

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL050621\
 Data File : VL036902.D
 Acq On : 6 May 2021 14:13
 Operator : SY/AP
 Sample : M2262-13 0.1
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 LOD-MDL-AIR-01-QT2-2021

Quant Time: May 07 08:10:59 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL042721AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LTue Apr 27 16:56:35 2021
 QLast Update : Tue Apr 27 16:56:35 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	1436531	10.00	ppbv	0.01
33) 1,4-Difluorobenzene	7.18	114	3337930	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.09	117	2858838	10.00	ppbv	0.00

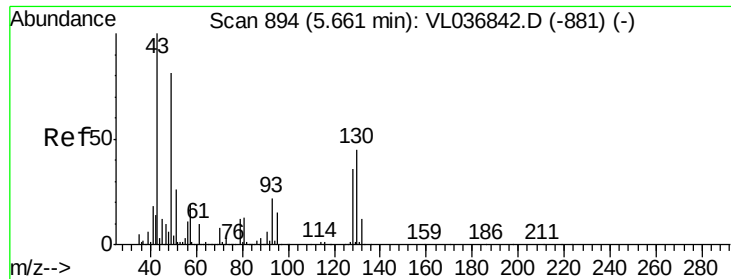
System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.42	95	2329981	10.15	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	101.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.05	85	38841	0.172	ppbv	90
3) Chlorodifluoromethane	2.99	51	33533	0.128	ppbv	98
4) Chloromethane	3.14	50	6701	0.078	ppbv	93
5) Vinyl Chloride	3.26	62	6070	0.070	ppbv #	67
6) Bromomethane	3.48	94	5633	0.121	ppbv #	60
7) Chloroethane	3.56	64	1426	0.050	ppbv	96
8) Dichlorotetrafluoroethane	3.19	85	27849	0.135	ppbv	99
9) Propene	3.02	41	5274	0.066	ppbv #	15
11) Trichlorofluoromethane	3.95	101	13971	0.069	ppbv	98
12) 1,1,2-Trichlorotrifluoroet	4.49	101	6897	0.051	ppbv #	1
14) Bromoethene	3.74	108	1998	0.036	ppbv #	5
18) 1,1-Dichloroethene	4.29	96	3292	0.056	ppbv #	73
20) Methylene Chloride	4.35	84	13068	0.202	ppbv #	76
22) trans-1,2-Dichloroethene	4.90	96	3267	0.055	ppbv #	64
24) 1,1-Dichloroethane	5.02	63	10293	0.079	ppbv #	95
25) Ethyl Acetate	5.69	43	11460	0.035	ppbv #	76
26) Hexane	5.69	57	8035	0.052	ppbv #	1
29) Chloroform	5.76	83	11811	0.049	ppbv	95
36) Benzene	6.89	78	9750	0.035	ppbv #	91
37) 1,2-Dichloroethane	6.32	62	10278	0.065	ppbv #	82
39) 1,2-Dichloropropane	7.18	63	883575	7.842	ppbv #	23
47) 1,1,2-Trichloroethane	9.49	97	4980	0.043	ppbv #	49
48) Dibromochloromethane	10.31	129	10770	0.062	ppbv #	48
53) Toluene	9.81	91	13889	0.047	ppbv	93
54) 1,2-Dibromoethane	10.63	107	5412	0.033	ppbv	87
56) 1,1,1,2-Tetrachloroethane	12.13	131	7860	0.066	ppbv #	1
57) Chlorobenzene	12.15	112	26553	0.119	ppbv #	47
60) o-Xylene	13.70	91	14088	0.045	ppbv	68
78) Hexachloro-1,3-Butadiene	23.39	225	5630	0.033	ppbv #	1

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

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ALS Vial : 1 Sample Multiplier: 1



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

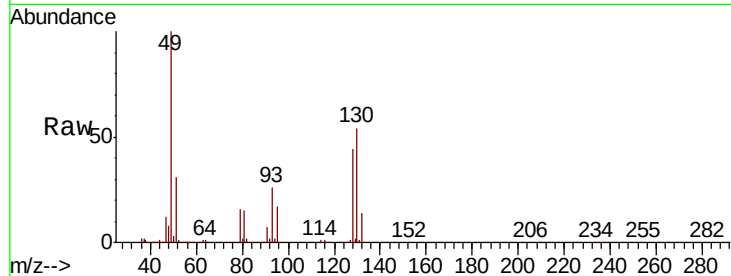
Tot Ion: 49 Resp: 1436531

Ion Ratio Lower Upper

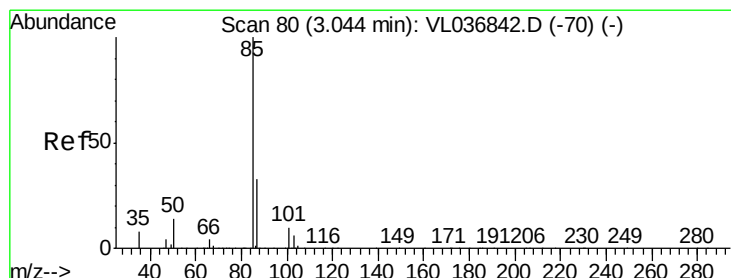
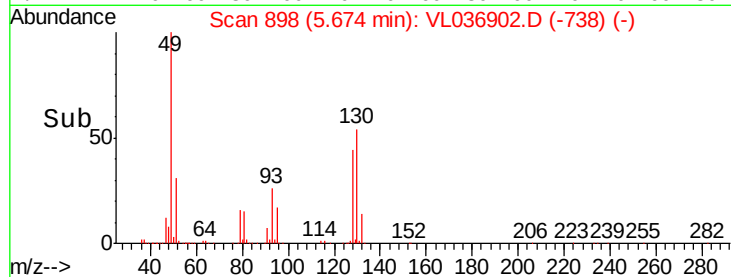
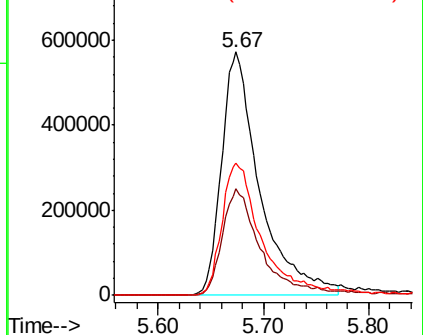
49 100

128 45.9 24.4 73.2

130 58.3 30.3 90.8



Abundance Ion 49.10 (48.80 to 49.80): VL0
Ion 128.00 (127.70 to 128.70): V
Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.172 ppbv

RT: 3.05 min Scan# 83

Delta R.T. 0.01 min

Lab File: VL036902.D

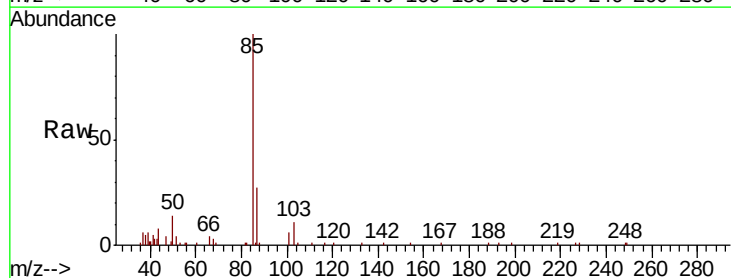
Acq: 6 May 2021 14:13

Tgt Ion: 85 Resp: 38841

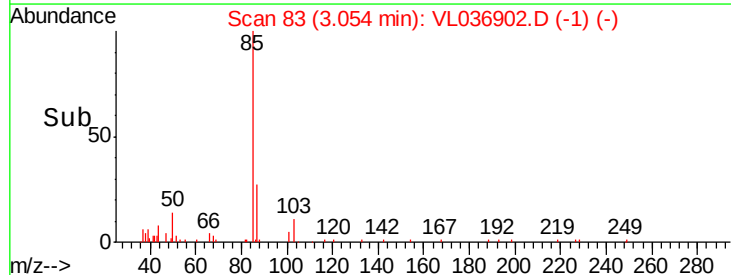
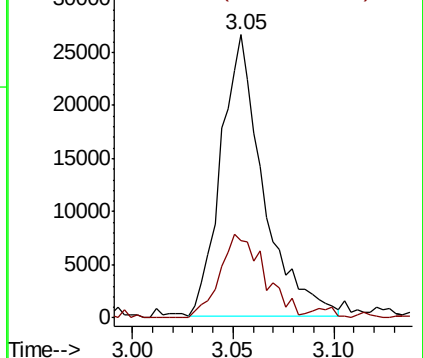
Ion Ratio Lower Upper

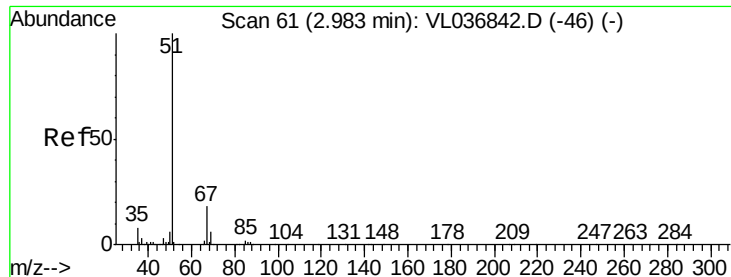
85 100

87 27.3 26.2 39.2



Abundance Ion 85.00 (84.70 to 85.70): VL0
Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.128 ppbv

RT: 2.99 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

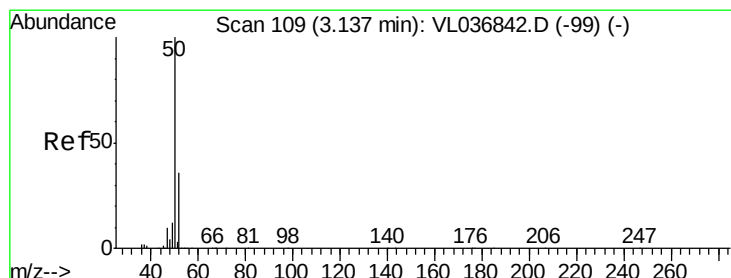
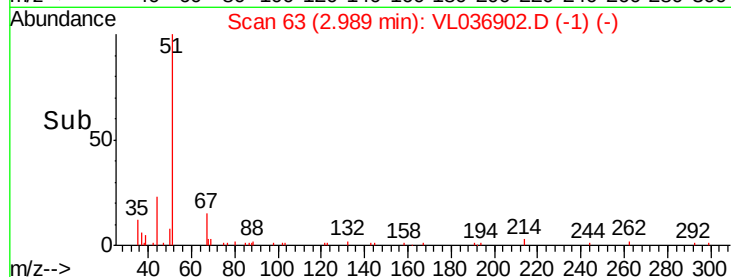
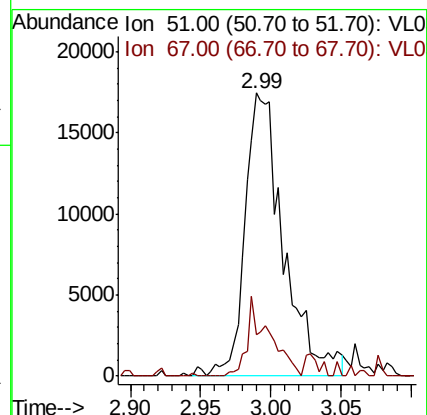
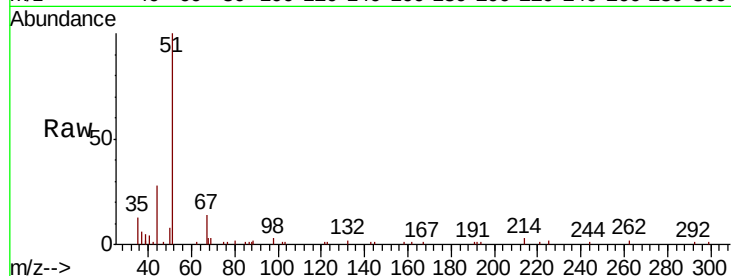
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-OT2-2021

