

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL120219\
 Data File : VL034434.D
 Acq On : 2 Dec 2019 20:08
 Operator : SY/AP
 Sample : K6068-04
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV-4

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Quant Time: Dec 03 11:27:48 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL111919AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Nov 19 14:15:35 2019
 QLast Update : Tue Nov 19 14:15:35 2019
 Response via : Initial Calibration

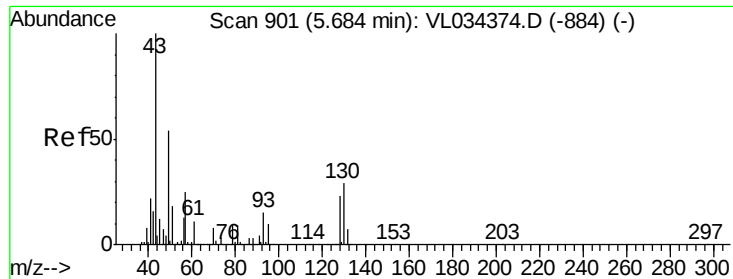
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.69	49	896715	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.23	114	1816589	10.00	ppbv	0.02
55) Chlorobenzene-d5	12.16	117	1746869	10.00	ppbv	0.02

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.49	95	1532301	10.43	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	104.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.02	85	104199	0.642	ppbv	95
3) Chlorodifluoromethane	2.96	51	57006m	0.510	ppbv	
4) Chloromethane	3.12	50	27200	0.412	ppbv	98
9) Propene	2.99	41	415770	8.370	ppbv	83
10) Heptane	8.18	43	66432	0.518	ppbv	92
11) Trichlorofluoromethane	3.95	101	37931	0.235	ppbv	100
13) Ethanol	3.60	45	189390	13.688	ppbv	100
15) Acetone	3.84	43	6063429	47.221	ppbv #	86
17) tert-Butyl alcohol	4.31	59	196344m	1.819	ppbv	
19) Isopropyl Alcohol	3.97	45	443744	5.391	ppbv #	96
20) Methylene Chloride	4.35	84	50630	1.112	ppbv	91
22) trans-1,2-Dichloroethene	4.90	96	19550	0.414	ppbv #	85
26) Hexane	5.71	57	113805	1.156	ppbv #	47
27) Carbon Disulfide	4.56	76	187338	1.747	ppbv	94
29) Chloroform	5.78	83	271125	1.700	ppbv	95
30) Cyclohexane	7.16	84	34995m	0.470	ppbv	
31) cis-1,2-Dichloroethene	5.57	61	1535174	15.088	ppbv	97
32) 1,1,1-Trichloroethane	6.55	97	667720	4.467	ppbv	98
34) 2-Butanone	5.29	43	420714	2.814	ppbv	99
35) Carbon Tetrachloride	7.05	117	11212m	0.072	ppbv	
36) Benzene	6.93	78	313786	1.728	ppbv	96
38) Trichloroethene	7.92	130	17294519	232.075	ppbv	87
50) 4-Methyl-2-Pentanone	8.80	43	48936m	0.226	ppbv	
52) Tetrachloroethene	11.33	164	13528969	172.188	ppbv	87
53) Toluene	9.87	91	565243	2.740	ppbv	98
58) Ethyl Benzene	12.79	91	111394m	0.411	ppbv	
59) m/p-Xylene	13.03	91	363853m	1.553	ppbv	
60) o-Xylene	13.76	91	132726m	0.573	ppbv	
72) 4-Ethyltoluene	15.91	105	58071m	0.217	ppbv	
73) 1,3,5-Trimethylbenzene	16.07	105	40014m	0.153	ppbv	
74) 1,2,4-Trimethylbenzene	16.84	105	168575m	0.606	ppbv	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.69 min Scan# 903

Delta R.T. 0.01 min

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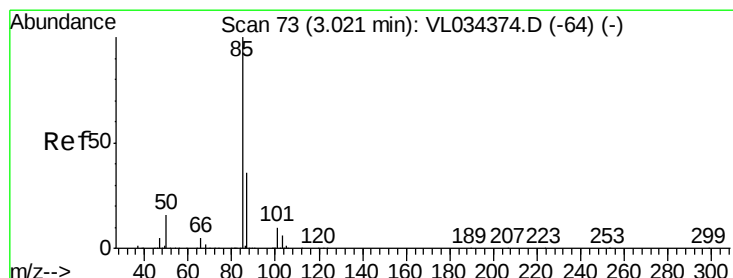
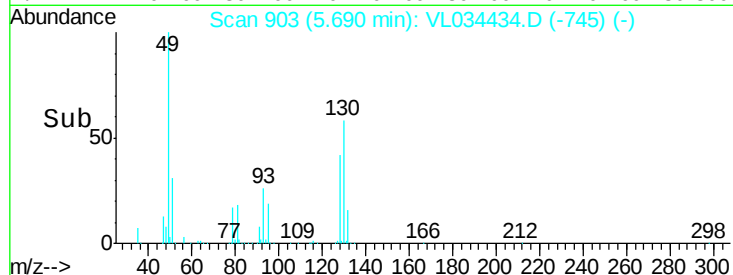
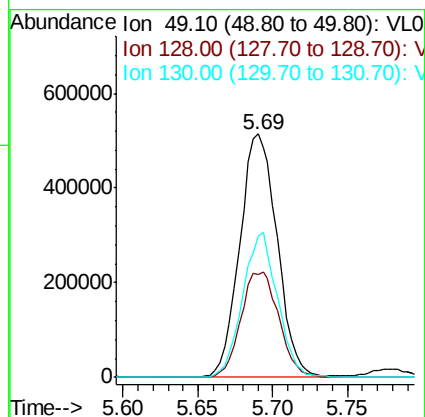
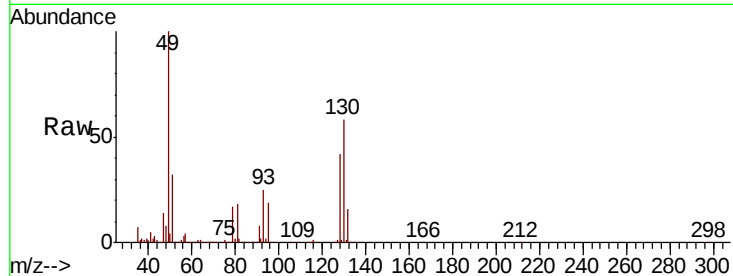
ClientSampled :

SV-4

Tot Ion:	49	Resp:	896715
Ion Ratio	Lower	Upper	
49	100		
128	44.0	21.8	65.3
130	55.5	28.0	84.0

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#2

Dichlorodifluoromethane

Concen: 0.642 ppbv

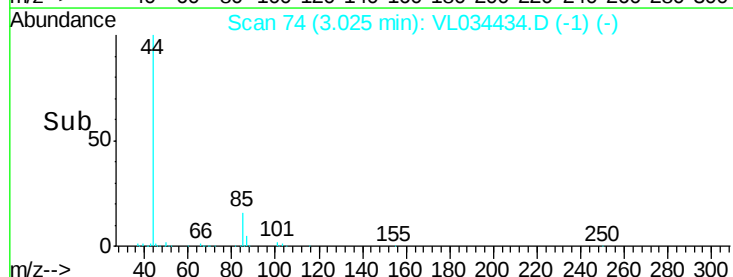
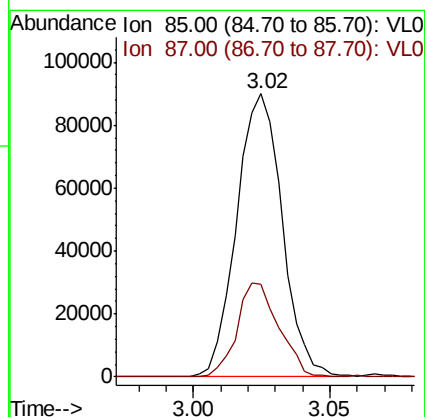
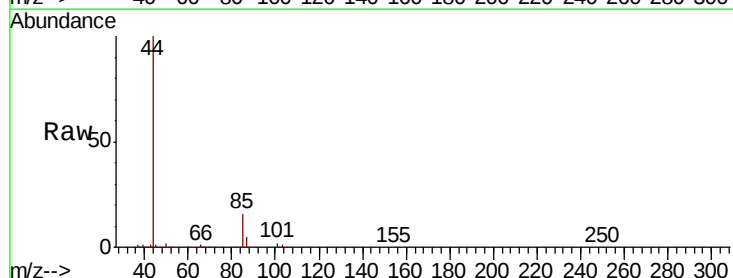
RT: 3.02 min Scan# 74

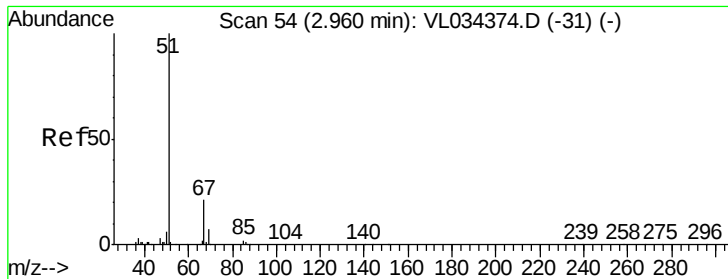
Delta R.T. 0.00 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion:	85	Resp:	104199
Ion Ratio	Lower	Upper	
85	100		
87	32.9	28.5	42.7





#3

Chlorodifluoromethane

Concen: 0.510 ppbv

RT: 2.96 min Scan# 54

Delta R.T. 0.00 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampleId :

SV-4

Tot Ion: 51 Resp: 57006

Ion Ratio Lower Upper

51 100

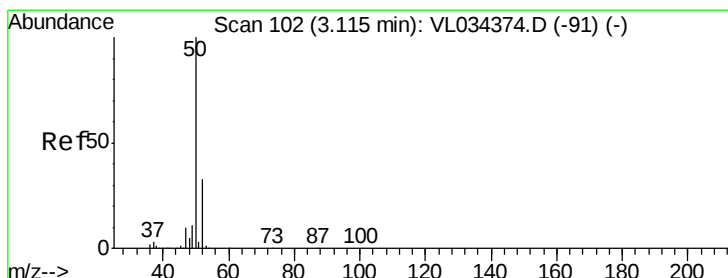
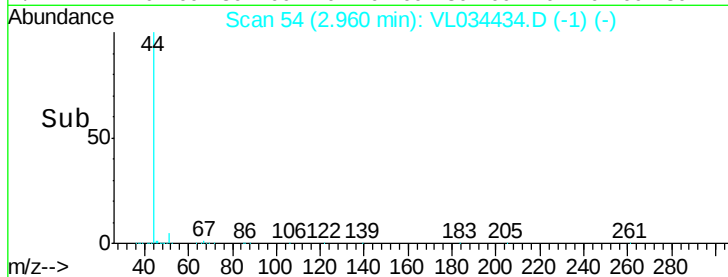
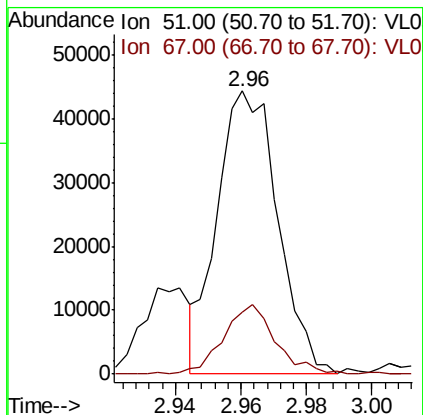
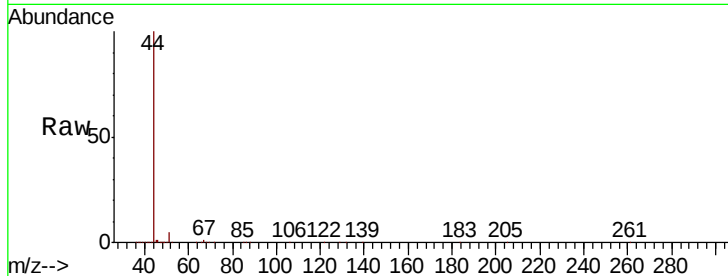
67 21.6 16.2 24.2

