

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL110425\
 Data File : VL043152.D
 Acq On : 04 Nov 2025 12:59
 Operator : SY/MD
 Sample : Q3530-13 0.03 LOD
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 LOD-MDL-AIR-01-QT4-2025

Quant Time: Nov 05 06:31:36 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL101425AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Oct 15 02:12:58 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	2.790	49	113638	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.962	114	346779	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.882	117	298519	10.000	ppbv	0.00

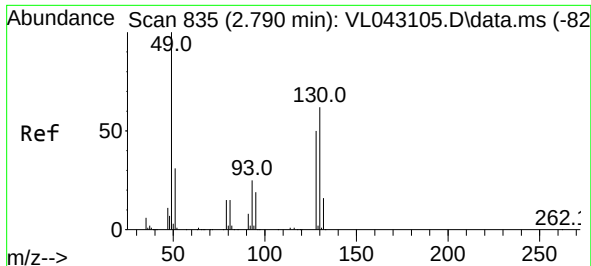
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.377	95	225526	9.720	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.200%

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.502	85	705	0.044	ppbv #	81
3) Chlorodifluoromethane	1.476	51	660	0.038	ppbv #	80
4) Chloromethane	1.534	50	396	0.062	ppbv #	87
5) Vinyl Chloride	1.583	62	255	0.041	ppbv #	64
6) Bromomethane	1.670	94	324	0.094	ppbv #	79
7) Chloroethane	1.706	64	133	0.052	ppbv #	42
8) Dichlorotetrafluoroethane	1.557	85	541	0.041	ppbv	86
9) Propene	1.489	41	248	0.032	ppbv #	1
11) Trichlorofluoromethane	1.881	101	622	0.039	ppbv	86
12) 1,1,2-Trichlorotrifluo...	2.143	101	737	0.058	ppbv #	67
13) Ethanol	1.861	45	325	0.113	ppbv #	38
14) Bromoethene	1.787	108	219	0.046	ppbv #	34
15) Acetone	1.839	43	2535	0.166	ppbv #	89
16) 1,3-Butadiene	1.615	39	390	0.053	ppbv #	55
17) tert-Butyl alcohol	2.046	59	845	0.040	ppbv #	81
18) 1,1-Dichloroethene	2.036	96	202	0.036	ppbv #	37
19) Isopropyl Alcohol	1.894	45	614	0.064	ppbv #	49
20) Methylene Chloride	2.065	84	1783	0.294	ppbv	89
21) Allyl Chloride	2.098	41	417	0.037	ppbv #	1
22) trans-1,2-Dichloroethene	2.347	96	334	0.050	ppbv #	57
24) 1,1-Dichloroethane	2.415	63	537	0.042	ppbv #	87
27) Carbon Disulfide	2.153	76	629	0.039	ppbv #	1
28) Methyl tert-Butyl Ether	2.447	73	253	0.032	ppbv #	73
29) Chloroform	2.855	83	1047	0.041	ppbv #	61
31) cis-1,2-Dichloroethene	2.725	61	654	0.039	ppbv #	81
34) 2-Butanone	2.564	43	1440	0.062	ppbv	94
37) 1,2-Dichloroethane	3.224	62	700	0.037	ppbv #	79
39) 1,2-Dichloropropane	3.962	63	85922	7.196	ppbv #	26
57) Chlorobenzene	8.920	112	949	0.034	ppbv #	72
78) Hexachloro-1,3-Butadiene	13.879	225	622	0.031	ppbv #	65

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

Quant Time: Nov 05 06:31:36 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL101425AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Aug 26 06:05:16 2022
QLast Update : Wed Oct 15 02:12:58 2025
Response via : Initial Calibration

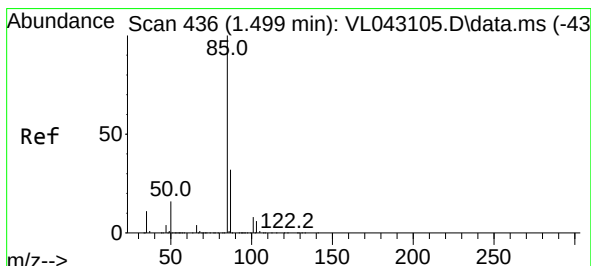
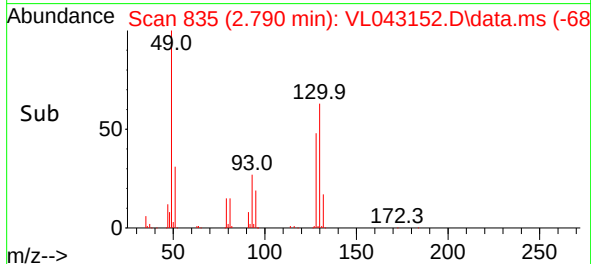
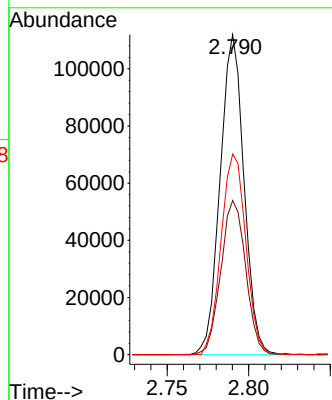
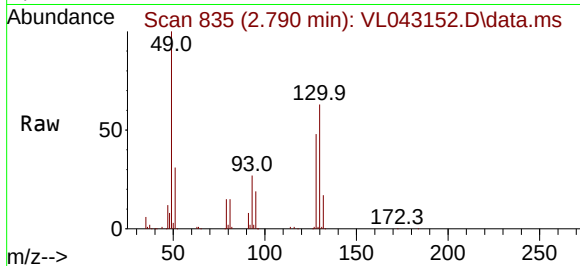




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.790 min Scan# 81
Delta R.T. 0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

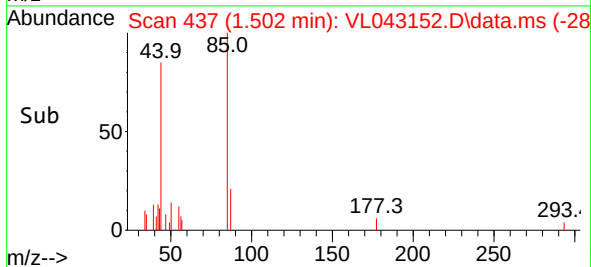
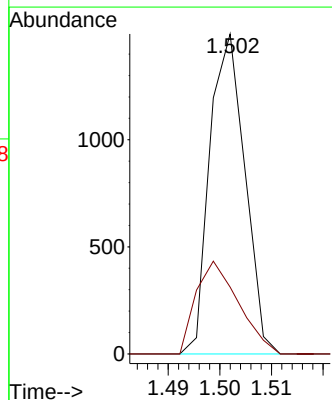
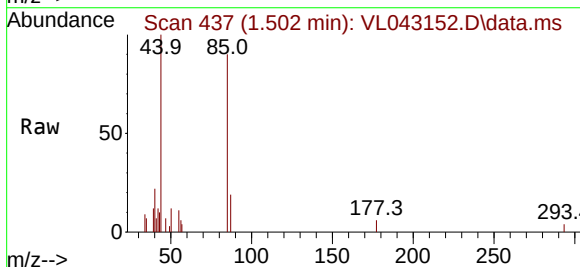
Instrument :
MSVOA_L
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

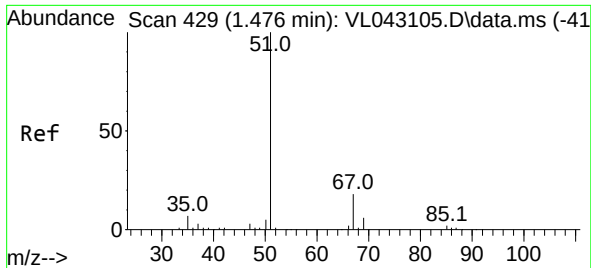
Tgt Ion: 49 Resp: 113638
Ion Ratio Lower Upper
49 100
128 50.3 24.4 73.4
130 65.3 31.0 93.0



#2
Dichlorodifluoromethane
Concen: 0.044 ppbv
RT: 1.502 min Scan# 437
Delta R.T. 0.003 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 85 Resp: 705
Ion Ratio Lower Upper
85 100
87 20.9 25.3 37.9

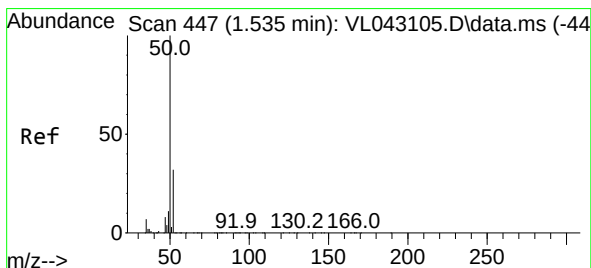
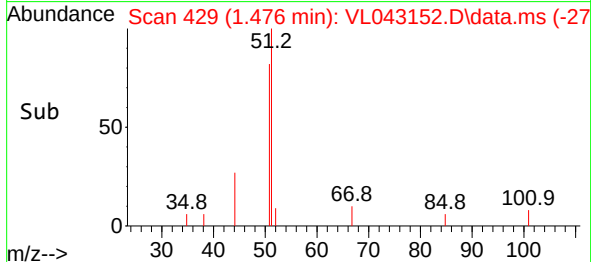
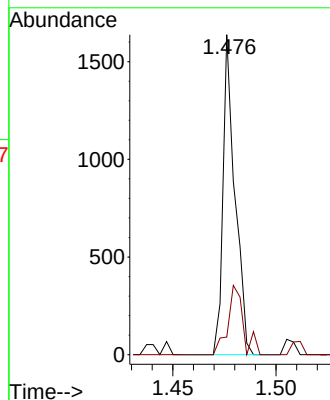
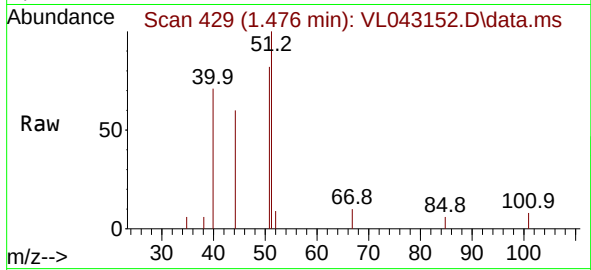




