

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL121621\
 Data File : VL038205.D
 Acq On : 17 Dec 2021 1:37
 Operator : SY/AP
 Sample : M5119-02DL2 40X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Dec 17 05:11:27 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	5.68	49	811797	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.18	114	2539372	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.10	117	2154347	10.00	ppbv	0.02

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	1887405	12.15	ppbv	0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	121.50%

Target Compounds

					Ovalue	
3) Chlorodifluoromethane	3.00	51	5362	0.031	ppbv #	79
4) Chloromethane	3.15	50	3692	0.064	ppbv	90
9) Propene	3.22	41	367294	5.850	ppbv	95
10) Heptane	8.13	43	1381709	8.904	ppbv	99
13) Ethanol	3.63	45	2854	0.470	ppbv #	55
15) Acetone	3.87	43	217523	3.091	ppbv #	89
16) 1,3-Butadiene	3.37	39	2287011	41.650	ppbv #	11
19) Isopropyl Alcohol	3.99	45	201838	3.969	ppbv #	5
20) Methylene Chloride	4.36	84	12585	0.319	ppbv	84
23) Vinyl Acetate	5.19	43	21660	0.213	ppbv #	8
25) Ethyl Acetate	5.70	43	13599	0.058	ppbv #	89
26) Hexane	5.69	57	12616	0.112	ppbv #	55
30) Cyclohexane	7.15	84	3783	0.037	ppbv #	1
31) cis-1,2-Dichloroethene	5.56	61	12979	0.121	ppbv	87
34) 2-Butanone	5.27	43	110225	1.076	ppbv	91
36) Benzene	6.90	78	8896	0.035	ppbv #	96
38) Trichloroethene	7.84	130	54618	0.572	ppbv	87
39) 1,2-Dichloropropane	7.18	63	592593	6.099	ppbv #	26
47) 1,1,2-Trichloroethane	9.58	97	51189	0.503	ppbv #	56
50) 4-Methyl-2-Pentanone	8.77	43	183828	1.182	ppbv	97
51) 2-Hexanone	10.13	43	4624138	63.206	ppbv #	27
52) Tetrachloroethene	11.24	164	1312297	14.001	ppbv	97
53) Toluene	9.82	91	66731	0.229	ppbv	99
57) Chlorobenzene	12.21	112	1335176	6.915	ppbv #	32
58) Ethyl Benzene	12.73	91	3668728	10.303	ppbv	99
59) m/p-Xylene	12.98	91	5273293	17.593	ppbv	95
60) o-Xylene	13.70	91	1257591	4.523	ppbv	99
61) Styrene	13.70	104	26116	0.175	ppbv #	1
62) Isopropylbenzene	14.67	105	15990	0.041	ppbv	97
63) 1,1,2,2-Tetrachloroethane	13.68	83	95263	0.461	ppbv #	56

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.68 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 17 Dec 2021 1:37

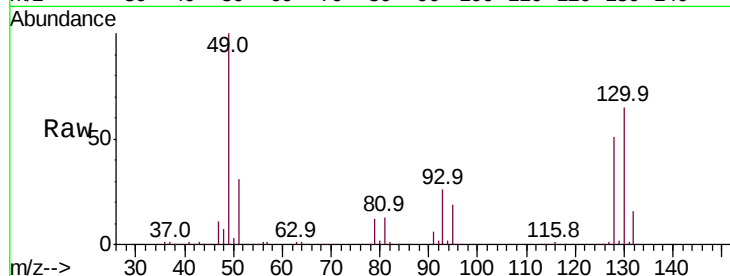
Tot Ion: 49 Resp: 811797

Ion Ratio Lower Upper

49 100

128 53.8 26.5 79.5

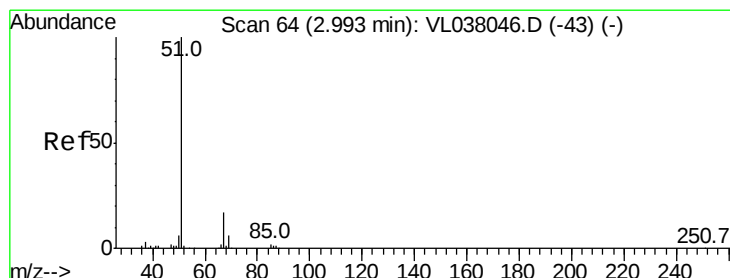
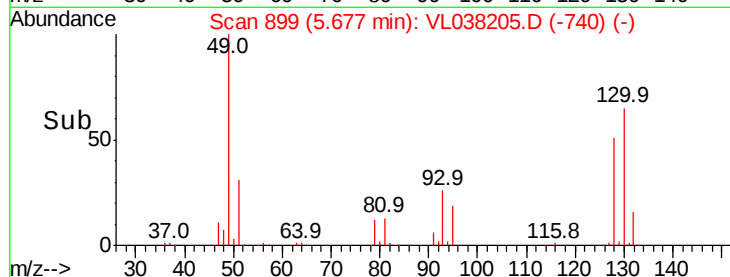
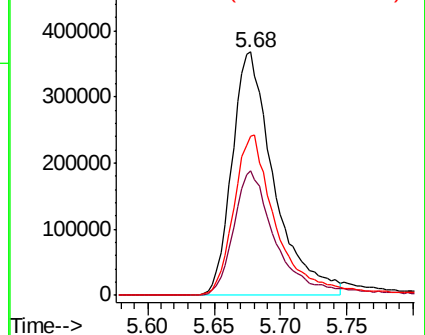
130 69.6 32.5 97.4



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



#3

Chlorodifluoromethane

Concen: 0.031 ppbv

RT: 3.00 min Scan# 65

Delta R.T. 0.00 min

Lab File: VL038205.D

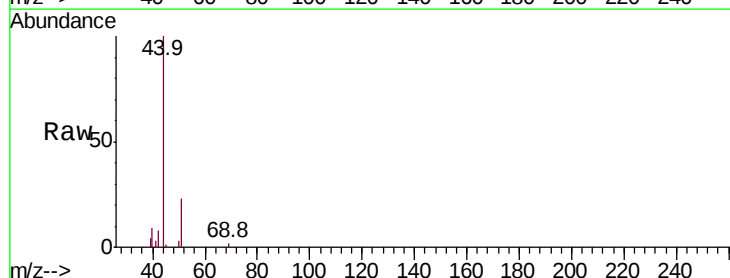
Acq: 17 Dec 2021 1:37

Tgt Ion: 51 Resp: 5362

Ion Ratio Lower Upper

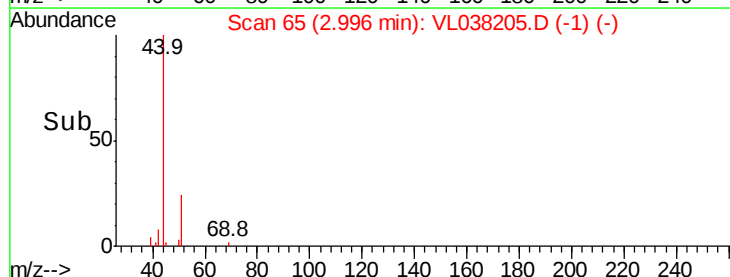
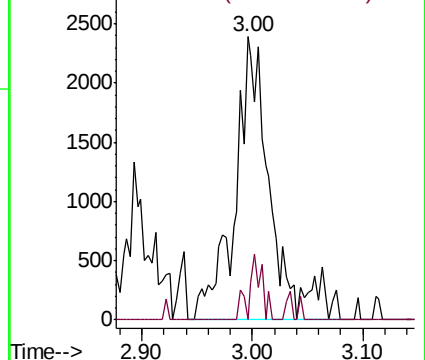
51 100

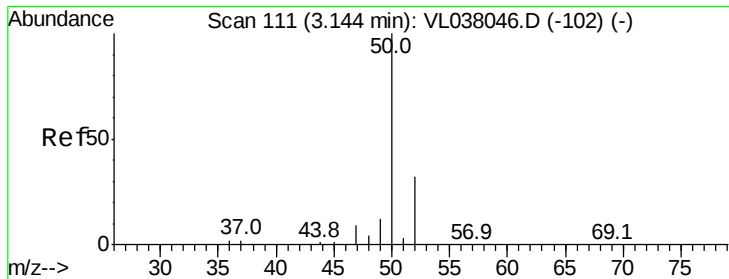
67 8.3 13.8 20.8#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0





#4

Chloromethane

Concen: 0.064 ppbv

RT: 3.15 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

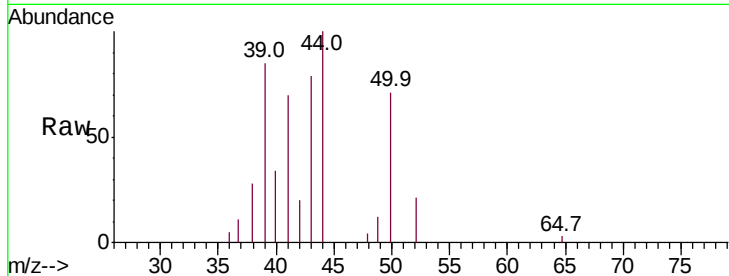
Acq: 17 Dec 2021 1:37

Tot Ion: 50 Resp: 3692

Ion Ratio Lower Upper

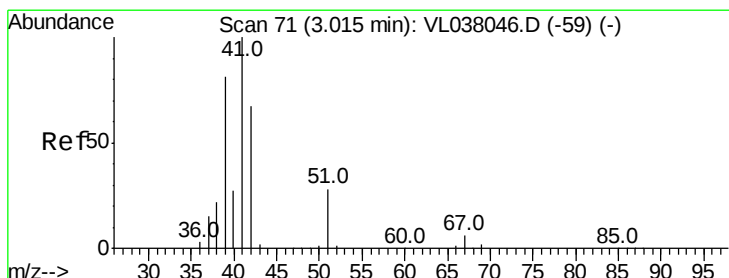
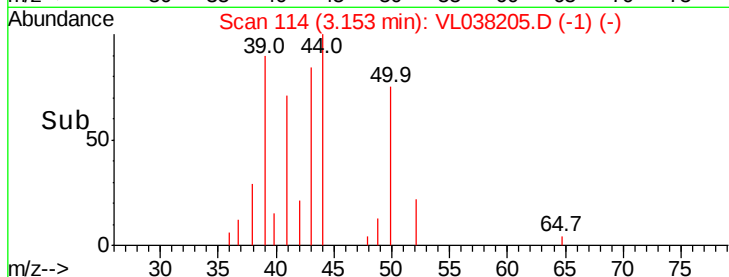
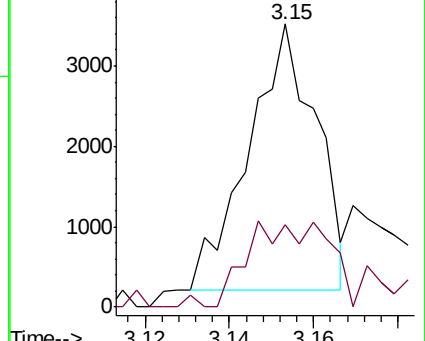
50 100

52 26.1 25.4 38.0



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0



#9

Propene

Concen: 5.850 ppbv

RT: 3.22 min Scan# 134

Delta R.T. 0.20 min

Lab File: VL038205.D

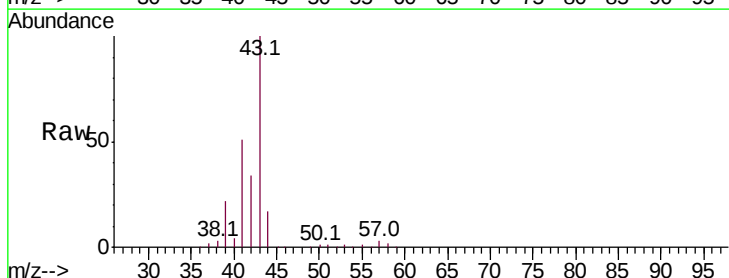
Acq: 17 Dec 2021 1:37

Tgt Ion: 41 Resp: 367294

Ion Ratio Lower Upper

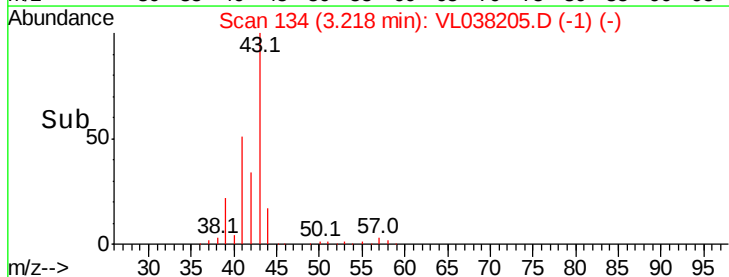
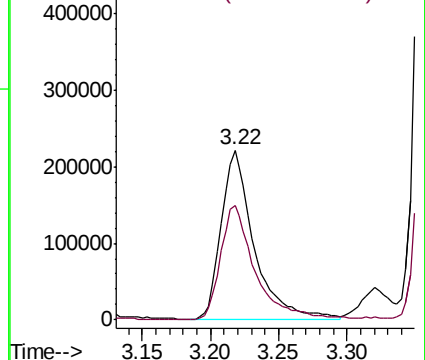
41 100

