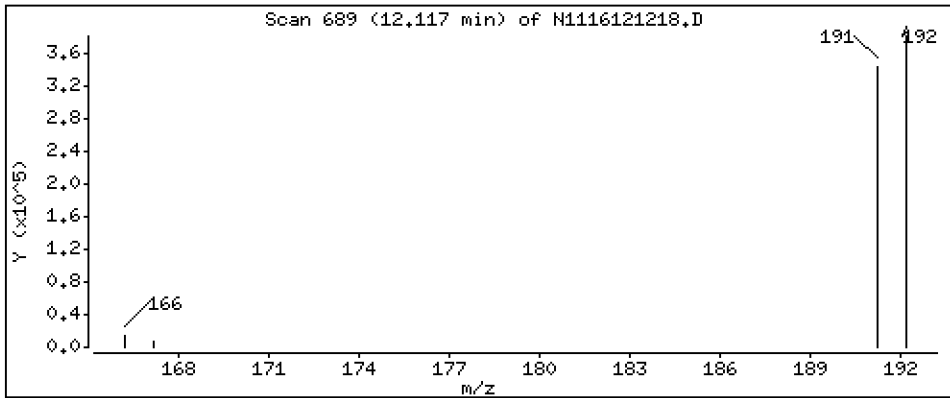
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 549 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

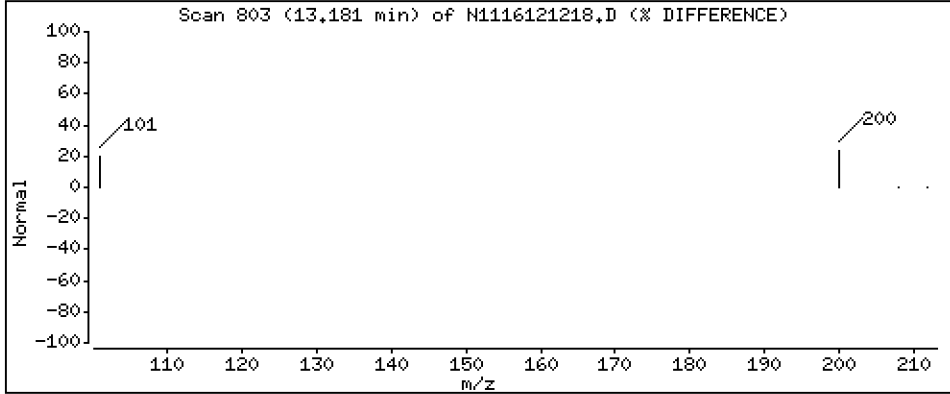
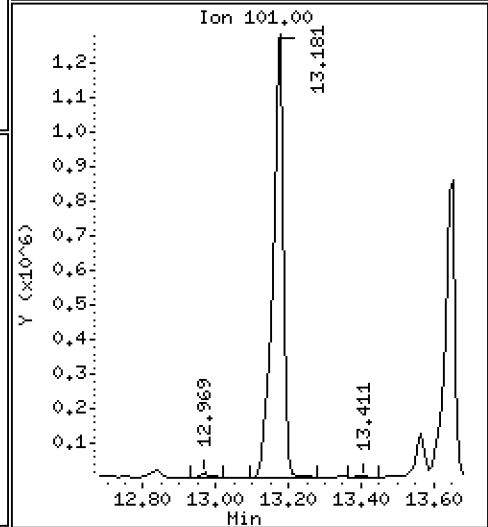
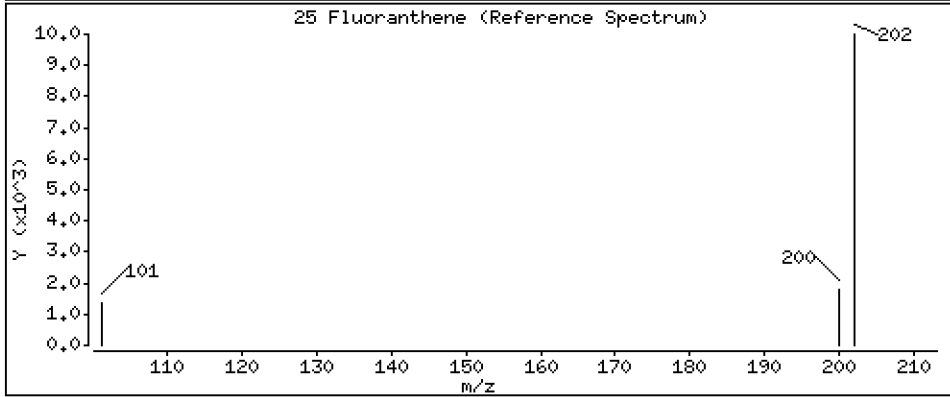
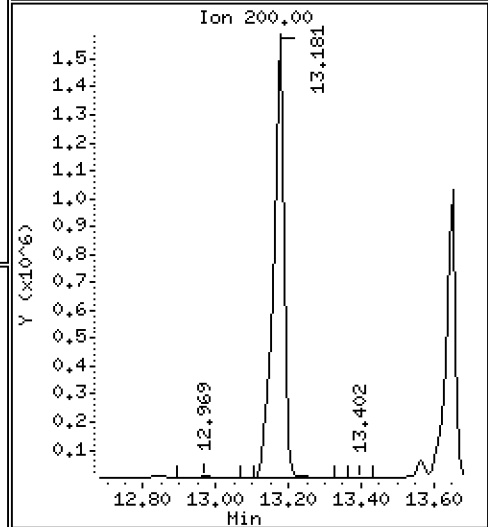
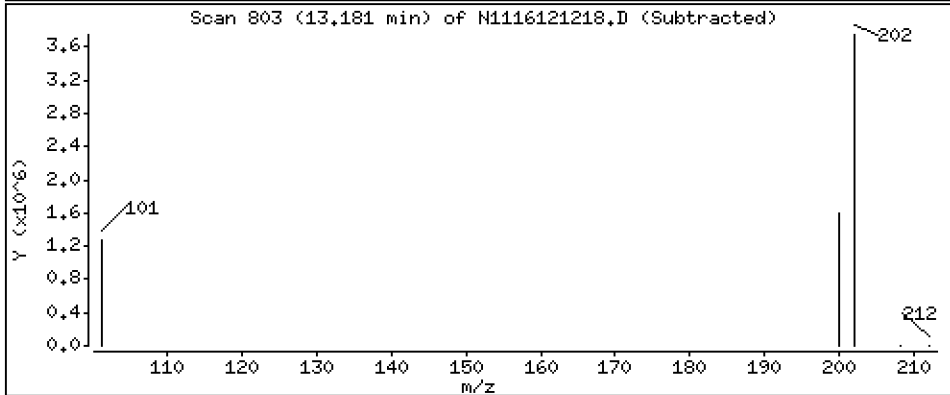
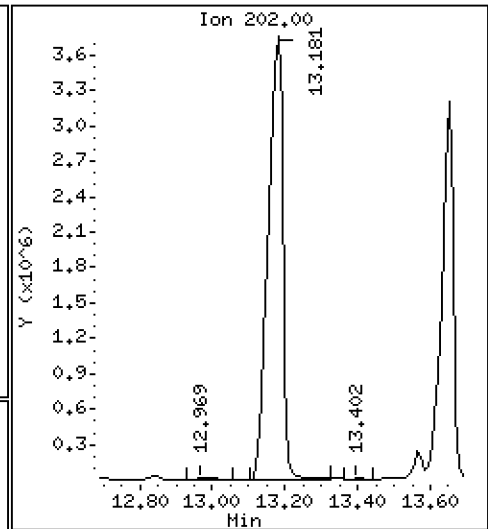
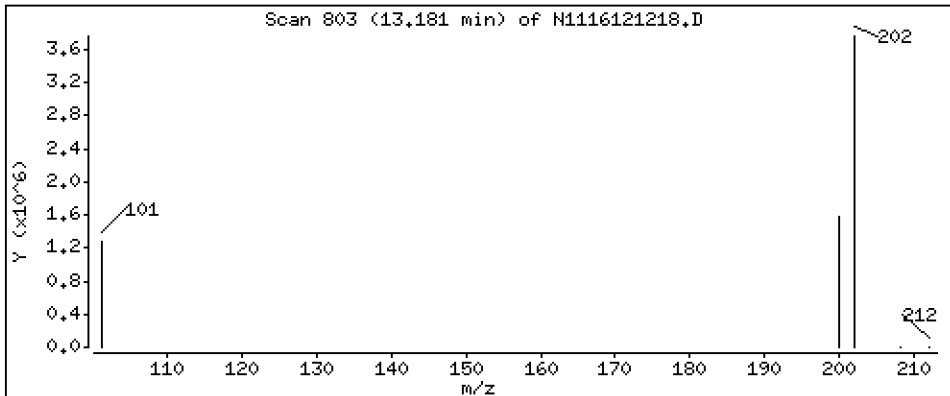
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 6400 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

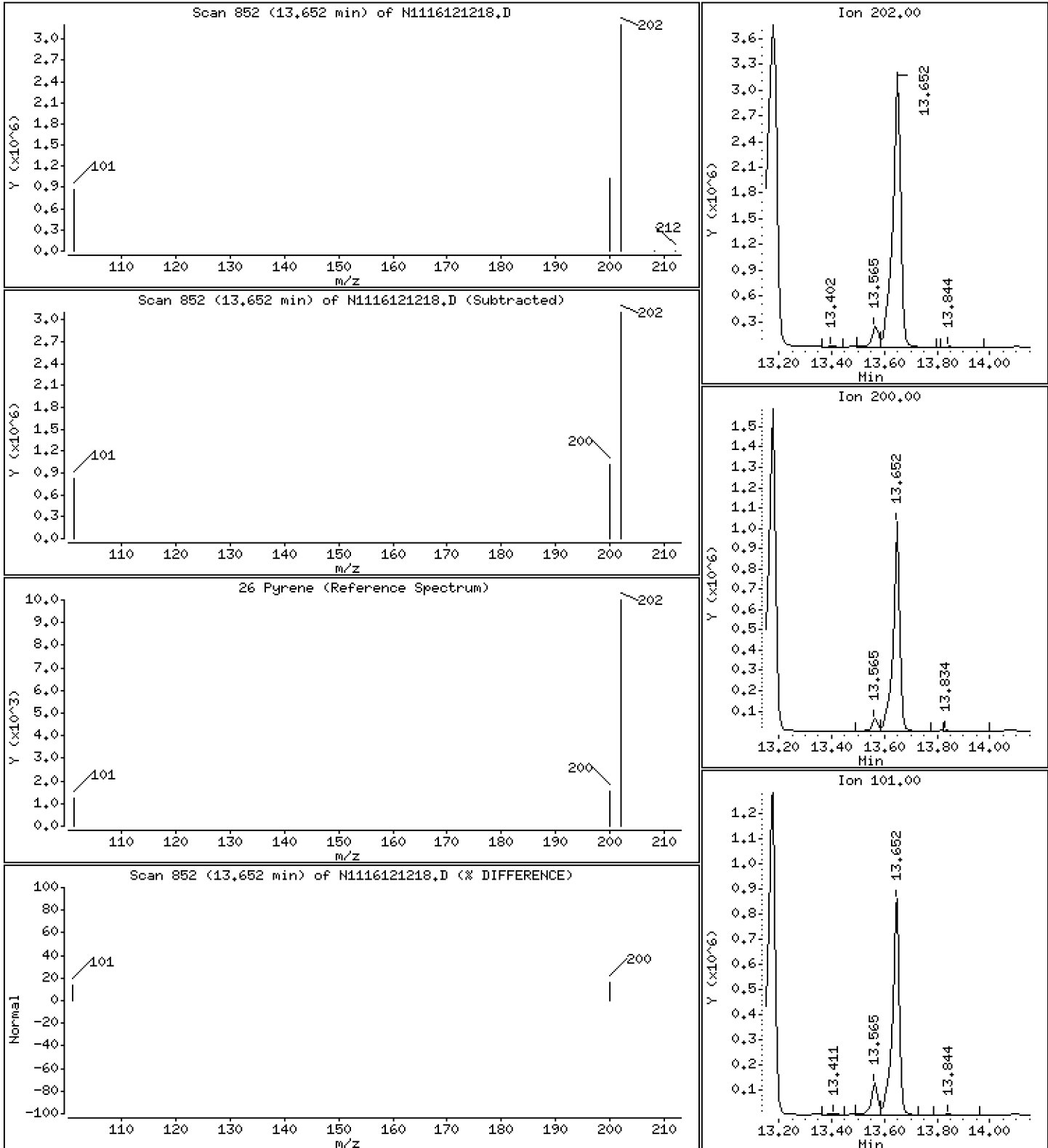
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 4320 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

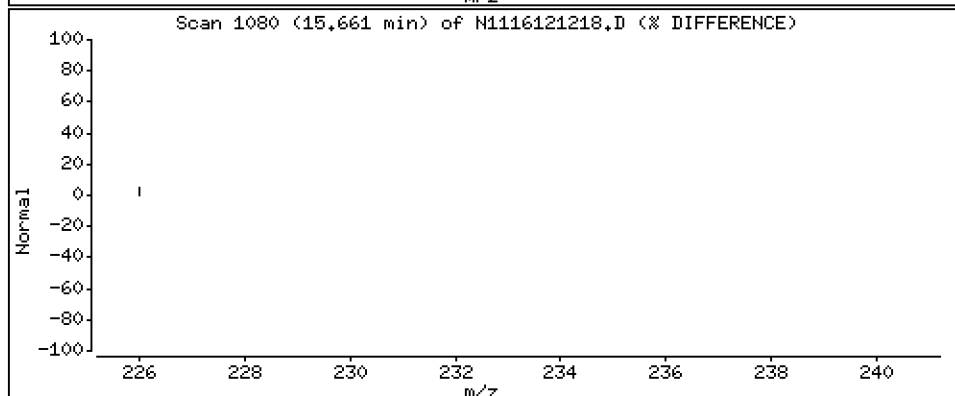
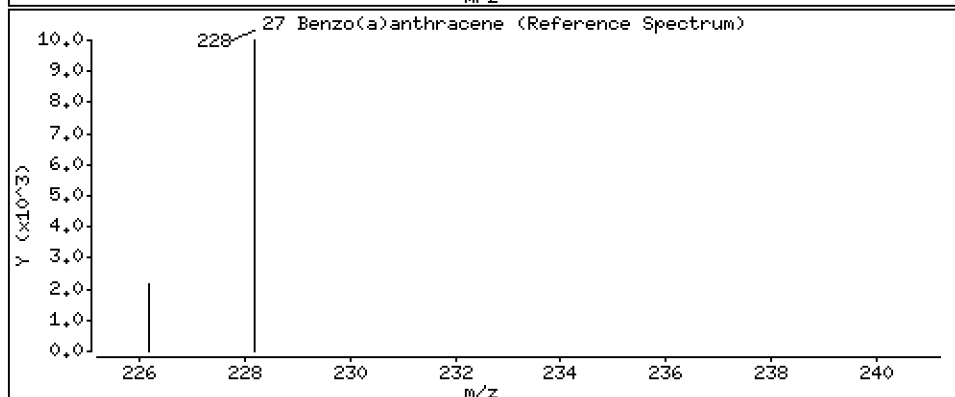
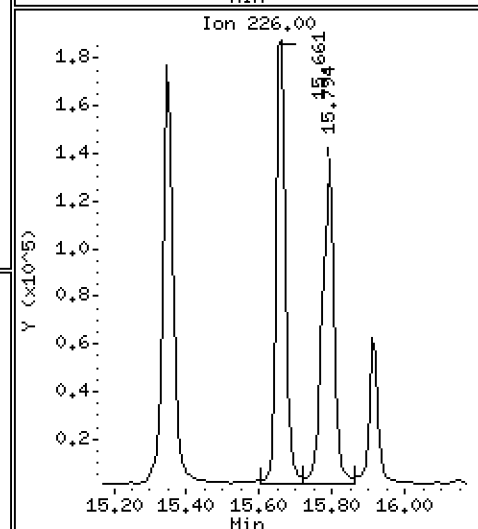
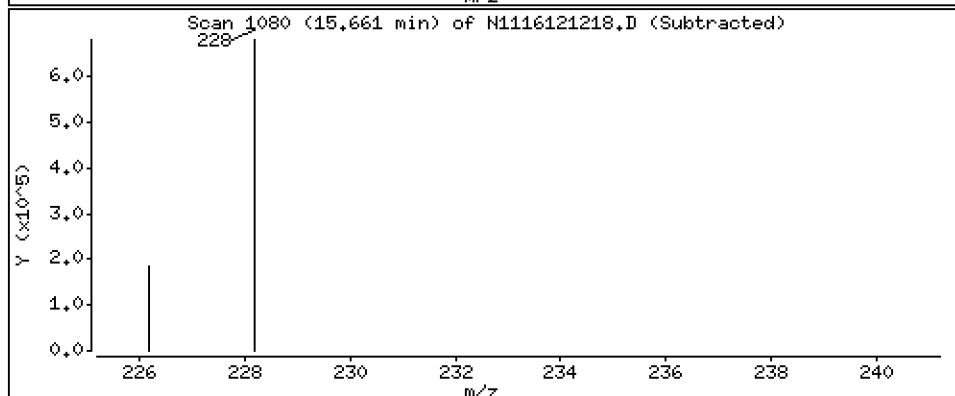
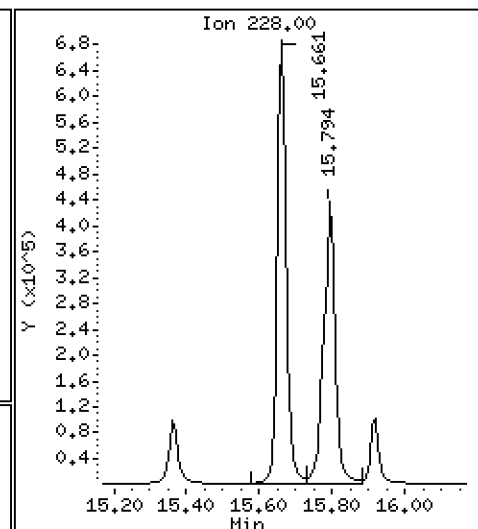
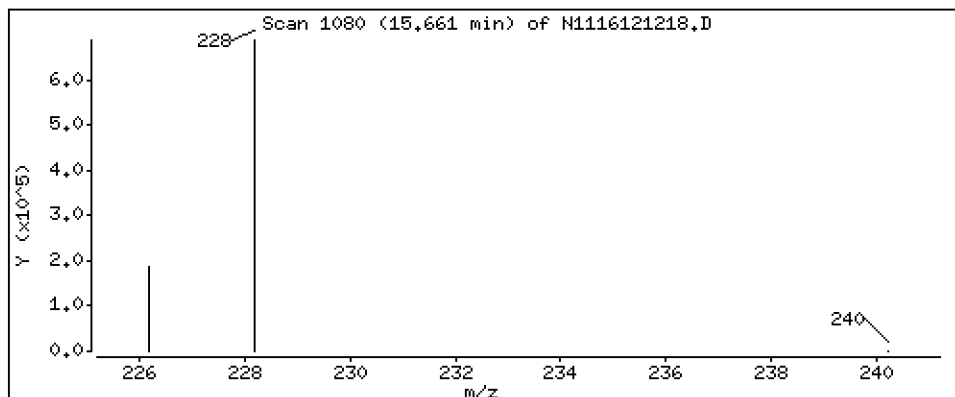
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 817 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

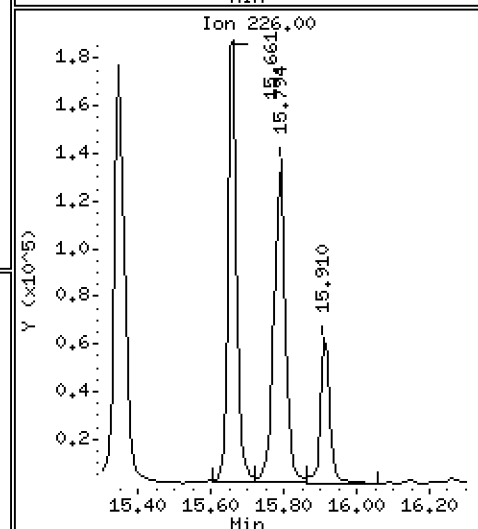
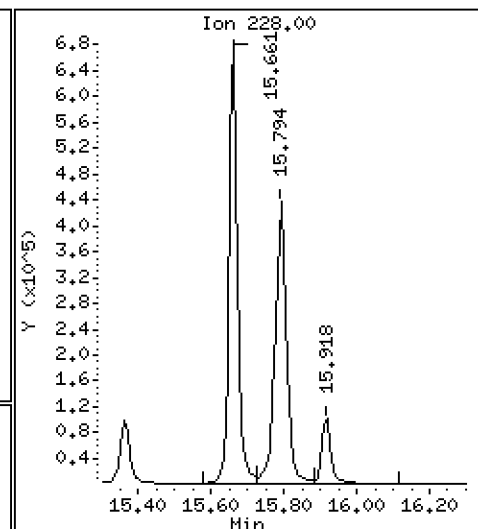
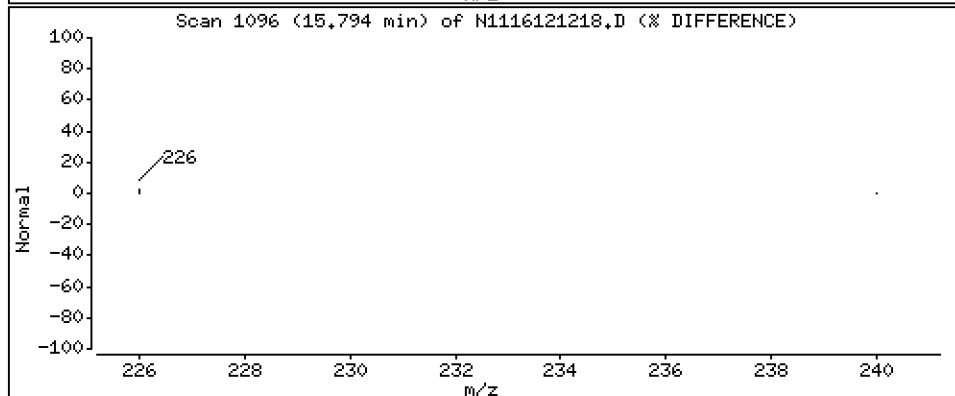
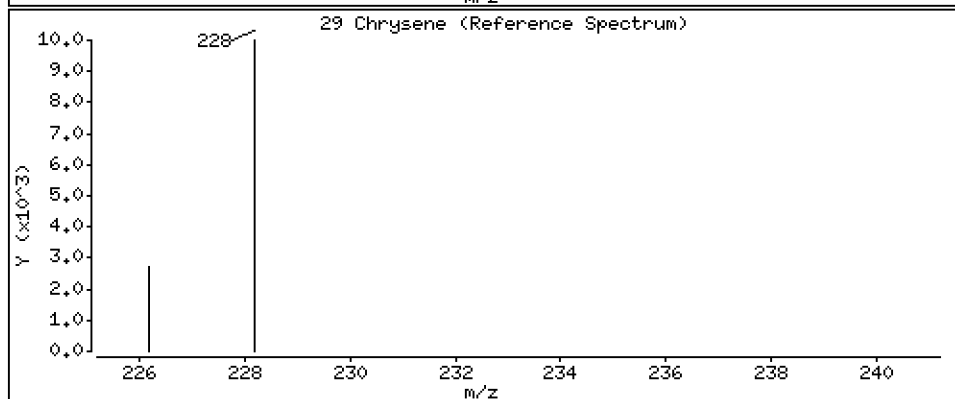
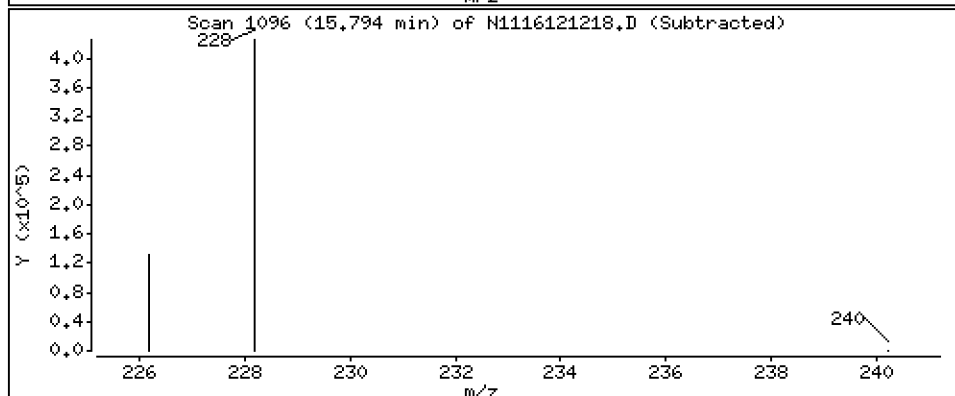
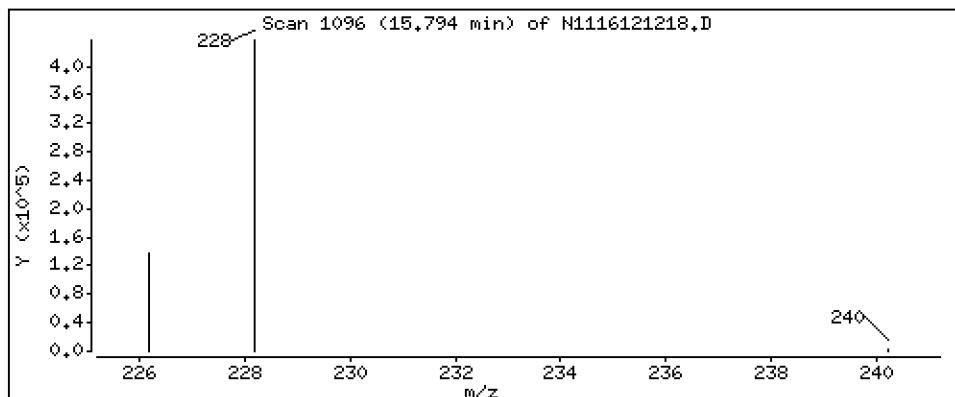
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 624 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

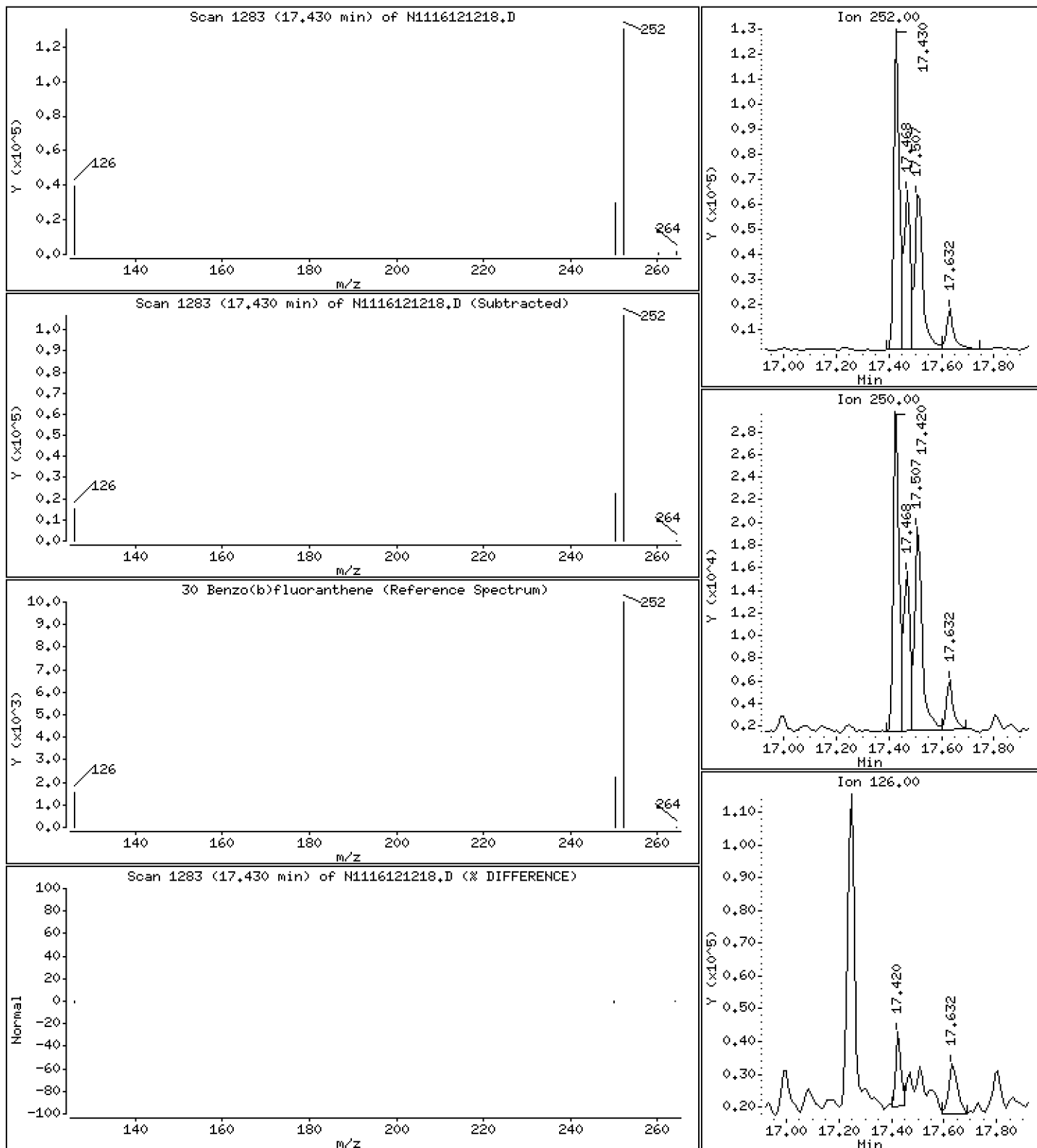
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 150 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

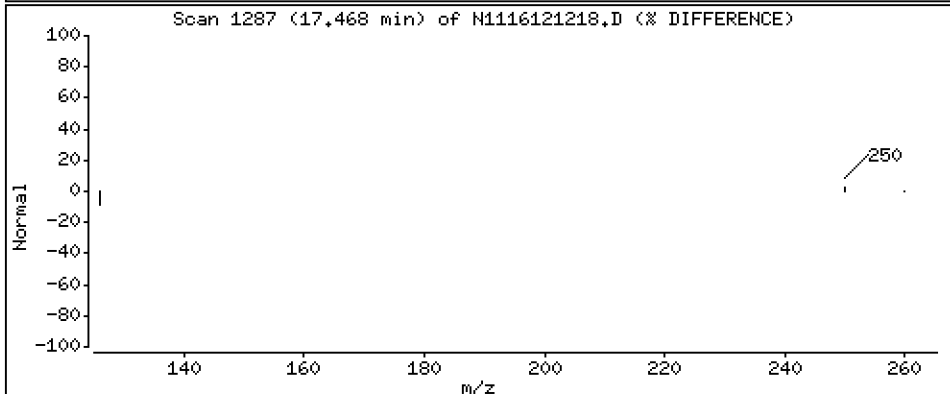
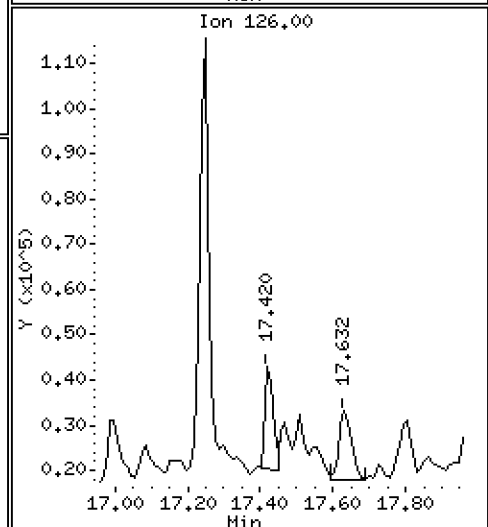
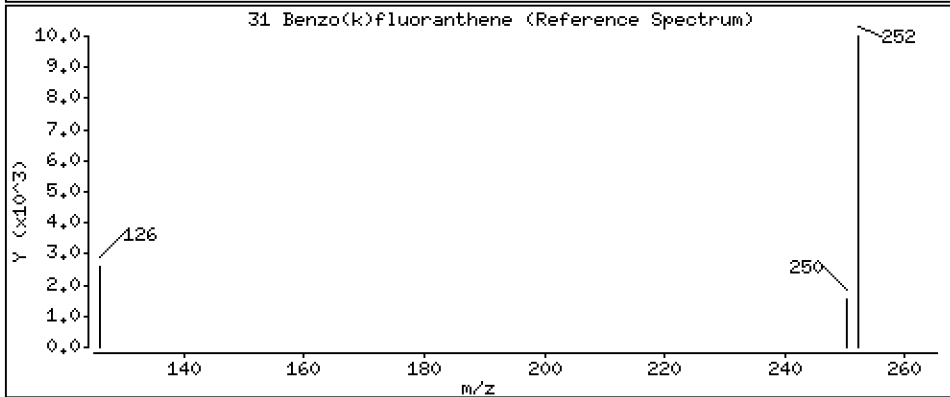
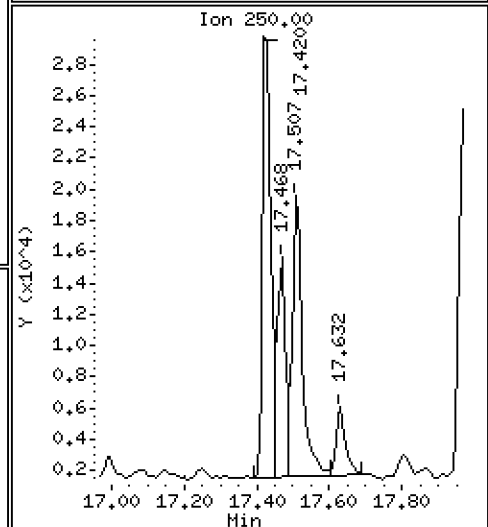
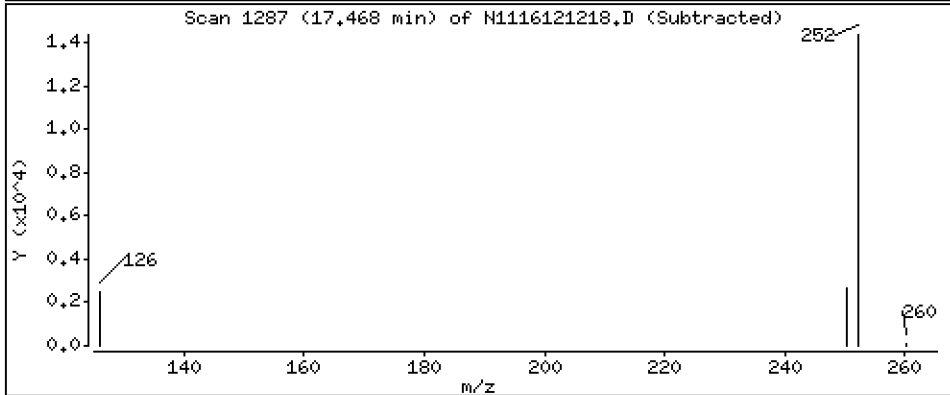
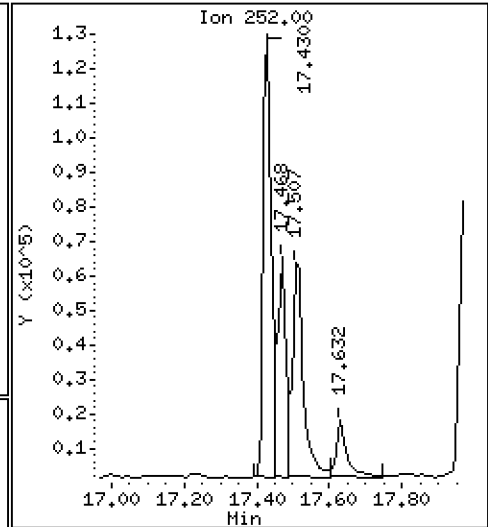
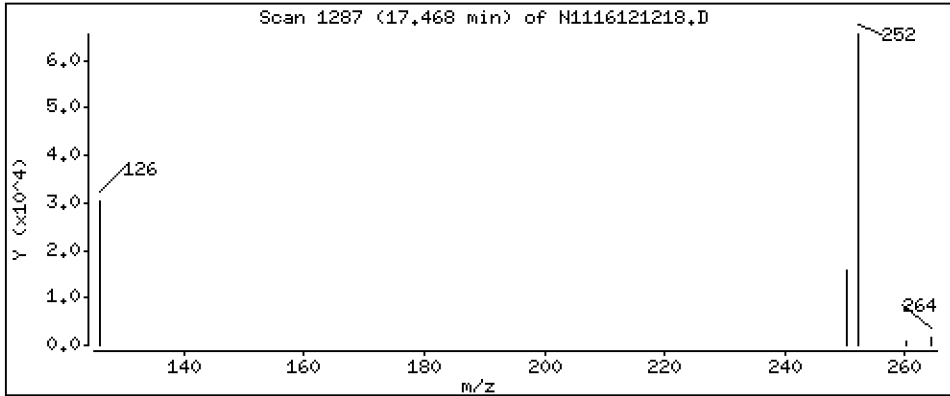
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 82,4 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

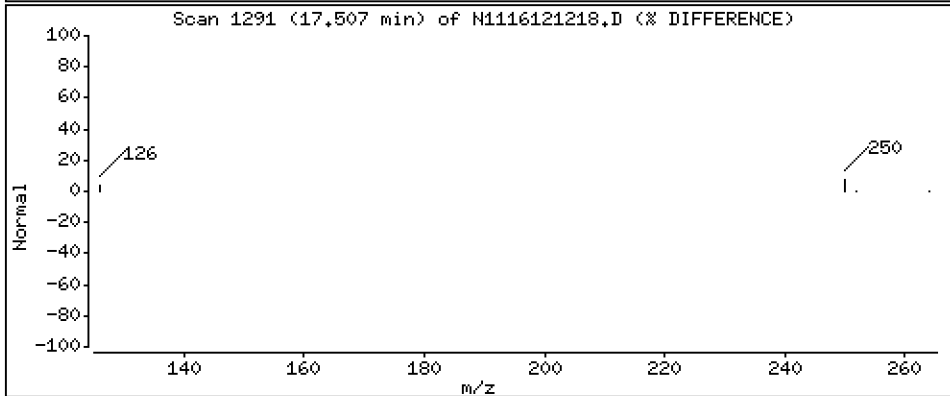
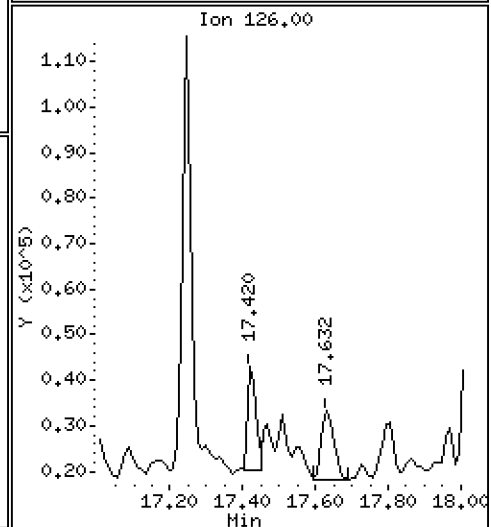
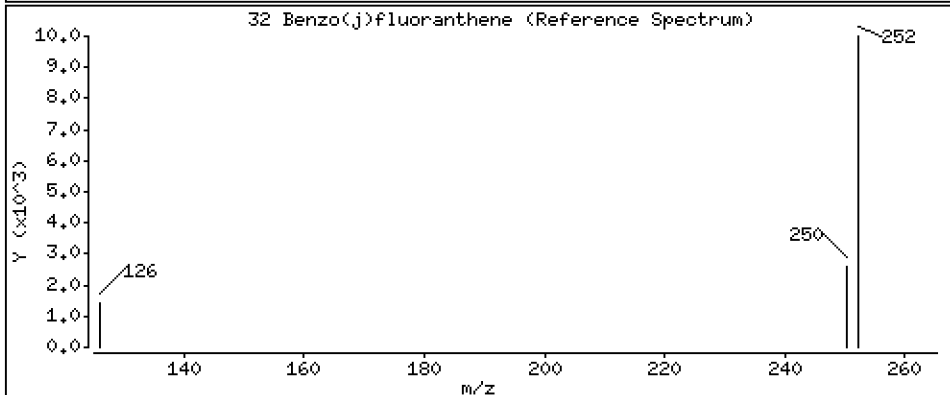
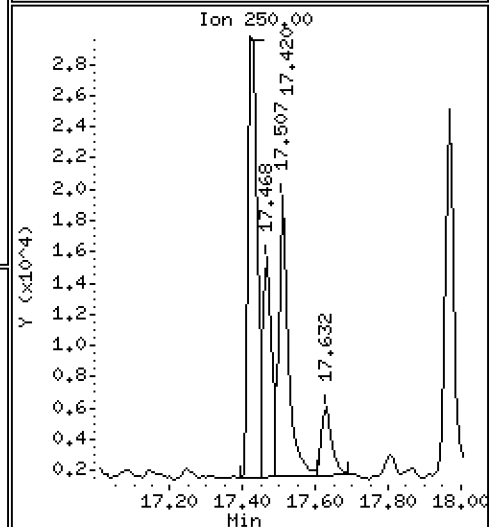
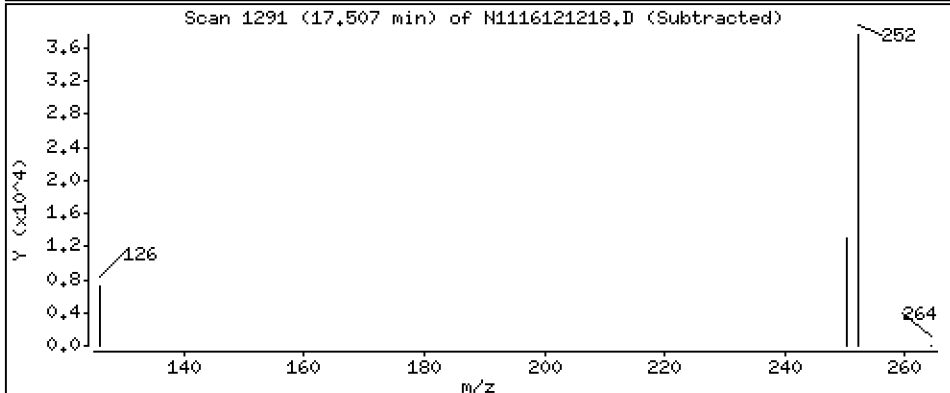
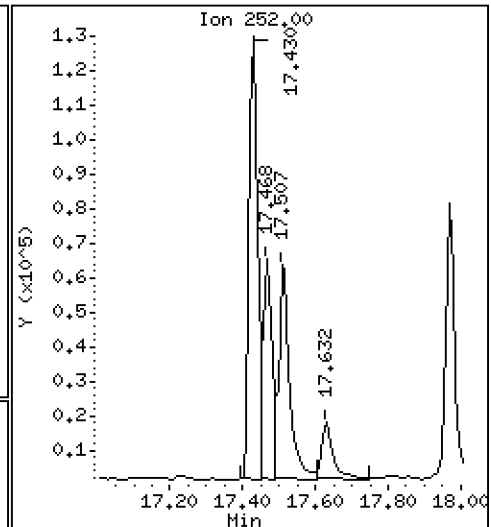
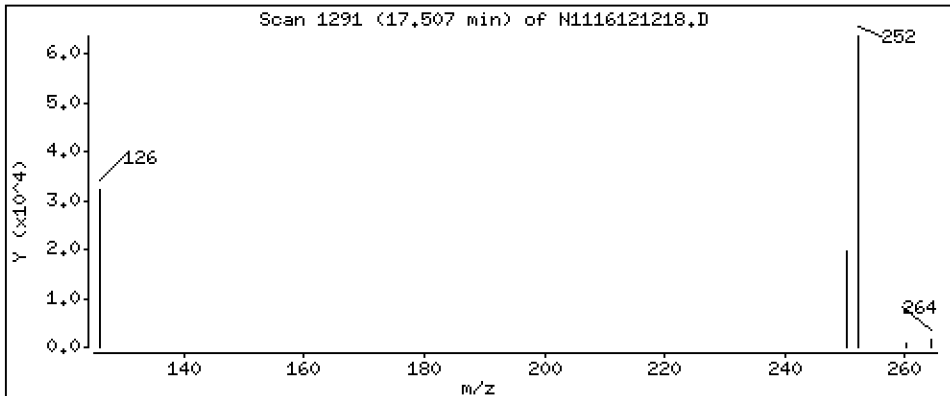
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 103 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

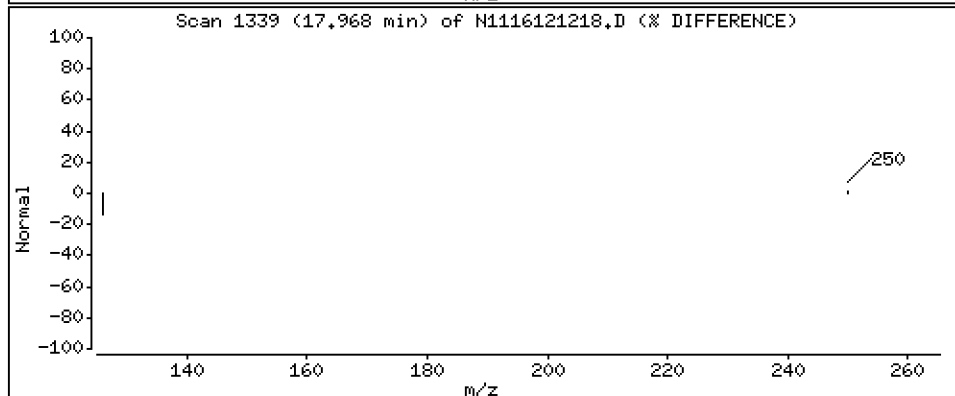
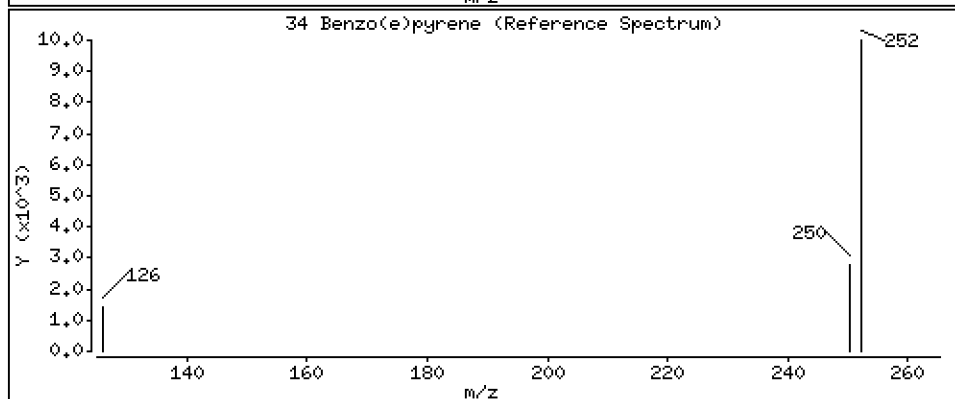
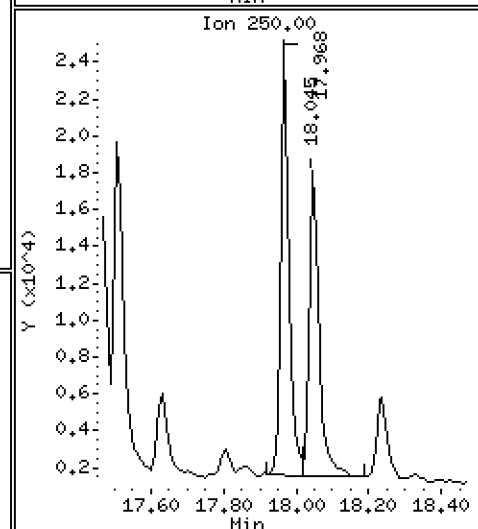
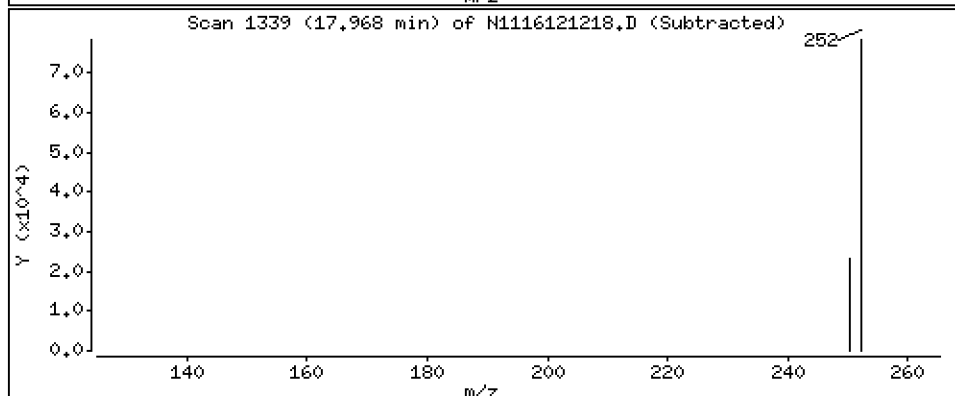
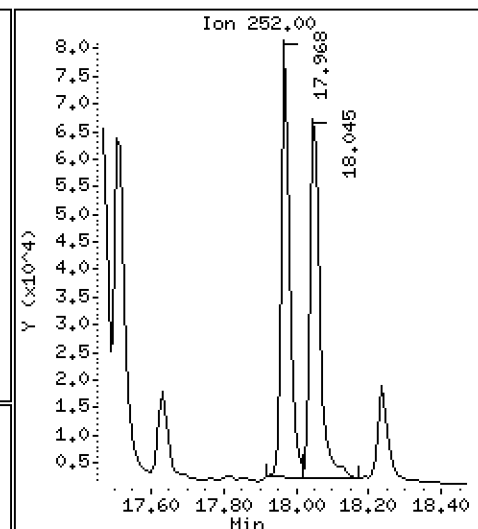
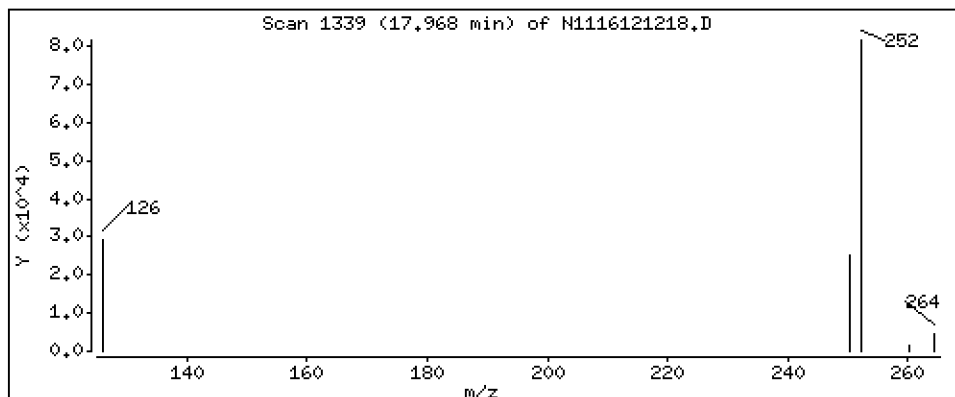
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 98,4 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

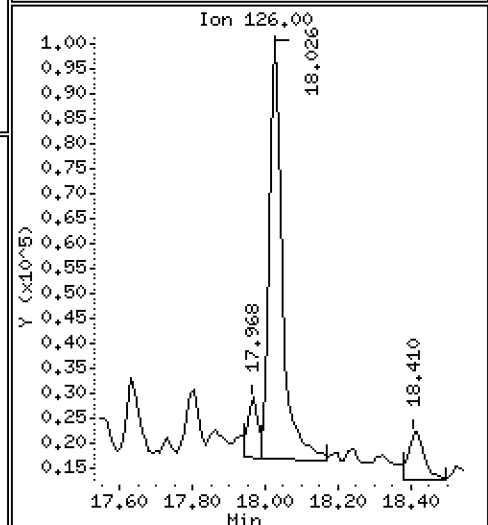
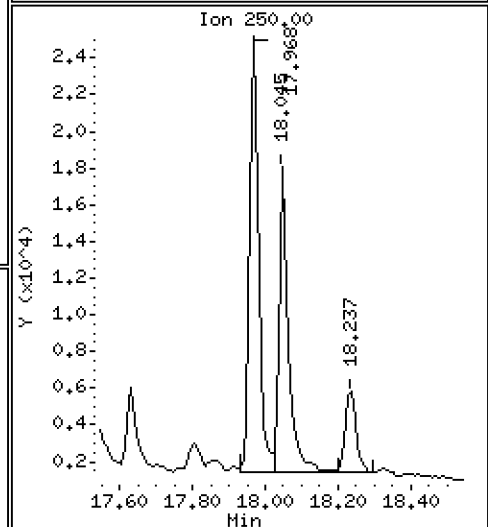
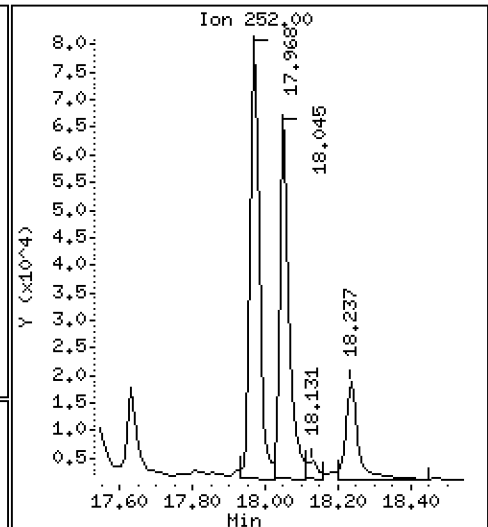
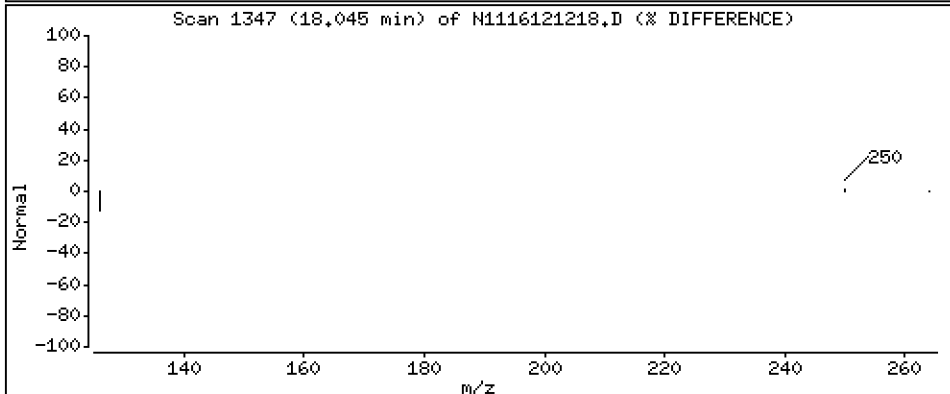
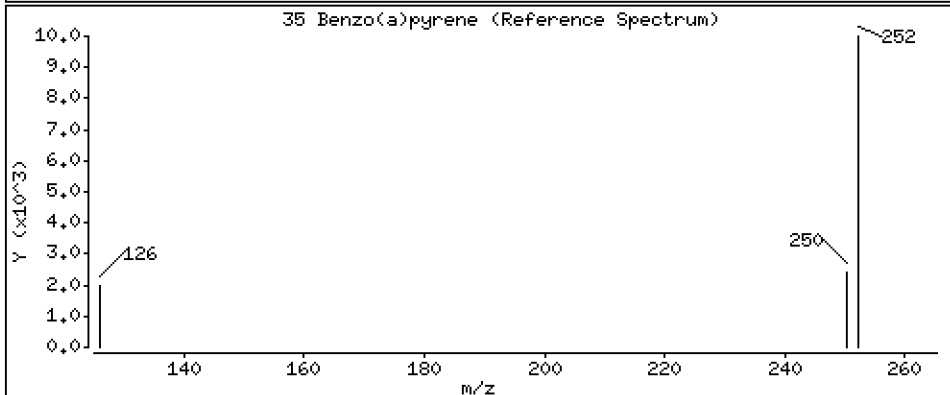
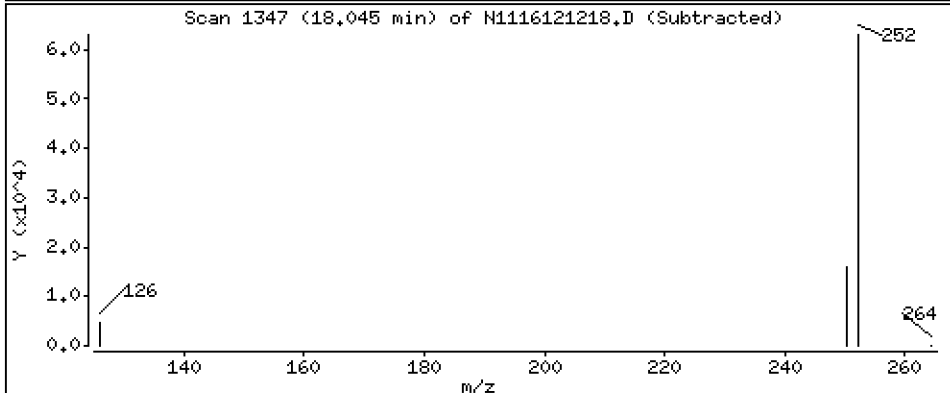
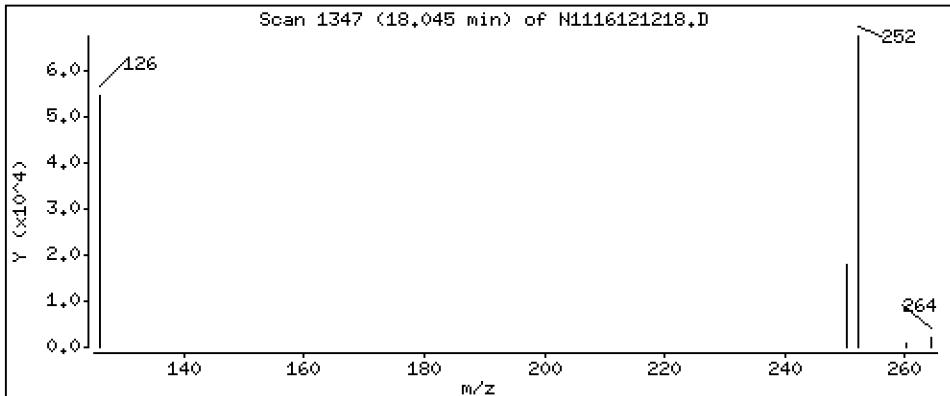
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 100 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

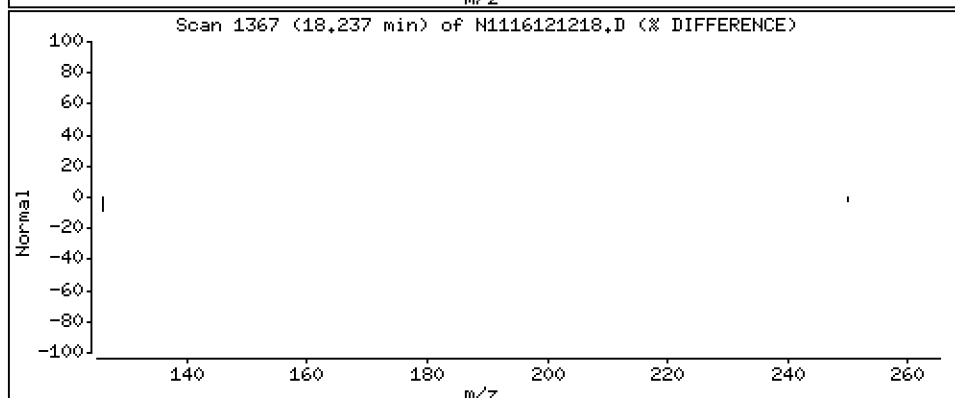
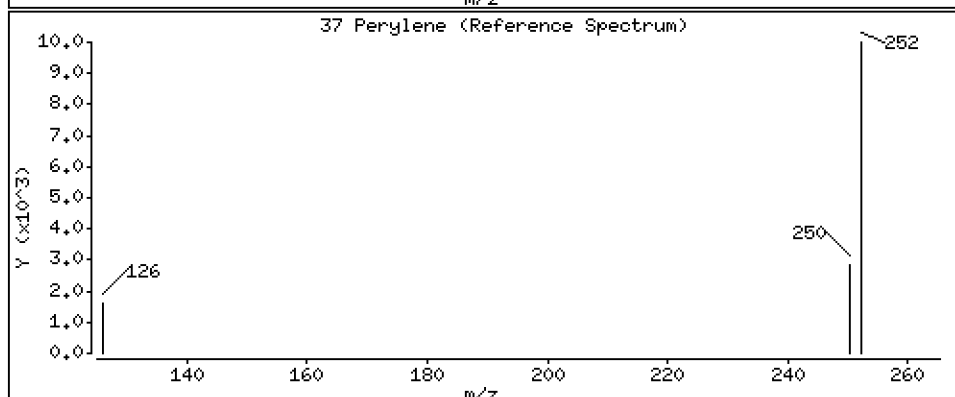
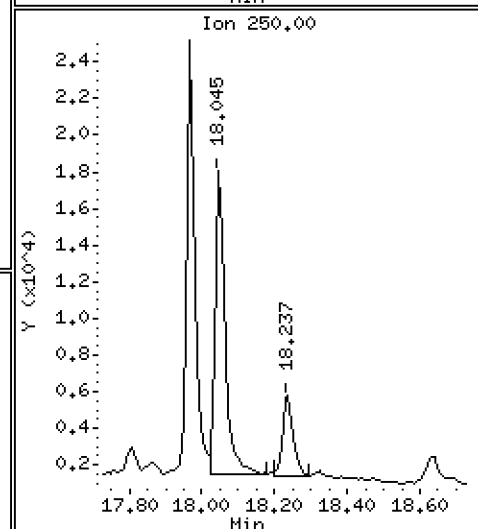
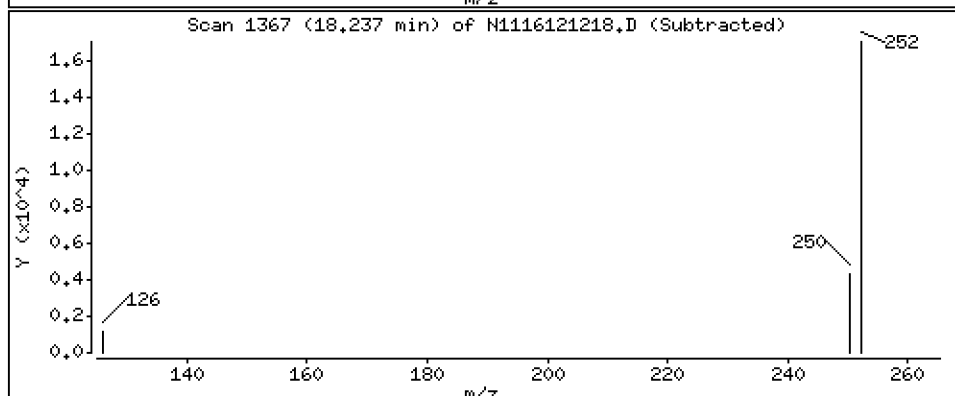
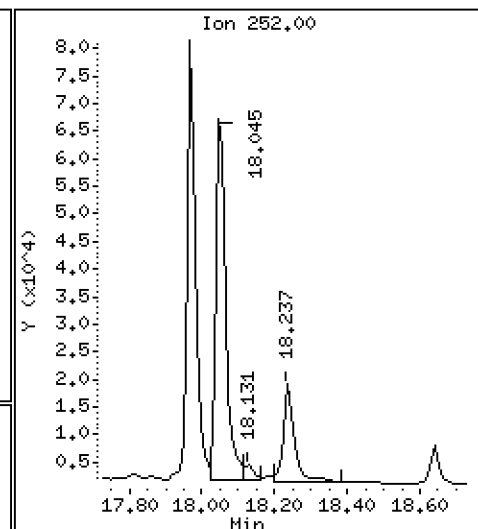
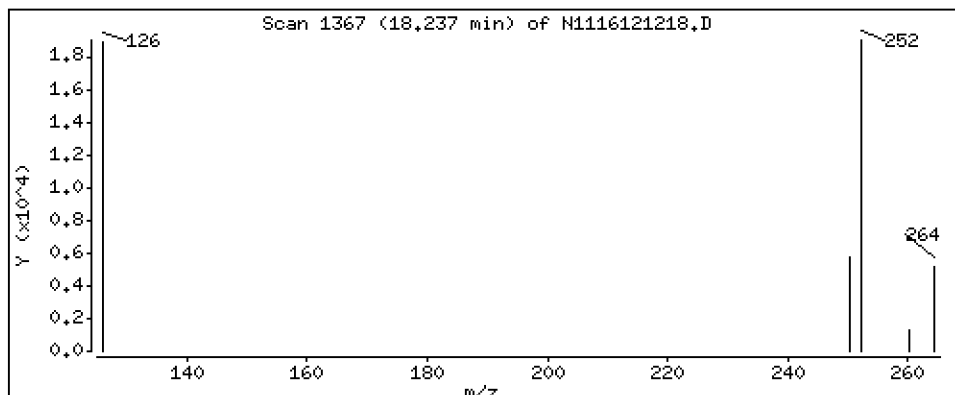
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 29,2 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

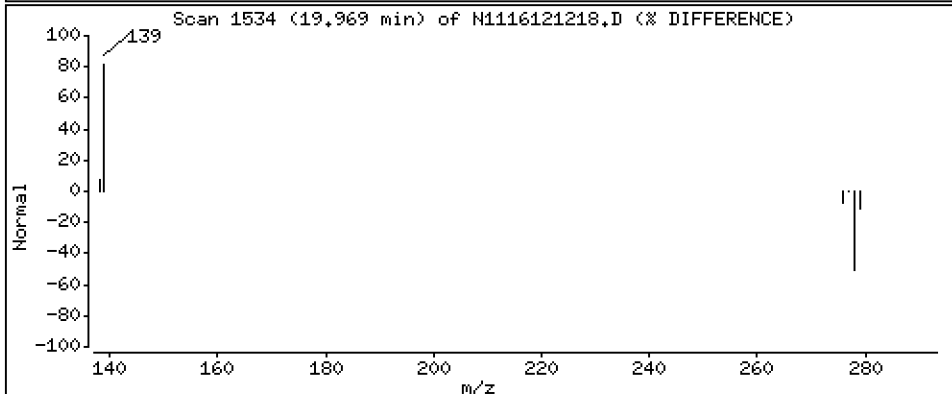
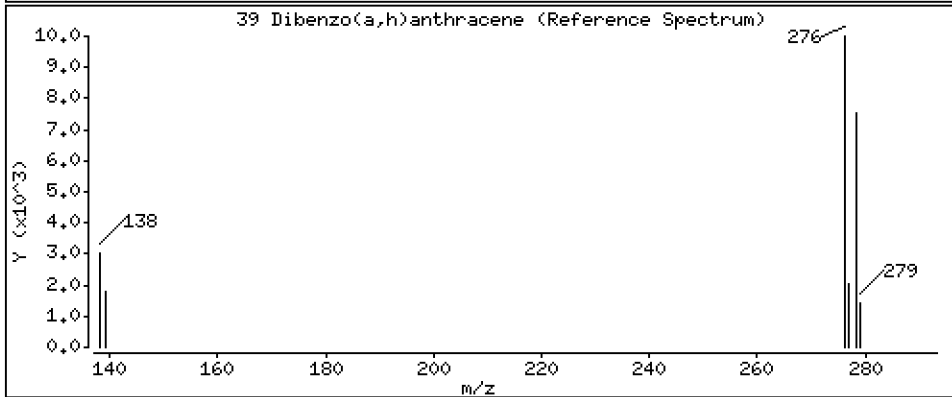
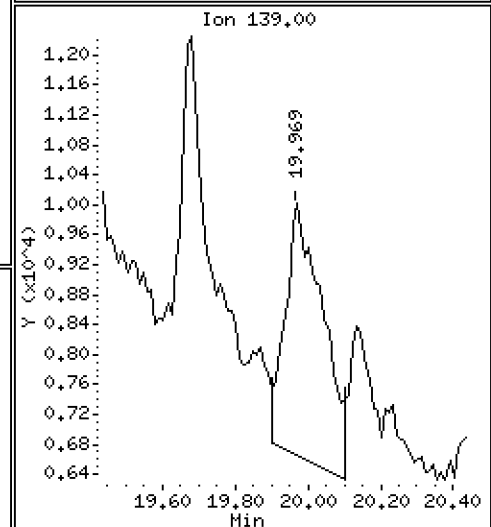
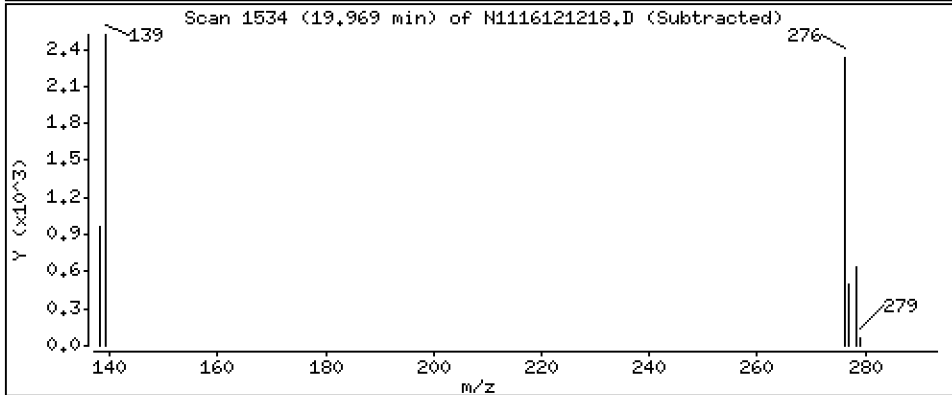
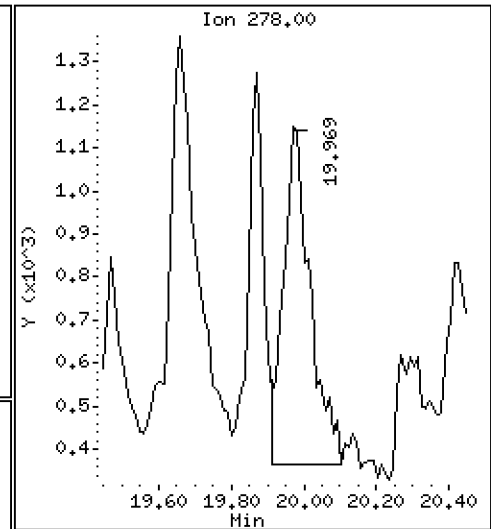
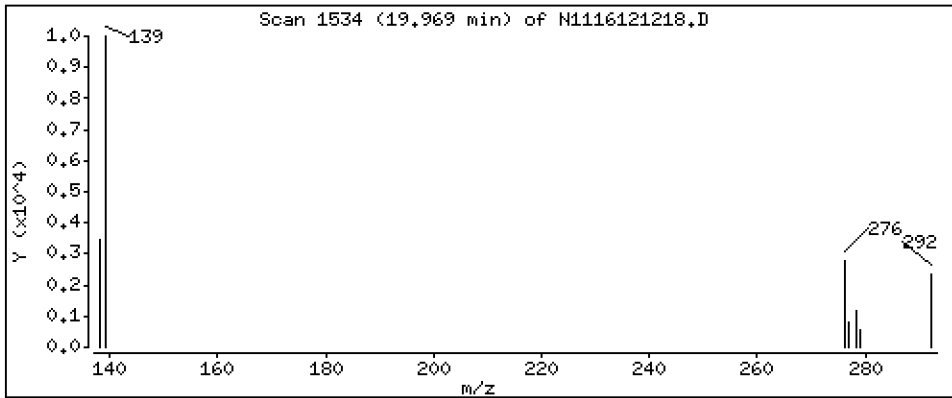
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 3,63 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

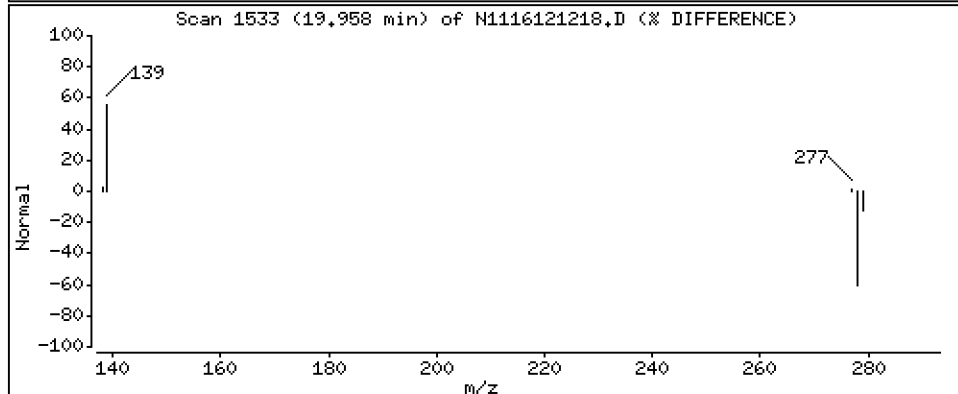
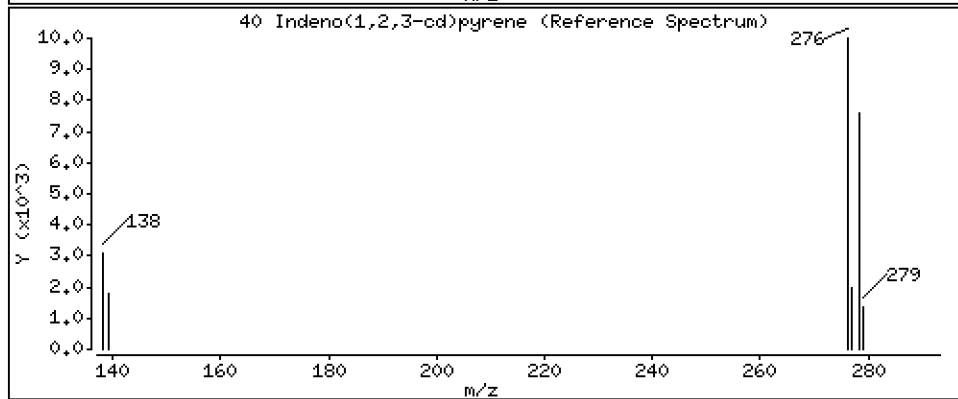
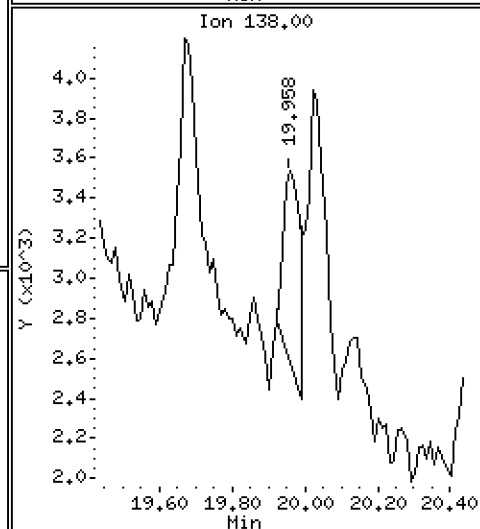
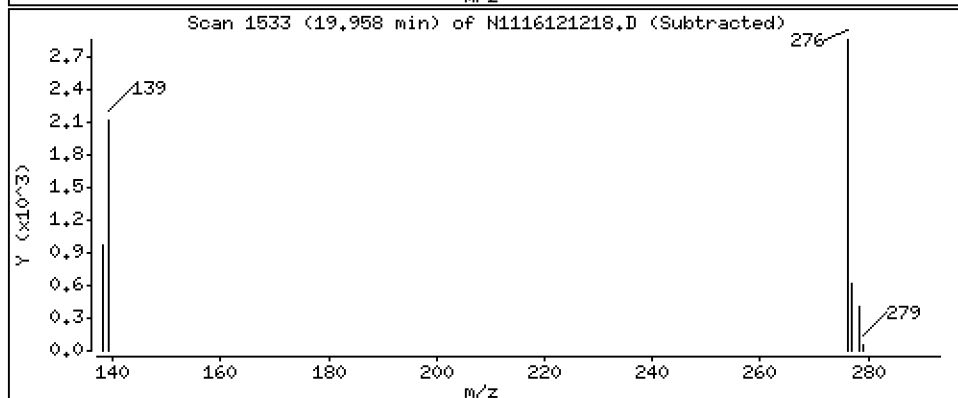
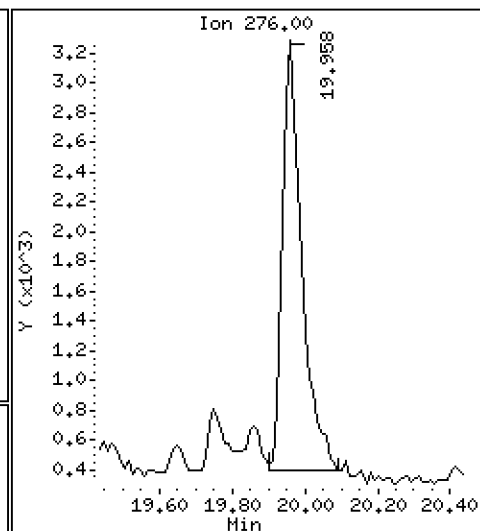
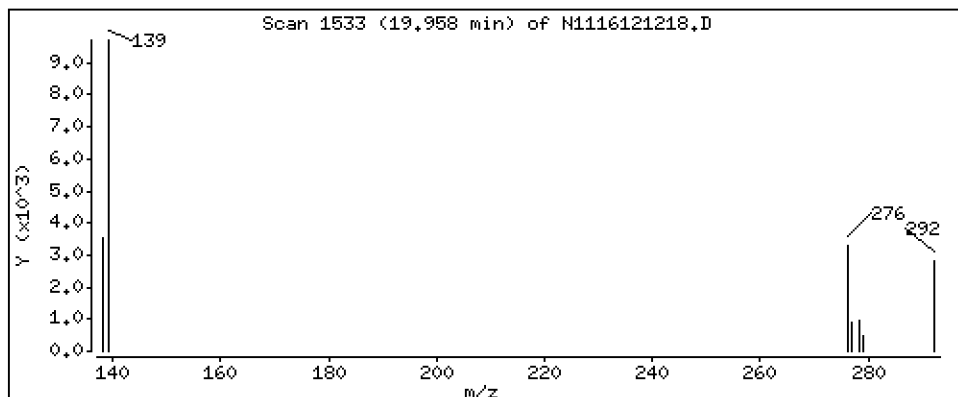
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 7,68 ng/mL



Date : 12-DEC-2016 16:59

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15

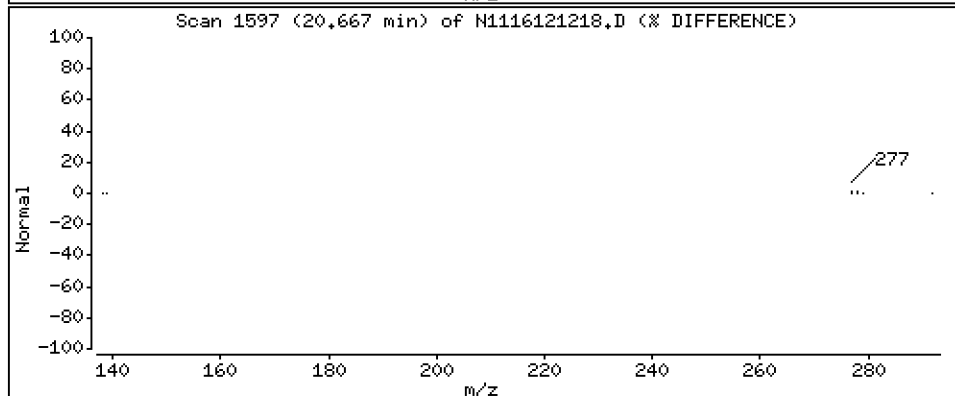
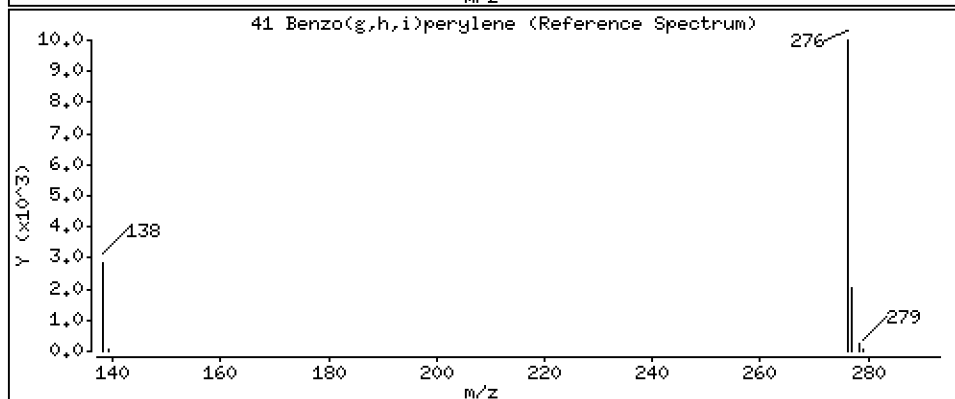
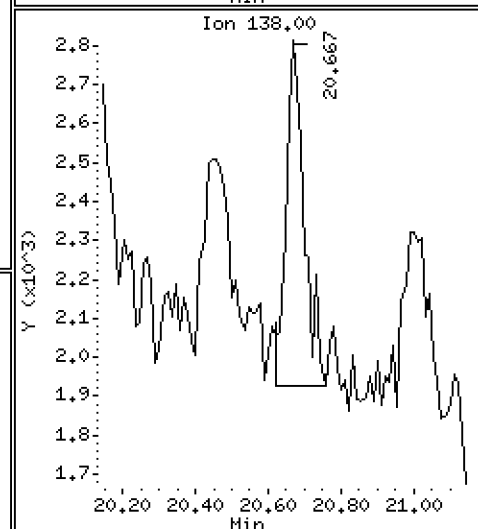
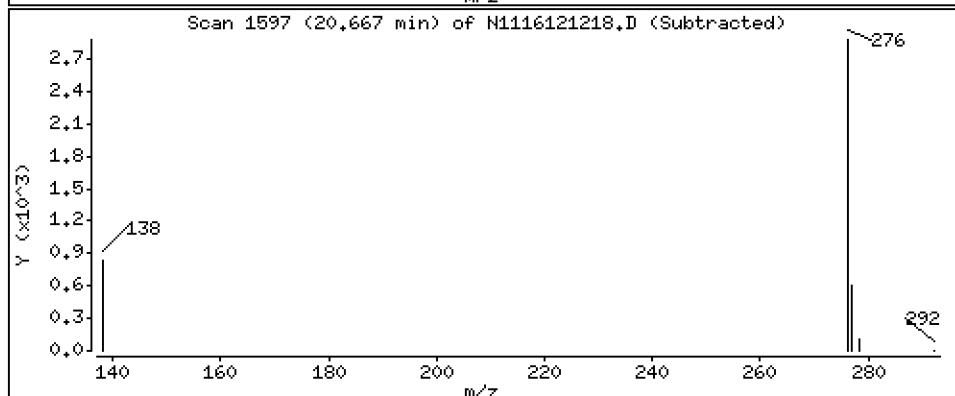
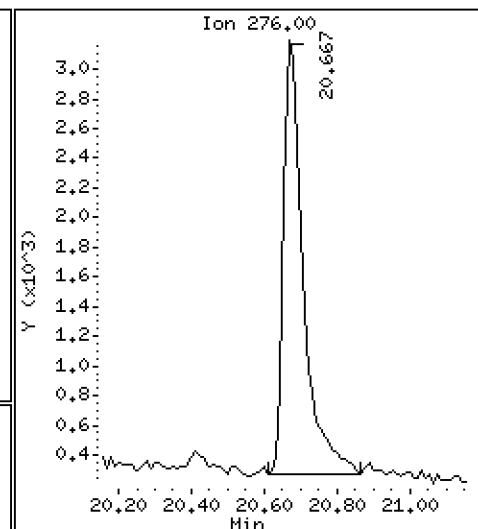
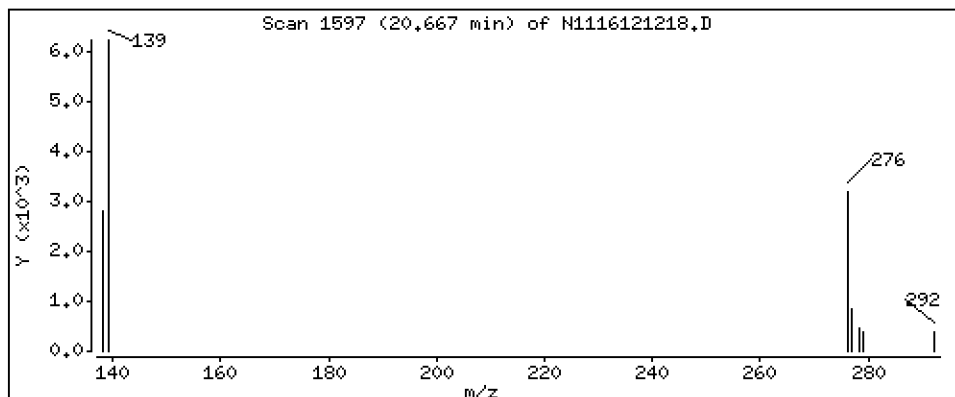
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 9,11 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121218.D
 Lab Smp Id: 16K0321-15
 Inj Date : 12-DEC-2016 16:59 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-15
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 17
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.538	5.547	(1.000)	295522	200.000	
2 Naphthalene	128		5.565	5.574	(1.005)	190232	125.201	125
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.494	6.505	(1.173)	190455	170.943	171
5 2-Methylnaphthalene	142		6.547	6.557	(1.182)	418302	327.908	328
6 1-Methylnaphthalene	142		6.789	6.799	(1.226)	325460	260.126	260
7 2-Chloronaphthalene	162		7.419	7.429	(0.876)	10288	7.99837	8.00
8 Biphenyl	154		7.419	7.429	(0.876)	176310	99.8853	99.9
9 2,6-Dimethylnaphthalene	156		7.461	7.482	(0.881)	553707	436.536	437
10 Acenaphthylene	152		8.321	8.321	(0.983)	91543	62.6139	62.6
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	158246	200.000	
12 Acenaphthene	153		8.520	8.538	(1.006)	3605246	3594.22	3590
13 Dibenzofuran	168		8.725	8.738	(1.031)	1241244	870.762	871
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	167260	188.743	189 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	1973464	1791.95	1790
17 Dibenzothiophene	184		10.921	10.921	(0.985)	499182	357.118	357
* 18 Phenanthrene-d10	188		11.089	11.089	(1.000)	282800	200.000	
19 Phenanthrene	178		11.121	11.131	(1.003)	9380045	5521.85	5520
\$ 20 Anthracene-d10	188		11.152	11.152	(1.006)	61531	48.0241	48.0
21 Anthracene	178		11.184	11.184	(1.009)	1669185	1044.23	1040
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.116	12.116	(1.093)	821893	549.101	549
\$ 24 Fluoranthene-d10	212		13.142	13.142	(1.185)	320486	253.878	254
25 Fluoranthene	202		13.180	13.180	(1.189)	10543585	6396.69	6400
26 Pyrene	202		13.651	13.651	(0.867)	7016108	4320.03	4320
27 Benzo(a)anthracene	228		15.660	15.660	(0.994)	1148226	817.027	817
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	249618	200.000	
29 Chrysene	228		15.793	15.793	(1.003)	973132	624.305	624
30 Benzo(b)fluoranthene	252		17.429	17.420	(0.958)	205172	150.046	150
31 Benzo(k)fluoranthene	252		17.468	17.458	(0.960)	122493	82.4458	82.4
32 Benzo(j)fluoranthene	252		17.506	17.506	(0.962)	142187	103.240	103
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	192555	166.103	166

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	17.967	17.958	(0.988)	130707	98.3681	98.4
35 Benzo(a)pyrene	252	18.044	18.044	(0.992)	125363	100.133	100
* 36 Perylene-d12	264	18.188	18.179	(1.000)	240556	200.000	
37 Perylene	252	18.237	18.227	(1.003)	37944	29.1921	29.2
§ 38 Dibenzo(a,h)anthracene-d14	292	19.869	19.858	(1.092)	176682	219.272	219
39 Dibenzo(a,h)anthracene	278	19.969	19.925	(1.098)	4098	3.62925	3.63
40 Indeno(1,2,3-cd)pyrene	276	19.958	19.925	(1.097)	10669	7.67726	7.68
41 Benzo(g,h,i)perylene	276	20.667	20.644	(1.136)	10937	9.10971	9.11

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121218.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-15
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	295522	-40.12
11 Acenaphthene-d10	240770	120385	481540	158246	-34.28
18 Phenanthrene-d10	429271	214636	858542	282800	-34.12
28 Chrysene-d12	387691	193846	775382	249618	-35.61
36 Perylene-d12	386259	193130	772518	240556	-37.72

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.54	-0.16
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121218.D

Lab ID: 16K0321-15
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 16:59

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

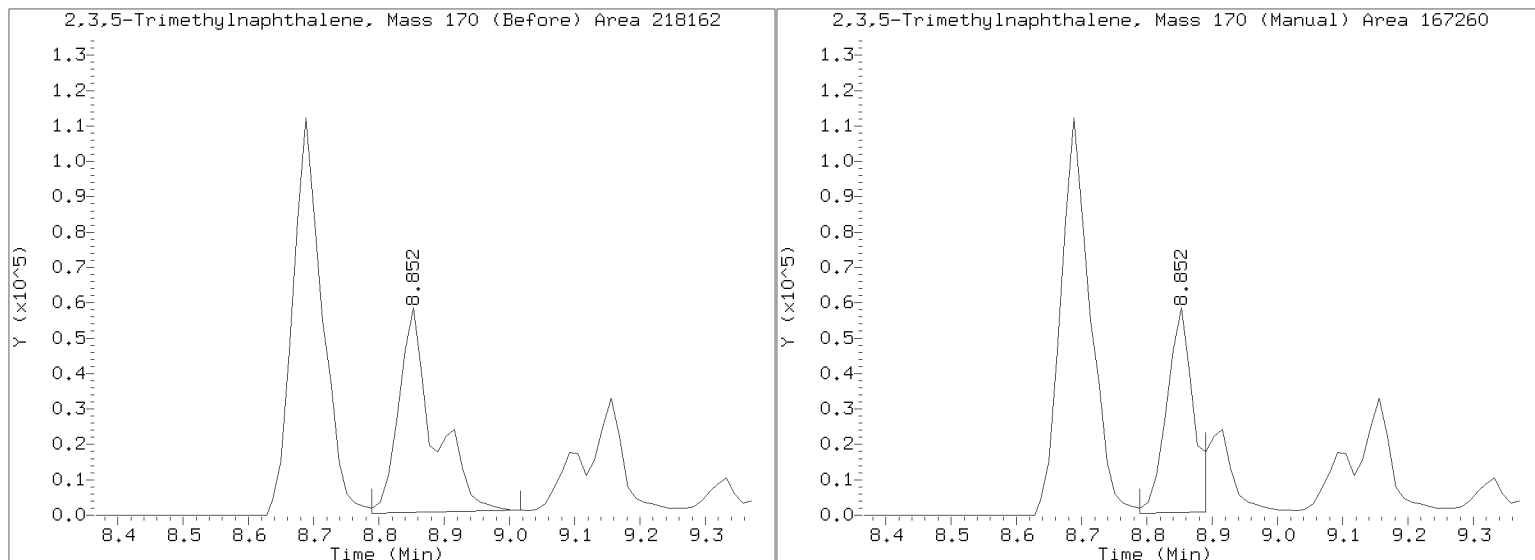
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121218.D

Injection Date: 12-DEC-2016 16:59

Lab ID:16K0321-15 Client ID:

Report Date: 12/15/2016 09:33





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-15RE1 File ID: N1116121608.D
 Sampled: 11/22/16 08:57 Prepared: 11/24/16 08:25 Analyzed: 12/16/16 13:08
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0234 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	50	67.7	U	56.4	67.7
91-57-6	2-Methylnaphthalene	50	56.4	U	56.4	56.4
208-96-8	Acenaphthylene	50	99.0	D	56.4	56.4
83-32-9	Acenaphthene	50	320	D	56.4	56.4
86-73-7	Fluorene	50	149	D	56.4	56.4
85-01-8	Phenanthrene	50	667	D	56.4	56.4
120-12-7	Anthracene	50	93.8	D	56.4	56.4
206-44-0	Fluoranthene	50	1080	D	56.4	56.4
129-00-0	Pyrene	50	435	D	56.4	56.4
56-55-3	Benzo(a)anthracene	50	69.7	D	56.4	56.4
218-01-9	Chrysene	50	56.4	U	56.4	56.4
205-99-2	Benzo(b)fluoranthene	50	56.4	U	56.4	56.4
207-08-9	Benzo(k)fluoranthene	50	56.4	U	56.4	56.4
50-32-8	Benzo(a)pyrene	50	56.4	U	56.4	56.4
193-39-5	Indeno(1,2,3-cd)pyrene	50	56.4	U	56.4	56.4
53-70-3	Dibenzo(a,h)anthracene	50	56.4	U	56.4	56.4
191-24-2	Benzo(g,h,i)perylene	50	56.4	U	56.4	56.4
1985-5-0	Perylene	50	56.4	U	56.4	56.4
197-97-2	Benzo(e)pyrene	50	56.4	U	56.4	56.4

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	14.9	43.9	30 - 160	NRS
Dibenzo[a,h]anthracene-d14	33.860	8.01	23.6	30 - 160	NRS
Fluoranthene-d10	33.860	21.6	63.8	30 - 160	NRS
Fluorene-d10	21.163	0.00		30 - 160	NRS
Anthracene-d10	21.163	1250	5900	30 - 160	NRS
Benzo(e)pyrene-d12	21.163	0.00		30 - 160	NRS

Data File: \\target\share\chem3\nt11.1\20161216.16\N1116121608.D

Date : 16-DEC-2016 13:08

Client ID:

Sample Info: 16K0321-15.50

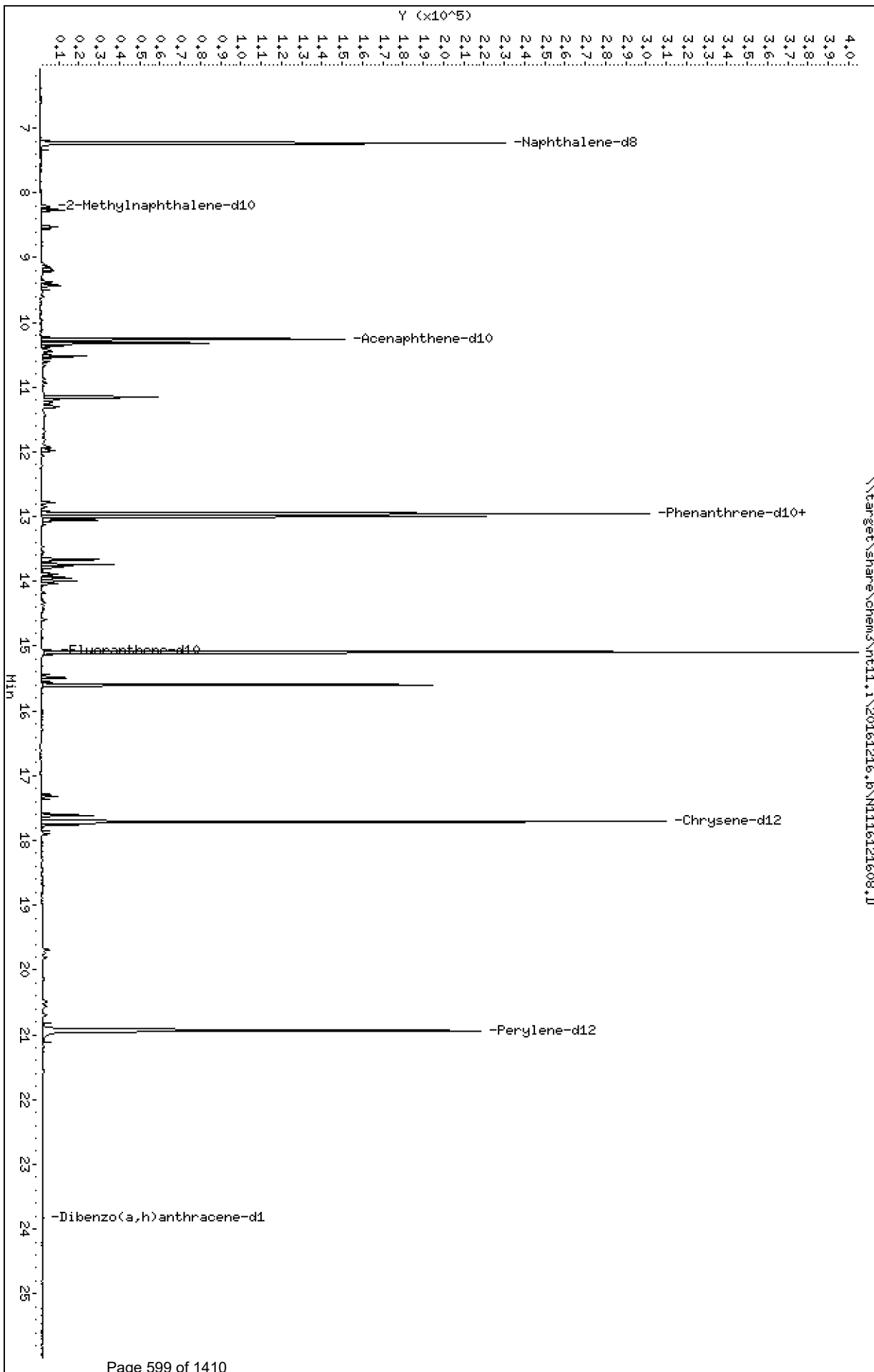
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

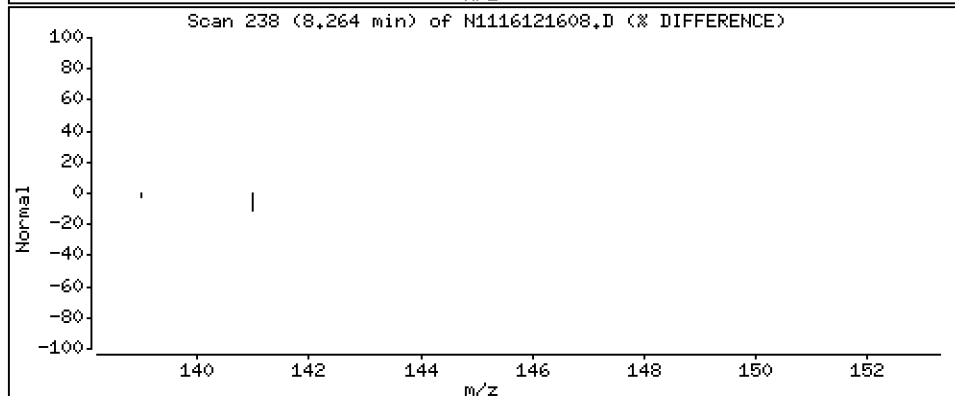
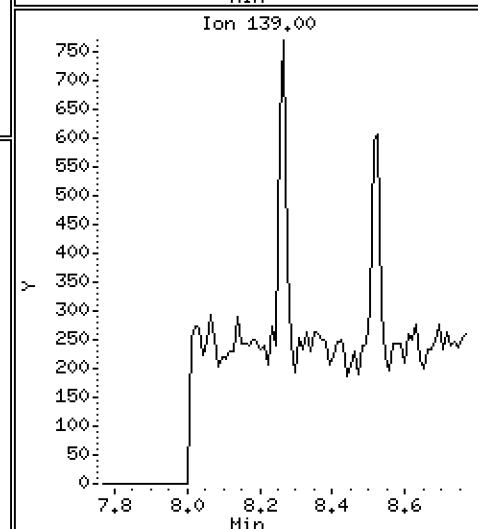
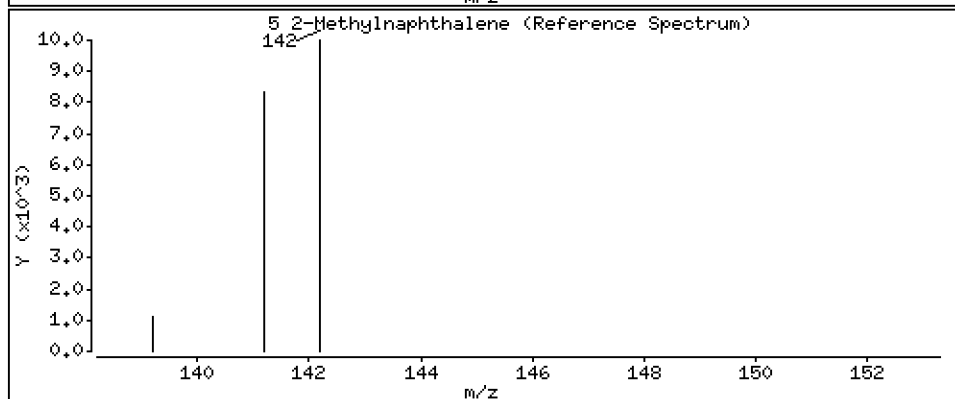
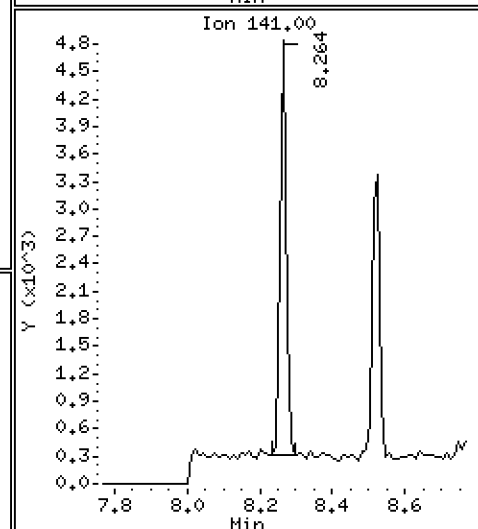
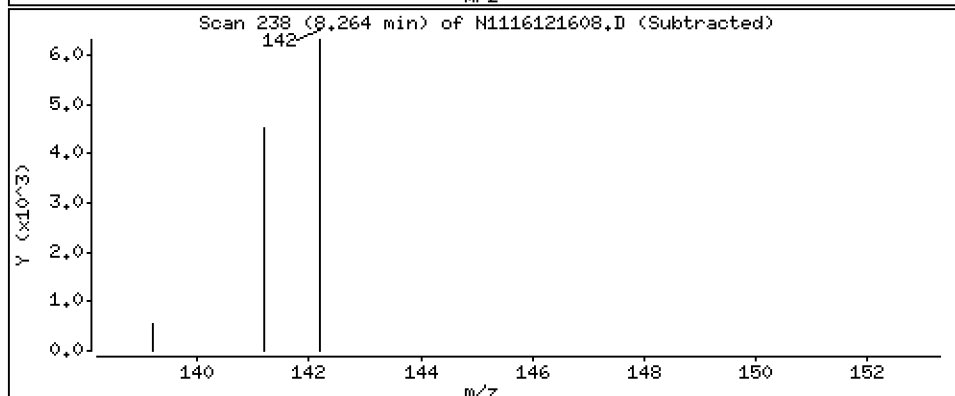
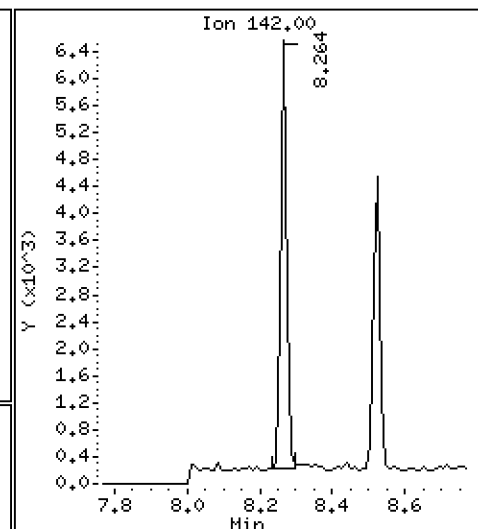
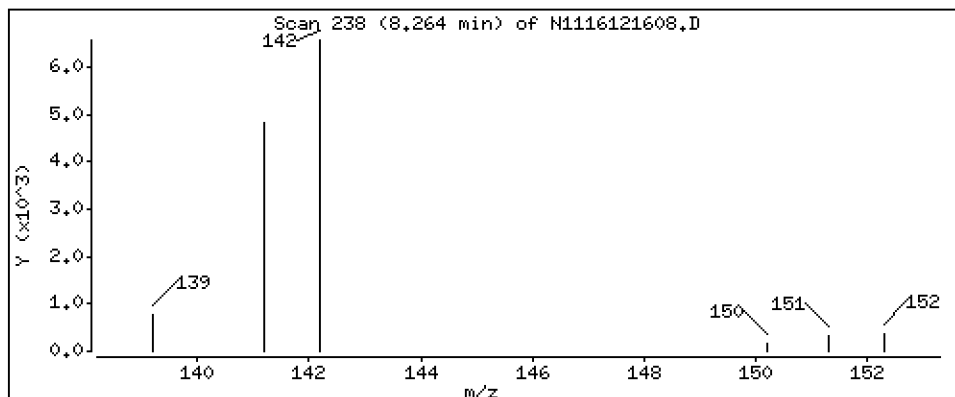
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 5,56 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

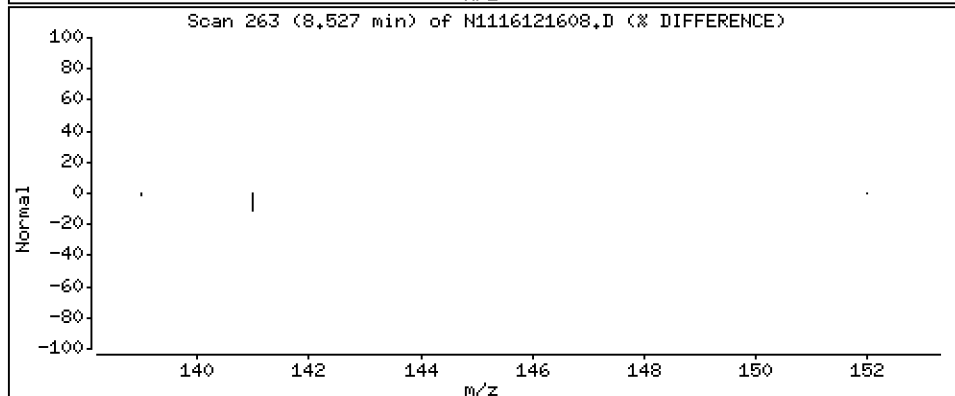
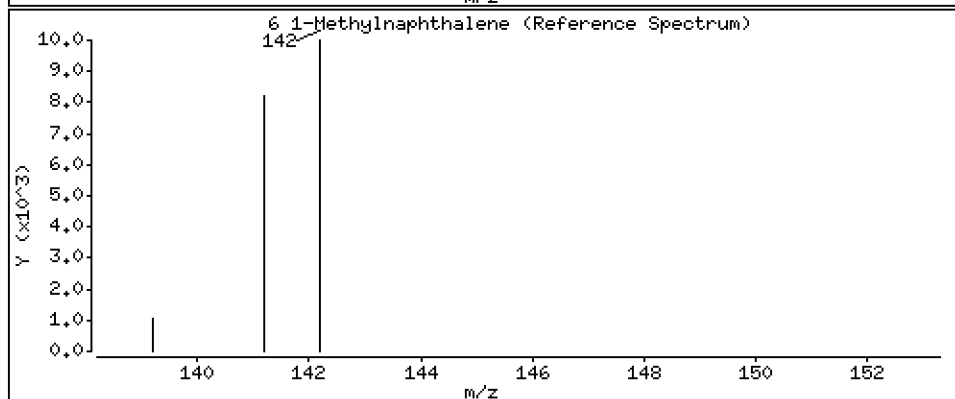
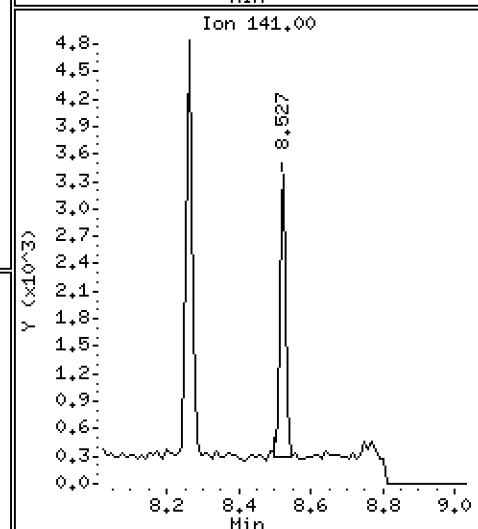
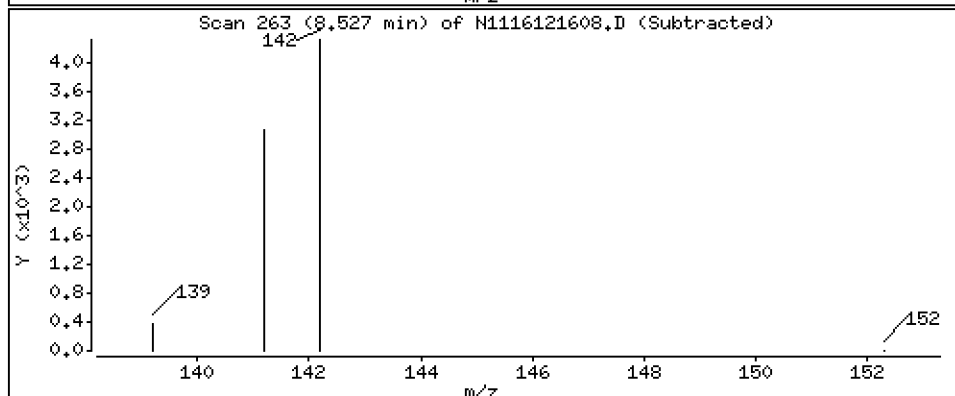
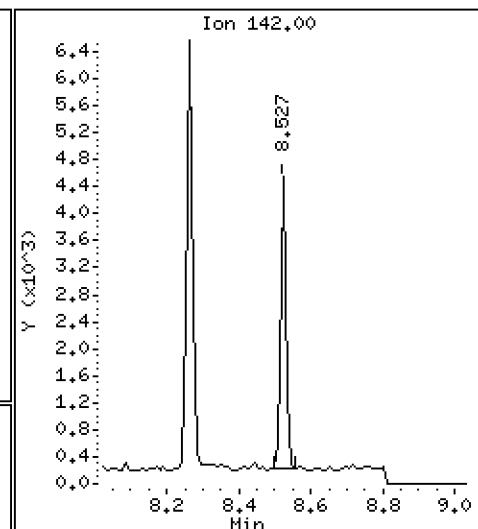
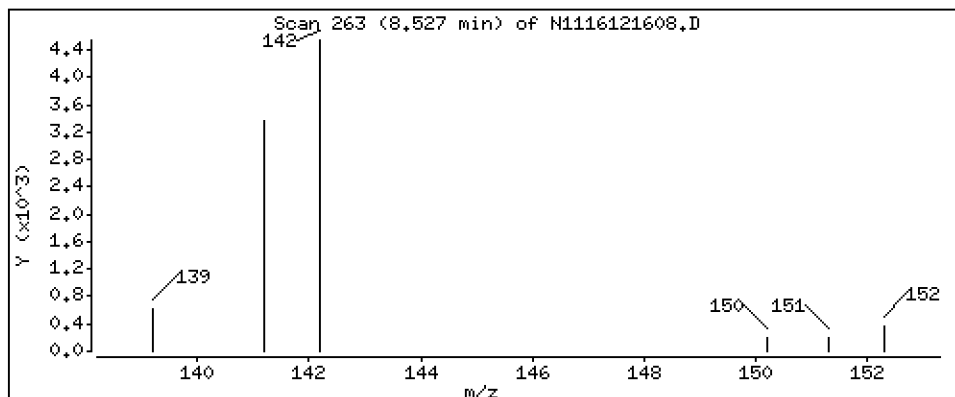
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 4,35 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

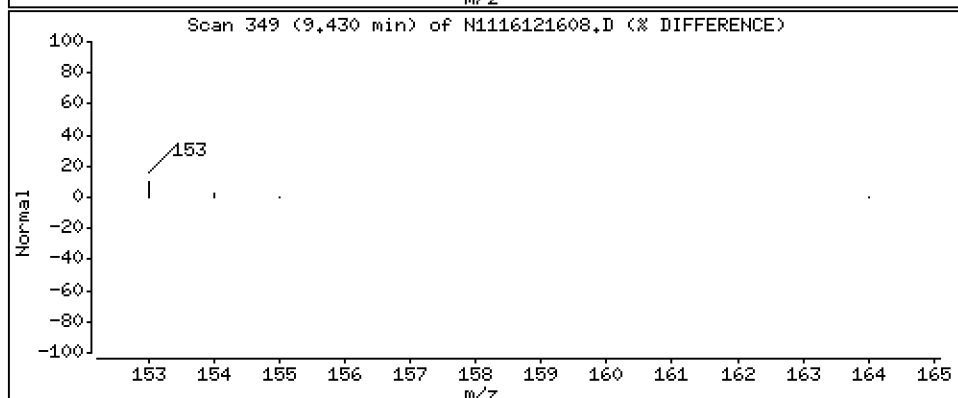
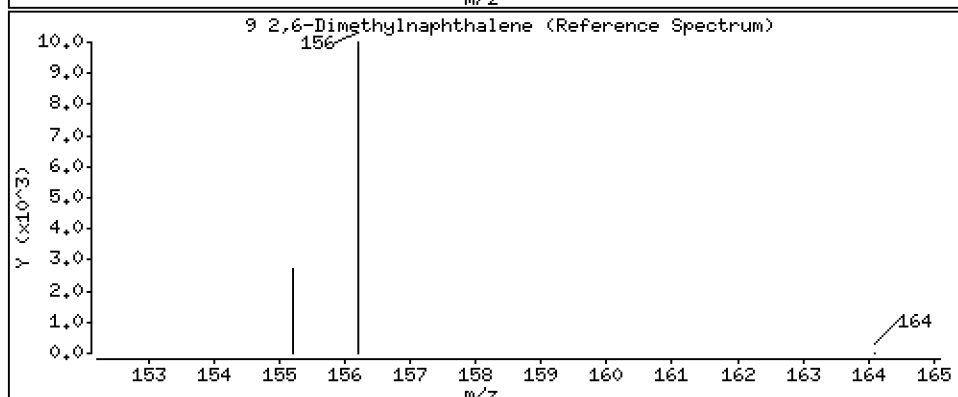
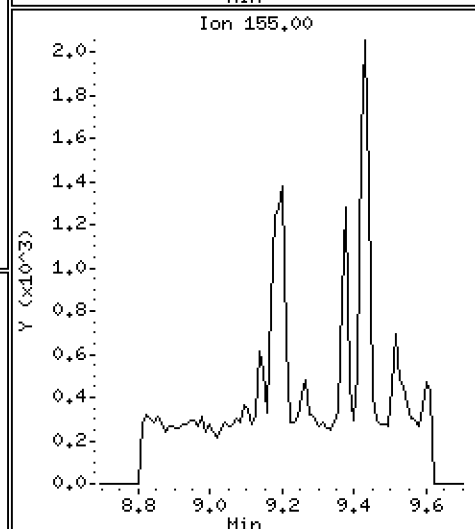
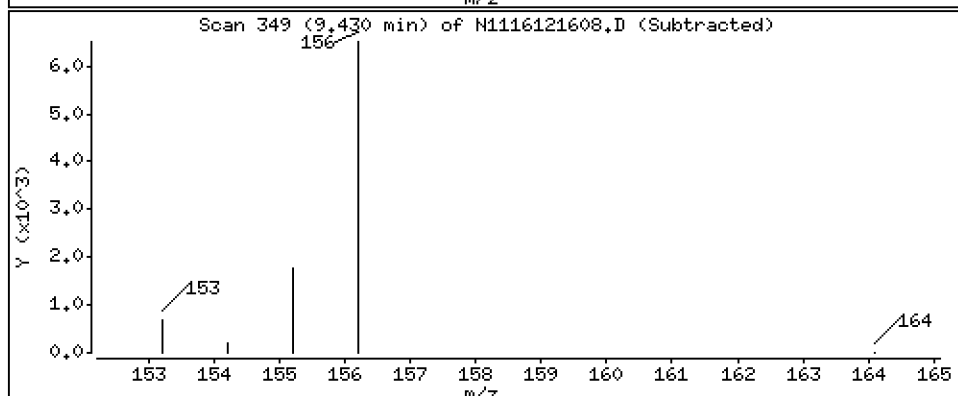
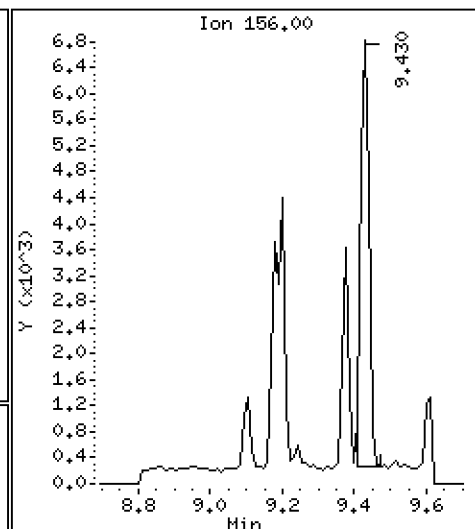
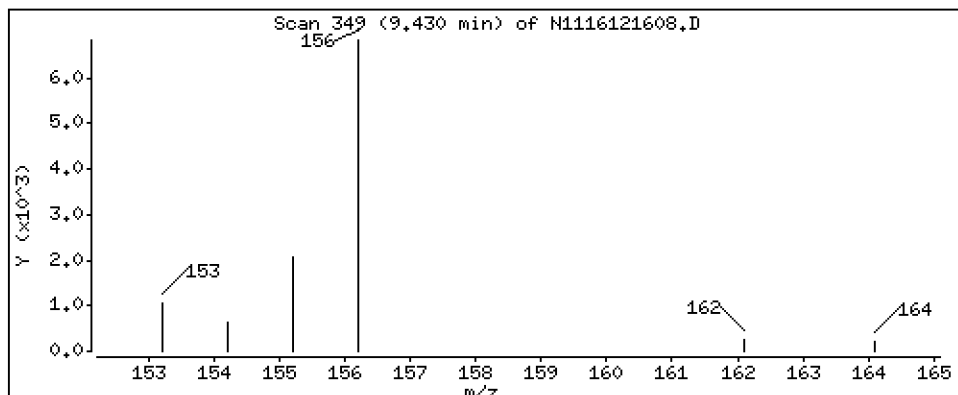
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 7,35 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

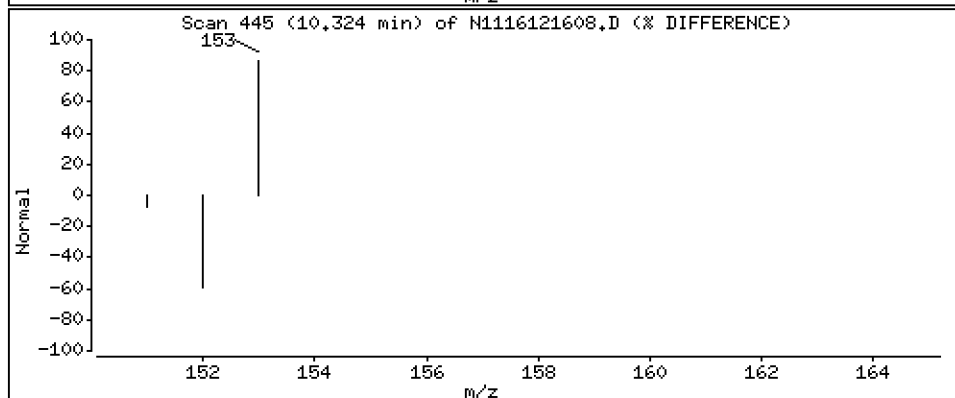
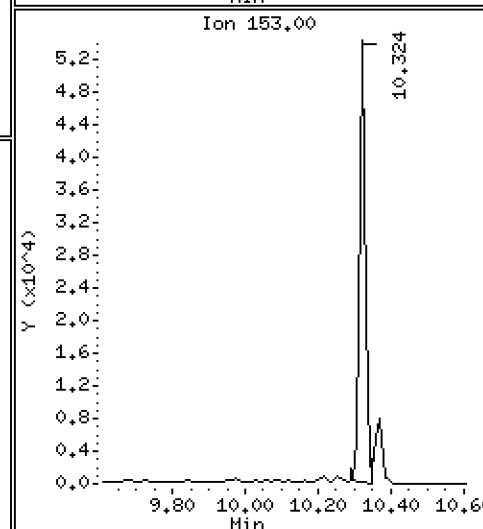
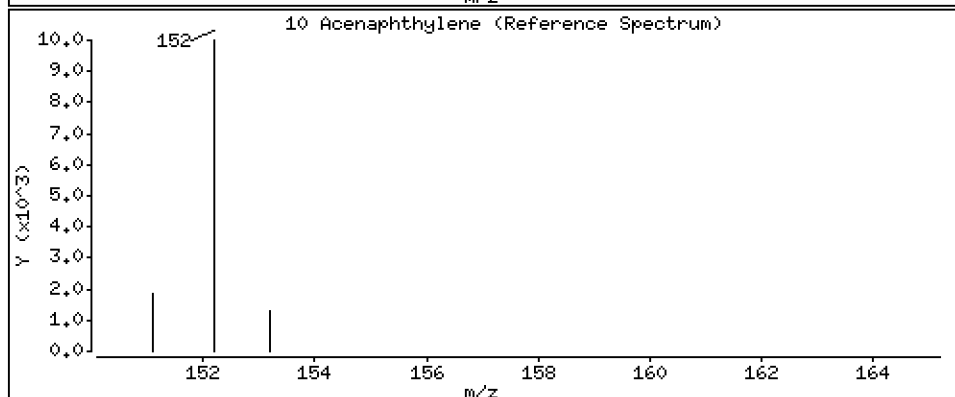
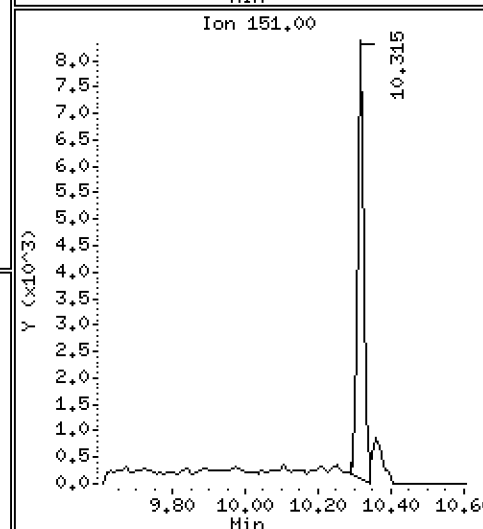
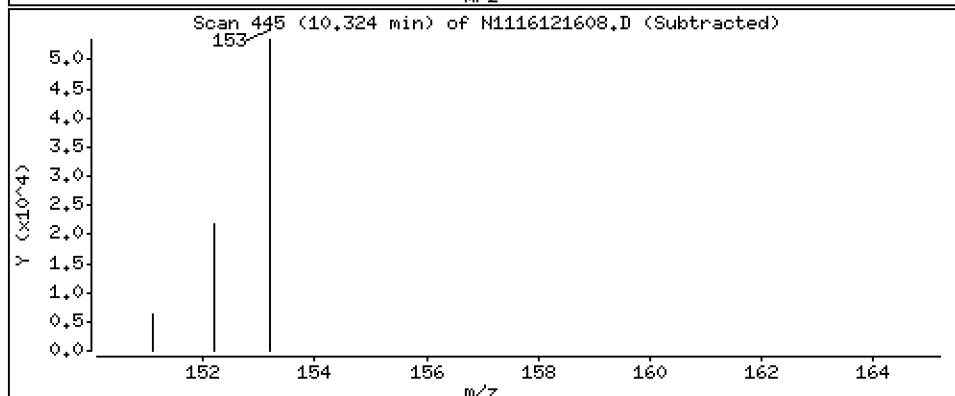
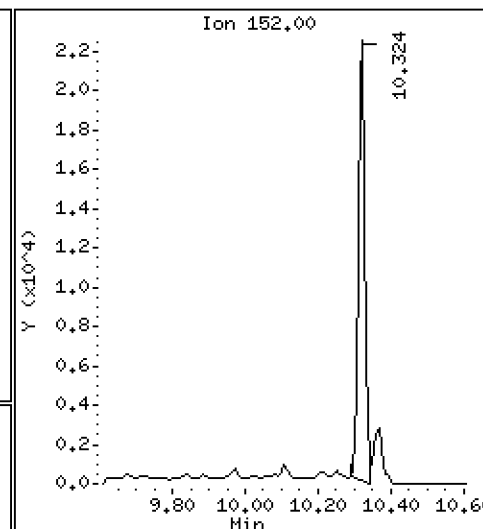
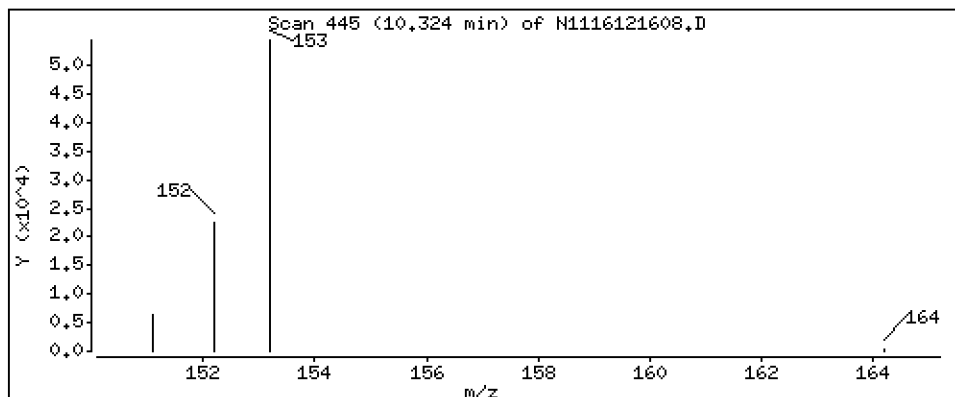
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 17,5 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

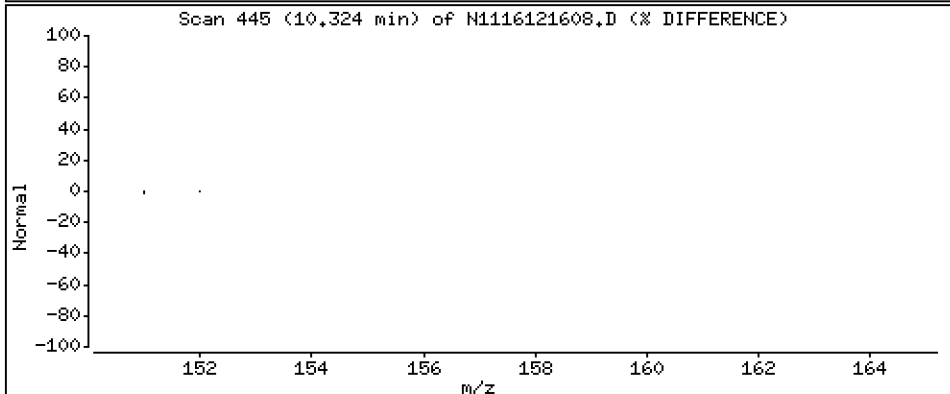
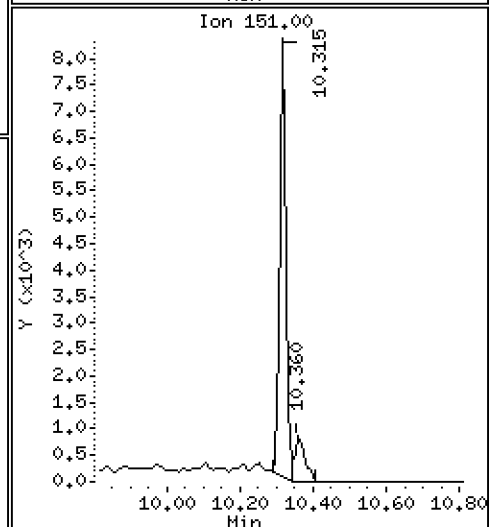
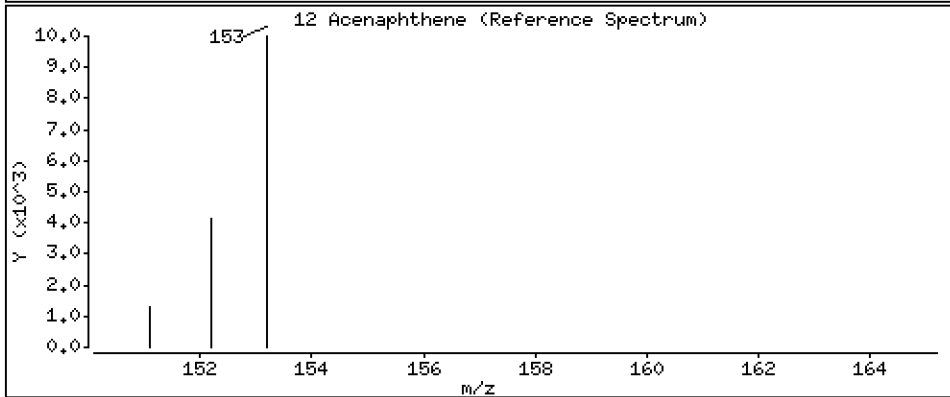
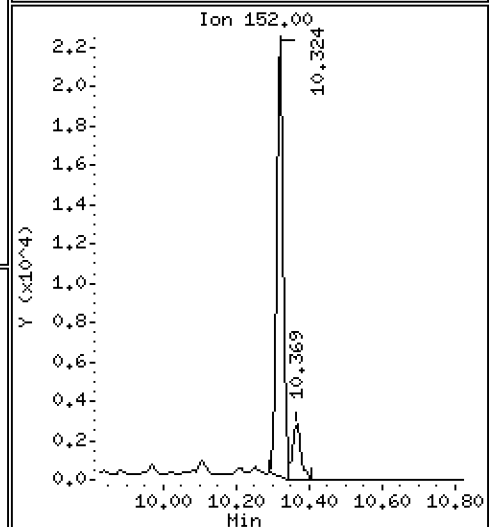
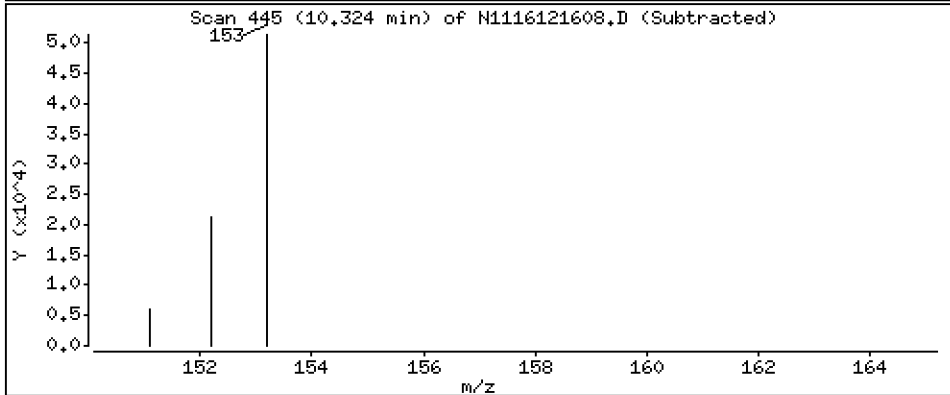
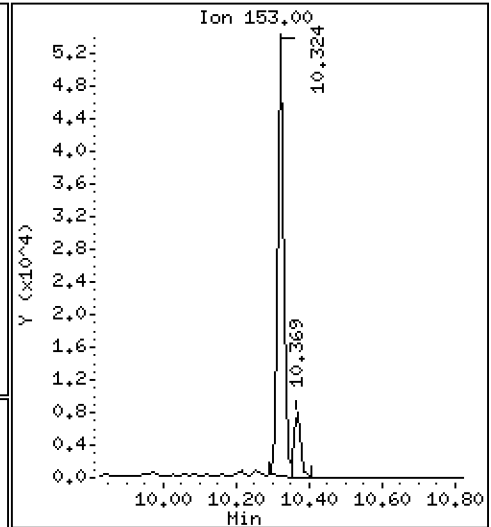
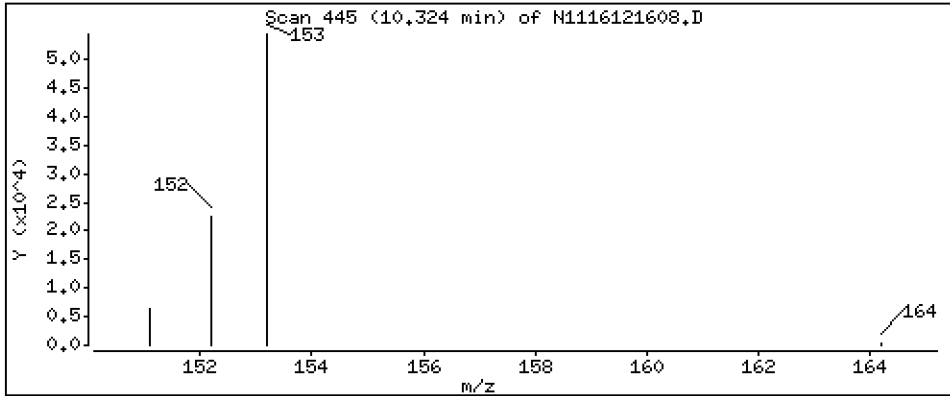
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 56,8 ng/mL

12 Acenaphthene



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

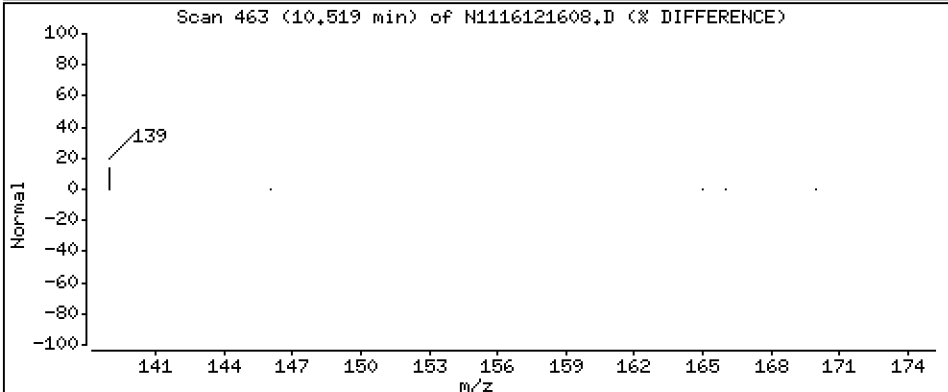
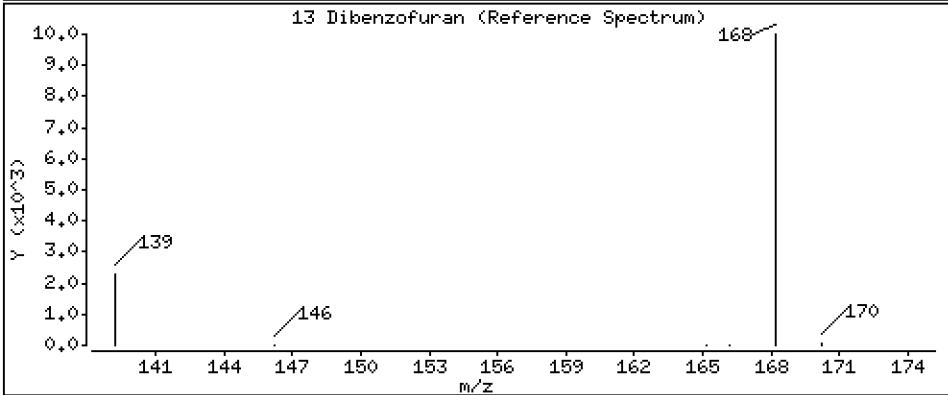
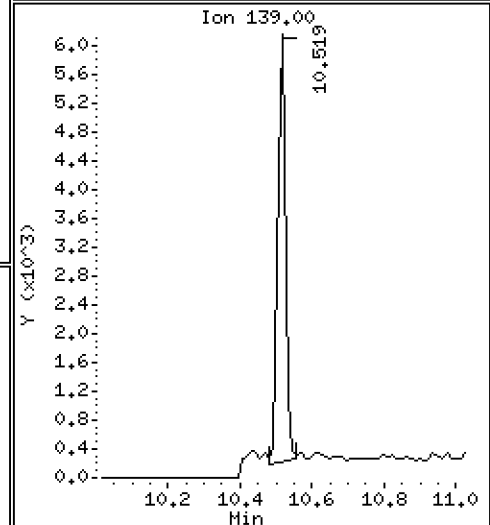
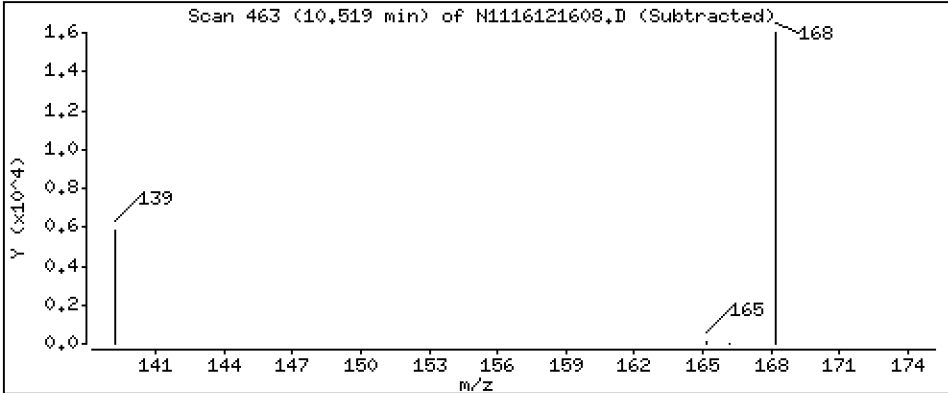
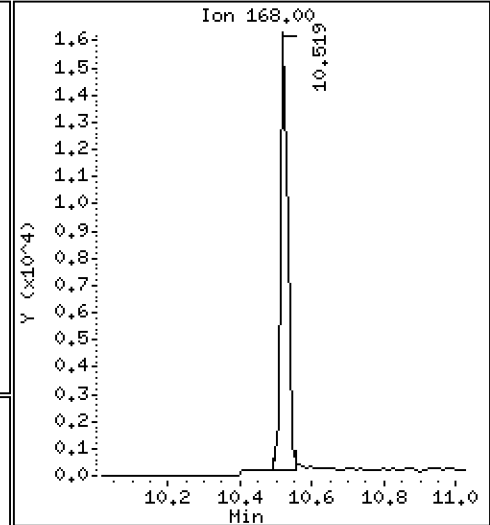
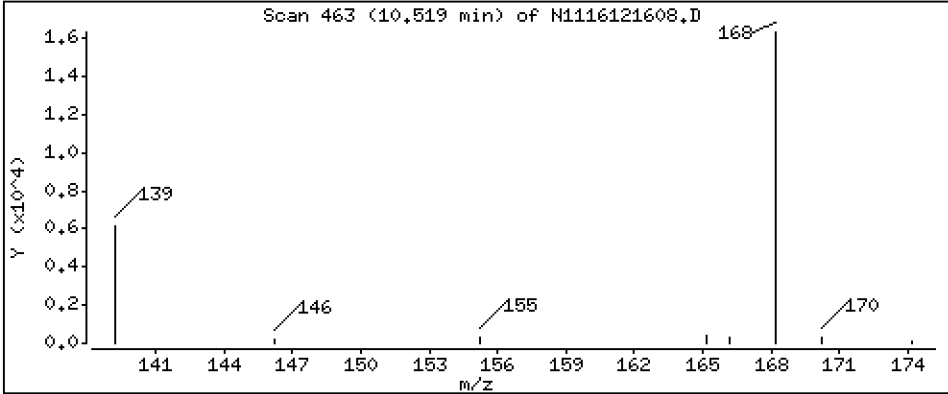
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 13,0 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

