

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL112921\
 Data File : VL038136.D
 Acq On : 29 Nov 2021 15:36
 Operator : SY/AP
 Sample : M4827-01
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Quant Time: Nov 30 05:16:06 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL111821AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu Nov 18 13:16:09 2021
 QLast Update : Thu Nov 18 13:16:09 2021
 Response via : Initial Calibration

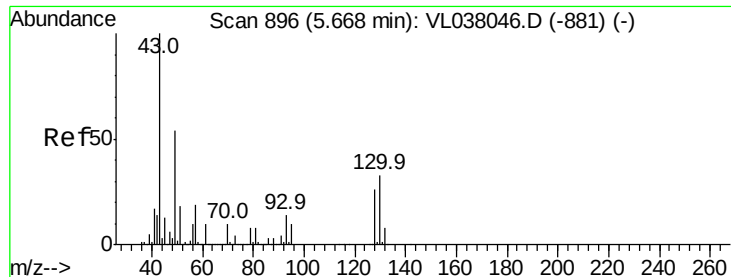
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	982244	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.18	114	2604443	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.09	117	2267173	10.00	ppbv	0.01

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	1839015	11.25	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	112.50%

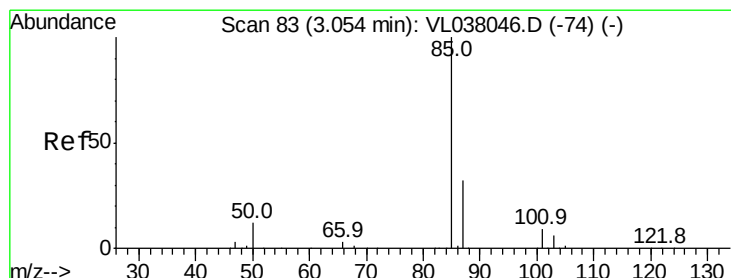
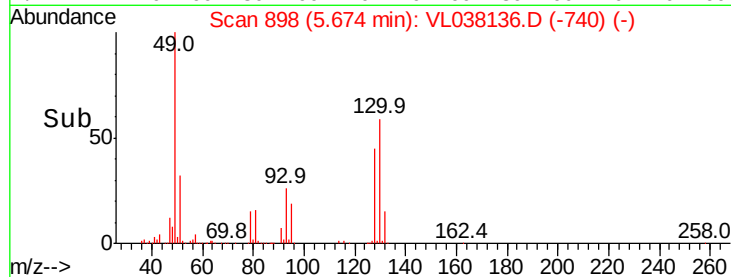
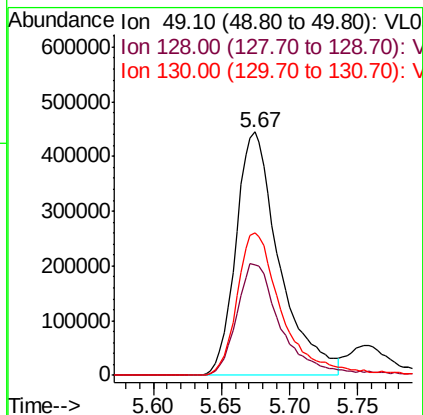
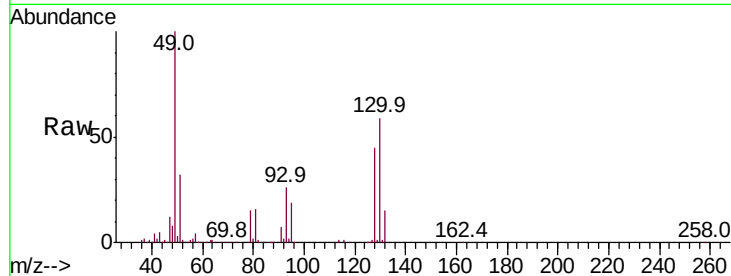
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.06	85	32029	0.197	ppbv	90
3) Chlorodifluoromethane	3.00	51	76636	0.372	ppbv #	84
4) Chloromethane	3.15	50	17684	0.252	ppbv	95
7) Chloroethane	3.57	64	230164	9.414	ppbv	94
9) Propene	3.22	41	800707	10.540	ppbv	100
10) Heptane	8.12	43	40228	0.214	ppbv	95
11) Trichlorofluoromethane	3.96	101	32820	0.213	ppbv	97
13) Ethanol	3.64	45	16594751	2260.450	ppbv	95
15) Acetone	3.86	43	650868	7.643	ppbv	98
16) 1,3-Butadiene	3.37	39	959807	14.446	ppbv #	11
17) tert-Butyl alcohol	4.00	59	178627	1.729	ppbv	100
19) Isopropyl Alcohol	4.00	45	4830154	78.497	ppbv	100
20) Methylene Chloride	4.35	84	134497	2.820	ppbv	94
21) Allyl Chloride	4.35	41	4980	0.063	ppbv #	26
23) Vinyl Acetate	5.07	43	11683	0.095	ppbv #	1
25) Ethyl Acetate	5.69	43	135712	0.479	ppbv #	84
26) Hexane	5.70	57	159734	1.171	ppbv #	49
29) Chloroform	5.76	83	948315	4.717	ppbv	98
31) cis-1,2-Dichloroethene	5.56	61	4378	0.034	ppbv	92
34) 2-Butanone	5.26	43	23109	0.220	ppbv #	81
36) Benzene	6.89	78	213905	0.823	ppbv	100
38) Trichloroethene	7.84	130	8137	0.083	ppbv #	78
39) 1,2-Dichloropropane	7.18	63	690621	6.930	ppbv #	27
42) Bromodichloromethane	7.79	83	30713	0.161	ppbv	98
44) 2,2,4-Trimethylpentane	7.87	57	25955	0.060	ppbv #	36
52) Tetrachloroethene	11.23	164	3166315	32.938	ppbv	99
53) Toluene	9.81	91	118866	0.398	ppbv	100
58) Ethyl Benzene	12.71	91	28853	0.077	ppbv	91
59) m/p-Xylene	12.97	91	127122	0.403	ppbv	98
60) o-Xylene	13.69	91	55130	0.188	ppbv	96
74) 1,2,4-Trimethylbenzene	16.76	105	16880	0.053	ppbv #	74

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



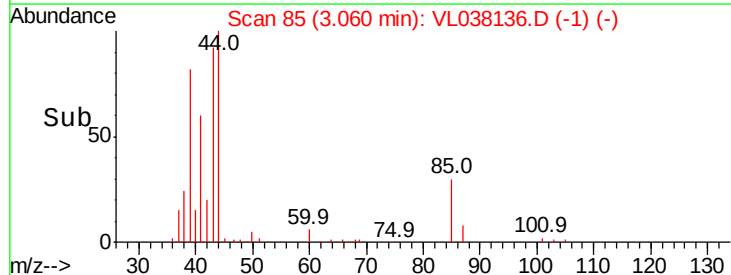
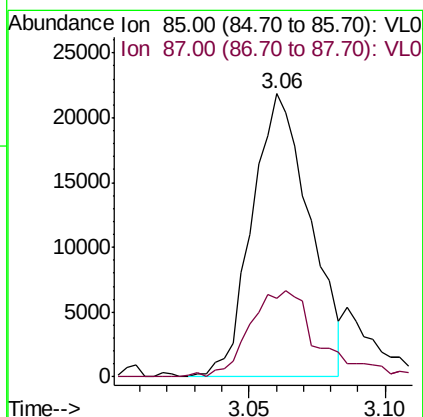
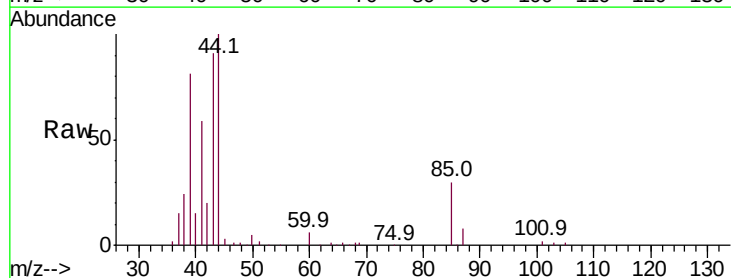
#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 5.67
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 29 Nov 2021 15:30

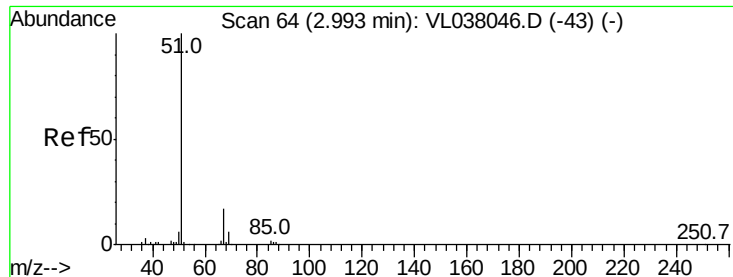
Tot Ion: 49 Resp: 982244
 Ion Ratio Lower Upper
 49 100
 128 47.9 26.5 79.5
 130 61.7 32.5 97.4



#2
 Dichlorodifluoromethane
 Concen: 0.197 ppbv
 RT: 3.06 min Scan# 85
 Delta R.T. 0.01 min
 Lab File: VL038136.D
 Acq: 29 Nov 2021 15:36

Tgt Ion: 85 Resp: 32029
 Ion Ratio Lower Upper
 85 100
 87 26.8 25.8 38.6





#3

Chlorodifluoromethane

Concen: 0.372 ppbv

RT: 3.00 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

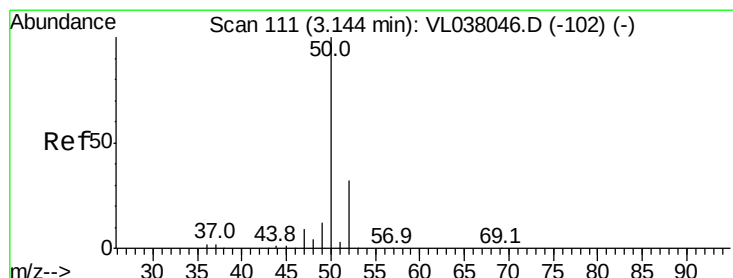
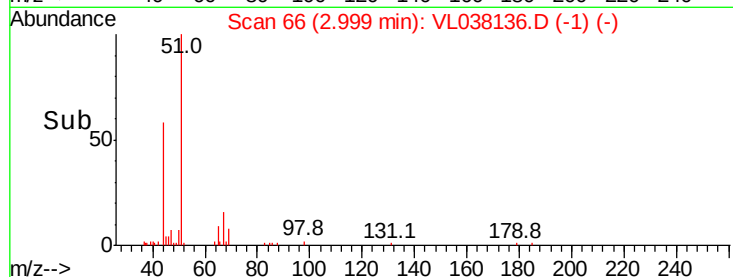
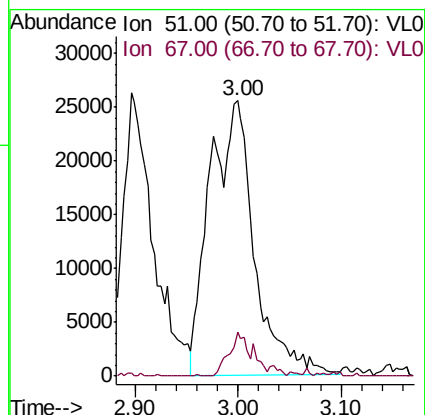
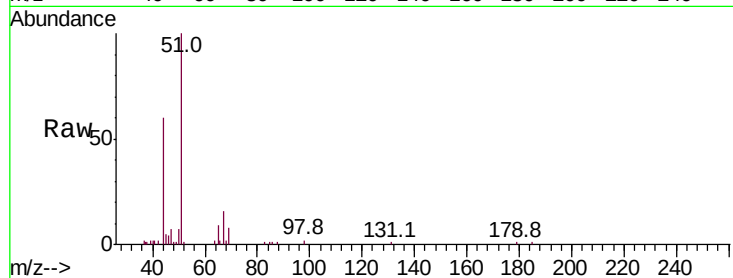
Acq: 29 Nov 2021 15:30