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#4

Chloromethane

Concen: 0.412 ppbv

RT: 3.12 min Scan# 103

Delta R.T. 0.00 min

Lab File: VL034434.D

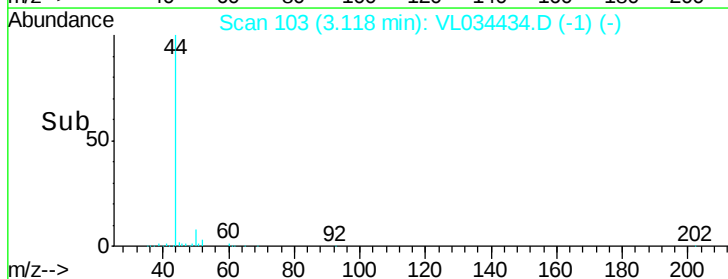
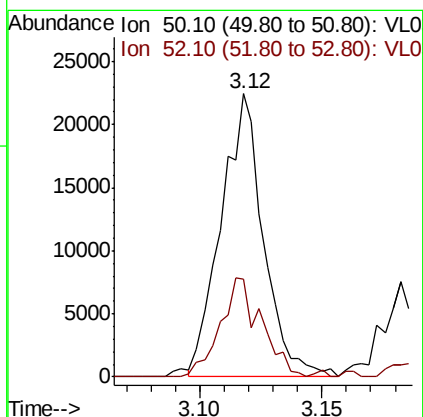
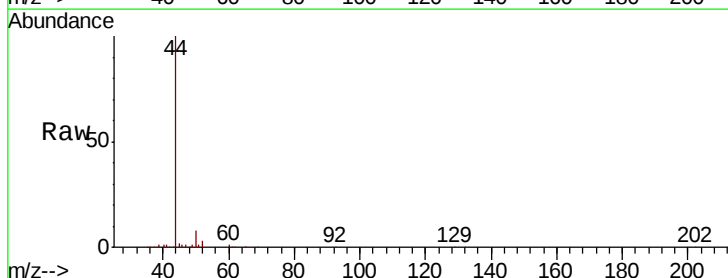
Acq: 2 Dec 2019 20:08

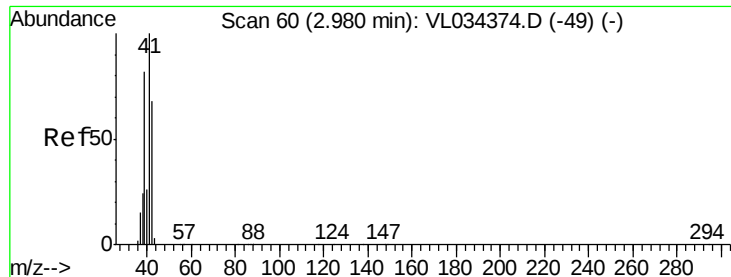
Tgt Ion: 50 Resp: 27200

Ion Ratio Lower Upper

50 100

52 34.4 26.8 40.2





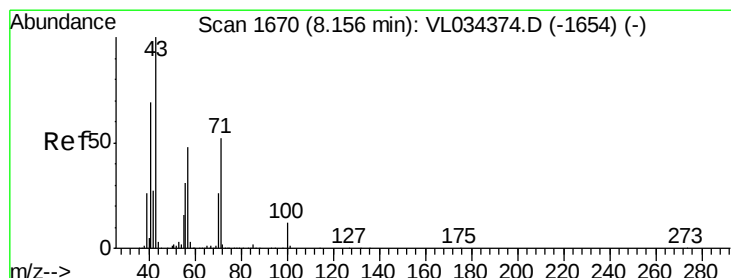
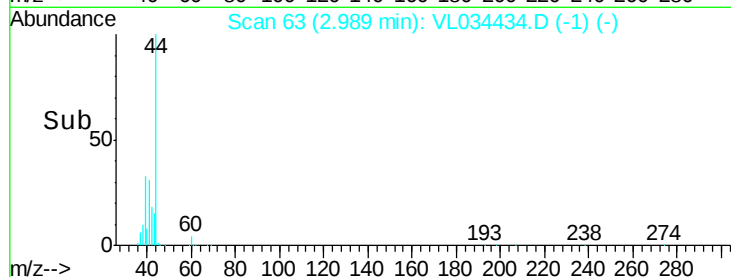
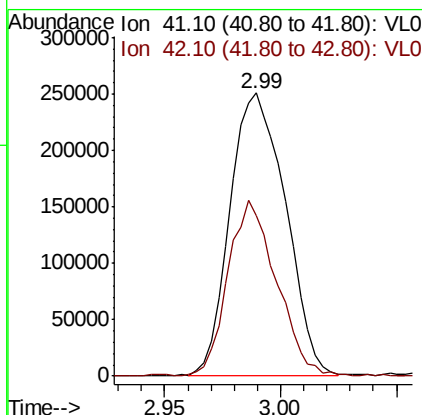
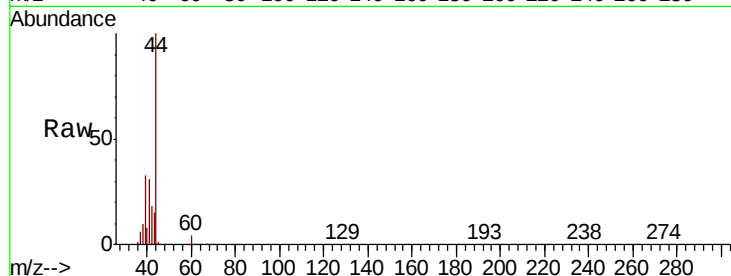
#9
Propene
Concen: 8.370 ppbv
RT: 2.99 min Scan# 63
Delta R.T. 0.01 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Instrument :
MSVOA_L
ClientSampled :
SV-4

Tot Ion: 41 Resp: 415770
Ion Ratio Lower Upper
41 100
42 54.7 54.6 82.0

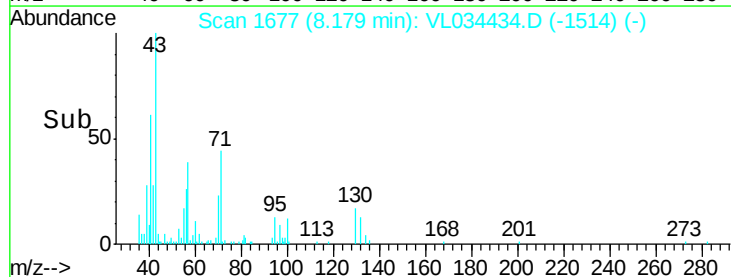
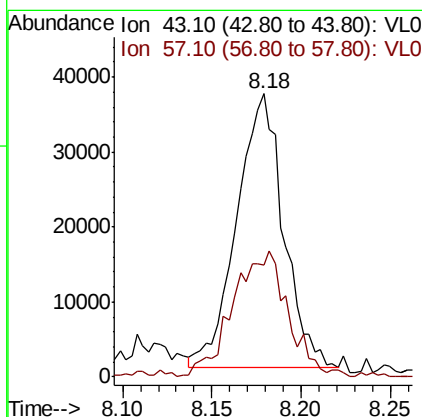
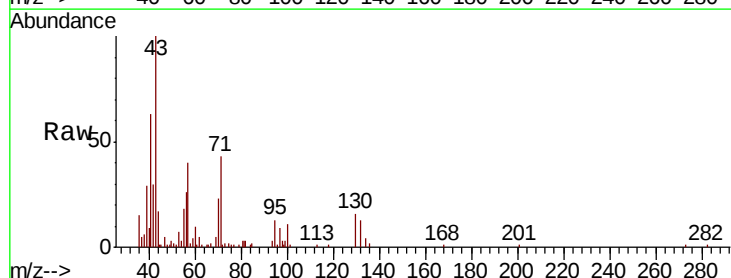
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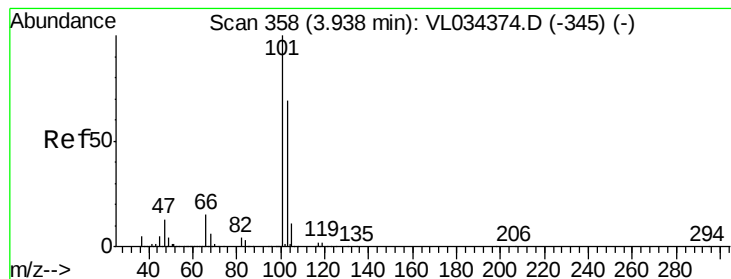
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#10
Heptane
Concen: 0.518 ppbv
RT: 8.18 min Scan# 1677
Delta R.T. 0.02 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Tgt Ion: 43 Resp: 66432
Ion Ratio Lower Upper
43 100
57 55.7 40.2 60.2





#11

Trichlorofluoromethane

Concen: 0.235 ppbv

RT: 3.95 min Scan# 361

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampled :

SV-4

Tot Ion:101 Resp: 37931

Ion Ratio Lower Upper

101 100

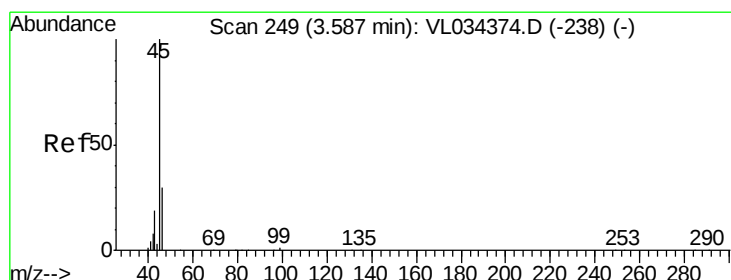
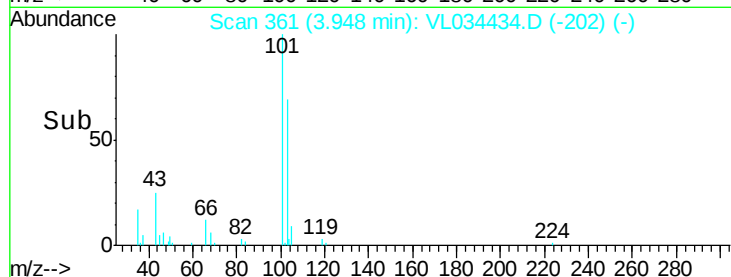
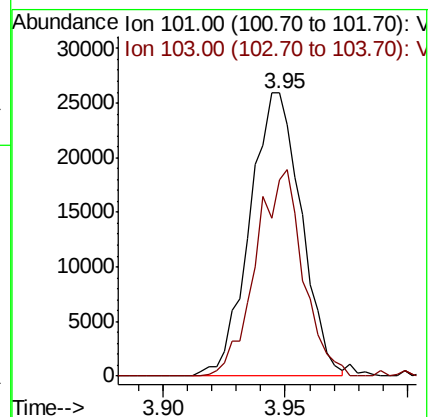
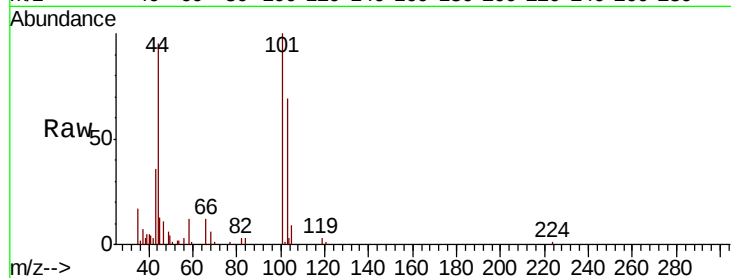
103 69.2 55.4 83.0

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#13

Ethanol

Concen: 13.688 ppbv

RT: 3.60 min Scan# 252

Delta R.T. 0.01 min

Lab File: VL034434.D

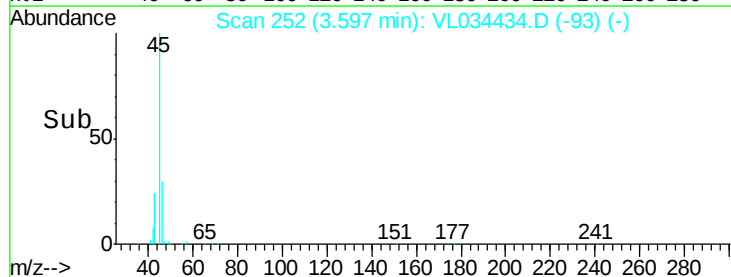
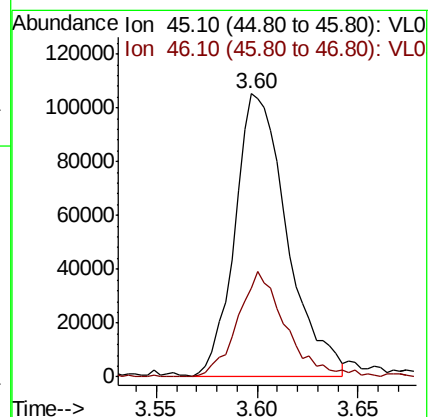
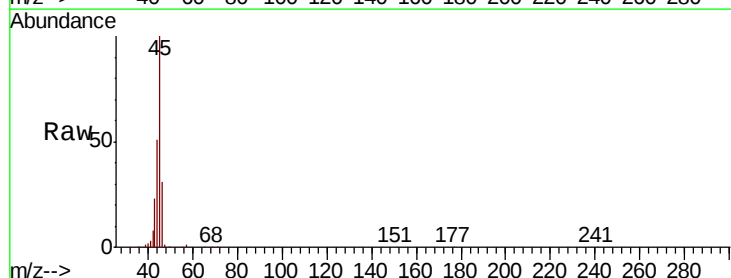
Acq: 2 Dec 2019 20:08

