

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL022422\
 Data File : VL038436.D
 Acq On : 24 Feb 2022 16:10
 Operator : SY/AP
 Sample : N1605-07
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-2

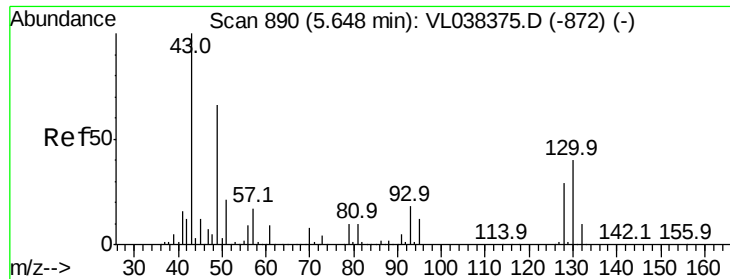
Quant Time: Feb 25 00:43:55 2022
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL022222AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Feb 22 19:45:51 2022
 QLast Update : Tue Feb 22 19:45:51 2022
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.64	49	723815	10.00	ppbv	-0.01
33) 1,4-Difluorobenzene	7.14	114	1846410	10.00	ppbv	-0.02
55) Chlorobenzene-d5	12.04	117	1632675	10.00	ppbv	-0.02

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.37	95	1266039	9.37	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	93.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.03	85	23499	0.20	ppbv	100
3) Chlorodifluoromethane	2.97	51	53241	0.42	ppbv #	80
4) Chloromethane	3.13	50	21043	0.47	ppbv	97
9) Propene	3.00	41	106388	2.52	ppbv #	69
10) Heptane	8.09	43	60109	0.59	ppbv	97
11) Trichlorofluoromethane	3.93	101	23570	0.21	ppbv	88
12) 1,1,2-Trichlorotrifluoroet	4.46	101	4358	0.05	ppbv #	57
13) Ethanol	3.58	45	3833482	910.23	ppbv	89
15) Acetone	3.83	43	332592	5.40	ppbv #	58
16) 1,3-Butadiene	3.29	39	10851	0.26	ppbv #	12
17) tert-Butyl alcohol	4.27	59	7765	0.13	ppbv #	1
19) Isopropyl Alcohol	3.94	45	4613415	129.43	ppbv #	97
20) Methylene Chloride	4.32	84	31524	1.03	ppbv	88
21) Allyl Chloride	4.35	41	4807	0.09	ppbv #	1
23) Vinyl Acetate	5.03	43	107960	1.32	ppbv #	65
25) Ethyl Acetate	5.65	43	368951	2.23	ppbv #	84
26) Hexane	5.66	57	448069	5.98	ppbv #	47
29) Chloroform	5.72	83	19257	0.16	ppbv	99
30) Cyclohexane	7.10	84	5965	0.10	ppbv #	1
31) cis-1,2-Dichloroethene	5.64	61	5356	0.07	ppbv #	33
34) 2-Butanone	5.21	43	95283	1.64	ppbv #	90
35) Carbon Tetrachloride	6.98	117	4567	0.04	ppbv	95
36) Benzene	6.86	78	114232	0.70	ppbv	97
39) 1,2-Dichloropropane	7.14	63	510435	7.88	ppbv #	25
41) Tetrahydrofuran	6.29	42	9715	0.25	ppbv #	38
44) 2,2,4-Trimethylpentane	7.83	57	34622	0.12	ppbv #	1
50) 4-Methyl-2-Pentanone	8.71	43	4306	0.04	ppbv #	40
53) Toluene	9.76	91	1023803	5.80	ppbv	99
58) Ethyl Benzene	12.66	91	16490	0.07	ppbv	92
59) m/p-Xylene	12.93	91	48544	0.25	ppbv #	33
60) o-Xylene	13.64	91	14664	0.08	ppbv #	32
61) Styrene	13.48	104	6373	0.08	ppbv #	25
73) 1,3,5-Trimethylbenzene	15.96	105	5495	0.03	ppbv #	64
74) 1,2,4-Trimethylbenzene	16.71	105	7130	0.04	ppbv #	67

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



#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 5.64 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 24 Feb 2022 16:10

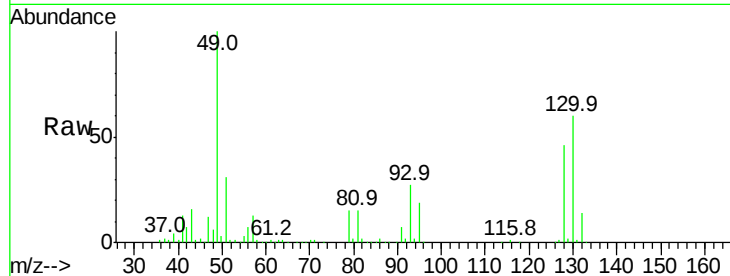
Tgt Ion: 49 Resp: 723815

Ion Ratio Lower Upper

49 100

128 46.0 24.3 72.9

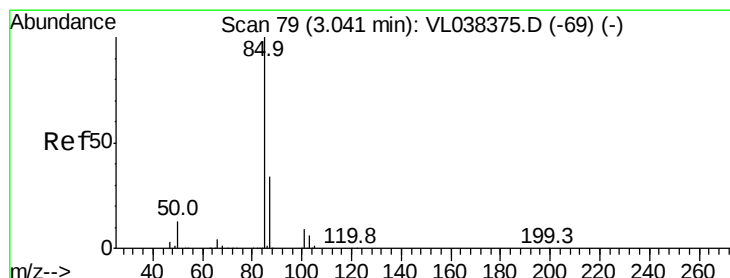
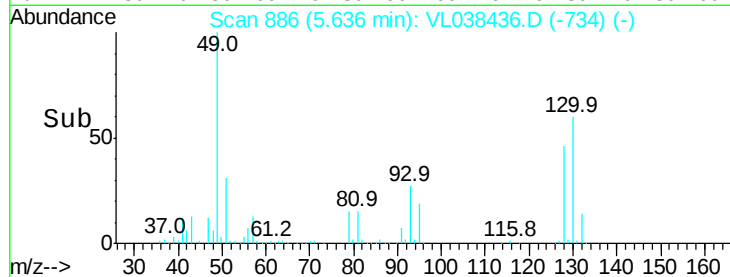
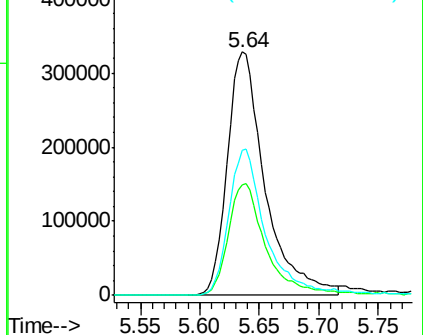
130 59.8 30.1 90.5



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.20 ppbv

RT: 3.03 min Scan# 76

Delta R.T. -0.01 min

Lab File: VL038436.D

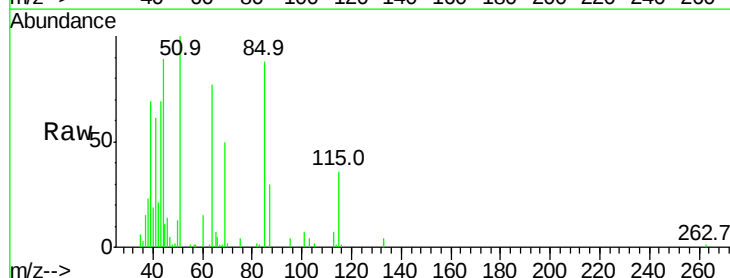
Acq: 24 Feb 2022 16:10

Tgt Ion: 85 Resp: 23499

Ion Ratio Lower Upper

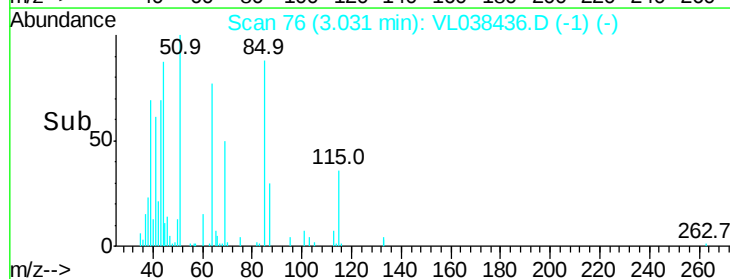
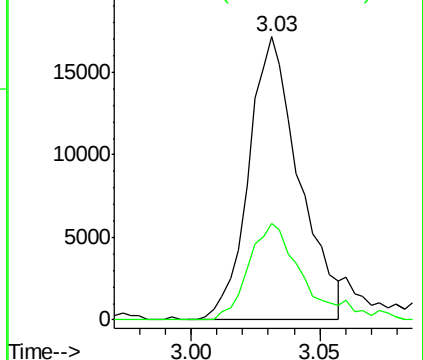
85 100

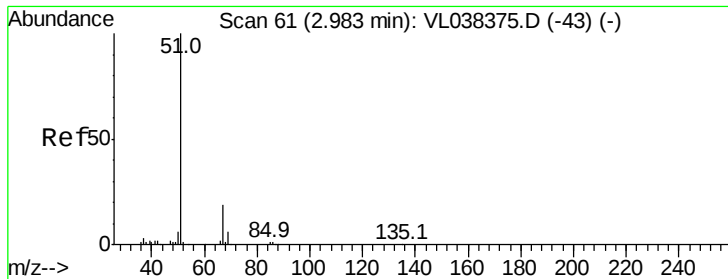
87 34.2 27.4 41.0



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.42 ppbv

RT: 2.97 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

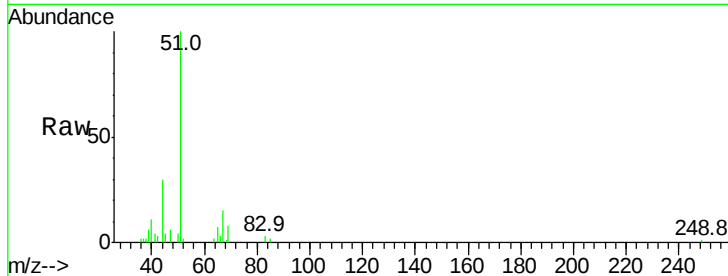
Acq: 24 Feb 2022 16:10

Tgt Ion: 51 Resp: 53241

Ion Ratio Lower Upper

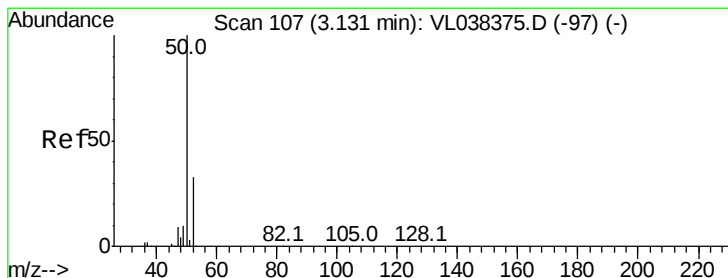
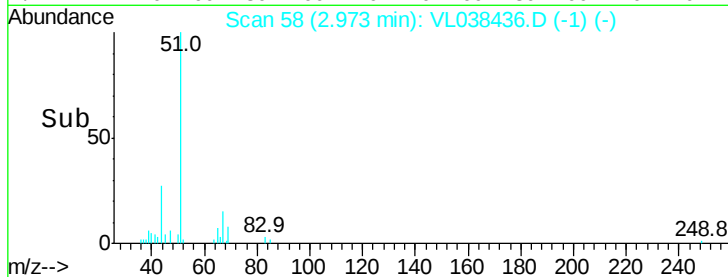
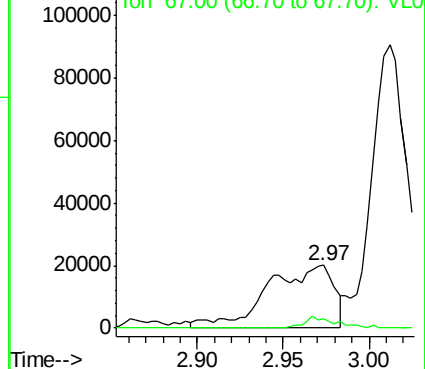
51 100

67 9.7 14.7 22.1#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.47 ppbv

RT: 3.13 min Scan# 106

Delta R.T. -0.00 min

Lab File: VL038436.D

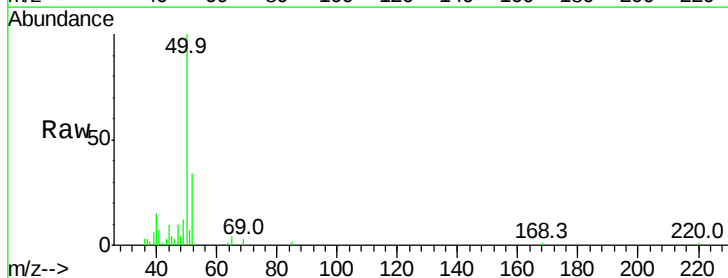
Acq: 24 Feb 2022 16:10

Tgt Ion: 50 Resp: 21043

Ion Ratio Lower Upper

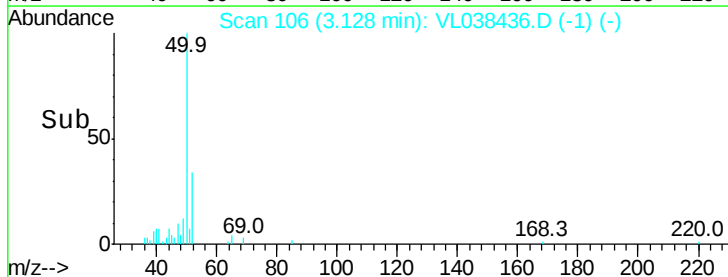
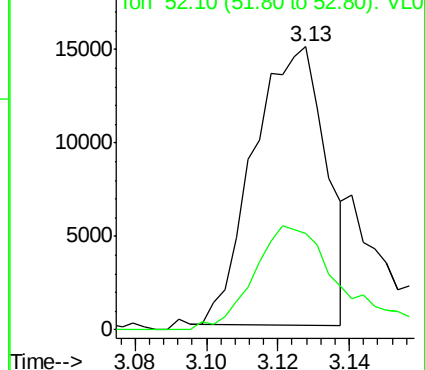
50 100