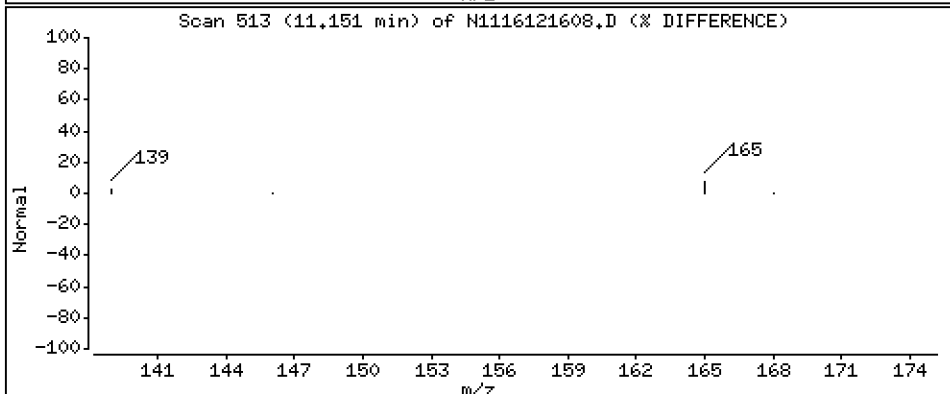
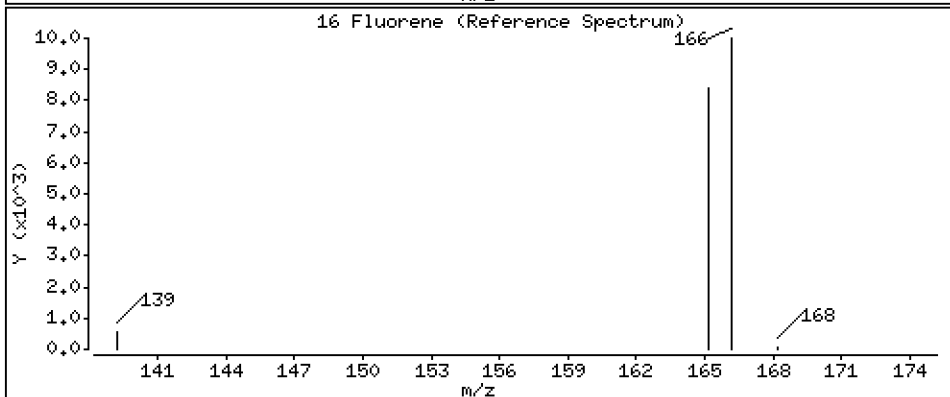
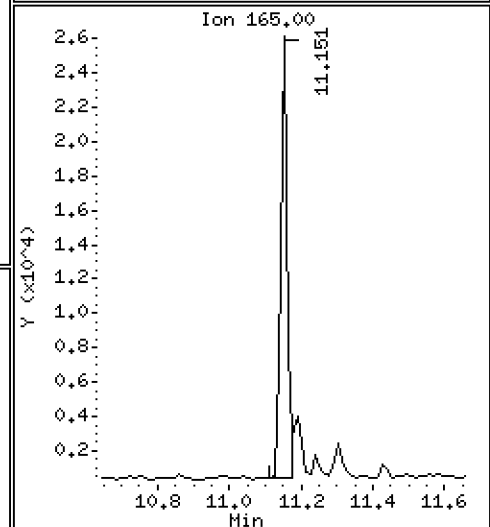
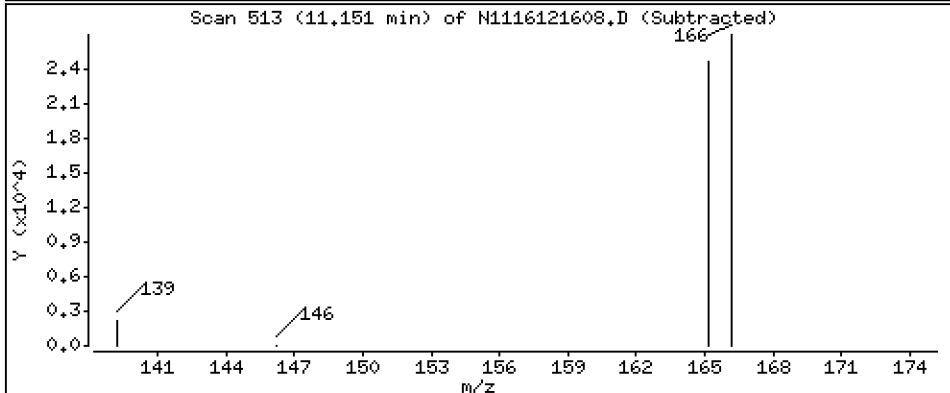
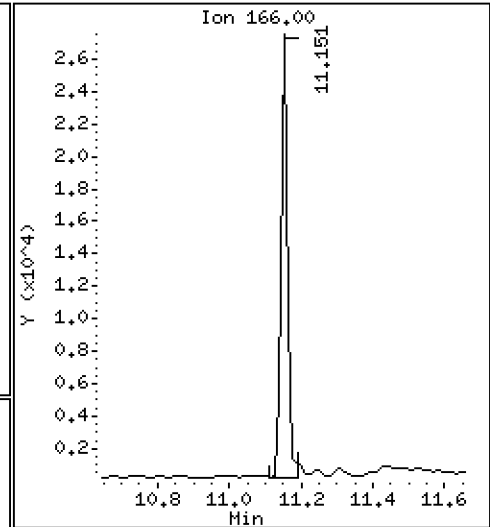
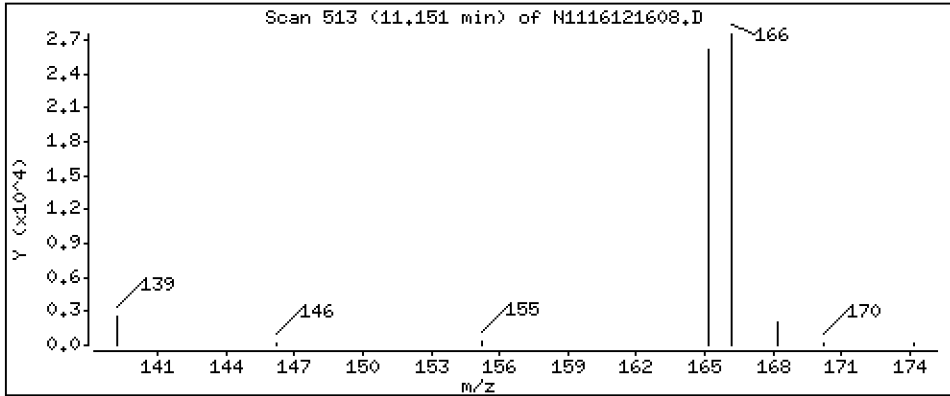
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 26,5 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

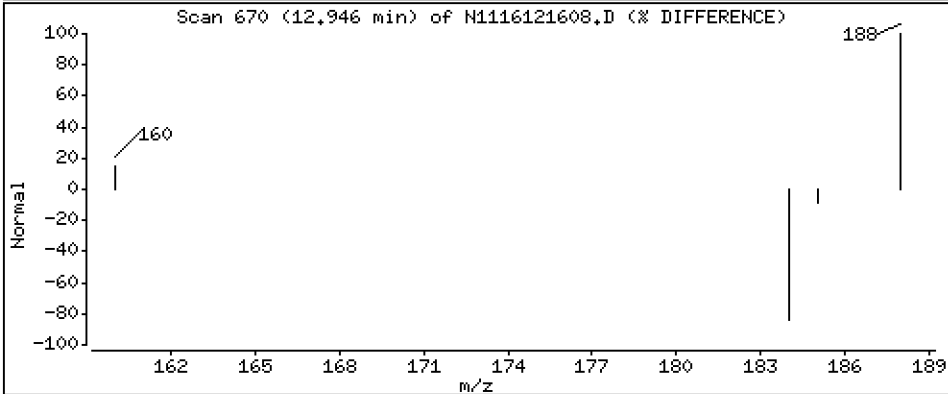
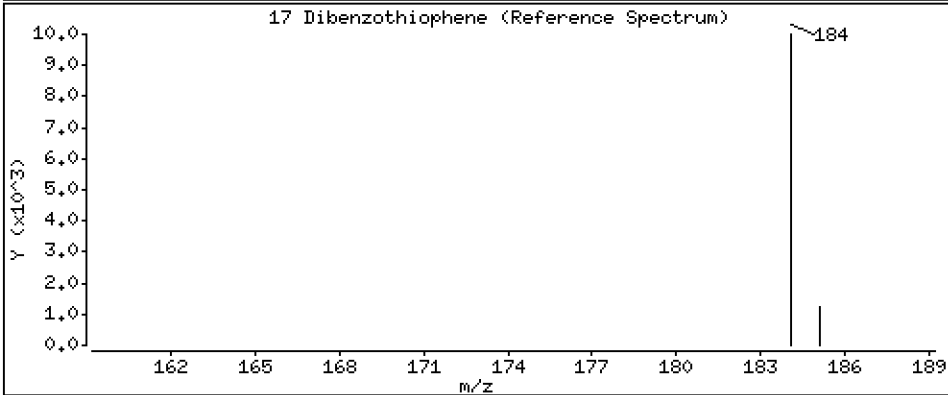
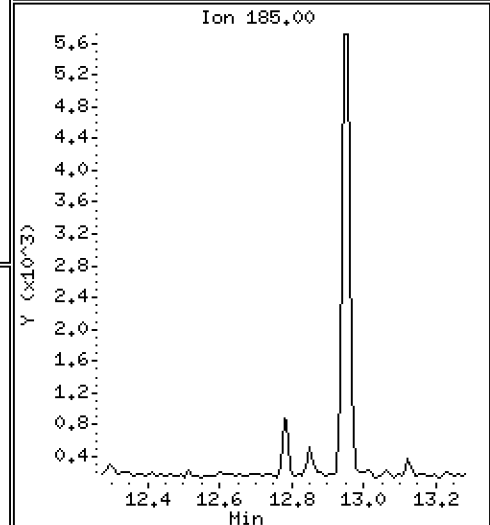
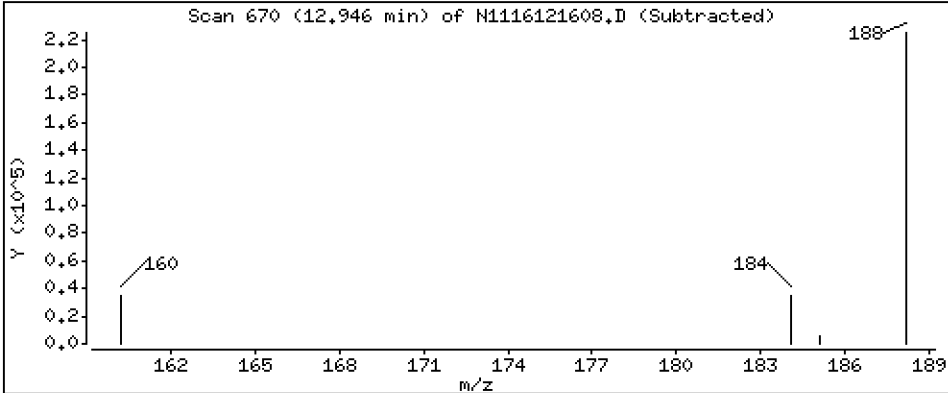
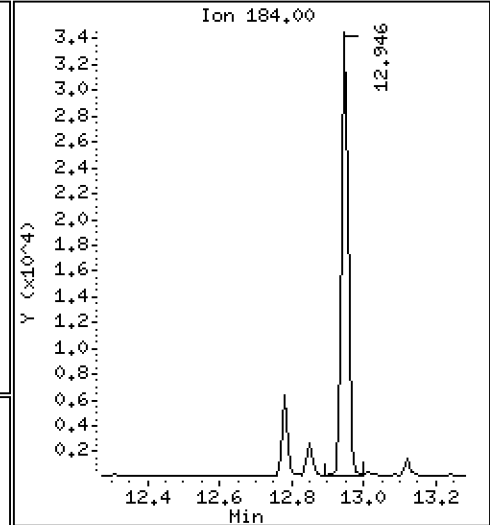
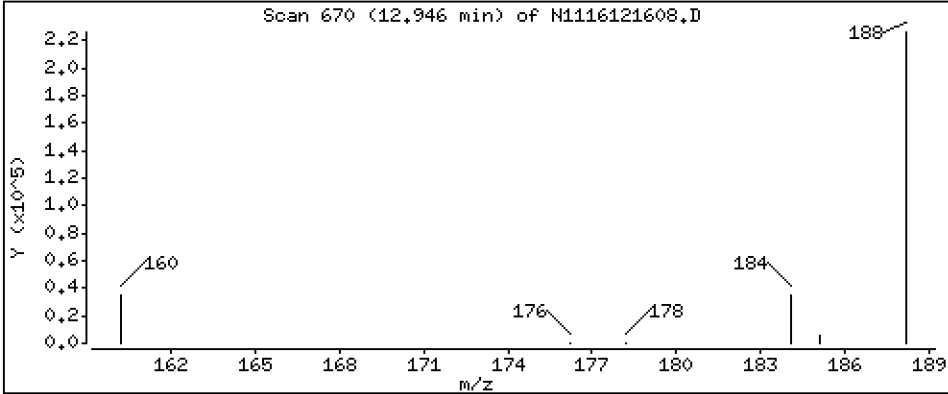
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 24,4 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

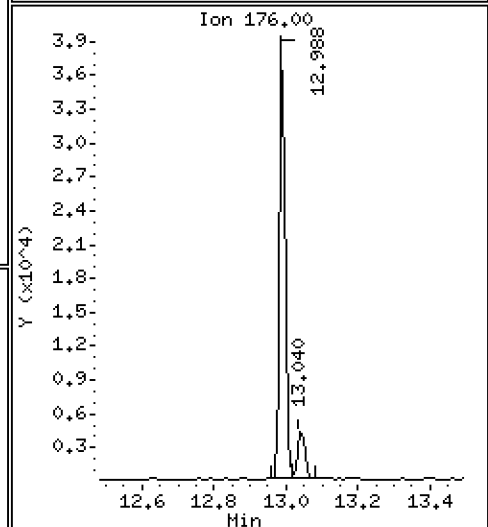
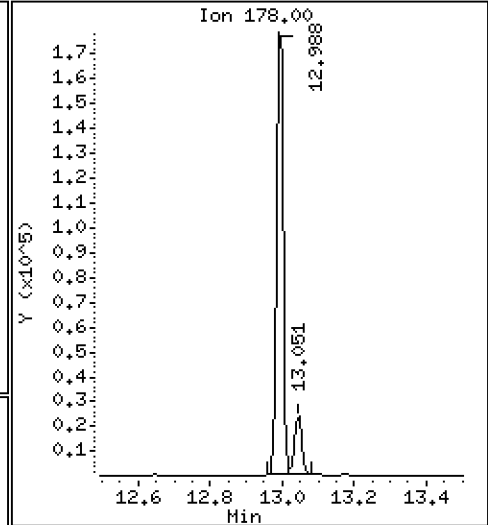
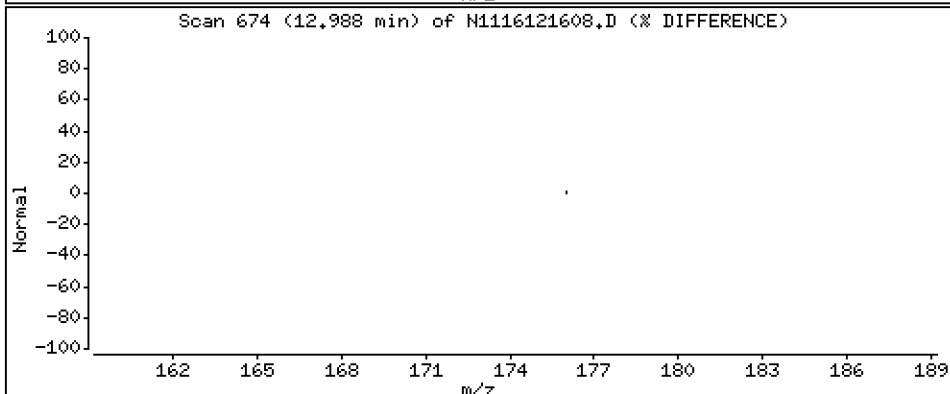
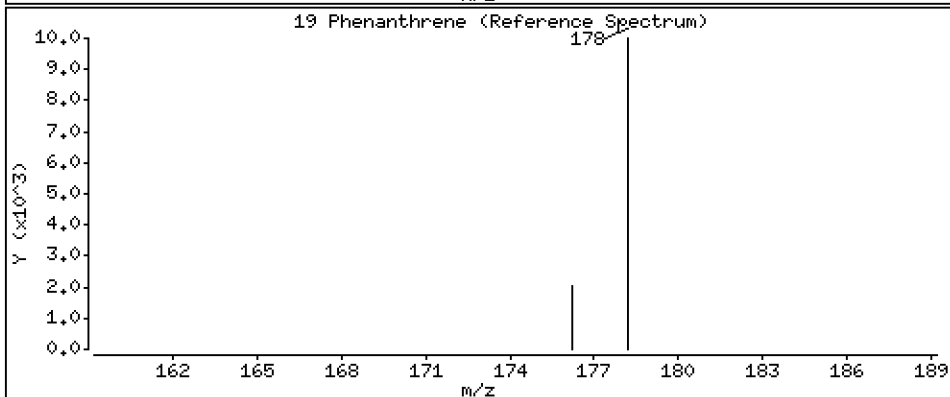
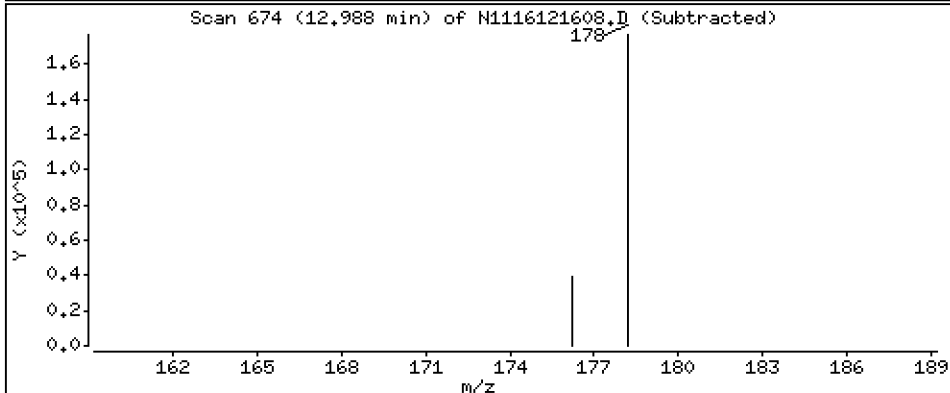
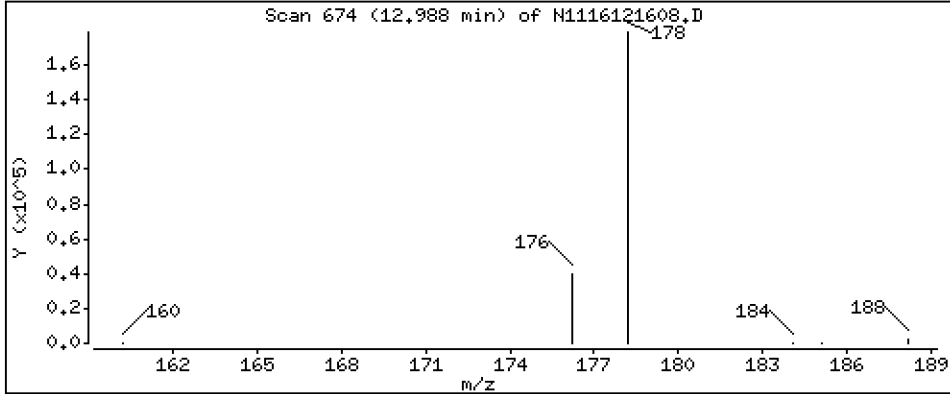
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 118 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

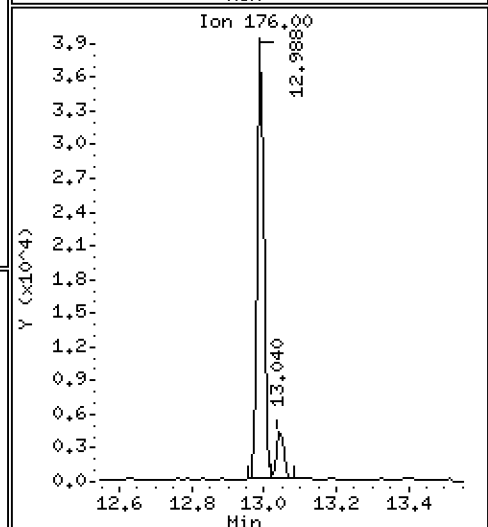
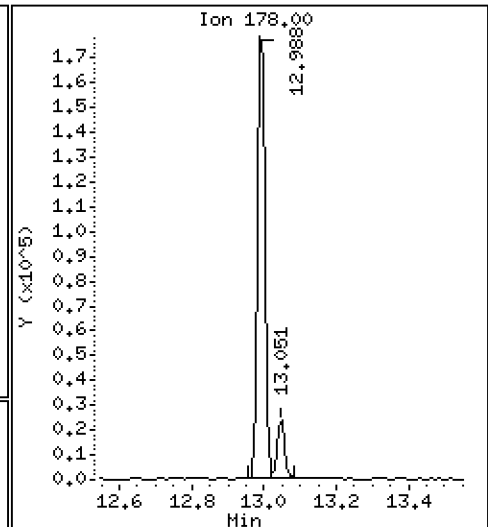
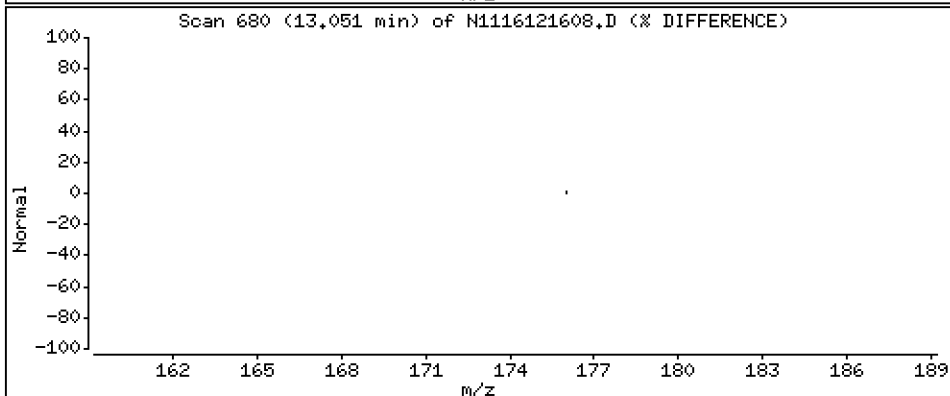
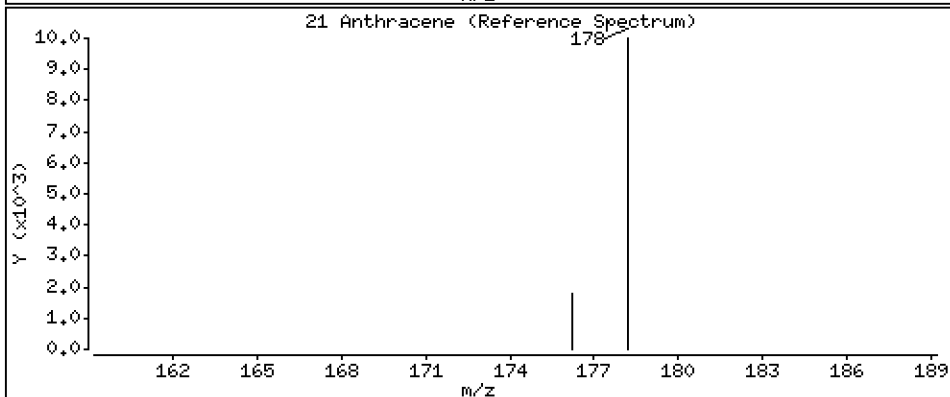
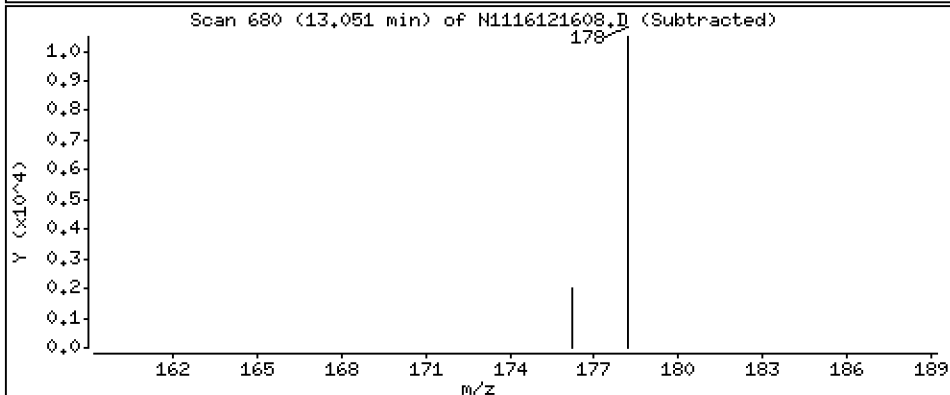
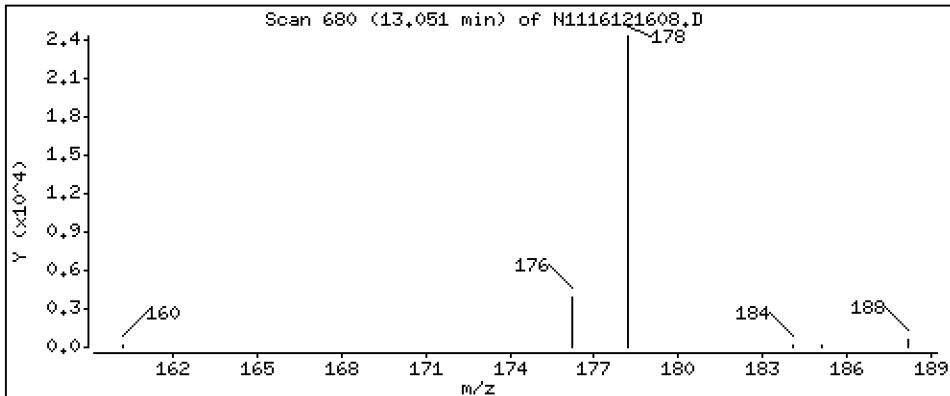
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 16,6 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

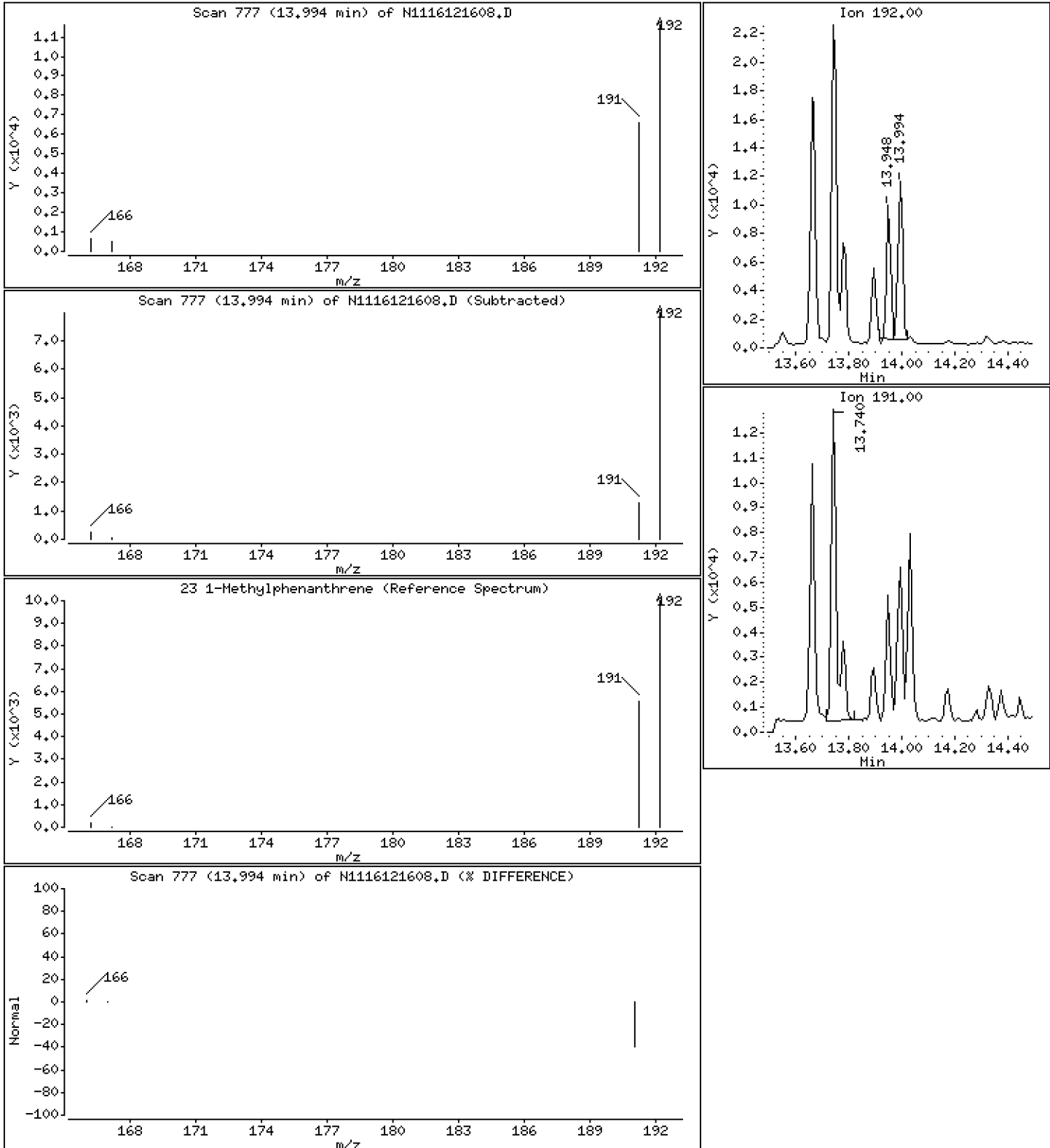
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 6,99 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

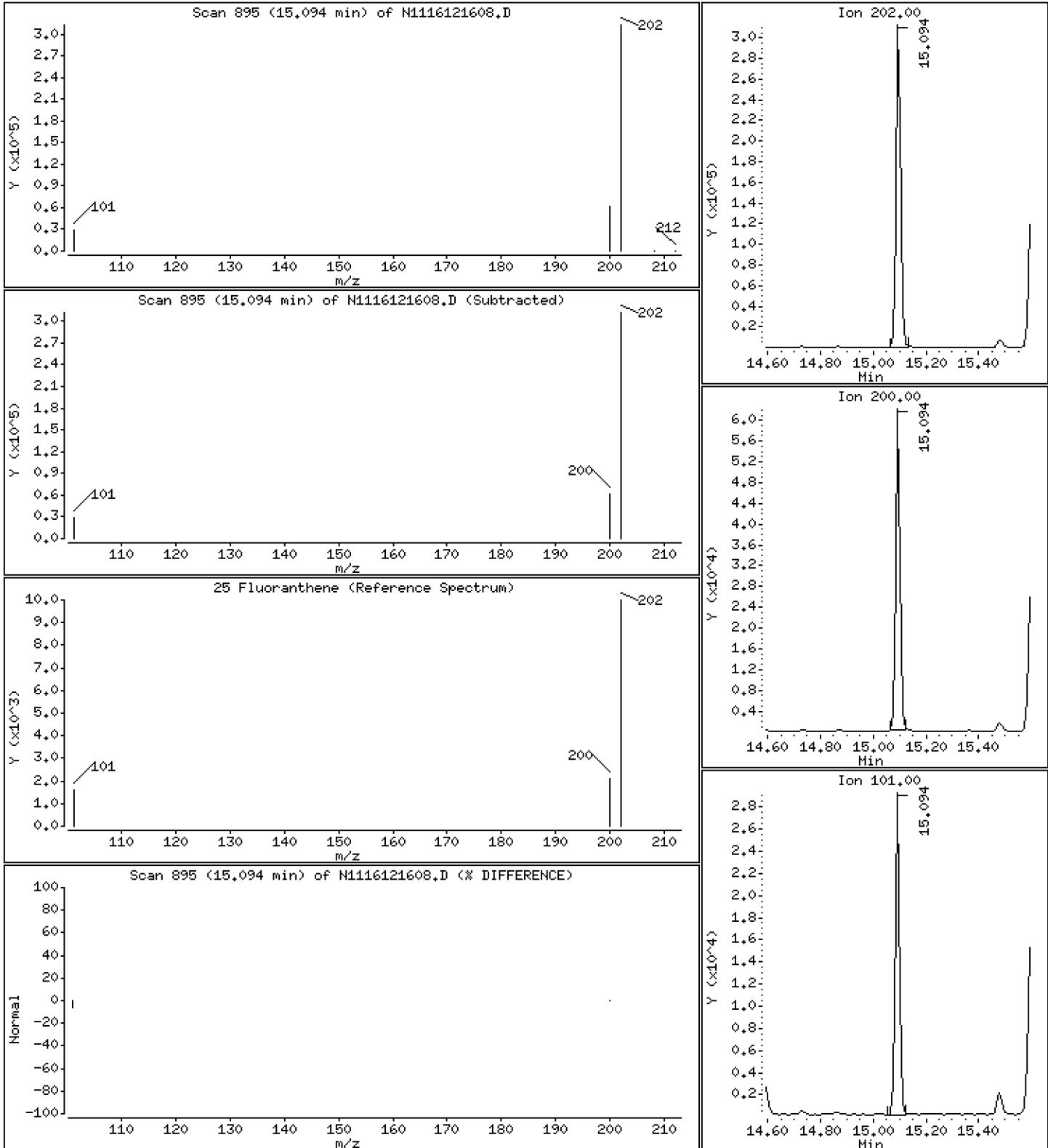
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 191 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

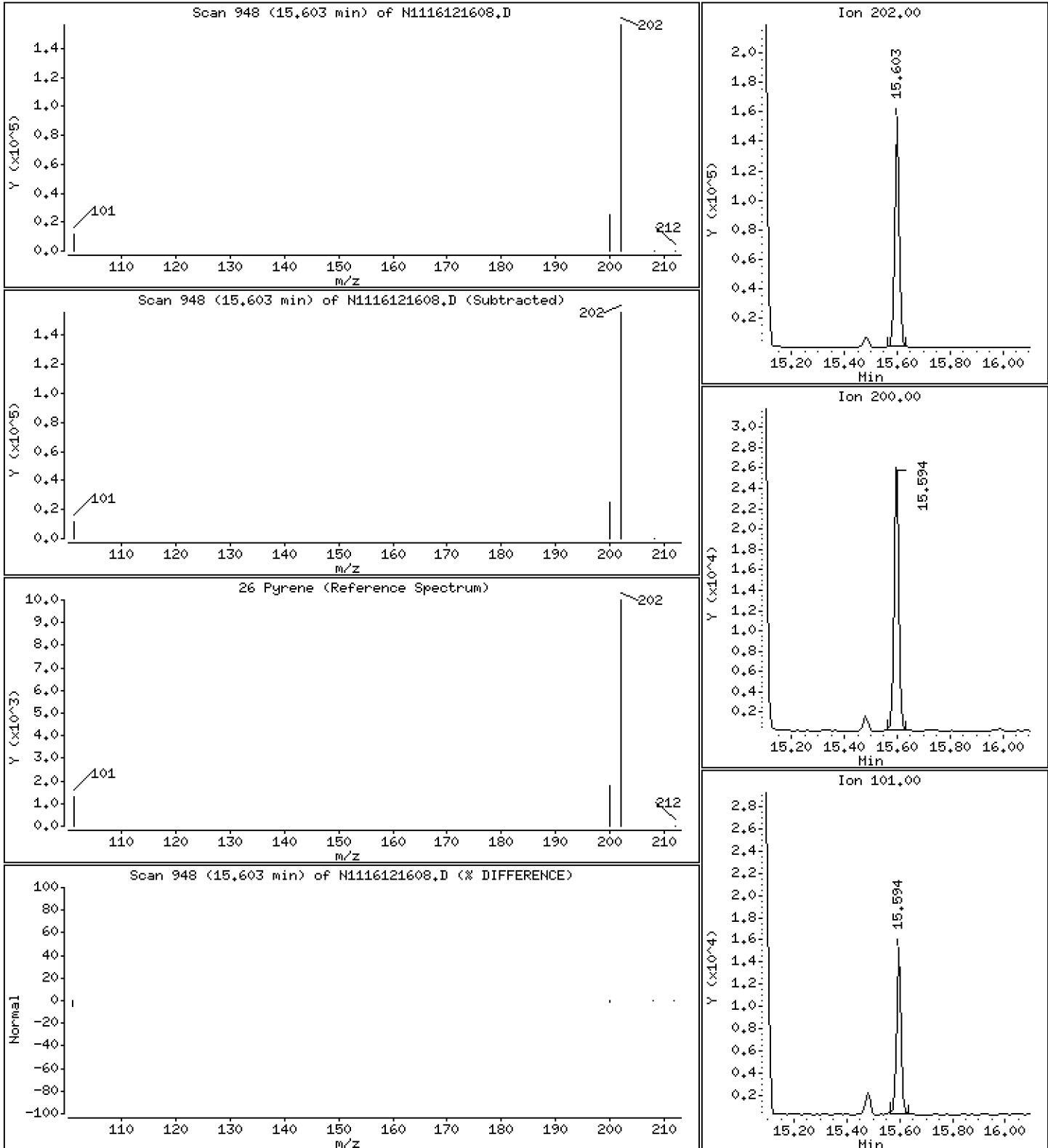
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 77,1 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

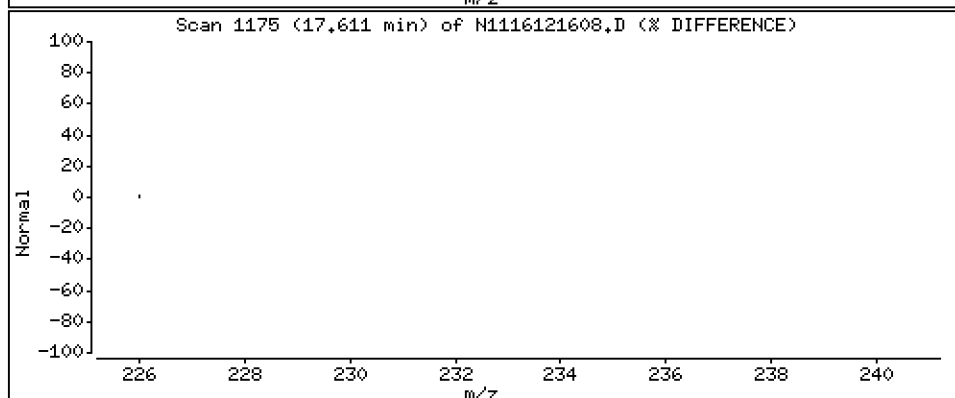
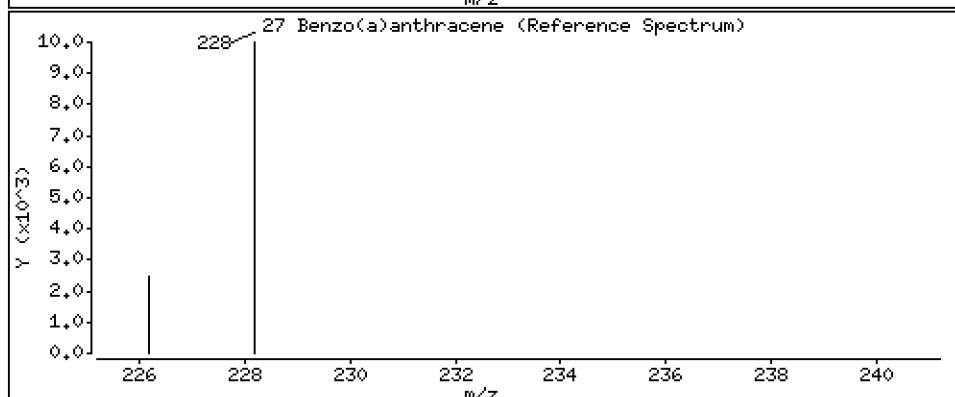
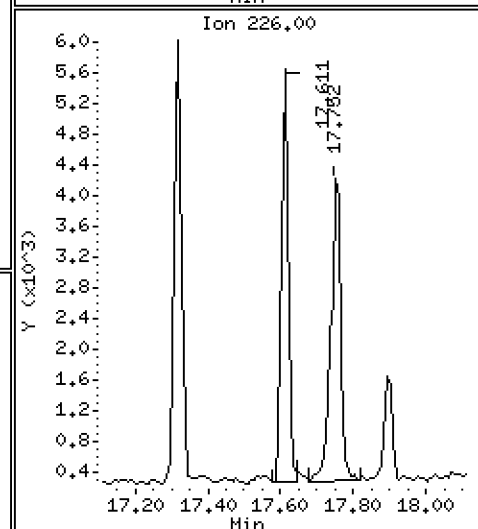
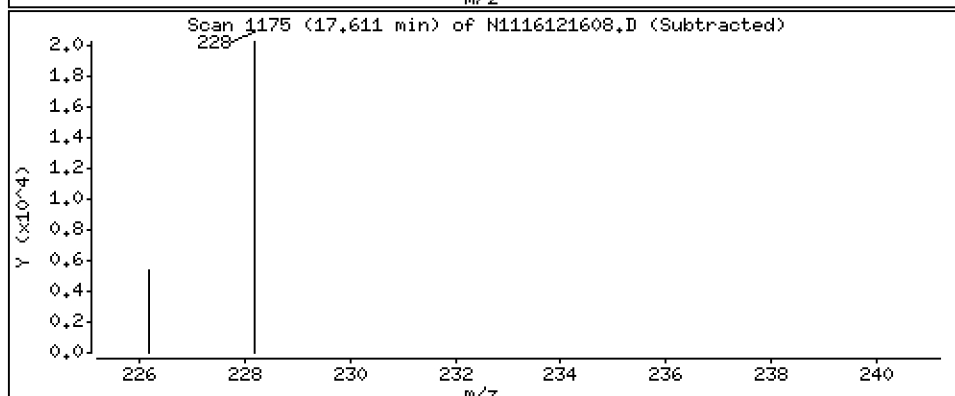
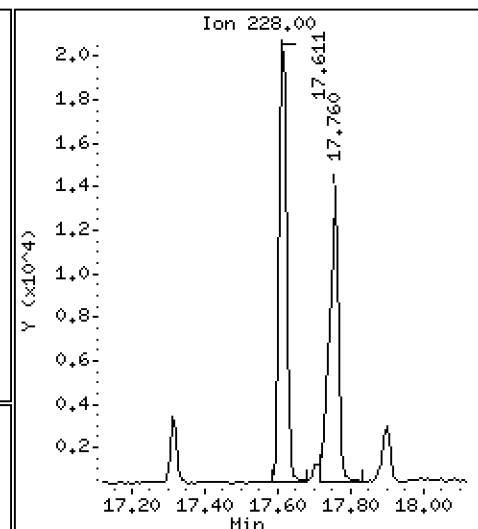
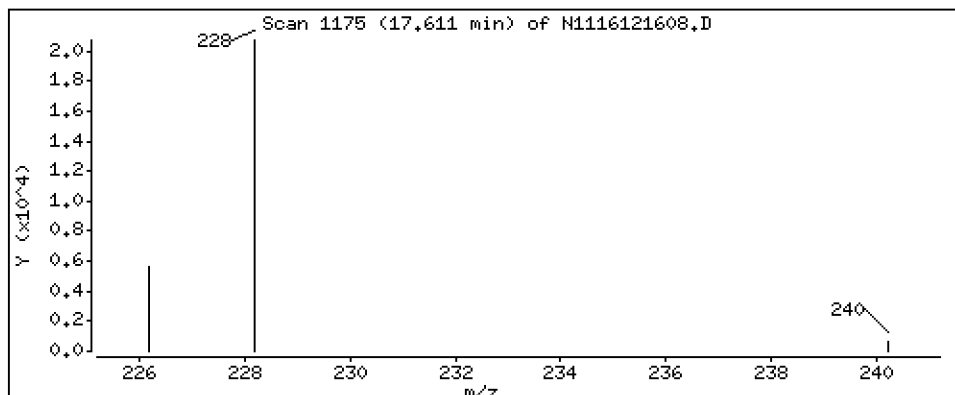
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 12,3 ng/mL



Date : 16-DEC-2016 13:08

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-15,50

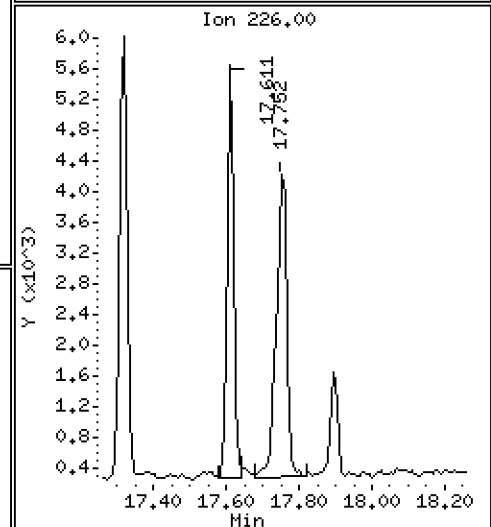
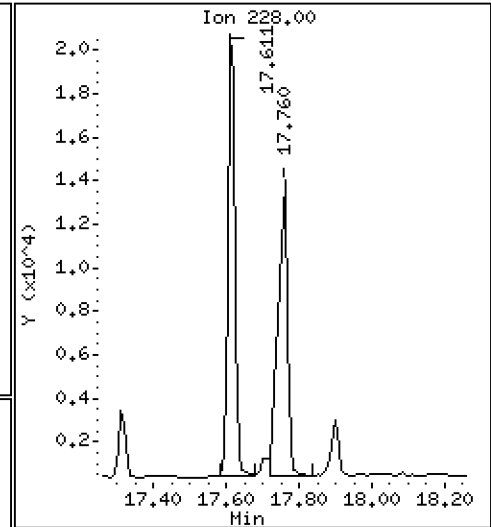
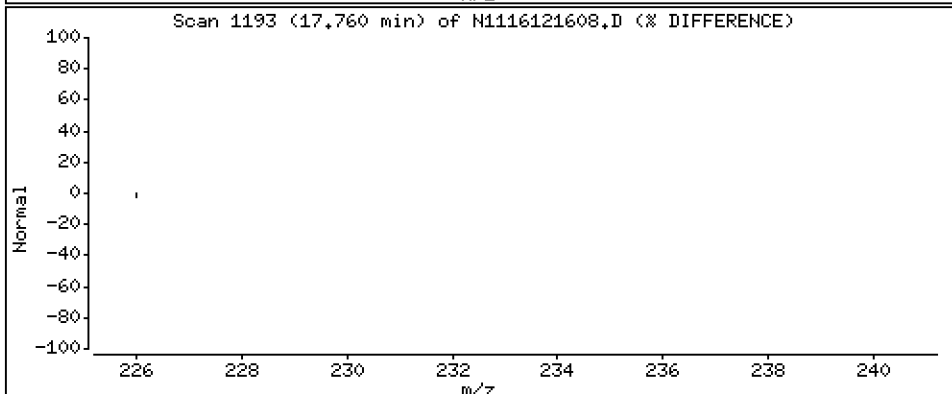
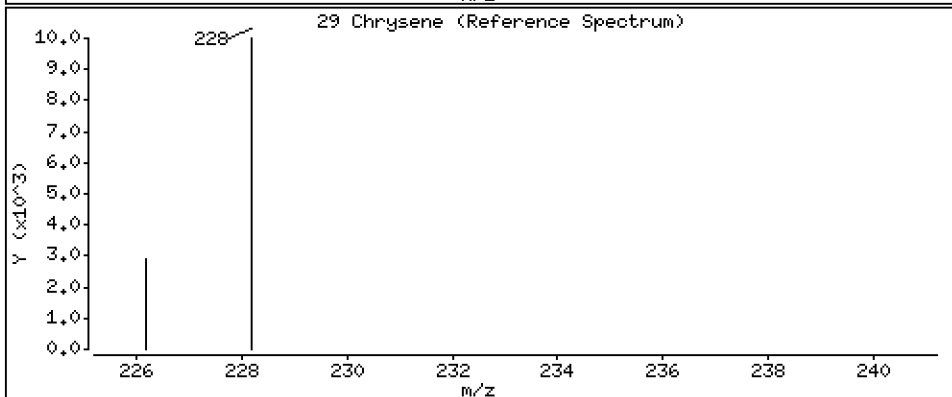
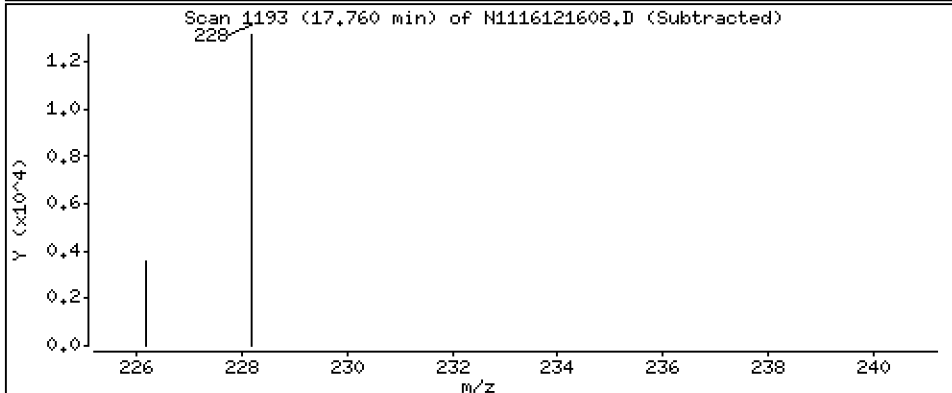
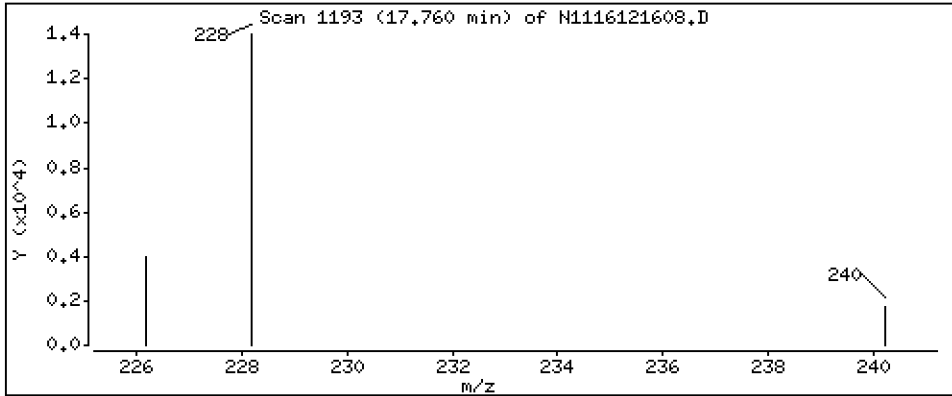
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 9,66 ng/mL

29 Chrysene



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161216.b\N1116121608.D
 Lab Smp Id:
 Inj Date : 16-DEC-2016 13:08 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-15,50
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Meth Date : 17-Dec-2016 10:59 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	296784	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	2946	2.63295	2.63
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	7117	5.55531	5.56
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	5468	4.35175	4.35
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		9.430	9.199	(0.919)	10663	7.35152	7.35
10 Acenaphthylene	152		10.324	10.107	(1.006)	29337	17.5476	17.5
* 11 Acenaphthene-d10	164		10.261	10.261	(1.000)	180957	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	65102	56.7572	56.8
13 Dibenzofuran	168		10.519	10.519	(1.025)	21268	13.0475	13.0
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	33331	26.4669	26.5
17 Dibenzothiophene	184		12.945	12.788	(0.999)	43367	24.3569	24.4
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	360222	200.000	
19 Phenanthrene	178		12.987	12.998	(1.002)	255655	118.153	118
\$ 20 Anthracene-d10	188		12.956	13.019	(1.000)	361098	221.258	221
21 Anthracene	178		13.050	13.050	(1.007)	33830	16.6151	16.6
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.080)	13318	6.98530	6.99
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	6156	3.82846	3.83
25 Fluoranthene	202		15.094	15.094	(1.165)	400223	190.624	191
26 Pyrene	202		15.603	15.603	(0.881)	201977	77.1312	77.1
27 Benzo(a)anthracene	228		17.610	17.619	(0.994)	27969	12.3431	12.3
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	402474	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	24272	9.65759	9.66
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252							
35 Benzo(a)pyrene	252							
* 36 Perylene-d12	264		20.935	20.935	(1.000)	379871	200.000	
37 Perylene	252							
§ 38 Dibenzo(a,h)anthracene-d14	292		23.819	23.830	(1.138)	1805	1.41856	1.42
39 Dibenzo(a,h)anthracene	278							
40 Indeno(1,2,3-cd)pyrene	276							
41 Benzo(g,h,i)perylene	276							

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 16-DEC-2016
 Lab File ID: N1116121608.D Calibration Time: 09:46
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161216.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	296784	-39.87
11 Acenaphthene-d10	240770	120385	481540	180957	-24.84
18 Phenanthrene-d10	429271	214636	858542	360222	-16.09
28 Chrysene-d12	387691	193846	775382	402474	3.81
36 Perylene-d12	386259	193130	772518	379871	-1.65

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	-0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	-0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	-0.00
28 Chrysene-d12	17.71	17.21	18.21	17.71	-0.00
36 Perylene-d12	20.94	20.44	21.44	20.94	-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.

Lab ID:

nt11.i, 20161216.b\LOWSIM.m, 16-DEC-2016 13:08

RT CO-ELUTION COMPOUNDS

10.324 Acenaphthene and Acenaphthylene

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161216.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-17 File ID: N1116121219.D
 Sampled: 11/22/16 12:35 Prepared: 11/24/16 08:25 Analyzed: 12/12/16 17:29
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0155 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	13.1	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	17.1	B	1.13	1.13
208-96-8	Acenaphthylene	1	3.89		1.13	1.13
83-32-9	Acenaphthene	1	60.7		1.13	1.13
86-73-7	Fluorene	1	57.7		1.13	1.13
85-01-8	Phenanthrene	1	226	E	1.13	1.13
120-12-7	Anthracene	1	25.8		1.13	1.13
206-44-0	Fluoranthene	1	179	E	1.13	1.13
129-00-0	Pyrene	1	118	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	10.3		1.13	1.13
218-01-9	Chrysene	1	9.98		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	2.31		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.13	U	1.13	1.13
50-32-8	Benzo(a)pyrene	1	1.13	U	1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	1.63		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	20.0	59.0	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	23.2	68.6	30 - 160	
Fluoranthene-d10	33.860	28.1	82.9	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	2.54	12.0	30 - 160	*
Benzo(e)pyrene-d12	21.163	13.5	63.7	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161212.16\N1116121219.D

Date: 12-DEC-2016 17:29

Client ID:

Sample Info: 16K0321-17

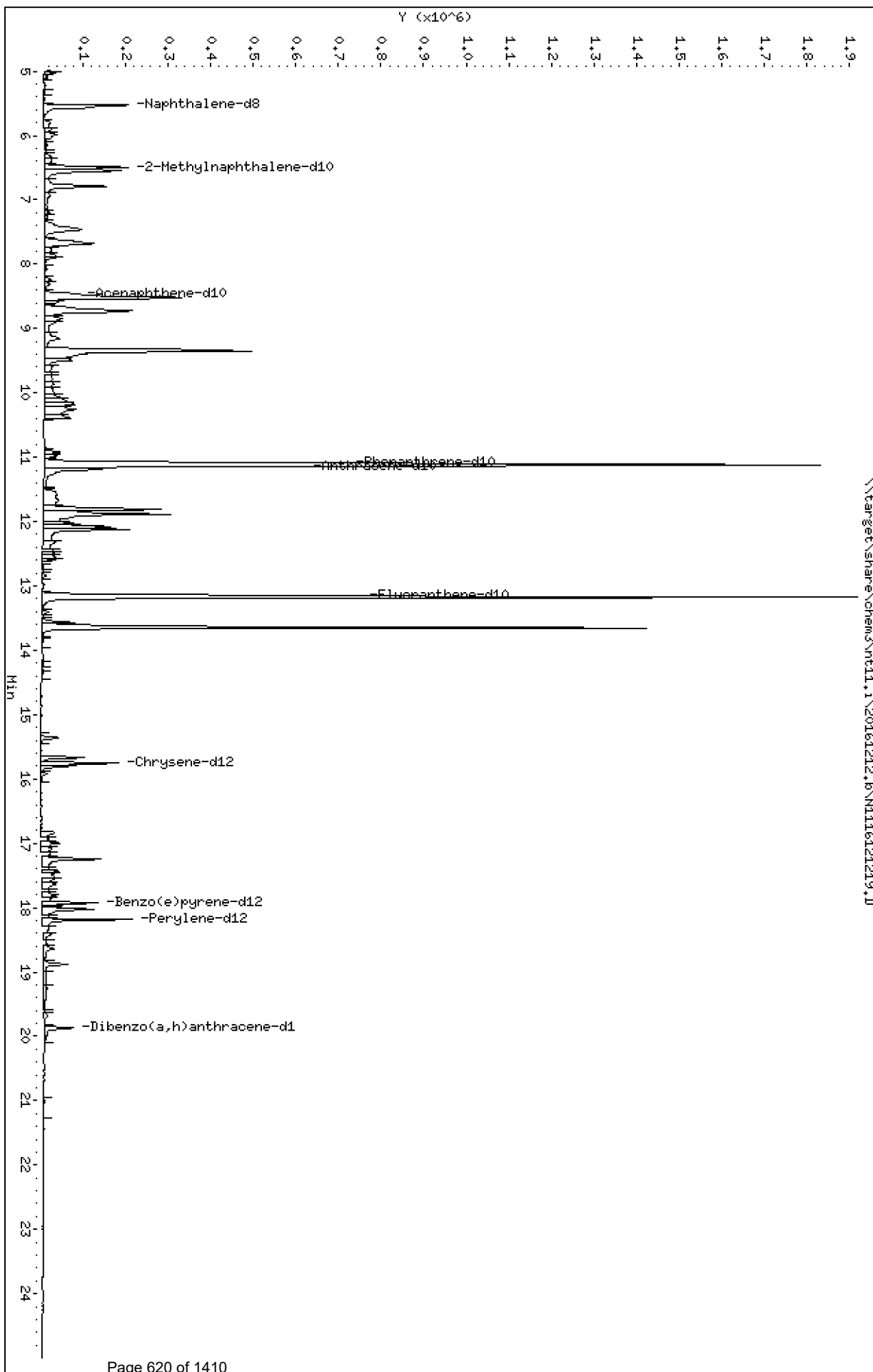
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: JM

Column diameter: 0.25

Page 1



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

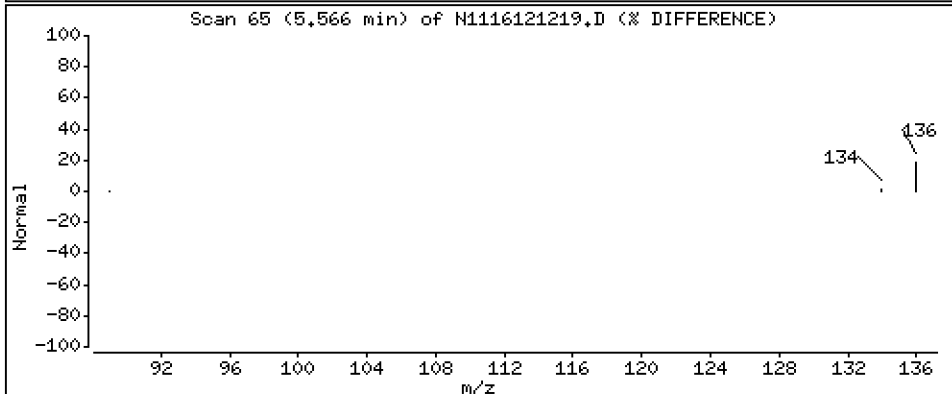
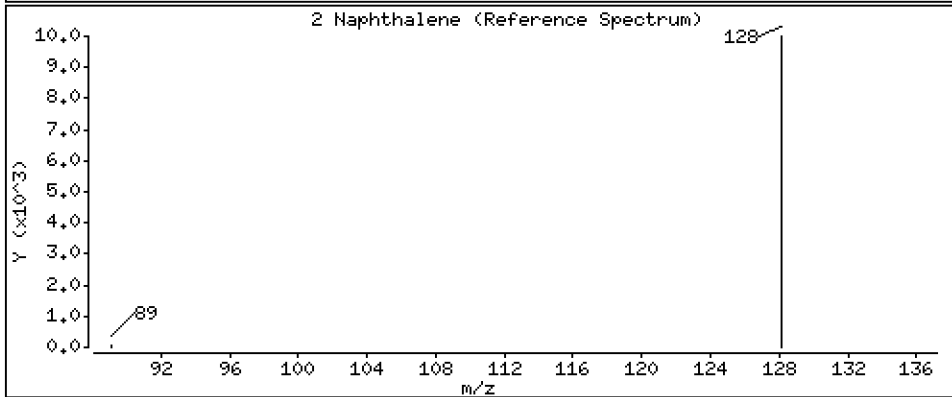
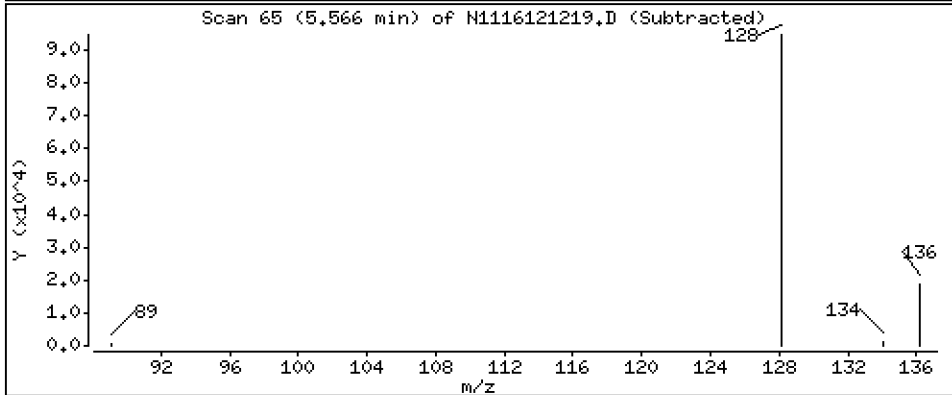
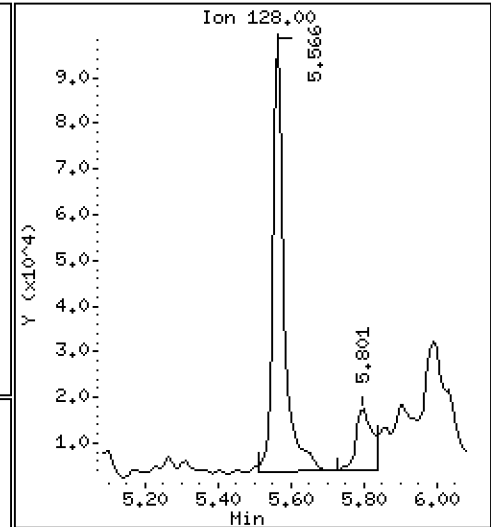
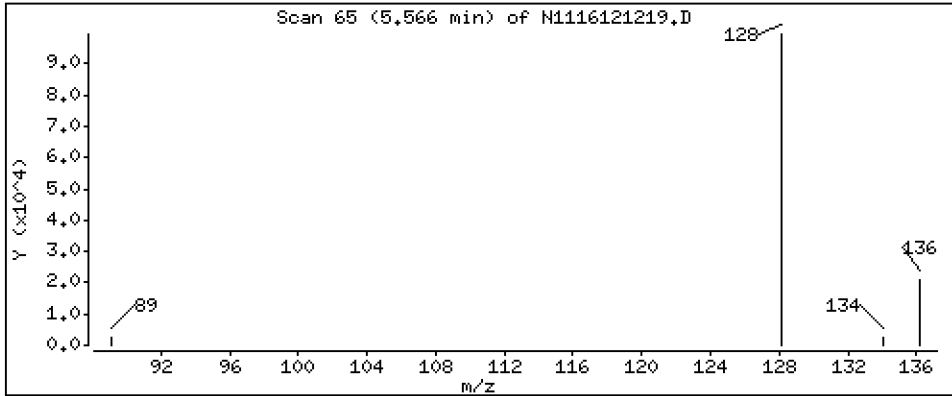
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 116 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

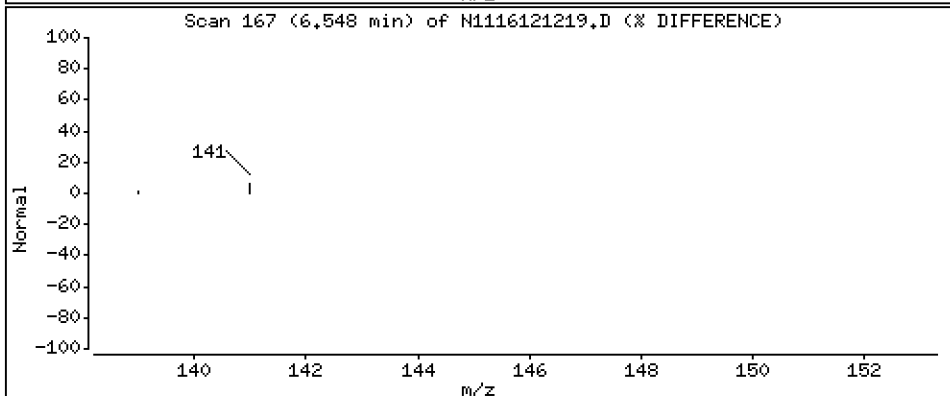
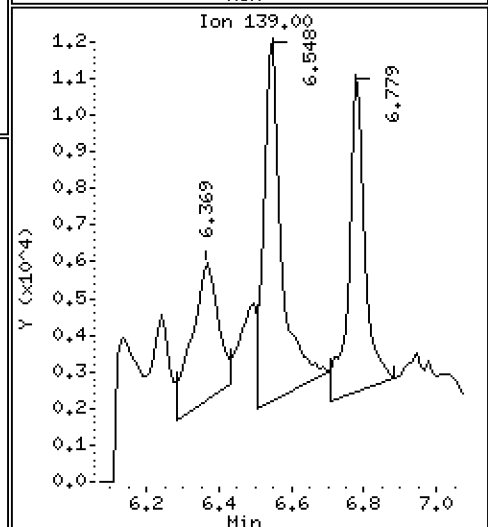
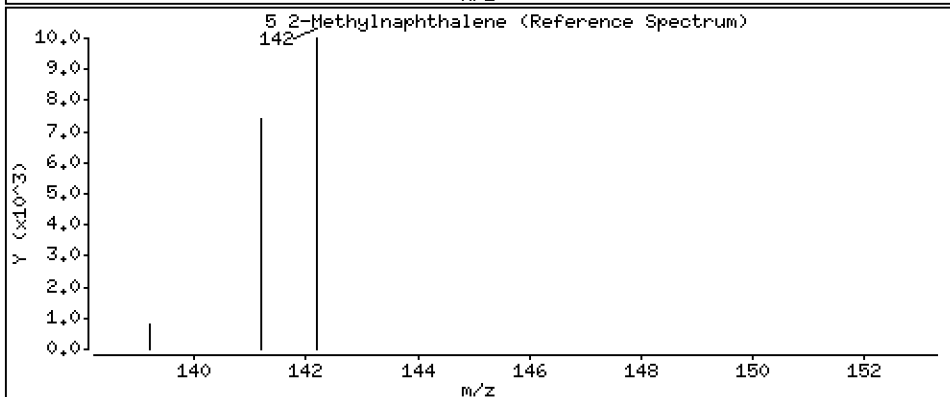
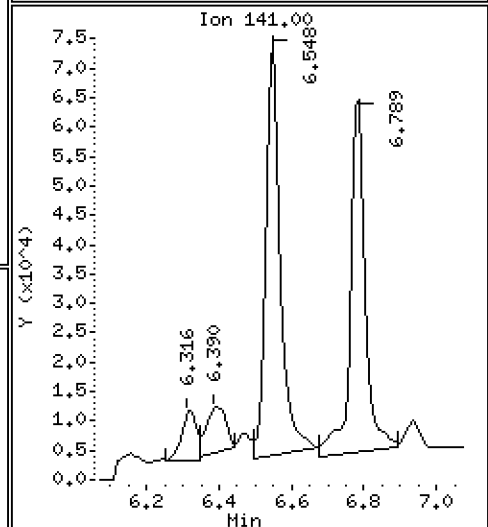
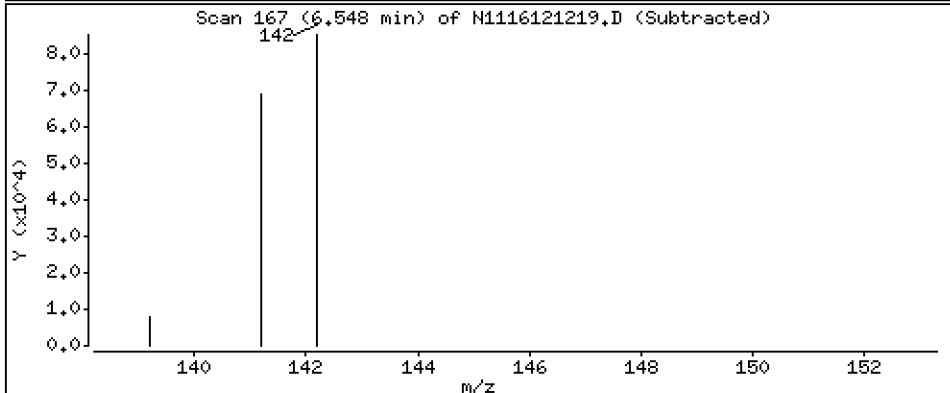
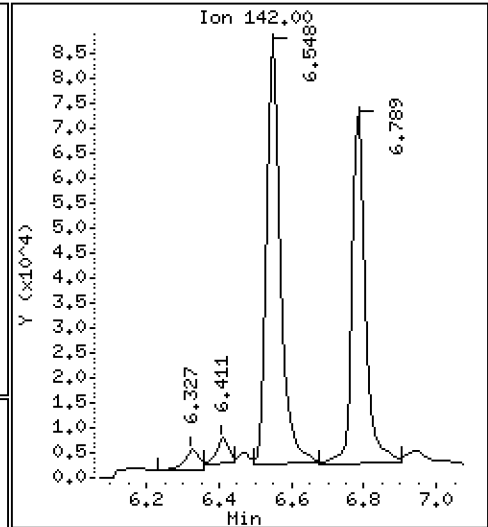
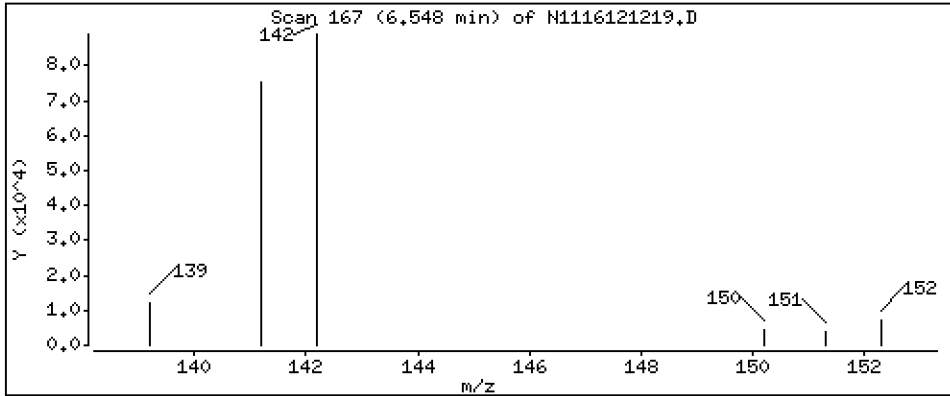
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 151 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

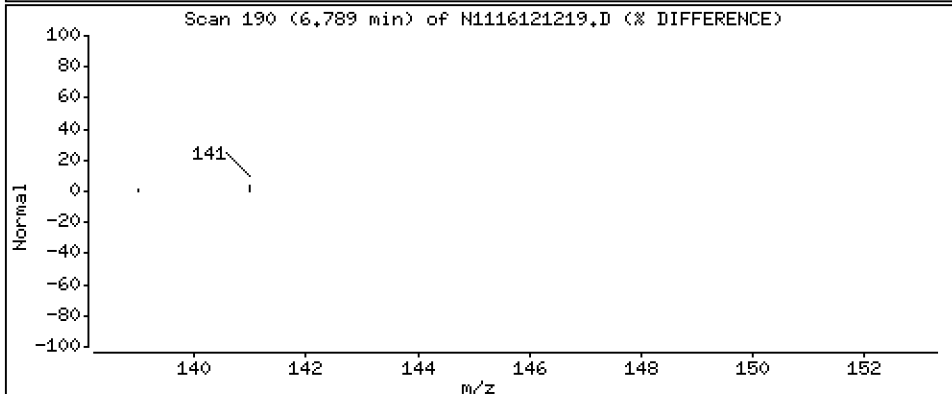
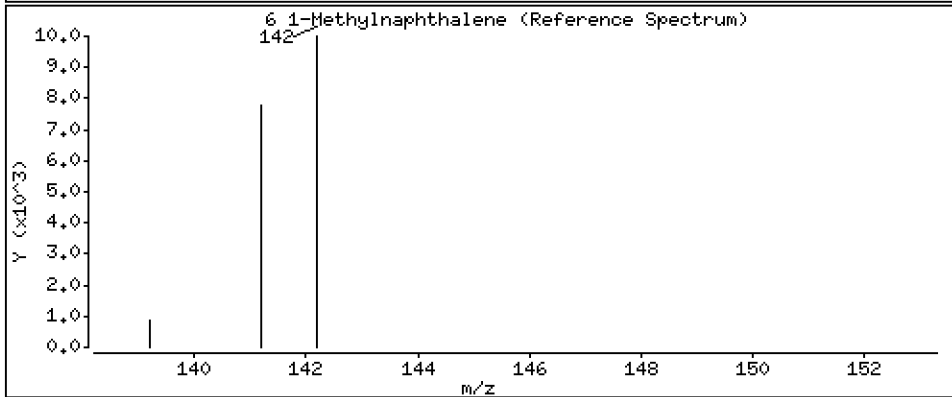
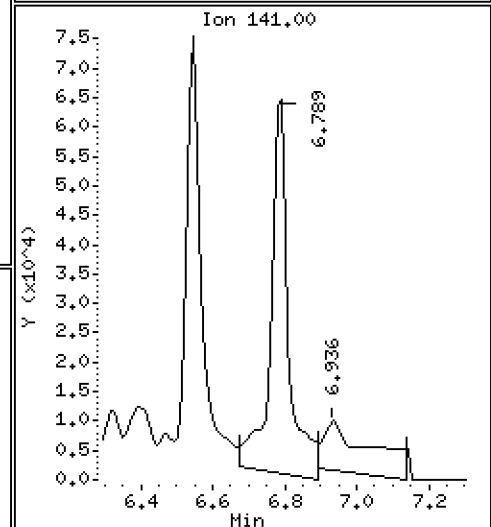
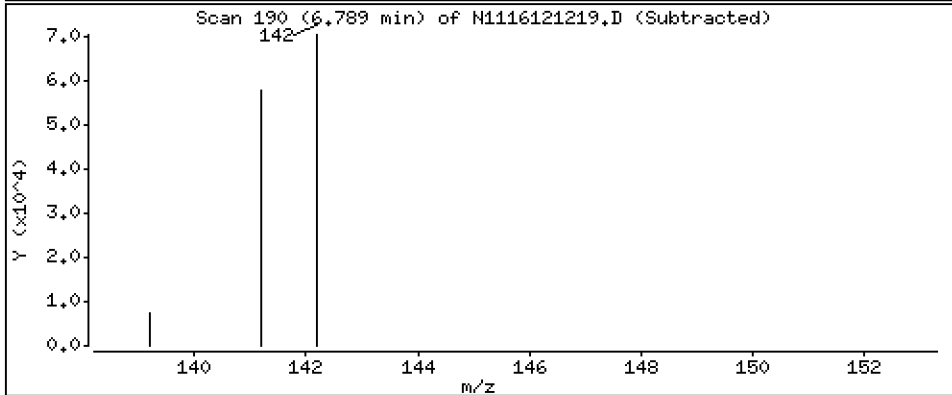
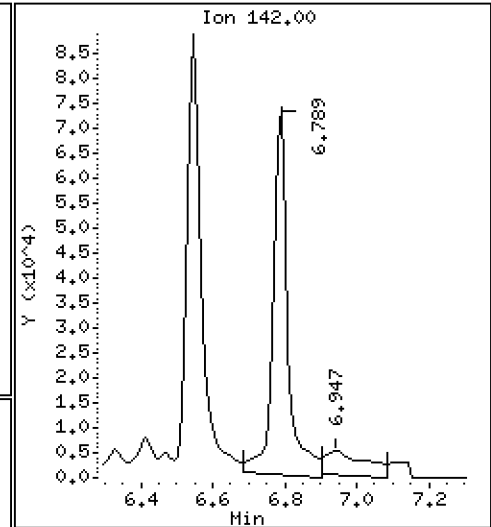
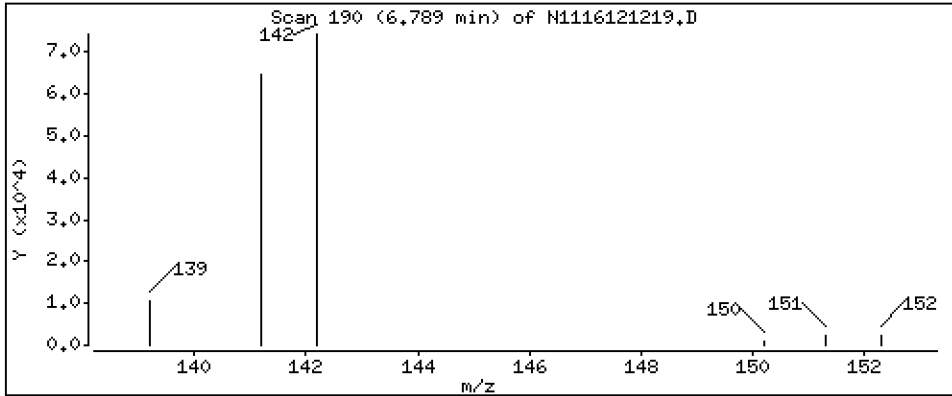
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 151 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

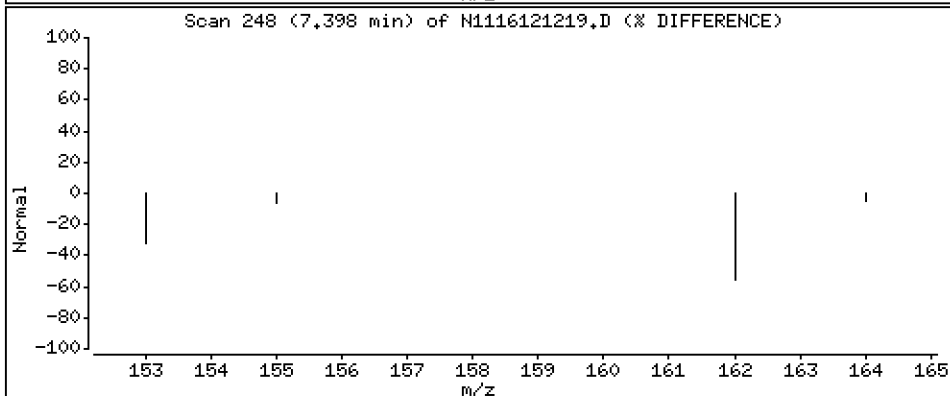
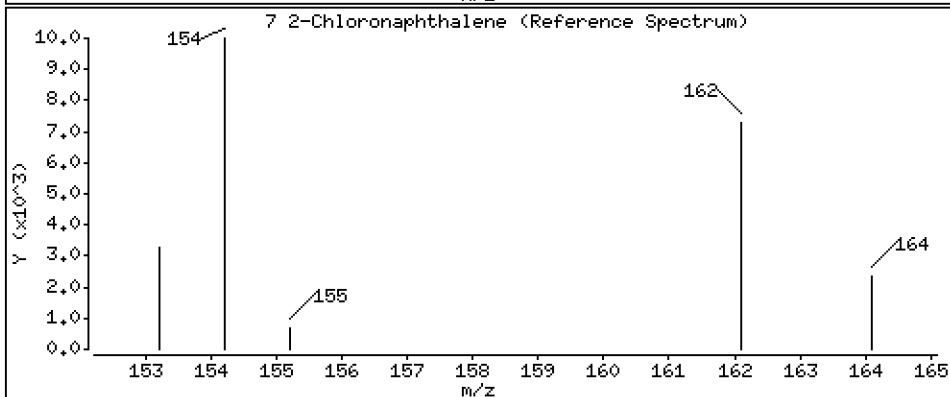
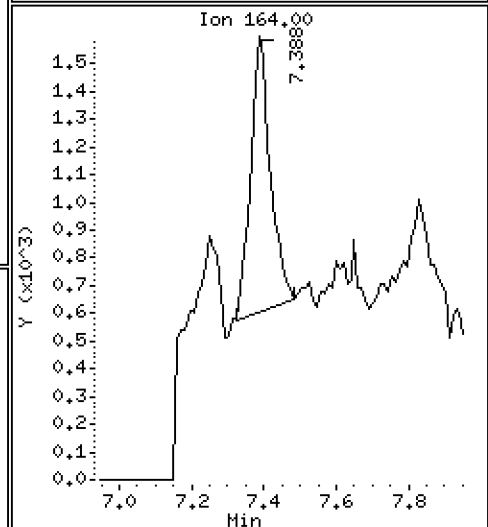
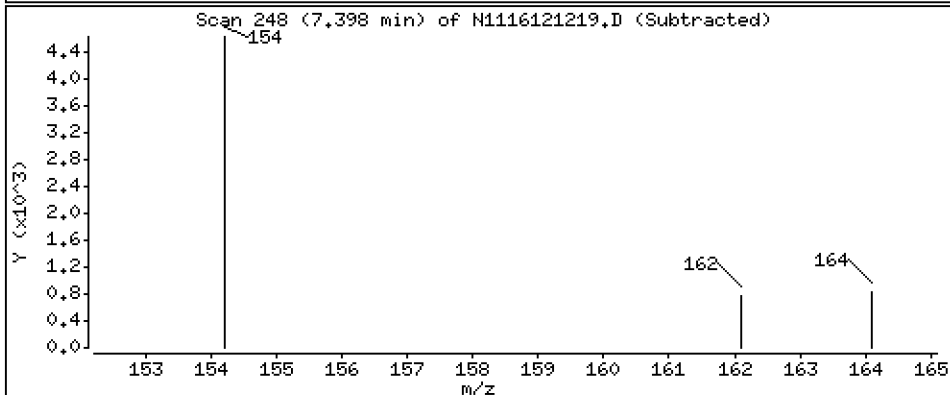
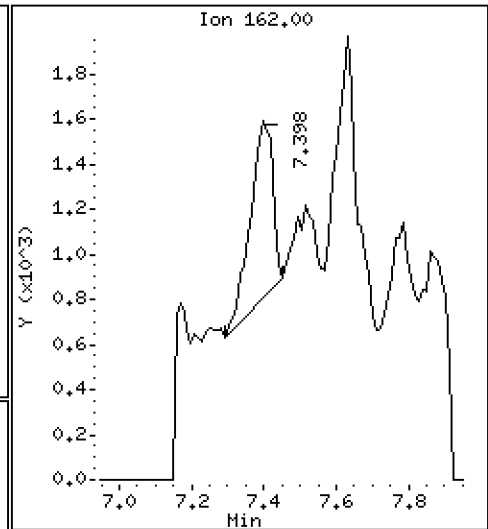
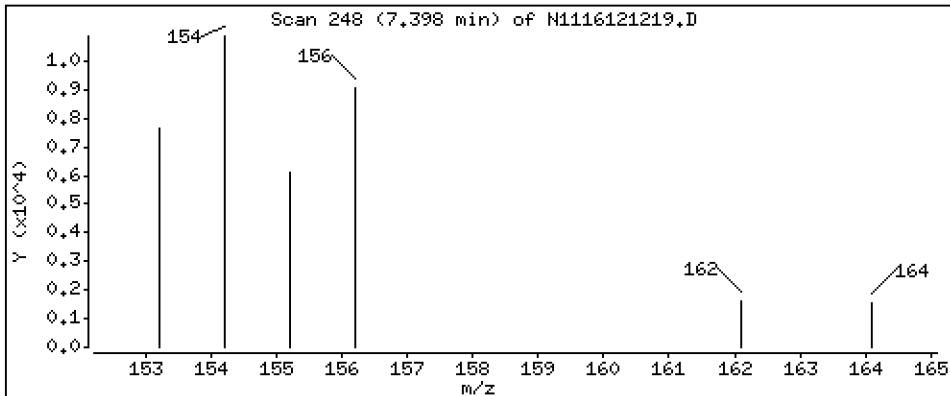
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Chloronaphthalene

Concentration: 2.31 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

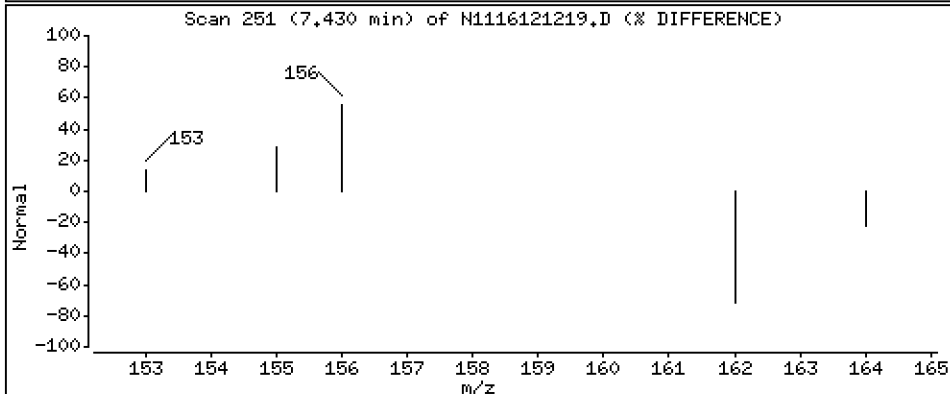
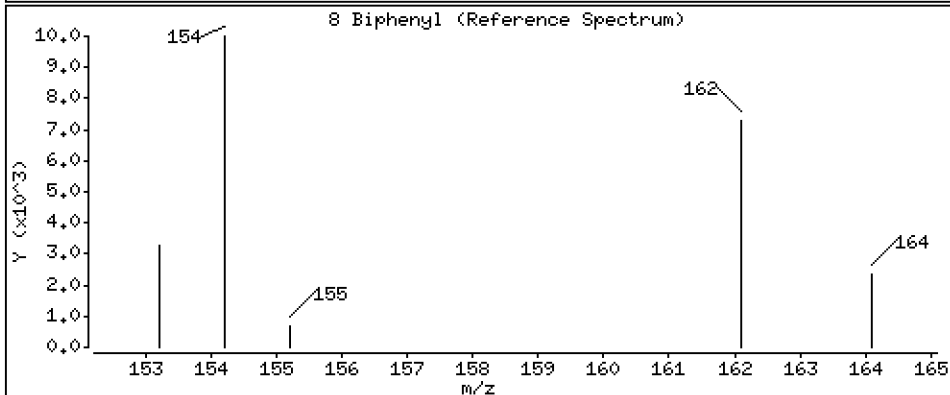
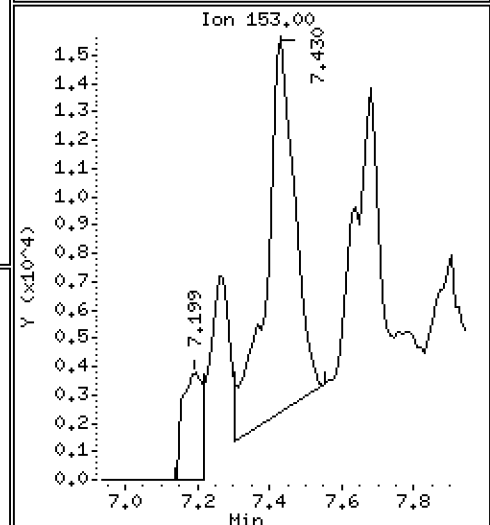
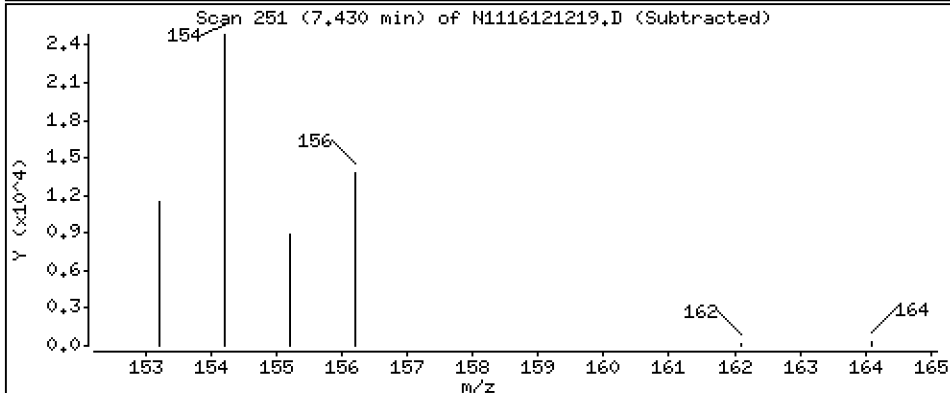
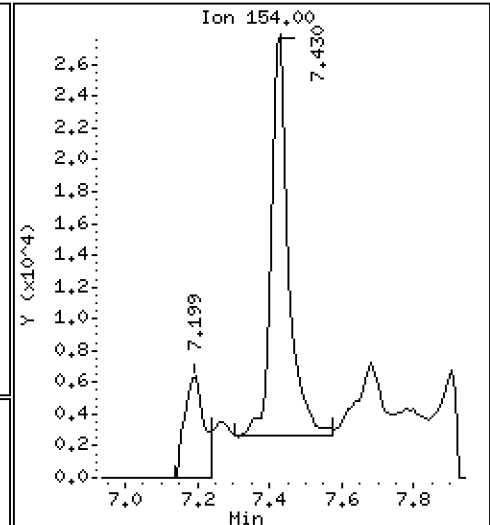
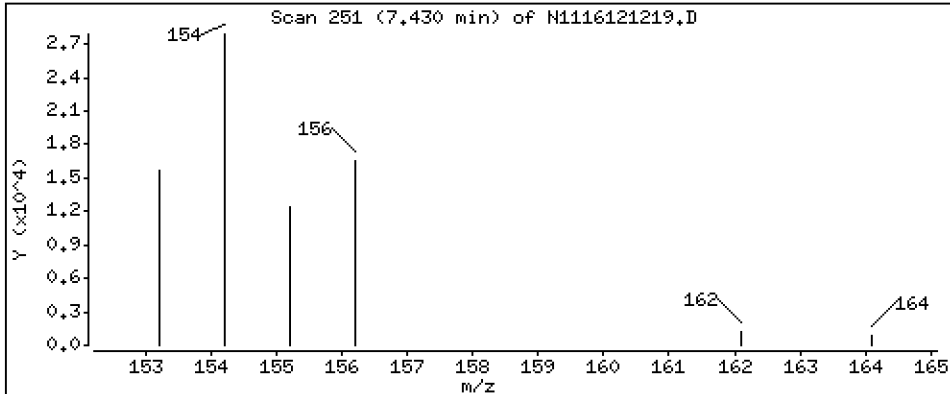
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 41,4 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

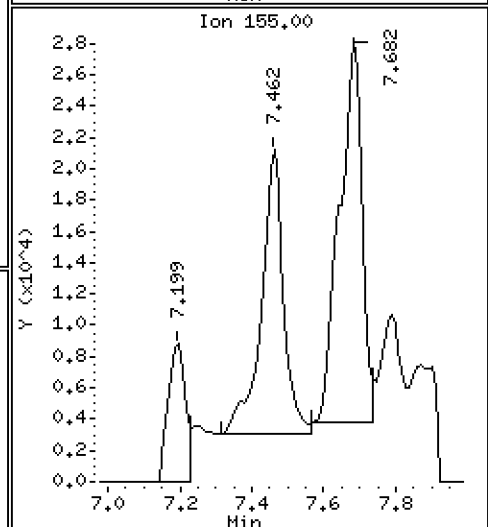
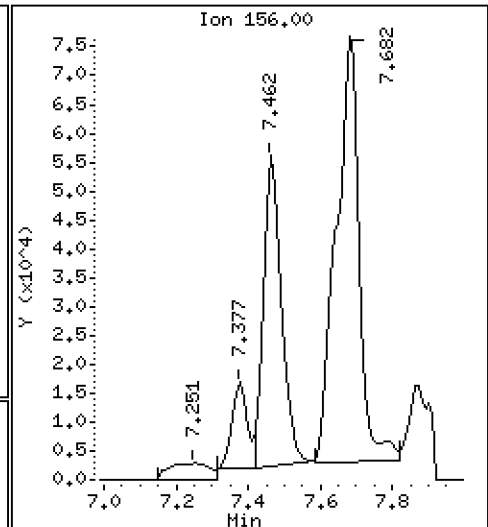
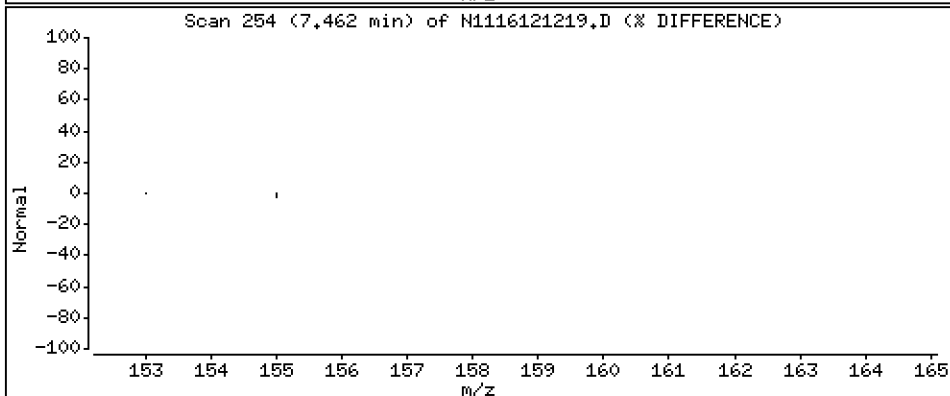
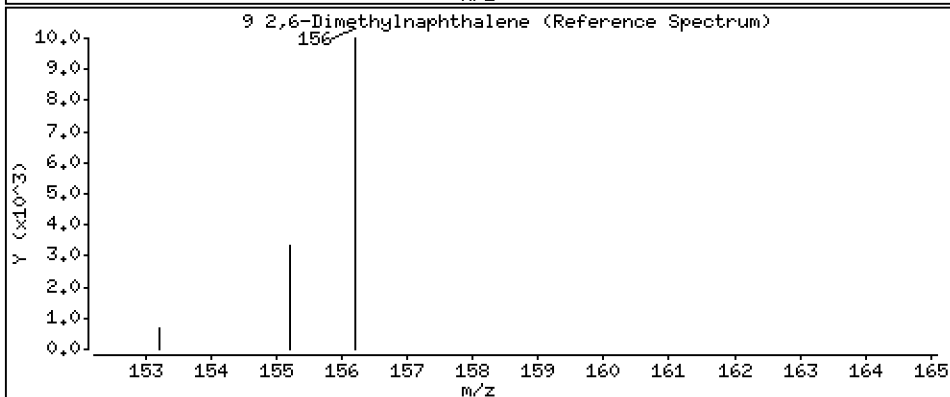
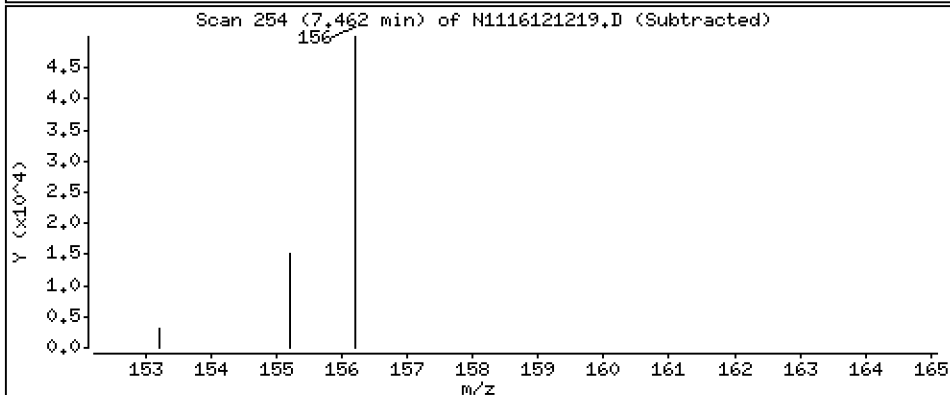
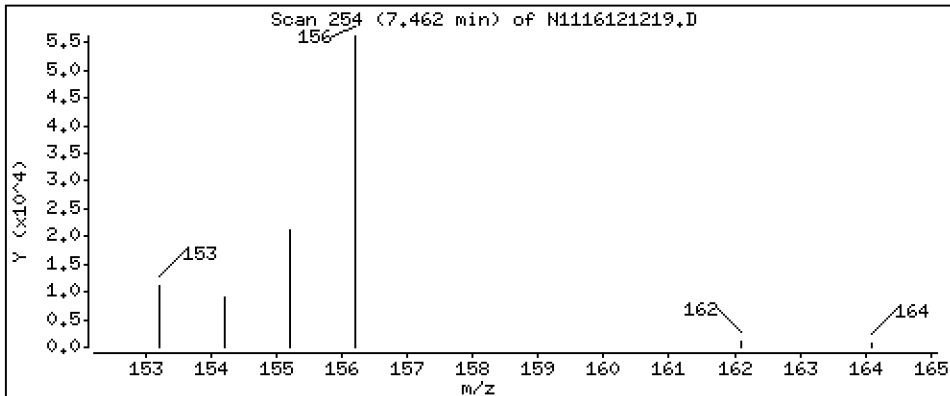
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9 2,6-Dimethylnaphthalene

Concentration: 129 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

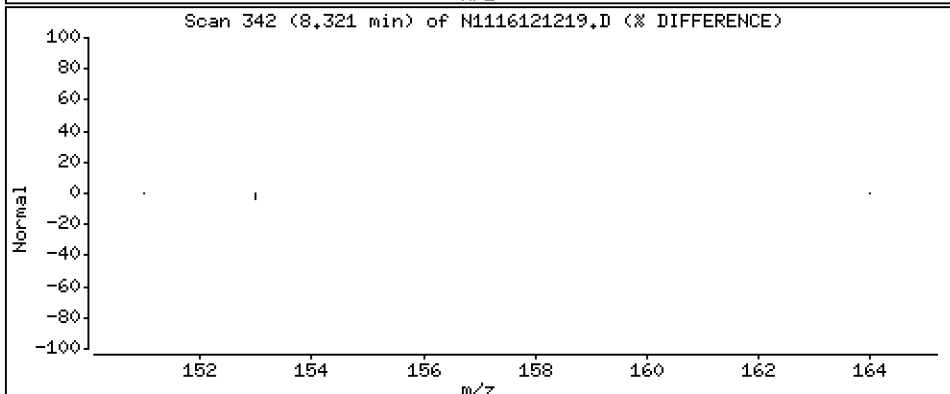
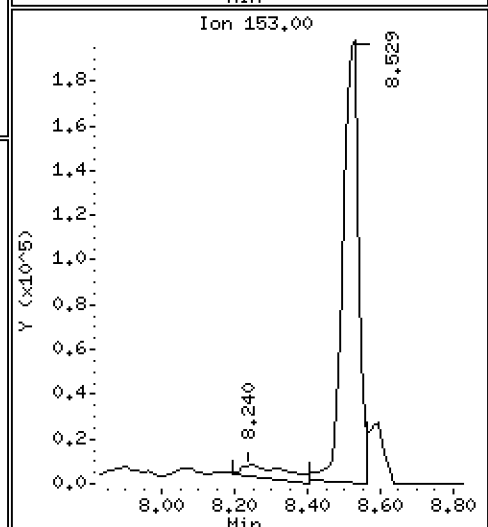
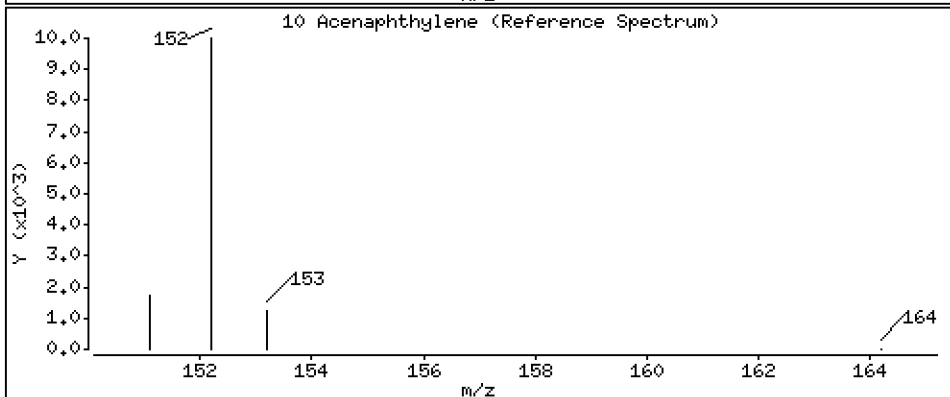
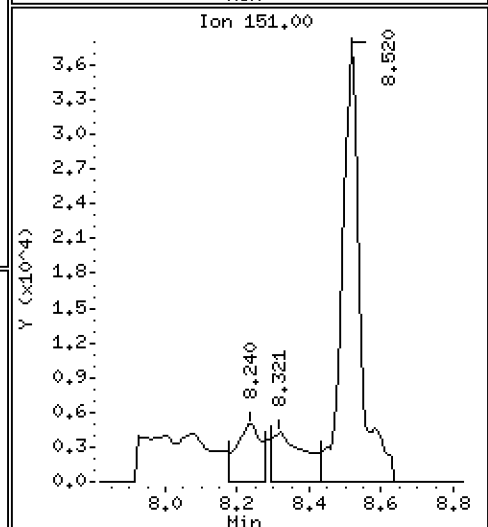
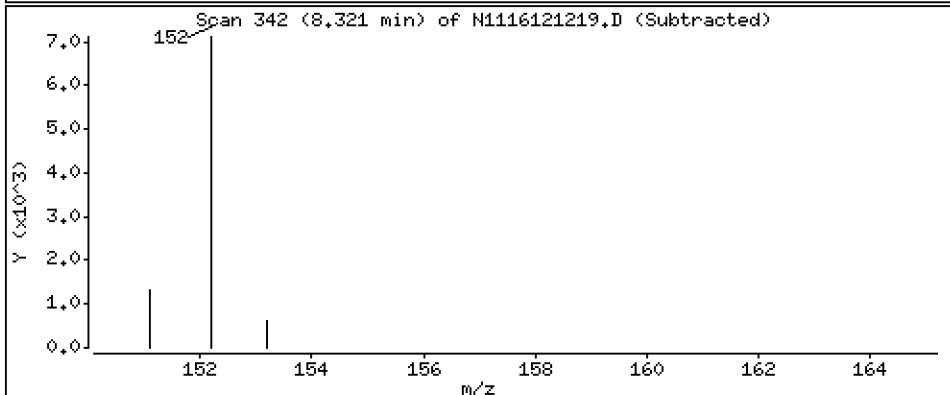
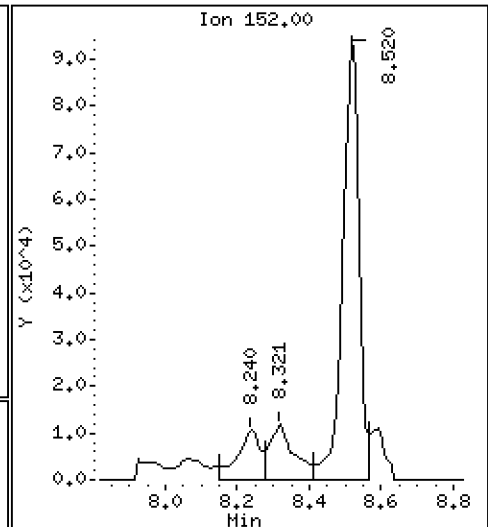
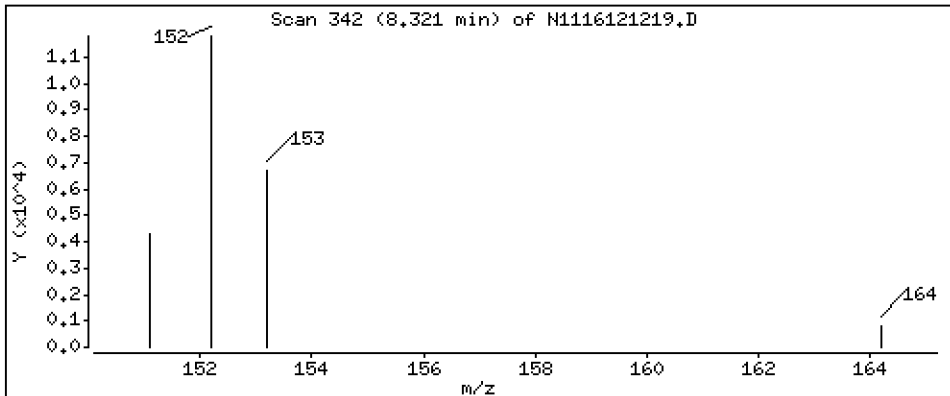
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 34,5 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

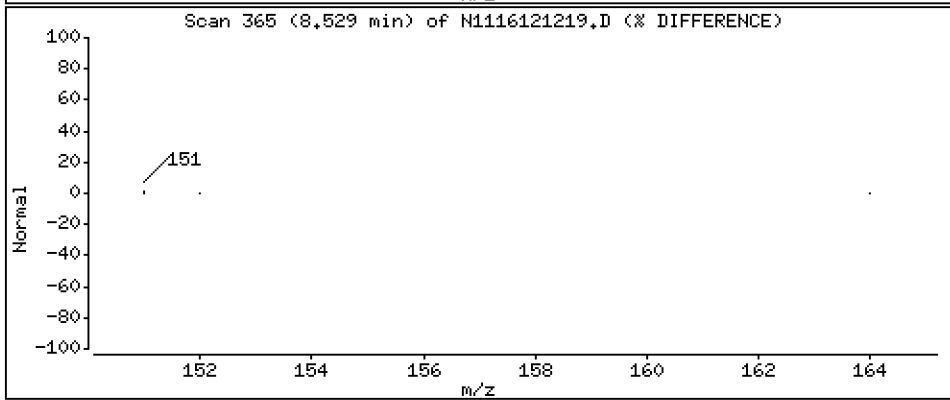
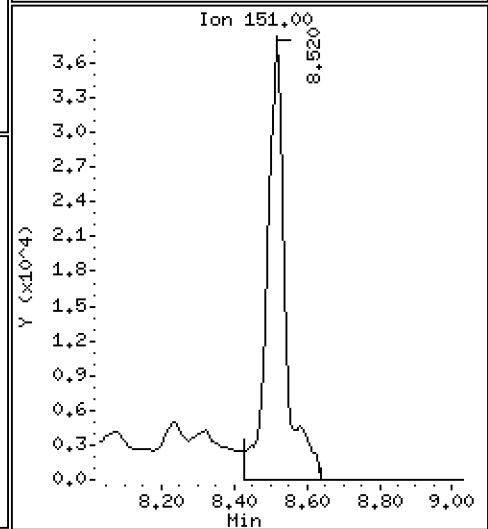
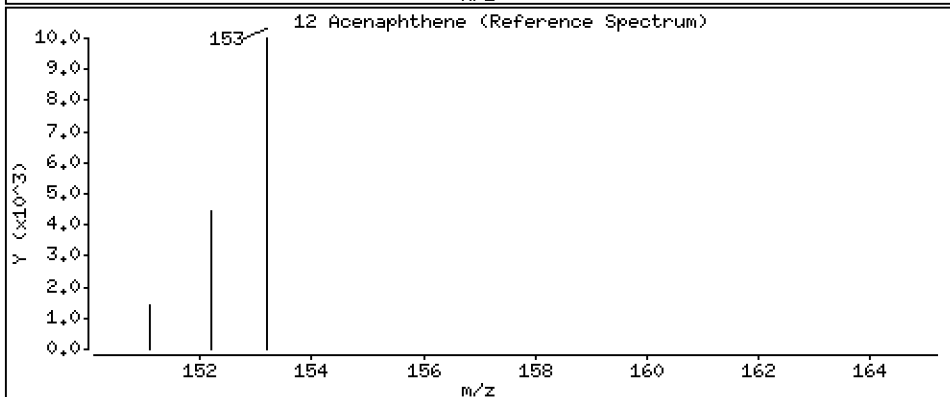
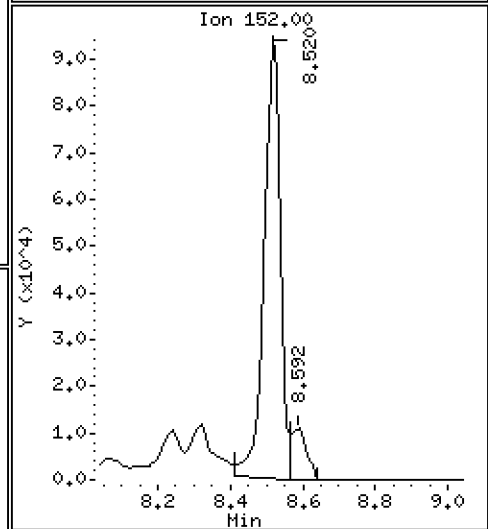
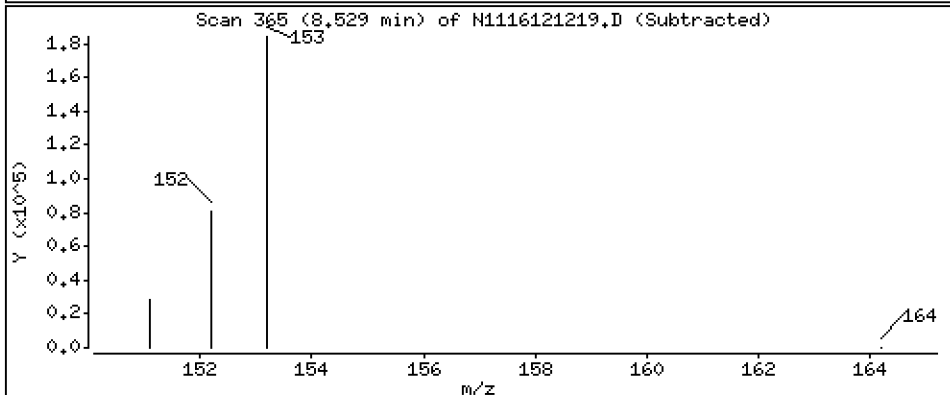
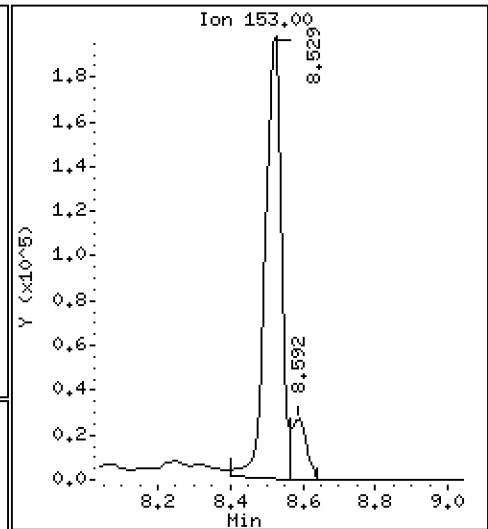
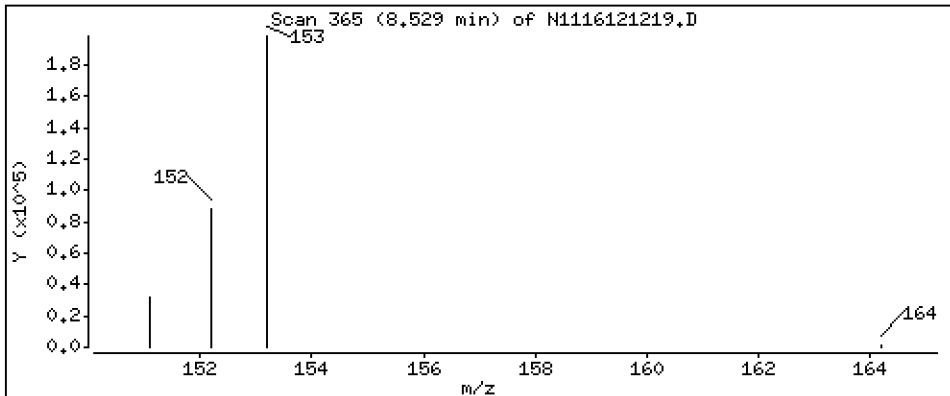
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 538 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

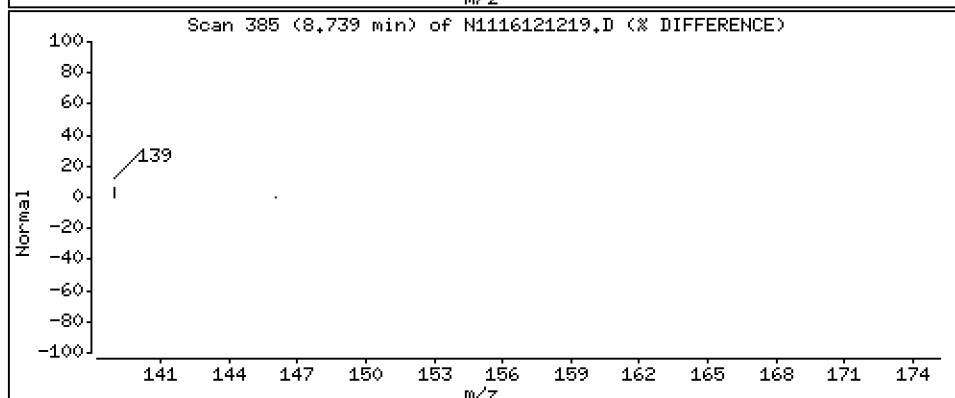
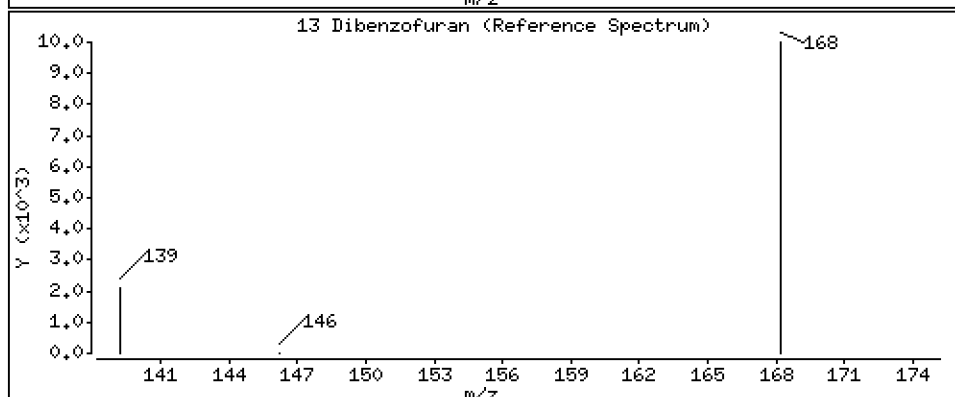
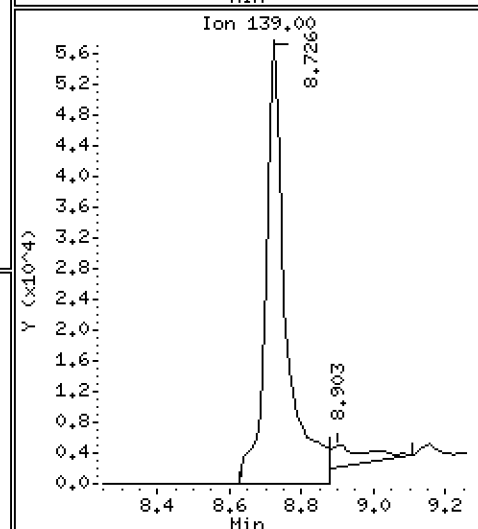
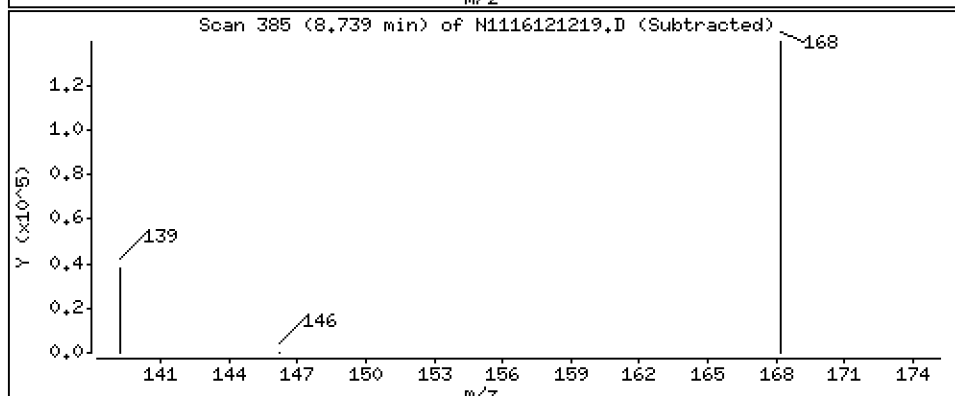
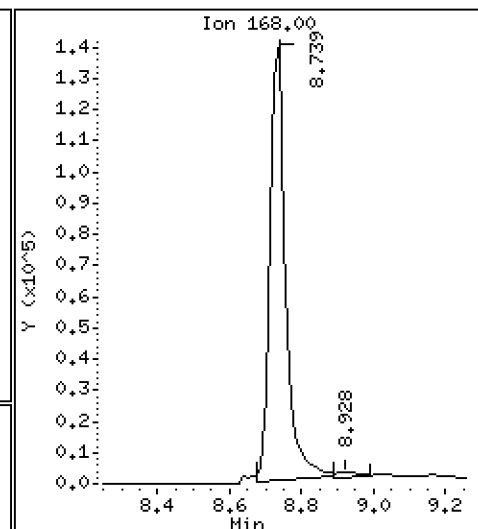
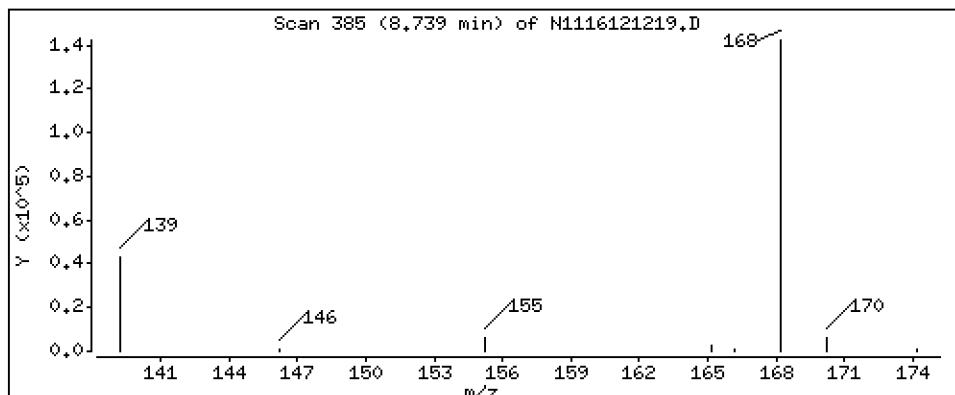
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 261 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

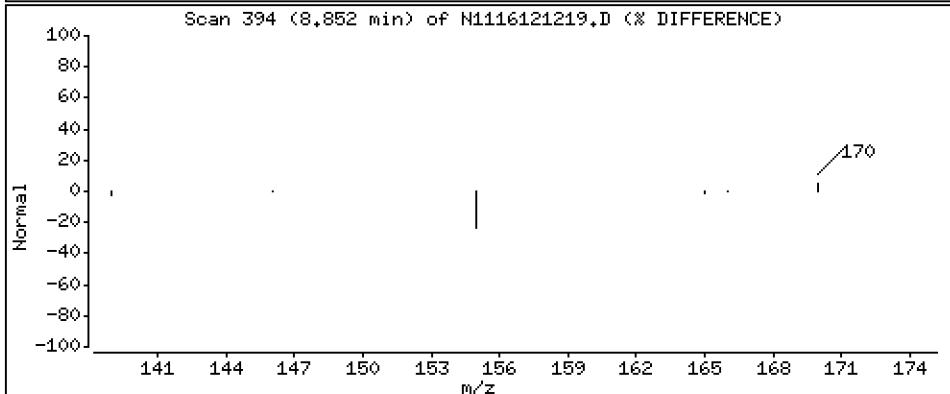
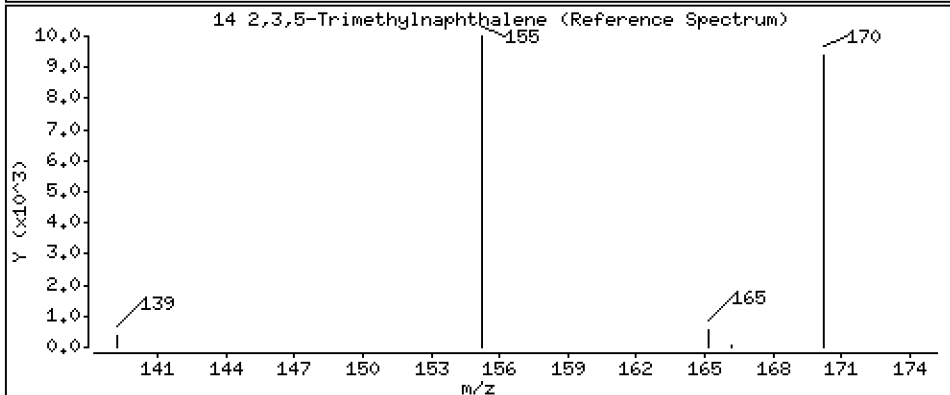
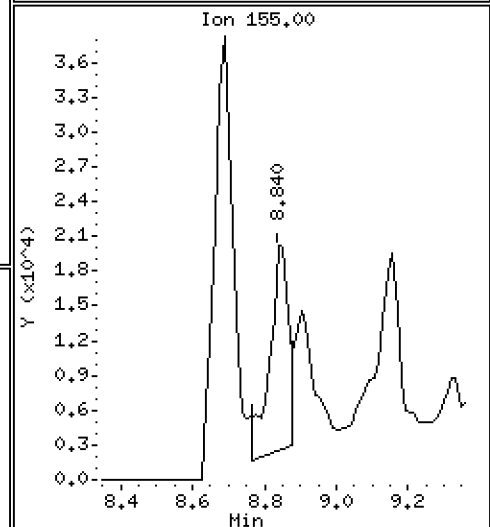
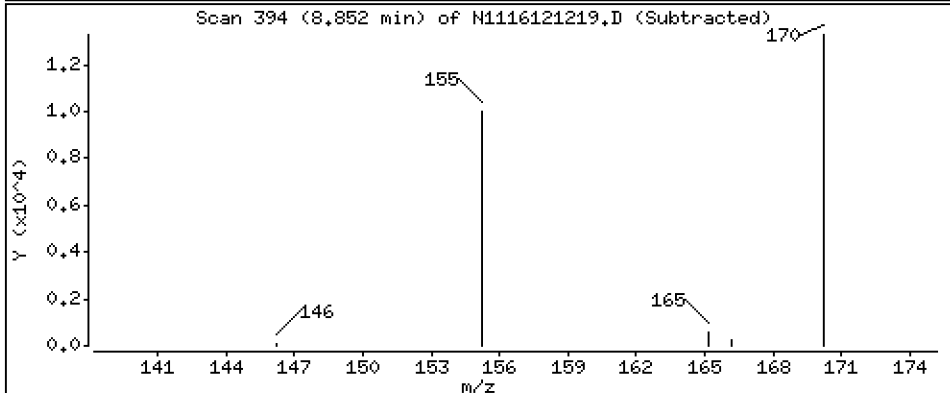
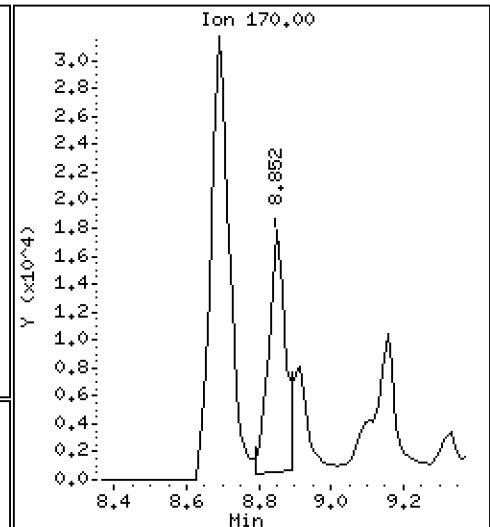
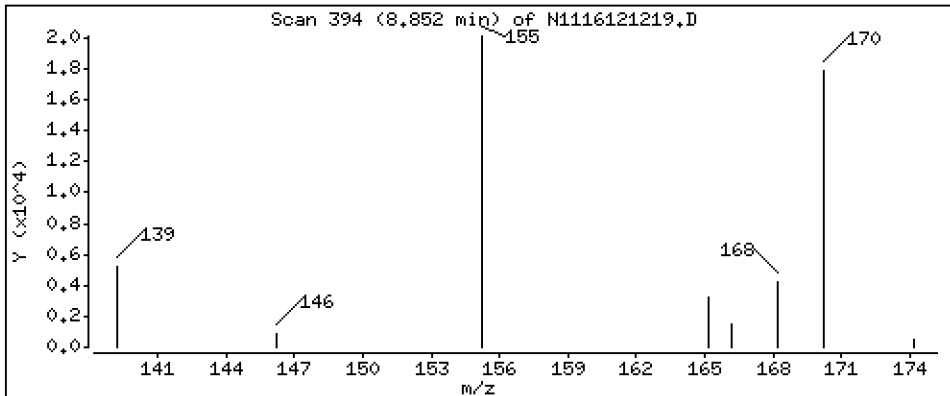
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 56,3 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

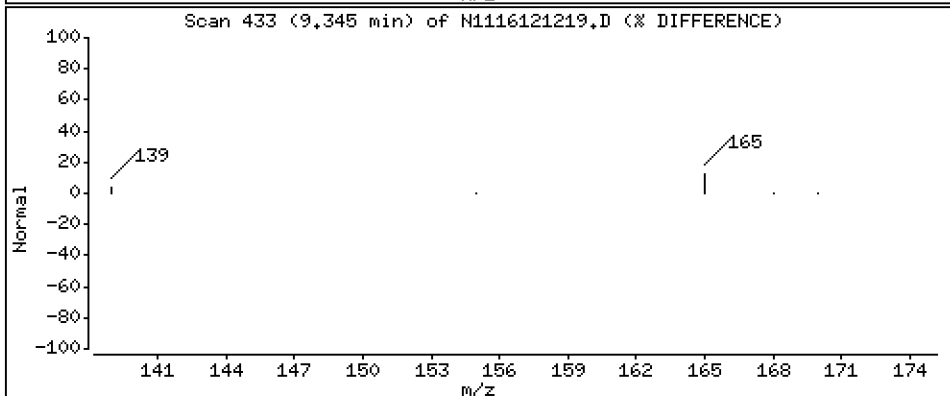
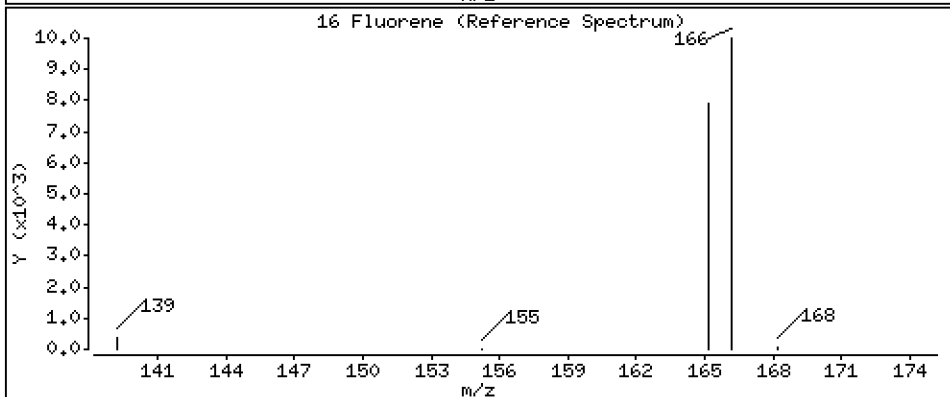
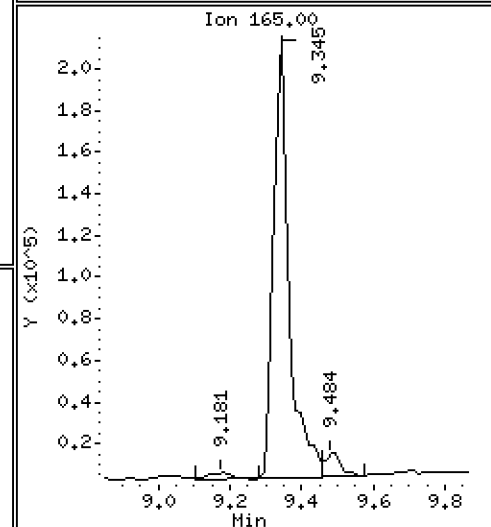
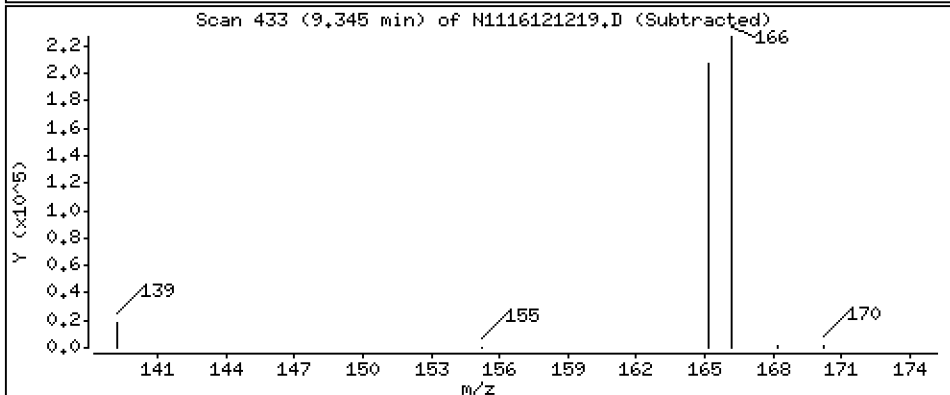
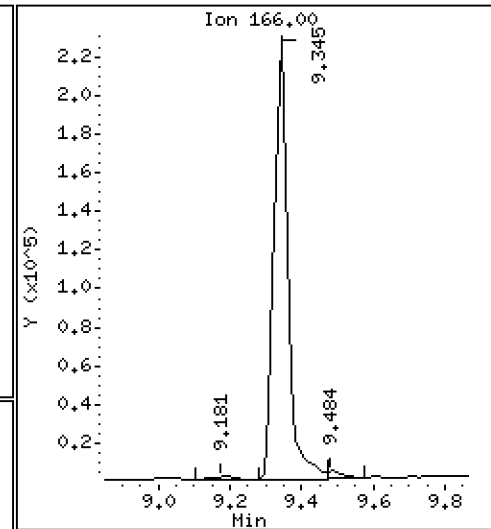
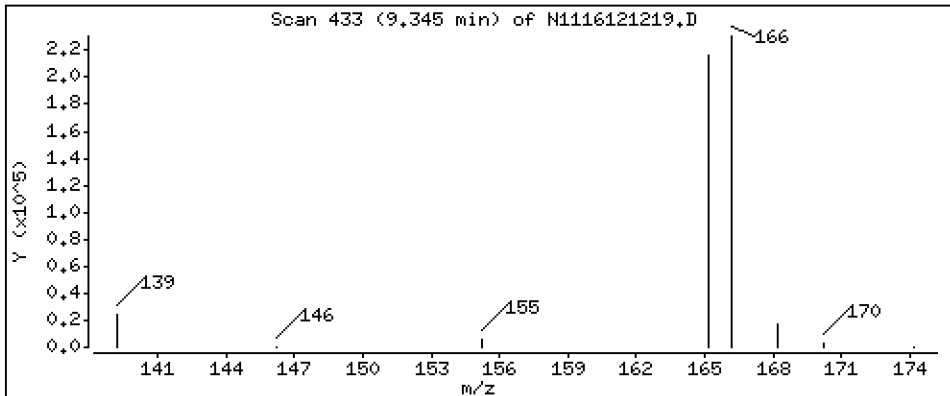
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 511 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

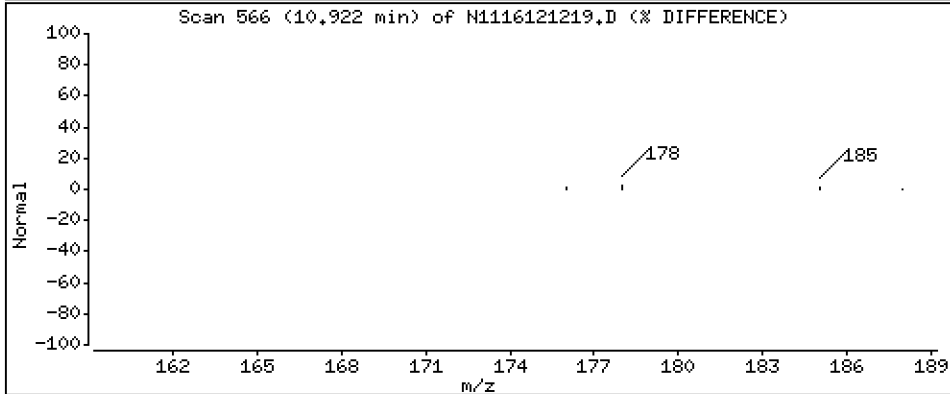
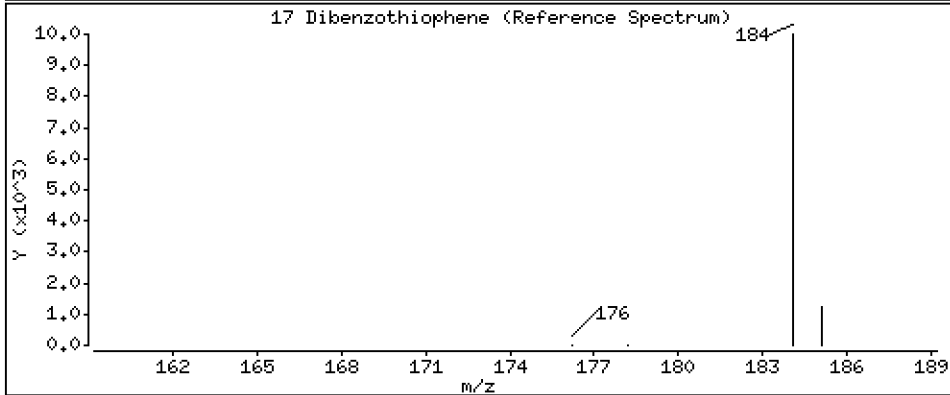
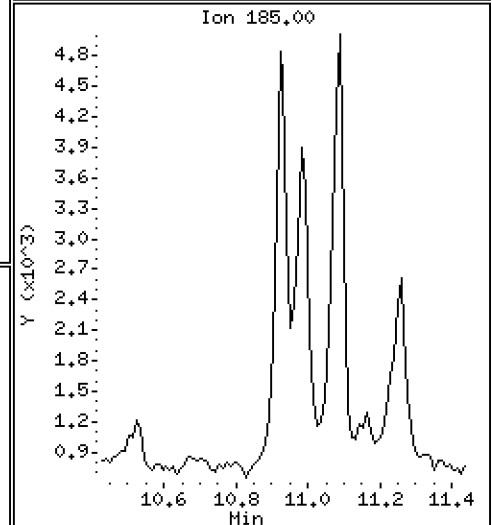
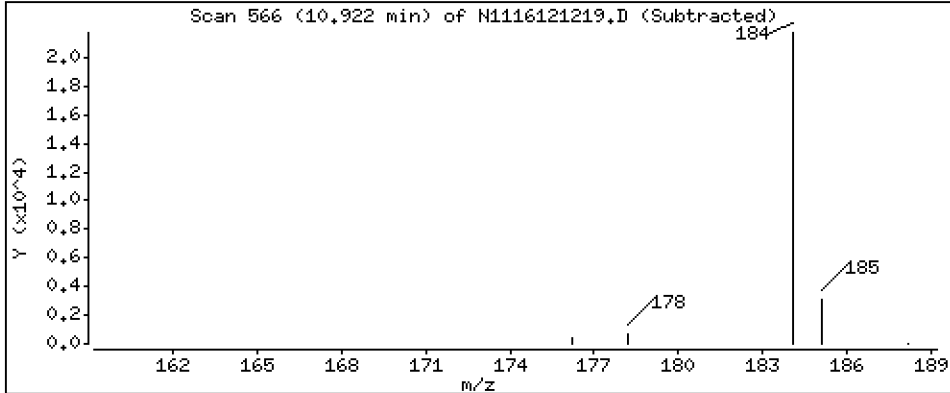
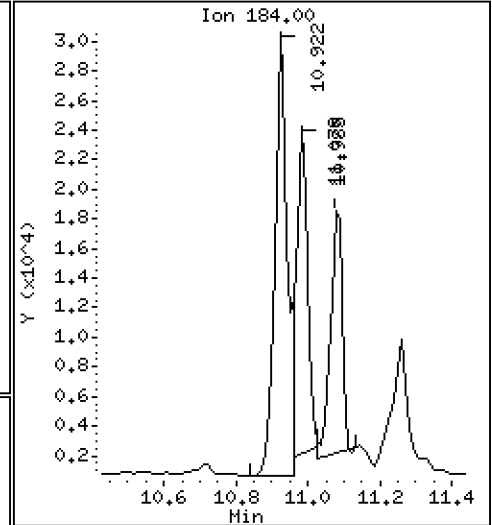
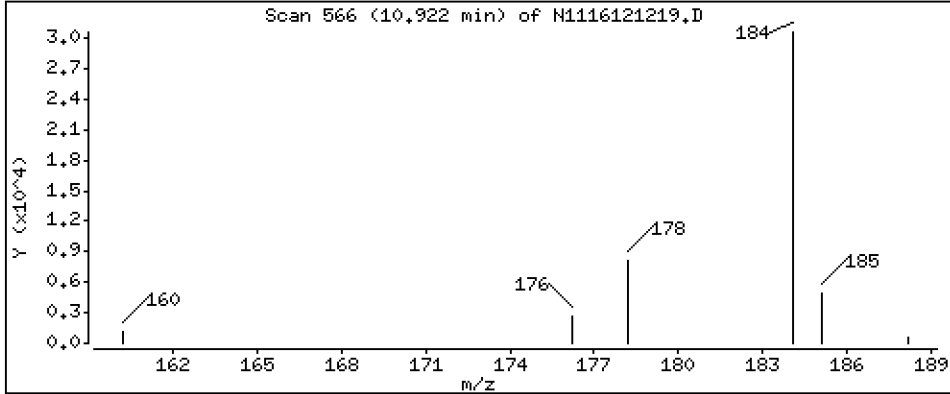
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 51,8 ng/mL

17 Dibenzothiophene



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

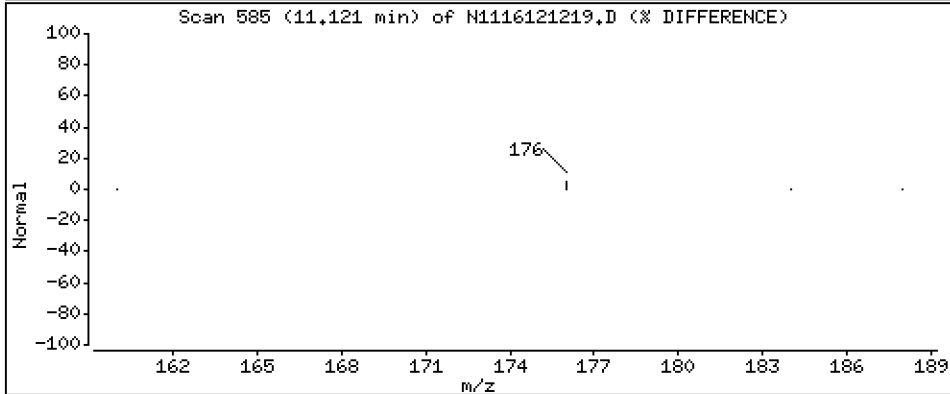
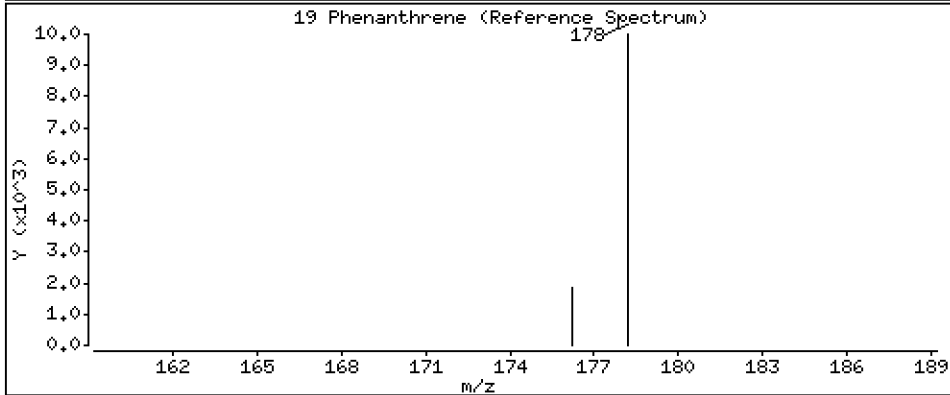
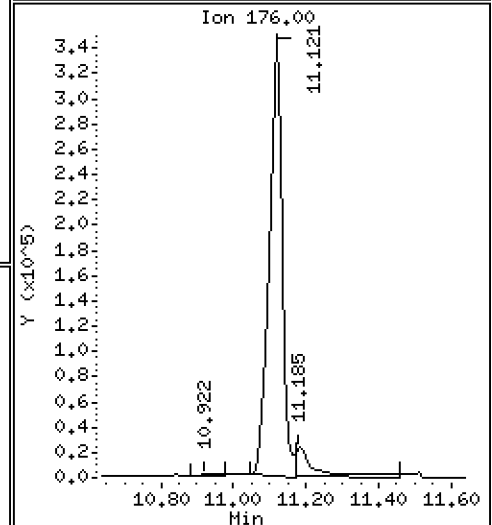
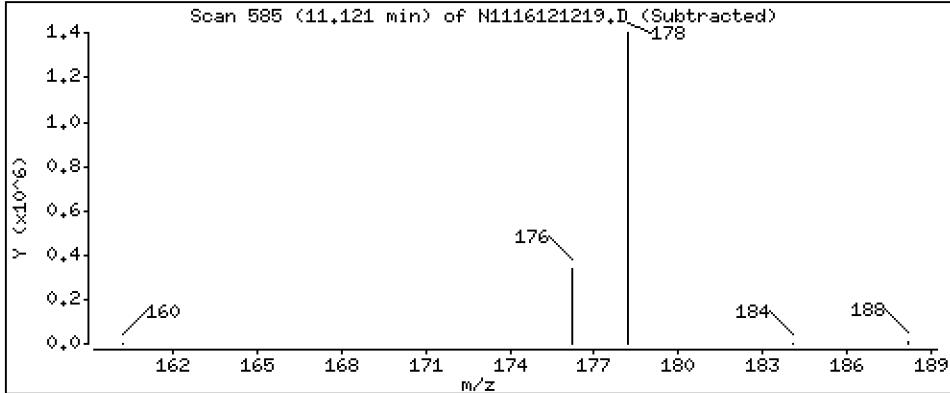
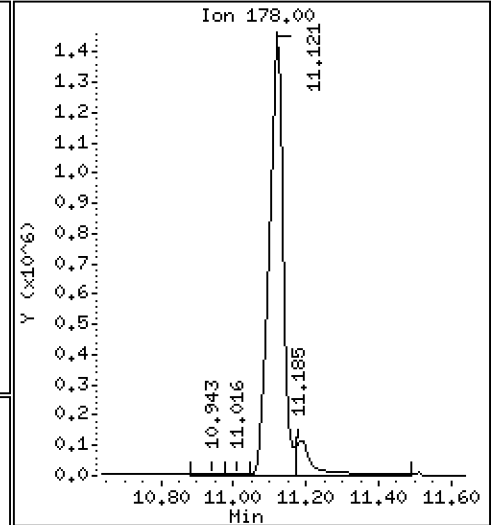
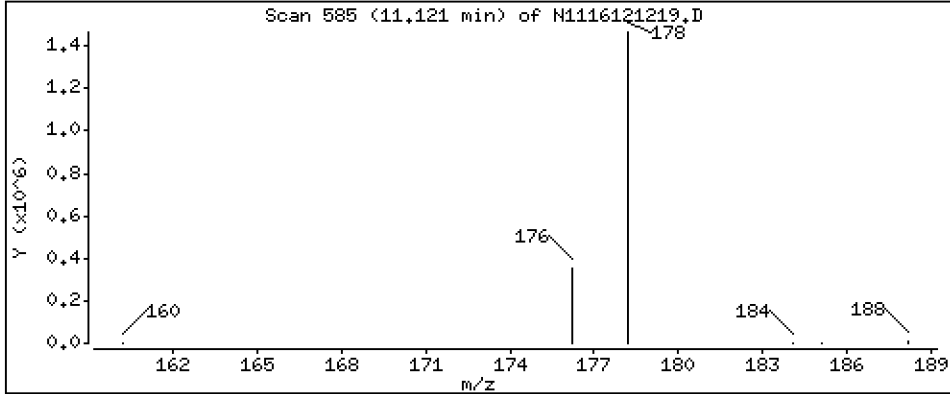
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 2000 ng/mL