Tot Ion: 51 Resp: 76636

Ion Ratio Lower Upper

51 100

67 10.2 13.8 20.8#



#4

Chloromethane

Concen: 0.252 ppbv

RT: 3.15 min Scan# 113

Delta R.T. 0.01 min

Lab File: VL038136.D

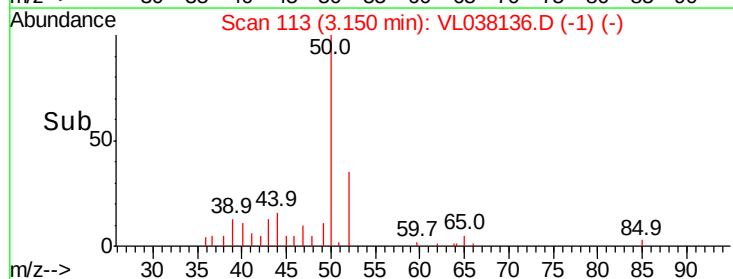
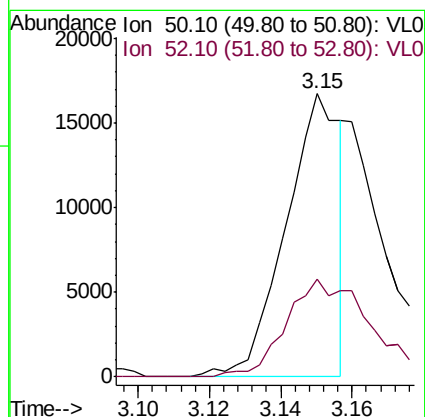
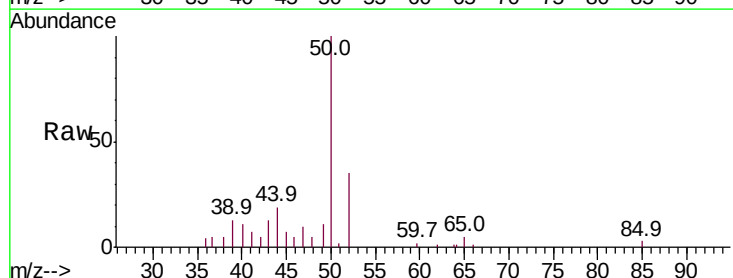
Acq: 29 Nov 2021 15:36

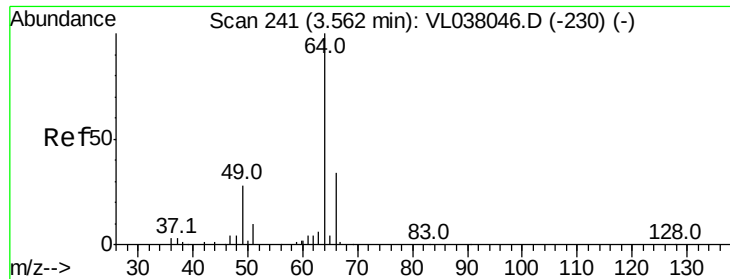
Tgt Ion: 50 Resp: 17684

Ion Ratio Lower Upper

50 100

52 34.5 25.4 38.0





#7

Chloroethane

Concen: 9.414 ppbv

RT: 3.57 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

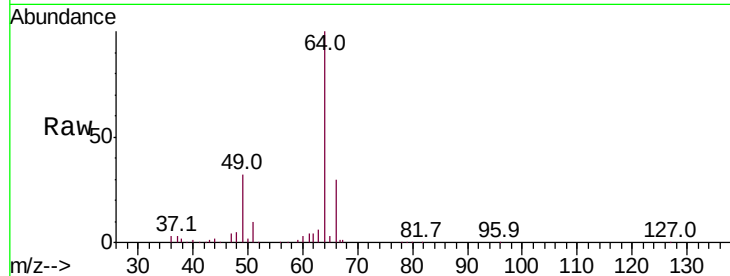
Acq: 29 Nov 2021 15:30

Tot Ion: 64 Resp: 230164

Ion Ratio Lower Upper

64 100

66 30.3 27.2 40.8



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0

3.57

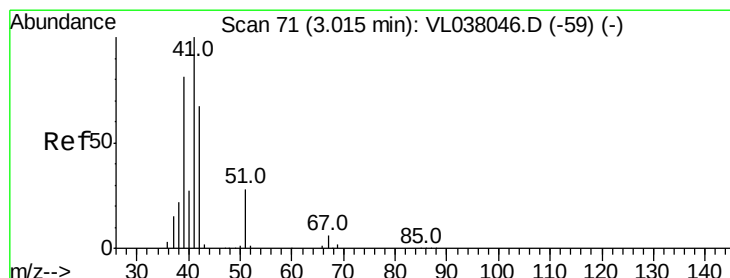
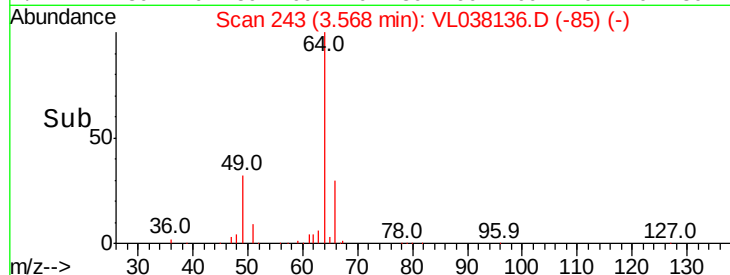
150000

100000

50000

0

Time-->



#9

Propene

Concen: 10.540 ppbv

RT: 3.22 min Scan# 134

Delta R.T. 0.20 min

Lab File: VL038136.D

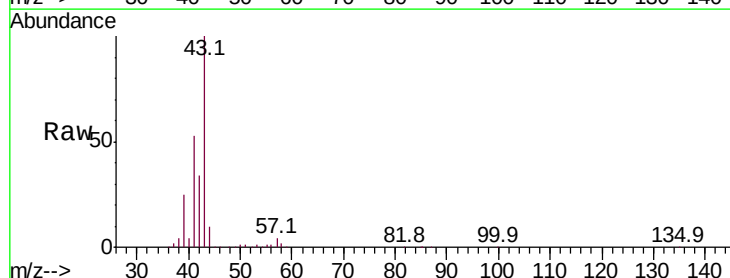
Acq: 29 Nov 2021 15:36

Tgt Ion: 41 Resp: 800707

Ion Ratio Lower Upper

41 100

42 67.1 53.8 80.8



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

3.22

500000

400000

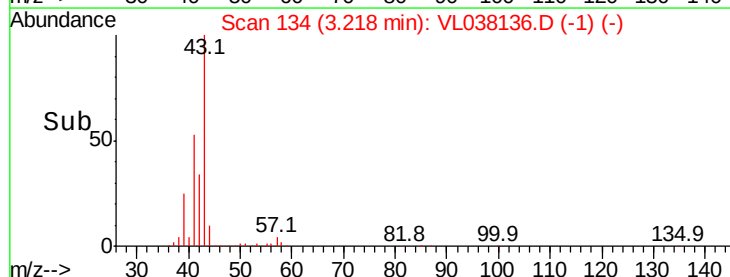
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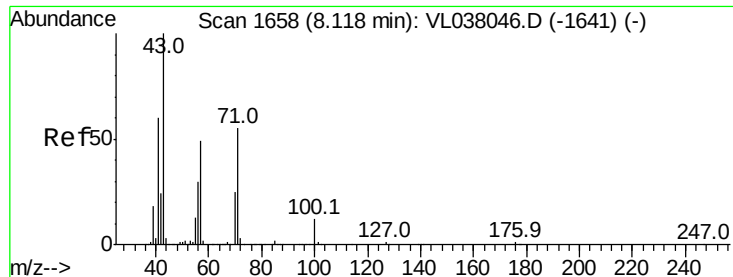
200000

100000

0

Time-->





#10

Heptane

Concen: 0.214 ppbv

RT: 8.12 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

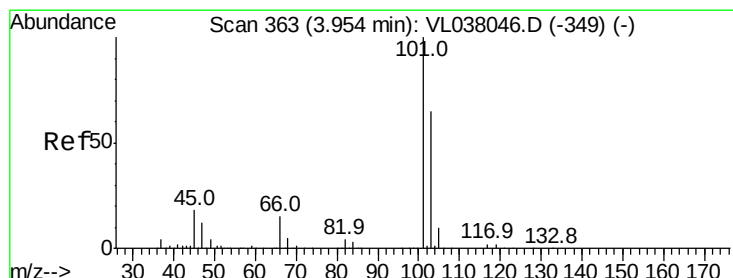
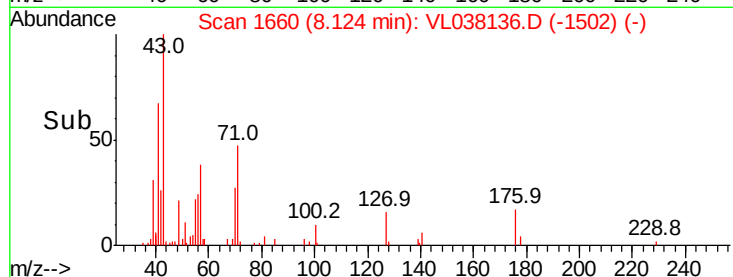
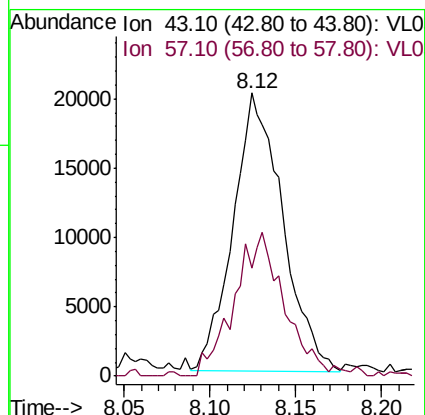
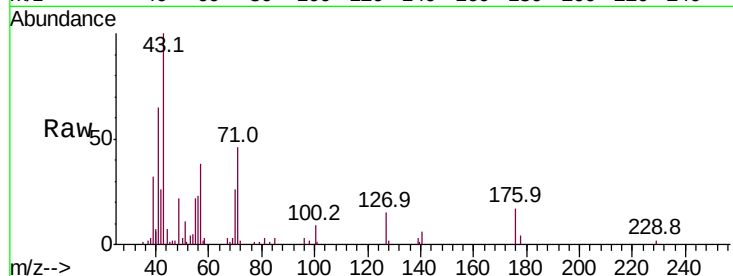
Acq: 29 Nov 2021 15:30

Tot Ion: 43 Resp: 40228

Ion Ratio Lower Upper

43 100

57 54.0 40.4 60.6



#11

Trichlorofluoromethane

Concen: 0.213 ppbv

RT: 3.96 min Scan# 365

Delta R.T. 0.01 min

Lab File: VL038136.D

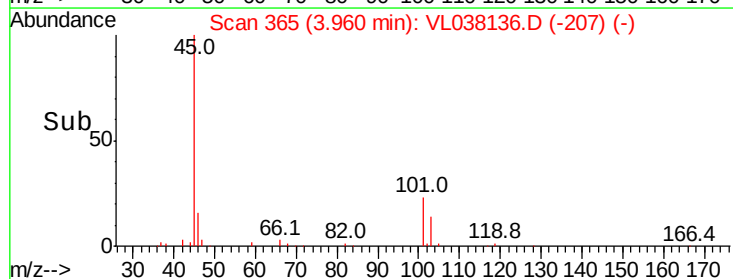
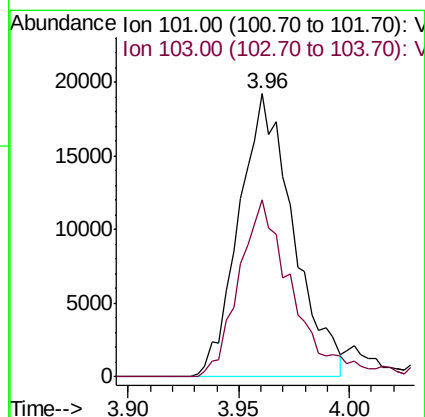
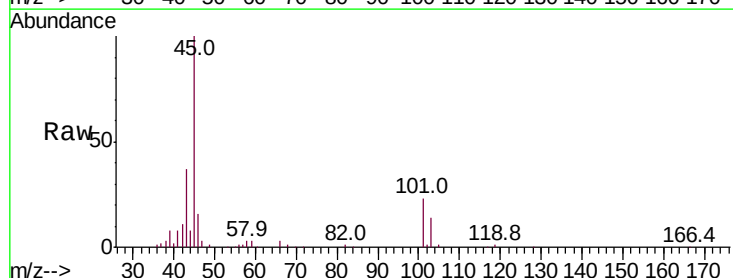
Acq: 29 Nov 2021 15:36

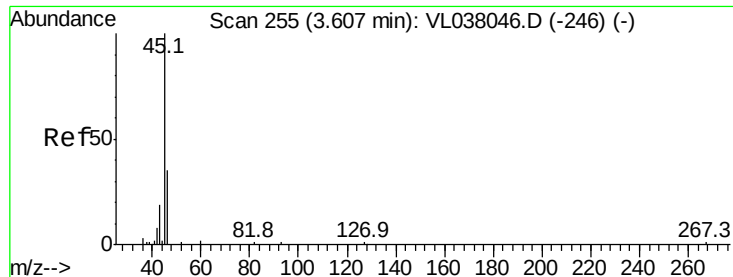
Tgt Ion:101 Resp: 32820

Ion Ratio Lower Upper

101 100

103 62.5 51.8 77.6





#13

Ethanol

Concen: 2260.450 ppbv

RT: 3.64 Instrument :