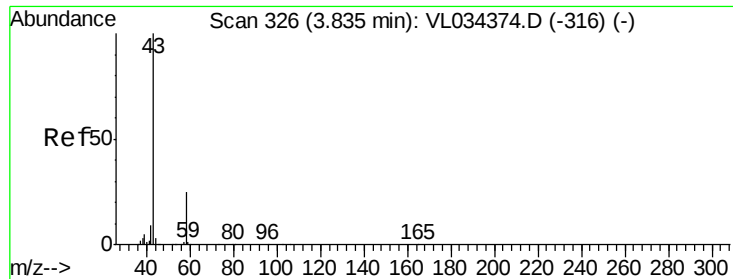
Tgt Ion: 45 Resp: 189390

Ion Ratio Lower Upper

45 100

46 34.7 13.8 55.4





#15

Acetone

Concen: 47.221 ppbv

RT: 3.84 min Scan# 327

Delta R.T. 0.00 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampled :

SV-4

Tot Ion: 43 Resp: 6063429

Ion Ratio Lower Upper

43 100

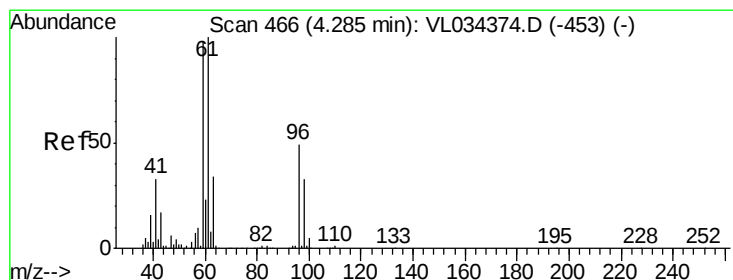
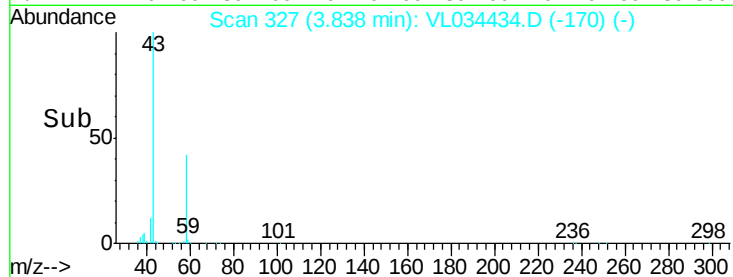
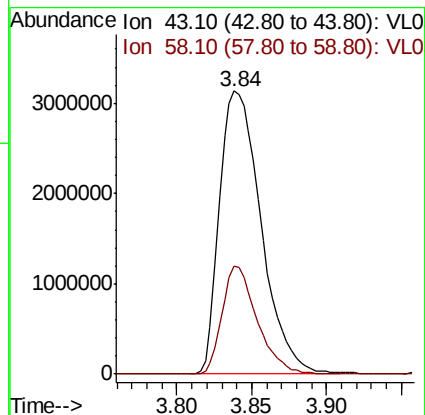
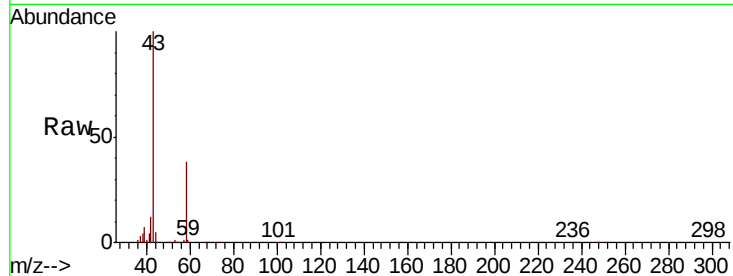
58 32.3 20.2 30.4#

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#17

tert-Butyl alcohol

Concen: 1.819 ppbv m

RT: 4.31 min Scan# 475

Delta R.T. 0.03 min

Lab File: VL034434.D

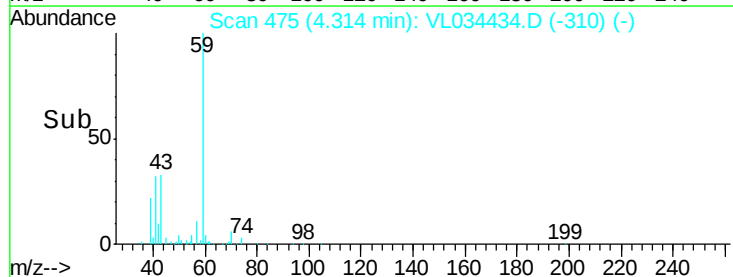
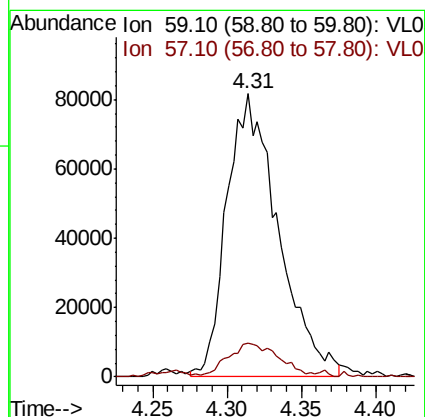
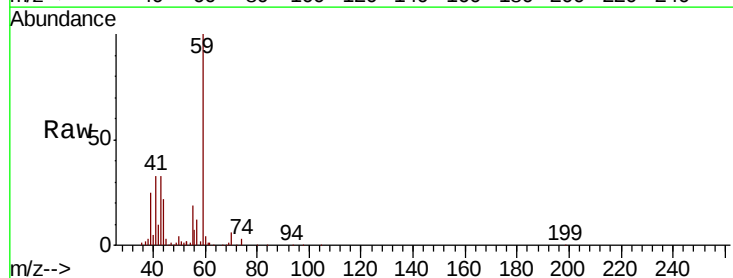
Acq: 2 Dec 2019 20:08

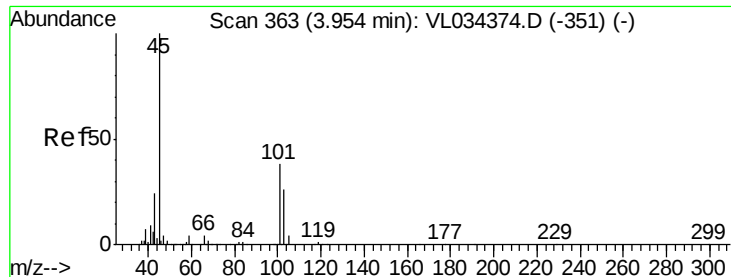
Tgt Ion: 59 Resp: 196344

Ion Ratio Lower Upper

59 100

57 12.7 8.8 13.2





#19

Isopropyl Alcohol

Concen: 5.391 ppbv

RT: 3.97 min Scan# 369

Delta R.T. 0.02 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampleId :

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Tot Ion: 45 Resp: 443744

Ion Ratio Lower Upper

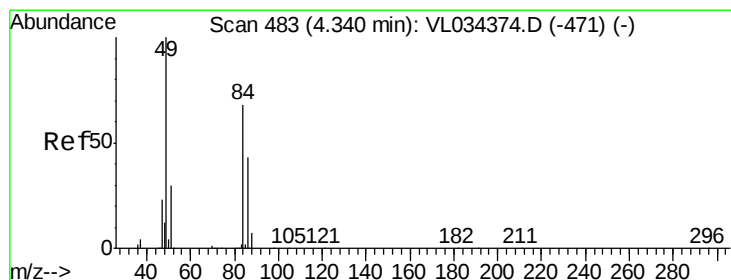
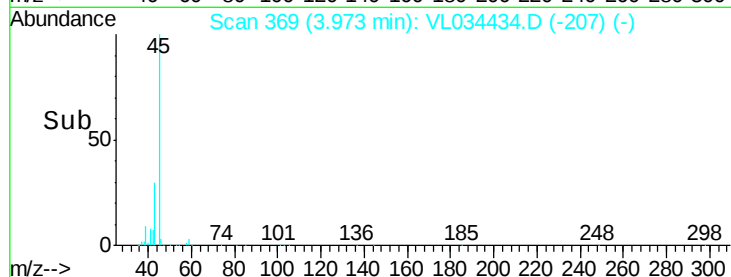
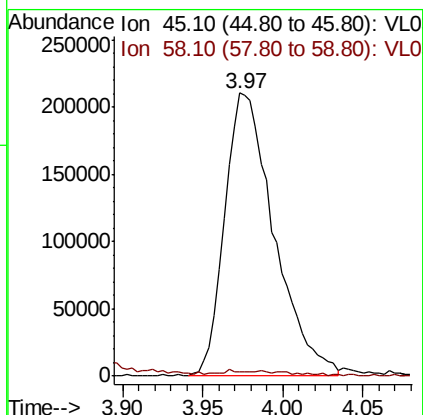
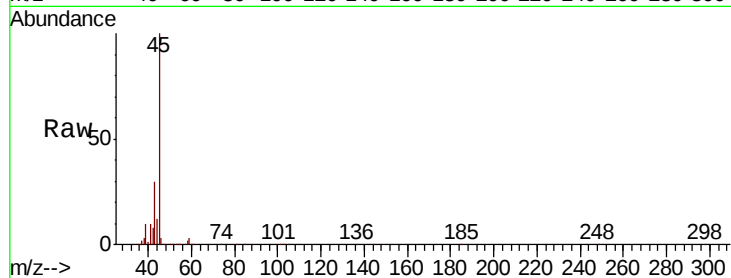
45 100

58 0.0 1.3 1.9#

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#20

Methylene Chloride

Concen: 1.112 ppbv

RT: 4.35 min Scan# 486

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion: 84 Resp: 50630

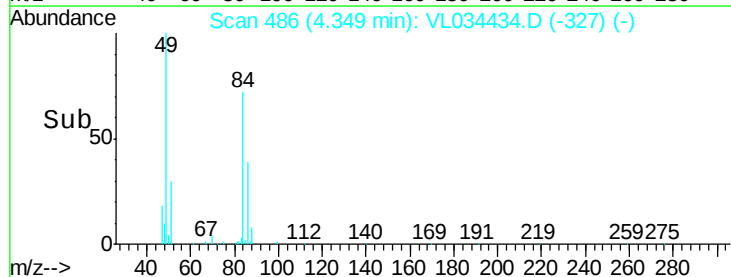
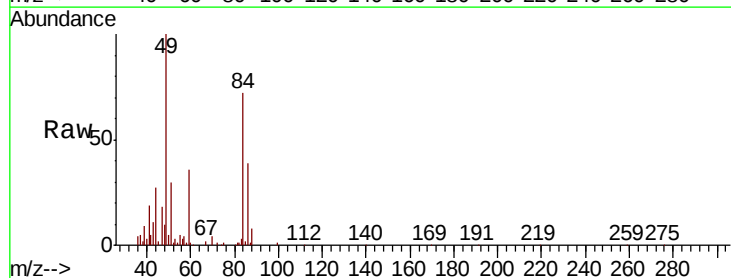
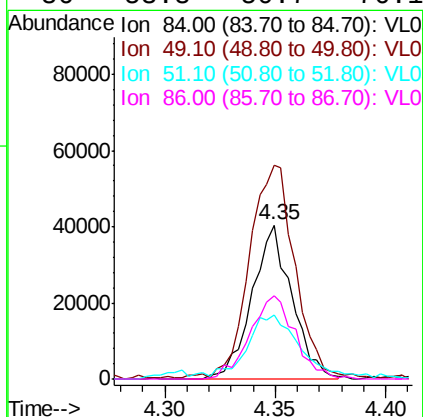
Ion Ratio Lower Upper