#3
Chlorodifluoromethane
Concen: 0.038 ppbv
RT: 1.476 min Scan# 41
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

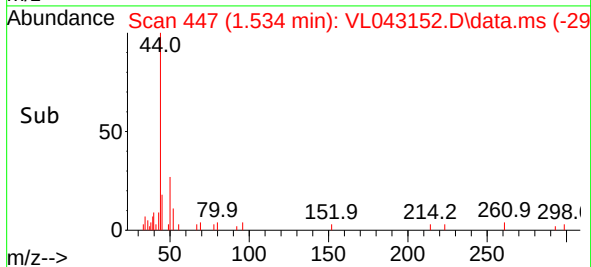
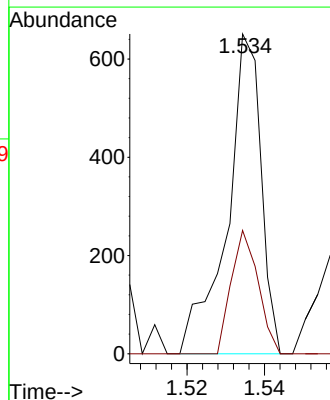
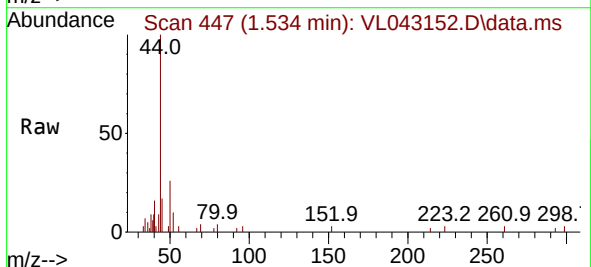
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ClientSampleId :
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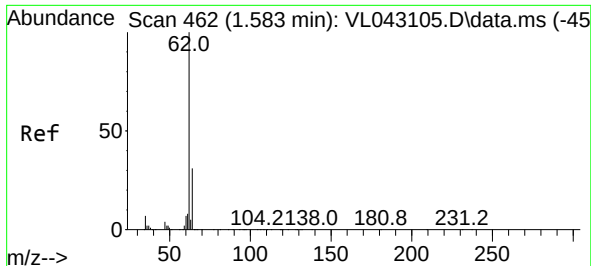
Tgt Ion: 51 Resp: 660
Ion Ratio Lower Upper
51 100
67 27.7 15.1 22.7#



#4
Chloromethane
Concen: 0.062 ppbv
RT: 1.534 min Scan# 447
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 50 Resp: 396
Ion Ratio Lower Upper
50 100
52 38.6 25.2 37.8#

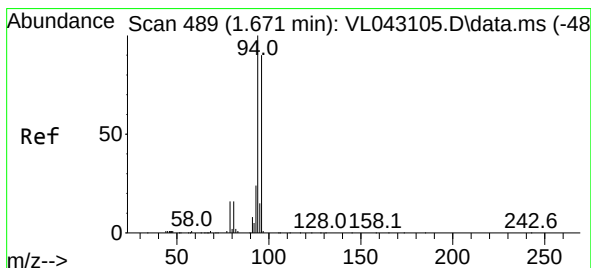
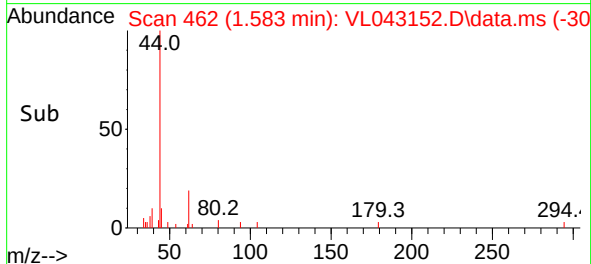
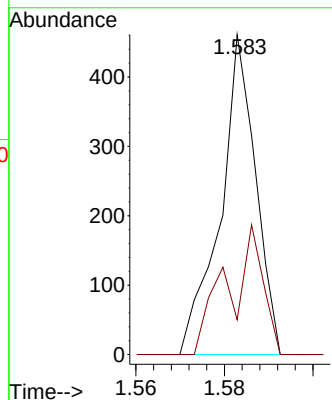
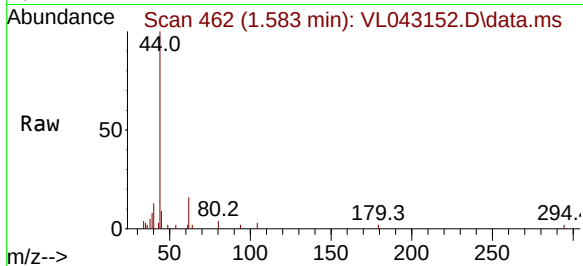




#5
 Vinyl Chloride
 Concen: 0.041 ppbv
 RT: 1.583 min Scan# 462
 Delta R.T. -0.000 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

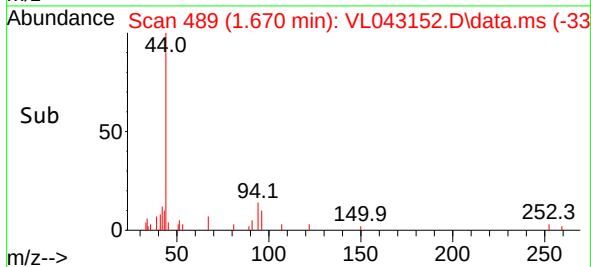
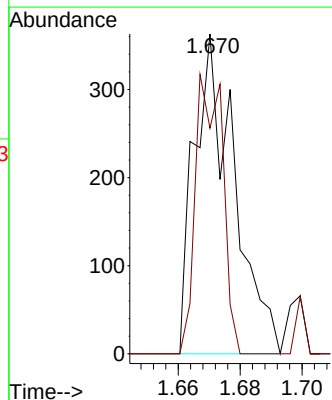
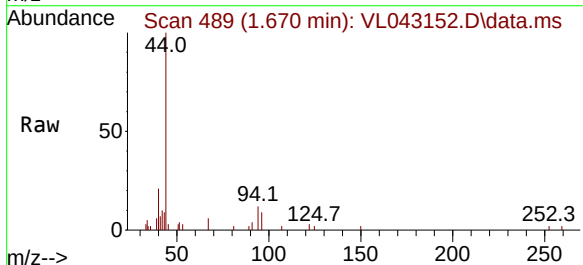
Instrument :
 MSVOA_1
 ClientSampleId :
 LOD-MDL-AIR-01-QT4-2025

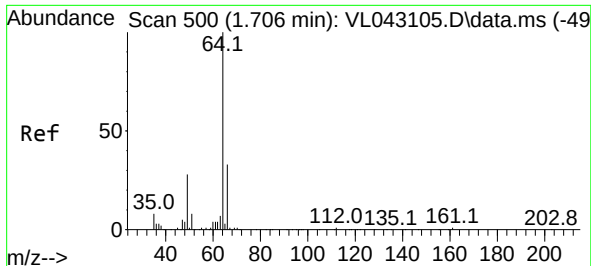
Tgt Ion: 62 Resp: 255
 Ion Ratio Lower Upper
 62 100
 64 10.8 24.6 36.8#



#6
 Bromomethane
 Concen: 0.094 ppbv
 RT: 1.670 min Scan# 489
 Delta R.T. -0.000 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

Tgt Ion: 94 Resp: 324
 Ion Ratio Lower Upper
 94 100
 96 70.5 72.2 108.4#

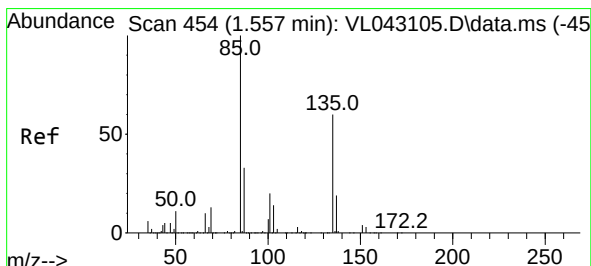
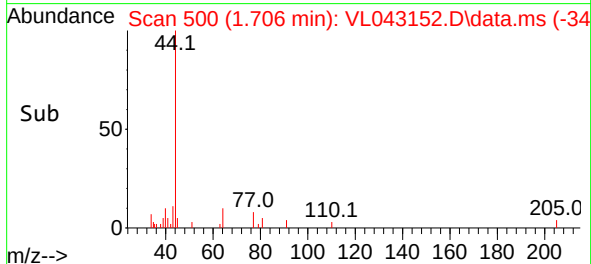
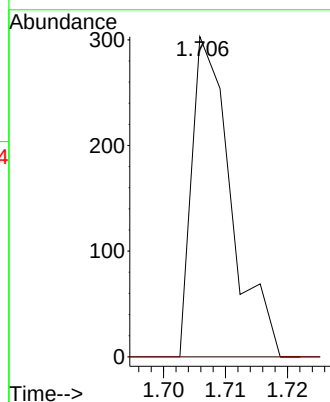
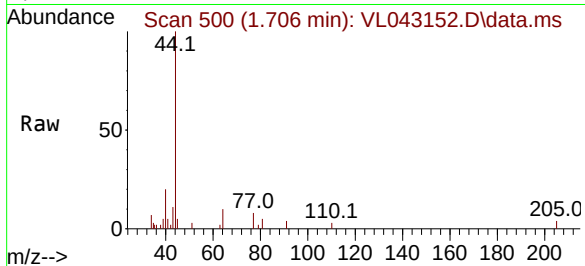




#7
Chloroethane
Concen: 0.052 ppbv
RT: 1.706 min Scan# 500
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

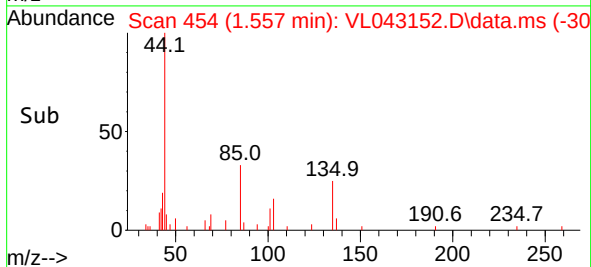
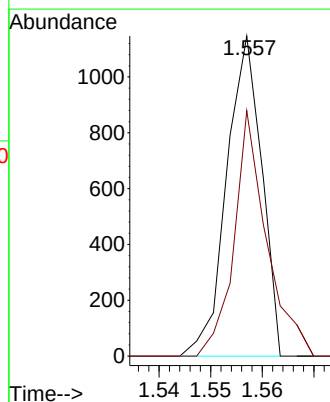
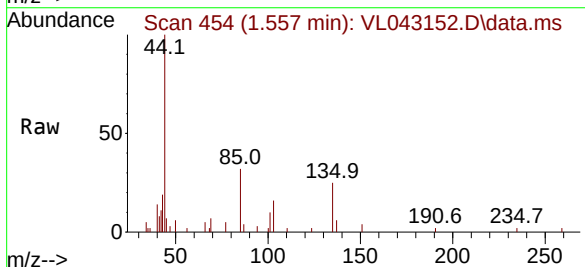
Instrument :
MSVOA_L
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

