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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Erie Coke - ID0016

Lot #: H6I270412

William Cowell

Montrose Air Quality Services
1050 William Pitt Way
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Courtney M. Adkins
Project Manager

October 14, 2016

ANALYTICAL METHODS SUMMARY

H6I270412

PARAMETER	ANALYTICAL METHOD
PAHs & Selected SVOCs by HRGC/MS-SIM	KNOX ID-0016

References:

KNOX TestAmerica Laboratories Inc., Knoxville Laboratory Standard Operating Procedure

SAMPLE SUMMARY

H6I270412

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M8901	001	R-1608 LOC#3 WATER QT-R1A	09/22/16	
M8902	002	R-1616 LOC#4 WATER QT-R1B	09/22/16	
M8903	003	R-1624 LOC#5 WATER QT-R1C	09/22/16	
M8904	004	R-1632 LOC#6 WATER QT-R2A	09/23/16	
M8905	005	R-1640 LOC#7 WATER QT-R2B	09/23/16	
M8906	006	R-1648 LOC#8 WATER QT-R2C	09/23/16	
M8907	007	R-1656 LOC#9 WATER QT-R3A	09/26/16	
M8908	008	R-1664 LOC#10 WATER QT-R3B	09/26/16	
M8909	009	R-1672 LOC#11 WATER QT-R3C	09/26/16	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H6I270412

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

On review of the data, it was noticed that in several samples, the peaks identified by the data system for multiple target analytes exhibited very slight retention time shift or a shoulder on the peak that could not be resolved. Therefore, these compounds have been flagged with "CI" to indicate that although they met the qualitative criteria of the method, there is reason to suspect these may have a high bias.

Several samples had one or more internal standards recoveries below the lab-required limits of 30-120%. The minimum required signal-to-noise ratio was present. As indicated by the referenced method, isotope dilution techniques produce results that are independent of internal standard recovery.

General Comments:

The labeled internal standards added prior to extraction serve both as a measure of extraction efficiency and as a measure of cleanup recovery.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

QC DATA ASSOCIATION SUMMARY

H6I270412

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	KNOX ID-0016		6273010	
002	WATER	KNOX ID-0016		6273010	
003	WATER	KNOX ID-0016		6273010	
004	WATER	KNOX ID-0016		6273010	
005	WATER	KNOX ID-0016		6273010	
006	WATER	KNOX ID-0016		6273010	
007	WATER	KNOX ID-0016		6273010	
008	WATER	KNOX ID-0016		6273010	
009	WATER	KNOX ID-0016		6273010	

Sample Data Summary

Montrose Air Quality Services LLC

Client Sample ID: R-1608 LOC#3 WATER QT-R1A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-001	Work Order #...:	M89011AA	Matrix.....:	WATER
Date Sampled...:	09/22/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	31	10	ng/L	2.4
Acenaphthylene	15	10	ng/L	0.15
Anthracene	46	10	ng/L	0.71
Benzo(a)anthracene	90	10	ng/L	1.5
Benzo(b)fluoranthene	74	10	ng/L	1.5
Benzo(k)fluoranthene	24	10	ng/L	1.0
Benzo(ghi)perylene	35	10	ng/L	0.51
Benzo(a)pyrene	35	10	ng/L	0.40
Chrysene	140 B	10	ng/L	0.22
Dibenz(a,h)anthracene	17	10	ng/L	0.78
Fluoranthene	140	10	ng/L	2.4
Fluorene	41 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	23	10	ng/L	1.0
Naphthalene	260	50	ng/L	16
Perylene	12 CI	10	ng/L	0.81
Phenanthrene	300	20	ng/L	11
Pyrene	94 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	65	(30 - 120)
Naphthalene-d8	71	(30 - 120)
Acenaphthylene-d8	60	(30 - 120)
Phenanthrene-d10	41	(30 - 120)
Anthracene-d10	42	(30 - 120)
Fluoranthene-d10	50	(30 - 120)
Chrysene-d12	43	(30 - 120)
Benzo(b)fluoranthene-d12	61	(30 - 120)
Benzo(k)fluoranthene-d12	50	(30 - 120)
Benzo(a)pyrene-d12	54	(30 - 120)
Perylene-d12	47	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	50	(30 - 120)
Dibenz(ah)anthracene-d14	41	(30 - 120)
Benzo(ghi)perylene-d12	37	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CI See narrative.

Montrose Air Quality Services LLC

Client Sample ID: R-1616 LOC#4 WATER QT-R1B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-002	Work Order #...:	M89021AA	Matrix.....:	WATER
Date Sampled...:	09/22/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	52	10	ng/L	2.4
Acenaphthylene	27	10	ng/L	0.15
Anthracene	96	10	ng/L	0.71
Benzo(a)anthracene	250	10	ng/L	1.5
Benzo(b)fluoranthene	200	10	ng/L	1.5
Benzo(k)fluoranthene	72	10	ng/L	1.0
Benzo(ghi)perylene	140	10	ng/L	0.51
Benzo(a)pyrene	140	10	ng/L	0.40
Chrysene	360 B	10	ng/L	0.22
Dibenz(a,h)anthracene	63	10	ng/L	0.78
Fluoranthene	270	10	ng/L	2.4
Fluorene	78 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	74	10	ng/L	1.0
Naphthalene	410	50	ng/L	16
Perylene	23	10	ng/L	0.81
Phenanthrene	540	20	ng/L	11
Pyrene	200 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	58	(30 - 120)
Naphthalene-d8	62	(30 - 120)
Acenaphthylene-d8	54	(30 - 120)
Phenanthrene-d10	39	(30 - 120)
Anthracene-d10	39	(30 - 120)
Fluoranthene-d10	49	(30 - 120)
Chrysene-d12	48	(30 - 120)
Benzo(b)fluoranthene-d12	64	(30 - 120)
Benzo(k)fluoranthene-d12	49	(30 - 120)
Benzo(a)pyrene-d12	61	(30 - 120)
Perylene-d12	51	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	66	(30 - 120)
Dibenz(ah)anthracene-d14	68	(30 - 120)
Benzo(ghi)perylene-d12	59	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1624 LOC#5 WATER QT-R1C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-003	Work Order #...:	M89031AA	Matrix.....:	WATER
Date Sampled...:	09/22/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	58	10	ng/L	2.4
Acenaphthylene	29	10	ng/L	0.15
Anthracene	99	10	ng/L	0.71
Benzo(a)anthracene	230	10	ng/L	1.5
Benzo(b)fluoranthene	260	10	ng/L	1.5
Benzo(k)fluoranthene	74	10	ng/L	1.0
Benzo(ghi)perylene	170	10	ng/L	0.51
Benzo(a)pyrene	140	10	ng/L	0.40
Chrysene	340 B	10	ng/L	0.22
Dibenz(a,h)anthracene	68	10	ng/L	0.78
Fluoranthene	240	10	ng/L	2.4
Fluorene	87 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	100	10	ng/L	1.0
Naphthalene	400	50	ng/L	16
Perylene	29	10	ng/L	0.81
Phenanthrene	560	20	ng/L	11
Pyrene	180 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	45	(30 - 120)
Naphthalene-d8	57	(30 - 120)
Acenaphthylene-d8	44	(30 - 120)
Phenanthrene-d10	28 *	(30 - 120)
Anthracene-d10	27 *	(30 - 120)
Fluoranthene-d10	35	(30 - 120)
Chrysene-d12	36	(30 - 120)
Benzo(b)fluoranthene-d12	49	(30 - 120)
Benzo(k)fluoranthene-d12	40	(30 - 120)
Benzo(a)pyrene-d12	48	(30 - 120)
Perylene-d12	39	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	48	(30 - 120)
Dibenz(ah)anthracene-d14	49	(30 - 120)
Benzo(ghi)perylene-d12	41	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1632 LOC#6 WATER QT-R2A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-004	Work Order #...:	M89041AA	Matrix.....:	WATER
Date Sampled...:	09/23/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	62	10	ng/L	2.4
Acenaphthylene	90	10	ng/L	0.15
Anthracene	320	10	ng/L	0.71
Benzo(a)anthracene	500	10	ng/L	1.5
Benzo(b)fluoranthene	270	10	ng/L	1.5
Benzo(k)fluoranthene	88	10	ng/L	1.0
Benzo(ghi)perylene	200	10	ng/L	0.51
Benzo(a)pyrene	190	10	ng/L	0.40
Chrysene	690 B	10	ng/L	0.22
Dibenz(a,h)anthracene	84	10	ng/L	0.78
Fluoranthene	440	10	ng/L	2.4
Fluorene	260 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	94	10	ng/L	1.0
Naphthalene	780	50	ng/L	16
Perylene	20	10	ng/L	0.81
Phenanthrene	1400	20	ng/L	11
Pyrene	380 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	59	(30 - 120)
Naphthalene-d8	67	(30 - 120)
Acenaphthylene-d8	63	(30 - 120)
Phenanthrene-d10	37	(30 - 120)
Anthracene-d10	37	(30 - 120)
Fluoranthene-d10	46	(30 - 120)
Chrysene-d12	46	(30 - 120)
Benzo(b)fluoranthene-d12	57	(30 - 120)
Benzo(k)fluoranthene-d12	46	(30 - 120)
Benzo(a)pyrene-d12	60	(30 - 120)
Perylene-d12	52	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	61	(30 - 120)
Dibenz(ah)anthracene-d14	66	(30 - 120)
Benzo(ghi)perylene-d12	54	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1640 LOC#7 WATER QT-R2B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-005	Work Order #...:	M89051AA	Matrix.....:	WATER
Date Sampled...:	09/23/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	66	10	ng/L	2.4
Acenaphthylene	56	10	ng/L	0.15
Anthracene	440	10	ng/L	0.71
Benzo(a)anthracene	700	10	ng/L	1.5
Benzo(b)fluoranthene	460	10	ng/L	1.5
Benzo(k)fluoranthene	120	10	ng/L	1.0
Benzo(ghi)perylene	430	10	ng/L	0.51
Benzo(a)pyrene	310	10	ng/L	0.40
Chrysene	1400 B	10	ng/L	0.22
Dibenz(a,h)anthracene	160	10	ng/L	0.78
Fluoranthene	520	10	ng/L	2.4
Fluorene	340 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	160	10	ng/L	1.0
Naphthalene	650	50	ng/L	16
Perylene	19	10	ng/L	0.81
Phenanthrene	2000	20	ng/L	11
Pyrene	570 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	74	(30 - 120)
Naphthalene-d8	71	(30 - 120)
Acenaphthylene-d8	76	(30 - 120)
Phenanthrene-d10	49	(30 - 120)
Anthracene-d10	48	(30 - 120)
Fluoranthene-d10	58	(30 - 120)
Chrysene-d12	56	(30 - 120)
Benzo(b)fluoranthene-d12	70	(30 - 120)
Benzo(k)fluoranthene-d12	56	(30 - 120)
Benzo(a)pyrene-d12	74	(30 - 120)
Perylene-d12	65	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	75	(30 - 120)
Dibenz(ah)anthracene-d14	86	(30 - 120)
Benzo(ghi)perylene-d12	65	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1648 LOC#8 WATER QT-R2C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-006	**Work Order #...:**	M89061AA	**Matrix.....:**	WATER
Date Sampled...:	09/23/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/11/2016		
Prep Batch #...:	6273010				
Dilution Factor:	3	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	200	30	ng/L	7.2
Acenaphthylene	170	30	ng/L	0.45
Anthracene	1100	30	ng/L	2.1
Benzo(a)anthracene	1300	30	ng/L	4.5
Benzo(b)fluoranthene	840	30	ng/L	4.5
Benzo(k)fluoranthene	240	30	ng/L	3.0
Benzo(ghi)perylene	710	30	ng/L	1.5
Benzo(a)pyrene	710	30	ng/L	1.2
Chrysene	2300 B	30	ng/L	0.66
Dibenz(a,h)anthracene	290	30	ng/L	2.3
Fluoranthene	1200	30	ng/L	7.2
Fluorene	660 B	30	ng/L	4.5
Indeno(1,2,3-cd)pyrene	300	30	ng/L	3.0
Naphthalene	1600	150	ng/L	48
Perylene	45	30	ng/L	2.4
Phenanthrene	4300	60	ng/L	33
Pyrene	1100 B	30	ng/L	5.1

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	47	(30 - 120)
Naphthalene-d8	51	(30 - 120)
Acenaphthylene-d8	39	(30 - 120)
Phenanthrene-d10	28 *	(30 - 120)
Anthracene-d10	24 *	(30 - 120)
Fluoranthene-d10	39	(30 - 120)
Chrysene-d12	42	(30 - 120)
Benzo(b)fluoranthene-d12	58	(30 - 120)
Benzo(k)fluoranthene-d12	43	(30 - 120)
Benzo(a)pyrene-d12	51	(30 - 120)
Perylene-d12	44	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	53	(30 - 120)
Dibenz(ah)anthracene-d14	59	(30 - 120)
Benzo(ghi)perylene-d12	49	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1656 LOC#9 WATER QT-R3A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-007	Work Order #...:	M89071AA	Matrix.....:	WATER
Date Sampled...:	09/26/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	37	10	ng/L	2.4
Acenaphthylene	28	10	ng/L	0.15
Anthracene	83	10	ng/L	0.71
Benzo(a)anthracene	160	10	ng/L	1.5
Benzo(b)fluoranthene	110	10	ng/L	1.5
Benzo(k)fluoranthene	46	10	ng/L	1.0
Benzo(ghi)perylene	62	10	ng/L	0.51
Benzo(a)pyrene	66	10	ng/L	0.40
Chrysene	220 B	10	ng/L	0.22
Dibenz(a,h)anthracene	28	10	ng/L	0.78
Fluoranthene	230	10	ng/L	2.4
Fluorene	76 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	38	10	ng/L	1.0
Naphthalene	390	50	ng/L	16
Perylene	18 CI	10	ng/L	0.81
Phenanthrene	480	20	ng/L	11
Pyrene	150 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	66	(30 - 120)
Naphthalene-d8	68	(30 - 120)
Acenaphthylene-d8	60	(30 - 120)
Phenanthrene-d10	44	(30 - 120)
Anthracene-d10	42	(30 - 120)
Fluoranthene-d10	53	(30 - 120)
Chrysene-d12	43	(30 - 120)
Benzo(b)fluoranthene-d12	60	(30 - 120)
Benzo(k)fluoranthene-d12	46	(30 - 120)
Benzo(a)pyrene-d12	52	(30 - 120)
Perylene-d12	46	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	49	(30 - 120)
Dibenz(ah)anthracene-d14	43	(30 - 120)
Benzo(ghi)perylene-d12	38	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CI See narrative.

Montrose Air Quality Services LLC

Client Sample ID: R-1664 LOC#10 WATER QT-R3B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-008	Work Order #...:	M89081AA	Matrix.....:	WATER
Date Sampled...:	09/26/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	120	10	ng/L	2.4
Acenaphthylene	57	10	ng/L	0.15
Anthracene	350	10	ng/L	0.71
Benzo(a)anthracene	810	10	ng/L	1.5
Benzo(b)fluoranthene	540	10	ng/L	1.5
Benzo(k)fluoranthene	180	10	ng/L	1.0
Benzo(ghi)perylene	580	10	ng/L	0.51
Benzo(a)pyrene	490	10	ng/L	0.40
Chrysene	1100 B	10	ng/L	0.22
Dibenz(a,h)anthracene	230	10	ng/L	0.78
Fluoranthene	580	10	ng/L	2.4
Fluorene	260 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	260	10	ng/L	1.0
Naphthalene	830	50	ng/L	16
Perylene	40	10	ng/L	0.81
Phenanthrene	1400	20	ng/L	11
Pyrene	500 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	61	(30 - 120)
Naphthalene-d8	61	(30 - 120)
Acenaphthylene-d8	57	(30 - 120)
Phenanthrene-d10	41	(30 - 120)
Anthracene-d10	40	(30 - 120)
Fluoranthene-d10	52	(30 - 120)
Chrysene-d12	47	(30 - 120)
Benzo(b)fluoranthene-d12	64	(30 - 120)
Benzo(k)fluoranthene-d12	50	(30 - 120)
Benzo(a)pyrene-d12	65	(30 - 120)
Perylene-d12	60	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	67	(30 - 120)
Dibenz(ah)anthracene-d14	74	(30 - 120)
Benzo(ghi)perylene-d12	59	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Montrose Air Quality Services LLC

Client Sample ID: R-1672 LOC#11 WATER QT-R3C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-009	Work Order #...:	M89091AA	Matrix.....:	WATER
Date Sampled...:	09/26/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	63	10	ng/L	2.4
Acenaphthylene	45	10	ng/L	0.15
Anthracene	150	10	ng/L	0.71
Benzo(a)anthracene	380	10	ng/L	1.5
Benzo(b)fluoranthene	280	10	ng/L	1.5
Benzo(k)fluoranthene	81	10	ng/L	1.0
Benzo(ghi)perylene	180	10	ng/L	0.51
Benzo(a)pyrene	180	10	ng/L	0.40
Chrysene	470 B	10	ng/L	0.22
Dibenz(a,h)anthracene	80	10	ng/L	0.78
Fluoranthene	380	10	ng/L	2.4
Fluorene	130 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	99	10	ng/L	1.0
Naphthalene	600	50	ng/L	16
Perylene	35	10	ng/L	0.81
Phenanthrene	830	20	ng/L	11
Pyrene	280 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	54	(30 - 120)
Naphthalene-d8	57	(30 - 120)
Acenaphthylene-d8	49	(30 - 120)
Phenanthrene-d10	37	(30 - 120)
Anthracene-d10	36	(30 - 120)
Fluoranthene-d10	47	(30 - 120)
Chrysene-d12	46	(30 - 120)
Benzo(b)fluoranthene-d12	57	(30 - 120)
Benzo(k)fluoranthene-d12	47	(30 - 120)
Benzo(a)pyrene-d12	58	(30 - 120)
Perylene-d12	47	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	57	(30 - 120)
Dibenz(ah)anthracene-d14	59	(30 - 120)
Benzo(ghi)perylene-d12	50	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H6I270412
MB Lot-Sample #: H6I290000-010 **Work Order #...:** M89871AA **Matrix.....:** WATER

Prep Date.....: 09/29/16 **Analysis Date..:** 10/10/2016
Prep Batch #...: 6273010
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ng/L	2.4
Acenaphthylene	ND	10	ng/L	0.15
Anthracene	ND	10	ng/L	0.71
Benzo(a)anthracene	ND	10	ng/L	1.5
Benzo(b)fluoranthene	ND	10	ng/L	1.5
Benzo(k)fluoranthene	ND	10	ng/L	1.0
Benzo(ghi)perylene	ND	10	ng/L	0.51
Benzo(a)pyrene	ND	10	ng/L	0.40
Chrysene	**0.80 J**	**10**	ng/L	0.22
Dibenz(a,h)anthracene	ND	10	ng/L	0.78
Fluoranthene	ND	10	ng/L	2.4
Fluorene	**2.3 J**	**10**	ng/L	1.5
Indeno(1,2,3-cd)pyrene	ND	10	ng/L	1.0
Naphthalene	ND	50	ng/L	16
Perylene	ND	10	ng/L	0.81
Phenanthrene	ND	20	ng/L	11
Pyrene	**2.8 J**	**10**	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	98	(30 - 120)
Naphthalene-d8	82	(30 - 120)
Acenaphthylene-d8	90	(30 - 120)
Phenanthrene-d10	78	(30 - 120)
Anthracene-d10	84	(30 - 120)
Fluoranthene-d10	97	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	104	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	105	(30 - 120)
Perylene-d12	87	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	107	(30 - 120)
Dibenz(ah)anthracene-d14	105	(30 - 120)
Benzo(ghi)perylene-d12	98	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H6I270412 **Work Order #...:** M89871AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: H6I290000-010
Prep Date .....: 09/29/16 **Analysis Date..:** 10/10/16
Prep Batch #...: 6273010
Dilution Factor: 1 **Instrument ID..:** MP **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS		RPD LIMITS
Acenaphthene	250	274	ng/L	110	(60 - 140)		
Acenaphthylene	250	268	ng/L	107	(60 - 140)		
Anthracene	250	251	ng/L	100	(60 - 140)		
Benzo(a)anthracene	250	320	ng/L	128	(60 - 140)		
Benzo(b)fluoranthene	250	222	ng/L	89	(60 - 140)		
Benzo(k)fluoranthene	250	276	ng/L	110	(60 - 140)		
Benzo(ghi)perylene	250	255	ng/L	102	(60 - 140)		
Benzo(a)pyrene	250	245	ng/L	98	(60 - 140)		
Chrysene	250	284	ng/L	114	(60 - 140)		
Dibenz(a,h)anthracene	250	247	ng/L	99	(60 - 140)		
Fluoranthene	250	248	ng/L	99	(60 - 140)		
Fluorene	250	266	ng/L	106	(60 - 140)		
Indeno(1,2,3-cd)pyrene	250	242	ng/L	97	(60 - 140)		
Naphthalene	250	285	ng/L	114	(60 - 140)		
Perylene	250	273	ng/L	109	(60 - 140)		
Phenanthrene	250	267	ng/L	107	(60 - 140)		
Pyrene	250	246	ng/L	98	(60 - 140)		

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	97	(60 - 140)
Naphthalene-d8	81	(60 - 140)
Acenaphthylene-d8	90	(60 - 140)
Phenanthrene-d10	76	(60 - 140)
Anthracene-d10	83	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
Chrysene-d12	86	(60 - 140)
Benzo(b)fluoranthene-d12	103	(60 - 140)
Benzo(k)fluoranthene-d12	90	(60 - 140)
Benzo(a)pyrene-d12	106	(60 - 140)
Perylene-d12	85	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	108	(60 - 140)
Dibenz(ah)anthracene-d14	106	(60 - 140)
Benzo(ghi)perylene-d12	98	(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Sample Receipt Documentation

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

146I 270412

Project Identification:	Montrose Air Quality Services Coke ICR
Client Contact:	Mr. Matthew Dallesasse (Montrose) (412) 826-3636
TestAmerica Contact:	Ms. Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Mr. Kevin Woodcock (865) 291-3082

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PDS" = Post Digestion Spike and "PDSD" = Post Digestion Spike Duplicate

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Media Request Form No.:	083016-8
Laboratory Destination:	TestAmerica Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	TestAmerica Courier Service

Project Deliverables:
Report analytical results on Quantims R-02 and TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all Reports.

Analytical Parameter:	Holding Time Requirements:	Preservation Requirements:
Polynuclear Aromatic Hydrocarbons (PAHs)	7 Days from Collection to Extraction, 40 Days from Extraction to Analysis.	Cool, 4°C

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1600 Loc #1 ~~Dust~~	1		MS/MSD	250 mL Powder Jar	**Dust Sample** **Location #1** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1602 Loc #2 ~~Dust~~	2			250 mL Powder Jar	**Dust Sample** **Location #2** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1608 Loc #3 Water QT-R1A	3	9/22/16	MS/MSD	1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #3** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1616 Loc #4 Water QT-R1B	4	9/22/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #4** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1624 Loc #5 Water QT-R1C	5	9/22/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #5** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).

92425

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1632 Loc #6 Water ~~R2~~ QT-R2A	6	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #6** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1640 Loc #7 Water QT-R2B	7	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #7** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1648 Loc #8 Water QT-R2C	8	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #8** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1656 Loc #9 Water QT-R3A	9	9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #9** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1664 Loc #10 Water QT-R3B	10	BC ~~9/26/16~~ 9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #10** **SIM PAH Analysis**	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1672 Loc #11 Water QT-R3C	11	9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #11** **SIM PAH Analysis**	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	OT, 3.7, 4.8, 3.3, 4.4 / OT 3.7, 4.8, 3.3, 4.4
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	CUSTODY SEALS INTACT, HAND DELIVERED

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[illegible]	Montrose	9/26/16 11:00
Accepted By:	[illegible]	TestAmerica	9/26/16 11:00
Relinquished By:	[illegible]	TestAmerica	9/26/16 21:57
Accepted By:	[illegible]	TAKNX	9/26/16 12:57
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number: H6I270412

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S061 Correction factor: 0.0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, lab will adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: 92425 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 9-27-16

QA026R30.doc, 080916

SIM PAH

Raw Sample Data

Montrose Air Quality Services LLC

Client Sample ID: R-1608 LOC#3 WATER QT-R1A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-001	Work Order #...:	M89011AA	Matrix.....:	WATER
Date Sampled...:	09/22/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	31	10	ng/L	2.4
Acenaphthylene	15	10	ng/L	0.15
Anthracene	46	10	ng/L	0.71
Benzo(a)anthracene	90	10	ng/L	1.5
Benzo(b)fluoranthene	74	10	ng/L	1.5
Benzo(k)fluoranthene	24	10	ng/L	1.0
Benzo(ghi)perylene	35	10	ng/L	0.51
Benzo(a)pyrene	35	10	ng/L	0.40
Chrysene	140 B	10	ng/L	0.22
Dibenz(a,h)anthracene	17	10	ng/L	0.78
Fluoranthene	140	10	ng/L	2.4
Fluorene	41 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	23	10	ng/L	1.0
Naphthalene	260	50	ng/L	16
Perylene	12 CI	10	ng/L	0.81
Phenanthrene	300	20	ng/L	11
Pyrene	94 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	65	(30 - 120)
Naphthalene-d8	71	(30 - 120)
Acenaphthylene-d8	60	(30 - 120)
Phenanthrene-d10	41	(30 - 120)
Anthracene-d10	42	(30 - 120)
Fluoranthene-d10	50	(30 - 120)
Chrysene-d12	43	(30 - 120)
Benzo(b)fluoranthene-d12	61	(30 - 120)
Benzo(k)fluoranthene-d12	50	(30 - 120)
Benzo(a)pyrene-d12	54	(30 - 120)
Perylene-d12	47	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	50	(30 - 120)
Dibenz(ah)anthracene-d14	41	(30 - 120)
Benzo(ghi)perylene-d12	37	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CI See narrative.

Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d
Report Date: 11-Oct-2016 13:39

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89011aar.d
Lab Smp Id: M89011AA
Inj Date : 10-OCT-2016 16:35
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1040.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	418170	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	419352	0.35382	170
3 Naphthalene	128	4.957	4.957	(1.002)	455699	0.53863	259
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	205261	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	205769	0.34477	166
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	101138	0.17930	86.2
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	315799	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	315799	0.29714	143
22 Acenaphthylene	152	6.286	6.286	(1.002)	21609	0.03133	15.1
* 23 Acenaphthene-d10	164	6.407	6.406	(1.000)	299244	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	26987	0.06464	31.1
* 26 Fluorene-d10	176	6.842	6.837	(1.000)	230675	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.842	6.837	(1.068)	230675	0.32450	156
27 Fluorene	166	6.865	6.861	(1.003)	45632	0.08541	41.1
* 41 Phenanthrene-d10	188	7.664	7.660	(1.000)	273717	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.664	7.660	(0.854)	273717	0.20662	99.3
43 Phenanthrene	178	7.682	7.679	(1.002)	430625	0.62771	302
* 44 Anthracene-d10	188	7.713	7.709	(1.000)	252345	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d
Report Date: 11-Oct-2016 13:39

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.713	7.709	(0.859)	252345	0.20723	99.6
	46 Anthracene	178	7.728	7.725	(1.002)	60843	0.09474	45.5
*	53 Fluoranthene-d10	212	8.754	8.750	(1.000)	316534	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.754	8.750	(0.975)	316542	0.24756	119
	55 Fluoranthene	202	8.773	8.769	(1.002)	239264	0.29651	143
*	56 Pyrene-d10	212	8.976	8.972	(1.000)	575748	0.50000	0.500
	57 Pyrene	202	8.995	8.991	(1.028)	162143	0.19534	93.9
	62 Benzo(a)anthracene	228	10.211	10.210	(0.999)	97221	0.18732	90.1
*	63 Chrysene-d12	240	10.220	10.219	(1.000)	292409	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.220	10.219	(1.139)	291813	0.21512	103
	65 Chrysene	228	10.247	10.246	(1.003)	179854	0.29164	140(M)
*	70 Benzo(b)fluoranthene-d12	264	11.359	11.355	(1.000)	299995	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.359	11.355	(0.972)	299995	0.30292	146
	72 Benzo(b)fluoranthene	252	11.389	11.385	(1.003)	134088	0.15470	74.4(M)
*	73 Benzo(k)fluoranthene-d12	264	11.395	11.391	(1.000)	307631	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.395	11.391	(0.975)	307631	0.25121	121
	75 Benzo(k)fluoranthene	252	11.413	11.415	(1.002)	35450	0.04895	23.5(M)
*	76 Benzo(e)pyrene-d12	264	11.688	11.684	(1.000)	471846	0.50000	0.500
	77 Benzo(e)pyrene	252	11.718	11.714	(0.997)	77070	0.11183	53.8
*	78 Benzo(a)pyrene-d12	264	11.754	11.750	(1.000)	224486	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.754	11.750	(1.006)	224483	0.26827	129
	80 Benzo(a)pyrene	252	11.784	11.780	(1.003)	44103	0.07370	35.4
*	81 Perylene-d12	264	11.855	11.845	(1.000)	222734	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.855	11.845	(1.014)	222734	0.23222	112
	83 Perylene	252	11.885	11.881	(1.003)	13467	0.02558	12.3
*	84 Indeno(123-cd)pyrene-d12	288	13.254	13.249	(1.000)	247468	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.254	13.249	(1.134)	248698	0.25007	120
	86 Indeno(1,2,3-cd)pyrene	276	13.295	13.283	(1.003)	31796	0.04775	23.0
*	87 Dibenz(ah)anthracene-d14	292	13.254	13.249	(1.000)	163290	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.254	13.249	(1.134)	163290	0.20538	98.7
	89 Dibenz(a,h)anthracene	278	13.295	13.290	(1.003)	15909	0.03466	16.7(M)
*	90 Benzo(ghi)perylene-d12	288	13.601	13.589	(1.000)	179564	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.601	13.589	(1.164)	179564	0.18294	87.9
	92 Benzo(g,h,i)perylene	276	13.635	13.623	(1.002)	32694	0.07236	34.8

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d
Report Date: 11-Oct-2016 13:39

TestAmerica Knoxville

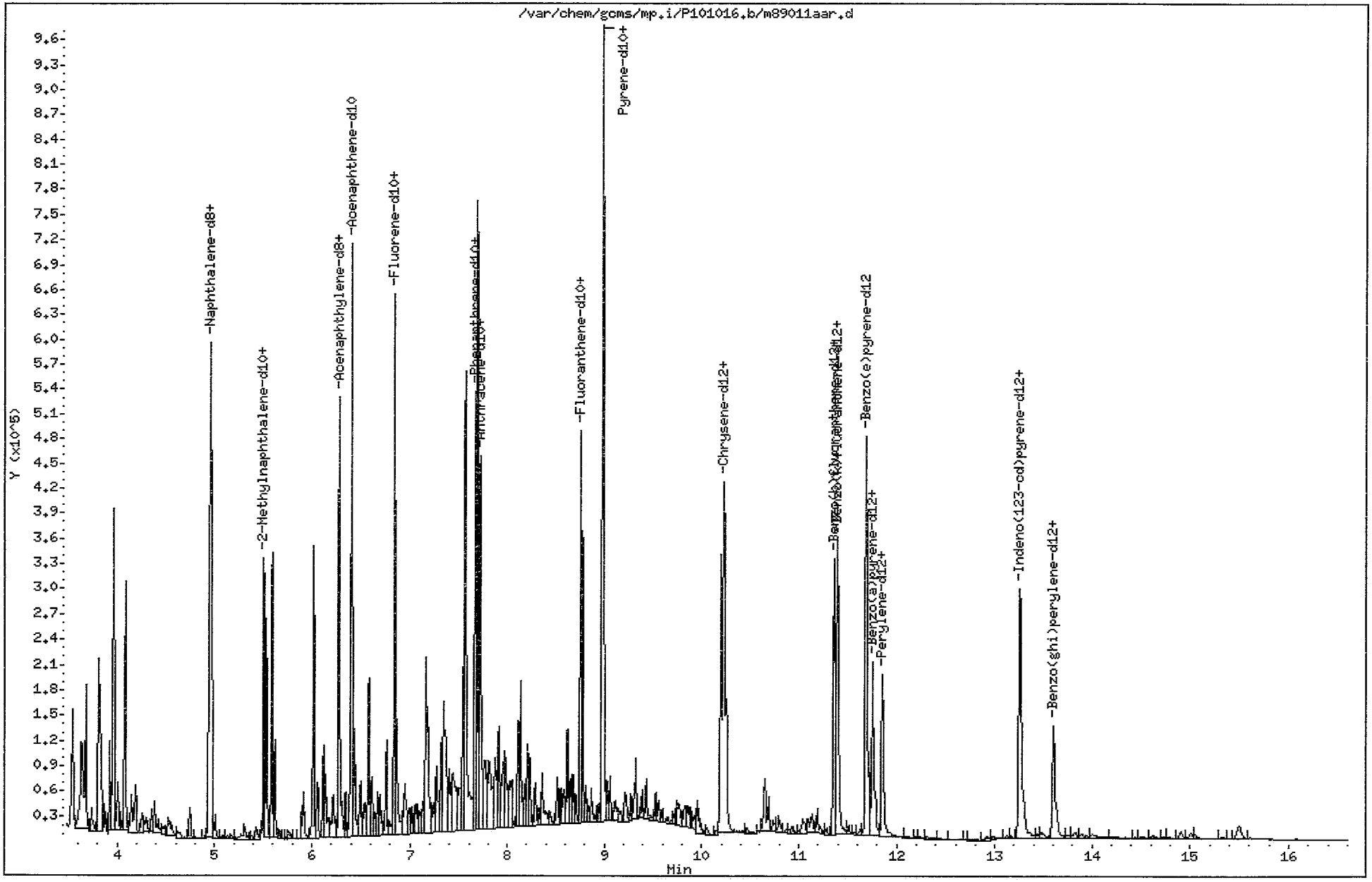
RECOVERY REPORT

Client Name: ITSBUR
Client SDG: P101016
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: M89011AA
Level: LOW
Operator: 011211
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: icv.spk
Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	240	170	70.76	20-130
$ 222 13C6-Naphthalene	481	0.00	*	50-150
$ 11 2-Methylnaphthalen	240	166	68.95	30-120
$ 21 Acenaphthylene-d8(	240	143	59.43	30-120
$ 233 Fluorene-d10(SS)	240	156	64.90	30-120
$ 42 Phenanthrene-d10(S	240	99.3	41.32	30-120
$ 45 Anthracene-d10(SS)	240	99.6	41.45	30-120
$ 54 Fluoranthene-d10(S	240	119	49.51	30-120
$ 64 Chrysene-d12(SS)	240	103	43.02	30-120
$ 71 Benzo(b)fluoranthe	240	146	60.58	30-120
$ 74 Benzo(k)fluoranthe	240	121	50.24	30-120
$ 79 Benzo(a)pyrene-d12	240	129	53.65	30-120
$ 82 Perylene-d12(SS)	240	112	46.44	30-120
$ 85 Indeno(123-cd)pyre	240	120	50.01	30-120
$ 88 Dibenz(ah)anthrace	240	98.7	41.08	30-120
$ 91 Benzo(ghi)perylene	240	87.9	36.59	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d
Date : 10-OCT-2016 16:35
Client ID:
Sample Info: ,,0,,TRT
Purge Volume: 1040.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

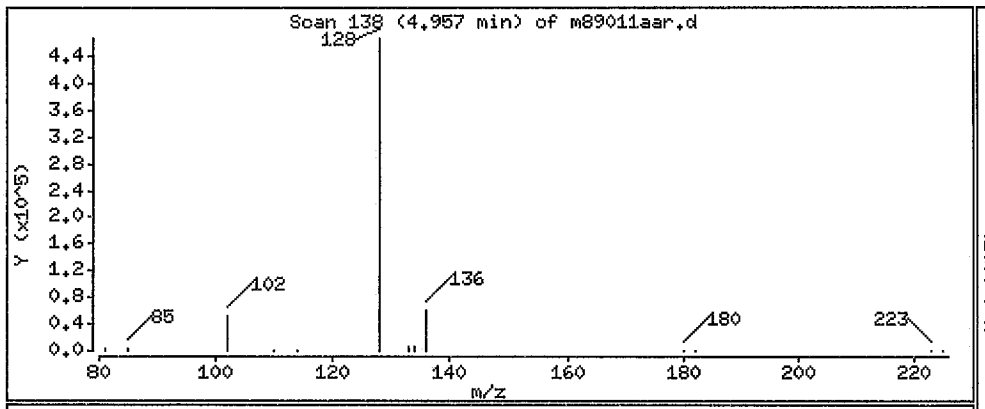
Client ID: | Instrument: mp.i

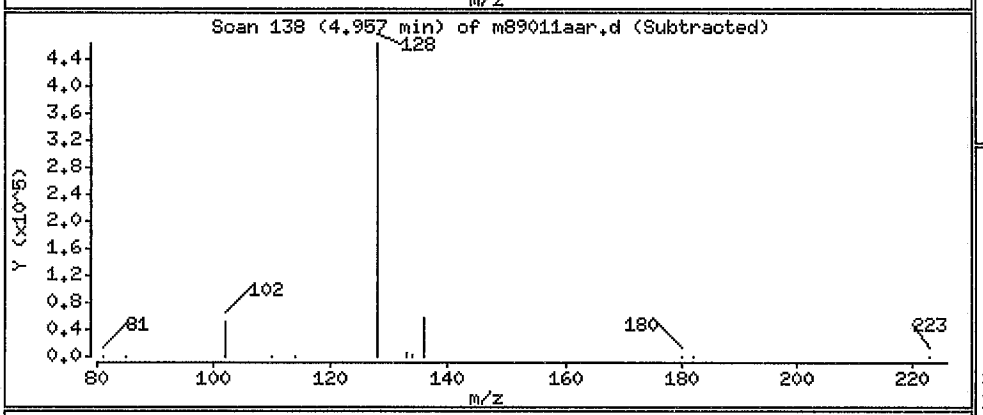
Sample Info: ,,0,,TRT

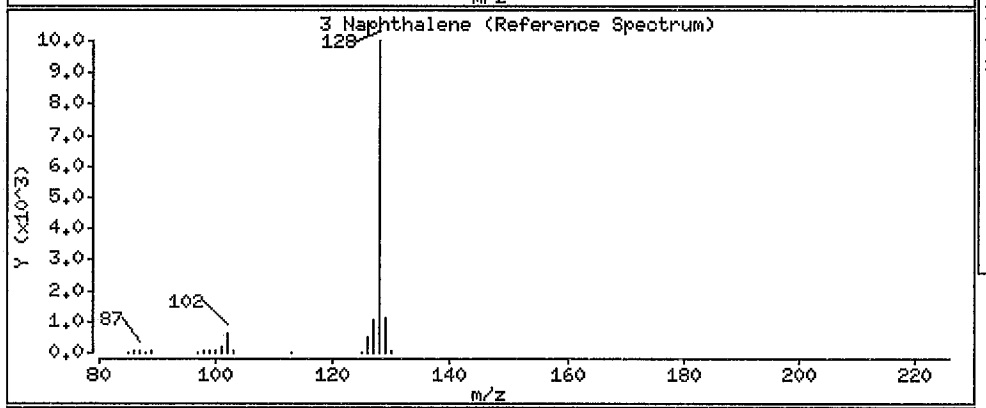
Purge Volume: 1040.0 | Operator: 011211

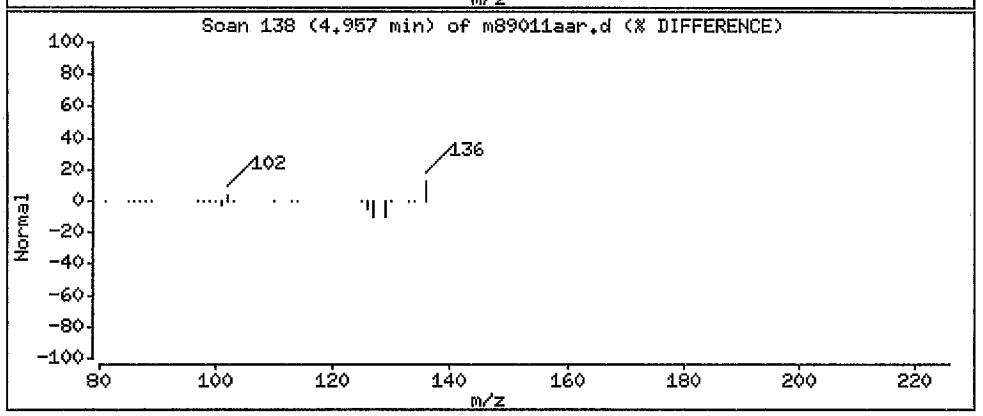
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

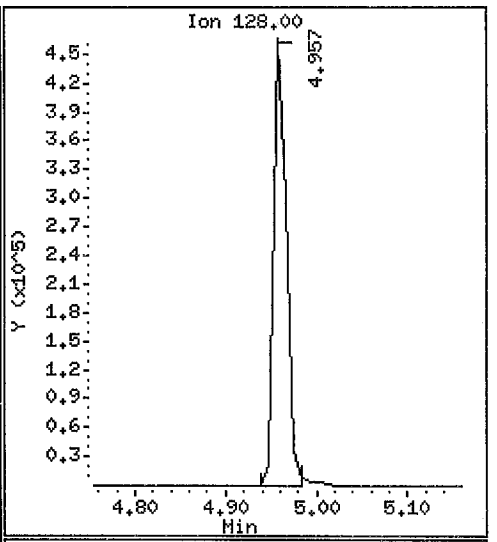
3 Naphthalene | Concentration: 259 ng/L

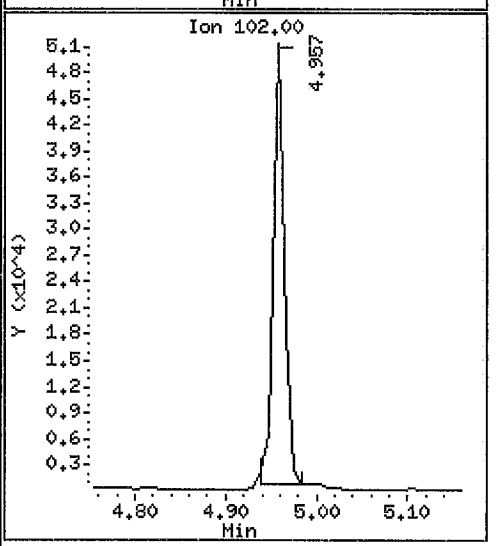












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

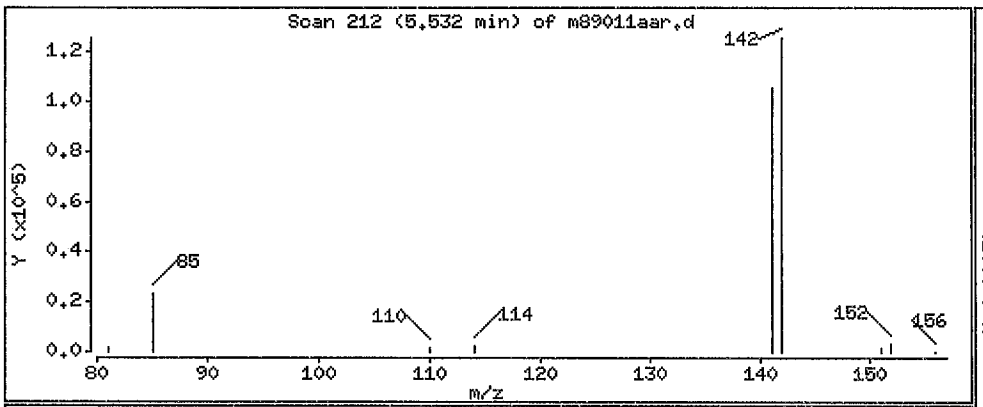
Client ID: | Instrument: mp.i

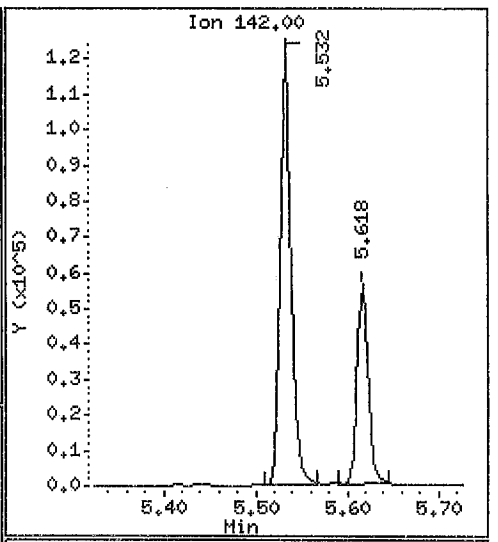
Sample Info: ,,0,,TRT

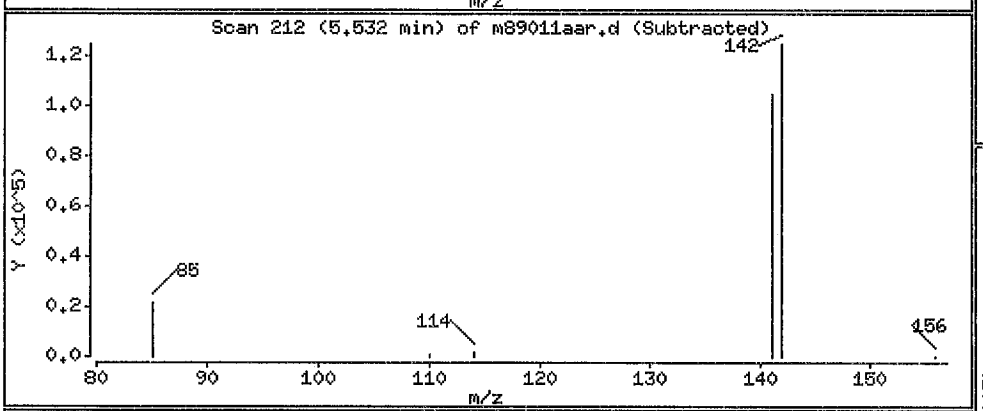
Purge Volume: 1040.0 | Operator: 011211

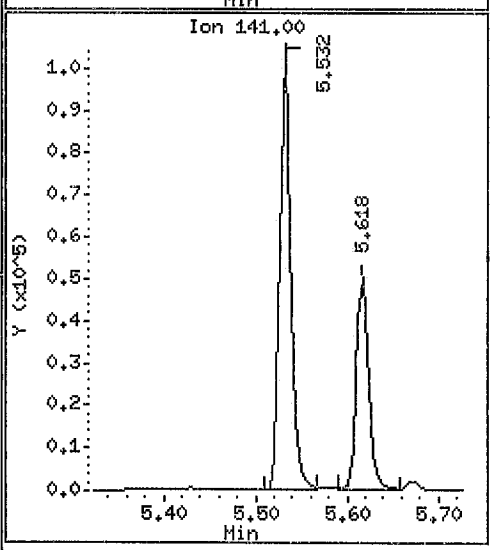
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

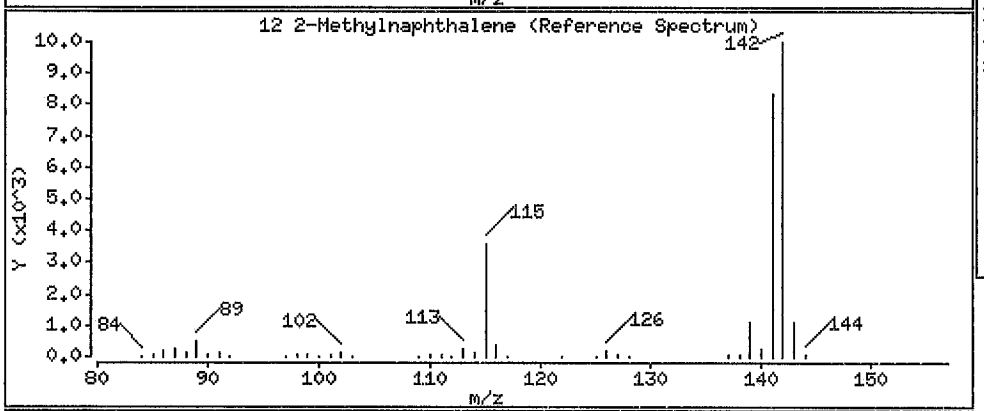
12 2-Methylnaphthalene | Concentration: 86.2 ng/L

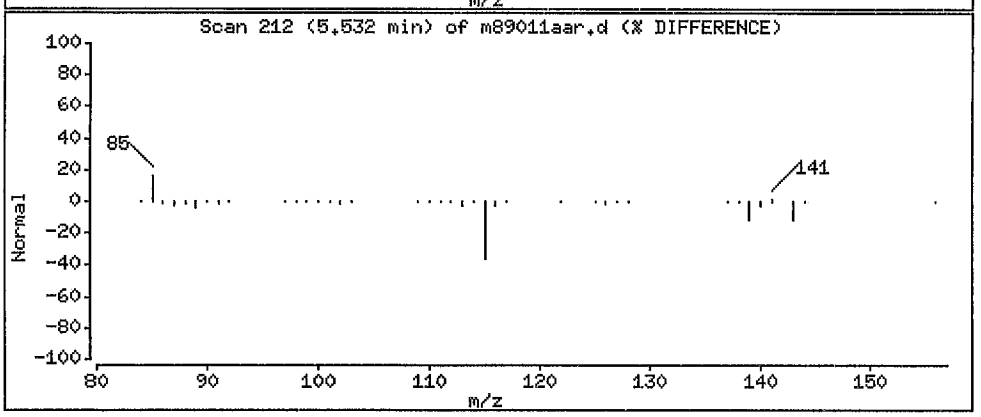












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

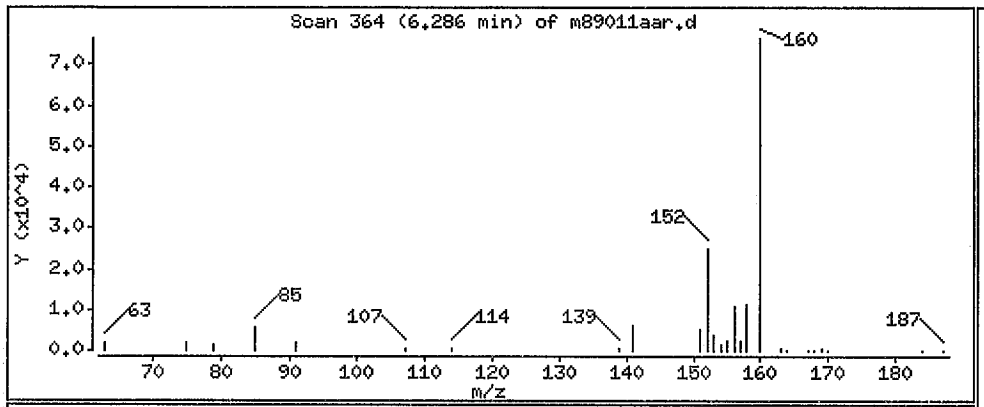
Operator: 011211

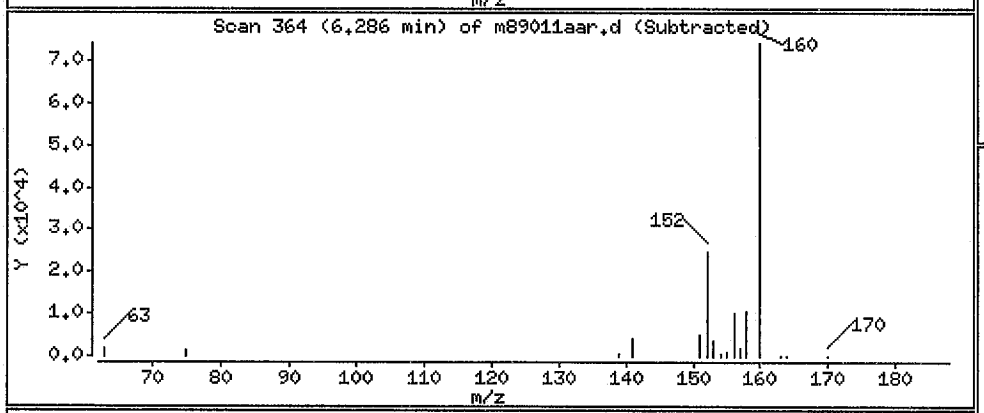
Column phase: Rxi-5SIL MS w/Guard

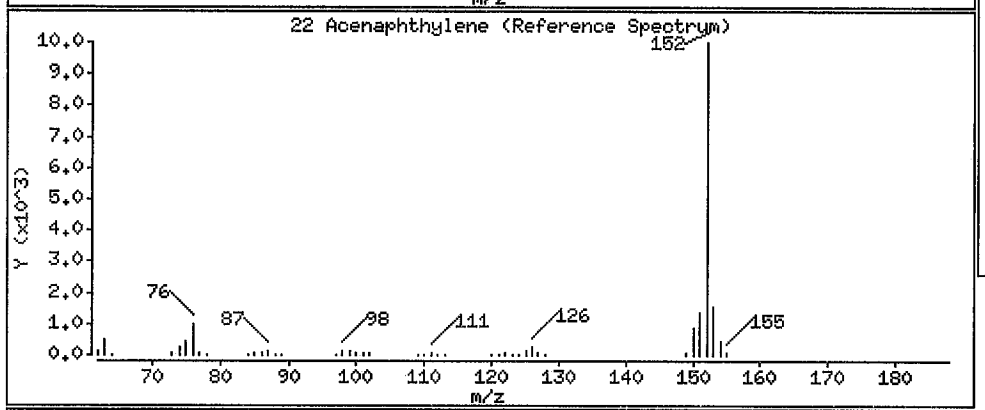
Column diameter: 0.25

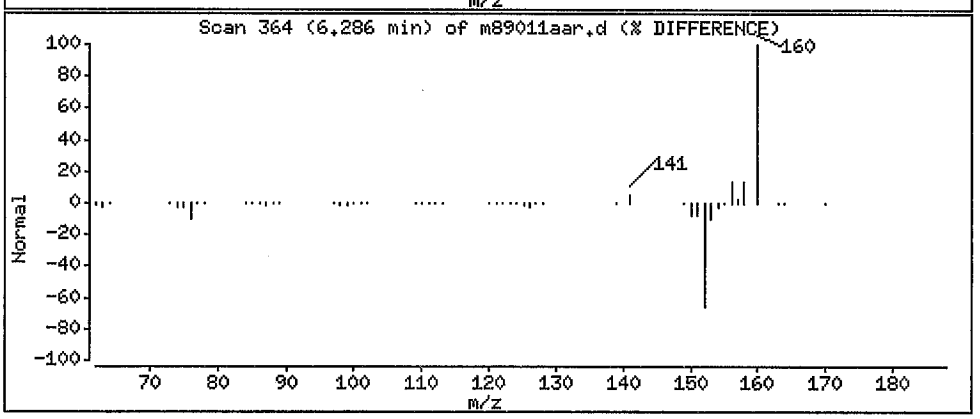
22 Acenaphthylene

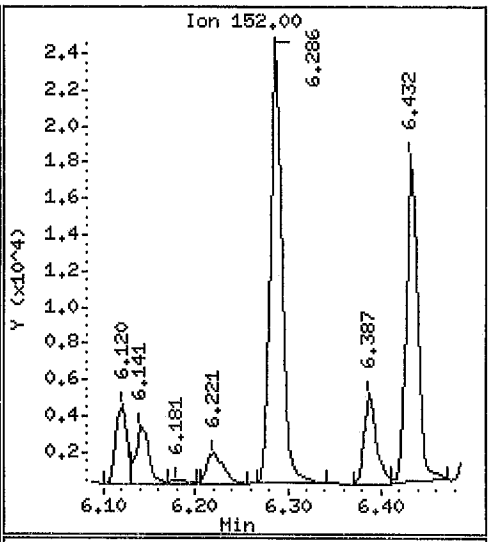
Concentration: 15.1 ng/L

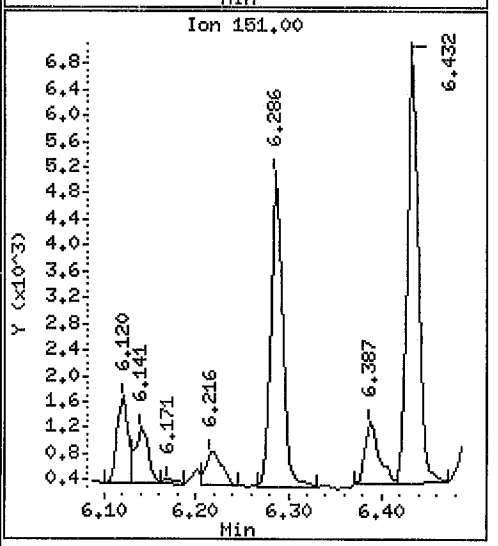












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

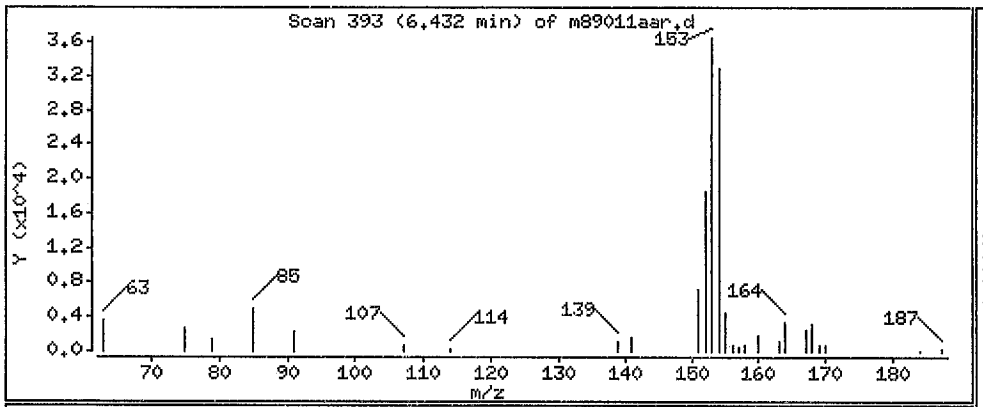
Operator: 011211

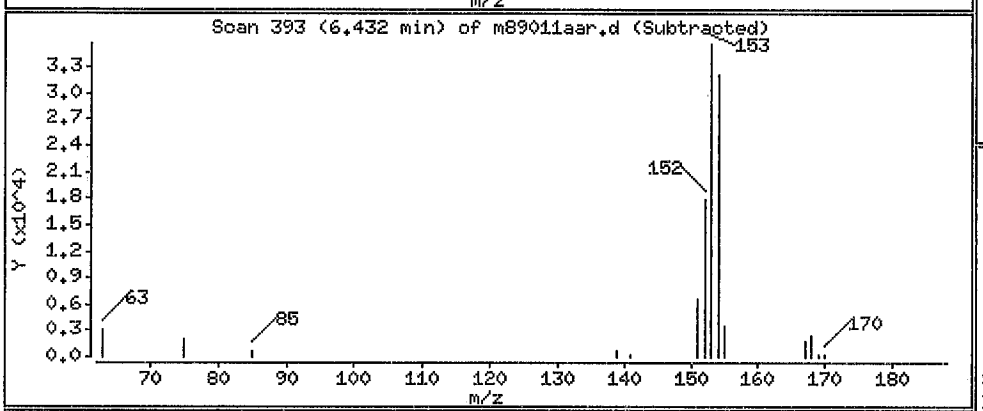
Column phase: Rxi-5SIL MS w/Guard

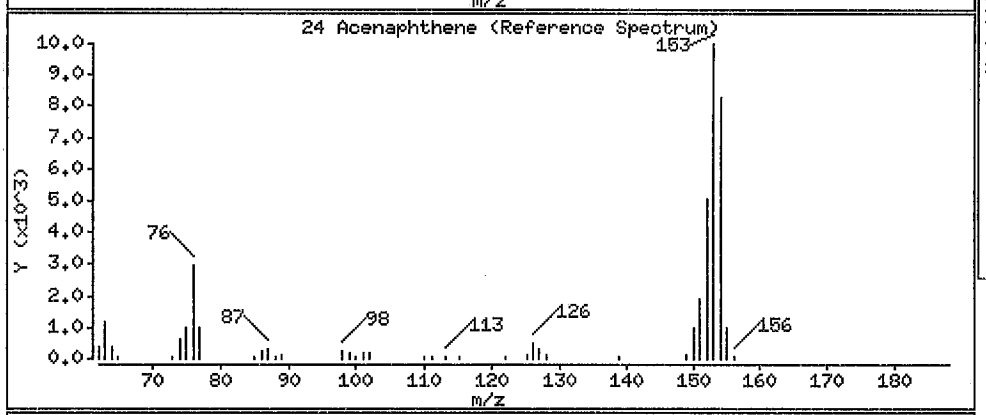
Column diameter: 0.25

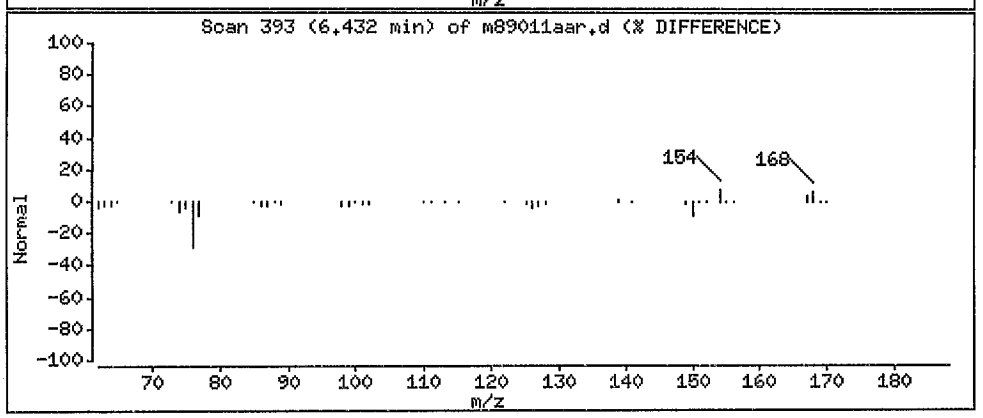
24 Acenaphthene

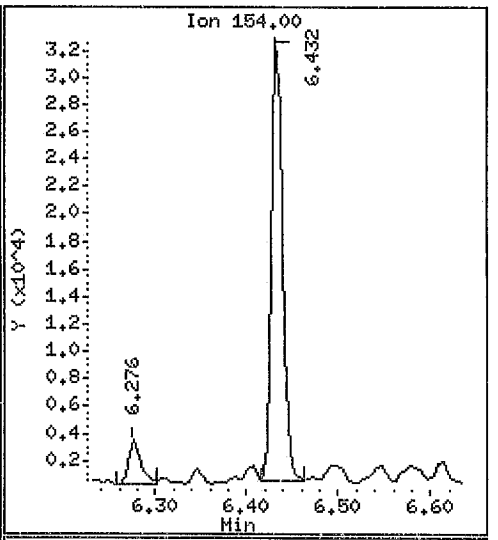
Concentration: 31.1 ng/L

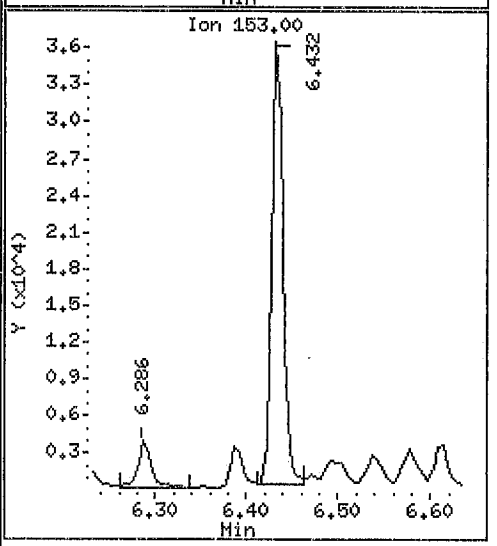












Data File: /var/chem/goms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

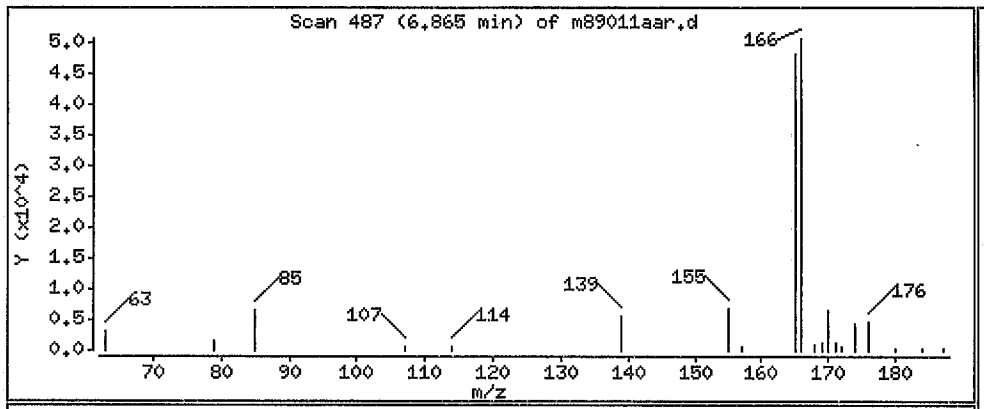
Client ID: | Instrument: mp.i

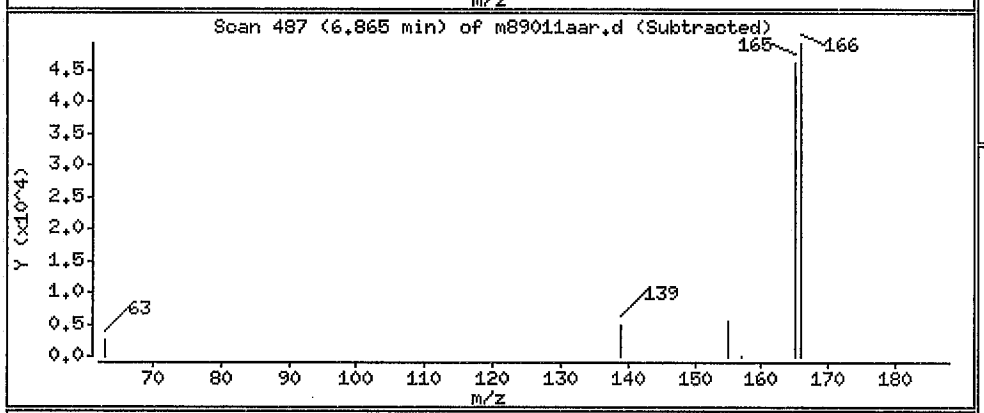
Sample Info: ,,0,,TRT

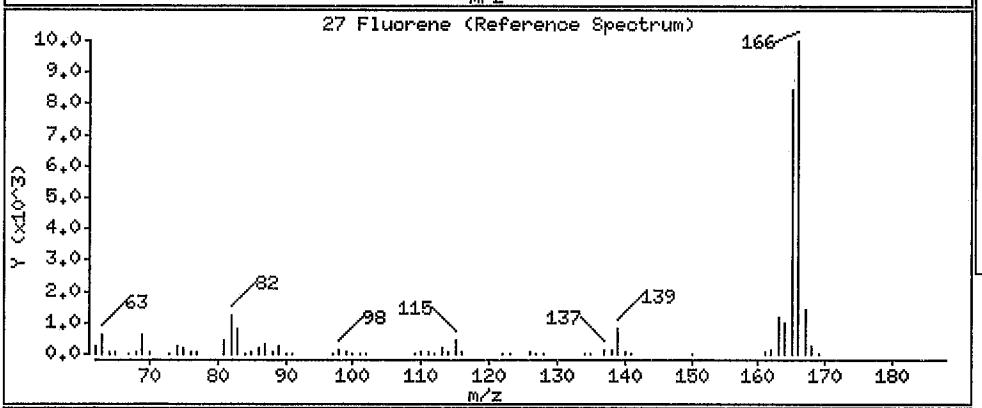
Purge Volume: 1040.0 | Operator: 011211

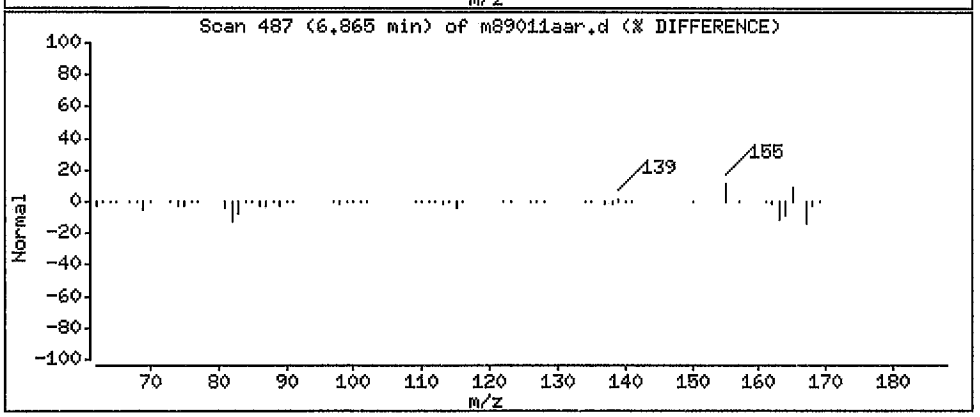
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

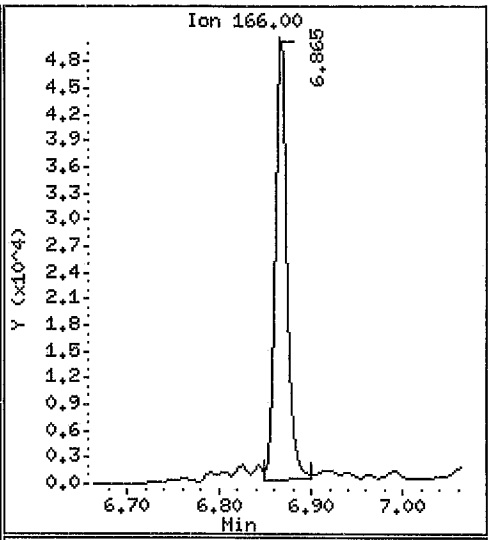
27 Fluorene | Concentration: 41.1 ng/L

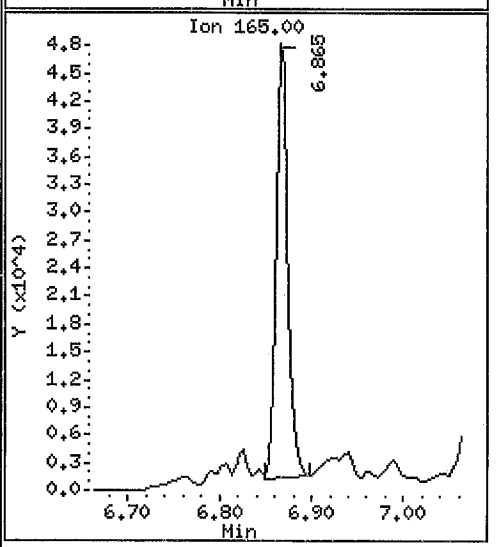












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Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

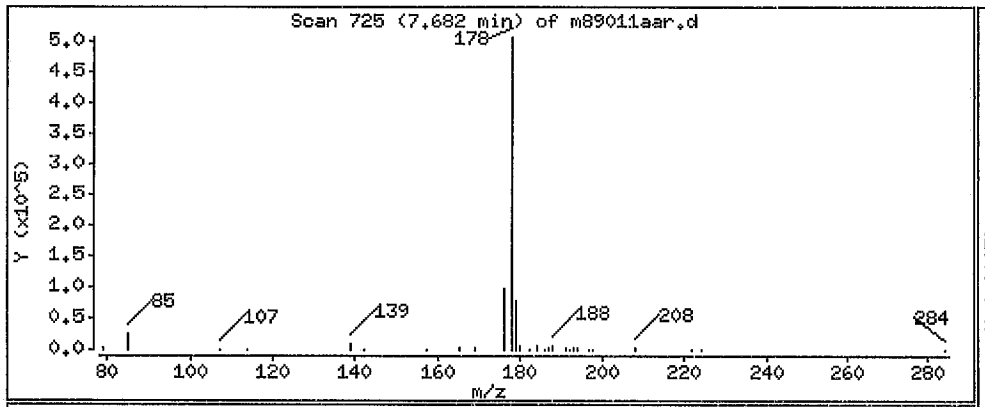
Operator: 011211

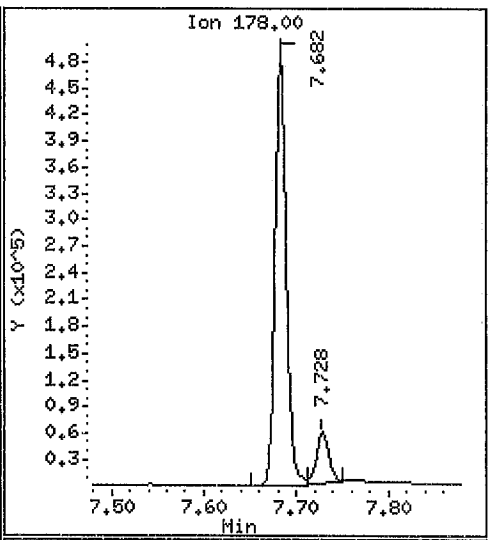
Column phase: Rxi-5SIL MS w/Guard

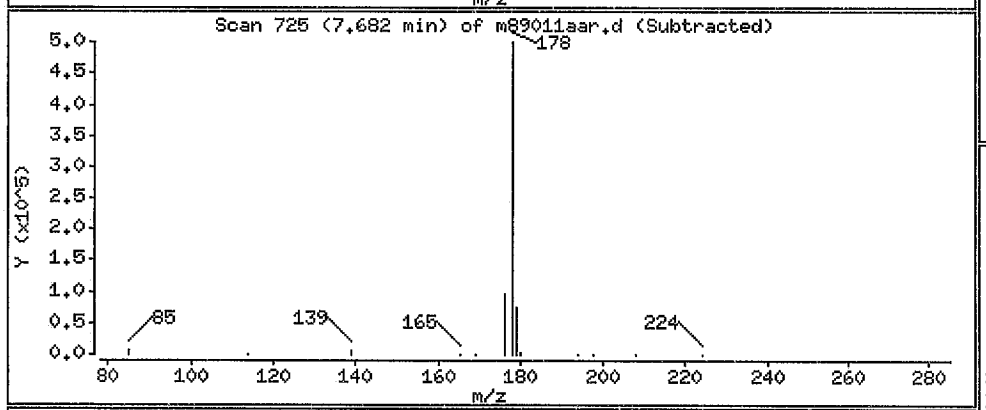
Column diameter: 0.25

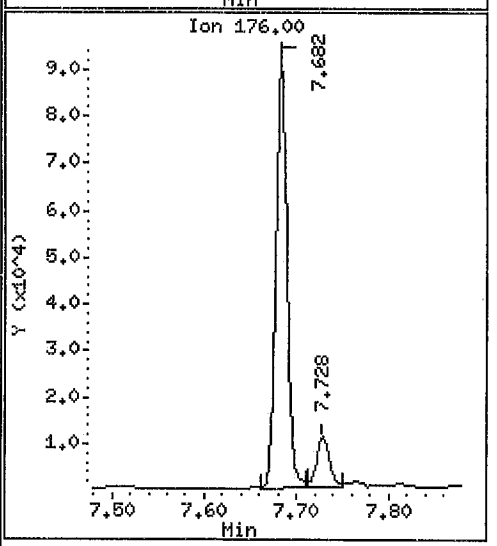
43 Phenanthrene

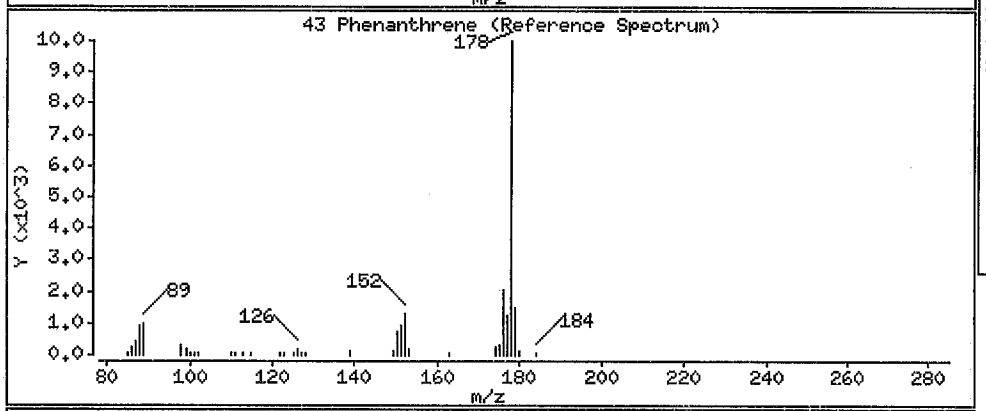
Concentration: 302 ng/L

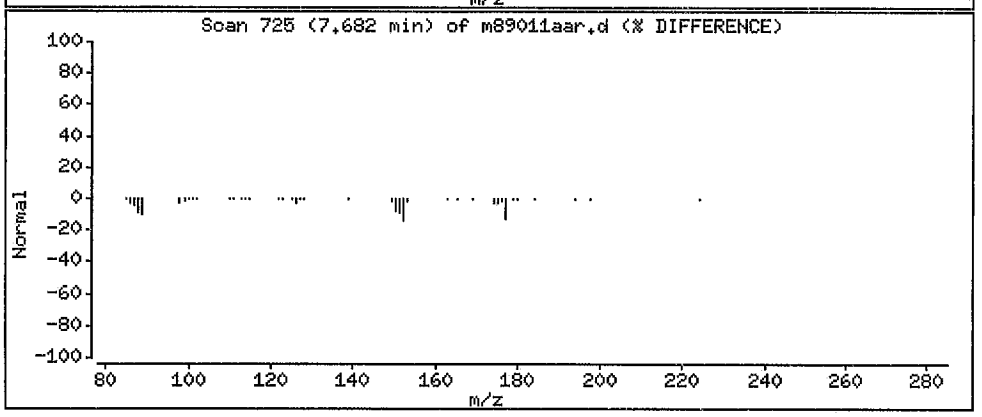












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Date : 10-OCT-2016 16:35

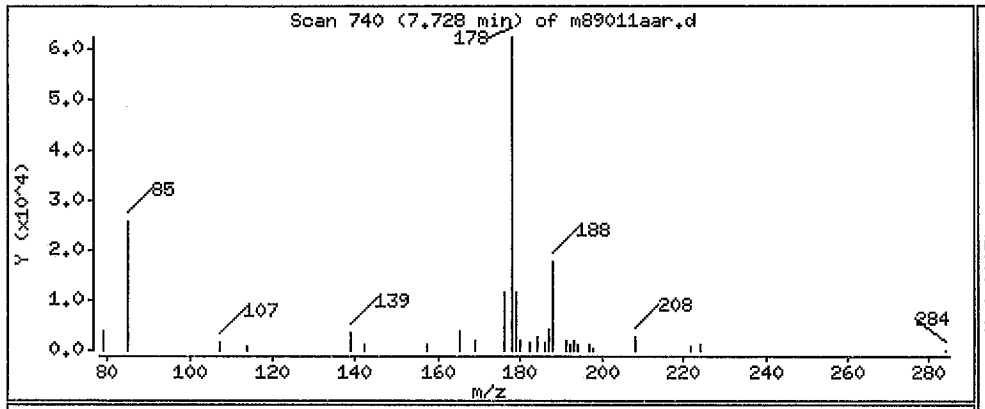
Client ID: | Instrument: mp.i

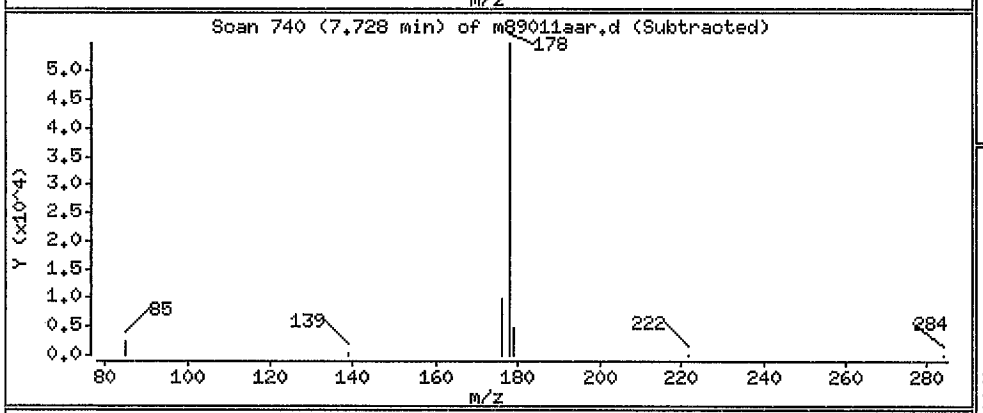
Sample Info: ,,0,,TRT

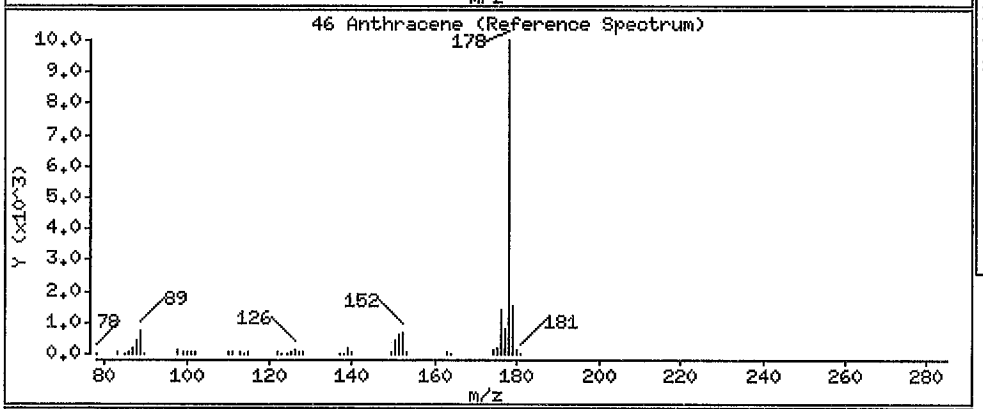
Purge Volume: 1040.0 | Operator: 011211

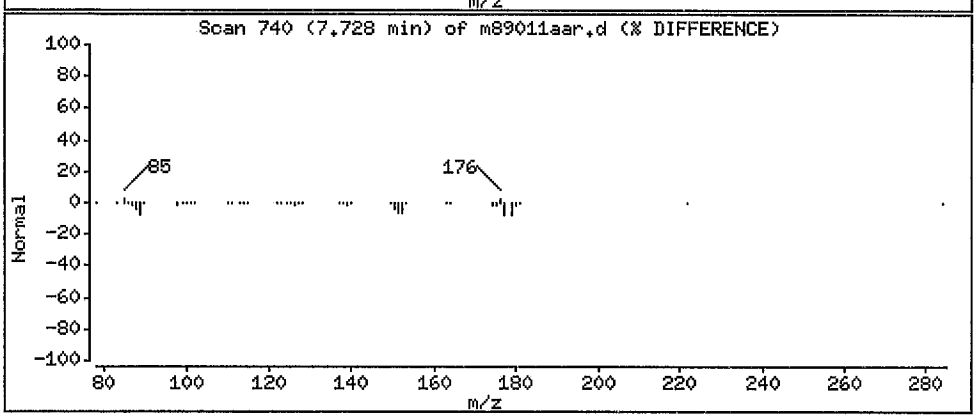
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

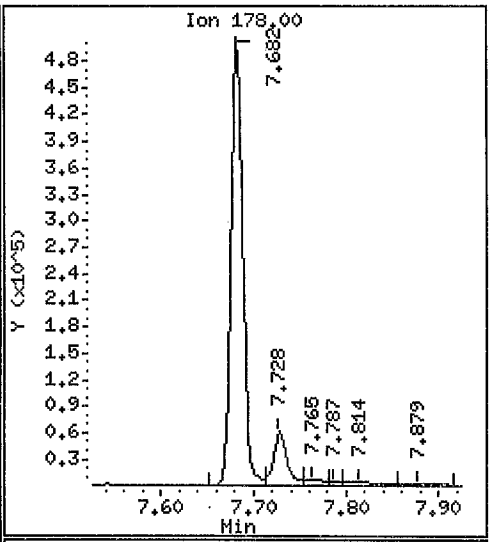
46 Anthracene | Concentration: 45.5 ng/L

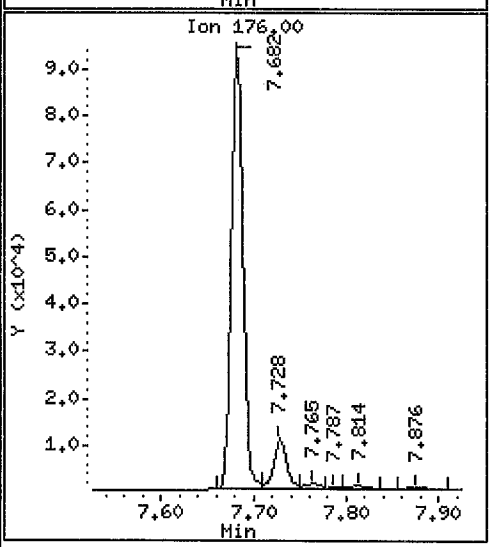












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

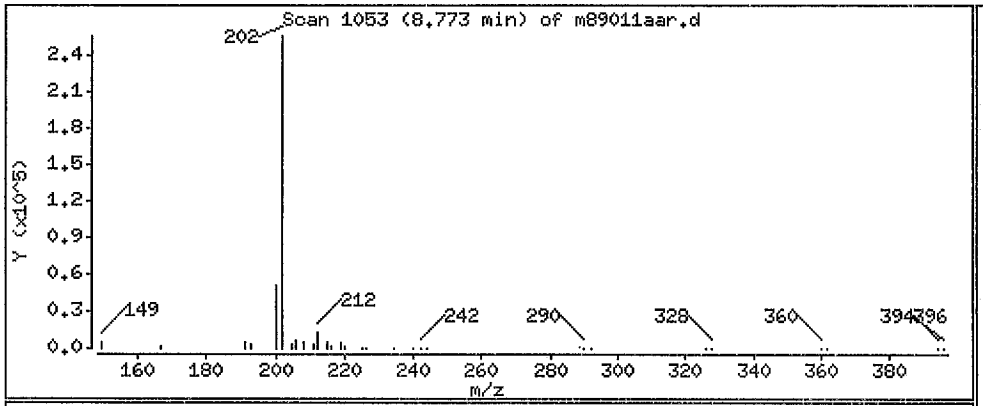
Client ID: | Instrument: mp.i

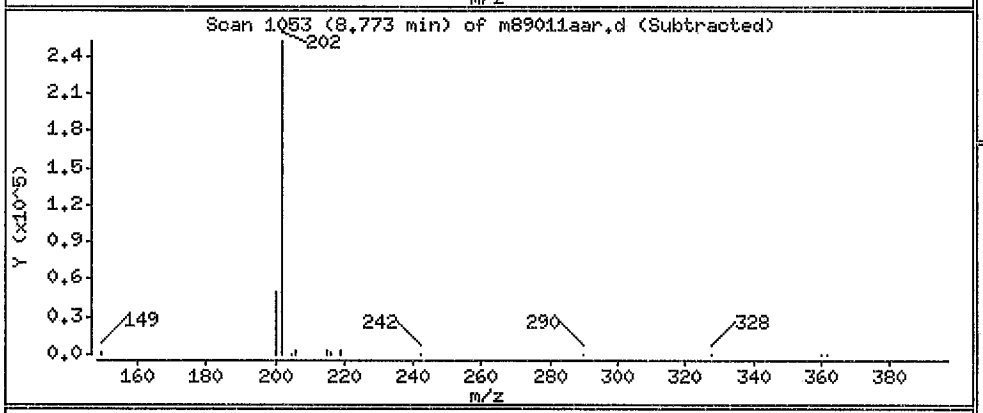
Sample Info: ,,0,,TRT

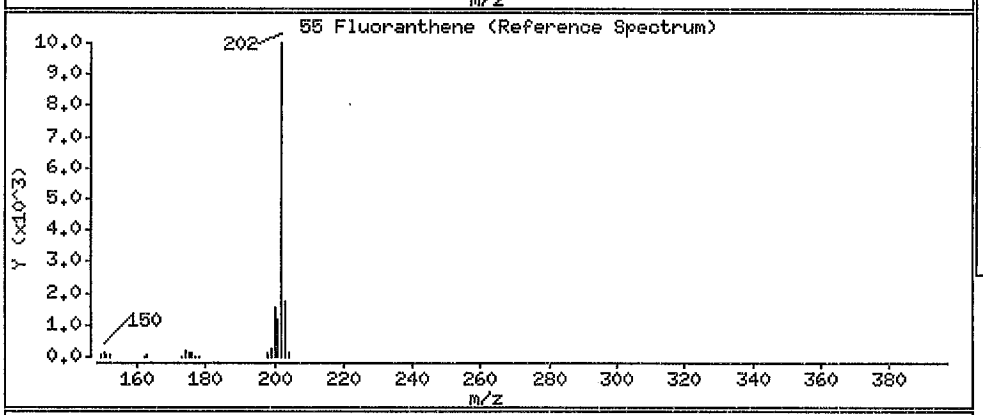
Purge Volume: 1040.0 | Operator: 011211

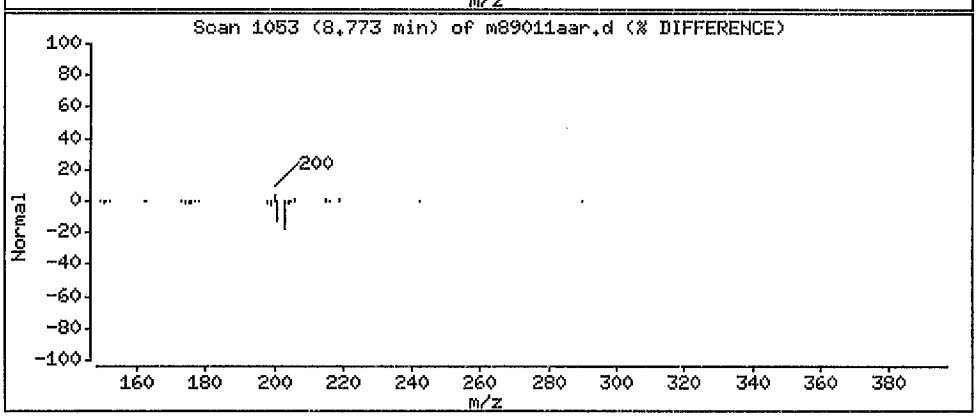
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

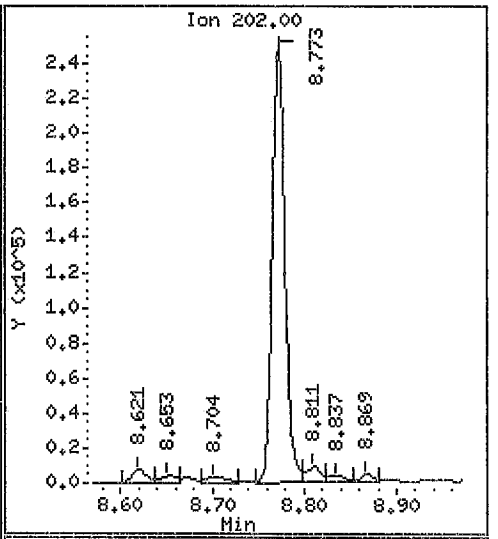
55 Fluoranthene | Concentration: 143 ng/L

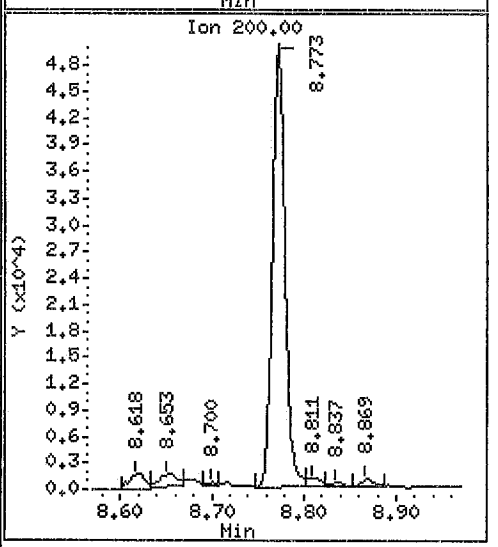












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Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

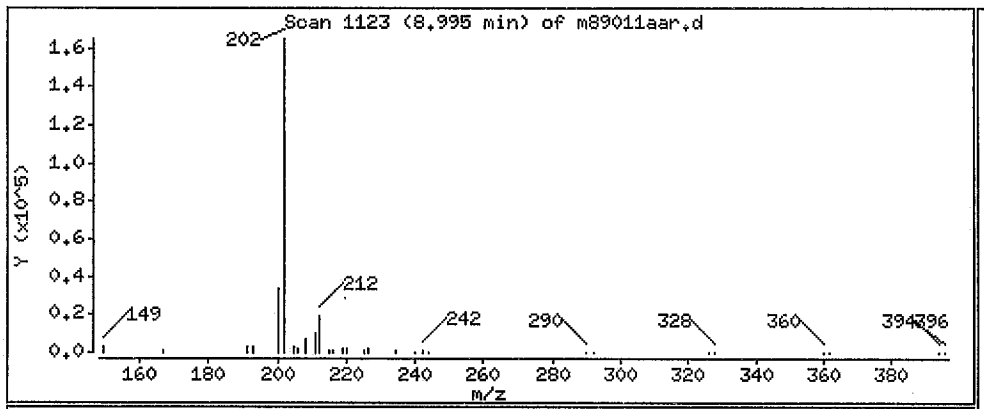
Operator: 011211

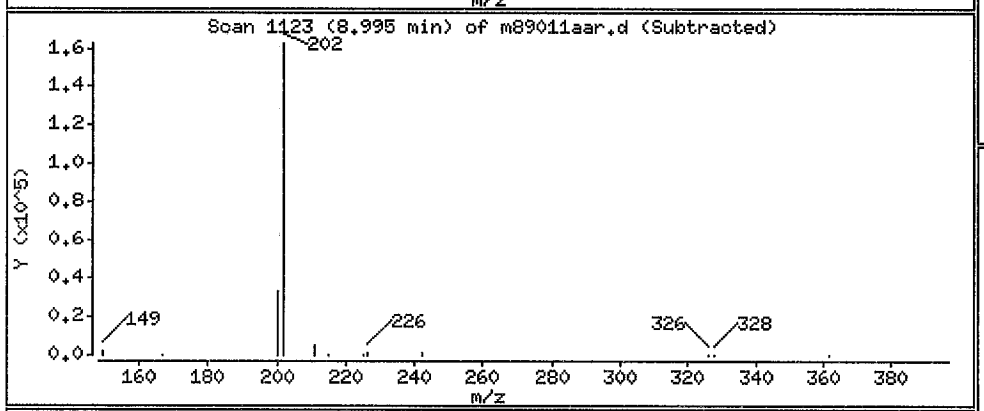
Column phase: Rxi-5SIL MS w/Guard

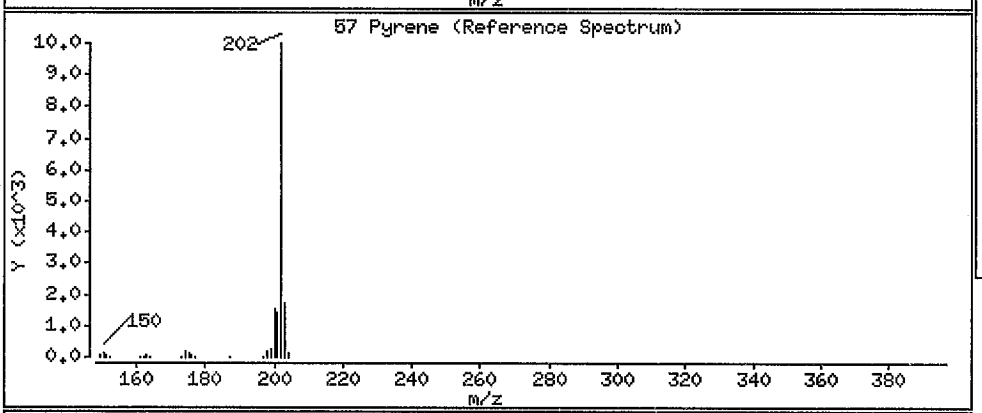
Column diameter: 0.25

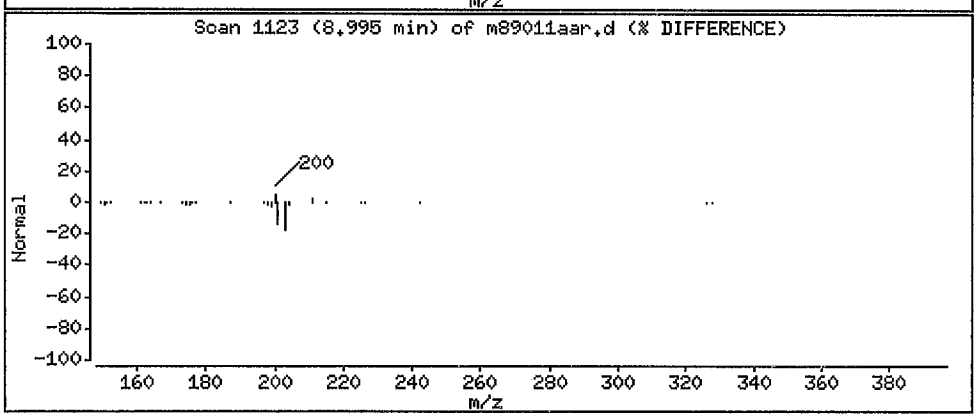
57 Pyrene

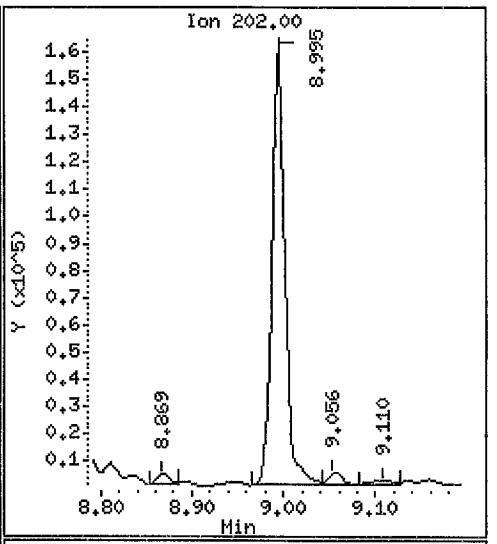
Concentration: 93.9 ng/L

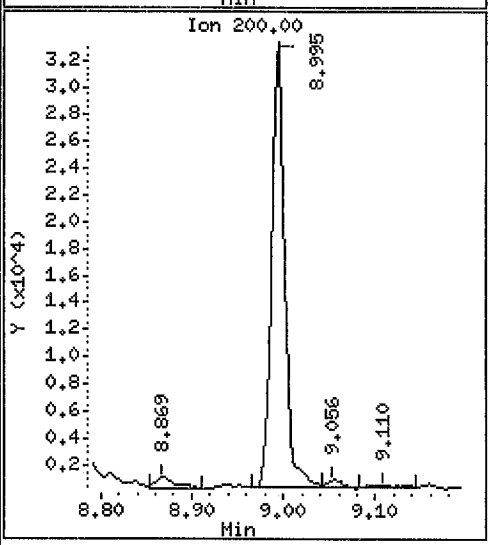












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Date : 10-OCT-2016 16:35

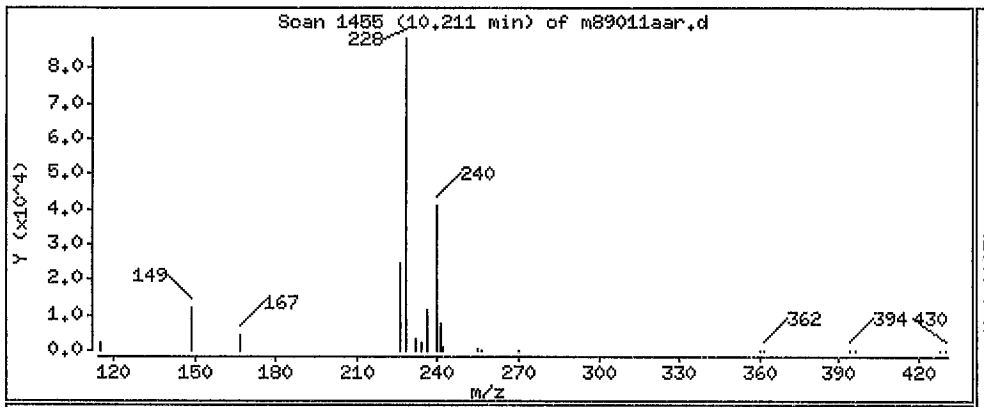
Client ID: | Instrument: mp.i

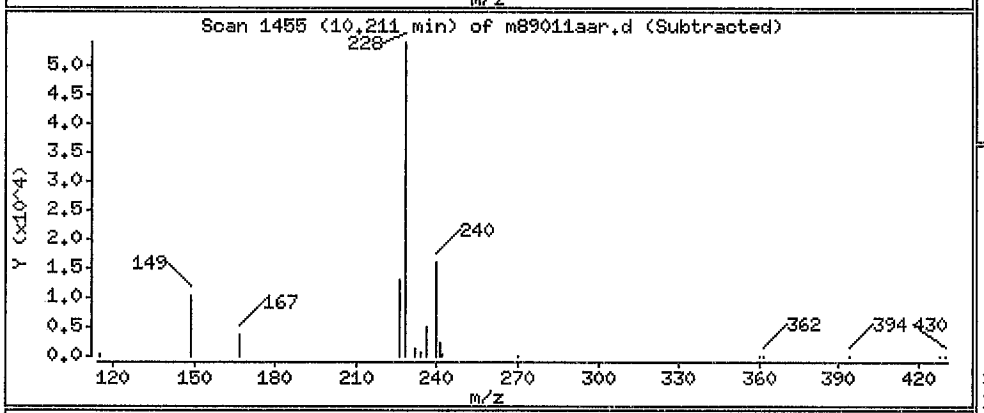
Sample Info: ,,0,,TRT

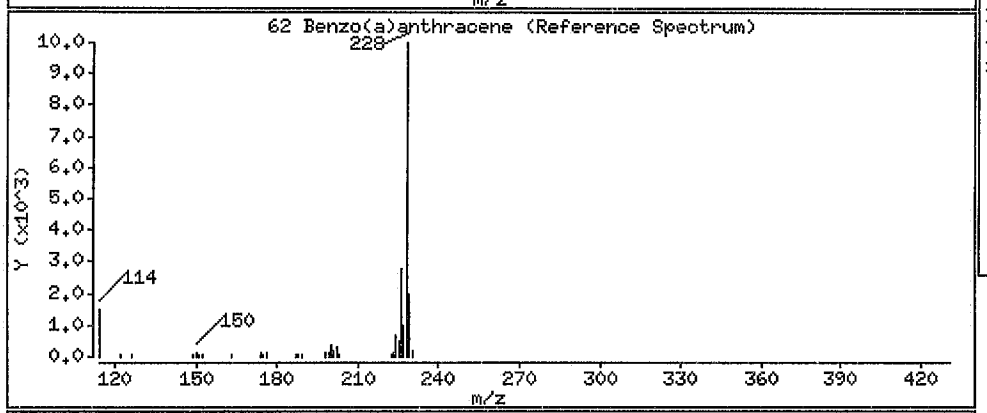
Purge Volume: 1040.0 | Operator: 011211

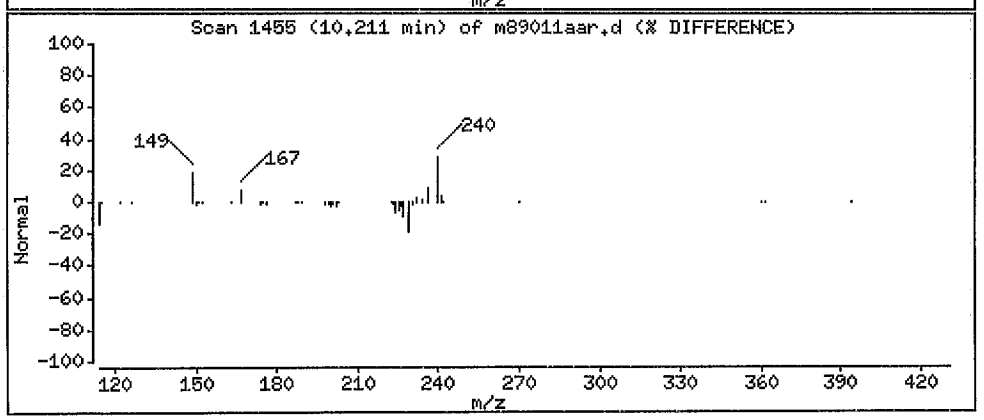
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

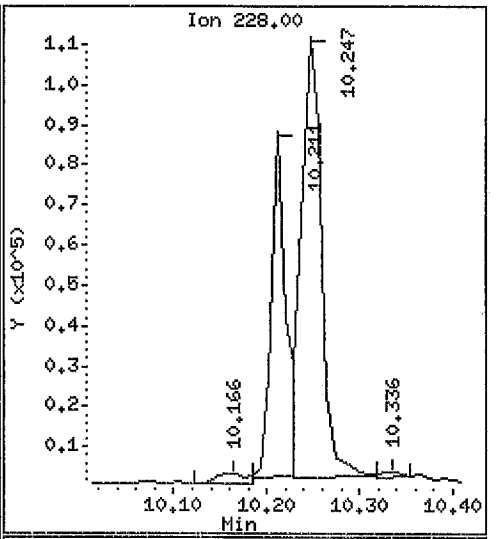
62 Benzo(a)anthracene | Concentration: 90.1 ng/L

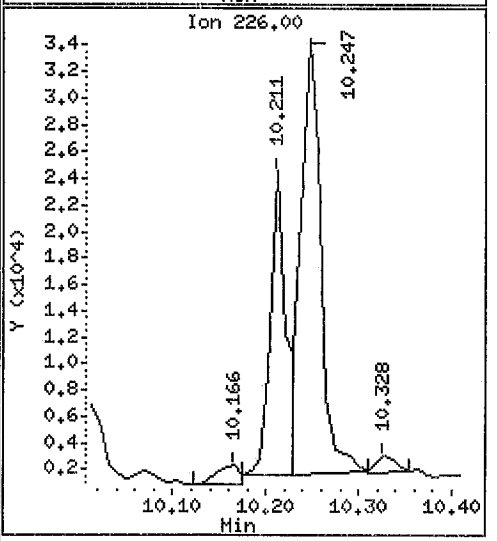












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

Operator: 011211

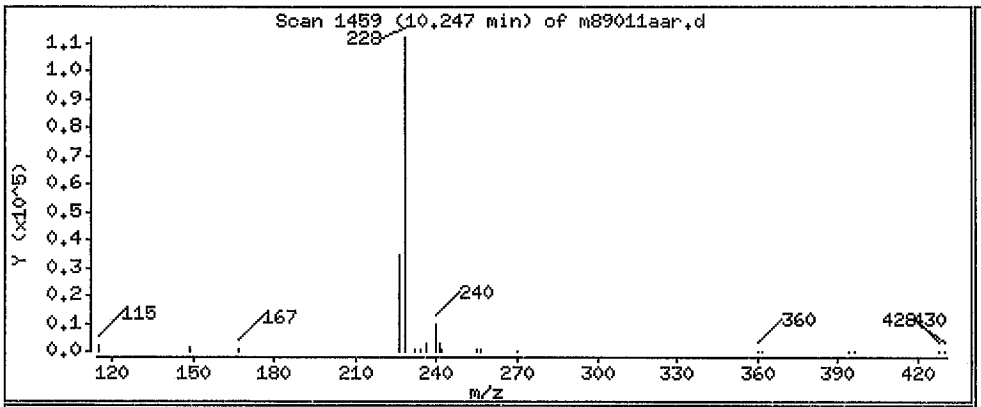
Column phase: Rxi-5SIL MS w/Guard

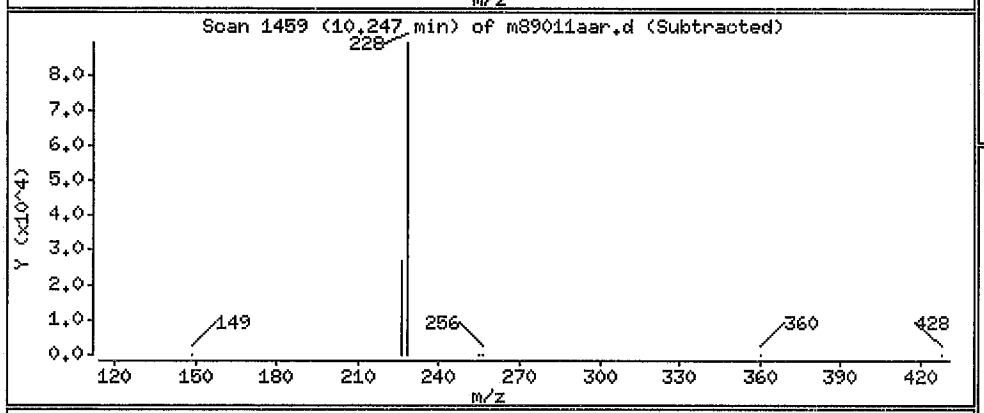
Column diameter: 0.25

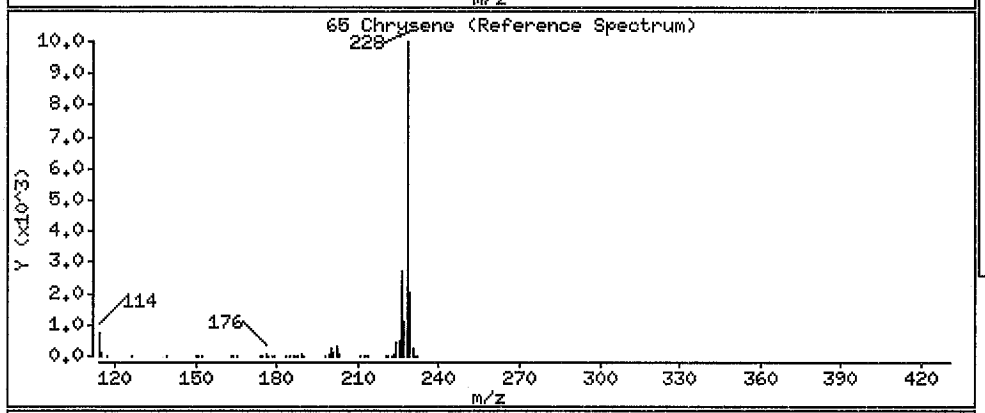
10/11/16

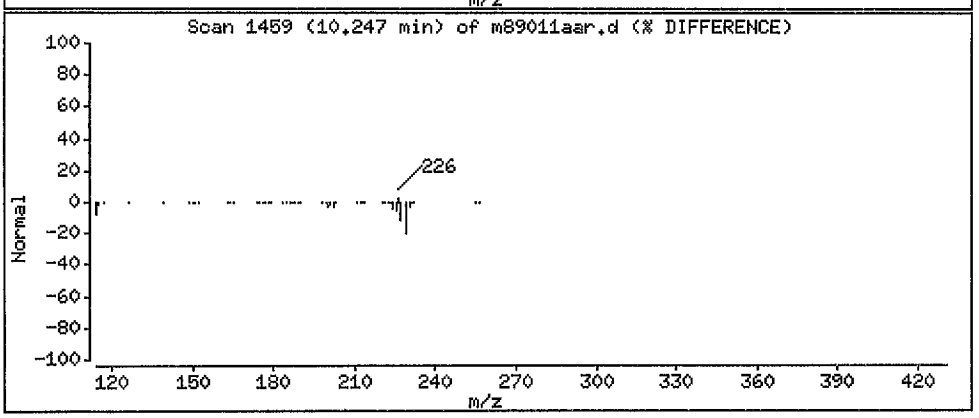
65 Chrysene

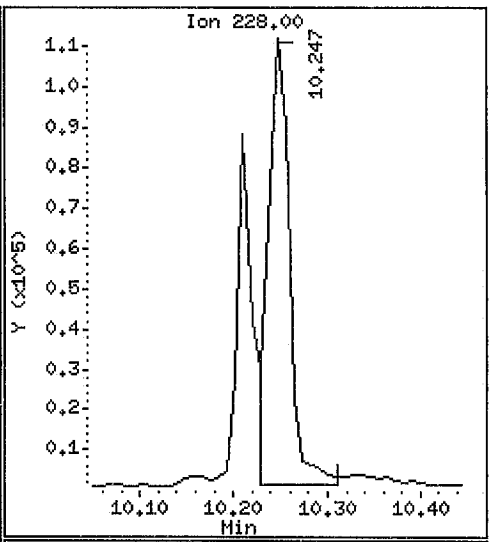
Concentration: 140 ng/L

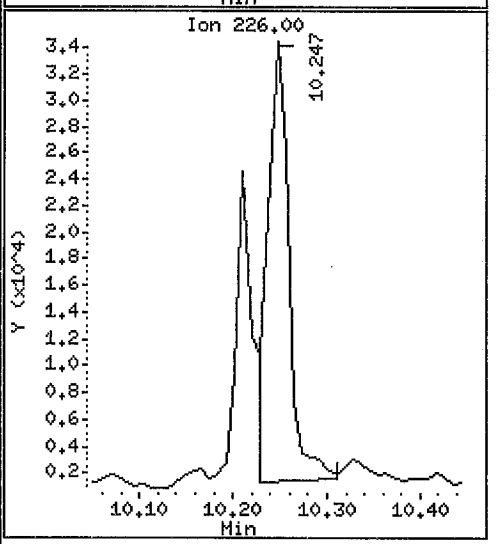












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

Operator: 011211

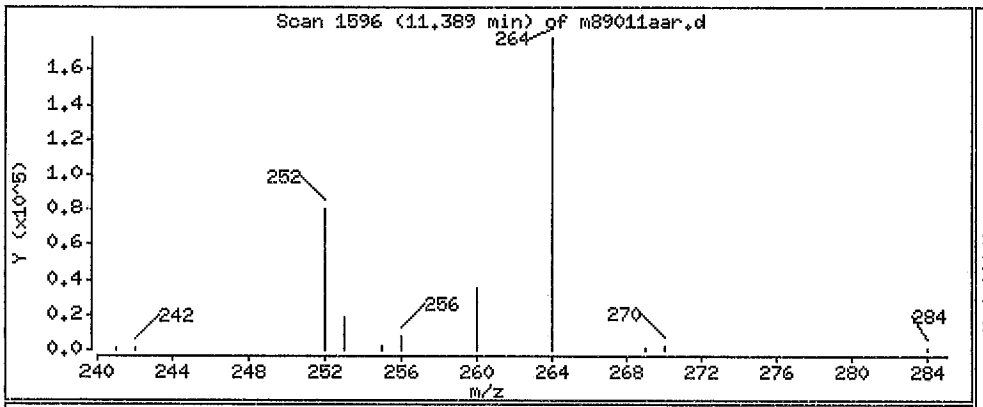
Column phase: Rxi-5SIL MS w/Guard

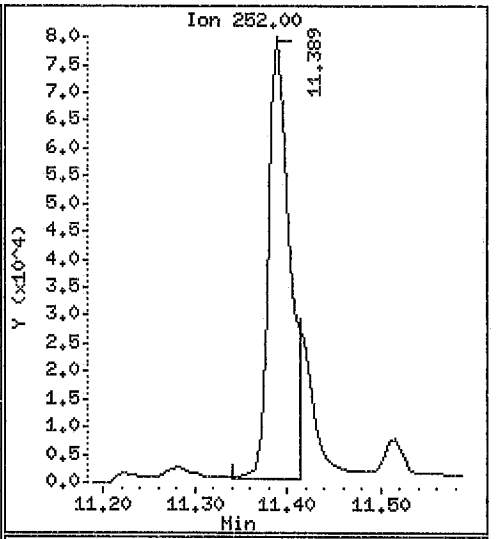
Column diameter: 0.25

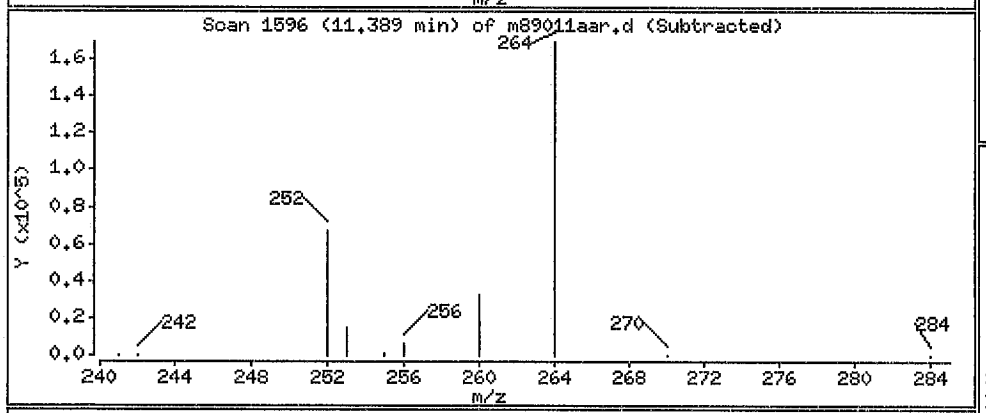
10/11/16

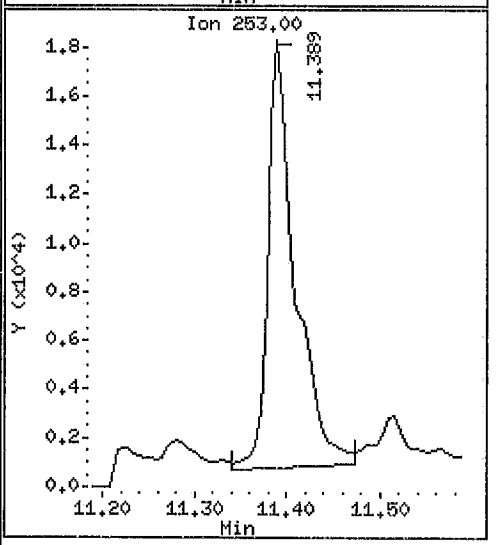
72 Benzo(b)fluoranthene

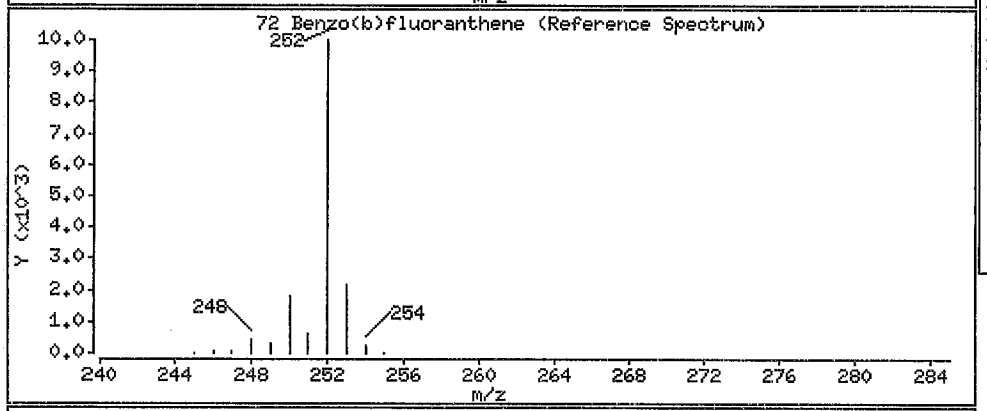
Concentration: 74.4 ng/L

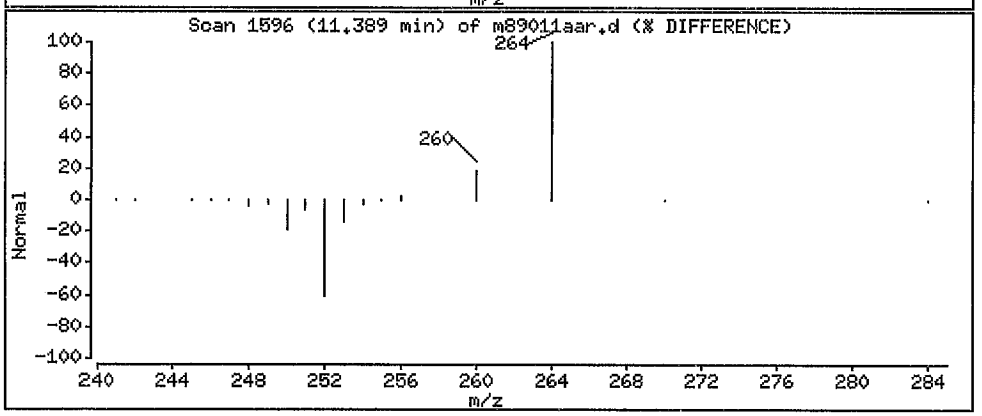












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

Operator: 011211

Column phase: Rxi-5SIL MS w/Guard

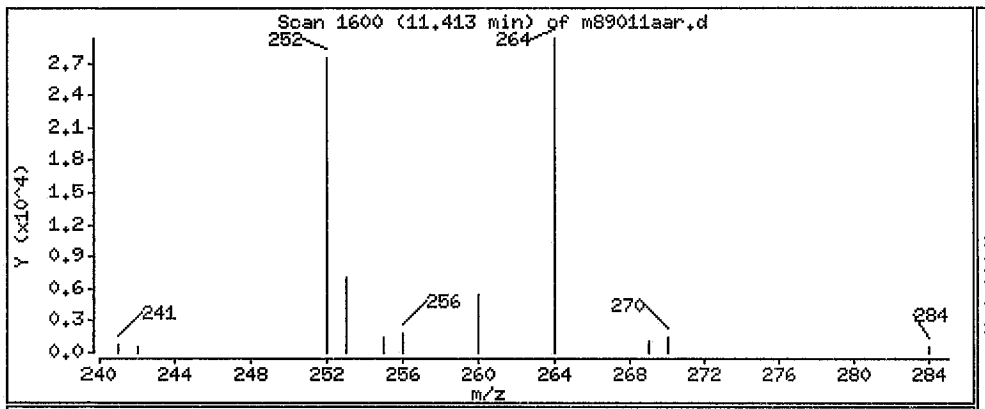
Column diameter: 0.25

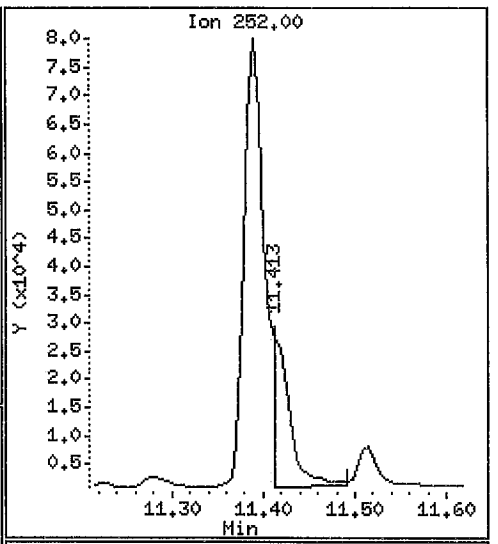
10/11/16

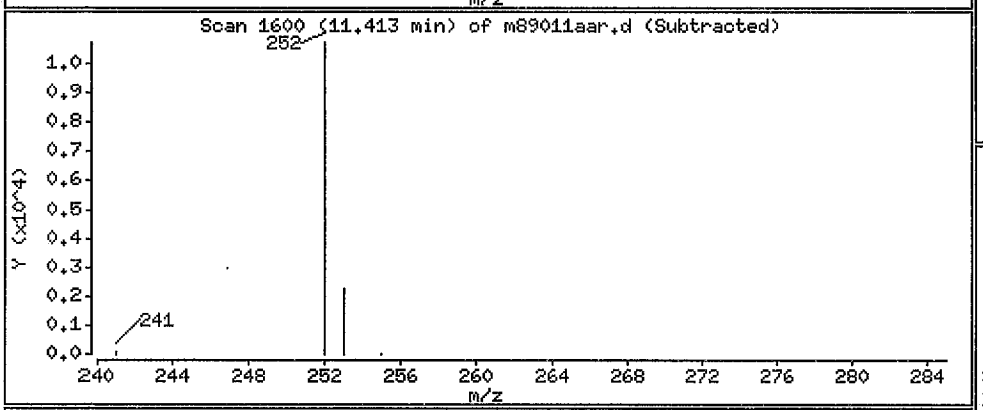
1

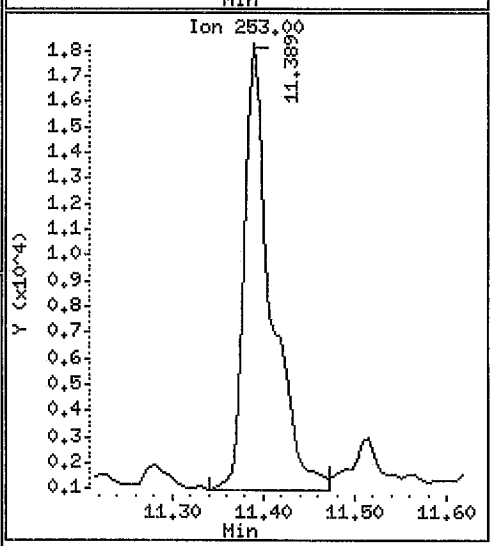
75 Benzo(k)fluoranthene

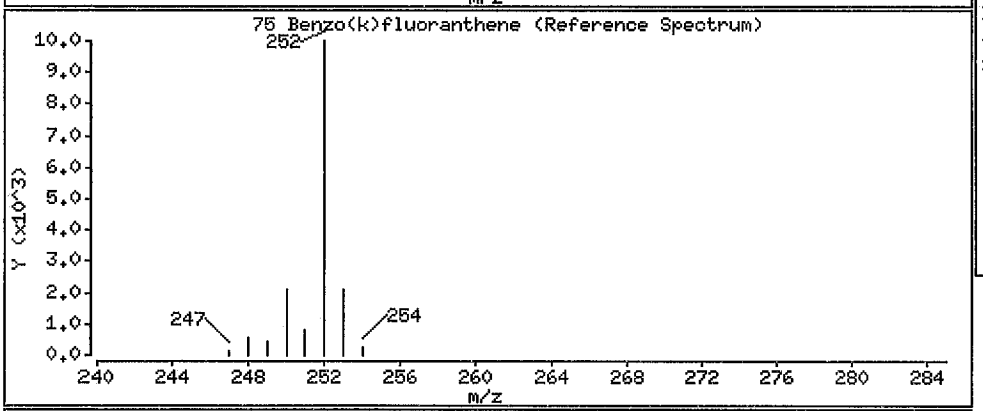
Concentration: 23.5 ng/L

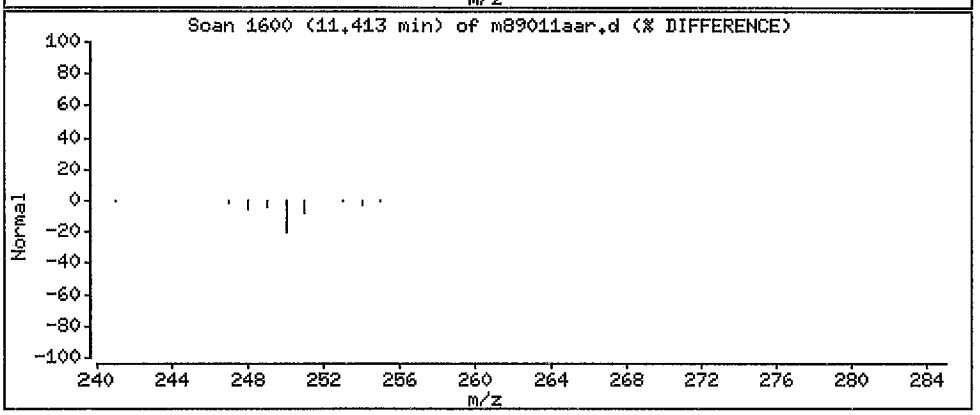












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Date : 10-OCT-2016 16:35

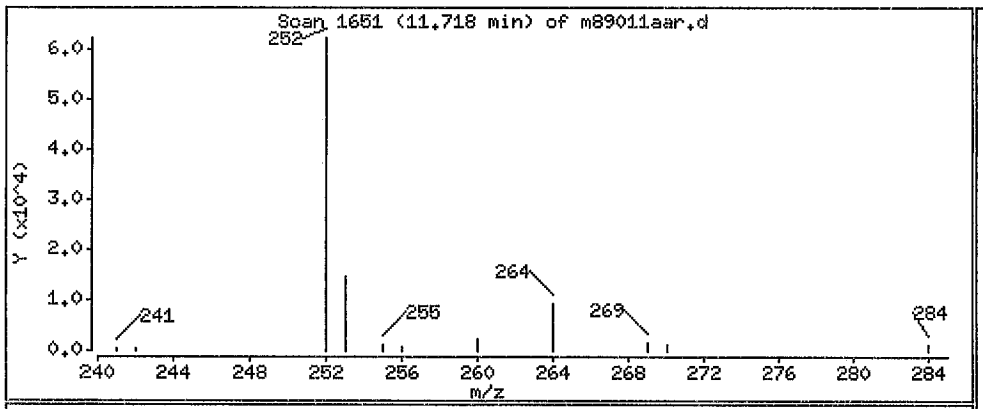
Client ID: | Instrument: mp.i

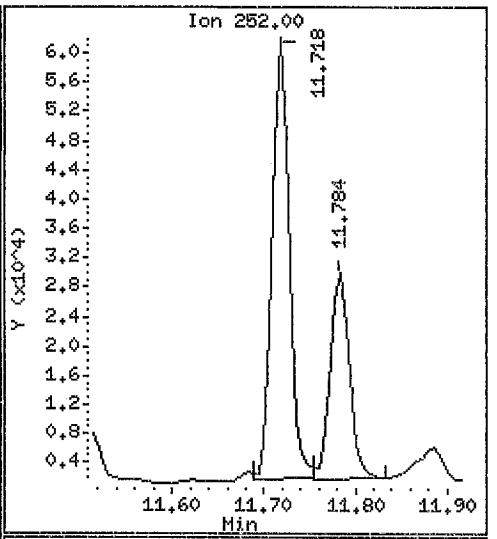
Sample Info: ,,0,,TRT

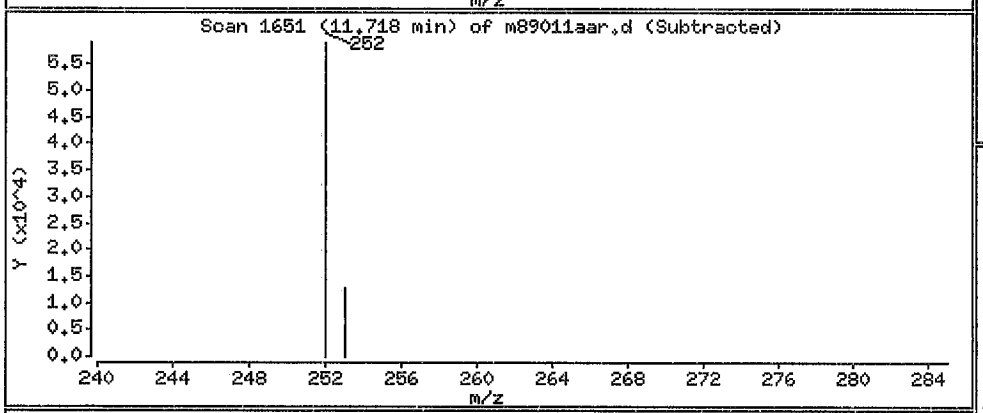
Purge Volume: 1040.0 | Operator: 011211

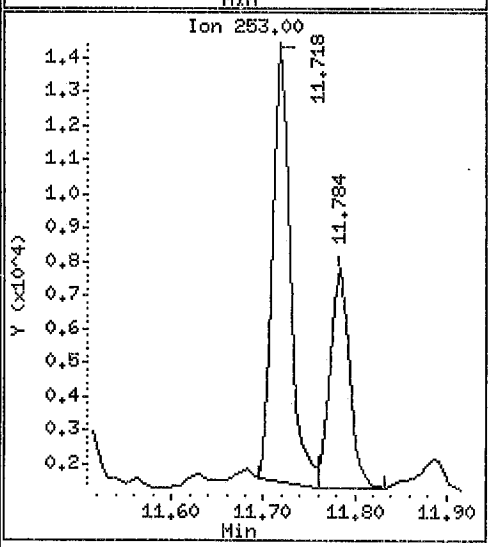
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

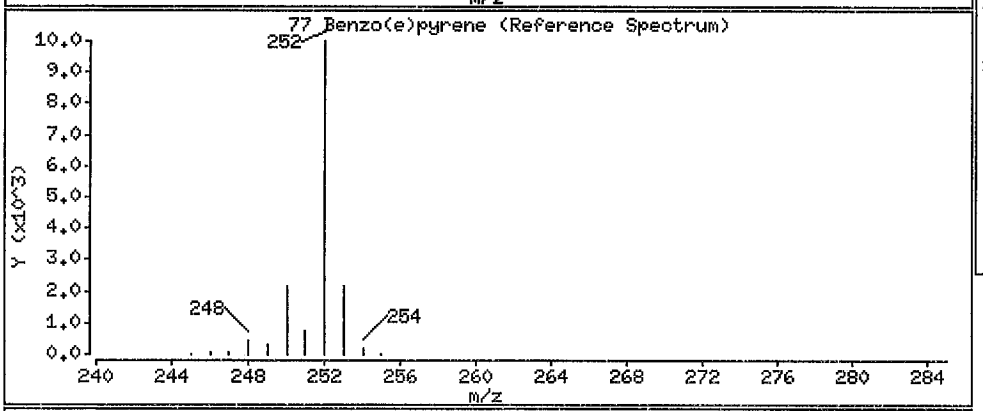
77 Benzo(e)pyrene | Concentration: 53.8 ng/L

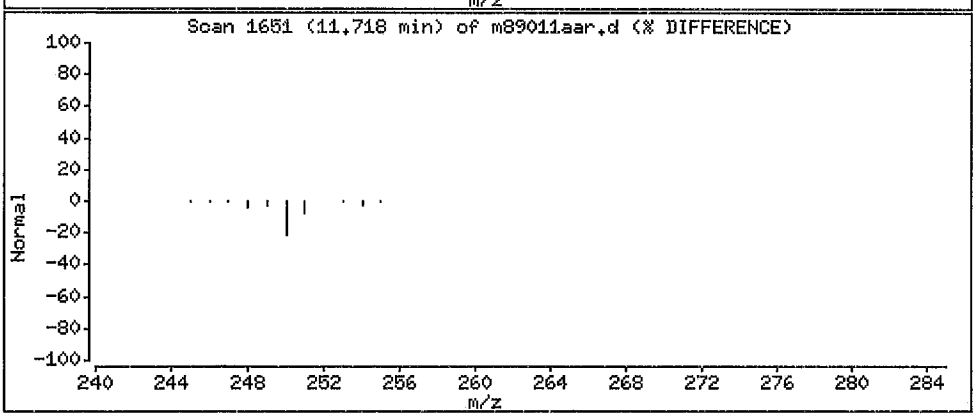












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

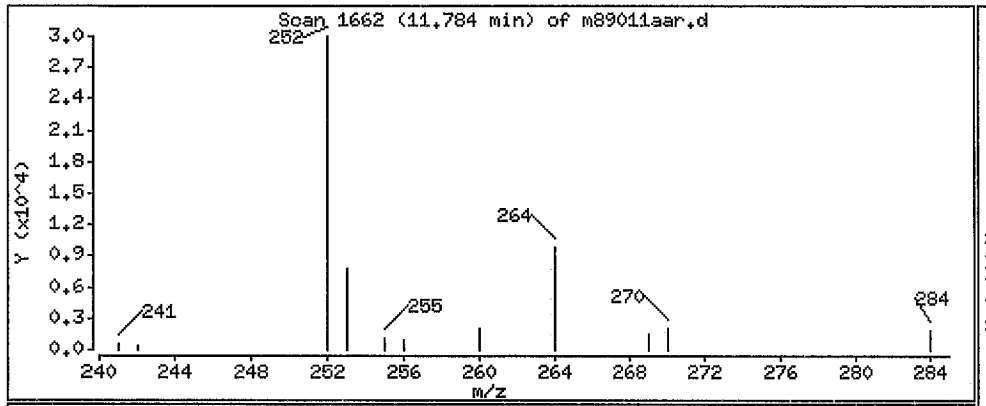
Client ID: | Instrument: mp.i

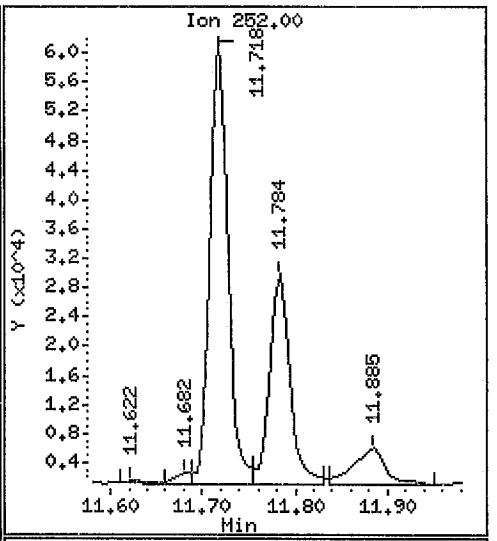
Sample Info: ,,0,,TRT

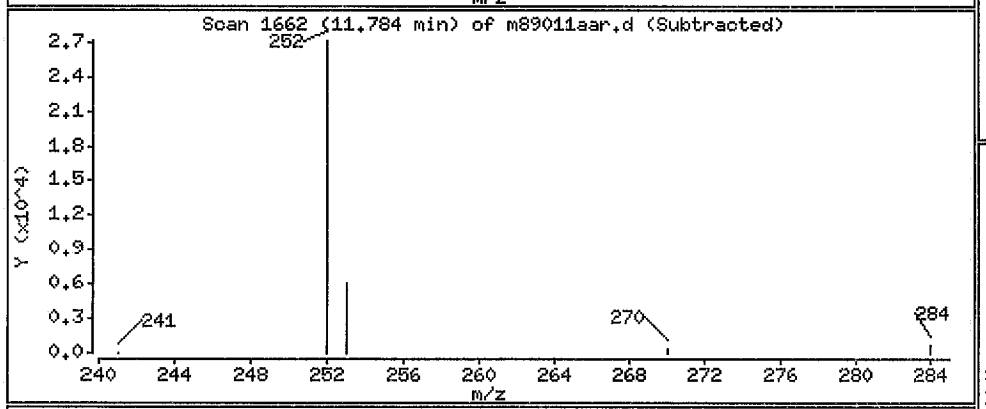
Purge Volume: 1040.0 | Operator: 011211

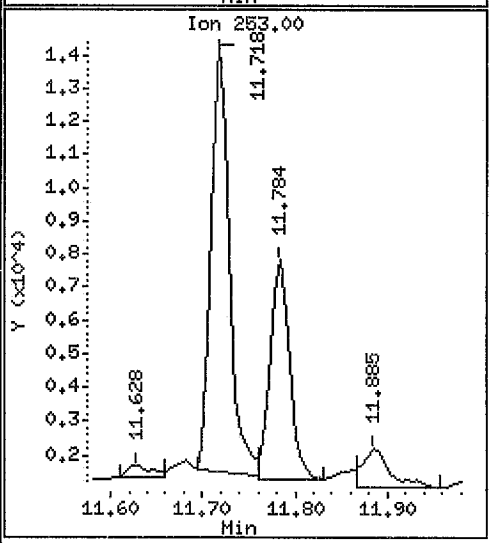
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

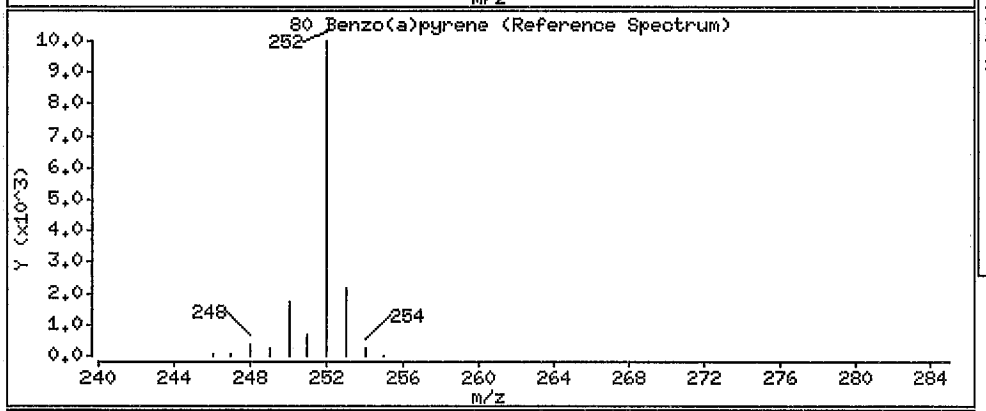
80 Benzo(a)pyrene | Concentration: 35.4 ng/L

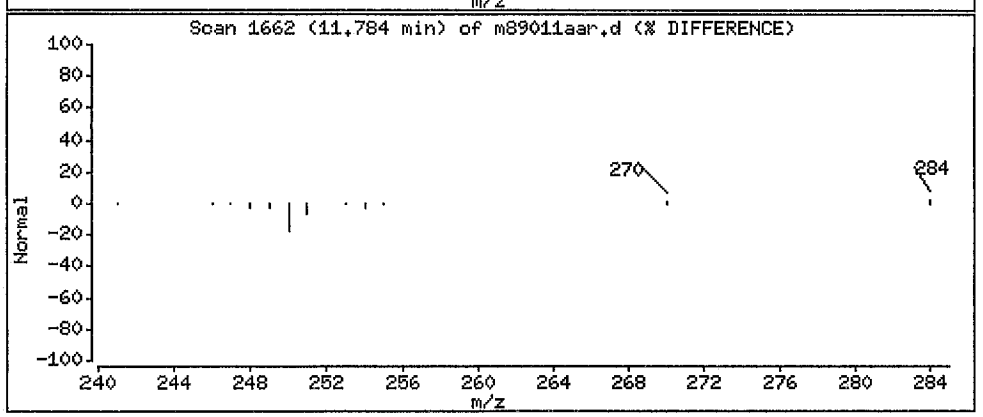












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

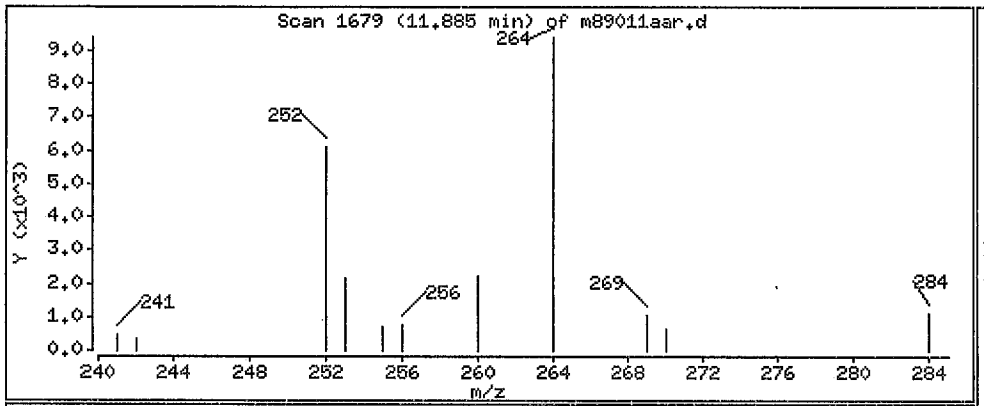
Client ID: | Instrument: mp.i

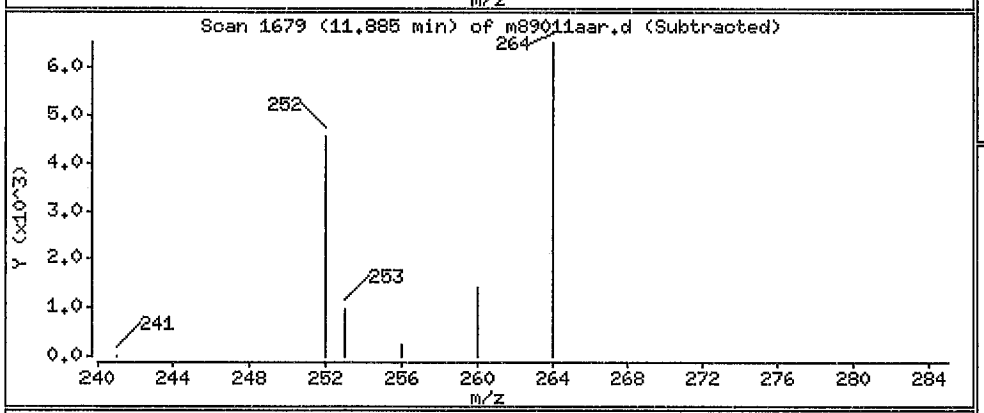
Sample Info: ,,0,,TRT

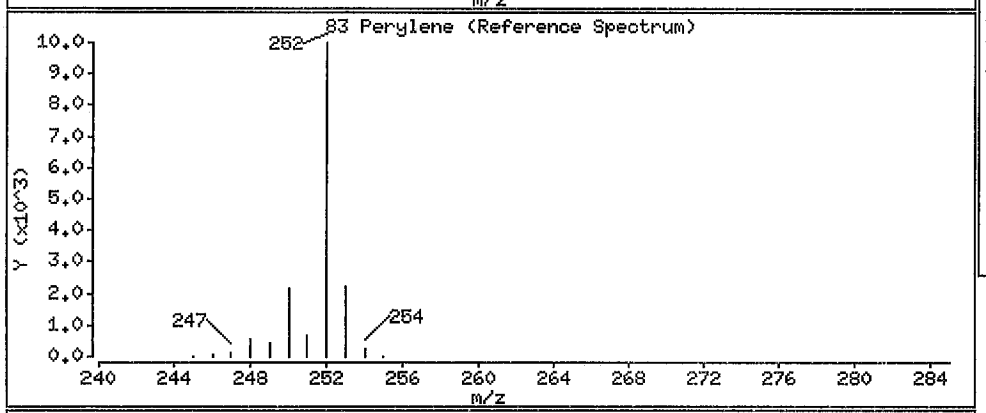
Purge Volume: 1040.0 | Operator: 011211

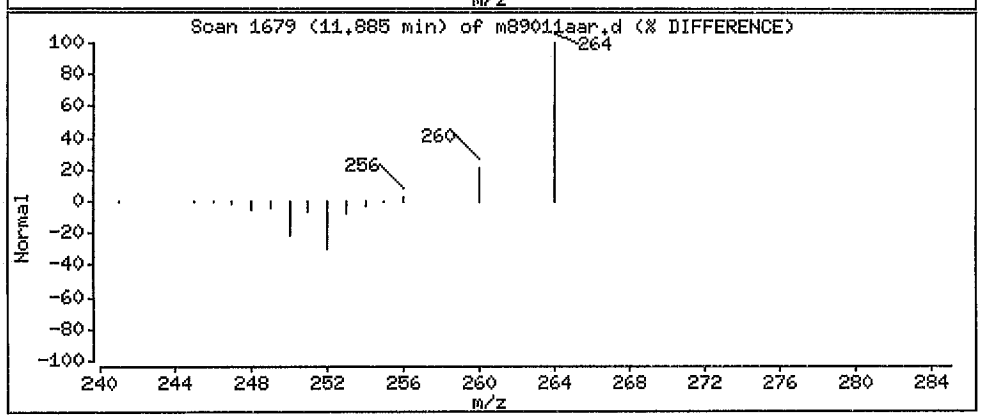
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

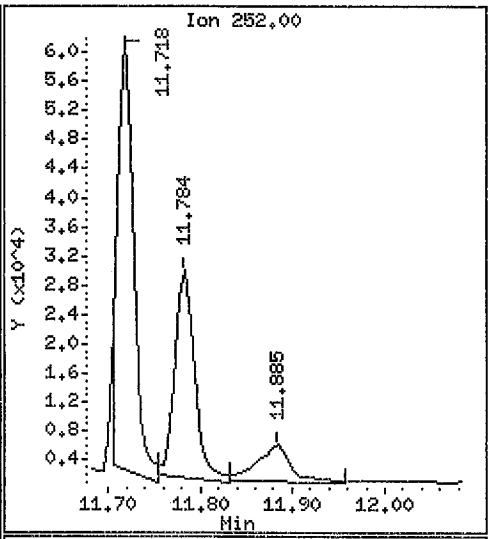
83 Perylene | Concentration: 12.3 ng/L

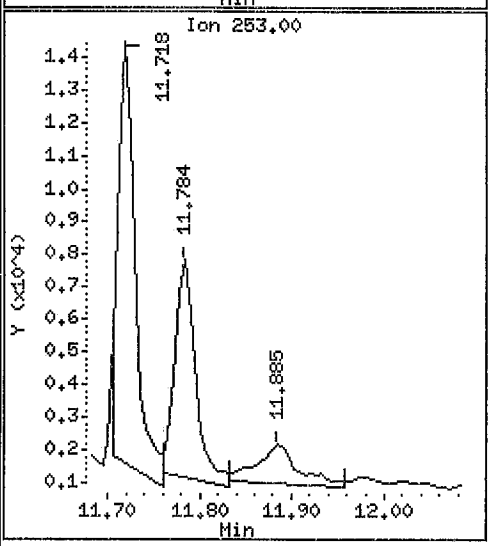












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

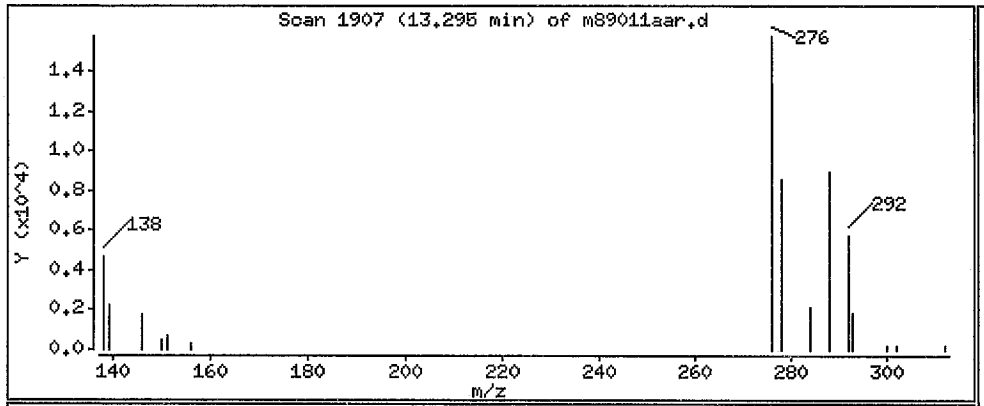
Client ID: | Instrument: mp.i

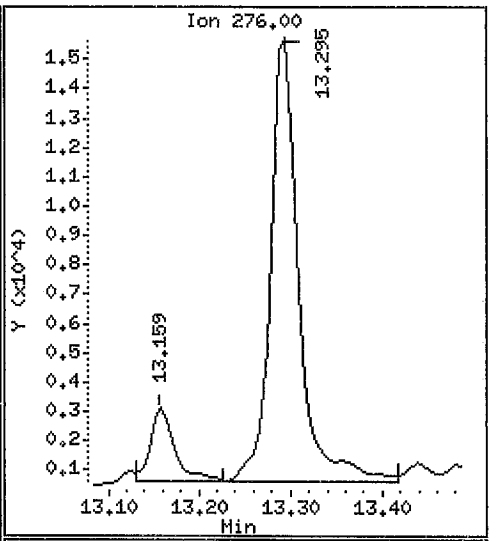
Sample Info: ,,0,,TRT

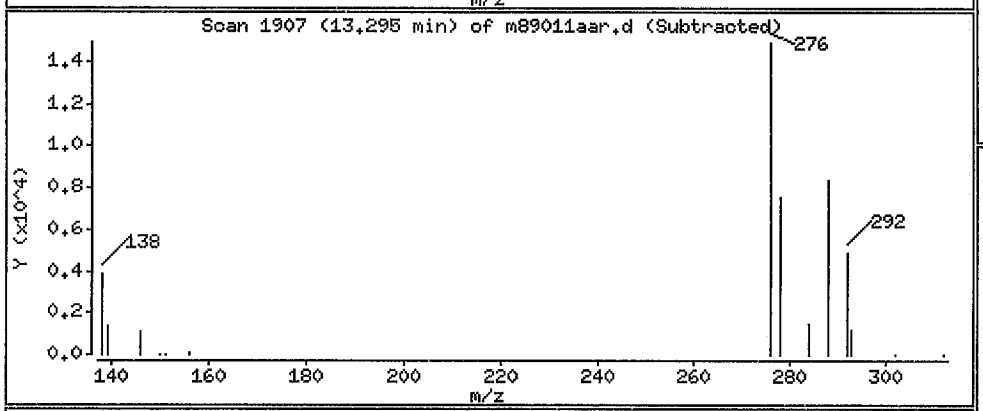
Purge Volume: 1040.0 | Operator: 011211

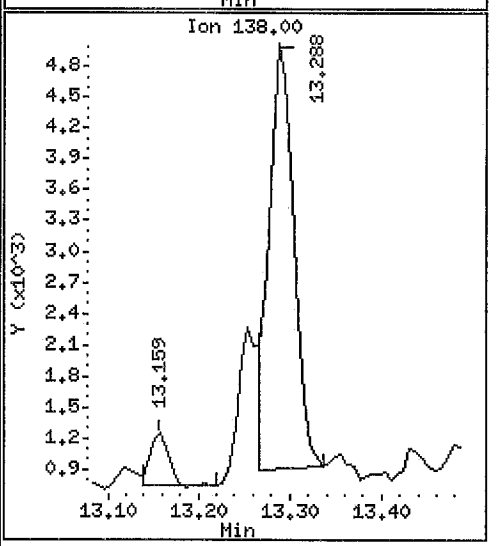
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

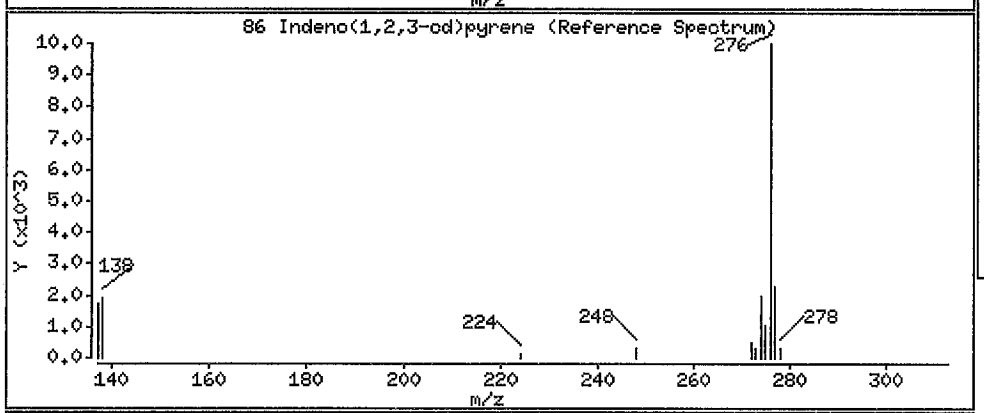
86 Indeno(1,2,3-cd)pyrene | Concentration: 23.0 ng/L

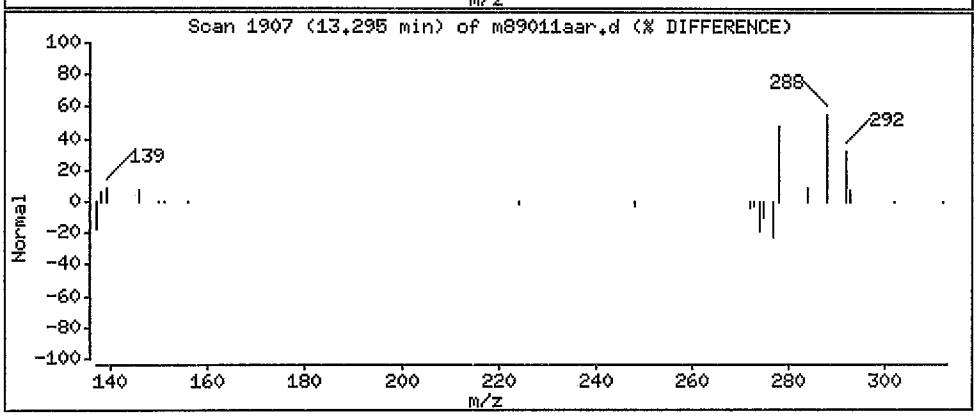












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1040.0

Operator: 011211

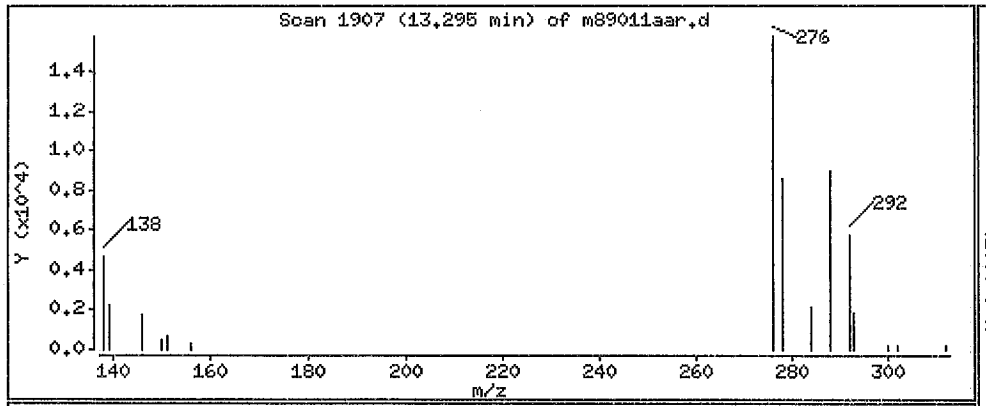
Column phase: Rxi-5SIL MS w/Guard

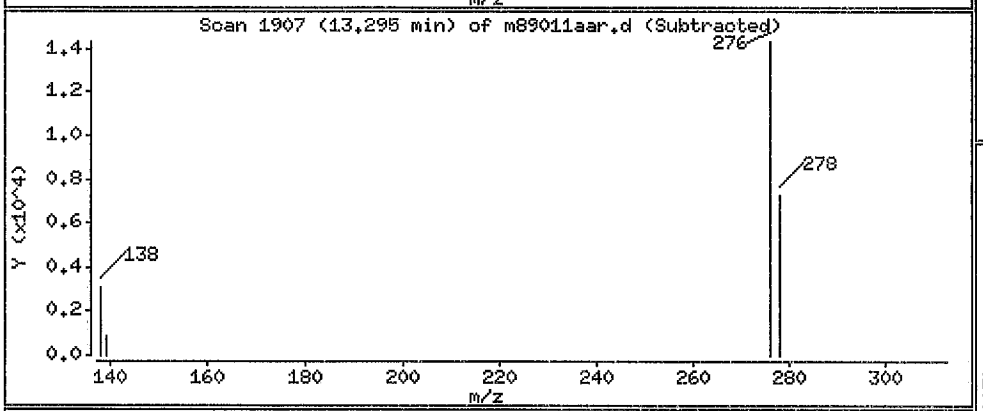
Column diameter: 0.25

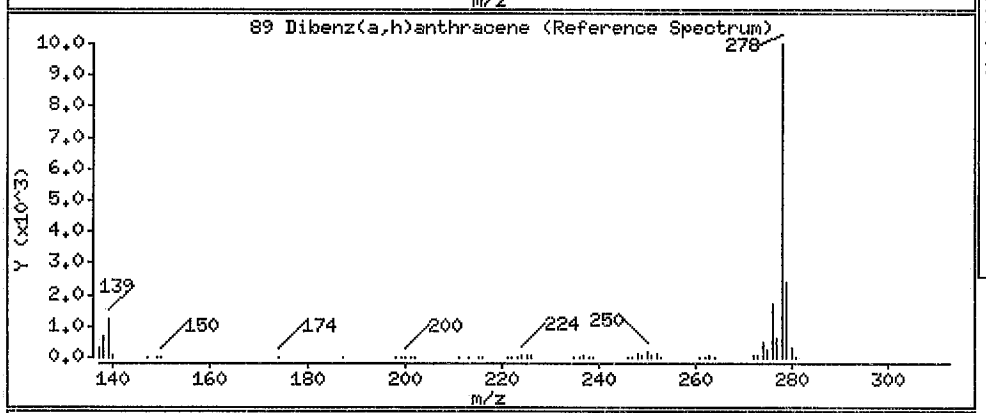
10/11/16 (2)

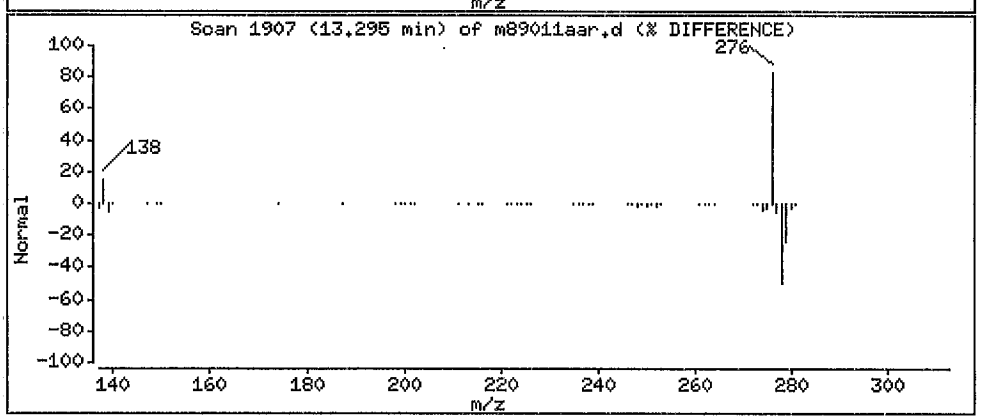
89 Dibenz(a,h)anthracene

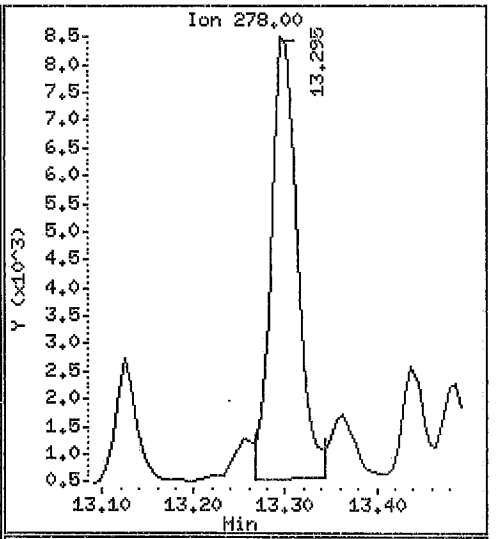
Concentration: 16.7 ng/L

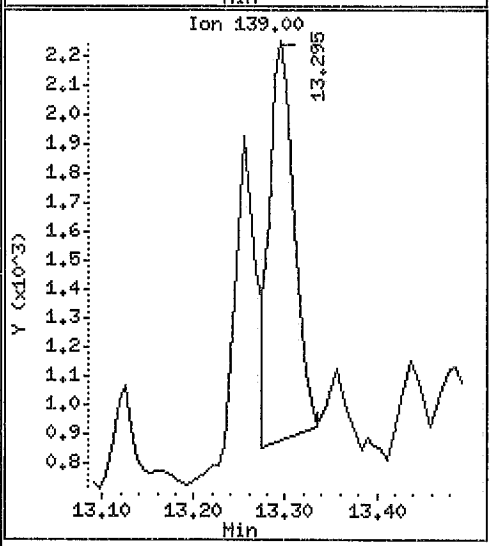












Data File: /var/chem/gcms/mp.i/P101016.b/m89011aar.d

Date : 10-OCT-2016 16:35

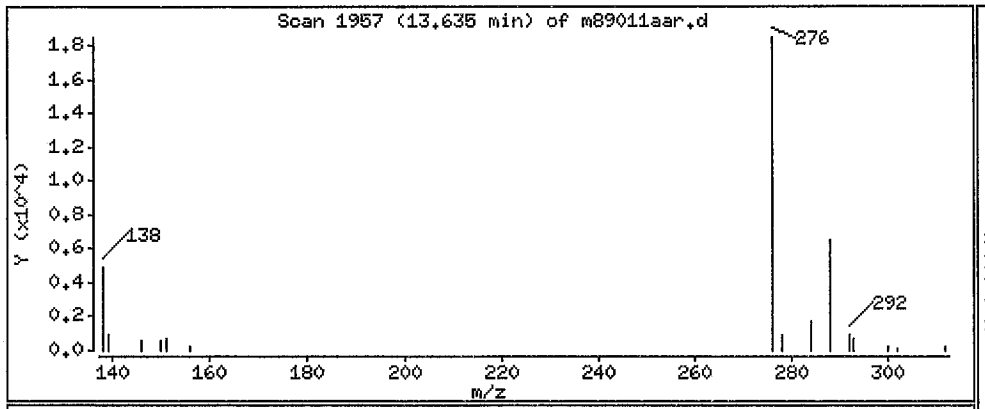
Client ID: | Instrument: mp.i

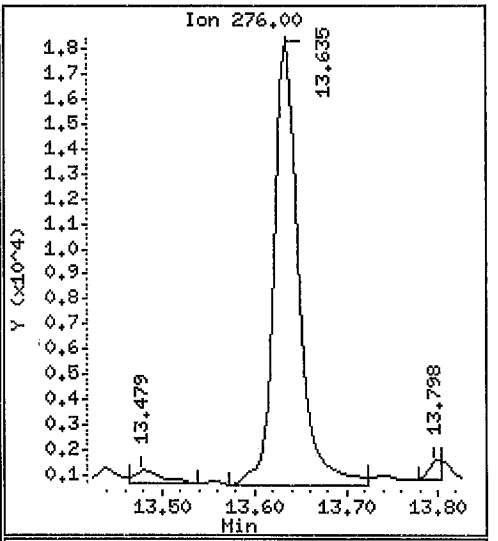
Sample Info: ,,0,,TRT

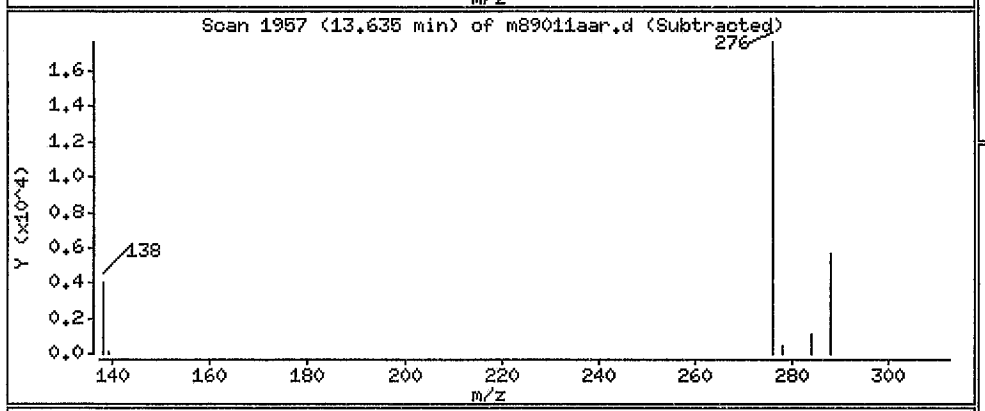
Purge Volume: 1040.0 | Operator: 011211

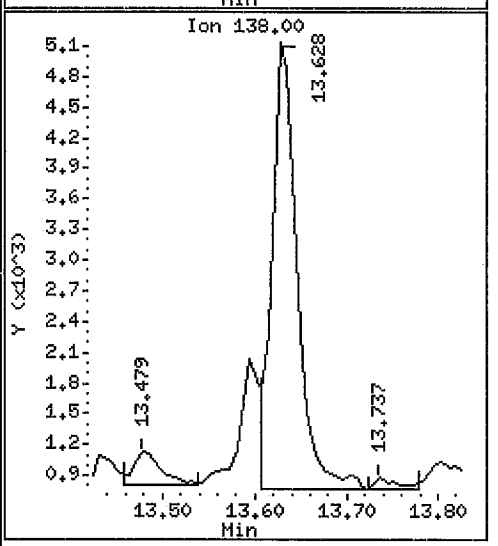
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

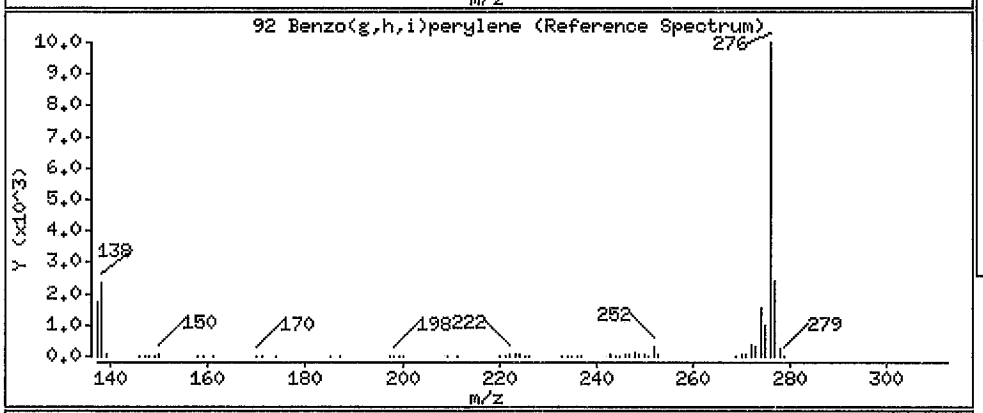
92 Benzo(g,h,i)perylene | Concentration: 34.8 ng/L

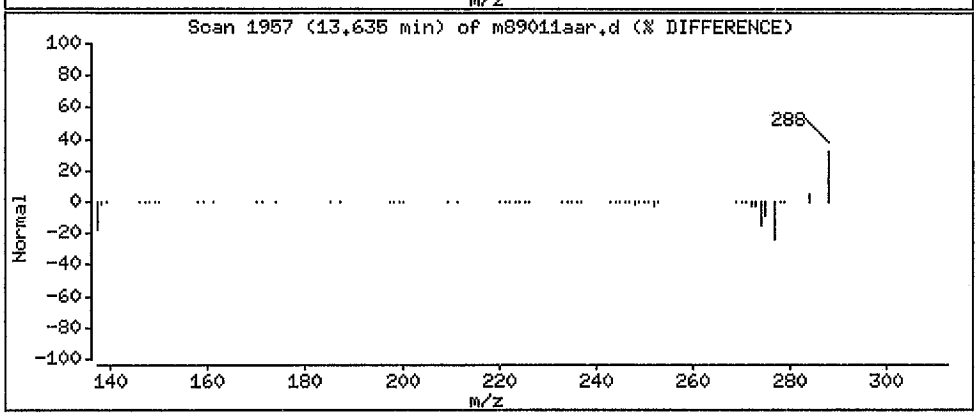












Montrose Air Quality Services LLC

Client Sample ID: R-1616 LOC#4 WATER QT-R1B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-002	**Work Order #...:**	M89021AA	**Matrix.....:**	WATER
Date Sampled...:	09/22/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	52	10	ng/L	2.4
Acenaphthylene	27	10	ng/L	0.15
Anthracene	96	10	ng/L	0.71
Benzo(a)anthracene	250	10	ng/L	1.5
Benzo(b)fluoranthene	200	10	ng/L	1.5
Benzo(k)fluoranthene	72	10	ng/L	1.0
Benzo(ghi)perylene	140	10	ng/L	0.51
Benzo(a)pyrene	140	10	ng/L	0.40
Chrysene	360 B	10	ng/L	0.22
Dibenz(a,h)anthracene	63	10	ng/L	0.78
Fluoranthene	270	10	ng/L	2.4
Fluorene	78 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	74	10	ng/L	1.0
Naphthalene	410	50	ng/L	16
Perylene	23	10	ng/L	0.81
Phenanthrene	540	20	ng/L	11
Pyrene	200 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	58	(30 - 120)
Naphthalene-d8	62	(30 - 120)
Acenaphthylene-d8	54	(30 - 120)
Phenanthrene-d10	39	(30 - 120)
Anthracene-d10	39	(30 - 120)
Fluoranthene-d10	49	(30 - 120)
Chrysene-d12	48	(30 - 120)
Benzo(b)fluoranthene-d12	64	(30 - 120)
Benzo(k)fluoranthene-d12	49	(30 - 120)
Benzo(a)pyrene-d12	61	(30 - 120)
Perylene-d12	51	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	66	(30 - 120)
Dibenz(ah)anthracene-d14	68	(30 - 120)
Benzo(ghi)perylene-d12	59	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d
Report Date: 11-Oct-2016 13:50

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89021aa.d
Lab Smp Id: M89021AA Client Smp ID: R-1616 LOC#4 WATER
Inj Date : 10-OCT-2016 17:26
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1038.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	364660	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	365882	0.31236	150
3 Naphthalene	128	4.957	4.957	(1.002)	621648	0.84260	406
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	178465	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	178922	0.30333	146
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	161814	0.32994	159
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	285025	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	285025	0.27136	131
22 Acenaphthylene	152	6.286	6.286	(1.002)	34855	0.05599	27.0
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	295742	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	40473	0.10740	51.7
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	203298	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	203298	0.28937	139
27 Fluorene	166	6.865	6.861	(1.003)	76446	0.16235	78.2
* 41 Phenanthrene-d10	188	7.663	7.660	(1.000)	251747	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.663	7.660	(0.854)	251747	0.19620	94.5
43 Phenanthrene	178	7.682	7.679	(1.002)	712259	1.12885	544
* 44 Anthracene-d10	188	7.712	7.709	(1.000)	229897	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d
Report Date: 11-Oct-2016 13:50

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.712	7.709	(0.859)	229900	0.19493	93.9
	46 Anthracene	178	7.728	7.725	(1.002)	116405	0.19896	95.8
*	53 Fluoranthene-d10	212	8.753	8.750	(1.000)	300042	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	299827	0.24210	117
	55 Fluoranthene	202	8.772	8.769	(1.002)	431966	0.56475	272
*	56 Pyrene-d10	212	8.975	8.972	(1.000)	557644	0.50000	0.500
	57 Pyrene	202	8.994	8.991	(1.028)	325147	0.41326	199(M)
	62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	286217	0.51146	246
*	63 Chrysene-d12	240	10.219	10.219	(1.000)	315275	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	315275	0.23996	116
	65 Chrysene	228	10.246	10.246	(1.003)	503676	0.75750	365(M)
*	70 Benzo(b)fluoranthene-d12	264	11.361	11.355	(1.000)	331455	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.361	11.355	(0.972)	331455	0.31896	154
	72 Benzo(b)fluoranthene	252	11.385	11.385	(1.002)	398457	0.41608	200(M)
*	73 Benzo(k)fluoranthene-d12	264	11.391	11.391	(1.000)	316520	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.391	11.391	(0.975)	316520	0.24633	119
	75 Benzo(k)fluoranthene	252	11.409	11.415	(1.002)	112158	0.15054	72.5(M)
*	76 Benzo(e)pyrene-d12	264	11.684	11.684	(1.000)	495115	0.50000	0.500
	77 Benzo(e)pyrene	252	11.714	11.714	(0.997)	294744	0.36034	174
*	78 Benzo(a)pyrene-d12	264	11.750	11.750	(1.000)	266438	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.750	11.750	(1.006)	266438	0.30345	146
	80 Benzo(a)pyrene	252	11.780	11.780	(1.003)	200298	0.28201	136
*	81 Perylene-d12	264	11.851	11.845	(1.000)	254275	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.851	11.845	(1.014)	254275	0.25265	122
	83 Perylene	252	11.881	11.881	(1.003)	28665	0.04770	23.0(M)
*	84 Indeno(123-cd)pyrene-d12	288	13.250	13.249	(1.000)	342960	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.250	13.249	(1.134)	342960	0.32865	158
	86 Indeno(1,2,3-cd)pyrene	276	13.284	13.283	(1.003)	141970	0.15383	74.1
*	87 Dibenz(ah)anthracene-d14	292	13.250	13.249	(1.000)	282699	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.250	13.249	(1.134)	282699	0.33886	163
	89 Dibenz(a,h)anthracene	278	13.291	13.290	(1.003)	104086	0.13098	63.1(M)
*	90 Benzo(ghi)perylene-d12	288	13.597	13.589	(1.000)	300864	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.597	13.589	(1.164)	300864	0.29211	141
	92 Benzo(g,h,i)perylene	276	13.624	13.623	(1.002)	219089	0.28941	139

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d
Report Date: 11-Oct-2016 13:50

TestAmerica Knoxville

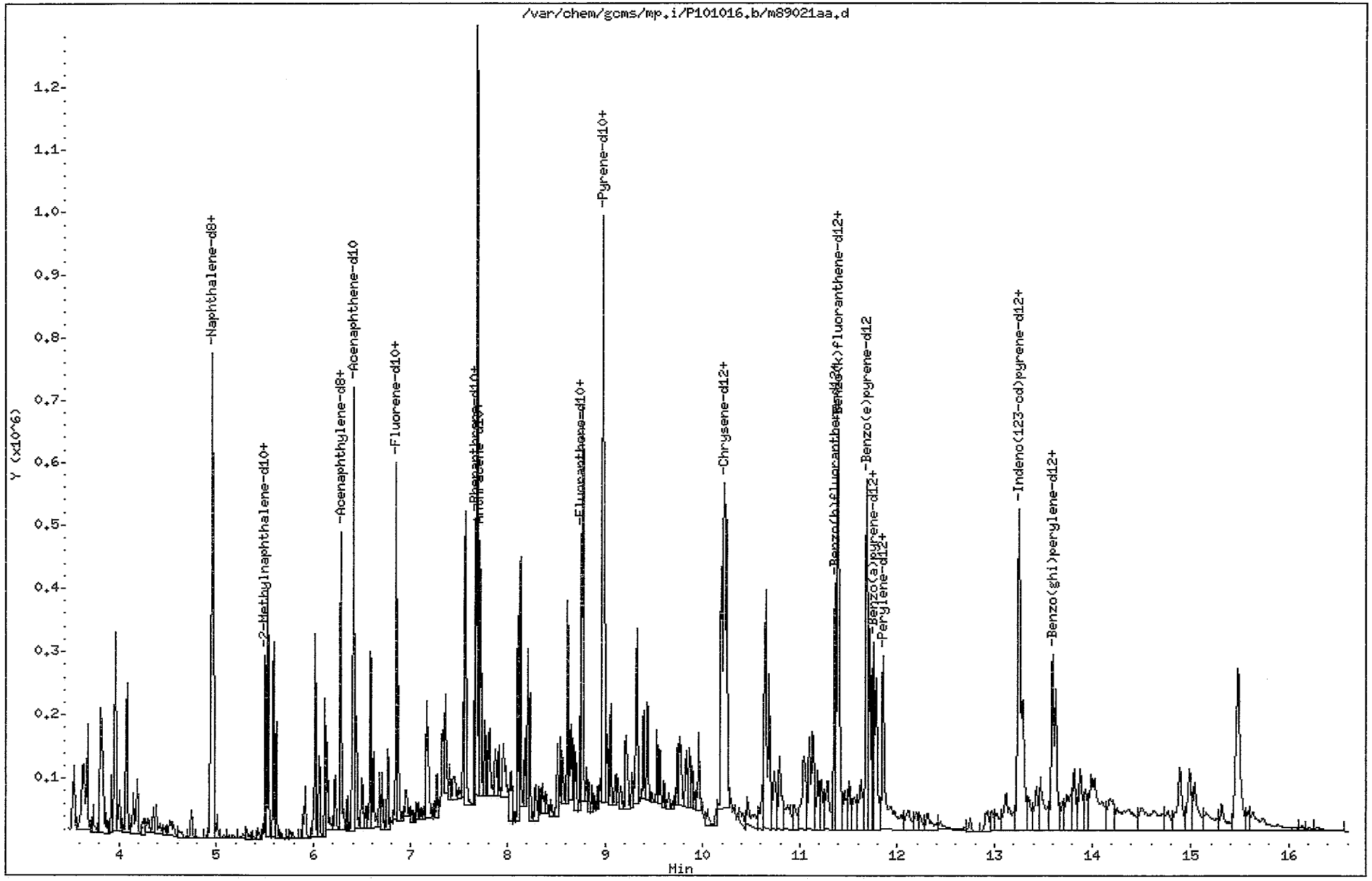
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89021AA Client Smp ID: R-1616 LOC#4 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	241	150	62.47	20-130
$ 222 13C6-Naphthalene	482	0.00	*	50-150
$ 11 2-Methylnaphthalen	241	146	60.67	30-120
$ 21 Acenaphthylene-d8(	241	131	54.27	30-120
$ 233 Fluorene-d10(SS)	241	139	57.87	30-120
$ 42 Phenanthrene-d10(S	241	94.5	39.24	30-120
$ 45 Anthracene-d10(SS)	241	93.9	38.99	30-120
$ 54 Fluoranthene-d10(S	241	117	48.42	30-120
$ 64 Chrysene-d12(SS)	241	116	47.99	30-120
$ 71 Benzo(b)fluoranthe	241	154	63.79	30-120
$ 74 Benzo(k)fluoranthe	241	119	49.27	30-120
$ 79 Benzo(a)pyrene-d12	241	146	60.69	30-120
$ 82 Perylene-d12(SS)	241	122	50.53	30-120
$ 85 Indeno(123-cd)pyre	241	158	65.73	30-120
$ 88 Dibenz(ah)anthrace	241	163	67.77	30-120
$ 91 Benzo(ghi)perylene	241	141	58.42	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d
Date : 10-OCT-2016 17:26
Client ID: R-1616 LOC#4 WATER
Sample Info: ,,0,,TRT
Purge Volume: 1038.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

