

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL121621\
 Data File : VL038201.D
 Acq On : 16 Dec 2021 22:54
 Operator : SY/AP
 Sample : M5119-01DL 10X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Dec 17 05:10:39 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	976987	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.18	114	2986378	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.11	117	2284196	10.00	ppbv	0.03

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.43	95	2511106	15.24	ppbv	0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	152.40%#

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
3) Chlorodifluoromethane	3.21	51	98682	0.481	ppbv #	61
4) Chloromethane	3.15	50	106304	1.522	ppbv	99
5) Vinyl Chloride	3.26	62	24312	0.355	ppbv	93
7) Chloroethane	3.56	64	4035	0.166	ppbv #	75
9) Propene	3.21	41	4934582	65.306	ppbv	96
10) Heptane	8.13	43	5298658	28.373	ppbv	98
13) Ethanol	3.61	45	30490	4.176	ppbv	90
15) Acetone	3.85	43	839059	9.906	ppbv	90
16) 1,3-Butadiene	3.32	39	339729	5.141	ppbv #	9
19) Isopropyl Alcohol	3.97	45	1069300	17.471	ppbv	99
20) Methylene Chloride	4.35	84	59281	1.249	ppbv #	92
23) Vinyl Acetate	5.12	43	33466	0.273	ppbv #	45
25) Ethyl Acetate	5.69	43	109675	0.390	ppbv #	97
26) Hexane	5.70	57	83843	0.618	ppbv #	63
29) Chloroform	5.76	83	617674	3.089	ppbv	95
30) Cyclohexane	7.14	84	17899	0.145	ppbv #	1
34) 2-Butanone	5.25	43	606934	5.040	ppbv	97
36) Benzene	6.90	78	239970	0.806	ppbv #	94
39) 1,2-Dichloropropane	7.18	63	703188	6.154	ppbv #	27
42) Bromodichloromethane	7.80	83	23712	0.108	ppbv #	25
43) Methyl Methacrylate	8.02	69	47648	0.468	ppbv #	1
44) 2,2,4-Trimethylpentane	7.88	57	68738	0.138	ppbv #	1
47) 1,1,2-Trichloroethane	9.58	97	185317	1.548	ppbv #	51
50) 4-Methyl-2-Pentanone	8.78	43	680205	3.719	ppbv	99
51) 2-Hexanone	10.15	43	9826624	114.212	ppbv #	27
53) Toluene	9.82	91	353245	1.031	ppbv	97
57) Chlorobenzene	12.23	112	3644174	17.800	ppbv #	33
58) Ethyl Benzene	12.74	91	11732910	31.078	ppbv	89
59) m/p-Xylene	12.99	91	12114616	38.119	ppbv	91
60) o-Xylene	13.72	91	3119369	10.581	ppbv	100
61) Styrene	13.72	104	67817	0.429	ppbv #	1
62) Isopropylbenzene	14.68	105	46658	0.111	ppbv	100
63) 1,1,2,2-Tetrachloroethane	13.69	83	293167	1.339	ppbv #	54

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 22:54

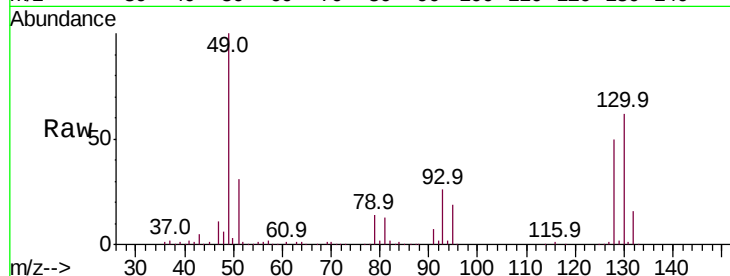
Tot Ion: 49 Resp: 976987

Ion Ratio Lower Upper

49 100

128 53.0 26.5 79.5

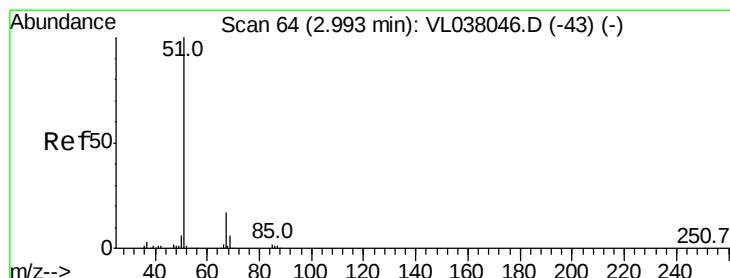
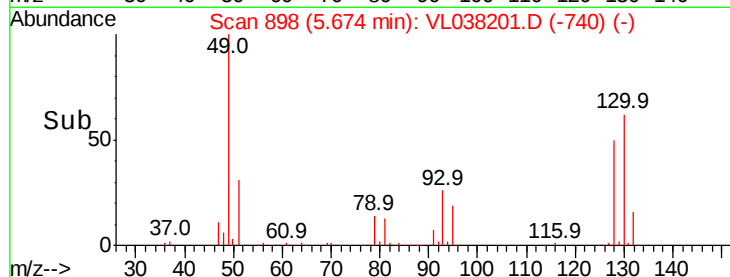
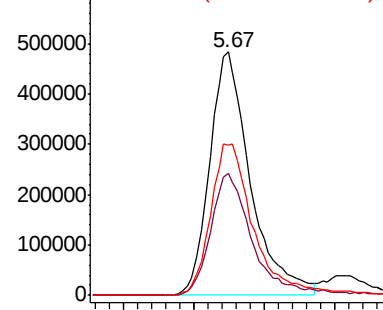
130 67.8 32.5 97.4



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: 0.481 ppbv

RT: 3.21 min Scan# 133

Delta R.T. 0.22 min

Lab File: VL038201.D

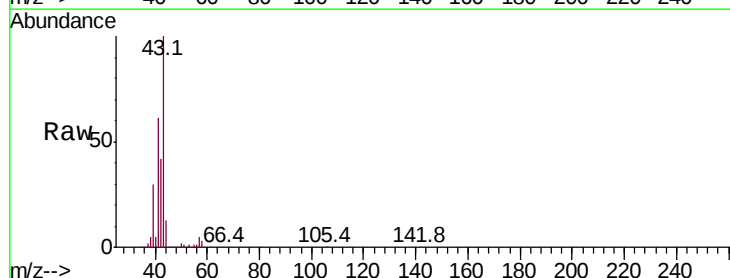
Acq: 16 Dec 2021 22:54

Tgt Ion: 51 Resp: 98682

Ion Ratio Lower Upper

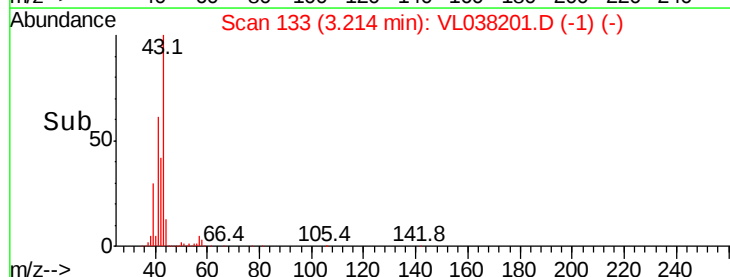
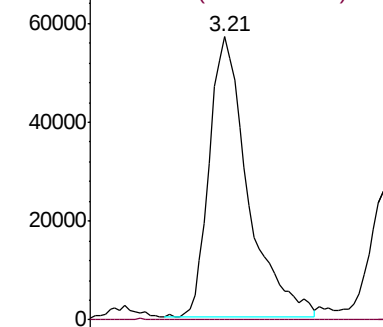
51 100

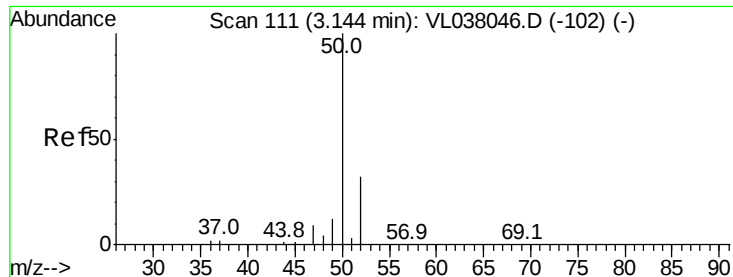
67 0.2 13.8 20.8#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0





#4

Chloromethane

Concen: 1.522 ppbv

RT: 3.15 Instrument:

Delta R.T. MSVOA.L

Lab File: ClientSampleId:

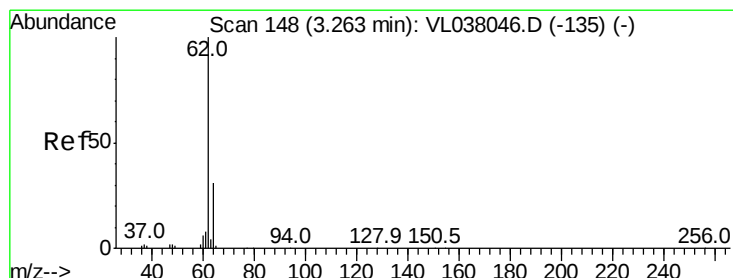
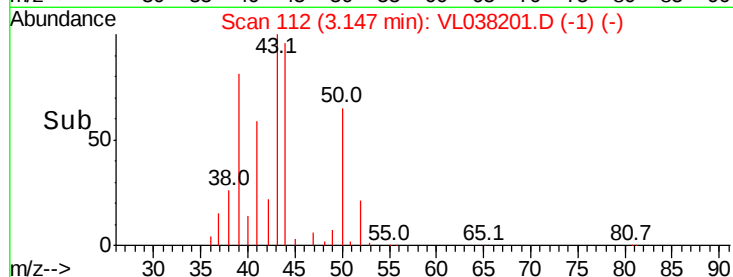
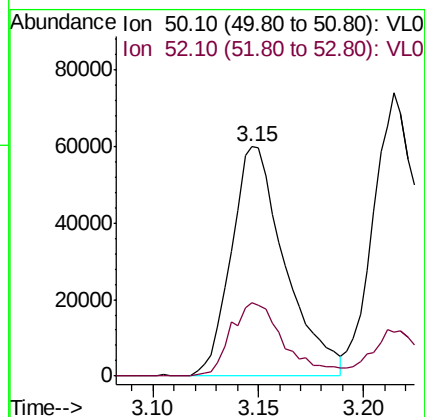
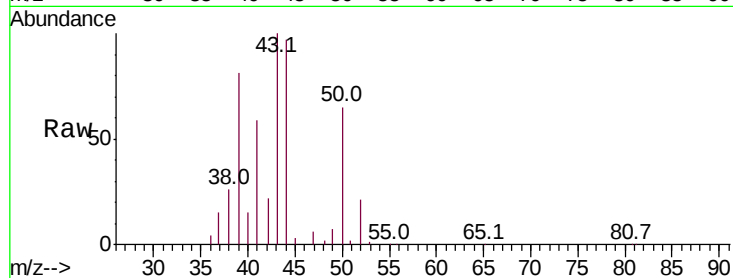
Acq: 16 Dec 2021 22:54

Tot Ion: 50 Resp: 106304

Ion Ratio Lower Upper

50 100

52 32.2 25.4 38.0



#5

Vinyl Chloride

Concen: 0.355 ppbv

RT: 3.26 min Scan# 148

Delta R.T. 0.00 min

Lab File: VL038201.D

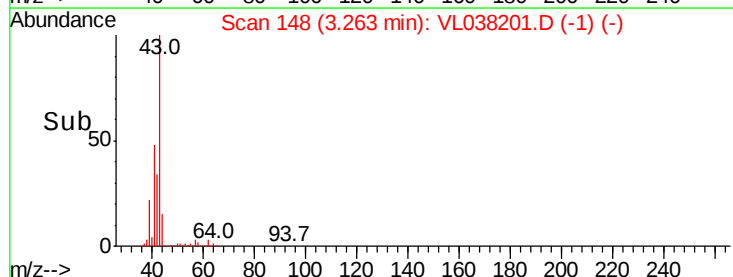
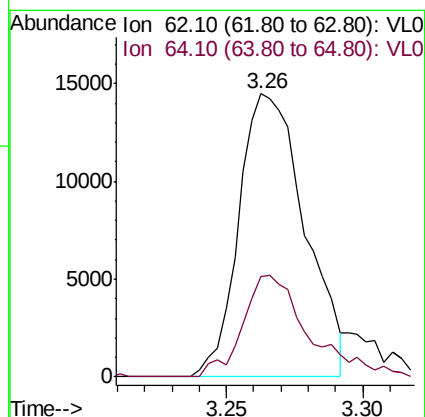
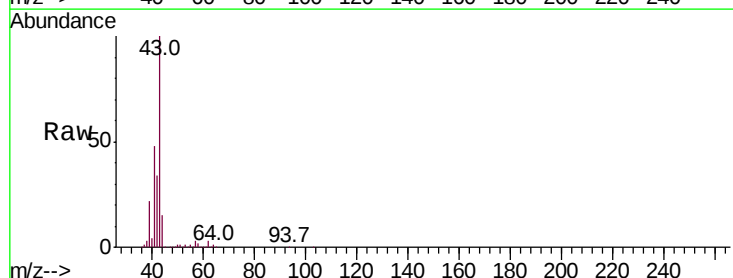
Acq: 16 Dec 2021 22:54