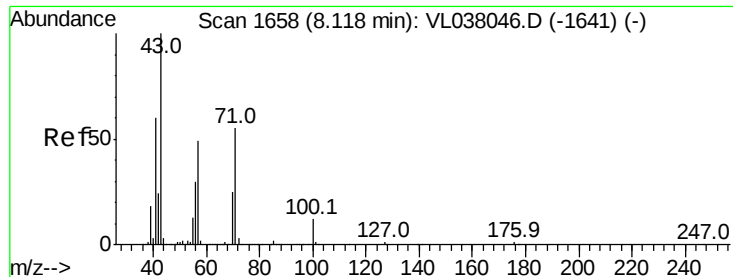
42 71.5 53.8 80.8



Abundance Ion 41.10 (40.80 to 41.80): VL0

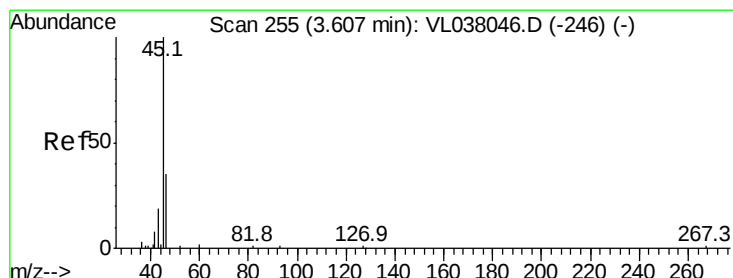
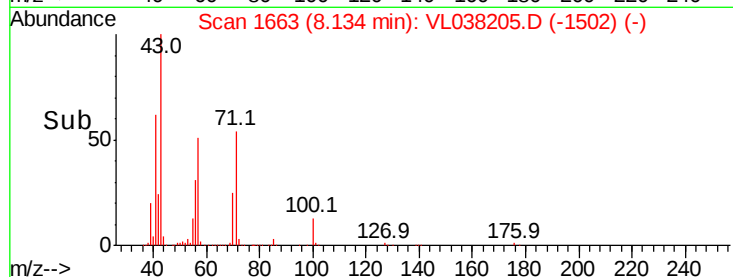
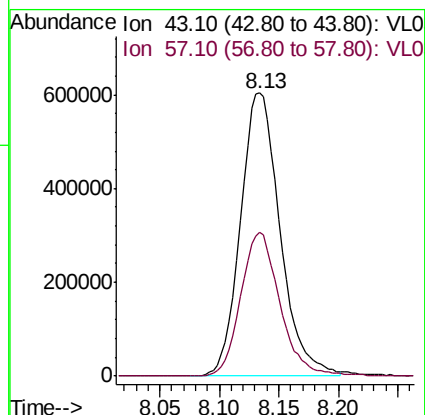
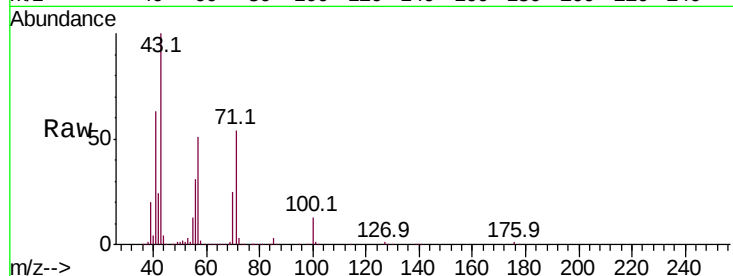
Ion 42.10 (41.80 to 42.80): VL0





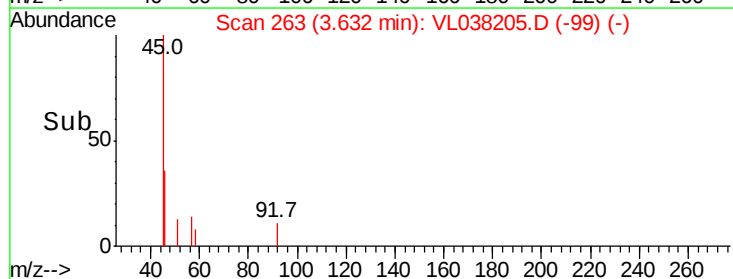
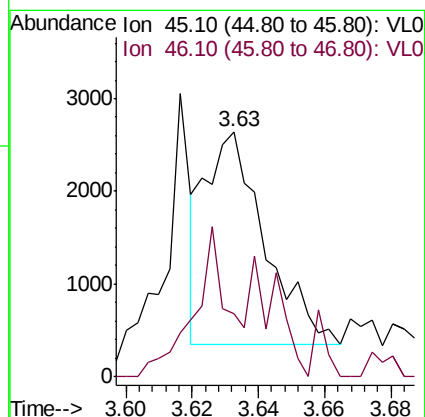
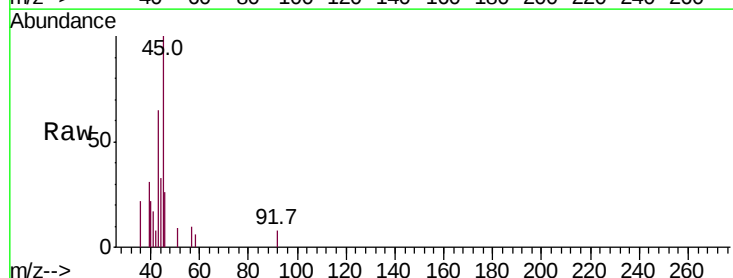
#10
Heptane
Concen: 8.904 ppbv
RT: 8.13
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 17 Dec 2021 1:37

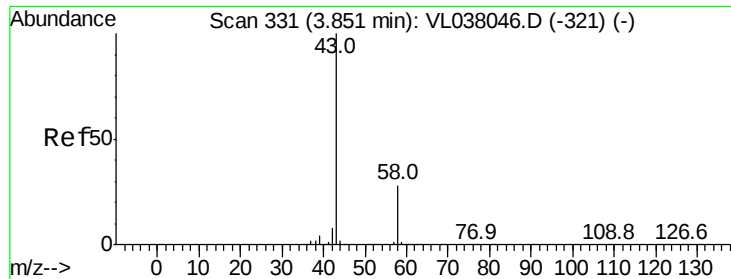
Tot Ion: 43 Resp: 1381709
Ion Ratio Lower Upper
43 100
57 50.9 40.4 60.6



#13
Ethanol
Concen: 0.470 ppbv
RT: 3.63 min Scan# 263
Delta R.T. 0.03 min
Lab File: VL038205.D
Acq: 17 Dec 2021 1:37

Tgt Ion: 45 Resp: 2854
Ion Ratio Lower Upper
45 100
46 72.8 17.6 70.2#





#15

Acetone

Concen: 3.091 ppbv

RT: 3.87

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

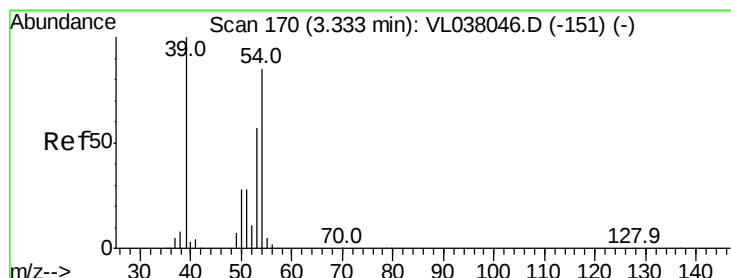
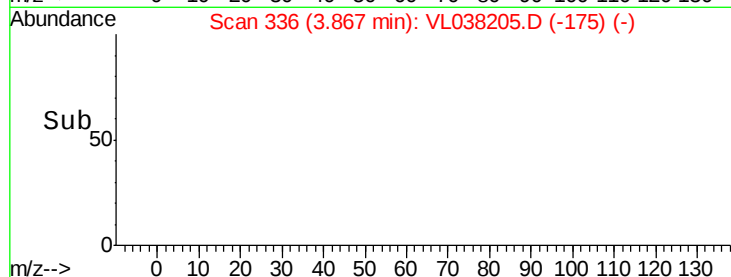
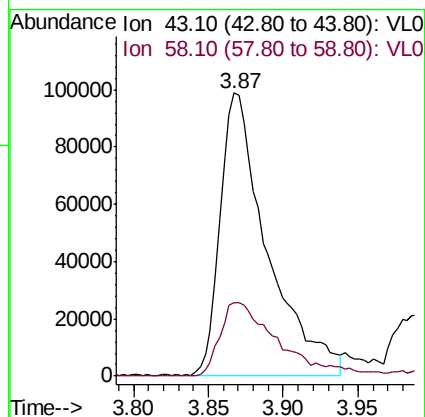
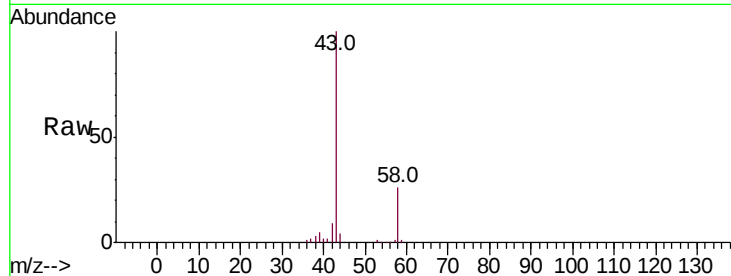
Acq: 17 Dec 2021 1:37

Tot Ion: 43 Resp: 217523

Ion Ratio Lower Upper

43 100

58 34.0 22.4 33.6#



#16

1,3-Butadiene

Concen: 41.650 ppbv

RT: 3.37 min Scan# 181

Delta R.T. 0.04 min

Lab File: VL038205.D

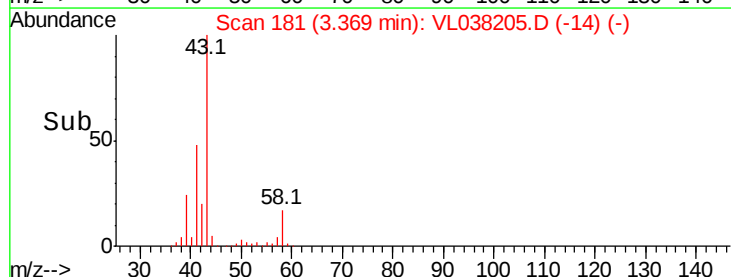
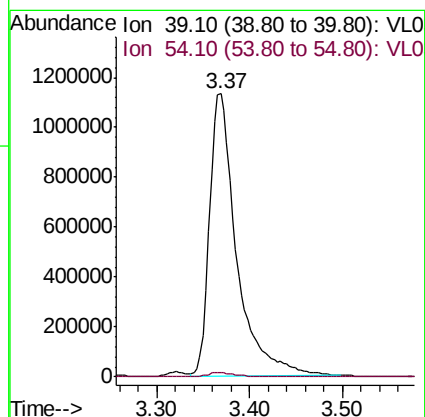
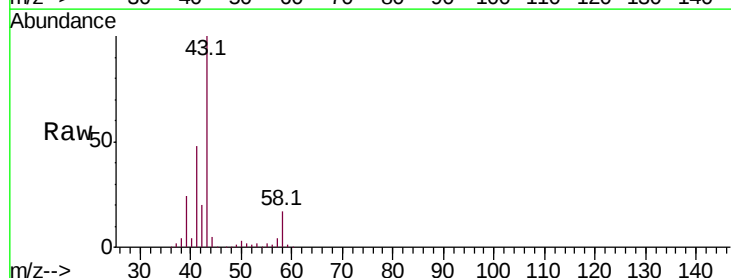
Acq: 17 Dec 2021 1:37