Tot Ion: 51 Resp: 33533

Ion Ratio Lower Upper

51 100

67 19.3 14.8 22.2



#4

Chloromethane

Concen: 0.078 ppbv

RT: 3.14 min Scan# 111

Delta R.T. 0.01 min

Lab File: VL036902.D

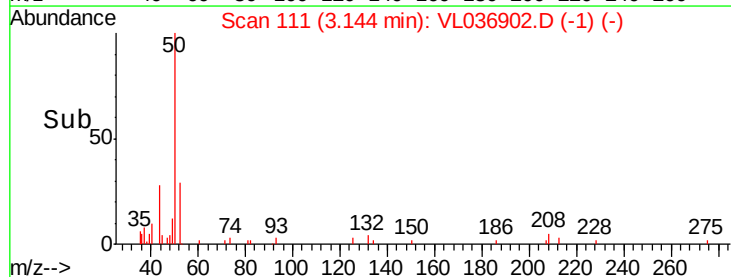
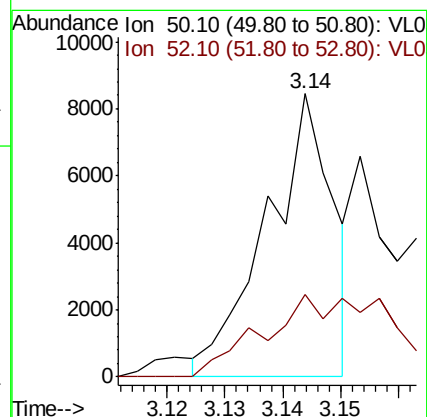
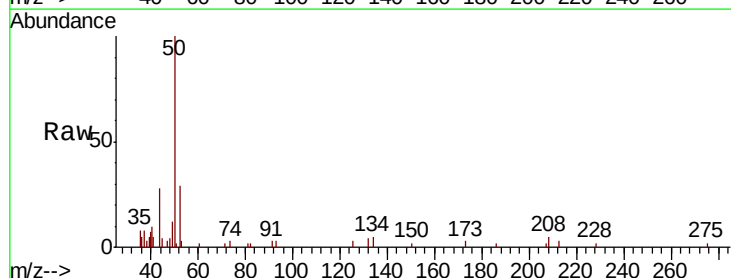
Acq: 6 May 2021 14:13

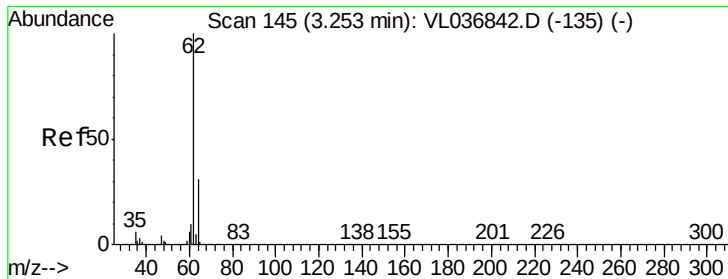
Tgt Ion: 50 Resp: 6701

Ion Ratio Lower Upper

50 100

52 31.3 28.5 42.7





#5

Vinyl Chloride

Concen: 0.070 ppbv

RT: 3.26 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

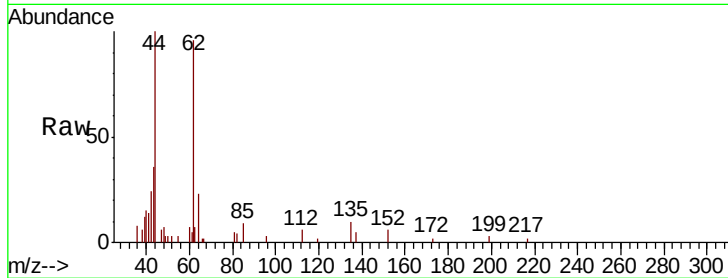
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

Tot Ion: 62 Resp: 6070

Ion Ratio Lower Upper

62 100

64 13.3 25.0 37.4#

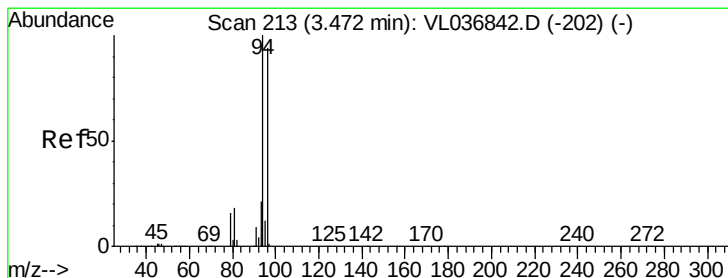
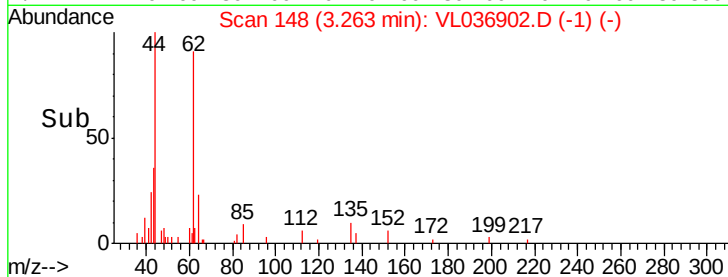


Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0

3.26

Time-->



#6

Bromomethane

Concen: 0.121 ppbv

RT: 3.48 min Scan# 215

Delta R.T. 0.01 min

Lab File: VL036902.D

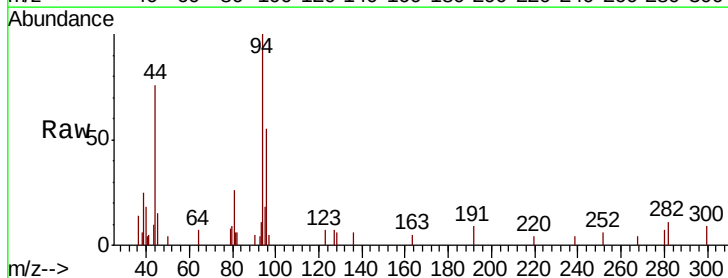
Acq: 6 May 2021 14:13

Tgt Ion: 94 Resp: 5633

Ion Ratio Lower Upper

94 100

96 55.1 75.4 113.0#

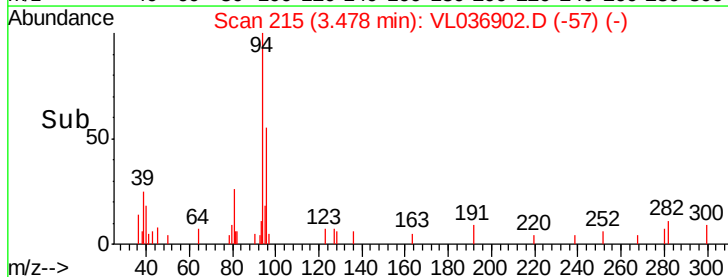


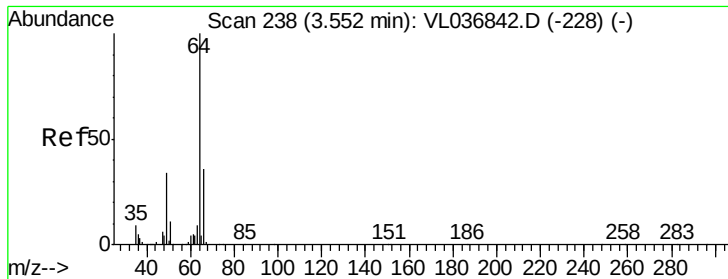
Abundance Ion 94.00 (93.70 to 94.70): VL0

Ion 96.00 (95.70 to 96.70): VL0

3.48

Time-->





#7

Chloroethane

Concen: 0.050 ppbv

RT: 3.56 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

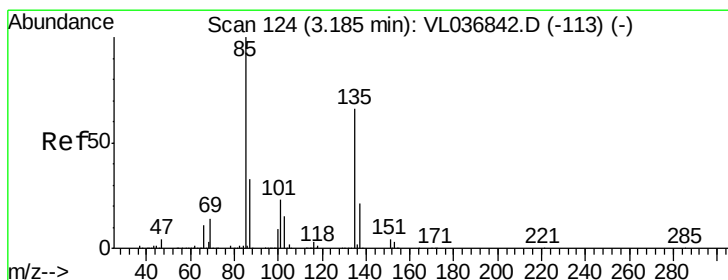
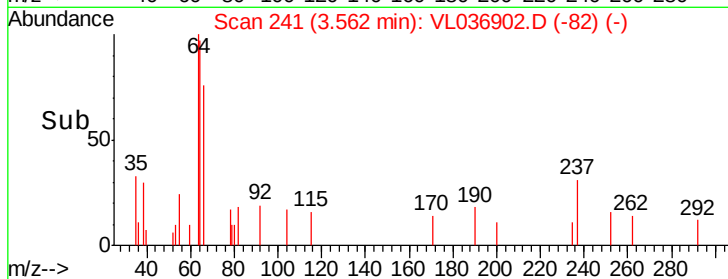
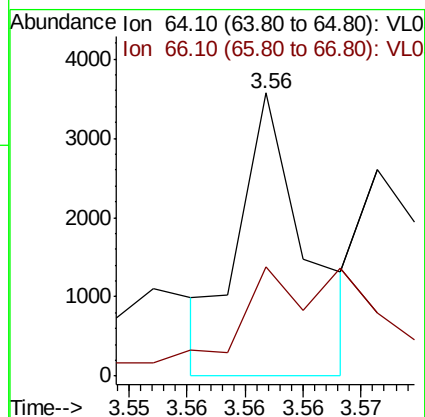
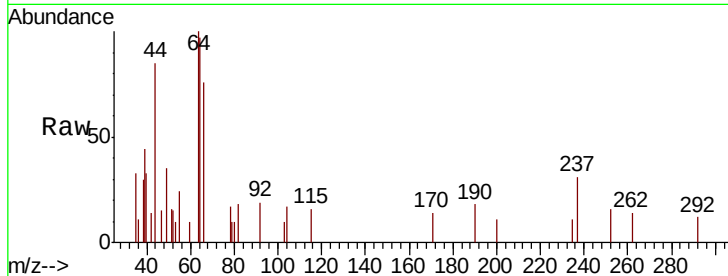
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

Tot Ion: 64 Resp: 1426

Ion Ratio Lower Upper

64 100

66 38.7 29.0 43.6



#8

Dichlorotetrafluoroethane

Concen: 0.135 ppbv

RT: 3.19 min Scan# 126

Delta R.T. 0.01 min

Lab File: VL036902.D

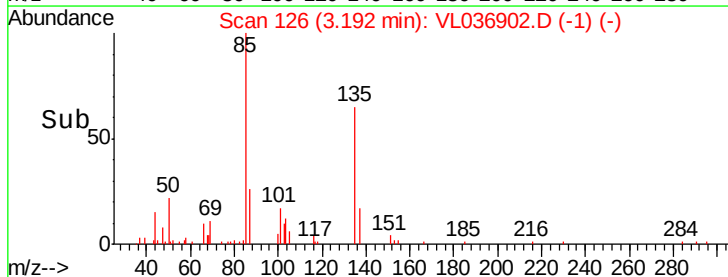
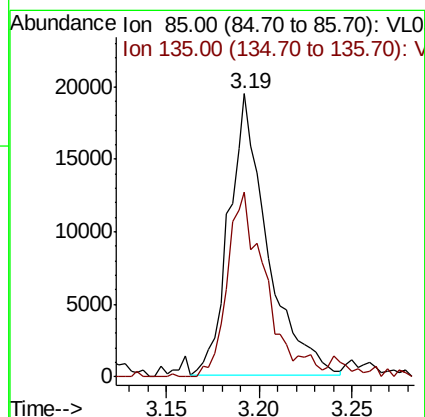
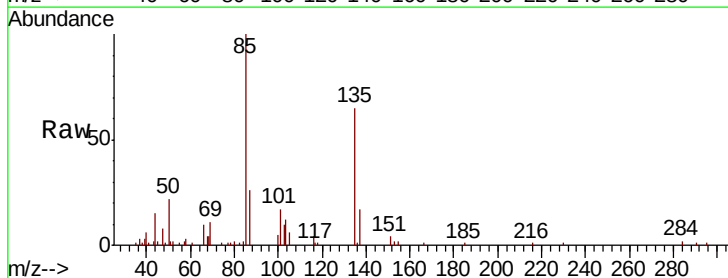
Acq: 6 May 2021 14:13