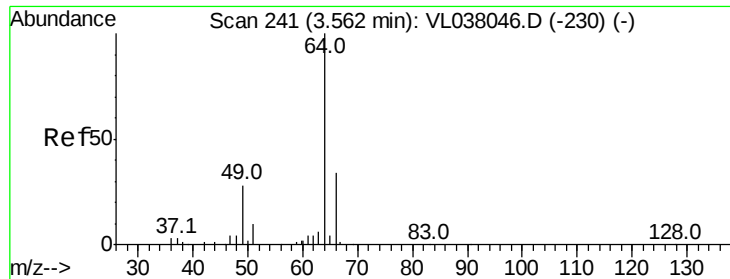
Tgt Ion: 62 Resp: 24312

Ion Ratio Lower Upper

62 100

64 35.4 25.1 37.7





#7

Chloroethane

Concen: 0.166 ppbv

RT: 3.56 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

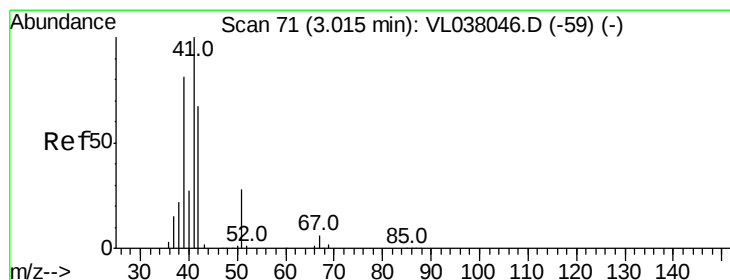
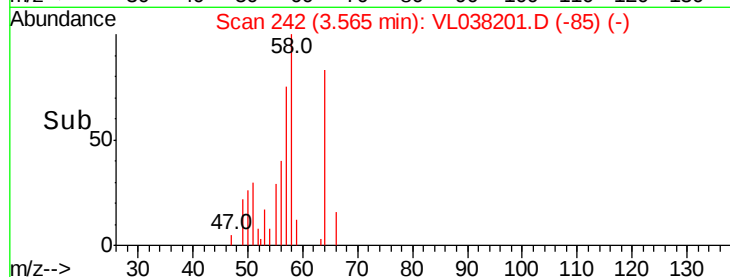
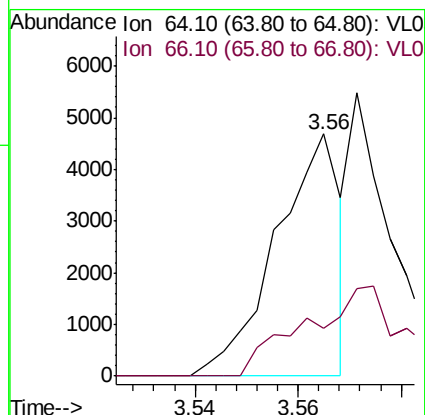
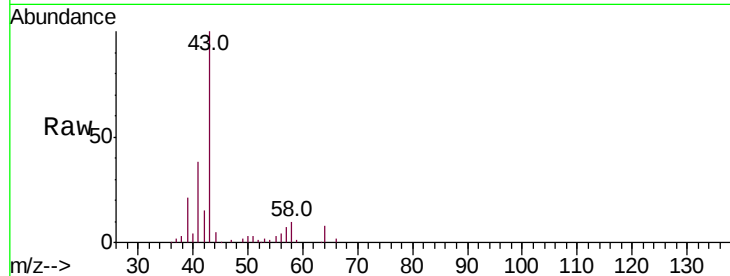
Acq: 16 Dec 2021 22:54

Tot Ion: 64 Resp: 4035

Ion Ratio Lower Upper

64 100

66 19.7 27.2 40.8#



#9

Propene

Concen: 65.306 ppbv

RT: 3.21 min Scan# 133

Delta R.T. 0.20 min

Lab File: VL038201.D

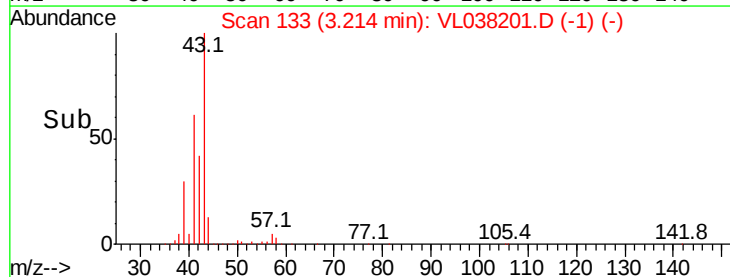
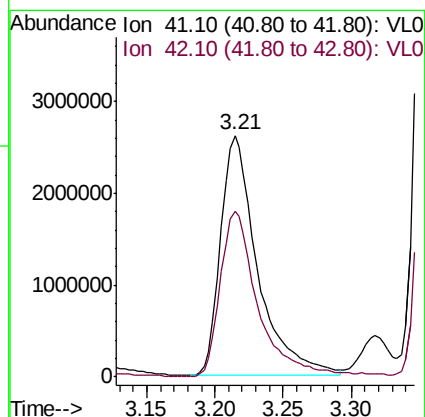
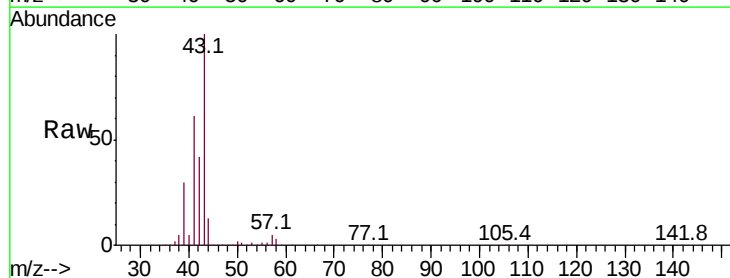
Acq: 16 Dec 2021 22:54

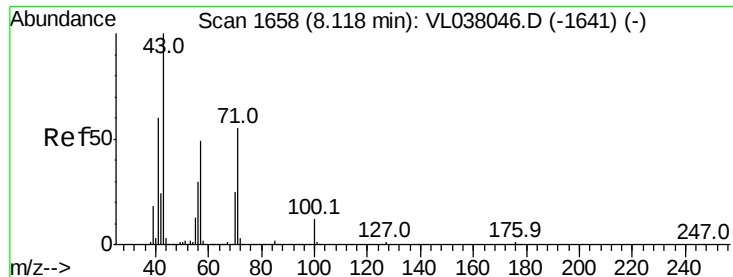
Tgt Ion: 41 Resp: 4934582

Ion Ratio Lower Upper

41 100

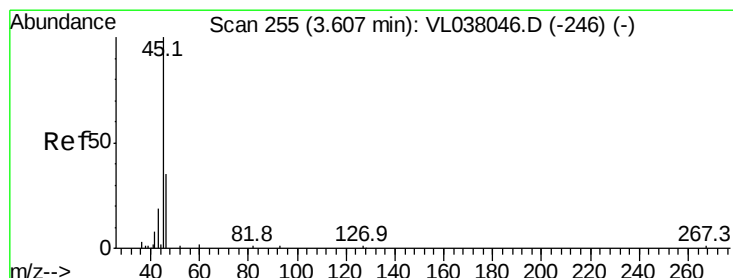
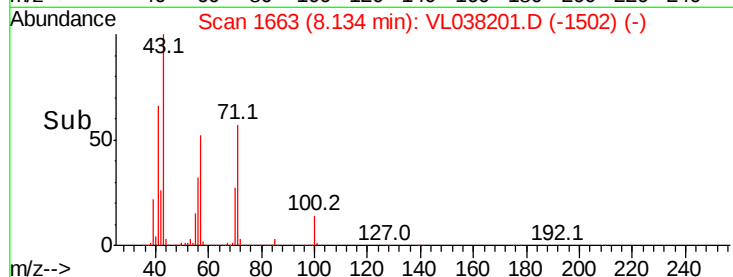
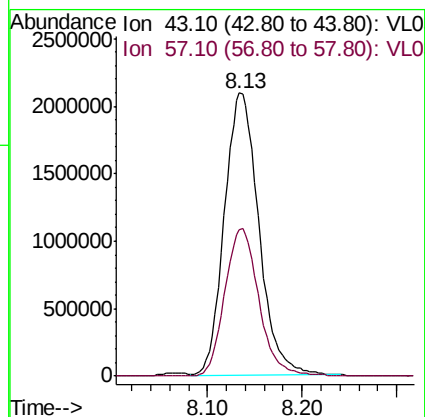
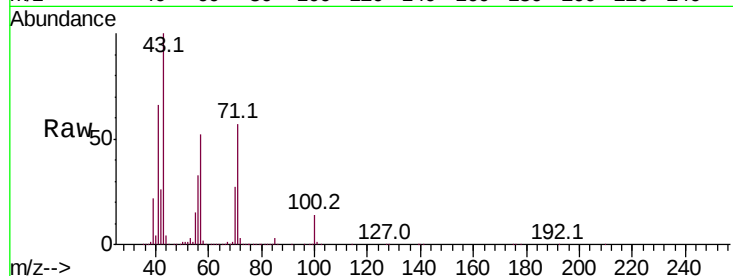
42 70.6 53.8 80.8





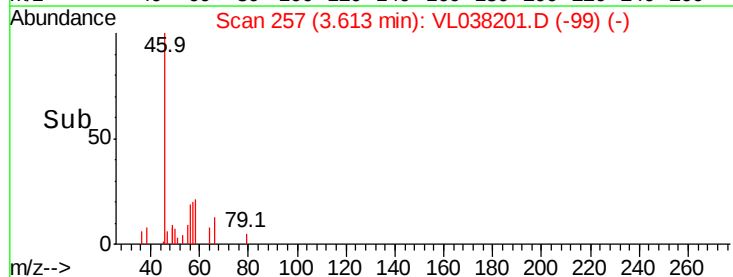
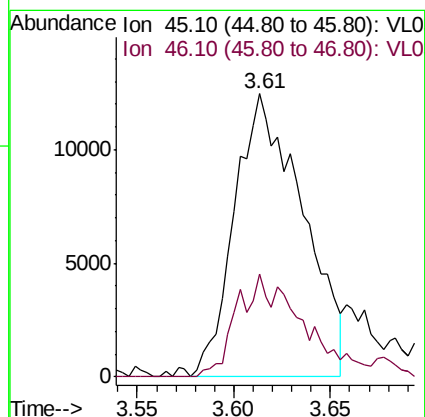
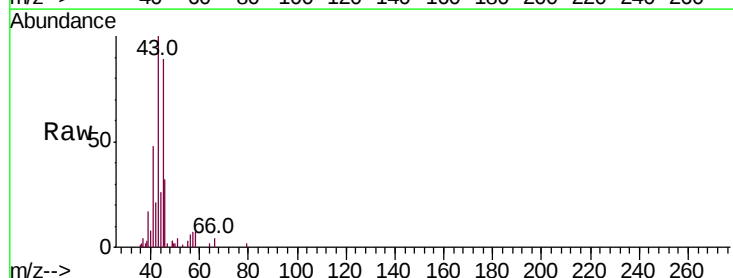
#10
Heptane
Concen: 28.373 ppbv
RT: 8.13
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 16 Dec 2021 22:54

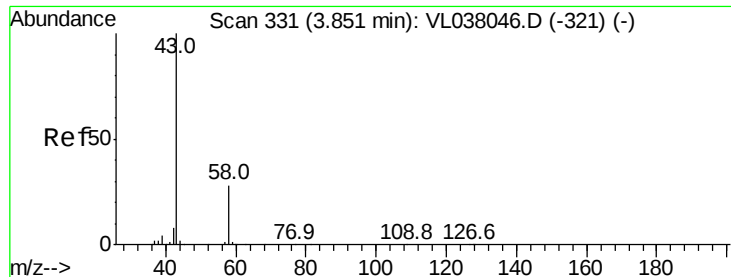
Tot Ion: 43 Resp: 5298658
Ion Ratio Lower Upper
43 100
57 51.8 40.4 60.6



#13
Ethanol
Concen: 4.176 ppbv
RT: 3.61 min Scan# 257
Delta R.T. 0.01 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

Tgt Ion: 45 Resp: 30490
Ion Ratio Lower Upper
45 100
46 37.3 17.6 70.2





#15

Acetone

Concen: 9.906 ppbv

RT: 3.85 Instrument :

Delta R.T. MSVOA_1

Lab File: ClientSampleId :

