

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL111125\
 Data File : VL043185.D
 Acq On : 11 Nov 2025 11:41
 Operator : SY/MD
 Sample : Q3594-01DL 5X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1ADL

Quant Time: Nov 12 00:16:20 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)

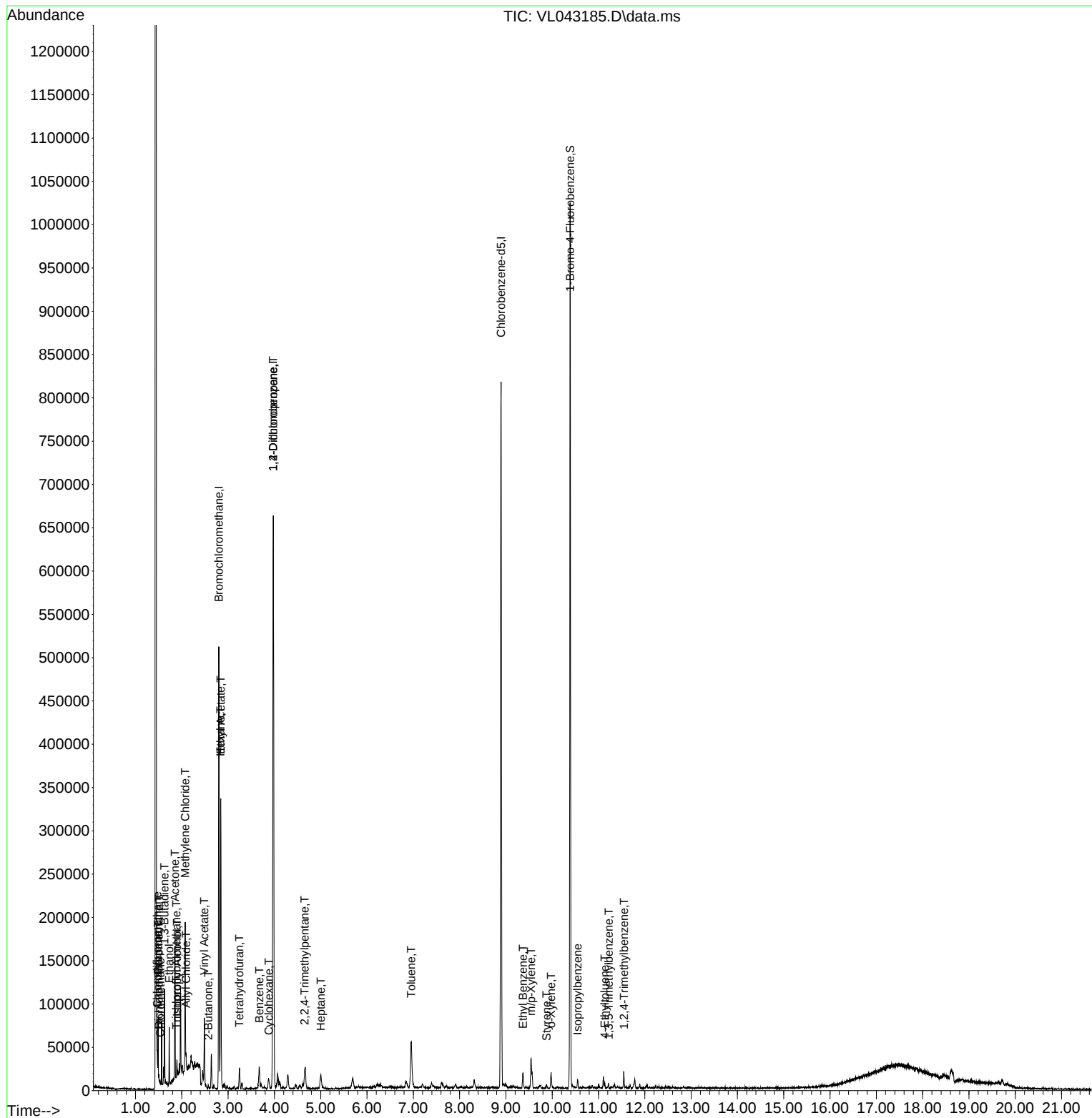
Internal Standards						
1) Bromochloromethane	2.800	49	143763	10.000	ppbv	0.01
33) 1,4-Difluorobenzene	3.975	114	397242	10.000	ppbv	0.01
55) Chlorobenzene-d5	8.895	117	331668	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.387	95	253627	9.838	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	98.400%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.502	85	2009	0.098	ppbv #	87
3) Chlorodifluoromethane	1.470	51	5350	0.242	ppbv #	72
4) Chloromethane	1.538	50	603	0.074	ppbv	93
9) Propene	1.489	41	9988	1.018	ppbv	92
10) Heptane	5.001	43	5454	0.193	ppbv	92
11) Trichlorofluoromethane	1.884	101	1099	0.055	ppbv #	66
13) Ethanol	1.729	45	21094	5.815	ppbv	96
15) Acetone	1.852	43	37071	1.913	ppbv #	74
16) 1,3-Butadiene	1.625	39	6125	0.663	ppbv #	38
19) Isopropyl Alcohol	1.897	45	7729	0.640	ppbv #	64
20) Methylene Chloride	2.072	84	25402	3.316	ppbv #	86
21) Allyl Chloride	2.091	41	1241	0.087	ppbv #	1
23) Vinyl Acetate	2.486	43	22158	0.781	ppbv #	46
25) Ethyl Acetate	2.842	43	59957	1.248	ppbv #	79
26) Hexane	2.839	57	80281	3.626	ppbv #	43
30) Cyclohexane	3.881	84	1394	0.072	ppbv #	1
34) 2-Butanone	2.570	43	2072	0.078	ppbv	91
36) Benzene	3.674	78	14543	0.389	ppbv	94
39) 1,2-Dichloropropane	3.975	63	100562	7.352	ppbv #	24
41) Tetrahydrofuran	3.240	42	890	0.060	ppbv #	40
44) 2,2,4-Trimethylpentane	4.655	57	8905	0.141	ppbv #	16
53) Toluene	6.953	91	36603	0.824	ppbv	100
58) Ethyl Benzene	9.367	91	9967	0.175	ppbv	99
59) m/p-Xylene	9.542	91	21079	0.464	ppbv	98
60) o-Xylene	9.976	91	7399	0.165	ppbv	99
61) Styrene	9.879	104	676	0.033	ppbv	88
62) Isopropylbenzene	10.549	105	4045	0.050	ppbv	99
72) 4-Ethyltoluene	11.134	105	1822	0.033	ppbv #	58
73) 1,3,5-Trimethylbenzene	11.219	105	1665	0.037	ppbv #	80
74) 1,2,4-Trimethylbenzene	11.549	105	5622	0.110	ppbv #	49