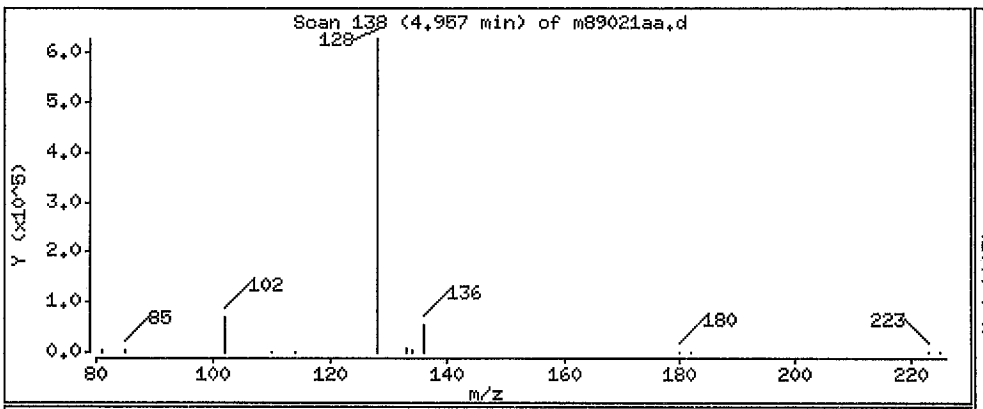
Operator: 011211

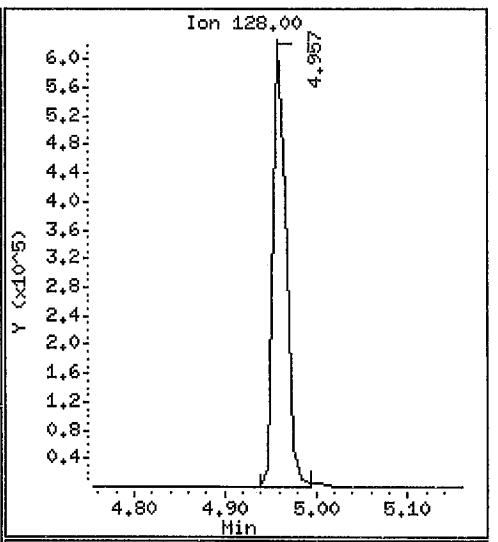
Column phase: Rxi-5SIL MS w/Guard

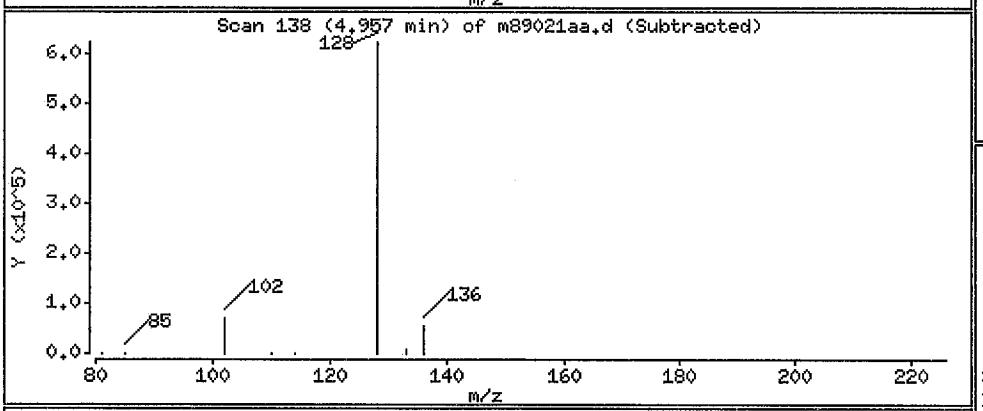
Column diameter: 0.25

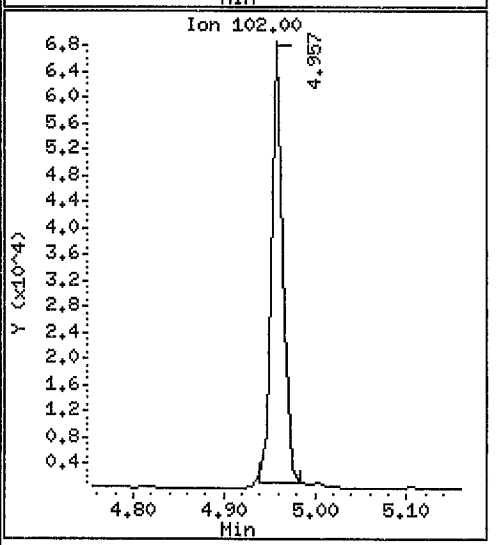
3 Naphthalene

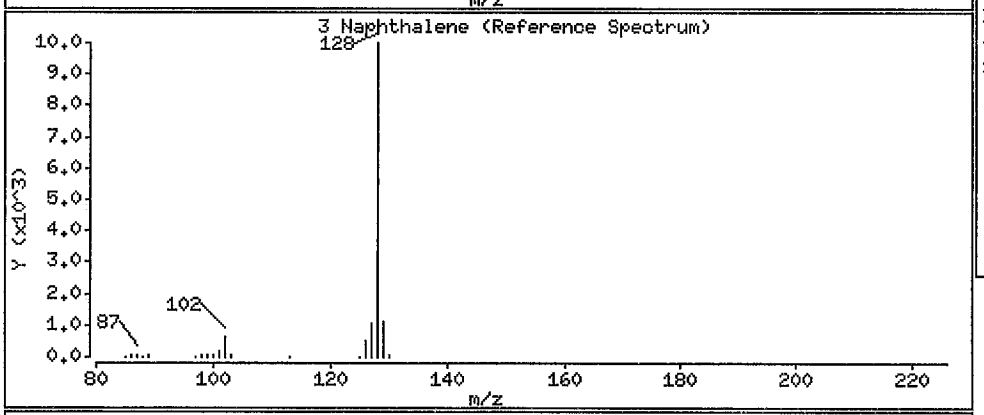
Concentration: 406 ng/L

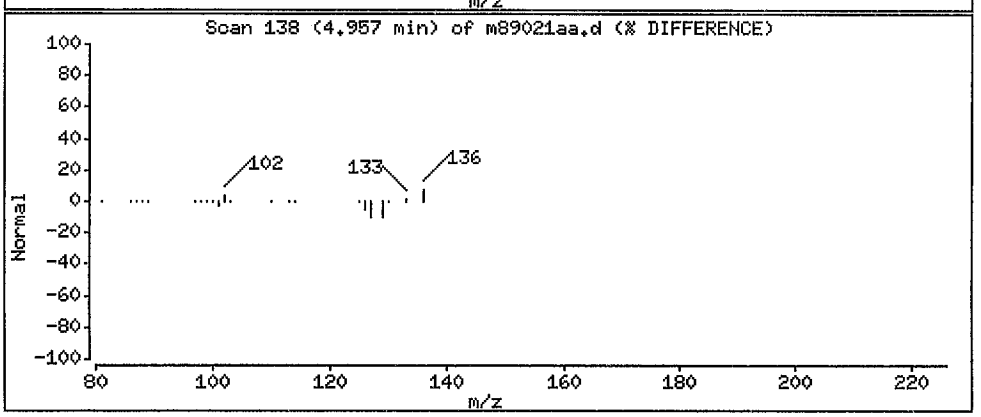












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

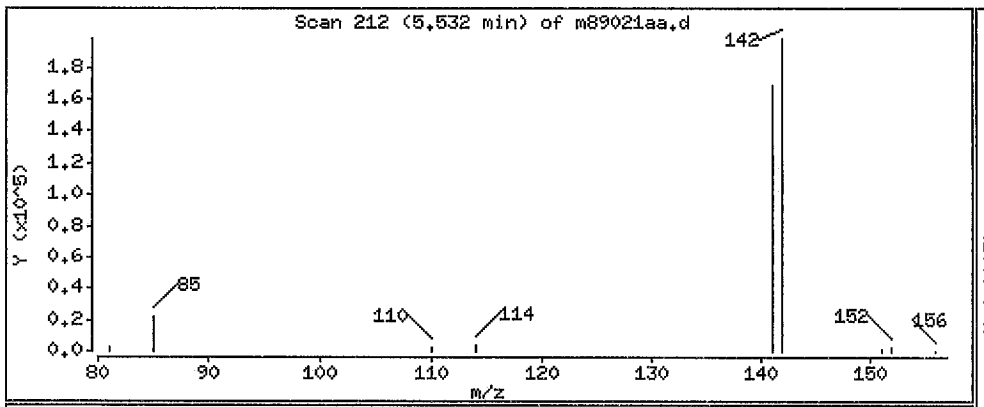
Operator: 011211

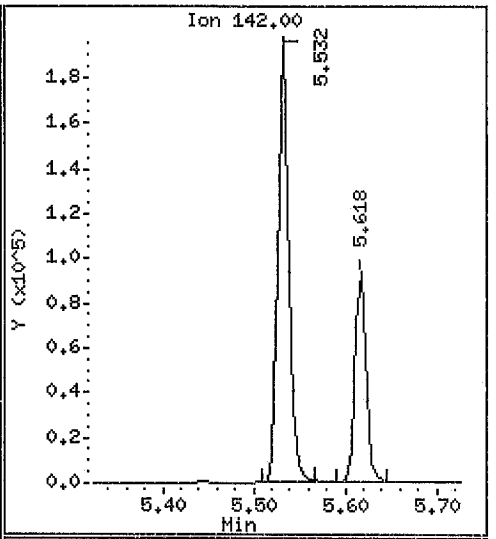
Column phase: Rxi-5SIL MS w/Guard

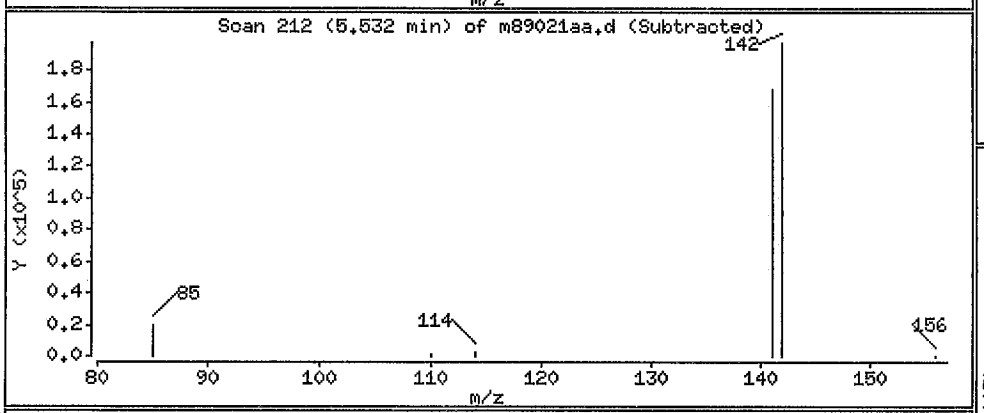
Column diameter: 0.25

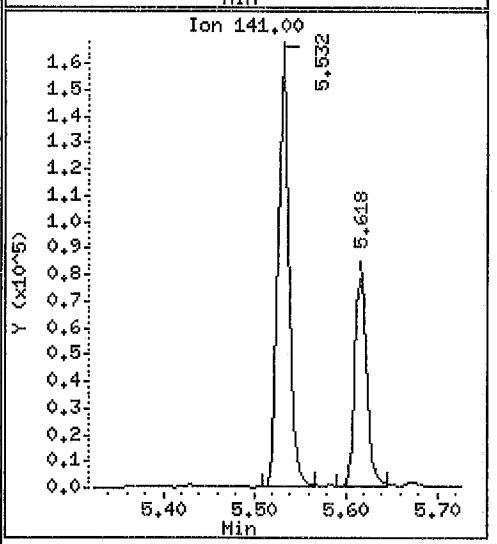
12 2-Methylnaphthalene

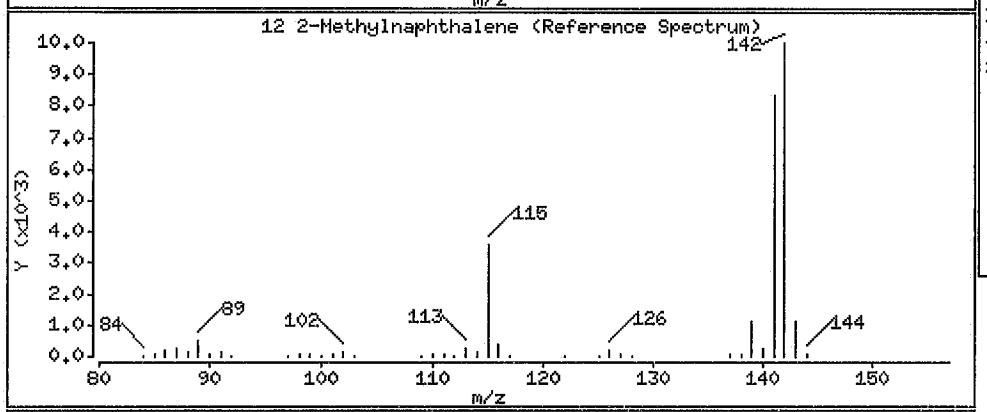
Concentration: 159 ng/L

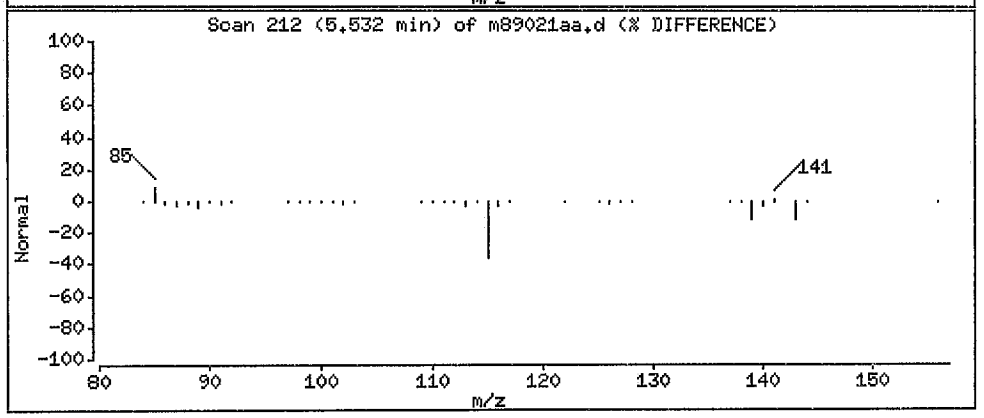












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

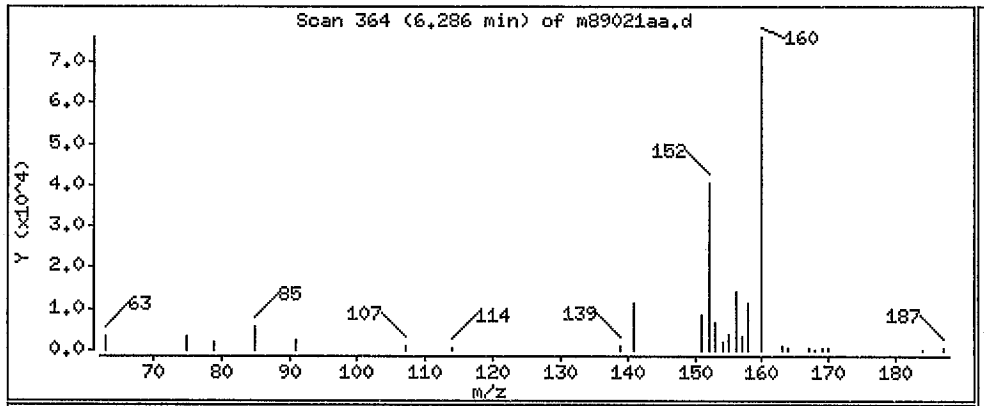
Operator: 011211

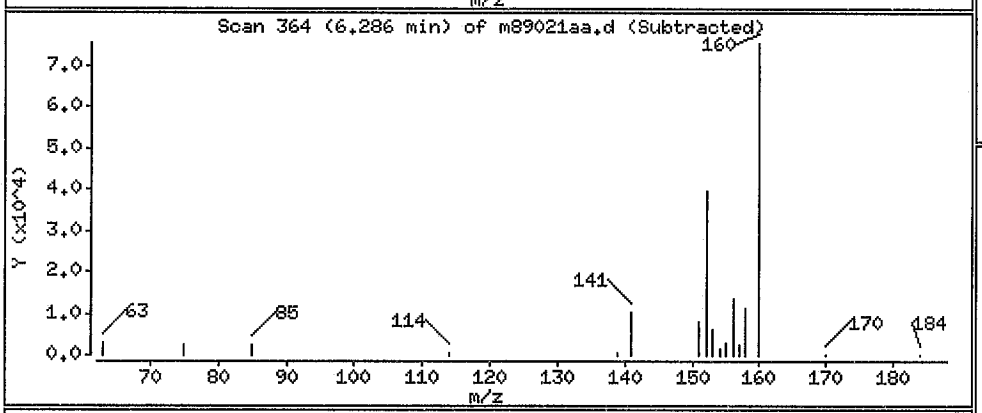
Column phase: Rxi-5SIL MS w/Guard

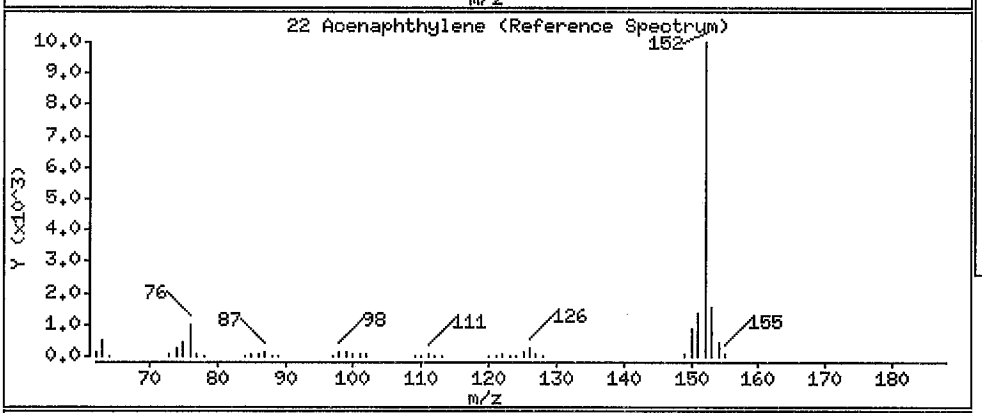
Column diameter: 0.25

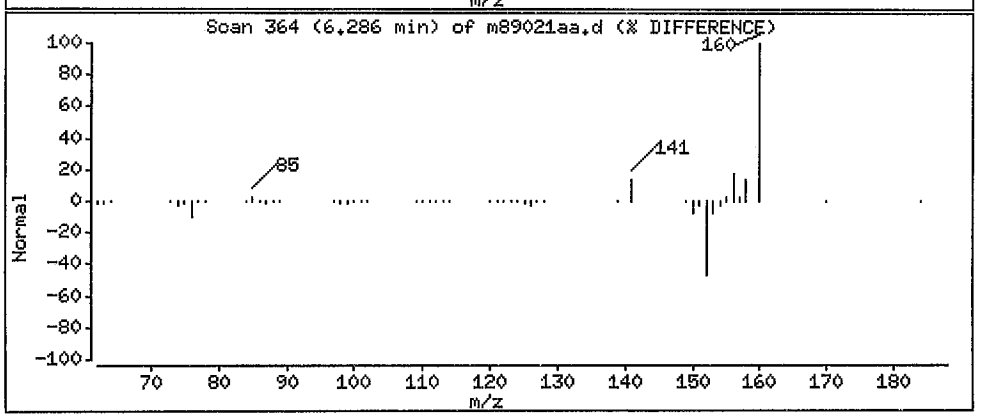
22 Acenaphthylene

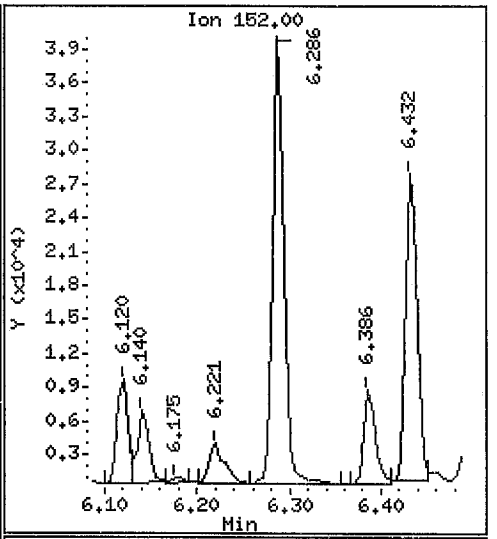
Concentration: 27.0 ng/L

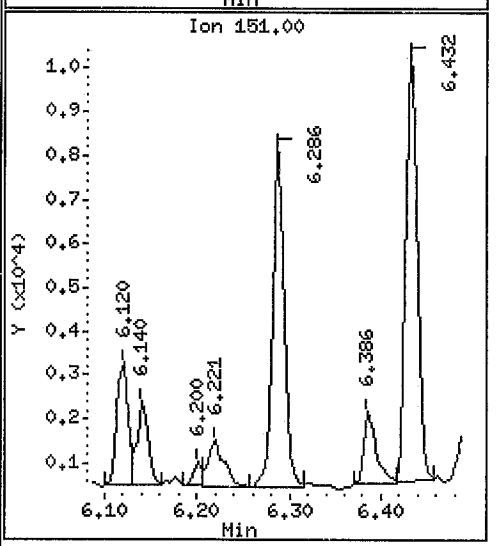












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

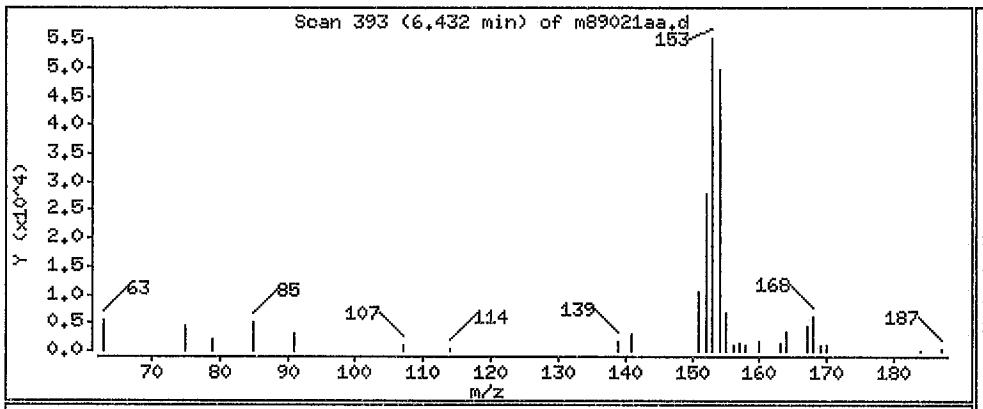
Operator: 011211

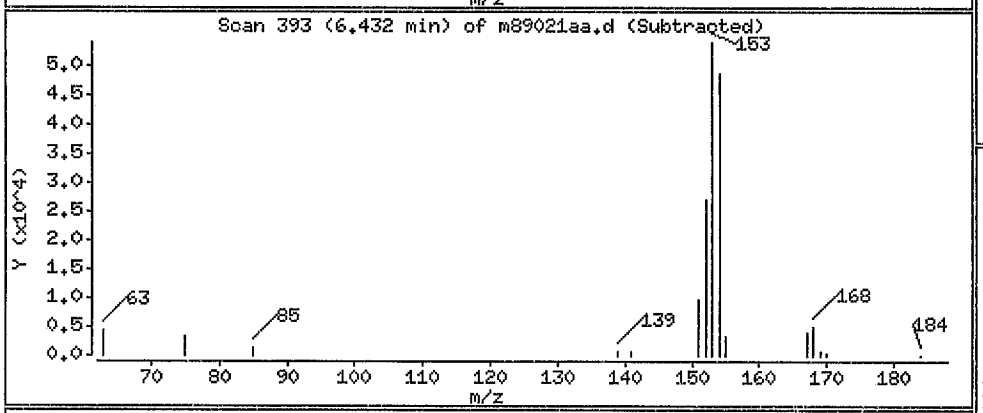
Column phase: Rxi-5SIL MS w/Guard

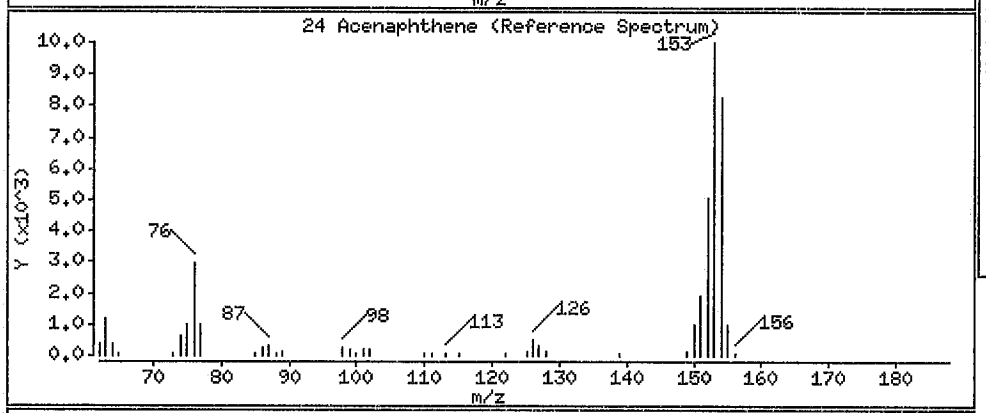
Column diameter: 0.25

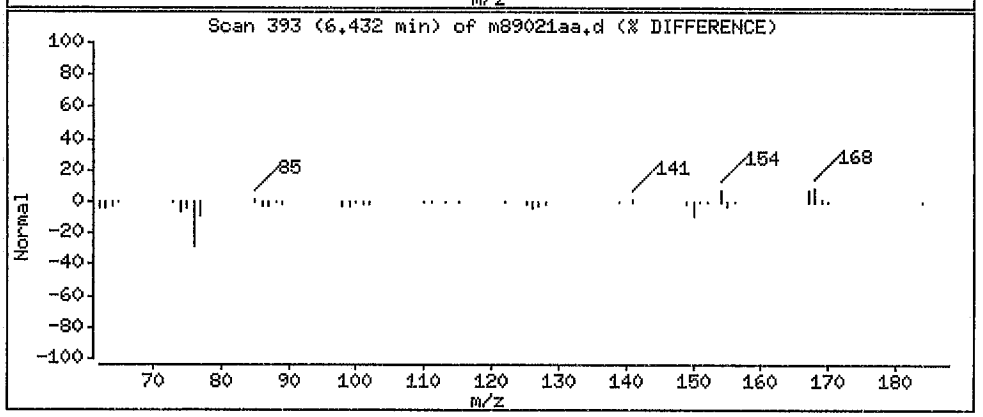
24 Acenaphthene

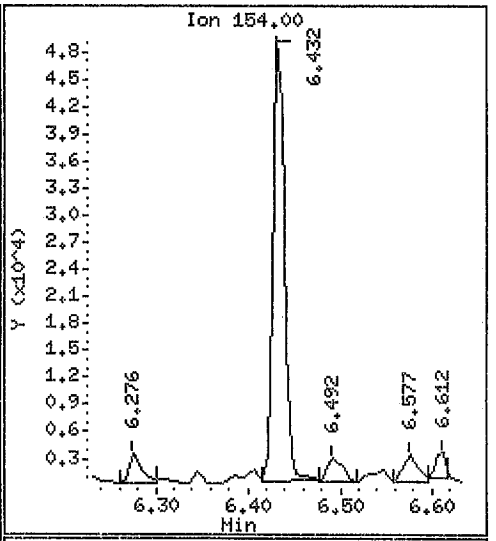
Concentration: 51.7 ng/L

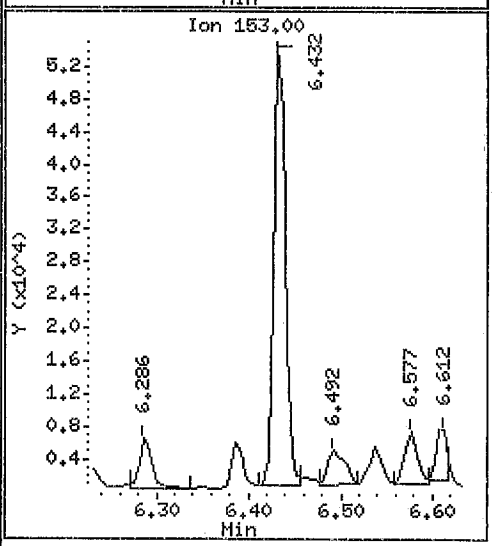












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

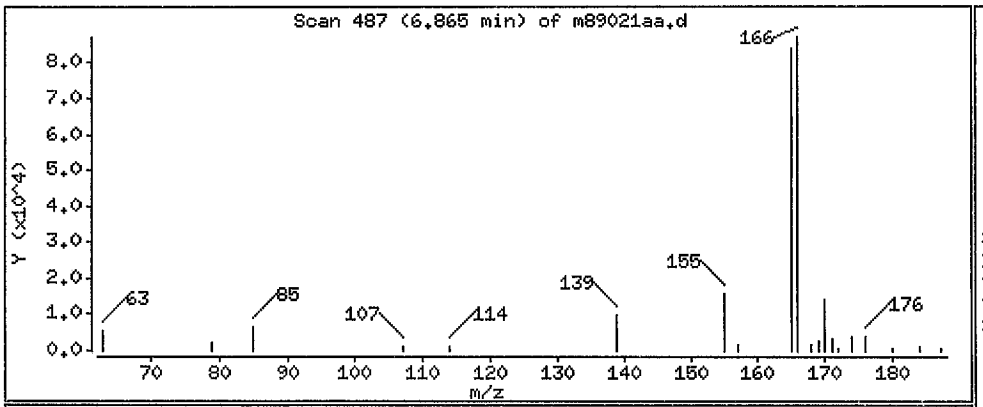
Operator: 011211

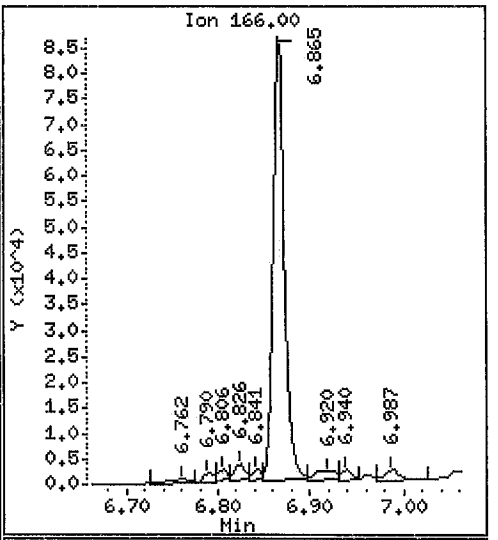
Column phase: Rxi-5SIL MS w/Guard

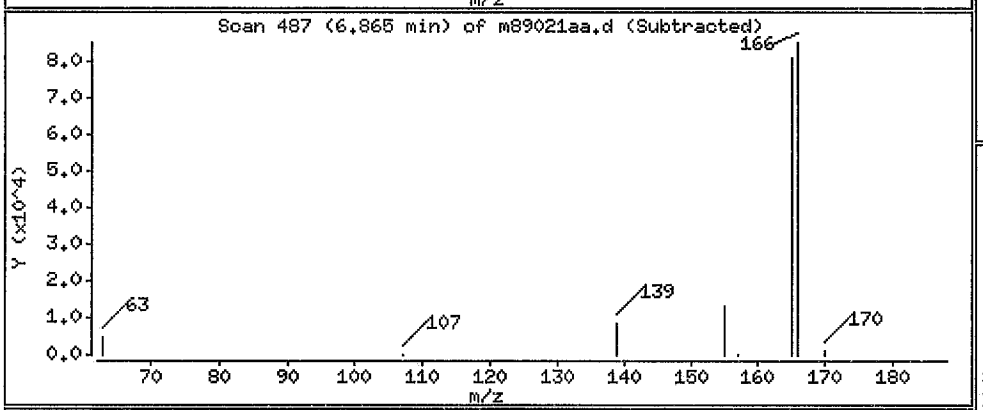
Column diameter: 0.25

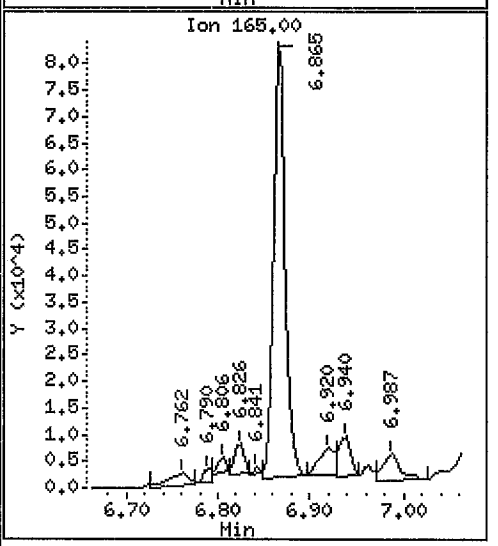
27 Fluorene

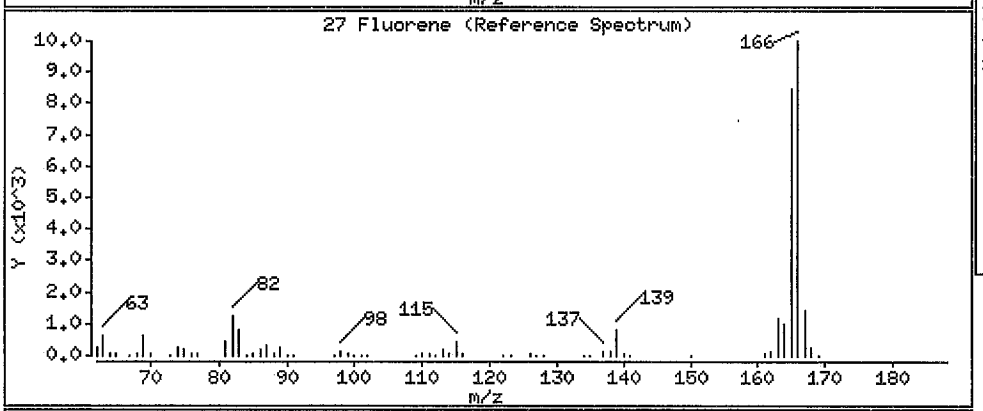
Concentration: 78.2 ng/L

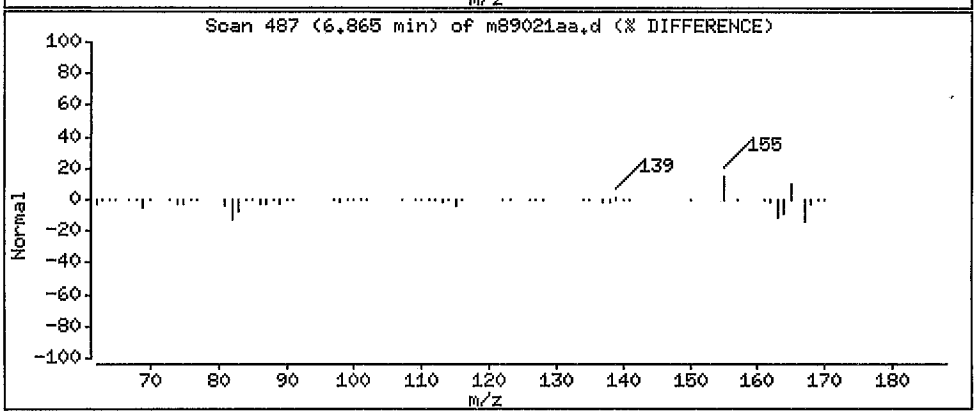












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

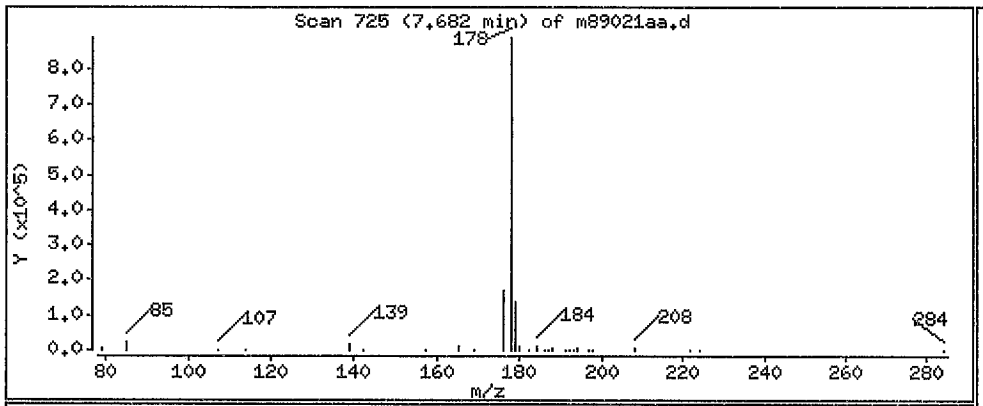
Operator: 011211

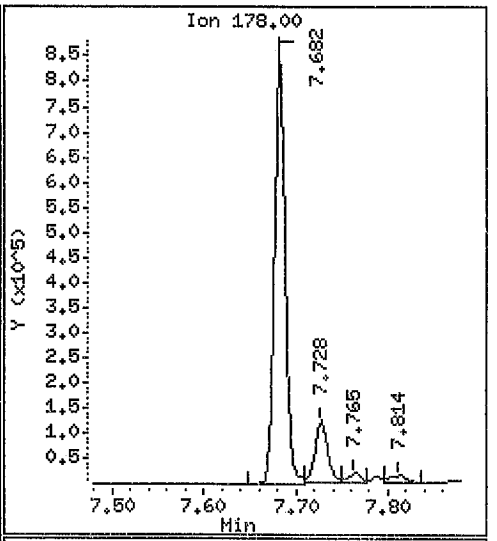
Column phase: Rxi-5SIL MS w/Guard

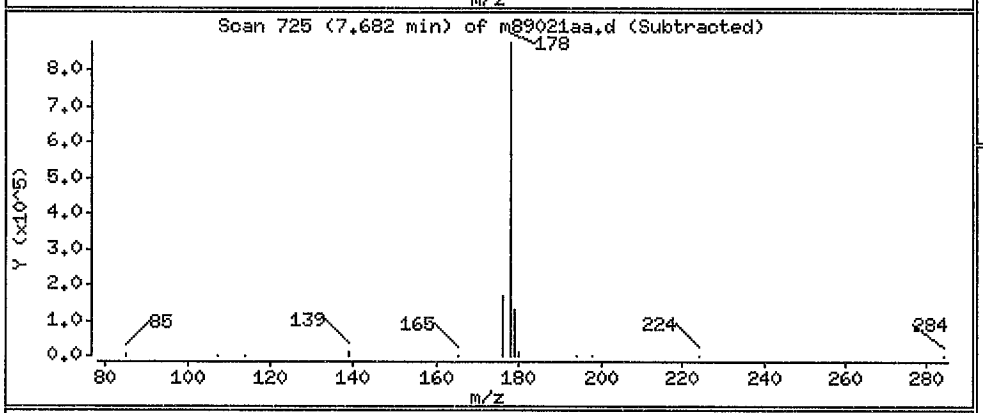
Column diameter: 0.25

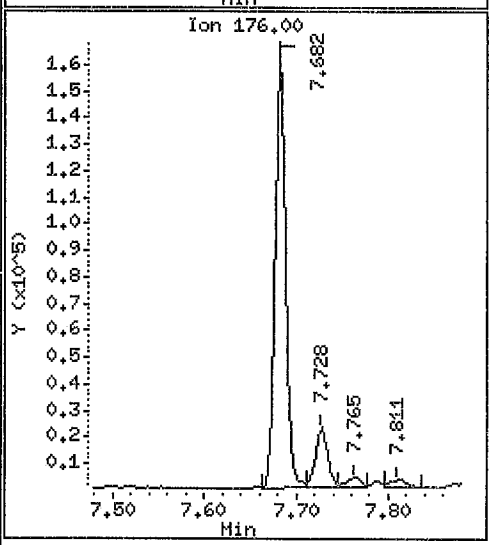
43 Phenanthrene

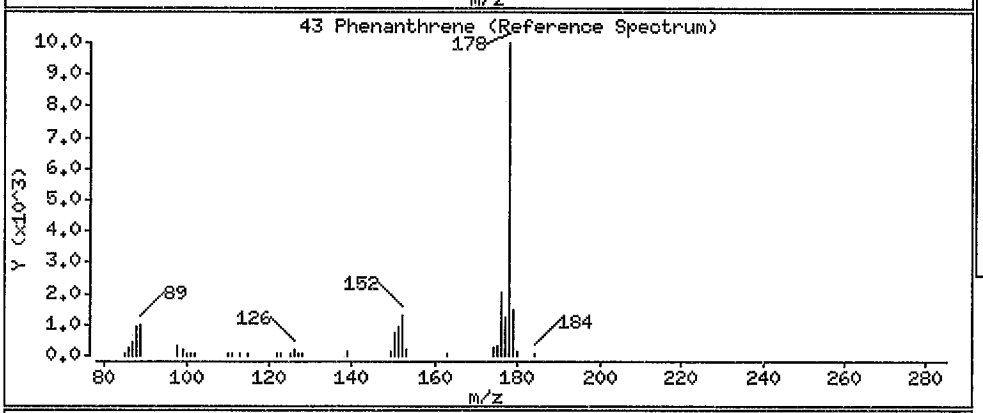
Concentration: 544 ng/L

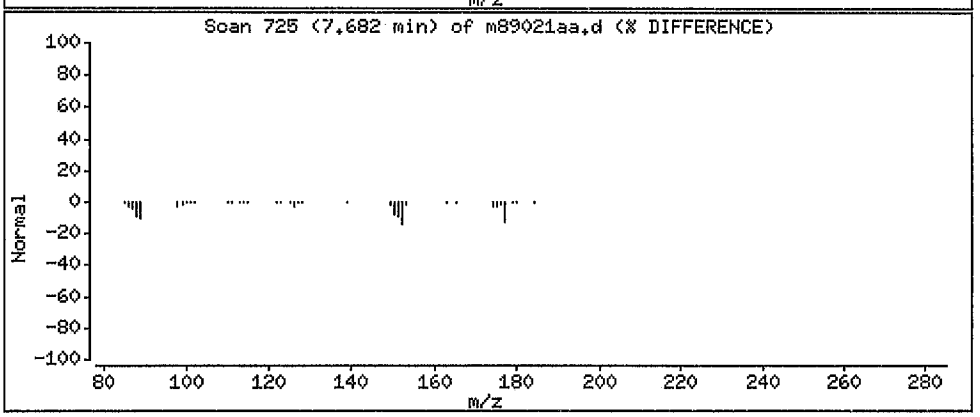












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

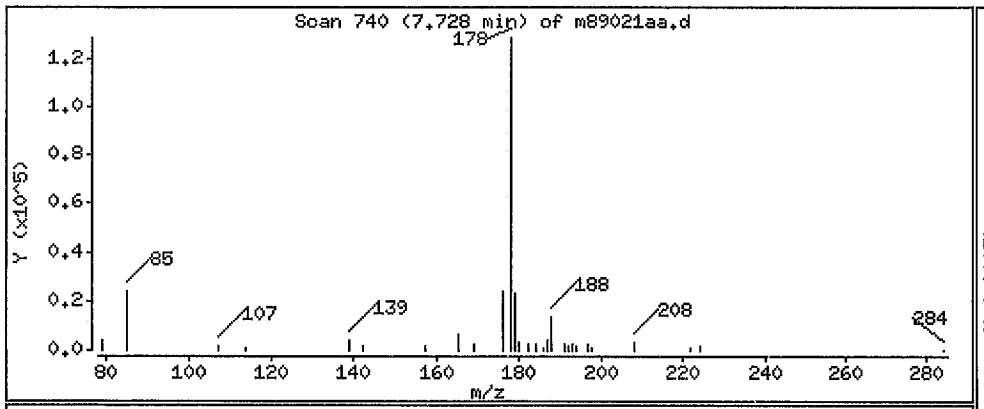
Client ID: R-1616 LOC#4 WATER | Instrument: mp.i

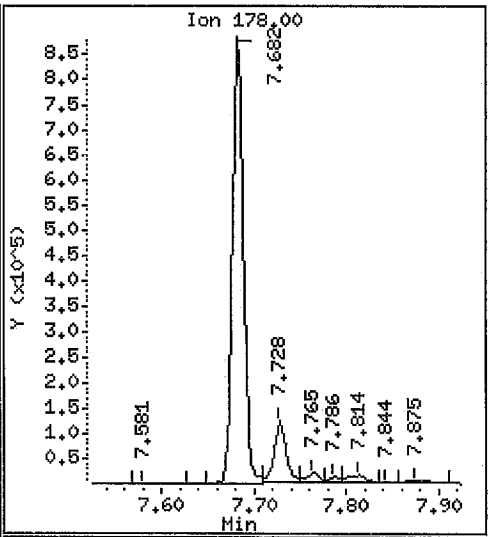
Sample Info: ,,0,,TRT

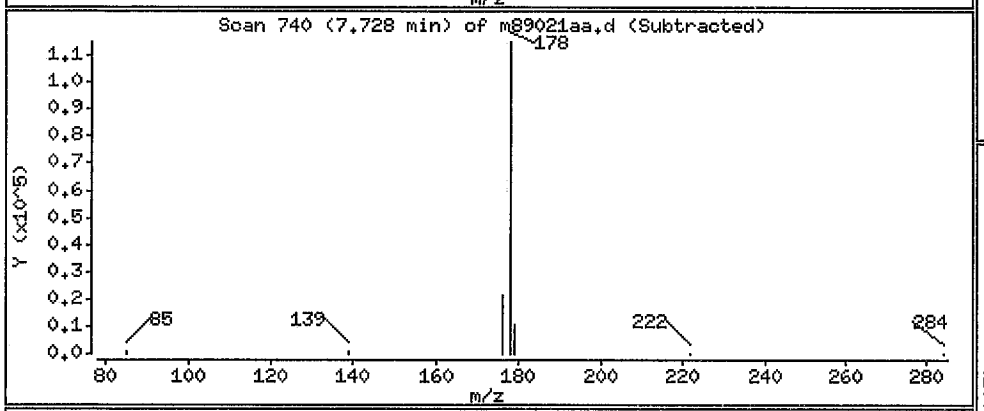
Purge Volume: 1038.0 | Operator: 011211

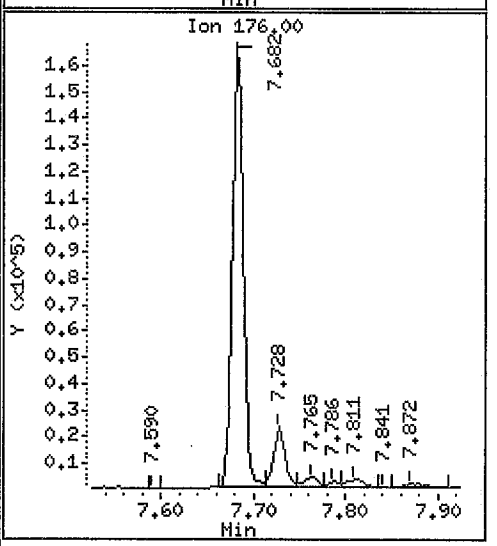
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

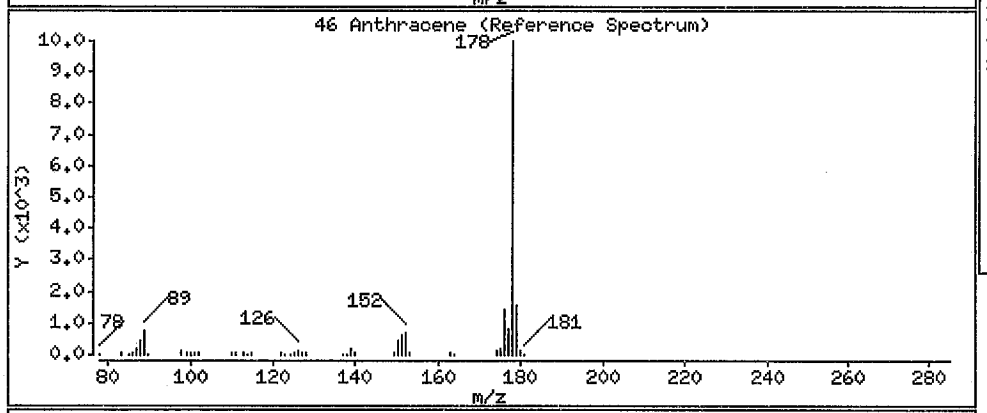
46 Anthracene | Concentration: 95.8 ng/L

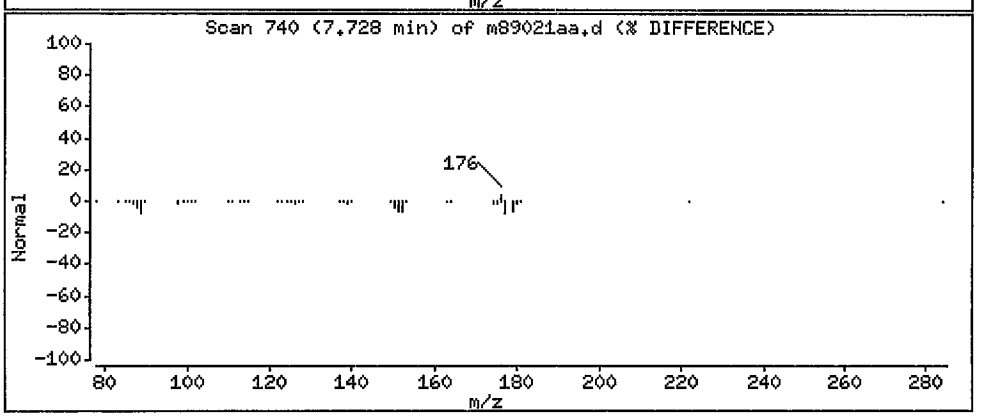












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

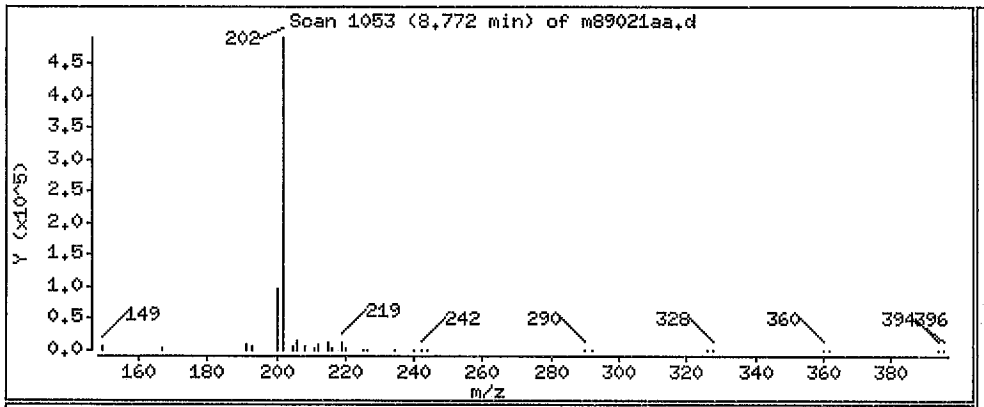
Operator: 011211

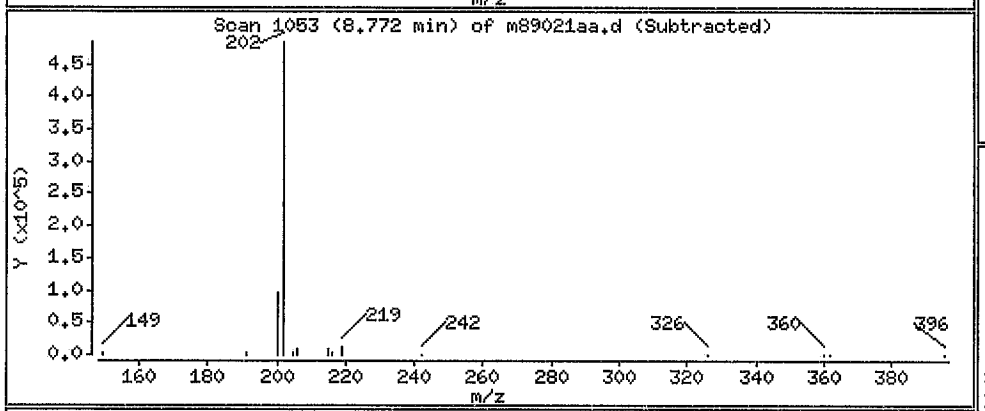
Column phase: Rxi-5SIL MS w/Guard

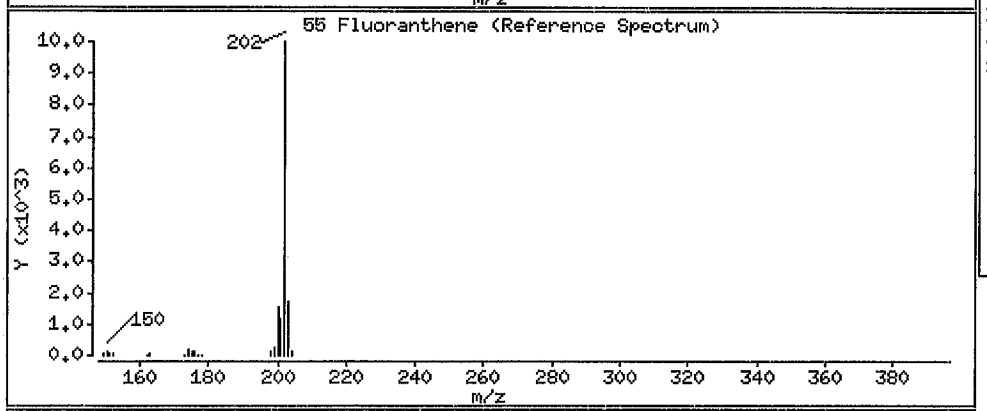
Column diameter: 0.25

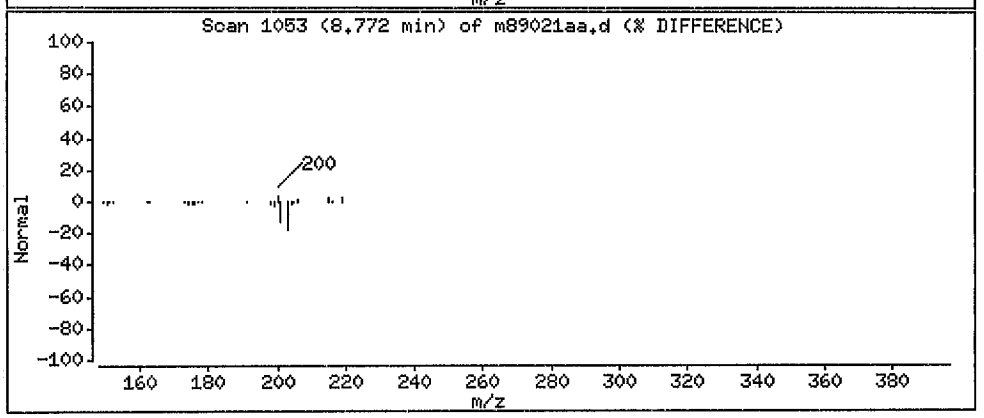
55 Fluoranthene

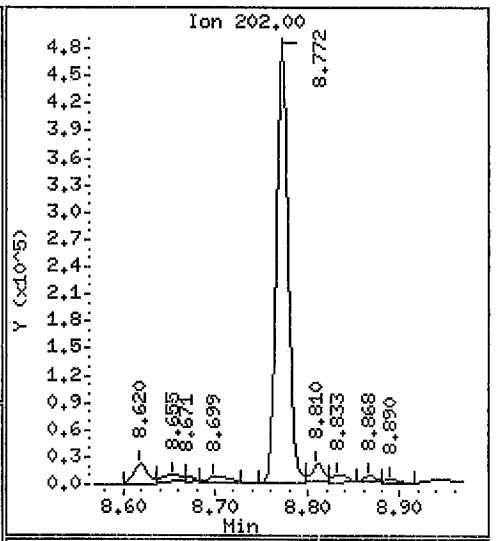
Concentration: 272 ng/L

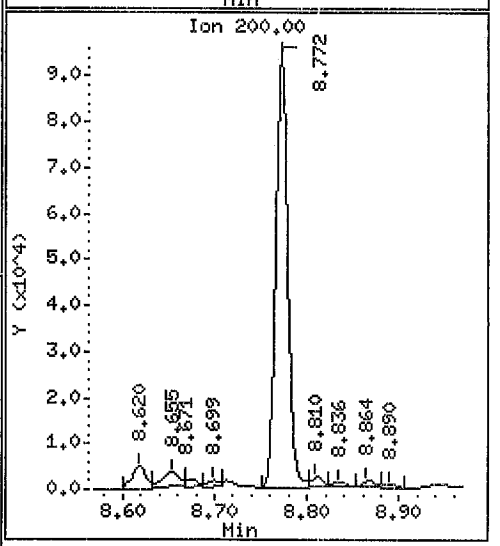












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

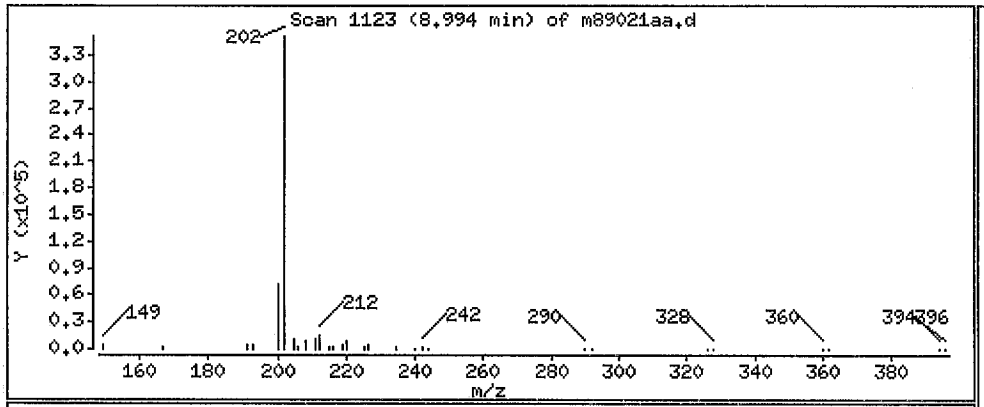
Column phase: Rxi-5SIL MS w/Guard

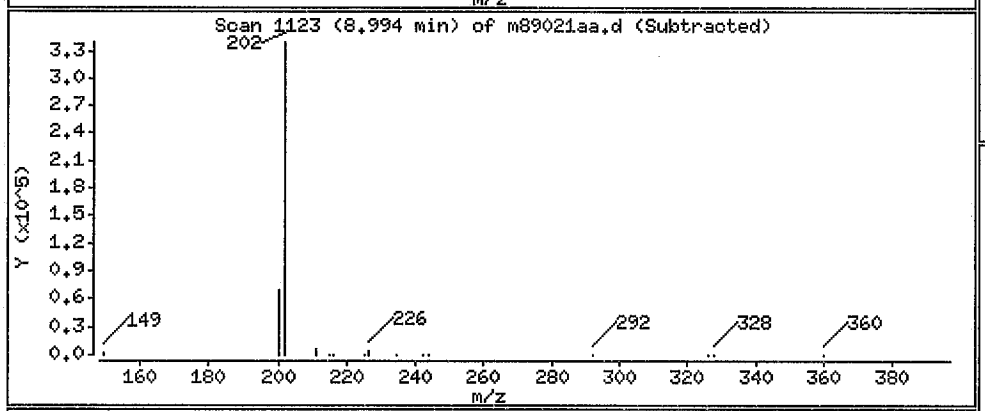
Column diameter: 0.25

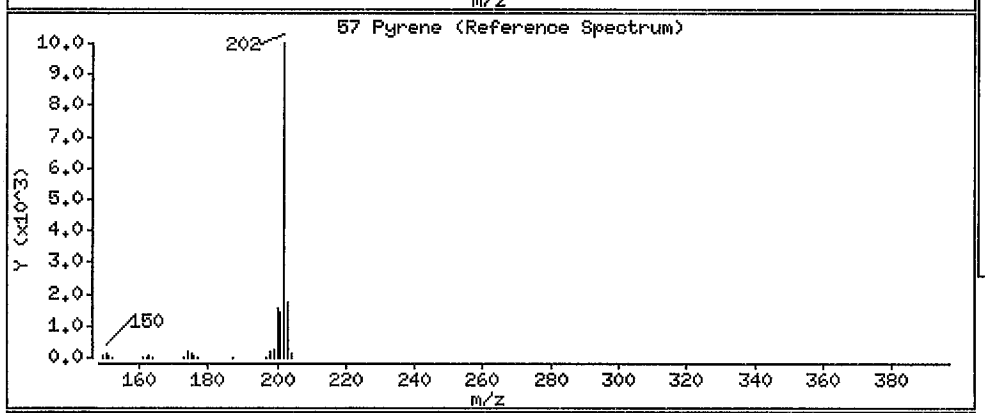
10/11/16

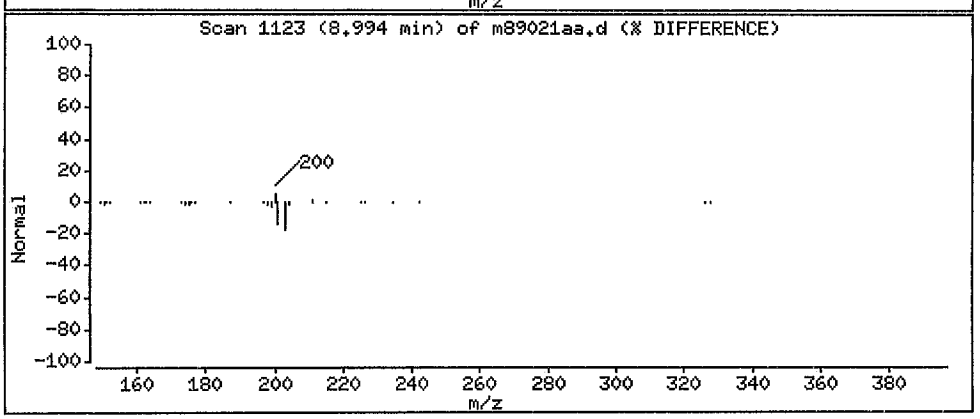
57 Pyrene

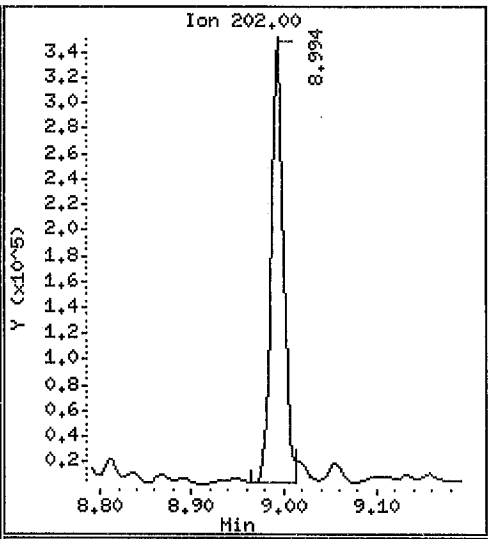
Concentration: 199 ng/L

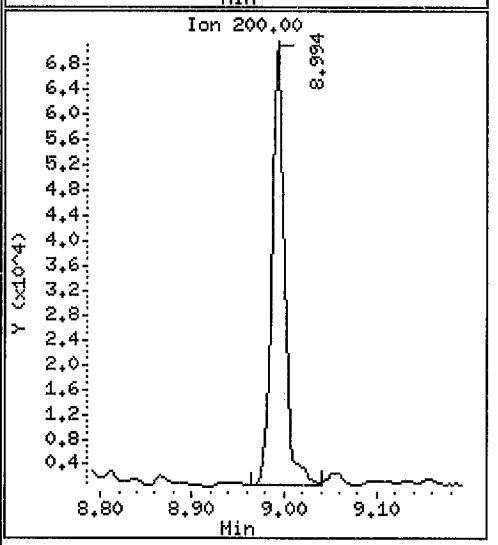












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

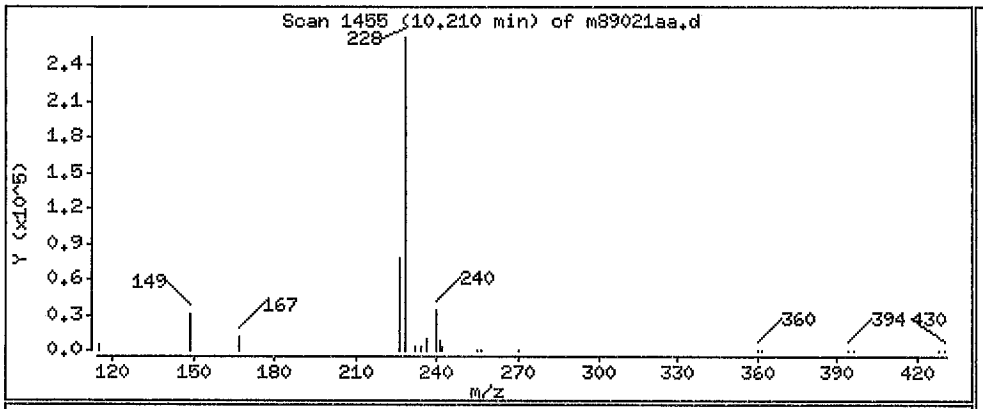
Operator: 011211

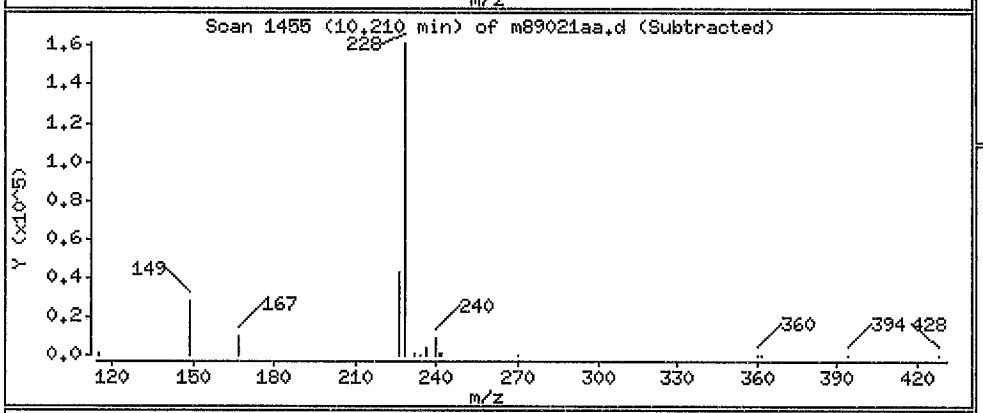
Column phase: Rxi-5SIL MS w/Guard

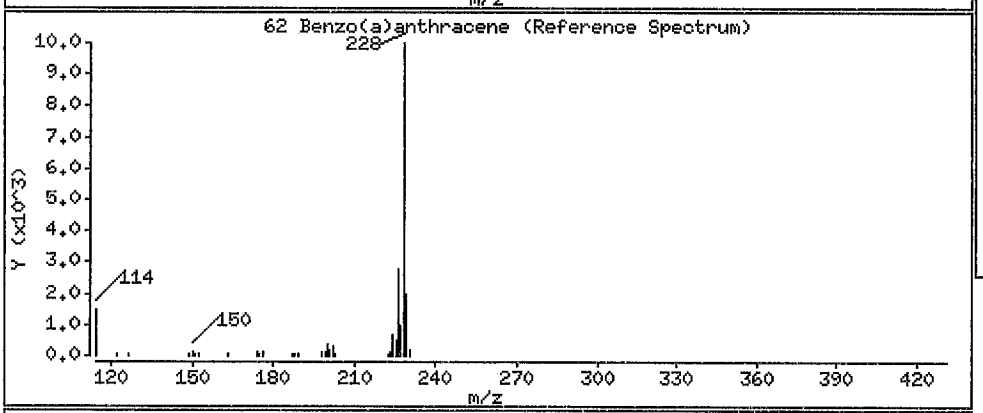
Column diameter: 0.25

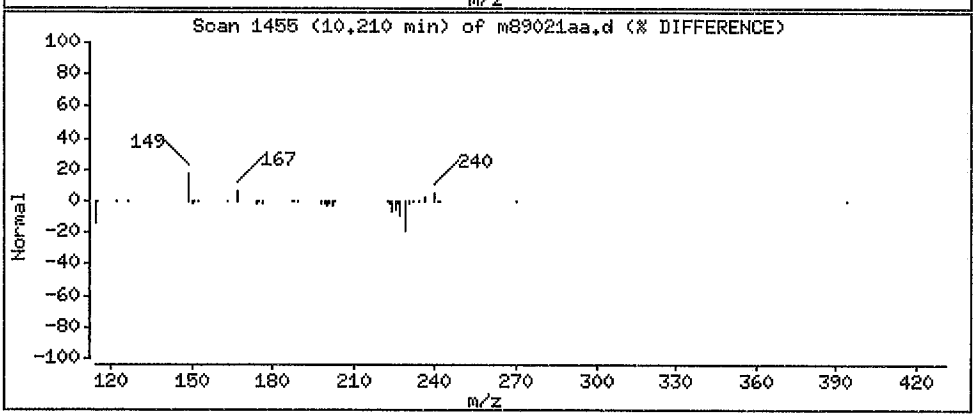
62 Benzo(a)anthracene

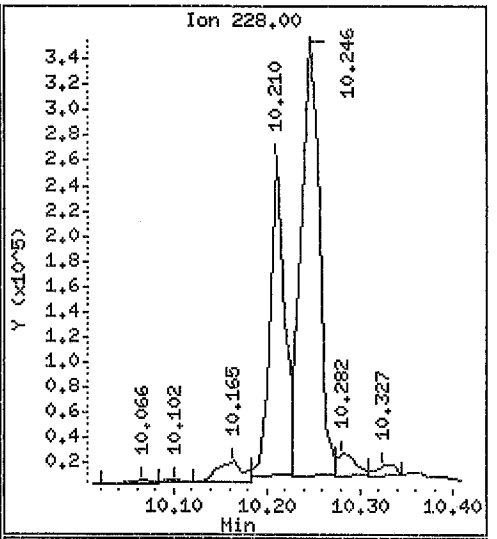
Concentration: 246 ng/L

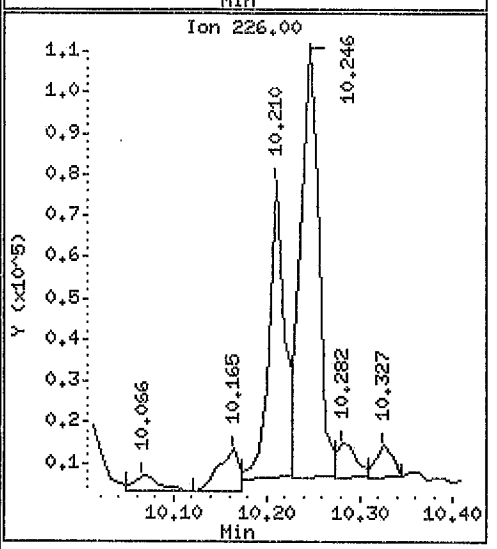












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

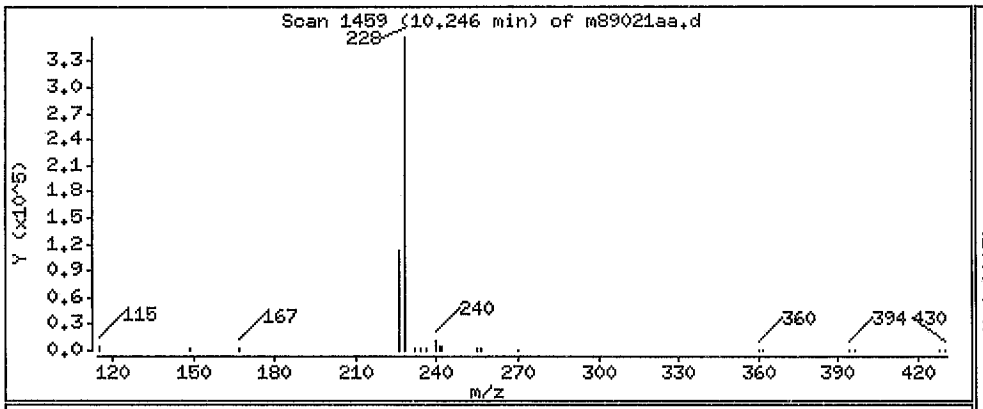
Column phase: Rxi-5SIL MS w/Guard

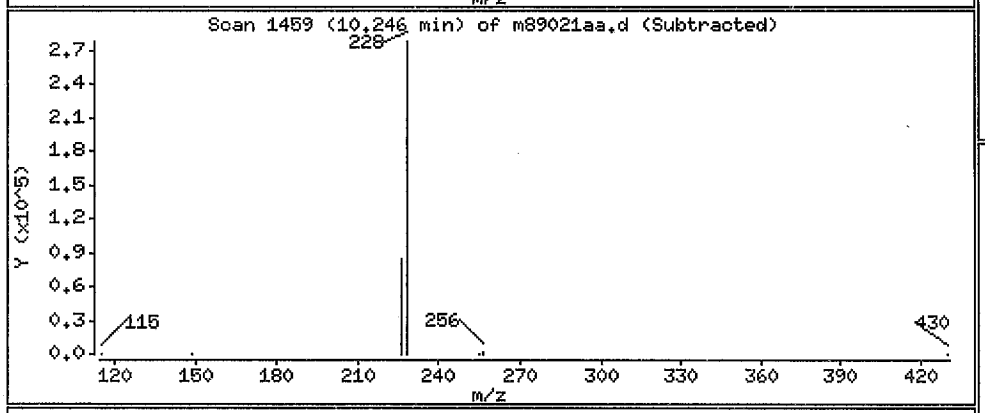
Column diameter: 0.25

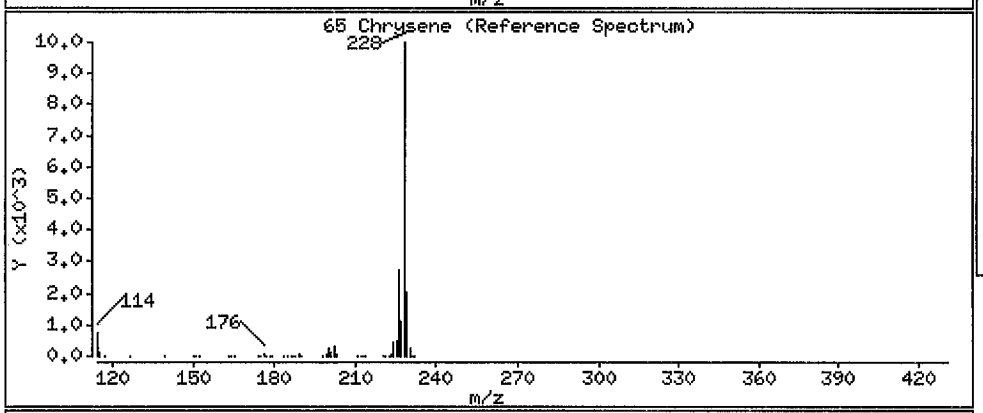
10/11/16 (2)

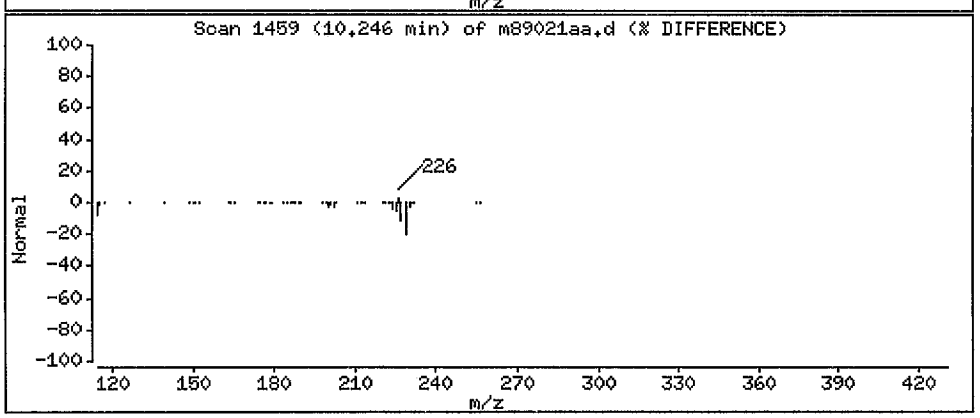
65 Chrysene

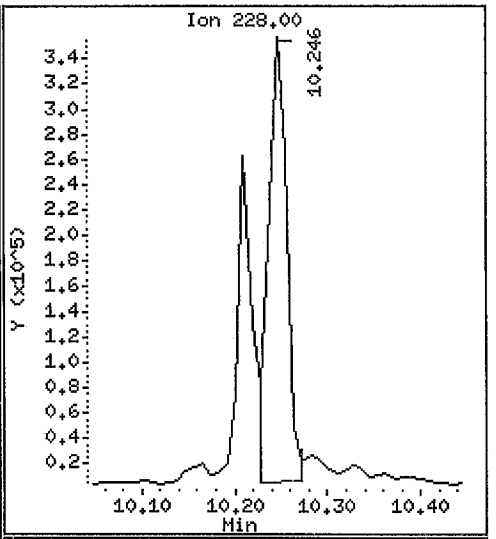
Concentration: 365 ng/L

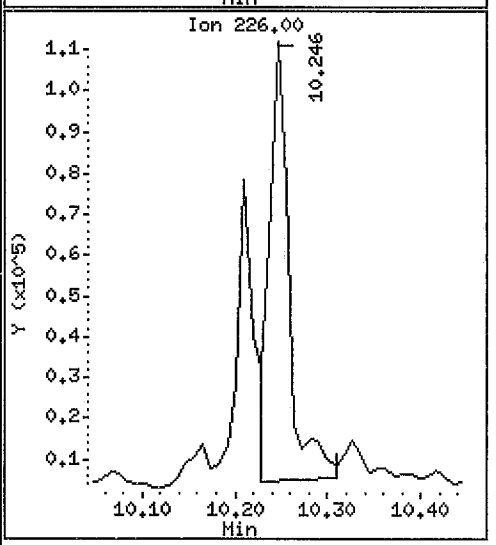












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

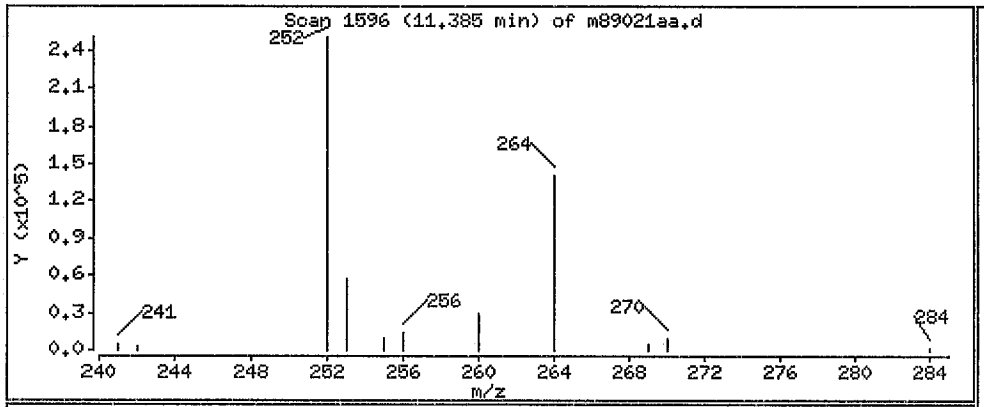
Column phase: Rxi-5SIL MS w/Guard

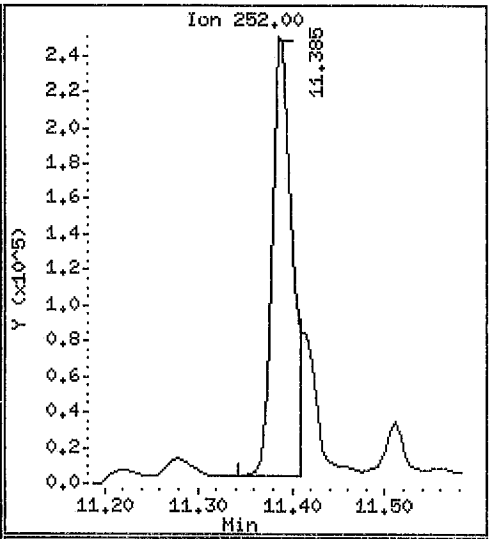
Column diameter: 0.25

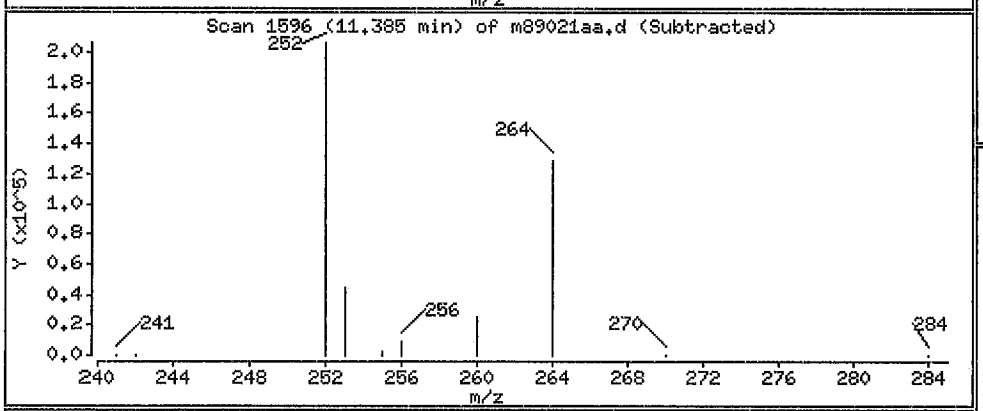
10/11/16 ①

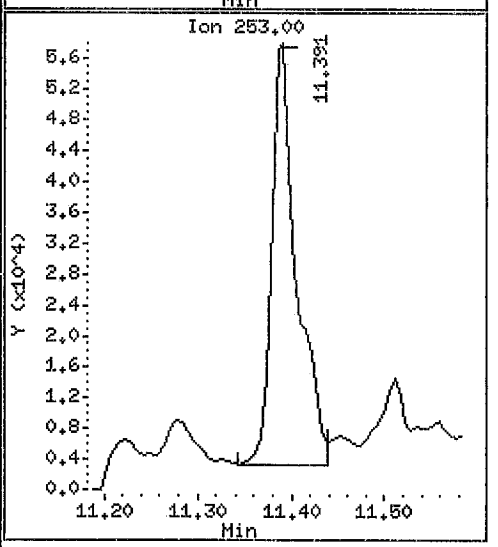
72 Benzo(b)fluoranthene

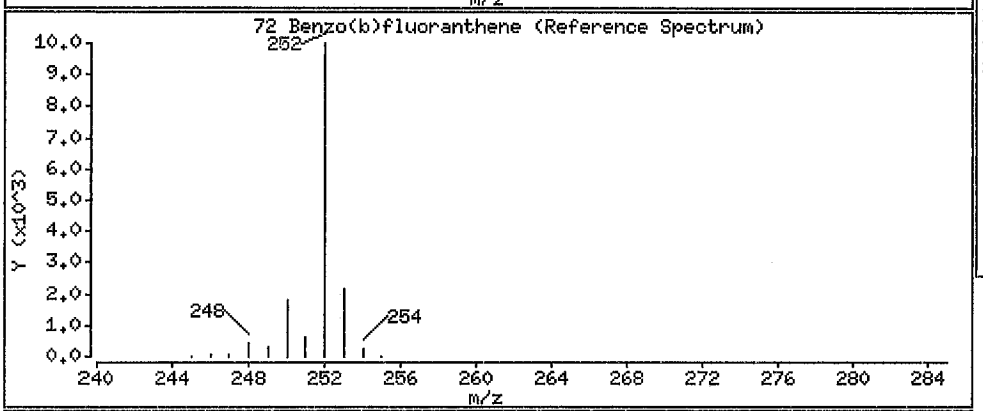
Concentration: 200 ng/L

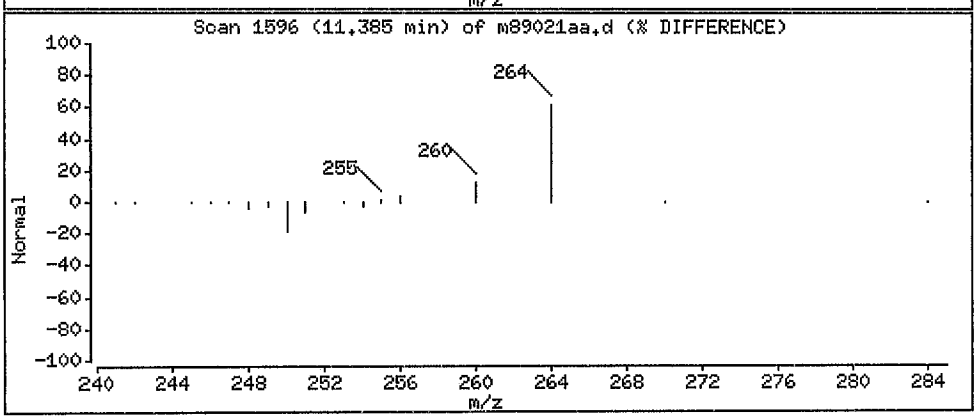












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

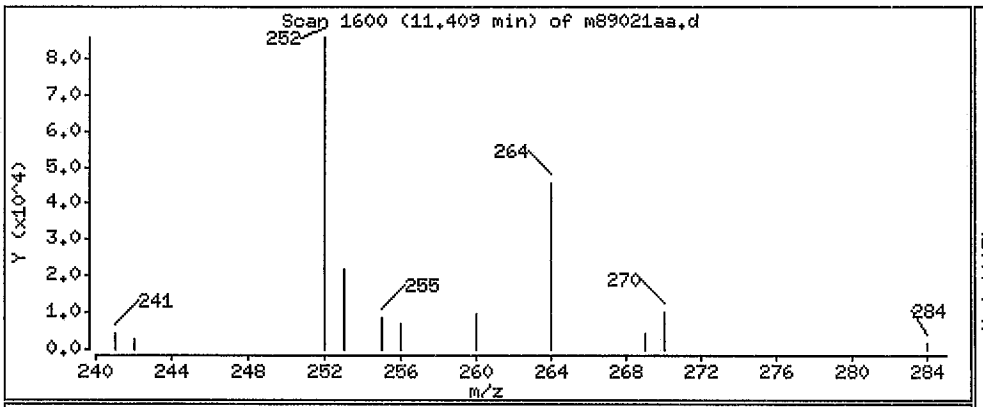
Column phase: Rxi-5SIL MS w/Guard

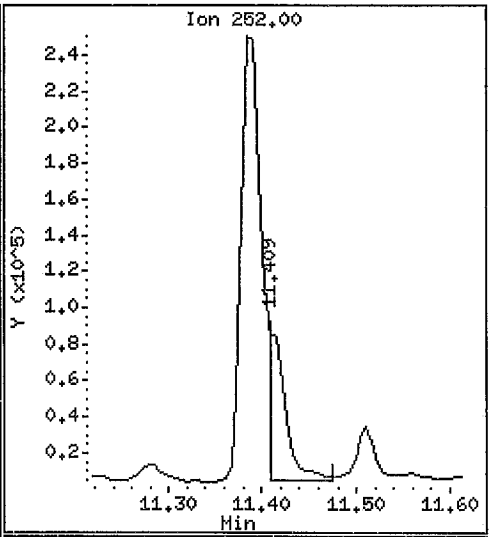
Column diameter: 0.25

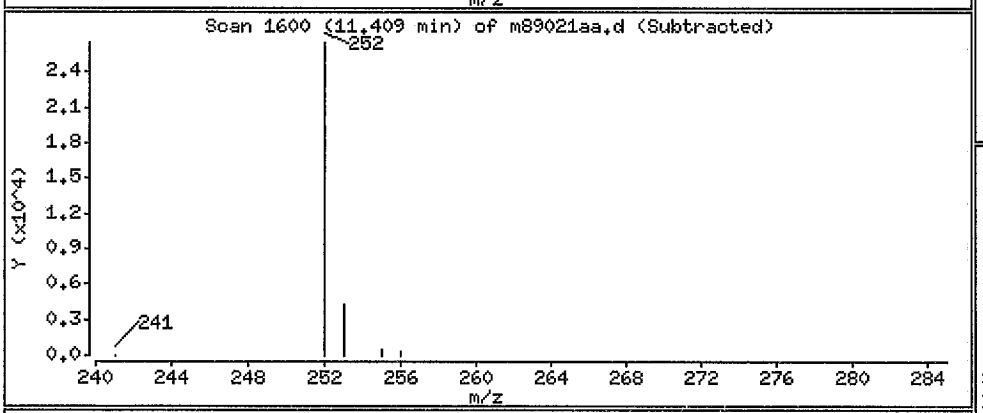
10/11/16 (1)

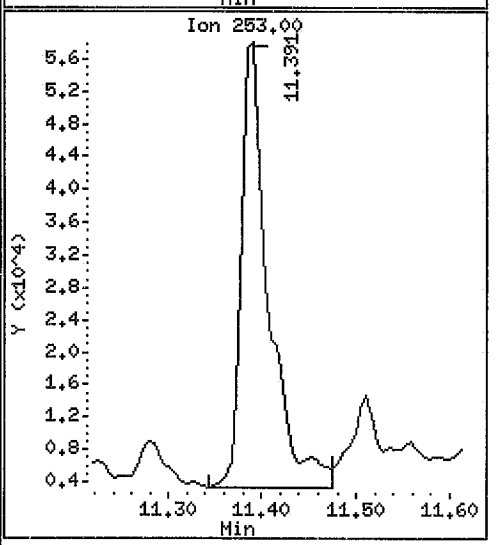
75 Benzo(k)fluoranthene

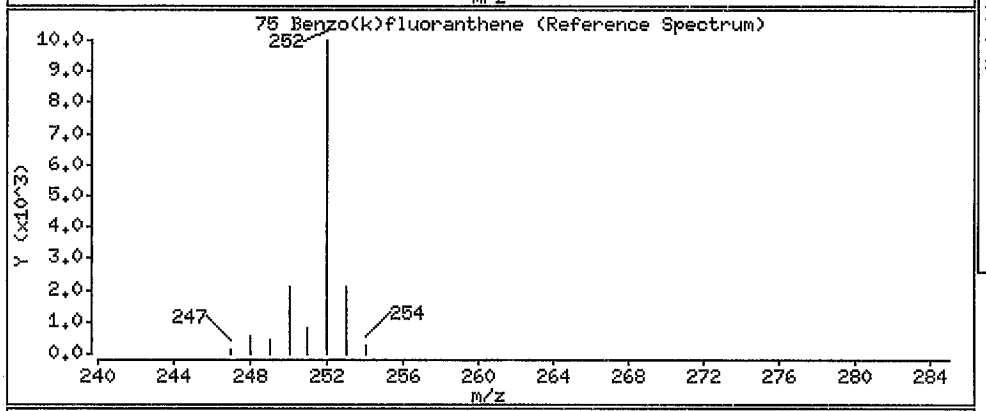
Concentration: 72.5 ng/L

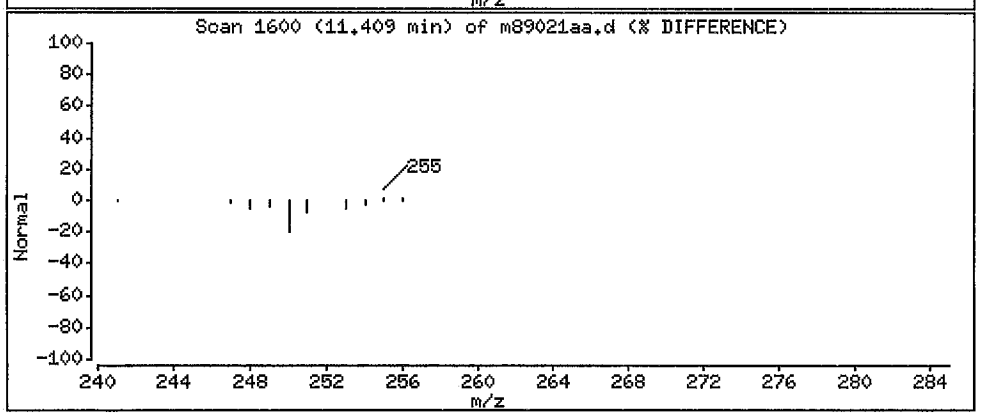












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

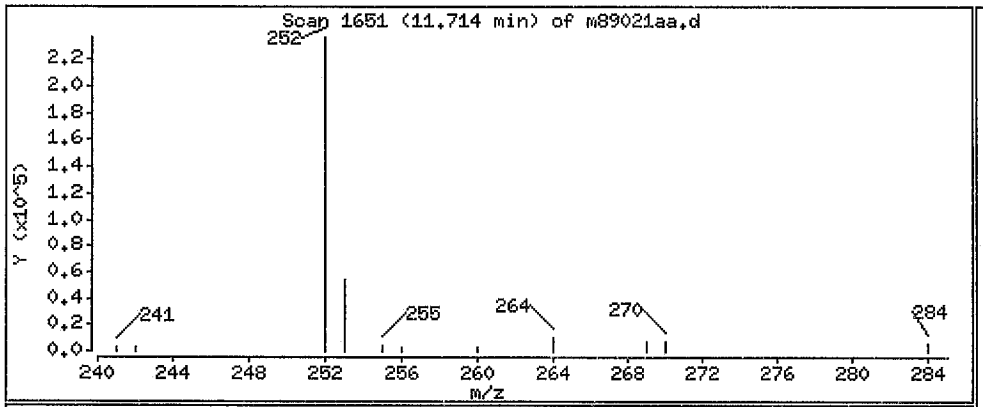
Operator: 011211

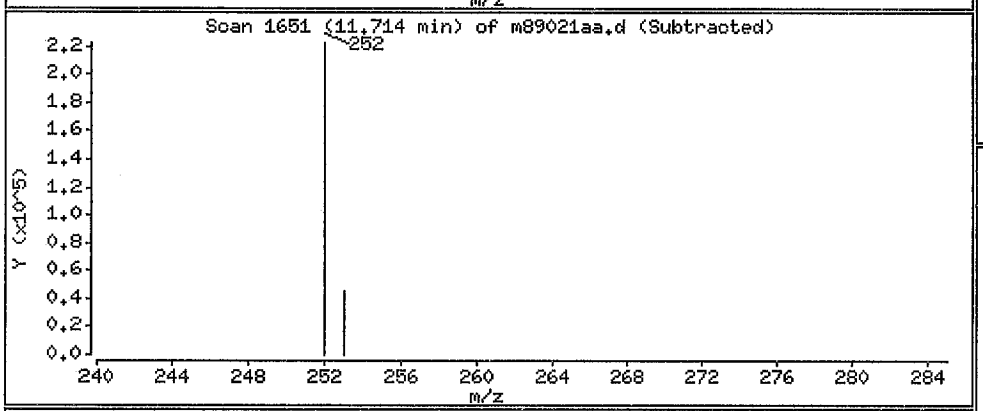
Column phase: Rxi-5SIL MS w/Guard

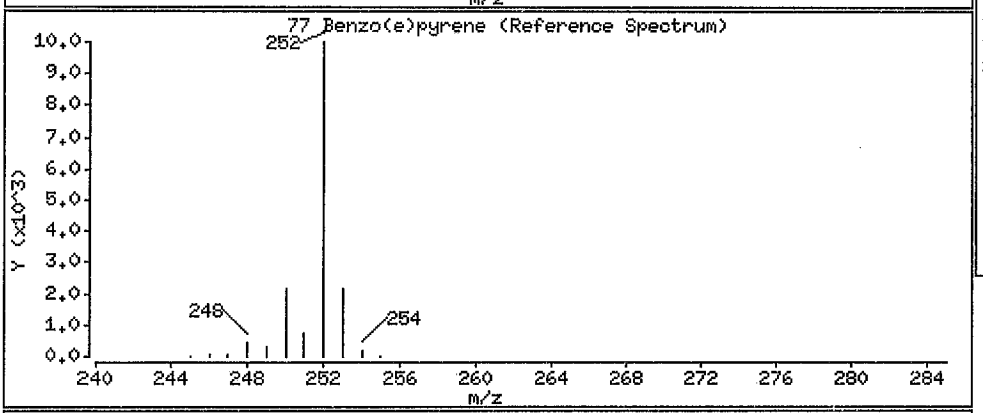
Column diameter: 0.25

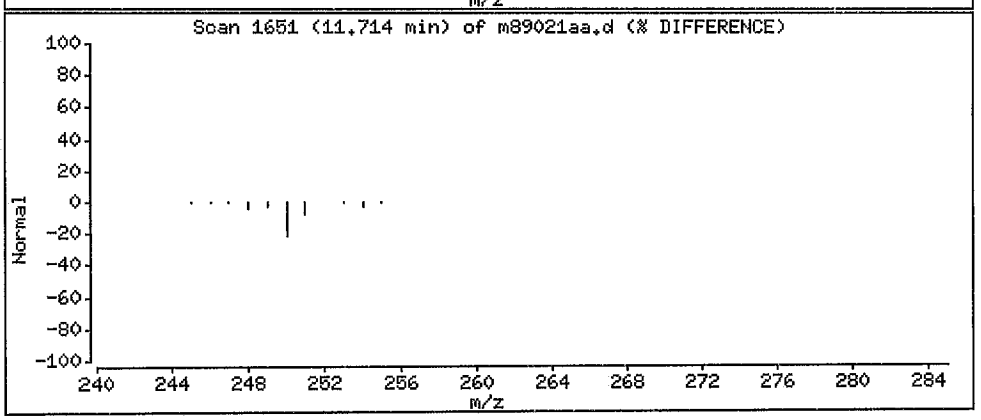
77 Benzo(e)pyrene

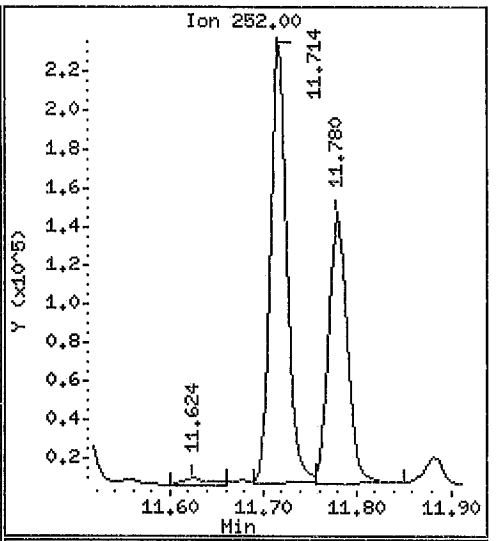
Concentration: 174 ng/L

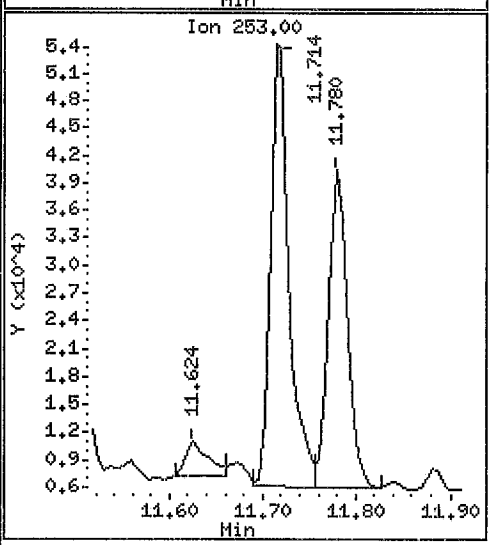












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

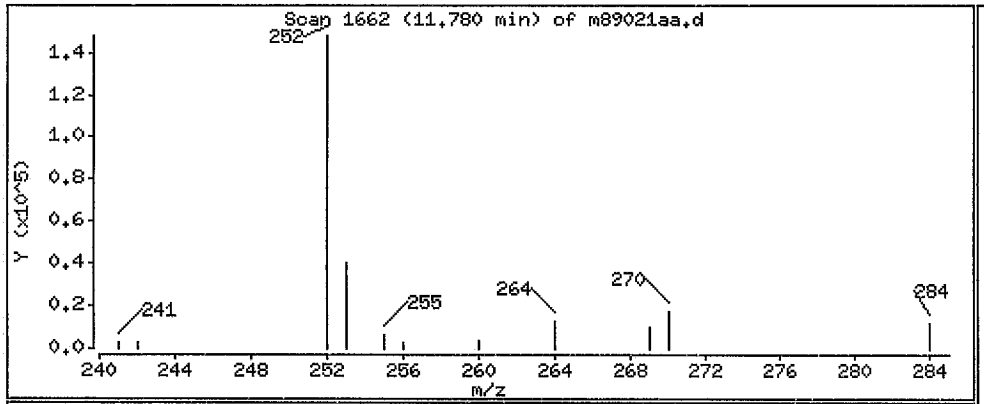
Operator: 011211

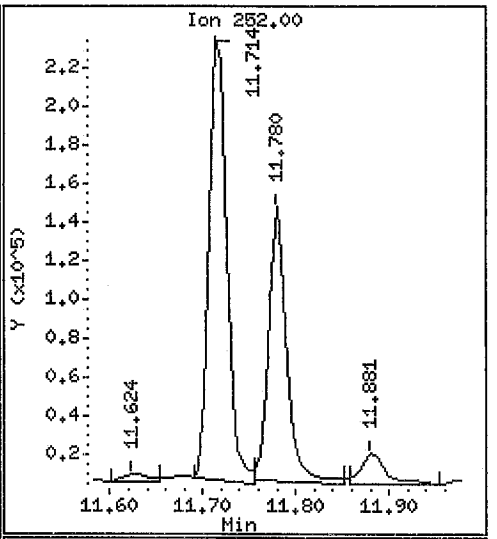
Column phase: Rxi-5SIL MS w/Guard

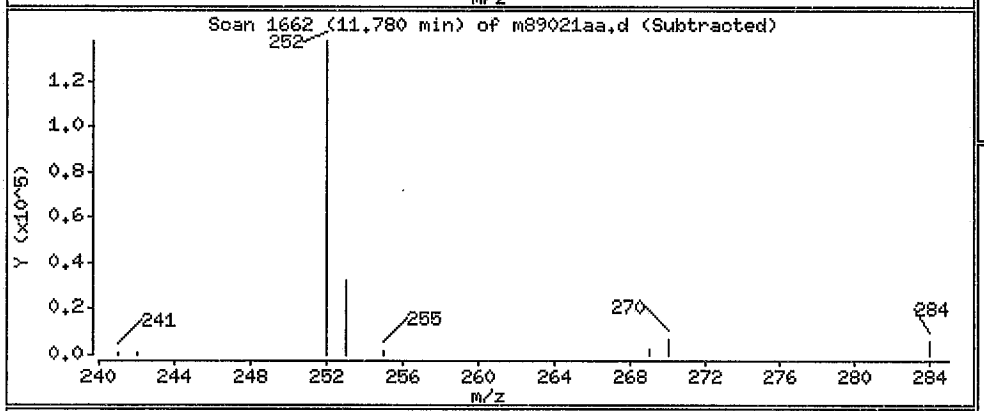
Column diameter: 0.25

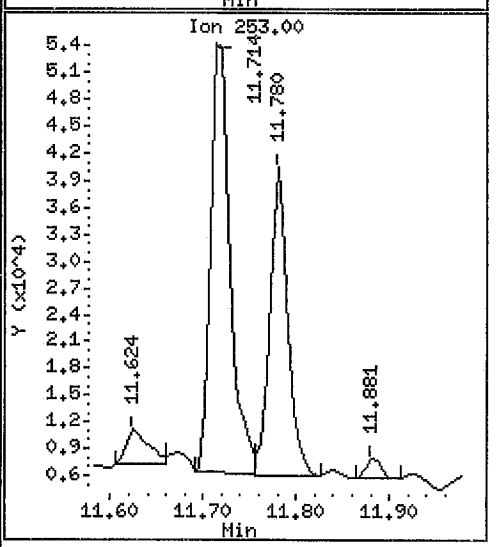
80 Benzo(a)pyrene

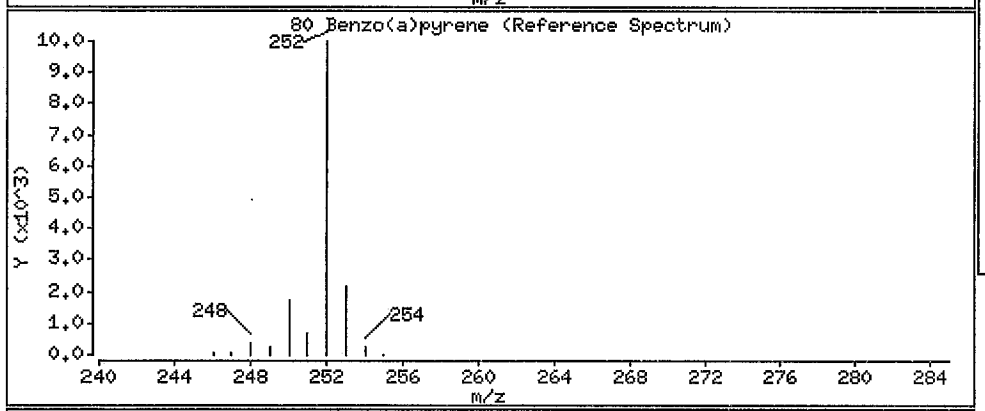
Concentration: 136 ng/L

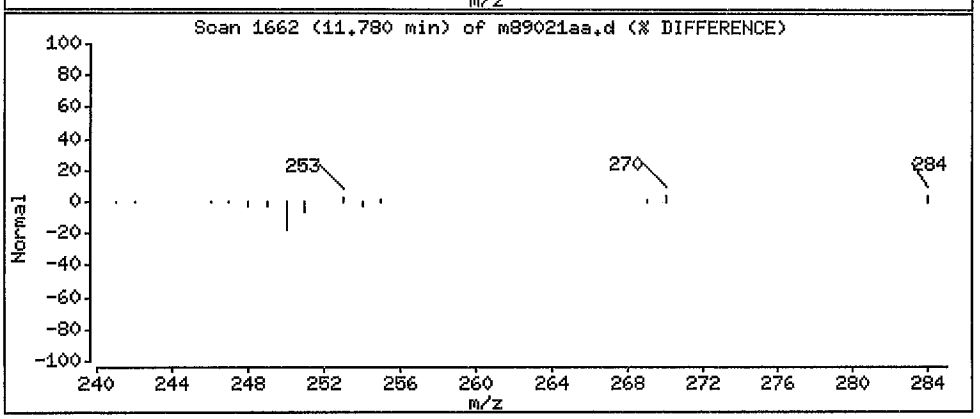












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

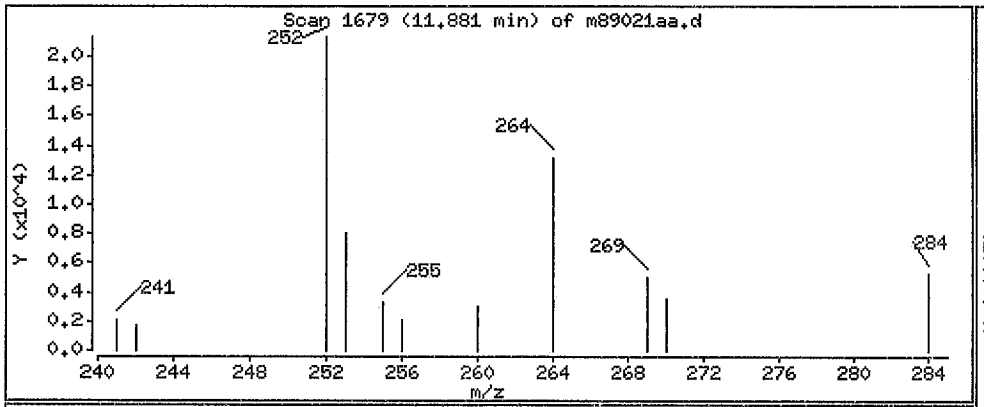
Column phase: Rxi-5SIL MS w/Guard

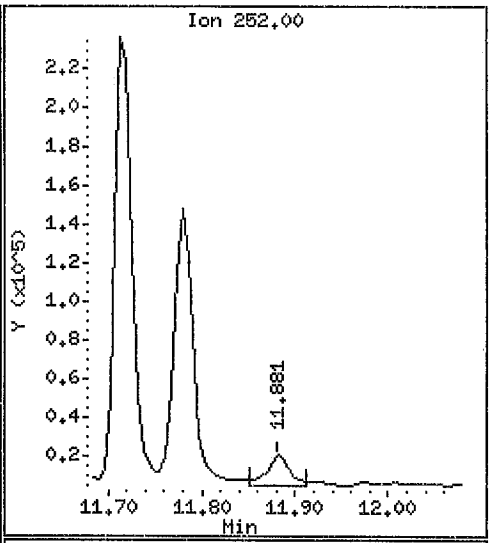
Column diameter: 0.25

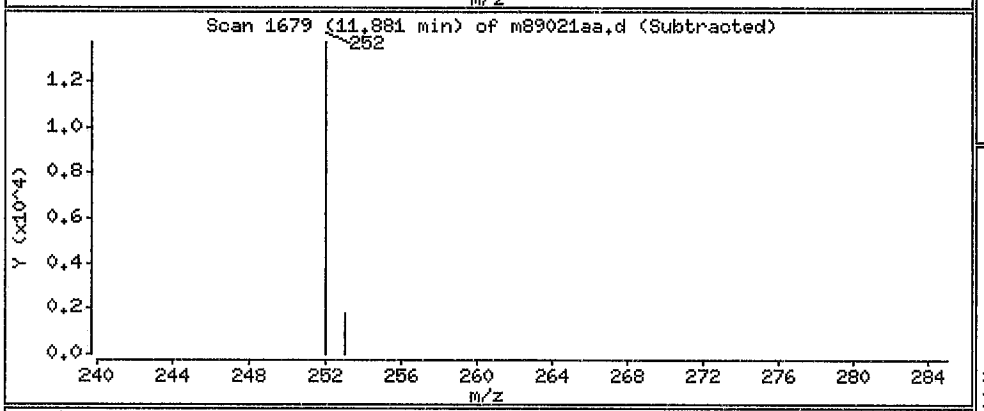
10/11/16

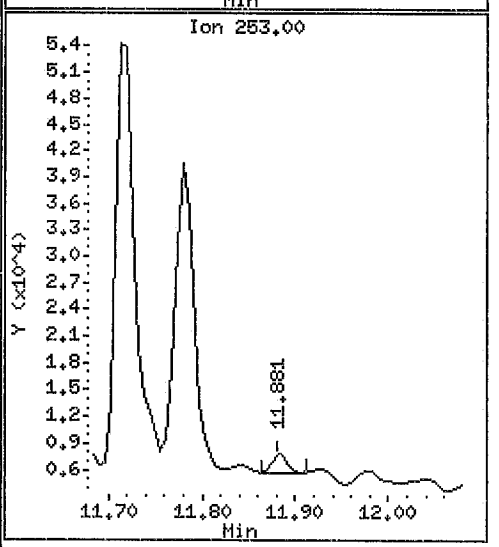
83 Perylene

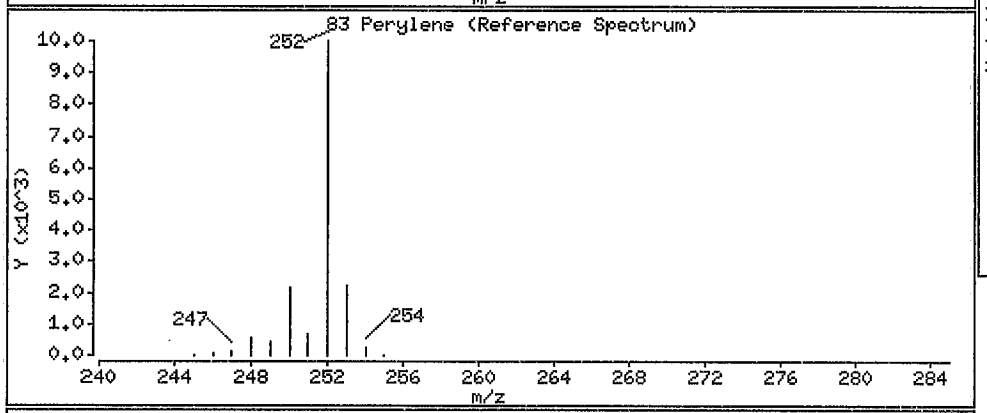
Concentration: 23.0 ng/L

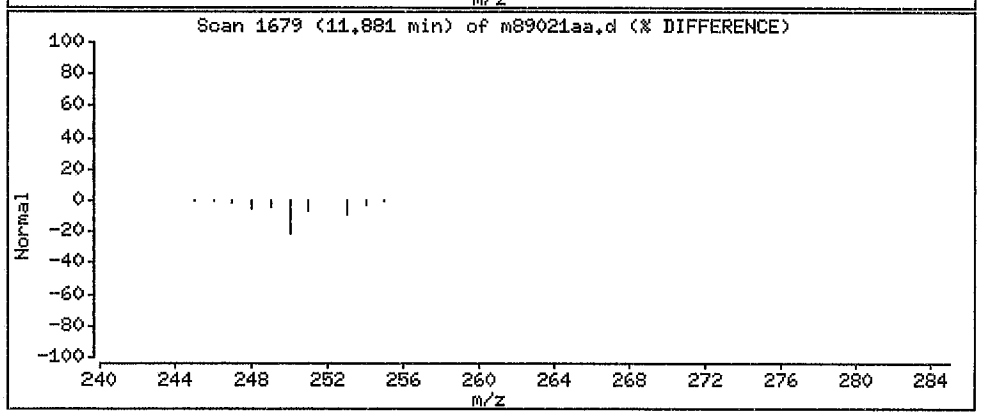












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

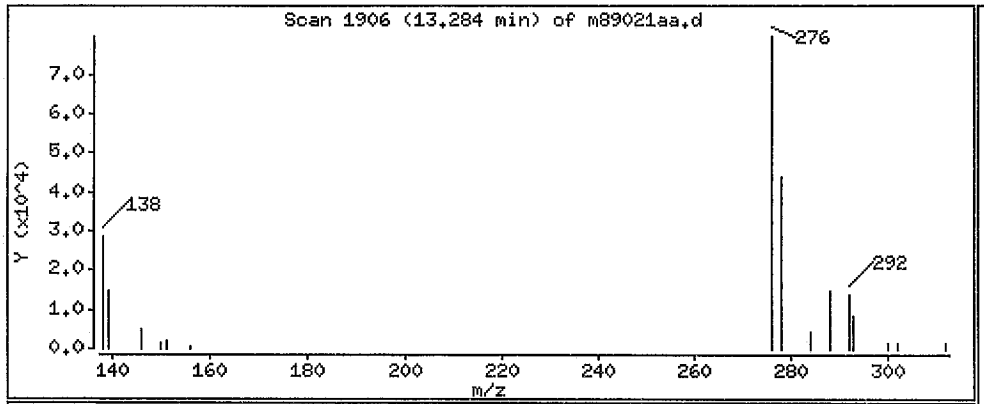
Operator: 011211

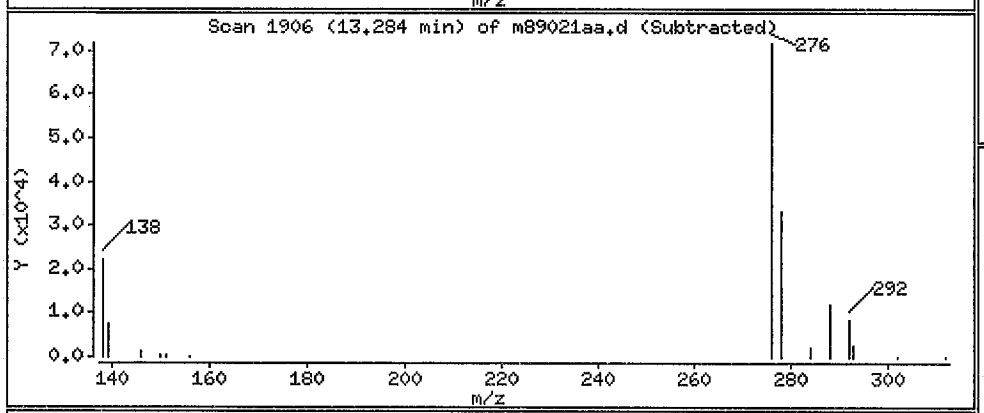
Column phase: Rxi-5SIL MS w/Guard

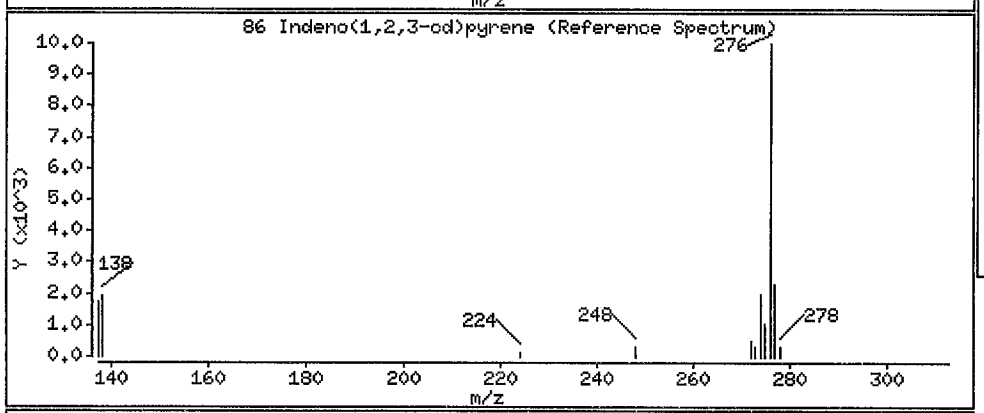
Column diameter: 0.25

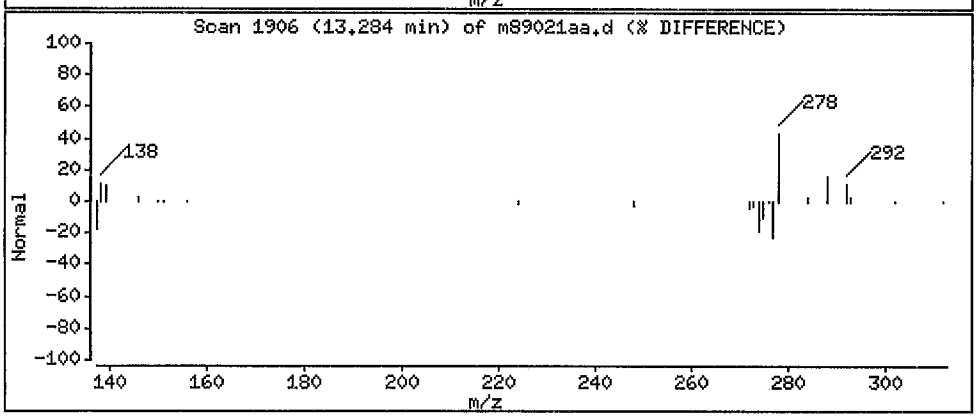
86 Indeno(1,2,3-cd)pyrene

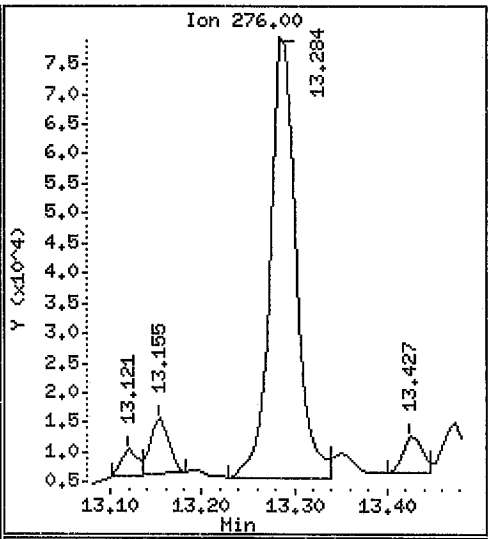
Concentration: 74.1 ng/L

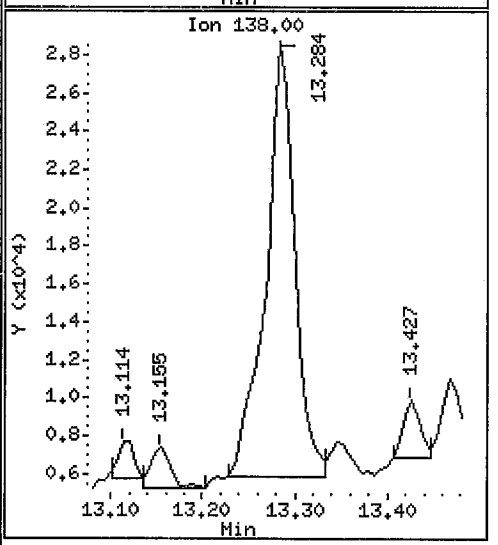












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

Operator: 011211

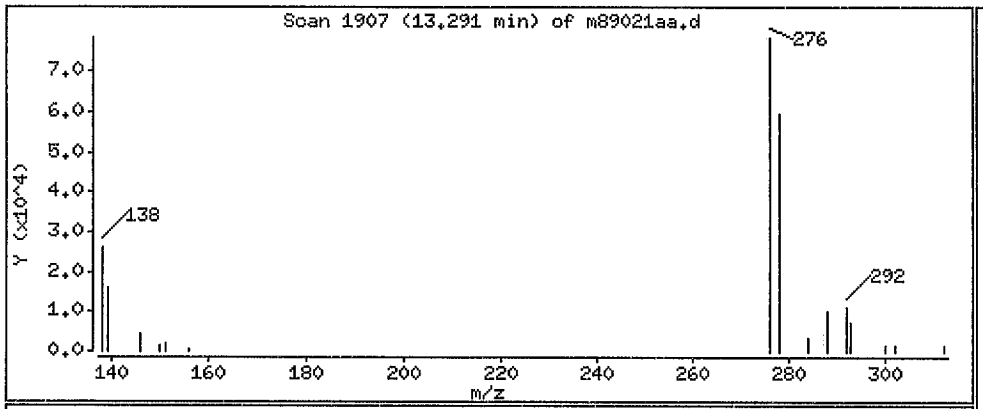
Column phase: Rxi-5SIL MS w/Guard

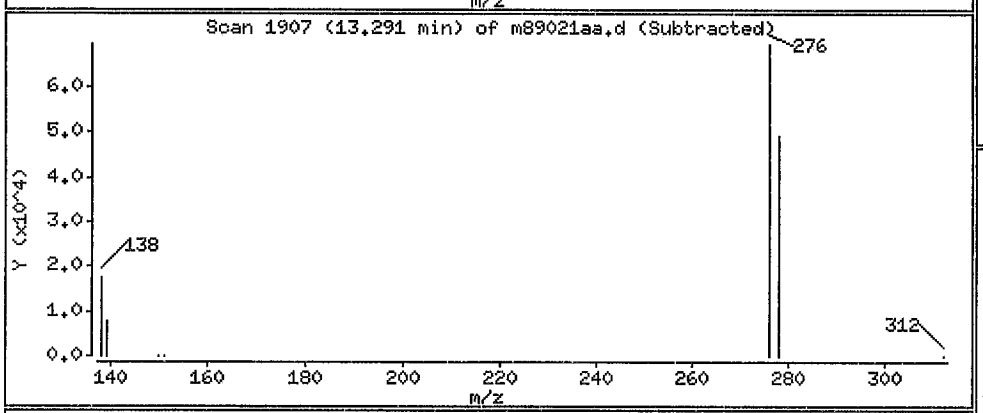
Column diameter: 0.25

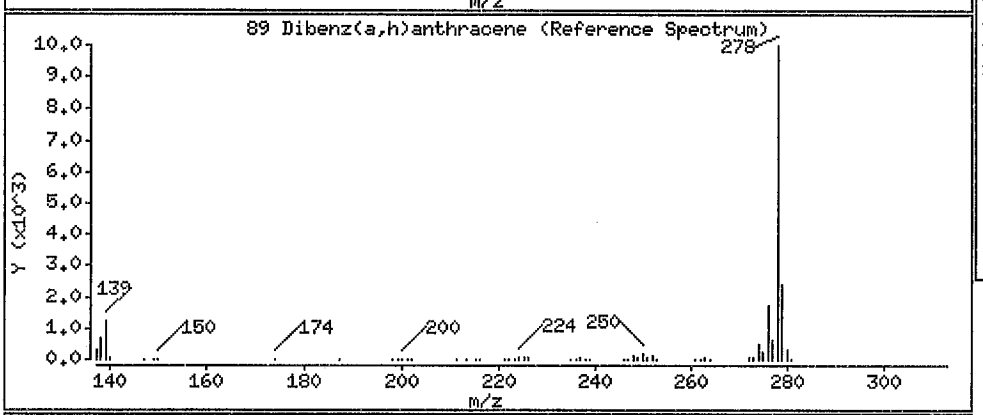
10/11/16

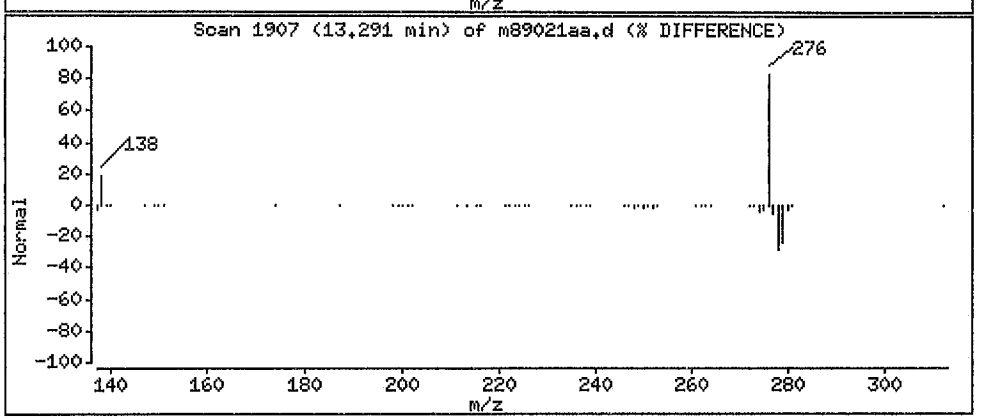
89 Dibenz(a,h)anthracene

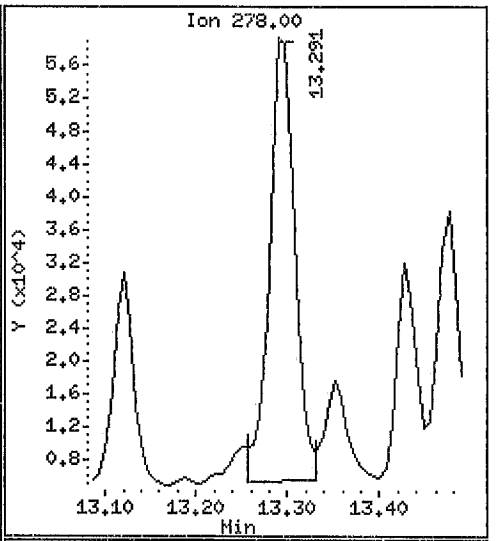
Concentration: 63.1 ng/L

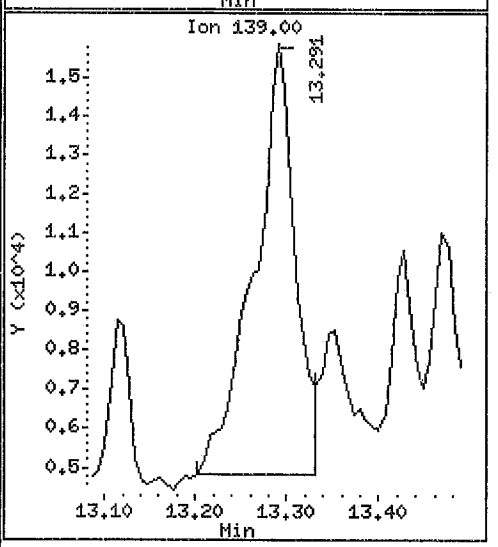












Data File: /var/chem/gcms/mp.i/P101016.b/m89021aa.d

Date : 10-OCT-2016 17:26

Client ID: R-1616 LOC#4 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1038.0

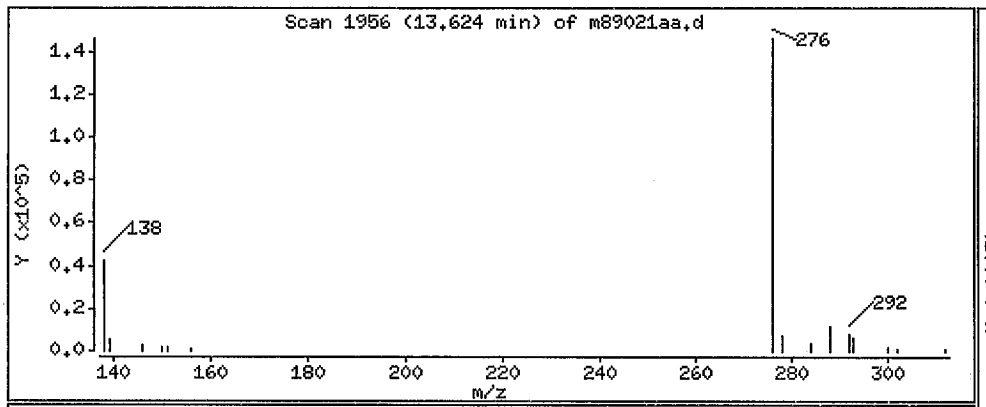
Operator: 011211

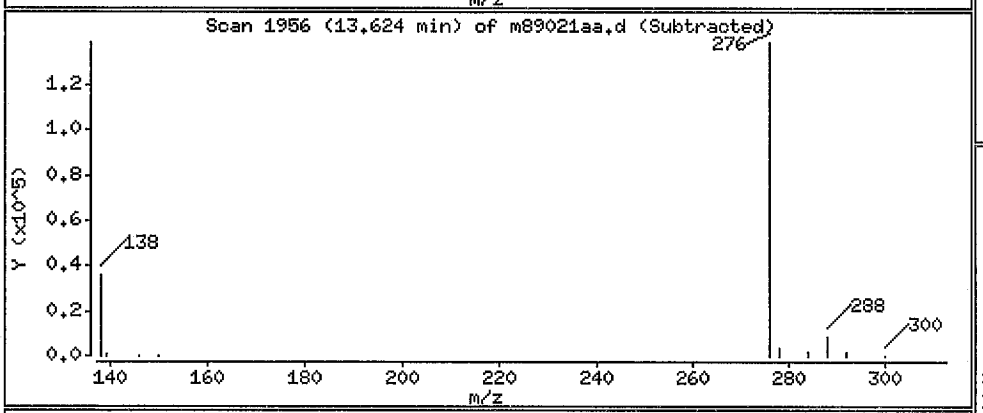
Column phase: Rxi-5SIL MS w/Guard

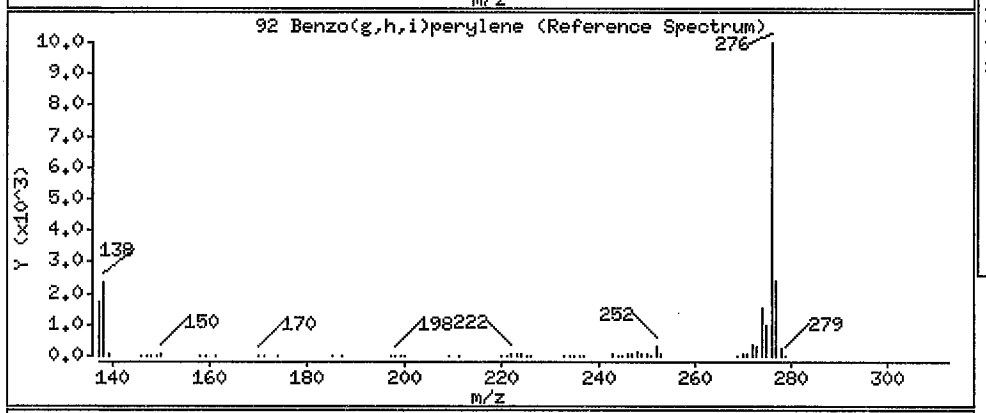
Column diameter: 0.25

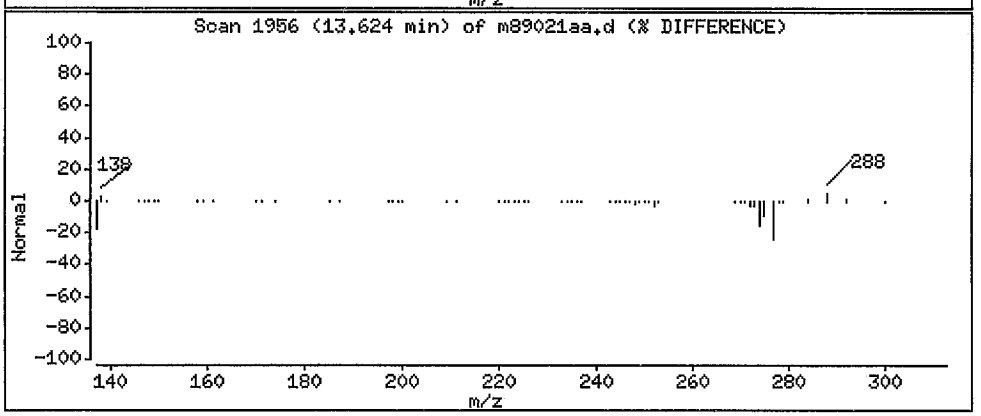
92 Benzo(g,h,i)perylene

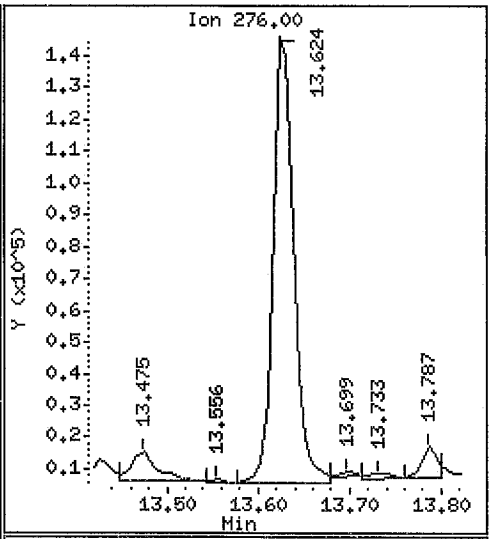
Concentration: 139 ng/L

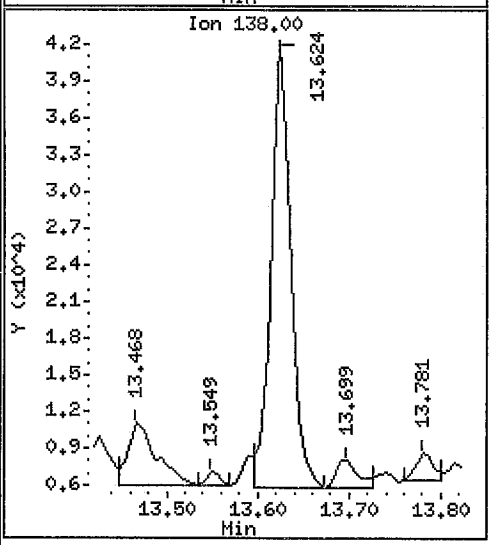












Montrose Air Quality Services LLC

Client Sample ID: R-1624 LOC#5 WATER QT-R1C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-003	**Work Order #...:**	M89031AA	**Matrix.....:**	WATER
Date Sampled...:	09/22/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	58	10	ng/L	2.4
Acenaphthylene	29	10	ng/L	0.15
Anthracene	99	10	ng/L	0.71
Benzo(a)anthracene	230	10	ng/L	1.5
Benzo(b)fluoranthene	260	10	ng/L	1.5
Benzo(k)fluoranthene	74	10	ng/L	1.0
Benzo(ghi)perylene	170	10	ng/L	0.51
Benzo(a)pyrene	140	10	ng/L	0.40
Chrysene	340 B	10	ng/L	0.22
Dibenz(a,h)anthracene	68	10	ng/L	0.78
Fluoranthene	240	10	ng/L	2.4
Fluorene	87 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	100	10	ng/L	1.0
Naphthalene	400	50	ng/L	16
Perylene	29	10	ng/L	0.81
Phenanthrene	560	20	ng/L	11
Pyrene	180 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	45	(30 - 120)
Naphthalene-d8	57	(30 - 120)
Acenaphthylene-d8	44	(30 - 120)
Phenanthrene-d10	28 *	(30 - 120)
Anthracene-d10	27 *	(30 - 120)
Fluoranthene-d10	35	(30 - 120)
Chrysene-d12	36	(30 - 120)
Benzo(b)fluoranthene-d12	49	(30 - 120)
Benzo(k)fluoranthene-d12	40	(30 - 120)
Benzo(a)pyrene-d12	48	(30 - 120)
Perylene-d12	39	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	48	(30 - 120)
Dibenz(ah)anthracene-d14	49	(30 - 120)
Benzo(ghi)perylene-d12	41	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d
Report Date: 11-Oct-2016 15:12

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89031aa.d
Lab Smp Id: M89031AA Client Smp ID: R-1624 LOC#5 WATER
Inj Date : 10-OCT-2016 17:52
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1034.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	332520	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	333668	0.28626	138
3 Naphthalene	128	4.957	4.957	(1.002)	556260	0.82685	400
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	154304	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	154691	0.26354	127
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	137714	0.32477	157
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	230048	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	230048	0.22010	106
22 Acenaphthylene	152	6.286	6.286	(1.002)	30095	0.05990	29.0
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	294296	0.50000	0.500
24 Acenaphthene	154	6.431	6.432	(1.025)	36379	0.11961	57.8
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	157845	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	157845	0.22578	109
27 Fluorene	166	6.865	6.861	(1.003)	65683	0.17966	86.9
* 41 Phenanthrene-d10	188	7.663	7.660	(1.000)	180591	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.663	7.660	(0.854)	180591	0.14091	68.1(R)
43 Phenanthrene	178	7.682	7.679	(1.002)	528952	1.16865	565
* 44 Anthracene-d10	188	7.712	7.709	(1.000)	159335	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d
Report Date: 11-Oct-2016 15:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.712	7.709	(0.859)	159335	0.13525	65.4(R)
	46 Anthracene	178	7.728	7.725	(1.002)	82851	0.20432	98.8
*	53 Fluoranthene-d10	212	8.753	8.750	(1.000)	213577	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	214901	0.17372	84.0
	55 Fluoranthene	202	8.772	8.769	(1.002)	271530	0.49871	241
*	56 Pyrene-d10	212	8.975	8.972	(1.000)	556994	0.50000	0.500
	57 Pyrene	202	8.994	8.991	(1.028)	206449	0.36862	178(M)
	62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	202360	0.47709	231
*	63 Chrysene-d12	240	10.219	10.219	(1.000)	238966	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	238966	0.18209	88.1
	65 Chrysene	228	10.246	10.246	(1.003)	354021	0.70244	340(M)
*	70 Benzo(b)fluoranthene-d12	264	11.358	11.355	(1.000)	248289	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.358	11.355	(0.972)	248289	0.24374	118
	72 Benzo(b)fluoranthene	252	11.388	11.385	(1.003)	382079	0.53262	258(M)
*	73 Benzo(k)fluoranthene-d12	264	11.394	11.391	(1.000)	250626	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.394	11.391	(0.975)	250626	0.19897	96.2
	75 Benzo(k)fluoranthene	252	11.412	11.415	(1.002)	90774	0.15387	74.4(M)
*	76 Benzo(e)pyrene-d12	264	11.687	11.684	(1.000)	485338	0.50000	0.500
	77 Benzo(e)pyrene	252	11.717	11.714	(0.997)	265016	0.42137	204
*	78 Benzo(a)pyrene-d12	264	11.753	11.750	(1.000)	204863	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.753	11.750	(1.006)	204863	0.23802	115
	80 Benzo(a)pyrene	252	11.783	11.780	(1.003)	156570	0.28670	139
*	81 Perylene-d12	264	11.854	11.845	(1.000)	194535	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.854	11.845	(1.014)	194535	0.19718	95.3
	83 Perylene	252	11.884	11.881	(1.003)	27600	0.06003	29.0(M)
*	84 Indeno(123-cd)pyrene-d12	288	13.253	13.249	(1.000)	243325	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.253	13.249	(1.134)	245829	0.24032	116
	86 Indeno(1,2,3-cd)pyrene	276	13.287	13.283	(1.003)	134693	0.20571	99.5
*	87 Dibenz(ah)anthracene-d14	292	13.253	13.249	(1.000)	200186	0.50000	0.500(M)
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.253	13.249	(1.134)	200186	0.24479	118(M)
	89 Dibenz(a,h)anthracene	278	13.294	13.290	(1.003)	79050	0.14048	67.9(M)
*	90 Benzo(ghi)perylene-d12	288	13.593	13.589	(1.000)	208247	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.593	13.589	(1.163)	208247	0.20626	99.7
	92 Benzo(g,h,i)perylene	276	13.627	13.623	(1.002)	182150	0.34763	168

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d
Report Date: 11-Oct-2016 15:12

TestAmerica Knoxville

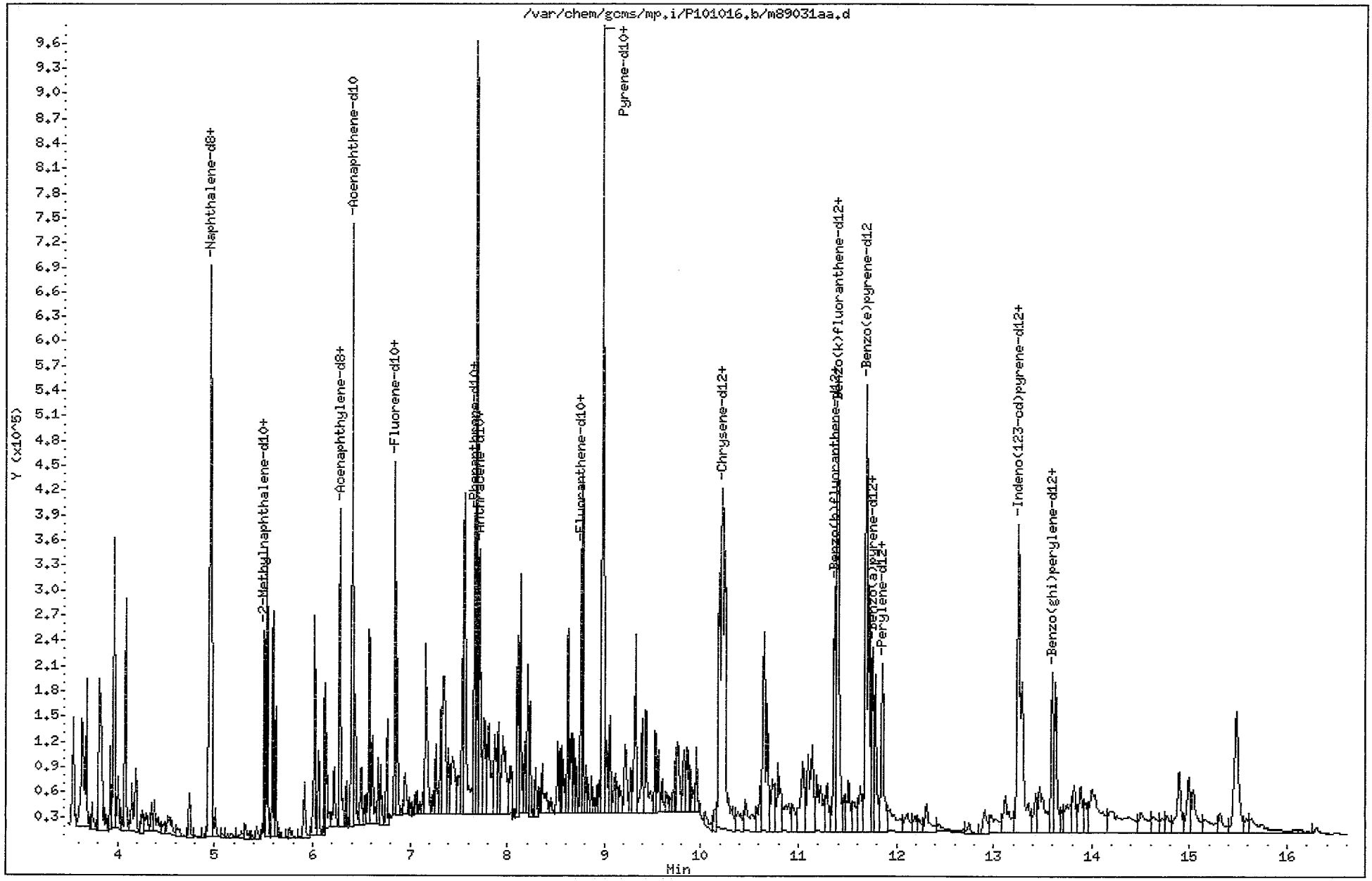
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89031AA Client Smp ID: R-1624 LOC#5 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	242	138	57.25	20-130
$ 222 13C6-Naphthalene	484	0.00	*	50-150
$ 11 2-Methylnaphthalen	242	127	52.71	30-120
$ 21 Acenaphthylene-d8(	242	106	44.02	30-120
$ 233 Fluorene-d10(SS)	242	109	45.16	30-120
$ 42 Phenanthrene-d10(S	242	68.1	28.18*	30-120
$ 45 Anthracene-d10(SS)	242	65.4	27.05*	30-120
$ 54 Fluoranthene-d10(S	242	84.0	34.74	30-120
$ 64 Chrysene-d12(SS)	242	88.1	36.42	30-120
$ 71 Benzo(b)fluoranthe	242	118	48.75	30-120
$ 74 Benzo(k)fluoranthe	242	96.2	39.79	30-120
$ 79 Benzo(a)pyrene-d12	242	115	47.60	30-120
$ 82 Perylene-d12(SS)	242	95.3	39.44	30-120
$ 85 Indeno(123-cd)pyre	242	116	48.06	30-120
$ 88 Dibenz(ah)anthrace	242	118	48.96	30-120
$ 91 Benzo(ghi)perylene	242	99.7	41.25	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d
Date : 10-OCT-2016 17:52
Client ID: R-1624 LOC#5 WATER
Sample Info: ,,0,,TRT
Purge Volume: 1034.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

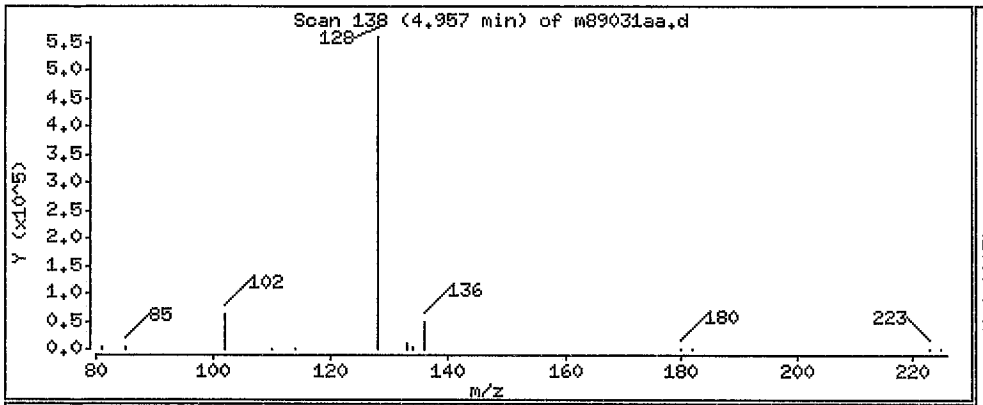
Operator: 011211

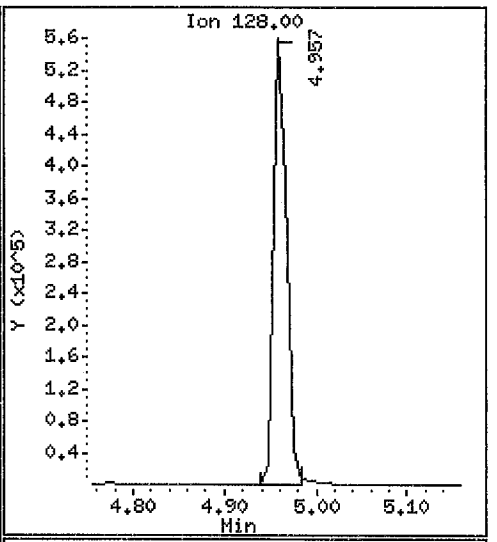
Column phase: Rxi-5SIL MS w/Guard

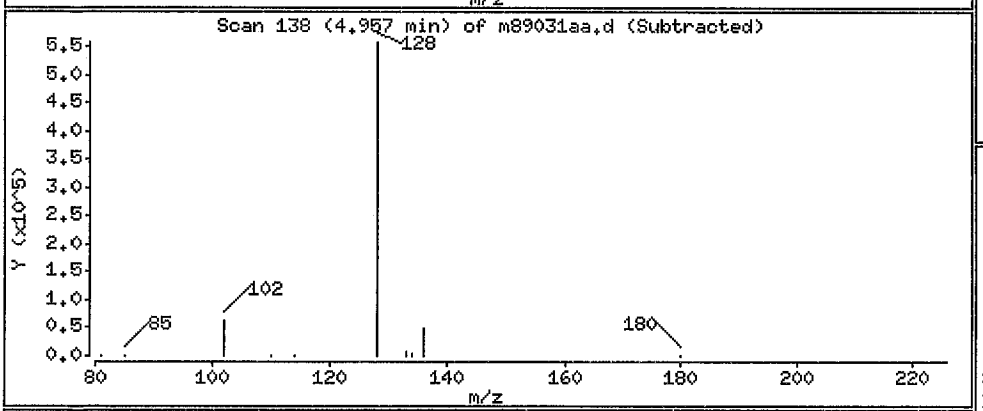
Column diameter: 0.25

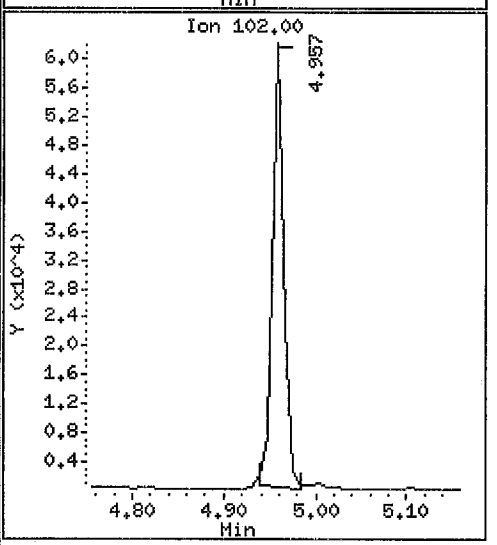
3 Naphthalene

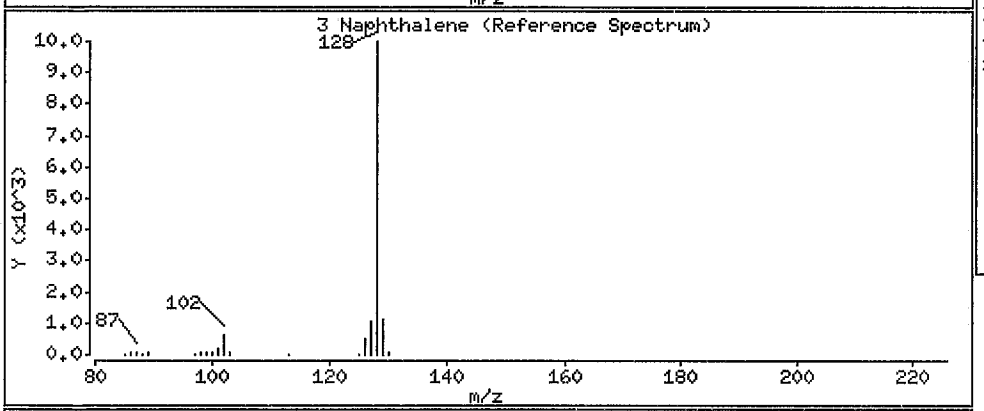
Concentration: 400 ng/L

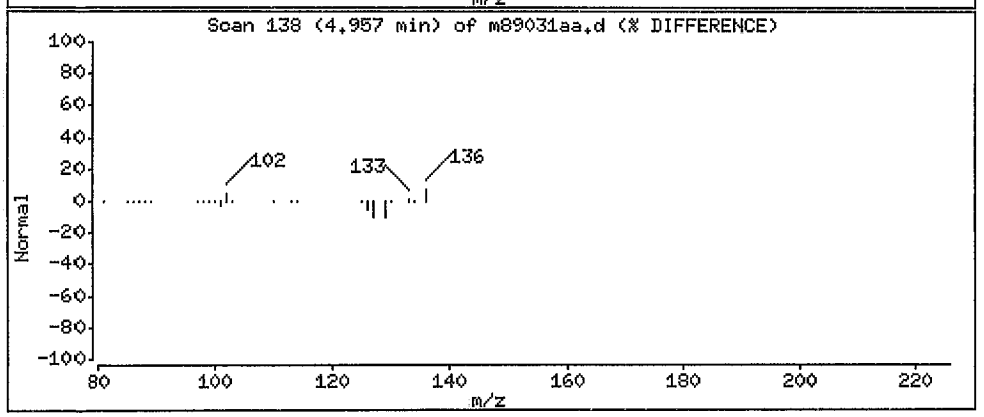












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

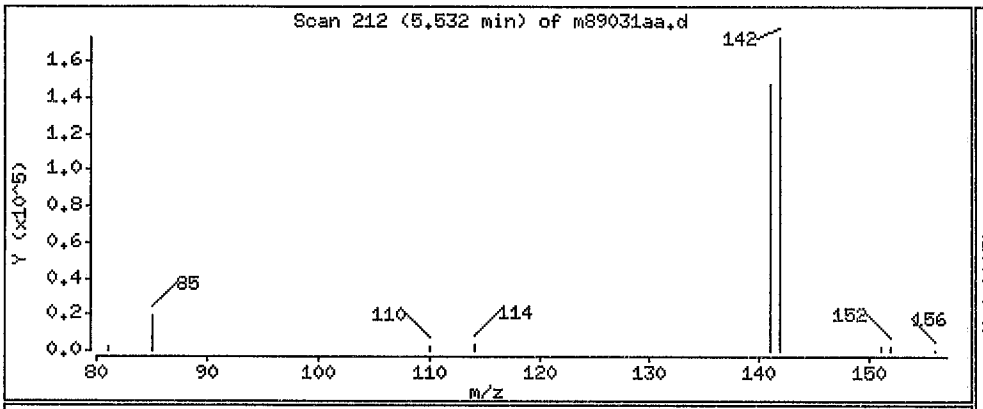
Operator: 011211

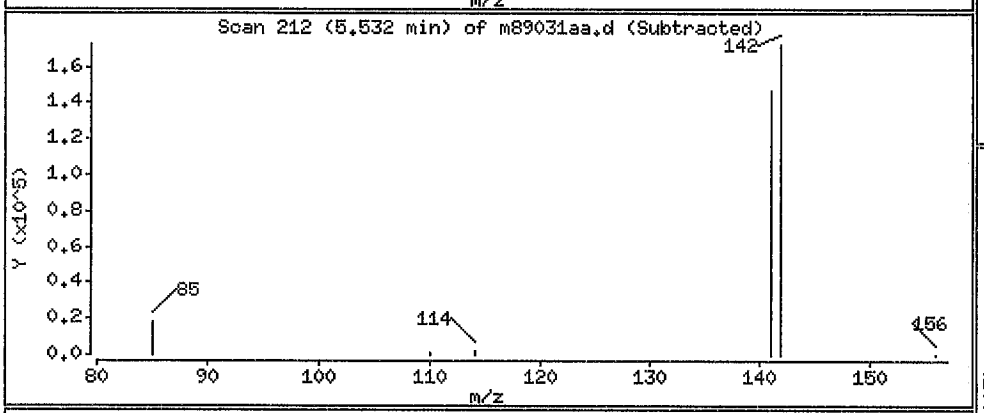
Column phase: Rxi-5SIL MS w/Guard

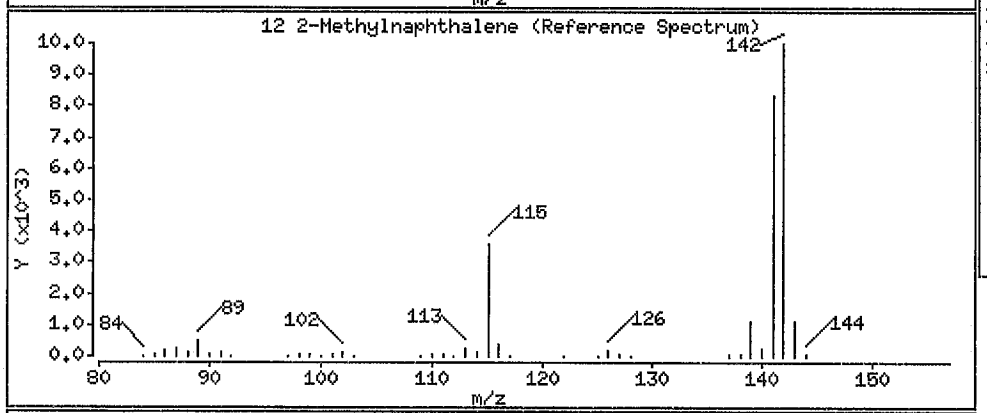
Column diameter: 0.25

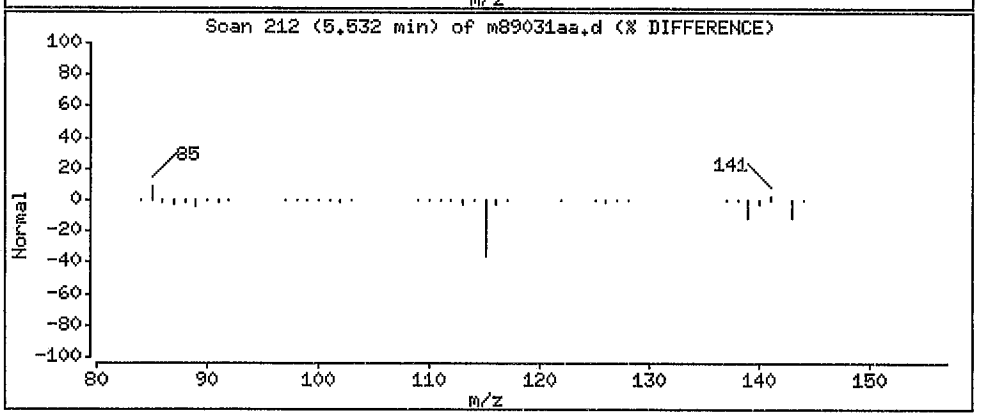
12 2-Methylnaphthalene

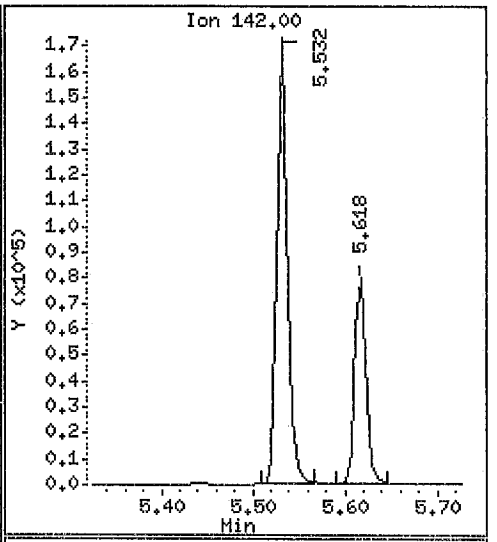
Concentration: 157 ng/L

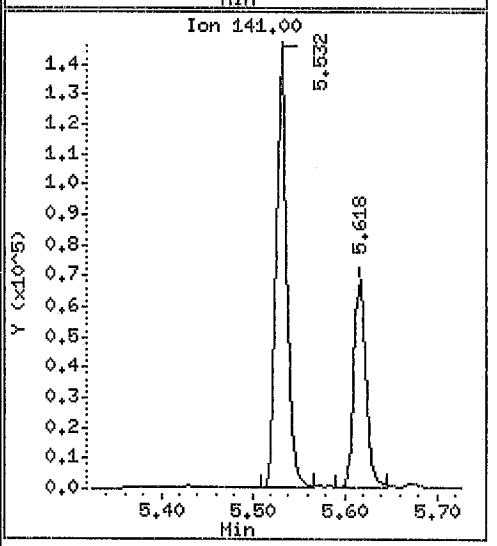












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

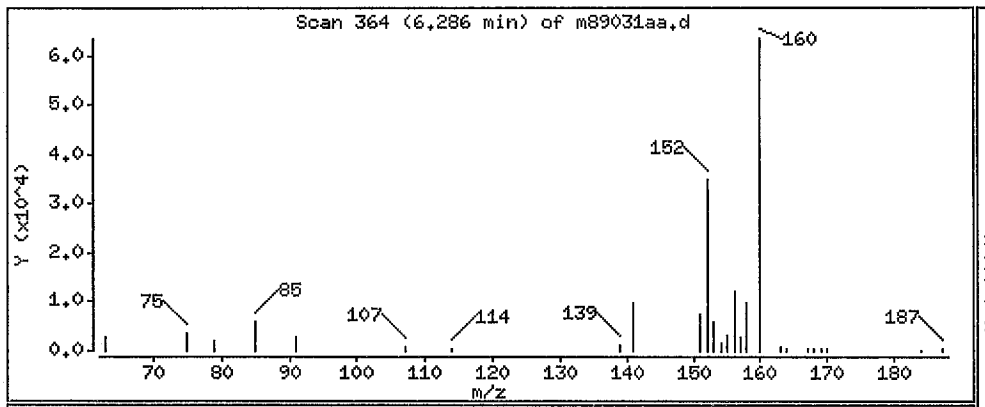
Operator: 011211

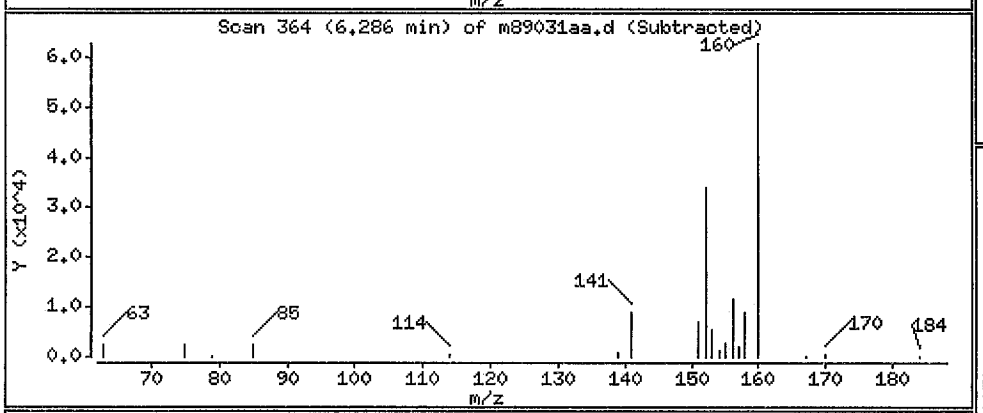
Column phase: Rxi-5SIL MS w/Guard

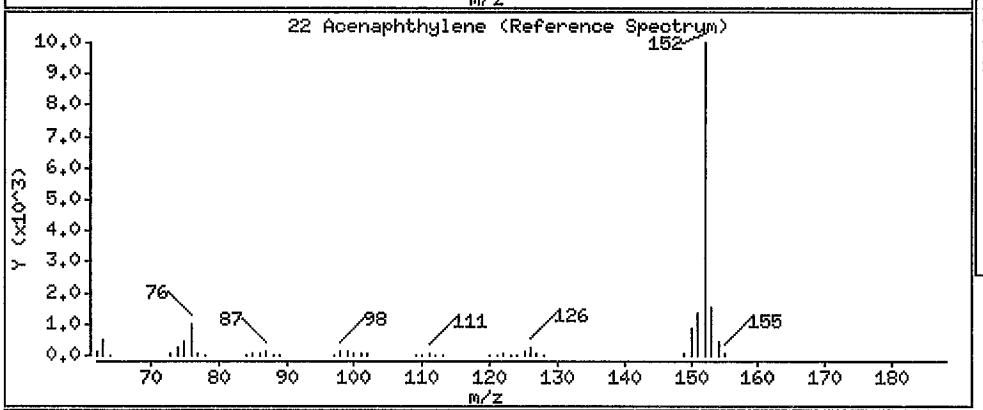
Column diameter: 0.25

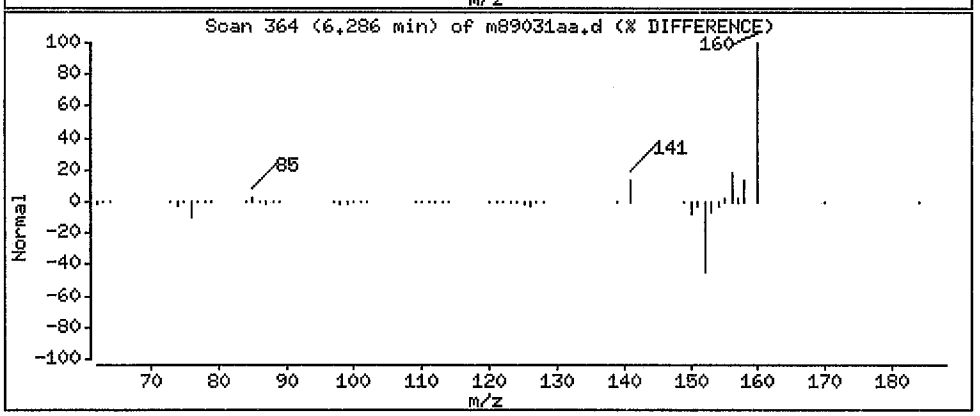
22 Acenaphthylene

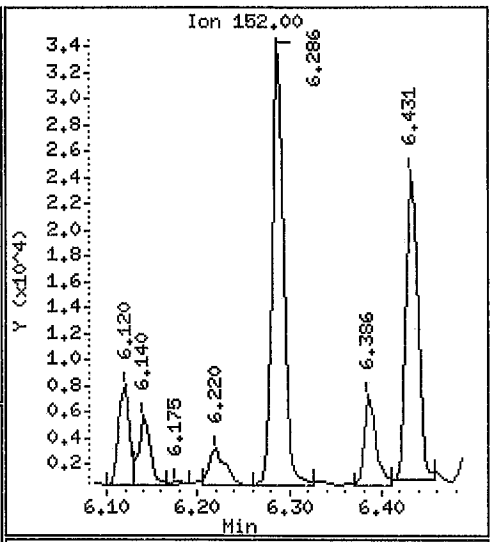
Concentration: 29.0 ng/L

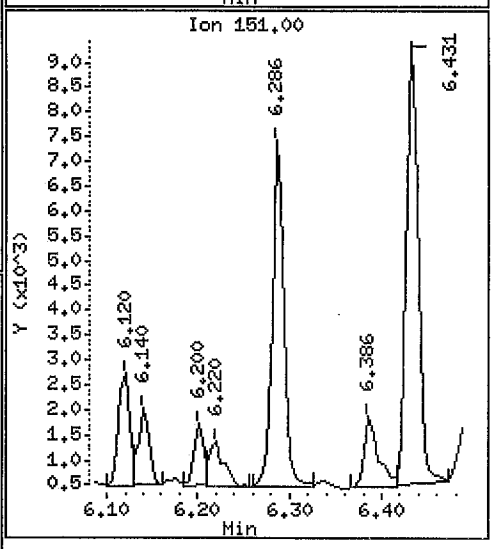












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

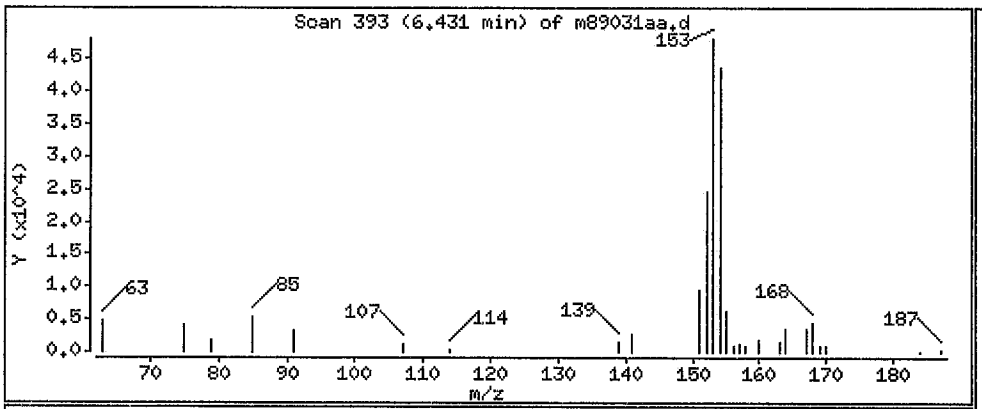
Operator: 011211

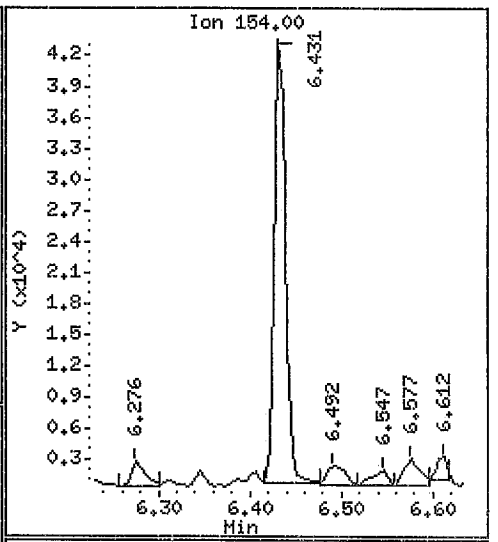
Column phase: Rxi-5SIL MS w/Guard

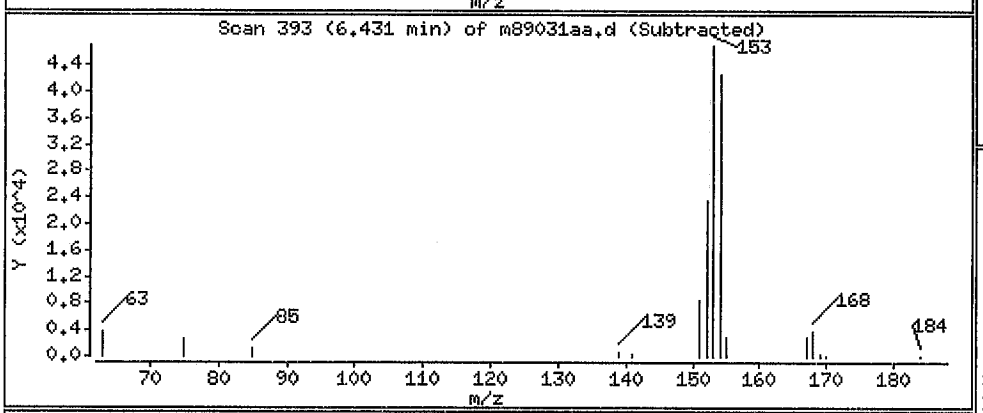
Column diameter: 0.25

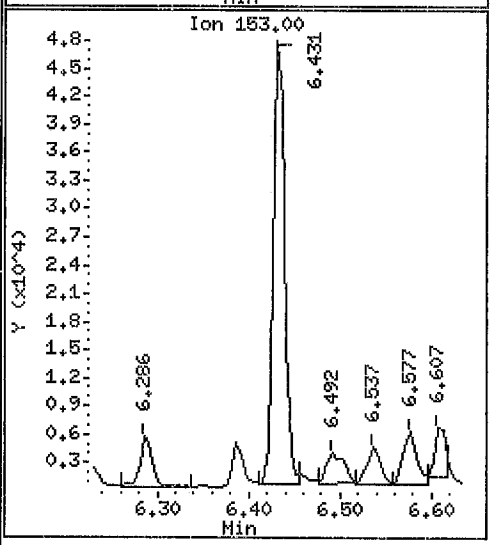
24 Acenaphthene

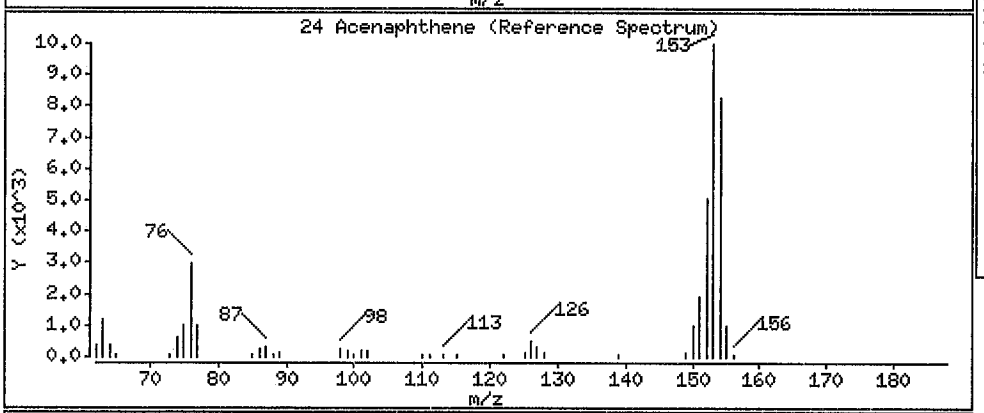
Concentration: 57.8 ng/L

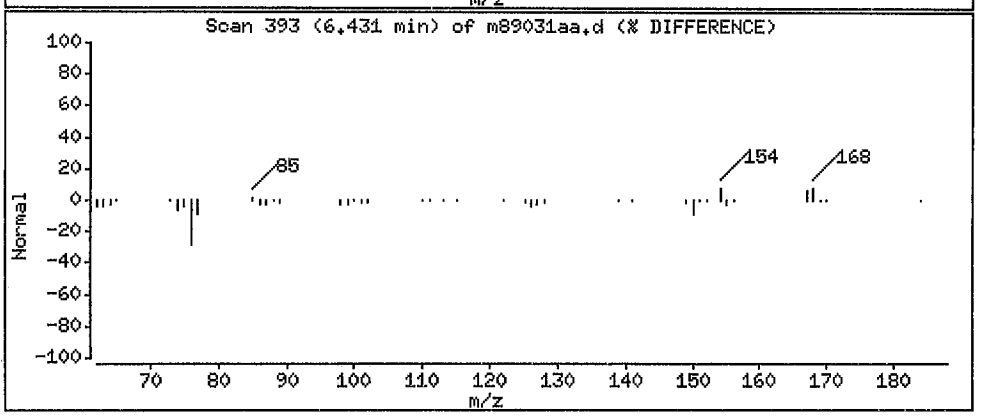












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

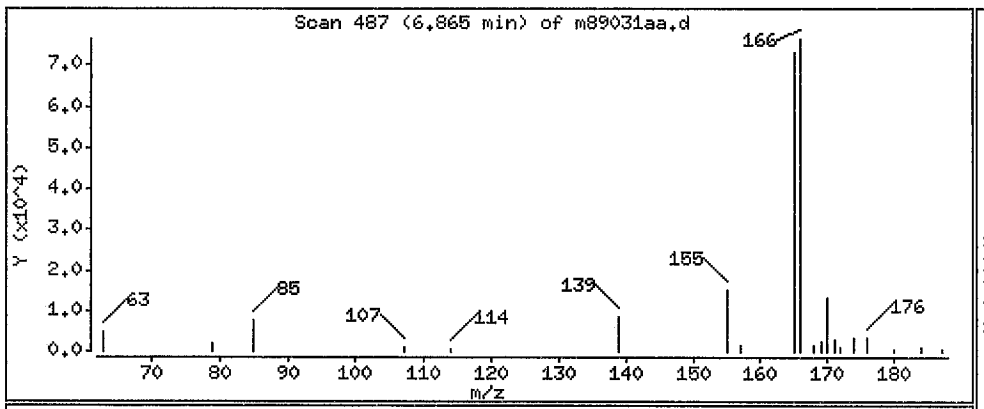
Operator: 011211

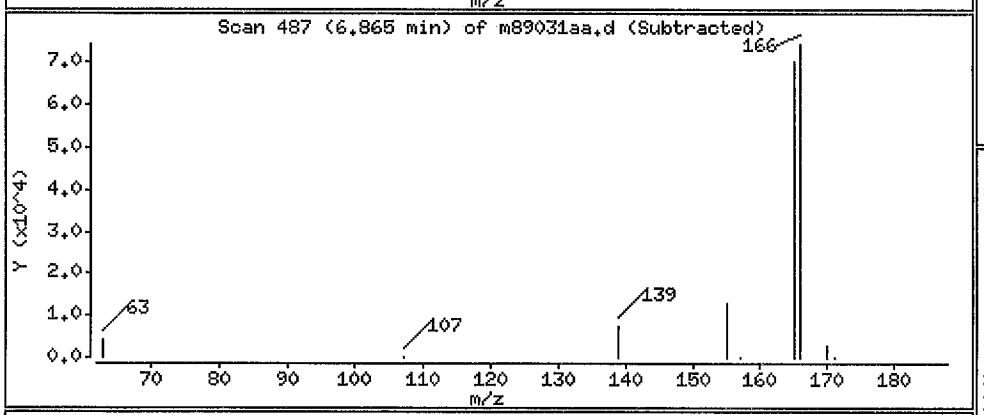
Column phase: Rxi-5SIL MS w/Guard

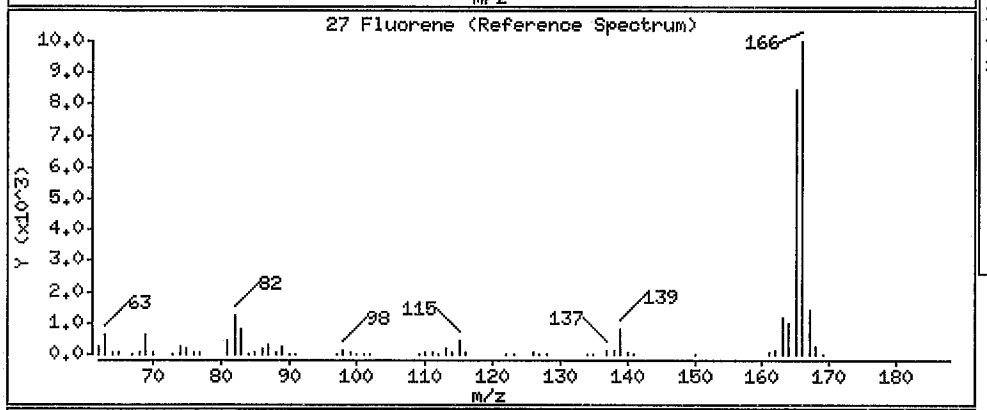
Column diameter: 0.25

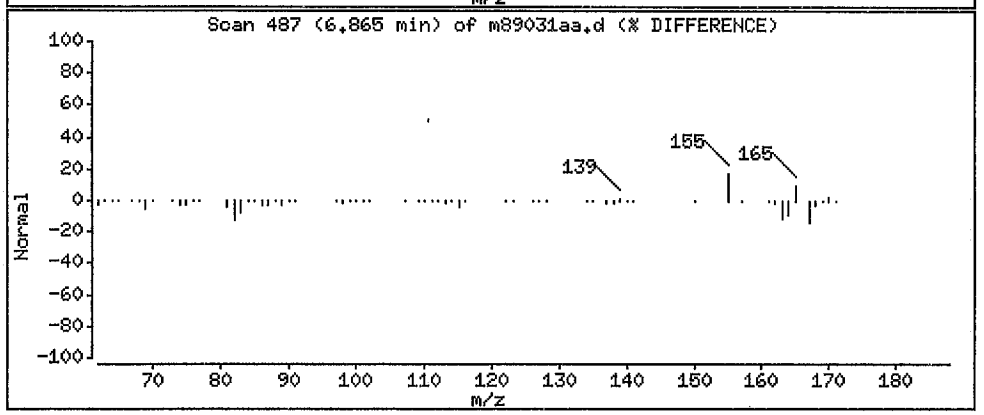
27 Fluorene

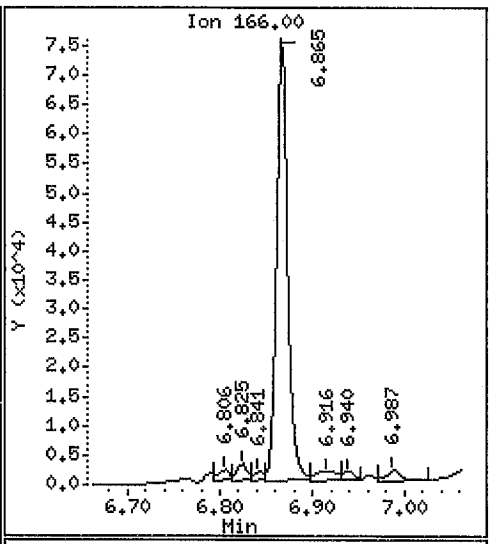
Concentration: 86.9 ng/L

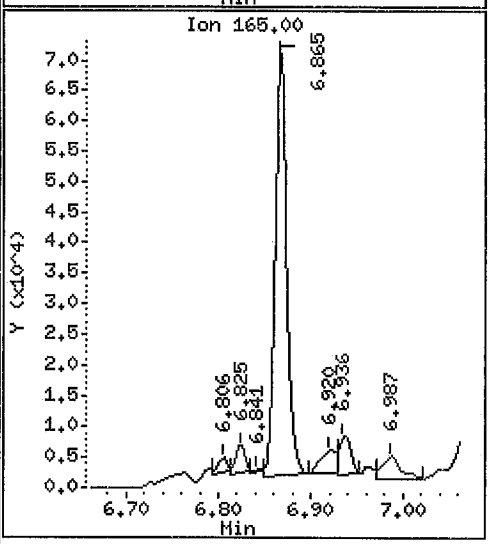












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

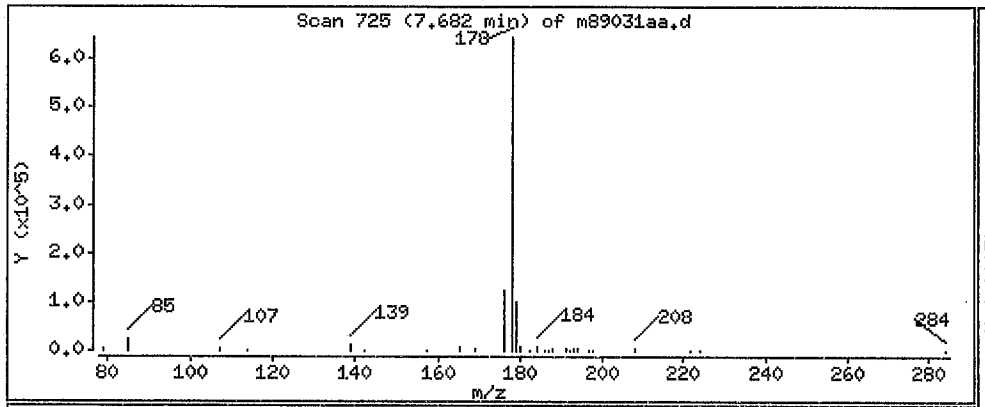
Operator: 011211

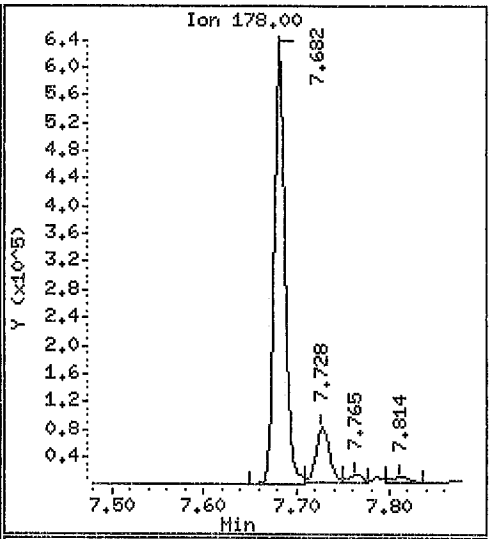
Column phase: Rxi-5SIL MS w/Guard

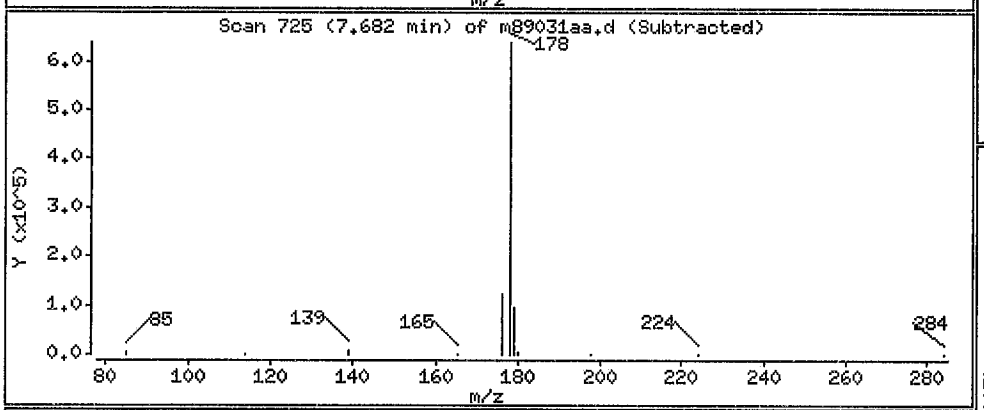
Column diameter: 0.25

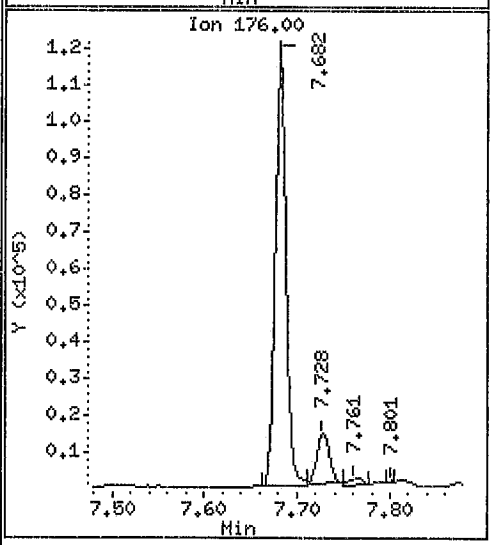
43 Phenanthrene

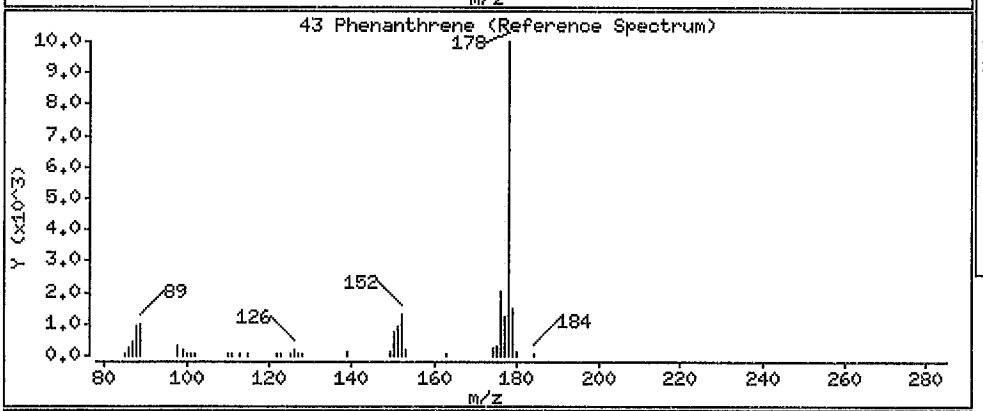
Concentration: 565 ng/L

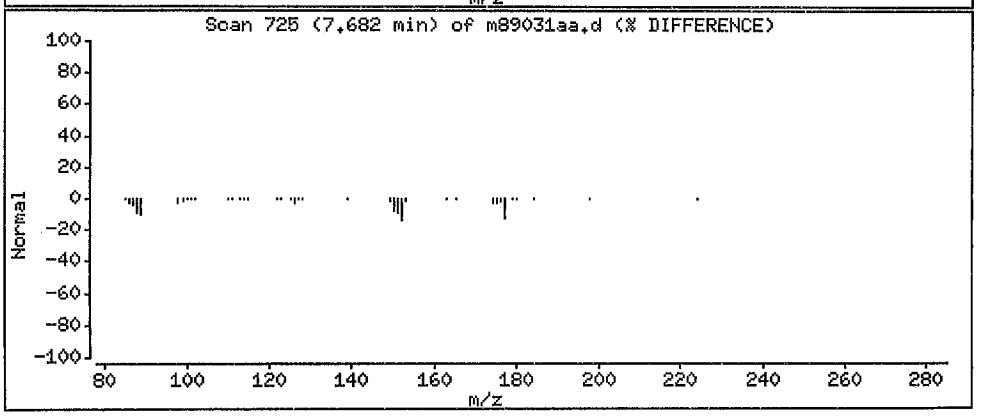












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

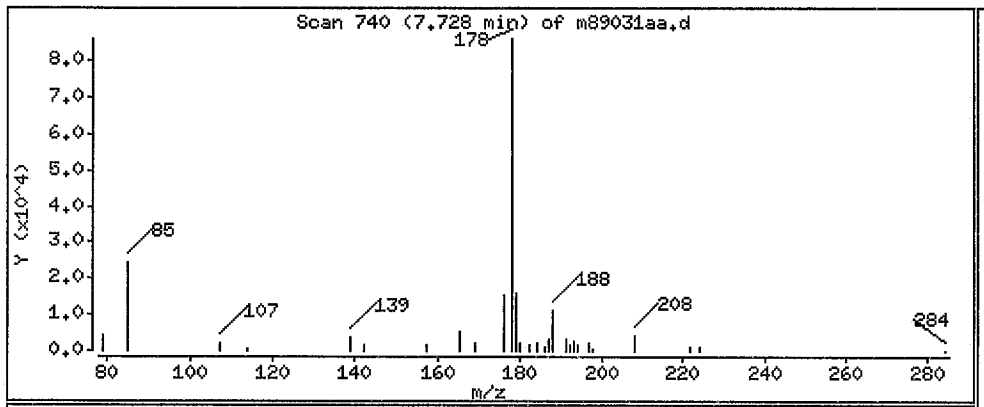
Operator: 011211

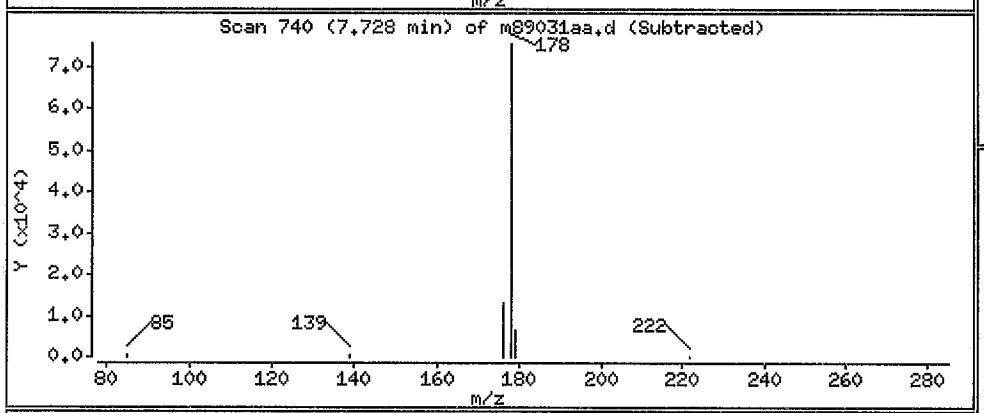
Column phase: Rxi-5SIL MS w/Guard

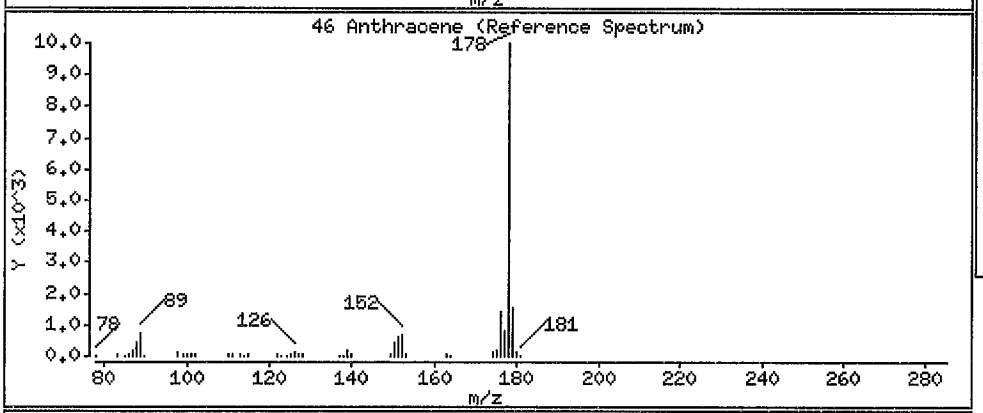
Column diameter: 0.25

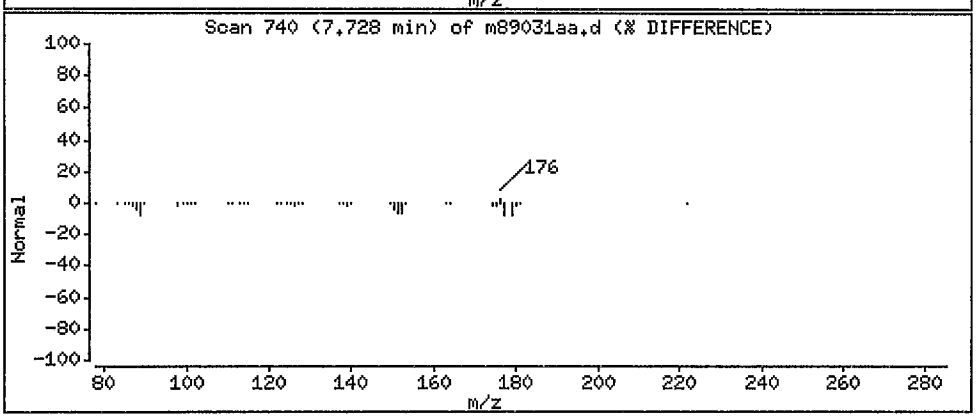
46 Anthracene

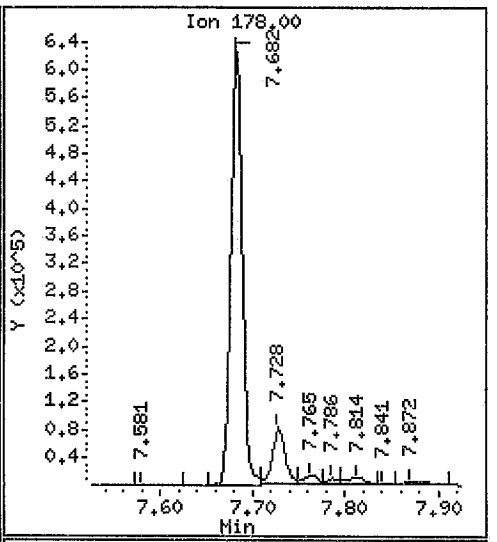
Concentration: 98.8 ng/L

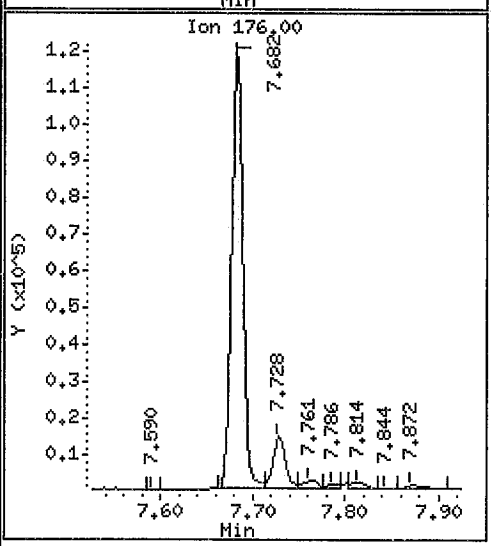












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

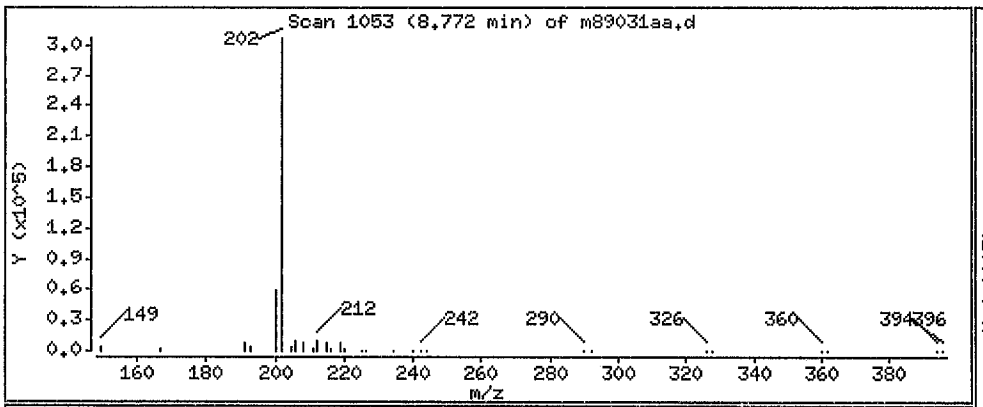
Operator: 011211

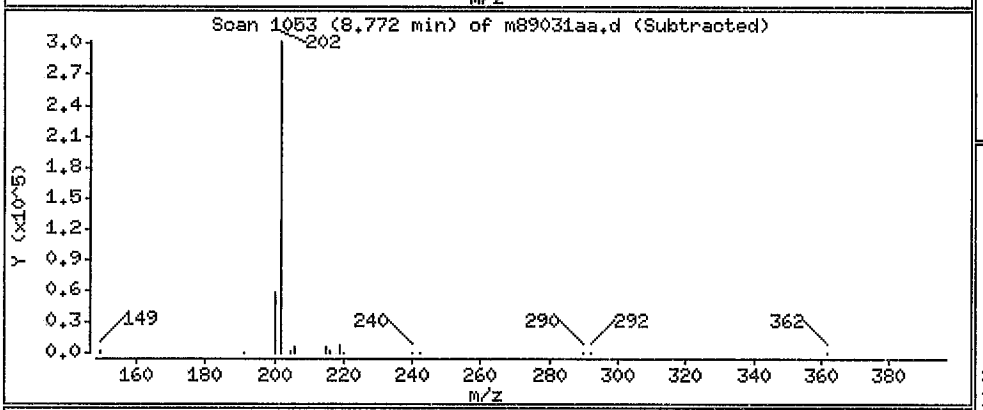
Column phase: Rxi-5SIL MS w/Guard

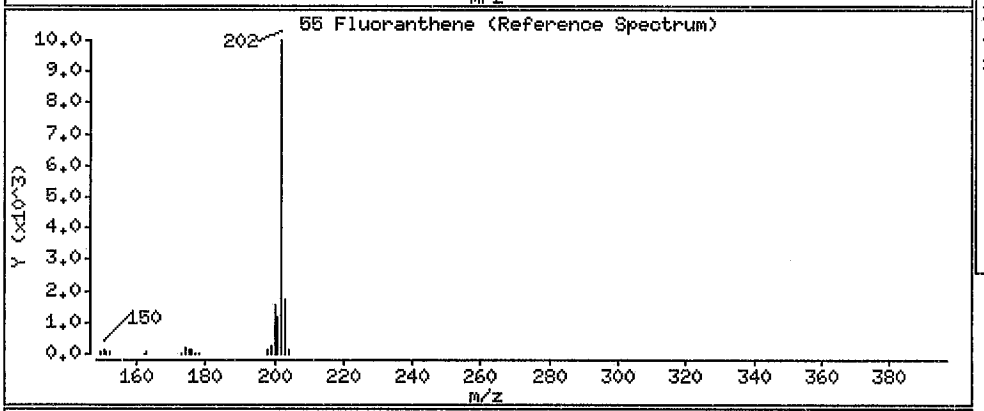
Column diameter: 0.25

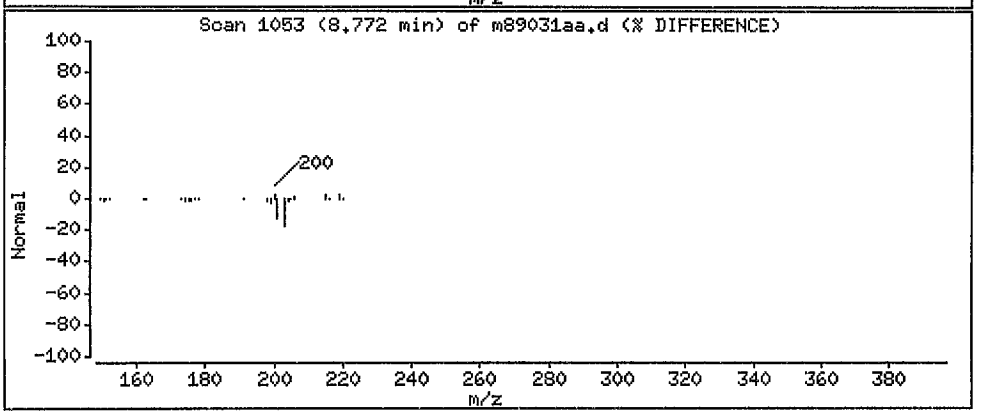
55 Fluoranthene

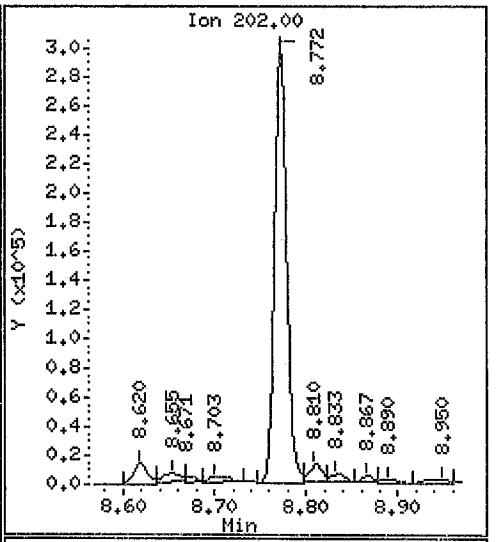
Concentration: 241 ng/L

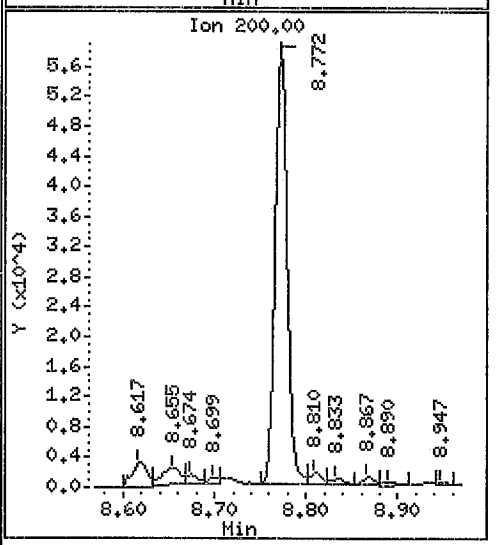












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

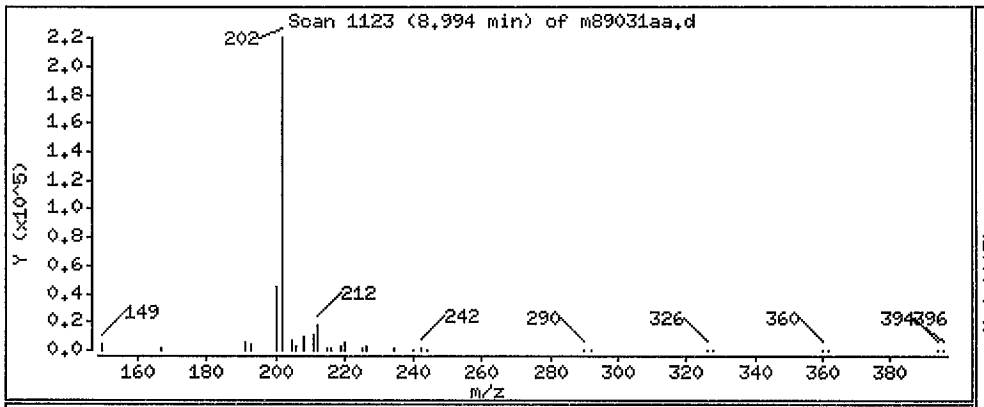
Operator: 011211

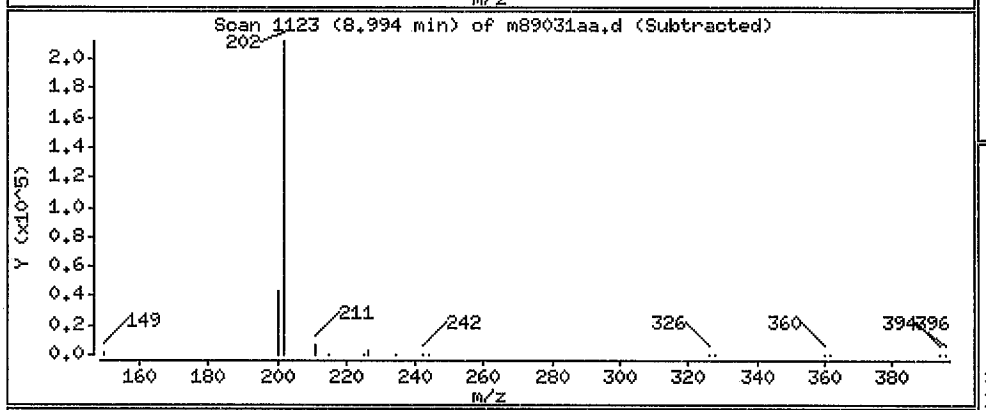
Column phase: Rxi-5SIL MS w/Guard

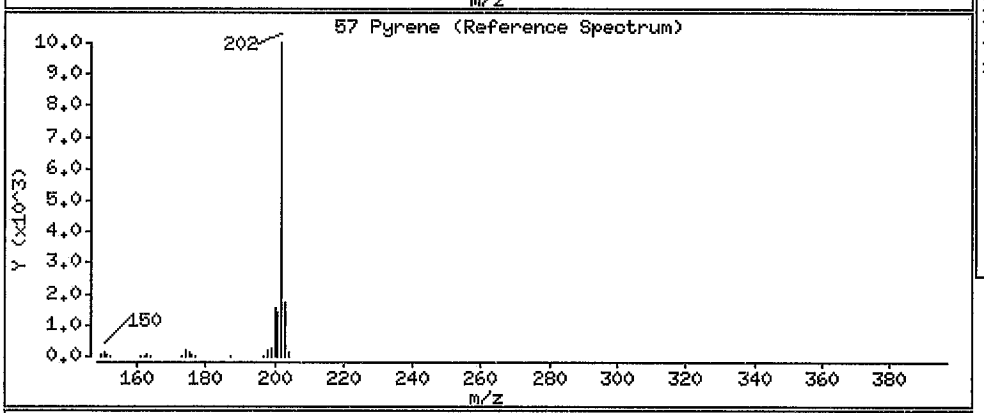
Column diameter: 0.25

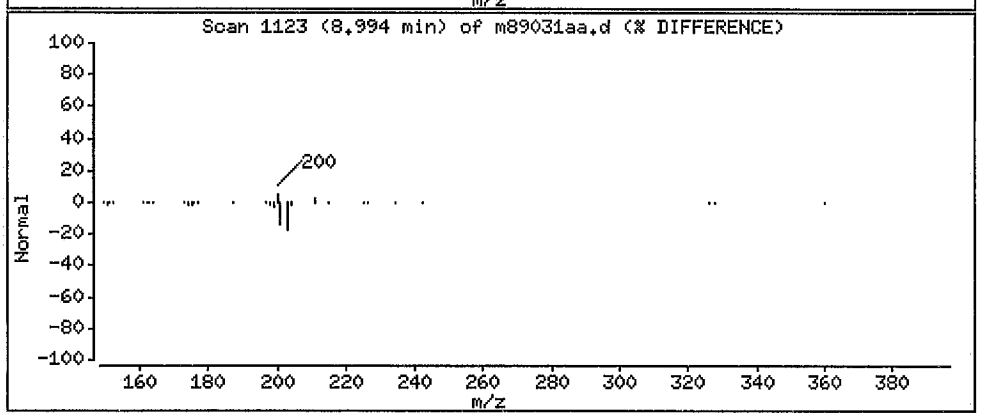
57 Pyrene

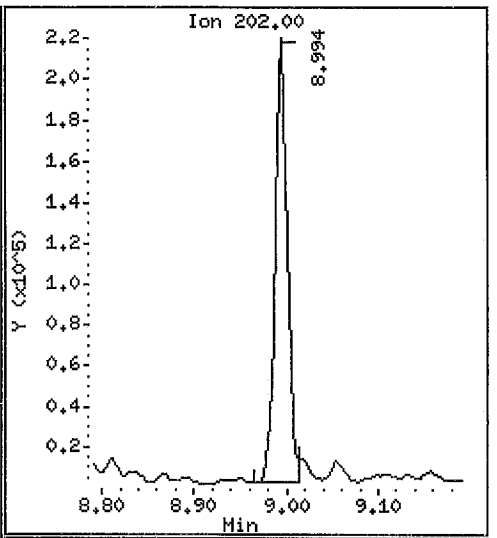
Concentration: 178 ng/L

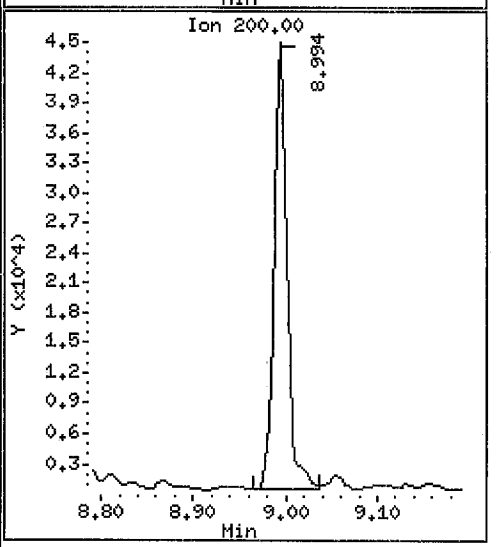












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

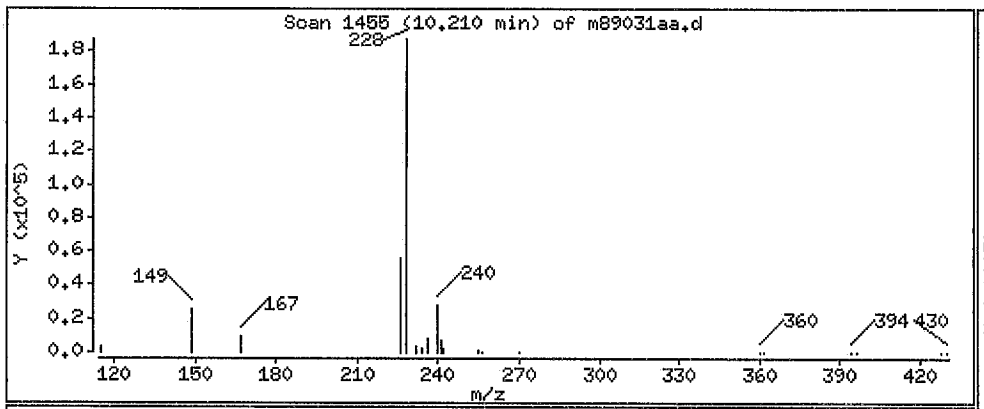
Operator: 011211

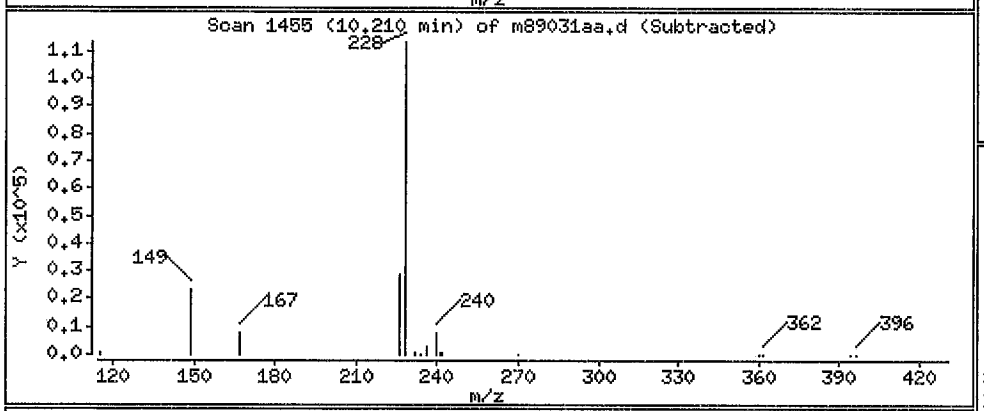
Column phase: Rxi-5SIL MS w/Guard

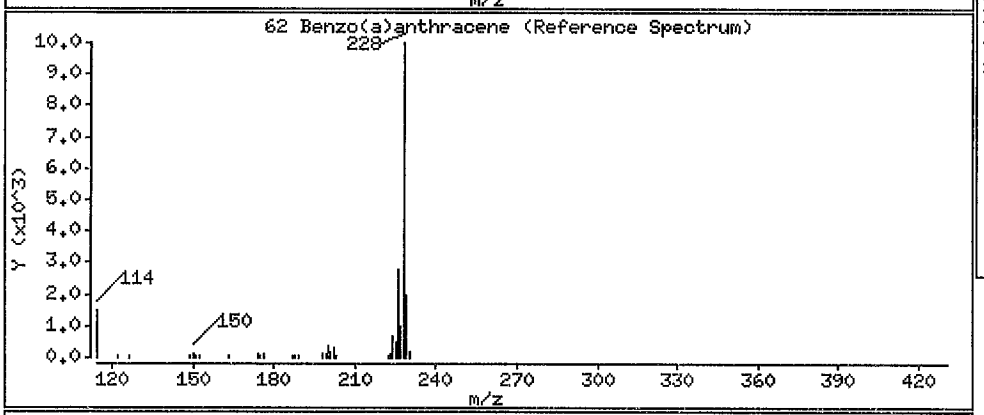
Column diameter: 0.25

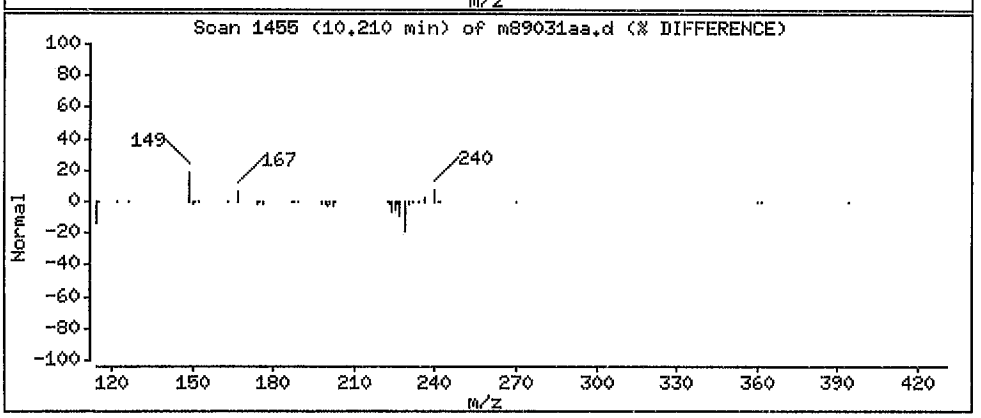
62 Benzo(a)anthracene

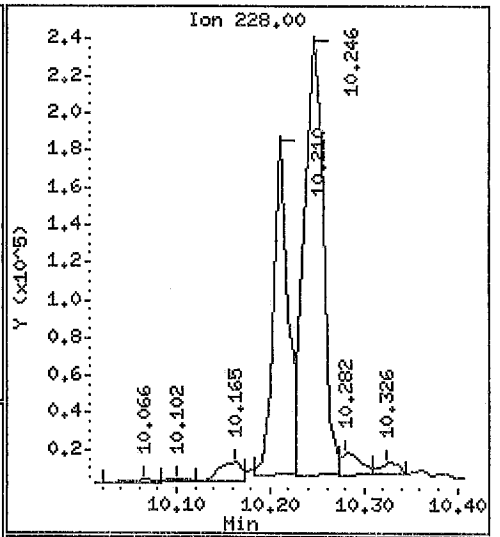
Concentration: 231 ng/L

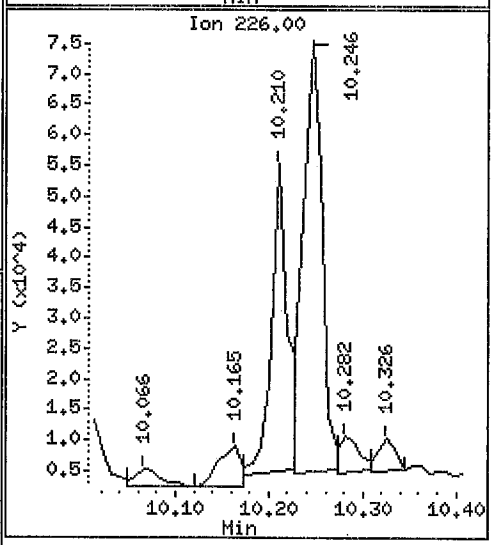












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

Operator: 011211

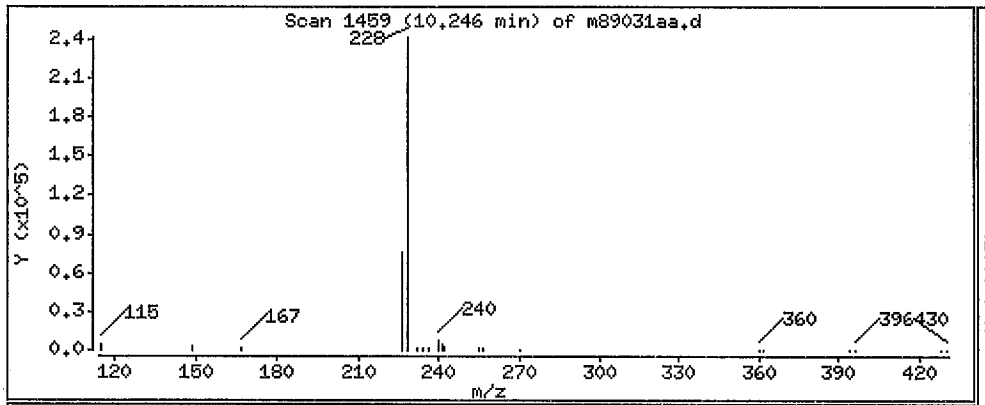
Column phase: Rxi-5SIL MS w/Guard

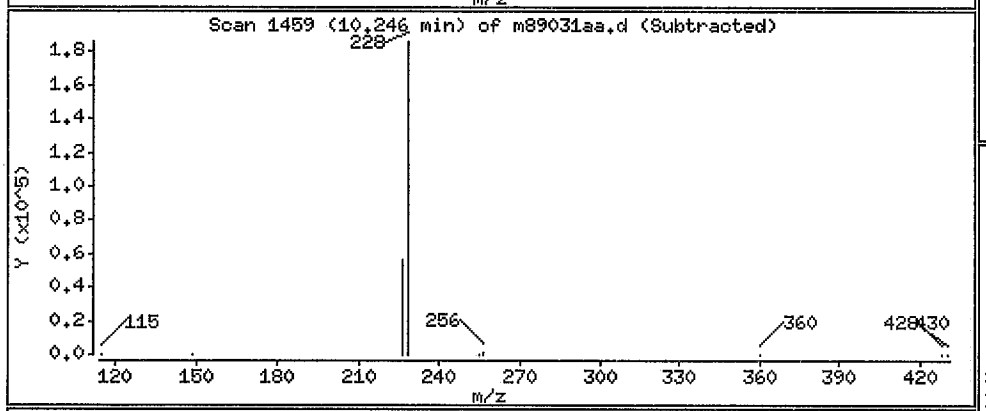
Column diameter: 0.25

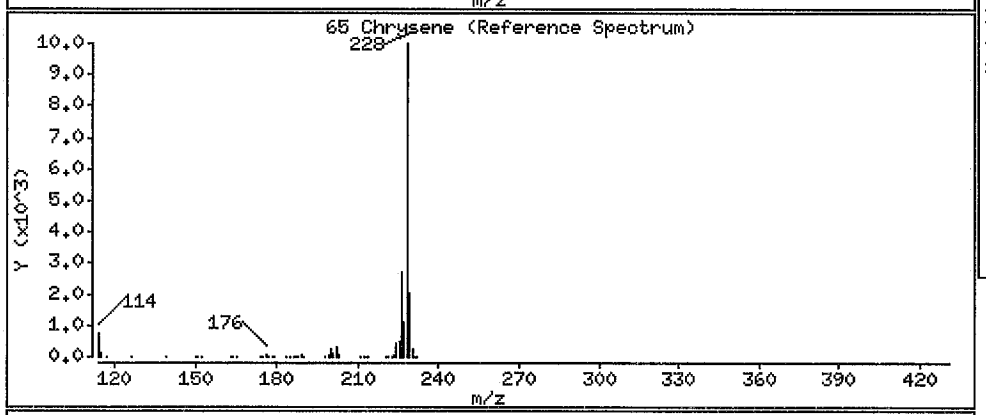
10/11/16

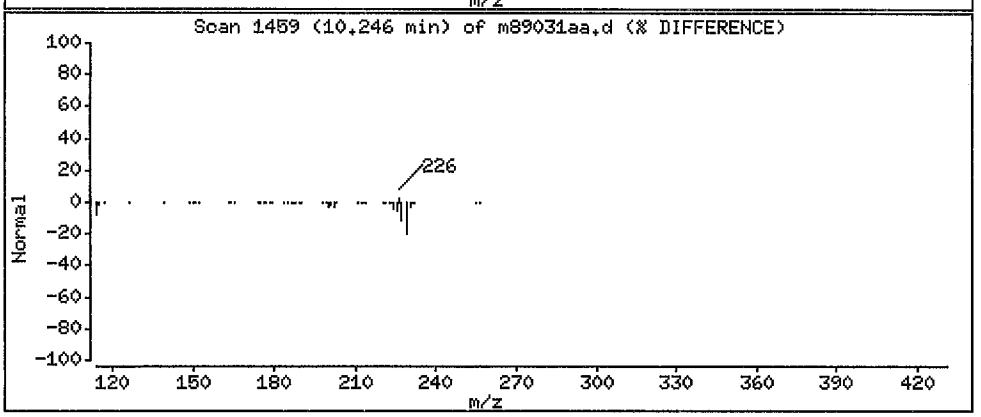
65 Chrysene

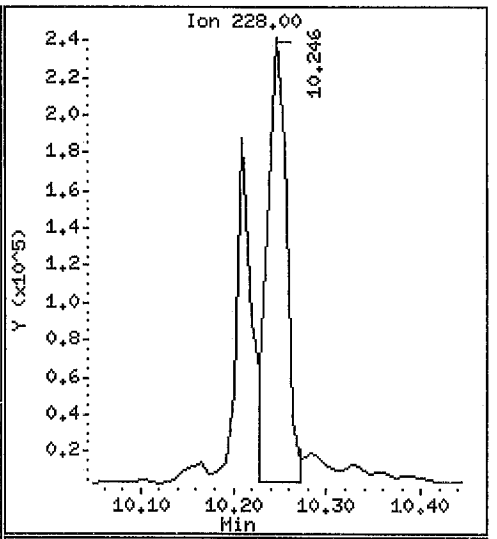
Concentration: 340 ng/L

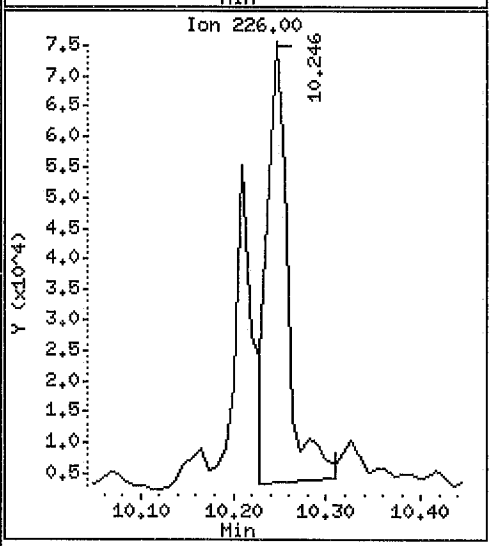












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

Operator: 011211

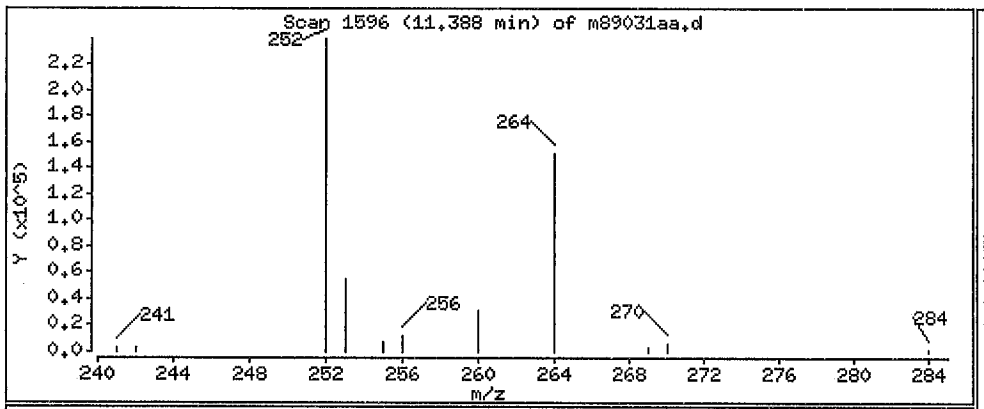
Column phase: Rxi-5SIL MS w/Guard

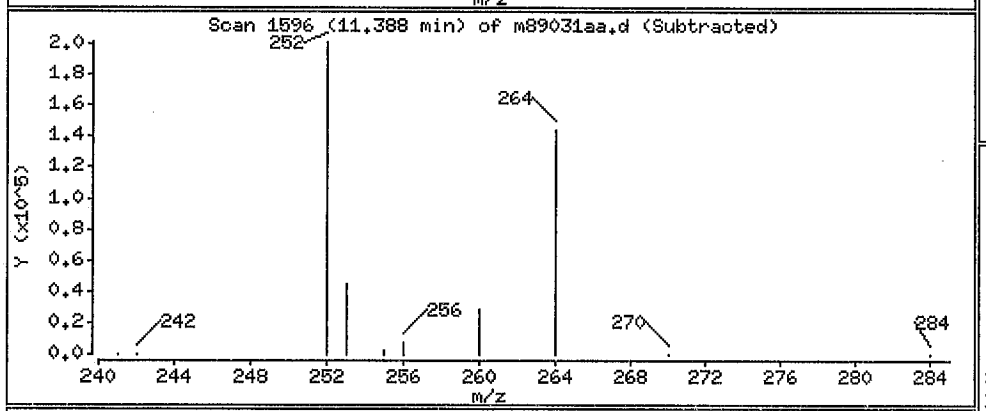
Column diameter: 0.25

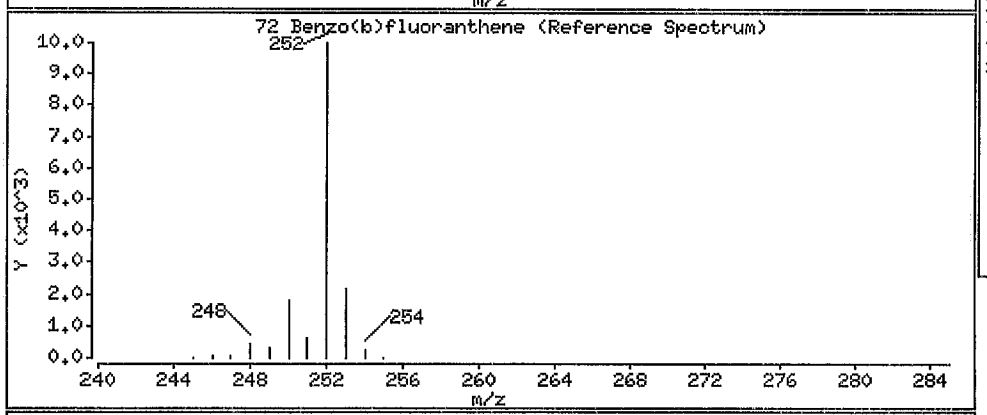
10/4/16 ①

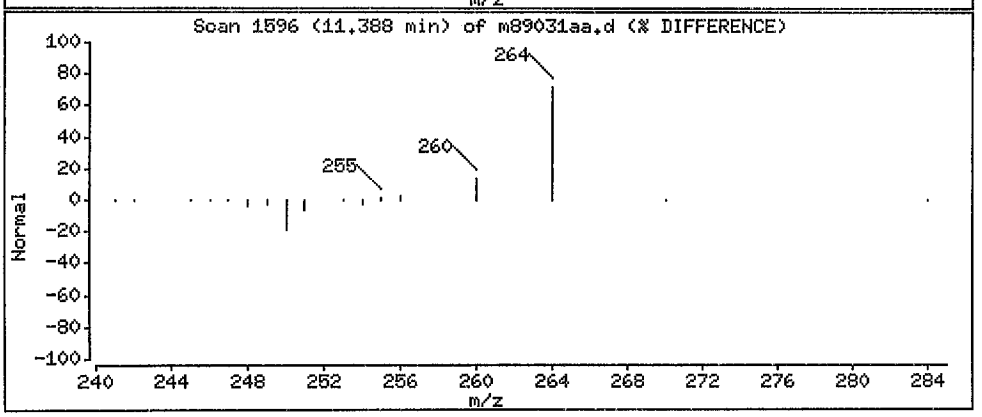
72 Benzo(b)fluoranthene

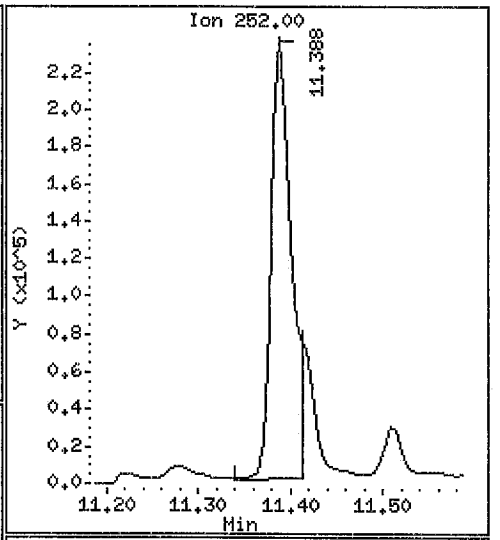
Concentration: 258 ng/L

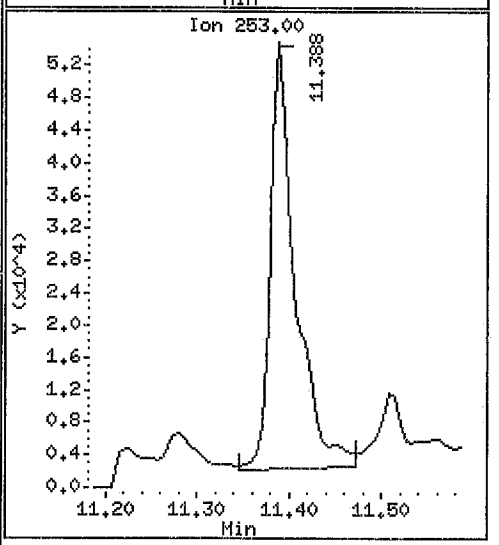












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

Operator: 011211

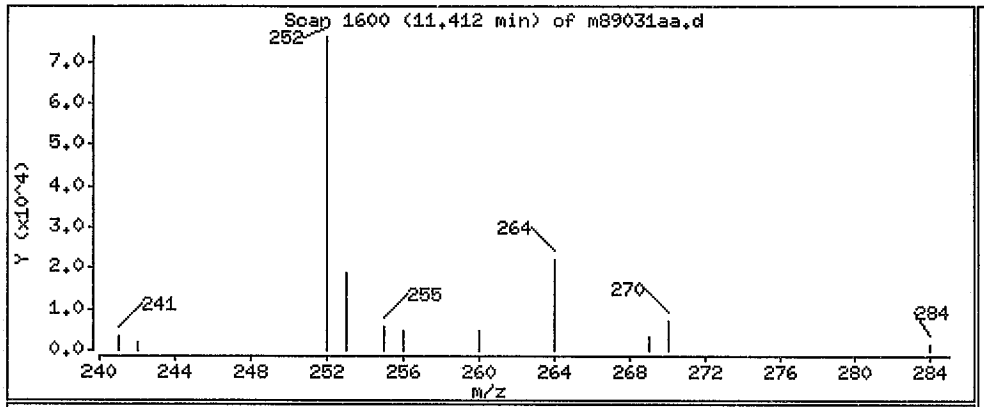
Column phase: Rxi-5SIL MS w/Guard

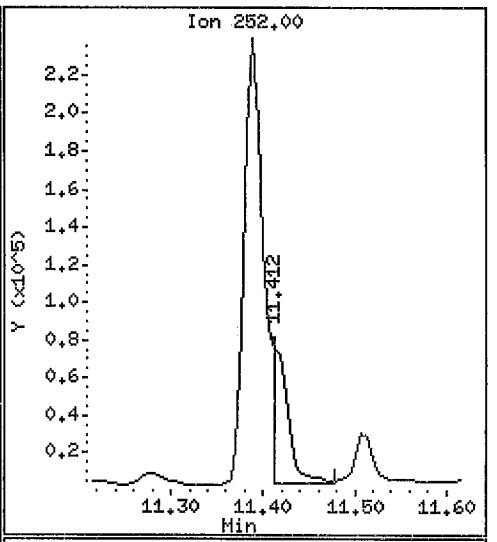
Column diameter: 0.25

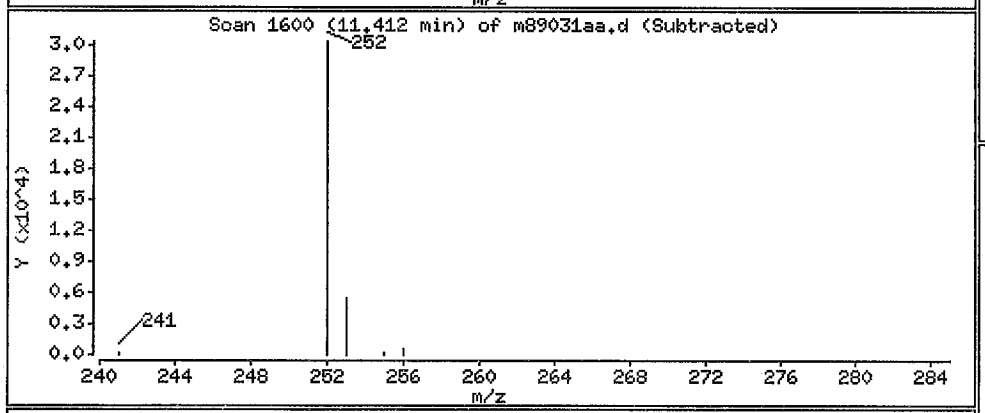
10/11/16 (1)