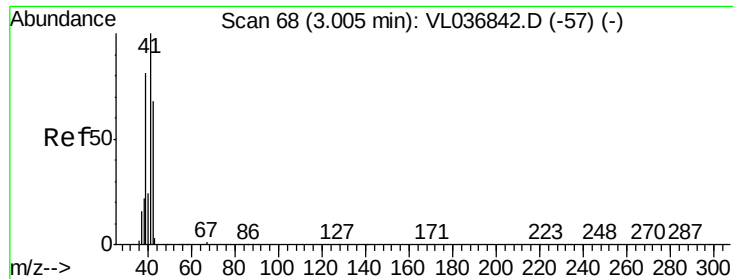
Tgt Ion: 85 Resp: 27849

Ion Ratio Lower Upper

85 100

135 71.2 56.2 84.4





#9

Propene

Concen: 0.066 ppbv

RT: 3.02 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

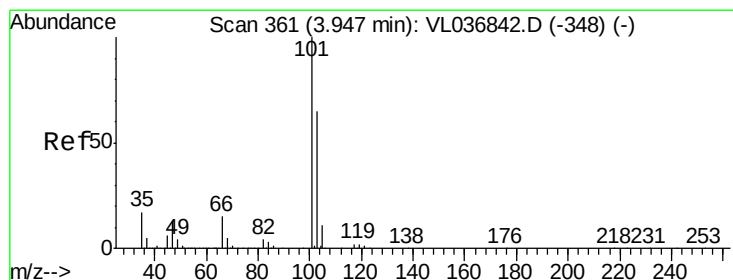
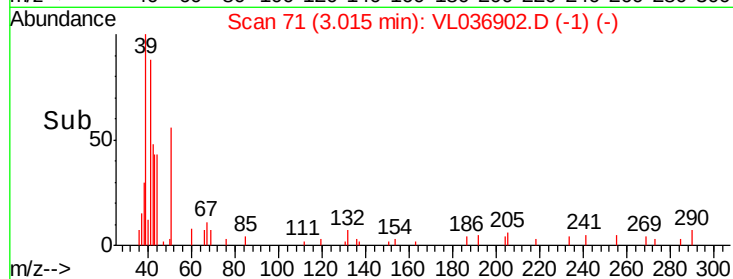
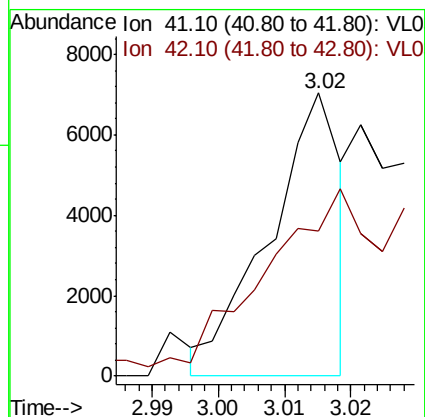
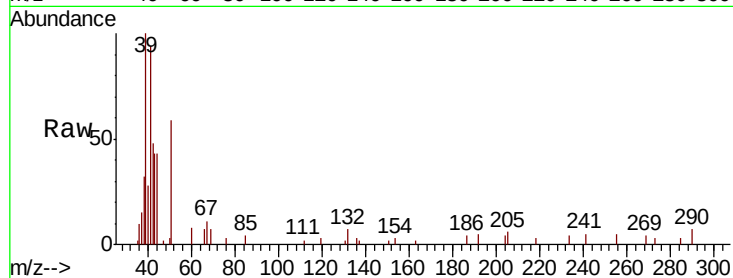
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-OT2-2021

Tot Ion: 41 Resp: 5274

Ion Ratio Lower Upper

41 100

42 0.0 56.0 84.0#



#11

Trichlorofluoromethane

Concen: 0.069 ppbv

RT: 3.95 min Scan# 363

Delta R.T. 0.01 min

Lab File: VL036902.D

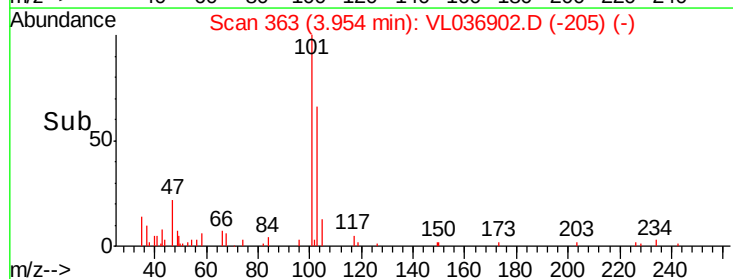
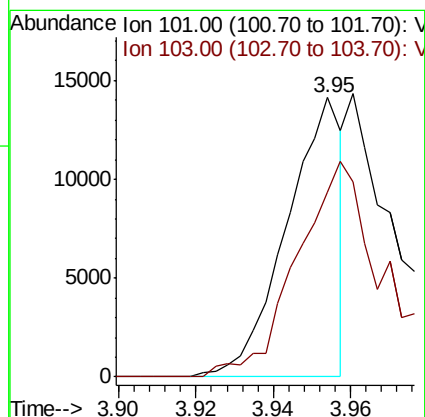
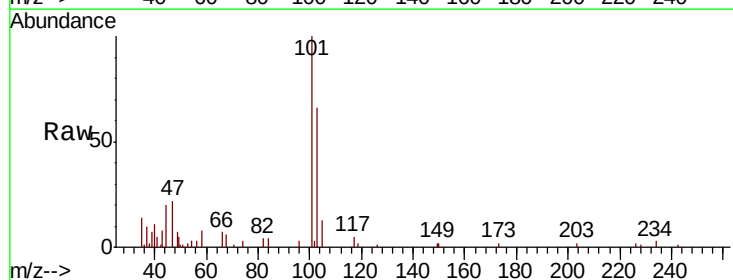
Acq: 6 May 2021 14:13

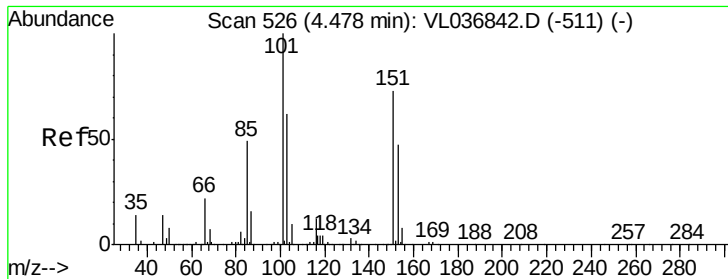
Tgt Ion:101 Resp: 13971

Ion Ratio Lower Upper

101 100

103 66.0 51.6 77.4





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.051 ppbv

RT: 4.49 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

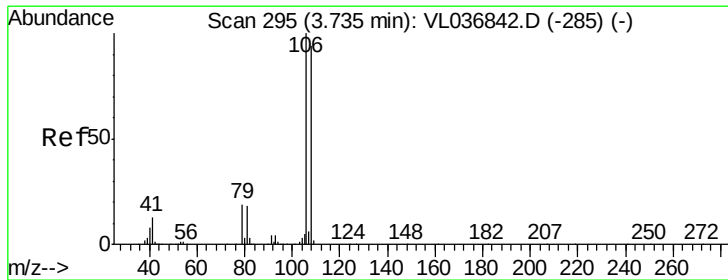
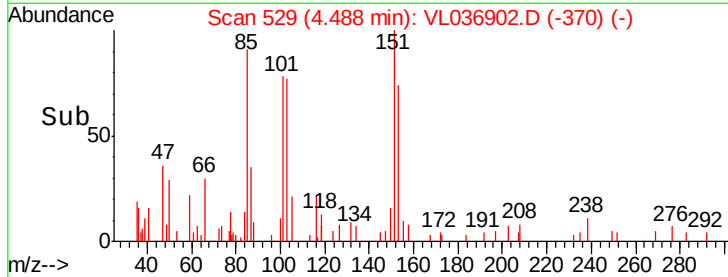
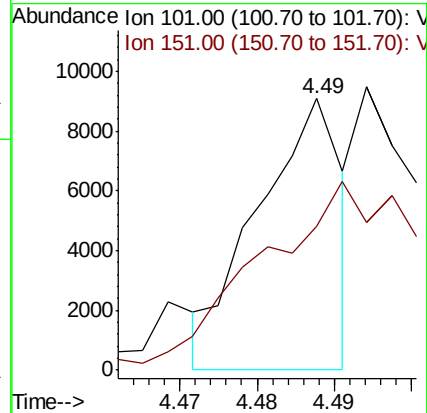
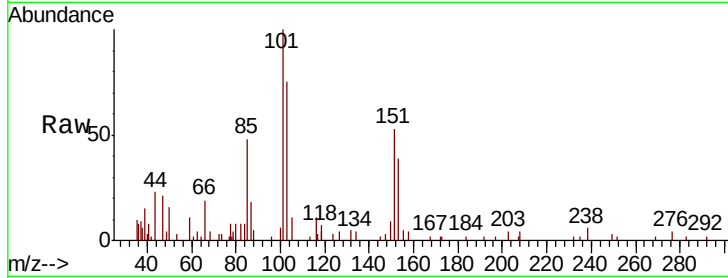
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

Tot Ion:101 Resp: 6897

Ion Ratio Lower Upper

101 100

151 180.4 61.1 91.7#



#14

Bromoethene

Concen: 0.036 ppbv

RT: 3.74 min Scan# 296

Delta R.T. 0.00 min

Lab File: VL036902.D

Acq: 6 May 2021 14:13

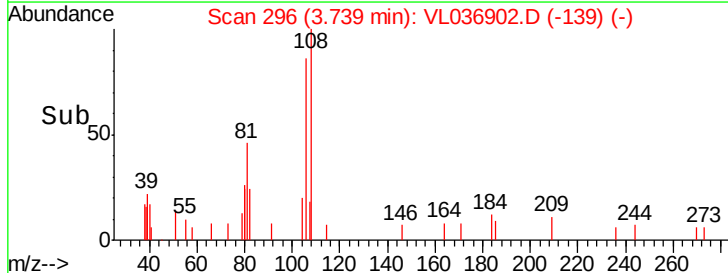
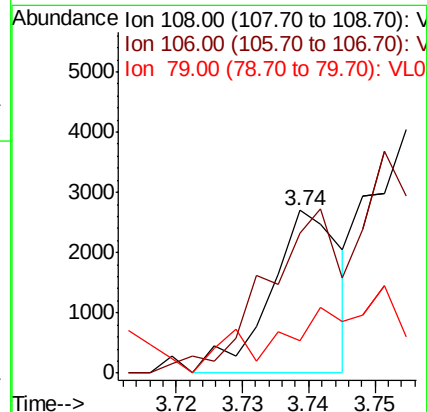
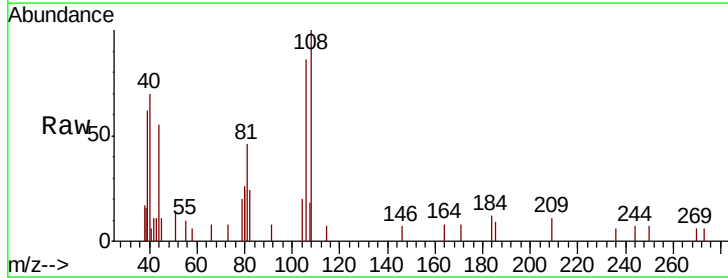
Tgt Ion:108 Resp: 1998