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

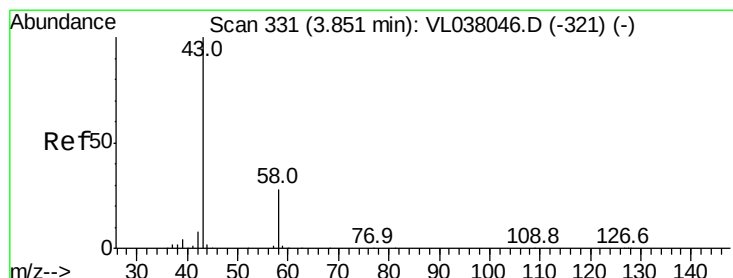
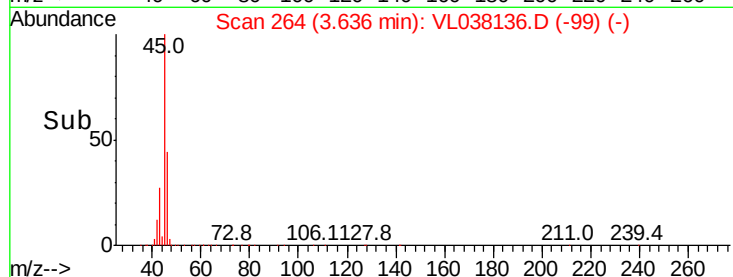
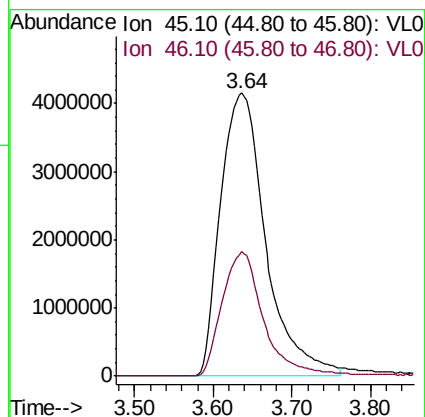
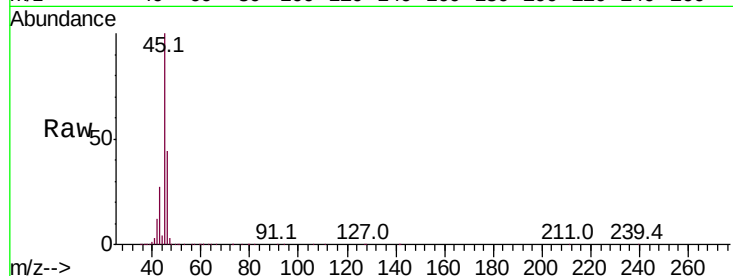
Acq: 29 Nov 2021 15:30

Tot Ion: 45 Resp:16594751

Ion Ratio Lower Upper

45 100

46 40.9 17.6 70.2



#15

Acetone

Concen: 7.643 ppbv

RT: 3.86 min Scan# 334

Delta R.T. 0.01 min

Lab File: VL038136.D

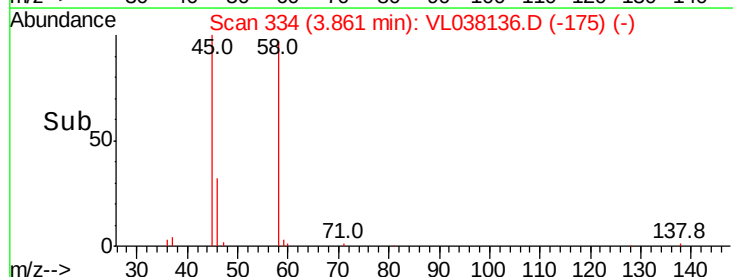
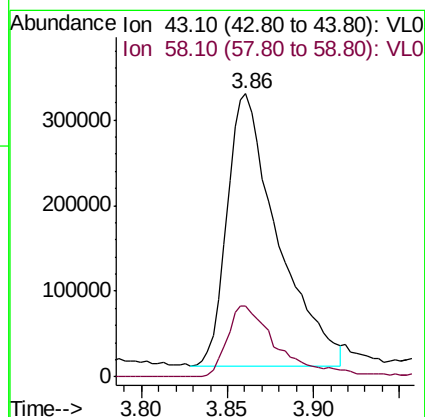
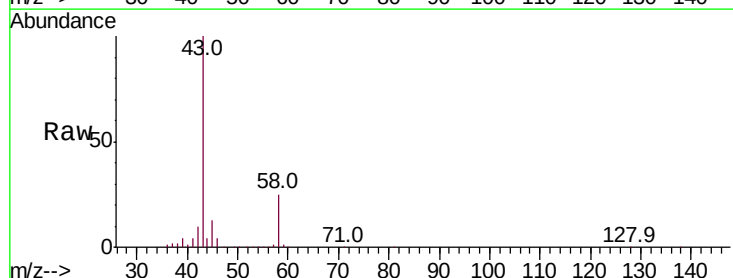
Acq: 29 Nov 2021 15:36

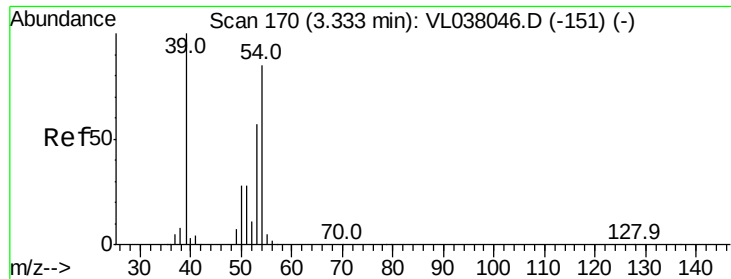
Tgt Ion: 43 Resp: 650868

Ion Ratio Lower Upper

43 100

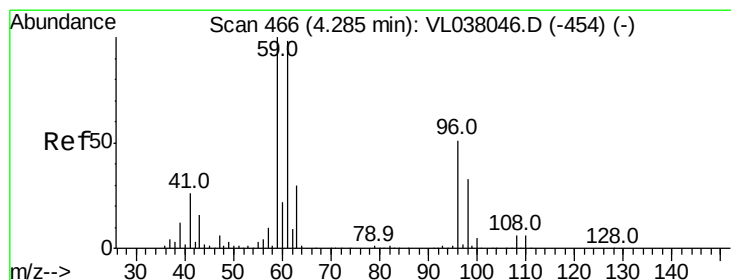
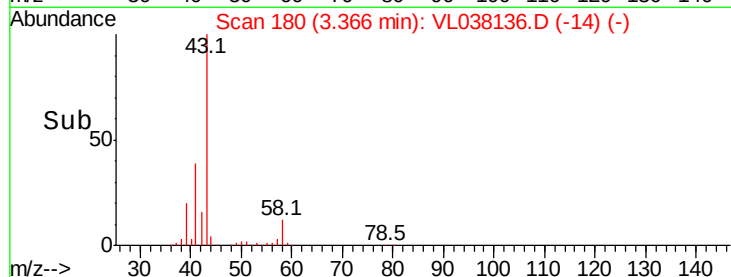
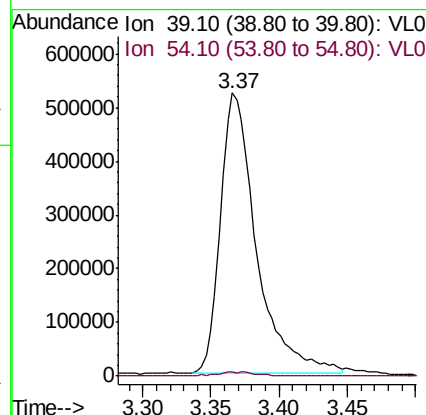
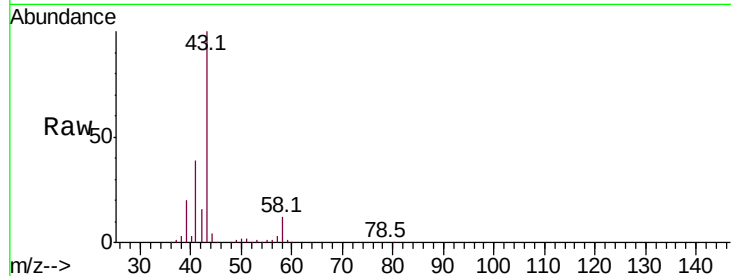
58 26.9 22.4 33.6





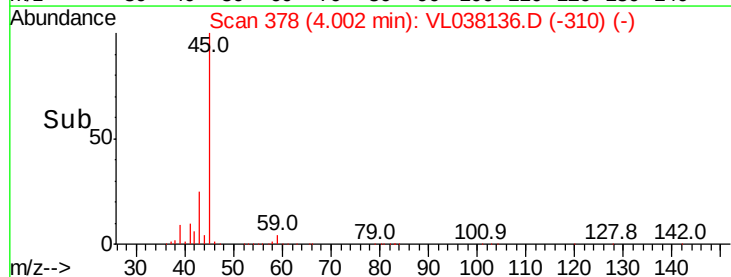
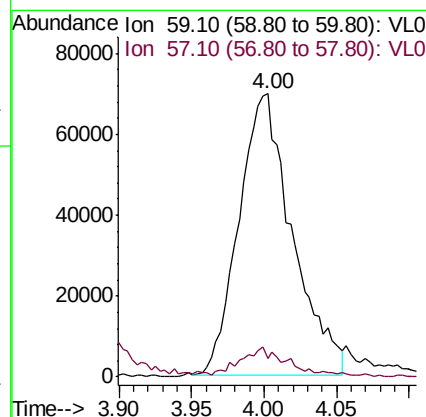
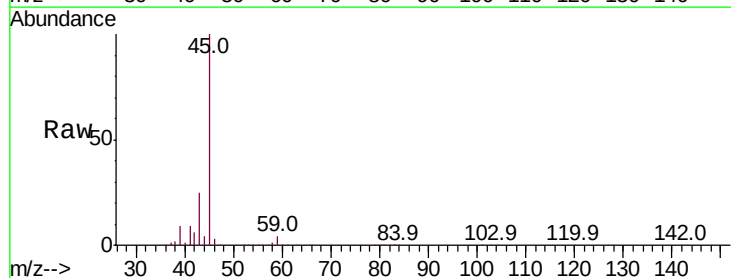
#16
 1,3-Butadiene
 Concen: 14.446 ppbv
 RT: 3.37
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 29 Nov 2021 15:36

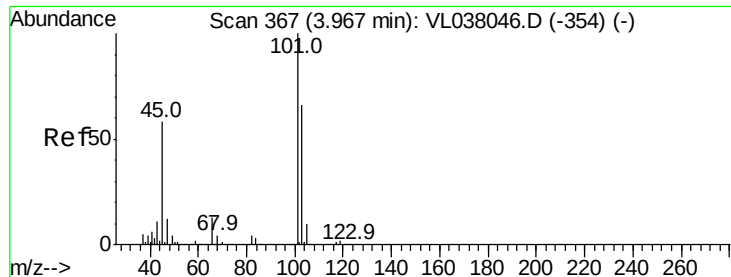
Tot Ion: 39 Resp: 959807
 Ion Ratio Lower Upper
 39 100
 54 2.0 64.4 96.6#



#17
 tert-Butyl alcohol
 Concen: 1.729 ppbv
 RT: 4.00 min Scan# 378
 Delta R.T. -0.28 min
 Lab File: VL038136.D
 Acq: 29 Nov 2021 15:36