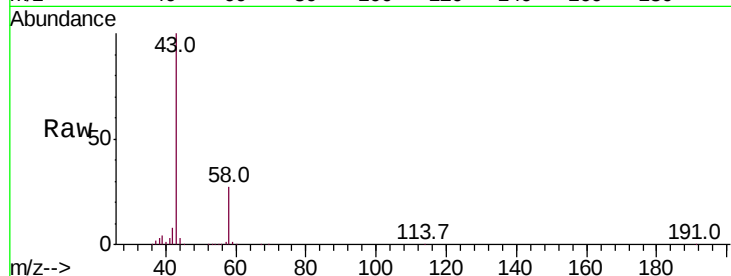
Acq: 16 Dec 2021 22:54

Tot Ion: 43 Resp: 839059

Ion Ratio Lower Upper

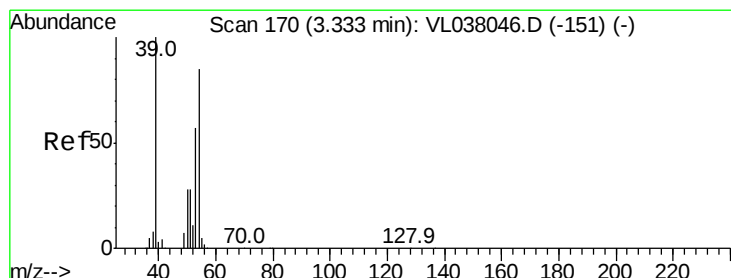
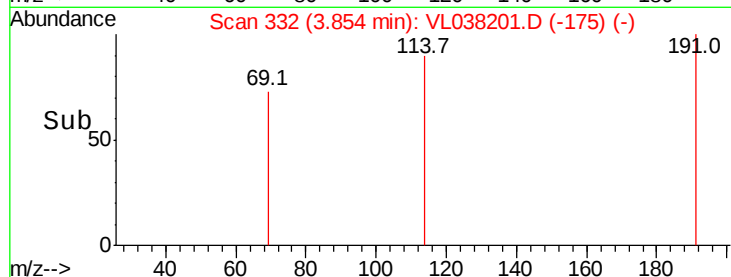
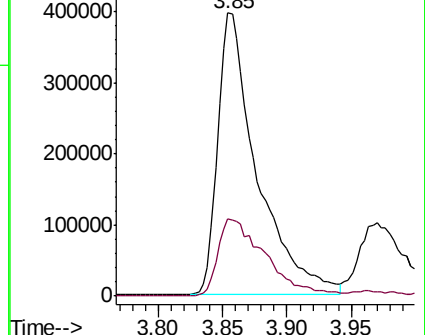
43 100

58 33.3 22.4 33.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#16

1,3-Butadiene

Concen: 5.141 ppbv

RT: 3.32 min Scan# 165

Delta R.T. -0.02 min

Lab File: VL038201.D

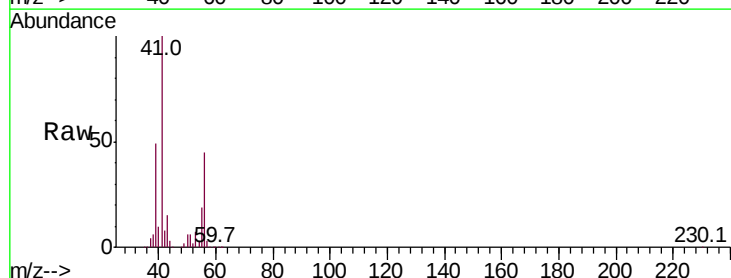
Acq: 16 Dec 2021 22:54

Tgt Ion: 39 Resp: 339729

Ion Ratio Lower Upper

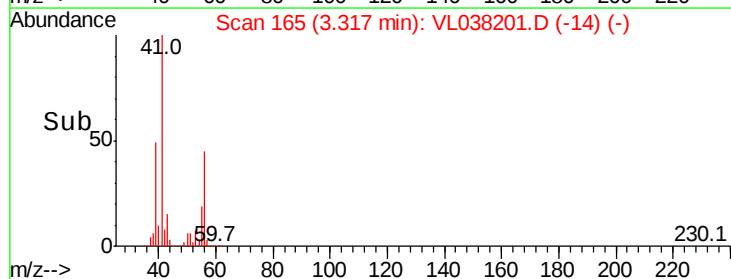
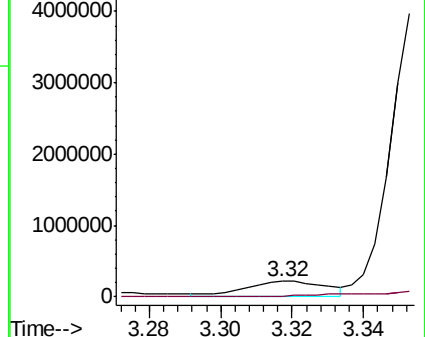
39 100

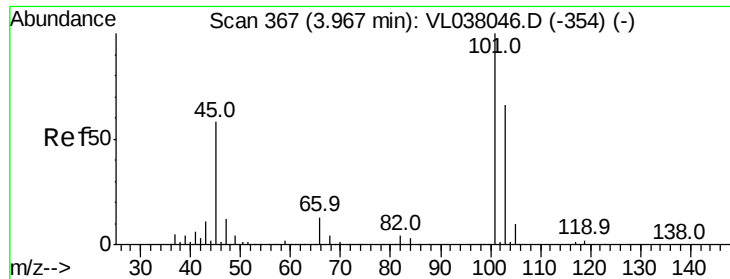
54 0.0 64.4 96.6#



Abundance Ion 39.10 (38.80 to 39.80): VL0

Ion 54.10 (53.80 to 54.80): VL0





#19

Isopropyl Alcohol

Concen: 17.471 ppbv

RT: 3.97 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

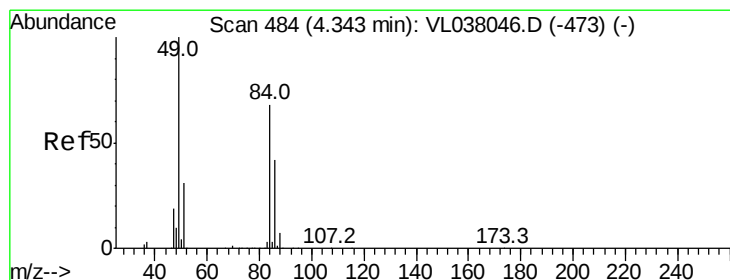
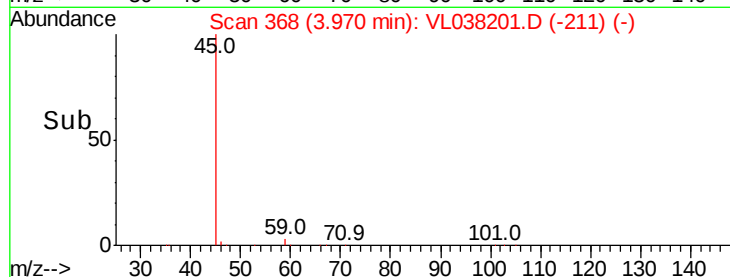
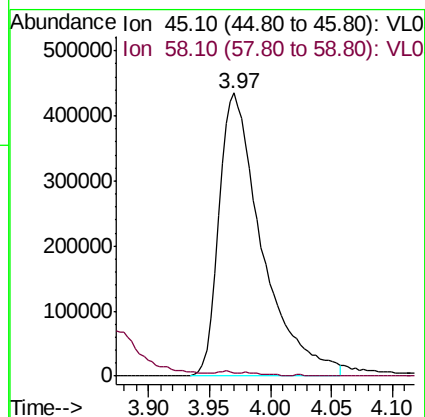
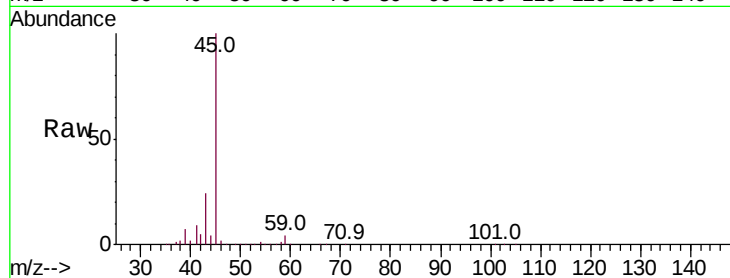
Acq: 16 Dec 2021 22:54

Tot Ion: 45 Resp: 1069300

Ion Ratio Lower Upper

45 100

58 1.5 1.4 2.0



#20

Methylene Chloride

Concen: 1.249 ppbv

RT: 4.35 min Scan# 486

Delta R.T. 0.01 min

Lab File: VL038201.D

Acq: 16 Dec 2021 22:54

Tgt Ion: 84 Resp: 59281

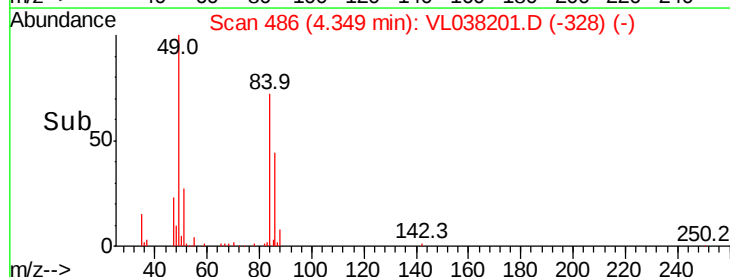
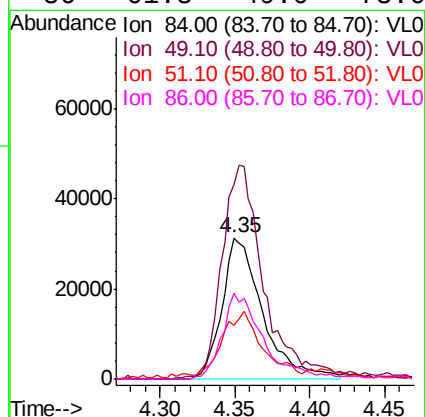
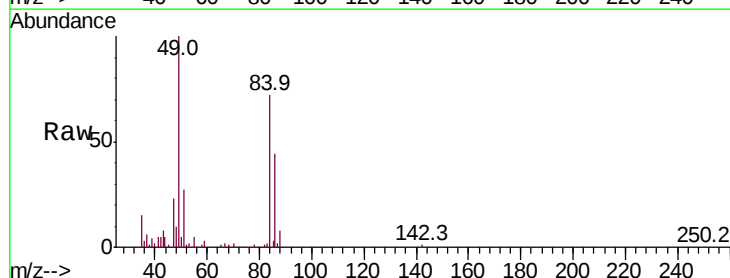
Ion Ratio Lower Upper

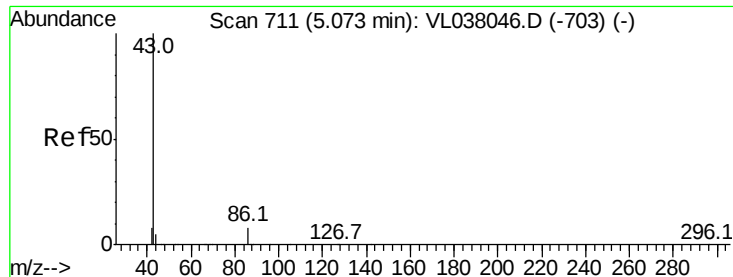
84 100

49 136.2 118.2 177.2

51 34.7 36.8 55.2#

86 61.3 49.0 73.6





#23

Vinyl Acetate

Concen: 0.273 ppbv

RT: 5.12 Instrument:

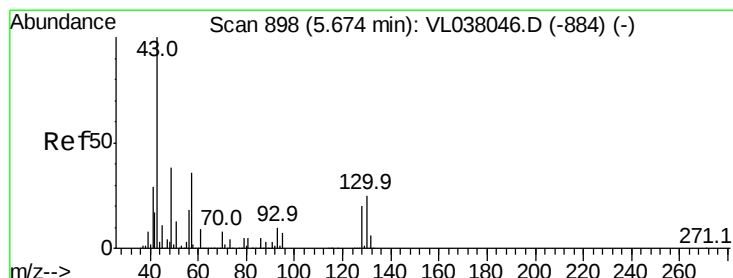
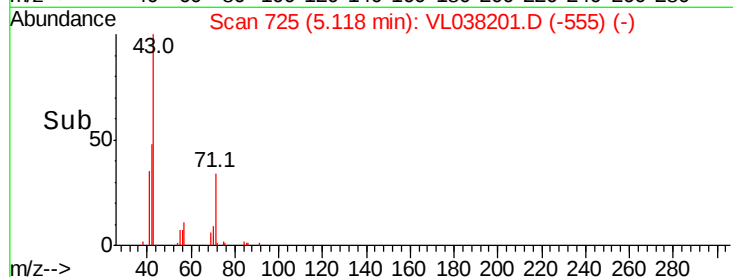
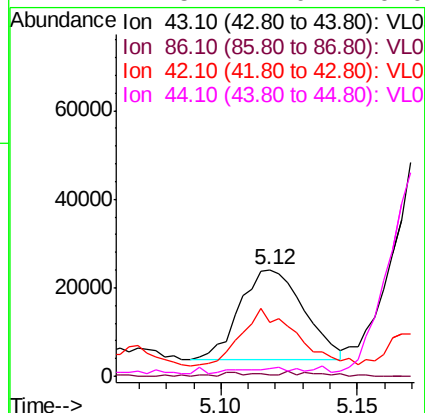
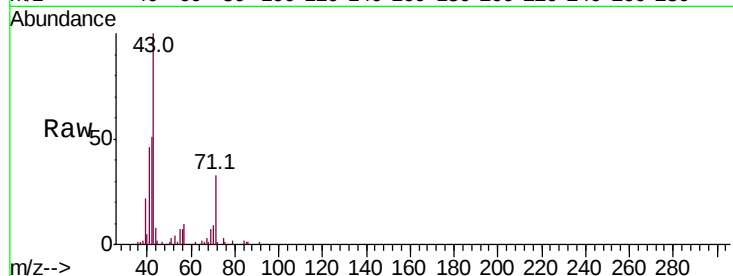
Delta R.T. MSVOA_1