19 Phenanthrene



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

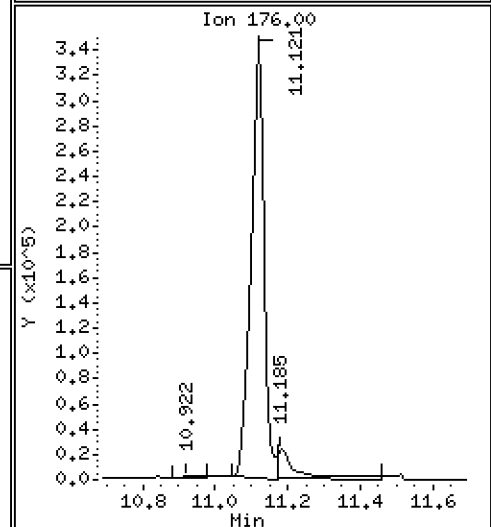
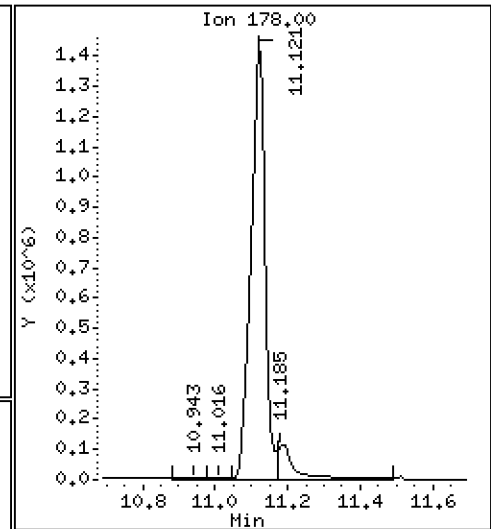
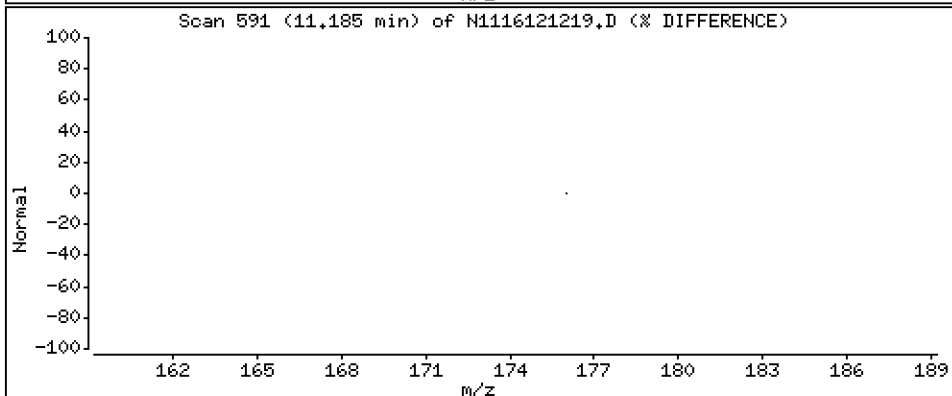
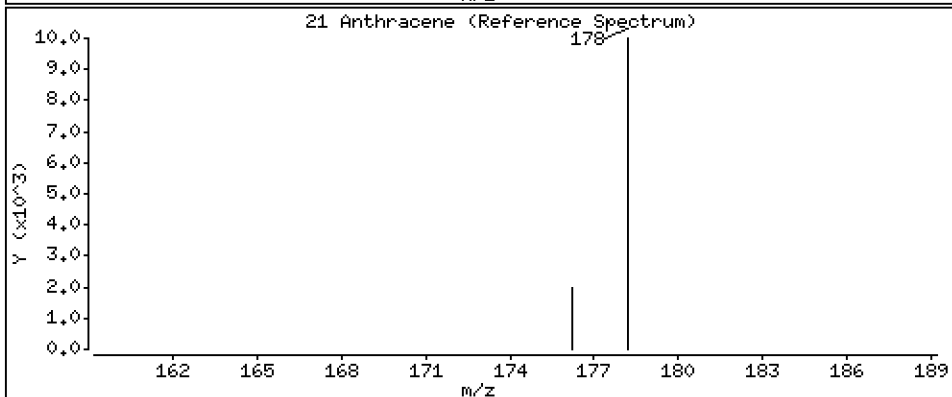
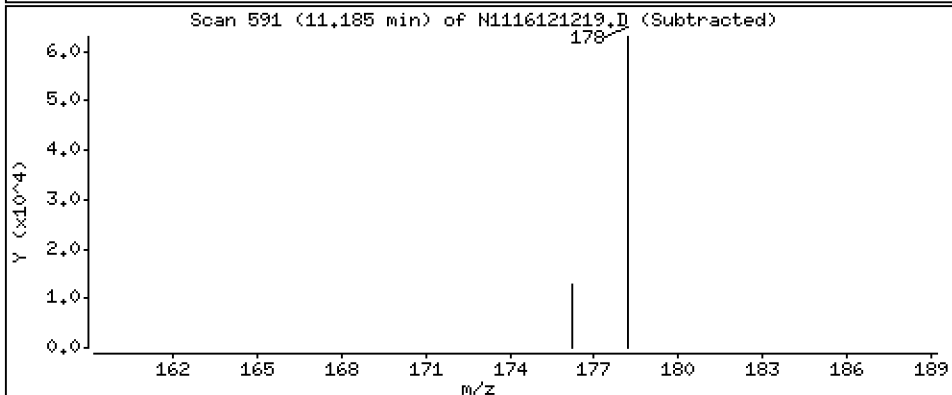
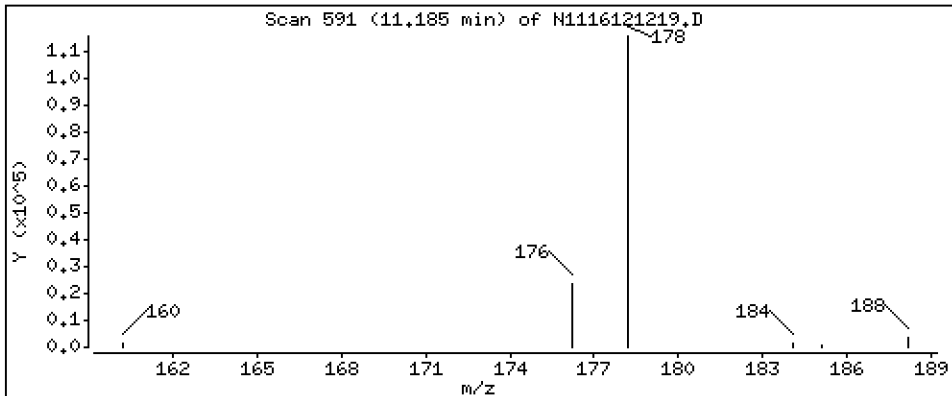
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 229 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

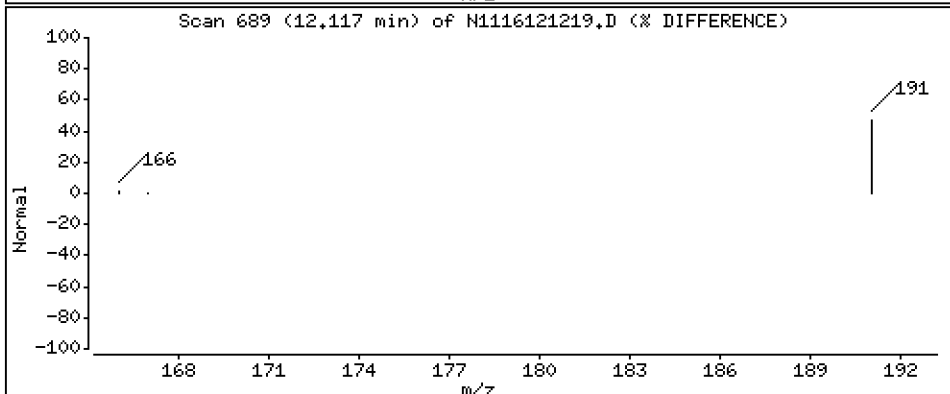
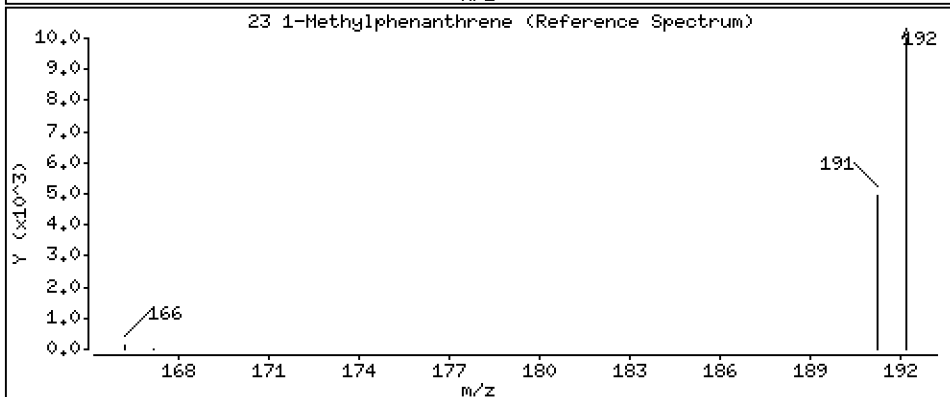
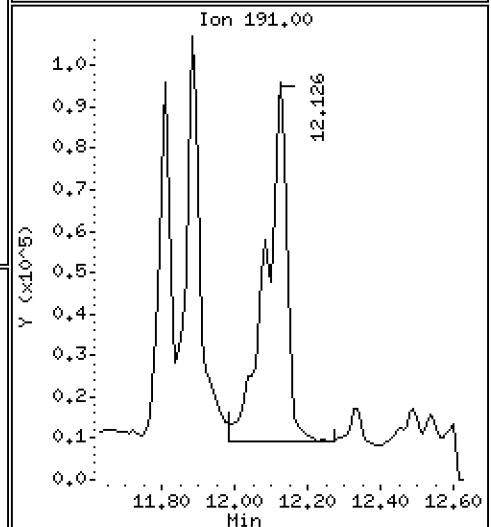
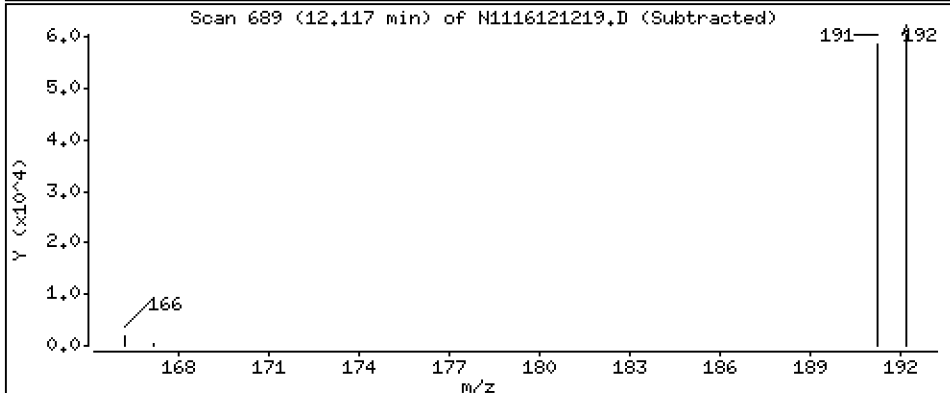
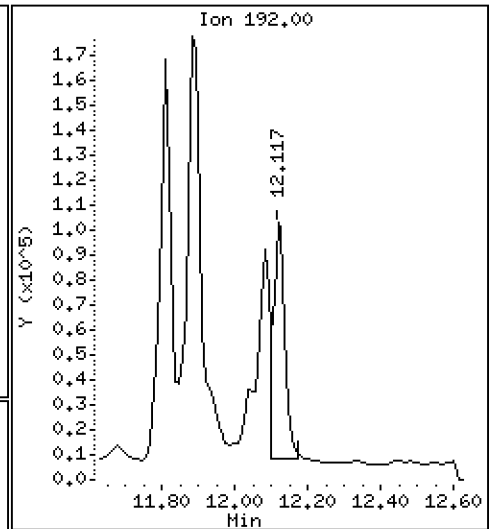
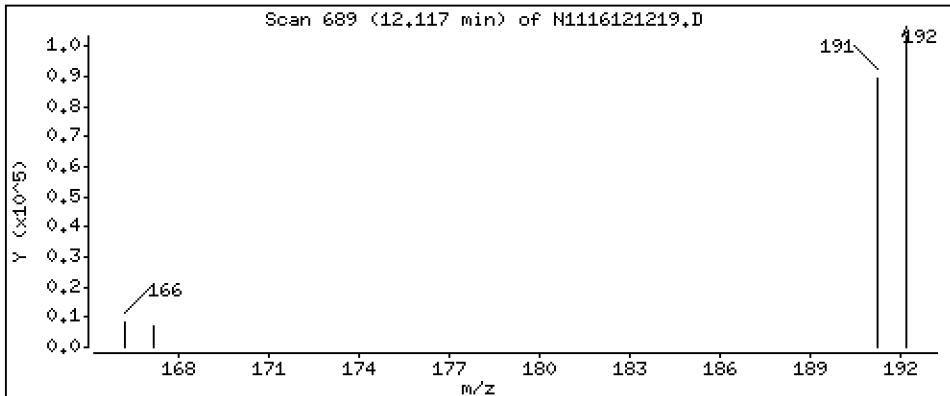
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 122 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

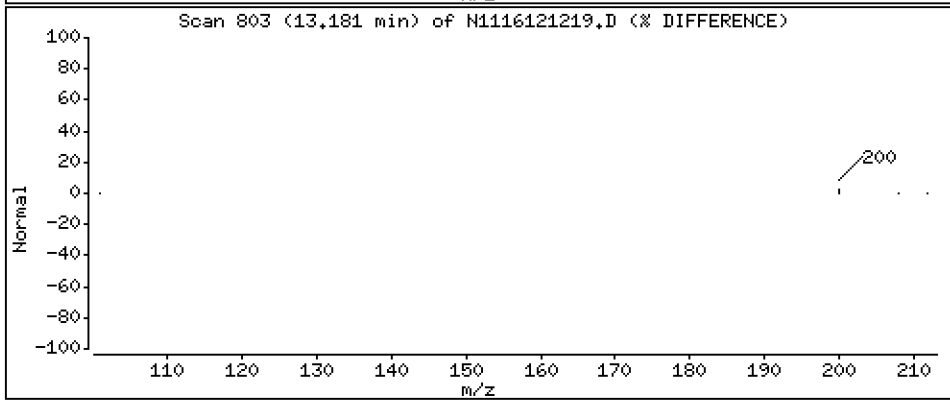
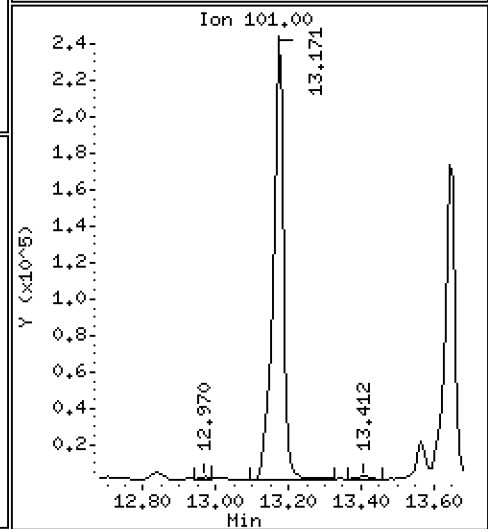
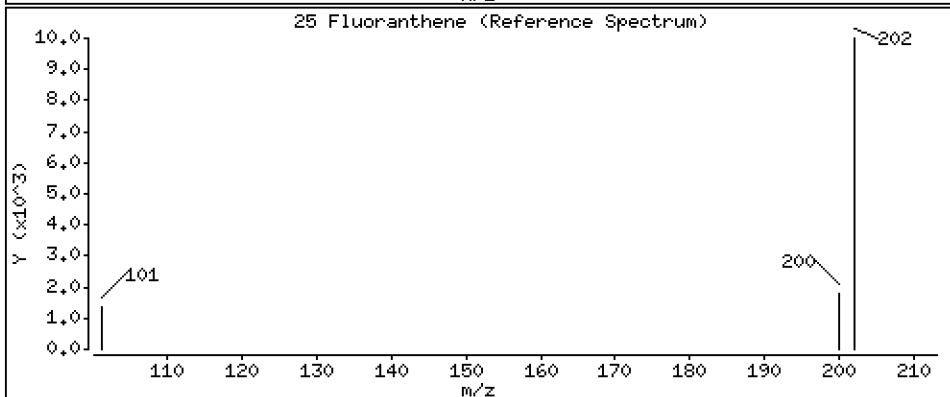
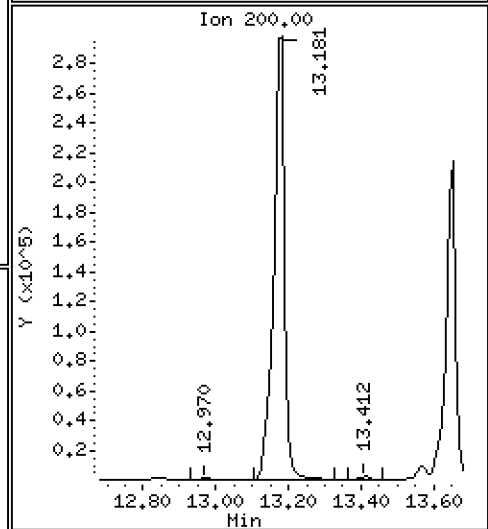
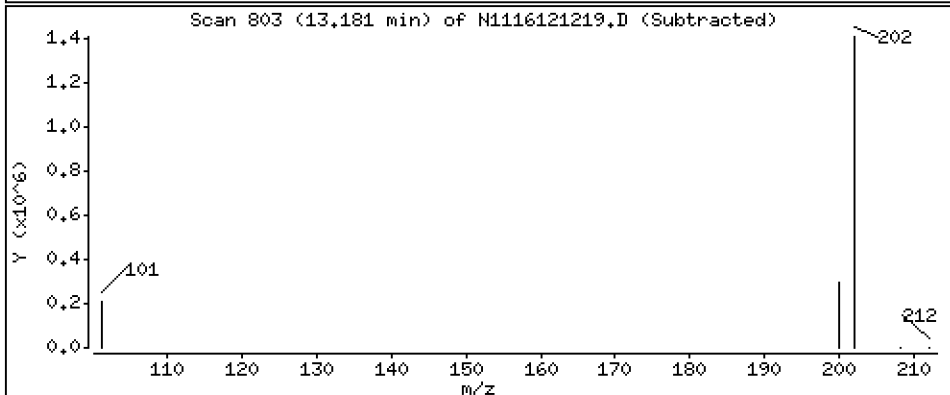
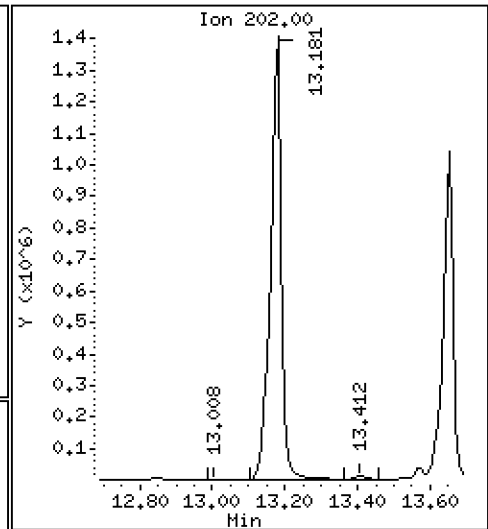
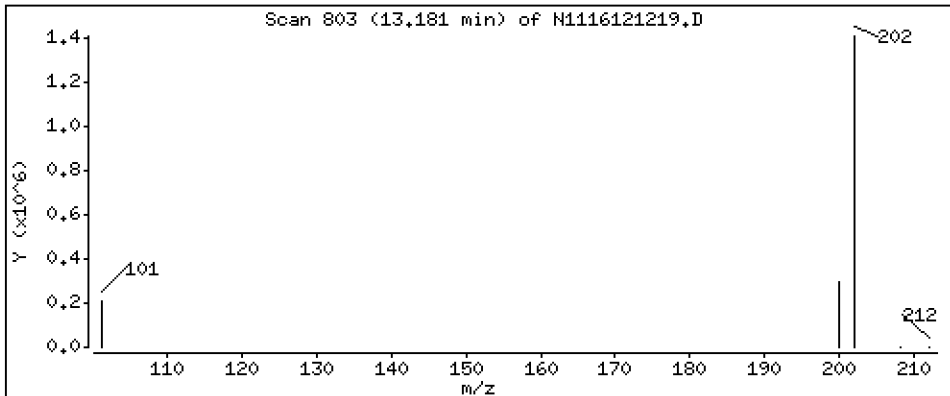
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 1590 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

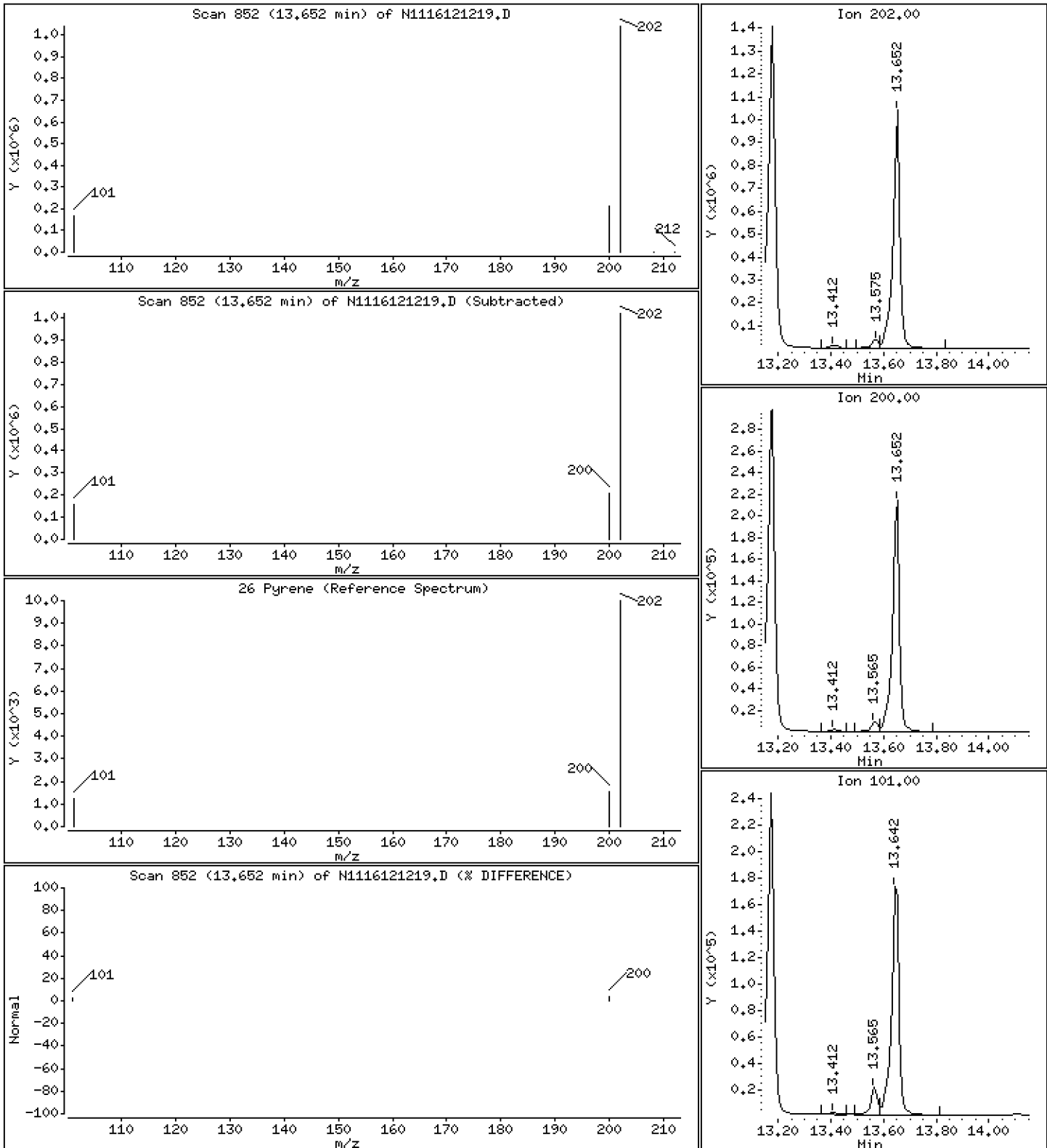
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1040 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

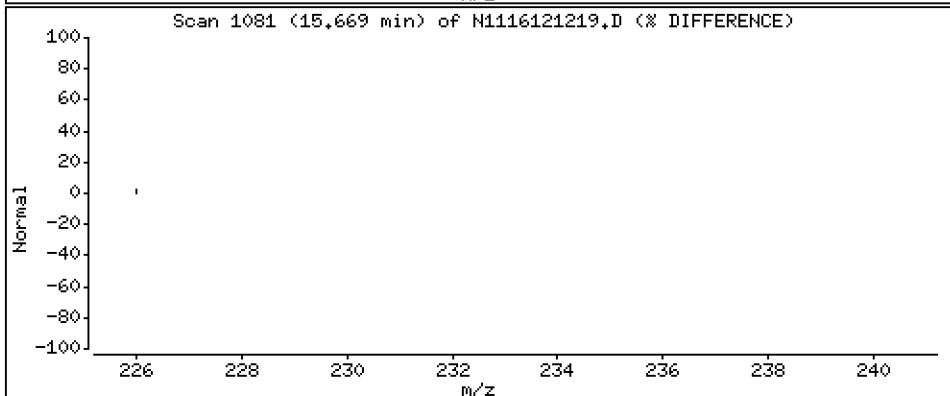
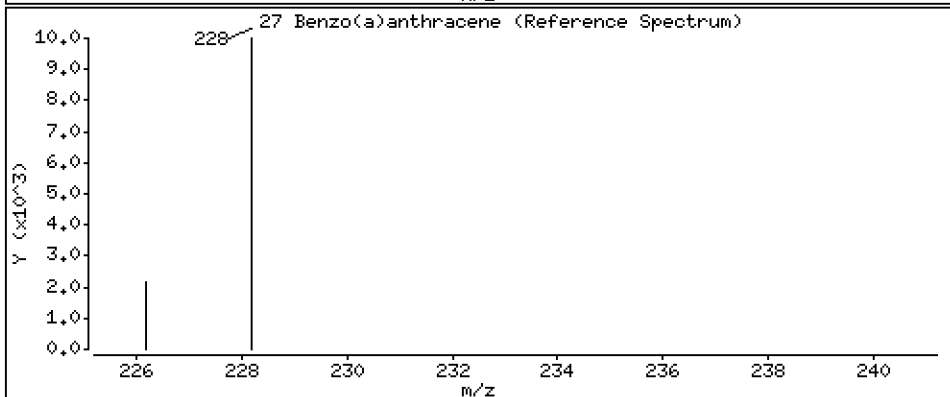
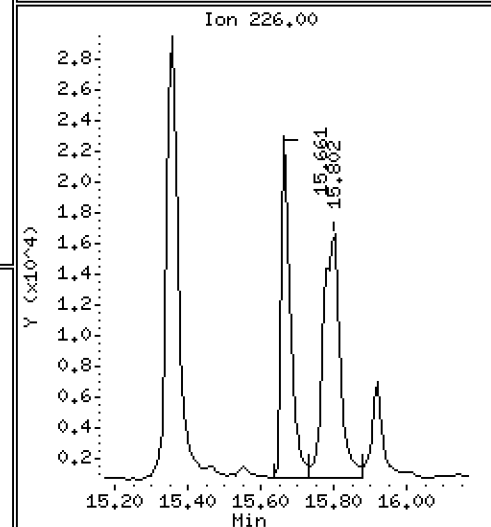
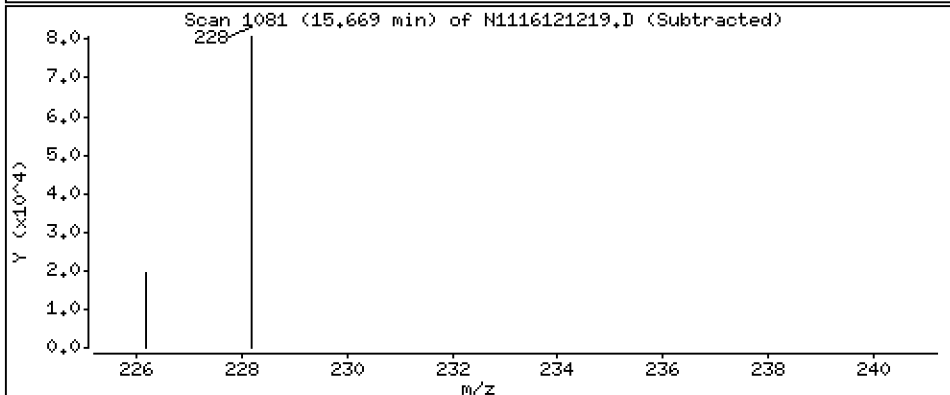
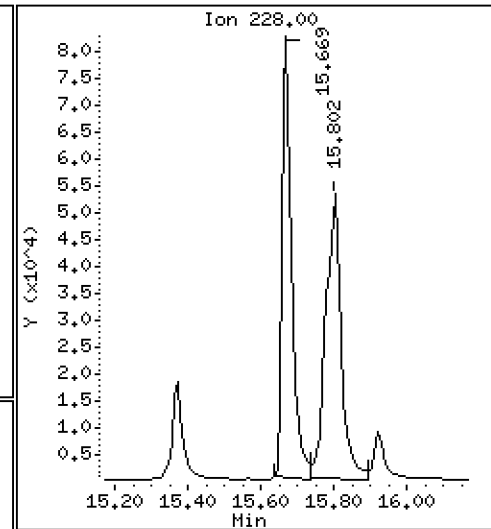
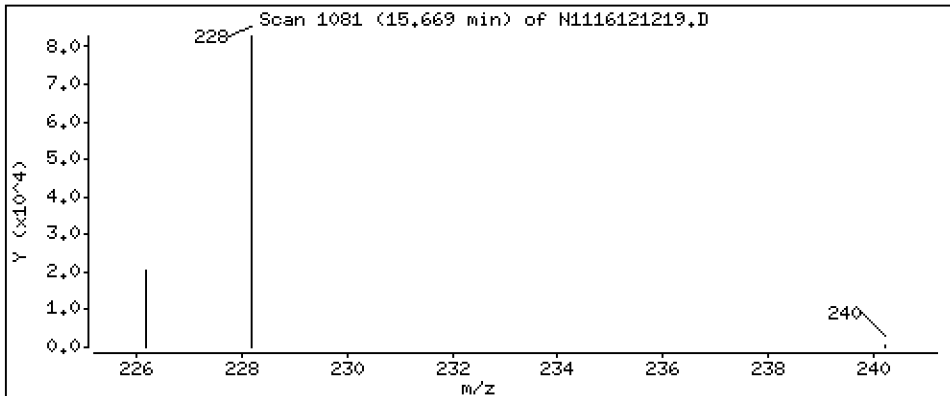
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 91,3 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

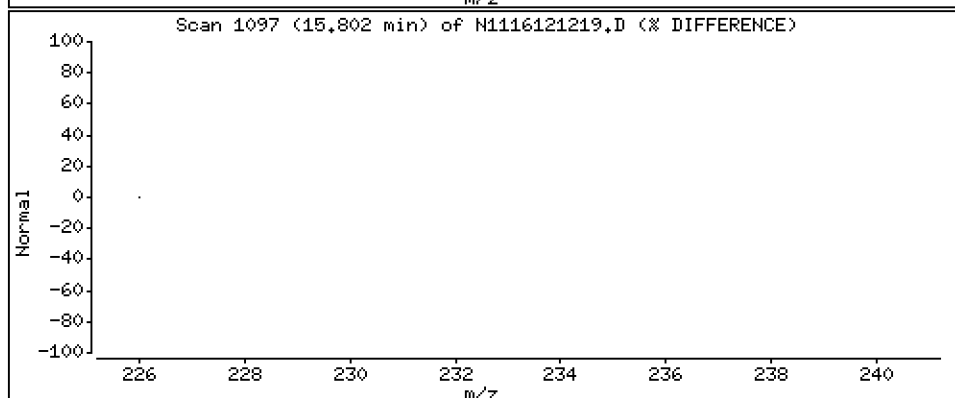
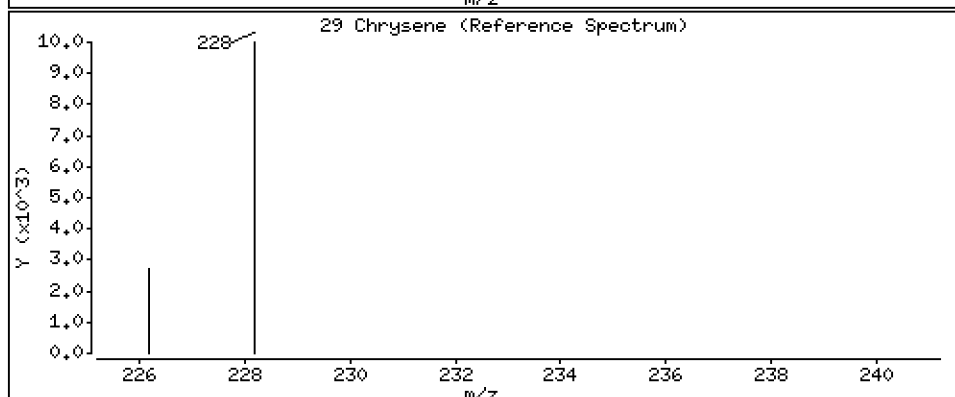
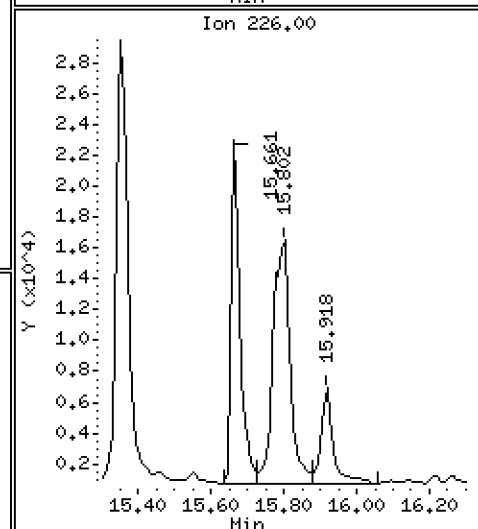
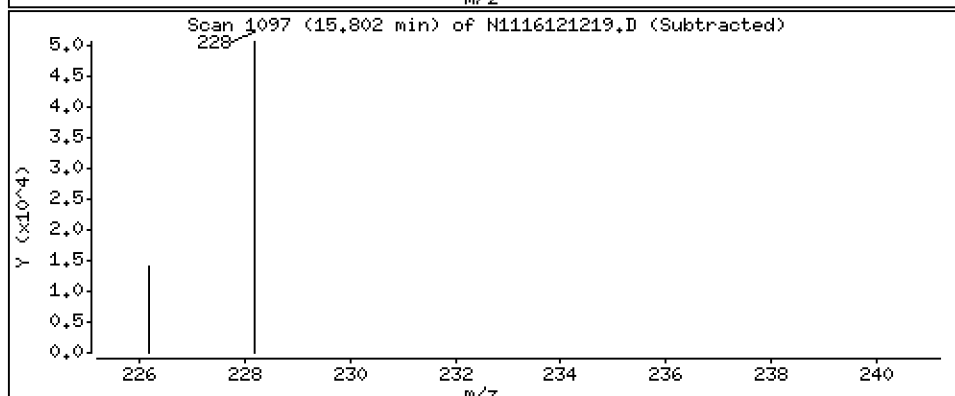
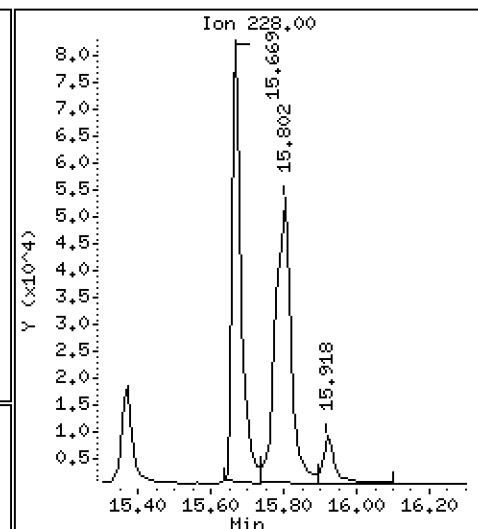
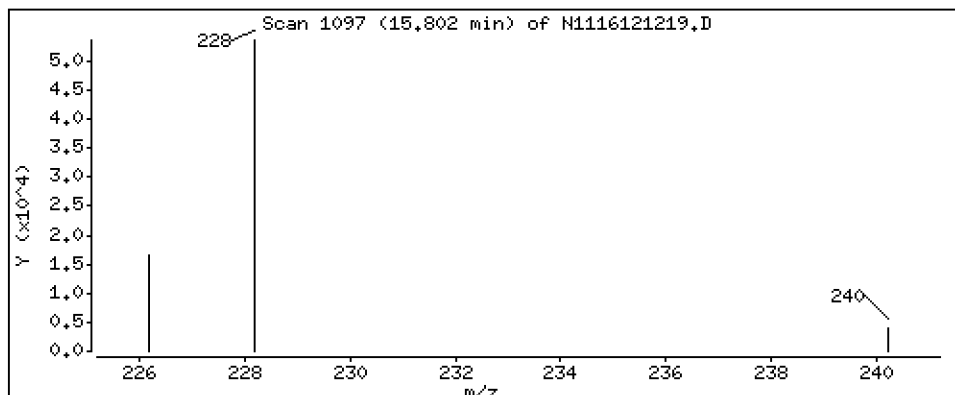
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 88,4 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

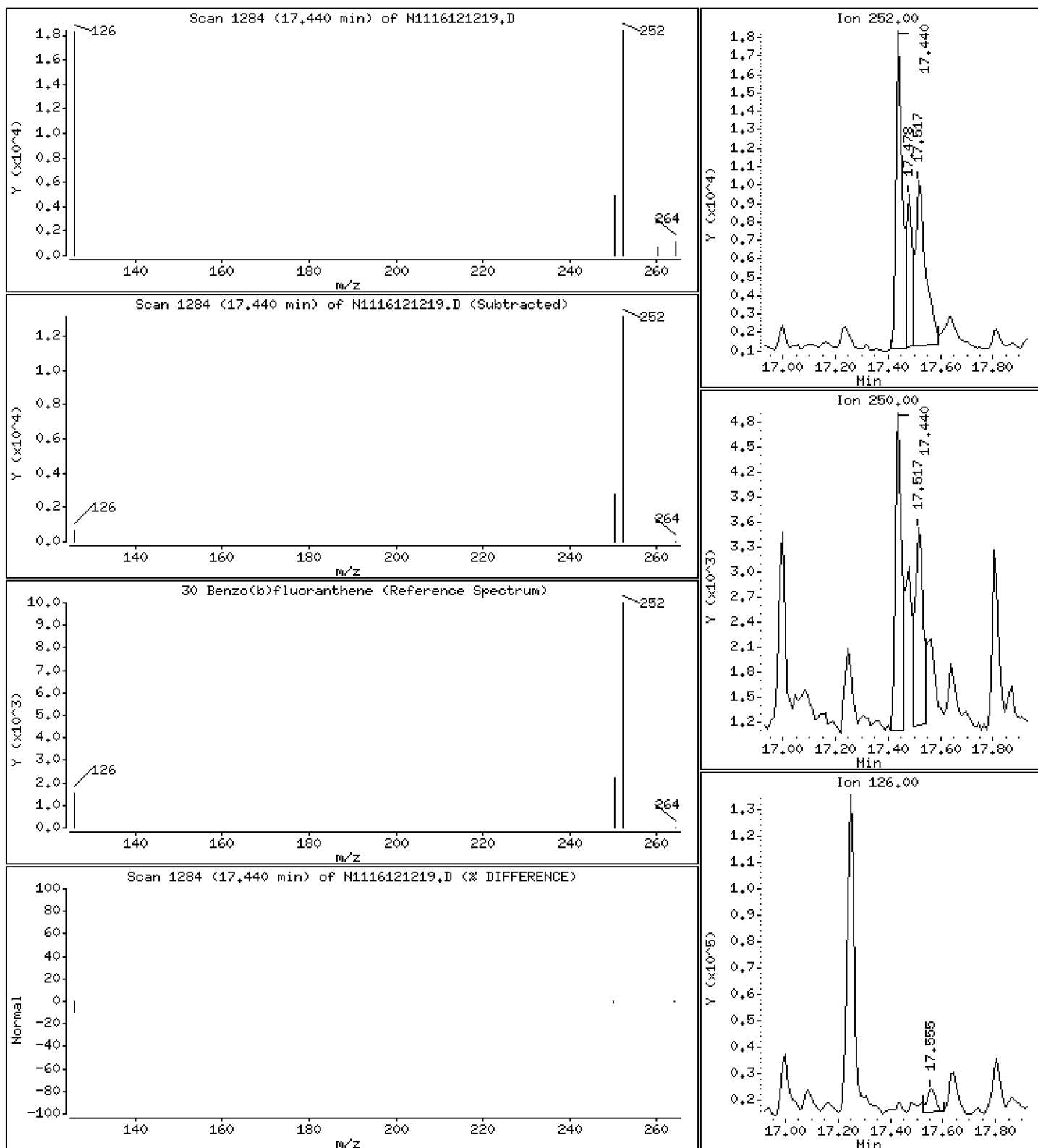
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 20,5 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

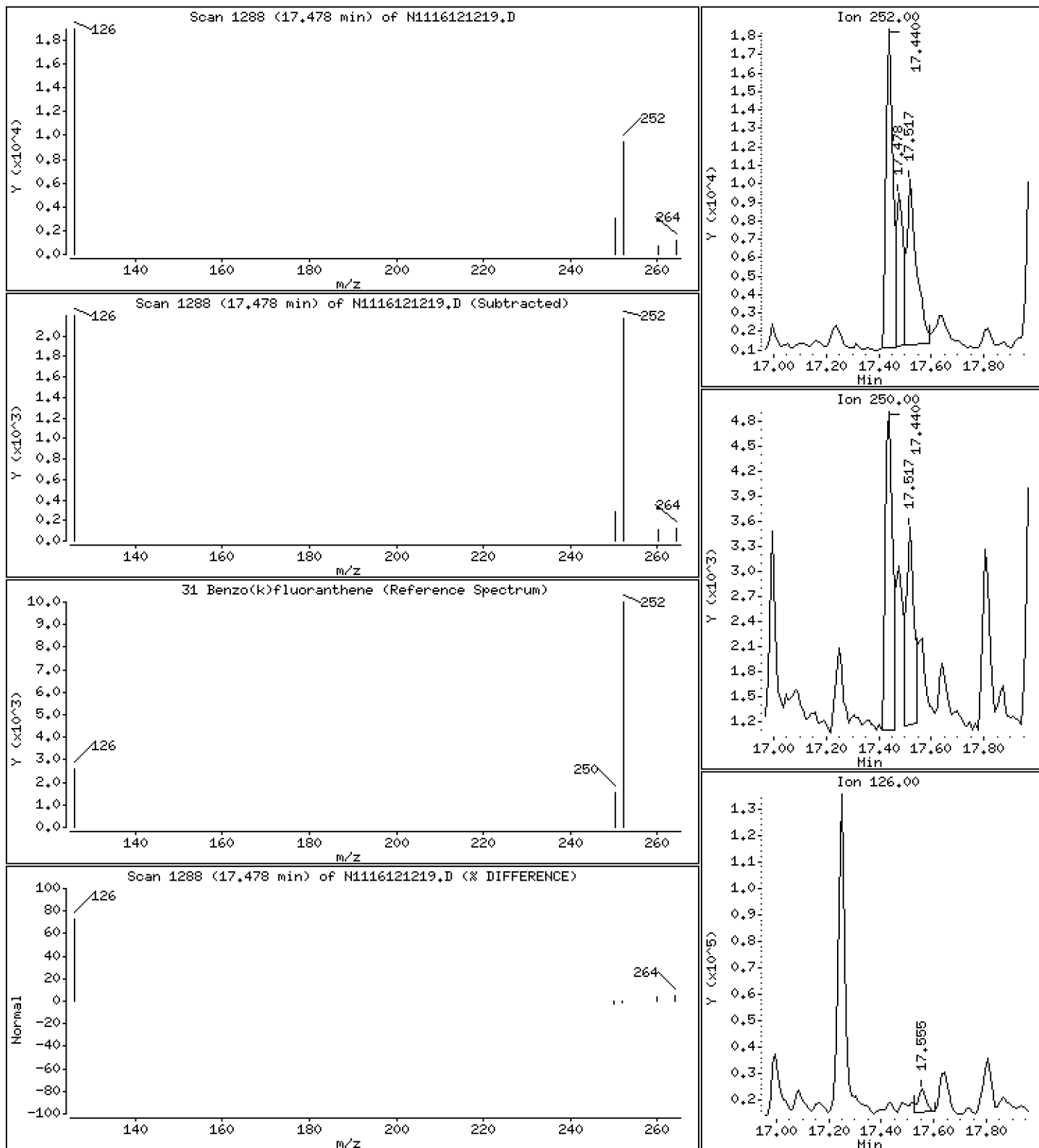
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 9,01 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

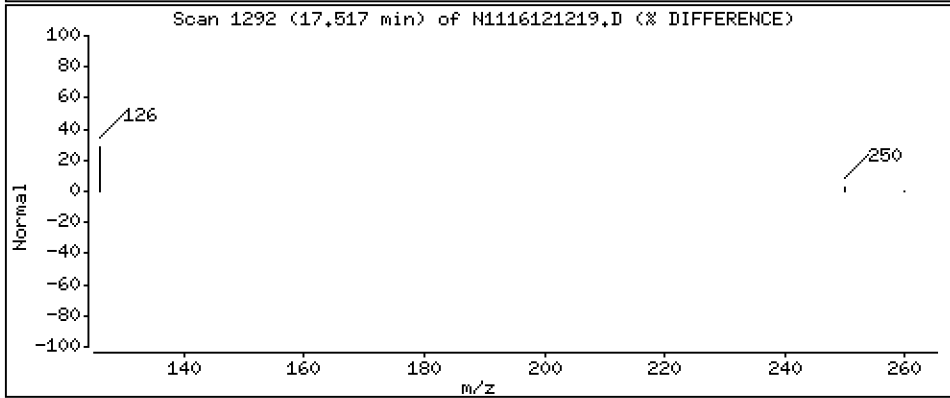
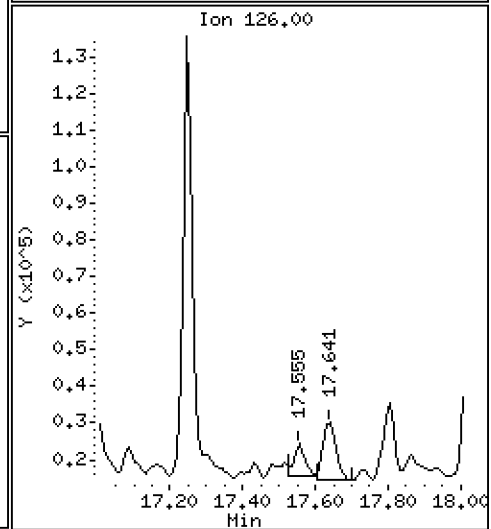
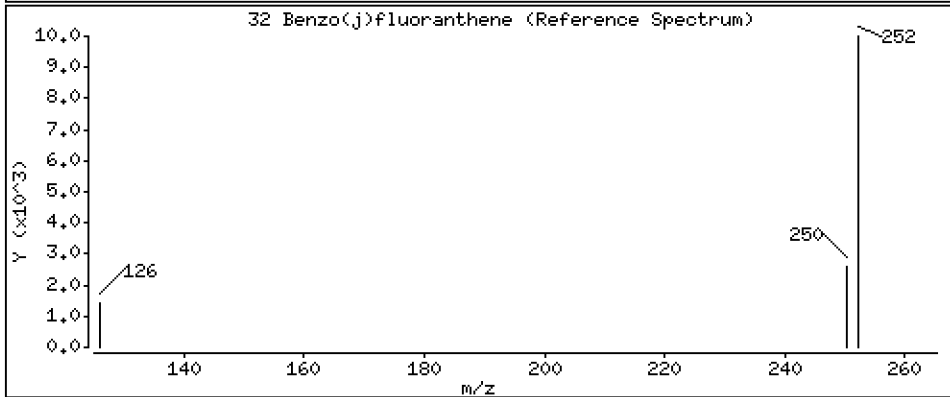
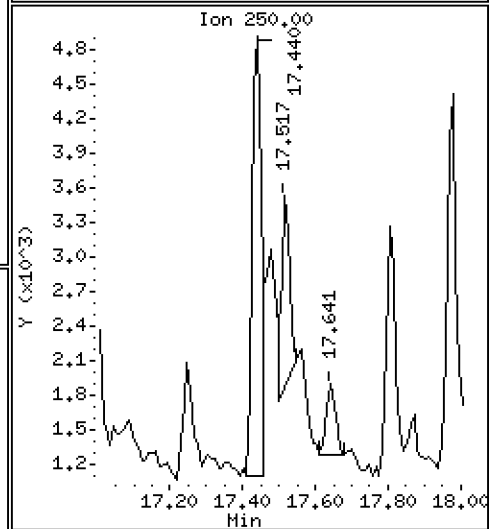
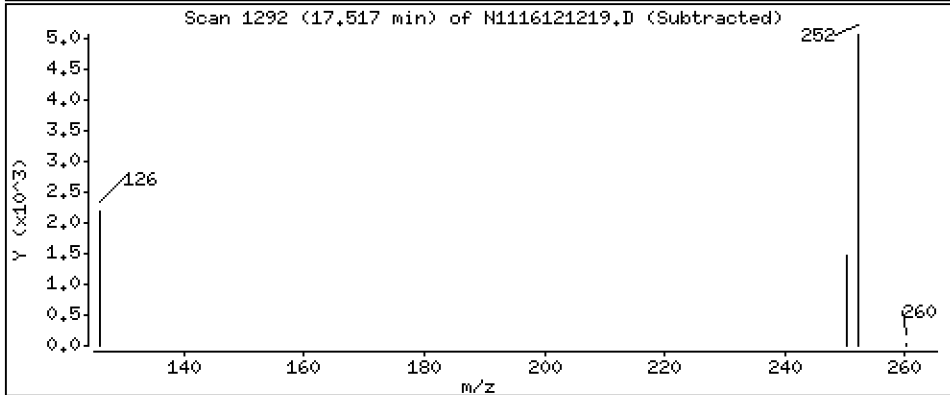
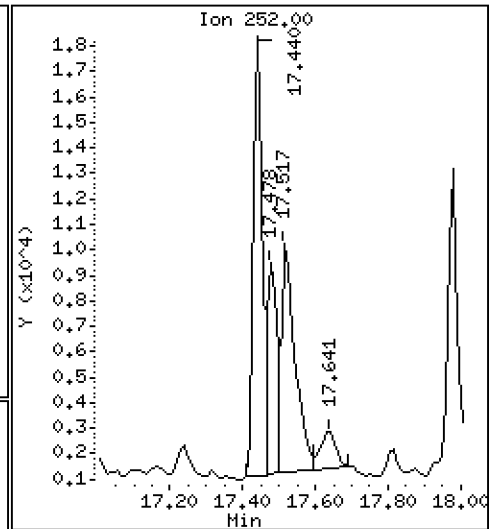
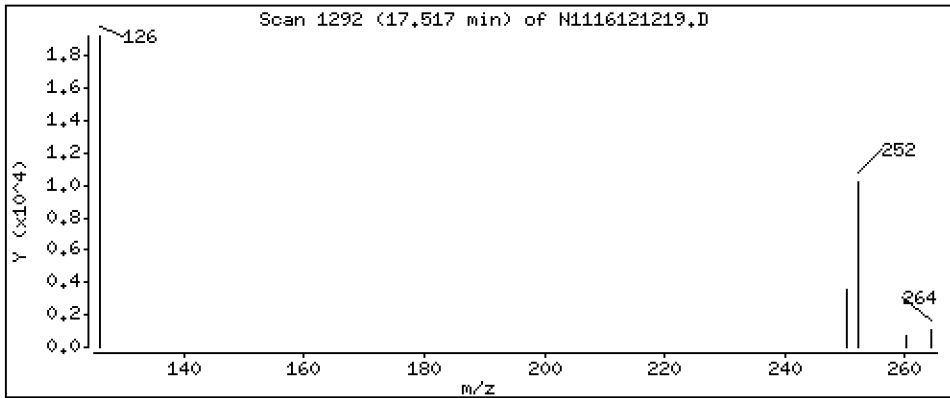
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0.25

32 Benzo(j)fluoranthene

Concentration: 16.4 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

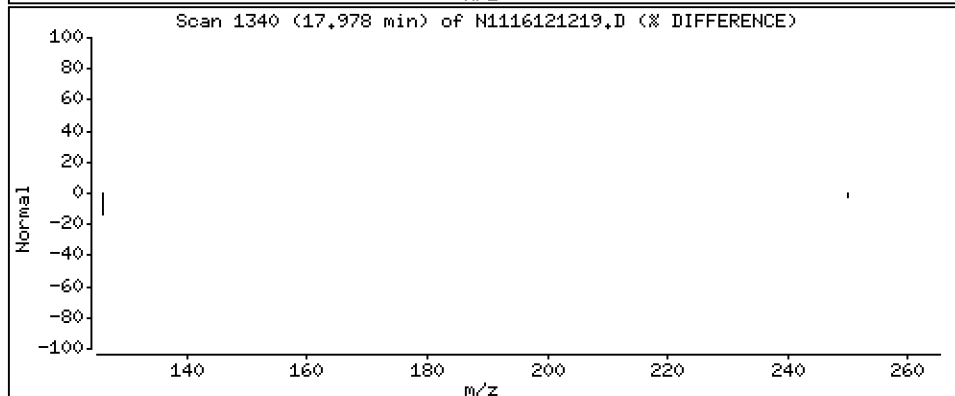
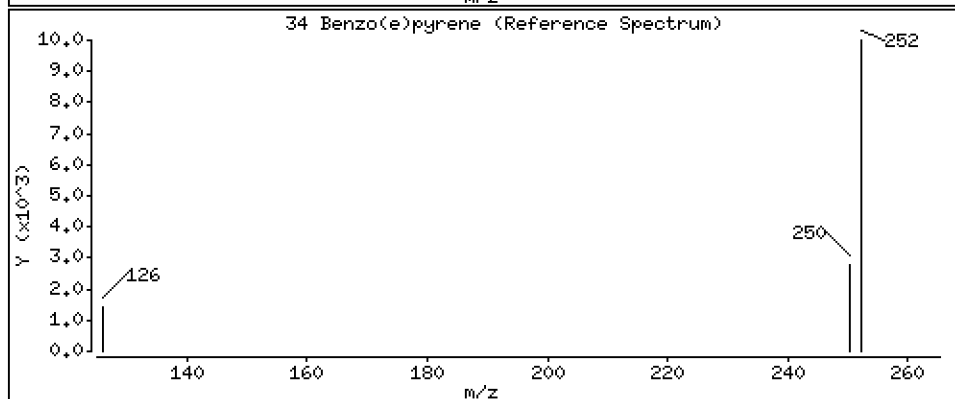
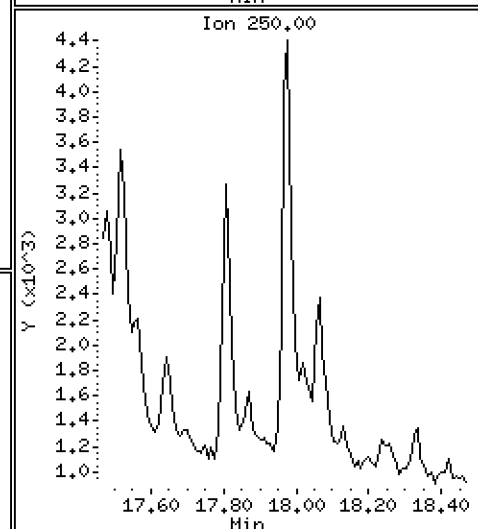
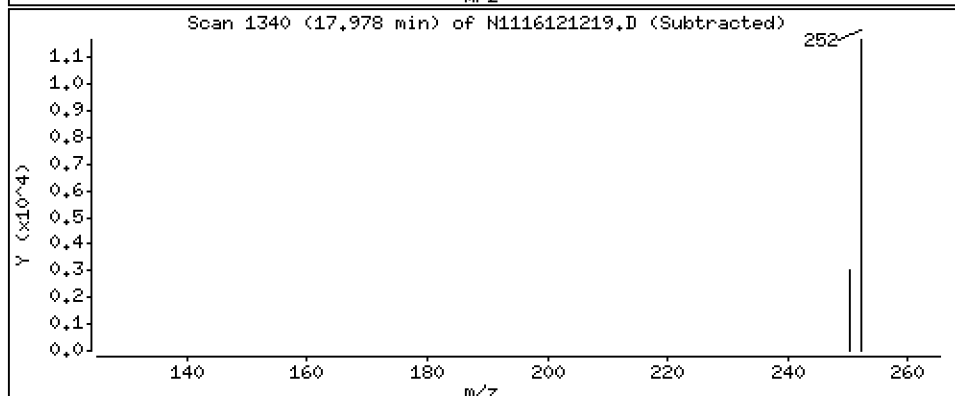
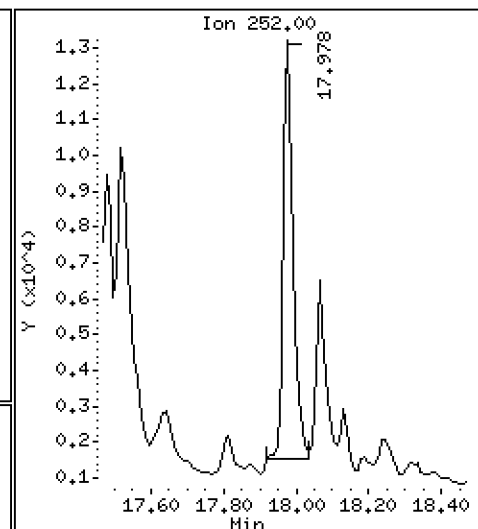
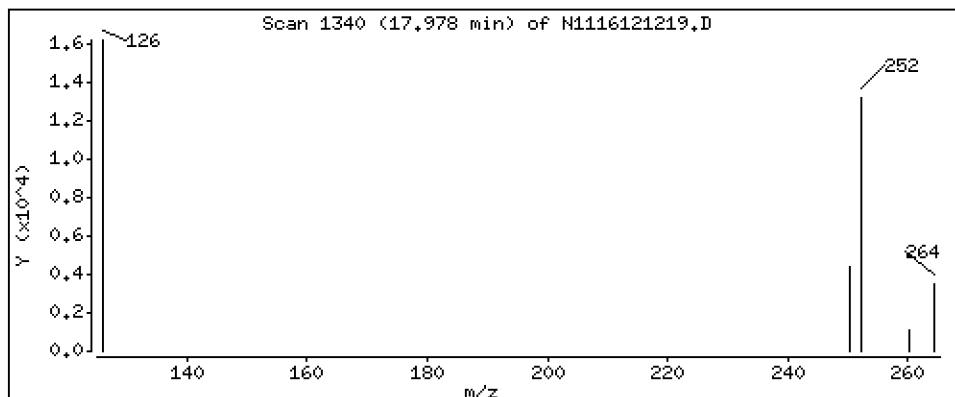
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 14,5 ng/mL



Date : 12-DEC-2016 17:29

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17

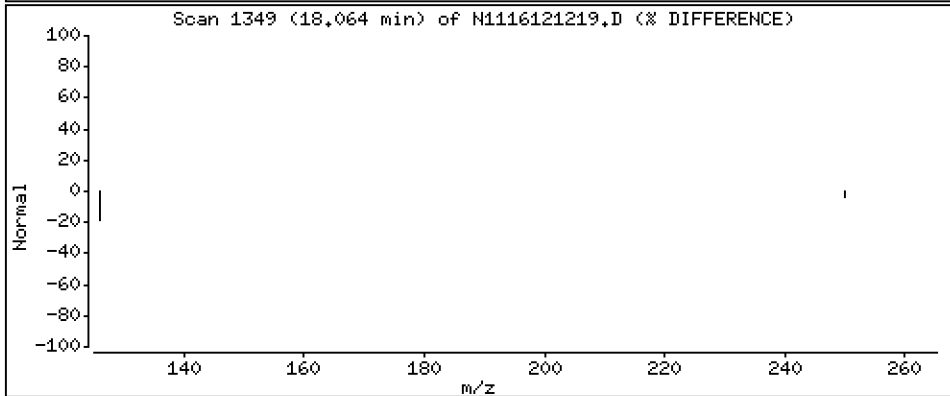
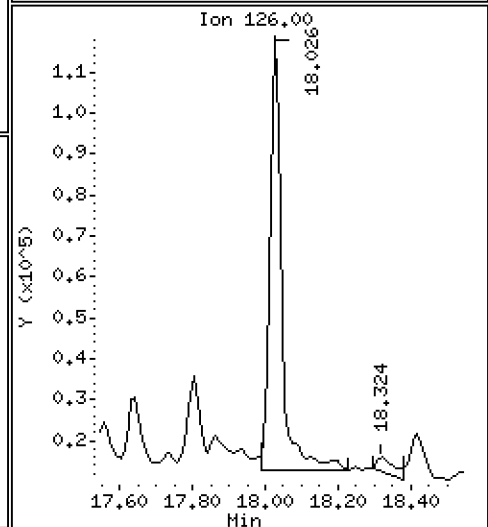
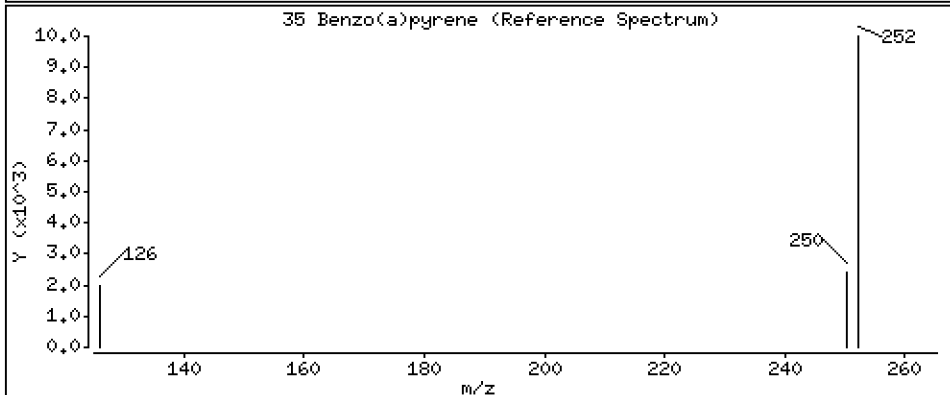
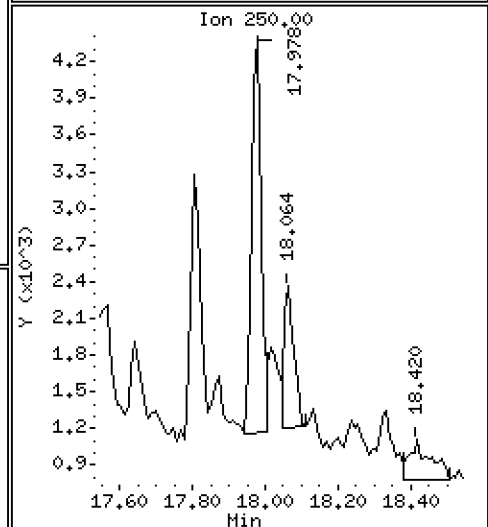
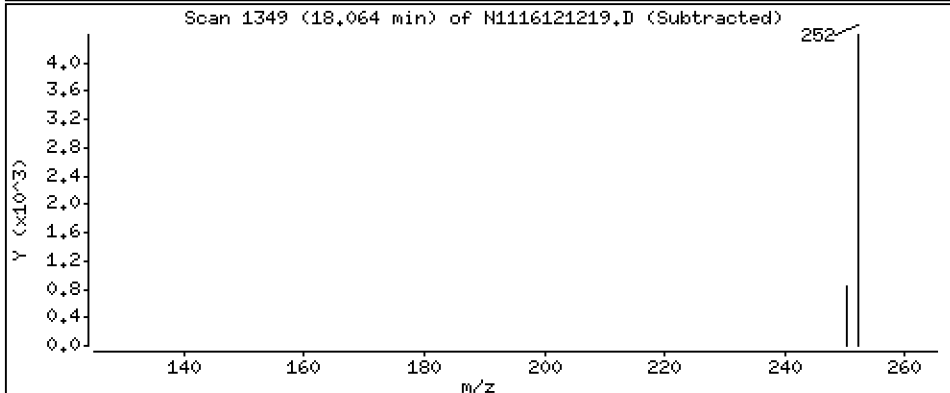
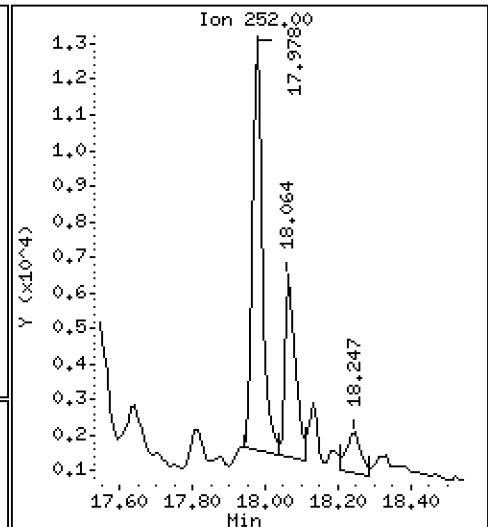
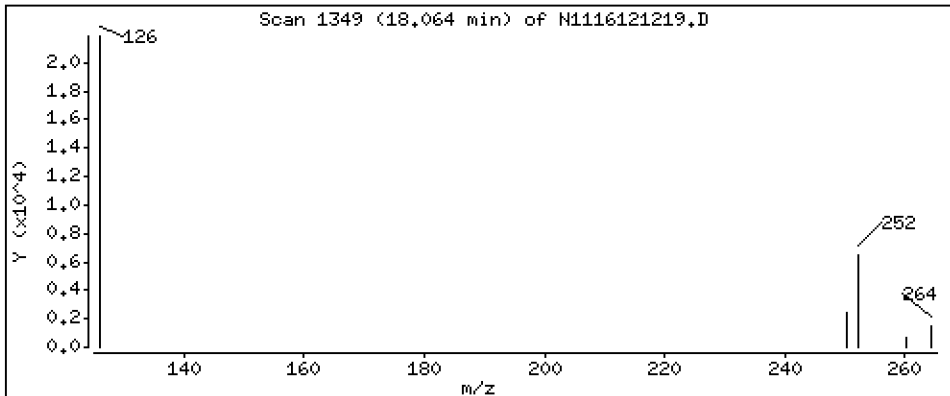
Operator: JW

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 7,06 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161212.b\N1116121219.D
 Lab Smp Id: 16K0321-17
 Inj Date : 12-DEC-2016 17:29 MS Autotune Date: 15-JAN-2015 15:59
 Operator : JW Inst ID: nt11.i
 Smp Info : 16K0321-17
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Meth Date : 15-Dec-2016 09:33 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 18
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.529	5.547	(1.000)	346201	200.000	
2 Naphthalene	128		5.565	5.574	(1.007)	206650	116.097	116
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.495	6.505	(1.175)	231077	177.043	177
5 2-Methylnaphthalene	142		6.547	6.557	(1.184)	226141	151.322	151
6 1-Methylnaphthalene	142		6.789	6.799	(1.228)	221063	150.822	151
7 2-Chloronaphthalene	162		7.398	7.429	(0.874)	3357	2.31339	2.31 (M)
8 Biphenyl	154		7.430	7.429	(0.878)	82489	41.4235	41.4
9 2,6-Dimethylnaphthalene	156		7.461	7.482	(0.881)	183952	128.550	129
10 Acenaphthylene	152		8.321	8.321	(0.983)	56861	34.4736	34.5
* 11 Acenaphthene-d10	164		8.465	8.474	(1.000)	178528	200.000	
12 Acenaphthene	153		8.529	8.538	(1.007)	608446	537.672	538
13 Dibenzofuran	168		8.738	8.738	(1.032)	418954	260.516	261
14 2,3,5-Trimethylnaphthalene	170		8.852	8.852	(1.046)	56250	56.2635	56.3 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.345	9.357	(1.104)	635046	511.128	511
17 Dibenzothiophene	184		10.921	10.921	(0.985)	82991	51.7762	51.8
* 18 Phenanthrene-d10	188		11.089	11.089	(1.000)	324290	200.000	
19 Phenanthrene	178		11.121	11.131	(1.003)	3903193	2003.76	2000
\$ 20 Anthracene-d10	188		11.142	11.152	(1.005)	33118	22.5411	22.5
21 Anthracene	178		11.184	11.184	(1.009)	419066	228.623	229
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.117	12.116	(1.093)	209864	122.270	122 (M)
\$ 24 Fluoranthene-d10	212		13.152	13.142	(1.186)	360008	248.699	249
25 Fluoranthene	202		13.180	13.180	(1.189)	2997924	1586.11	1590
26 Pyrene	202		13.651	13.651	(0.867)	1944509	1041.69	1040
27 Benzo(a)anthracene	228		15.669	15.660	(0.995)	147418	91.2632	91.3
* 28 Chrysene-d12	240		15.752	15.743	(1.000)	286906	200.000	
29 Chrysene	228		15.802	15.793	(1.003)	158365	88.3935	88.4
30 Benzo(b)fluoranthene	252		17.439	17.420	(0.959)	31914	20.4556	20.5
31 Benzo(k)fluoranthene	252		17.478	17.458	(0.961)	15279	9.01319	9.01 (H)
32 Benzo(j)fluoranthene	252		17.516	17.506	(0.963)	25845	16.4472	16.4
\$ 33 Benzo(e)pyrene-d12	264		17.929	17.919	(0.986)	157995	119.452	119

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ng/mL)	(ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
34 Benzo(e)pyrene	252		17.977	17.958	(0.988)	21951	14.4789	14.5
35 Benzo(a)pyrene	252		18.064	18.044	(0.993)	10091	7.06427	7.06
* 36 Perylene-d12	264		18.189	18.179	(1.000)	274467	200.000	
37 Perylene	252		Compound Not Detected.					
§ 38 Dibenzo(a,h)anthracene-d14	292		19.869	19.858	(1.092)	189130	205.720	206
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.					
41 Benzo(g,h,i)perylene	276		Compound Not Detected.					

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 12-DEC-2016
 Lab File ID: N1116121219.D Calibration Time: 09:14
 Lab Smp Id: 16K0321-17
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JW
 Method File: \\target\share\chem3\nt11.i\20161212.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	346201	-29.86
11 Acenaphthene-d10	240770	120385	481540	178528	-25.85
18 Phenanthrene-d10	429271	214636	858542	324290	-24.46
28 Chrysene-d12	387691	193846	775382	286906	-26.00
36 Perylene-d12	386259	193130	772518	274467	-28.94

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.55	5.05	6.05	5.53	-0.32
11 Acenaphthene-d10	8.47	7.97	8.97	8.47	-0.11
18 Phenanthrene-d10	11.09	10.59	11.59	11.09	0.00
28 Chrysene-d12	15.74	15.24	16.24	15.75	0.05
36 Perylene-d12	18.18	17.68	18.68	18.19	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.

REVIEW SUMMARY FOR FILE - N1116121219.D

Lab ID: 16K0321-17
nt11.i, 20161212.b\lowsim.m, 12-DEC-2016 17:29

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

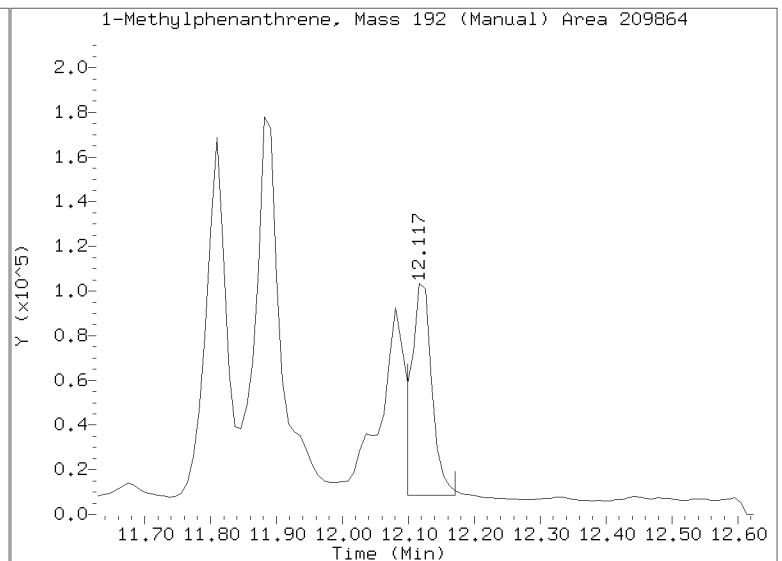
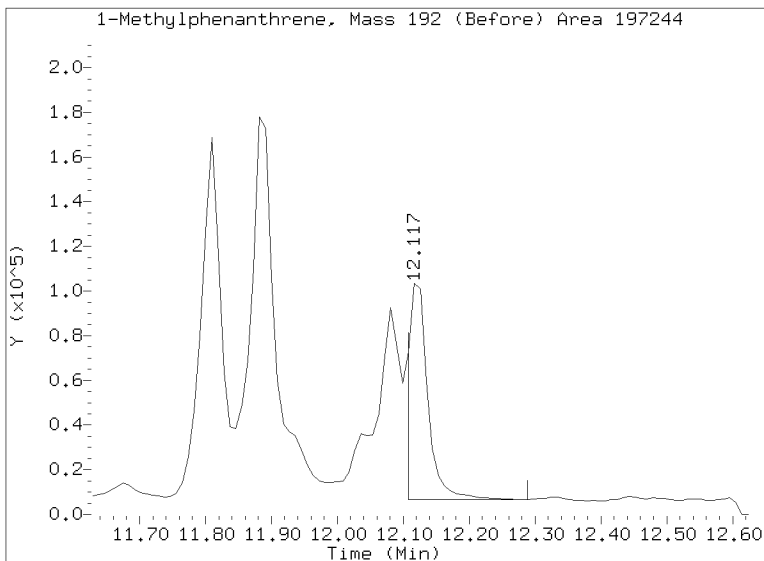
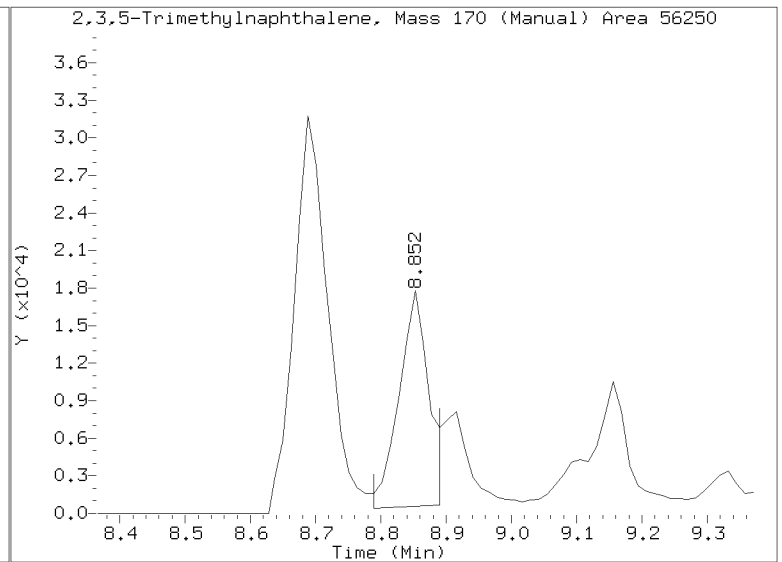
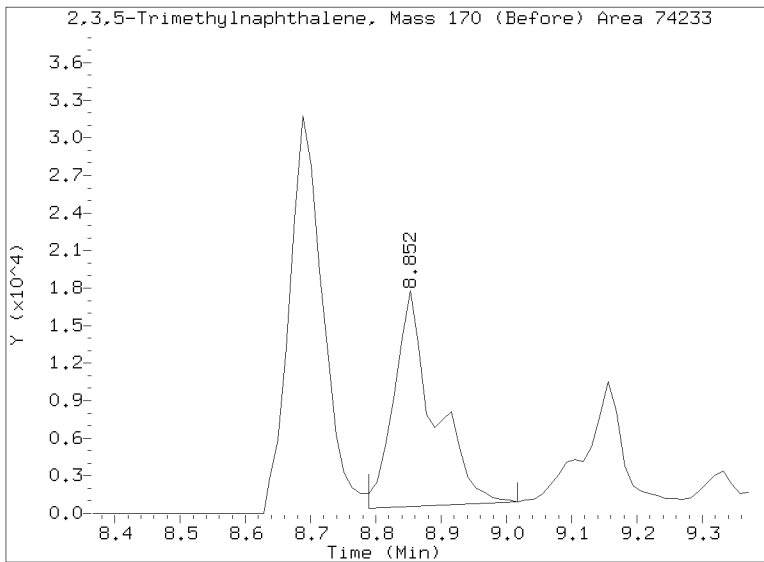
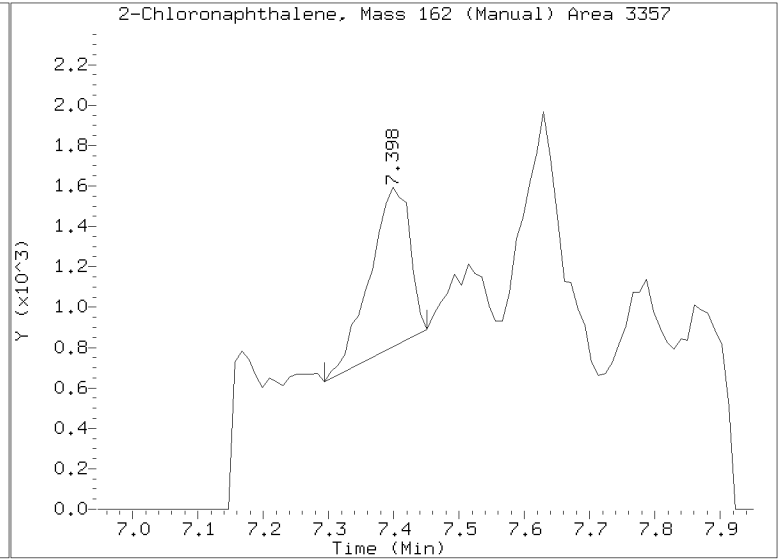
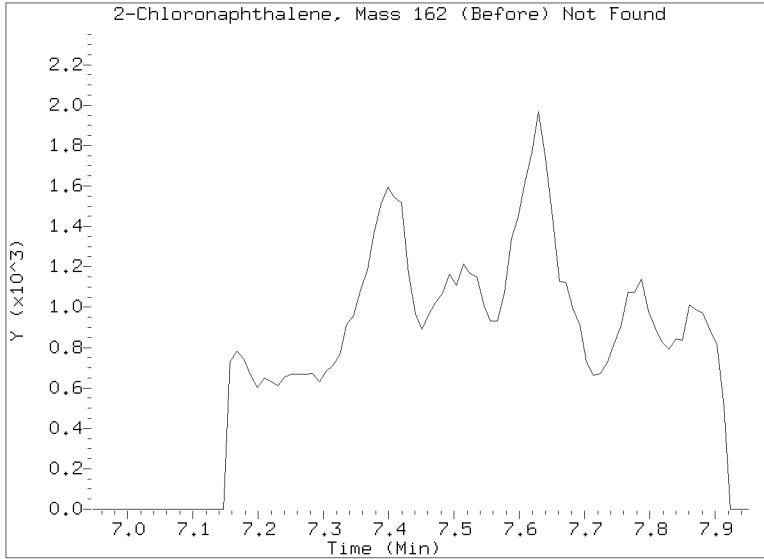
NONE

On Column LOD for nt11.i, 20161212.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161212.b/N1116121219.D
Injection Date: 12-DEC-2016 17:29
Lab ID:16K0321-17 Client ID:
Report Date: 12/15/2016 09:34





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-17RE1 File ID: N1116121328.D
 Sampled: 11/22/16 12:35 Prepared: 11/24/16 08:25 Analyzed: 12/14/16 01:17
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0657 Sequence: SEL0164 Calibration: ZK00080
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	5	9.34	D, B	5.64	6.77
91-57-6	2-Methylnaphthalene	5	8.25	D, B	5.64	5.64
208-96-8	Acenaphthylene	5	5.64	U	5.64	5.64
83-32-9	Acenaphthene	5	43.5	D	5.64	5.64
86-73-7	Fluorene	5	42.7	D	5.64	5.64
85-01-8	Phenanthrene	5	174	D	5.64	5.64
120-12-7	Anthracene	5	57.7	Q, D	5.64	5.64
206-44-0	Fluoranthene	5	152	D	5.64	5.64
129-00-0	Pyrene	5	102	D	5.64	5.64
56-55-3	Benzo(a)anthracene	5	5.64	U	5.64	5.64
218-01-9	Chrysene	5	9.48	D	5.64	5.64
205-99-2	Benzo(b)fluoranthene	5	5.64	U	5.64	5.64
207-08-9	Benzo(k)fluoranthene	5	5.64	U	5.64	5.64
50-32-8	Benzo(a)pyrene	5	5.64	U	5.64	5.64
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.64	U	5.64	5.64
53-70-3	Dibenzo(a,h)anthracene	5	5.64	U	5.64	5.64
191-24-2	Benzo(g,h,i)perylene	5	5.64	U	5.64	5.64
1985-5-0	Perylene	5	5.64	U	5.64	5.64
197-97-2	Benzo(e)pyrene	5	5.64	U	5.64	5.64

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	9.38	27.7	30 - 160	*
Dibenzo[a,h]anthracene-d14	33.860	16.2	47.9	30 - 160	
Fluoranthene-d10	33.860	21.3	62.9	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	9.64	45.6	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161213.6\N1116121328.D

Date : 14-DEC-2016 01:17

Client ID:

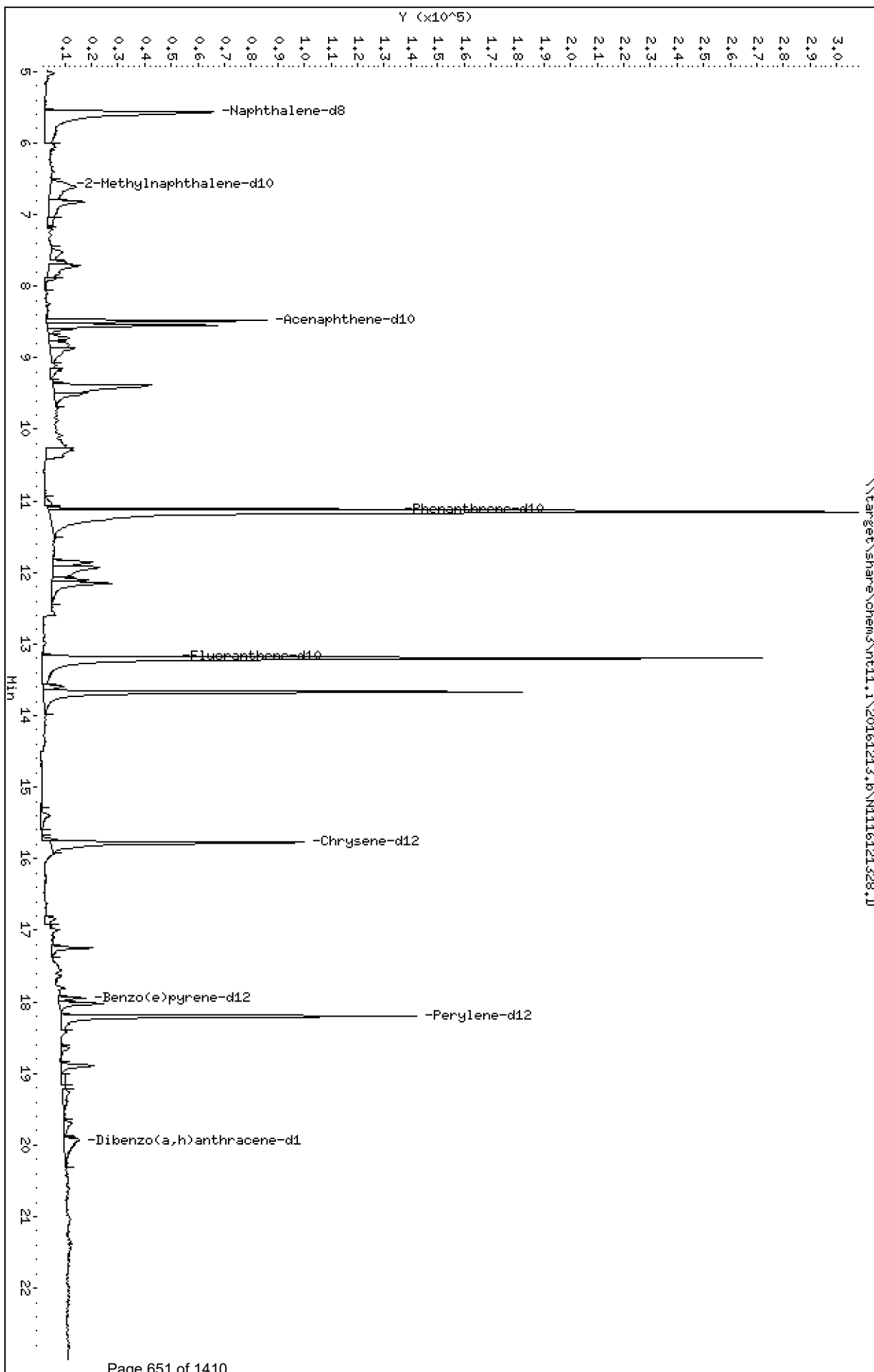
Sample Info: 16K0321-17.5

Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

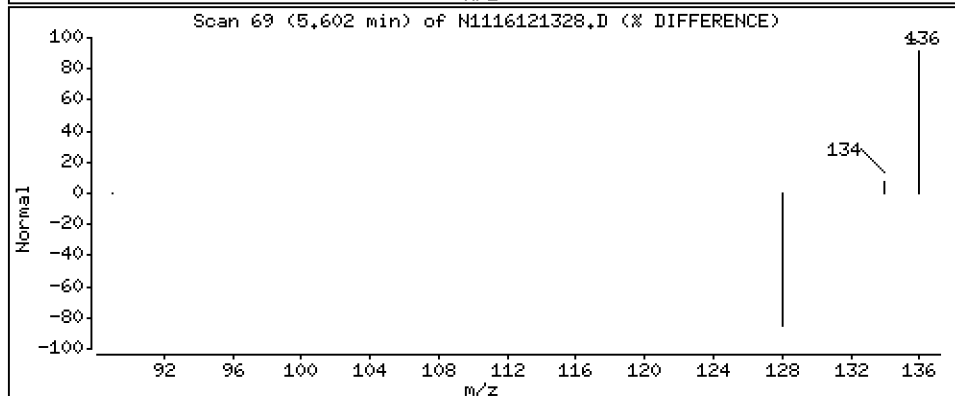
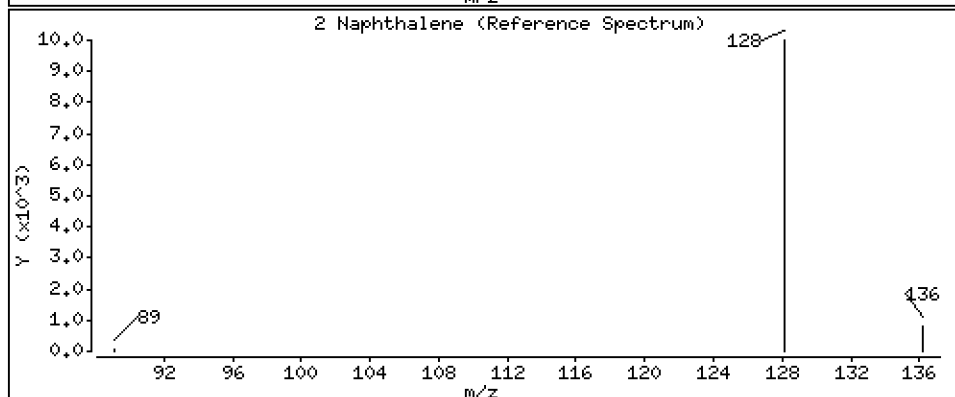
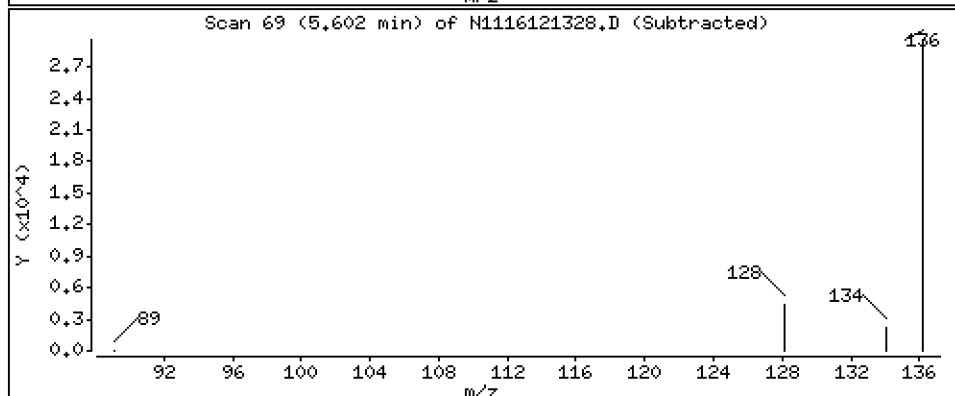
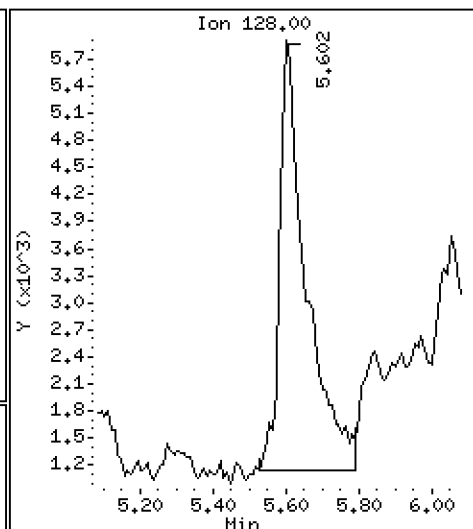
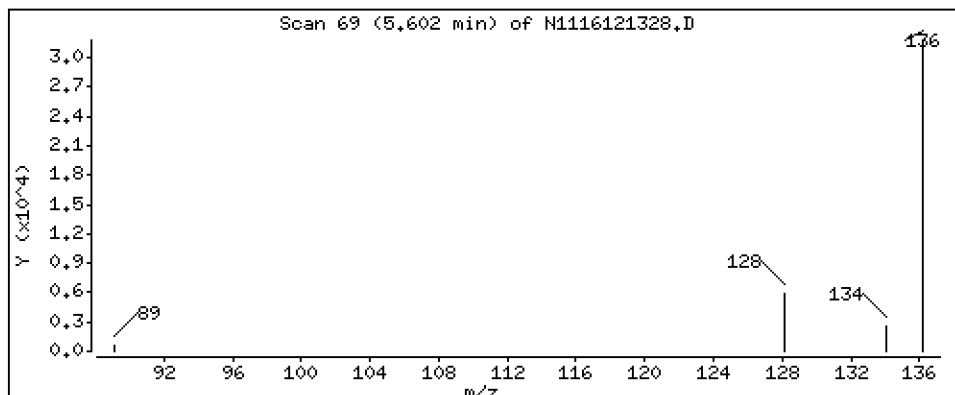
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 82,8 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

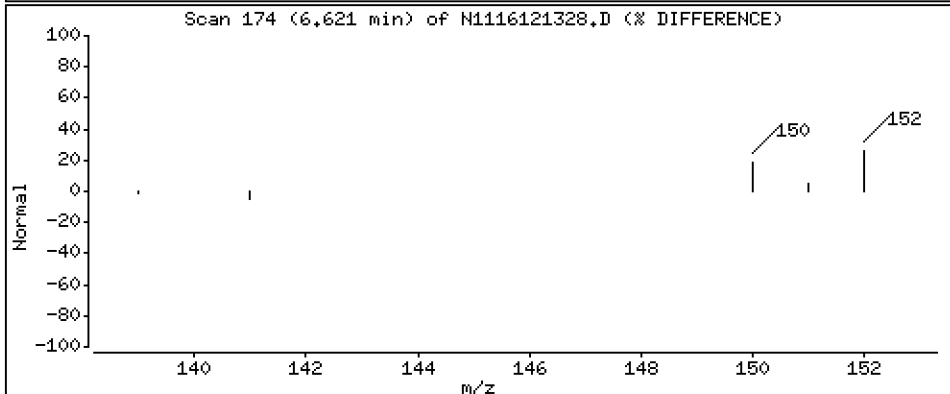
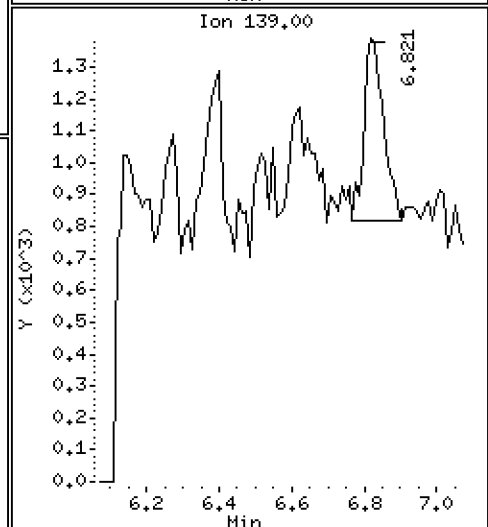
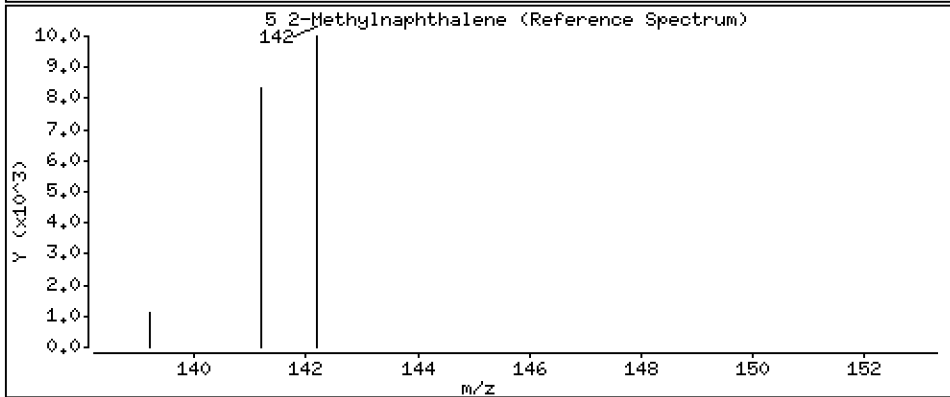
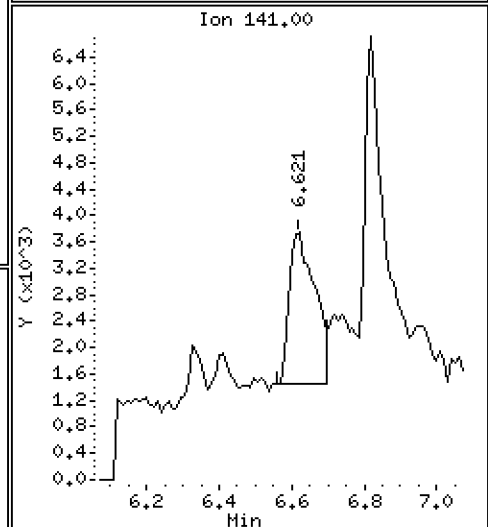
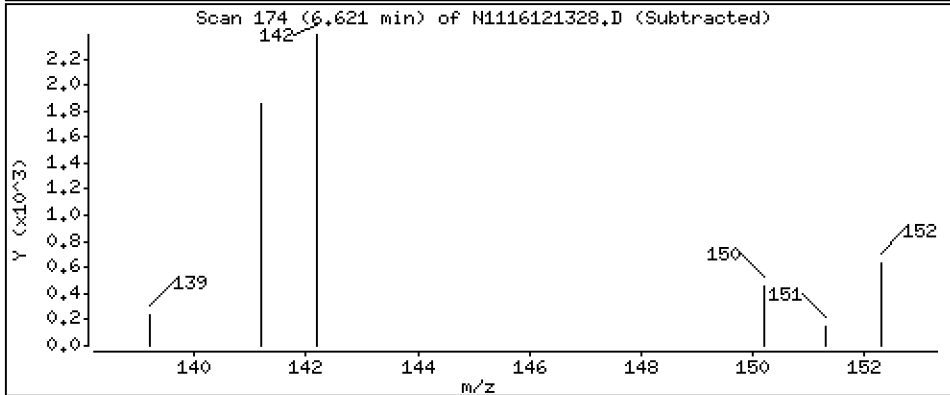
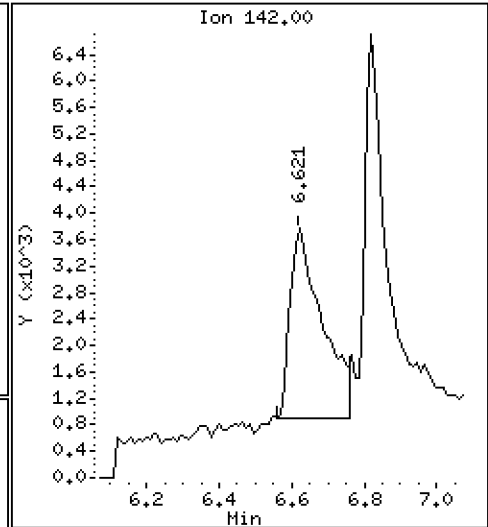
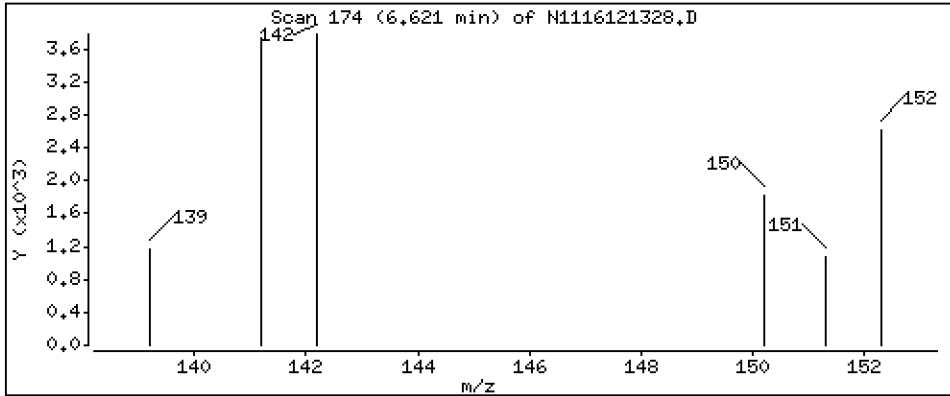
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 73,1 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

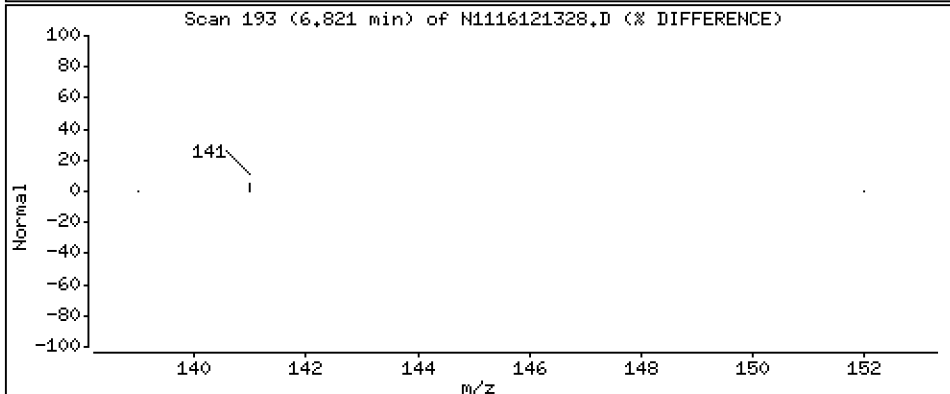
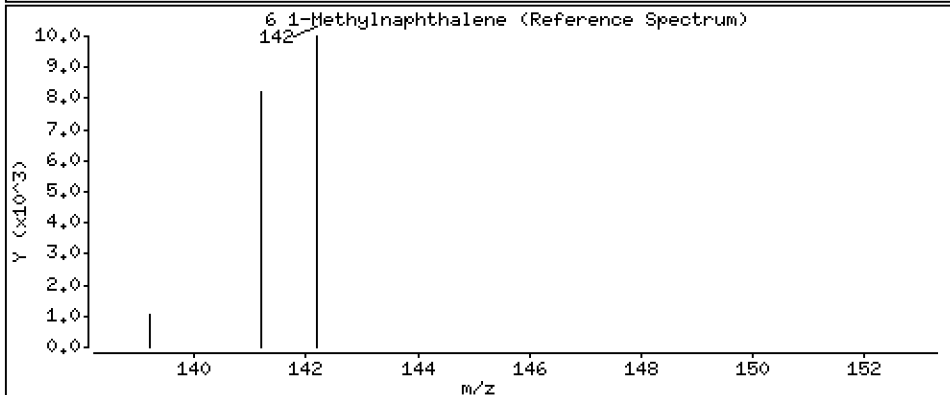
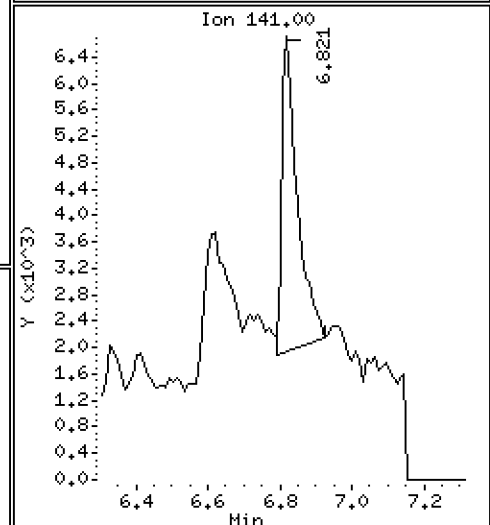
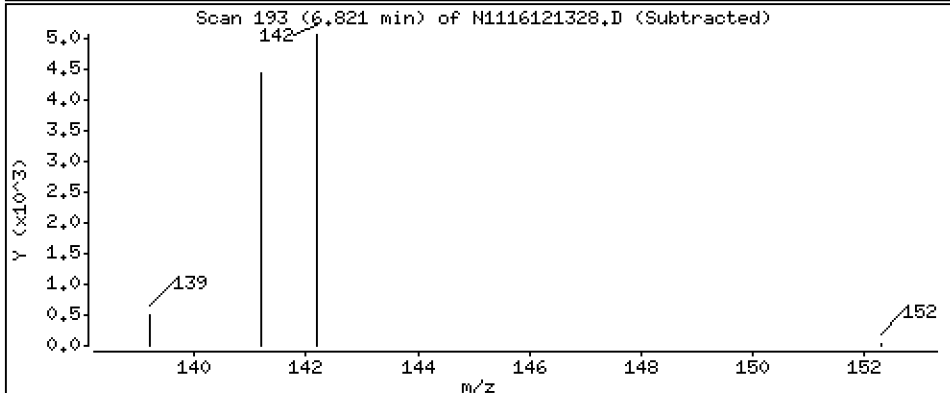
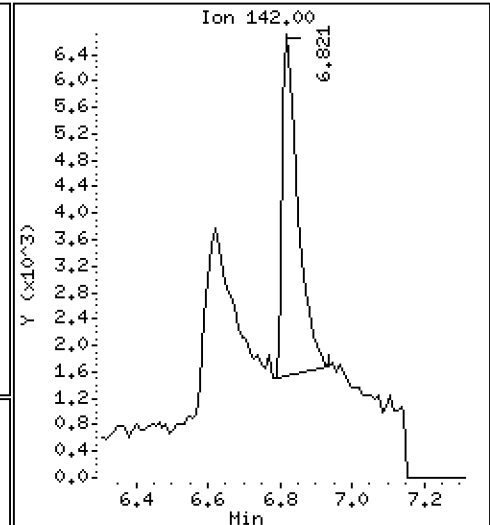
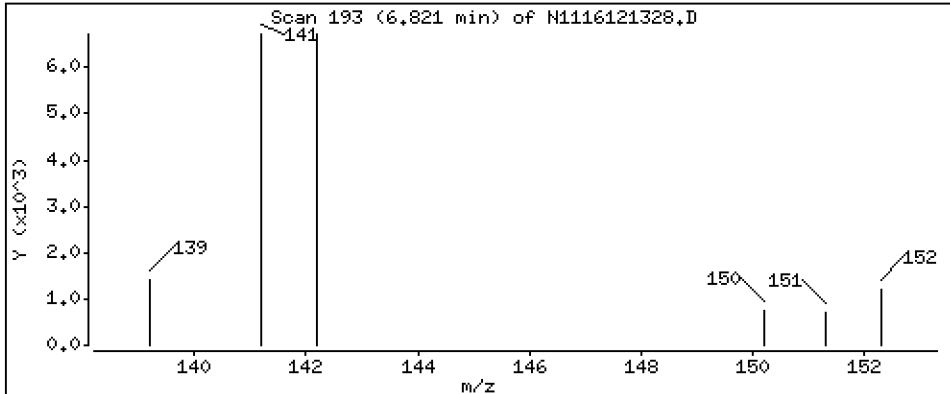
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 69,1 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

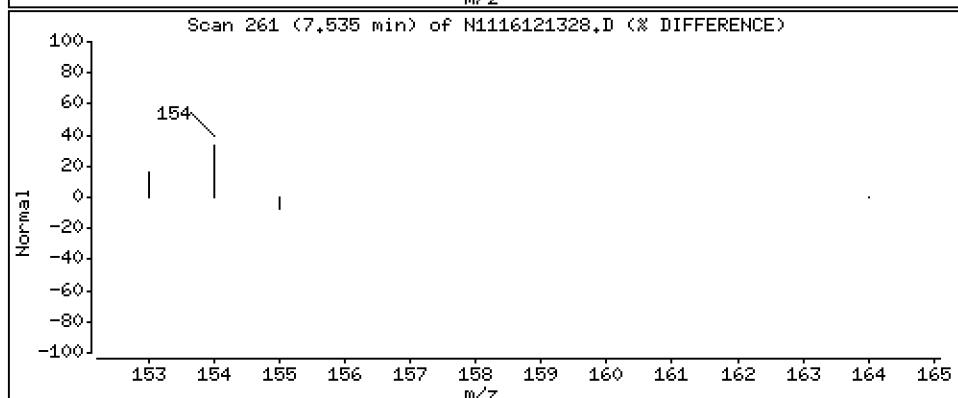
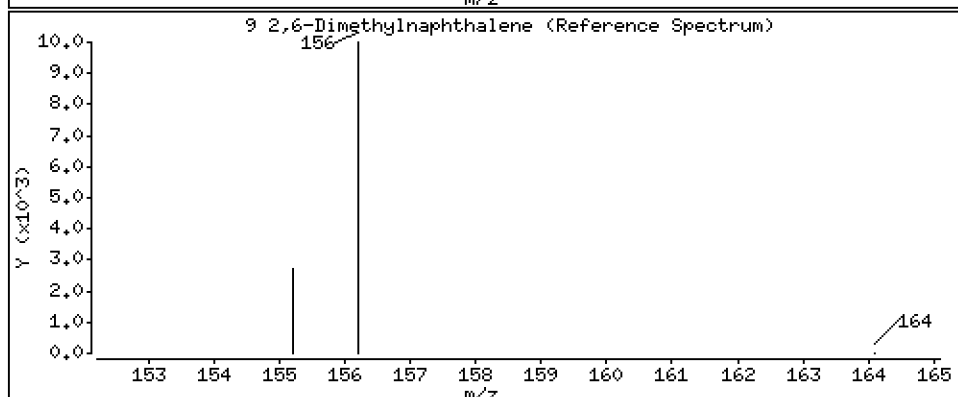
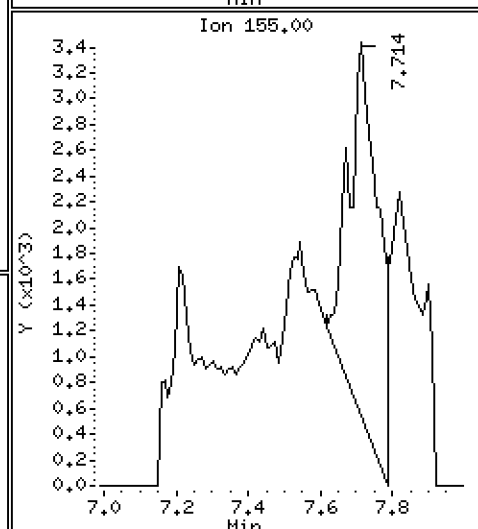
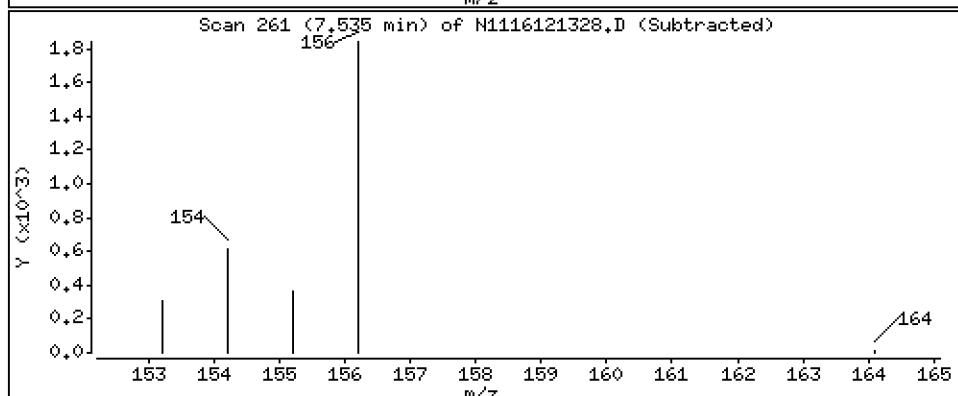
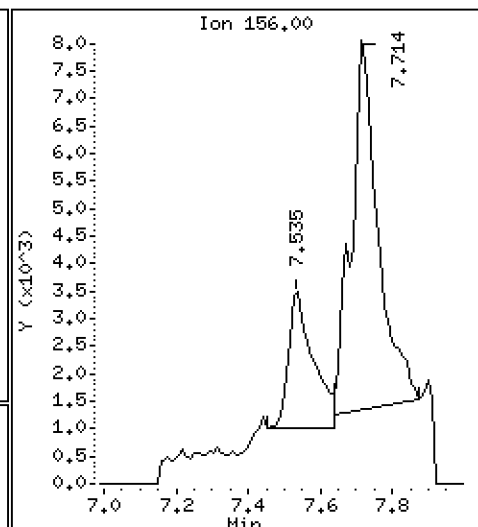
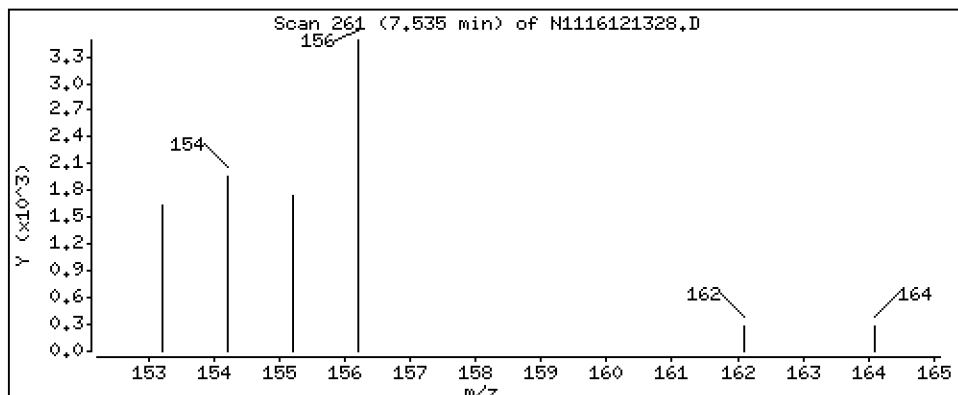
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 50,6 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

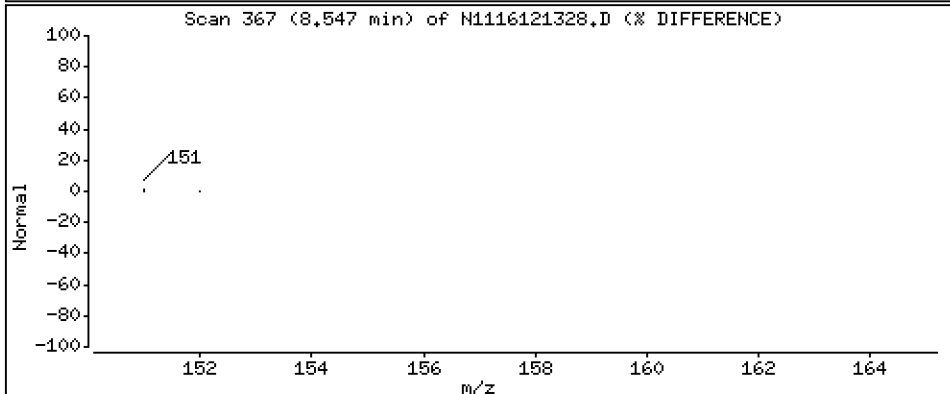
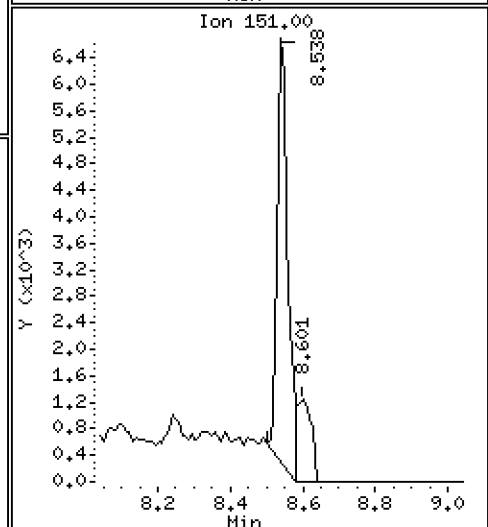
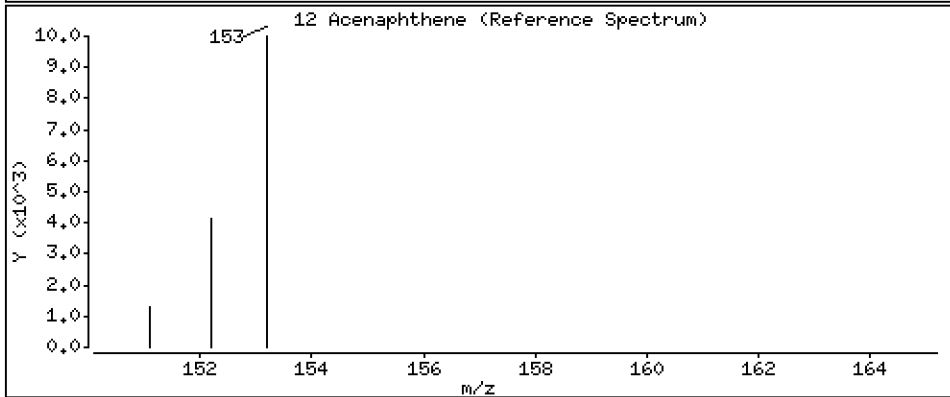
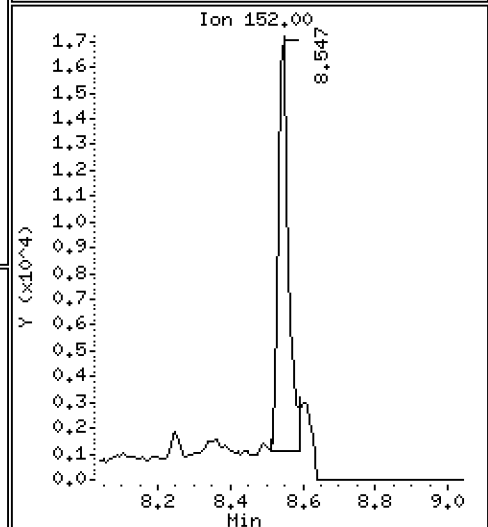
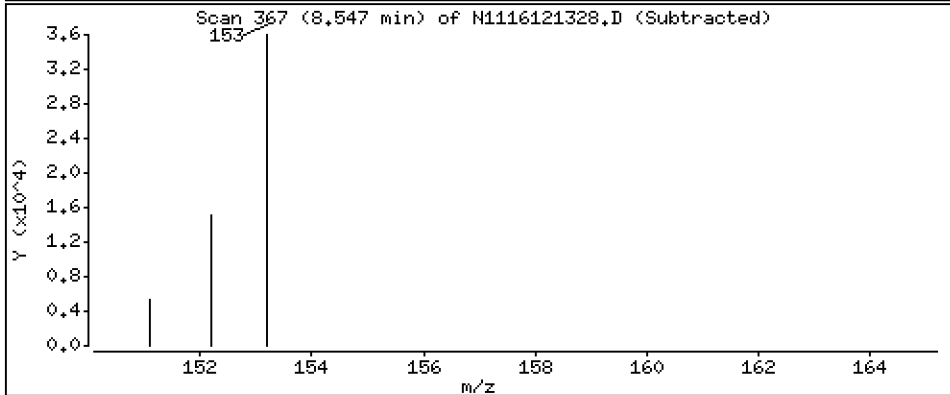
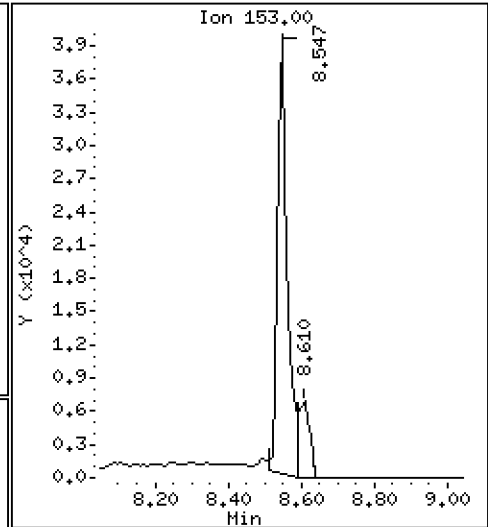
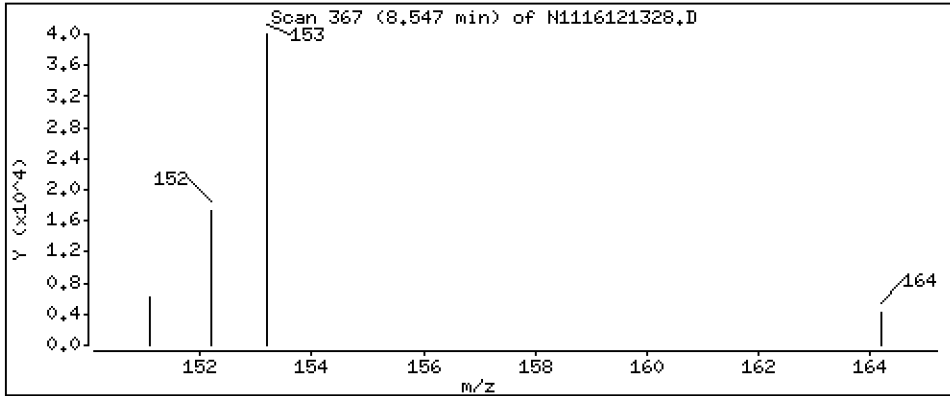
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 385 ng/mL

12 Acenaphthene



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

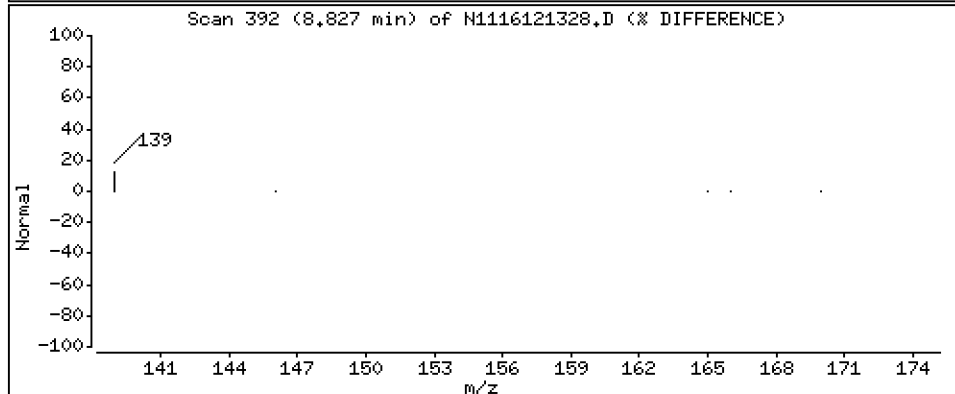
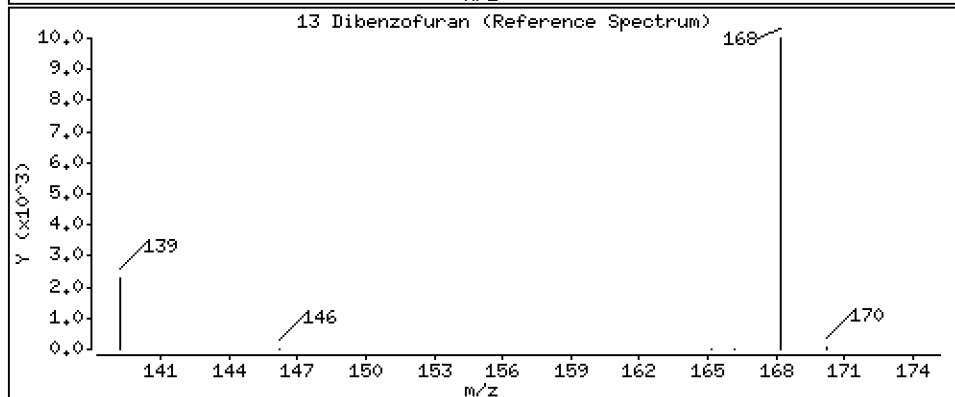
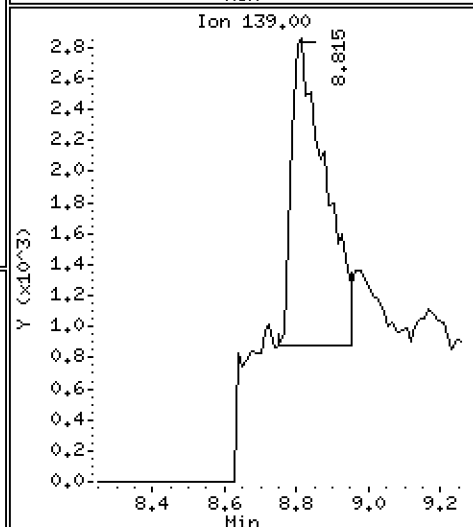
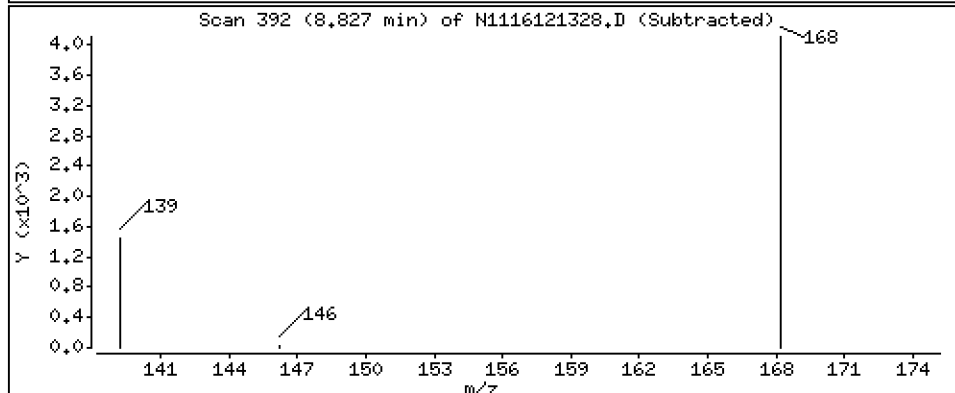
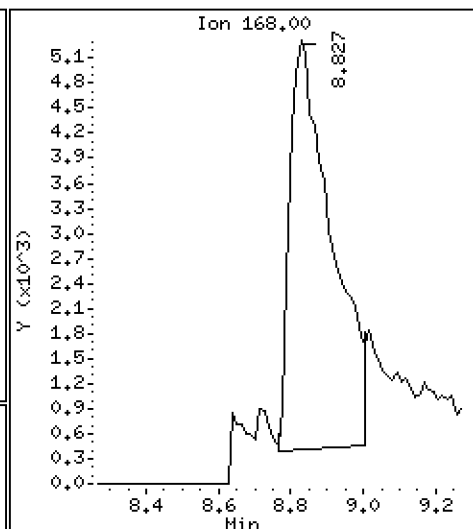
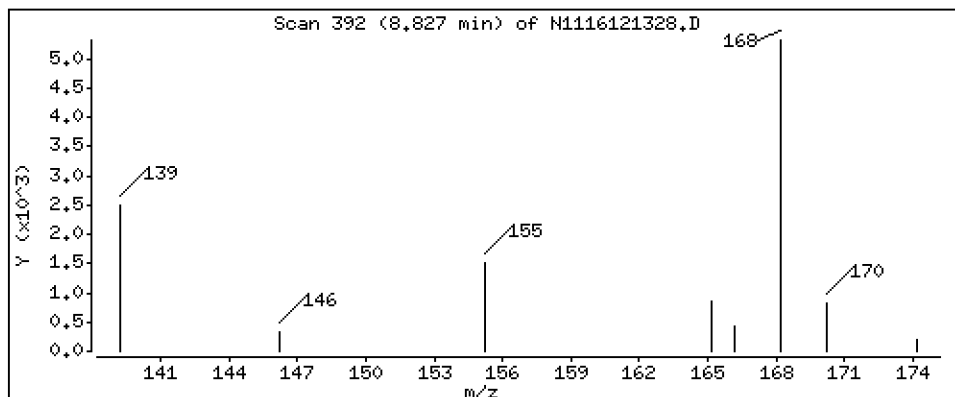
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 141 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

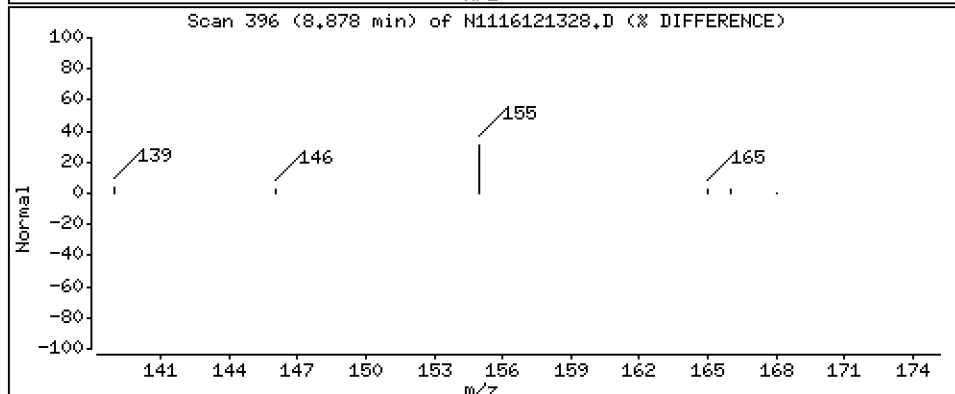
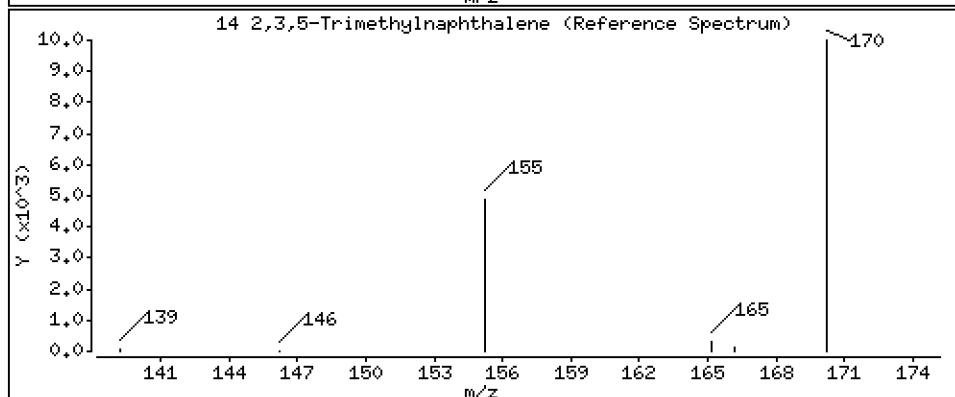
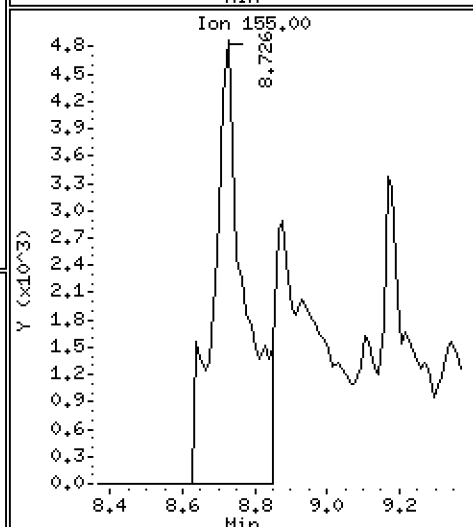
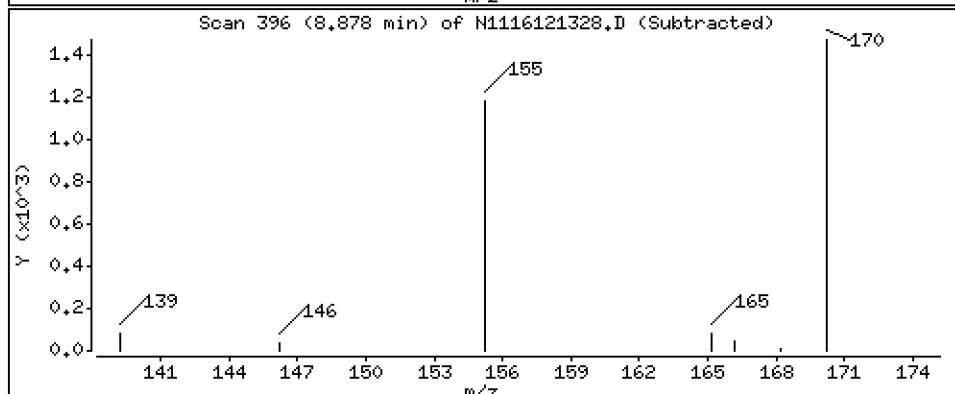
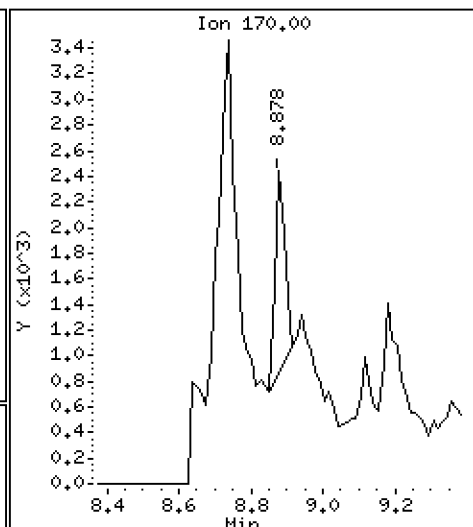
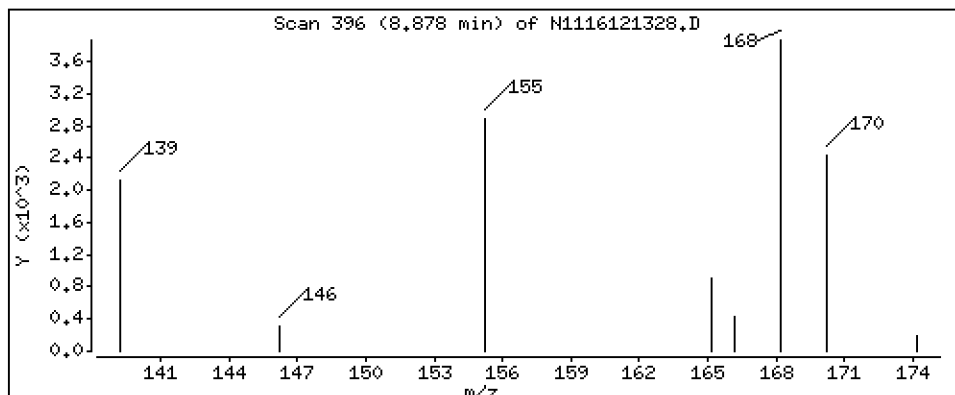
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 16,5 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

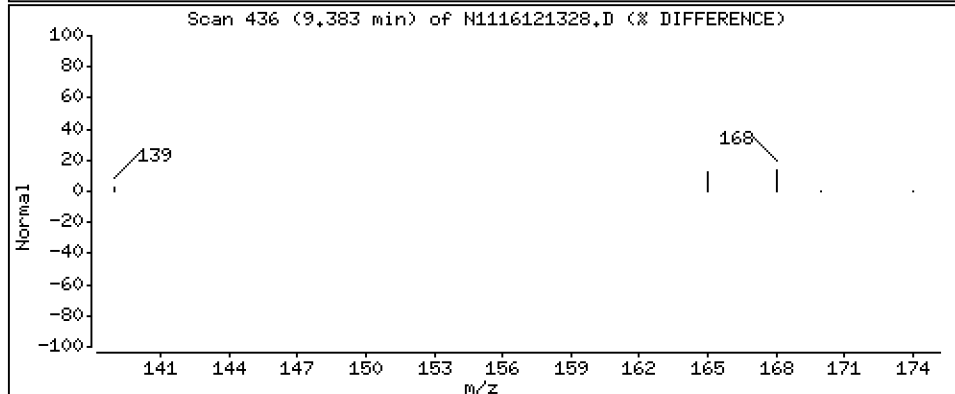
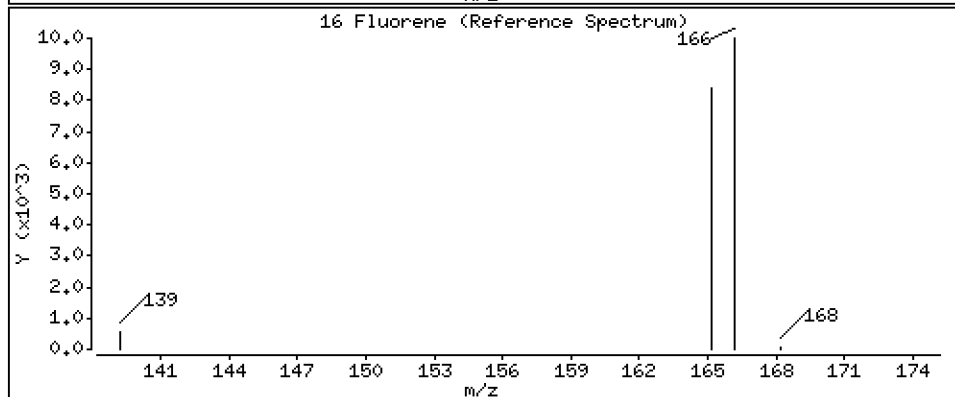
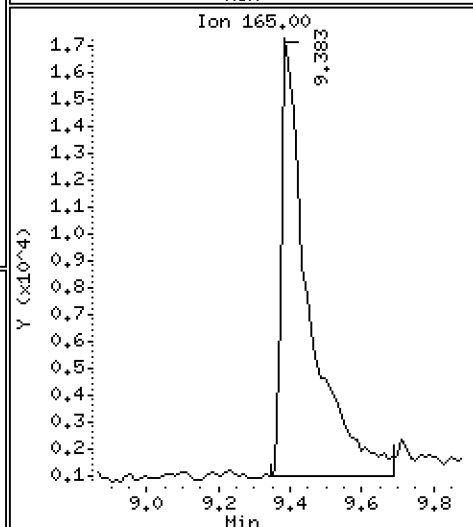
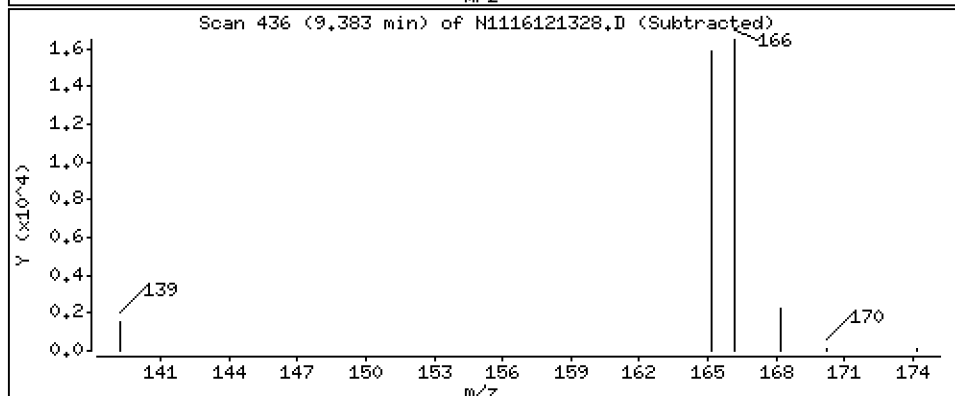
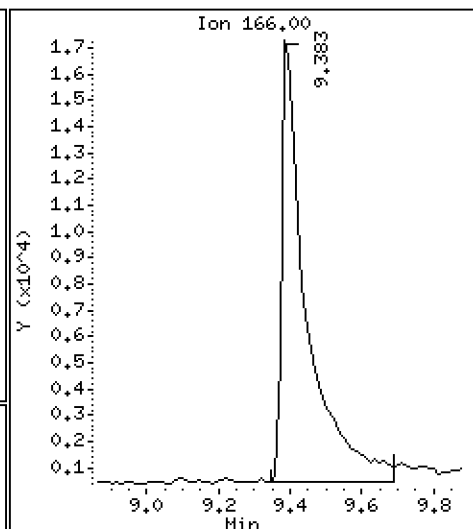
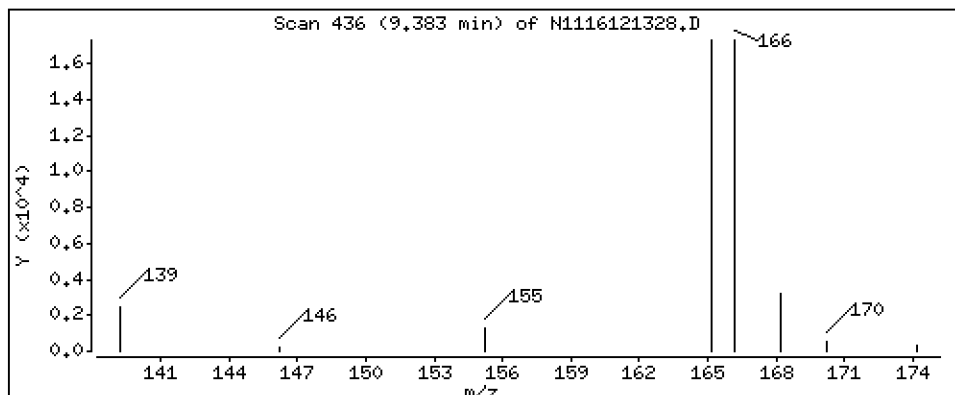
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 378 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