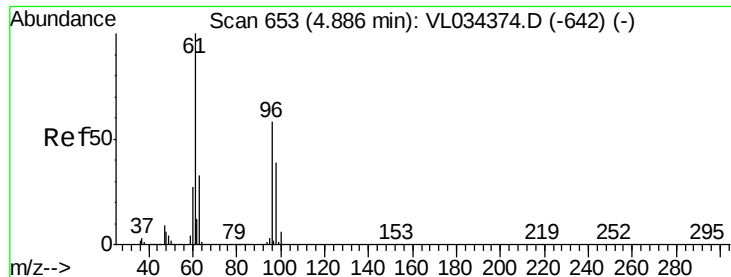
84 100

49 136.1 116.8 175.2

51 39.3 35.6 53.4

86 53.8 50.7 76.1





#22

trans-1,2-Dichloroethene

Concen: 0.414 ppbv

RT: 4.90 min Scan# 657

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

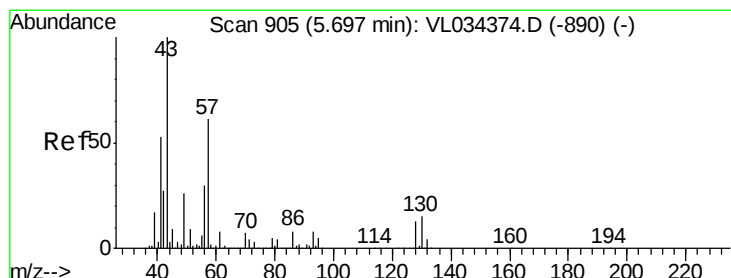
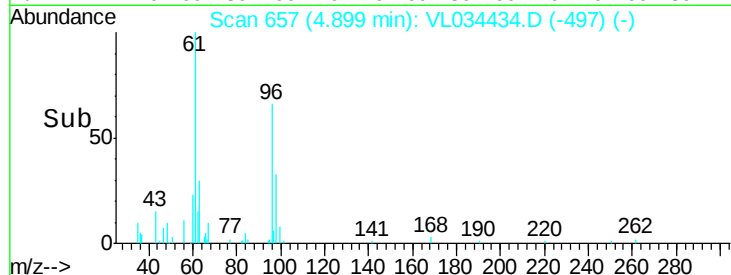
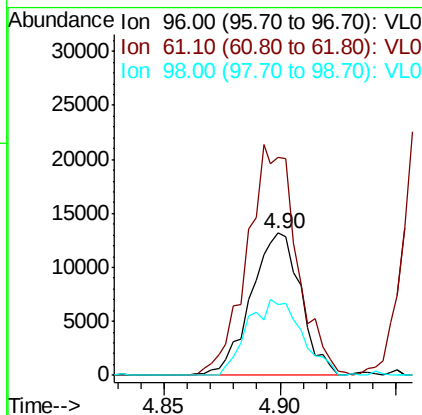
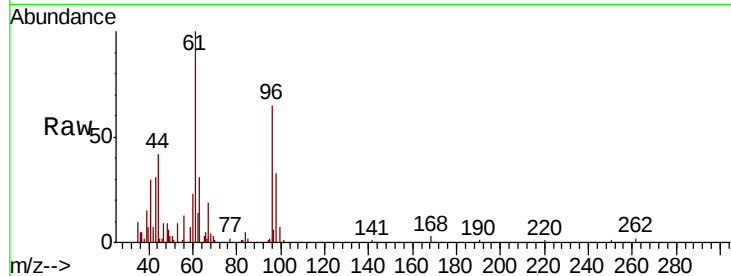
ClientSampleId :

SV-4

Tot Ion:	96	Resp:	19550
Ion Ratio	Lower	Upper	
96	100		
61	153.9	137.9	206.9
98	50.3	53.5	80.3#

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#26

Hexane

Concen: 1.156 ppbv

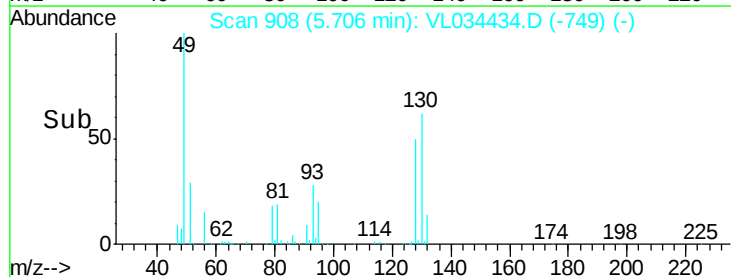
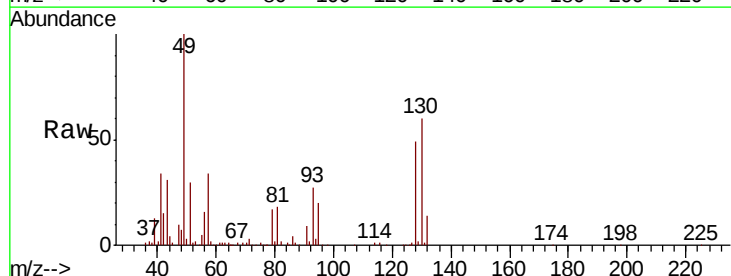
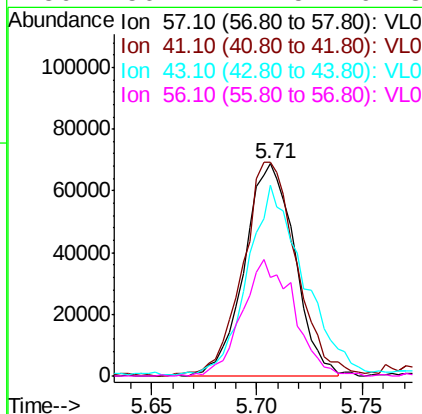
RT: 5.71 min Scan# 908

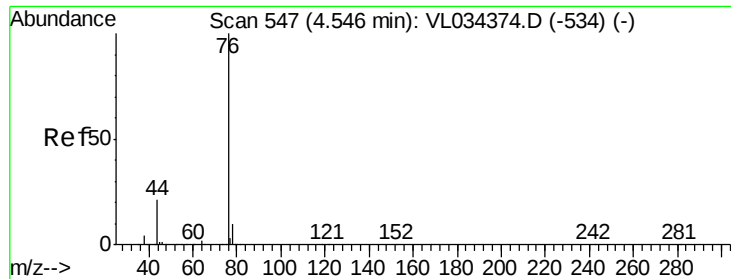
Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion:	57	Resp:	113805
Ion Ratio	Lower	Upper	
57	100		
41	107.9	75.0	112.4
43	100.9	186.6	279.8#
56	56.7	41.5	62.3





#27

Carbon Disulfide

Concen: 1.747 ppbv

RT: 4.56 min Scan# 550

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

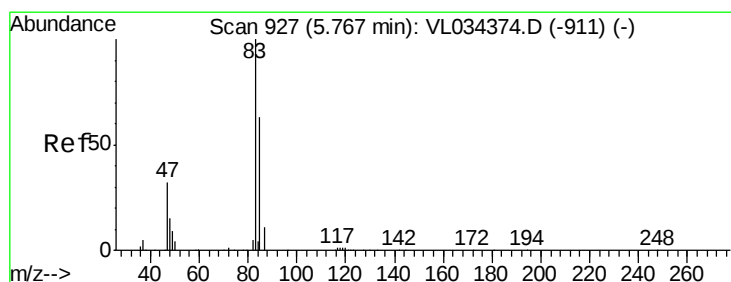
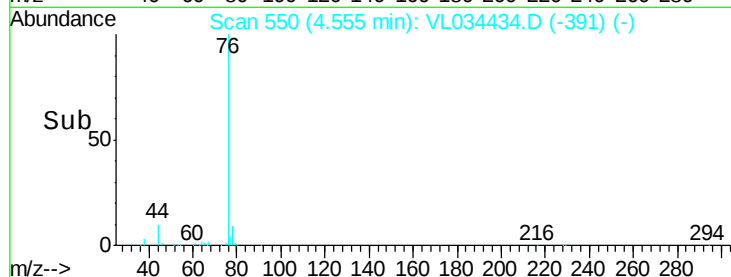
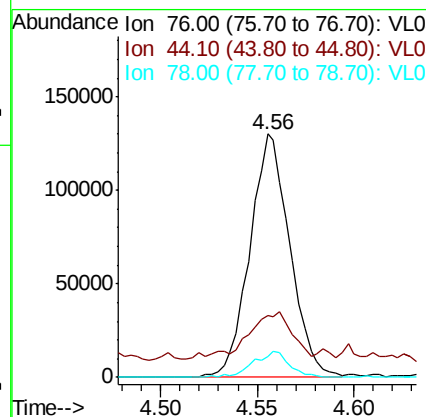
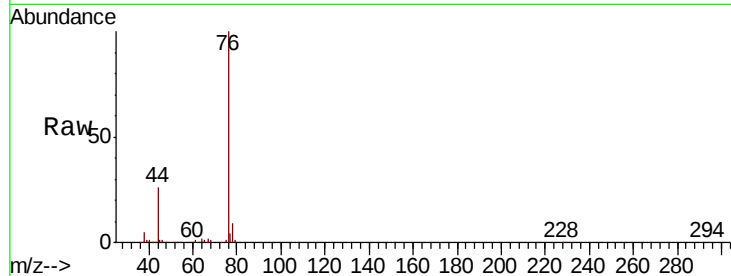
ClientSampleId :

SV-4

Tot Ion:	76	Resp:	187338
Ion Ratio	Lower	Upper	
76	100		
44	24.7	17.0	25.4
78	9.9	7.6	11.4

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#29

Chloroform

Concen: 1.700 ppbv

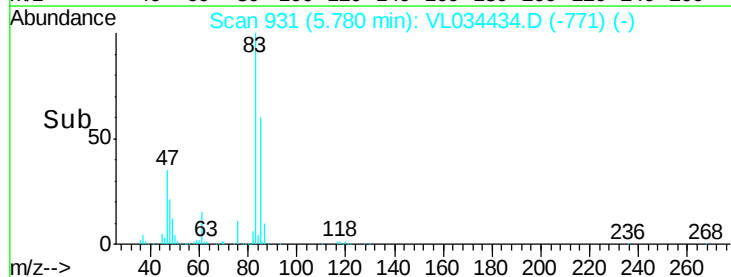
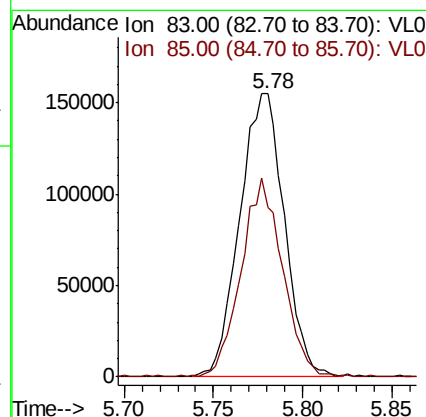
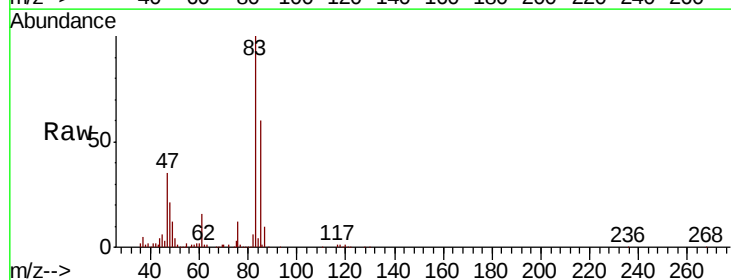
RT: 5.78 min Scan# 931

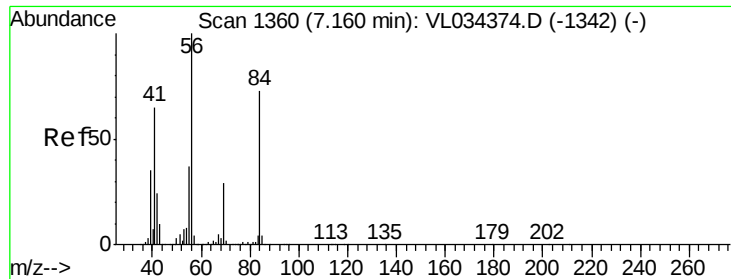
Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion:	83	Resp:	271125
Ion Ratio	Lower	Upper	
83	100		
85	59.5	50.4	75.6