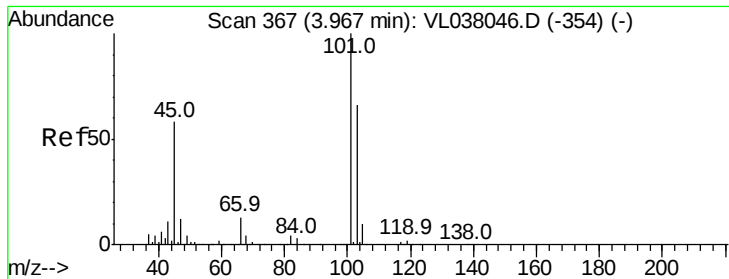
Tgt Ion: 39 Resp: 2287011

Ion Ratio Lower Upper

39 100

54 1.7 64.4 96.6#





#19

Isopropyl Alcohol

Concen: 3.969 ppbv

RT: 3.99 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

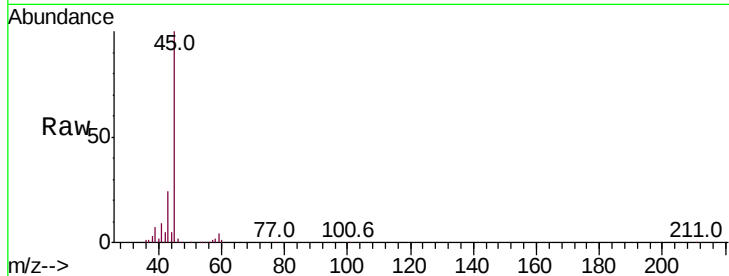
Acq: 17 Dec 2021 1:37

Tot Ion: 45 Resp: 201838

Ion Ratio Lower Upper

45 100

58 36.7 1.4 2.0#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

3.99

100000

80000

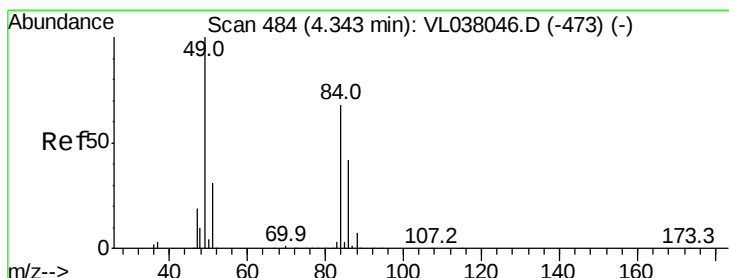
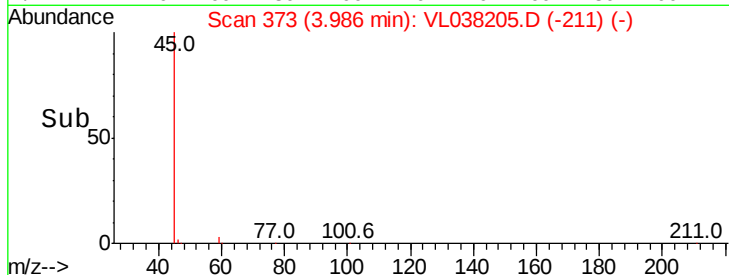
60000

40000

20000

0

Time--> 3.90 3.95 4.00 4.05



#20

Methylene Chloride

Concen: 0.319 ppbv

RT: 4.36 min Scan# 489

Delta R.T. 0.02 min

Lab File: VL038205.D

Acq: 17 Dec 2021 1:37

Tgt Ion: 84 Resp: 12585

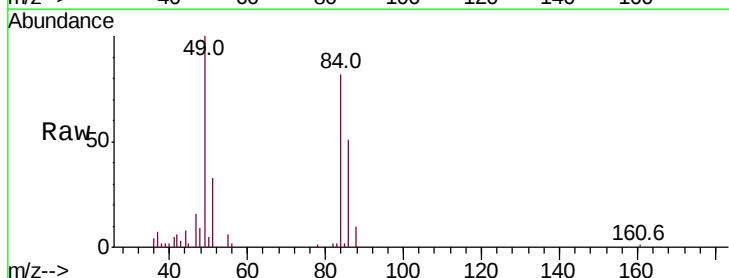
Ion Ratio Lower Upper

84 100

49 119.3 118.2 177.2

51 37.1 36.8 55.2

86 62.2 49.0 73.6



Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0

20000

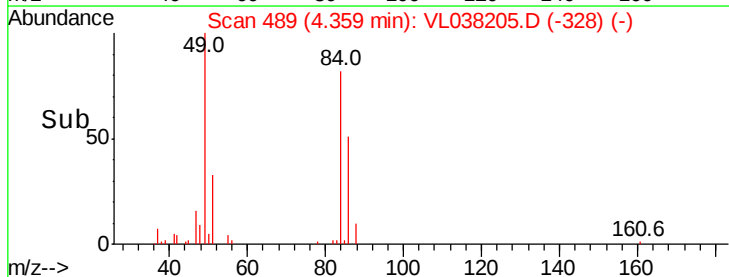
15000

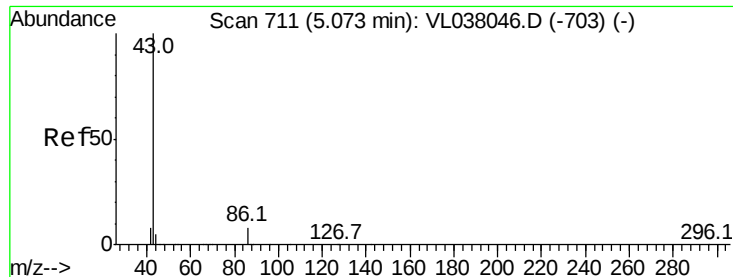
10000

5000

0

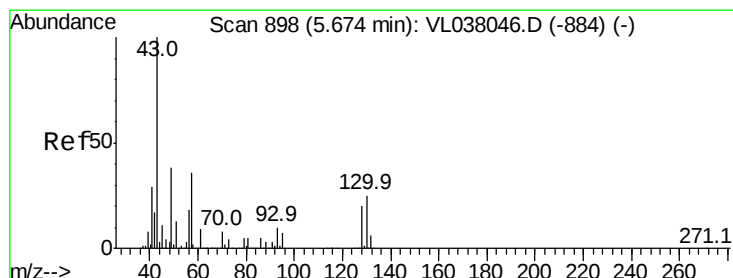
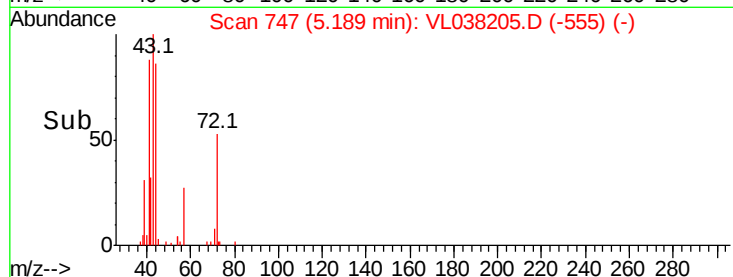
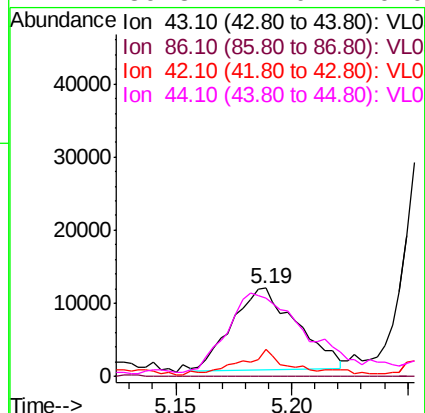
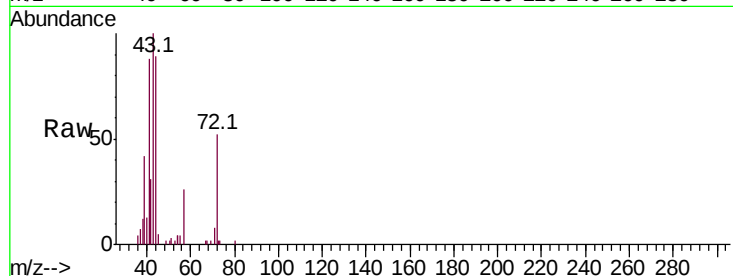
Time--> 4.32 4.34 4.36 4.38





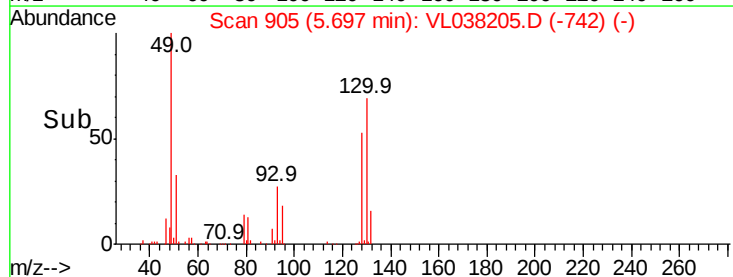
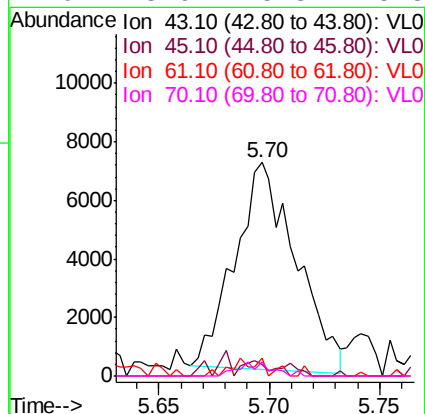
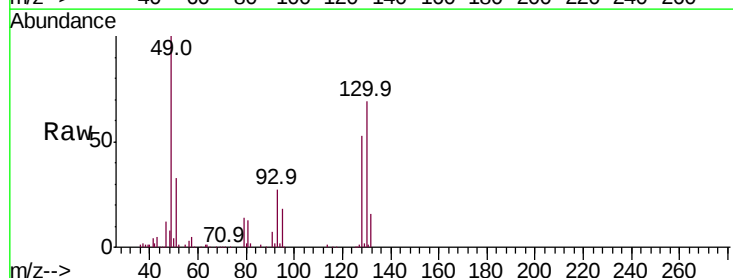
#23
 Vinyl Acetate
 Concen: 0.213 ppbv
 RT: 5.19
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 17 Dec 2021 1:37

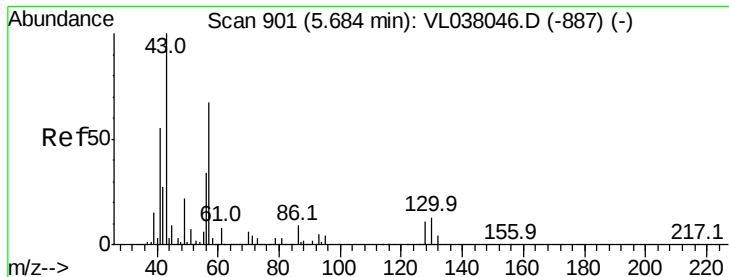
Tot Ion:	43	Resp:	21660
Ion	Ratio	Lower	Upper
43	100		
86	0.0	5.3	7.9#
42	27.9	7.0	10.6#
44	89.8	4.0	6.0#



#25
 Ethyl Acetate
 Concen: 0.058 ppbv
 RT: 5.70 min Scan# 905
 Delta R.T. 0.02 min
 Lab File: VL038205.D
 Acq: 17 Dec 2021 1:37