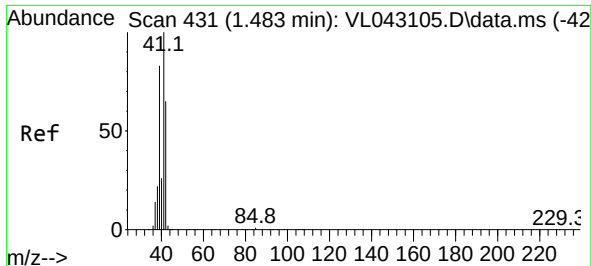
Tgt Ion: 64 Resp: 133
Ion Ratio Lower Upper
64 100
66 0.0 26.0 39.0#



#8
Dichlorotetrafluoroethane
Concen: 0.041 ppbv
RT: 1.557 min Scan# 454
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 85 Resp: 541
Ion Ratio Lower Upper
85 100
135 71.2 48.2 72.4





#9

Propene

Concen: 0.032 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.006 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Instrument :

MSVOA_L

ClientSampleId :

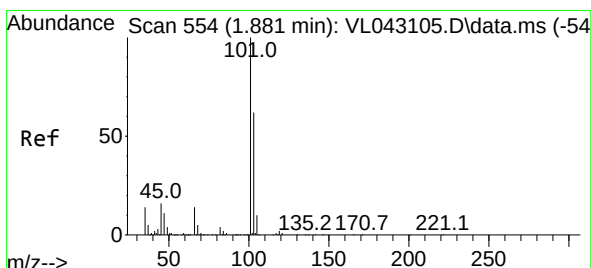
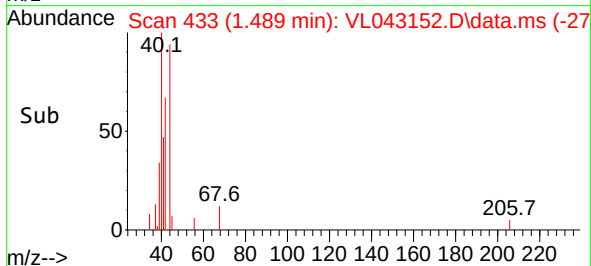
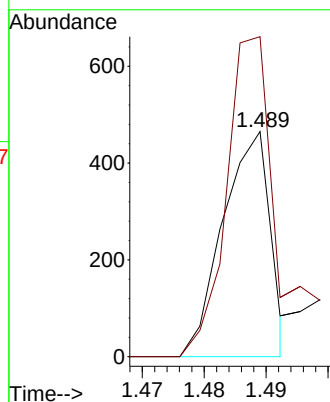
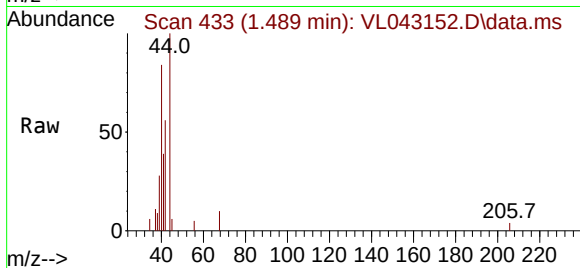
LOD-MDL-AIR-01-QT4-2025

Tgt Ion: 41 Resp: 248

Ion Ratio Lower Upper

41 100

42 217.3 55.1 82.7#



#11

Trichlorofluoromethane

Concen: 0.039 ppbv

RT: 1.881 min Scan# 554

Delta R.T. -0.000 min

Lab File: VL043152.D

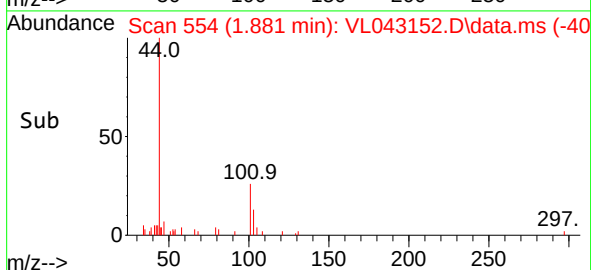
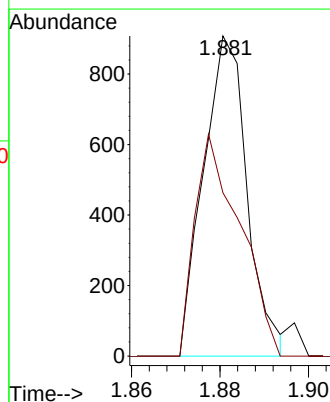
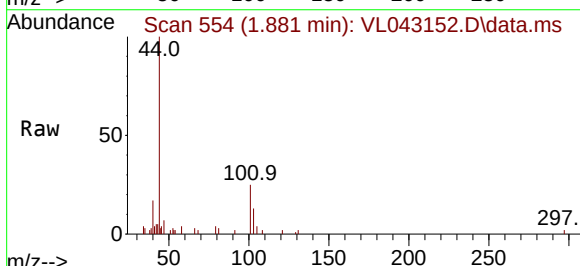
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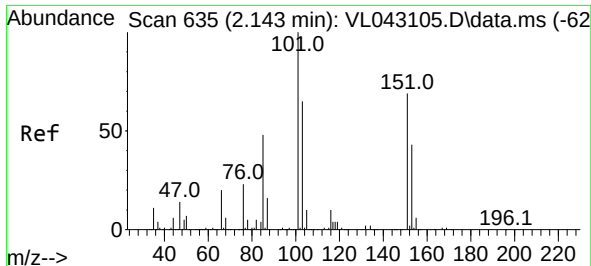
Tgt Ion:101 Resp: 622

Ion Ratio Lower Upper

101 100

103 51.0 49.3 73.9

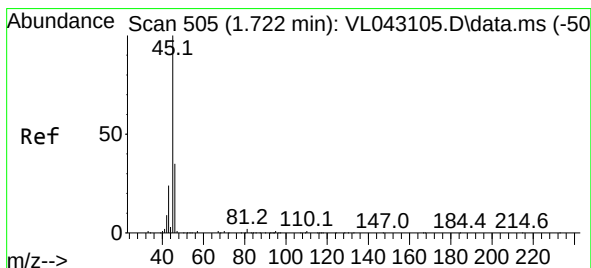
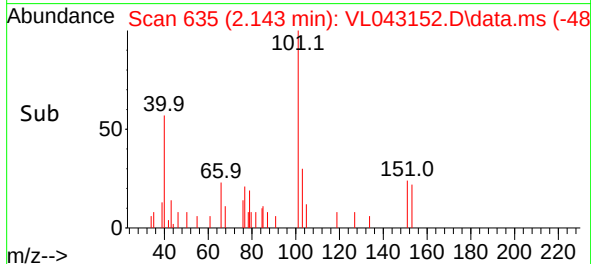
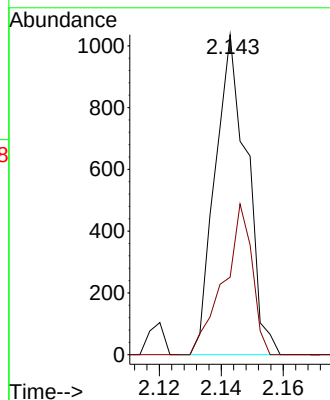
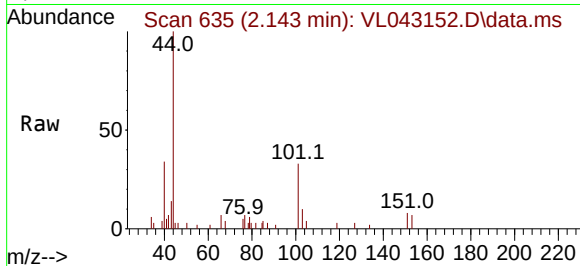




#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.058 ppbv
 RT: 2.143 min Scan# 61
 Delta R.T. -0.000 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

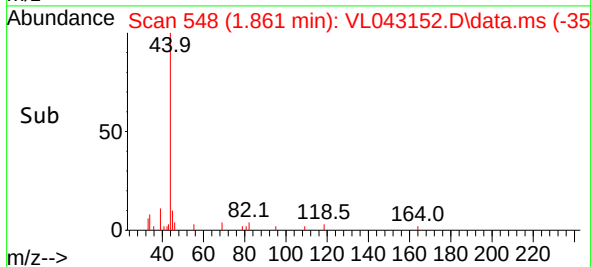
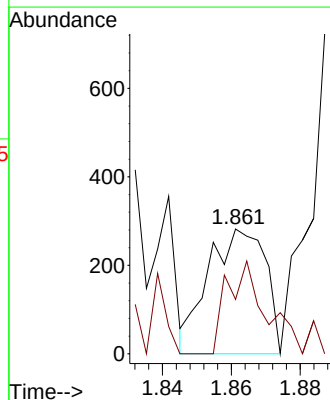
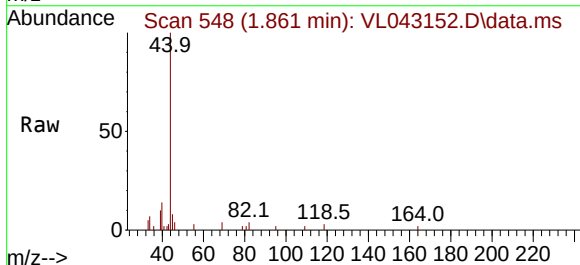
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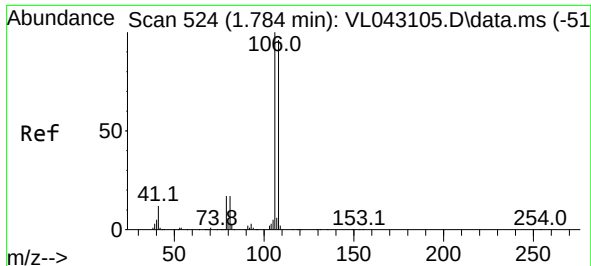
Tgt Ion:101 Resp: 737
 Ion Ratio Lower Upper
 101 100
 151 41.9 54.7 82.1#