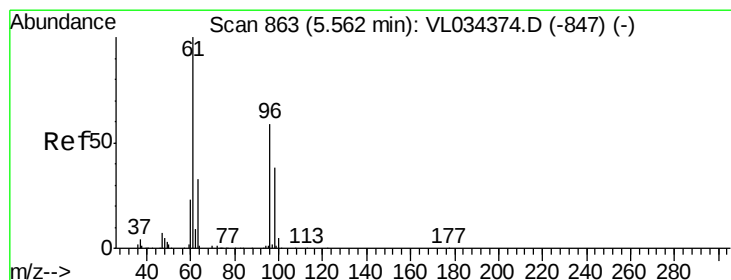
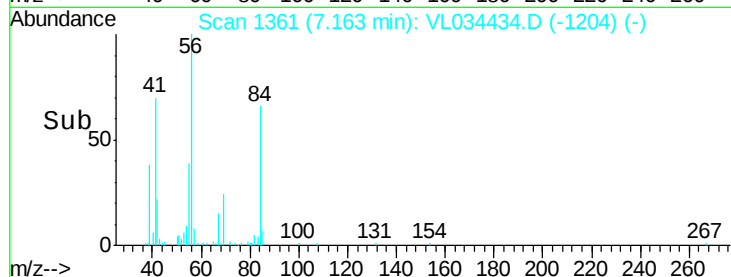
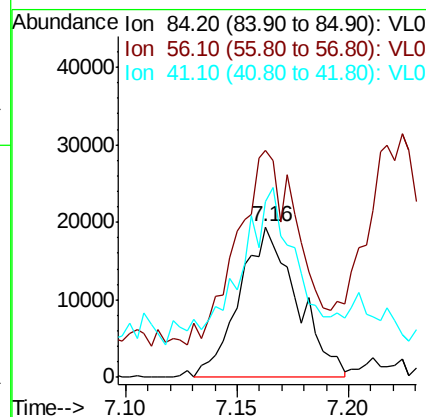
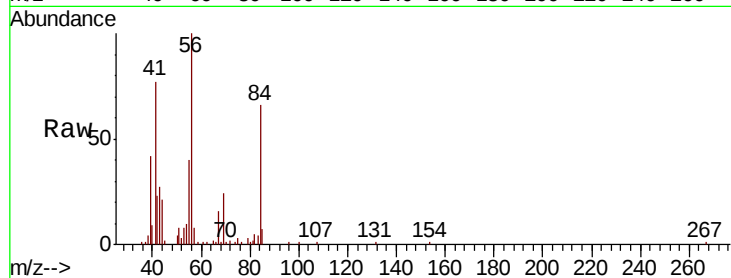
#30
Cvclohexane
Concen: 0.470 ppbv m
RT: 7.16 min Scan# 1361
Delta R.T. 0.00 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Instrument :
MSVOA_L
ClientSampled :
SV-4

Tot Ion	Ratio	Lower	Upper
84	100		
56	0.0	112.6	169.0#
41	0.0	73.4	110.2#

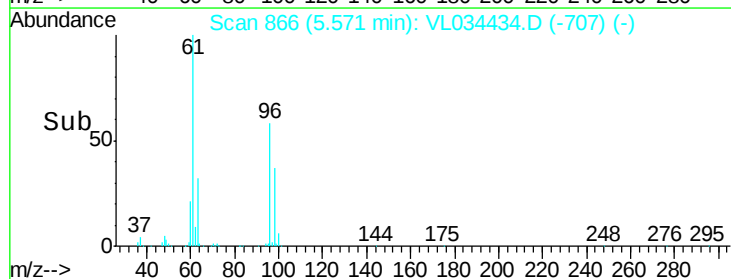
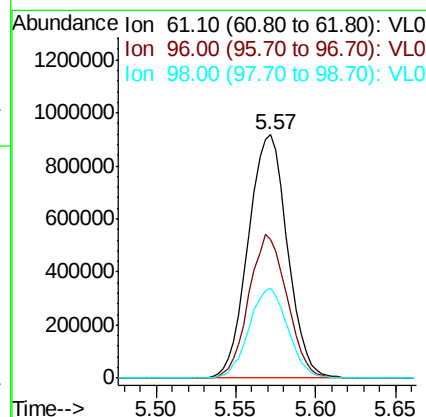
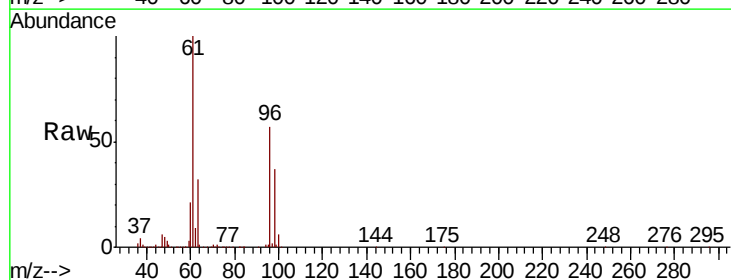
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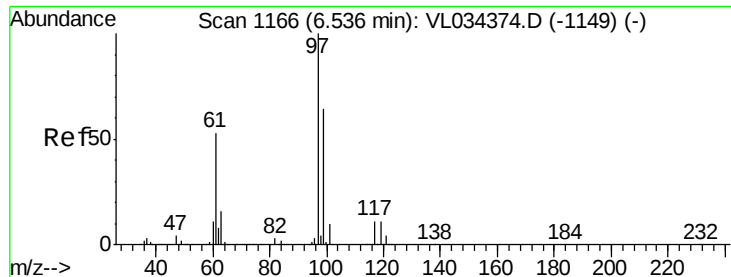
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#31
cis-1,2-Dichloroethene
Concen: 15.088 ppbv
RT: 5.57 min Scan# 866
Delta R.T. 0.01 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Tgt Ion	Ratio	Lower	Upper
61	100		
96	57.0	47.4	71.2
98	37.0	30.6	45.8





#32

1,1,1-Trichloroethane

Concen: 4.467 ppbv

RT: 6.55 min Scan# 1169

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

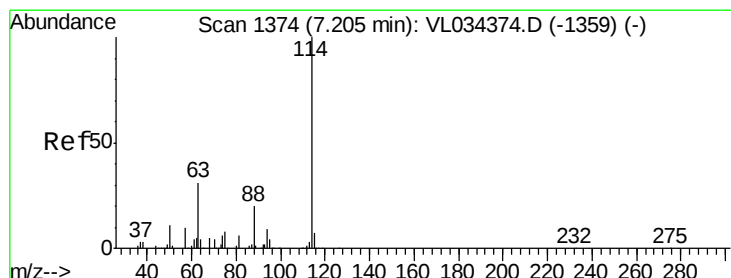
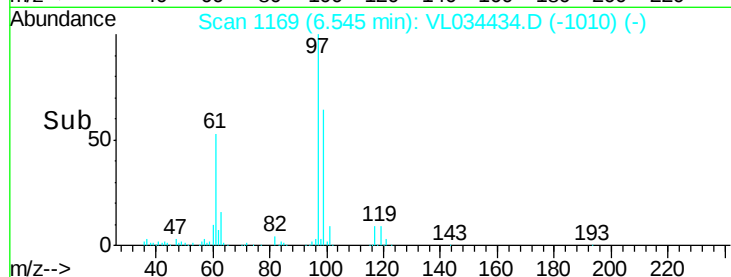
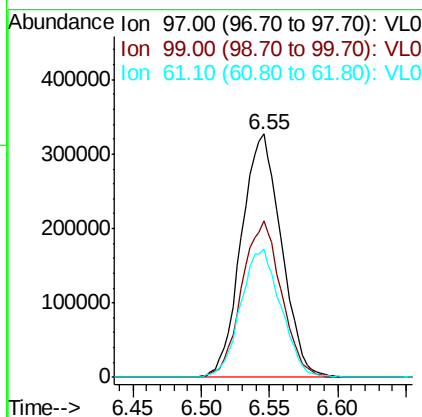
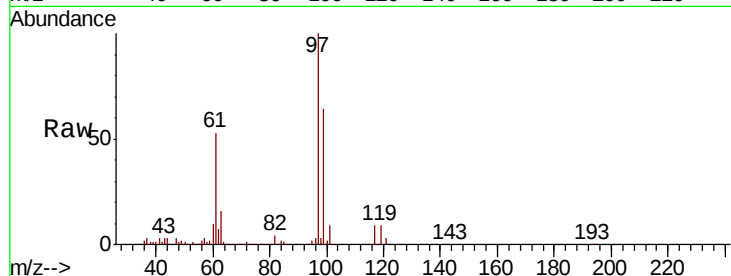
ClientSampled :

SV-4

Tot Ion:	97	Resp:	667720
Ion	Ratio	Lower	Upper
97	100		
99	63.4	52.3	78.5
61	53.2	43.7	65.5

Manual Integrations
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#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

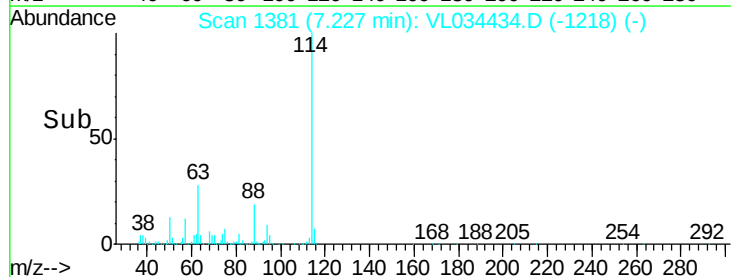
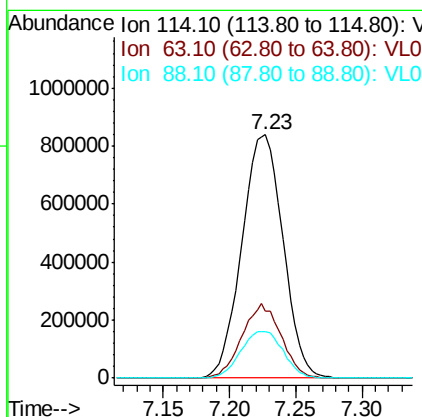
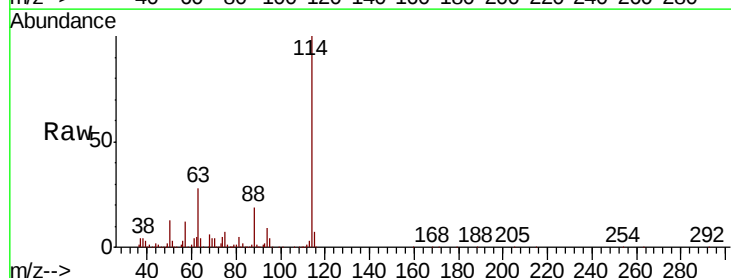
RT: 7.23 min Scan# 1381

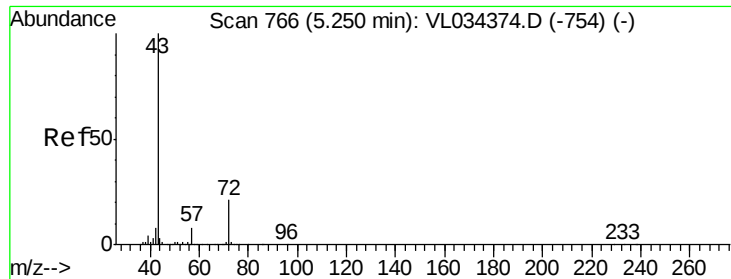
Delta R.T. 0.02 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion:	114	Resp:	1816589
Ion	Ratio	Lower	Upper
114	100		
63	29.1	24.2	36.4
88	19.8	15.9	23.9





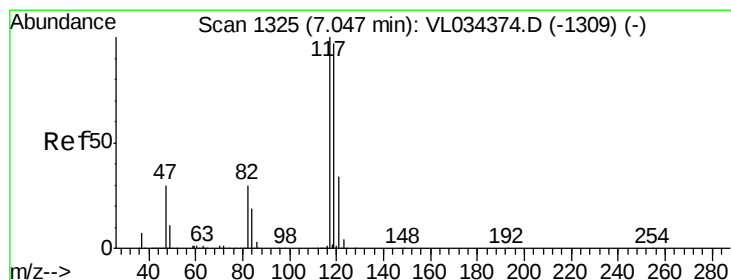
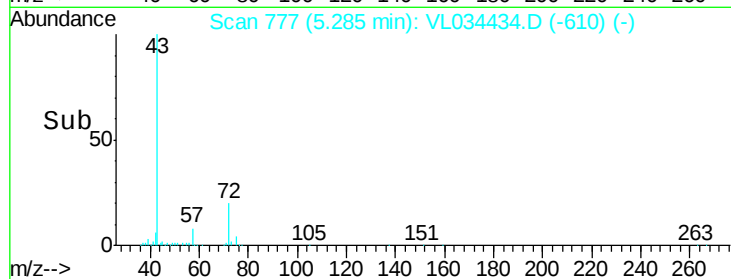
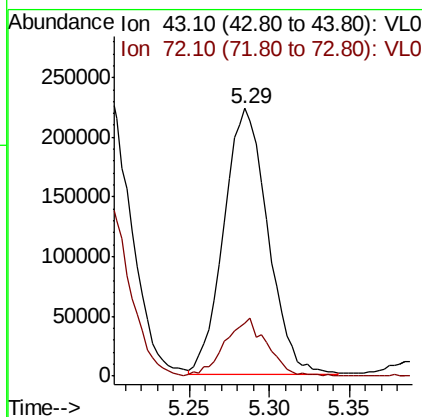
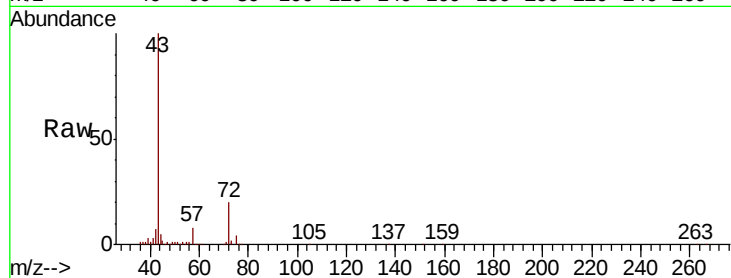
#34
2-Butanone
Concen: 2.814 ppbv
RT: 5.29 min Scan# 777
Delta R.T. 0.04 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Instrument :
MSVOA_L
ClientSampled :
SV-4