Lab File: ClientSampleId:

Acq: 16 Dec 2021 22:54

Tot Ion: 43 Resp: 33466

Ion	Ratio	Lower	Upper
43	100		
86	0.9	5.3	7.9#
42	48.5	7.0	10.6#
44	7.5	4.0	6.0#



#25

Ethyl Acetate

Concen: 0.390 ppbv

RT: 5.69 min Scan# 903

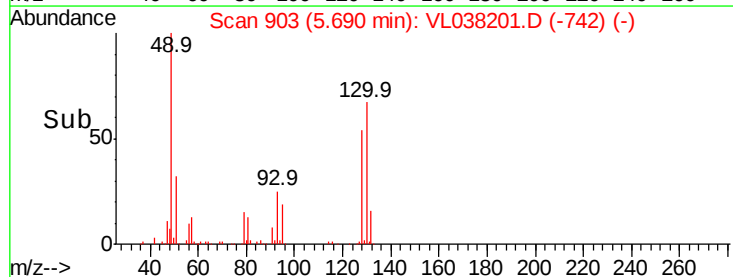
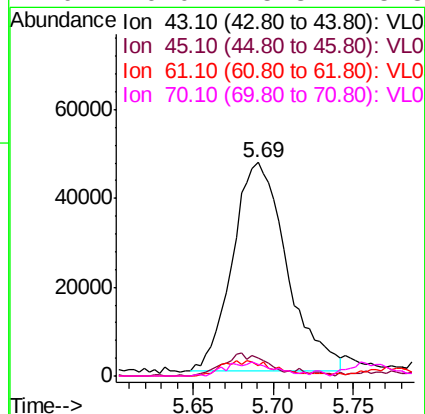
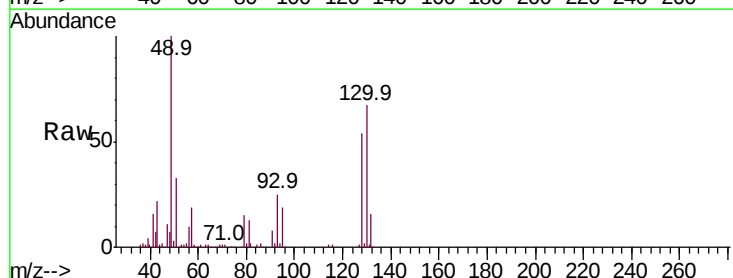
Delta R.T. 0.02 min

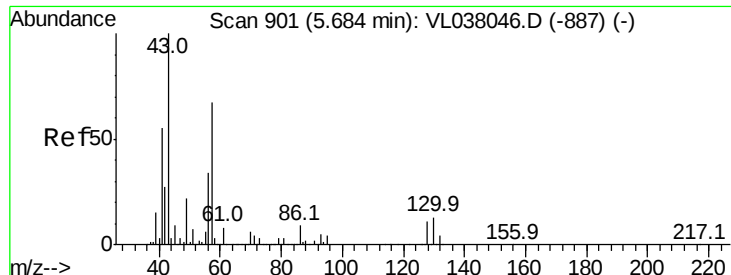
Lab File: VL038201.D

Acq: 16 Dec 2021 22:54

Tgt Ion: 43 Resp: 109675

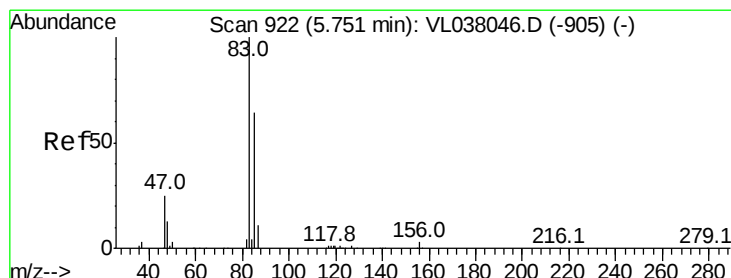
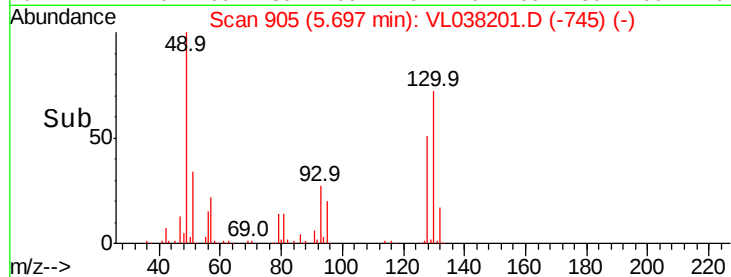
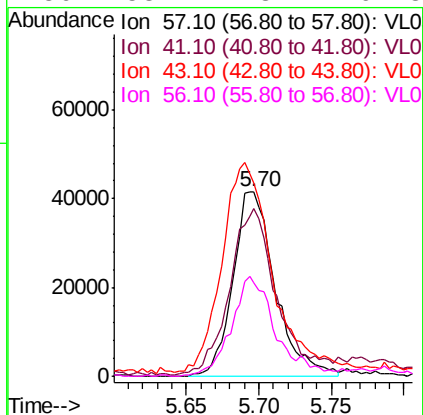
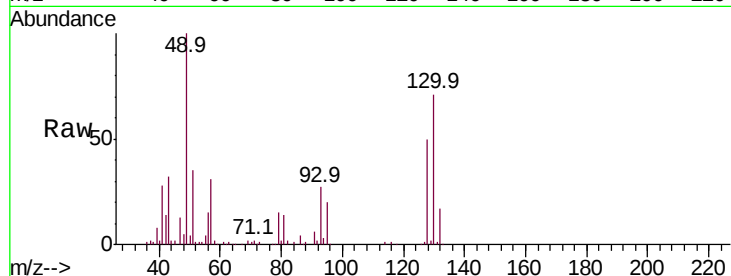
Ion	Ratio	Lower	Upper
43	100		
45	9.9	7.9	11.9
61	7.2	7.8	11.6#
70	6.0	5.8	8.8





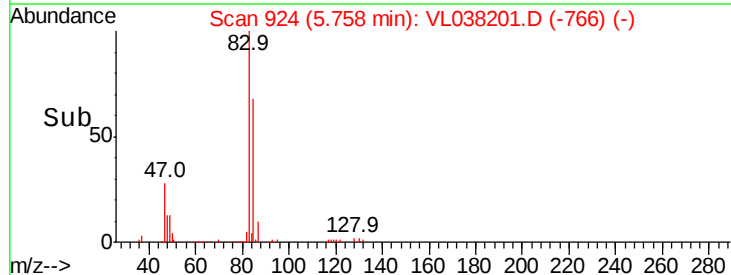
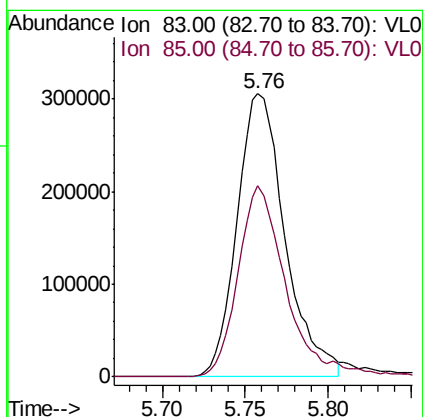
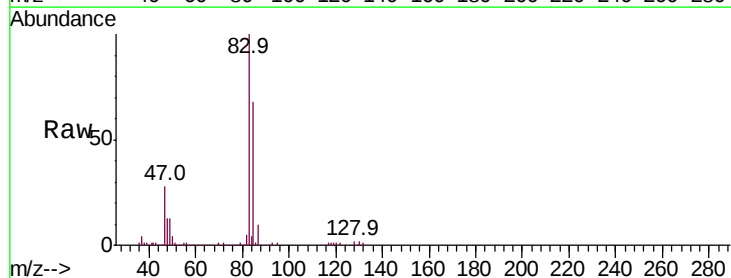
#26
Hexane
Concen: 0.618 ppbv
RT: 5.70
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 22:54

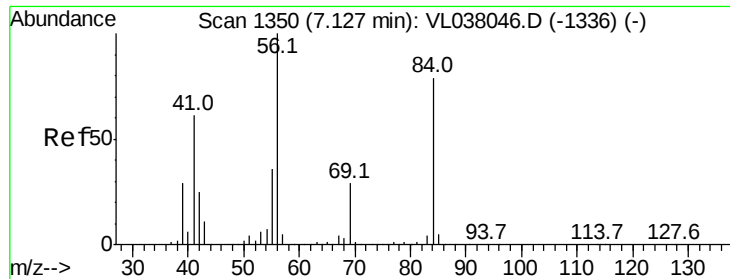
Tot Ion: 57 Resp: 83843
Ion Ratio Lower Upper
57 100
41 112.7 71.4 107.2#
43 138.6 174.6 261.8#
56 58.2 43.2 64.8



#29
Chloroform
Concen: 3.089 ppbv
RT: 5.76 min Scan# 924
Delta R.T.: 0.01 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

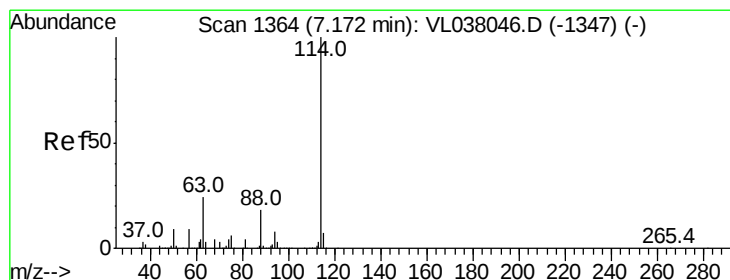
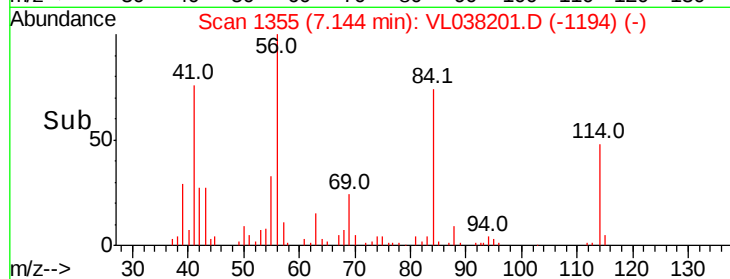
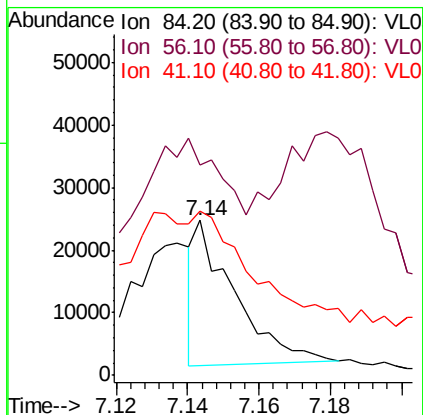
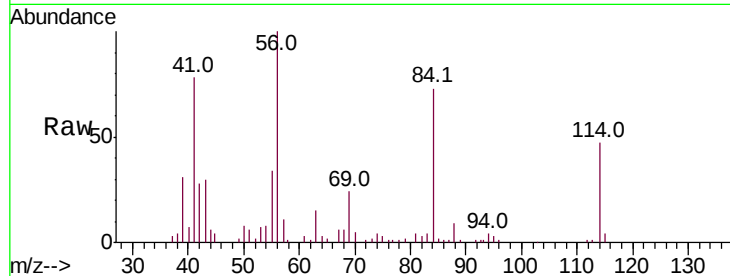
Tgt Ion: 83 Resp: 617674
Ion Ratio Lower Upper
83 100
85 67.7 51.0 76.6





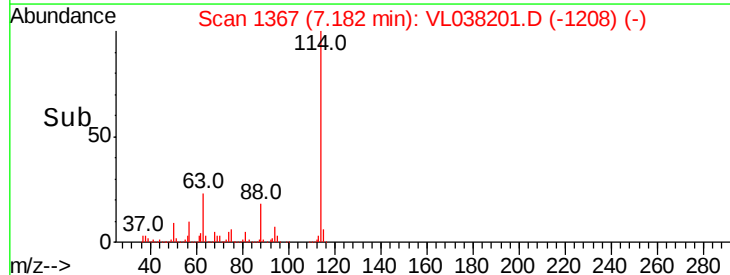
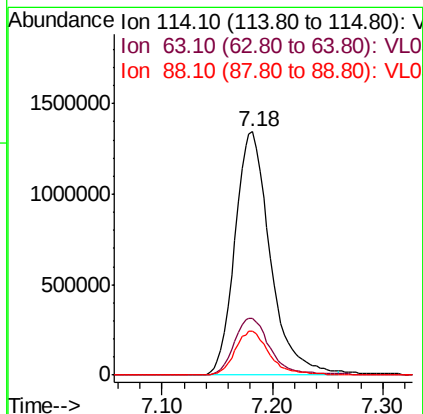
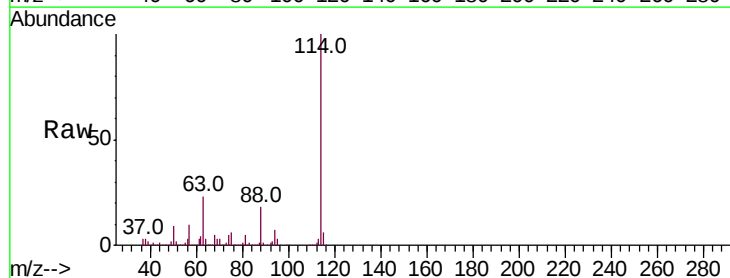
#30
Cvclohexane
Concen: 0.145 ppbv
RT: 7.14 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 22:54