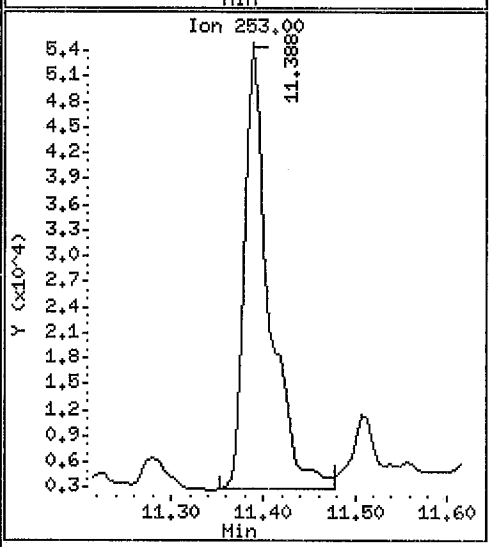
75 Benzo(k)fluoranthene

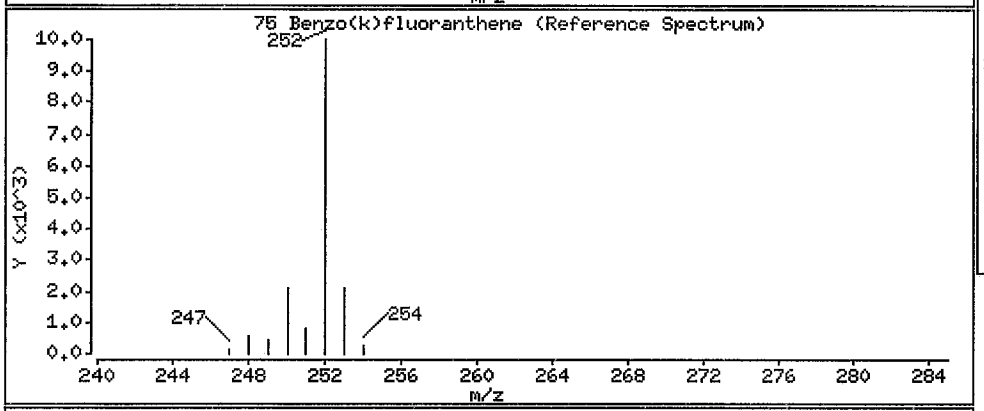
Concentration: 74.4 ng/L

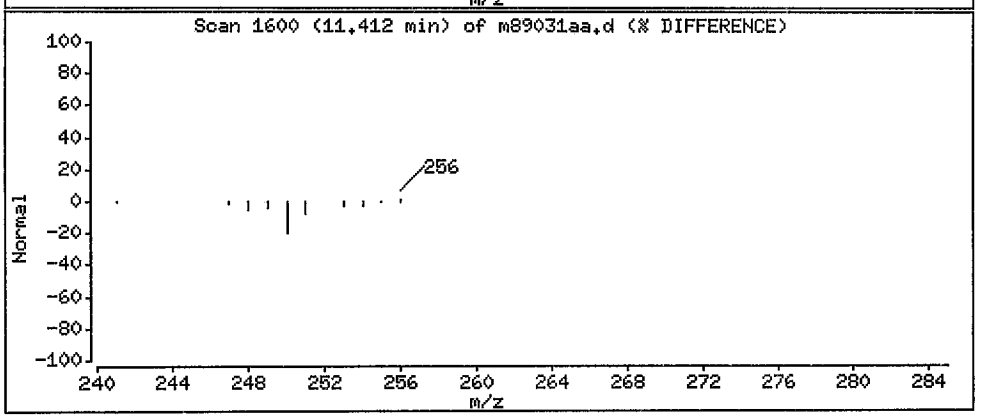












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

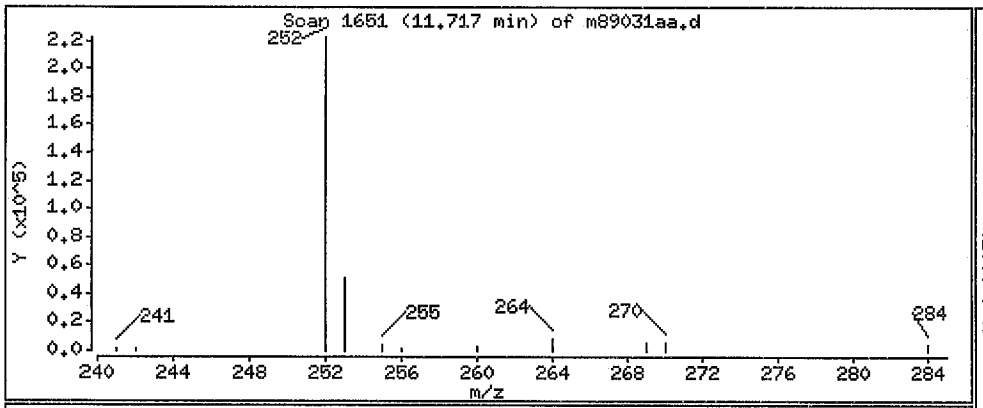
Operator: 011211

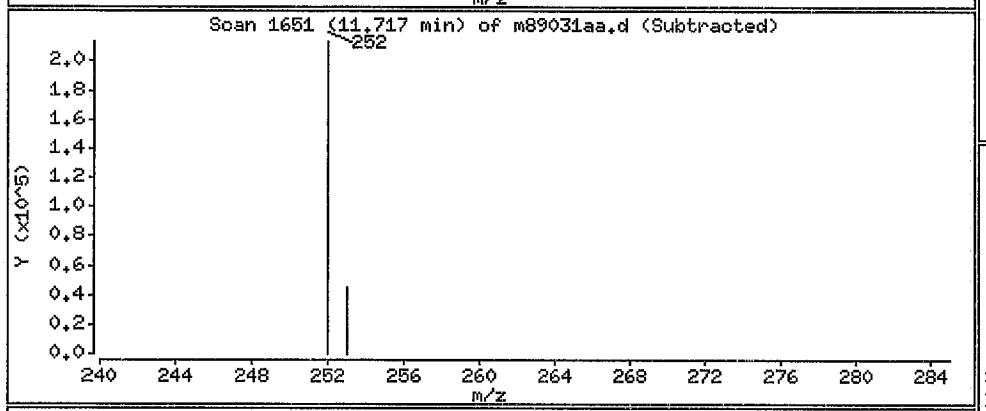
Column phase: Rxi-5SIL MS w/Guard

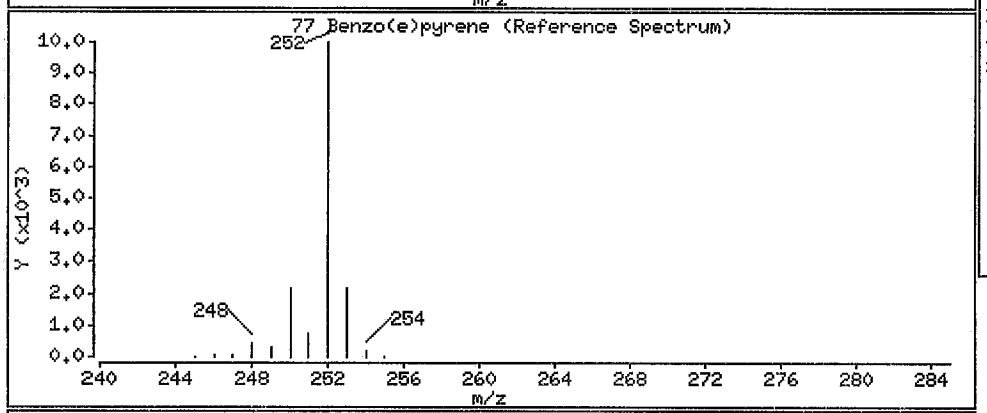
Column diameter: 0.25

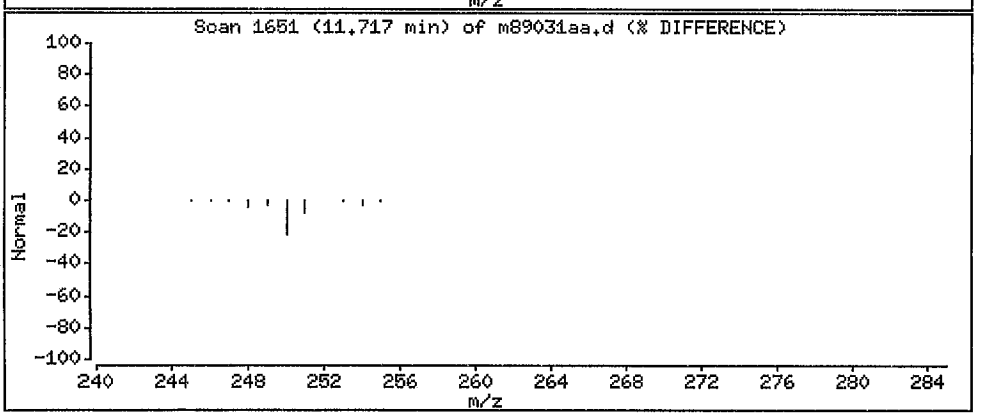
77 Benzo(e)pyrene

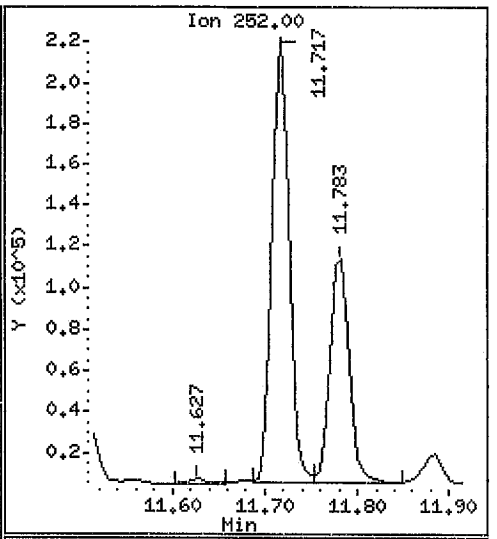
Concentration: 204 ng/L

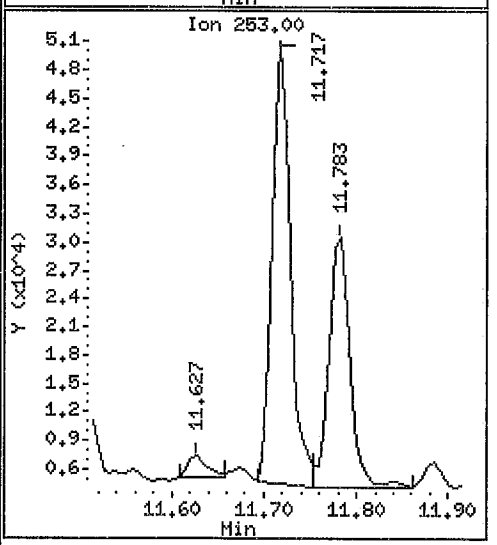












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

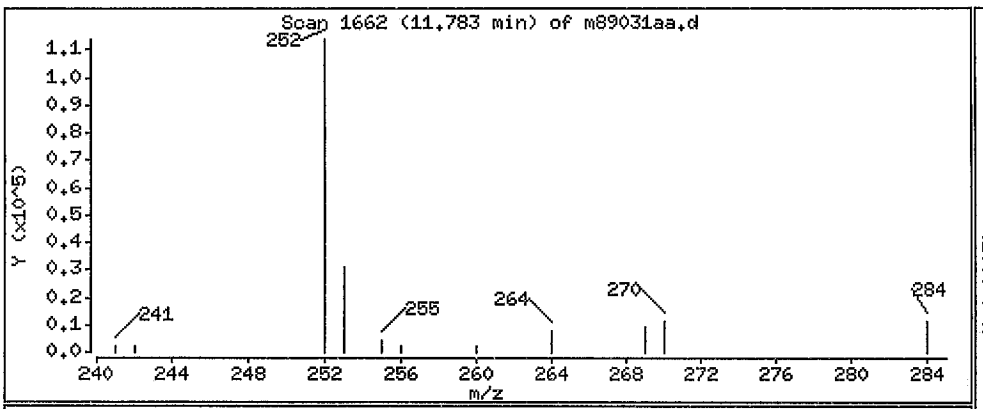
Operator: 011211

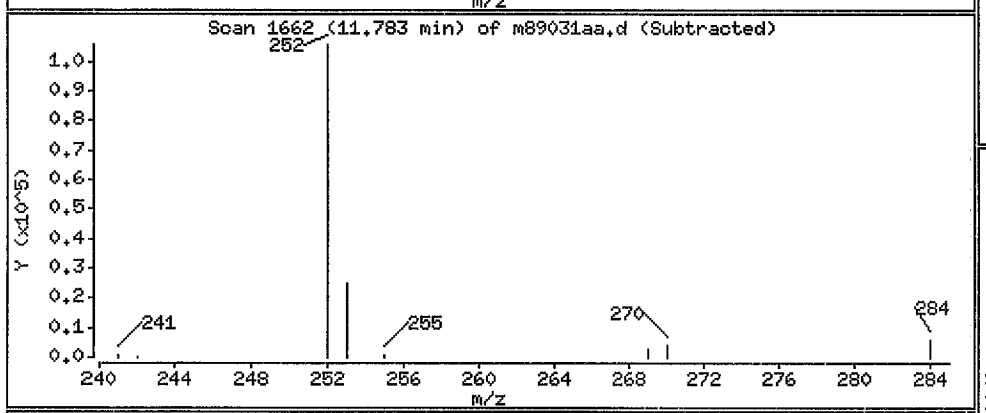
Column phase: Rxi-5SIL MS w/Guard

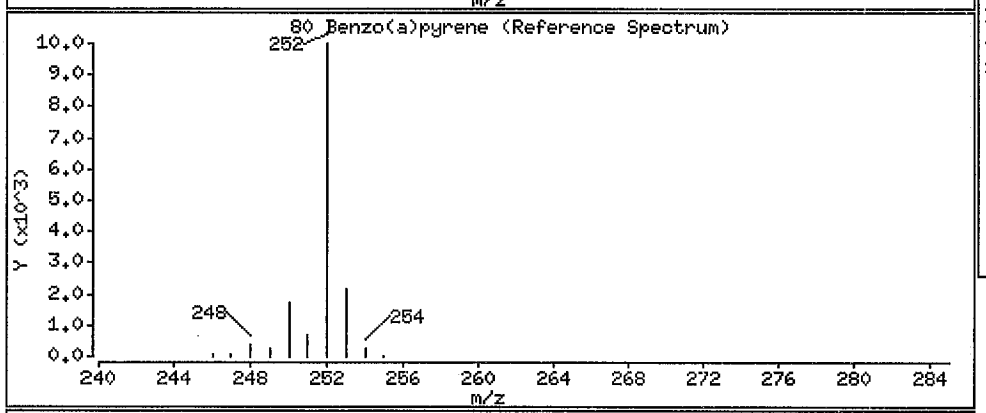
Column diameter: 0.25

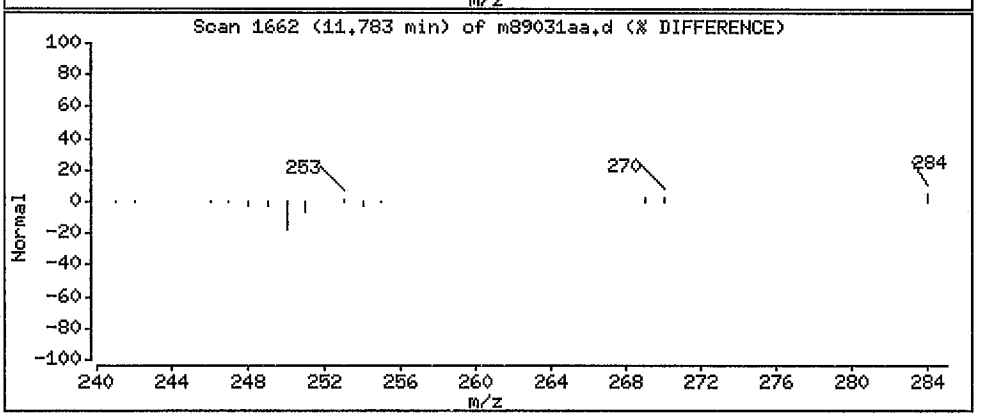
80 Benzo(a)pyrene

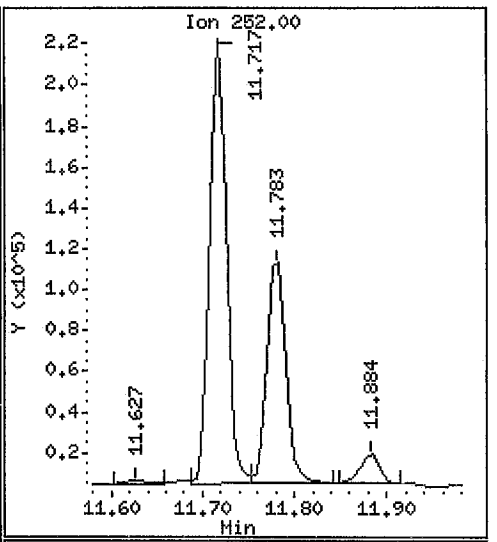
Concentration: 139 ng/L

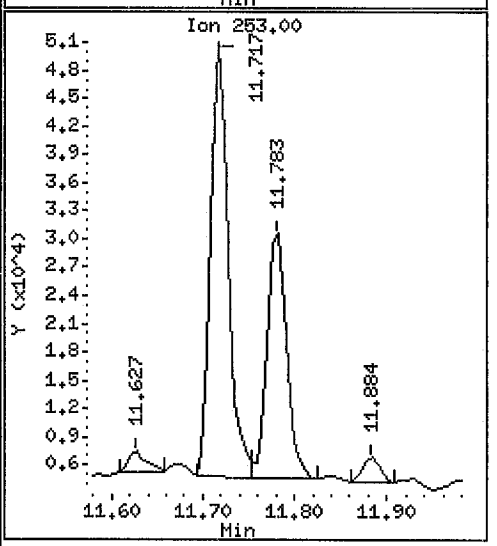












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

Operator: 011211

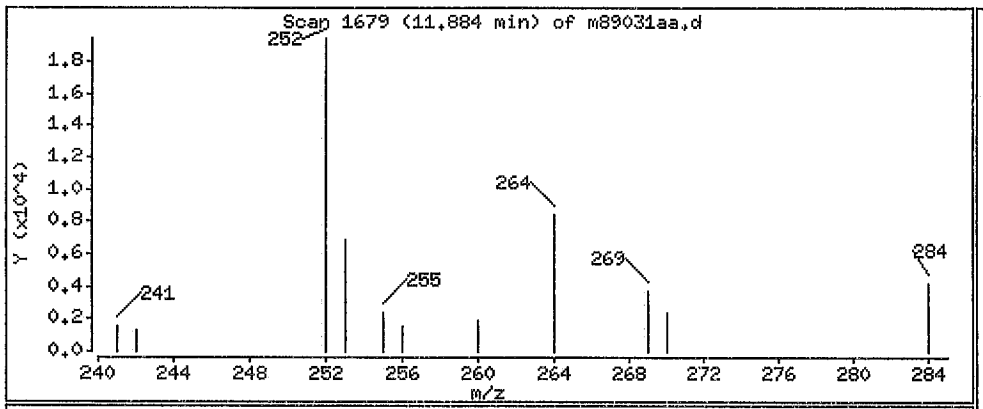
Column phase: Rxi-5SIL MS w/Guard

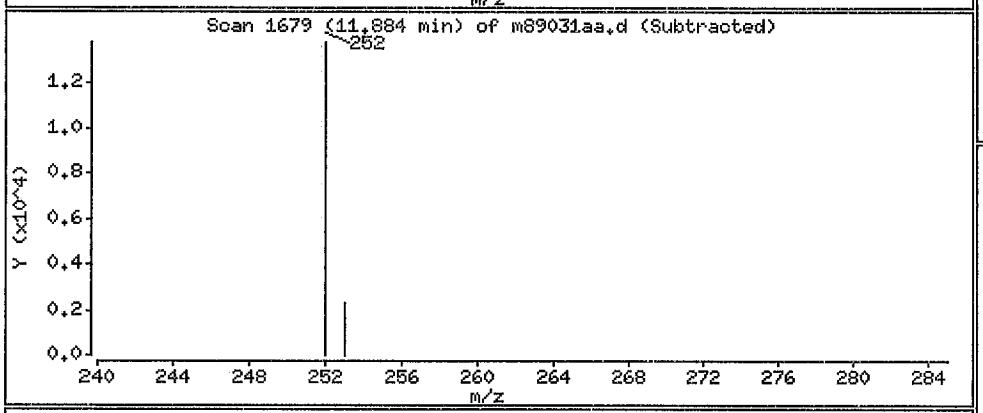
Column diameter: 0.25

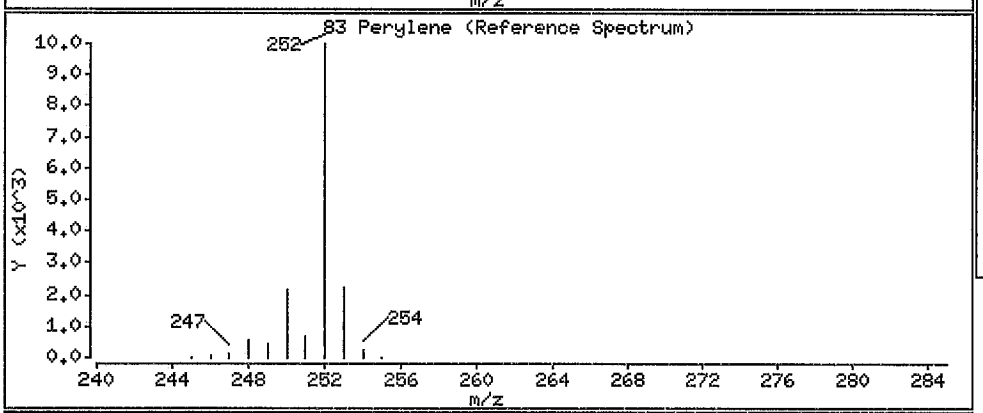
10/11/16

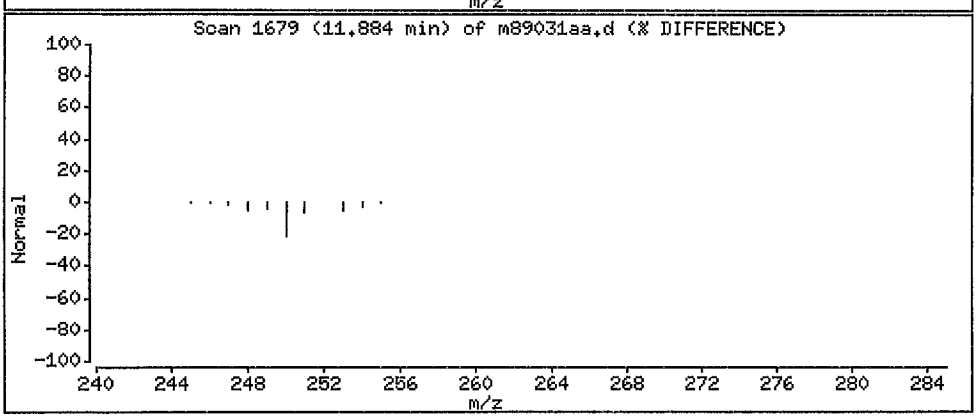
83 Perylene

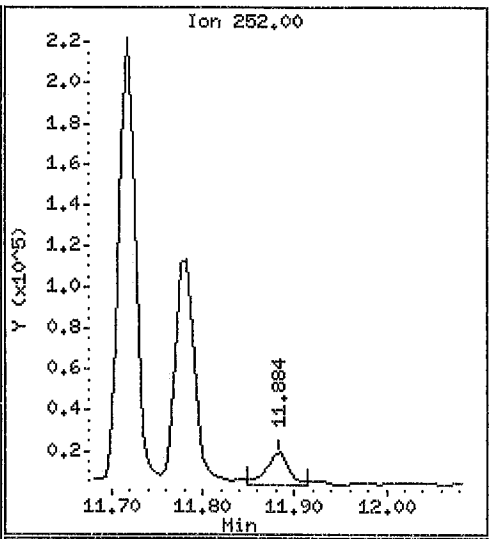
Concentration: 29.0 ng/L

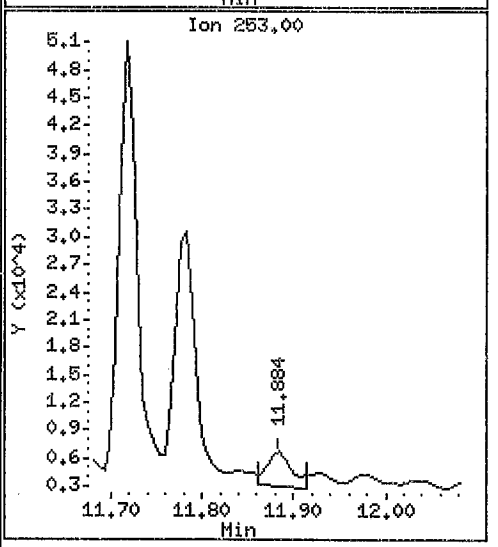












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

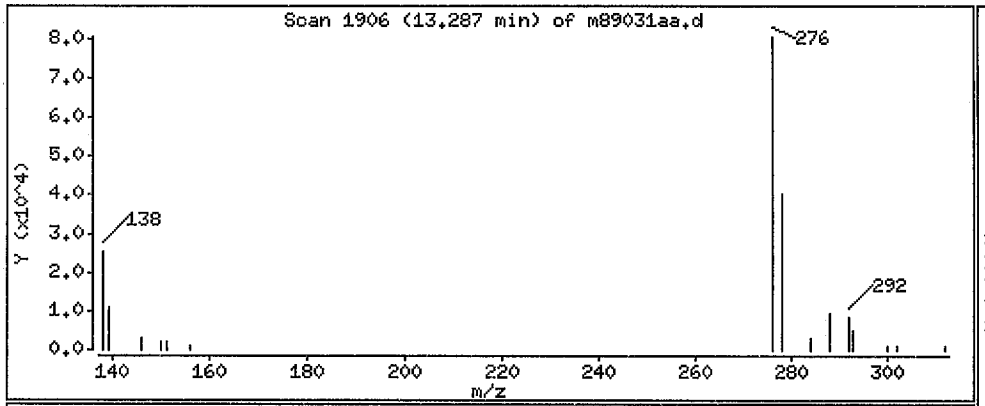
Operator: 011211

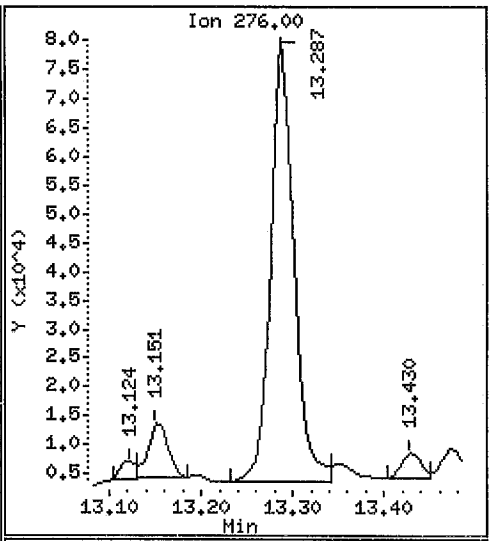
Column phase: Rxi-5SIL MS w/Guard

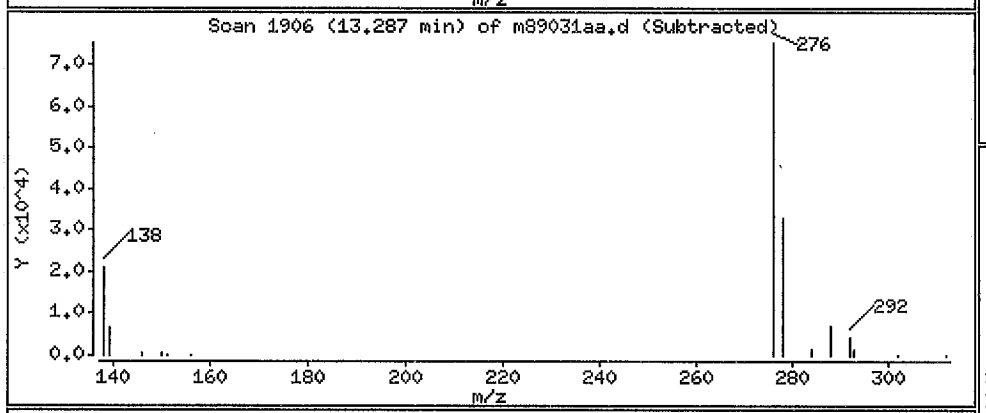
Column diameter: 0.25

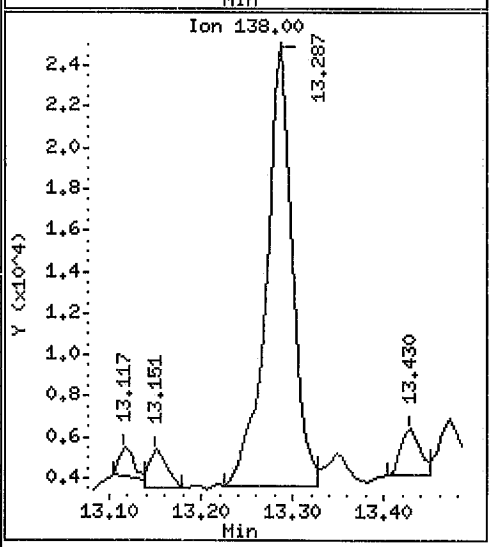
86 Indeno(1,2,3-cd)pyrene

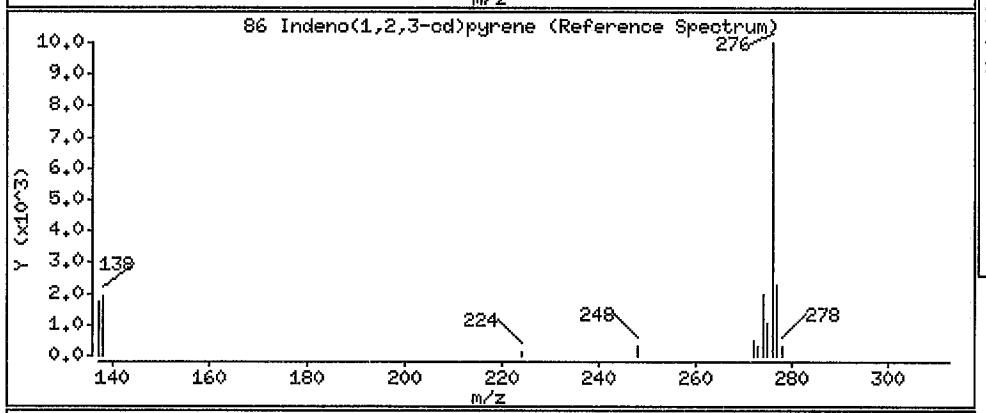
Concentration: 99.5 ng/L

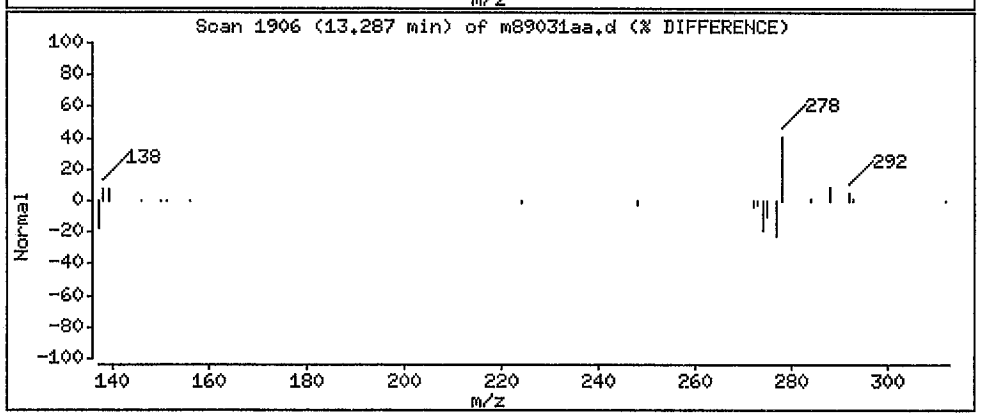












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

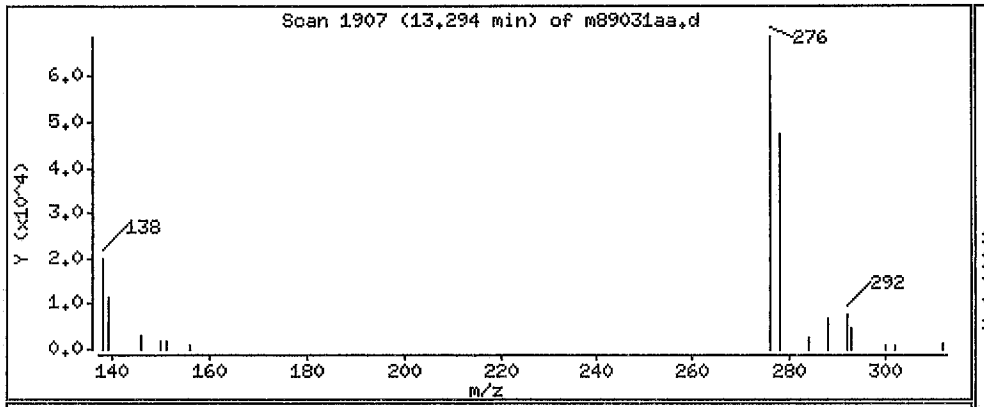
Operator: 011211

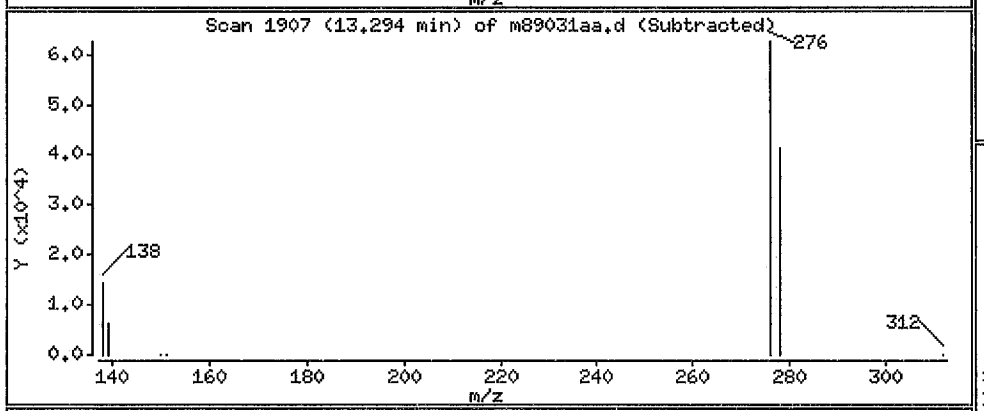
Column phase: Rxi-5SIL MS w/Guard

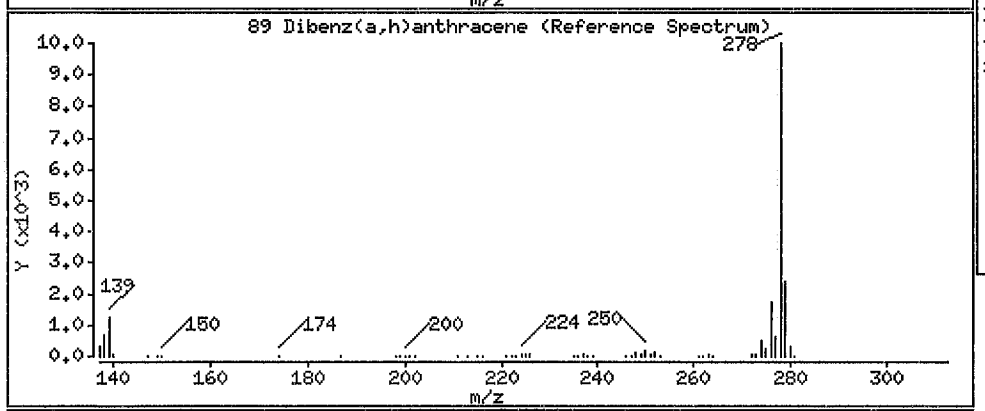
Column diameter: 0.25

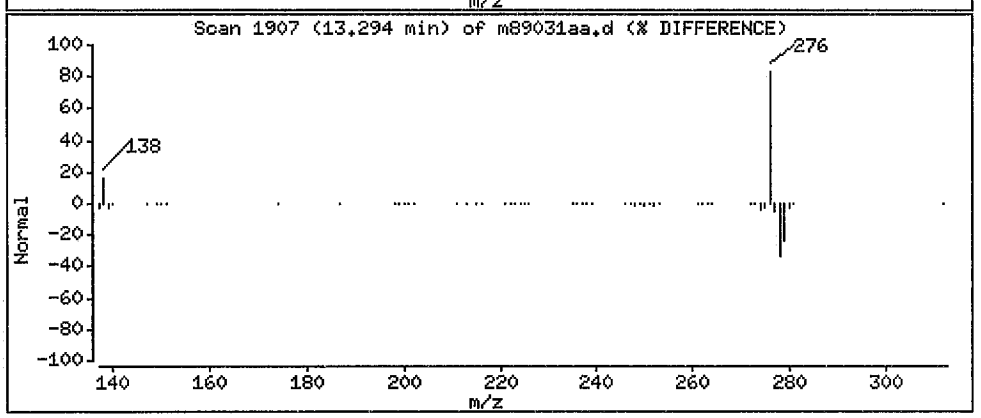
89 Dibenz(a,h)anthracene

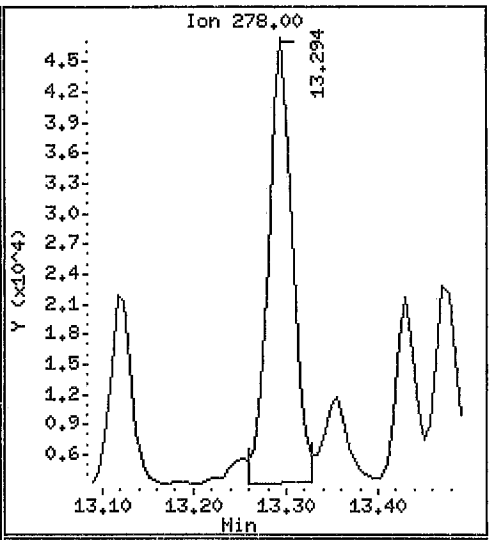
Concentration: 67.9 ng/L

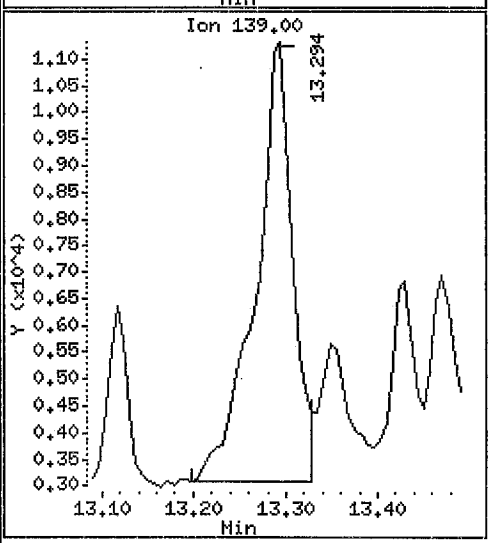












Data File: /var/chem/gcms/mp.i/P101016.b/m89031aa.d

Date : 10-OCT-2016 17:52

Client ID: R-1624 LOC#5 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1034.0

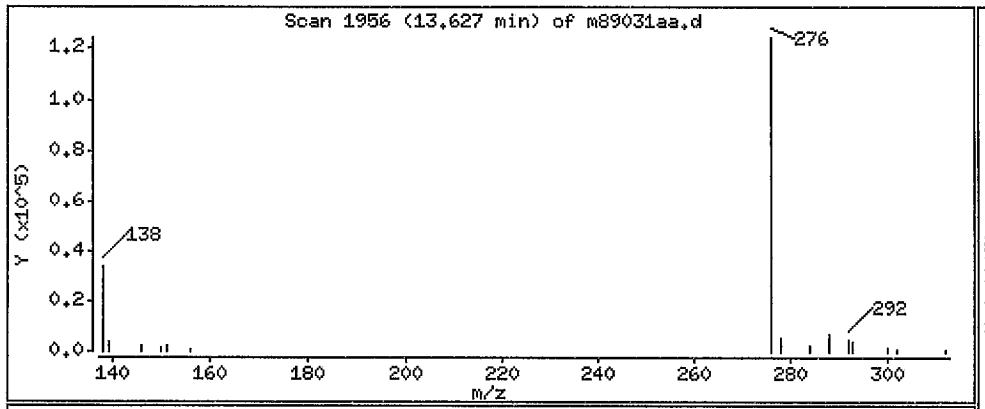
Operator: 011211

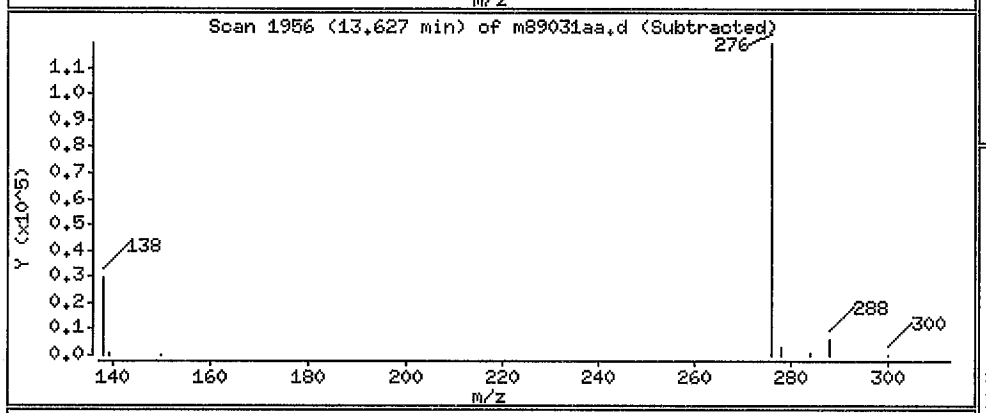
Column phase: Rxi-5SIL MS w/Guard

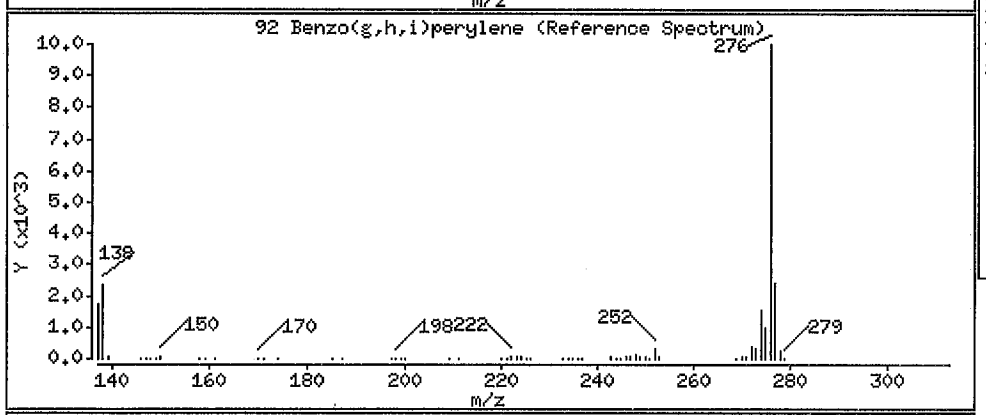
Column diameter: 0.25

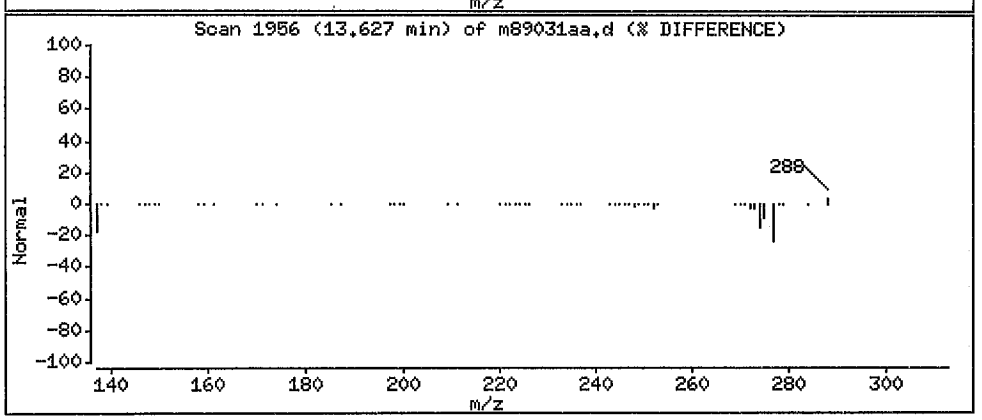
92 Benzo(g,h,i)perylene

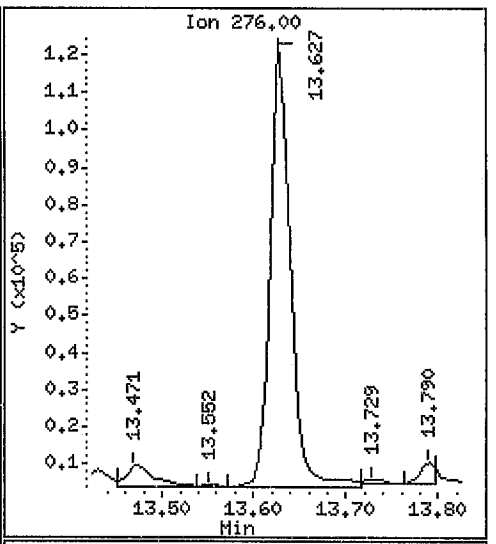
Concentration: 168 ng/L

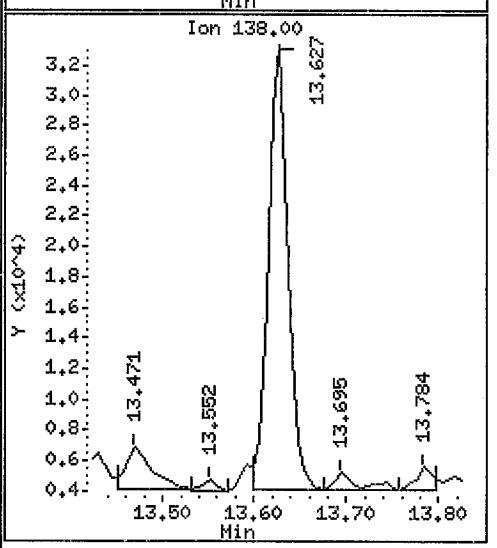




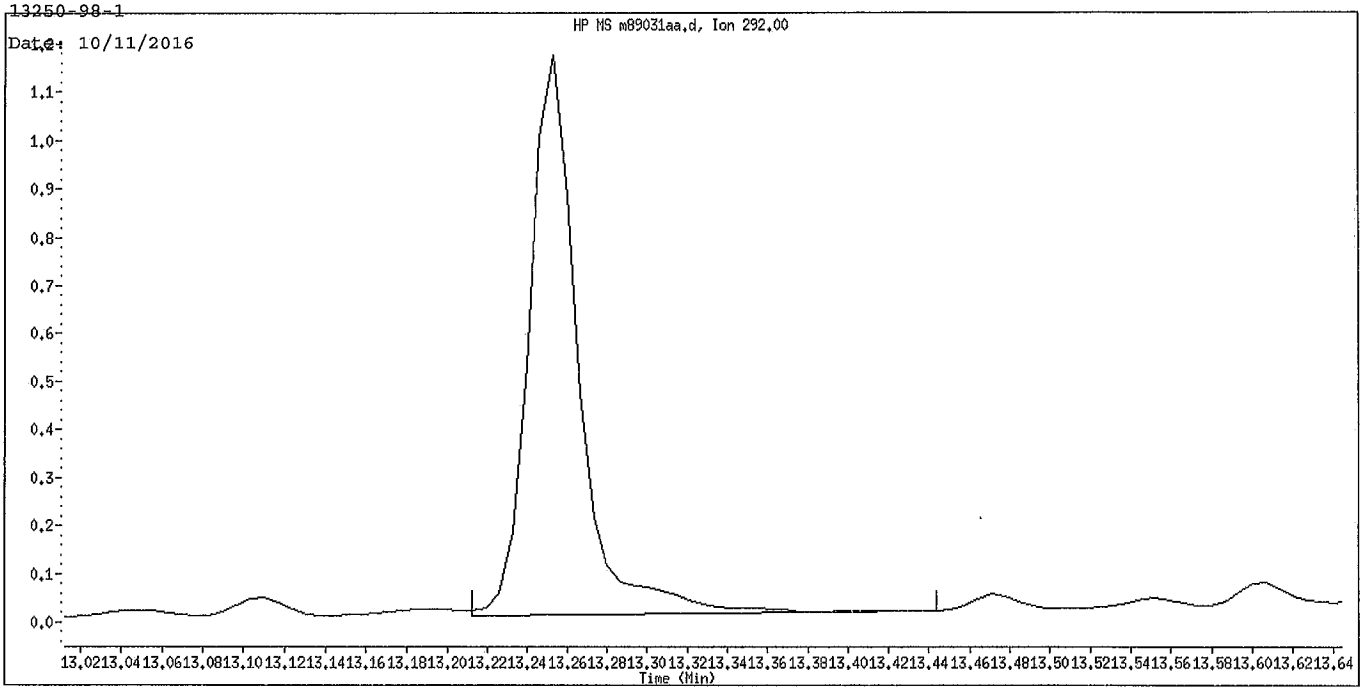




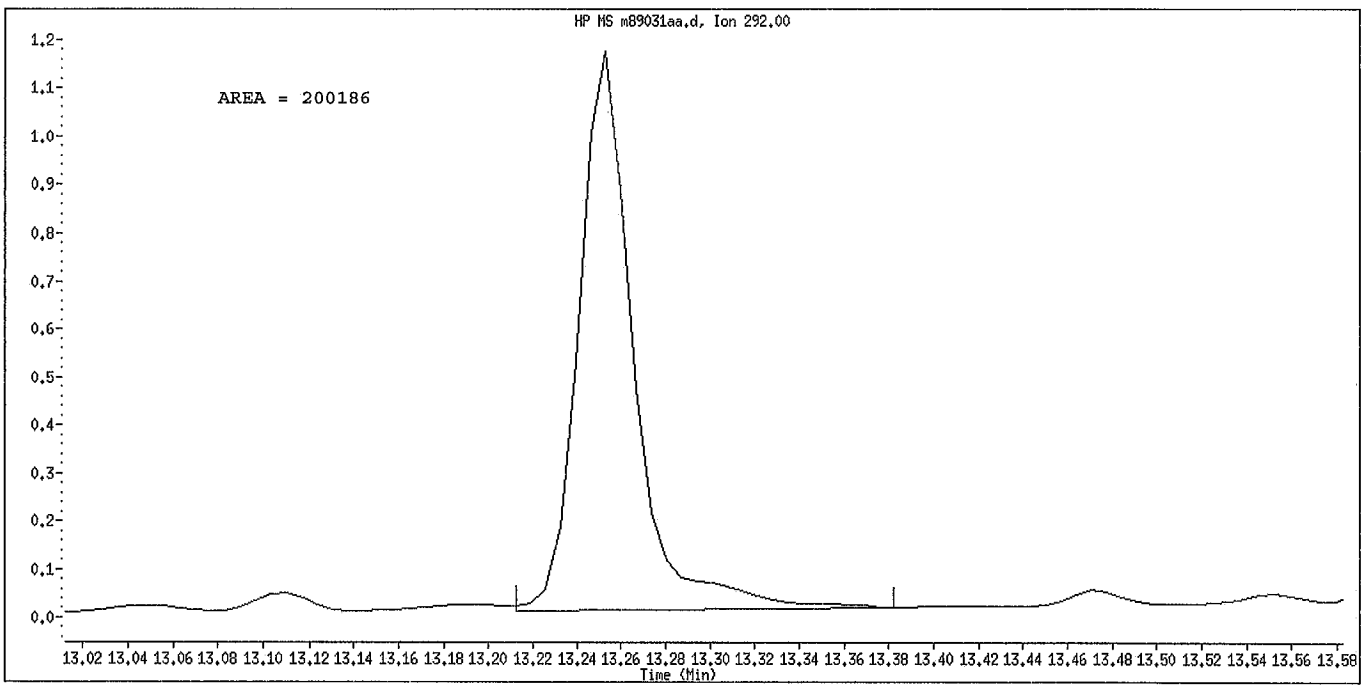




Data File Name: m89031aa.d
Inj. Date and Time: 10-OCT-2016 17:52
Instrument ID: mp.i
Client ID: R-1624 LOC#5 WATER
Compound Name: Dibenz(ah)anthracene-d14(SS)
CAS #: 13250-98-1
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89031aa.d

Inj. Date and Time: 10-OCT-2016 17:52

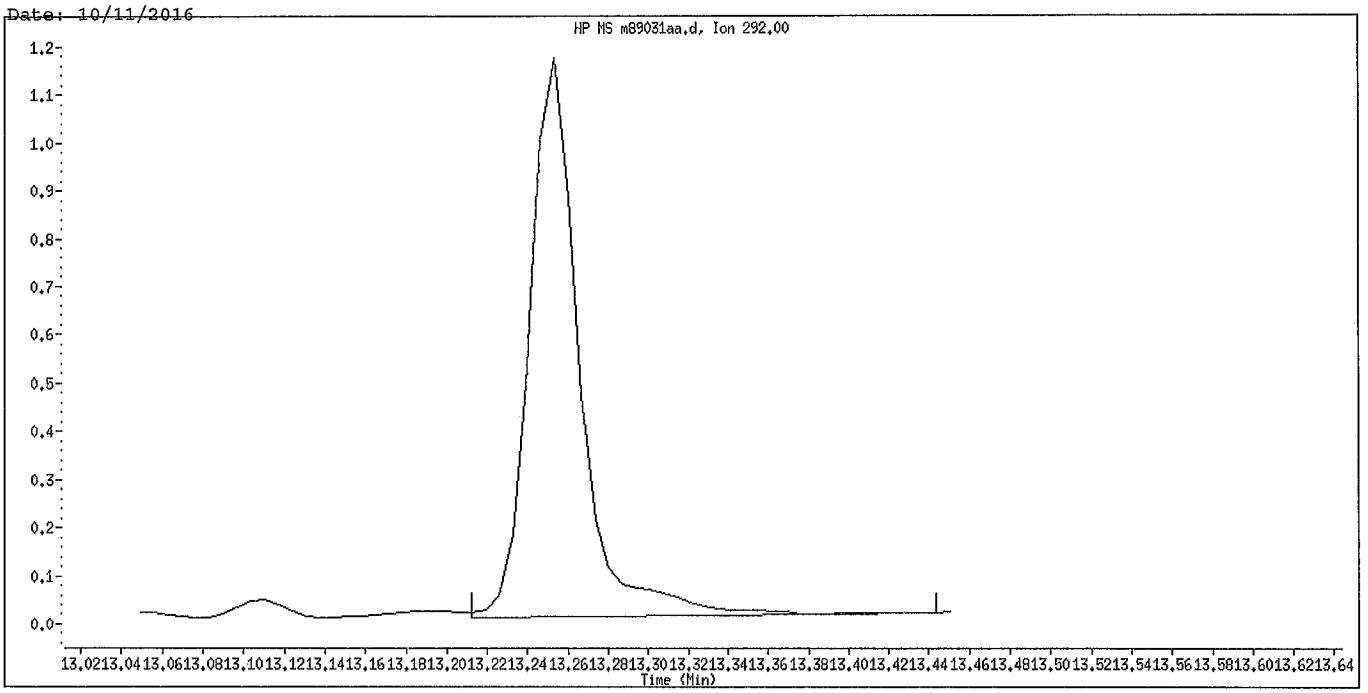
Instrument ID: mp.i

Client ID: R-1624 LOC#5 WATER

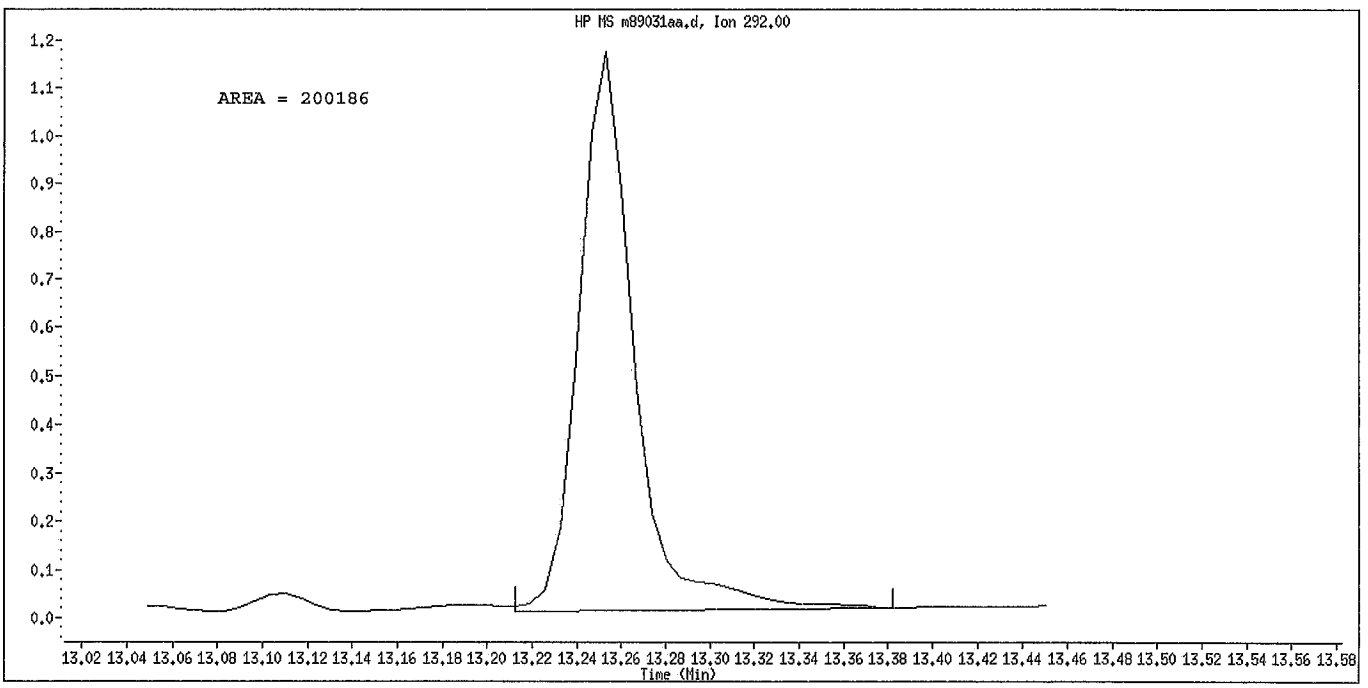
Compound Name: Dibenz(ah)anthracene-d14

CAS #: -13250-98-1

Report ~~Date: 10/11/2016~~



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Montrose Air Quality Services LLC

Client Sample ID: R-1632 LOC#6 WATER QT-R2A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-004	Work Order #...:	M89041AA	Matrix.....:	WATER
Date Sampled...:	09/23/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	62	10	ng/L	2.4
Acenaphthylene	90	10	ng/L	0.15
Anthracene	320	10	ng/L	0.71
Benzo(a)anthracene	500	10	ng/L	1.5
Benzo(b)fluoranthene	270	10	ng/L	1.5
Benzo(k)fluoranthene	88	10	ng/L	1.0
Benzo(ghi)perylene	200	10	ng/L	0.51
Benzo(a)pyrene	190	10	ng/L	0.40
Chrysene	690 B	10	ng/L	0.22
Dibenz(a,h)anthracene	84	10	ng/L	0.78
Fluoranthene	440	10	ng/L	2.4
Fluorene	260 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	94	10	ng/L	1.0
Naphthalene	780	50	ng/L	16
Perylene	20	10	ng/L	0.81
Phenanthrene	1400	20	ng/L	11
Pyrene	380 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	59	(30 - 120)
Naphthalene-d8	67	(30 - 120)
Acenaphthylene-d8	63	(30 - 120)
Phenanthrene-d10	37	(30 - 120)
Anthracene-d10	37	(30 - 120)
Fluoranthene-d10	46	(30 - 120)
Chrysene-d12	46	(30 - 120)
Benzo(b)fluoranthene-d12	57	(30 - 120)
Benzo(k)fluoranthene-d12	46	(30 - 120)
Benzo(a)pyrene-d12	60	(30 - 120)
Perylene-d12	52	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	61	(30 - 120)
Dibenz(ah)anthracene-d14	66	(30 - 120)
Benzo(ghi)perylene-d12	54	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d
Report Date: 11-Oct-2016 15:08

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89041aa.d
Lab Smp Id: M89041AA Client Smp ID: R-1632 LOC#6 WATER
Inj Date : 10-OCT-2016 19:34
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1039.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	408678	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	409377	0.33741	162
3 Naphthalene	128	4.957	4.957	(1.002)	1348535	1.63098	785
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	195022	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	195293	0.31964	154
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	611204	1.14044	549
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	345048	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	345048	0.31715	153
22 Acenaphthylene	152	6.286	6.286	(1.002)	141541	0.18782	90.4
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	306335	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	58367	0.12795	61.6
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	215582	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	215582	0.29625	143
27 Fluorene	166	6.865	6.861	(1.003)	272403	0.54555	263
* 41 Phenanthrene-d10	188	7.660	7.660	(1.000)	256438	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.660	7.660	(0.853)	256438	0.18707	90.0
43 Phenanthrene	178	7.682	7.679	(1.003)	1823044	2.83647	1370
* 44 Anthracene-d10	188	7.709	7.709	(1.000)	230923	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d
Report Date: 11-Oct-2016 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.709	7.709	(0.859)	230923	0.18327	88.2
	46 Anthracene	178	7.725	7.725	(1.002)	386494	0.65765	316
*	53 Fluoranthene-d10	212	8.753	8.750	(1.000)	302987	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	302772	0.22883	110
	55 Fluoranthene	202	8.769	8.769	(1.002)	701673	0.90844	437
*	56 Pyrene-d10	212	8.975	8.972	(1.000)	595764	0.50000	0.500
	57 Pyrene	202	8.991	8.991	(1.027)	629800	0.79269	381(M)
	62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	590691	1.02771	495
*	63 Chrysene-d12	240	10.219	10.219	(1.000)	323816	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	323818	0.23069	111
	65 Chrysene	228	10.246	10.246	(1.003)	983155	1.43960	693
*	70 Benzo(b)fluoranthene-d12	264	11.358	11.355	(1.000)	344806	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.358	11.355	(0.972)	344806	0.28659	138
	72 Benzo(b)fluoranthene	252	11.388	11.385	(1.003)	567745	0.56990	274(M)
*	73 Benzo(k)fluoranthene-d12	264	11.394	11.391	(1.000)	340211	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.394	11.391	(0.975)	340211	0.22869	110
	75 Benzo(k)fluoranthene	252	11.406	11.415	(1.001)	145945	0.18224	87.7(M)
*	76 Benzo(e)pyrene-d12	264	11.687	11.684	(1.000)	573217	0.50000	0.500
	77 Benzo(e)pyrene	252	11.717	11.714	(0.997)	478093	0.50689	244
*	78 Benzo(a)pyrene-d12	264	11.753	11.750	(1.000)	307226	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.753	11.750	(1.006)	307226	0.30223	145
	80 Benzo(a)pyrene	252	11.777	11.780	(1.002)	316277	0.38618	186
*	81 Perylene-d12	264	11.848	11.845	(1.000)	305516	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.848	11.845	(1.014)	305516	0.26220	126
	83 Perylene	252	11.884	11.881	(1.003)	29662	0.04108	19.8
*	84 Indeno(123-cd)pyrene-d12	288	13.253	13.249	(1.000)	368995	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.253	13.249	(1.134)	371484	0.30748	148
	86 Indeno(1,2,3-cd)pyrene	276	13.287	13.283	(1.003)	193780	0.19516	93.9
*	87 Dibenz(ah)anthracene-d14	292	13.253	13.249	(1.000)	318963	0.50000	0.500(M)
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.253	13.249	(1.134)	318963	0.33024	159(M)
	89 Dibenz(a,h)anthracene	278	13.294	13.290	(1.003)	156614	0.17468	84.1(M)
*	90 Benzo(ghi)perylene-d12	288	13.593	13.589	(1.000)	321217	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.593	13.589	(1.163)	321217	0.26938	130
	92 Benzo(g,h,i)perylene	276	13.627	13.623	(1.002)	327652	0.40540	195

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d
Report Date: 11-Oct-2016 15:08

TestAmerica Knoxville

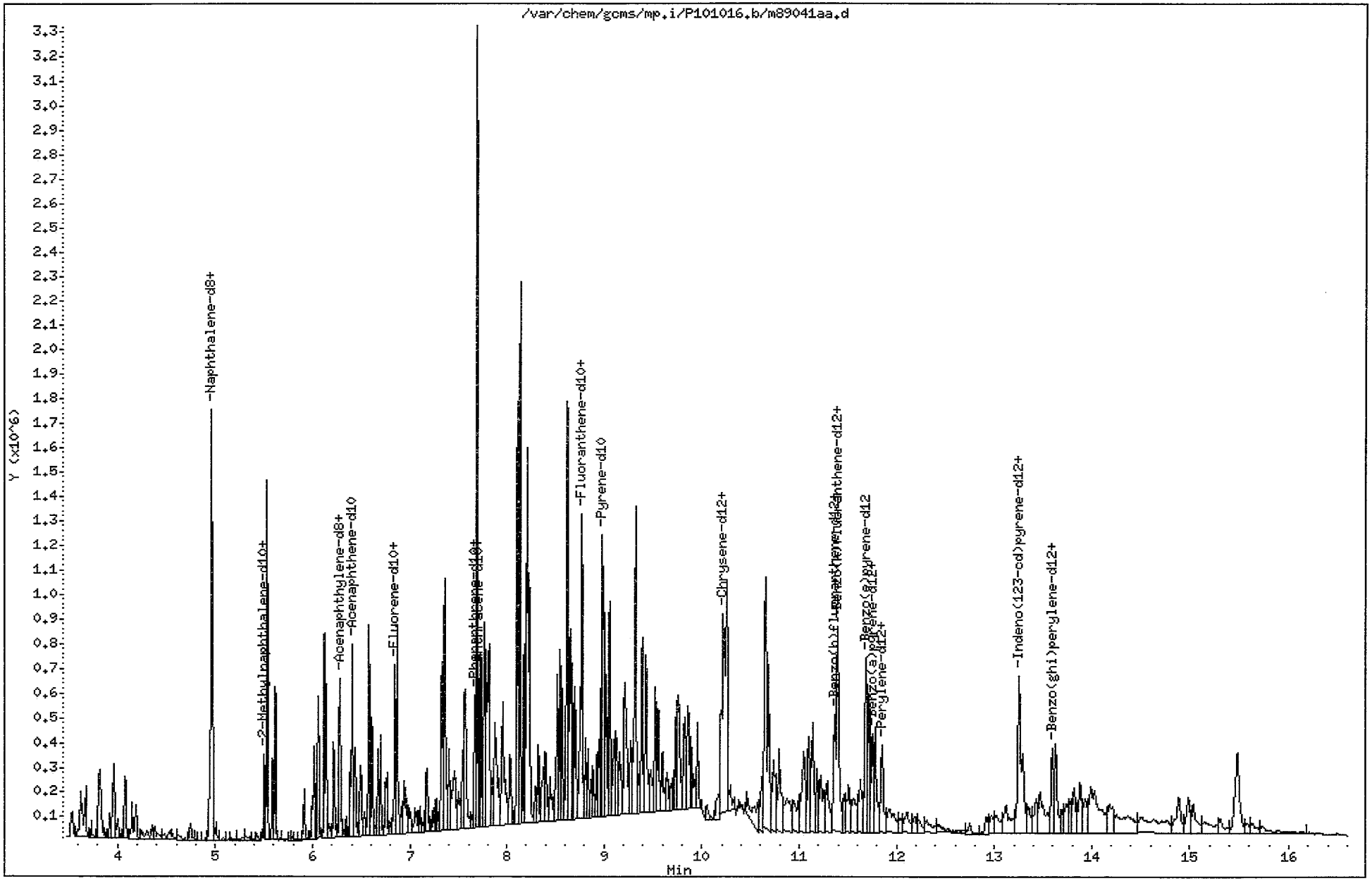
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89041AA Client Smp ID: R-1632 LOC#6 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	241	162	67.48	20-130
$ 222 13C6-Naphthalene	481	0.00	*	50-150
$ 11 2-Methylnaphthalen	241	154	63.93	30-120
$ 21 Acenaphthylene-d8(	241	153	63.43	30-120
$ 233 Fluorene-d10(SS)	241	143	59.25	30-120
$ 42 Phenanthrene-d10(S	241	90.0	37.41	30-120
$ 45 Anthracene-d10(SS)	241	88.2	36.65	30-120
$ 54 Fluoranthene-d10(S	241	110	45.77	30-120
$ 64 Chrysene-d12(SS)	241	111	46.14	30-120
$ 71 Benzo(b)fluoranthe	241	138	57.32	30-120
$ 74 Benzo(k)fluoranthe	241	110	45.74	30-120
$ 79 Benzo(a)pyrene-d12	241	145	60.45	30-120
$ 82 Perylene-d12(SS)	241	126	52.44	30-120
$ 85 Indeno(123-cd)pyre	241	148	61.50	30-120
$ 88 Dibenz(ah)anthrace	241	159	66.05	30-120
$ 91 Benzo(ghi)perylene	241	130	53.88	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d
Date : 10-OCT-2016 19:34
Client ID: R-1632 LOC#6 WATER
Sample Info: ,,0,,TRT
Purge Volume: 1039.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

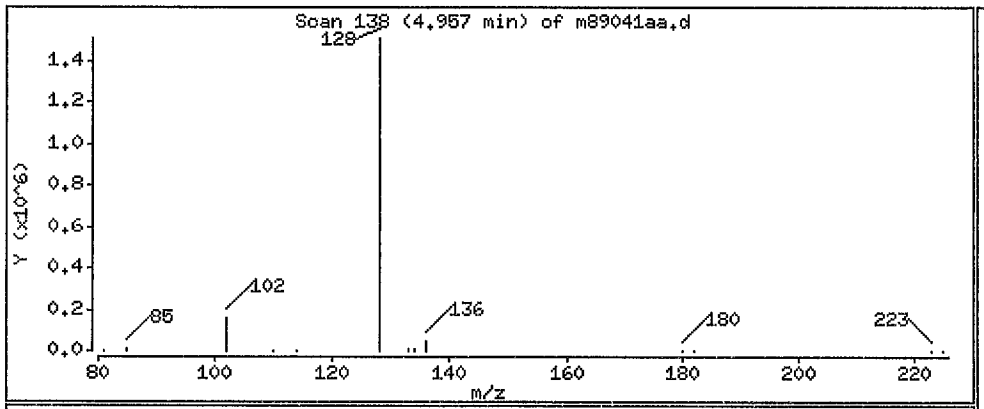
Operator: 011211

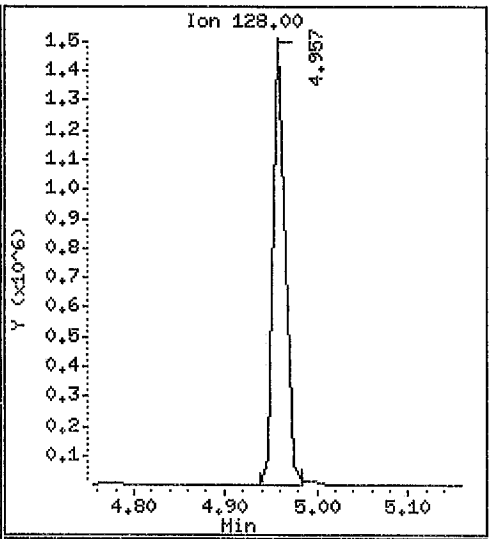
Column phase: Rxi-5SIL MS w/Guard

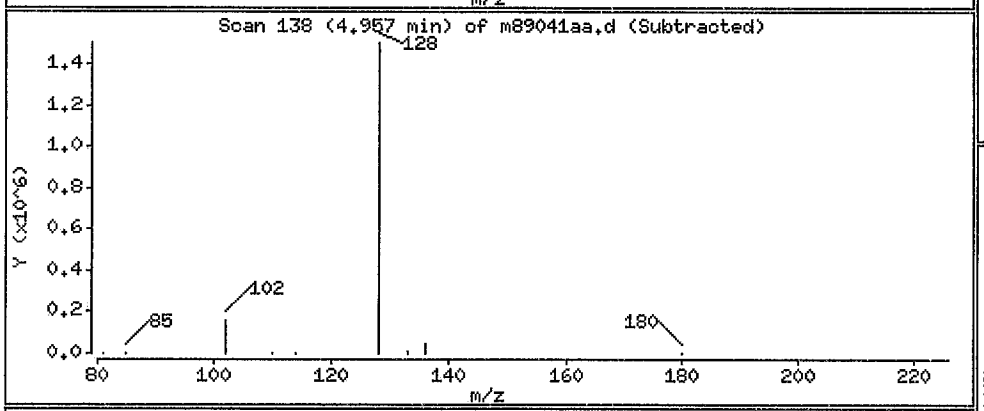
Column diameter: 0.25

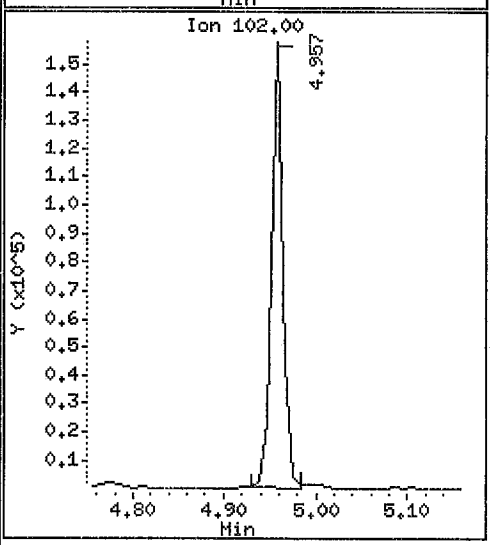
3 Naphthalene

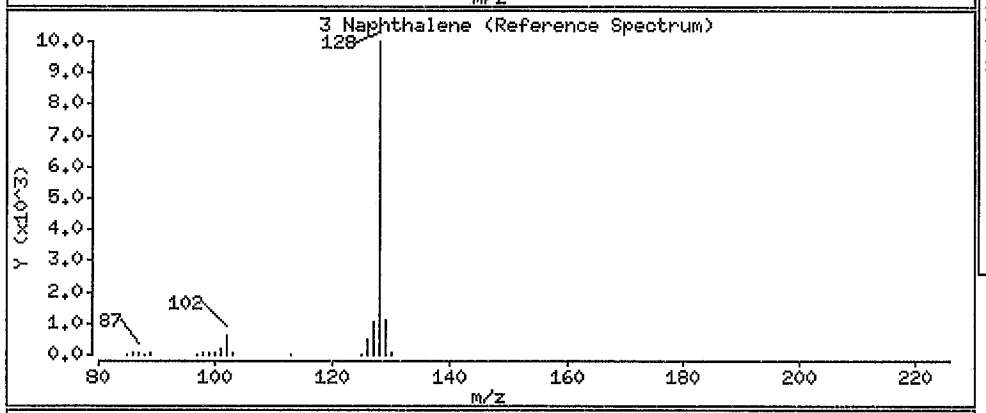
Concentration: 785 ng/L

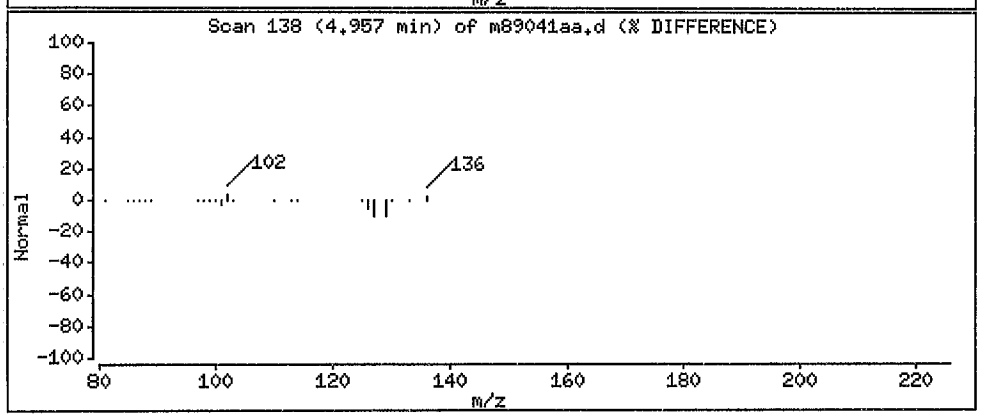












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

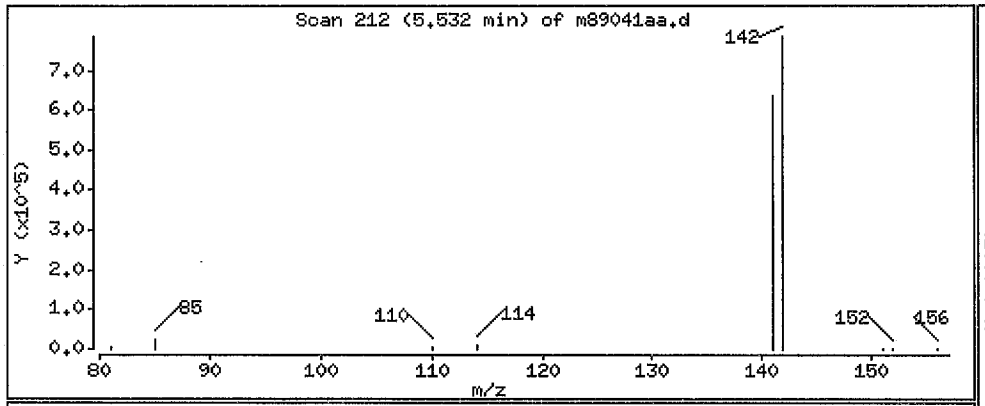
Operator: 011211

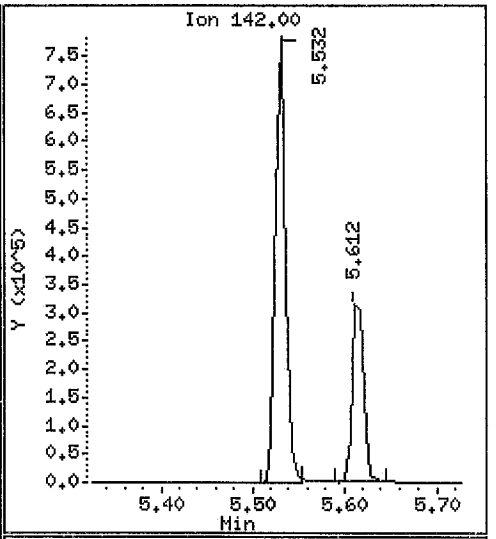
Column phase: Rxi-5SIL MS w/Guard

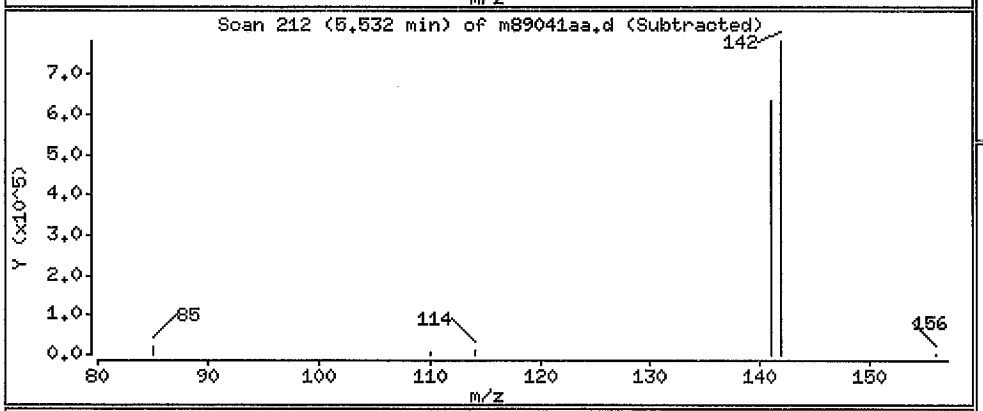
Column diameter: 0.25

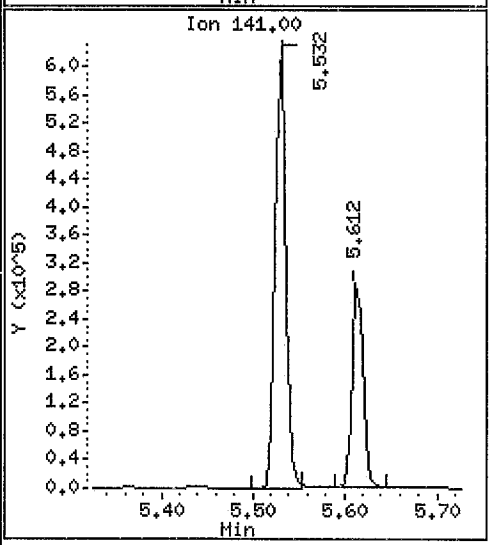
12 2-Methylnaphthalene

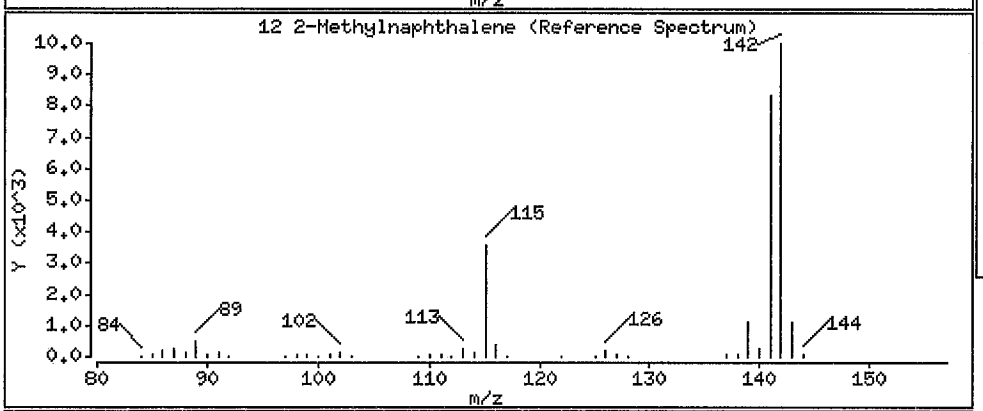
Concentration: 549 ng/L

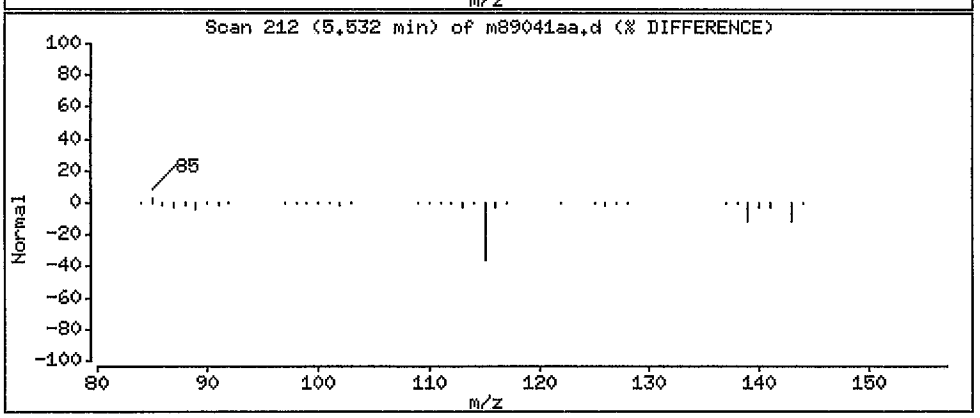












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

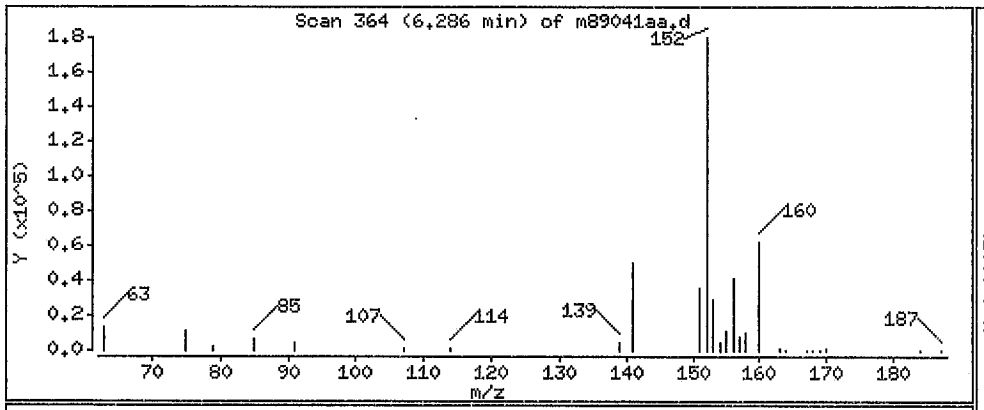
Operator: 011211

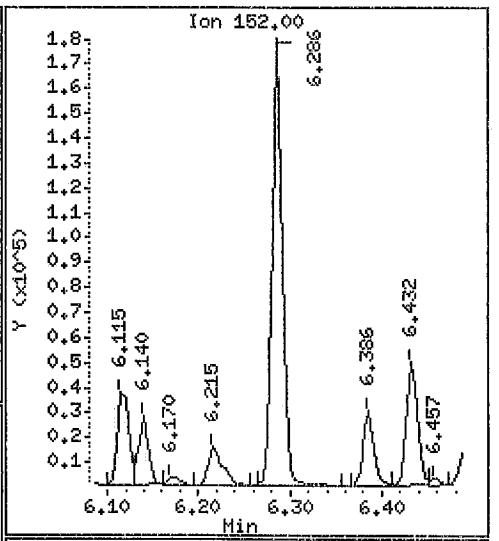
Column phase: Rxi-5SIL MS w/Guard

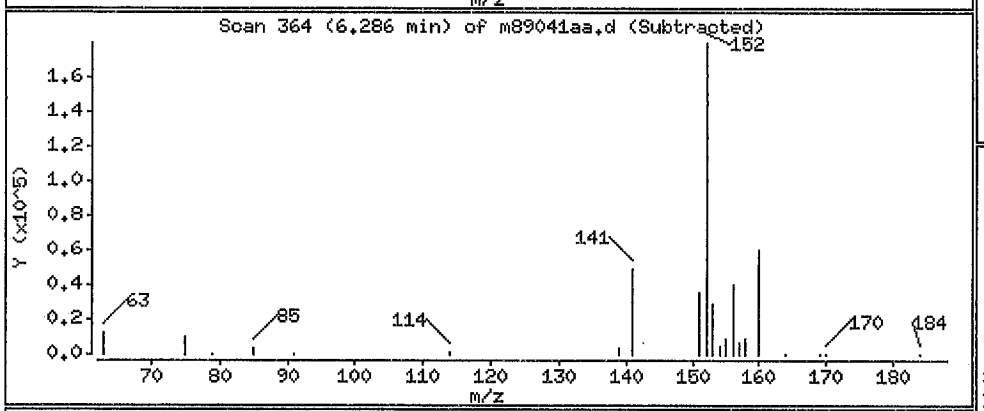
Column diameter: 0.25

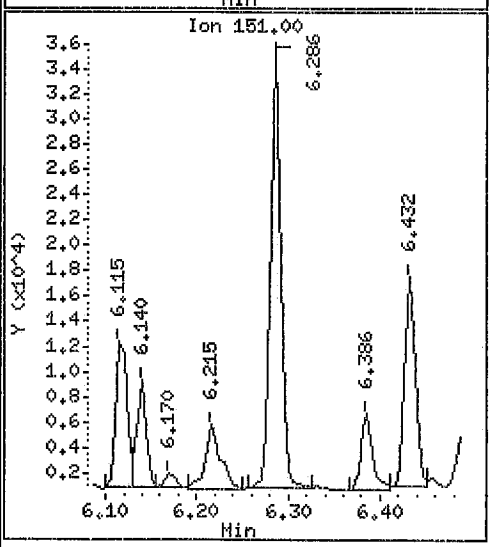
22 Acenaphthylene

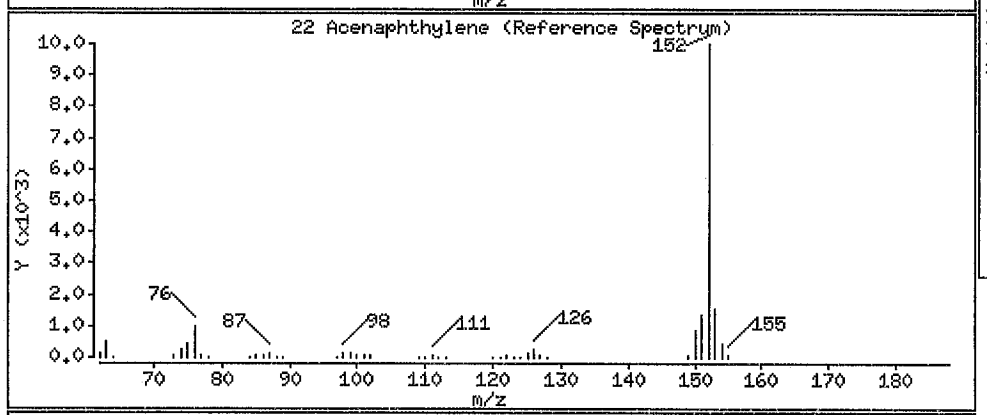
Concentration: 90.4 ng/L

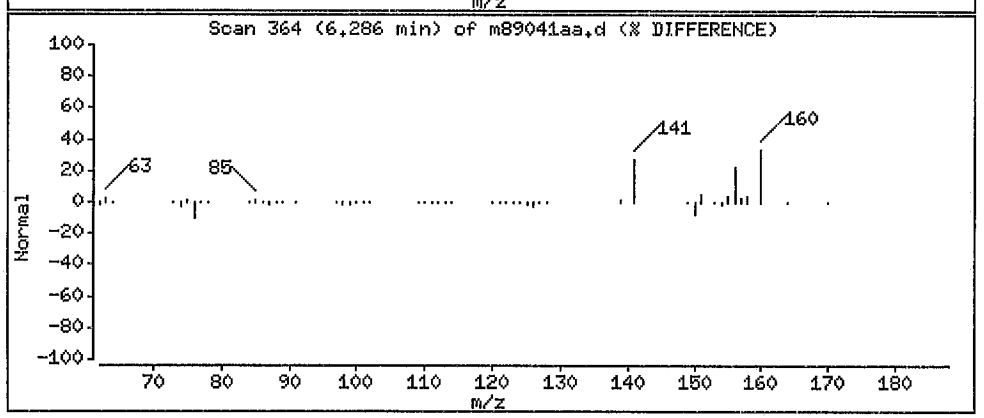












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

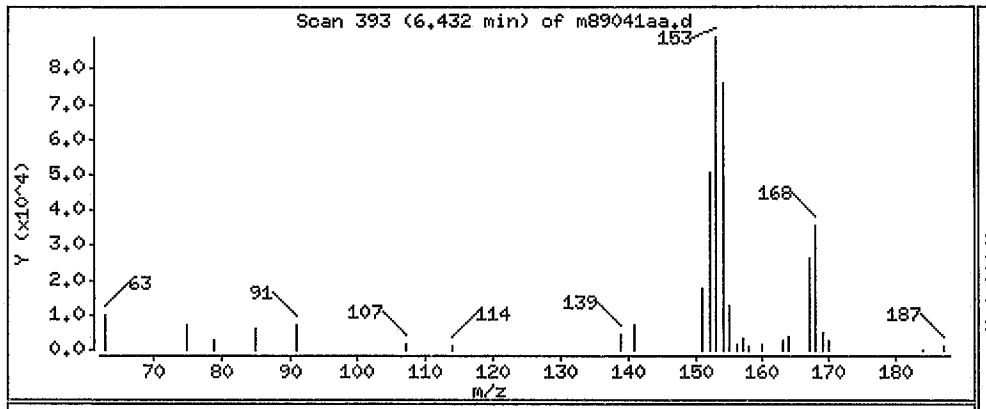
Operator: 011211

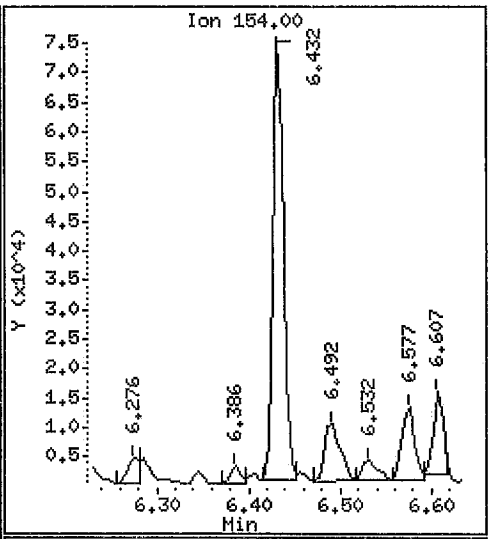
Column phase: Rxi-5SIL MS w/Guard

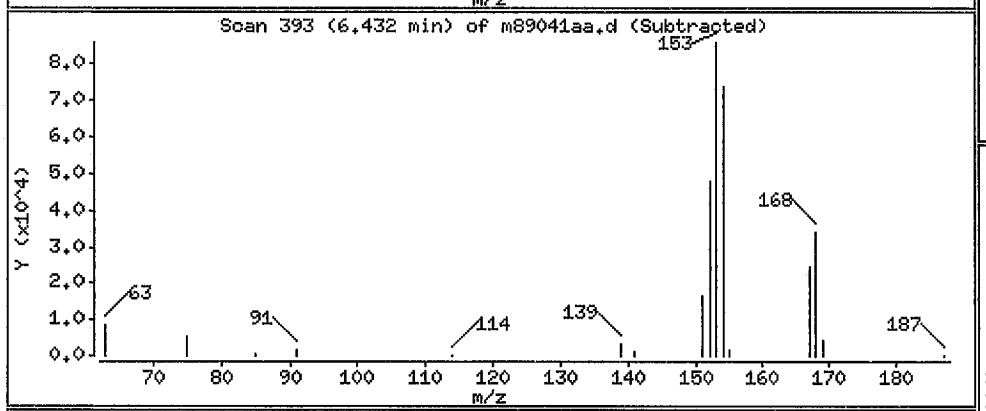
Column diameter: 0.25

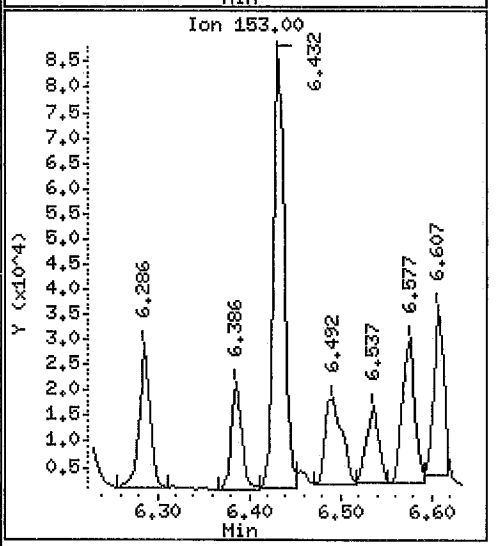
24 Acenaphthene

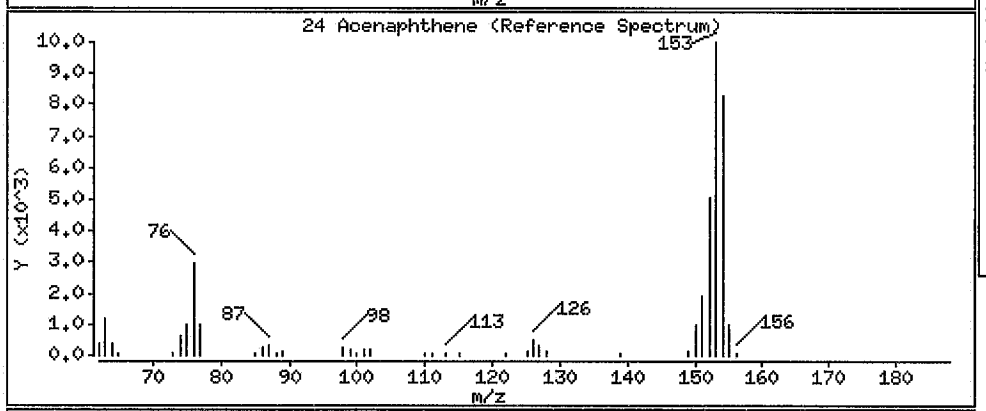
Concentration: 61.6 ng/L

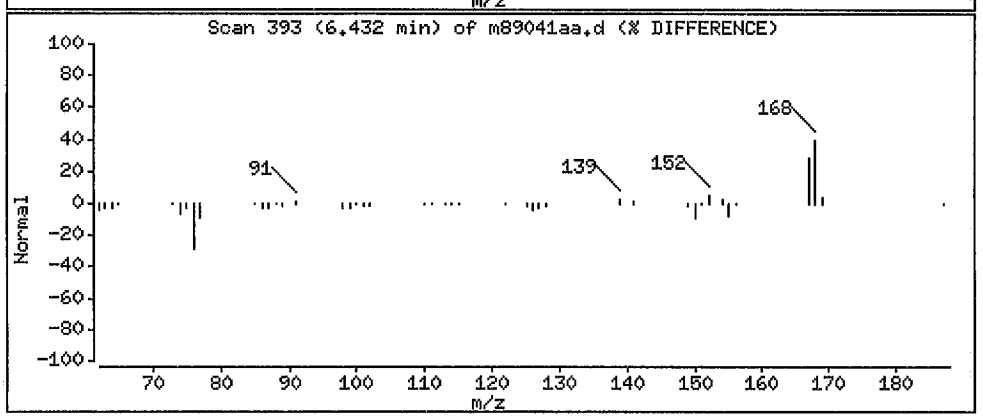












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

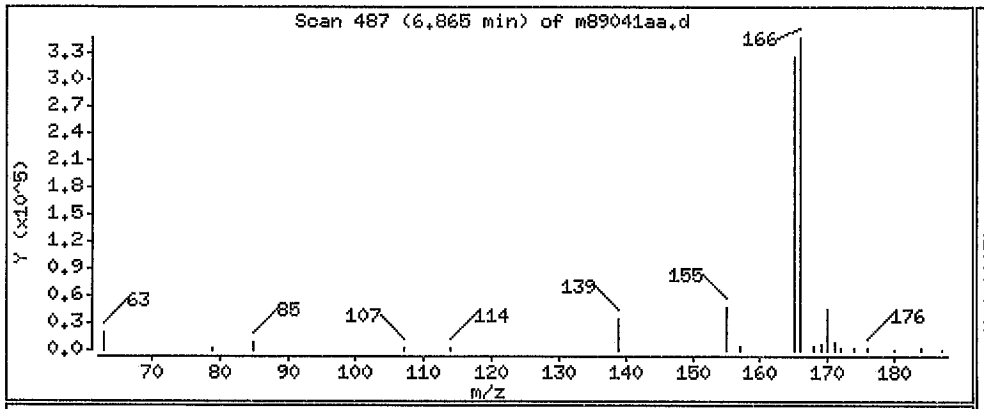
Operator: 011211

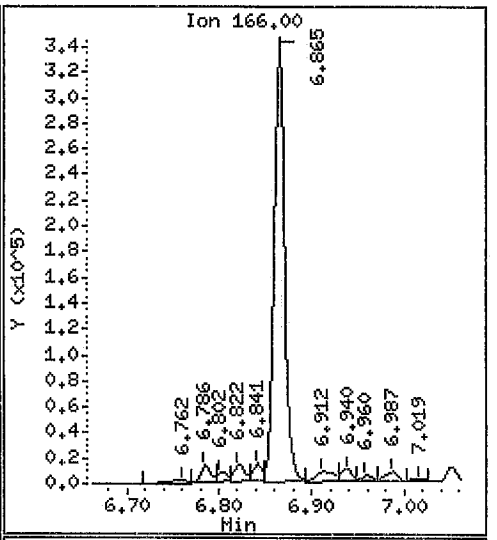
Column phase: Rxi-5SIL MS w/Guard

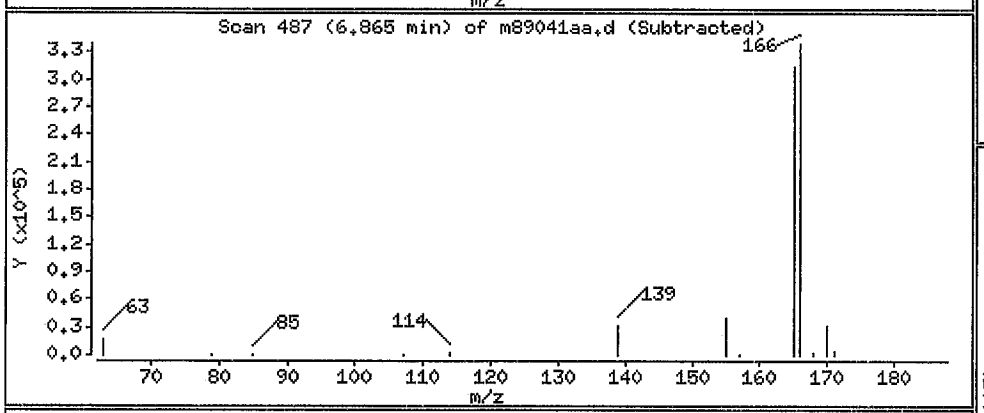
Column diameter: 0.25

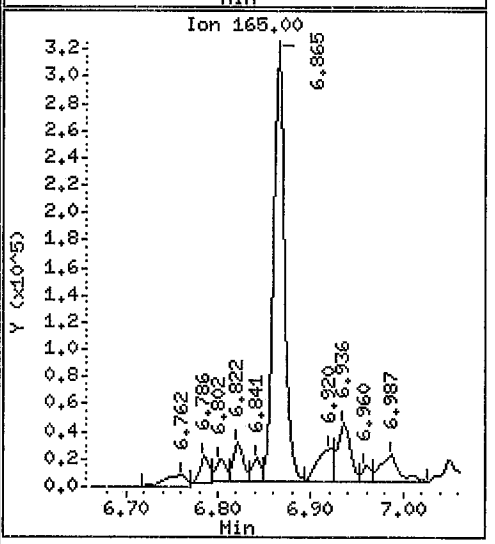
27 Fluorene

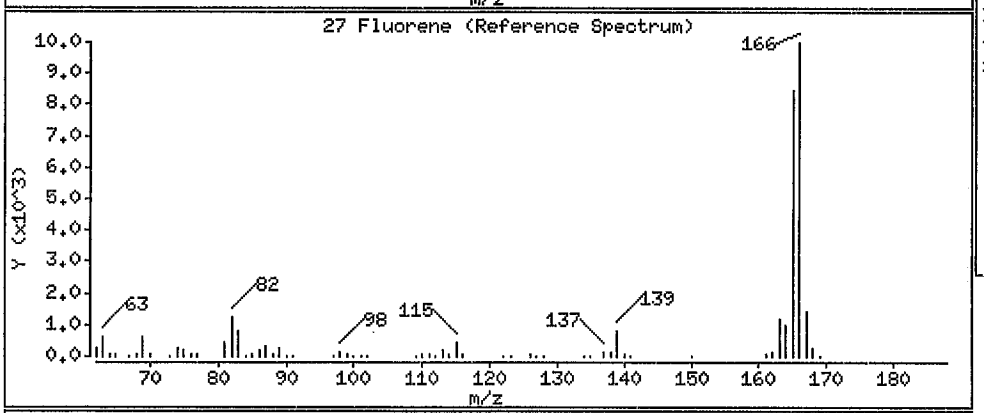
Concentration: 263 ng/L

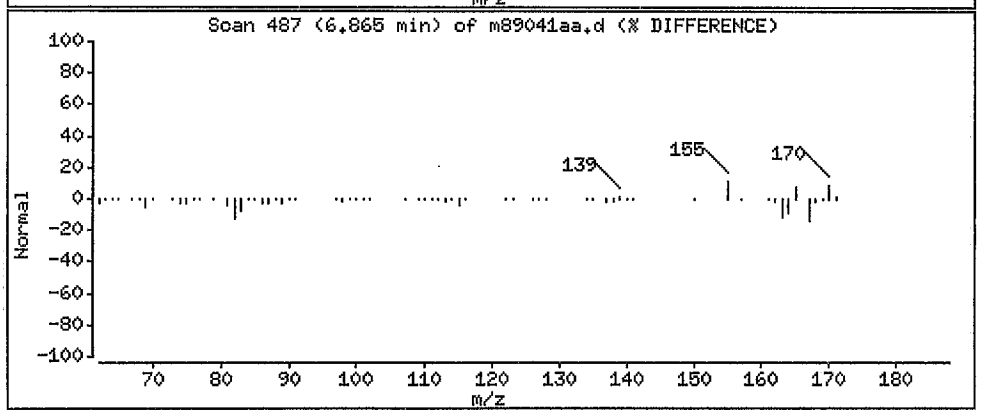












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

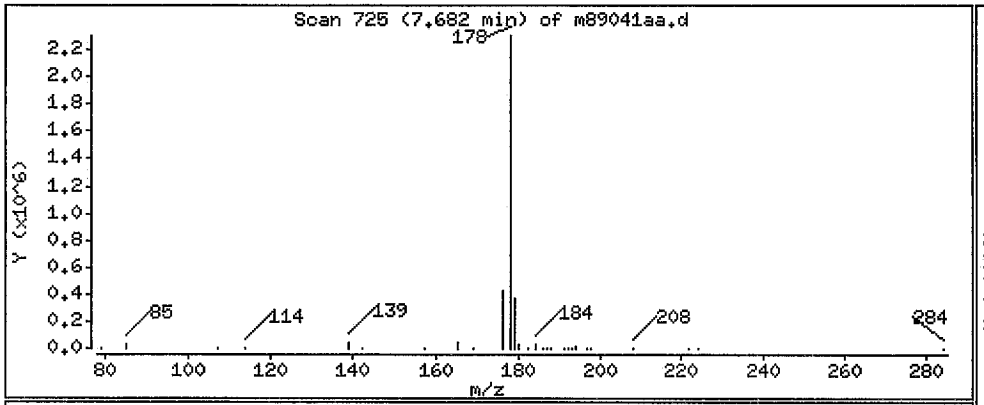
Operator: 011211

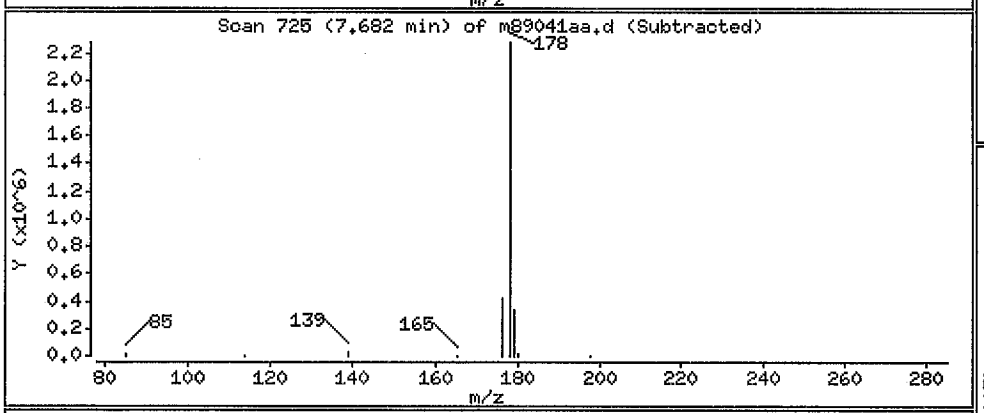
Column phase: Rxi-5SIL MS w/Guard

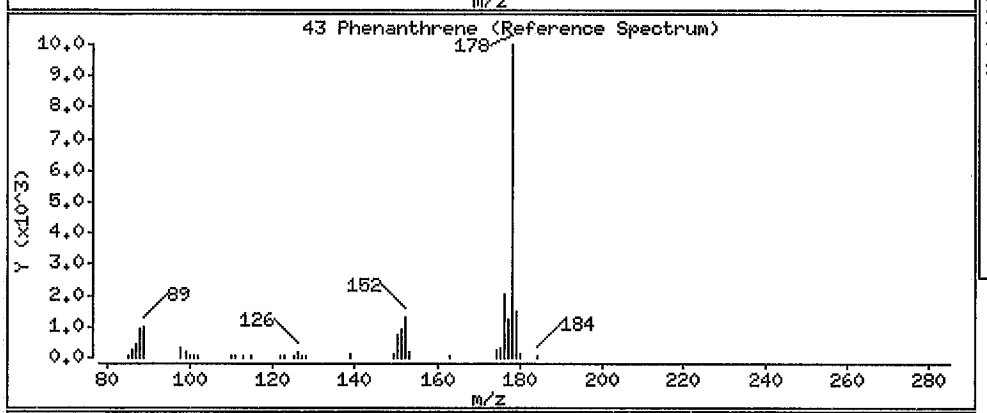
Column diameter: 0.25

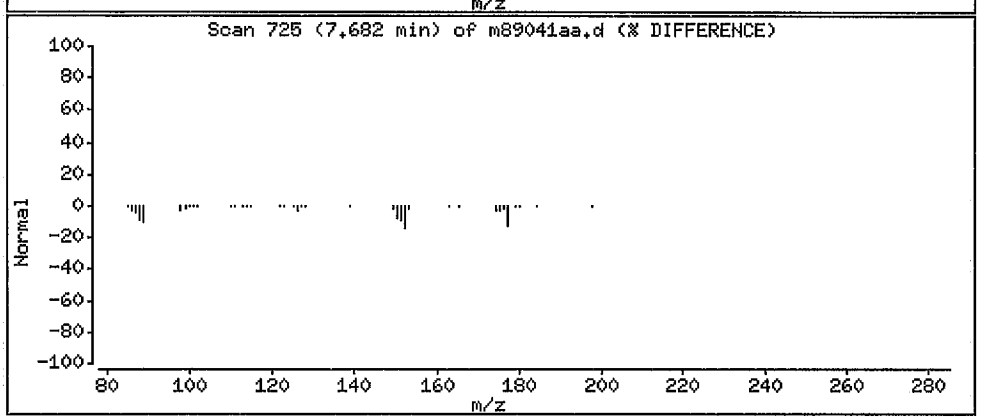
43 Phenanthrene

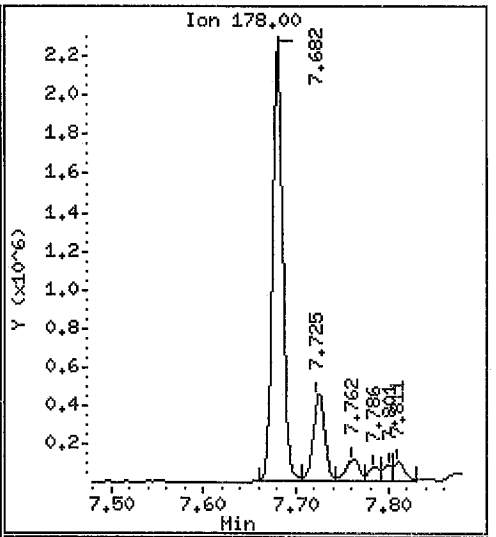
Concentration: 1370 ng/L

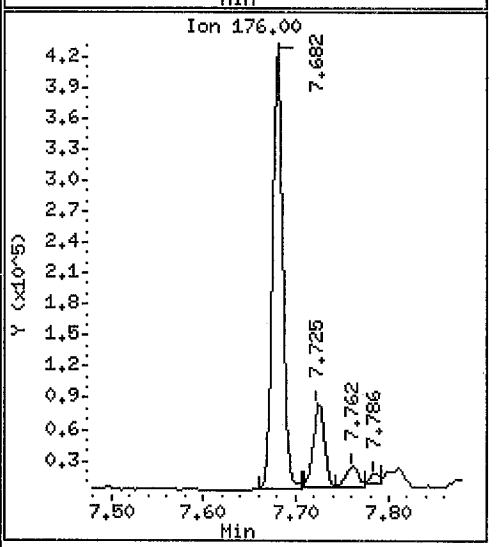












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

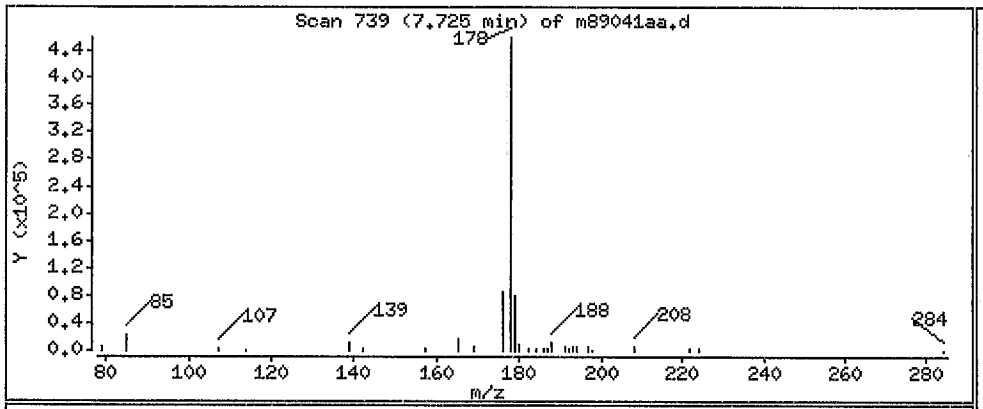
Operator: 011211

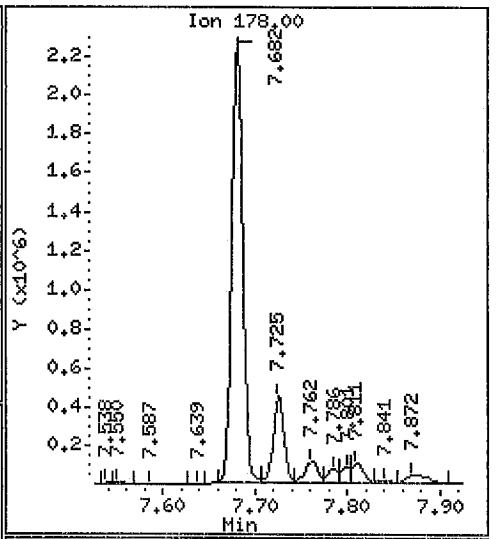
Column phase: Rxi-5SIL MS w/Guard

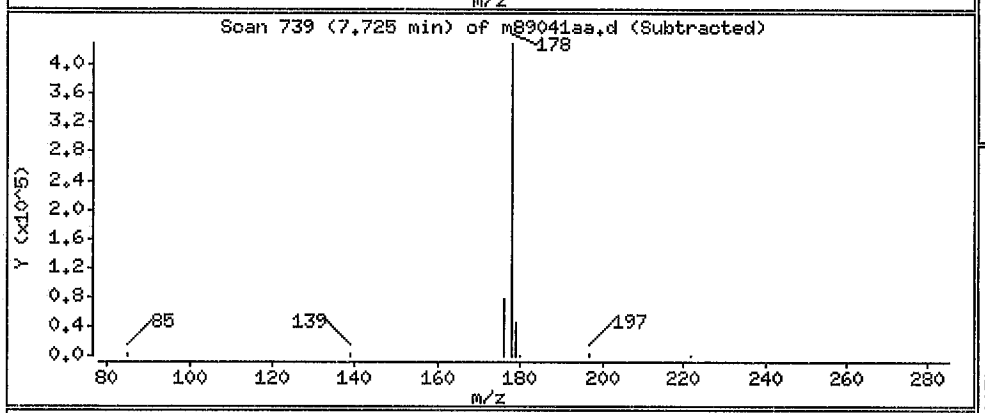
Column diameter: 0.25

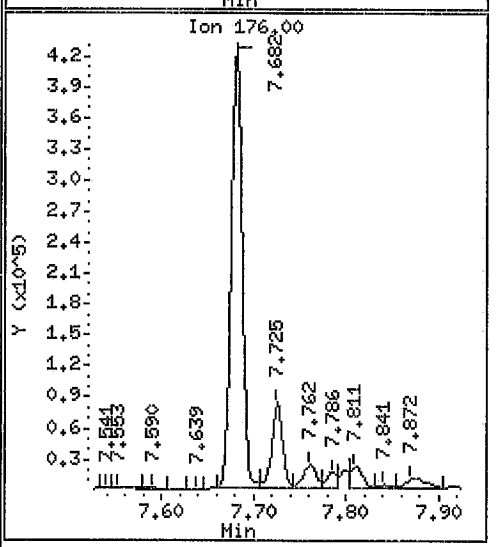
46 Anthracene

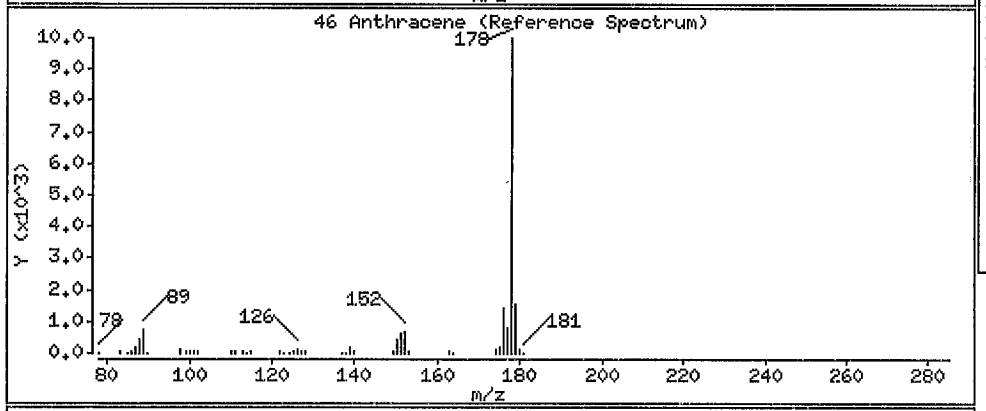
Concentration: 316 ng/L

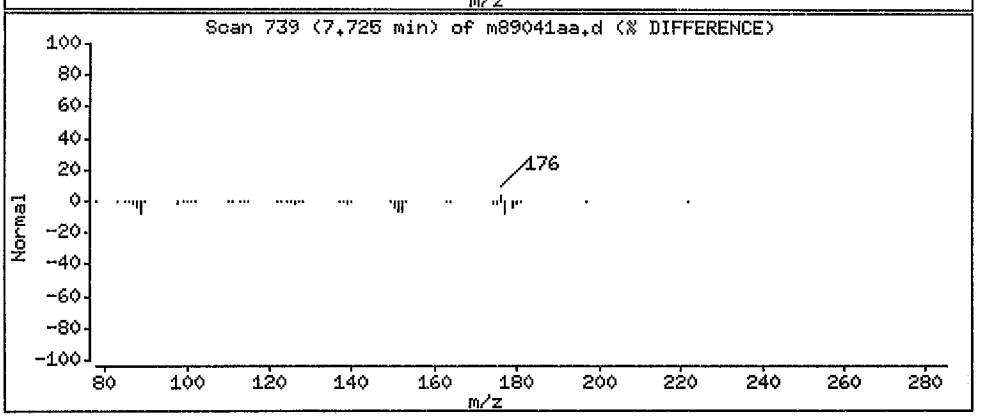












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

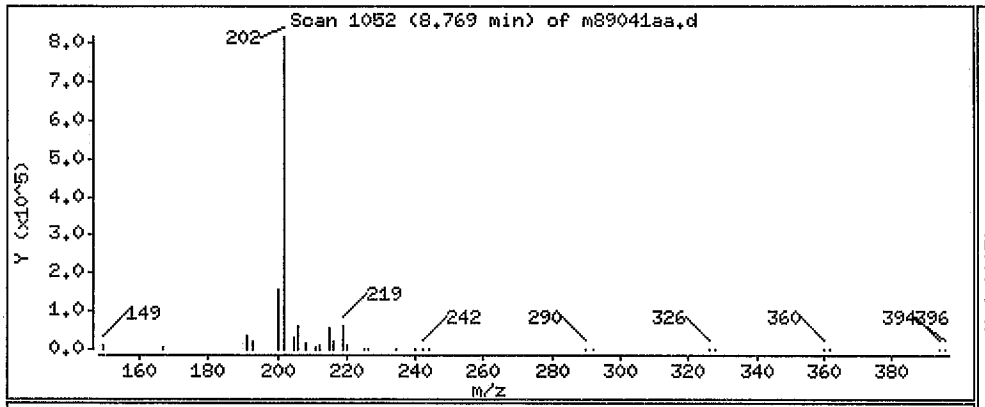
Operator: 011211

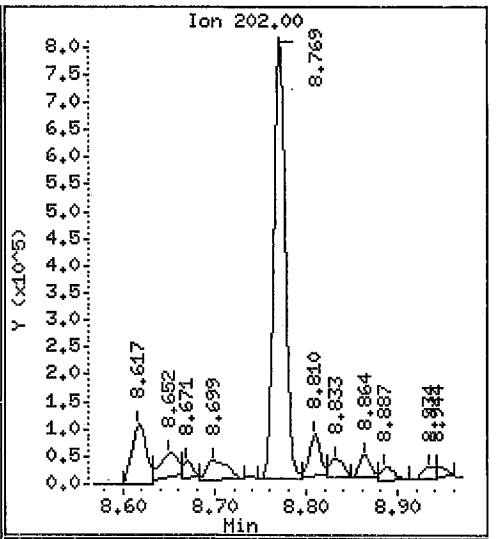
Column phase: Rxi-5SIL MS w/Guard

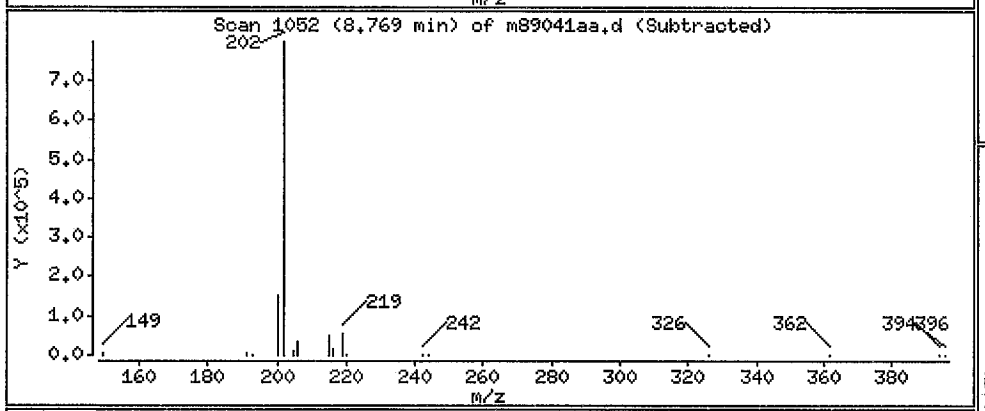
Column diameter: 0.25

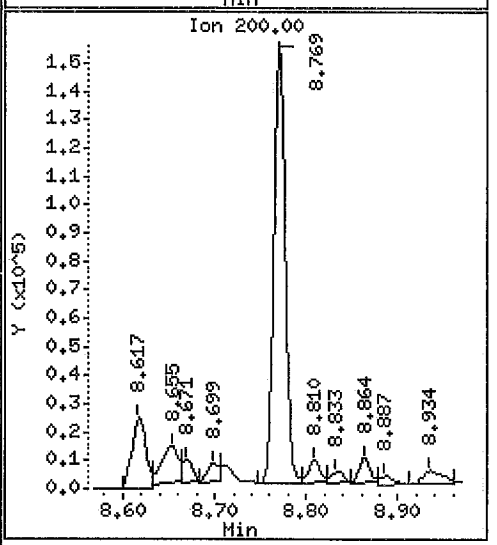
55 Fluoranthene

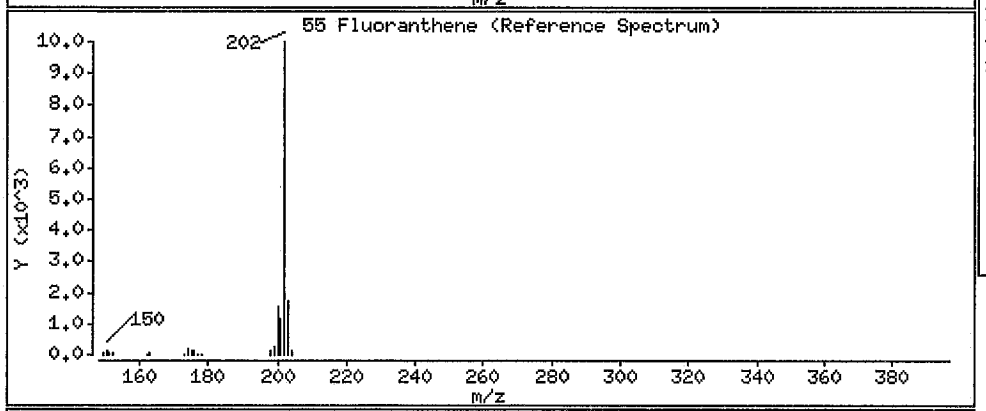
Concentration: 437 ng/L

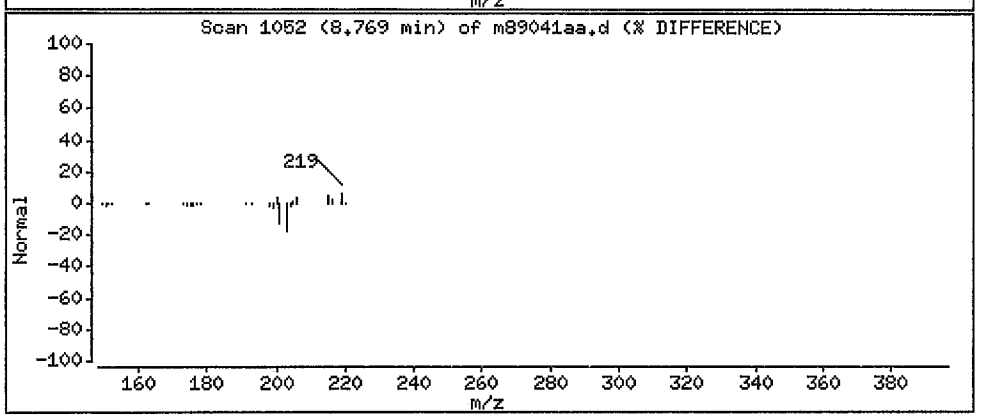












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

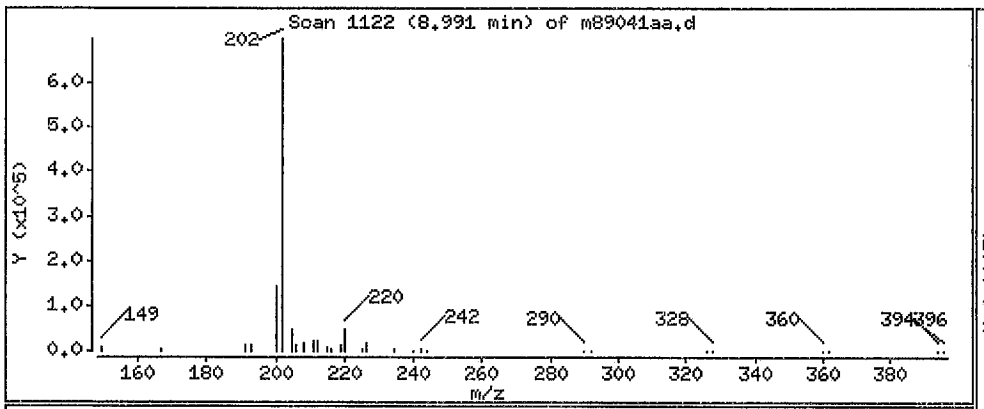
Column phase: Rxi-5SIL MS w/Guard

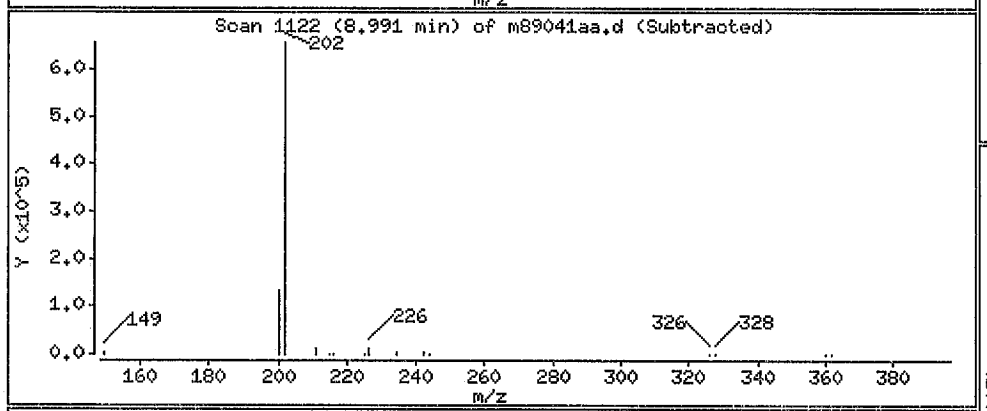
Column diameter: 0.25

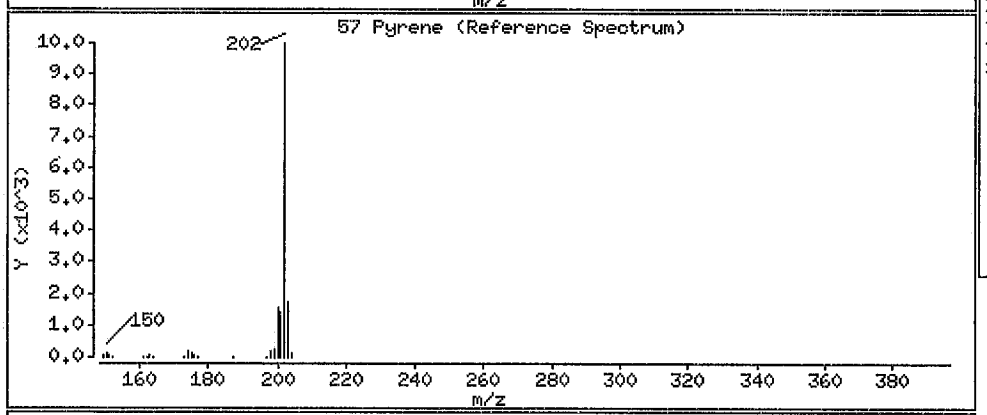
57 Pyrene

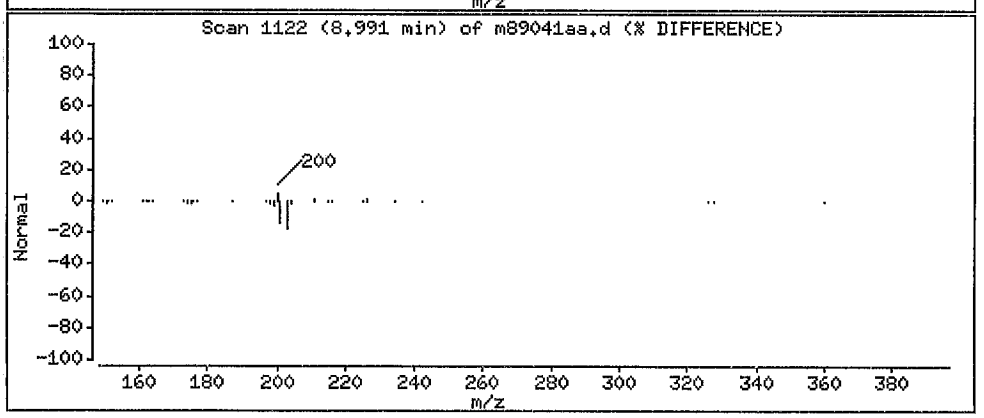
Concentration: 381 ng/L

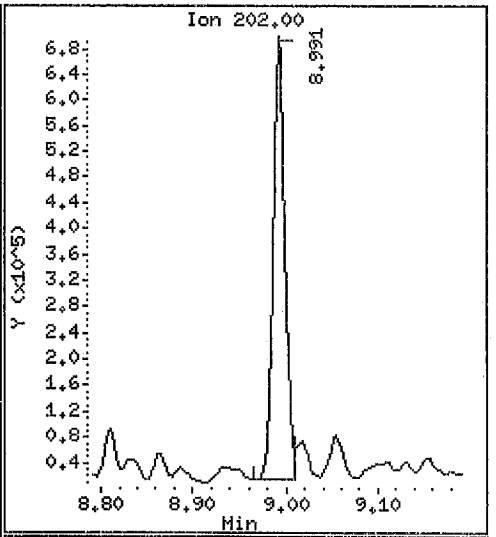
10/11/16

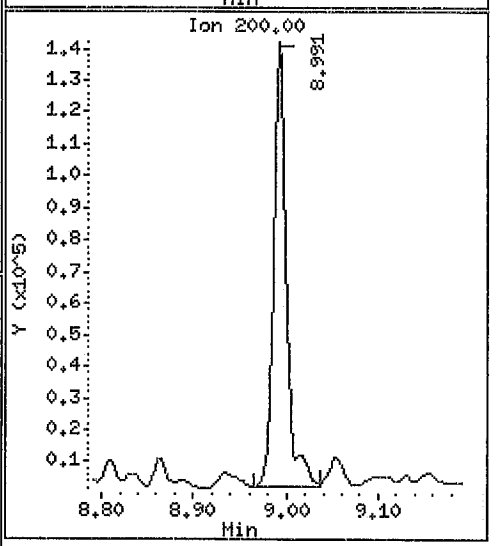












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

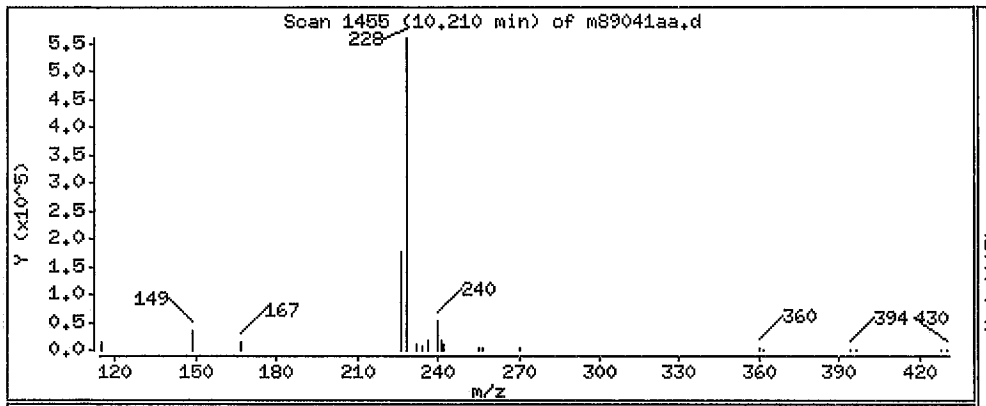
Operator: 011211

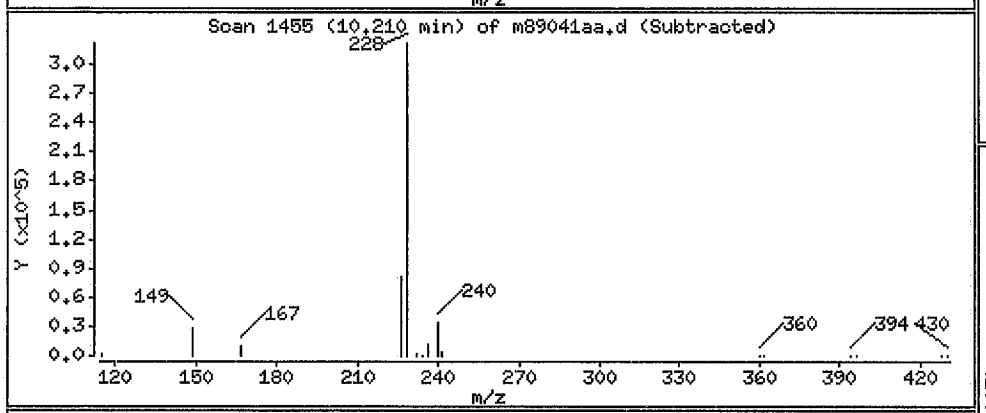
Column phase: Rxi-5SIL MS w/Guard

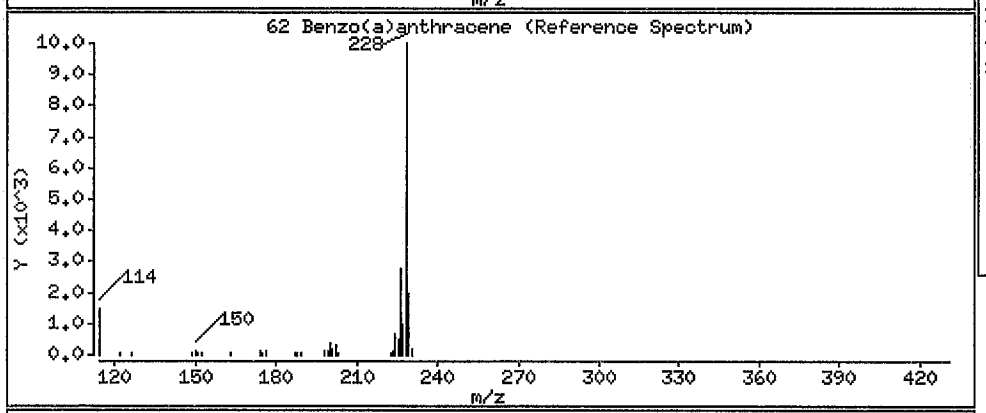
Column diameter: 0.25

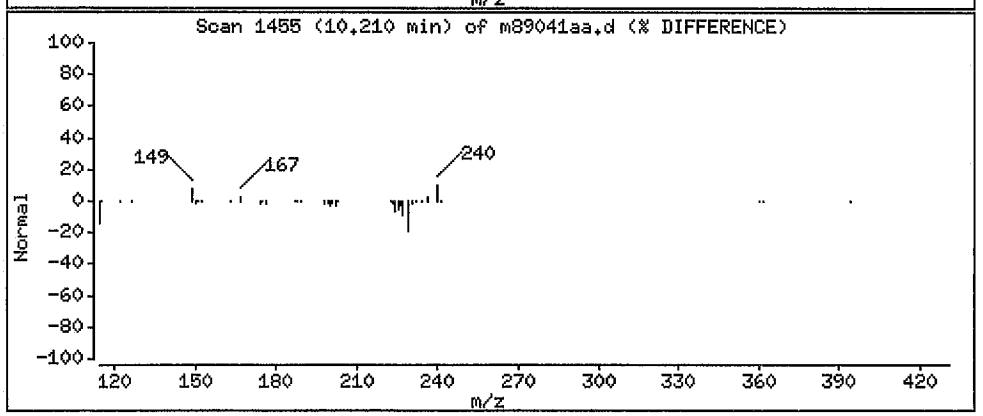
62 Benzo(a)anthracene

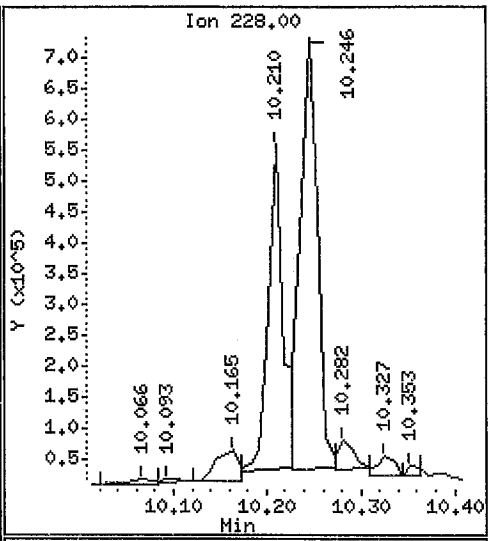
Concentration: 495 ng/L

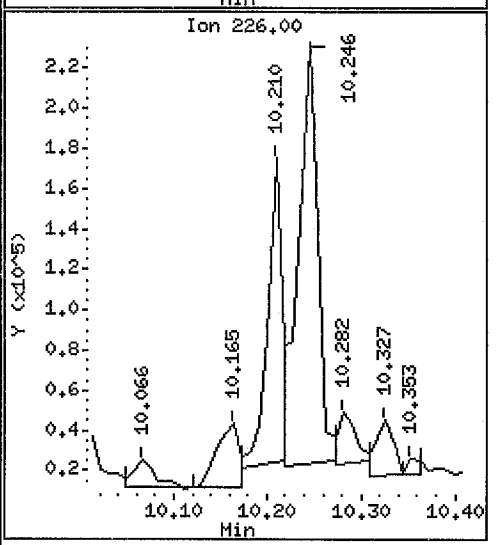












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

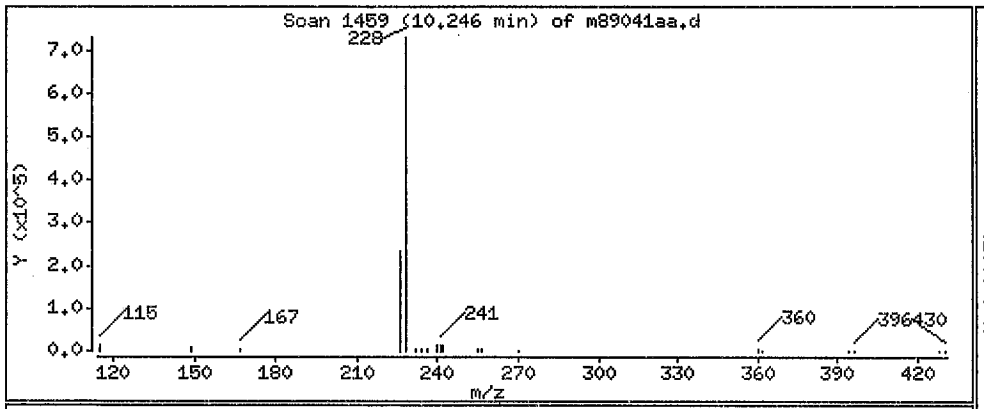
Operator: 011211

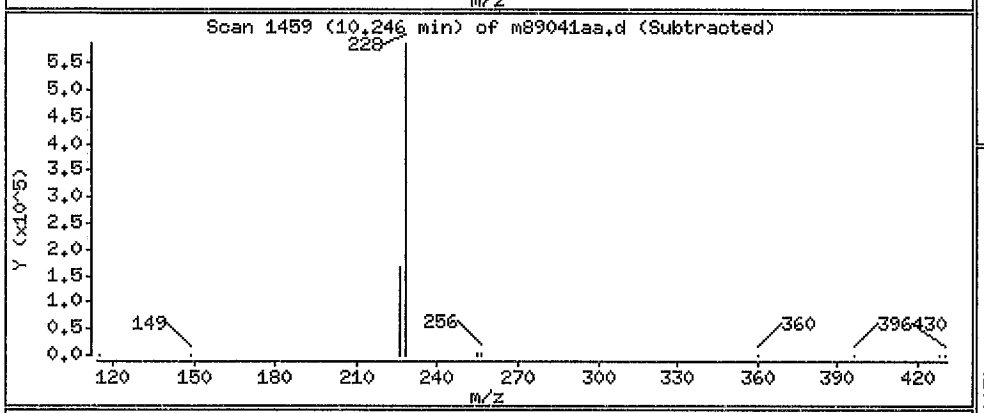
Column phase: Rxi-5SIL MS w/Guard

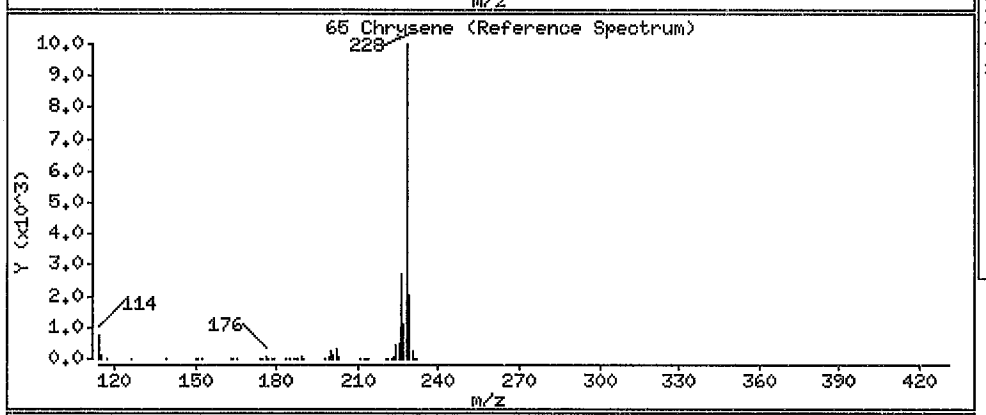
Column diameter: 0.25

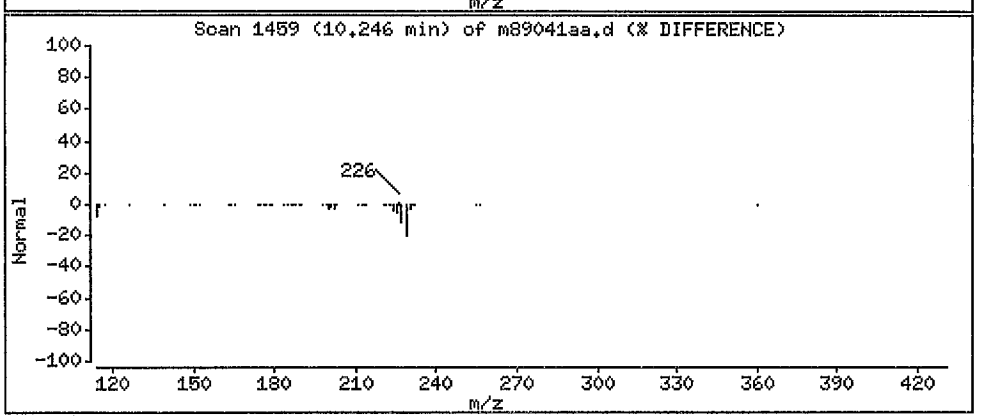
65 Chrysene

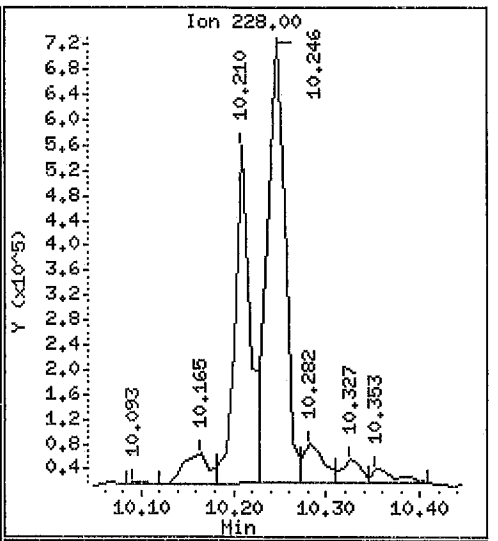
Concentration: 693 ng/L

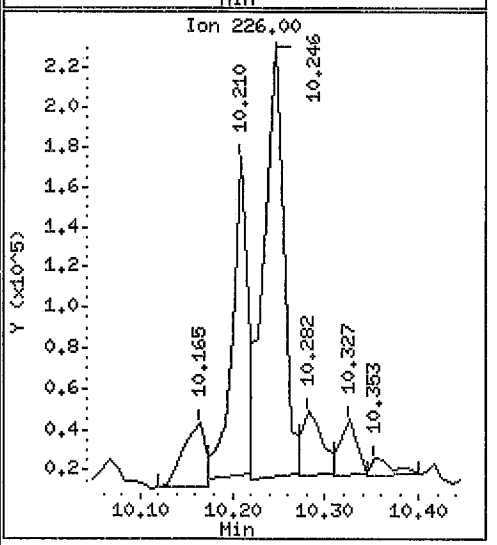












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

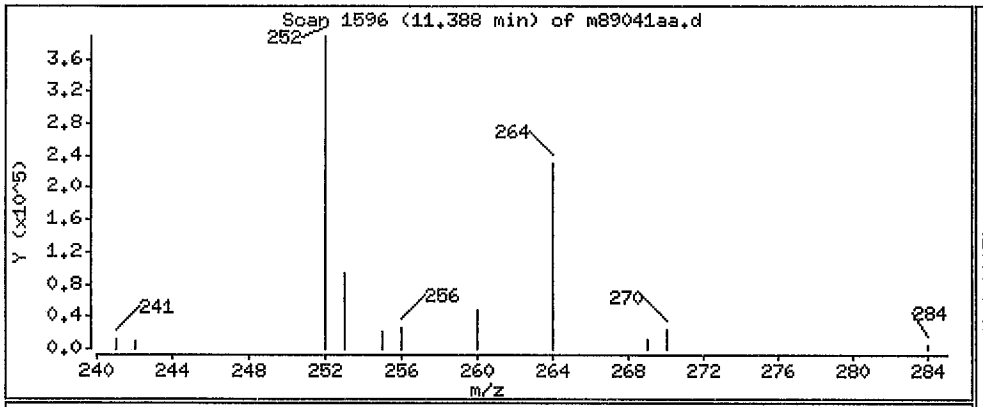
Operator: 011211

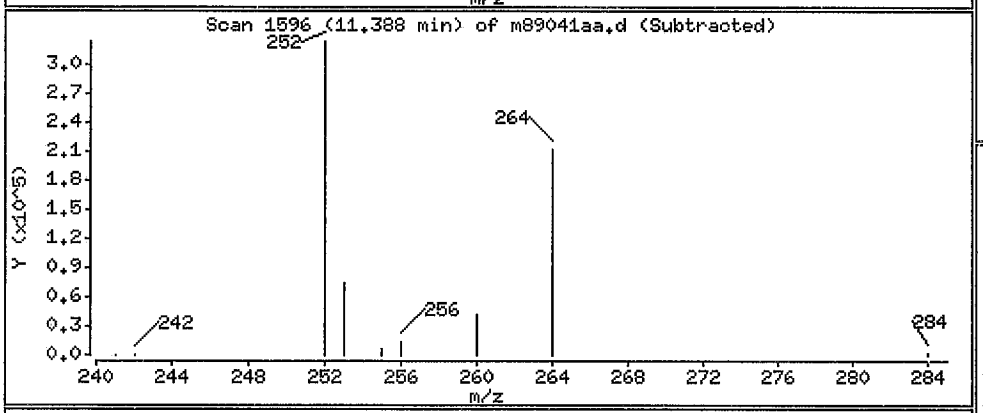
Column phase: Rxi-5SIL MS w/Guard

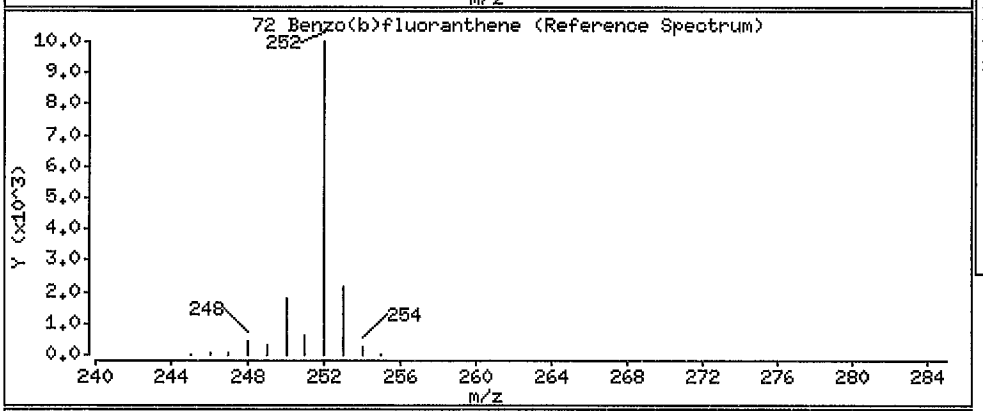
Column diameter: 0.25

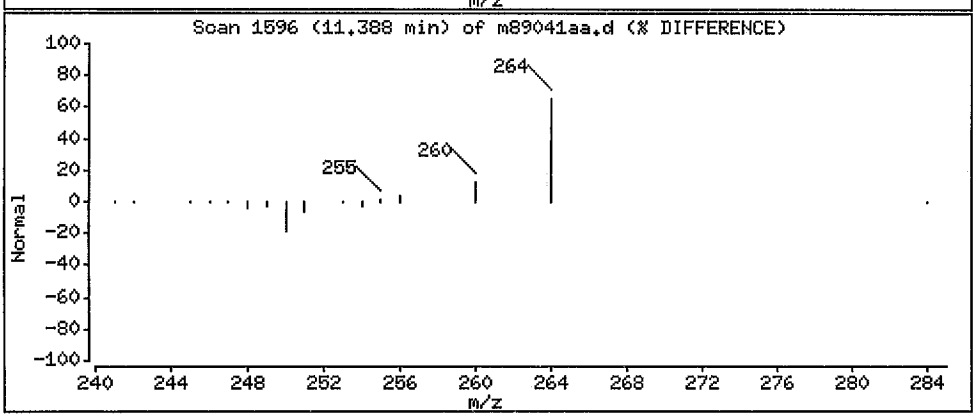
72 Benzo(b)fluoranthene

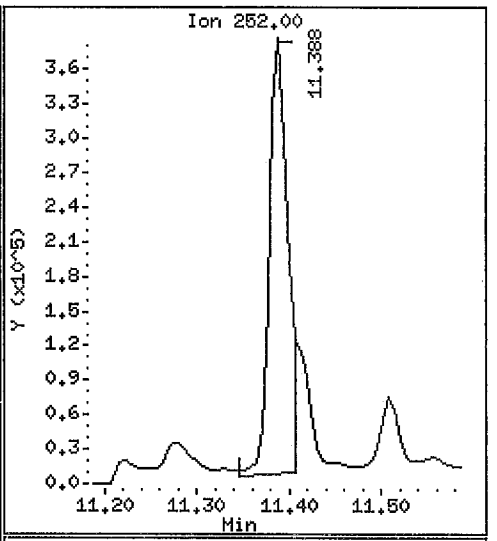
Concentration: 274 ng/L

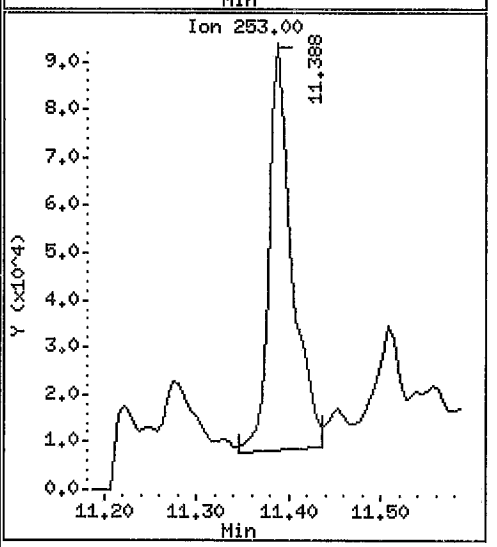












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

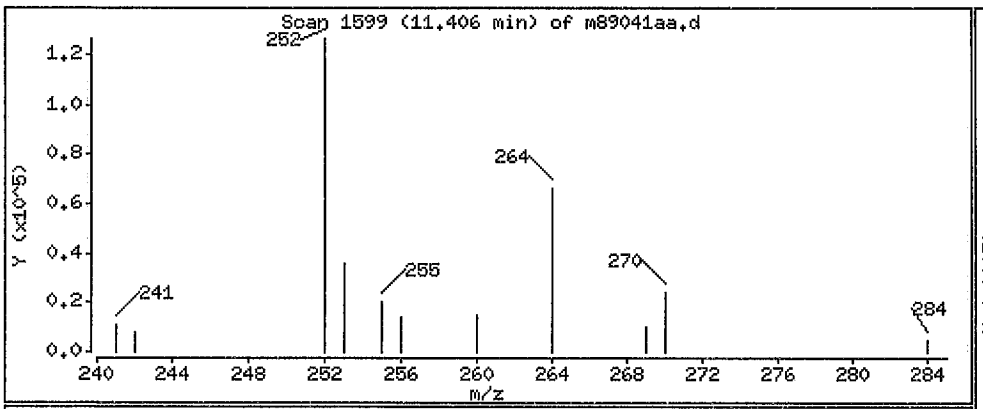
Operator: 011211

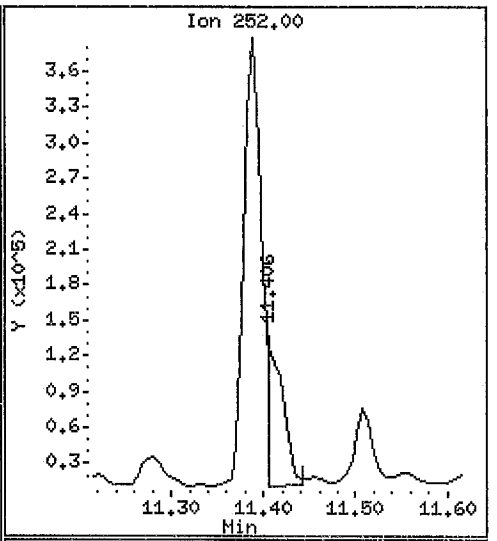
Column phase: Rxi-5SIL MS w/Guard

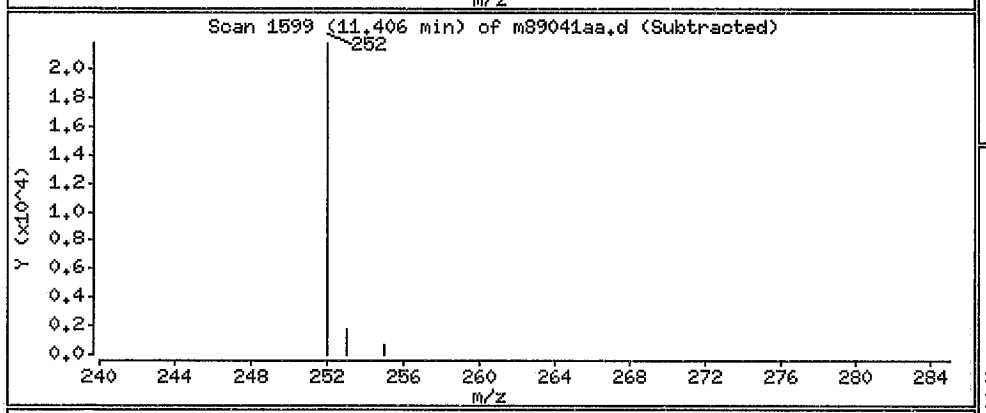
Column diameter: 0.25

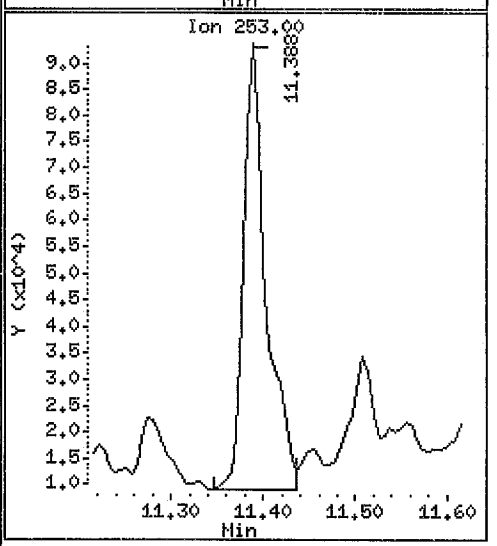
75 Benzo(k)fluoranthene

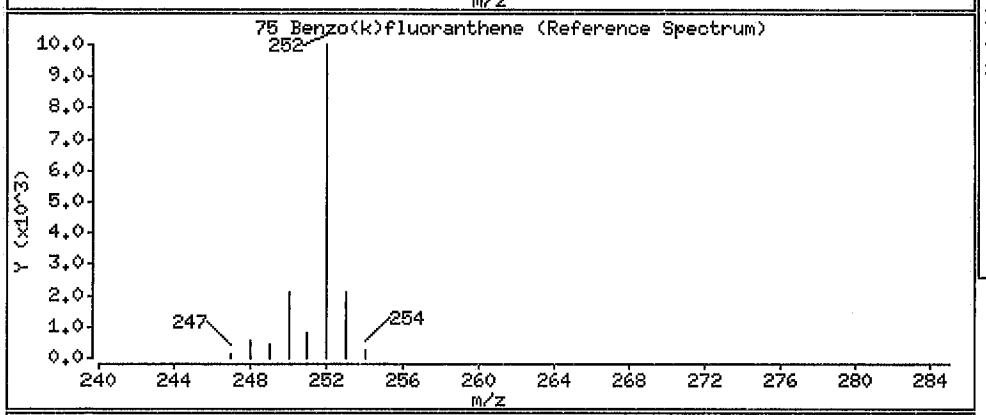
Concentration: 87.7 ng/L

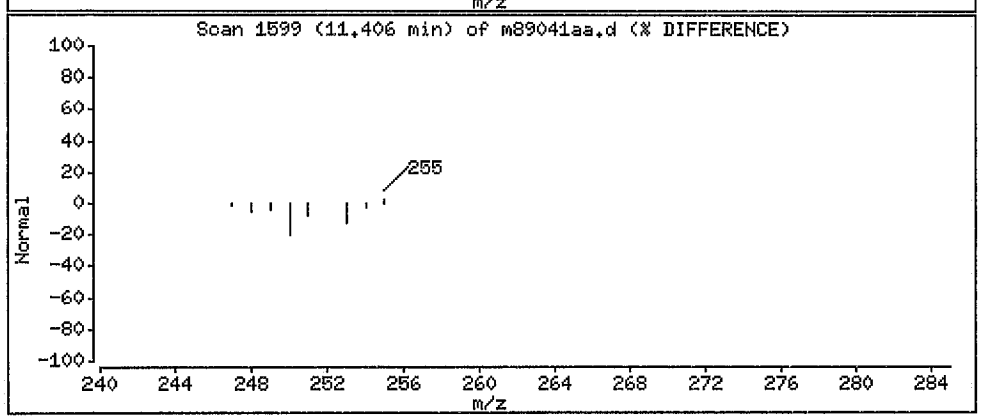












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

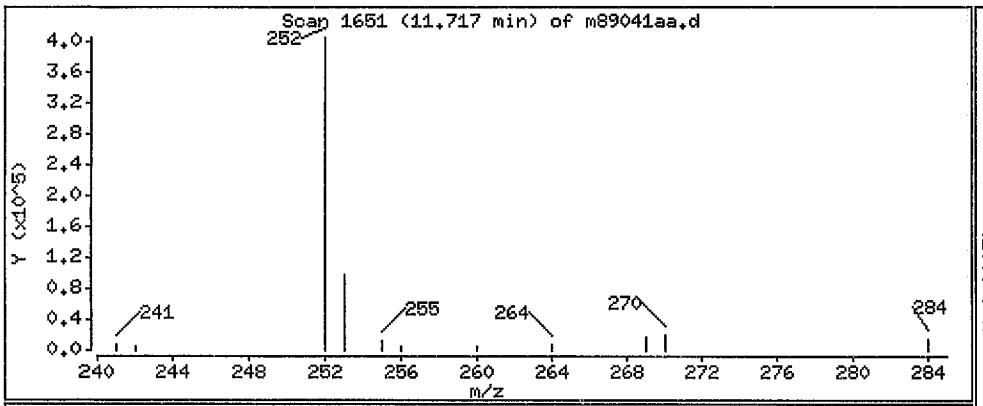
Operator: 011211

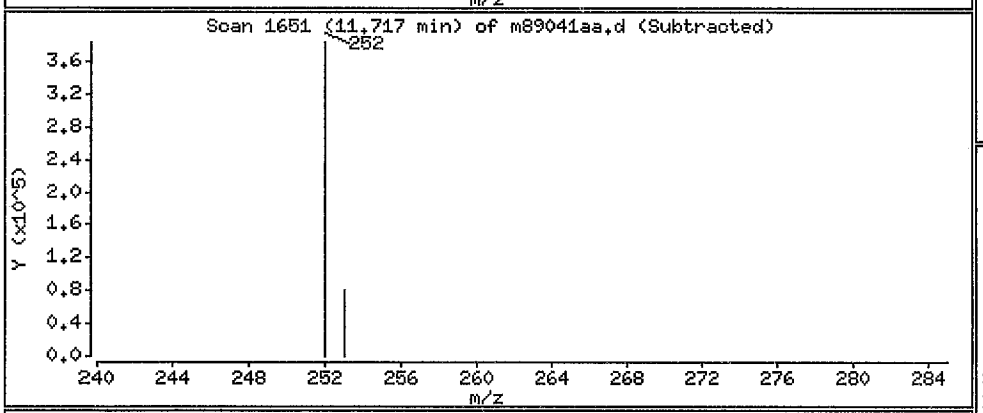
Column phase: Rxi-5SIL MS w/Guard

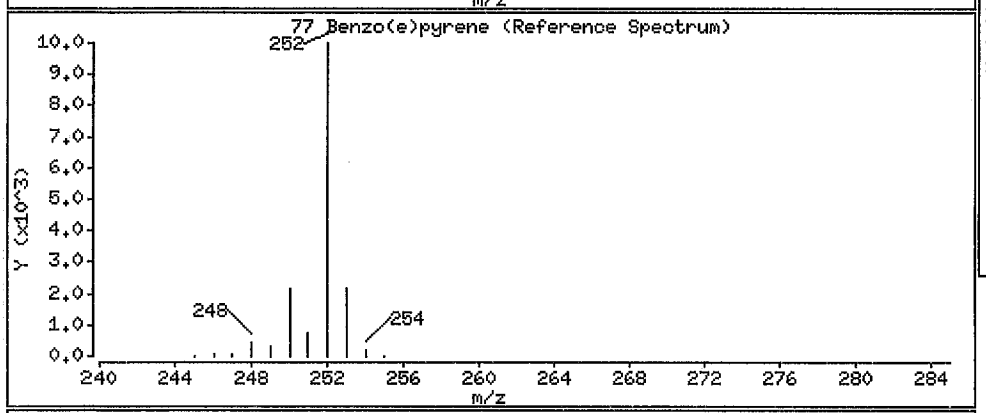
Column diameter: 0.25

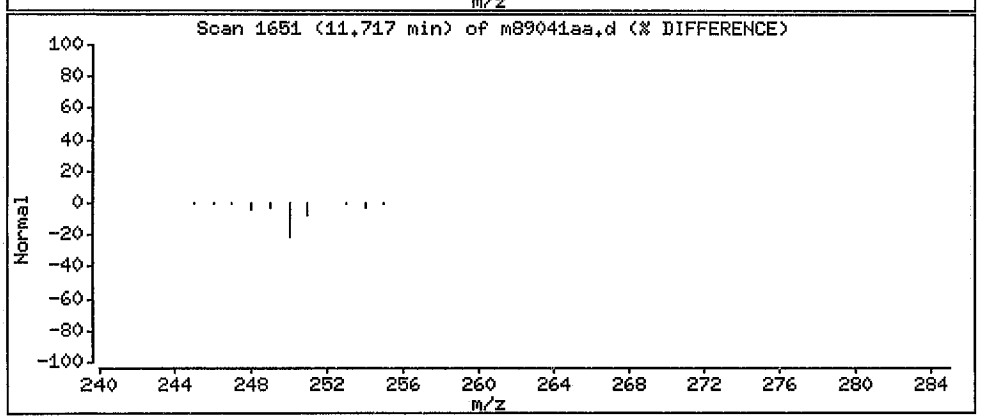
77 Benzo(e)pyrene

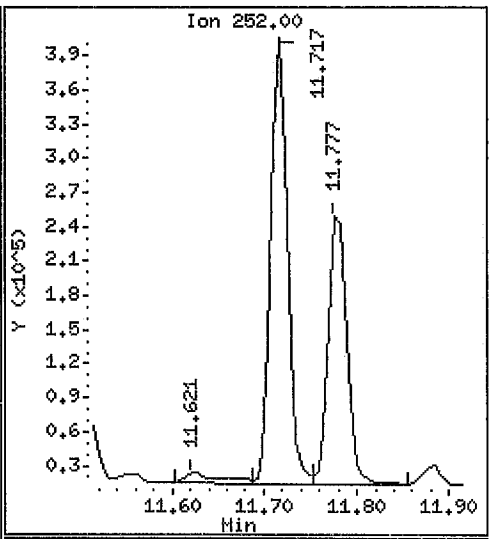
Concentration: 244 ng/L

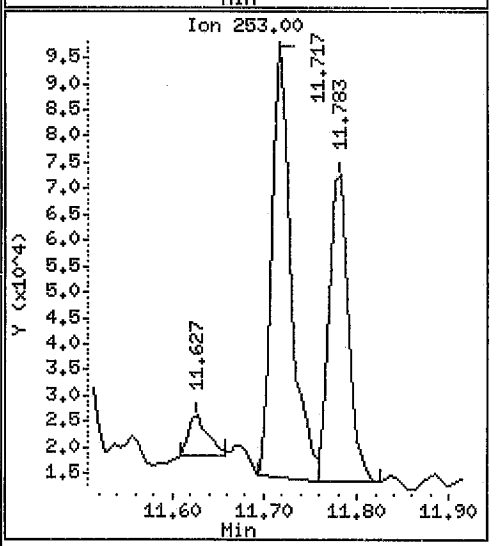












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

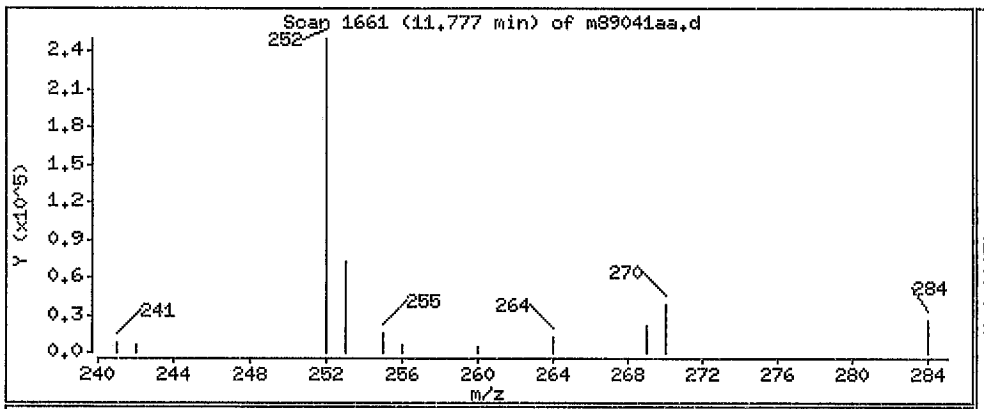
Operator: 011211

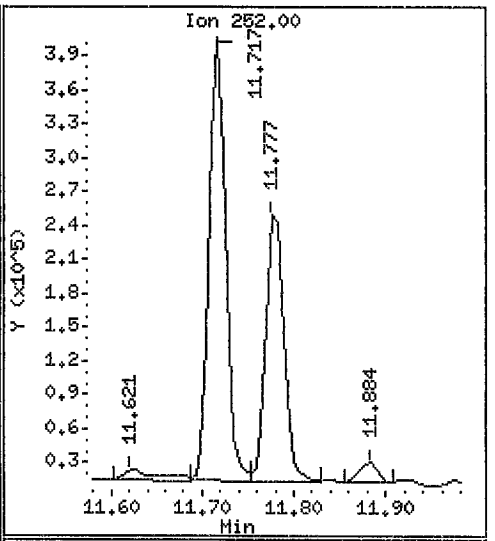
Column phase: Rxi-5SIL MS w/Guard

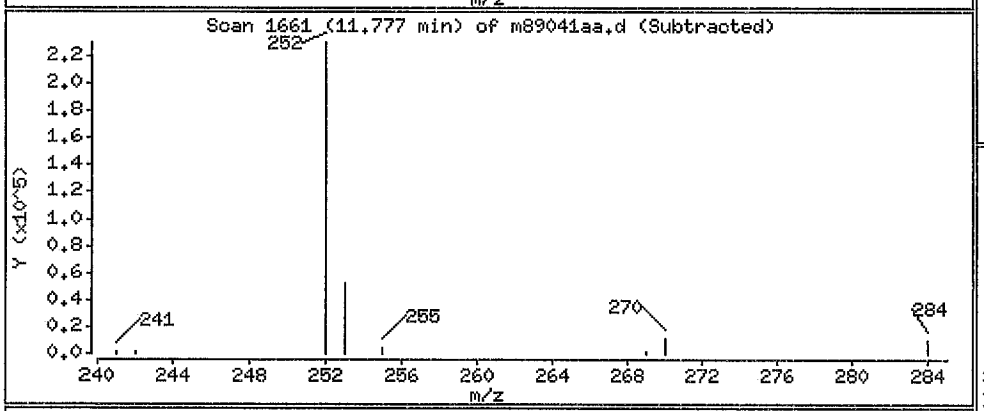
Column diameter: 0.25

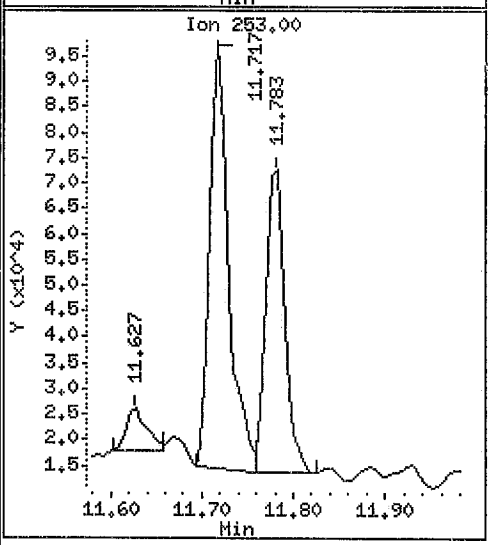
80 Benzo(a)pyrene

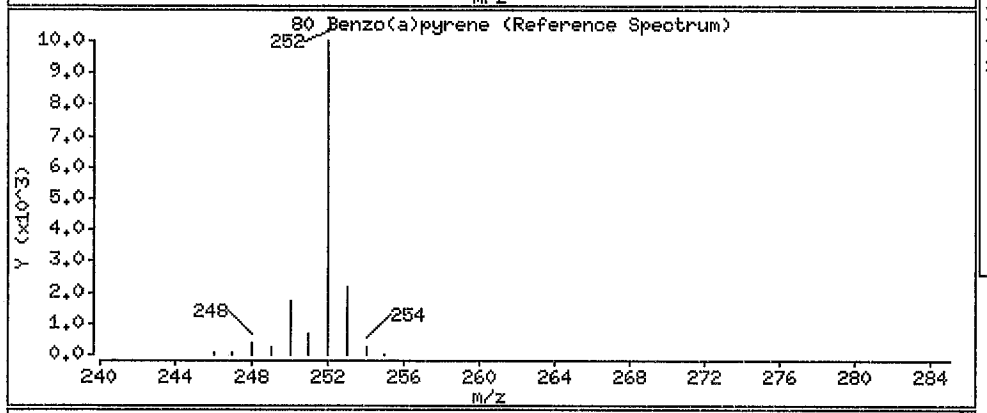
Concentration: 186 ng/L

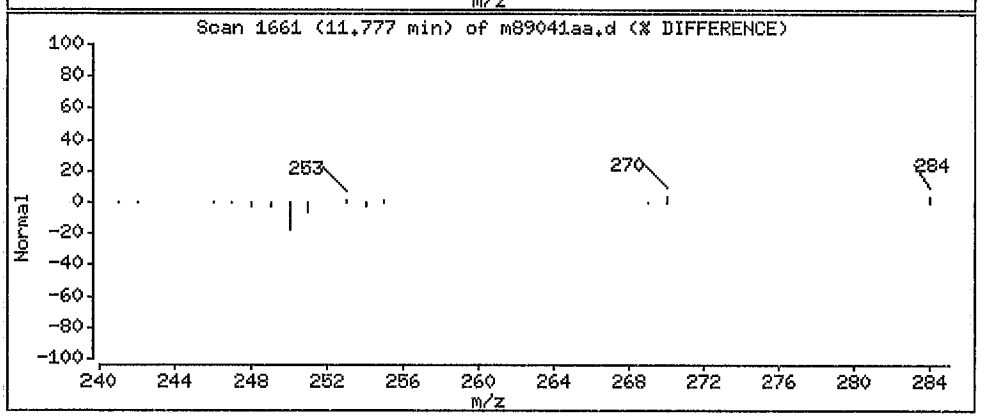












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

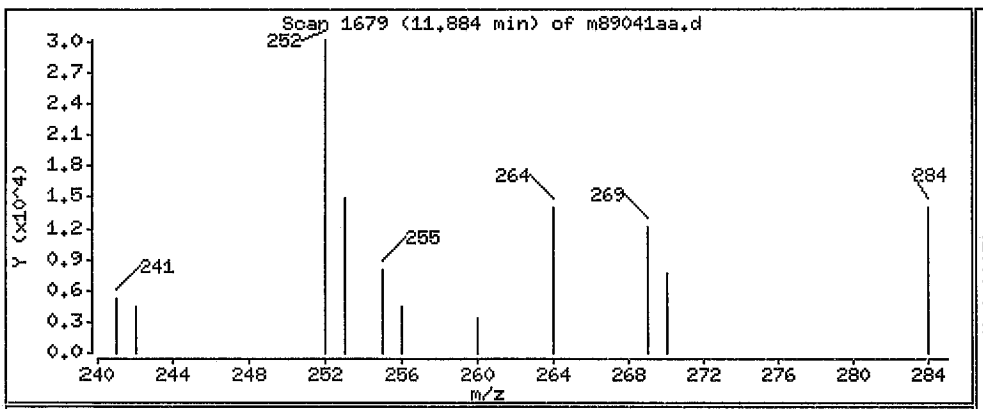
Operator: 011211

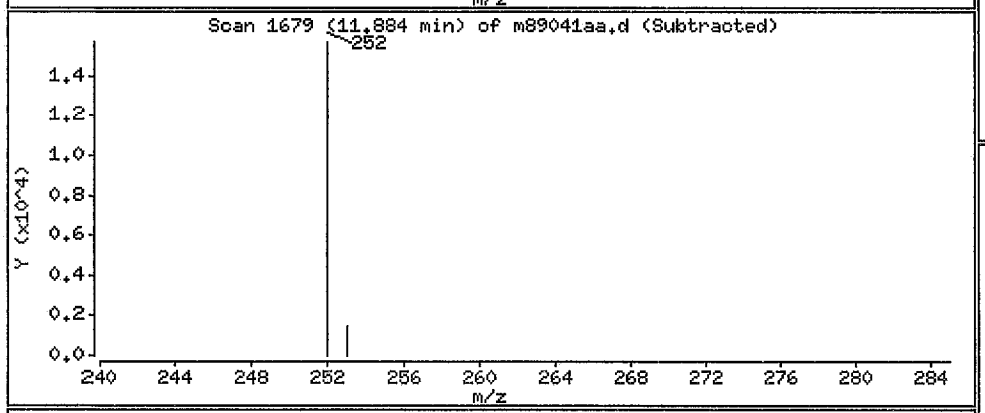
Column phase: Rxi-5SIL MS w/Guard

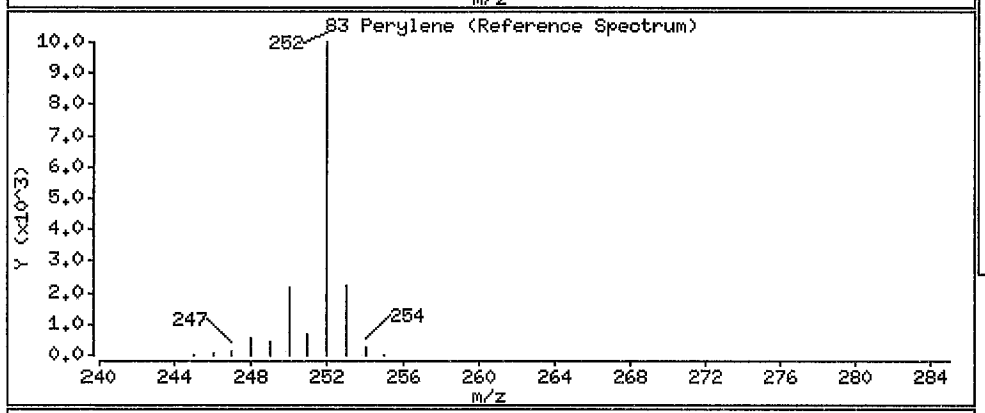
Column diameter: 0.25

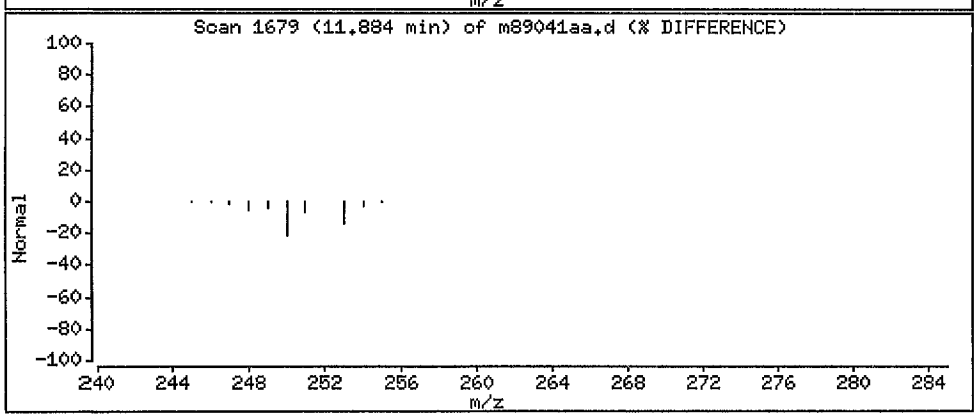
83 Perylene

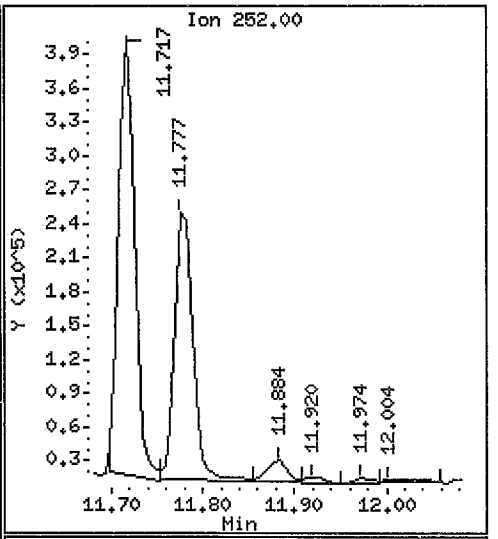
Concentration: 19.8 ng/L

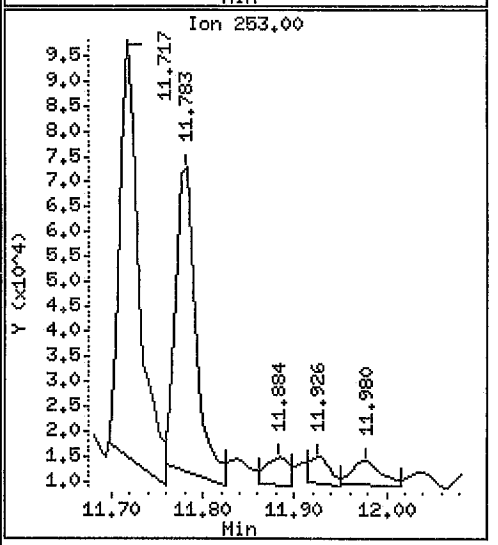












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

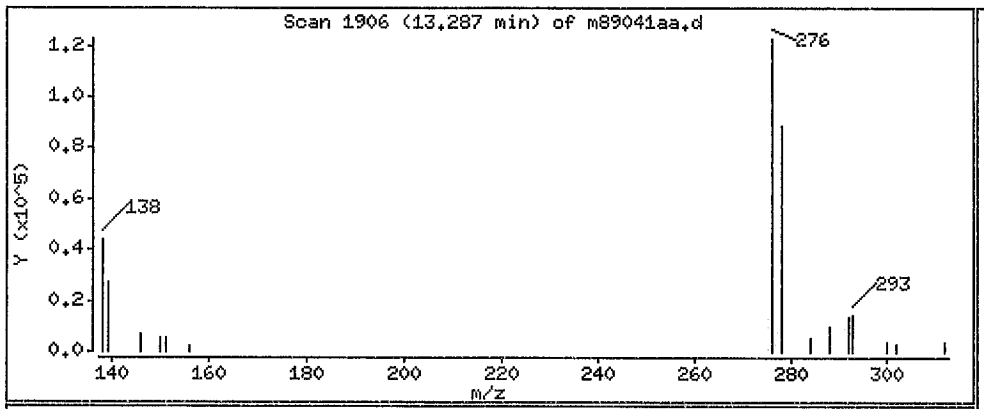
Operator: 011211

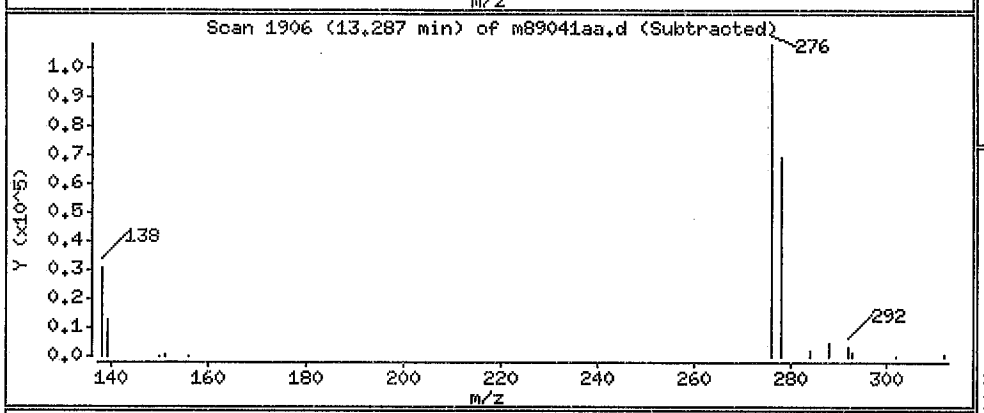
Column phase: Rxi-5SIL MS w/Guard

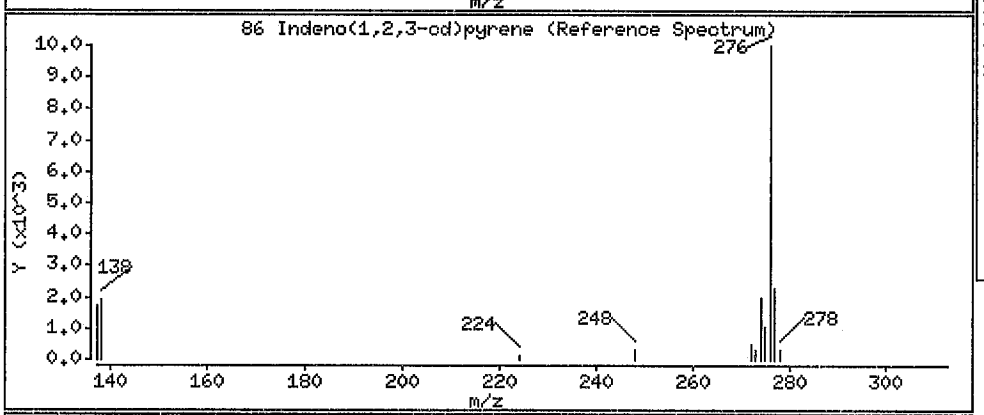
Column diameter: 0.25

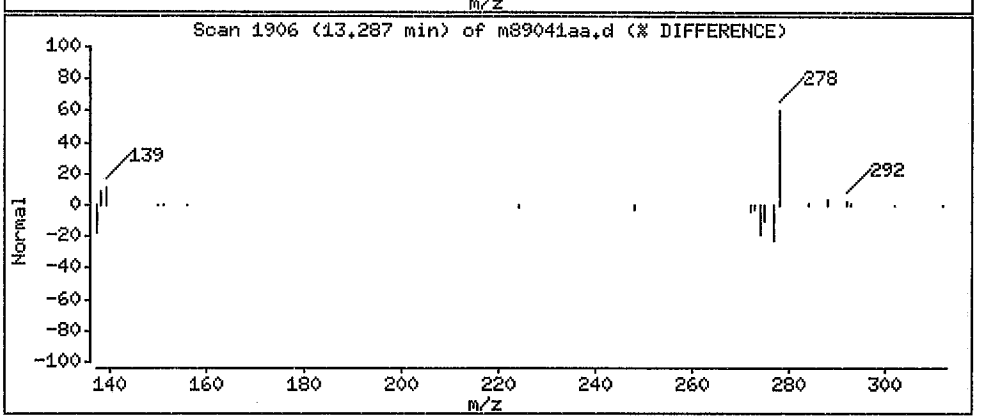
86 Indeno(1,2,3-cd)pyrene

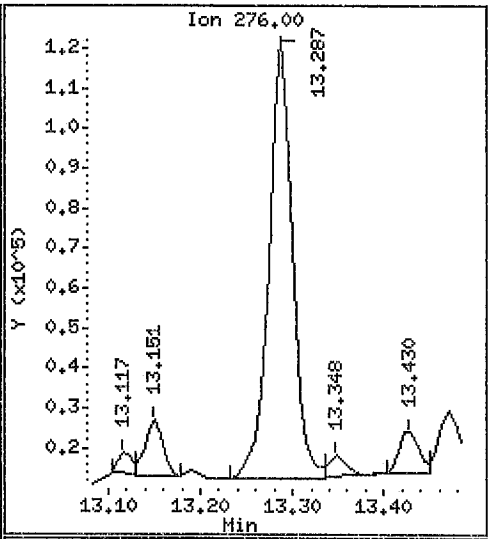
Concentration: 93.9 ng/L

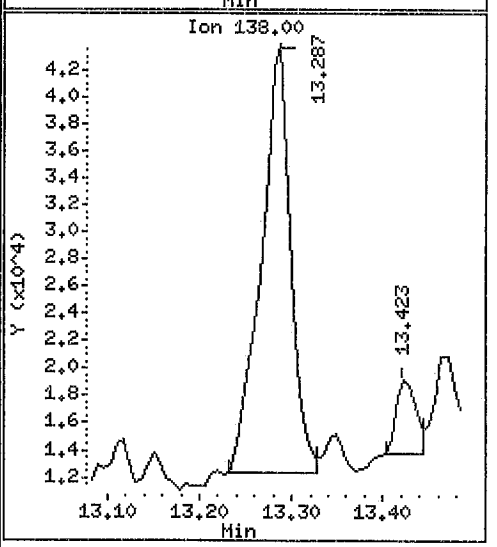












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

Column phase: Rxi-5SIL MS w/Guard

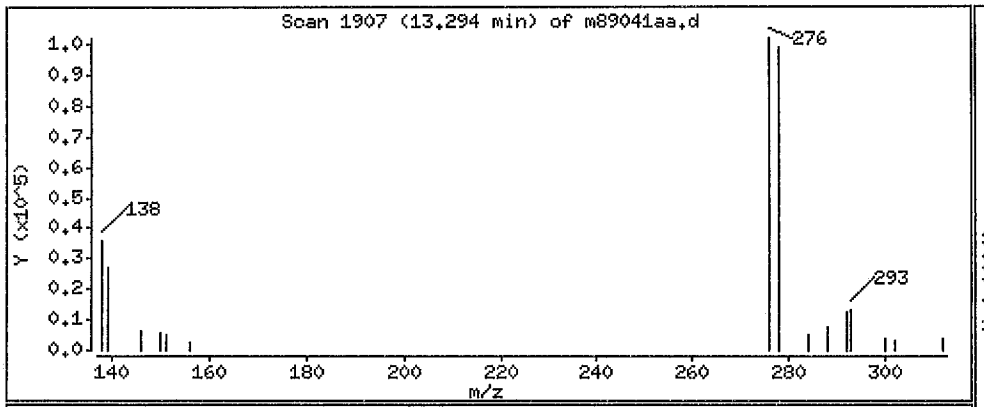
Column diameter: 0.25

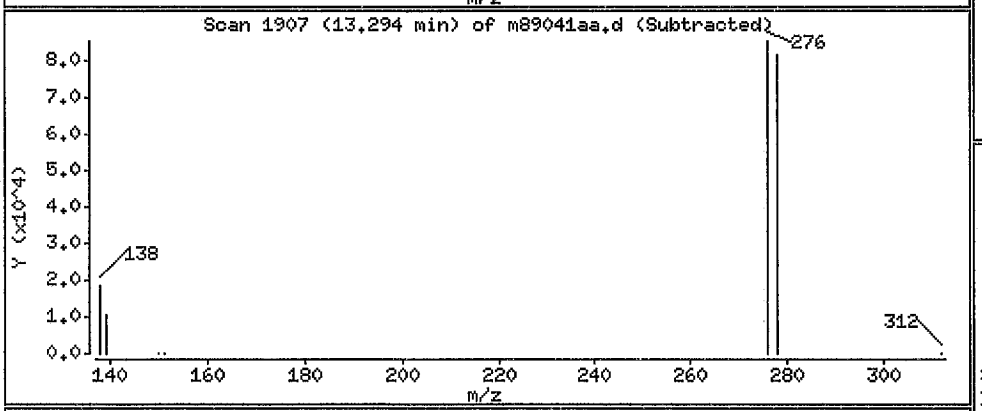
10/11/16

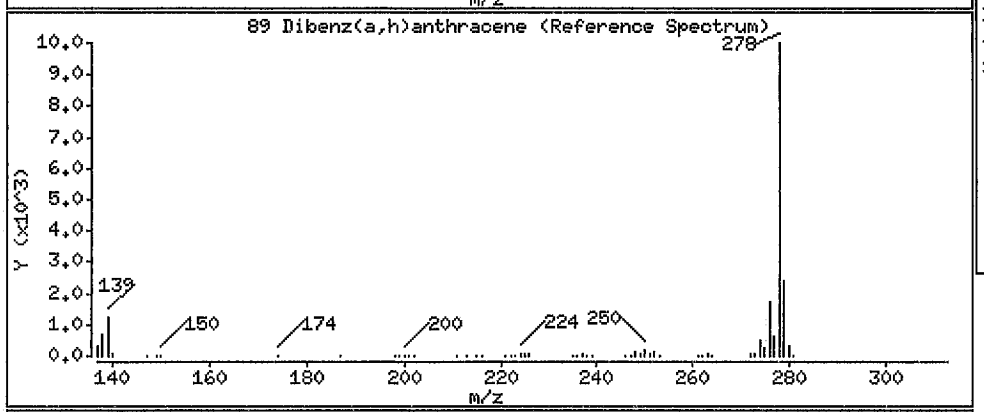
1

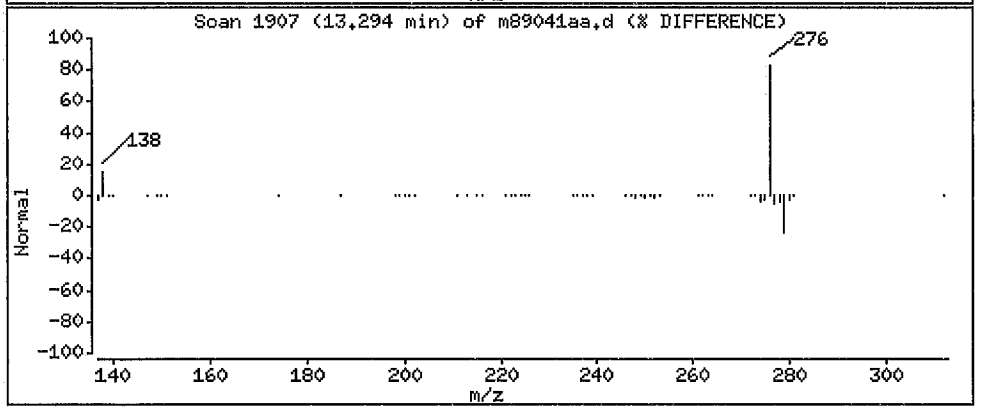
89 Dibenz(a,h)anthracene

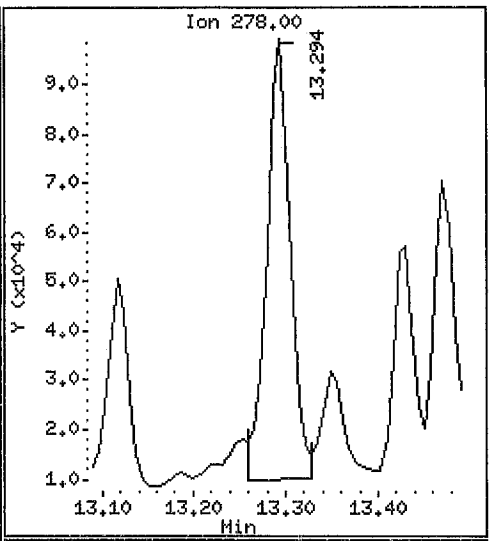
Concentration: 84.1 ng/L

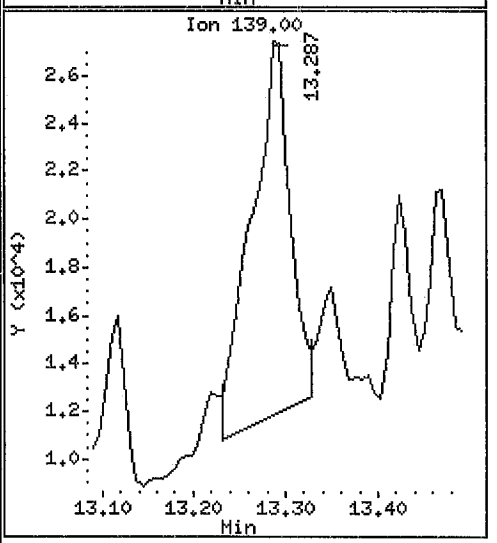












Data File: /var/chem/gcms/mp.i/P101016.b/m89041aa.d

Date : 10-OCT-2016 19:34

Client ID: R-1632 LOC#6 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

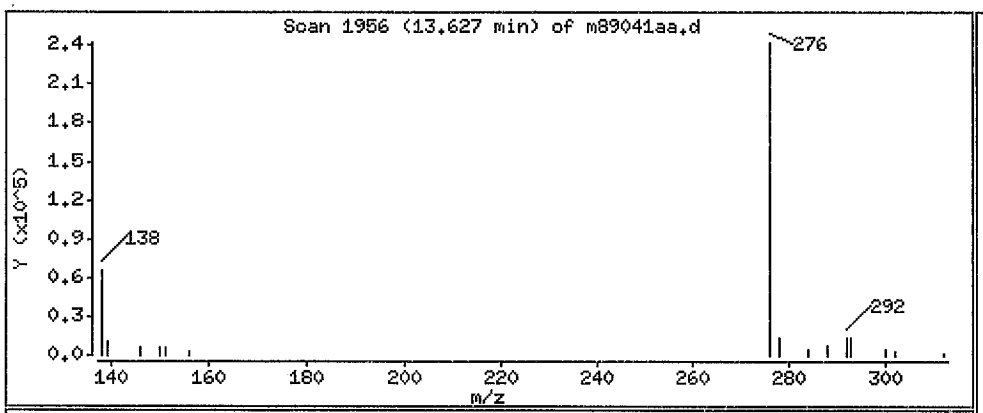
Operator: 011211

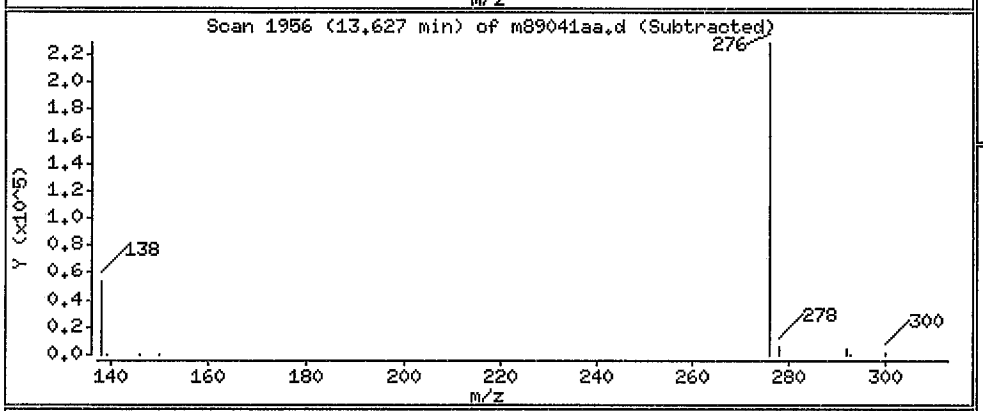
Column phase: Rxi-5SIL MS w/Guard

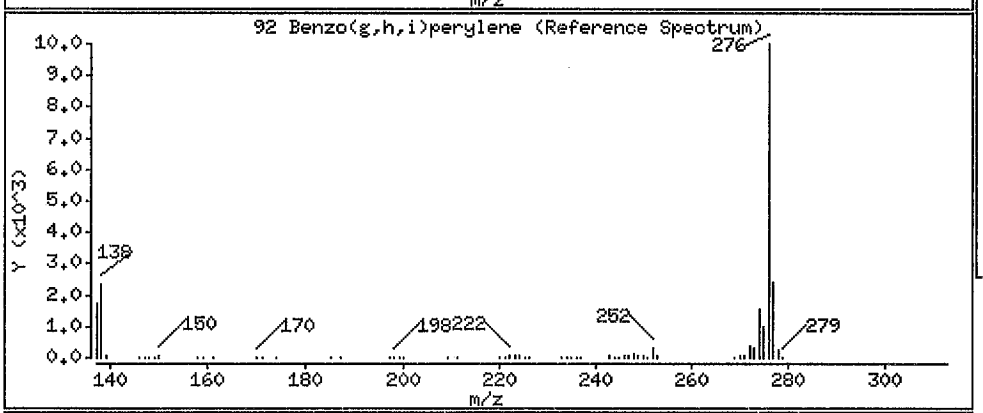
Column diameter: 0.25

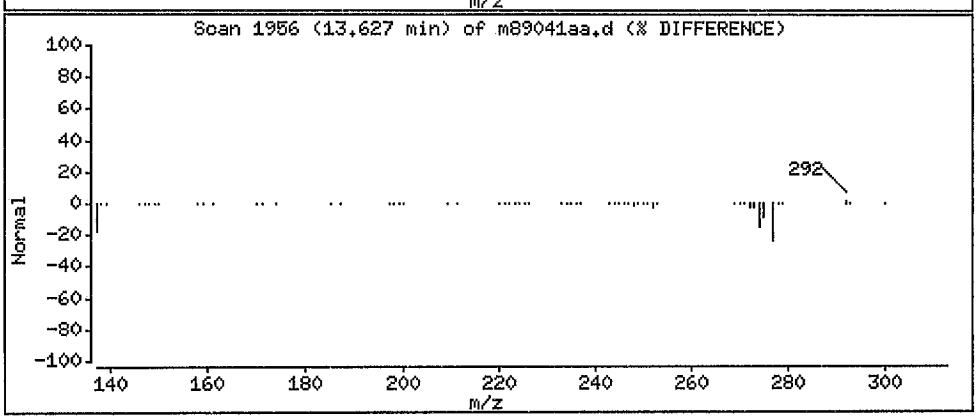
92 Benzo(g,h,i)perylene

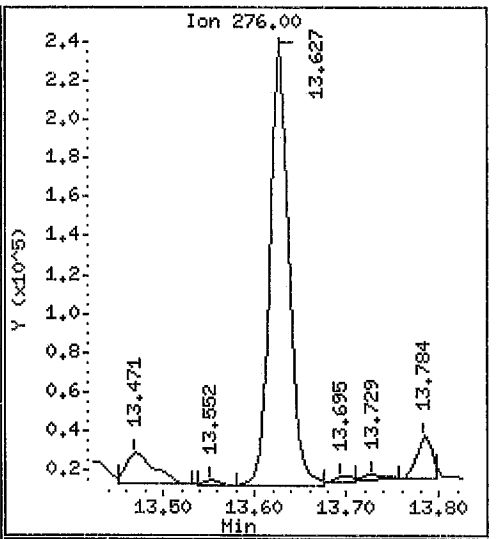
Concentration: 195 ng/L

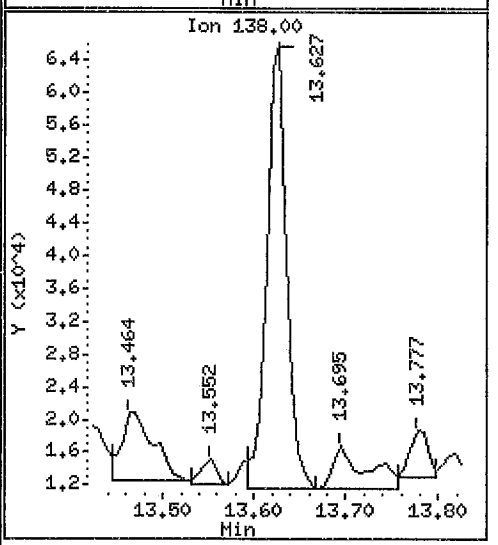




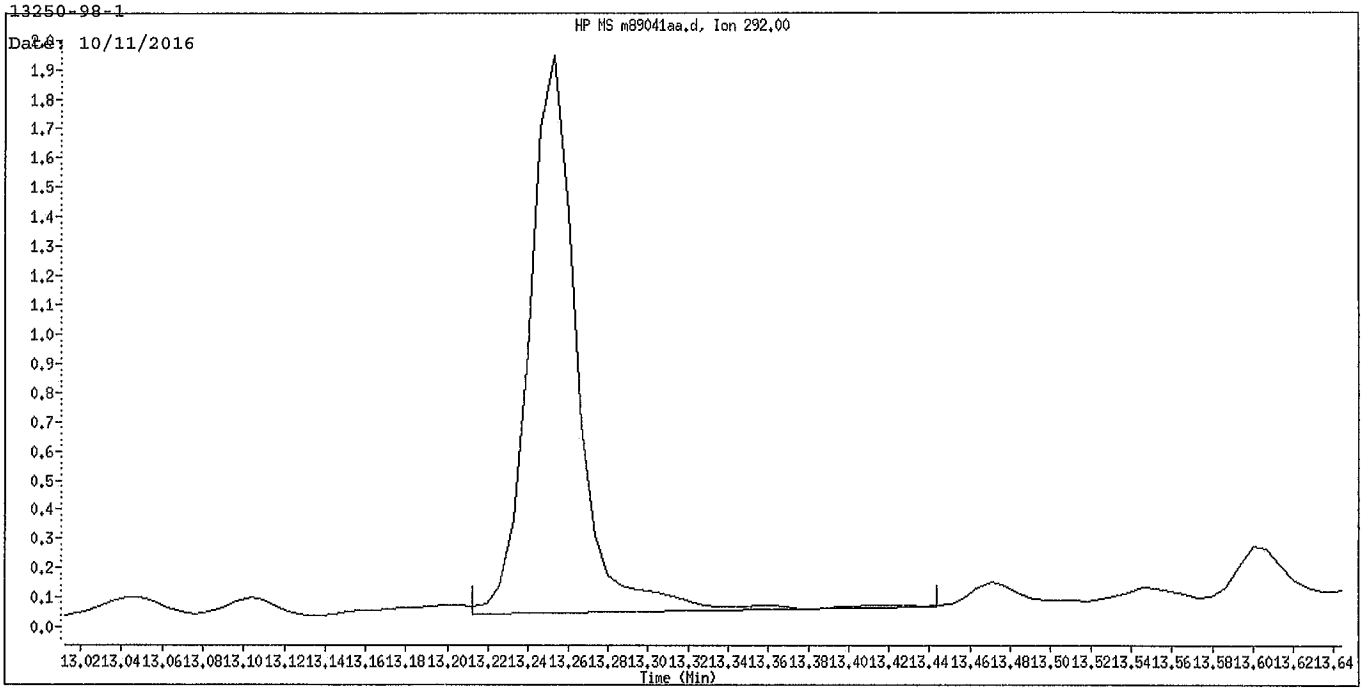




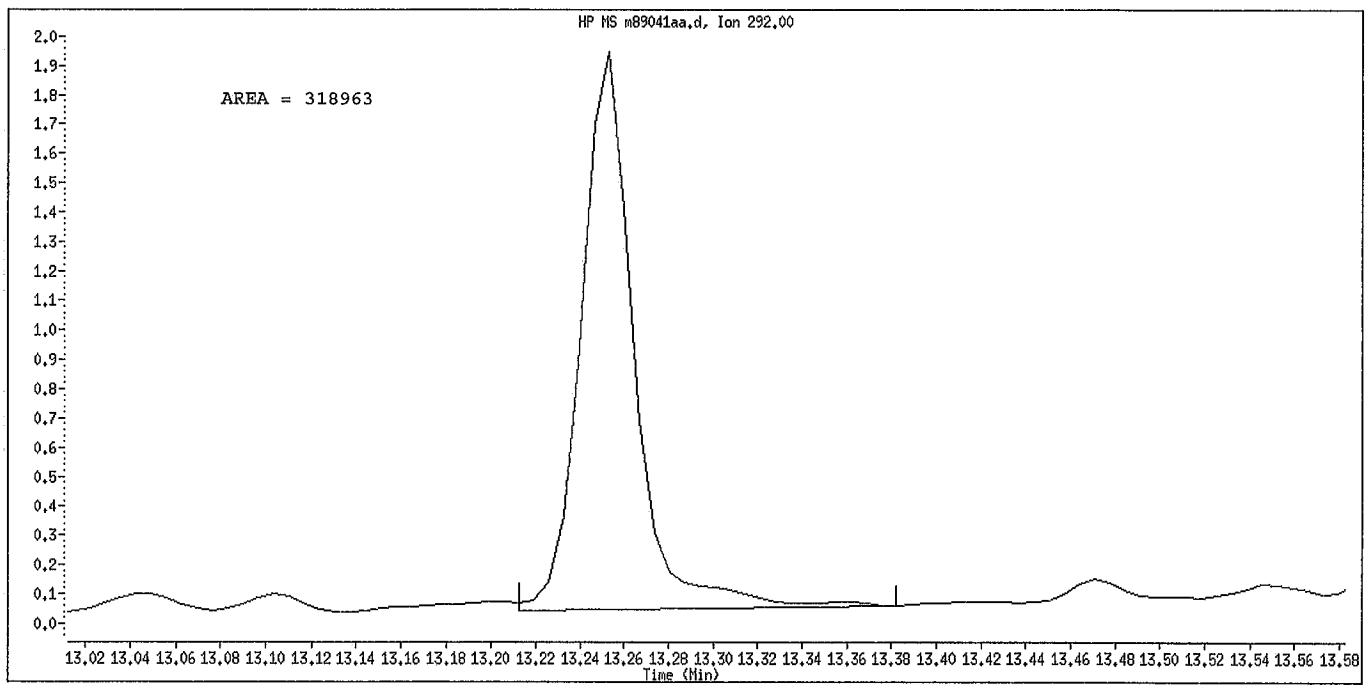




Data File Name: m89041aa.d
Inj. Date and Time: 10-OCT-2016 19:34
Instrument ID: mp.i
Client ID: R-1632 LOC#6 WATER
Compound Name: Dibenz(ah)anthracene-d14(SS)
CAS #: 13250-98-1
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89041aa.d