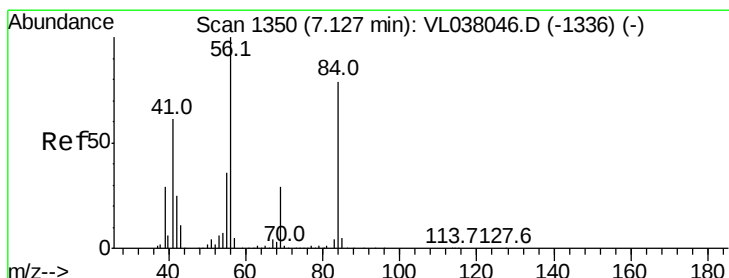
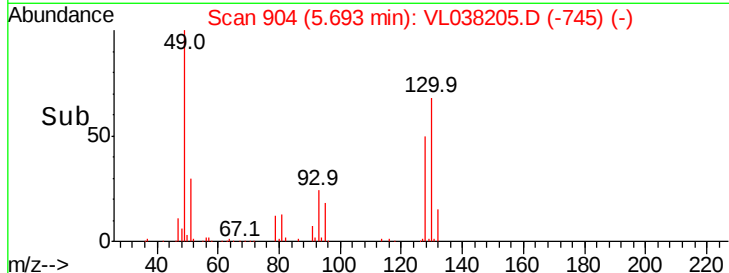
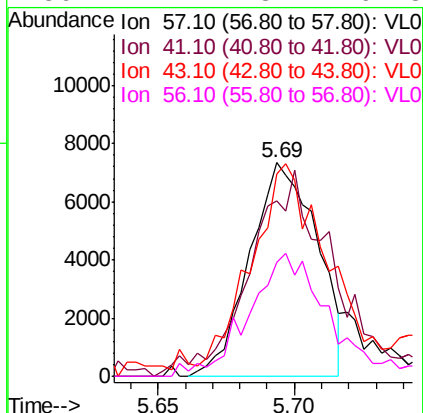
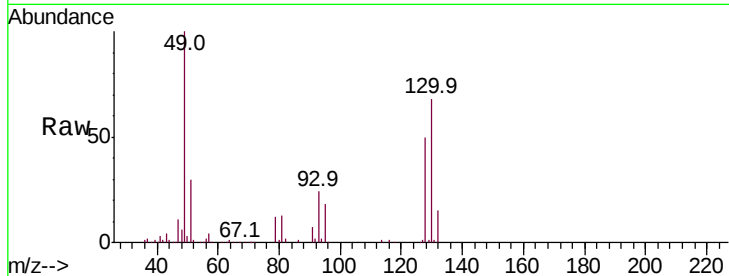
Tgt Ion:	43	Resp:	13599
Ion	Ratio	Lower	Upper
43	100		
45	6.7	7.9	11.9#
61	5.0	7.8	11.6#
70	3.6	5.8	8.8#





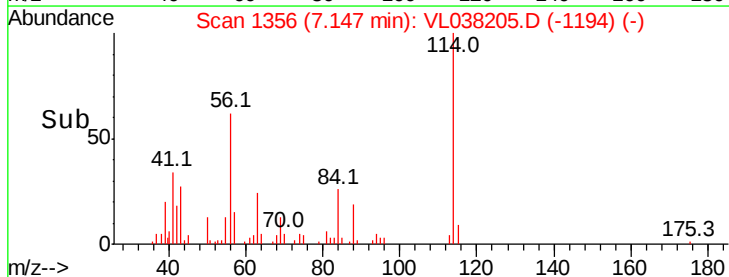
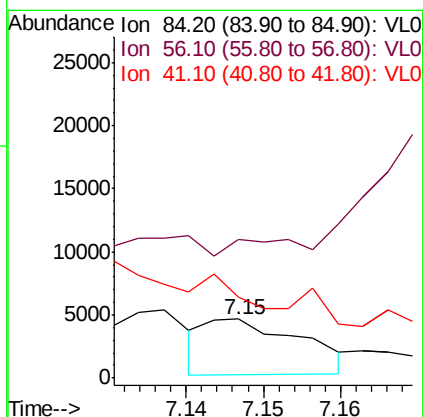
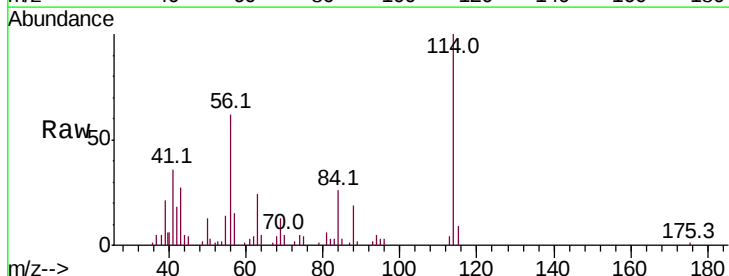
#26
Hexane
Concen: 0.112 ppbv
RT: 5.69
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 17 Dec 2021 1:37

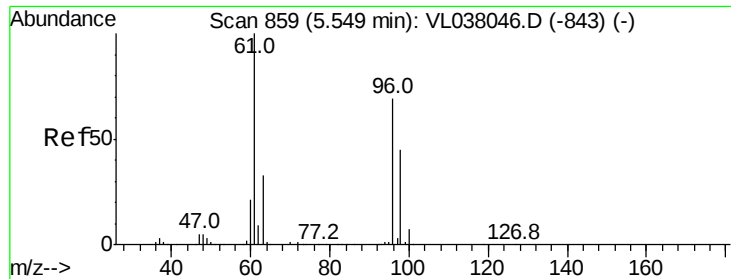
Tot Ion: 57 Resp: 12616
Ion Ratio Lower Upper
57 100
41 124.9 71.4 107.2#
43 132.7 174.6 261.8#
56 71.1 43.2 64.8#



#30
Cyclohexane
Concen: 0.037 ppbv
RT: 7.15 min Scan# 1356
Delta R.T.: 0.02 min
Lab File: VL038205.D
Acq: 17 Dec 2021 1:37

Tgt Ion: 84 Resp: 3783
Ion Ratio Lower Upper
84 100
56 0.0 108.1 162.1#
41 0.0 64.4 96.6#





#31

cis-1,2-Dichloroethene

Concen: 0.121 ppbv

RT: 5.56 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 17 Dec 2021 1:37

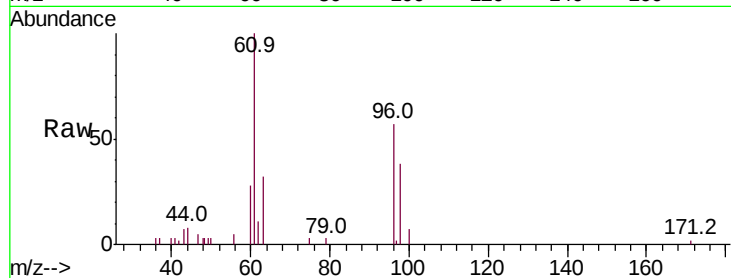
Tot Ion: 61 Resp: 12979

Ion Ratio Lower Upper

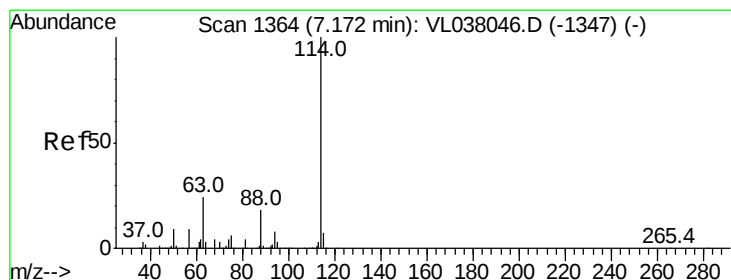
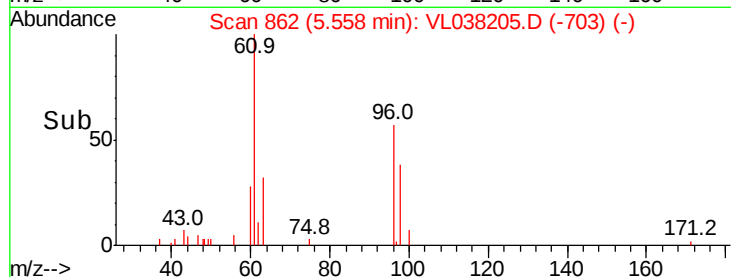
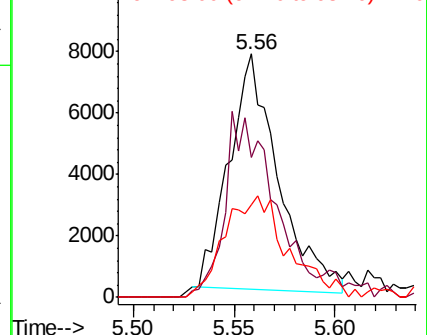
61 100

96 57.3 55.4 83.2

98 37.7 35.7 53.5



Abundance Ion 61.10 (60.80 to 61.80): VL0
Ion 96.00 (95.70 to 96.70): VL0
Ion 98.00 (97.70 to 98.70): VL0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18 min Scan# 1367

Delta R.T. 0.01 min

Lab File: VL038205.D

Acq: 17 Dec 2021 1:37

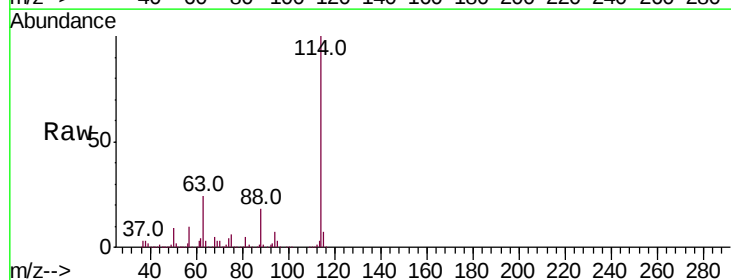
Tgt Ion: 114 Resp: 2539372

Ion Ratio Lower Upper

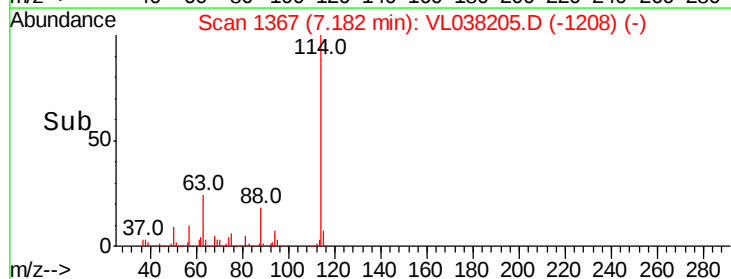
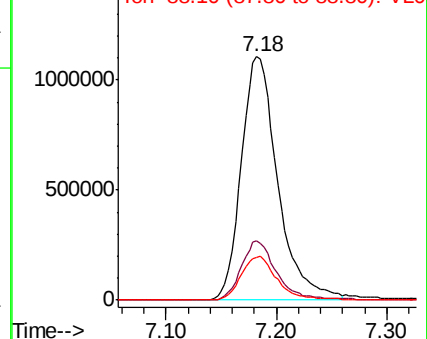
114 100

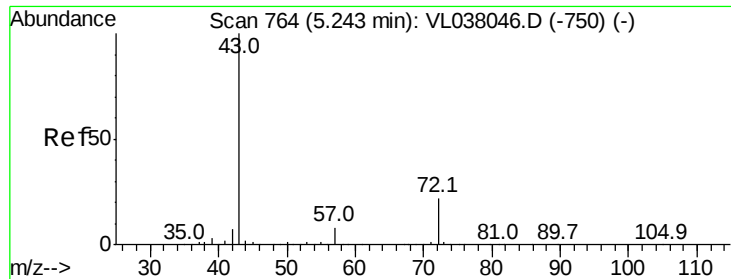
63 23.9 19.7 29.5

88 18.0 14.4 21.6



Abundance Ion 114.10 (113.80 to 114.80): V
Ion 63.10 (62.80 to 63.80): VL0
Ion 88.10 (87.80 to 88.80): VL0





#34

2-Butanone

Concen: 1.076 ppbv

RT: 5.27 Instrument:

Delta R.T. MSVOA_L

Lab File:

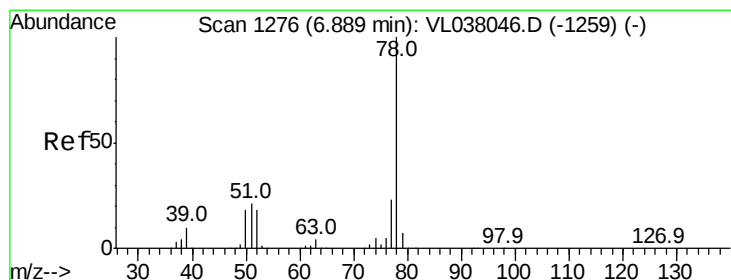
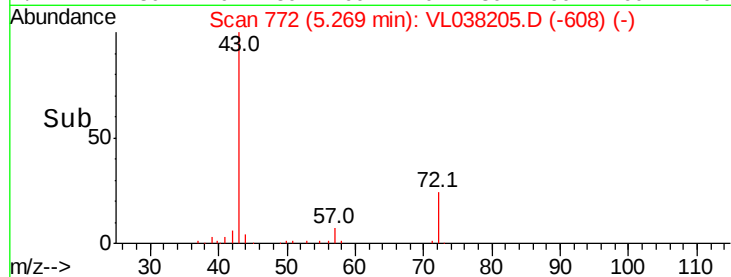
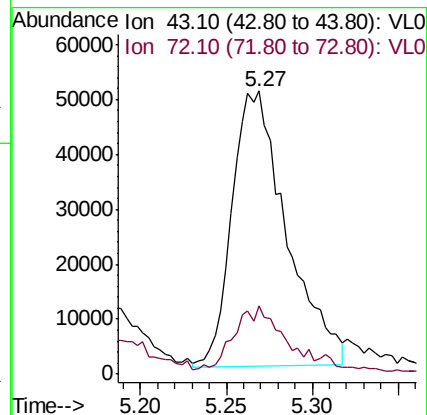
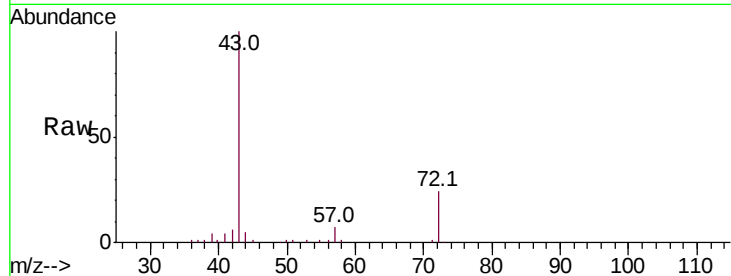
Acq: 17 Dec 2021 1:37

Tot Ion: 43 Resp: 110225

Ion Ratio Lower Upper

43 100

72 28.1 18.8 28.2



#36

Benzene

Concen: 0.035 ppbv

RT: 6.90 min Scan# 1278

Delta R.T. 0.01 min

Lab File: VL038205.D

Acq: 17 Dec 2021 1:37

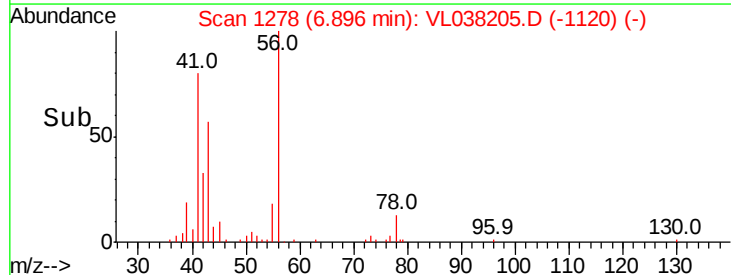
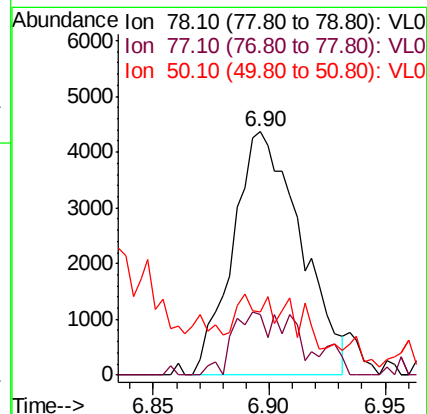
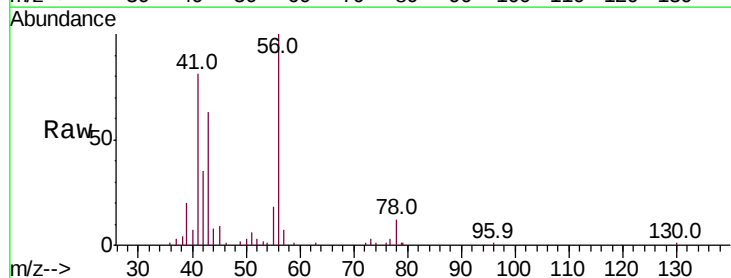
Tgt Ion: 78 Resp: 8896

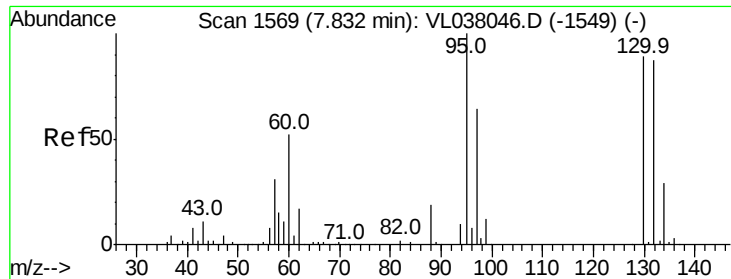
Ion Ratio Lower Upper

78 100

77 23.0 18.2 27.4

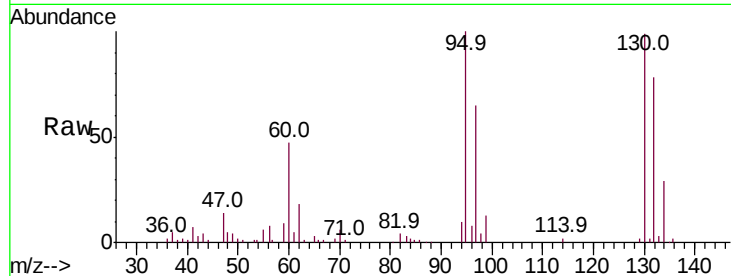
50 14.2 14.7 22.1#



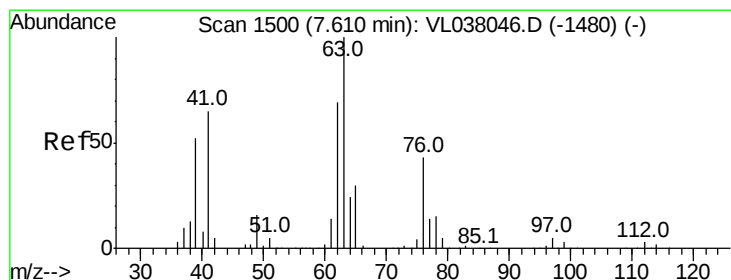
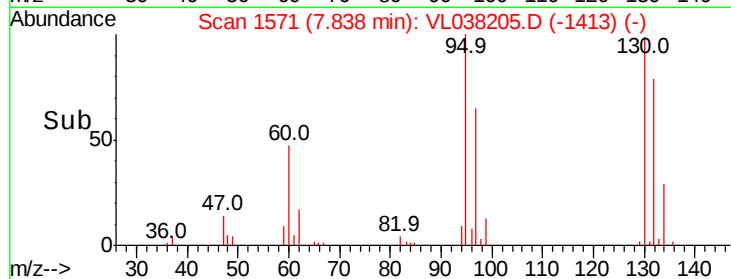
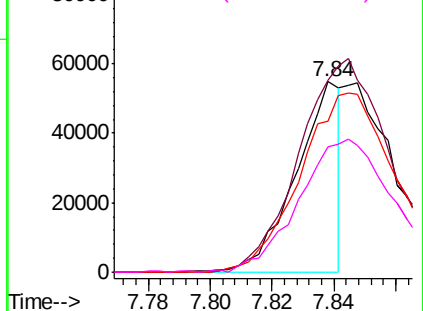


#38
 Trichloroethene
 Concen: 0.572 ppbv
 RT: 7.84 Instrument:
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId:
 Acq: 17 Dec 2021 1:37

Tot Ion:130 Resp: 54618
 Ion Ratio Lower Upper
 130 100
 95 100.7 89.4 134.2
 132 79.1 78.2 117.2
 97 65.0 57.0 85.4

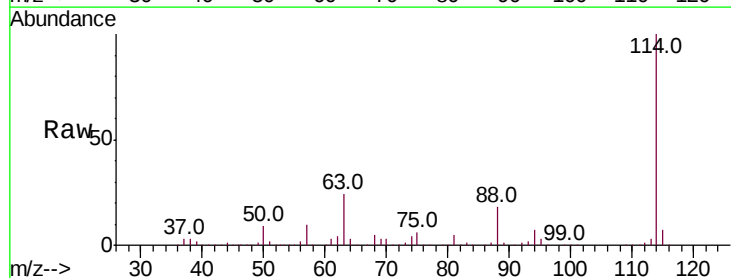


Abundance Ion 130.00 (129.70 to 130.70): V
 Ion 95.00 (94.70 to 95.70): VL0
 Ion 132.00 (131.70 to 132.70): V
 Ion 97.00 (96.70 to 97.70): VL0

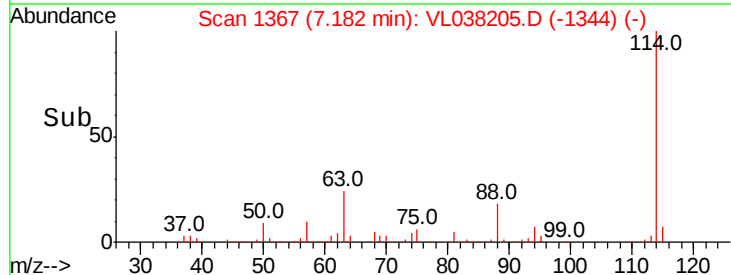
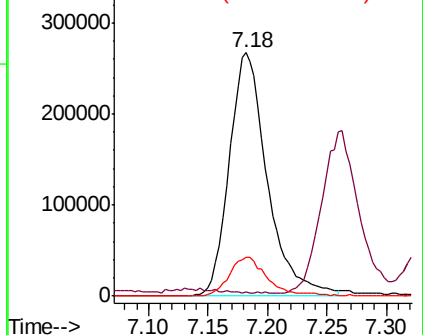


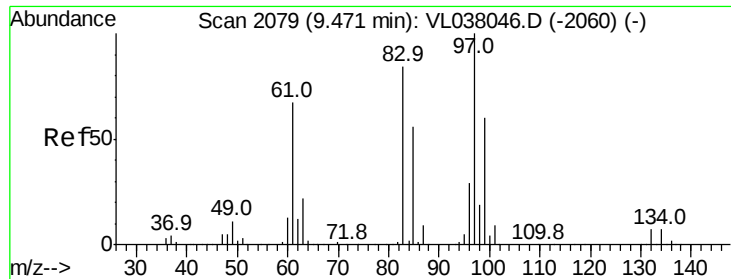
#39
 1,2-Dichloropropane
 Concen: 6.099 ppbv
 RT: 7.18 min Scan# 1367
 Delta R.T. -0.43 min
 Lab File: VL038205.D
 Acq: 17 Dec 2021 1:37

Tgt Ion: 63 Resp: 592593
 Ion Ratio Lower Upper
 63 100
 41 0.0 52.3 78.5#
 62 15.9 55.1 82.7#



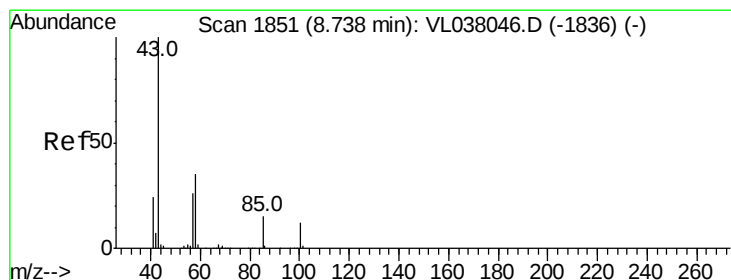
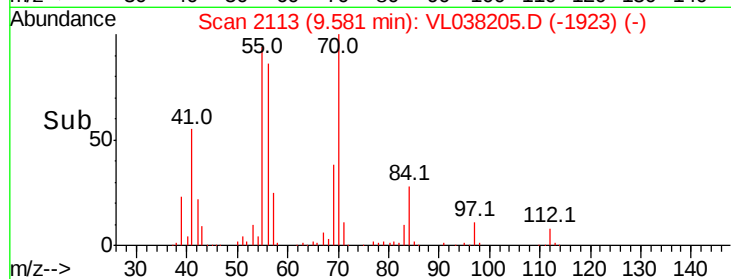
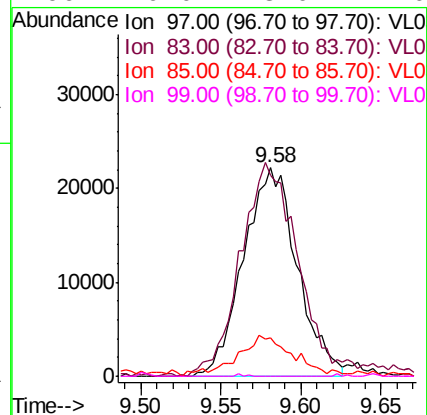
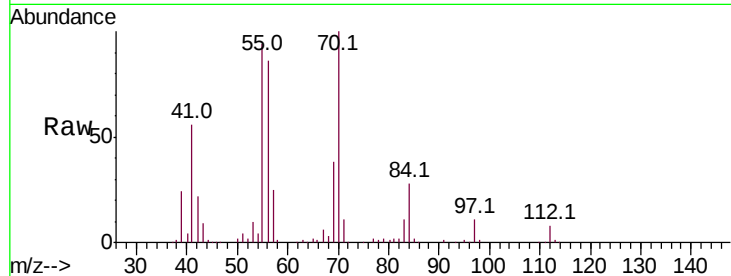
Abundance Ion 63.10 (62.80 to 63.80): VL0
 Ion 41.10 (40.80 to 41.80): VL0
 Ion 62.10 (61.80 to 62.80): VL0