Tot Ion: 43 Resp: 420714
Ion Ratio Lower Upper
43 100
72 21.0 17.0 25.6

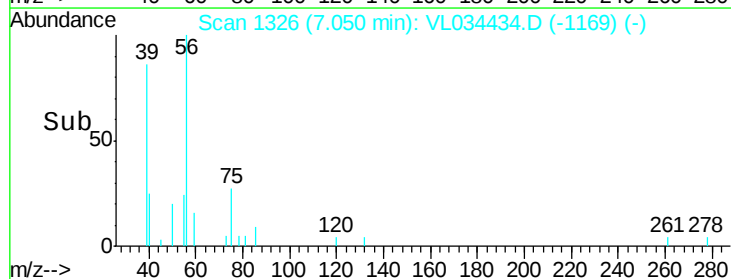
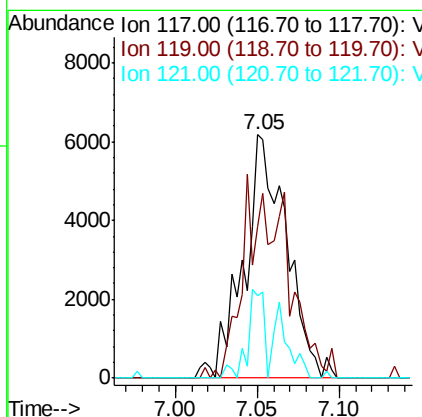
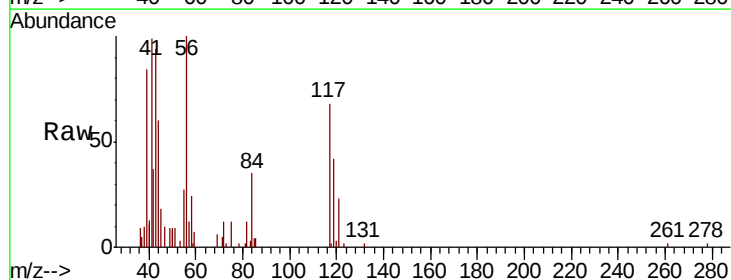
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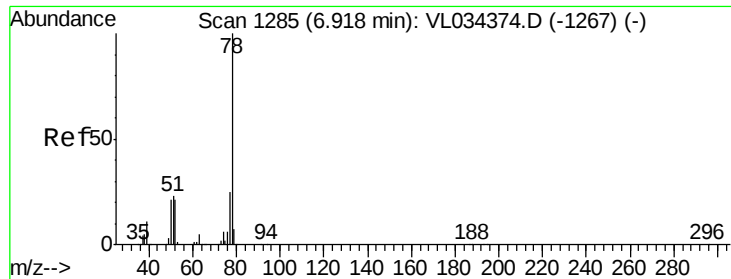
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#35
Carbon Tetrachloride
Concen: 0.072 ppbv m
RT: 7.05 min Scan# 1326
Delta R.T. 0.00 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Tgt Ion: 117 Resp: 11212
Ion Ratio Lower Upper
117 100
119 62.3 77.3 115.9#
121 33.7 27.4 41.2





#36

Benzene

Concen: 1.728 ppbv

RT: 6.93 min Scan# 1289

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

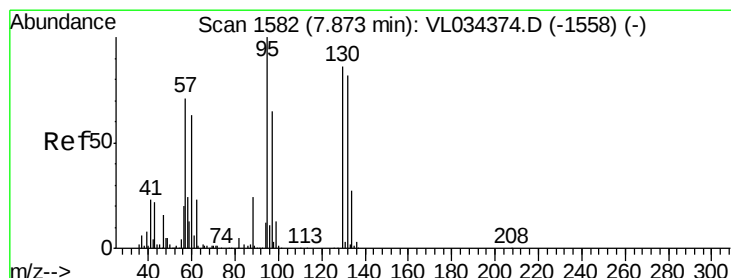
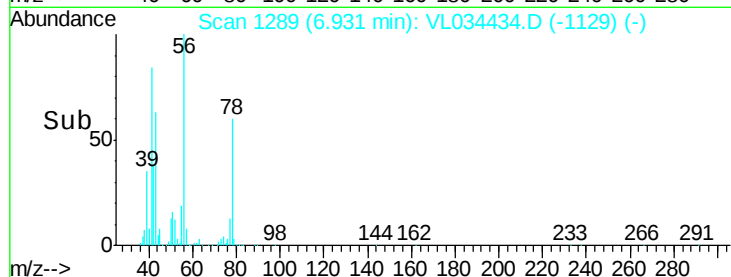
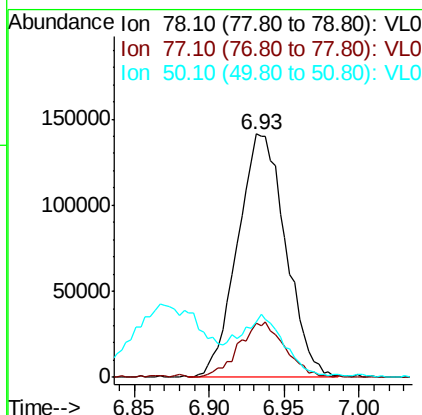
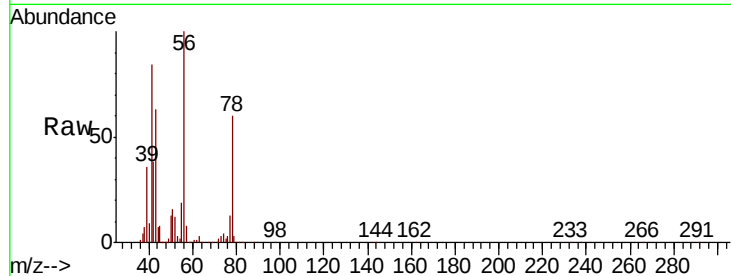
ClientSampled :

SV-4

Tot Ion:	78	Resp:	313786
Ion	Ratio	Lower	Upper
78	100		
77	21.8	20.2	30.4
50	21.6	17.1	25.7

Manual Integrations
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#38

Trichloroethene

Concen: 232.075 ppbv

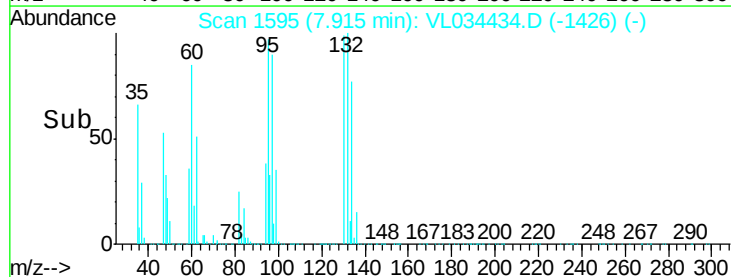
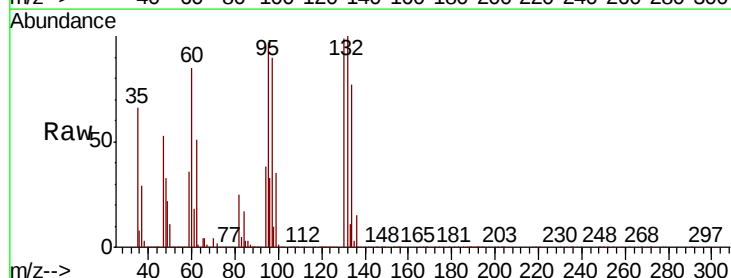
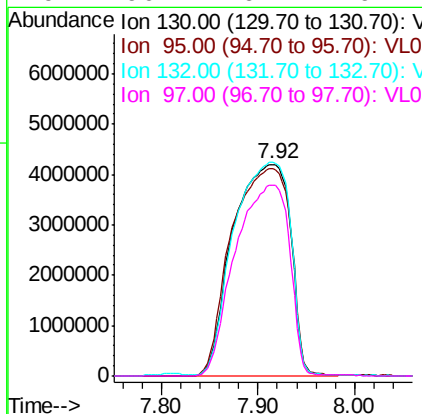
RT: 7.92 min Scan# 1595

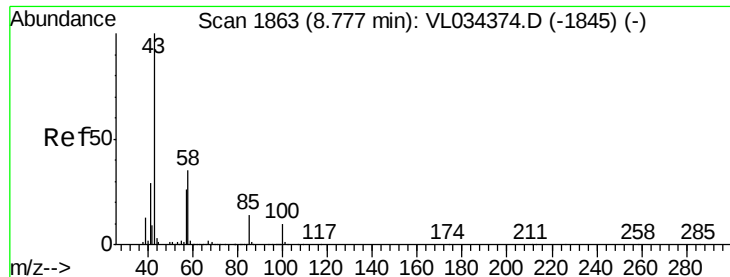
Delta R.T. 0.04 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Tgt Ion:	130	Resp:	17294519
Ion	Ratio	Lower	Upper
130	100		
95	98.2	93.4	140.0
132	100.2	76.4	114.6
97	90.4	61.1	91.7





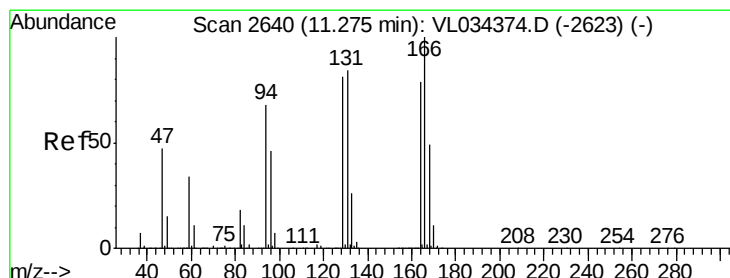
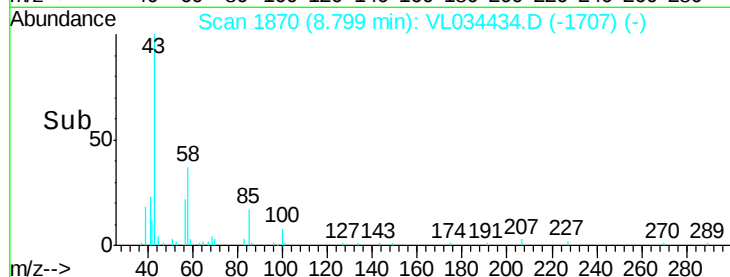
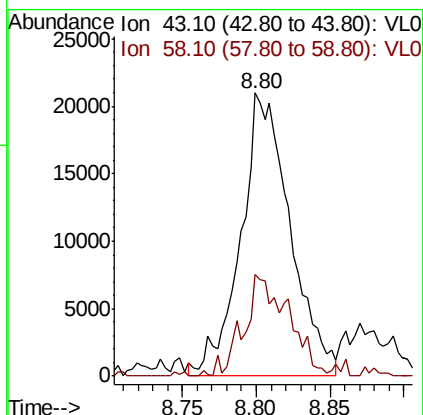
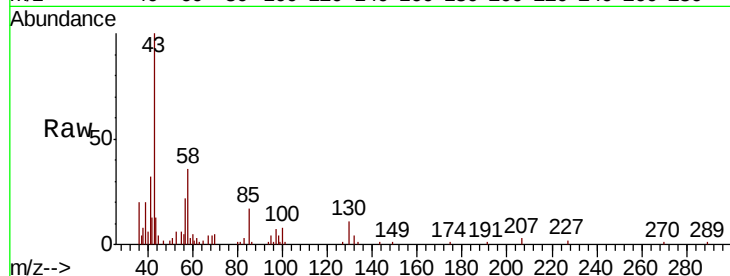
#50
4-Methyl-2-Pentanone
Concen: 0.226 ppbv m
RT: 8.80 min Scan# 1870
Delta R.T. 0.02 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Instrument :
MSVOA_L
ClientSampleId :
SV-4