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

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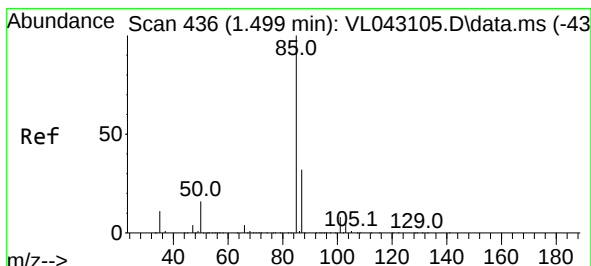
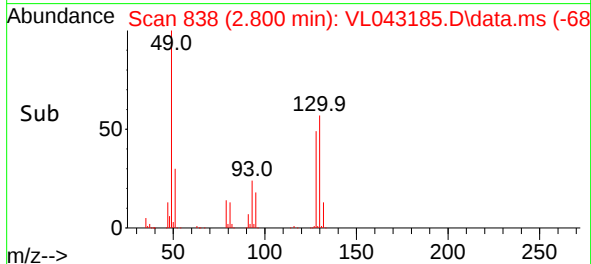
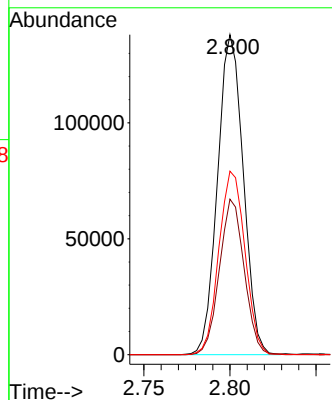
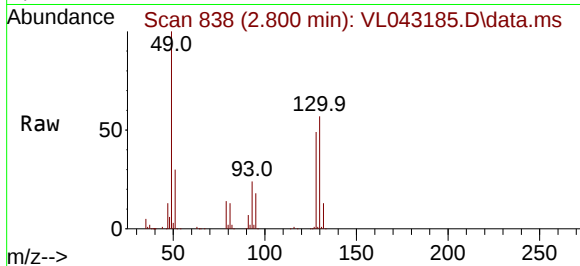




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.800 min Scan# 835
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

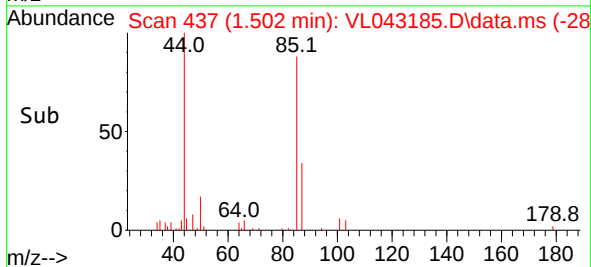
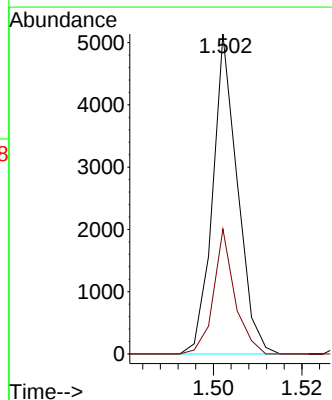
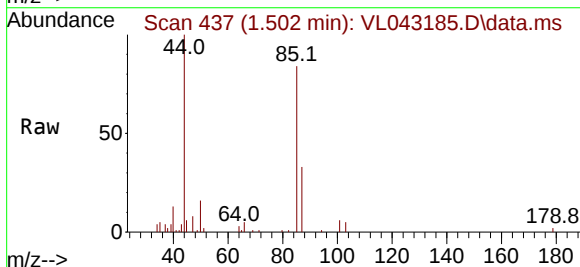
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

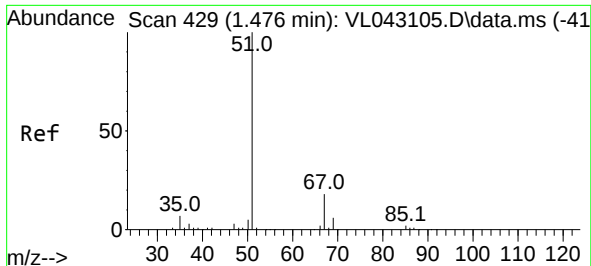
Tgt Ion: 49 Resp: 143763
Ion Ratio Lower Upper
49 100
128 46.7 24.4 73.4
130 58.2 31.0 93.0



#2
Dichlorodifluoromethane
Concen: 0.098 ppbv
RT: 1.502 min Scan# 437
Delta R.T. 0.003 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 85 Resp: 2009
Ion Ratio Lower Upper
85 100
87 39.1 25.3 37.9

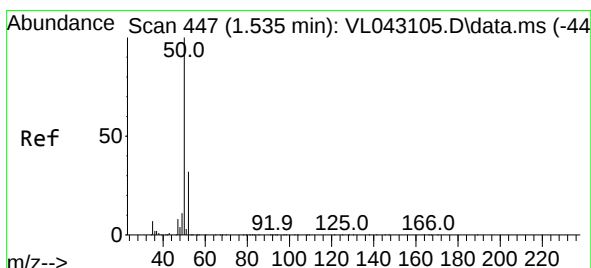
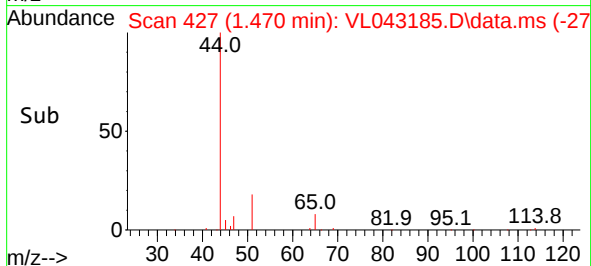
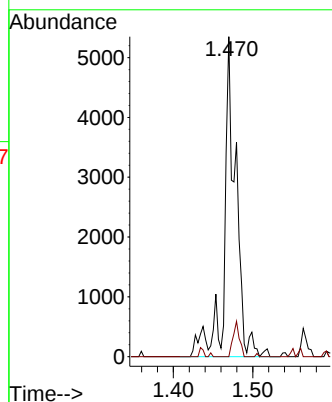
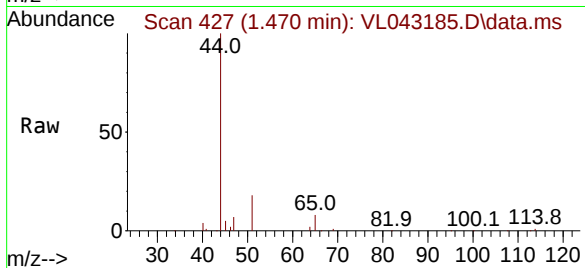




#3
Chlorodifluoromethane
Concen: 0.242 ppbv
RT: 1.470 min Scan# 41
Delta R.T. -0.007 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

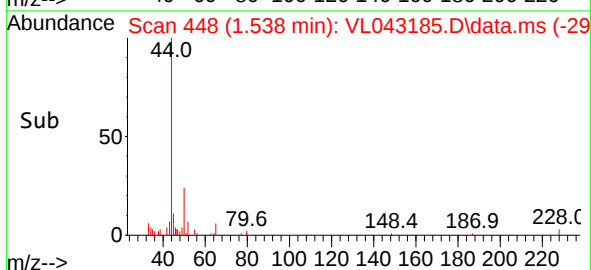
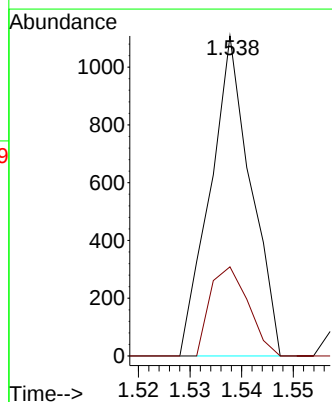
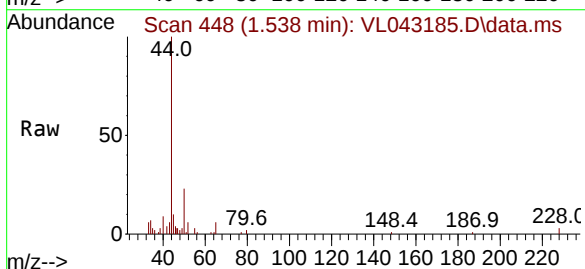
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