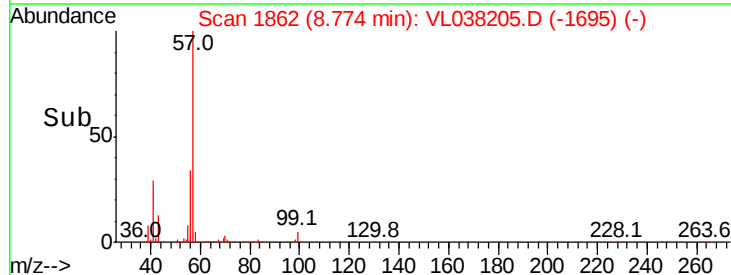
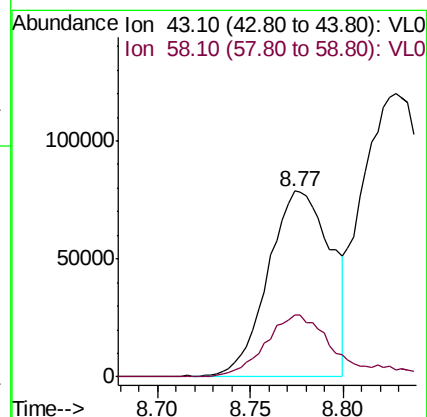
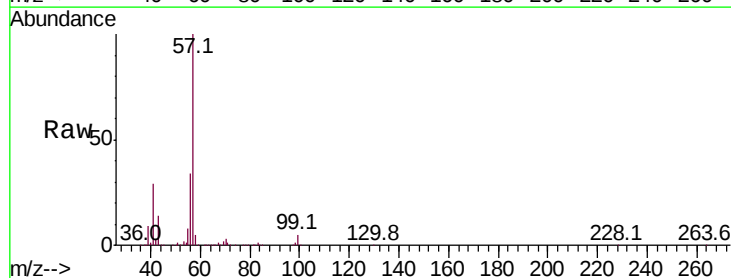
#47
 1,1,2-Trichloroethane
 Concen: 0.503 ppbv
 RT: 9.58
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 Acq: 17 Dec 2021 1:37

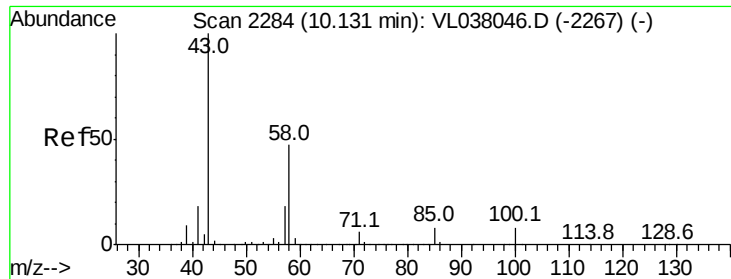
Tot Ion:	97	Resp:	51189
Ion	Ratio	Lower	Upper
97	100		
83	94.1	66.8	100.2
85	17.0	44.9	67.3#
99	0.0	48.0	72.0#



#50
 4-Methyl-2-Pentanone
 Concen: 1.182 ppbv
 RT: 8.77 min Scan# 1862
 Delta R.T.: 0.04 min
 Lab File: VL038205.D
 Acq: 17 Dec 2021 1:37

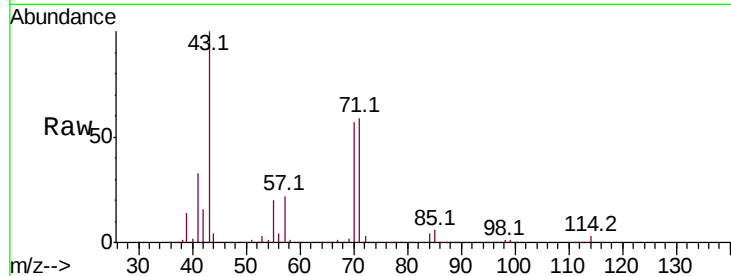
Tgt Ion:	43	Resp:	183828
Ion	Ratio	Lower	Upper
43	100		
58	38.6	29.4	44.2



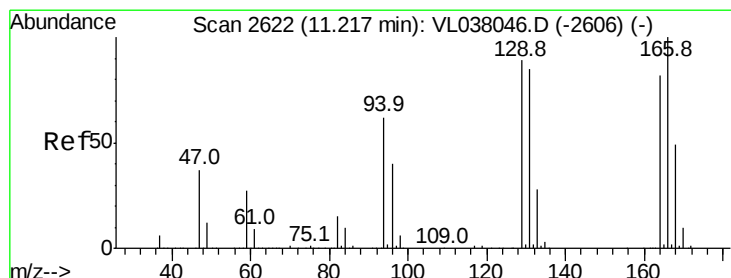
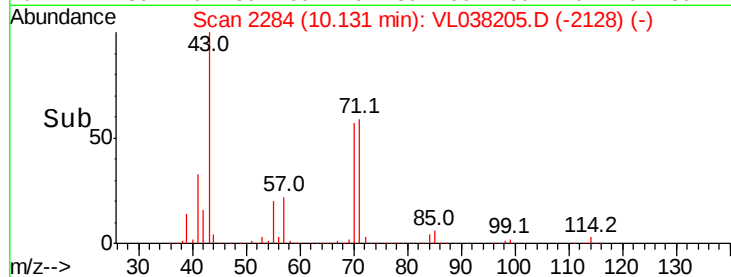
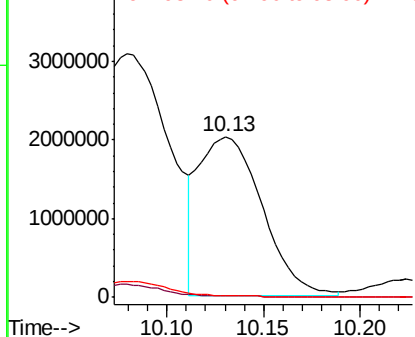


#51
2-Hexanone
Concen: 63.206 ppbv
RT: 10.13 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 17 Dec 2021 1:37

Tot Ion: 43 Resp: 4624138
Ion Ratio Lower Upper
43 100
58 0.0 41.1 61.7#
98 0.0 0.1 0.1#

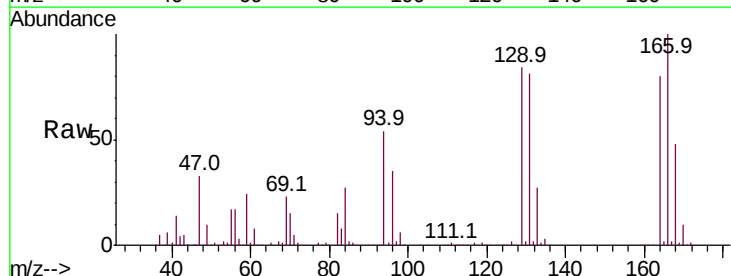


Abundance Ion 43.10 (42.80 to 43.80): VL0
Ion 58.10 (57.80 to 58.80): VL0
Ion 98.20 (97.90 to 98.90): VL0

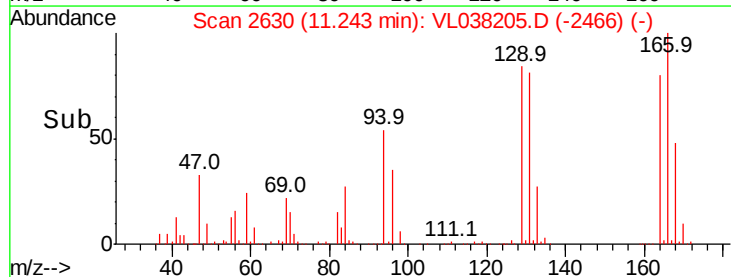
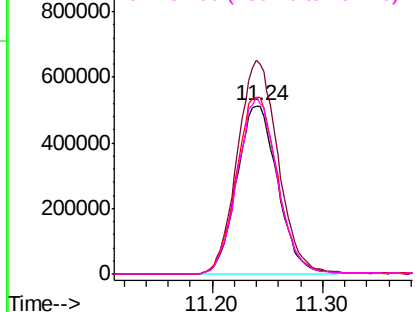


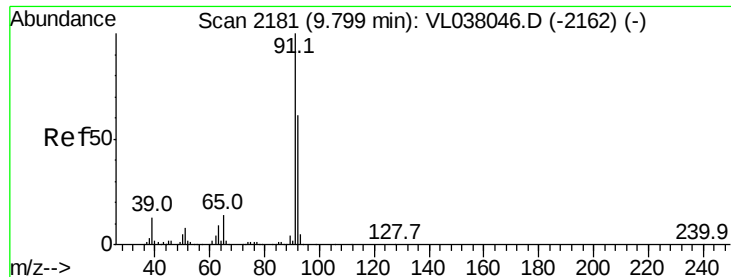
#52
Tetrachloroethene
Concen: 14.001 ppbv
RT: 11.24 min Scan# 2630
Delta R.T.: 0.03 min
Lab File: VL038205.D
Acq: 17 Dec 2021 1:37

Tgt Ion: 164 Resp: 1312297
Ion Ratio Lower Upper
164 100
166 124.8 97.2 145.8
129 105.2 86.9 130.3
131 101.6 82.8 124.2



Abundance Ion 163.90 (163.60 to 164.60): V
Ion 165.90 (165.60 to 166.60): V
Ion 129.00 (128.70 to 129.70): V
Ion 131.00 (130.70 to 131.70): V





#53

Toluene

Concen: 0.229 ppbv

RT: 9.82 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

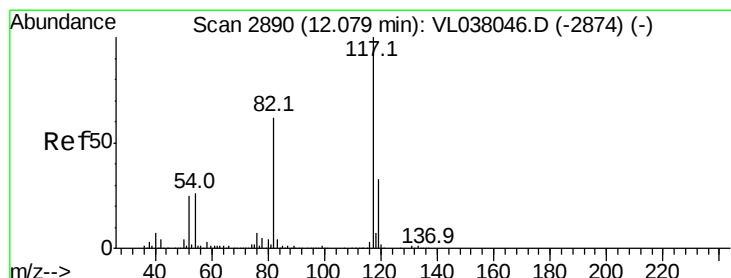
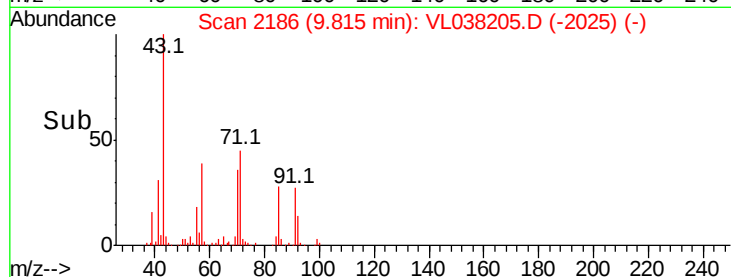
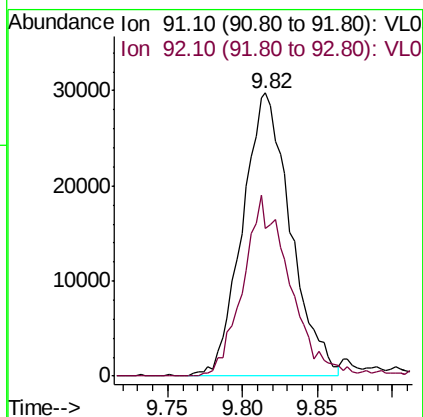
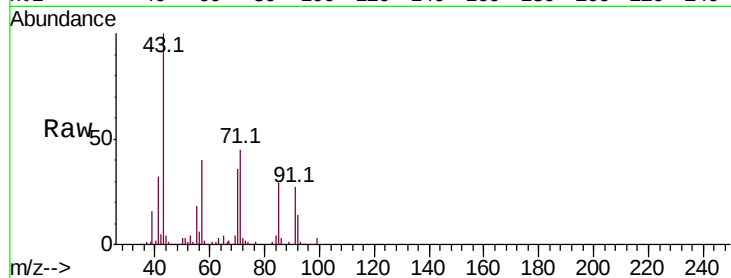
Acq: 17 Dec 2021 1:37