Tgt Ion: 59 Resp: 178627
 Ion Ratio Lower Upper
 59 100
 57 10.7 8.6 13.0





#19

Isopropyl Alcohol

Concen: 78.497 ppbv

RT: 4.00 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

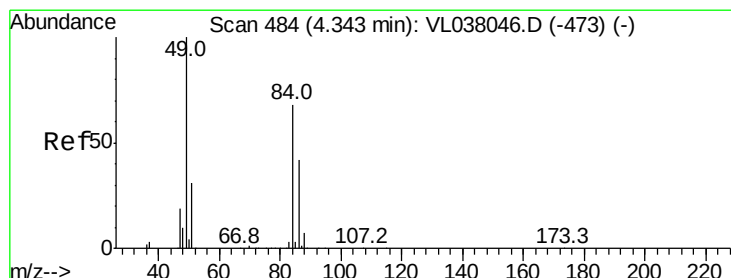
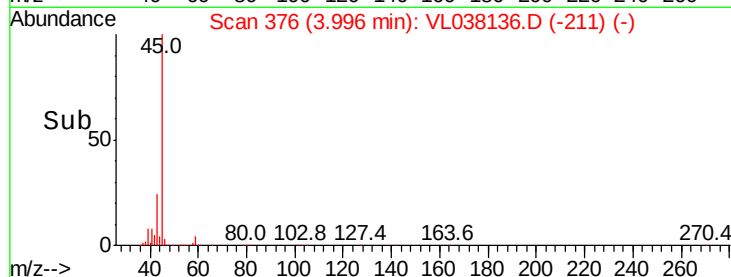
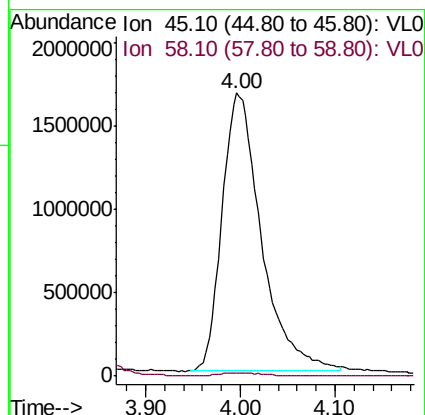
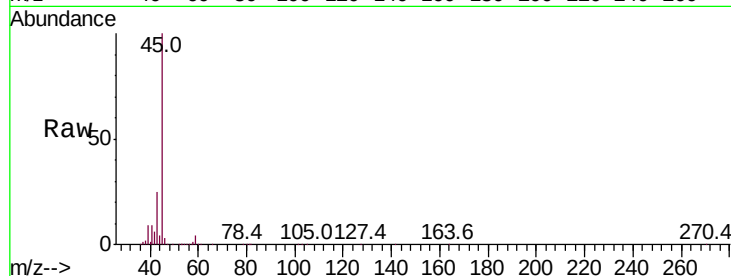
Acq: 29 Nov 2021 15:30

Tot Ion: 45 Resp: 4830154

Ion Ratio Lower Upper

45 100

58 1.5 1.4 2.0



#20

Methylene Chloride

Concen: 2.820 ppbv

RT: 4.35 min Scan# 487

Delta R.T. 0.01 min

Lab File: VL038136.D

Acq: 29 Nov 2021 15:36

Tgt Ion: 84 Resp: 134497

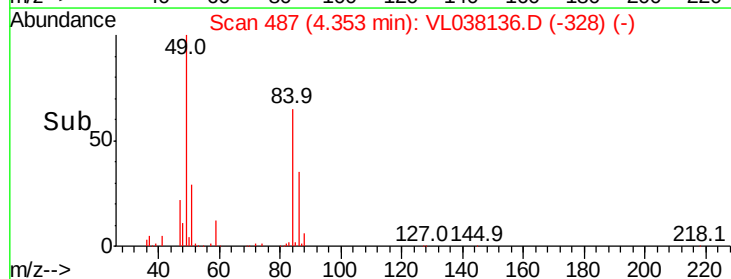
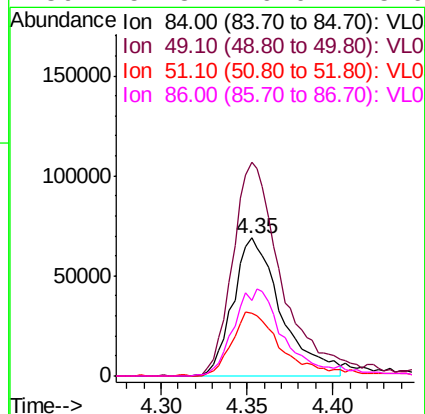
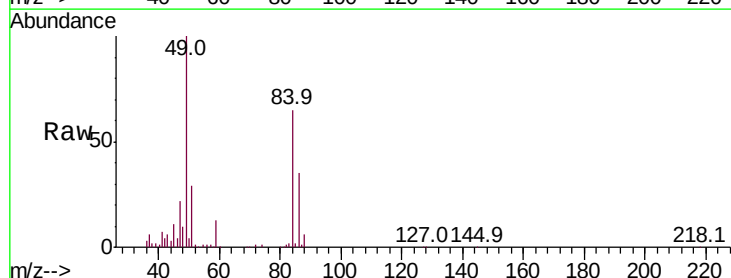
Ion Ratio Lower Upper

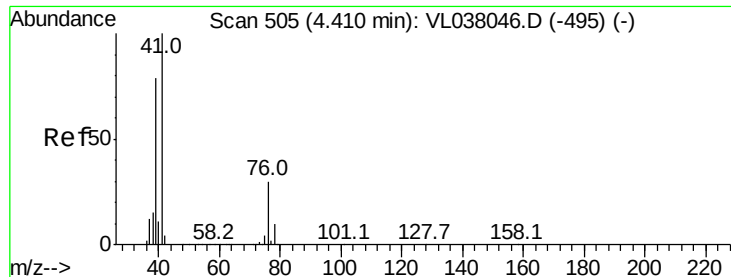
84 100

49 154.7 118.2 177.2

51 45.2 36.8 55.2

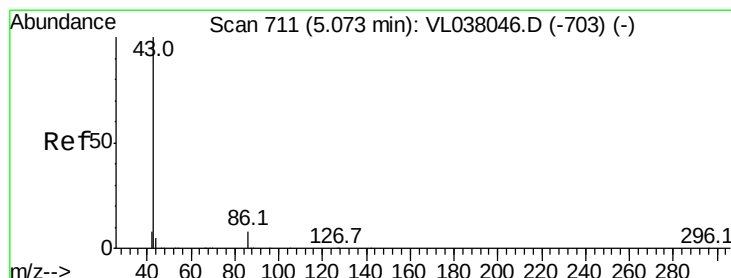
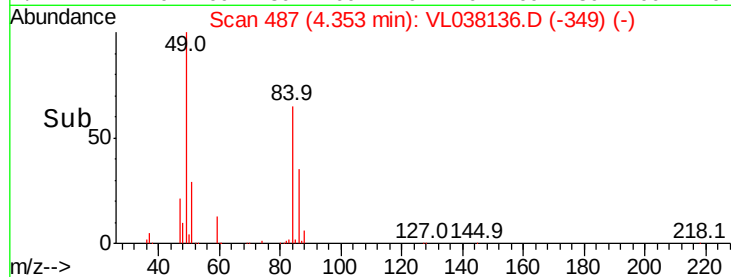
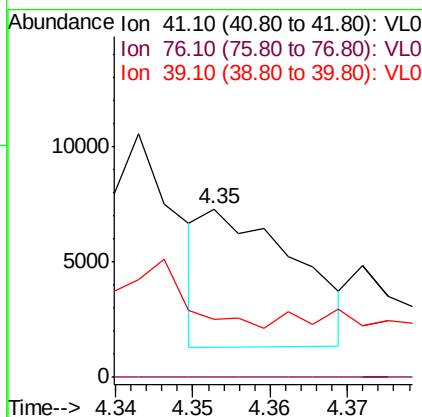
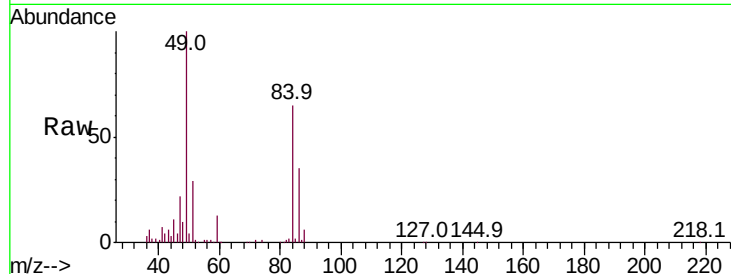
86 54.8 49.0 73.6





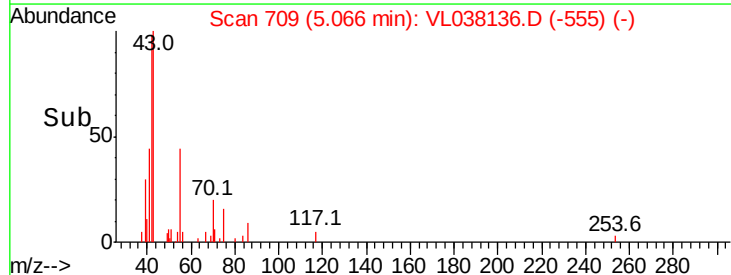
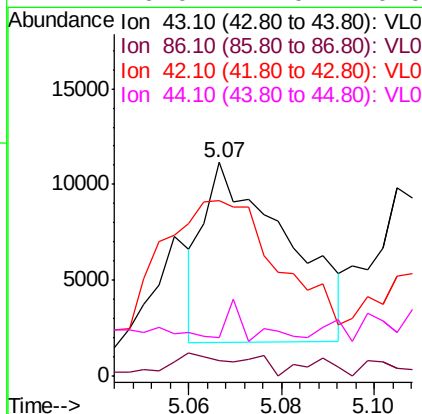
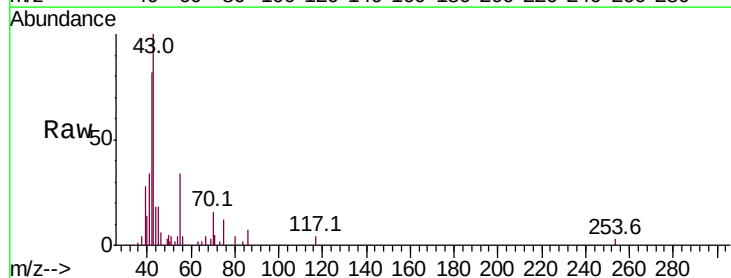
#21
 Allvl Chloride
 Concen: 0.063 ppbv
 RT: 4.35
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 29 Nov 2021 15:30

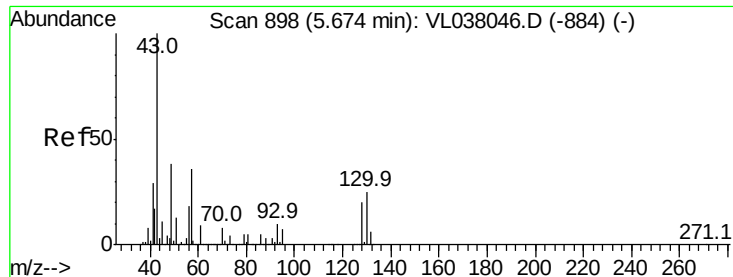
Tot Ion: 41 Resp: 4980
 Ion Ratio Lower Upper
 41 100
 76 48.7 24.6 36.8#
 39 0.0 63.4 95.0#



#23
 Vinyl Acetate
 Concen: 0.095 ppbv
 RT: 5.07 min Scan# 709
 Delta R.T. -0.01 min
 Lab File: VL038136.D
 Acq: 29 Nov 2021 15:36

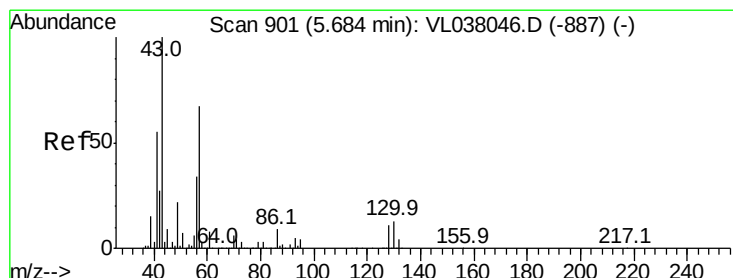
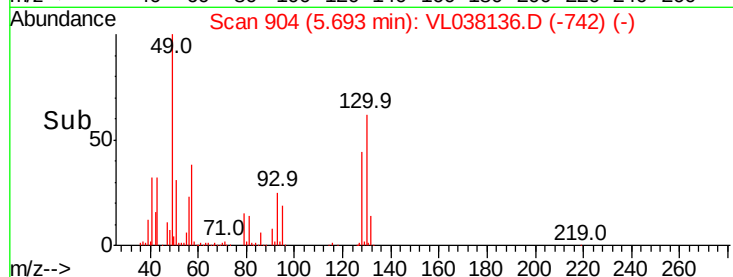
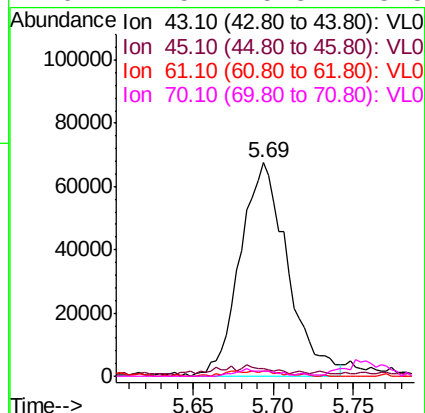
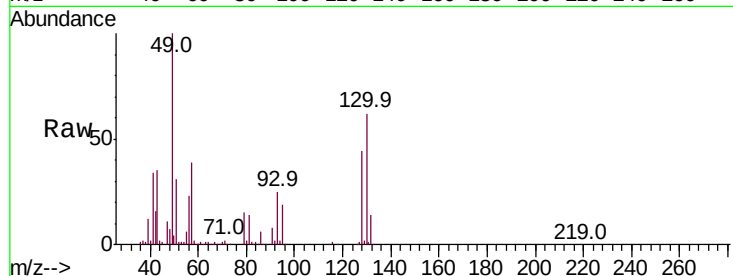
Tgt Ion: 43 Resp: 11683
 Ion Ratio Lower Upper
 43 100
 86 5.2 5.3 7.9#
 42 112.4 7.0 10.6#
 44 0.0 4.0 6.0#