Inj. Date and Time: 10-OCT-2016 19:34

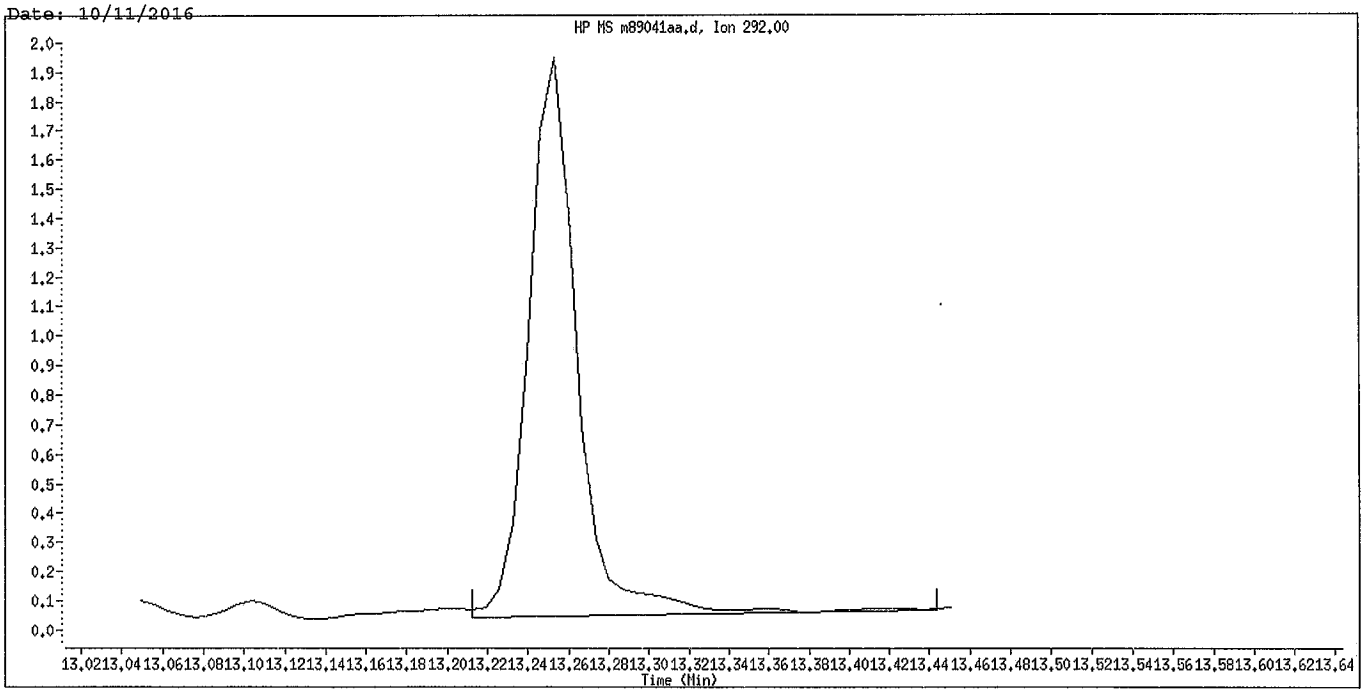
Instrument ID: mp.i

Client ID: R-1632 LOC#6 WATER

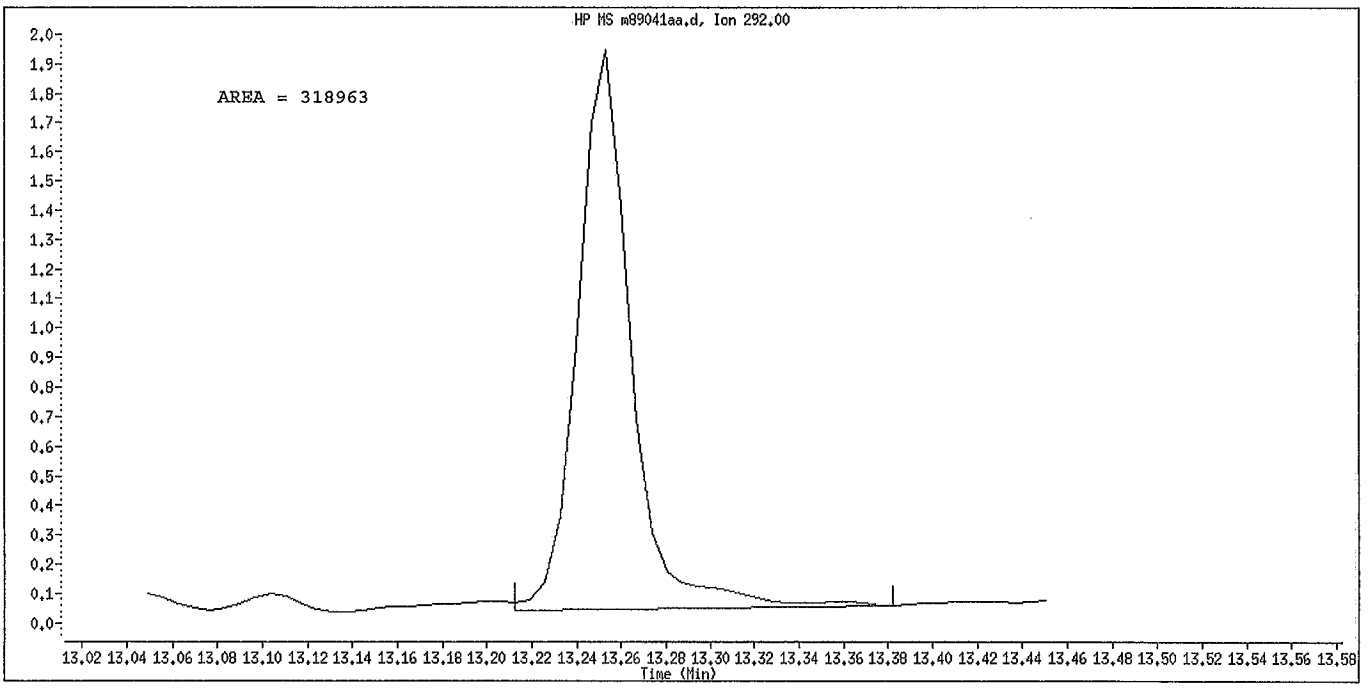
Compound Name: Dibenz(ah)anthracene-d14

CAS #: -13250-98-1

Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Montrose Air Quality Services LLC

Client Sample ID: R-1640 LOC#7 WATER QT-R2B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-005	**Work Order #...:**	M89051AA	**Matrix.....:**	WATER
Date Sampled...:	09/23/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	66	10	ng/L	2.4
Acenaphthylene	56	10	ng/L	0.15
Anthracene	440	10	ng/L	0.71
Benzo(a)anthracene	700	10	ng/L	1.5
Benzo(b)fluoranthene	460	10	ng/L	1.5
Benzo(k)fluoranthene	120	10	ng/L	1.0
Benzo(ghi)perylene	430	10	ng/L	0.51
Benzo(a)pyrene	310	10	ng/L	0.40
Chrysene	1400 B	10	ng/L	0.22
Dibenz(a,h)anthracene	160	10	ng/L	0.78
Fluoranthene	520	10	ng/L	2.4
Fluorene	340 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	160	10	ng/L	1.0
Naphthalene	650	50	ng/L	16
Perylene	19	10	ng/L	0.81
Phenanthrene	2000	20	ng/L	11
Pyrene	570 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	74	(30 - 120)
Naphthalene-d8	71	(30 - 120)
Acenaphthylene-d8	76	(30 - 120)
Phenanthrene-d10	49	(30 - 120)
Anthracene-d10	48	(30 - 120)
Fluoranthene-d10	58	(30 - 120)
Chrysene-d12	56	(30 - 120)
Benzo(b)fluoranthene-d12	70	(30 - 120)
Benzo(k)fluoranthene-d12	56	(30 - 120)
Benzo(a)pyrene-d12	74	(30 - 120)
Perylene-d12	65	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	75	(30 - 120)
Dibenz(ah)anthracene-d14	86	(30 - 120)
Benzo(ghi)perylene-d12	65	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d
Report Date: 11-Oct-2016 14:13

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89051aa.d
Lab Smp Id: M89051AA Client Smp ID: R-1640 LOC#7 WATER
Inj Date : 10-OCT-2016 19:59
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	932.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	377961	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	378264	0.35375	190
3 Naphthalene	128	4.957	4.957	(1.002)	924056	1.20842	648
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	193083	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	192406	0.35732	192
12 2-Methylnaphthalene	142	5.533	5.527	(1.005)	619633	1.16778	626
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	364734	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	364734	0.38039	204
22 Acenaphthylene	152	6.286	6.286	(1.002)	83472	0.10478	56.2
* 23 Acenaphthene-d10	164	6.407	6.406	(1.000)	269979	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	59185	0.12274	65.8
* 26 Fluorene-d10	176	6.842	6.837	(1.000)	238490	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.842	6.837	(1.068)	238490	0.37186	199
27 Fluorene	166	6.866	6.861	(1.003)	344605	0.62386	335
* 41 Phenanthrene-d10	188	7.661	7.660	(1.000)	290630	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.661	7.660	(0.853)	290630	0.24335	131
43 Phenanthrene	178	7.682	7.679	(1.003)	2690830	3.69411	1980
* 44 Anthracene-d10	188	7.710	7.709	(1.000)	264589	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d
Report Date: 11-Oct-2016 14:13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.710	7.709	(0.859)	264589	0.24101	129
	46 Anthracene	178	7.725	7.725	(1.002)	551933	0.81966	440
*	53 Fluoranthene-d10	212	8.755	8.750	(1.000)	344284	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.755	8.750	(0.975)	335813	0.29131	156
	55 Fluoranthene	202	8.770	8.769	(1.002)	855621	0.97488	523
*	56 Pyrene-d10	212	8.976	8.972	(1.000)	519062	0.50000	0.500
	57 Pyrene	202	8.992	8.991	(1.027)	953597	1.05626	567
	62 Benzo(a)anthracene	228	10.211	10.210	(0.999)	792083	1.29707	696
*	63 Chrysene-d12	240	10.220	10.219	(1.000)	344046	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.220	10.219	(1.139)	343919	0.28121	151
	65 Chrysene	228	10.247	10.246	(1.003)	1883499	2.59578	1390
*	70 Benzo(b)fluoranthene-d12	264	11.360	11.355	(1.000)	365424	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.360	11.355	(0.972)	365424	0.34811	187
	72 Benzo(b)fluoranthene	252	11.390	11.385	(1.003)	899379	0.85186	457(M)
*	73 Benzo(k)fluoranthene-d12	264	11.396	11.391	(1.000)	359482	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.396	11.391	(0.975)	359482	0.27695	149
	75 Benzo(k)fluoranthene	252	11.407	11.415	(1.001)	189837	0.22434	120(M)
*	76 Benzo(e)pyrene-d12	264	11.688	11.684	(1.000)	500139	0.50000	0.500
	77 Benzo(e)pyrene	252	11.718	11.714	(0.997)	946156	0.94462	507
*	78 Benzo(a)pyrene-d12	264	11.754	11.750	(1.000)	326260	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.754	11.750	(1.006)	326647	0.36828	198
	80 Benzo(a)pyrene	252	11.784	11.780	(1.003)	504595	0.58018	311
*	81 Perylene-d12	264	11.850	11.845	(1.000)	329912	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.850	11.845	(1.014)	329912	0.32451	174
	83 Perylene	252	11.886	11.881	(1.003)	27513	0.03528	18.9
*	84 Indeno(123-cd)pyrene-d12	288	13.254	13.249	(1.000)	393961	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.254	13.249	(1.134)	397395	0.37699	202
	86 Indeno(1,2,3-cd)pyrene	276	13.288	13.283	(1.003)	320378	0.30221	162
*	87 Dibenz(ah)anthracene-d14	292	13.254	13.249	(1.000)	362772	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.254	13.249	(1.134)	362767	0.43047	231
	89 Dibenz(a,h)anthracene	278	13.295	13.290	(1.003)	307935	0.30197	162(M)
*	90 Benzo(ghi)perylene-d12	288	13.601	13.589	(1.000)	339731	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.601	13.589	(1.164)	339731	0.32653	175
	92 Benzo(g,h,i)perylene	276	13.628	13.623	(1.002)	681118	0.79680	427

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d
Report Date: 11-Oct-2016 14:13

TestAmerica Knoxville

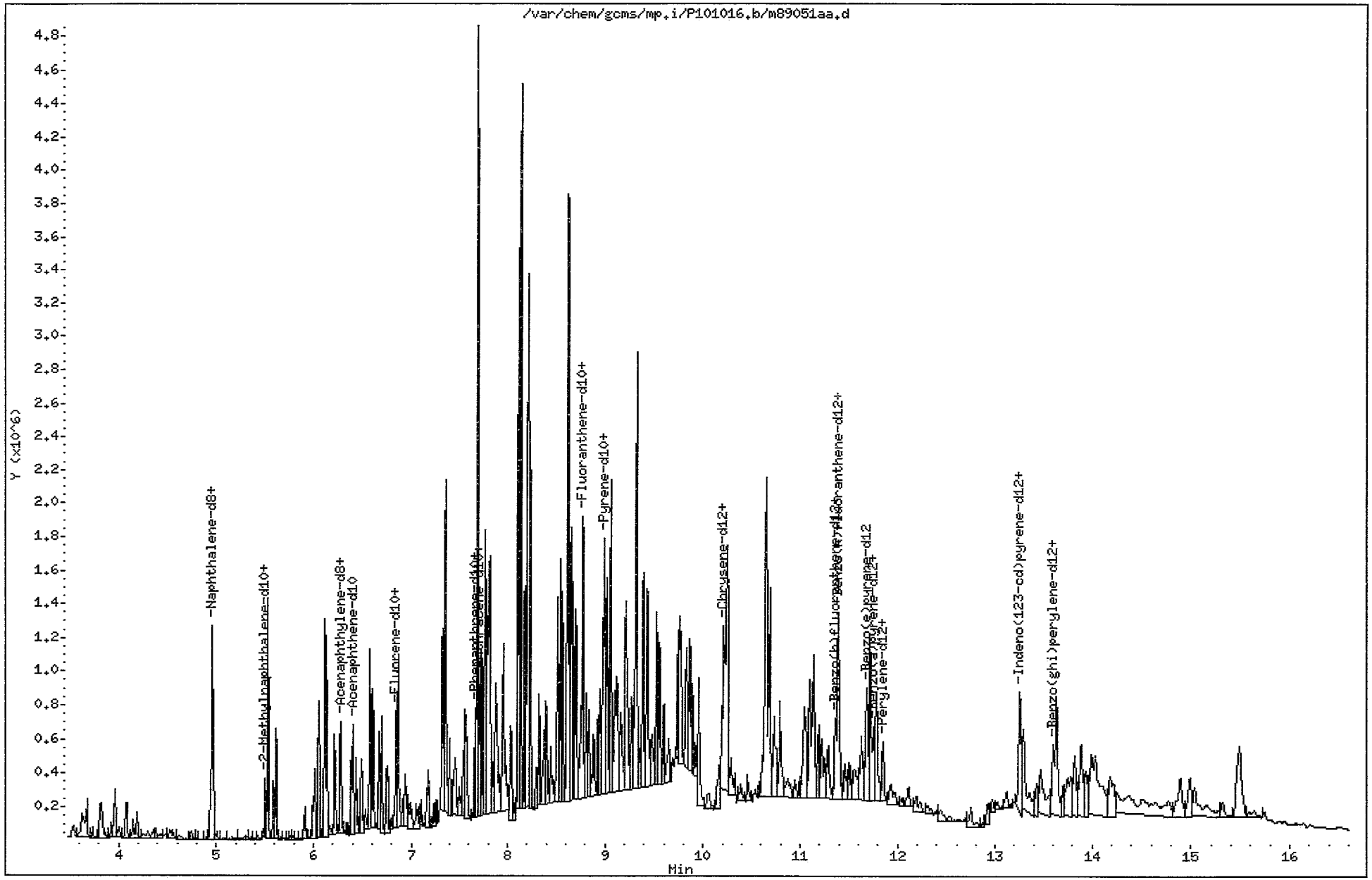
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89051AA Client Smp ID: R-1640 LOC#7 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	268	190	70.75	20-130
$ 222 13C6-Naphthalene	536	0.00	*	50-150
$ 11 2-Methylnaphthalen	268	192	71.46	30-120
$ 21 Acenaphthylene-d8(	268	204	76.08	30-120
$ 233 Fluorene-d10(SS)	268	199	74.37	30-120
$ 42 Phenanthrene-d10(S	268	131	48.67	30-120
$ 45 Anthracene-d10(SS)	268	129	48.20	30-120
$ 54 Fluoranthene-d10(S	268	156	58.26	30-120
$ 64 Chrysene-d12(SS)	268	151	56.24	30-120
$ 71 Benzo(b)fluoranthe	268	187	69.62	30-120
$ 74 Benzo(k)fluoranthe	268	149	55.39	30-120
$ 79 Benzo(a)pyrene-d12	268	198	73.66	30-120
$ 82 Perylene-d12(SS)	268	174	64.90	30-120
$ 85 Indeno(123-cd)pyre	268	202	75.40	30-120
$ 88 Dibenz(ah)anthrace	268	231	86.09	30-120
$ 91 Benzo(ghi)perylene	268	175	65.31	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d
Date : 10-OCT-2016 19:59
Client ID: R-1640 LOC#7 WATER
Sample Info: ,,0,,TRT
Purge Volume: 932.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

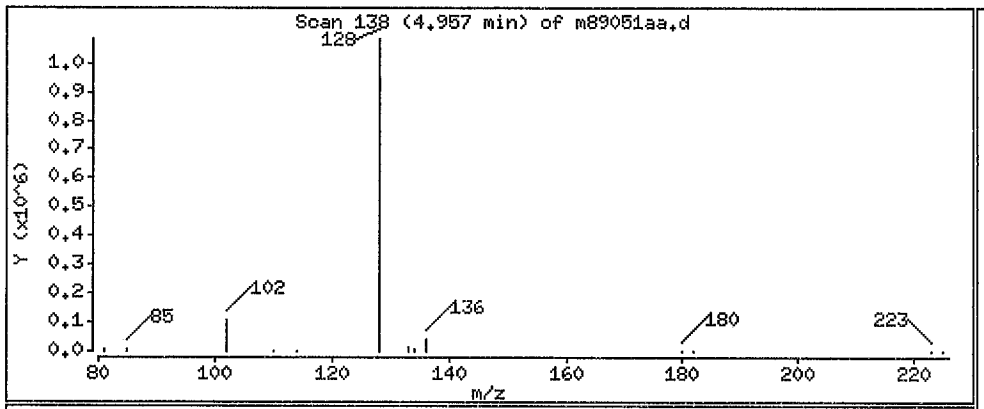
Operator: 011211

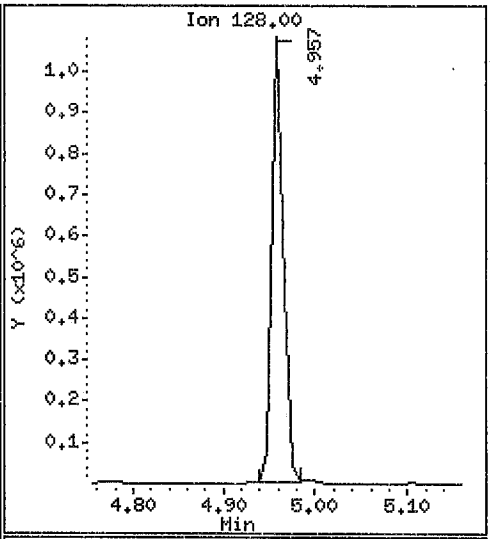
Column phase: Rxi-5SIL MS w/Guard

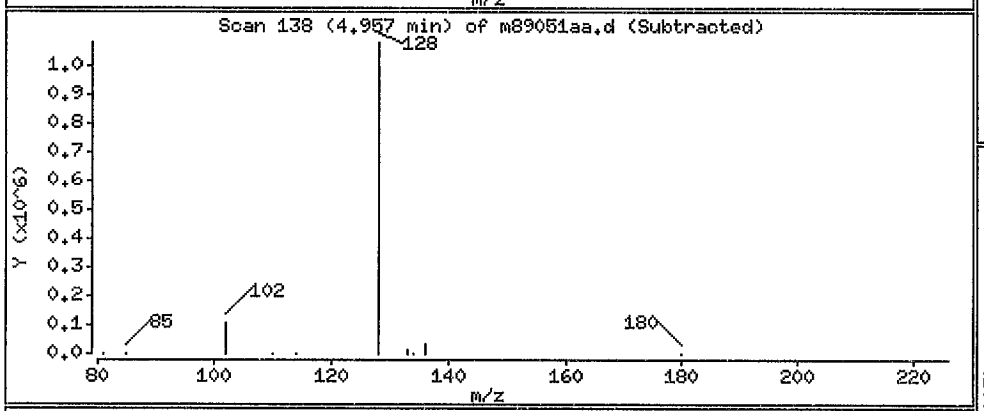
Column diameter: 0.25

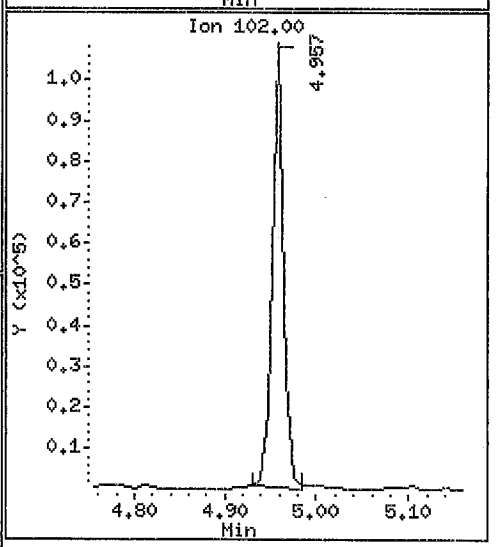
3 Naphthalene

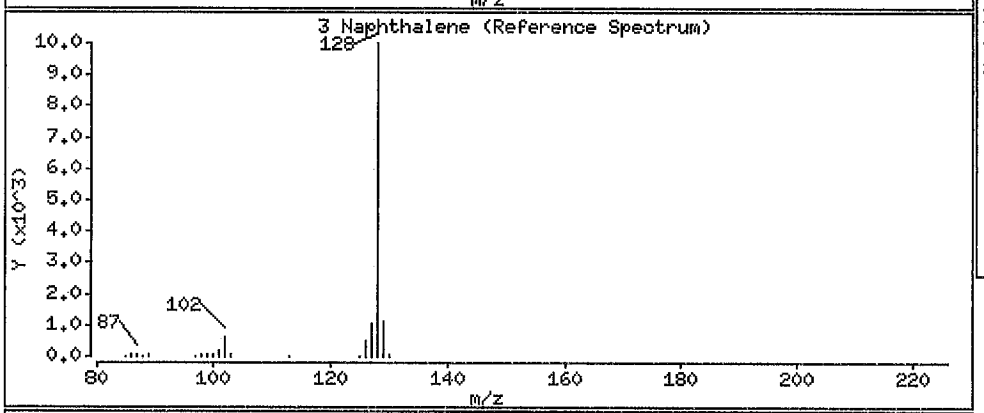
Concentration: 648 ng/L

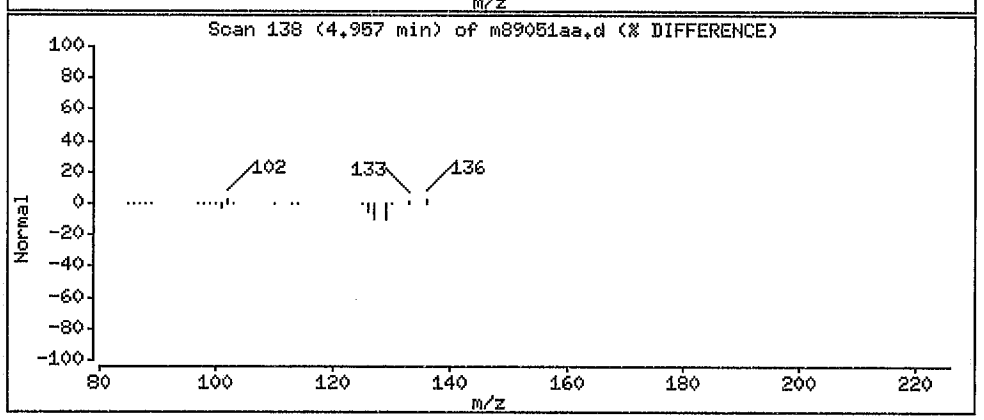












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

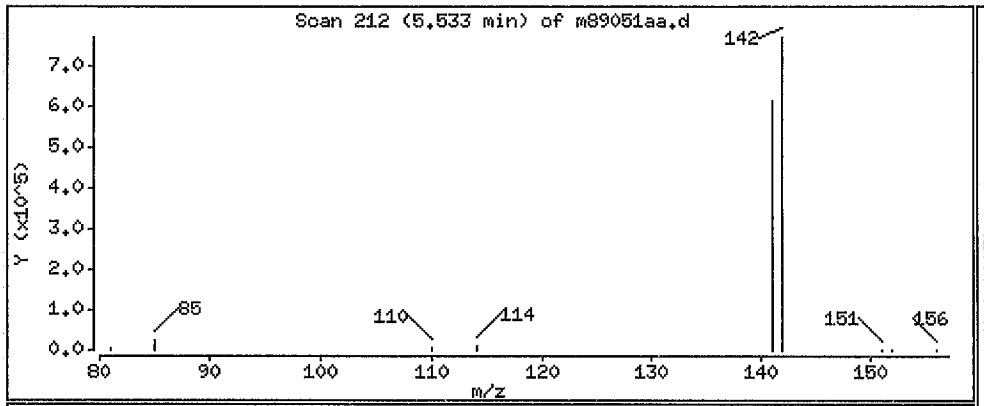
Operator: 011211

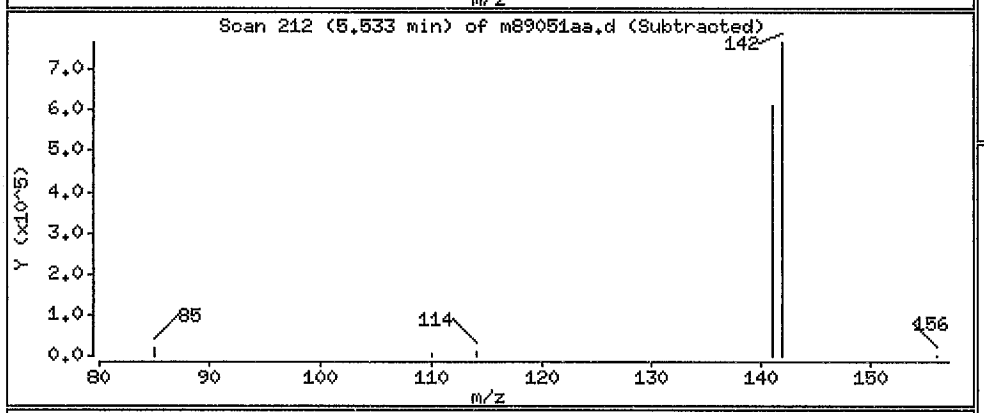
Column phase: Rxi-5SIL MS w/Guard

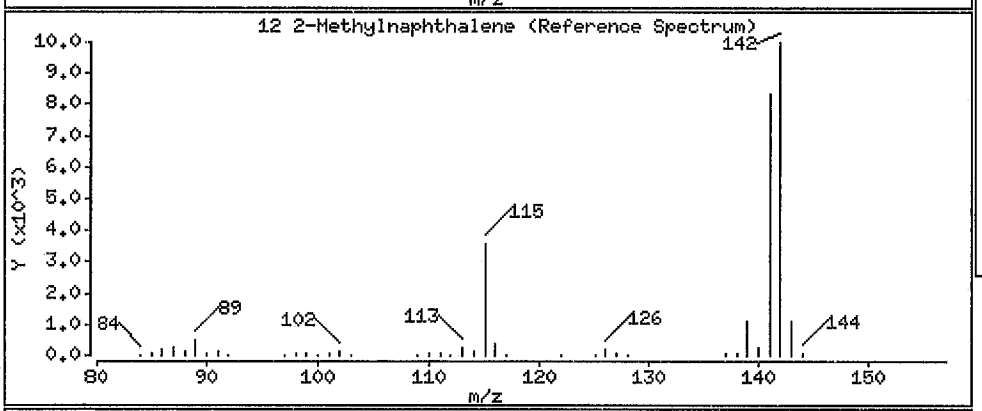
Column diameter: 0.25

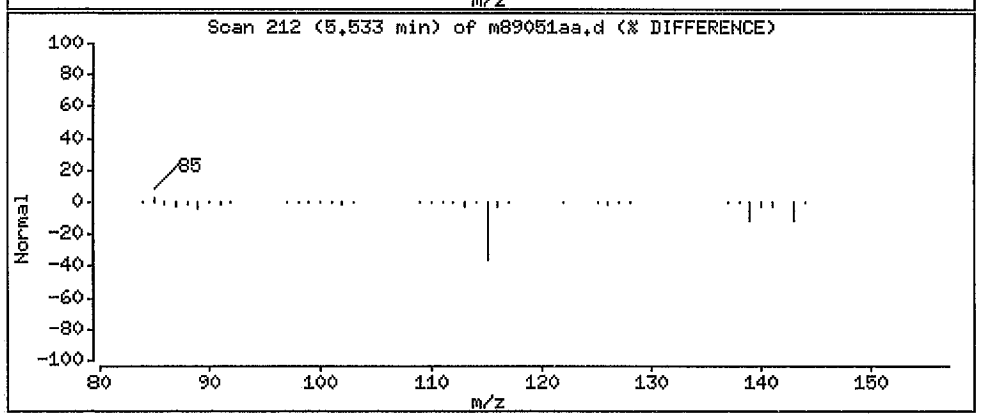
12 2-Methylnaphthalene

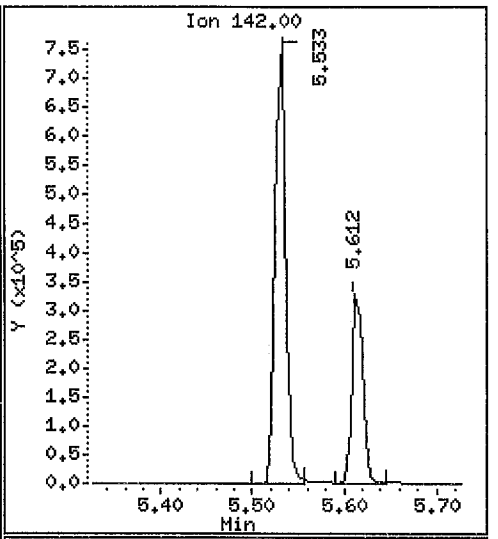
Concentration: 626 ng/L

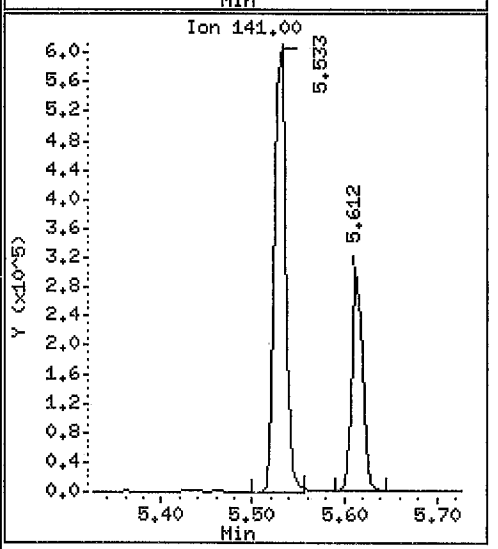












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

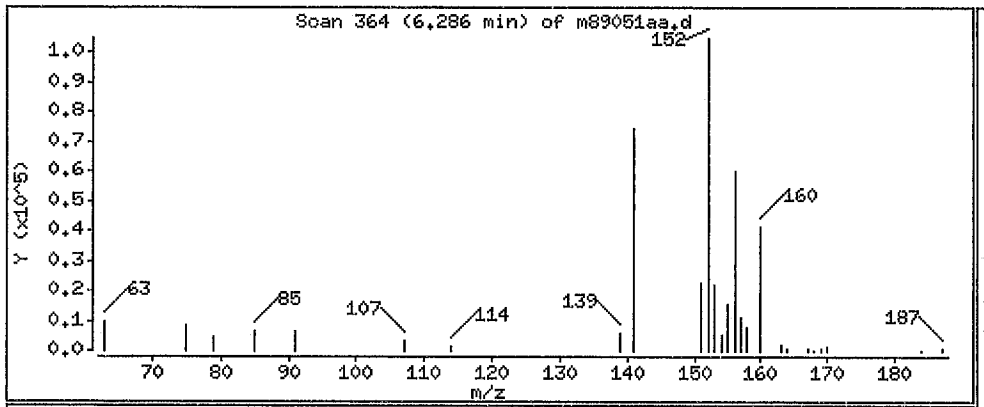
Operator: 011211

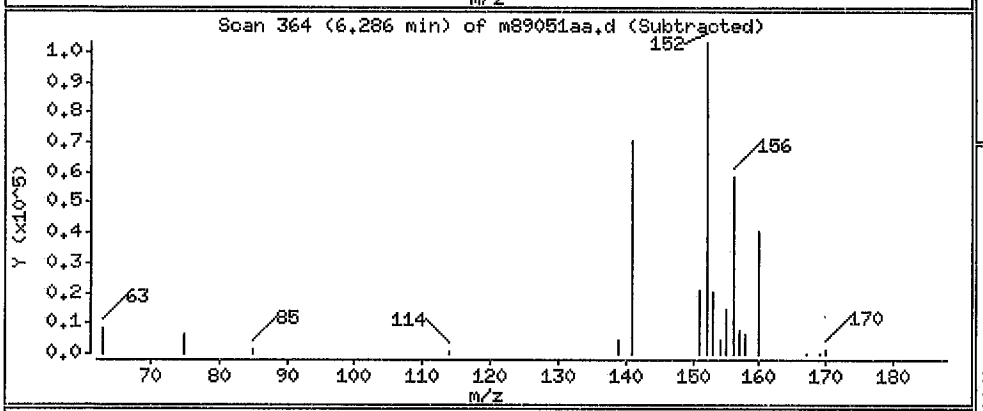
Column phase: Rxi-5SIL MS w/Guard

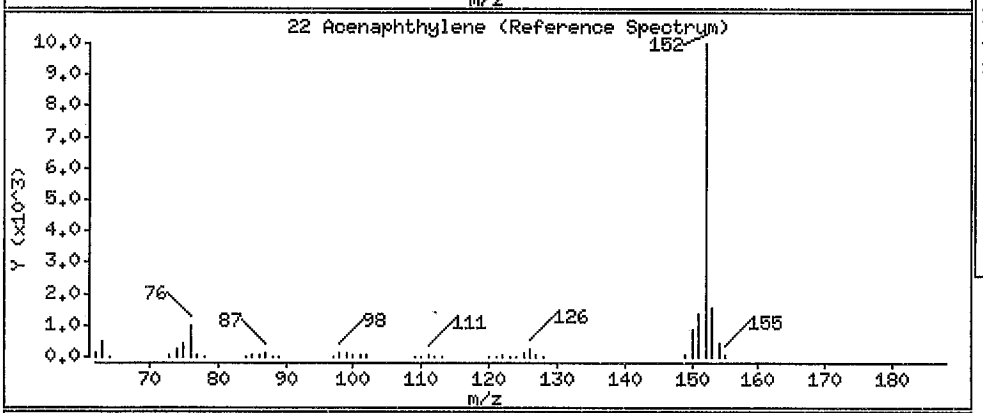
Column diameter: 0.25

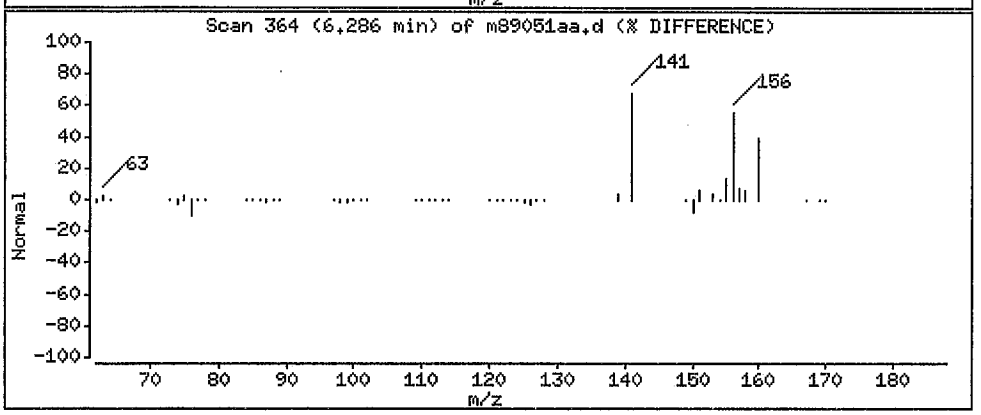
22 Acenaphthylene

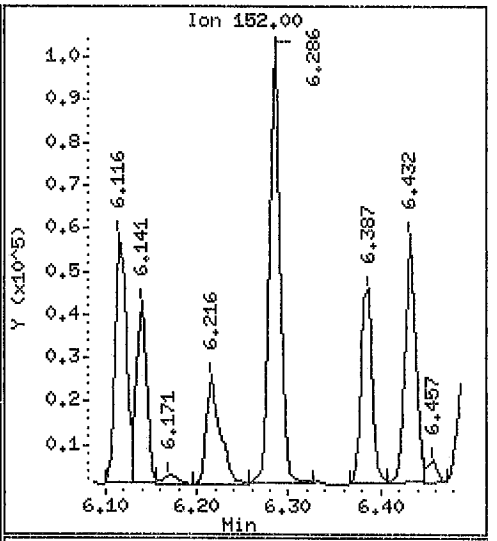
Concentration: 56.2 ng/L

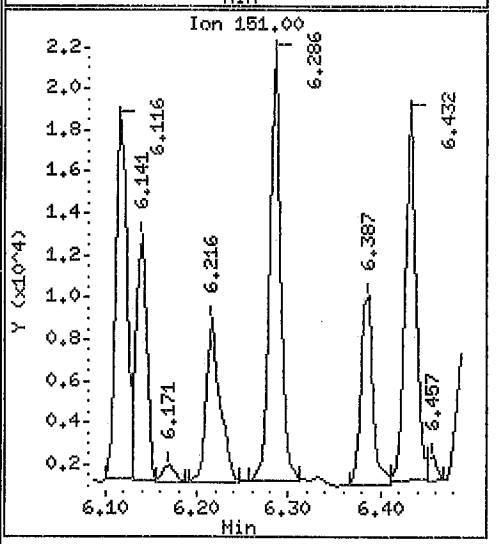












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

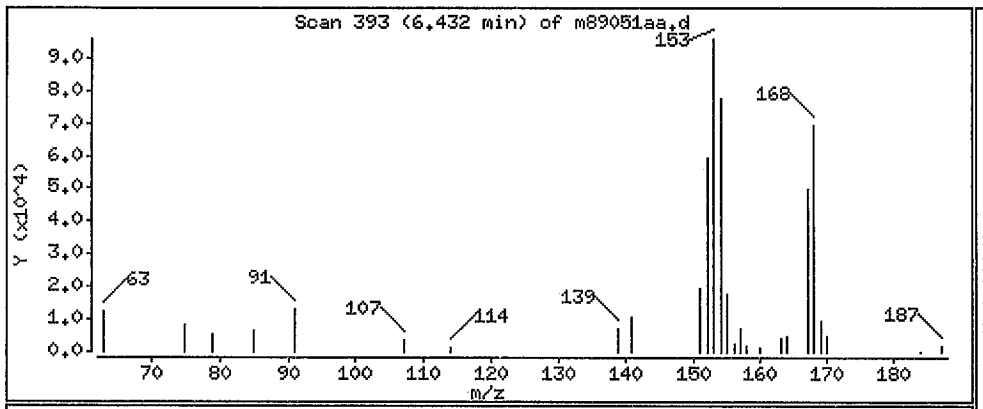
Operator: 011211

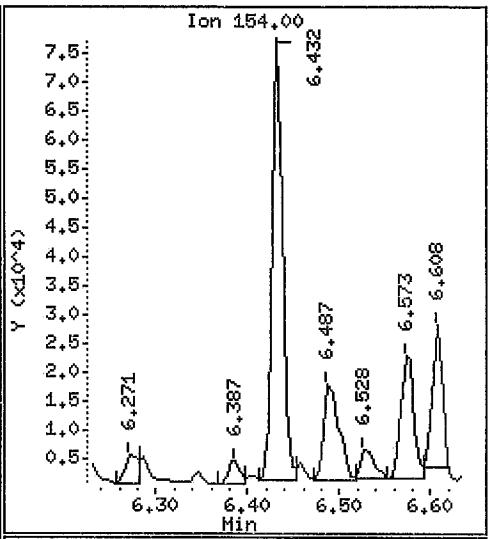
Column phase: Rxi-5SIL MS w/Guard

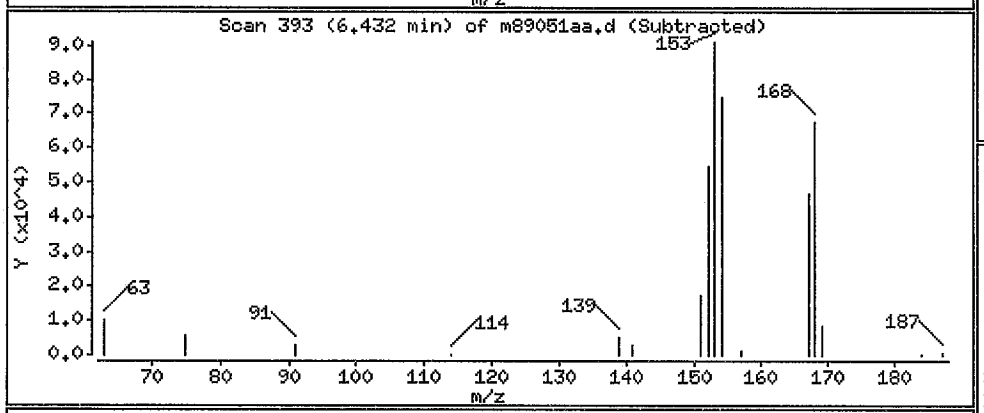
Column diameter: 0.25

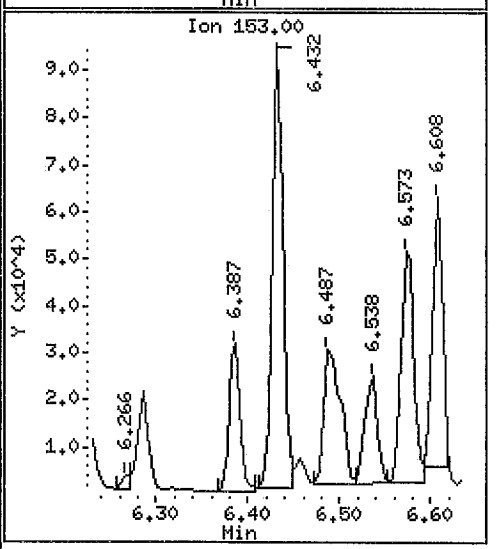
24 Acenaphthene

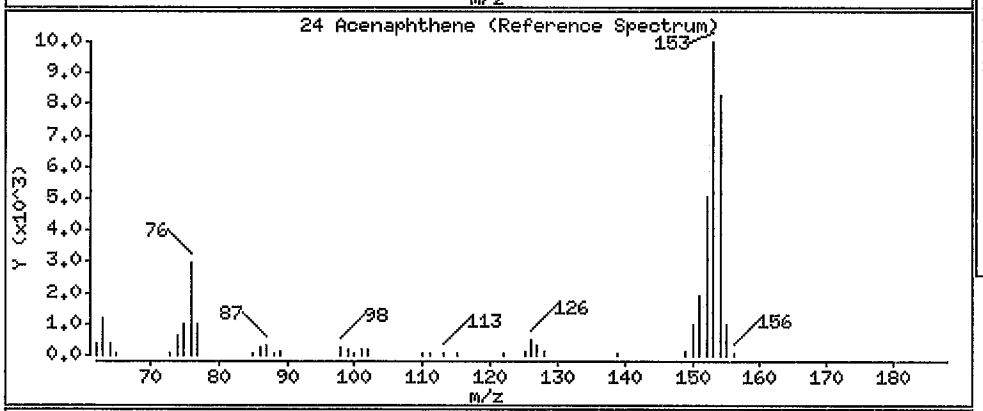
Concentration: 65.8 ng/L

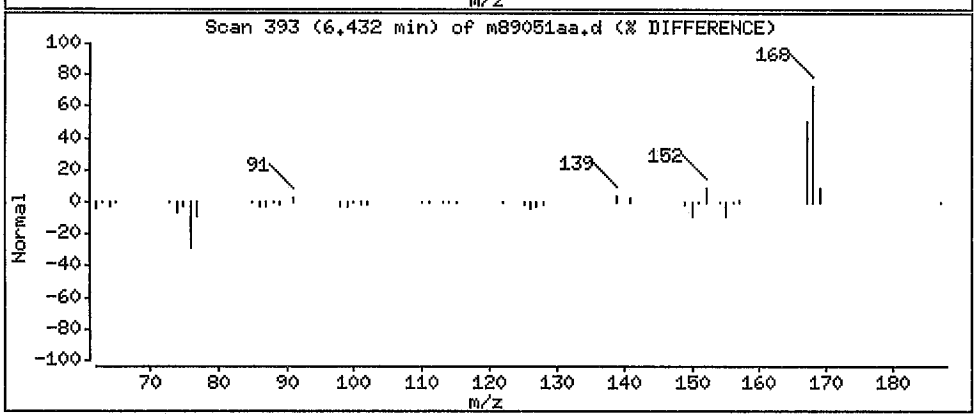












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

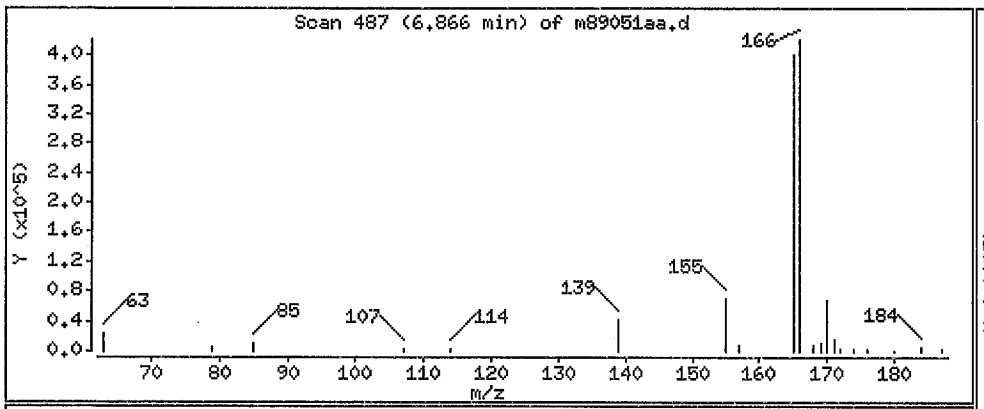
Operator: 011211

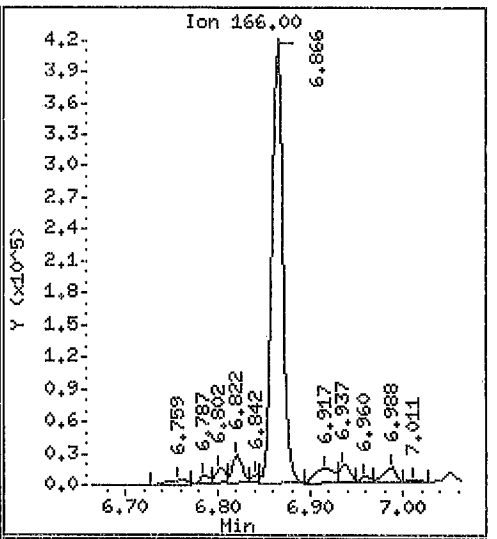
Column phase: Rxi-5SIL MS w/Guard

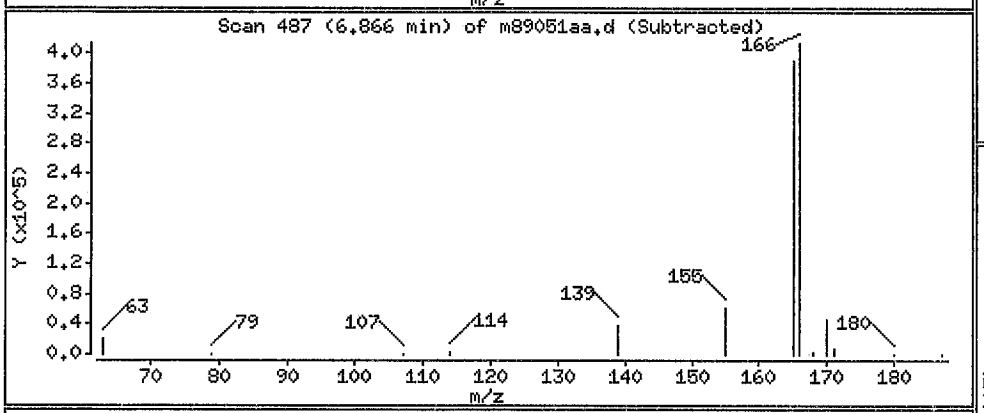
Column diameter: 0.25

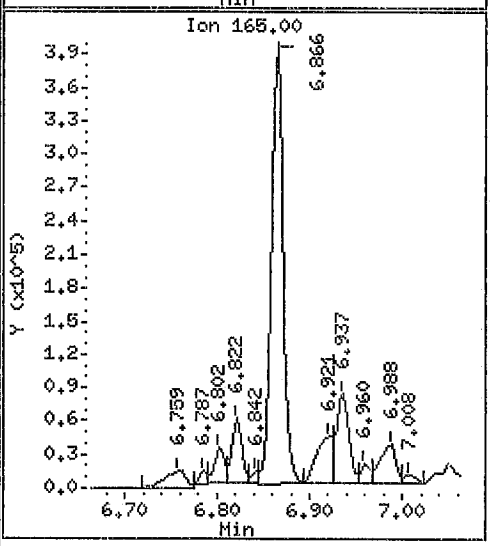
27 Fluorene

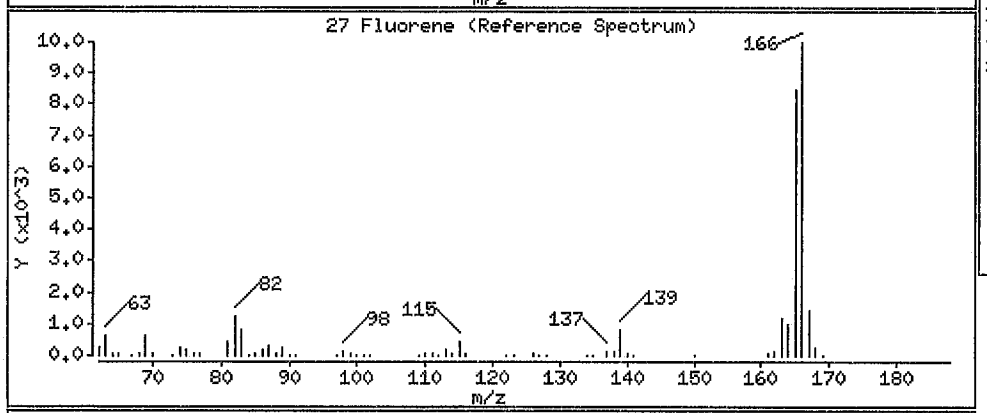
Concentration: 335 ng/L

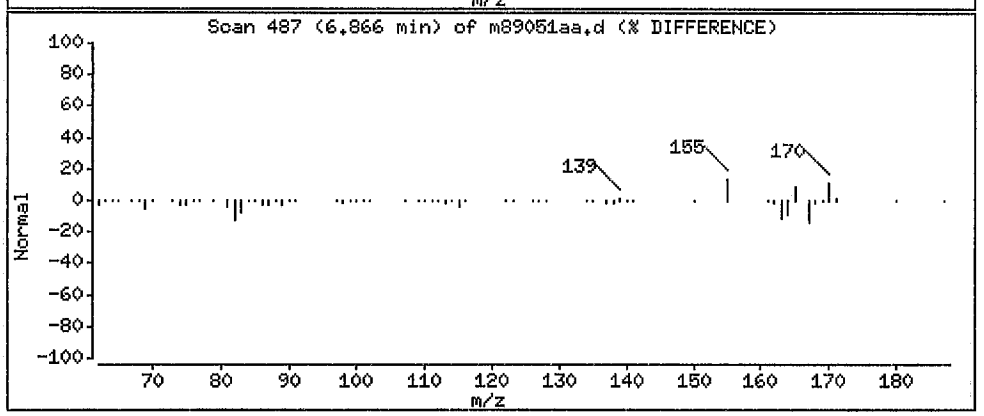












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

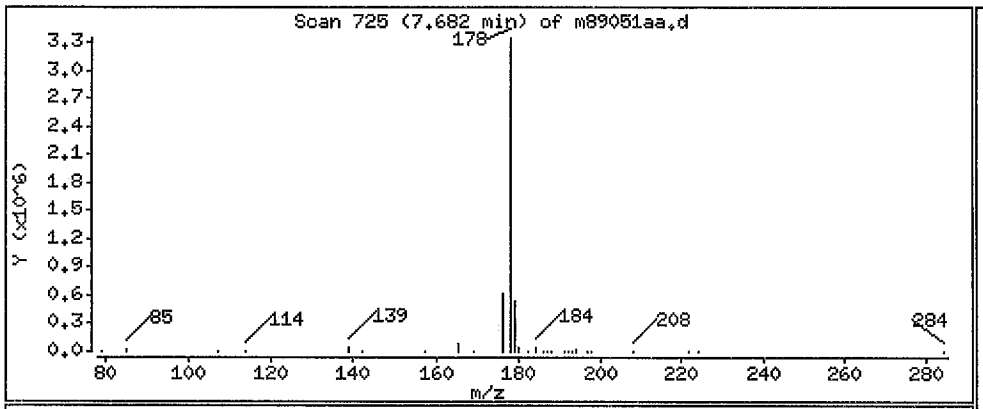
Operator: 011211

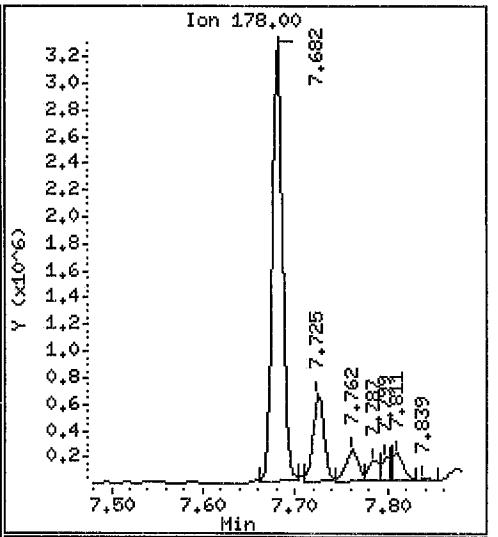
Column phase: Rxi-5SIL MS w/Guard

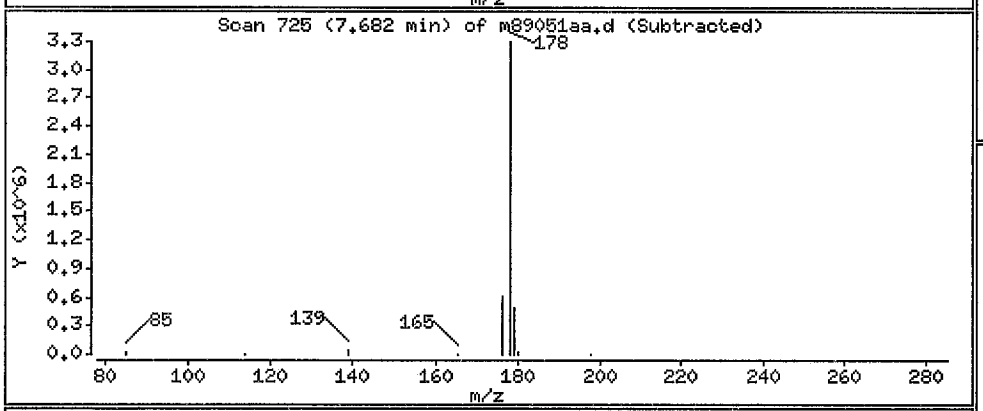
Column diameter: 0.25

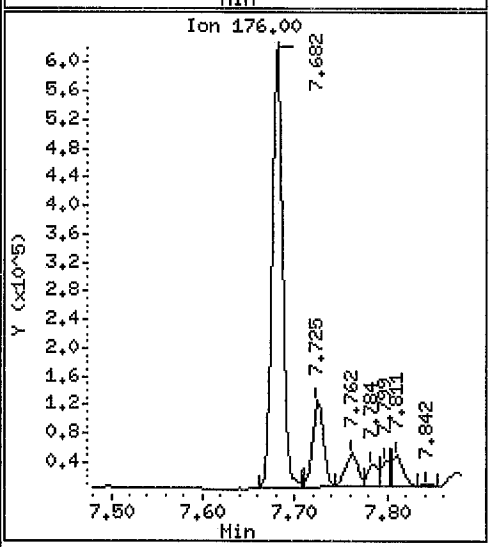
43 Phenanthrene

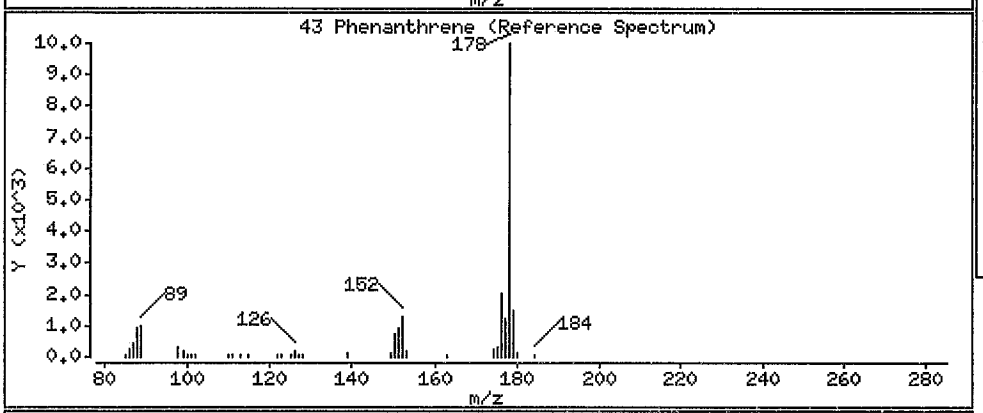
Concentration: 1980 ng/L

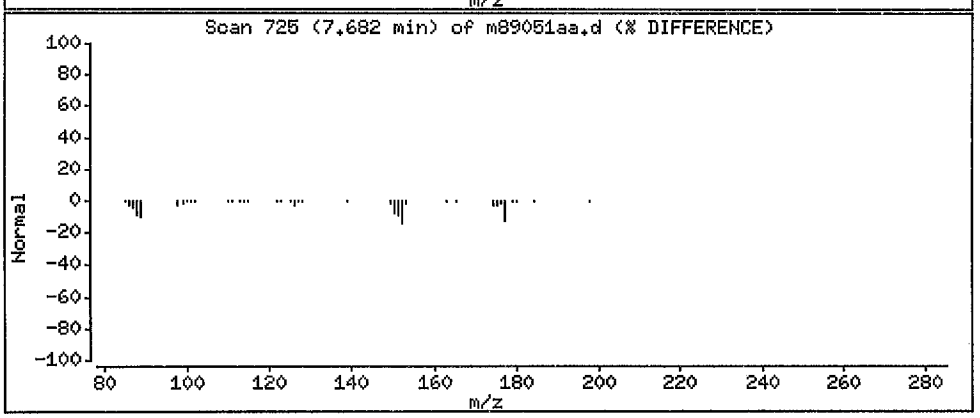












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

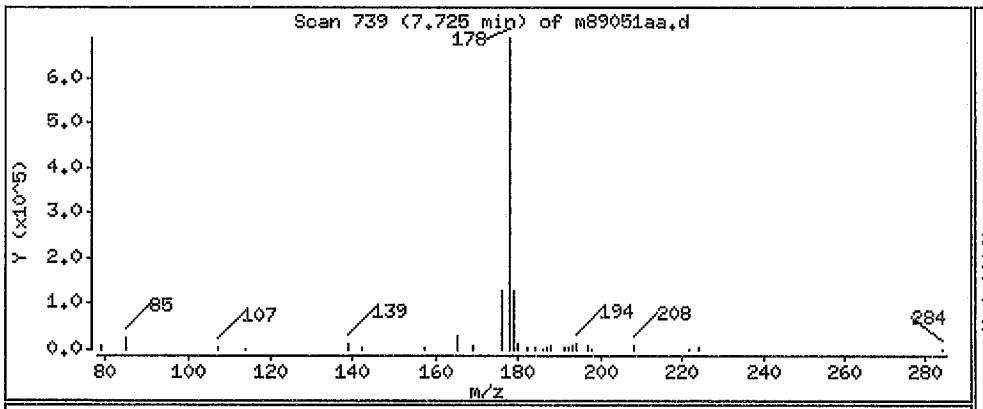
Operator: 011211

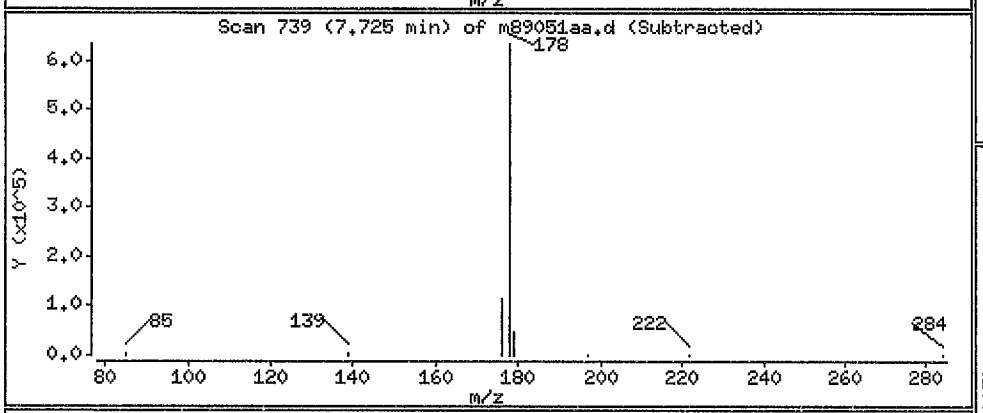
Column phase: Rxi-5SIL MS w/Guard

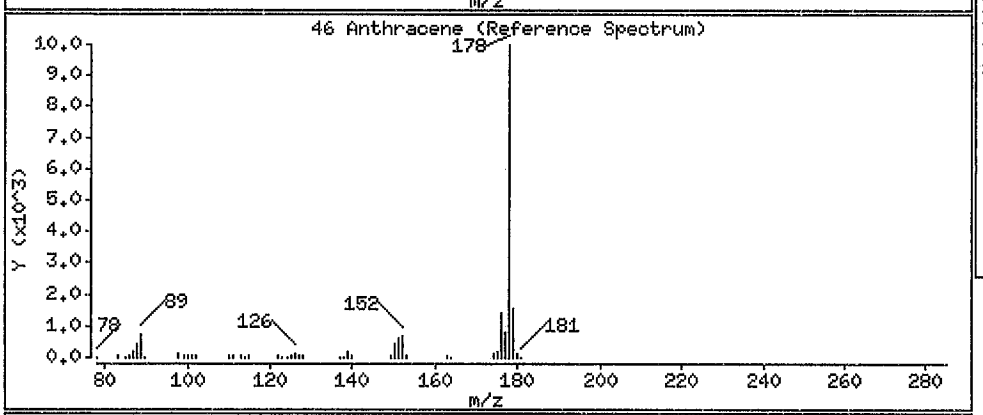
Column diameter: 0.25

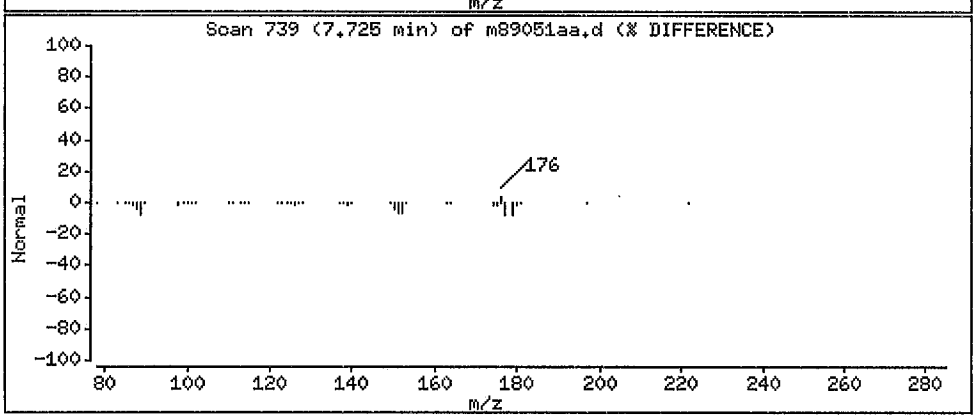
46 Anthracene

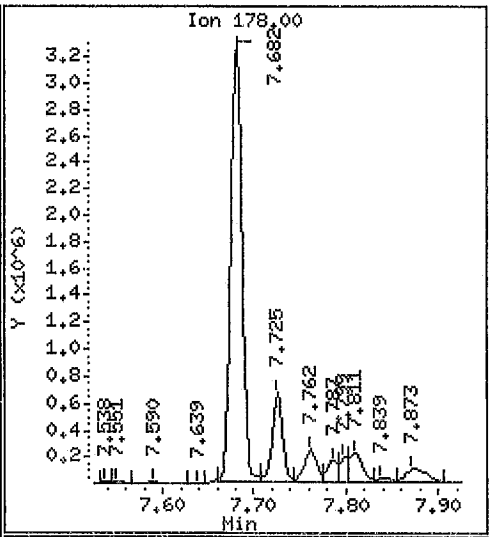
Concentration: 440 ng/L

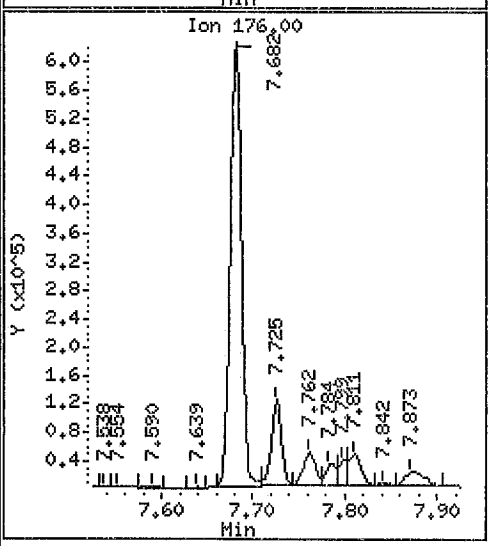












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

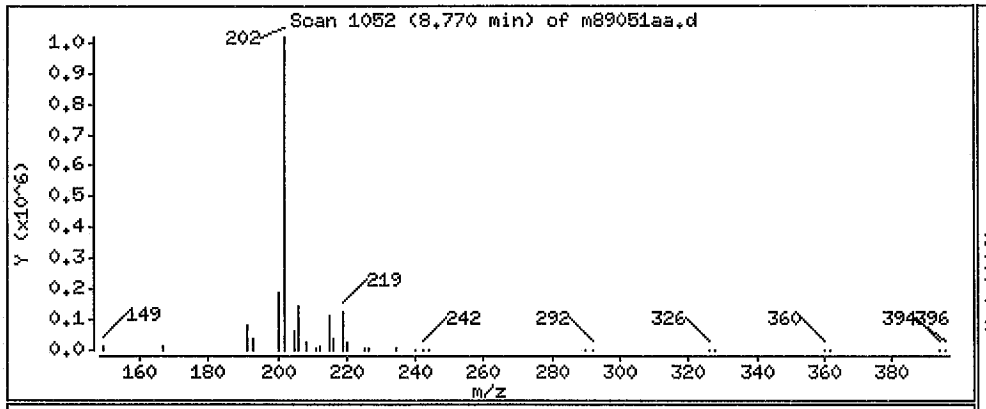
Operator: 011211

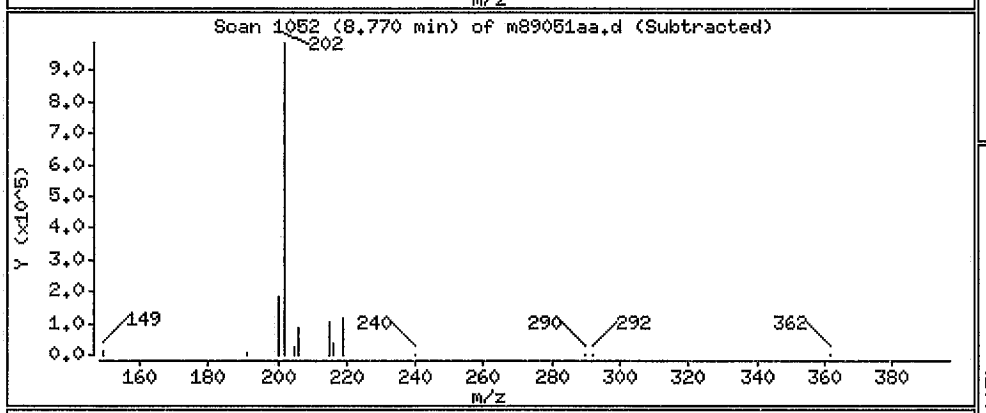
Column phase: Rxi-5SIL MS w/Guard

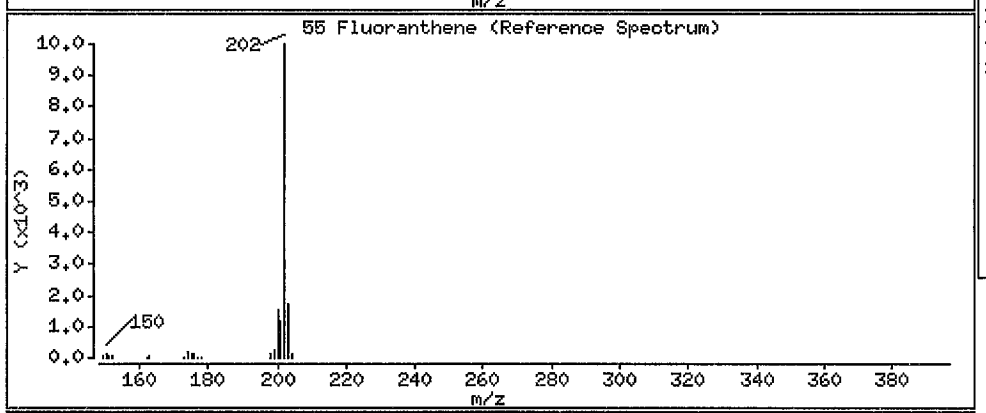
Column diameter: 0.25

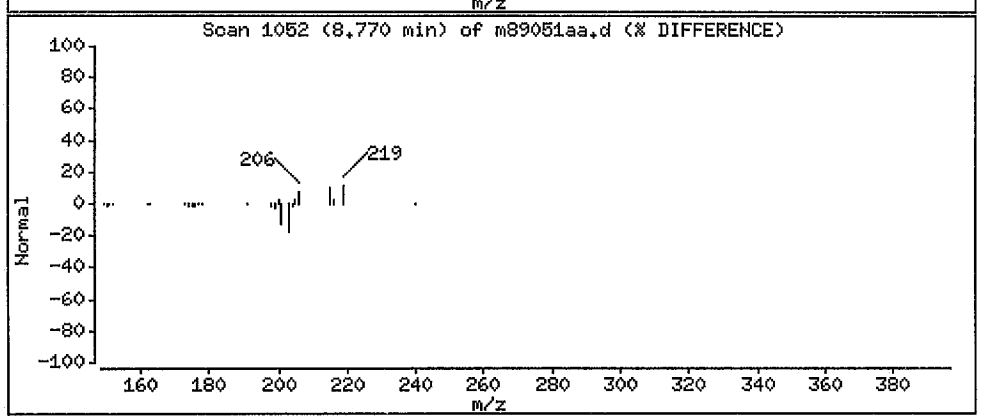
55 Fluoranthene

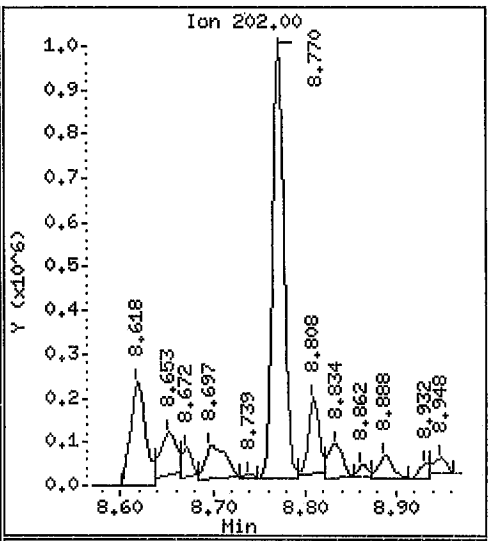
Concentration: 523 ng/L

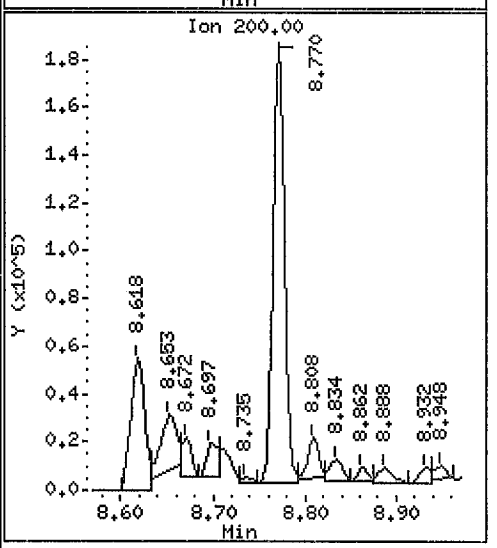












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

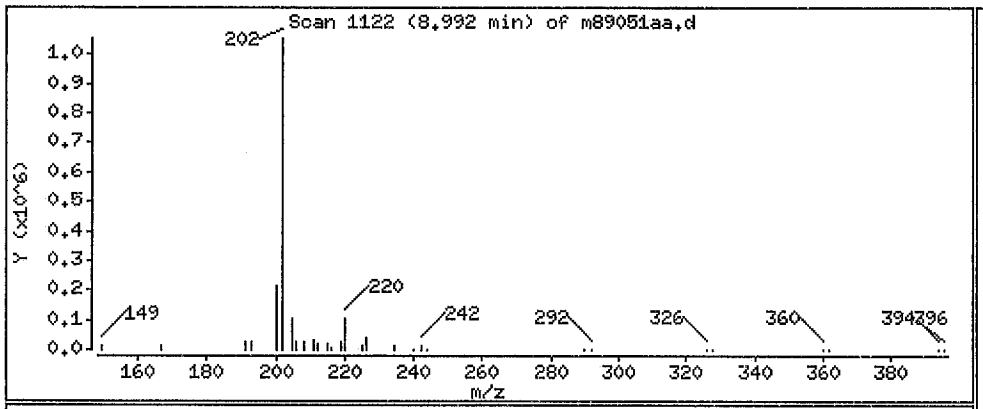
Operator: 011211

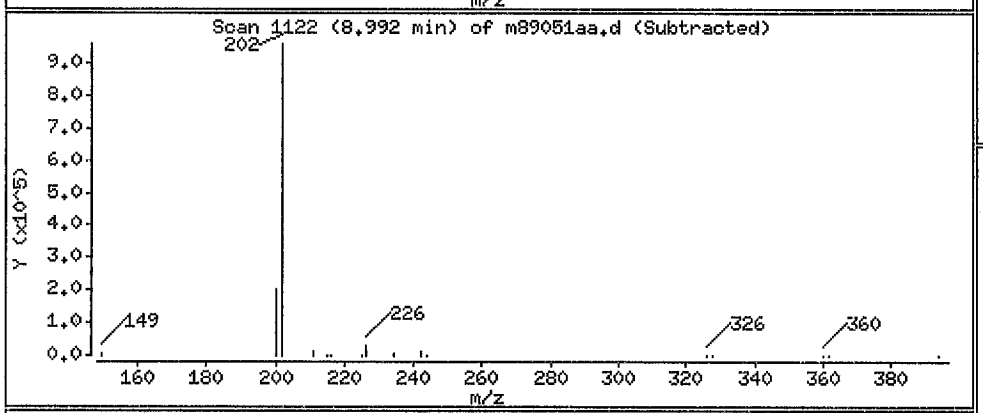
Column phase: Rxi-5SIL MS w/Guard

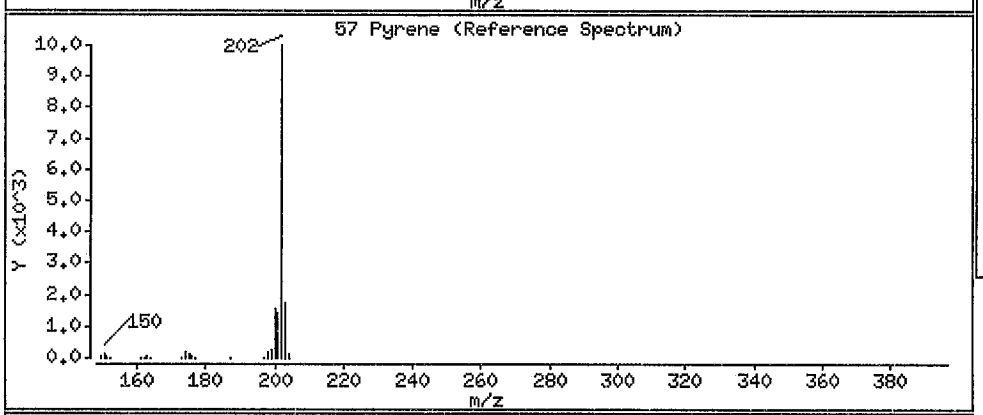
Column diameter: 0.25

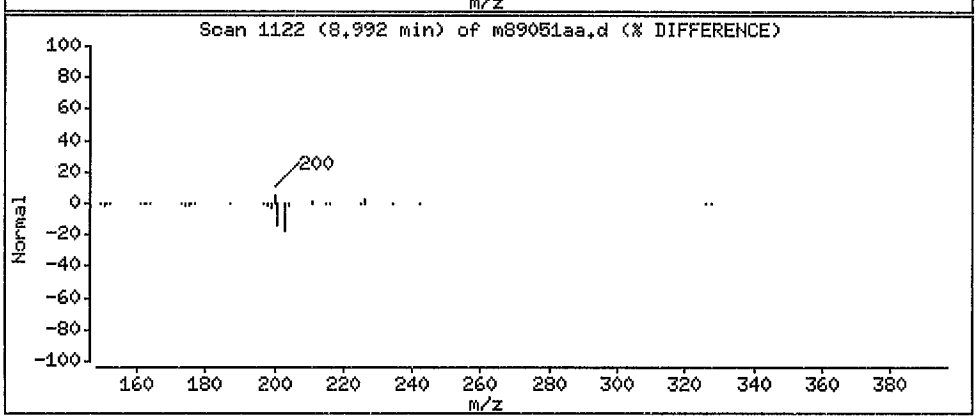
57 Pyrene

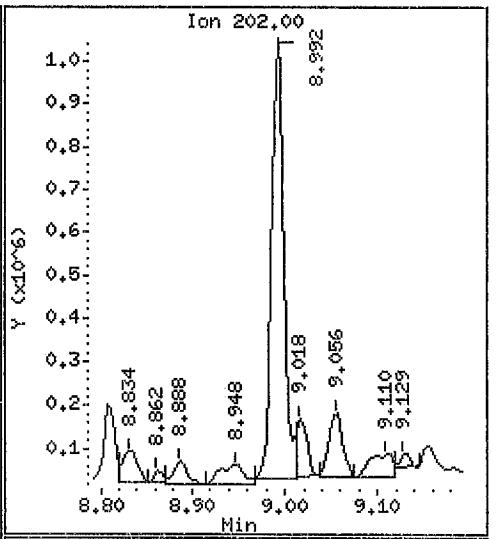
Concentration: 567 ng/L

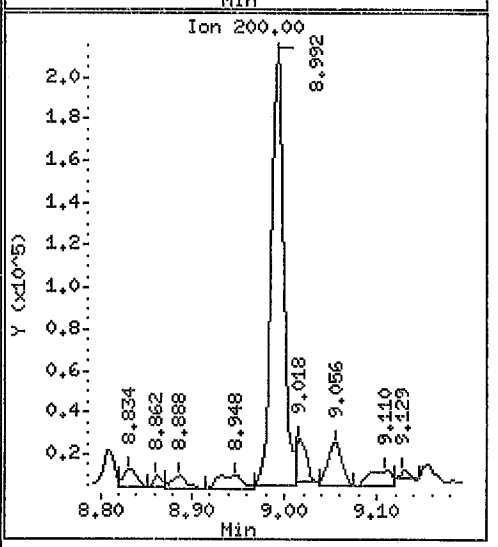












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

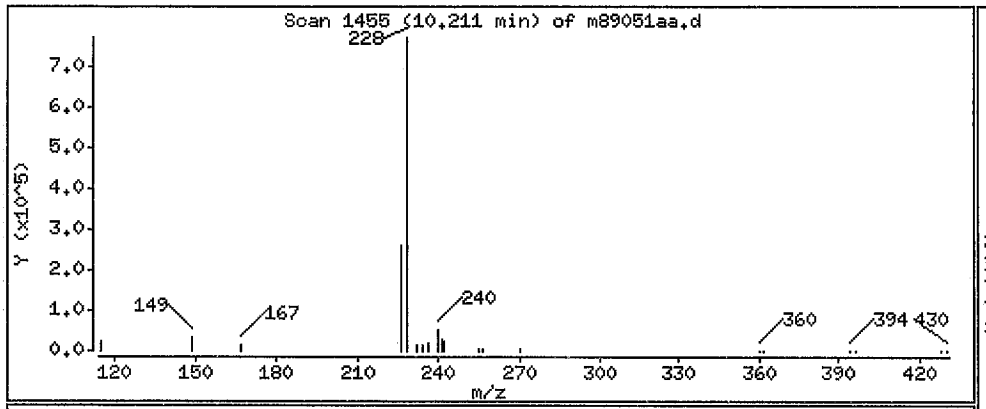
Operator: 011211

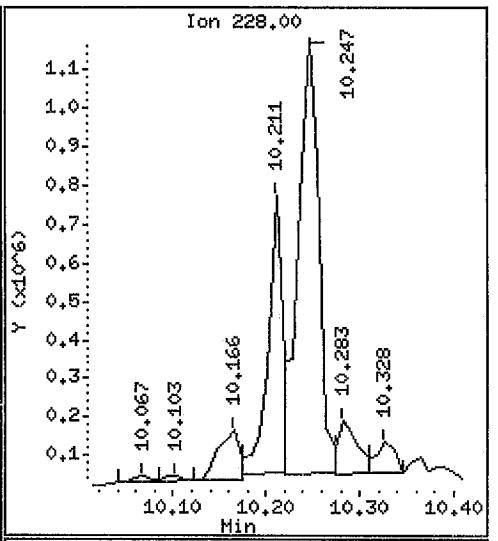
Column phase: Rxi-5SIL MS w/Guard

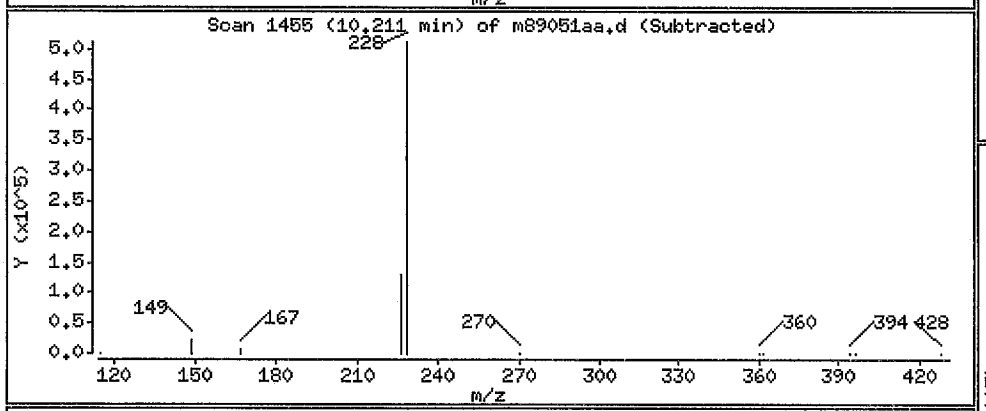
Column diameter: 0.25

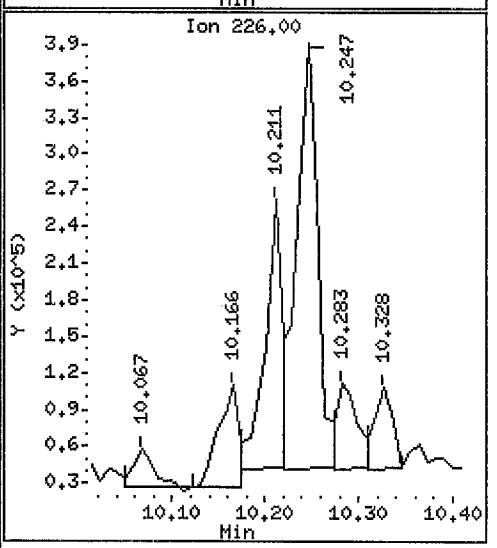
62 Benzo(a)anthracene

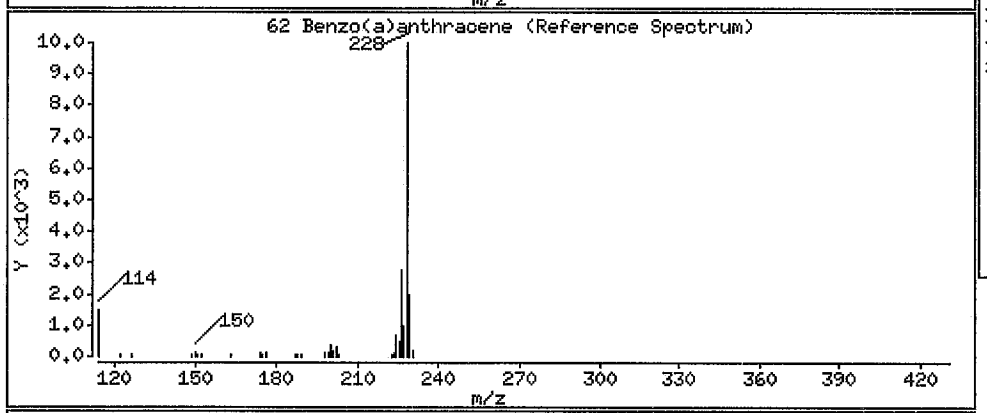
Concentration: 696 ng/L

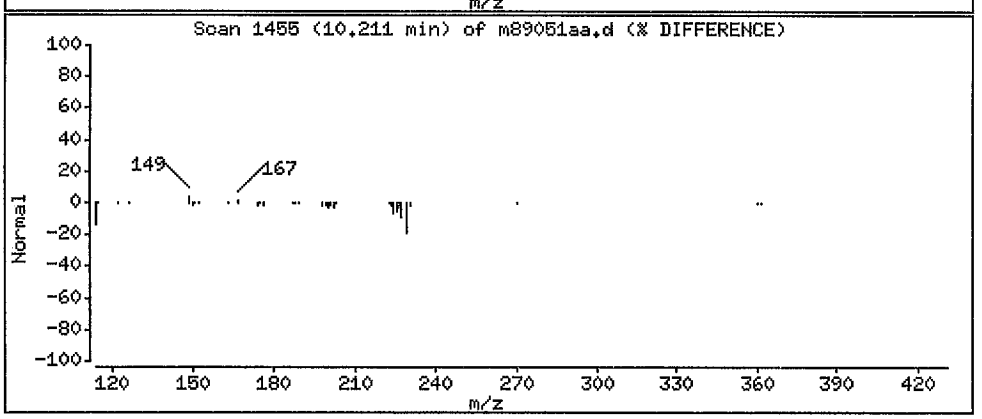












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

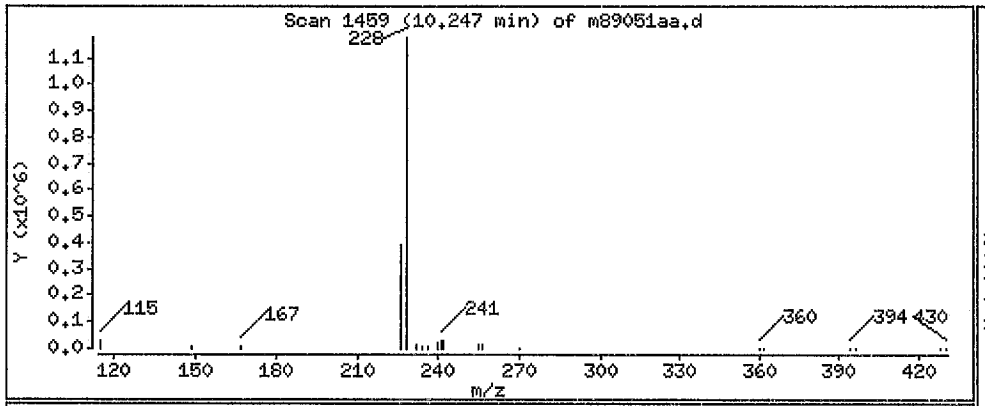
Operator: 011211

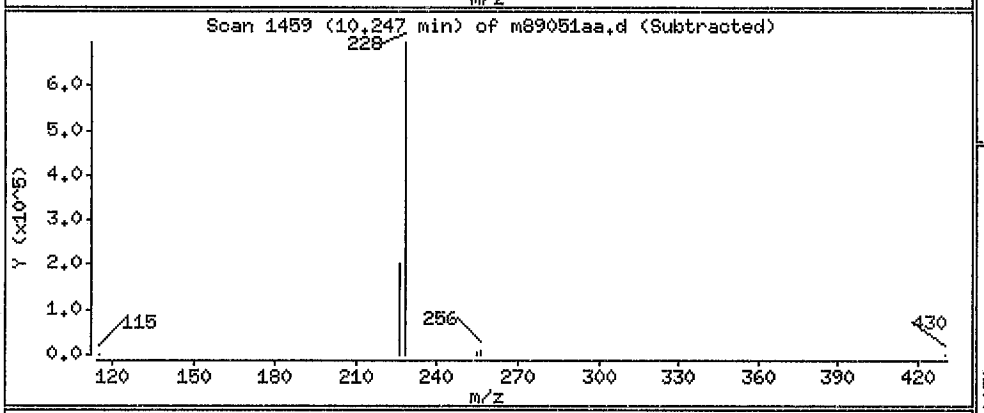
Column phase: Rxi-5SIL MS w/Guard

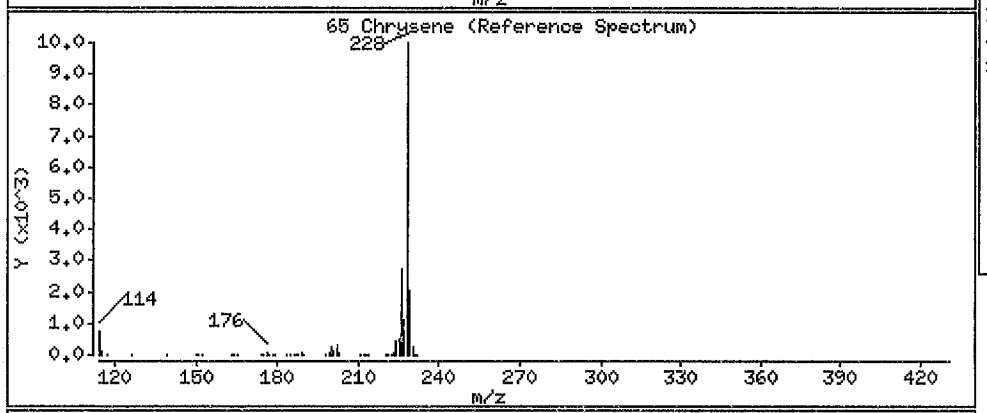
Column diameter: 0.25

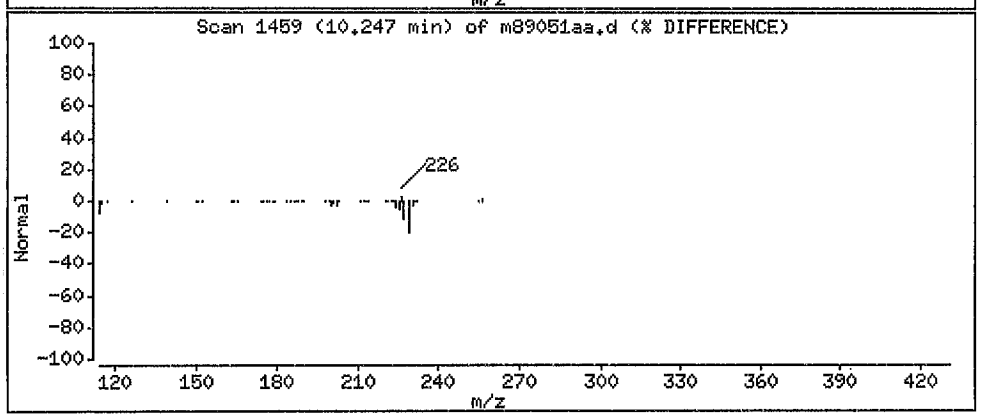
65 Chrysene

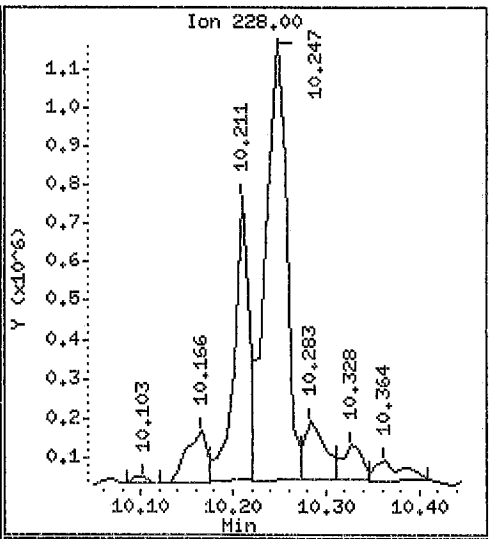
Concentration: 1390 ng/L

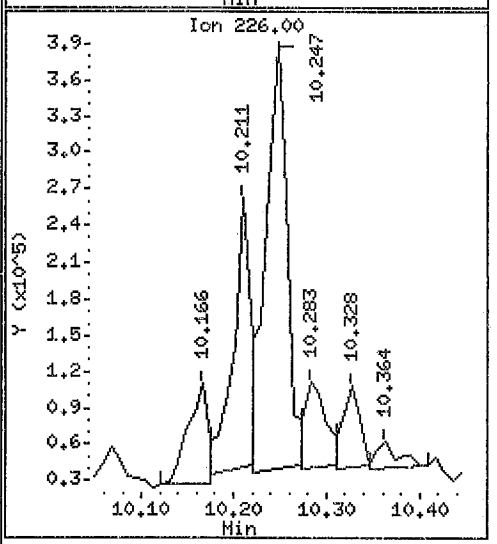












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

Operator: 011211

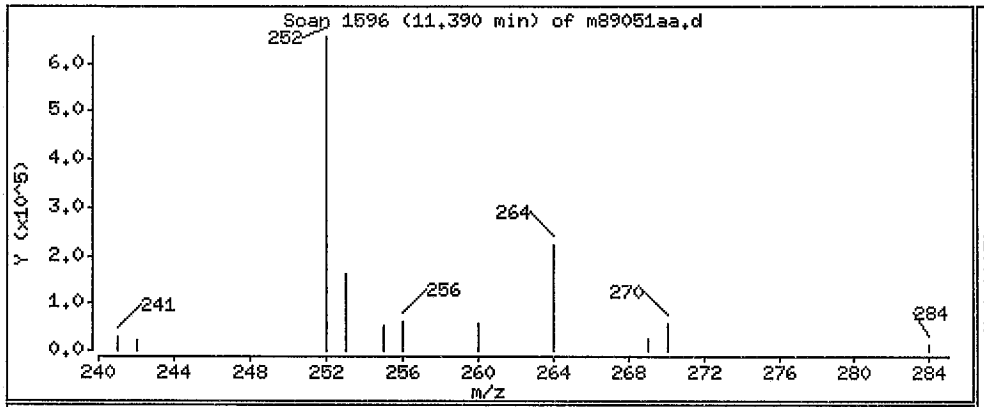
Column phase: Rxi-5SIL MS w/Guard

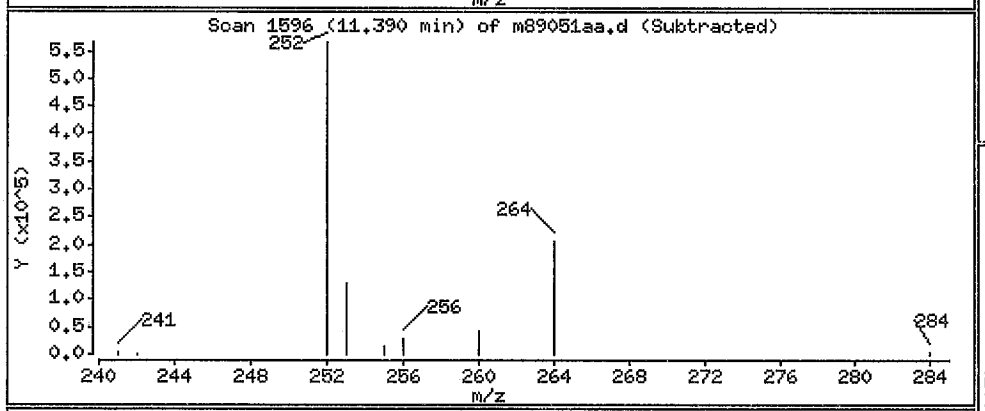
Column diameter: 0.25

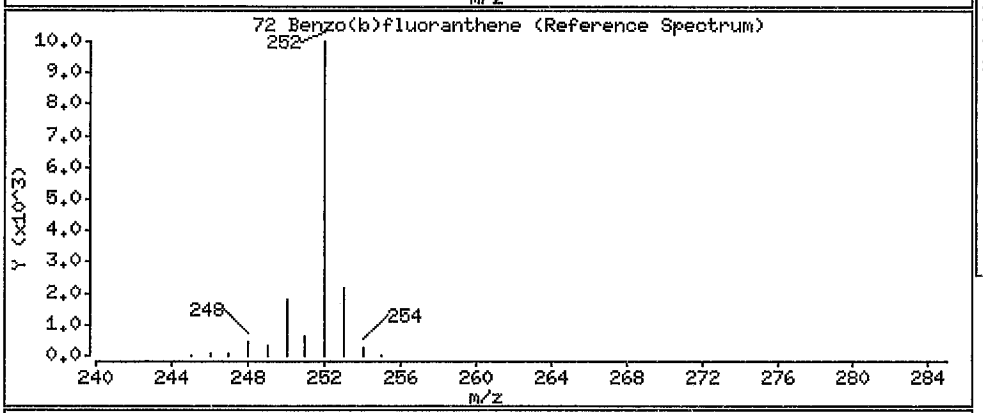
10/11/16

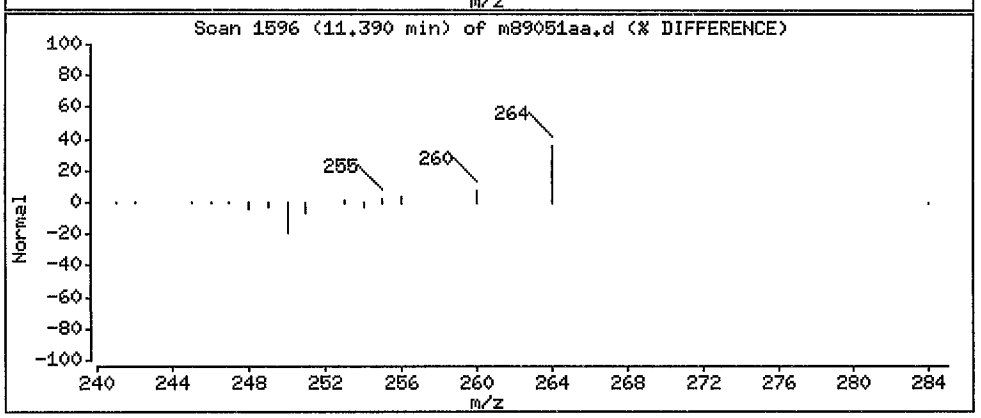
72 Benzo(b)fluoranthene

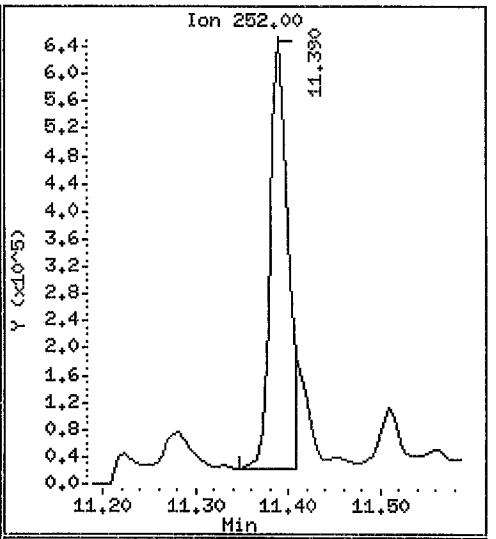
Concentration: 457 ng/L

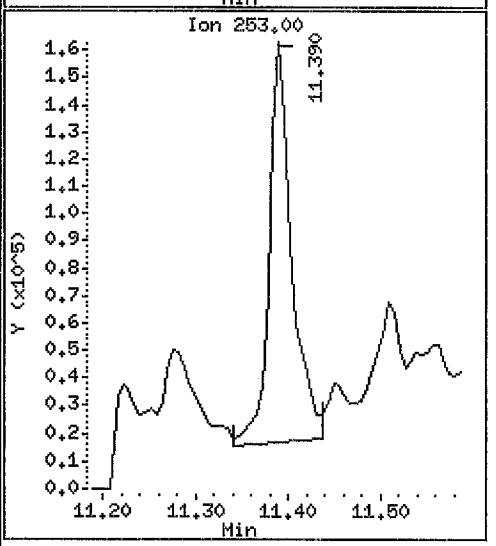












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

Operator: 011211

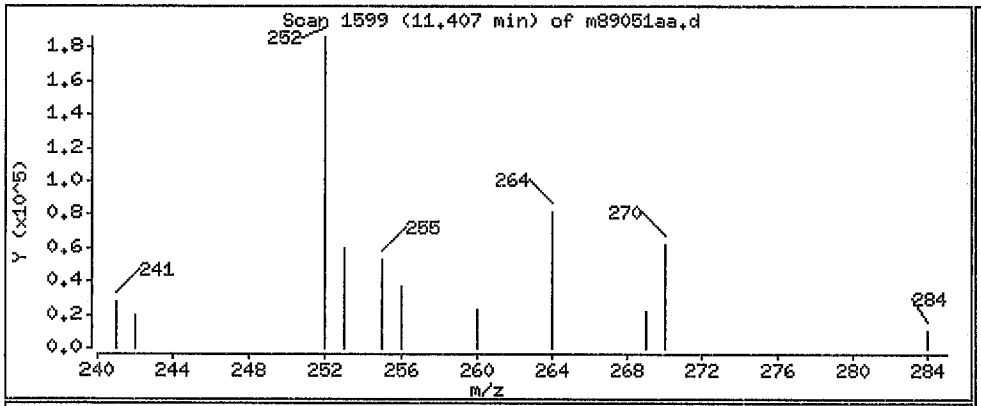
Column phase: Rxi-5SIL MS w/Guard

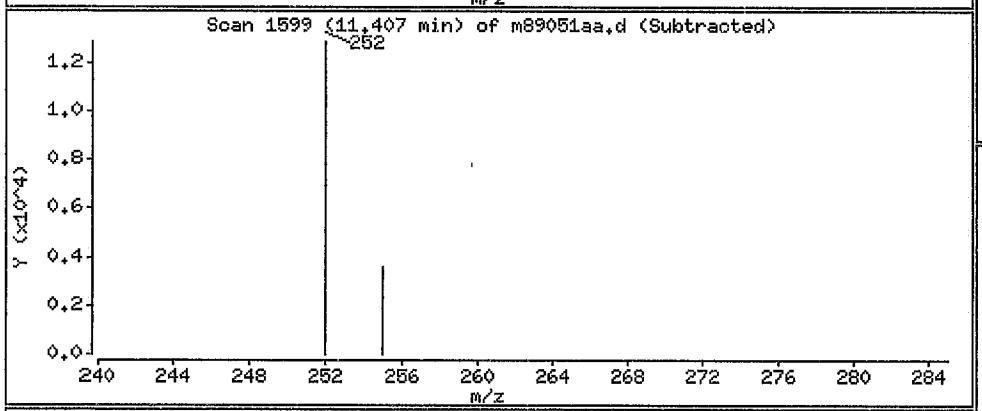
Column diameter: 0.25

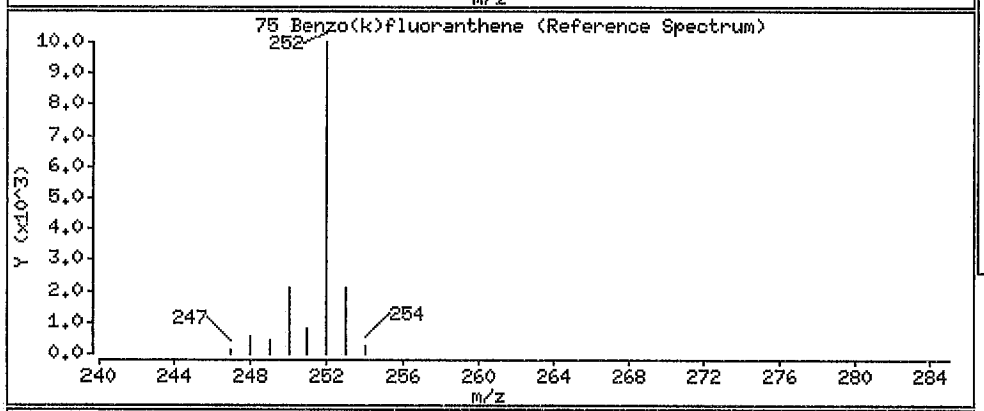
10/11/16

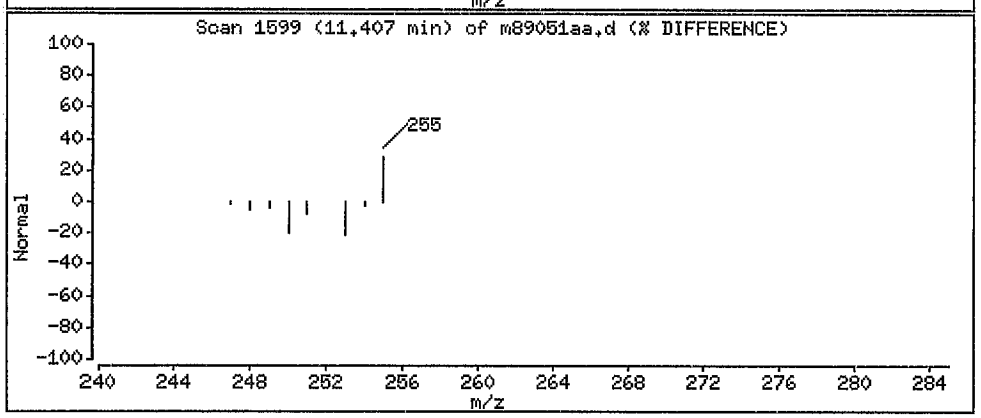
75 Benzo(k)fluoranthene

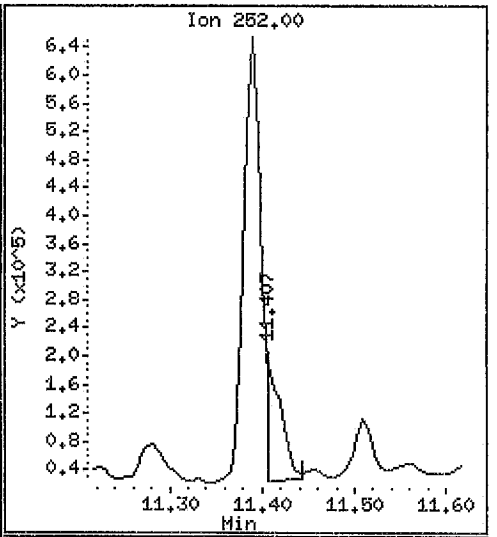
Concentration: 120 ng/L

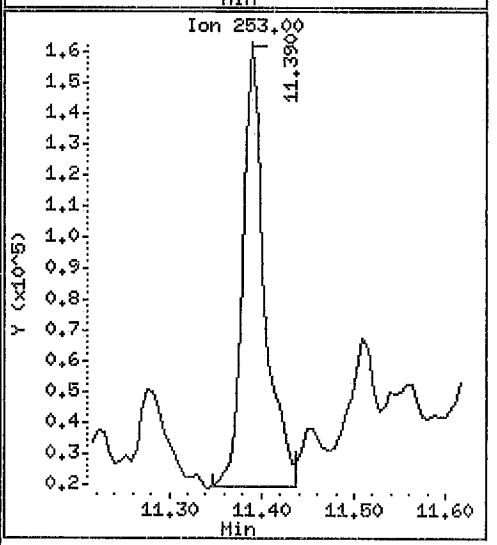












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

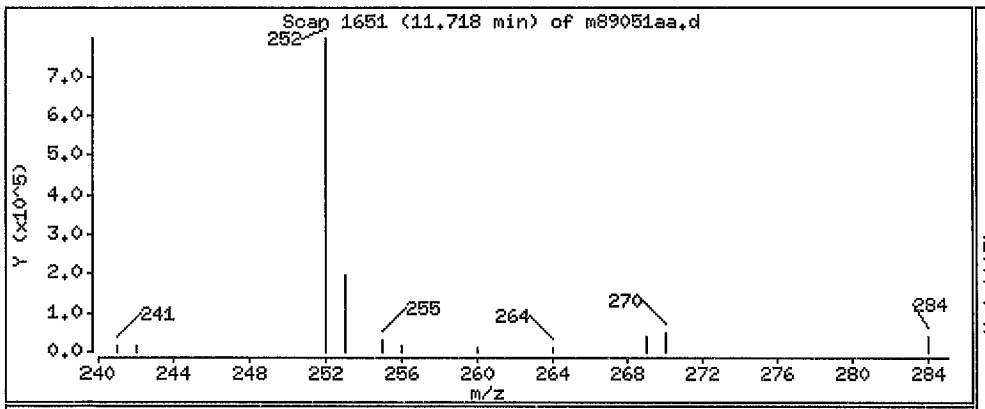
Operator: 011211

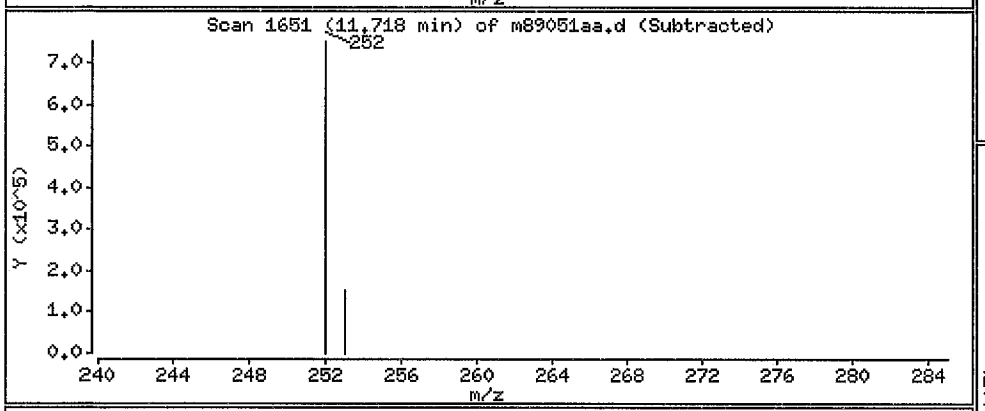
Column phase: Rxi-5SIL MS w/Guard

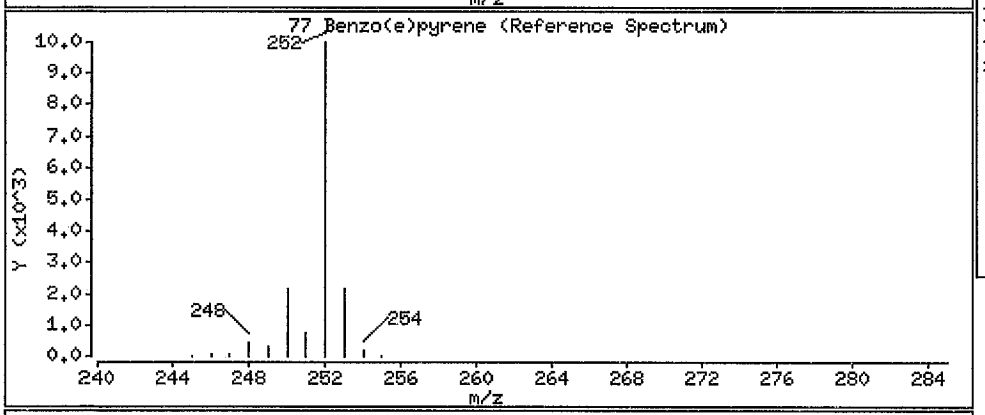
Column diameter: 0.25

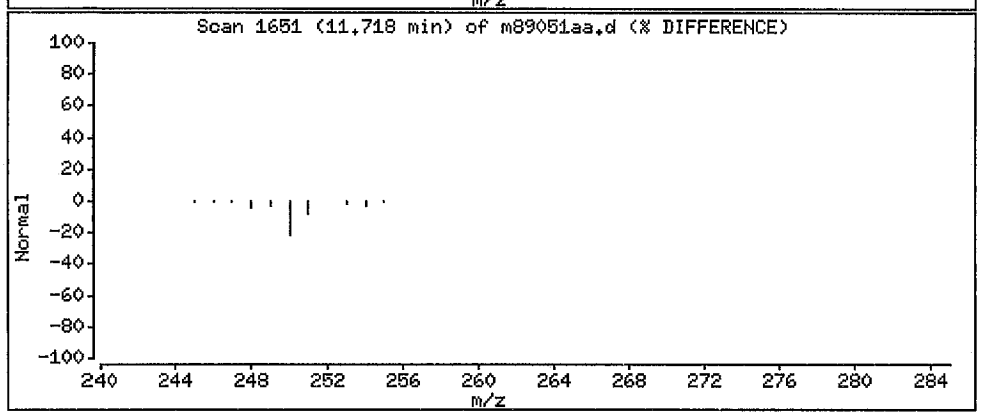
77 Benzo(e)pyrene

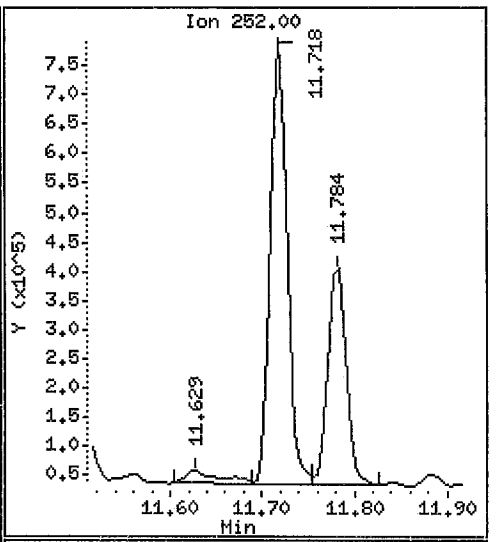
Concentration: 507 ng/L

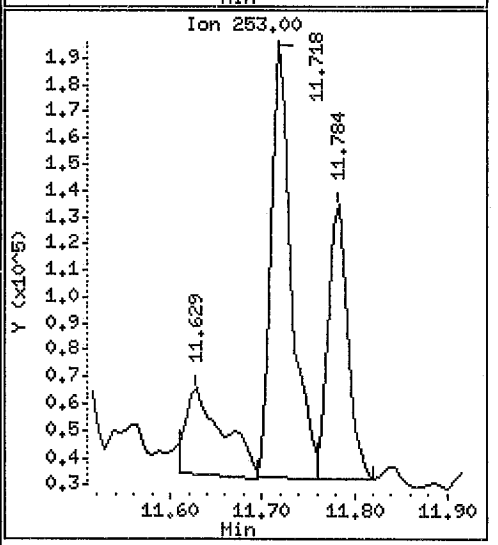












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

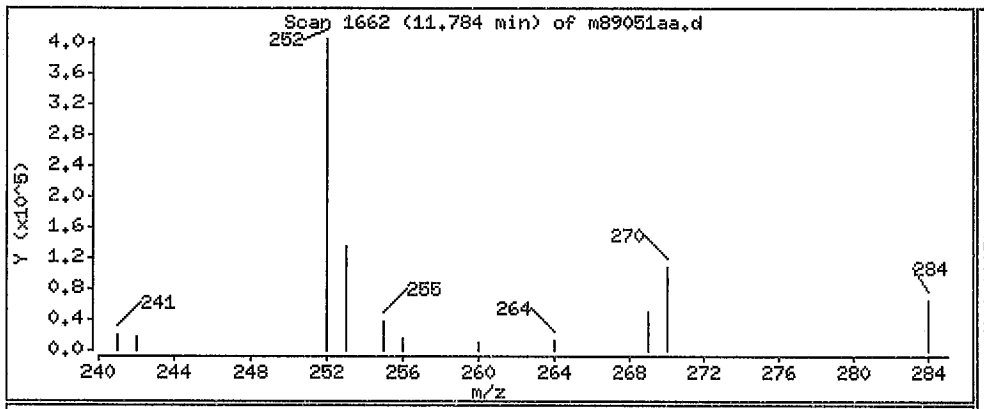
Operator: 011211

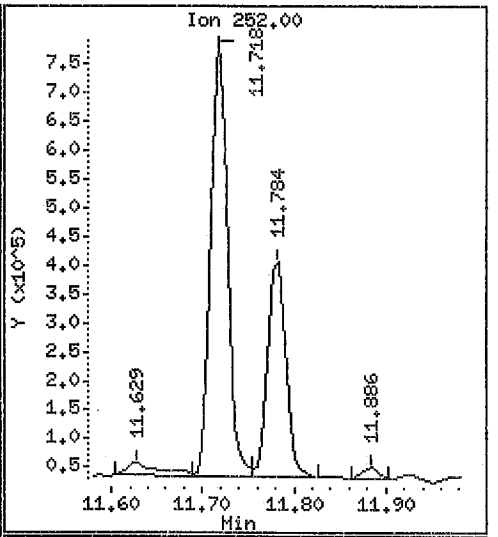
Column phase: Rxi-5SIL MS w/Guard

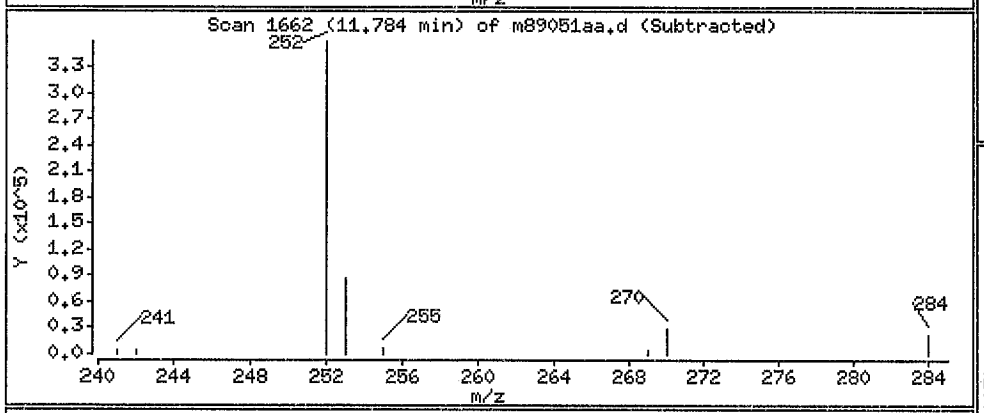
Column diameter: 0.25

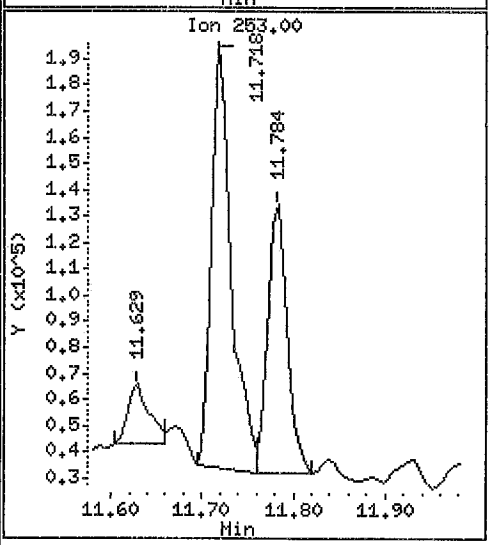
80 Benzo(a)pyrene

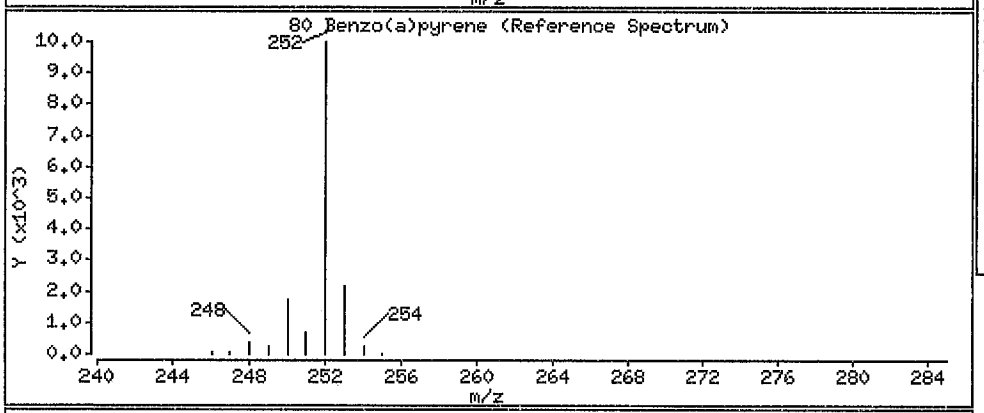
Concentration: 311 ng/L

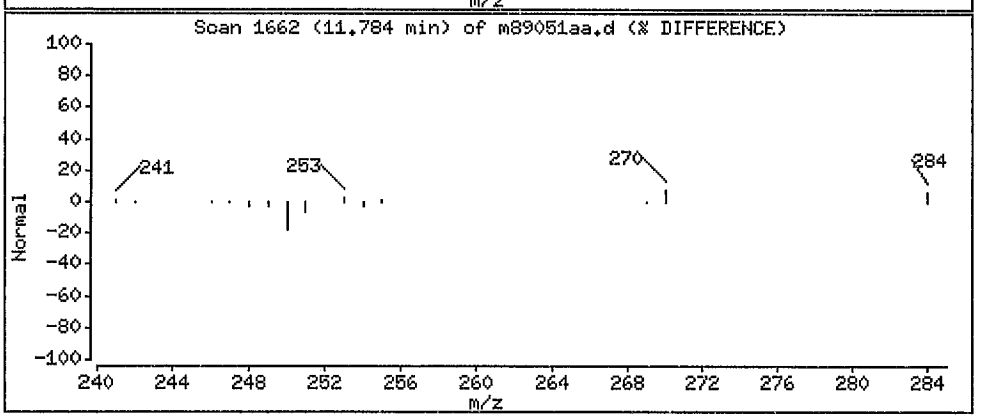












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

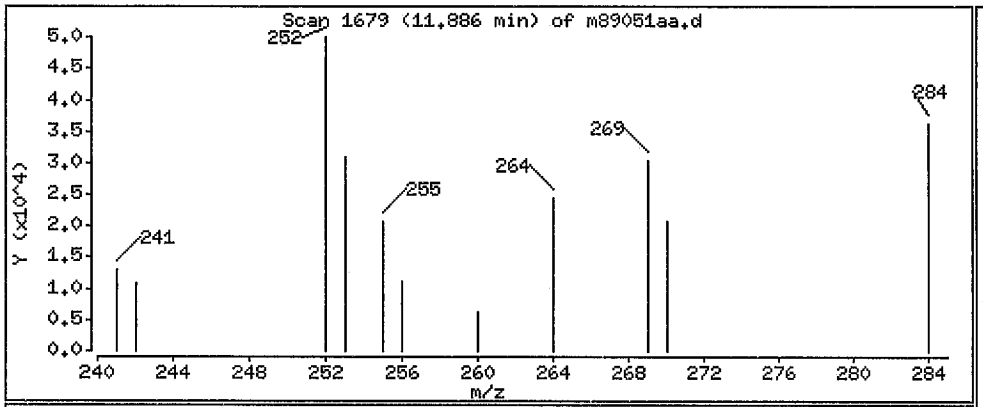
Operator: 011211

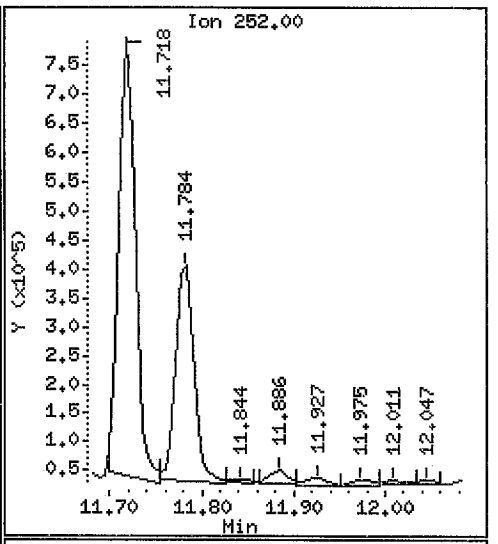
Column phase: Rxi-5SIL MS w/Guard

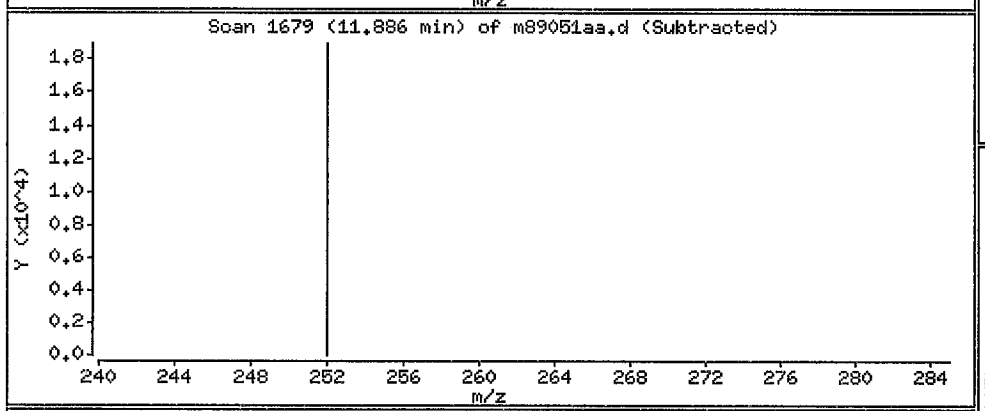
Column diameter: 0.25

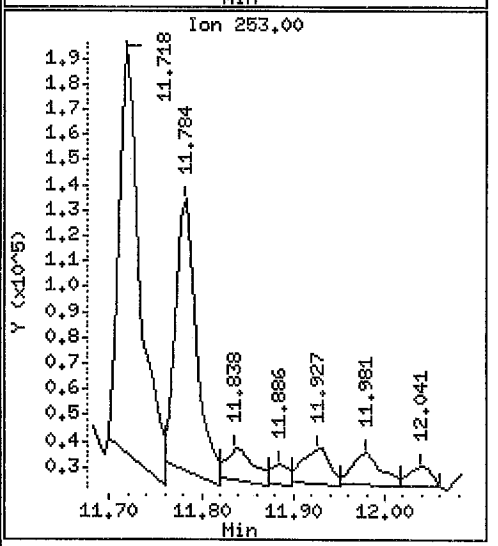
83 Perylene

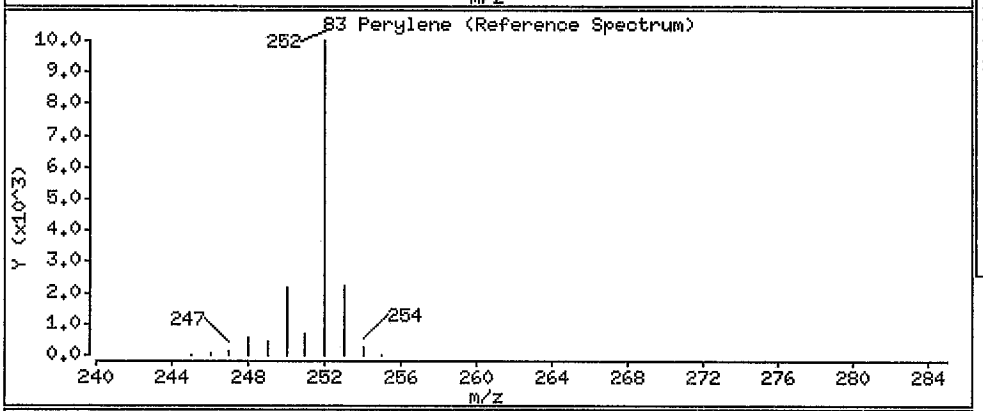
Concentration: 18.9 ng/L

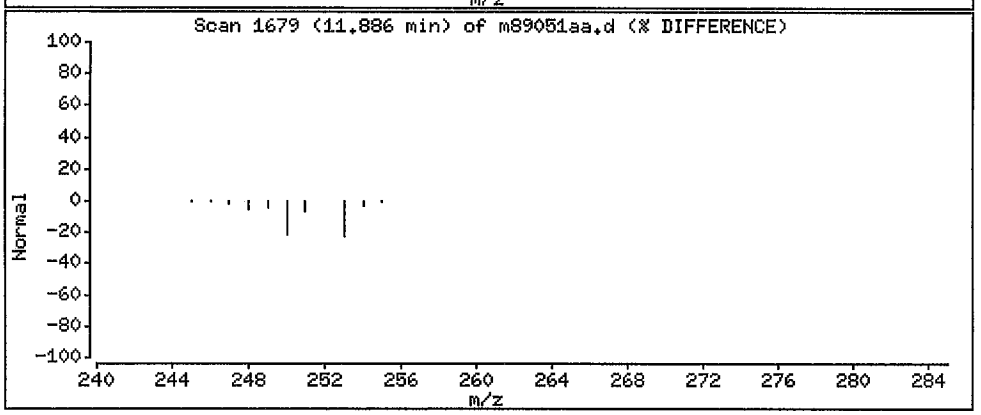












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

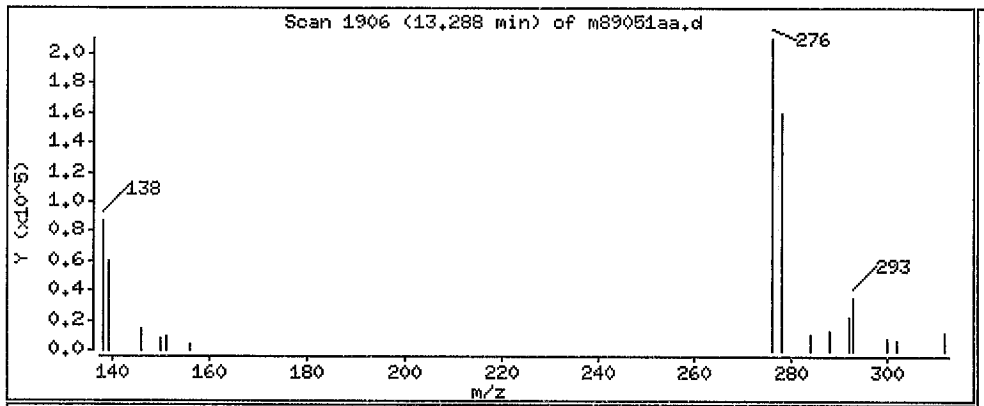
Operator: 011211

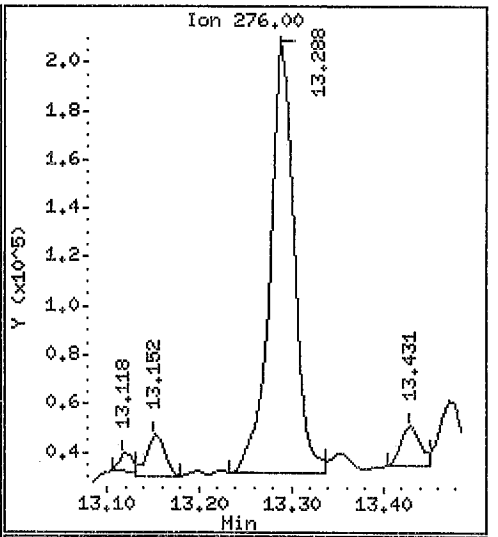
Column phase: Rxi-5SIL MS w/Guard

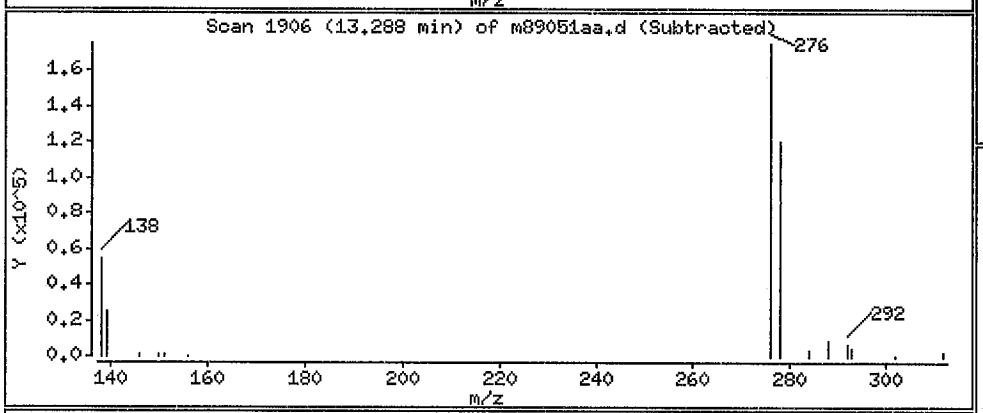
Column diameter: 0.25

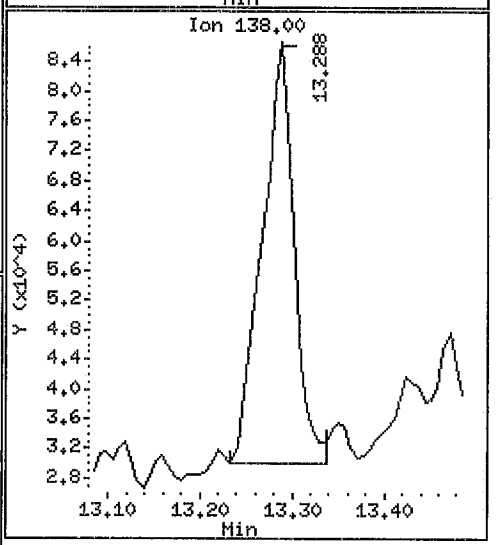
86 Indeno(1,2,3-cd)pyrene

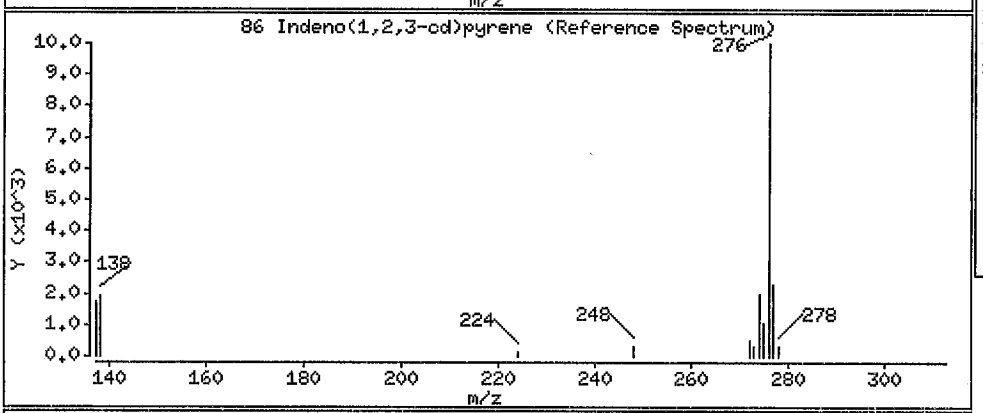
Concentration: 162 ng/L

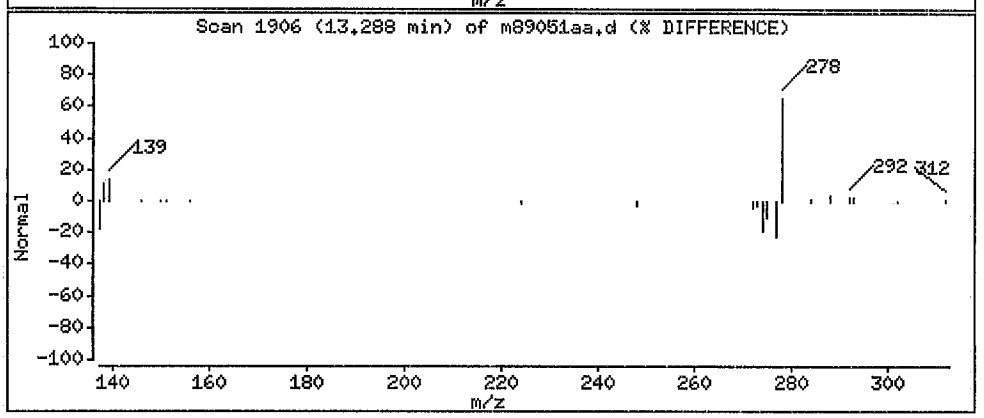












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

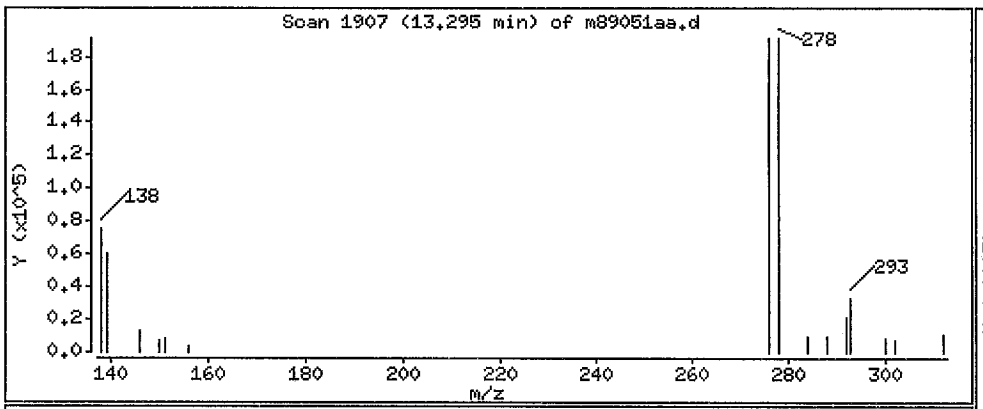
Operator: 011211

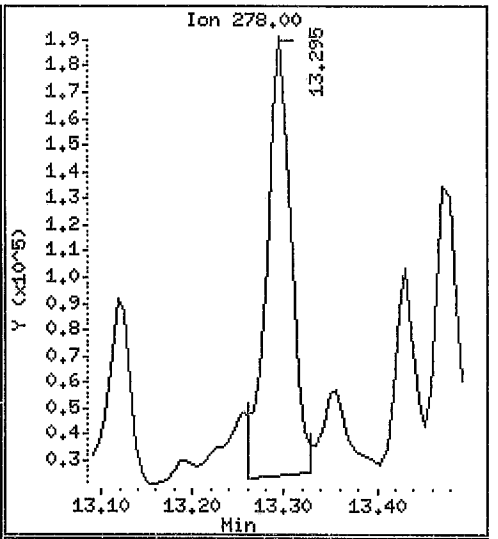
Column phase: Rxi-5SIL MS w/Guard

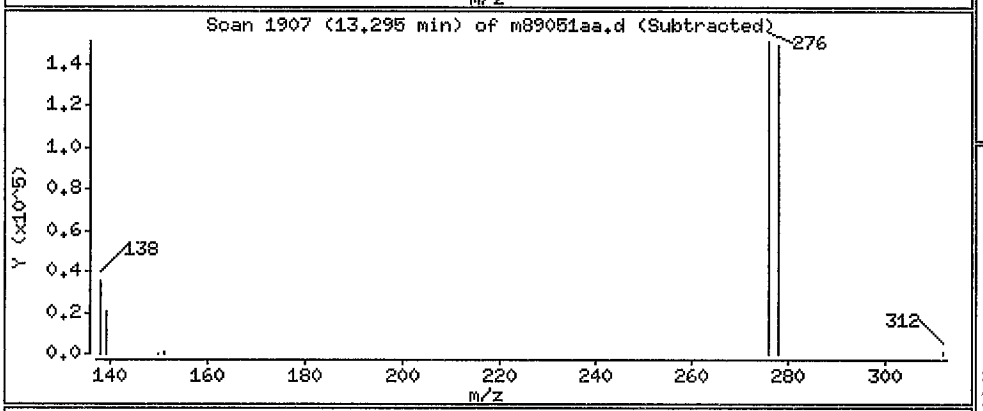
Column diameter: 0.25

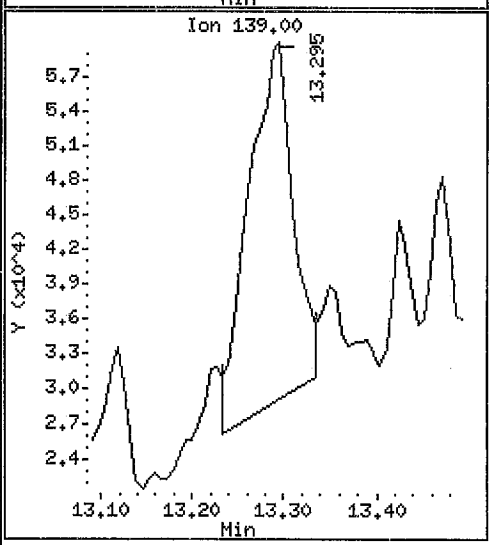
89 Dibenz(a,h)anthracene

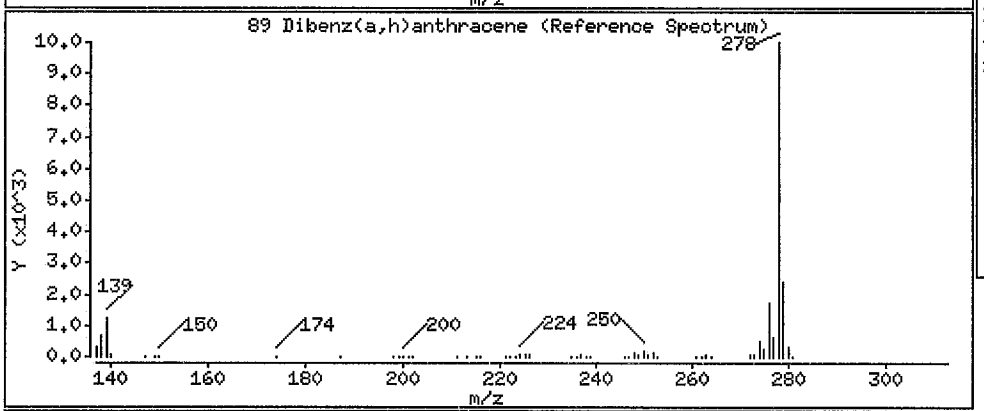
Concentration: 162 ng/L

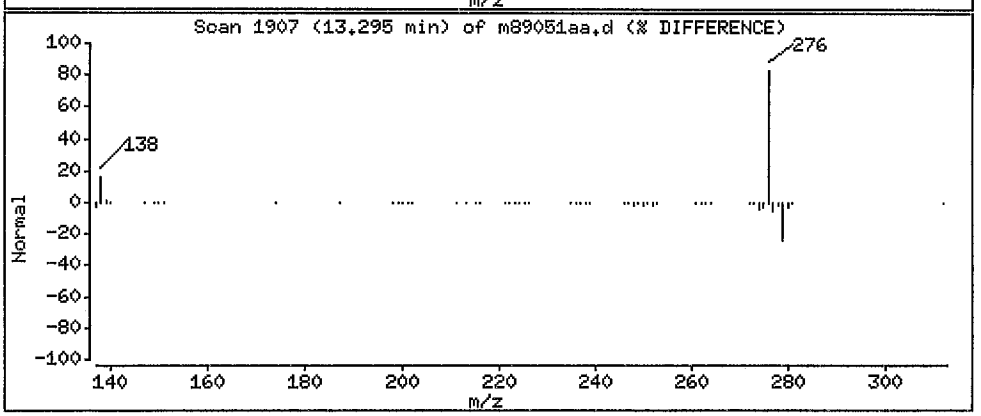












Data File: /var/chem/gcms/mp.i/P101016.b/m89051aa.d

Date : 10-OCT-2016 19:59

Client ID: R-1640 LOC#7 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 932.0

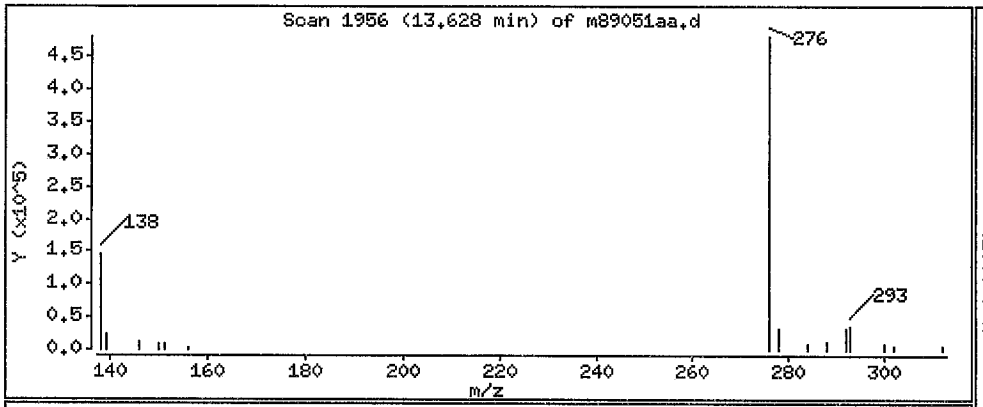
Operator: 011211

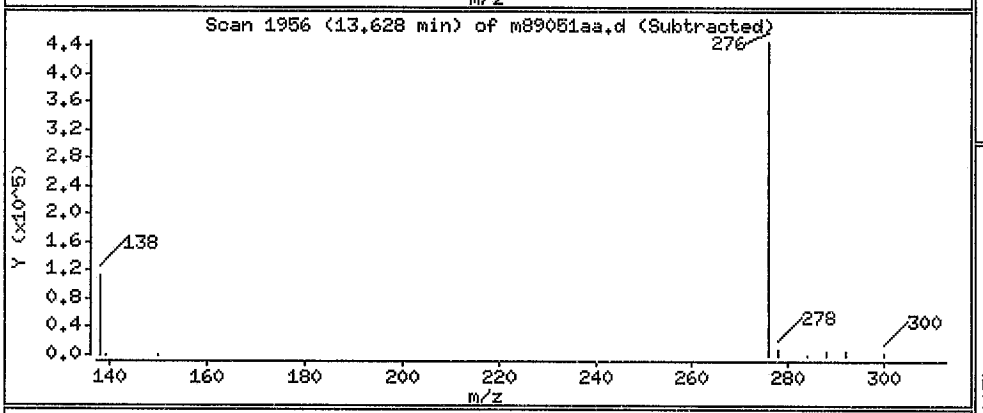
Column phase: Rxi-5SIL MS w/Guard

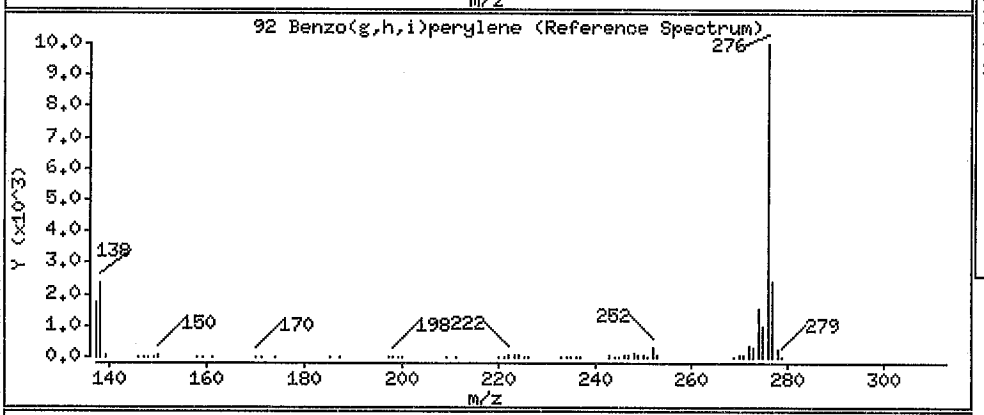
Column diameter: 0.25

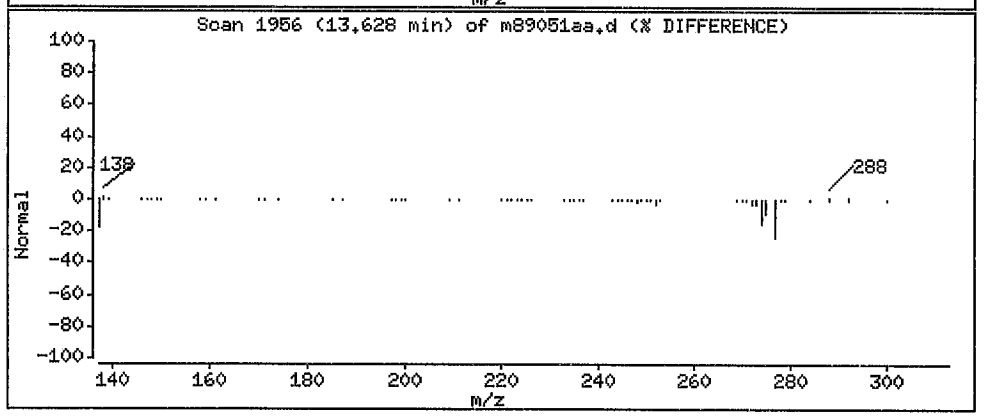
92 Benzo(g,h,i)perylene

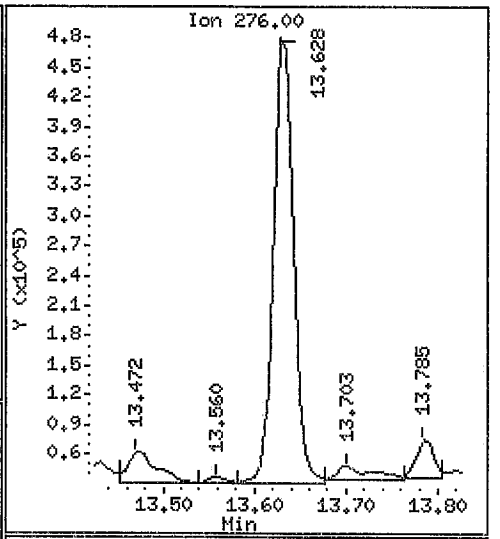
Concentration: 427 ng/L

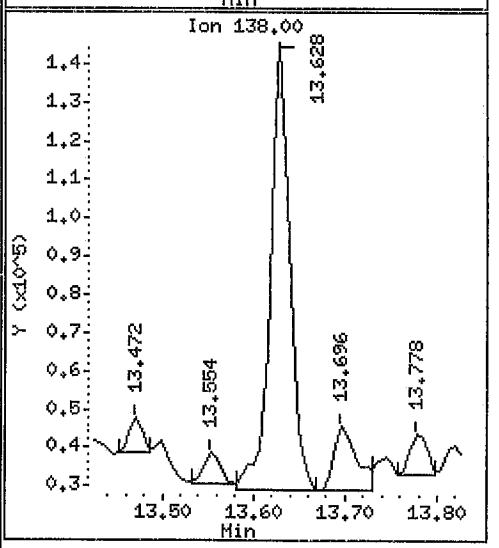












Montrose Air Quality Services LLC

Client Sample ID: R-1648 LOC#8 WATER QT-R2C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-006	Work Order #...:	M89061AA	Matrix.....:	WATER
Date Sampled...:	09/23/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/11/2016		
Prep Batch #...:	6273010				
Dilution Factor:	3	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	200	30	ng/L	7.2
Acenaphthylene	170	30	ng/L	0.45
Anthracene	1100	30	ng/L	2.1
Benzo(a)anthracene	1300	30	ng/L	4.5
Benzo(b)fluoranthene	840	30	ng/L	4.5
Benzo(k)fluoranthene	240	30	ng/L	3.0
Benzo(ghi)perylene	710	30	ng/L	1.5
Benzo(a)pyrene	710	30	ng/L	1.2
Chrysene	2300 B	30	ng/L	0.66
Dibenz(a,h)anthracene	290	30	ng/L	2.3
Fluoranthene	1200	30	ng/L	7.2
Fluorene	660 B	30	ng/L	4.5
Indeno(1,2,3-cd)pyrene	300	30	ng/L	3.0
Naphthalene	1600	150	ng/L	48
Perylene	45	30	ng/L	2.4
Phenanthrene	4300	60	ng/L	33
Pyrene	1100 B	30	ng/L	5.1

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	47	(30 - 120)
Naphthalene-d8	51	(30 - 120)
Acenaphthylene-d8	39	(30 - 120)
Phenanthrene-d10	28 *	(30 - 120)
Anthracene-d10	24 *	(30 - 120)
Fluoranthene-d10	39	(30 - 120)
Chrysene-d12	42	(30 - 120)
Benzo(b)fluoranthene-d12	58	(30 - 120)
Benzo(k)fluoranthene-d12	43	(30 - 120)
Benzo(a)pyrene-d12	51	(30 - 120)
Perylene-d12	44	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	53	(30 - 120)
Dibenz(ah)anthracene-d14	59	(30 - 120)
Benzo(ghi)perylene-d12	49	(30 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d
Report Date: 11-Oct-2016 14:26

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101116.b/m89061aa.d
Lab Smp Id: M89061AA Client Smp ID: R-1648 LOC#8 WATER
Inj Date : 11-OCT-2016 13:56
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT D1:3
Misc Info : P101116,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101116.b/SIMPAH10.m
Meth Date : 11-Oct-2016 11:31 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1045.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

(K) 10/11/16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	116094	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	116668	0.25695	123
3 Naphthalene	128	4.957	4.957	(1.002)	811156	3.45352	1650
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	53564	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	53682	0.23478	112
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	431998	2.93481	1400
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	79443	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	79443	0.19512	93.4
22 Acenaphthylene	152	6.286	6.281	(1.002)	62010	0.35738	171
* 23 Acenaphthene-d10	164	6.406	6.402	(1.000)	114639	0.50000	0.500(M)
24 Acenaphthene	154	6.431	6.427	(1.025)	43397	0.41318	198
* 26 Fluorene-d10	176	6.841	6.838	(1.000)	63996	0.50000	0.500(M)
$ 233 Fluorene-d10(SS)	176	6.841	6.838	(1.068)	64000	0.23501	112(M)
27 Fluorene	166	6.865	6.862	(1.003)	203587	1.37351	657
* 41 Phenanthrene-d10	188	7.660	7.658	(1.000)	71155	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.660	7.658	(0.854)	71155	0.13918	66.6(R)
43 Phenanthrene	178	7.679	7.676	(1.002)	1607963	9.01642	4310
* 44 Anthracene-d10	188	7.709	7.707	(1.000)	56411	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d
Report Date: 11-Oct-2016 14:26

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.709	7.707	(0.859)	56411	0.12004	57.4(R)
	46 Anthracene	178	7.725	7.722	(1.002)	317497	2.21153	1060
*	53 Fluoranthene-d10	212	8.750	8.748	(1.000)	94849	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.750	8.748	(0.975)	95026	0.19257	92.1
	55 Fluoranthene	202	8.769	8.767	(1.002)	585772	2.42260	1160
*	56 Pyrene-d10	212	8.972	8.970	(1.000)	222190	0.50000	0.500
	57 Pyrene	202	8.991	8.989	(1.028)	570194	2.29252	1100
	62 Benzo(a)anthracene	228	10.210	10.202	(0.999)	542253	2.80923	1340
*	63 Chrysene-d12	240	10.219	10.220	(1.000)	108749	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.220	(1.139)	108749	0.20773	99.4
	65 Chrysene	228	10.246	10.247	(1.003)	1124073	4.90104	2340
*	70 Benzo(b)fluoranthene-d12	264	11.358	11.354	(1.000)	126329	0.50000	0.500(M)
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.358	11.354	(0.972)	126329	0.29143	139(M)
	72 Benzo(b)fluoranthene	252	11.382	11.378	(1.002)	637433	1.74644	836(M)
*	73 Benzo(k)fluoranthene-d12	264	11.388	11.390	(1.000)	115622	0.50000	0.500(M)
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.388	11.390	(0.975)	115389	0.21527	103(M)
	75 Benzo(k)fluoranthene	252	11.406	11.407	(1.002)	136699	0.50227	240(M)
*	76 Benzo(e)pyrene-d12	264	11.681	11.676	(1.000)	206532	0.50000	0.500
	77 Benzo(e)pyrene	252	11.711	11.712	(0.997)	567710	1.97751	946
*	78 Benzo(a)pyrene-d12	264	11.747	11.748	(1.000)	93512	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.747	11.748	(1.006)	93512	0.25531	122
	80 Benzo(a)pyrene	252	11.777	11.772	(1.003)	368653	1.47888	708
*	81 Perylene-d12	264	11.848	11.844	(1.000)	91630	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.848	11.844	(1.014)	91630	0.21826	104
	83 Perylene	252	11.878	11.874	(1.003)	20532	0.09480	45.4
*	84 Indeno(123-cd)pyrene-d12	288	13.246	13.247	(1.000)	115365	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.246	13.247	(1.134)	115585	0.26553	127
	86 Indeno(1,2,3-cd)pyrene	276	13.280	13.281	(1.003)	197664	0.63672	305
*	87 Dibenz(ah)anthracene-d14	292	13.246	13.247	(1.000)	102611	0.50000	0.500(M)
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.246	13.247	(1.134)	102611	0.29486	141(M)
	89 Dibenz(a,h)anthracene	278	13.287	13.288	(1.003)	172575	0.59831	286(M)
*	90 Benzo(ghi)perylene-d12	288	13.593	13.588	(1.000)	103983	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.593	13.588	(1.164)	103983	0.24202	116
	92 Benzo(g,h,i)perylene	276	13.620	13.622	(1.002)	387707	1.48185	709

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d
Report Date: 11-Oct-2016 14:26

TestAmerica Knoxville

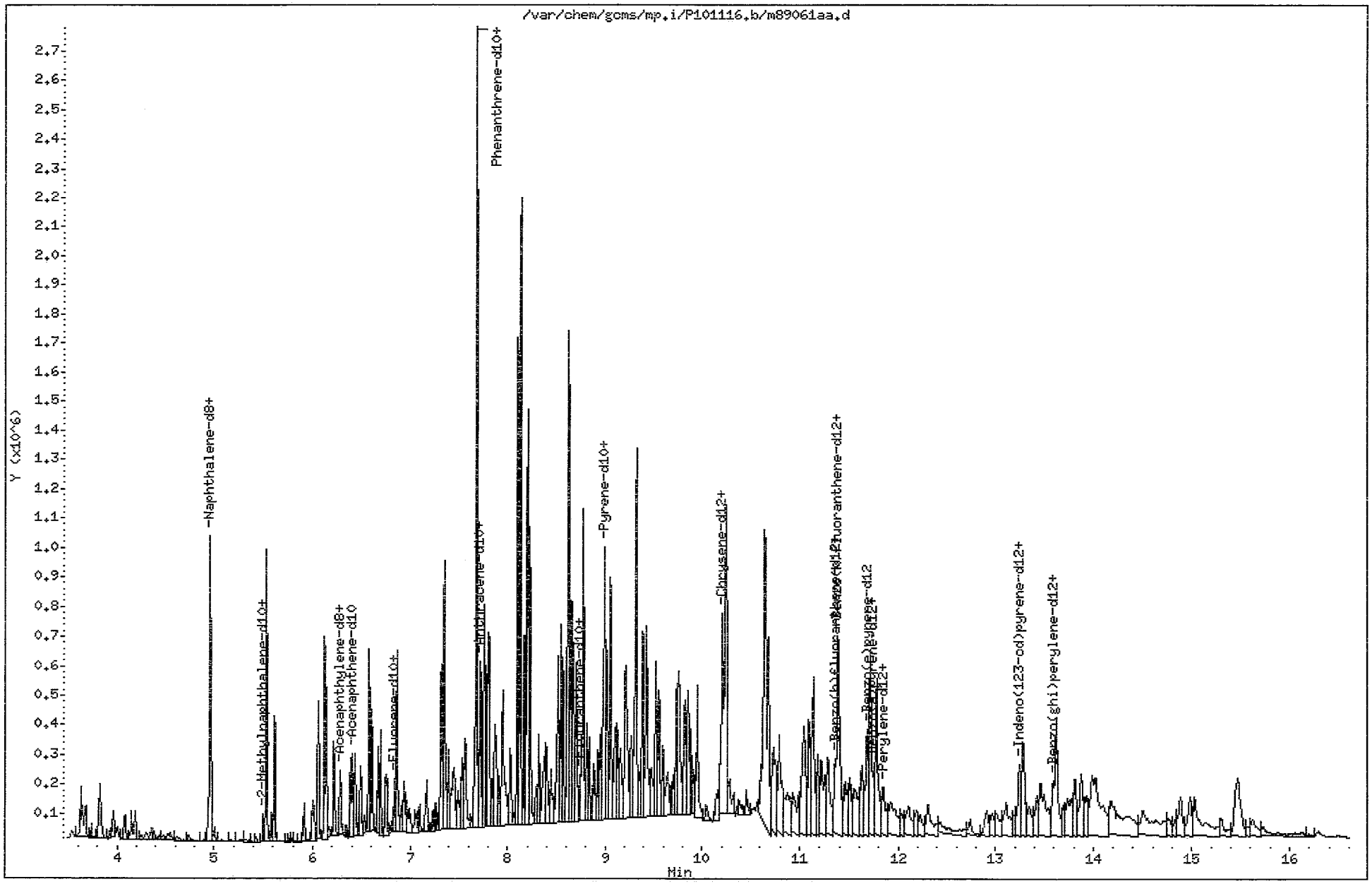
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89061AA Client Smp ID: R-1648 LOC#8 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101116.b/SIMPAH10.m
Misc Info: P101116,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	239	123	51.39	20-130
$ 222 13C6-Naphthalene	478	0.00	*	50-150
$ 11 2-Methylnaphthalen	239	112	46.96	30-120
$ 21 Acenaphthylene-d8(	239	93.4	39.02	30-120
$ 233 Fluorene-d10(SS)	239	112	47.00	30-120
$ 42 Phenanthrene-d10(S	239	66.6	27.84*	30-120
$ 45 Anthracene-d10(SS)	239	57.4	24.01*	30-120
$ 54 Fluoranthene-d10(S	239	92.1	38.51	30-120
$ 64 Chrysene-d12(SS)	239	99.4	41.55	30-120
$ 71 Benzo(b)fluoranthe	239	139	58.29	30-120
$ 74 Benzo(k)fluoranthe	239	103	43.05	30-120
$ 79 Benzo(a)pyrene-d12	239	122	51.06	30-120
$ 82 Perylene-d12(SS)	239	104	43.65	30-120
$ 85 Indeno(123-cd)pyre	239	127	53.11	30-120
$ 88 Dibenz(ah)anthrace	239	141	58.97	30-120
$ 91 Benzo(ghi)perylene	239	116	48.40	30-120

Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d
Date : 11-OCT-2016 13:56
Client ID: R-1648 LOC#8 WATER .
Sample Info: ,,0,,TRT D1:3
Purge Volume: 1045.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