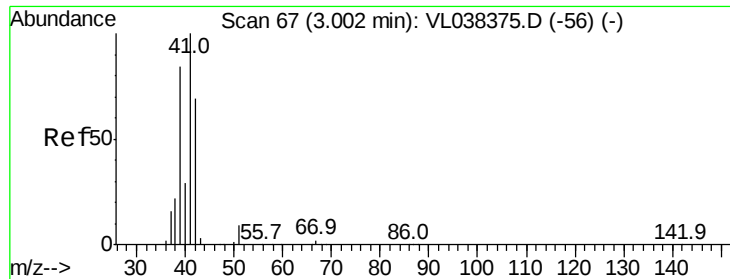
52 34.6 26.5 39.7



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 2.52 ppbv

RT: 3.00 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

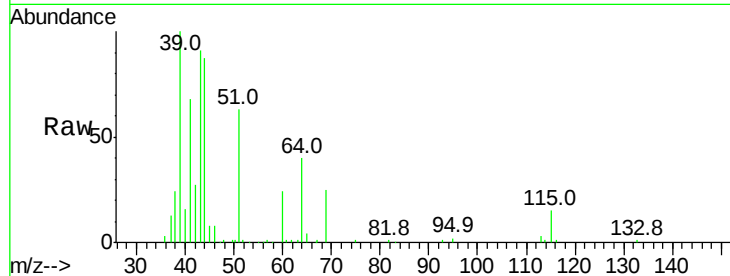
Acq: 24 Feb 2022 16:10

Tgt Ion: 41 Resp: 106388

Ion Ratio Lower Upper

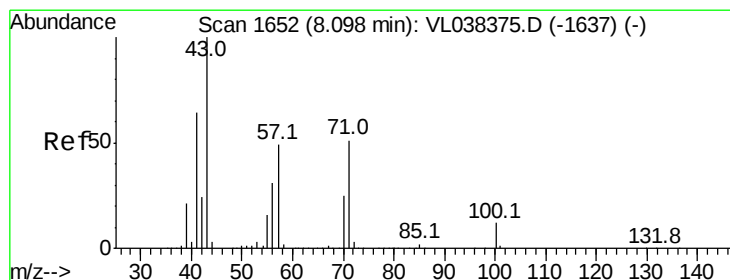
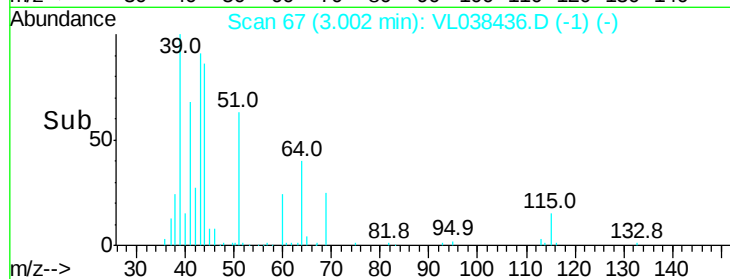
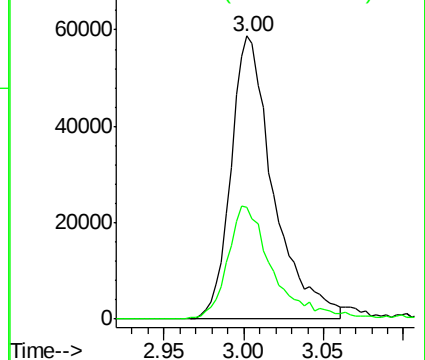
41 100

42 43.6 54.6 82.0#



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0



#10

Heptane

Concen: 0.59 ppbv

RT: 8.09 min Scan# 1648

Delta R.T. -0.01 min

Lab File: VL038436.D

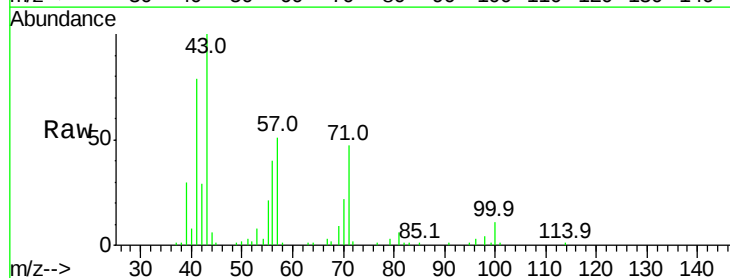
Acq: 24 Feb 2022 16:10

Tgt Ion: 43 Resp: 60109

Ion Ratio Lower Upper

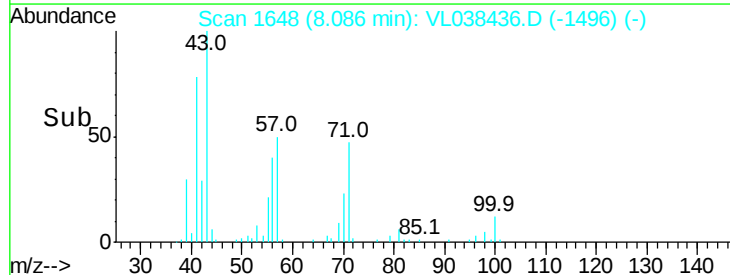
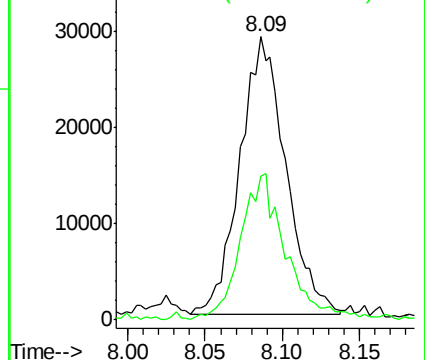
43 100

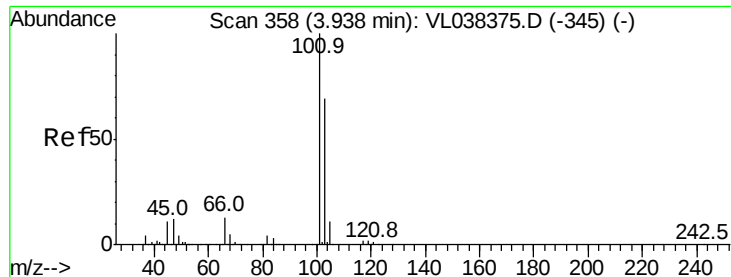
57 52.1 39.8 59.8



Abundance Ion 43.10 (42.80 to 43.80): VL0

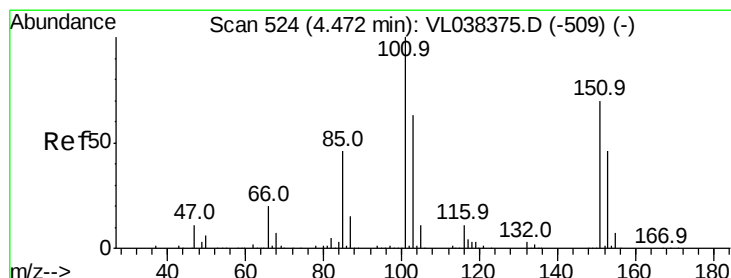
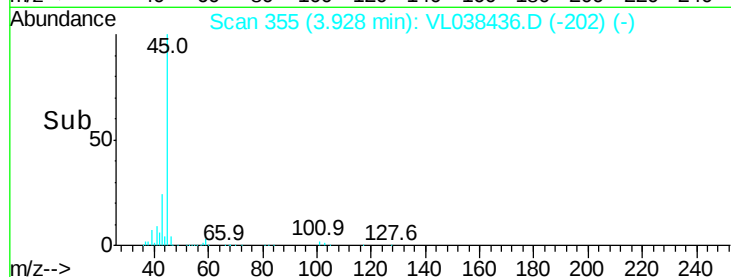
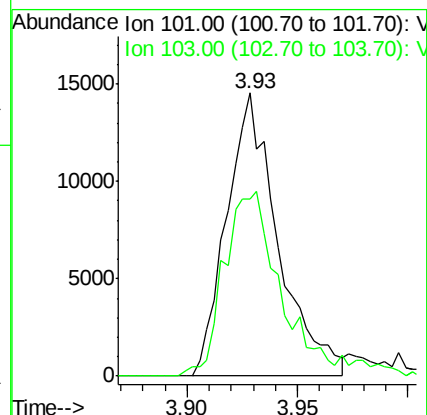
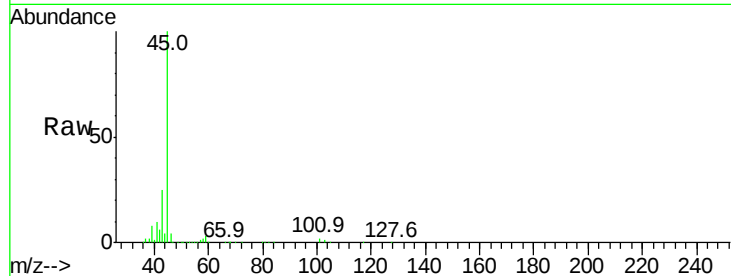
Ion 57.10 (56.80 to 57.80): VL0





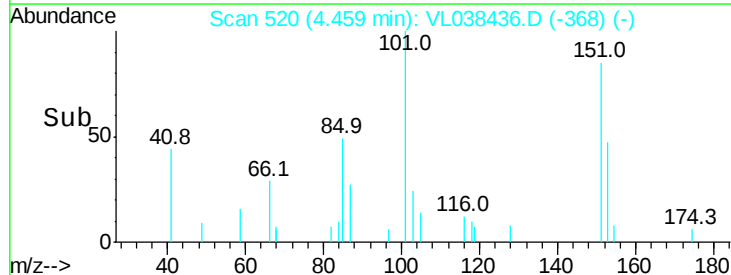
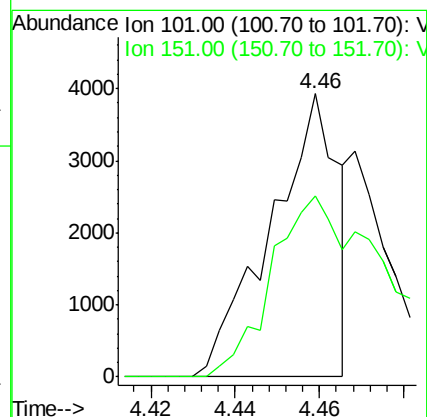
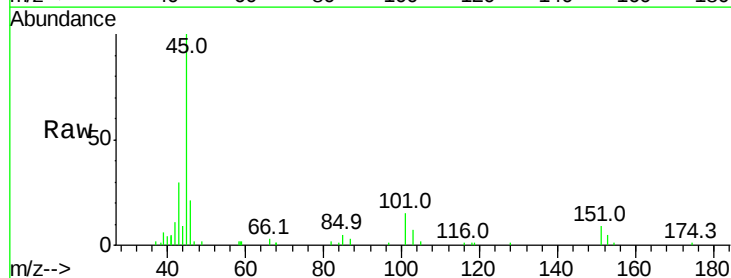
#11
 Trichlorofluoromethane
 Concen: 0.21 ppbv
 RT: 3.93
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 24 Feb 2022 16:10

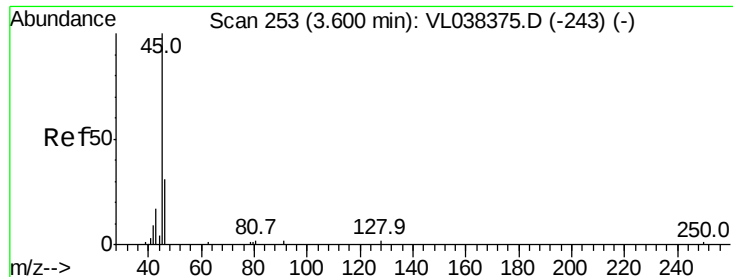
Tgt Ion:101 Resp: 23570
 Ion Ratio Lower Upper
 101 100
 103 59.1 55.0 82.4



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.05 ppbv
 RT: 4.46 min Scan# 520
 Delta R.T. -0.01 min
 Lab File: VL038436.D
 Acq: 24 Feb 2022 16:10

Tgt Ion:101 Resp: 4358
 Ion Ratio Lower Upper
 101 100
 151 105.0 55.9 83.9#





#13

Ethanol

Concen: 910.23 ppbv

RT: 3.58 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

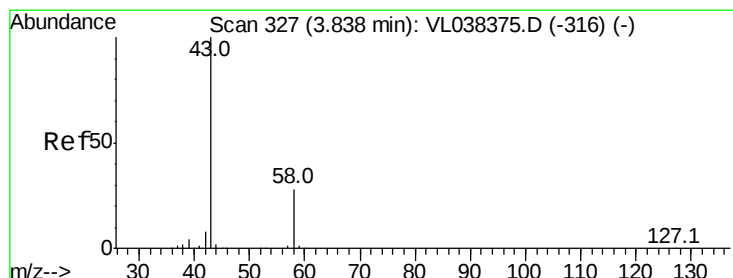
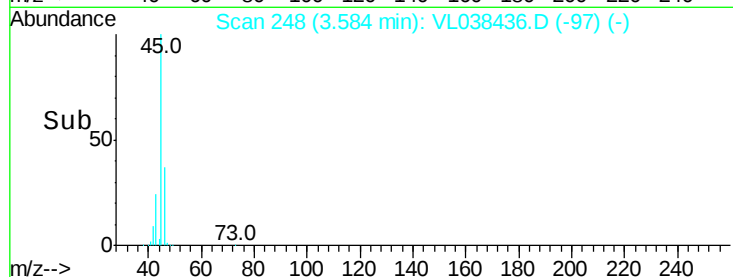
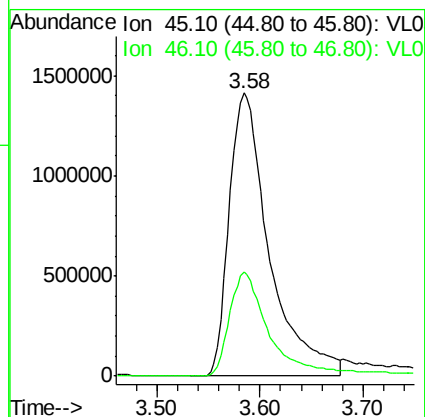
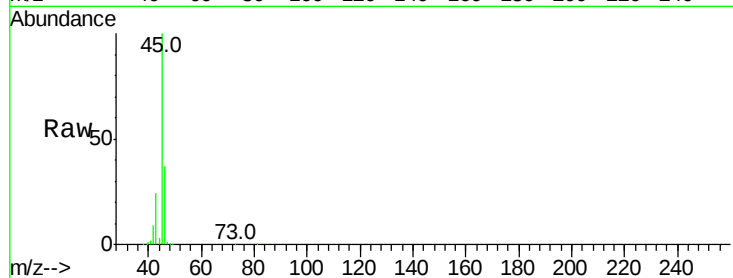
Acq: 24 Feb 2022 16:10