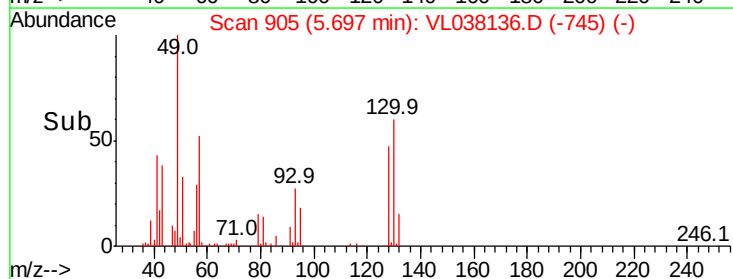
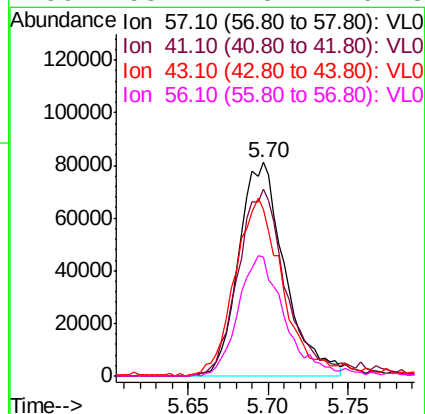
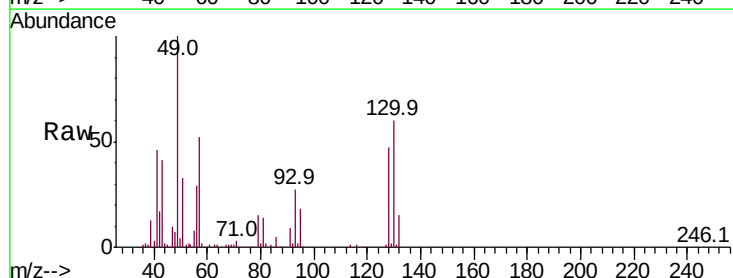
#25
Ethyl Acetate
Concen: 0.479 ppbv
RT: 5.69
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId :
Acq: 29 Nov 2021 15:30

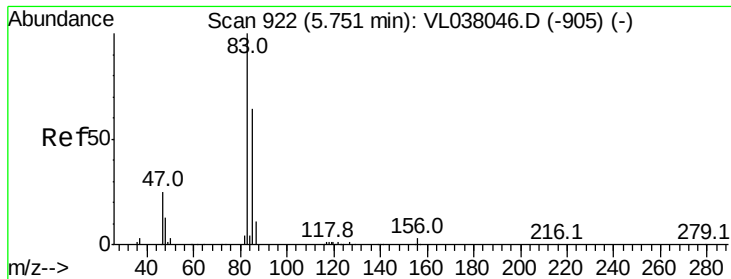
Tot Ion:	43	Resp:	135712
Ion	Ratio	Lower	Upper
43	100		
45	4.6	7.9	11.9#
61	3.0	7.8	11.6#
70	2.5	5.8	8.8#



#26
Hexane
Concen: 1.171 ppbv
RT: 5.70 min Scan# 905
Delta R.T.: 0.01 min
Lab File: VL038136.D
Acq: 29 Nov 2021 15:36

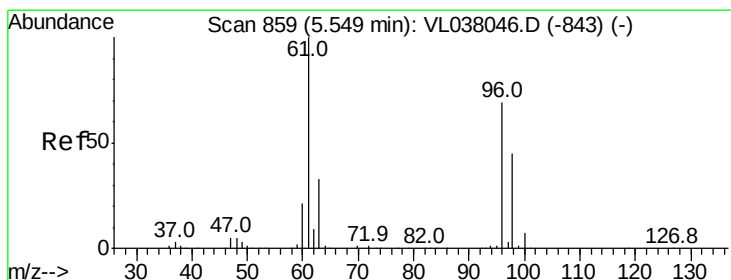
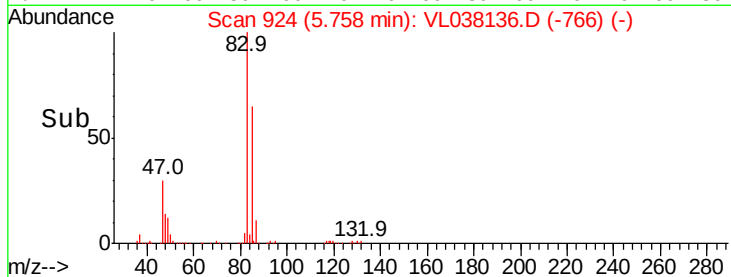
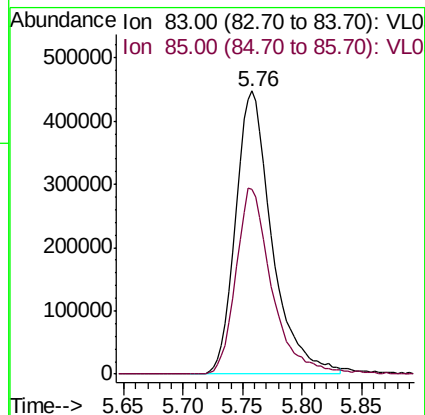
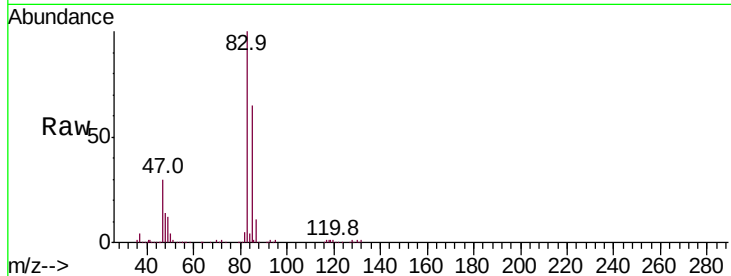
Tgt Ion:	57	Resp:	159734
Ion	Ratio	Lower	Upper
57	100		
41	96.0	71.4	107.2
43	89.5	174.6	261.8#
56	58.1	43.2	64.8





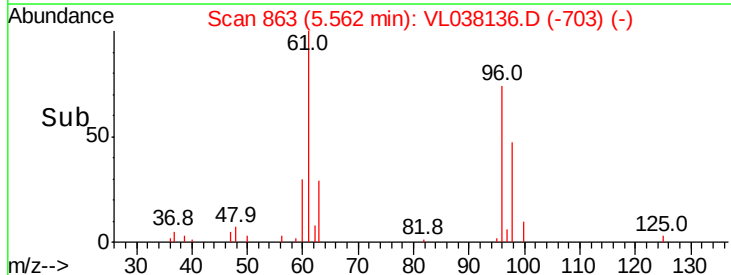
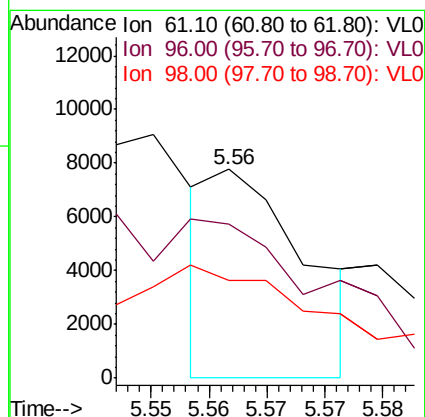
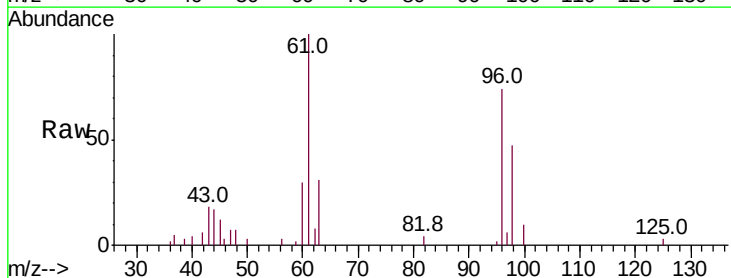
#29
Chloroform
Concen: 4.717 ppbv
RT: 5.76
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 29 Nov 2021 15:30

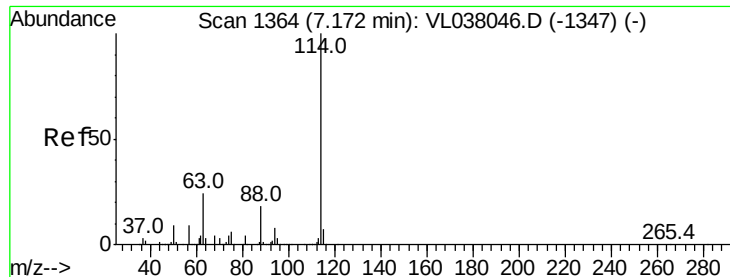
Tot Ion: 83 Resp: 948315
Ion Ratio Lower Upper
83 100
85 65.3 51.0 76.6



#31
cis-1,2-Dichloroethene
Concen: 0.034 ppbv
RT: 5.56 min Scan# 863
Delta R.T. 0.01 min
Lab File: VL038136.D
Acq: 29 Nov 2021 15:36

Tgt Ion: 61 Resp: 4378
Ion Ratio Lower Upper
61 100
96 63.6 55.4 83.2
98 37.6 35.7 53.5





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 29 Nov 2021 15:30

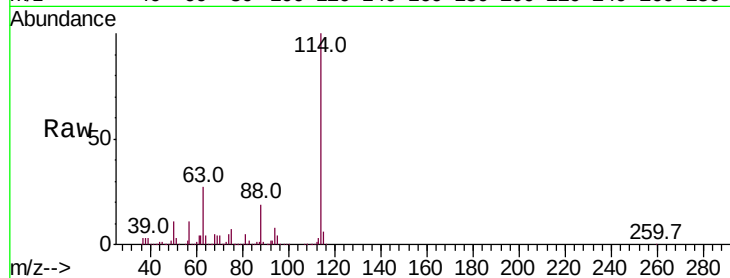
Tot Ion:114 Resp: 2604443

Ion Ratio Lower Upper

114 100

63 27.0 19.7 29.5

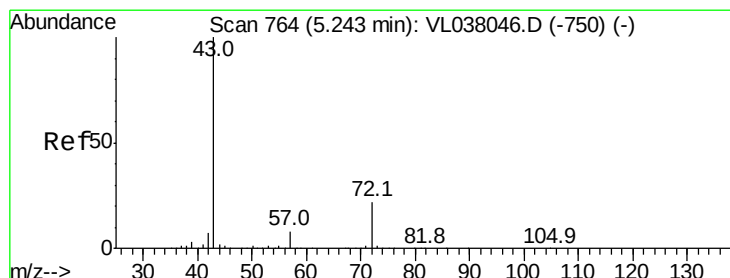
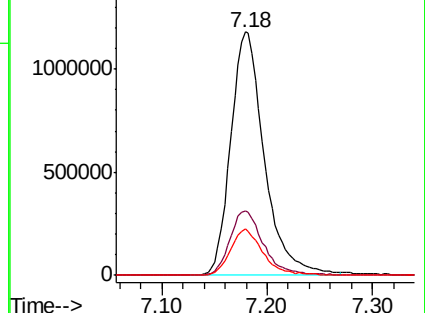
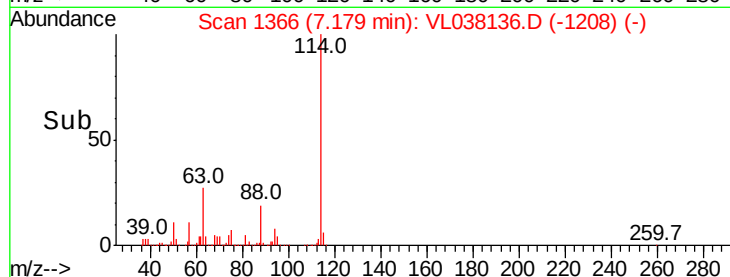
88 18.7 14.4 21.6