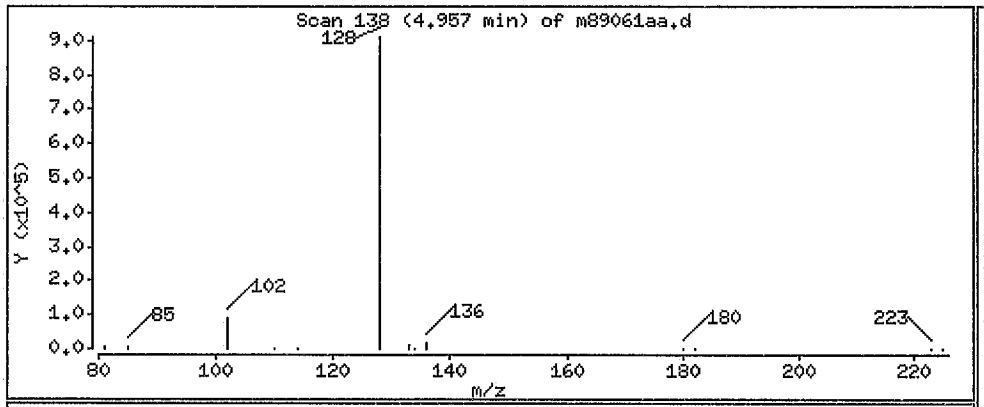
Operator: 011211

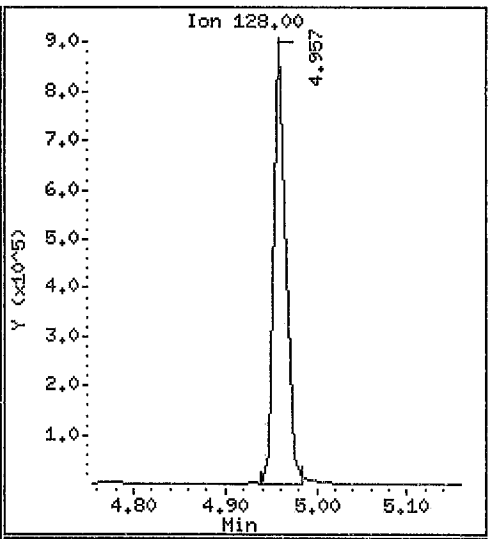
Column phase: Rxi-5SIL MS w/Guard

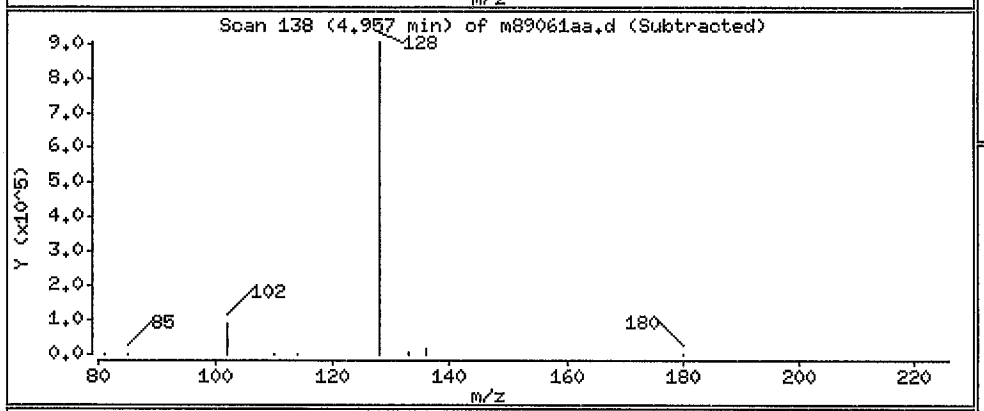
Column diameter: 0.25

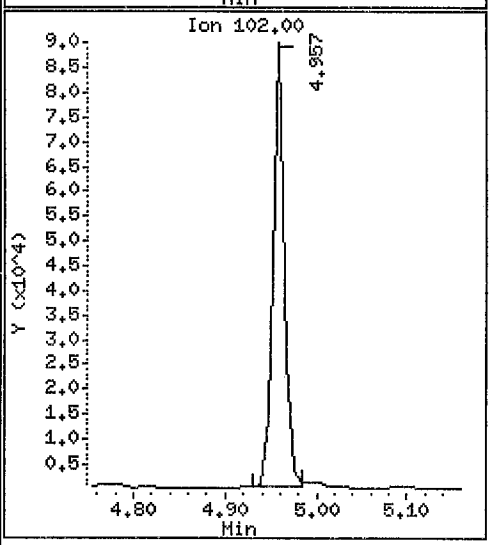
3 Naphthalene

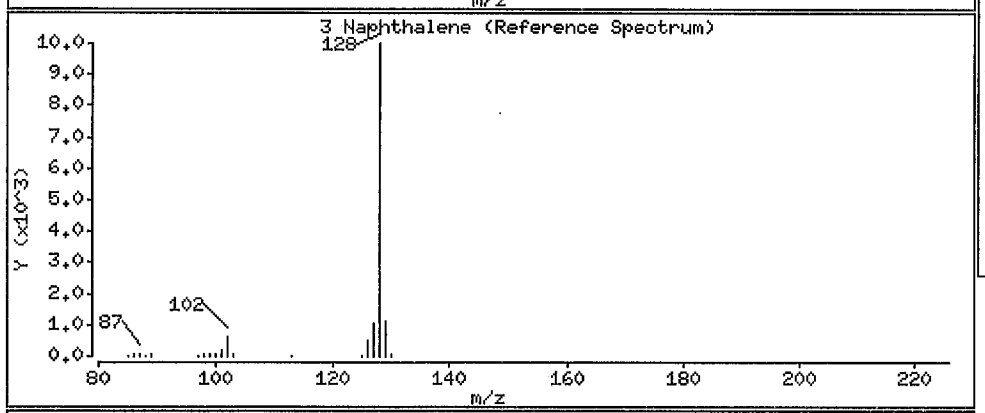
Concentration: 1650 ng/L

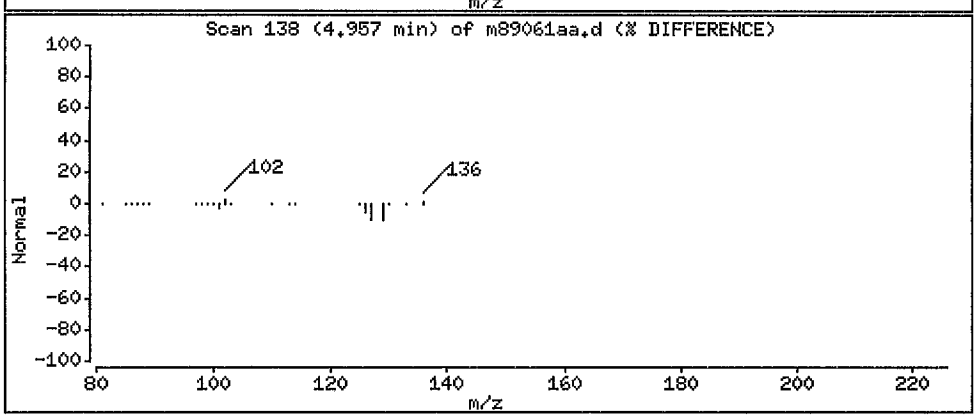












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

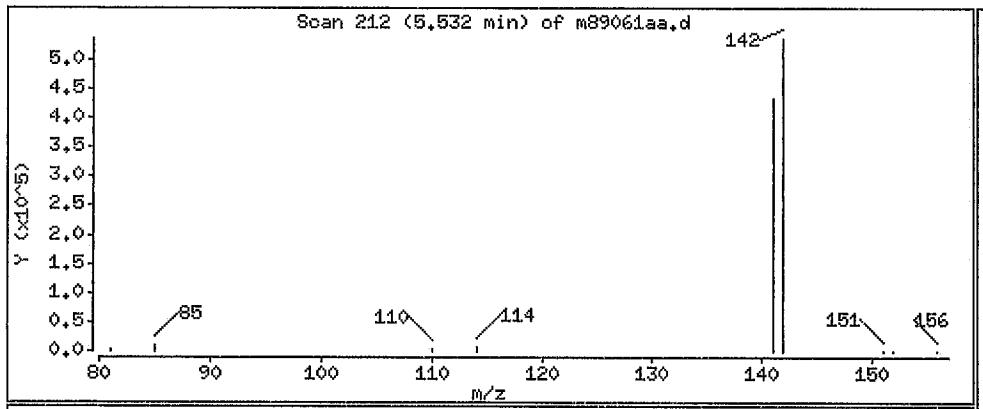
Operator: 011211

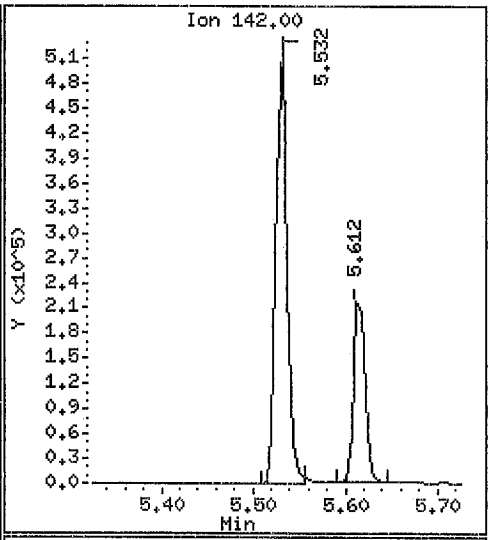
Column phase: Rxi-5SIL MS w/Guard

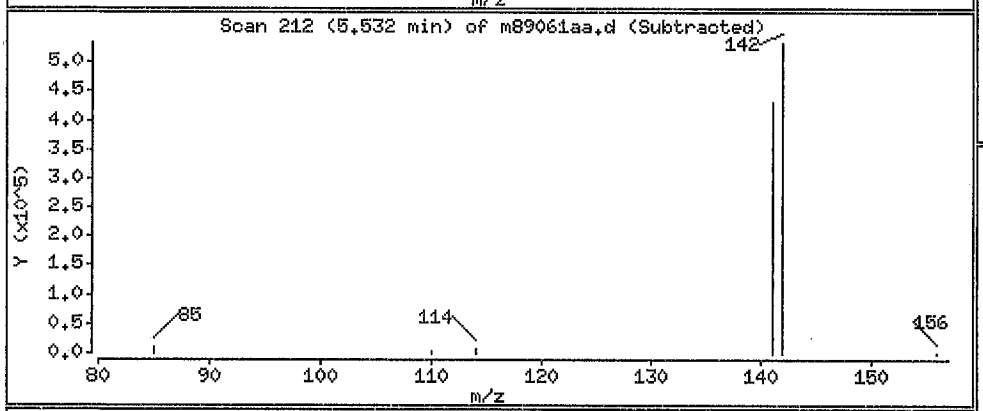
Column diameter: 0.25

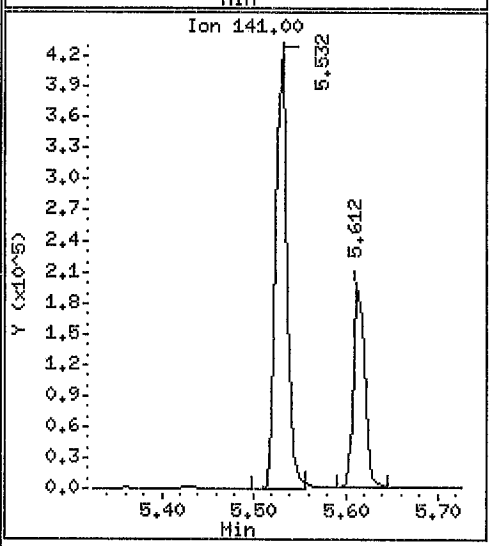
12 2-Methylnaphthalene

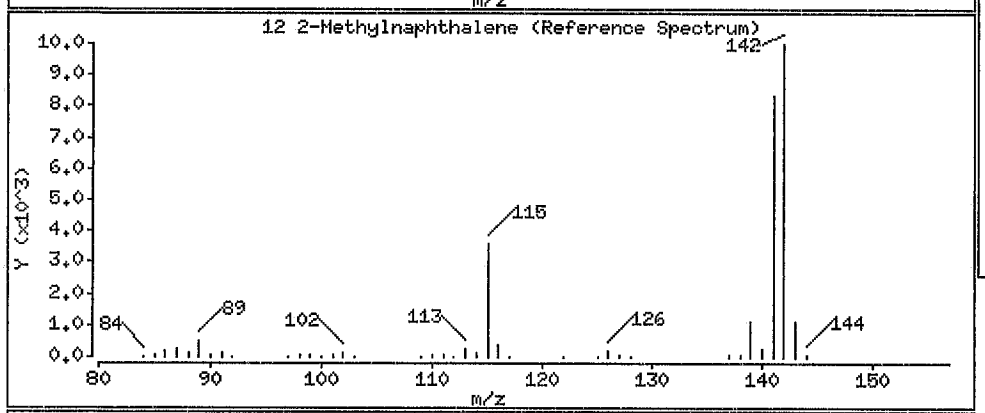
Concentration: 1400 ng/L

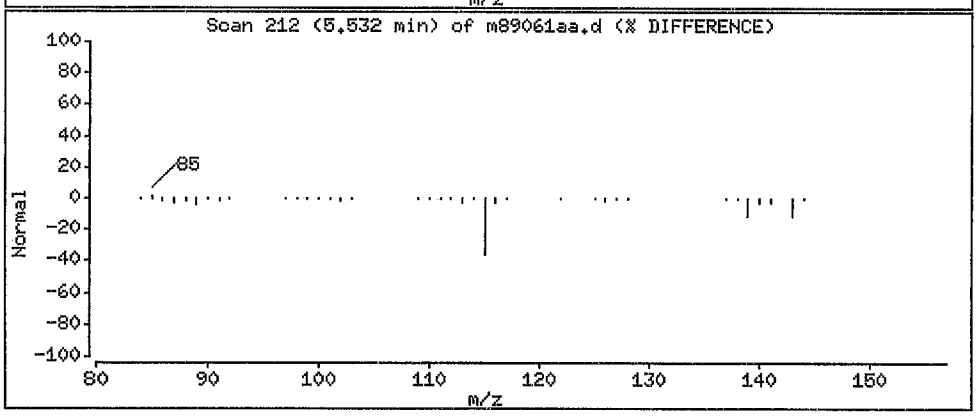












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

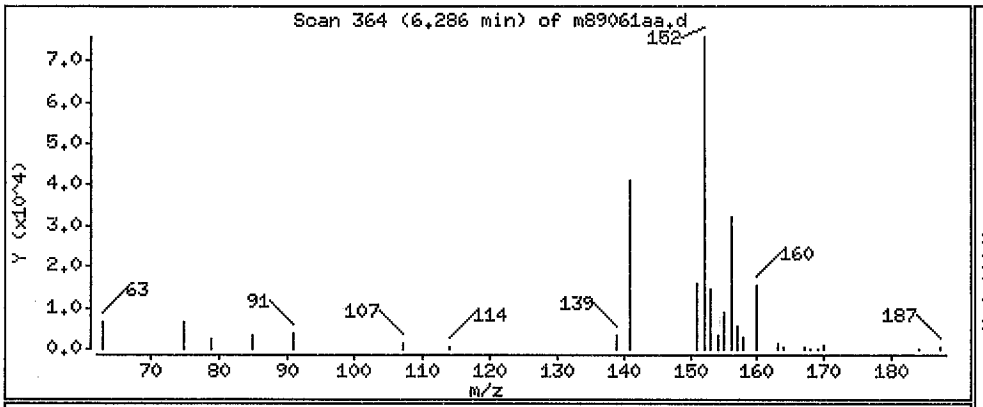
Operator: 011211

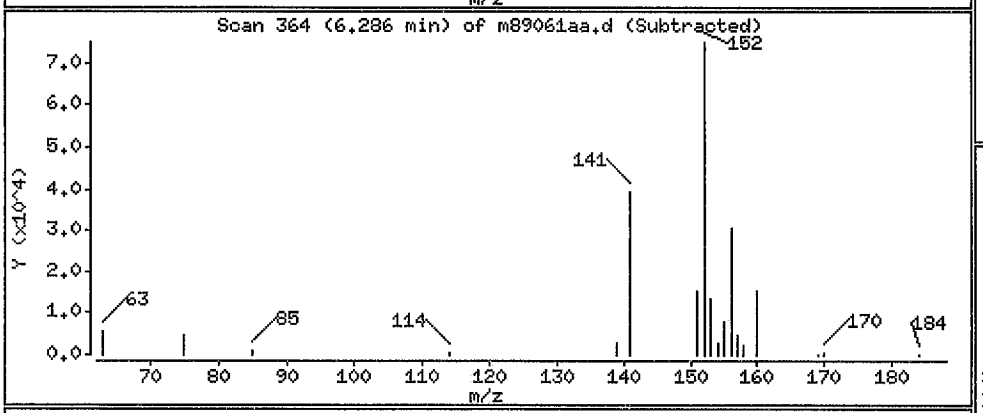
Column phase: Rxi-5SIL MS w/Guard

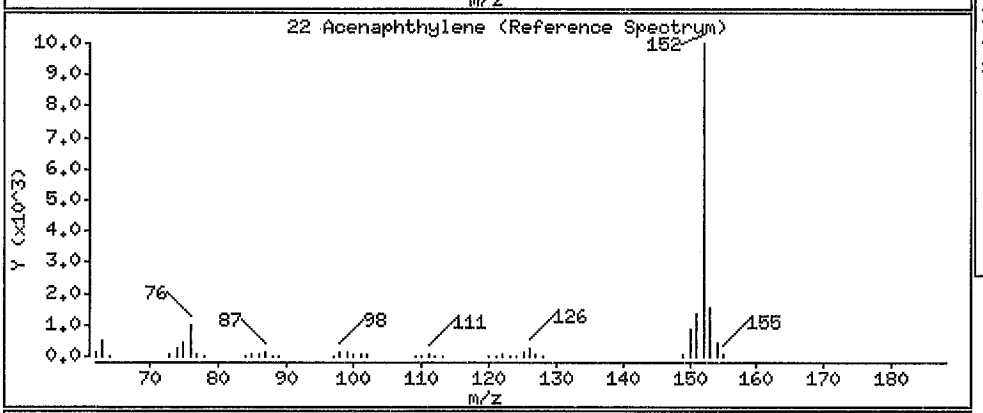
Column diameter: 0.25

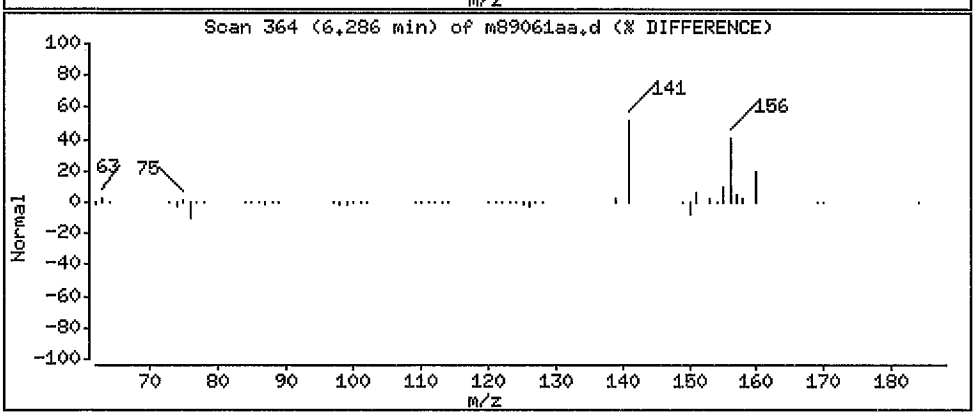
22 Acenaphthylene

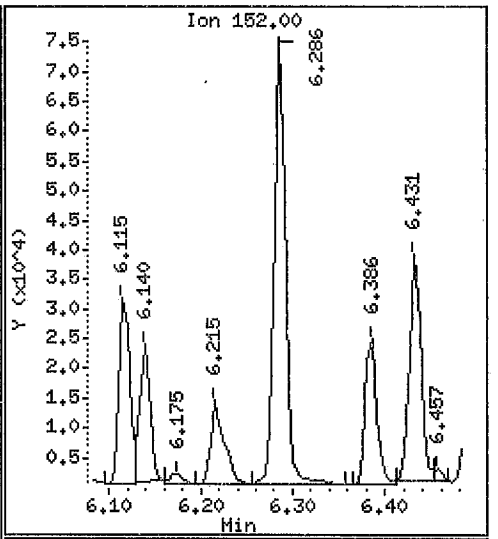
Concentration: 171 ng/L

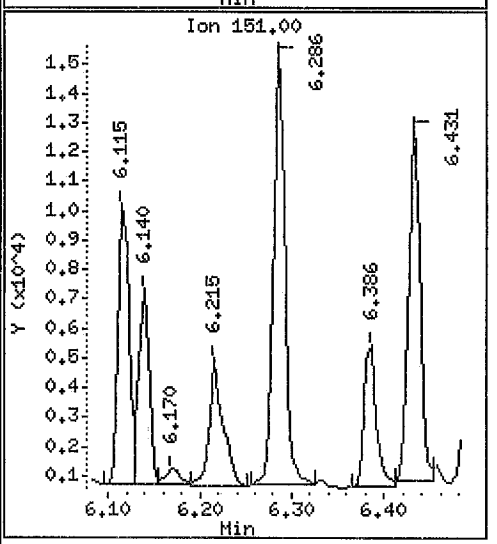












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

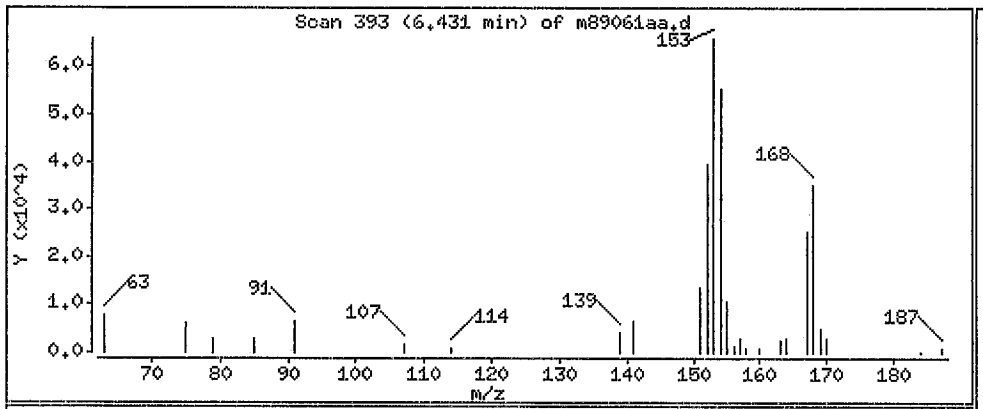
Operator: 011211

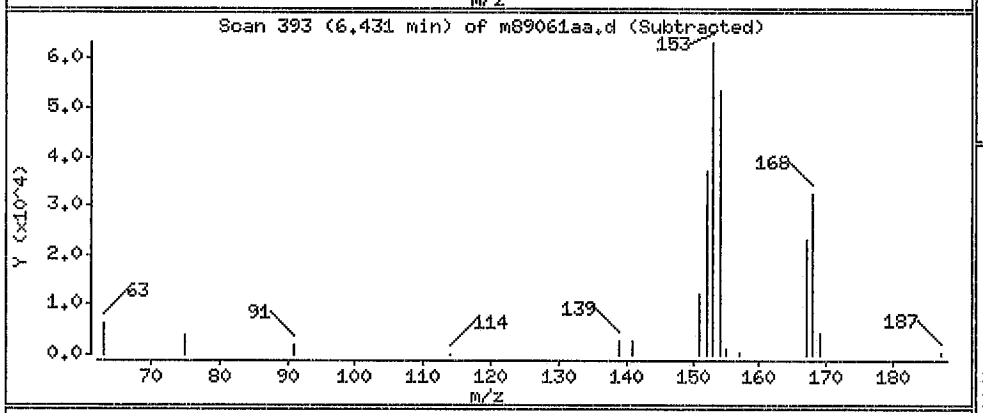
Column phase: Rxi-5SIL MS w/Guard

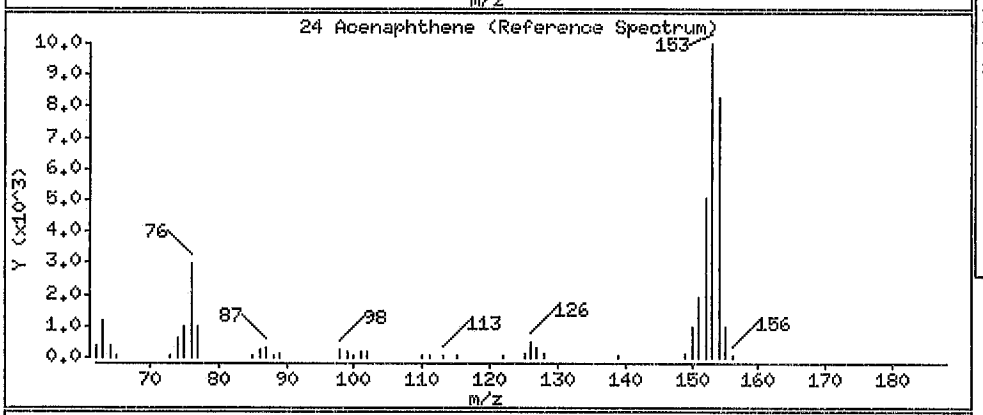
Column diameter: 0.25

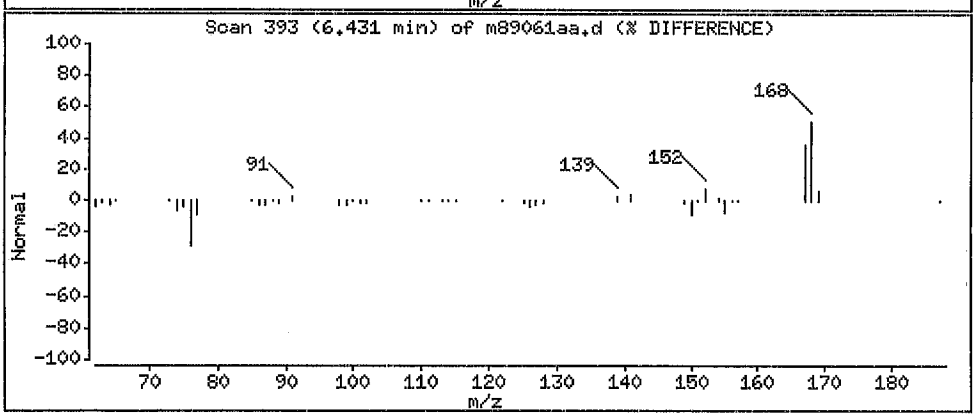
24 Acenaphthene

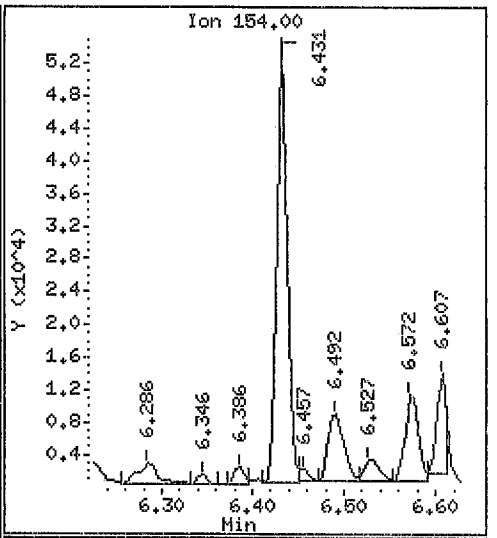
Concentration: 198 ng/L

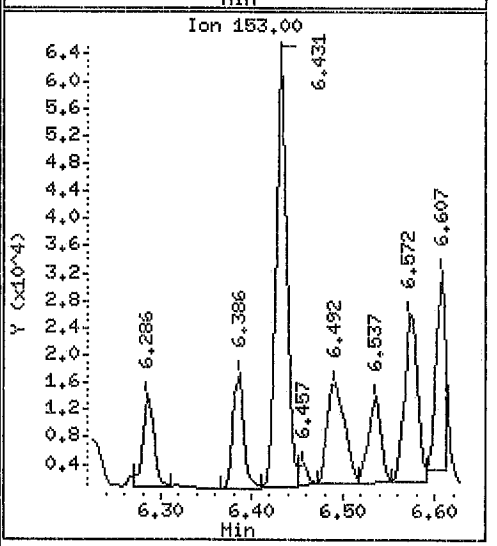












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

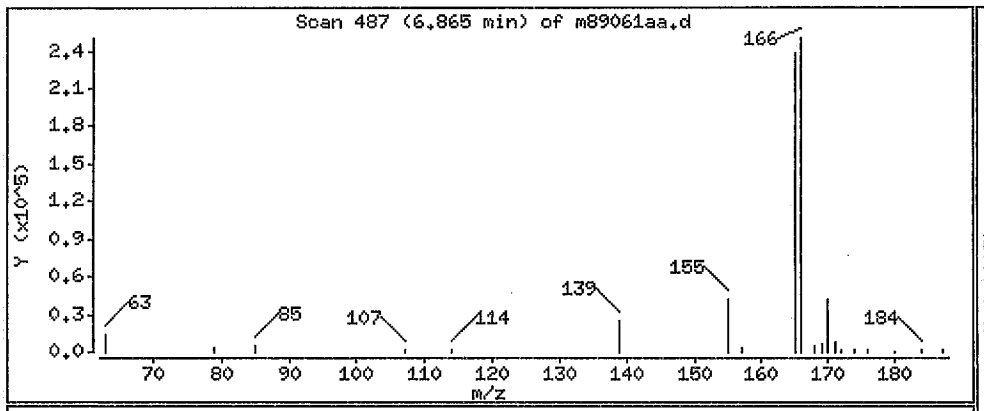
Operator: 011211

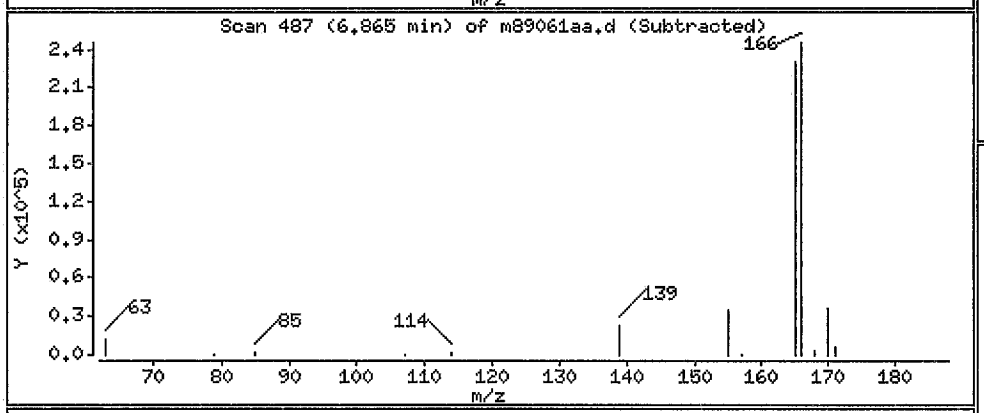
Column phase: Rxi-5SIL MS w/Guard

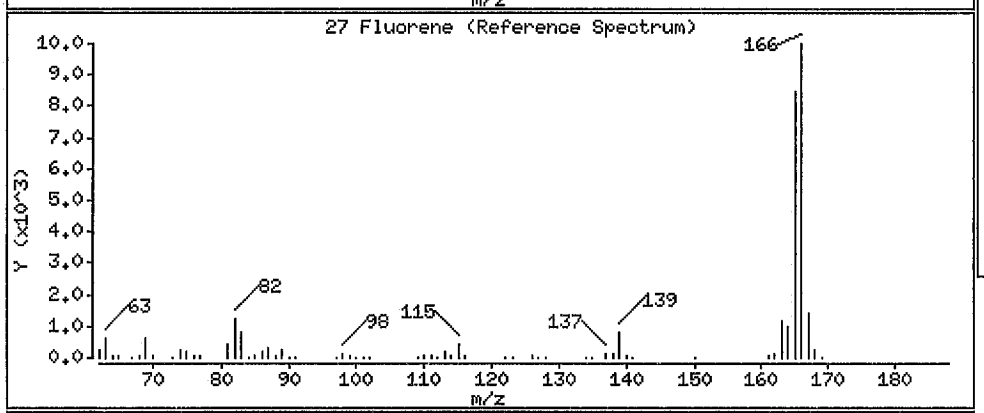
Column diameter: 0.25

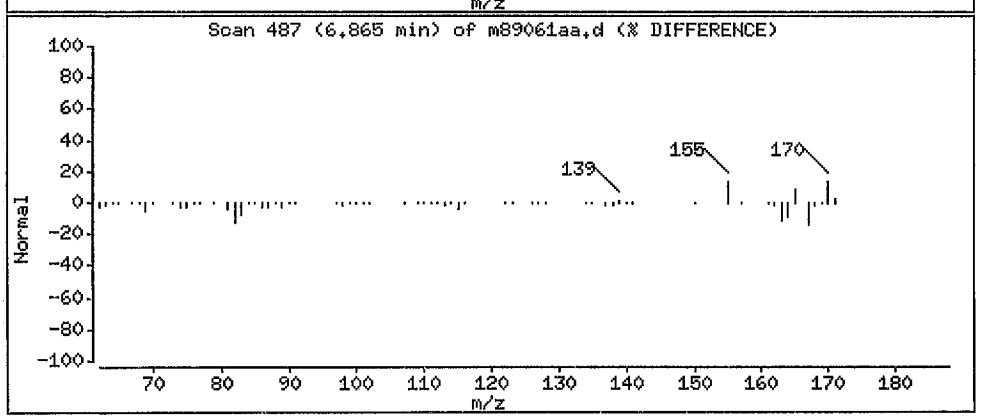
27 Fluorene

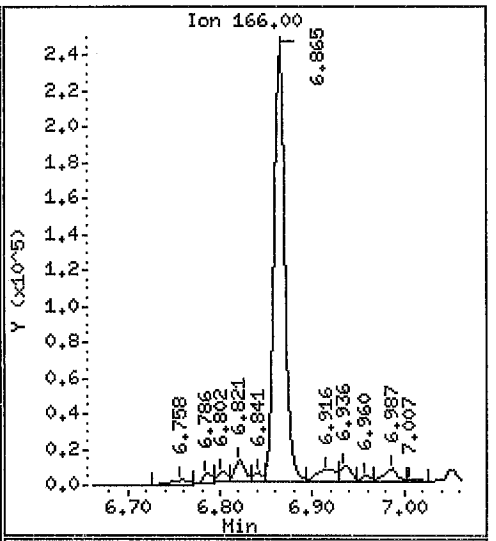
Concentration: 657 ng/L

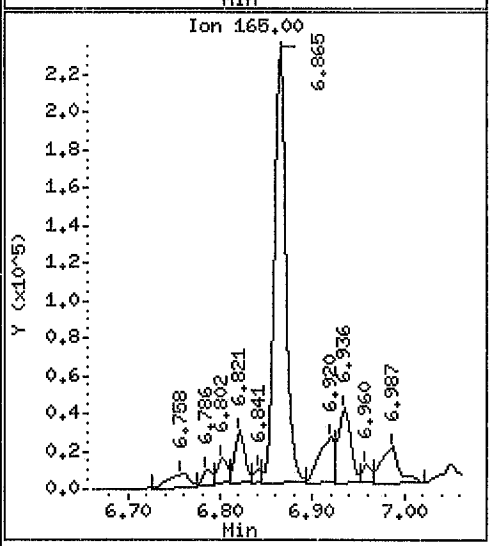












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

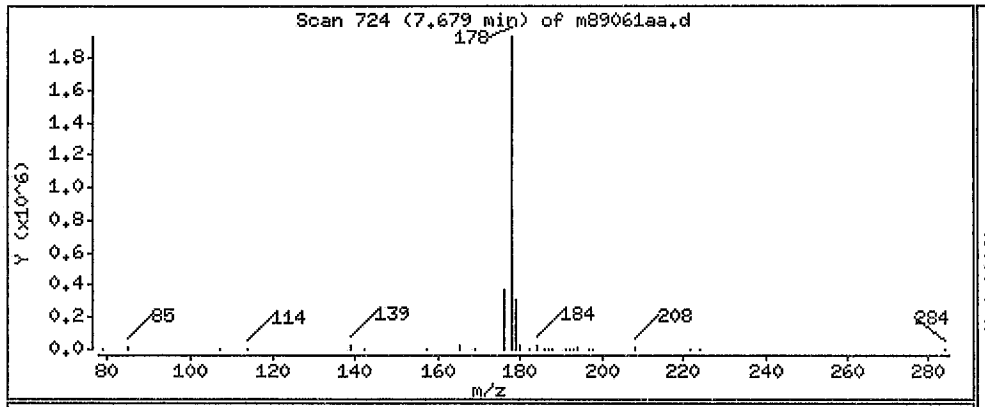
Operator: 011211

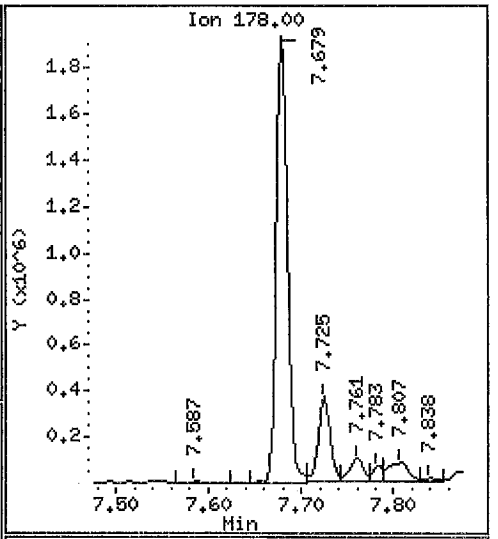
Column phase: Rxi-5SIL MS w/Guard

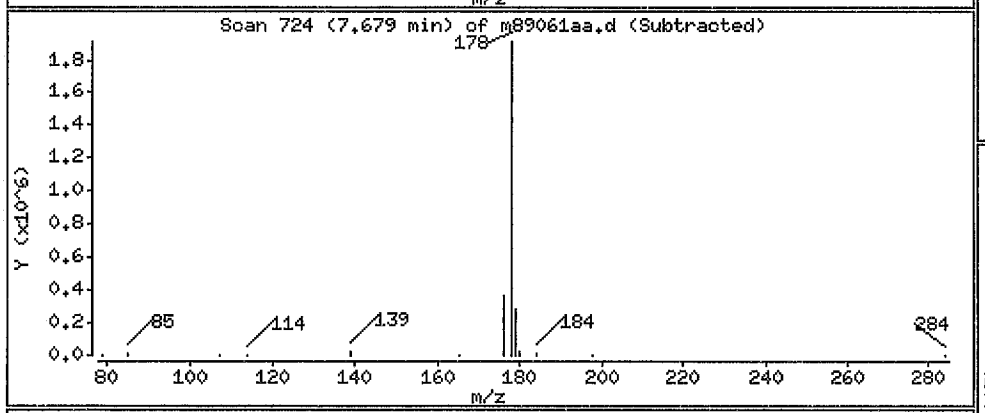
Column diameter: 0.25

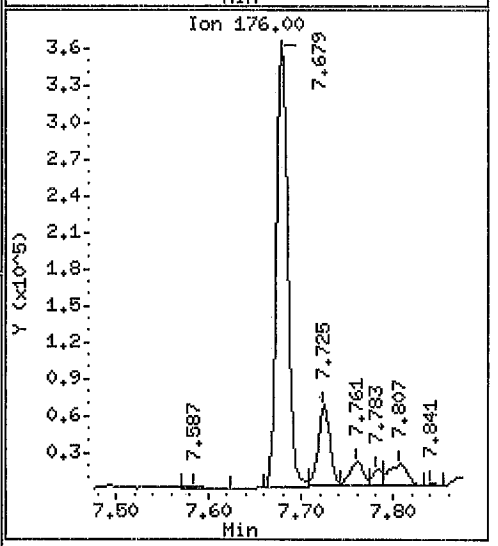
43 Phenanthrene

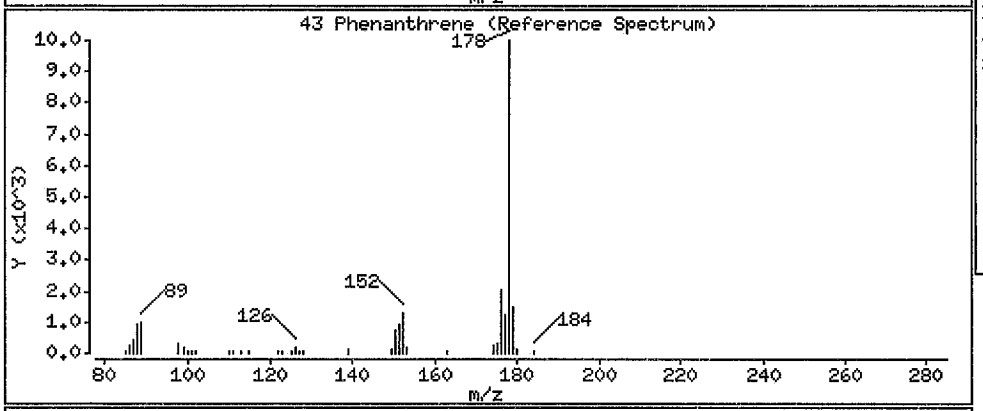
Concentration: 4310 ng/L

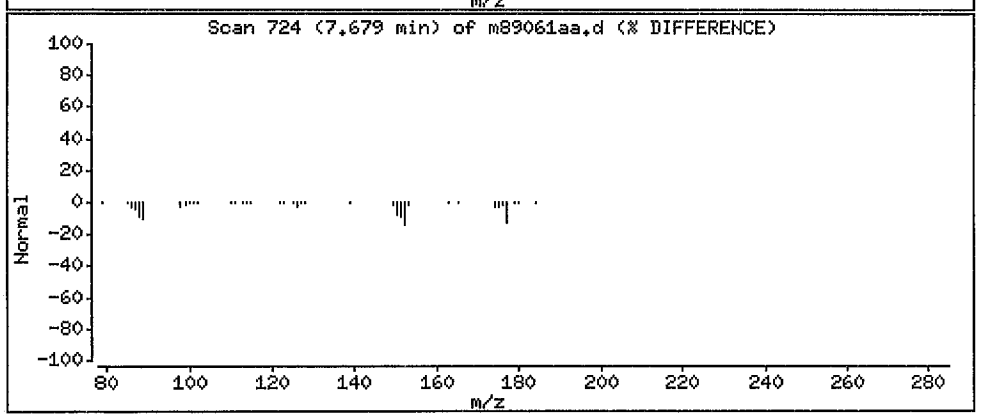












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

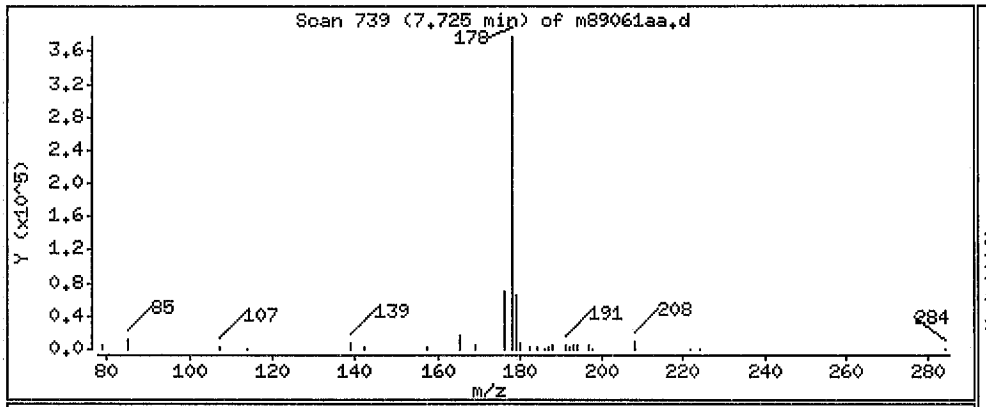
Operator: 011211

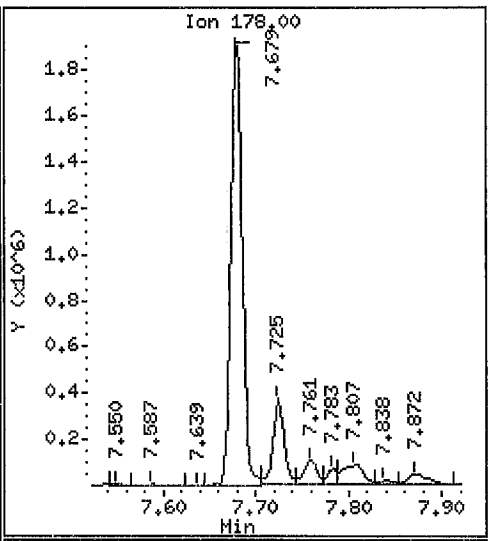
Column phase: Rxi-5SIL MS w/Guard

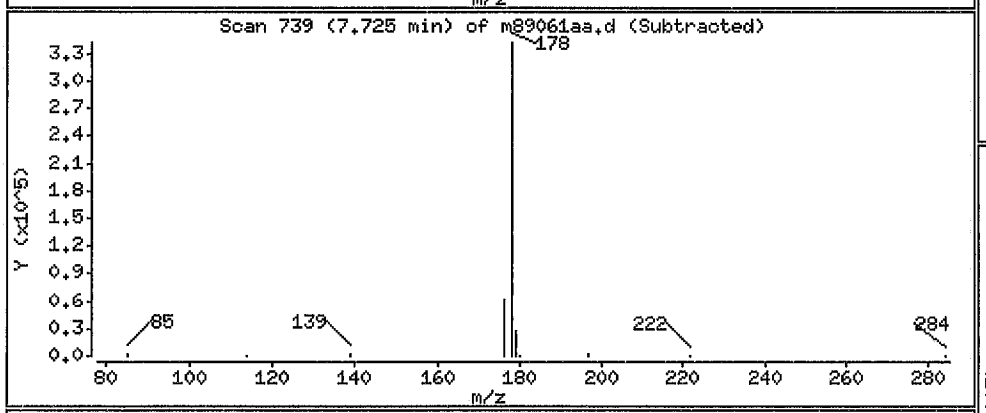
Column diameter: 0.25

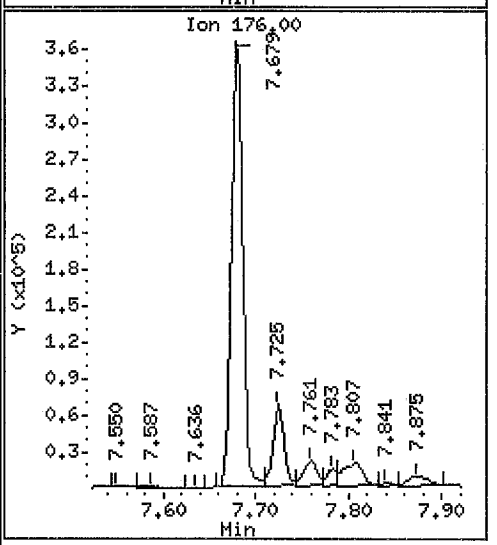
46 Anthracene

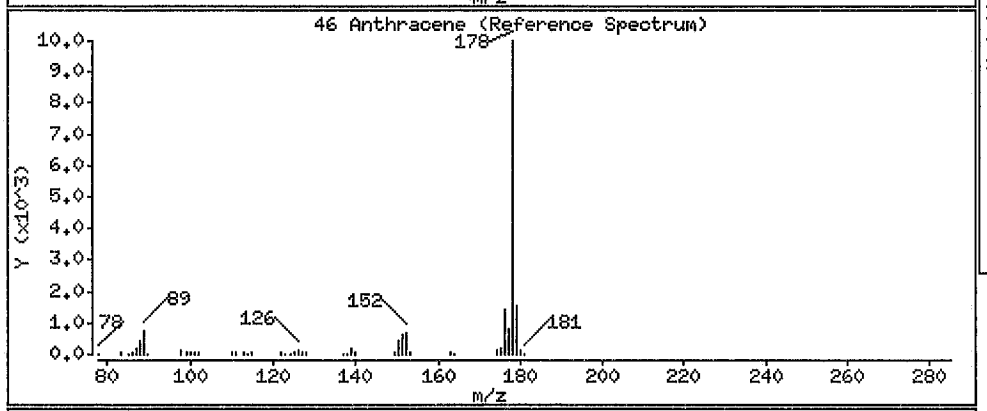
Concentration: 1060 ng/L

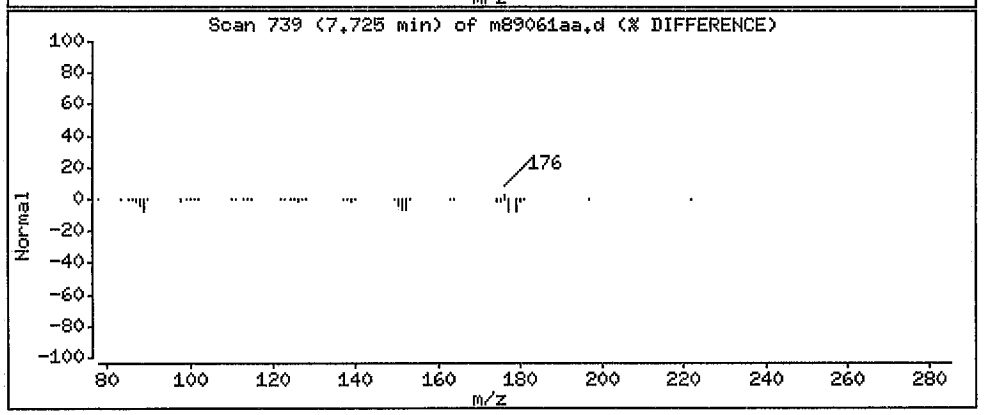












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

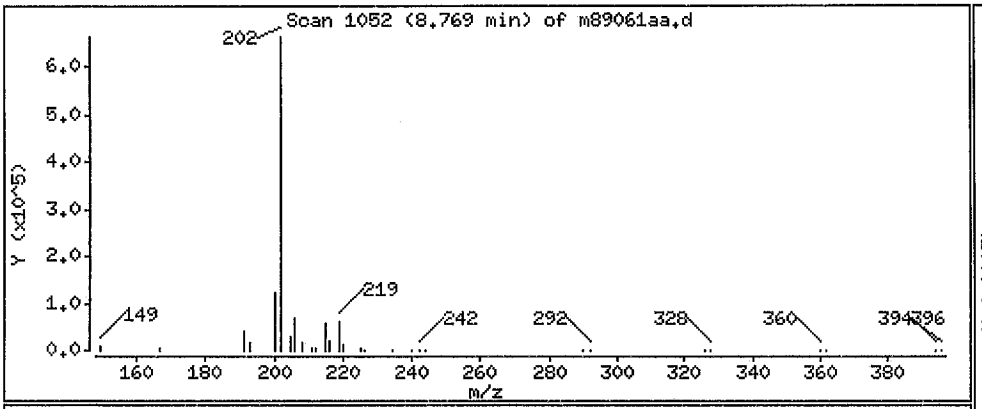
Operator: 011211

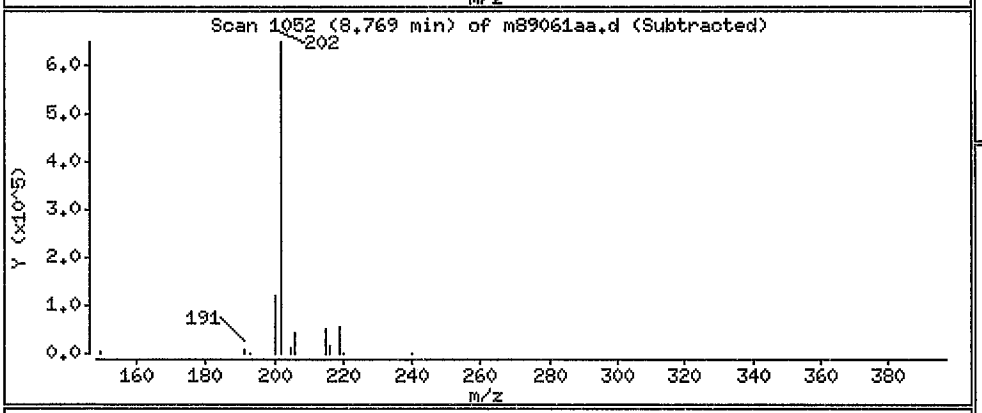
Column phase: Rxi-5SIL MS w/Guard

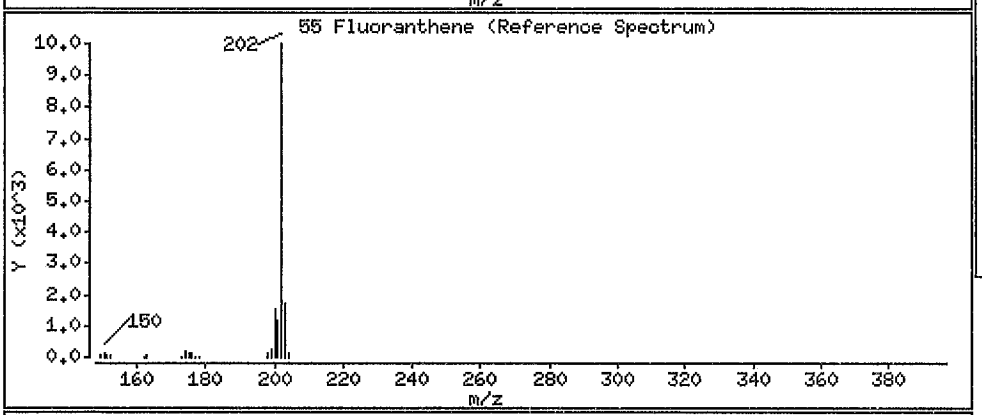
Column diameter: 0.25

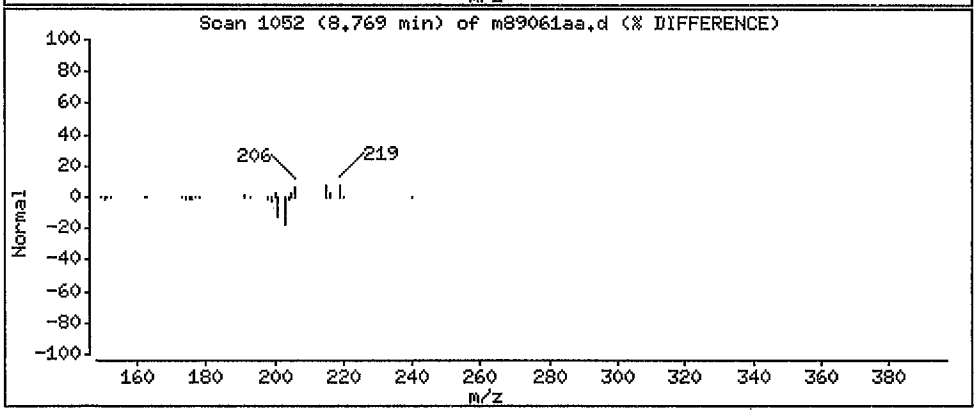
55 Fluoranthene

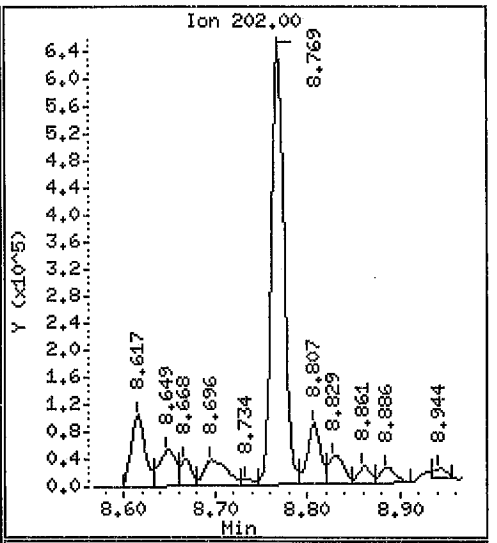
Concentration: 1160 ng/L

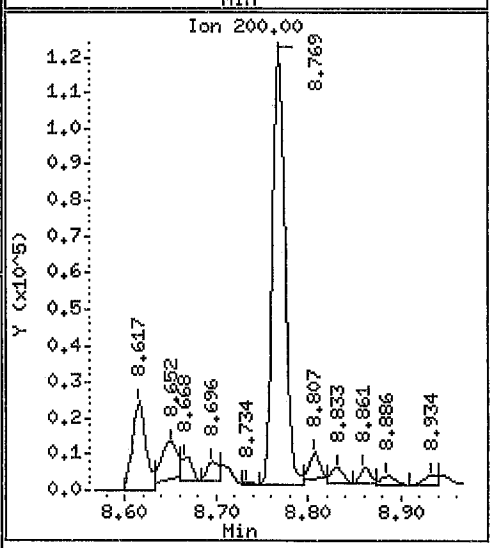












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

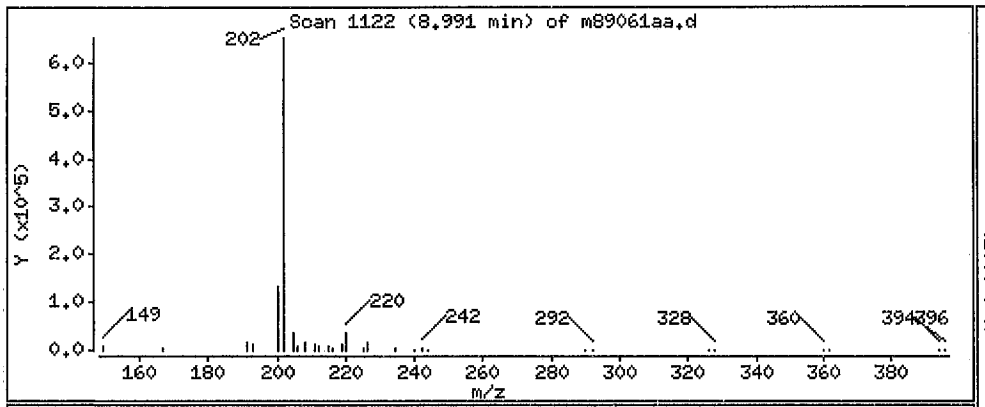
Operator: 011211

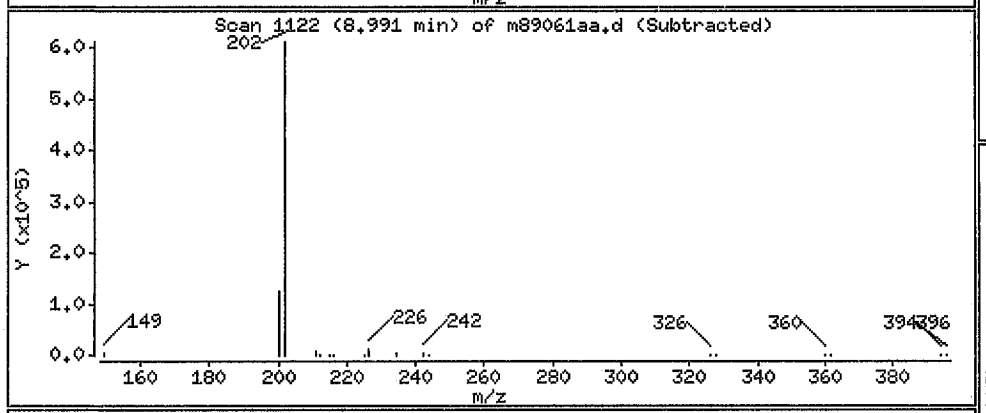
Column phase: Rxi-5SIL MS w/Guard

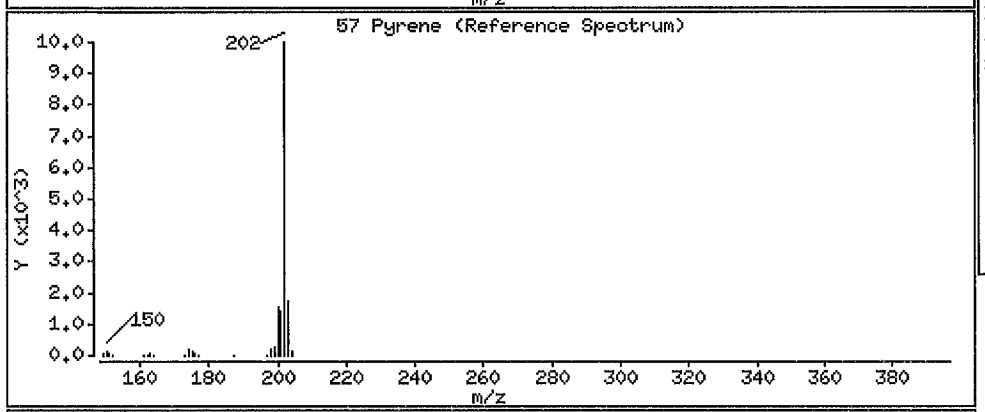
Column diameter: 0.25

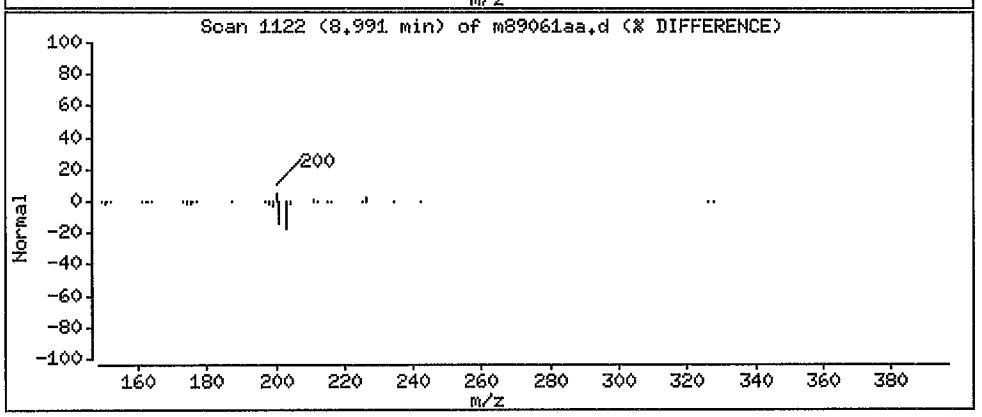
57 Pyrene

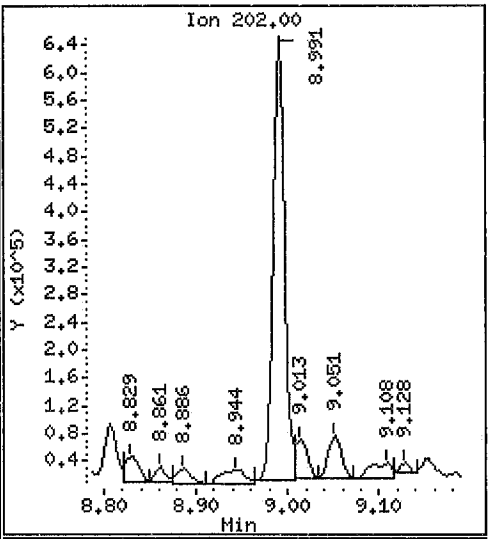
Concentration: 1100 ng/L

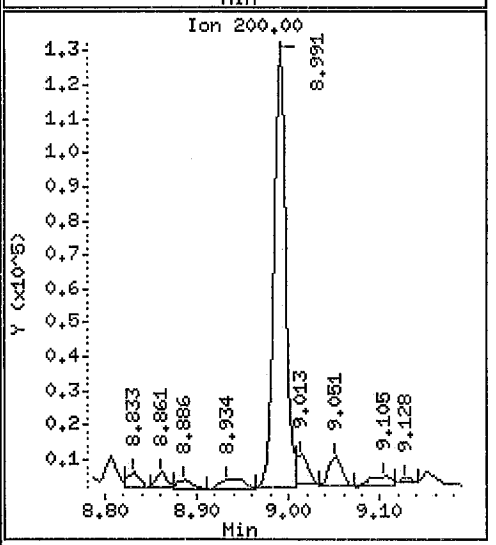












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

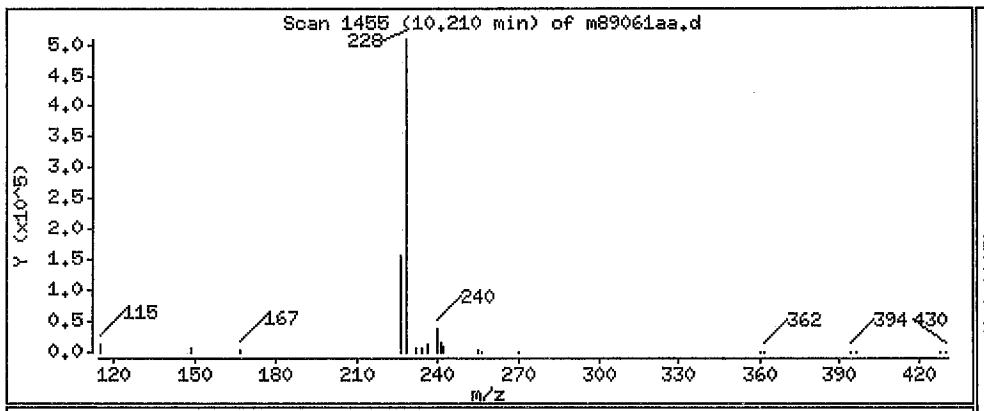
Operator: 011211

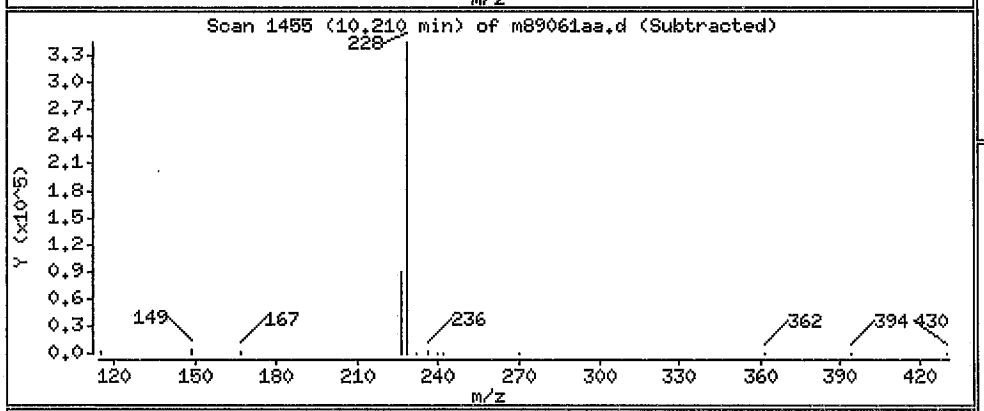
Column phase: Rxi-5SIL MS w/Guard

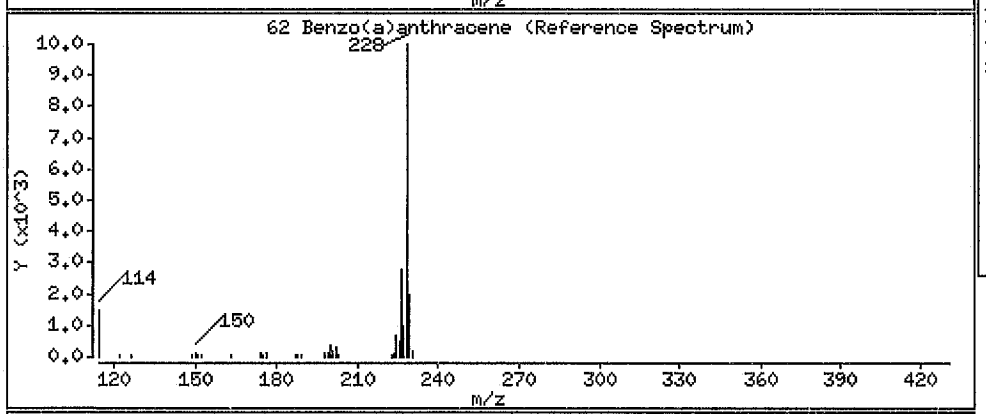
Column diameter: 0.25

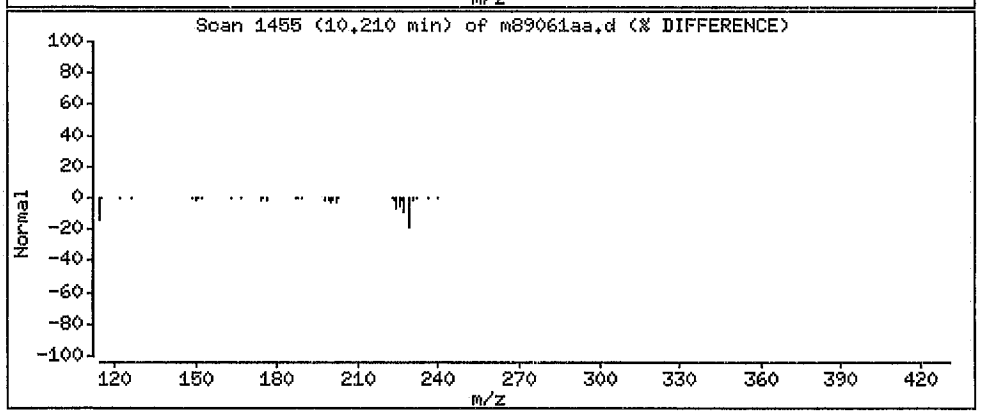
62 Benzo(a)anthracene

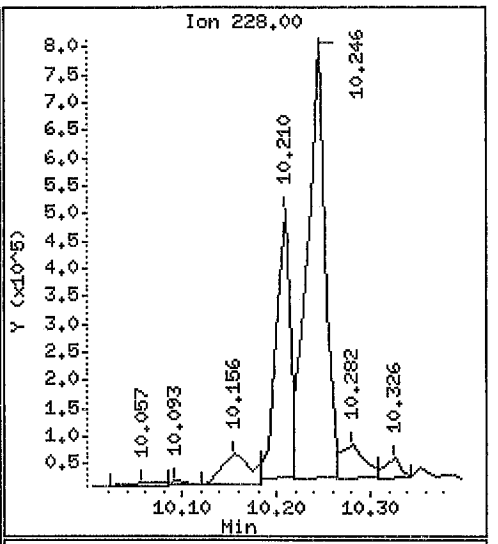
Concentration: 1340 ng/L

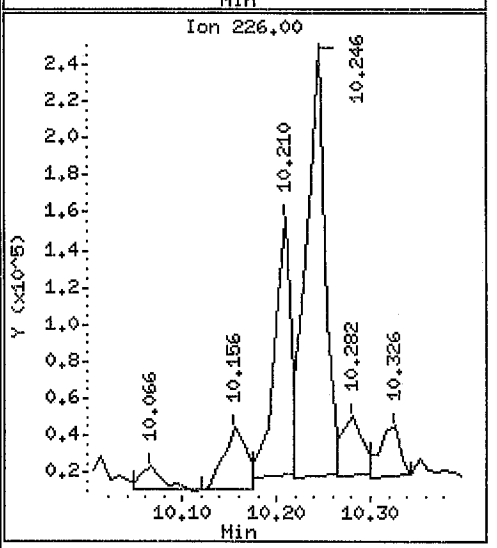












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

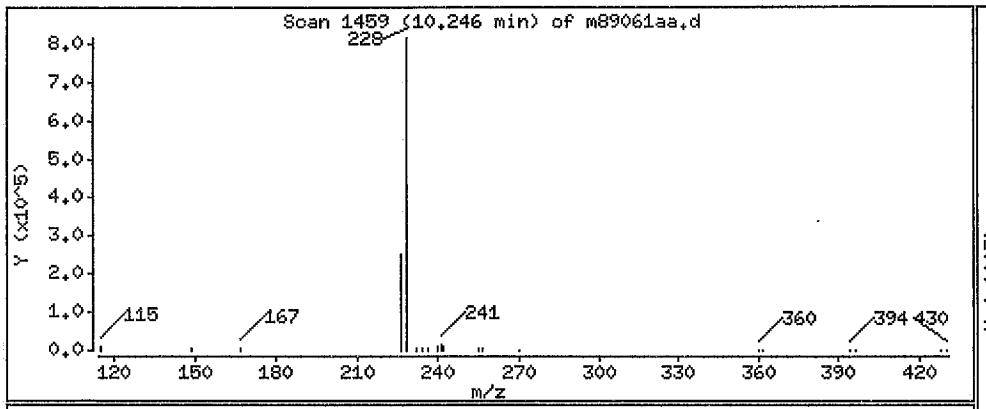
Operator: 011211

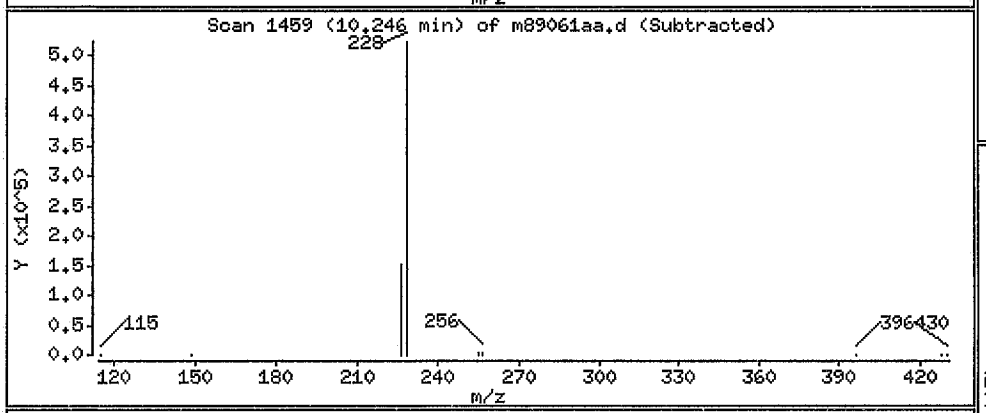
Column phase: Rxi-5SIL MS w/Guard

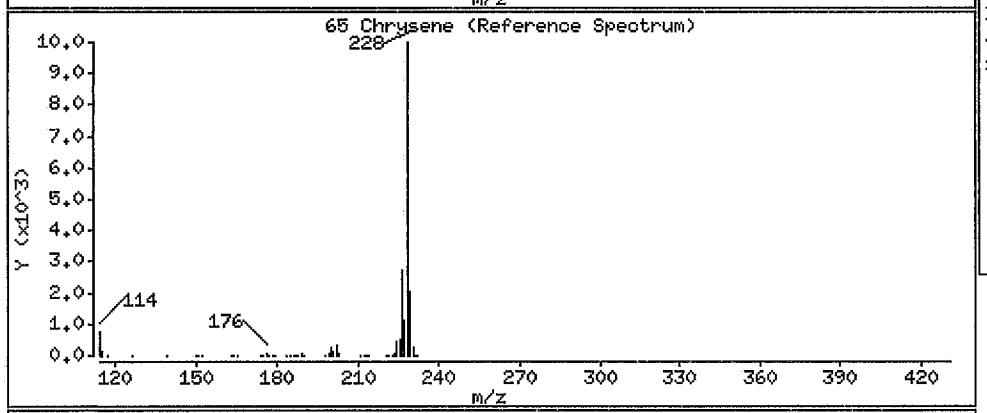
Column diameter: 0.25

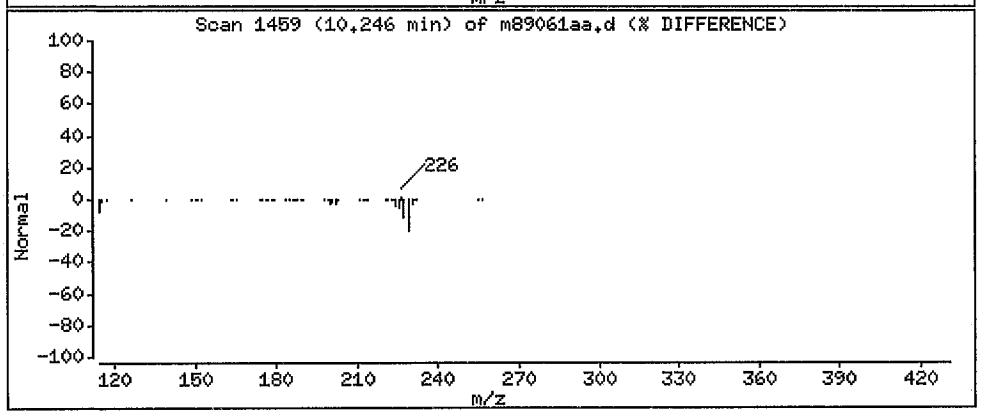
65 Chrysene

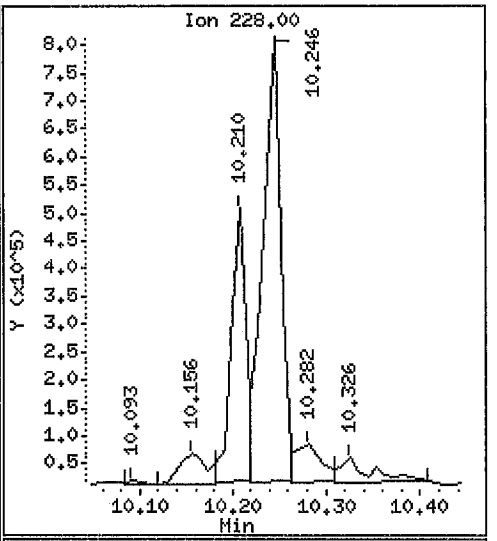
Concentration: 2340 ng/L

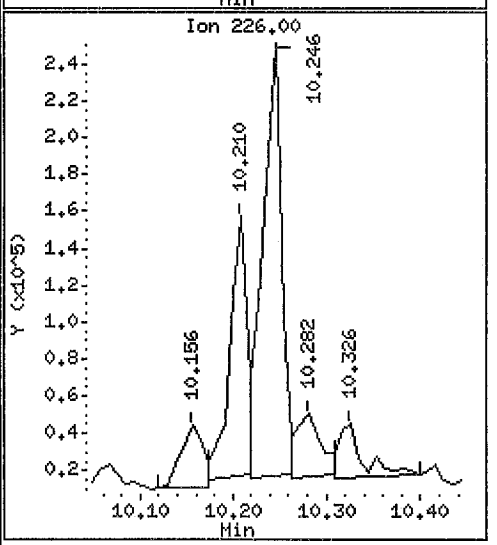












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

Operator: 011211

Column phase: Rxi-5SIL MS w/Guard

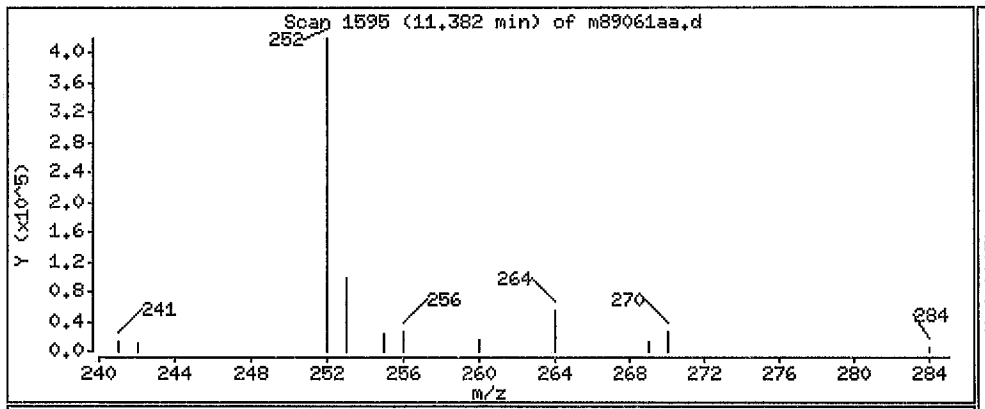
Column diameter: 0.25

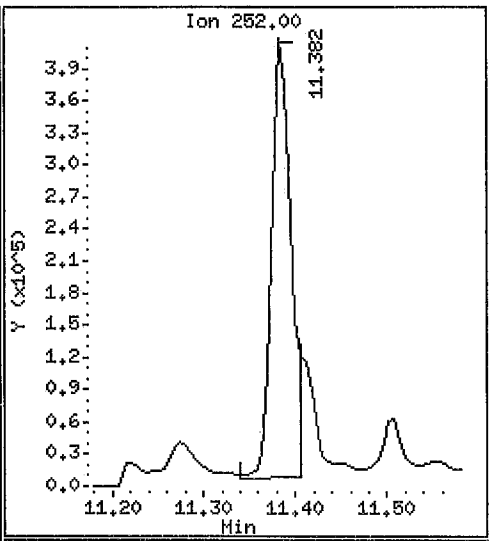
10/11/16

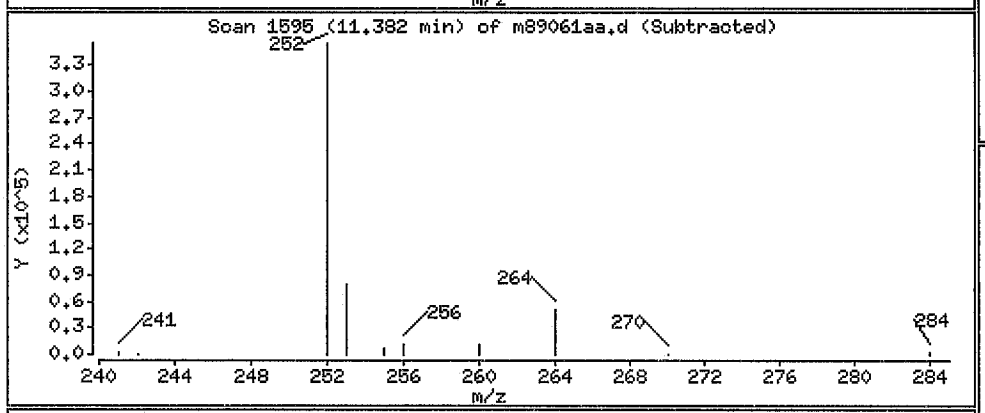
1

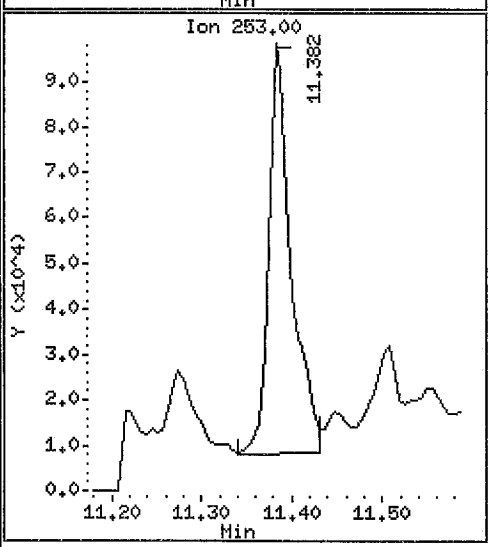
72 Benzo(b)fluoranthene

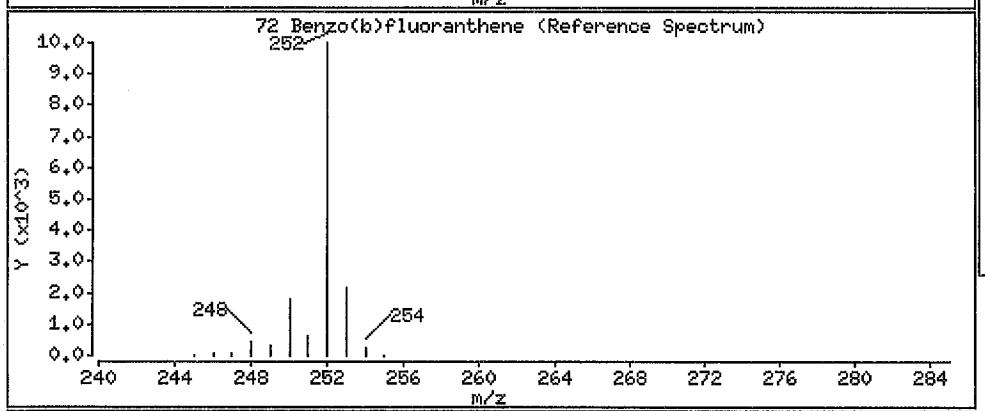
Concentration: 836 ng/L

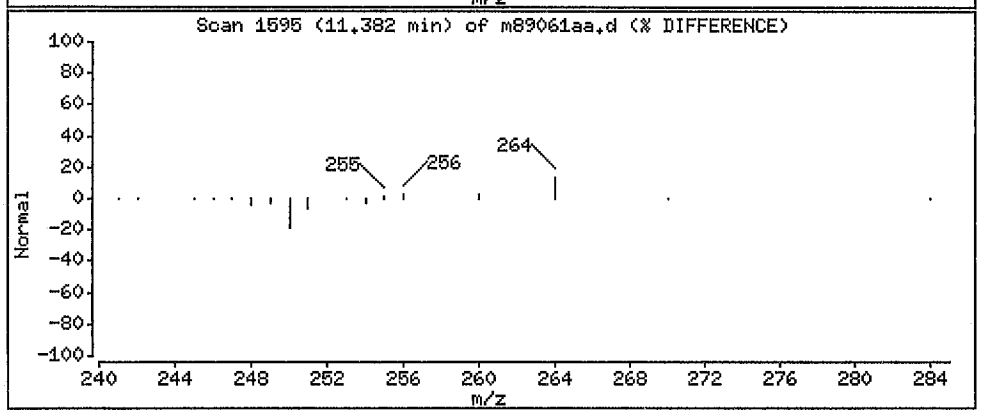












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

10/11/16 ①

Purge Volume: 1045.0

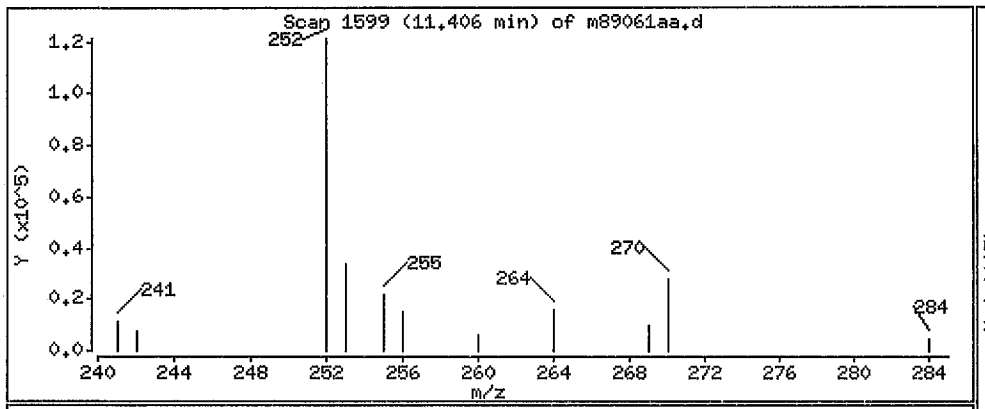
Operator: 011211

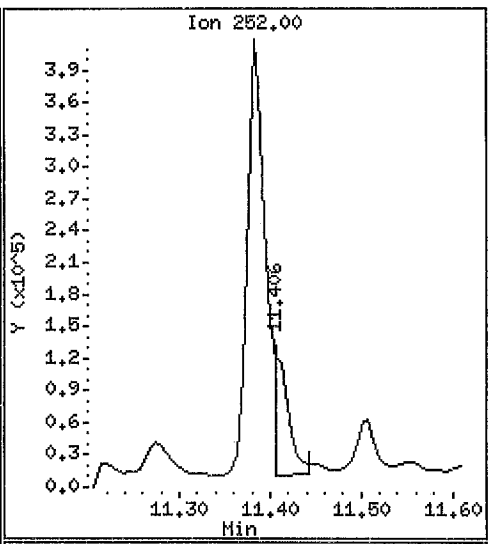
Column phase: Rxi-5SIL MS w/Guard

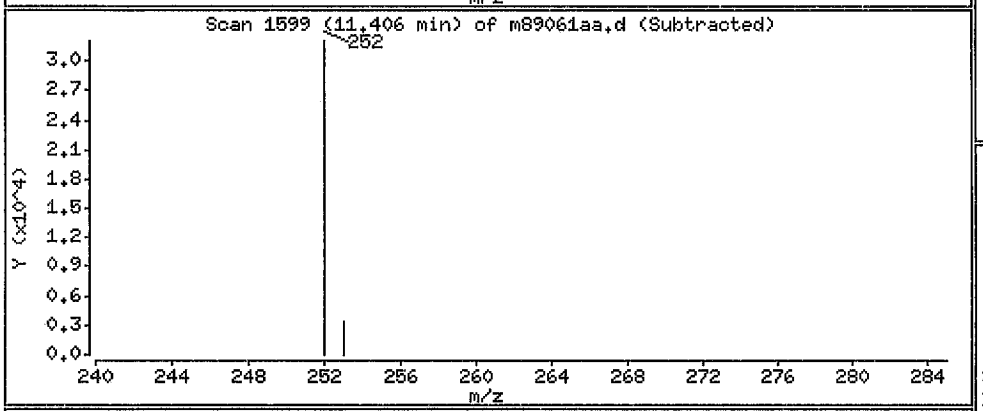
Column diameter: 0.25

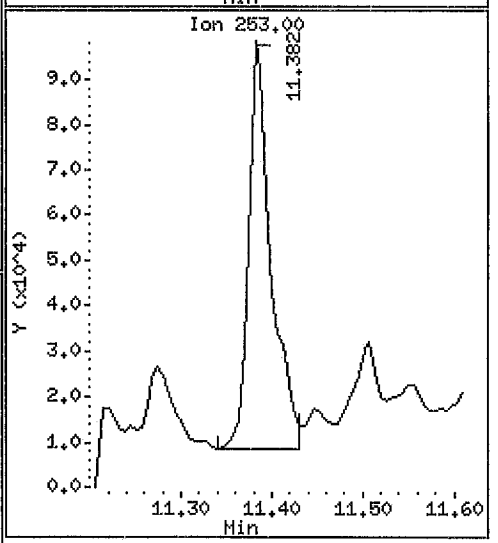
75 Benzo(k)fluoranthene

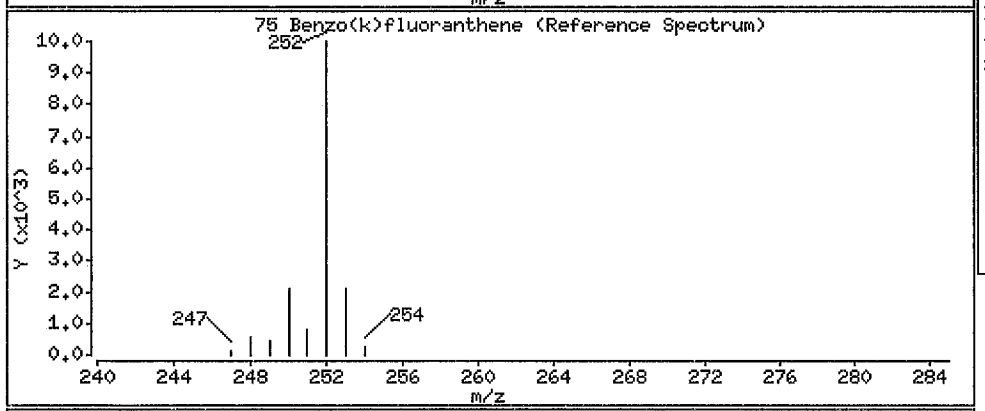
Concentration: 240 ng/L

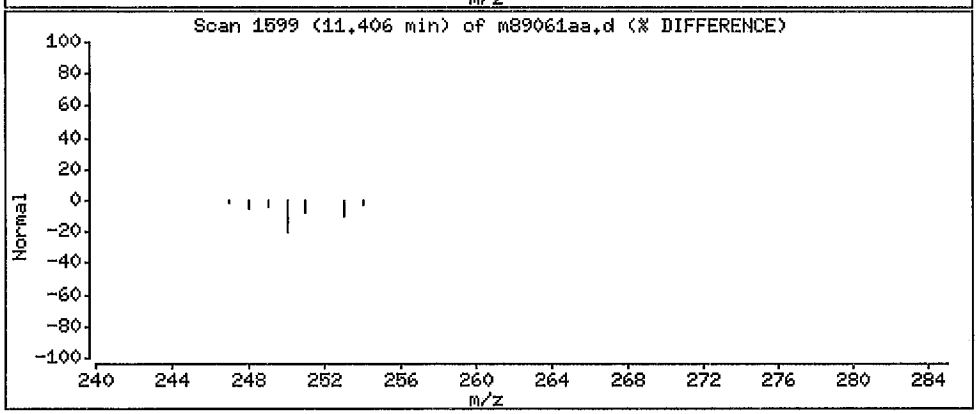












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

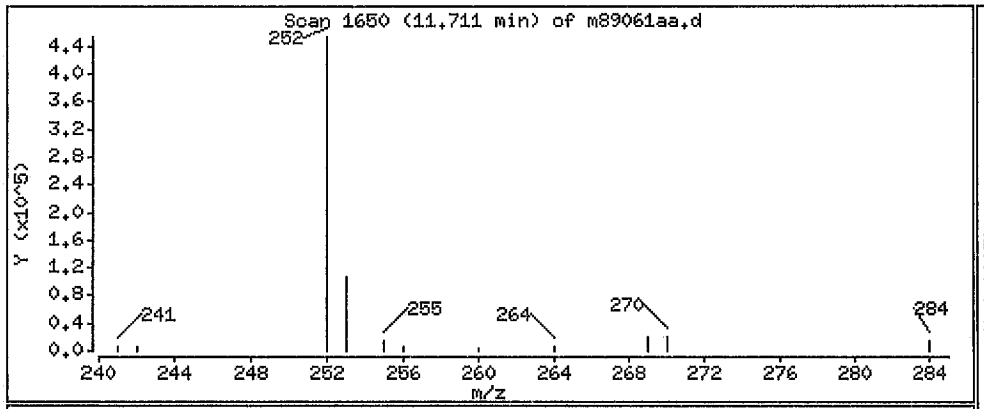
Operator: 011211

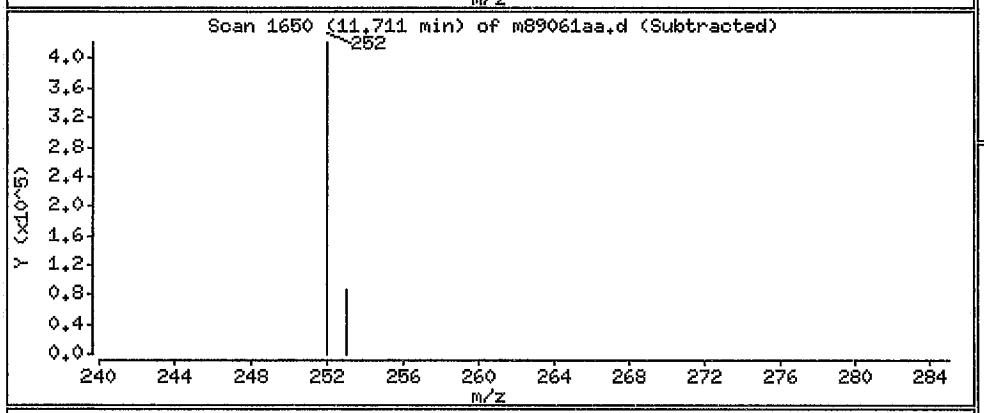
Column phase: Rxi-5SIL MS w/Guard

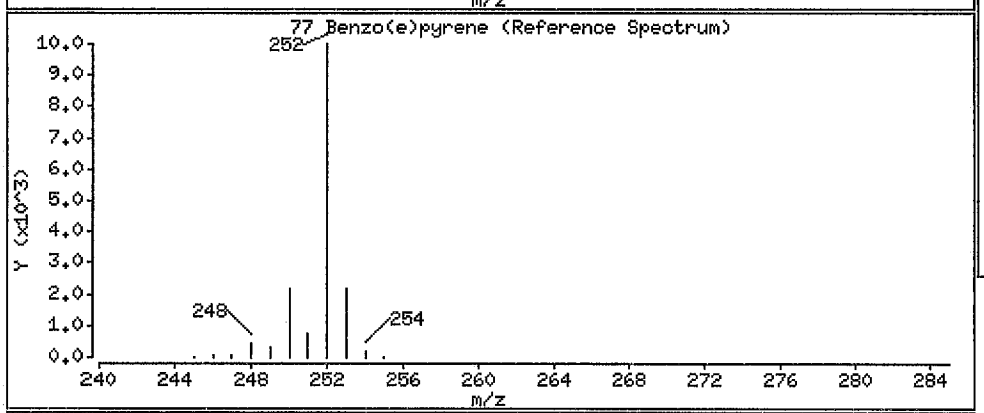
Column diameter: 0.25

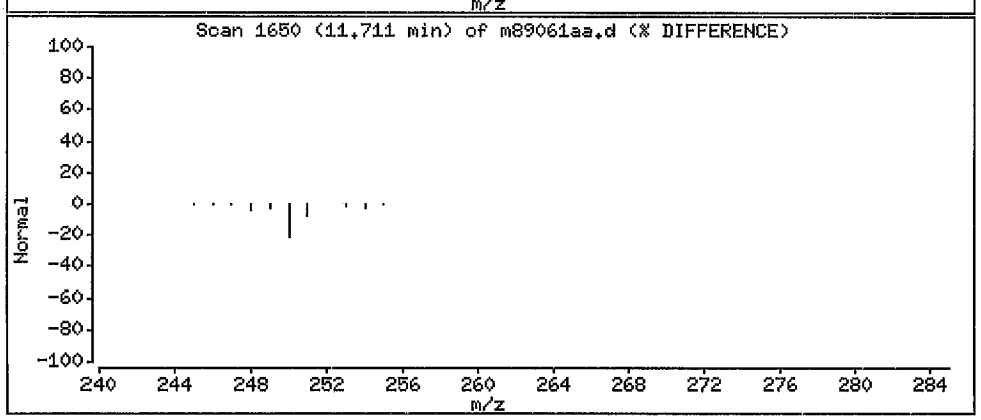
77 Benzo(e)pyrene

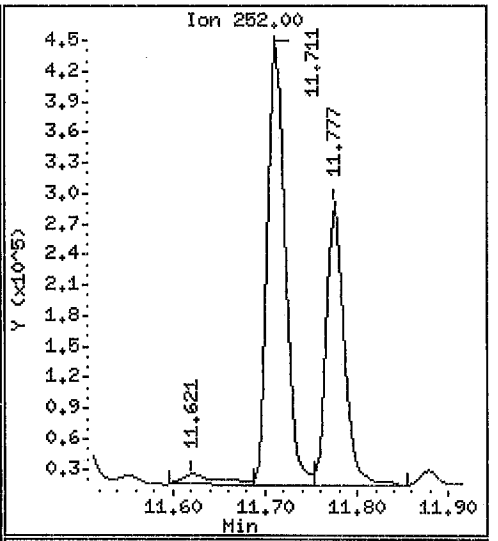
Concentration: 946 ng/L

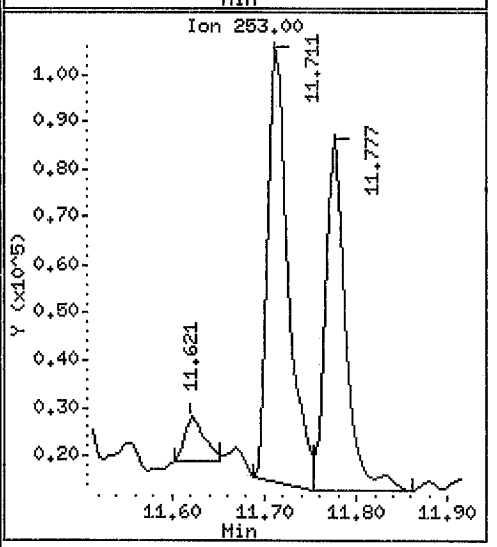












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

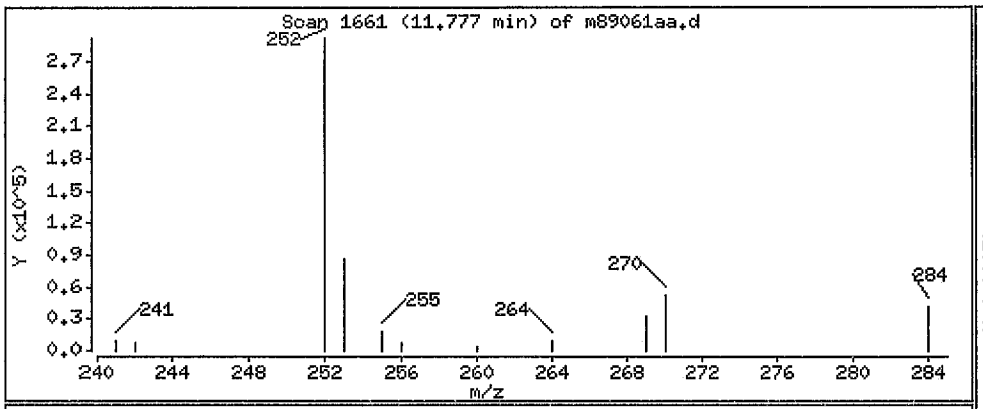
Operator: 011211

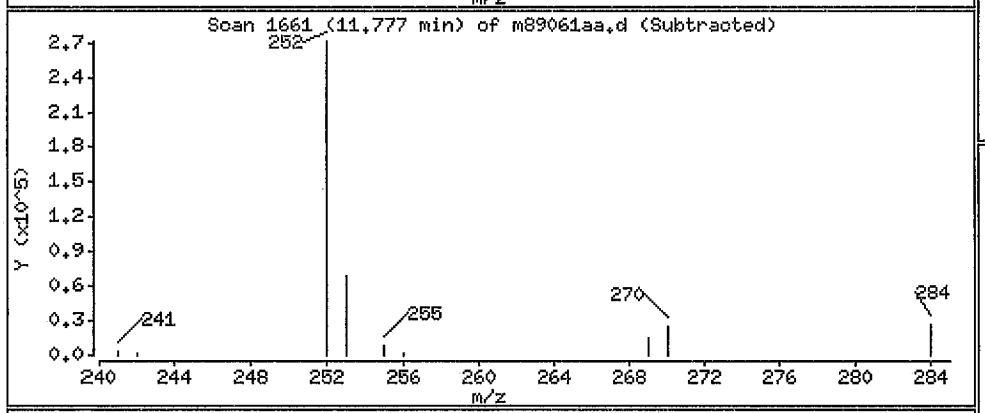
Column phase: Rxi-5SIL MS w/Guard

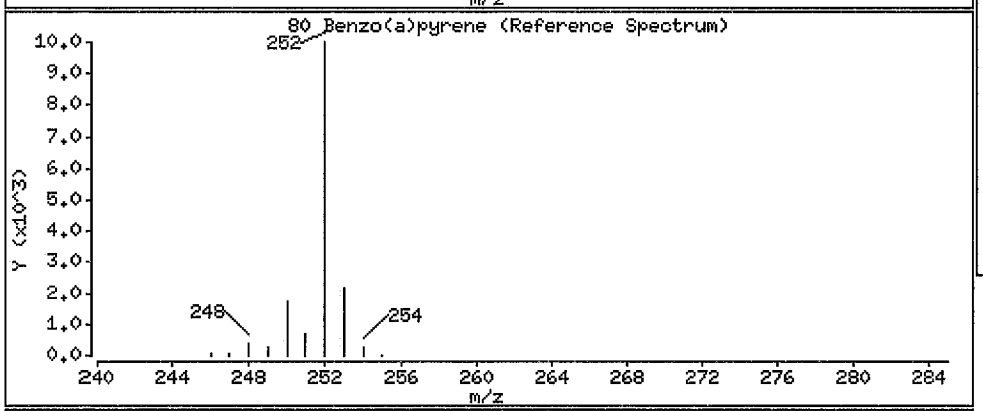
Column diameter: 0.25

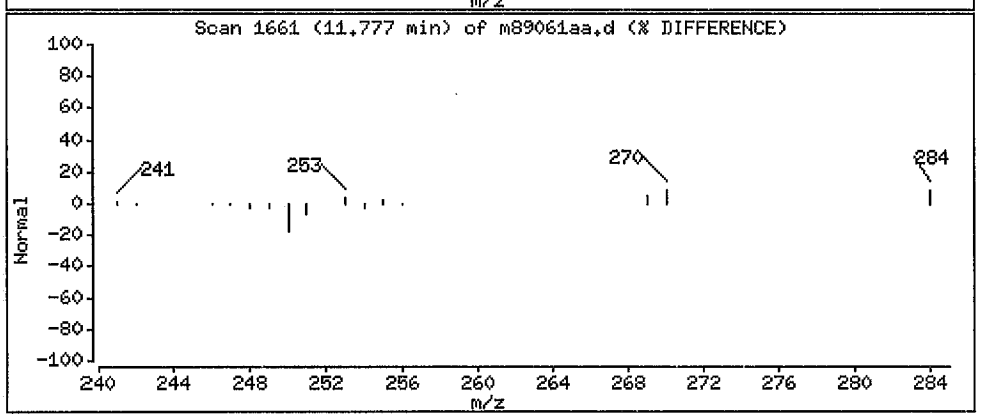
80 Benzo(a)pyrene

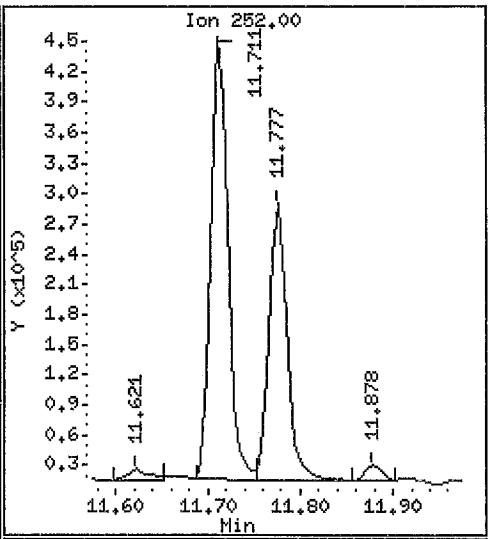
Concentration: 708 ng/L

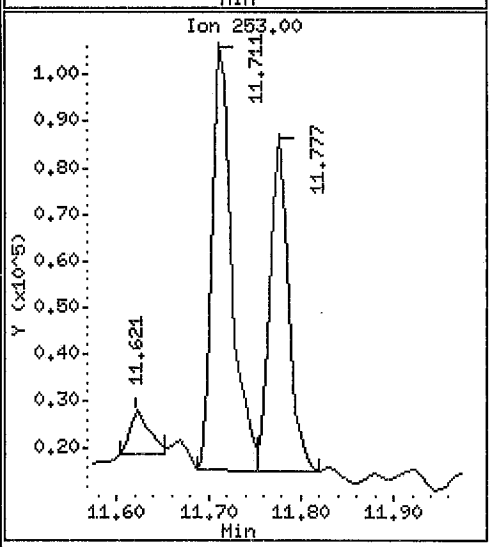












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

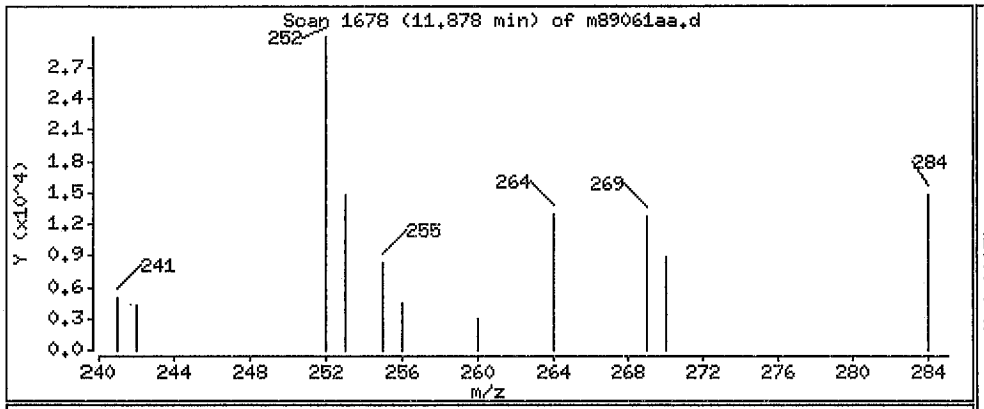
Operator: 011211

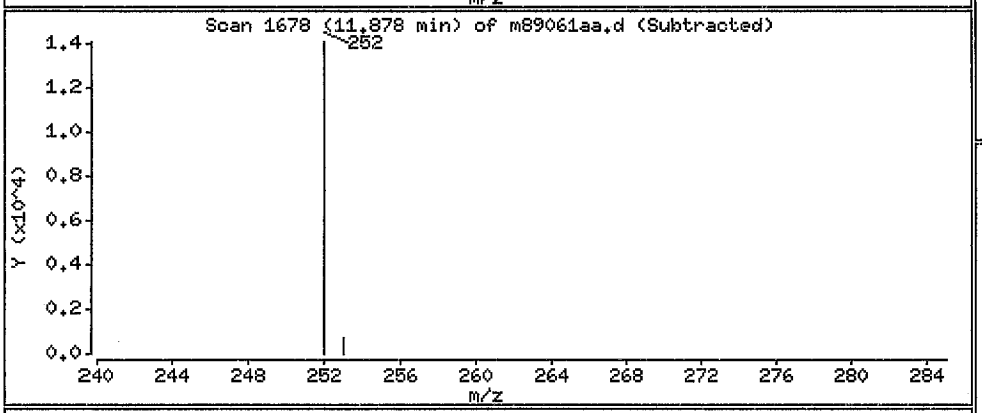
Column phase: Rxi-5SIL MS w/Guard

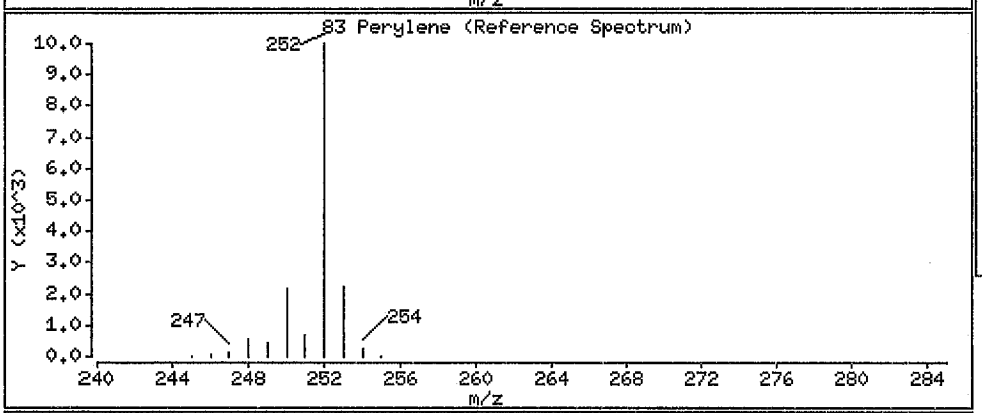
Column diameter: 0.25

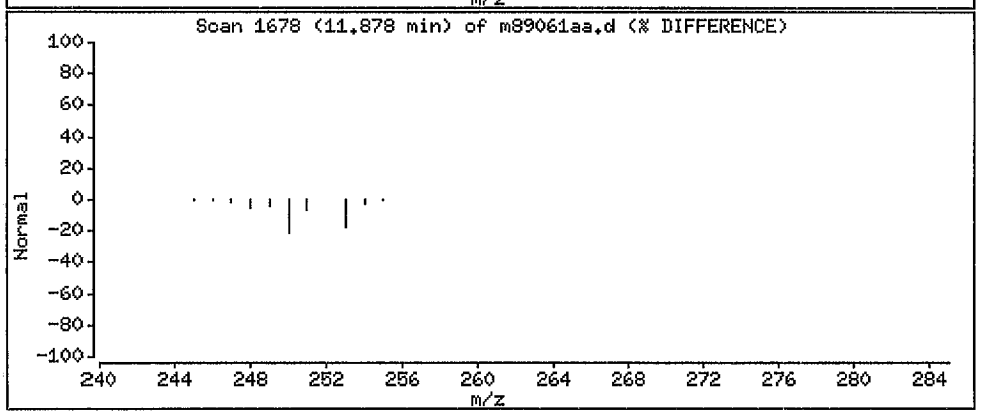
83 Perylene

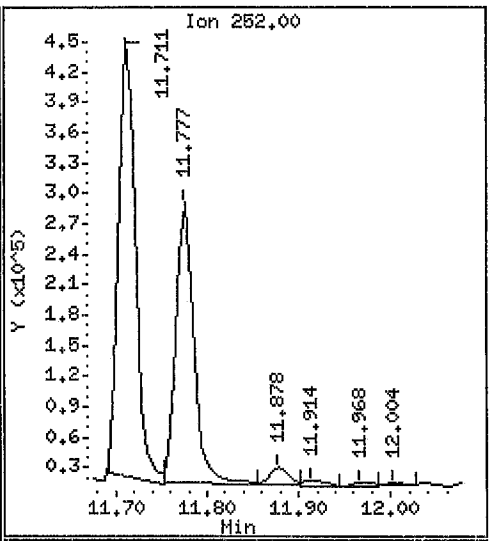
Concentration: 45.4 ng/L

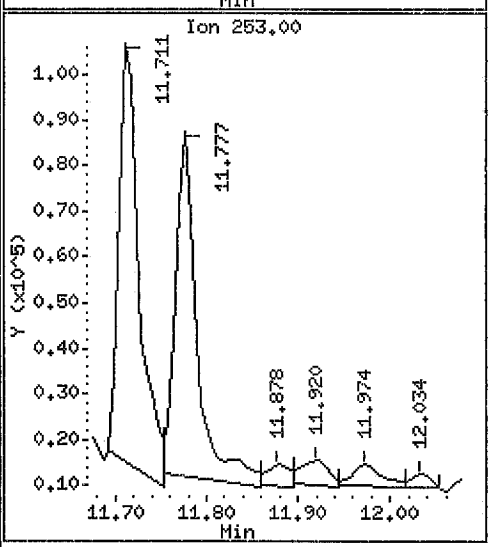












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

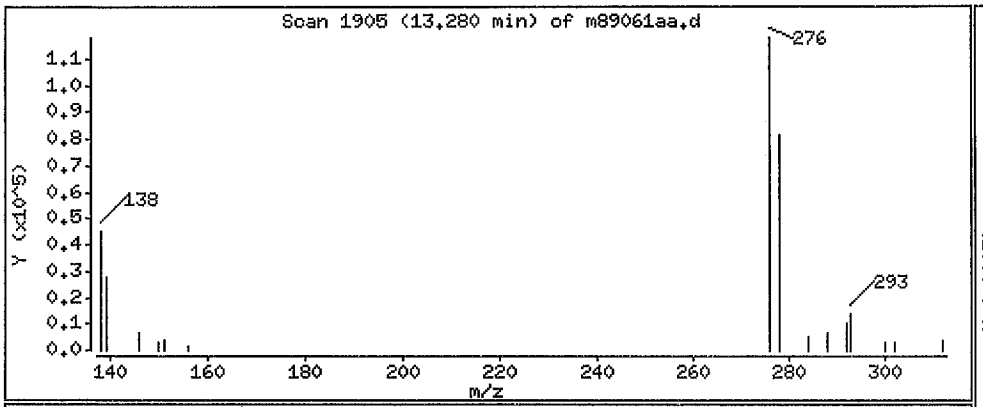
Operator: 011211

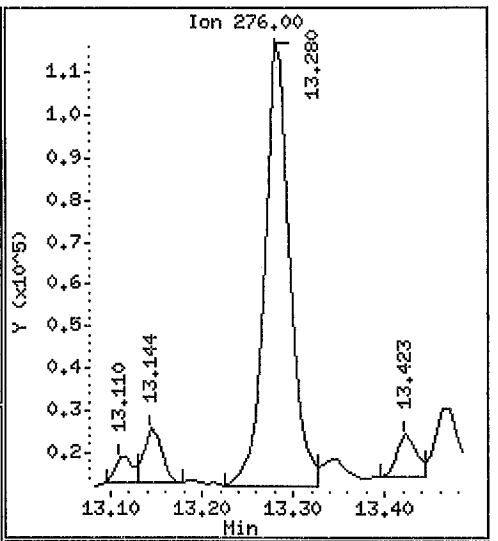
Column phase: Rxi-5SIL MS w/Guard

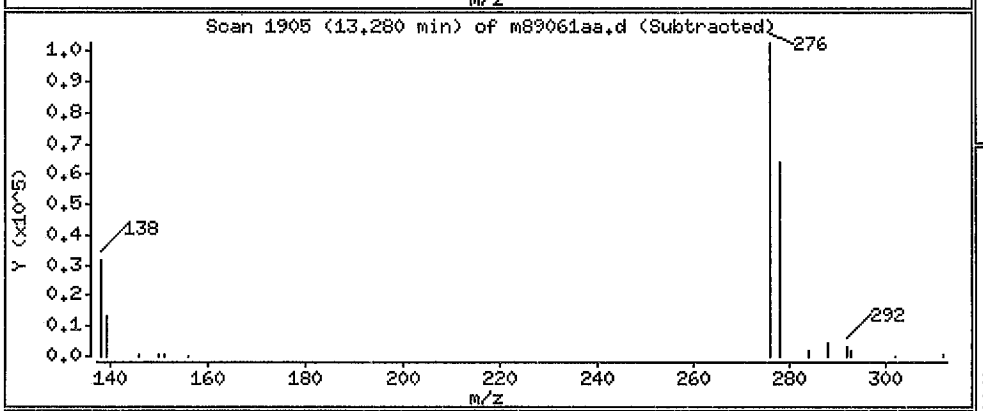
Column diameter: 0.25

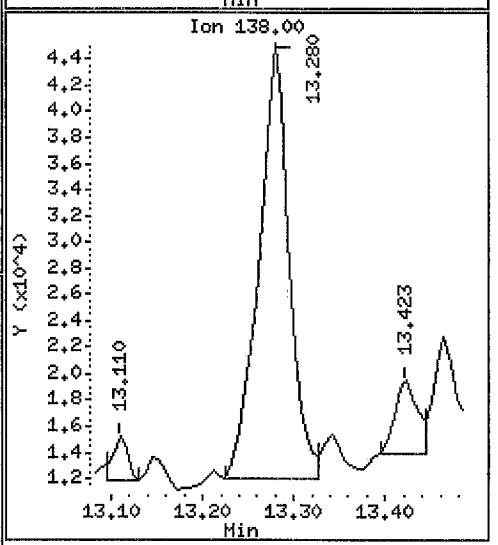
86 Indeno(1,2,3-cd)pyrene

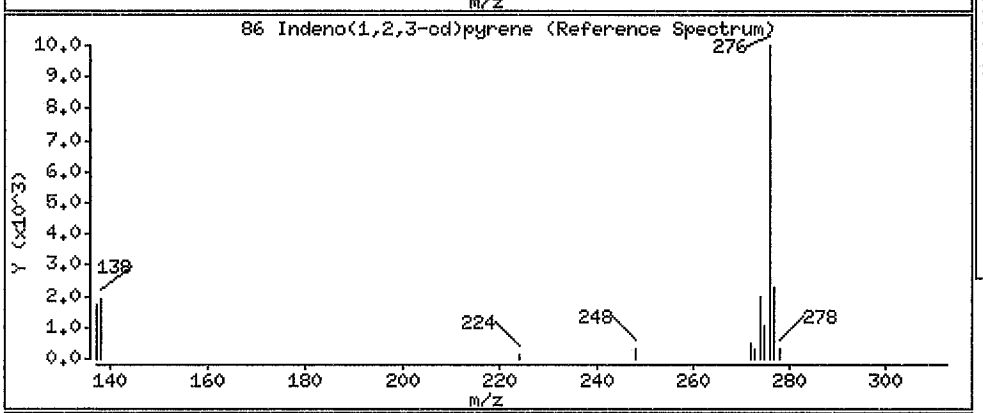
Concentration: 305 ng/L

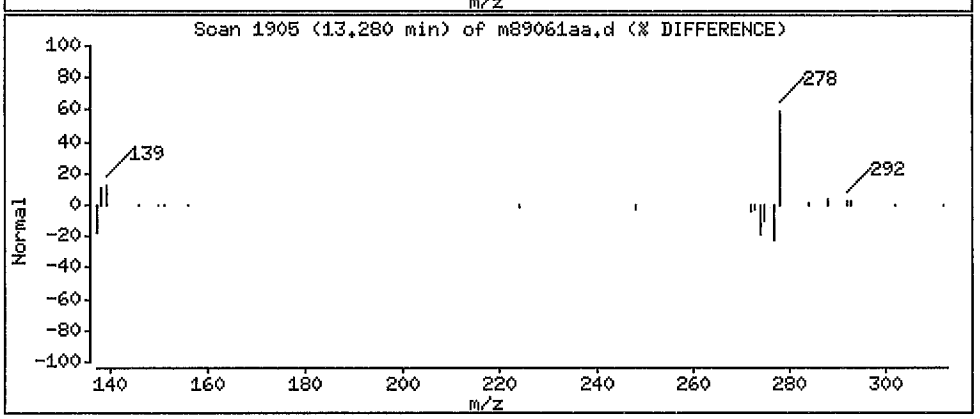












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

Operator: 011211

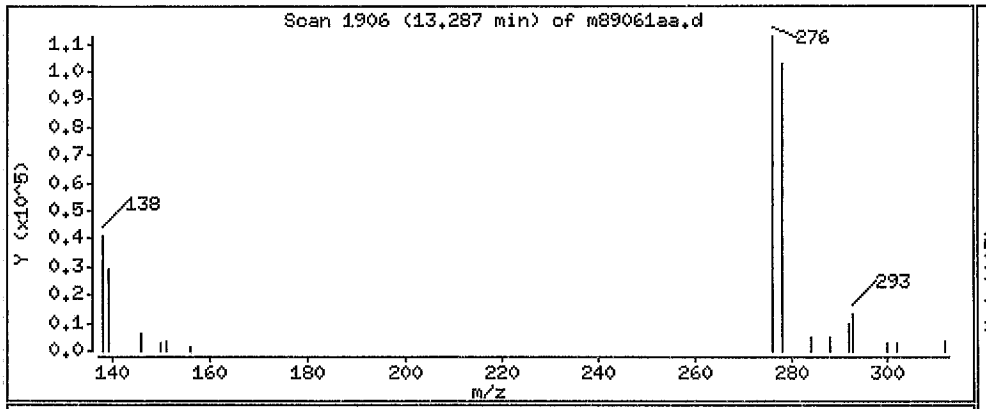
Column phase: Rxi-5SIL MS w/Guard

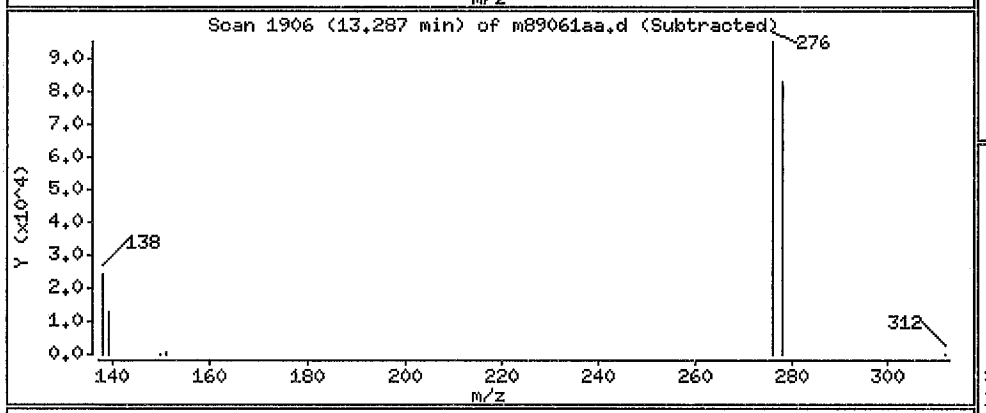
Column diameter: 0.25

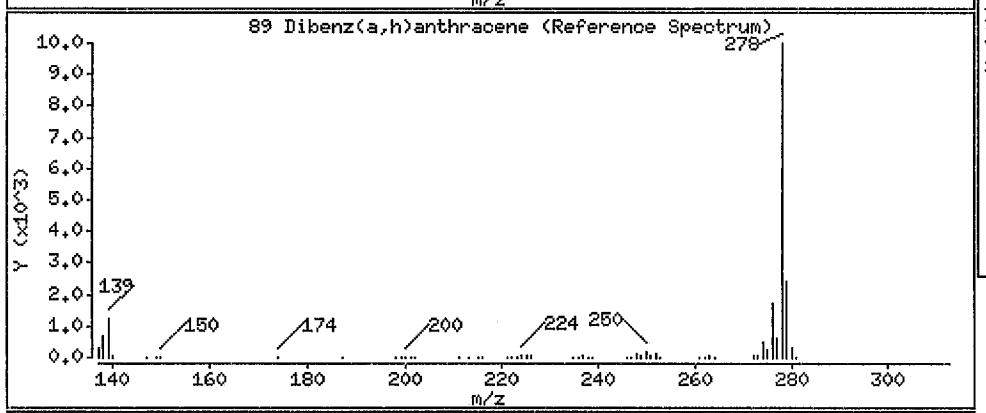
10/11/16 (1)

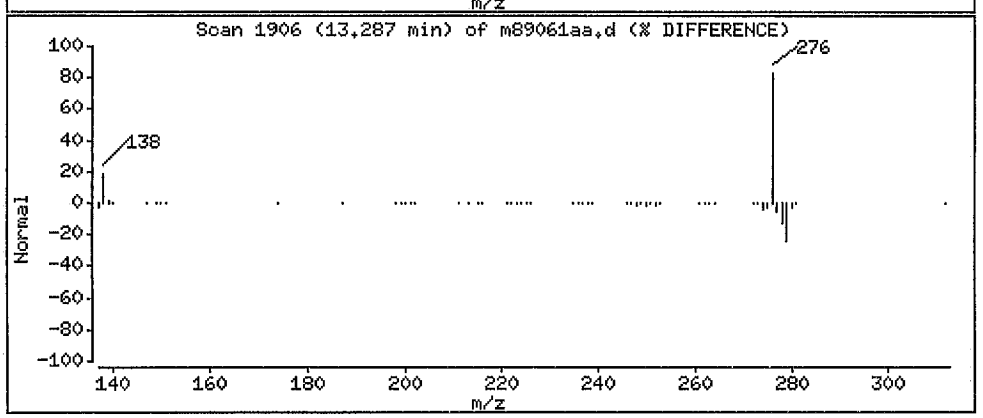
89 Dibenz(a,h)anthracene

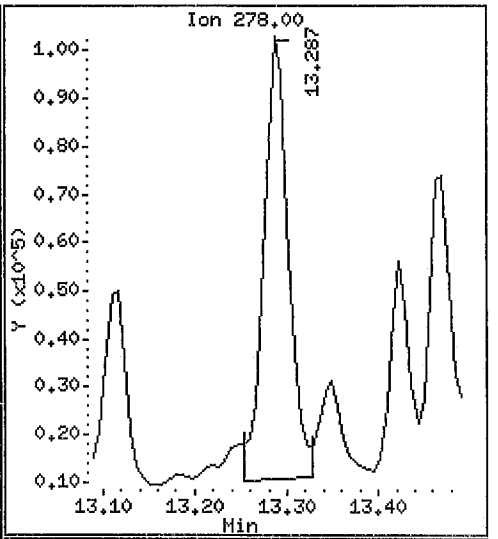
Concentration: 286 ng/L

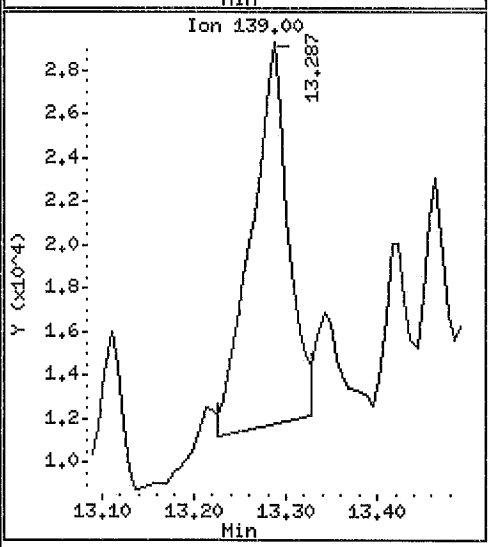












Data File: /var/chem/gcms/mp.i/P101116.b/m89061aa.d

Date : 11-OCT-2016 13:56

Client ID: R-1648 LOC#8 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT D1:3

Purge Volume: 1045.0

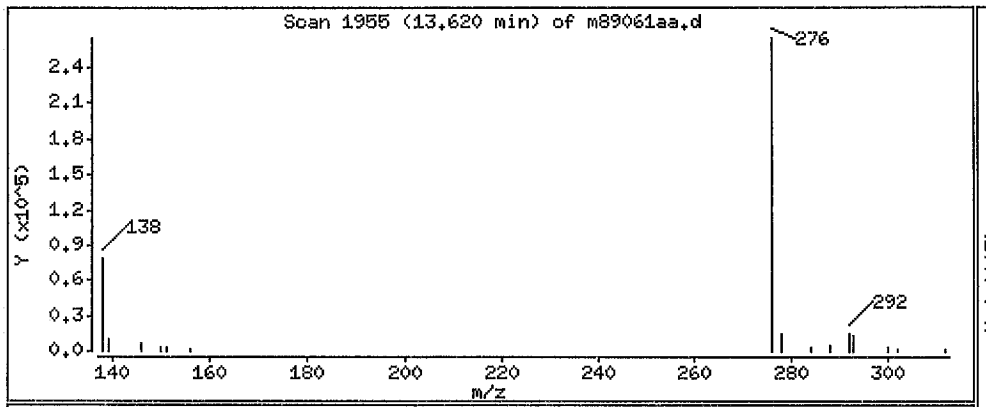
Operator: 011211

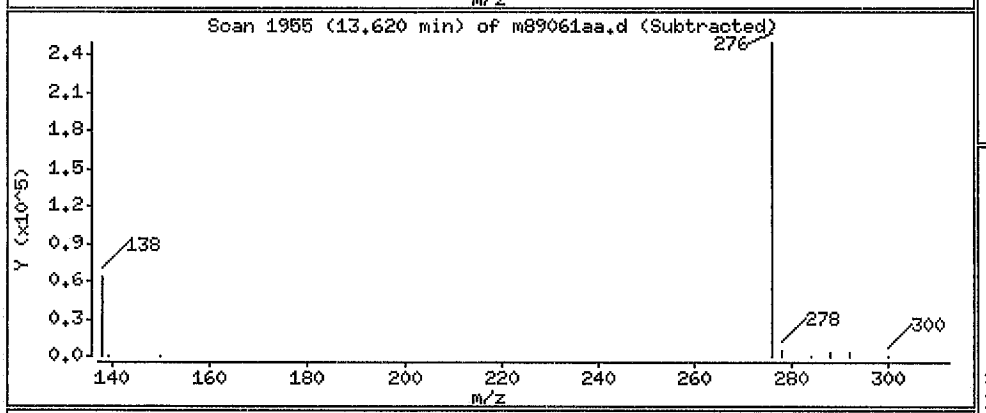
Column phase: Rxi-5SIL MS w/Guard

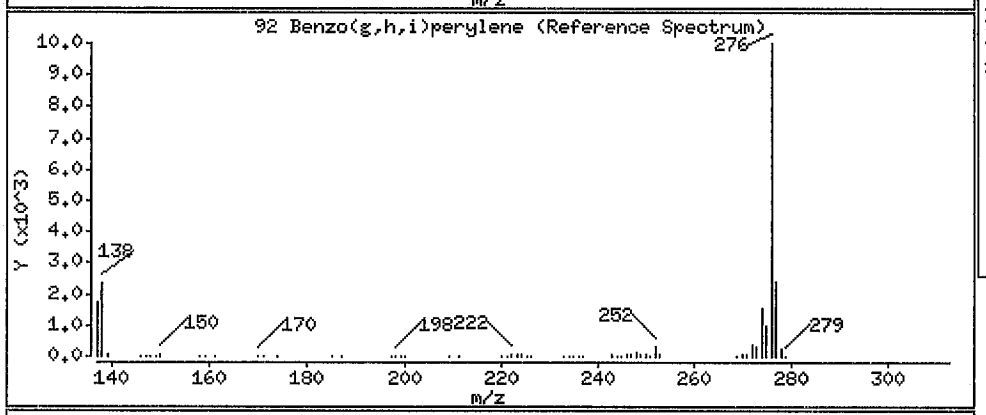
Column diameter: 0.25

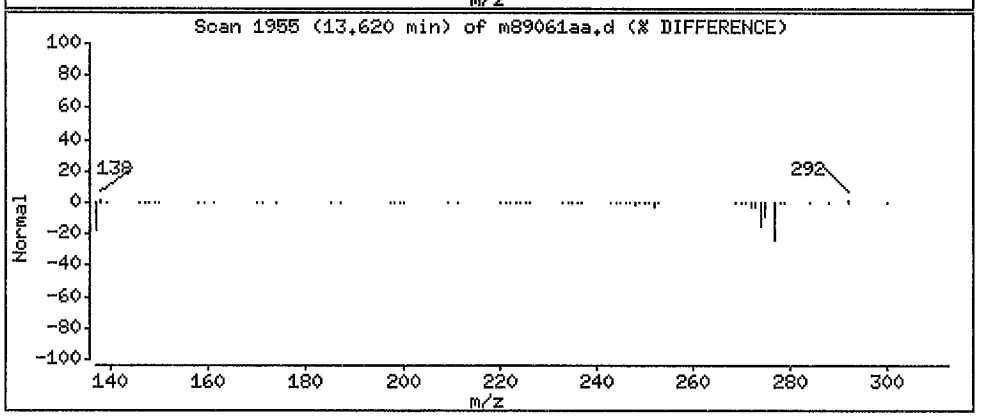
92 Benzo(g,h,i)perylene

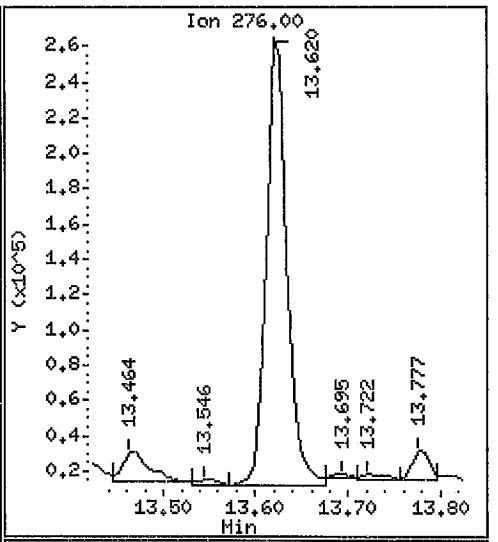
Concentration: 709 ng/L

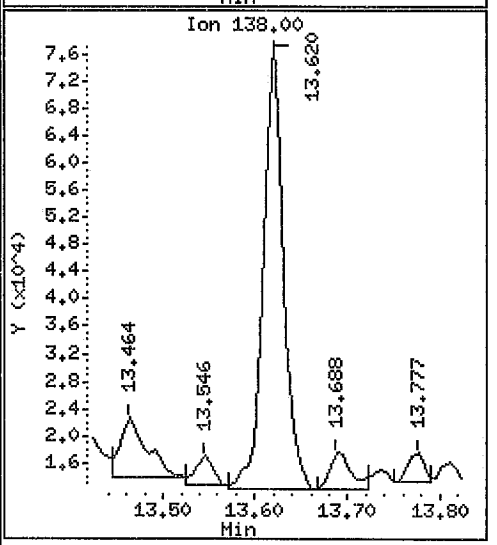




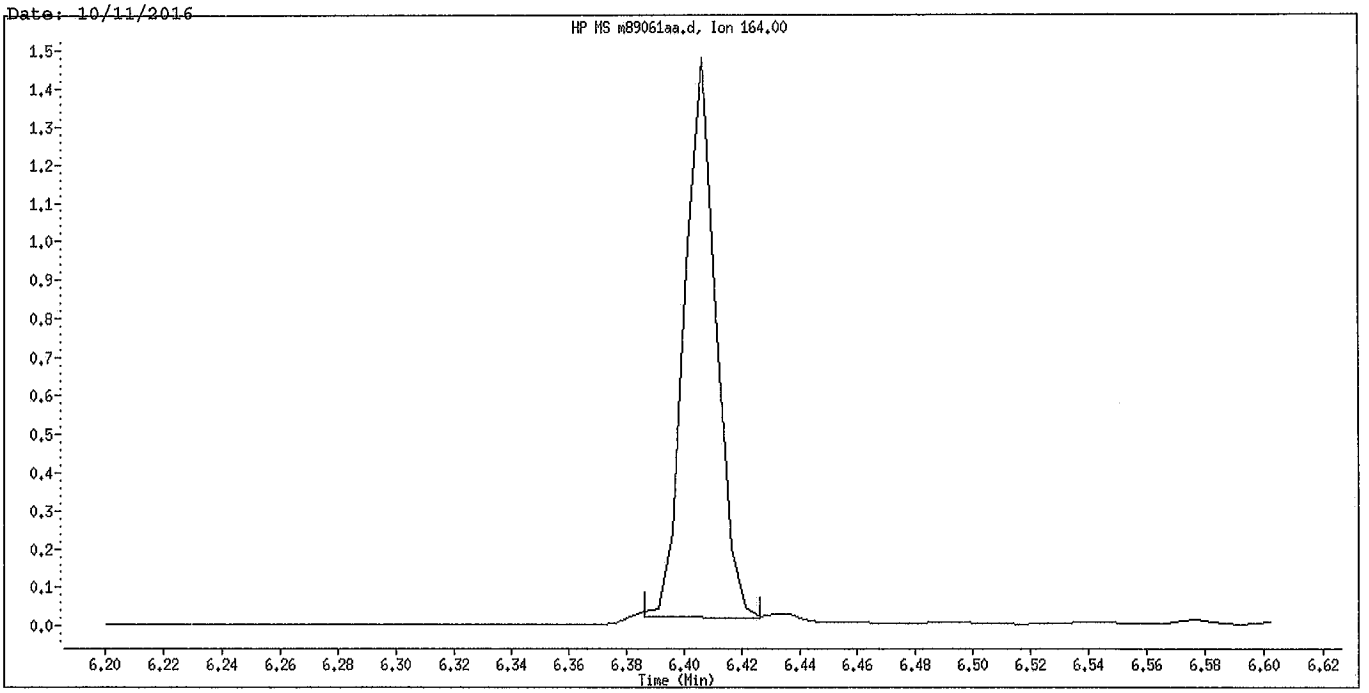




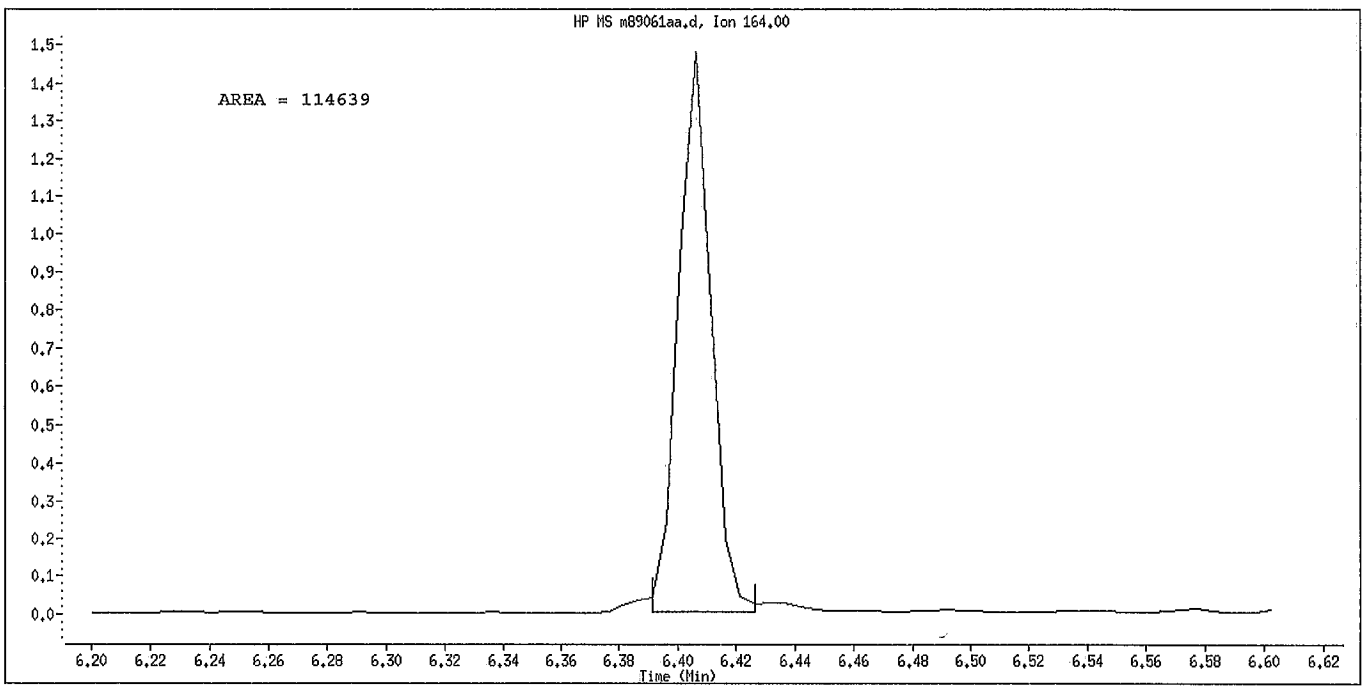




Data File Name: m89061aa.d
Inj. Date and Time: 11-OCT-2016 13:56
Instrument ID: mp.i
Client ID: R-1648 LOC#8 WATER
Compound Name: Acenaphthene-d10
CAS #: -15067-26-2
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d

Inj. Date and Time: 11-OCT-2016 13:56

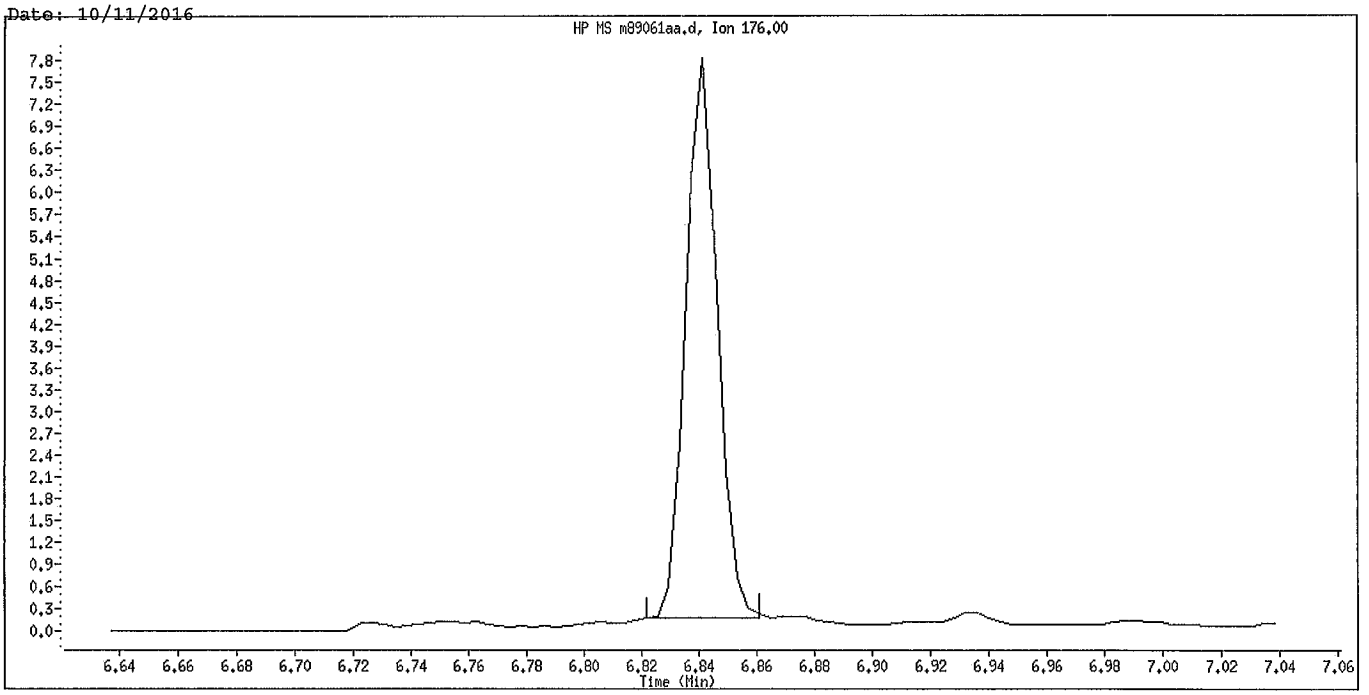
Instrument ID: mp.i

Client ID: R-1648 LOC#8 WATER

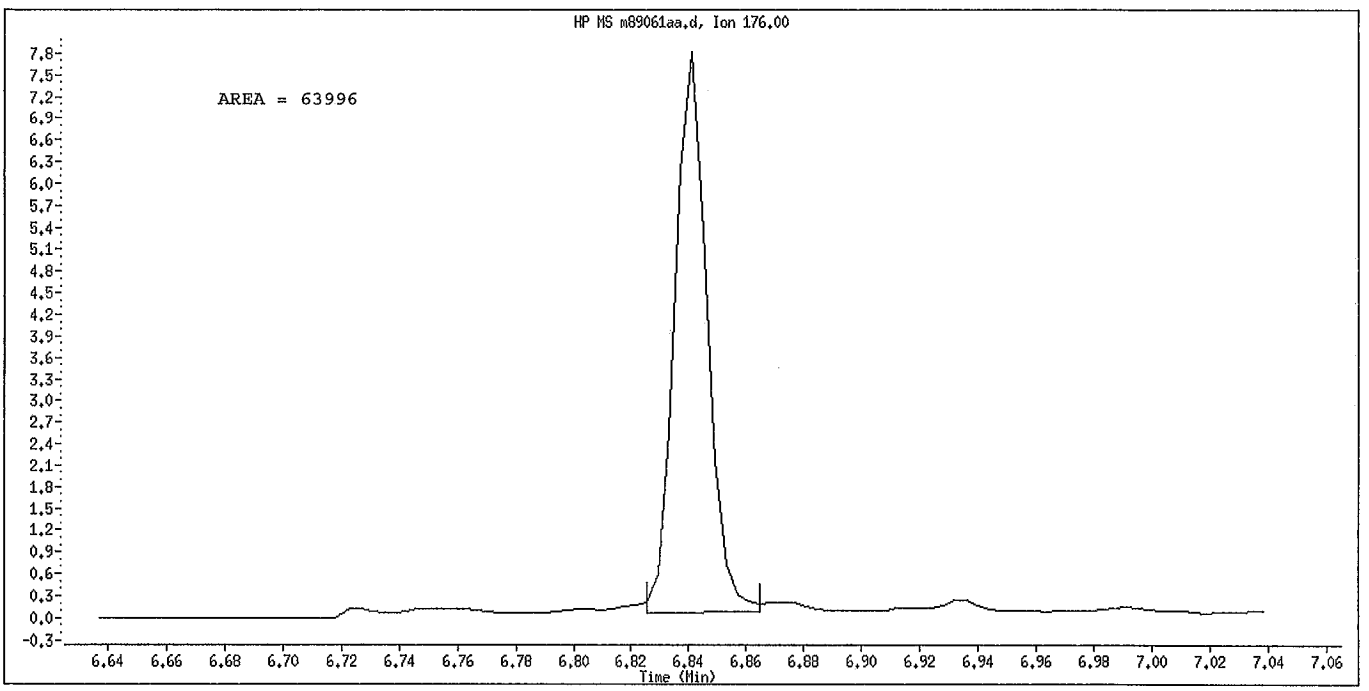
Compound Name: Fluorene-d10

CAS #: -Q1367

Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d

Inj. Date and Time: 11-OCT-2016 13:56

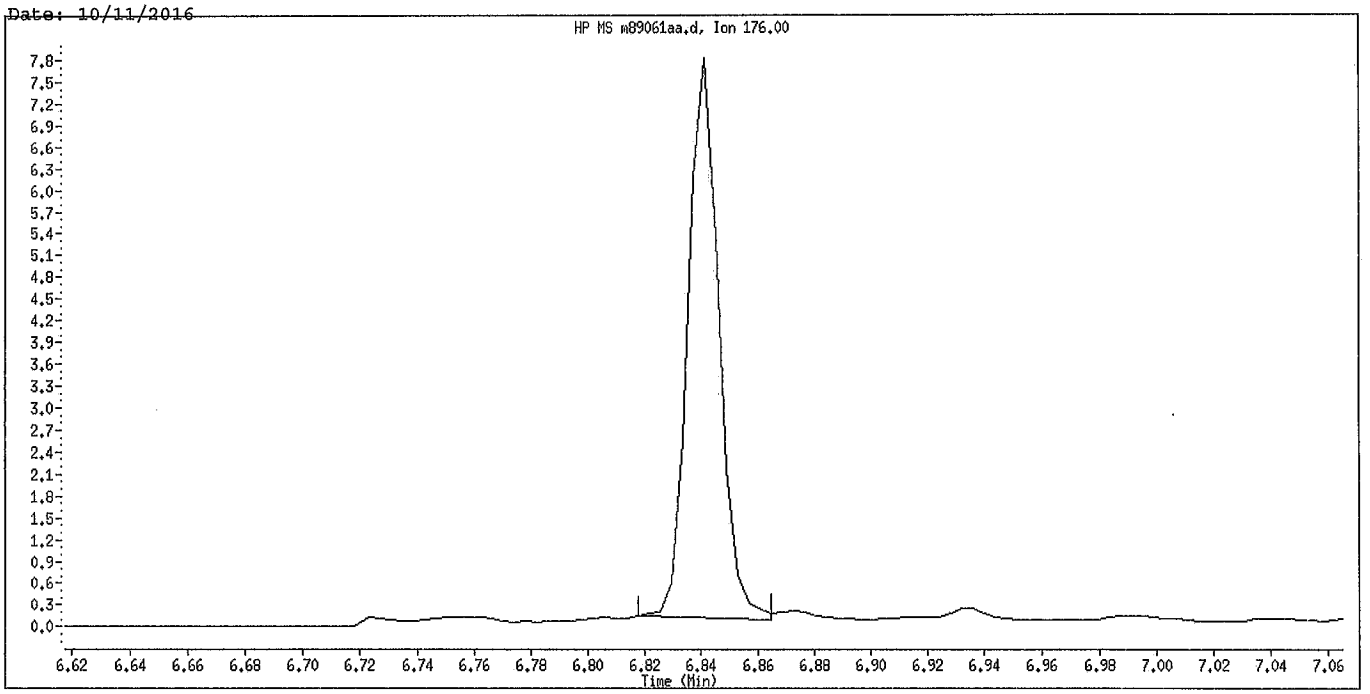
Instrument ID: mp.i

Client ID: R-1648 LOC#8 WATER

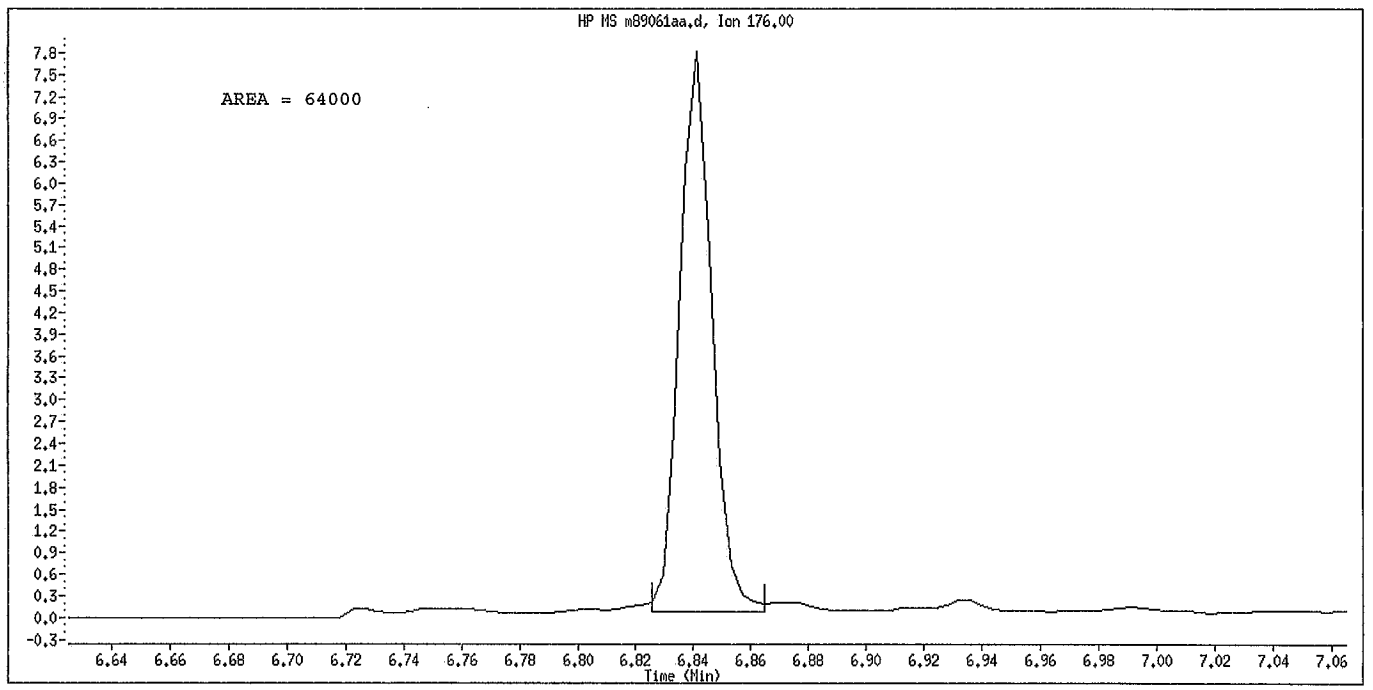
Compound Name: Fluorene-d10(SS)

CAS #: Q1367

Report ~~Date: 10/11/2016~~



Original Integration

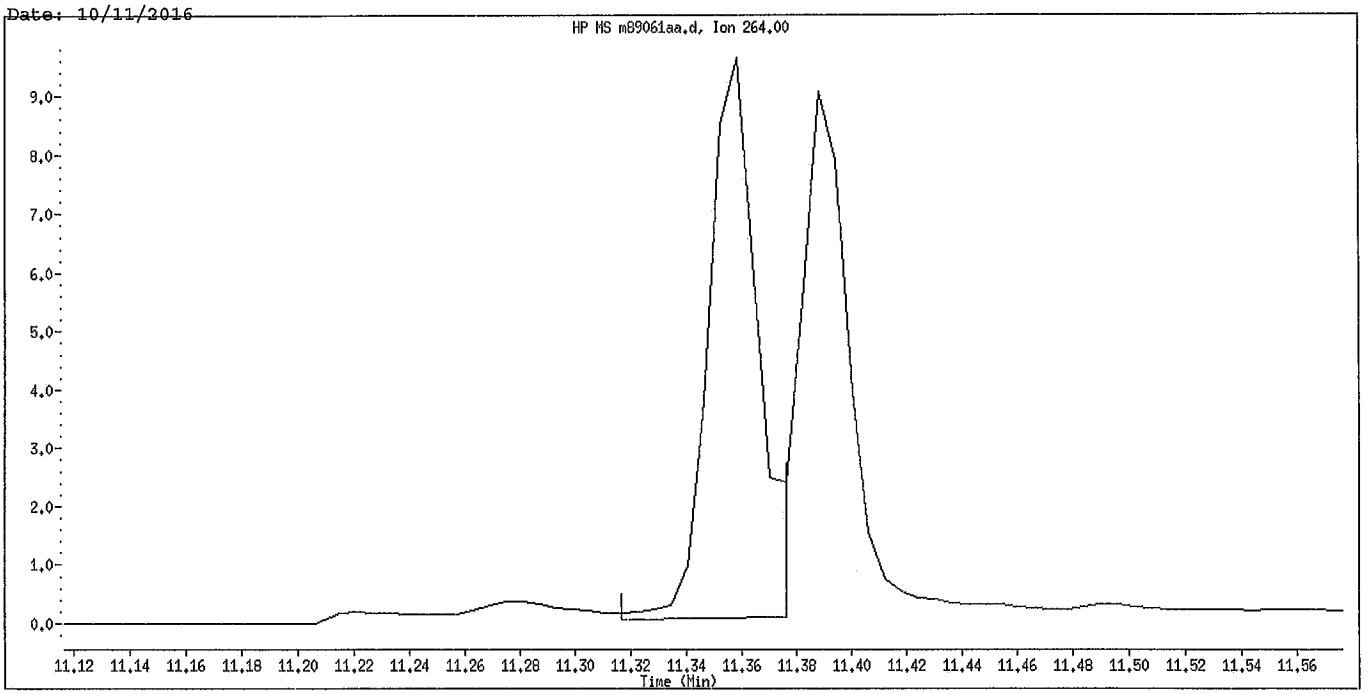


Manual Integration

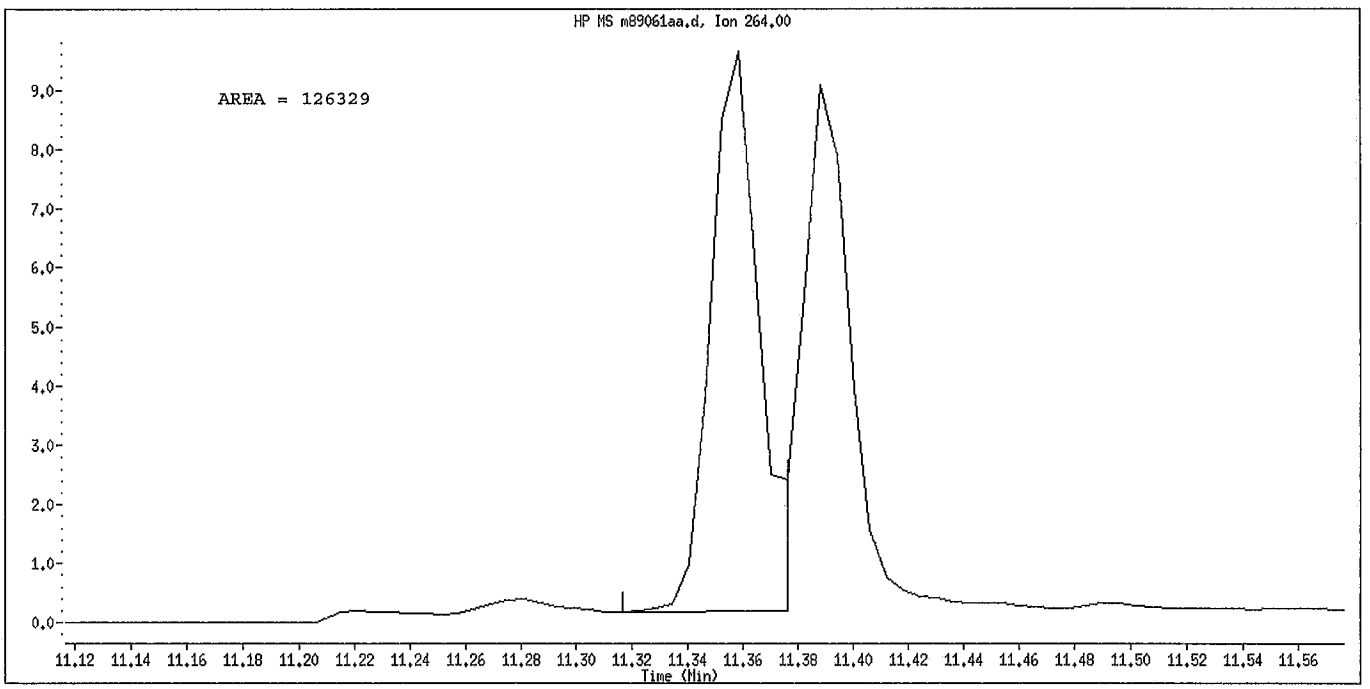
Manually Integrated By: cochranj

Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d
Inj. Date and Time: 11-OCT-2016 13:56
Instrument ID: mp.i
Client ID: R-1648 LOC#8 WATER
Compound Name: Benzo(b)fluoranthene-d12(SS)
CAS #: 93951-98-5
Report ~~Date: 10/11/2016~~



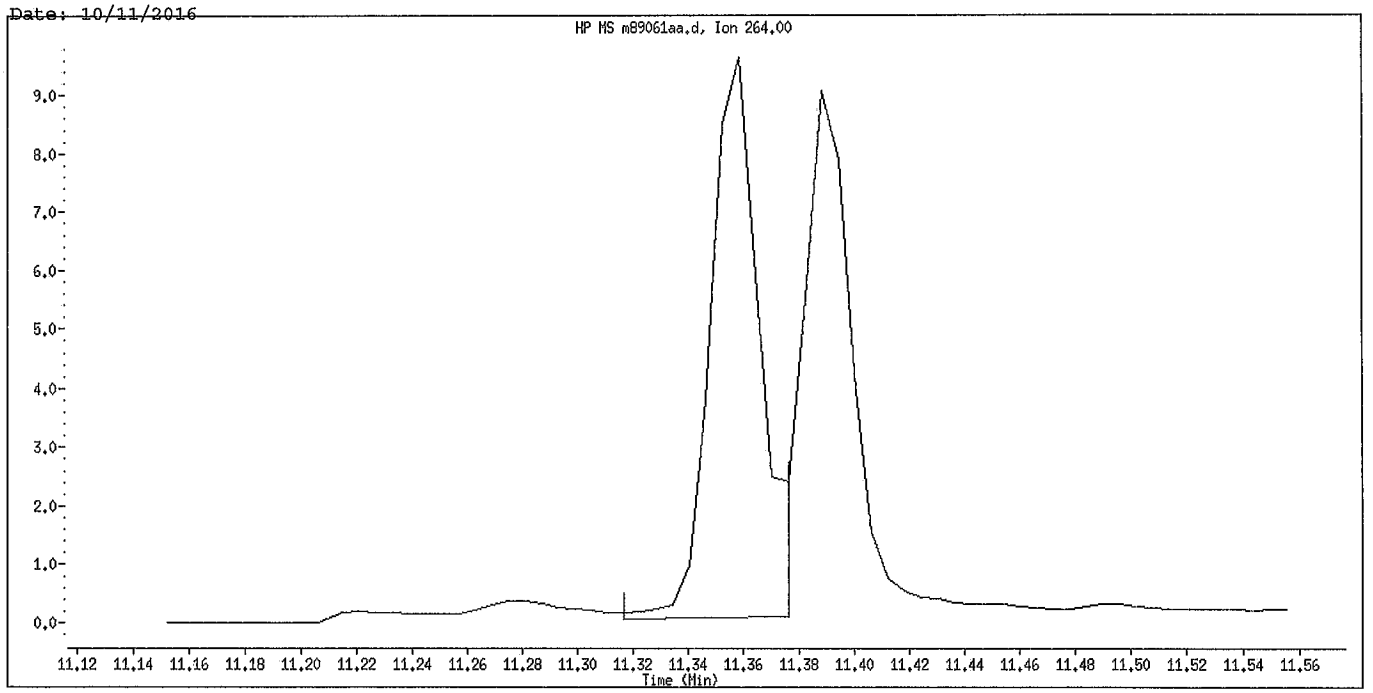
Original Integration



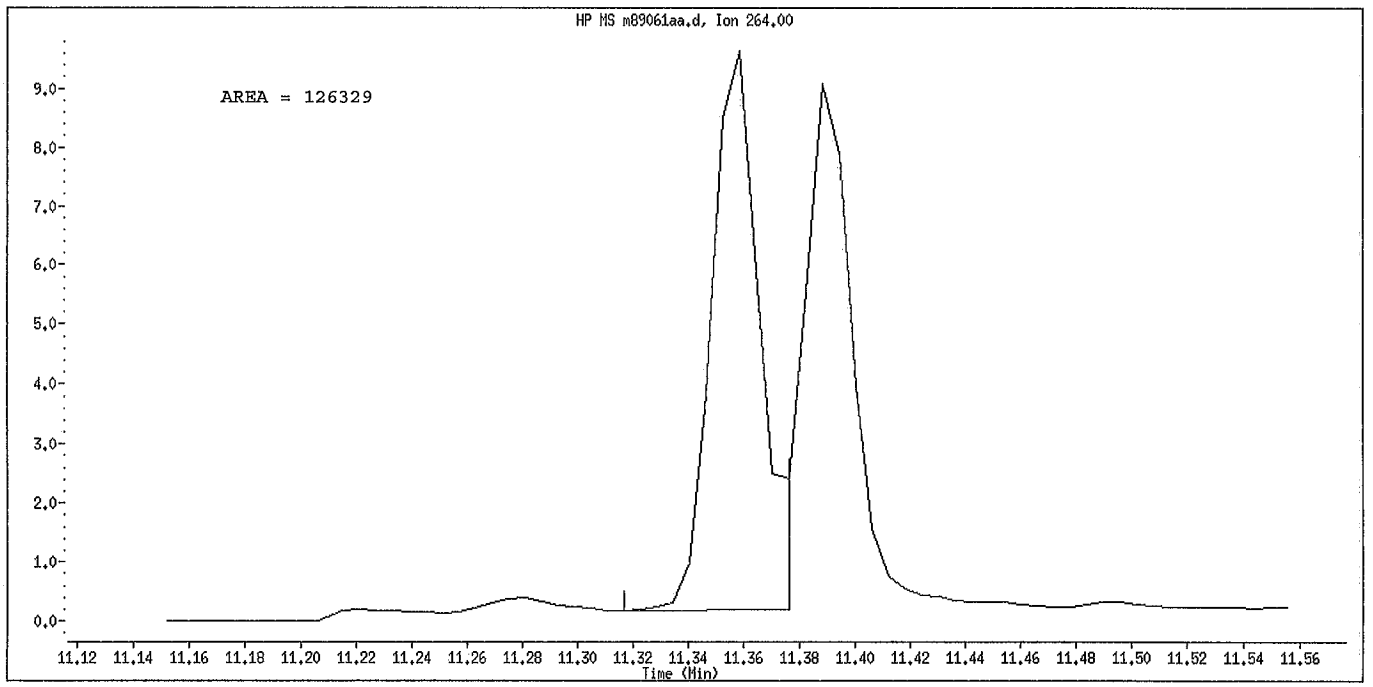
Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d
Inj. Date and Time: 11-OCT-2016 13:56
Instrument ID: mp.i
Client ID: R-1648 LOC#8 WATER
Compound Name: Benzo(b)fluoranthene-d12
CAS #: -93951-98-5
Report ~~Date: 10/11/2016~~



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d

Inj. Date and Time: 11-OCT-2016 13:56

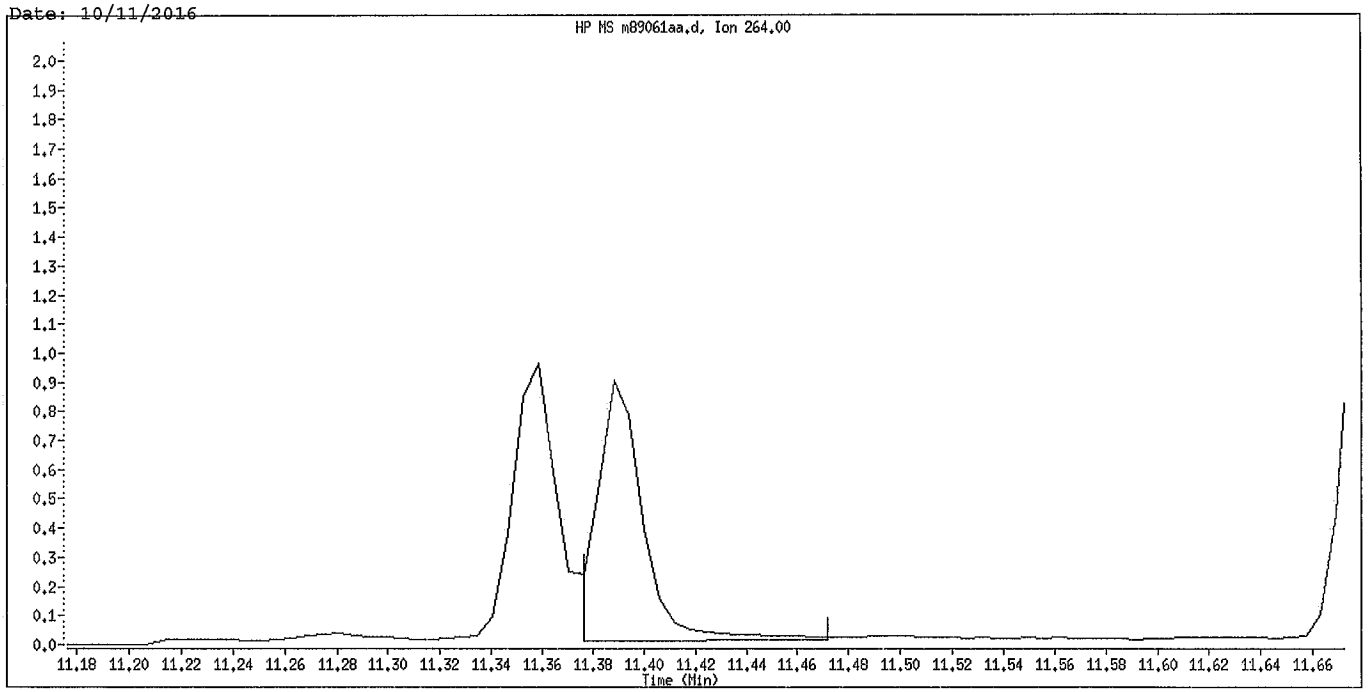
Instrument ID: mp.i

Client ID: R-1648 LOC#8 WATER

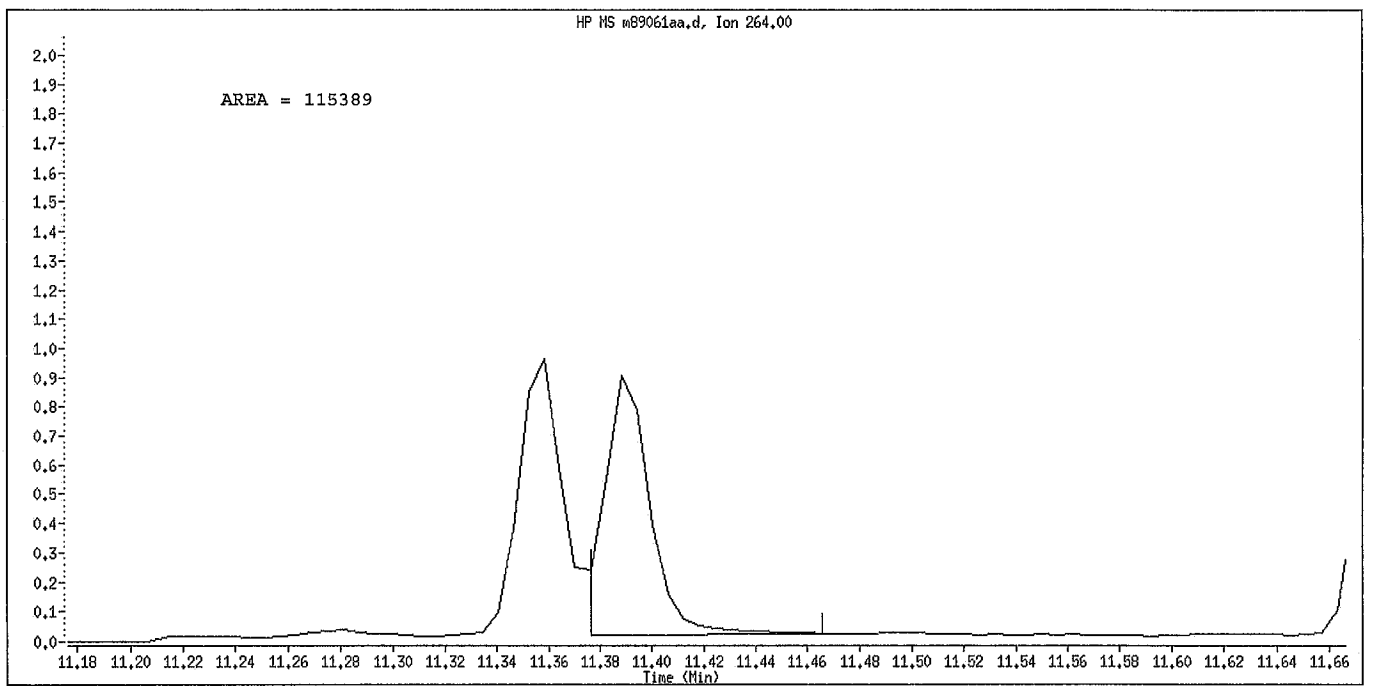
Compound Name: Benzo(k)fluoranthene-d12(SS)

CAS #: 93952-01-3

Report Date: 10/11/2016



Original Integration

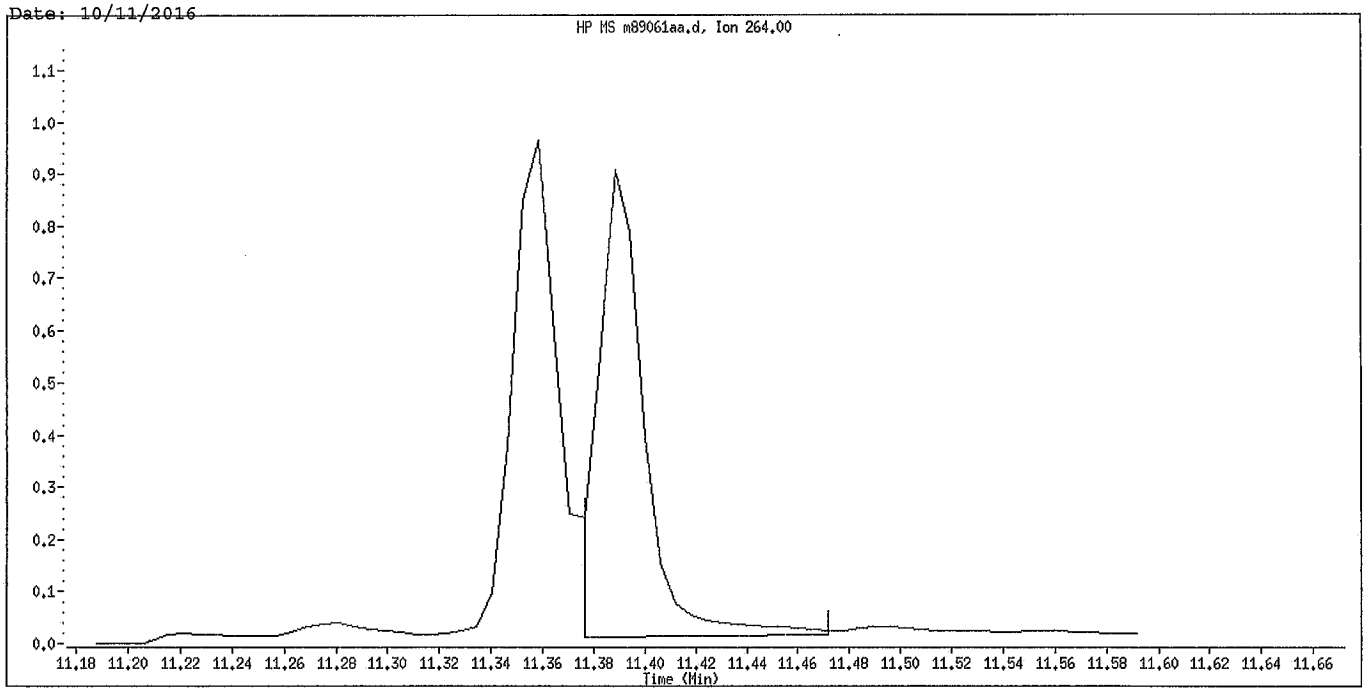


Manual Integration

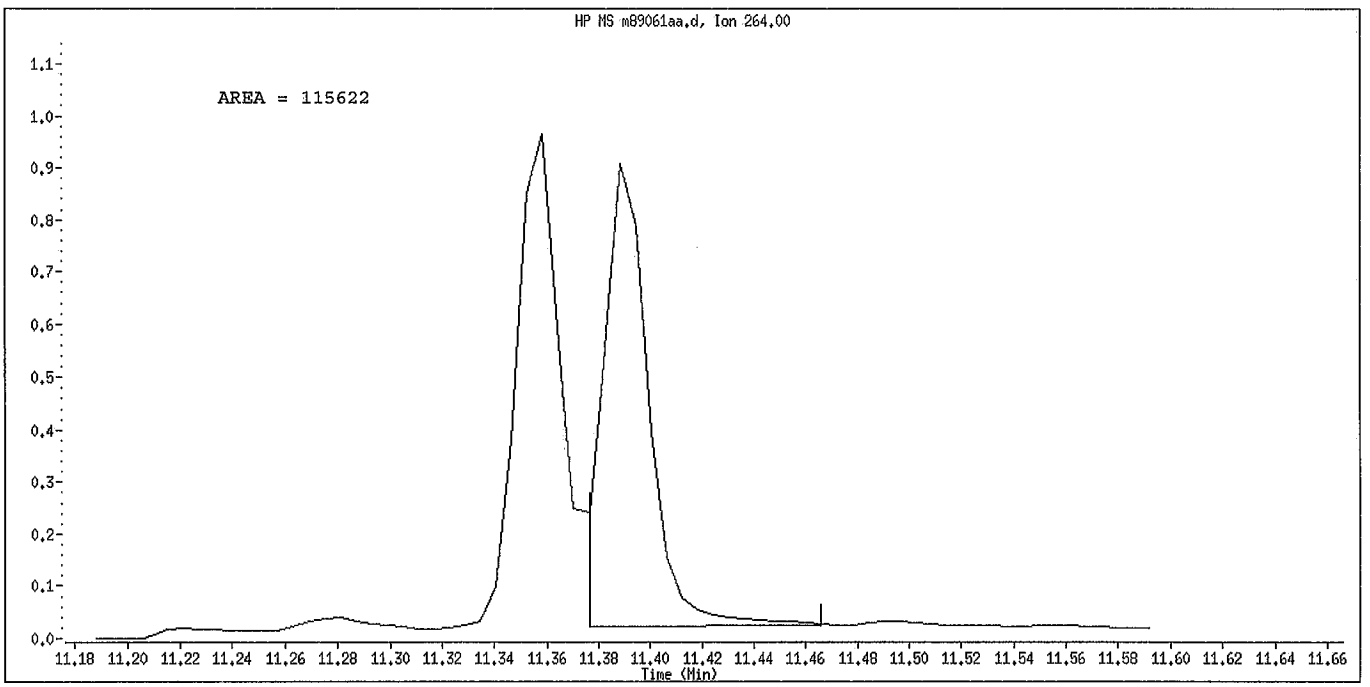
Manually Integrated By: cochranj

Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d
Inj. Date and Time: 11-OCT-2016 13:56
Instrument ID: mp.i
Client ID: R-1648 LOC#8 WATER
Compound Name: Benzo(k)fluoranthene-d12
CAS #: -93952-01-3
Report ~~Date: 10/11/2016~~



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Baseline Event

Data File Name: m89061aa.d

Inj. Date and Time: 11-OCT-2016 13:56

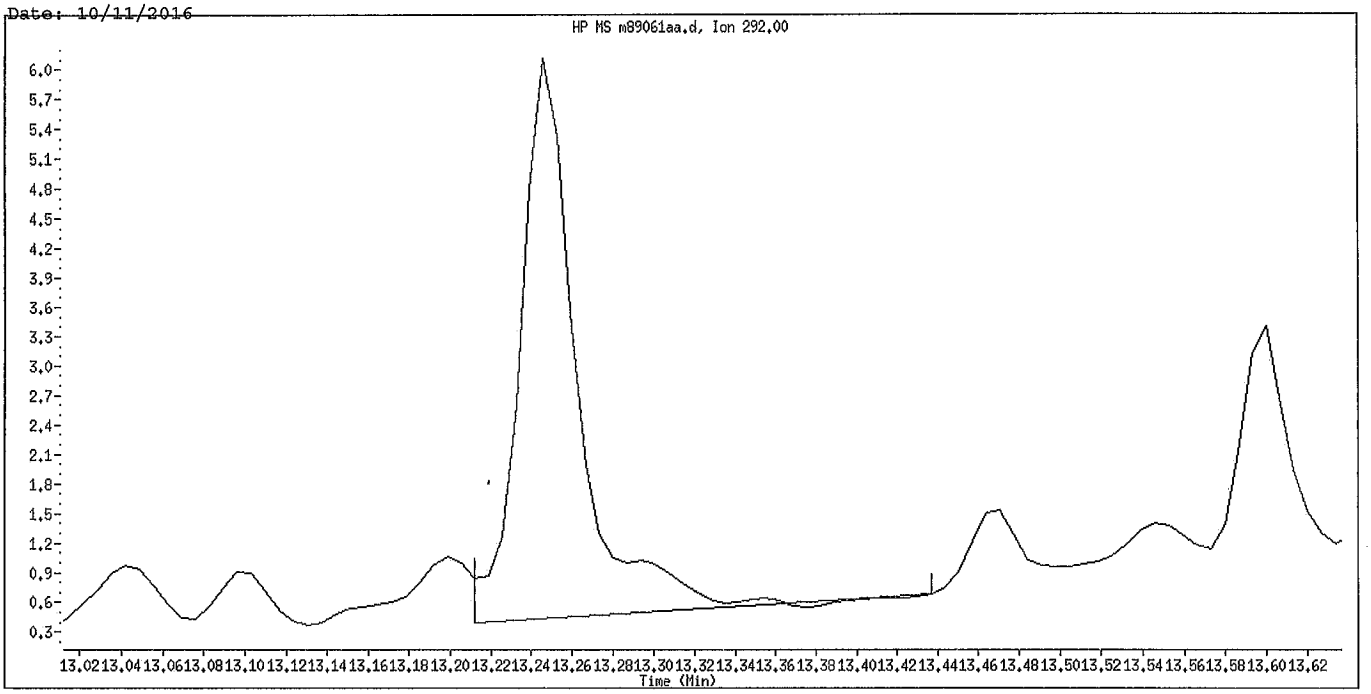
Instrument ID: mp.i

Client ID: R-1648 LOC#8 WATER

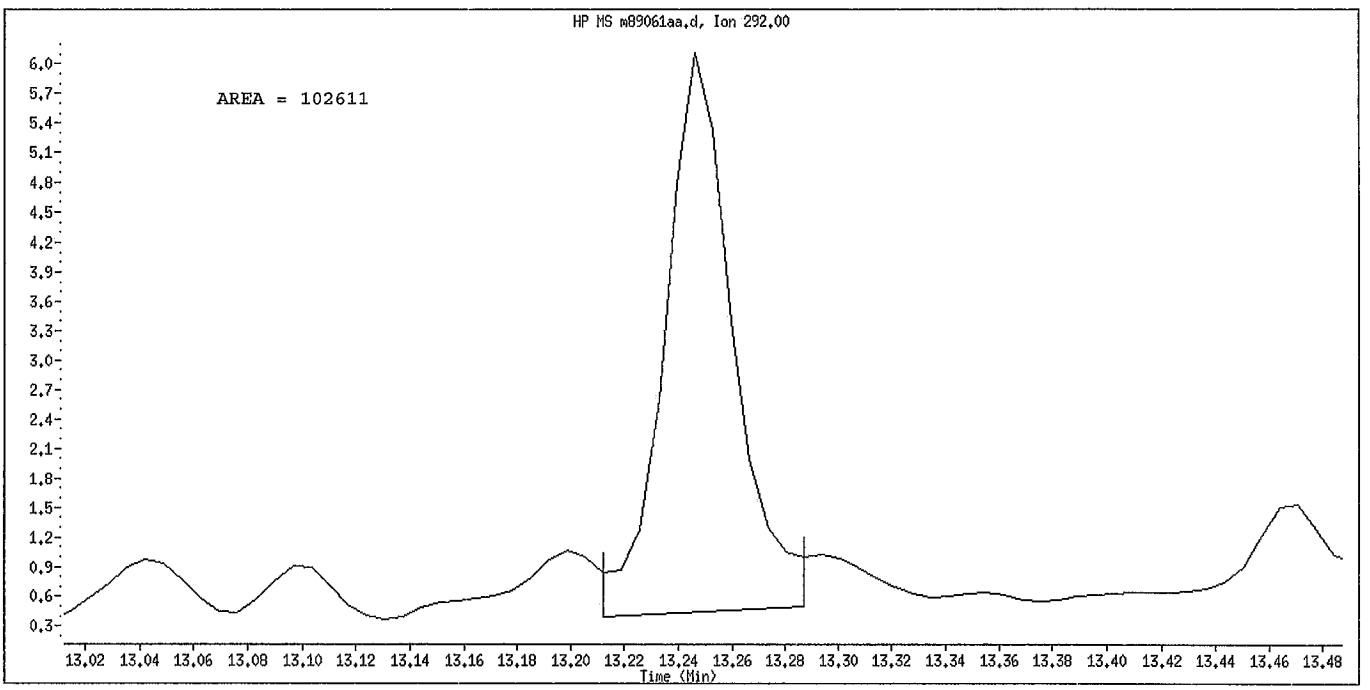
Compound Name: Dibenz(ah)anthracene-d14(SS)

CAS #: 13250-98-1

Report ~~Date: 10/11/2016~~



Original Integration

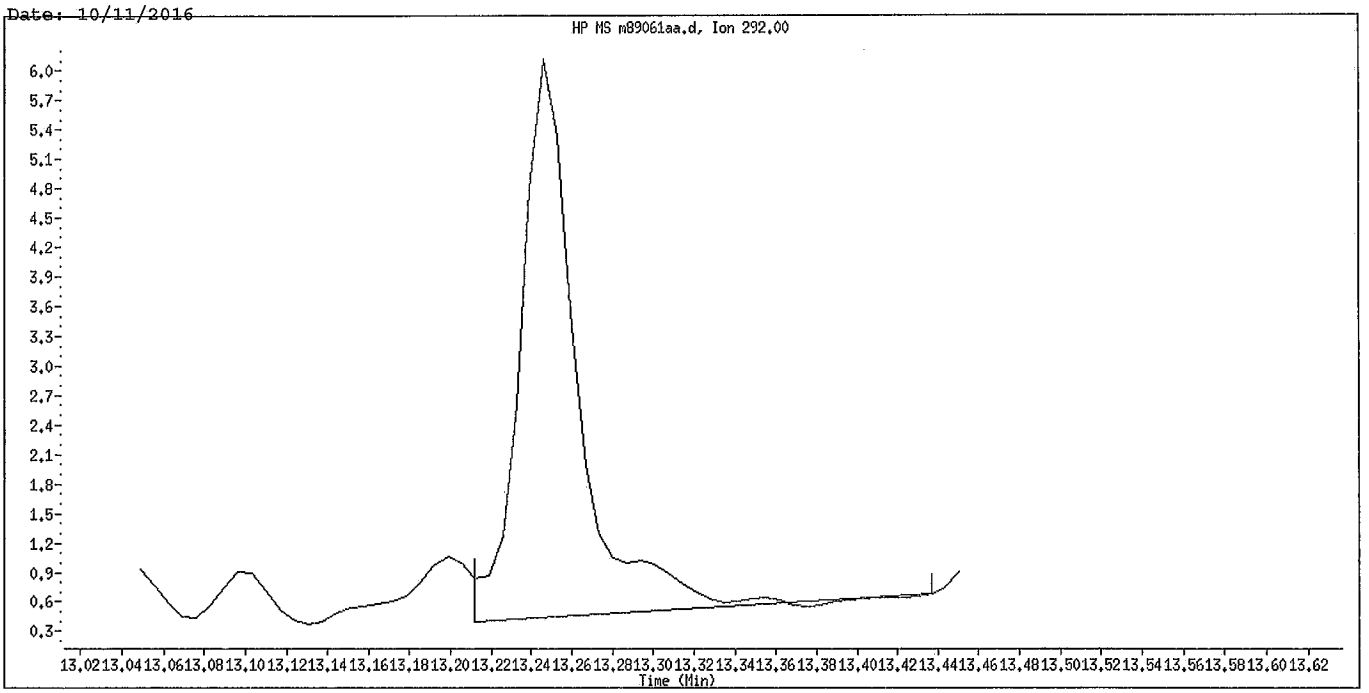


Manual Integration

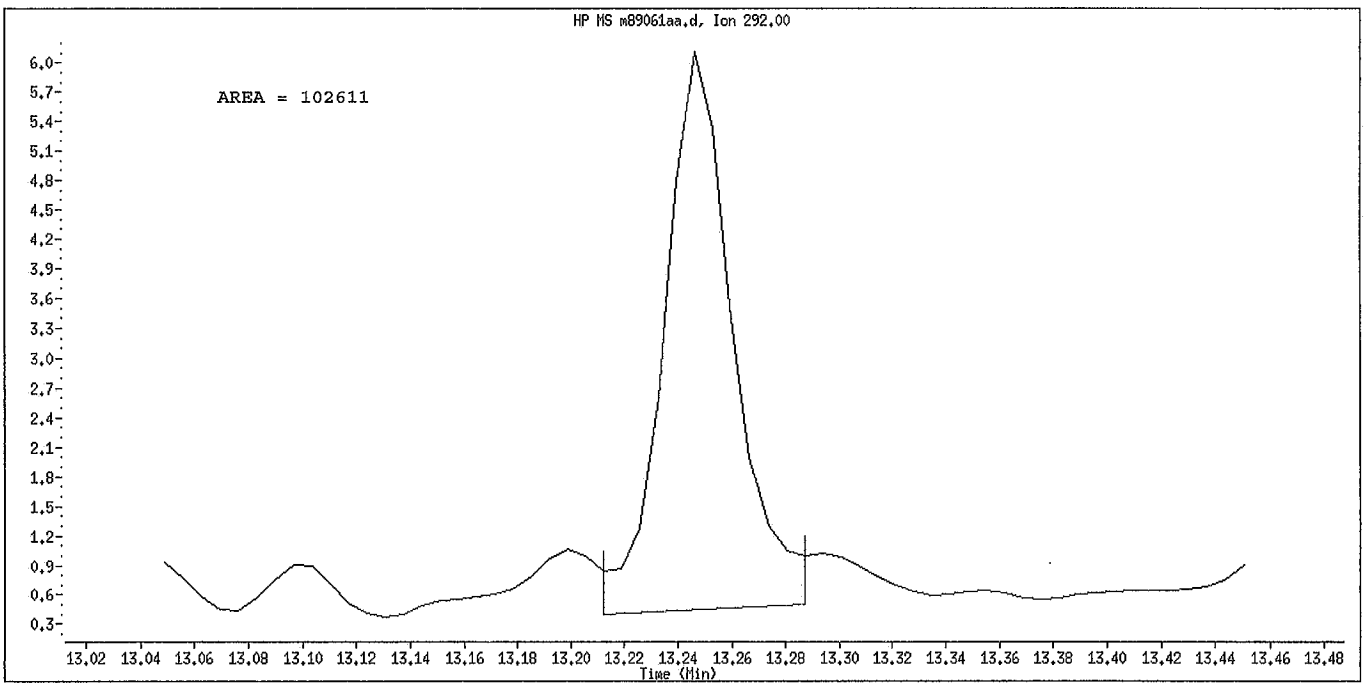
Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89061aa.d
Inj. Date and Time: 11-OCT-2016 13:56
Instrument ID: mp.i
Client ID: R-1648 LOC#8 WATER
Compound Name: Dibenz(ah)anthracene-d14
CAS #: -13250-98-1
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Montrose Air Quality Services LLC

Client Sample ID: R-1656 LOC#9 WATER QT-R3A

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-007	**Work Order #...:**	M89071AA	**Matrix.....:**	WATER
Date Sampled...:	09/26/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	37	10	ng/L	2.4
Acenaphthylene	28	10	ng/L	0.15
Anthracene	83	10	ng/L	0.71
Benzo(a)anthracene	160	10	ng/L	1.5
Benzo(b)fluoranthene	110	10	ng/L	1.5
Benzo(k)fluoranthene	46	10	ng/L	1.0
Benzo(ghi)perylene	62	10	ng/L	0.51
Benzo(a)pyrene	66	10	ng/L	0.40
Chrysene	220 B	10	ng/L	0.22
Dibenz(a,h)anthracene	28	10	ng/L	0.78
Fluoranthene	230	10	ng/L	2.4
Fluorene	76 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	38	10	ng/L	1.0
Naphthalene	390	50	ng/L	16
Perylene	18 CI	10	ng/L	0.81
Phenanthrene	480	20	ng/L	11
Pyrene	150 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	66	(30 - 120)
Naphthalene-d8	68	(30 - 120)
Acenaphthylene-d8	60	(30 - 120)
Phenanthrene-d10	44	(30 - 120)
Anthracene-d10	42	(30 - 120)
Fluoranthene-d10	53	(30 - 120)
Chrysene-d12	43	(30 - 120)
Benzo(b)fluoranthene-d12	60	(30 - 120)
Benzo(k)fluoranthene-d12	46	(30 - 120)
Benzo(a)pyrene-d12	52	(30 - 120)
Perylene-d12	46	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	49	(30 - 120)
Dibenz(ah)anthracene-d14	43	(30 - 120)
Benzo(ghi)perylene-d12	38	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CI See narrative.

Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d
Report Date: 11-Oct-2016 14:35

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89071aar.d
Lab Smp Id: M89071AA
Inj Date : 10-OCT-2016 17:01
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1039.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	392796	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	393856	0.33830	163
3 Naphthalene	128	4.957	4.957	(1.002)	647172	0.81437	392
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	196109	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	196659	0.33545	161
12 2-Methylnaphthalene	142	5.533	5.527	(1.005)	166786	0.30948	149
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	314391	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	314391	0.30116	145
22 Acenaphthylene	152	6.286	6.286	(1.002)	40263	0.05864	28.2
* 23 Acenaphthene-d10	164	6.407	6.406	(1.000)	293939	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	31760	0.07641	36.8
* 26 Fluorene-d10	176	6.842	6.837	(1.000)	228750	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.842	6.837	(1.068)	228750	0.32760	158
27 Fluorene	166	6.866	6.861	(1.003)	83232	0.15710	75.6
* 41 Phenanthrene-d10	188	7.664	7.660	(1.000)	280650	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.664	7.660	(0.854)	280650	0.22264	107
43 Phenanthrene	178	7.682	7.679	(1.002)	706522	1.00444	483
* 44 Anthracene-d10	188	7.713	7.709	(1.000)	242538	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d
Report Date: 11-Oct-2016 14:35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.713	7.709	(0.859)	242538	0.20932	101
	46 Anthracene	178	7.728	7.725	(1.002)	106297	0.17221	82.9
*	53 Fluoranthene-d10	212	8.754	8.750	(1.000)	319259	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.754	8.750	(0.975)	319837	0.26287	127
	55 Fluoranthene	202	8.773	8.769	(1.002)	393385	0.48335	233
*	56 Pyrene-d10	212	8.976	8.972	(1.000)	547850	0.50000	0.500
	57 Pyrene	202	8.995	8.991	(1.028)	263111	0.31428	151(M)
	62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	163015	0.33226	160(M)
*	63 Chrysene-d12	240	10.219	10.219	(1.000)	276412	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	276412	0.21414	103
	65 Chrysene	228	10.246	10.246	(1.003)	260817	0.44740	215(M)
*	70 Benzo(b)fluoranthene-d12	264	11.362	11.355	(1.000)	283221	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.362	11.355	(0.972)	283221	0.29921	144
	72 Benzo(b)fluoranthene	252	11.392	11.385	(1.003)	191459	0.23398	113(M)
*	73 Benzo(k)fluoranthene-d12	264	11.392	11.391	(1.000)	272061	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.392	11.391	(0.975)	272061	0.23244	112
	75 Benzo(k)fluoranthene	252	11.410	11.415	(1.002)	60703	0.09479	45.6(M)
*	76 Benzo(e)pyrene-d12	264	11.685	11.684	(1.000)	450988	0.50000	0.500
	77 Benzo(e)pyrene	252	11.715	11.714	(0.996)	118463	0.18636	89.7
*	78 Benzo(a)pyrene-d12	264	11.757	11.750	(1.000)	207053	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.757	11.750	(1.006)	207053	0.25889	125
	80 Benzo(a)pyrene	252	11.780	11.780	(1.002)	76113	0.13790	66.4
*	81 Perylene-d12	264	11.852	11.845	(1.000)	210867	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.852	11.845	(1.014)	210867	0.23002	111
	83 Perylene	252	11.882	11.881	(1.003)	18474	0.03707	17.8(M)
*	84 Indeno(123-cd)pyrene-d12	288	13.258	13.249	(1.000)	232356	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.258	13.249	(1.135)	232356	0.24445	118
	86 Indeno(1,2,3-cd)pyrene	276	13.292	13.283	(1.003)	49720	0.07952	38.3
*	87 Dibenz(ah)anthracene-d14	292	13.258	13.249	(1.000)	163471	0.50000	0.500
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.258	13.249	(1.135)	163471	0.21512	104
	89 Dibenz(a,h)anthracene	278	13.298	13.290	(1.003)	26510	0.05769	27.8(M)
*	90 Benzo(ghi)perylene-d12	288	13.598	13.589	(1.000)	179672	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.598	13.589	(1.164)	179672	0.19151	92.2
	92 Benzo(g,h,i)perylene	276	13.632	13.623	(1.002)	58432	0.12925	62.2

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d
Report Date: 11-Oct-2016 14:35

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: LIQUID
Lab Smp Id: M89071AA
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

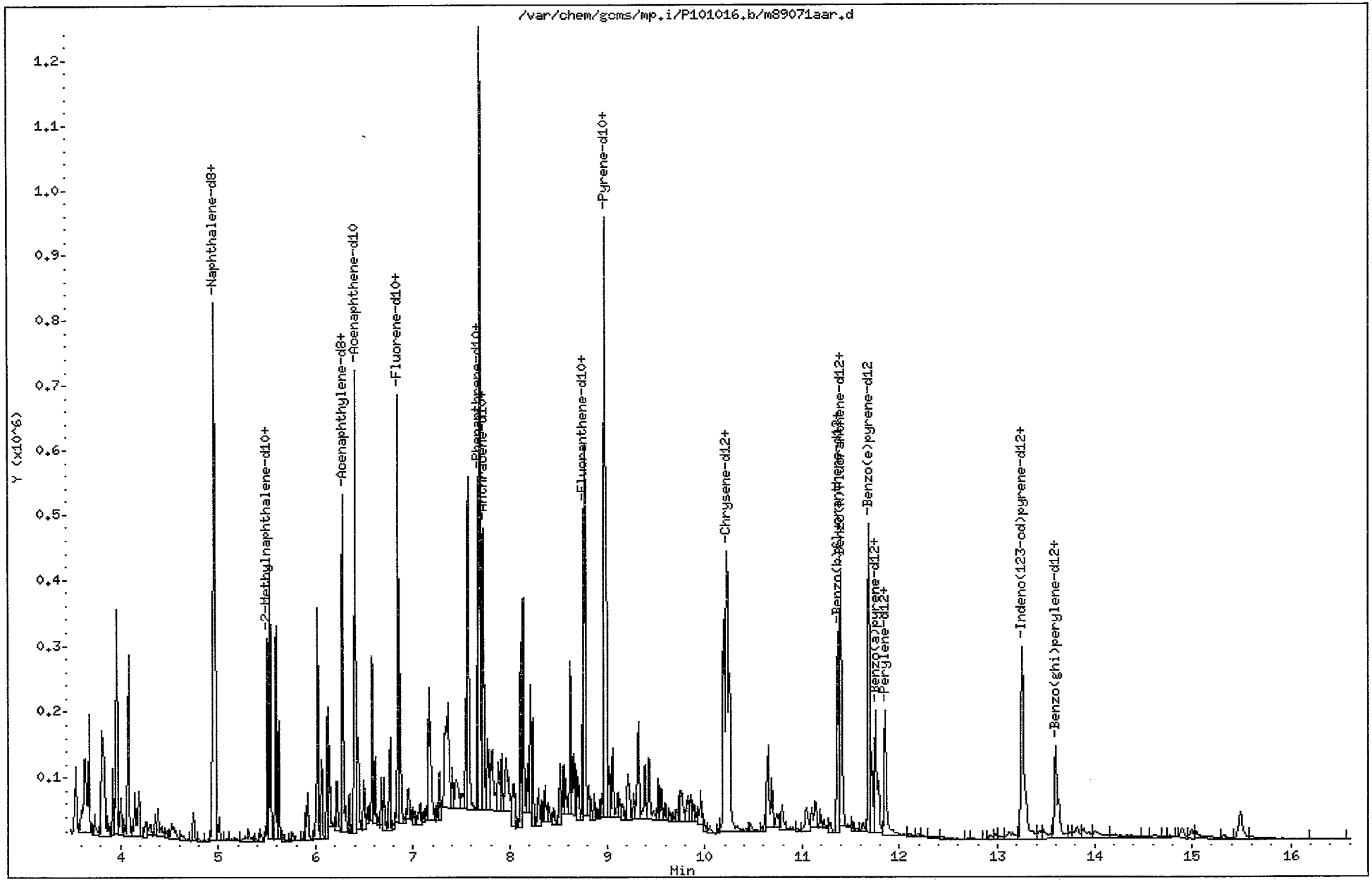
Client SDG: P101016
Fraction: SV

Operator: 011211
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	241	163	67.66	20-130
$ 222 13C6-Naphthalene	481	0.00	*	50-150
$ 11 2-Methylnaphthalen	241	161	67.09	30-120
$ 21 Acenaphthylene-d8(	241	145	60.23	30-120
$ 233 Fluorene-d10(SS)	241	158	65.52	30-120
$ 42 Phenanthrene-d10(S	241	107	44.53	30-120
$ 45 Anthracene-d10(SS)	241	101	41.86	30-120
$ 54 Fluoranthene-d10(S	241	127	52.57	30-120
$ 64 Chrysene-d12(SS)	241	103	42.83	30-120
$ 71 Benzo(b)fluoranthe	241	144	59.84	30-120
$ 74 Benzo(k)fluoranthe	241	112	46.49	30-120
$ 79 Benzo(a)pyrene-d12	241	125	51.78	30-120
$ 82 Perylene-d12(SS)	241	111	46.00	30-120
$ 85 Indeno(123-cd)pyre	241	118	48.89	30-120
$ 88 Dibenz(ah)anthrace	241	104	43.02	30-120
$ 91 Benzo(ghi)perylene	241	92.2	38.30	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d
Date : 10-OCT-2016 17:01
Client ID:
Sample Info: ,,0,,TRT
Purge Volume: 1039.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

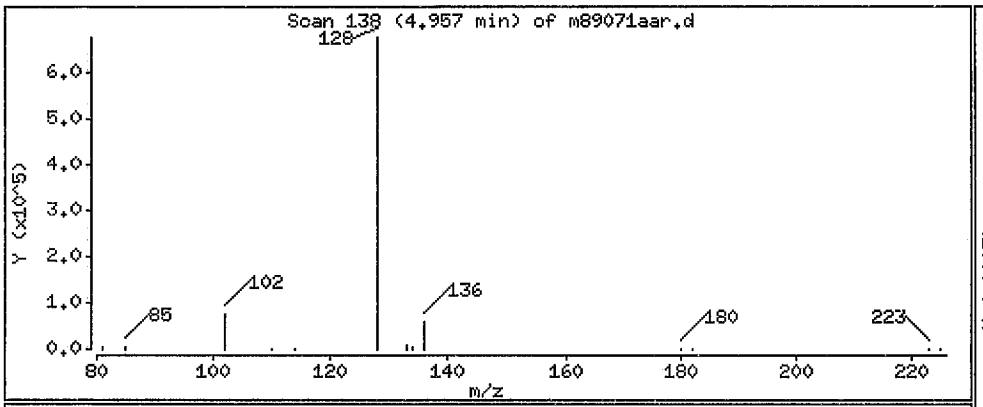
Client ID: | Instrument: mp.i

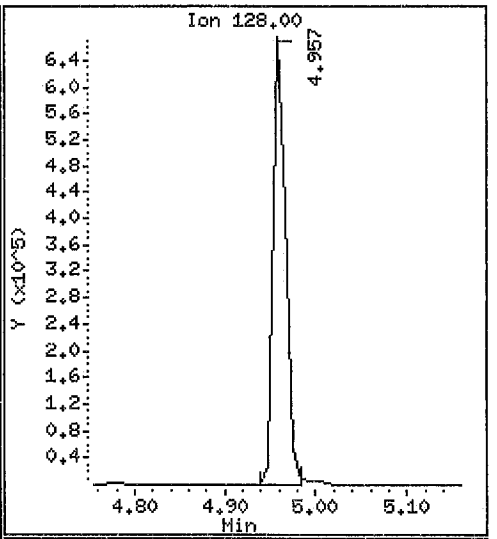
Sample Info: ,,0,,TRT

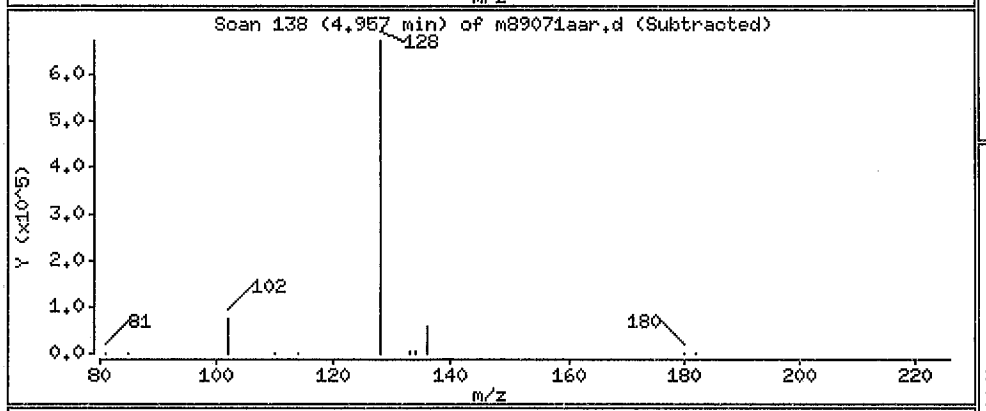
Purge Volume: 1039.0 | Operator: 011211

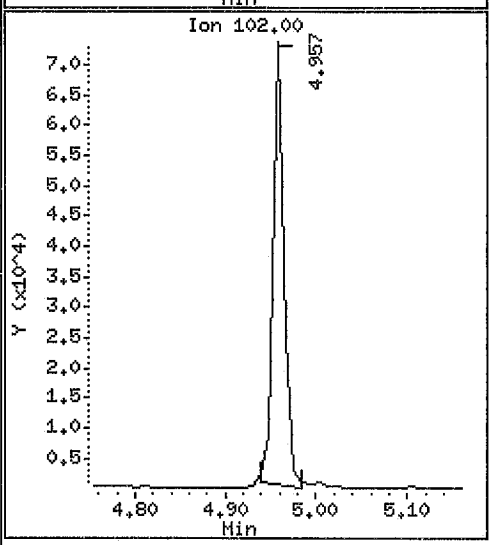
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

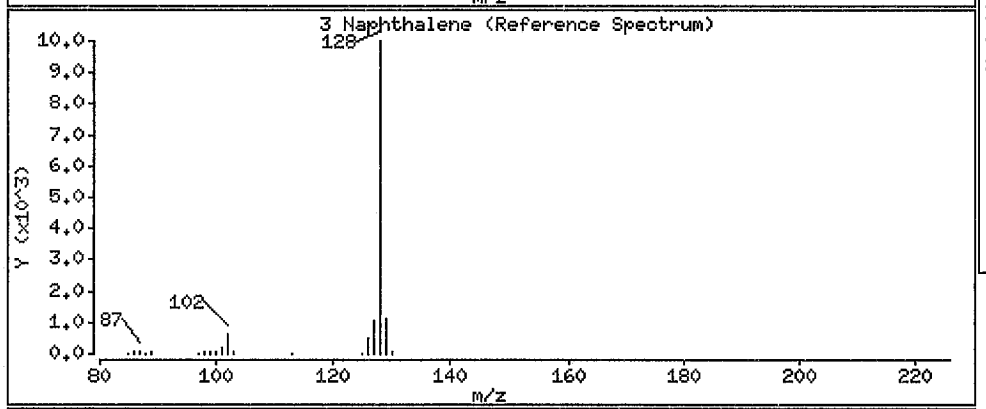
3 Naphthalene | Concentration: 392 ng/L

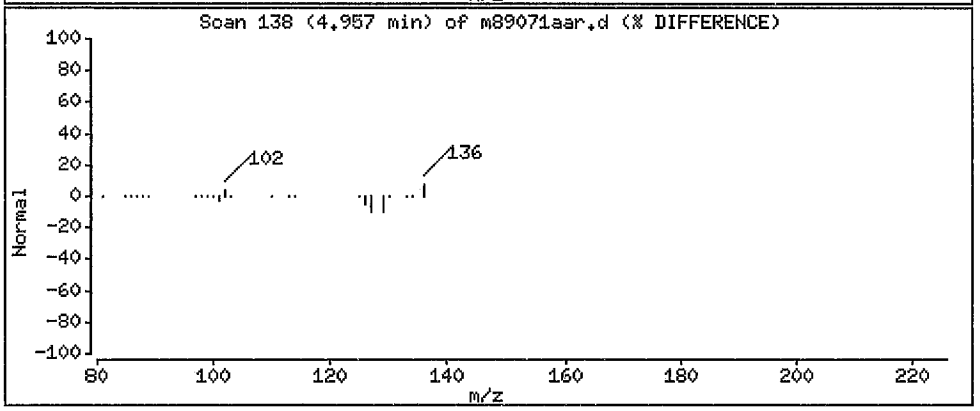












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

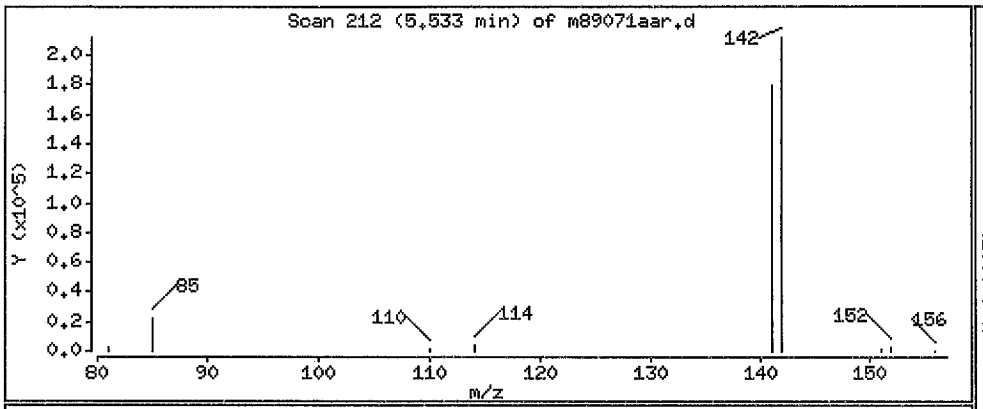
Client ID: | Instrument: mp.i

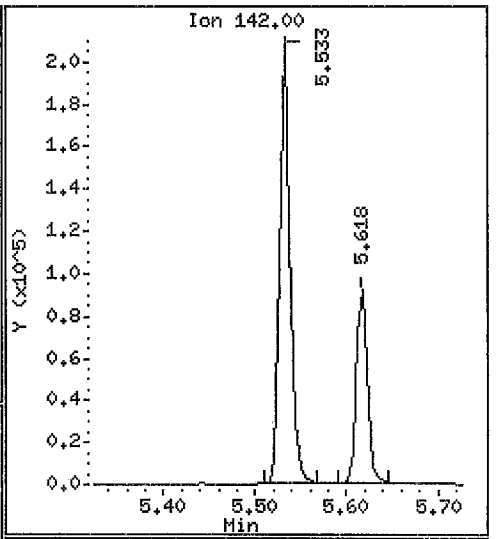
Sample Info: ,,0,,TRT

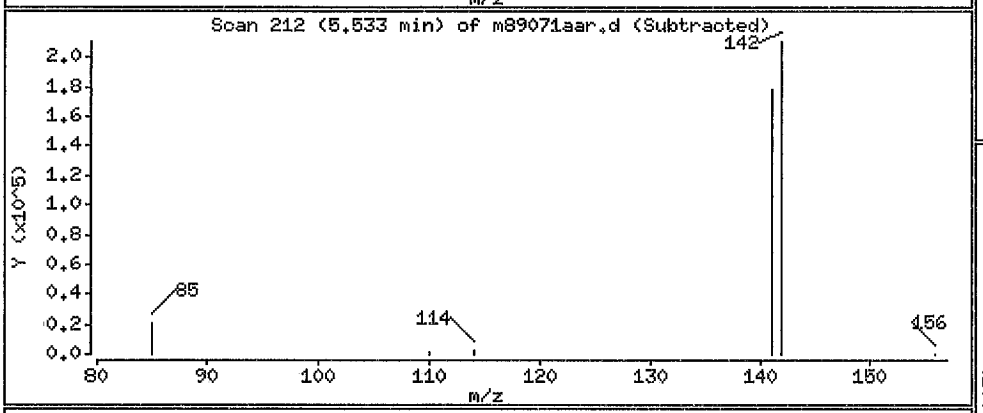
Purge Volume: 1039.0 | Operator: 011211

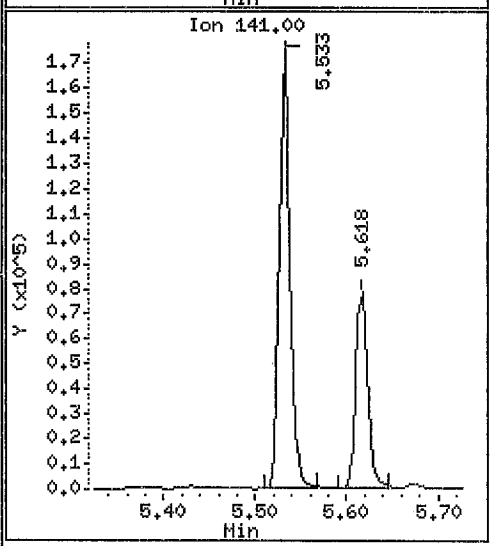
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

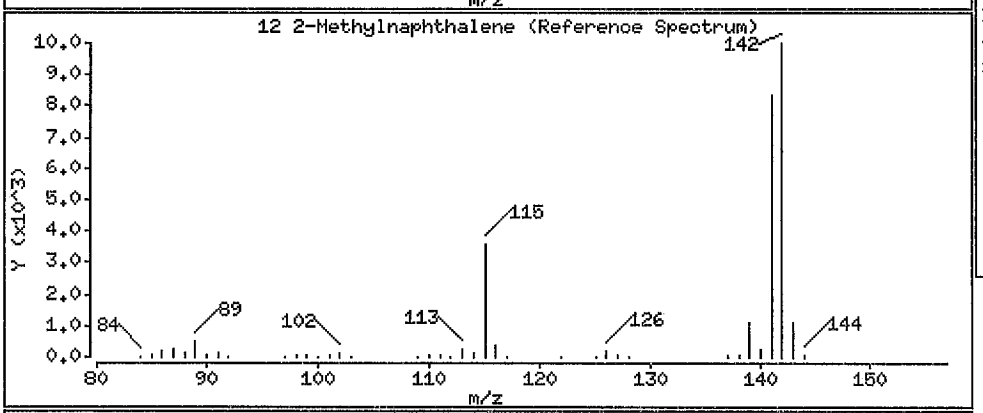
12 2-Methylnaphthalene | Concentration: 149 ng/L

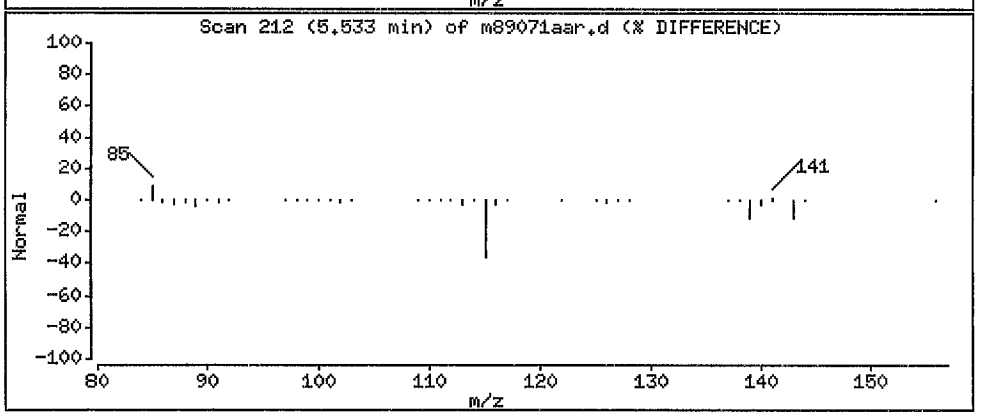












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Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

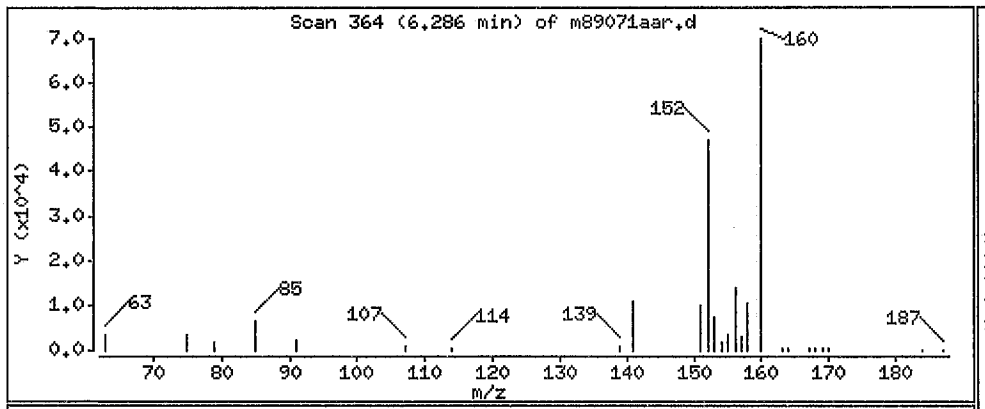
Operator: 011211

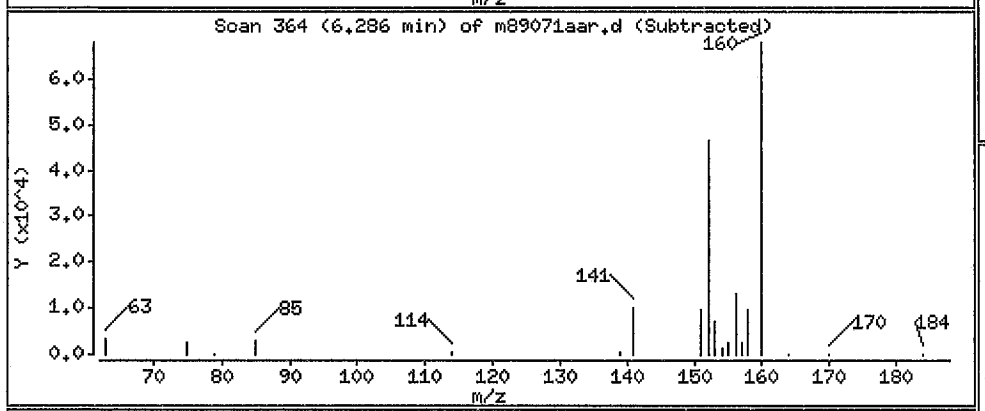
Column phase: Rxi-5SIL MS w/Guard

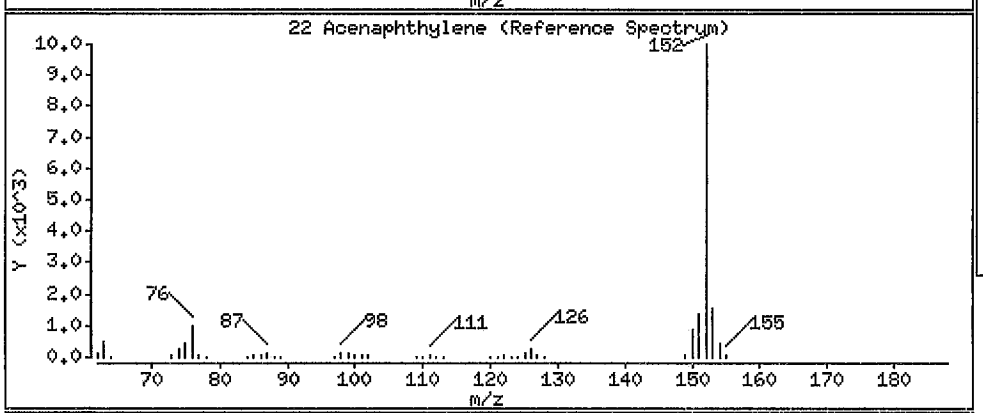
Column diameter: 0.25

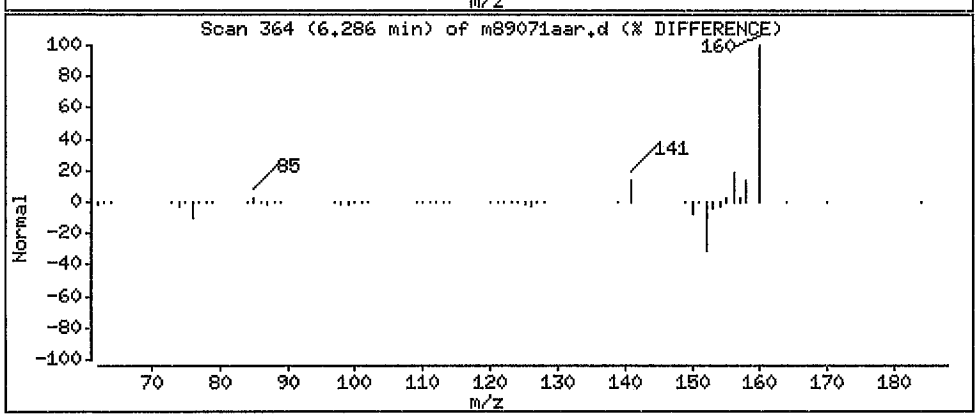
22 Acenaphthylene

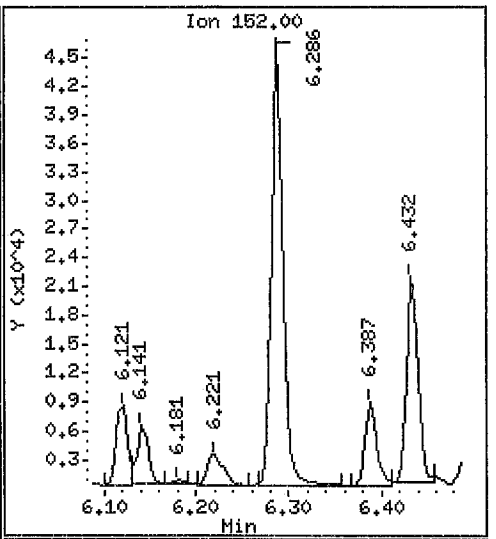
Concentration: 28.2 ng/L

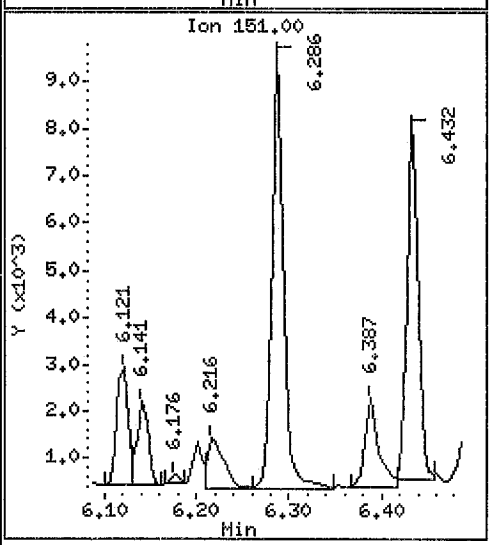












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Date : 10-OCT-2016 17:01

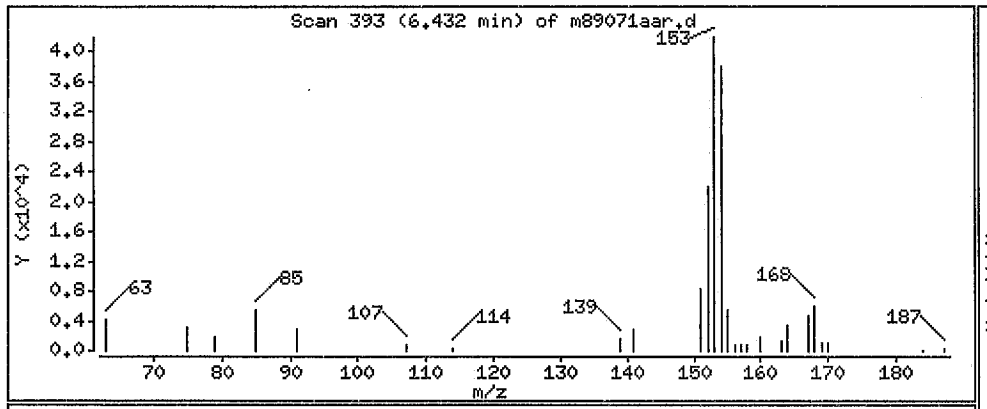
Client ID: | Instrument: mp.i

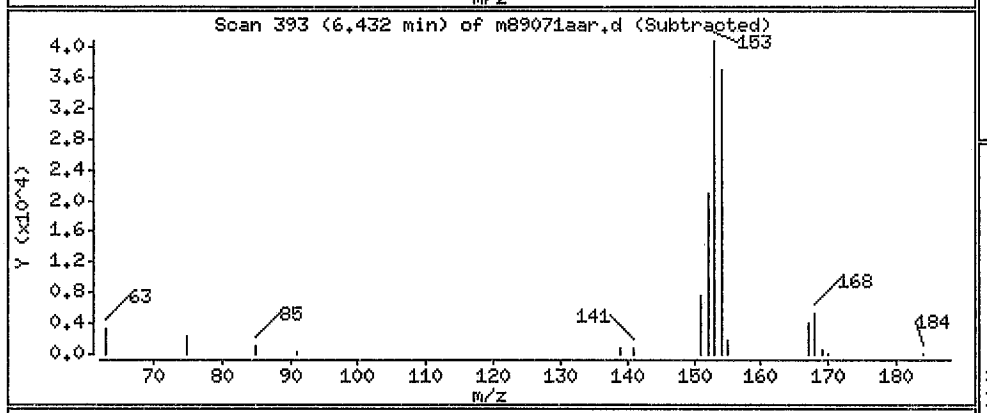
Sample Info: ,,0,,TRT

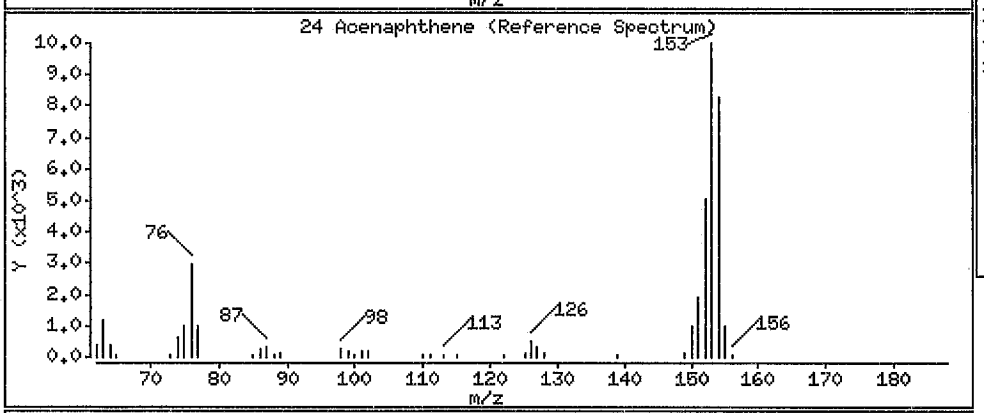
Purge Volume: 1039.0 | Operator: 011211

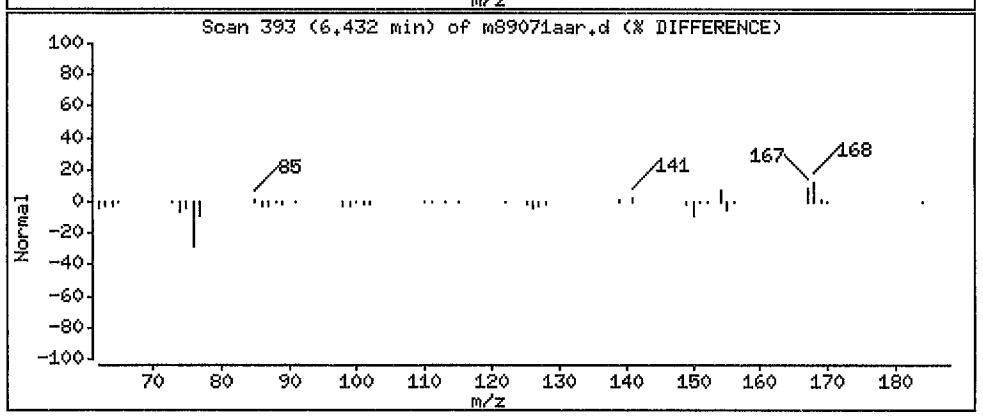
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

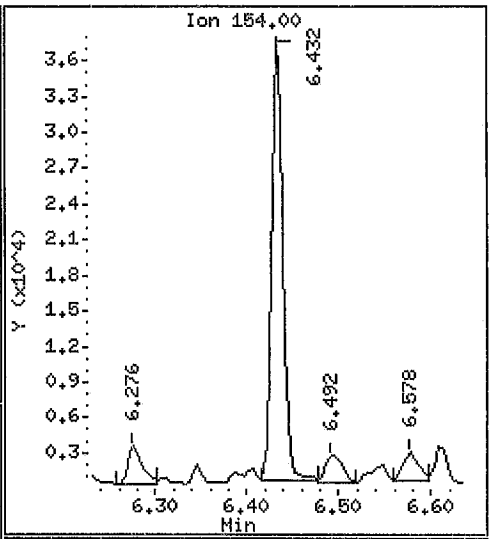
24 Acenaphthene | Concentration: 36.8 ng/L

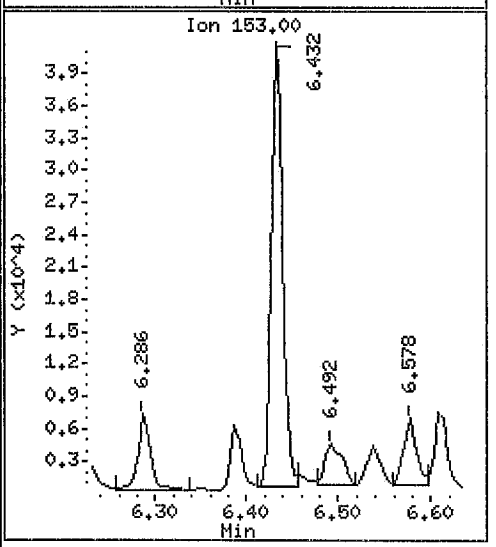












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Date : 10-OCT-2016 17:01

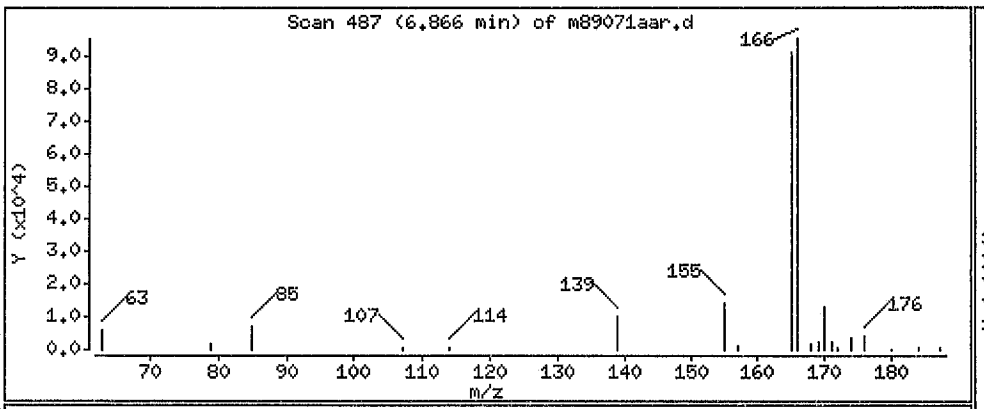
Client ID: | Instrument: mp.i

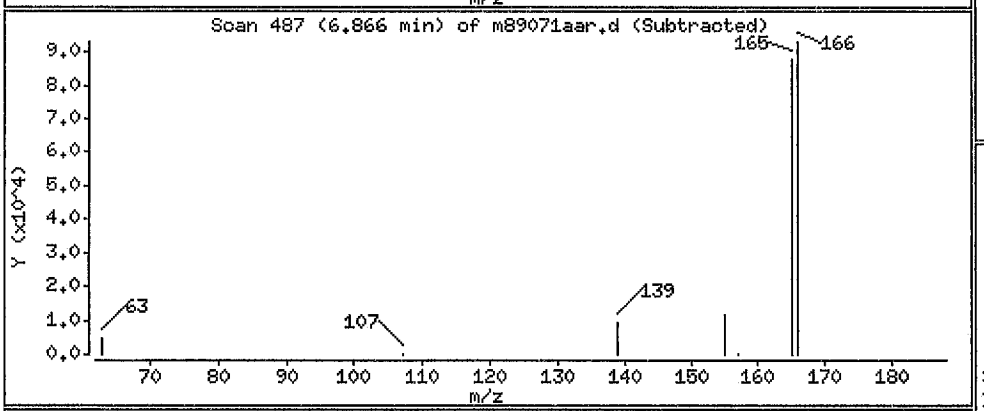
Sample Info: ,,0,,TRT

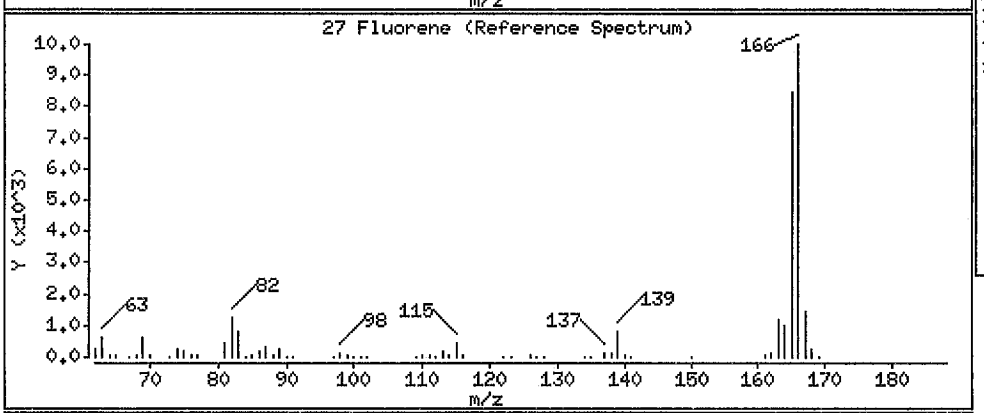
Purge Volume: 1039.0 | Operator: 011211

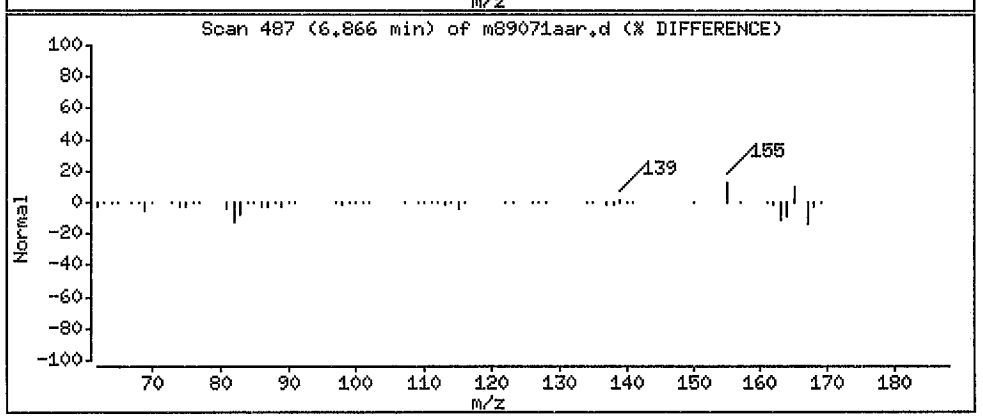
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

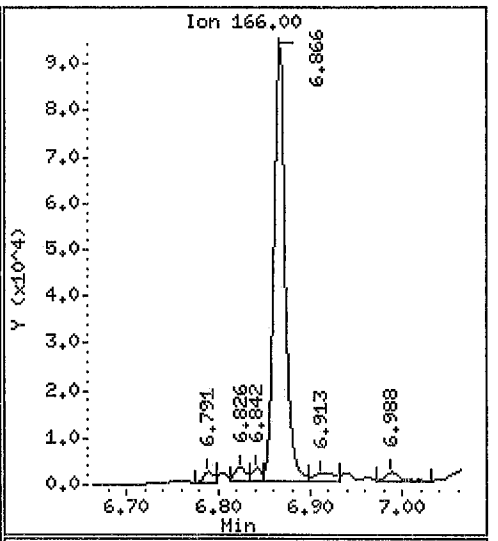
27 Fluorene | Concentration: 75.6 ng/L

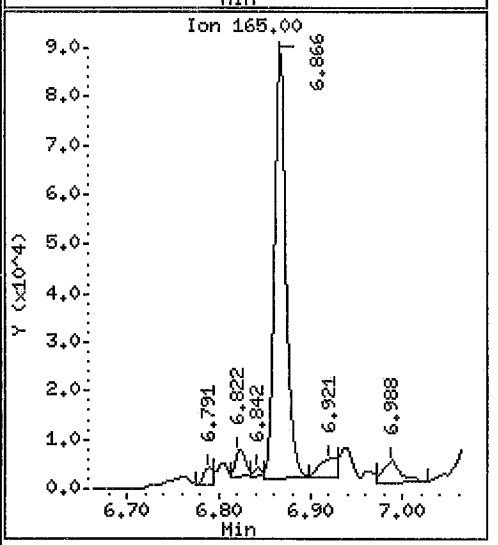












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Date : 10-OCT-2016 17:01

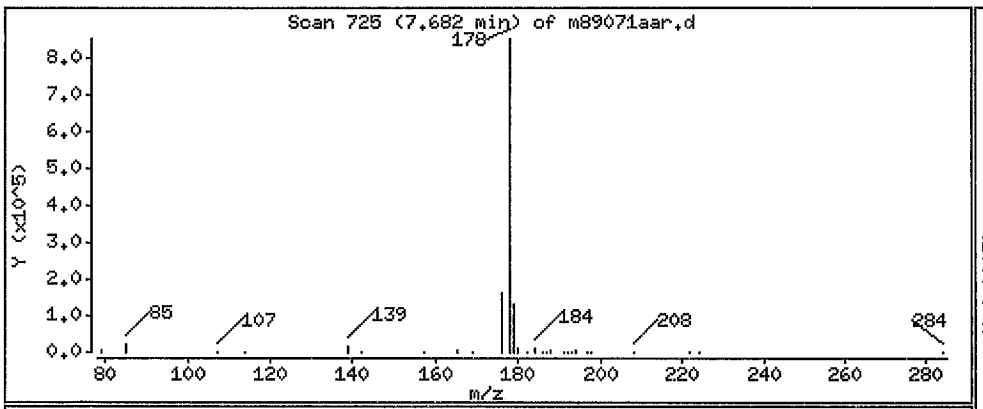
Client ID: | Instrument: mp.i

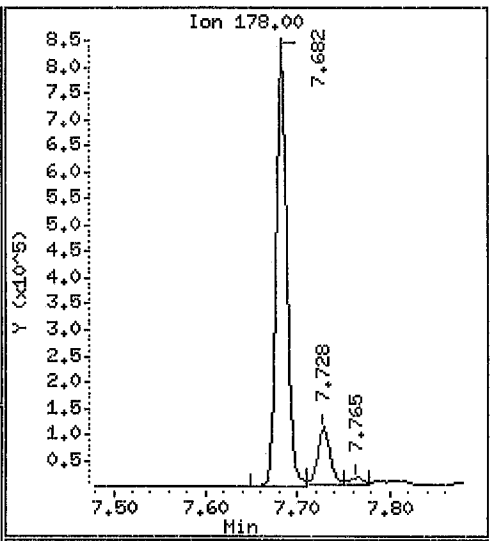
Sample Info: ,,0,,TRT

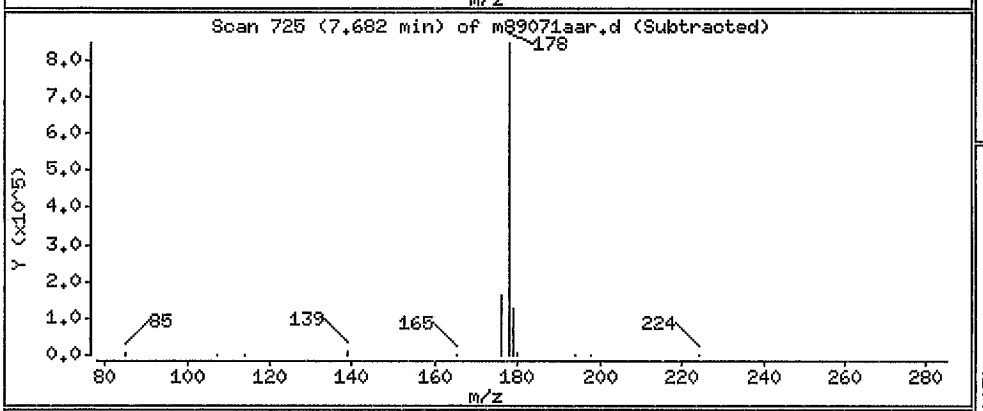
Purge Volume: 1039.0 | Operator: 011211

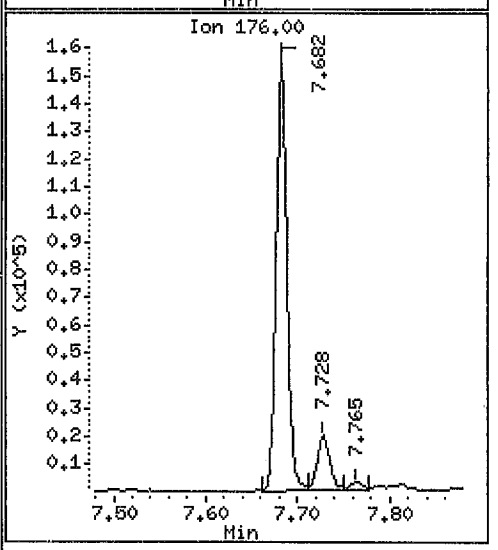
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

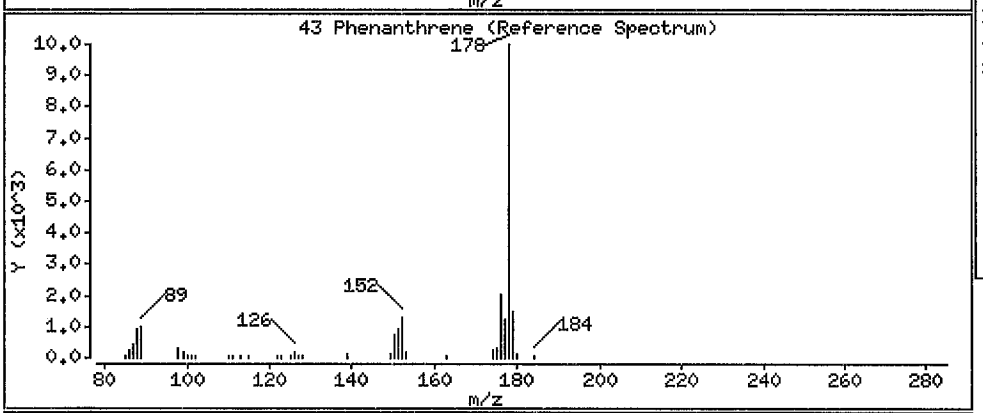
43 Phenanthrene | Concentration: 483 ng/L

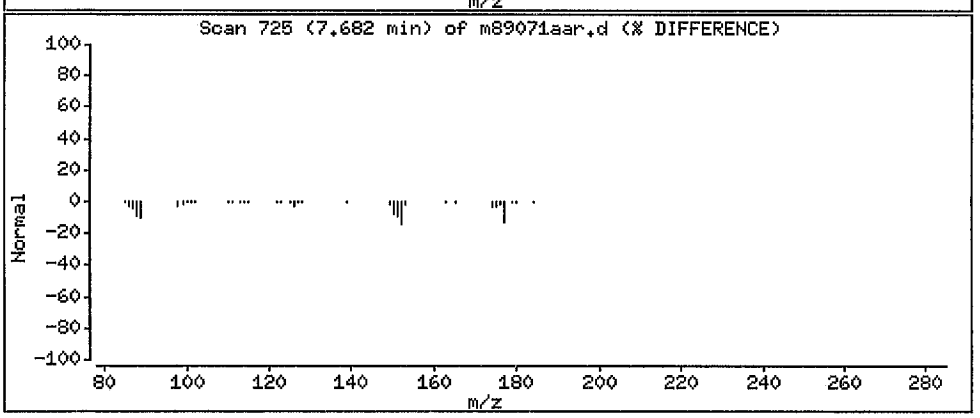












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

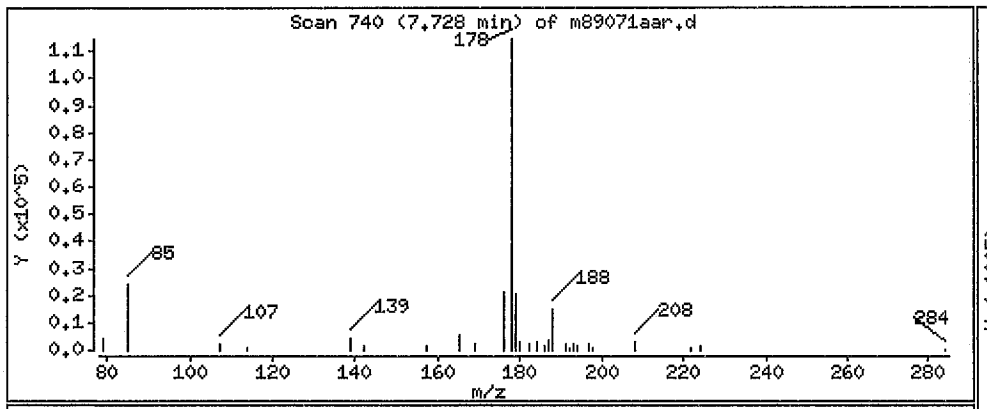
Client ID: | Instrument: mp.i

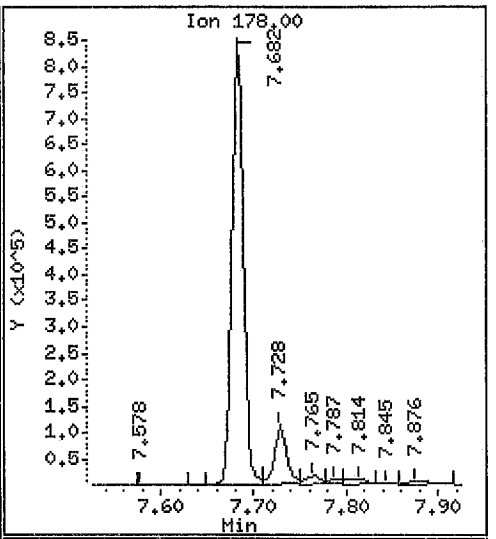
Sample Info: ,,0,,TRT

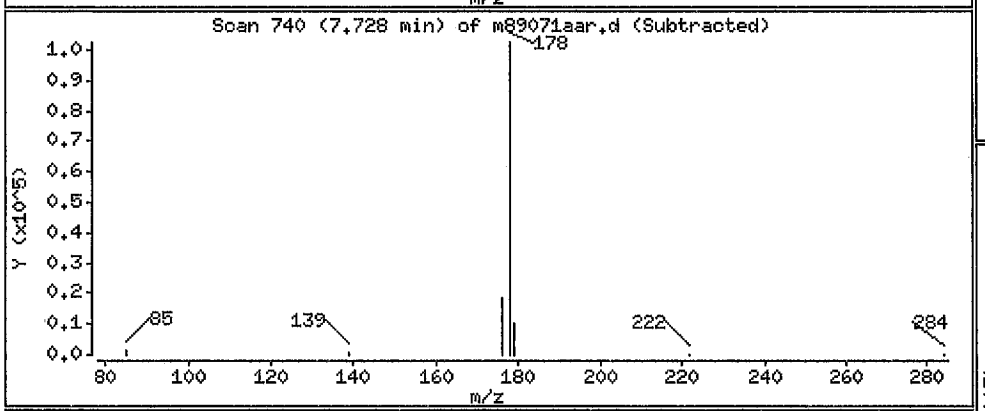
Purge Volume: 1039.0 | Operator: 011211

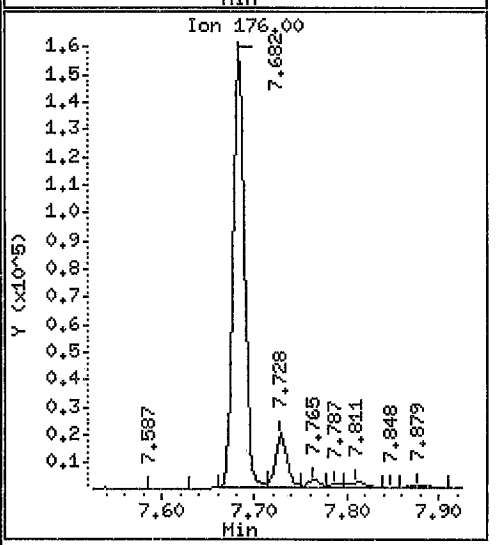
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

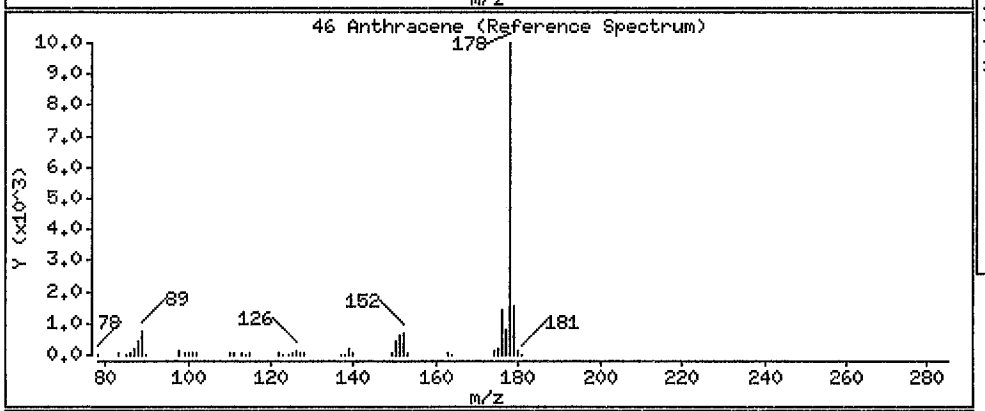
46 Anthracene | Concentration: 82.9 ng/L

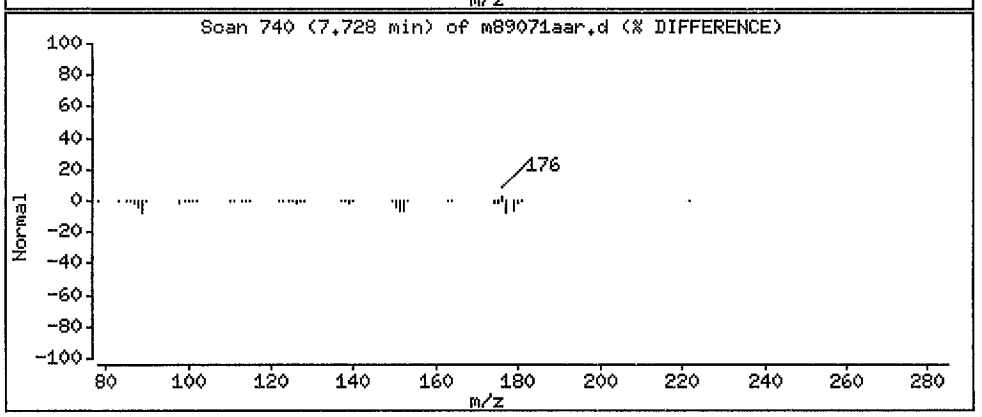












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Date : 10-OCT-2016 17:01

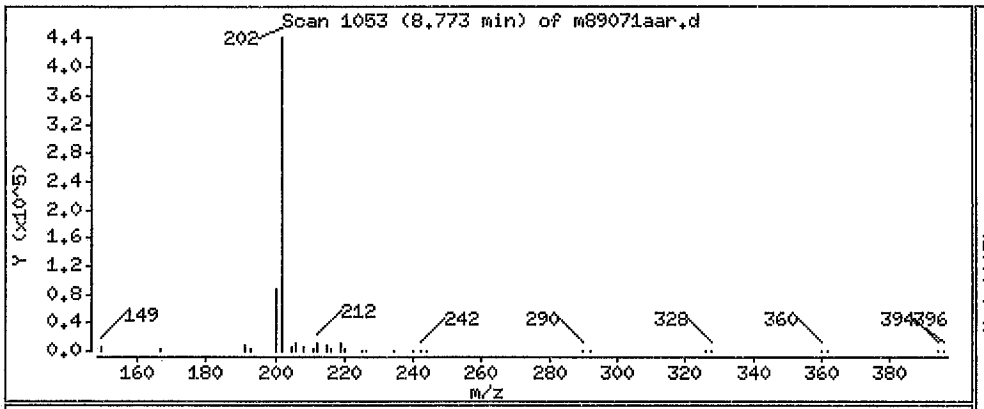
Client ID: | Instrument: mp.i

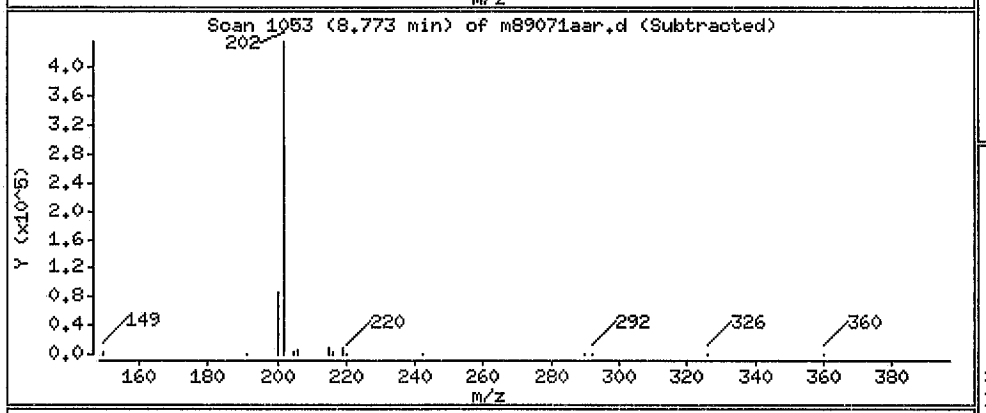
Sample Info: ,,0,,TRT

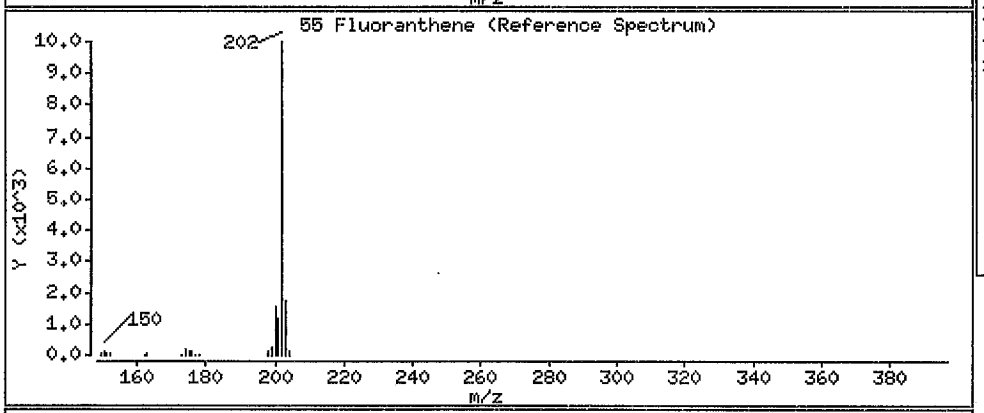
Purge Volume: 1039.0 | Operator: 011211

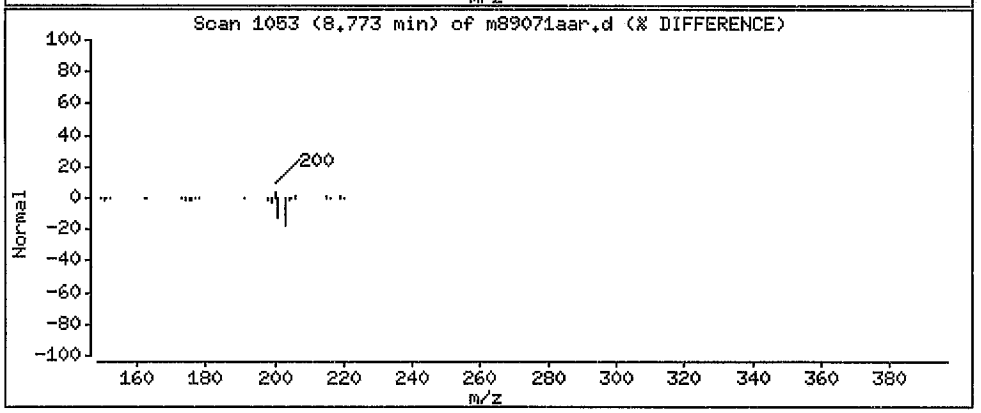
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

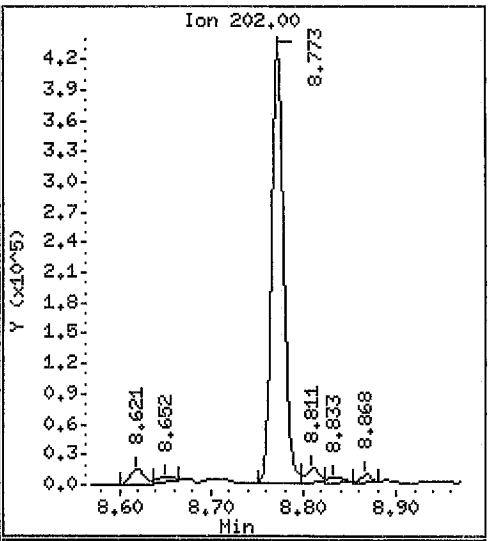
55 Fluoranthene | Concentration: 233 ng/L

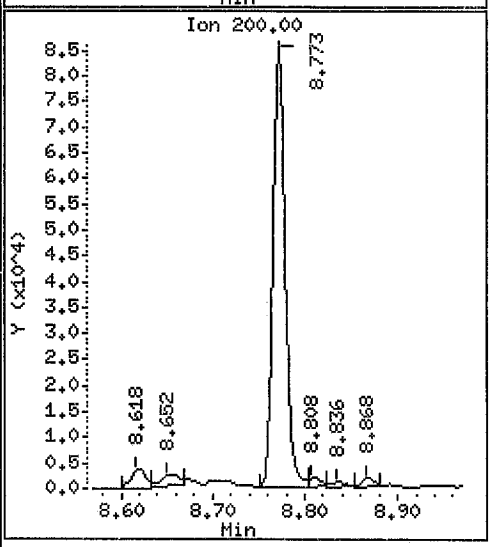












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

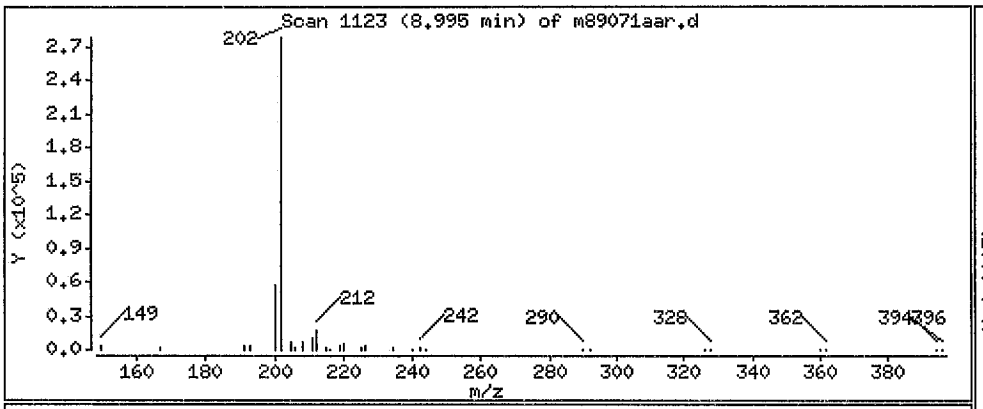
Column phase: Rxi-5SIL MS w/Guard

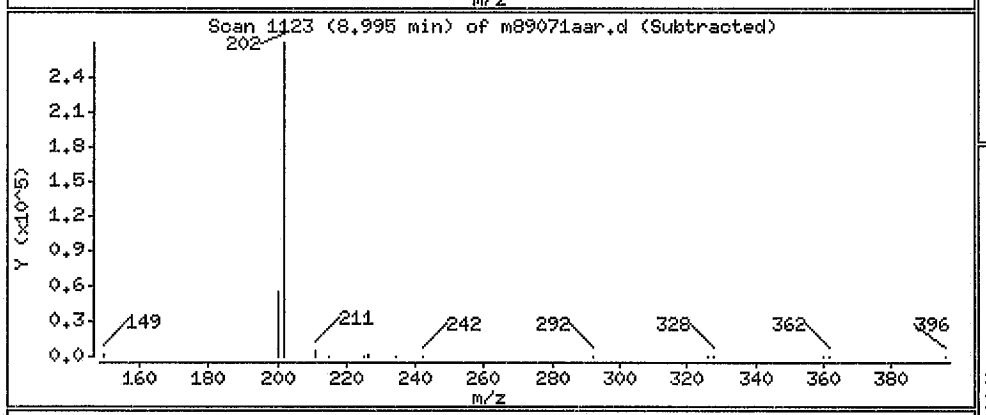
Column diameter: 0.25

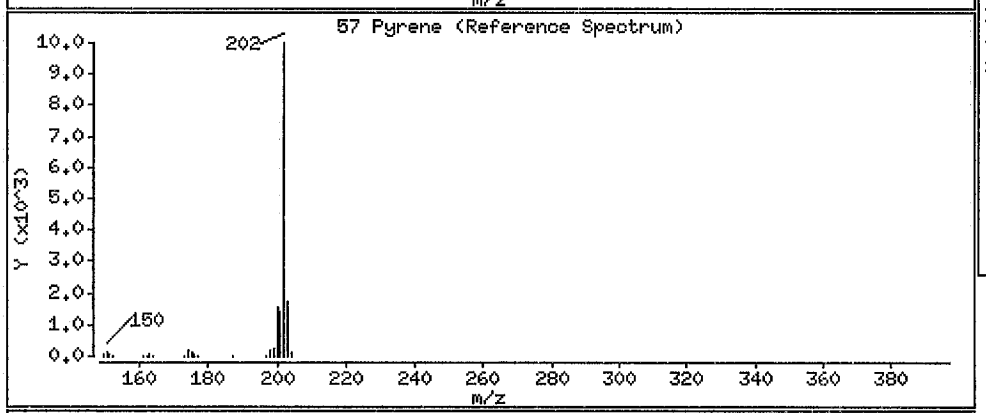
10/11/16

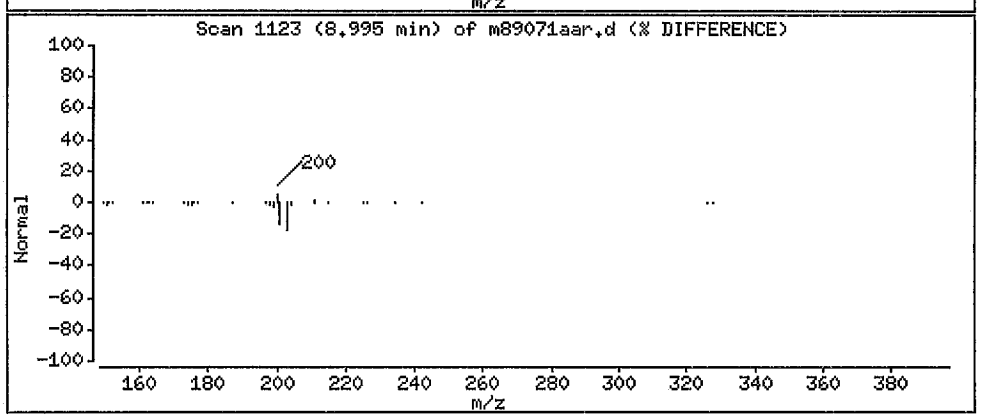
57 Pyrene

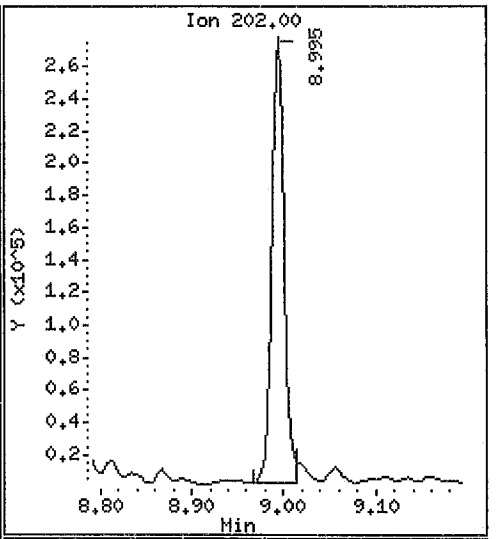
Concentration: 151 ng/L

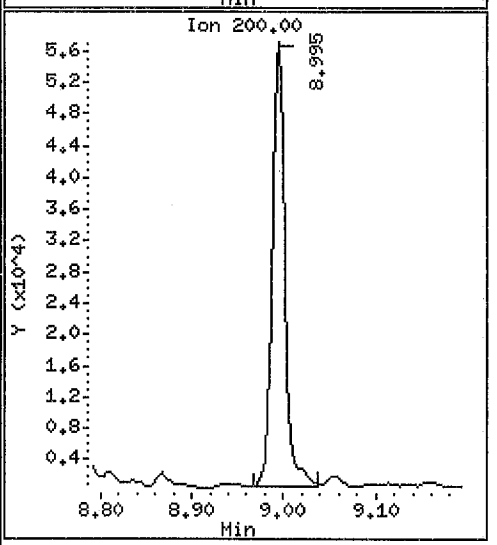












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID: | Instrument: mp.i

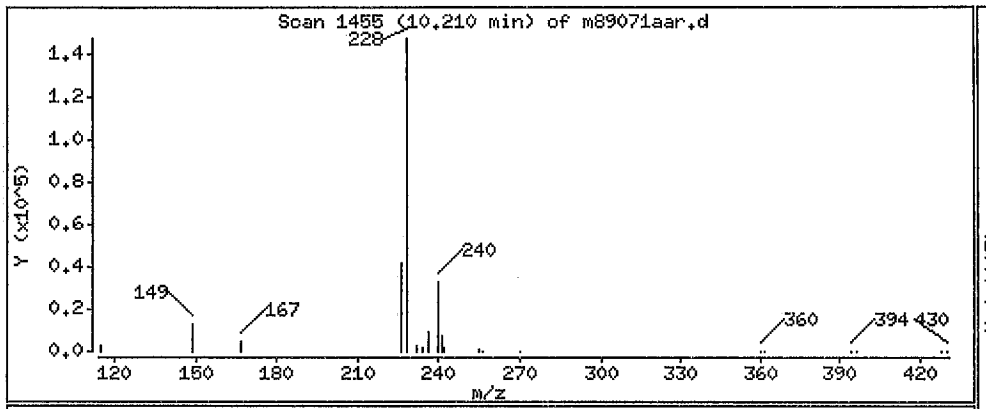
Sample Info: ,,0,,TRT

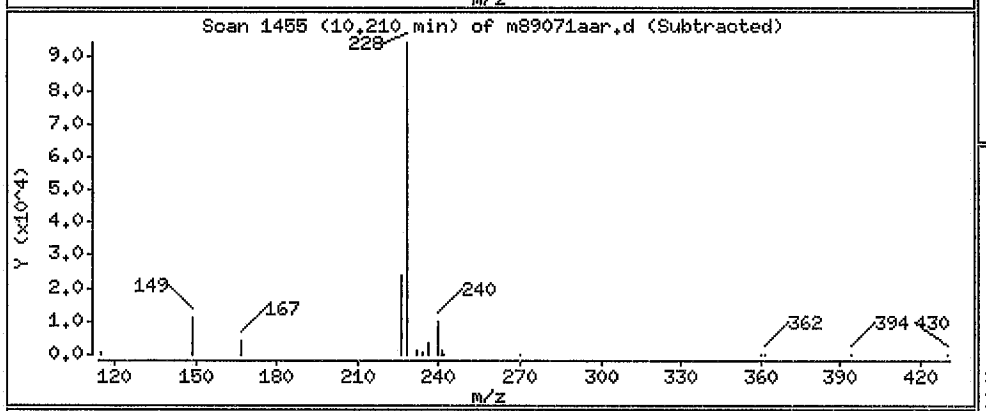
Purge Volume: 1039.0 | Operator: 011211

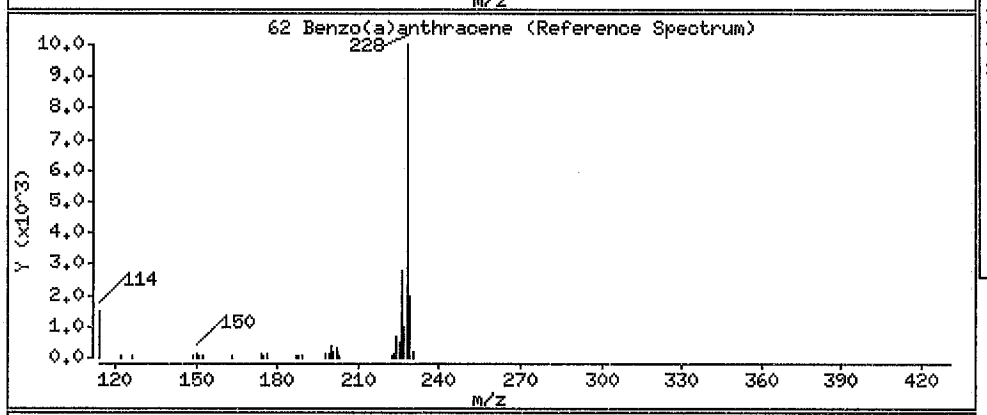
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

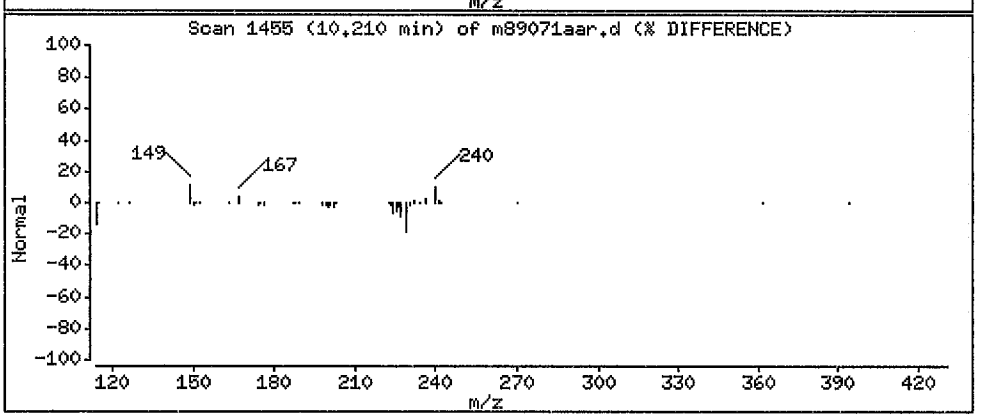
10/11/16

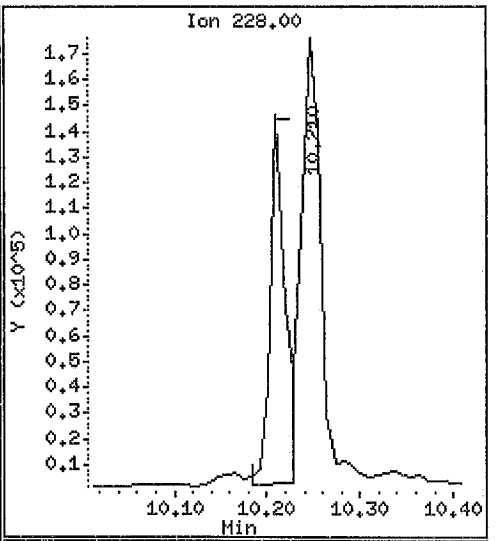
62 Benzo(a)anthracene | Concentration: 160 ng/L

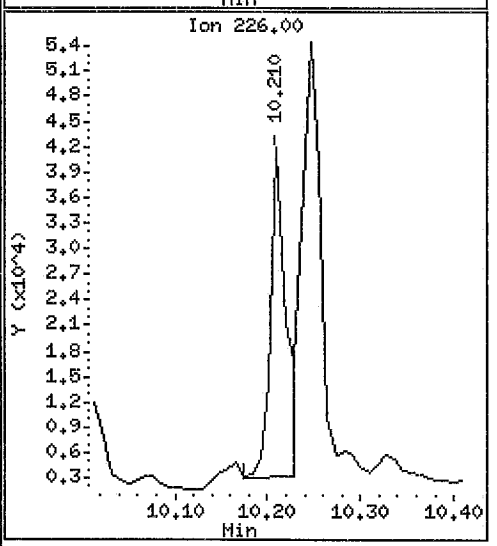












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID: | Instrument: mp.i

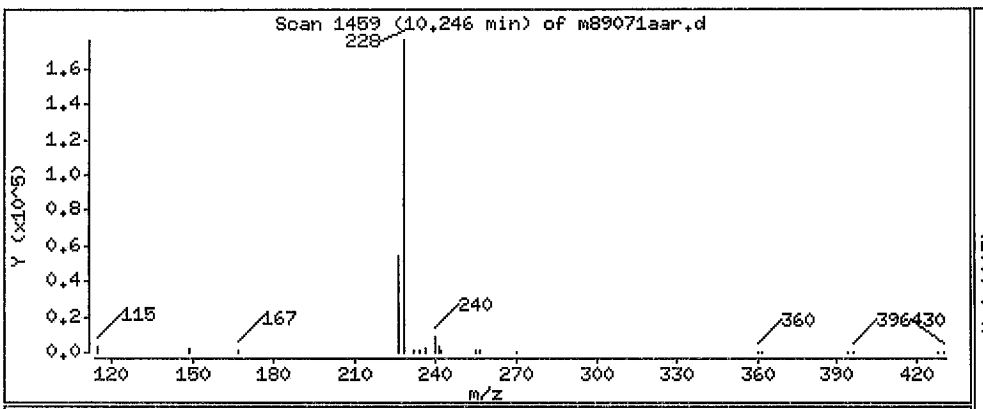
Sample Info: ,,0,,TRT

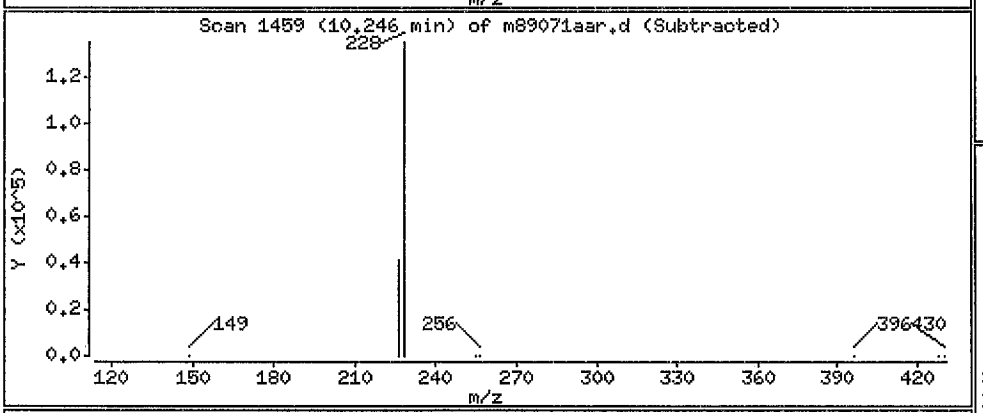
Purge Volume: 1039.0 | Operator: 011211

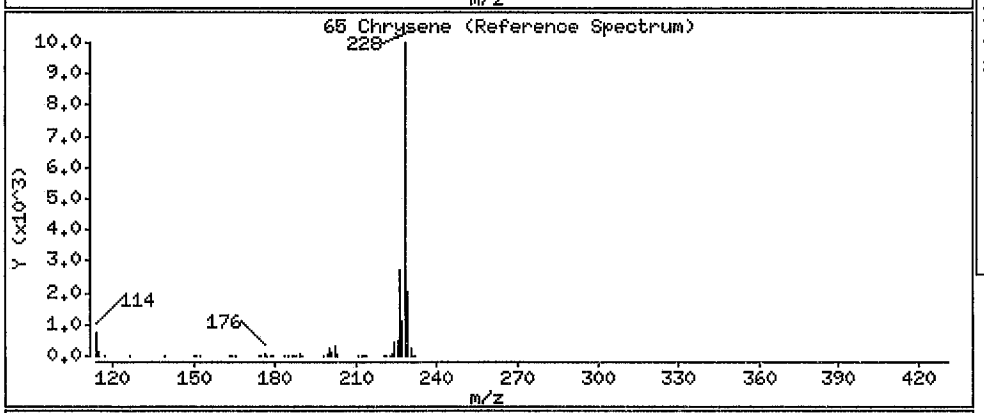
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

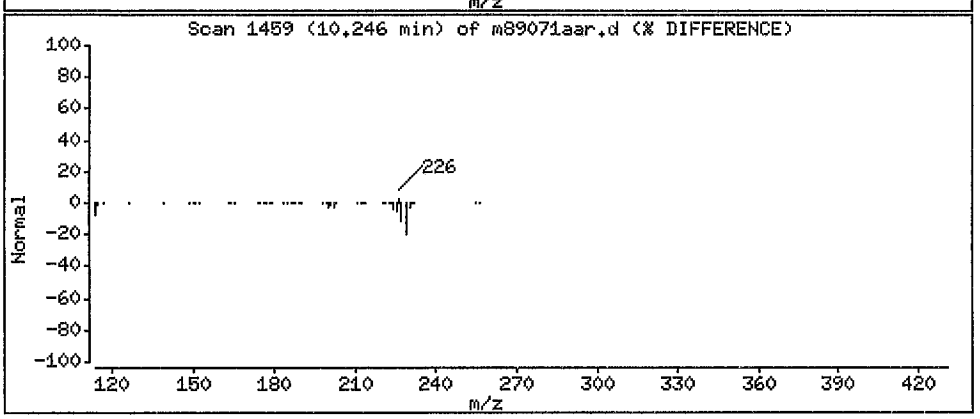
10/11/16 (2)

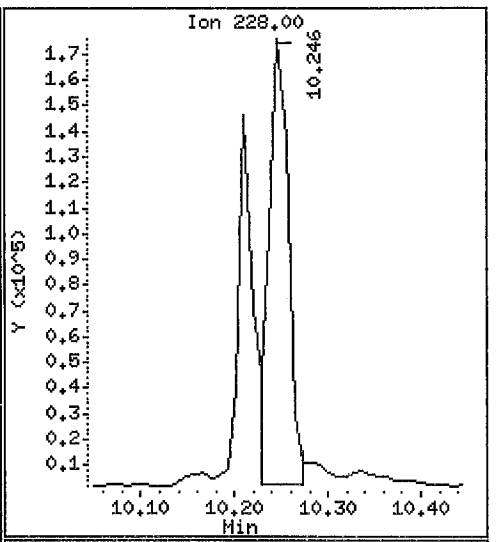
65 Chrysene | Concentration: 215 ng/L

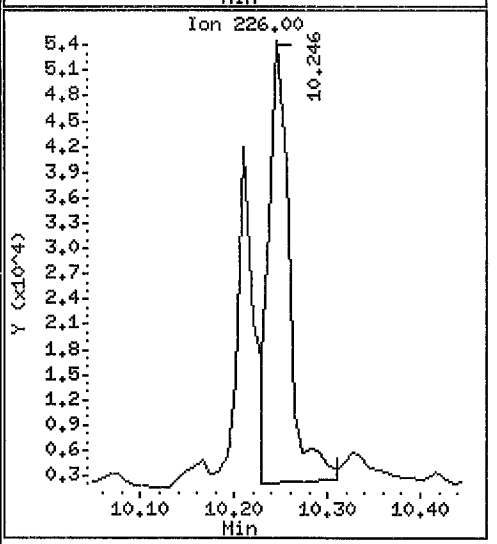












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

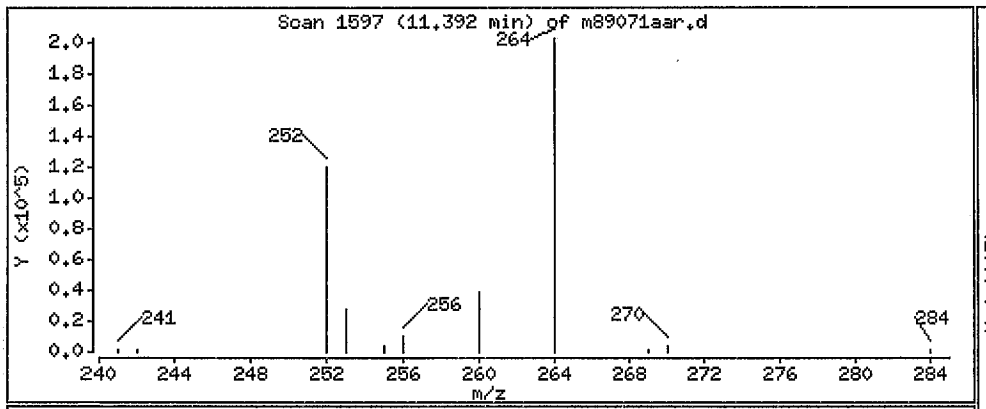
Column phase: Rxi-5SIL MS w/Guard

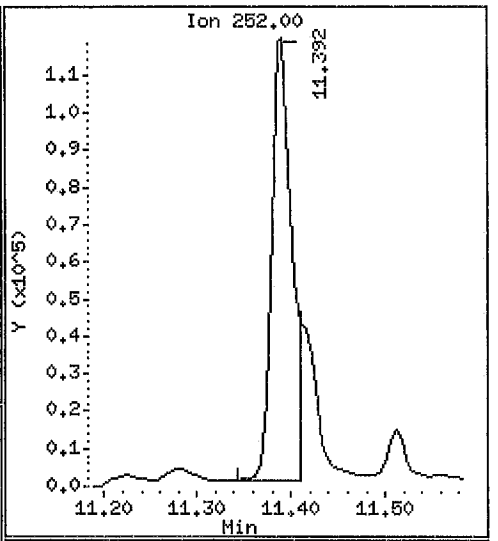
Column diameter: 0.25

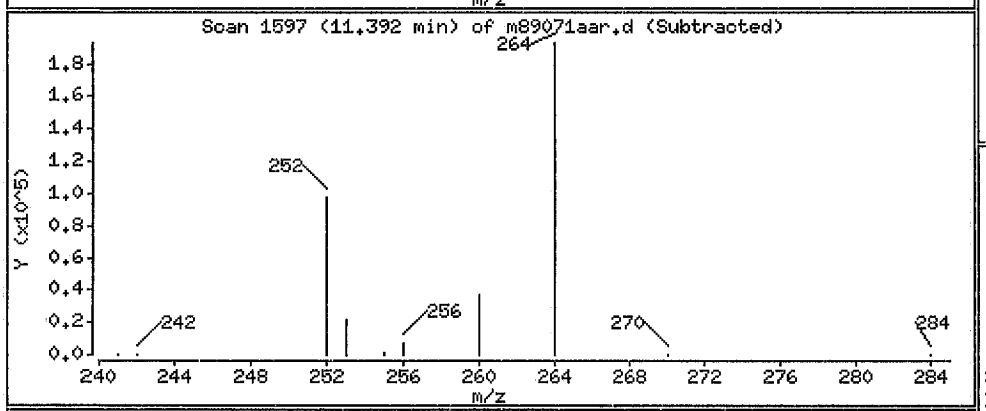
10/11/16

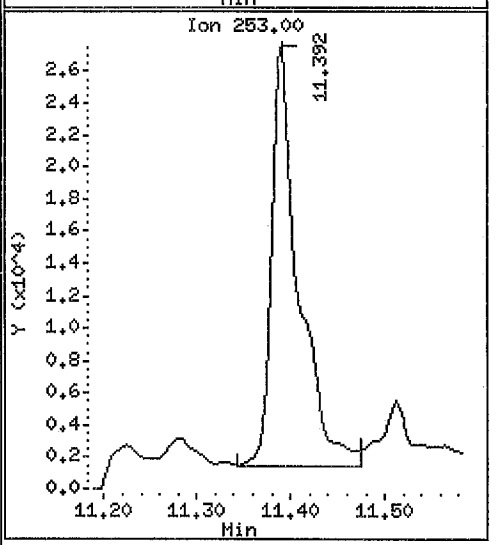
72 Benzo(b)fluoranthene

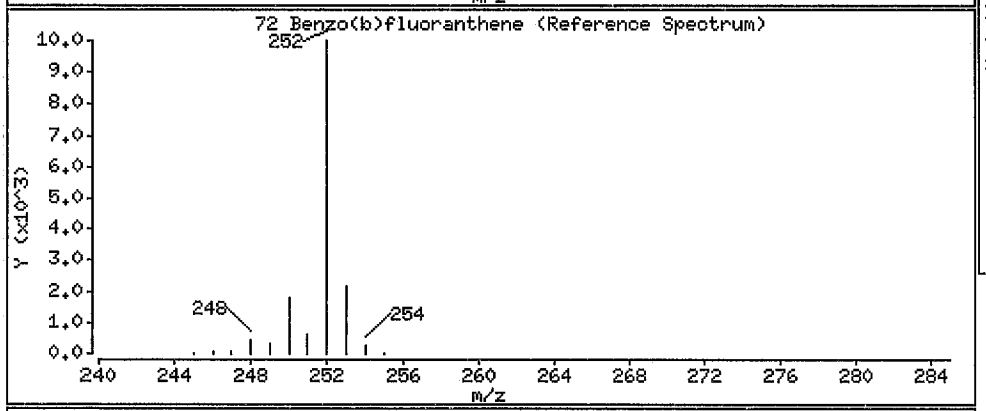
Concentration: 113 ng/L

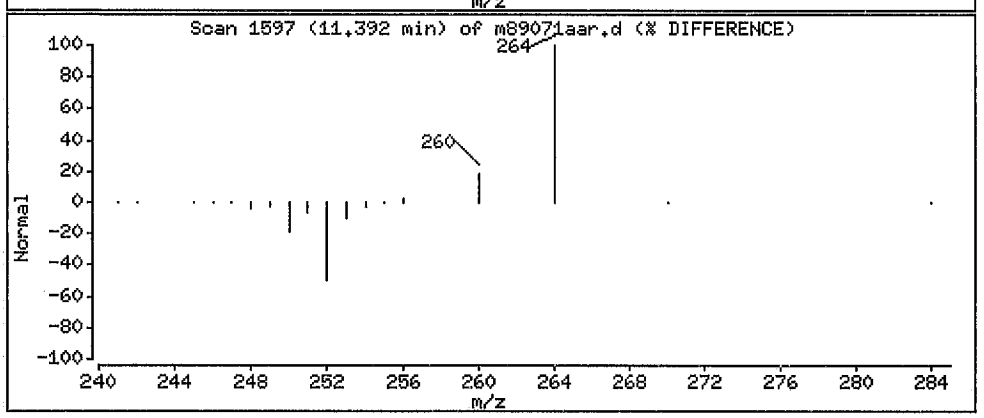












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

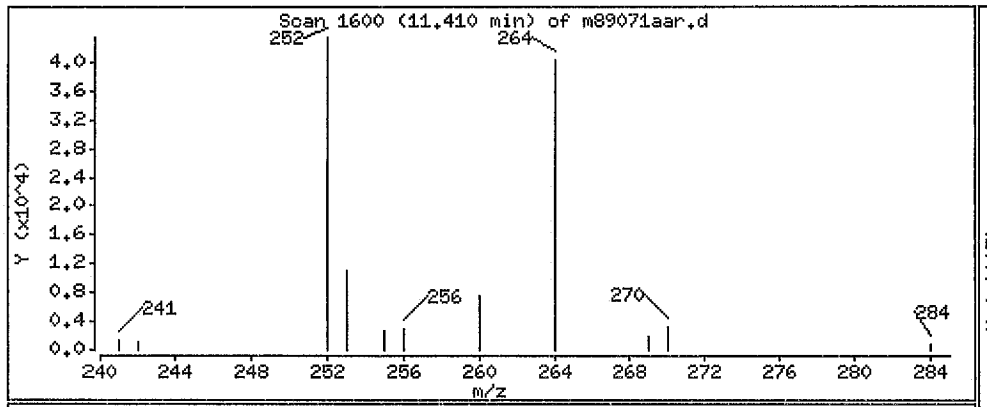
Column phase: Rxi-5SIL MS w/Guard

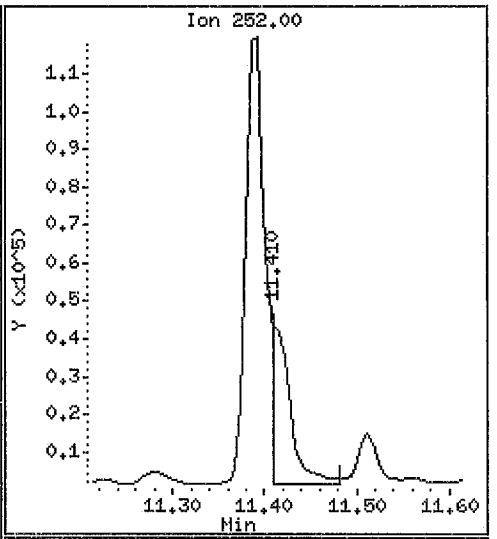
Column diameter: 0.25

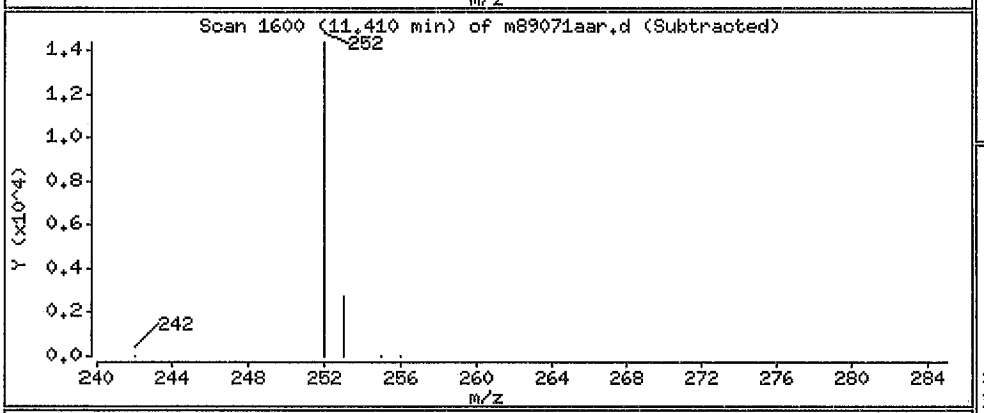
10/11/16

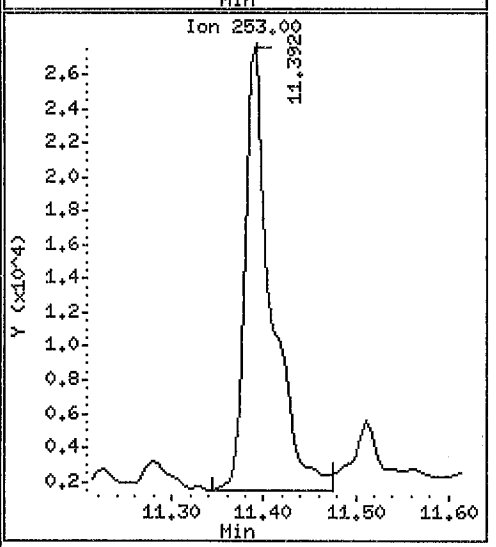
75 Benzo(k)fluoranthene

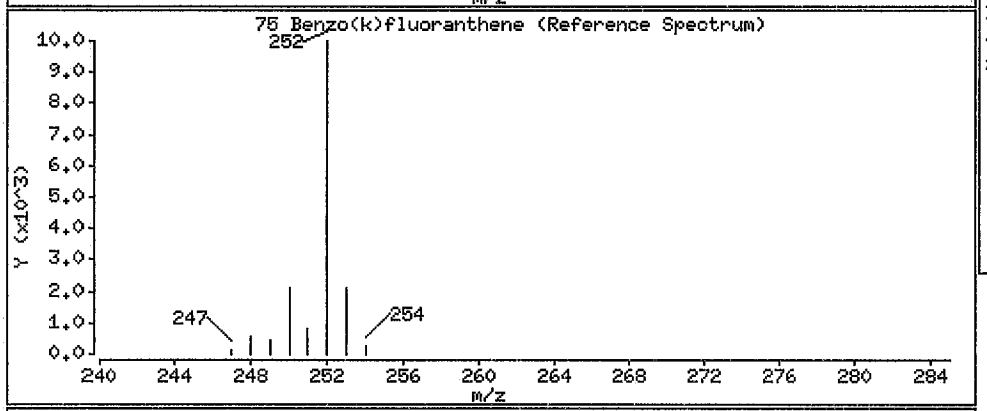
Concentration: 45.6 ng/L

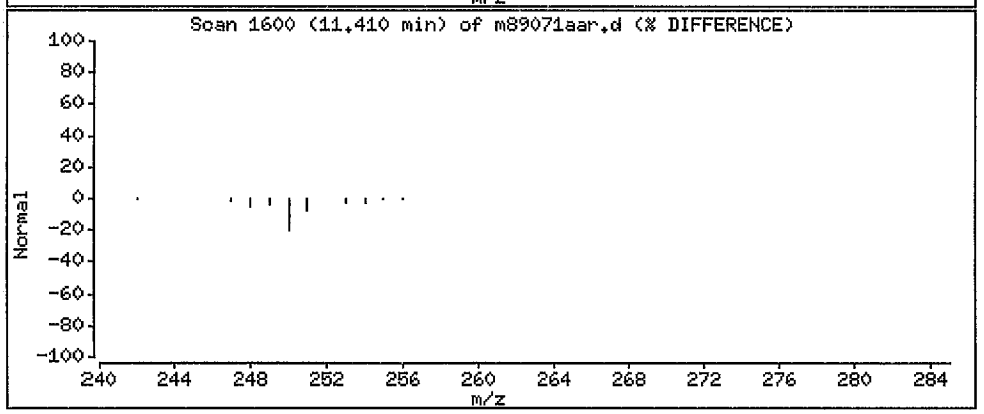












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

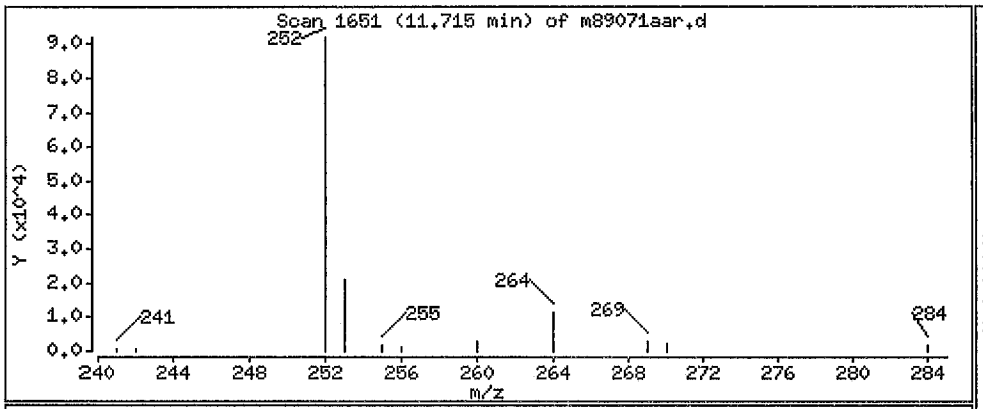
Operator: 011211

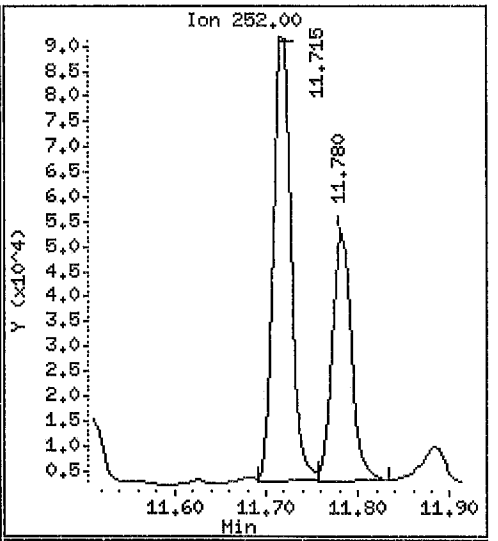
Column phase: Rxi-5SIL MS w/Guard

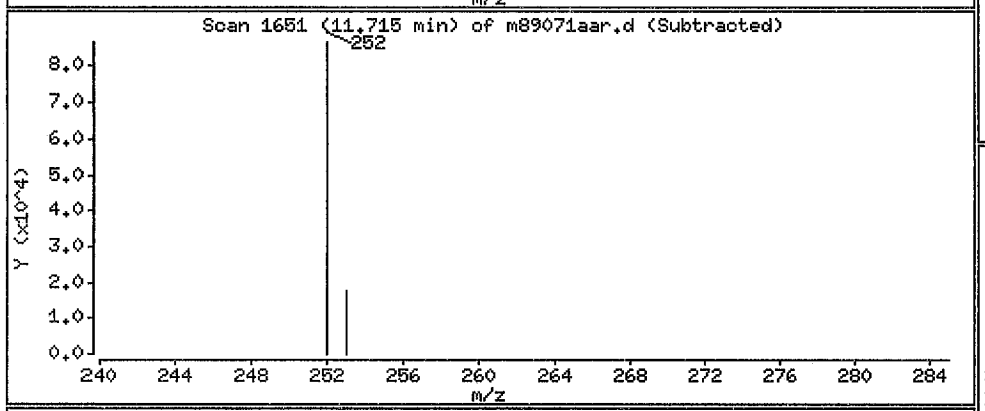
Column diameter: 0.25

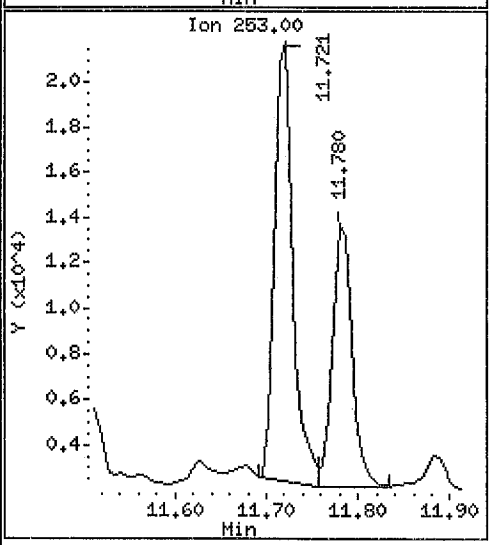
77 Benzo(e)pyrene

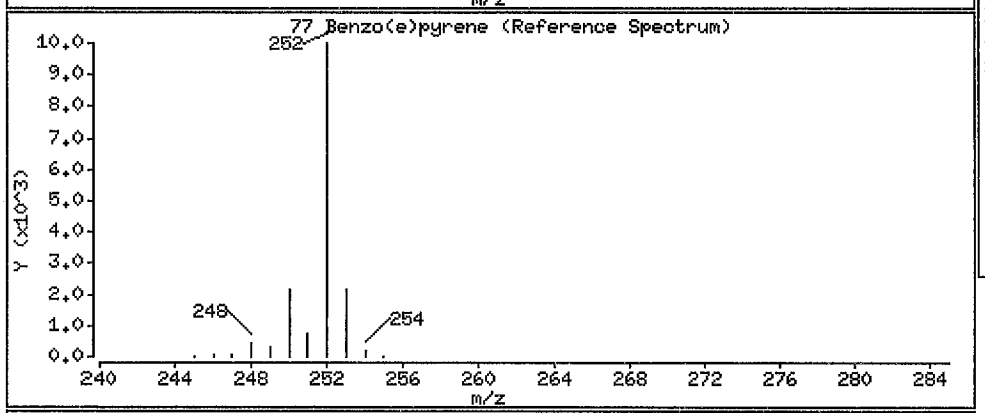
Concentration: 89.7 ng/L

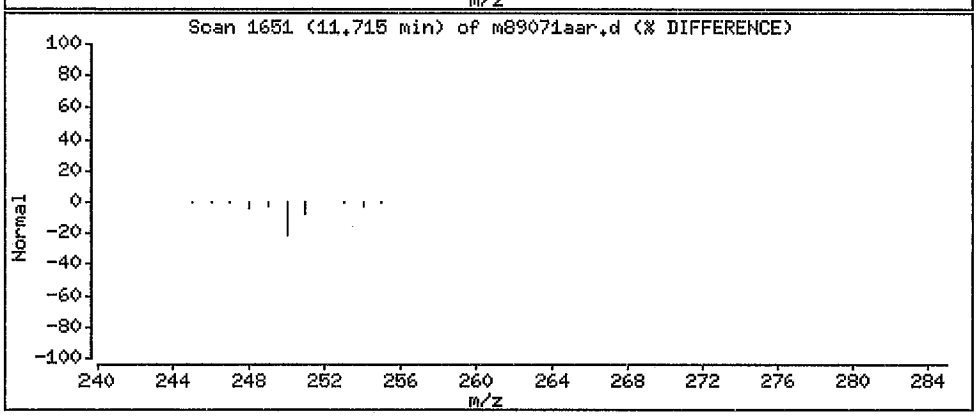












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Date : 10-OCT-2016 17:01

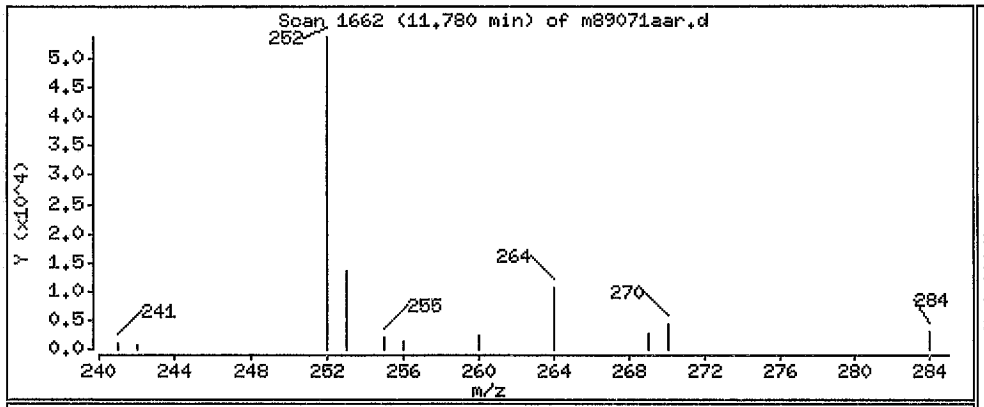
Client ID: | Instrument: mp.i

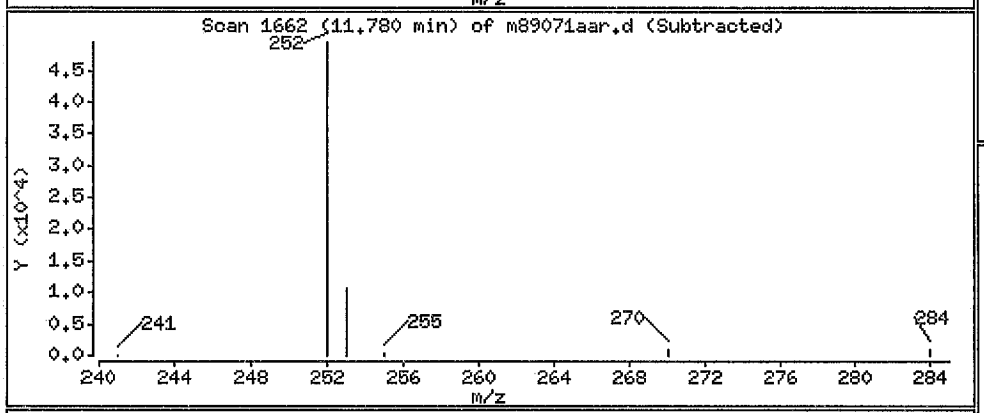
Sample Info: ,,0,,TRT

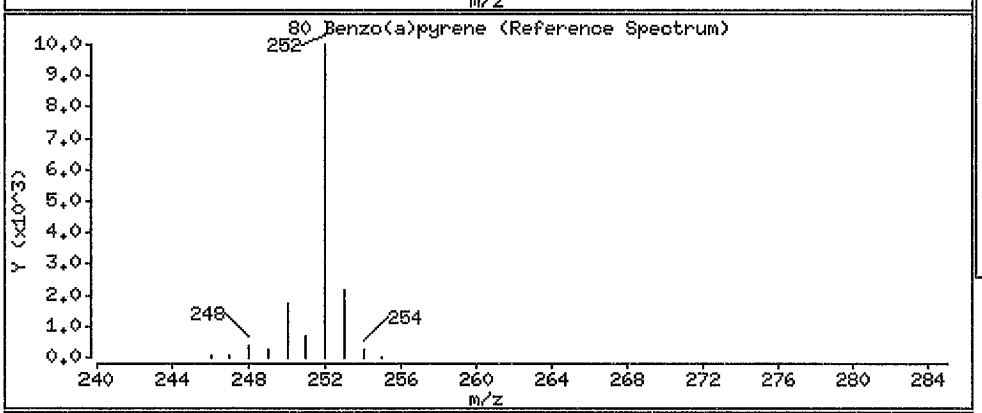
Purge Volume: 1039.0 | Operator: 011211

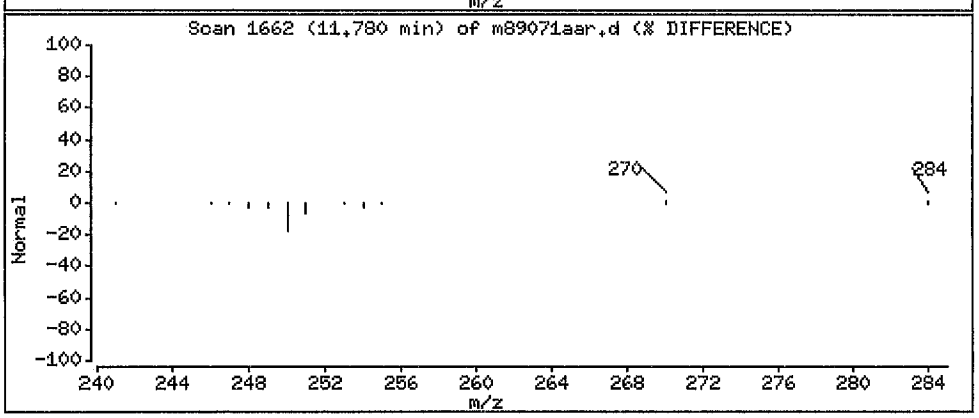
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

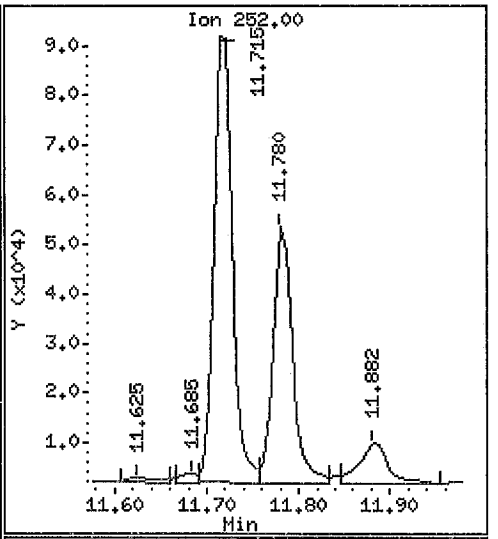
80 Benzo(a)pyrene | Concentration: 66.4 ng/L

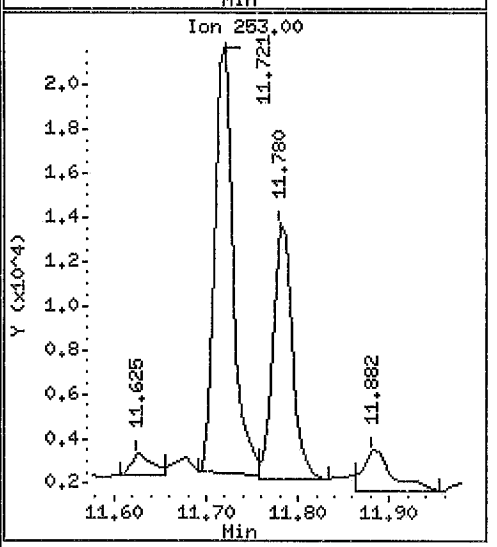












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Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

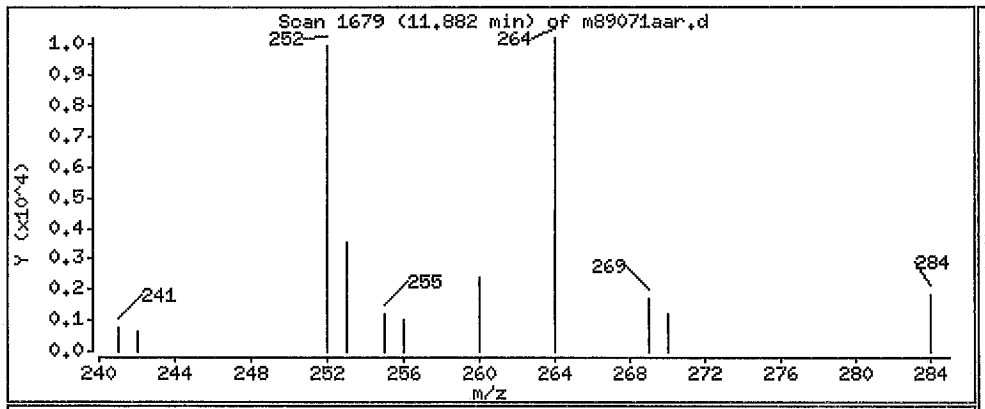
Column phase: Rxi-5SIL MS w/Guard

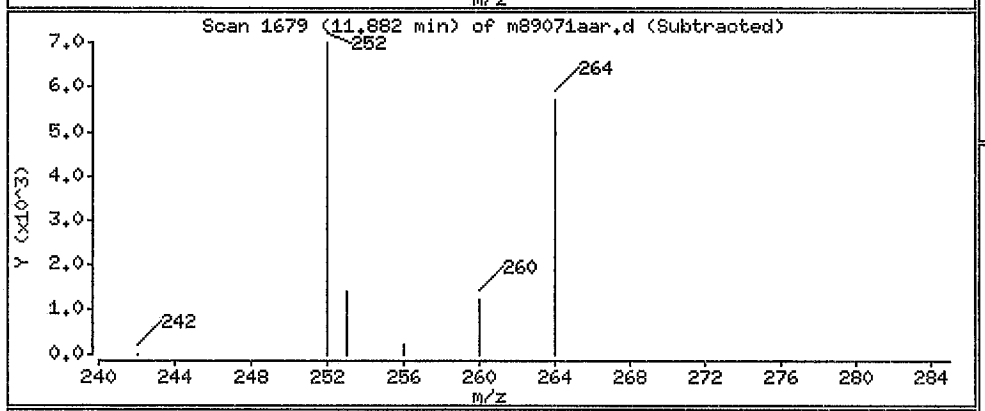
Column diameter: 0.25

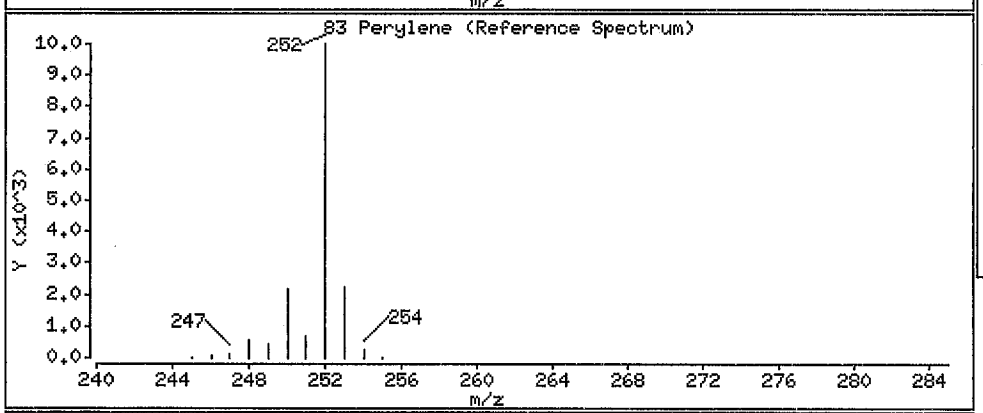
10/11/16

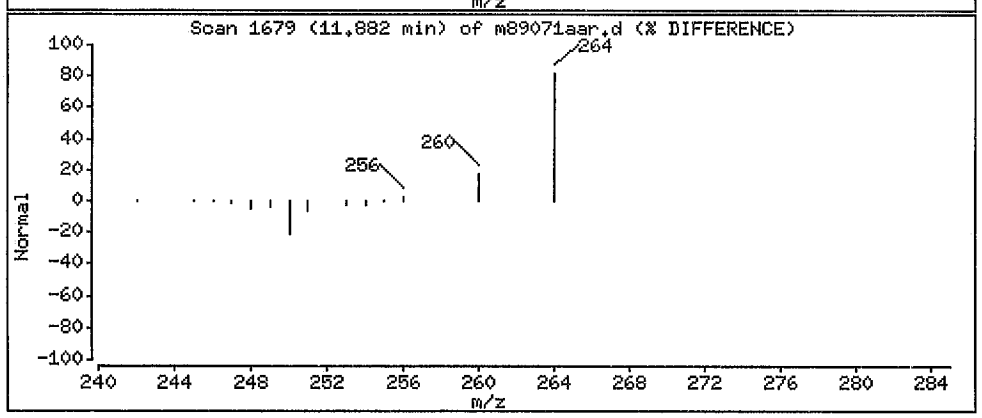
83 Perylene

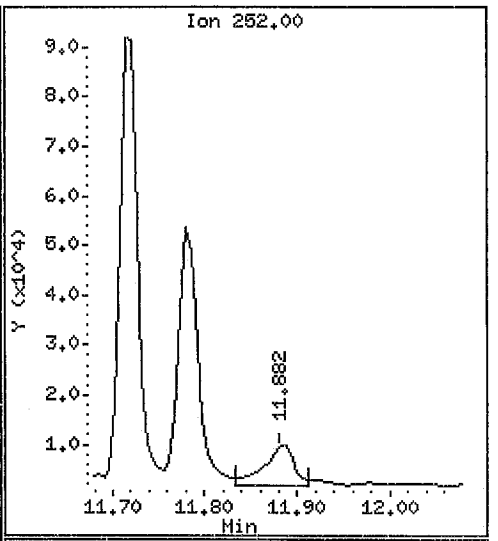
Concentration: 17.8 ng/L

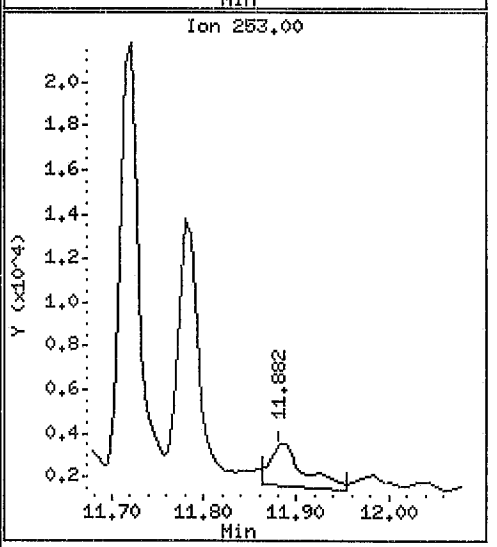












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

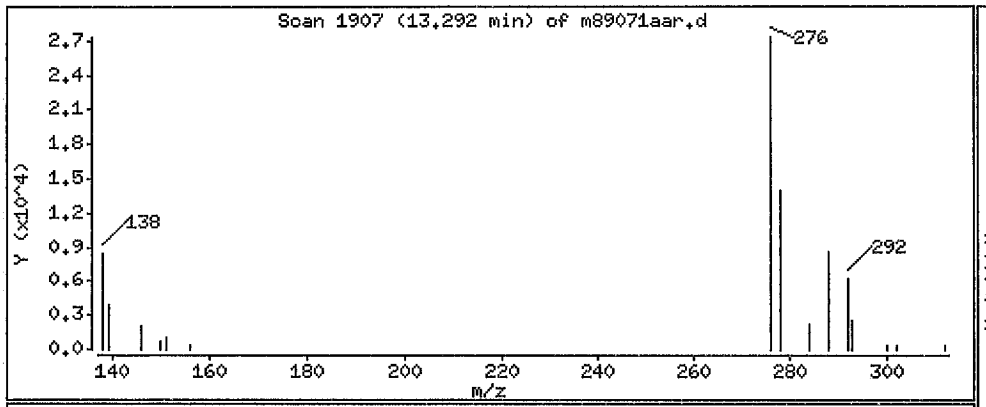
Client ID: | Instrument: mp.i

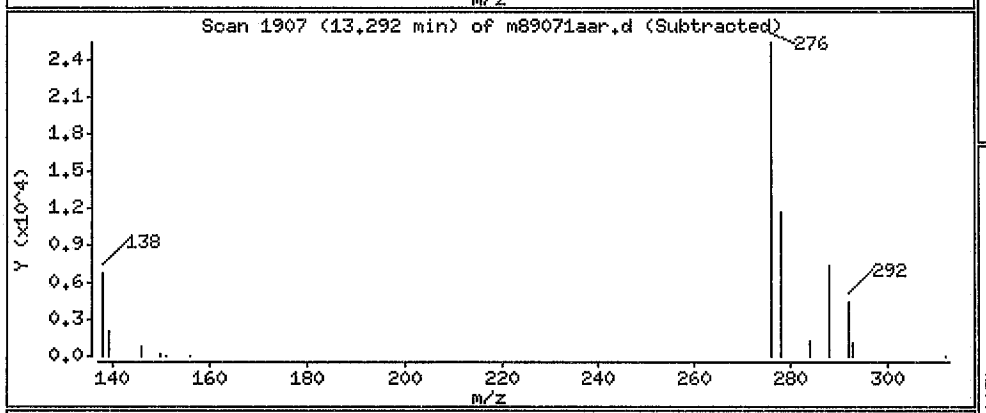
Sample Info: ,,0,,TRT

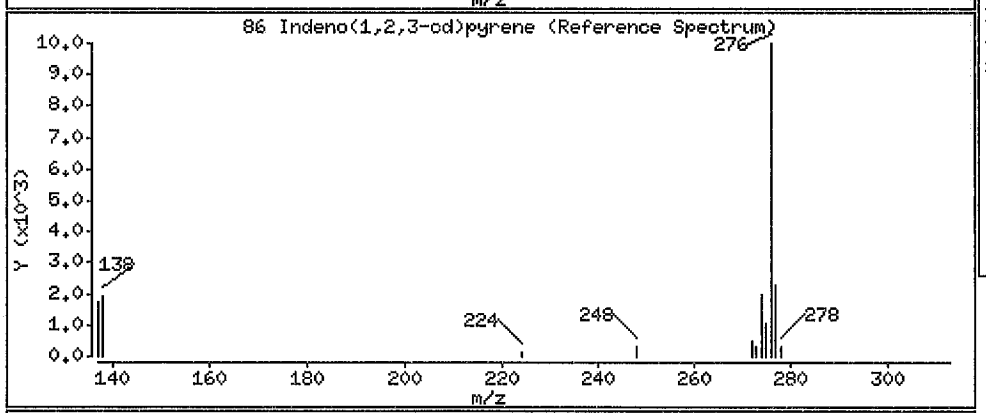
Purge Volume: 1039.0 | Operator: 011211

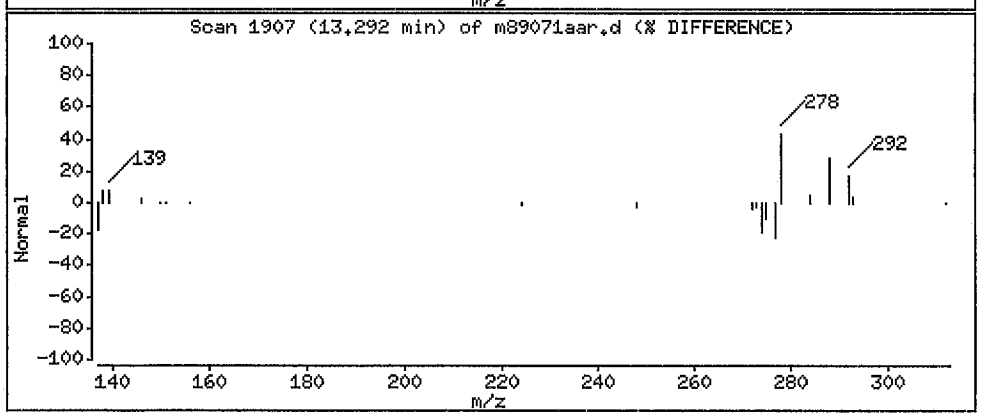
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

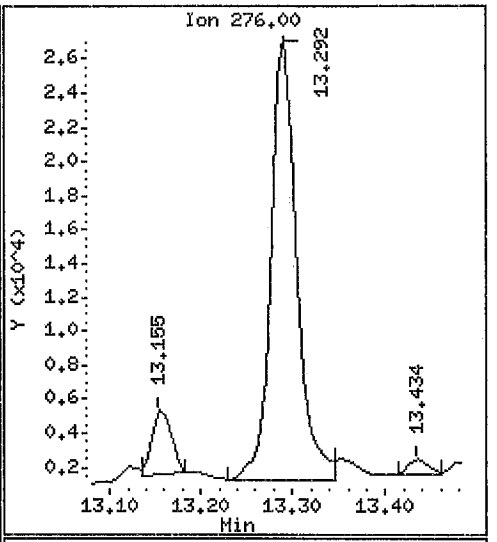
86 Indeno(1,2,3-cd)pyrene | Concentration: 38.3 ng/L

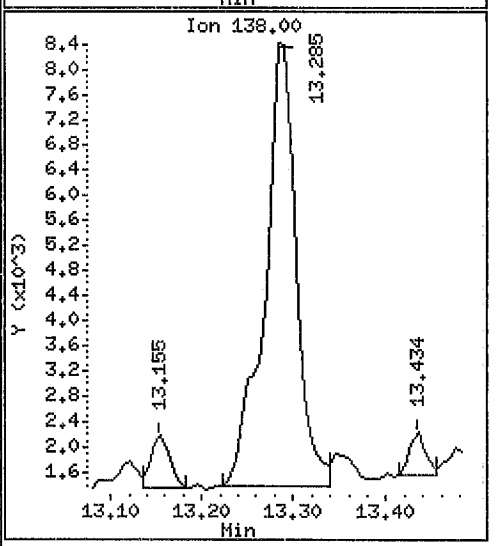












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

Operator: 011211

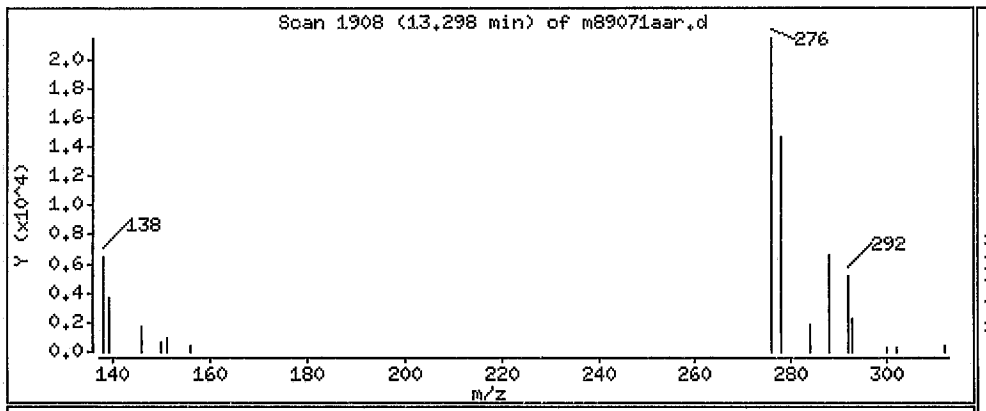
Column phase: Rxi-5SIL MS w/Guard

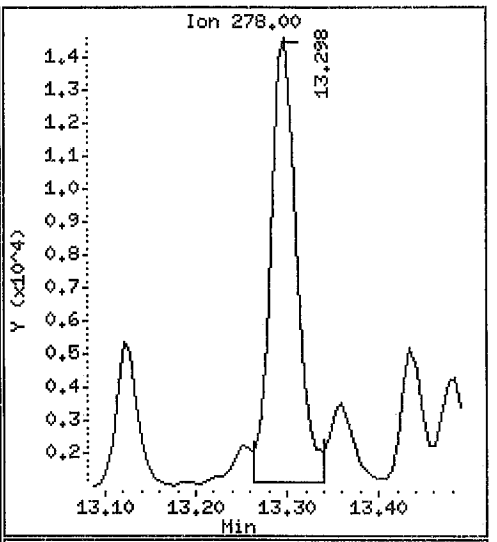
Column diameter: 0.25

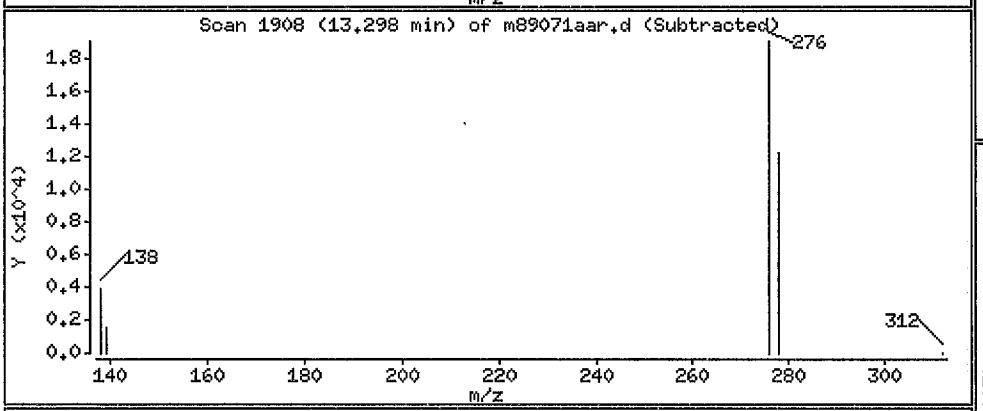
10/11/16

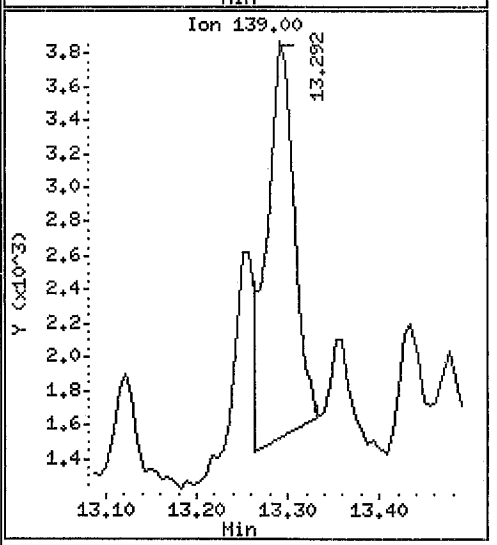
89 Dibenz(a,h)anthracene

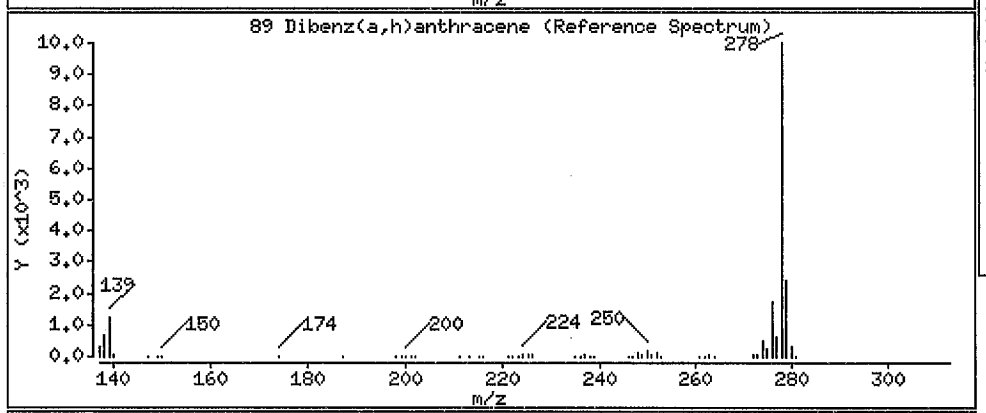
Concentration: 27.8 ng/L

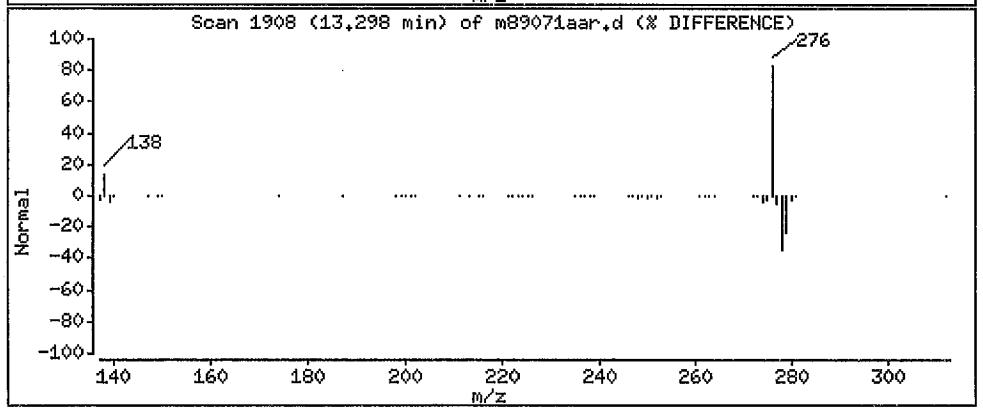












Data File: /var/chem/gcms/mp.i/P101016.b/m89071aar.d

Date : 10-OCT-2016 17:01

Client ID:

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1039.0

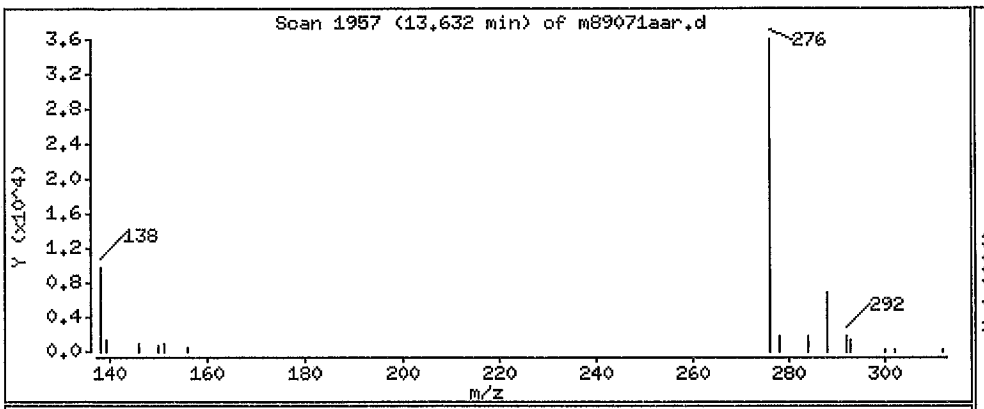
Operator: 011211

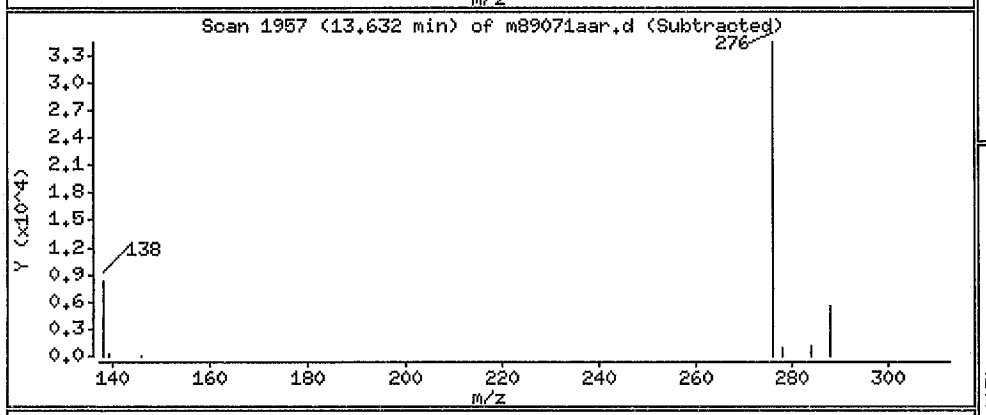
Column phase: Rxi-5SIL MS w/Guard

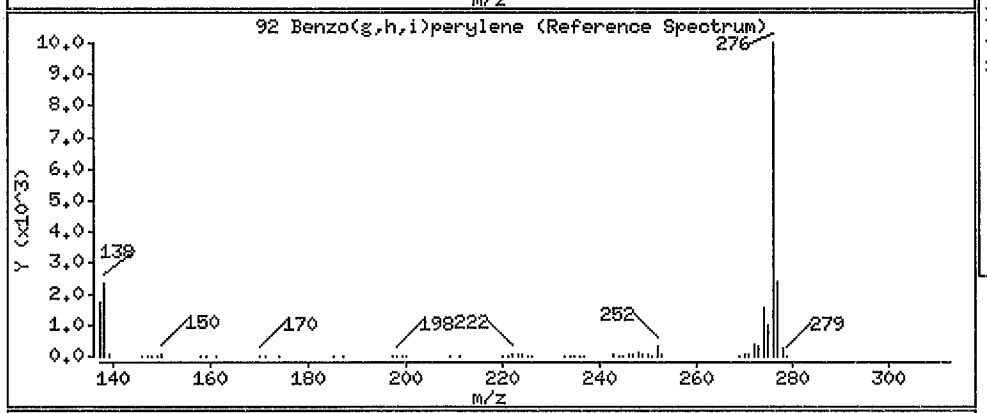
Column diameter: 0.25

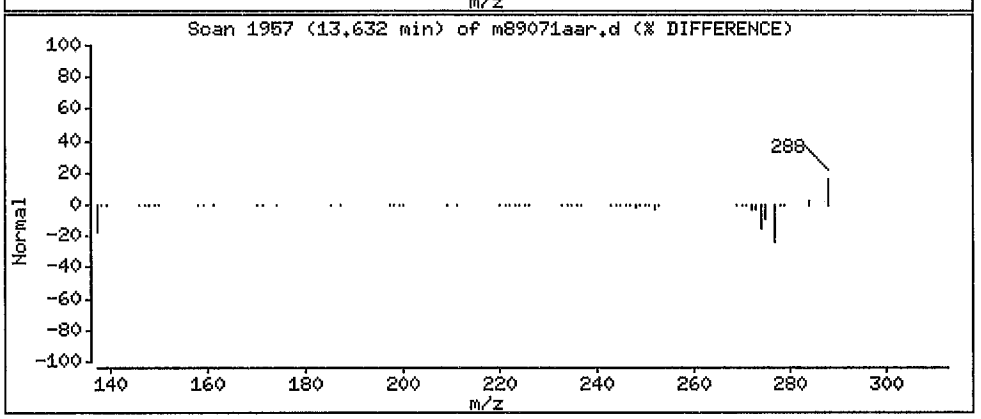
92 Benzo(g,h,i)perylene

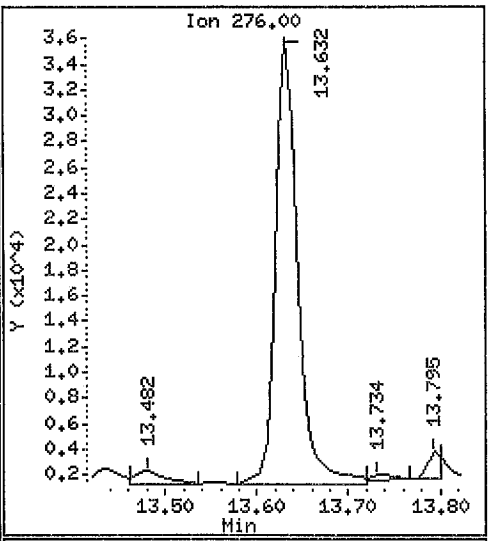
Concentration: 62.2 ng/L

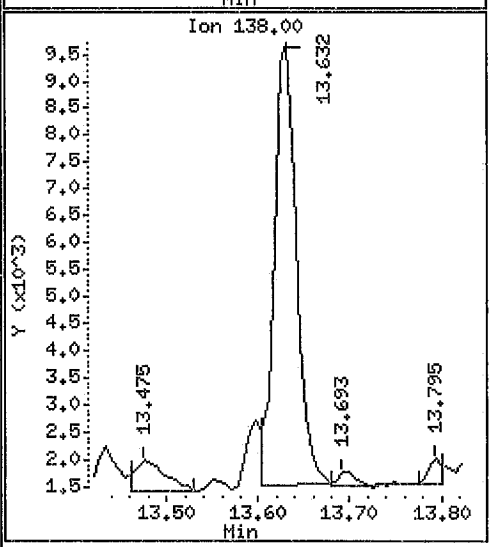












Montrose Air Quality Services LLC

Client Sample ID: R-1664 LOC#10 WATER QT-R3B

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-008	**Work Order #...:**	M89081AA	**Matrix.....:**	WATER
Date Sampled...:	09/26/16	**Date Received..:**	09/26/2016		
Prep Date.....:	09/29/16	**Analysis Date..:**	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	120	10	ng/L	2.4
Acenaphthylene	57	10	ng/L	0.15
Anthracene	350	10	ng/L	0.71
Benzo(a)anthracene	810	10	ng/L	1.5
Benzo(b)fluoranthene	540	10	ng/L	1.5
Benzo(k)fluoranthene	180	10	ng/L	1.0
Benzo(ghi)perylene	580	10	ng/L	0.51
Benzo(a)pyrene	490	10	ng/L	0.40
Chrysene	1100 B	10	ng/L	0.22
Dibenz(a,h)anthracene	230	10	ng/L	0.78
Fluoranthene	580	10	ng/L	2.4
Fluorene	260 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	260	10	ng/L	1.0
Naphthalene	830	50	ng/L	16
Perylene	40	10	ng/L	0.81
Phenanthrene	1400	20	ng/L	11
Pyrene	500 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	61	(30 - 120)
Naphthalene-d8	61	(30 - 120)
Acenaphthylene-d8	57	(30 - 120)
Phenanthrene-d10	41	(30 - 120)
Anthracene-d10	40	(30 - 120)
Fluoranthene-d10	52	(30 - 120)
Chrysene-d12	47	(30 - 120)
Benzo(b)fluoranthene-d12	64	(30 - 120)
Benzo(k)fluoranthene-d12	50	(30 - 120)
Benzo(a)pyrene-d12	65	(30 - 120)
Perylene-d12	60	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	67	(30 - 120)
Dibenz(ah)anthracene-d14	74	(30 - 120)
Benzo(ghi)perylene-d12	59	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d
Report Date: 11-Oct-2016 14:41

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89081aa.d
Lab Smp Id: M89081AA Client Smp ID: R-1664 LOC#10 WATER
Inj Date : 10-OCT-2016 18:17
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1004.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	372101	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	370827	0.30722	153
3 Naphthalene	128	4.957	4.957	(1.002)	1249578	1.65985	827
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	185142	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	185200	0.30469	152
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	573773	1.12773	562
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	306365	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	306365	0.28306	141
22 Acenaphthylene	152	6.286	6.286	(1.002)	76795	0.11477	57.2
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	304754	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	98823	0.24398	122
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	219416	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	219416	0.30308	151
27 Fluorene	166	6.865	6.861	(1.003)	262931	0.51738	258
* 41 Phenanthrene-d10	188	7.660	7.660	(1.000)	280450	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.660	7.660	(0.853)	280450	0.20584	103
43 Phenanthrene	178	7.682	7.679	(1.003)	2052891	2.92061	1450
* 44 Anthracene-d10	188	7.709	7.709	(1.000)	249593	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d
Report Date: 11-Oct-2016 14:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.709	7.709	(0.859)	249593	0.19930	99.3
	46 Anthracene	178	7.728	7.725	(1.002)	448001	0.70528	351
*	53 Fluoranthene-d10	212	8.753	8.750	(1.000)	342000	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	342105	0.26014	130
	55 Fluoranthene	202	8.772	8.769	(1.002)	1008281	1.15649	576
*	56 Pyrene-d10	212	8.975	8.972	(1.000)	592139	0.50000	0.500
	57 Pyrene	202	8.994	8.991	(1.028)	906438	1.01073	503
	62 Benzo(a)anthracene	228	10.210	10.210	(0.998)	948187	1.62063	807
*	63 Chrysene-d12	240	10.228	10.219	(1.000)	329624	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.228	10.219	(1.140)	329624	0.23626	118
	65 Chrysene	228	10.246	10.246	(1.002)	1479605	2.12836	1060
*	70 Benzo(b)fluoranthene-d12	264	11.361	11.355	(1.000)	372033	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.361	11.355	(0.972)	372033	0.32026	159
	72 Benzo(b)fluoranthene	252	11.391	11.385	(1.003)	1169533	1.08806	542(M)
*	73 Benzo(k)fluoranthene-d12	264	11.397	11.391	(1.000)	359320	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.397	11.391	(0.975)	359320	0.25016	125
	75 Benzo(k)fluoranthene	252	11.409	11.415	(1.001)	304964	0.36056	180(M)
*	76 Benzo(e)pyrene-d12	264	11.690	11.684	(1.000)	553459	0.50000	0.500
	77 Benzo(e)pyrene	252	11.720	11.714	(0.997)	1097735	1.12930	562
*	78 Benzo(a)pyrene-d12	264	11.756	11.750	(1.000)	316626	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.756	11.750	(1.006)	316626	0.32259	161
	80 Benzo(a)pyrene	252	11.786	11.780	(1.003)	833218	0.98718	492
*	81 Perylene-d12	264	11.851	11.845	(1.000)	337144	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.851	11.845	(1.014)	337144	0.29967	149
	83 Perylene	252	11.887	11.881	(1.003)	64342	0.08074	40.2
*	84 Indeno(123-cd)pyrene-d12	288	13.256	13.249	(1.000)	388455	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.256	13.249	(1.134)	391251	0.33540	167
	86 Indeno(1,2,3-cd)pyrene	276	13.297	13.283	(1.003)	546188	0.52251	260
*	87 Dibenz(ah)anthracene-d14	292	13.256	13.249	(1.000)	345797	0.50000	0.500(M)
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.256	13.249	(1.134)	345797	0.37080	185(M)
	89 Dibenz(a,h)anthracene	278	13.297	13.290	(1.003)	455652	0.46876	233(M)
*	90 Benzo(ghi)perylene-d12	288	13.603	13.589	(1.000)	342422	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.603	13.589	(1.164)	342422	0.29741	148
	92 Benzo(g,h,i)perylene	276	13.637	13.623	(1.002)	1010694	1.17307	584

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d
Report Date: 11-Oct-2016 14:41

TestAmerica Knoxville

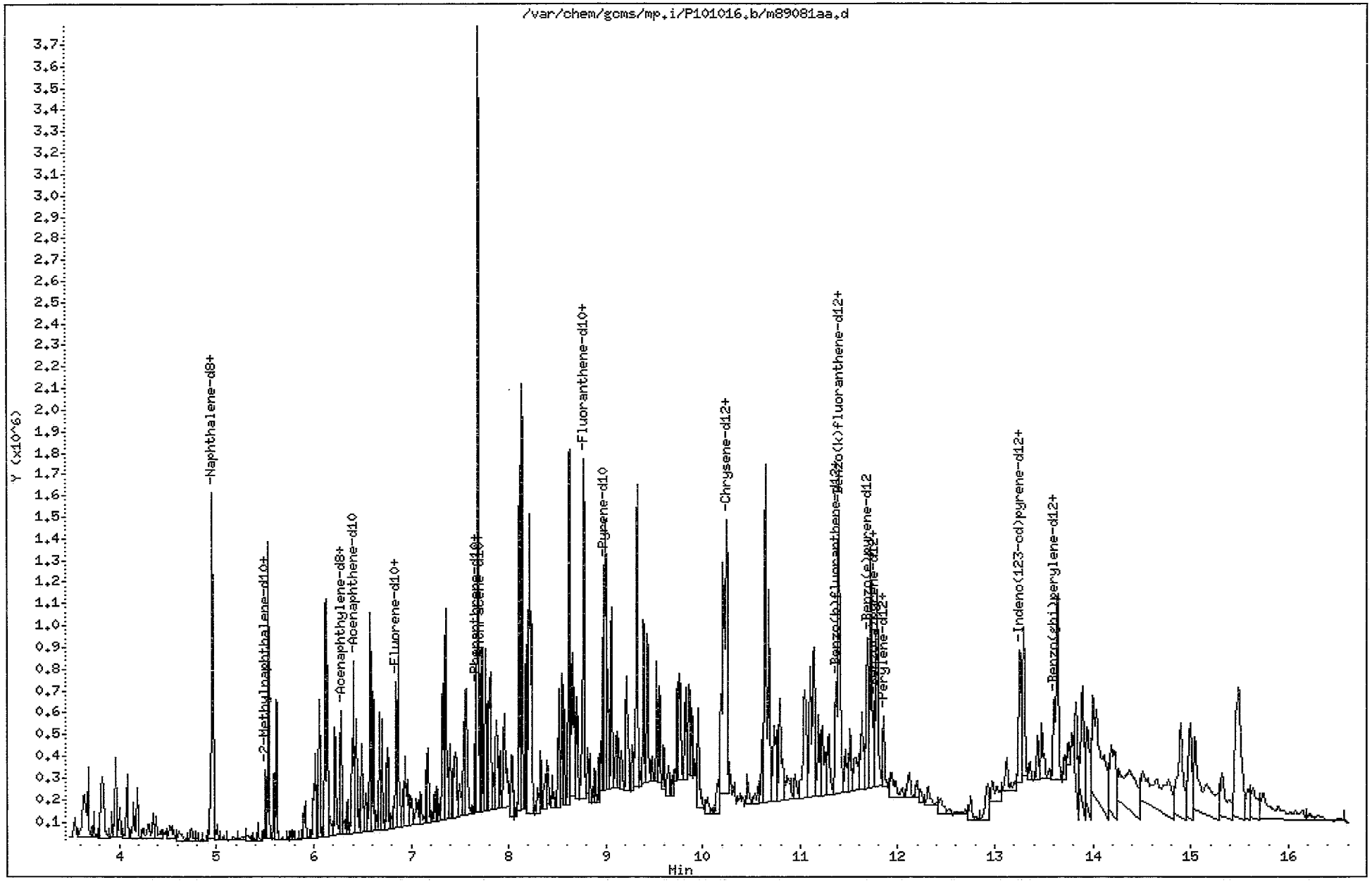
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89081AA Client Smp ID: R-1664 LOC#10 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	249	153	61.44	20-130
$ 222 13C6-Naphthalene	498	0.00	*	50-150
$ 11 2-Methylnaphthalen	249	152	60.94	30-120
$ 21 Acenaphthylene-d8(	249	141	56.61	30-120
$ 233 Fluorene-d10(SS)	249	151	60.62	30-120
$ 42 Phenanthrene-d10(S	249	103	41.17	30-120
$ 45 Anthracene-d10(SS)	249	99.3	39.86	30-120
$ 54 Fluoranthene-d10(S	249	130	52.03	30-120
$ 64 Chrysene-d12(SS)	249	118	47.25	30-120
$ 71 Benzo(b)fluoranthe	249	159	64.05	30-120
$ 74 Benzo(k)fluoranthe	249	125	50.03	30-120
$ 79 Benzo(a)pyrene-d12	249	161	64.52	30-120
$ 82 Perylene-d12(SS)	249	149	59.93	30-120
$ 85 Indeno(123-cd)pyre	249	167	67.08	30-120
$ 88 Dibenz(ah)anthrace	249	185	74.16	30-120
$ 91 Benzo(ghi)perylene	249	148	59.48	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d
Date : 10-OCT-2016 18:17
Client ID: R-1664 LOC#10 WATER
Sample Info: ,,0,,TRT
Purge Volume: 1004.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

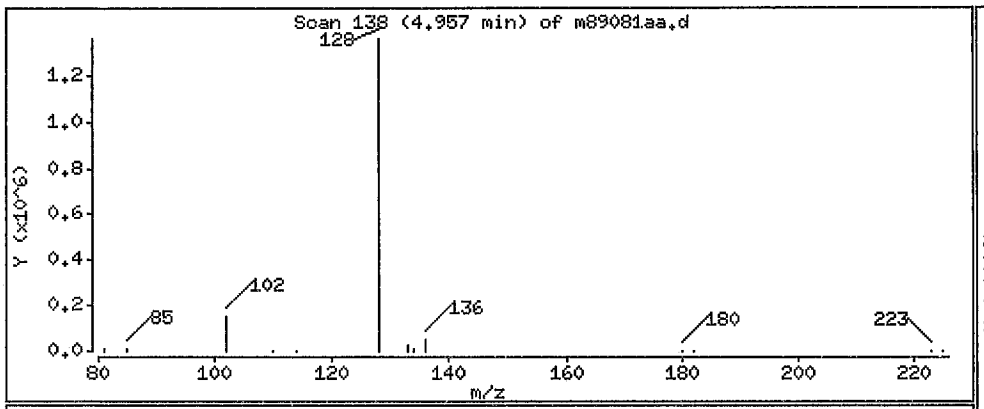
Operator: 011211

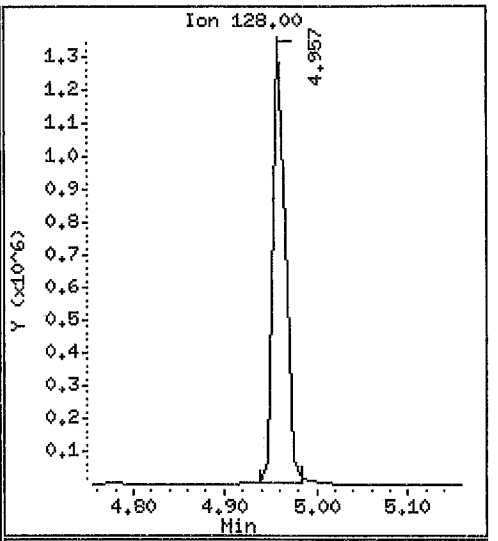
Column phase: Rxi-5SIL MS w/Guard

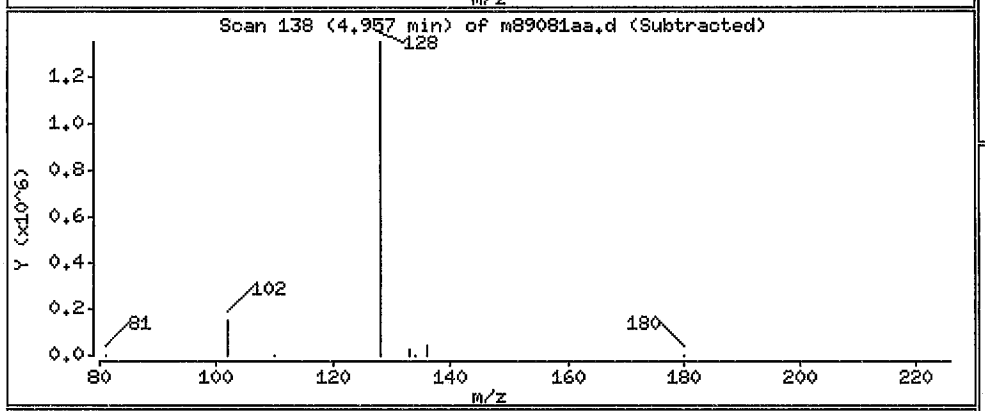
Column diameter: 0.25

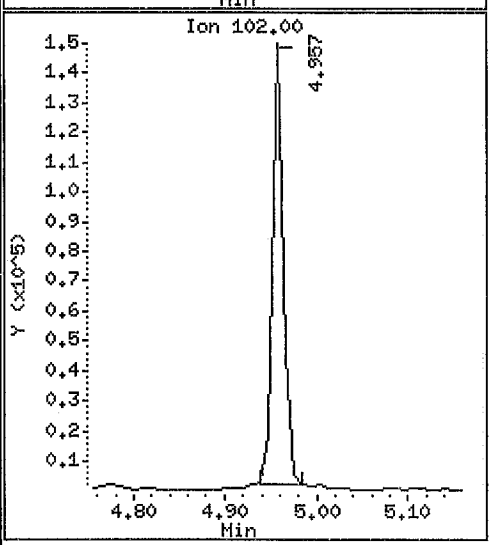
3 Naphthalene

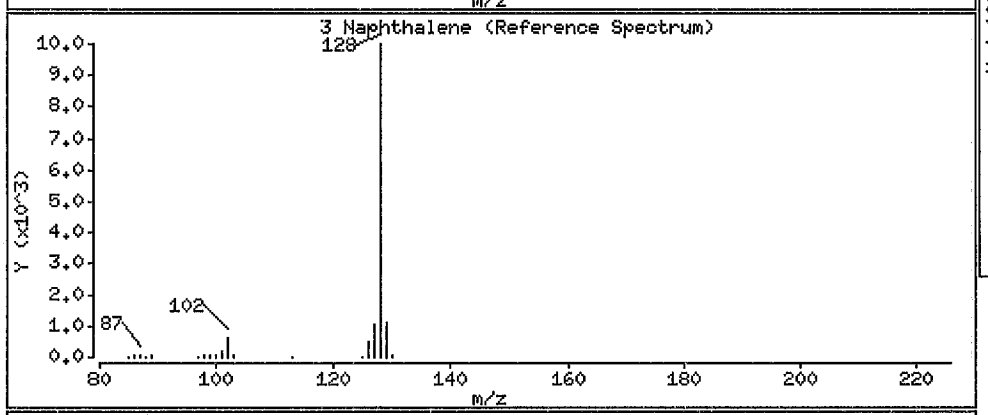
Concentration: 827 ng/L

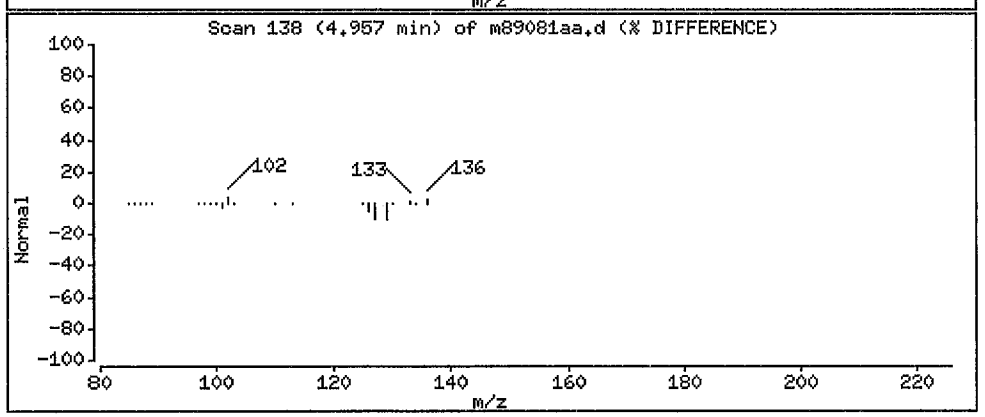












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

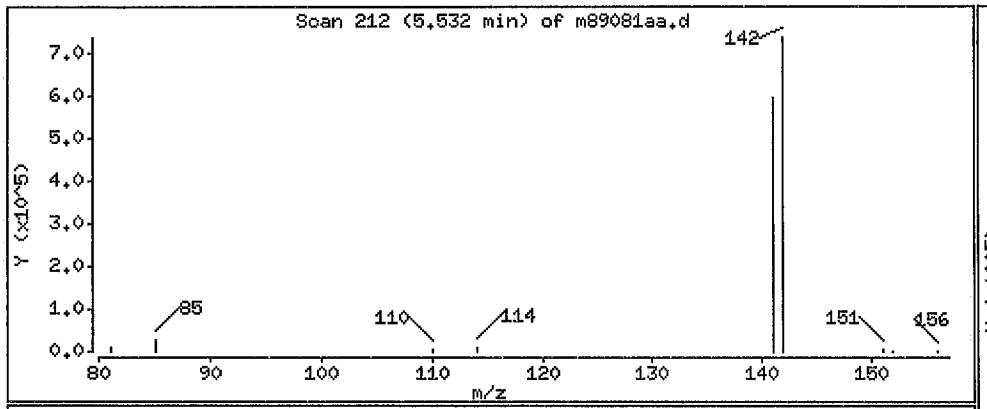
Operator: 011211

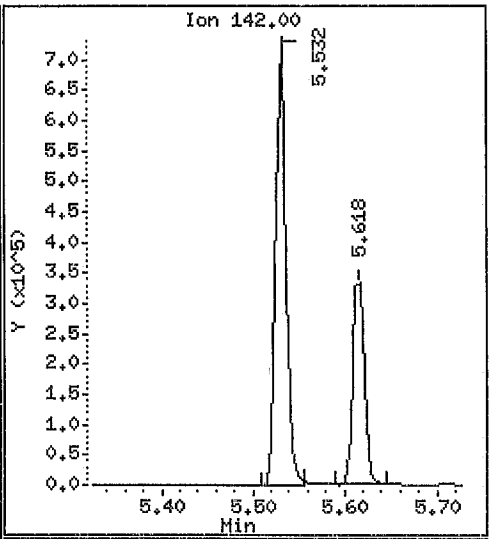
Column phase: Rxi-5SIL MS w/Guard

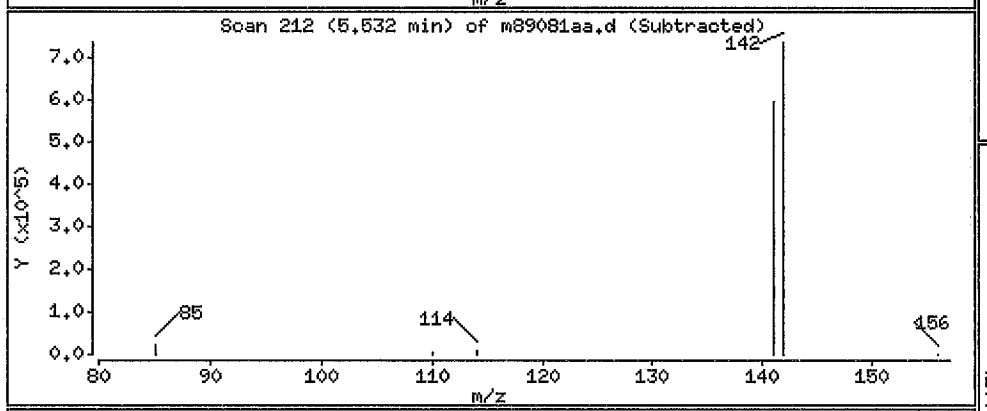
Column diameter: 0.25

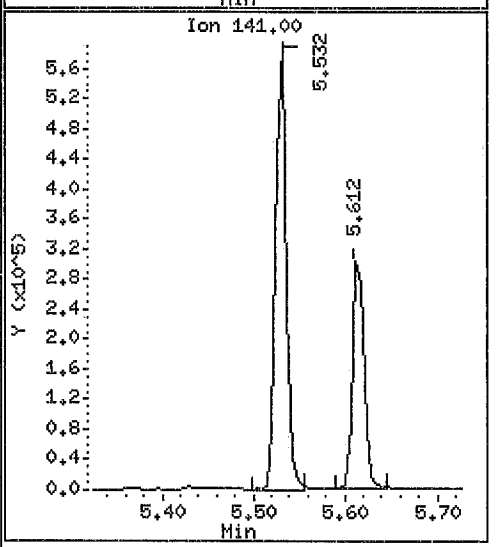
12 2-Methylnaphthalene

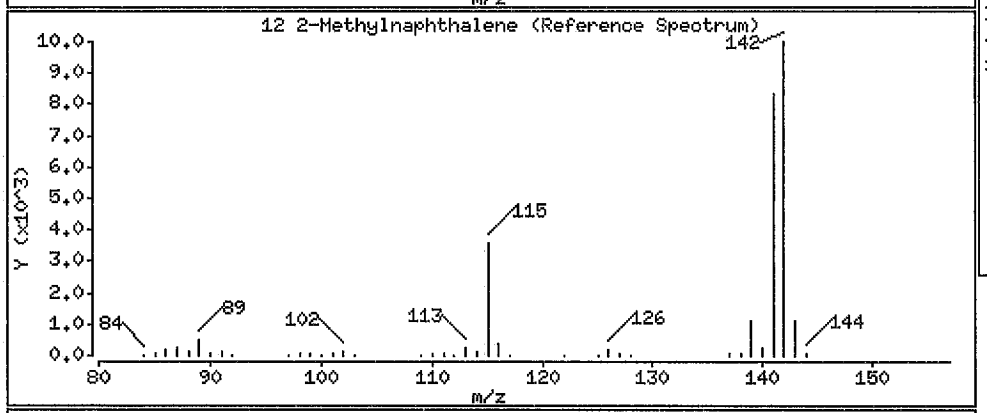
Concentration: 562 ng/L

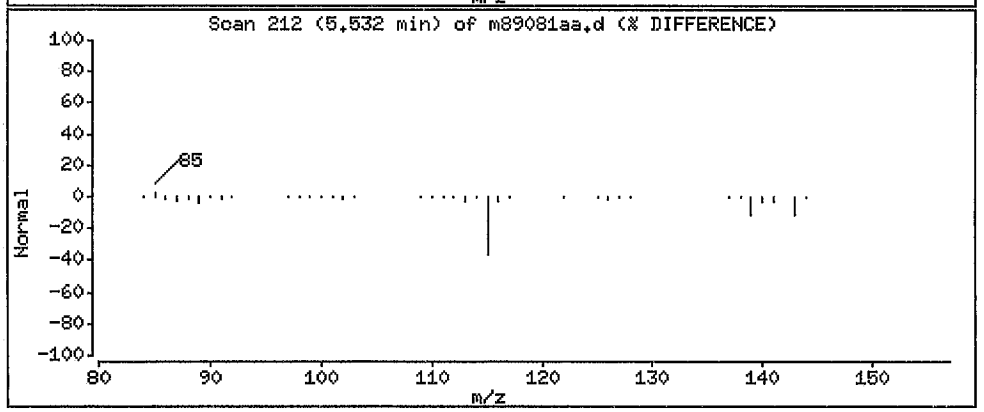












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

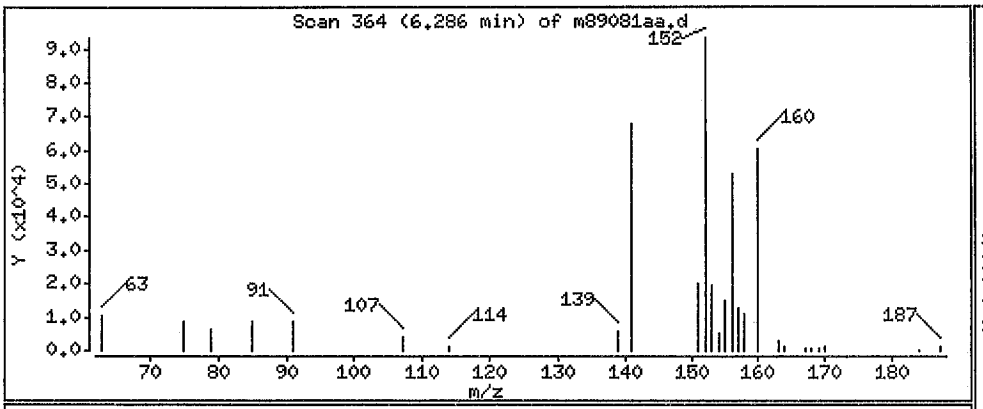
Operator: 011211

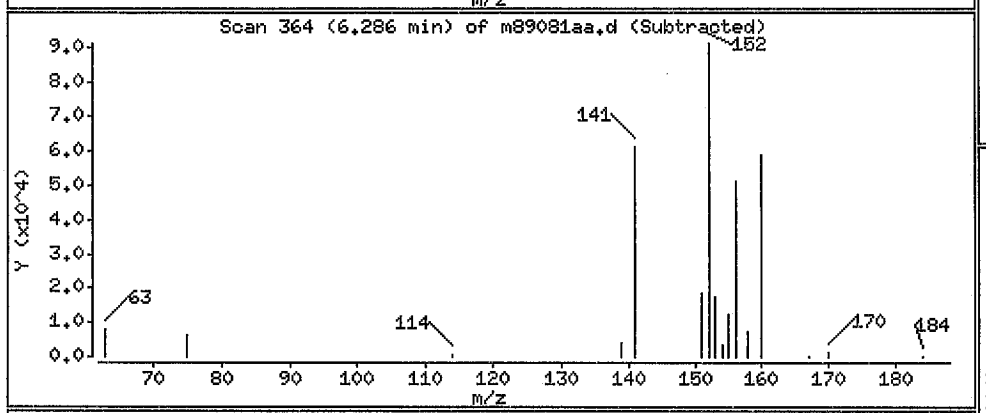
Column phase: Rxi-5SIL MS w/Guard

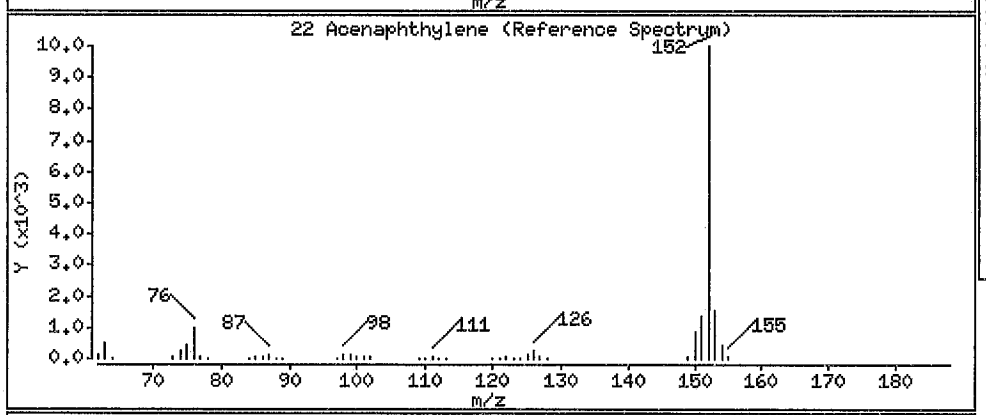
Column diameter: 0.25

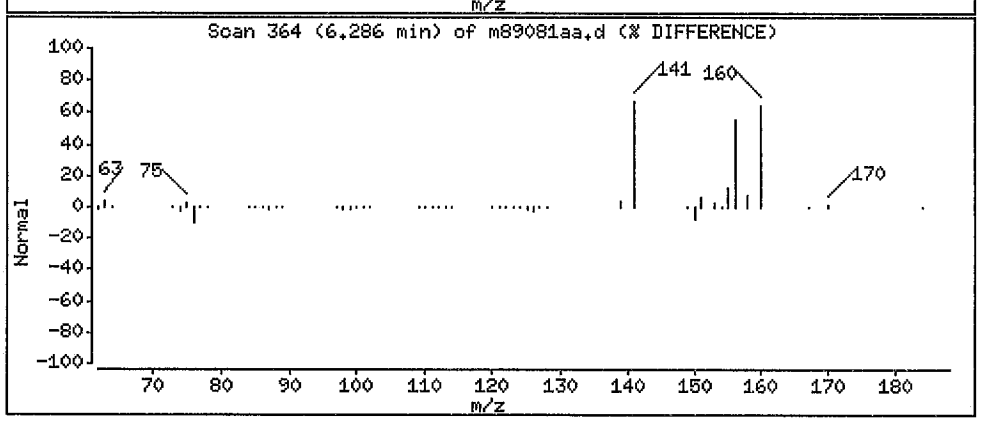
22 Acenaphthylene

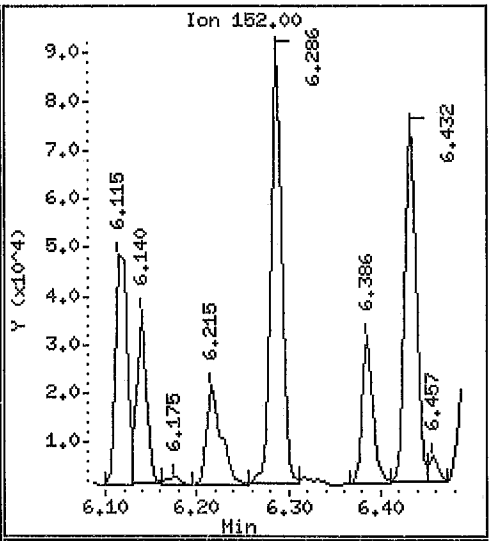
Concentration: 57.2 ng/L

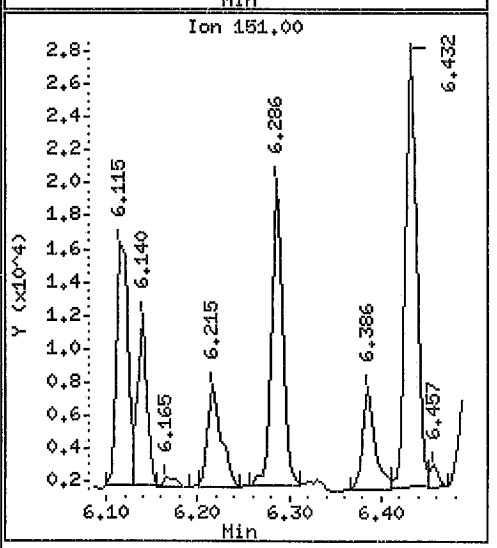












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

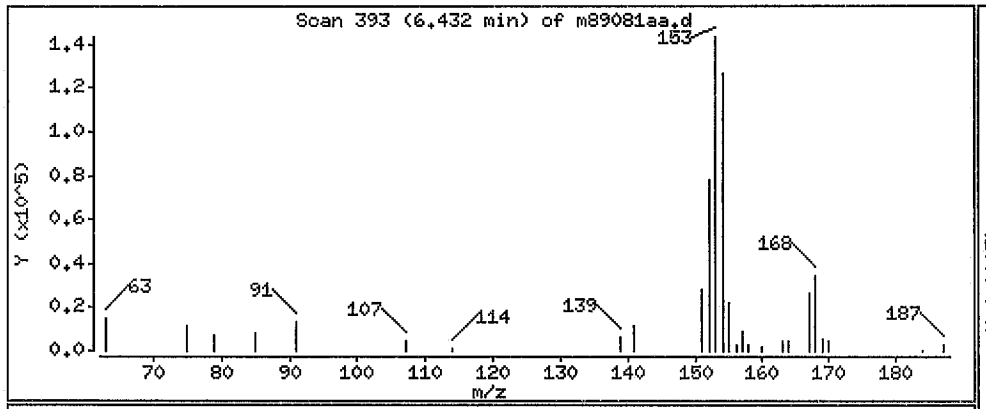
Operator: 011211

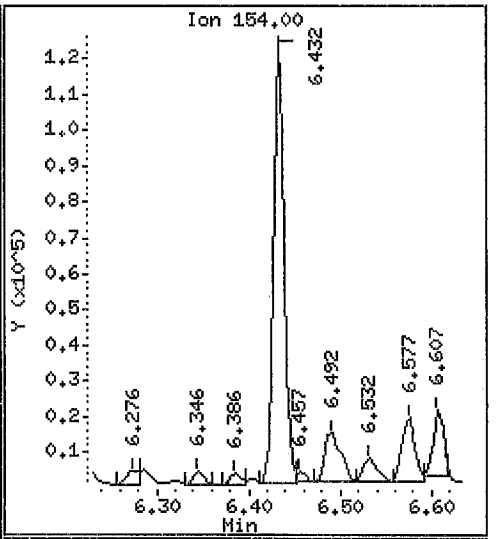
Column phase: Rxi-5SIL MS w/Guard

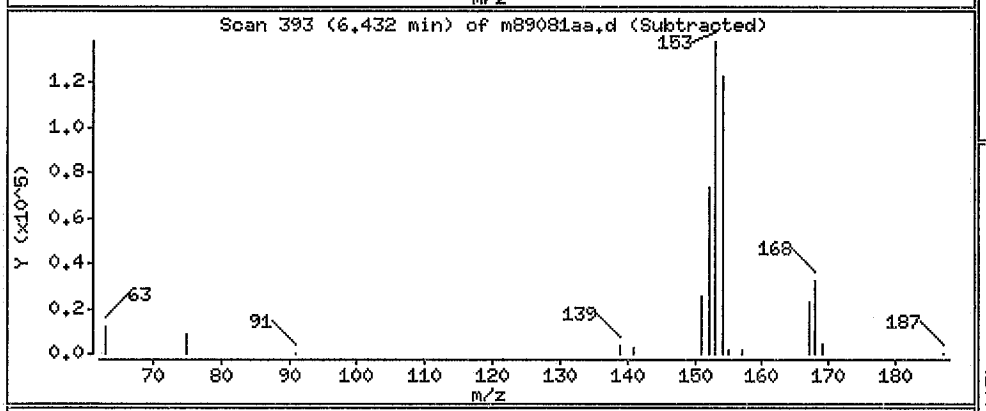
Column diameter: 0.25

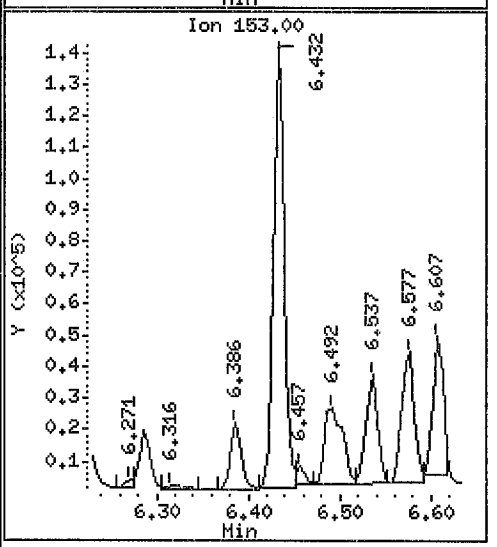
24 Acenaphthene

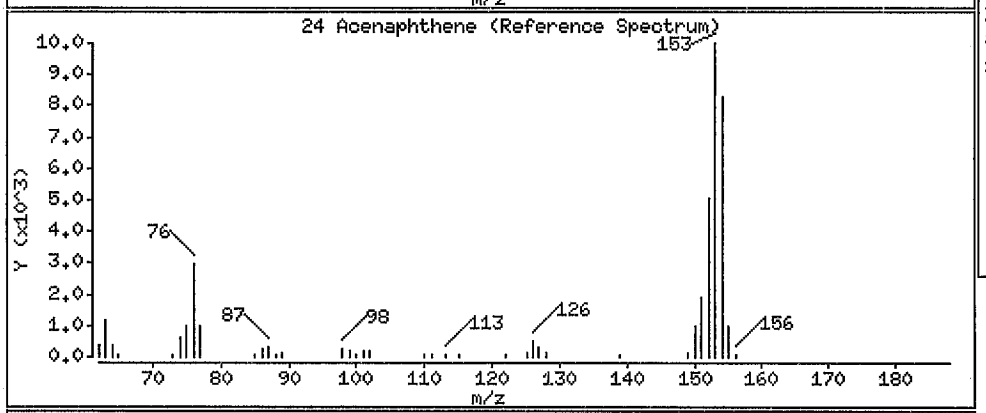
Concentration: 122 ng/L

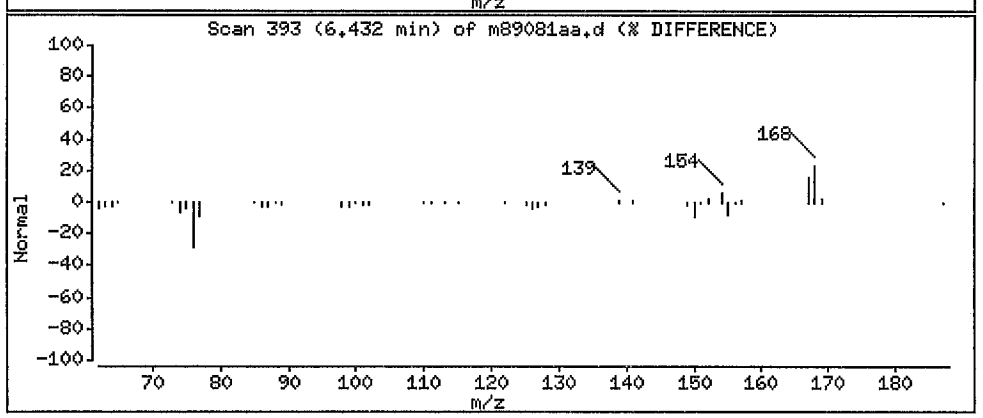












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

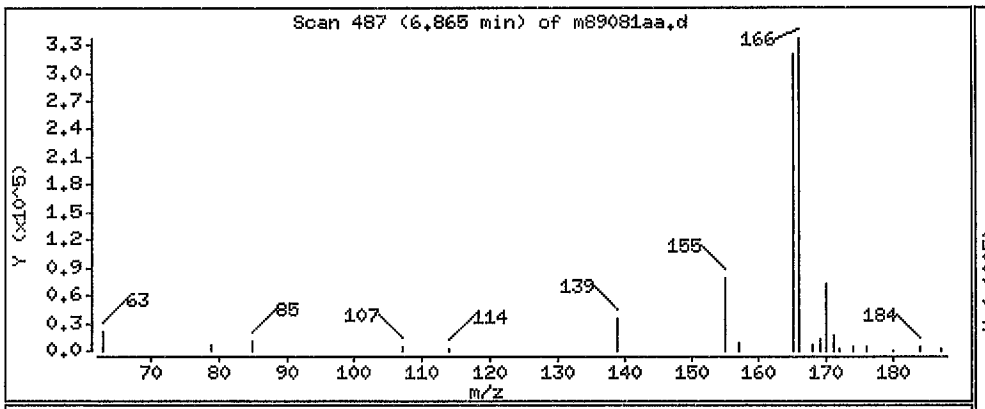
Operator: 011211

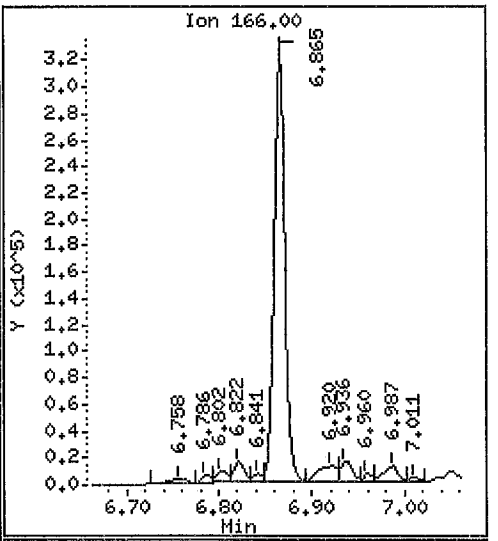
Column phase: Rxi-5SIL MS w/Guard

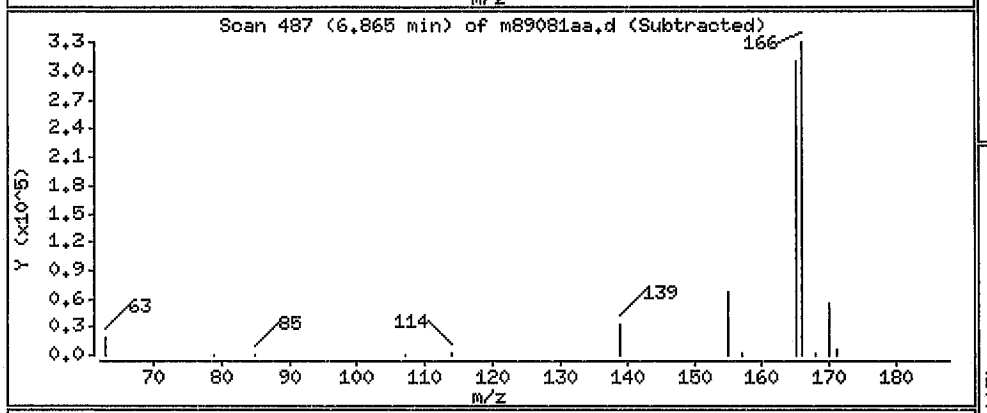
Column diameter: 0.25

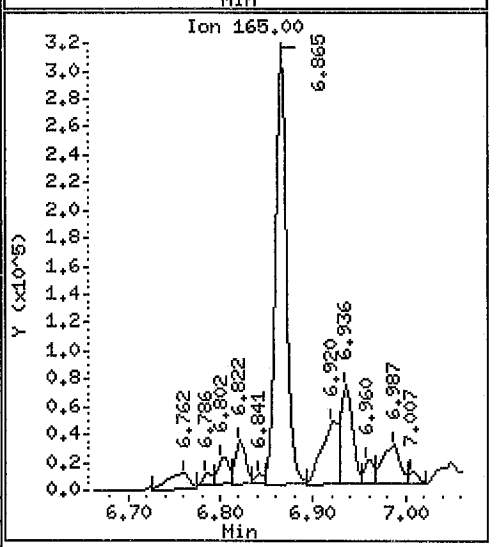
27 Fluorene

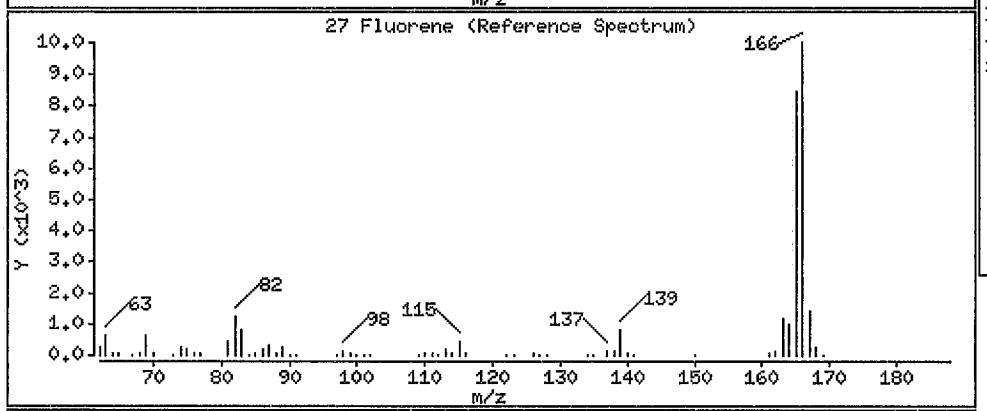
Concentration: 258 ng/L

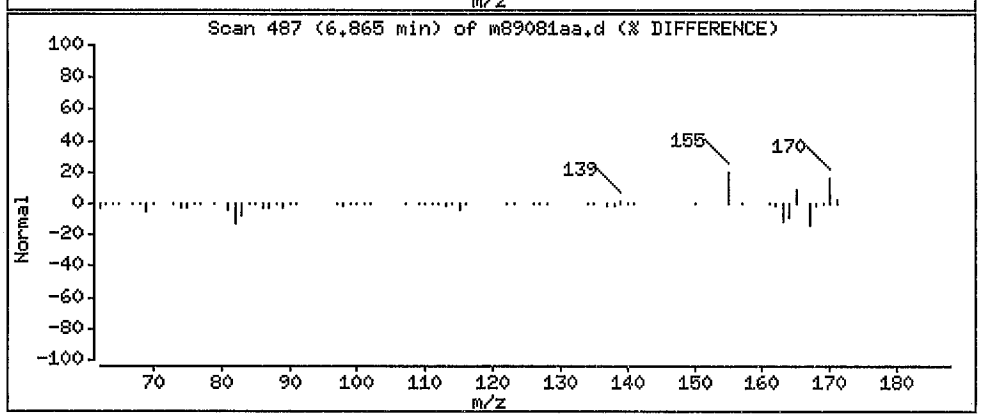












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

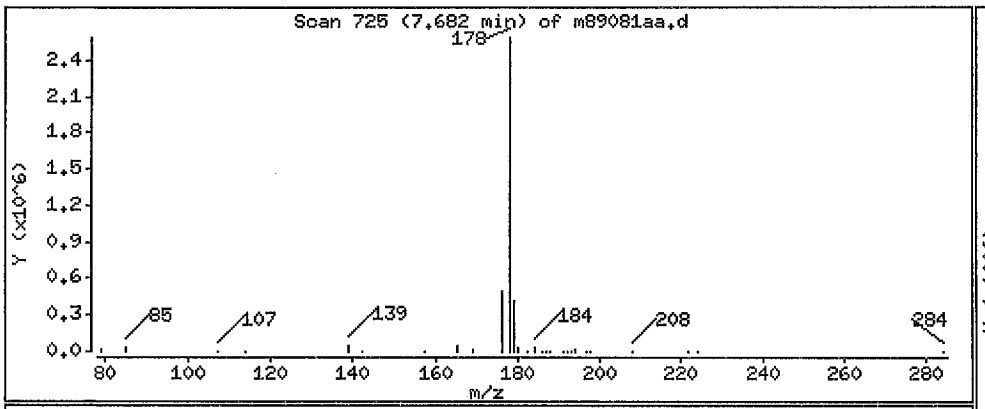
Operator: 011211

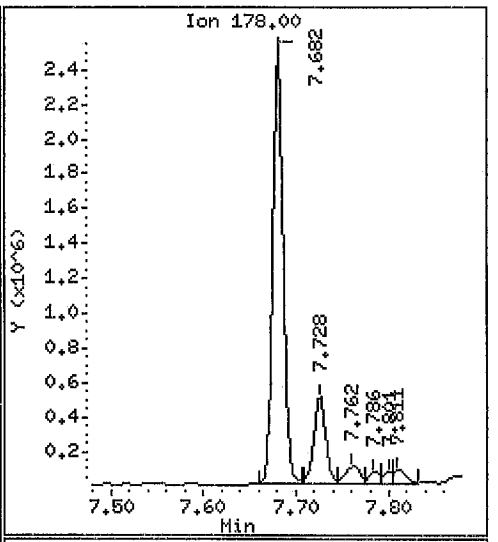
Column phase: Rxi-5SIL MS w/Guard

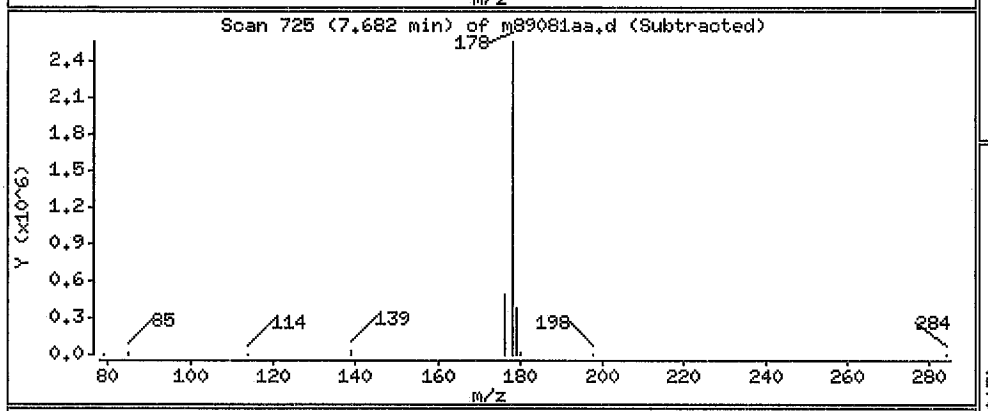
Column diameter: 0.25

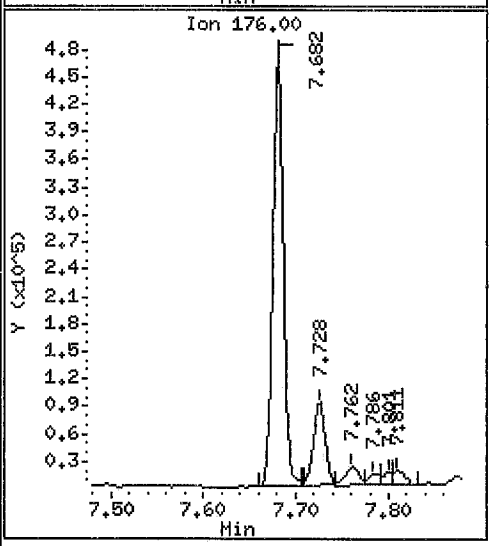
43 Phenanthrene

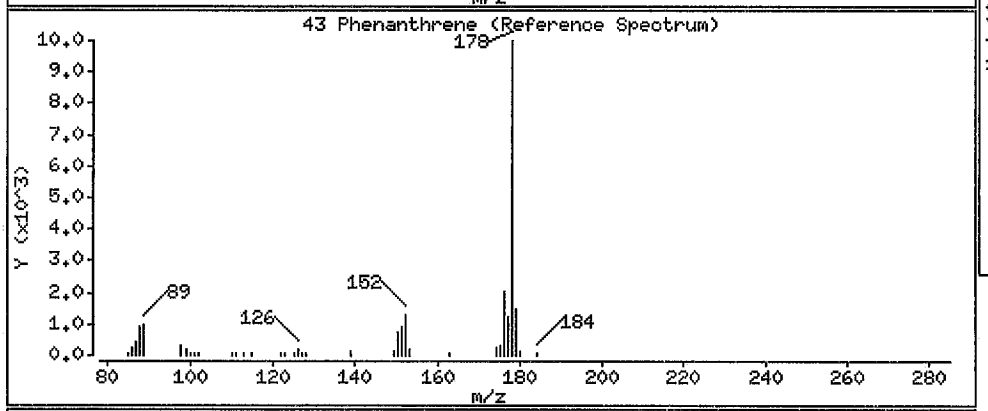
Concentration: 1450 ng/L

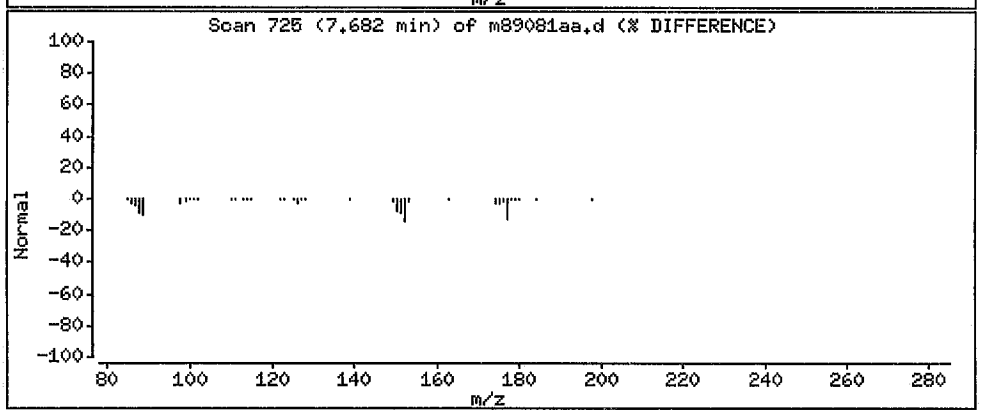












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

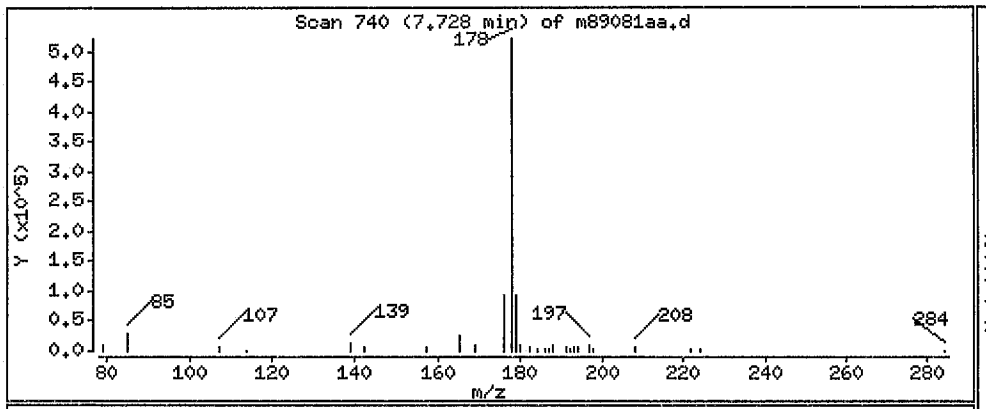
Operator: 011211

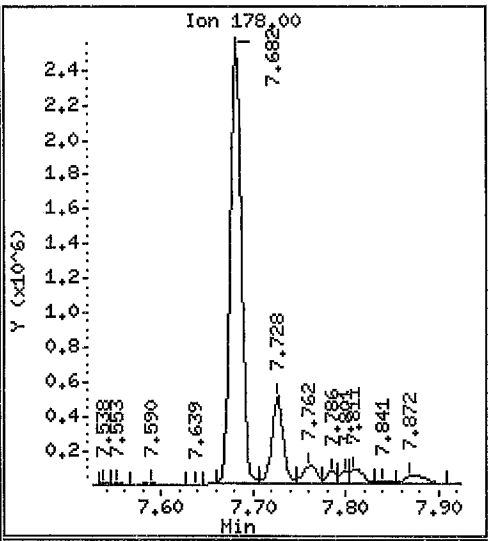
Column phase: Rxi-5SIL MS w/Guard

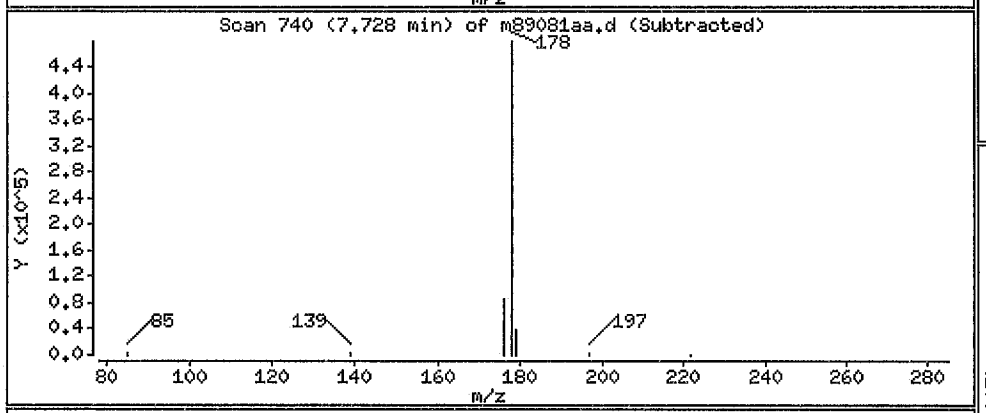
Column diameter: 0.25

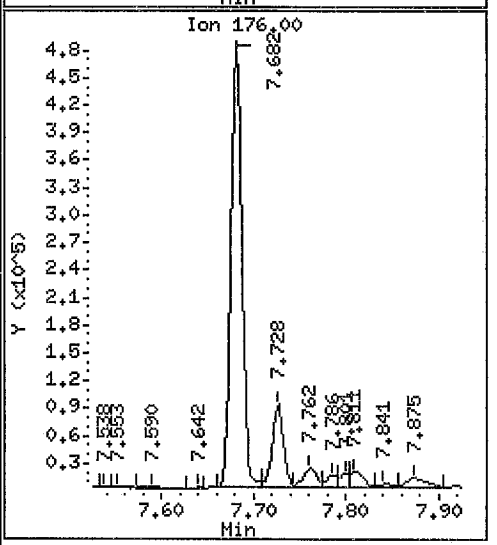
46 Anthracene

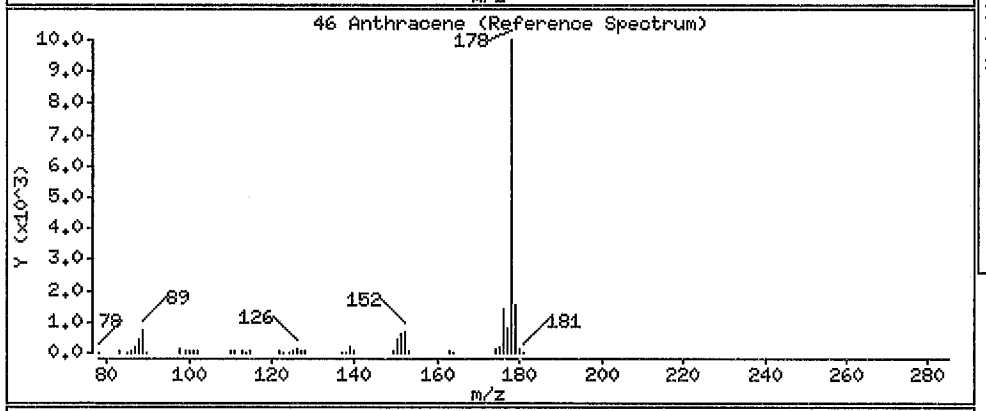
Concentration: 351 ng/L

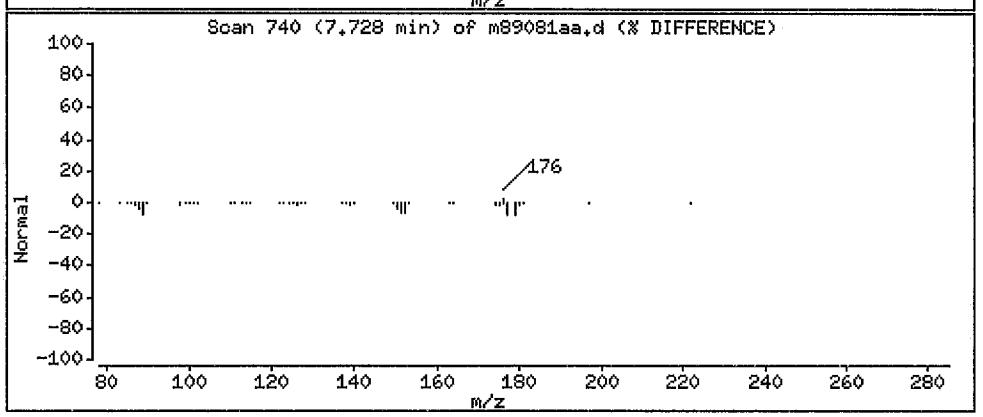












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

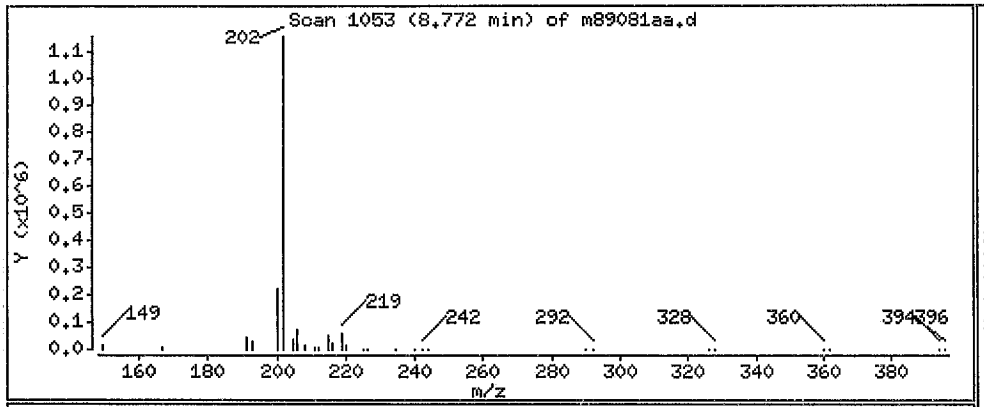
Operator: 011211

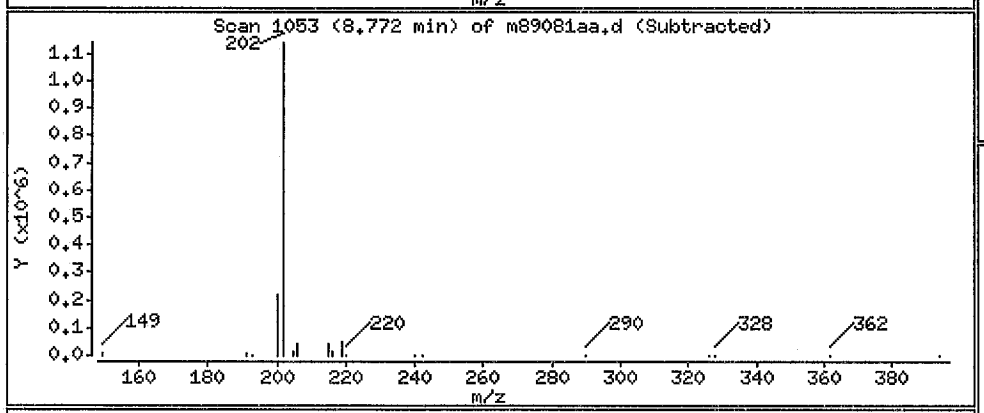
Column phase: Rxi-5SIL MS w/Guard

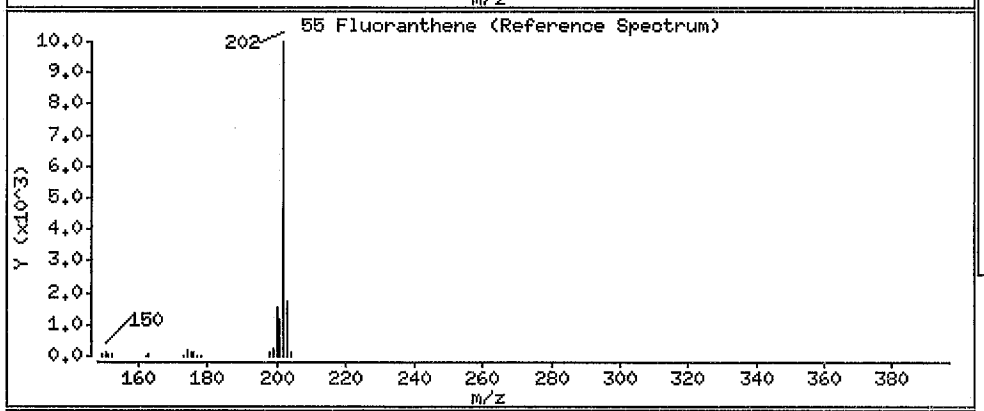
Column diameter: 0.25

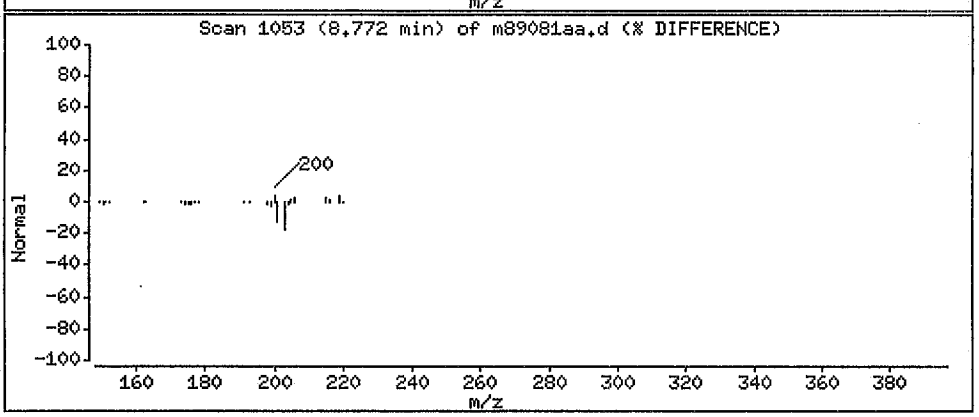
55 Fluoranthene

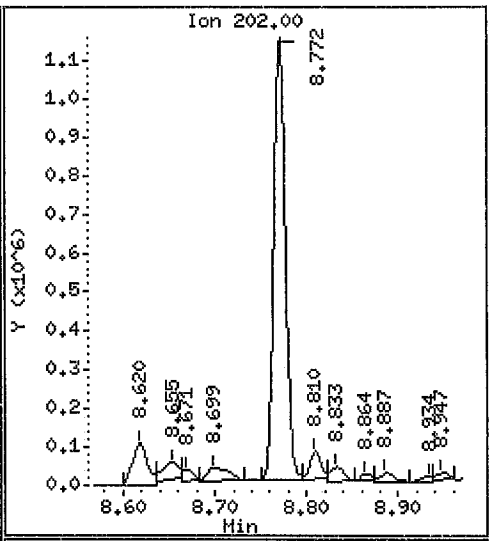
Concentration: 576 ng/L

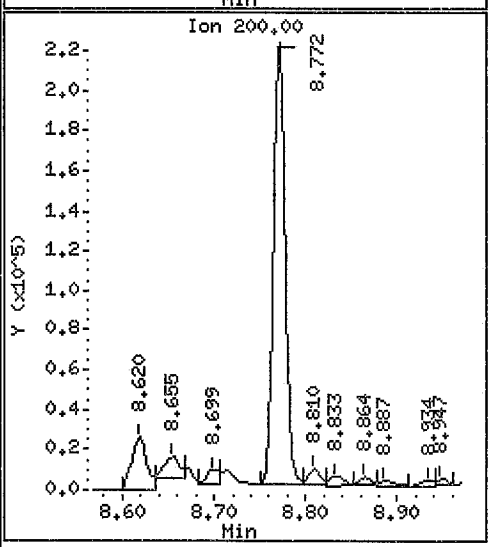












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

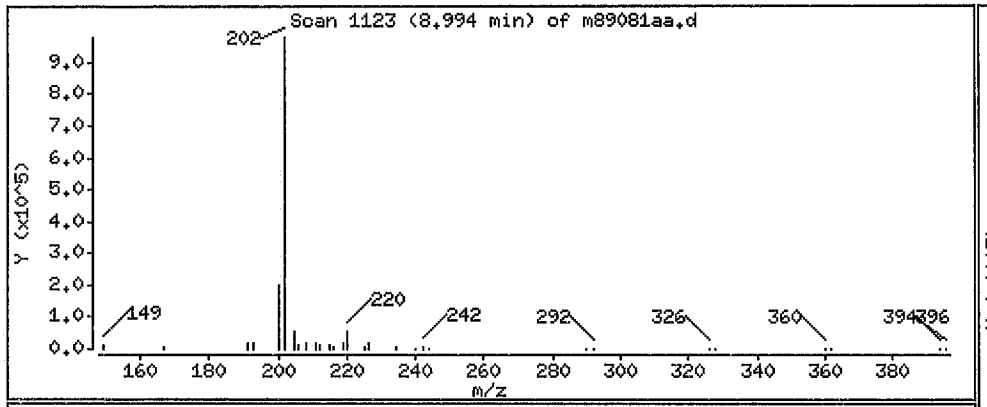
Operator: 011211

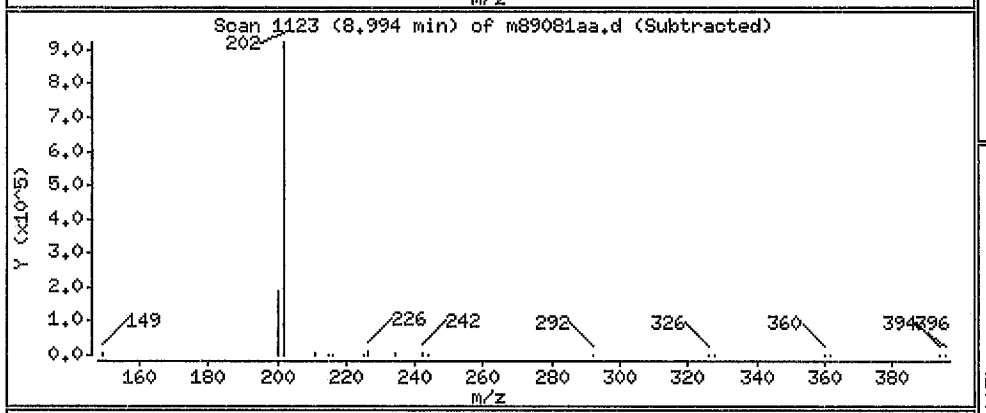
Column phase: Rxi-5SIL MS w/Guard

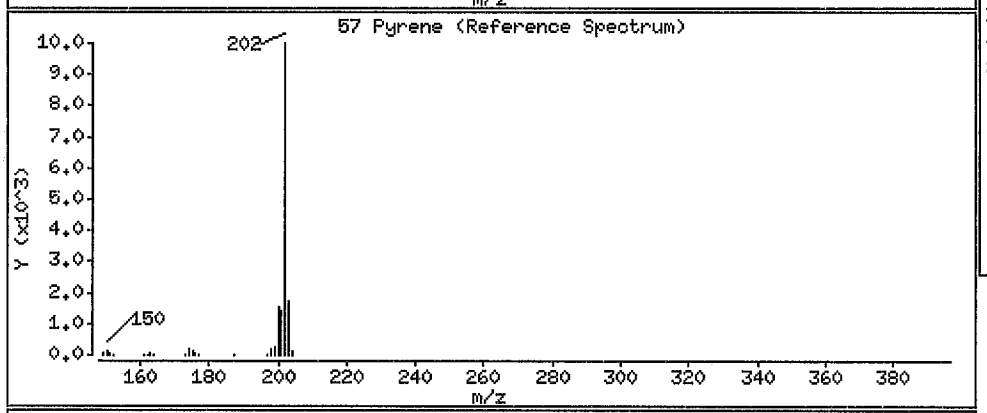
Column diameter: 0.25

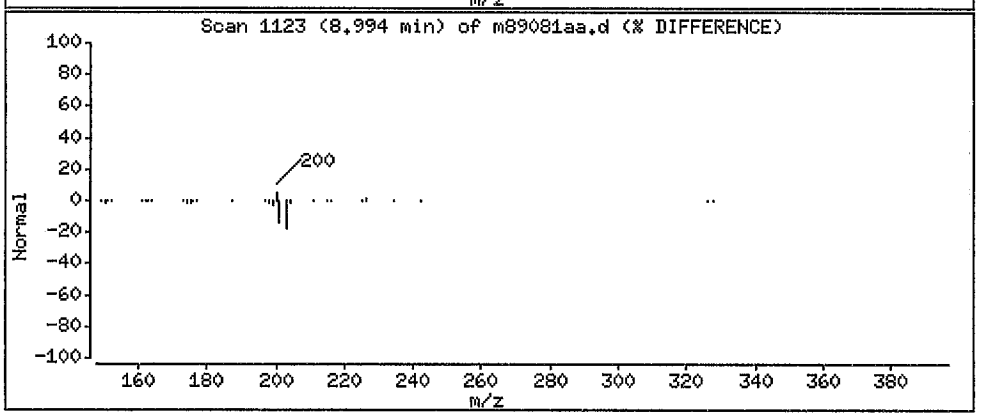
57 Pyrene

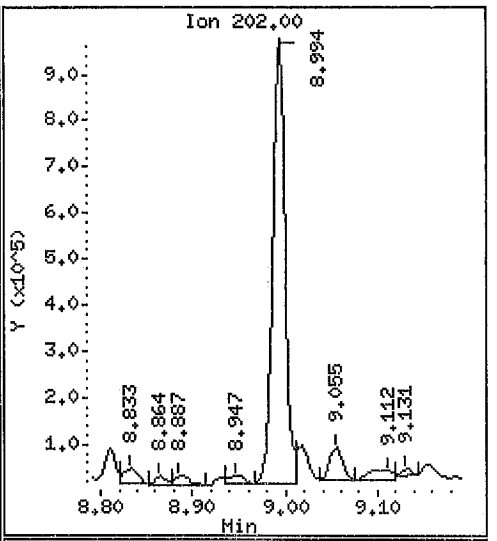
Concentration: 503 ng/L

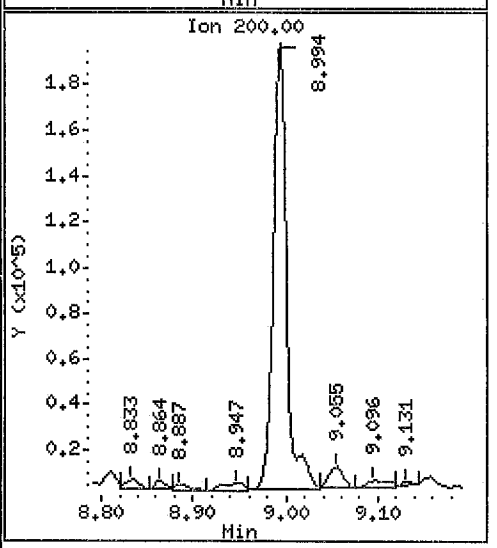












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

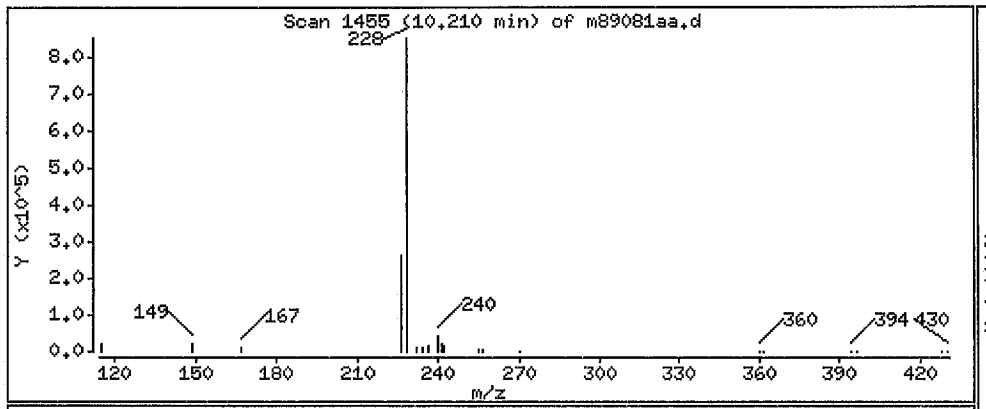
Operator: 011211

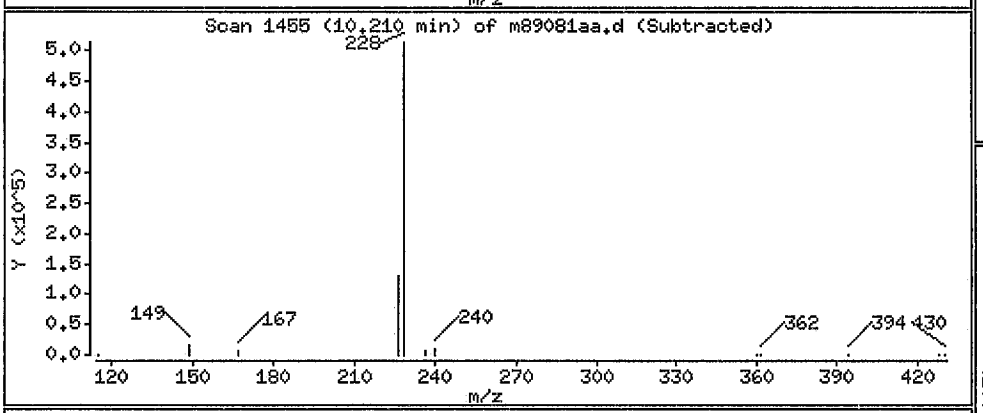
Column phase: Rxi-5SIL MS w/Guard

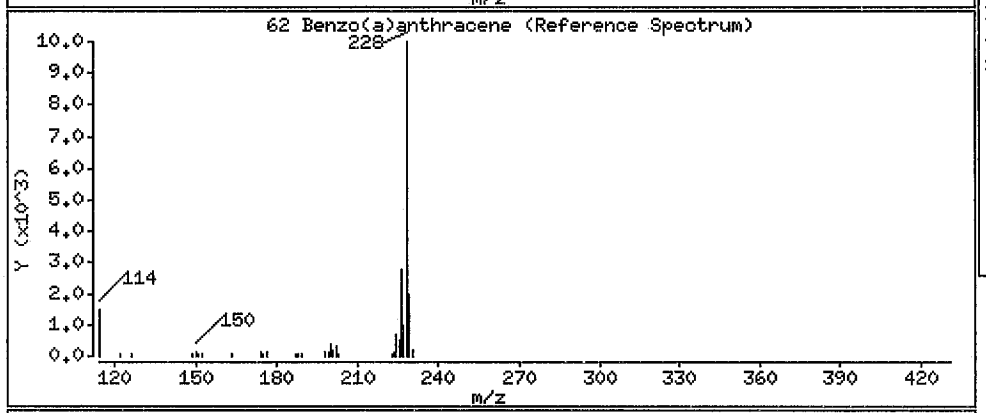
Column diameter: 0.25

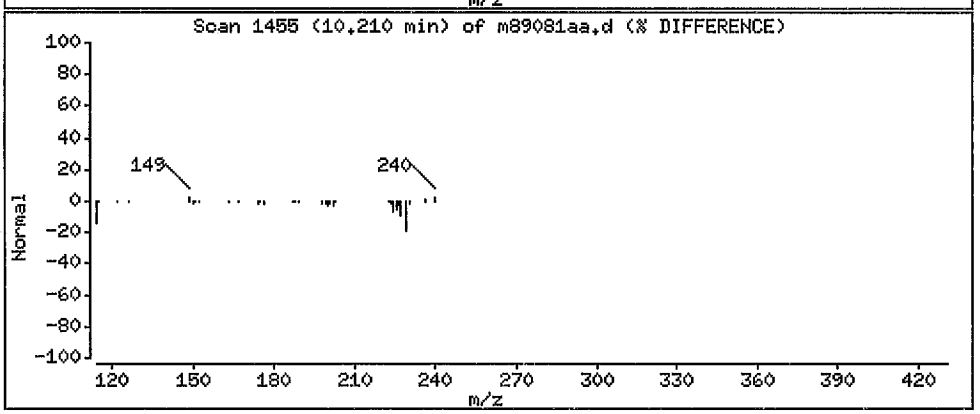
62 Benzo(a)anthracene

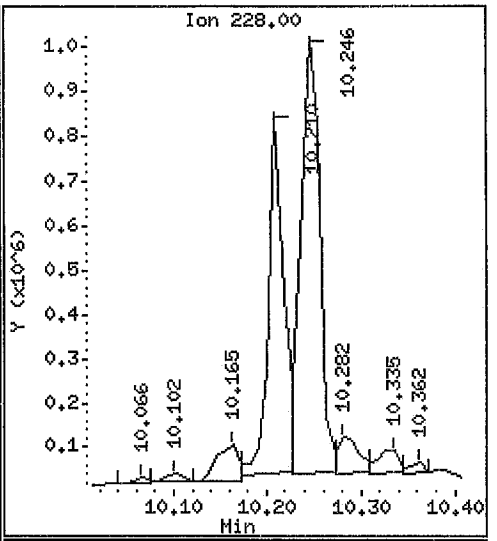
Concentration: 807 ng/L

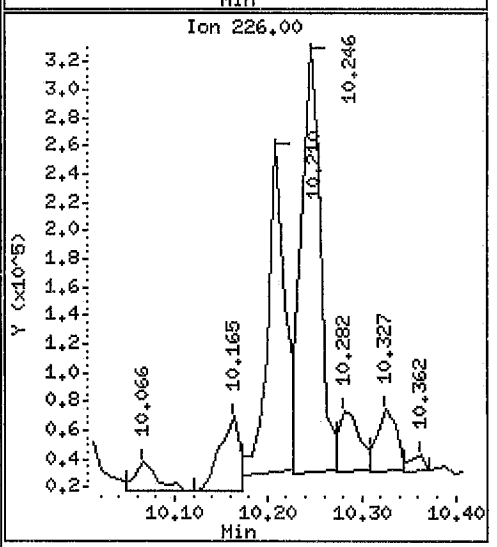












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

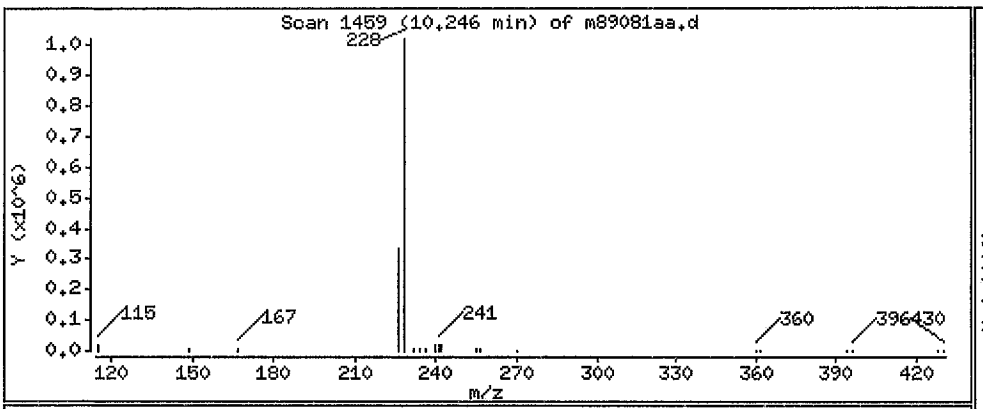
Operator: 011211

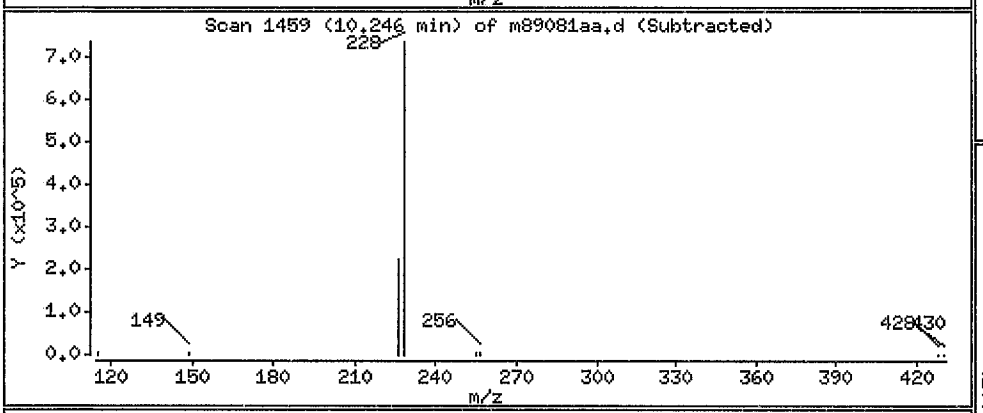
Column phase: Rxi-5SIL MS w/Guard

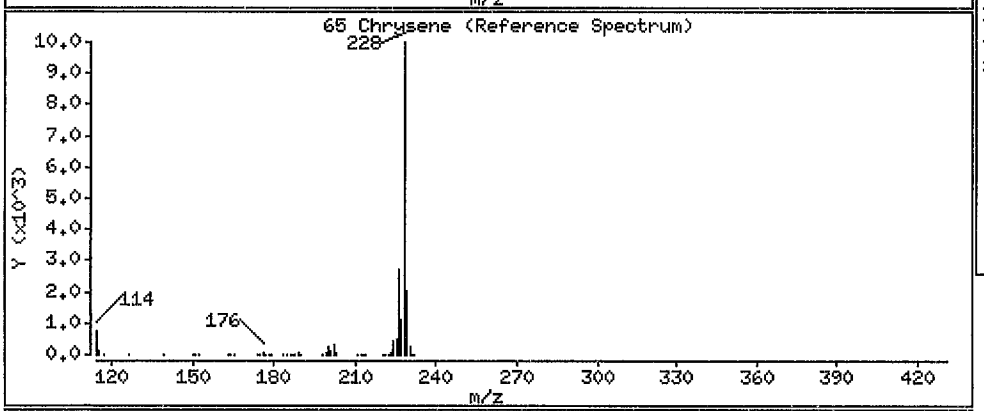
Column diameter: 0.25

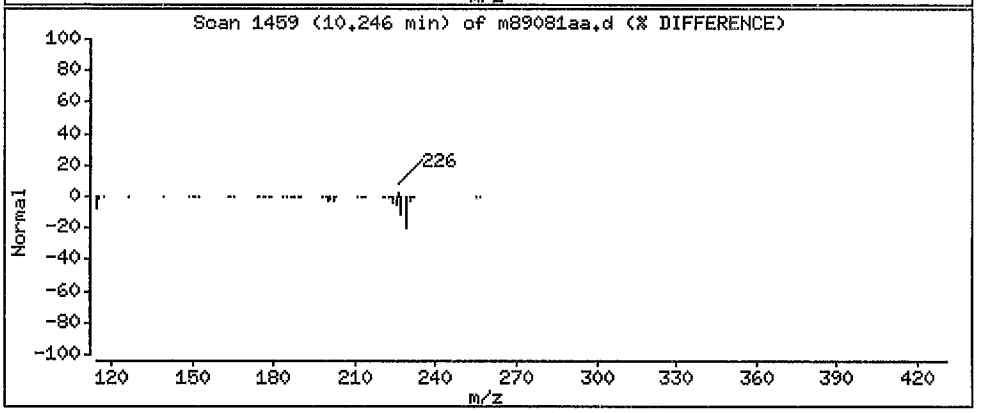
65 Chrysene

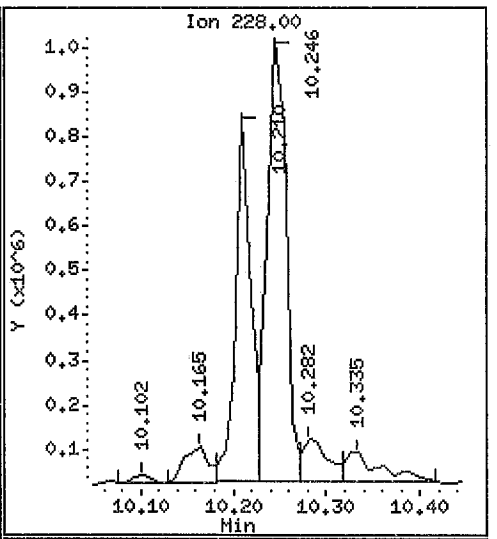
Concentration: 1060 ng/L

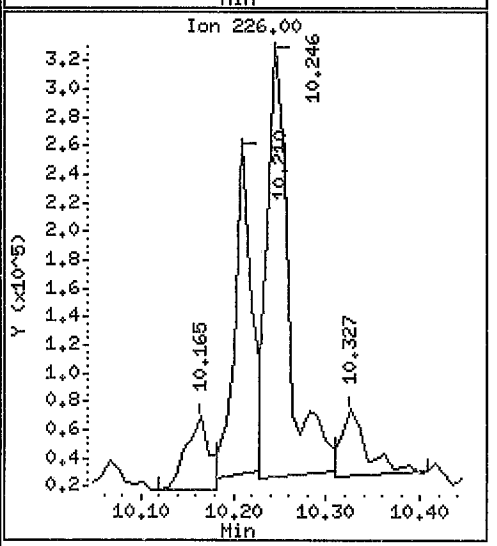












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

Operator: 011211

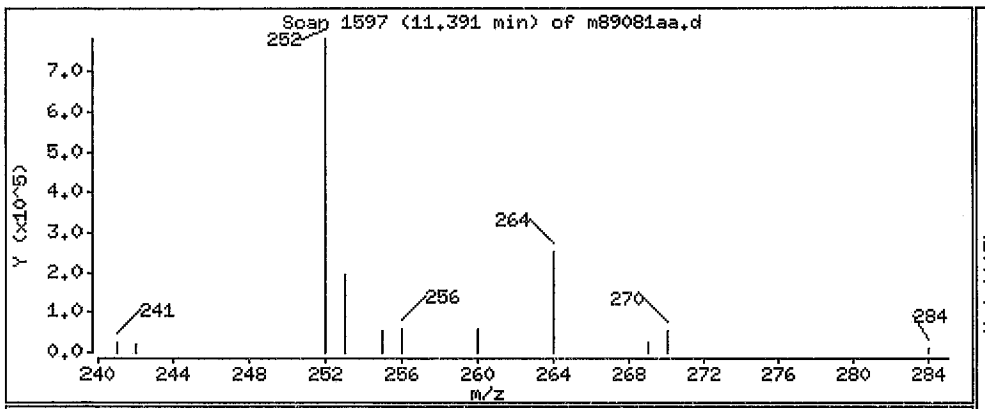
Column phase: Rxi-5SIL MS w/Guard

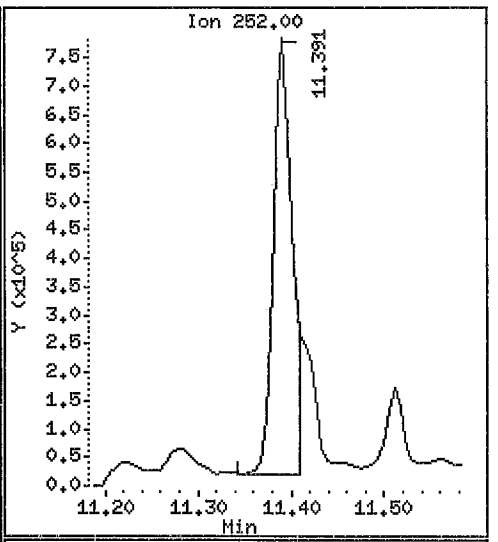
Column diameter: 0.25

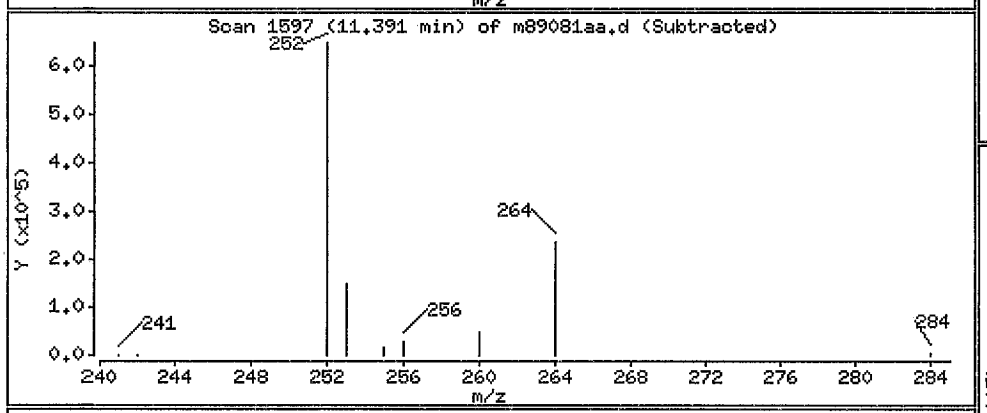
72 Benzo(b)fluoranthene

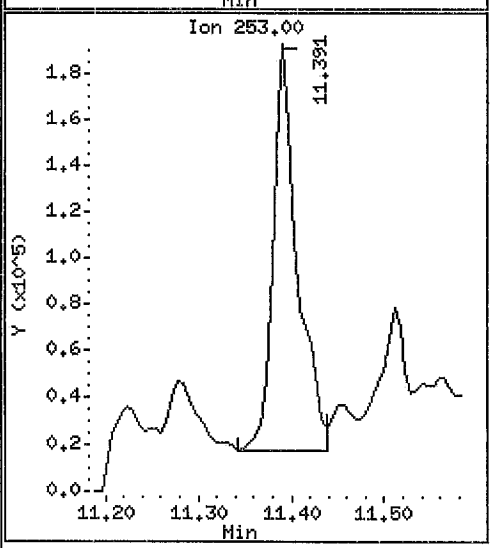
Concentration: 542 ng/L

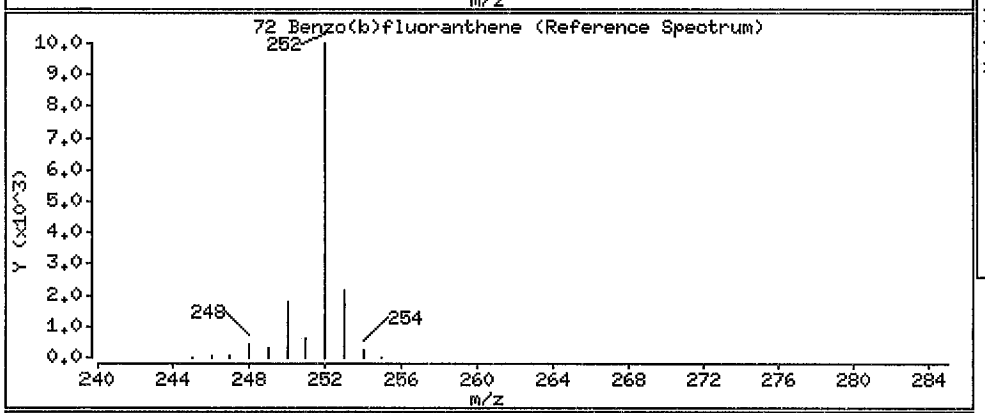
10/11/16 (1)