Tgt Ion: 45 Resp: 3833482

Ion Ratio Lower Upper

45 100

46 38.1 18.2 72.8



#15

Acetone

Concen: 5.40 ppbv

RT: 3.83 min Scan# 323

Delta R.T. -0.01 min

Lab File: VL038436.D

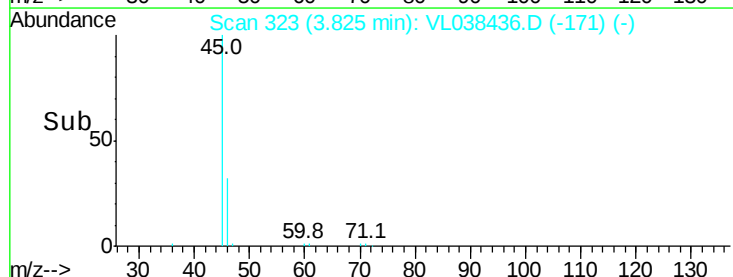
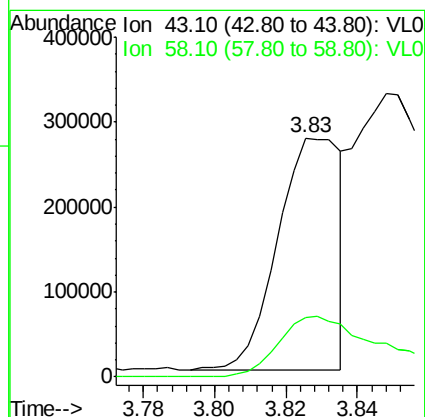
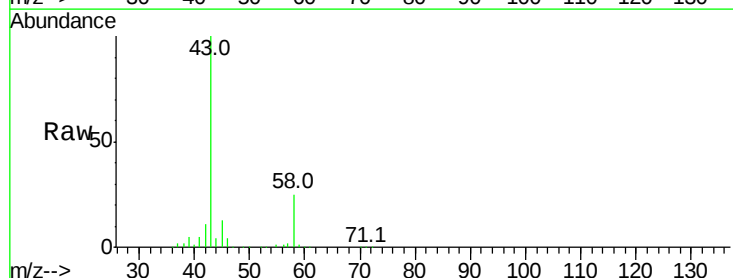
Acq: 24 Feb 2022 16:10

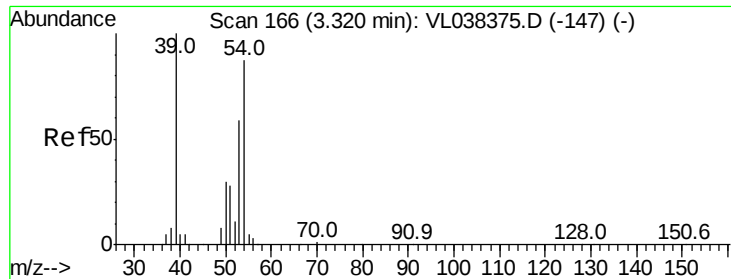
Tgt Ion: 43 Resp: 332592

Ion Ratio Lower Upper

43 100

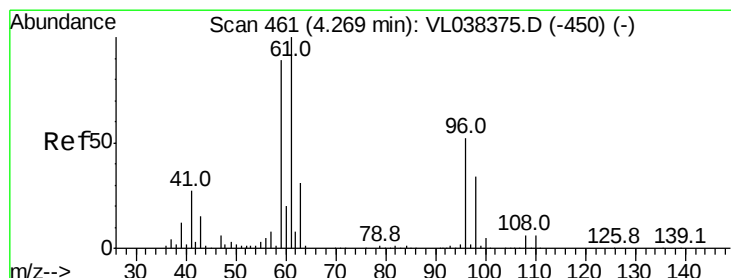
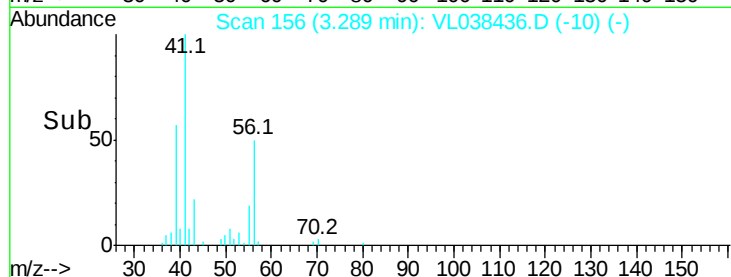
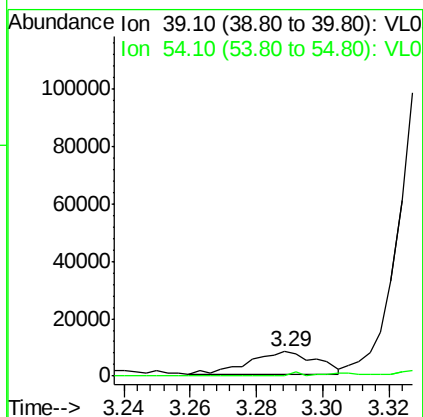
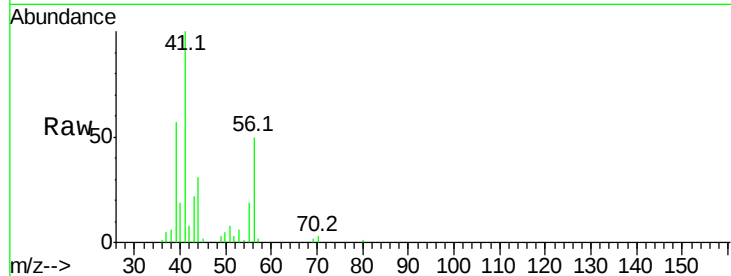
58 48.7 21.7 32.5#





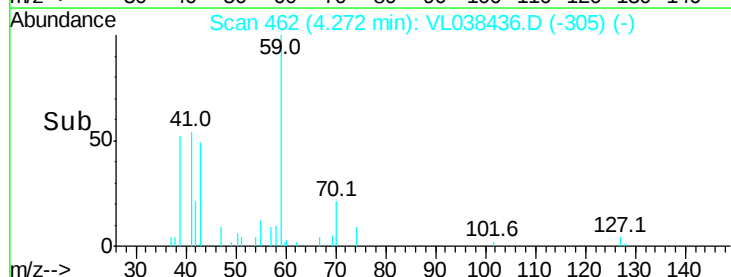
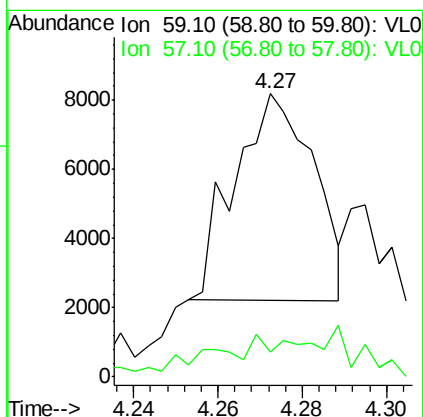
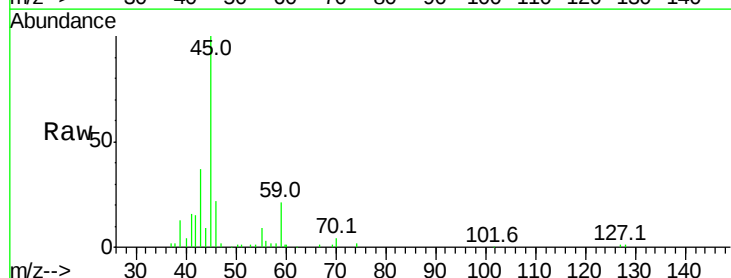
#16
 1,3-Butadiene
 Concen: 0.26 ppbv
 RT: 3.29
 Delta R.T. MSVOA_1
 Lab File: ClientSampleId :
 Acq: 24 Feb 2022 16:10

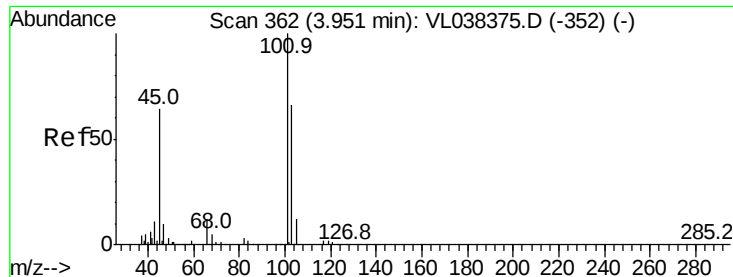
Tgt Ion: 39 Resp: 10851
 Ion Ratio Lower Upper
 39 100
 54 0.0 60.3 90.5#



#17
 tert-Butyl alcohol
 Concen: 0.13 ppbv
 RT: 4.27 min Scan# 462
 Delta R.T. 0.00 min
 Lab File: VL038436.D
 Acq: 24 Feb 2022 16:10

Tgt Ion: 59 Resp: 7765
 Ion Ratio Lower Upper
 59 100
 57 877.7 8.4 12.6#





#19

Isopropyl Alcohol

Concen: 129.43 ppbv

RT: 3.94 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

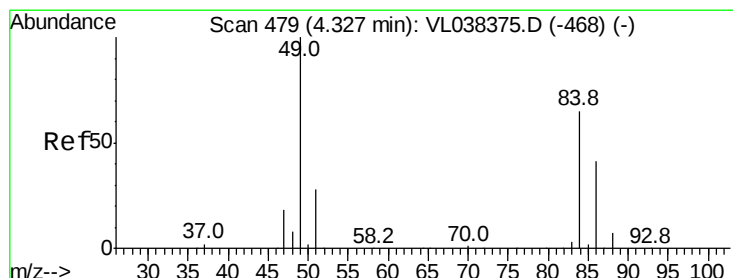
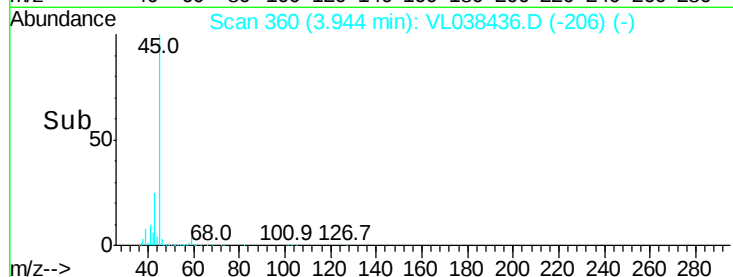
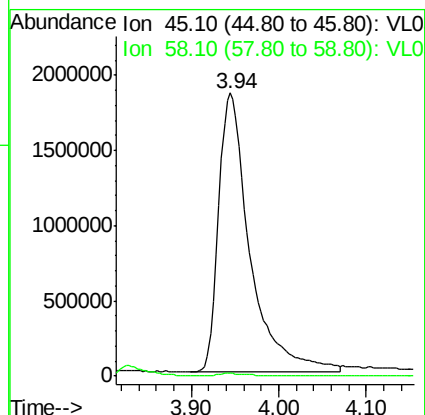
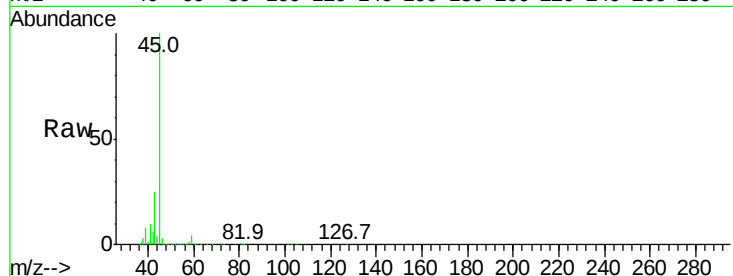
Acq: 24 Feb 2022 16:10