Abundance Ion 114.10 (113.80 to 114.80): VL0

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 0.220 ppbv

RT: 5.26 min Scan# 768

Delta R.T. 0.01 min

Lab File: VL038136.D

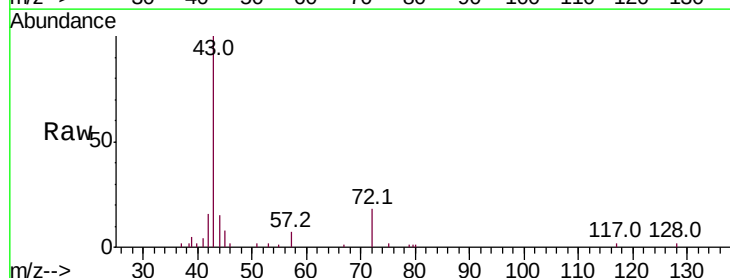
Acq: 29 Nov 2021 15:36

Tgt Ion: 43 Resp: 23109

Ion Ratio Lower Upper

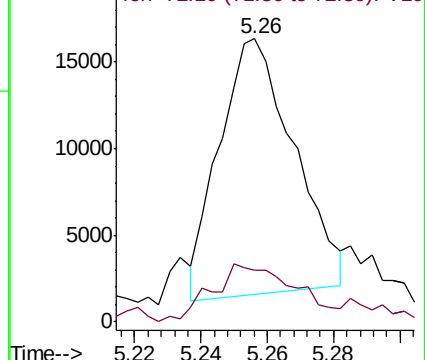
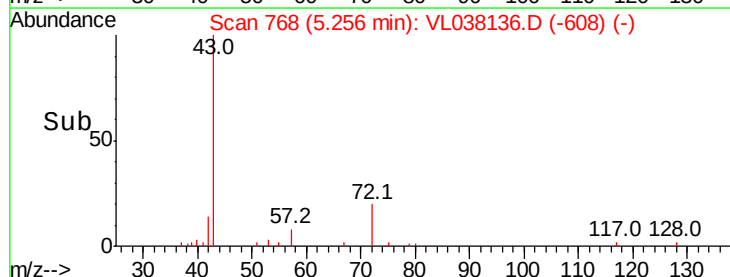
43 100

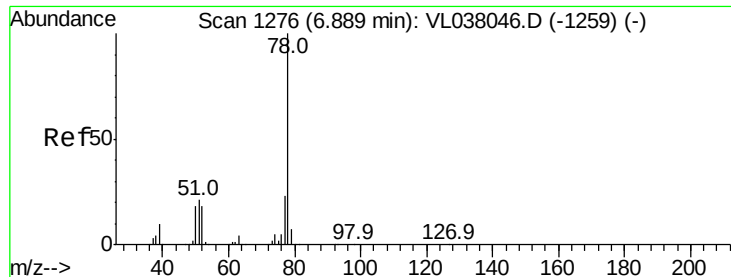
72 33.0 18.8 28.2#



Abundance Ion 43.10 (42.80 to 43.80): VL0

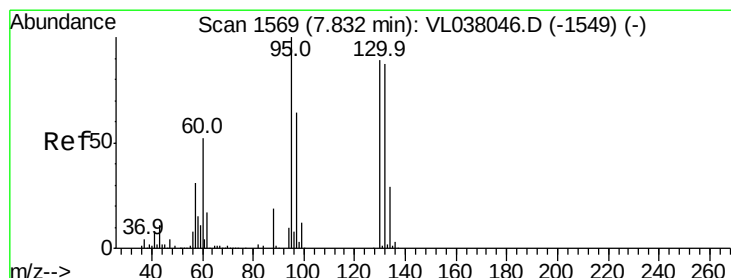
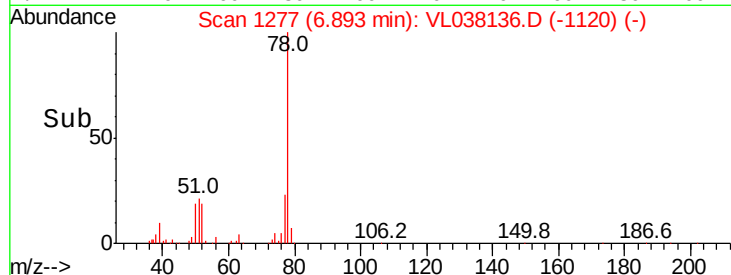
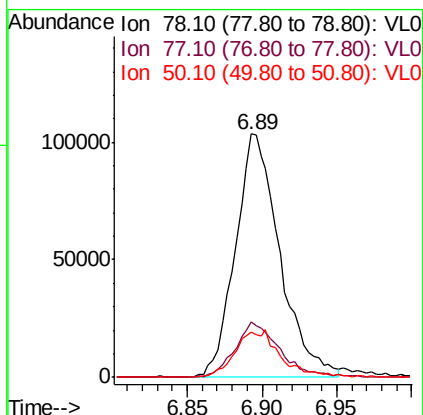
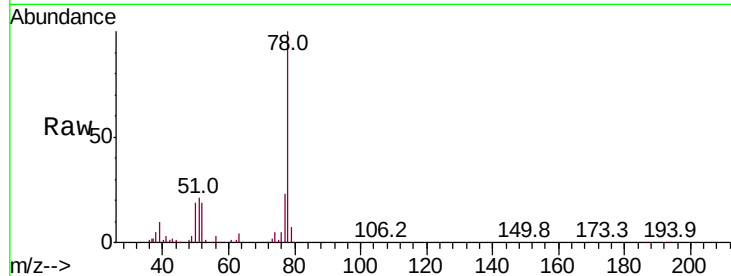
Ion 72.10 (71.80 to 72.80): VL0





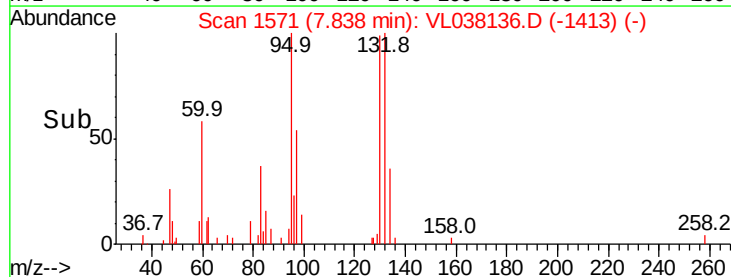
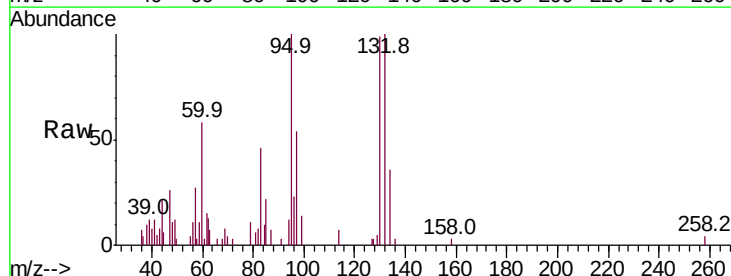
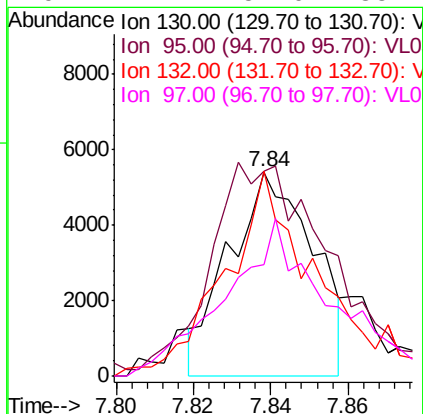
#36
Benzene
Concen: 0.823 ppbv
RT: 6.89
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 29 Nov 2021 15:36

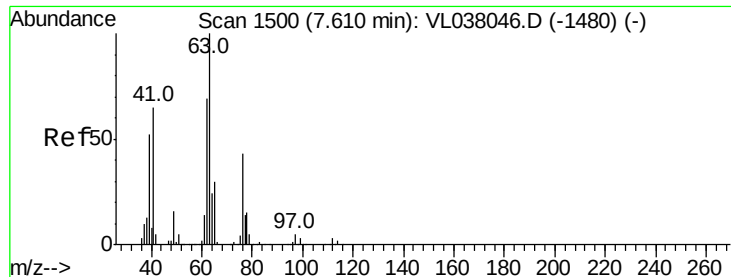
Tot Ion	Ratio	Lower	Upper
78	100		
77	22.5	18.2	27.4
50	18.6	14.7	22.1



#38
Trichloroethene
Concen: 0.083 ppbv
RT: 7.84 min Scan# 1571
Delta R.T. 0.01 min
Lab File: VL038136.D
Acq: 29 Nov 2021 15:36

Tgt Ion	Ratio	Lower	Upper
130	100		
95	85.6	89.4	134.2#
132	109.7	78.2	117.2
97	44.2	57.0	85.4#





#39

1,2-Dichloropropane

Concen: 6.930 ppbv

RT: 7.18 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

Acq: 29 Nov 2021 15:30

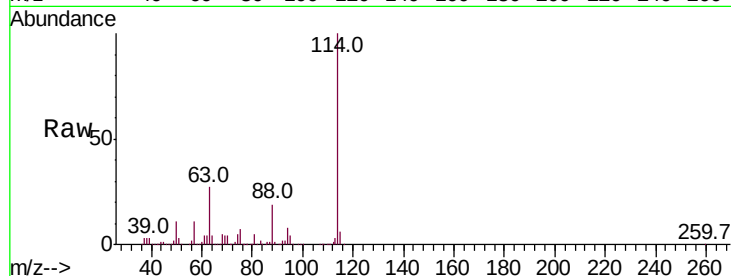
Tot Ion: 63 Resp: 690621

Ion Ratio Lower Upper

63 100

41 0.0 52.3 78.5#

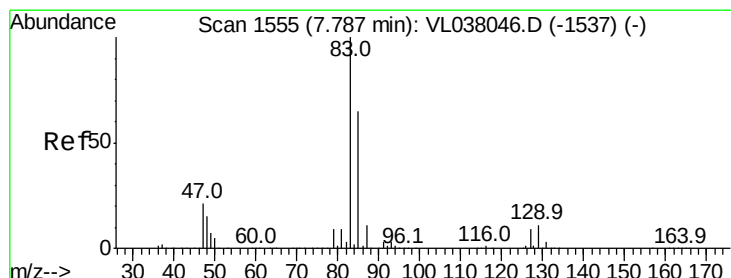
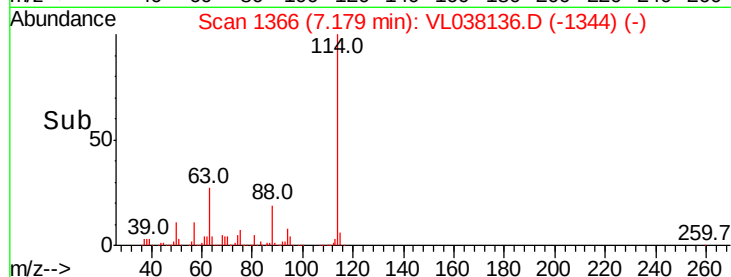
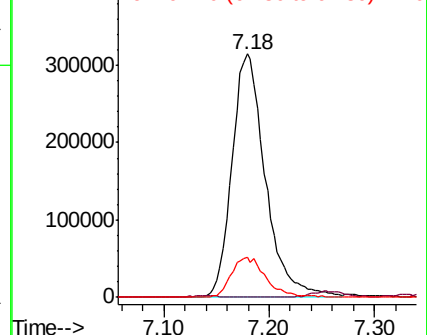
62 16.5 55.1 82.7#



Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 62.10 (61.80 to 62.80): VL0



#42

Bromodichloromethane

Concen: 0.161 ppbv

RT: 7.79 min Scan# 1557

Delta R.T. 0.01 min

Lab File: VL038136.D

Acq: 29 Nov 2021 15:36

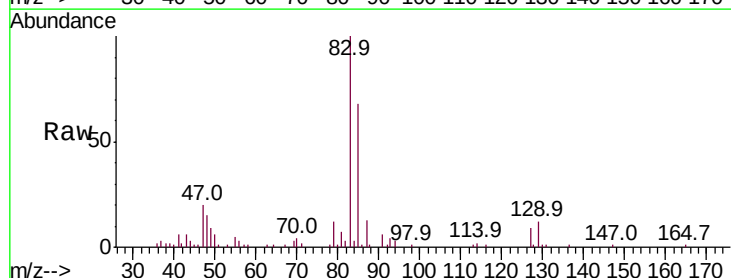
Tgt Ion: 83 Resp: 30713

Ion Ratio Lower Upper

83 100

85 66.3 51.9 77.9

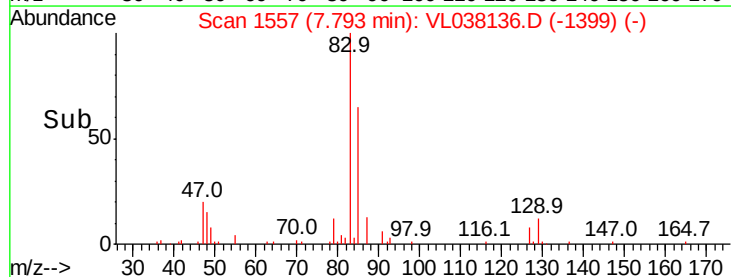
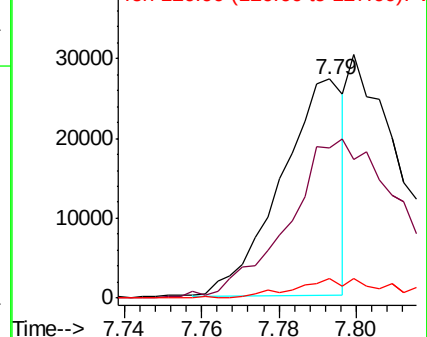
127 9.0 6.8 10.2