Tot Ion: 43 Resp: 48936
Ion Ratio Lower Upper
43 100
58 0.0 27.9 41.9#

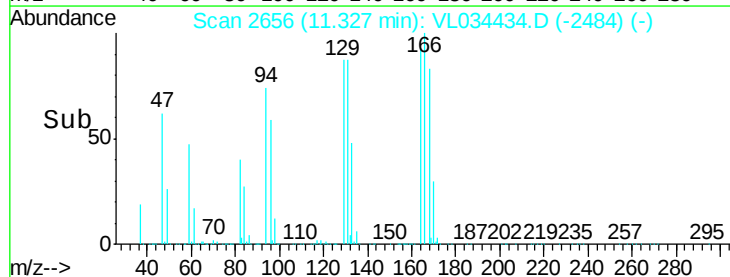
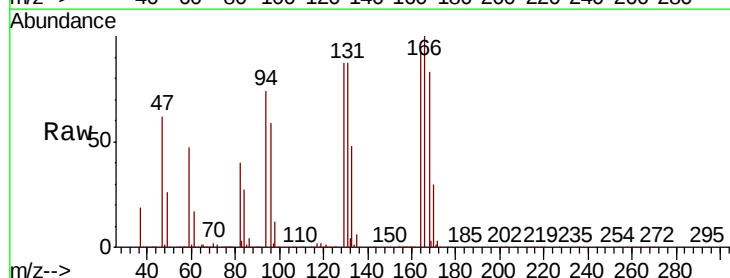
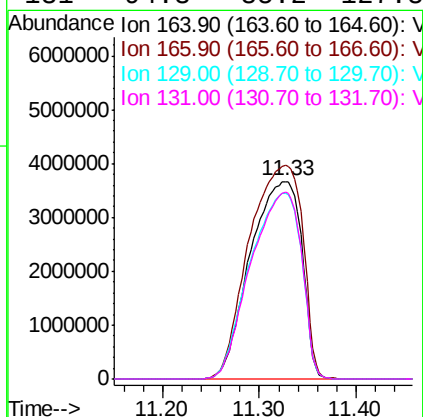
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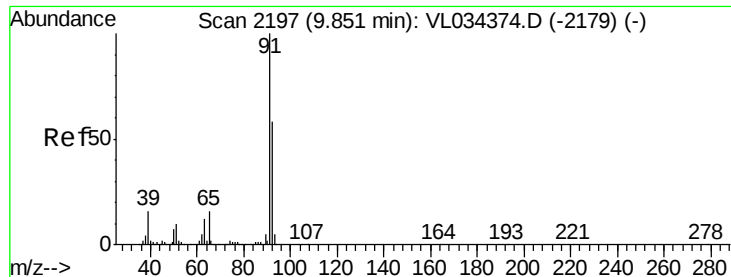
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#52
Tetrachloroethene
Concen: 172.188 ppbv
RT: 11.33 min Scan# 2656
Delta R.T. 0.05 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Tgt Ion: 164 Resp: 13528969
Ion Ratio Lower Upper
164 100
166 108.0 101.7 152.5
129 94.0 82.6 123.8
131 94.3 85.2 127.8





#53

Toluene

Concen: 2.740 ppbv

RT: 9.87 min Scan# 2204

Delta R.T. 0.02 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampled :

SV-4

Tot Ion: 91 Resp: 565243

Ion Ratio Lower Upper

91 100

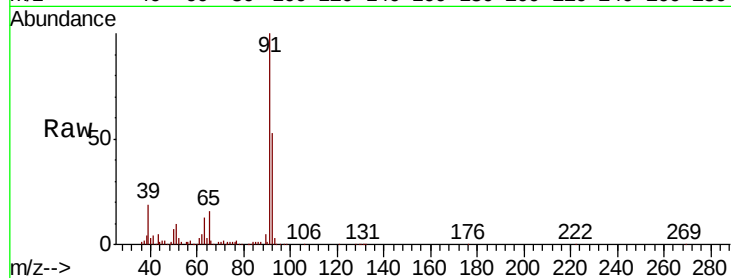
92 58.7 47.9 71.9

Manual Integrations

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Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

9.87

250000

200000

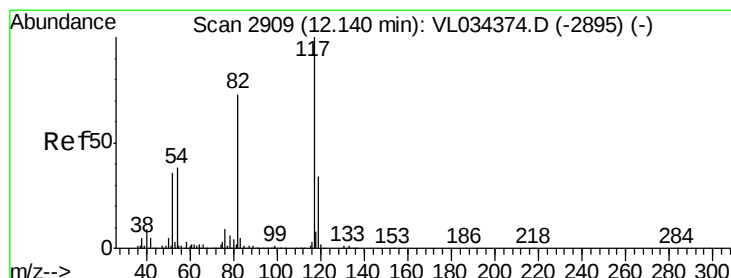
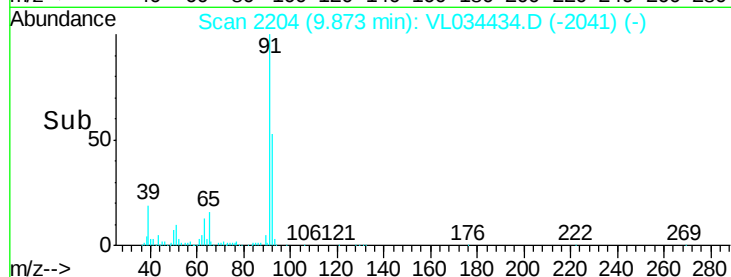
150000

100000

50000

0

Time-->



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.16 min Scan# 2915

Delta R.T. 0.02 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

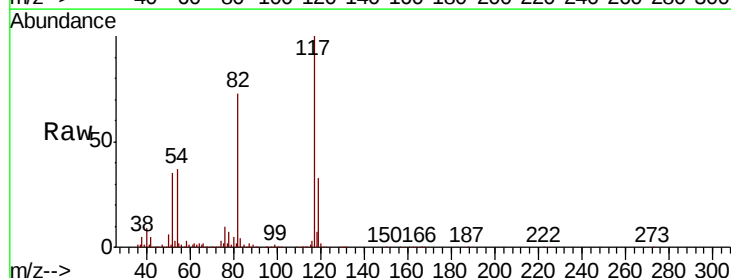
Tgt Ion: 117 Resp: 1746869

Ion Ratio Lower Upper

117 100

82 71.9 57.5 86.3

119 33.2 25.4 38.2



Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V

1000000

800000

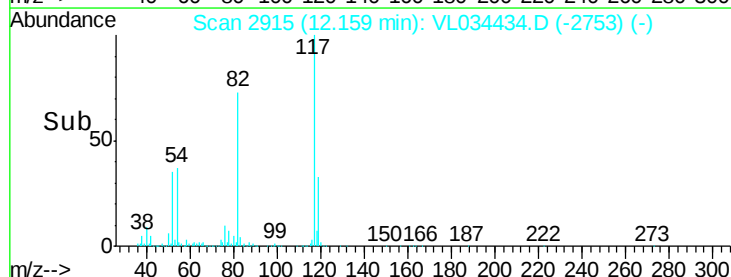
600000

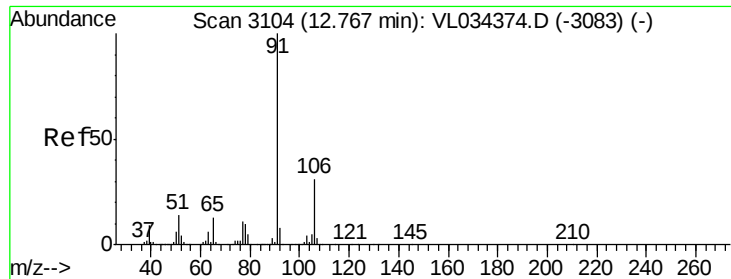
400000

200000

0

Time-->





#58

Ethyl Benzene

Concen: 0.411 ppbv m

RT: 12.79 min Scan# 3110

Delta R.T. 0.02 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

ClientSampled :

SV-4

Tot Ion: 91 Resp: 111394

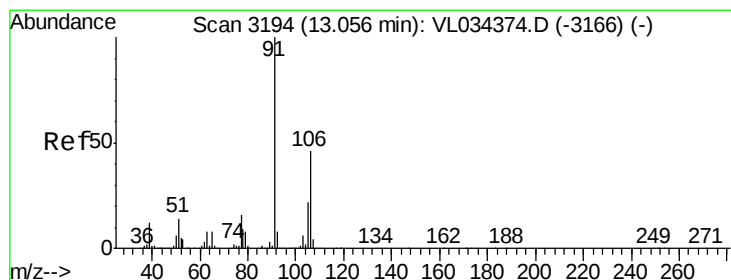
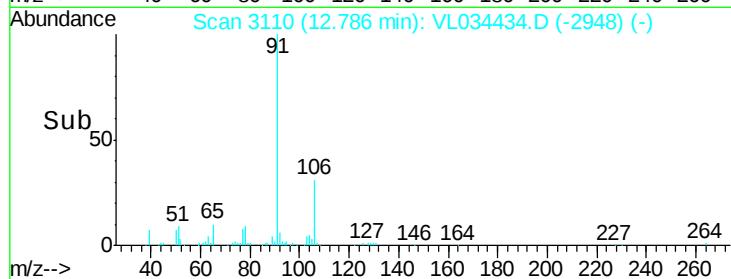
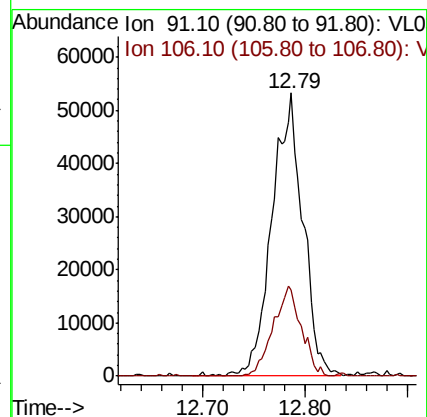
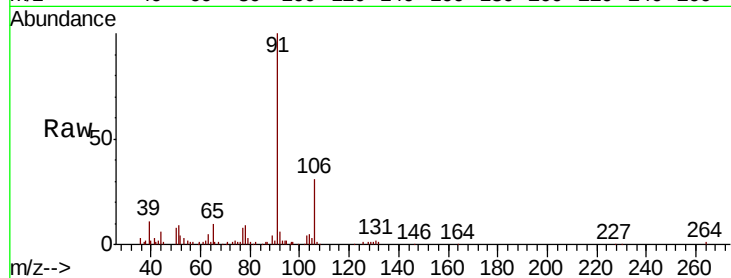
Ion Ratio Lower Upper

91 100

106 30.7 24.8 37.2

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#59

m/p-Xylene

Concen: 1.553 ppbv m

RT: 13.03 min Scan# 3187

Delta R.T. -0.02 min

Lab File: VL034434.D

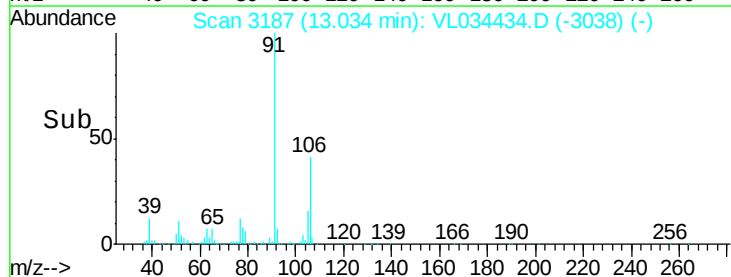
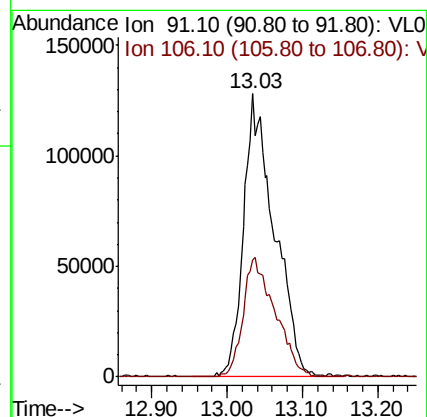
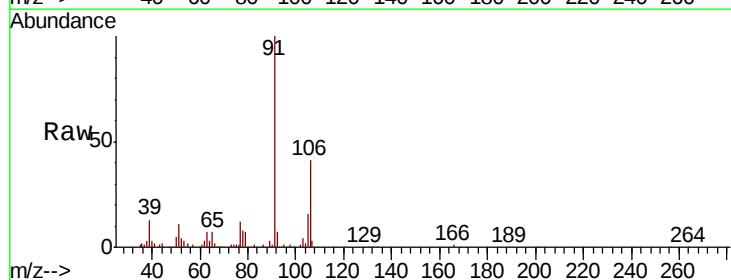
Acq: 2 Dec 2019 20:08