#13
 Ethanol
 Concen: 0.113 ppbv
 RT: 1.861 min Scan# 548
 Delta R.T. 0.139 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

Tgt Ion: 45 Resp: 325
 Ion Ratio Lower Upper
 45 100
 46 0.0 14.7 58.9#





#14

Bromoethene

Concen: 0.046 ppbv

RT: 1.787 min Scan# 51

Delta R.T. 0.003 min

Lab File: VL043152.D

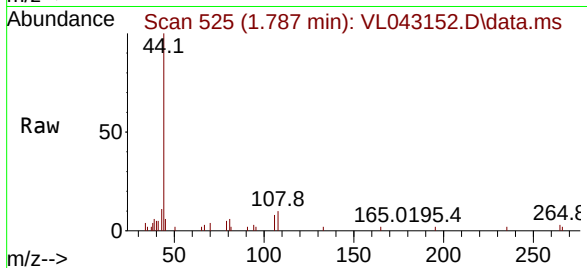
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Instrument :

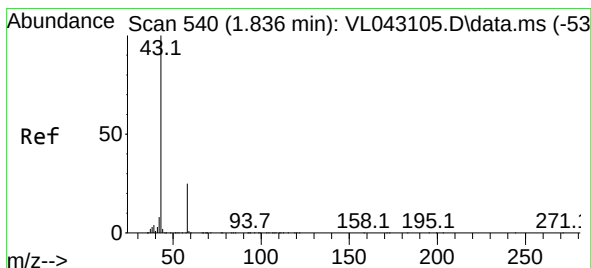
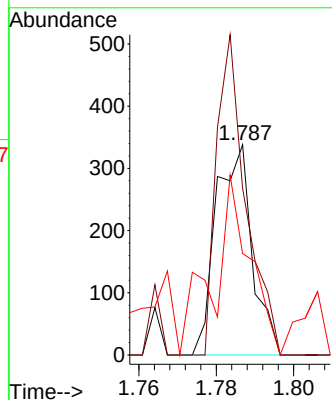
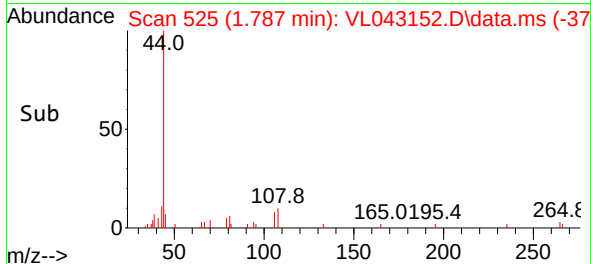
MSVOA_L

ClientSampleId :

LOD-MDL-AIR-01-QT4-2025



Tgt Ion:	108	Resp:	219
Ion	Ratio	Lower	Upper
108	100		
106	134.2	84.4	126.6#
79	143.8	15.3	22.9#



#15

Acetone

Concen: 0.166 ppbv

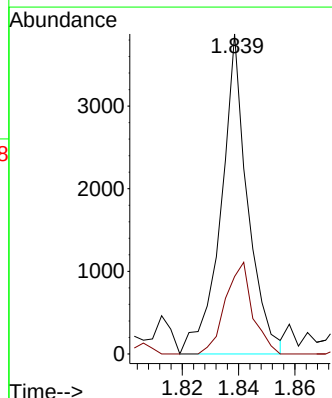
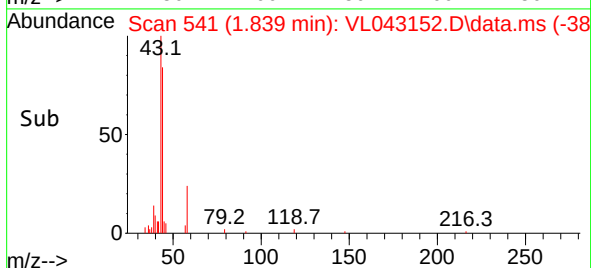
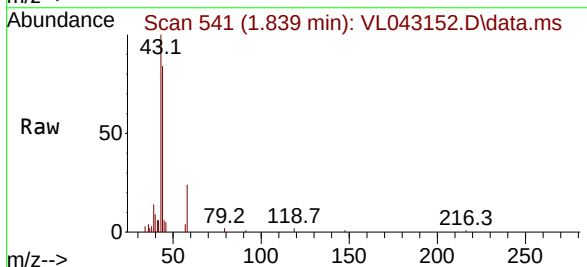
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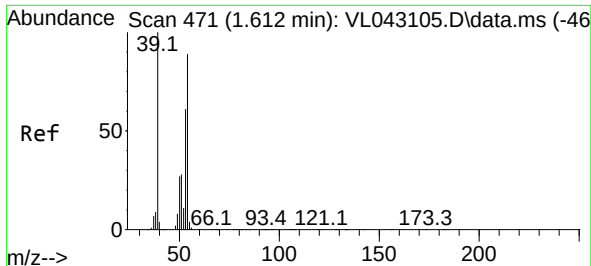
Delta R.T. 0.003 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Tgt Ion:	43	Resp:	2535
Ion	Ratio	Lower	Upper
43	100		
58	31.8	20.8	31.2#

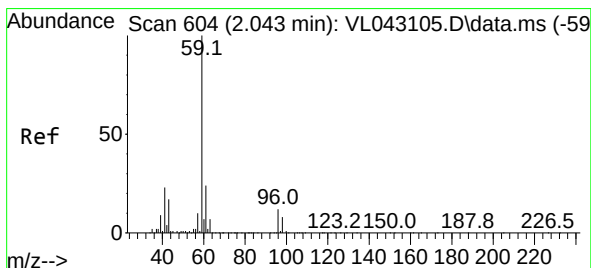
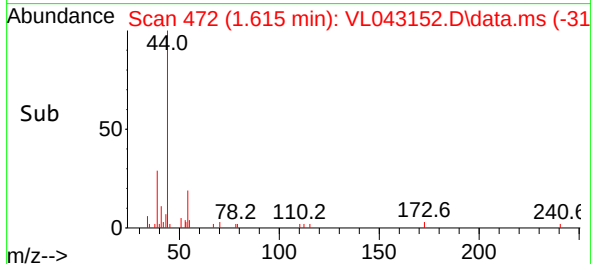
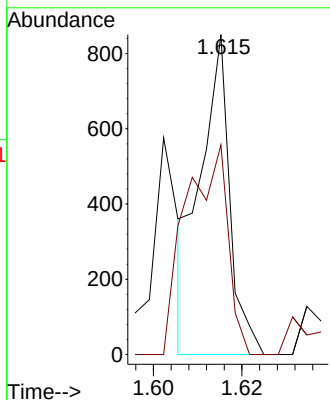
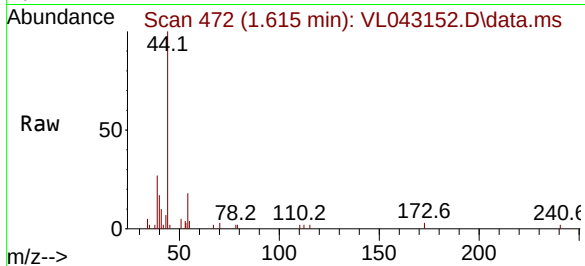




#16
1,3-Butadiene
Concen: 0.053 ppbv
RT: 1.615 min Scan# 41
Delta R.T. 0.003 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

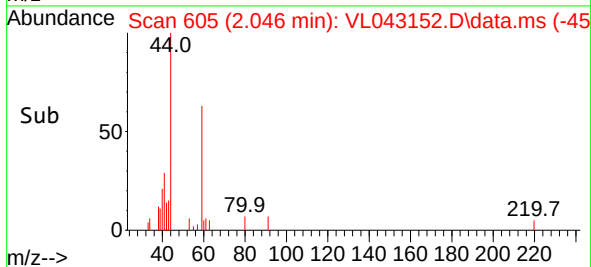
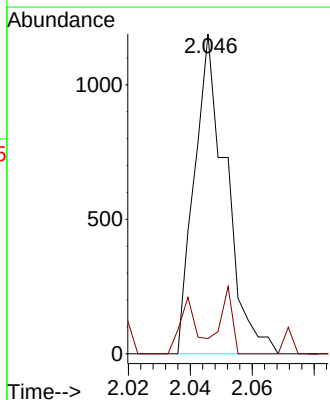
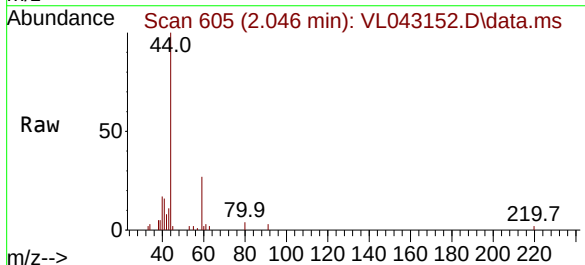
Instrument :
MSVOA_L
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

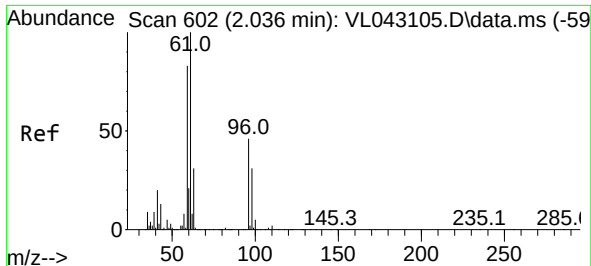
Tgt Ion: 39 Resp: 390
Ion Ratio Lower Upper
39 100
54 111.3 59.0 88.4#



#17
tert-Butyl alcohol
Concen: 0.040 ppbv
RT: 2.046 min Scan# 605
Delta R.T. 0.003 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 59 Resp: 845
Ion Ratio Lower Upper
59 100
57 17.3 8.2 12.4#





#18

1,1-Dichloroethene

Concen: 0.036 ppbv

RT: 2.036 min Scan# 602

Delta R.T. -0.000 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Instrument :

MSVOA_L

ClientSampleId :