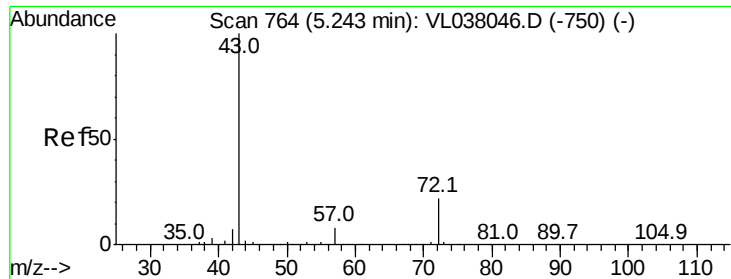
Tot Ion: 84 Resp: 17899
Ion Ratio Lower Upper
84 100
56 0.0 108.1 162.1#
41 0.0 64.4 96.6#



#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.18 min Scan# 1367
Delta R.T.: 0.01 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

Tgt Ion: 114 Resp: 2986378
Ion Ratio Lower Upper
114 100
63 24.3 19.7 29.5
88 18.0 14.4 21.6





#34

2-Butanone

Concen: 5.040 ppbv

RT: 5.25 Instrument: MSVOA_1

Delta R.T. ClientSampleId:

Lab File:

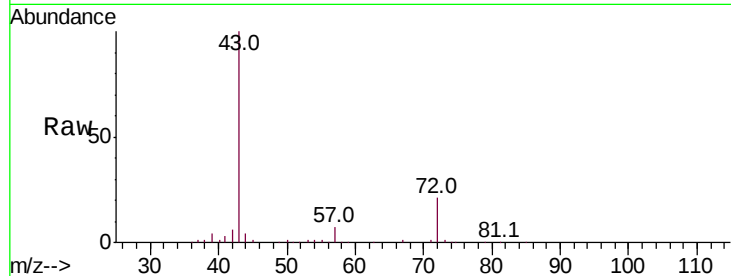
Acq: 16 Dec 2021 22:54

Tot Ion: 43 Resp: 606934

Ion Ratio Lower Upper

43 100

72 25.2 18.8 28.2



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

5.25

300000

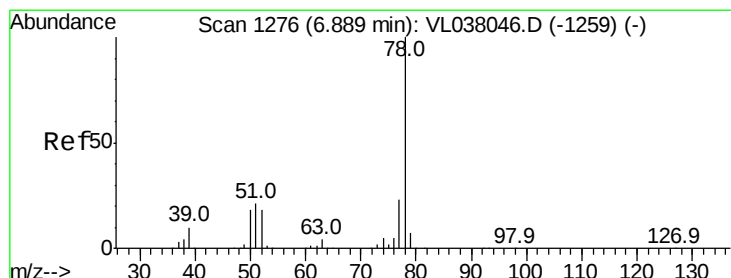
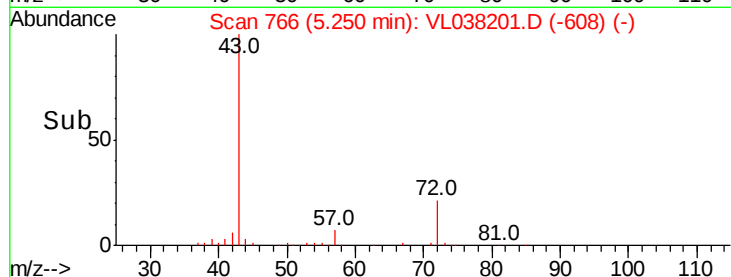
200000

100000

0

Time-->

5.20 5.25 5.30 5.35



#36

Benzene

Concen: 0.806 ppbv

RT: 6.90 min Scan# 1279

Delta R.T. 0.01 min

Lab File: VL038201.D

Acq: 16 Dec 2021 22:54

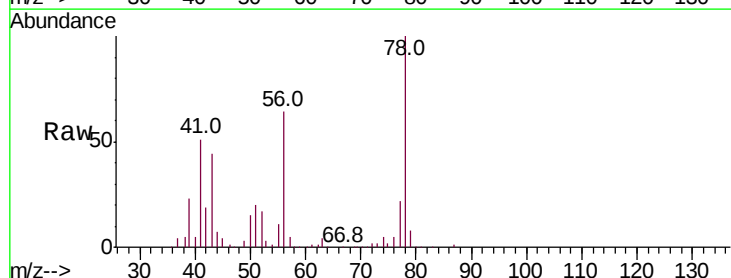
Tgt Ion: 78 Resp: 239970

Ion Ratio Lower Upper

78 100

77 21.4 18.2 27.4

50 14.3 14.7 22.1#



Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0

150000

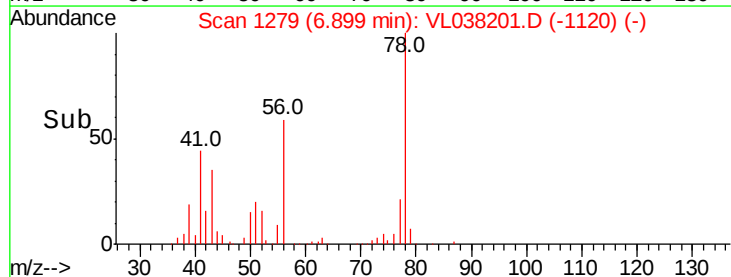
100000

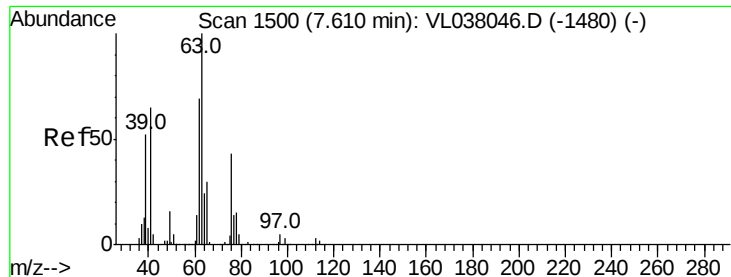
50000

0

Time-->

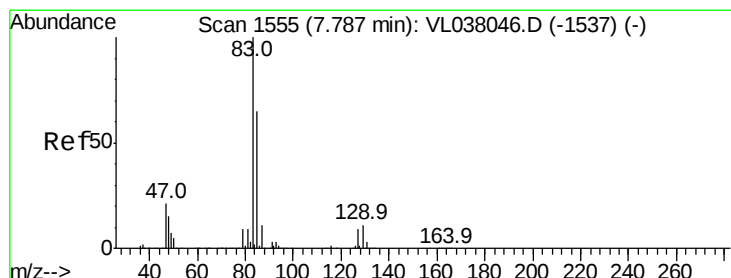
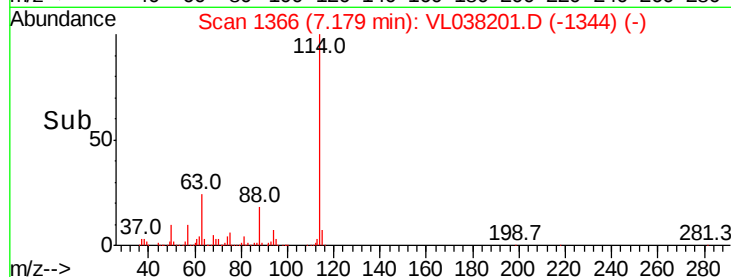
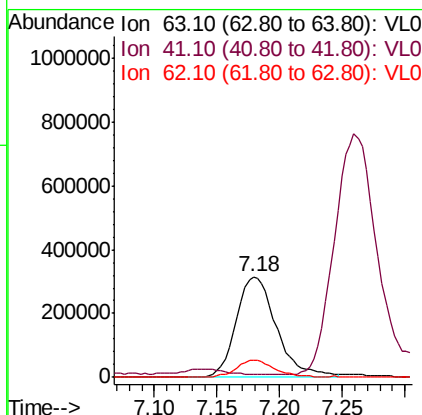
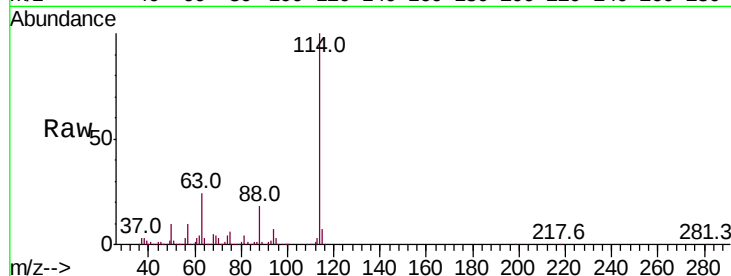
6.80 6.85 6.90 6.95





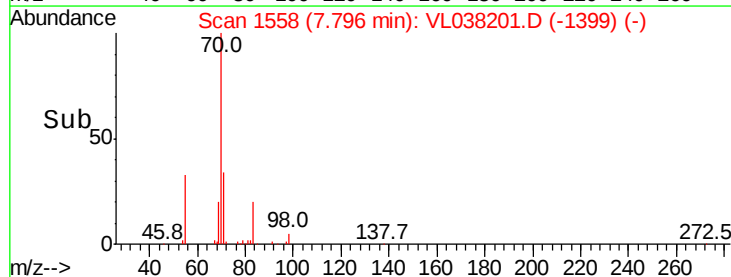
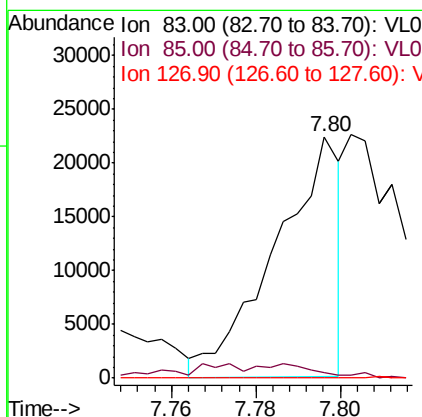
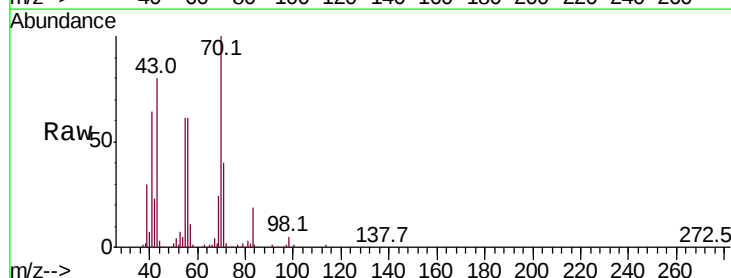
#39
 1,2-Dichloropropane
 Concen: 6.154 ppbv
 RT: 7.18 min
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 16 Dec 2021 22:54

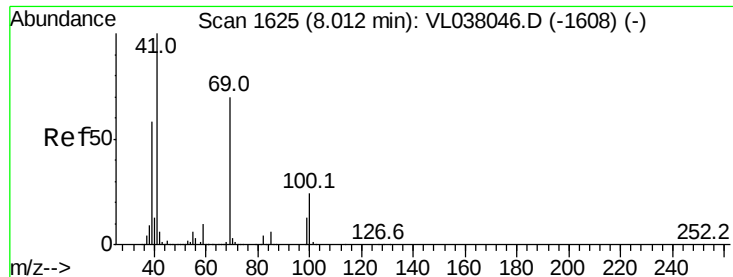
Tot Ion	Ratio	Lower	Upper
63	100		
41	0.0	52.3	78.5#
62	17.2	55.1	82.7#



#42
 Bromodichloromethane
 Concen: 0.108 ppbv
 RT: 7.80 min Scan# 1558
 Delta R.T. 0.01 min
 Lab File: VL038201.D
 Acq: 16 Dec 2021 22:54