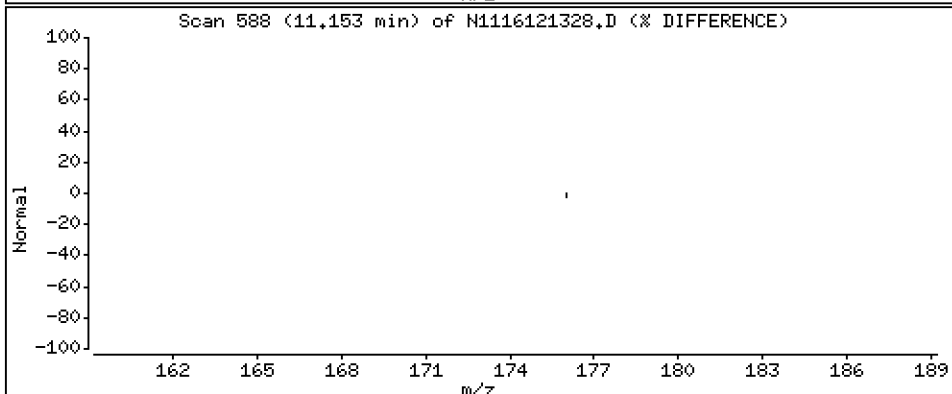
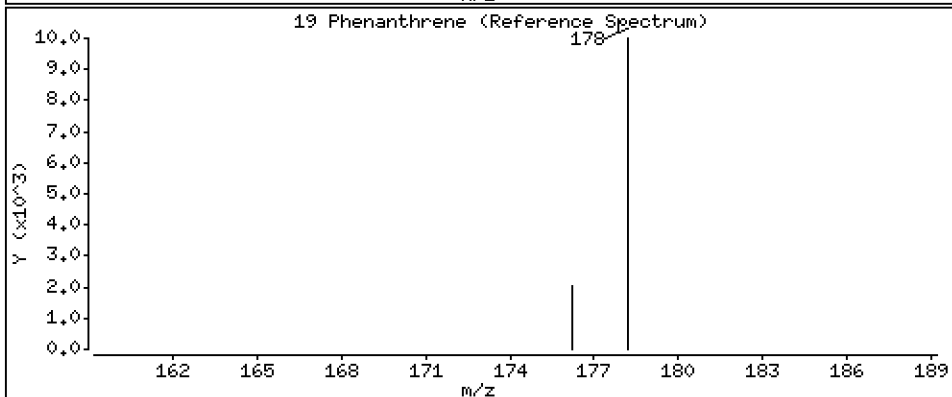
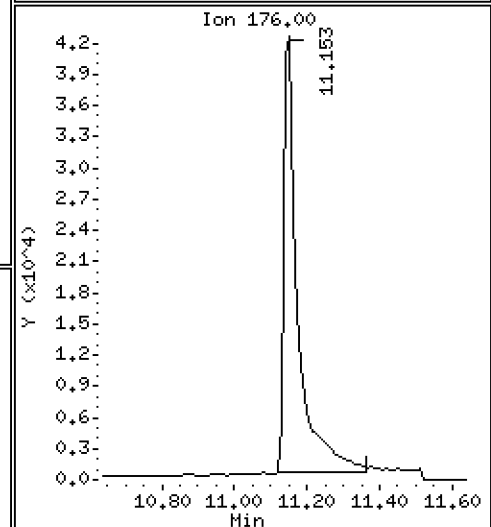
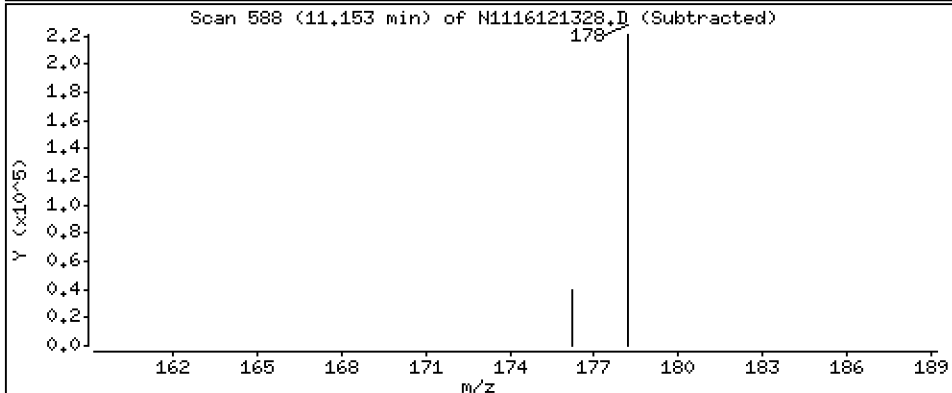
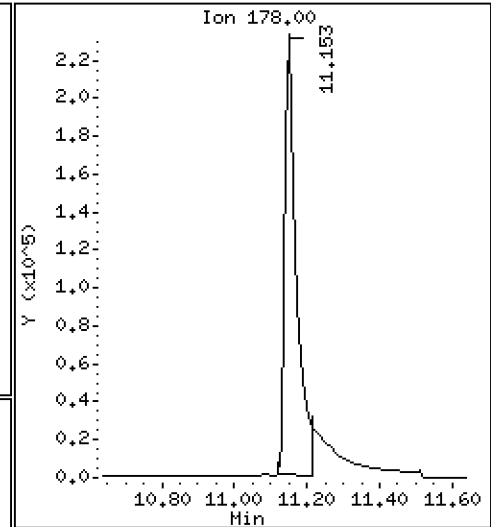
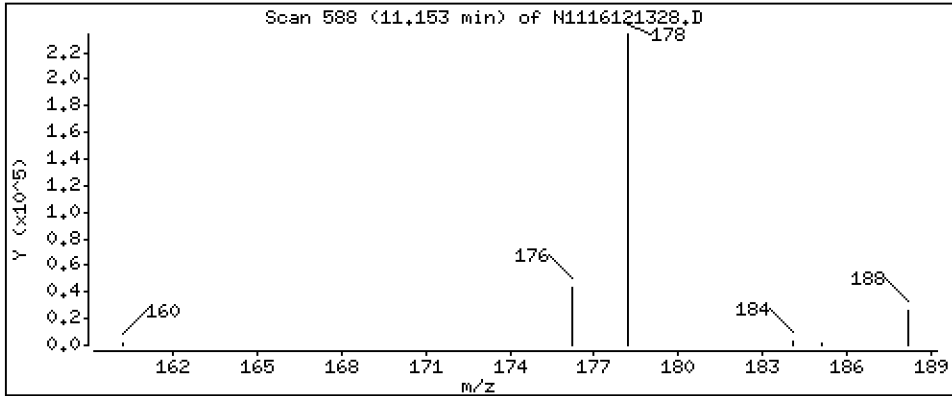
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 1550 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

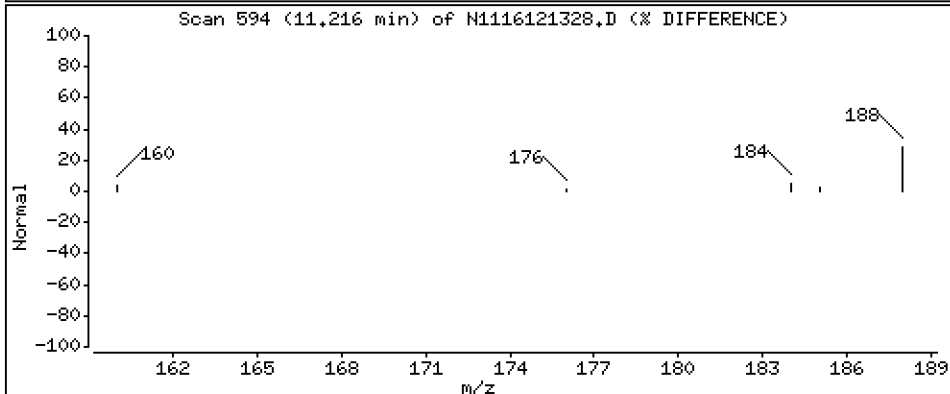
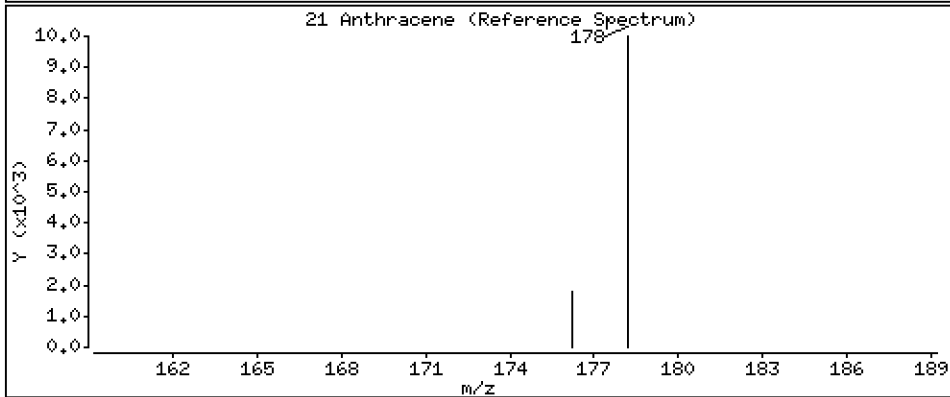
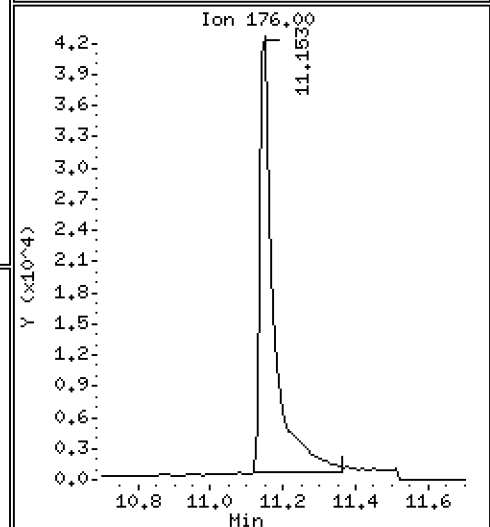
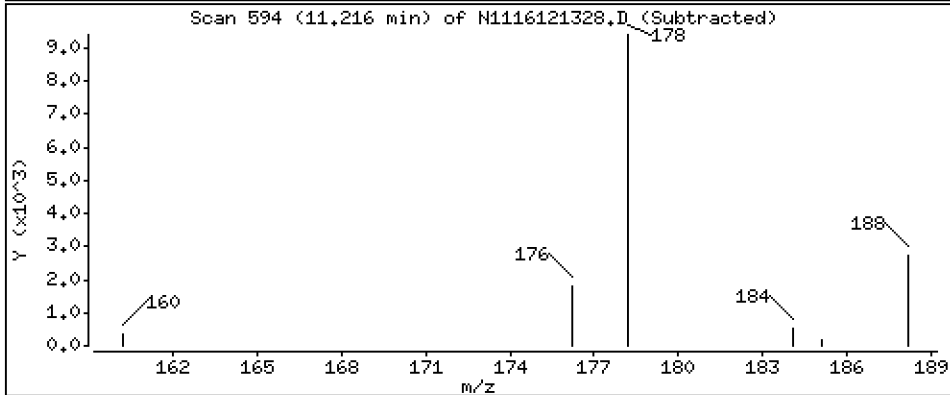
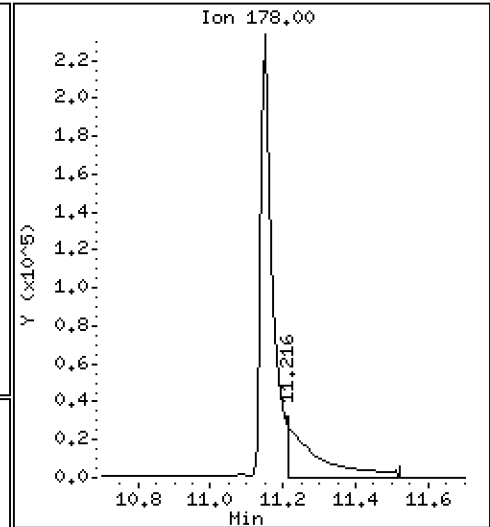
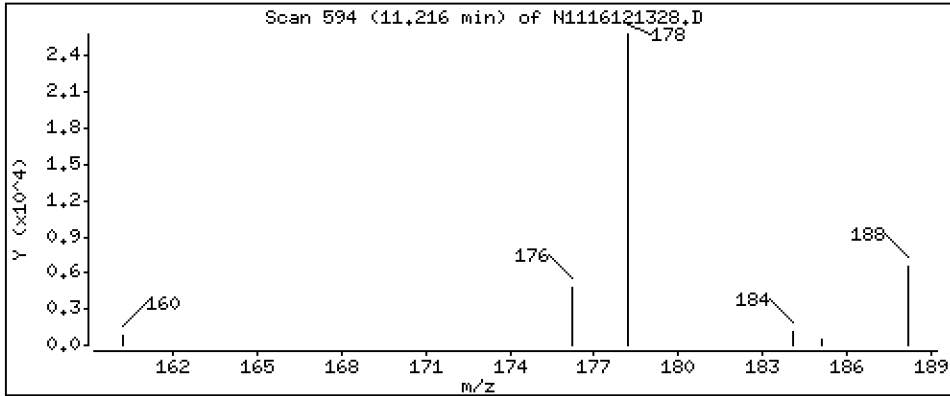
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 511 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

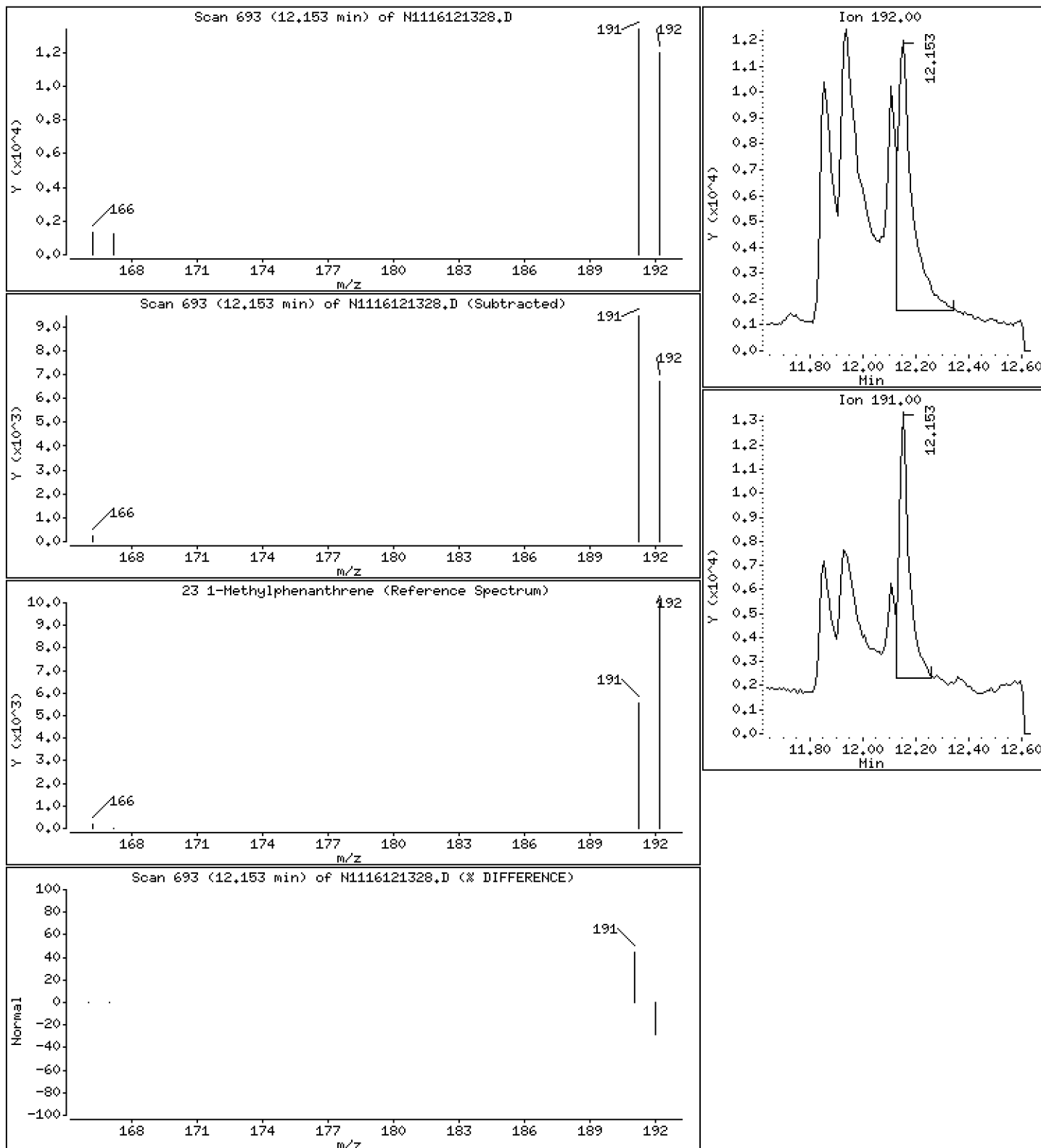
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 134 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

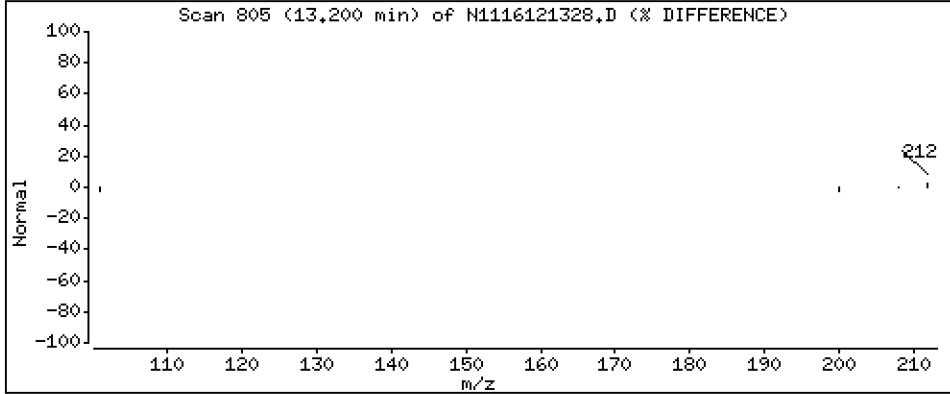
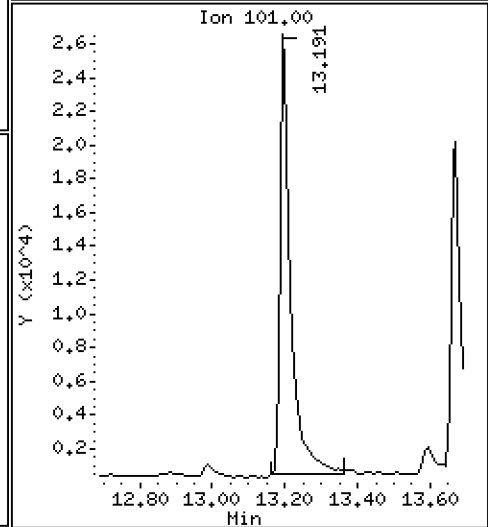
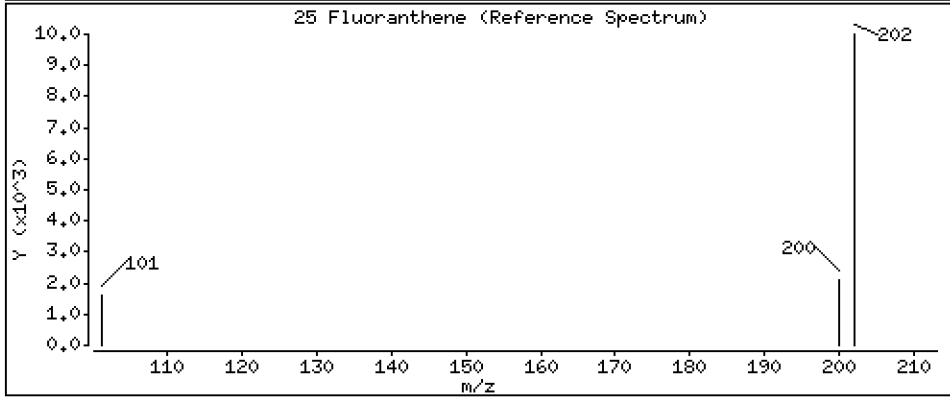
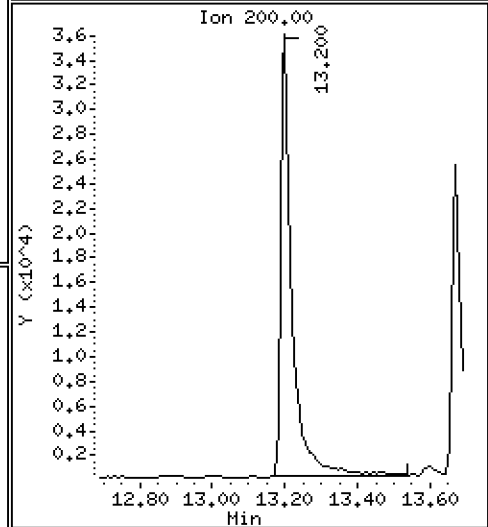
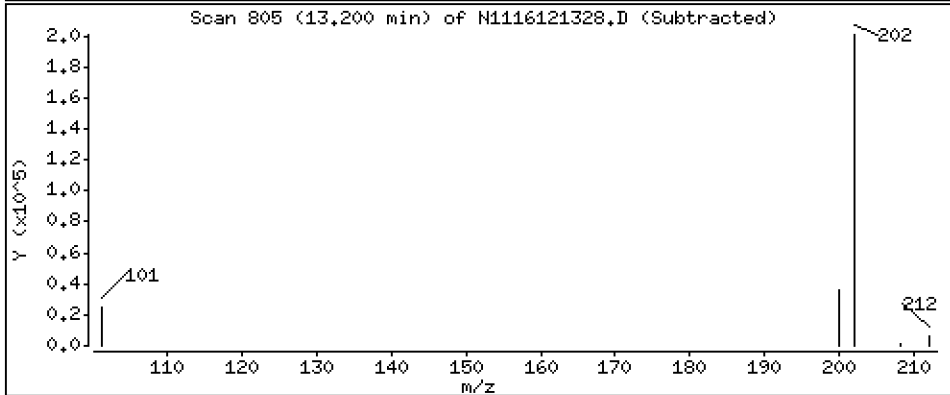
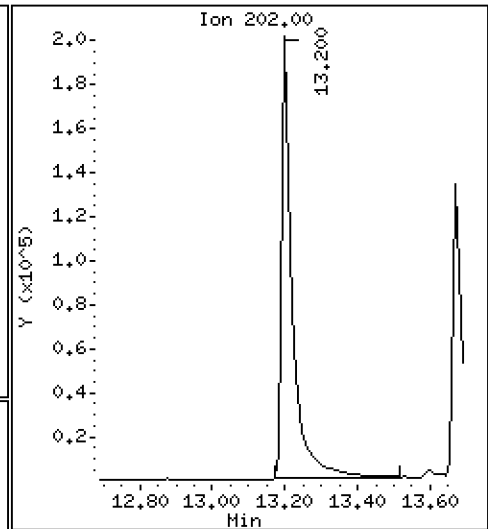
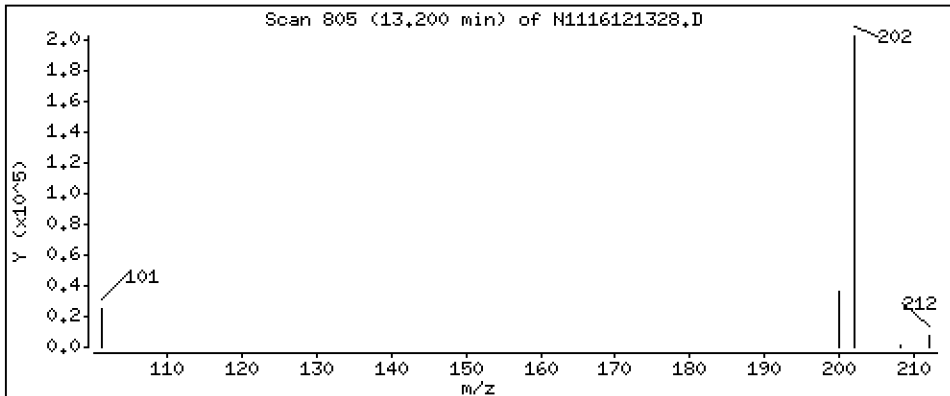
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 1340 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

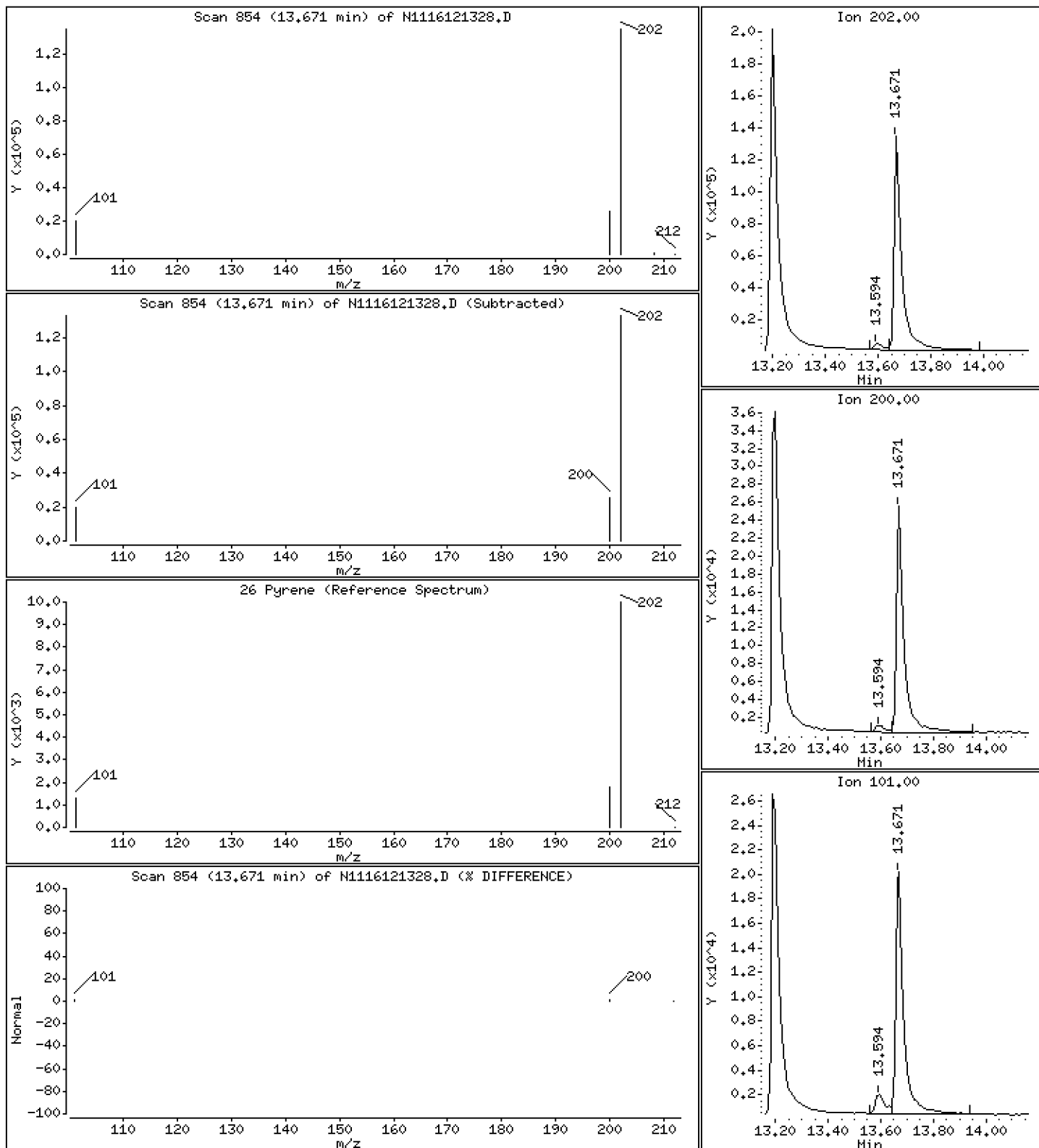
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 900 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

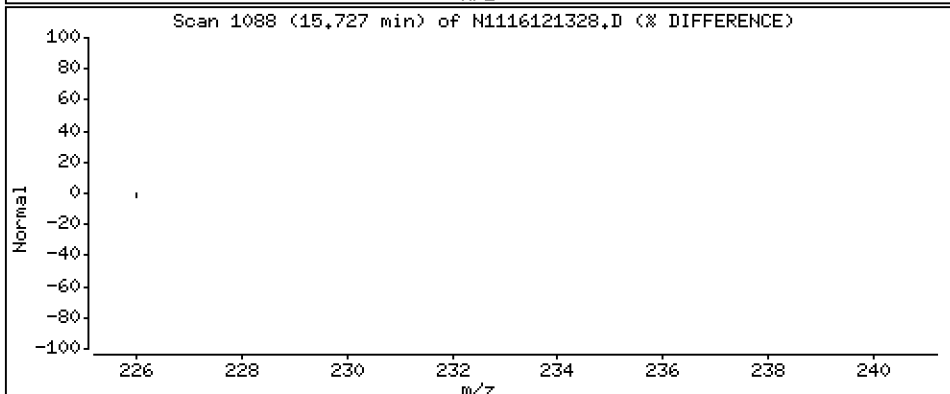
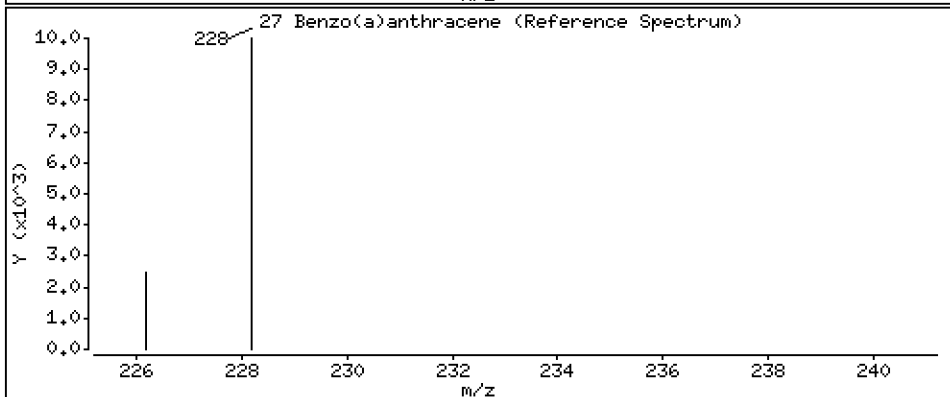
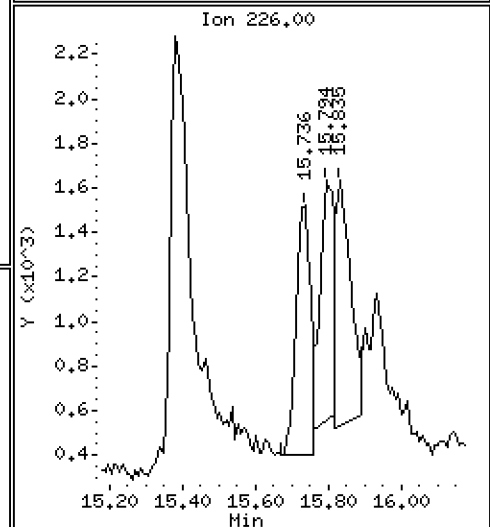
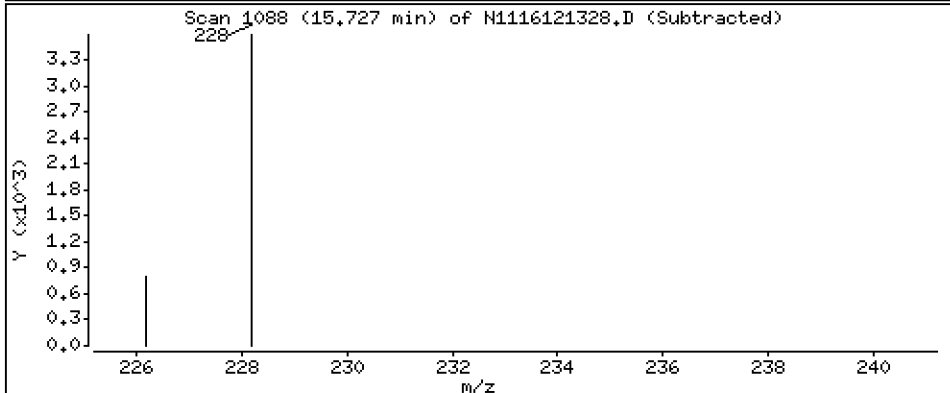
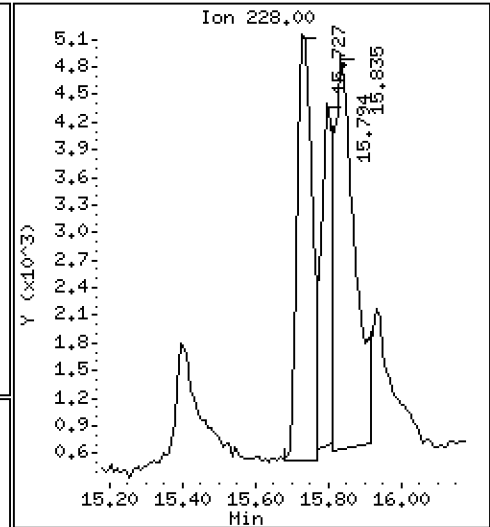
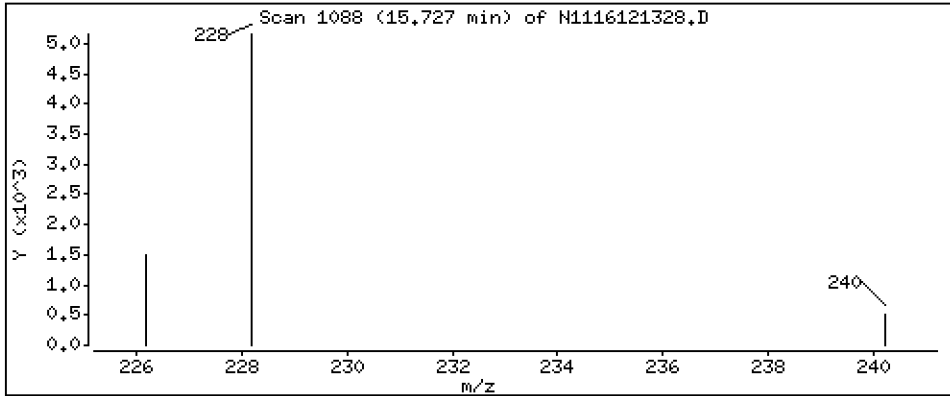
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 49,6 ng/mL



Date : 14-DEC-2016 01:17

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-17,5

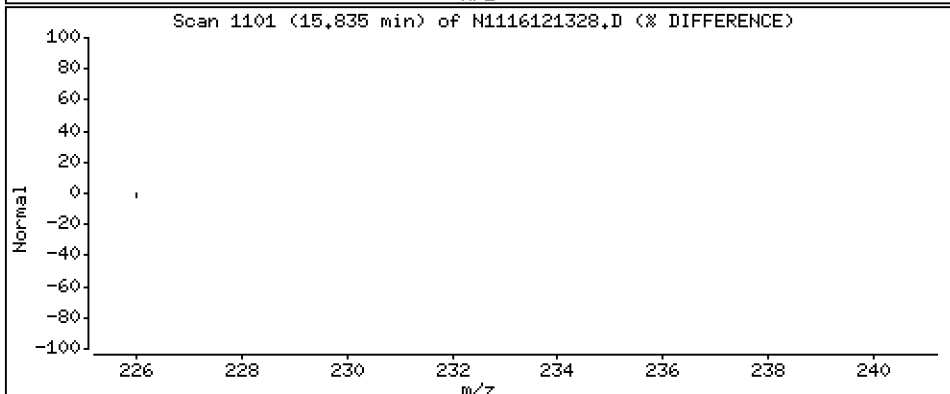
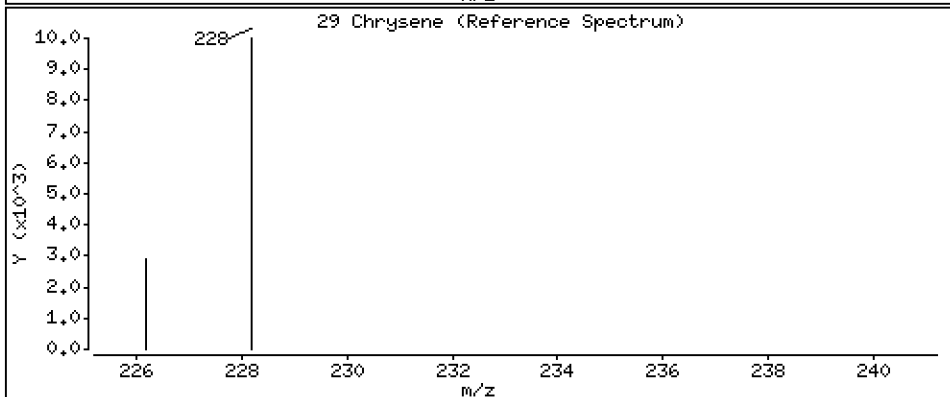
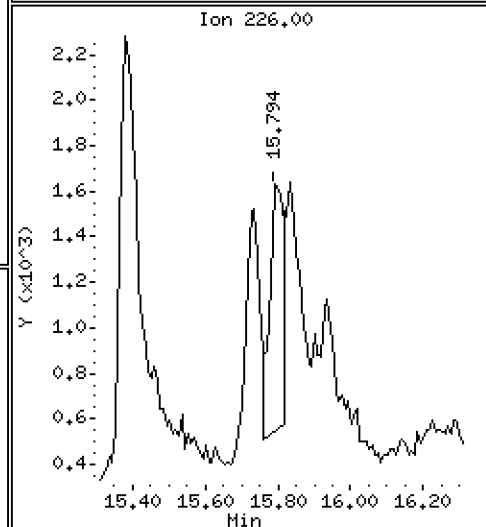
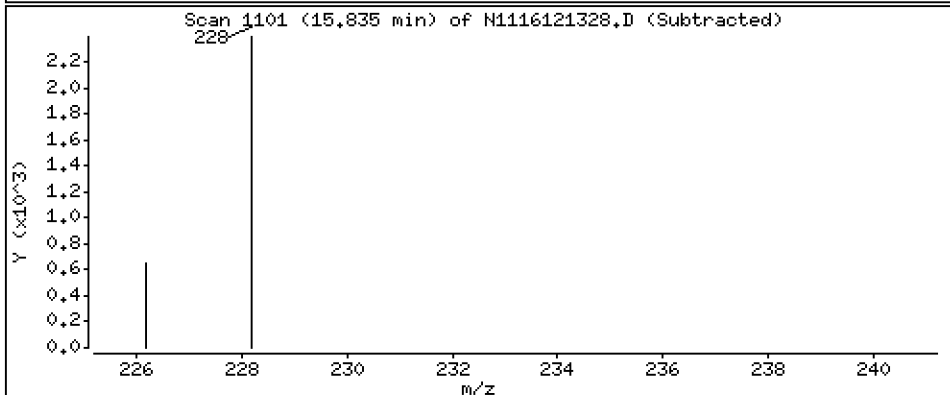
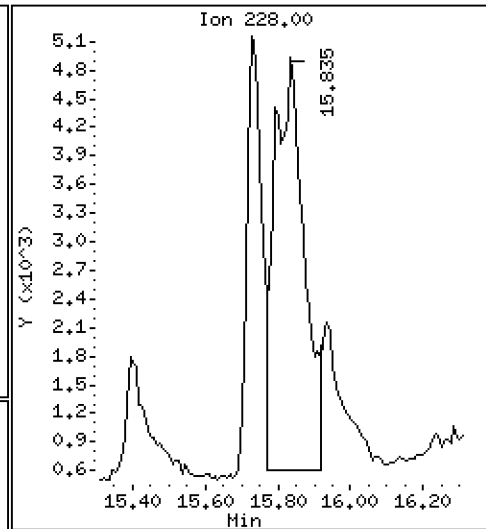
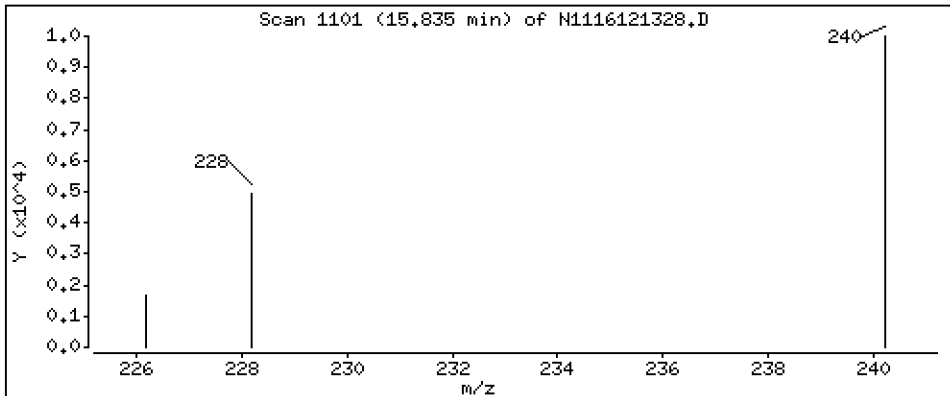
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 84,0 ng/mL

29 Chrysene



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161213.b\N1116121328.D
 Lab Smp Id: 16K0321-17
 Inj Date : 14-DEC-2016 01:17 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-17,5
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Meth Date : 16-Dec-2016 07:49 nt11.i Quant Type: ISTD
 Cal Date : 25-NOV-2016 10:20 Cal File: 16112510.D
 Als bottle: 23
 Dil Factor: 5.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		5.565	5.556	(1.000)	278895	200.000	
2 Naphthalene	128		5.601	5.583	(1.006)	23734	16.5518	82.8
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		6.579	6.516	(1.182)	17475	16.6198	83.1
5 2-Methylnaphthalene	142		6.621	6.568	(1.190)	17603	14.6217	73.1
6 1-Methylnaphthalene	142		6.820	6.810	(1.226)	16312	13.8147	69.1 (M)
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		7.535	7.493	(0.888)	12653	10.1195	50.6
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		8.483	8.483	(1.000)	155994	200.000	
12 Acenaphthene	153		8.547	8.547	(1.007)	76226	77.0899	385
13 Dibenzofuran	168		8.827	8.763	(1.040)	39637	28.2077	141
14 2,3,5-Trimethylnaphthalene	170		8.877	8.877	(1.046)	2885	3.30255	16.5 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		9.383	9.370	(1.106)	82101	75.6260	378
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		11.121	11.110	(1.000)	280070	200.000	
19 Phenanthrene	178		11.152	11.142	(1.003)	519842	309.004	1550 (M)
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		11.215	11.205	(1.009)	161931	102.290	511 (M)
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		12.153	12.135	(1.093)	39843	26.8783	134 (M)
\$ 24 Fluoranthene-d10	212		13.180	13.161	(1.185)	47197	37.7523	189
25 Fluoranthene	202		13.200	13.190	(1.187)	439068	268.975	1340
26 Pyrene	202		13.670	13.670	(0.867)	281485	180.007	900
27 Benzo(a)anthracene	228		15.727	15.677	(0.997)	13411	9.91093	49.6
* 28 Chrysene-d12	240		15.768	15.768	(1.000)	240343	200.000	
29 Chrysene	228		15.835	15.810	(1.004)	25203	16.7927	84.0 (M)
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		17.948	17.939	(0.986)	20013	17.0846	85.4
34 Benzo(e)pyrene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====
35 Benzo(a)pyrene	252				Compound Not Detected.		
* 36 Perylene-d12	264	18.198	18.198	(1.000)	243079	200.000	
37 Perylene	252				Compound Not Detected.		
\$ 38 Dibenzo(a,h)anthracene-d14	292	19.925	19.891	(1.095)	23385	28.7208	144
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 13-DEC-2016
 Lab File ID: N1116121328.D Calibration Time: 15:08
 Lab Smp Id: 16K0321-17
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161213.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	493555	246778	987110	278895	-43.49
11 Acenaphthene-d10	240770	120385	481540	155994	-35.21
18 Phenanthrene-d10	429271	214636	858542	280070	-34.76
28 Chrysene-d12	387691	193846	775382	240343	-38.01
36 Perylene-d12	386259	193130	772518	243079	-37.07

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	5.56	5.06	6.06	5.57	0.16
11 Acenaphthene-d10	8.48	7.98	8.98	8.48	-0.00
18 Phenanthrene-d10	11.11	10.61	11.61	11.12	0.09
28 Chrysene-d12	15.77	15.27	16.27	15.77	-0.00
36 Perylene-d12	18.20	17.70	18.70	18.20	-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 - N1116121328.D

Lab ID: 16K0321-17

nt11.i, 20161213.b\lowsim.m, 14-DEC-2016 01:17

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

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

NONE

On Column LOD for nt11.i, 20161213.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

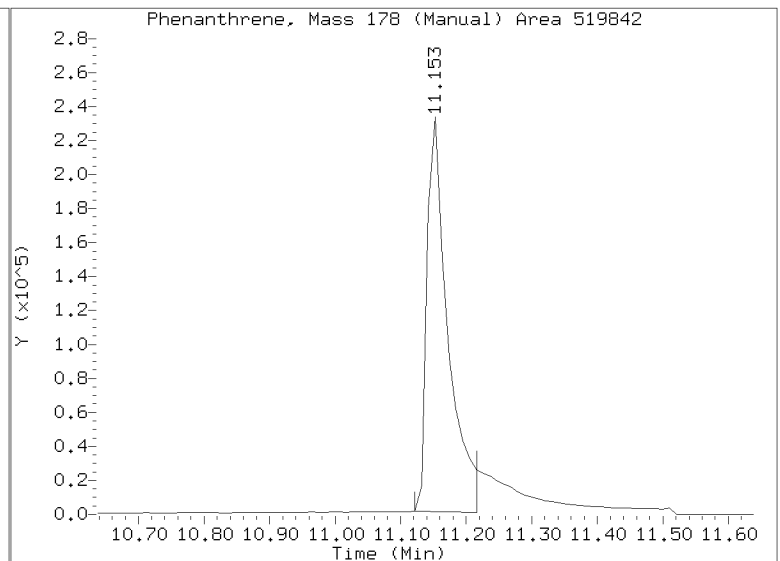
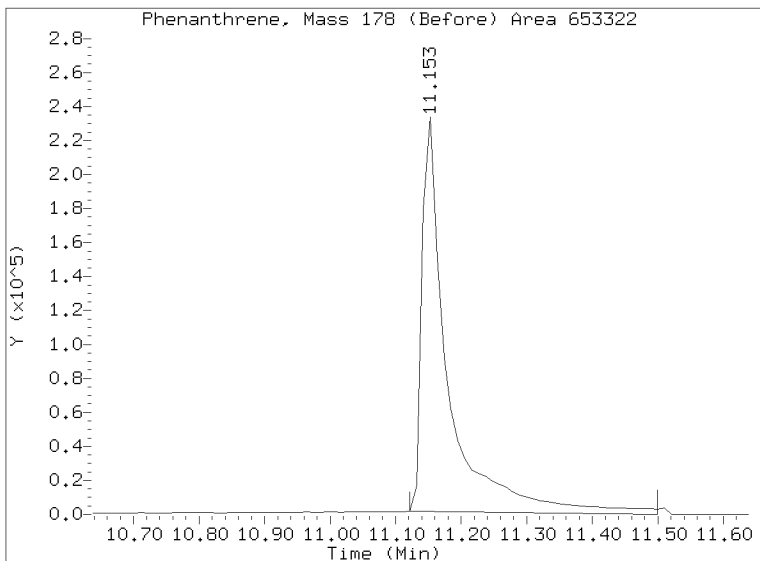
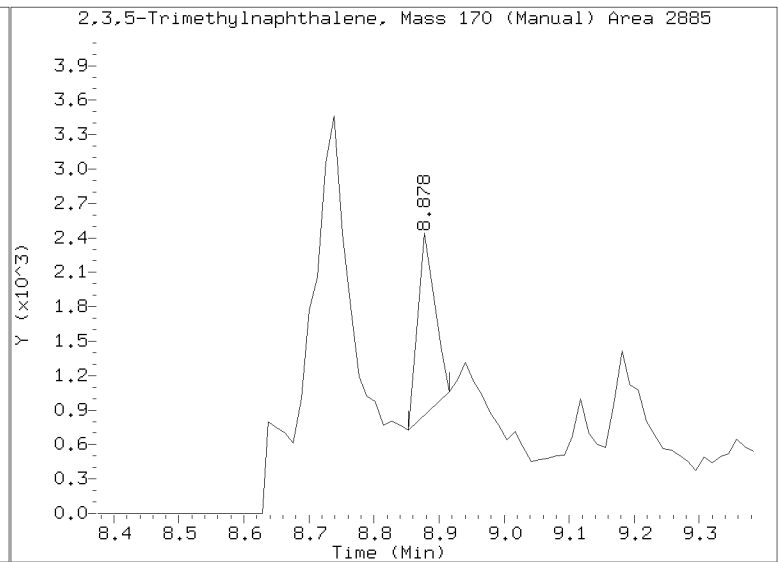
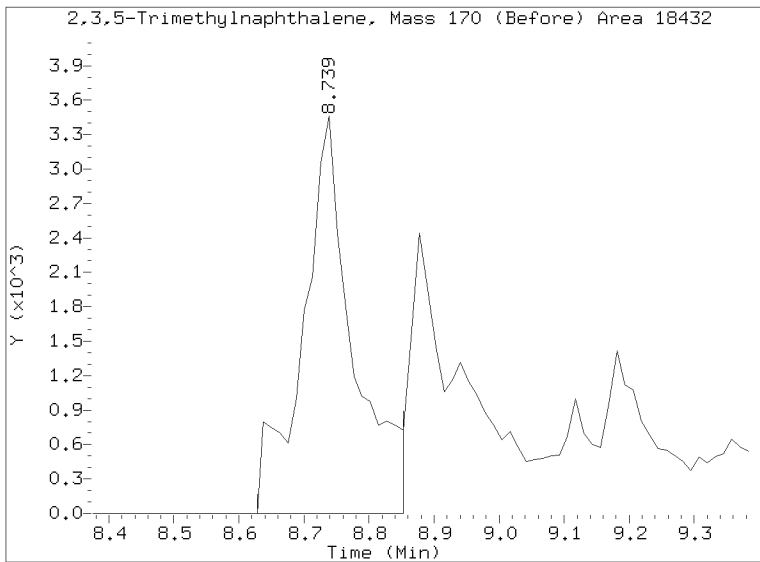
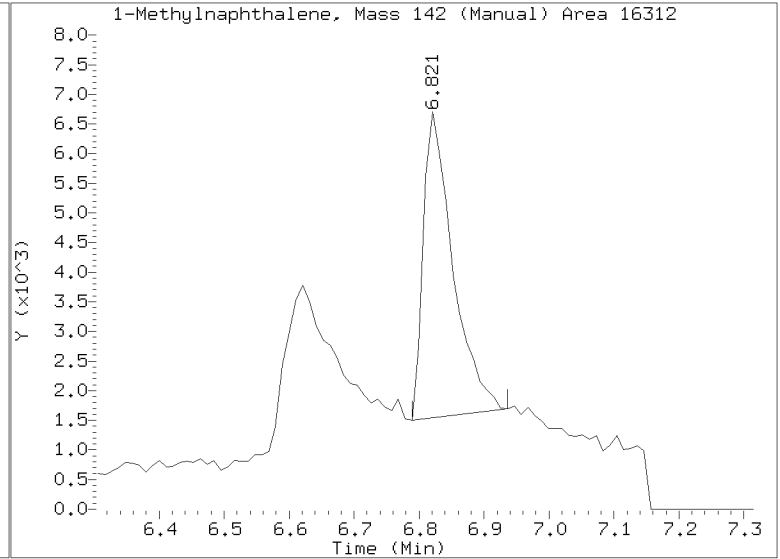
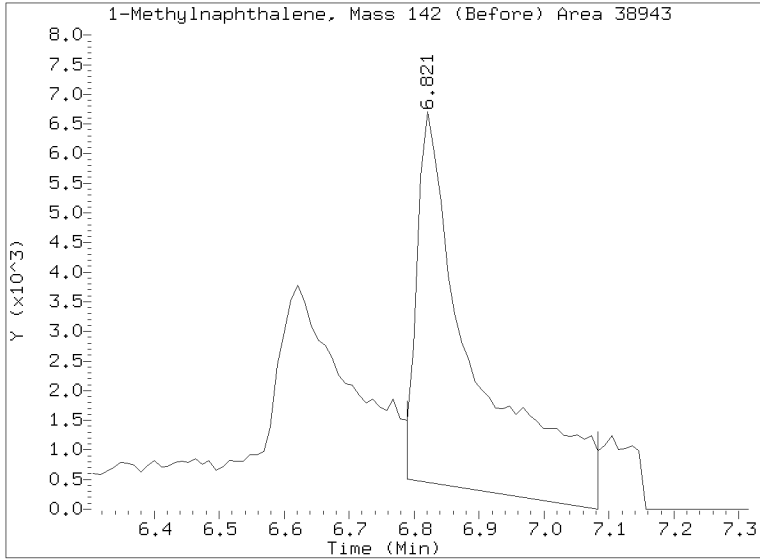
Quant Ion Manual Peak Adjustment Report

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Injection Date: 14-DEC-2016 01:17

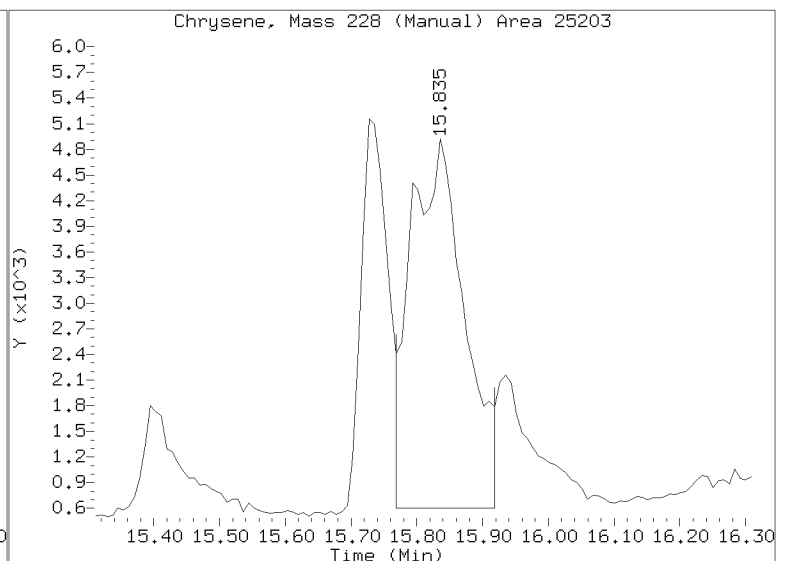
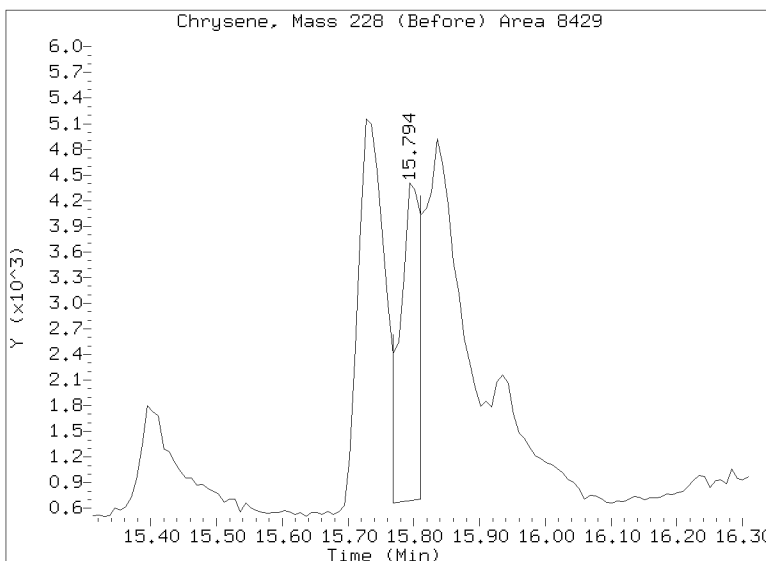
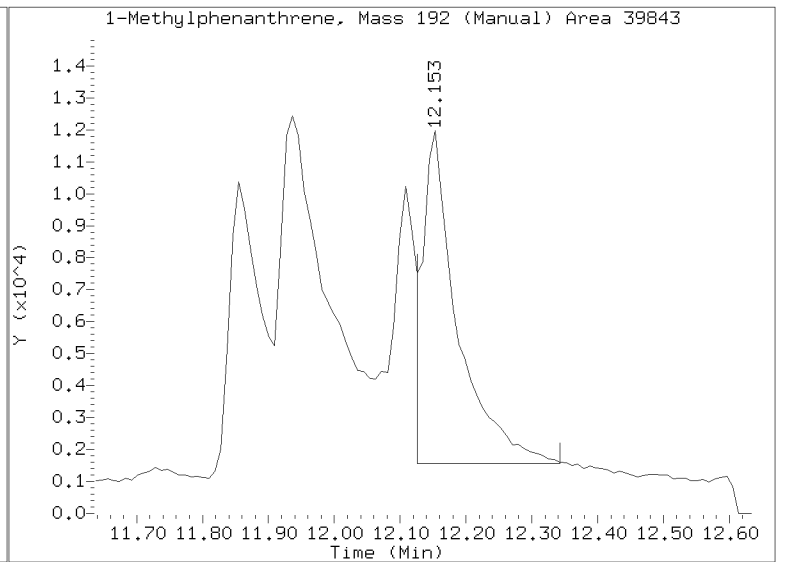
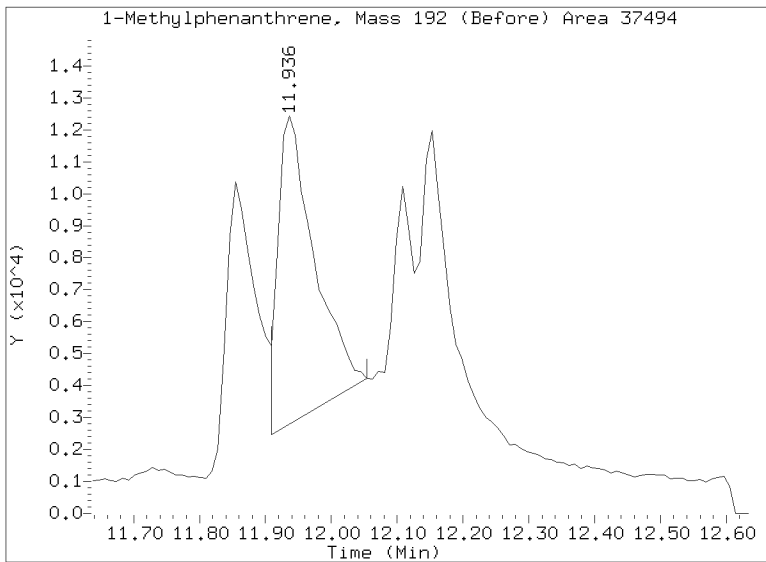
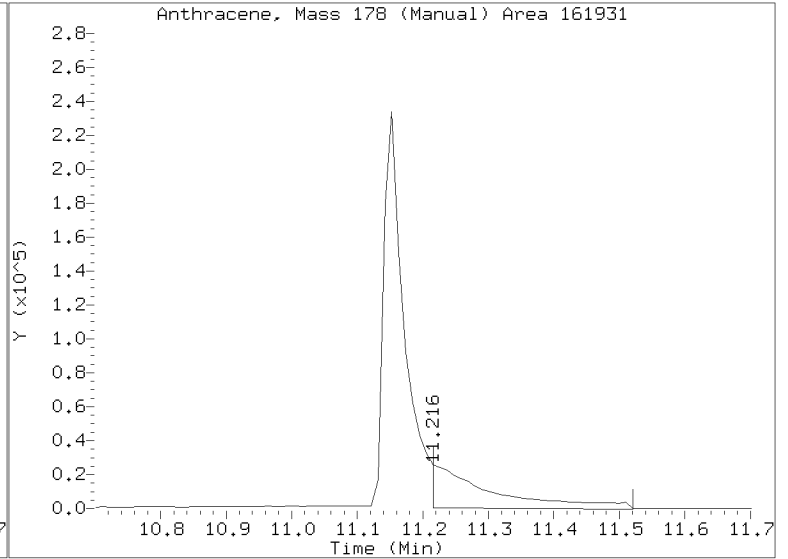
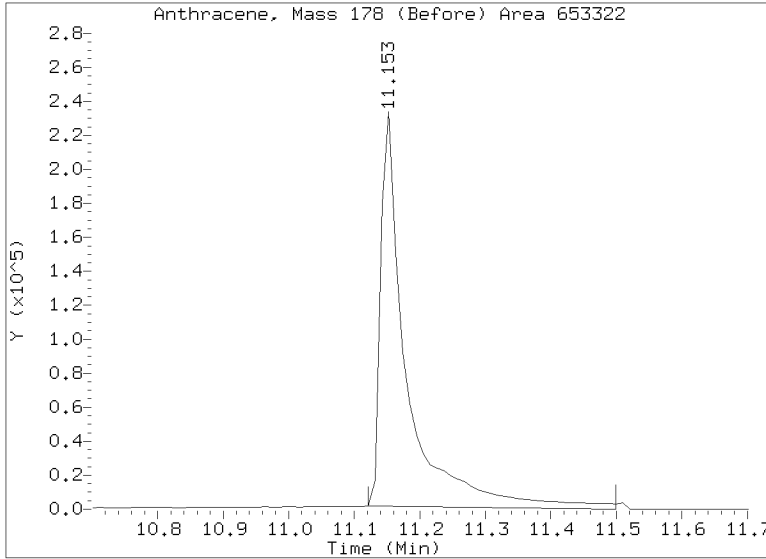
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Report Date: 12/16/2016 07:49



Quant Ion Manual Peak Adjustment Report

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Injection Date: 14-DEC-2016 01:17
Lab ID:16K0321-17 Client ID:
Report Date: 12/16/2016 07:49





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-19 File ID: N1116121706.D
 Sampled: 11/22/16 12:53 Prepared: 11/24/16 08:25 Analyzed: 12/17/16 14:44
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0658 Sequence: SEL0255 Calibration: ZL00052
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	9.31	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	24.8		1.13	1.13
208-96-8	Acenaphthylene	1	1.37		1.13	1.13
83-32-9	Acenaphthene	1	69.8		1.13	1.13
86-73-7	Fluorene	1	60.0		1.13	1.13
85-01-8	Phenanthrene	1	202	E	1.13	1.13
120-12-7	Anthracene	1	18.5		1.13	1.13
206-44-0	Fluoranthene	1	143	E	1.13	1.13
129-00-0	Pyrene	1	116	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	12.7		1.13	1.13
218-01-9	Chrysene	1	11.1		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	2.92		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.28		1.13	1.13
50-32-8	Benzo(a)pyrene	1	1.78		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	1.87		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	17.0	50.3	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	20.0	58.9	30 - 160	
Fluoranthene-d10	33.860	20.3	60.0	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	2.80	13.2	30 - 160	*
Benzo(e)pyrene-d12	21.163	13.6	64.2	30 - 160	

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Date: 17-DEC-2016 14:44

Client ID:

Sample Info: 16K0321-19

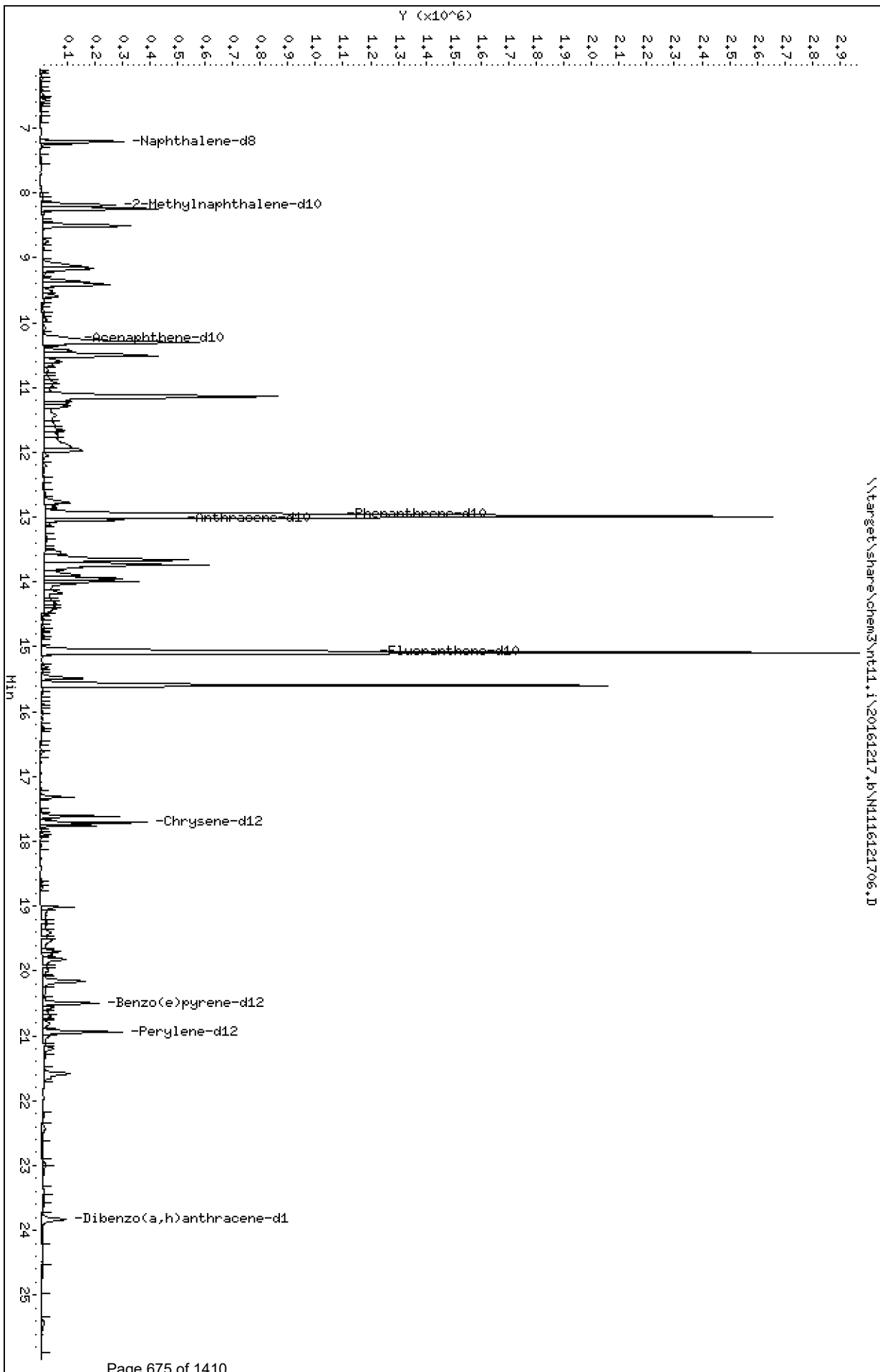
Column phase: Rxi-17Si11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

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Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

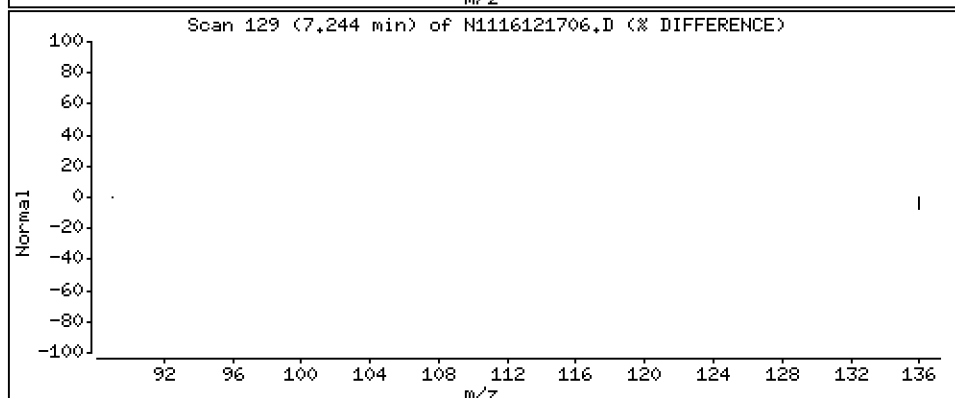
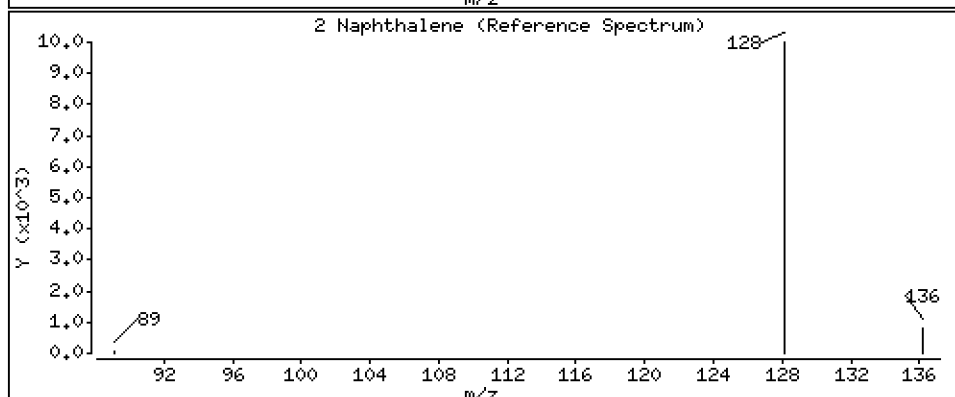
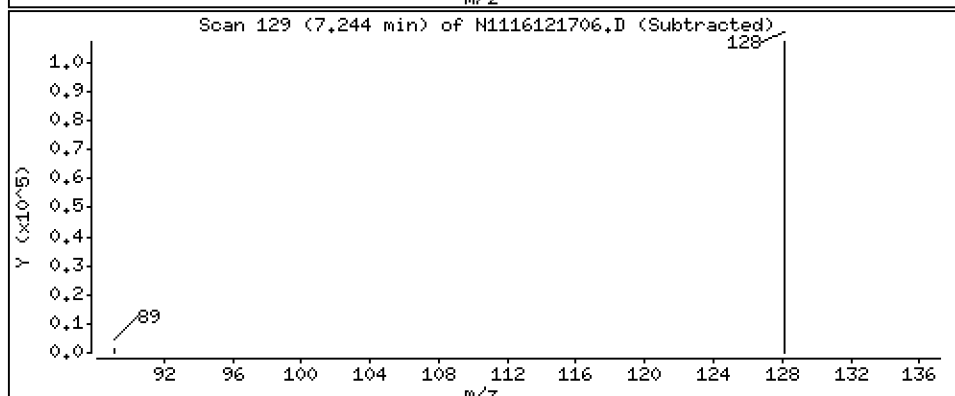
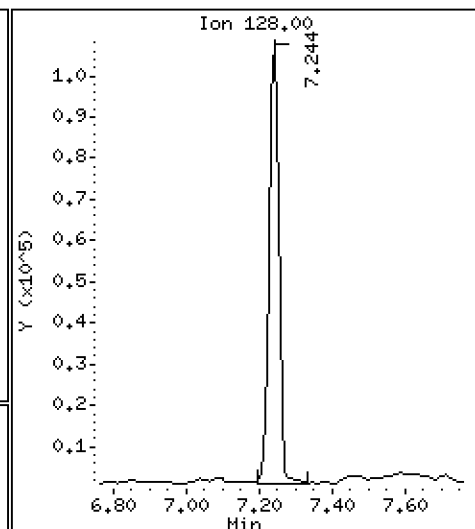
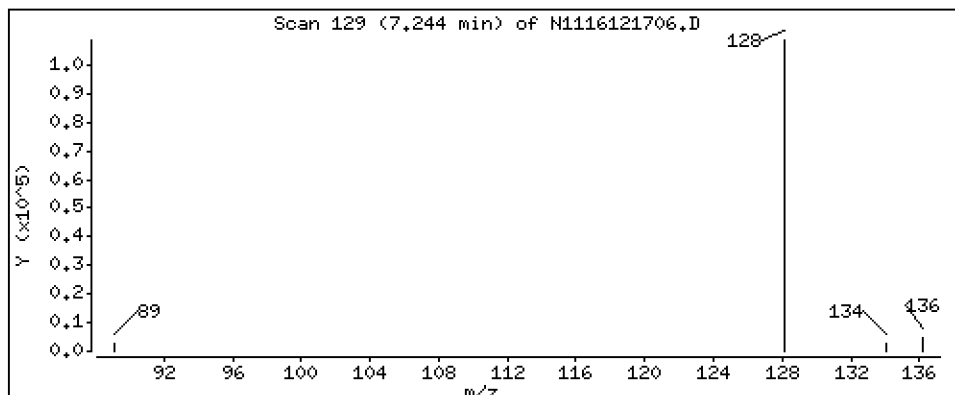
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 82,5 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

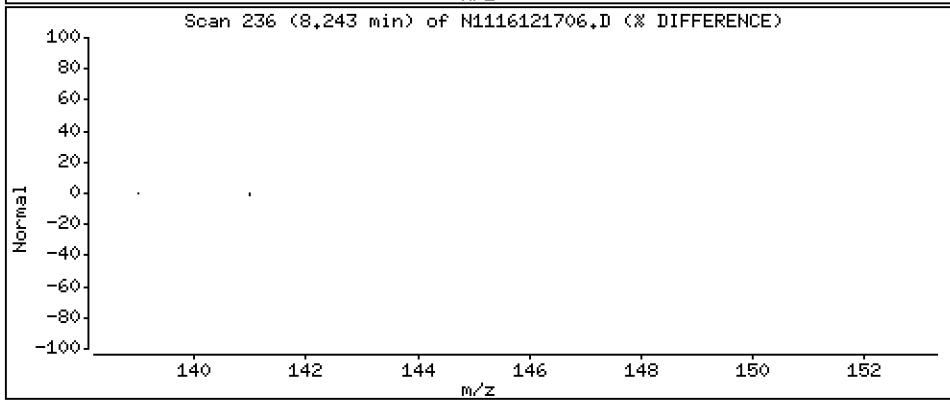
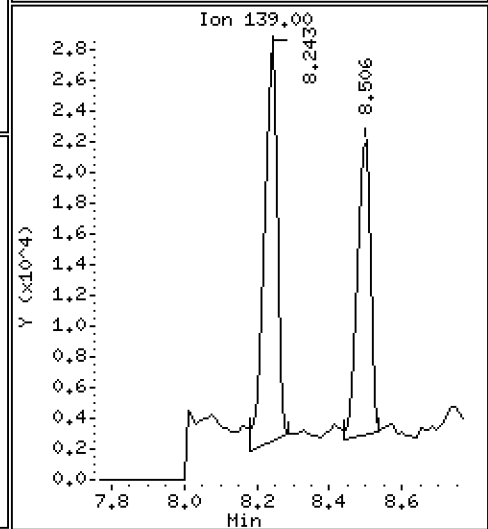
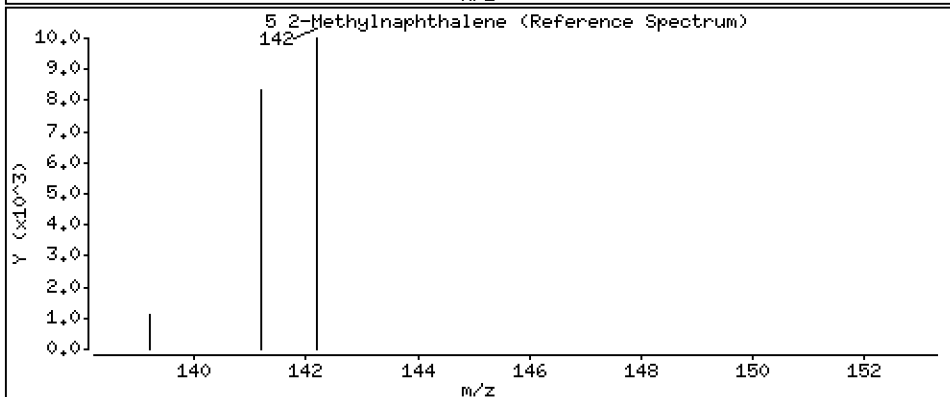
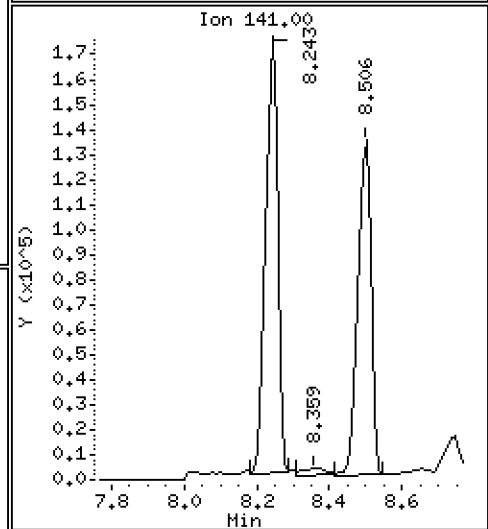
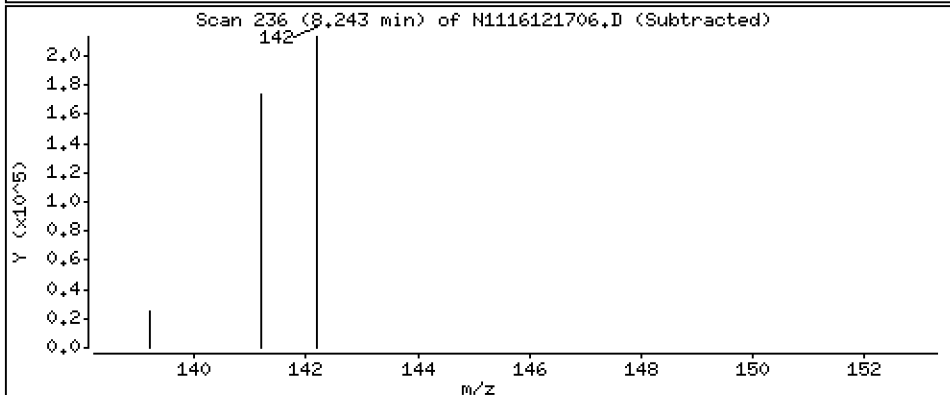
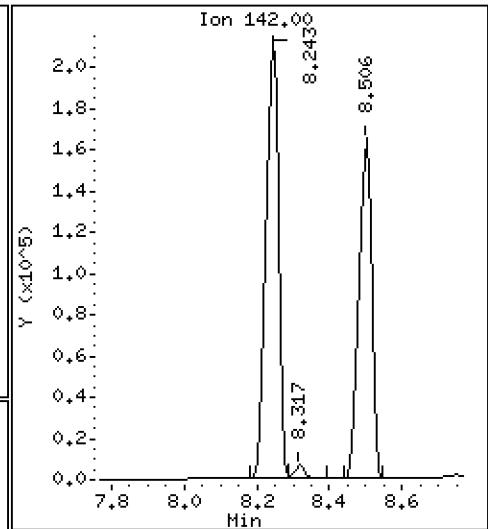
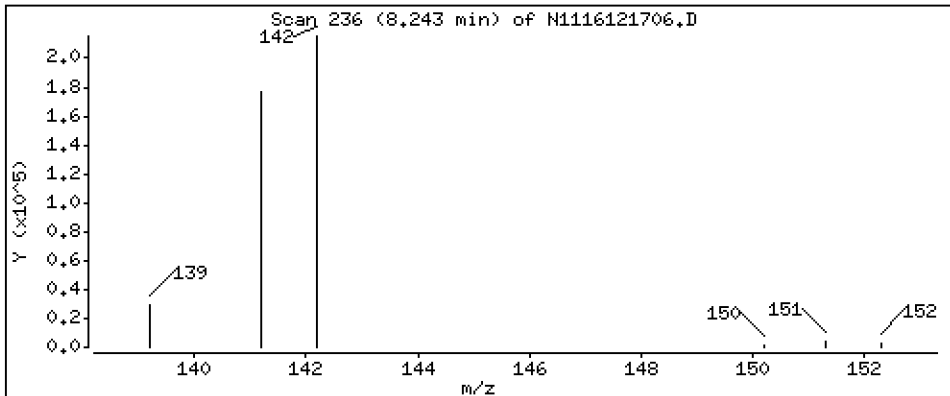
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 220 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

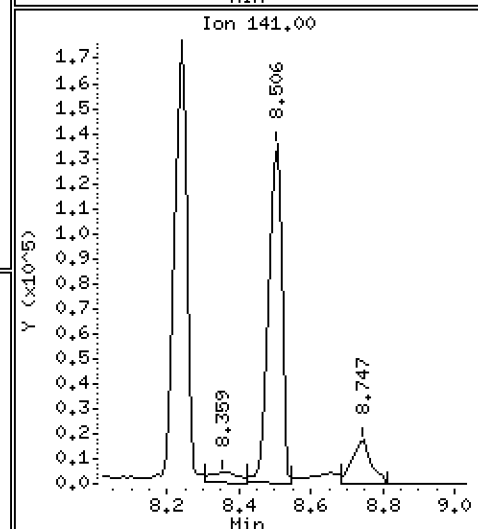
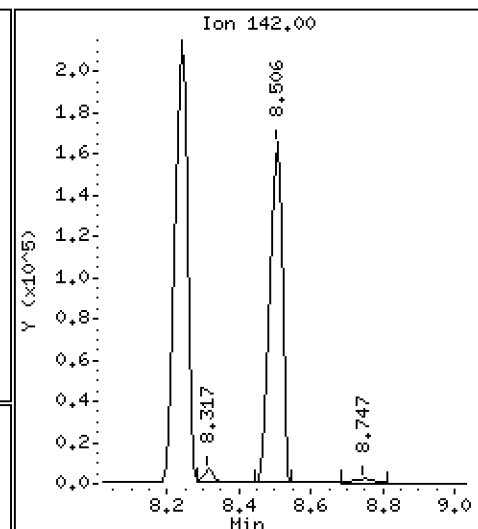
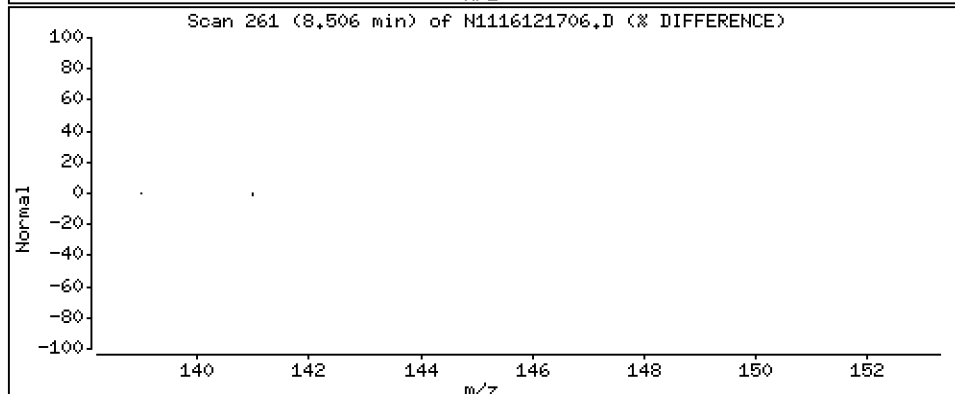
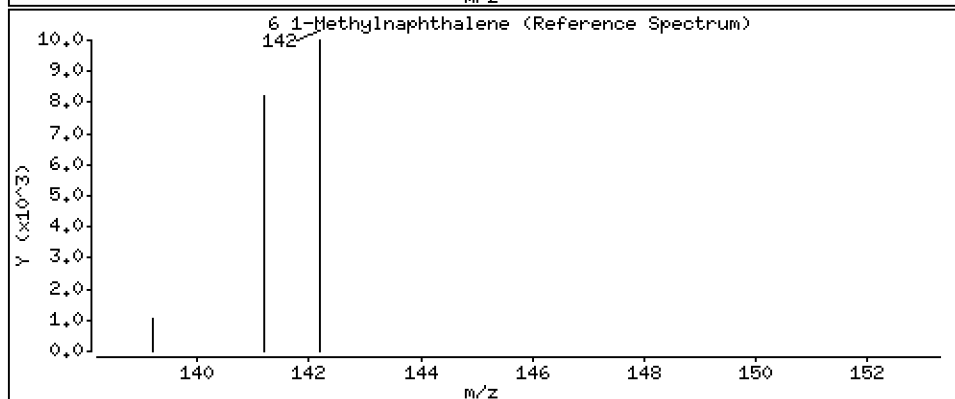
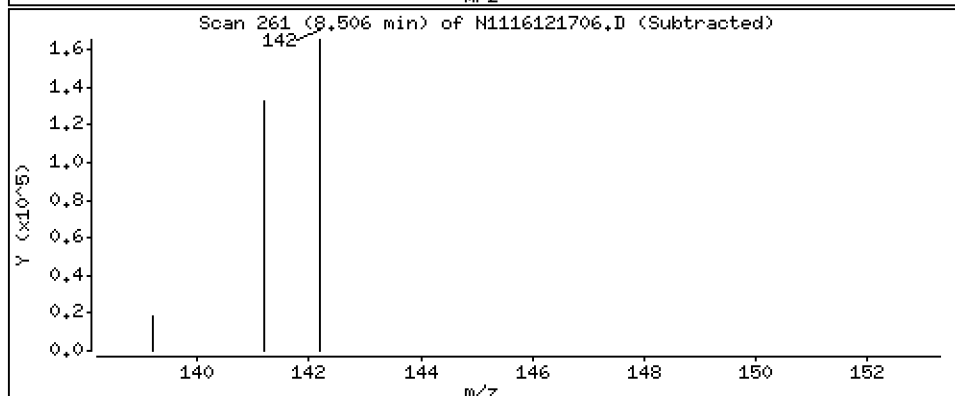
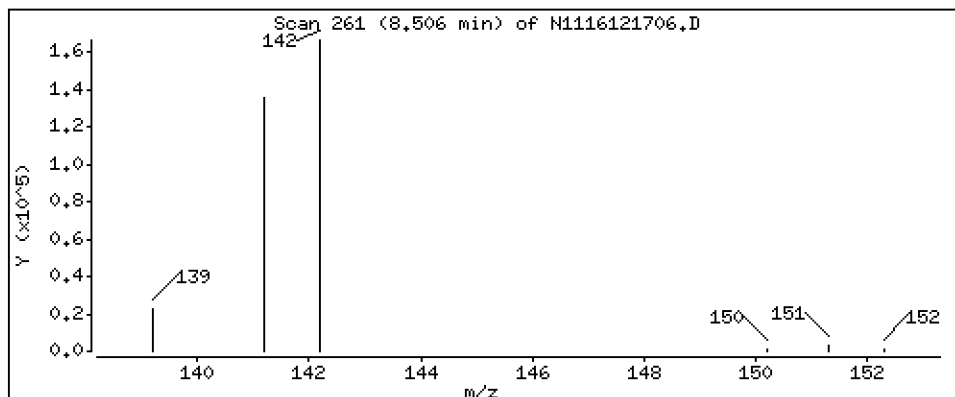
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 177 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

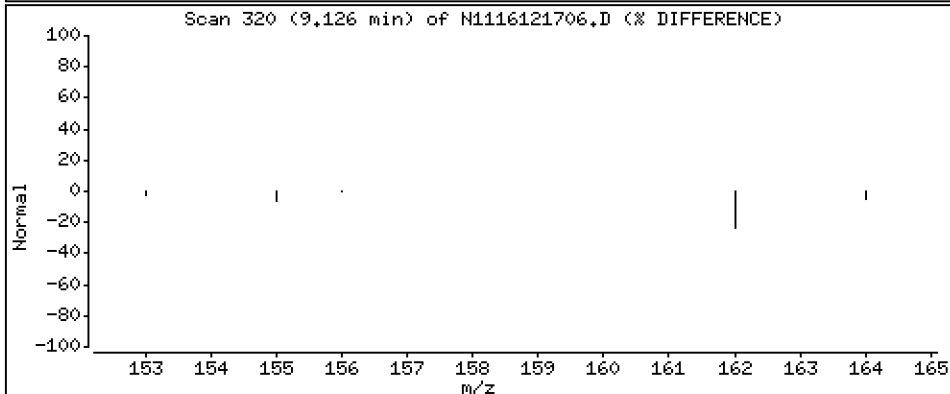
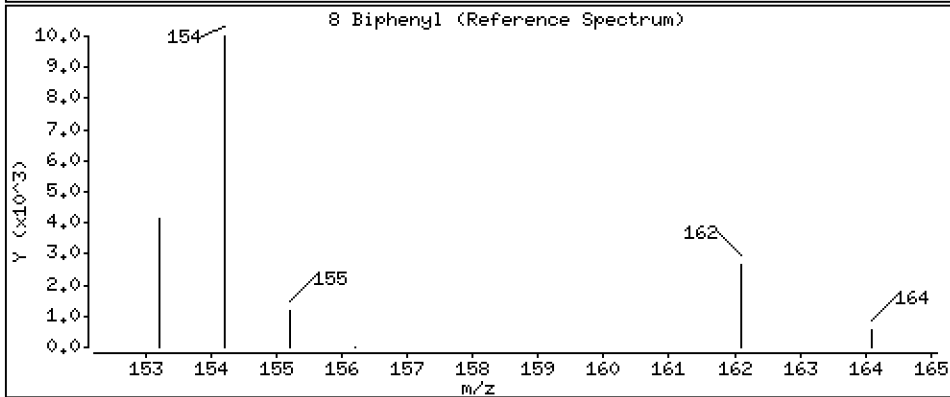
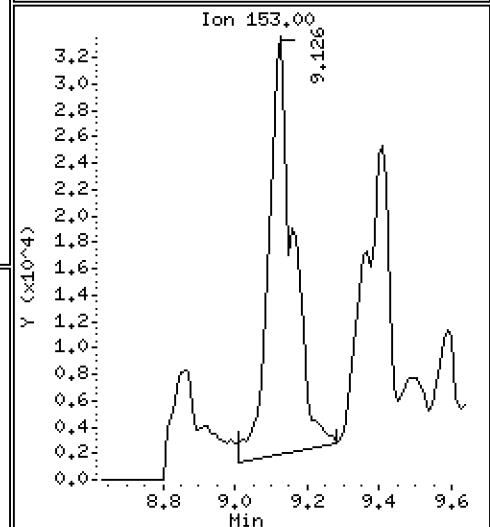
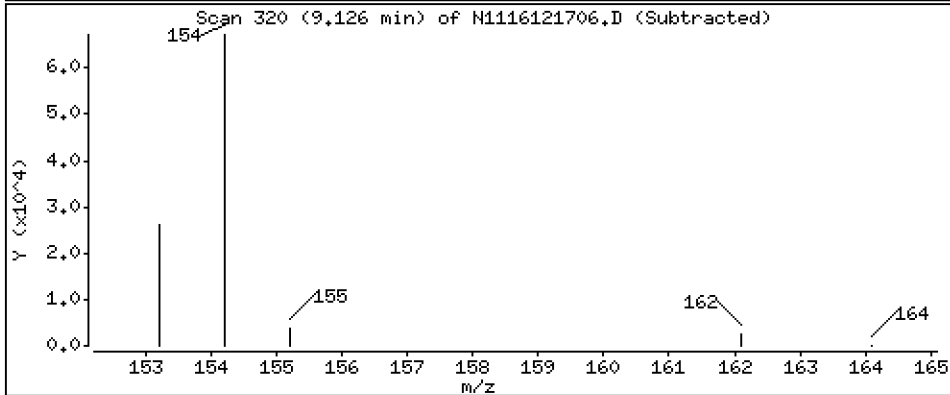
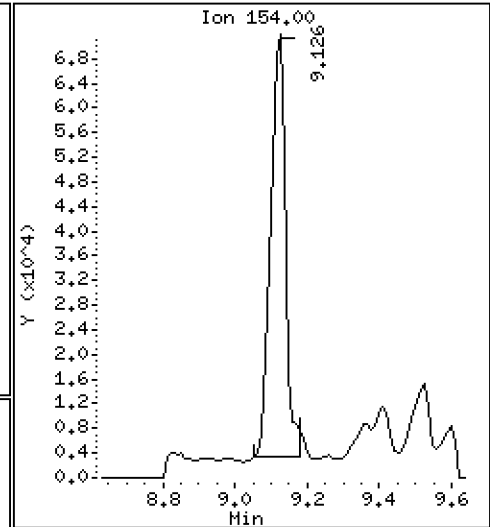
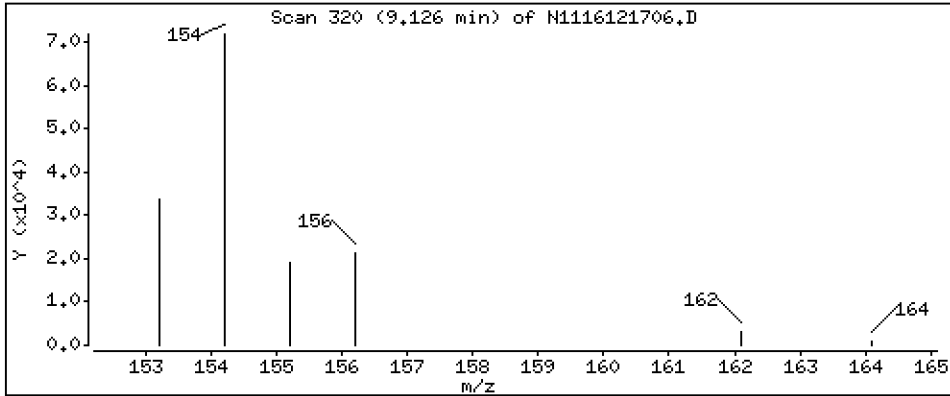
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 64,5 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

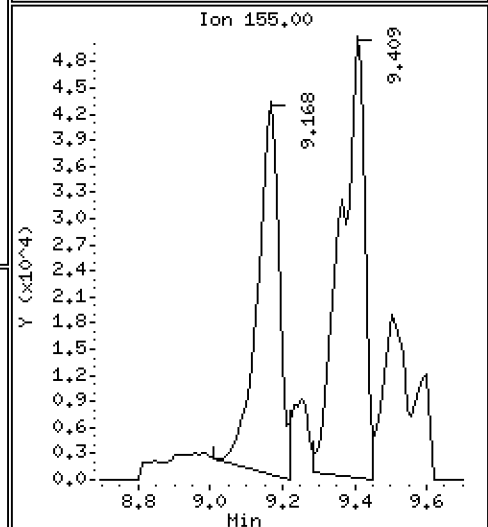
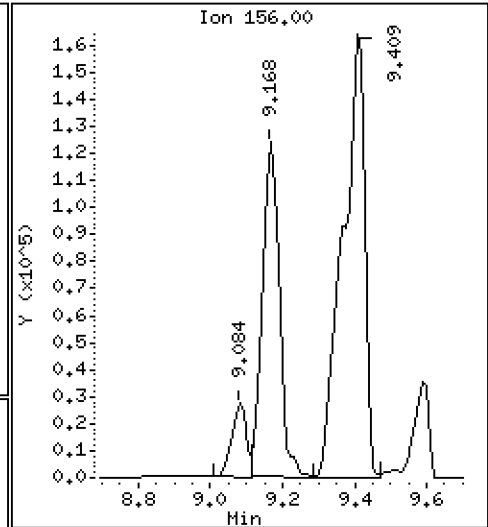
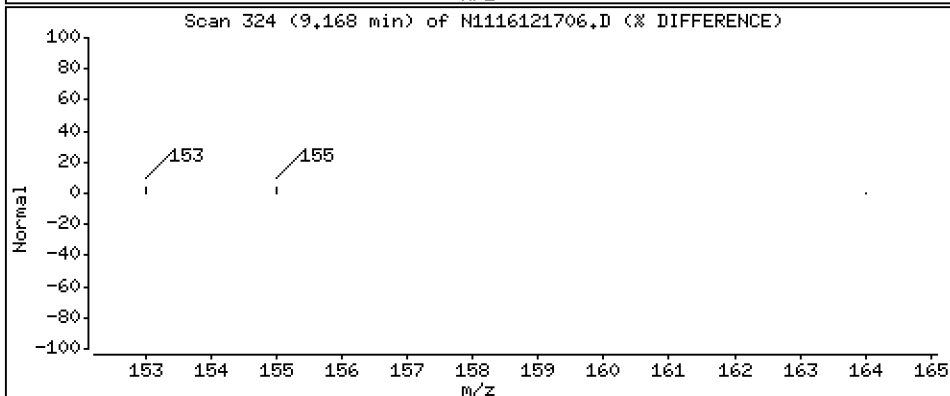
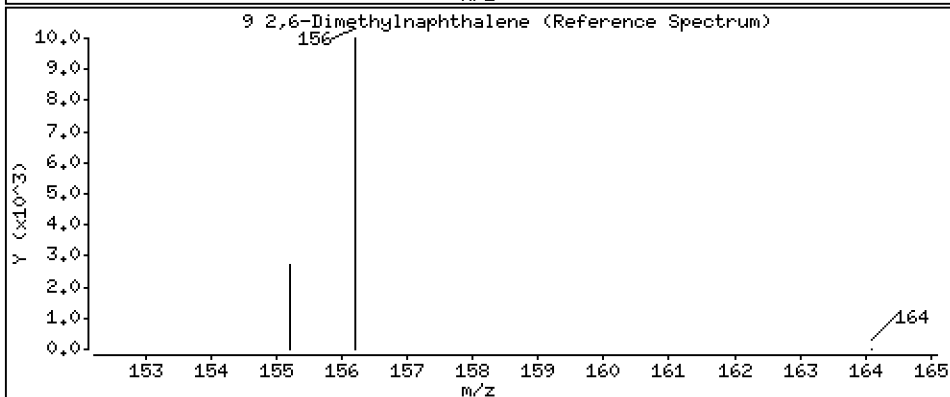
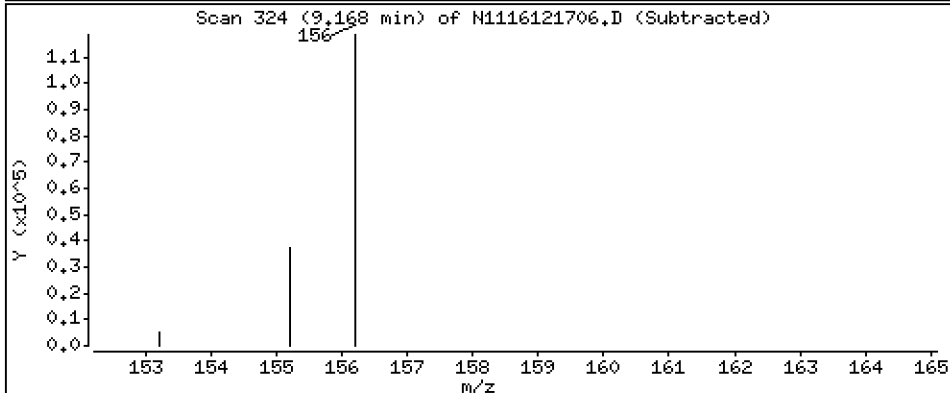
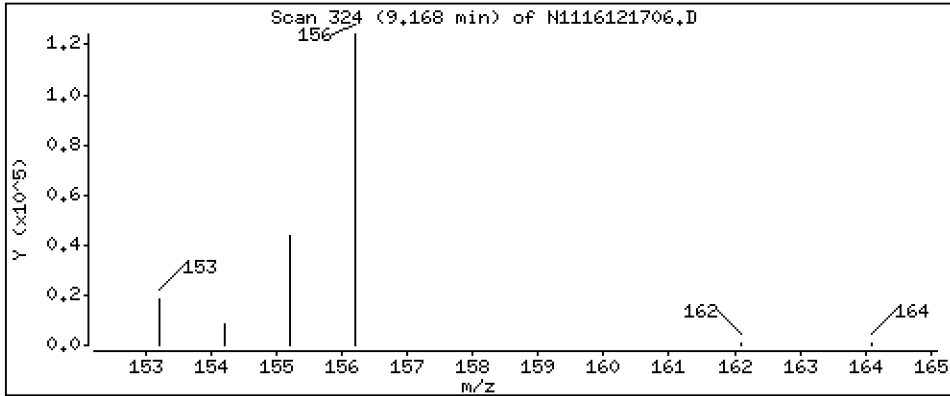
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 175 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

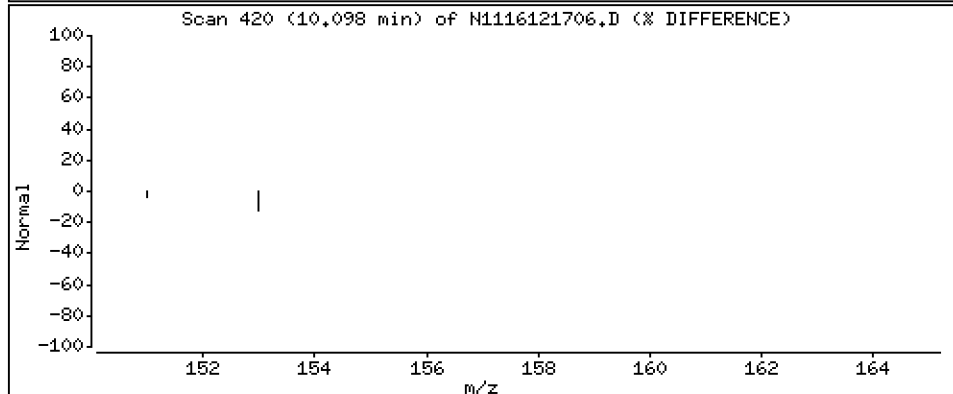
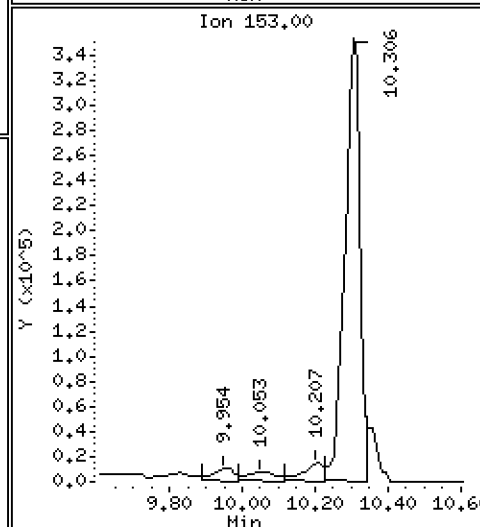
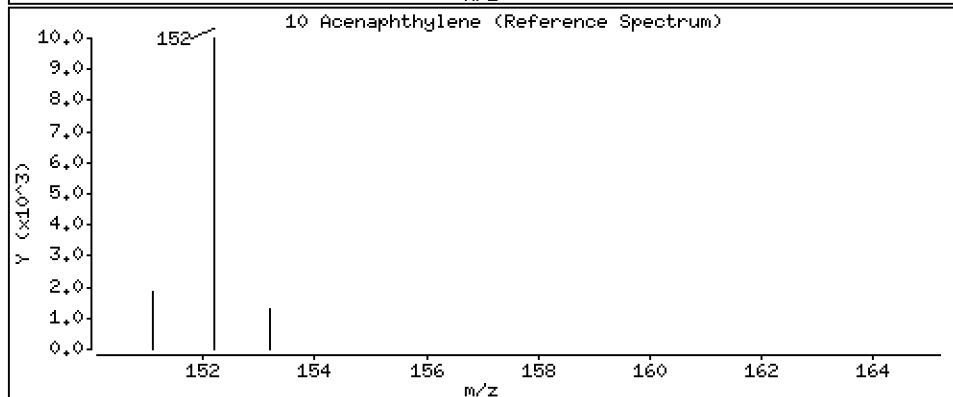
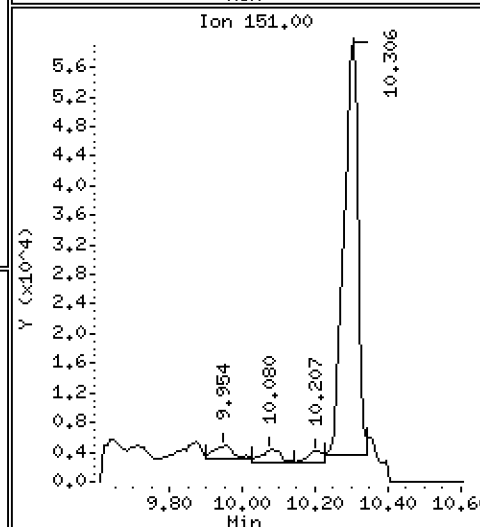
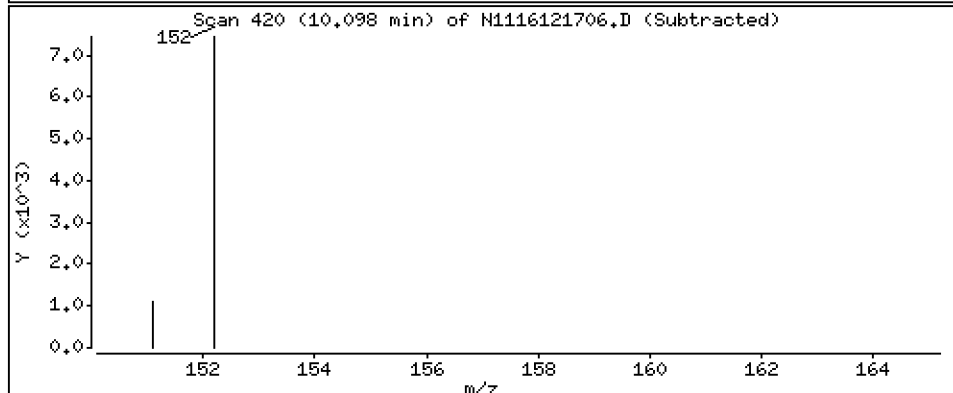
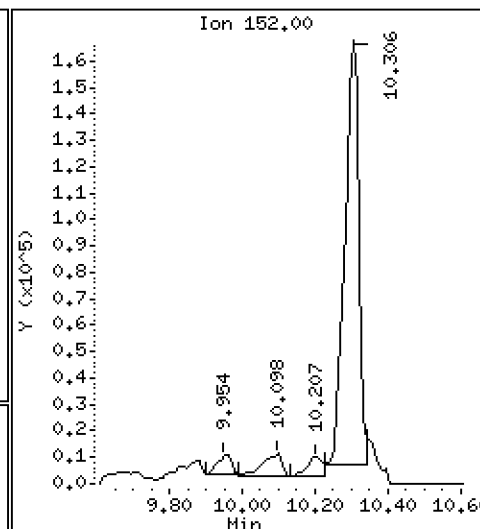
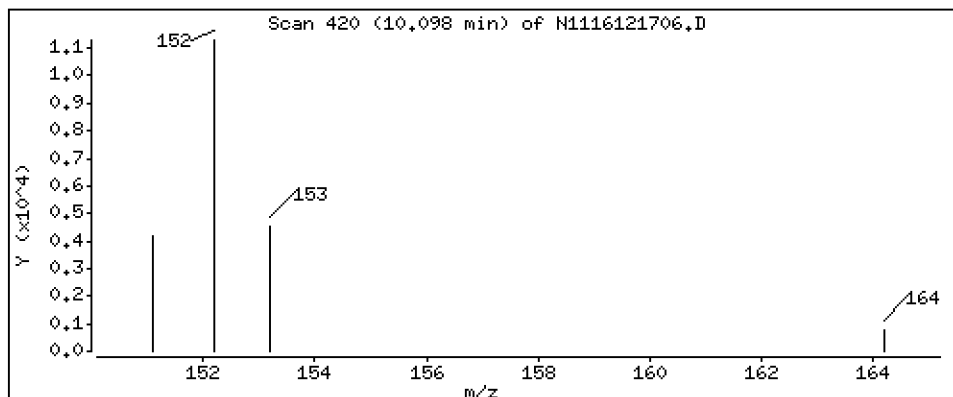
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 12,1 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

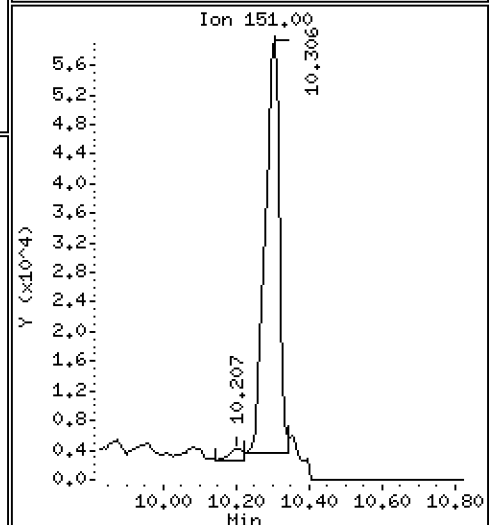
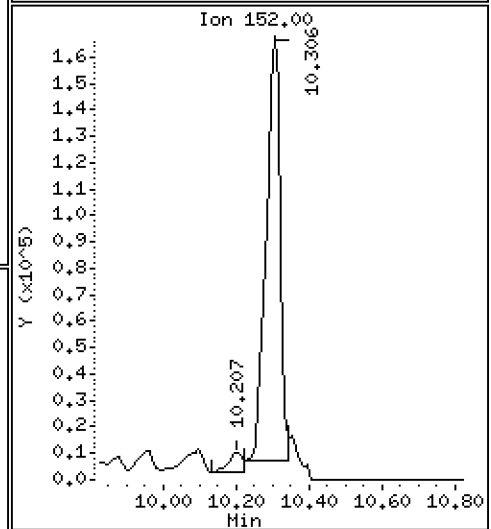
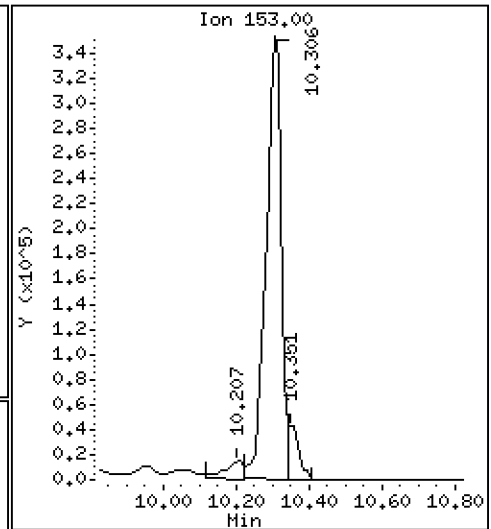
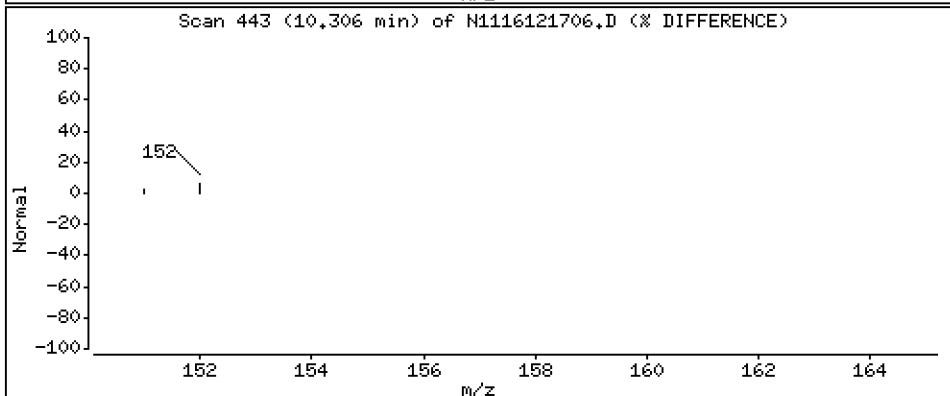
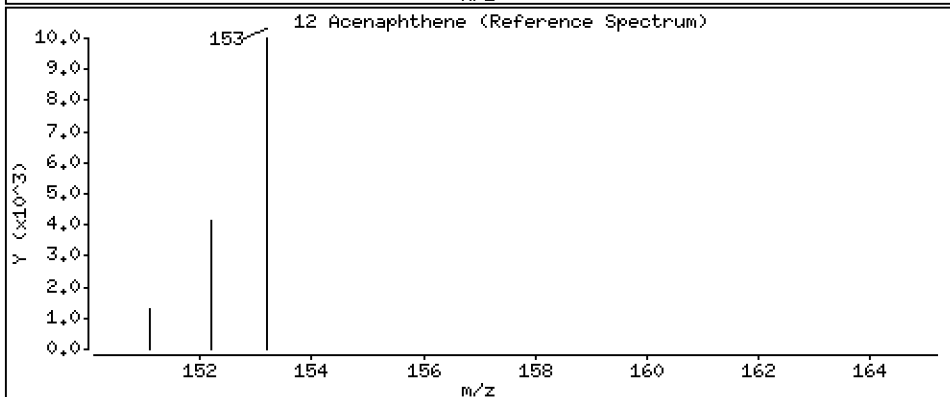
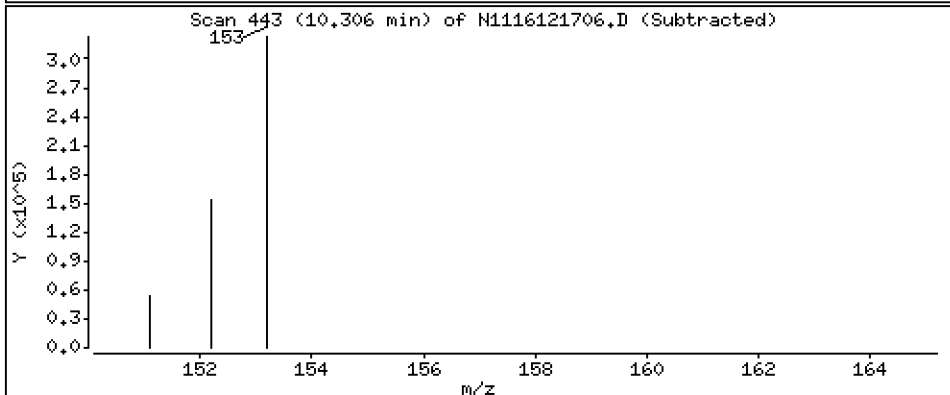
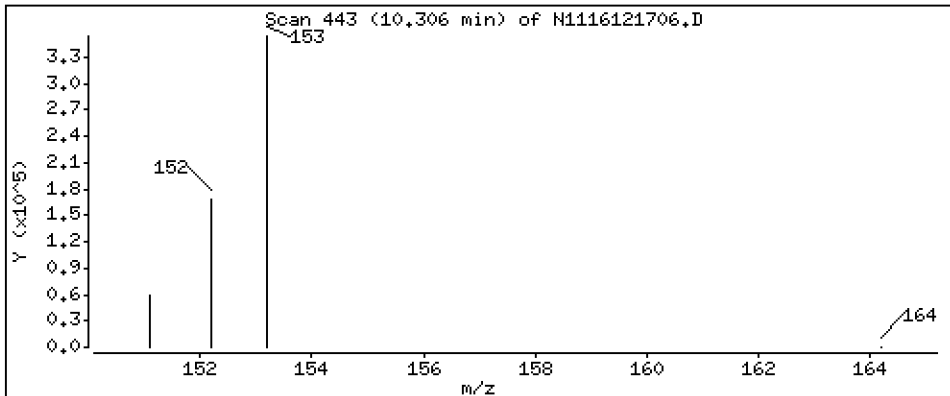
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 618 ng/mL

12 Acenaphthene



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

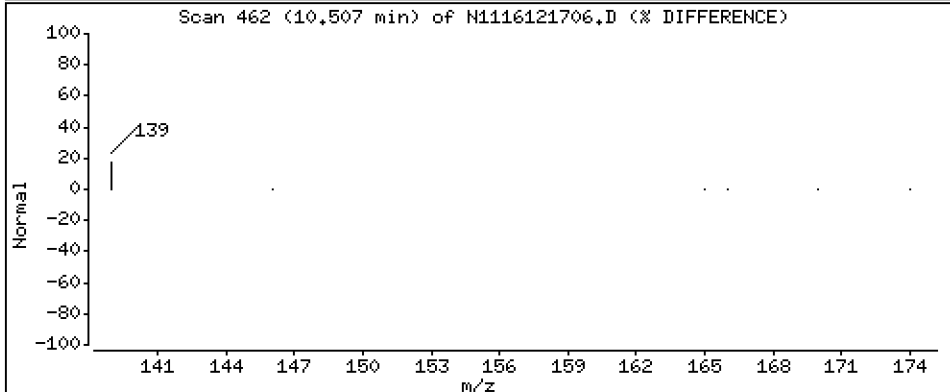
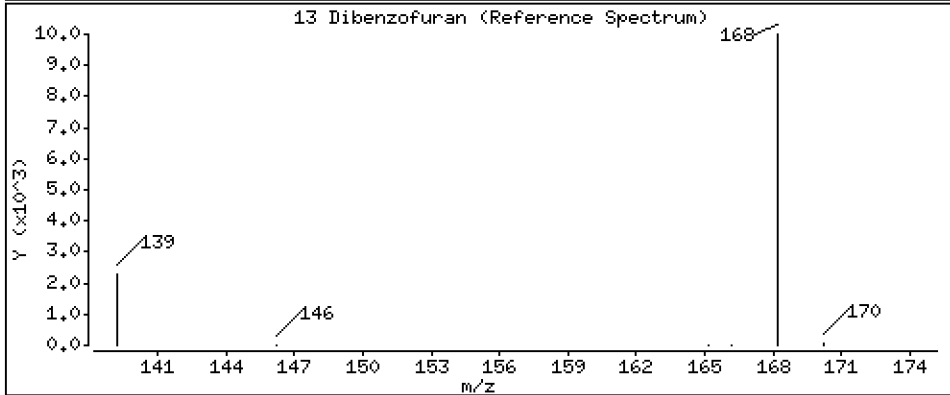
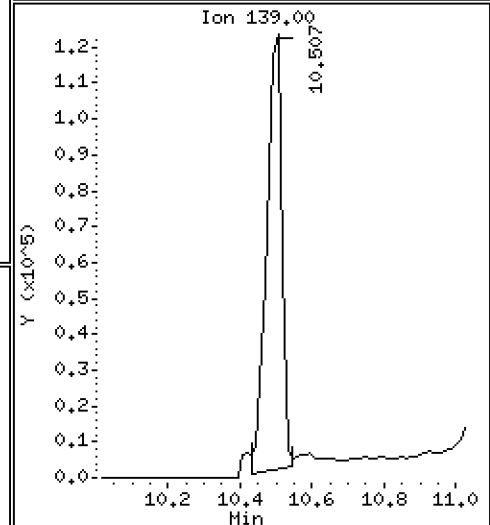
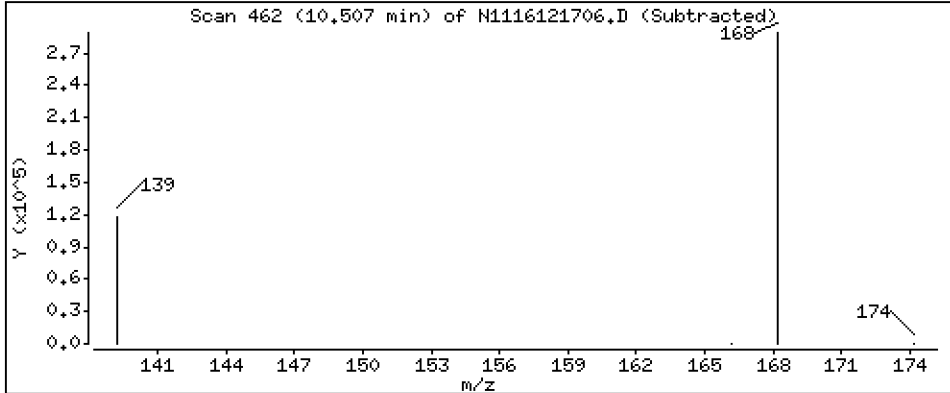
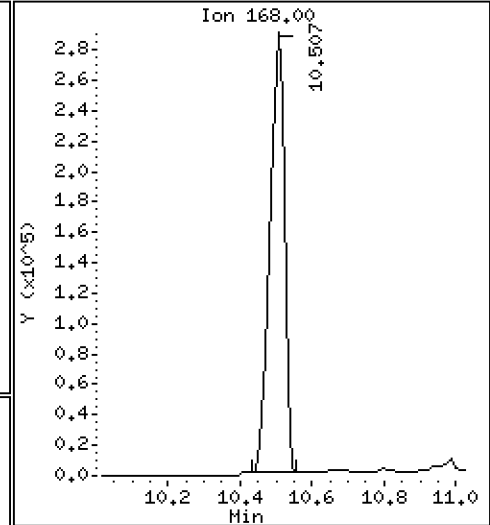
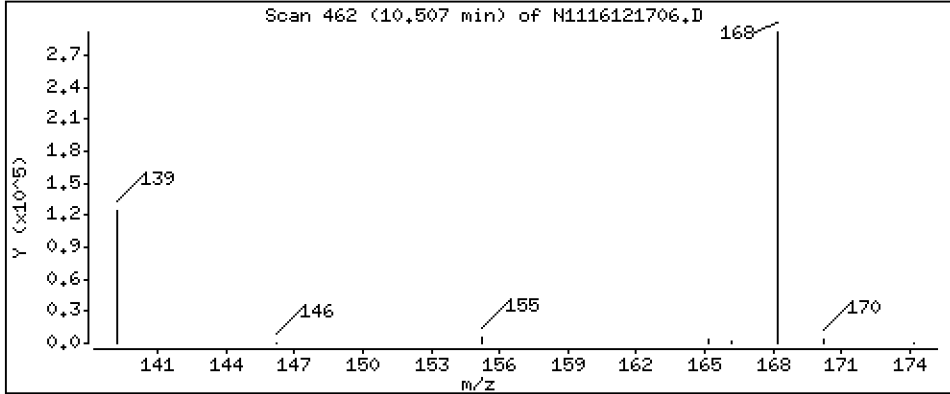
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 317 ng/mL

13 Dibenzofuran



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

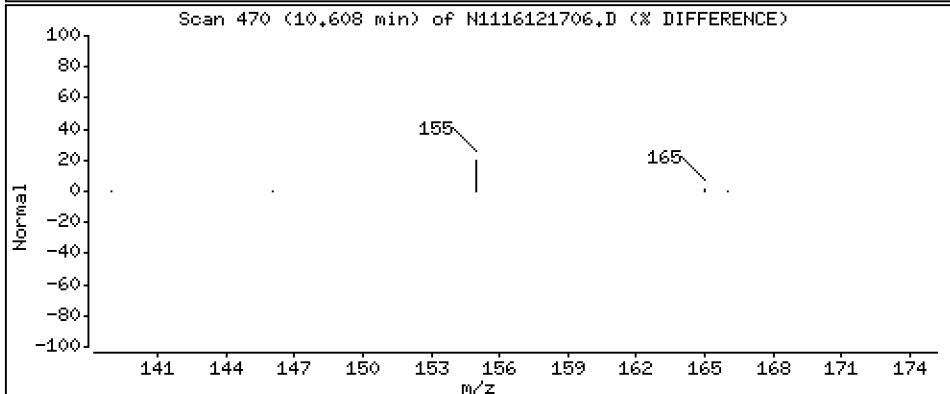
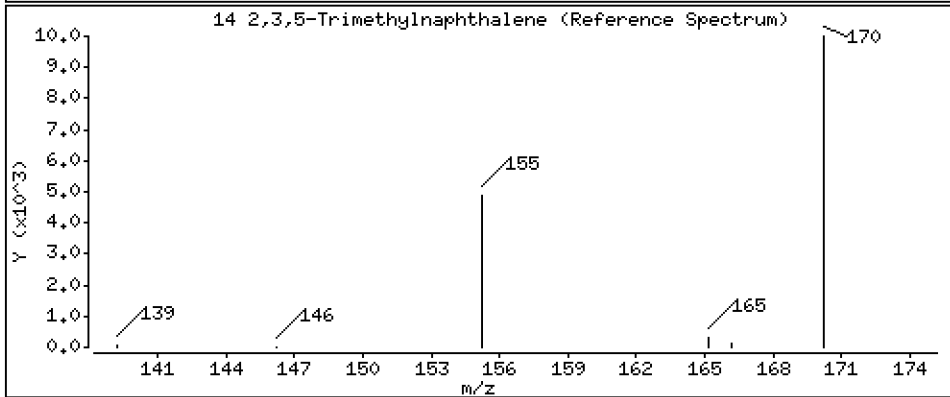
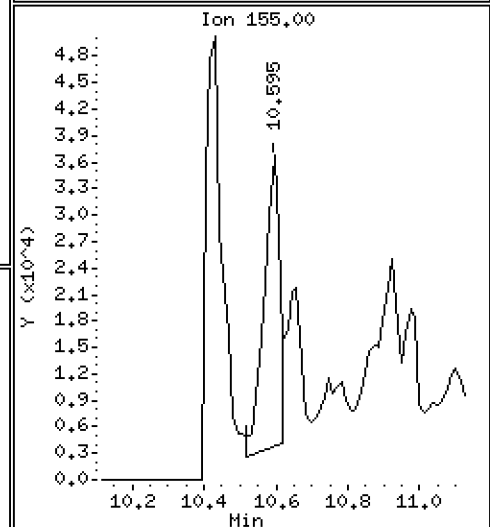
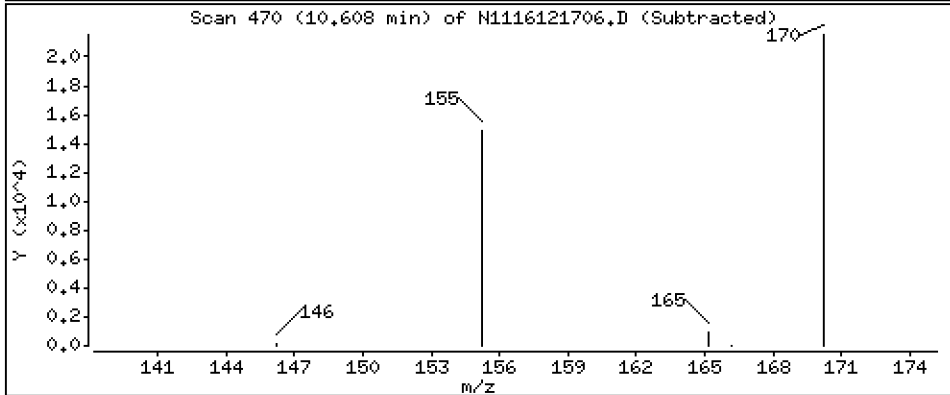
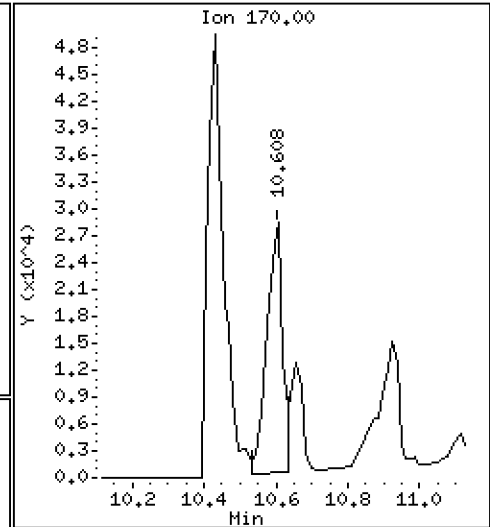
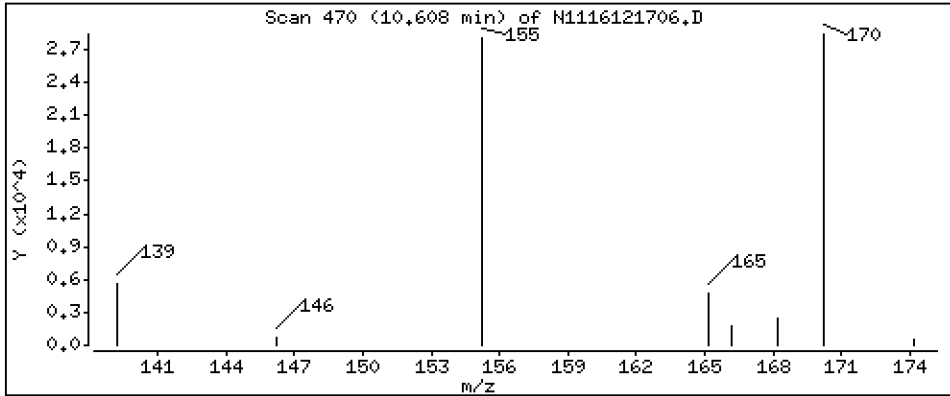
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 54.0 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

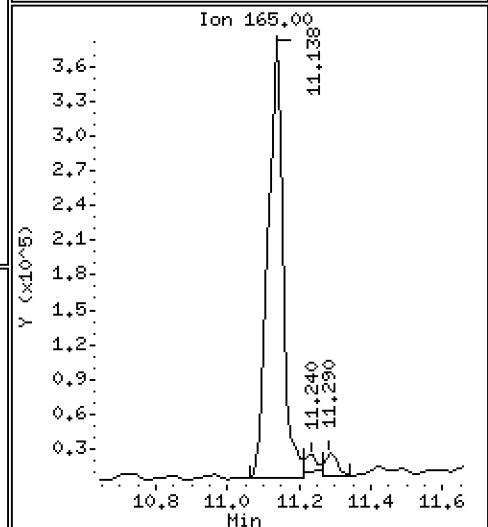
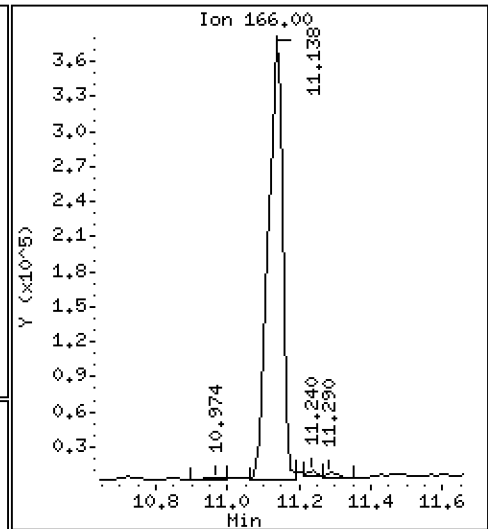
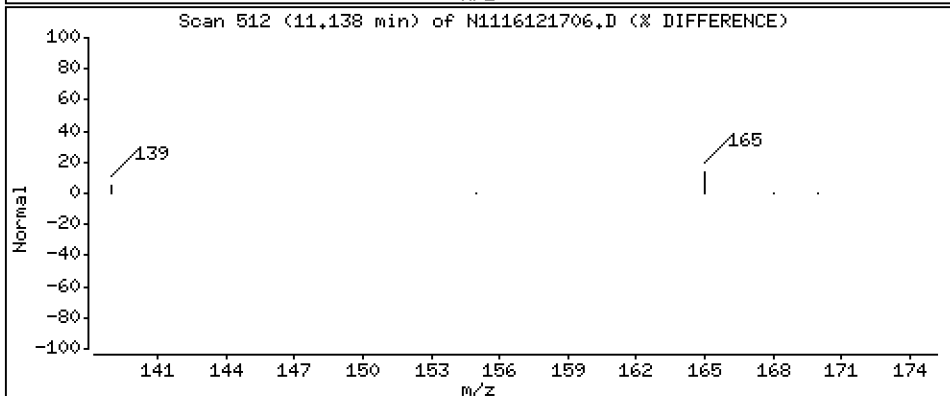
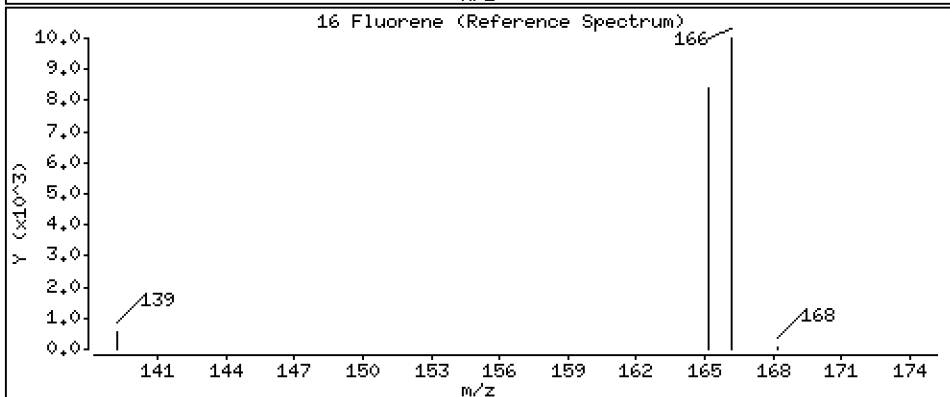
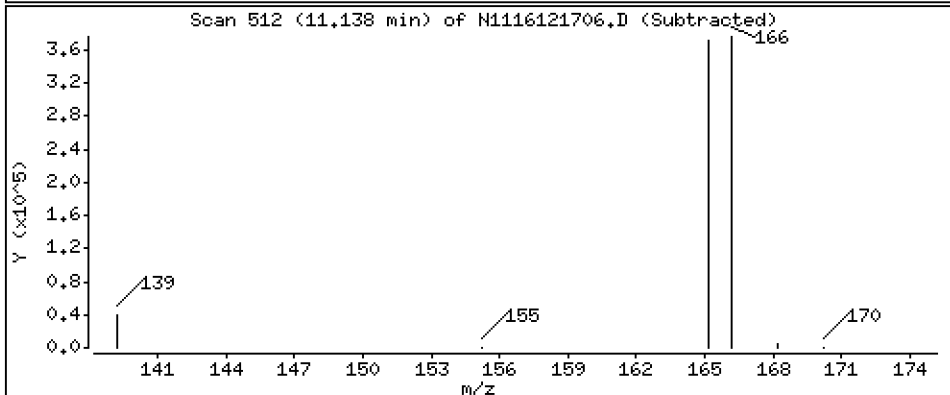
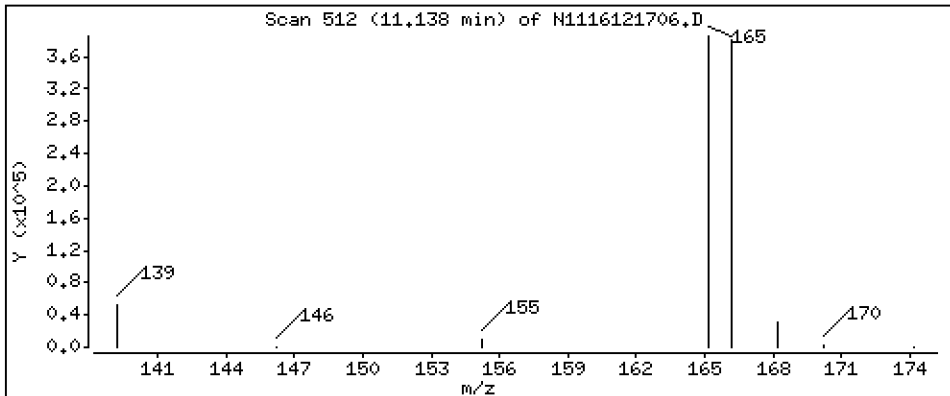
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 532 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

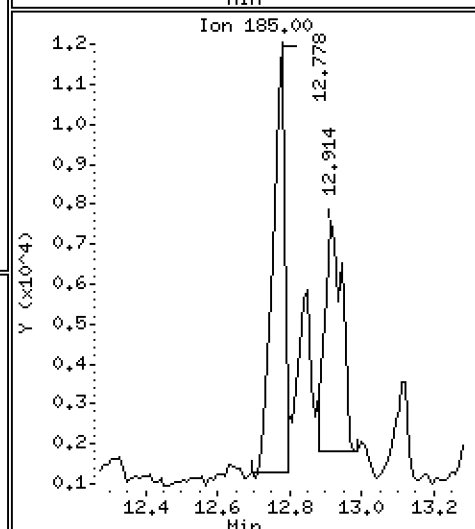
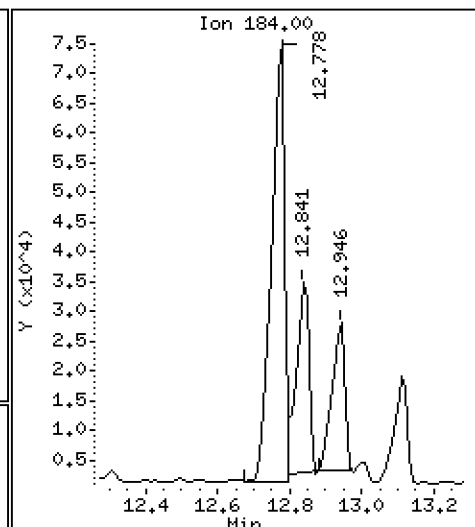
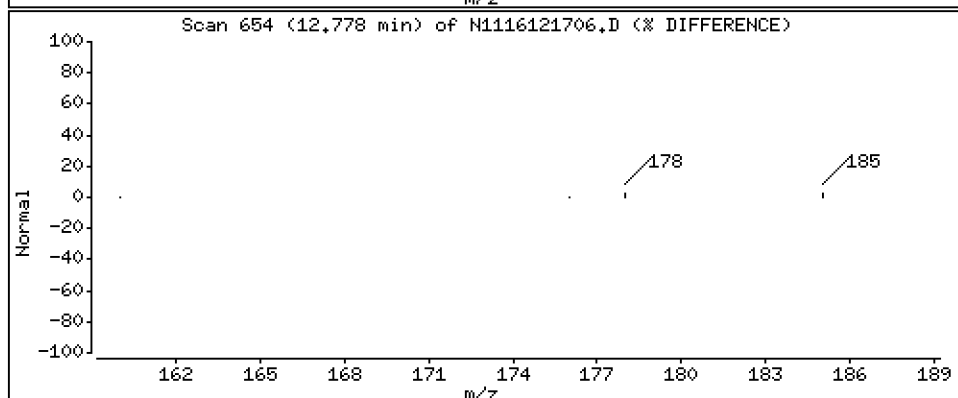
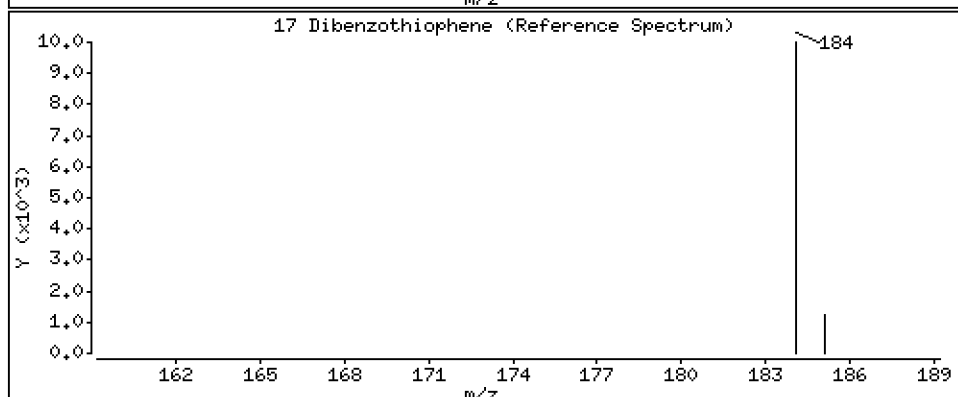
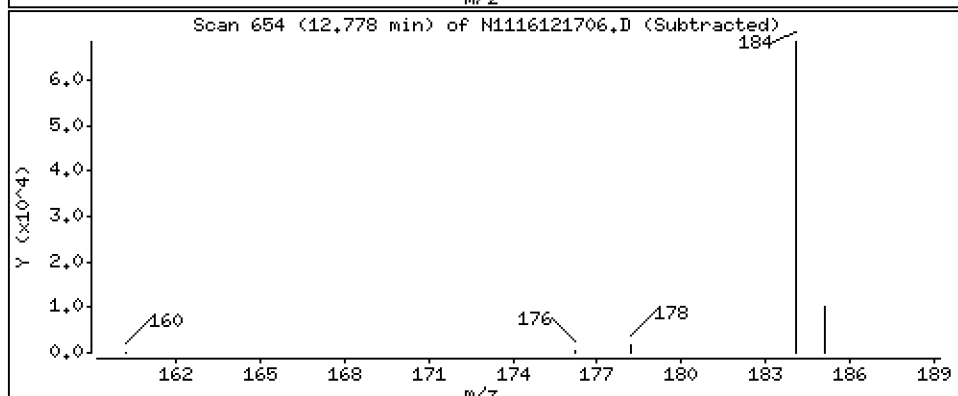
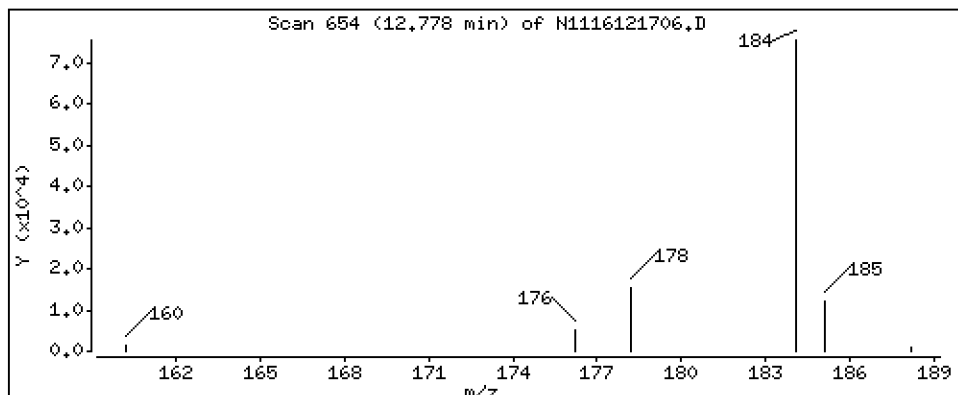
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 75,5 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

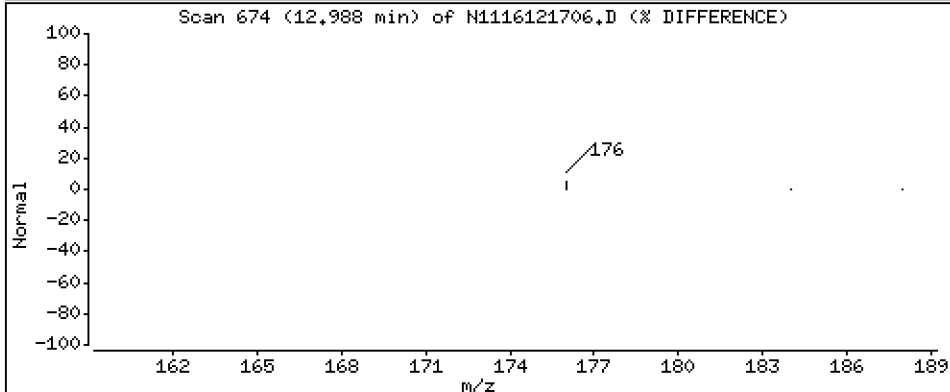
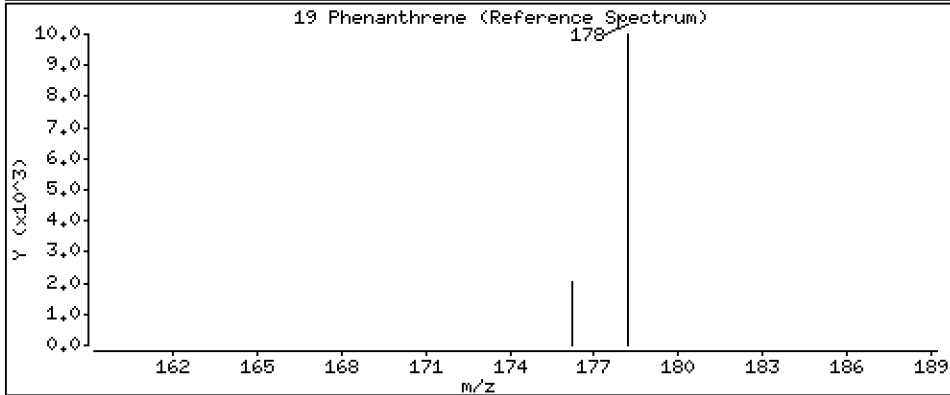
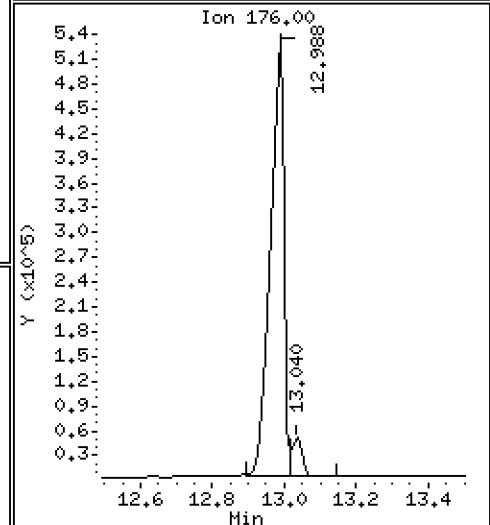
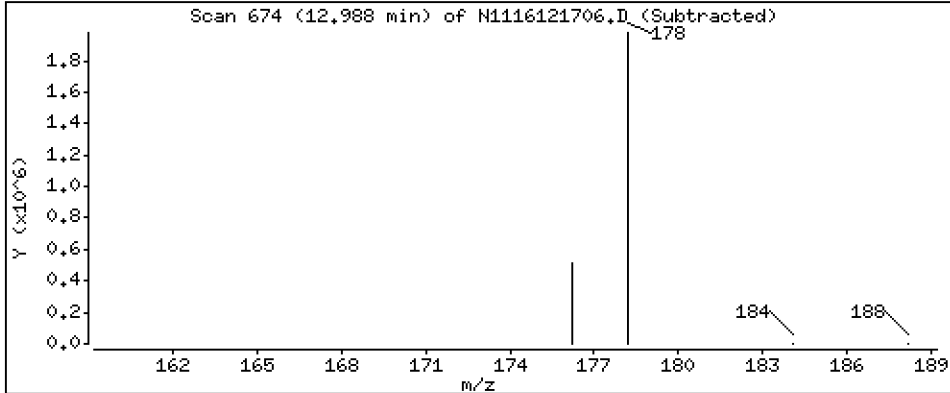
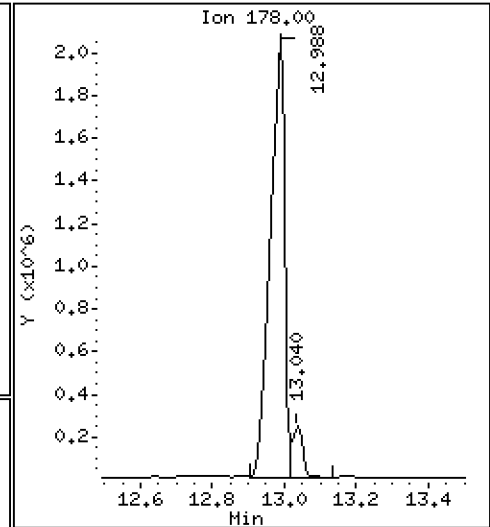
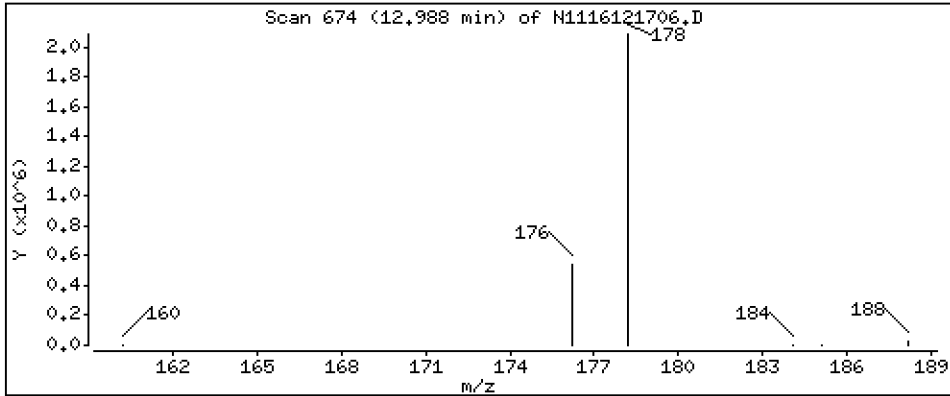
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 1790 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