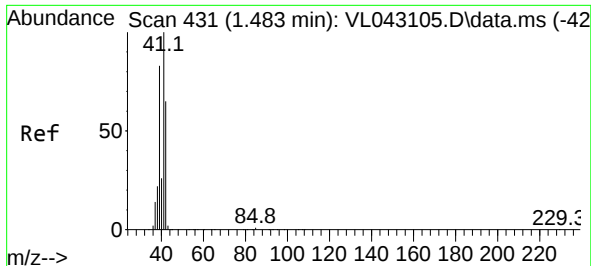
Tgt Ion: 51 Resp: 5350
Ion Ratio Lower Upper
51 100
67 6.3 15.1 22.7#



#4
Chloromethane
Concen: 0.074 ppbv
RT: 1.538 min Scan# 448
Delta R.T. 0.003 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 50 Resp: 603
Ion Ratio Lower Upper
50 100
52 27.9 25.2 37.8





#9

Propene

Concen: 1.018 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.006 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Instrument :

MSVOA_L

ClientSampleId :

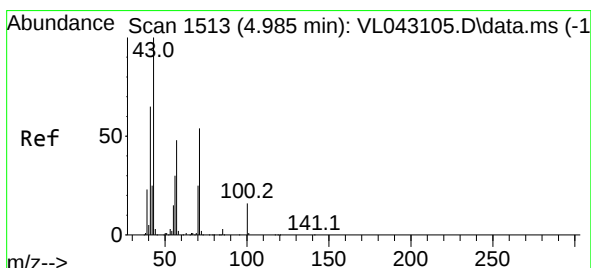
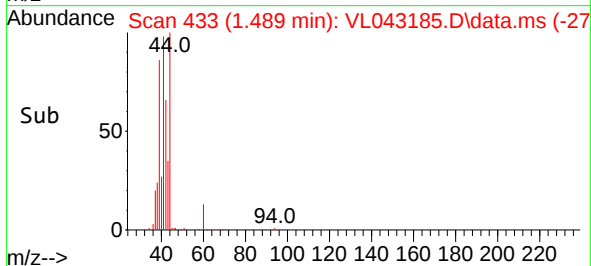
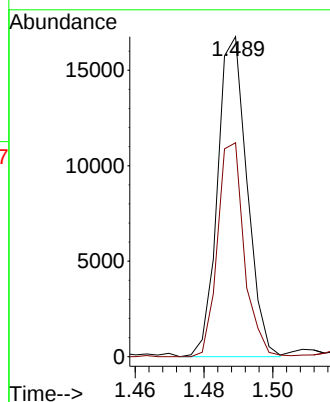
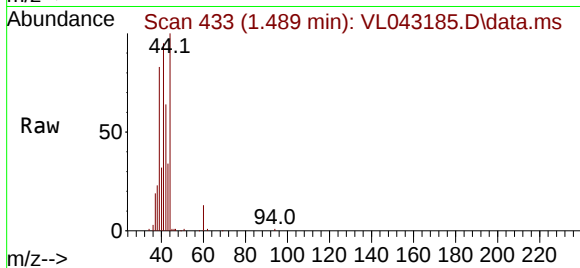
IA1ADL

Tgt Ion: 41 Resp: 9988

Ion Ratio Lower Upper

41 100

42 62.5 55.1 82.7



#10

Heptane

Concen: 0.193 ppbv

RT: 5.001 min Scan# 1518

Delta R.T. 0.016 min

Lab File: VL043185.D

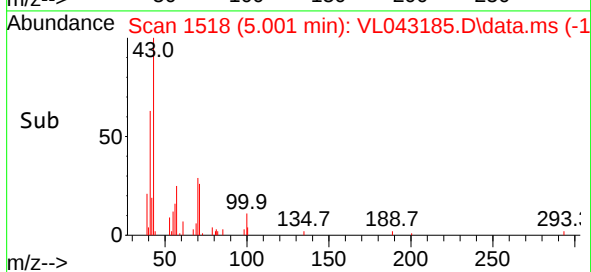
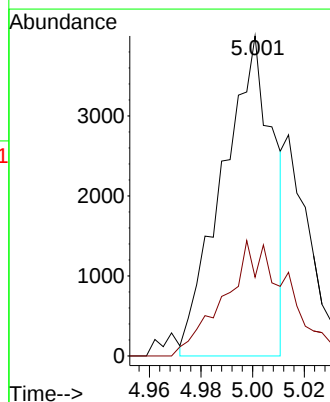
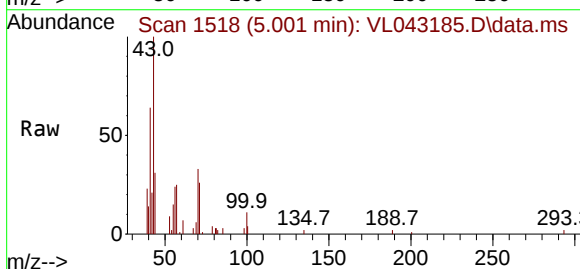
Acq: 11 Nov 2025 11:41

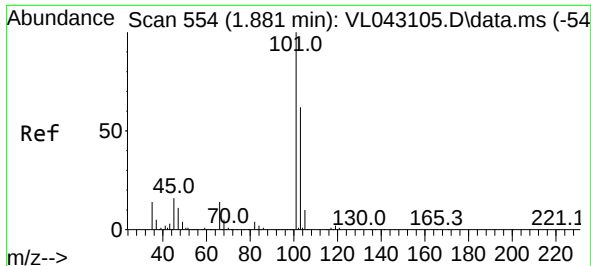
Tgt Ion: 43 Resp: 5454

Ion Ratio Lower Upper

43 100

57 45.4 40.8 61.2

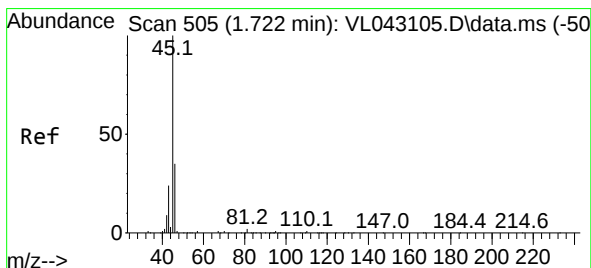
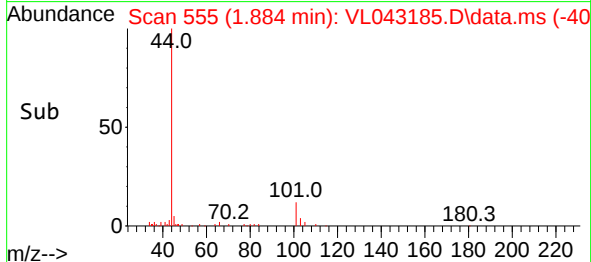
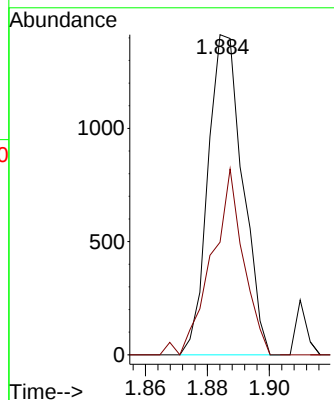
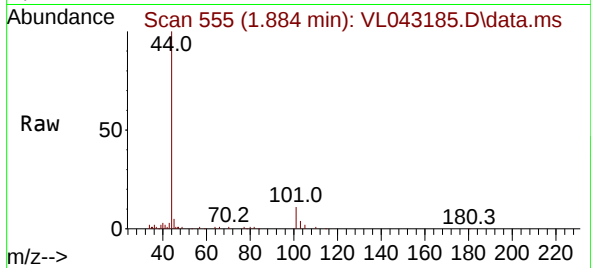