Tgt Ion: 45 Resp: 4613415

Ion Ratio Lower Upper

45 100

58 1.4 1.8 2.8#



#20

Methylene Chloride

Concen: 1.03 ppbv

RT: 4.32 min Scan# 478

Delta R.T. -0.00 min

Lab File: VL038436.D

Acq: 24 Feb 2022 16:10

Tgt Ion: 84 Resp: 31524

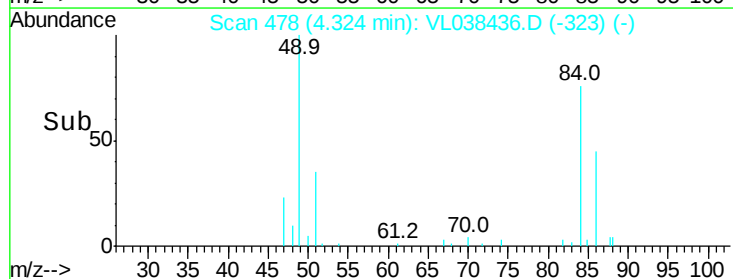
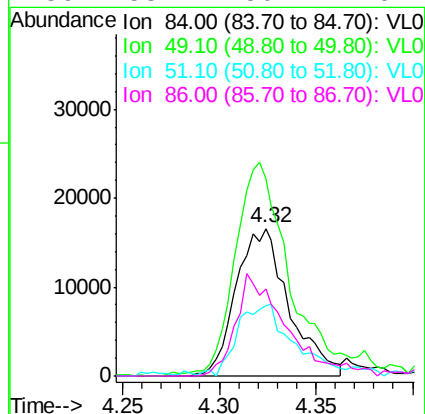
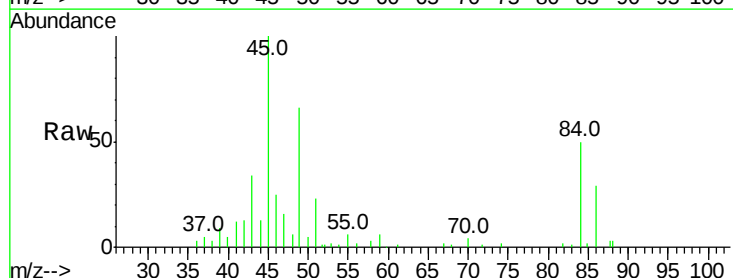
Ion Ratio Lower Upper

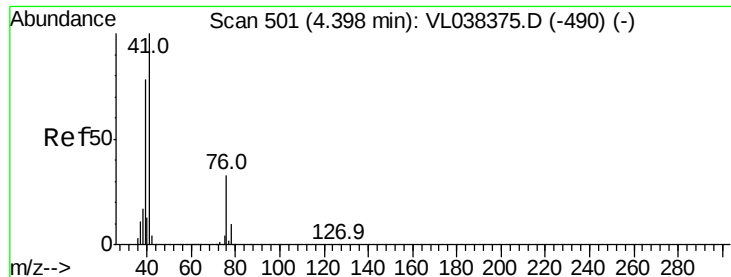
84 100

49 131.4 122.4 183.6

51 45.1 33.3 49.9

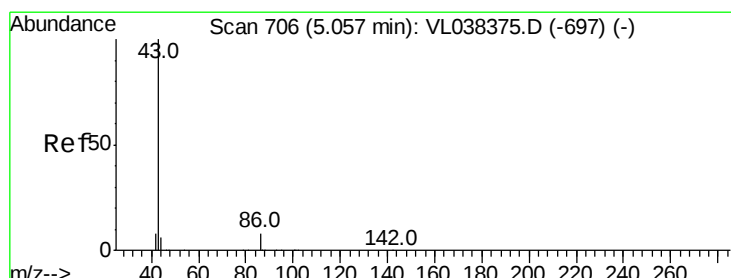
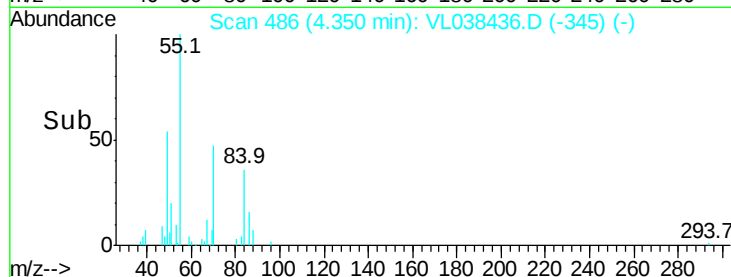
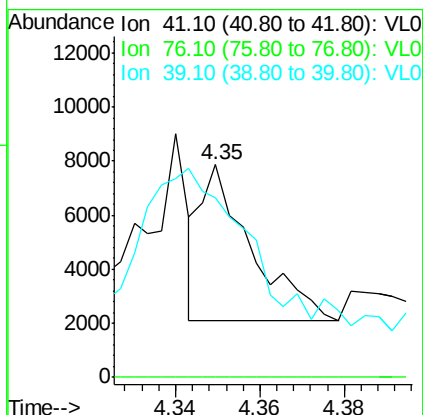
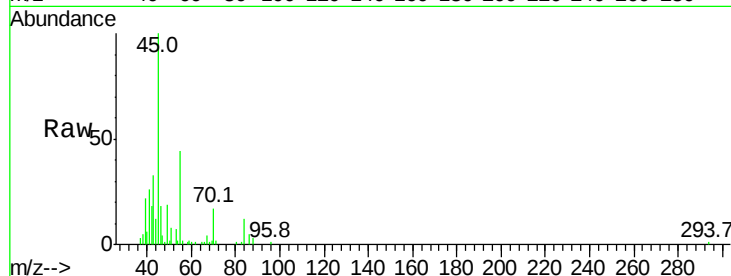
86 58.7 50.7 76.1





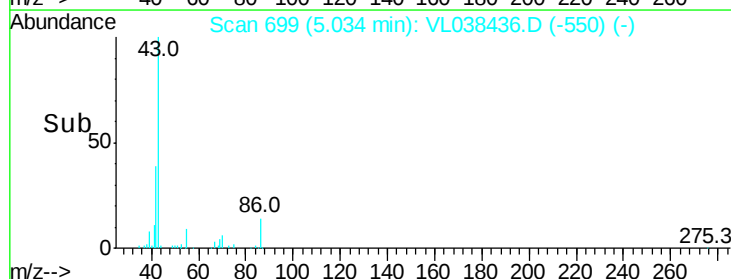
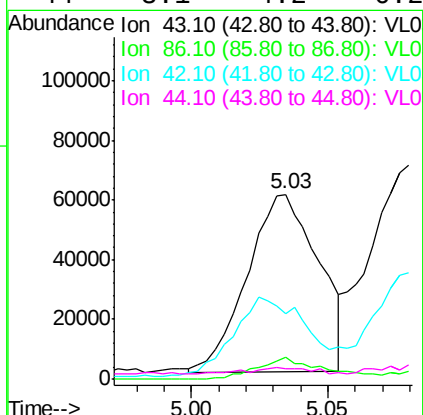
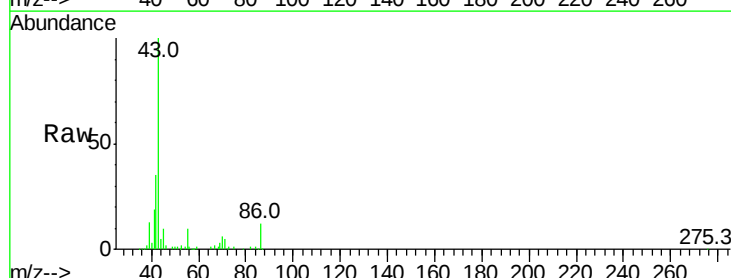
#21
 Allyl Chloride
 Concen: 0.09 ppbv
 RT: 4.35
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 24 Feb 2022 16:10

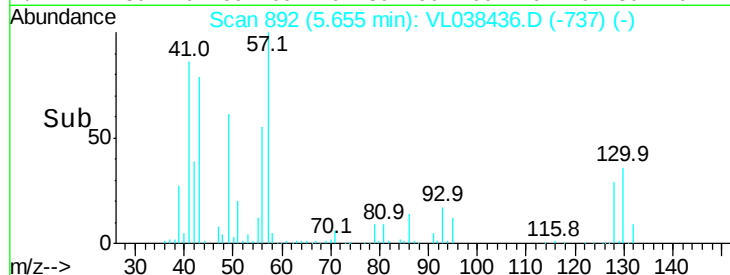
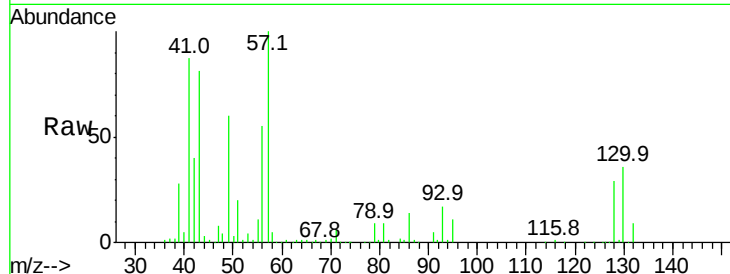
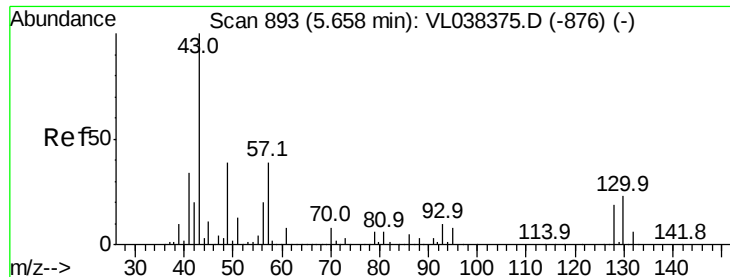
Tgt Ion: 41 Resp: 4807
 Ion Ratio Lower Upper
 41 100
 76 6.2 25.4 38.0#
 39 316.0 63.0 94.6#



#23
 Vinyl Acetate
 Concen: 1.32 ppbv
 RT: 5.03 min Scan# 699
 Delta R.T. -0.02 min
 Lab File: VL038436.D
 Acq: 24 Feb 2022 16:10

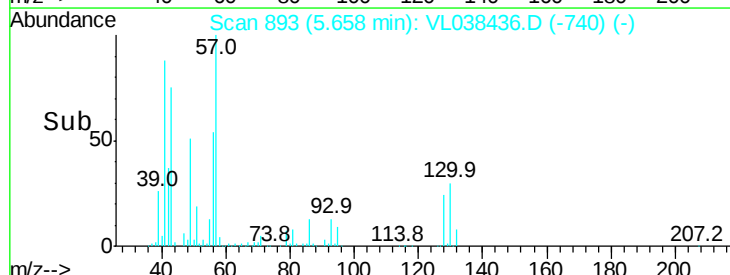
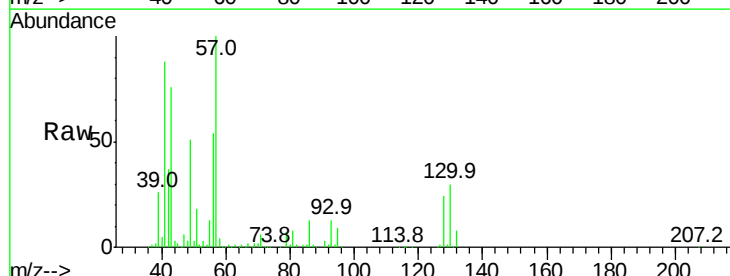
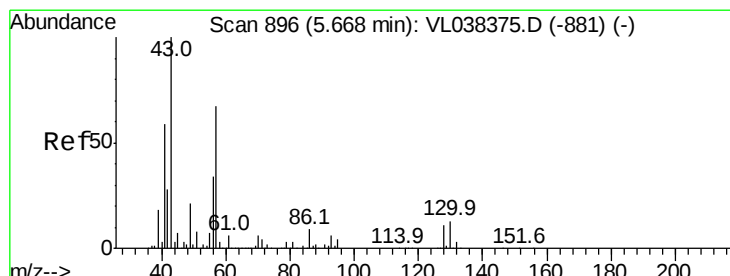
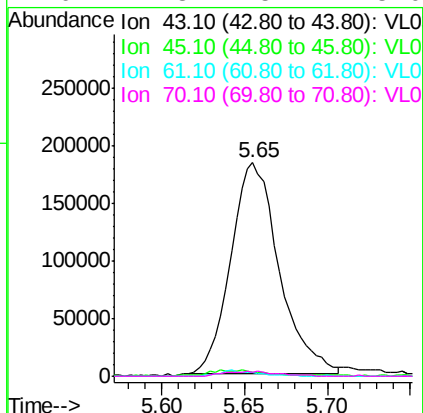
Tgt Ion: 43 Resp: 107960
 Ion Ratio Lower Upper
 43 100
 86 12.2 5.8 8.6#
 42 33.7 7.4 11.0#
 44 3.1 4.2 6.2#





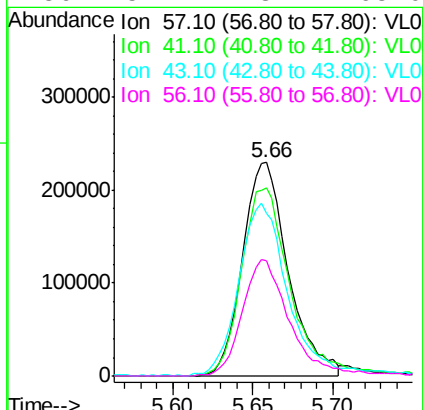
#25
Ethyl Acetate
Concen: 2.23 ppbv
RT: 5.65 min
Delta R.T. MSVOA_1
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

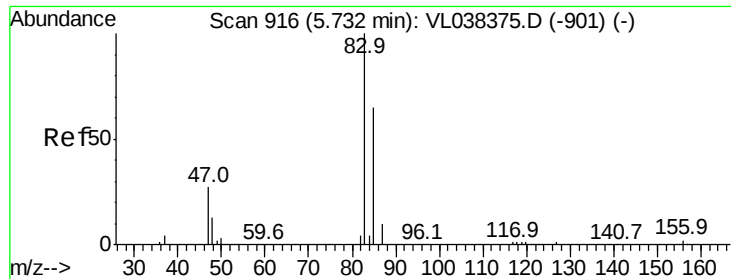
Tgt Ion:	43	Resp:	368951
Ion	Ratio	Lower	Upper
43	100		
45	3.7	7.8	11.6#
61	2.4	7.5	11.3#
70	2.8	5.4	8.0#



#26
Hexane
Concen: 5.98 ppbv
RT: 5.66 min Scan# 893
Delta R.T. -0.01 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