LOD-MDL-AIR-01-QT4-2025

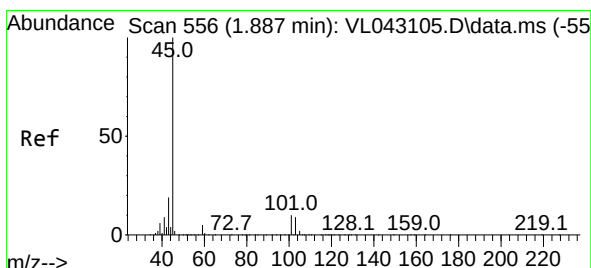
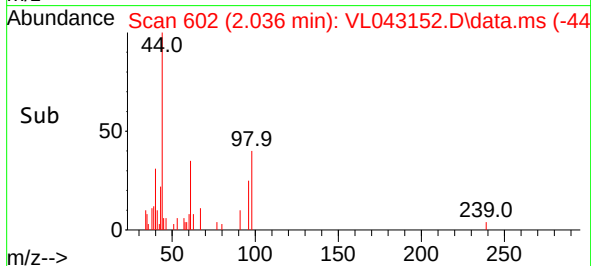
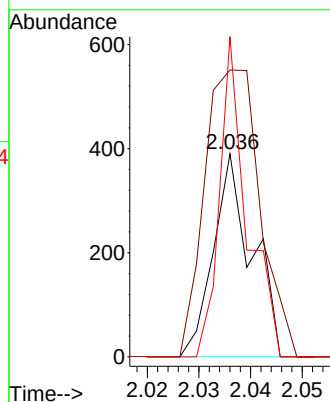
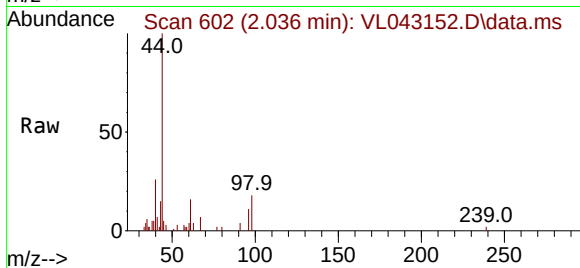
Tgt Ion: 96 Resp: 202

Ion Ratio Lower Upper

96 100

61 141.3 173.4 260.0#

98 157.7 53.2 79.8#



#19

Isopropyl Alcohol

Concen: 0.064 ppbv

RT: 1.894 min Scan# 558

Delta R.T. 0.006 min

Lab File: VL043152.D

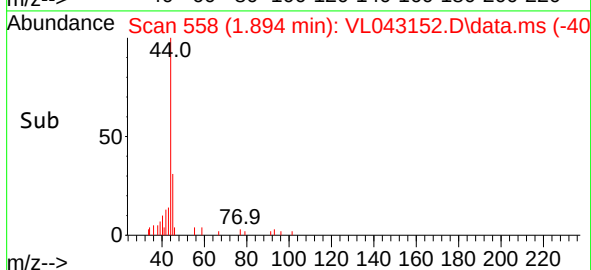
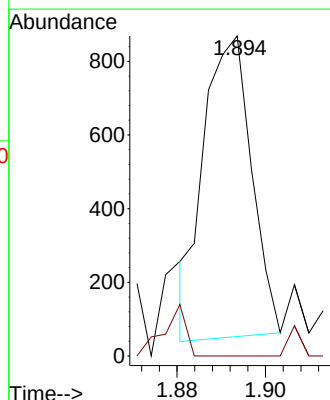
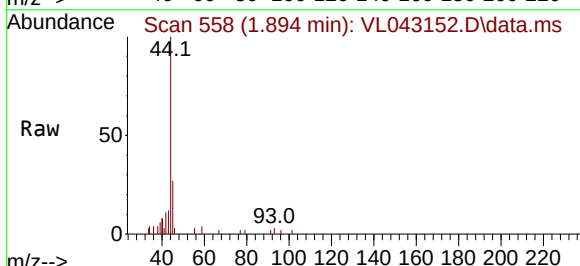
Acq: 04 Nov 2025 12:59

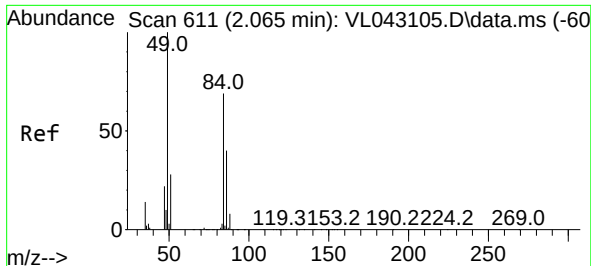
Tgt Ion: 45 Resp: 614

Ion Ratio Lower Upper

45 100

58 8.0 31.3 46.9#

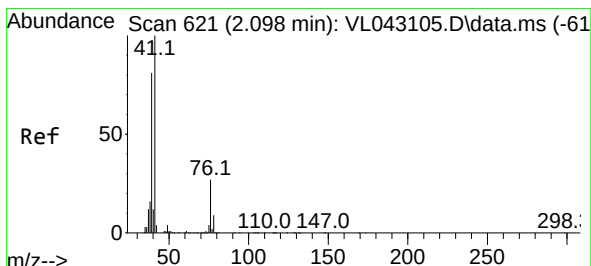
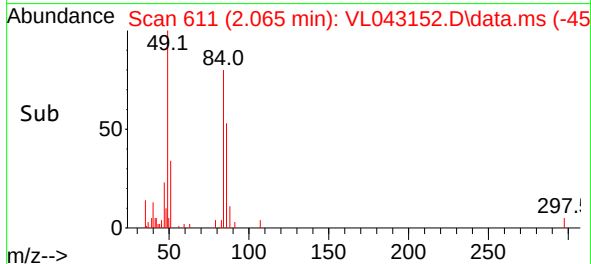
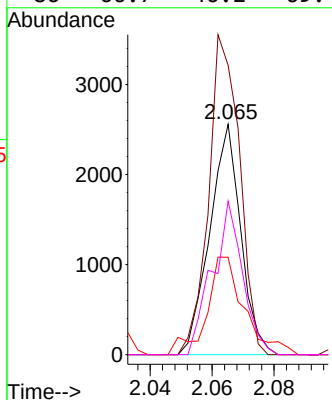
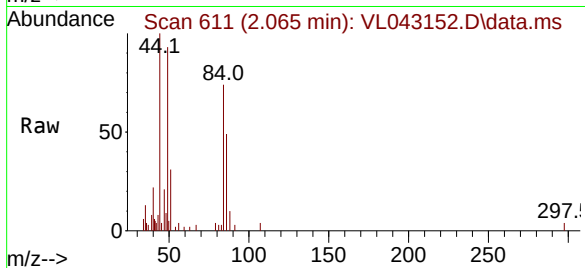




#20
Methylene Chloride
Concen: 0.294 ppbv
RT: 2.065 min Scan# 611
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

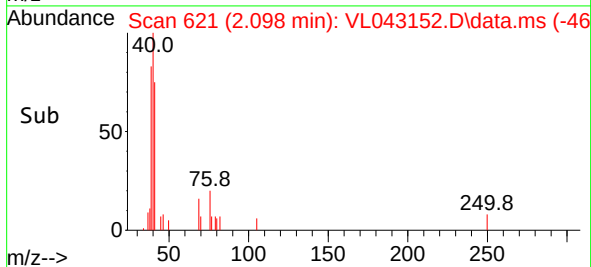
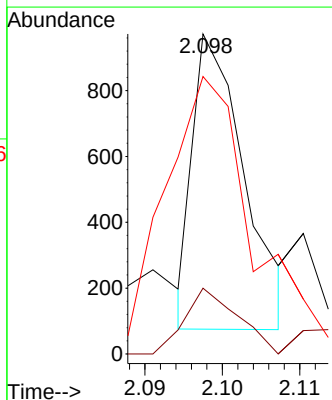
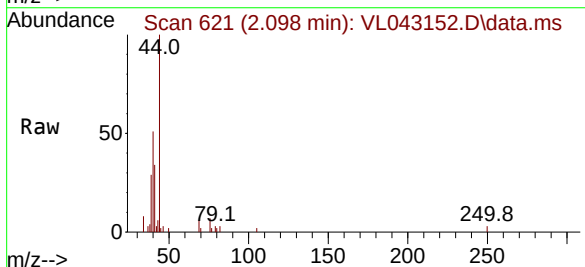
Instrument : MSVOA_1
ClientSampleId : LOD-MDL-AIR-01-QT4-2025

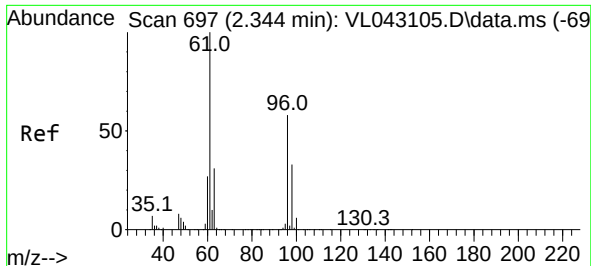
Tgt Ion:	84	Resp:	1783
Ion	Ratio	Lower	Upper
84	100		
49	132.1	116.6	175.0
51	36.7	34.8	52.2
86	66.7	46.2	69.4



#21
Allyl Chloride
Concen: 0.037 ppbv
RT: 2.098 min Scan# 621
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion:	41	Resp:	417
Ion	Ratio	Lower	Upper
41	100		
76	29.7	21.5	32.3
39	325.4	60.8	91.2#