#11
Trichlorofluoromethane
Concen: 0.055 ppbv
RT: 1.884 min Scan# 51
Delta R.T. 0.003 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

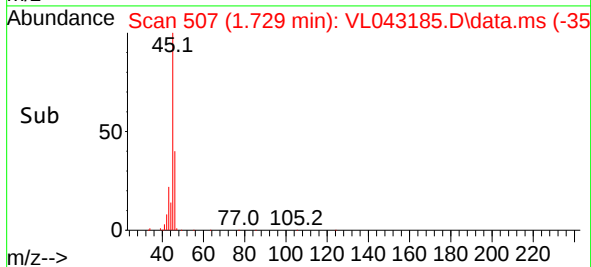
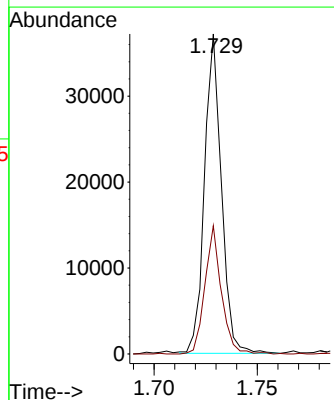
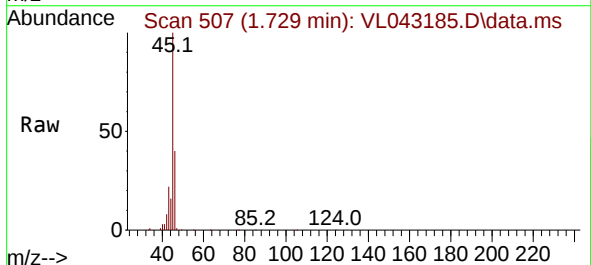
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

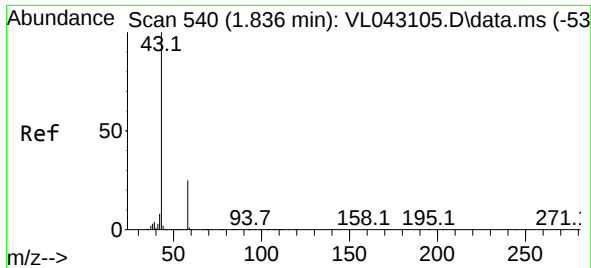
Tgt Ion:101 Resp: 1099
Ion Ratio Lower Upper
101 100
103 35.1 49.3 73.9#



#13
Ethanol
Concen: 5.815 ppbv
RT: 1.729 min Scan# 507
Delta R.T. 0.006 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 45 Resp: 21094
Ion Ratio Lower Upper
45 100
46 39.4 14.7 58.9





#15

Acetone

Concen: 1.913 ppbv

RT: 1.852 min Scan# 540

Delta R.T. 0.016 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Instrument :

MSVOA_L

ClientSampleId :

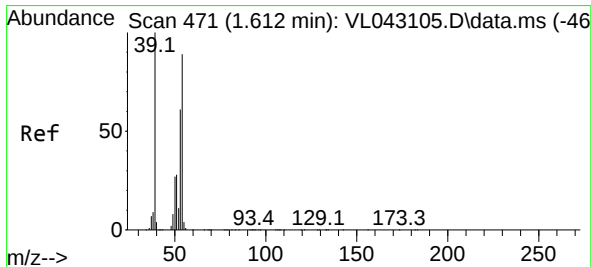
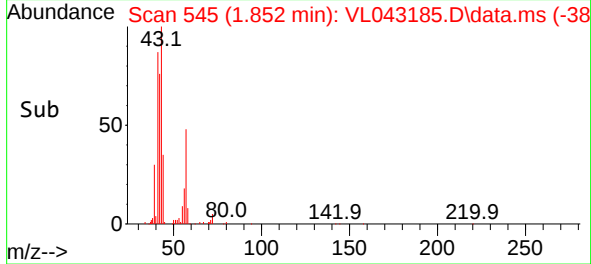
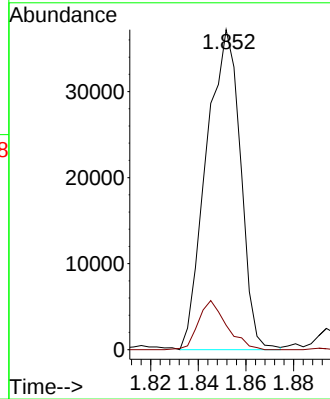
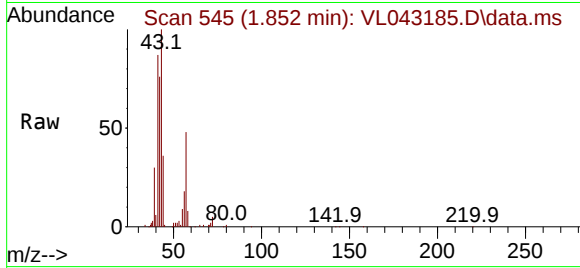
IA1ADL

Tgt Ion: 43 Resp: 37071

Ion Ratio Lower Upper

43 100

58 12.7 20.8 31.2#



#16

1,3-Butadiene

Concen: 0.663 ppbv

RT: 1.625 min Scan# 475

Delta R.T. 0.013 min

Lab File: VL043185.D

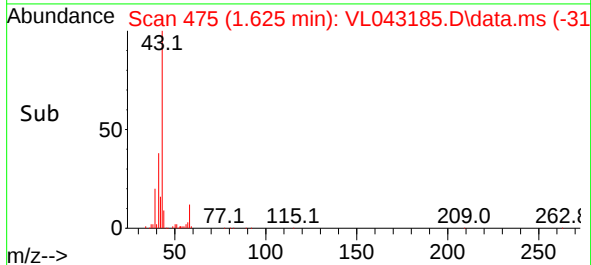
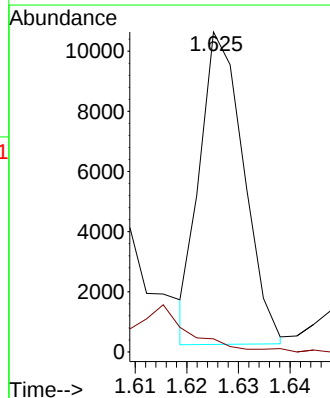
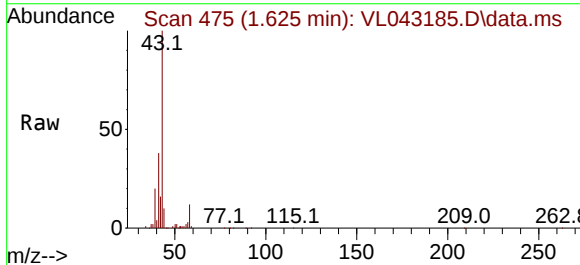
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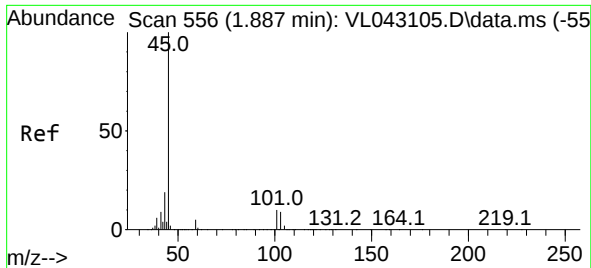
Tgt Ion: 39 Resp: 6125