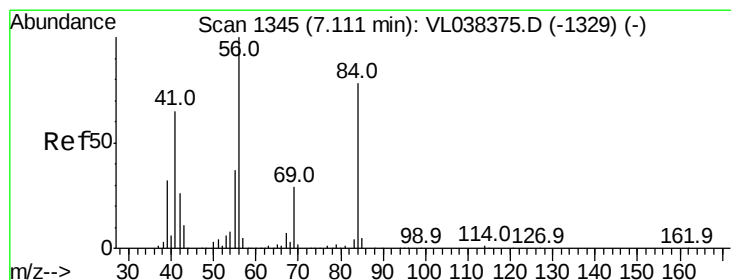
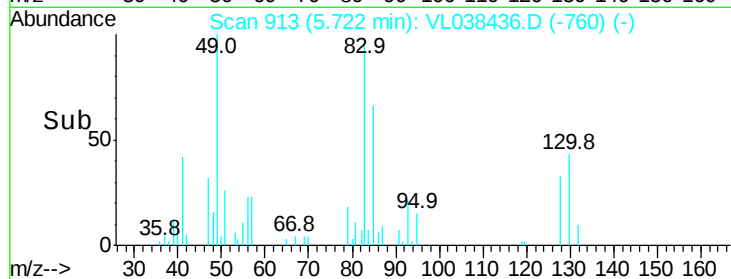
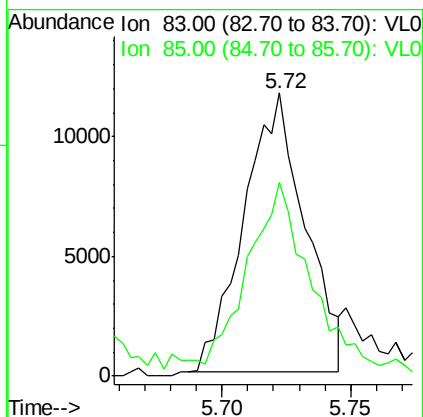
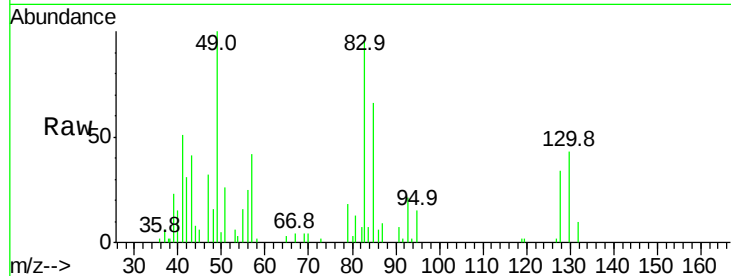
Tgt Ion:	57	Resp:	448069
Ion	Ratio	Lower	Upper
57	100		
41	95.5	73.1	109.7
43	89.5	181.0	271.4#
56	57.4	43.4	65.0





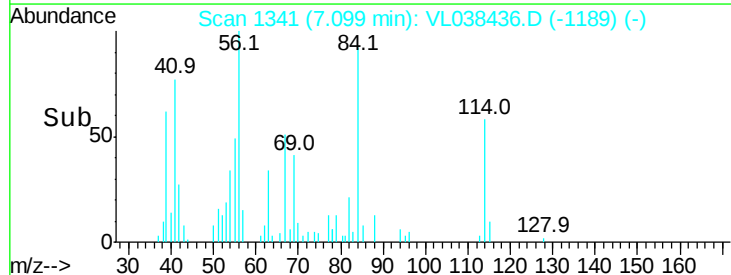
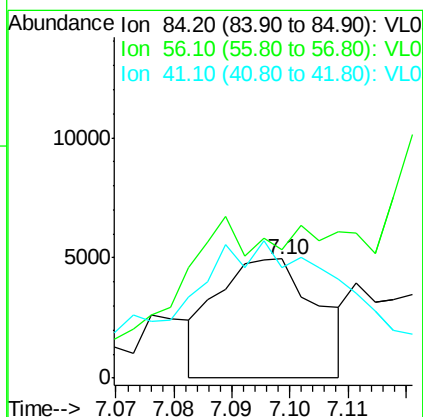
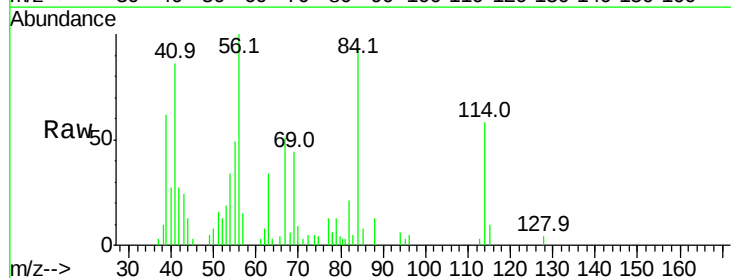
#29
Chloroform
Concen: 0.16 ppbv
RT: 5.72
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

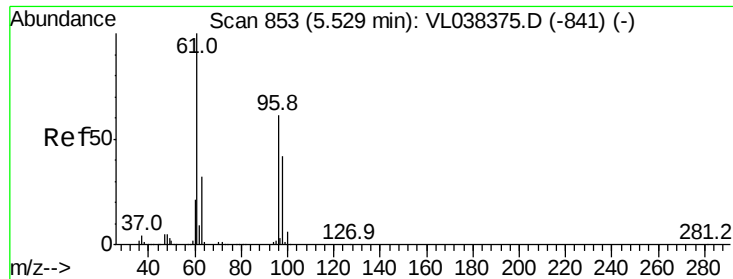
Tgt Ion: 83 Resp: 19257
Ion Ratio Lower Upper
83 100
85 63.6 51.6 77.4



#30
Cyclohexane
Concen: 0.10 ppbv
RT: 7.10 min Scan# 1341
Delta R.T. -0.01 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

Tgt Ion: 84 Resp: 5965
Ion Ratio Lower Upper
84 100
56 0.0 116.2 174.4#
41 208.7 74.3 111.5#





#31

cis-1,2-Dichloroethene

Concen: 0.07 ppbv

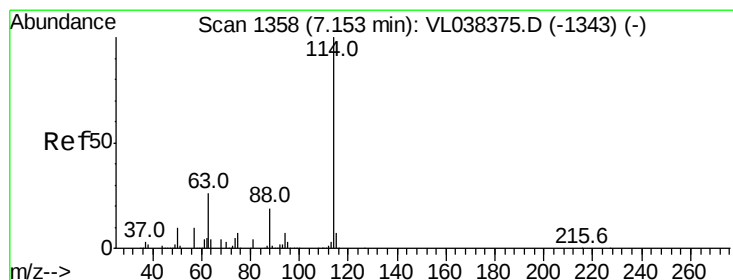
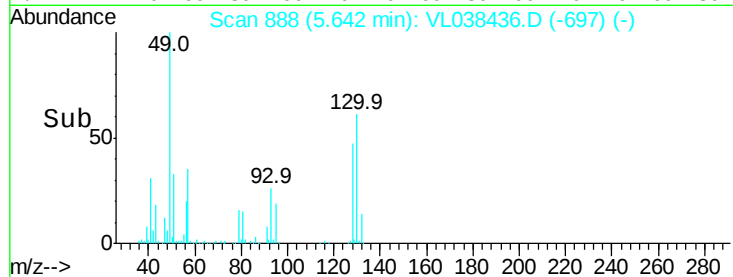
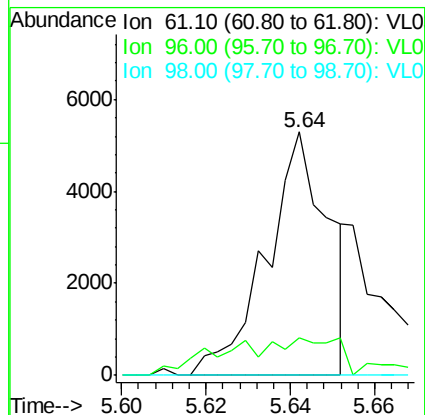
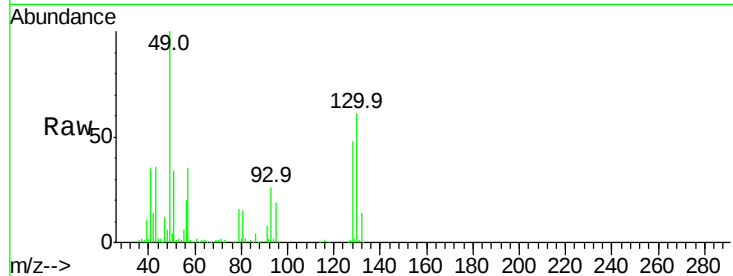
RT: 5.64 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

Acq: 24 Feb 2022 16:10

Tgt Ion:	61	Resp:	5356
Ion	Ratio	Lower	Upper
61	100		
96	8.9	48.6	73.0#
98	0.0	33.2	49.8#



#33

1,4-Difluorobenzene

Concen: 10.00 ppbv

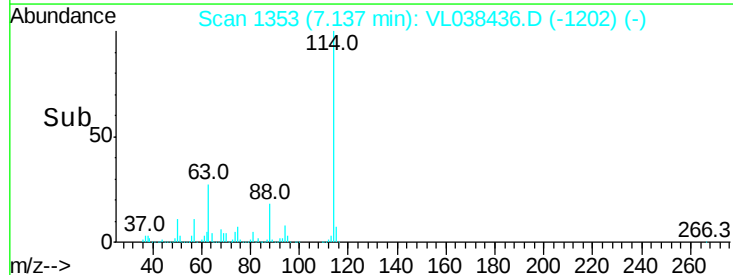
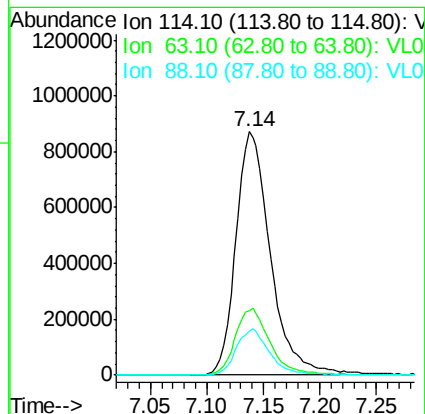
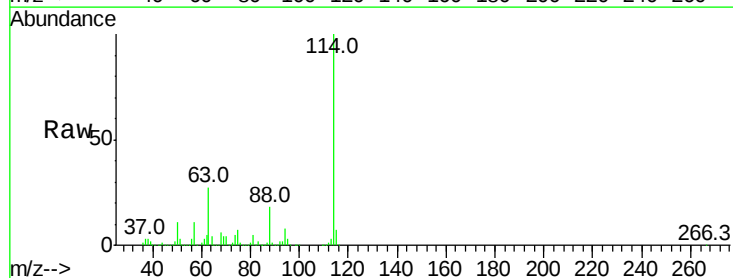
RT: 7.14 min Scan# 1353

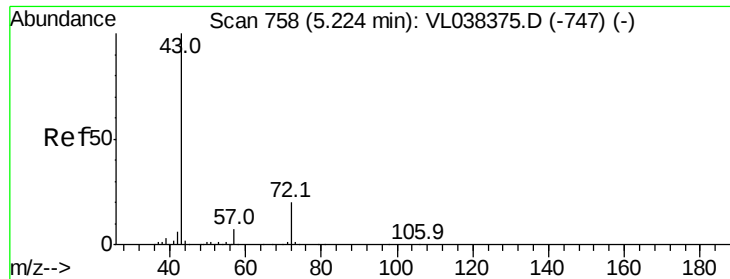
Delta R.T. -0.02 min

Lab File: VL038436.D

Acq: 24 Feb 2022 16:10

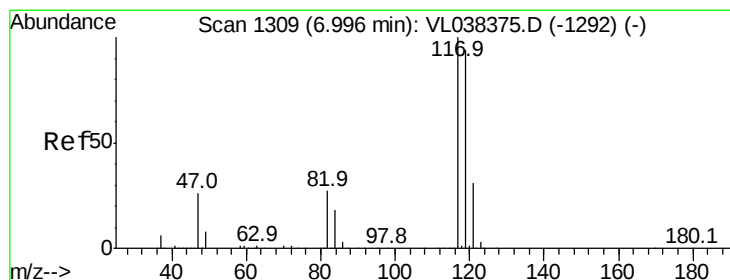
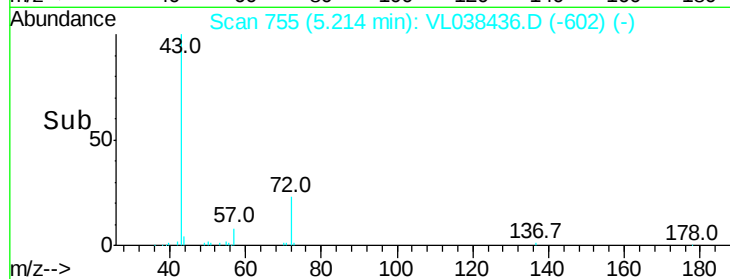
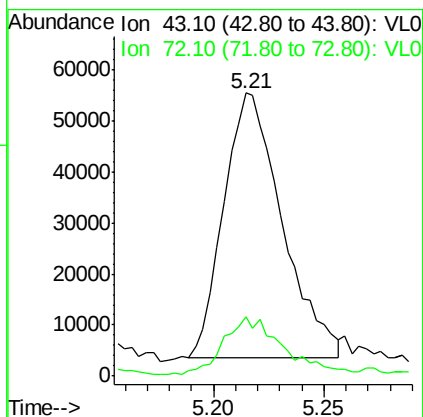
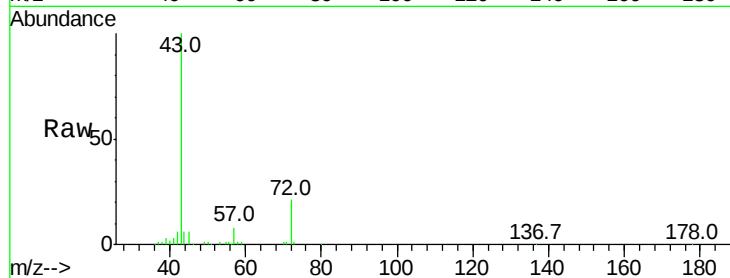
Tgt Ion:	114	Resp:	1846410
Ion	Ratio	Lower	Upper
114	100		
63	28.2	22.2	33.2
88	18.8	15.2	22.8