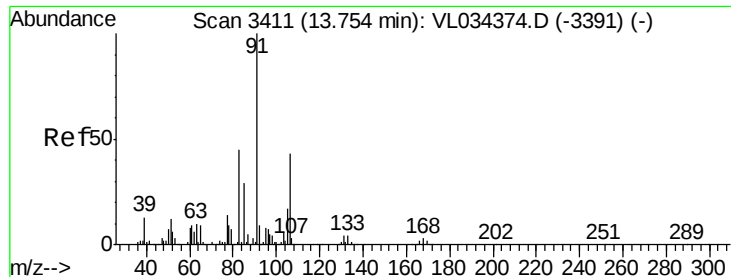
Tgt Ion: 91 Resp: 363853

Ion Ratio Lower Upper

91 100

106 0.0 34.6 51.8#





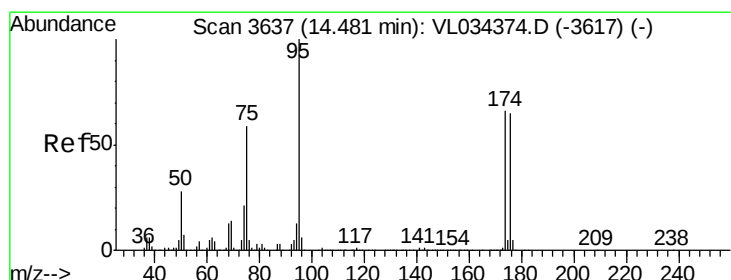
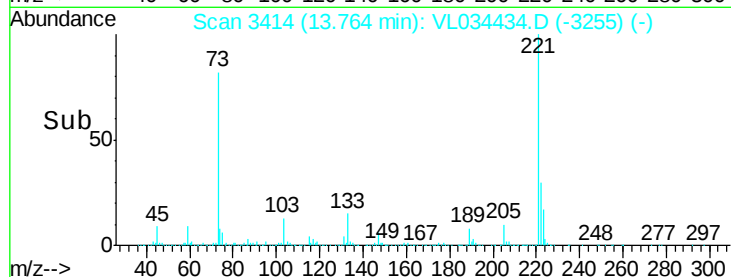
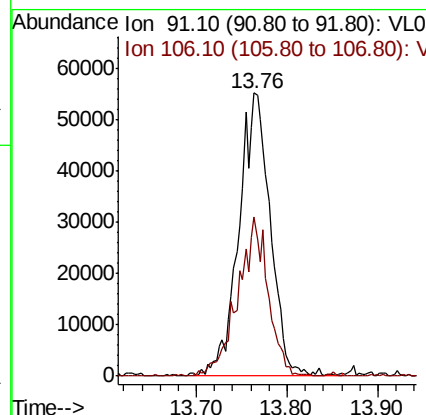
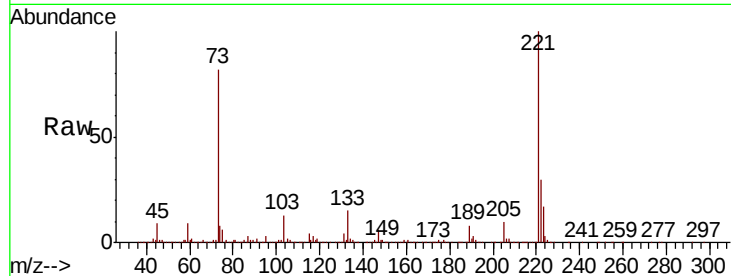
#60
o-Xylene
Concen: 0.573 ppbv m
RT: 13.76 min Scan# 3414
Delta R.T. 0.01 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Instrument :
MSVOA_L
ClientSampled :
SV-4

Tot Ion: 91 Resp: 132726
Ion Ratio Lower Upper
91 100
106 54.3 21.3 64.0

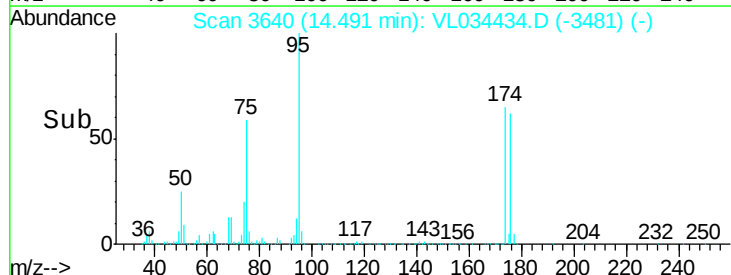
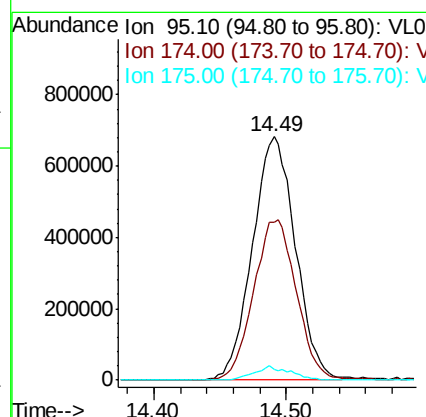
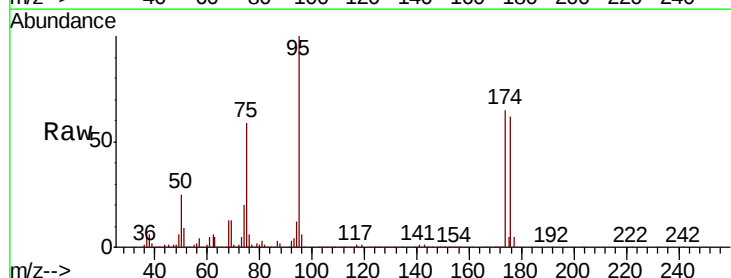
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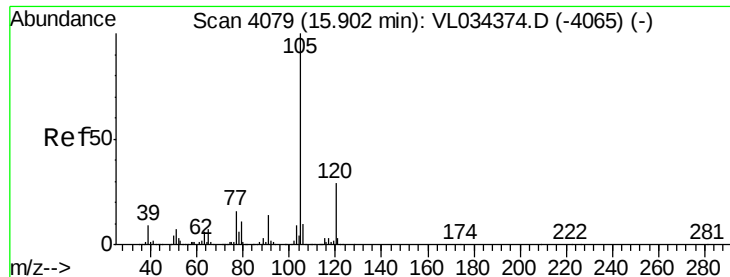
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#68
1-Bromo-4-Fluorobenzene
Concen: 10.427 ppbv
RT: 14.49 min Scan# 3640
Delta R.T. 0.01 min
Lab File: VL034434.D
Acq: 2 Dec 2019 20:08

Tgt Ion: 95 Resp: 1532301
Ion Ratio Lower Upper
95 100
174 66.4 52.2 78.2
175 4.8 3.8 5.8





#72

4-Ethyltoluene

Concen: 0.217 ppbv m

RT: 15.91 min Scan# 4081

Delta R.T. 0.01 min

Lab File: VL034434.D

Acq: 2 Dec 2019 20:08

Instrument :

MSVOA_L

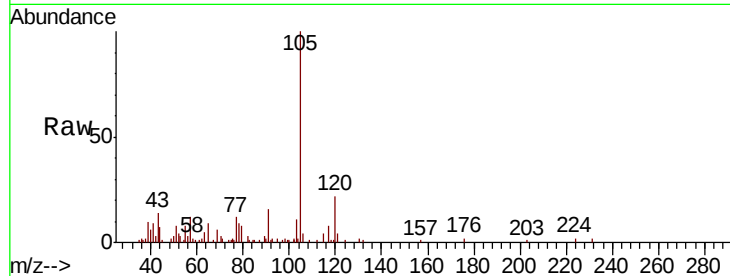
ClientSampleId :

SV-4

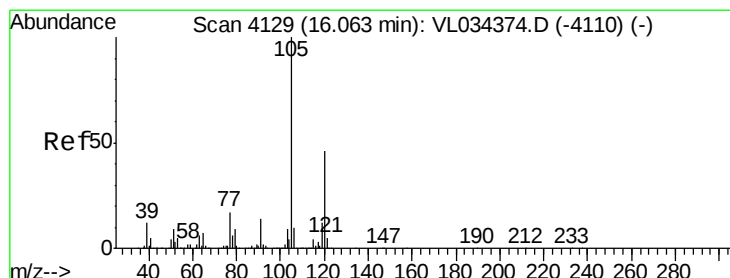
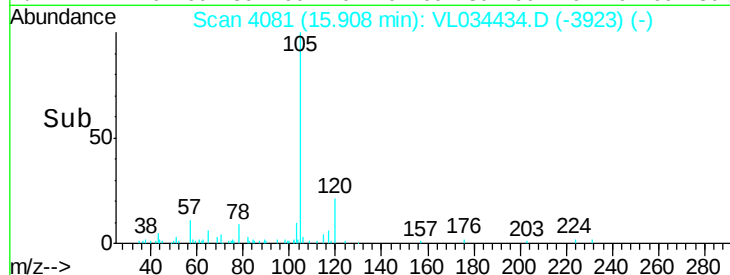
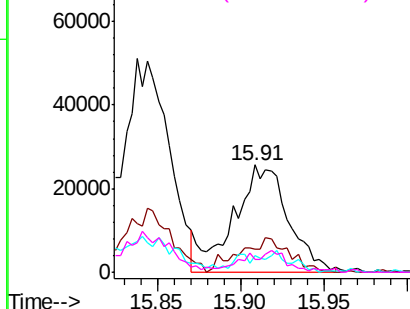
Tot Ion:	105	Resp:	58071
Ion Ratio	Lower	Upper	
105	100		
120	29.3	23.5	35.3
91	16.2	11.4	17.0
77	17.1	12.6	19.0

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Abundance Ion 105.10 (104.80 to 105.80): V
Ion 120.20 (119.90 to 120.90): V
Ion 91.10 (90.80 to 91.80): VL0
Ion 77.10 (76.80 to 77.80): VL0



#73

1,3,5-Trimethylbenzene

Concen: 0.153 ppbv m

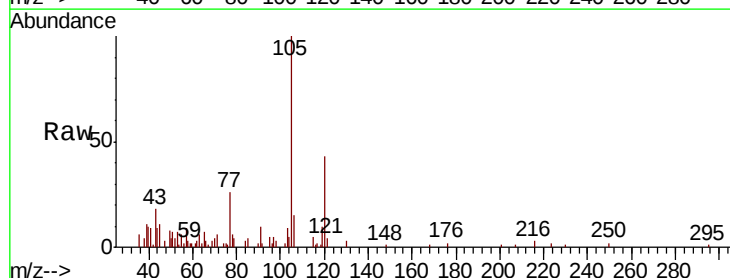
RT: 16.07 min Scan# 4132

Delta R.T. 0.01 min

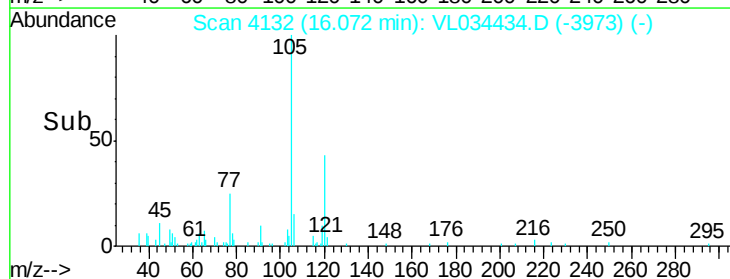
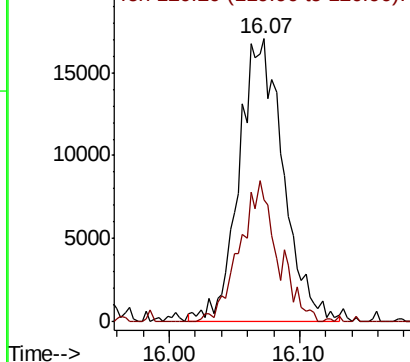
Lab File: VL034434.D

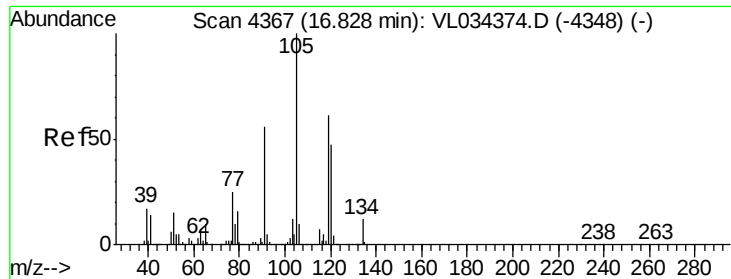
Acq: 2 Dec 2019 20:08

Tgt Ion:	105	Resp:	40014
Ion Ratio	Lower	Upper	
105	100		
120	42.9	37.1	55.7



Abundance Ion 105.10 (104.80 to 105.80): V
Ion 120.20 (119.90 to 120.90): V





#74
 1,2,4-Trimethylbenzene
 Concen: 0.606 ppbv m
 RT: 16.84 min Scan# 4370
 Delta R.T. 0.01 min
 Lab File: VL034434.D
 Acq: 2 Dec 2019 20:08

Instrument :
 MSVOA_L
 ClientSampleId :
 SV-4

Tot Ion	Ratio	Resp Lower	Upper
105	100		
120	41.9	37.4	56.0
91	18.6	46.3	69.5#
77	17.3	20.6	30.8#

Manual Integrations
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