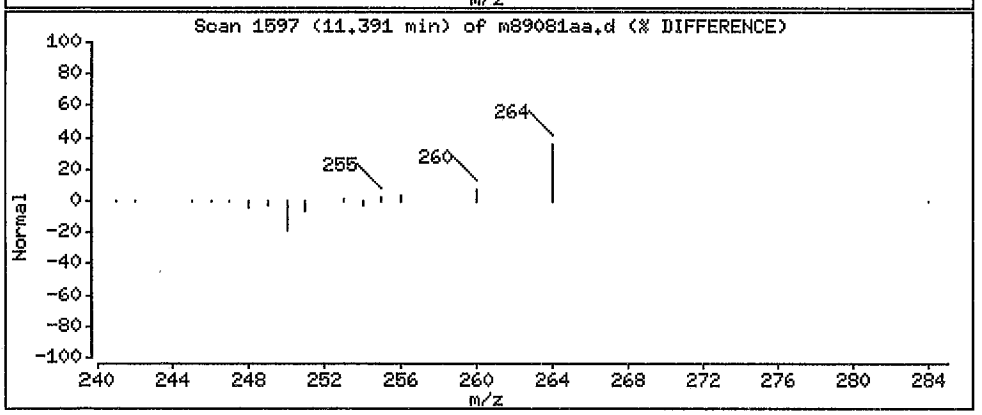












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

Operator: 011211

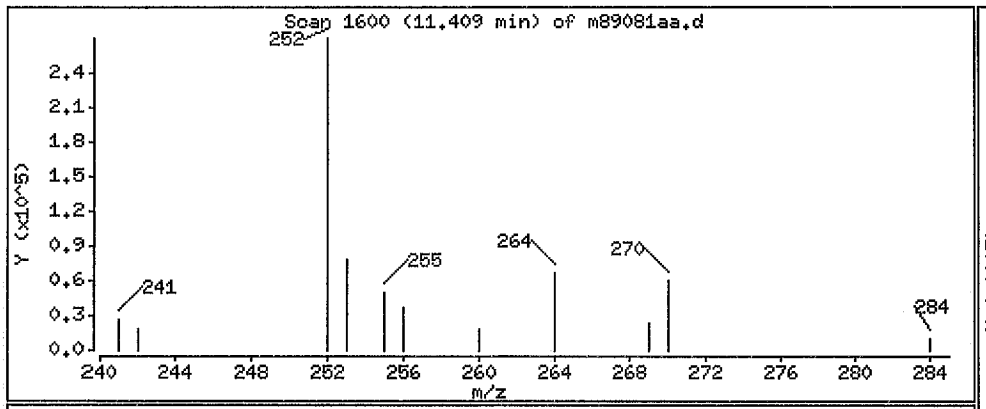
Column phase: Rxi-5SIL MS w/Guard

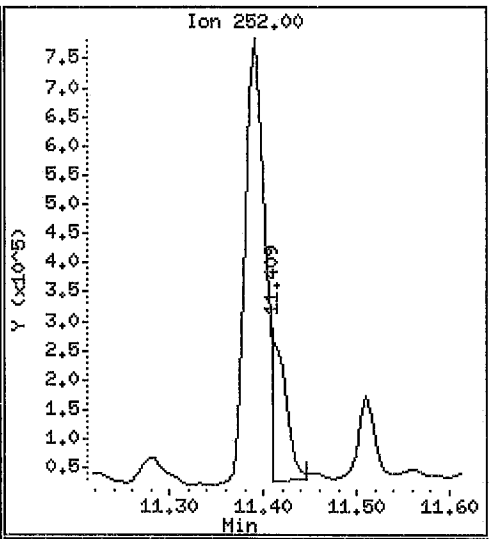
Column diameter: 0.25

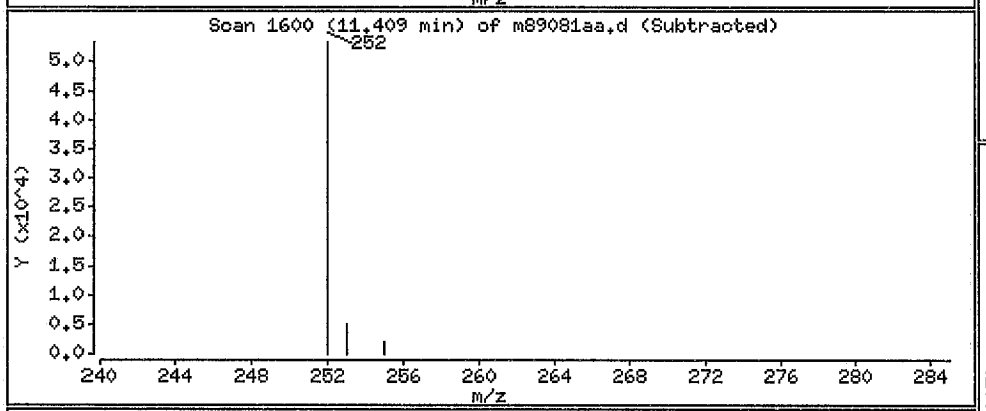
10/11/16 ①

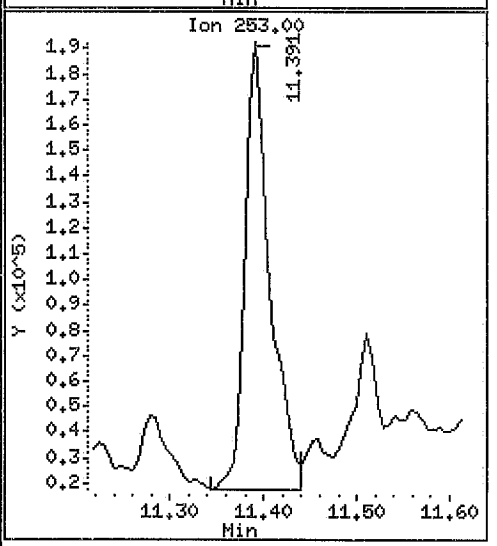
75 Benzo(k)fluoranthene

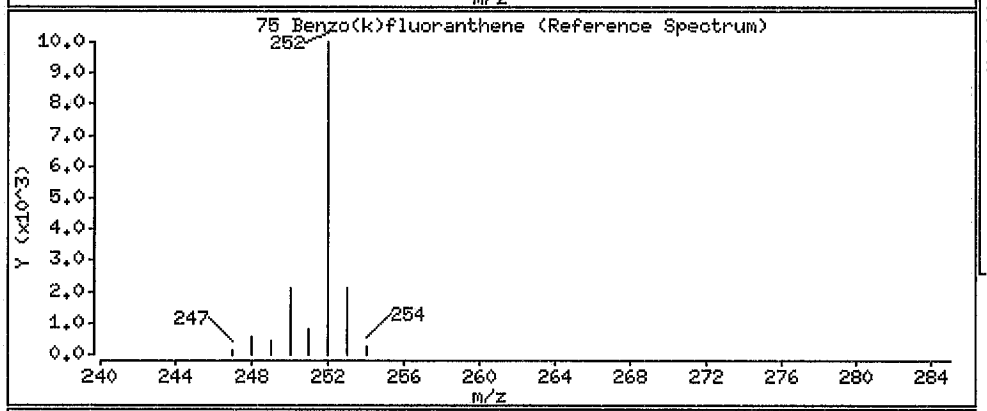
Concentration: 180 ng/L

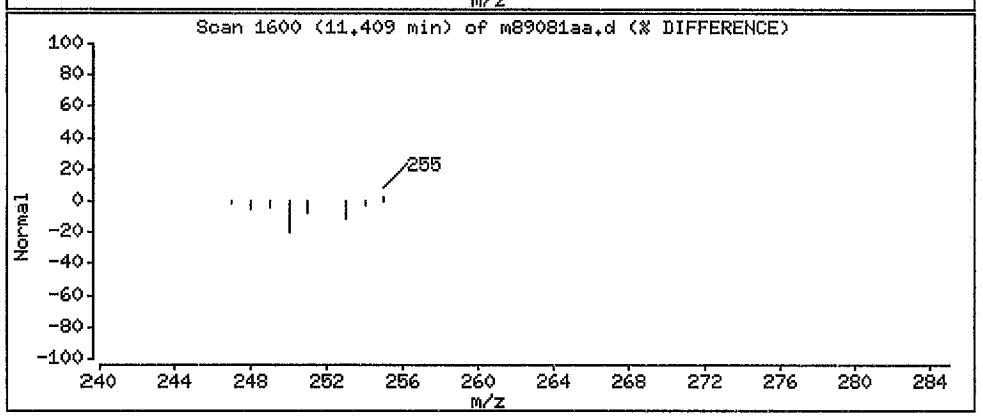












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

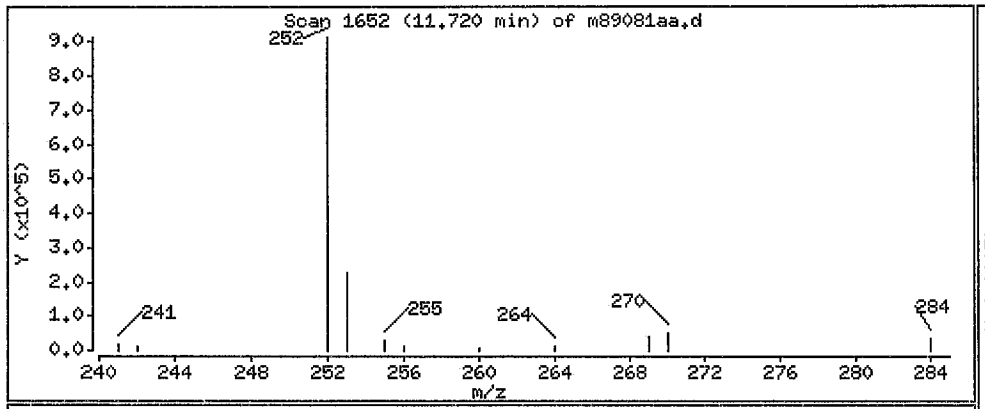
Operator: 011211

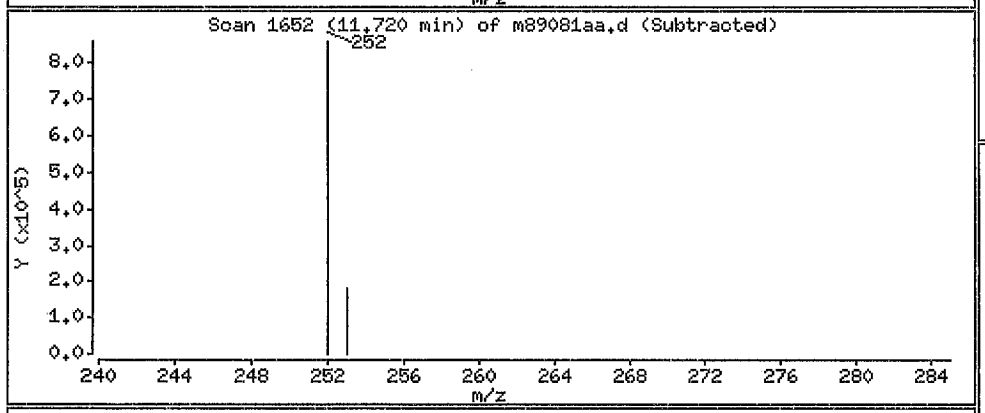
Column phase: Rxi-5SIL MS w/Guard

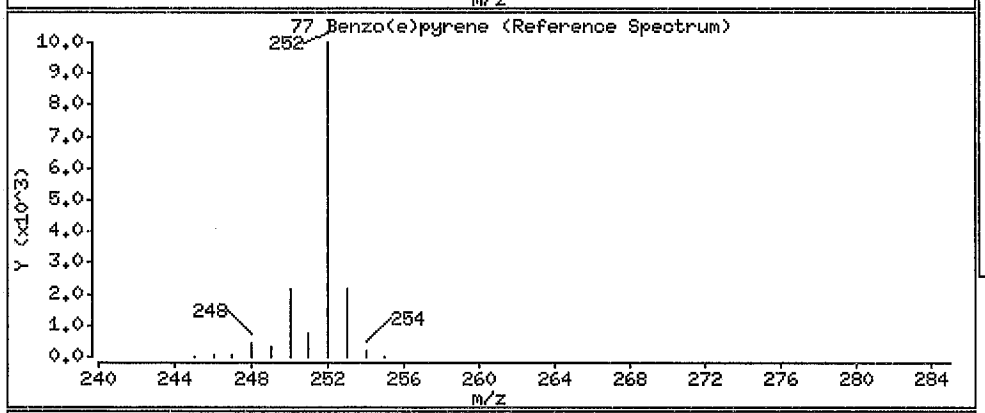
Column diameter: 0.25

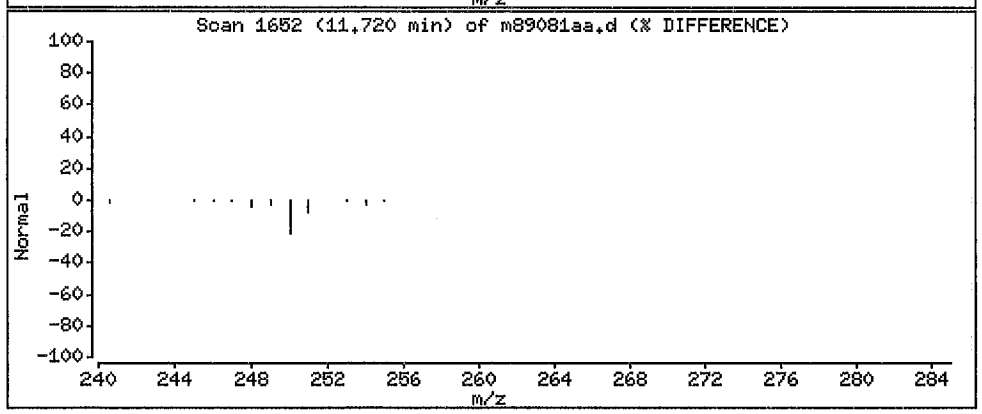
77 Benzo(e)pyrene

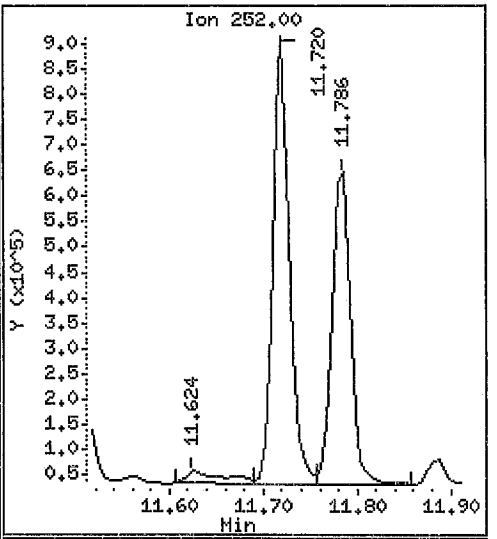
Concentration: 562 ng/L

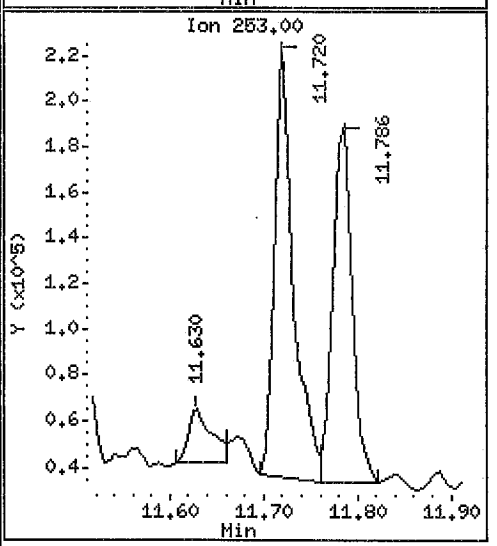












Data File: /var/chem/goms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

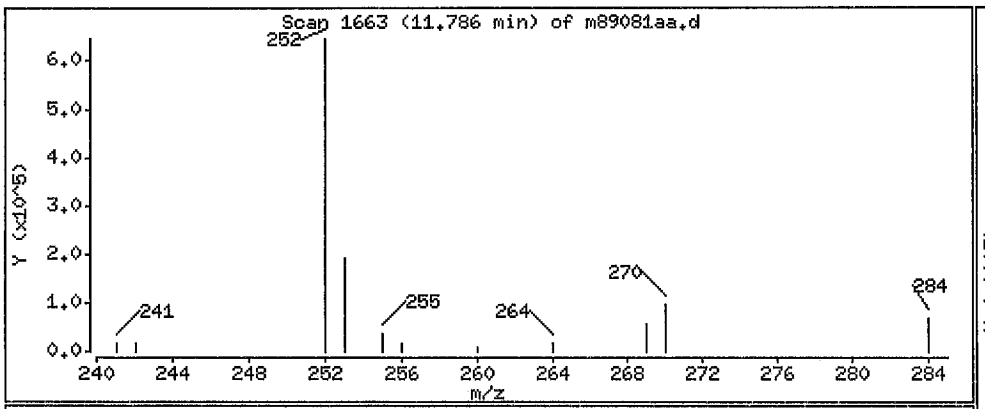
Operator: 011211

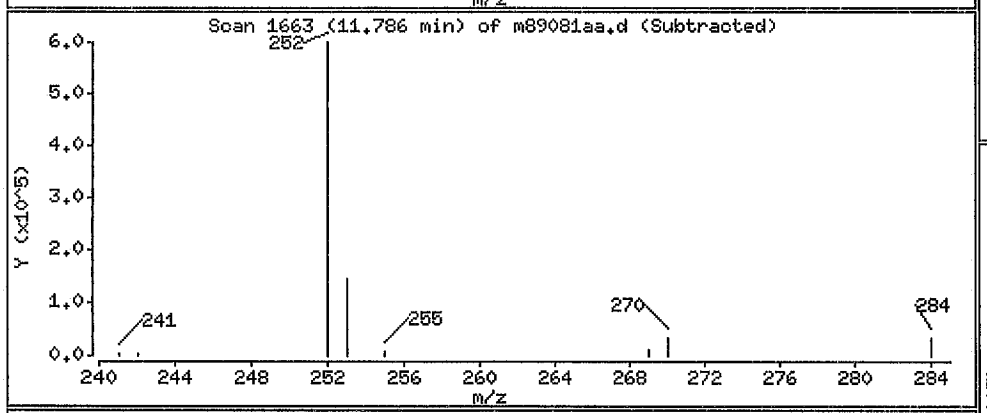
Column phase: Rxi-5SIL MS w/Guard

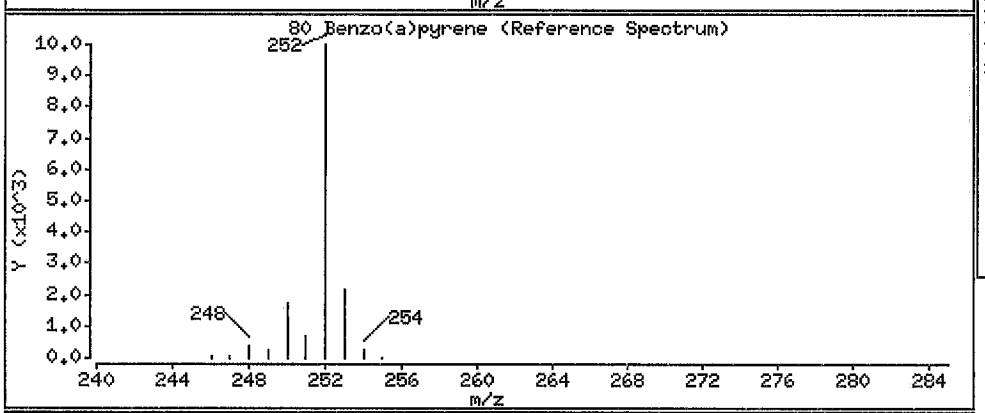
Column diameter: 0.25

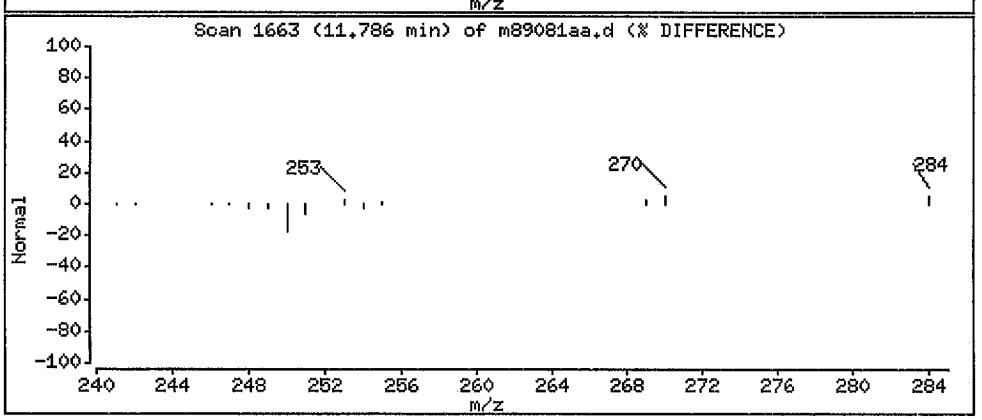
80 Benzo(a)pyrene

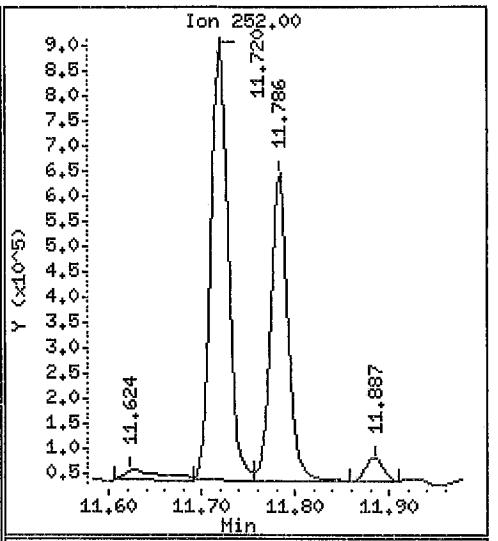
Concentration: 492 ng/L

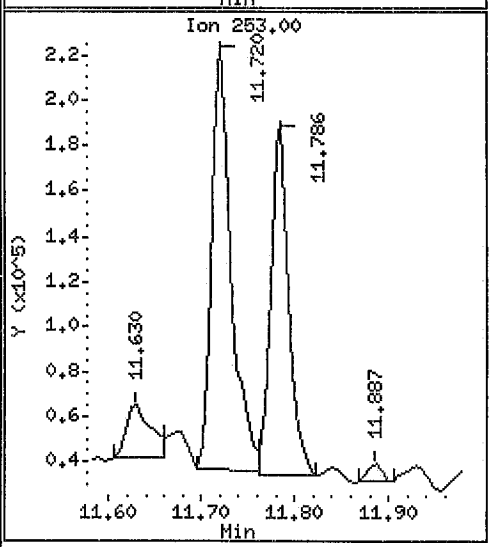












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

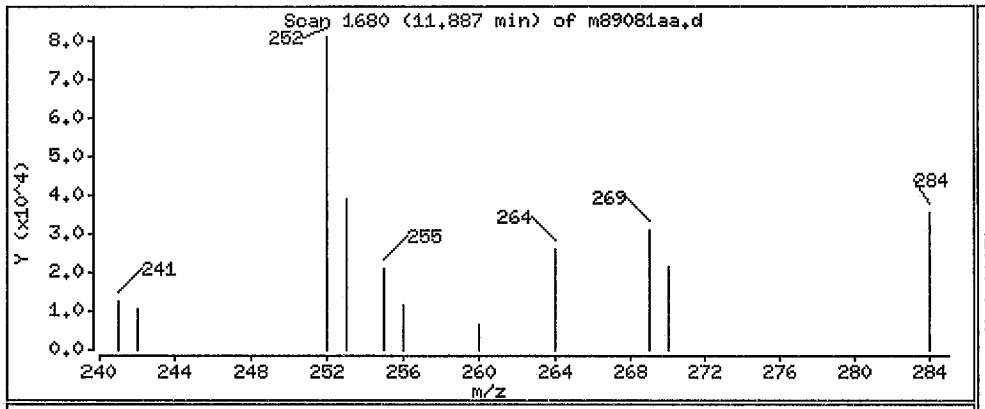
Operator: 011211

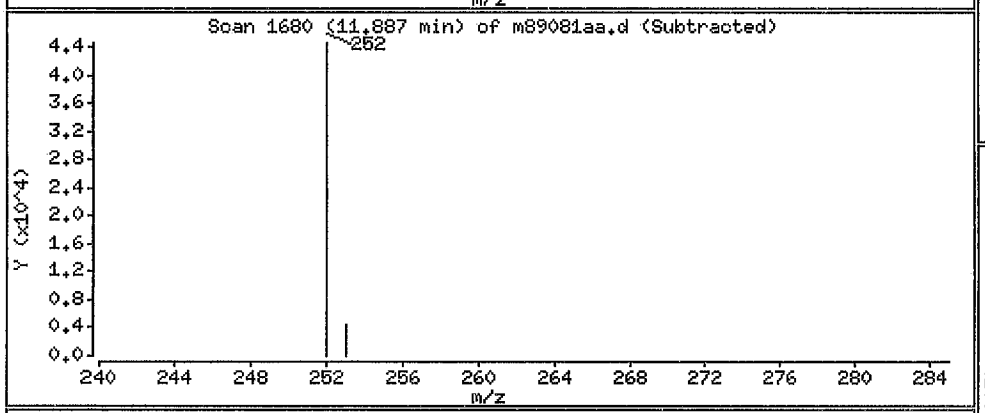
Column phase: Rxi-5SIL MS w/Guard

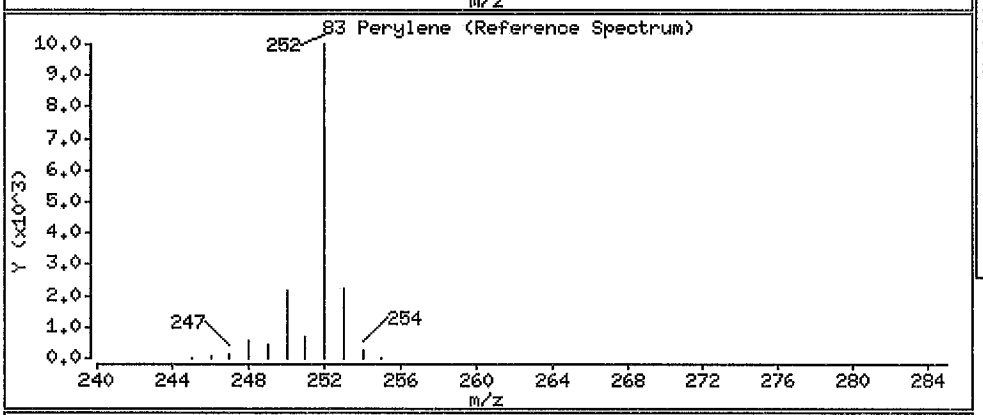
Column diameter: 0.25

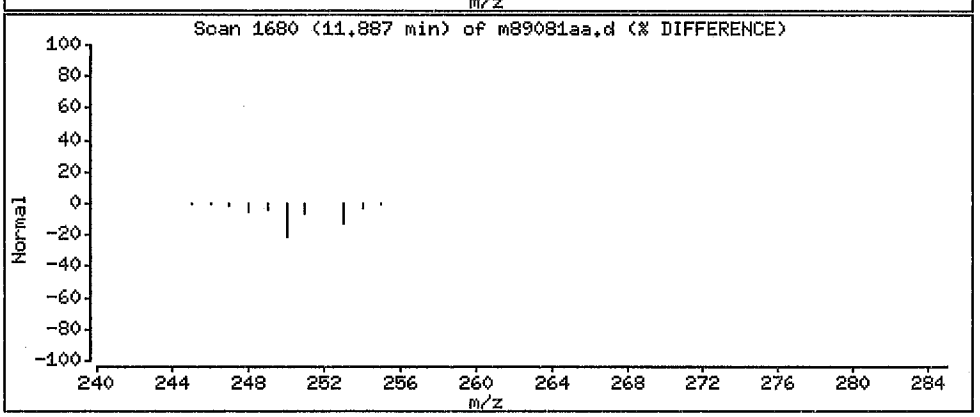
83 Perylene

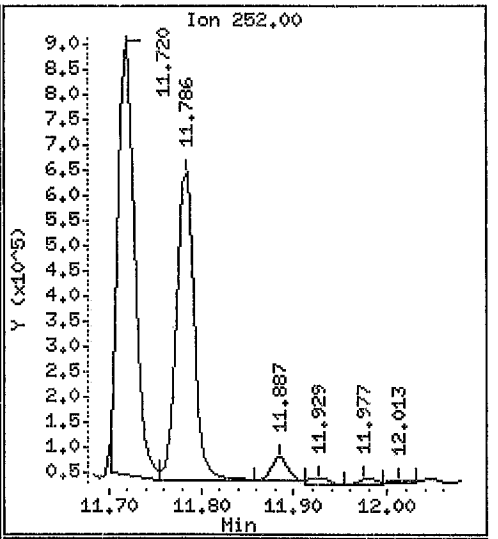
Concentration: 40.2 ng/L

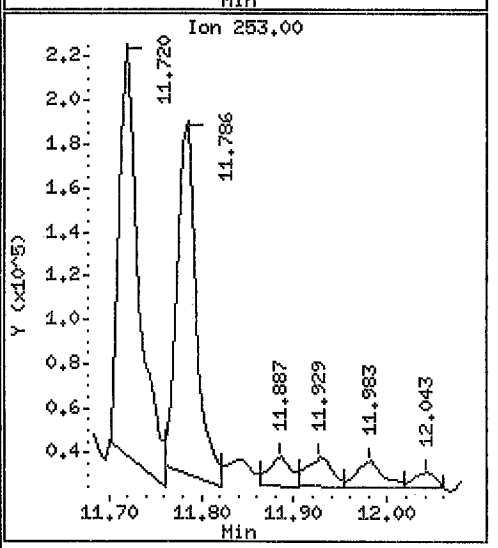












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

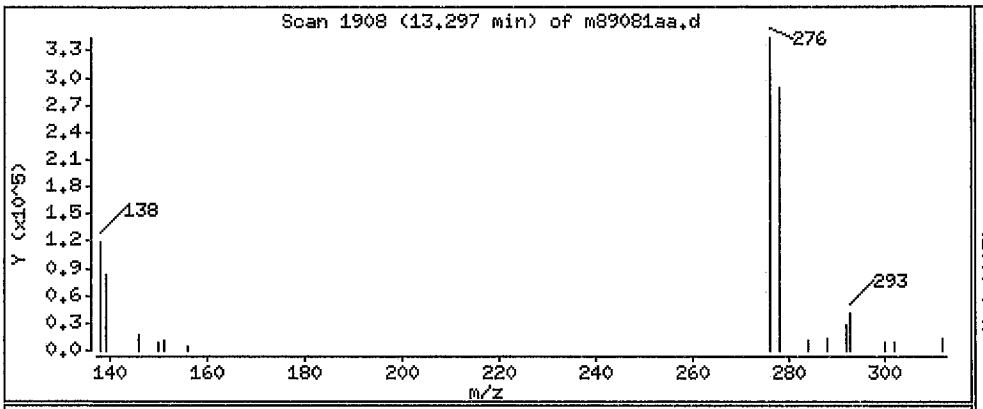
Operator: 011211

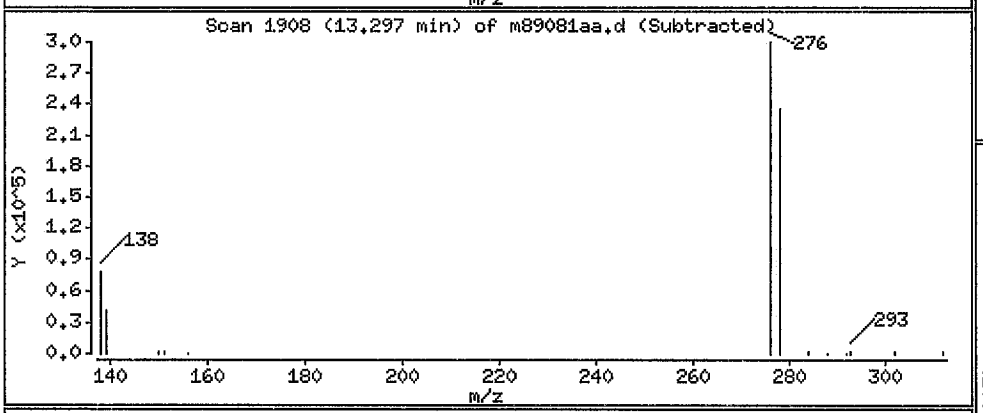
Column phase: Rxi-5SIL MS w/Guard

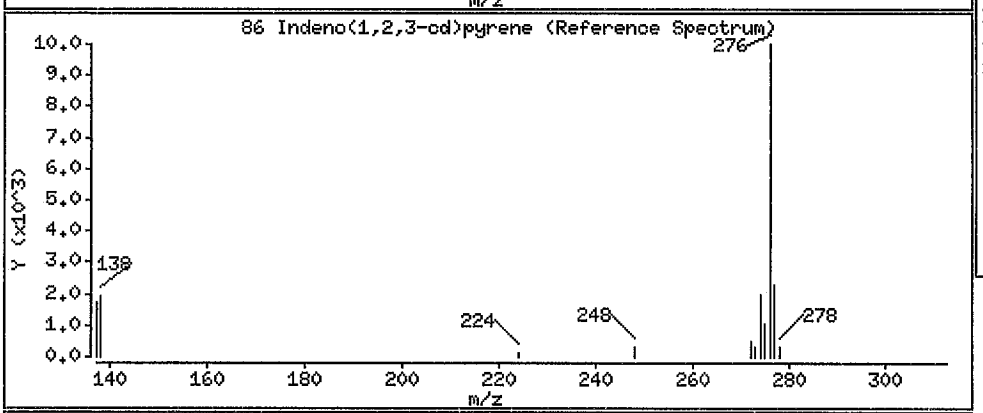
Column diameter: 0.25

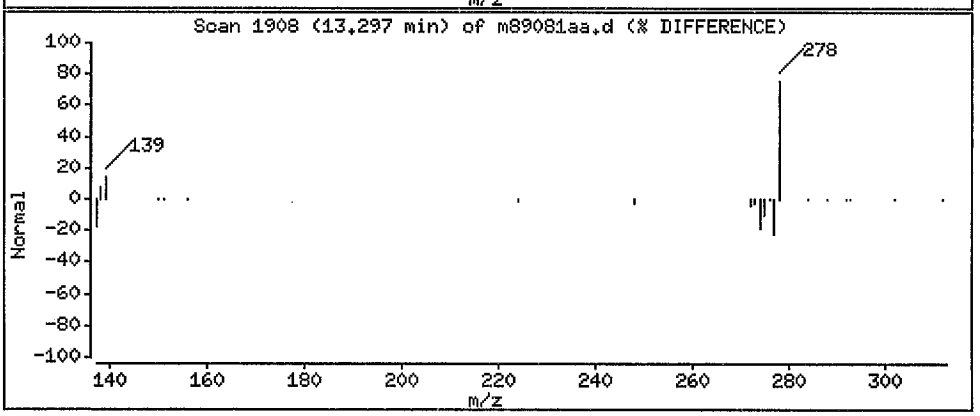
86 Indeno(1,2,3-cd)pyrene

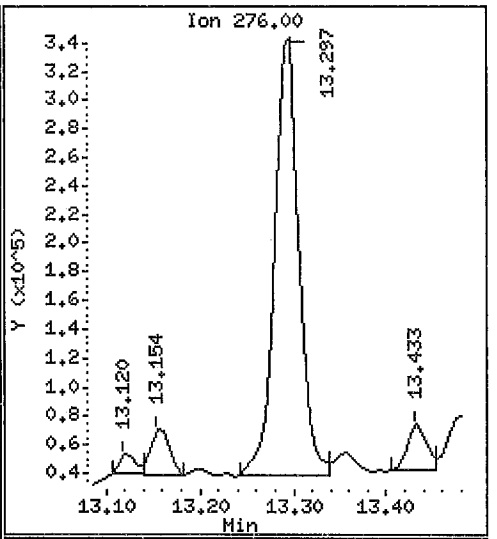
Concentration: 260 ng/L

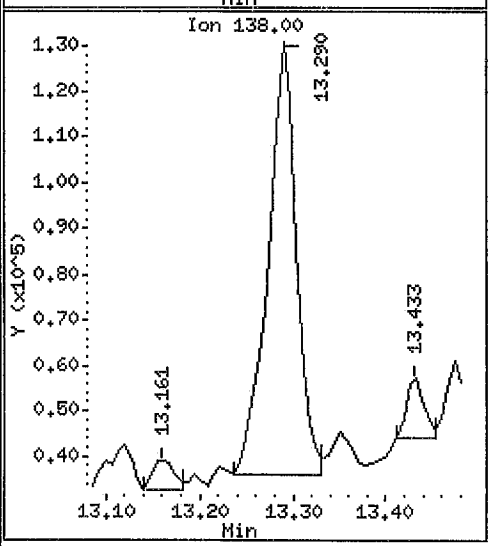












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

Operator: 011211

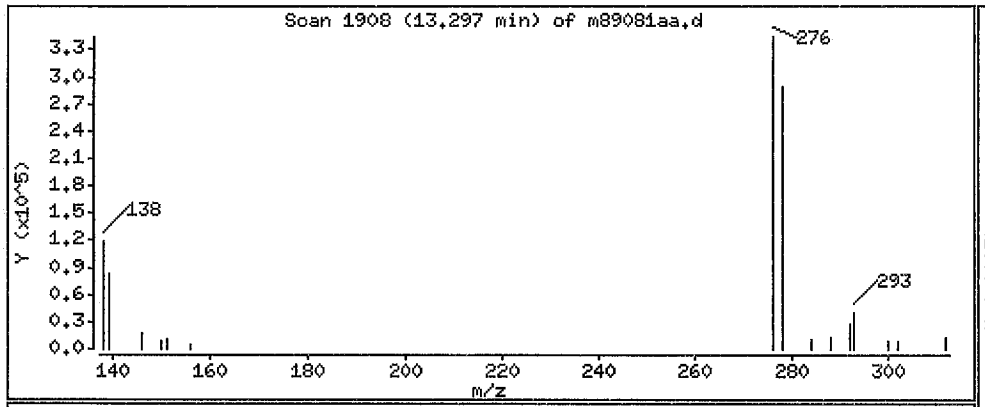
Column phase: Rxi-5SIL MS w/Guard

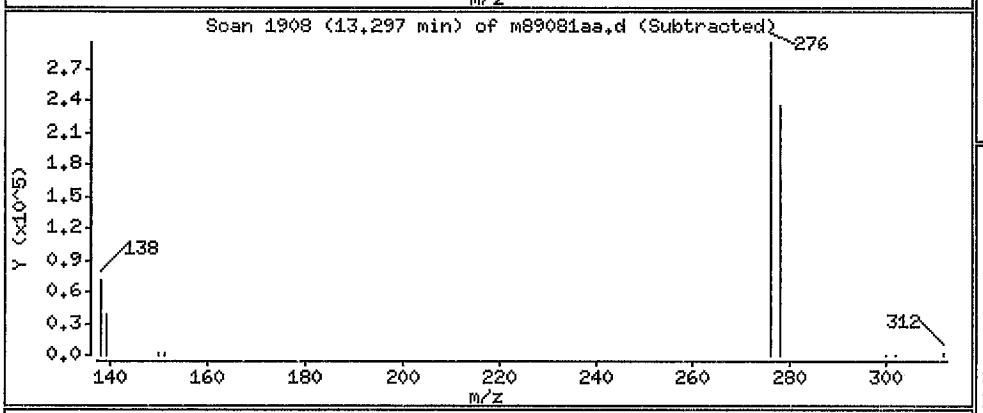
Column diameter: 0.25

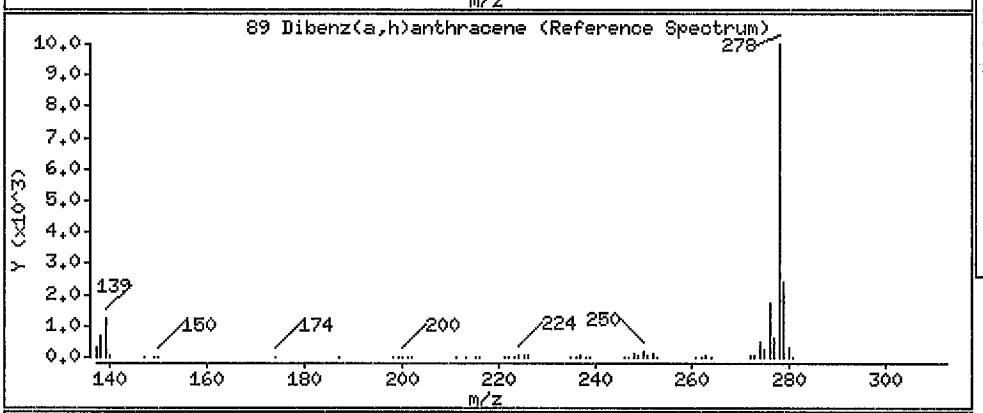
10/11/16 (2)

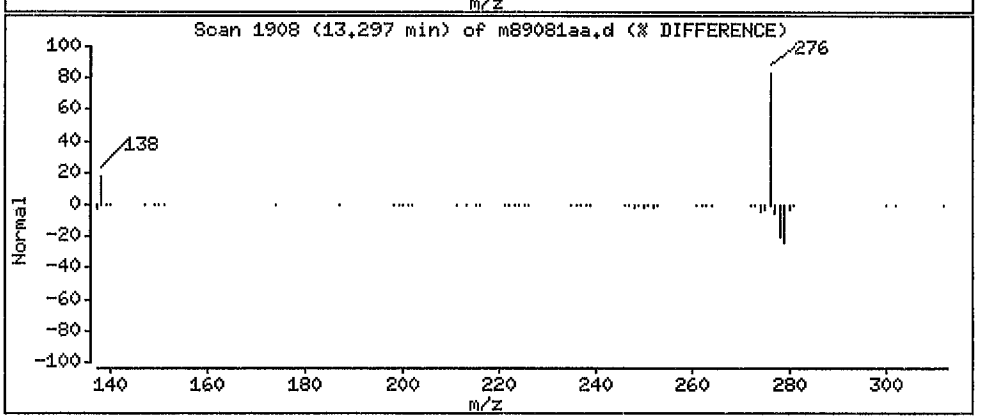
89 Dibenz(a,h)anthracene

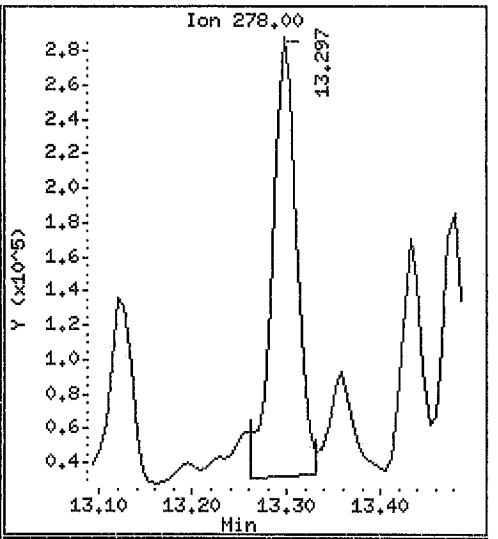
Concentration: 233 ng/L

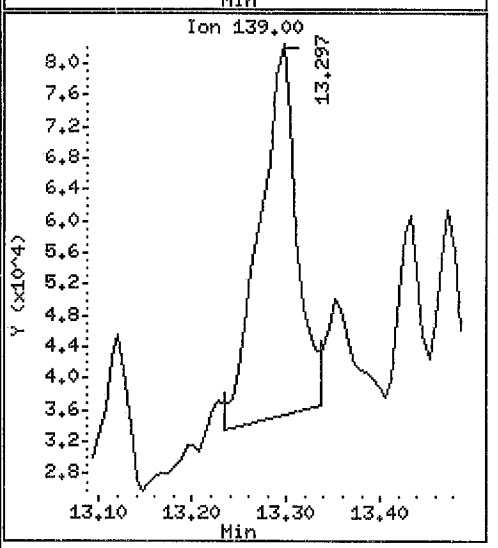












Data File: /var/chem/gcms/mp.i/P101016.b/m89081aa.d

Date : 10-OCT-2016 18:17

Client ID: R-1664 LOC#10 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 1004.0

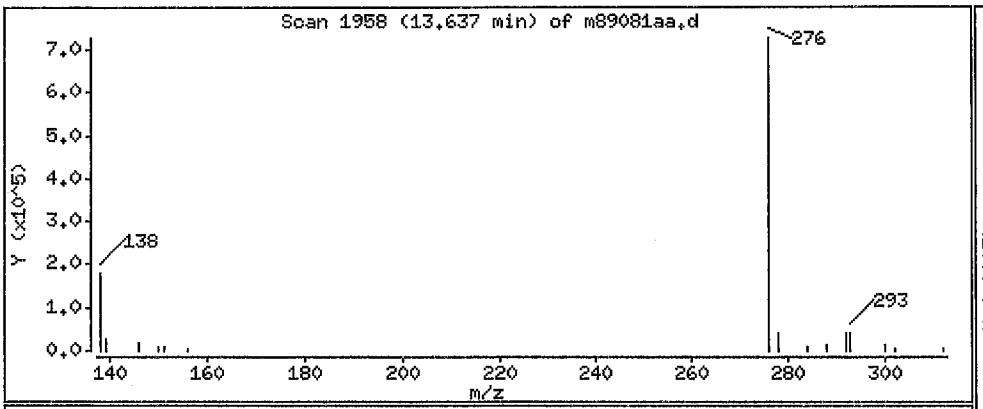
Operator: 011211

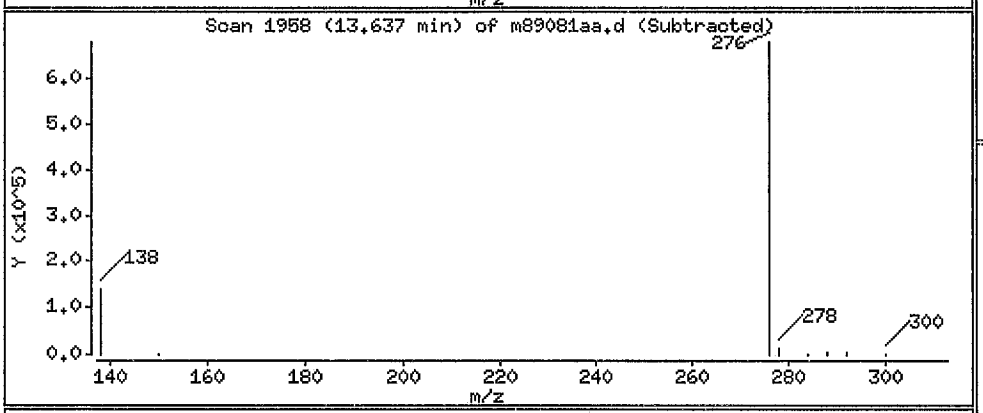
Column phase: Rxi-5SIL MS w/Guard

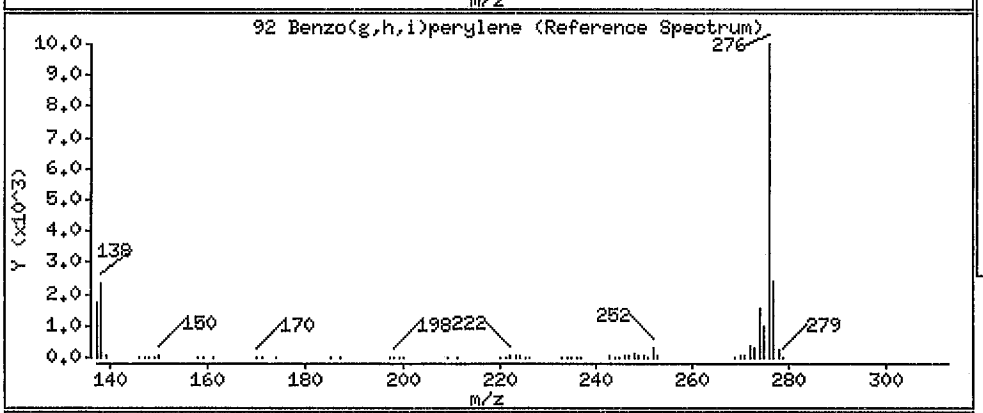
Column diameter: 0.25

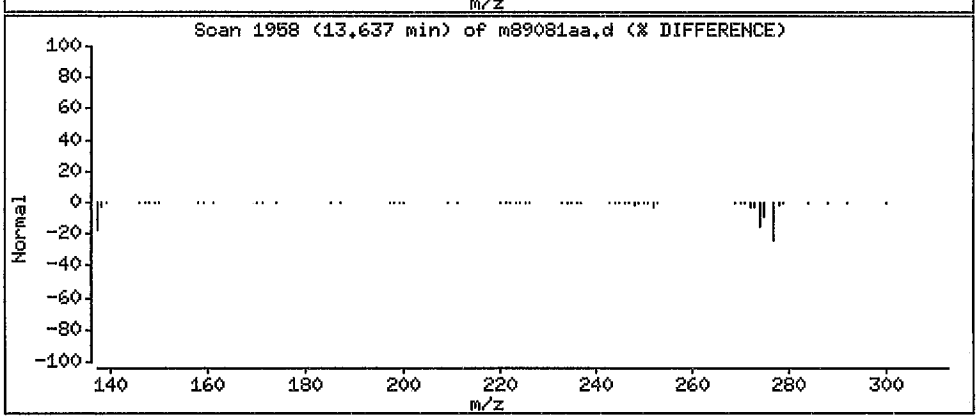
92 Benzo(g,h,i)perylene

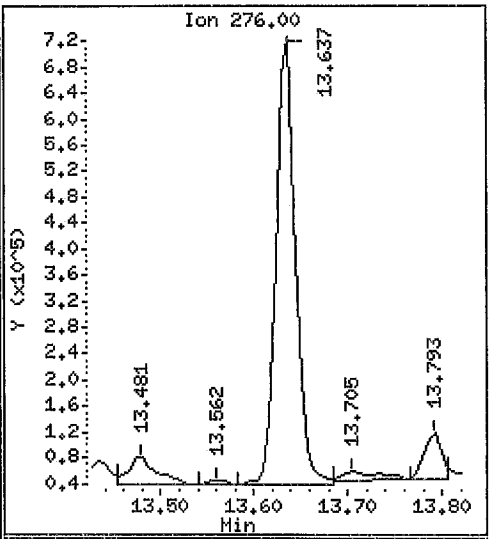
Concentration: 584 ng/L

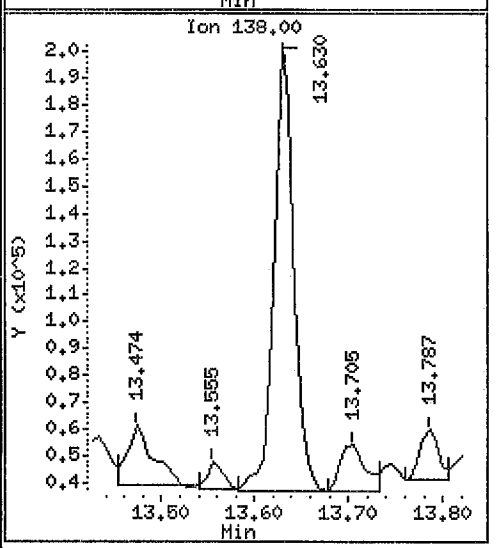




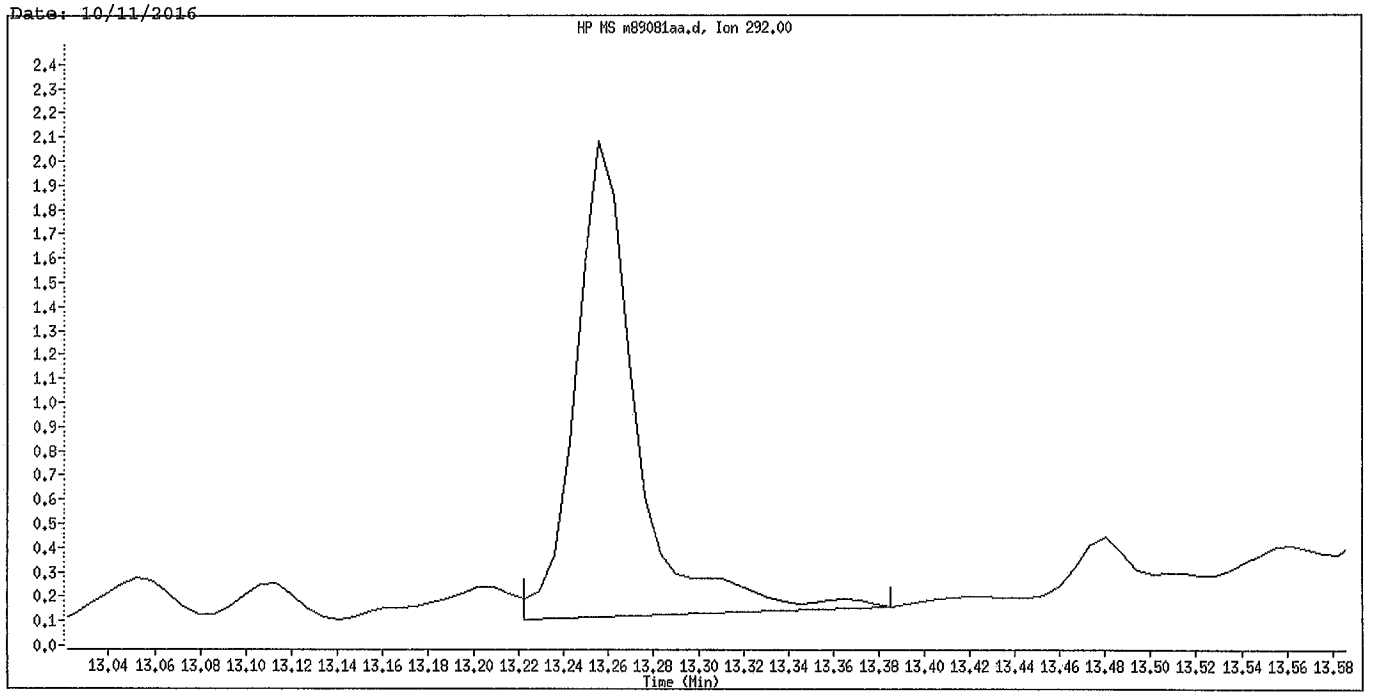




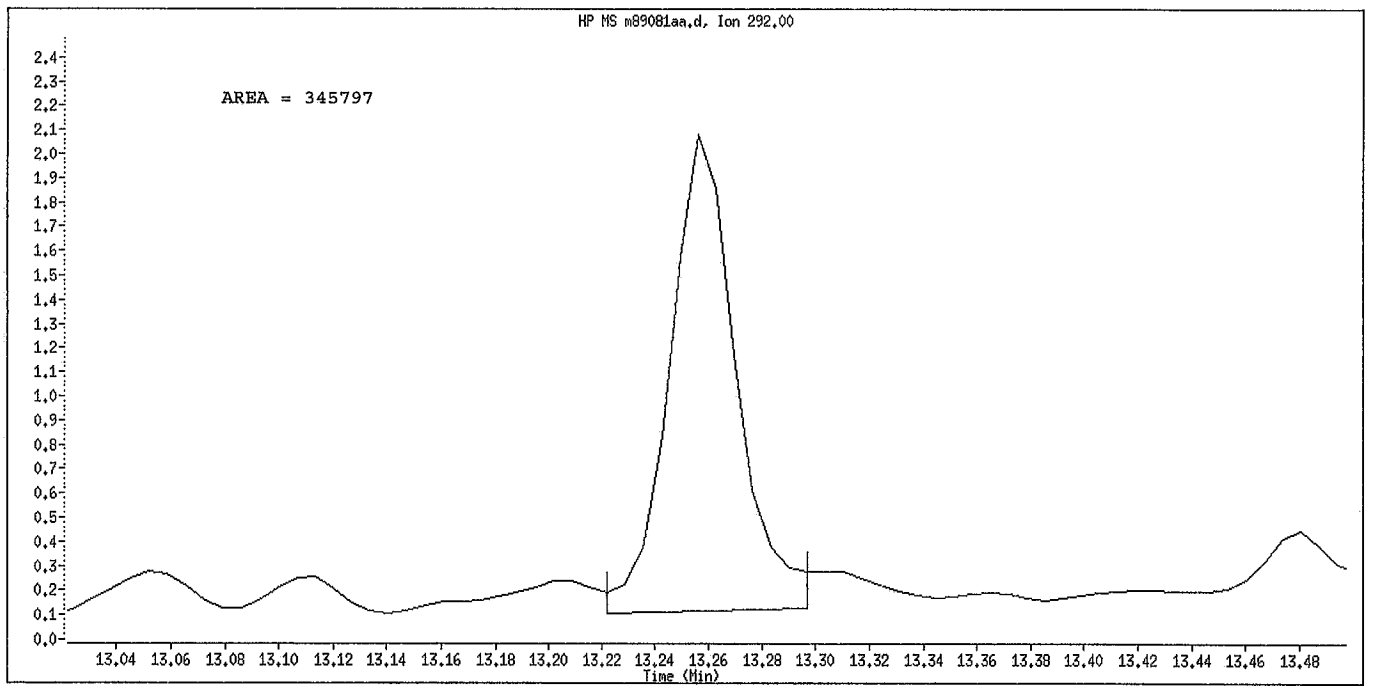




Data File Name: m89081aa.d
Inj. Date and Time: 10-OCT-2016 18:17
Instrument ID: mp.i
Client ID: R-1664 LOC#10 WATER
Compound Name: Dibenz(ah)anthracene-d14(SS)
CAS #: 13250-98-1
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89081aa.d

Inj. Date and Time: 10-OCT-2016 18:17

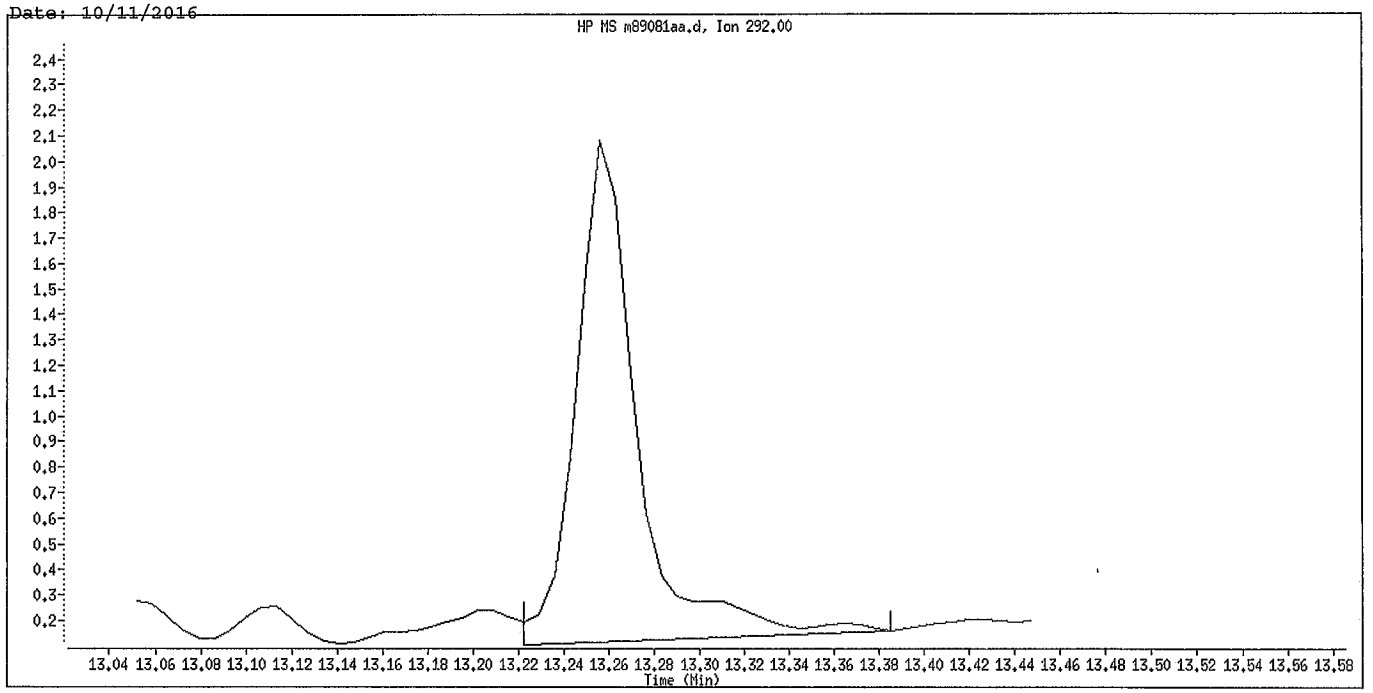
Instrument ID: mp.i

Client ID: R-1664 LOC#10 WATER

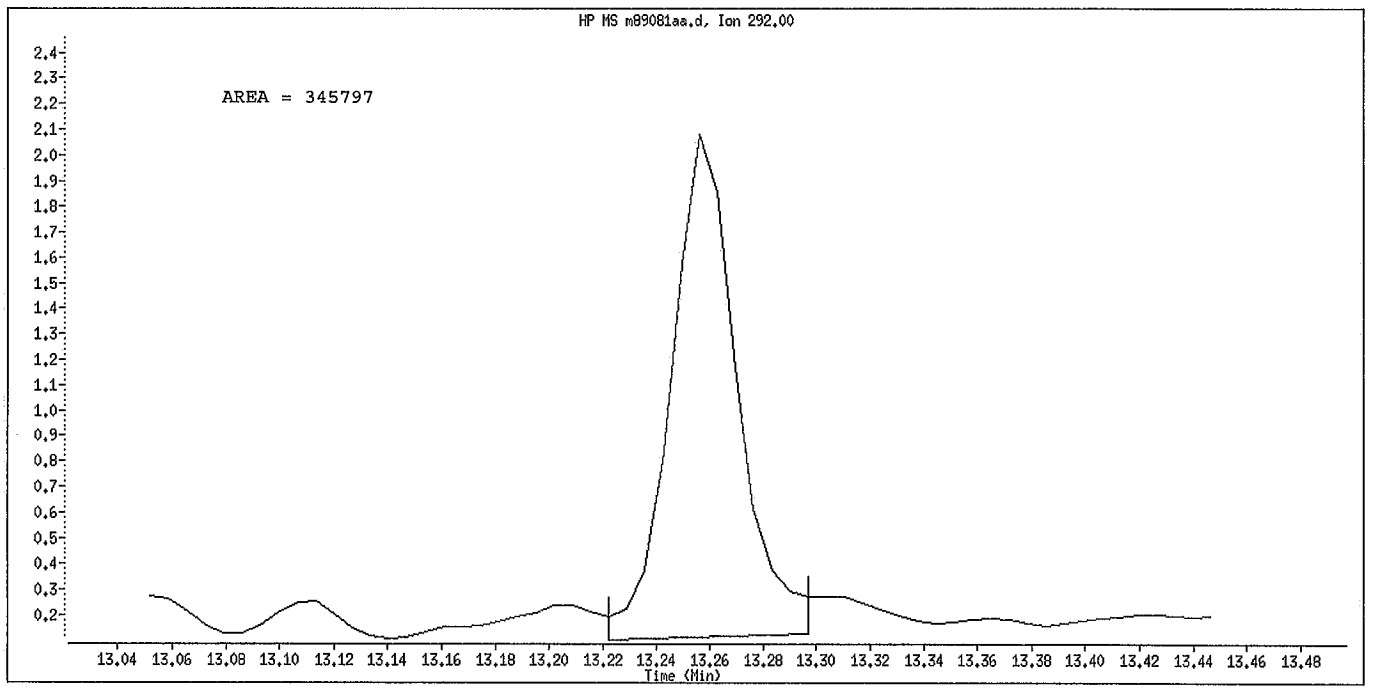
Compound Name: Dibenz(ah)anthracene-d14

CAS #: -13250-98-1

Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Montrose Air Quality Services LLC

Client Sample ID: R-1672 LOC#11 WATER QT-R3C

GC/MS Semivolatiles

Lot-Sample #...:	H6I270412-009	Work Order #...:	M89091AA	Matrix.....:	WATER
Date Sampled...:	09/26/16	Date Received..:	09/26/2016		
Prep Date.....:	09/29/16	Analysis Date..:	10/10/2016		
Prep Batch #...:	6273010				
Dilution Factor:	1	Method.....:	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	63	10	ng/L	2.4
Acenaphthylene	45	10	ng/L	0.15
Anthracene	150	10	ng/L	0.71
Benzo(a)anthracene	380	10	ng/L	1.5
Benzo(b)fluoranthene	280	10	ng/L	1.5
Benzo(k)fluoranthene	81	10	ng/L	1.0
Benzo(ghi)perylene	180	10	ng/L	0.51
Benzo(a)pyrene	180	10	ng/L	0.40
Chrysene	470 B	10	ng/L	0.22
Dibenz(a,h)anthracene	80	10	ng/L	0.78
Fluoranthene	380	10	ng/L	2.4
Fluorene	130 B	10	ng/L	1.5
Indeno(1,2,3-cd)pyrene	99	10	ng/L	1.0
Naphthalene	600	50	ng/L	16
Perylene	35	10	ng/L	0.81
Phenanthrene	830	20	ng/L	11
Pyrene	280 B	10	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	54	(30 - 120)
Naphthalene-d8	57	(30 - 120)
Acenaphthylene-d8	49	(30 - 120)
Phenanthrene-d10	37	(30 - 120)
Anthracene-d10	36	(30 - 120)
Fluoranthene-d10	47	(30 - 120)
Chrysene-d12	46	(30 - 120)
Benzo(b)fluoranthene-d12	57	(30 - 120)
Benzo(k)fluoranthene-d12	47	(30 - 120)
Benzo(a)pyrene-d12	58	(30 - 120)
Perylene-d12	47	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	57	(30 - 120)
Dibenz(ah)anthracene-d14	59	(30 - 120)
Benzo(ghi)perylene-d12	50	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d
Report Date: 11-Oct-2016 14:53

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89091aa.d
Lab Smp Id: M89091AA Client Smp ID: R-1672 LOC#11 WATER
Inj Date : 10-OCT-2016 18:43
Operator : 011211 Inst ID: mp.i
Smp Info : ,,0,,TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	807.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	368366	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	369473	0.28438	176
3 Naphthalene	128	4.957	4.957	(1.002)	715506	0.96007	595
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	182891	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	183324	0.28020	174
12 2-Methylnaphthalene	142	5.533	5.527	(1.005)	193671	0.38534	239
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	286273	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	286273	0.24572	152
22 Acenaphthylene	152	6.286	6.286	(1.002)	45494	0.07276	45.1
* 23 Acenaphthene-d10	164	6.407	6.406	(1.000)	328030	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	38441	0.10157	62.9
* 26 Fluorene-d10	176	6.842	6.837	(1.000)	210983	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.842	6.837	(1.068)	210983	0.27075	168
27 Fluorene	166	6.866	6.861	(1.003)	105879	0.21667	134
* 41 Phenanthrene-d10	188	7.661	7.660	(1.000)	262881	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.661	7.660	(0.853)	262881	0.18475	114
43 Phenanthrene	178	7.682	7.679	(1.003)	878215	1.33292	826
* 44 Anthracene-d10	188	7.710	7.709	(1.000)	237912	0.50000	0.500

Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d
Report Date: 11-Oct-2016 14:53

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
$	45 Anthracene-d10(SS)	188	7.710	7.709	(0.859)	237912	0.18190	113
	46 Anthracene	178	7.728	7.725	(1.002)	148455	0.24519	152
*	53 Fluoranthene-d10	212	8.755	8.750	(1.000)	319912	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.755	8.750	(0.975)	320310	0.23322	145
	55 Fluoranthene	202	8.770	8.769	(1.002)	497666	0.61023	378
*	56 Pyrene-d10	212	8.976	8.972	(1.000)	618405	0.50000	0.500
	57 Pyrene	202	8.992	8.991	(1.027)	372675	0.44425	275(M)
	62 Benzo(a)anthracene	228	10.211	10.210	(0.999)	365604	0.61298	380(M)
*	63 Chrysene-d12	240	10.220	10.219	(1.000)	336029	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.220	10.219	(1.139)	336029	0.23062	143
	65 Chrysene	228	10.247	10.246	(1.003)	538596	0.75999	471
*	70 Benzo(b)fluoranthene-d12	264	11.363	11.355	(1.000)	338529	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.363	11.355	(0.972)	338529	0.28749	178
	72 Benzo(b)fluoranthene	252	11.387	11.385	(1.002)	449932	0.46002	285(M)
*	73 Benzo(k)fluoranthene-d12	264	11.392	11.391	(1.000)	340692	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.392	11.391	(0.975)	340692	0.23398	145
	75 Benzo(k)fluoranthene	252	11.410	11.415	(1.002)	104860	0.13075	81.0(M)
*	76 Benzo(e)pyrene-d12	264	11.685	11.684	(1.000)	561037	0.50000	0.500
	77 Benzo(e)pyrene	252	11.715	11.714	(0.997)	310718	0.34823	216
*	78 Benzo(a)pyrene-d12	264	11.751	11.750	(1.000)	290639	0.50000	0.500
$	79 Benzo(a)pyrene-d12(SS)	264	11.751	11.750	(1.006)	290639	0.29212	181
	80 Benzo(a)pyrene	252	11.781	11.780	(1.003)	223728	0.28877	179
*	81 Perylene-d12	264	11.853	11.845	(1.000)	267663	0.50000	0.500
$	82 Perylene-d12(SS)	264	11.853	11.845	(1.014)	267663	0.23470	145
	83 Perylene	252	11.883	11.881	(1.003)	35387	0.05594	34.7
*	84 Indeno(123-cd)pyrene-d12	288	13.251	13.249	(1.000)	340090	0.50000	0.500
$	85 Indeno(123-cd)pyrene-d12(SS)	288	13.251	13.249	(1.134)	340090	0.28761	178
	86 Indeno(1,2,3-cd)pyrene	276	13.285	13.283	(1.003)	146250	0.15981	99.0
*	87 Dibenz(ah)anthracene-d14	292	13.251	13.249	(1.000)	279708	0.50000	0.500(M)
$	88 Dibenz(ah)anthracene-d14(SS)	292	13.251	13.249	(1.134)	279708	0.29588	183(M)
	89 Dibenz(a,h)anthracene	278	13.292	13.290	(1.003)	101195	0.12870	79.7(M)
*	90 Benzo(ghi)perylene-d12	288	13.591	13.589	(1.000)	292560	0.50000	0.500
$	91 Benzo(ghi)perylene-d12(SS)	288	13.591	13.589	(1.163)	292560	0.25067	155
	92 Benzo(g,h,i)perylene	276	13.625	13.623	(1.002)	207896	0.28242	175

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d
Report Date: 11-Oct-2016 14:53

TestAmerica Knoxville

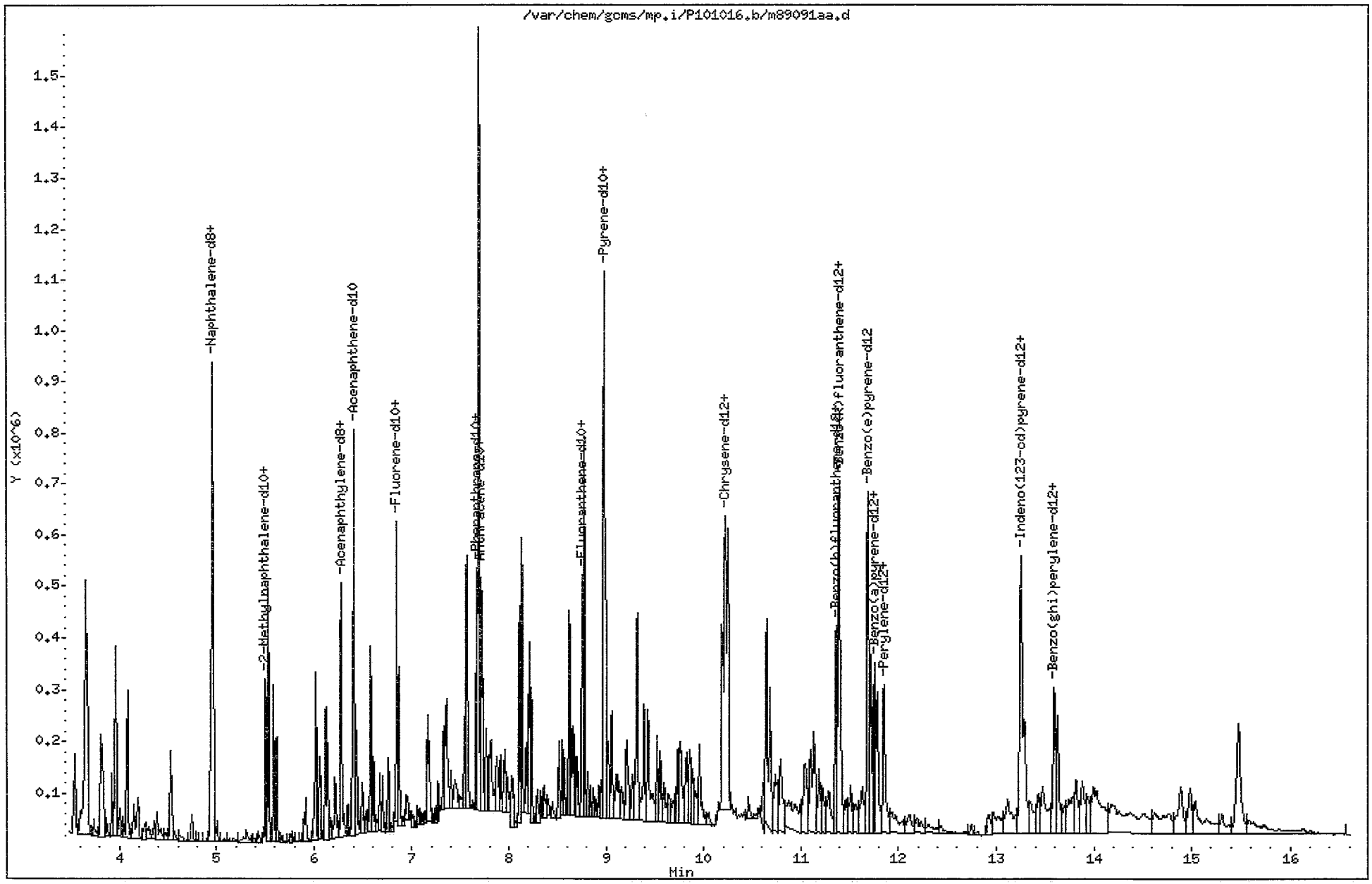
RECOVERY REPORT

Client Name: Montrose Air Quality26-SEP-2016 00:00 Client SDG: H6I270412
Sample Matrix: LIQUID Fraction: SV
Lab Smp Id: M89091AA Client Smp ID: R-1672 LOC#11 WATER
Level: LOW Operator: 011211
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: icv.spk Quant Type: ISTD
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	310	176	56.88	20-130
$ 222 13C6-Naphthalene	620	0.00	*	50-150
$ 11 2-Methylnaphthalen	310	174	56.04	30-120
$ 21 Acenaphthylene-d8(	310	152	49.14	30-120
$ 233 Fluorene-d10(SS)	310	168	54.15	30-120
$ 42 Phenanthrene-d10(S	310	114	36.95	30-120
$ 45 Anthracene-d10(SS)	310	113	36.38	30-120
$ 54 Fluoranthene-d10(S	310	145	46.64	30-120
$ 64 Chrysene-d12(SS)	310	143	46.12	30-120
$ 71 Benzo(b)fluoranthe	310	178	57.50	30-120
$ 74 Benzo(k)fluoranthe	310	145	46.80	30-120
$ 79 Benzo(a)pyrene-d12	310	181	58.42	30-120
$ 82 Perylene-d12(SS)	310	145	46.94	30-120
$ 85 Indeno(123-cd)pyre	310	178	57.52	30-120
$ 88 Dibenz(ah)anthrace	310	183	59.18	30-120
$ 91 Benzo(ghi)perylene	310	155	50.13	30-120

Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d
Date : 10-OCT-2016 18:43
Client ID: R-1672 LOC#11 WATER
Sample Info: ,,0,,TRT
Purge Volume: 807.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

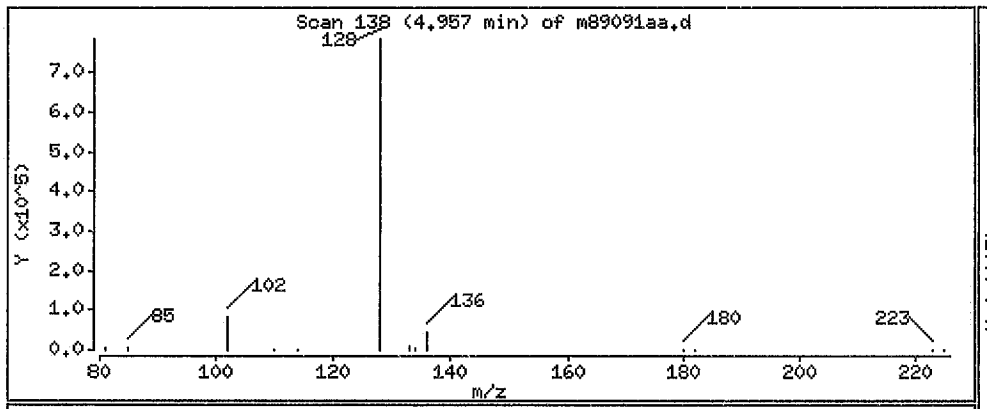
Operator: 011211

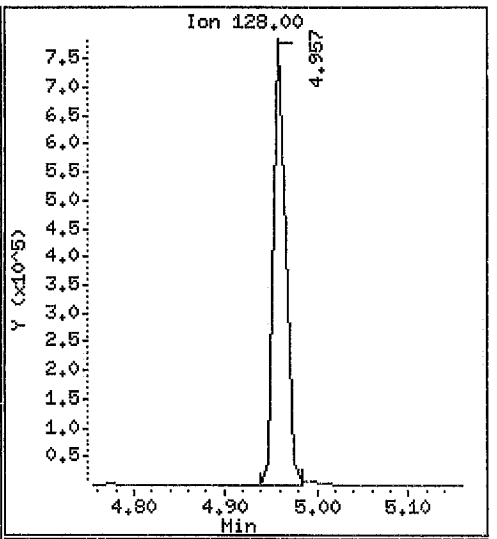
Column phase: Rxi-5SIL MS w/Guard

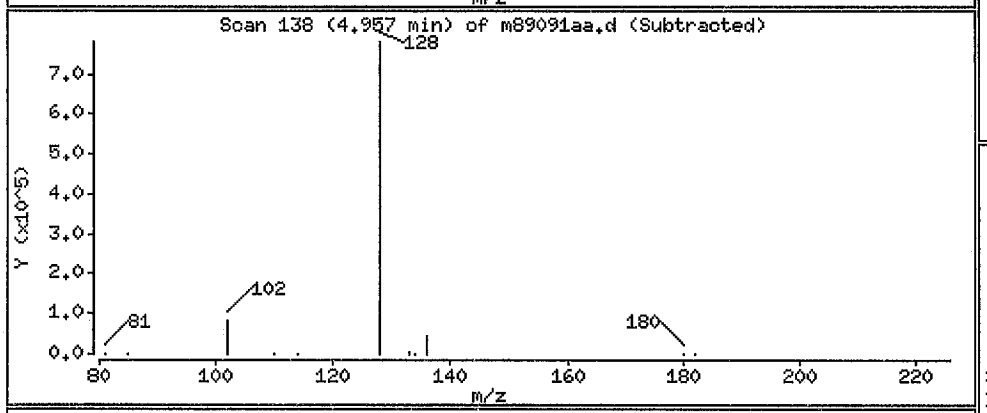
Column diameter: 0.25

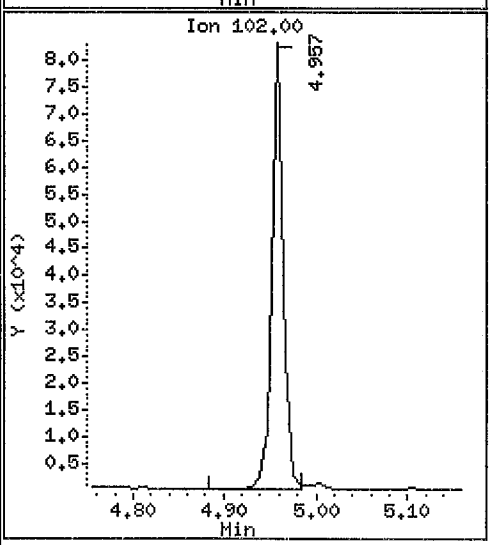
3 Naphthalene

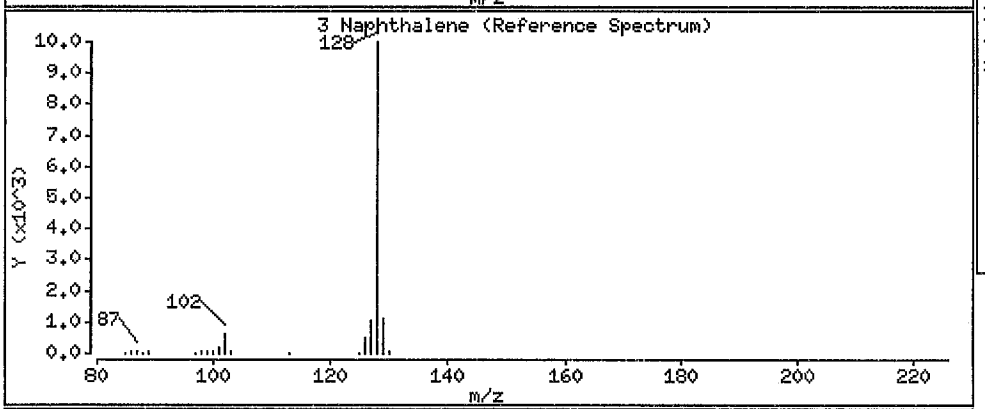
Concentration: 595 ng/L

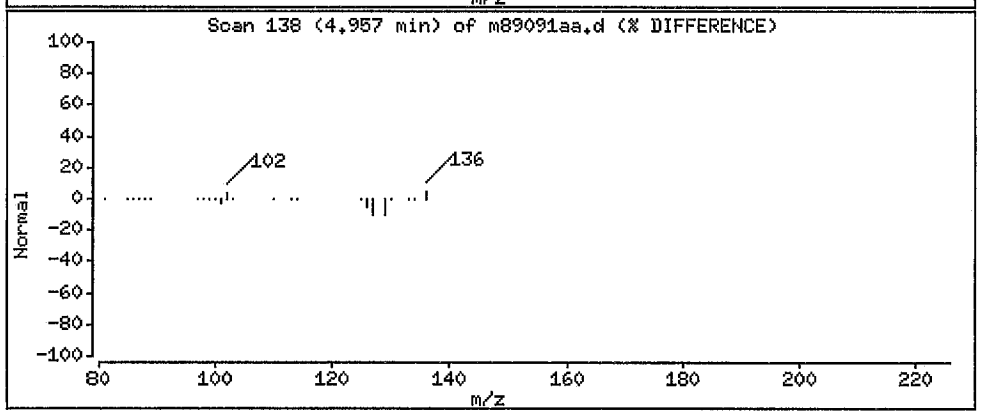












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

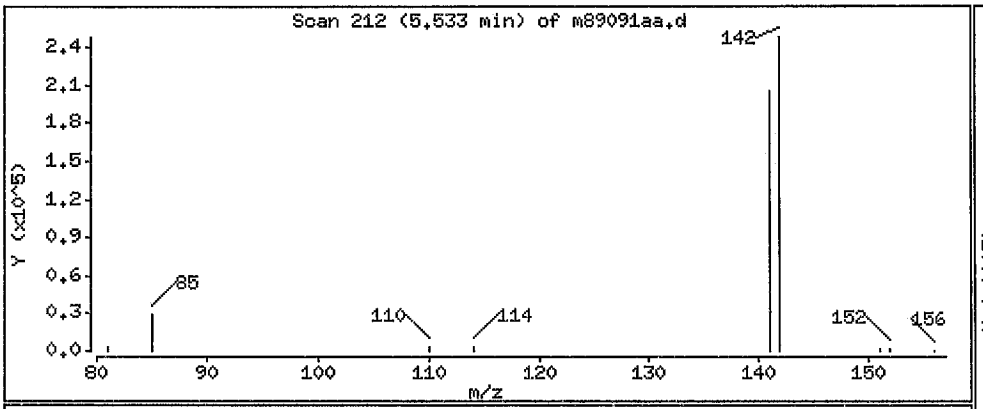
Operator: 011211

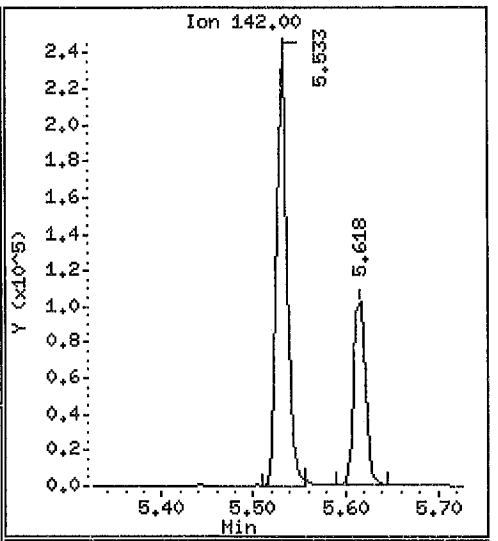
Column phase: Rxi-5SIL MS w/Guard

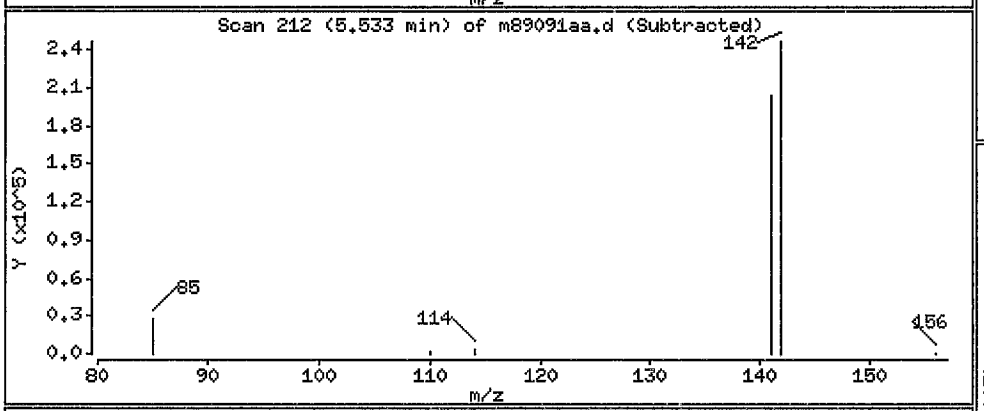
Column diameter: 0.25

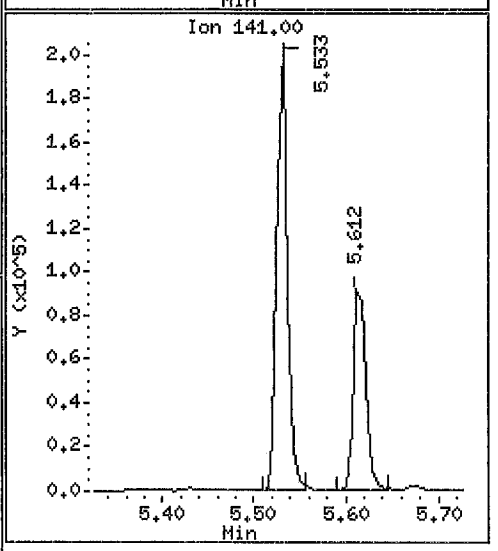
12 2-Methylnaphthalene

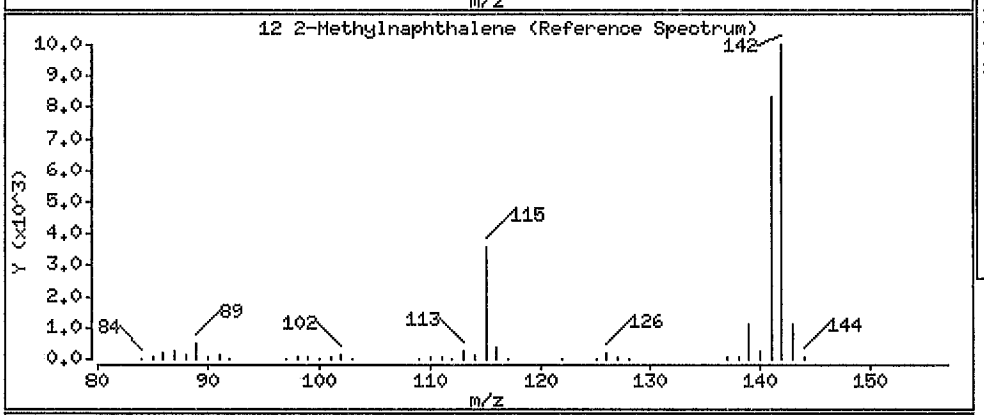
Concentration: 239 ng/L

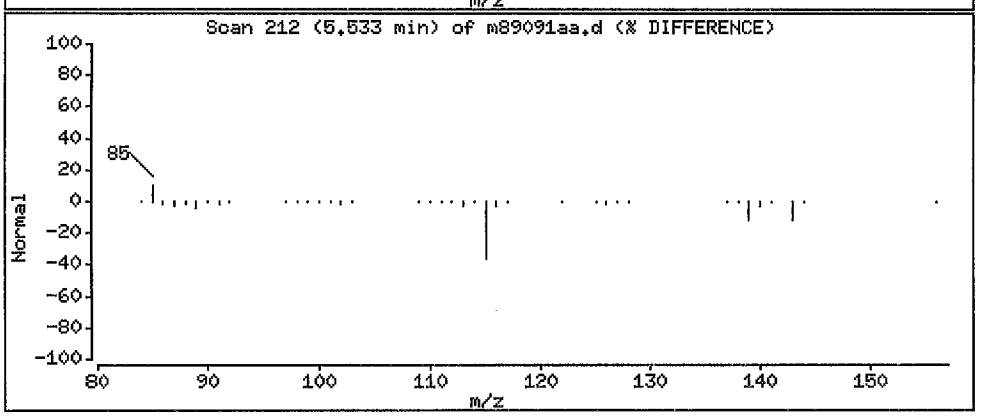












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

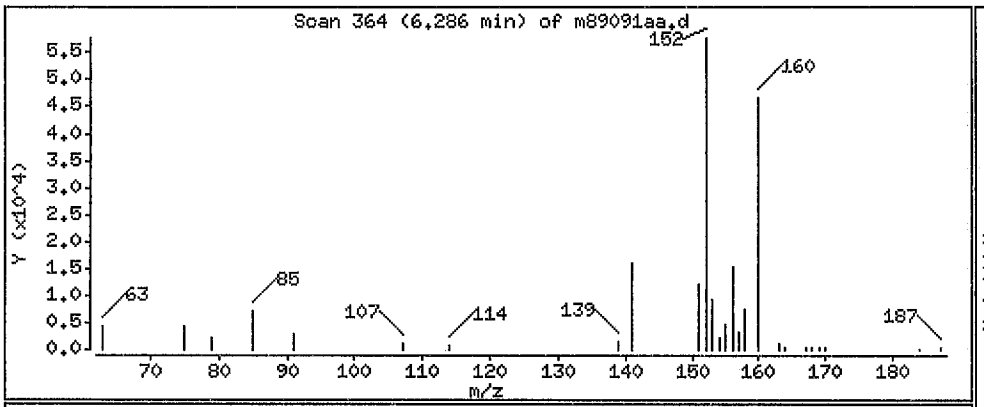
Operator: 011211

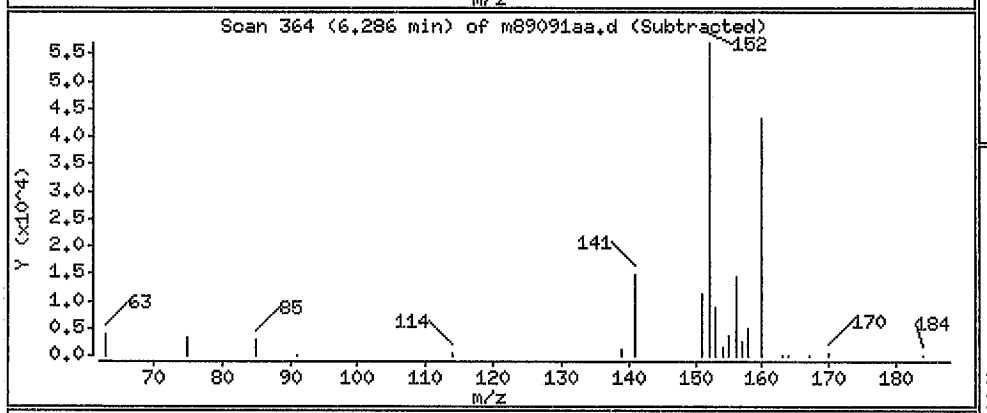
Column phase: Rxi-5SIL MS w/Guard

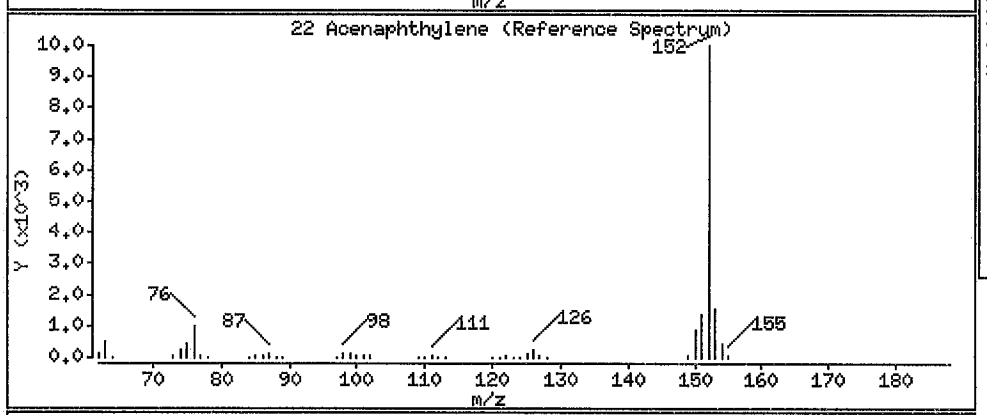
Column diameter: 0.25

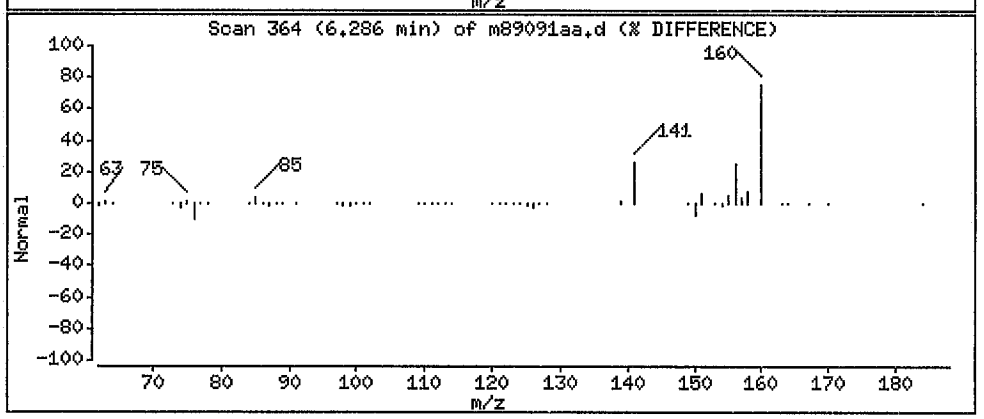
22 Acenaphthylene

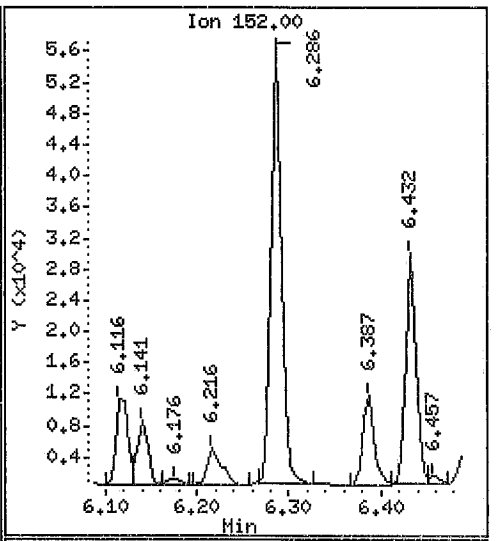
Concentration: 45.1 ng/L

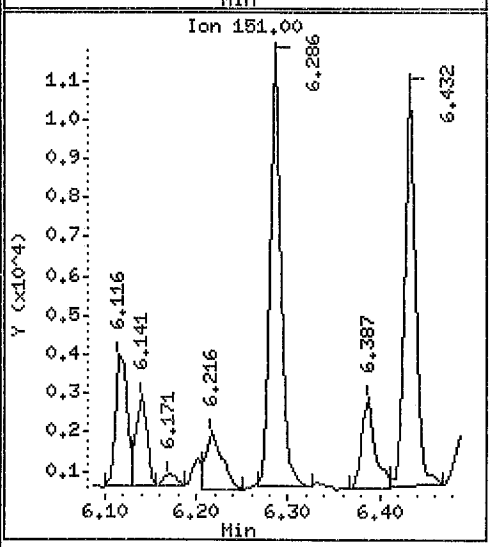












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

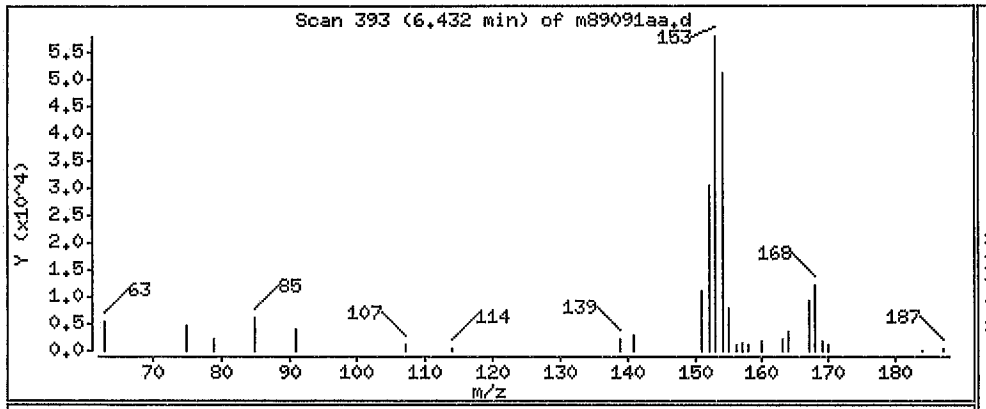
Operator: 011211

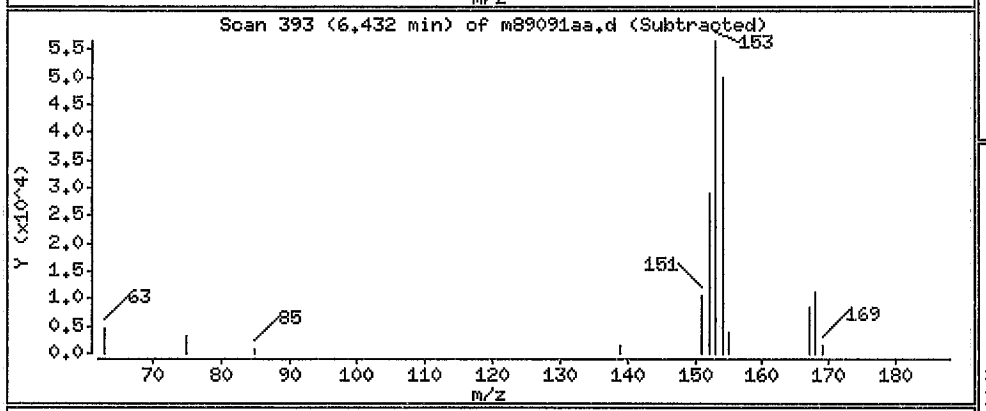
Column phase: Rxi-5SIL MS w/Guard

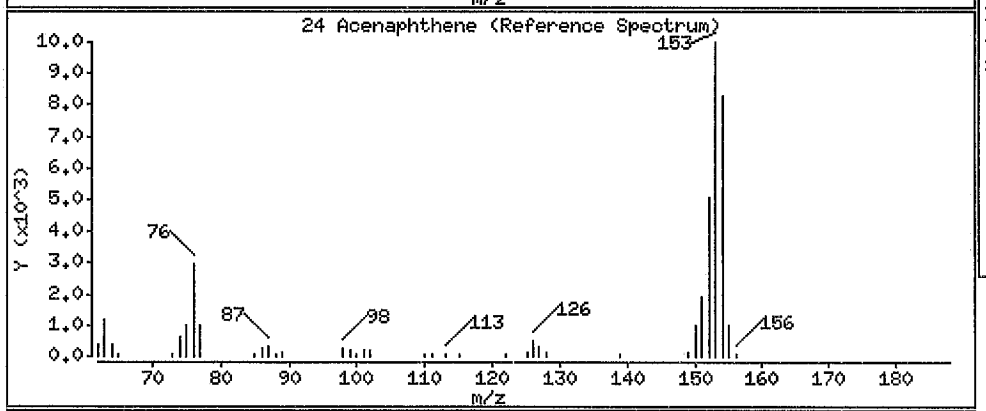
Column diameter: 0.25

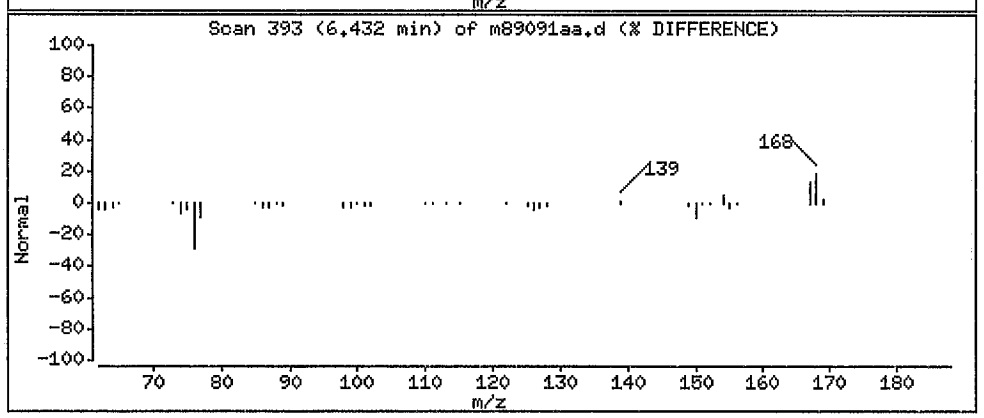
24 Acenaphthene

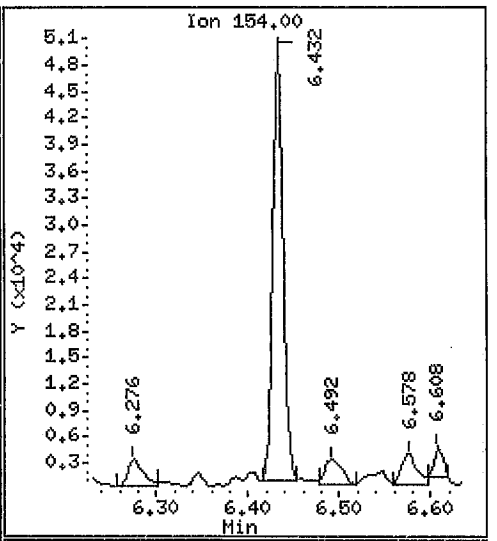
Concentration: 62.9 ng/L

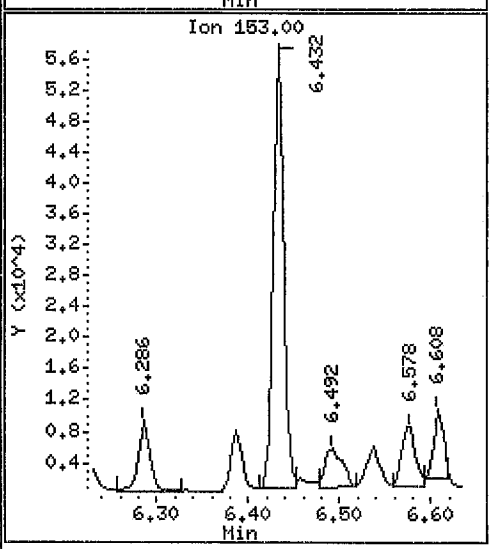












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

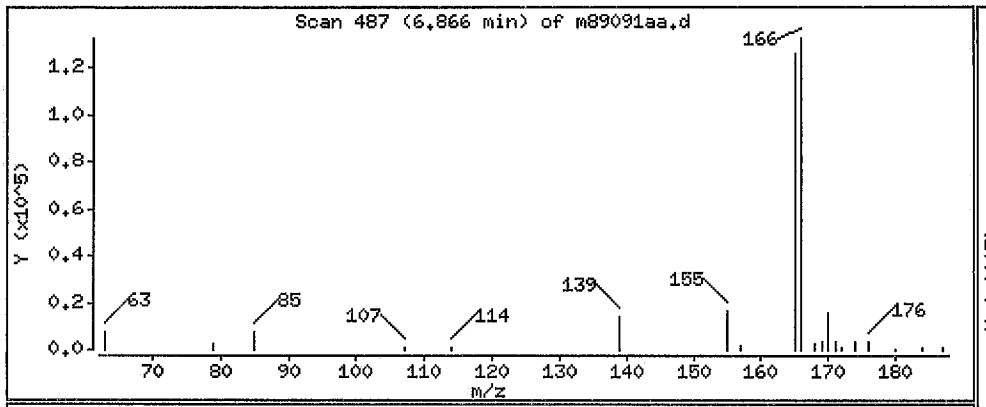
Operator: 011211

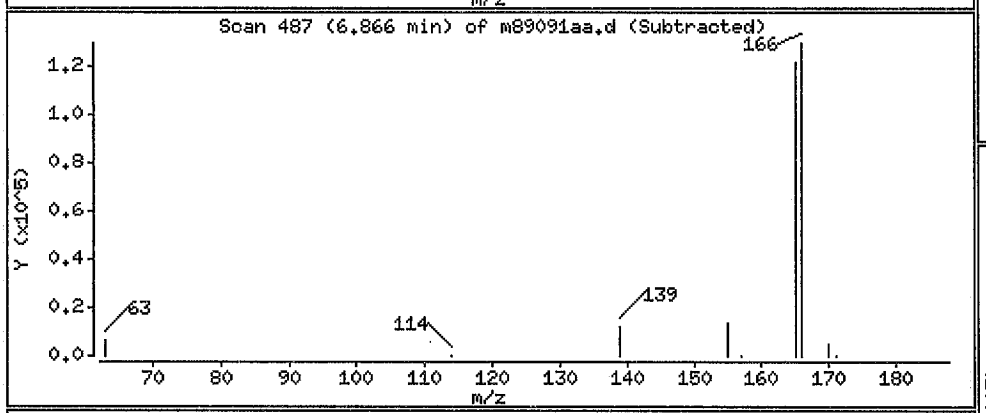
Column phase: Rxi-5SIL MS w/Guard

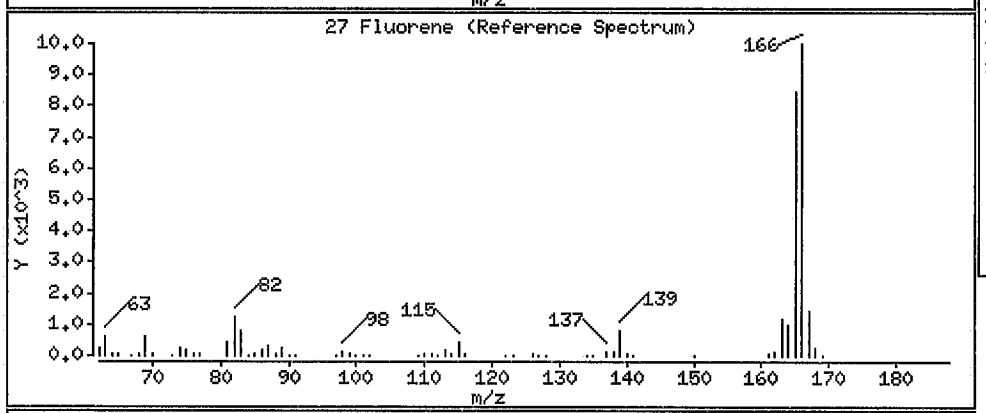
Column diameter: 0.25

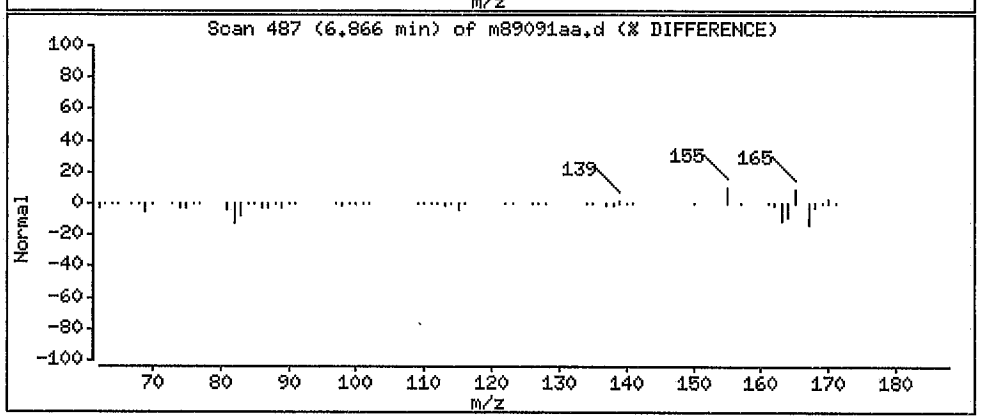
27 Fluorene

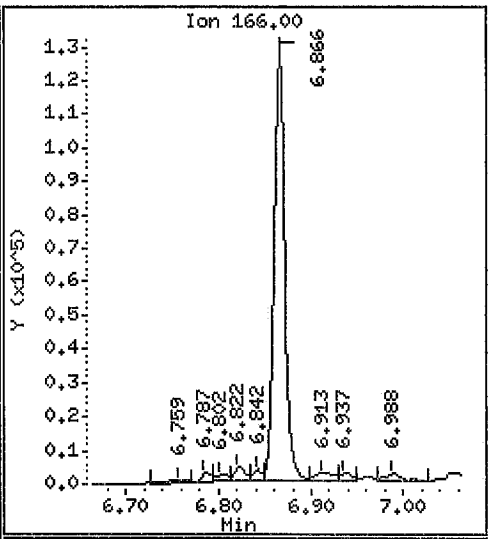
Concentration: 134 ng/L

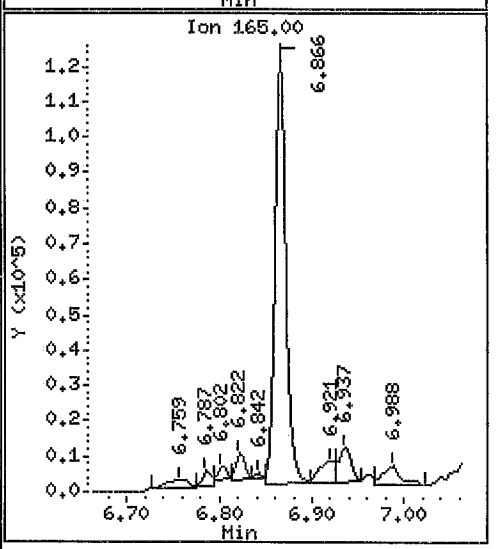












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

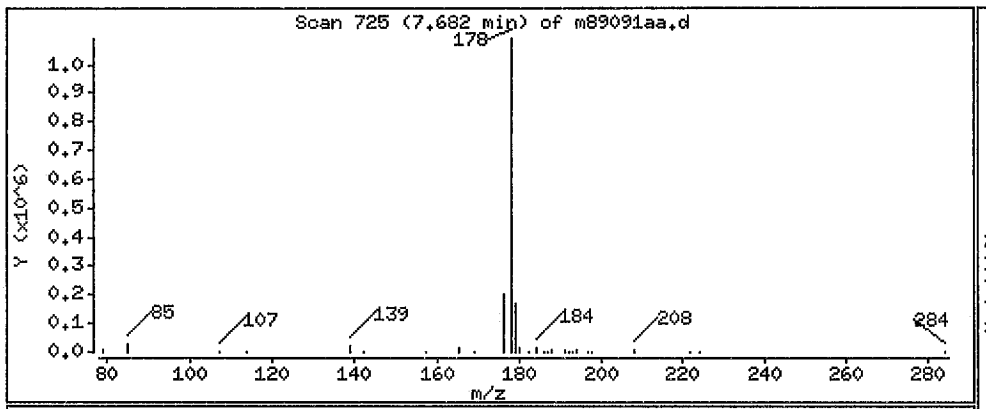
Operator: 011211

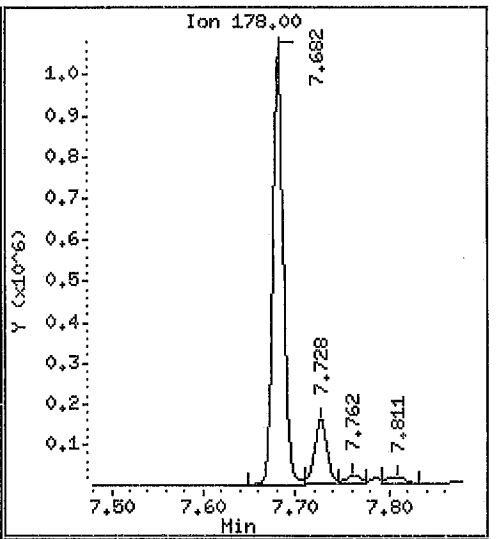
Column phase: Rxi-5SIL MS w/Guard

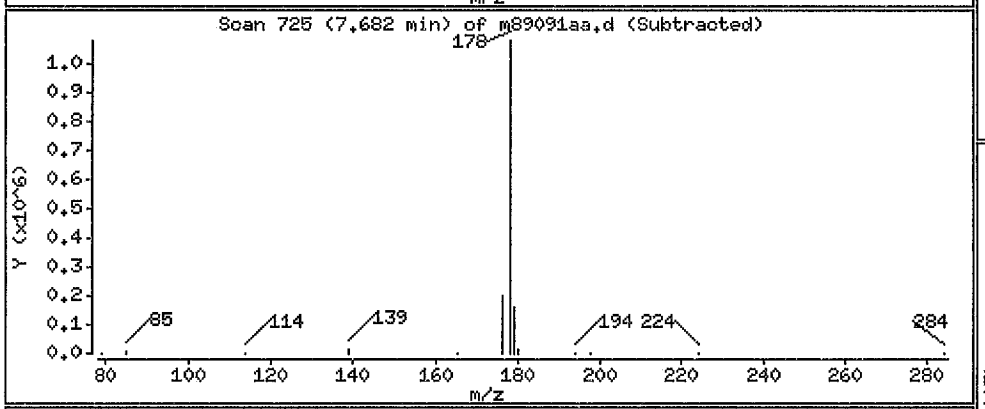
Column diameter: 0.25

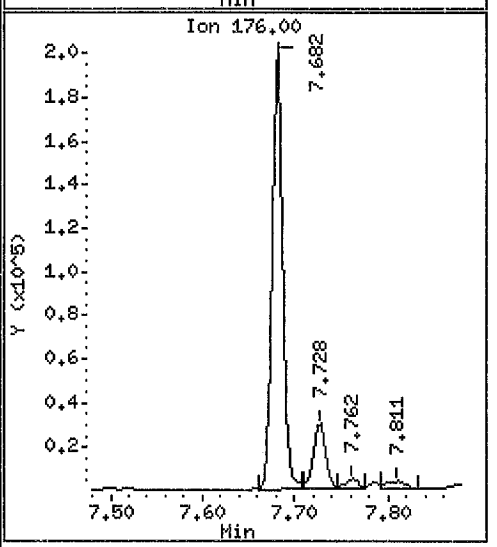
43 Phenanthrene

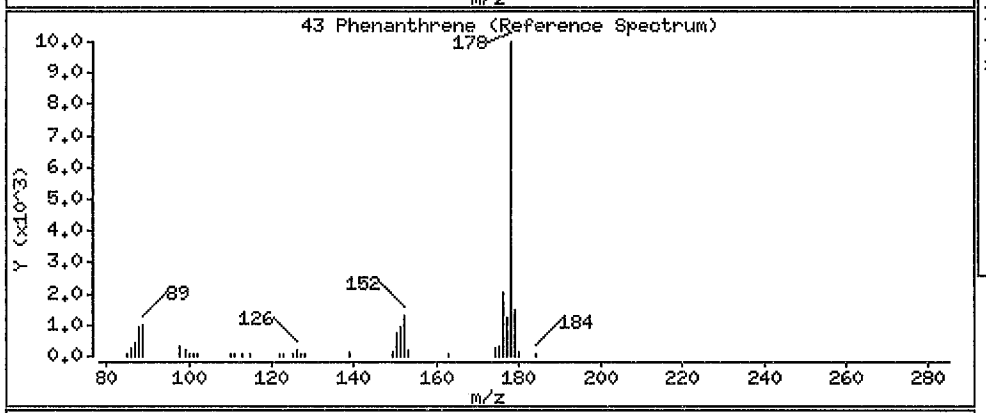
Concentration: 826 ng/L

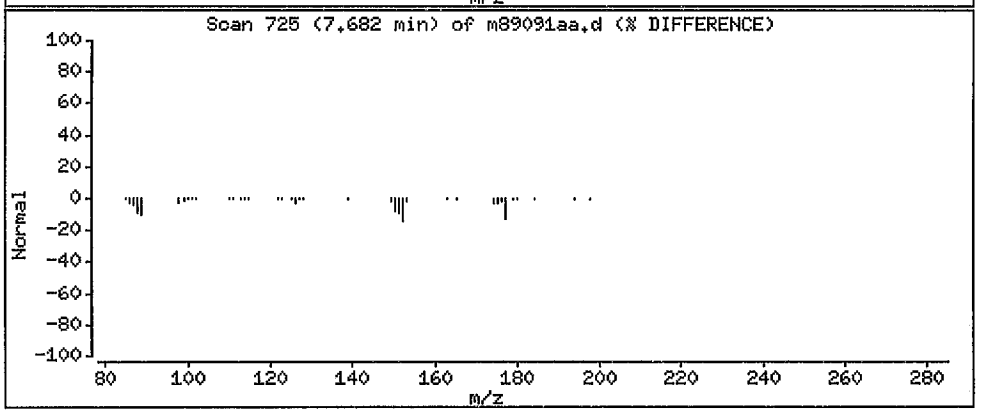












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

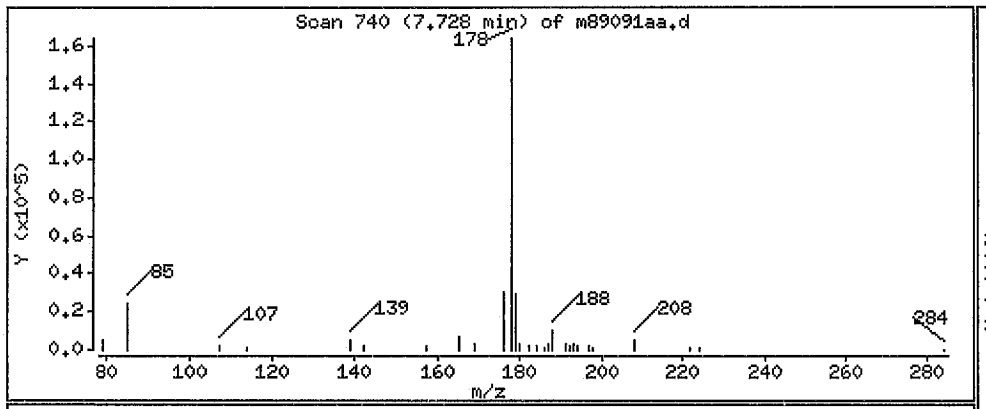
Operator: 011211

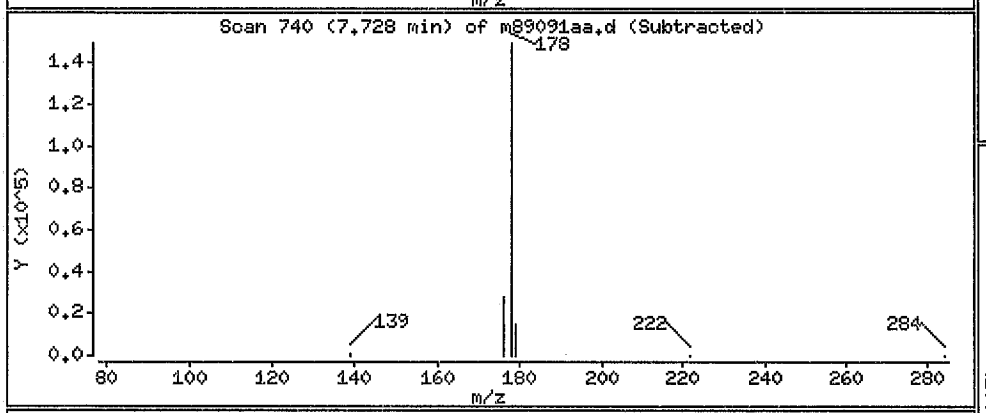
Column phase: Rxi-5SIL MS w/Guard

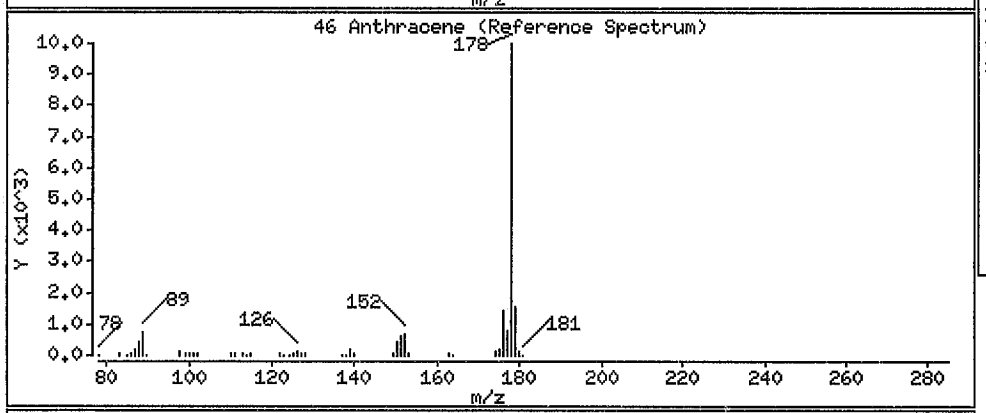
Column diameter: 0.25

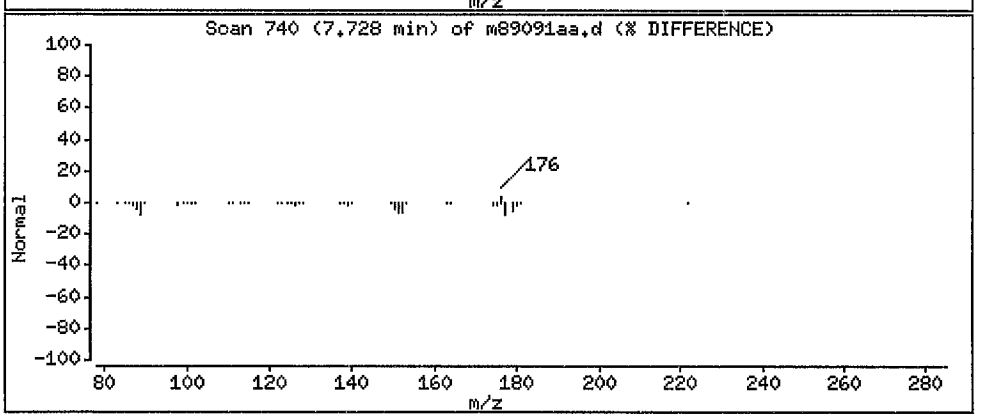
46 Anthracene

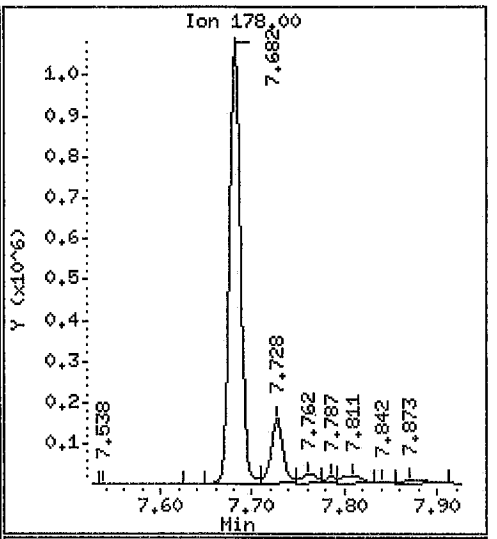
Concentration: 152 ng/L

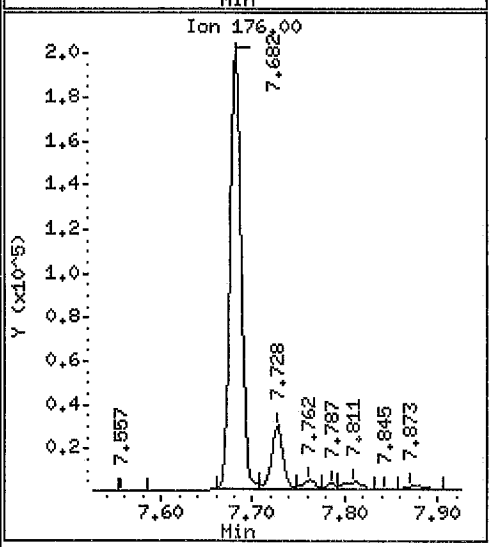












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

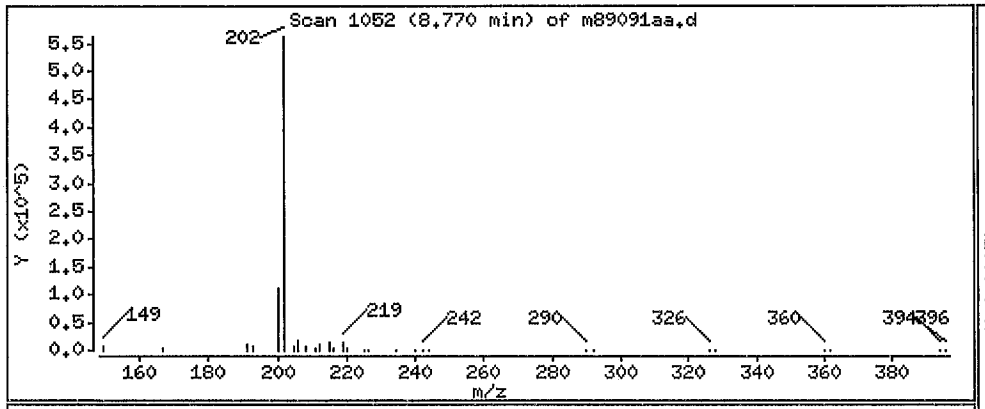
Operator: 011211

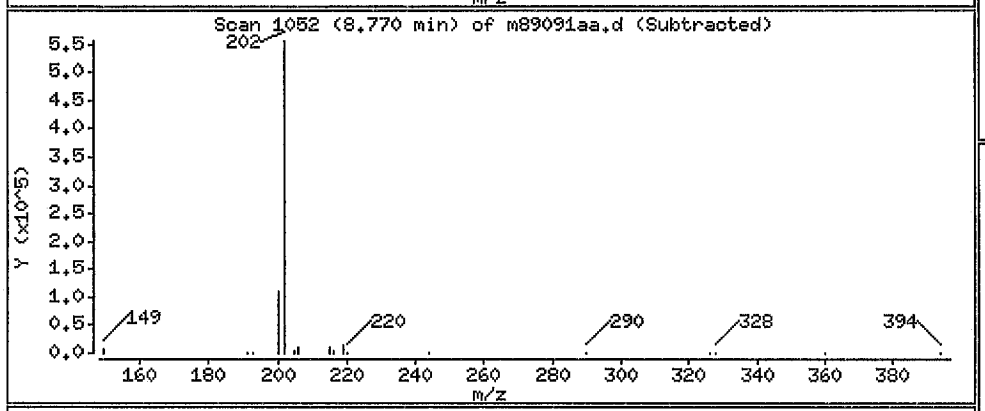
Column phase: Rxi-5SIL MS w/Guard

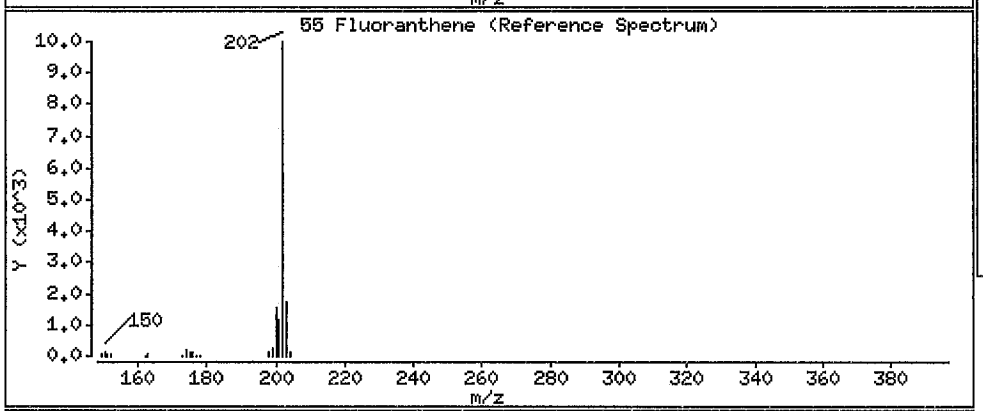
Column diameter: 0.25

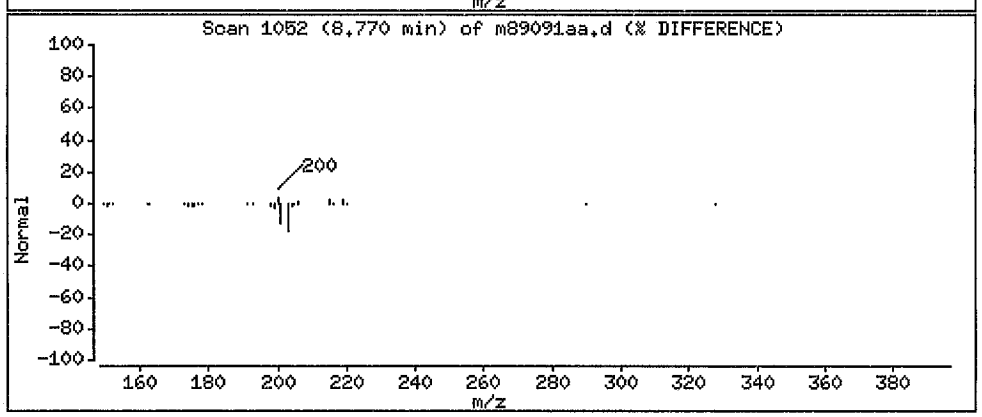
55 Fluoranthene

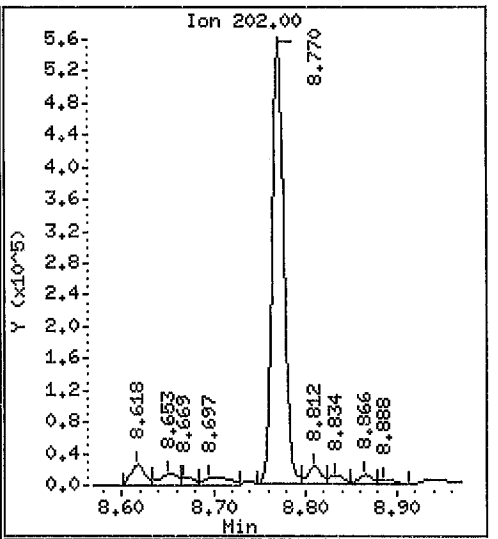
Concentration: 378 ng/L

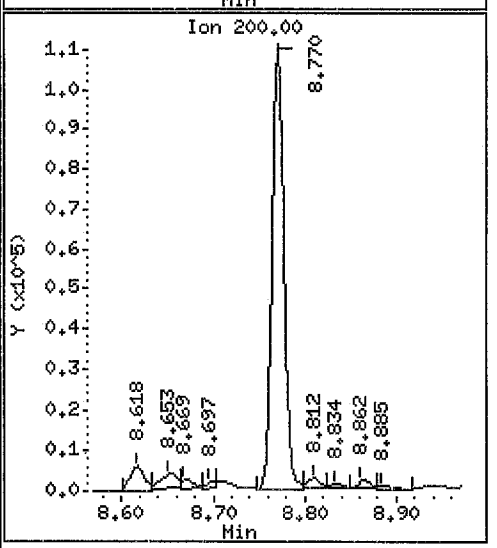












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

Operator: 011211

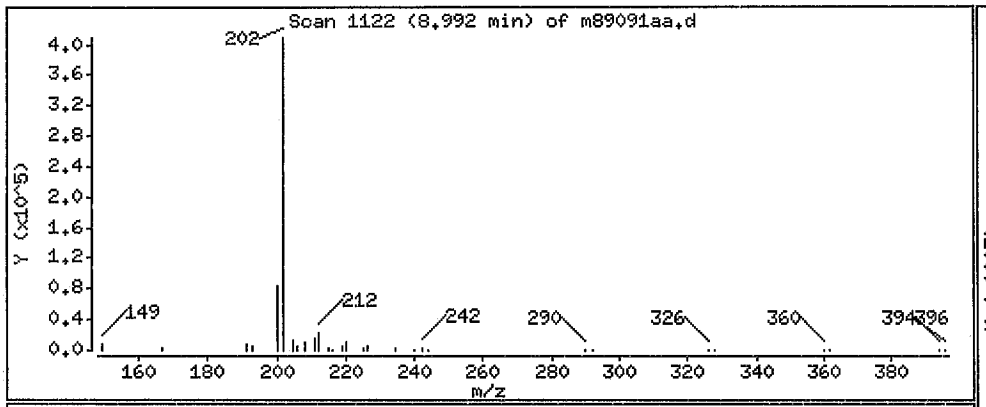
Column phase: Rxi-5SIL MS w/Guard

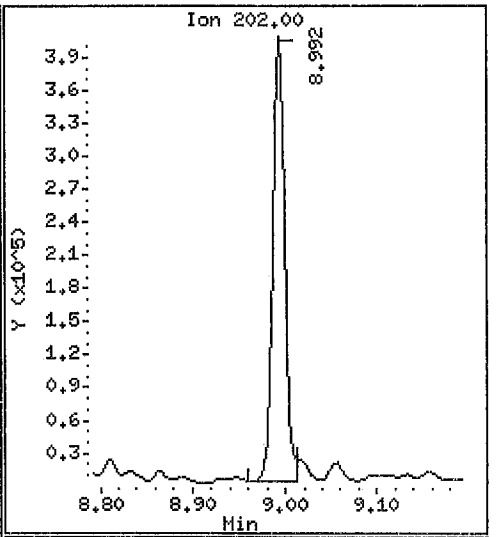
Column diameter: 0.25

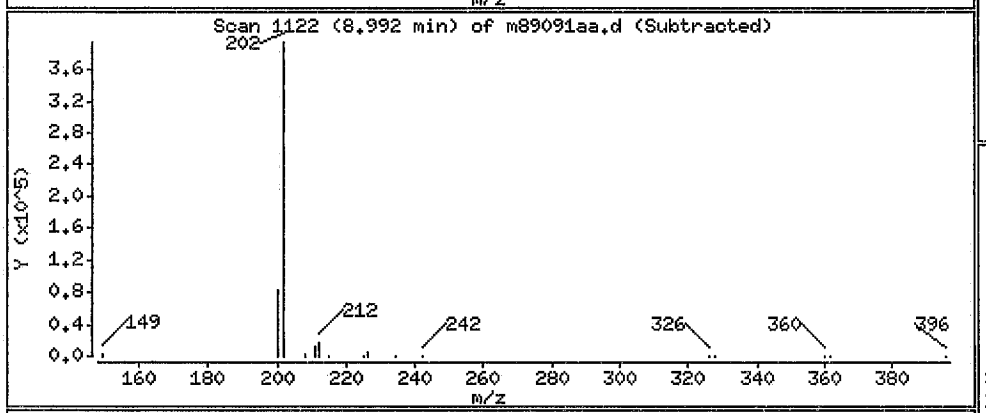
10/11/16 ②

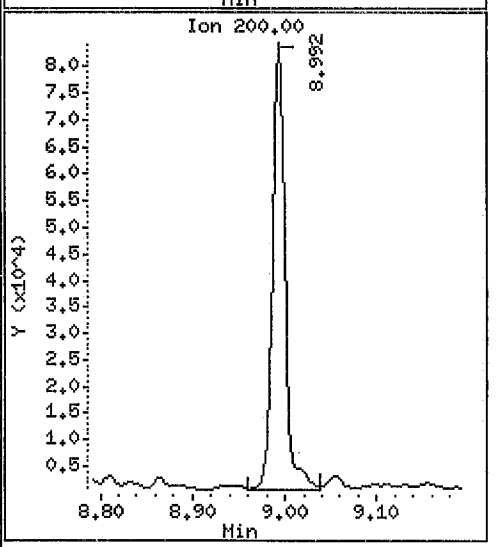
57 Pyrene

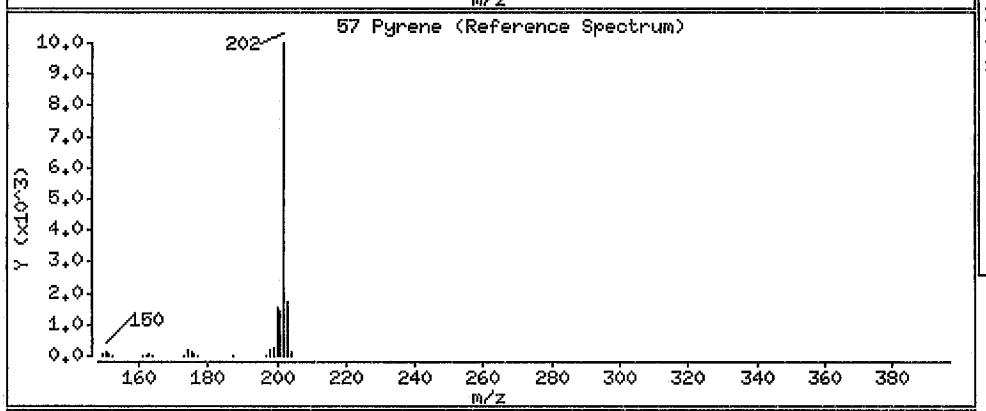
Concentration: 275 ng/L

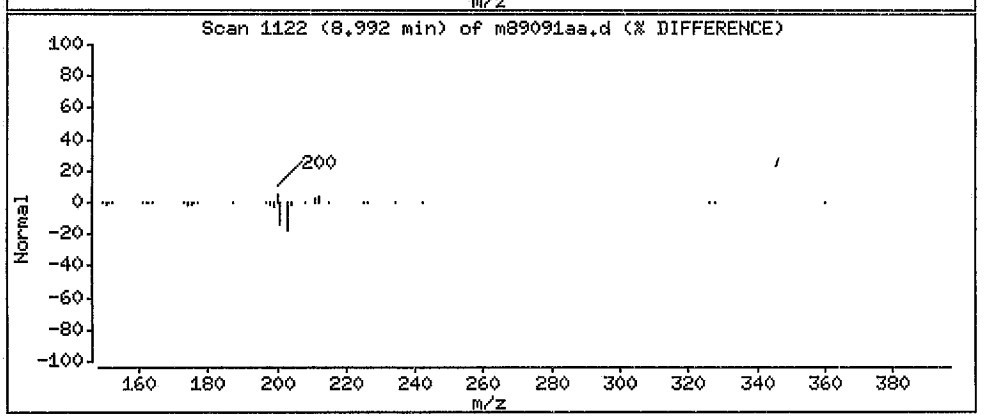












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

Operator: 011211

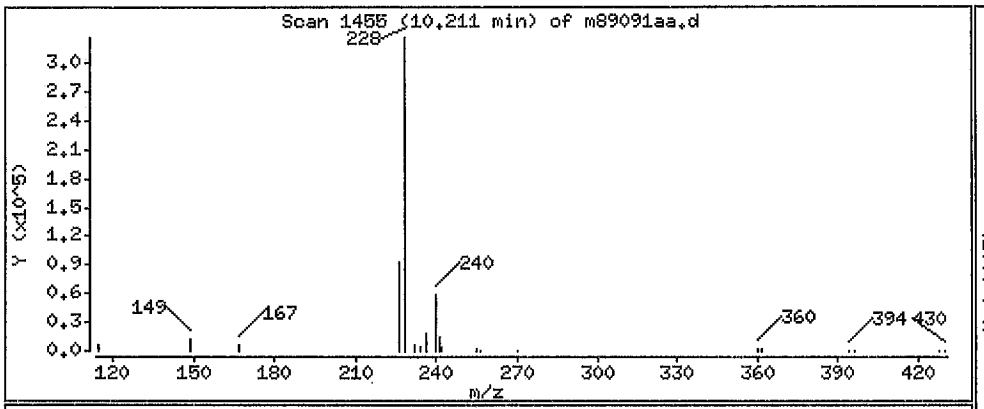
Column phase: Rxi-5SIL MS w/Guard

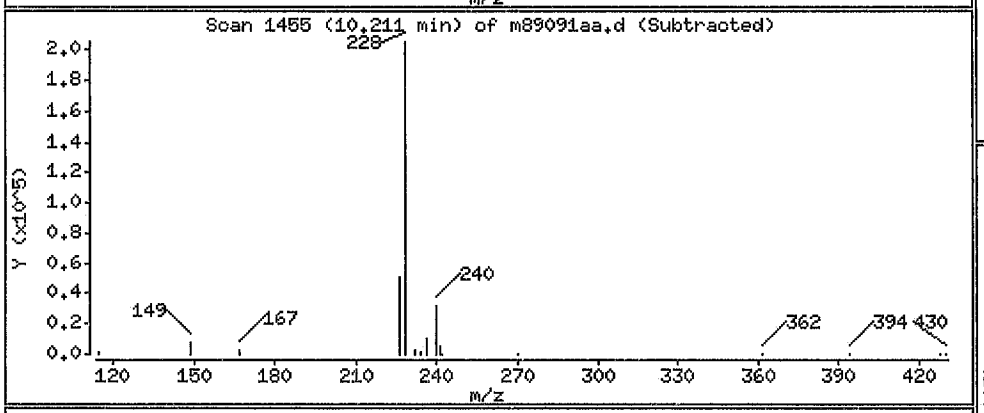
Column diameter: 0.25

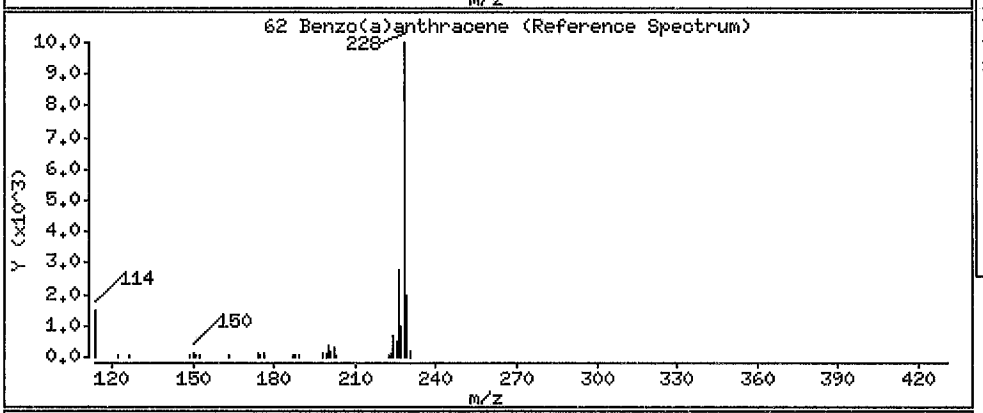
10/11/16 (1)