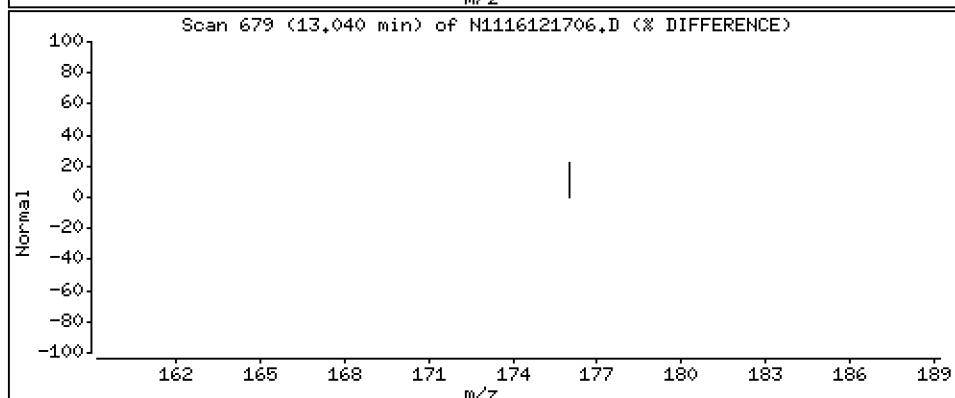
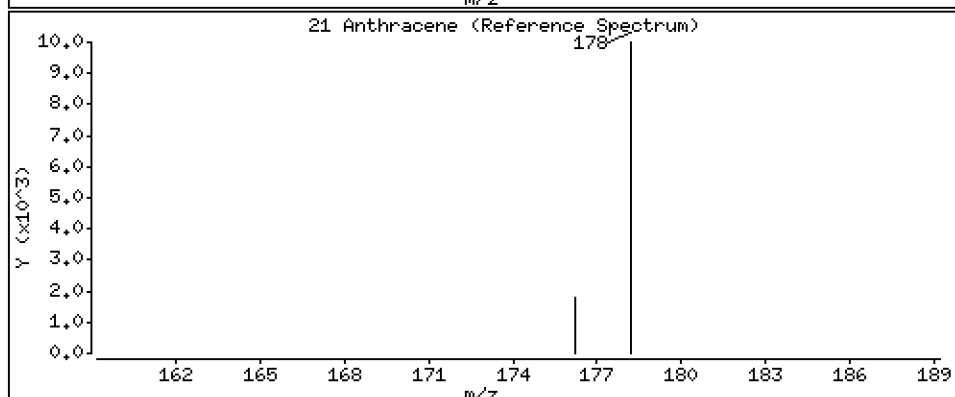
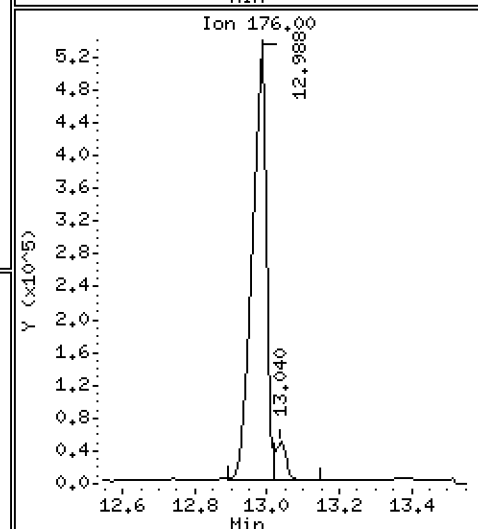
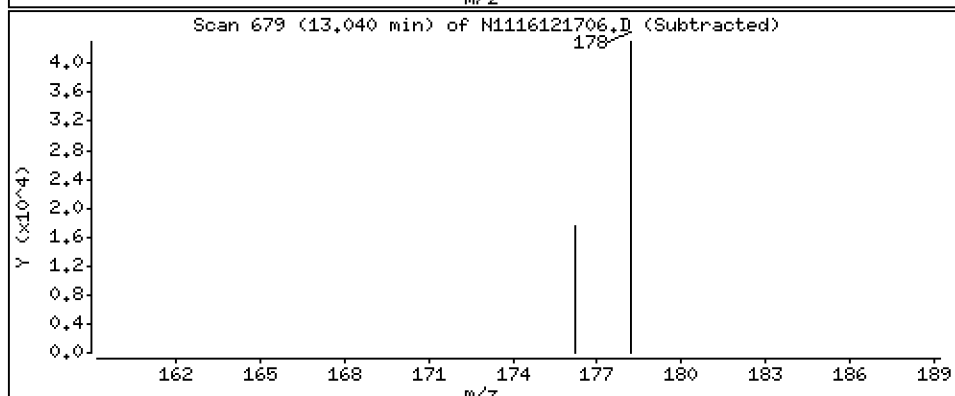
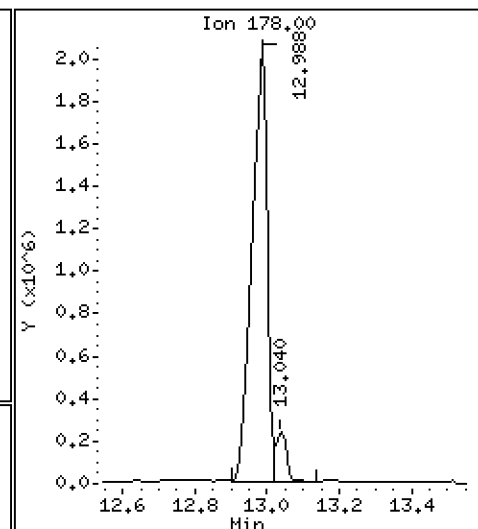
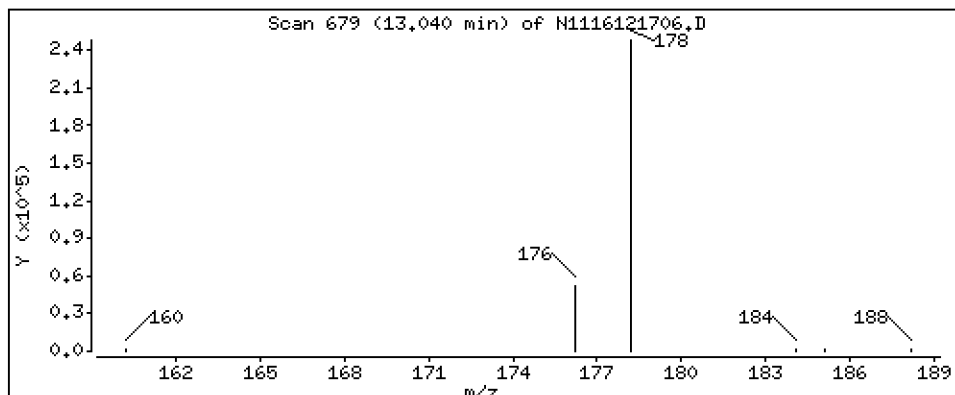
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 164 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

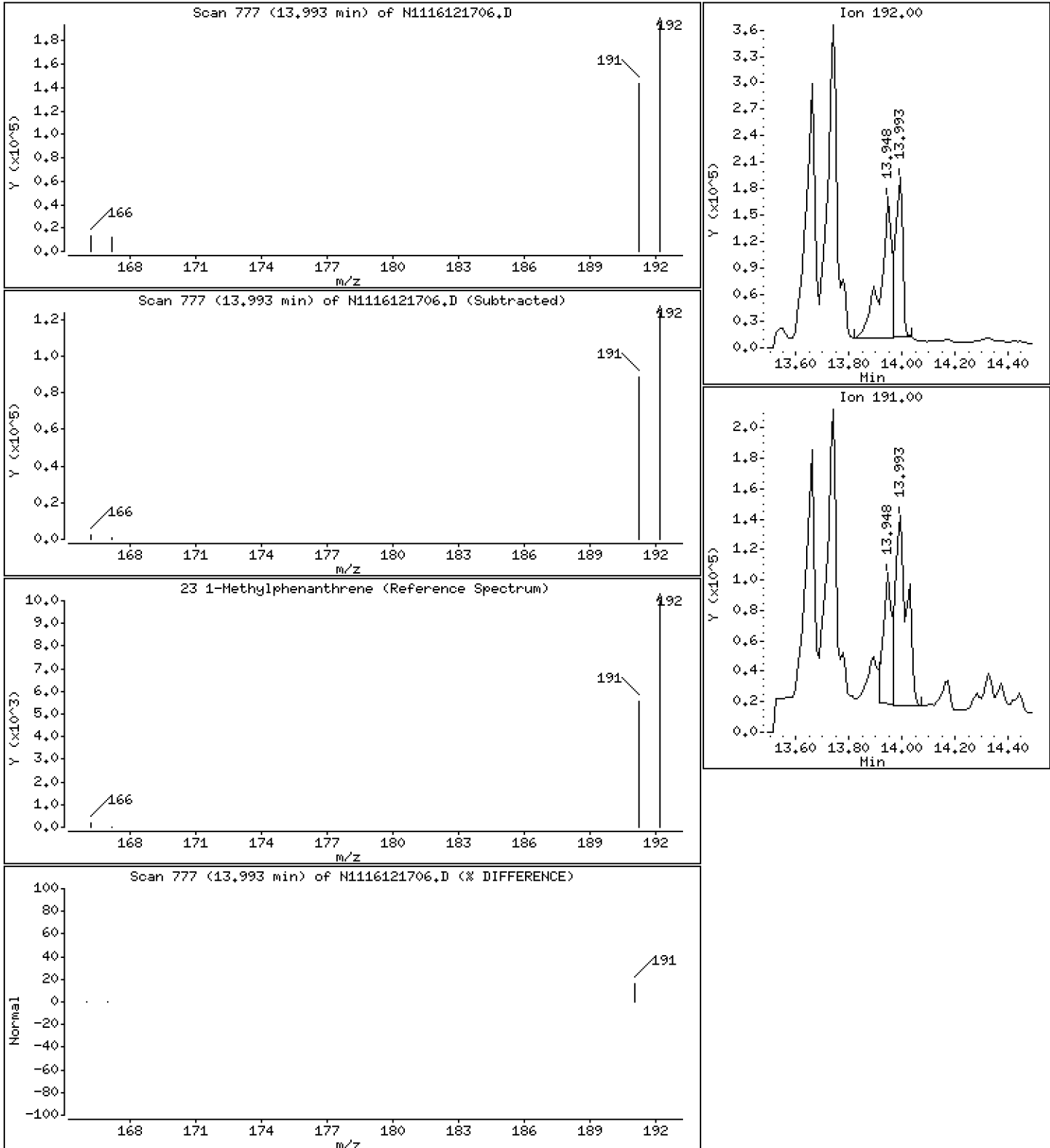
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 105 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

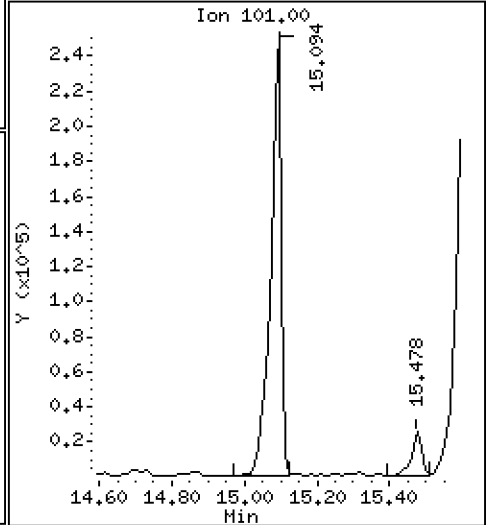
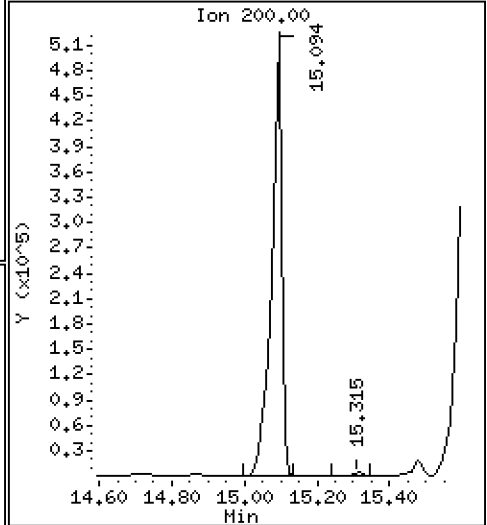
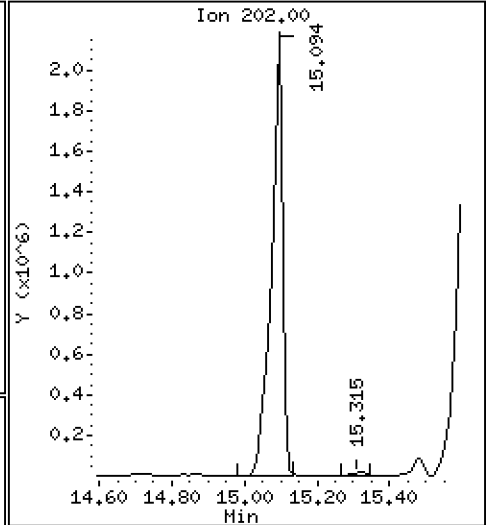
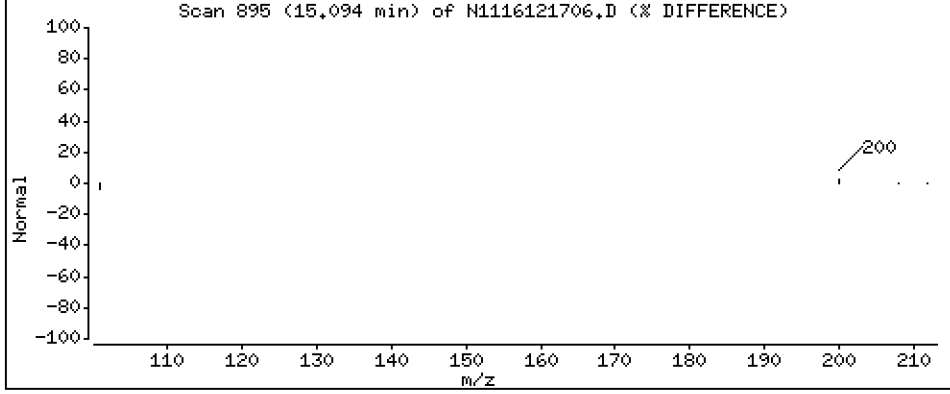
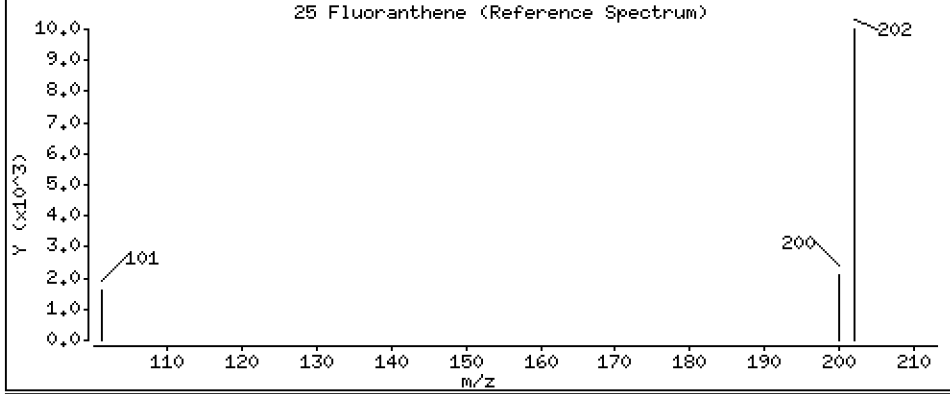
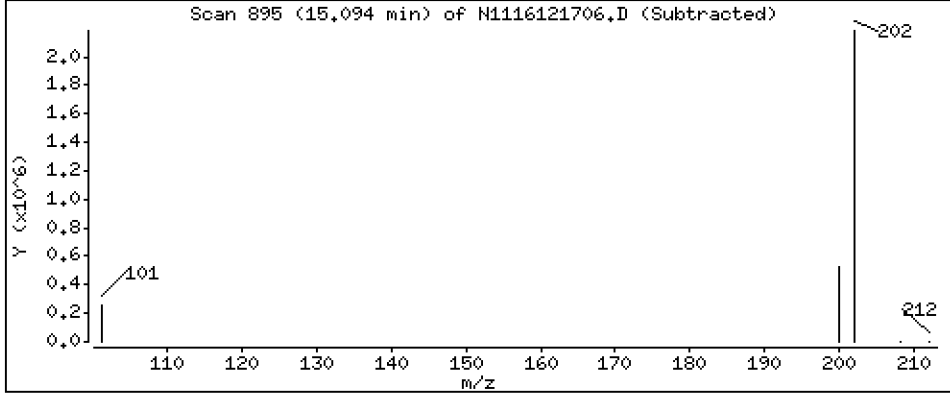
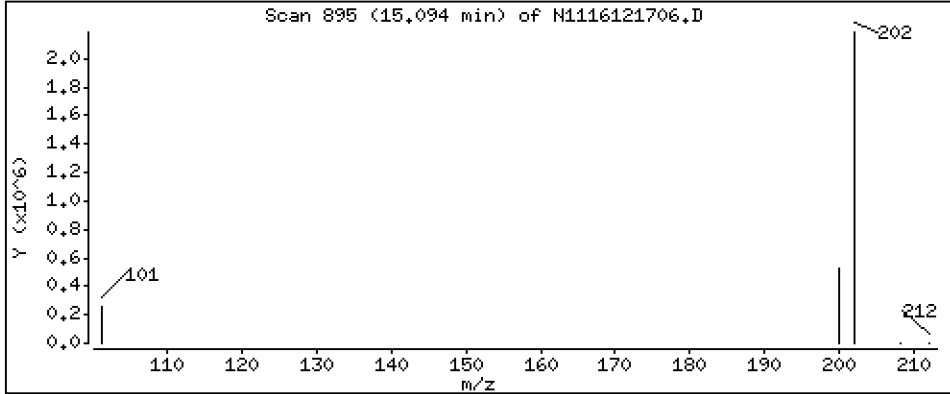
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 1270 ng/mL

25 Fluoranthene



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

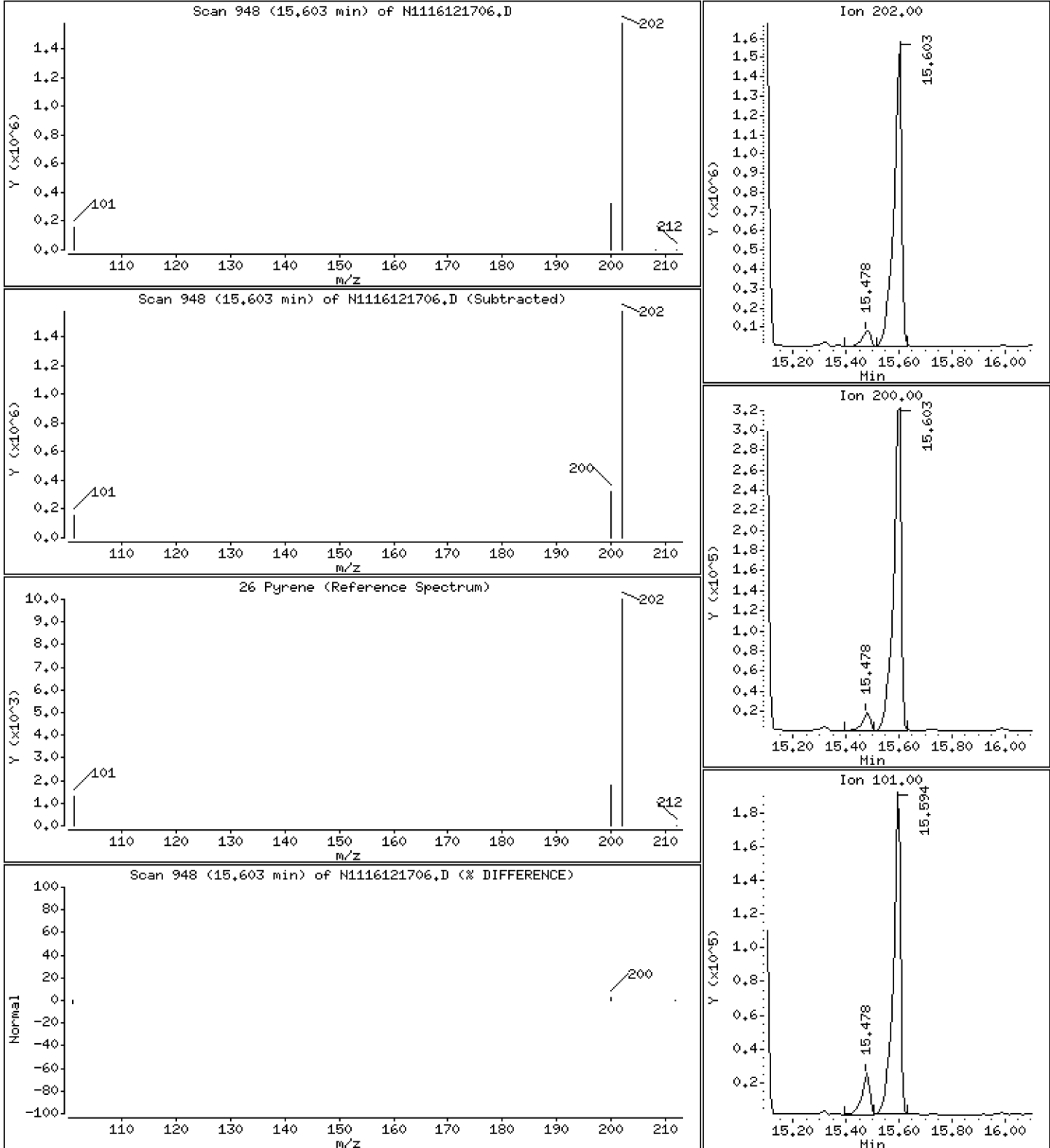
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1030 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

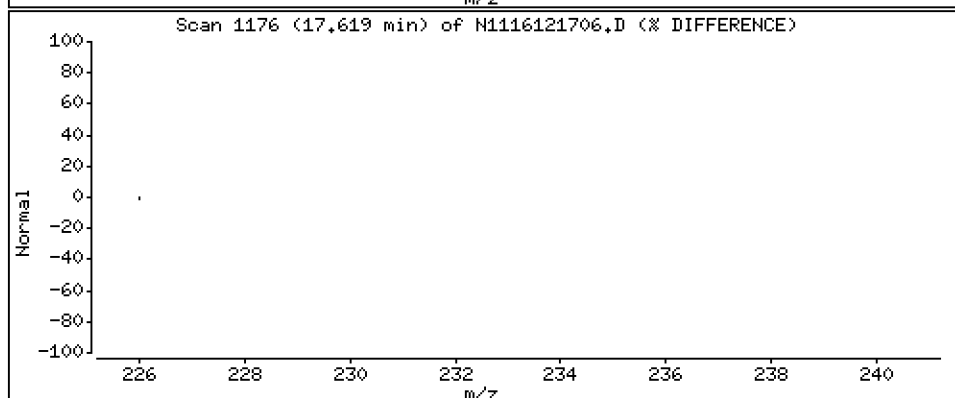
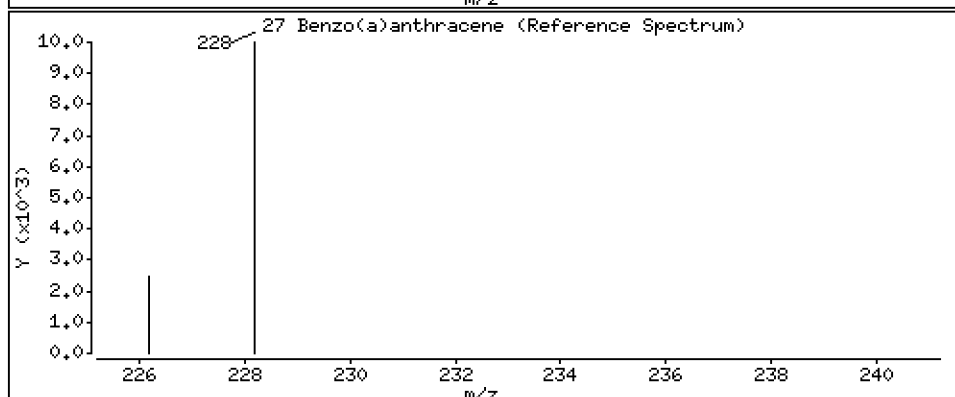
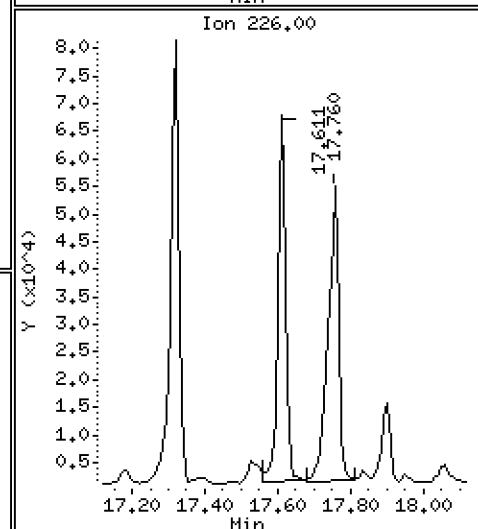
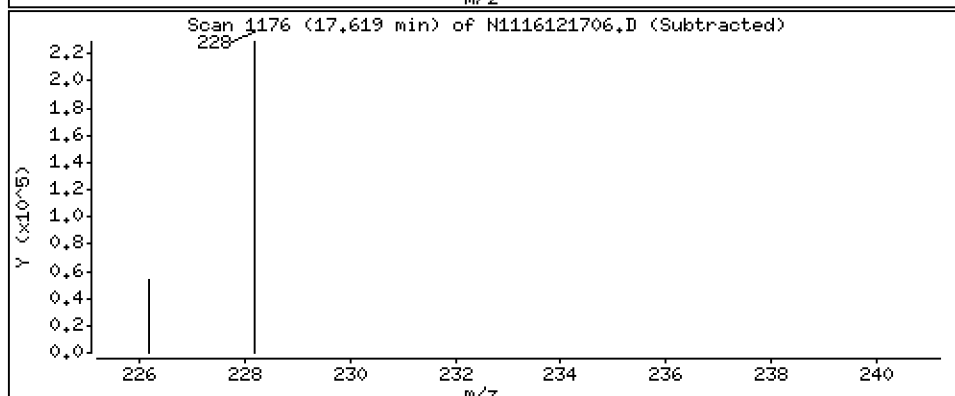
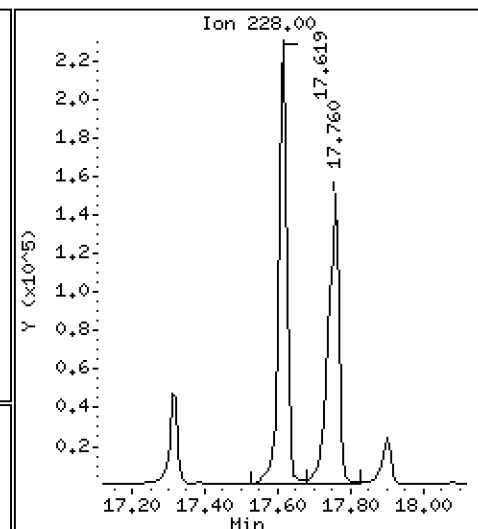
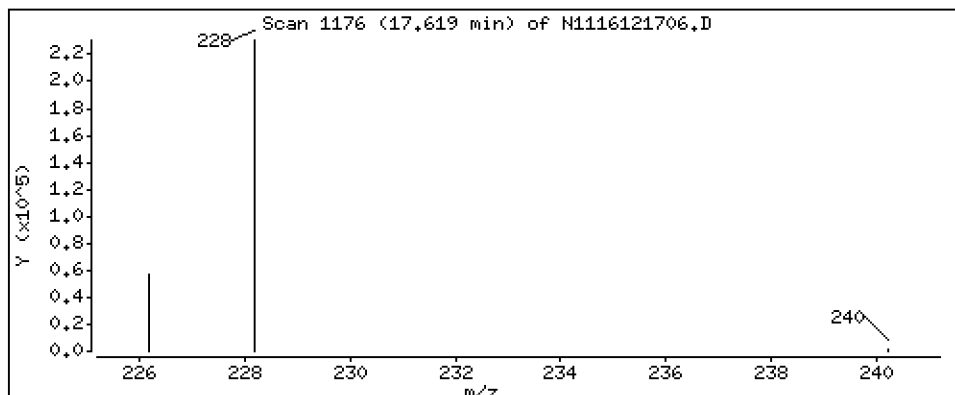
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 112 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

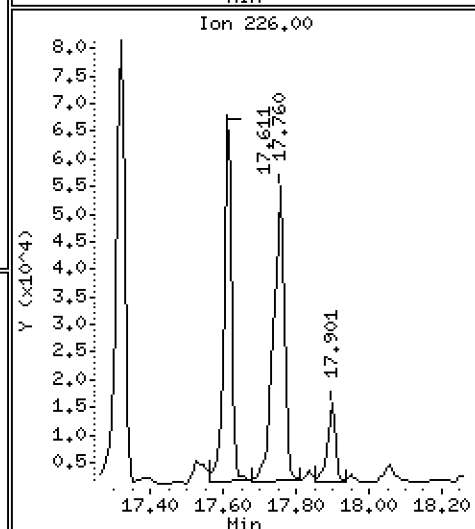
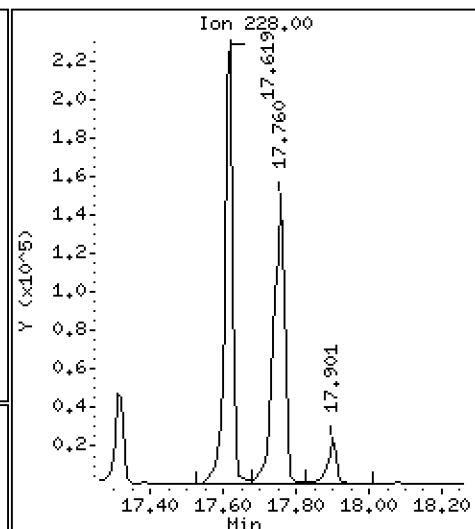
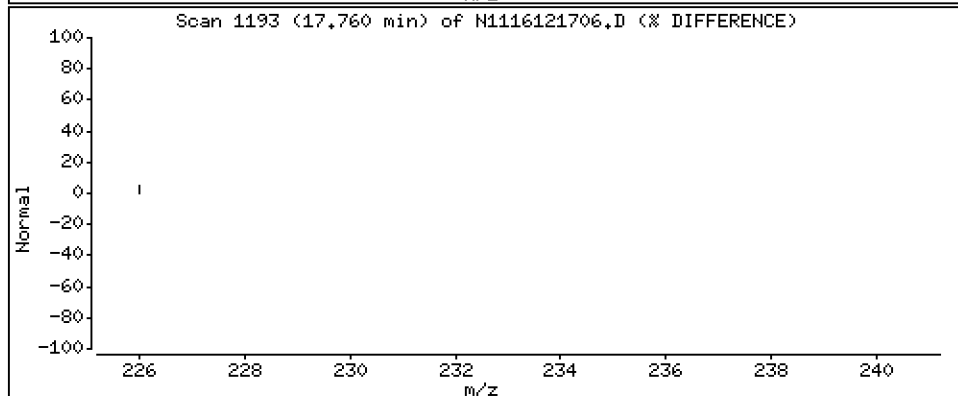
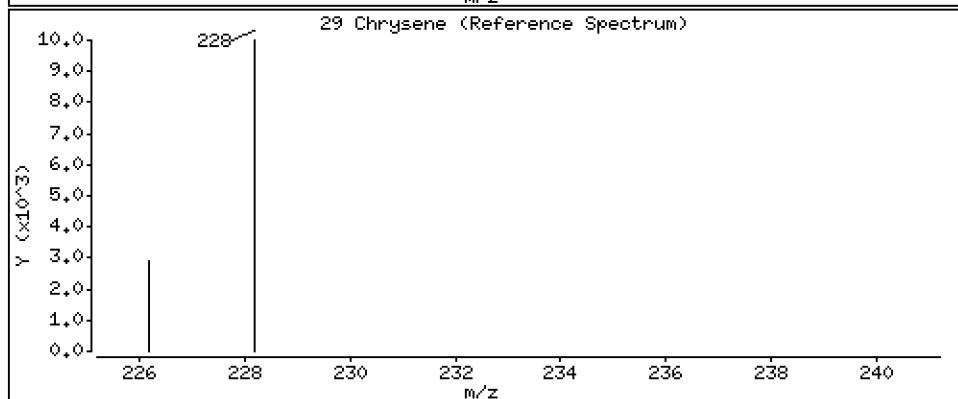
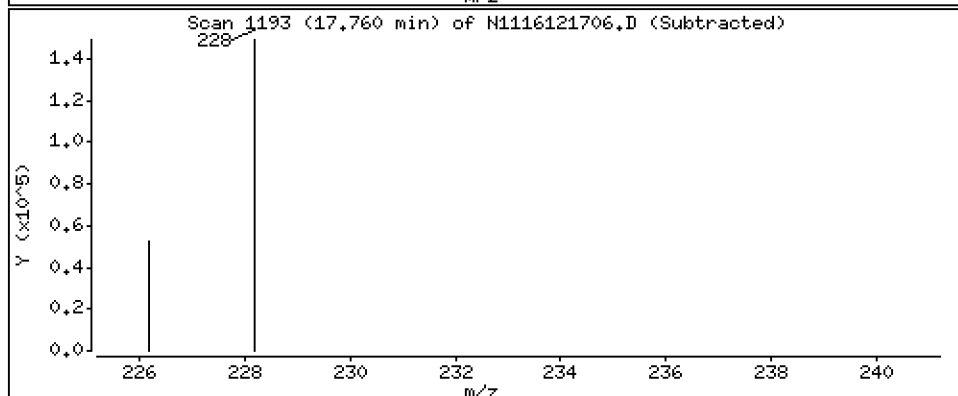
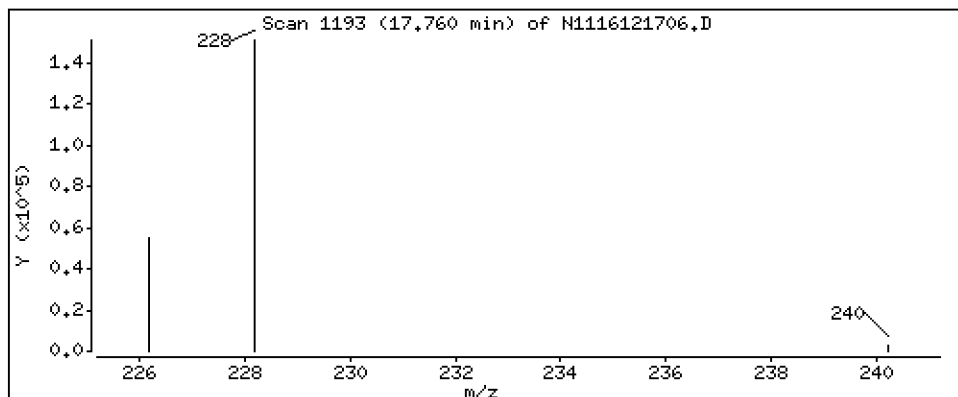
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 98,3 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

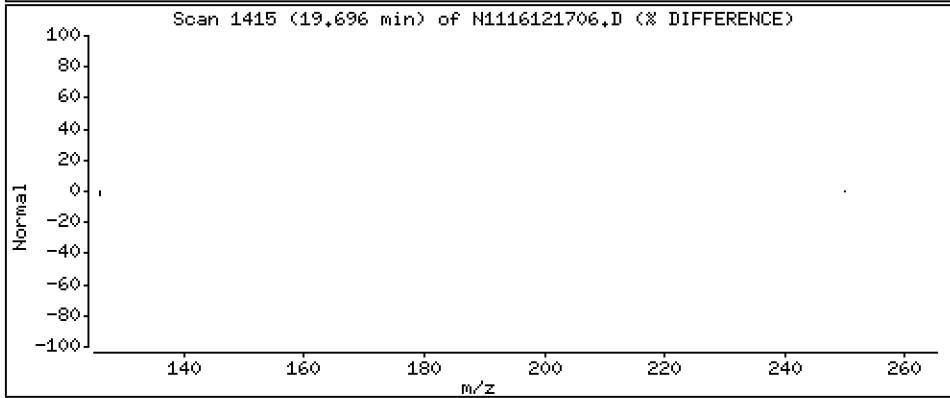
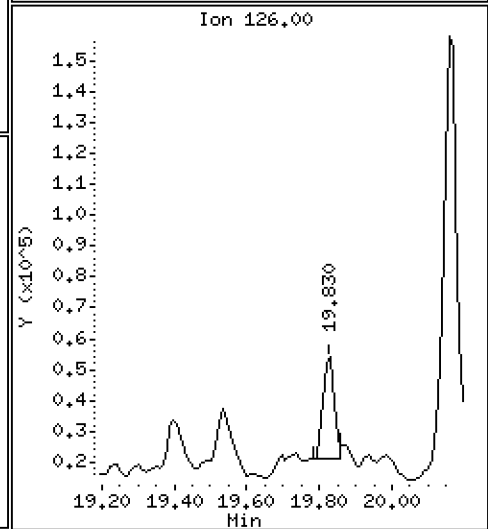
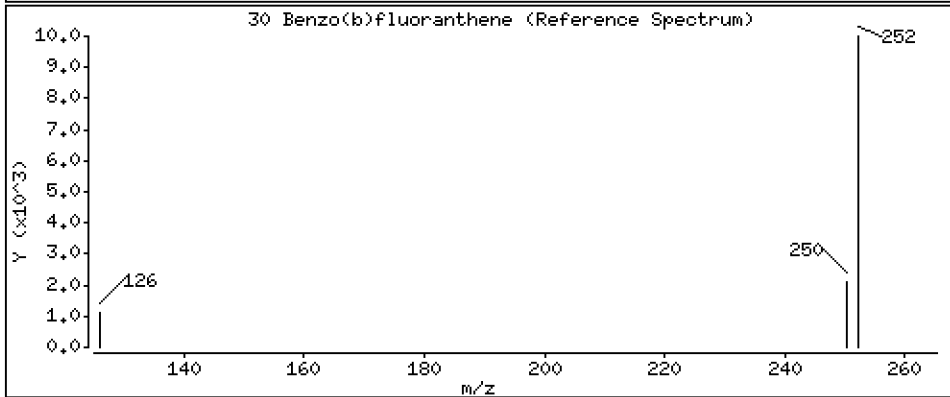
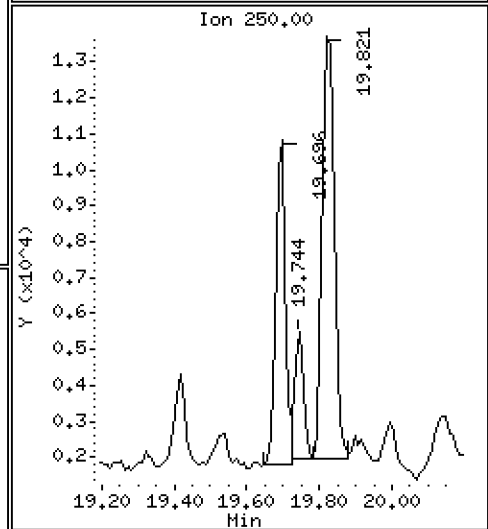
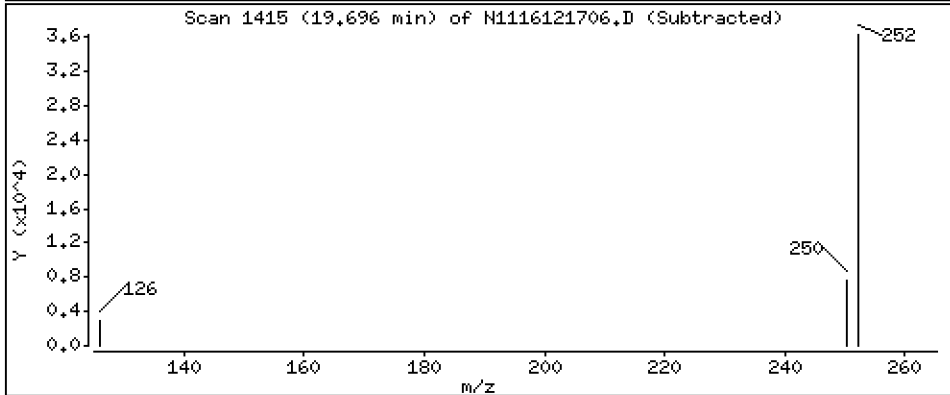
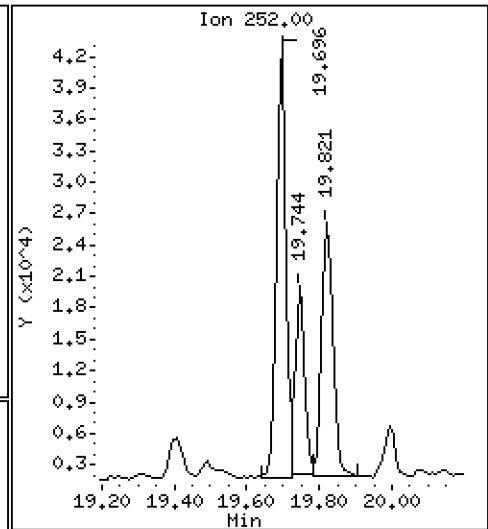
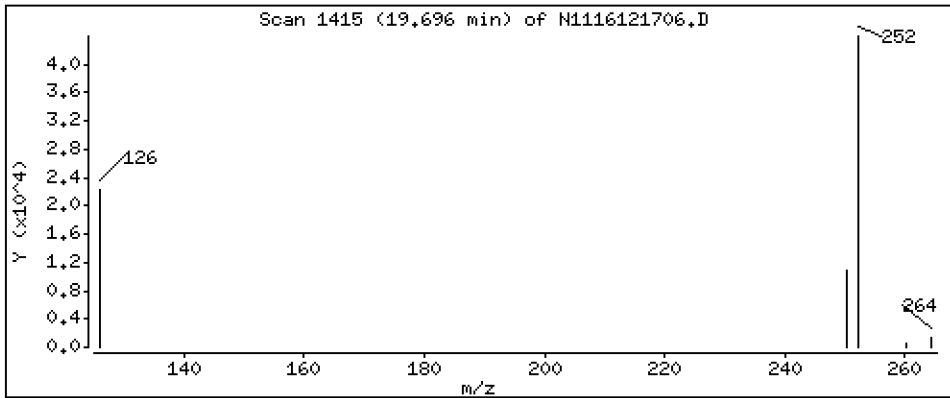
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 25,9 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

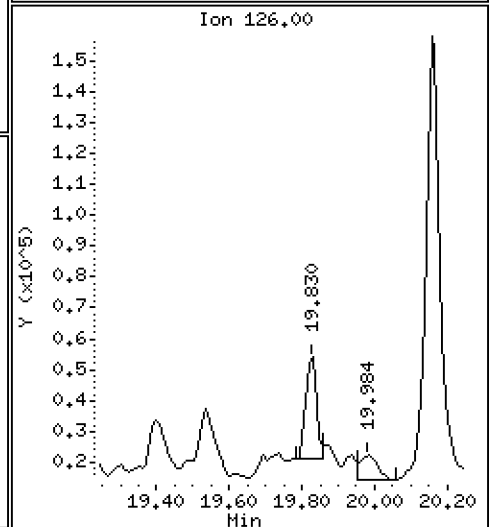
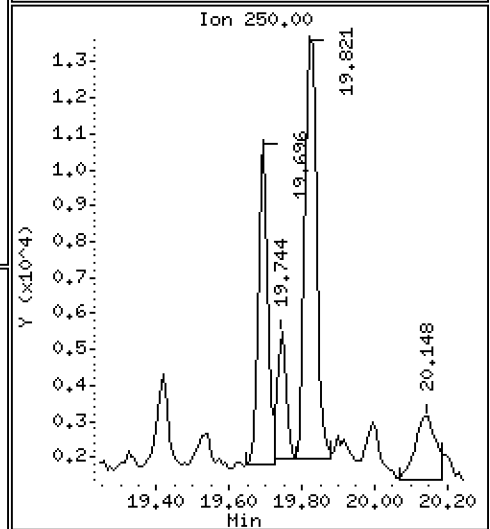
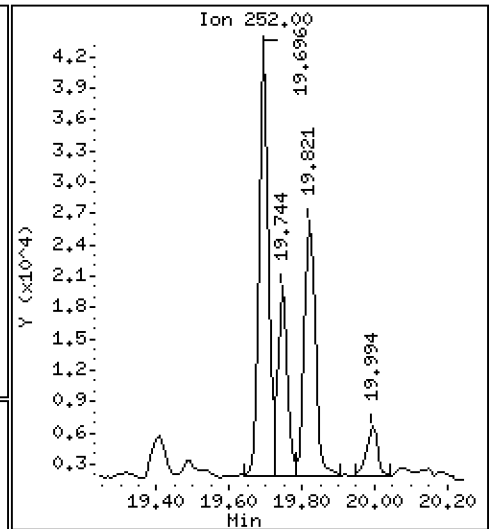
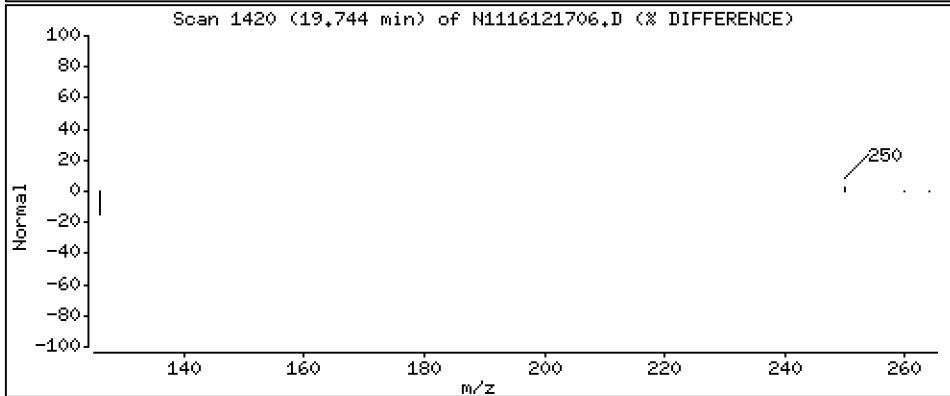
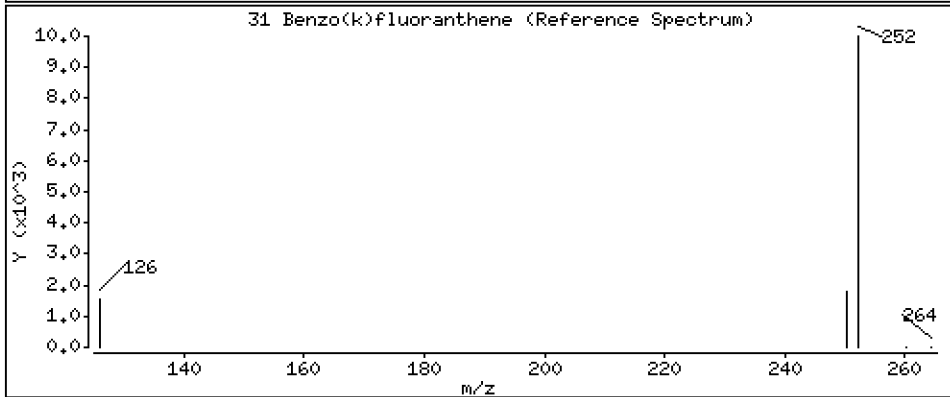
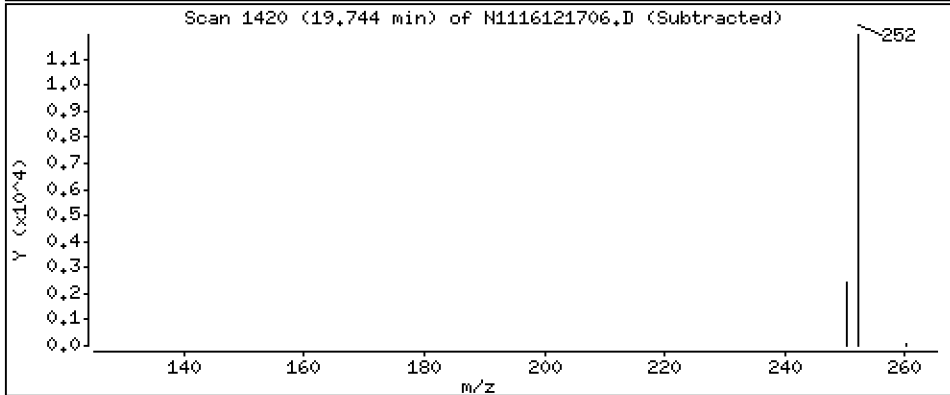
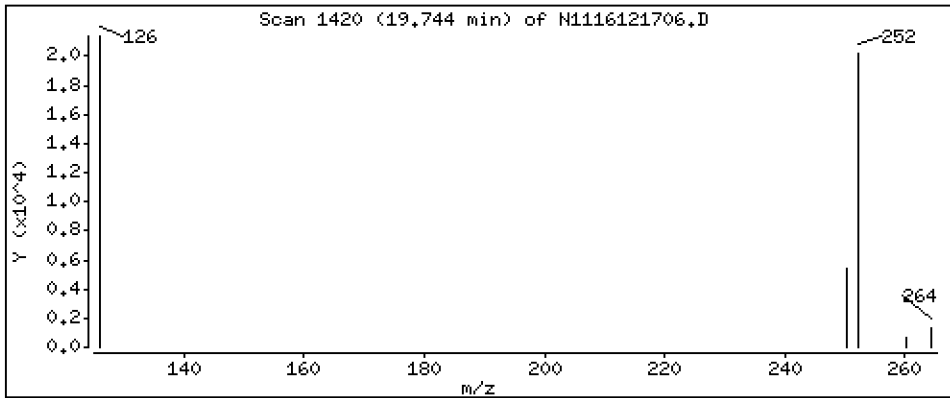
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 11,4 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

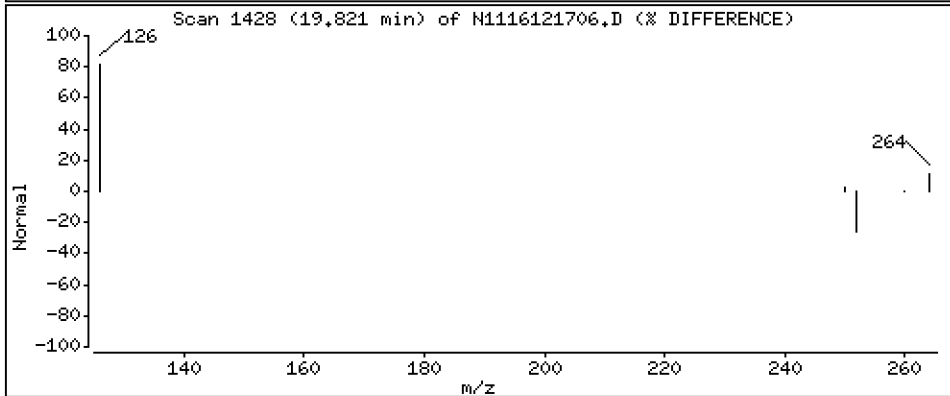
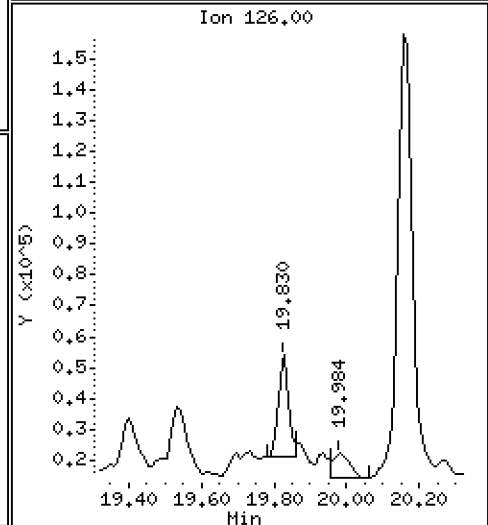
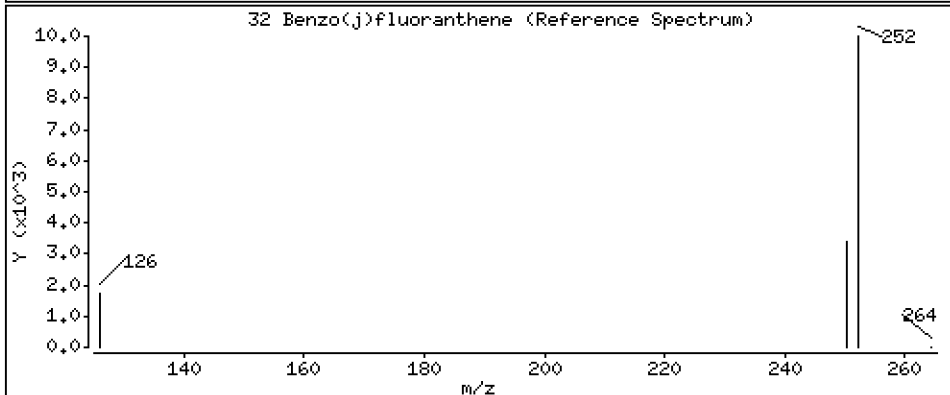
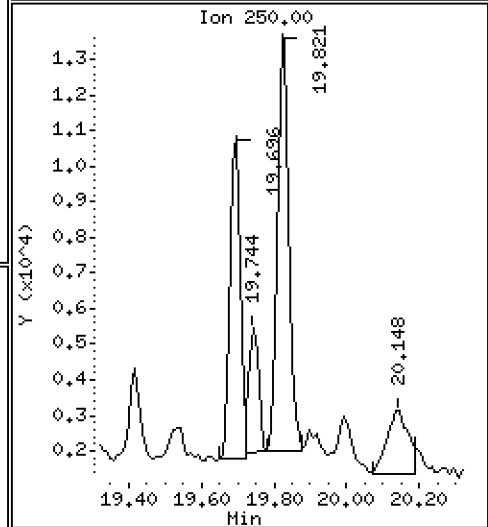
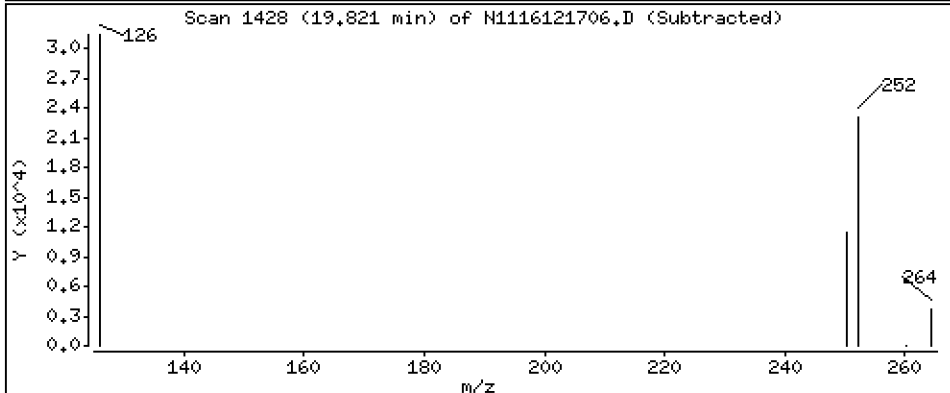
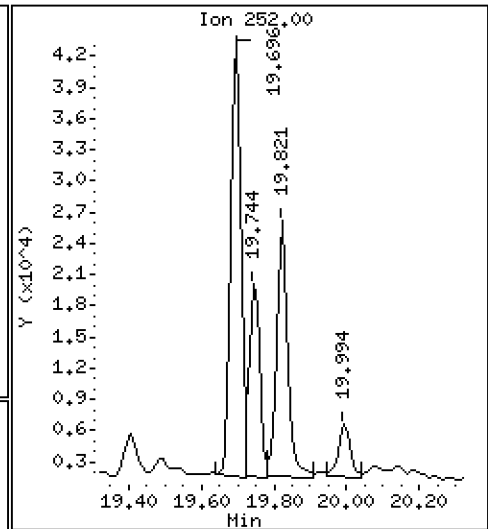
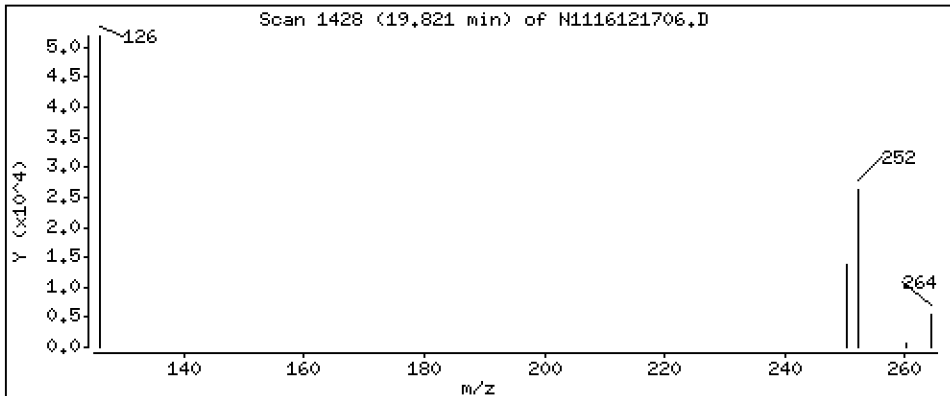
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 18,5 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

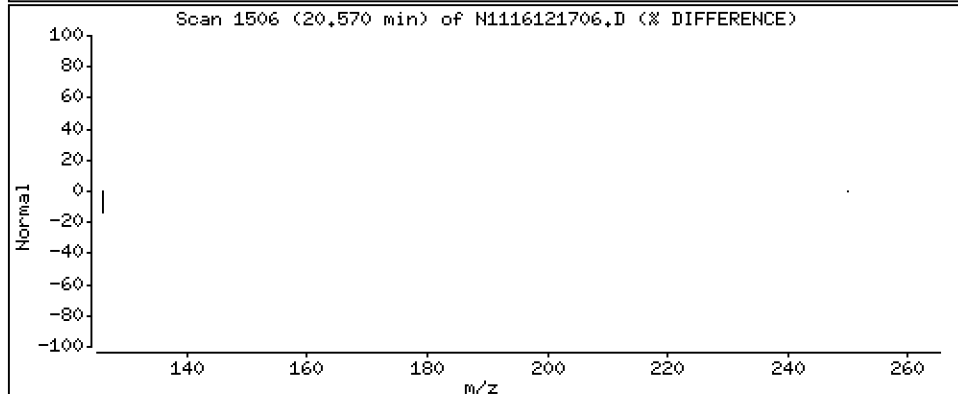
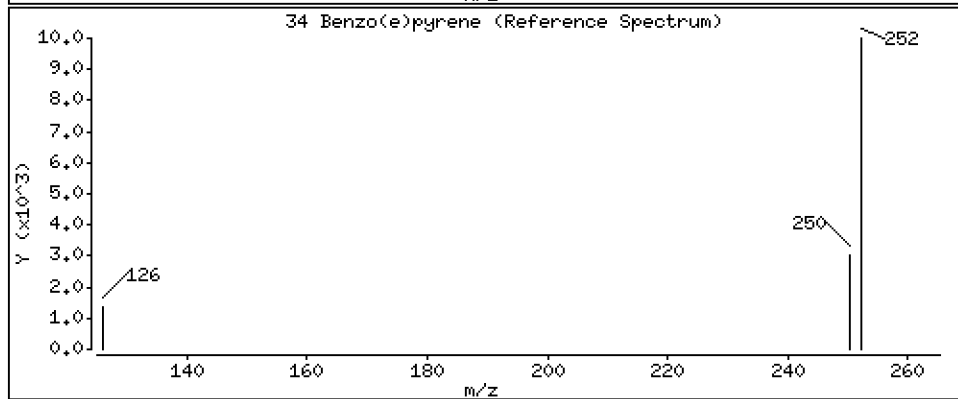
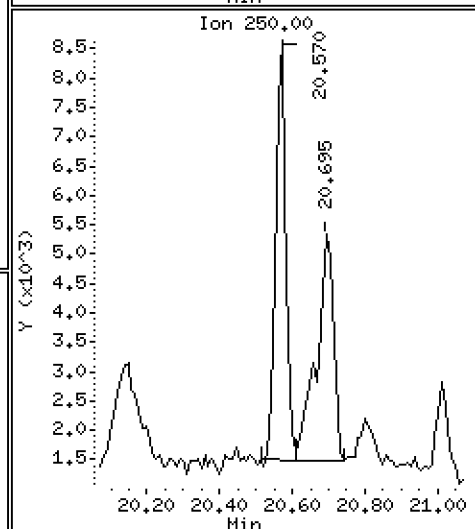
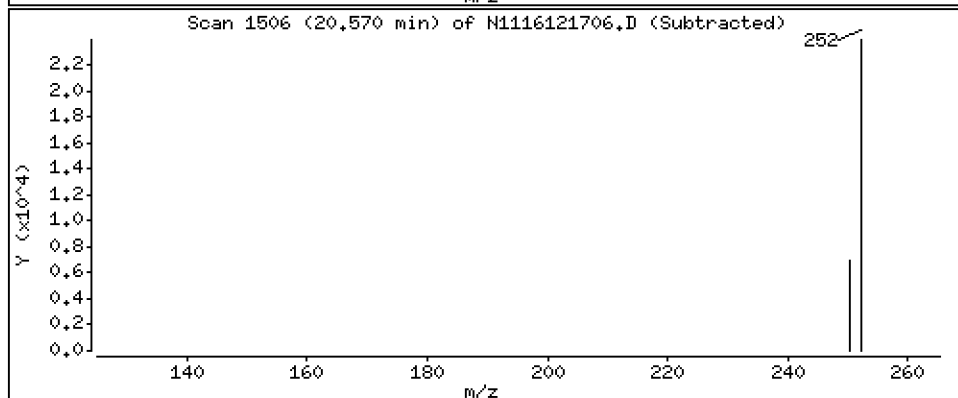
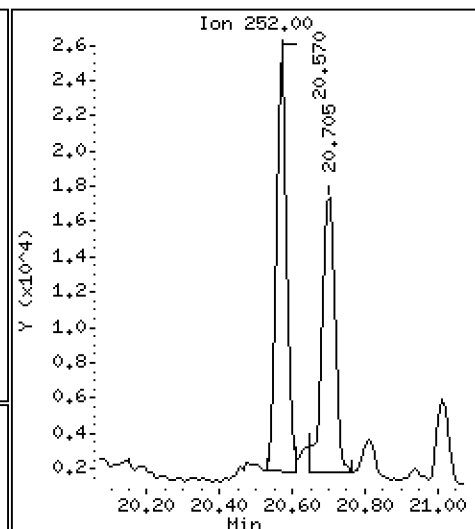
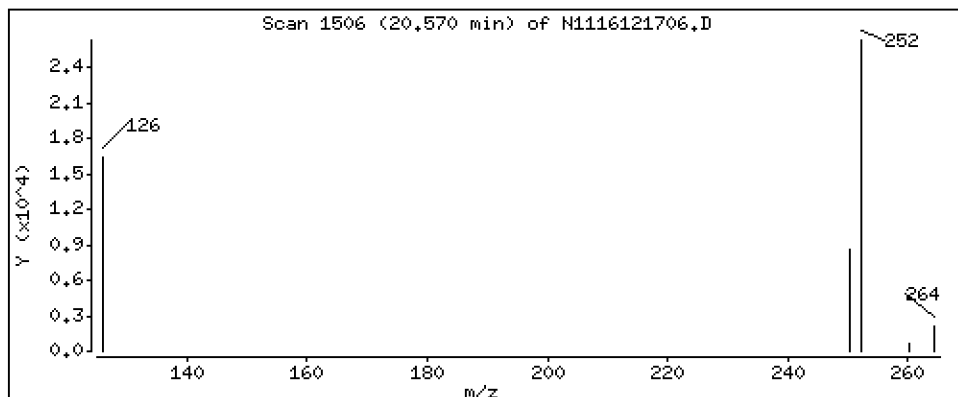
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 16,6 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

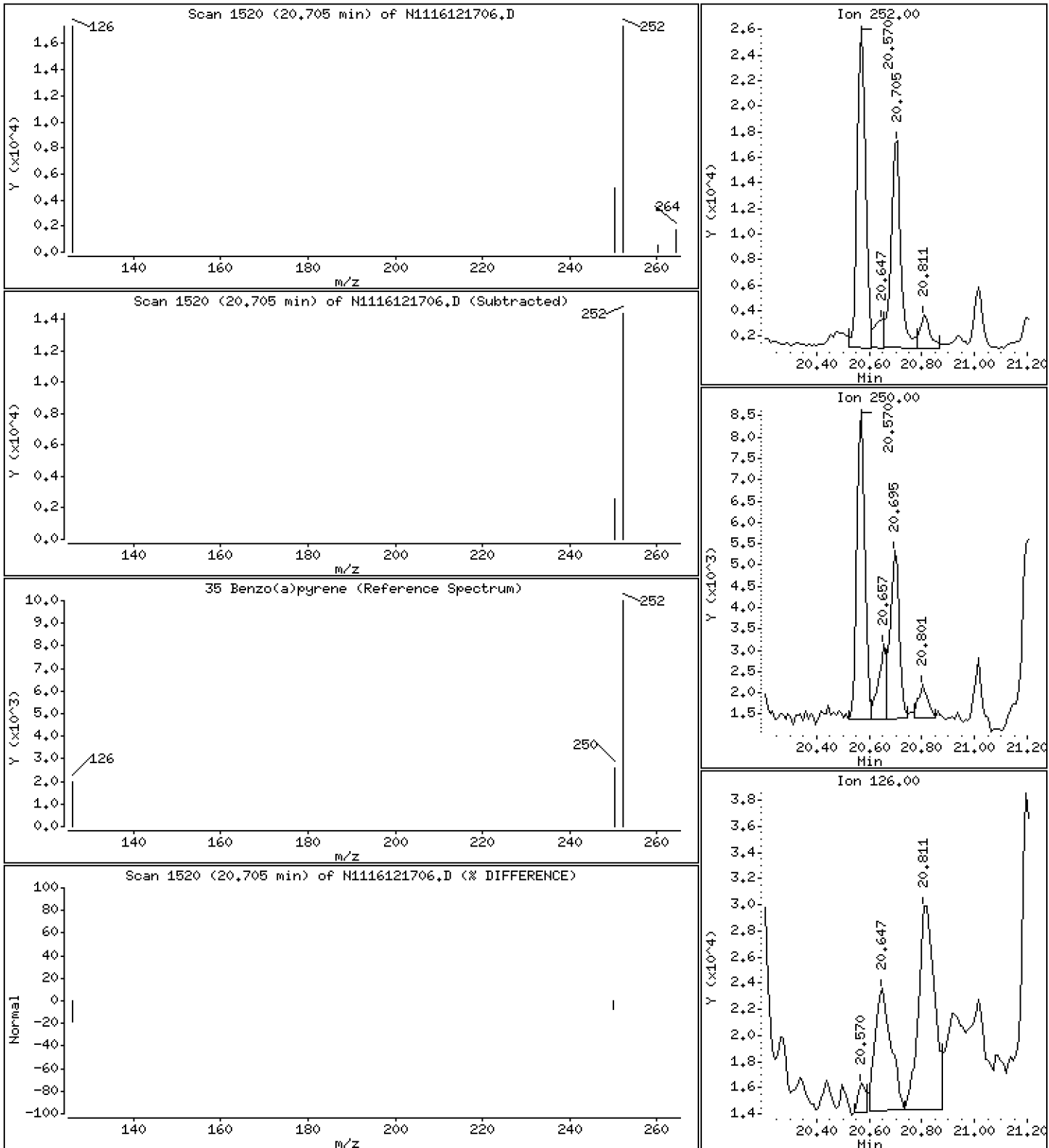
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 15,8 ng/mL



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

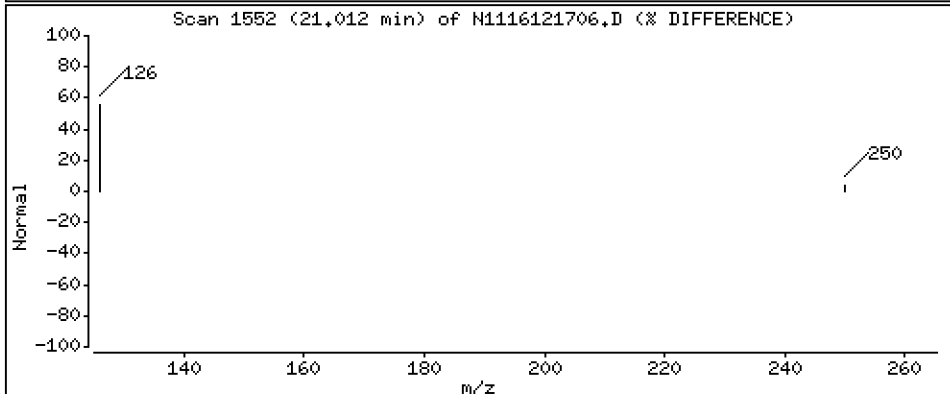
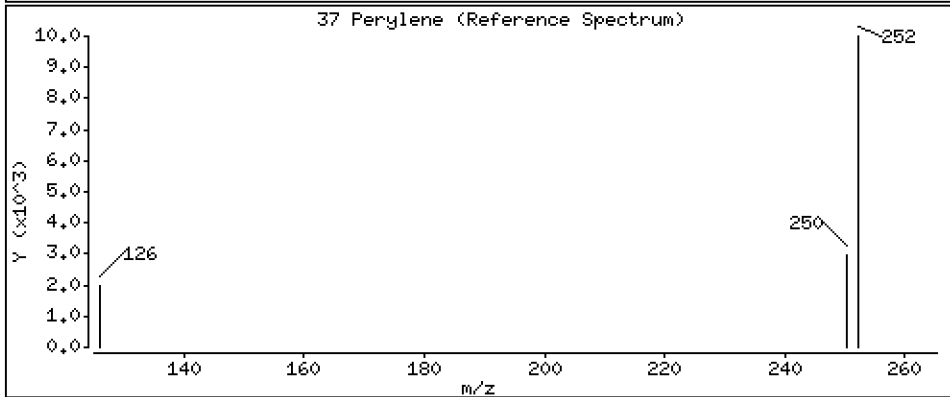
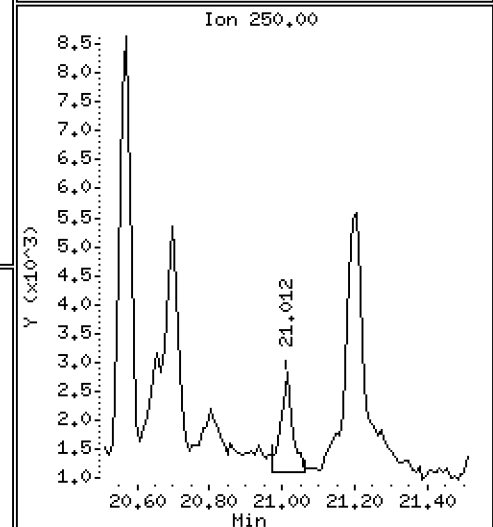
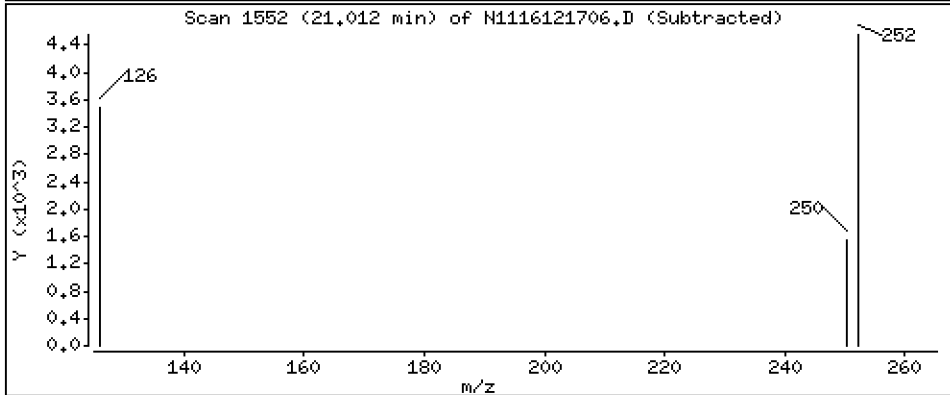
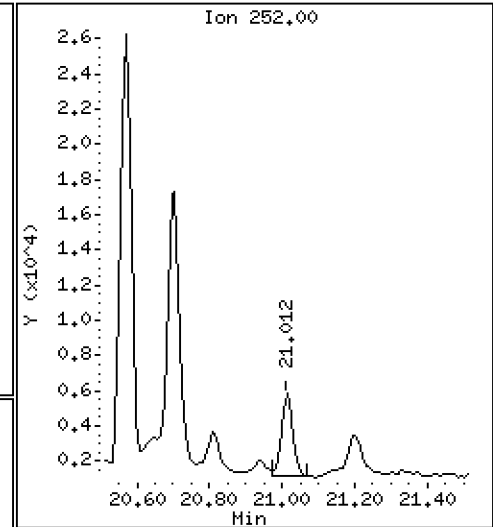
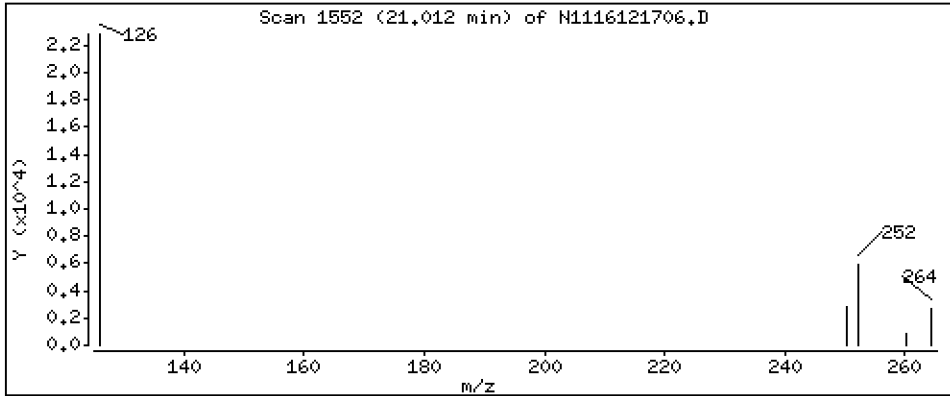
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 3,68 ng/mL

37 Perylene



Date : 17-DEC-2016 14:44

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19

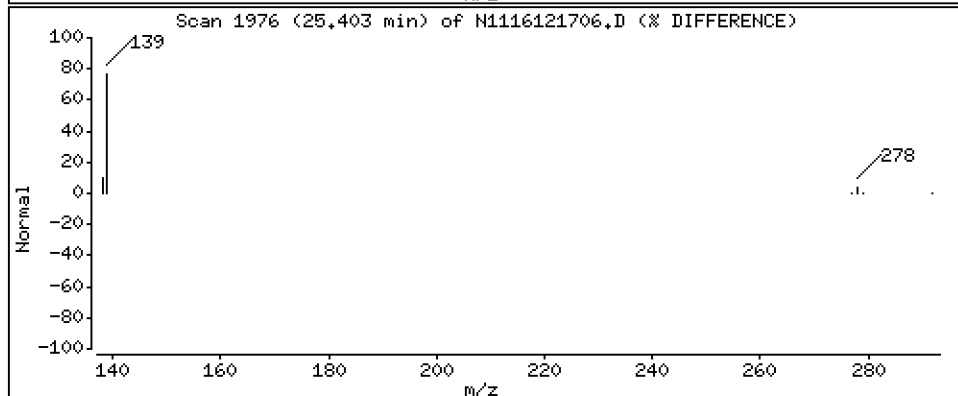
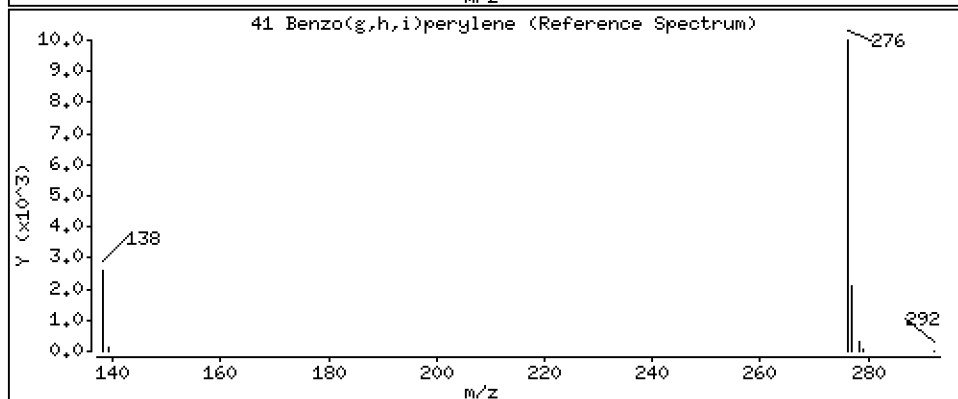
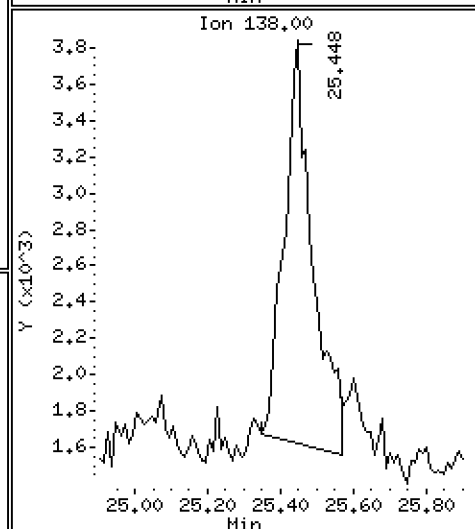
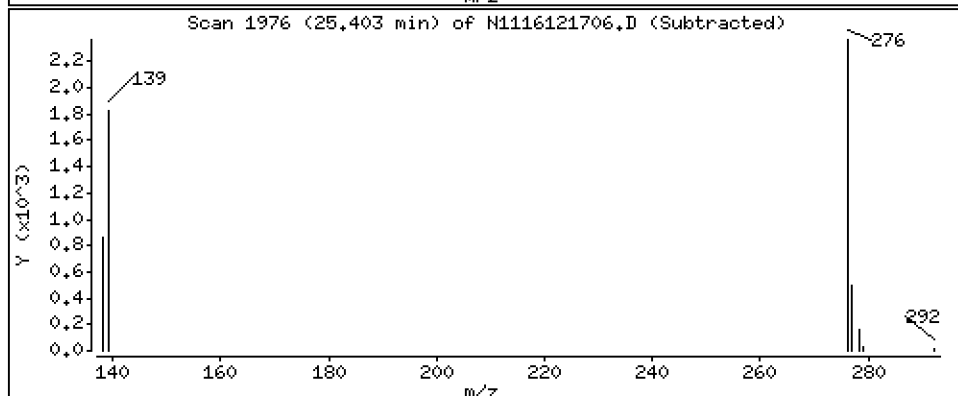
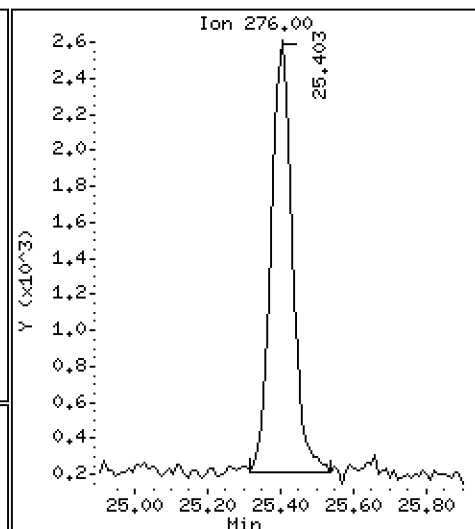
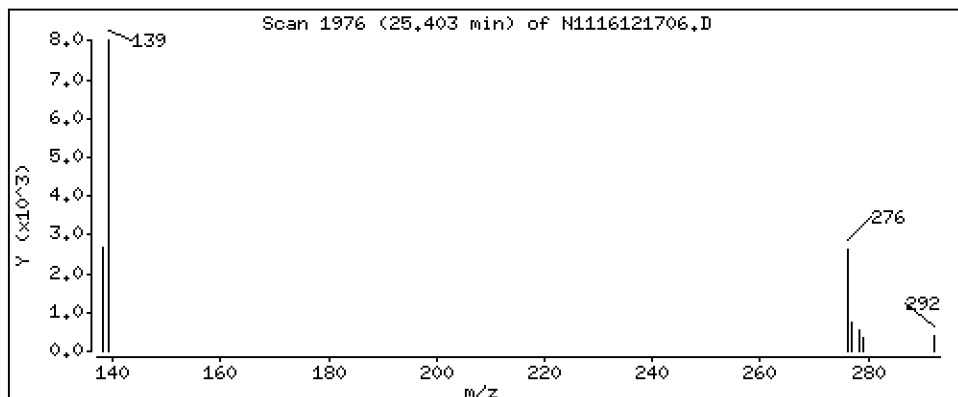
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,06 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161217.b\N1116121706.D
 Lab Smp Id: 16K0321-19
 Inj Date : 17-DEC-2016 14:44 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-19
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161217.b\lowsim.m
 Meth Date : 17-Dec-2016 13:15 van Quant Type: ISTD
 Cal Date : 16-DEC-2016 16:32 Cal File: N1116121615.D
 Als bottle: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.207	7.234	(1.000)	478786	200.000	
2 Naphthalene	128		7.243	7.261	(1.005)	195666	82.4516	82.5
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.190	8.211	(1.136)	315223	150.874	151
5 2-Methylnaphthalene	142		8.243	8.264	(1.144)	512345	219.789	220
6 1-Methylnaphthalene	142		8.505	8.526	(1.180)	405132	176.897	177
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		9.125	9.136	(0.891)	196457	64.5034	64.5
9 2,6-Dimethylnaphthalene	156		9.167	9.199	(0.895)	406832	174.806	175
10 Acenaphthylene	152		10.098	10.107	(0.986)	31482	12.1496	12.1
* 11 Acenaphthene-d10	164		10.242	10.260	(1.000)	290067	200.000	
12 Acenaphthene	153		10.306	10.324	(1.006)	1048069	618.199	618
13 Dibenzofuran	168		10.506	10.519	(1.026)	797718	317.199	317
14 2,3,5-Trimethylnaphthalene	170		10.607	10.620	(1.036)	88357	54.0488	54.0 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.138	11.151	(1.087)	1071829	531.753	532
17 Dibenzothiophene	184		12.777	12.777	(0.987)	201872	75.4864	75.5
* 18 Phenanthrene-d10	188		12.945	12.956	(1.000)	594912	200.000	
19 Phenanthrene	178		12.987	12.998	(1.003)	5941563	1786.49	1790
\$ 20 Anthracene-d10	188		13.008	13.019	(1.005)	73125	24.8162	24.8
21 Anthracene	178		13.040	13.050	(1.007)	518648	163.502	164
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		13.993	13.993	(1.081)	352863	104.869	105
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.164)	570065	179.898	180
25 Fluoranthene	202		15.093	15.093	(1.166)	4854085	1266.64	1270
26 Pyrene	202		15.603	15.603	(0.881)	3227543	1025.42	1030
27 Benzo(a)anthracene	228		17.618	17.618	(0.995)	359944	112.342	112
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	550024	200.000	
29 Chrysene	228		17.760	17.760	(1.003)	321669	98.2901	98.3
30 Benzo(b)fluoranthene	252		19.695	19.696	(0.940)	79012	25.8730	25.9
31 Benzo(k)fluoranthene	252		19.744	19.744	(0.943)	36259	11.3759	11.4
32 Benzo(j)fluoranthene	252		19.820	19.820	(0.946)	53862	18.5116	18.5
\$ 33 Benzo(e)pyrene-d12	264		20.493	20.493	(0.978)	327068	120.422	120

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252		20.570	20.570	(0.982)	48745	16.5603	16.6
35 Benzo(a)pyrene	252		20.704	20.704	(0.989)	42733	15.7698	15.8
* 36 Perylene-d12	264		20.945	20.935	(1.000)	545617	200.000	
37 Perylene	252		21.012	21.012	(1.003)	10604	3.67694	3.68
§ 38 Dibenzo(a,h)anthracene-d14	292		23.830	23.830	(1.138)	284496	176.848	177
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.					
41 Benzo(g,h,i)perylene	276		25.403	25.403	(1.213)	9451	4.06054	4.06

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 17-DEC-2016
 Lab File ID: N1116121706.D Calibration Time: 12:40
 Lab Smp Id: 16K0321-19
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161217.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	341640	170820	683280	478786	40.14
11 Acenaphthene-d10	209310	104655	418620	290067	38.58
18 Phenanthrene-d10	404977	202489	809954	594912	46.90
28 Chrysene-d12	465046	232523	930092	550024	18.27
36 Perylene-d12	454694	227347	909388	545617	20.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.21	-0.38
11 Acenaphthene-d10	10.26	9.76	10.76	10.24	-0.18
18 Phenanthrene-d10	12.96	12.46	13.46	12.95	-0.08
28 Chrysene-d12	17.71	17.21	18.21	17.71	-0.00
36 Perylene-d12	20.94	20.44	21.44	20.95	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.

REVIEW SUMMARY FOR FILE - N1116121706.D

Lab ID: 16K0321-19

nt11.i, 20161217.b\lowsim.m, 17-DEC-2016 14:44

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, 20161217.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

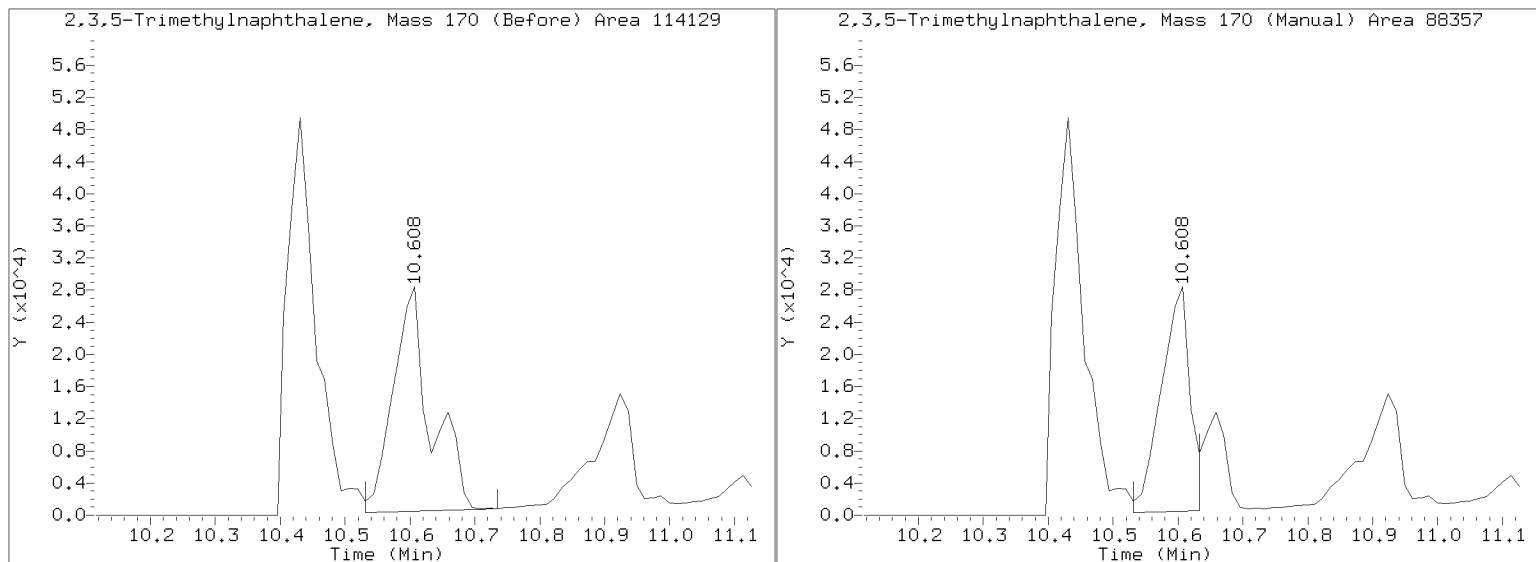
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161217.b/N1116121706.D

Injection Date: 17-DEC-2016 14:44

Lab ID:16K0321-19 Client ID:

Report Date: 12/20/2016 09:40





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-19RE1 File ID: N1116122003.D
 Sampled: 11/22/16 12:53 Prepared: 11/24/16 08:25 Analyzed: 12/20/16 10:16
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0658 Sequence: SEL0277 Calibration: ZL00052
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	10	13.5	U	11.3	13.5
91-57-6	2-Methylnaphthalene	10	21.2	D	11.3	11.3
208-96-8	Acenaphthylene	10	11.3	U	11.3	11.3
83-32-9	Acenaphthene	10	55.9	D	11.3	11.3
86-73-7	Fluorene	10	48.7	D	11.3	11.3
85-01-8	Phenanthrene	10	215	D	11.3	11.3
120-12-7	Anthracene	10	20.1	D	11.3	11.3
206-44-0	Fluoranthene	10	165	D	11.3	11.3
129-00-0	Pyrene	10	108	D	11.3	11.3
56-55-3	Benzo(a)anthracene	10	11.3	U	11.3	11.3
218-01-9	Chrysene	10	11.3	U	11.3	11.3
205-99-2	Benzo(b)fluoranthene	10	11.3	U	11.3	11.3
207-08-9	Benzo(k)fluoranthene	10	11.3	U	11.3	11.3
50-32-8	Benzo(a)pyrene	10	11.3	U	11.3	11.3
193-39-5	Indeno(1,2,3-cd)pyrene	10	11.3	U	11.3	11.3
53-70-3	Dibenzo(a,h)anthracene	10	11.3	U	11.3	11.3
191-24-2	Benzo(g,h,i)perylene	10	11.3	U	11.3	11.3
1985-5-0	Perylene	10	11.3	U	11.3	11.3
197-97-2	Benzo(e)pyrene	10	11.3	U	11.3	11.3

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	13.8	40.7	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	7.46	22.0	30 - 160	*
Fluoranthene-d10	33.860	19.1	56.4	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	12.1	57.3	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161220.6\NH116122003.D

Date : 20-DEC-2016 10:16

Client ID:

Sample Info: 16K0321-19REL.10

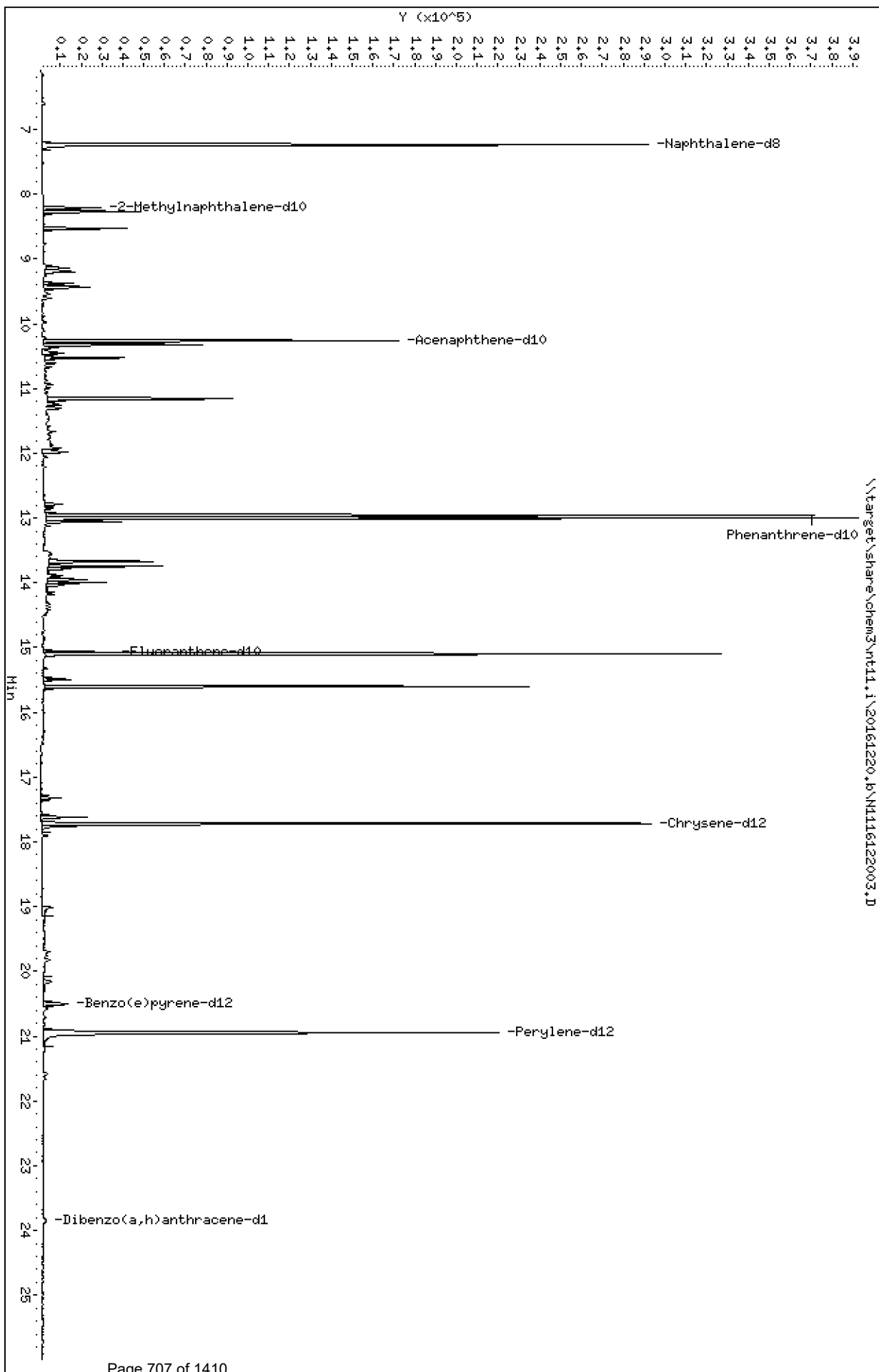
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

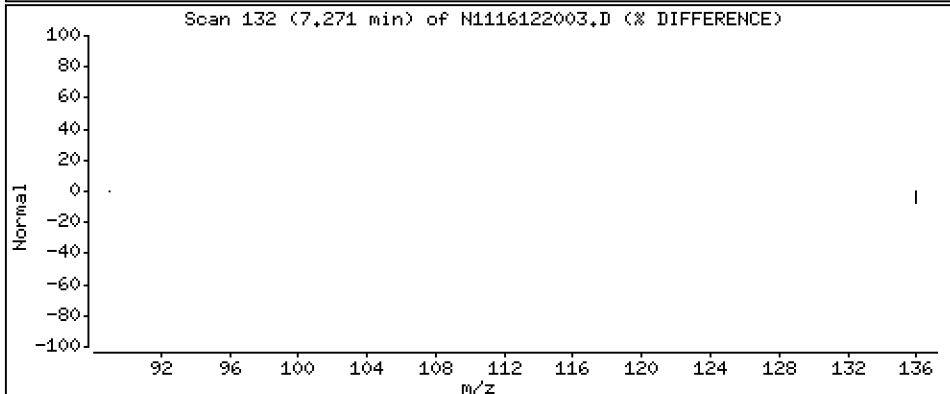
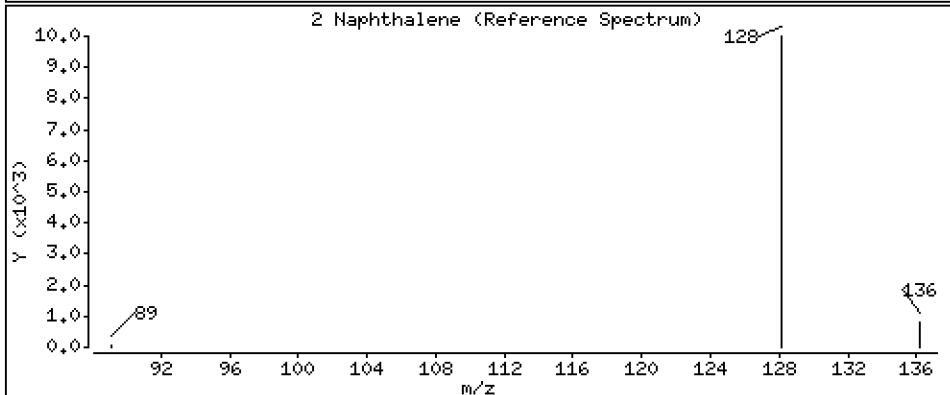
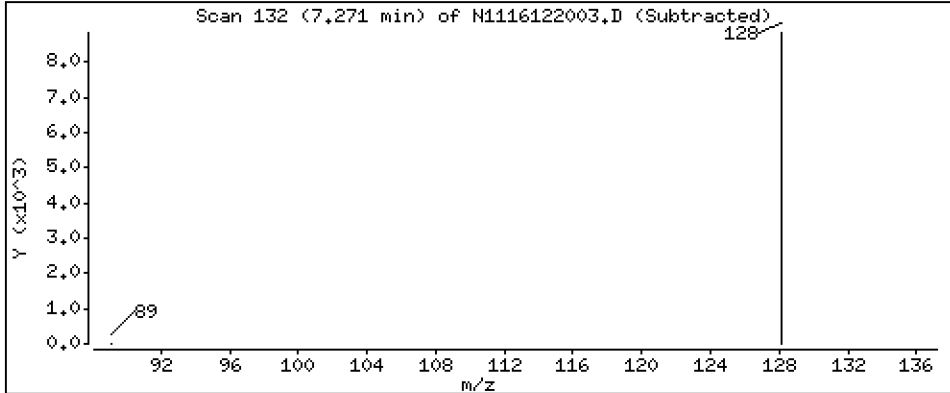
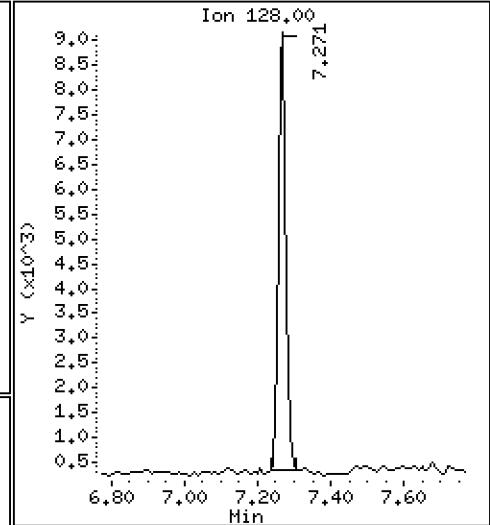
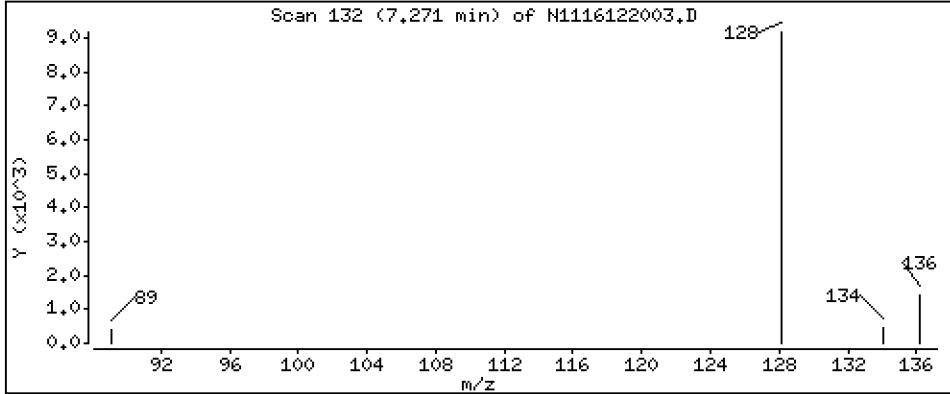
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 7,29 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

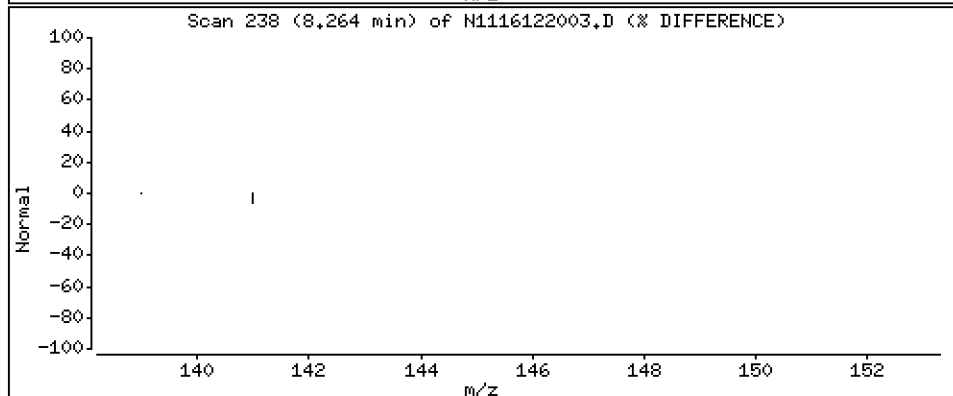
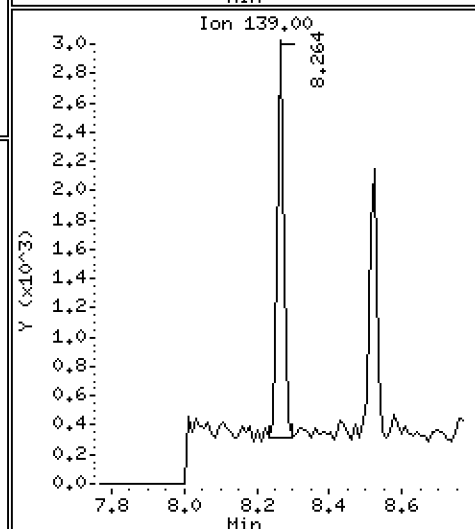
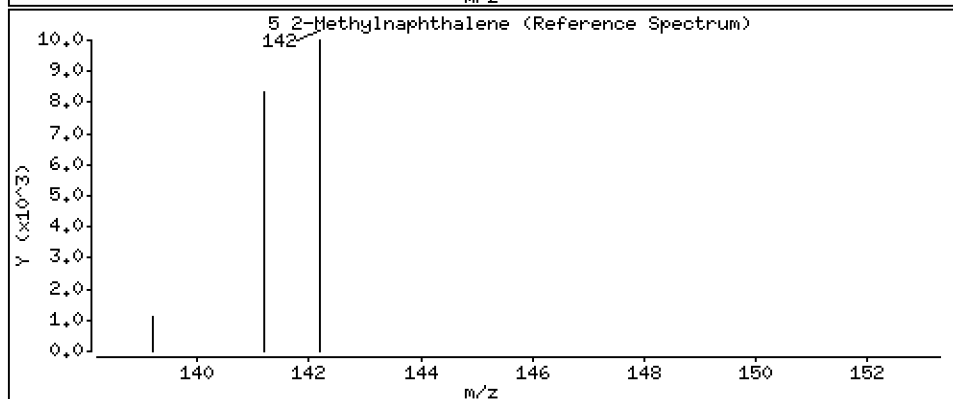
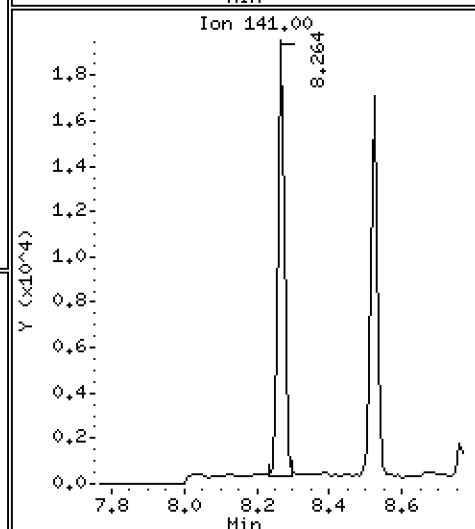
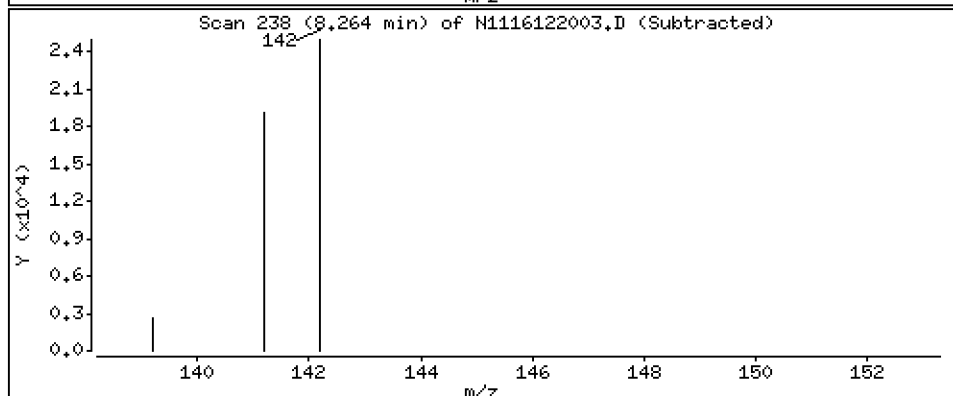
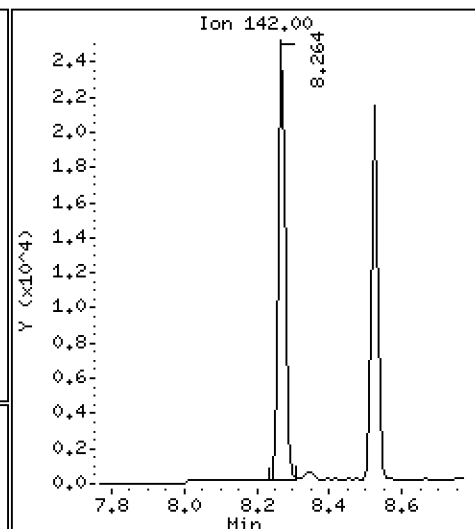
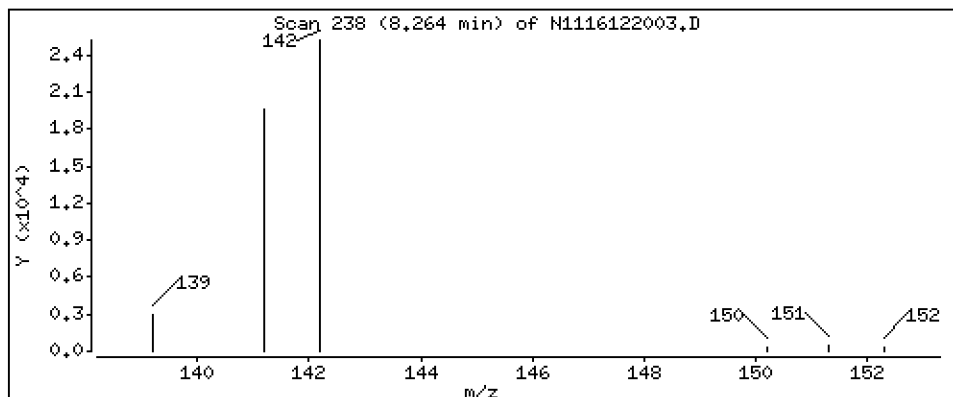
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 18,7 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

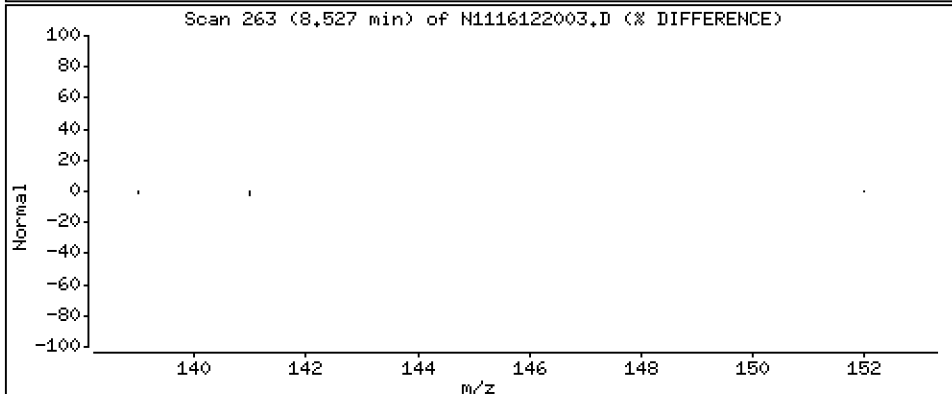
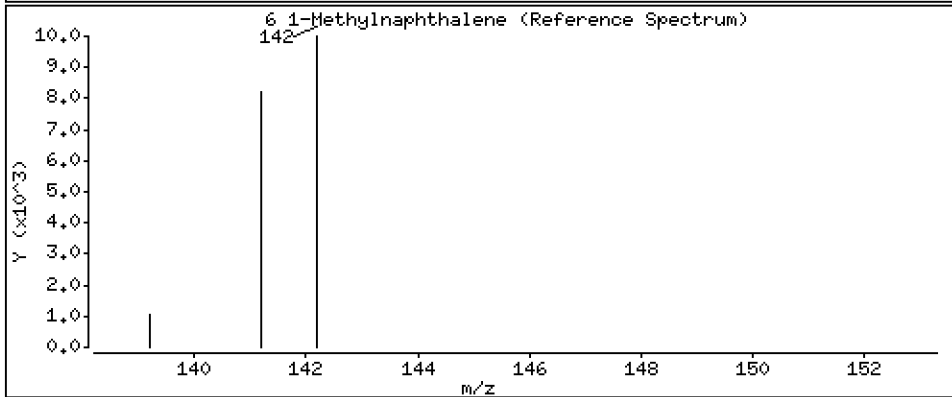
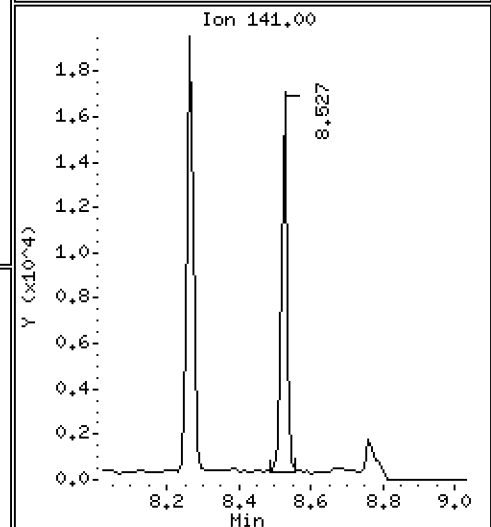
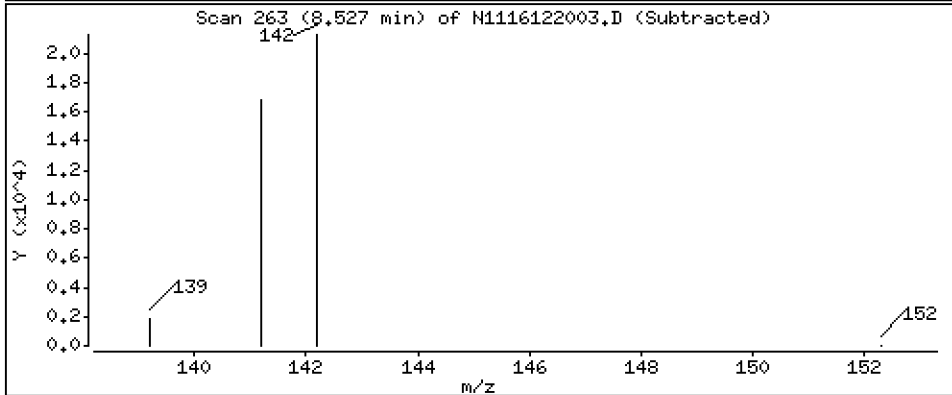
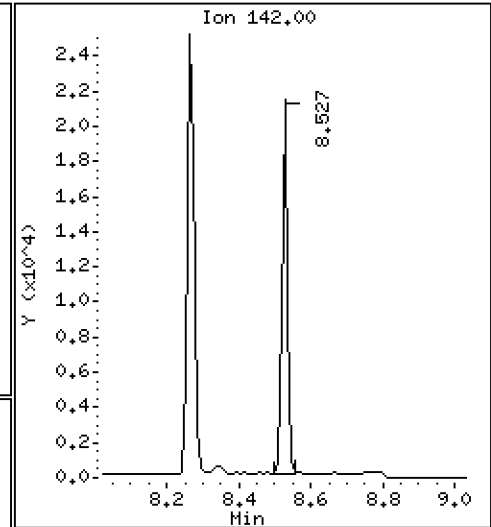
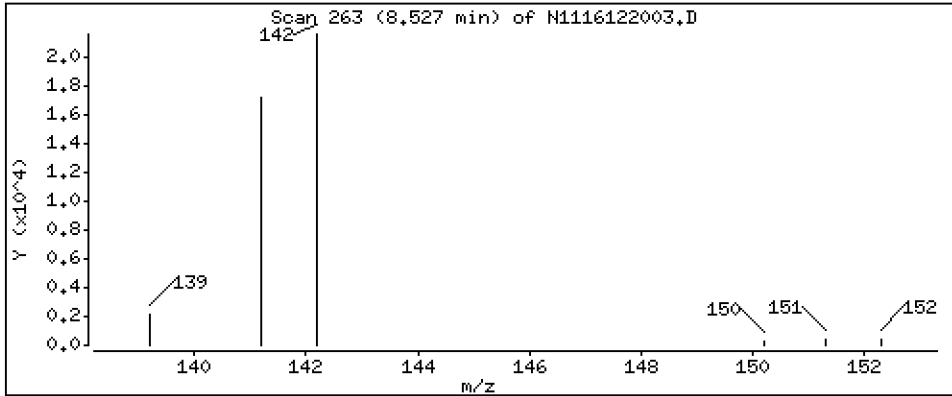
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 15,0 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

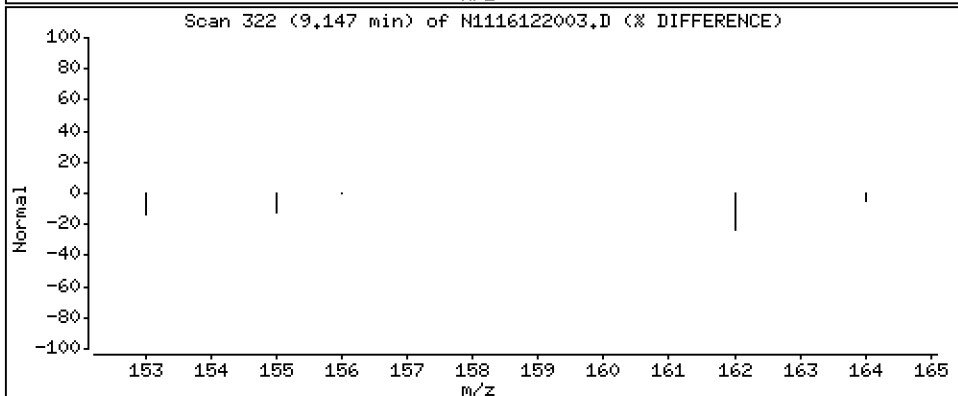
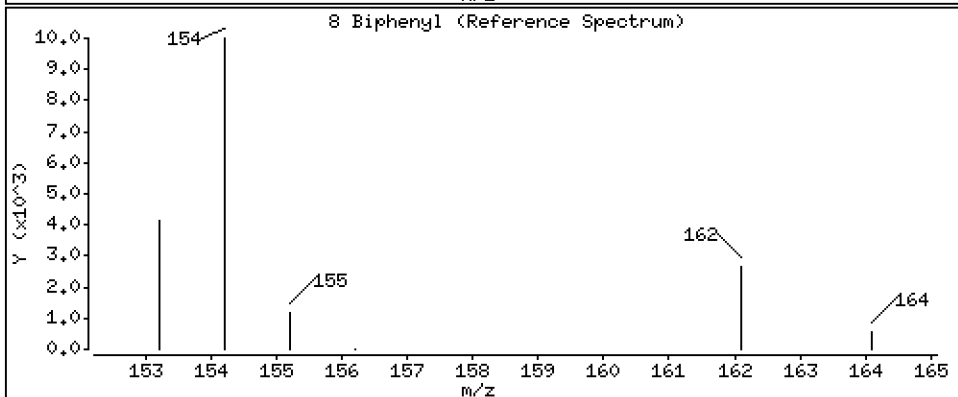
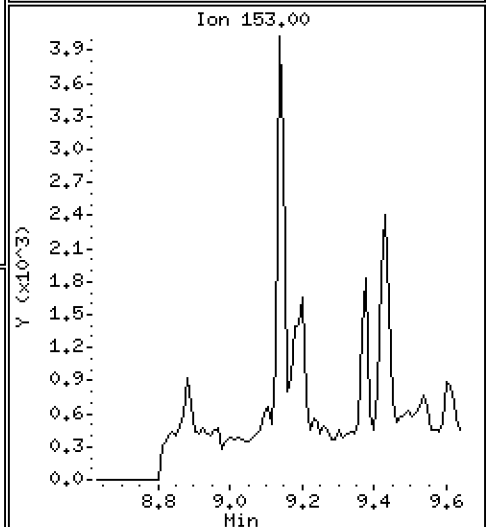
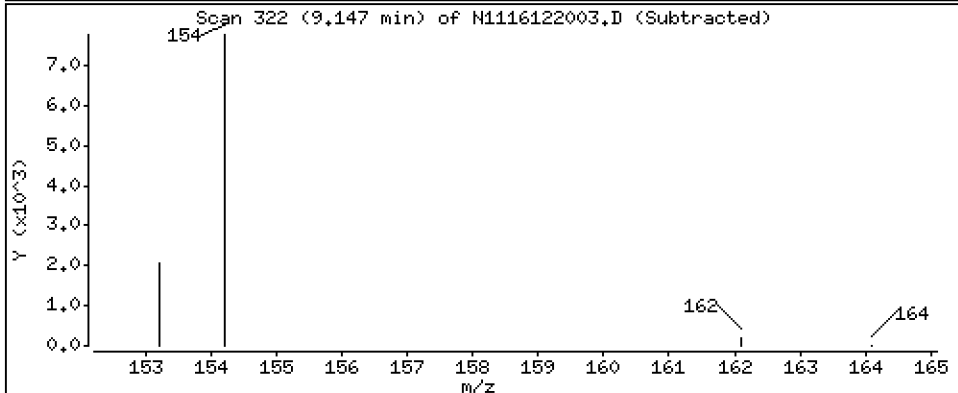
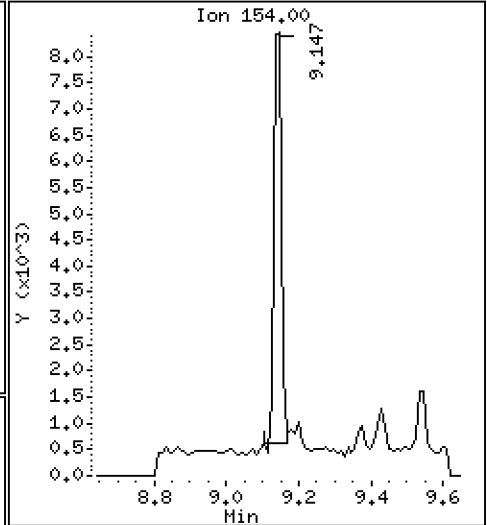
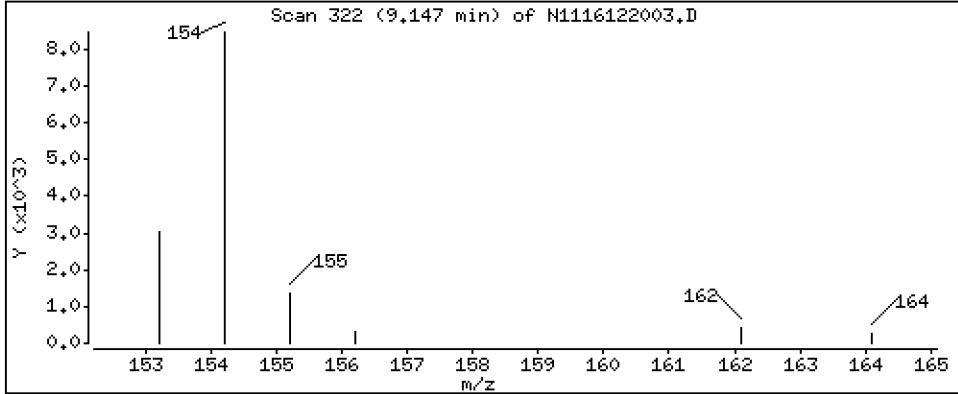
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 5,24 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

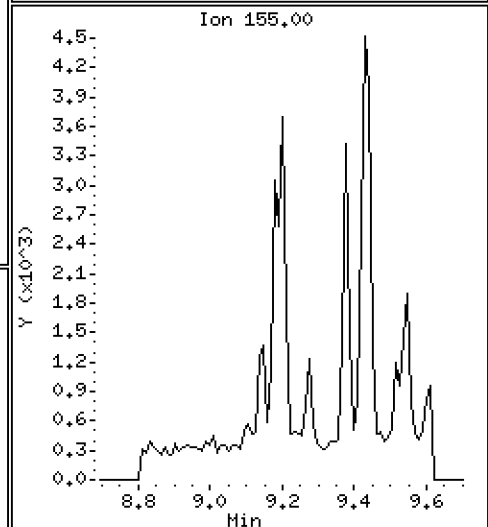
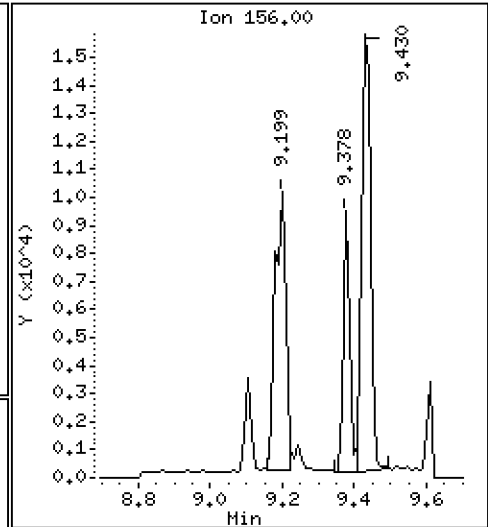
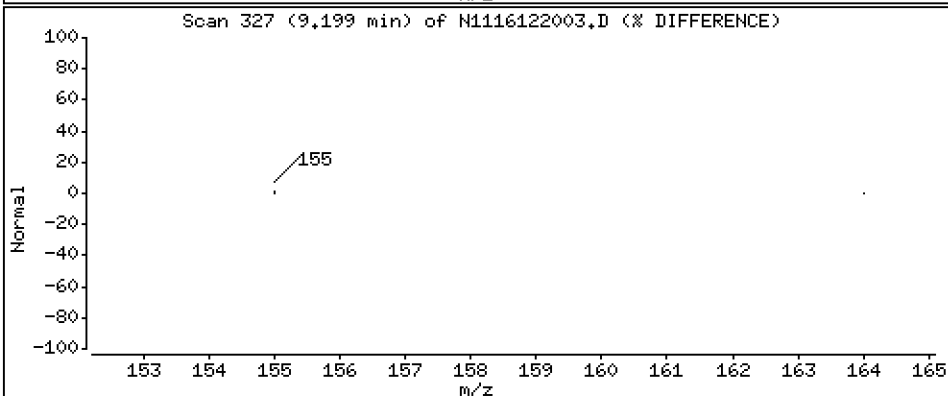
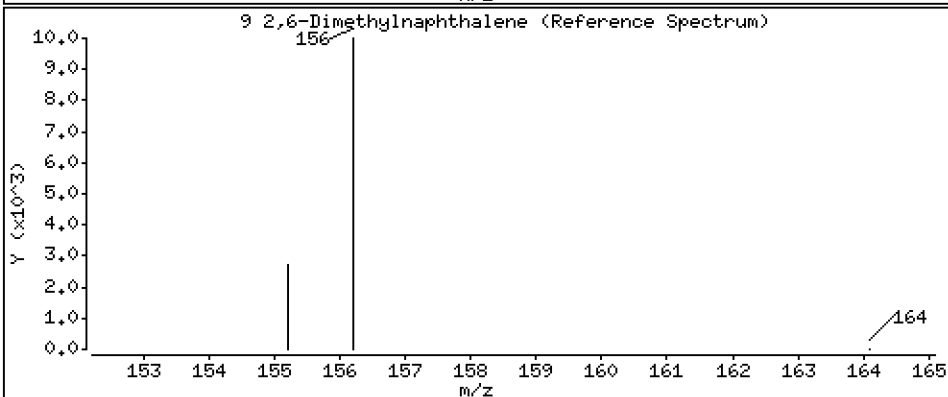
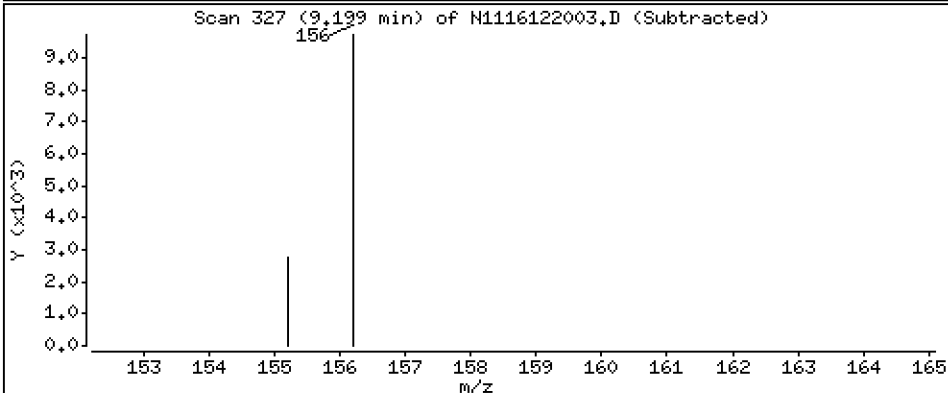
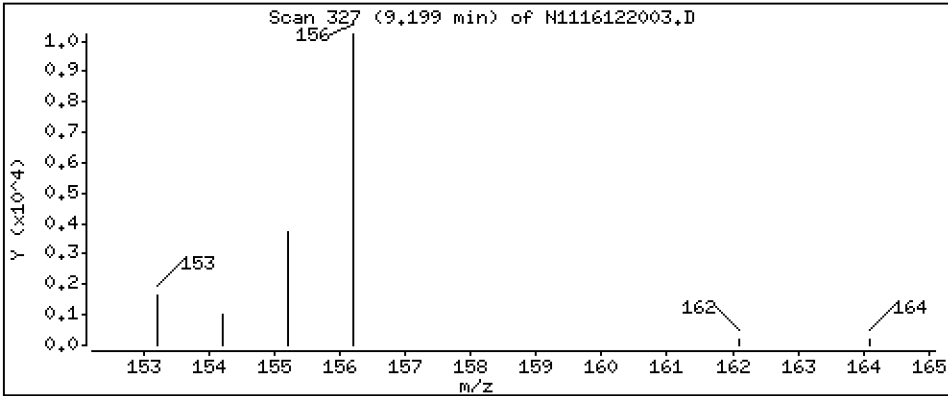
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 12,7 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

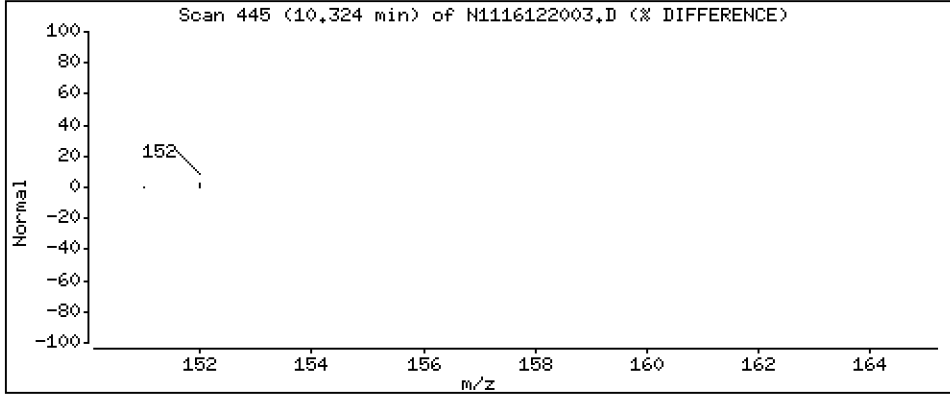
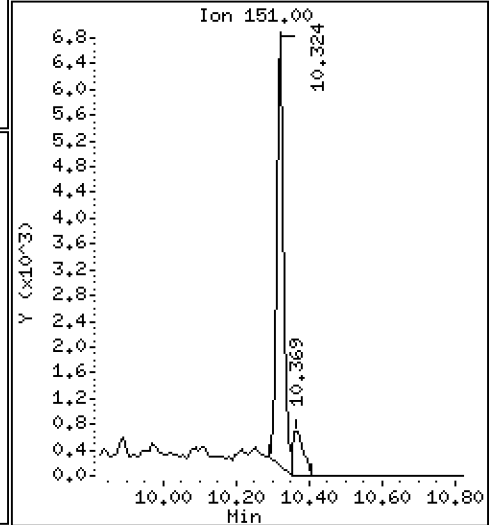
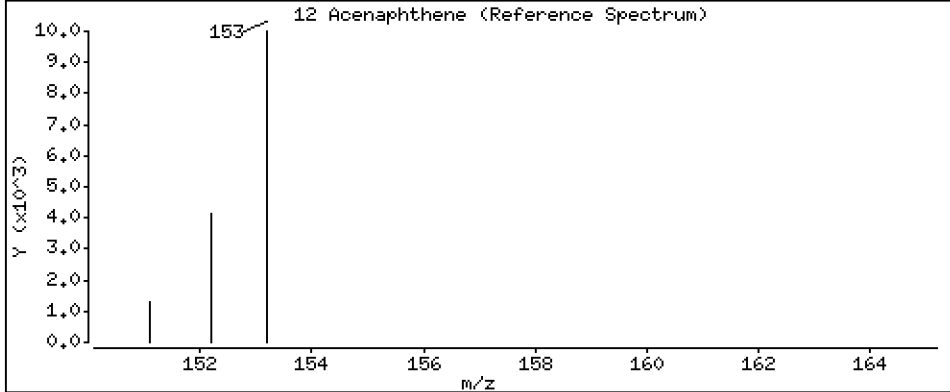
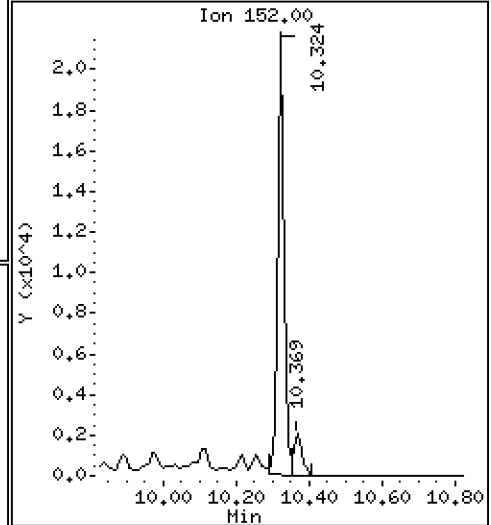
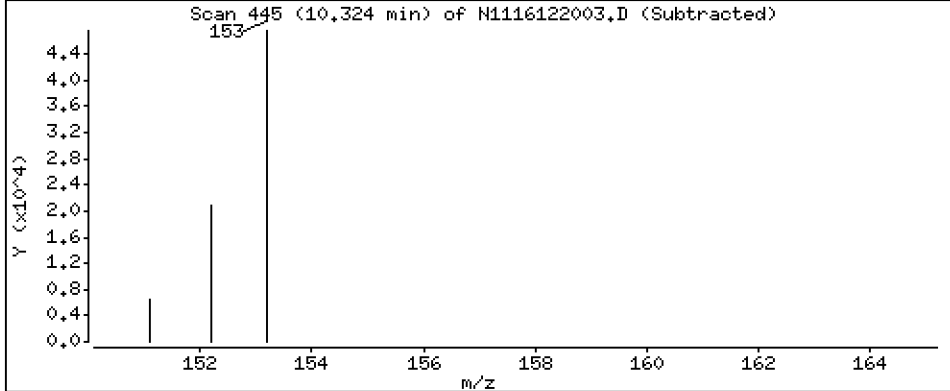
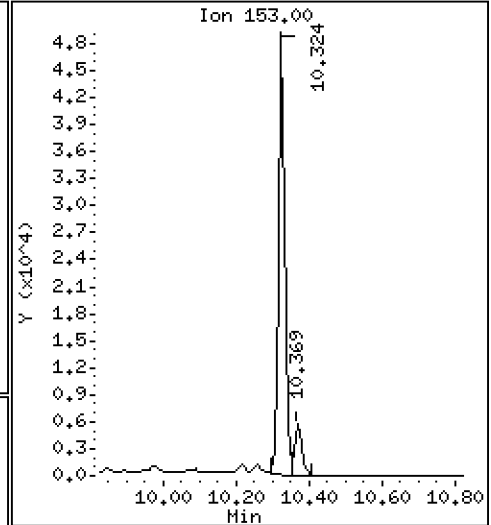
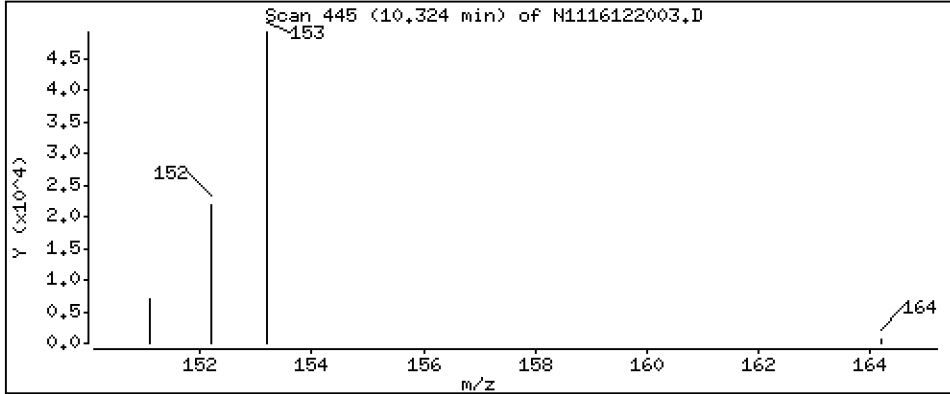
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 49,5 ng/mL

12 Acenaphthene



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

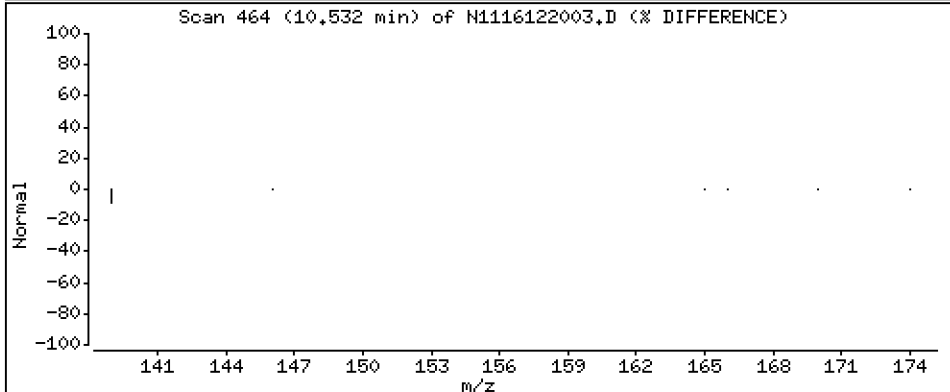
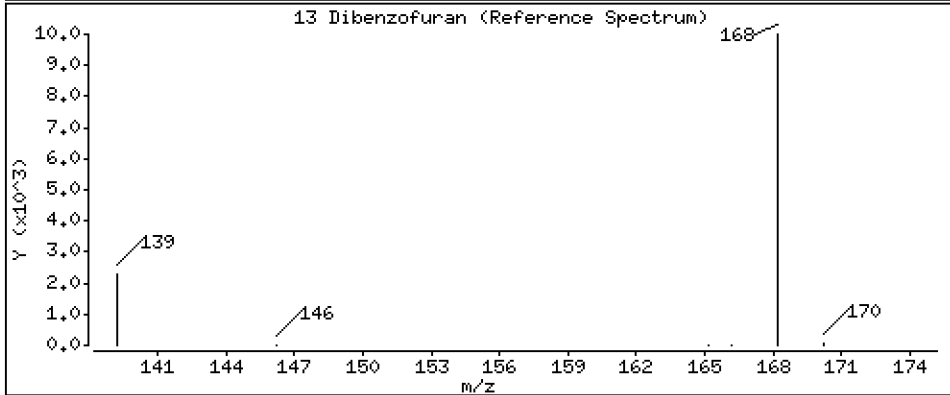
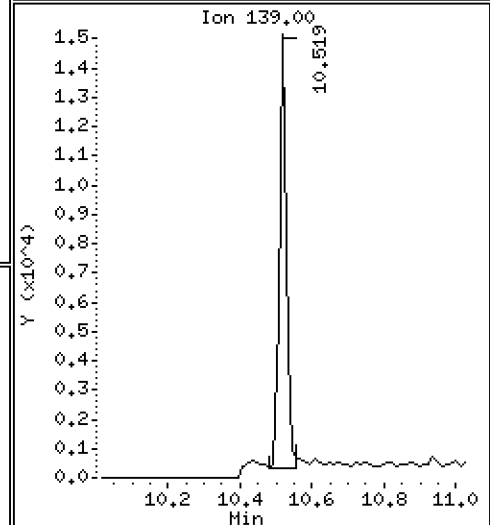
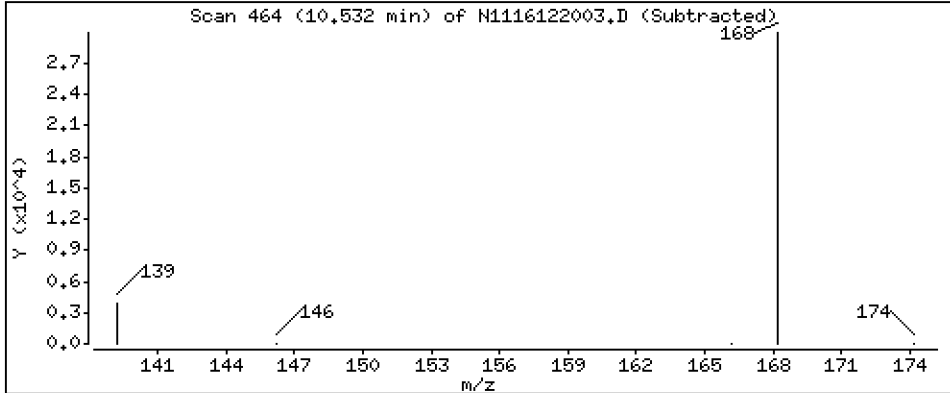
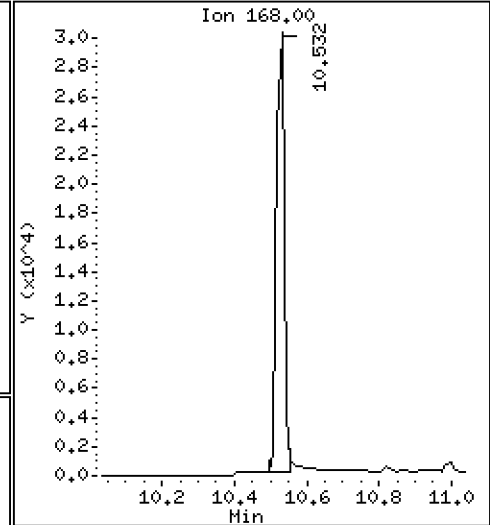
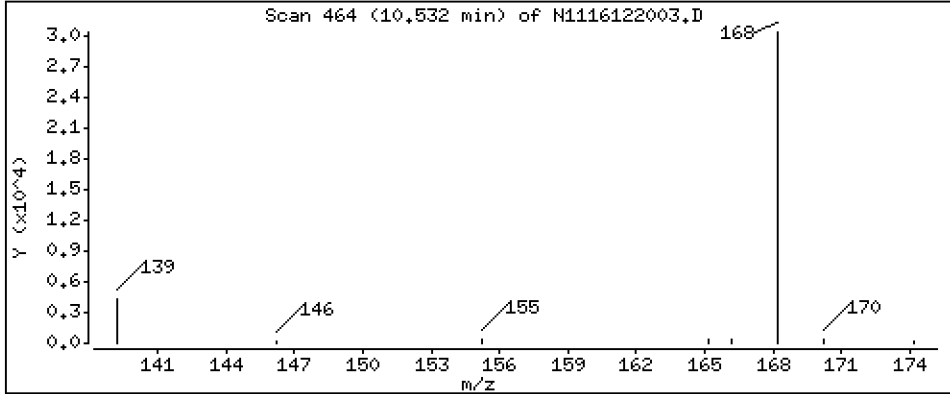
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 25,4 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