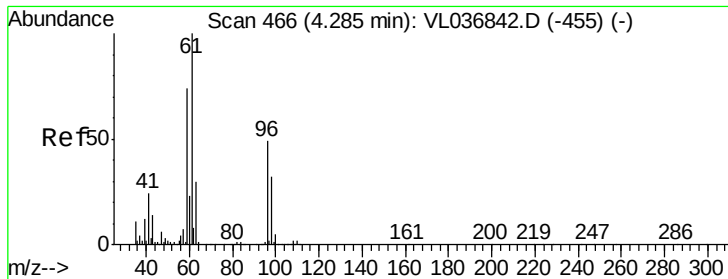
Ion Ratio Lower Upper

108 100

106 0.0 88.5 132.7#

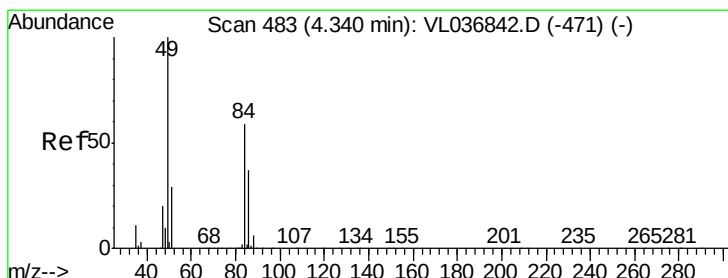
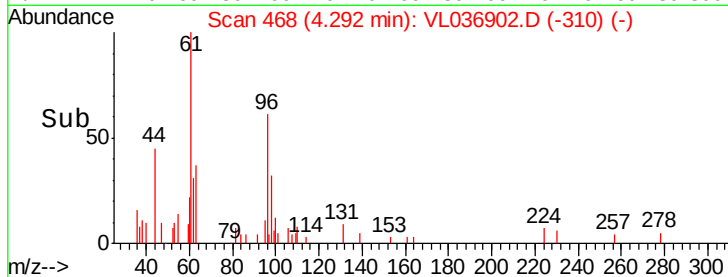
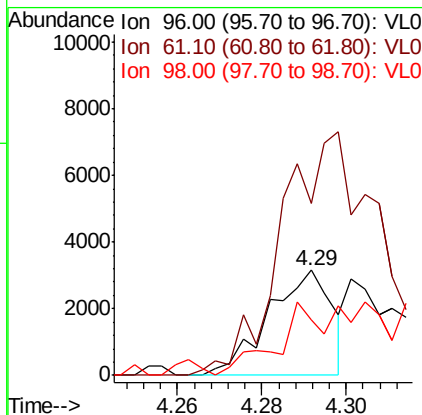
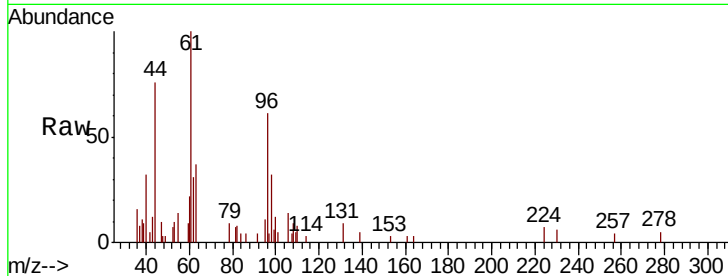
79 0.0 17.9 26.9#





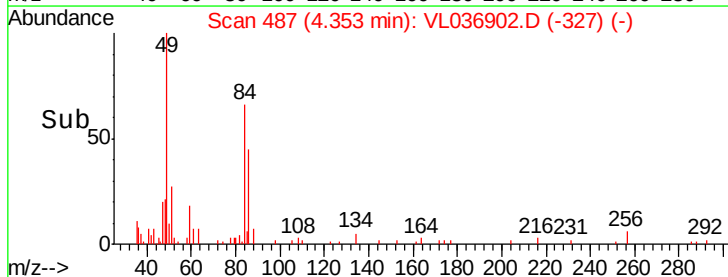
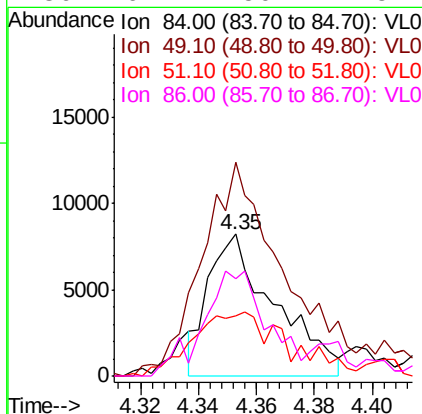
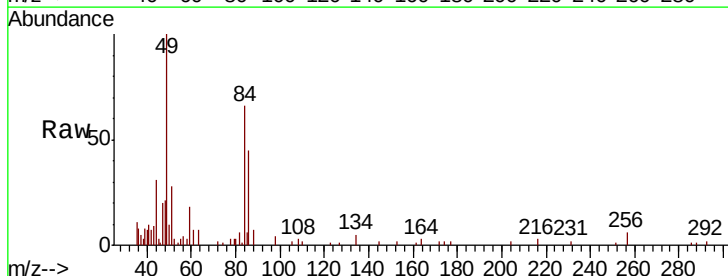
#18
 1,1-Dichloroethene
 Concen: 0.056 ppbv
 RT: 4.29
 Instrument: MSVOA_1
 Delta R.T.
 ClientSampleId:
 Lab File: LOD-MDL-AIR-01-QT2-2021
 Acq: 6 May 2021 14:13

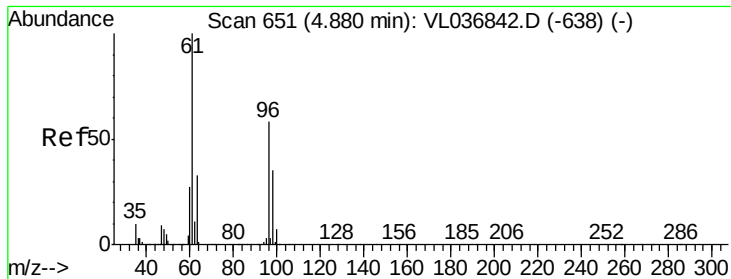
Tot Ion: 96 Resp: 3292
 Ion Ratio Lower Upper
 96 100
 61 163.6 162.2 243.2
 98 38.6 51.8 77.6#



#20
 Methylene Chloride
 Concen: 0.202 ppbv
 RT: 4.35 min Scan# 487
 Delta R.T. 0.01 min
 Lab File: VL036902.D
 Acq: 6 May 2021 14:13

Tgt Ion: 84 Resp: 13068
 Ion Ratio Lower Upper
 84 100
 49 127.6 135.4 203.0#
 51 34.1 39.3 58.9#
 86 67.2 50.2 75.2





#22

trans-1,2-Dichloroethene

Concen: 0.055 ppbv

RT: 4.90 Instrument: MSVOA_1

Delta R.T.

Lab File: ClientSampleId:

Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

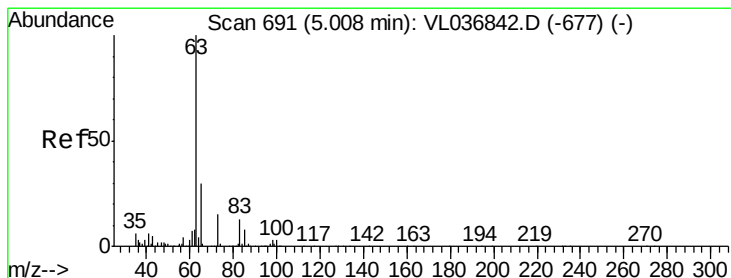
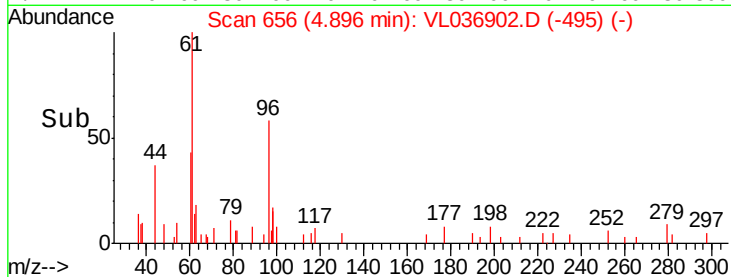
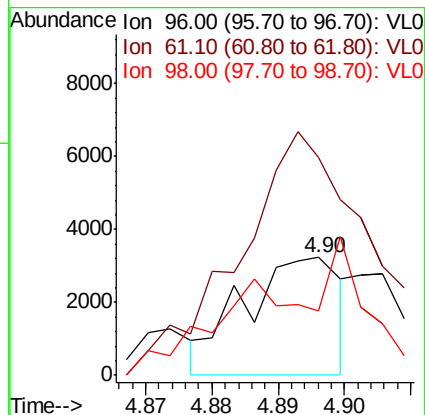
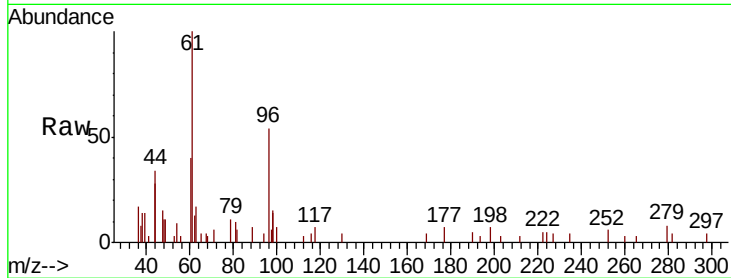
Tot Ion: 96 Resp: 3267

Ion Ratio Lower Upper

96 100

61 214.7 138.6 207.8#

98 19.4 48.1 72.1#



#24

1,1-Dichloroethane

Concen: 0.079 ppbv

RT: 5.02 min Scan# 695

Delta R.T. 0.01 min

Lab File: VL036902.D

Acq: 6 May 2021 14:13

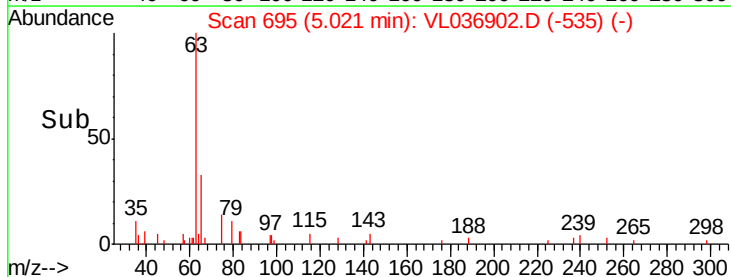
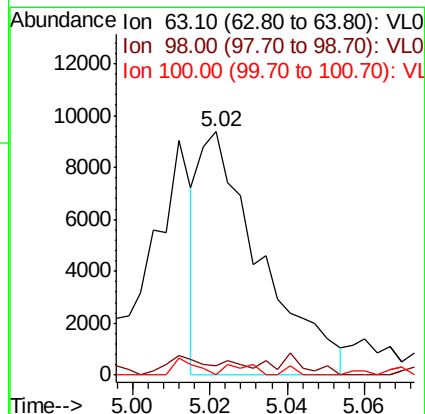
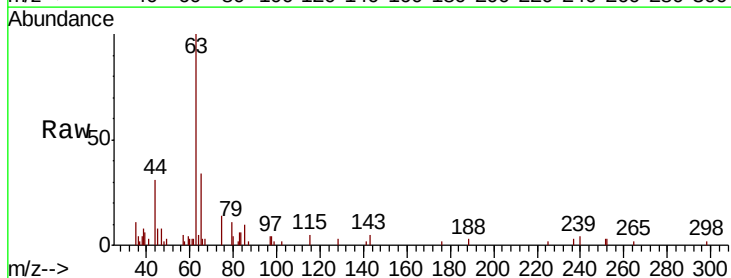
Tgt Ion: 63 Resp: 10293