Tot Ion: 91 Resp: 66731

Ion Ratio Lower Upper

91 100

92 63.2 49.7 74.5



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.10 min Scan# 2897

Delta R.T. 0.02 min

Lab File: VL038205.D

Acq: 17 Dec 2021 1:37

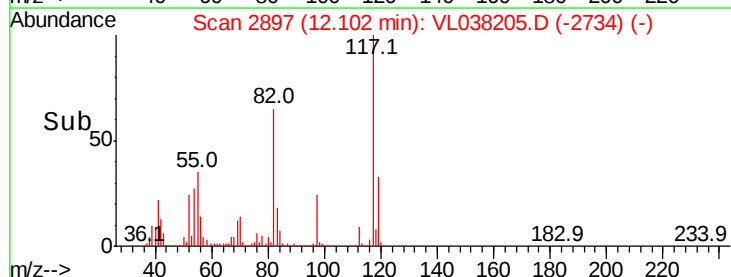
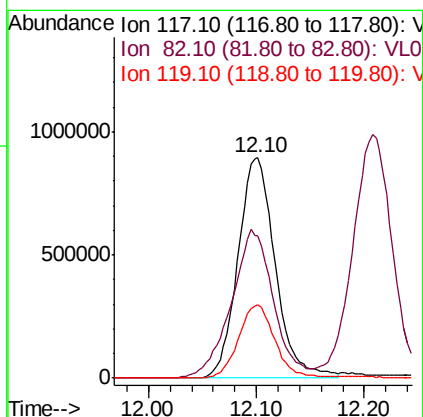
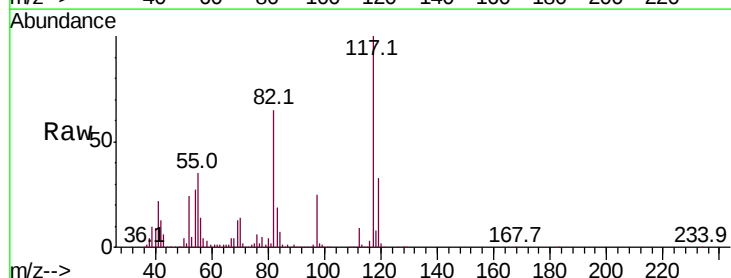
Tgt Ion: 117 Resp: 2154347

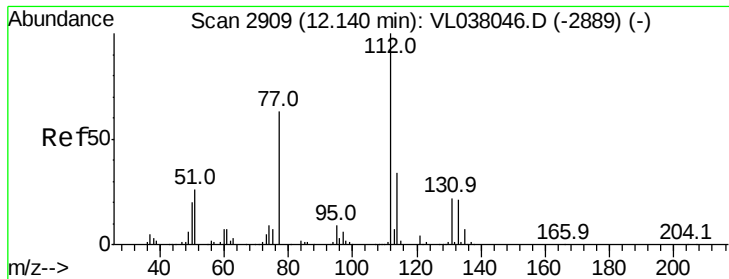
Ion Ratio Lower Upper

117 100

82 76.3 52.8 79.2

119 33.5 26.8 40.2





#57

Chlorobenzene

Concen: 6.915 ppbv

RT: 12.21

Delta R.T. MSVOA_L

Lab File:

Acq: 17 Dec 2021 1:37

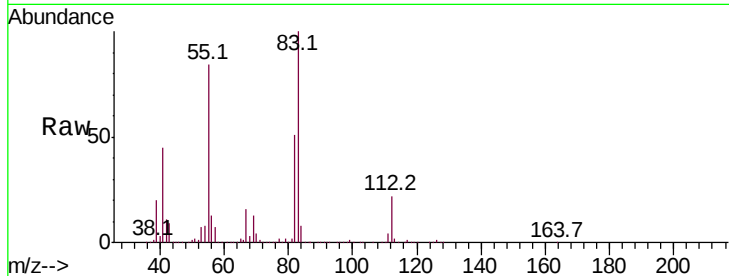
Tot Ion: 112 Resp: 1335176

Ion Ratio Lower Upper

112 100

77 6.5 50.3 75.5#

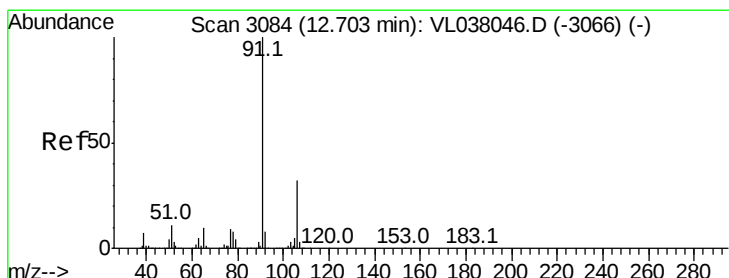
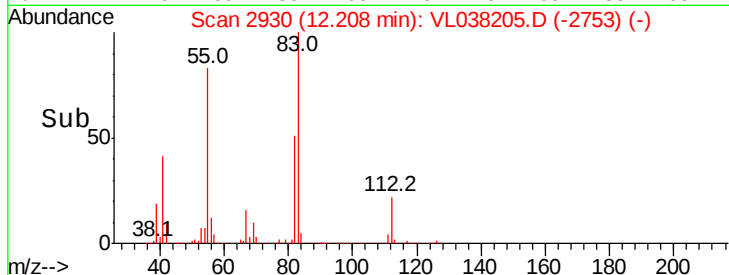
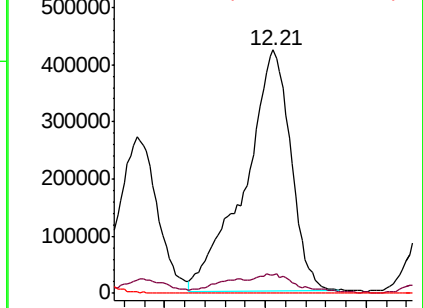
114 0.3 30.7 37.5#



Abundance Ion 112.10 (111.80 to 112.80): V

Ion 77.10 (76.80 to 77.80): VL0

Ion 114.10 (113.80 to 114.80): V



#58

Ethyl Benzene

Concen: 10.303 ppbv

RT: 12.73 min Scan# 3091

Delta R.T. 0.02 min

Lab File: VL038205.D

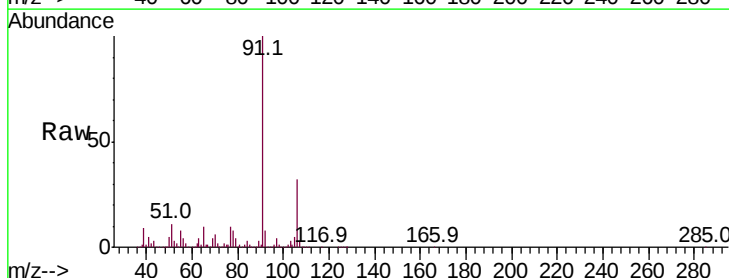
Acq: 17 Dec 2021 1:37

Tgt Ion: 91 Resp: 3668728

Ion Ratio Lower Upper

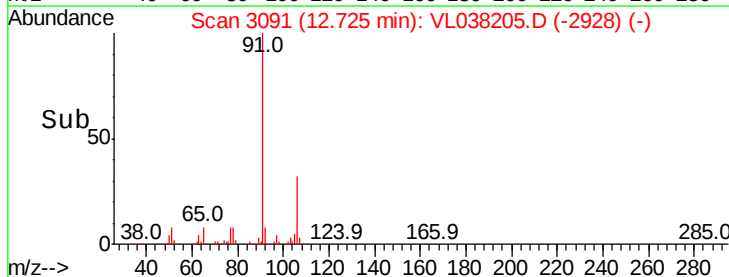
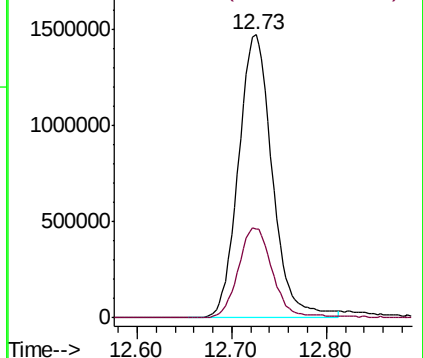
91 100

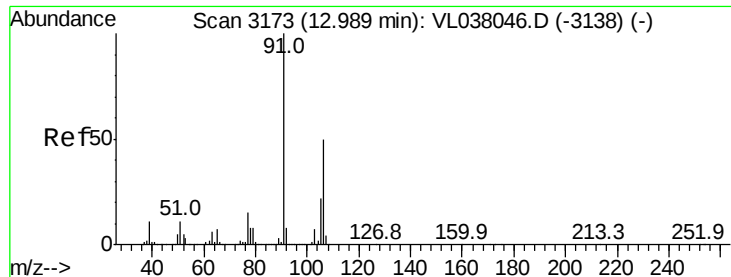
106 31.6 25.8 38.6



Abundance Ion 91.10 (90.80 to 91.80): VL0

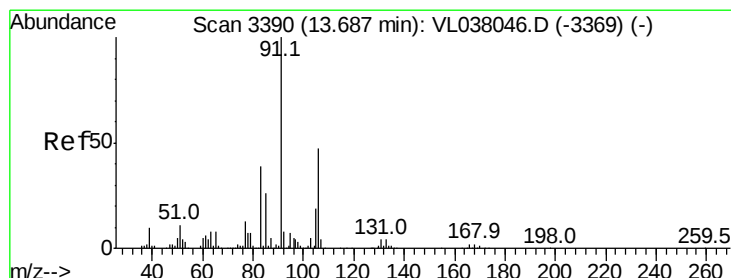
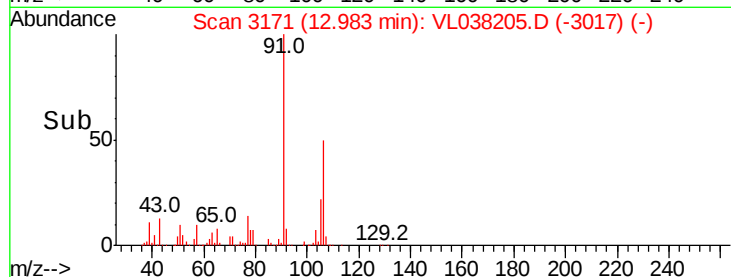
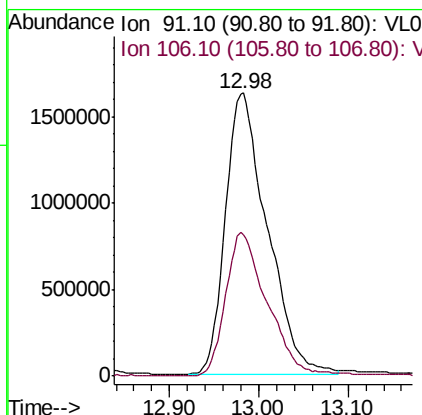
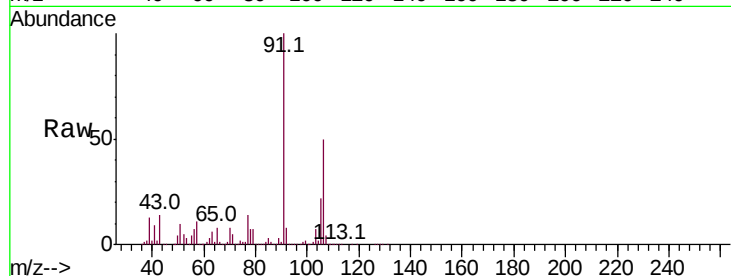
Ion 106.10 (105.80 to 106.80): V