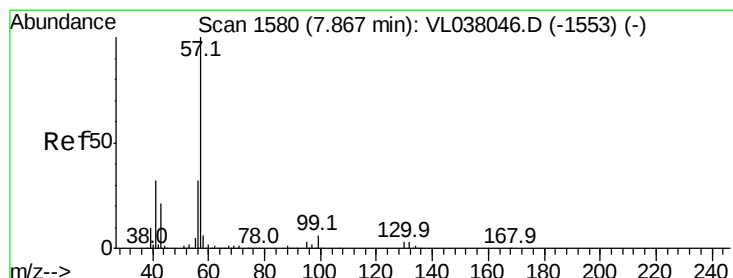
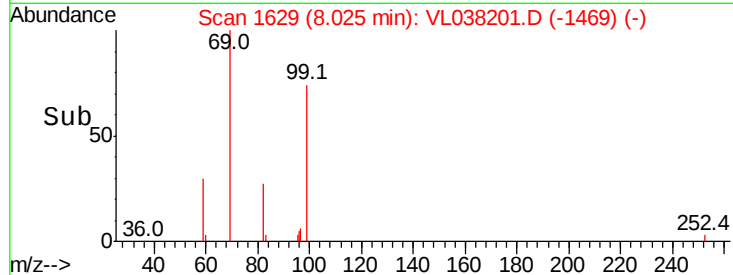
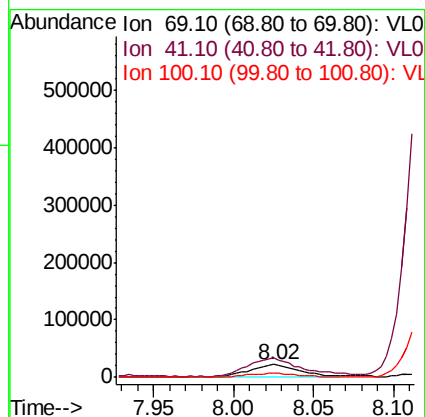
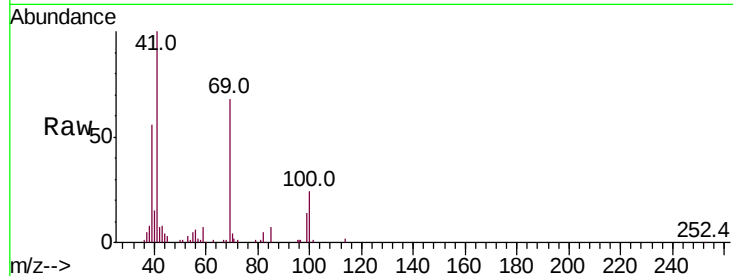
Tgt Ion	Ratio	Lower	Upper
83	100		
85	0.9	51.9	77.9#
127	0.0	6.8	10.2#





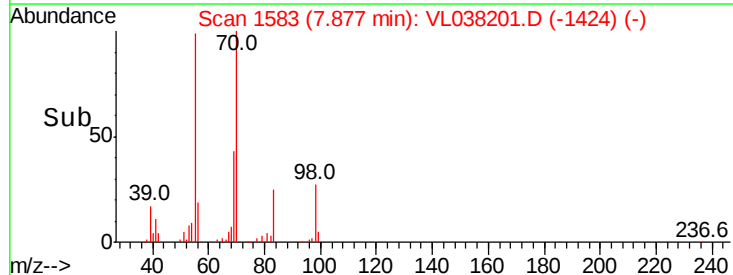
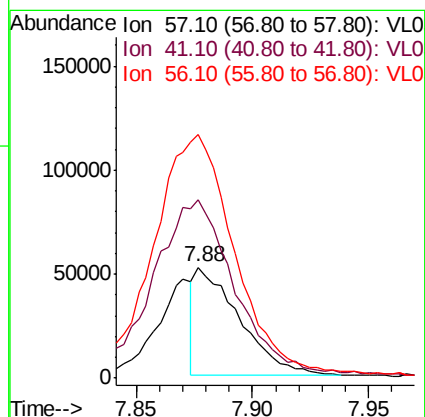
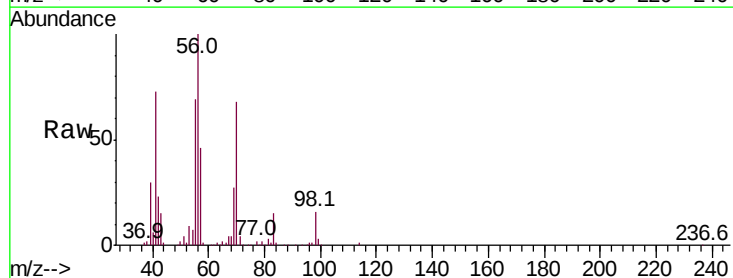
#43
Methvl Methacrilate
Concen: 0.468 ppbv
RT: 8.02 Instrument : MSVOA_1
Delta R.T. ClientSampleId :
Lab File:
Acq: 16 Dec 2021 22:54

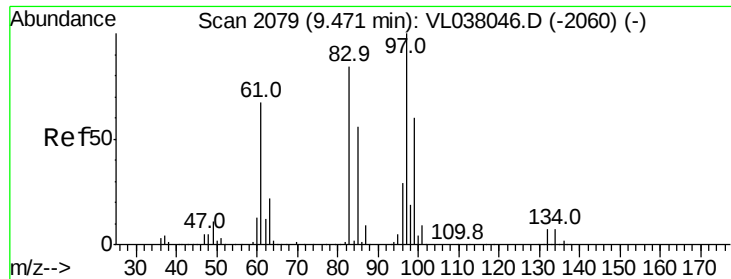
Tot Ion	69	Resp	47648
Ion Ratio	Lower	Upper	
69	100		
41	0.0	116.7	175.1#
100	0.0	27.3	40.9#



#44
2,2,4-Trimethylpentane
Concen: 0.138 ppbv
RT: 7.88 min Scan# 1583
Delta R.T. 0.01 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

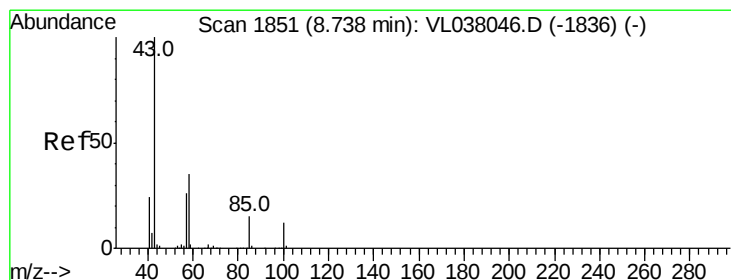
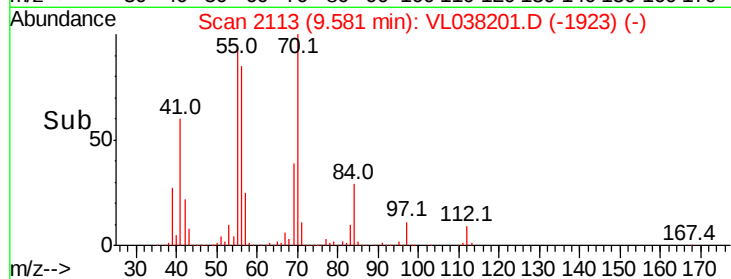
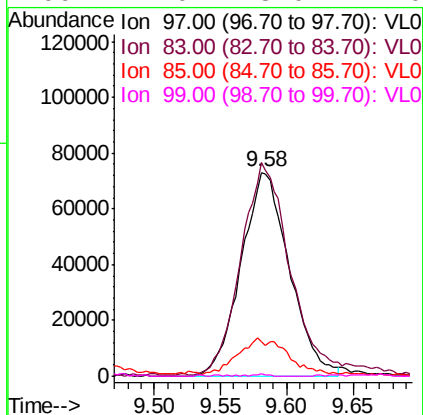
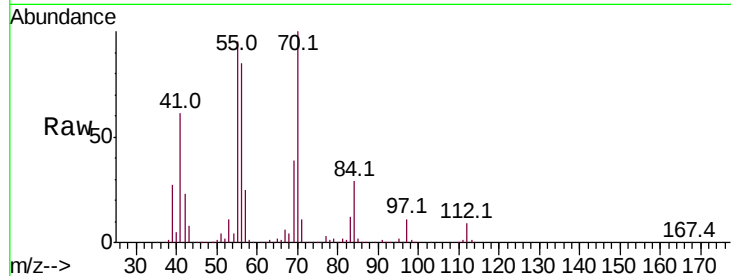
Tgt Ion	57	Resp	68738
Ion Ratio	Lower	Upper	
57	100		
41	291.7	25.8	38.6#
56	402.4	25.6	38.4#





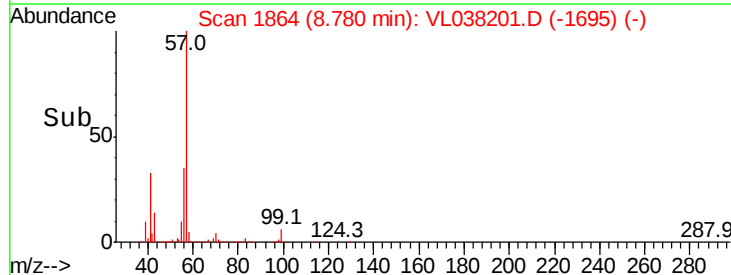
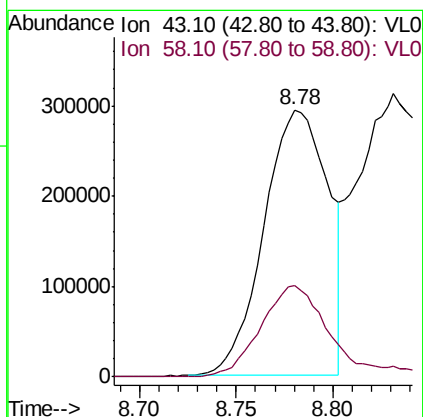
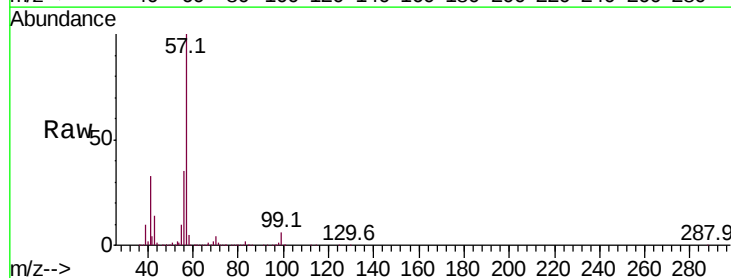
#47
 1,1,2-Trichloroethane
 Concen: 1.548 ppbv
 RT: 9.58
 Instrument: MSVOA_1
 Delta R.T.:
 Lab File: ClientSampleId:
 Acq: 16 Dec 2021 22:54

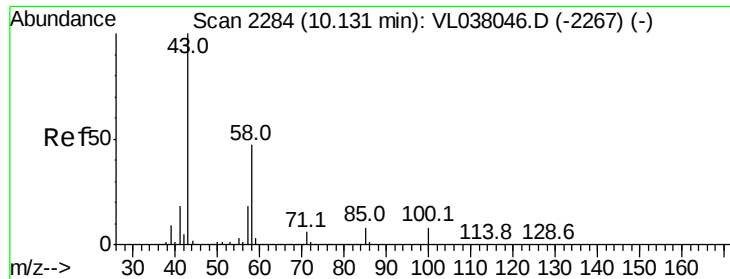
Tot Ion: 97 Resp: 185317
 Ion Ratio Lower Upper
 97 100
 83 103.9 66.8 100.2#
 85 15.4 44.9 67.3#
 99 1.0 48.0 72.0#



#50
 4-Methyl-2-Pentanone
 Concen: 3.719 ppbv
 RT: 8.78 min Scan# 1864
 Delta R.T.: 0.04 min
 Lab File: VL038201.D
 Acq: 16 Dec 2021 22:54

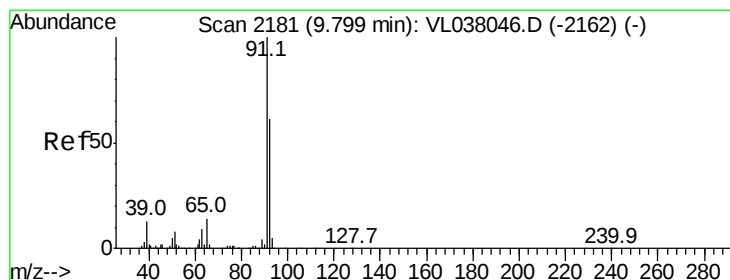
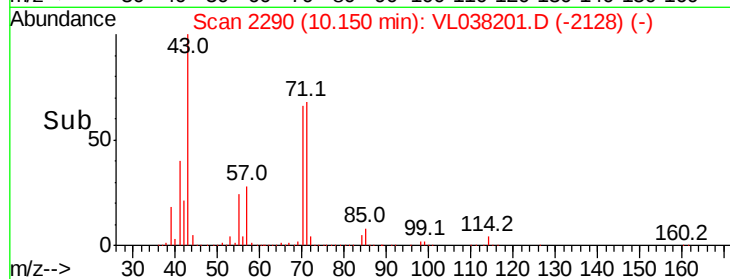
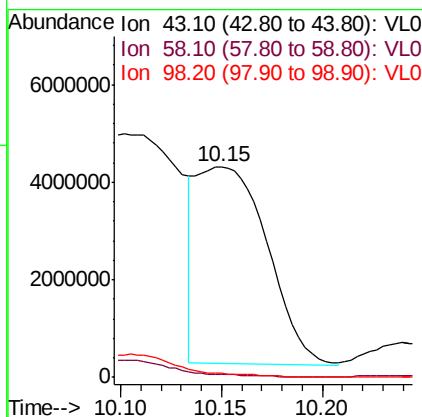
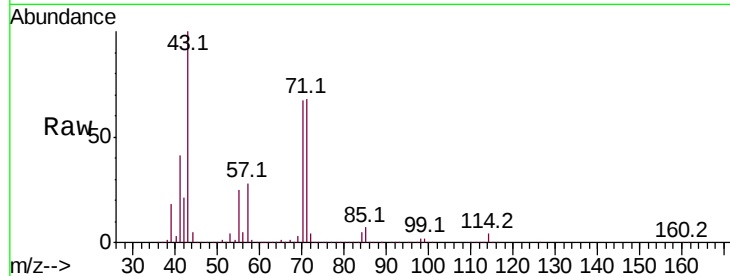
Tgt Ion: 43 Resp: 680205
 Ion Ratio Lower Upper
 43 100
 58 37.6 29.4 44.2