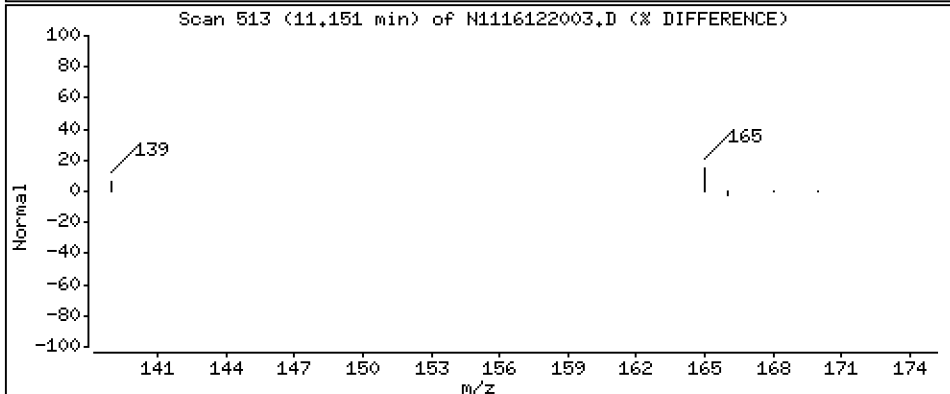
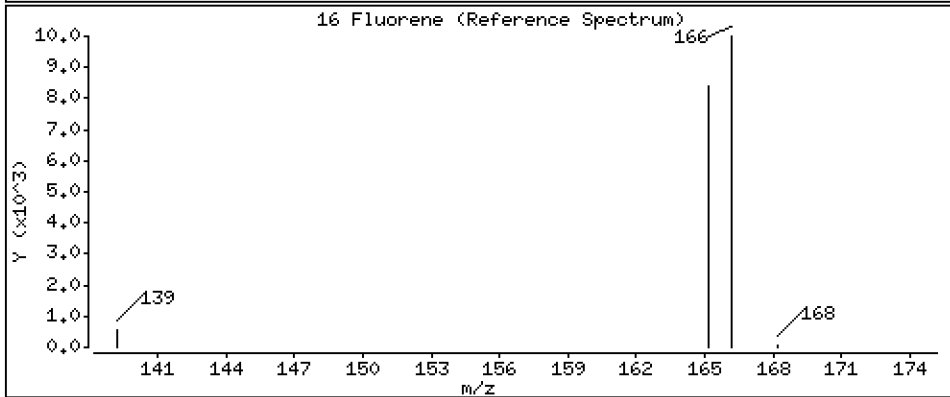
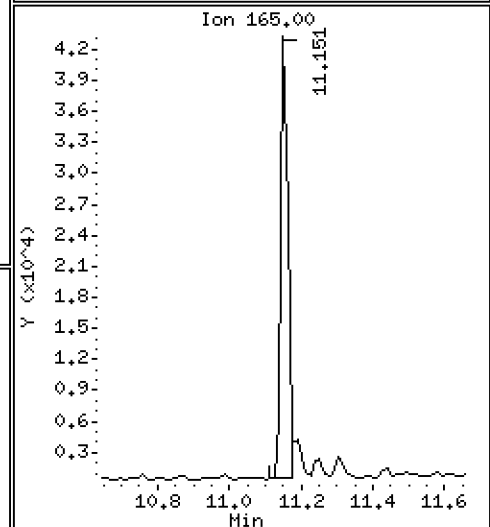
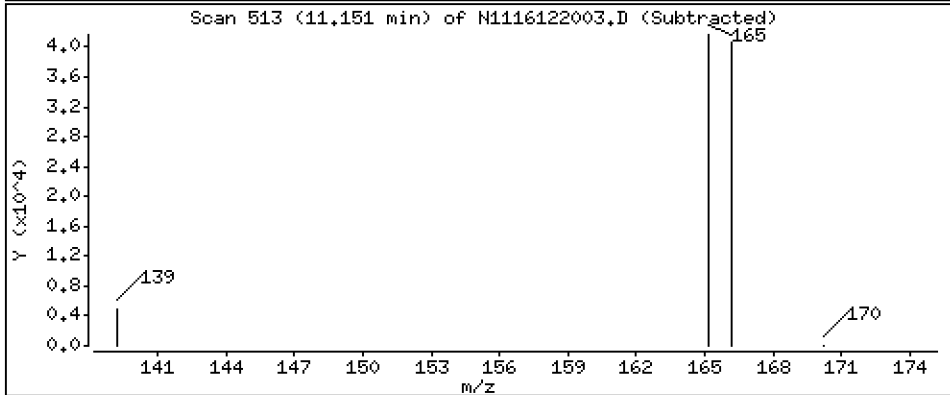
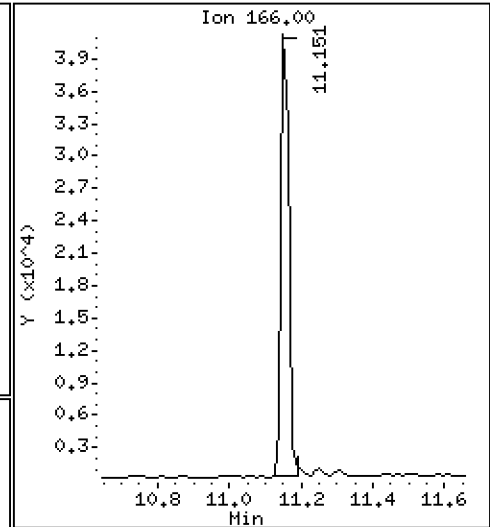
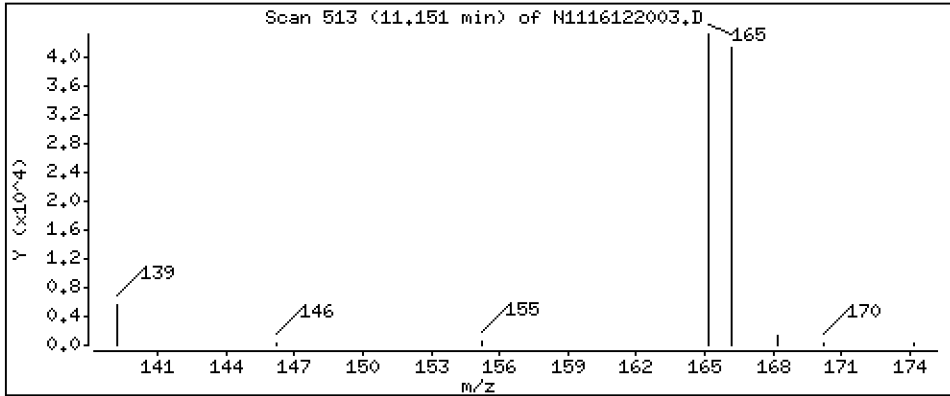
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 43,2 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

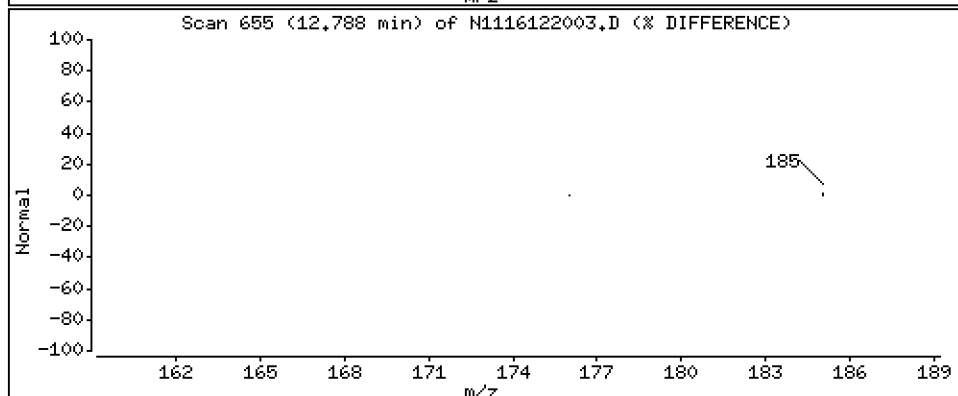
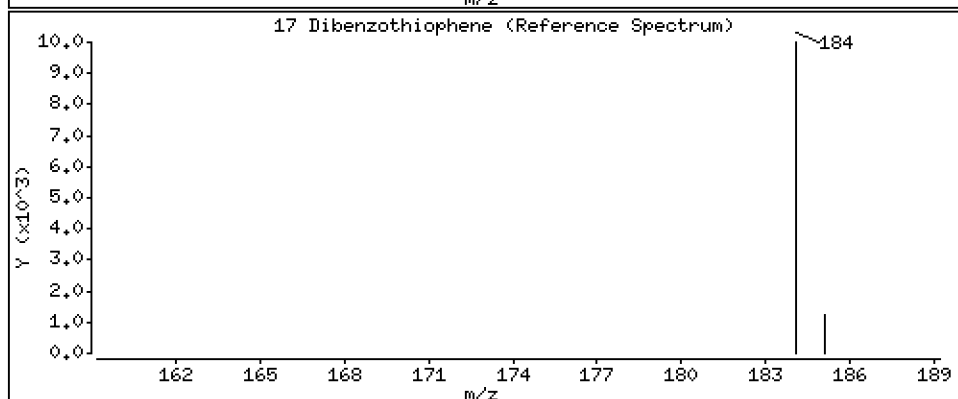
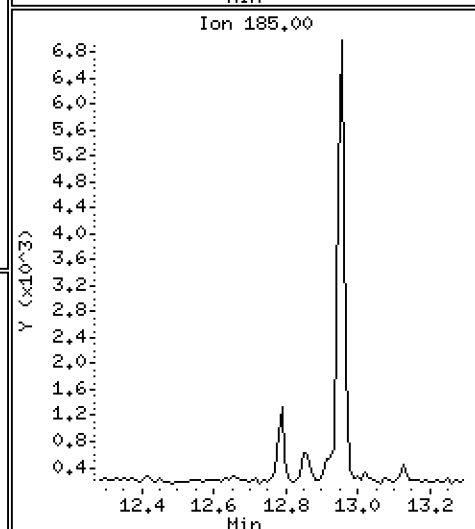
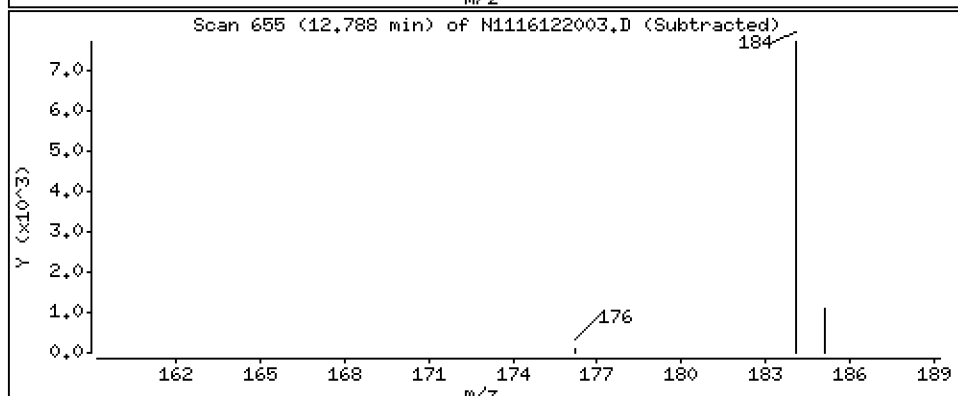
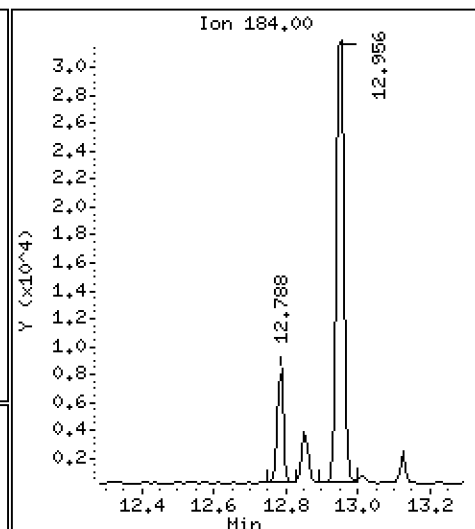
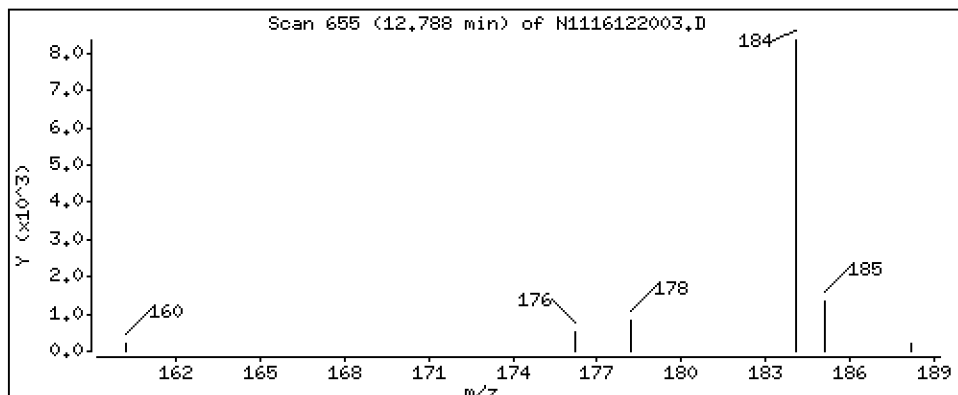
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 6,36 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

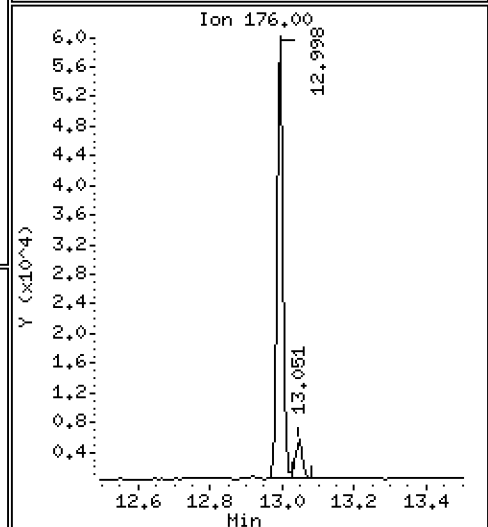
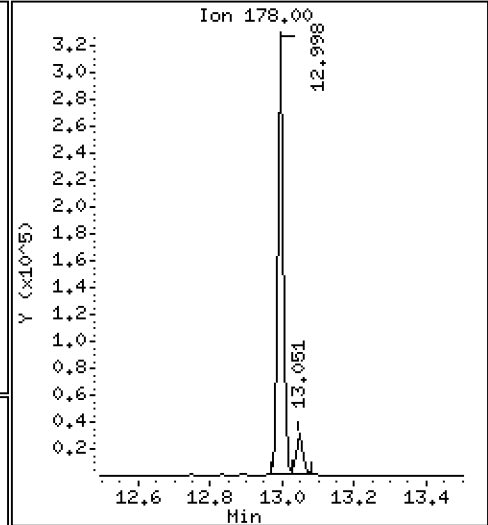
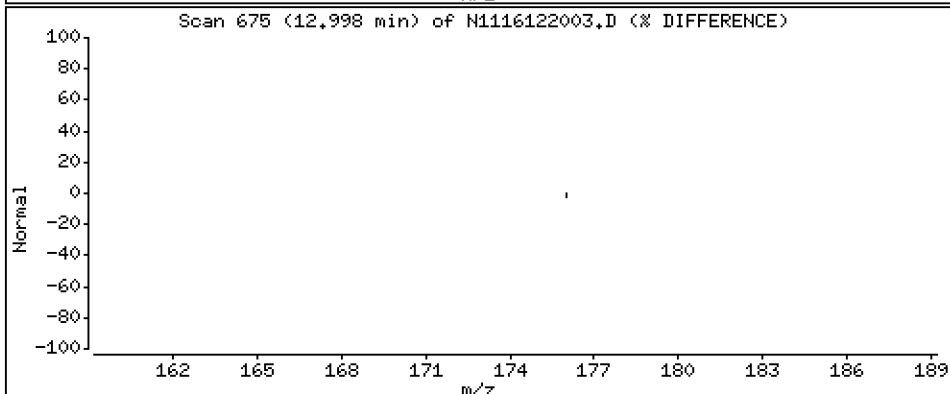
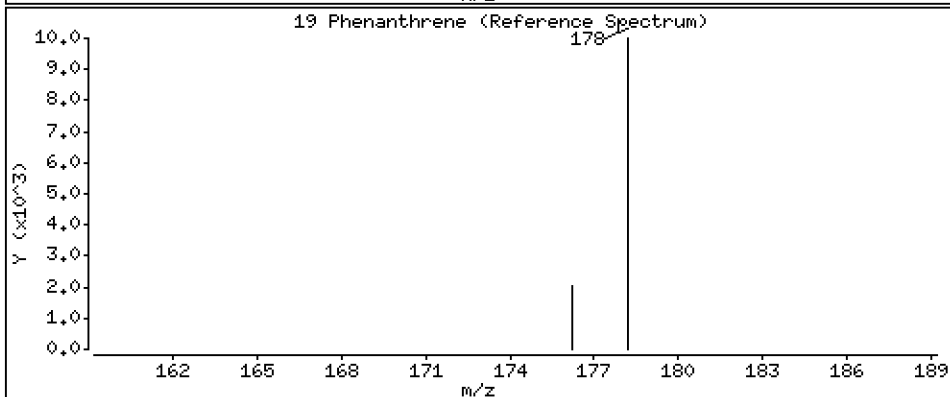
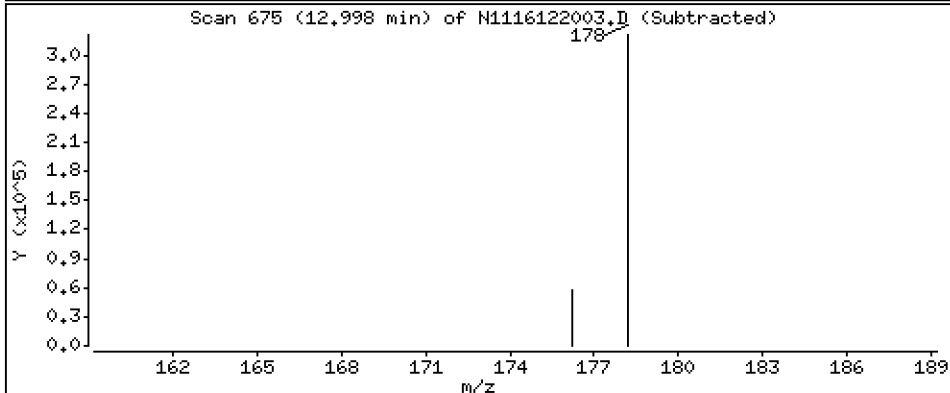
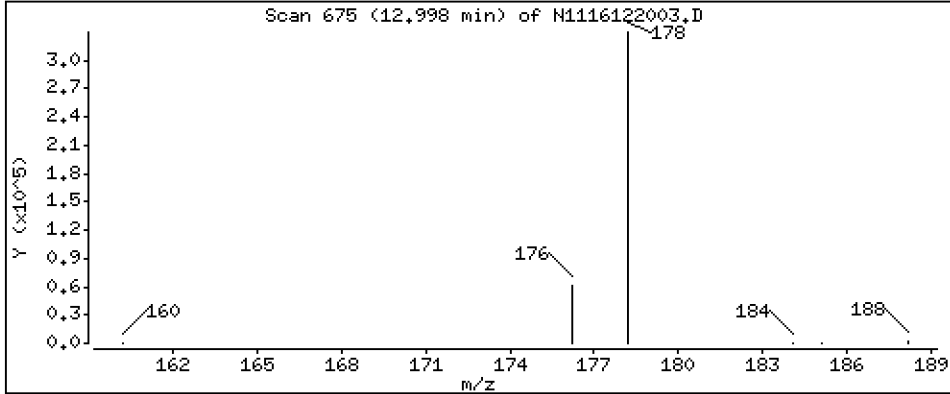
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 190 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

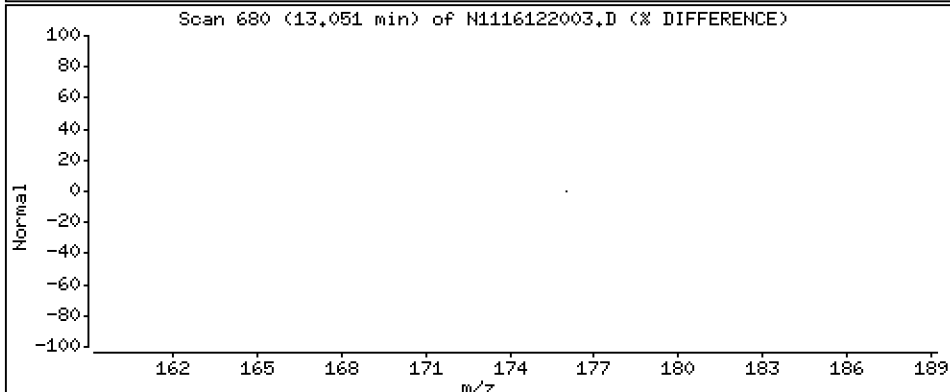
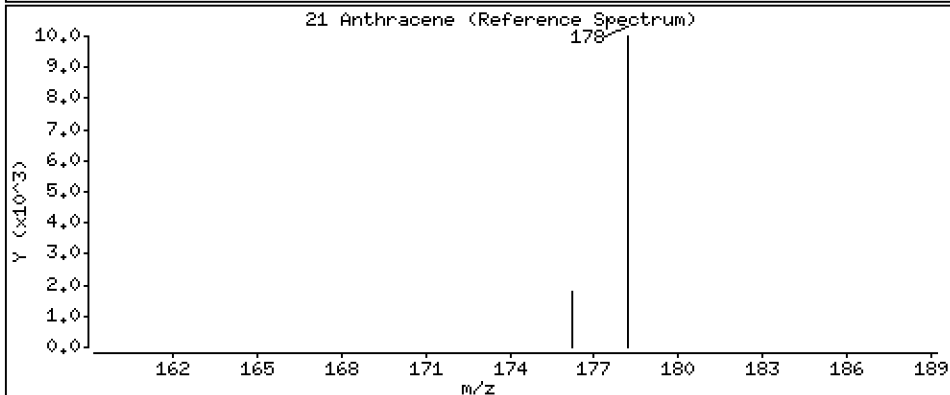
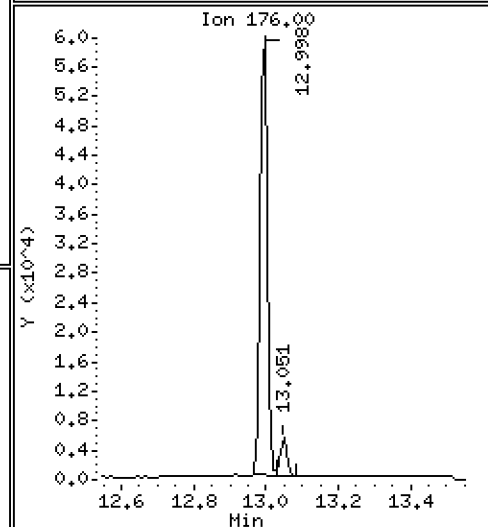
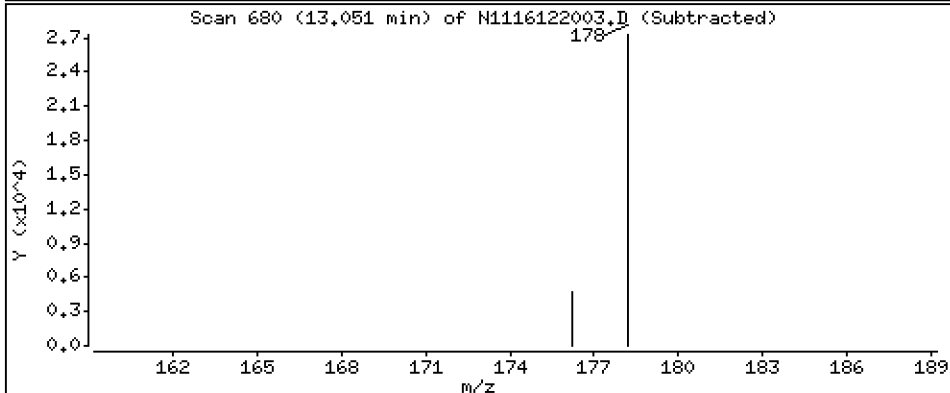
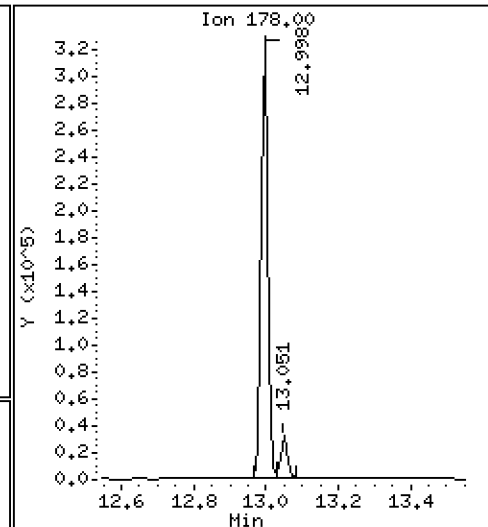
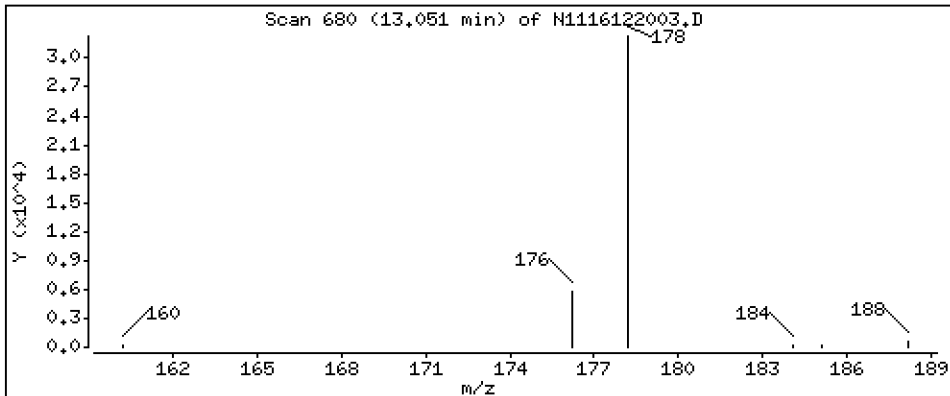
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 17,8 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

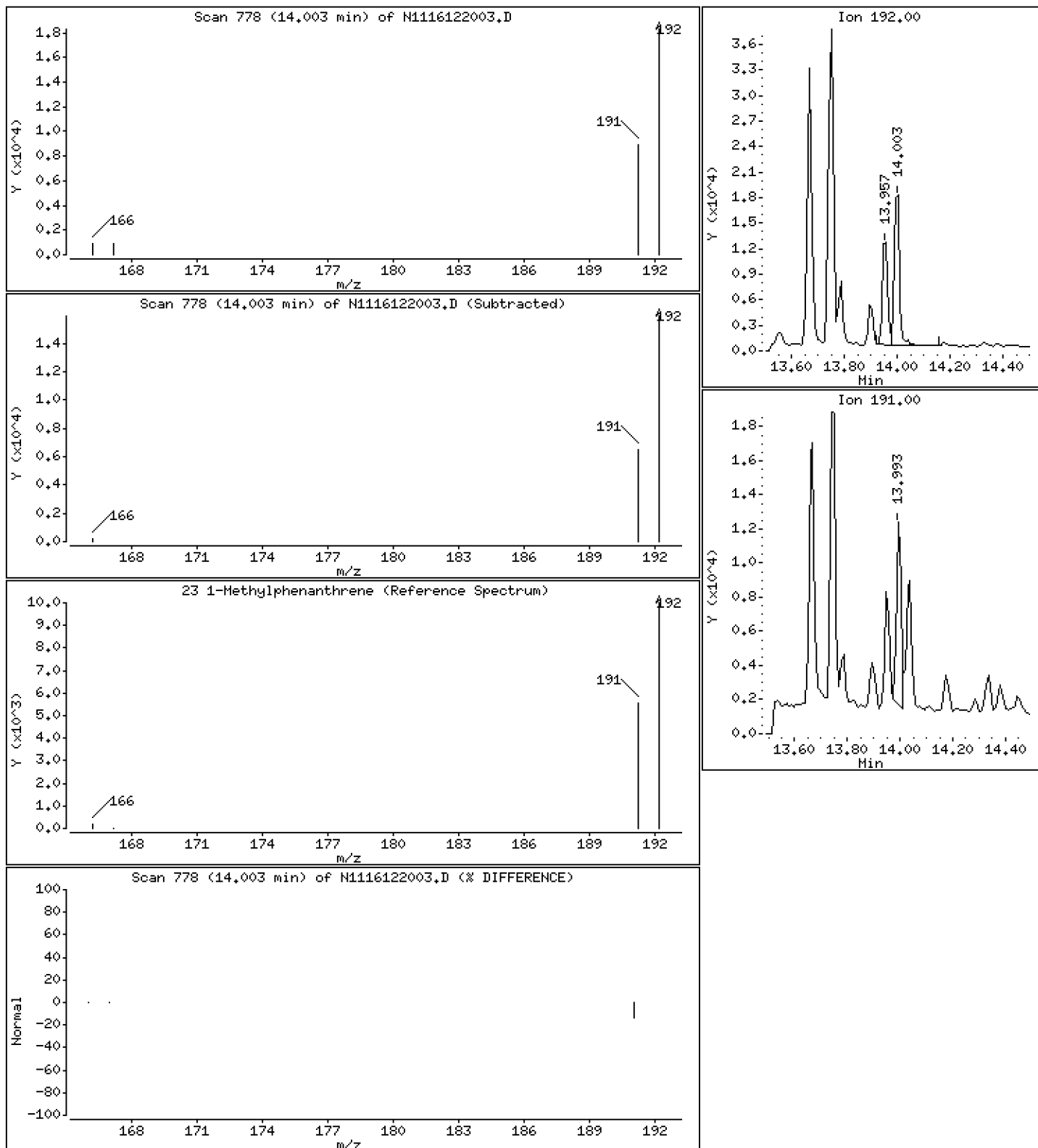
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 11,6 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

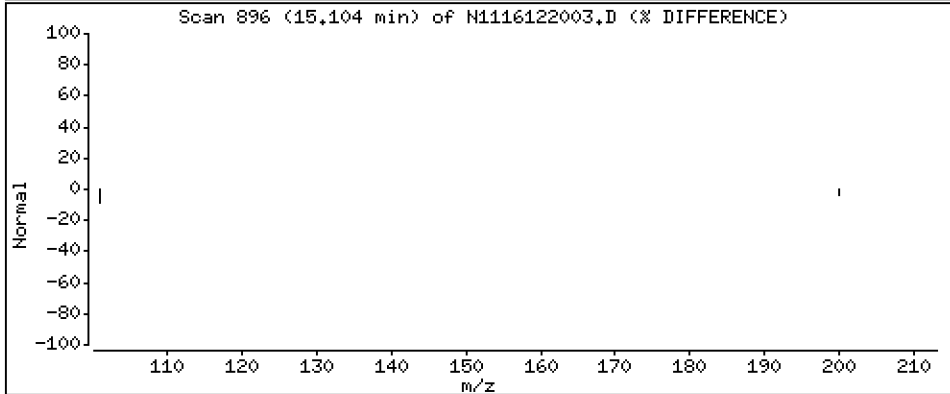
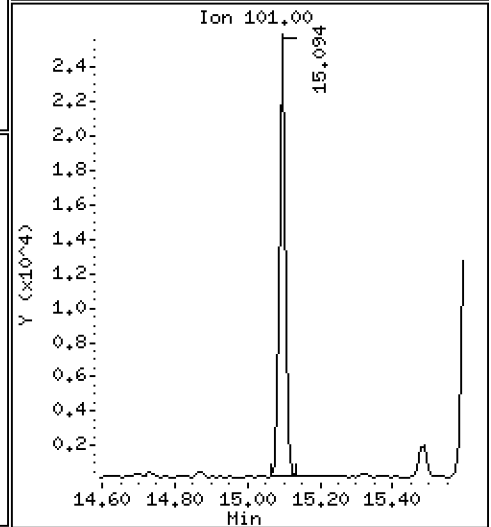
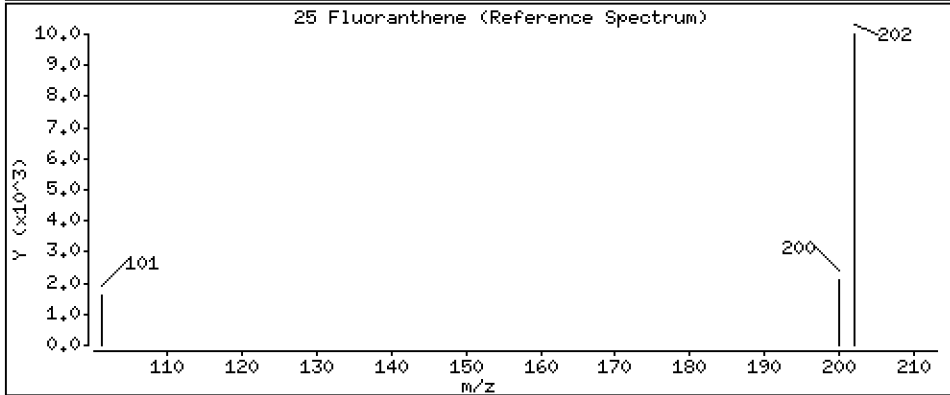
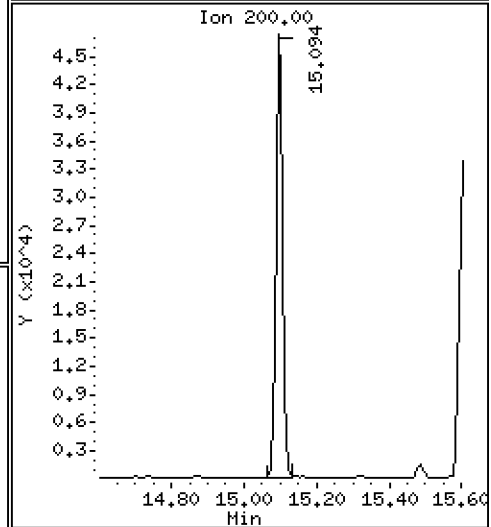
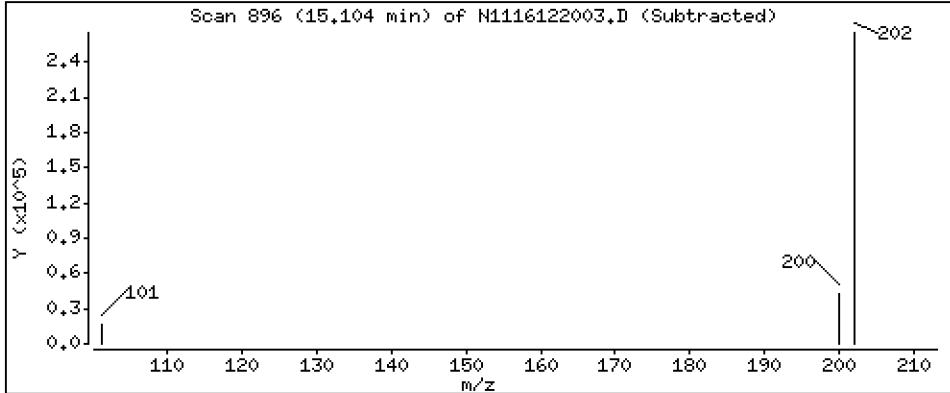
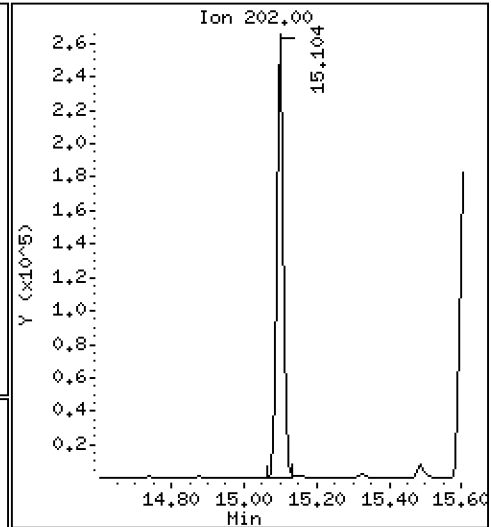
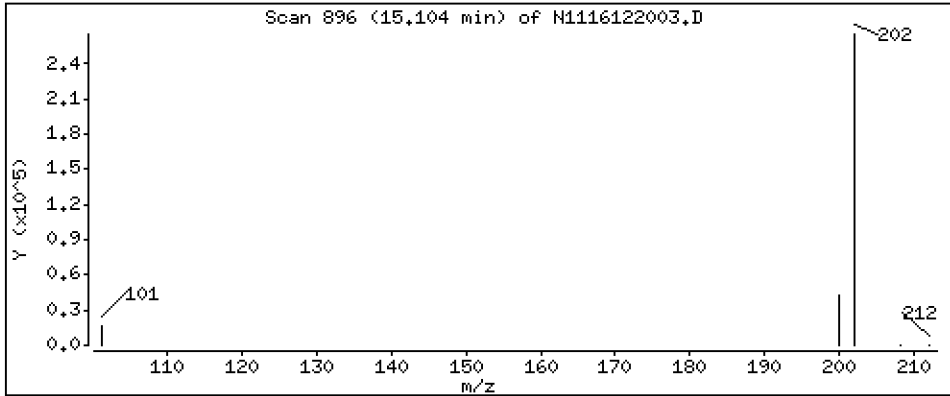
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 146 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

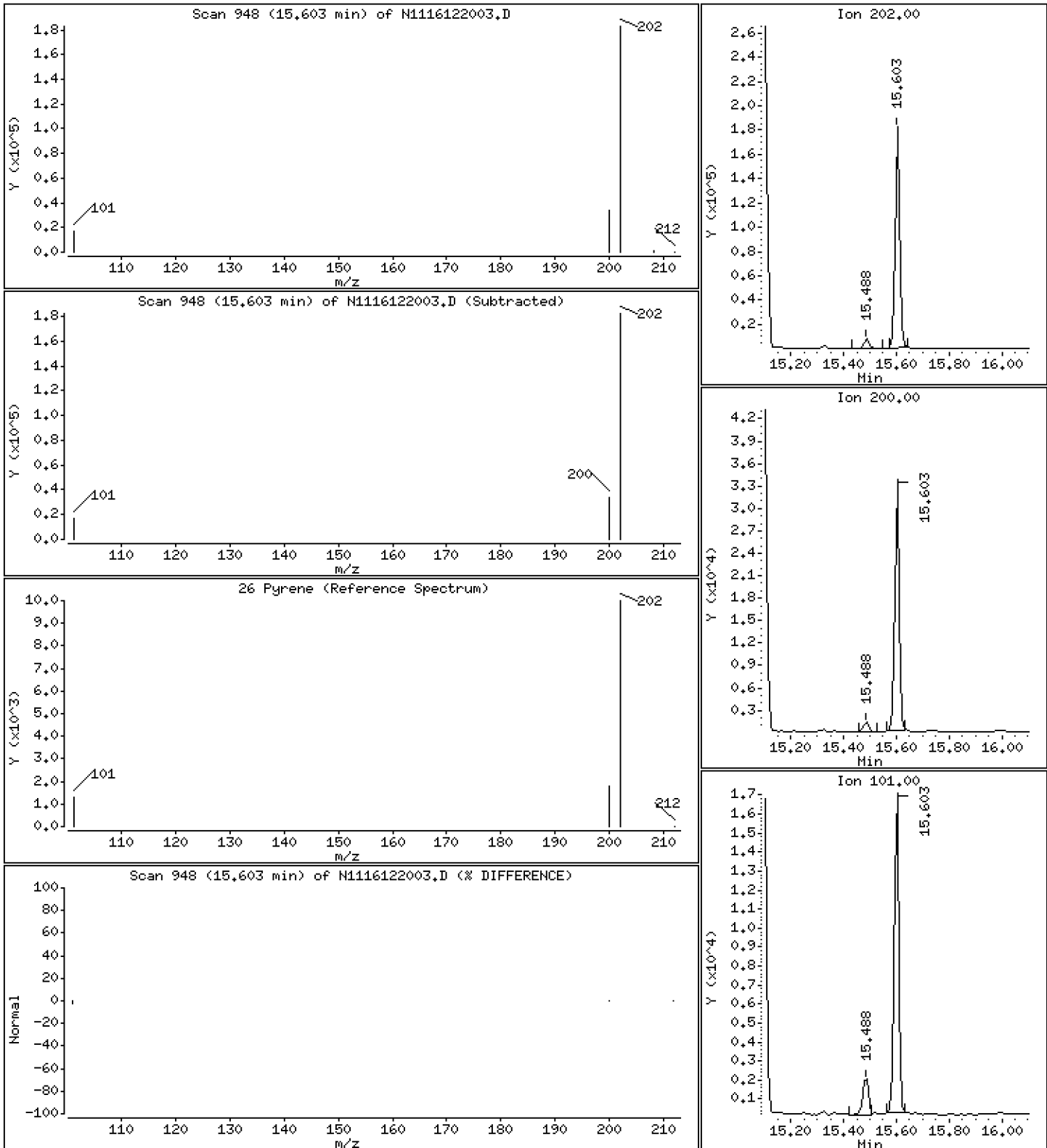
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 95,4 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

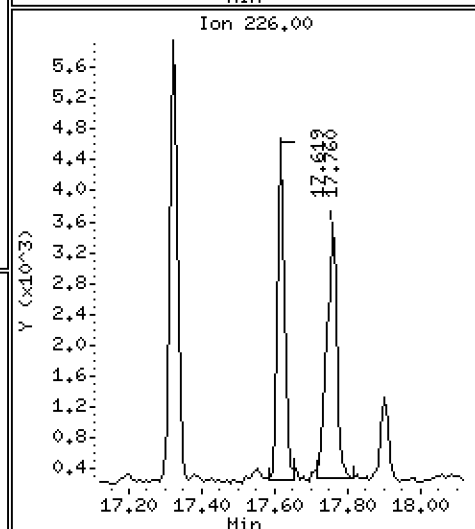
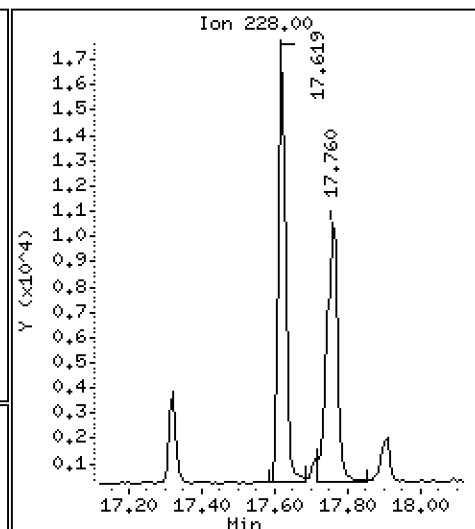
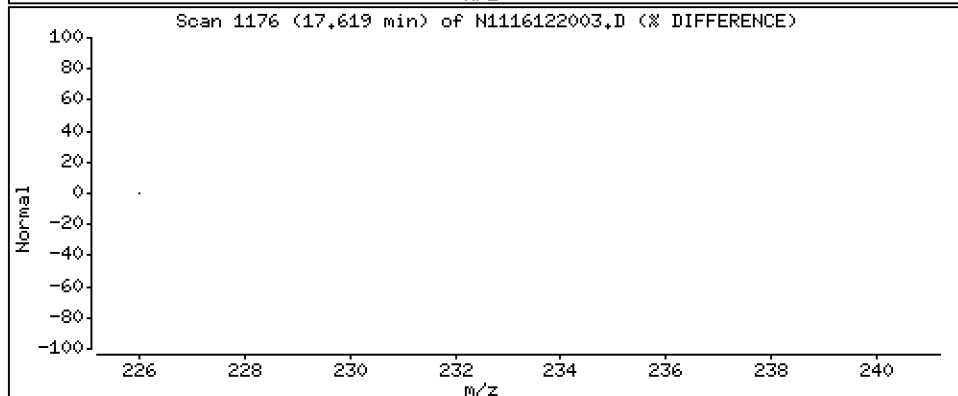
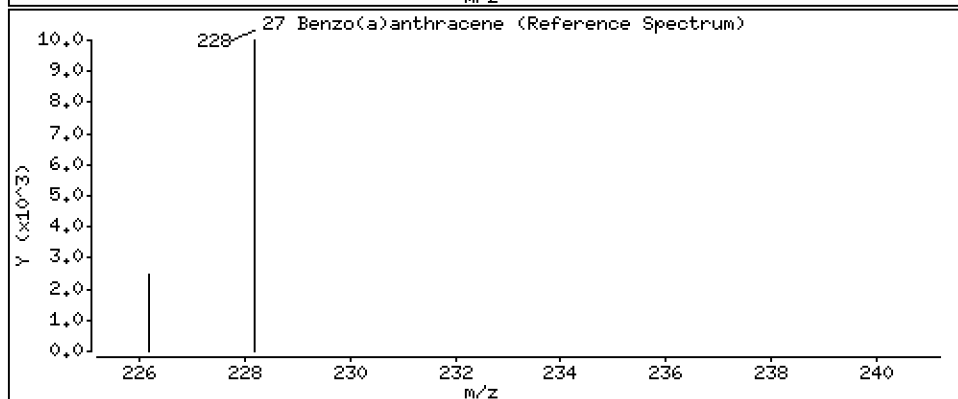
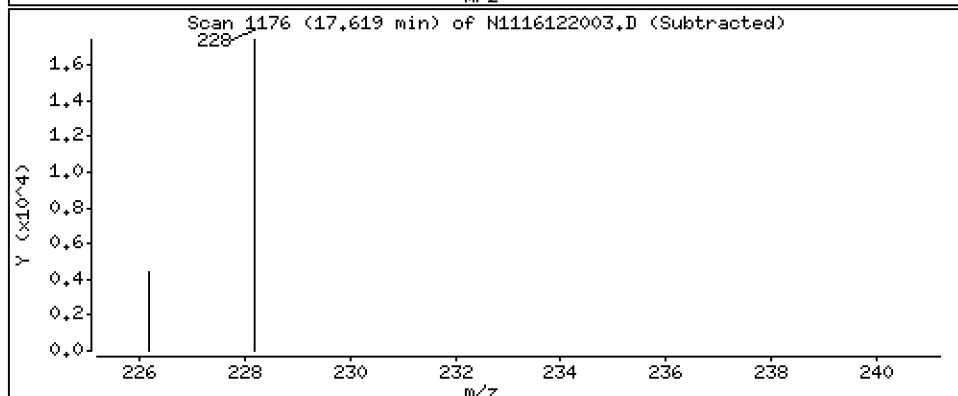
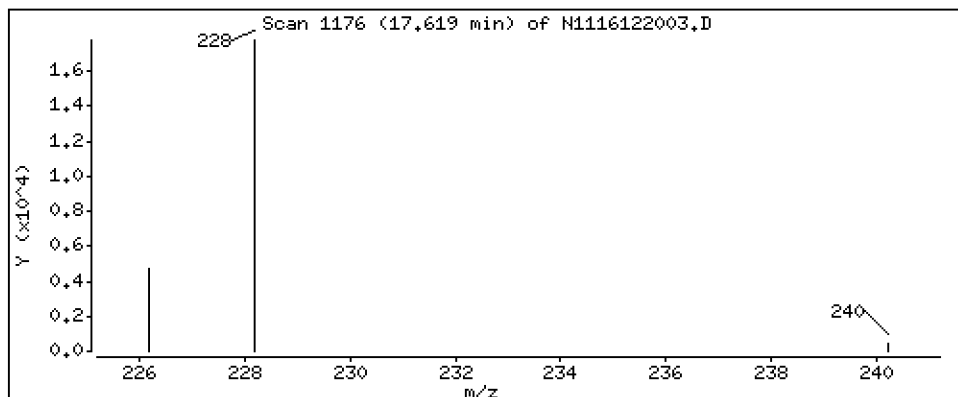
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 9,42 ng/mL



Date : 20-DEC-2016 10:16

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-19RE1,10

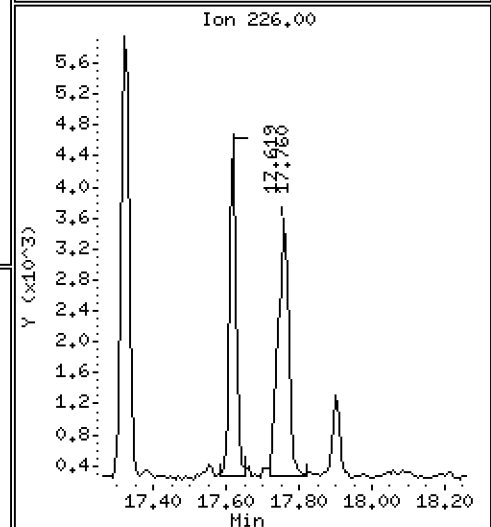
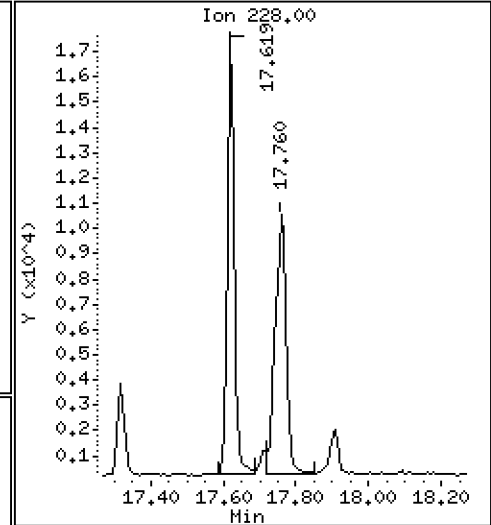
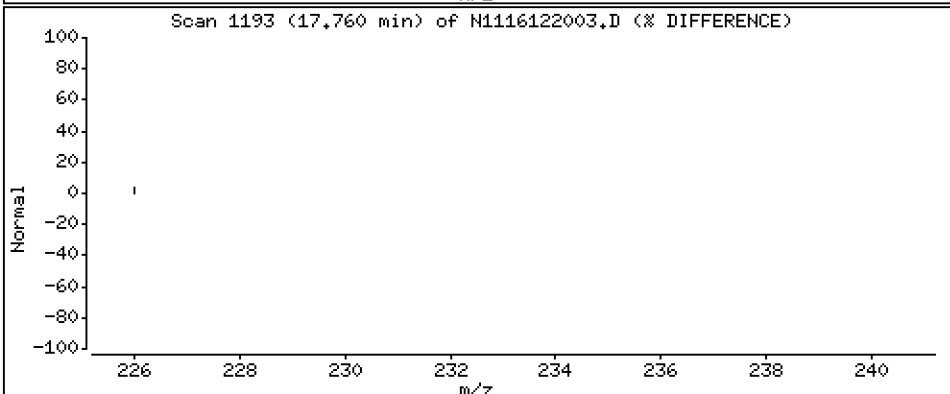
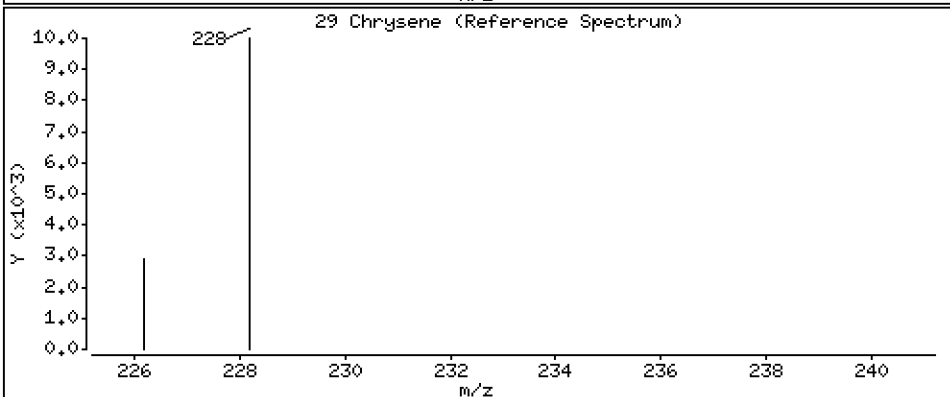
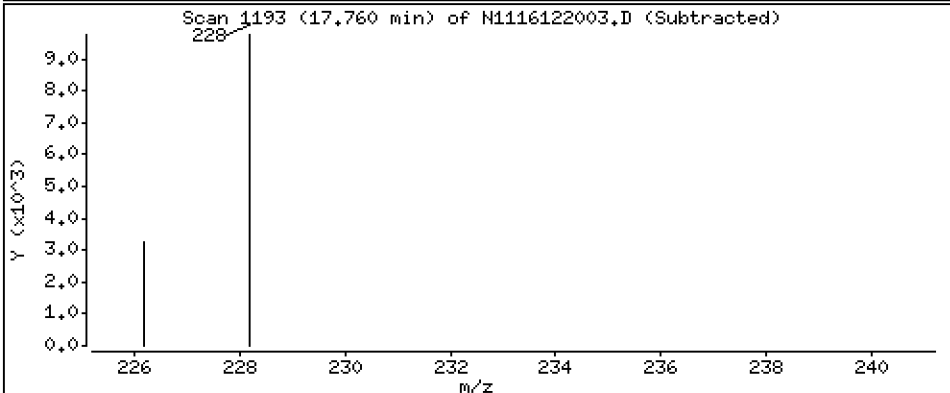
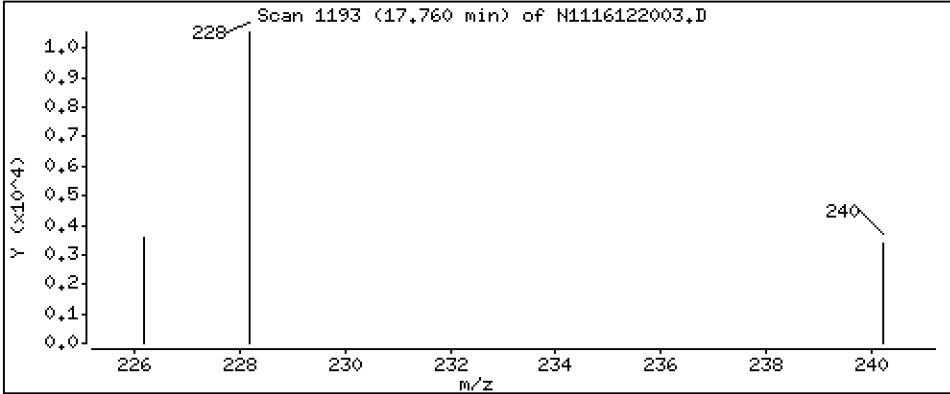
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 8,81 ng/mL

29 Chrysene



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161220.b\N1116122003.D
 Lab Smp Id:
 Inj Date : 20-DEC-2016 10:16 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-19RE1,10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161220.b\LOWSIM.m
 Meth Date : 20-Dec-2016 12:21 nt11.i Quant Type: ISTD
 Cal Date : 16-DEC-2016 16:32 Cal File: N1116121615.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	357097	200.000	
2 Naphthalene	128		7.271	7.271	(1.005)	12896	7.28608	7.29
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	19010	12.1993	12.2
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	32590	18.7449	18.7
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	25556	14.9614	15.0
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		9.146	9.146	(0.891)	11271	5.23832	5.24
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	20948	12.7409	12.7
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		10.261	10.260	(1.000)	204920	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	59279	49.4941	49.5
13 Dibenzofuran	168		10.531	10.531	(1.026)	45104	25.3870	25.4
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	61453	43.1561	43.2
17 Dibenzothiophene	184		12.788	12.788	(0.987)	11091	6.35862	6.36
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	388019	200.000	
19 Phenanthrene	178		12.998	12.998	(1.003)	413127	190.451	190
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		13.050	13.050	(1.007)	36909	17.8395	17.8
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		14.002	14.002	(1.081)	25532	11.6339	11.6
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	34966	16.9179	16.9
25 Fluoranthene	202		15.103	15.103	(1.166)	365164	146.094	146
26 Pyrene	202		15.603	15.603	(0.881)	232301	95.4118	95.4
27 Benzo(a)anthracene	228		17.619	17.619	(0.994)	23349	9.42102	9.42
* 28 Chrysene-d12	240		17.718	17.718	(1.000)	425462	200.000	
29 Chrysene	228		17.760	17.768	(1.002)	22314	8.81453	8.81
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		20.503	20.503	(0.979)	21144	10.7388	10.7
34 Benzo(e)pyrene	252		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
35 Benzo(a)pyrene	252					Compound Not Detected.		
* 36 Perylene-d12	264		20.945	20.945	(1.000)	395534	200.000	
37 Perylene	252					Compound Not Detected.		
\$ 38 Dibenzo(a,h)anthracene-d14	292		23.841	23.852	(1.138)	7710	6.61123	6.61
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 20-DEC-2016
 Lab File ID: N1116122003.D Calibration Time: 09:45
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161220.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	341640	170820	683280	357097	4.52
11 Acenaphthene-d10	209310	104655	418620	204920	-2.10
18 Phenanthrene-d10	404977	202489	809954	388019	-4.19
28 Chrysene-d12	465046	232523	930092	425462	-8.51
36 Perylene-d12	454694	227347	909388	395534	-13.01

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	0.00
28 Chrysene-d12	17.72	17.22	18.22	17.72	0.00
36 Perylene-d12	20.95	20.45	21.45	20.95	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 - N1116122003.D

Lab ID:

nt11.i, 20161220.b\LOWSIM.m, 20-DEC-2016 10:16

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161220.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-21 File ID: N1116121707.D
 Sampled: 11/22/16 13:16 Prepared: 11/24/16 08:25 Analyzed: 12/17/16 15:15
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0658 Sequence: SEL0255 Calibration: ZL00052
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	10.6	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	18.1		1.13	1.13
208-96-8	Acenaphthylene	1	1.13	U	1.13	1.13
83-32-9	Acenaphthene	1	70.1		1.13	1.13
86-73-7	Fluorene	1	70.2		1.13	1.13
85-01-8	Phenanthrene	1	253	E	1.13	1.13
120-12-7	Anthracene	1	29.5		1.13	1.13
206-44-0	Fluoranthene	1	183	E	1.13	1.13
129-00-0	Pyrene	1	155	E	1.13	1.13
56-55-3	Benzo(a)anthracene	1	17.7		1.13	1.13
218-01-9	Chrysene	1	15.1		1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	4.11		1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.82		1.13	1.13
50-32-8	Benzo(a)pyrene	1	2.21		1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	2.70		1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	16.5	48.7	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	19.6	57.9	30 - 160	
Fluoranthene-d10	33.860	21.2	62.6	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	2.98	14.1	30 - 160	*
Benzo(e)pyrene-d12	21.163	15.4	72.9	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161217.16\N1116121707.D

Date: 17-DEC-2016 15:15

Client ID:

Sample Info: 16K0321-21

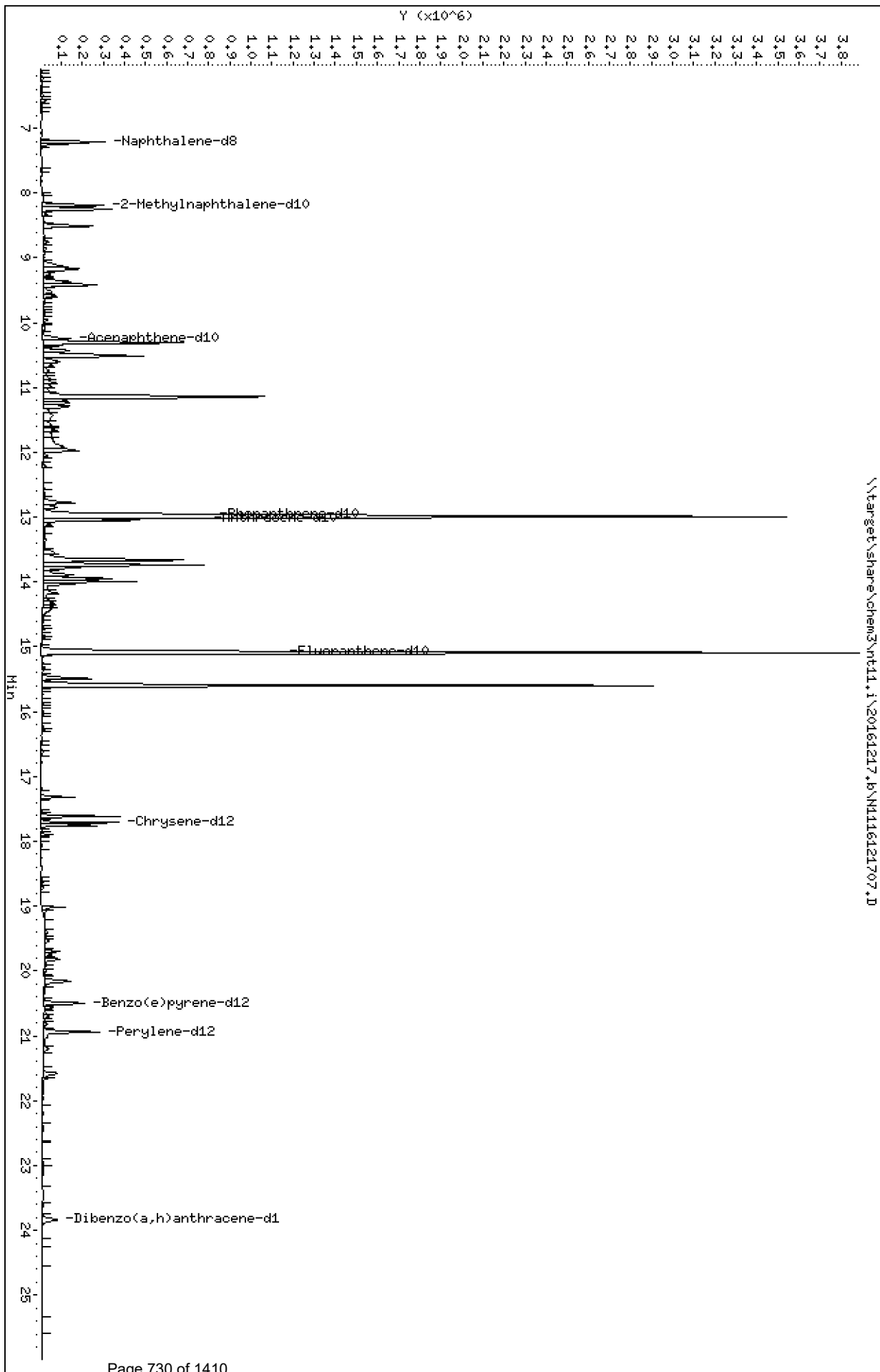
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20161217.16\N1116121707.D



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

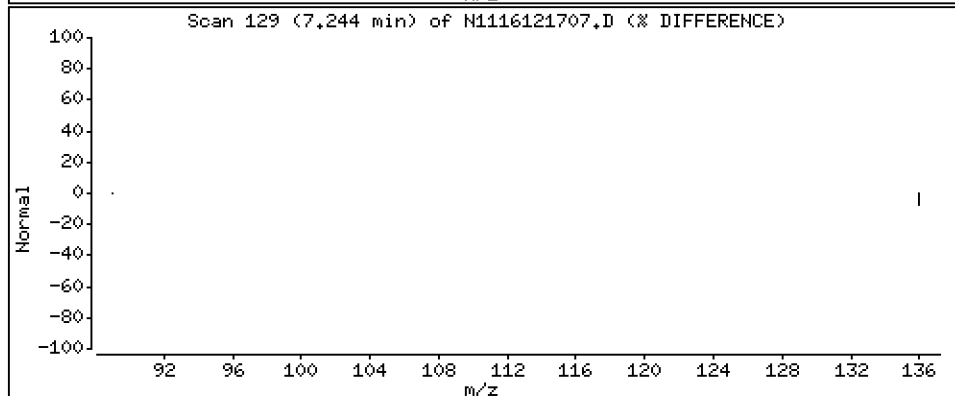
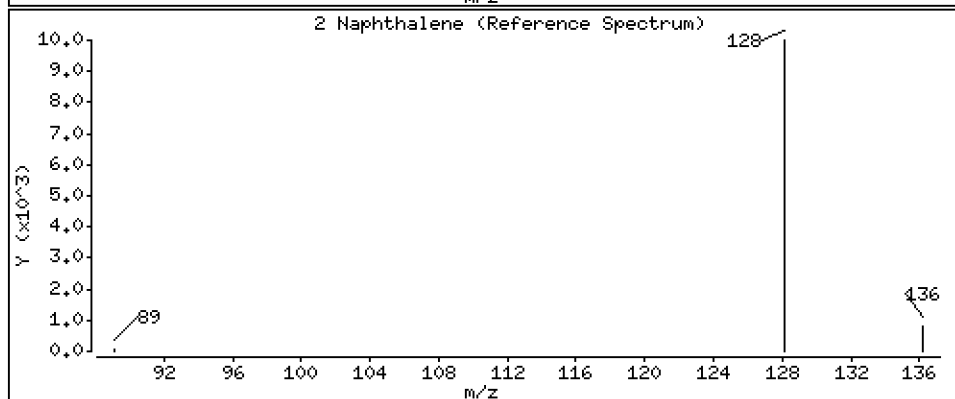
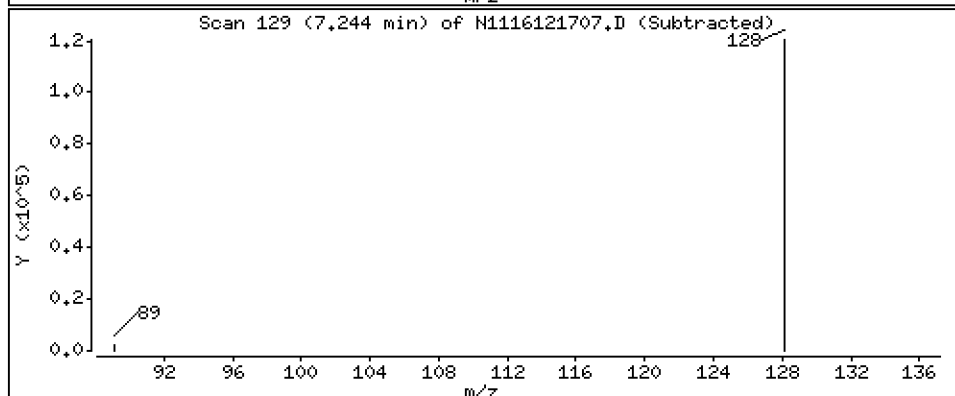
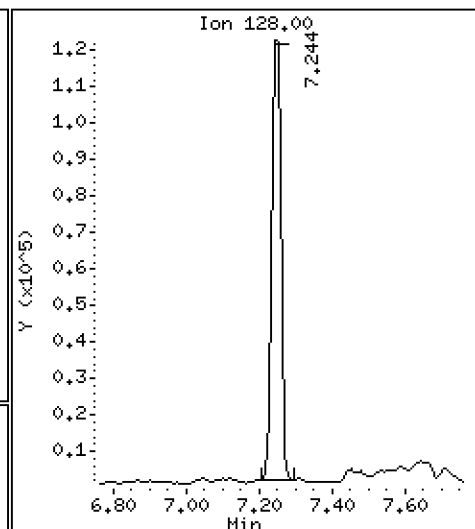
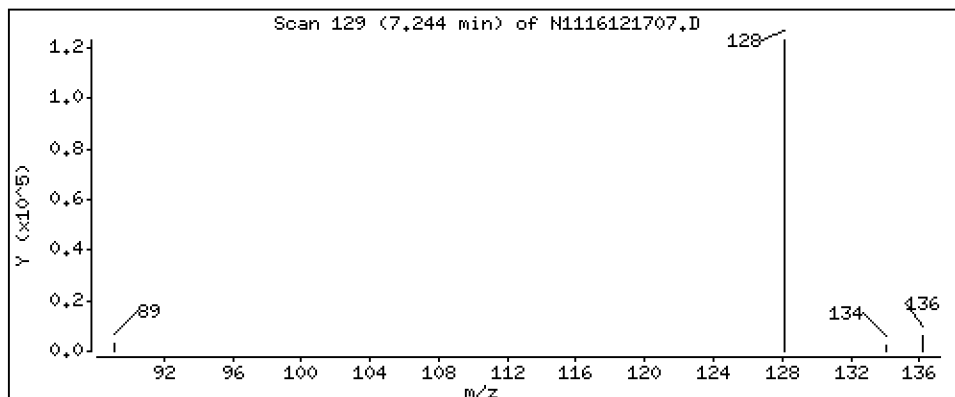
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 93,8 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

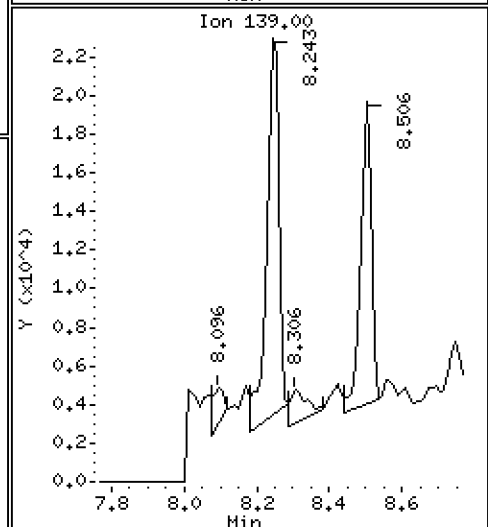
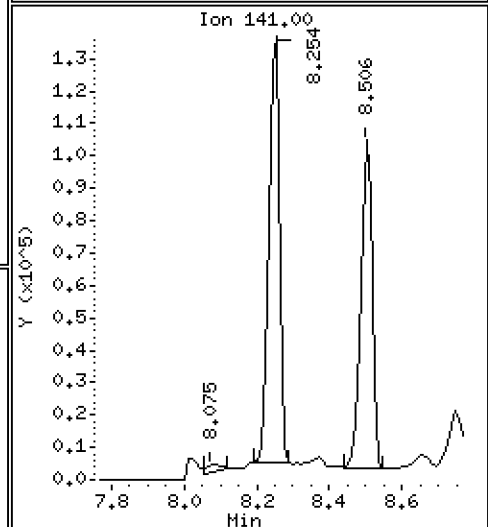
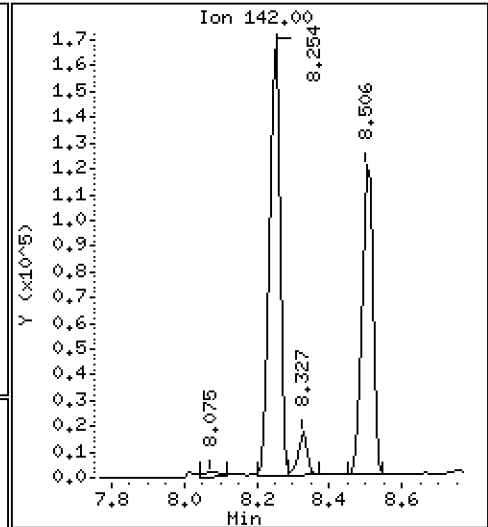
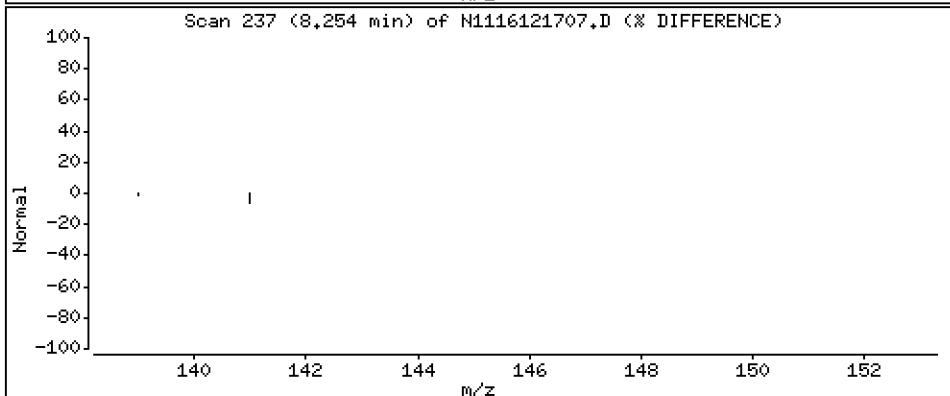
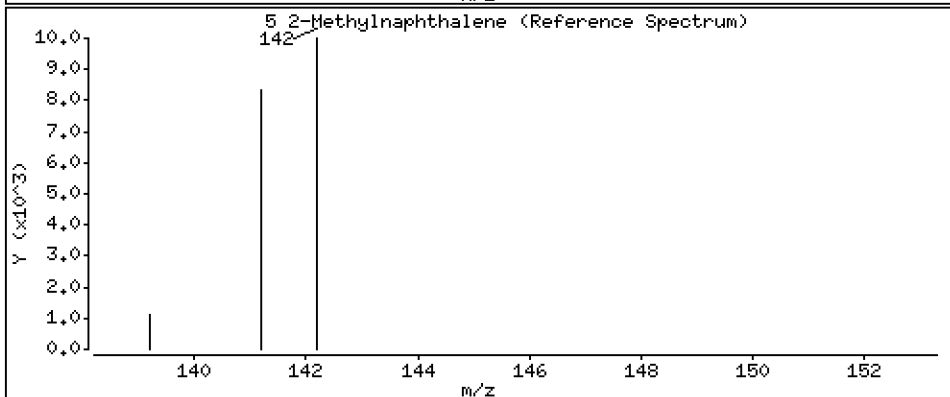
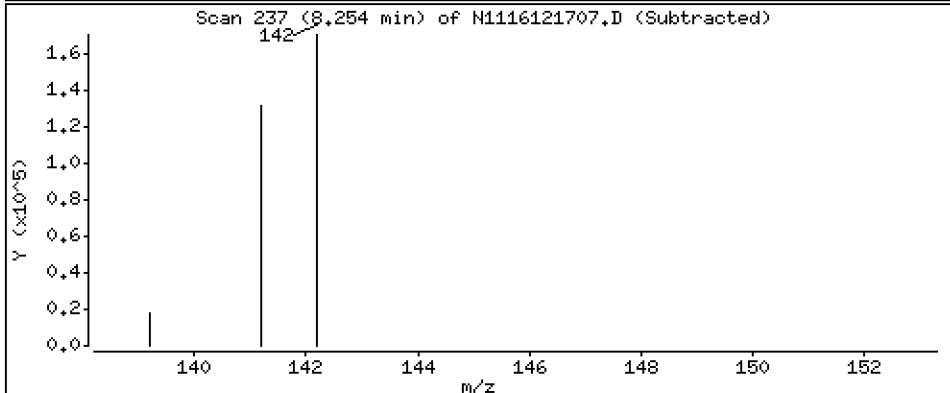
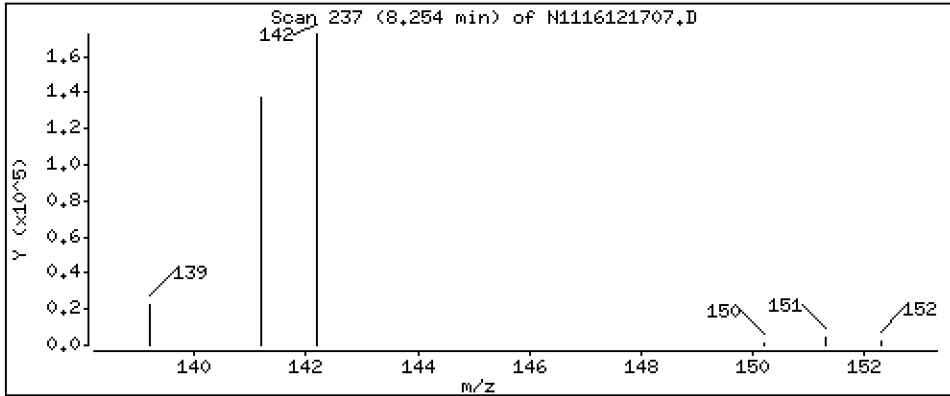
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 160 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

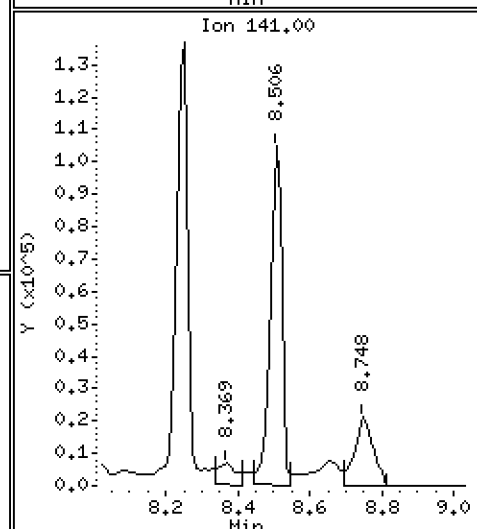
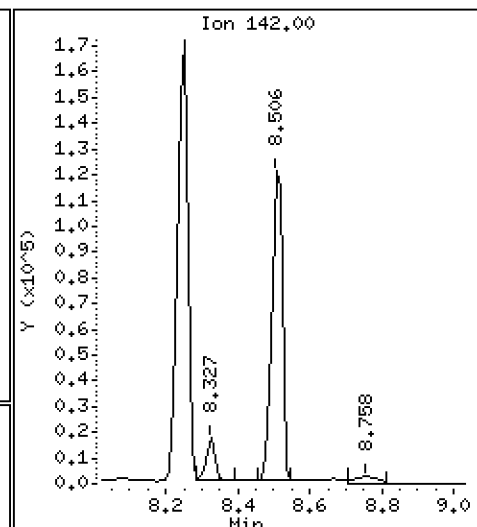
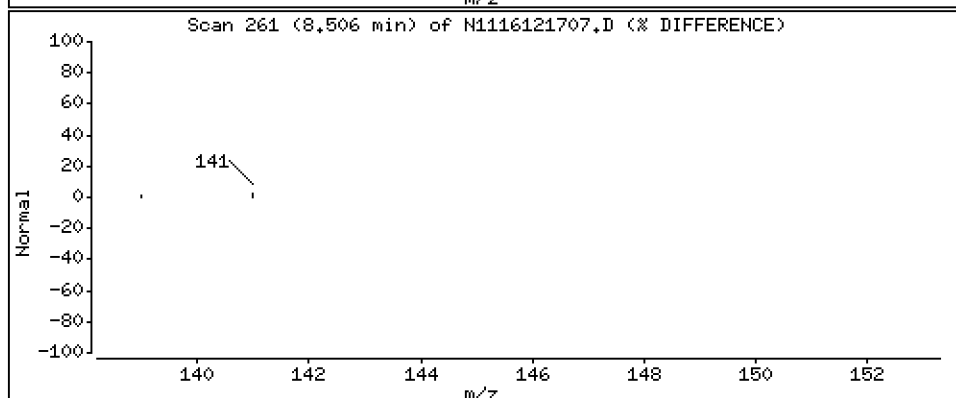
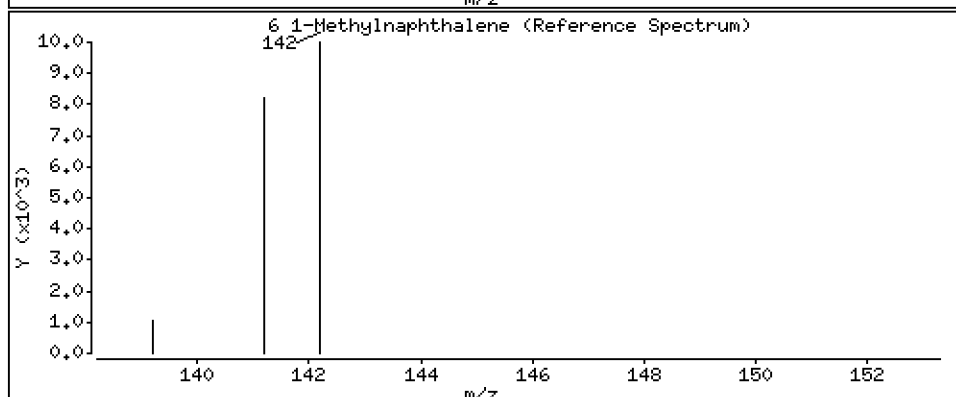
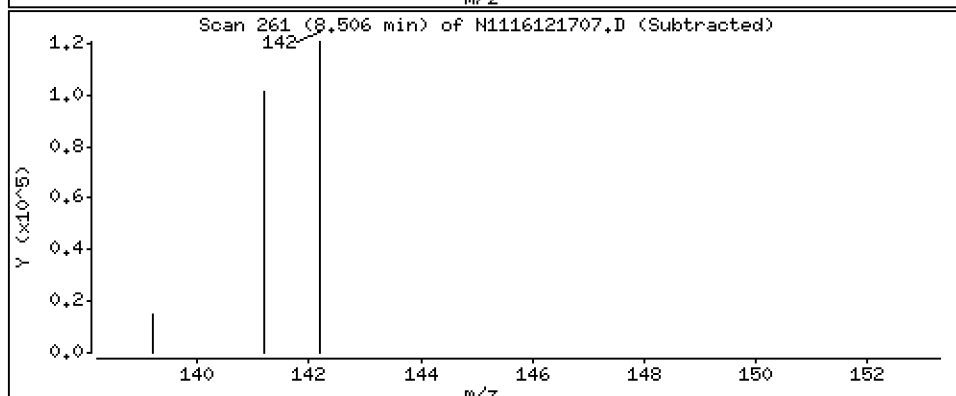
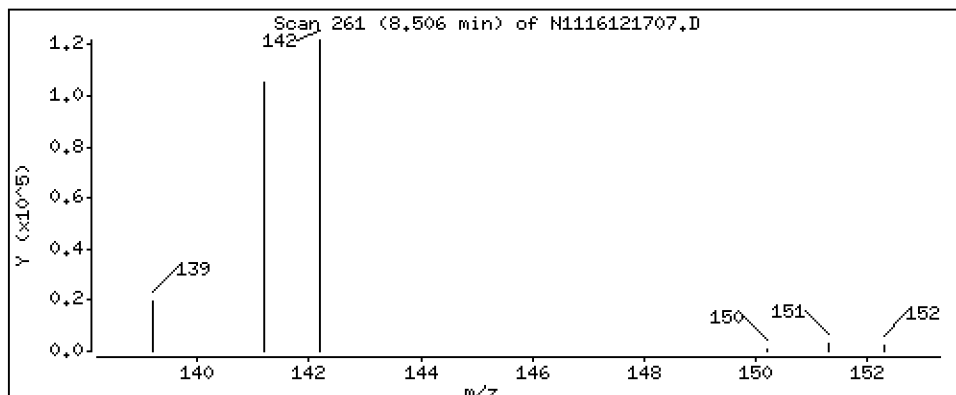
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 121 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

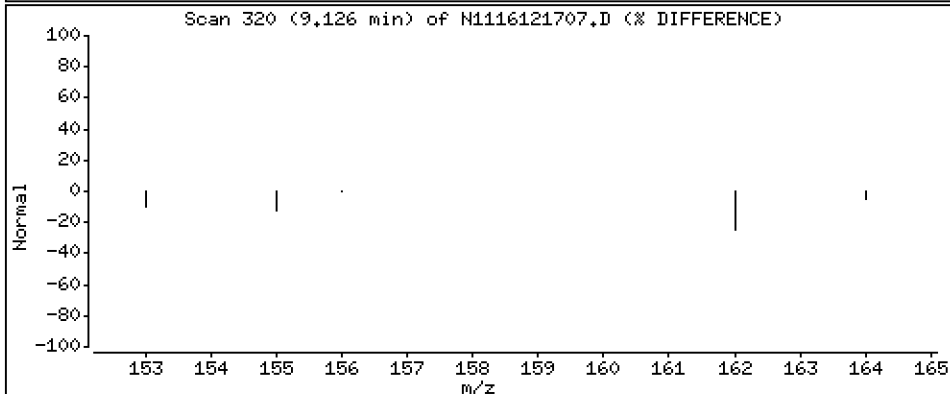
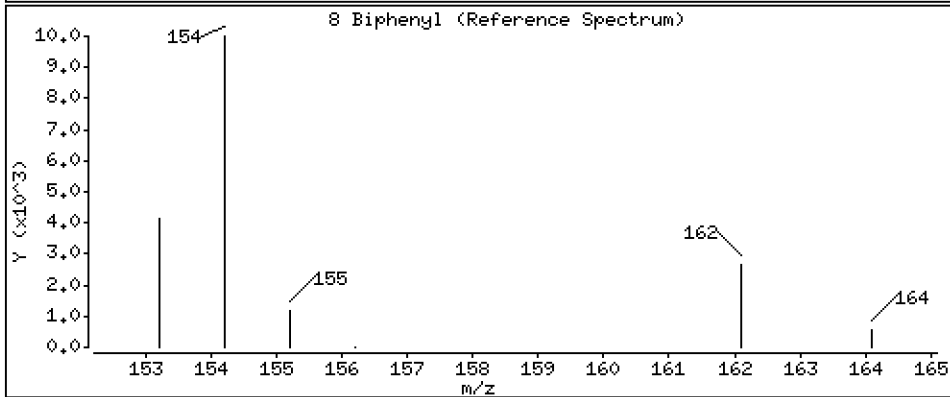
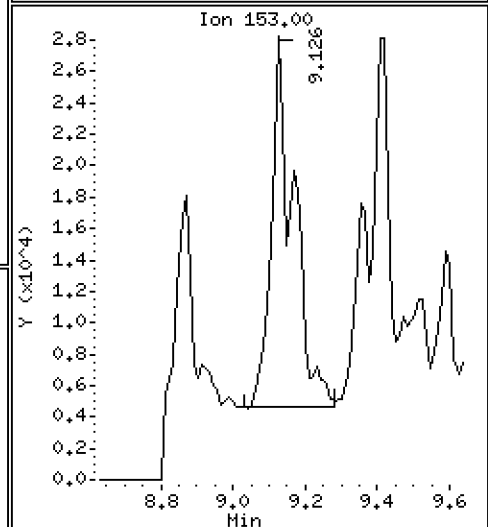
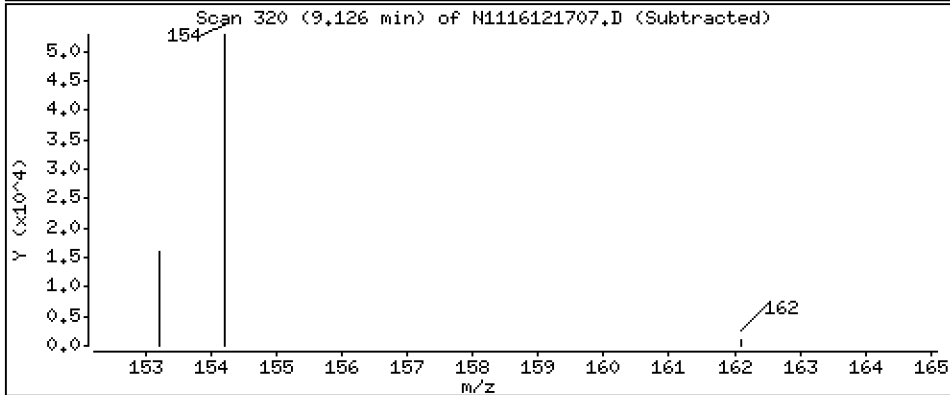
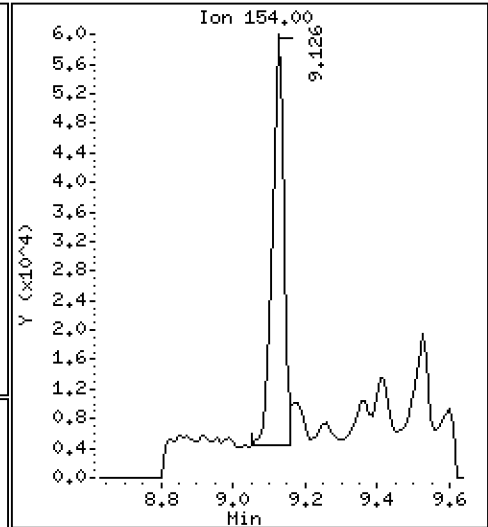
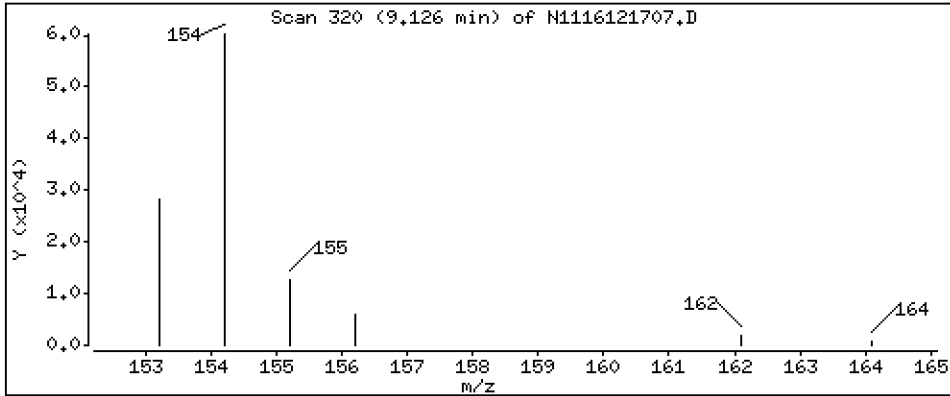
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 43,0 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

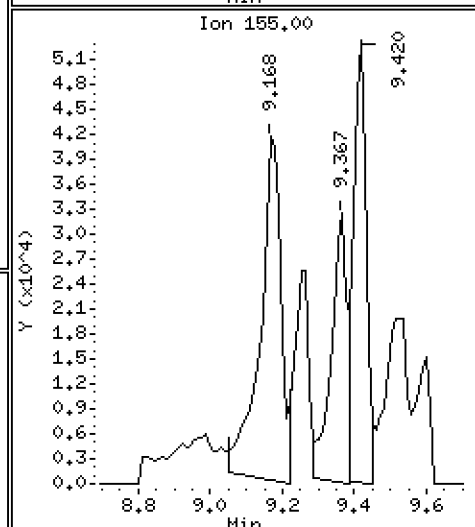
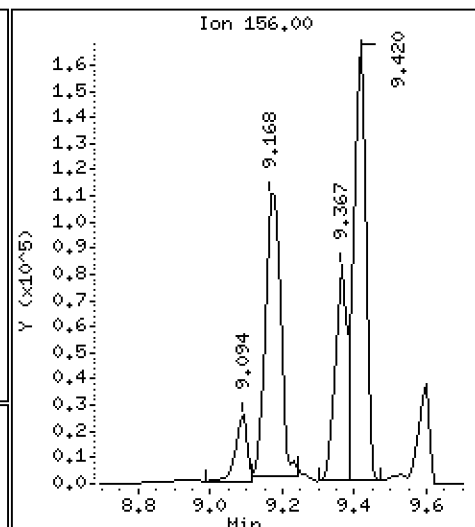
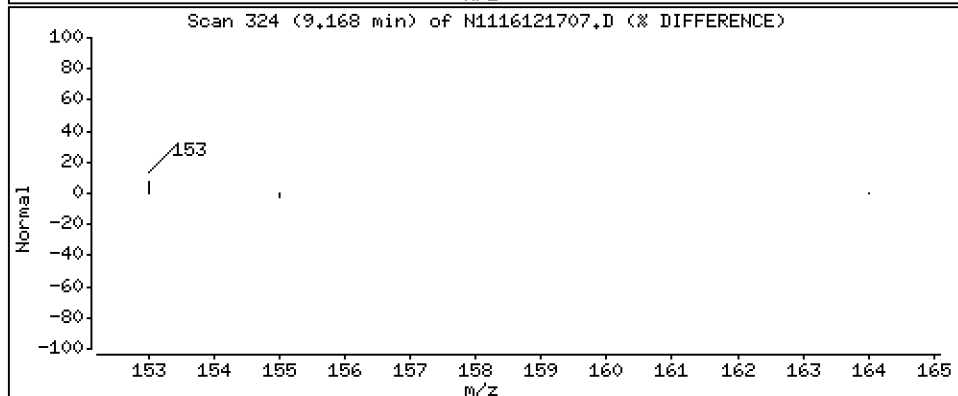
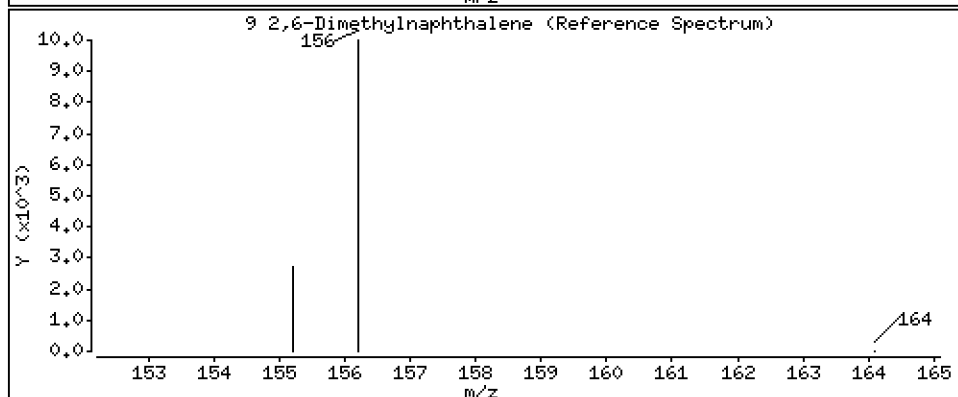
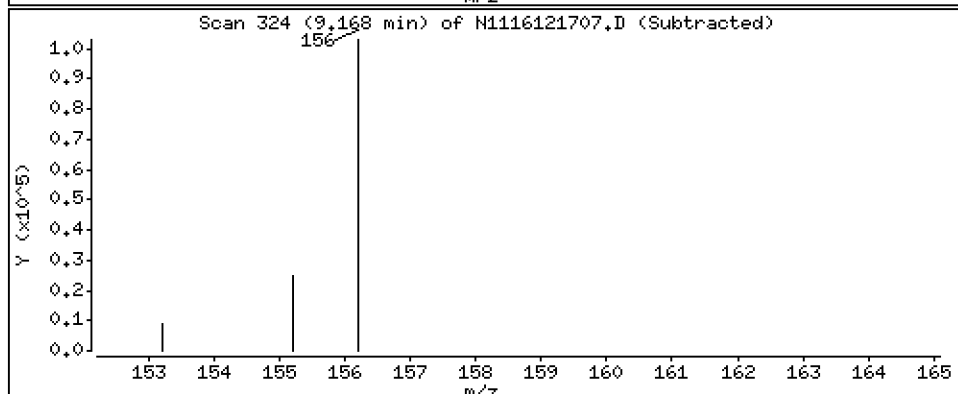
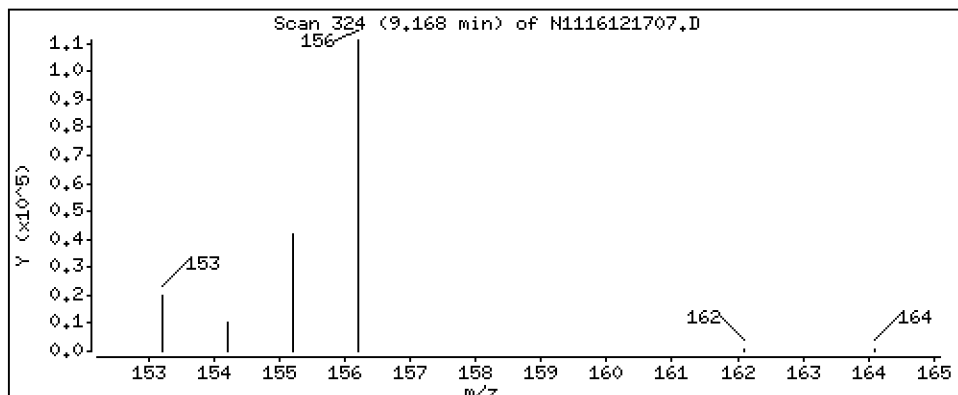
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 145 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

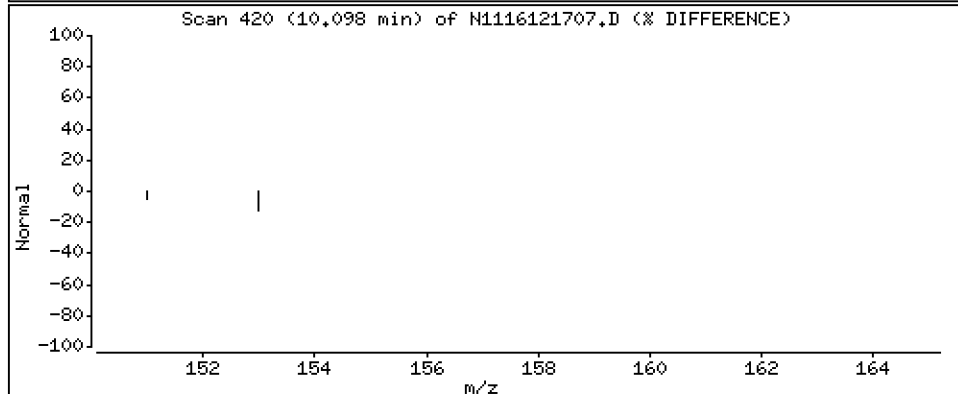
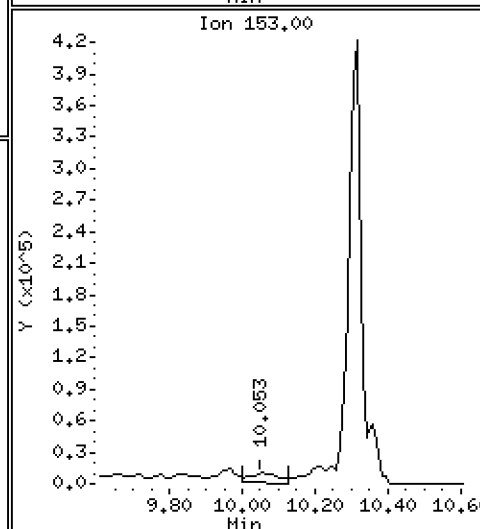
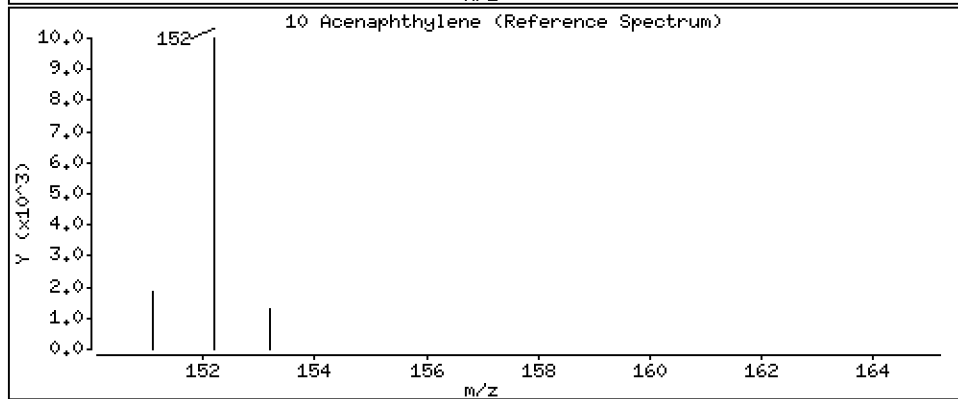
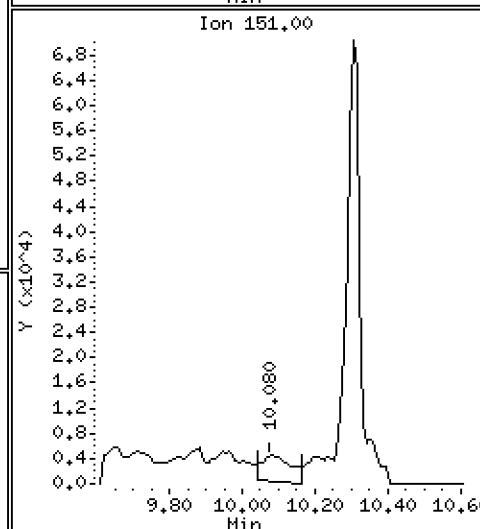
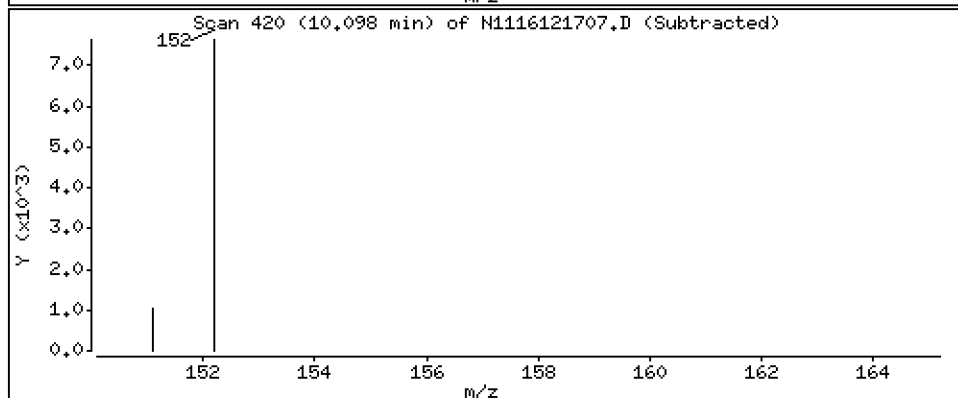
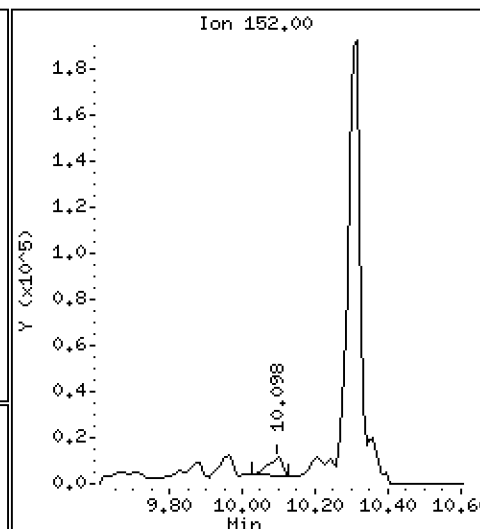
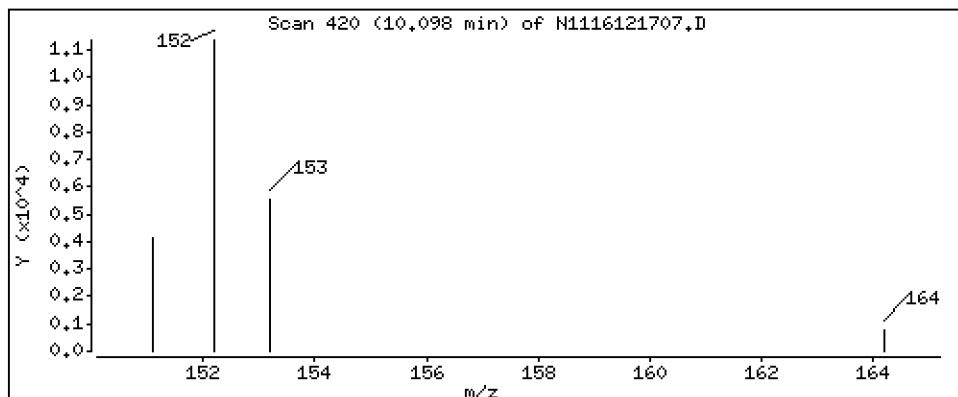
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 9,71 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

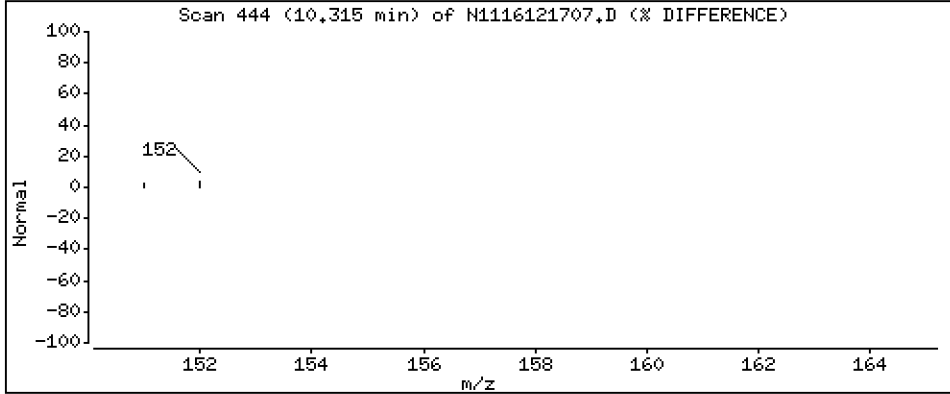
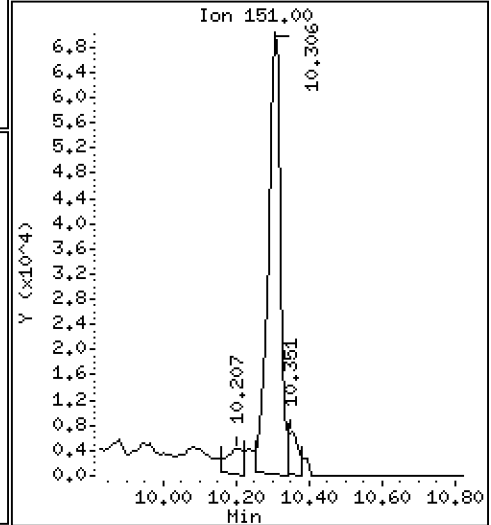
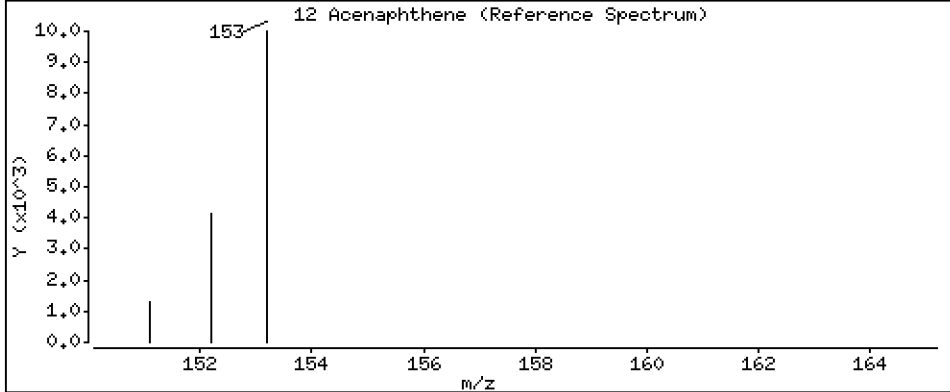
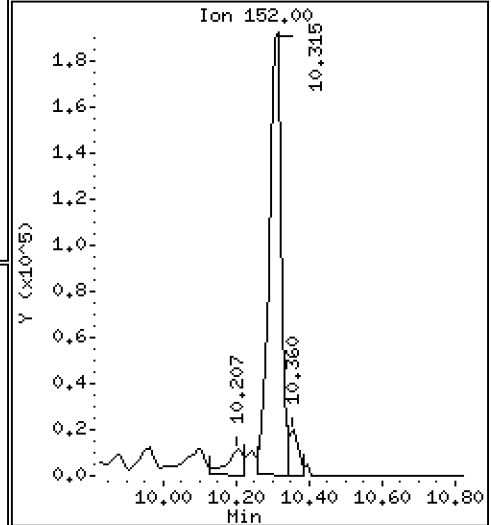
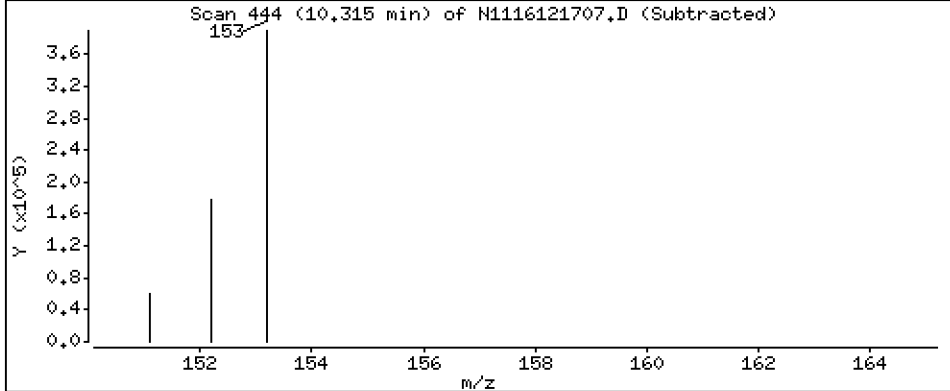
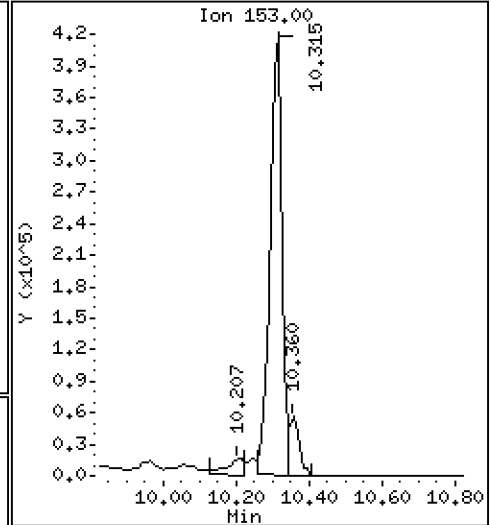
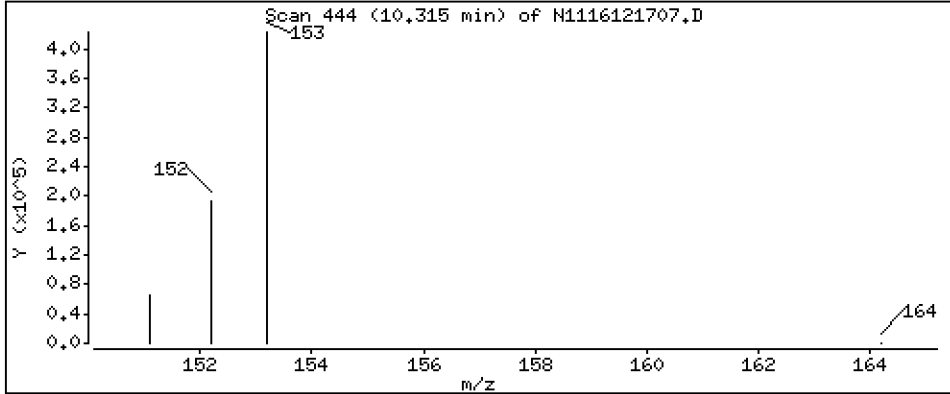
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 621 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

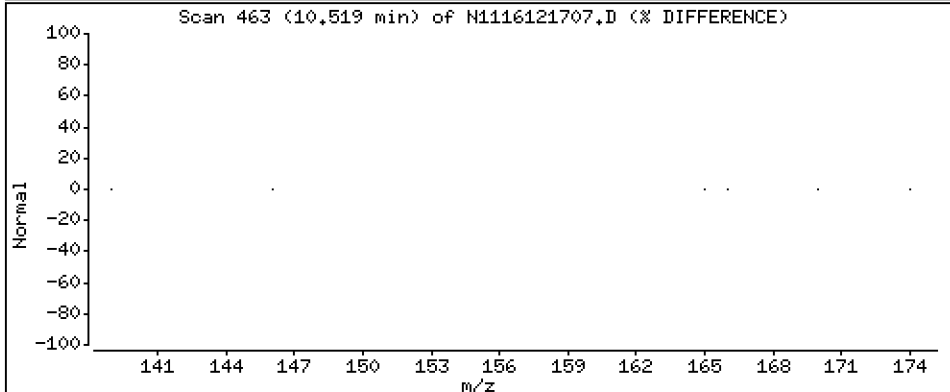
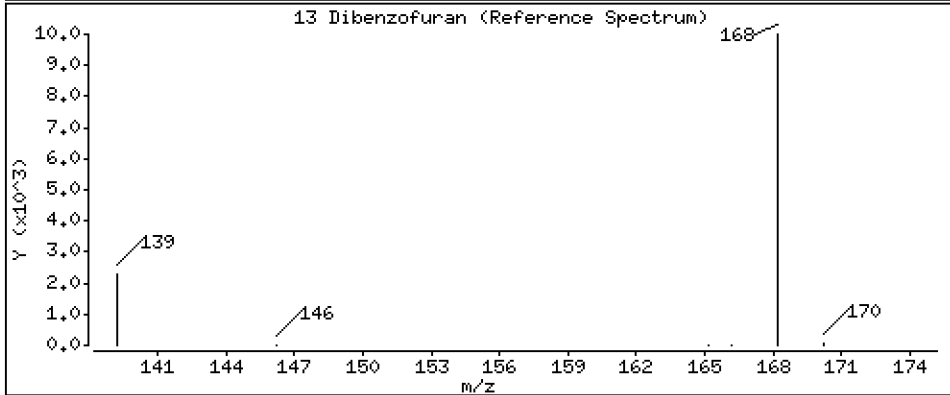
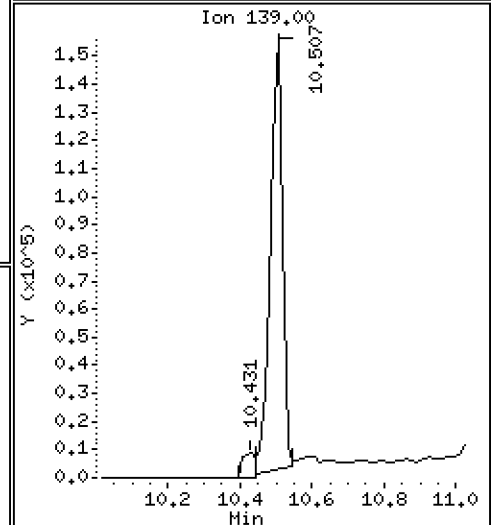
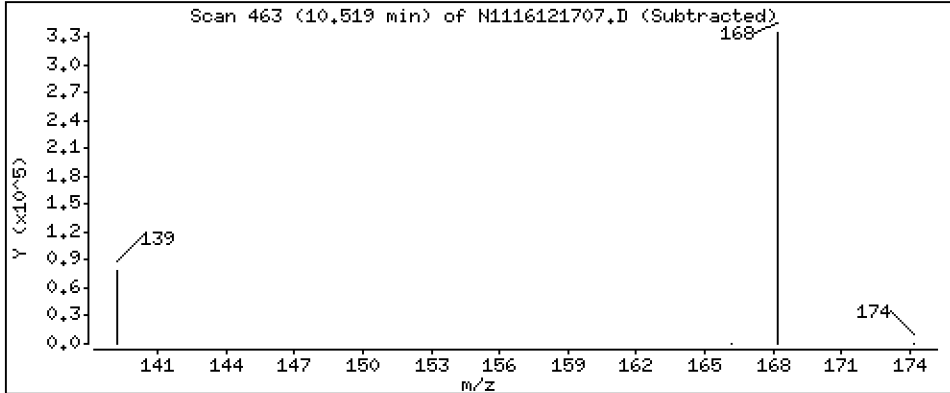
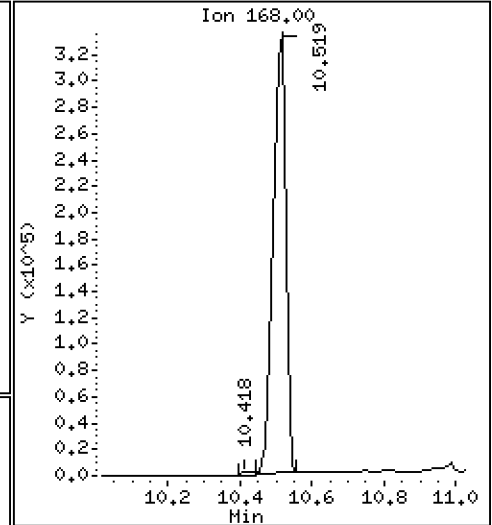
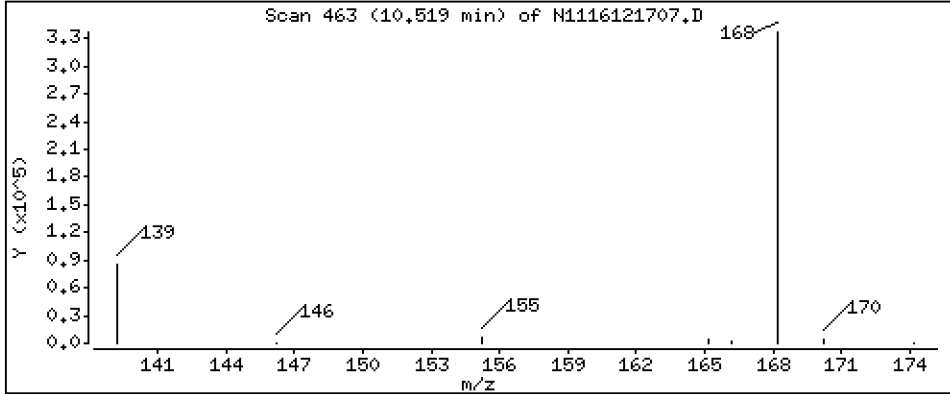
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 340 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

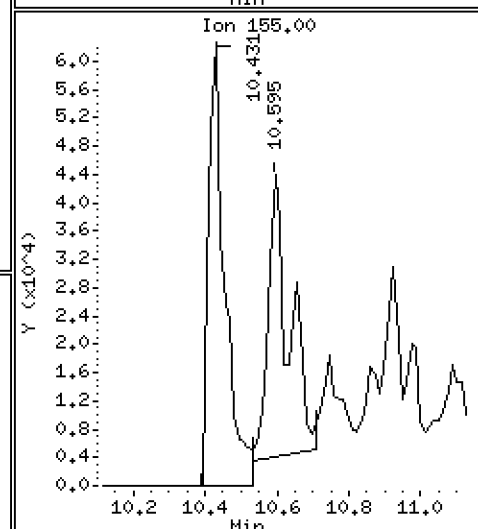
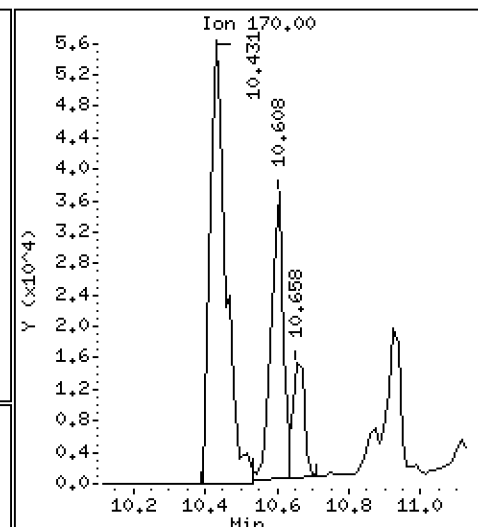
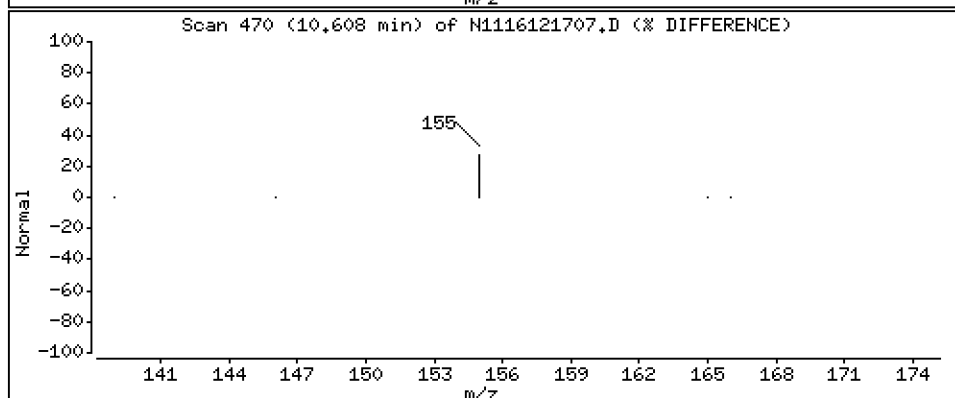
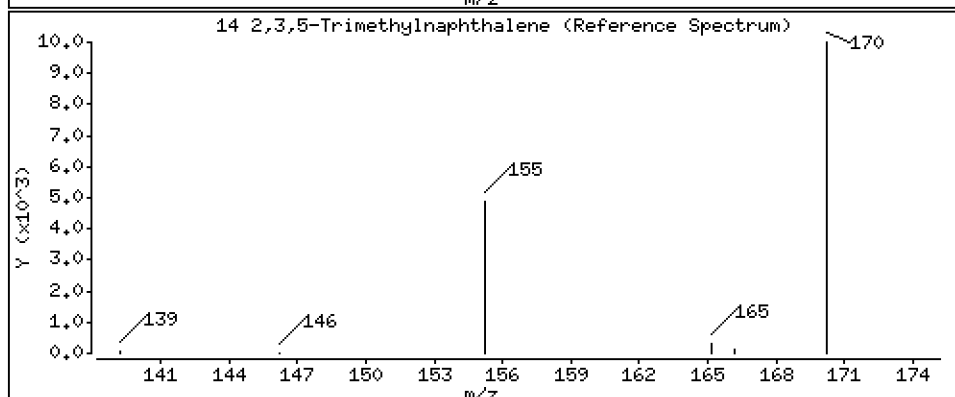
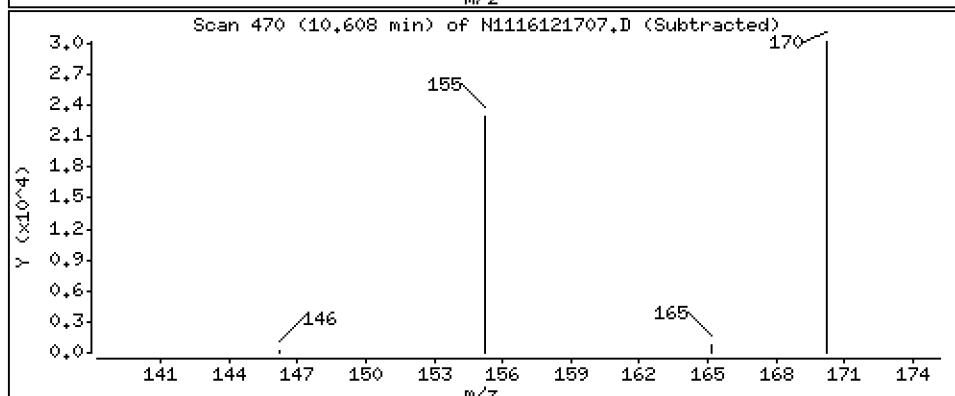
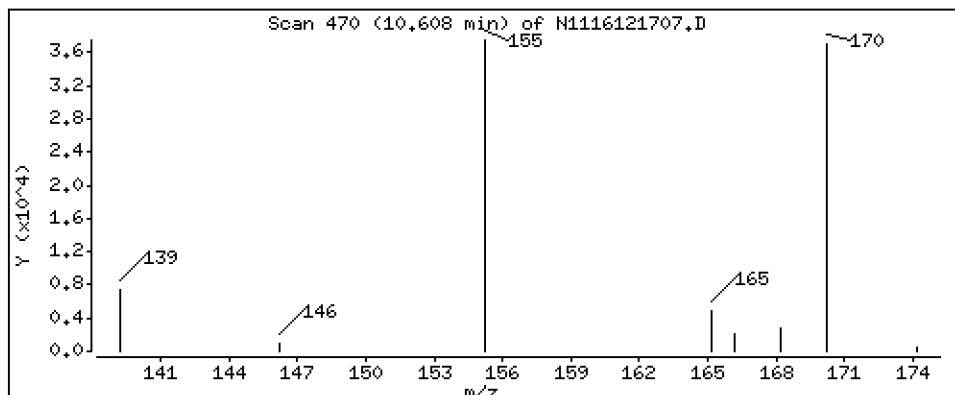
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 58,3 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

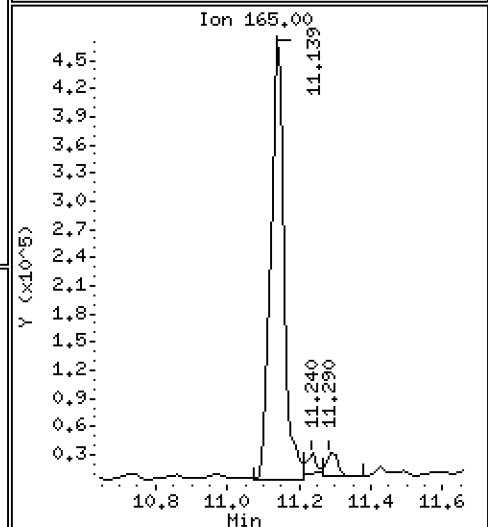
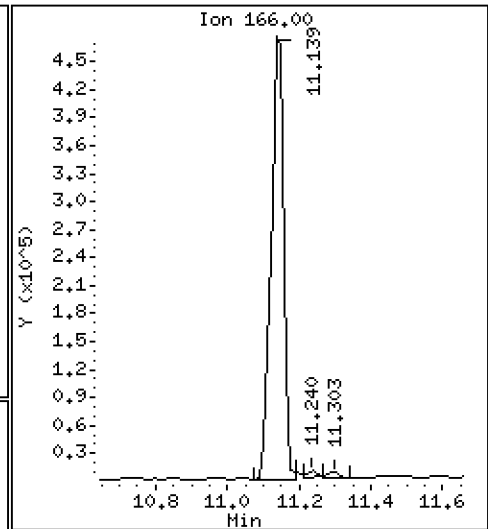
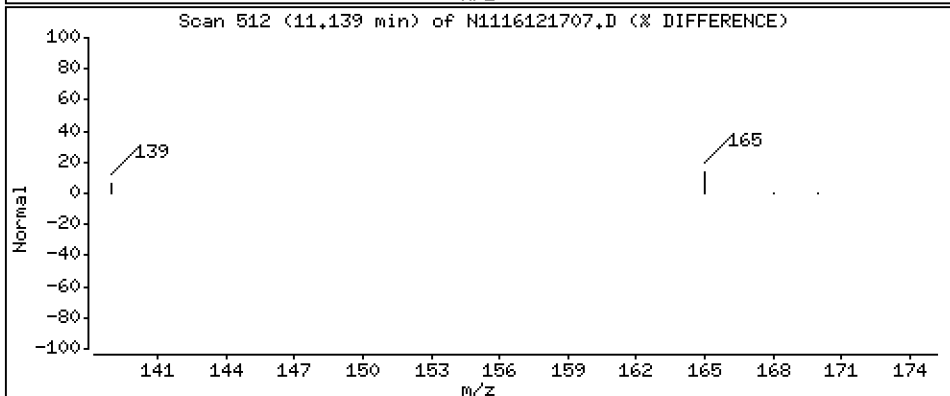
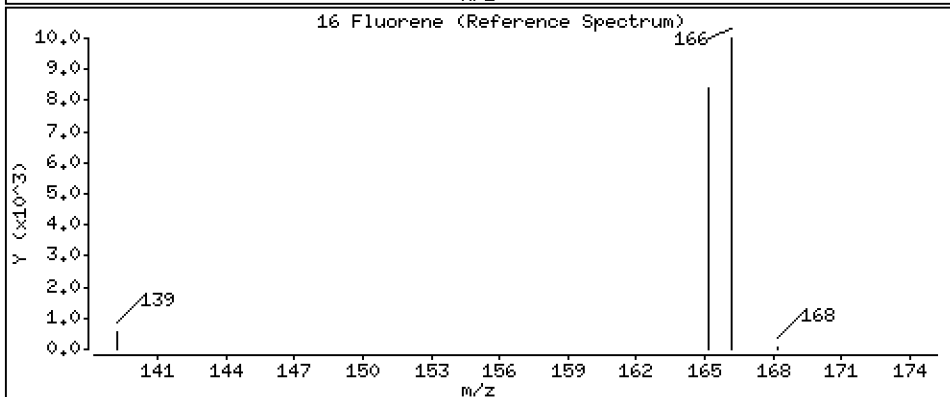
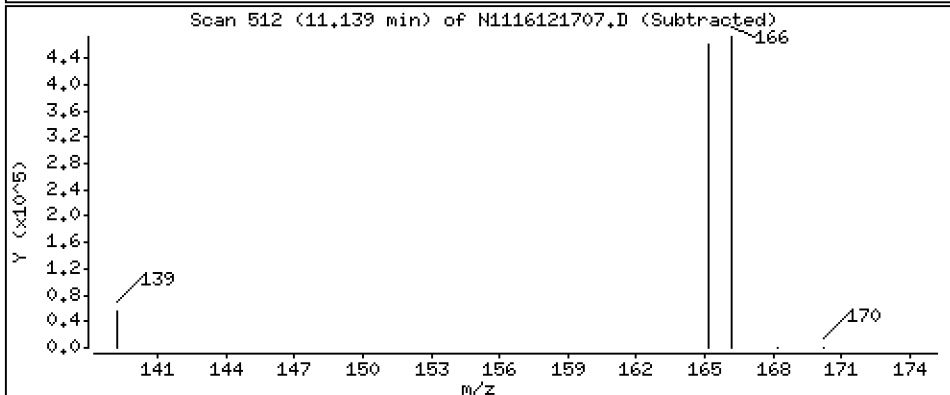
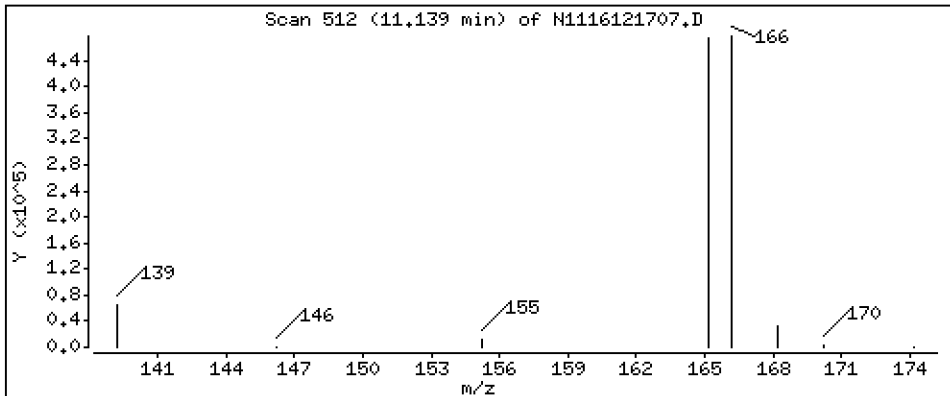
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 622 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

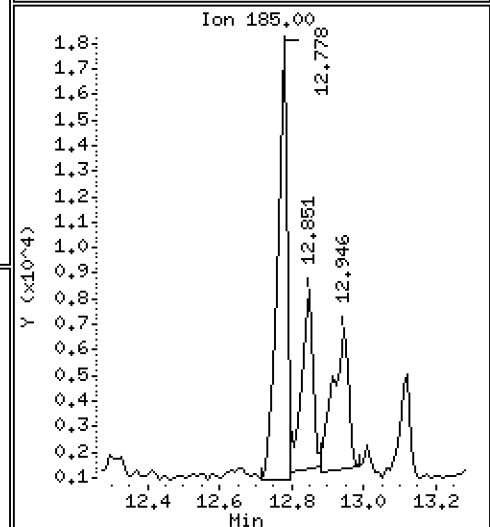
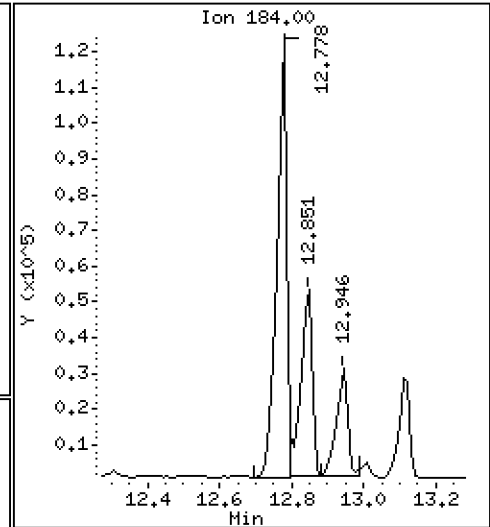
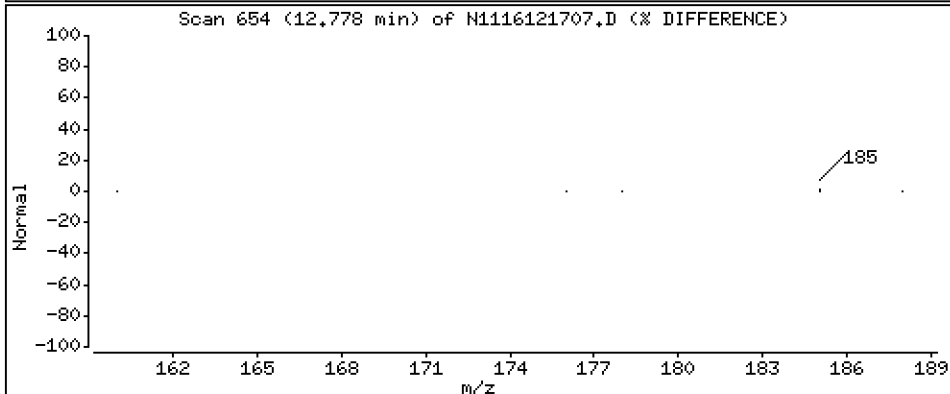
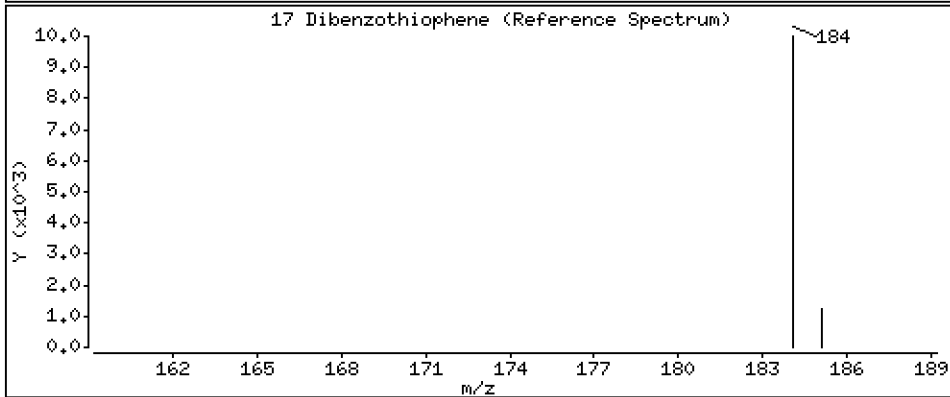
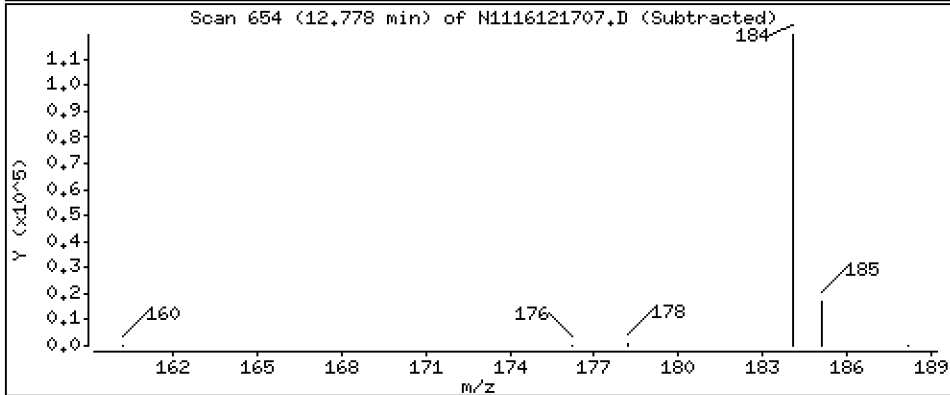
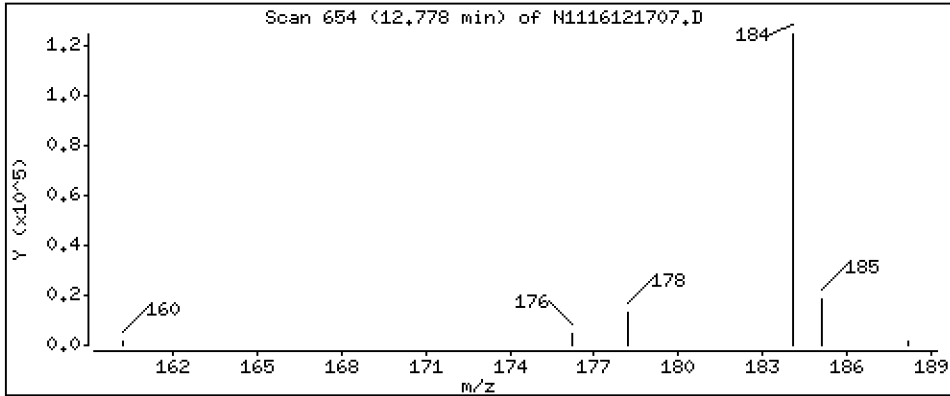
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

17 Dibenzothiophene

Concentration: 108 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

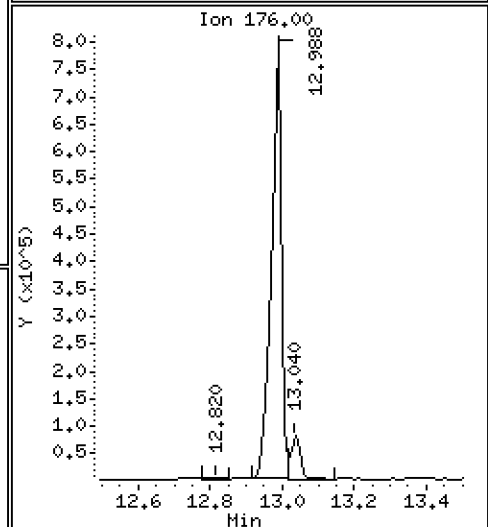
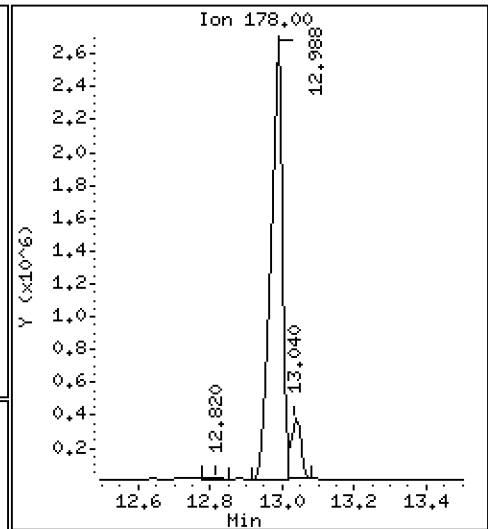
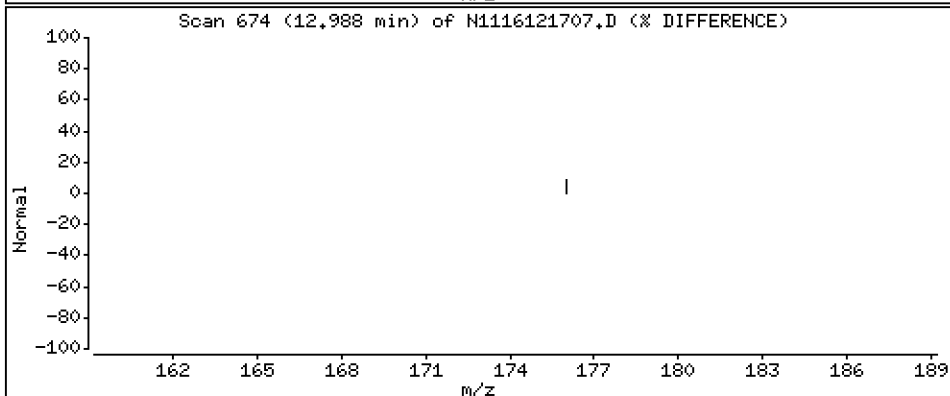
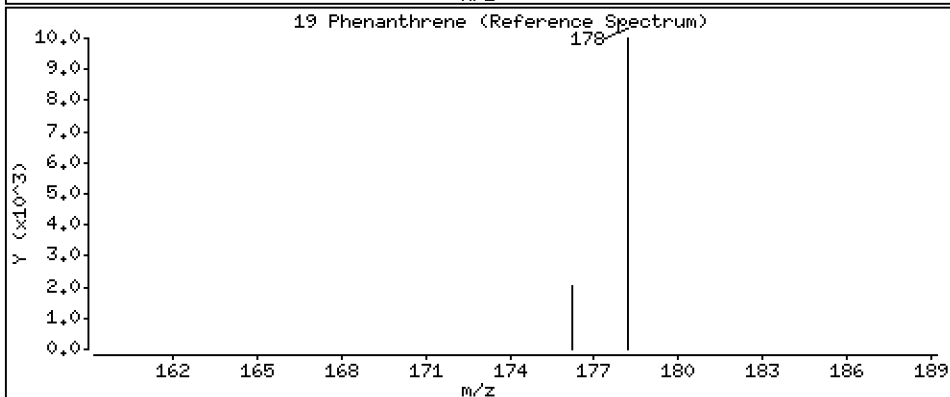
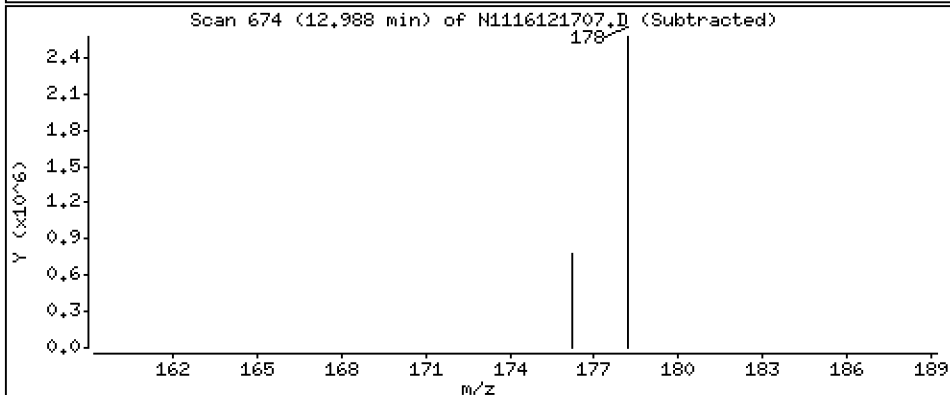
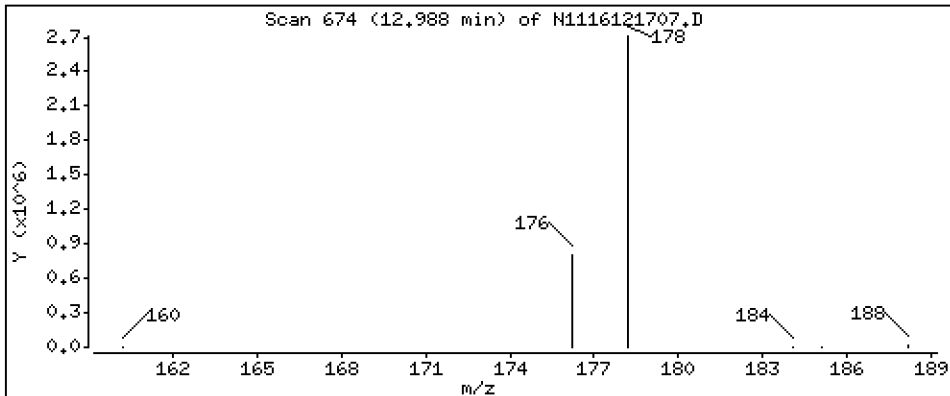
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 2240 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