Ion Ratio Lower Upper

39 100

54 21.2 59.0 88.4#

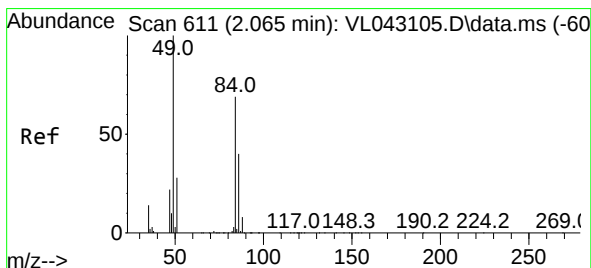
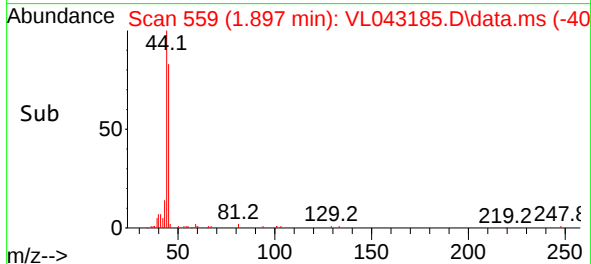
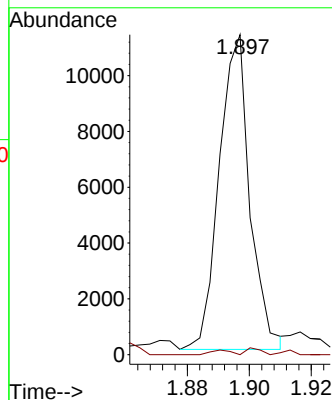
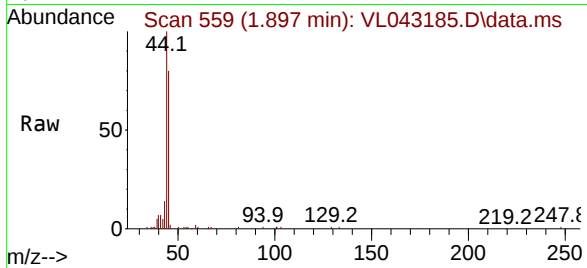




#19
Isopropyl Alcohol
Concen: 0.640 ppbv
RT: 1.897 min Scan# 510
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

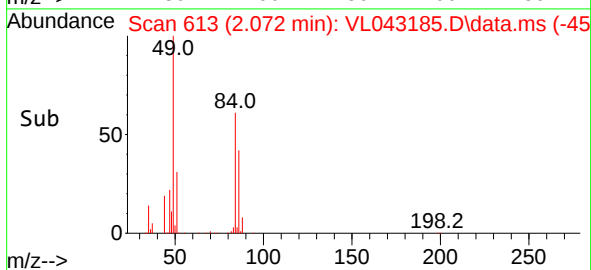
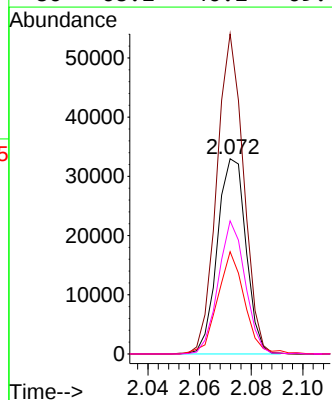
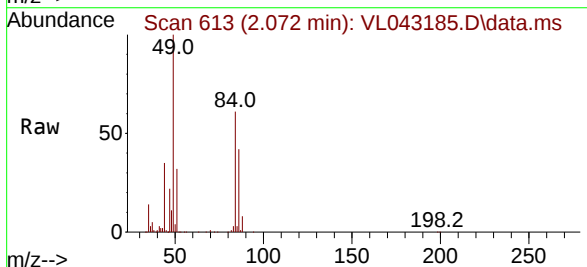
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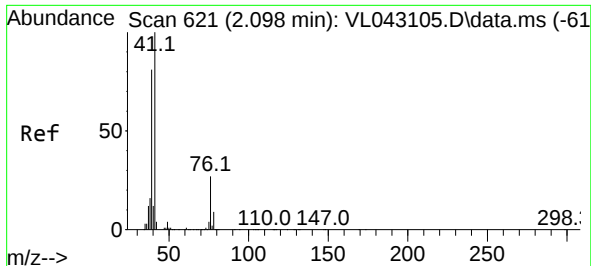
Tgt Ion: 45 Resp: 7729
Ion Ratio Lower Upper
45 100
58 60.8 31.3 46.9#



#20
Methylene Chloride
Concen: 3.316 ppbv
RT: 2.072 min Scan# 613
Delta R.T. 0.006 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 84 Resp: 25402
Ion Ratio Lower Upper
84 100
49 163.5 116.6 175.0
51 52.4 34.8 52.2#
86 68.2 46.2 69.4

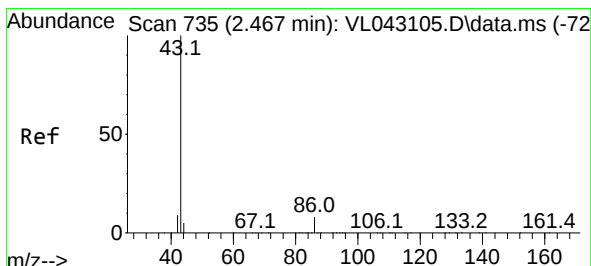
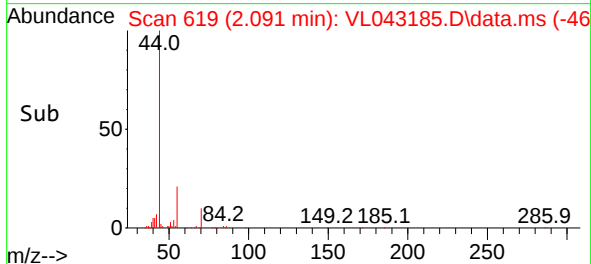
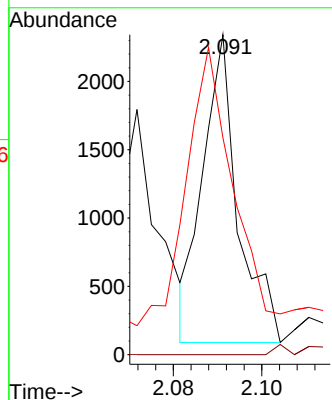
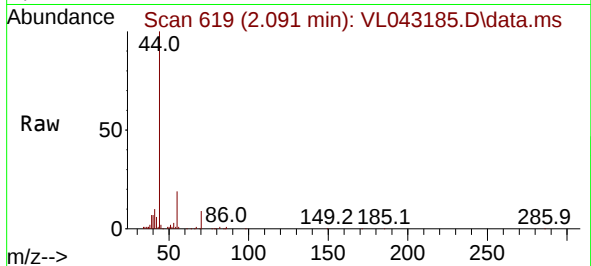




#21
 Allyl Chloride
 Concen: 0.087 ppbv
 RT: 2.091 min Scan# 61
 Delta R.T. -0.007 min
 Lab File: VL043185.D
 Acq: 11 Nov 2025 11:41