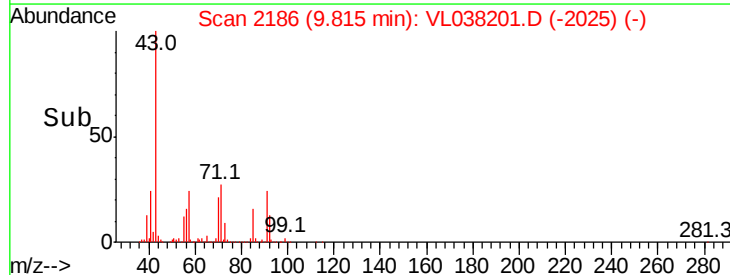
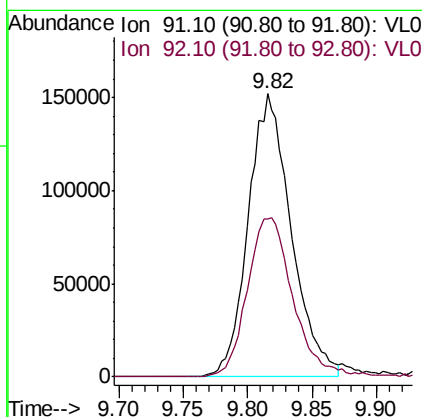
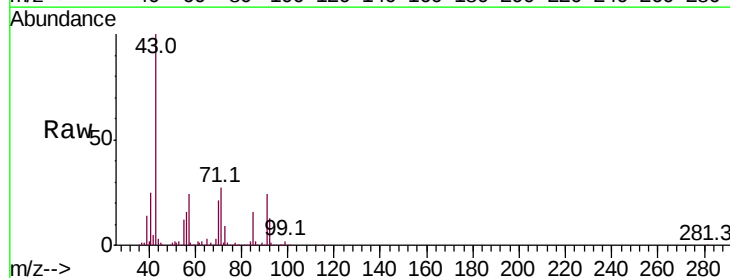
#51
2-Hexanone
Concen: 114.212 ppbv
RT: 10.15
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId :
Acq: 16 Dec 2021 22:54

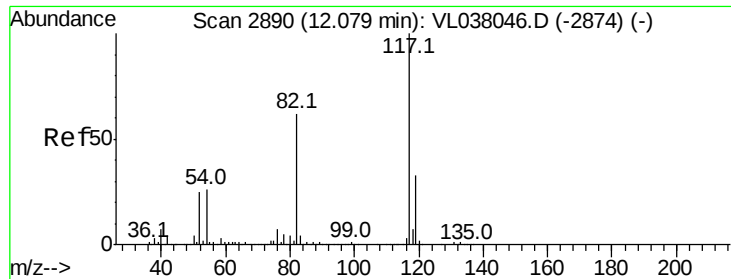
Tot Ion: 43 Resp: 9826624
Ion Ratio Lower Upper
43 100
58 0.0 41.1 61.7#
98 0.0 0.1 0.1#



#53
Toluene
Concen: 1.031 ppbv
RT: 9.82 min Scan# 2186
Delta R.T.: 0.02 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

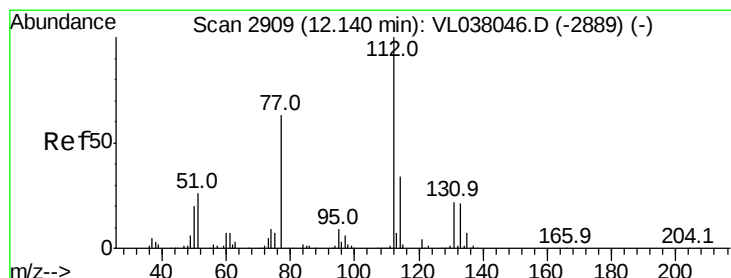
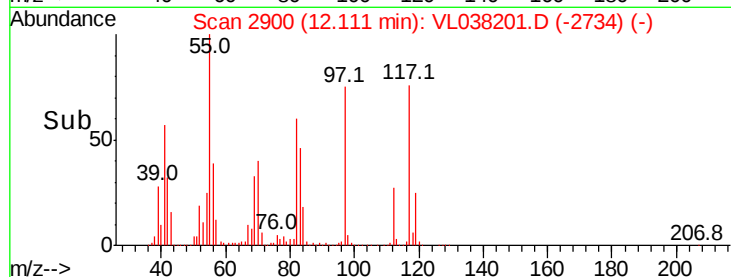
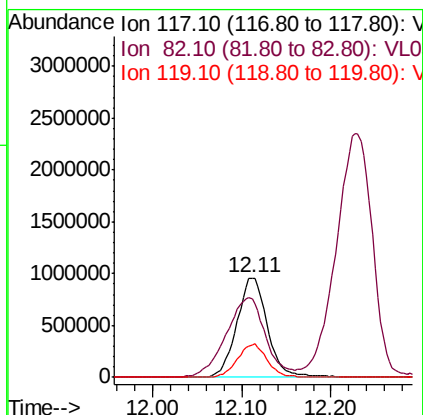
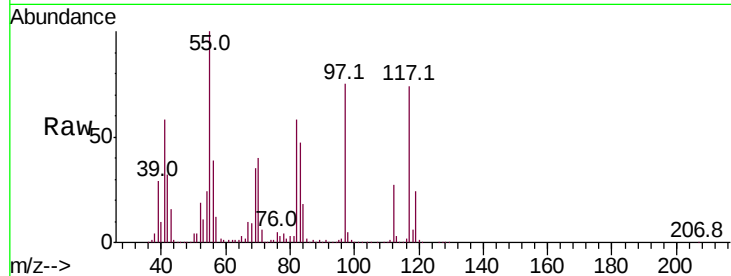
Tgt Ion: 91 Resp: 353245
Ion Ratio Lower Upper
91 100
92 60.0 49.7 74.5





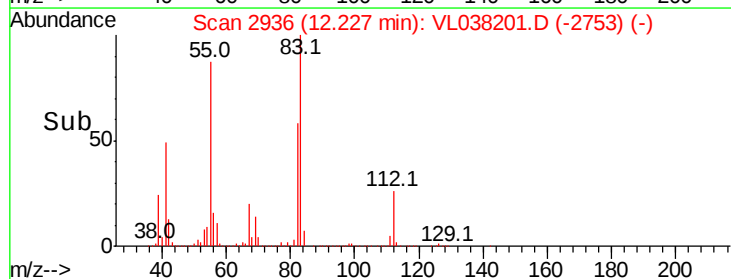
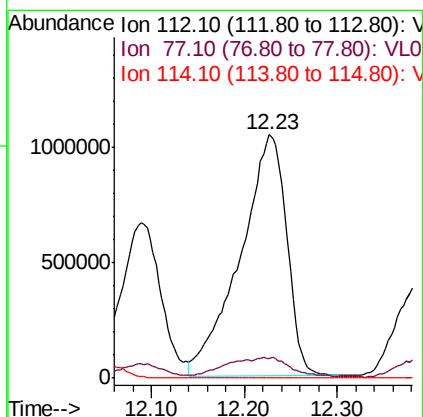
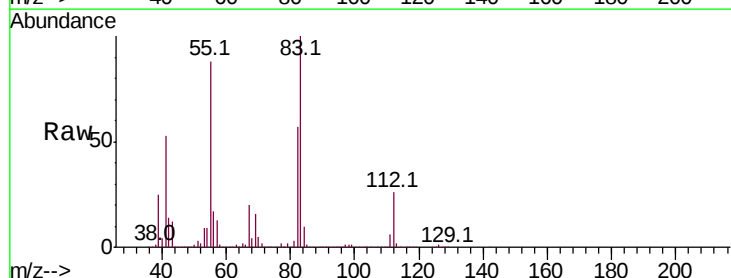
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.11 min
Instrument: MSVOA_1
Delta R.T.:
Lab File: ClientSampleId:
Acq: 16 Dec 2021 22:54

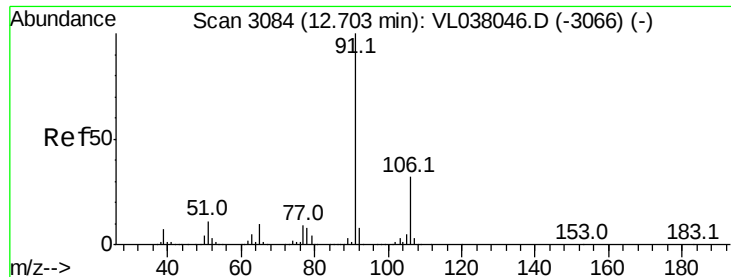
Tot Ion:117 Resp: 2284196
Ion Ratio Lower Upper
117 100
82 104.9 52.8 79.2#
119 33.2 26.8 40.2



#57
Chlorobenzene
Concen: 17.800 ppbv
RT: 12.23 min Scan# 2936
Delta R.T. 0.09 min
Lab File: VL038201.D
Acq: 16 Dec 2021 22:54

Tgt Ion:112 Resp: 3644174
Ion Ratio Lower Upper
112 100
77 7.5 50.3 75.5#
114 0.4 30.7 37.5#





#58

Ethyl Benzene

Concen: 31.078 ppbv

RT: 12.74

Delta R.T. MSVOA_L

Lab File:

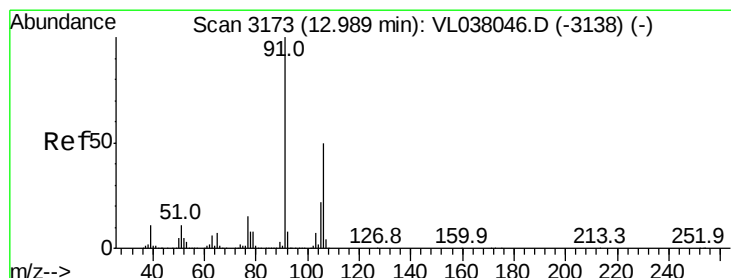
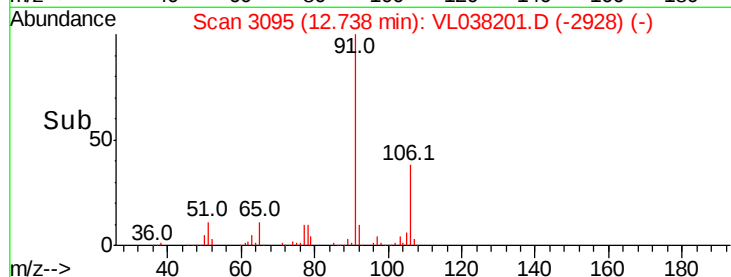
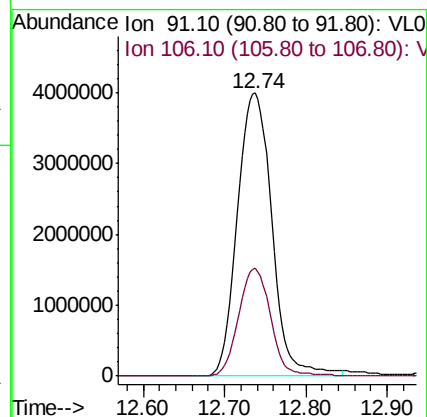
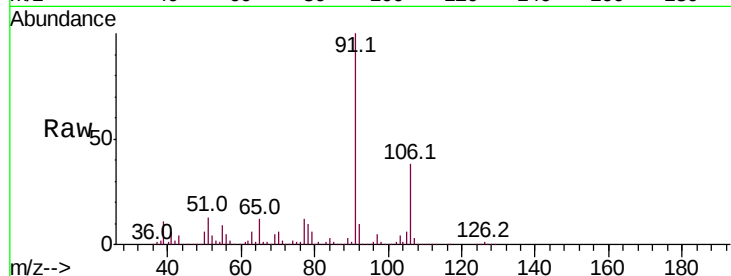
Acq: 16 Dec 2021 22:54