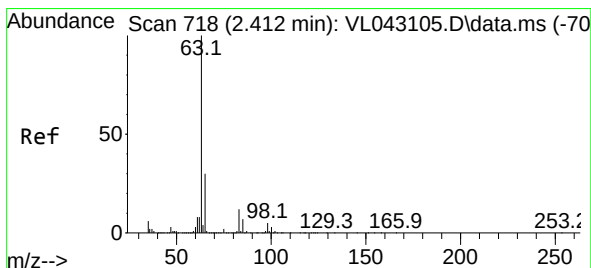
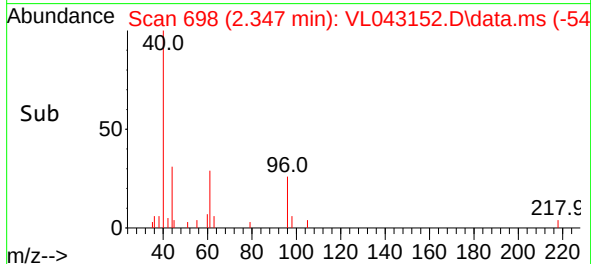
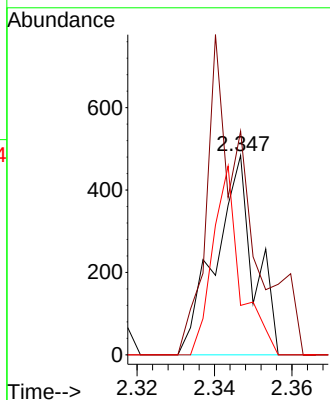
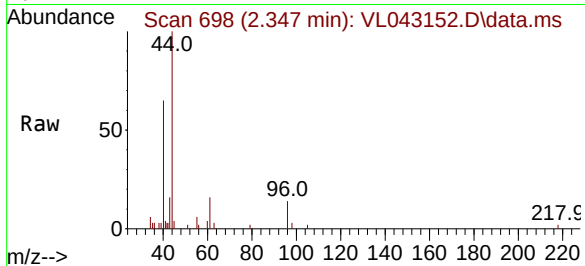




#22
 trans-1,2-Dichloroethene
 Concen: 0.050 ppbv
 RT: 2.347 min Scan# 61
 Delta R.T. 0.003 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

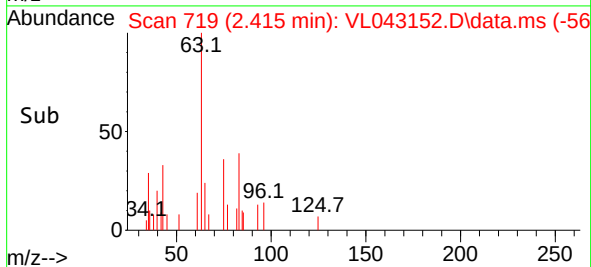
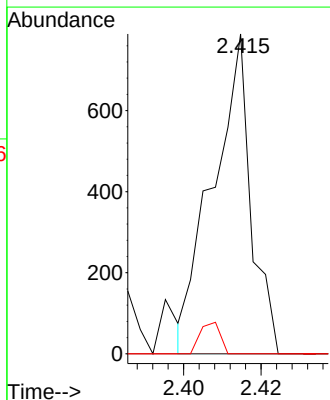
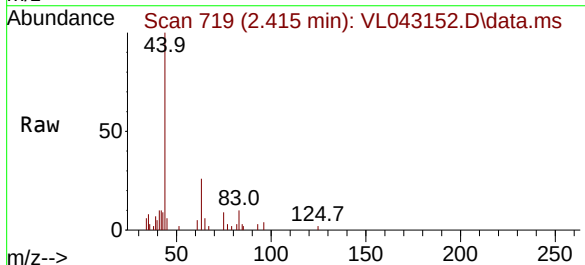
Instrument :
 MSVOA_L
 ClientSampleId :
 LOD-MDL-AIR-01-QT4-2025

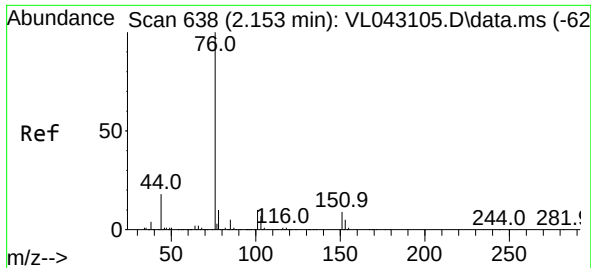
Tgt Ion: 96 Resp: 334
 Ion Ratio Lower Upper
 96 100
 61 112.2 137.0 205.6#
 98 24.8 45.5 68.3#



#24
 1,1-Dichloroethane
 Concen: 0.042 ppbv
 RT: 2.415 min Scan# 719
 Delta R.T. 0.003 min
 Lab File: VL043152.D
 Acq: 04 Nov 2025 12:59

Tgt Ion: 63 Resp: 537
 Ion Ratio Lower Upper
 63 100
 98 0.0 2.6 7.8#
 100 0.0 1.5 4.4#





#27

Carbon Disulfide

Concen: 0.039 ppbv

RT: 2.153 min Scan# 61

Delta R.T. -0.000 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

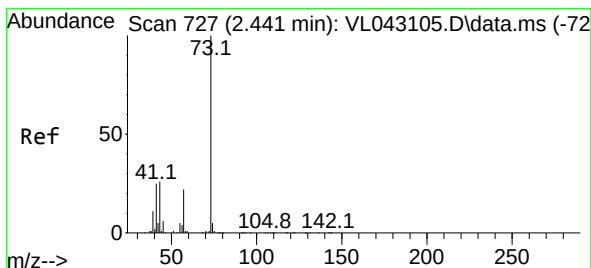
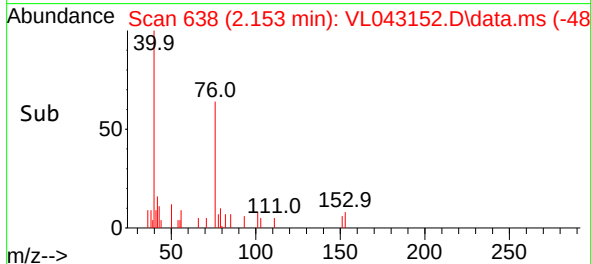
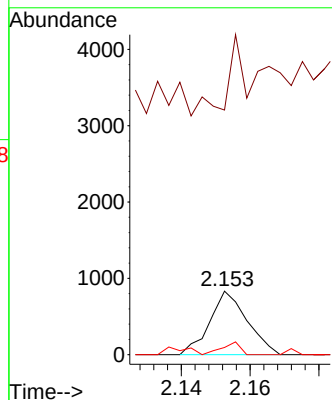
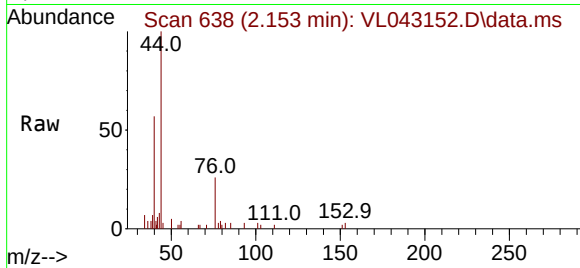
Instrument :

MSVOA_1

ClientSampleId :

LOD-MDL-AIR-01-QT4-2025

Tgt Ion:	76	Resp:	629
Ion	Ratio	Lower	Upper
76	100		
44	1636.6	16.7	25.1#
78	17.2	9.3	13.9#



#28

Methyl tert-Butyl Ether

Concen: 0.032 ppbv

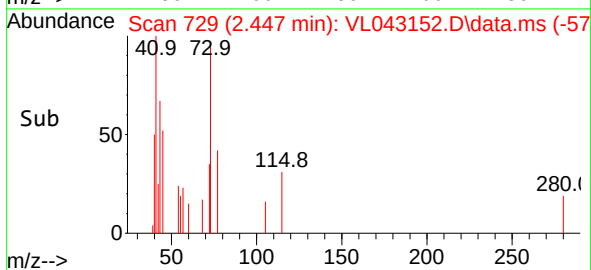
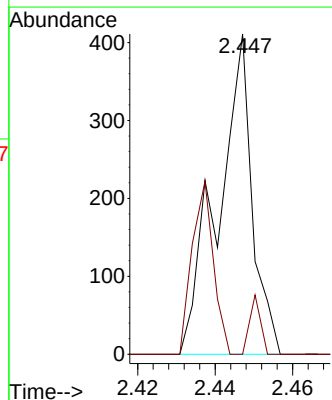
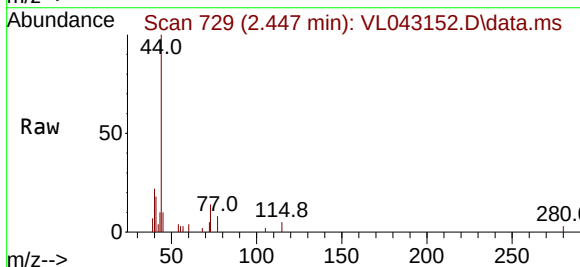
RT: 2.447 min Scan# 729

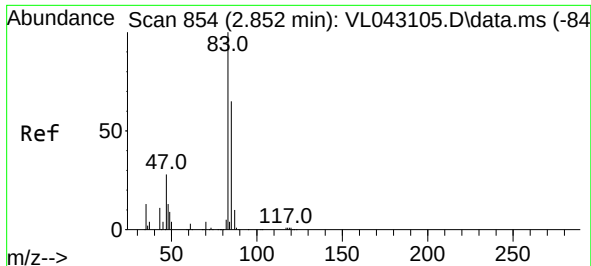
Delta R.T. 0.006 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Tgt Ion:	73	Resp:	253
Ion	Ratio	Lower	Upper
73	100		
57	39.1	20.5	30.7#





#29

Chloroform

Concen: 0.041 ppbv

RT: 2.855 min Scan# 81

Delta R.T. 0.003 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Instrument :

MSVOA_L

ClientSampleId :

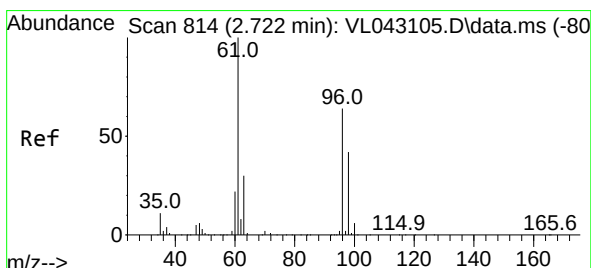
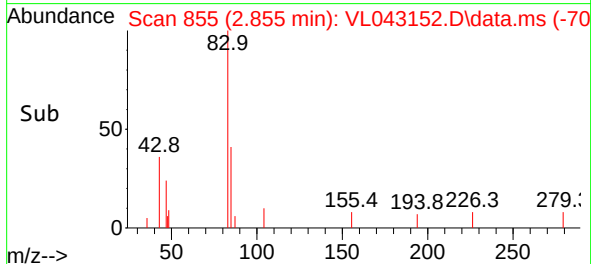
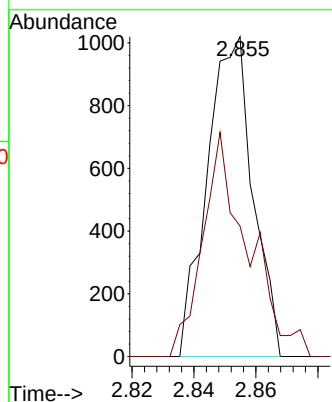
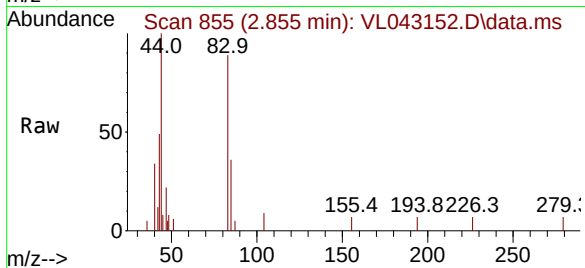
LOD-MDL-AIR-01-QT4-2025