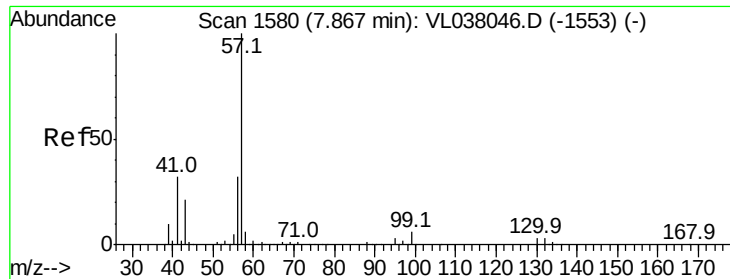


Abundance Ion 83.00 (82.70 to 83.70): VL0

Ion 85.00 (84.70 to 85.70): VL0

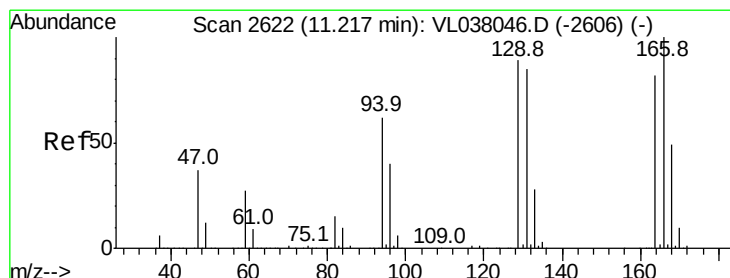
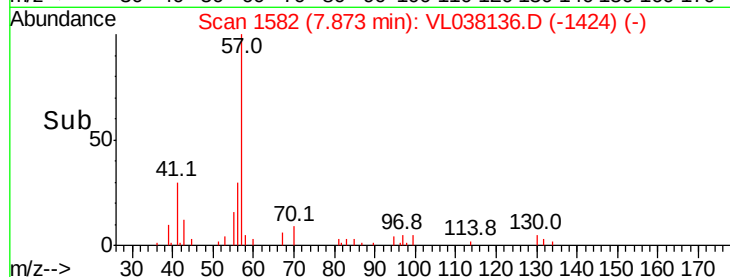
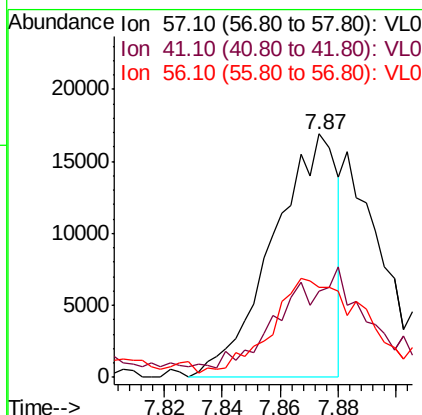
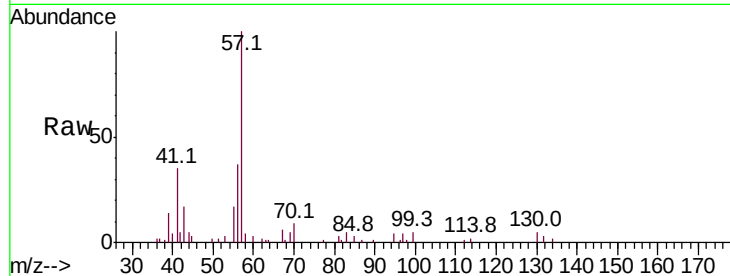
Ion 126.90 (126.60 to 127.60): V





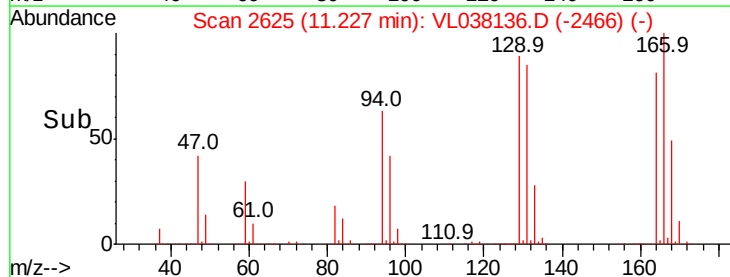
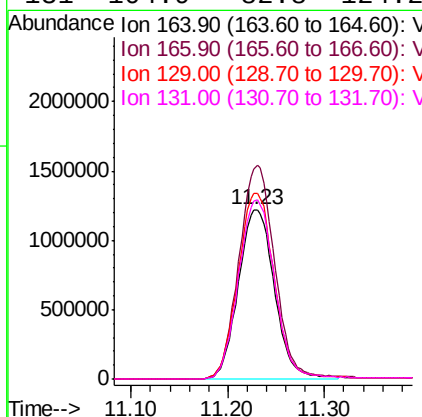
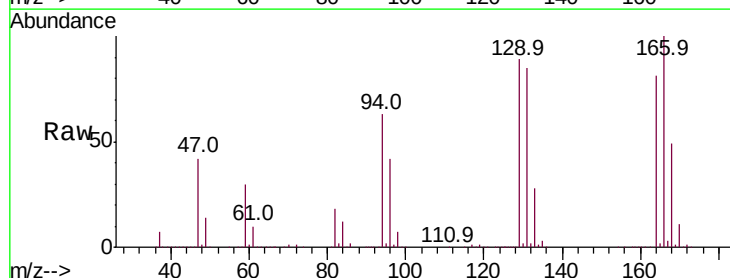
#44
 2,2,4-Trimethylpentane
 Concen: 0.060 ppbv
 RT: 7.87
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 29 Nov 2021 15:36

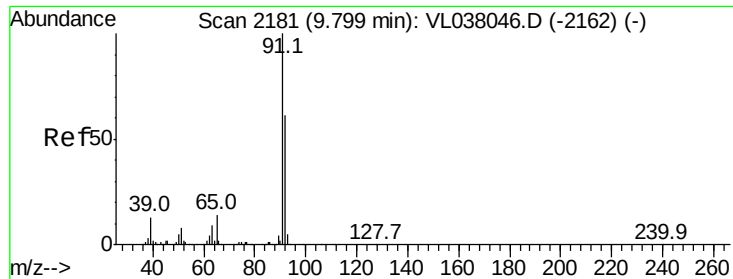
Tot Ion: 57 Resp: 25955
 Ion Ratio Lower Upper
 57 100
 41 0.0 25.8 38.6#
 56 70.9 25.6 38.4#



#52
 Tetrachloroethene
 Concen: 32.938 ppbv
 RT: 11.23 min Scan# 2625
 Delta R.T. 0.01 min
 Lab File: VL038136.D
 Acq: 29 Nov 2021 15:36

Tgt Ion:164 Resp: 3166315
 Ion Ratio Lower Upper
 164 100
 166 123.4 97.2 145.8
 129 109.7 86.9 130.3
 131 104.9 82.8 124.2





#53

Toluene

Concen: 0.398 ppbv

RT: 9.81 Instrument:

Delta R.T. MSVOA_1

Lab File: ClientSampleId:

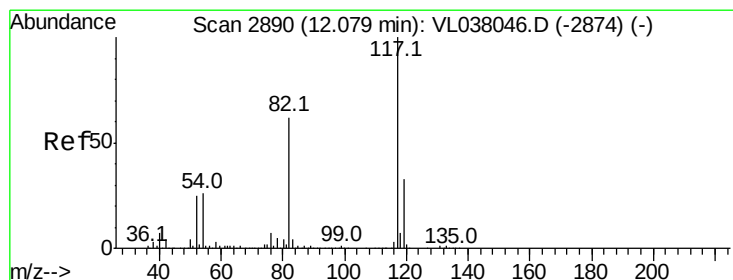
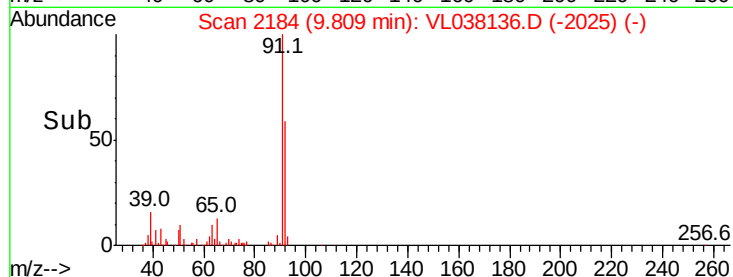
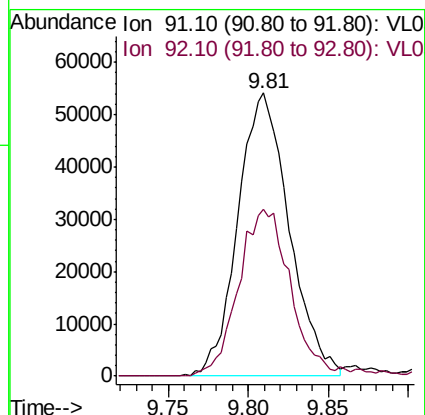
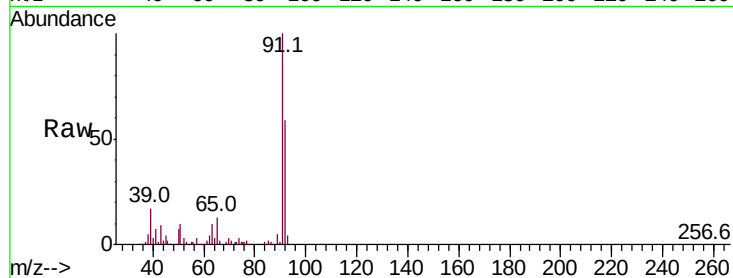
Acq: 29 Nov 2021 15:30

Tot Ion: 91 Resp: 118866

Ion Ratio Lower Upper

91 100

92 61.7 49.7 74.5



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.09 min Scan# 2894

Delta R.T. 0.01 min

Lab File: VL038136.D

Acq: 29 Nov 2021 15:36

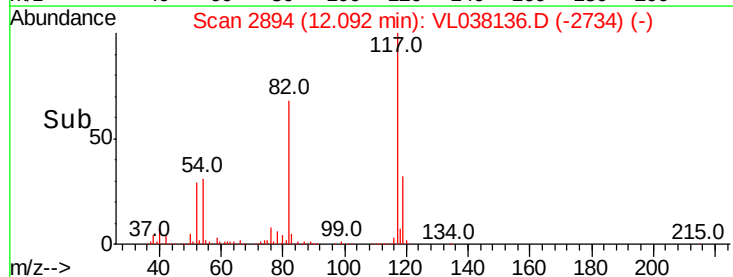
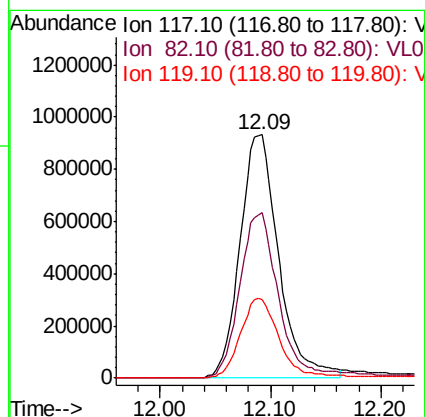
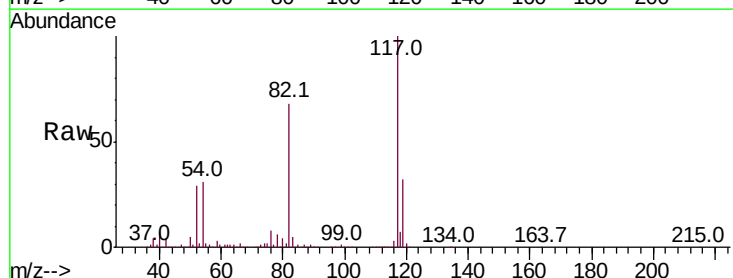
Tgt Ion: 117 Resp: 2267173