Tot Ion: 91 Resp:11732910

Ion Ratio Lower Upper

91 100

106 38.1 25.8 38.6



#59

m/p-Xylene

Concen: 38.119 ppbv

RT: 12.99 min Scan# 3174

Delta R.T. 0.00 min

Lab File: VL038201.D

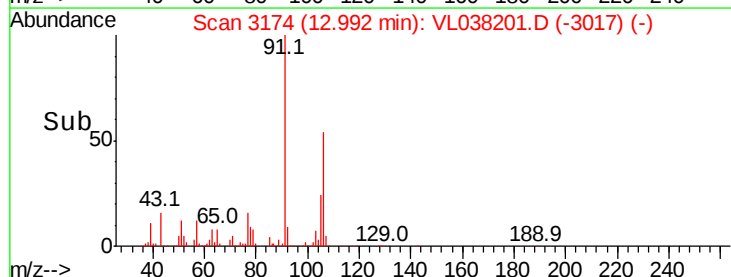
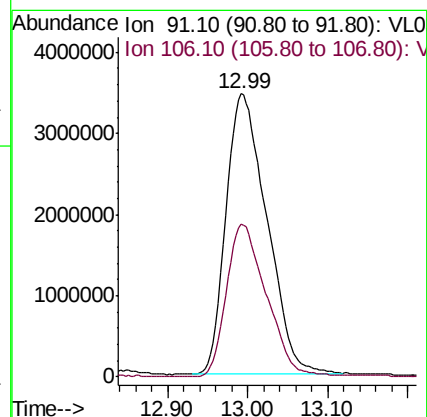
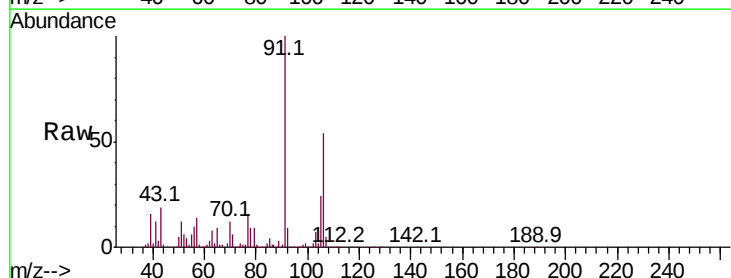
Acq: 16 Dec 2021 22:54

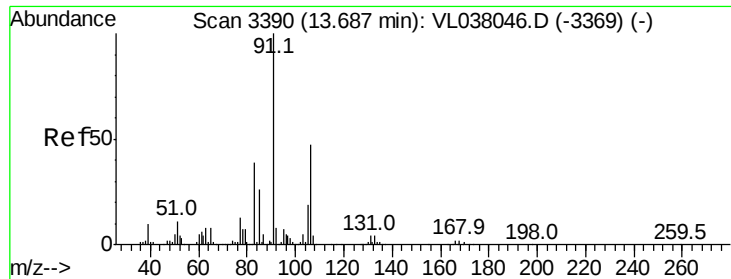
Tgt Ion: 91 Resp:12114616

Ion Ratio Lower Upper

91 100

106 53.5 38.1 57.1





#60

o-Xylene

Concen: 10.581 ppbv

RT: 13.72

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

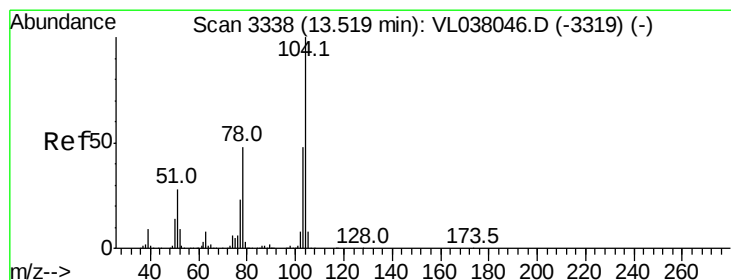
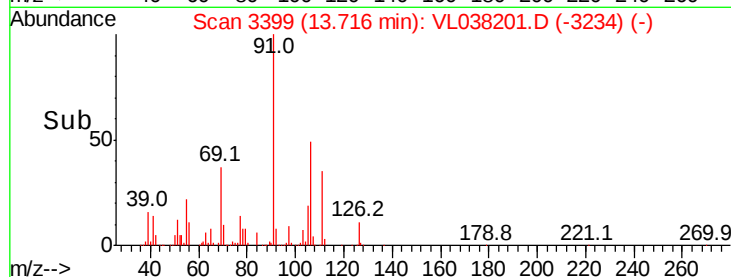
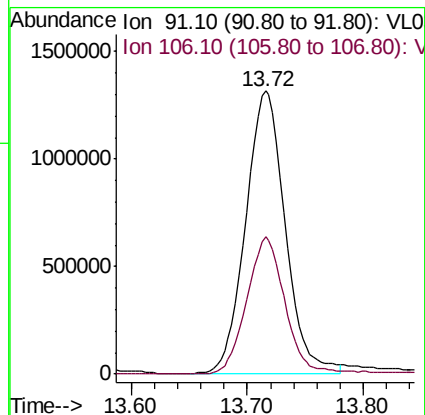
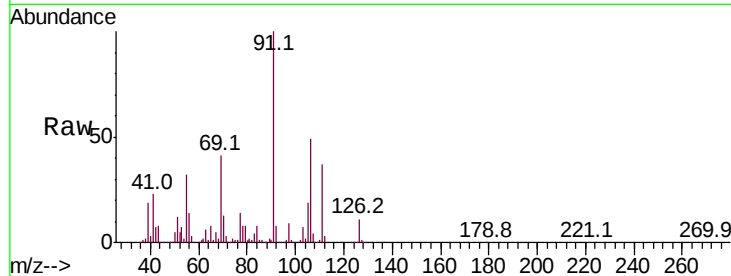
Acq: 16 Dec 2021 22:54

Tot Ion: 91 Resp: 3119369

Ion Ratio Lower Upper

91 100

106 48.3 24.2 72.6



#61

Styrene

Concen: 0.429 ppbv

RT: 13.72 min Scan# 3399

Delta R.T. 0.20 min

Lab File: VL038201.D

Acq: 16 Dec 2021 22:54

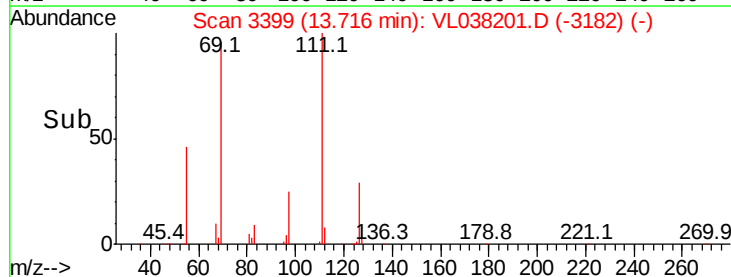
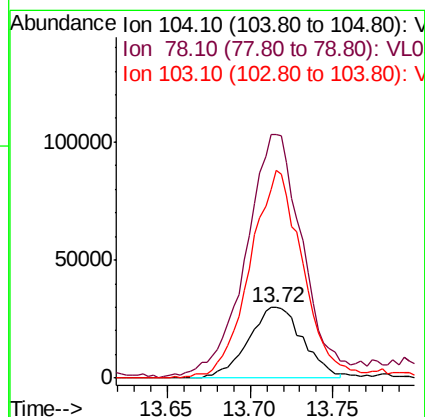
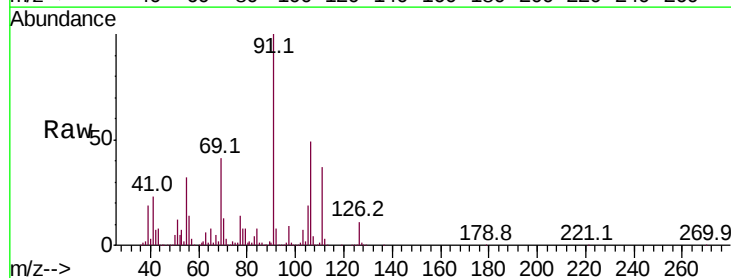
Tgt Ion:104 Resp: 67817

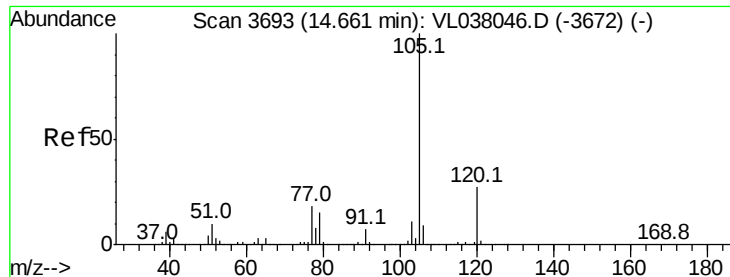
Ion Ratio Lower Upper

104 100

78 361.6 39.8 59.6#

103 304.0 38.2 57.2#





#62

Isopropylbenzene

Concen: 0.111 ppbv

RT: 14.68

Delta R.T. MSVOA_L

Lab File:

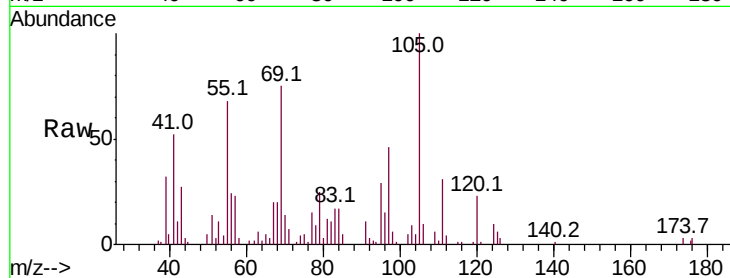
Acq: 16 Dec 2021 22:54

Tot Ion: 105 Resp: 46658

Ion Ratio Lower Upper

105 100

120 27.3 21.8 32.6



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

25000

20000

15000

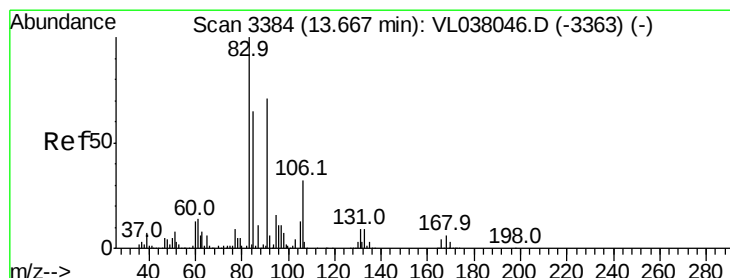
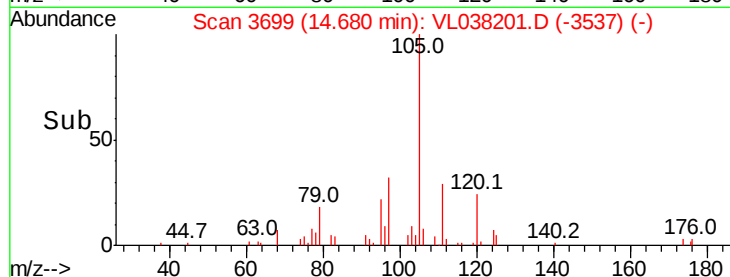
10000

5000

0

14.60 14.65 14.70 14.75

Time-->



#63

1,1,2,2-Tetrachloroethane

Concen: 1.339 ppbv

RT: 13.69 min Scan# 3391

Delta R.T. 0.02 min

Lab File: VL038201.D

Acq: 16 Dec 2021 22:54

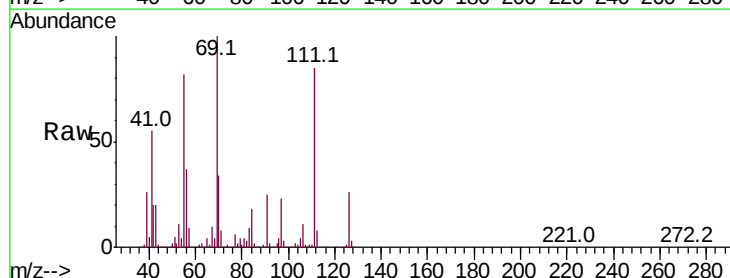
Tgt Ion: 83 Resp: 293167

Ion Ratio Lower Upper

83 100

131 0.0 4.9 14.7#

85 27.3 33.4 100.1#



Abundance Ion 83.00 (82.70 to 83.70): VL0

Ion 131.00 (130.70 to 131.70): V

Ion 85.00 (84.70 to 85.70): VL0

250000

200000

150000

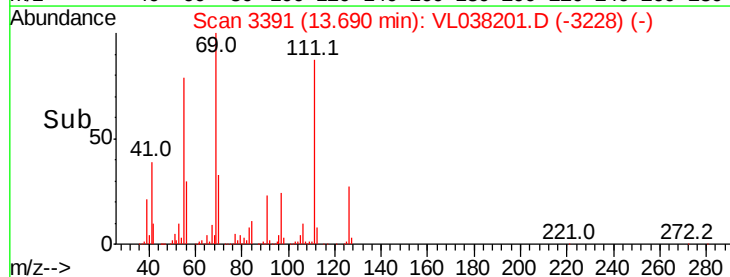
100000

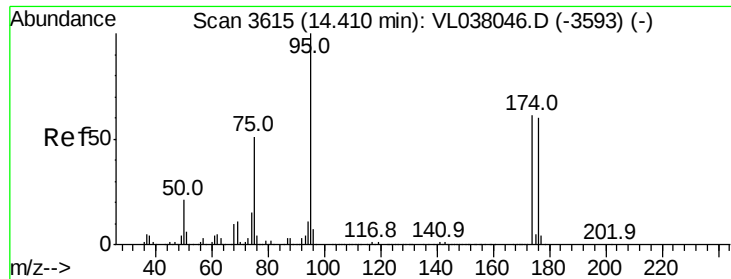
50000

0

13.60 13.65 13.70 13.75

Time-->





#68

1-Bromo-4-Fluorobenzene

Concen: 15.241 ppbv

RT: 14.43

Delta R.T. MSVOA_L

Lab File: ClientSampleId :

Acq: 16 Dec 2021 22:34

Tot Ion: 95 Resp: 2511106

Ion Ratio Lower Upper

95 100

174 52.5 53.1 79.7#

175 4.0 4.0 6.0#