Tgt Ion: 83 Resp: 1047

Ion Ratio Lower Upper

83 100

85 34.2 51.8 77.6#



#31

cis-1,2-Dichloroethene

Concen: 0.039 ppbv

RT: 2.725 min Scan# 815

Delta R.T. 0.003 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

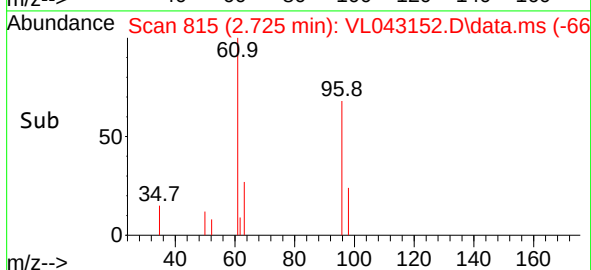
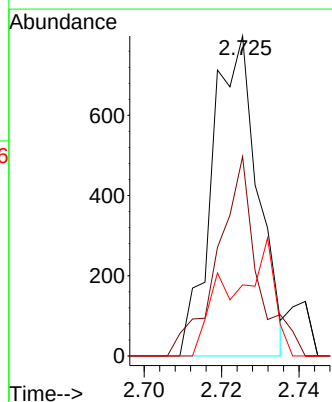
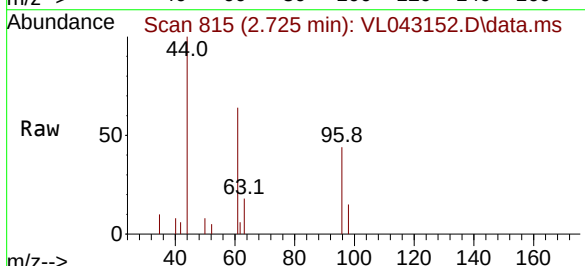
Tgt Ion: 61 Resp: 654

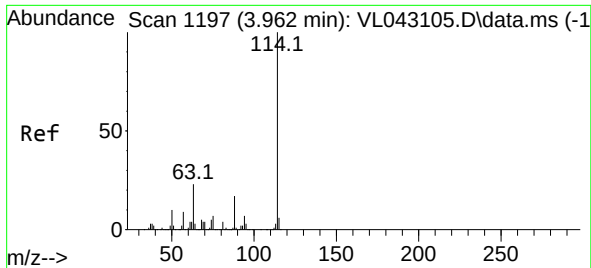
Ion Ratio Lower Upper

61 100

96 55.3 51.0 76.6

98 22.2 33.5 50.3#

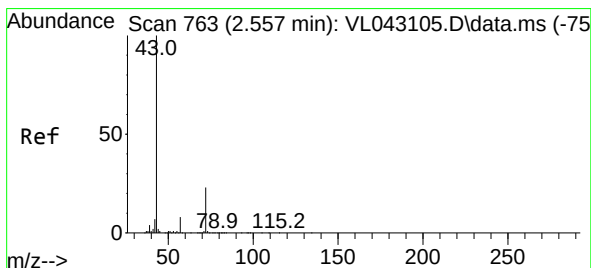
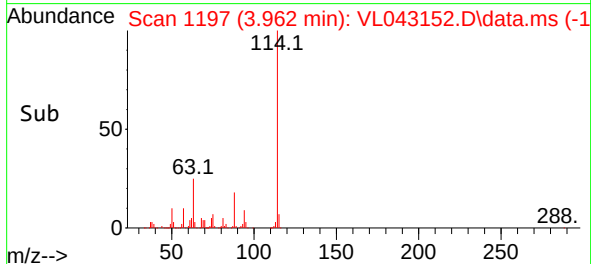
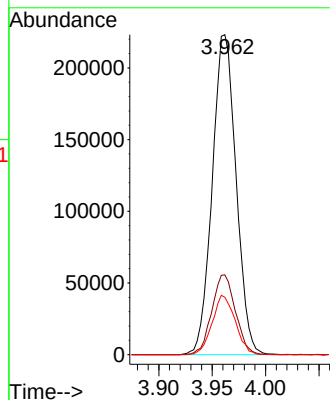
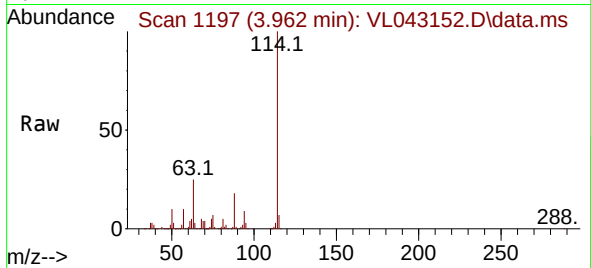




#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 3.962 min Scan# 1197
Delta R.T. -0.000 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

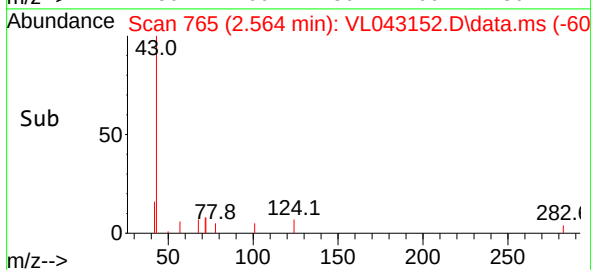
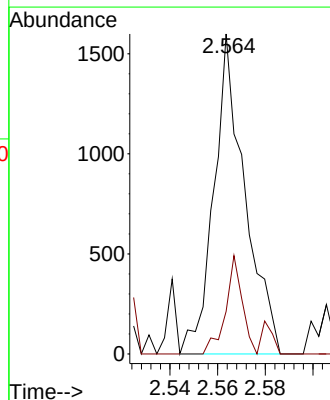
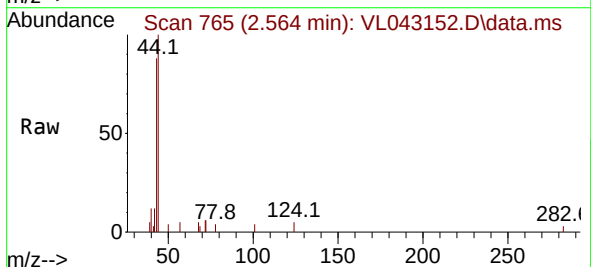
Instrument :
MSVOA_L
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

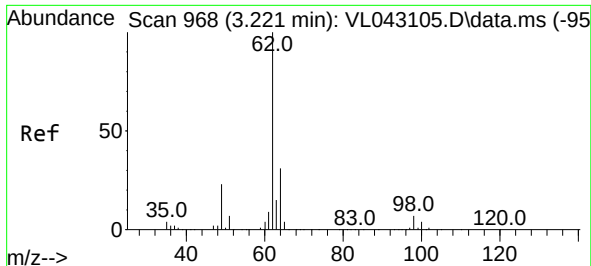
Tgt Ion:114 Resp: 346779
Ion Ratio Lower Upper
114 100
63 24.8 19.3 28.9
88 17.9 13.9 20.9



#34
2-Butanone
Concen: 0.062 ppbv
RT: 2.564 min Scan# 765
Delta R.T. 0.006 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 43 Resp: 1440
Ion Ratio Lower Upper
43 100
72 20.0 18.4 27.6

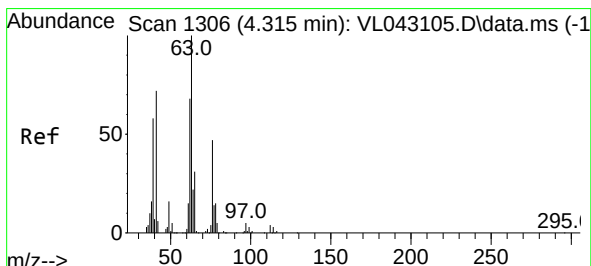
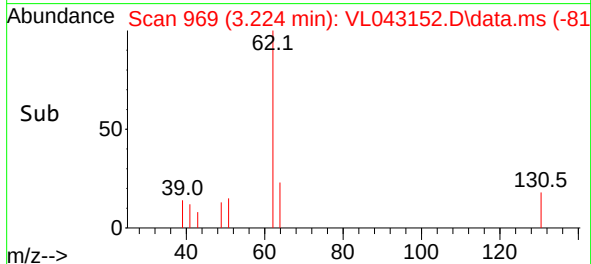
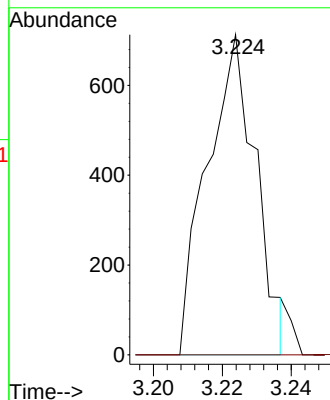
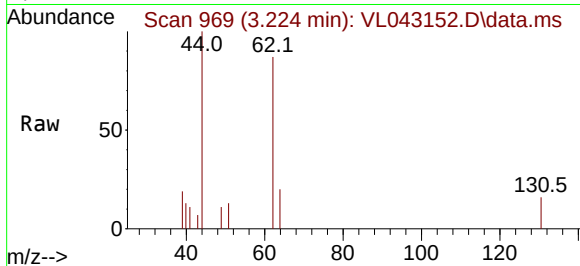




#37
1,2-Dichloroethane
Concen: 0.037 ppbv
RT: 3.224 min Scan# 91
Delta R.T. 0.003 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