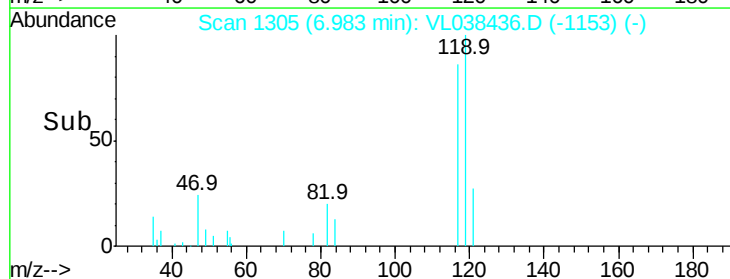
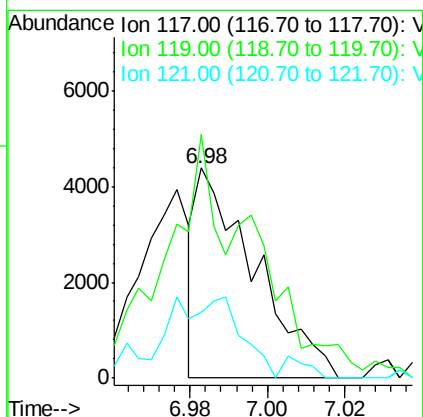
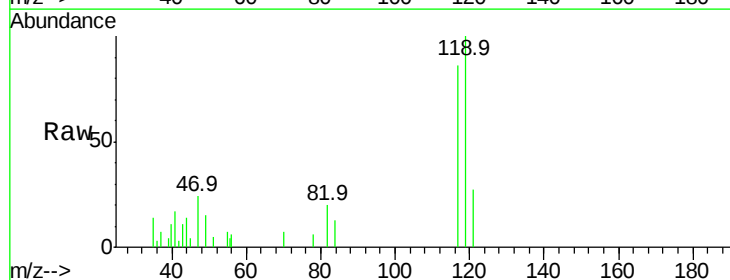
#34
2-Butanone
Concen: 1.64 ppbv
RT: 5.21
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

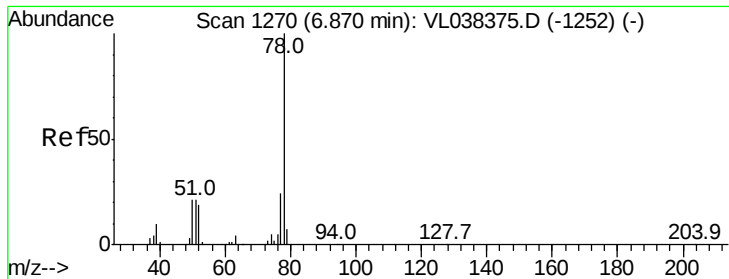
Tgt Ion: 43 Resp: 95283
Ion Ratio Lower Upper
43 100
72 26.7 17.4 26.2#



#35
Carbon Tetrachloride
Concen: 0.04 ppbv
RT: 6.98 min Scan# 1305
Delta R.T. -0.01 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

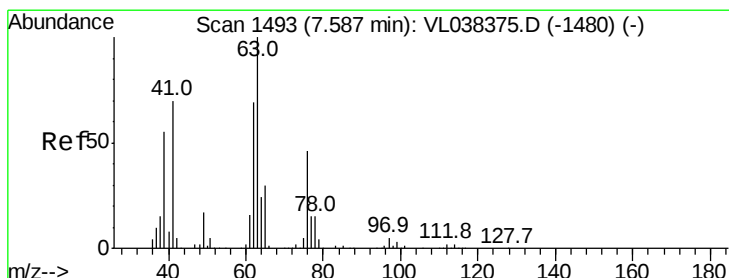
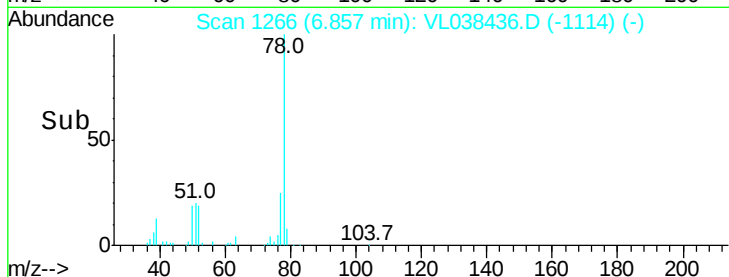
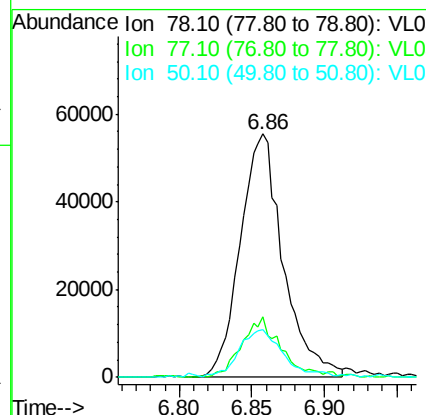
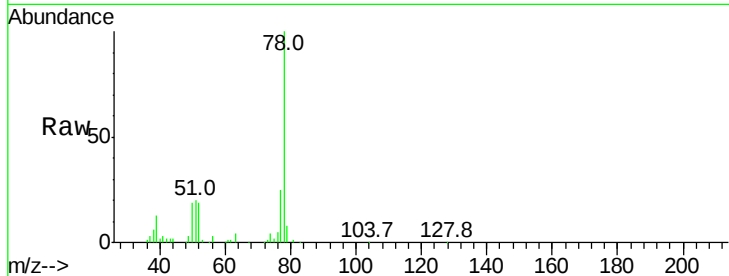
Tgt Ion: 117 Resp: 4567
Ion Ratio Lower Upper
117 100
119 99.6 74.9 112.3
121 31.5 24.8 37.2





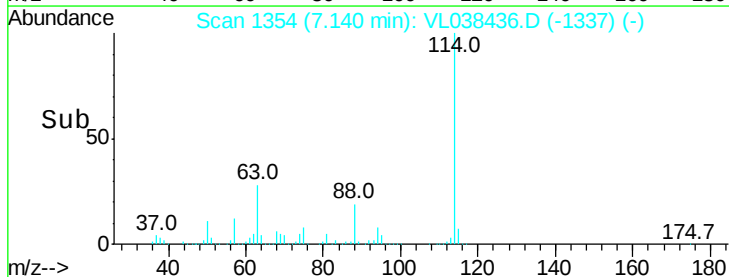
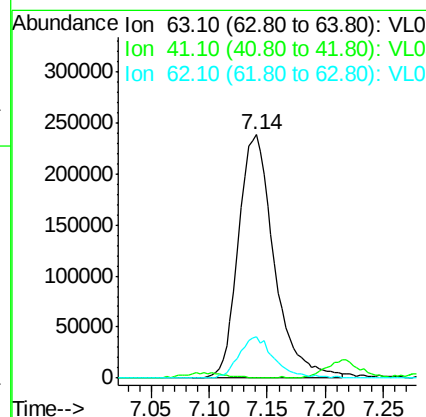
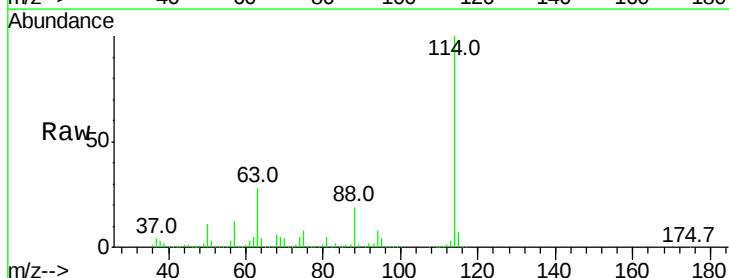
#36
Benzene
Concen: 0.70 ppbv
RT: 6.86
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

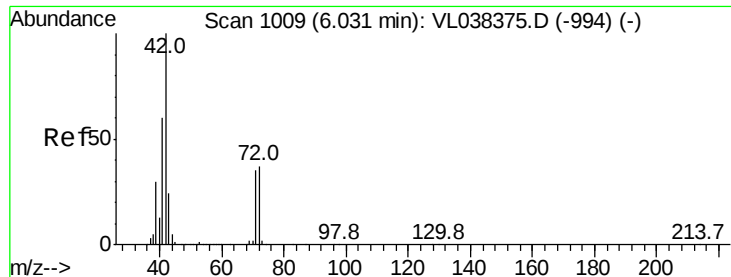
Tgt Ion	Ratio	Lower	Upper
78	100		
77	24.5	19.0	28.6
50	18.4	16.6	24.8



#39
1,2-Dichloropropane
Concen: 7.88 ppbv
RT: 7.14 min Scan# 1354
Delta R.T. -0.45 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

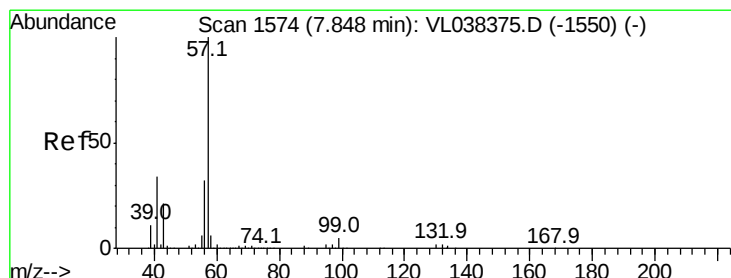
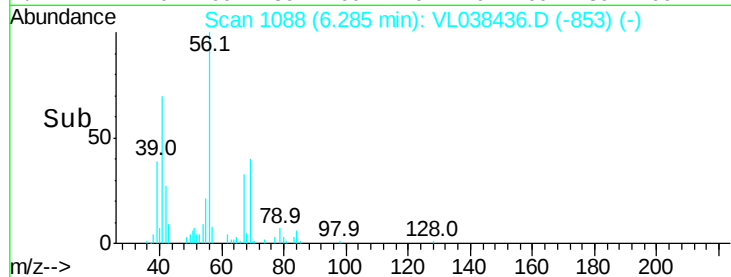
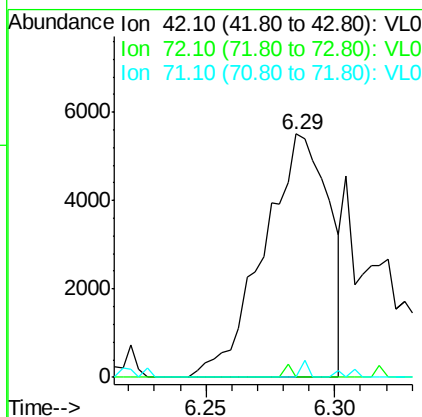
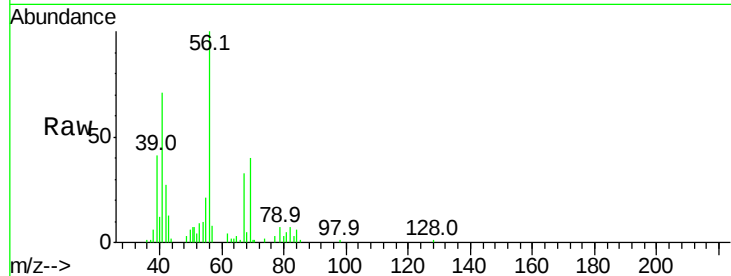
Tgt Ion	Ratio	Lower	Upper
63	100		
41	0.0	56.1	84.1#
62	17.2	55.5	83.3#





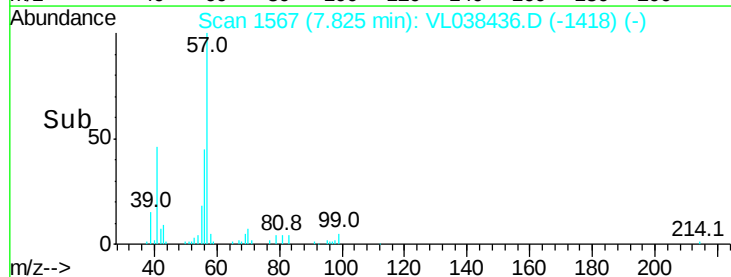
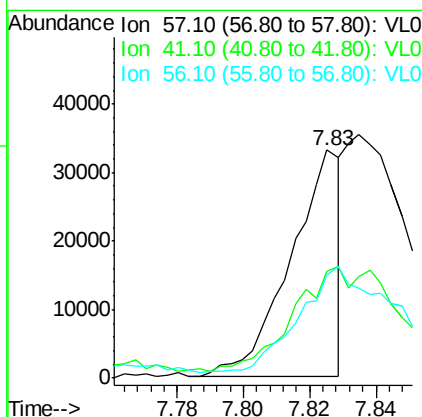
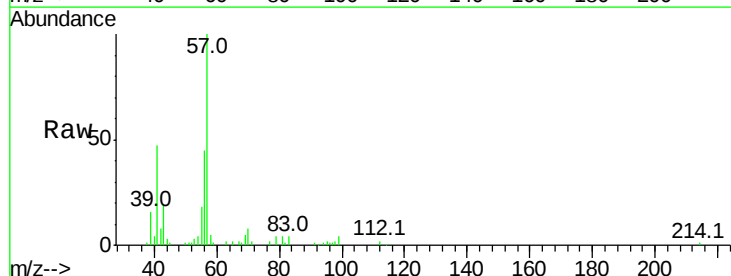
#41
Tetrahydrofuran
Concen: 0.25 ppbv
RT: 6.29
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 24 Feb 2022 16:10