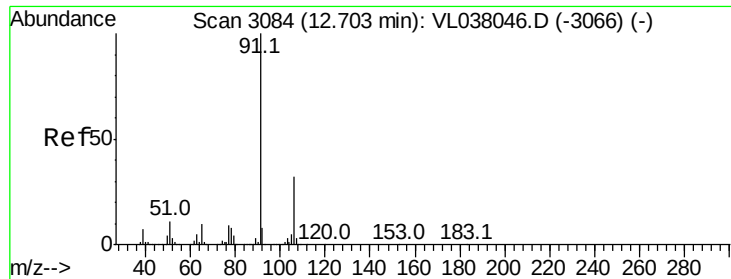
Ion Ratio Lower Upper

117 100

82 72.4 52.8 79.2

119 34.1 26.8 40.2





#58

Ethyl Benzene

Concen: 0.077 ppbv

RT: 12.71 min

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

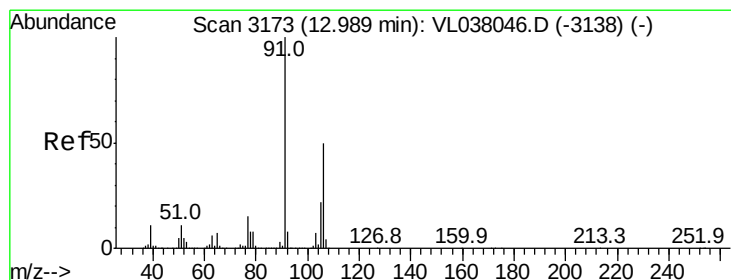
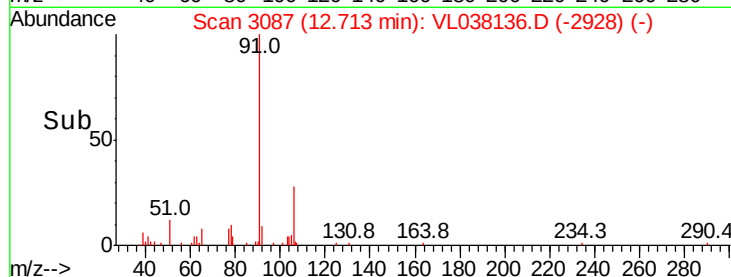
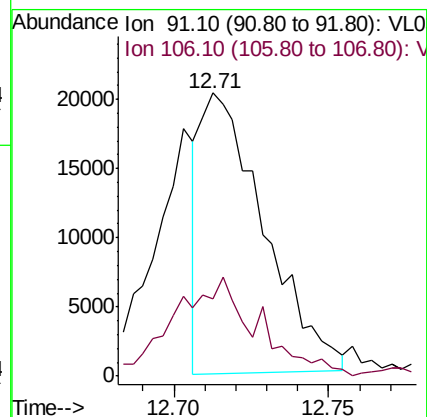
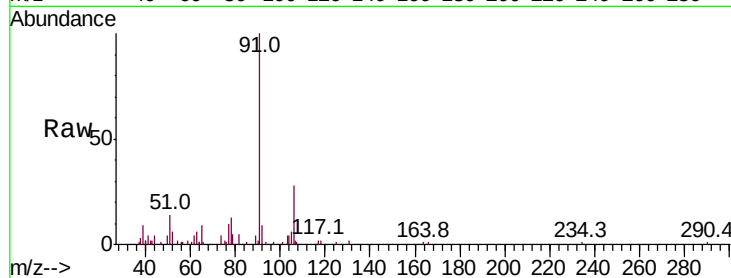
Acq: 29 Nov 2021 15:36

Tot Ion: 91 Resp: 28853

Ion Ratio Lower Upper

91 100

106 27.2 25.8 38.6



#59

m/p-Xylene

Concen: 0.403 ppbv

RT: 12.97 min Scan# 3167

Delta R.T. -0.02 min

Lab File: VL038136.D

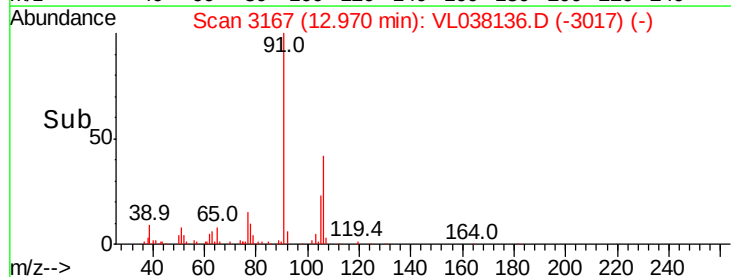
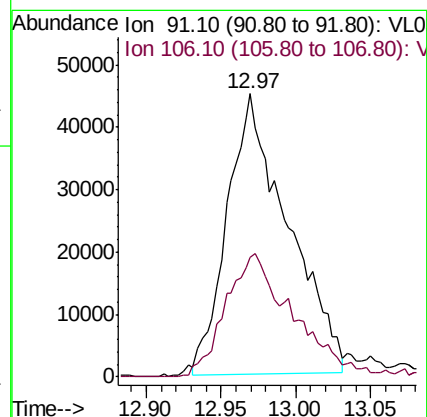
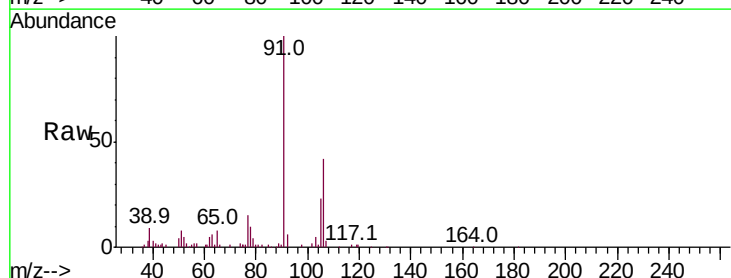
Acq: 29 Nov 2021 15:36

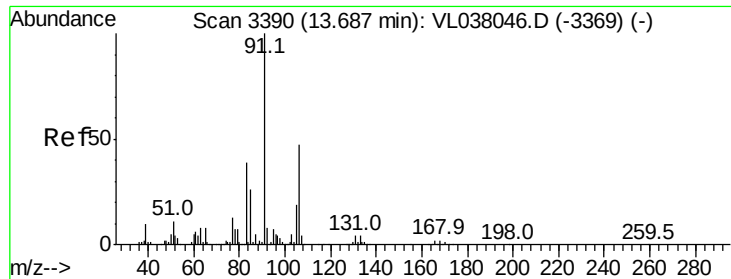
Tgt Ion: 91 Resp: 127122

Ion Ratio Lower Upper

91 100

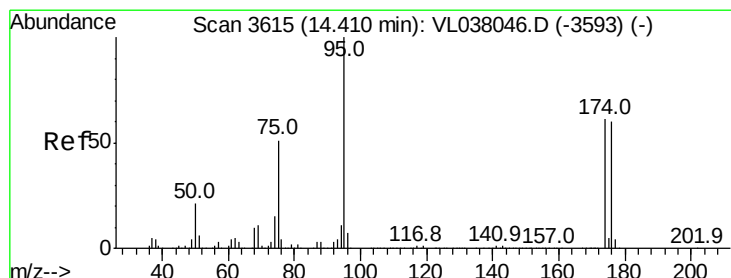
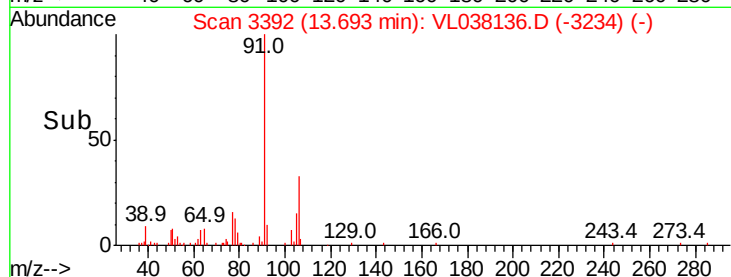
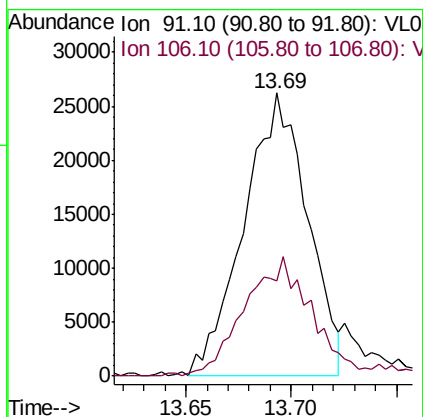
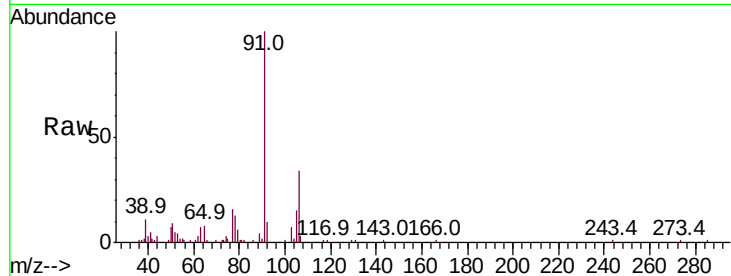
106 49.0 38.1 57.1





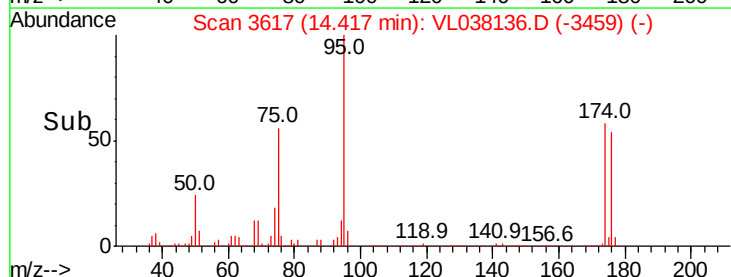
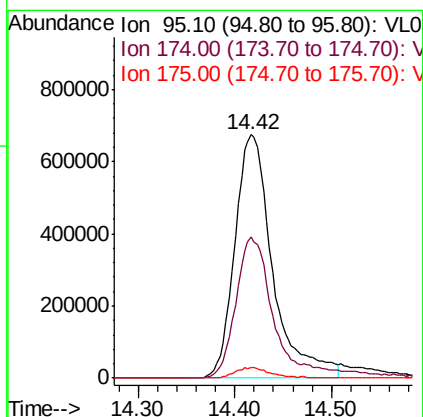
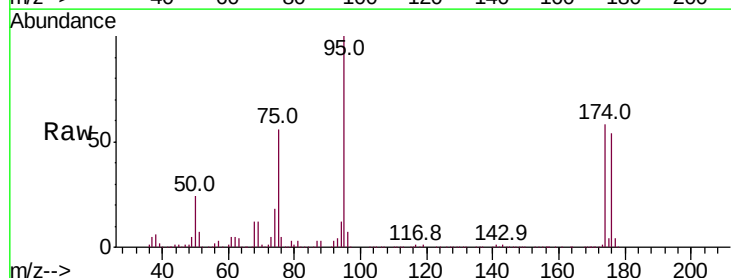
#60
o-Xylene
Concen: 0.188 ppbv
RT: 13.69
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 29 Nov 2021 15:30

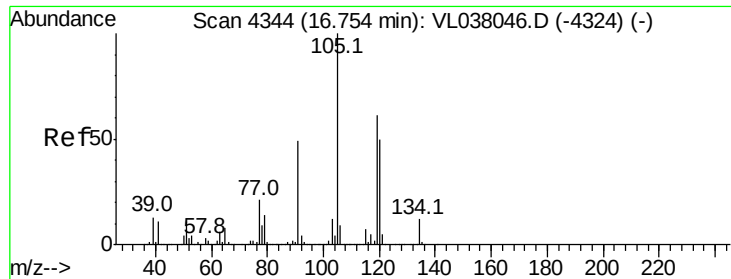
Tot Ion: 91 Resp: 55130
Ion Ratio Lower Upper
91 100
106 46.0 24.2 72.6



#68
1-Bromo-4-Fluorobenzene
Concen: 11.245 ppbv
RT: 14.42 min Scan# 3617
Delta R.T. 0.01 min
Lab File: VL038136.D
Acq: 29 Nov 2021 15:36

Tgt Ion: 95 Resp: 1839015
Ion Ratio Lower Upper
95 100
174 61.1 53.1 79.7
175 4.4 4.0 6.0





#74

1,2,4-Trimethylbenzene

Concen: 0.053 ppbv

RT: 16.76 Instrument:

Delta R.T: MSVOA_L

Lab File: ClientSampleId:

Acq: 29 Nov 2021 15:30

Tot Ion:105 Resp: 16880

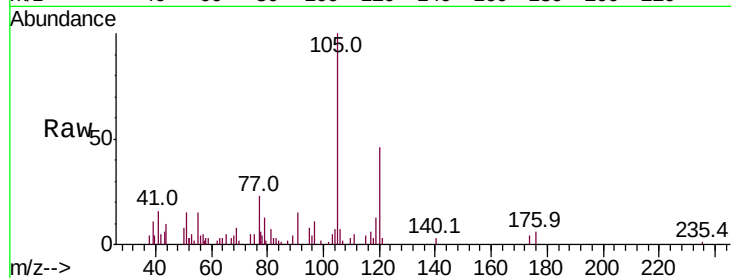
Ion Ratio Lower Upper

105 100

120 48.0 40.1 60.1

91 15.3 39.8 59.8#

77 30.8 16.6 25.0#



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