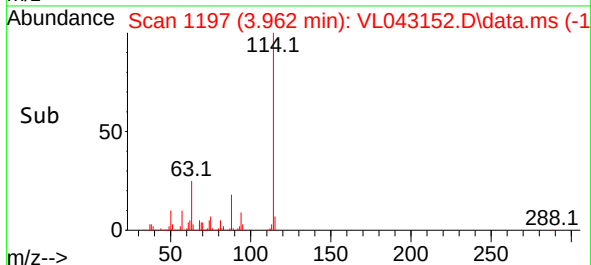
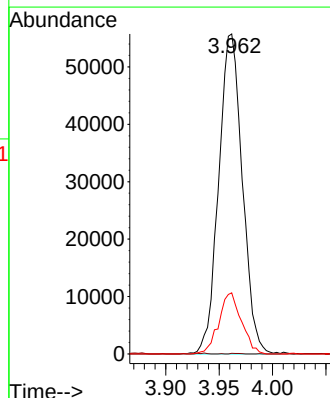
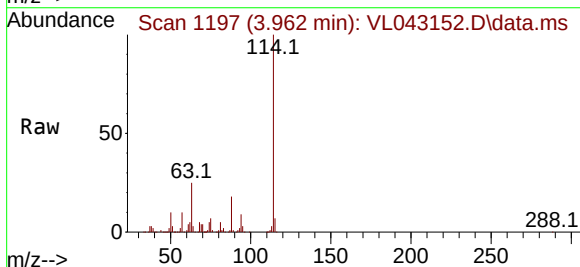
Instrument :
MSVOA_1
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

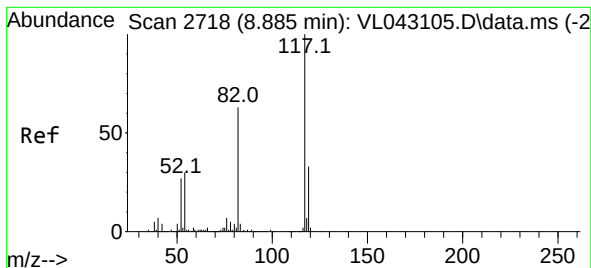
Tgt Ion: 62 Resp: 700
Ion Ratio Lower Upper
62 100
98 0.0 5.8 8.6#



#39
1,2-Dichloropropane
Concen: 7.196 ppbv
RT: 3.962 min Scan# 1197
Delta R.T. -0.353 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 63 Resp: 85922
Ion Ratio Lower Upper
63 100
41 0.2 58.0 87.0#
62 19.1 54.7 82.1#





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 8.882 min Scan# 2718

Delta R.T. -0.003 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

Instrument :

MSVOA_1

ClientSampleId :

LOD-MDL-AIR-01-QT4-2025

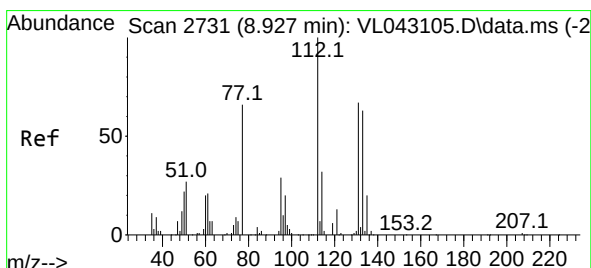
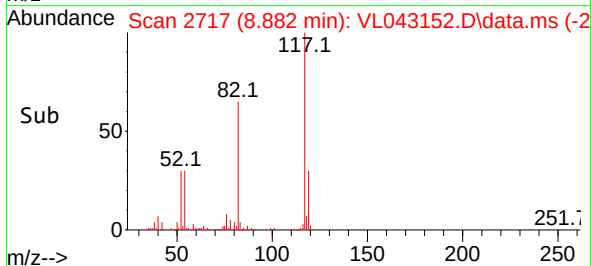
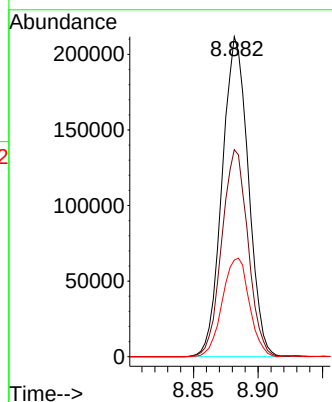
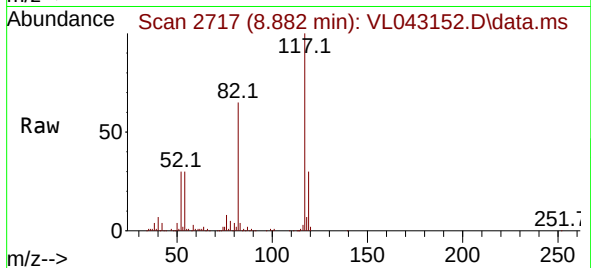
Tgt Ion:117 Resp: 298519

Ion Ratio Lower Upper

117 100

82 64.8 53.8 80.8

119 32.0 25.4 38.0



#57

Chlorobenzene

Concen: 0.034 ppbv

RT: 8.920 min Scan# 2729

Delta R.T. -0.007 min

Lab File: VL043152.D

Acq: 04 Nov 2025 12:59

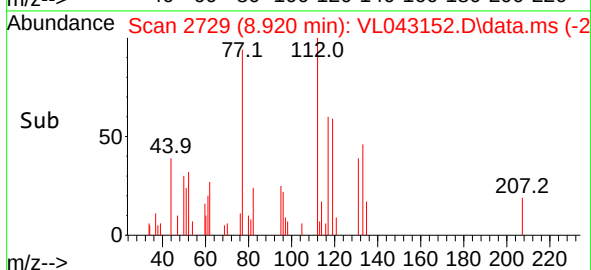
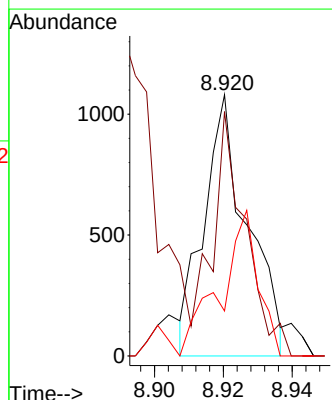
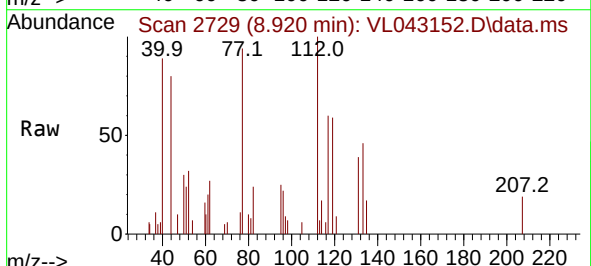
Tgt Ion:112 Resp: 949

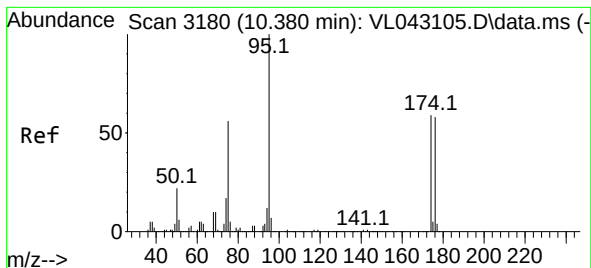
Ion Ratio Lower Upper

112 100

77 90.9 53.3 79.9#

114 19.3 29.3 35.8#

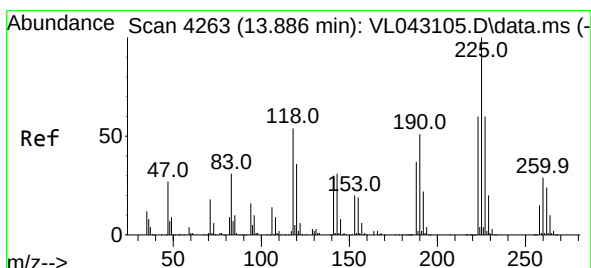
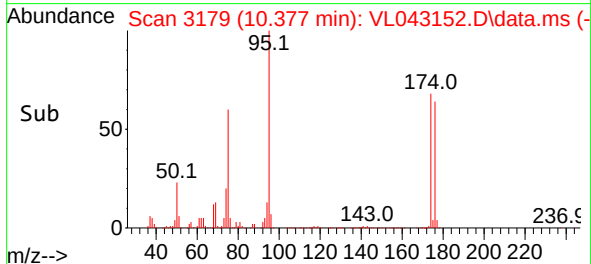
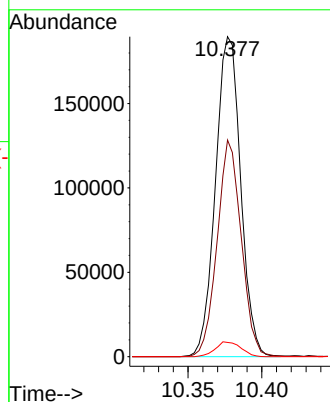
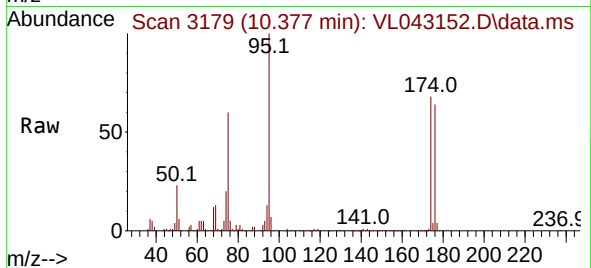




#68
1-Bromo-4-Fluorobenzene
Concen: 9.720 ppbv
RT: 10.377 min Scan# 3180
Delta R.T. -0.004 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Instrument : MSVOA_L
ClientSampleId :
LOD-MDL-AIR-01-QT4-2025

Tgt Ion: 95 Resp: 225526
Ion Ratio Lower Upper
95 100
174 64.8 48.3 72.5
175 4.7 3.8 5.8



#78
Hexachloro-1,3-Butadiene
Concen: 0.031 ppbv
RT: 13.879 min Scan# 4261
Delta R.T. -0.007 min
Lab File: VL043152.D
Acq: 04 Nov 2025 12:59

Tgt Ion: 225 Resp: 622
Ion Ratio Lower Upper
225 100
223 80.5 50.2 75.4#
227 98.1 49.6 74.4#