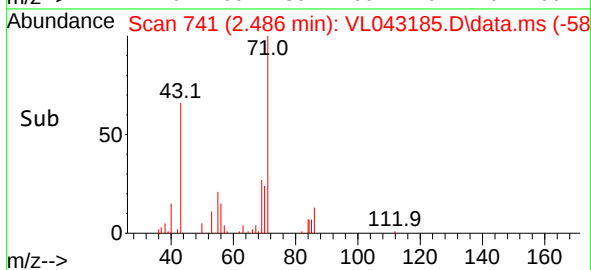
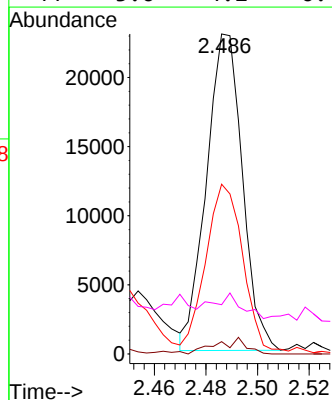
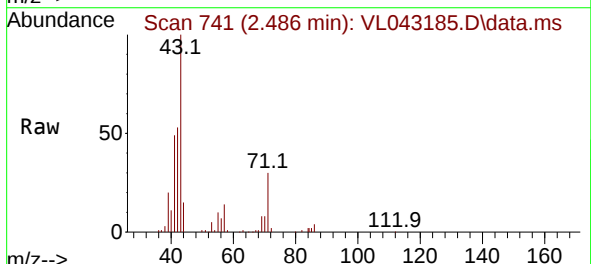
Instrument :
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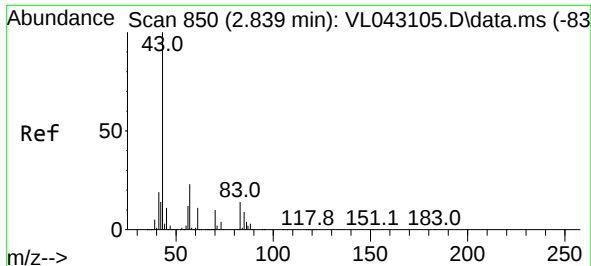
Tgt Ion: 41 Resp: 1241
 Ion Ratio Lower Upper
 41 100
 76 5.2 21.5 32.3#
 39 211.0 60.8 91.2#



#23
 Vinyl Acetate
 Concen: 0.781 ppbv
 RT: 2.486 min Scan# 741
 Delta R.T. 0.019 min
 Lab File: VL043185.D
 Acq: 11 Nov 2025 11:41

Tgt Ion: 43 Resp: 22158
 Ion Ratio Lower Upper
 43 100
 86 3.9 6.2 9.2#
 42 52.2 7.6 11.4#
 44 3.6 4.2 6.4#

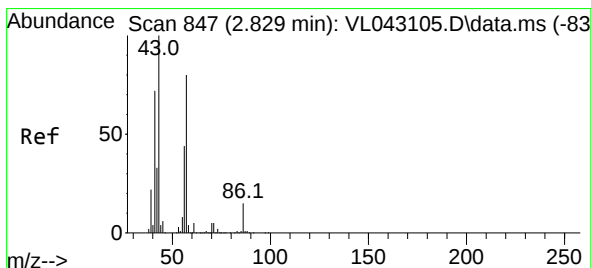
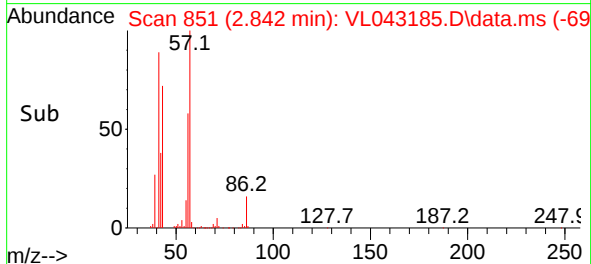
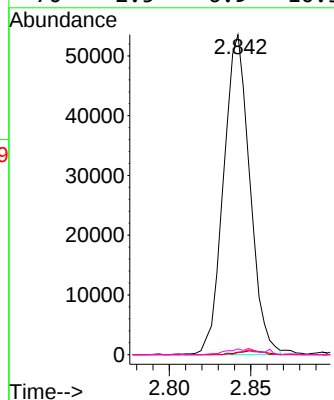
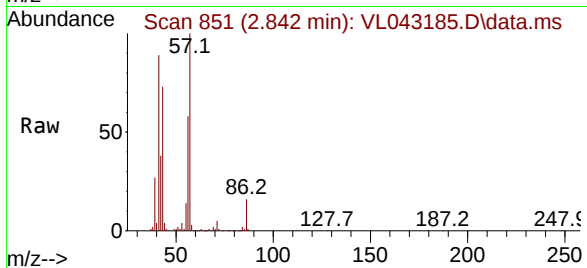




#25
Ethyl Acetate
Concen: 1.248 ppbv
RT: 2.842 min Scan# 851
Delta R.T. 0.003 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

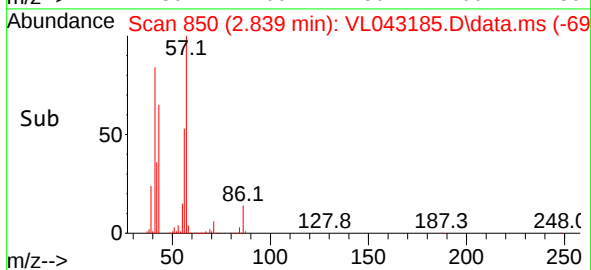
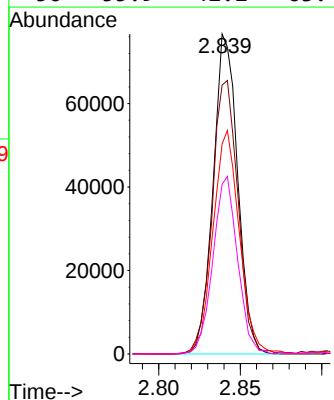
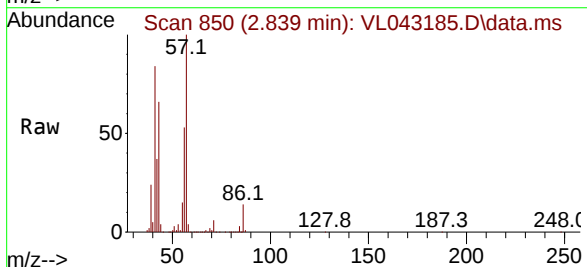
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

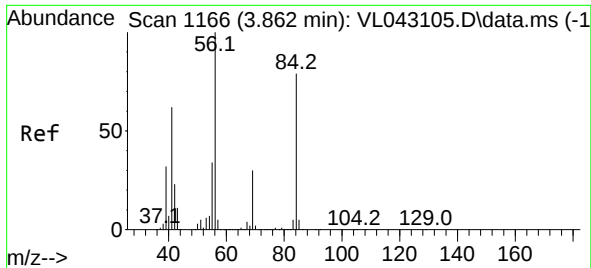
Tgt Ion: 43	Resp: 59957
Ion Ratio	Lower Upper
43 100	
45 1.3	7.8 11.8#
61 1.1	7.0 10.6#
70 2.5	6.9 10.3#



#26
Hexane
Concen: 3.626 ppbv
RT: 2.839 min Scan# 850
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 57	Resp: 80281
Ion Ratio	Lower Upper
57 100	
41 90.0	71.4 107.0
43 75.3	178.5 267.7#
56 55.9	42.2 63.4