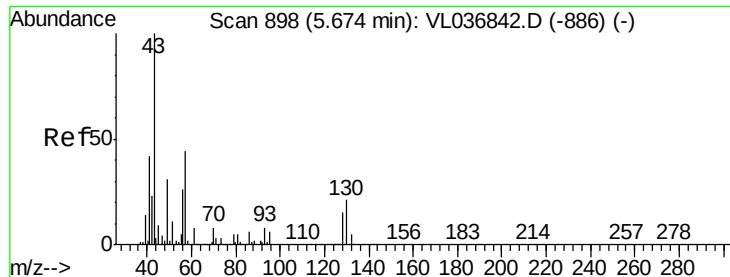
Ion Ratio Lower Upper

63 100

98 4.6 1.7 5.1

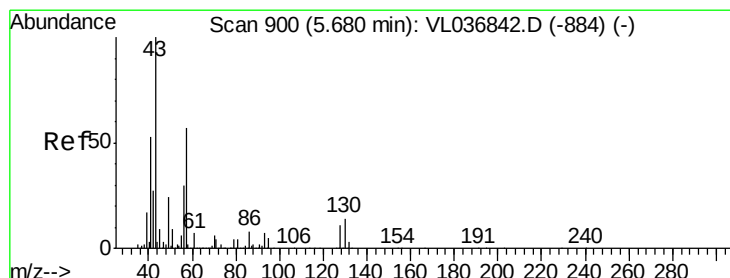
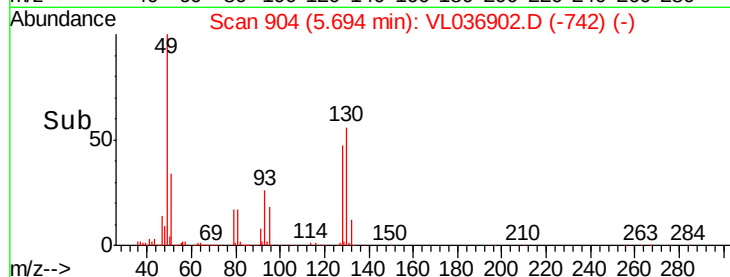
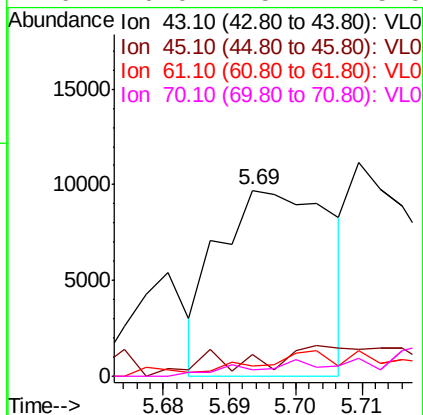
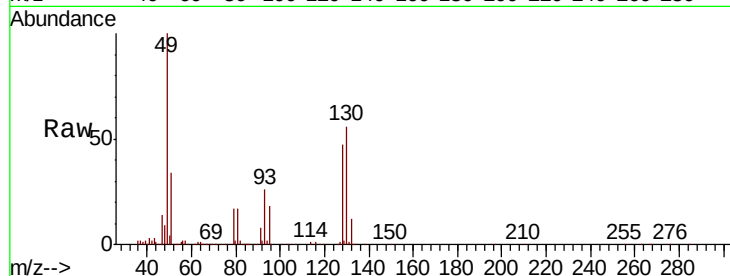
100 0.0 1.3 3.8#





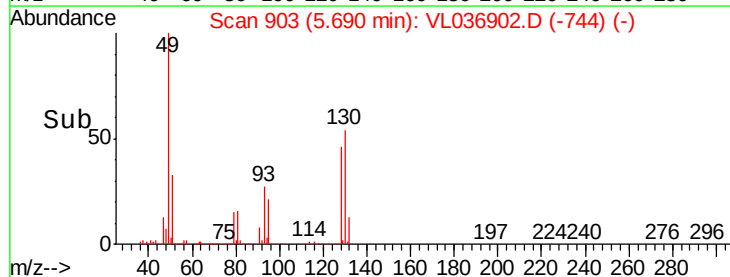
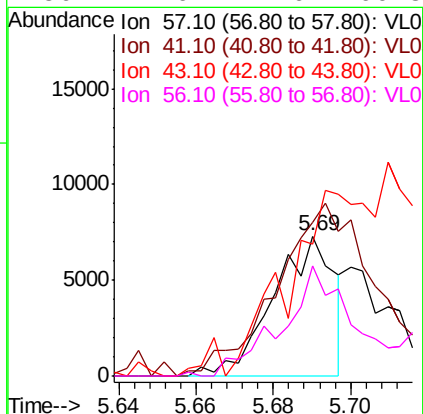
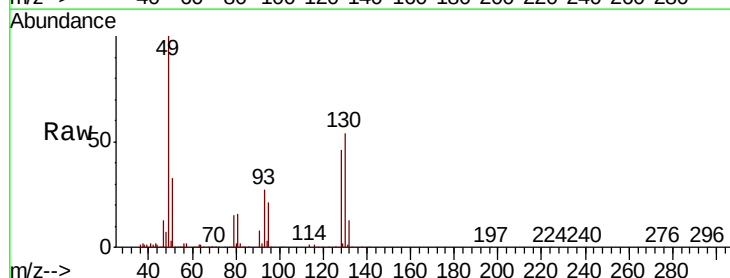
#25
Ethyl Acetate
Concen: 0.035 ppbv
RT: 5.69 min
Delta R.T. MSVOA_L
Lab File: ClientSampleId:
Acq: 6 May 2021 14:13

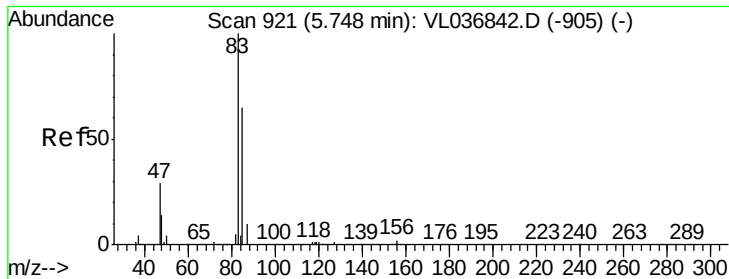
Tot Ion:	43	Resp:	11460
Ion	Ratio	Lower	Upper
43	100		
45	0.0	7.8	11.8#
61	0.0	7.4	11.0#
70	0.0	5.4	8.0#



#26
Hexane
Concen: 0.052 ppbv
RT: 5.69 min Scan# 903
Delta R.T. 0.01 min
Lab File: VL036902.D
Acq: 6 May 2021 14:13

Tgt Ion:	57	Resp:	8035
Ion	Ratio	Lower	Upper
57	100		
41	226.6	77.7	116.5#
43	0.0	180.5	270.7#
56	121.6	44.6	66.8#





#29

Chloroform

Concen: 0.049 ppbv

RT: 5.76 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

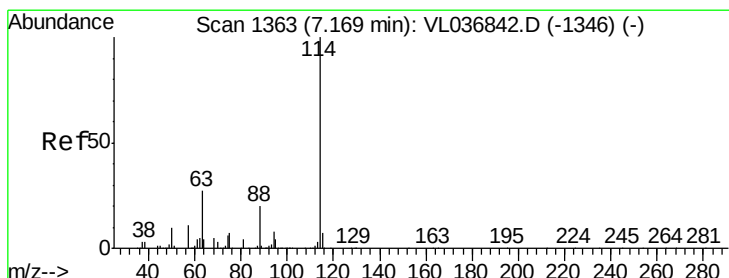
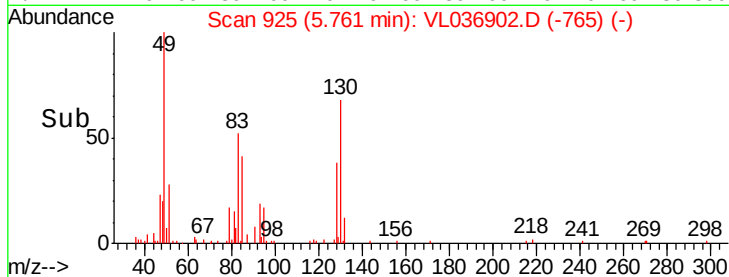
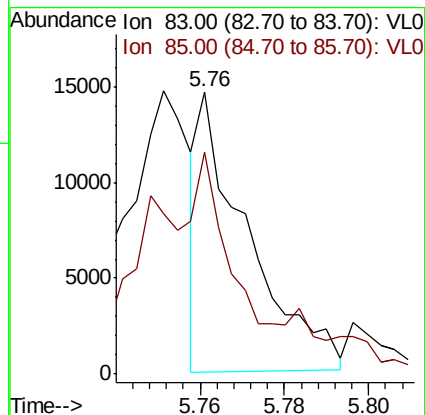
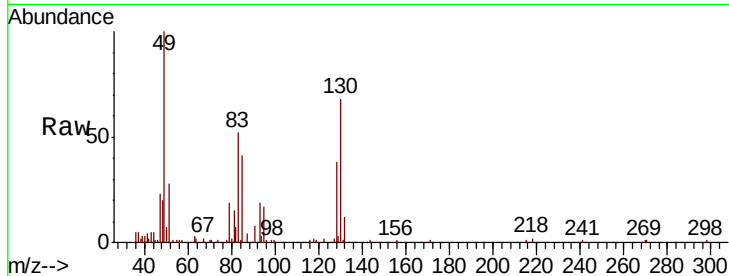
Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

Tot Ion: 83 Resp: 11811

Ion Ratio Lower Upper

83 100

85 69.5 52.2 78.4



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18 min Scan# 1366

Delta R.T. 0.01 min

Lab File: VL036902.D

Acq: 6 May 2021 14:13

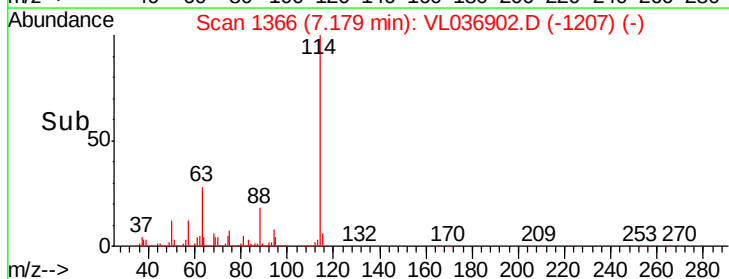
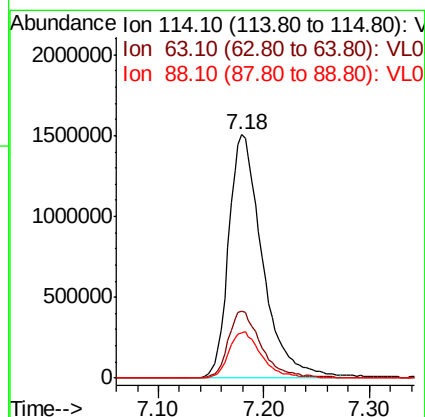
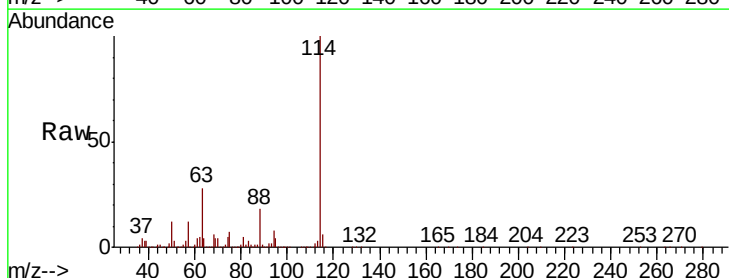
Tgt Ion: 114 Resp: 3337930