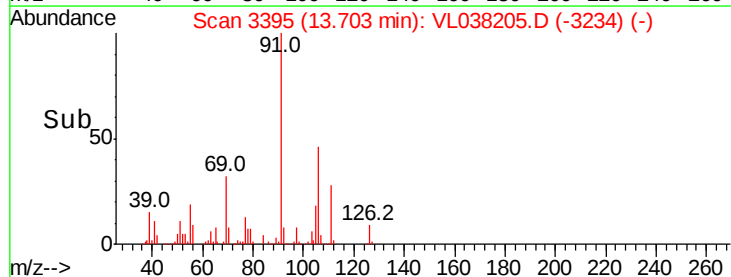
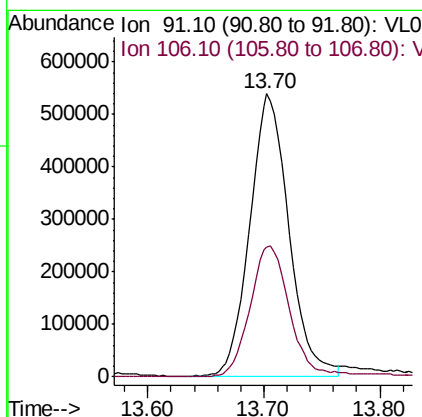
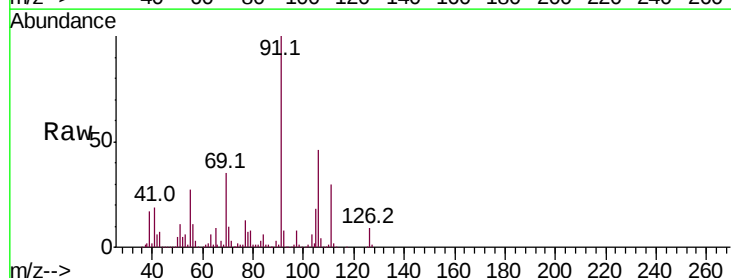
#59
m/p-Xylene
Concen: 17.593 ppbv
RT: 12.98 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 17 Dec 2021 1:37

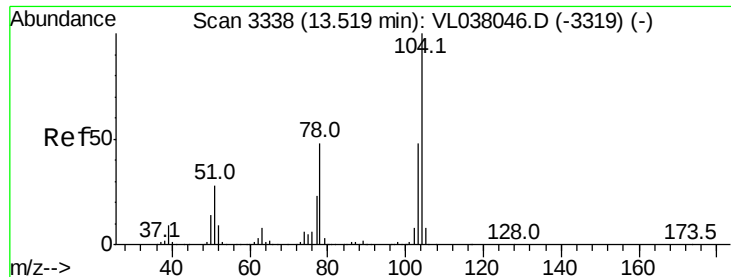
Tot Ion: 91 Resp: 5273293
Ion Ratio Lower Upper
91 100
106 50.8 38.1 57.1



#60
o-Xylene
Concen: 4.523 ppbv
RT: 13.70 min Scan# 3395
Delta R.T.: 0.02 min
Lab File: VL038205.D
Acq: 17 Dec 2021 1:37

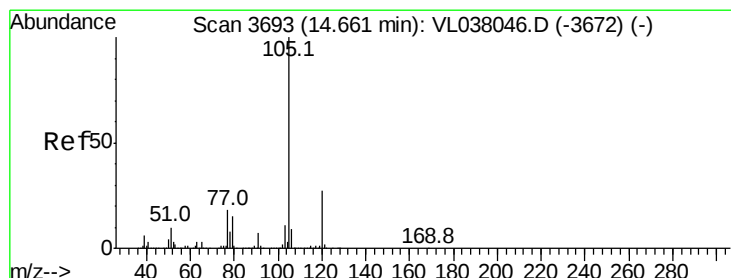
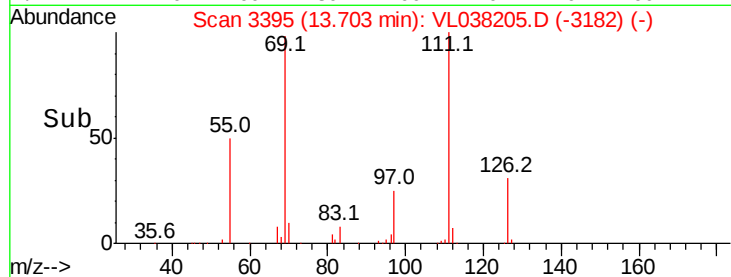
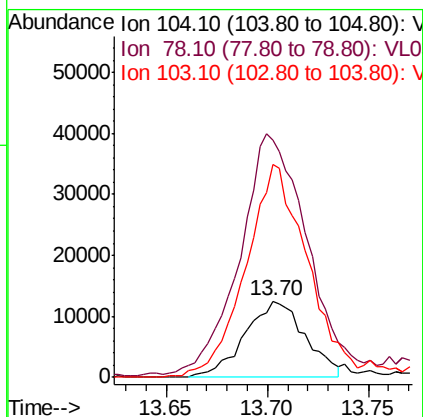
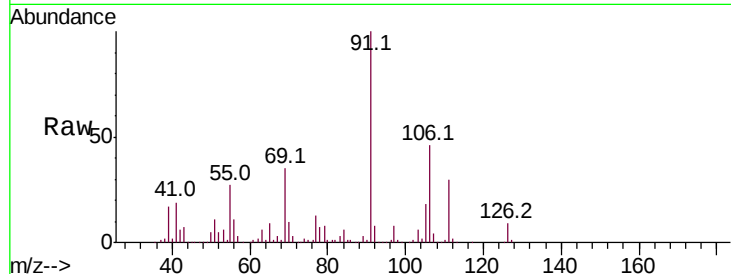
Tgt Ion: 91 Resp: 1257591
Ion Ratio Lower Upper
91 100
106 49.2 24.2 72.6





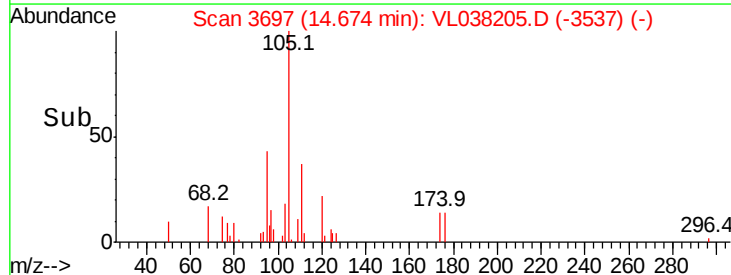
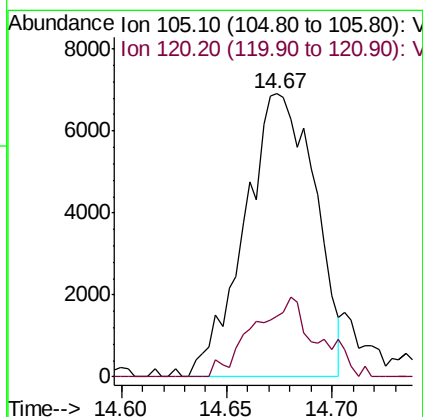
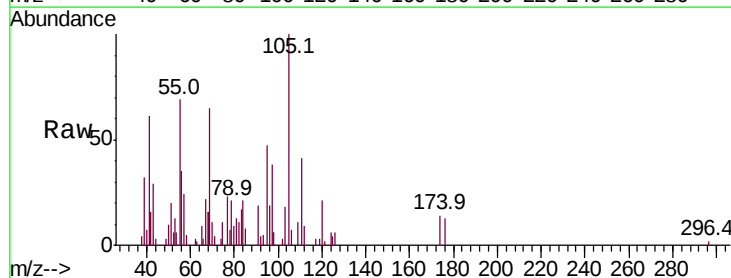
#61
Stvrene
Concen: 0.175 ppbv
RT: 13.70 min
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 17 Dec 2021 1:37

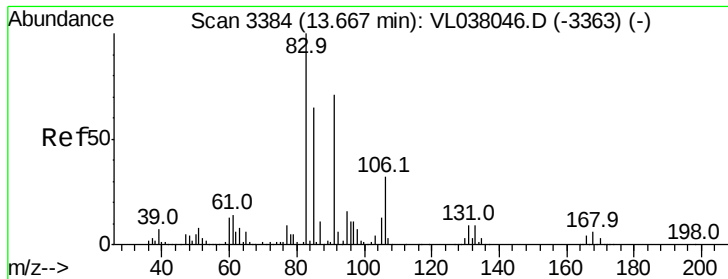
Tot Ion	Ratio	Lower	Upper
104	100		
78	359.8	39.8	59.6#
103	301.7	38.2	57.2#



#62
Isopropylbenzene
Concen: 0.041 ppbv
RT: 14.67 min Scan# 3697
Delta R.T. 0.01 min
Lab File: VL038205.D
Acq: 17 Dec 2021 1:37

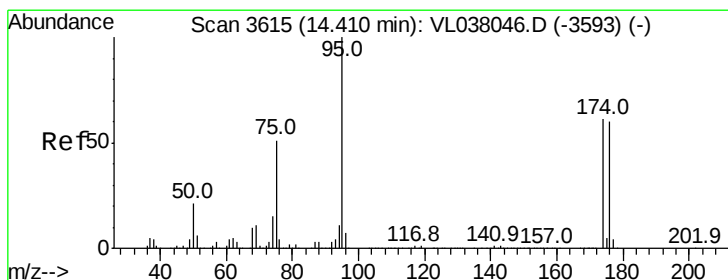
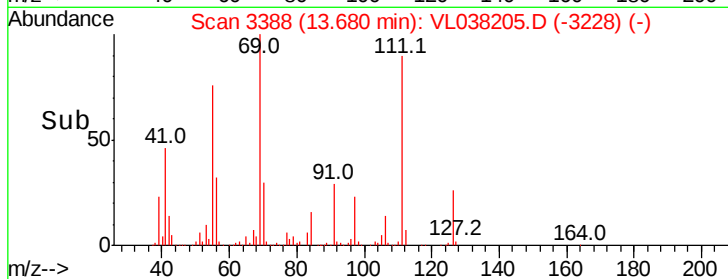
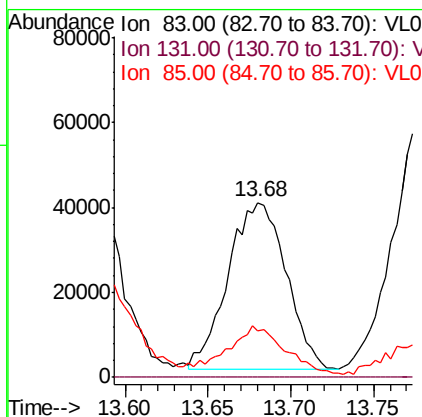
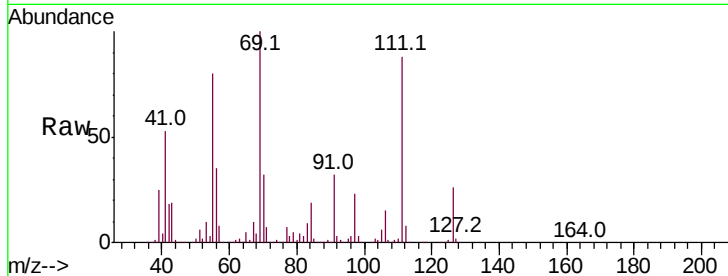
Tgt Ion	Ratio	Lower	Upper
105	100		
120	25.6	21.8	32.6





#63
 1,1,2,2-Tetrachloroethane
 Concen: 0.461 ppbv
 RT: 13.68
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId:
 Acq: 17 Dec 2021 1:37

Tot Ion: 83 Resp: 95263
 Ion Ratio Lower Upper
 83 100
 131 0.0 4.9 14.7#
 85 29.6 33.4 100.1#



#68
 1-Bromo-4-Fluorobenzene
 Concen: 12.146 ppbv
 RT: 14.42 min Scan# 3619
 Delta R.T. 0.01 min
 Lab File: VL038205.D
 Acq: 17 Dec 2021 1:37

Tgt Ion: 95 Resp: 1887405
 Ion Ratio Lower Upper
 95 100
 174 60.9 53.1 79.7
 175 4.6 4.0 6.0