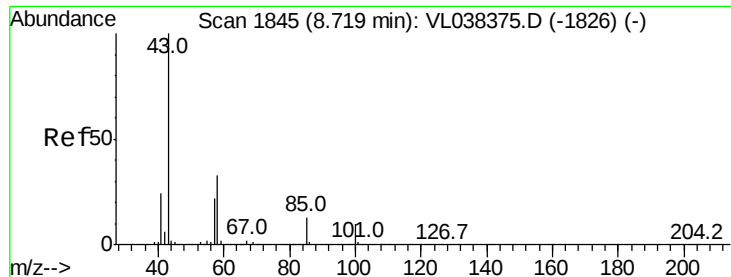
Tgt Ion	Ratio	Lower	Upper
42	100		
72	0.0	29.9	44.9#
71	0.0	28.6	42.8#



#44
2,2,4-Trimethylpentane
Concen: 0.12 ppbv
RT: 7.83 min Scan# 1567
Delta R.T.: -0.02 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

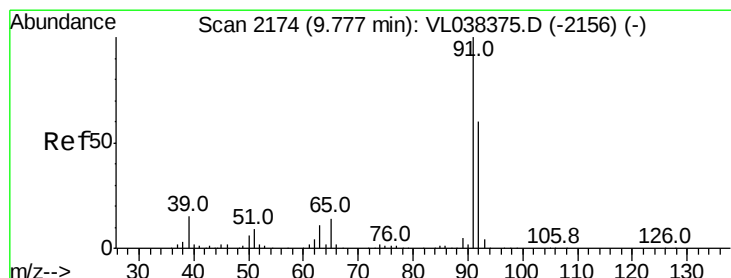
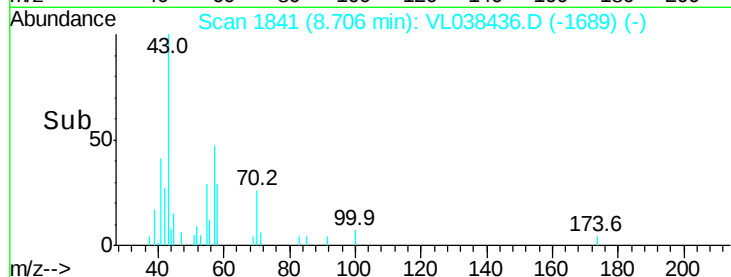
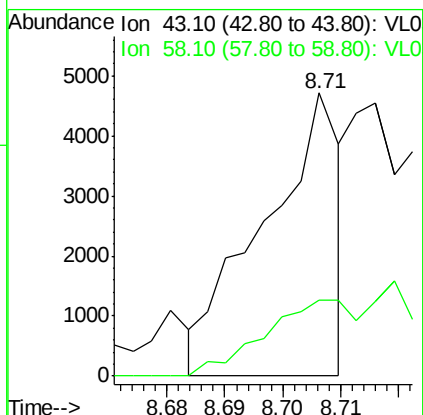
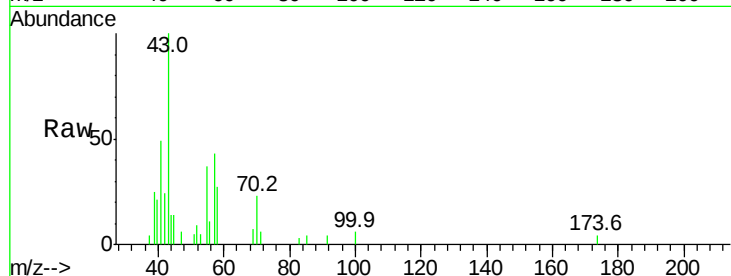
Tgt Ion	Ratio	Lower	Upper
57	100		
41	113.9	26.6	39.8#
56	110.9	25.0	37.6#





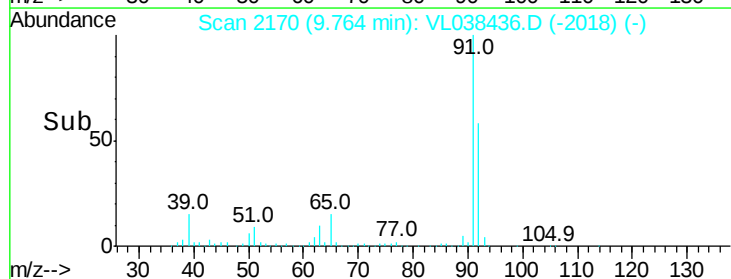
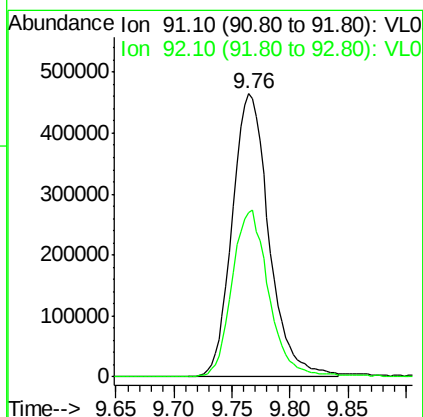
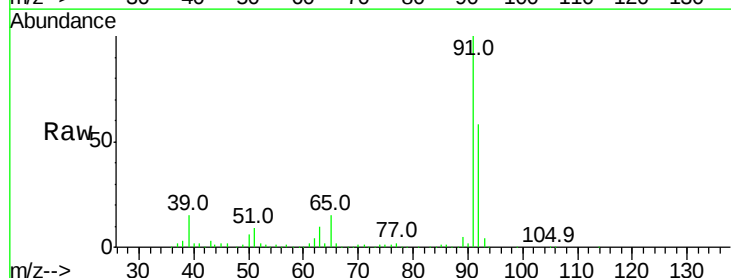
#50
4-Methyl-2-Pentanone
Concen: 0.04 ppbv
RT: 8.71 min
Delta R.T. MSVOA_1
Lab File: ClientSampled :
Acq: 24 Feb 2022 16:10

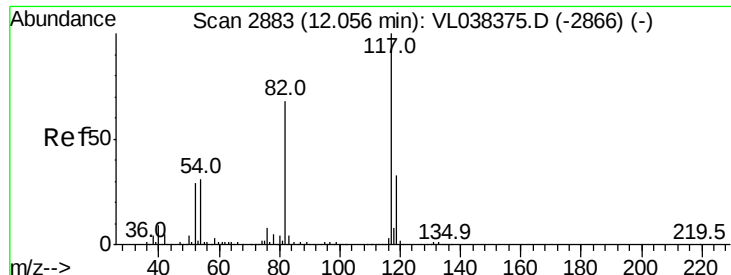
Tgt Ion: 43 Resp: 4306
Ion Ratio Lower Upper
43 100
58 0.0 27.7 41.5#



#53
Toluene
Concen: 5.80 ppbv
RT: 9.76 min Scan# 2170
Delta R.T. -0.01 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

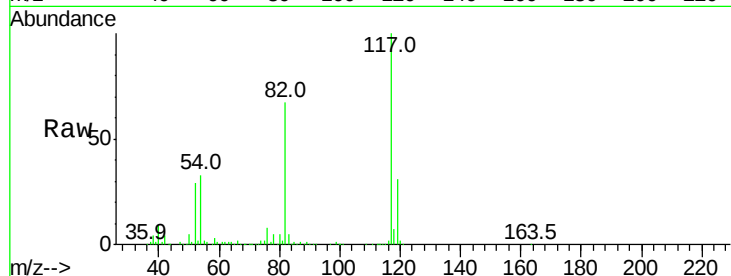
Tgt Ion: 91 Resp: 1023803
Ion Ratio Lower Upper
91 100
92 59.3 48.2 72.4



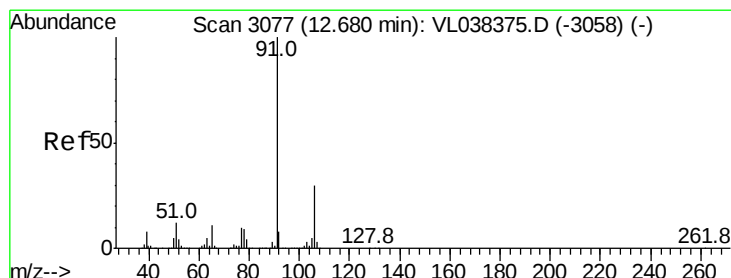
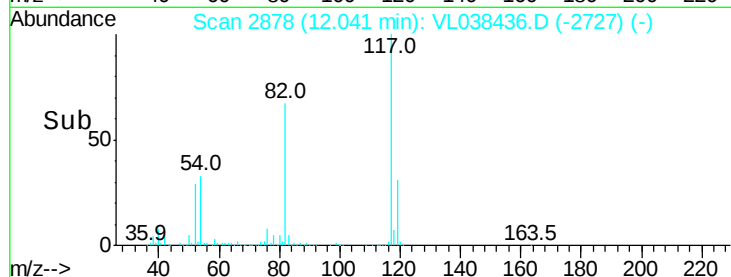
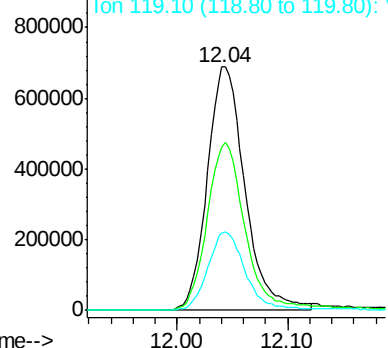


#55
Chlorobenzene-d5
Concen: 10.00 ppbv
RT: 12.04 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

Tgt Ion: 117 Resp: 1632675
Ion Ratio Lower Upper
117 100
82 71.8 54.9 82.3
119 33.3 46.1 69.1#

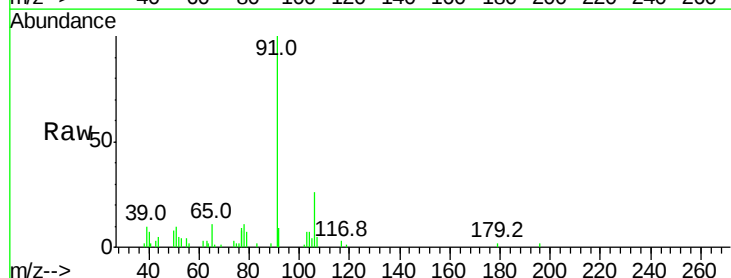


Abundance Ion 117.10 (116.80 to 117.80): V
Ion 82.10 (81.80 to 82.80): VL0
Ion 119.10 (118.80 to 119.80): V

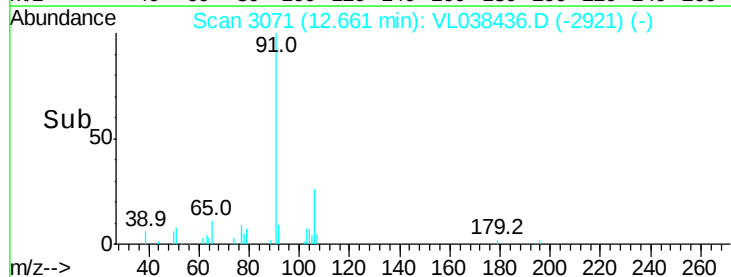
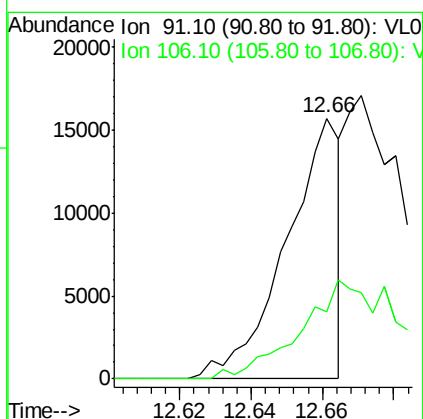


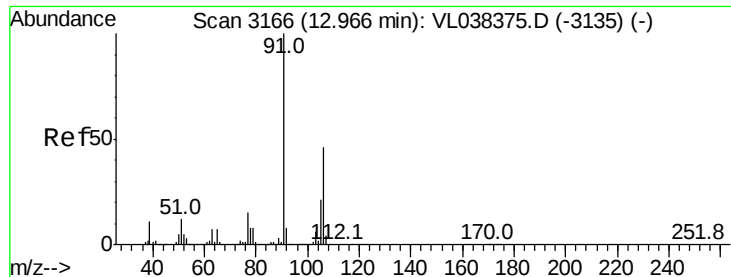
#58
Ethyl Benzene
Concen: 0.07 ppbv
RT: 12.66 min Scan# 3071
Delta R.T. -0.02 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

Tgt Ion: 91 Resp: 16490
Ion Ratio Lower Upper
91 100
106 25.7 24.0 36.0



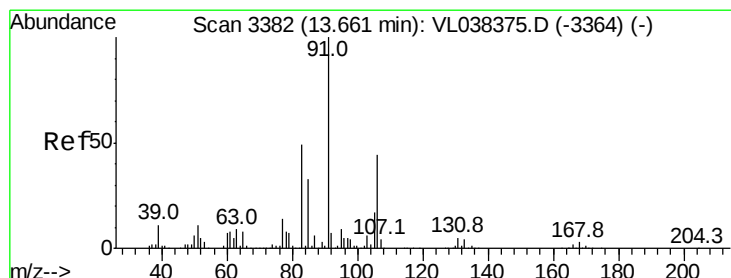
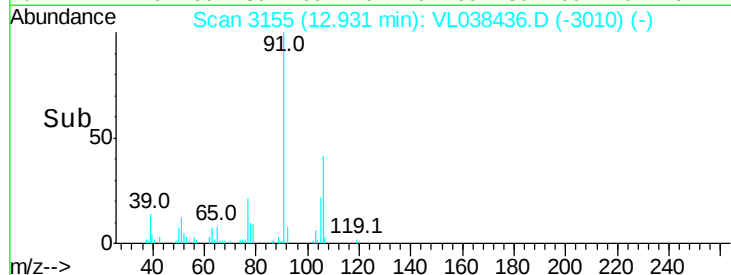
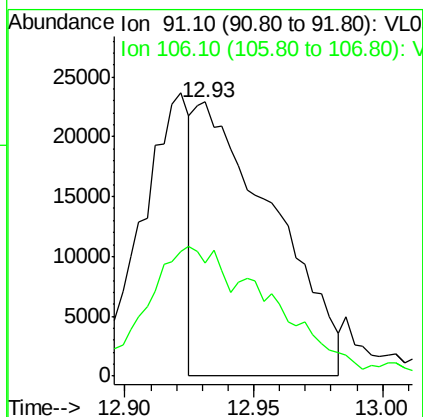
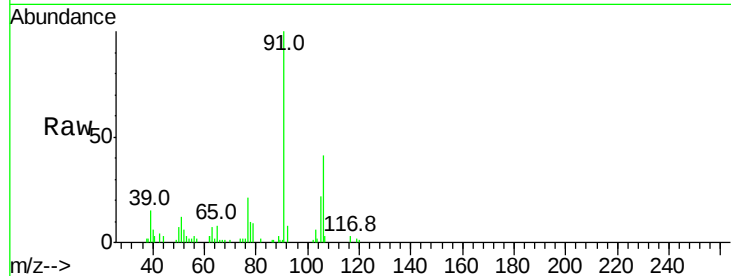
Abundance Ion 91.10 (90.80 to 91.80): VL0
Ion 106.10 (105.80 to 106.80): V