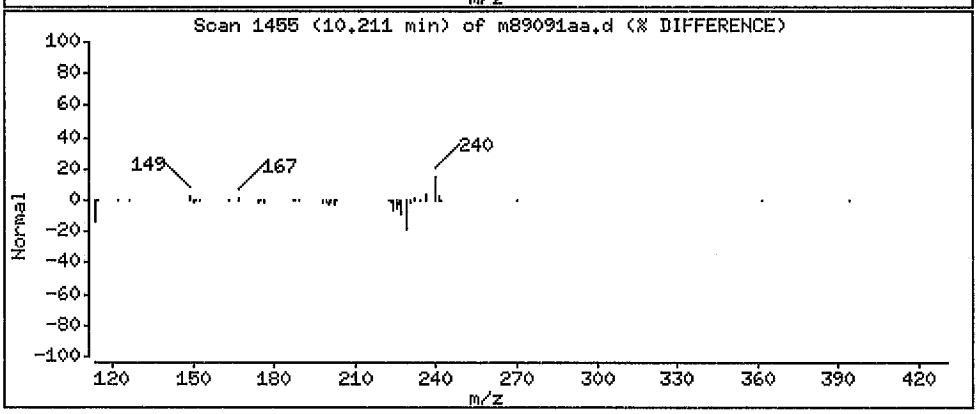
62 Benzo(a)anthracene

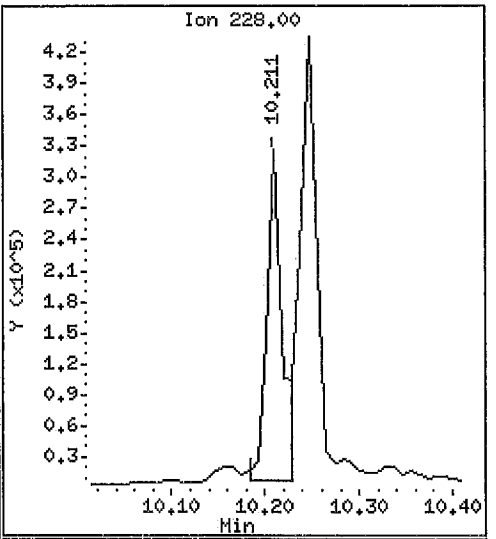
Concentration: 380 ng/L

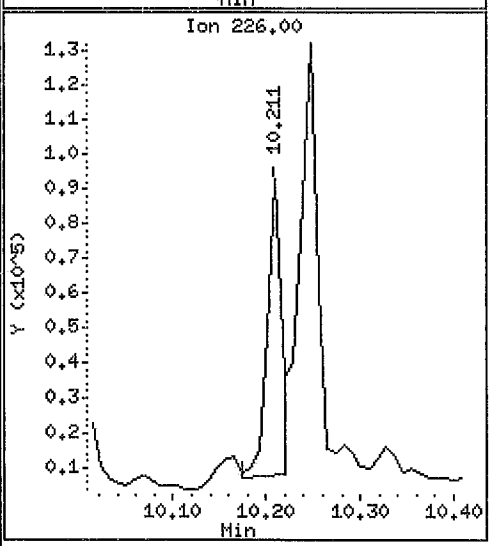












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

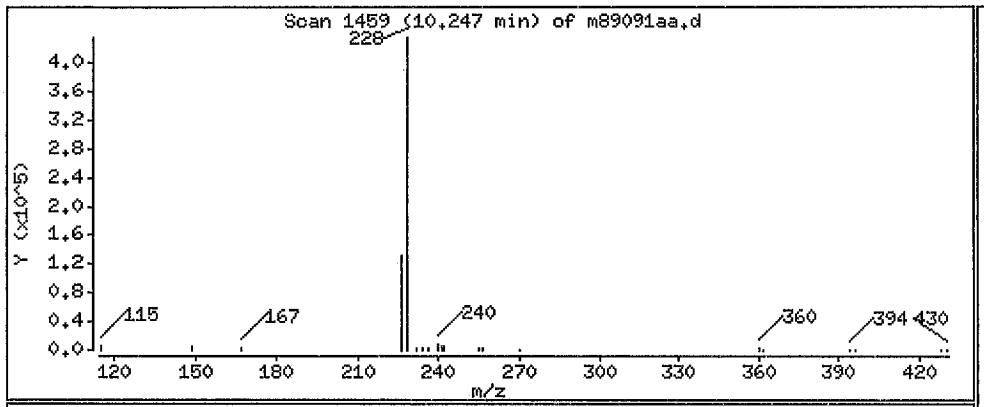
Operator: 011211

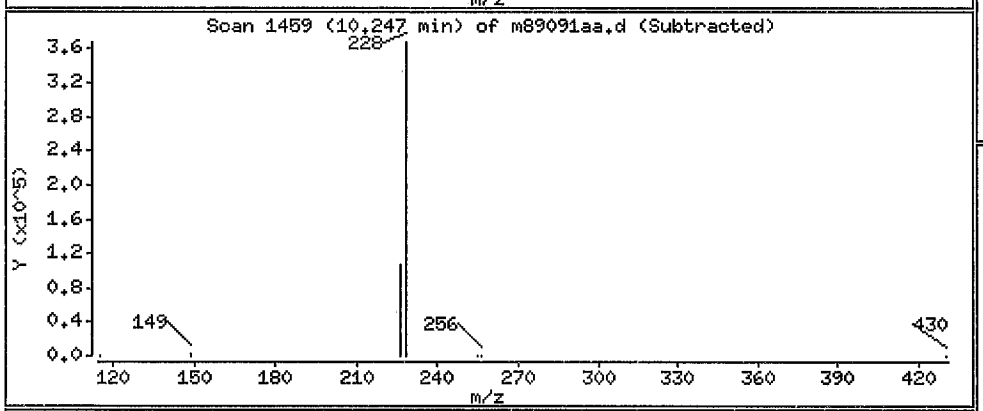
Column phase: Rxi-5SIL MS w/Guard

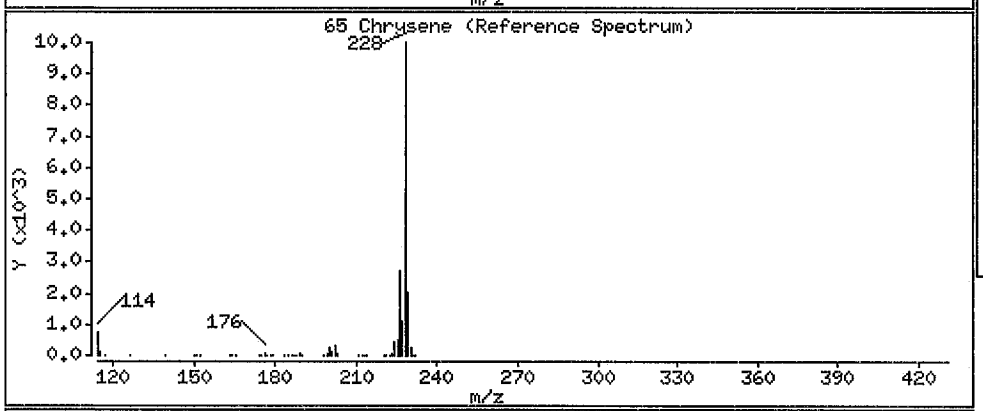
Column diameter: 0.25

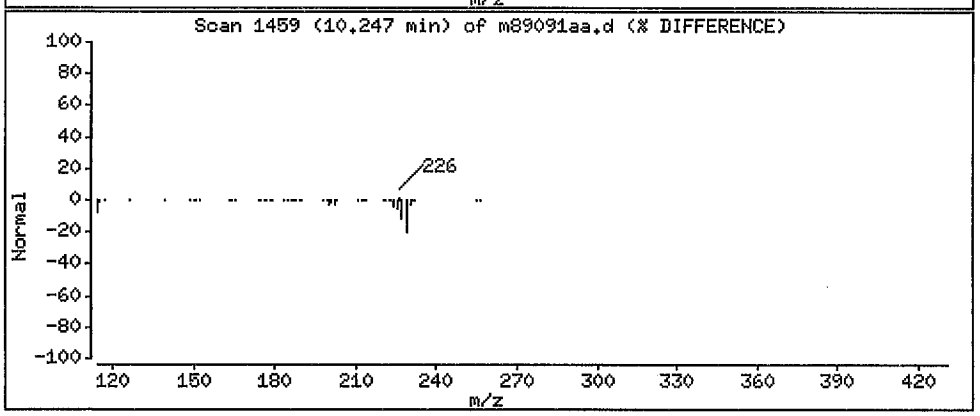
65 Chrysene

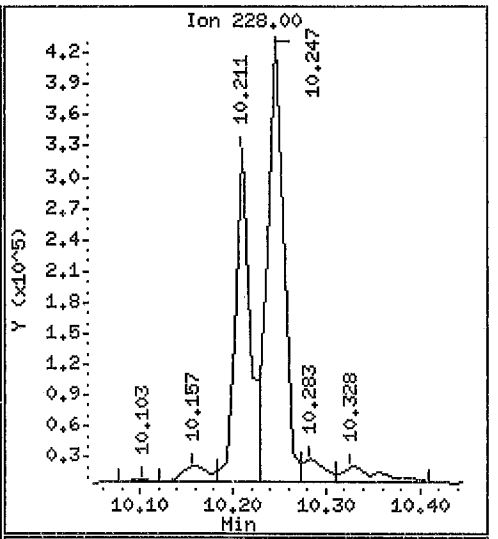
Concentration: 471 ng/L

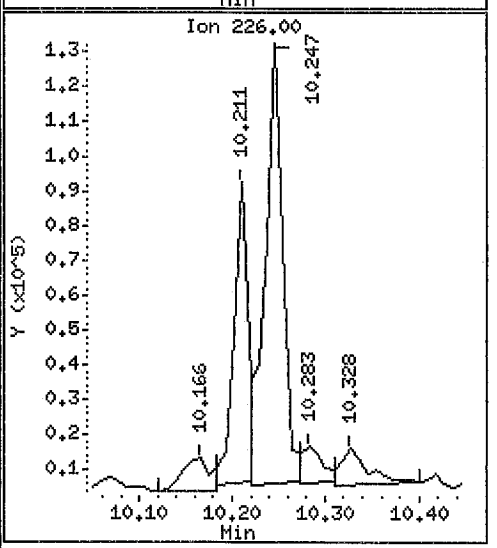












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

Operator: 011211

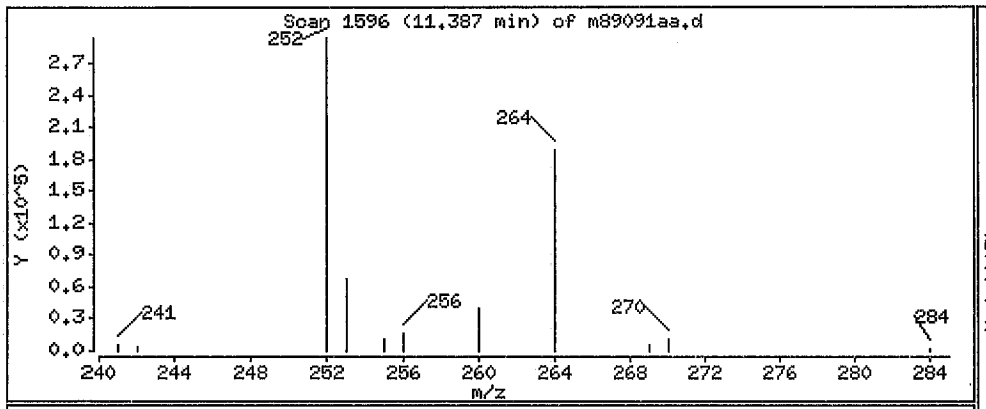
Column phase: Rxi-5SIL MS w/Guard

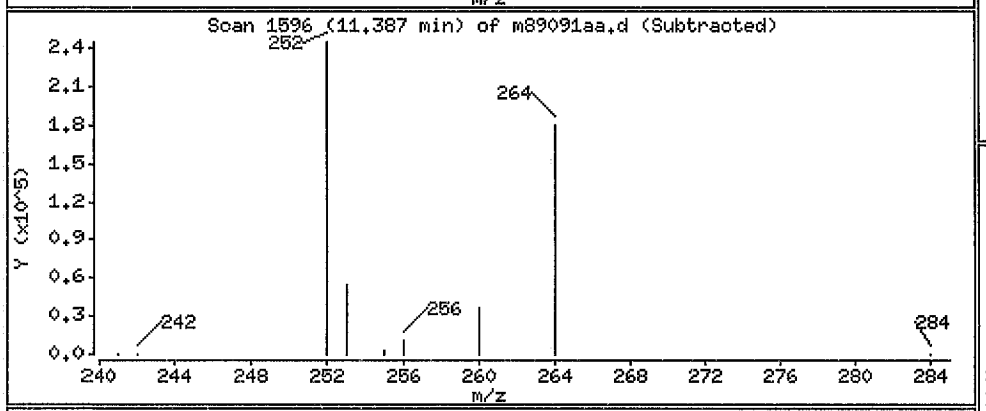
Column diameter: 0.25

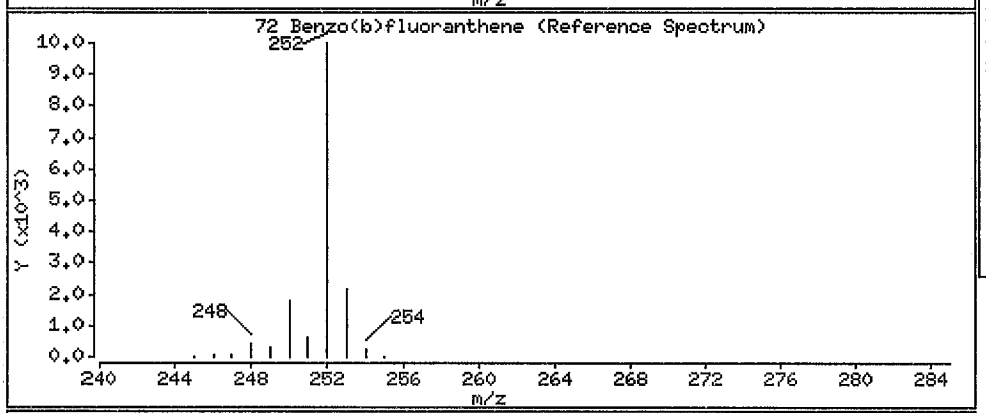
72 Benzo(b)fluoranthene

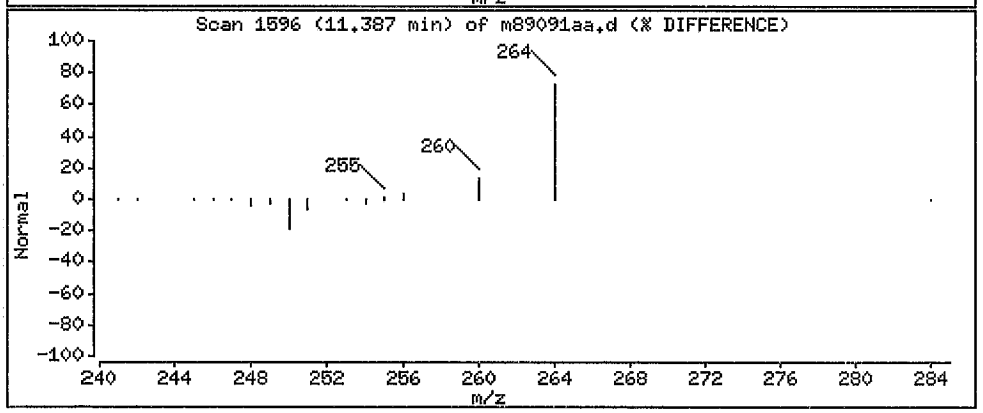
Concentration: 285 ng/L

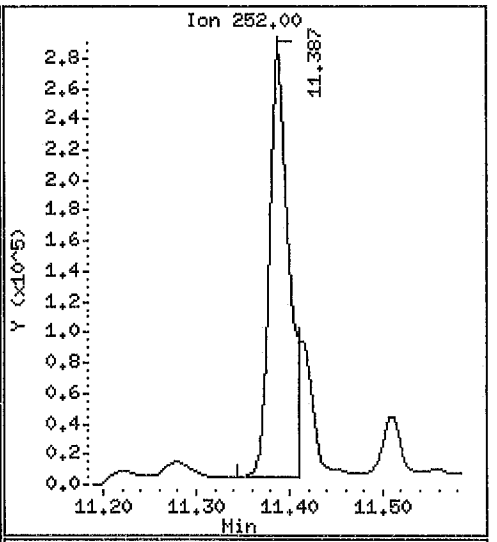
10/11/16

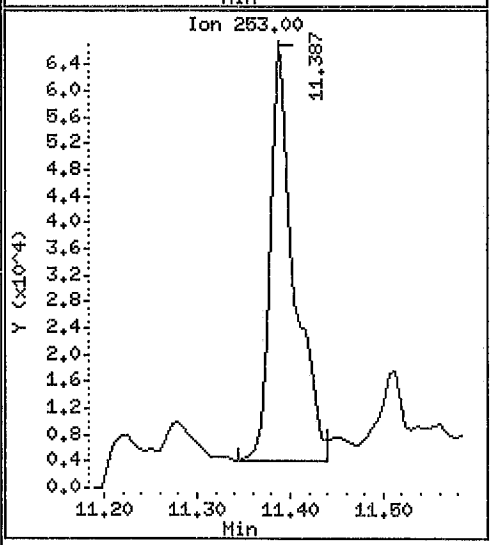












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

Operator: 011211

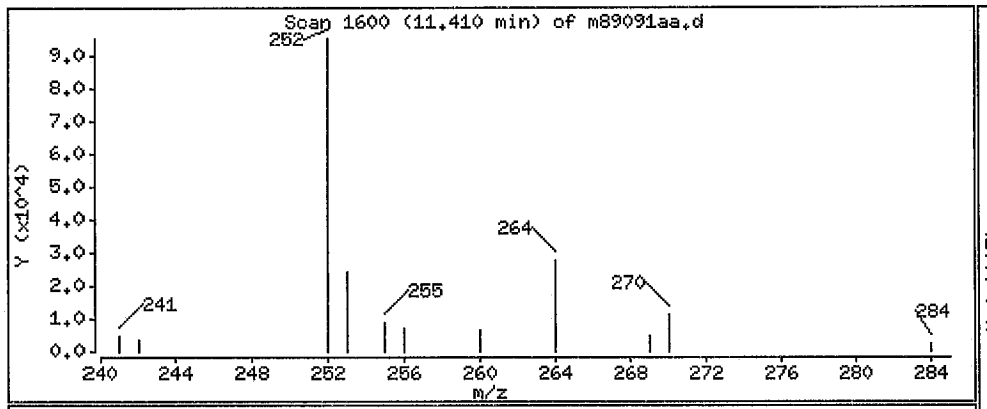
Column phase: Rxi-5SIL MS w/Guard

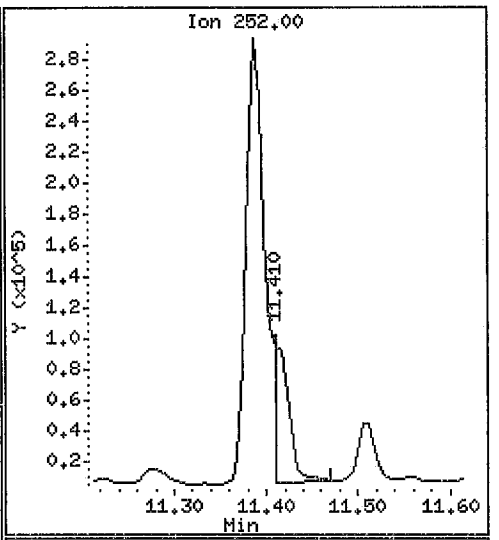
Column diameter: 0.25

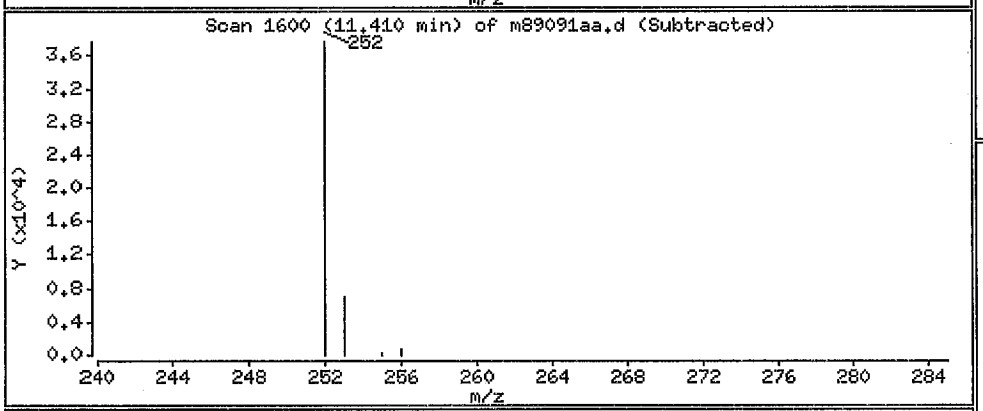
10/11/16 ①

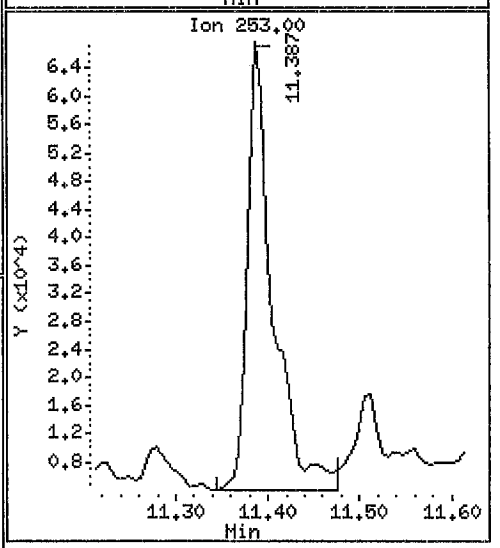
75 Benzo(k)fluoranthene

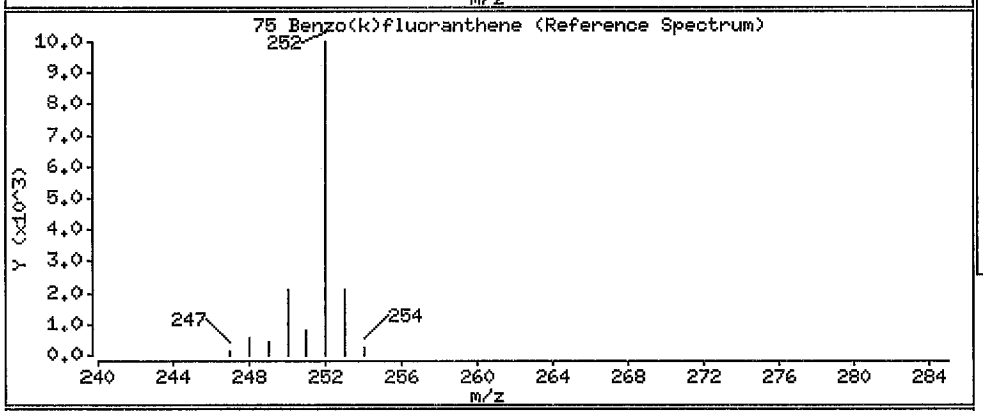
Concentration: 81.0 ng/L

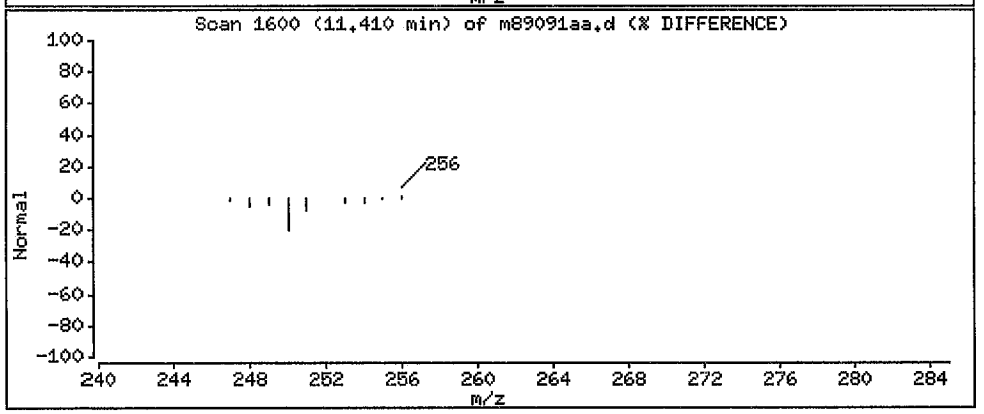












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

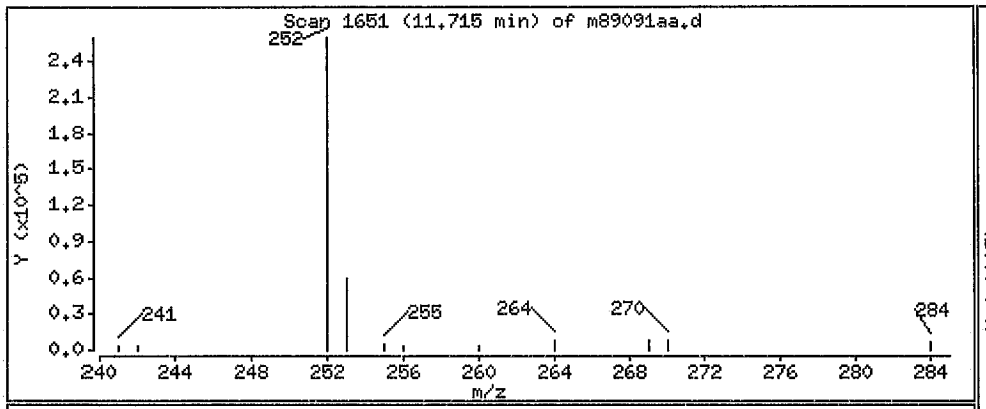
Operator: 011211

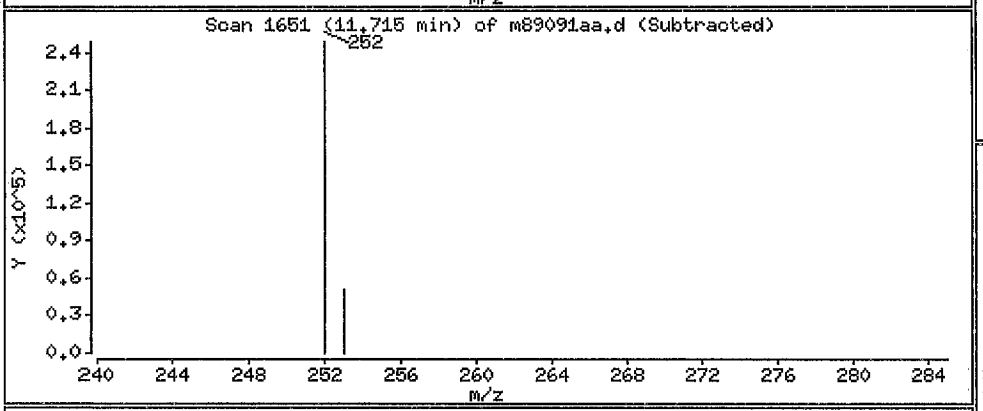
Column phase: Rxi-5SIL MS w/Guard

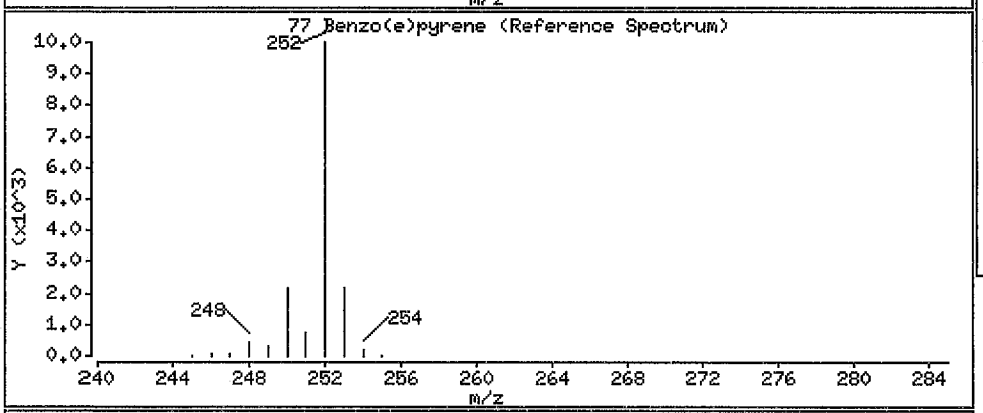
Column diameter: 0.25

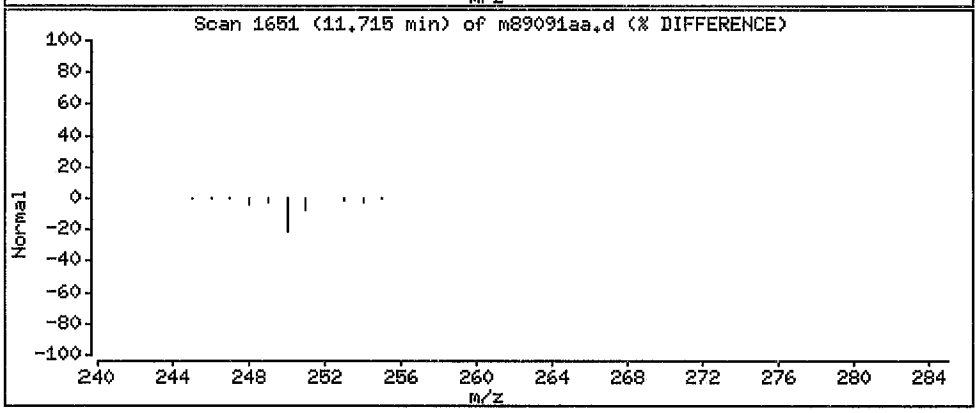
77 Benzo(e)pyrene

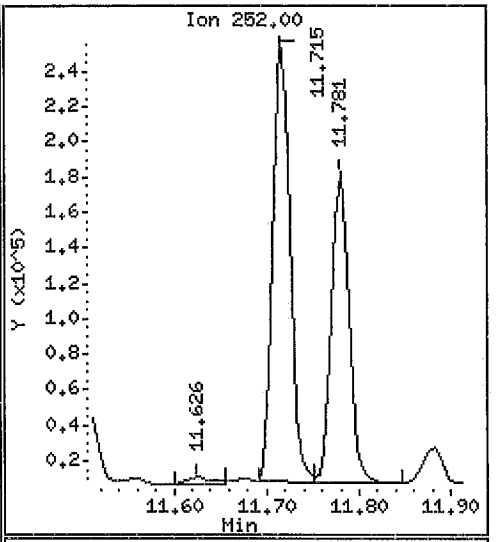
Concentration: 216 ng/L

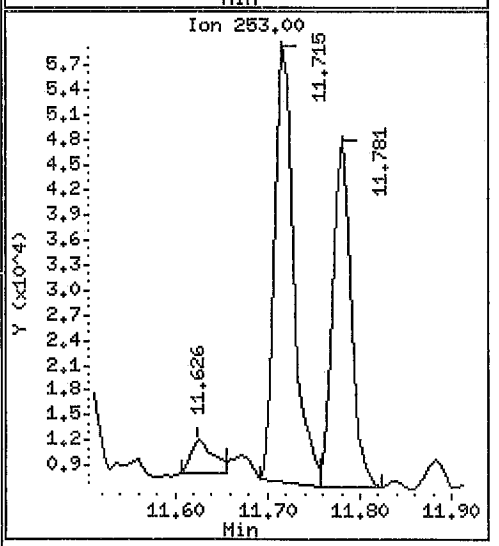












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

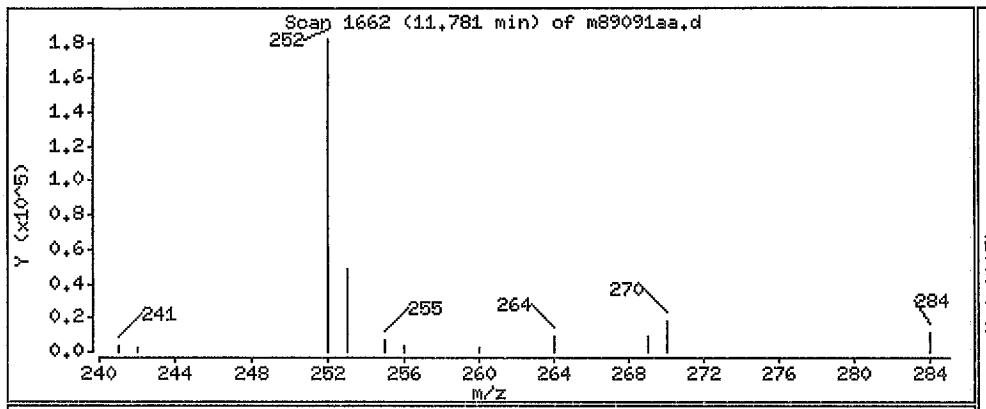
Operator: 011211

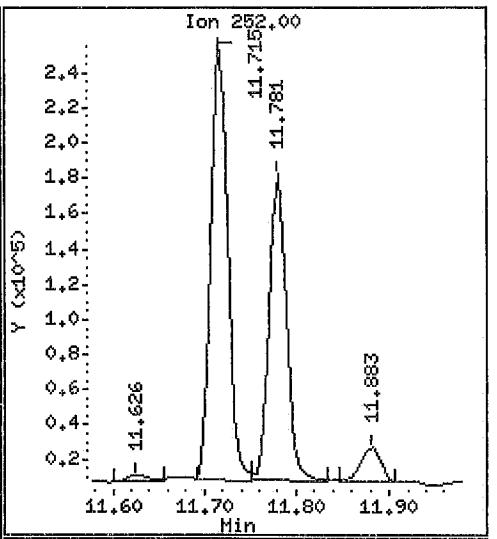
Column phase: Rxi-5SIL MS w/Guard

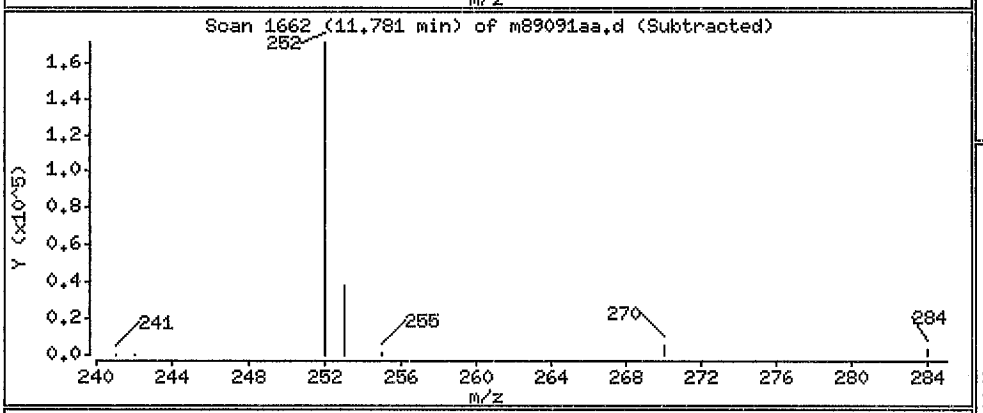
Column diameter: 0.25

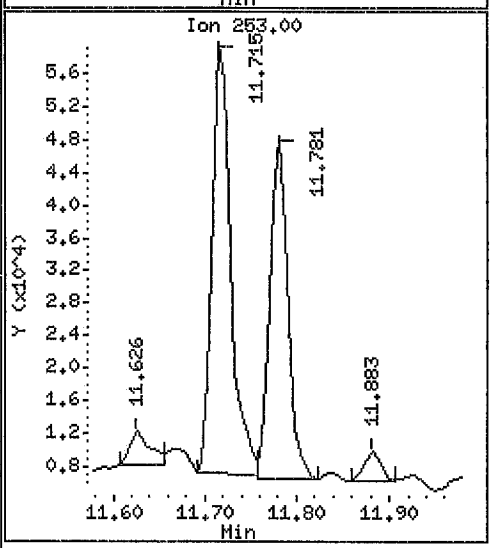
80 Benzo(a)pyrene

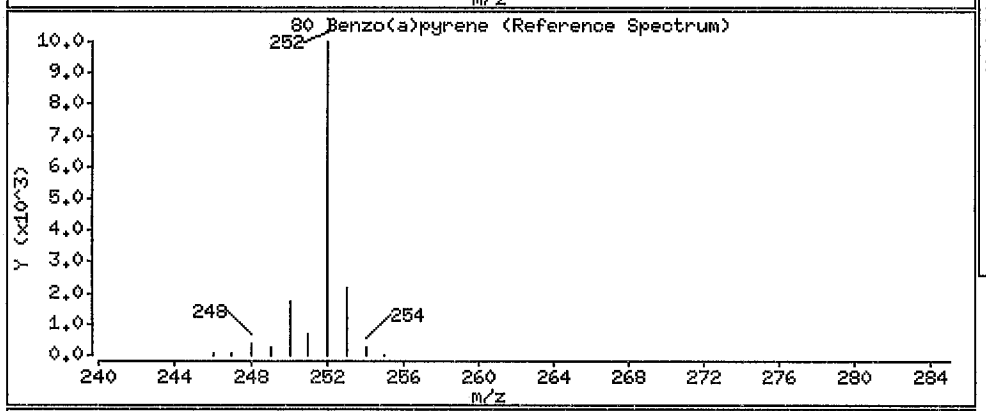
Concentration: 179 ng/L

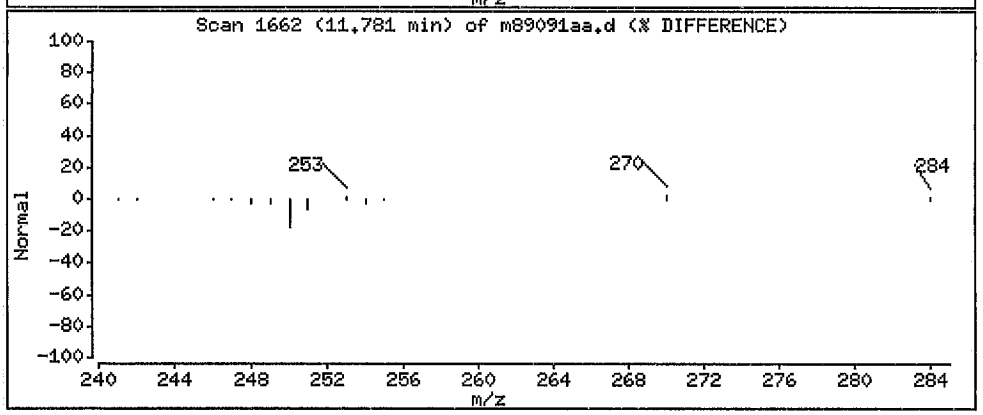












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

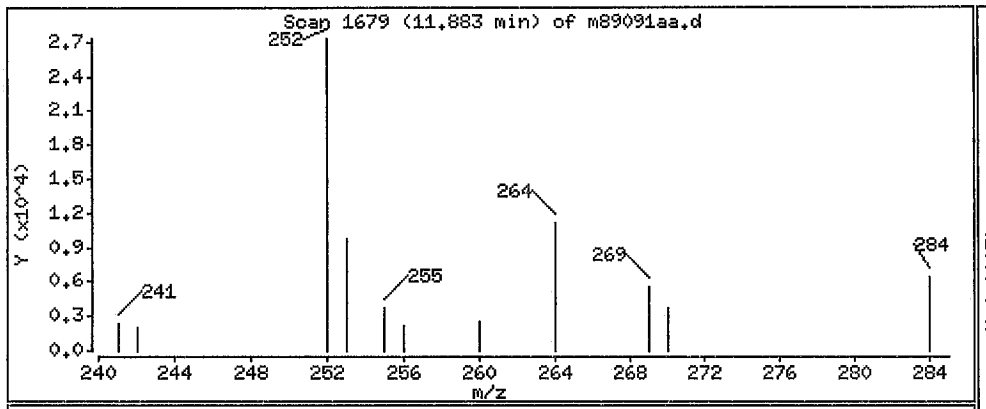
Operator: 011211

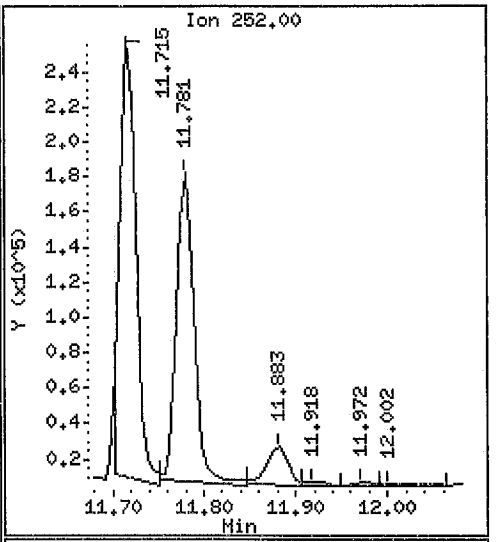
Column phase: Rxi-5SIL MS w/Guard

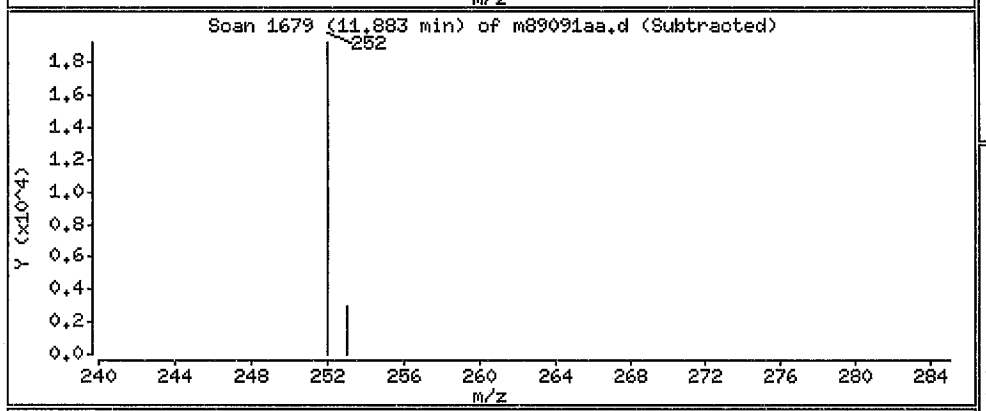
Column diameter: 0.25

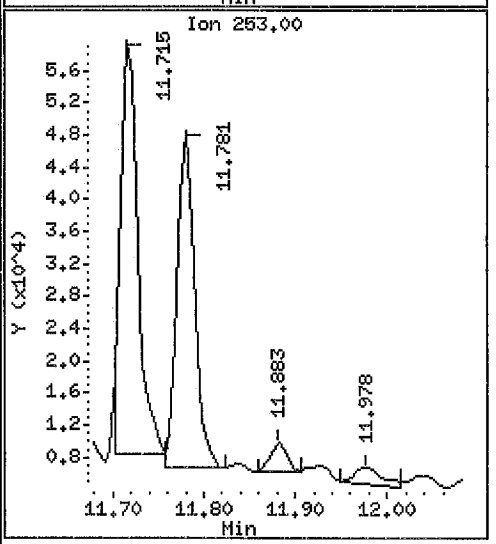
83 Perylene

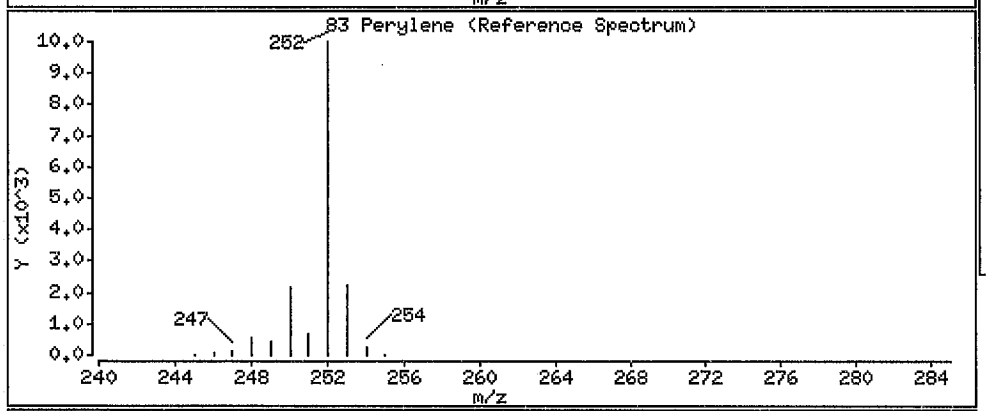
Concentration: 34.7 ng/L

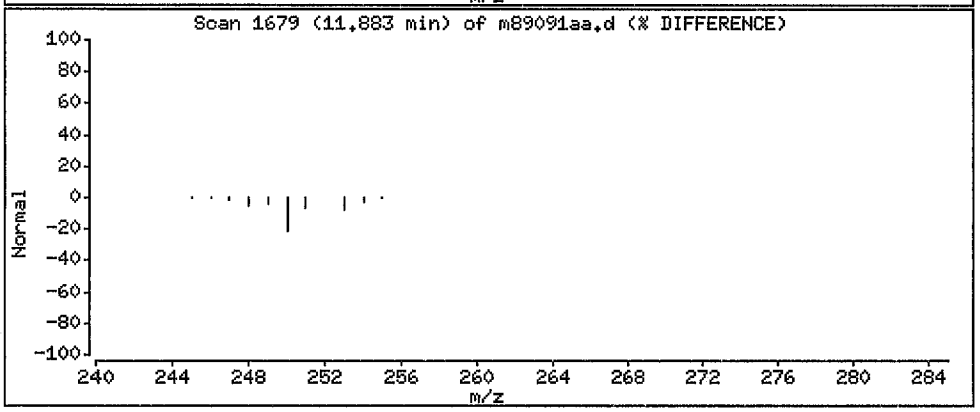












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

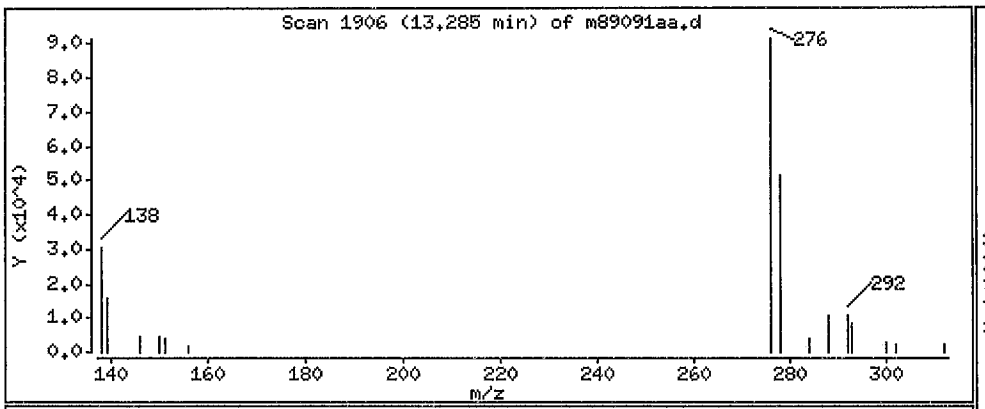
Operator: 011211

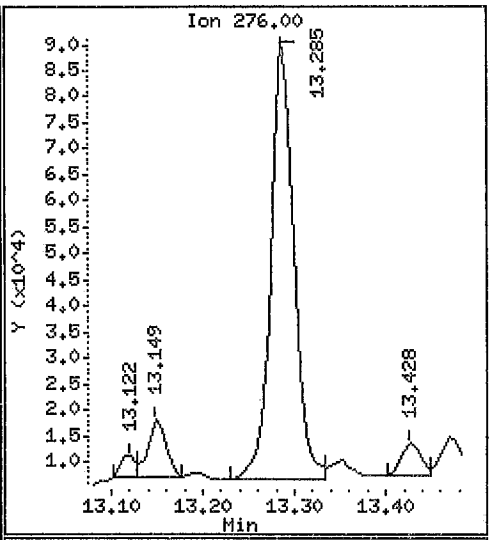
Column phase: Rxi-5SIL MS w/Guard

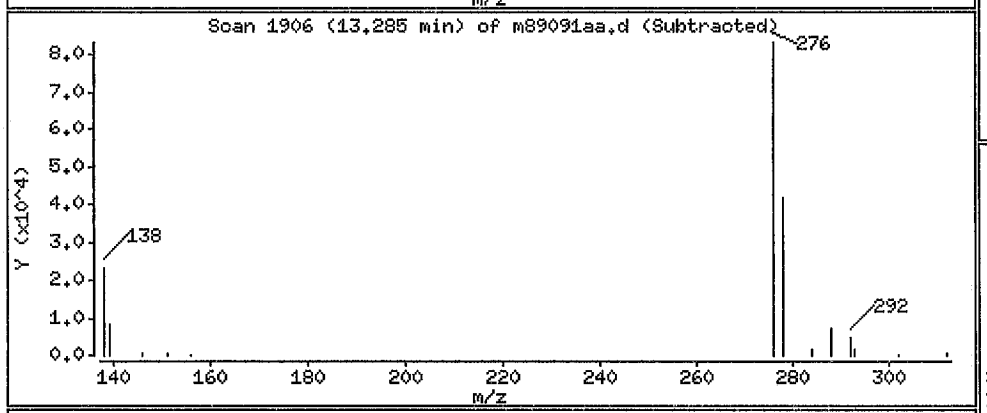
Column diameter: 0.25

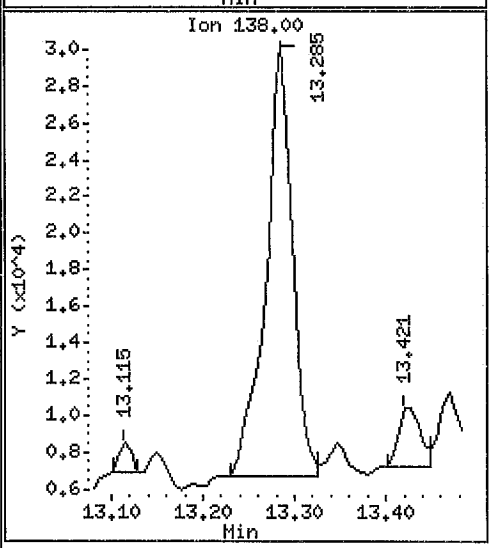
86 Indeno(1,2,3-cd)pyrene

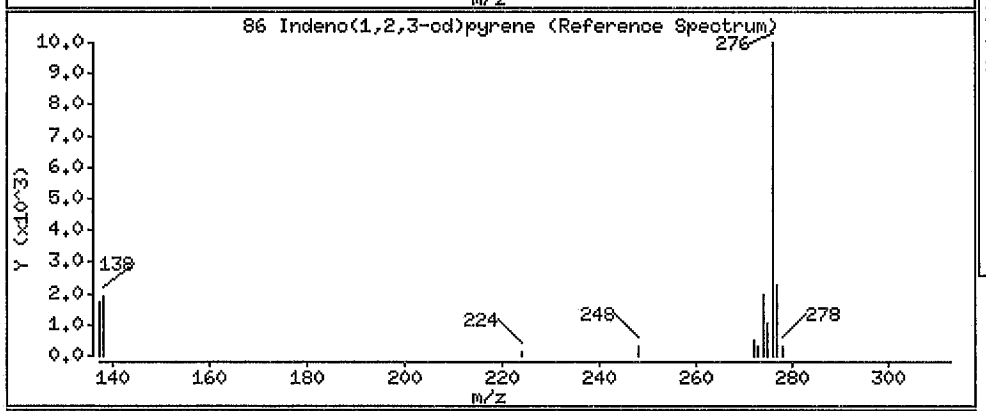
Concentration: 99.0 ng/L

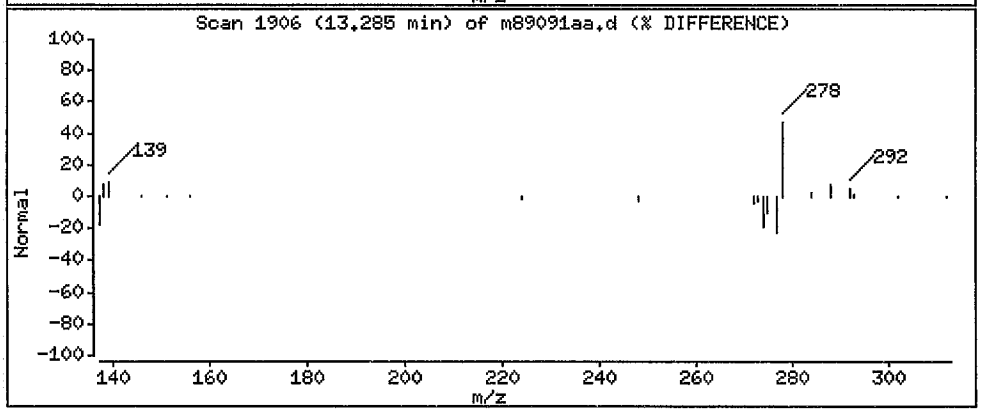












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

Operator: 011211

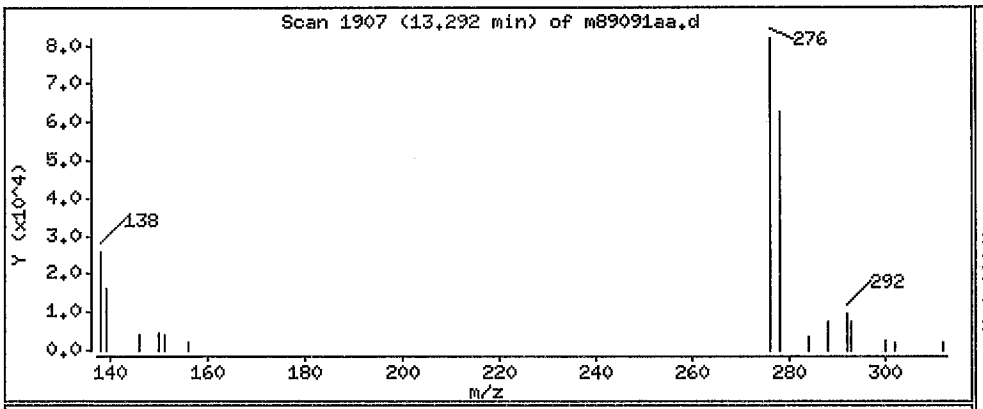
Column phase: Rxi-5SIL MS w/Guard

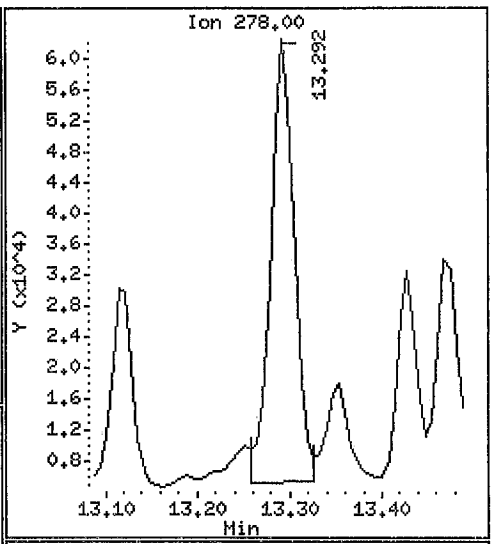
Column diameter: 0.25

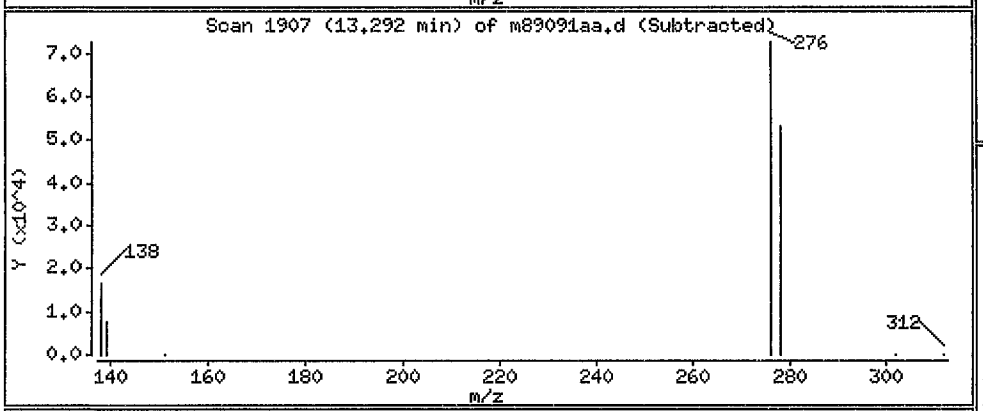
10/11/16

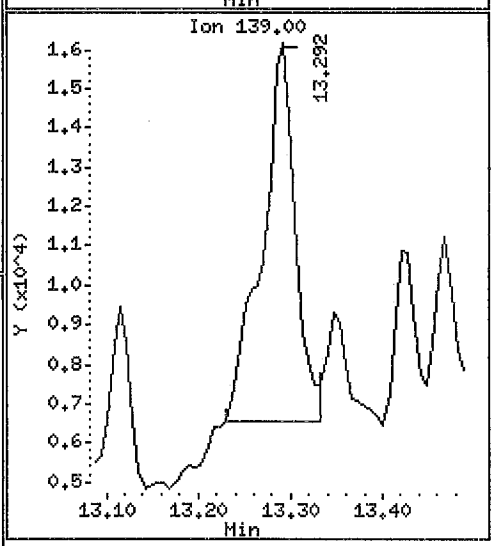
89 Dibenz(a,h)anthracene

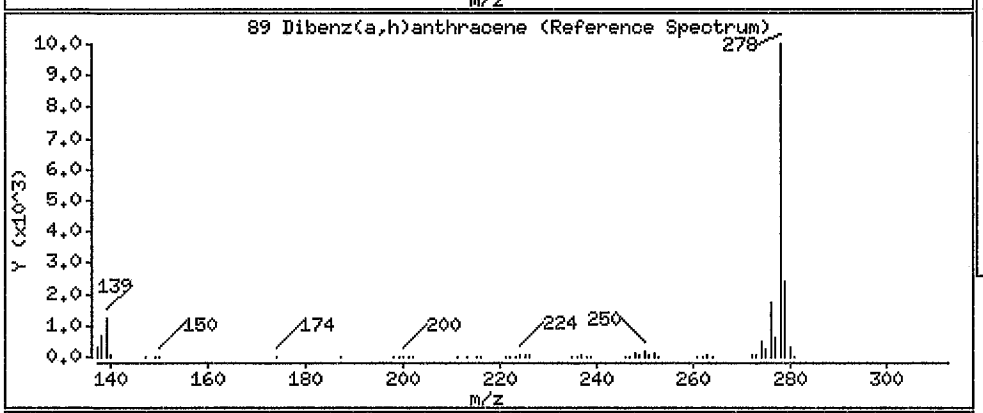
Concentration: 79.7 ng/L

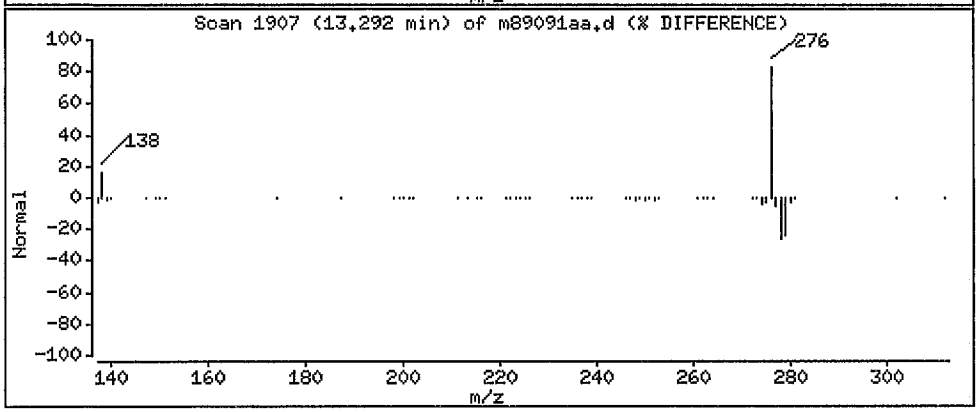












Data File: /var/chem/gcms/mp.i/P101016.b/m89091aa.d

Date : 10-OCT-2016 18:43

Client ID: R-1672 LOC#11 WATER

Instrument: mp.i

Sample Info: ,,0,,TRT

Purge Volume: 807.0

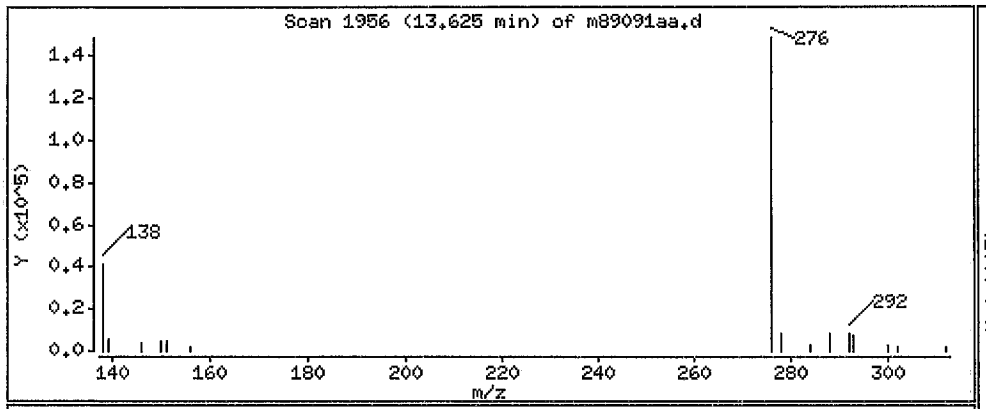
Operator: 011211

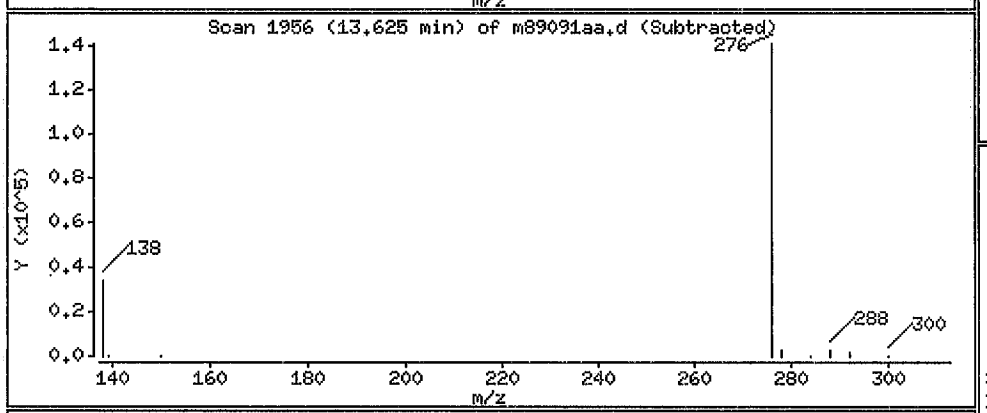
Column phase: Rxi-5SIL MS w/Guard

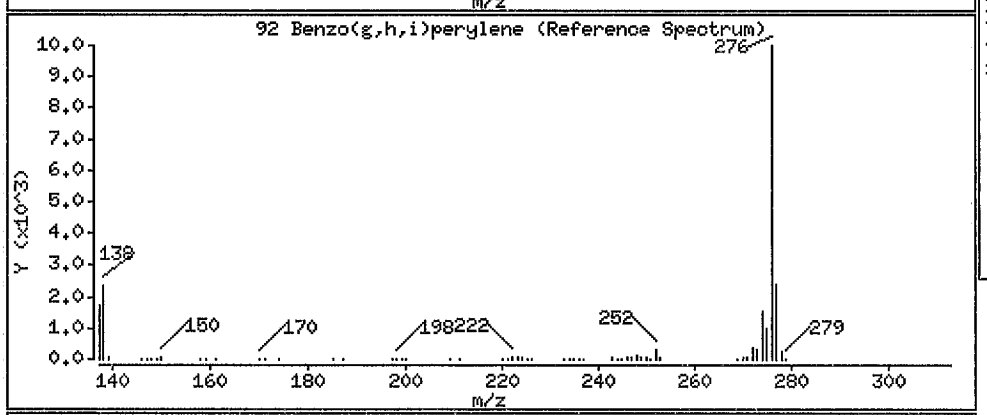
Column diameter: 0.25

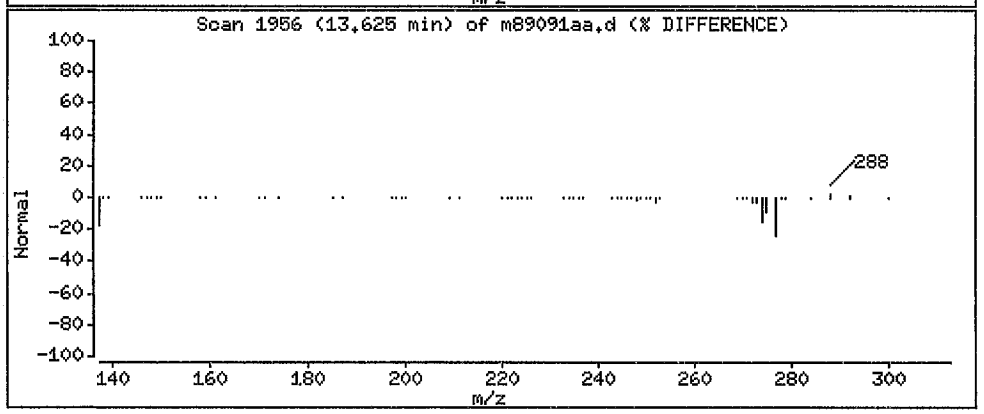
92 Benzo(g,h,i)perylene

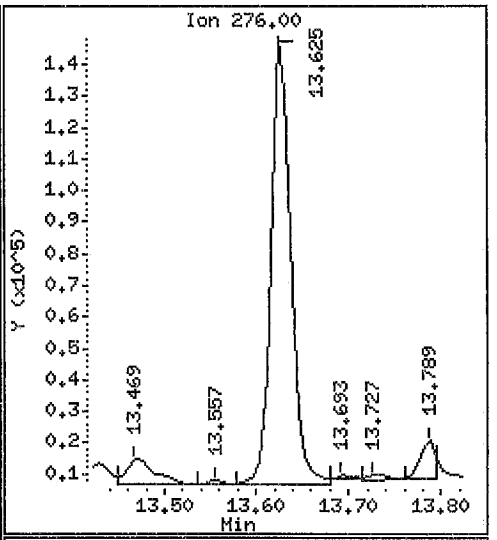
Concentration: 175 ng/L

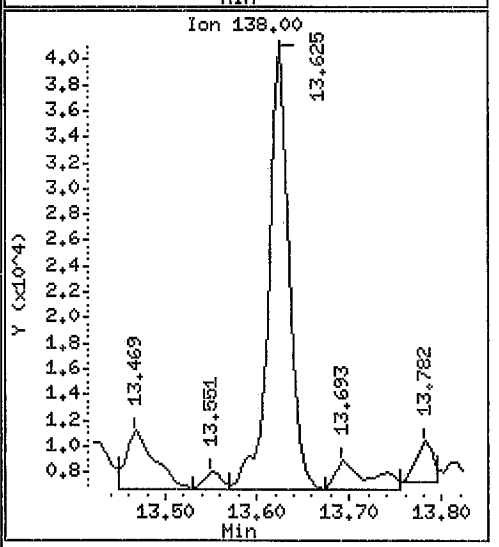












Data File Name: m89091aa.d

Inj. Date and Time: 10-OCT-2016 18:43

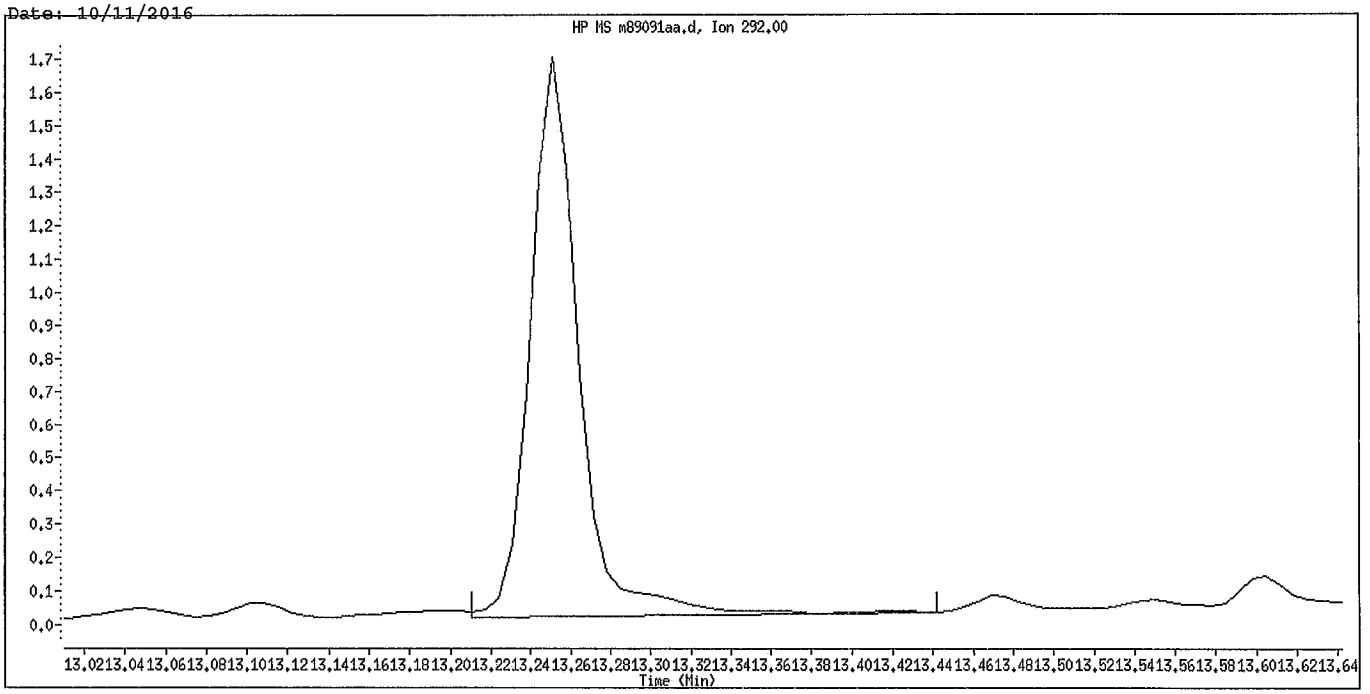
Instrument ID: mp.i

Client ID: R-1672 LOC#11 WATER

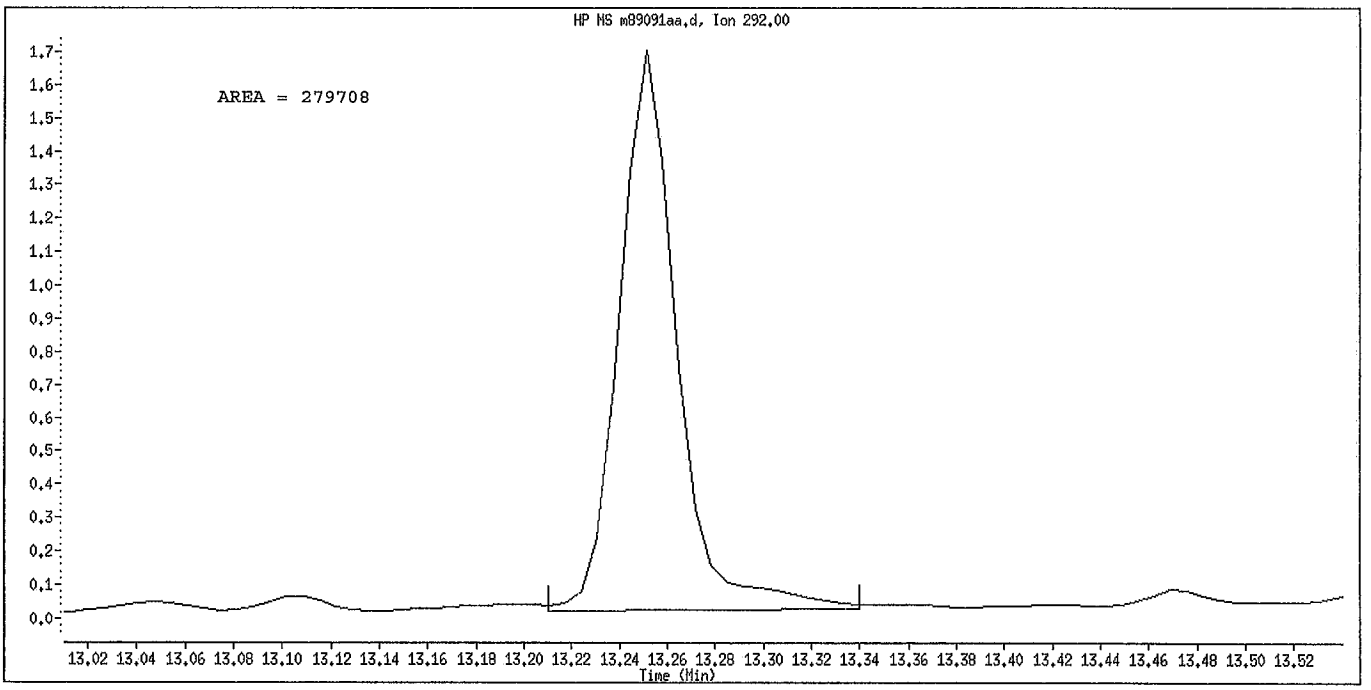
Compound Name: Dibenz(ah)anthracene-d14(SS)

CAS #: 13250-98-1

Report ~~Date: 10/11/2016~~



Original Integration

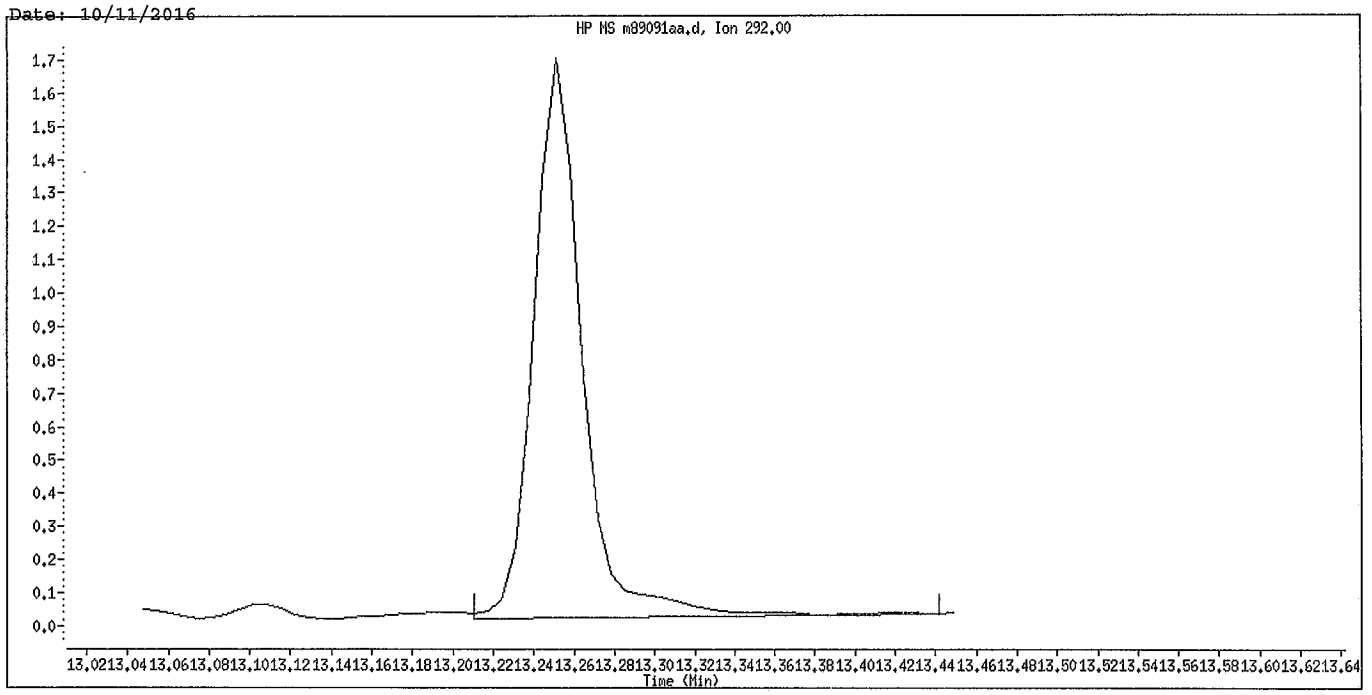


Manual Integration

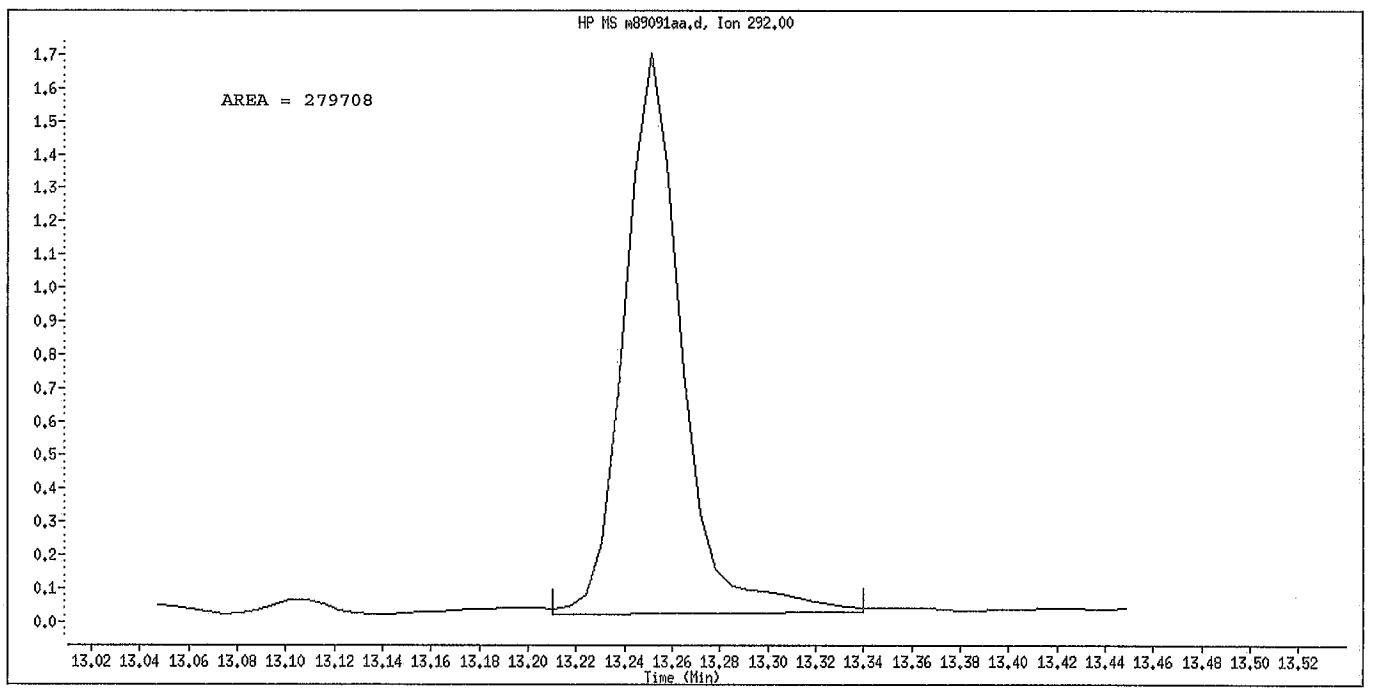
Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89091aa.d
Inj. Date and Time: 10-OCT-2016 18:43
Instrument ID: mp.i
Client ID: R-1672 LOC#11 WATER
Compound Name: Dibenz(ah)anthracene-d14
CAS #: -13250-98-1
Report ~~Date: 10/11/2016~~



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Standards Data

TestAmerica Knoxville GC/MS-SIM Continuing Calibration Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Analysis Date:	8/15/16	CCAL Batch/ Scan Name:	P081516	Instrument:	mP	ICAL Batch/ Scan Name:	P071216I	Scanned ☐

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all injections in sequence within 12 hr of CCAL?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Is the %D or drift <30% for all analytes		✓			✓
5. Are the recovery standards within 50-200% of the ICAL CS4 level?		✓			✓
6. Are the MID descriptors properly set?		✓			✓
7. Are correct RFs listed in CCAL summary?		✓			✓
8. Was the correct ICAL used for quantitation? (Verify 1 RF.)		✓			✓
9. Elution order checked on isomeric pairs/coeluters?					
• 1,4 dichlorobenzene before 1,2 dichlorobenzene (& d4 isomers)		✓			✓
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,i)perylene (& d12 isomers)		✓			✓
10. Were the first/last RTs for each alkyl PAH homologue group properly identified and indicated on the chromatogram?	✓				NA
11. If criteria were not met, was a NCM generated and approved by supervisor?	✓				NA
12. Does the CCAL folder contain **complete** data in the following order? CCAL data review checklist, runlog, Target Continuing Calibration Report, followed by the quan report and chromatograms for the CCAL and window standard.		✓			✓

1st Level Reviewer: [signature] **Date:** 8/18/16

Comments:

2nd Level Reviewer: [signature] **Date:** 8/18/16

Comments:

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑
Preventive Maintenance Performed: ☑ septa ☑ liner ☐ seal ☐ clip column ☐ other: see below / maint. log

Target Batch	P081516			Date	8/15/16
ICAL Batch	P071216F			Analyst	JRL/DWS
Method	☑ KNOX-ID-0016			IS ID & vol.	n/a

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
—	PH15Hex01	10:22				
CCV	PH15CCV	10:56				PAH098B
—	PH15Hex02	11:21				
MB	MB0E61AA	11:47		XAD	6203014	Confirmation
MB	MB0E4AAA	12:32		Cond	6203012	miss inject
MB	MB0E71AA	12:57			6203015	
MB	MB0E4AAAR	14:27			6203012	
MB	MB0E71AAR	14:52			6203015	
MB	MB2LL1AA	15:18		Filter	62116010	
LCS	MB2LL1AC	15:43				
LCSD	MB2LL1AD	16:08				
H6H020411	MB2E71AA	16:33				
	MB2FA1AA	16:59				
	MB2FE1AA	17:24				
	MB2FH1AA	17:49				
	MB2FT1AA	18:14				
	MB2FX1AA	18:39	2			50ml to 100ml
	MB2GG1AA	19:04	10			10ml to 100ml
	MB2GM1AA	19:29				
	MB2GV1AA	19:54				
	MB2A21AA	20:19				
	MB2GB1AA	20:44				
	MB2HG1AA	21:09				
—	PH15Hex03	21:34		—	—	
MB	MB2L21AA	21:59		XAD	62116011	
LCS	MB2L21AC	22:24				
LCSD	MB2L21AD	22:49				
* H6H020411	MB2EB1AA	23:14				10x 10ml to 100ml
H6G190424	MBXBK1AA	23:38	—	Cond	6203015	Confirmation
H6H020409	MB2DQ1AA	00:03	10	XAD	6217037	10ml to 100ml

Comments: * R/R - passed 12hr window

See cont next page →
8/16/16

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑
Preventive Maintenance Performed: ☑septa ☑liner ☐ seal ☐ clip column ☐ other: see below / maint. log

Target Batch	P081516			Date	8/15/16
ICAL Batch	P071216I			Analyst	JRC/DWS
Method	☑KNOX-ID-0016			IS ID & vol.	n/a

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
8/16/16 ~~H6H020409~~ ~~H6H-190~~	M8Z0U1AA *	00:28	10	XAD	6217037	10ml to 100ml
H6H020409	M8Z0O1AA	00:53				
	M8Z041AA	01:18				
	M8Z071AA	01:42				
	M8ZEA1AA	02:07				
	M8ZEE1AA	02:32				
					8/16/16	

Comments: * R/R - passed 12hr window

Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Report Date: 15-Aug-2016 11:05

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: ph15ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P081516.b/SIMPAH10.m

Injection Date: 15-AUG-2016 10:56
Init. Cal. Date(s): 12-JUL-2016 13-JUL-2016
Init. Cal. Times: 14:55 01:21
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 257 1,4Dichlorobenzene-d4(SS)	0.30551	0.30951	0.30951	0.000	-1.30878	30.00000	Averaged
254 1,4-Dichlorobenzene	2.49000	2.61113	2.61113	0.000	-4.86454	30.00000	Averaged
$ 235 1,2-Dichlorobenzene-d4(SS)	0.31274	0.33575	0.33575	0.000	-7.35768	30.00000	Averaged
236 1,2-Dichlorobenzene	2.44132	2.52750	2.52750	0.000	-3.53019	30.00000	Averaged
245 1,2,4-Trichlorobenzene	0.30179	0.37231	0.37231	0.000	-23.36677	30.00000	Averaged
$ 2 Naphthalene-d8(SS)	1.90648	1.91432	1.91432	0.000	-0.41136	30.00000	Averaged
3 Naphthalene	0.99687	1.00707	1.00707	0.000	-1.02282	30.00000	Averaged
$ 222 13C6-Naphthalene	1.14057	1.14963	1.14963	0.000	-0.79466	30.00000	Averaged
$ 11 2-Methylnaphthalene-d10(SS)	0.96296	0.99277	0.99277	0.000	-3.09643	30.00000	Averaged
12 2-Methylnaphthalene	1.39065	1.33648	1.33648	0.000	3.89565	30.00000	Averaged
$ 14 1-Methylnaphthalene-d10(SS)	1.09322	1.09055	1.09055	0.000	0.24404	30.00000	Averaged
15 1-Methylnaphthalene	1.11247	1.07334	1.07334	0.000	3.51720	30.00000	Averaged
16 Biphenyl	1.59620	1.51853	1.51853	0.000	4.86545	30.00000	Averaged
239 2-Chloronaphthalene	0.62038	0.64284	0.64284	0.000	-3.61948	30.00000	Averaged
$ 18 2,6-Dimethylnaph-d12(SS)	0.99396	1.05274	1.05274	0.000	-5.91397	30.00000	Averaged
19 2,6 Dimethylnaphthalene	1.13294	1.08962	1.08962	0.000	3.82379	30.00000	Averaged
$ 21 Acenaphthylene-d8(SS)	1.75152	1.84336	1.84336	0.000	-5.24365	30.00000	Averaged
22 Acenaphthylene	1.12393	1.06000	1.06000	0.000	5.68746	30.00000	Averaged
24 Acenaphthene	0.67146	0.61714	0.61714	0.000	8.09066	30.00000	Averaged
246 Dibenzofuran	1.69112	1.64303	1.64303	0.000	2.84397	30.00000	Averaged
25 2,3,5 Trimethylnaphthalene	0.94412	0.99344	0.99344	0.000	-5.22360	30.00000	Averaged
$ 233 Fluorene-d10(SS)	1.16892	1.22107	1.22107	0.000	-4.46164	30.00000	Averaged
27 Fluorene	1.16139	1.12070	1.12070	0.000	3.50314	30.00000	Averaged
243 Diphenylamine	0.86653	0.81129	0.81129	0.000	6.37401	30.00000	Averaged
$ 35 Dibenzothiopene-d8(SS)	1.15422	1.12411	1.12411	0.000	2.60826	30.00000	Averaged
36 Dibenzothiophene	1.08482	1.05318	1.05318	0.000	2.91683	30.00000	Averaged
$ 42 Phenanthrene-d10(SS)	1.12386	1.08588	1.08588	0.000	3.37947	30.00000	Averaged
43 Phenanthrene	1.25489	1.23553	1.23553	0.000	1.54235	30.00000	Averaged
$ 45 Anthracene-d10(SS)	1.08437	1.09404	1.09404	0.000	-0.89219	30.00000	Averaged
46 Anthracene	1.25377	1.19444	1.19444	0.000	4.73226	30.00000	Averaged
247 3-Methylphenanthrene	0.41560	0.52213	0.52213	0.000	-25.63216	30.00000	Averaged
52 1-Methylphenanthrene	0.43365	0.47663	0.47663	0.000	-9.91264	30.00000	Averaged
$ 54 Fluoranthene-d10(SS)	1.10511	1.16290	1.16290	0.000	-5.22903	30.00000	Averaged
55 Fluoranthene	1.27047	1.18005	1.18005	0.000	7.11697	30.00000	Averaged
57 Pyrene	1.31426	1.19656	1.19656	0.000	8.95588	30.00000	Averaged
$ 58 Terphenyl-d14	0.49848	0.56282	0.56282	0.000	-12.90784	30.00000	Averaged

Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Report Date: 15-Aug-2016 11:05

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: ph15ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P081516.b/SIMPAH10.m

Injection Date: 15-AUG-2016 10:56
Init. Cal. Date(s): 12-JUL-2016 13-JUL-2016
Init. Cal. Times: 14:55 01:21
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
62 Benzo(a)anthracene	1.08558	1.02426	1.02426	0.000	5.64843	30.00000	Averaged
$ 64 Chrysene-d12(SS)	1.04857	1.09203	1.09203	0.000	-4.14463	30.00000	Averaged
65 Chrysene	1.09343	1.10765	1.10765	0.000	-1.30006	30.00000	Averaged
$ 71 Benzo(b)fluoranthene-d12(SS	1.09215	1.18371	1.18371	0.000	-8.38365	30.00000	Averaged
72 Benzo(b)fluoranthene	1.37726	1.27606	1.27606	0.000	7.34814	30.00000	Averaged
$ 74 Benzo(k)fluoranthene-d12(SS	1.22481	1.25529	1.25529	0.000	-2.48816	30.00000	Averaged
75 Benzo(k)fluoranthene	1.24712	1.21784	1.21784	0.000	2.34795	30.00000	Averaged
77 Benzo(e)pyrene	1.27156	1.30968	1.30968	0.000	-2.99714	30.00000	Averaged
$ 79 Benzo(a)pyrene-d12(SS)	1.06964	1.04115	1.04115	0.000	2.66322	30.00000	Averaged
80 Benzo(a)pyrene	1.23755	1.21872	1.21872	0.000	1.52164	30.00000	Averaged
$ 82 Perylene-d12(SS)	1.09961	0.95233	0.95233	0.000	13.39379	30.00000	Averaged
83 Perylene	1.20932	1.22923	1.22923	0.000	-1.64623	30.00000	Averaged
$ 85 Indeno(123-cd)pyrene-d12(SS	1.18045	1.13394	1.13394	0.000	3.93983	30.00000	Averaged
86 Indeno(1,2,3-cd)pyrene	1.34532	1.29678	1.29678	0.000	3.60809	30.00000	Averaged
$ 88 Dibenz(ah)anthracene-d14(SS	0.91941	0.89846	0.89846	0.000	2.27921	30.00000	Averaged
89 Dibenz(a,h)anthracene	1.36313	1.36442	1.36442	0.000	-0.09490	30.00000	Averaged
$ 91 Benzo(ghi)perylene-d12(SS)	1.12756	1.03081	1.03081	0.000	8.58087	30.00000	Averaged
92 Benzo(g,h,i)perylene	1.28315	1.26715	1.26715	0.000	1.24738	30.00000	Averaged
$ 231 Coronene-d12 (SS)	0.89681	0.89854	0.89854	0.000	-0.19298	30.00000	Averaged
238 Coronene	1.46257	1.38920	1.38920	0.000	5.01605	30.00000	Averaged

Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Report Date: 15-Aug-2016 11:05

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P081516.b/ph15ccv.d
Lab Smp Id: CCV
Inj Date : 15-AUG-2016 10:56
Operator : 11211 Inst ID: mp.i
Smp Info : CCV,,2,4,PAH0988
Misc Info : P081516,SIMPAH10,simpah.sub
Comment :
Method : /chem/gcms/mp.i/P081516.b/SIMPAH10.m
Meth Date : 15-Aug-2016 11:05 chemist Quant Type: ISTD
Cal Date : 13-JUL-2016 01:21 Cal File: pg12ical7pcb.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: simpah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Is*Vt/Vo)*Sf * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Is	1.00000	Volume of internal std added
Vt	500.00000	Volume of final extract (uL)
Vo	10.00000	Weight of sample extract
Sf	1.00000	Split Factor

Cpnd Variable Local Compound Variable

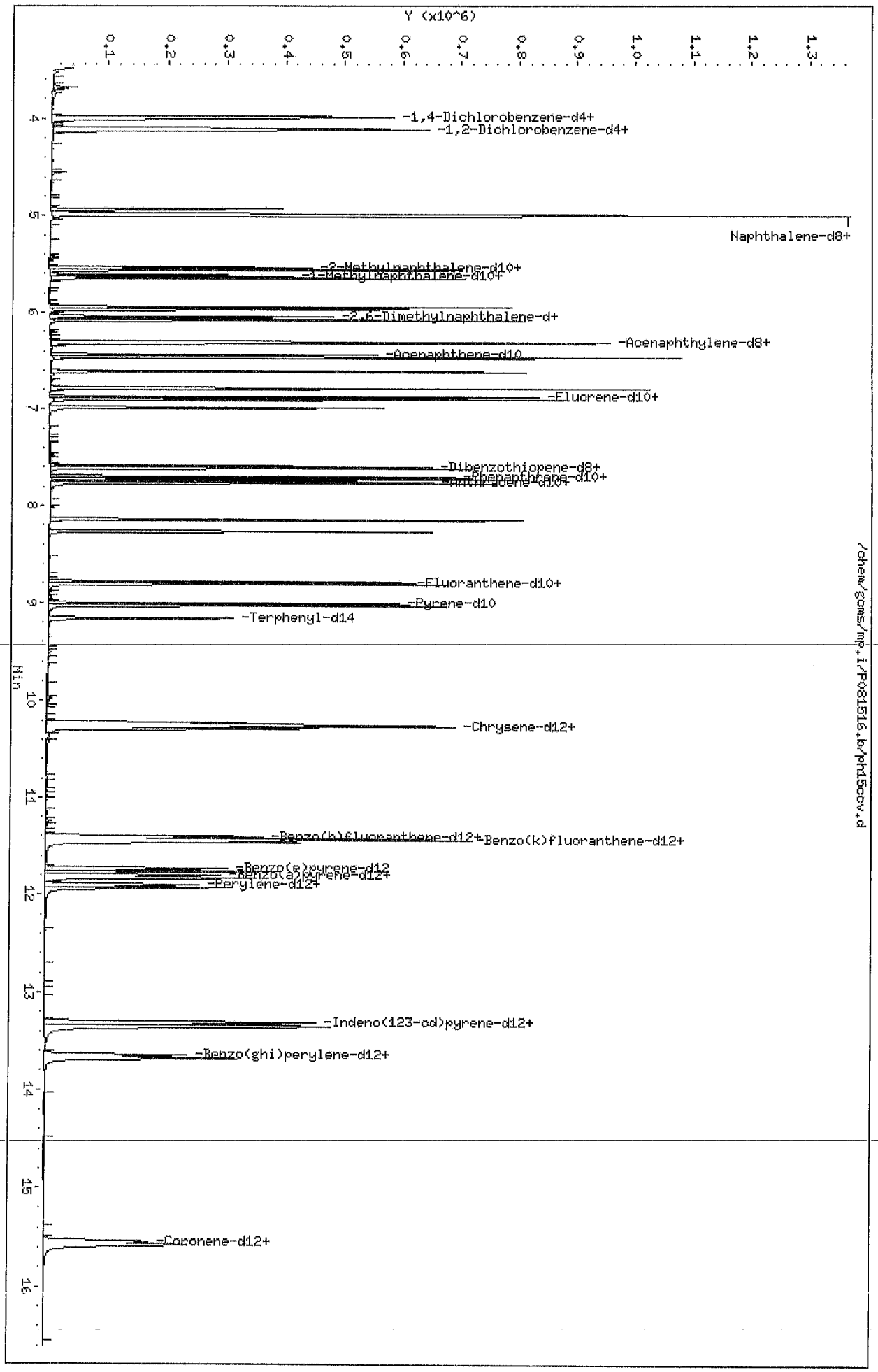
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 256 1,4-Dichlorobenzene-d4	115	3.981	3.981	(1.000)	73617	0.50000	0.500
$ 257 1,4Dichlorobenzene-d4(SS)	115	3.981	3.981	(0.618)	73617	0.50000	0.507
254 1,4-Dichlorobenzene	146	3.992	3.992	(1.003)	192224	0.50000	0.524
* 234 1,2-Dichlorobenzene-d4	115	4.104	4.104	(1.000)	79859	0.50000	0.500
$ 235 1,2-Dichlorobenzene-d4(SS)	115	4.104	4.104	(0.637)	79859	0.50000	0.537
236 1,2-Dichlorobenzene	146	4.115	4.115	(1.003)	201844	0.50000	0.518
245 1,2,4-Trichlorobenzene	180	4.930	4.930	(0.991)	169522	0.50000	0.617
* 1 Naphthalene-d8	136	4.975	4.975	(1.000)	455322	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.975	4.975	(0.773)	455322	0.50000	0.502
3 Naphthalene	128	4.994	4.994	(1.004)	458540	0.50000	0.505
$ 222 13C6-Naphthalene	134	4.994	4.994	(1.004)	523453	0.50000	0.504
* 10 2-Methylnaphthalene-d10	152	5.539	5.539	(1.000)	236131	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.539	5.539	(0.860)	236131	0.50000	0.515

Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Report Date: 15-Aug-2016 11:05

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	Compounds							
	12 2-Methylnaphthalene	142	5.561	5.561	(1.004)	315584	0.50000	0.481
*	13 1-Methylnaphthalene-d10	152	5.619	5.619	(1.000)	259389	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.619	5.619	(0.872)	259389	0.50000	0.499
	15 1-Methylnaphthalene	142	5.647	5.647	(1.005)	278413	0.50000	0.482
	16 Biphenyl	154	5.949	5.949	(0.983)	380234	0.50000	0.476
	239 2-Chloronaphthalene	162	5.972	5.972	(1.200)	292698	0.50000	0.518
*	17 2,6-Dimethylnaphthalene-d12	168	6.049	6.049	(1.000)	250395	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	6.049	6.049	(0.939)	250395	0.50000	0.530
	19 2,6 Dimethylnaphthalene	156	6.086	6.086	(1.006)	272836	0.50000	0.481
*	20 Acenaphthylene-d8	160	6.310	6.310	(1.000)	438444	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.310	6.310	(0.980)	438444	0.50000	0.526
	22 Acenaphthylene	152	6.320	6.320	(1.002)	464752	0.50000	0.472
*	23 Acenaphthene-d10	164	6.440	6.440	(1.000)	237850 ✓	0.50000	0.500
	24 Acenaphthene	154	6.466	6.466	(1.025)	270580	0.50000	0.460
	246 Dibenzofuran	168	6.611	6.611	(1.093)	411406	0.50000	0.486
	25 2,3,5 Trimethylnaphthalene	170	6.782	6.782	(1.121)	248752	0.50000	0.526
*	26 Fluorene-d10	176	6.874	6.874	(1.000)	290432	0.50000	0.500
$	233 Fluorene-d10(SS)	176	6.874	6.874	(1.067)	290432	0.50000	0.522
	27 Fluorene	166	6.897	6.897	(1.003)	325488	0.50000	0.482
	243 Diphenylamine	169	6.984	6.984	(1.016)	235625	0.50000	0.468
*	34 Dibenzothiopene-d8	192	7.591	7.591	(1.000)	402613	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.591	7.591	(0.842)	402613	0.50000	0.487
	36 Dibenzothiophene	184	7.606	7.606	(1.002)	424023	0.50000	0.485
*	41 Phenanthrene-d10	188	7.695	7.695	(1.000)	388918	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.695	7.695	(0.854)	388918	0.50000	0.483
	43 Phenanthrene	178	7.714	7.714	(1.002)	480521	0.50000	0.492
*	44 Anthracene-d10	188	7.744	7.744	(1.000)	391844	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.744	7.744	(0.859)	391844	0.50000	0.504
	46 Anthracene	178	7.760	7.760	(1.002)	468034	0.50000	0.476
	247 3-Methylphenanthrene	191	8.143	8.143	(1.058)	203066	0.50000	0.628
	52 1-Methylphenanthrene	191	8.262	8.262	(1.074)	185370	0.50000	0.550
*	53 Fluoranthene-d10	212	8.790	8.790	(1.000)	416505	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.790	8.790	(0.975)	416505	0.50000	0.526
	55 Fluoranthene	202	8.806	8.806	(1.002)	491498	0.50000	0.464
*	56 Pyrene-d10	212	9.012	9.012	(1.000)	358161 ✓	0.50000	0.500
	57 Pyrene	202	9.031	9.031	(1.027)	498372	0.50000	0.455
$	58 Terphenyl-d14	244	9.164	9.164	(1.017)	201579	0.50000	0.565
	62 Benzo(a)anthracene	228	10.247	10.247	(0.999)	400610	0.50000	0.472
*	63 Chrysene-d12	240	10.256	10.256	(1.000)	391122	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.256	10.256	(1.138)	391122	0.50000	0.521
	65 Chrysene	228	10.283	10.283	(1.003)	433225	0.50000	0.507
*	70 Benzo(b)fluoranthene-d12	264	11.404	11.404	(1.000)	341156	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.404	11.404	(0.972)	341156	0.50000	0.542
	72 Benzo(b)fluoranthene	252	11.428	11.428	(1.002)	435335	0.50000	0.463
*	73 Benzo(k)fluoranthene-d12	264	11.440	11.440	(1.000)	361784	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.440	11.440	(0.975)	361784	0.50000	0.512
	75 Benzo(k)fluoranthene	252	11.458	11.458	(1.002)	440594	0.50000	0.488

Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Report Date: 15-Aug-2016 11:05

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 76 Benzo(e)pyrene-d12	264	11.733	11.733	(1.000)	288208	0.50000	0.500
77 Benzo(e)pyrene	252	11.763	11.763	(0.997)	392993	0.50000	0.515
* 78 Benzo(a)pyrene-d12	264	11.799	11.799	(1.000)	300069	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.799	11.799	(1.006)	300069	0.50000	0.487
80 Benzo(a)pyrene	252	11.829	11.829	(1.003)	365700	0.50000	0.492
* 81 Perylene-d12	264	11.900	11.900	(1.000)	274469	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.900	11.900	(1.014)	274469	0.50000	0.433
83 Perylene	252	11.930	11.930	(1.002)	337386	0.50000	0.508
* 84 Indeno(123-cd)pyrene-d12	288	13.312	13.312	(1.000)	327847	0.50000	0.500
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.312	13.312	(1.135)	326811	0.50000	0.480
86 Indeno(1,2,3-cd)pyrene	276	13.346	13.346	(1.003)	425145	0.50000	0.482
* 87 Dibenz(ah)anthracene-d14	292	13.312	13.312	(1.000)	258942	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.312	13.312	(1.135)	258942	0.50000	0.489
89 Dibenz(a,h)anthracene	278	13.353	13.353	(1.003)	353306	0.50000	0.500
* 90 Benzo(ghi)perylene-d12	288	13.645	13.645	(1.000)	297087	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.645	13.645	(1.163)	297087	0.50000	0.457
92 Benzo(g,h,i)perylene	276	13.679	13.679	(1.002)	376454	0.50000	0.494
* 230 Coronene-d12	312	15.536	15.536	(1.000)	258967	0.50000	0.500
$ 231 Coronene-d12 (SS)	312	15.536	15.536	(1.324)	258967	0.50000	0.501
238 Coronene	300	15.577	15.577	(1.003)	359758	0.50000	0.475


Data File: /chem/gcms/mp.i/P081516.b/ph15ccv.d
Date : 15-AUG-2016 10:56
Client ID:
Sample Info: CCV,2,4,PAH0988
Purge Volume: 10.0
Column phase: Rxi-5SIL MS w/Guard
Instrument: mp.i
Operator: 11211
Column diameter: 0.25
/chem/gcms/mp.i/P081516.b/ph15ccv.d
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
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0.8
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14
15
16
-1,4-Dichlorobenzene-d4+
-1,2-Dichlorobenzene-d4+
Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Anthracene-d10+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
-Coronene-d12+

TestAmerica Knoxville GC/MS-SIM Continuing Calibration Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Analysis Date:	10/10/16	CCAL Batch/ Scan Name:	P101016	Instrument:	MP	ICAL Batch/ Scan Name:	P091516 I	Scanned ☑

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all injections in sequence within 12 hr of CCAL?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Is the %D or drift <30% for all analytes		✓			✓
5. Are the recovery standards within 50-200% of the ICAL CS4 level?		✓			✓
6. Are the MID descriptors properly set?		✓			✓
7. Are correct RFs listed in CCAL summary?		✓			✓
8. Was the correct ICAL used for quantitation? (Verify 1 RF.)		✓			✓
9. Elution order checked on isomeric pairs/coeluters?					
• 1,4 dichlorobenzene before 1,2 dichlorobenzene (& d4 isomers)		✓			✓
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,l)perylene (& d12 isomers)		✓			✓
10. Were the first/last RTs for each alkyl PAH homologue group properly identified and indicated on the chromatogram?	✓				N/A
11. If criteria were not met, was a NCM generated and approved by supervisor?	✓				N/A
12. Does the CCAL folder contain **complete** data in the following order? CCAL data review checklist, runlog, Target Continuing Calibration Report, followed by the quan report and chromatograms for the CCAL and window standard.		✓			✓

1st Level Reviewer: TM	Date: 10/11/16
Comments:	

2nd Level Reviewer: MAP	Date: 10/12/16
Comments:	

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑
Preventive Maintenance Performed: ☑ septa ☑ liner ☐ seal ☐ clip column ☐ other: see below / maint. log

Target Batch	P101016			Date	10/10/16
ICAL Batch	PD91516I			Analyst	JAC
Method	☑ KNOX-ID-0016			IS ID & vol.	n/a

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
	PJ10Hex01	12:35				
CCV	PJ10CCV	12:59				PAH1022
	PJ10Hex02	13:25				
MB	MB9871AA	13:50		Water	6273010	
LCS	MB9871AC	14:15				
H6I270412	MB9011AA	14:40				
	10/11/16 ~~11~~ PJ10Hex03	15:19		–	–	
MB	MB9871AAR	15:44		Water	6273010	TRT
LCS	MB9871ACR	16:06 9 10/11/16				
H6I270412	MB9011AAR	16:35				
	MB9071AAR	17:01				
	MB9021AA	17:26				
	MB9031AA	17:52				
	MB9081AA	18:17				
	MB9091AA	18:43				
	MB9061AA	19:09				e/e dilution
	MB9041AA	19:34				
	MB9051AA	19:59				
–	PJ10Hex04	20:25		–	–	
–	PJ10Hex05	20:50		–	–	
					10/11/16	

Comments:

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Report Date: 10-Oct-2016 13:07

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pj10ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P101016.b/SIMPAH10.m

Injection Date: 10-OCT-2016 12:59
Init. Cal. Date(s): 14-SEP-2016 15-SEP-2016
Init. Cal. Times: 17:58 14:09
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 257 1,4Dichlorobenzene-d4(SS)	0.28607	0.32372	0.32372	0.000	-13.16148	30.00000	Averaged
254 1,4-Dichlorobenzene	2.59143	2.38423	2.38423	0.000	7.99591	30.00000	Averaged
$ 235 1,2-Dichlorobenzene-d4(SS)	0.32139	0.34219	0.34219	0.000	-6.47160	30.00000	Averaged
236 1,2-Dichlorobenzene	2.26347	2.27930	2.27930	0.000	-0.69933	30.00000	Averaged
245 1,2,4-Trichlorobenzene	0.29374	0.32754	0.32754	0.000	-11.50590	30.00000	Averaged
$ 2 Naphthalene-d8(SS)	1.98036	1.90258	1.90258	0.000	3.92766	30.00000	Averaged
3 Naphthalene	1.01159	1.06302	1.06302	0.000	-5.08464	30.00000	Averaged
$ 222 13C6-Naphthalene	1.15316	1.19705	1.19705	0.000	-3.80629	30.00000	Averaged
$ 11 2-Methylnaphthalene-d10(SS)	0.99724	0.98869	0.98869	0.000	0.85768	30.00000	Averaged
12 2-Methylnaphthalene	1.37404	1.42576	1.42576	0.000	-3.76394	30.00000	Averaged
$ 14 1-Methylnaphthalene-d10(SS)	1.10269	1.09875	1.09875	0.000	0.35677	30.00000	Averaged
15 1-Methylnaphthalene	1.10040	1.09943	1.09943	0.000	0.08791	30.00000	Averaged
16 Biphenyl	1.55904	1.67593	1.67593	0.000	-7.49757	30.00000	Averaged
239 2-Chloronaphthalene	0.61671	0.68109	0.68109	0.000	-10.43810	30.00000	Averaged
$ 18 2,6-Dimethylnaph-d12(SS)	1.04322	1.04582	1.04582	0.000	-0.24957	30.00000	Averaged
19 2,6 Dimethylnaphthalene	1.14623	1.20050	1.20050	0.000	-4.73439	30.00000	Averaged
$ 21 Acenaphthylene-d8(SS)	1.77577	1.79735	1.79735	0.000	-1.21516	30.00000	Averaged
22 Acenaphthylene	1.09205	1.13097	1.13097	0.000	-3.56417	30.00000	Averaged
24 Acenaphthene	0.66105	0.69039	0.69039	0.000	-4.43925	30.00000	Averaged
246 Dibenzofuran	1.64719	1.77940	1.77940	0.000	-8.02667	30.00000	Averaged
25 2,3,5 Trimethylnaphthalene	0.97198	1.03860	1.03860	0.000	-6.85472	30.00000	Averaged
$ 233 Fluorene-d10(SS)	1.18776	1.25456	1.25456	0.000	-5.62396	30.00000	Averaged
27 Fluorene	1.15807 ✓	1.19749	1.19749	0.000	-3.40379	30.00000	Averaged
243 Diphenylamine	0.77859	0.82954	0.82954	0.000	-6.54390	30.00000	Averaged
$ 35 Dibenzothiopene-d8(SS)	1.18388	1.17035	1.17035	0.000	1.14300	30.00000	Averaged
36 Dibenzothiophene	1.07905	1.07882	1.07882	0.000	0.02083	30.00000	Averaged
$ 42 Phenanthrene-d10(SS)	1.15045	1.10011	1.10011	0.000	4.37604	30.00000	Averaged
43 Phenanthrene	1.25316	1.27109	1.27109	0.000	-1.43120	30.00000	Averaged
$ 45 Anthracene-d10(SS)	1.05750	1.08524	1.08524	0.000	-2.62277	30.00000	Averaged
46 Anthracene	1.27248	1.24541	1.24541	0.000	2.12759	30.00000	Averaged
247 3-Methylphenanthrene	0.42762	0.48596	0.48596	0.000	-13.64347	30.00000	Averaged
52 1-Methylphenanthrene	0.42442	0.48512	0.48512	0.000	-14.30293	30.00000	Averaged
$ 54 Fluoranthene-d10(SS)	1.11044	1.20882	1.20882	0.000	-8.85977	30.00000	Averaged
55 Fluoranthene	1.27463	1.24253	1.24253	0.000	2.51871	30.00000	Averaged
57 Pyrene	1.31113 ✓	1.27058	1.27058	0.000	3.09286	30.00000	Averaged
$ 58 Terphenyl-d14	0.53414	0.59953	0.59953	0.000	-12.24077	30.00000	Averaged

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Report Date: 10-Oct-2016 13:07

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pj10ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P101016.b/SIMPAH10.m

Injection Date: 10-OCT-2016 12:59
Init. Cal. Date(s): 14-SEP-2016 15-SEP-2016
Init. Cal. Times: 17:58 14:09
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
62 Benzo(a)anthracene	0.88748	1.01813	1.01813	0.000	-14.72121	30.00000	Averaged
$ 64 Chrysene-d12(SS)	1.17807	1.24239	1.24239	0.000	-5.46001	30.00000	Averaged
65 Chrysene	1.05451	1.08232	1.08232	0.000	-2.63672	30.00000	Averaged
$ 71 Benzo(b)fluoranthene-d12(SS	1.04944	1.20314	1.20314	0.000	-14.64595	30.00000	Averaged
72 Benzo(b)fluoranthene	1.44460	1.28741	1.28741	0.000	10.88131	30.00000	Averaged
$ 74 Benzo(k)fluoranthene-d12(SS	1.29764	1.35303	1.35303	0.000	-4.26855	30.00000	Averaged
75 Benzo(k)fluoranthene	1.17695	1.22727	1.22727	0.000	-4.27495	30.00000	Averaged
77 Benzo(e)pyrene	1.53501	1.38179	1.38179	0.000	9.98192	30.00000	Averaged
$ 79 Benzo(a)pyrene-d12(SS)	0.88669	1.06596	1.06596	0.000	-20.21741	30.00000	Averaged
80 Benzo(a)pyrene	1.33286	1.26599	1.26599	0.000	5.01771	30.00000	Averaged
$ 82 Perylene-d12(SS)	1.01638	1.05427	1.05427	0.000	-3.72833	30.00000	Averaged
83 Perylene	1.18177	1.21964	1.21964	0.000	-3.20468	30.00000	Averaged
$ 85 Indeno(123-cd)pyrene-d12(SS	1.05384	1.26626	1.26626	0.000	-20.15692	30.00000	Averaged
86 Indeno(1,2,3-cd)pyrene	1.34547	1.30053	1.30053	0.000	3.34031	30.00000	Averaged
$ 88 Dibenz(ah)anthracene-d14(SS	0.84249	0.98968	0.98968	0.000	-17.47002	30.00000	Averaged
89 Dibenz(a,h)anthracene	1.40549	1.37259	1.37259	0.000	2.34135	30.00000	Averaged
$ 91 Benzo(ghi)perylene-d12(SS)	1.04014	1.16065	1.16065	0.000	-11.58580	30.00000	Averaged
92 Benzo(g,h,i)perylene	1.25807	1.25399	1.25399	0.000	0.32473	30.00000	Averaged
$ 231 Coronene-d12 (SS)	0.78337	0.99134	0.99134	0.000	-26.54868	30.00000	Averaged
238 Coronene	1.41723	1.41149	1.41149	0.000	0.40485	30.00000	Averaged

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Report Date: 10-Oct-2016 13:07

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P101016.b/pj10ccv.d
Lab Smp Id: CCV
Inj Date : 10-OCT-2016 12:59
Operator : 011211 Inst ID: mp.i
Smp Info : CCV,,2,4,PAH1022
Misc Info : P101016,SIMPAH10,simpah.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: simpah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Is*Vt/Vo)*Sf * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Is	1.00000	Volume of internal std added
Vt	500.00000	Volume of final extract (uL)
Vo	10.00000	Weight of sample extract
Sf	1.00000	Split Factor

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 256 1,4-Dichlorobenzene-d4	115	3.947	3.947	(1.000)	87943	0.50000	0.500
$ 257 1,4Dichlorobenzene-d4(SS)	115	3.947	3.947	(0.616)	88052	0.50000	0.566
254 1,4-Dichlorobenzene	146	3.958	3.958	(1.003)	209676	0.50000	0.460
* 234 1,2-Dichlorobenzene-d4	115	4.070	4.070	(1.000)	93077	0.50000	0.500
$ 235 1,2-Dichlorobenzene-d4(SS)	115	4.070	4.070	(0.635)	93077	0.50000	0.532
236 1,2-Dichlorobenzene	146	4.082	4.082	(1.003)	212151	0.50000	0.503
245 1,2,4-Trichlorobenzene	180	4.902	4.902	(0.993)	169503	0.50000	0.558
* 1 Naphthalene-d8	136	4.939	4.939	(1.000)	517508	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.939	4.939	(0.771)	517508	0.50000	0.480
3 Naphthalene	128	4.957	4.957	(1.004)	550122	0.50000	0.525
$ 222 13C6-Naphthalene	134	4.957	4.957	(1.004)	619484	0.50000	0.519
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	268166	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	268927	0.50000	0.496

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Report Date: 10-Oct-2016 13:07

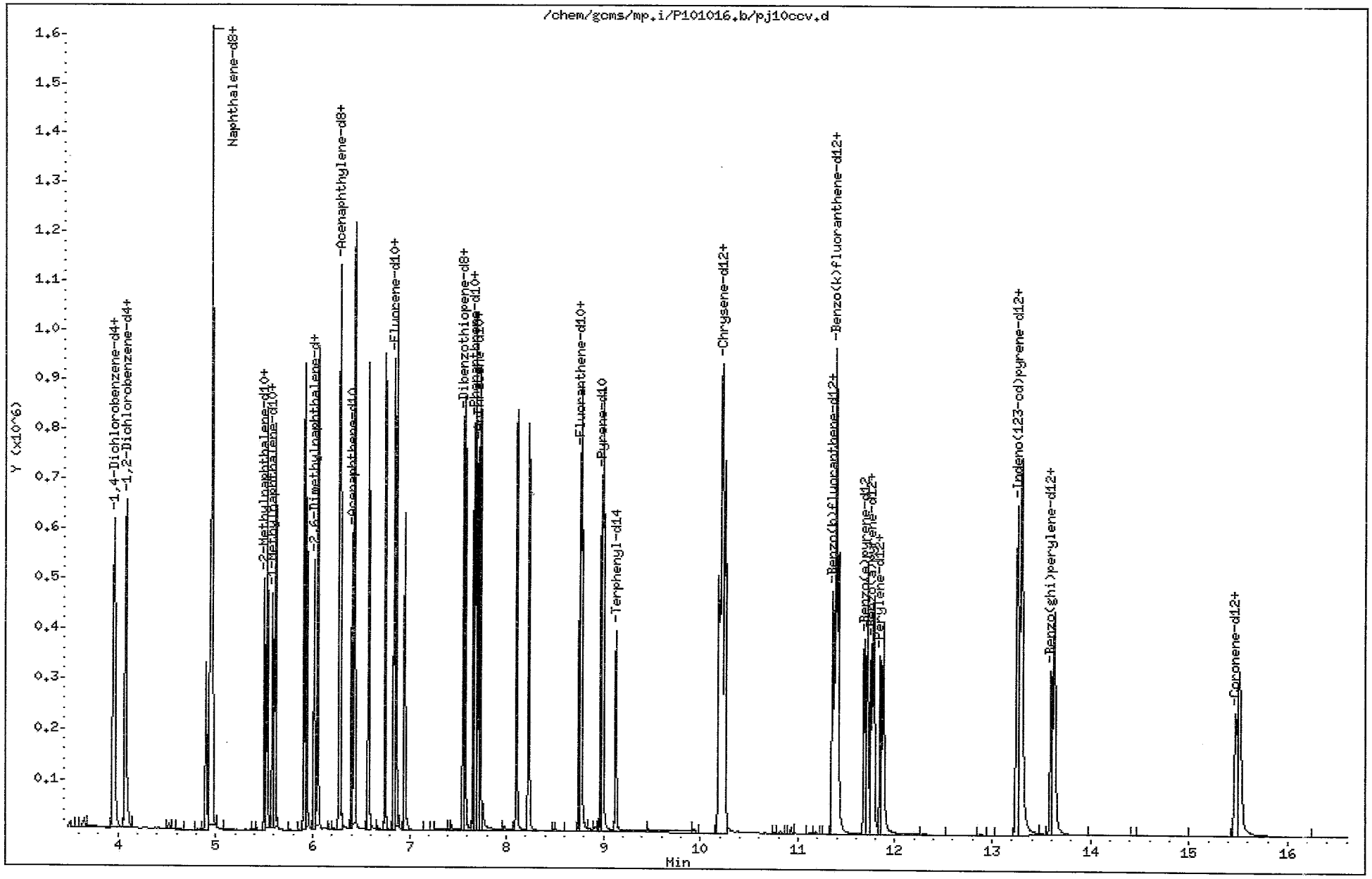
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	12 2-Methylnaphthalene	142	5.527	5.527	(1.004)	382340	0.50000	0.519
*	13 1-Methylnaphthalene-d10	152	5.584	5.584	(1.000)	299057	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.584	5.584	(0.872)	298865	0.50000	0.498
	15 1-Methylnaphthalene	142	5.612	5.612	(1.005)	328792	0.50000	0.500
	16 Biphenyl	154	5.914	5.914	(0.983)	477875	0.50000	0.537
	239 2-Chloronaphthalene	162	5.937	5.937	(1.202)	352468	0.50000	0.552
*	17 2,6-Dimethylnaphthalene-d12	168	6.014	6.014	(1.000)	285141	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	6.014	6.014	(0.939)	284466	0.50000	0.501
	19 2,6 Dimethylnaphthalene	156	6.051	6.051	(1.006)	342310	0.50000	0.524
*	20 Acenaphthylene-d8	160	6.271	6.271	(1.000)	488886	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.271	6.271	(0.979)	488886	0.50000	0.506
	22 Acenaphthylene	152	6.286	6.286	(1.002)	552916	0.50000	0.518
*	23 Acenaphthene-d10	164	6.406	6.406	(1.000)	272003 ✓	0.50000	0.500
	24 Acenaphthene	154	6.432	6.432	(1.026)	337524	0.50000	0.522
	246 Dibenzofuran	168	6.577	6.577	(1.094)	507380	0.50000	0.540
	25 2,3,5 Trimethylnaphthalene	170	6.747	6.747	(1.122)	296149	0.50000	0.534
*	26 Fluorene-d10	176	6.837	6.837	(1.000)	341927	0.50000	0.500
$	233 Fluorene-d10(SS)	176	6.837	6.837	(1.067)	341245	0.50000	0.528
	27 Fluorene	166	6.861	6.861	(1.003)	409455	0.50000	0.517
	243 Diphenylamine	169	6.952	6.952	(1.017)	283643	0.50000	0.533
*	34 Dibenzothiopene-d8	192	7.556	7.556	(1.000)	503589	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.556	7.556	(0.842)	503589	0.50000	0.494
	36 Dibenzothiophene	184	7.571	7.571	(1.002)	543283	0.50000	0.500
*	41 Phenanthrene-d10	188	7.660	7.660	(1.000)	473365	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.660	7.660	(0.854)	473365	0.50000	0.478
	43 Phenanthrene	178	7.679	7.679	(1.002)	601692	0.50000	0.507
*	44 Anthracene-d10	188	7.709	7.709	(1.000)	466967	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.709	7.709	(0.859)	466967	0.50000	0.513
	46 Anthracene	178	7.725	7.725	(1.002)	581567	0.50000	0.489
	247 3-Methylphenanthrene	191	8.106	8.106	(1.058)	230037	0.50000	0.568
	52 1-Methylphenanthrene	191	8.228	8.228	(1.074)	229641	0.50000	0.572
*	53 Fluoranthene-d10	212	8.750	8.750	(1.000)	520145	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.750	8.750	(0.975)	520145	0.50000	0.544
	55 Fluoranthene	202	8.769	8.769	(1.002)	646295	0.50000	0.487
*	56 Pyrene-d10	212	8.972	8.972	(1.000)	430290 ✓	0.50000	0.500
	57 Pyrene	202	8.991	8.991	(1.028)	660887	0.50000	0.485
$	58 Terphenyl-d14	244	9.124	9.124	(1.017)	257970	0.50000	0.561
	62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	544412	0.50000	0.574
*	63 Chrysene-d12	240	10.219	10.219	(1.000)	534717	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	534589	0.50000	0.527
	65 Chrysene	228	10.246	10.246	(1.003)	578733	0.50000	0.513
*	70 Benzo(b)fluoranthene-d12	264	11.355	11.355	(1.000)	446129	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.355	11.355	(0.972)	446129	0.50000	0.573
	72 Benzo(b)fluoranthene	252	11.385	11.385	(1.003)	574351	0.50000	0.446
*	73 Benzo(k)fluoranthene-d12	264	11.391	11.391	(1.000)	501709	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.391	11.391	(0.975)	501709	0.50000	0.521
	75 Benzo(k)fluoranthene	252	11.415	11.415	(1.002)	615732	0.50000	0.521

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Report Date: 10-Oct-2016 13:07

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 76 Benzo(e)pyrene-d12	264	11.684	11.684	(1.000)	370803	0.50000	0.500
77 Benzo(e)pyrene	252	11.714	11.714	(0.997)	546167	0.50000	0.450
* 78 Benzo(a)pyrene-d12	264	11.750	11.750	(1.000)	395262	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.750	11.750	(1.006)	395262	0.50000	0.601
80 Benzo(a)pyrene	252	11.780	11.780	(1.003)	500395	0.50000	0.475
* 81 Perylene-d12	264	11.845	11.845	(1.000)	390928	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.845	11.845	(1.014)	390928	0.50000	0.519
83 Perylene	252	11.881	11.881	(1.003)	476793	0.50000	0.516
* 84 Indeno(123-cd)pyrene-d12	288	13.249	13.249	(1.000)	465406	0.50000	0.500
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.249	13.249	(1.134)	469535	0.50000	0.601
86 Indeno(1,2,3-cd)pyrene	276	13.283	13.283	(1.003)	605274	0.50000	0.483
* 87 Dibenz(ah)anthracene-d14	292	13.249	13.249	(1.000)	366975	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.249	13.249	(1.134)	366975	0.50000	0.587
89 Dibenz(a,h)anthracene	278	13.290	13.290	(1.003)	503705	0.50000	0.488
* 90 Benzo(ghi)perylene-d12	288	13.589	13.589	(1.000)	430371	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.589	13.589	(1.163)	430371	0.50000	0.558
92 Benzo(g,h,i)perylene	276	13.623	13.623	(1.002)	539680	0.50000	0.498
* 230 Coronene-d12	312	15.474	15.474	(1.000)	367593	0.50000	0.500
$ 231 Coronene-d12 (SS)	312	15.474	15.474	(1.324)	367593	0.50000	0.633
238 Coronene	300	15.514	15.514	(1.003)	518855	0.50000	0.498

Data File: /chem/gcms/mp.i/P101016.b/pj10ccv.d
Date : 10-OCT-2016 12:59
Client ID:
Sample Info: CCV,,2,4,PAH1022
Purge Volume: 10.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



TestAmerica Knoxville GC/MS-SIM Continuing Calibration Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Analysis Date:	10/11/16	CCAL Batch/ Scan Name:	P101116	Instrument:	MP	ICAL Batch/ Scan Name:	P091516-F	Scanned ☑

A. Review Items	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all injections in sequence within 12 hr of CCAL?		✓			✓
2. Was date/time of analysis verified between header and logbook?		✓			✓
3. Are peak integrations appropriate?		✓			✓
4. Is the %D or drift <30% for all analytes		✓			✓
5. Are the recovery standards within 50-200% of the ICAL CS4 level?		✓			✓
6. Are the MID descriptors properly set?		✓			✓
7. Are correct RFs listed in CCAL summary?		✓			✓
8. Was the correct ICAL used for quantitation? (Verify 1 RF.)		✓			✓
9. Elution order checked on isomeric pairs/coeluters?					
• 1,4 dichlorobenzene before 1,2 dichlorobenzene (& d4 isomers)		✓			✓
• 2-methylnaphthalene before 1-methylnaphthalene (& d10 isomers)		✓			✓
• acenaphthylene before acenaphthene (& d10 isomers)		✓			✓
• dibenzothiophene before anthracene		✓			✓
• phenanthrene before anthracene (& d10 isomers)		✓			✓
• fluoranthene before pyrene (& d10 isomers)		✓			✓
• benzo(a)anthracene before chrysene (& d12 isomers)		✓			✓
• benzo(b)fluoranthene before benzo(k)fluoranthene (& d12 isomers)		✓			✓
• benzo(e)pyrene before benzo(a)pyrene benzo(a)pyrene before perylene (& d12 isomers)		✓			✓
• Indeno(1,2,3-cd)pyrene before benzo(g,h,i)perylene (& d12 isomers)		✓			✓
10. Were the first/last RTs for each alkyl PAH homologue group properly identified and indicated on the chromatogram?	✓				NA
11. If criteria were not met, was a NCM generated and approved by supervisor?	✓				NA
12. Does the CCAL folder contain **complete** data in the following order? CCAL data review checklist, runlog, Target Continuing Calibration Report, followed by the quan report and chromatograms for the CCAL and window standard.		✓			✓

1st Level Reviewer:	Date: 10/12/16
Comments:	

2nd Level Reviewer:	Date: 10/13/16
Comments:	

TestAmerica Knoxville
Instrument MP Run/Maintenance Log

Date/Time Verified ☑
Preventive Maintenance Performed: ☑ septa ☑ liner ☐ seal ☐ clip column ☐ other: see below / maint. log

Target Batch	P101116			Date	10/11/16
ICAL Batch	P091516I			Analyst	JRL
Method	☑ KNOX-ID-0016			IS ID & vol.	N/A

Lot	Filename	Time	Dil.	Matrix	Batch	Comments
	PJ11Hex01	10:59				
CCV	PJ11CCV	11:24				PAH 1022
	PJ11Hex02	11:49				
MB	M9CAH1AA	12:14		XAD	6278040	
MB	M9AP11AA	12:39			6274011	
LCS	M9AP11AC	13:05				(M9CAH1AC)
LCSD	M9AP11AD	13:30				(M9CAH1AD)
H6I270412	M89061AA	13:56	3	Water	6273010	
H6I290428	M9AKW1AA	14:21		XAD	6274011	
	M9AJ01AA	14:47				
	M9AJ31AA	15:13				
	M9AJ61AA	15:38				
	M9AJ91AA	16:04				
	M9AKD1AA	16:29				
	M9AKK1AA	16:55				
	M9AHW1AA	17:21			6278040	R/R P dilution
	M9AH11AA	17:46				
	M9AH41AA	18:12				
	M9AH71AA	18:38				
	M9AJA1AA	19:05				
	M9AJE1AA	19:29				
	M9AJH1AA	19:54				
	M9AJV1AA	20:20				R/R Sk.
	M9AKN1AA	20:45			10/12/16 6274011	
—	PJ11Hex03	21:10		—	—	
H6I290428	M9AHW1AAR	21:36	50	XAD	6278040	10ml to 500ml R/R
	M9AH11AAR	22:01	5			20ml to 100ml
	M9AH41AAR	22:26	25			10ml to 250ml
	M9AH71AAR	22:51	3			30ml to 90ml
	M9AJA1AAR	23:16	25			20ml to 250ml

Comments:

Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Report Date: 11-Oct-2016 11:31

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pj11ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P101116.b/SIMPAH10.m

Injection Date: 11-OCT-2016 11:24
Init. Cal. Date(s): 14-SEP-2016 15-SEP-2016
Init. Cal. Times: 17:58 14:09
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 257 1,4Dichlorobenzene-d4(SS)	0.28607	0.31829	0.31829	0.000	-11.26494	30.00000	Averaged
254 1,4-Dichlorobenzene	2.59143	2.44754	2.44754	0.000	5.55269	30.00000	Averaged
$ 235 1,2-Dichlorobenzene-d4(SS)	0.32139	0.32361	0.32361	0.000	-0.68975	30.00000	Averaged
236 1,2-Dichlorobenzene	2.26347	2.39132	2.39132	0.000	-5.64802	30.00000	Averaged
245 1,2,4-Trichlorobenzene	0.29374	0.32422	0.32422	0.000	-10.37608	30.00000	Averaged
$ 2 Naphthalene-d8(SS)	1.98036	1.91737	1.91737	0.000	3.18082	30.00000	Averaged
3 Naphthalene	1.01159 ✓	1.05580	1.05580	0.000	-4.37098	30.00000	Averaged
$ 222 13C6-Naphthalene	1.15316	1.19117	1.19117	0.000	-3.29627	30.00000	Averaged
$ 11 2-Methylnaphthalene-d10(SS)	0.99724	0.97869	0.97869	0.000	1.86018	30.00000	Averaged
12 2-Methylnaphthalene	1.37404	1.43455	1.43455	0.000	-4.40422	30.00000	Averaged
$ 14 1-Methylnaphthalene-d10(SS)	1.10269	1.09275	1.09275	0.000	0.90155	30.00000	Averaged
15 1-Methylnaphthalene	1.10040	1.10321	1.10321	0.000	-0.25554	30.00000	Averaged
16 Biphenyl	1.55904	1.69518	1.69518	0.000	-8.73228	30.00000	Averaged
239 2-Chloronaphthalene	0.61671	0.67079	0.67079	0.000	-8.76895	30.00000	Averaged
$ 18 2,6-Dimethylnaph-d12(SS)	1.04322	1.03682	1.03682	0.000	0.61283	30.00000	Averaged
19 2,6 Dimethylnaphthalene	1.14623	1.16332	1.16332	0.000	-1.49095	30.00000	Averaged
$ 21 Acenaphthylene-d8(SS)	1.77577	1.74838	1.74838	0.000	1.54292	30.00000	Averaged
22 Acenaphthylene	1.09205	1.15035	1.15035	0.000	-5.33868	30.00000	Averaged
24 Acenaphthene	0.66105	0.70760	0.70760	0.000	-7.04247	30.00000	Averaged
246 Dibenzofuran	1.64719	1.79721	1.79721	0.000	-9.10774	30.00000	Averaged
25 2,3,5 Trimethylnaphthalene	0.97198	1.03398	1.03398	0.000	-6.37844	30.00000	Averaged
$ 233 Fluorene-d10(SS)	1.18776	1.24520	1.24520	0.000	-4.83543	30.00000	Averaged
27 Fluorene	1.15807	1.20050	1.20050	0.000	-3.66327	30.00000	Averaged
243 Diphenylamine	0.77859	0.79245	0.79245	0.000	-1.77961	30.00000	Averaged
$ 35 Dibenzothiopene-d8(SS)	1.18388	1.17992	1.17992	0.000	0.33452	30.00000	Averaged
36 Dibenzothiophene	1.07905	1.08740	1.08740	0.000	-0.77432	30.00000	Averaged
$ 42 Phenanthrene-d10(SS)	1.15045	1.11263	1.11263	0.000	3.28703	30.00000	Averaged
43 Phenanthrene	1.25316	1.27375	1.27375	0.000	-1.64336	30.00000	Averaged
$ 45 Anthracene-d10(SS)	1.05750	1.05637	1.05637	0.000	0.10744	30.00000	Averaged
46 Anthracene	1.27248	1.28356	1.28356	0.000	-0.87011	30.00000	Averaged
247 3-Methylphenanthrene	0.42762	0.47496	0.47496	0.000	-11.07091	30.00000	Averaged
52 1-Methylphenanthrene	0.42442	0.47520	0.47520	0.000	-11.96455	30.00000	Averaged
$ 54 Fluoranthene-d10(SS)	1.11044	1.20040	1.20040	0.000	-8.10095	30.00000	Averaged
55 Fluoranthene	1.27463	1.26092	1.26092	0.000	1.07554	30.00000	Averaged
57 Pyrene	1.31113	1.29602	1.29602	0.000	1.15265	30.00000	Averaged
$ 58 Terphenyl-d14	0.53414	0.59138	0.59138	0.000	-10.71582	30.00000	Averaged

Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Report Date: 11-Oct-2016 11:31

TestAmerica Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mp.i
Lab File ID: pj11ccv.d
Analysis Type: SOIL
Lab Sample ID: CCV
Method: /chem/gcms/mp.i/P101116.b/SIMPAH10.m

Injection Date: 11-OCT-2016 11:24
Init. Cal. Date(s): 14-SEP-2016 15-SEP-2016
Init. Cal. Times: 17:58 14:09
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF0.500	CCAL RRF0.500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
62 Benzo(a)anthracene	0.88748	1.02992	1.02992	0.000	-16.04949	30.00000	Averaged
$ 64 Chrysene-d12(SS)	1.17807	1.21356	1.21356	0.000	-3.01263	30.00000	Averaged
65 Chrysene	1.05451	1.09362	1.09362	0.000	-3.70855	30.00000	Averaged
$ 71 Benzo(b)fluoranthene-d12(SS	1.04944	1.21876	1.21876	0.000	-16.13399	30.00000	Averaged
72 Benzo(b)fluoranthene	1.44460 ✓	1.32773	1.32773	0.000	8.09068	30.00000	Averaged
$ 74 Benzo(k)fluoranthene-d12(SS	1.29764	1.35970	1.35970	0.000	-4.78210	30.00000	Averaged
75 Benzo(k)fluoranthene	1.17695	1.21350	1.21350	0.000	-3.10519	30.00000	Averaged
77 Benzo(e)pyrene	1.53501	1.42076	1.42076	0.000	7.44288	30.00000	Averaged
$ 79 Benzo(a)pyrene-d12(SS)	0.88669	1.03734	1.03734	0.000	-16.98979	30.00000	Averaged
80 Benzo(a)pyrene	1.33286	1.35904	1.35904	0.000	-1.96405	30.00000	Averaged
$ 82 Perylene-d12(SS)	1.01638	1.05342	1.05342	0.000	-3.64440	30.00000	Averaged
83 Perylene	1.18177	1.21567	1.21567	0.000	-2.86815	30.00000	Averaged
$ 85 Indeno(123-cd)pyrene-d12(SS	1.05384	1.21892	1.21892	0.000	-15.66400	30.00000	Averaged
86 Indeno(1,2,3-cd)pyrene	1.34547	1.29016	1.29016	0.000	4.11114	30.00000	Averaged
$ 88 Dibenz(ah)anthracene-d14(SS	0.84249	0.96233	0.96233	0.000	-14.22385	30.00000	Averaged
89 Dibenz(a,h)anthracene	1.40549	1.36915	1.36915	0.000	2.58573	30.00000	Averaged
$ 91 Benzo(ghi)perylene-d12(SS)	1.04014	1.16392	1.16392	0.000	-11.90096	30.00000	Averaged
92 Benzo(g,h,i)perylene	1.25807	1.23412	1.23412	0.000	1.90362	30.00000	Averaged
$ 231 Coronene-d12 (SS)	0.78337	0.81237	0.81237	0.000	-3.70177	30.00000	Averaged
238 Coronene	1.41723	1.42142	1.42142	0.000	-0.29566	30.00000	Averaged

Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Report Date: 11-Oct-2016 11:31

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /chem/gcms/mp.i/P101116.b/pj11ccv.d
Lab Smp Id: CCV
Inj Date : 11-OCT-2016 11:24
Operator : 011211 Inst ID: mp.i
Smp Info : CCV,,2,4,PAH1022
Misc Info : P101116,SIMPAH10,simpah.sub
Comment :
Method : /chem/gcms/mp.i/P101116.b/SIMPAH10.m
Meth Date : 11-Oct-2016 11:31 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: simpah.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * (Is*Vt/Vo)*Sf * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Is	1.00000	Volume of internal std added
Vt	500.00000	Volume of final extract (uL)
Vo	10.00000	Weight of sample extract
Sf	1.00000	Split Factor

Cpnd Variable Local Compound Variable

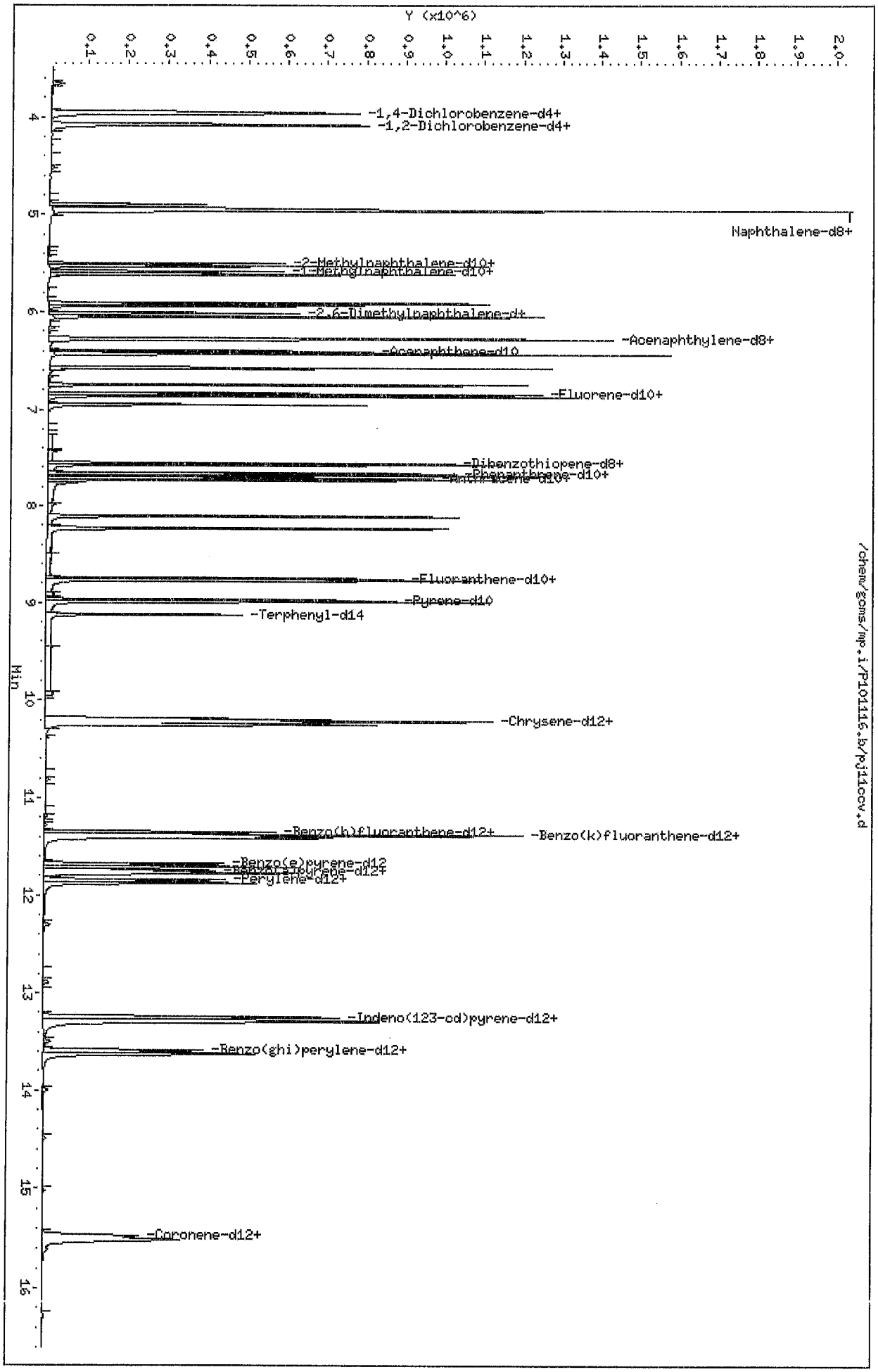
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 256 1,4-Dichlorobenzene-d4	115	3.947	3.947	(1.000)	108454	0.50000	0.500
$ 257 1,4Dichlorobenzene-d4(SS)	115	3.947	3.947	(0.617)	108464	0.50000	0.556
254 1,4-Dichlorobenzene	146	3.958	3.958	(1.003)	265445	0.50000	0.472
* 234 1,2-Dichlorobenzene-d4	115	4.071	4.071	(1.000)	111087	0.50000	0.500
$ 235 1,2-Dichlorobenzene-d4(SS)	115	4.071	4.071	(0.636)	110275	0.50000	0.503
236 1,2-Dichlorobenzene	146	4.082	4.082	(1.003)	265644	0.50000	0.528
245 1,2,4-Trichlorobenzene	180	4.893	4.893	(0.991)	211064	0.50000	0.552
* 1 Naphthalene-d8	136	4.939	4.939	(1.000)	650995	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.939	4.939	(0.771)	653378	0.50000	0.484
3 Naphthalene	128	4.957	4.957	(1.004)	687322	0.50000	0.522
$ 222 13C6-Naphthalene	134	4.957	4.957	(1.004)	775445	0.50000	0.516
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	332690	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.860)	333507	0.50000	0.491

Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Report Date: 11-Oct-2016 11:31

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
	12 2-Methylnaphthalene	142	5.527	5.527	(1.004)	477263	0.50000	0.522
*	13 1-Methylnaphthalene-d10	152	5.584	5.584	(1.000)	372599	0.50000	0.500
$	14 1-Methylnaphthalene-d10(SS)	152	5.584	5.584	(0.872)	372373	0.50000	0.495
	15 1-Methylnaphthalene	142	5.612	5.612	(1.005)	411054	0.50000	0.501
	16 Biphenyl	154	5.914	5.914	(0.983)	598933	0.50000	0.544
	239 2-Chloronaphthalene	162	5.937	5.937	(1.202)	436682	0.50000	0.544
*	17 2,6-Dimethylnaphthalene-d12	168	6.015	6.015	(1.000)	353316	0.50000	0.500
$	18 2,6-Dimethylnaph-d12(SS)	168	6.015	6.015	(0.939)	353316	0.50000	0.497
	19 2,6 Dimethylnaphthalene	156	6.046	6.046	(1.005)	411019	0.50000	0.507
*	20 Acenaphthylene-d8	160	6.271	6.271	(1.000)	595791	0.50000	0.500
$	21 Acenaphthylene-d8(SS)	160	6.271	6.271	(0.980)	595791	0.50000	0.492
	22 Acenaphthylene	152	6.281	6.281	(1.002)	685367	0.50000	0.527
*	23 Acenaphthene-d10	164	6.402	6.402	(1.000)	340768	0.50000	0.500
	24 Acenaphthene	154	6.427	6.427	(1.025)	421582	0.50000	0.535
	246 Dibenzofuran	168	6.573	6.573	(1.093)	634982	0.50000	0.546
	25 2,3,5 Trimethylnaphthalene	170	6.747	6.747	(1.122)	365320	0.50000	0.532
*	26 Fluorene-d10	176	6.838	6.838	(1.000)	425992	0.50000	0.500
$	233 Fluorene-d10(SS)	176	6.838	6.838	(1.068)	424323	0.50000	0.524
	27 Fluorene	166	6.862	6.862	(1.003)	511401	0.50000	0.518
	243 Diphenylamine	169	6.948	6.948	(1.016)	337576	0.50000	0.509
*	34 Dibenzothiopene-d8	192	7.554	7.554	(1.000)	627922	0.50000	0.500
$	35 Dibenzothiopene-d8(SS)	192	7.554	7.554	(0.842)	627922	0.50000	0.498
	36 Dibenzothiophene	184	7.569	7.569	(1.002)	682804	0.50000	0.504
*	41 Phenanthrene-d10	188	7.658	7.658	(1.000)	592115	0.50000	0.500
$	42 Phenanthrene-d10(SS)	188	7.658	7.658	(0.854)	592115	0.50000	0.484
	43 Phenanthrene	178	7.676	7.676	(1.002)	754209	0.50000	0.508
*	44 Anthracene-d10	188	7.707	7.707	(1.000)	562170	0.50000	0.500
$	45 Anthracene-d10(SS)	188	7.707	7.707	(0.859)	562170	0.50000	0.499
	46 Anthracene	178	7.722	7.722	(1.002)	721578	0.50000	0.504
	247 3-Methylphenanthrene	191	8.103	8.103	(1.058)	281231	0.50000	0.555
	52 1-Methylphenanthrene	191	8.225	8.225	(1.074)	281373	0.50000	0.560
*	53 Fluoranthene-d10	212	8.748	8.748	(1.000)	638820	0.50000	0.500
$	54 Fluoranthene-d10(SS)	212	8.748	8.748	(0.975)	638820	0.50000	0.541
	55 Fluoranthene	202	8.767	8.767	(1.002)	805504	0.50000	0.495
*	56 Pyrene-d10	212	8.970	8.970	(1.000)	532174	0.50000	0.500
	57 Pyrene	202	8.989	8.989	(1.028)	827924	0.50000	0.494
$	58 Terphenyl-d14	244	9.122	9.122	(1.017)	314718	0.50000	0.554
	62 Benzo(a)anthracene	228	10.202	10.202	(0.998)	665394	0.50000	0.580
*	63 Chrysene-d12	240	10.220	10.220	(1.000)	646064	0.50000	0.500
$	64 Chrysene-d12(SS)	240	10.220	10.220	(1.139)	645825	0.50000	0.515
	65 Chrysene	228	10.247	10.247	(1.003)	706547	0.50000	0.519
*	70 Benzo(b)fluoranthene-d12	264	11.354	11.354	(1.000)	546098	0.50000	0.500
$	71 Benzo(b)fluoranthene-d12(SS)	264	11.354	11.354	(0.972)	546098	0.50000	0.581
	72 Benzo(b)fluoranthene	252	11.378	11.378	(1.002)	725069	0.50000	0.460
*	73 Benzo(k)fluoranthene-d12	264	11.390	11.390	(1.000)	609251	0.50000	0.500
$	74 Benzo(k)fluoranthene-d12(SS)	264	11.390	11.390	(0.975)	609251	0.50000	0.524
	75 Benzo(k)fluoranthene	252	11.407	11.407	(1.002)	739327	0.50000	0.516

Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Report Date: 11-Oct-2016 11:31

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)
* 76 Benzo(e)pyrene-d12	264	11.676	11.676	(1.000)	448078 ✓	0.50000	0.500
77 Benzo(e)pyrene	252	11.712	11.712	(0.997)	660392	0.50000	0.463
* 78 Benzo(a)pyrene-d12	264	11.748	11.748	(1.000)	464816	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.748	11.748	(1.006)	464810	0.50000	0.585
80 Benzo(a)pyrene	252	11.772	11.772	(1.002)	631705	0.50000	0.510
* 81 Perylene-d12	264	11.844	11.844	(1.000)	472014	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.844	11.844	(1.014)	472014	0.50000	0.518
83 Perylene	252	11.874	11.874	(1.003)	573812	0.50000	0.514
* 84 Indeno(123-cd)pyrene-d12	288	13.247	13.247	(1.000)	546169	0.50000	0.500
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.247	13.247	(1.135)	546169	0.50000	0.578
86 Indeno(1,2,3-cd)pyrene	276	13.281	13.281	(1.003)	704644	0.50000	0.479
* 87 Dibenz(ah)anthracene-d14	292	13.247	13.247	(1.000)	431197	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.247	13.247	(1.135)	431197	0.50000	0.571
89 Dibenz(a,h)anthracene	278	13.288	13.288	(1.003)	590374	0.50000	0.487
* 90 Benzo(ghi)perylene-d12	288	13.588	13.588	(1.000)	518921	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.588	13.588	(1.164)	521528	0.50000	0.560
92 Benzo(g,h,i)perylene	276	13.622	13.622	(1.002)	640414	0.50000	0.490
* 230 Coronene-d12	312	15.472	15.472	(1.000)	364004	0.50000	0.500
$ 231 Coronene-d12 (SS)	312	15.472	15.472	(1.325)	364004	0.50000	0.519
238 Coronene	300	15.506	15.506	(1.002)	517402	0.50000	0.501


Data File: /chem/gcms/mp.i/P101116.b/pj11ccv.d
Date : 11-OCT-2016 11:24
Client ID:
Sample Info: CCV,2.4,PAH1022
Purge Volume: 10.0
Column phase: Rxi-5SIL MS w/Guard
Instrument: mp.i
Operator: 011211
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dichlorobenzene-d4+
-1,2-Dichlorobenzene-d4+
Naphthalene-d8+
-2-Methylnaphthalene-d10+
-1-Methylnaphthalene-d10+
-2,6-Dimethylnaphthalene-d+
-Acenaphthylene-d8+
-Acenaphthene-d10
-Fluorene-d10+
-Dibenzothiopene-d8+
-Phenanthrene-d10+
-Anthracene-d10+
-Fluoranthene-d10+
-Pyrene-d10
-Terphenyl-d14
-Chrysene-d12+
-Benzo(b)fluoranthene-d12+
-Benzo(k)fluoranthene-d12+
-Benzo(e)pyrene-d12
-Benzo(a)pyrene-d12+
-Perylene-d12+
-Indeno(123-cd)pyrene-d12+
-Benzo(ghi)perylene-d12+
-Coronene-d12+
/chem/gcms/mp.i/P101116.b/pj11ccv.d

Raw QC Data

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H6I270412
MB Lot-Sample #: H6I290000-010 **Work Order #...:** M89871AA **Matrix.....:** WATER

Prep Date.....: 09/29/16 **Analysis Date..:** 10/10/2016
Prep Batch #...: 6273010
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ng/L	2.4
Acenaphthylene	ND	10	ng/L	0.15
Anthracene	ND	10	ng/L	0.71
Benzo(a)anthracene	ND	10	ng/L	1.5
Benzo(b)fluoranthene	ND	10	ng/L	1.5
Benzo(k)fluoranthene	ND	10	ng/L	1.0
Benzo(ghi)perylene	ND	10	ng/L	0.51
Benzo(a)pyrene	ND	10	ng/L	0.40
Chrysene	**0.80 J**	**10**	ng/L	0.22
Dibenz(a,h)anthracene	ND	10	ng/L	0.78
Fluoranthene	ND	10	ng/L	2.4
Fluorene	**2.3 J**	**10**	ng/L	1.5
Indeno(1,2,3-cd)pyrene	ND	10	ng/L	1.0
Naphthalene	ND	50	ng/L	16
Perylene	ND	10	ng/L	0.81
Phenanthrene	ND	20	ng/L	11
Pyrene	**2.8 J**	**10**	ng/L	1.7

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	98	(30 - 120)
Naphthalene-d8	82	(30 - 120)
Acenaphthylene-d8	90	(30 - 120)
Phenanthrene-d10	78	(30 - 120)
Anthracene-d10	84	(30 - 120)
Fluoranthene-d10	97	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	104	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	105	(30 - 120)
Perylene-d12	87	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	107	(30 - 120)
Dibenz(ah)anthracene-d14	105	(30 - 120)
Benzo(ghi)perylene-d12	98	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d
Report Date: 11-Oct-2016 13:16

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89871aar.d
Lab Smp Id: M89871AA
Inj Date : 10-OCT-2016 15:44
Operator : 011211 Inst ID: mp.i
Smp Info : ,,3,,MB TRT
Misc Info : P101016,SIMPAH10,icr.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 9 QC Sample: MB TRT
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: icr.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1000.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	464719	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	465999	0.41073	205
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	247646	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	248247	0.43451	217
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	457815	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	457815	0.45000	225
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	286456	0.50000	0.500
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	334074	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	334074	0.49094	245
27 Fluorene	166	6.865	6.861	(1.003)	3525	0.00456	2.28
* 41 Phenanthrene-d10	188	7.663	7.660	(1.000)	482182	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.663	7.660	(0.854)	482182	0.38709	194
* 44 Anthracene-d10	188	7.709	7.709	(1.000)	479789	0.50000	0.500
$ 45 Anthracene-d10(SS)	188	7.709	7.709	(0.859)	479789	0.41902	210
* 53 Fluoranthene-d10	212	8.753	8.750	(1.000)	582856	0.50000	0.500
$ 54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	582856	0.48476	242
* 56 Pyrene-d10	212	8.975	8.972	(1.000)	541385	0.50000	0.500
57 Pyrene	202	8.994	8.991	(1.028)	8580	0.00561	2.81

Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d
Report Date: 11-Oct-2016 13:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 63 Chrysene-d12	240	10.219	10.219	(1.000)	557887	0.50000	0.500
$ 64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	557887	0.43736	219
65 Chrysene	228	10.228	10.246	(1.001)	1873	0.00159	0.796(M)
* 70 Benzo(b)fluoranthene-d12	264	11.359	11.355	(1.000)	526360	0.50000	0.500
$ 71 Benzo(b)fluoranthene-d12(SS)	264	11.359	11.355	(0.972)	526360	0.51846	259
* 73 Benzo(k)fluoranthene-d12	264	11.394	11.391	(1.000)	562104	0.50000	0.500
$ 74 Benzo(k)fluoranthene-d12(SS)	264	11.394	11.391	(0.975)	562104	0.44777	224
* 76 Benzo(e)pyrene-d12	264	11.687	11.684	(1.000)	483702	0.50000	0.500
* 78 Benzo(a)pyrene-d12	264	11.753	11.750	(1.000)	450572	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.753	11.750	(1.006)	450572	0.52527	263
* 81 Perylene-d12	264	11.854	11.845	(1.000)	427204	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.854	11.845	(1.014)	427204	0.43448	217
* 84 Indeno(123-cd)pyrene-d12	288	13.253	13.249	(1.000)	542024	0.50000	0.500
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.253	13.249	(1.134)	547165	0.53670	268
* 87 Dibenz(ah)anthracene-d14	292	13.253	13.249	(1.000)	428262	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.253	13.249	(1.134)	428262	0.52546	263
* 90 Benzo(ghi)perylene-d12	288	13.600	13.589	(1.000)	492809	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.600	13.589	(1.164)	492809	0.48976	245

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d
Report Date: 11-Oct-2016 13:16

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: LIQUID
Lab Smp Id: M89871AA
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: icr.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,icr.sub

Client SDG: P101016
Fraction: SV

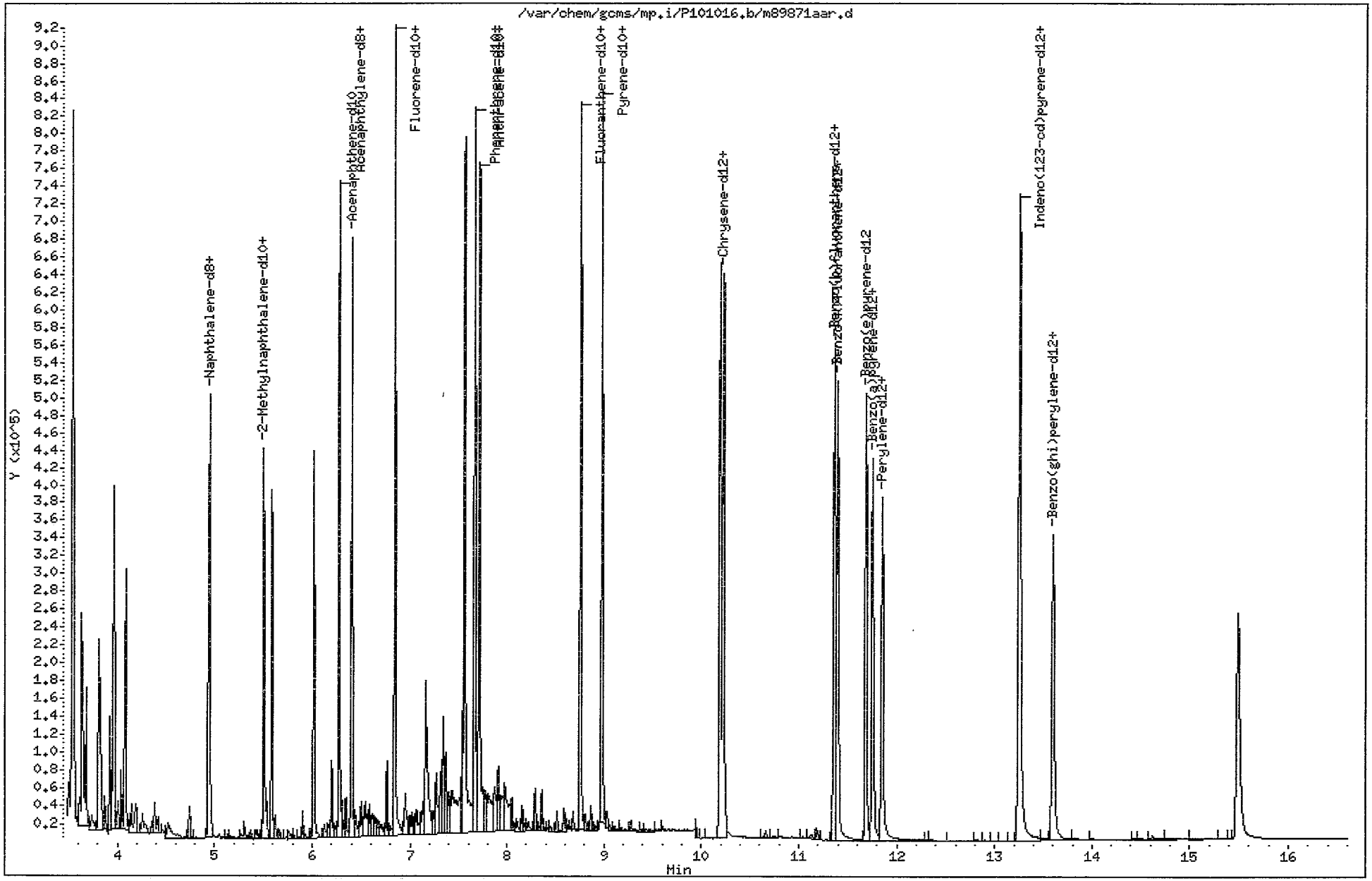
Operator: 011211
SampleType: MB TRT
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 2 Naphthalene-d8(SS)	250	205	82.15	~~20-130~~
$ 222 13C6-Naphthalene	500	0.00	*	50-150
$ 11 2-Methylnaphthalen	250	217	86.90	30-120
$ 21 Acenaphthylene-d8(	250	225	90.00	30-120
$ 233 Fluorene-d10(SS)	250	245	98.19	30-120
$ 42 Phenanthrene-d10(S	250	194	77.42	30-120
$ 45 Anthracene-d10(SS)	250	210	83.80	30-120
$ 54 Fluoranthene-d10(S	250	242	96.95	30-120
$ 64 Chrysene-d12(SS)	250	219	87.47	30-120
$ 71 Benzo(b)fluoranthe	250	259	103.69	30-120
$ 74 Benzo(k)fluoranthe	250	224	89.55	30-120
$ 79 Benzo(a)pyrene-d12	250	263	105.05	30-120
$ 82 Perylene-d12(SS)	250	217	86.90	30-120
$ 85 Indeno(123-cd)pyre	250	268	107.34	30-120
$ 88 Dibenz(ah)anthrace	250	263	105.09	30-120
$ 91 Benzo(ghi)perylene	250	245	97.95	30-120

40-140% 10/11/16

Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d
Date : 10-OCT-2016 15:44
Client ID:
Sample Info: ,,3,,MB TRT
Purge Volume: 1000.0
Column phase: Rxi-5SIL MS w/Guard

Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d

Date : 10-OCT-2016 15:44

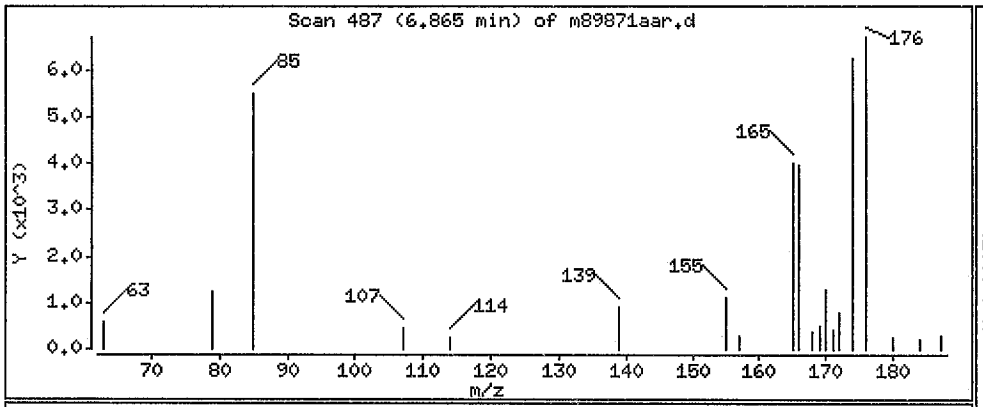
Client ID: | Instrument: mp.i

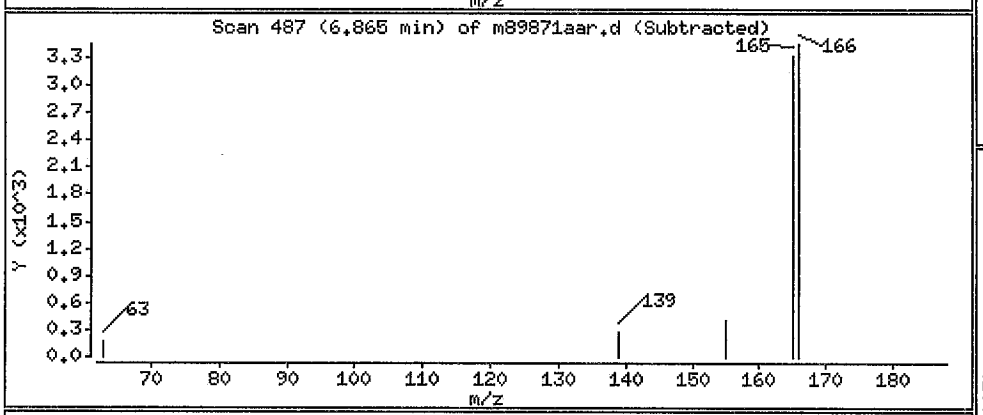
Sample Info: ,,3,,MB TRT

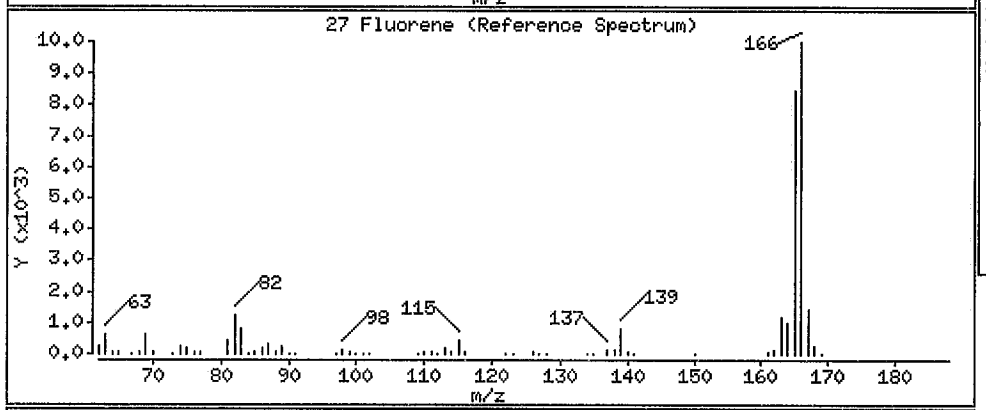
Purge Volume: 1000.0 | Operator: 011211

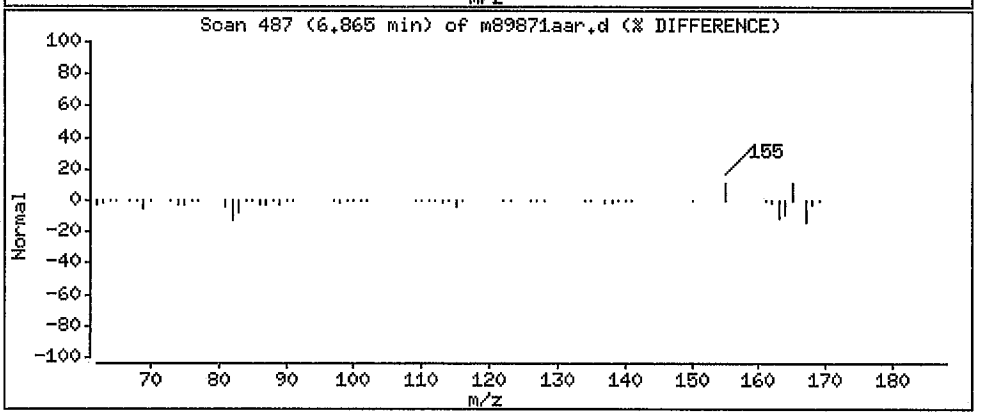
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

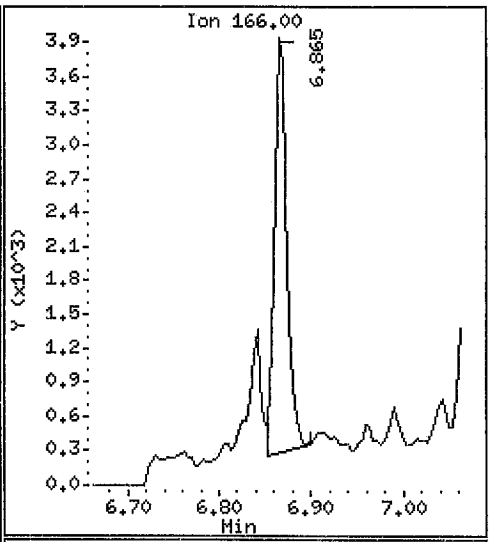
27 Fluorene | Concentration: 2.28 ng/L

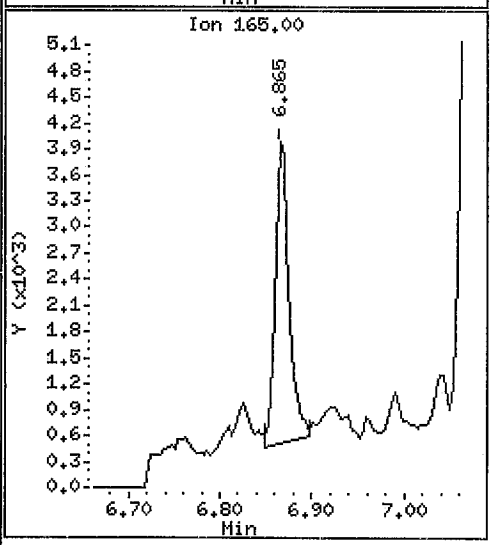












Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d

Date : 10-OCT-2016 15:44

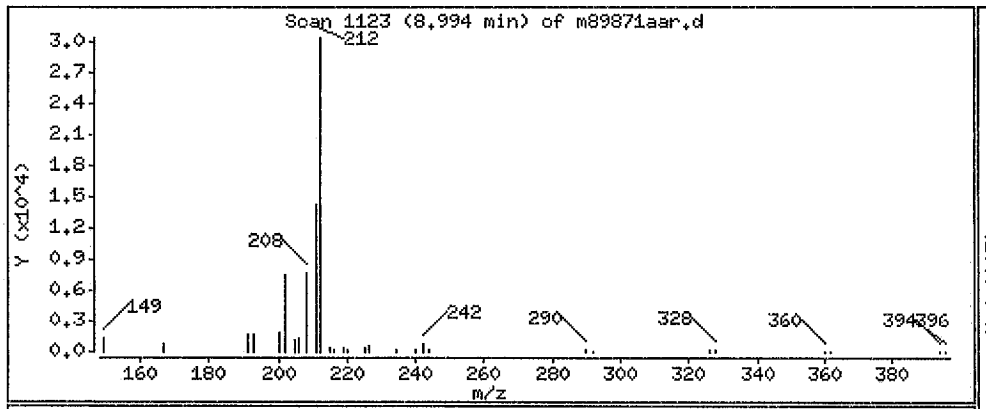
Client ID: | Instrument: mp.i

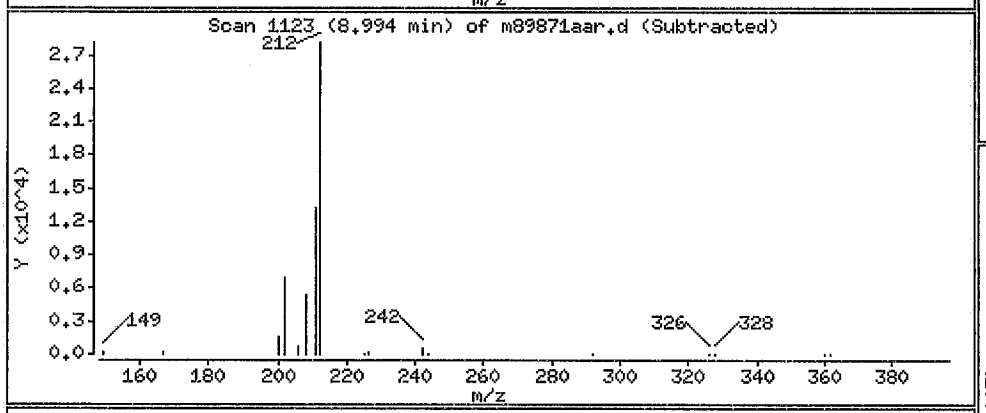
Sample Info: ,,3,,MB TRT

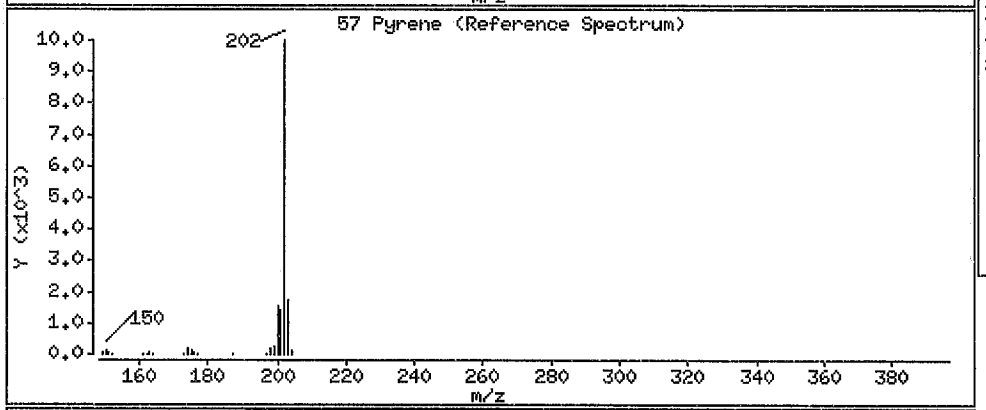
Purge Volume: 1000.0 | Operator: 011211

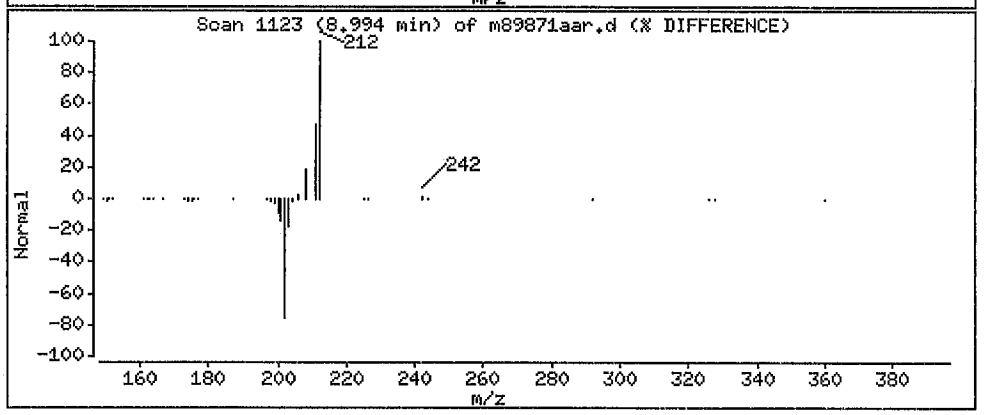
Column phase: Rxi-5SIL MS w/Guard | Column diameter: 0.25

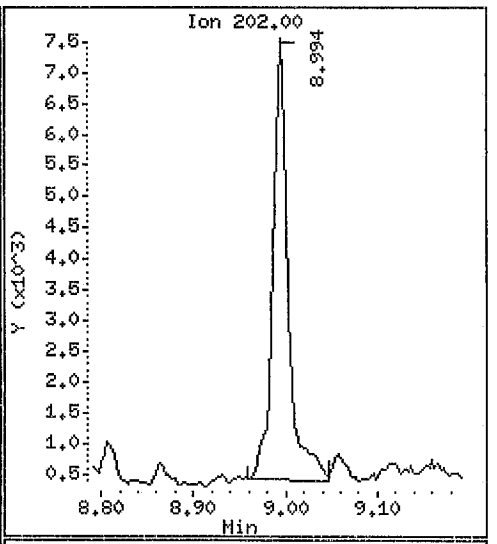
57 Pyrene | Concentration: 2.81 ng/L

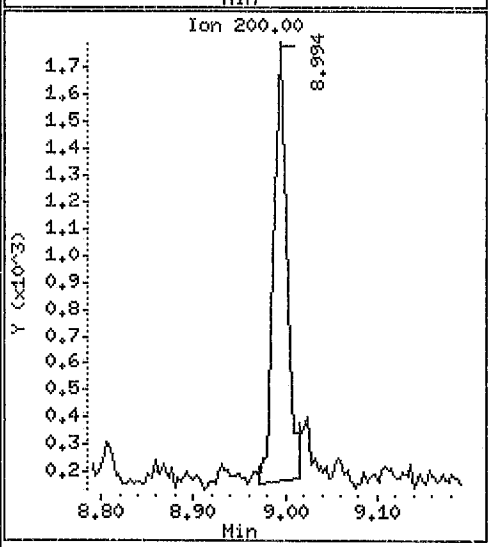












Data File: /var/chem/gcms/mp.i/P101016.b/m89871aar.d

Date : 10-OCT-2016 15:44

Client ID:

Instrument: mp.i

Sample Info: ,,3,,MB TRT

Purge Volume: 1000.0

Operator: 011211

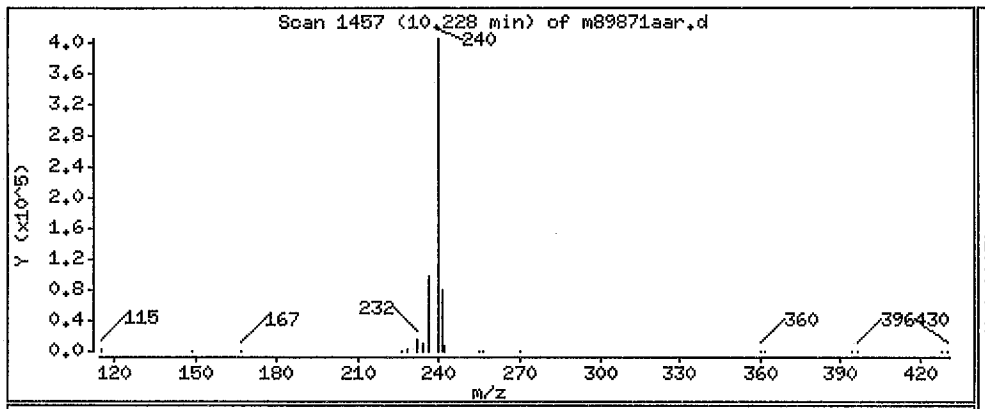
Column phase: Rxi-5SIL MS w/Guard

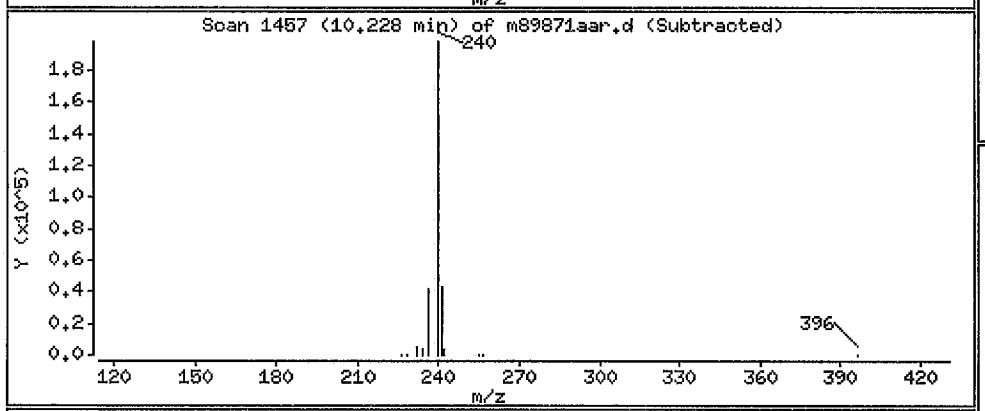
Column diameter: 0.25

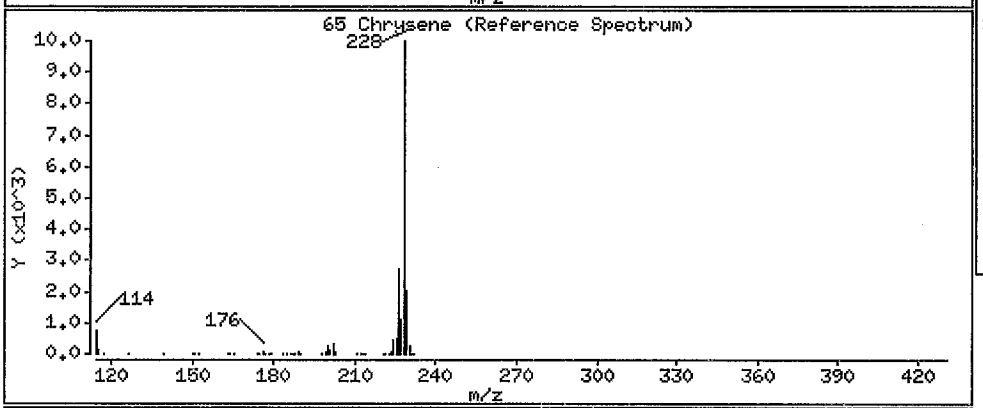
10/17/16

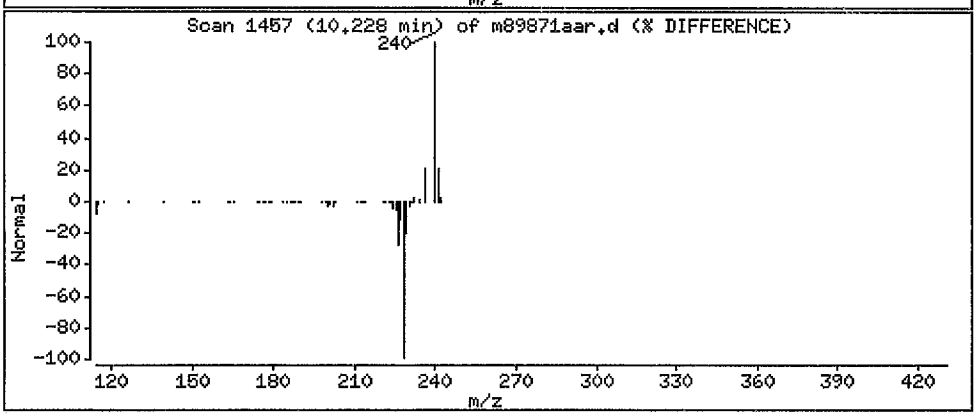
65 Chrysene

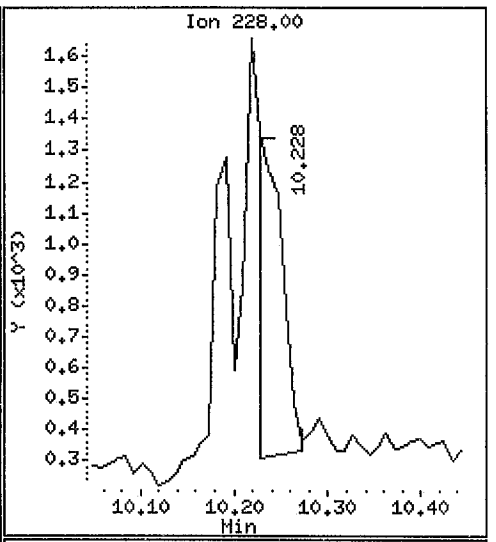
Concentration: 0.796 ng/L

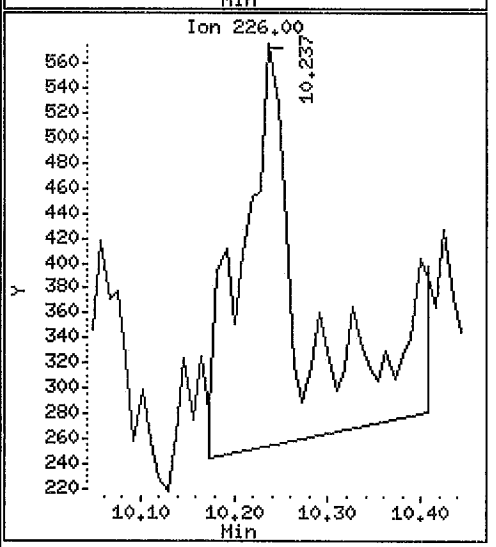












LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H6I270412 **Work Order #...:** M89871AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: H6I290000-010
Prep Date .....: 09/29/16 **Analysis Date..:** 10/10/16
Prep Batch #...: 6273010
Dilution Factor: 1 **Instrument ID..:** MP **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS		RPD LIMITS
Acenaphthene	250	274	ng/L	110	(60 - 140)		
Acenaphthylene	250	268	ng/L	107	(60 - 140)		
Anthracene	250	251	ng/L	100	(60 - 140)		
Benzo(a)anthracene	250	320	ng/L	128	(60 - 140)		
Benzo(b)fluoranthene	250	222	ng/L	89	(60 - 140)		
Benzo(k)fluoranthene	250	276	ng/L	110	(60 - 140)		
Benzo(ghi)perylene	250	255	ng/L	102	(60 - 140)		
Benzo(a)pyrene	250	245	ng/L	98	(60 - 140)		
Chrysene	250	284	ng/L	114	(60 - 140)		
Dibenz(a,h)anthracene	250	247	ng/L	99	(60 - 140)		
Fluoranthene	250	248	ng/L	99	(60 - 140)		
Fluorene	250	266	ng/L	106	(60 - 140)		
Indeno(1,2,3-cd)pyrene	250	242	ng/L	97	(60 - 140)		
Naphthalene	250	285	ng/L	114	(60 - 140)		
Perylene	250	273	ng/L	109	(60 - 140)		
Phenanthrene	250	267	ng/L	107	(60 - 140)		
Pyrene	250	246	ng/L	98	(60 - 140)		

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	97	(60 - 140)
Naphthalene-d8	81	(60 - 140)
Acenaphthylene-d8	90	(60 - 140)
Phenanthrene-d10	76	(60 - 140)
Anthracene-d10	83	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
Chrysene-d12	86	(60 - 140)
Benzo(b)fluoranthene-d12	103	(60 - 140)
Benzo(k)fluoranthene-d12	90	(60 - 140)
Benzo(a)pyrene-d12	106	(60 - 140)
Perylene-d12	85	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	108	(60 - 140)
Dibenz(ah)anthracene-d14	106	(60 - 140)
Benzo(ghi)perylene-d12	98	(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Report Date: 11-Oct-2016 13:26

TestAmerica Knoxville

SEMIVOLATILE QUANTITATION REPORT

Data file : /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Lab Smp Id: M89871AC
Inj Date : 10-OCT-2016 16:09
Operator : 011211 Inst ID: mp.i
Smp Info : ,,3,,LCS TRT
Misc Info : P101016,SIMPAH10,simpah.sub
Comment :
Method : /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Meth Date : 10-Oct-2016 13:07 chemist Quant Type: ISTD
Cal Date : 15-SEP-2016 11:39 Cal File: pi15ical1.d
Als bottle: 10 QC Sample: LCS TRT
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: simpah.sub
Target Version: 3.50
Processing Host: qmidhp01

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

Uf	1000.00000	ng unit correction factor
Vt	500.00000	Volume of final extract (uL)
Vo	1000.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 256 1,4-Dichlorobenzene-d4	115	3.958	3.947	(1.000)	49601	0.50000	0.500(M)
$ 257 1,4Dichlorobenzene-d4(SS)	115	3.958	3.947	(0.618)	49601	0.33340	167(M)
254 1,4-Dichlorobenzene	146	3.970	3.958	(1.003)	162944	0.63384	317
* 234 1,2-Dichlorobenzene-d4	115	4.070	4.070	(1.000)	56760	0.50000	0.500
$ 235 1,2-Dichlorobenzene-d4(SS)	115	4.070	4.070	(0.635)	56760	0.33959	170
236 1,2-Dichlorobenzene	146	4.082	4.082	(1.003)	143901	0.56004	280
245 1,2,4-Trichlorobenzene	180	4.902	4.902	(0.991)	139787	0.57408	287
* 1 Naphthalene-d8	136	4.948	4.939	(1.000)	414482	0.50000	0.500
$ 2 Naphthalene-d8(SS)	136	4.948	4.939	(0.772)	415297	0.40324	202
3 Naphthalene	128	4.957	4.957	(1.002)	478686	0.57084	285
* 10 2-Methylnaphthalene-d10	152	5.504	5.504	(1.000)	220695	0.50000	0.500
$ 11 2-Methylnaphthalene-d10(SS)	152	5.504	5.504	(0.859)	221140	0.42640	213
12 2-Methylnaphthalene	142	5.532	5.527	(1.005)	337821	0.55701	279
* 13 1-Methylnaphthalene-d10	152	5.584	5.584	(1.000)	243381	0.50000	0.500
$ 14 1-Methylnaphthalene-d10(SS)	152	5.584	5.584	(0.872)	242992	0.42373	212
15 1-Methylnaphthalene	142	5.618	5.612	(1.006)	299479	0.55911	280
16 Biphenyl	154	5.914	5.914	(0.983)	403113	0.55006	275
239 2-Chloronaphthalene	162	5.942	5.937	(1.201)	303461	0.59359	297

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Report Date: 11-Oct-2016 13:26

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
* 17 2,6-Dimethylnaphthalene-d12	168	6.019	6.014	(1.000)	235035	0.50000	0.500
$ 18 2,6-Dimethylnaph-d12(SS)	168	6.019	6.014	(0.940)	235772	0.43457	217
19 2,6 Dimethylnaphthalene	156	6.051	6.051	(1.005)	284779	0.52854	264
* 20 Acenaphthylene-d8	160	6.276	6.271	(1.000)	413250	0.50000	0.500
$ 21 Acenaphthylene-d8(SS)	160	6.276	6.271	(0.980)	413250	0.44748	224
22 Acenaphthylene	152	6.286	6.286	(1.002)	484266	0.53654	268
* 23 Acenaphthene-d10	164	6.406	6.406	(1.000)	260030	0.50000	0.500
24 Acenaphthene	154	6.432	6.432	(1.025)	298916	0.54711	274
246 Dibenzofuran	168	6.577	6.577	(1.093)	453268	0.58540	293
25 2,3,5 Trimethylnaphthalene	170	6.751	6.747	(1.122)	275021	0.60193	301
* 26 Fluorene-d10	176	6.841	6.837	(1.000)	300442	0.50000	0.500
$ 233 Fluorene-d10(SS)	176	6.841	6.837	(1.068)	300442	0.48638	243
27 Fluorene	166	6.865	6.861	(1.003)	370883	0.53298	266
243 Diphenylamine	169	6.952	6.952	(1.016)	187235	0.40021	200
* 34 Dibenzothiopene-d8	192	7.559	7.556	(1.000)	431072	0.50000	0.500
$ 35 Dibenzothiopene-d8(SS)	192	7.559	7.556	(0.842)	431072	0.35571	178
36 Dibenzothiophene	184	7.574	7.571	(1.002)	480903	0.51694	258
* 41 Phenanthrene-d10	188	7.663	7.660	(1.000)	445479	0.50000	0.500
$ 42 Phenanthrene-d10(SS)	188	7.663	7.660	(0.854)	445479	0.37828	189
43 Phenanthrene	178	7.682	7.679	(1.002)	595870	0.53369	267
* 44 Anthracene-d10	188	7.709	7.709	(1.000)	449873	0.50000	0.500
$ 45 Anthracene-d10(SS)	188	7.709	7.709	(0.859)	449873	0.41558	208
46 Anthracene	178	7.728	7.725	(1.002)	575497	0.50266	251
247 3-Methylphenanthrene	191	8.106	8.106	(1.058)	249779	0.65560	328
52 1-Methylphenanthrene	191	8.231	8.228	(1.074)	243187	0.64311	322
* 53 Fluoranthene-d10	212	8.753	8.750	(1.000)	544259	0.50000	0.500
$ 54 Fluoranthene-d10(SS)	212	8.753	8.750	(0.975)	544259	0.47880	239
55 Fluoranthene	202	8.772	8.769	(1.002)	688718	0.49639	248
* 56 Pyrene-d10	212	8.975	8.972	(1.000)	511825	0.50000	0.500
57 Pyrene	202	8.994	8.991	(1.028)	703253	0.49275	246(M)
62 Benzo(a)anthracene	228	10.210	10.210	(0.999)	592207	0.63974	320
* 63 Chrysene-d12	240	10.219	10.219	(1.000)	521531	0.50000	0.500
$ 64 Chrysene-d12(SS)	240	10.219	10.219	(1.139)	521531	0.43247	216
65 Chrysene	228	10.246	10.246	(1.003)	623715	0.56705	284
* 70 Benzo(b)fluoranthene-d12	264	11.358	11.355	(1.000)	486796	0.50000	0.500
$ 71 Benzo(b)fluoranthene-d12(SS)	264	11.358	11.355	(0.972)	486796	0.51504	258
72 Benzo(b)fluoranthene	252	11.388	11.385	(1.003)	623686	0.44345	222
* 73 Benzo(k)fluoranthene-d12	264	11.394	11.391	(1.000)	524026	0.50000	0.500
$ 74 Benzo(k)fluoranthene-d12(SS)	264	11.394	11.391	(0.975)	524018	0.44837	224
75 Benzo(k)fluoranthene	252	11.418	11.415	(1.002)	679809	0.55112	276
* 76 Benzo(e)pyrene-d12	264	11.687	11.684	(1.000)	450320	0.50000	0.500
77 Benzo(e)pyrene	252	11.717	11.714	(0.997)	591803	0.45707	229
* 78 Benzo(a)pyrene-d12	264	11.753	11.750	(1.000)	421752	0.50000	0.500
$ 79 Benzo(a)pyrene-d12(SS)	264	11.753	11.750	(1.006)	421752	0.52812	264
80 Benzo(a)pyrene	252	11.783	11.780	(1.003)	550195	0.48938	245
* 81 Perylene-d12	264	11.854	11.845	(1.000)	387473	0.50000	0.500
$ 82 Perylene-d12(SS)	264	11.854	11.845	(1.014)	387473	0.42329	212

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Report Date: 11-Oct-2016 13:26

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ng/L)
83 Perylene	252	11.884	11.881	(1.003)	499425	0.54534	273
* 84 Indeno(123-cd)pyrene-d12	288	13.253	13.249	(1.000)	514610	0.50000	0.500
$ 85 Indeno(123-cd)pyrene-d12(SS)	288	13.253	13.249	(1.134)	511573	0.53899	269
86 Indeno(1,2,3-cd)pyrene	276	13.287	13.283	(1.003)	671263	0.48474	242
* 87 Dibenz(ah)anthracene-d14	292	13.253	13.249	(1.000)	400725	0.50000	0.500
$ 88 Dibenz(ah)anthracene-d14(SS)	292	13.253	13.249	(1.134)	400725	0.52812	264
89 Dibenz(a,h)anthracene	278	13.301	13.290	(1.004)	556715	0.49423	247
* 90 Benzo(ghi)perylene-d12	288	13.593	13.589	(1.000)	460110	0.50000	0.500
$ 91 Benzo(ghi)perylene-d12(SS)	288	13.593	13.589	(1.163)	460110	0.49116	246
92 Benzo(g,h,i)perylene	276	13.627	13.623	(1.002)	591206	0.51067	255
* 230 Coronene-d12	312	15.484	15.474	(1.000)	368618	0.50000	0.500
$ 231 Coronene-d12 (SS)	312	15.484	15.474	(1.325)	368618	0.52247	261
238 Coronene	300	15.518	15.514	(1.002)	501439	0.47992	240

QC Flag Legend

M - Compound response manually integrated.

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Report Date: 11-Oct-2016 13:26

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: LIQUID
Lab Smp Id: M89871AC
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: simpah.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,simpah.sub

Client SDG: P101016
Fraction: SV

Operator: 011211
SampleType: LCS TRT
Quant Type: ISTD

SPIKE	COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
254	1,4-Dichlorobenzen	250	317	126.77	~~70-130~~
236	1,2-Dichlorobenzen	250	280	112.01	70-130
245	1,2,4-Trichloroben	250	287	114.82	70-130
3	Naphthalene	250	285	114.17	70-130
12	2-Methylnaphthalen	250	279	111.40	70-130
15	1-Methylnaphthalen	250	280	111.82	70-130
16	Biphenyl	250	275	110.01	70-130
19	2,6 Dimethylnaphth	250	264	105.71	70-130
22	Acenaphthylene	250	268	107.31	70-130
24	Acenaphthene	250	274	109.42	70-130
246	Dibenzofuran	250	293	117.08	70-130
25	2,3,5 Trimethylnap	250	301	120.39	70-130
27	Fluorene	250	266	106.60	70-130
243	Diphenylamine	250	200	80.04	70-130
36	Dibenzothiophene	250	258	103.39	70-130
43	Phenanthrene	250	267	106.74	70-130
46	Anthracene	250	251	100.53	70-130
52	1-Methylphenanthre	250	322	128.62	70-130
55	Fluoranthene	250	248	99.28	70-130
57	Pyrene	250	246	98.55	70-130
62	Benzo(a)anthracene	250	320	127.95	70-130
65	Chrysene	250	284	113.41	70-130
72	Benzo(b)fluoranthe	250	222	88.69	70-130
75	Benzo(k)fluoranthe	250	276	110.22	70-130
77	Benzo(e)pyrene	250	229	91.41	70-130
80	Benzo(a)pyrene	250	245	97.88	70-130
83	Perylene	250	273	109.07	70-130
86	Indeno(1,2,3-cd)py	250	242	96.95	70-130
89	Dibenz(a,h)anthrac	250	247	98.85	70-130
92	Benzo(g,h,i)peryle	250	255	102.13	70-130
238	Coronene	250	240	95.98	~~70-130~~

60-140% 10/11/16

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Report Date: 11-Oct-2016 13:26

TestAmerica Knoxville

RECOVERY REPORT

Client Name: ITSBUR
Sample Matrix: LIQUID
Lab Smp Id: M89871AC
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: simpah.sub
Method File: /chem/gcms/mp.i/P101016.b/SIMPAH10.m
Misc Info: P101016,SIMPAH10,simpah.sub

Client SDG: P101016
Fraction: SV

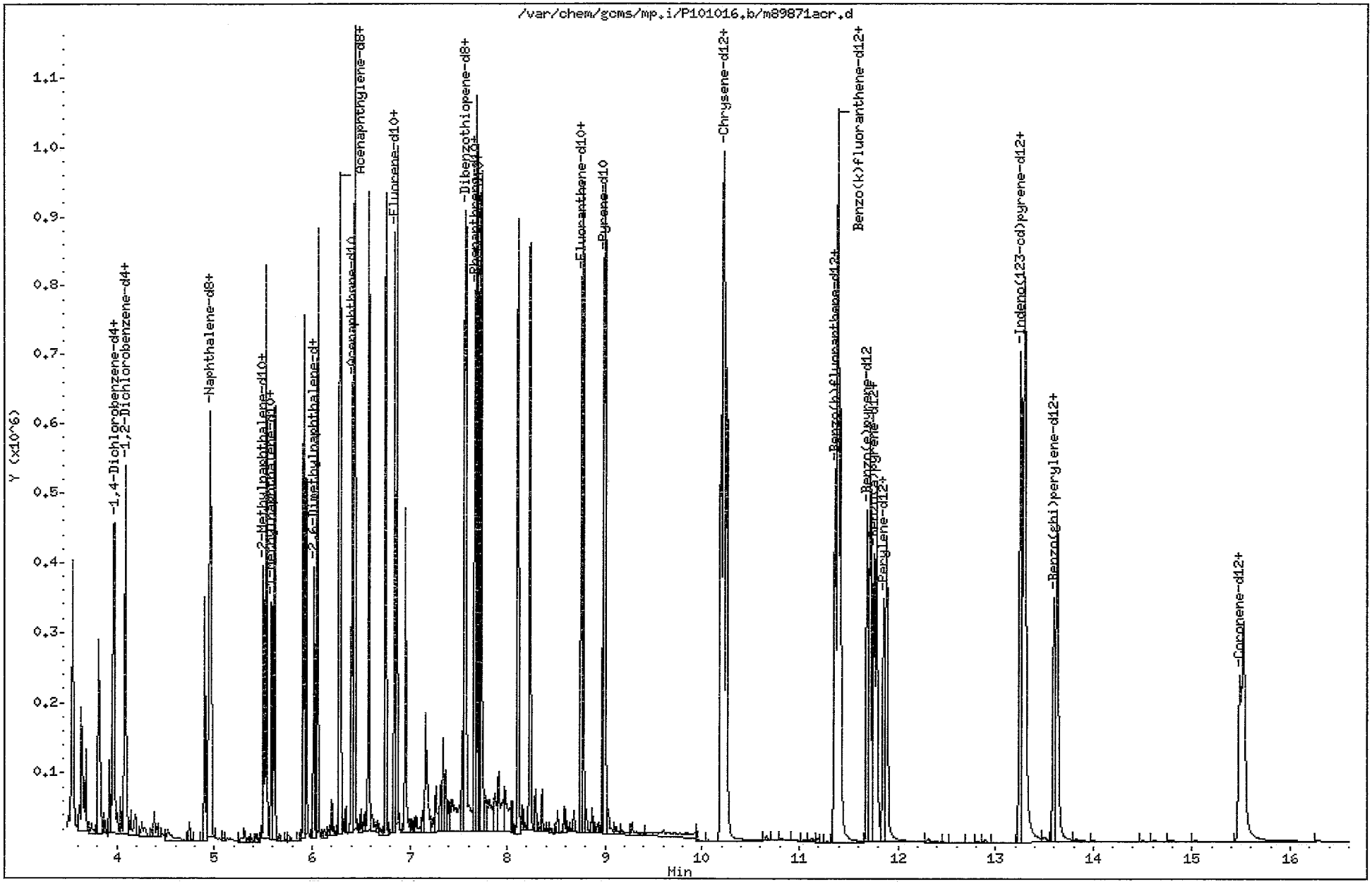
Operator: 011211
SampleType: LCS TRT
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ng/L	CONC RECOVERED ng/L	% RECOVERED	LIMITS
$ 257 1,4Dichlorobenzene	250	167	66.68	30-120
$ 235 1,2-Dichlorobenzen	250	170	67.92	30-120
$ 2 Naphthalene-d8(SS)	250	202	80.65	30-130
$ 222 13C6-Naphthalene	250	0.00	*	50-150
$ 11 2-Methylnaphthalen	250	213	85.28	30-120
$ 14 1-Methylnaphthalen	250	212	84.75	30-120
$ 18 2,6-Dimethylnaph-d	250	217	86.91	30-120
$ 21 Acenaphthylene-d8(	250	224	89.50	30-120
$ 233 Fluorene-d10(SS)	250	243	97.28	30-120
$ 35 Dibenzothiopene-d8	250	178	71.14	30-120
$ 42 Phenanthrene-d10(S	250	189	75.66	30-120
$ 45 Anthracene-d10(SS)	250	208	83.12	30-120
$ 54 Fluoranthene-d10(S	250	239	95.76	30-120
$ 58 Terphenyl-d14	250	0.00	*	30-120
$ 64 Chrysene-d12(SS)	250	216	86.49	30-120
$ 71 Benzo(b)fluoranthe	250	258	103.01	30-120
$ 74 Benzo(k)fluoranthe	250	224	89.67	30-120
$ 79 Benzo(a)pyrene-d12	250	264	105.62	30-120
$ 82 Perylene-d12(SS)	250	212	84.66	30-120
$ 85 Indeno(123-cd)pyre	250	269	107.80	30-120
$ 88 Dibenz(ah)anthrace	250	264	105.62	30-120
$ 91 Benzo(ghi)perylene	250	246	98.23	30-120
$ 231 Coronene-d12 (SS)	250	261	104.49	30-120

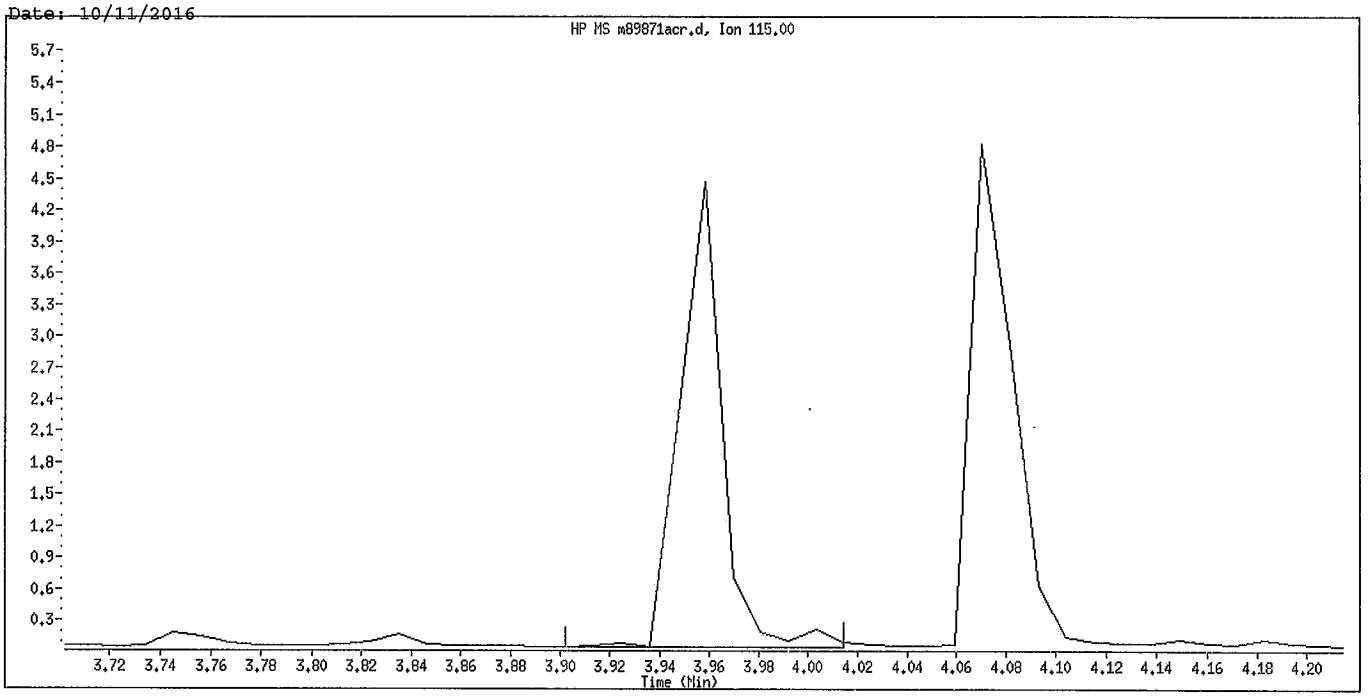
60-140%
10/11/16

Data File: /var/chem/gcms/mp.i/P101016.b/m89871acr.d
Date : 10-OCT-2016 16:09
Client ID:
Sample Info: ,,3,,LCS TRT
Purge Volume: 1000.0
Column phase: Rxi-5SIL MS w/Guard

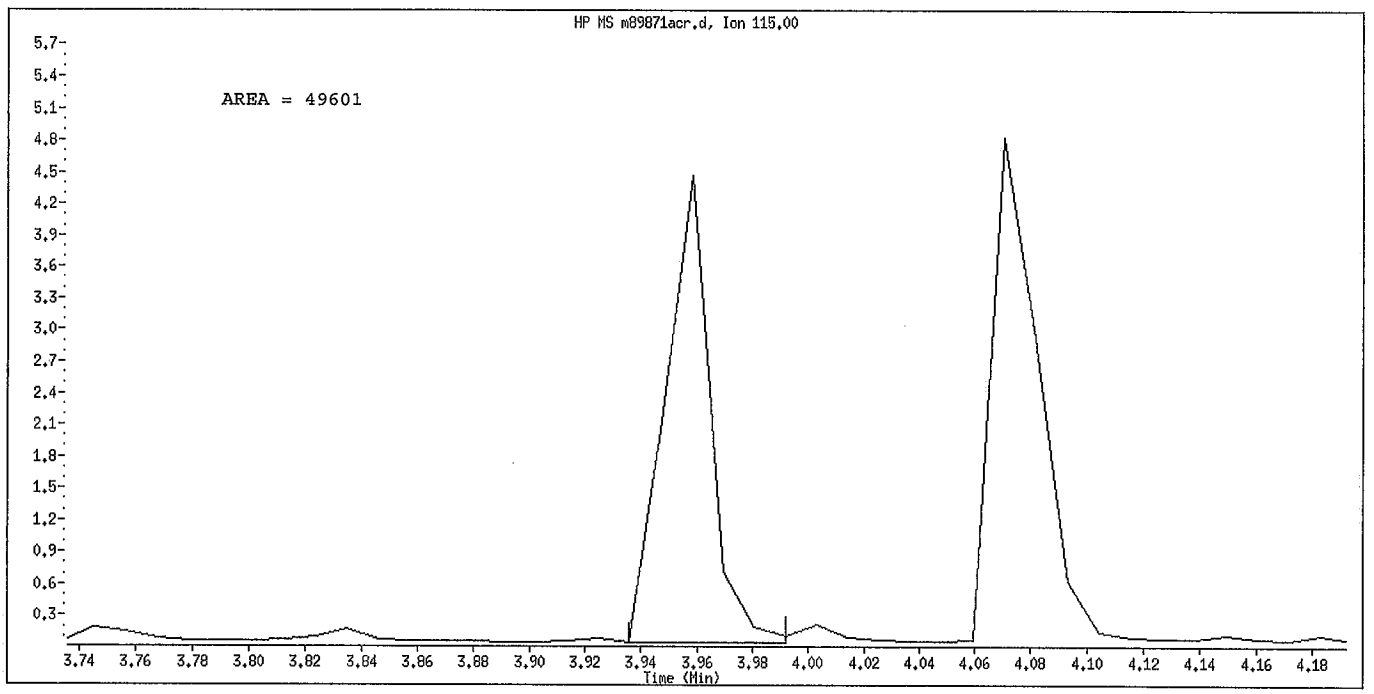
Instrument: mp.i
Operator: 011211
Column diameter: 0.25



Data File Name: m89871acr.d
Inj. Date and Time: 10-OCT-2016 16:09
Instrument ID: mp.i
Client ID:
Compound Name: 1,4Dichlorobenzene-d4(SS)
CAS #: 3855-82-1
Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj
Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89871acr.d

Inj. Date and Time: 10-OCT-2016 16:09

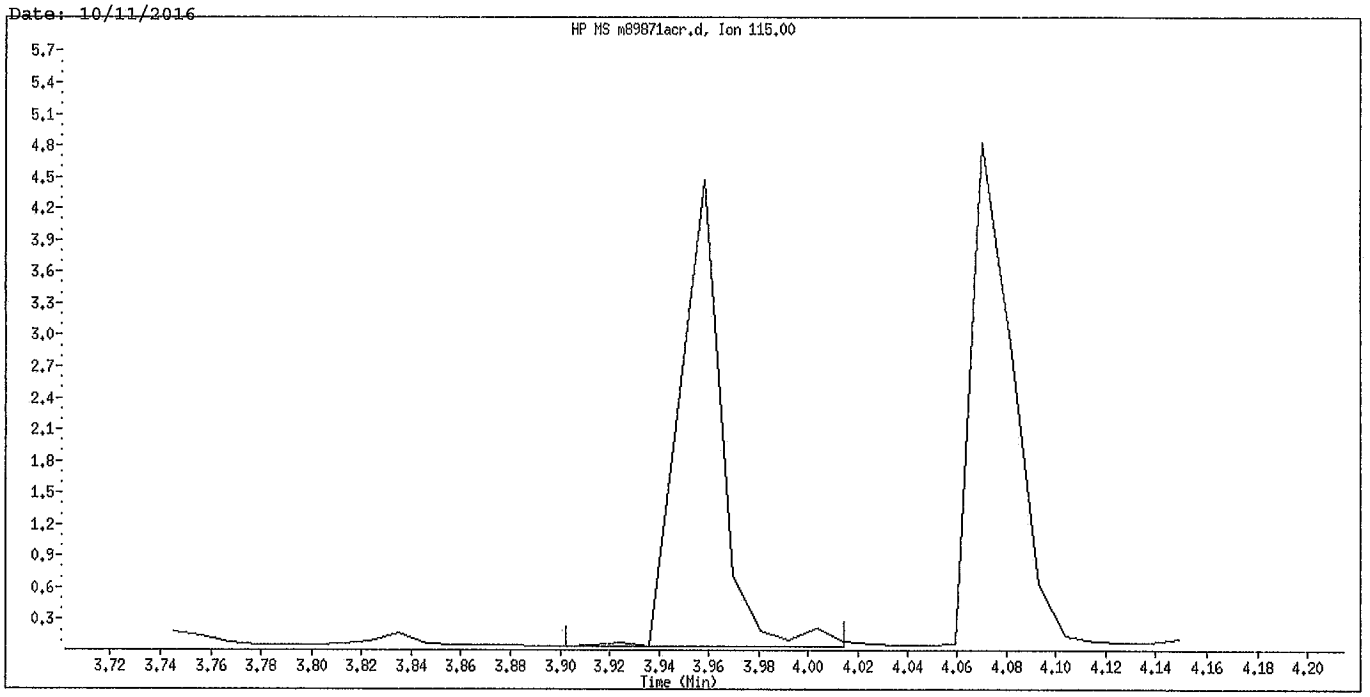
Instrument ID: mp.i

Client ID:

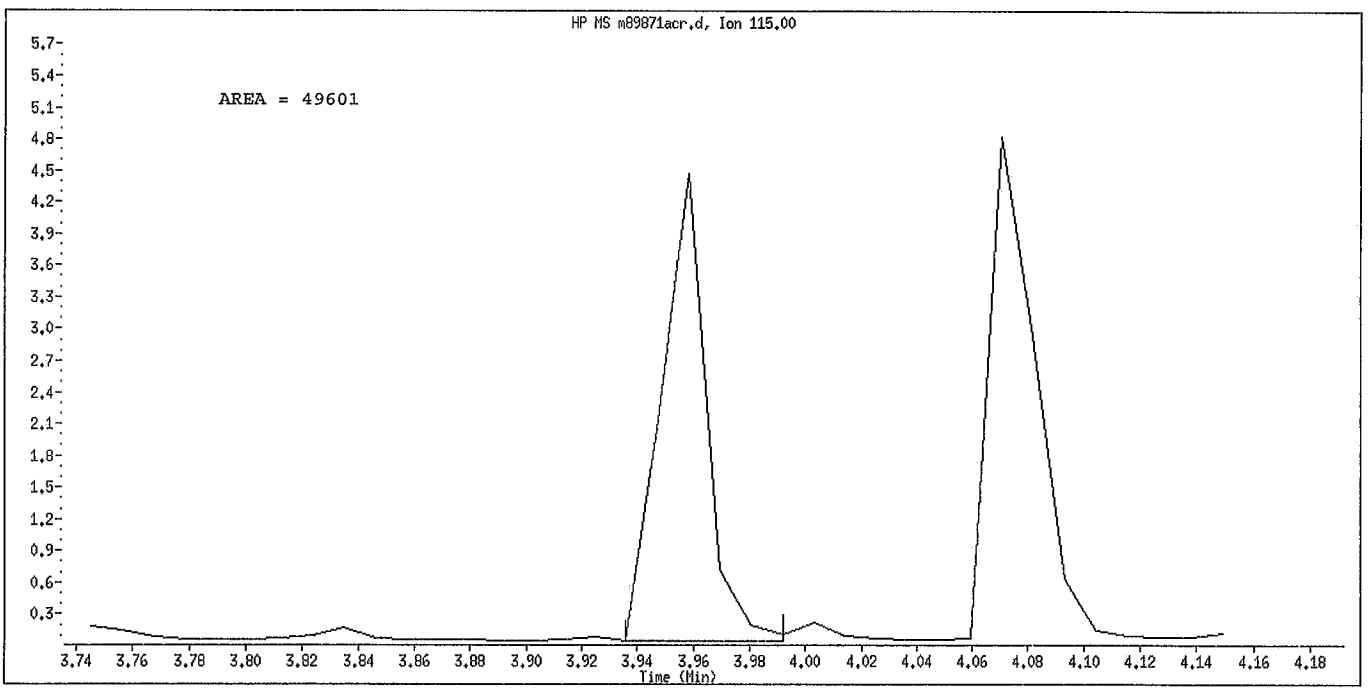
Compound Name: 1,4-Dichlorobenzene-d4

CAS #: -3855-82-1

Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Target Peak Misintegrated (extraneous area removed)

Data File Name: m89871acr.d

Inj. Date and Time: 10-OCT-2016 16:09

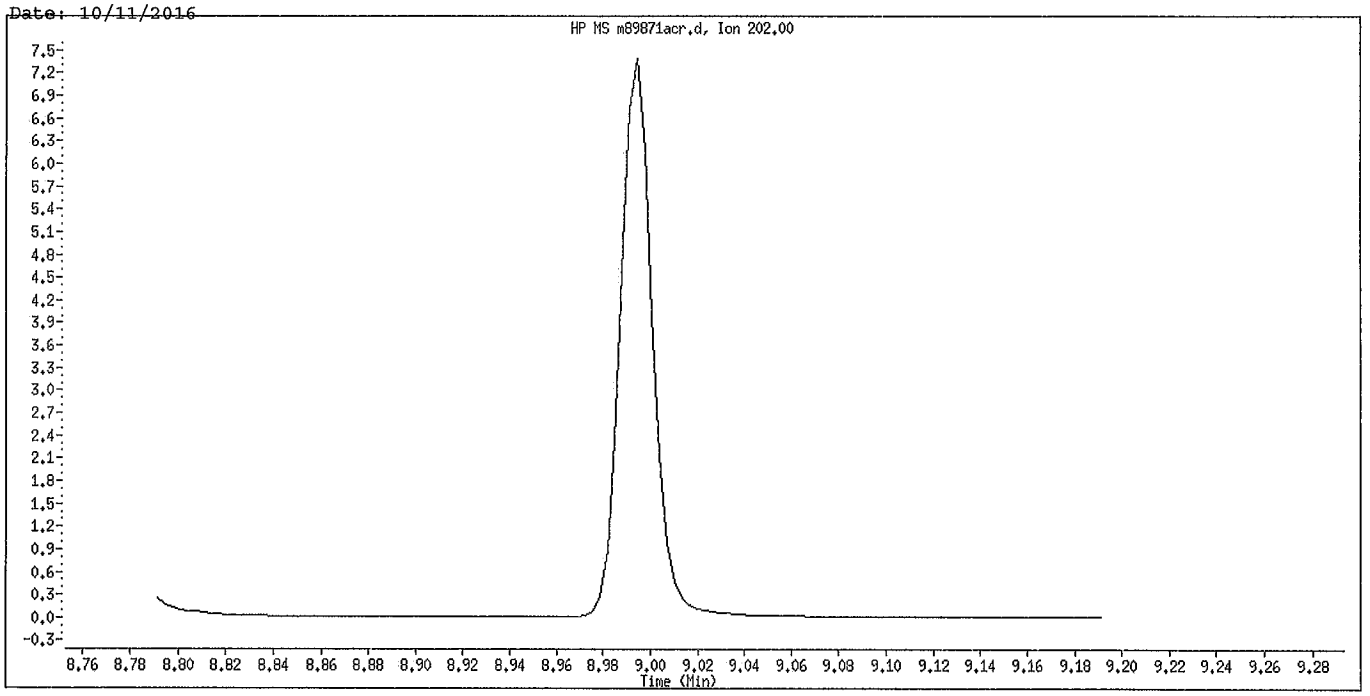
Instrument ID: mp.i

Client ID:

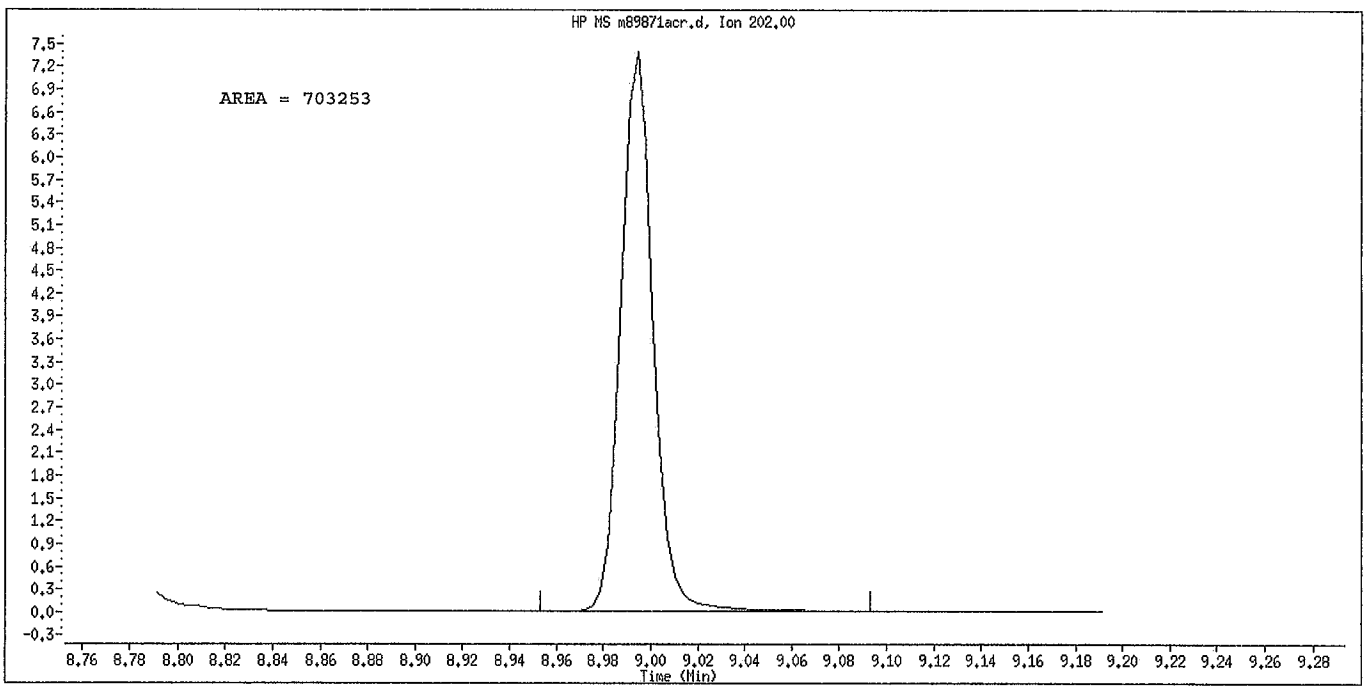
Compound Name: Pyrene

CAS #: 129-00-0

Report Date: 10/11/2016



Original Integration



Manual Integration

Manually Integrated By: cochranj

Manual Integration Reason: Analyte Misidentified by the Data System

Miscellaneous Data

TestAmerica Knoxville GC/MS-SIM Data Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Lot Number:	H6I270412		Instrument:	MP	
Scanned Filenames:	P091516E				
	P101016				
	P101116				

A. Calibration	N/A	Yes	No	Why is data reportable?	2nd √
1. Were all samples injected within 12 hr of CCAL?		✓			✓
2. Was the correct ICAL used for quantitation? (Check 1 RF per processing batch.)		✓			✓
B. Sample Results	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd √**
1. Were all special project requirements met?		✓			✓
2. Were sample preparation and analytical HTs met? If no, list NCM#_____		✓		☐ [ht1] HT expired upon receipt. ☐ [ht2] Client requested analysis after HT expired.* ☐ **Re-extraction done after HT expired.**	✓
3. Was prep info (sample amount, final vol, split factors, units, prep dates/times) verified?		✓			✓
4. For sediment samples, were the RLs and MDLs adjusted for % moisture using QuantIMS DF?	✓				N/A
5. Was date/time of analysis verified between header and logbook?		✓			✓
6. Was header information (WO#, data file, initial wt/vol, extract vol, DF) verified?		✓			✓
7. Were peaks properly identified?		✓			✓
8. Are peak integrations appropriate?		✓			✓
9. Were alkyl group start/end times and patterns verified?	✓			☐ [AP] ☐ [AP 2]	N/A
10. Are internal standards & alternate standards (30-120% R), sampling surrogates (50-150% R) within QC limits for samples and matrix spikes? Sample / Reason / Sample / Reason 003 / IS2 006 / ↓			✓	☐ **[is1] IS above QC limits.** ☑ **[is2] IS below QC limts.** ☐ **[sur1] Surrogates outside QC limits.**	✓N
11. If amount extracted was <80% of nominal amount, were the RLs/MDLs adjusted? List samples:_____		✓		☐ [elev6] Elevated RLs for all analytes due to insufficient sample amount received.	✓
12. For initial analysis that's a dilution, was the largest analyte >20% of calibration range? List diluted samples and reason (e.g elev1) Sample / Reason / Sample / Reason 006 / Elev4			✓	☐ [elev1] Elevated RL for (ANALYTE) due to sample matrix interferences. ☐ [elev2] Elevated RL for (ANALYTE) due to interfering analyte. ☐ [elev3] Elevated RLs for all analytes due to difficult sample matrix. ☑ [elev4] Diluted based on screening results. ☐ [elev5] Elevated RLs for all analytes due to presence of non-target compounds.	✓N

TestAmerica Knoxville GC/MS-SIM Data Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Lot Number: H6E270412	N/A	Yes	No	Why is data reportable?	2nd √
13. If bench dilutions were required, were results within calibration range at maximum dilution? Sample Reason Sample Reason	/			☐ [E1] 1 g reprep performed. ☐ [E2] 1 g multi-spike reprep performed. ☐ [E3] Post-extraction spike performed. ☐ [E4] E values reported per client.	N/A
14. For secondary diluted analyses to bring compounds in calibration range, was the largest analyte targeted to be above 50% of calibration range? List diluted samples and reason (e.g., dil1): Sample Reason Sample Reason	/			☐ [dil1] Conc. of (ANALYTE) > calibration range. RLs adjusted accordingly. ☐ [dil2] Conc. of several compounds > calibration range. RLs adjusted accordingly. ☐ [dil3] Conc. of (ANALYTE) > calibration range. Both analyses reported to provide lowest RLs. ☐ [dil4] Conc. of several compounds > calibration range. Both analyses reported to provide lowest RLs.	N/A
15. Was the upper calibration range (UCL) calculated correctly and were hits >UCL flagged with "E"?		/			✓
16. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?		/		Reasons: 1) Corrected split peak; 2) Unresolved peak; 3) Tailing; 4) RT shift; 5) Wrong peak selected; 6) Other	✓
17. Have alternate hits and manual integrations been verified as correct?		/			✓
C. Preparation/Matrix QC Results	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd √**
1. LCS native analyte %R within QC limits (60-140%)? If no, list NCM#:: _____		/		☐ **[lcs1] Insufficient sample for reanalysis.** ☐ **[lcs2] Samples consumed during prep.** ☐ **[lcs3] LCS %R high but analyte <RL in associated samples.**	✓
2. LCS IS %R within QC limits (60-140%)?		/		☐ **[is3] IS above QC limits.** ☐ **[is4] IS below QC limts.**	✓
3. Method blank done per prep batch and method blank or instrument blank analyzed with each sequence?		/			✓
4. Method blank IS %R within QC limits (60-140%)?.		/		☐ **[is5] IS above QC limits.** ☐ **[is6] IS below QC limts.**	✓
5. Are all analytes present in the method blank ≤ RL?		/		☐ **[mb1] Reported blank after client consultation.** ☐ **[mb3] Analyte < RL in associated samples.** ☐ **[mb4] Sample results >10x blank.** ☐ **[mb5] Insufficient sample for reanalysis.** ☐ **[mb7] Samples consumed during prep.**	✓
6. Were MS run #'s assigned correctly?	/				N/A
7. Are MS/MSD or sample duplicate recoveries and RPDs within QC limits?	/			☐ [ms1] LCS acceptable. High native analyte concentration relative to spike level and/or lack of sample homogeneity.	N/A
D. Final Report	**N/A**	**Yes**	**No**	**Why is data reportable?**	**2nd √**
1. Final report acceptable? (Results correct, RLs calculated correctly, units correct, IS %R correct, appropriate flags used, dilution factor correct, and extraction/ analysis dates correct.)		/			✓

TestAmerica Knoxville GC/MS-SIM Data Review / Narrative Checklist
Method: LRPAH PAHs and Selected SVOCs - KNOX-ID-0016, Revision 11

Lot Number: N6I270412	N/A	Yes	No	Why is data reportable?	2nd √
2. If samples were split, are the dilution factors & prep factors applied properly & MDL/RLs adjusted	✓			☐ [elev7] Elevated RLs for all analytes due to split; list samples: _____ _____	N/A
3. Was a calculation verification performed on at least one sample?		✓			✓
4. For alkyl PAHs, are hits fagged with EST?	✓				N/A
5. Were all non-associated internal standards turned to 'NA'?		✓			✓
6. Was a narrative prepared and all deviations noted?		✓			✓
7. Are all non-conformances documented appropriately and copy included with deliverable?		✓			✓
8. Are the correct scanned file names listed?		✓			✓
9. Were all CCALs and window standards scanned?					✓

1st Level Reviewer: Tre Date: 10/11/16

Comments: Samples M89031AA & M89061AA have one or more IS recoveries outside QC limits (low). NCM # 13297

2nd Level Reviewer: mmf Date: 10/13/16

Comments:

TestAmerica Knoxville Extraction Sheet
SIM PAH by Continuous Liquid/Liquid Extraction - KNOX-OP-0023

Batch Number: 6273010 Spiker: [illegible] Native Spike ID: 56550 $MeCl_2$ Lot #: 149691 Delivered: SDO 10/7/16 14:30 (Initials/Date/Time)

Start Date/Time: 9/29/16 12:40 Witness: AR Internal Std ID: 56138 Hexane Lot #: 146278

Compl Date/Time: 9/30/16 7:50 Recovery Std ID: PAH1019 Na_2SO_4 ID: C5118:9 Received: [illegible] 10/7/16 14:30 (Initials/Date/Time)

Balance ID: 01

Lot Sample Number	Work Order Number	Suffix	SAC	Measure sample volume (mL).	Add 1.0 mL (250 ng/mL) PAH IS mix to all samples and QC.	Add 1.0 mL (250 ng/mL) native spike to LCS, LCSD, MS, MSD.	Extract 16 hr with $MeCl_2$.	Filter extract thru Na_2SO_4 / Whatman 41 filter paper into 500 mL KD.	Concentrate/solvent exchange to hexane by KD to appropriate volume.	Perform Silica gel cleanup.	Conc to >10 mL on heating mantle. Conc to 0.5 to 1 mL by N-EVAP.	Add 25 µL recovery std (10 µg/mL) to 2 mL vial. Transfer sample extract to vial.	Conc to 500 µL hexane by N-EVAP.
H6I270412-001	M89011AA			1040	1.0mL	NA	✓	✓	✓	✓	✓	25µl	500µl
H6I270412-002	M89021AA			1038									
H6I270412-003	M89031AA			1034									
H6I270412-004	M89041AA			1039									
H6I270412-005	M89051AA			932									
H6I270412-006	M89061AA			1045									
H6I270412-007	M89071AA			1039									
H6I270412-008	M89081AA			1004									
H6I270412-009	M89091AA			807									
H6I290000-010	M89871AA	B		1000									
H6I290000-010	M89871AC	C		1000		1.0mL						10/7/16	
				AR	[illegible]	[illegible]	AR	JPQ	JPQ	SDO	SDO	SDO	~~SDO~~ SDO
				9/29	9/29	9/29	9/29	9/30	9/30	~~10/4~~ 10/6	~~10/5~~ 10/5/16 10/6/16	10/7	10/7

SDO 10/7/16

Comments:

SG Col Reagents	Hexane Lot #: 146278	Silic Gel ID: B5118:10
	2:3 $MeCl_2$/Hexane ID: C5118:10	Na_2SO_4 ID: C5118:9

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/11/16
Time: 8:36:18

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
_	_	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
Y Bench Sheet Copied per COC

Extractionist: 430806 Crystal Ivey
432218 Amani A. Royce

Concentrationist: 013451 Susan D. Oxendine

QC BATCH: 6273010

PREP DATE: 9/29/16 12:40
COMP DATE: 10/07/16 13:40

Reviewer/Date: OXENDINS / 10/07/16

PAHs & Selected SVOCs (HRGC/MS-SIM)
LIQ/LIQ, CONT (PAH,P/P,TPH) - Nominal

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	SOLVENTS EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
9/29/16	10/14/16	H6I270412-001 **M8901-1-AA**	D	10	YA	WATER	**1040mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/29/16	10/14/16	H6I270412-002 **M8902-1-AA**	D	10	YA	WATER	**1038mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/29/16	10/14/16	H6I270412-003 **M8903-1-AA**	D	10	YA	WATER	**1034mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/30/16	10/14/16	H6I270412-004 **M8904-1-AA**	D	10	YA	WATER	**1039mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/30/16	10/14/16	H6I270412-005 **M8905-1-AA**	D	10	YA	WATER	**932mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/30/16	10/14/16	H6I270412-006 **M8906-1-AA**	D	10	YA	WATER	**1045mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
10/03/16	10/14/16	H6I270412-007 **M8907-1-AA**	D	10	YA	WATER	**1039mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															

RQC058

TestAmerica Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/11/16
Time: 8:36:18

QC BATCH: 6273010

PREP DATE: 9/29/16 12:40
COMP DATE: 10/07/16 13:40

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
10/03/16	10/14/16	H6I270412-008 **M8908-1-AA**	D	10	YA	WATER	**1004mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
10/03/16	10/14/16	H6I270412-009 **M8909-1-AA**	D	10	YA	WATER	**807mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/29/16	0/00/00	H6I290000-010 **M8987-1-AAB**		10	YA	WATER	**1000mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	58138 1.0ML
COMMENTS:															
9/29/16	0/00/00	H6I290000-010 **M8987-1-ACC**		10	YA	WATER	**1000mL** .50mL	NA	NA	NA	MECL2	450.0	HEXANE	50.0	56550 1.0ML 58138 1.0ML
COMMENTS:															

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 11

TestAmerica Knoxville Prep Batch Review Checklist **Batch #** 627301D

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd Level
1. Were the samples extracted within the required holding times?		✓		If No, NCM #: _____	✓
2. Are the final extracts free of water, precipitates, multiple phases, and for HRMS - color?			✓	All samples except QC have color.	✓
3. Were all project specific requirements met as noted on the Lot Checklists (L40) and the Sample List report?		✓			✓
4. Were MS Run numbers assigned properly?	✓				N/A
5. Were the correct weights and volumes entered into QuantIMS for all samples and QC?		✓			✓
6. Were the correct start and completion dates entered into QuantIMS?		✓			✓
7. Were the spike IDs and volumes entered correctly into QuantIMS?		✓			✓
8. Were all appropriate notes and observations recorded on the extraction benchsheet and in QuantIMS?		✓			✓
9. Was the extraction batch reviewed in QuantIMS using LIM L21?		✓			✓
10. Does the prep batch paperwork package contain all required documentation which has been properly and completely filled out, including: • Extraction Benchsheet • QuantIMS Benchsheet • Lot Checklists (L40) for all lots in batch • Sample List • Compound List Report • ~~SOG Sample Tracking Sheet~~ SDO 10/7/16		✓			✓
11. Are all nonconformances documented appropriately and copy included with deliverable?	✓			If Yes, NCM#: _____	N/A

Analyst : SDO **Date:** 10/7/16

Comments:

2nd Level Reviewer: JPR **Date:** 10/7/16

Comments:

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

H6I 270412

Project Identification:	**Montrose Air Quality Services Coke ICR**
Client Contact:	Mr. Matthew Dallesasse (Montrose) (412) 826-3636
TestAmerica Contact:	Ms. Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Mr. Kevin Woodcock (865) 291-3082

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PDS" = Post Digestion Spike and "PDSD" = Post Digestion Spike Duplicate

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Media Request Form No.:	083016-8
Laboratory Destination:	TestAmerica Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	TestAmerica Courier Service

Project Deliverables:
Report analytical results on Quantims R-02 and TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all Reports.

Analytical Parameter:	Holding Time Requirements:	Preservation Requirements:
Polynuclear Aromatic Hydrocarbons (PAHs)	7 Days from Collection to Extraction, 40 Days from Extraction to Analysis.	Cool, 4°C

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-~~1600 Loc #1 Dust~~	1		MS/MSD	250 mL Powder Jar	**Dust Sample** **Location #1** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-~~1602 Loc #2 Dust~~	2			250 mL Powder Jar	**Dust Sample** **Location #2** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1608 Loc #3 Water QT-R1A	3	9/22/16	MS/MSD	1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #3** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1616 Loc #4 Water QT-R1B	4	9/22/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #4** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1624 Loc #5 Water QT-R1C	5	9/22/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #5** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).

92425

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1632 Loc #6 Water ~~R2~~ QT-R2A	6	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #6** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1640 Loc #7 Water QT-R2B	7	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #7** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1648 Loc #8 Water QT-R2C	8	9/23/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #8** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1656 Loc #9 Water QT-R3A	9	9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #9** SIM PAH Analysis	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1664 Loc #10 Water QT-R3B	10	BC ~~9/26/16~~ 9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #10** **SIM PAH Analysis**	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).
R-1672 Loc #11 Water QT-R3C	11	9/26/16		1 Liter Narrow Mouth Amber Glass	**Water Sample** **Location #11** **SIM PAH Analysis**	Analyze this sample for Polynuclear Aromatic Hydrocarbons (PAHs) by TestAmerica Knoxville SOP No. KNOX-ID-0016, Selective Ion Monitoring (SIM).

Request for Analysis/Chain-of-Custody – RFA/COC #001
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	OT, 3.7, 4.8, 3.3, 4.4 / OT 3.7, 4.8, 3.3, 4.4
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	CUSTODY SEALS INTACT, HAND DELIVERED

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[illegible]	Montrose	9/26/16 11:00
Accepted By:	[illegible]	TestAmerica	9/26/16 11:00
Relinquished By:	[illegible]	TestAmerica	9/26/16 21:57
Accepted By:	[illegible]	TAKNX	9/26/16 12:57
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number: H6I270412

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S061 Correction factor: 0.0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, lab will adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: 92425 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 9-27-16

QA026R30.doc, 080916