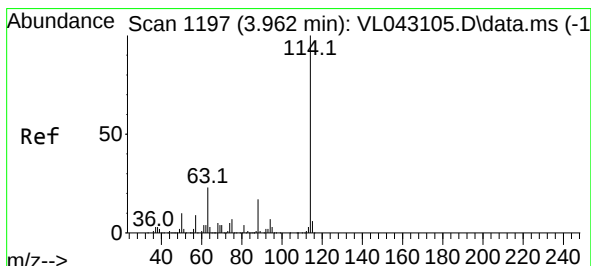
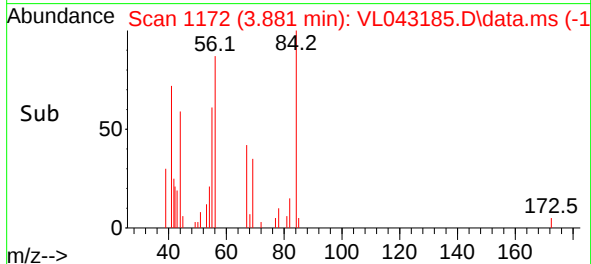
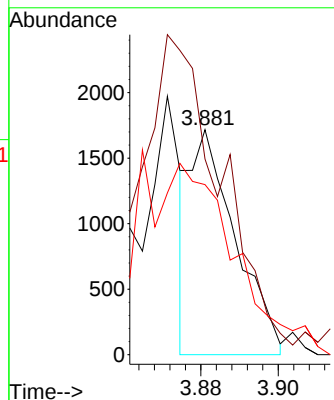
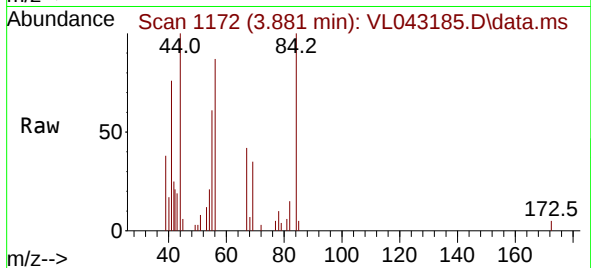




#30
Cyclohexane
Concen: 0.072 ppbv
RT: 3.881 min Scan# 1166
Delta R.T. 0.019 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

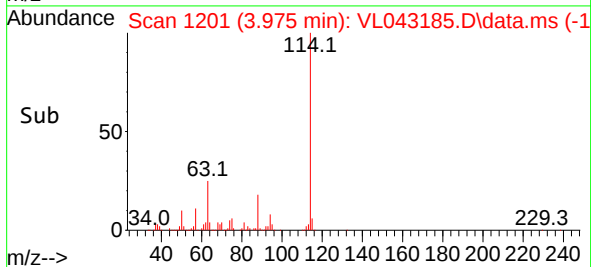
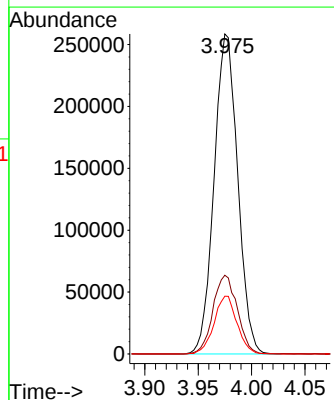
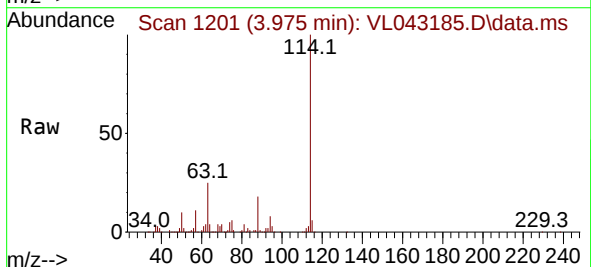
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

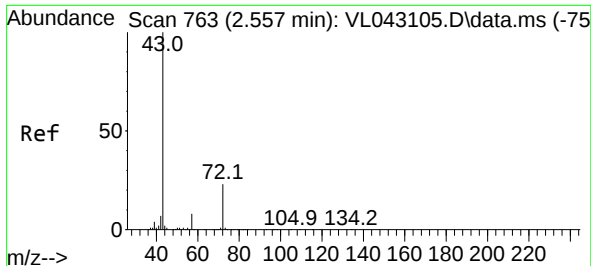
Tgt Ion: 84 Resp: 1394
Ion Ratio Lower Upper
84 100
56 0.0 100.9 151.3#
41 0.0 63.8 95.6#



#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 3.975 min Scan# 1201
Delta R.T. 0.013 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 114 Resp: 397242
Ion Ratio Lower Upper
114 100
63 25.4 19.3 28.9
88 17.6 13.9 20.9





#34

2-Butanone

Concen: 0.078 ppbv

RT: 2.570 min Scan# 7

Delta R.T. 0.013 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Instrument :

MSVOA_L

ClientSampleId :

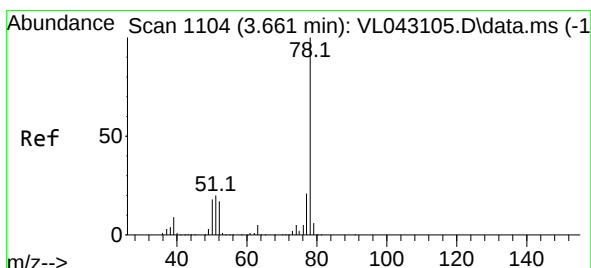
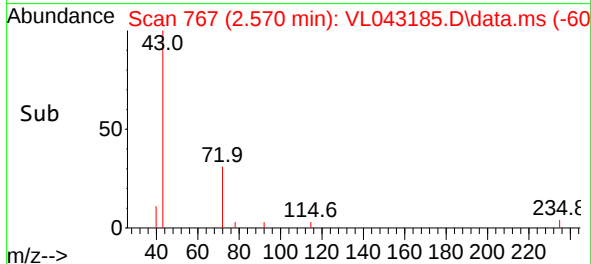
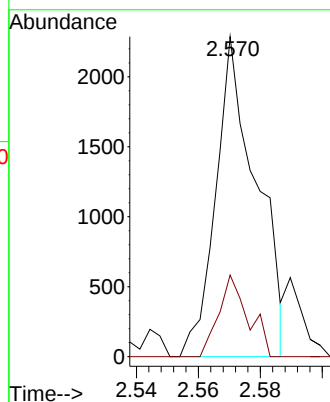
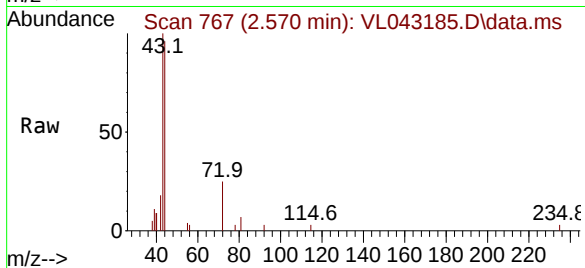
IA1ADL

Tgt Ion: 43 Resp: 2072

Ion Ratio Lower Upper

43 100

72 18.5 18.4 27.6



#36

Benzene

Concen: 0.389 ppbv

RT: 3.674 min Scan# 1108

Delta R.T. 0.013 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

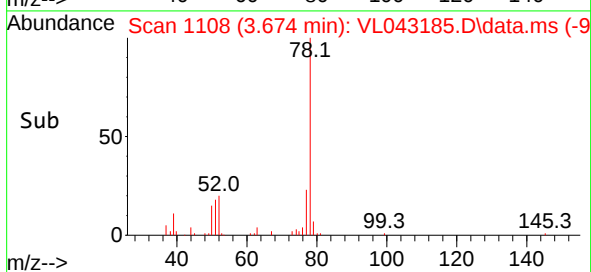
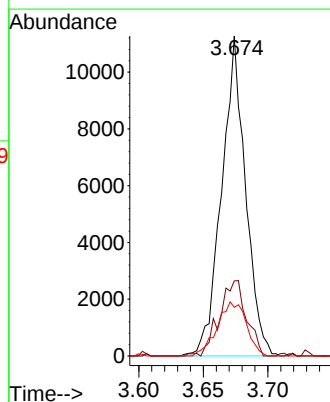
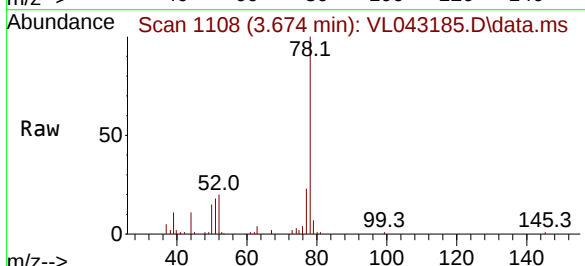
Tgt Ion: 78 Resp: 14543