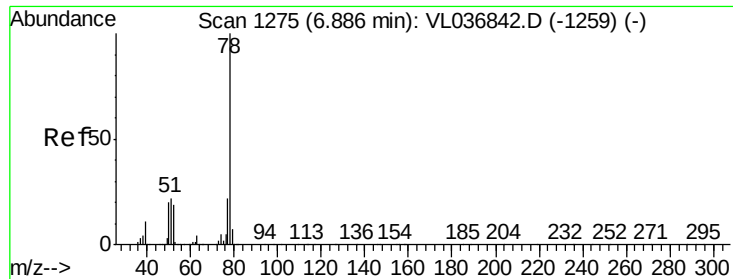
Ion Ratio Lower Upper

114 100

63 27.4 21.9 32.9

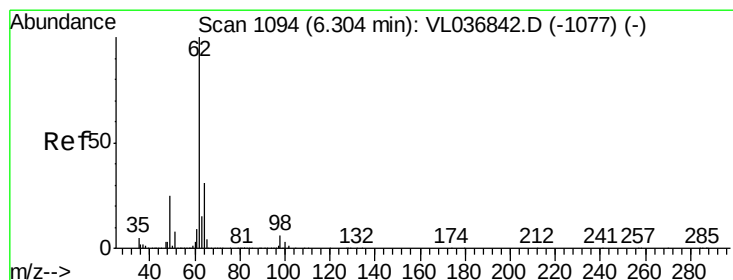
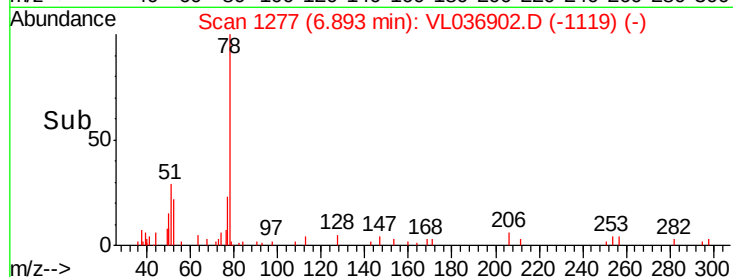
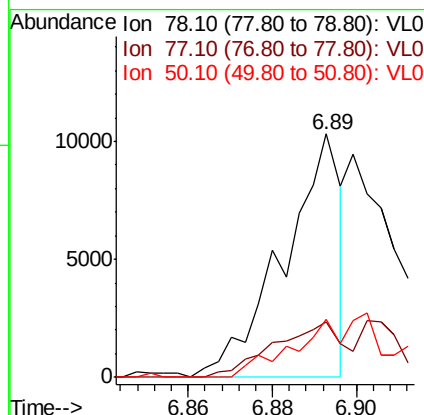
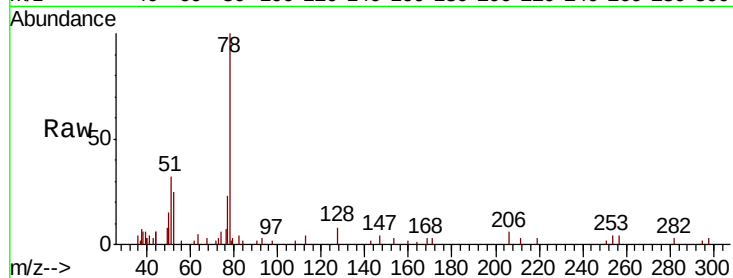
88 18.9 15.1 22.7





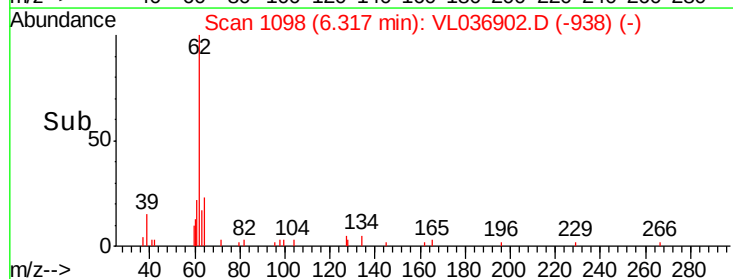
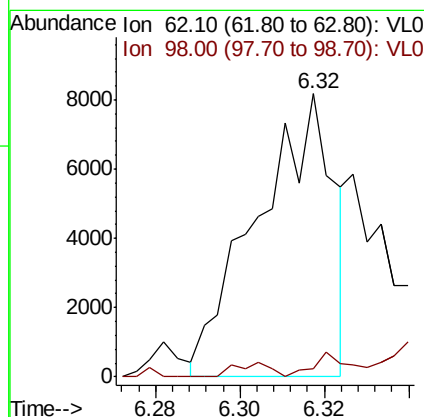
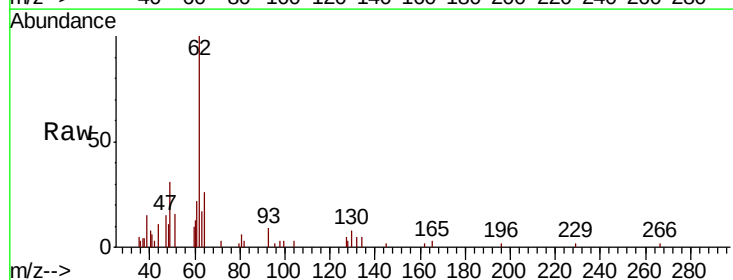
#36
Benzene
Concen: 0.035 ppbv
RT: 6.89
Instrument: MSVOA_1
Delta R.T.:
ClientSampleId:
Lab File: LOD-MDL-AIR-01-QT2-2021
Acq: 6 May 2021 14:13

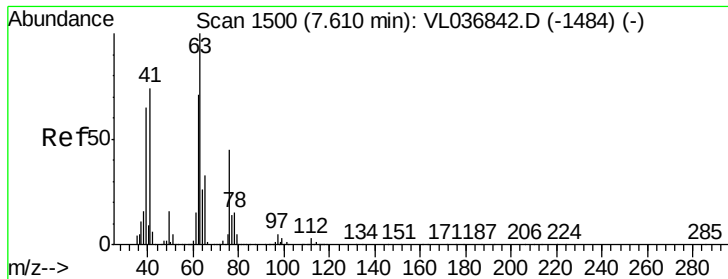
Tot Ion: 78 Resp: 9750
Ion Ratio Lower Upper
78 100
77 24.9 17.6 26.4
50 25.9 16.3 24.5#



#37
1,2-Dichloroethane
Concen: 0.065 ppbv
RT: 6.32 min Scan# 1098
Delta R.T. 0.01 min
Lab File: VL036902.D
Acq: 6 May 2021 14:13

Tgt Ion: 62 Resp: 10278
Ion Ratio Lower Upper
62 100
98 0.0 4.8 7.2#





#39

1,2-Dichloropropane

Concen: 7.842 ppbv

RT: 7.18 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 6 May 2021 14:13 LOD-MDL-AIR-01-QT2-2021

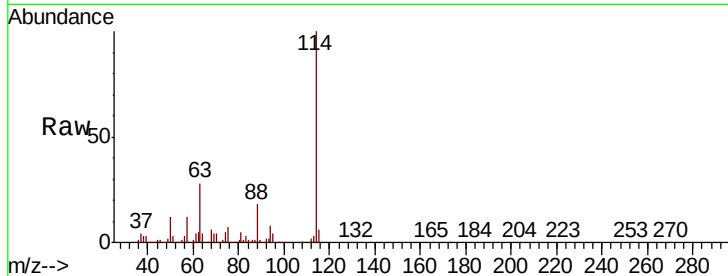
Tot Ion: 63 Resp: 883575

Ion Ratio Lower Upper

63 100

41 0.2 59.1 88.7#

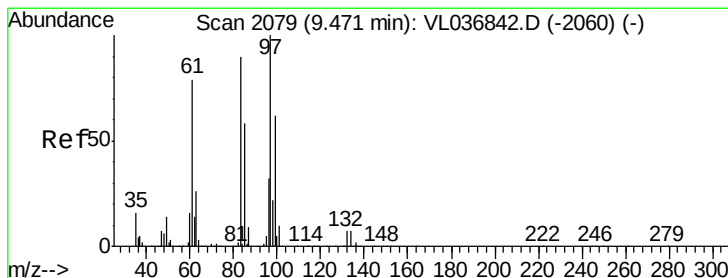
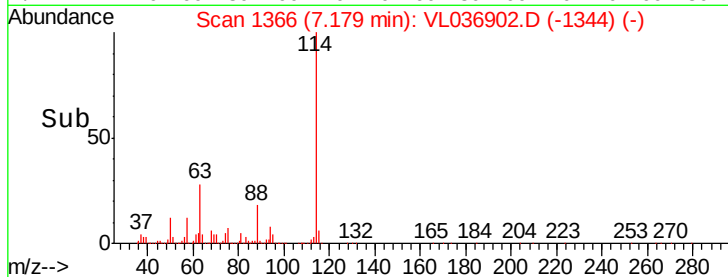
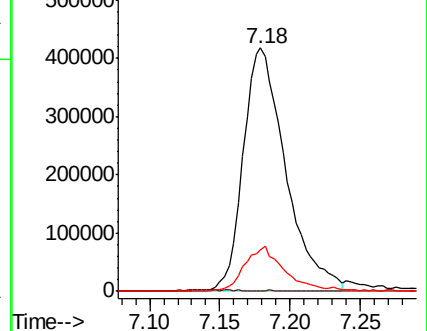
62 16.9 56.9 85.3#



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: 0.043 ppbv

RT: 9.49 min Scan# 2084

Delta R.T. 0.02 min

Lab File: VL036902.D

Acq: 6 May 2021 14:13

Tgt Ion: 97 Resp: 4980

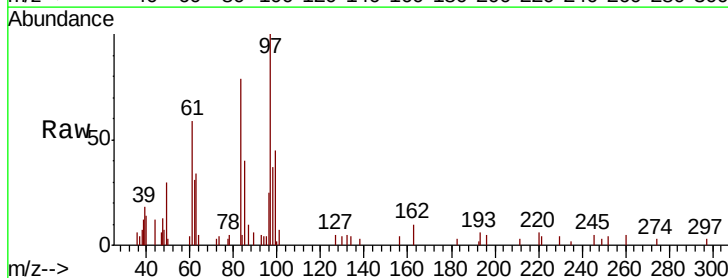
Ion Ratio Lower Upper

97 100

83 49.2 71.9 107.9#

85 0.0 46.5 69.7#

99 34.7 49.8 74.8#

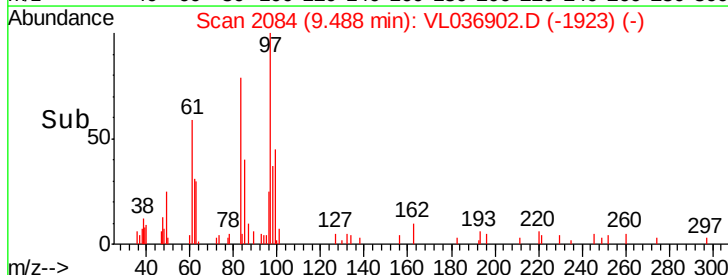
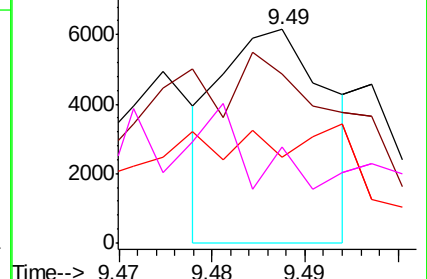


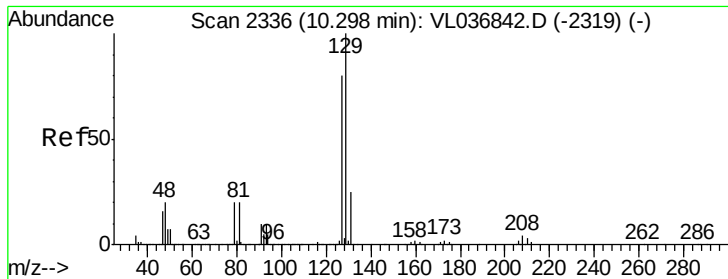
Abundance Ion 97.00 (96.70 to 97.70): VL0