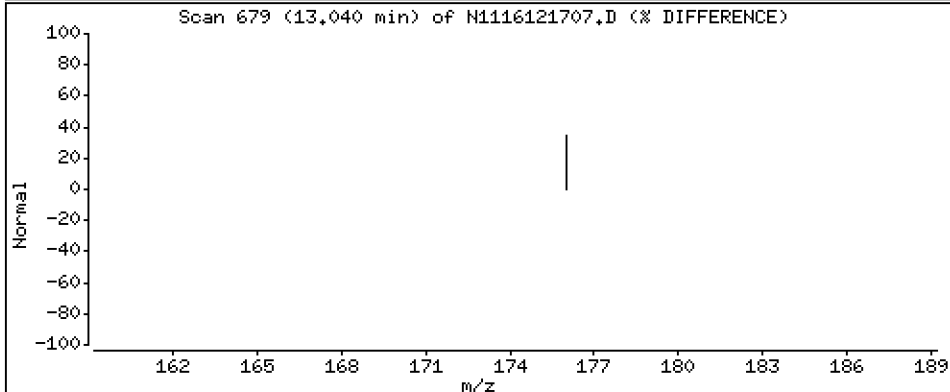
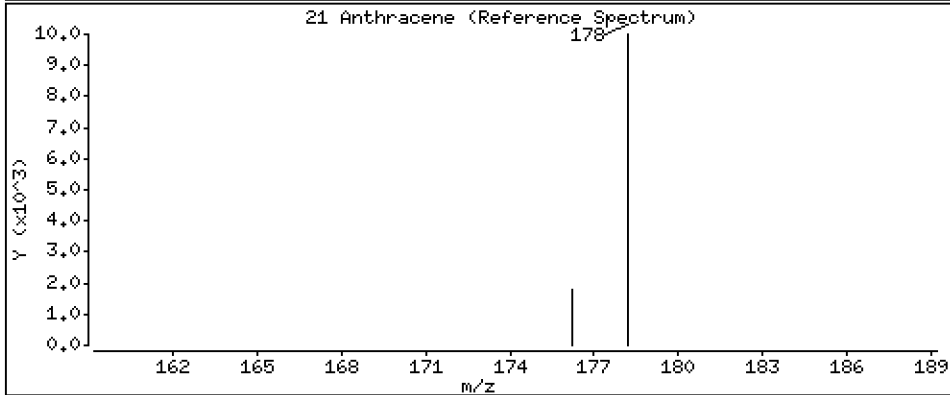
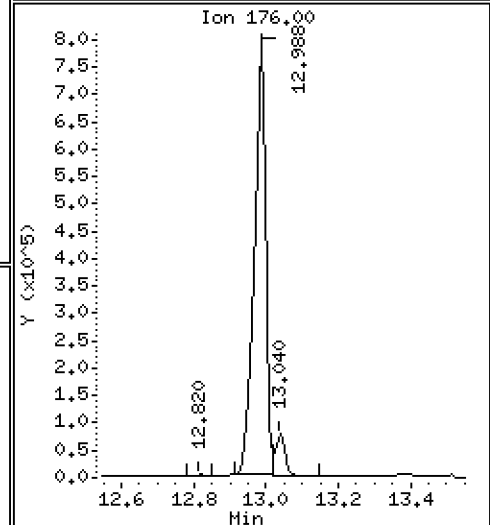
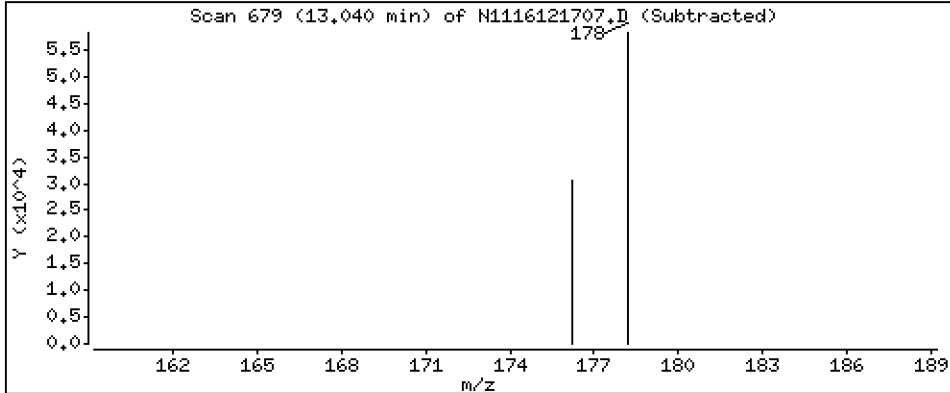
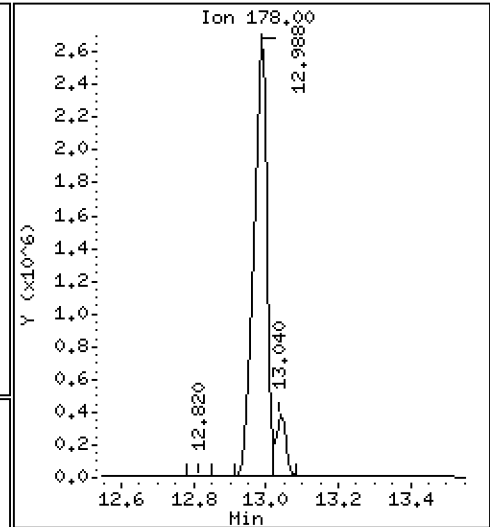
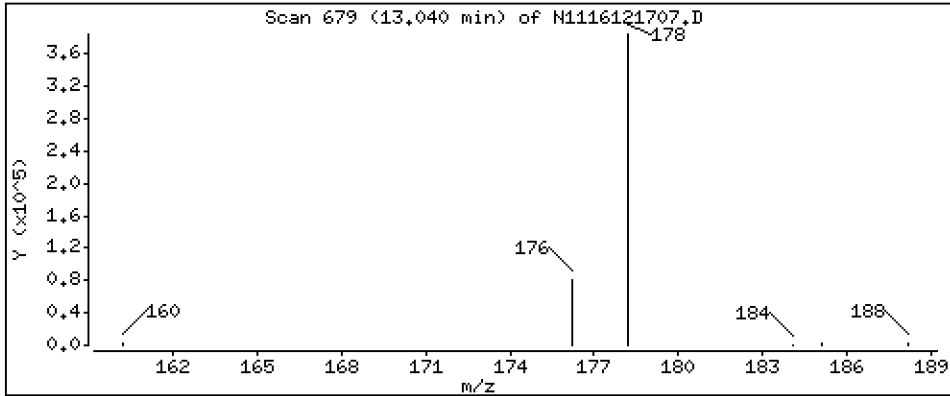
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 261 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

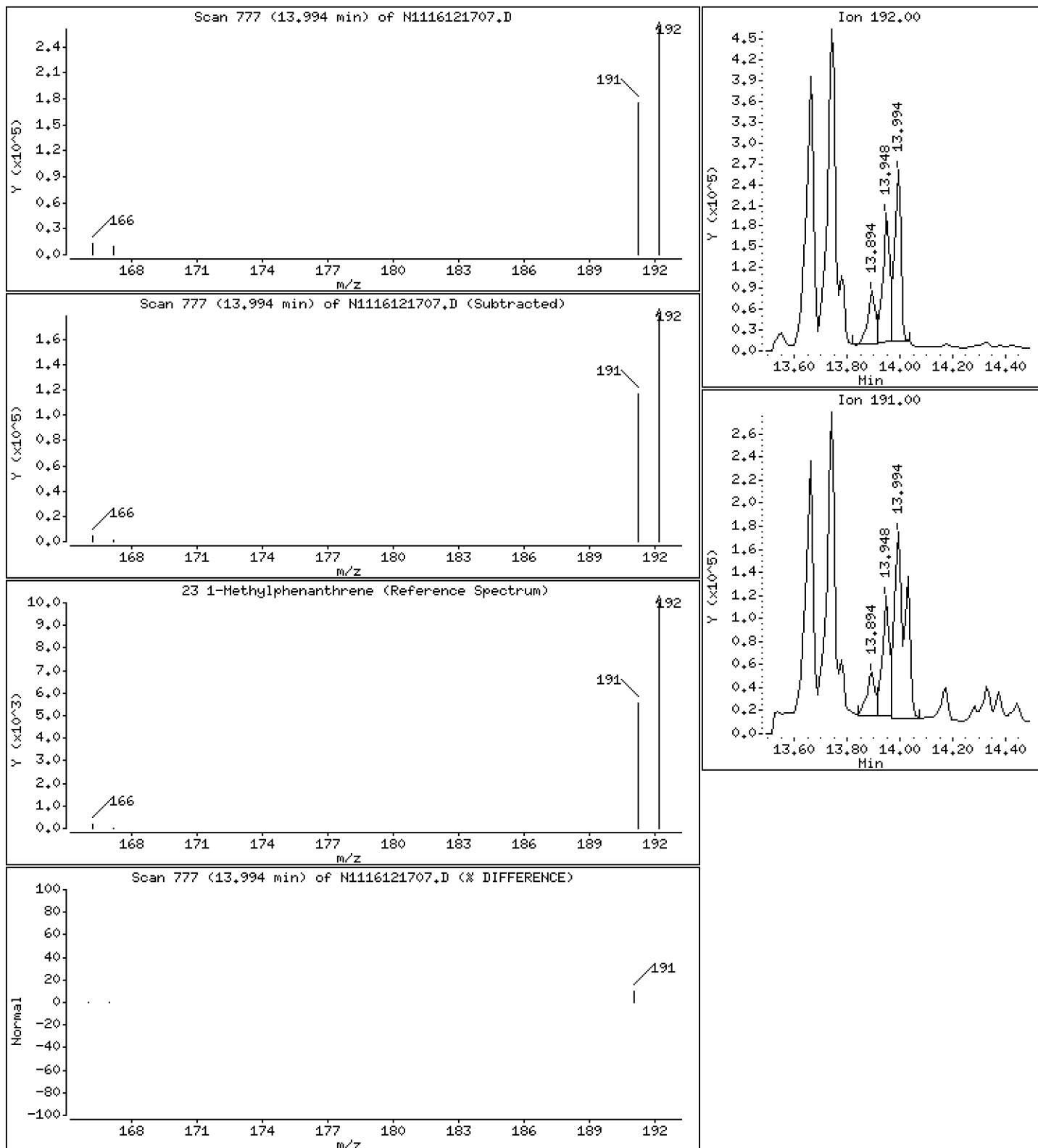
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 142 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

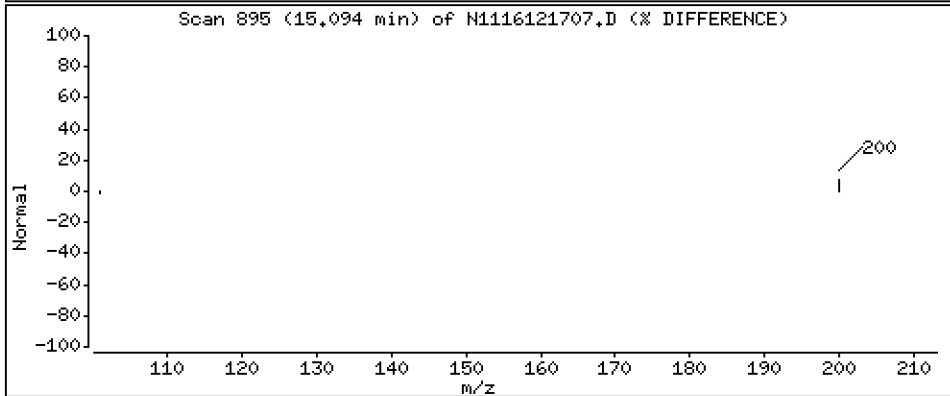
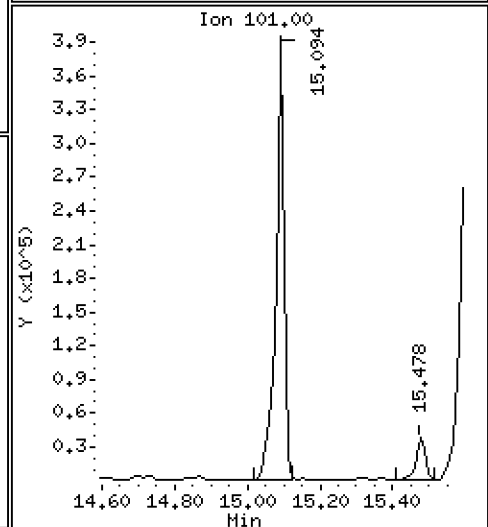
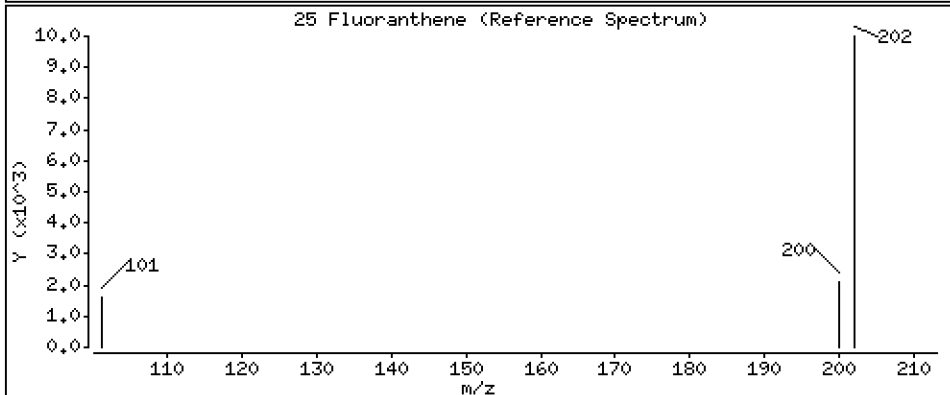
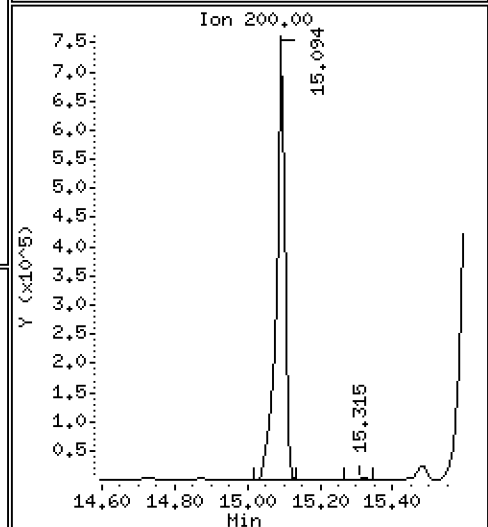
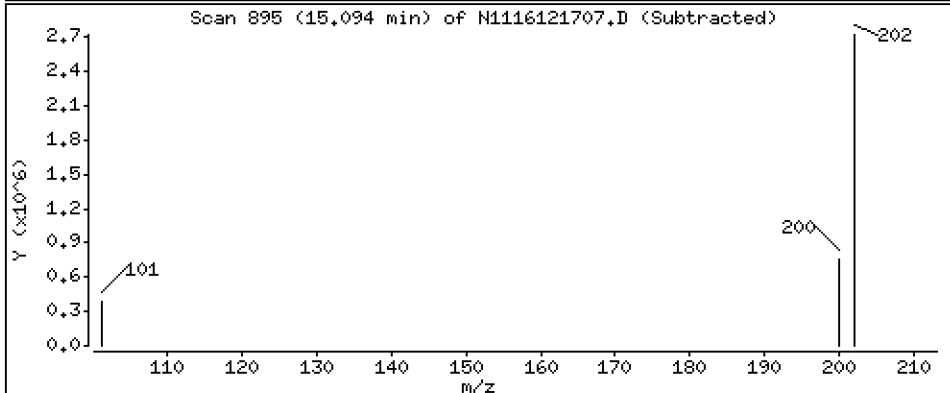
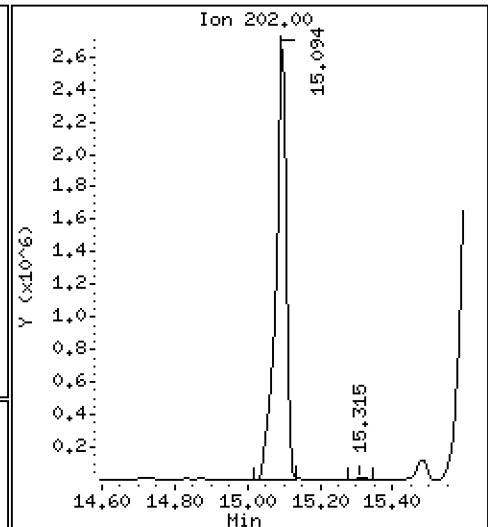
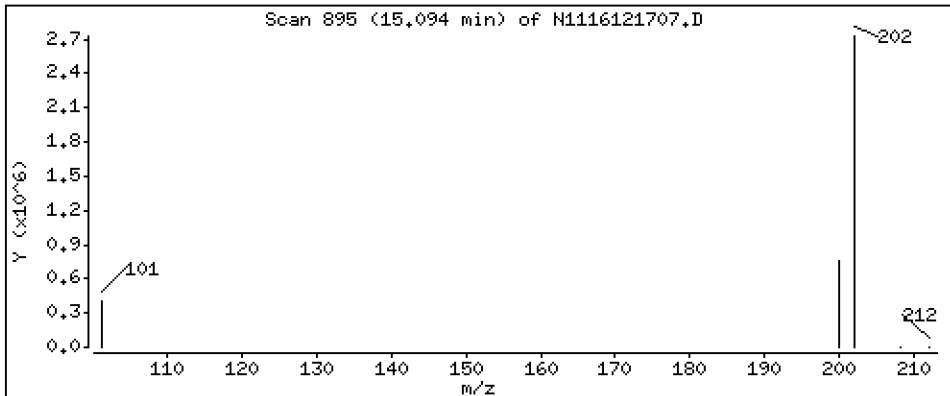
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 1620 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

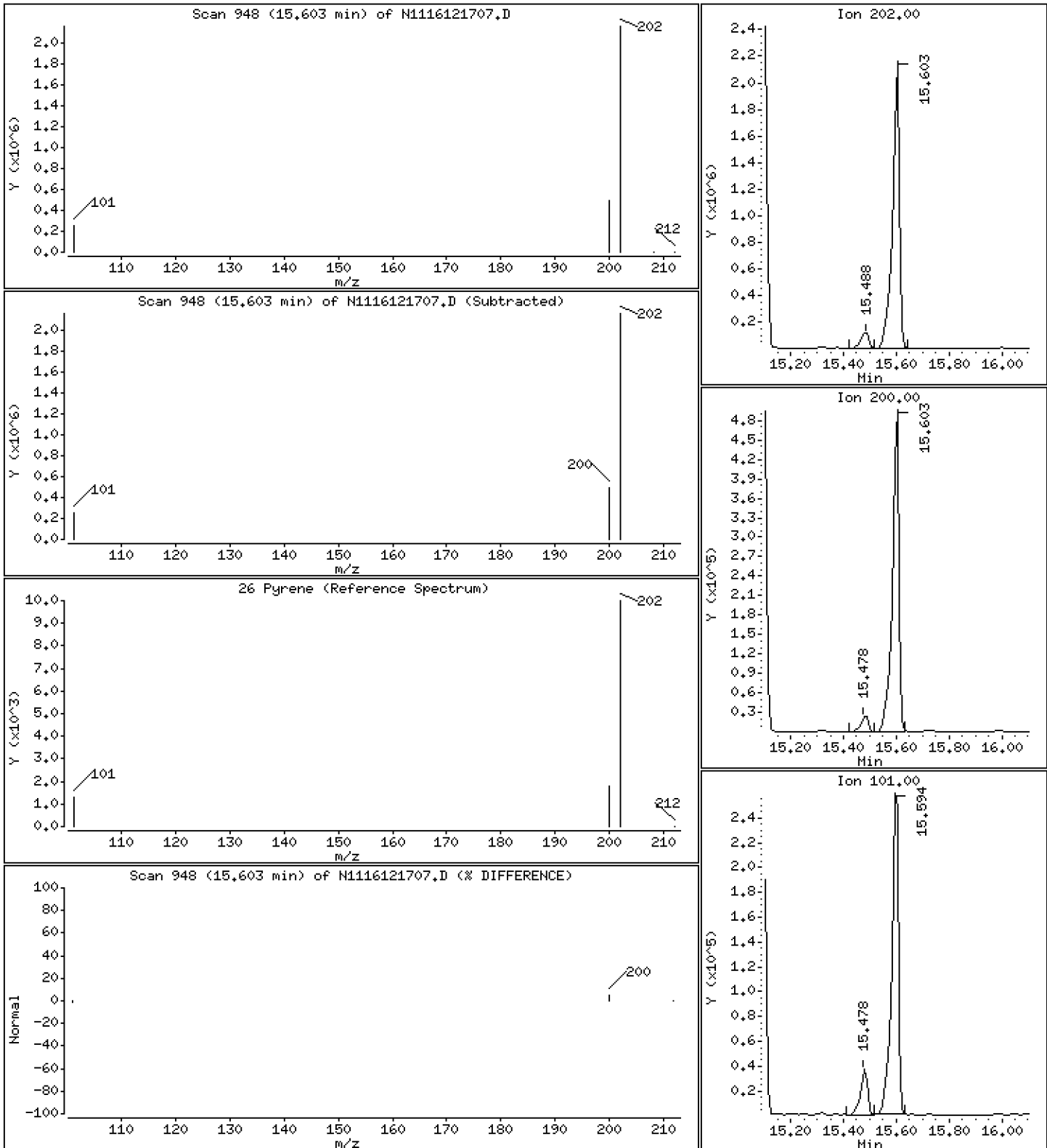
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 1380 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

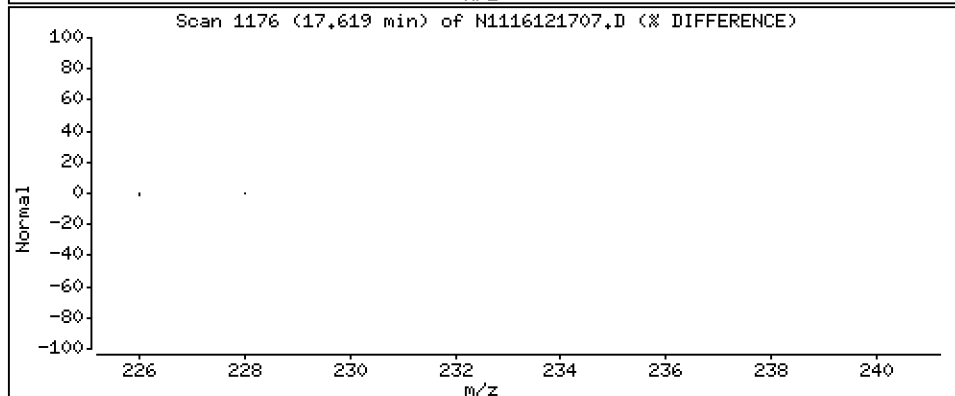
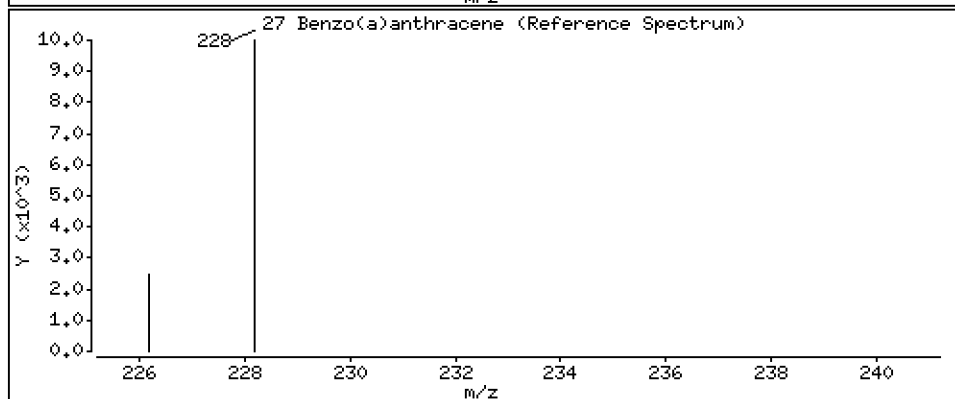
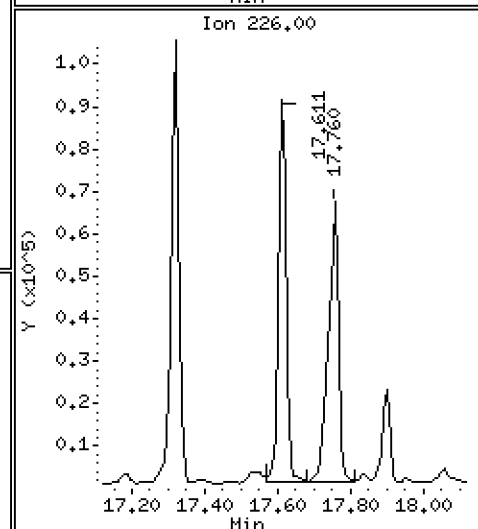
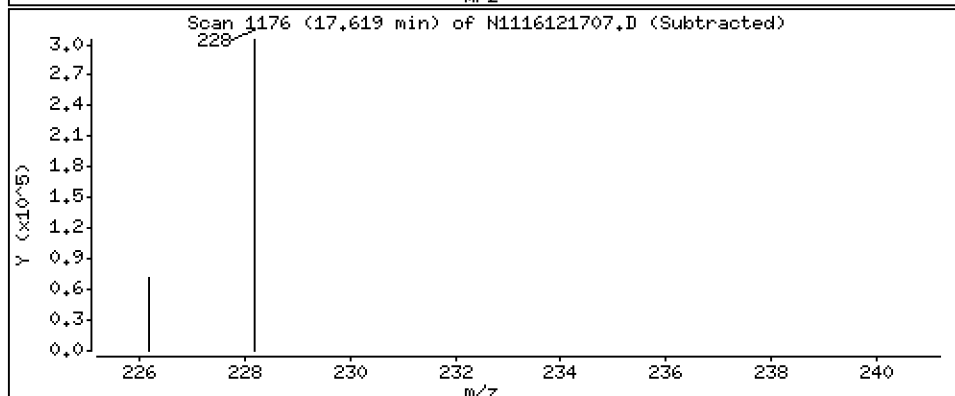
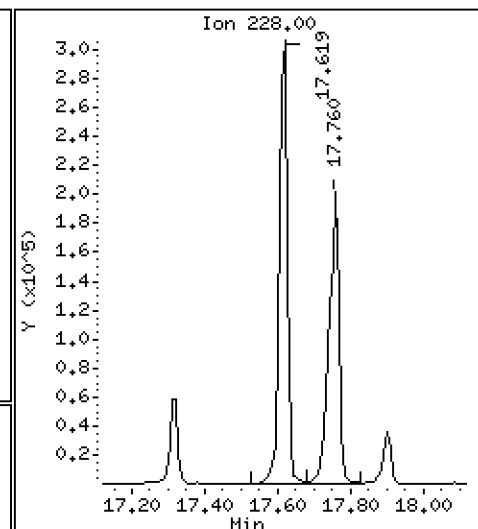
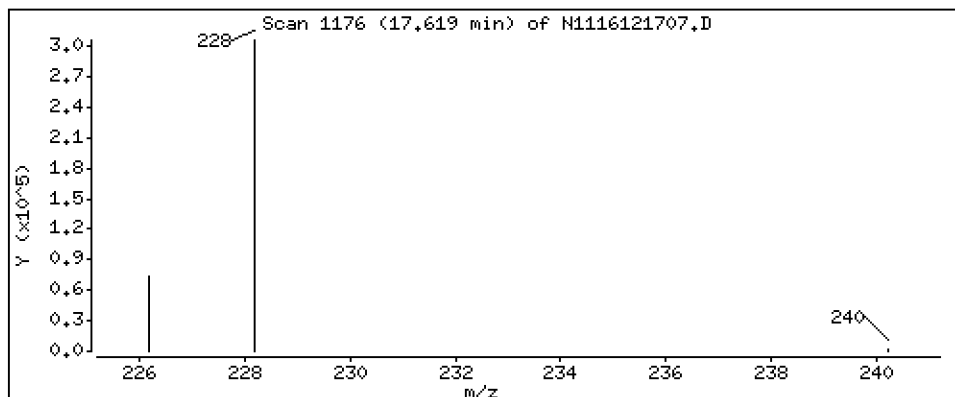
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 156 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

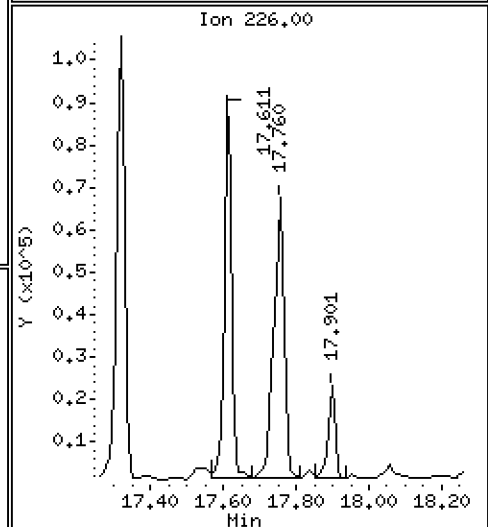
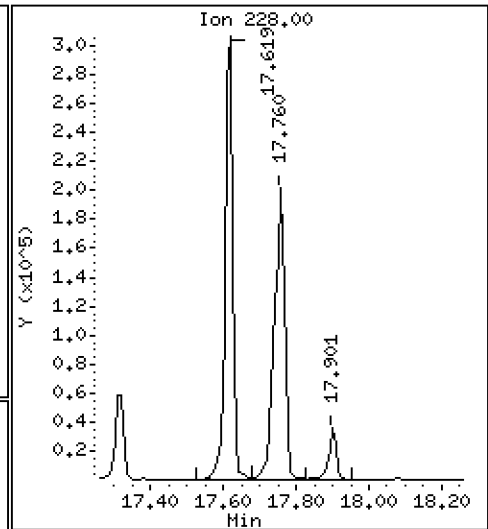
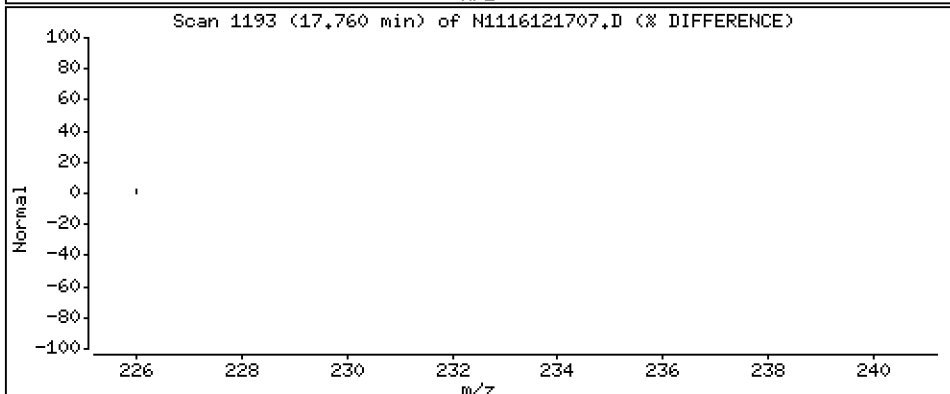
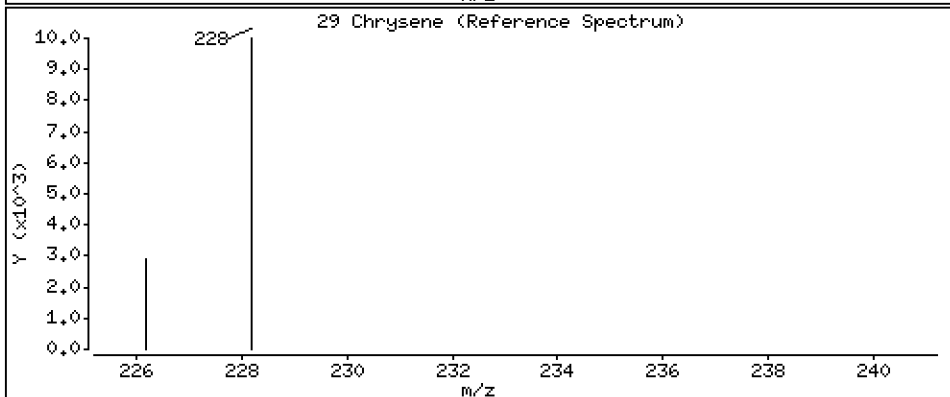
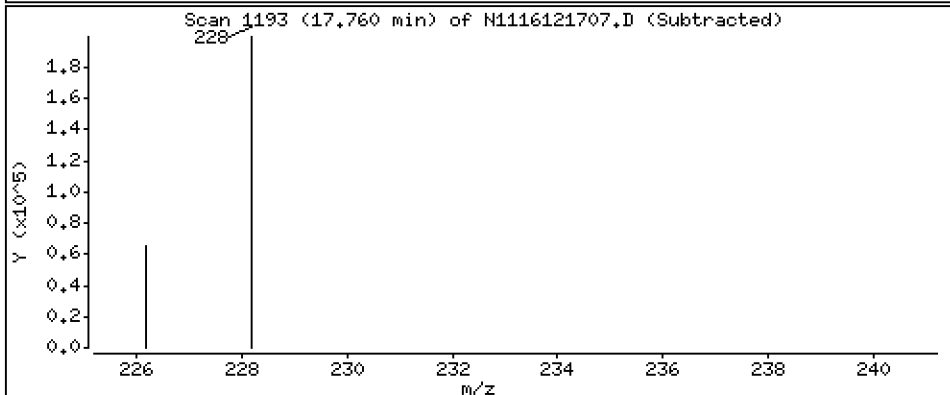
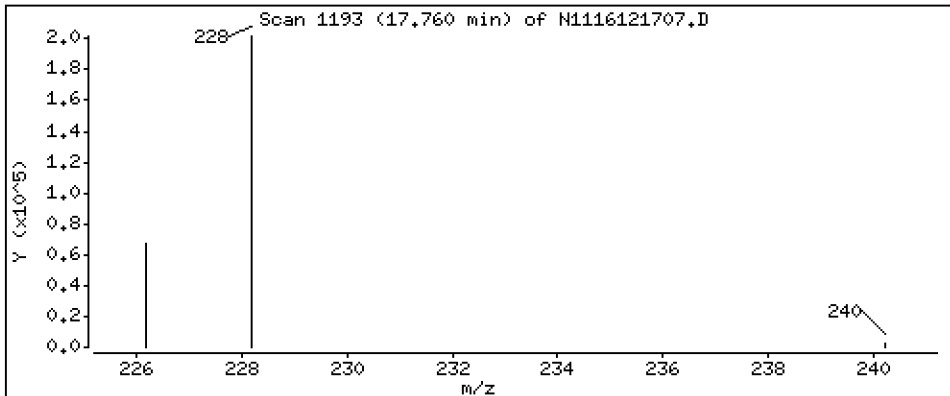
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 134 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

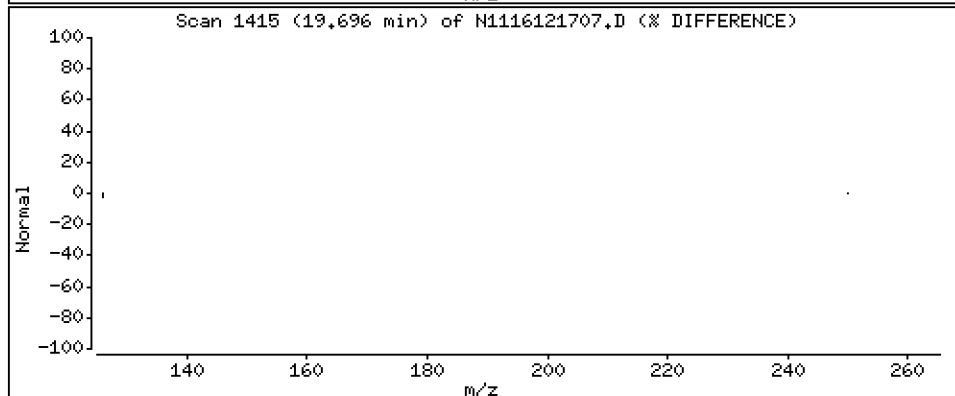
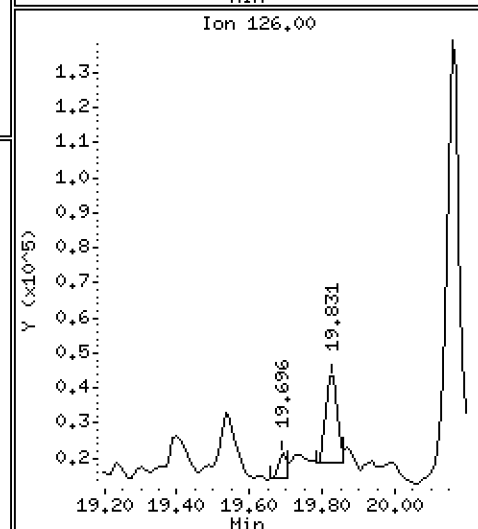
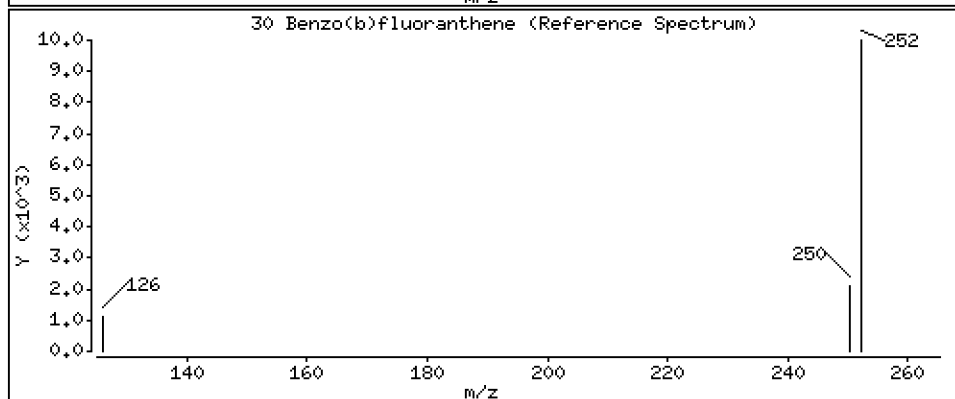
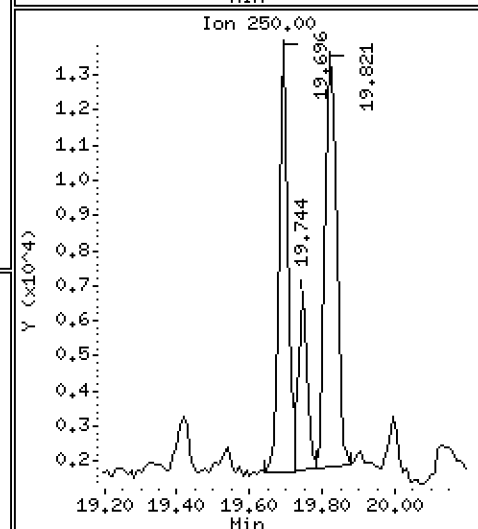
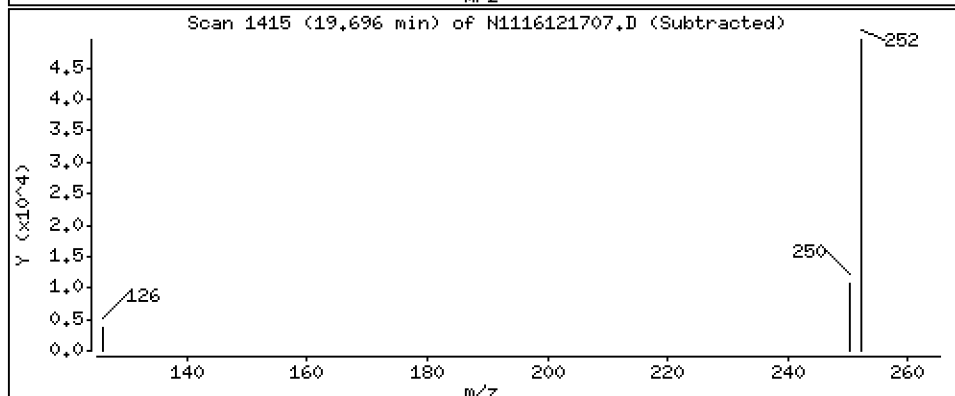
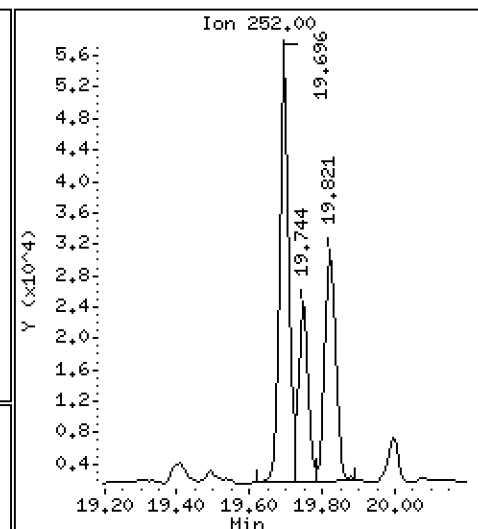
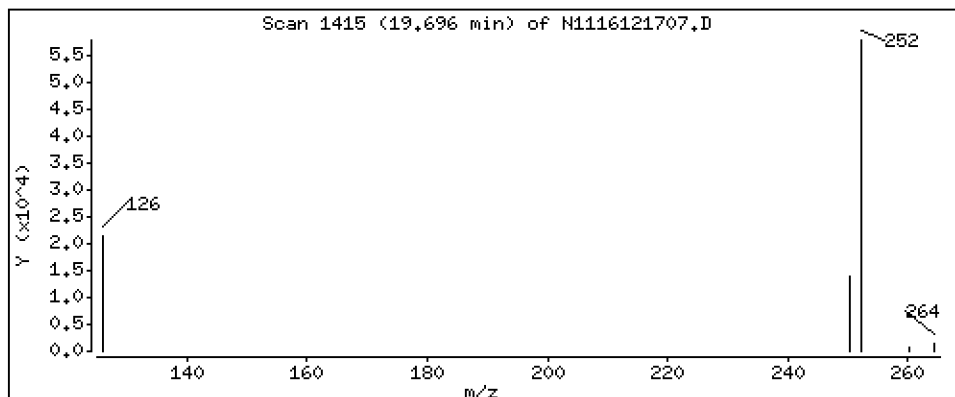
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 36,4 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

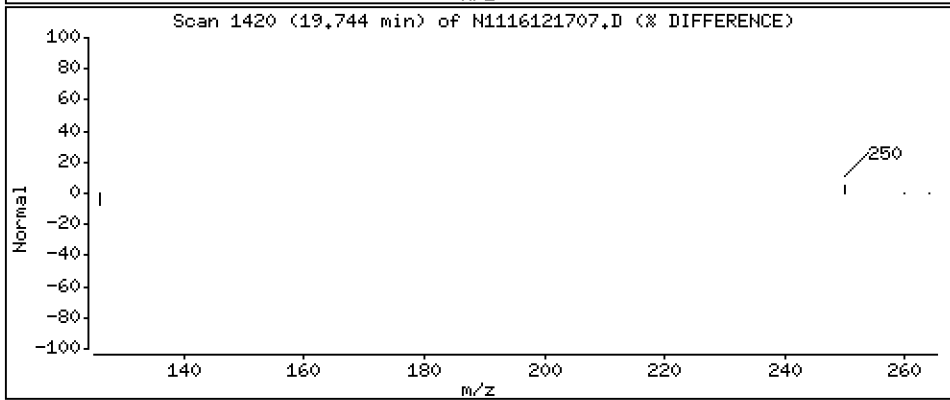
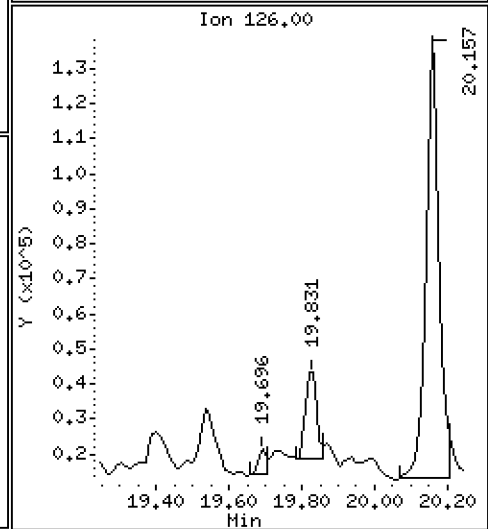
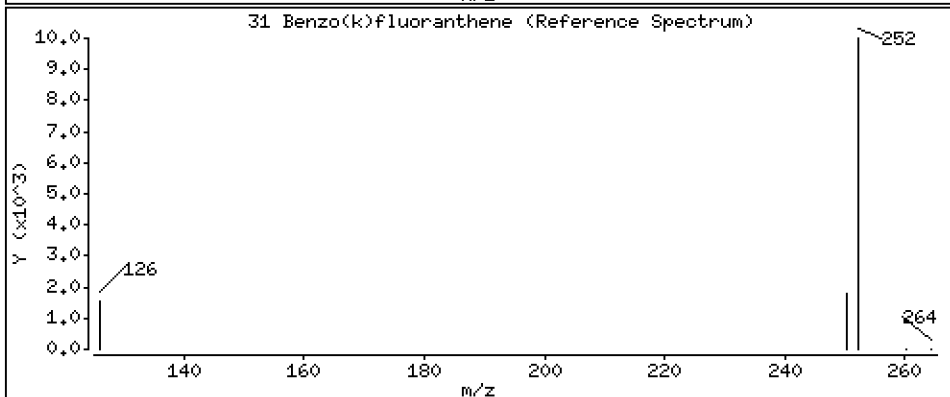
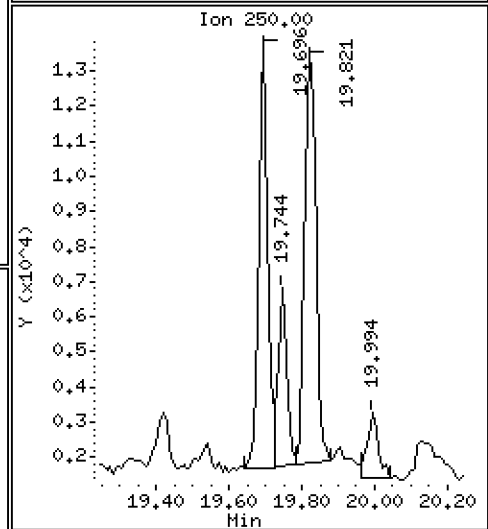
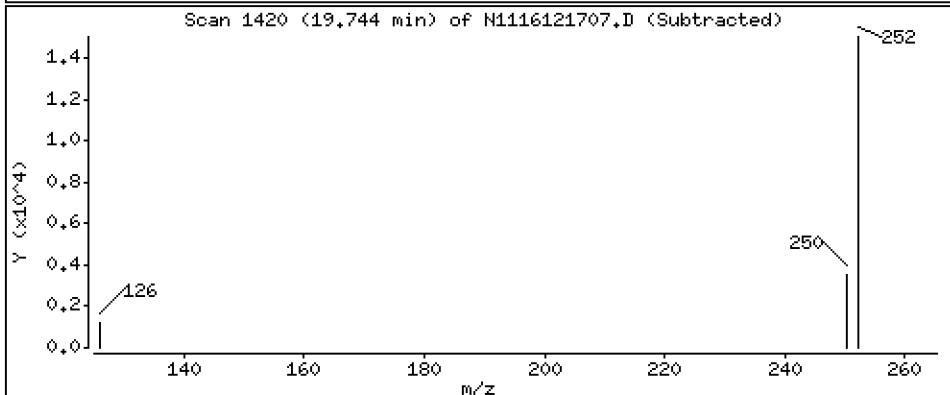
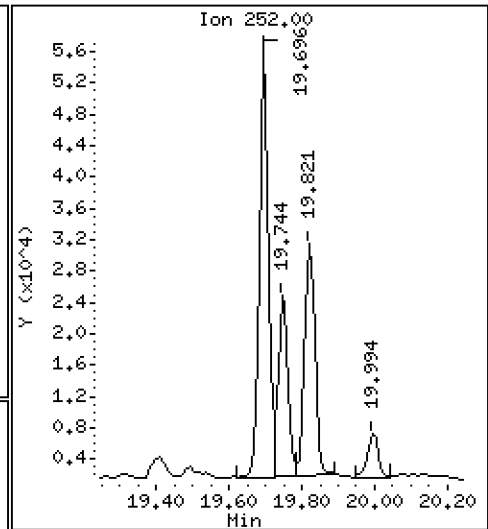
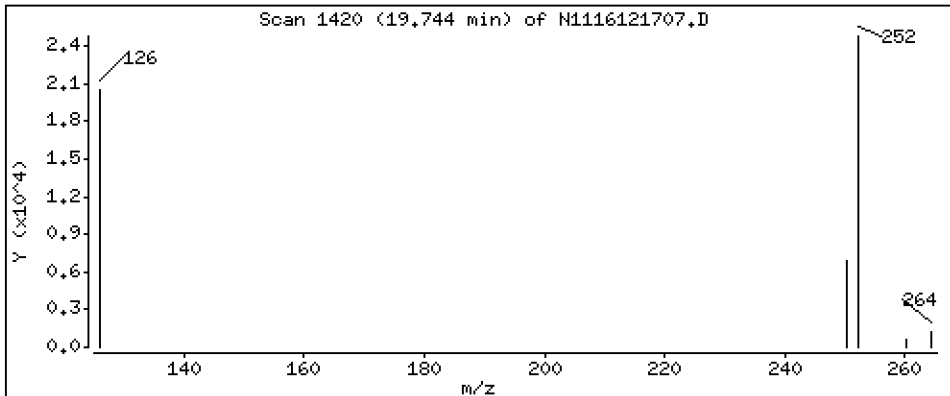
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 16,1 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

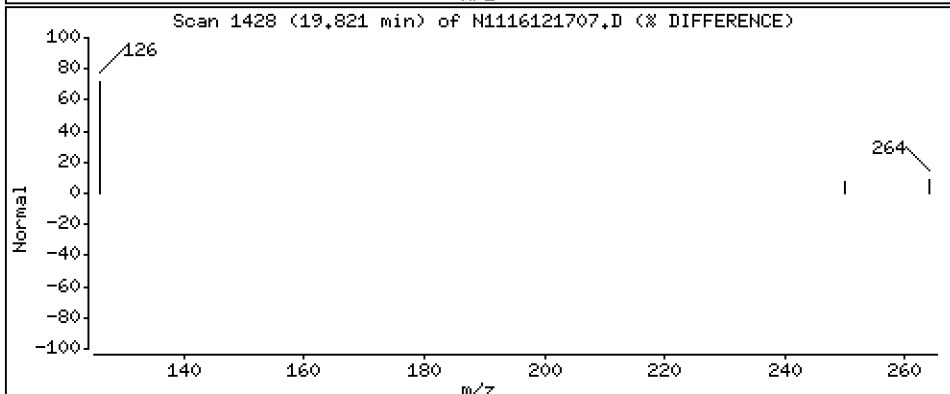
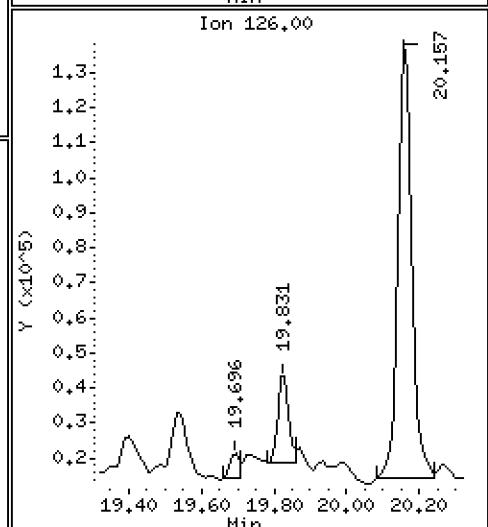
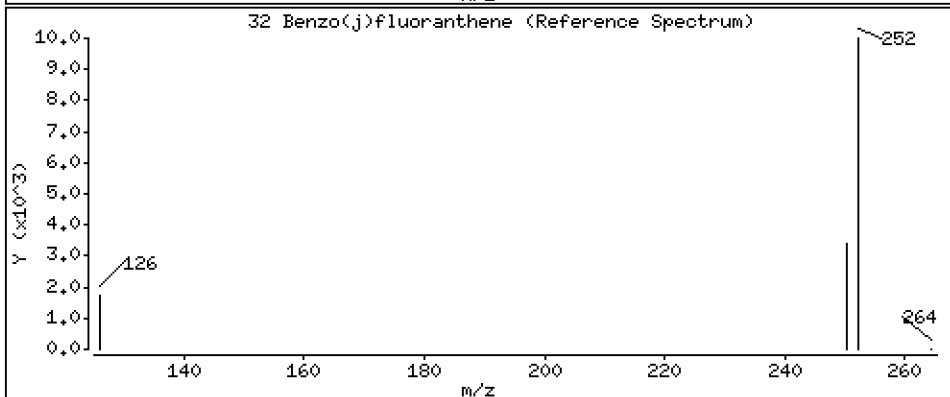
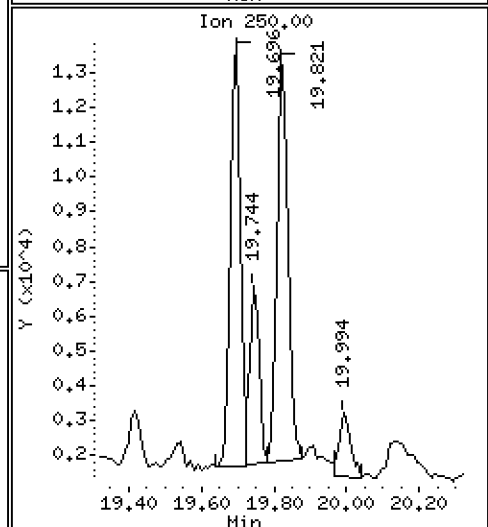
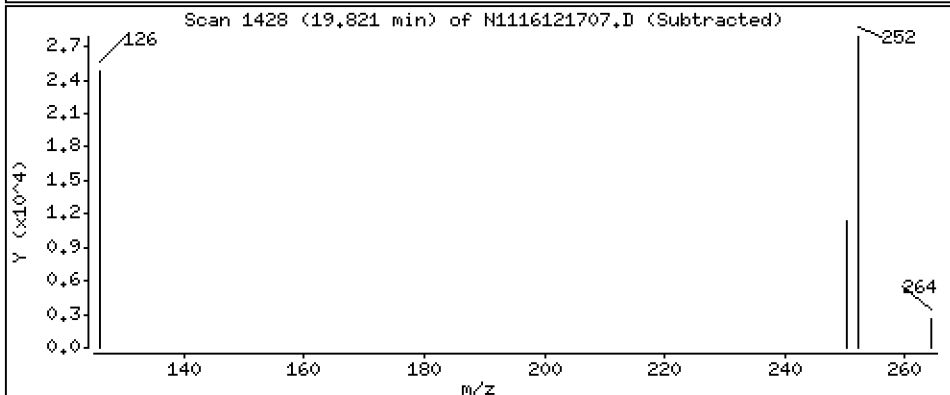
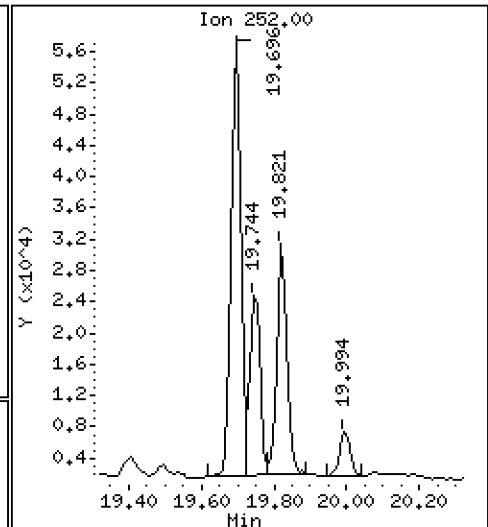
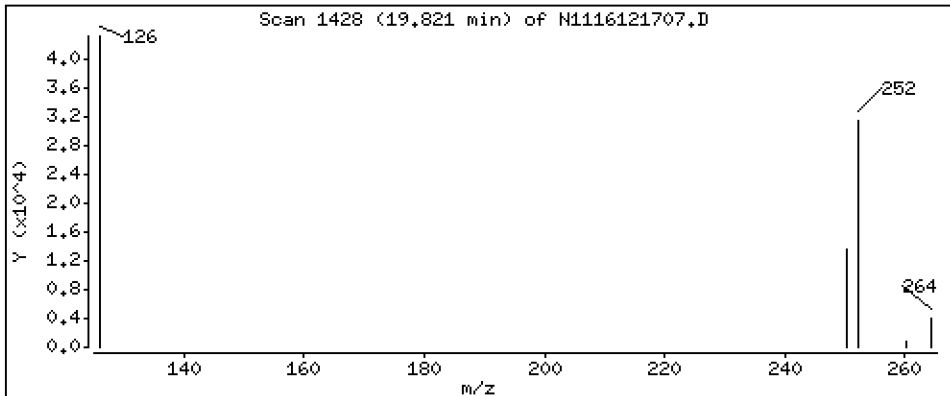
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 22,2 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

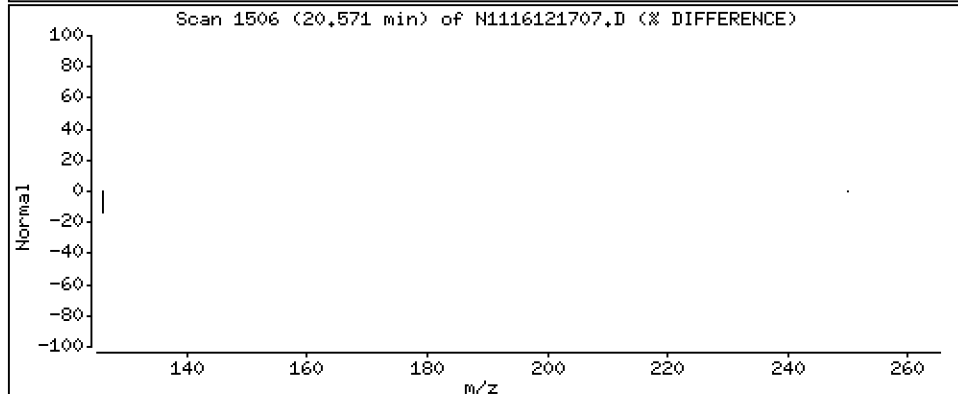
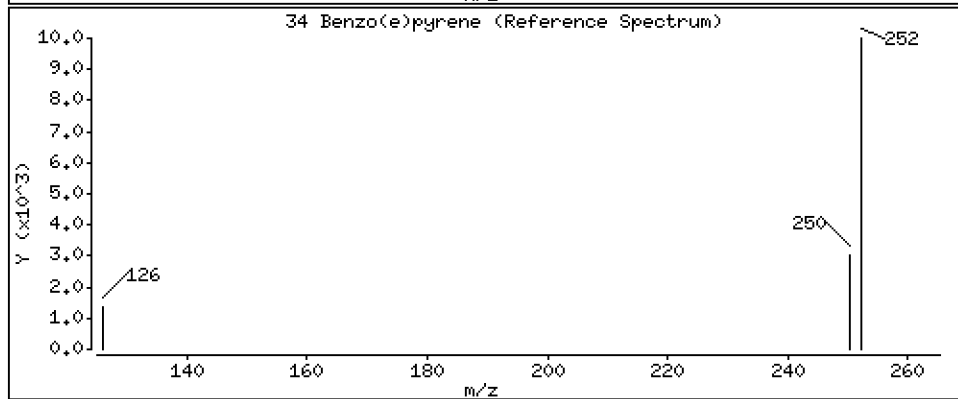
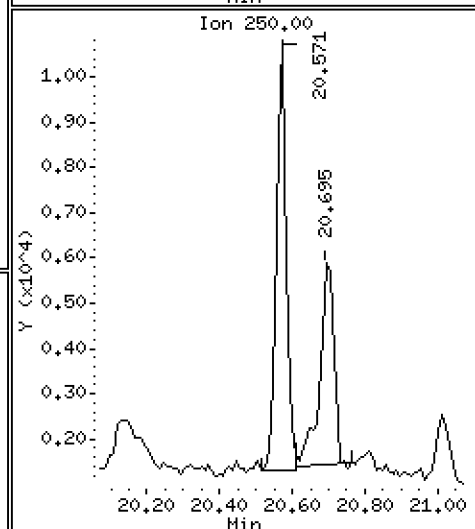
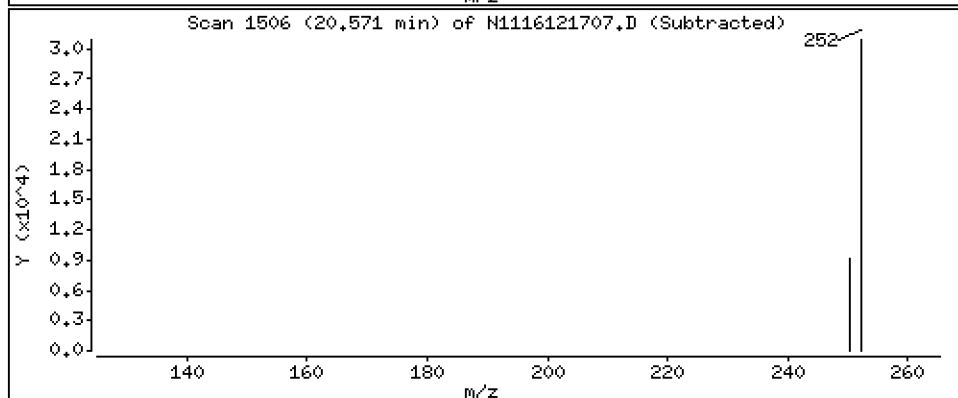
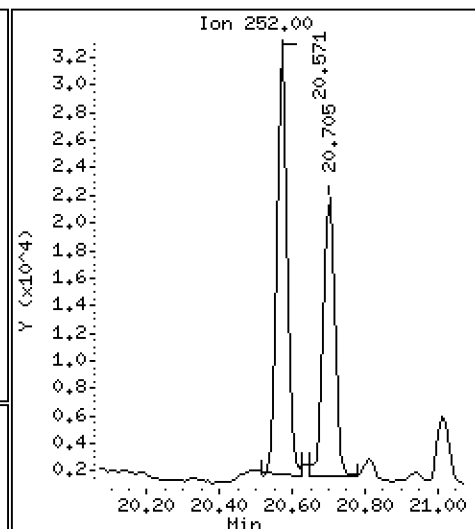
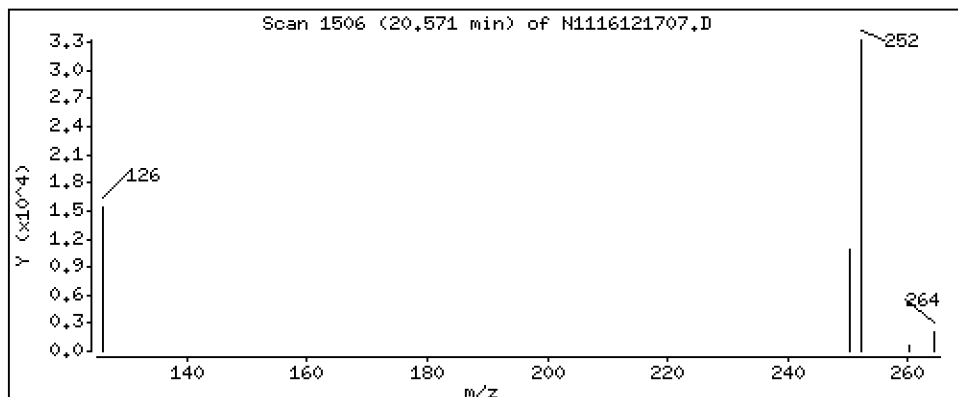
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 23,9 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

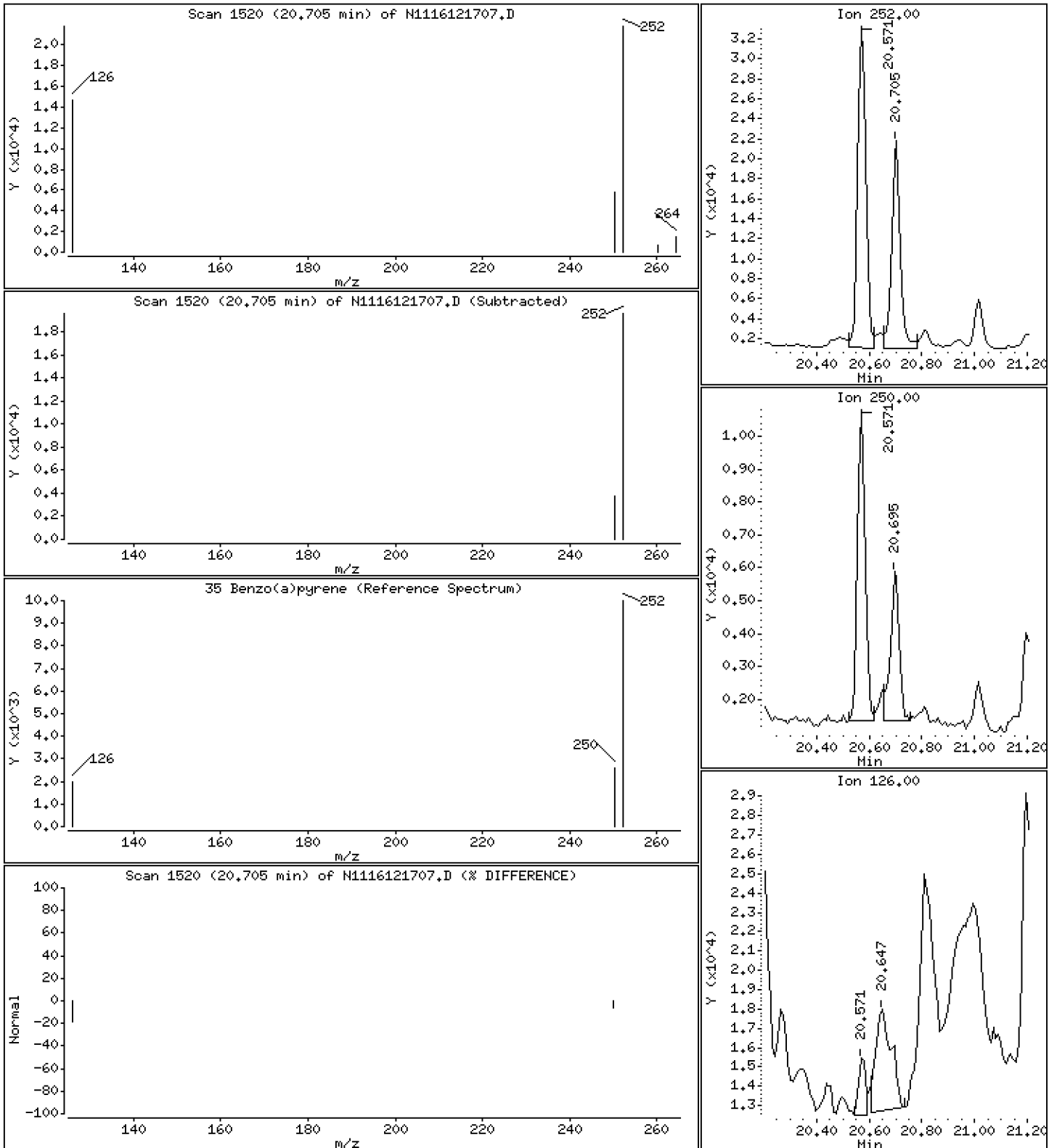
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 19,6 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

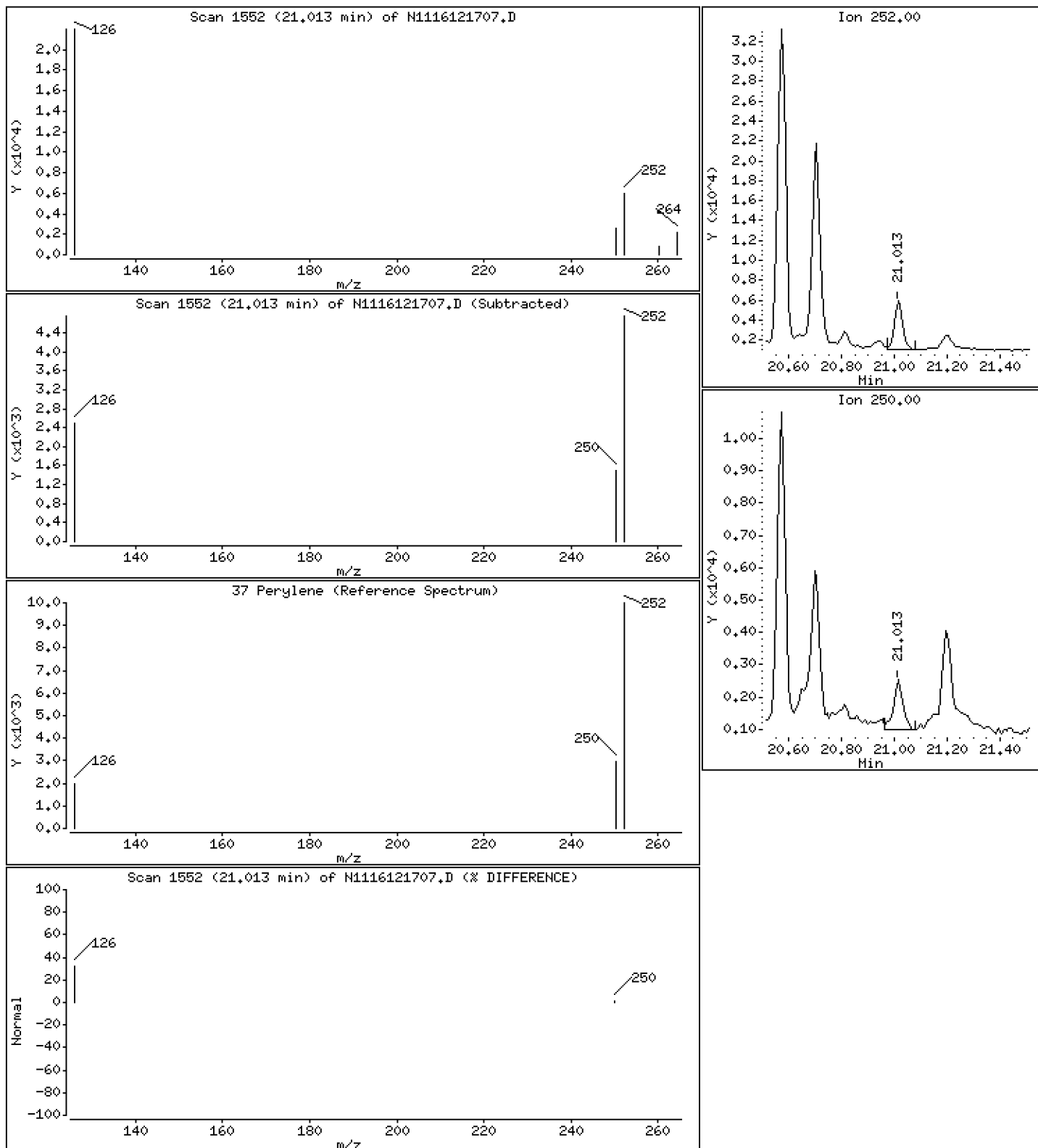
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 4,29 ng/mL



Date : 17-DEC-2016 15:15

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21

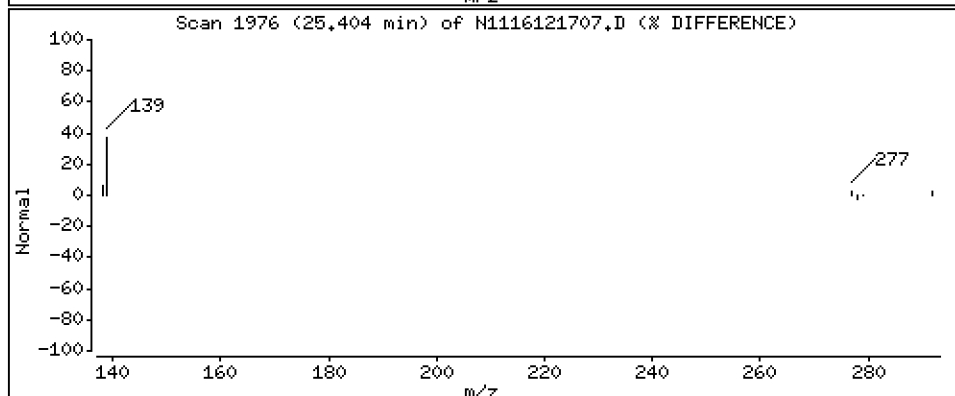
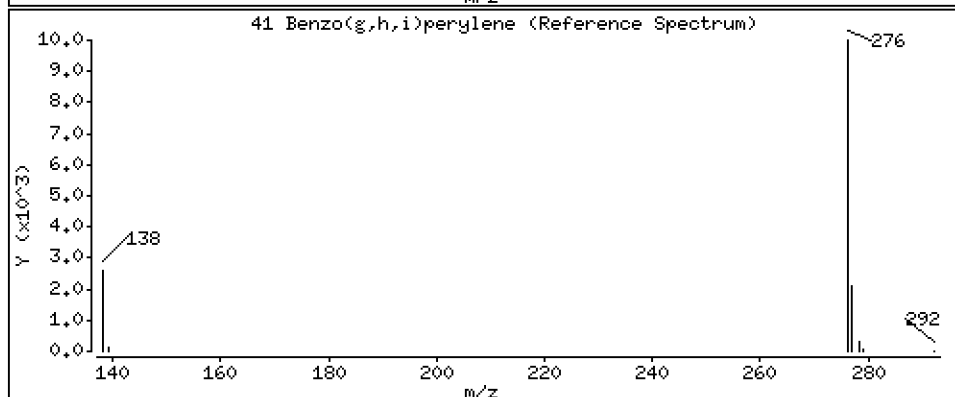
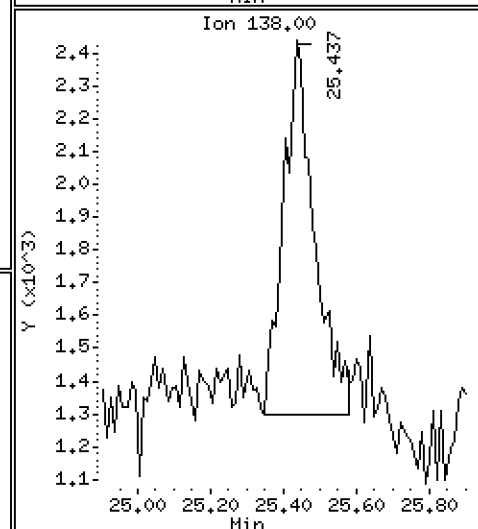
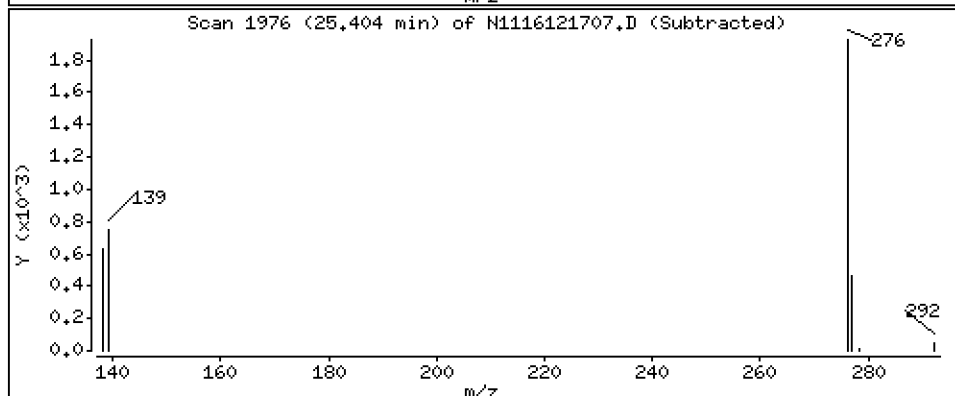
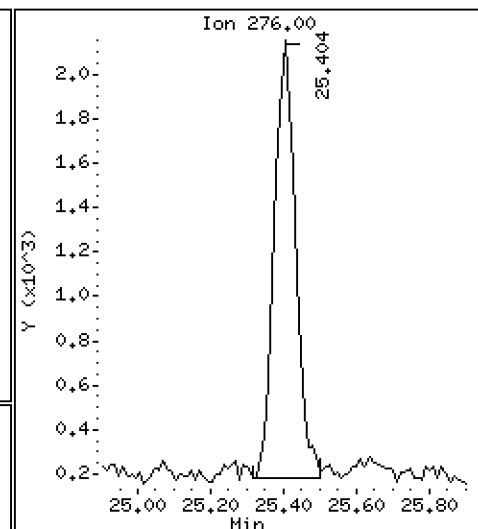
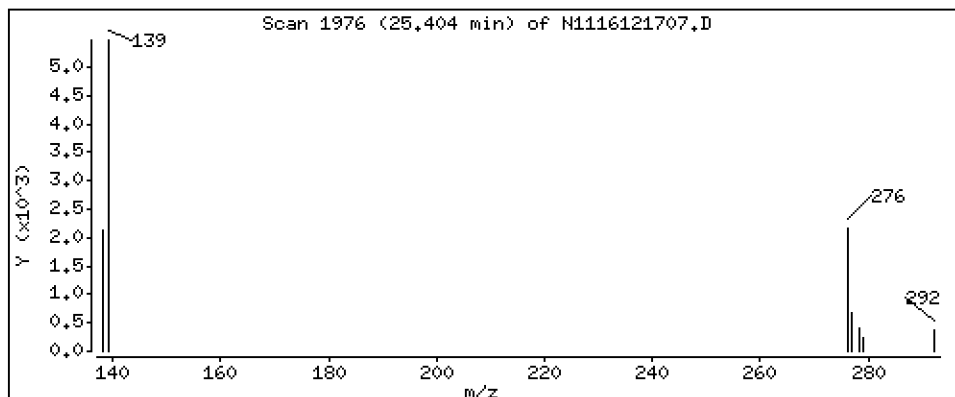
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 3,71 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161217.b\N1116121707.D
 Lab Smp Id: 16K0321-21
 Inj Date : 17-DEC-2016 15:15 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-21
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161217.b\lowsim.m
 Meth Date : 17-Dec-2016 13:15 van Quant Type: ISTD
 Cal Date : 16-DEC-2016 16:32 Cal File: N1116121615.D
 Als bottle: 7
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	CONCENTRATIONS						
			MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.216	7.234	(1.000)	437732	200.000		
2 Naphthalene	128		7.243	7.261	(1.004)	203460	93.7769	93.8	
3 Benzo(b)thiophene	134		Compound Not Detected.						
\$ 4 2-Methylnaphthalene-d10	152		8.190	8.211	(1.135)	279148	146.139	146	
5 2-Methylnaphthalene	142		8.253	8.264	(1.144)	341161	160.079	160	
6 1-Methylnaphthalene	142		8.505	8.526	(1.179)	253143	120.899	121	
7 2-Chloronaphthalene	162		Compound Not Detected.						
8 Biphenyl	154		9.125	9.136	(0.890)	122606	43.0481	43.0	
9 2,6-Dimethylnaphthalene	156		9.167	9.199	(0.894)	316490	145.422	145	
10 Acenaphthylene	152		10.098	10.107	(0.985)	23530	9.71065	9.71 (M)	
* 11 Acenaphthene-d10	164		10.251	10.260	(1.000)	271251	200.000		
12 Acenaphthene	153		10.315	10.324	(1.006)	984446	620.951	621	
13 Dibenzofuran	168		10.519	10.519	(1.026)	799582	339.995	340	
14 2,3,5-Trimethylnaphthalene	170		10.607	10.620	(1.035)	89181	58.3371	58.3	
\$ 15 Fluorene-d10	174		Compound Not Detected.						
16 Fluorene	166		11.138	11.151	(1.086)	1173134	622.385	622	
17 Dibenzothiophene	184		12.777	12.777	(0.987)	257210	107.755	108	
* 18 Phenanthrene-d10	188		12.945	12.956	(1.000)	531000	200.000		
19 Phenanthrene	178		12.987	12.998	(1.003)	6654873	2241.80	2240	
\$ 20 Anthracene-d10	188		13.008	13.019	(1.005)	69357	26.3704	26.4	
21 Anthracene	178		13.040	13.050	(1.007)	739935	261.337	261	
22 Carbazole	167		Compound Not Detected.						
23 1-Methylphenanthrene	192		13.993	13.993	(1.081)	425935	141.822	142	
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.164)	531237	187.823	188	
25 Fluoranthene	202		15.094	15.093	(1.166)	5540028	1619.63	1620	
26 Pyrene	202		15.603	15.603	(0.881)	3952586	1376.38	1380	
27 Benzo(a)anthracene	228		17.619	17.618	(0.995)	457335	156.449	156	
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	501826	200.000		
29 Chrysene	228		17.760	17.760	(1.003)	399456	133.782	134	
30 Benzo(b)fluoranthene	252		19.696	19.696	(0.940)	100812	36.3805	36.4	
31 Benzo(k)fluoranthene	252		19.744	19.744	(0.943)	46576	16.1041	16.1	
32 Benzo(j)fluoranthene	252		19.821	19.820	(0.946)	58676	22.2242	22.2	
\$ 33 Benzo(e)pyrene-d12	264		20.493	20.493	(0.978)	336910	136.705	137	

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	20.570	20.570	(0.982)	63826	23.8967	23.9
35 Benzo(a)pyrene	252	20.705	20.704	(0.989)	48210	19.6067	19.6
* 36 Perylene-d12	264	20.945	20.935	(1.000)	495091	200.000	
37 Perylene	252	21.012	21.012	(1.003)	11216	4.28606	4.29
§ 38 Dibenzo(a,h)anthracene-d14	292	23.830	23.830	(1.138)	253628	173.750	174
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	25.403	25.403	(1.213)	7845	3.71451	3.71

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 17-DEC-2016
 Lab File ID: N1116121707.D Calibration Time: 12:40
 Lab Smp Id: 16K0321-21
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161217.b\lowsim.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	341640	170820	683280	437732	28.13
11 Acenaphthene-d10	209310	104655	418620	271251	29.59
18 Phenanthrene-d10	404977	202489	809954	531000	31.12
28 Chrysene-d12	465046	232523	930092	501826	7.91
36 Perylene-d12	454694	227347	909388	495091	8.88

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.22	-0.25
11 Acenaphthene-d10	10.26	9.76	10.76	10.25	-0.09
18 Phenanthrene-d10	12.96	12.46	13.46	12.95	-0.08
28 Chrysene-d12	17.71	17.21	18.21	17.71	0.00
36 Perylene-d12	20.94	20.44	21.44	20.95	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.

REVIEW SUMMARY FOR FILE - N1116121707.D

Lab ID: 16K0321-21
nt11.i, 20161217.b\lowsim.m, 17-DEC-2016 15:15

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, 20161217.b\lowsim.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

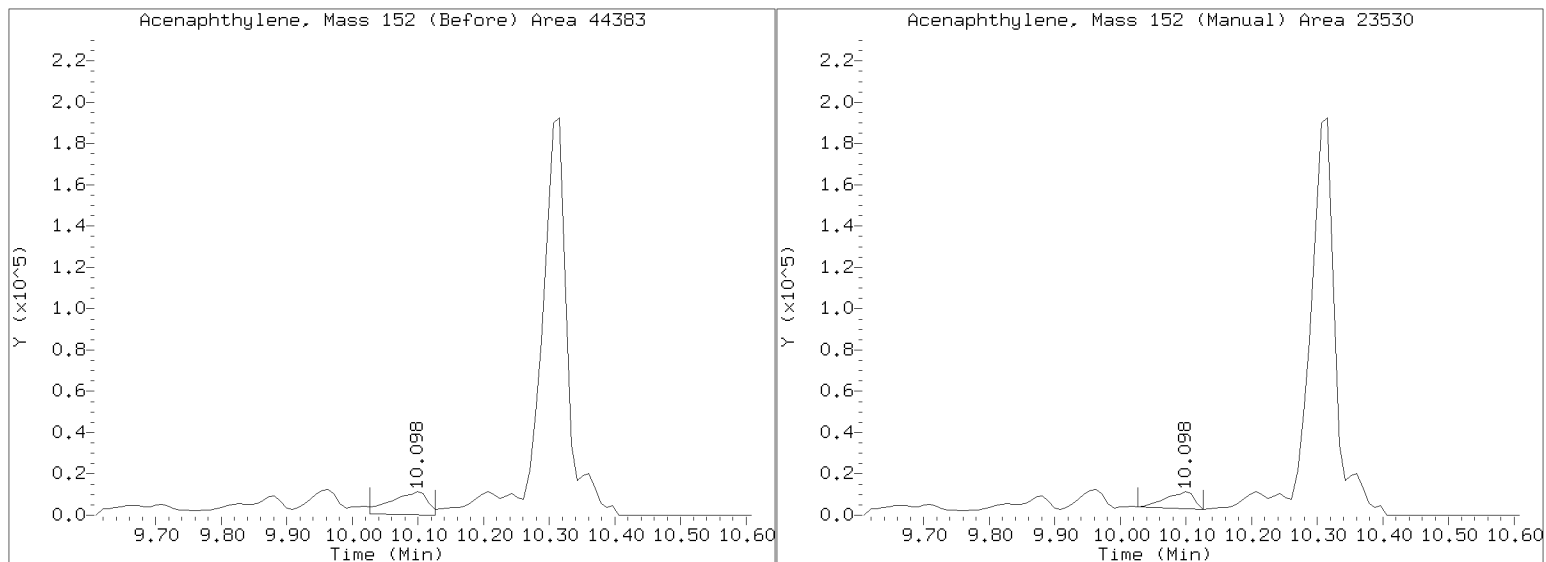
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20161217.b/N1116121707.D

Injection Date: 17-DEC-2016 15:15

Lab ID:16K0321-21 Client ID:

Report Date: 12/20/2016 09:40





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-21RE1 File ID: N1116122004.D
 Sampled: 11/22/16 13:16 Prepared: 11/24/16 08:25 Analyzed: 12/20/16 10:47
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0658 Sequence: SEL0277 Calibration: ZL00052
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	10	13.5	U	11.3	13.5
91-57-6	2-Methylnaphthalene	10	15.2	D	11.3	11.3
208-96-8	Acenaphthylene	10	11.3	U	11.3	11.3
83-32-9	Acenaphthene	10	60.2	D	11.3	11.3
86-73-7	Fluorene	10	60.7	D	11.3	11.3
85-01-8	Phenanthrene	10	299	D	11.3	11.3
120-12-7	Anthracene	10	30.1	D	11.3	11.3
206-44-0	Fluoranthene	10	228	D	11.3	11.3
129-00-0	Pyrene	10	159	D	11.3	11.3
56-55-3	Benzo(a)anthracene	10	15.1	D	11.3	11.3
218-01-9	Chrysene	10	13.0	D	11.3	11.3
205-99-2	Benzo(b)fluoranthene	10	11.3	U	11.3	11.3
207-08-9	Benzo(k)fluoranthene	10	11.3	U	11.3	11.3
50-32-8	Benzo(a)pyrene	10	11.3	U	11.3	11.3
193-39-5	Indeno(1,2,3-cd)pyrene	10	11.3	U	11.3	11.3
53-70-3	Dibenzo(a,h)anthracene	10	11.3	U	11.3	11.3
191-24-2	Benzo(g,h,i)perylene	10	11.3	U	11.3	11.3
1985-5-0	Perylene	10	11.3	U	11.3	11.3
197-97-2	Benzo(e)pyrene	10	11.3	U	11.3	11.3

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	13.5	40.0	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	9.15	27.0	30 - 160	*
Fluoranthene-d10	33.860	19.7	58.2	30 - 160	
Fluorene-d10	21.163	0.00		30 - 160	*
Anthracene-d10	21.163	0.00		30 - 160	*
Benzo(e)pyrene-d12	21.163	14.3	67.4	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161220.16\N1116122004.D

Date : 20-DEC-2016 10:47

Client ID:

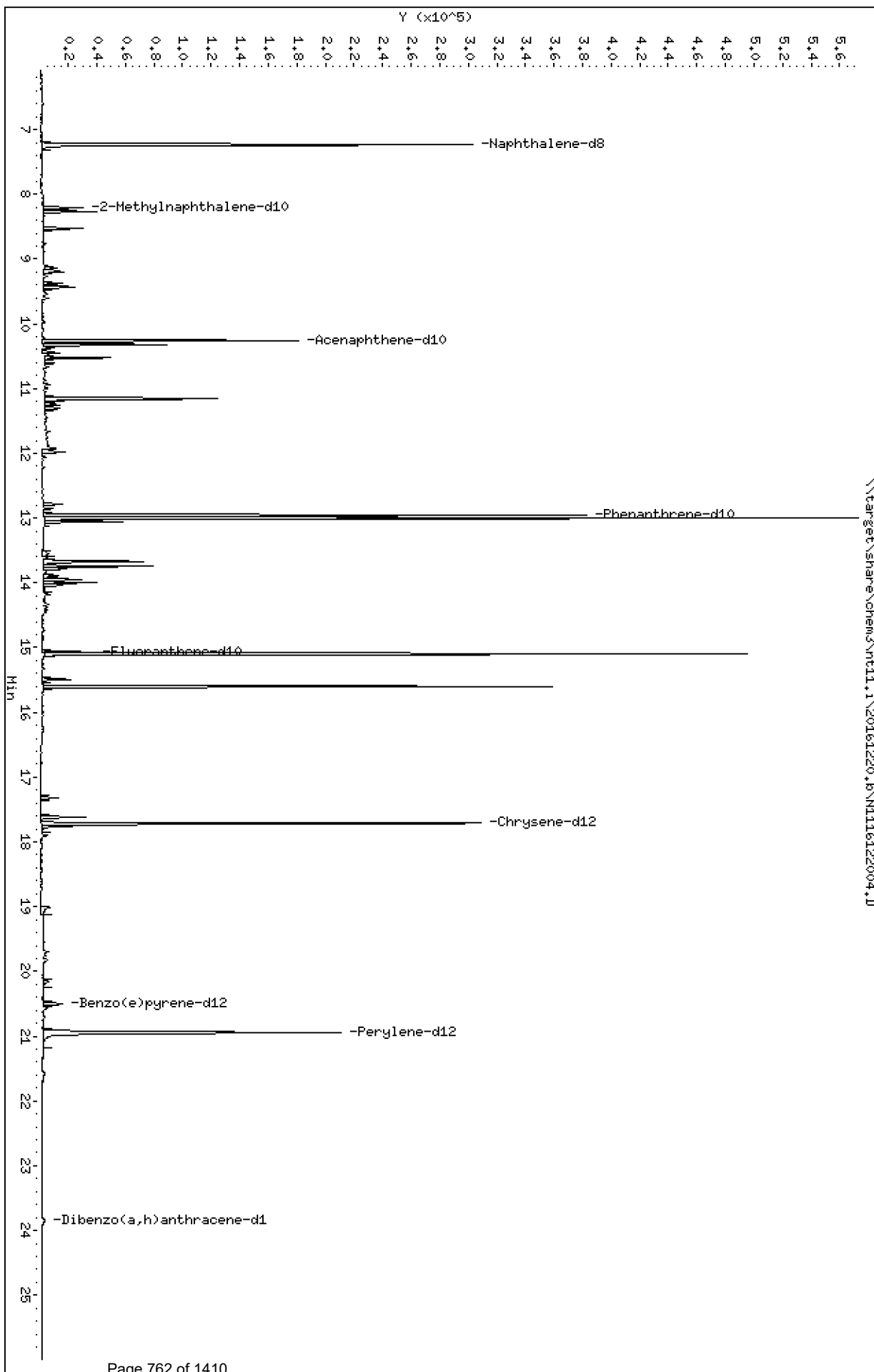
Sample Info: 16K0321-21REL.10

Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

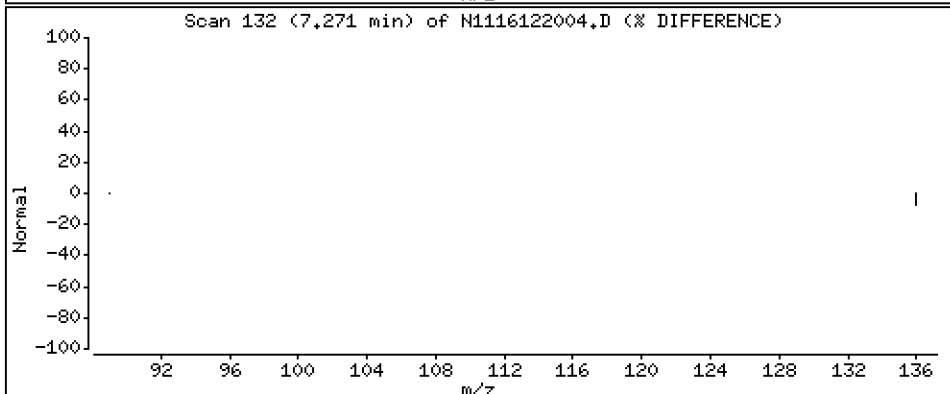
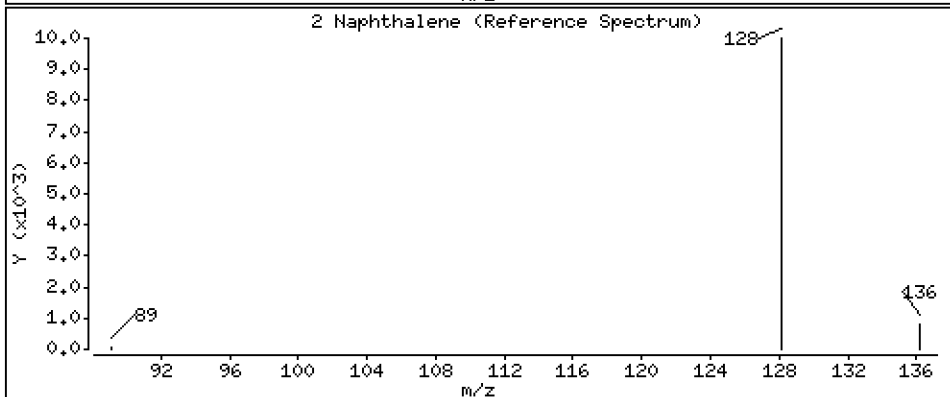
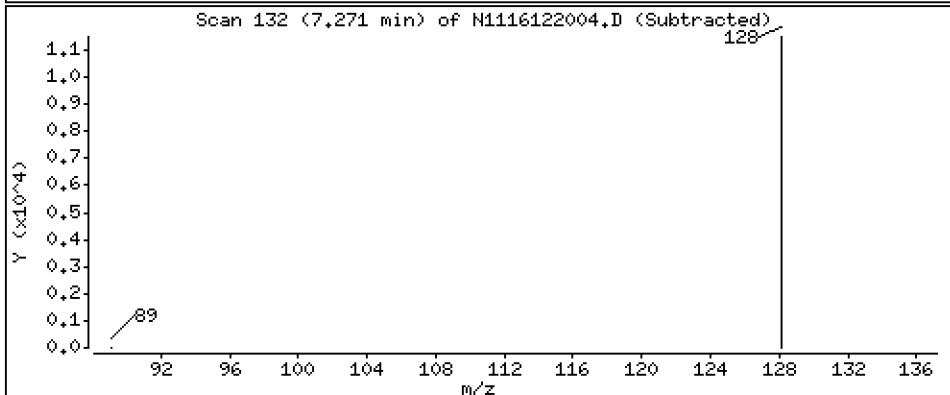
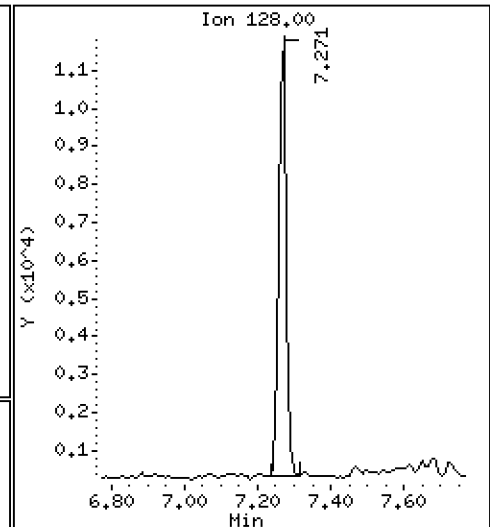
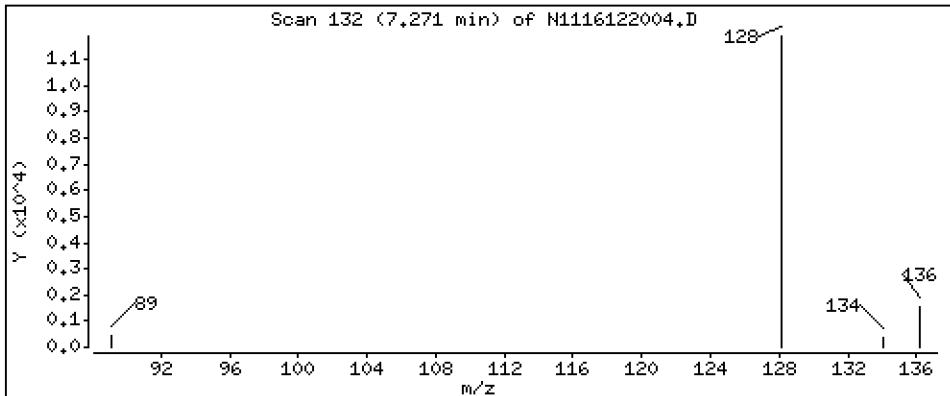
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 8,96 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

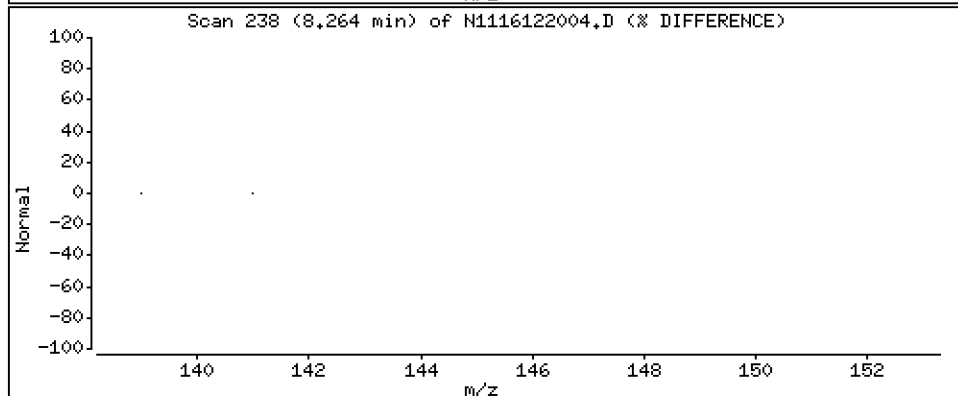
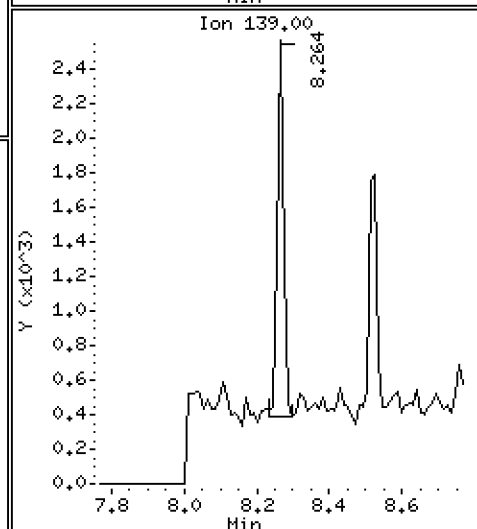
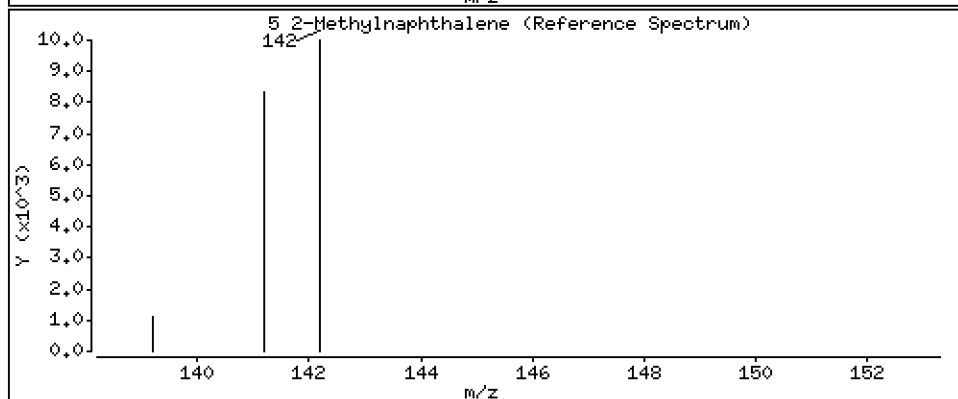
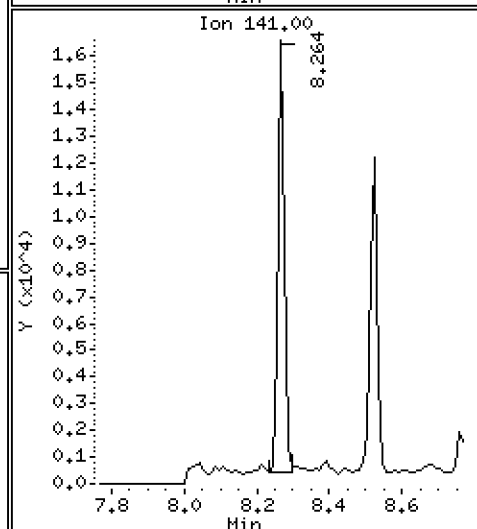
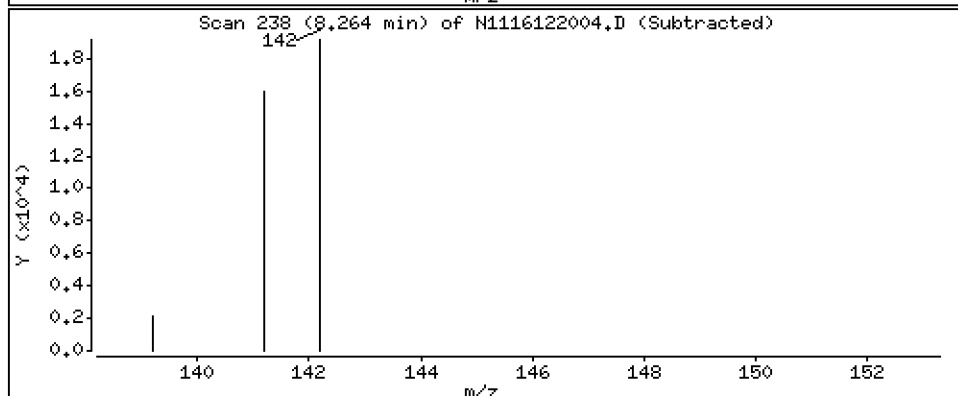
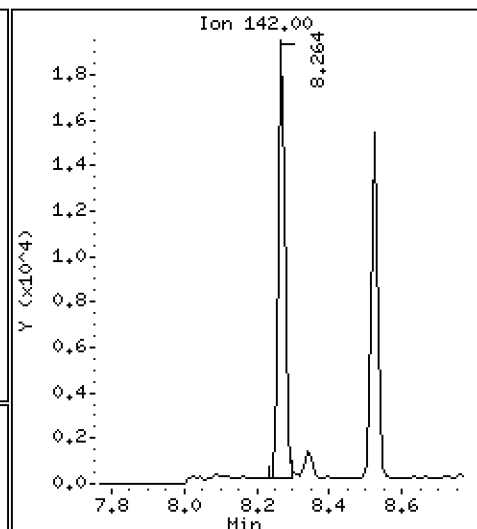
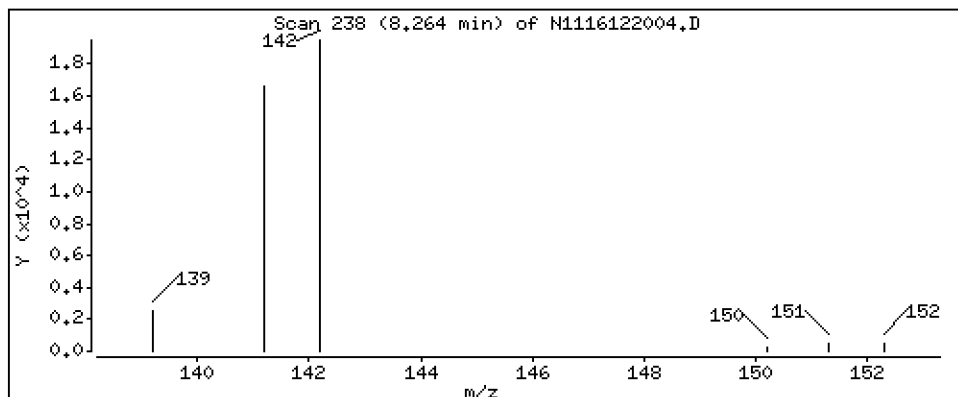
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 13,5 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

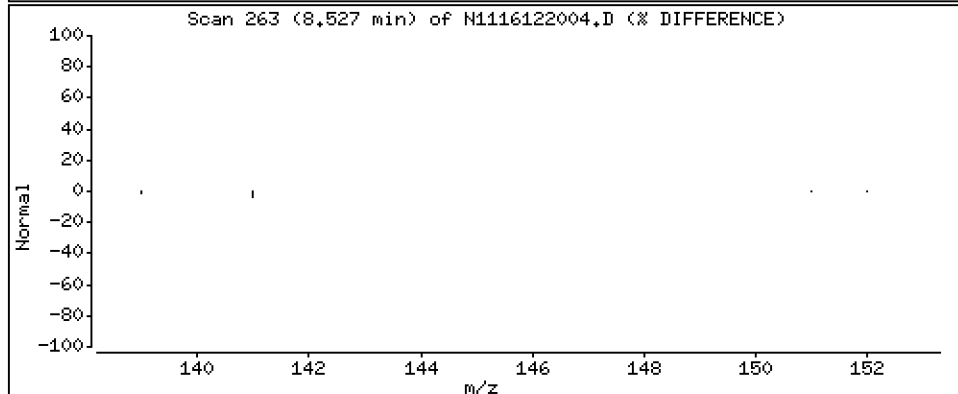
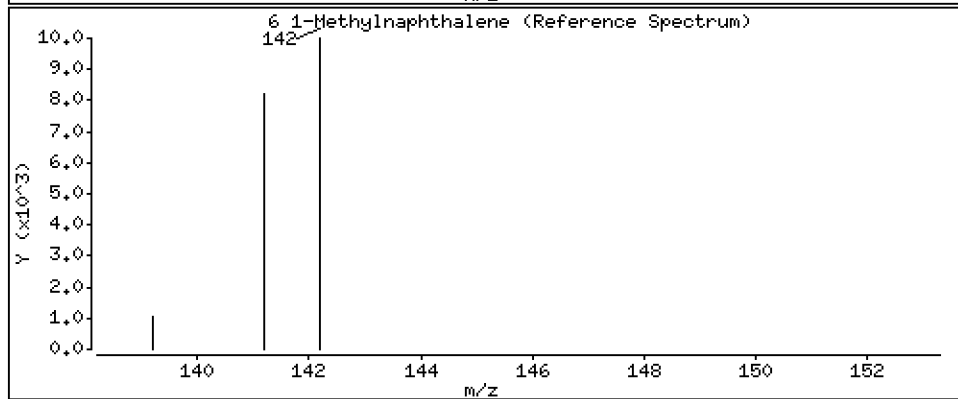
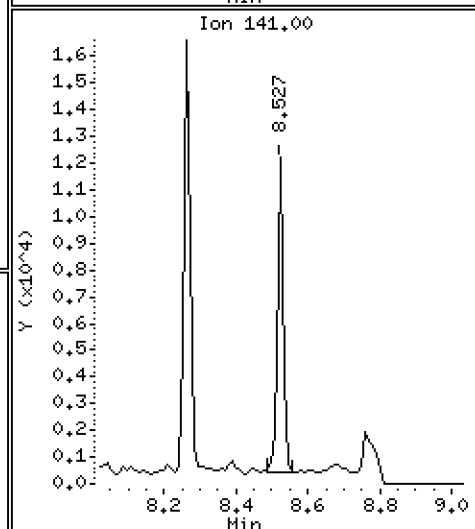
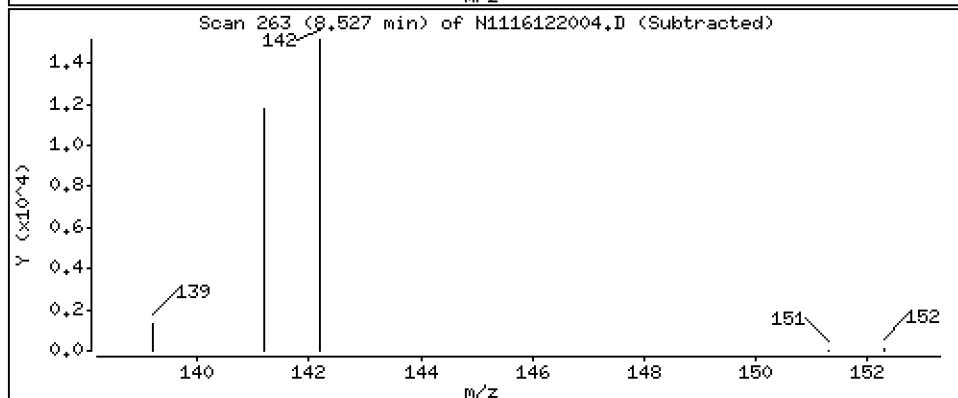
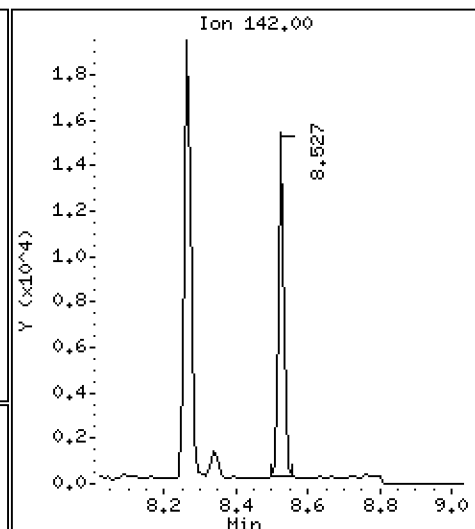
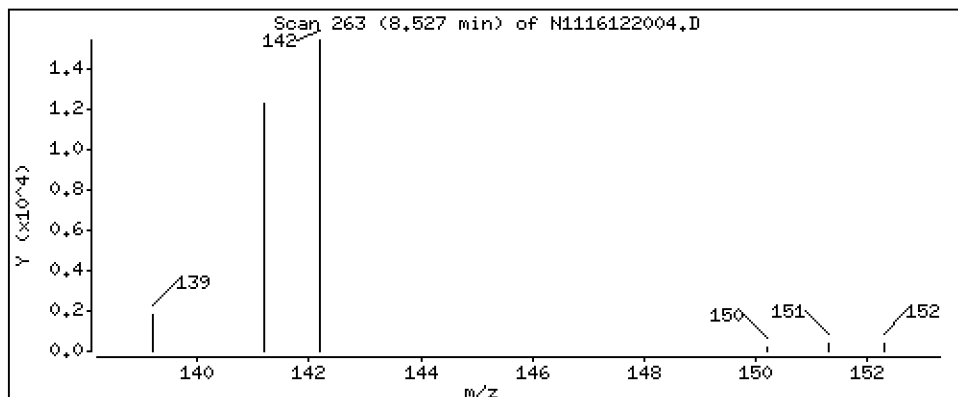
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 10,3 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

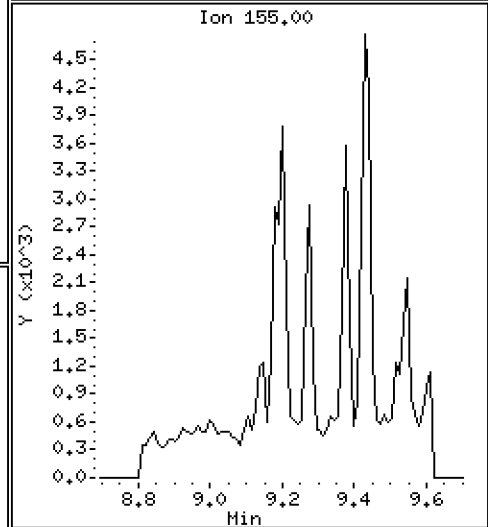
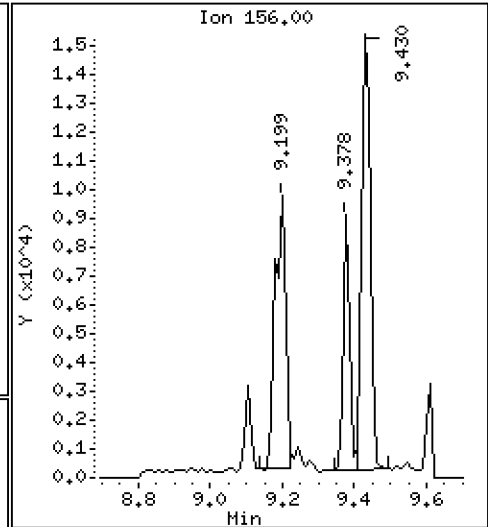
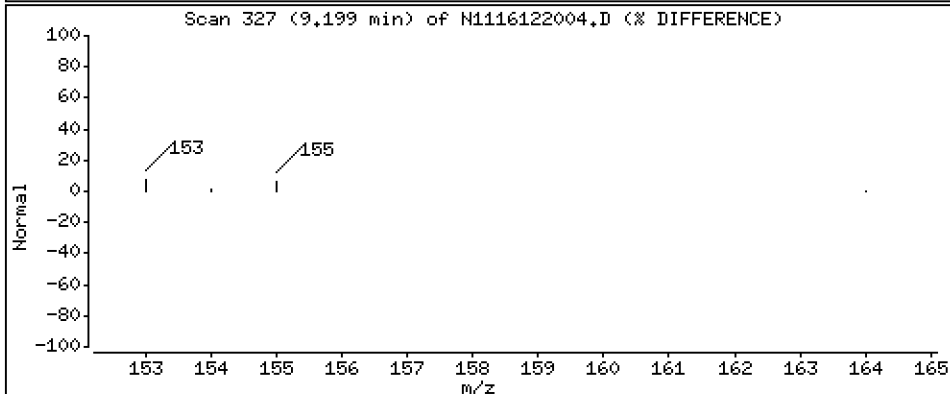
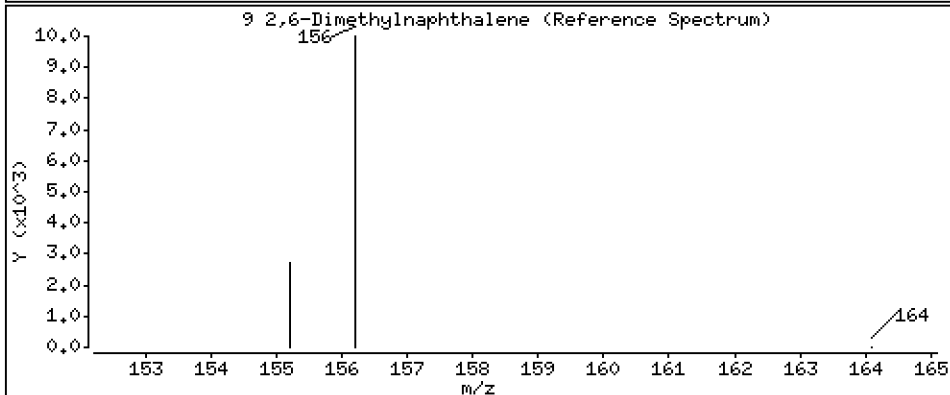
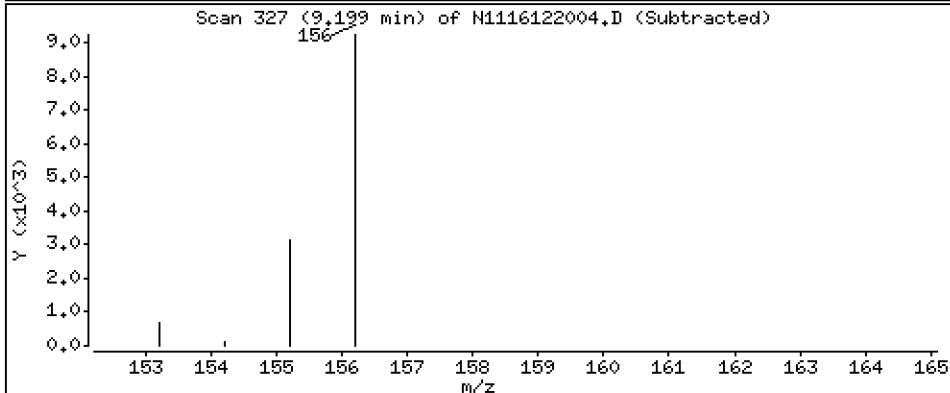
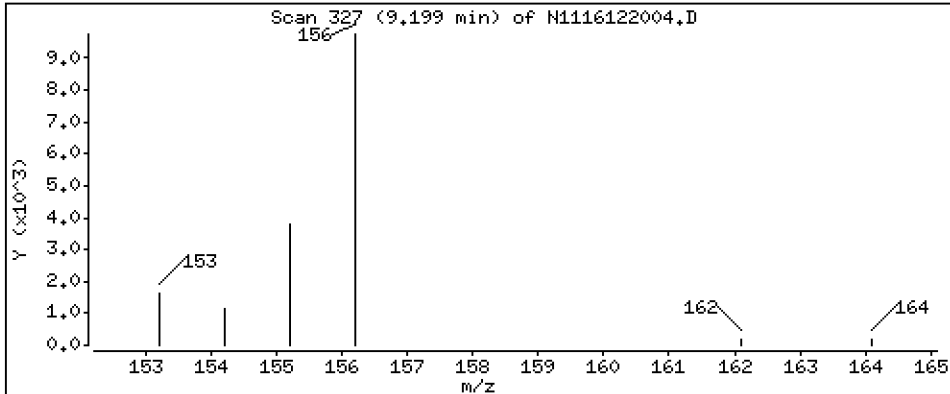
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 11,3 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

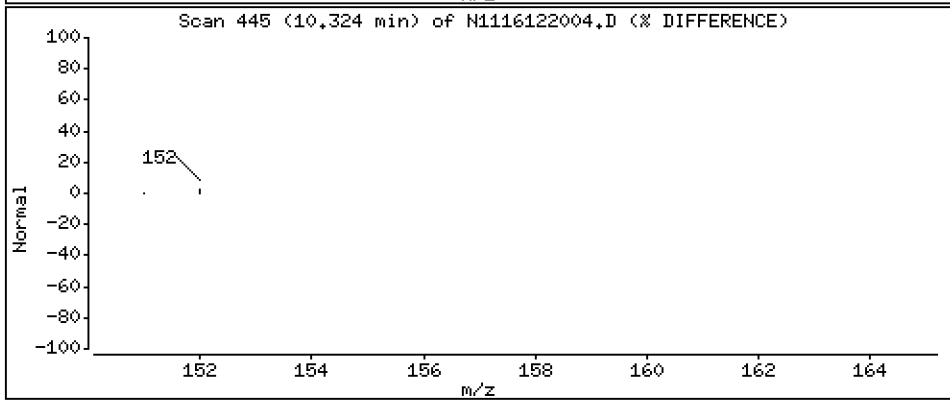
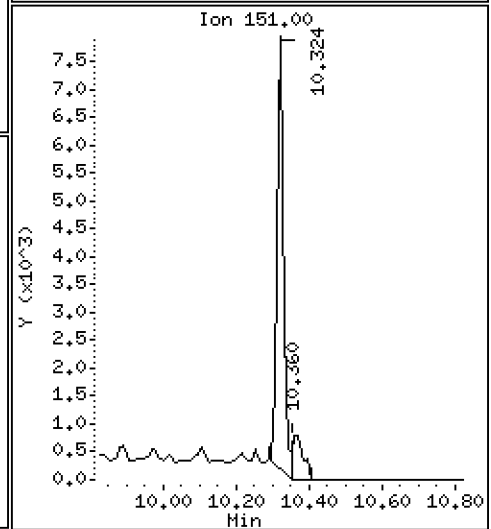
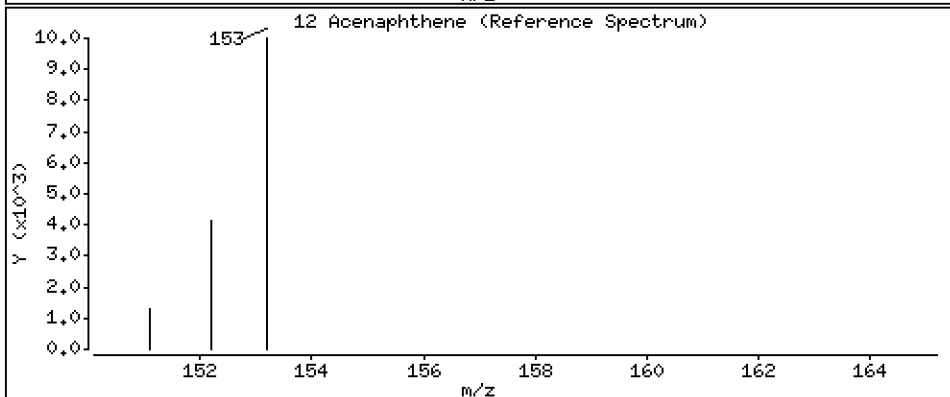
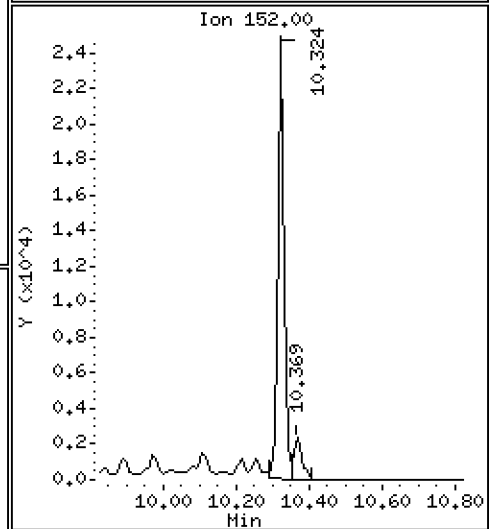
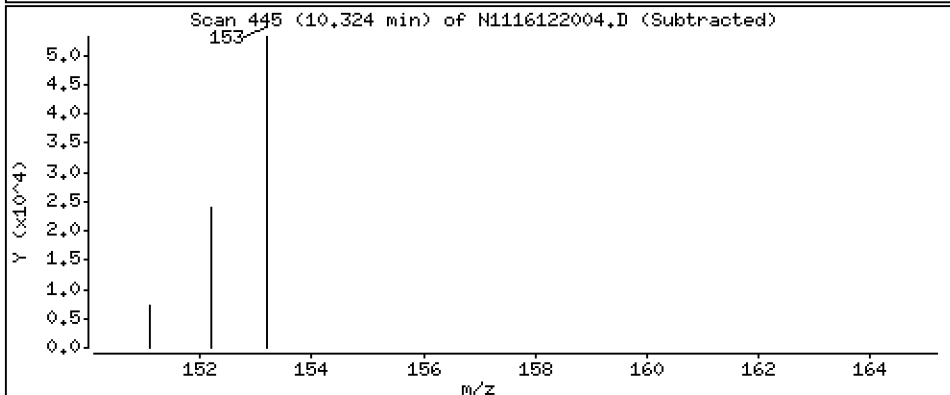
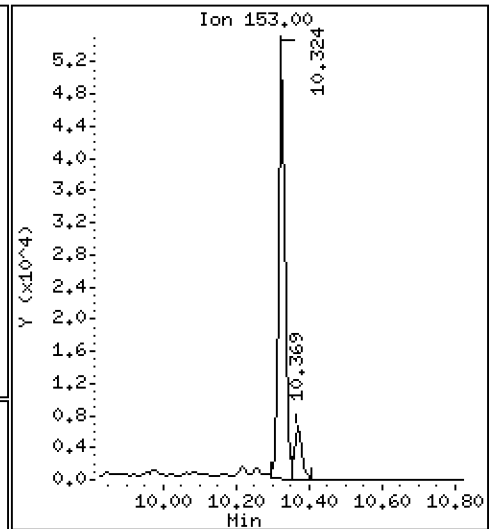
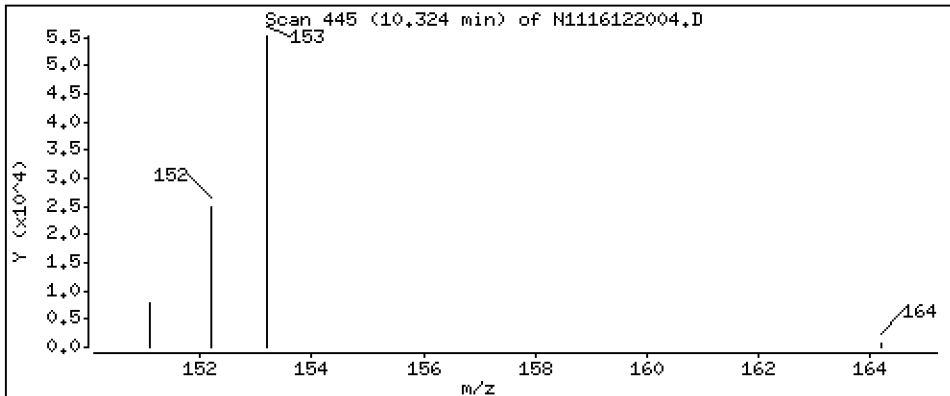
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 53,3 ng/mL

12 Acenaphthene



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

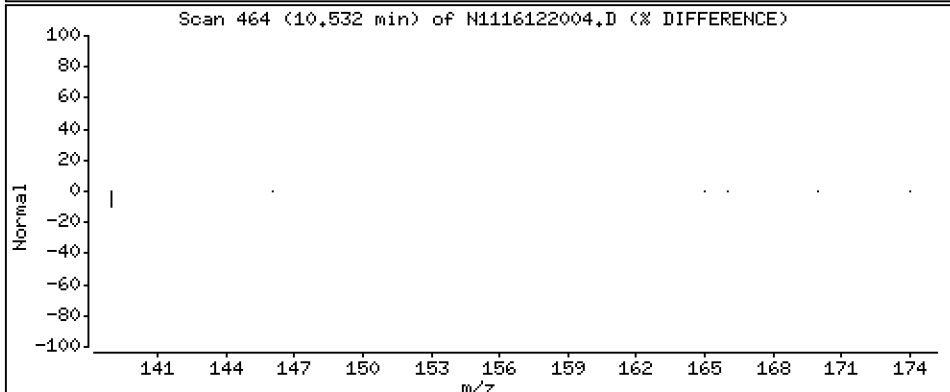
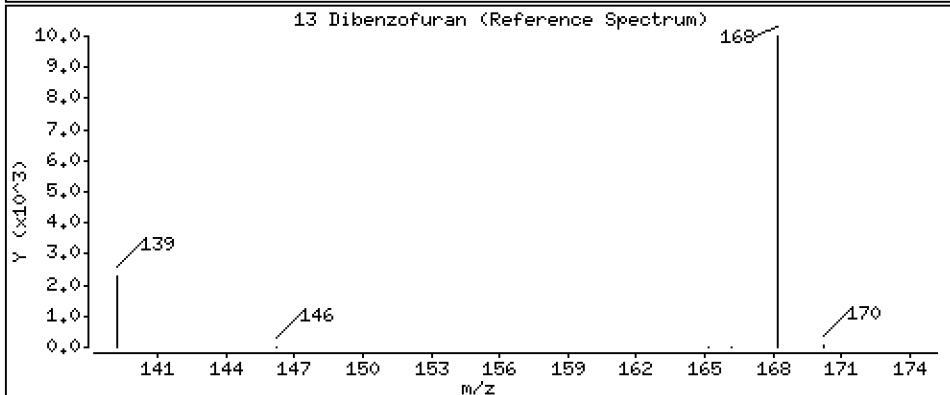
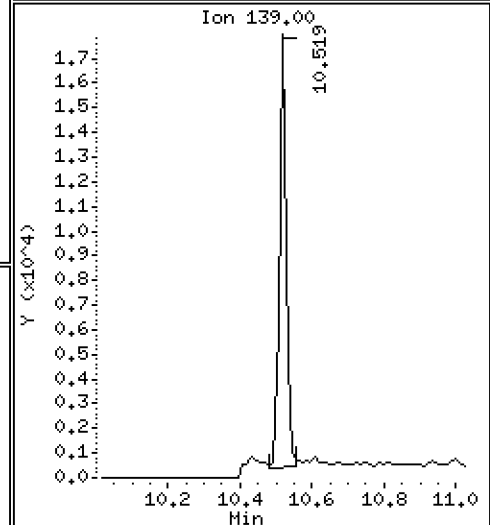
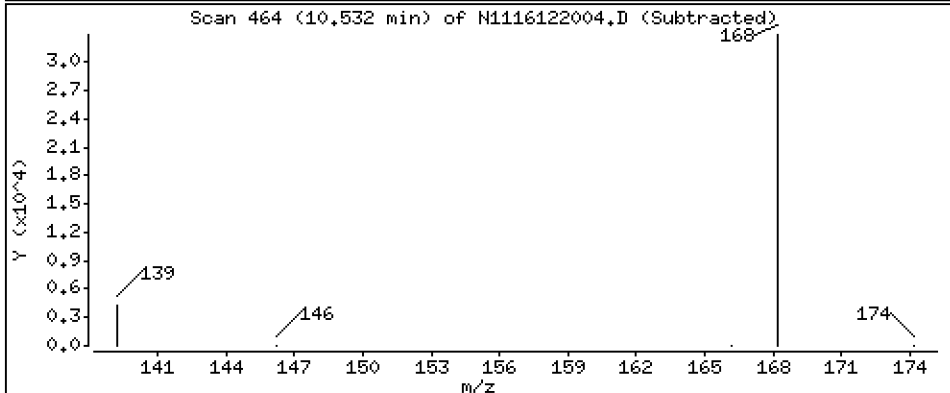
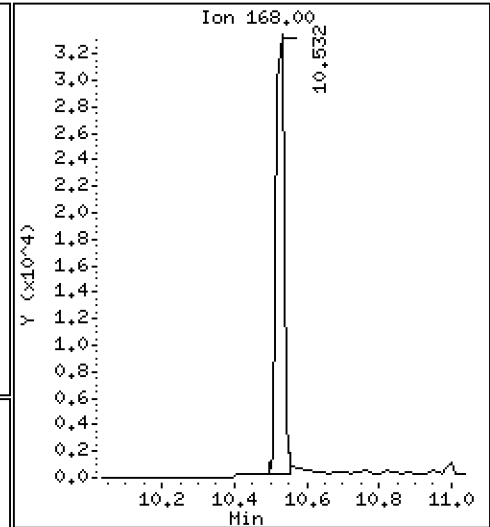
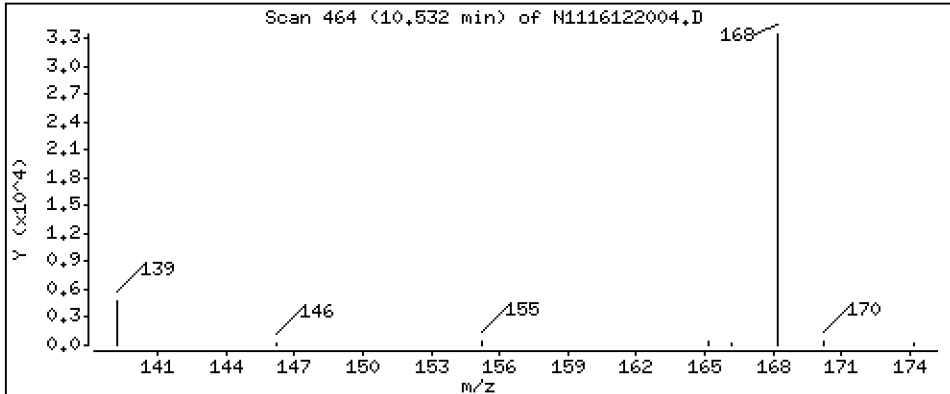
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 28,2 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

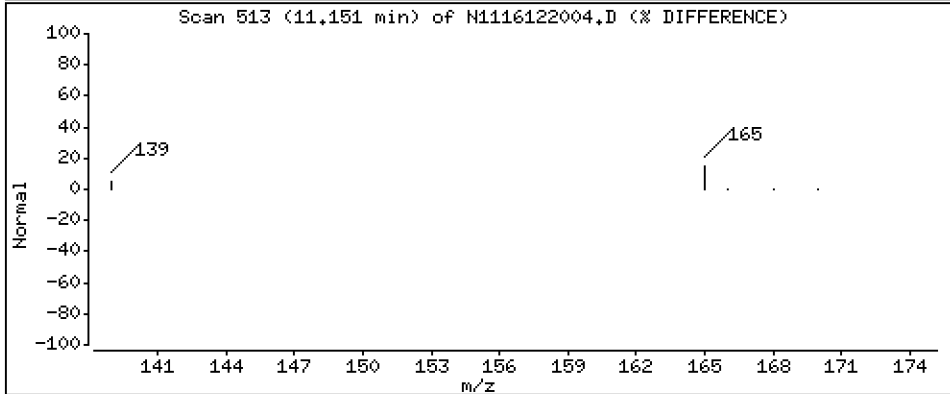
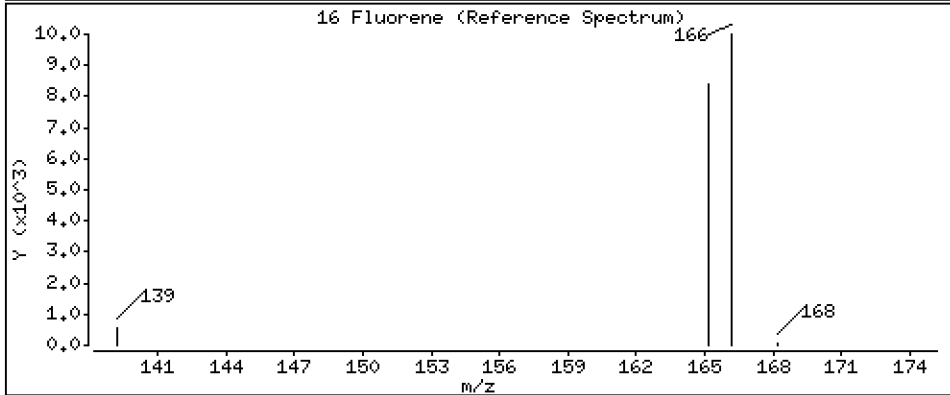
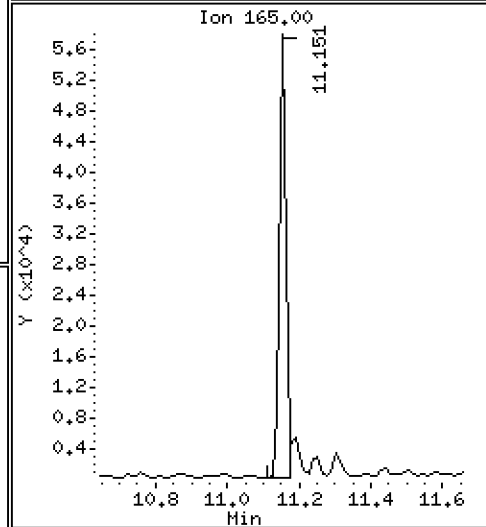
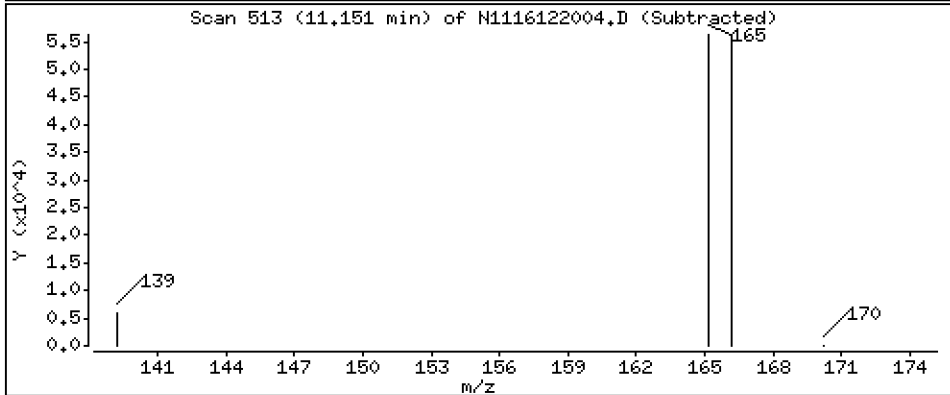
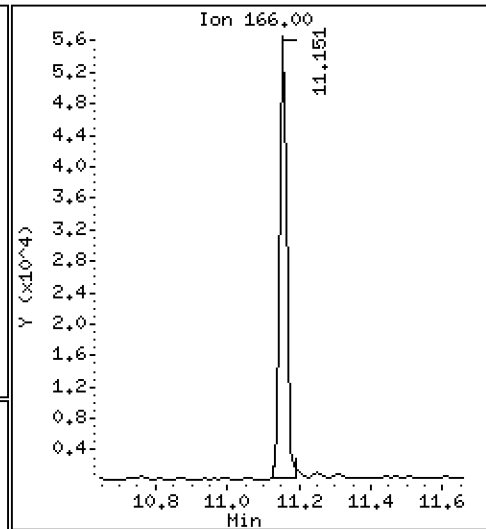
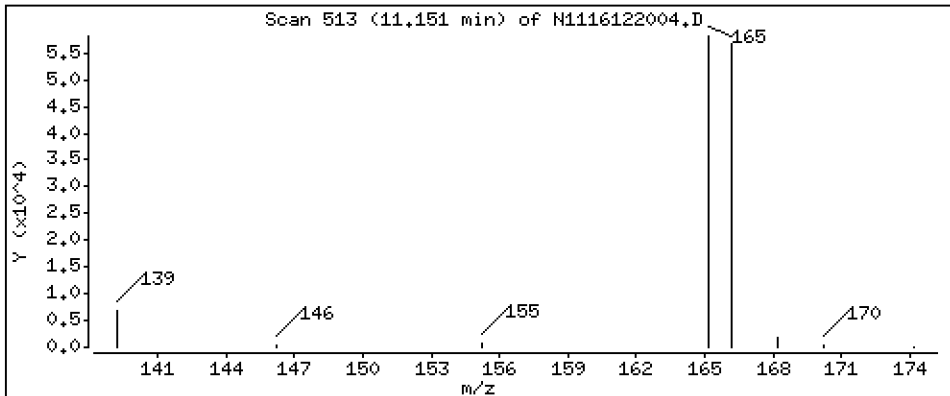
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 53,8 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