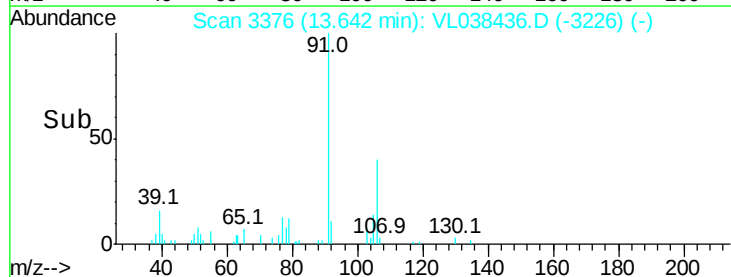
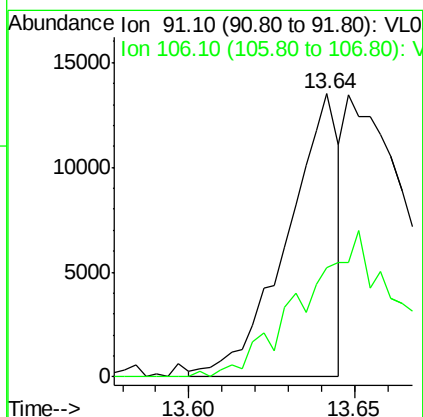
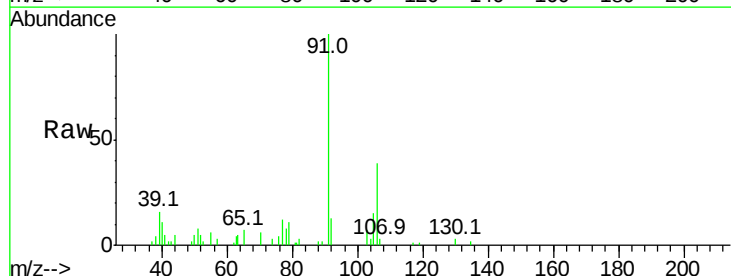
#59
m/p-Xylene
Concen: 0.25 ppbv
RT: 12.93
Delta R.T. MSVOA_1
Lab File: ClientSampleId :
Acq: 24 Feb 2022 16:10

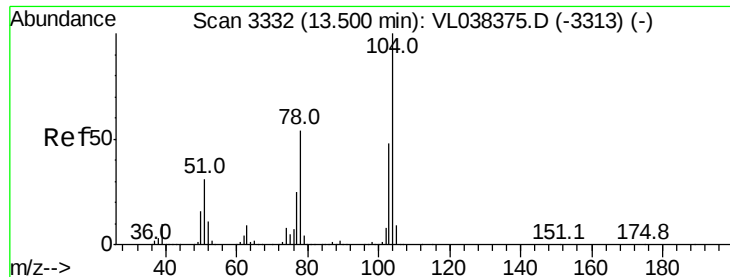
Tgt Ion: 91 Resp: 48544
Ion Ratio Lower Upper
91 100
106 0.0 34.4 51.6#



#60
o-Xylene
Concen: 0.08 ppbv
RT: 13.64 min Scan# 3376
Delta R.T. -0.02 min
Lab File: VL038436.D
Acq: 24 Feb 2022 16:10

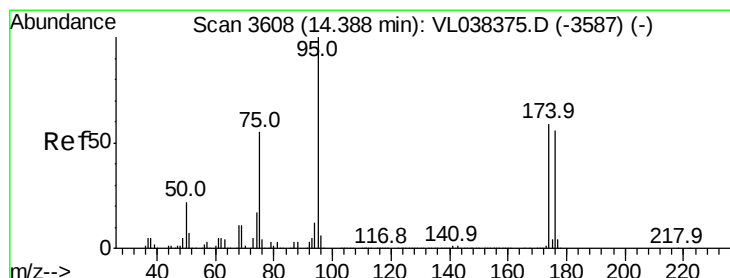
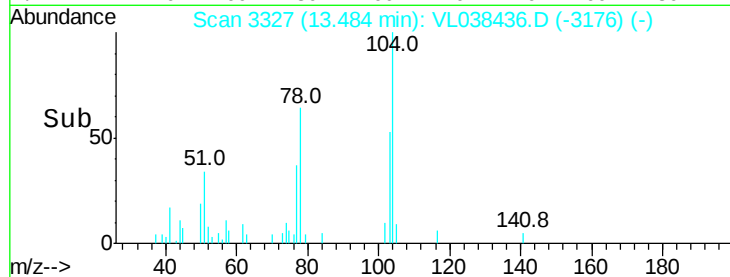
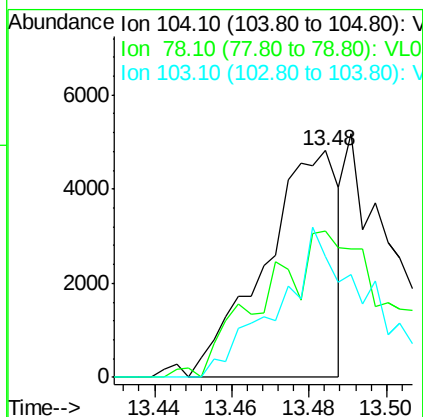
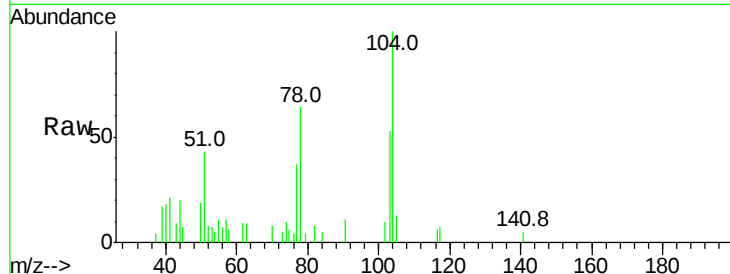
Tgt Ion: 91 Resp: 14664
Ion Ratio Lower Upper
91 100
106 0.0 21.9 65.5#





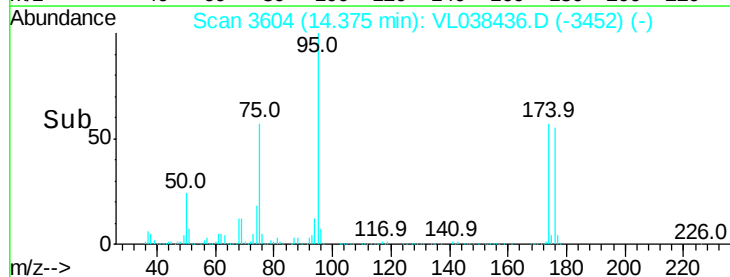
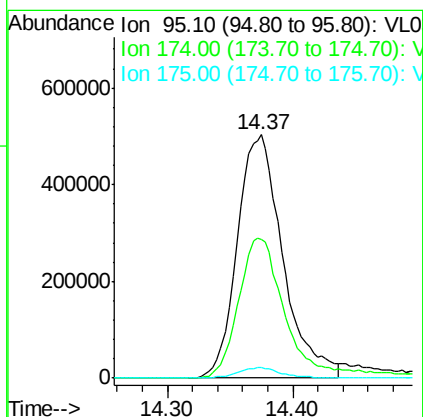
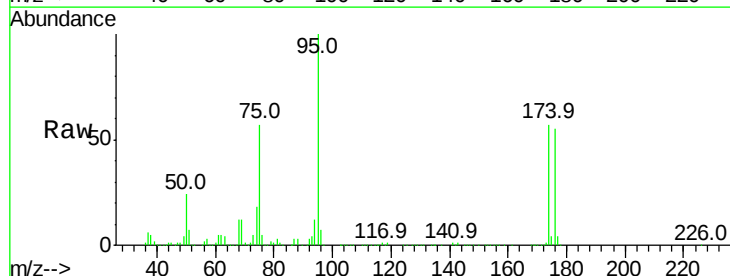
#61
 Styrene
 Concen: 0.08 ppbv
 RT: 13.48 min
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 24 Feb 2022 16:10

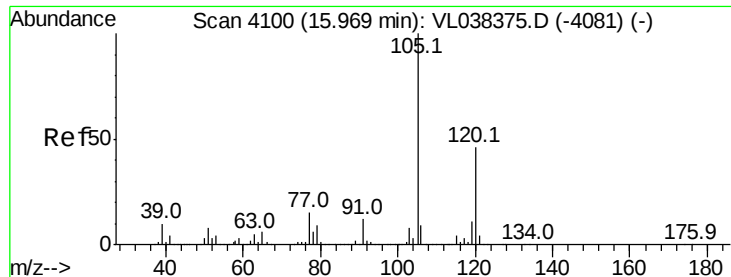
Tgt Ion: 104 Resp: 6373
 Ion Ratio Lower Upper
 104 100
 78 114.0 44.2 66.4#
 103 94.6 38.4 57.6#



#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.37 ppbv
 RT: 14.37 min Scan# 3604
 Delta R.T. -0.01 min
 Lab File: VL038436.D
 Acq: 24 Feb 2022 16:10

Tgt Ion: 95 Resp: 1266039
 Ion Ratio Lower Upper
 95 100
 174 61.9 49.0 73.4
 175 4.3 3.6 5.4





#73

1,3,5-Trimethylbenzene

Concen: 0.03 ppbv

RT: 15.96

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

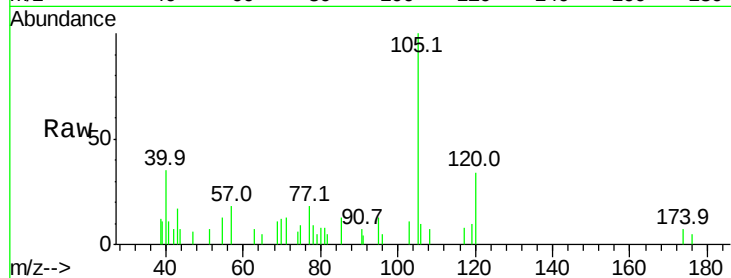
Acq: 24 Feb 2022 16:10

Tgt Ion:105 Resp: 5495

Ion Ratio Lower Upper

105 100

120 22.2 36.6 55.0#



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

15.96

4000

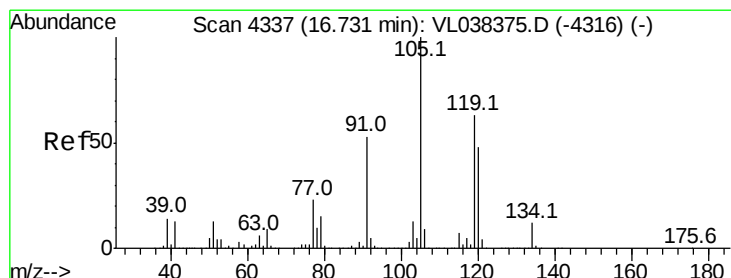
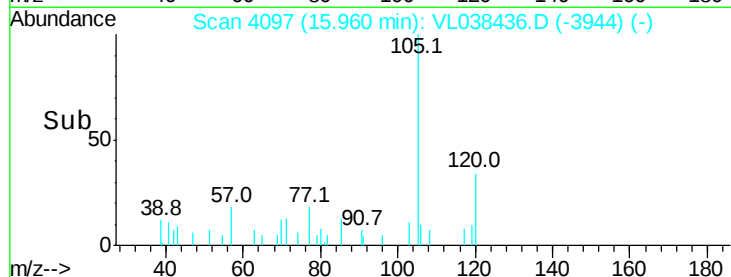
3000

2000

1000

0

Time--> 15.92 15.94 15.96 15.98



#74

1,2,4-Trimethylbenzene

Concen: 0.04 ppbv

RT: 16.71 min Scan# 4329

Delta R.T. -0.03 min

Lab File: VL038436.D

Acq: 24 Feb 2022 16:10

Tgt Ion:105 Resp: 7130

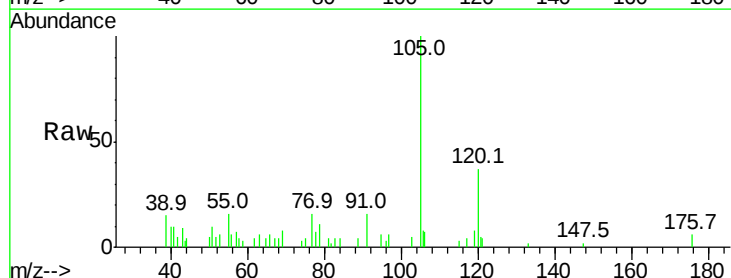
Ion Ratio Lower Upper

105 100

120 36.1 38.2 57.4#

91 14.5 42.7 64.1#

77 14.6 18.5 27.7#



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

15000

10000

5000

0

Time--> 16.66 16.68 16.70 16.72