Ion 83.00 (82.70 to 83.70): VL0

Ion 85.00 (84.70 to 85.70): VL0

Ion 99.00 (98.70 to 99.70): VL0





#48

Dibromochloromethane

Concen: 0.062 ppbv

RT: 10.31

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

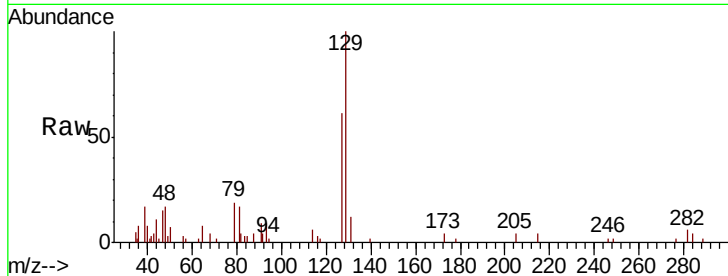
Acq: 6 May 2021 14:13

Tot Ion:129 Resp: 10770

Ion Ratio Lower Upper

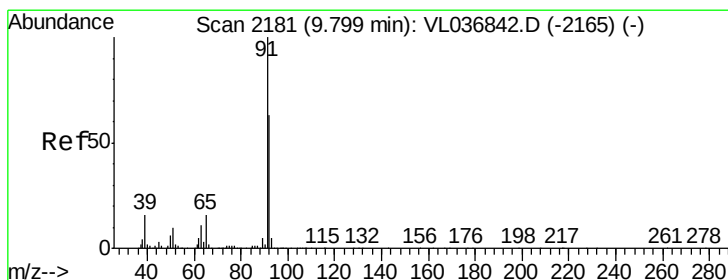
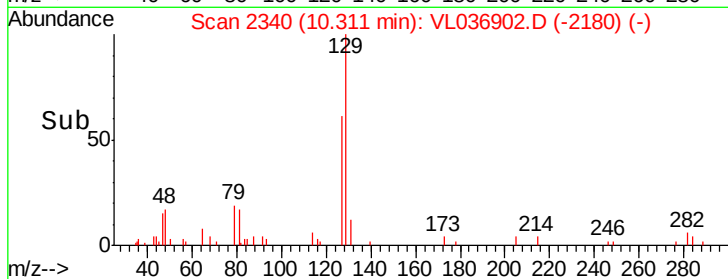
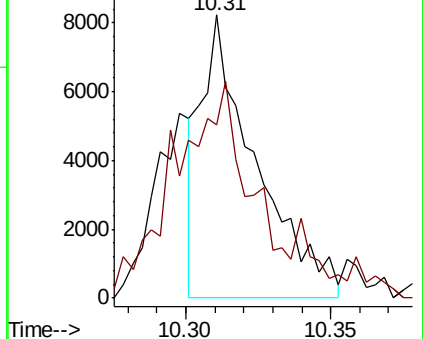
129 100

127 126.3 40.2 120.5#



Abundance Ion 129.00 (128.70 to 129.70): V

Ion 127.00 (126.70 to 127.70): V



#53

Toluene

Concen: 0.047 ppbv

RT: 9.81 min Scan# 2183

Delta R.T. 0.01 min

Lab File: VL036902.D

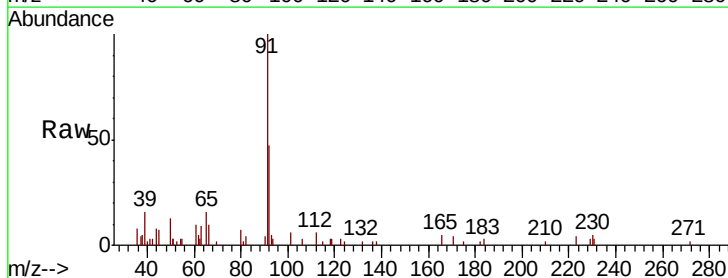
Acq: 6 May 2021 14:13

Tgt Ion: 91 Resp: 13889

Ion Ratio Lower Upper

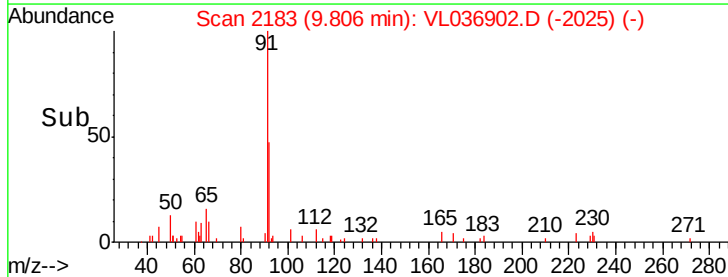
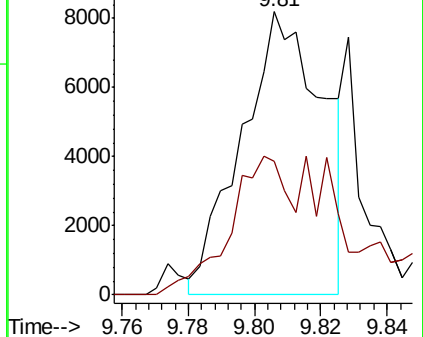
91 100

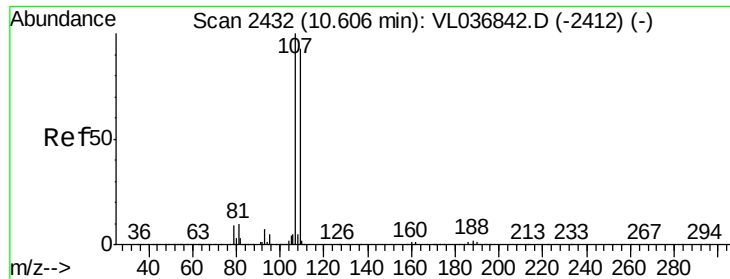
92 66.6 49.0 73.4



Abundance Ion 91.10 (90.80 to 91.80): VL0

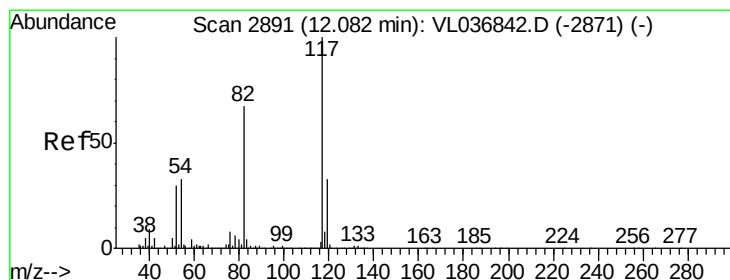
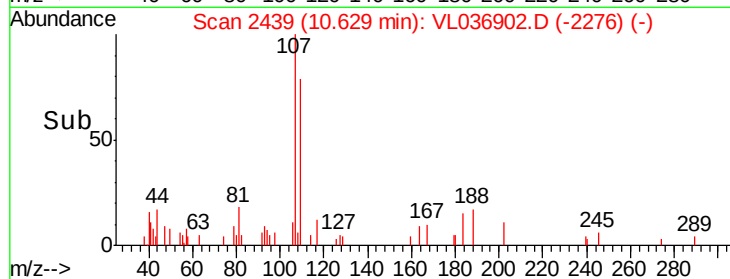
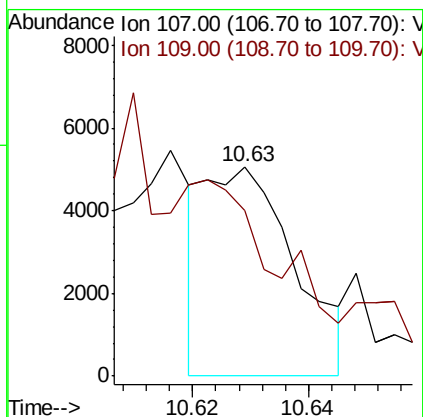
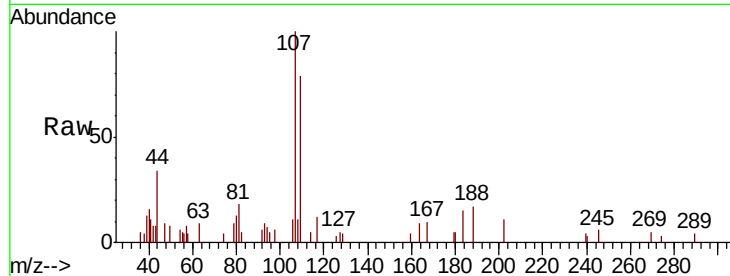
Ion 92.10 (91.80 to 92.80): VL0





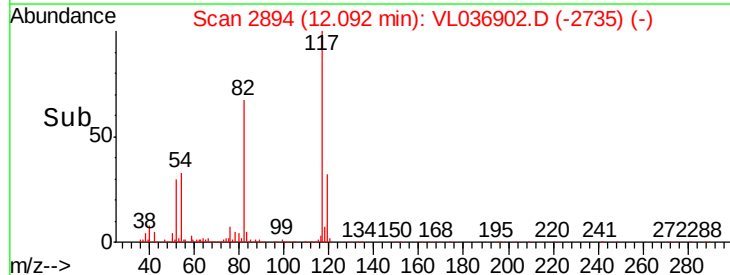
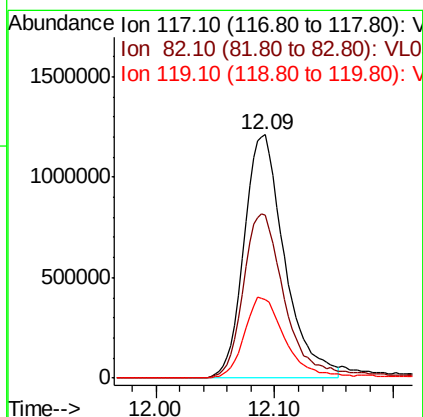
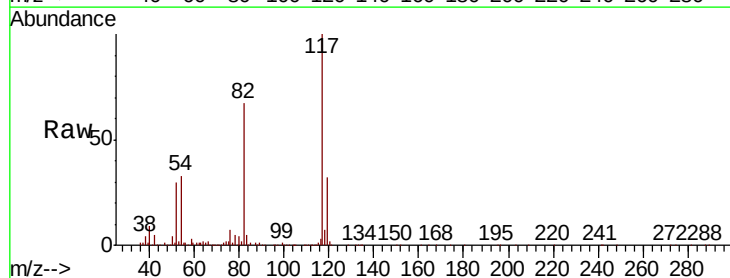
#54
 1,2-Dibromoethane
 Concen: 0.033 ppbv
 RT: 10.63
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 LOD-MDL-AIR-01-QT2-2021
 Acq: 6 May 2021 14:13

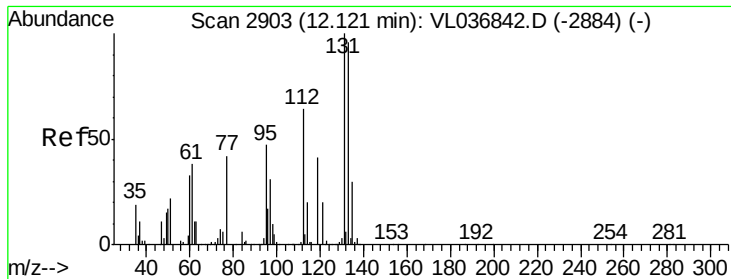
Tot Ion:107 Resp: 5412
 Ion Ratio Lower Upper
 107 100
 109 80.7 74.7 112.1



#55
 Chlorobenzene-d5
 Concen: 10.000 ppbv
 RT: 12.09 min Scan# 2894
 Delta R.T. 0.01 min
 Lab File: VL036902.D
 Acq: 6 May 2021 14:13