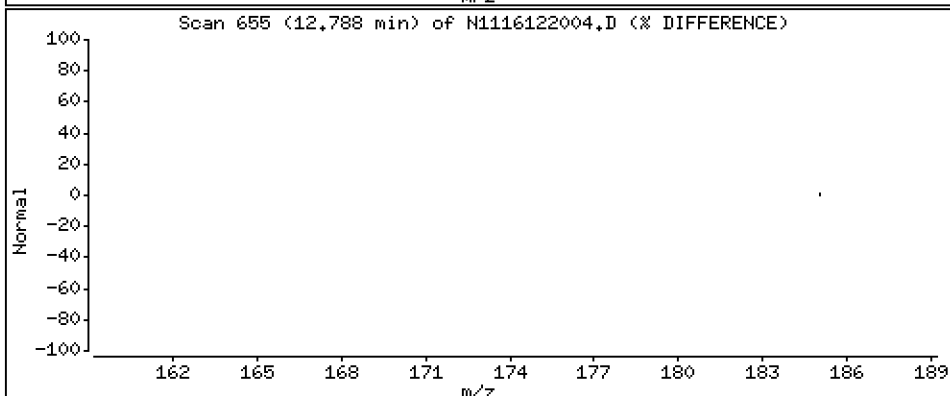
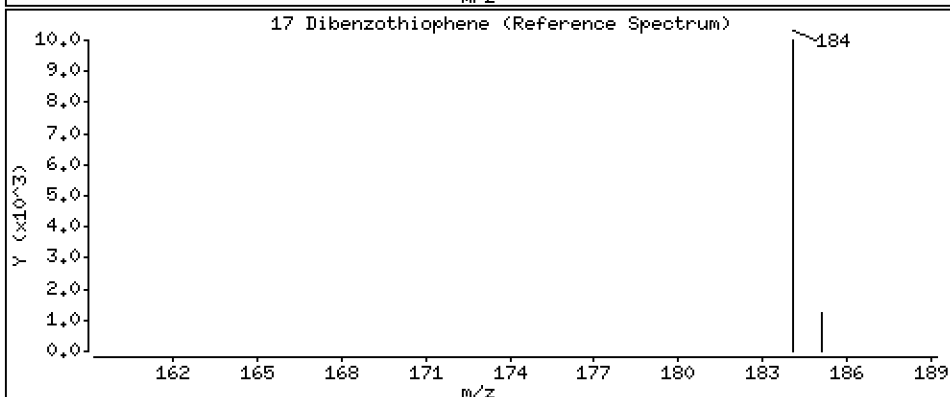
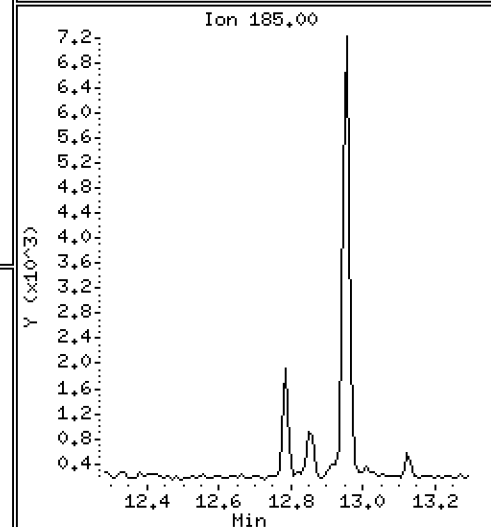
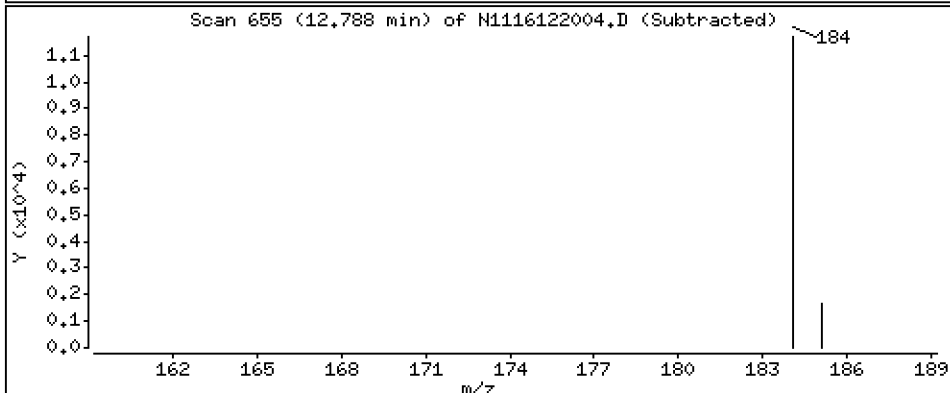
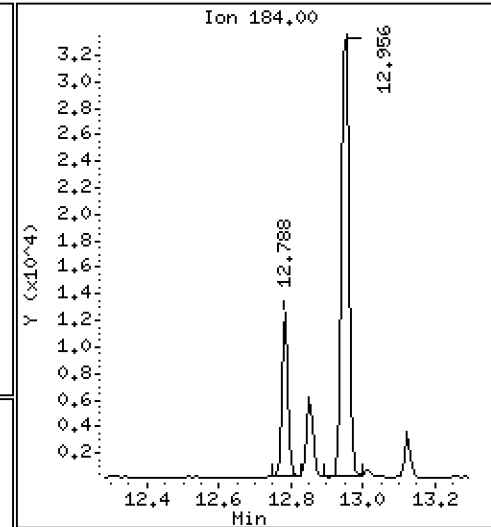
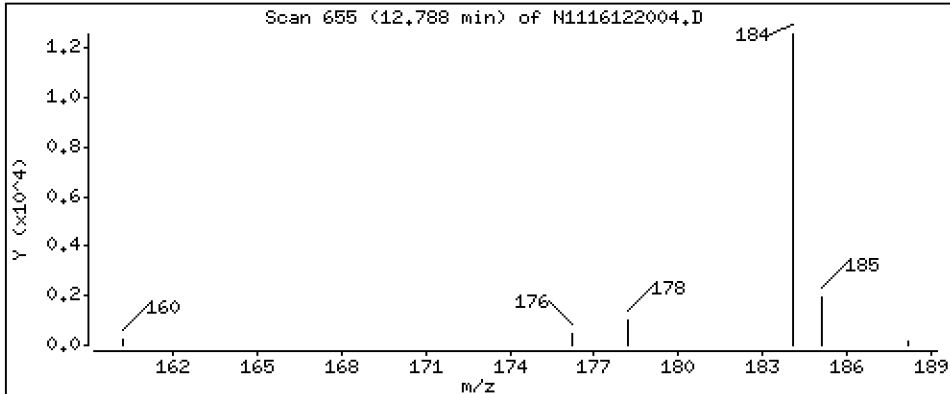
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 9,59 ng/mL

17 Dibenzothiophene



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

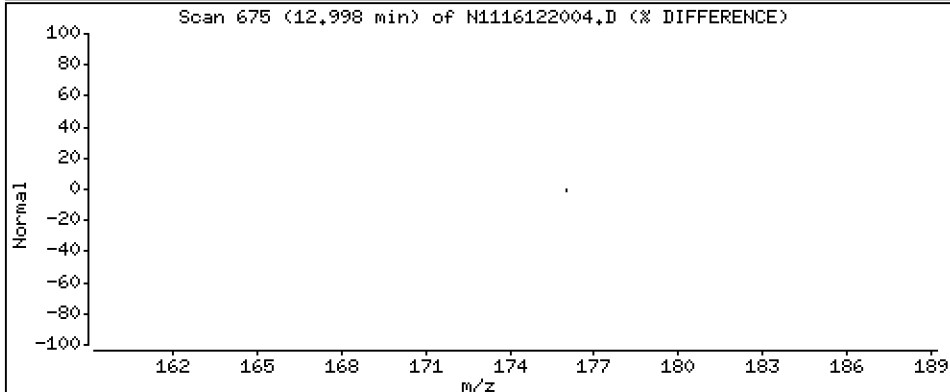
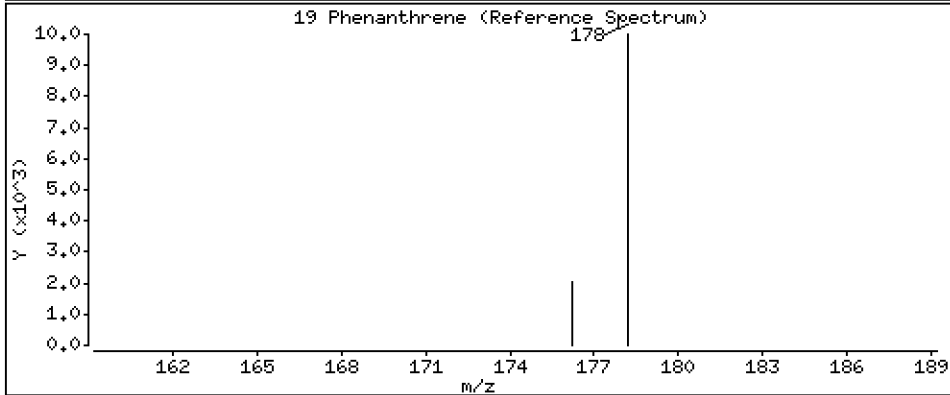
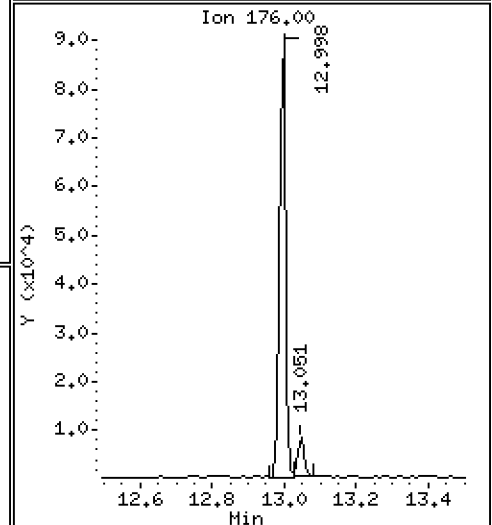
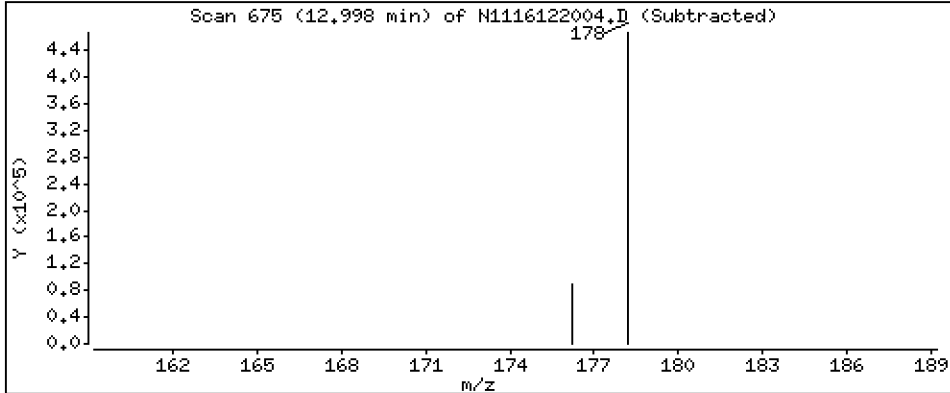
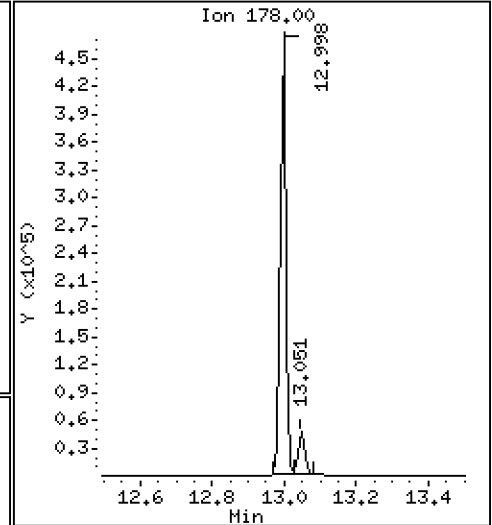
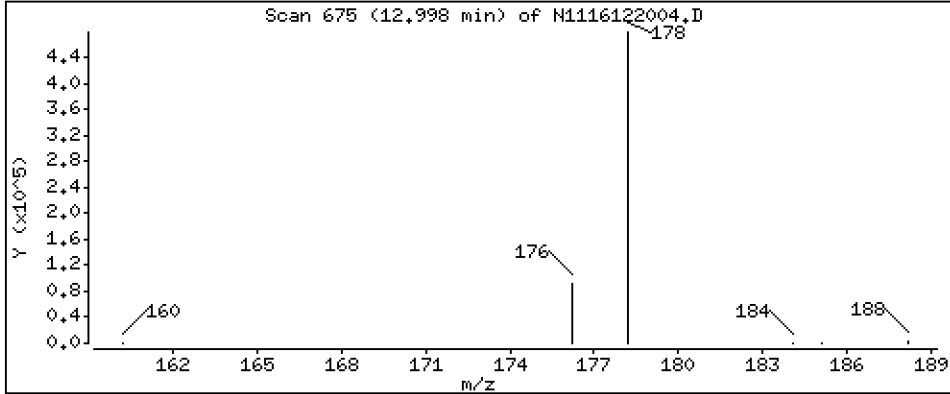
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 265 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

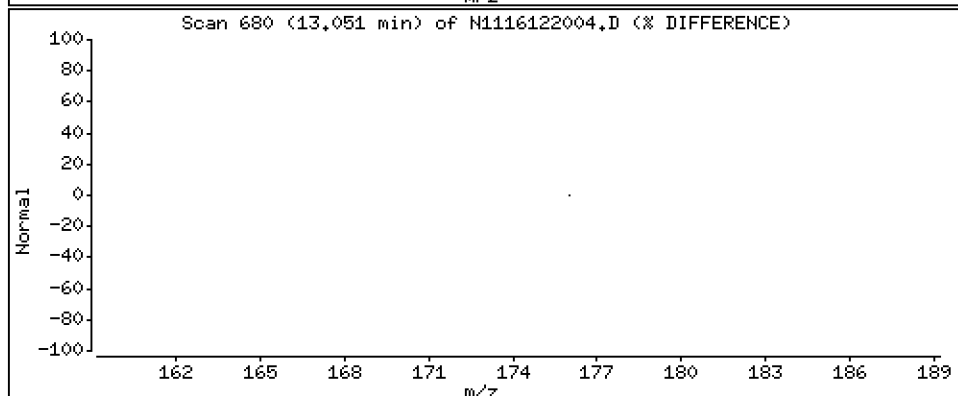
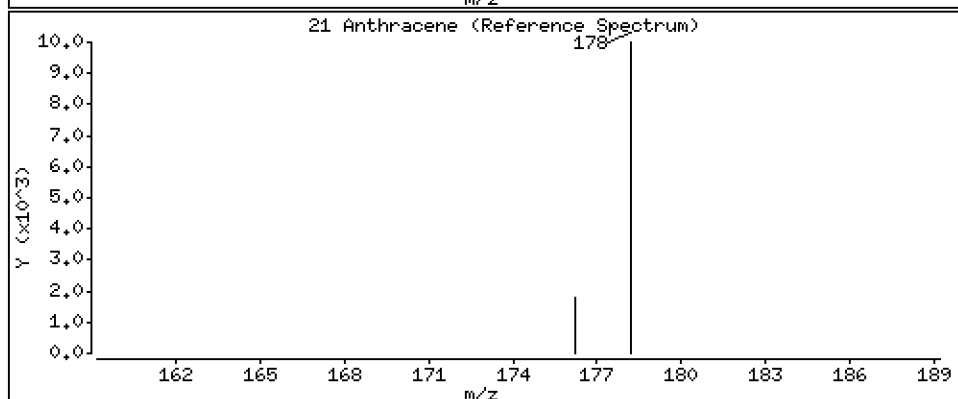
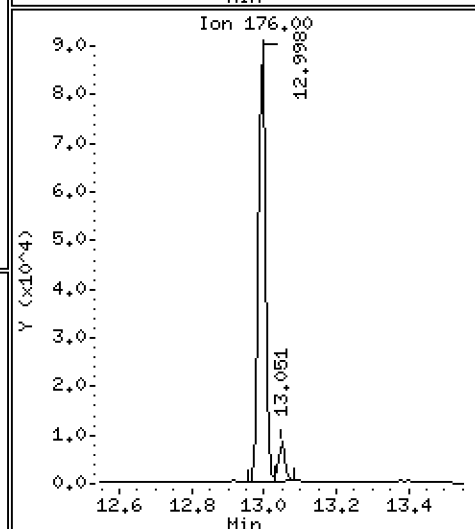
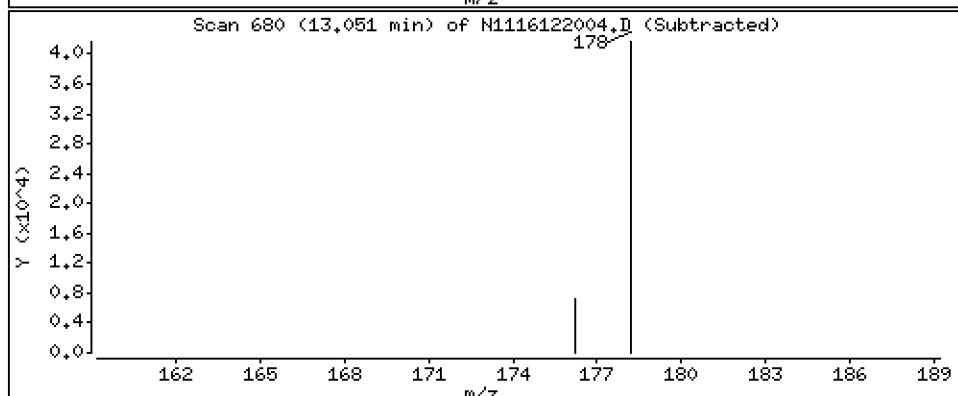
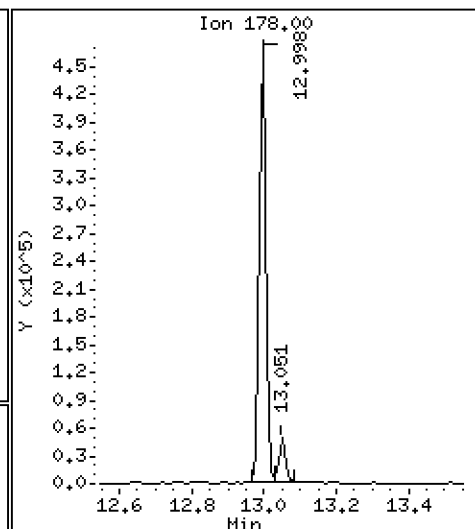
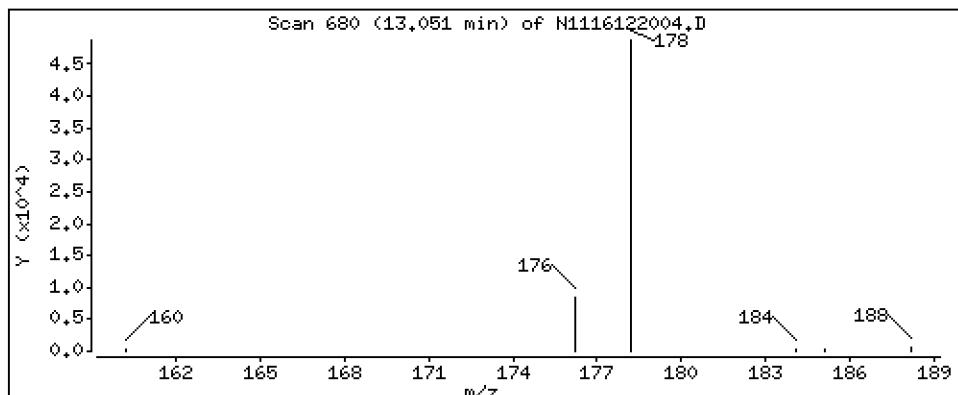
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 26,6 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

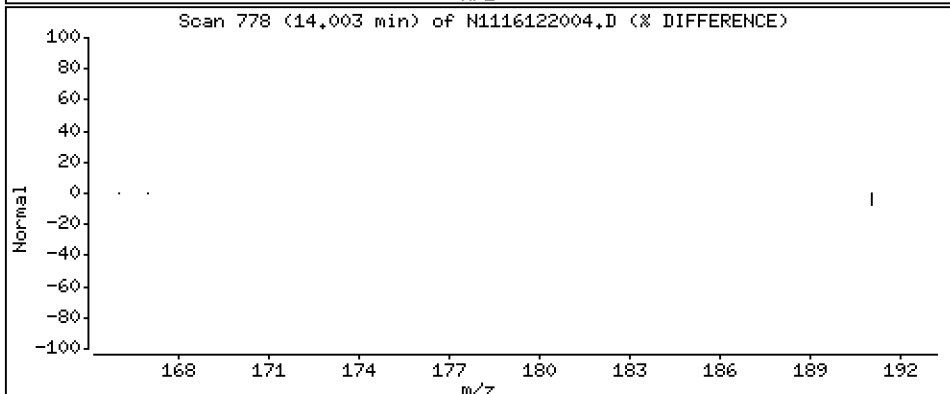
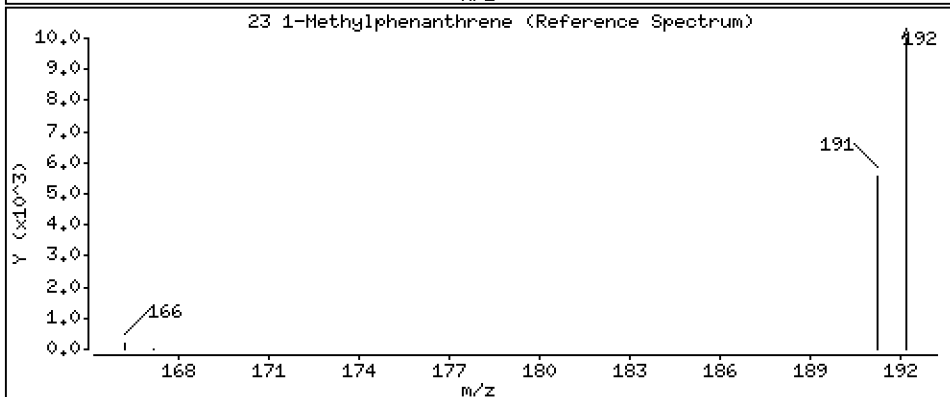
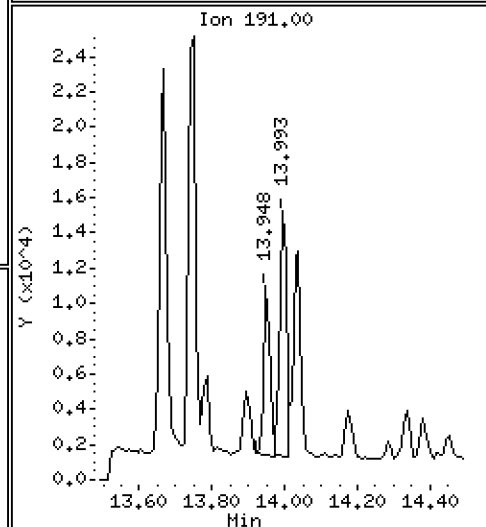
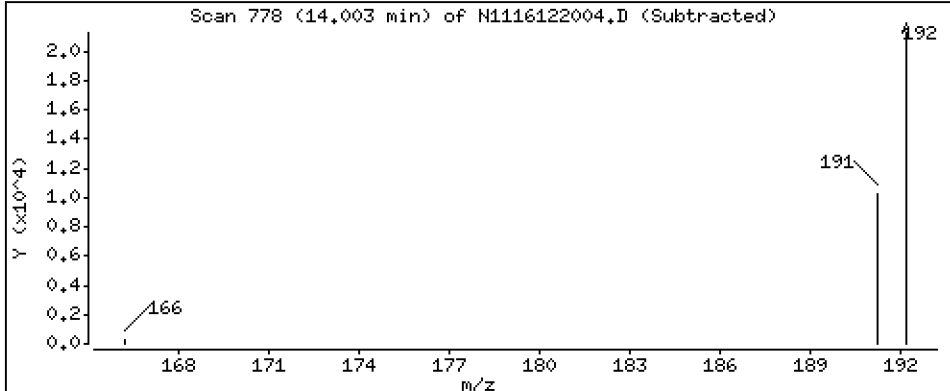
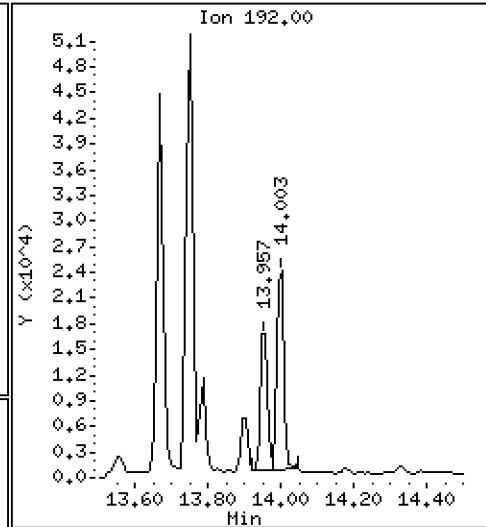
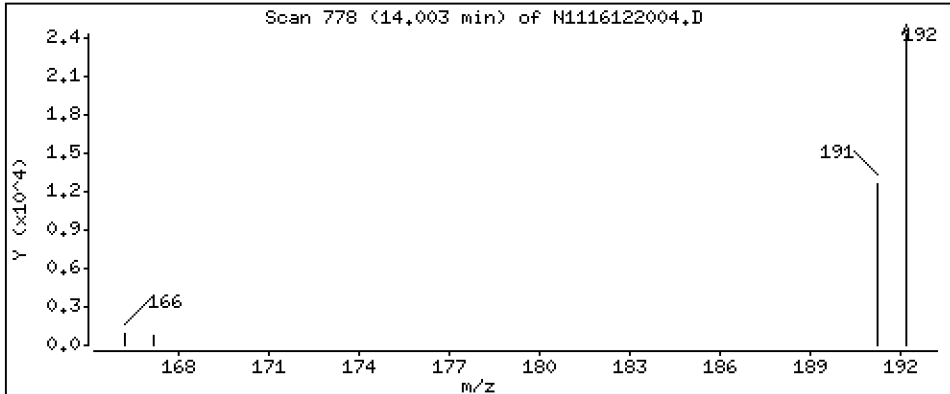
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 14,2 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

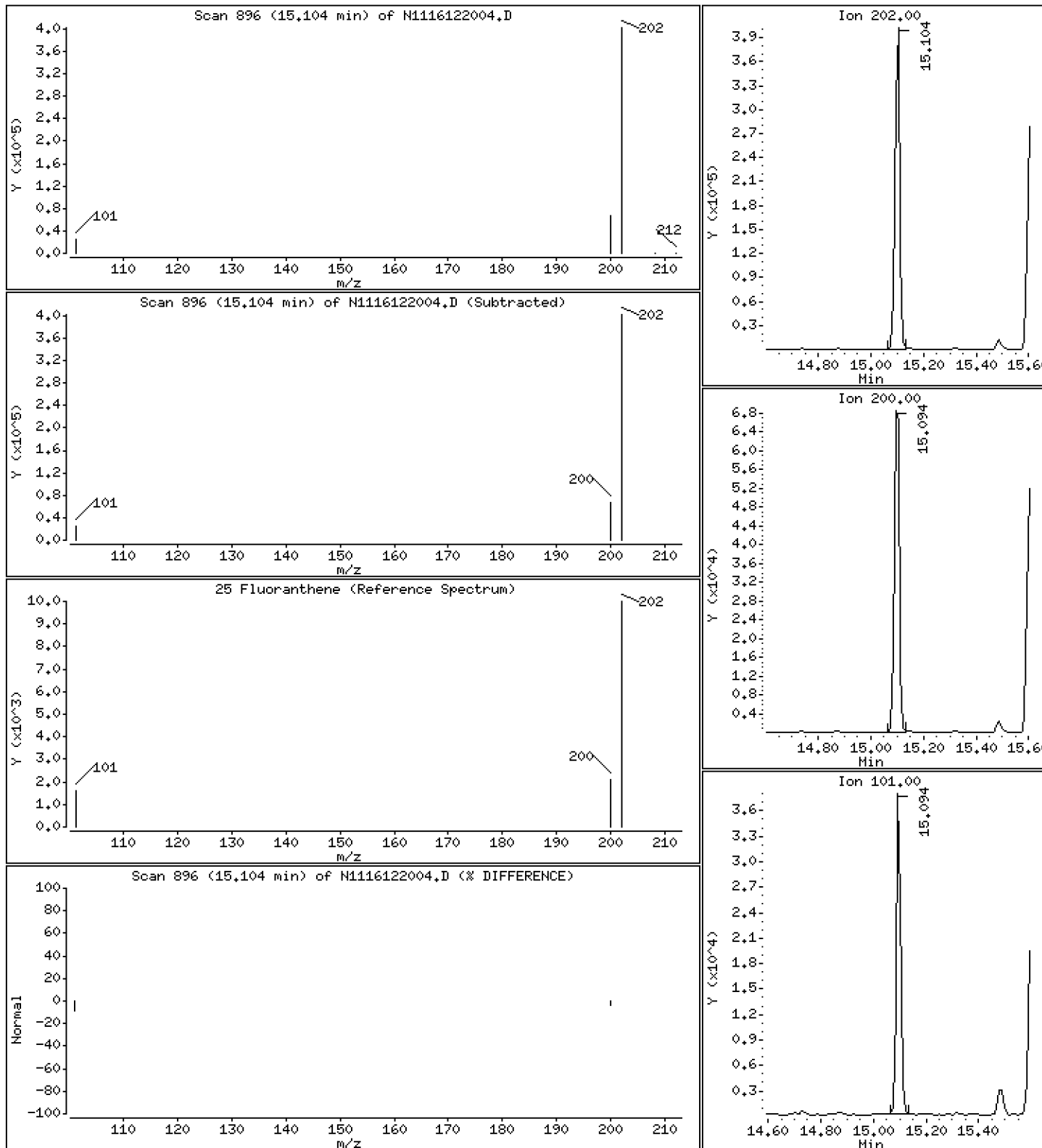
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 202 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

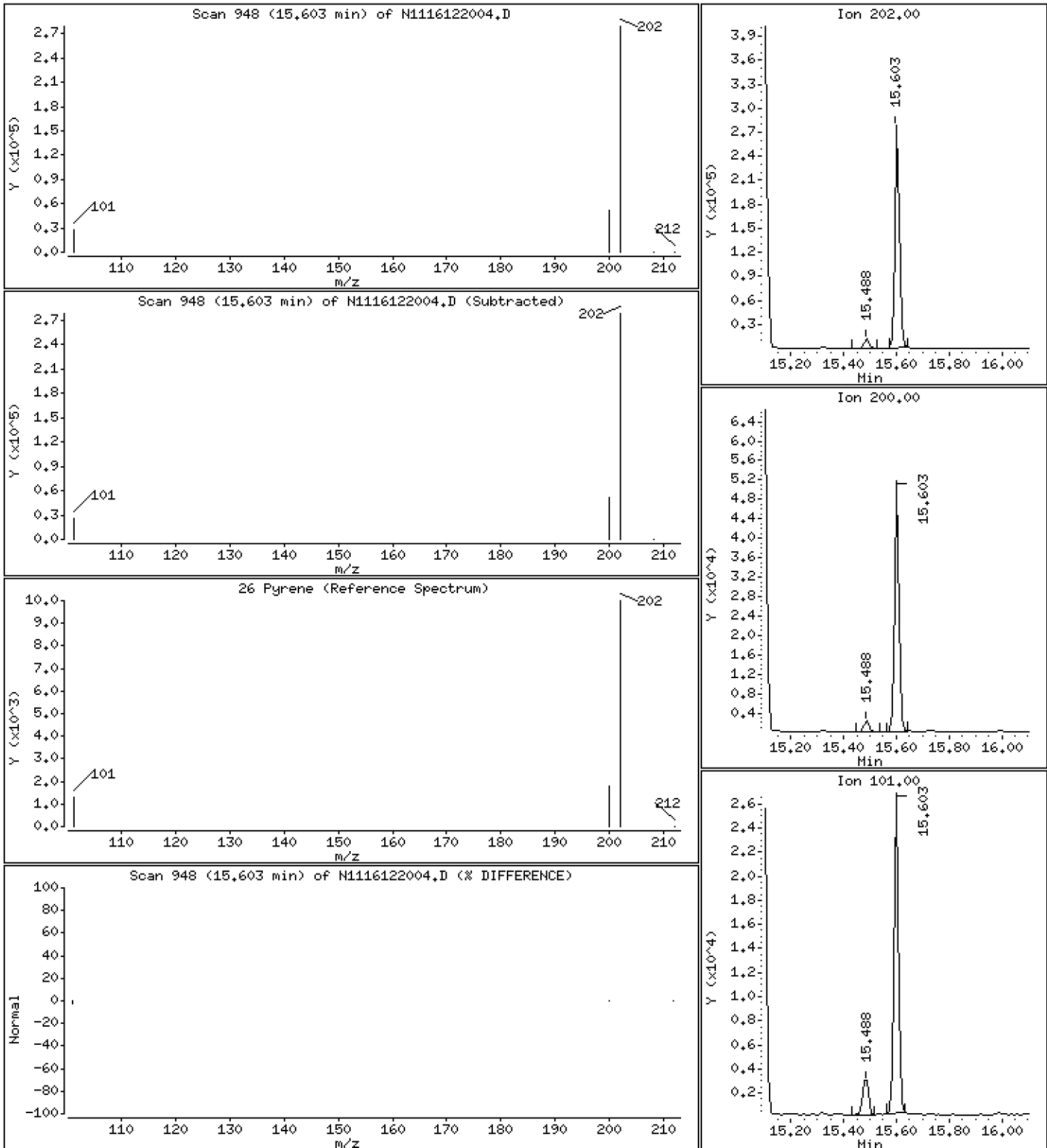
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 140 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

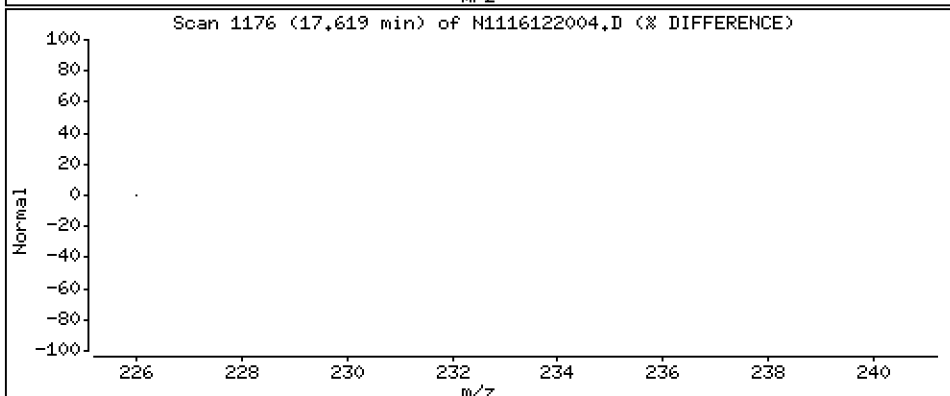
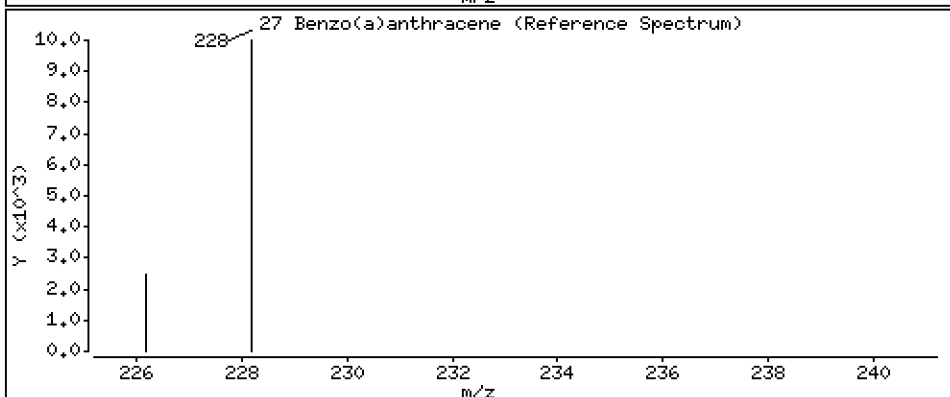
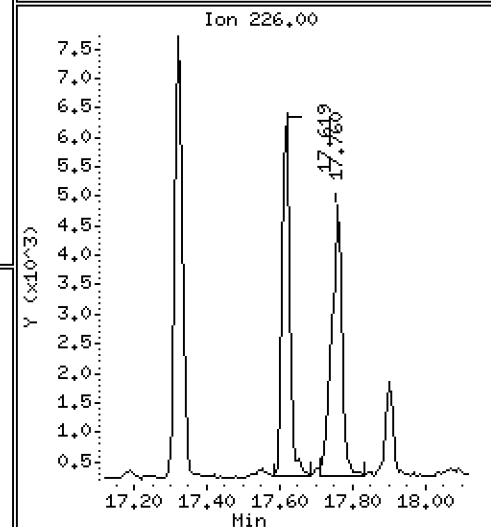
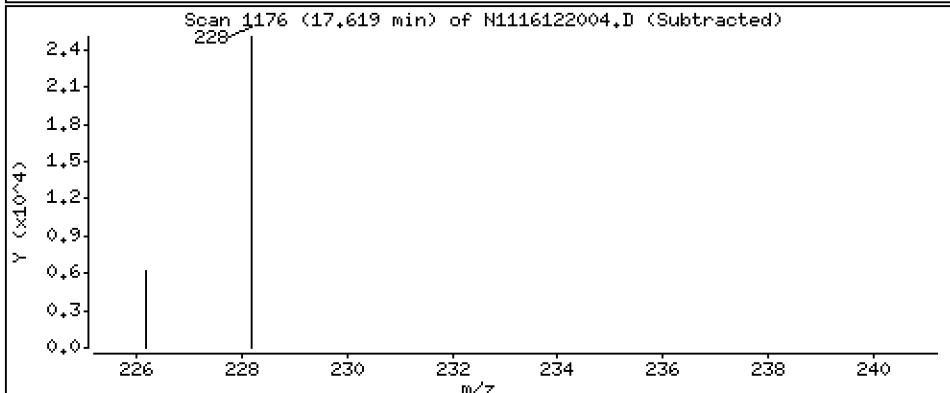
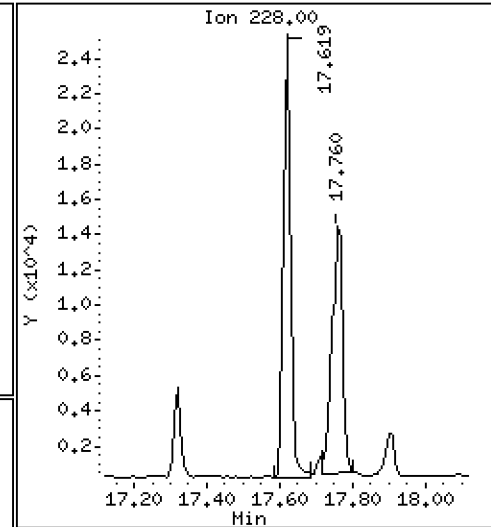
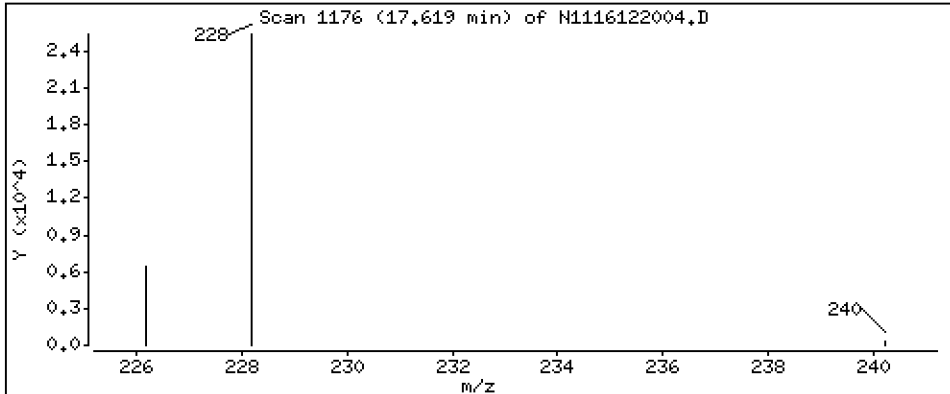
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 13,4 ng/mL



Date : 20-DEC-2016 10:47

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-21RE1,10

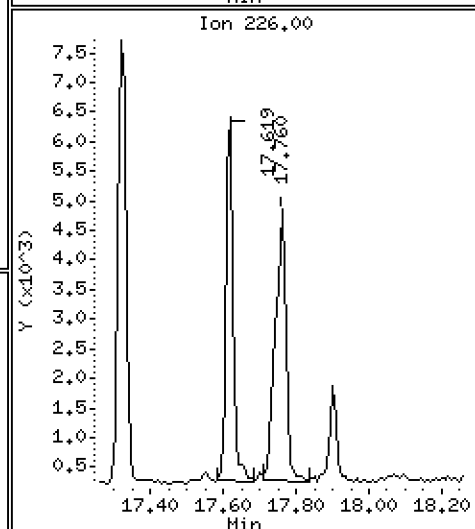
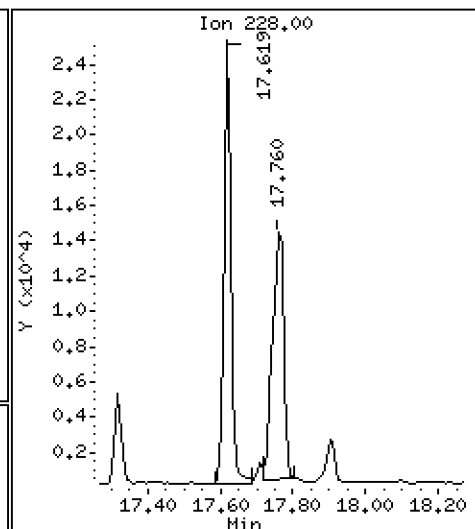
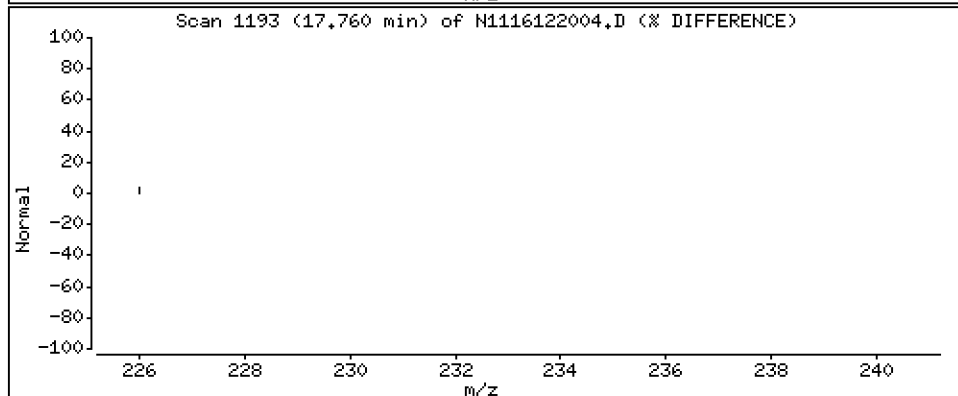
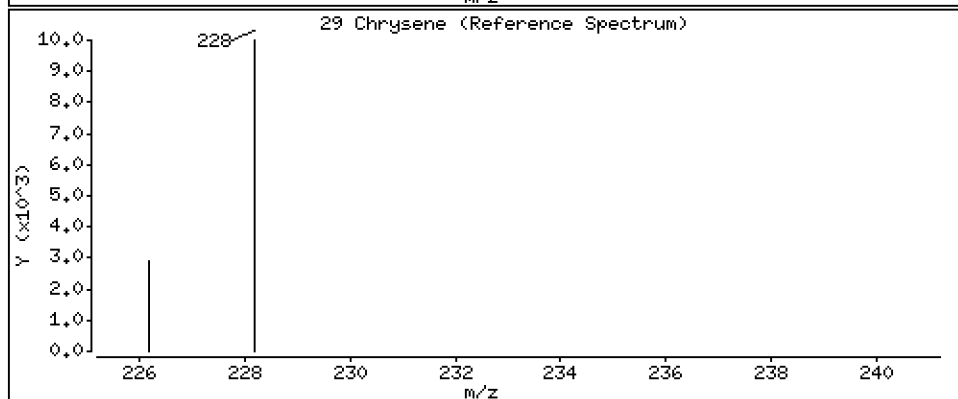
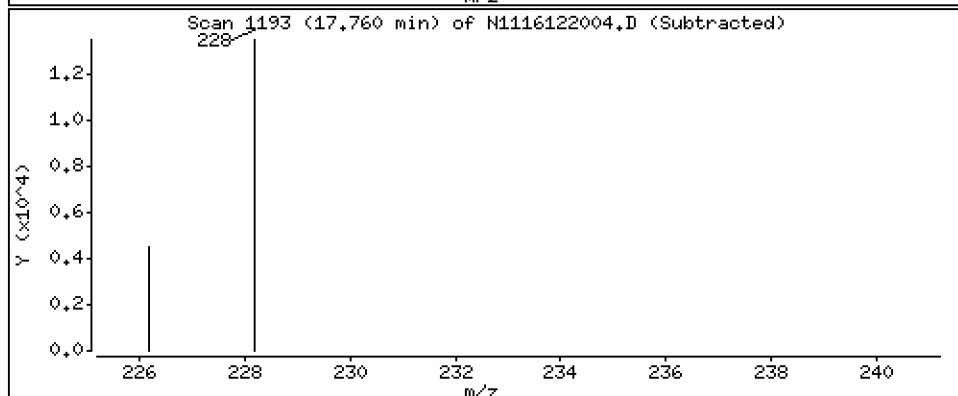
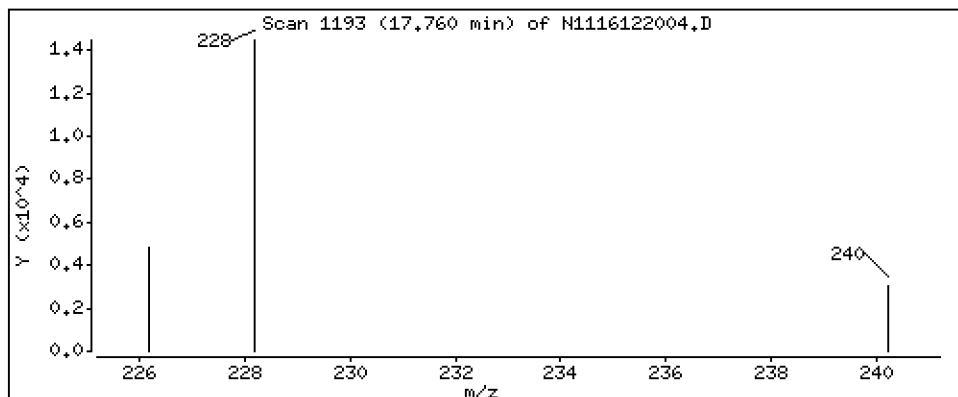
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 11,5 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161220.b\N1116122004.D
 Lab Smp Id:
 Inj Date : 20-DEC-2016 10:47 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-21RE1,10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161220.b\LOWSIM.m
 Meth Date : 20-Dec-2016 12:21 nt11.i Quant Type: ISTD
 Cal Date : 16-DEC-2016 16:32 Cal File: N1116121615.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.234	7.234	(1.000)	371019	200.000	
2 Naphthalene	128		7.271	7.271	(1.005)	16474	8.95835	8.96
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.211	8.211	(1.135)	19430	12.0010	12.0
5 2-Methylnaphthalene	142		8.264	8.264	(1.142)	24299	13.4517	13.5
6 1-Methylnaphthalene	142		8.526	8.526	(1.179)	18262	10.2900	10.3
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		9.199	9.199	(0.897)	19303	11.3283	11.3
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		10.260	10.260	(1.000)	212373	200.000	
12 Acenaphthene	153		10.324	10.324	(1.006)	66173	53.3112	53.3
13 Dibenzofuran	168		10.531	10.531	(1.026)	51859	28.1648	28.2
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		11.151	11.151	(1.087)	79343	53.7641	53.8
17 Dibenzothiophene	184		12.788	12.788	(0.987)	17395	9.58751	9.59
* 18 Phenanthrene-d10	188		12.956	12.956	(1.000)	403612	200.000	
19 Phenanthrene	178		12.998	12.998	(1.003)	597320	264.725	265
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		13.050	13.050	(1.007)	57343	26.6452	26.6
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		14.002	14.002	(1.081)	32461	14.2198	14.2
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.163)	37523	17.4537	17.5
25 Fluoranthene	202		15.103	15.103	(1.166)	525446	202.098	202
26 Pyrene	202		15.603	15.603	(0.881)	349214	140.474	140
27 Benzo(a)anthracene	228		17.619	17.619	(0.995)	33794	13.3544	13.4
* 28 Chrysene-d12	240		17.710	17.718	(1.000)	434416	200.000	
29 Chrysene	228		17.760	17.768	(1.003)	29717	11.4969	11.5
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		20.503	20.503	(0.979)	25291	12.6346	12.6
34 Benzo(e)pyrene	252		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
35 Benzo(a)pyrene	252					Compound Not Detected.		
* 36 Perylene-d12	264		20.945	20.945	(1.000)	402124	200.000	
37 Perylene	252					Compound Not Detected.		
\$ 38 Dibenzo(a,h)anthracene-d14	292		23.841	23.852	(1.138)	9611	8.10626	8.11
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 20-DEC-2016
 Lab File ID: N1116122004.D Calibration Time: 09:45
 Lab Smp Id:
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20161220.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	341640	170820	683280	371019	8.60
11 Acenaphthene-d10	209310	104655	418620	212373	1.46
18 Phenanthrene-d10	404977	202489	809954	403612	-0.34
28 Chrysene-d12	465046	232523	930092	434416	-6.59
36 Perylene-d12	454694	227347	909388	402124	-11.56

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	7.23	6.73	7.73	7.23	0.00
11 Acenaphthene-d10	10.26	9.76	10.76	10.26	0.00
18 Phenanthrene-d10	12.96	12.46	13.46	12.96	0.00
28 Chrysene-d12	17.72	17.22	18.22	17.71	-0.05
36 Perylene-d12	20.95	20.45	21.45	20.95	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 - N1116122004.D

Lab ID:

nt11.i, 20161220.b\LOWSIM.m, 20-DEC-2016 10:47

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20161220.b\LOWSIM.m, allpna.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: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270D-SIM
8270D-SIM PAH (0.01 ug/L)

Laboratory: Analytical Resources, Inc. SDG: 16K0321
 Client: Anchor QEA, LLC Project: Port Gamble Shellfish Monitoring
 Matrix: Tissue Laboratory ID: 16K0321-23 File ID: N1116121708.D
 Sampled: 11/22/16 12:10 Prepared: 11/24/16 08:25 Analyzed: 12/17/16 15:46
 Solids: Preparation: EPA 3550C-Mod (Ultrasonic) Initial/Final: 0.886 g / 0.1 mL
 Batch: BEK0658 Sequence: SEL0255 Calibration: ZL00052
 Instrument: NT11 Column: RXi-17Sil-MS

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg)	Q	DL	RL
91-20-3	Naphthalene	1	13.4	B	1.13	1.35
91-57-6	2-Methylnaphthalene	1	14.3		1.13	1.13
208-96-8	Acenaphthylene	1	1.13	U	1.13	1.13
83-32-9	Acenaphthene	1	1.88		1.13	1.13
86-73-7	Fluorene	1	2.33		1.13	1.13
85-01-8	Phenanthrene	1	4.85		1.13	1.13
120-12-7	Anthracene	1	1.13	U	1.13	1.13
206-44-0	Fluoranthene	1	2.07		1.13	1.13
129-00-0	Pyrene	1	1.97		1.13	1.13
56-55-3	Benzo(a)anthracene	1	1.13	U	1.13	1.13
218-01-9	Chrysene	1	1.13	U	1.13	1.13
205-99-2	Benzo(b)fluoranthene	1	1.13	U	1.13	1.13
207-08-9	Benzo(k)fluoranthene	1	1.13	U	1.13	1.13
50-32-8	Benzo(a)pyrene	1	1.13	U	1.13	1.13
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	U	1.13	1.13
53-70-3	Dibenzo(a,h)anthracene	1	1.13	U	1.13	1.13
191-24-2	Benzo(g,h,i)perylene	1	1.13	U	1.13	1.13
1985-5-0	Perylene	1	1.13	U	1.13	1.13
197-97-2	Benzo(e)pyrene	1	1.13	U	1.13	1.13

SURROGATES	ADDED (ug/kg)	CONC (ug/kg)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	33.860	18.9	55.7	30 - 160	
Dibenzo[a,h]anthracene-d14	33.860	18.0	53.1	30 - 160	
Fluoranthene-d10	33.860	20.7	61.1	30 - 160	
Fluorene-d10	21.163	10.7	50.5	30 - 160	
Anthracene-d10	21.163	9.65	45.6	30 - 160	
Benzo(e)pyrene-d12	21.163	9.25	43.7	30 - 160	

Data File: \\target\share\chem3\nt11.1\20161217.16\N1116121708.D

Date: 17-DEC-2016 15:46

Client ID:

Sample Info: 16K0321-23

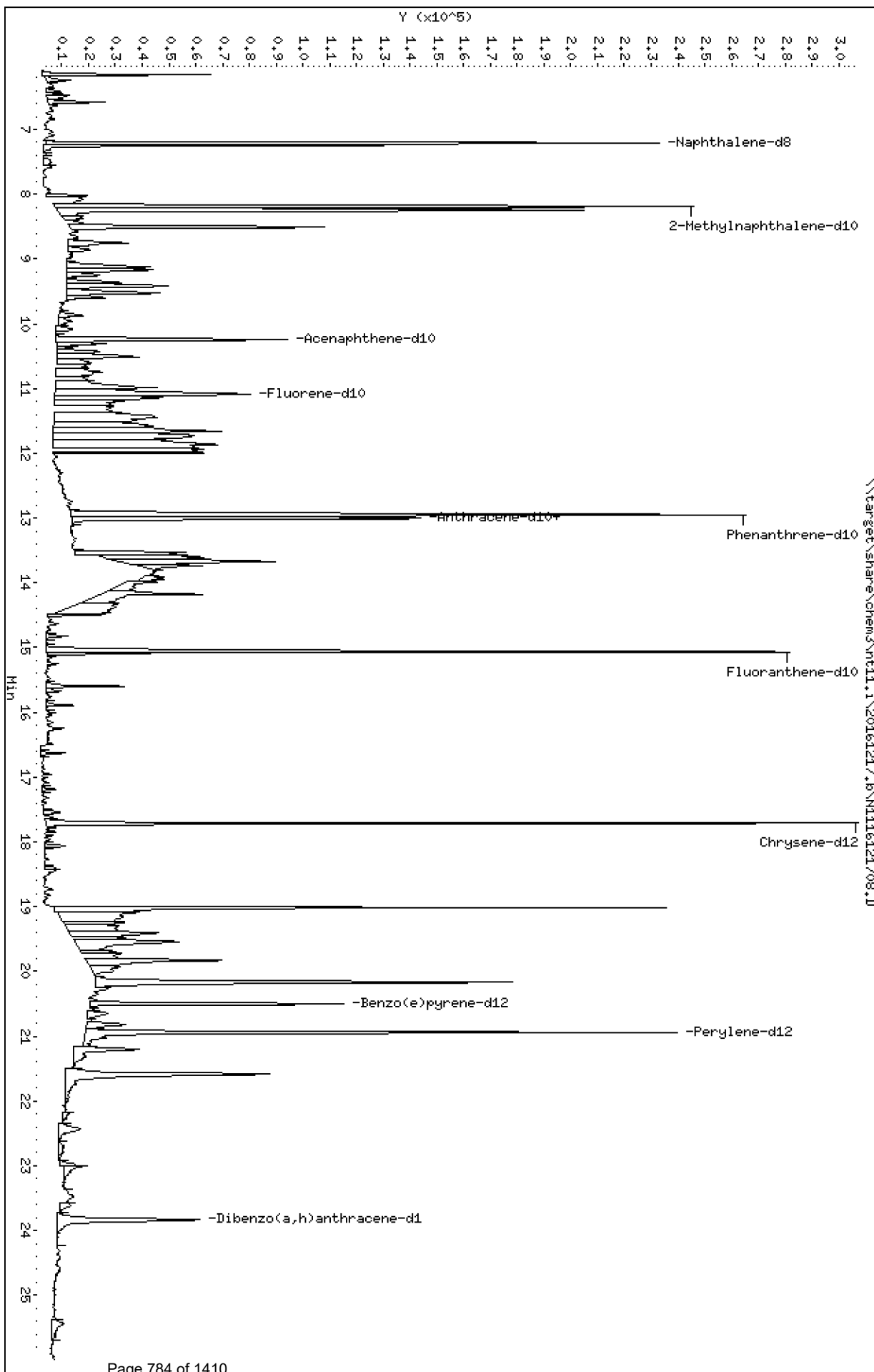
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

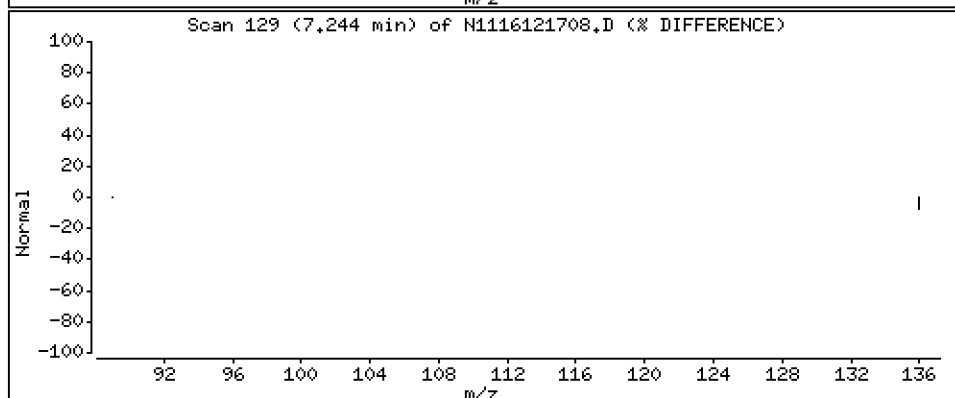
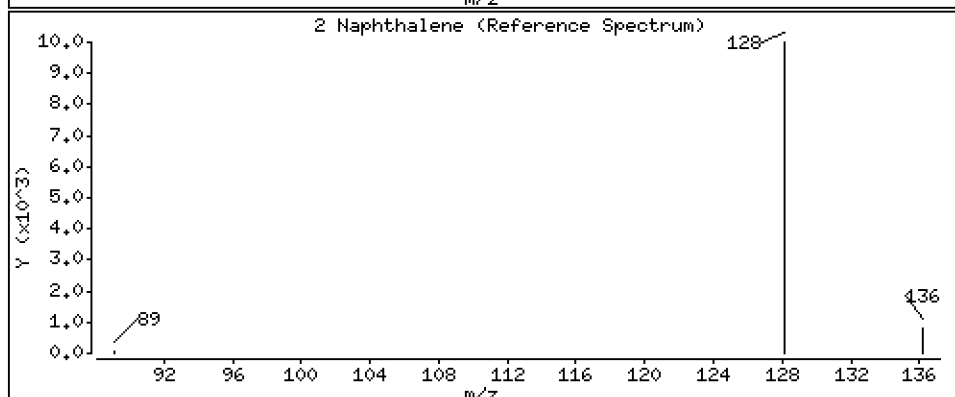
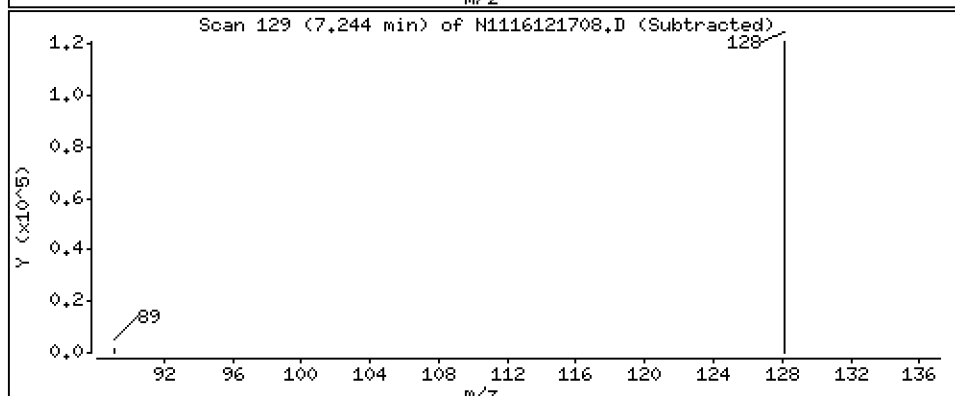
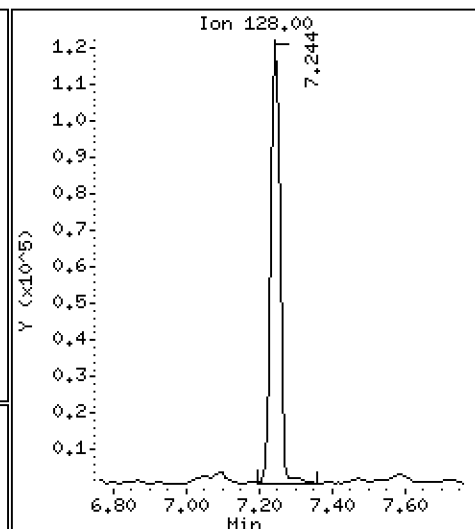
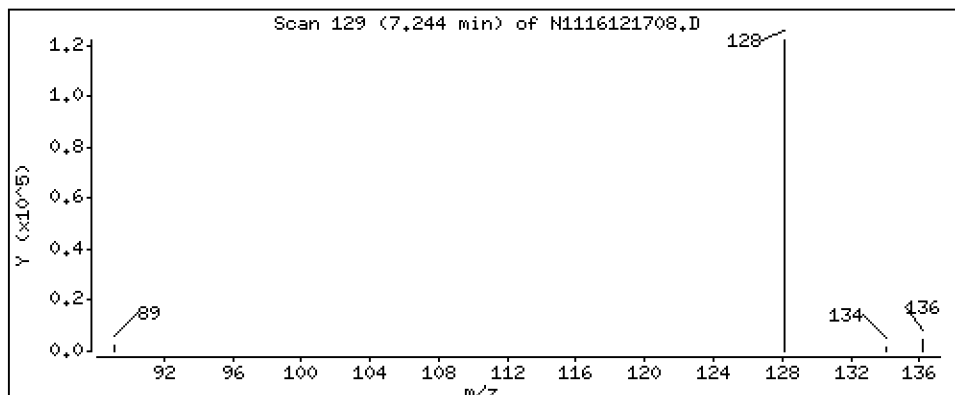
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 118 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

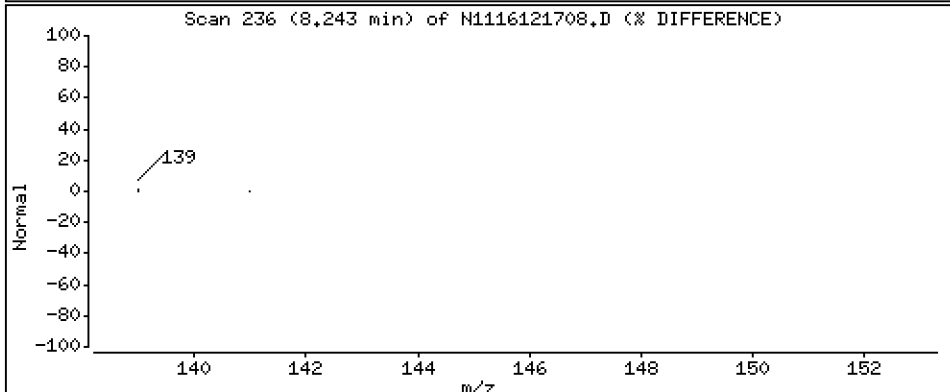
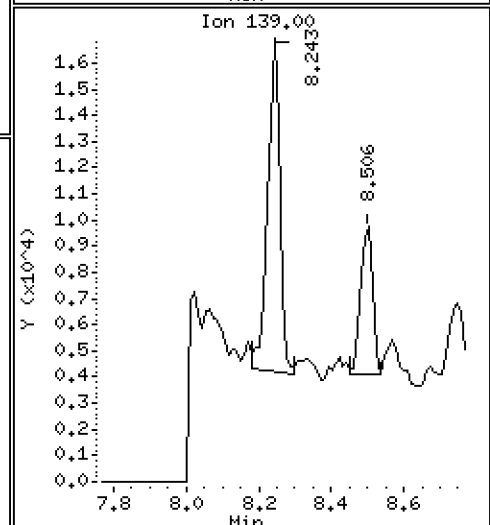
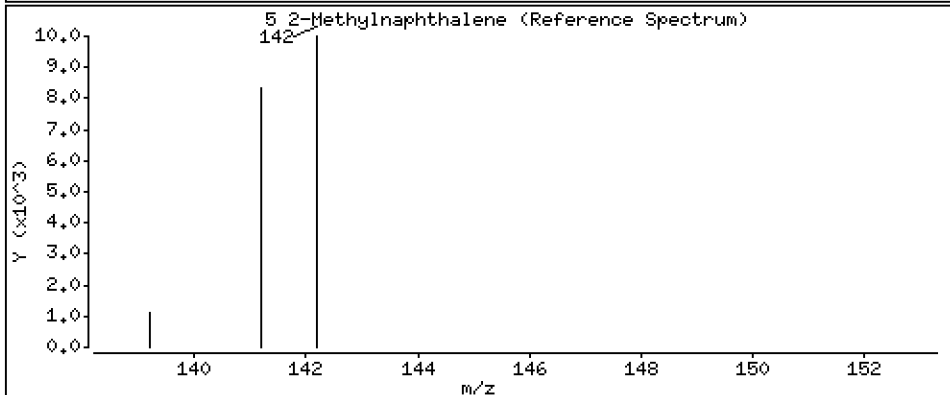
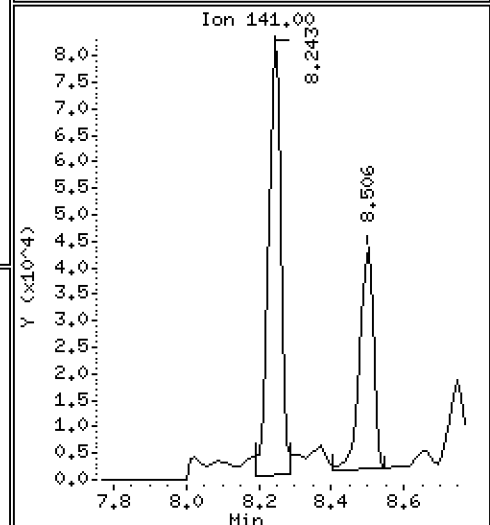
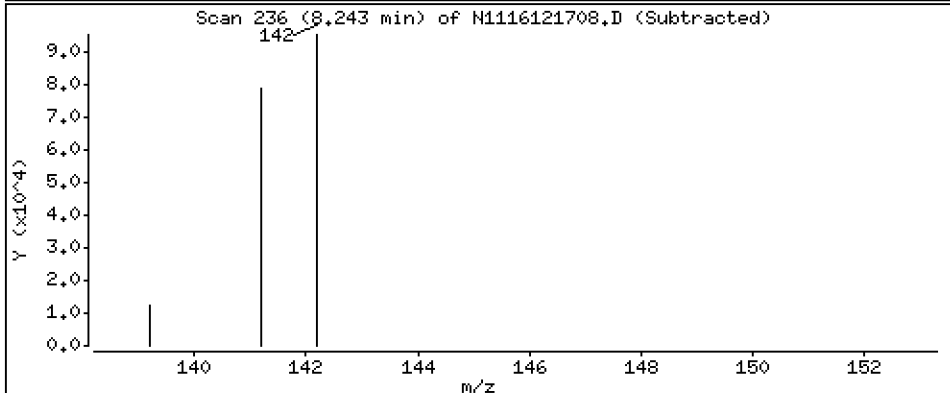
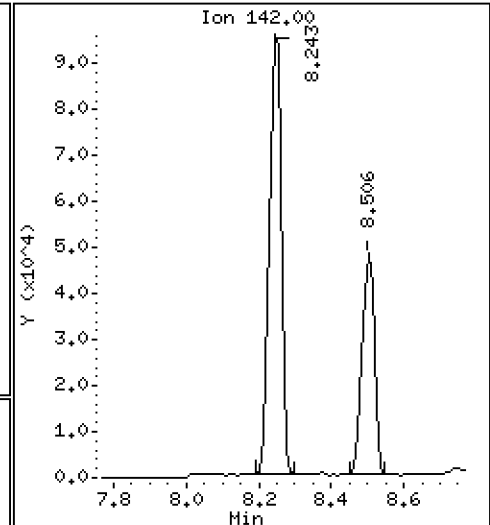
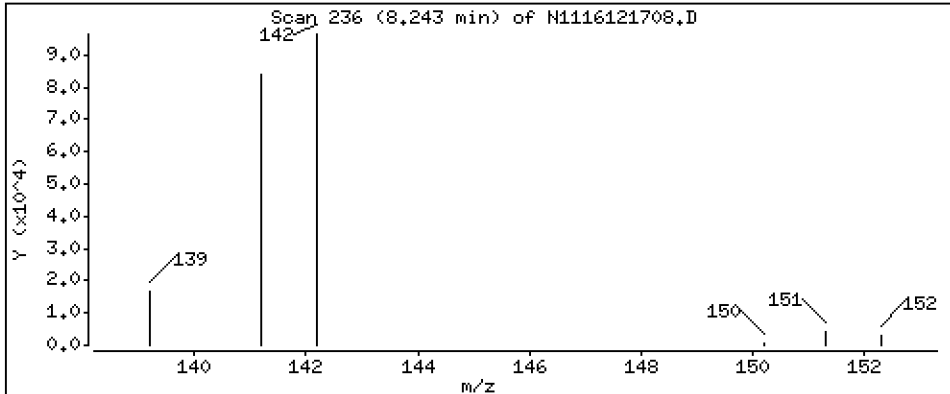
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 127 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

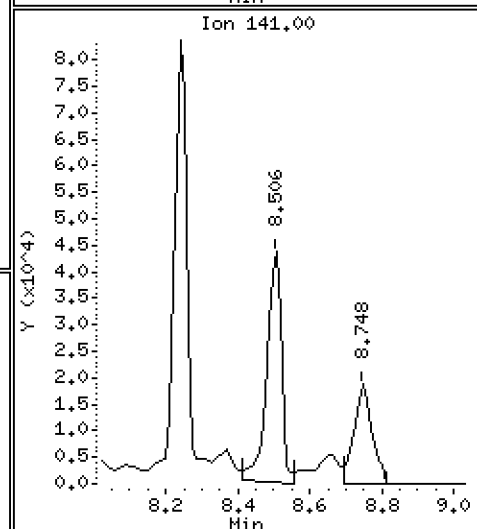
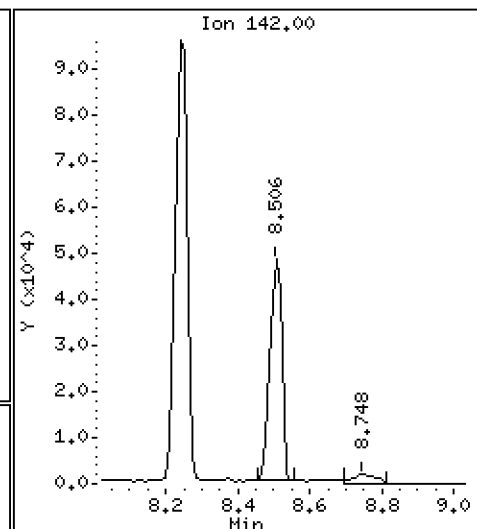
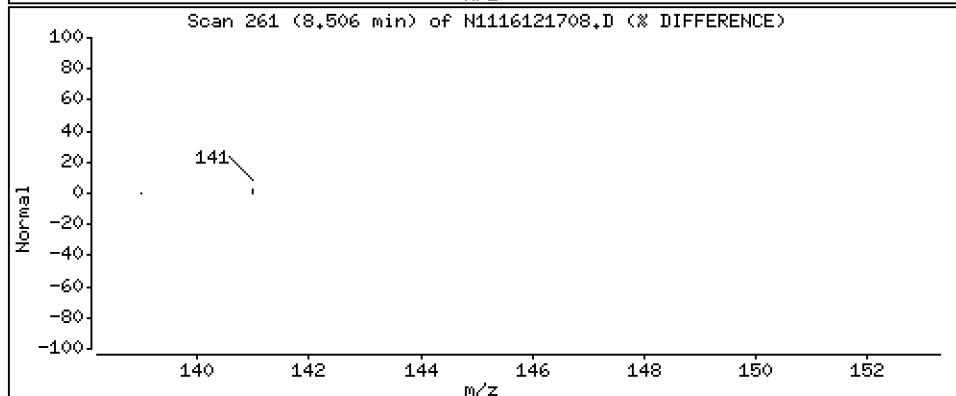
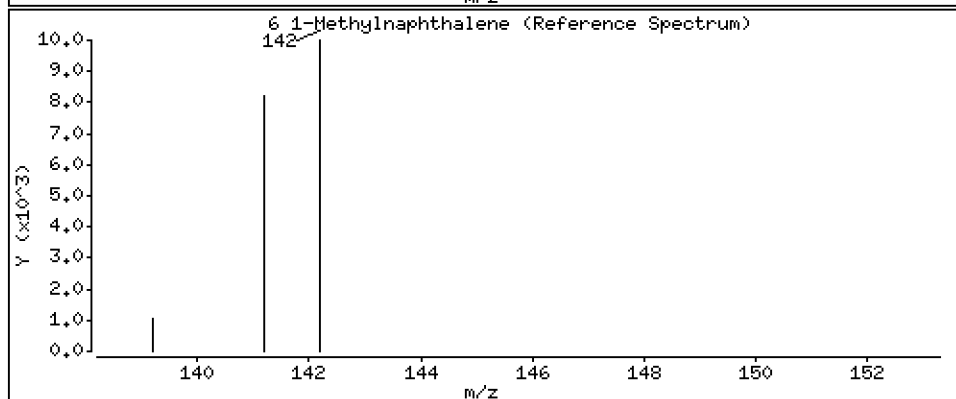
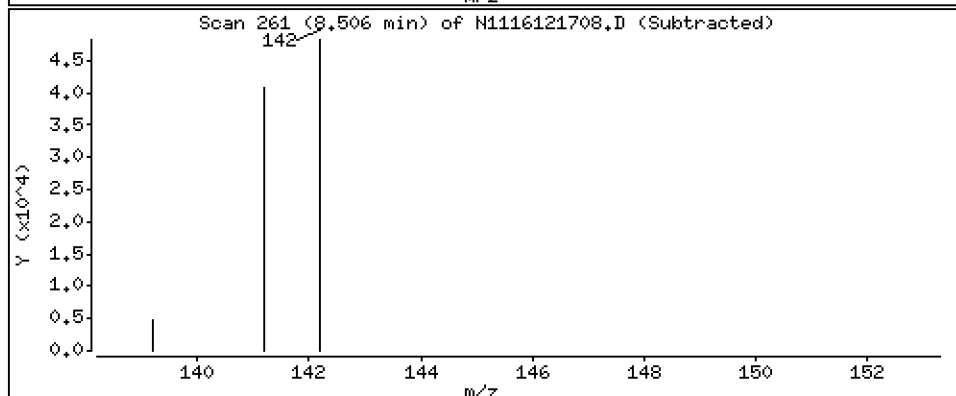
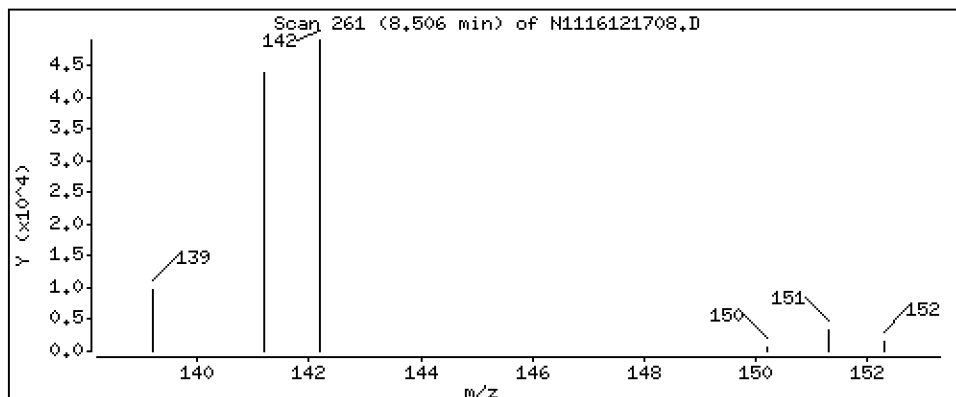
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 67,5 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

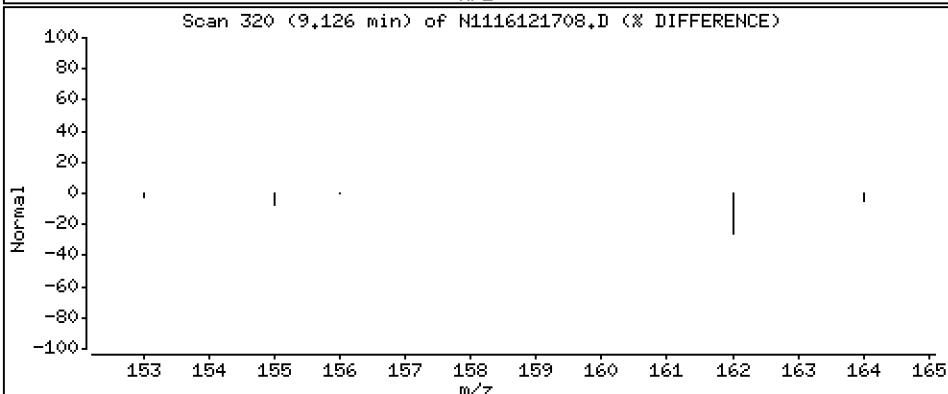
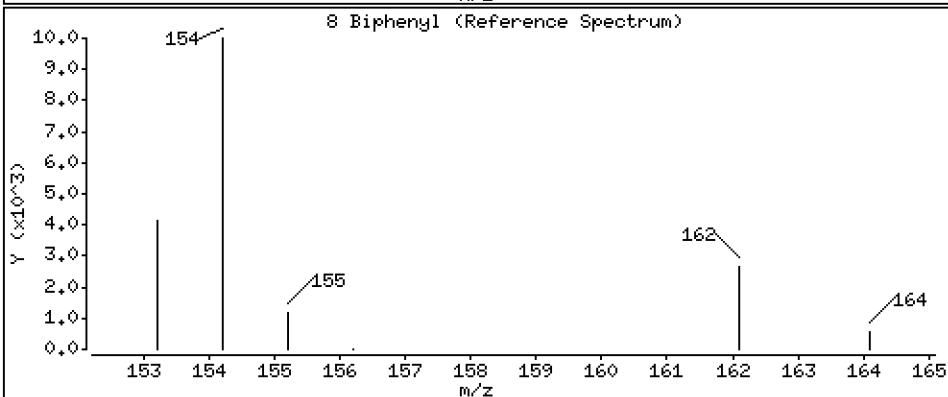
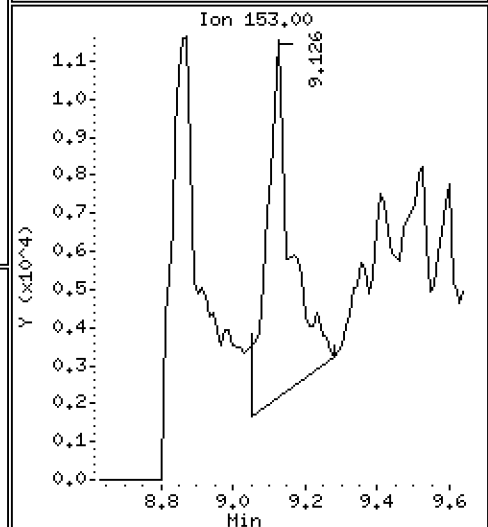
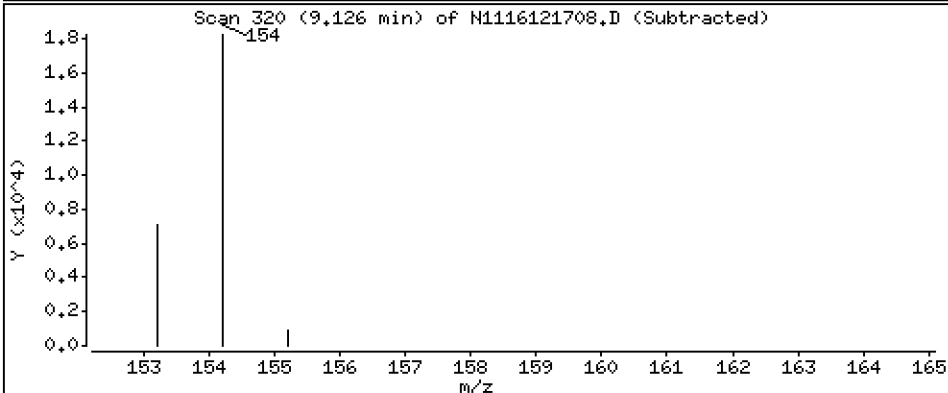
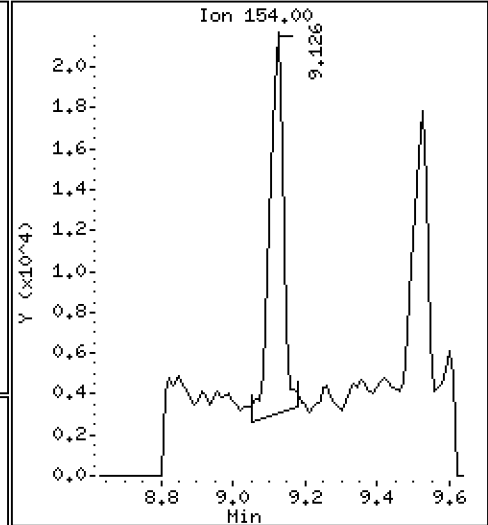
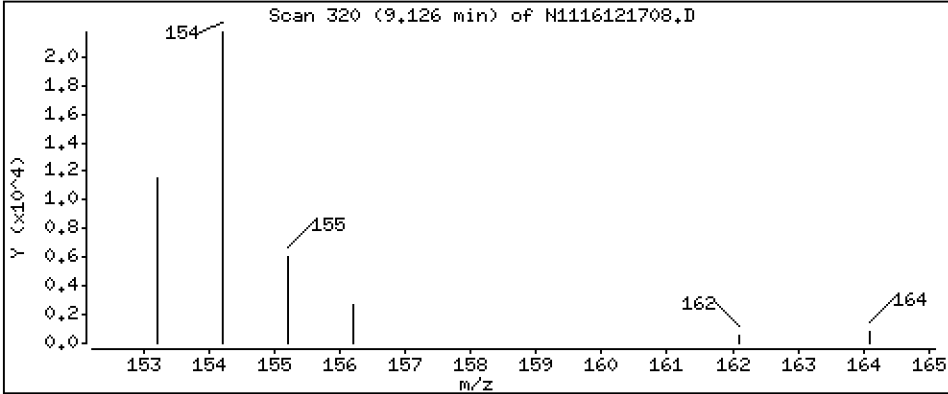
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 21,3 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

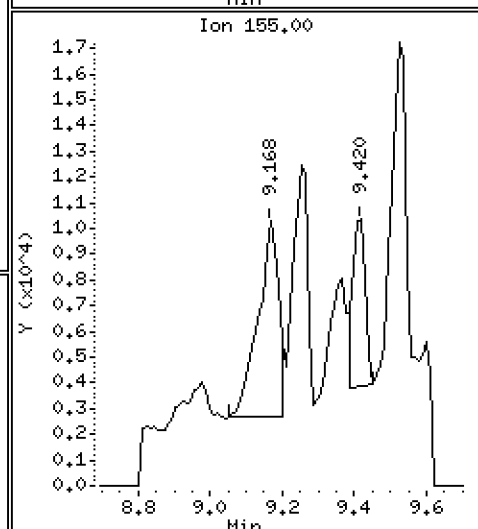
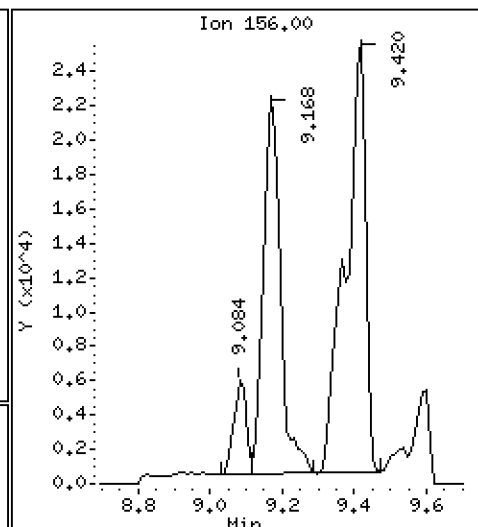
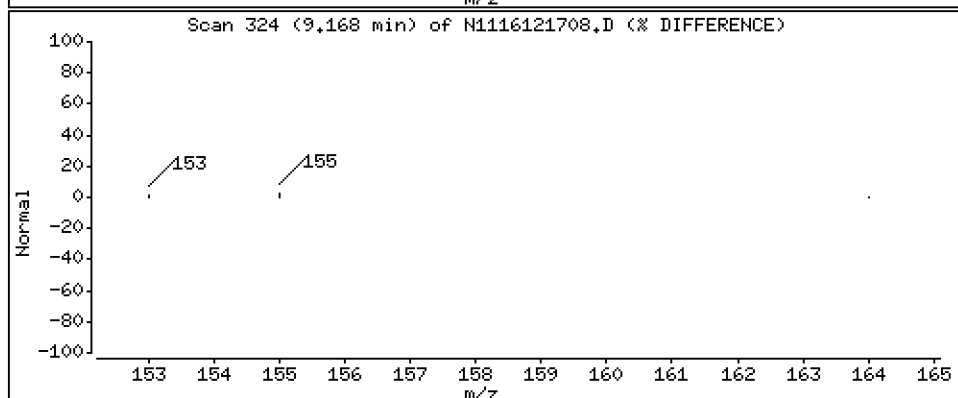
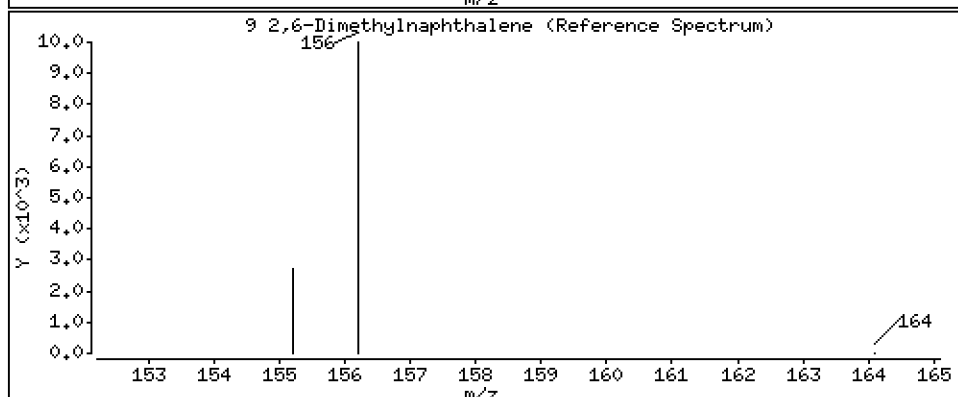
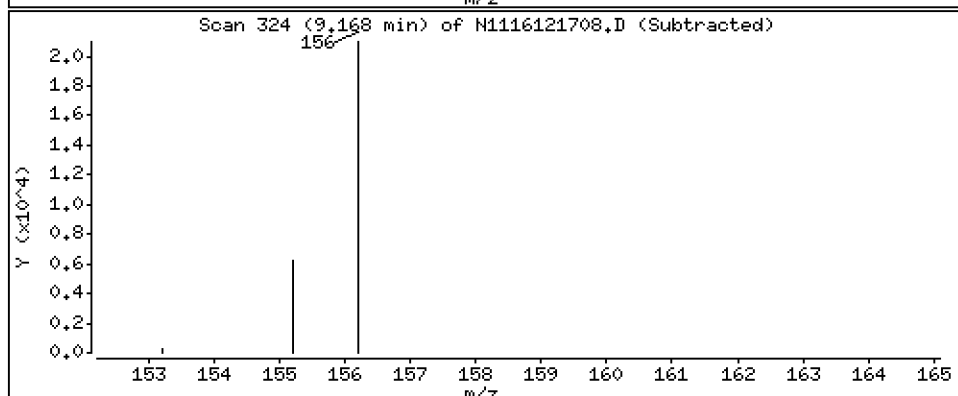
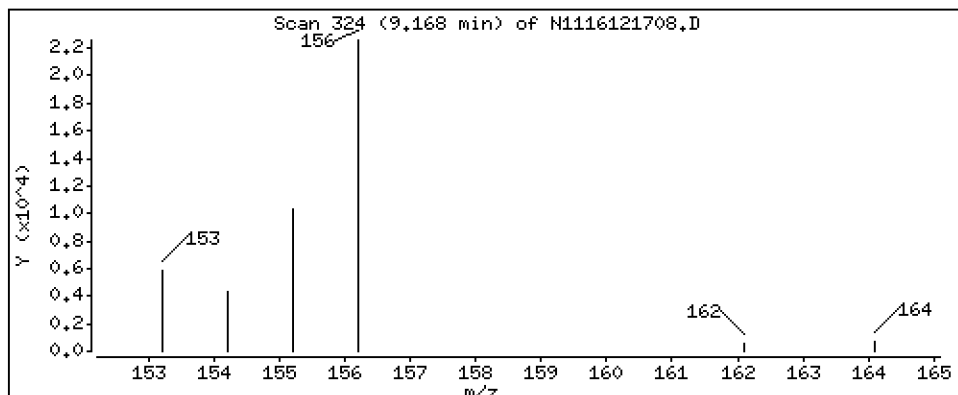
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 41.0 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

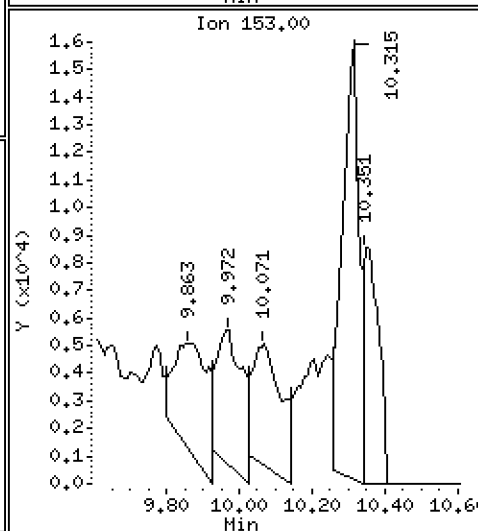
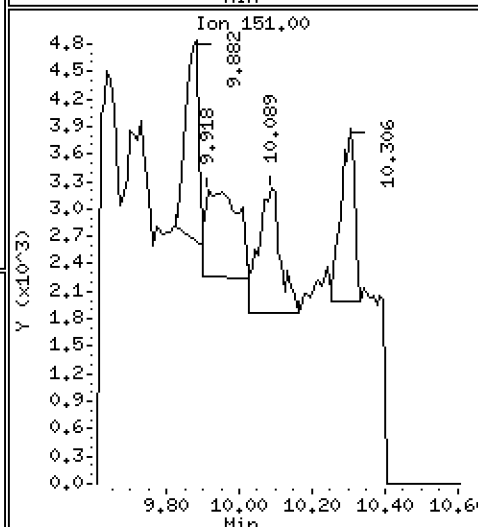
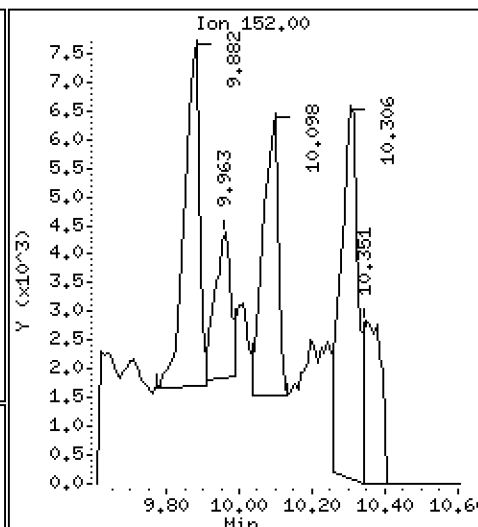
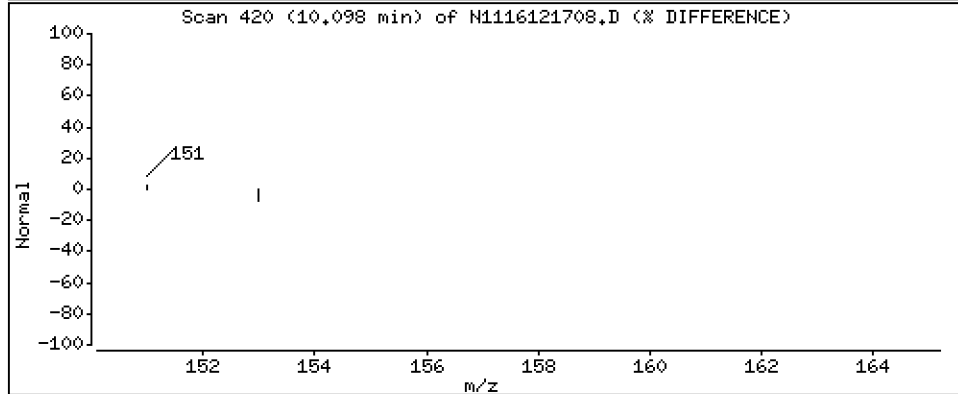
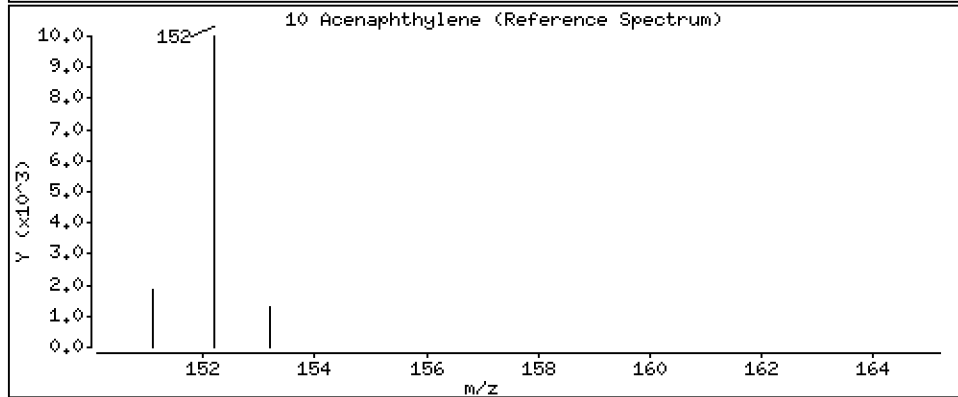
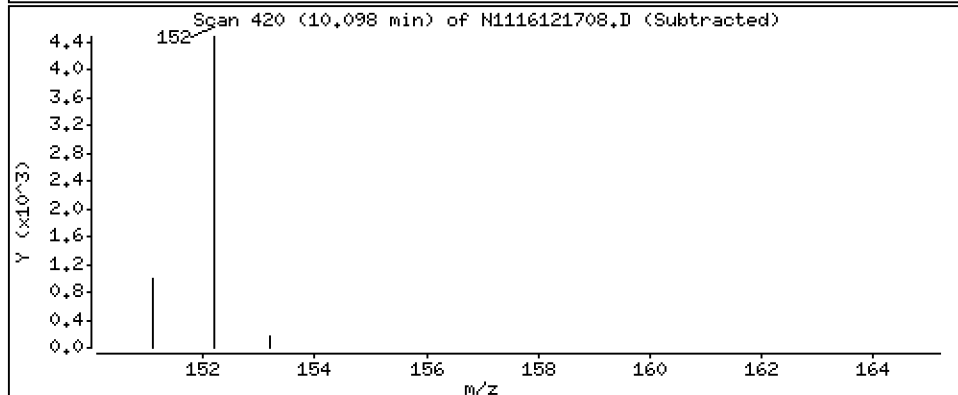
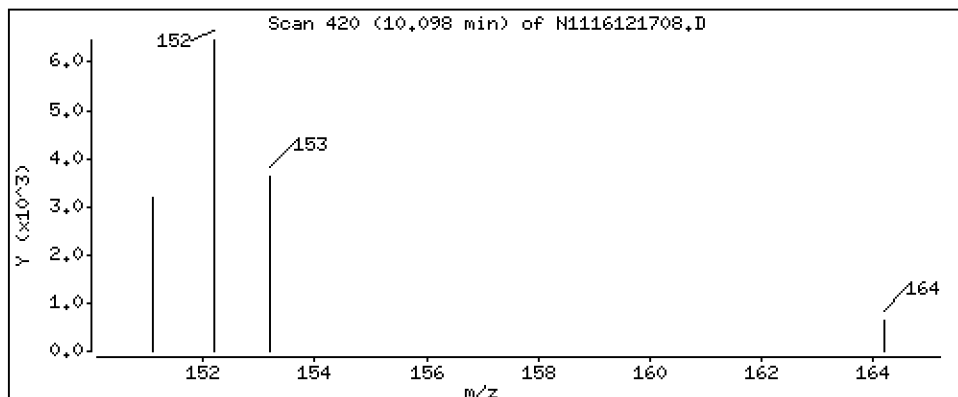
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 7.41 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

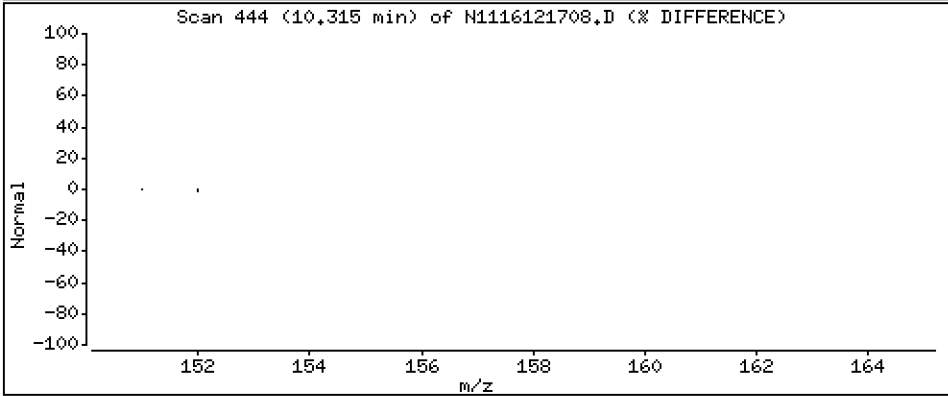
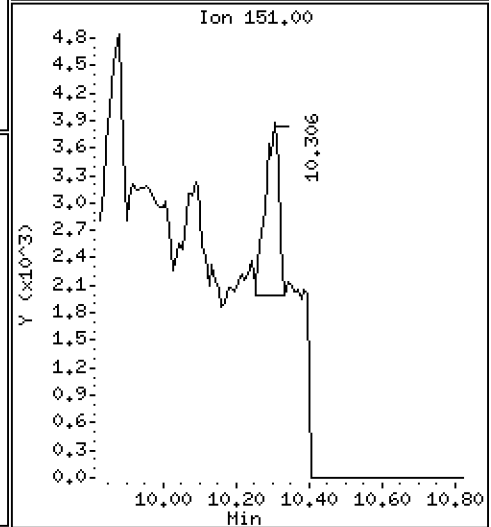
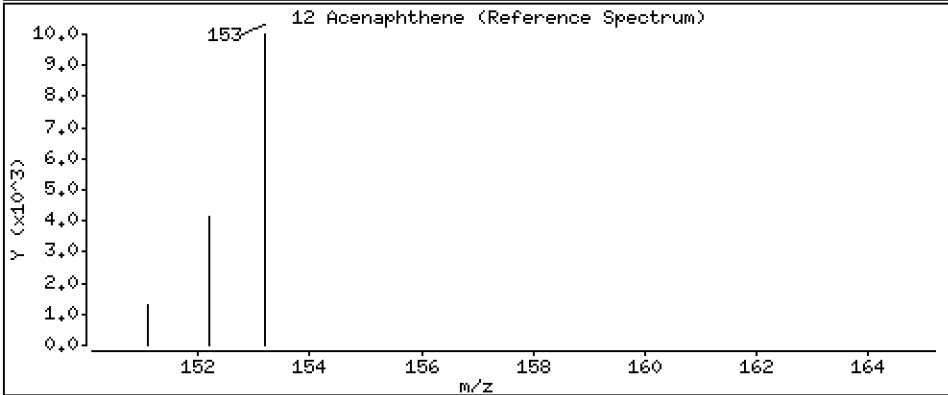
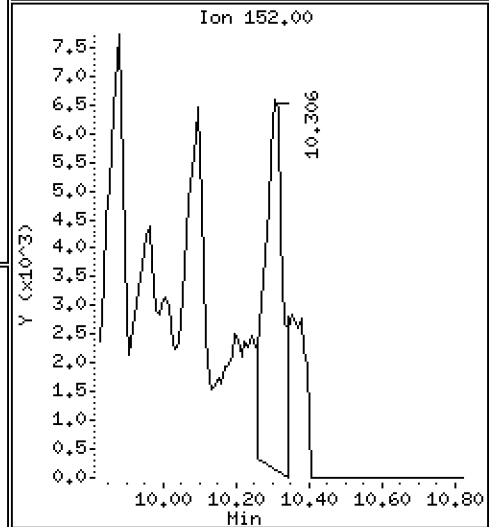
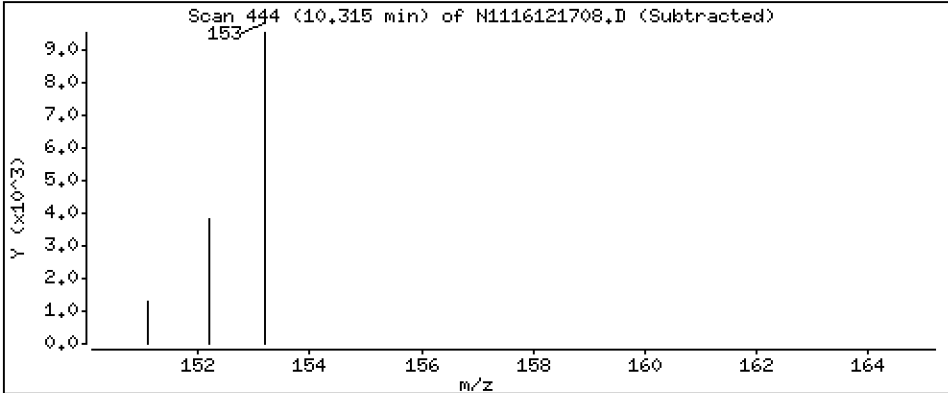
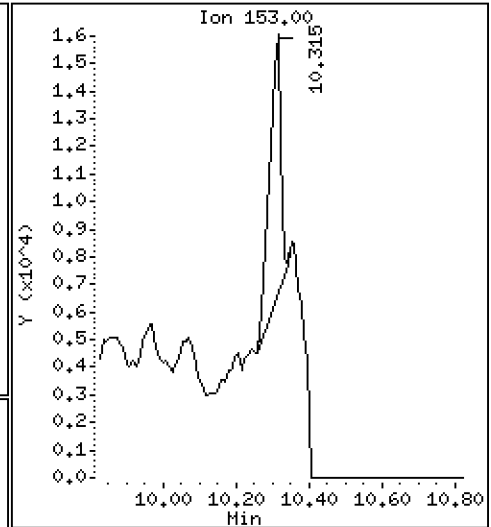
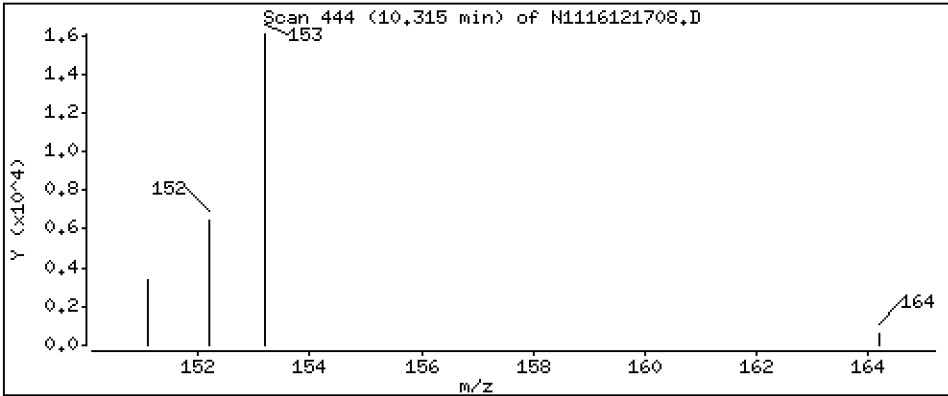
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 16.7 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

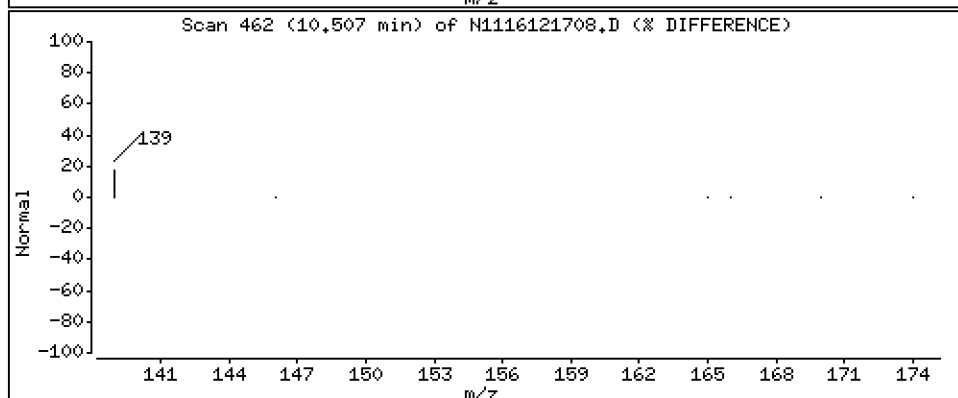
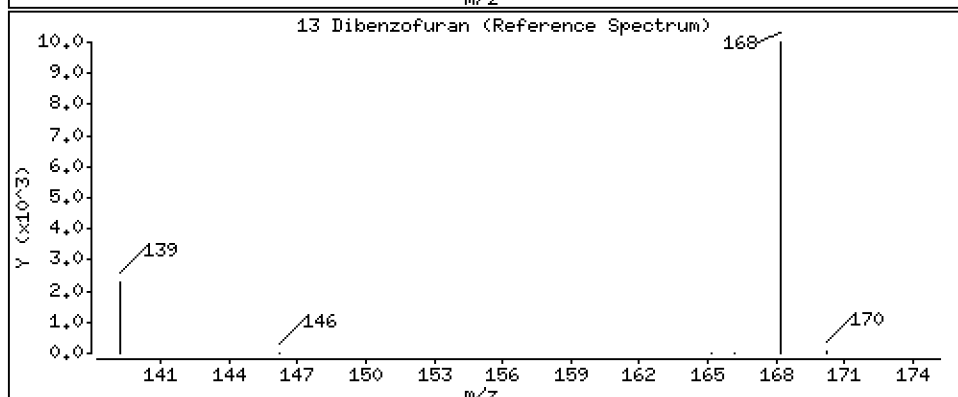
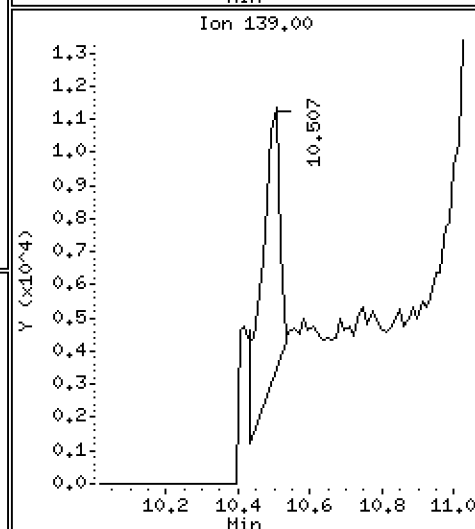
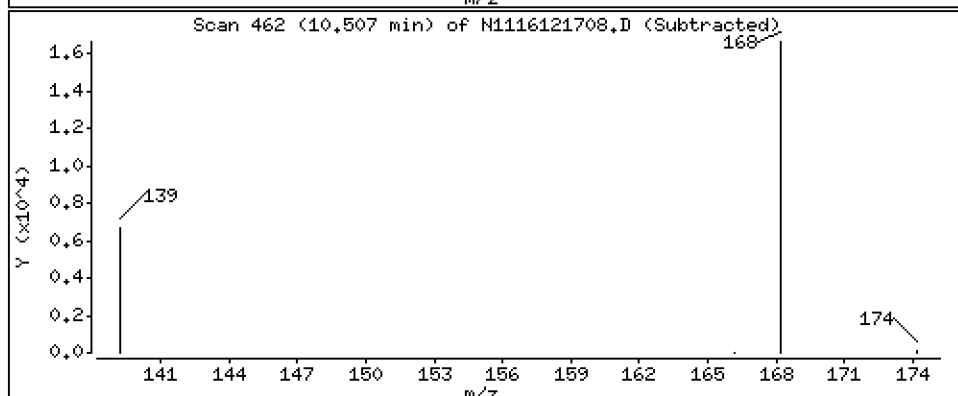
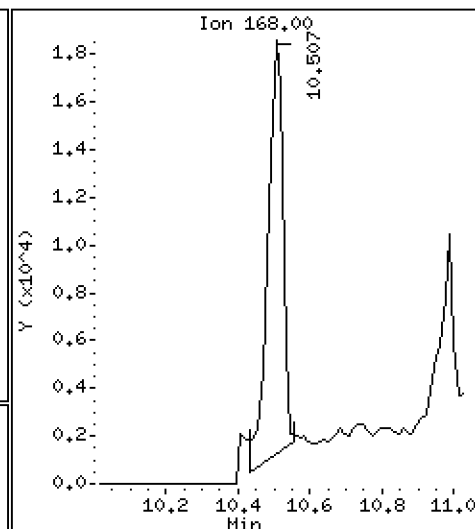
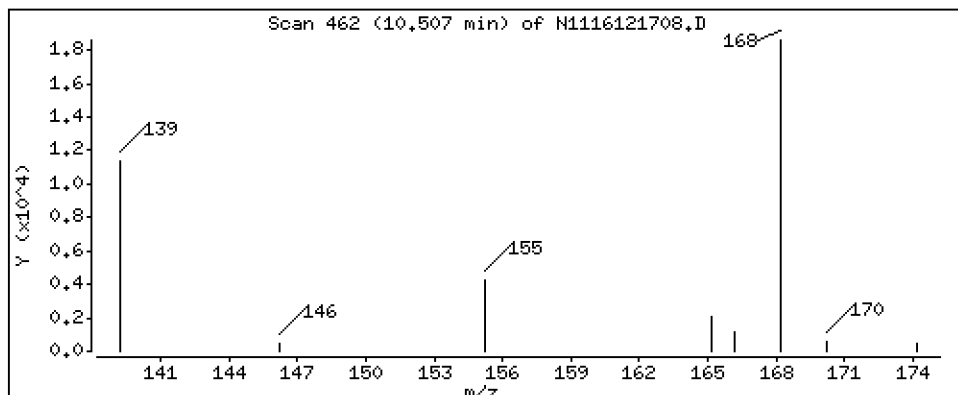
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 26,6 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

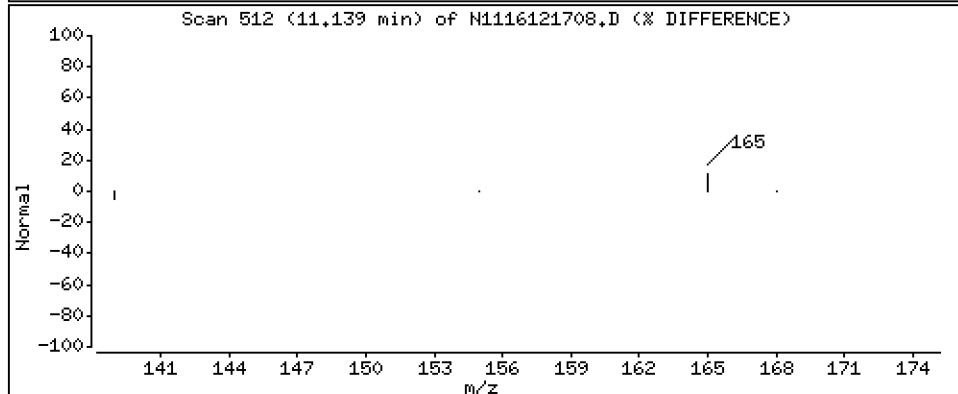
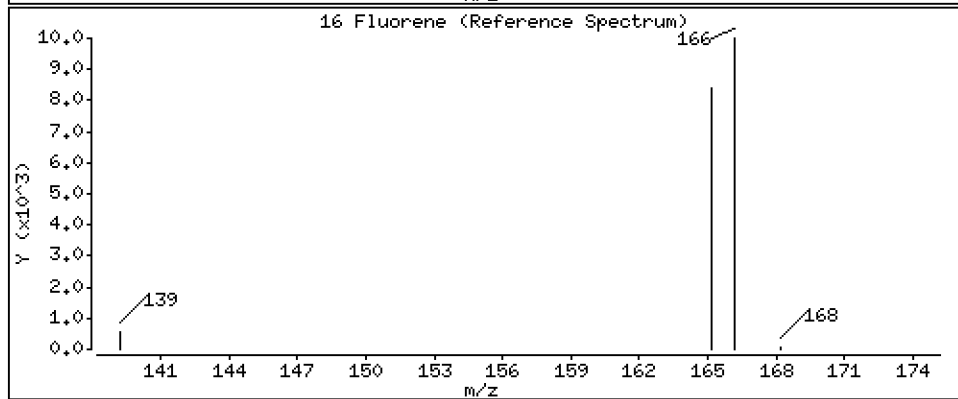
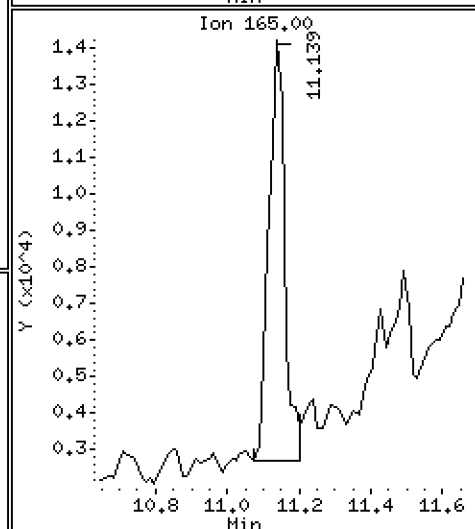
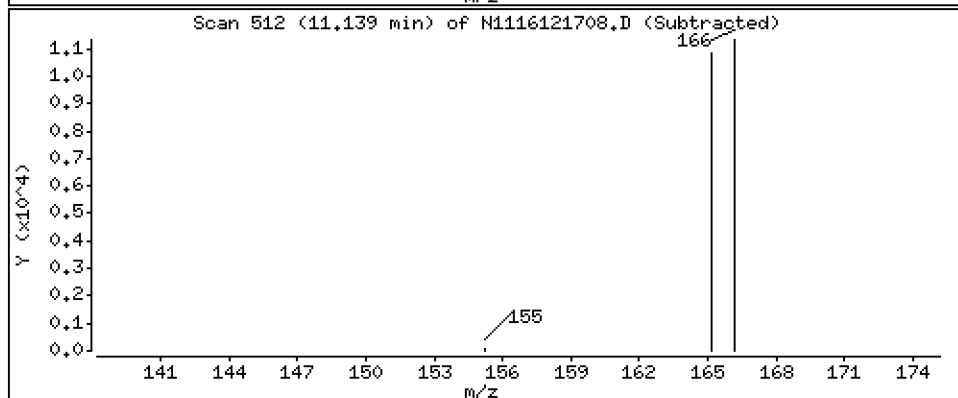
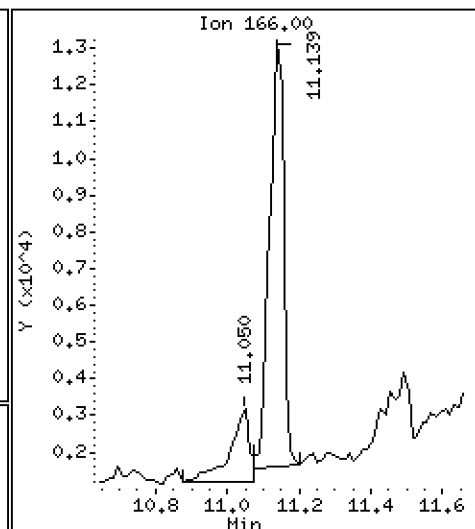
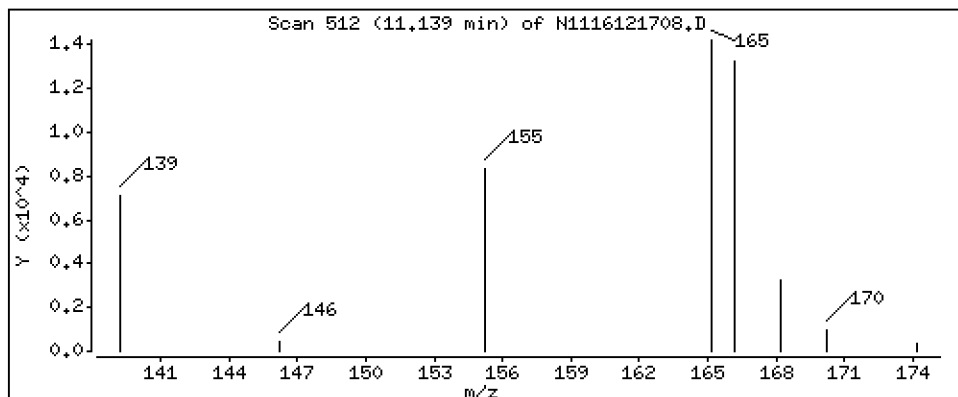
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 20,6 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

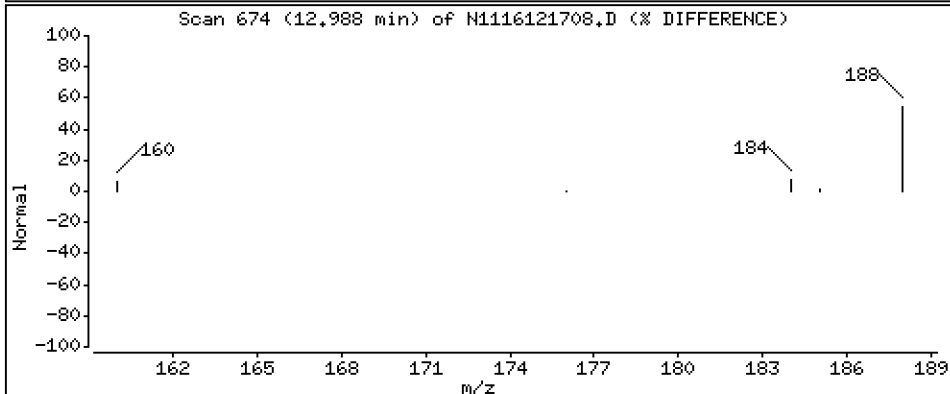
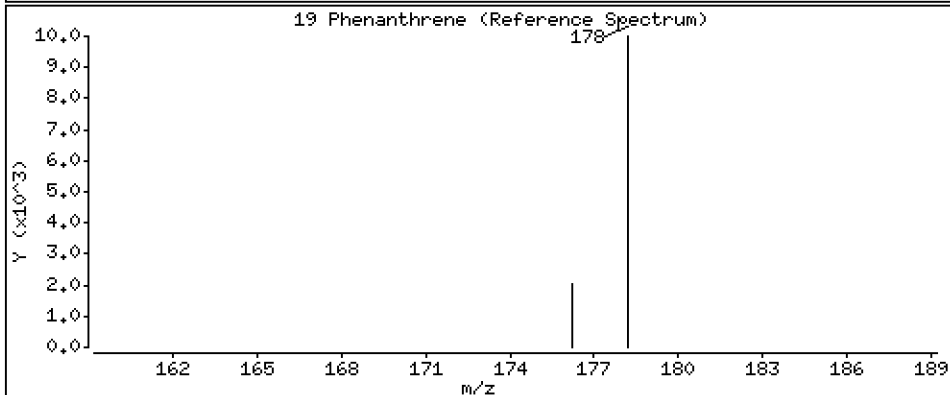
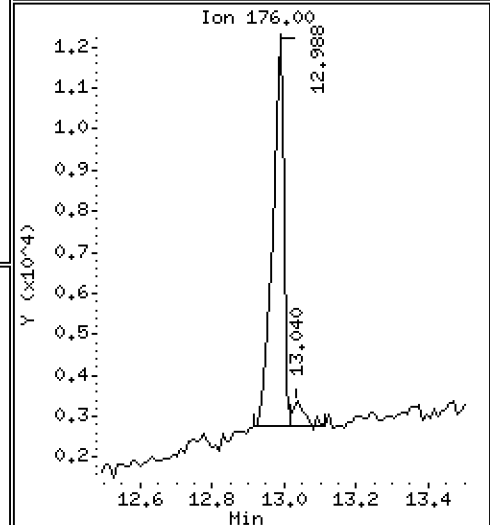
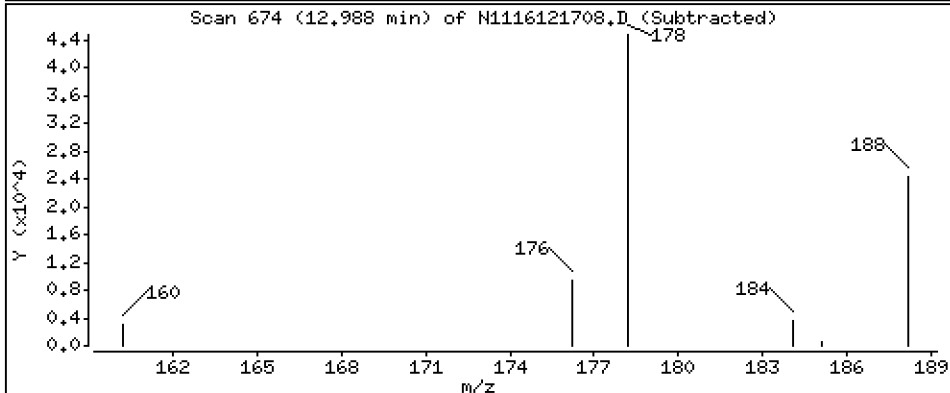
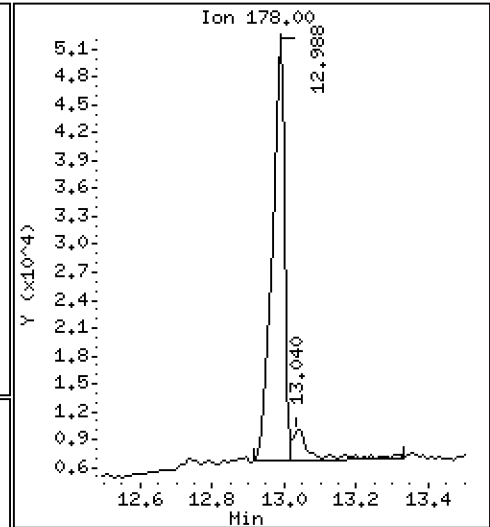
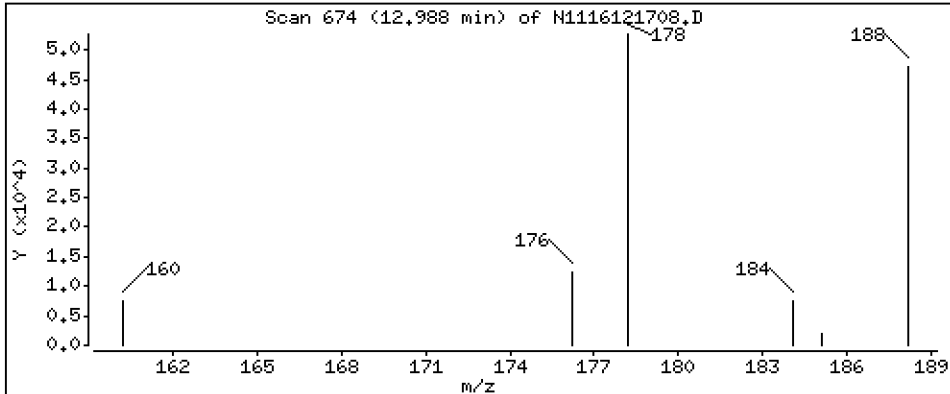
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 43,0 ng/mL

19 Phenanthrene



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

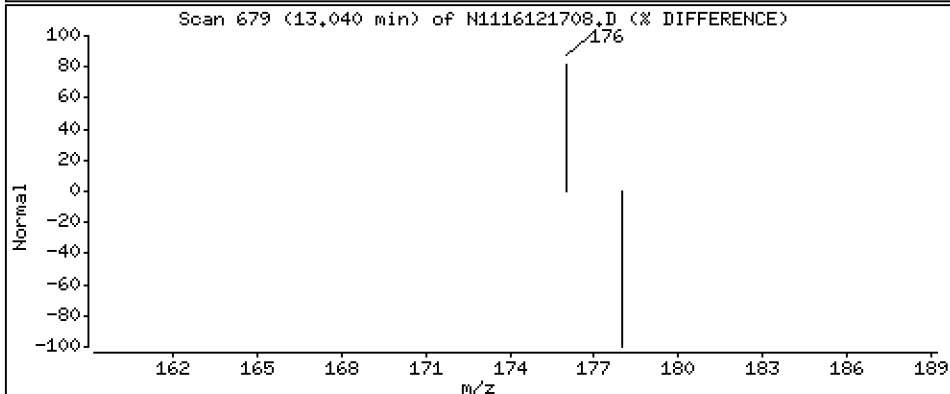
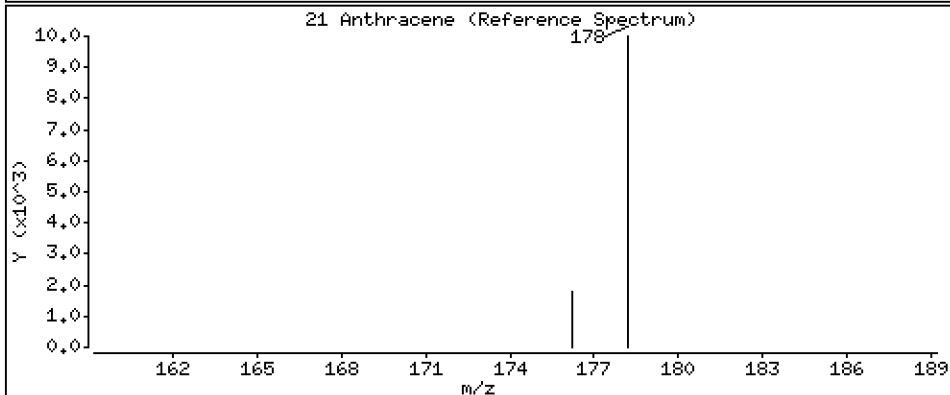
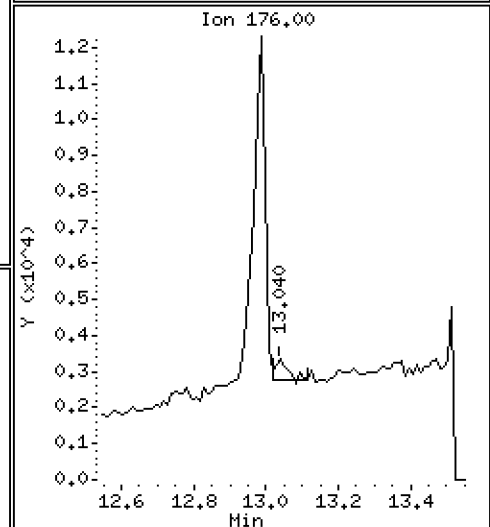
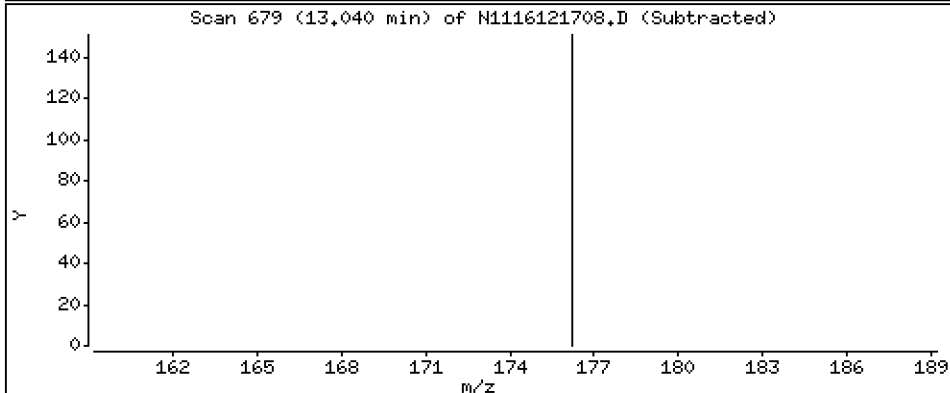
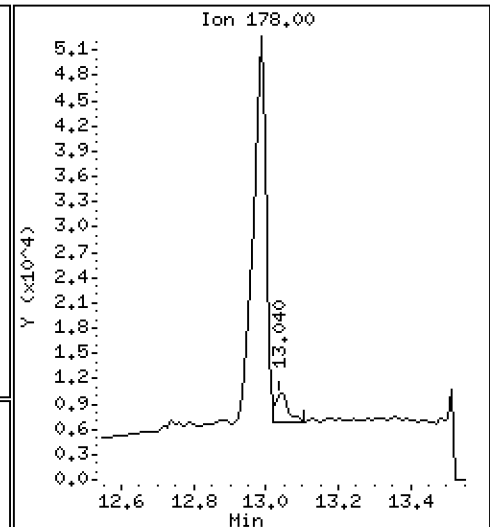
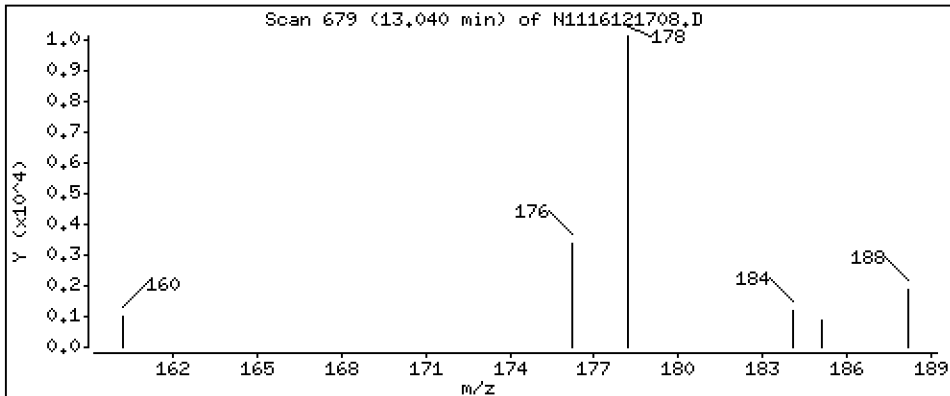
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 3,49 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

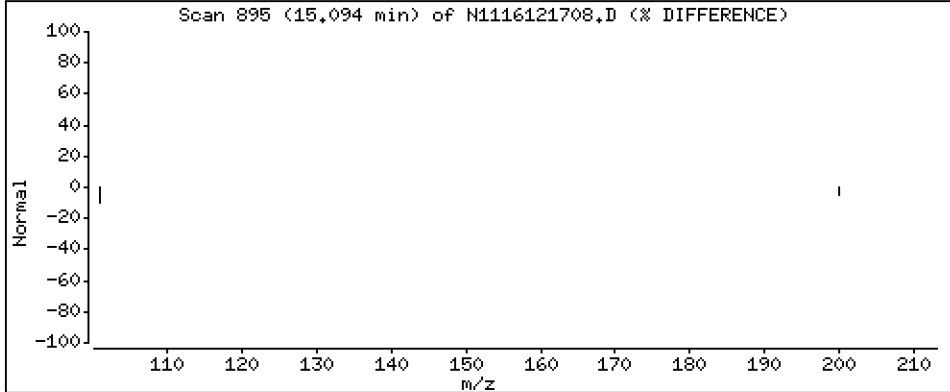
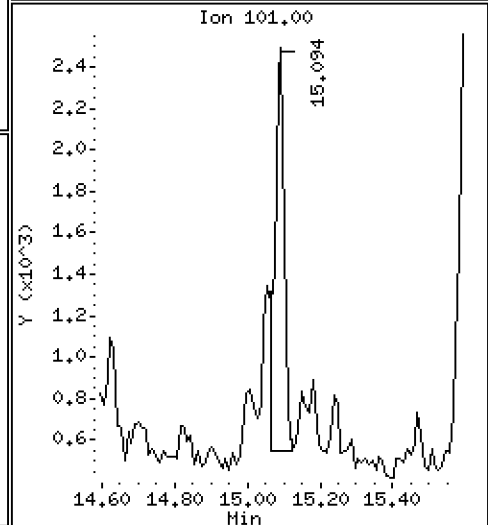
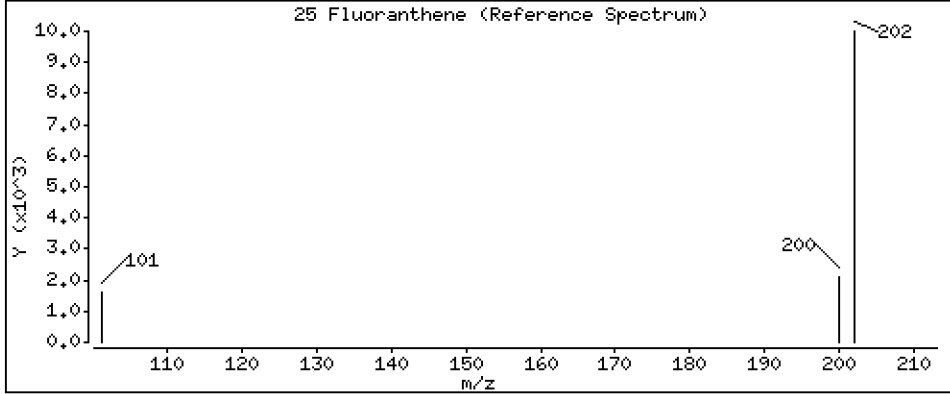
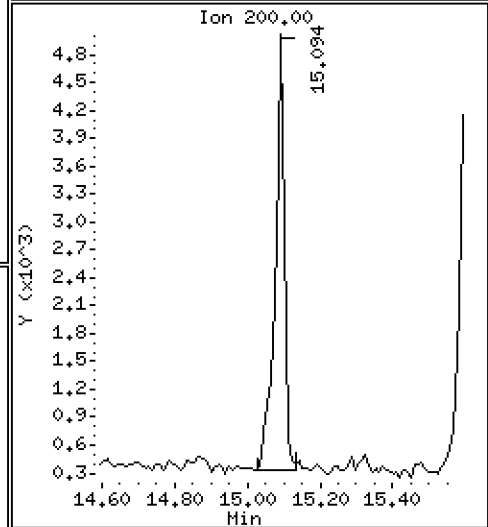
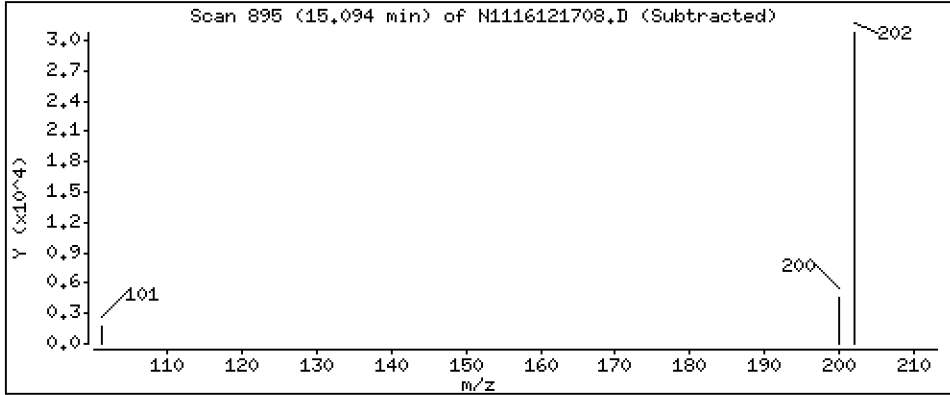
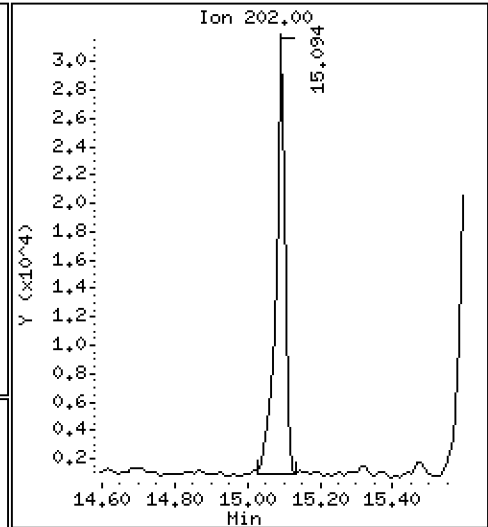
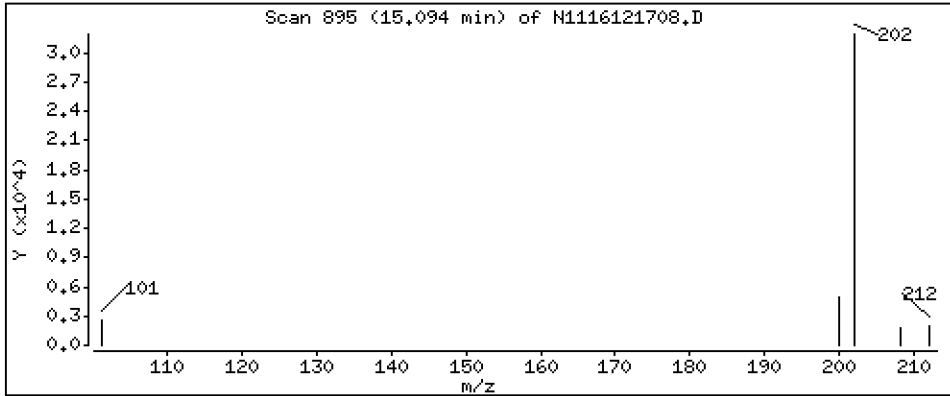
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 18,3 ng/mL



Date : 17-DEC-2016 15:46

Client ID:

Instrument: nt11.i

Sample Info: 16K0321-23

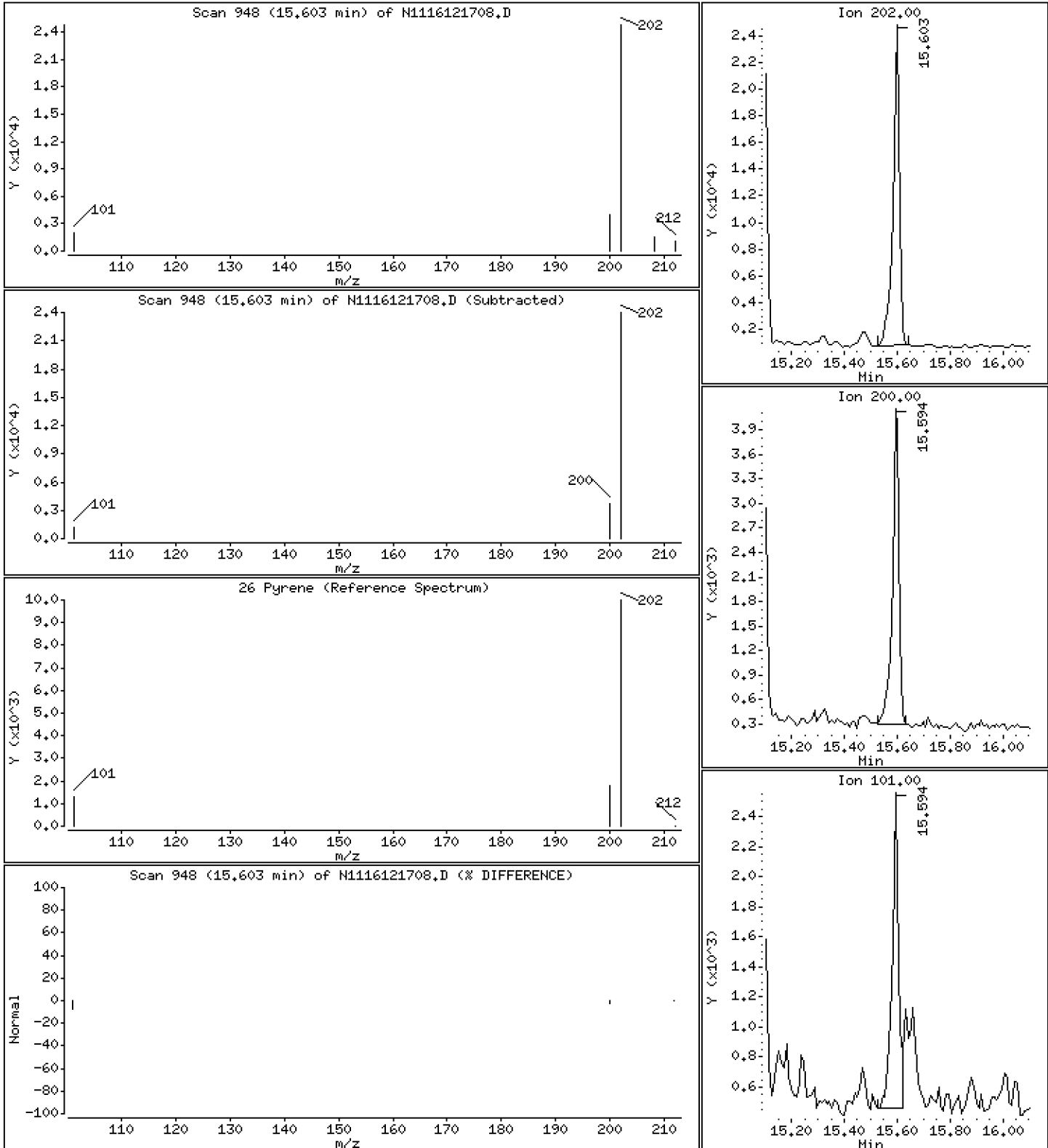
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 17,5 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20161217.b\N1116121708.D
 Lab Smp Id: 16K0321-23
 Inj Date : 17-DEC-2016 15:46 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 16K0321-23
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20161217.b\lowsim.m
 Meth Date : 17-Dec-2016 13:15 van Quant Type: ISTD
 Cal Date : 16-DEC-2016 16:32 Cal File: N1116121615.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		7.207	7.234	(1.000)	353447	200.000	
2 Naphthalene	128		7.244	7.261	(1.005)	207501	118.446	118
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		8.190	8.211	(1.136)	257903	167.213	167
5 2-Methylnaphthalene	142		8.243	8.264	(1.144)	218317	126.867	127
6 1-Methylnaphthalene	142		8.505	8.526	(1.180)	114185	67.5382	67.5
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		9.125	9.136	(0.890)	48797	21.3432	21.3
9 2,6-Dimethylnaphthalene	156		9.167	9.199	(0.894)	71648	41.0106	41.0
10 Acenaphthylene	152		10.098	10.107	(0.985)	14405	7.40564	7.41
* 11 Acenaphthene-d10	164		10.252	10.260	(1.000)	217745	200.000	
12 Acenaphthene	153		10.315	10.324	(1.006)	21192	16.6518	16.7 (M)
13 Dibenzofuran	168		10.506	10.519	(1.025)	50181	26.5811	26.6
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		11.088	11.100	(1.082)	99101	94.7485	94.7
16 Fluorene	166		11.138	11.151	(1.086)	31187	20.6114	20.6
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.945	12.956	(1.000)	468182	200.000	
19 Phenanthrene	178		12.987	12.998	(1.003)	112426	42.9540	43.0
\$ 20 Anthracene-d10	188		13.008	13.019	(1.005)	198350	85.5341	85.5
21 Anthracene	178		13.040	13.050	(1.007)	8710	3.48904	3.49 (M)
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		15.065	15.065	(1.164)	457102	183.296	183
25 Fluoranthene	202		15.094	15.093	(1.166)	55336	18.3481	18.3
26 Pyrene	202		15.603	15.603	(0.881)	42519	17.4644	17.5
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		17.710	17.710	(1.000)	425443	200.000	
29 Chrysene	228		Compound Not Detected.					
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
\$ 33 Benzo(e)pyrene-d12	264		20.503	20.493	(0.979)	165919	81.9346	81.9
34 Benzo(e)pyrene	252		Compound Not Detected.					