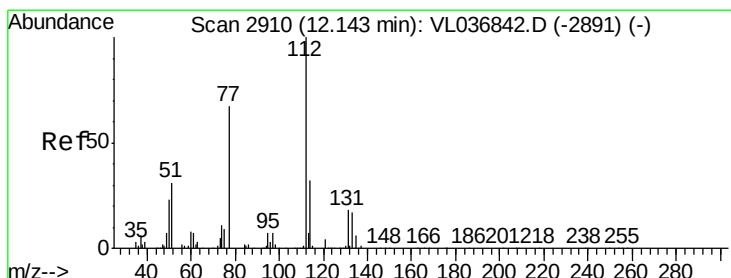
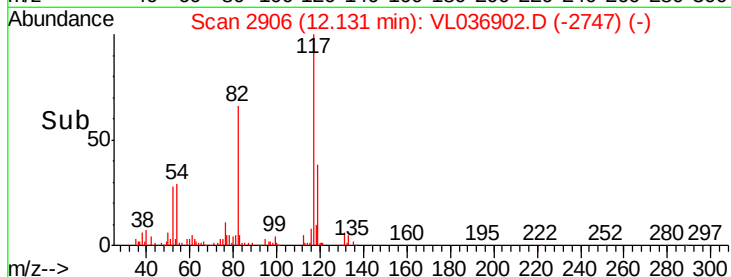
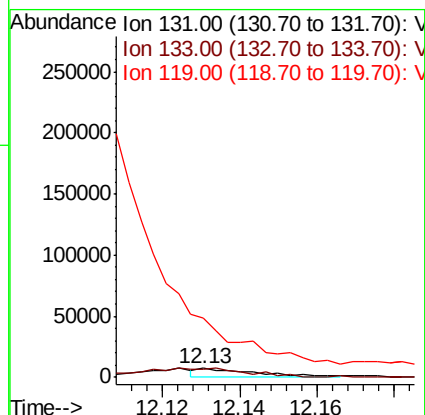
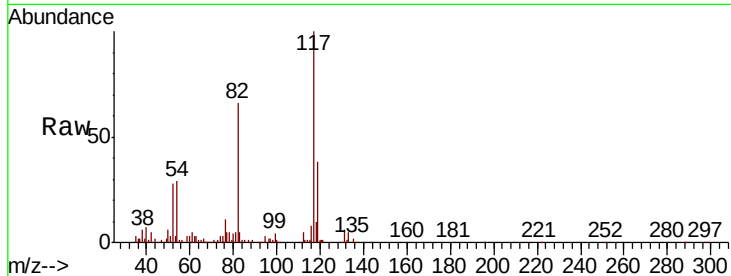
Tgt Ion:117 Resp: 2858838
 Ion Ratio Lower Upper
 117 100
 82 71.6 53.5 80.3
 119 35.0 25.6 38.4





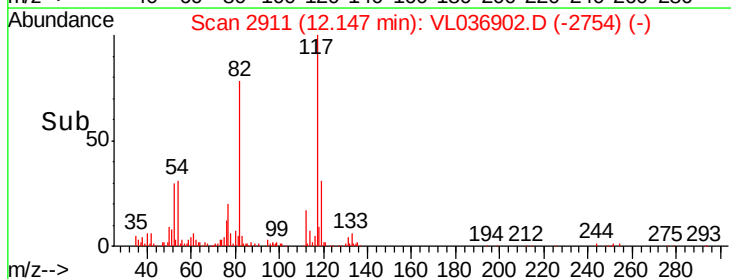
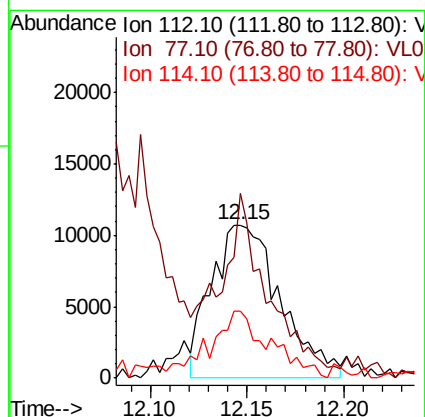
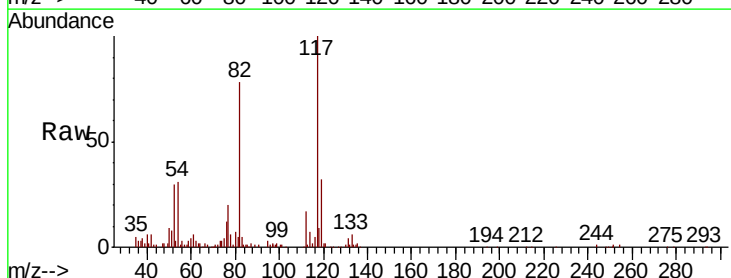
#56
 1,1,1,2-Tetrachloroethane
 Concen: 0.066 ppbv
 RT: 12.13 min
 Delta R.T. MSVOA_L
 Lab File: ClientSampleId :
 Acq: 6 May 2021 14:13

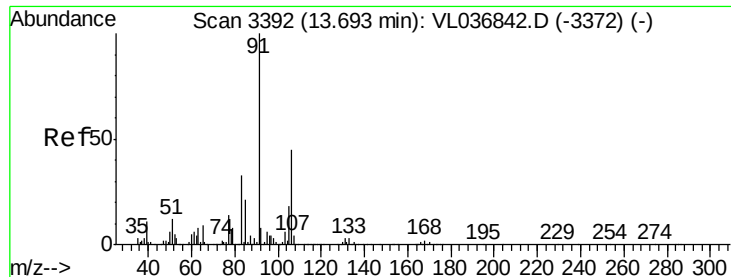
Tot Ion:131 Resp: 7860
 Ion Ratio Lower Upper
 131 100
 133 0.0 76.3 114.5#
 119 0.0 114.9 172.3#



#57
 Chlorobenzene
 Concen: 0.119 ppbv
 RT: 12.15 min Scan# 2911
 Delta R.T. 0.00 min
 Lab File: VL036902.D
 Acq: 6 May 2021 14:13

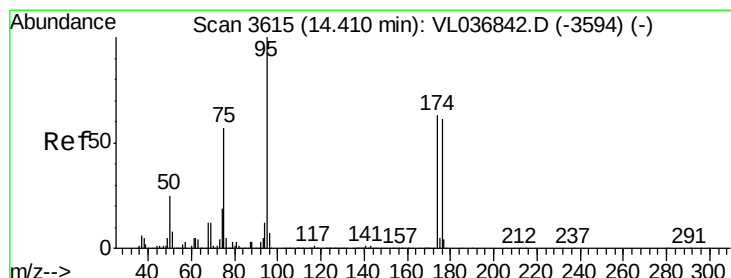
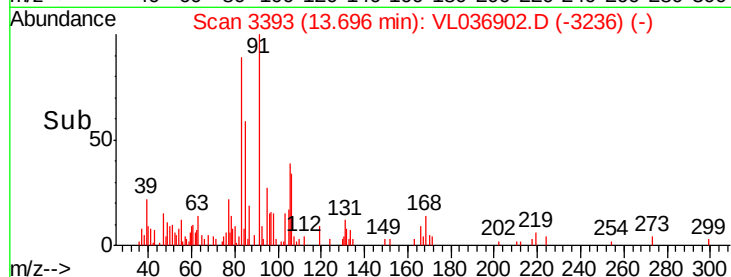
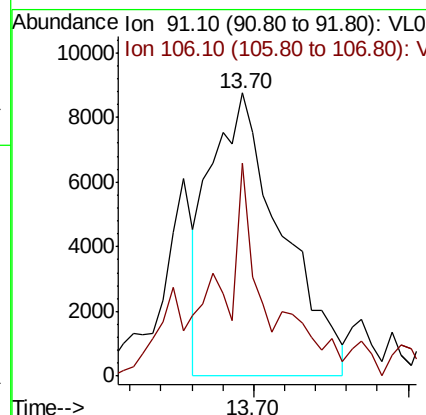
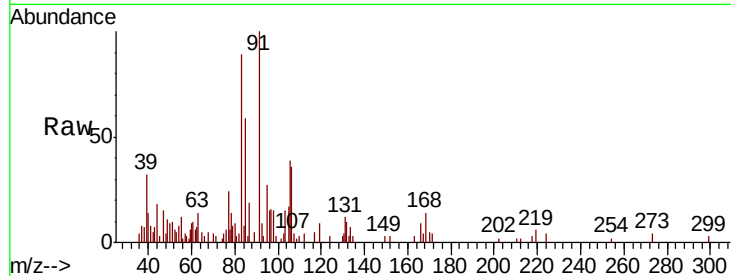
Tgt Ion:112 Resp: 26553
 Ion Ratio Lower Upper
 112 100
 77 124.5 54.2 81.4#
 114 40.8 28.5 34.9#





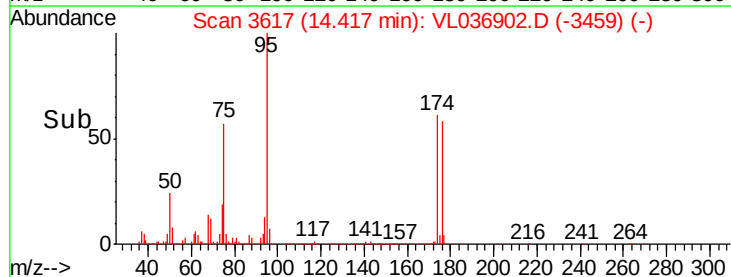
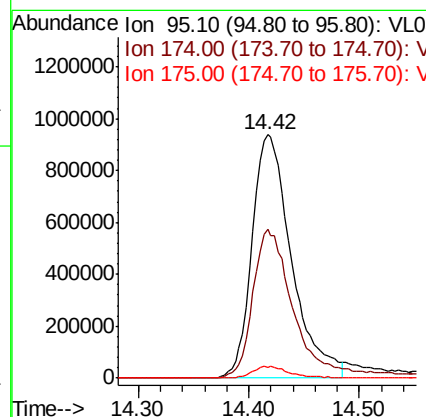
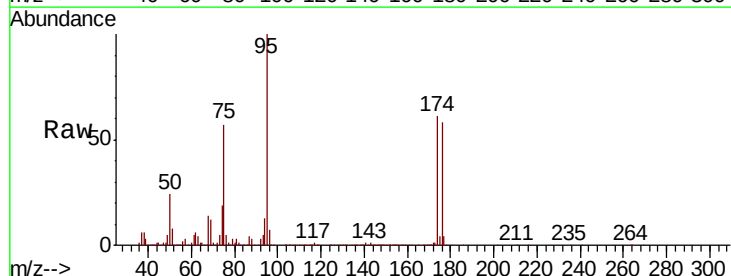
#60
o-Xylene
Concen: 0.045 ppbv
RT: 13.70 min
Delta R.T. MSVOA_L
Lab File: ClientSampleId :
Acq: 6 May 2021 14:13
LOD-MDL-AIR-01-QT2-2021

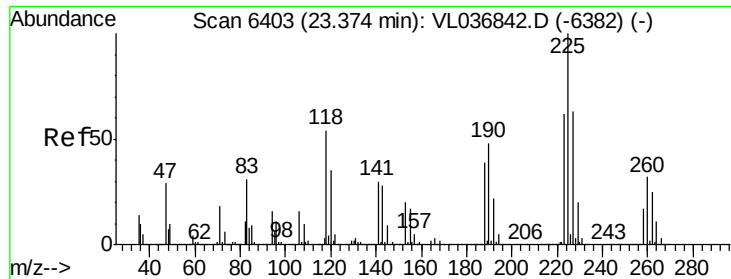
Tot Ion: 91 Resp: 14088
Ion Ratio Lower Upper
91 100
106 65.9 22.6 67.7



#68
1-Bromo-4-Fluorobenzene
Concen: 10.153 ppbv
RT: 14.42 min Scan# 3617
Delta R.T. 0.01 min
Lab File: VL036902.D
Acq: 6 May 2021 14:13

Tgt Ion: 95 Resp: 2329981
Ion Ratio Lower Upper
95 100
174 66.6 52.2 78.2
175 4.8 4.0 6.0





#78

Hexachloro-1,3-Butadiene

Concen: 0.033 ppbv

RT: 23.39 Instrument:

Delta R.T. MSVOA_L

Lab File: ClientSampleId:

Acq: 6 May 2021 14:15 LOD-MDL-AIR-01-QT2-2021

Tot Ion:225 Resp: 5630

Ion Ratio Lower Upper

225 100

223 0.0 51.2 76.8#

227 246.6 51.8 77.6#