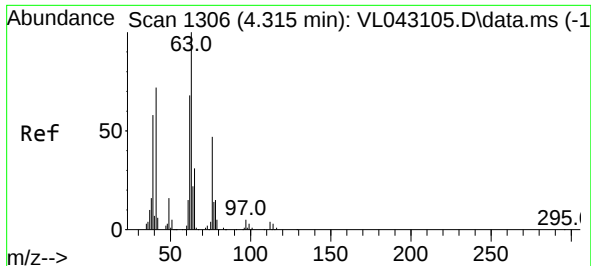
Ion Ratio Lower Upper

78 100

77 23.5 17.0 25.6

50 15.2 14.6 22.0

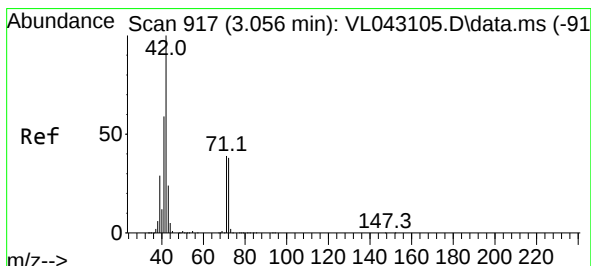
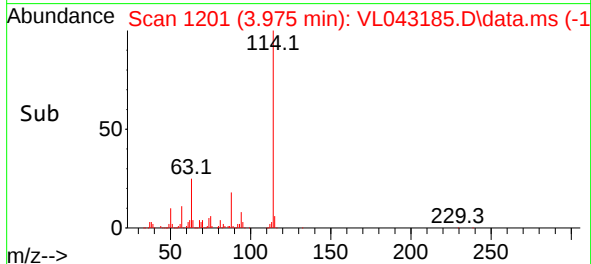
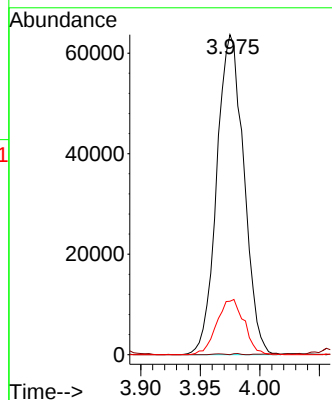
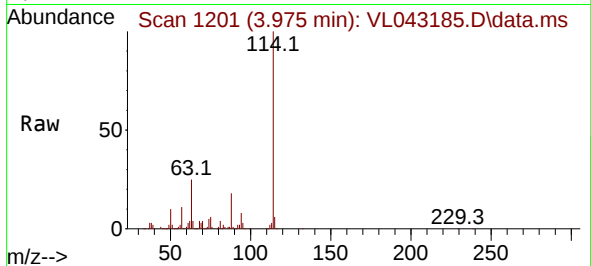




#39
1,2-Dichloropropane
Concen: 7.352 ppbv
RT: 3.975 min Scan# 11
Delta R.T. -0.340 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

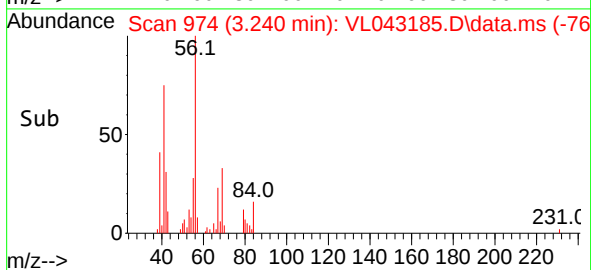
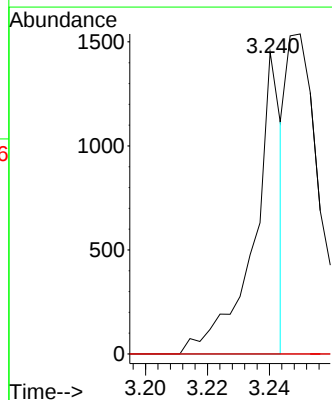
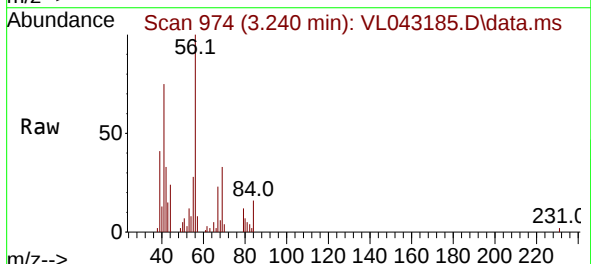
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

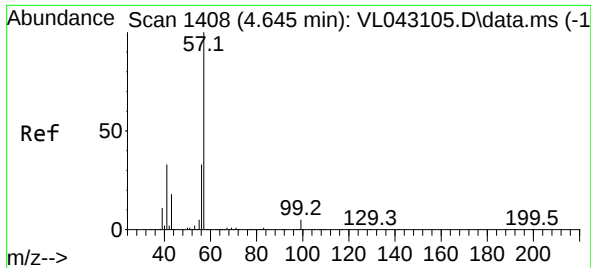
Tgt Ion: 63 Resp: 100562
Ion Ratio Lower Upper
63 100
41 0.0 58.0 87.0#
62 16.7 54.7 82.1#



#41
Tetrahydrofuran
Concen: 0.060 ppbv
RT: 3.240 min Scan# 974
Delta R.T. 0.184 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 42 Resp: 890
Ion Ratio Lower Upper
42 100
72 4.0 31.3 46.9#
71 0.0 30.4 45.6#

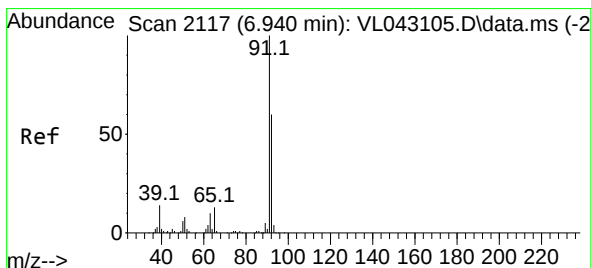
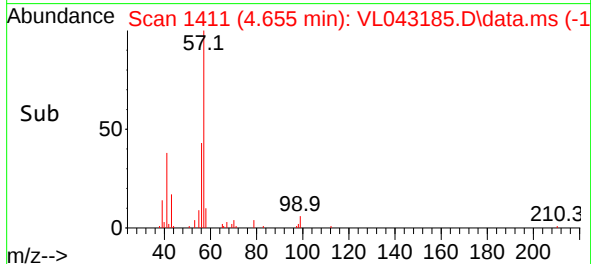
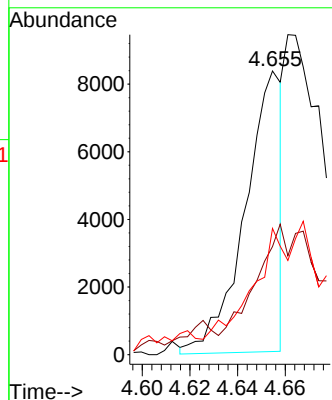
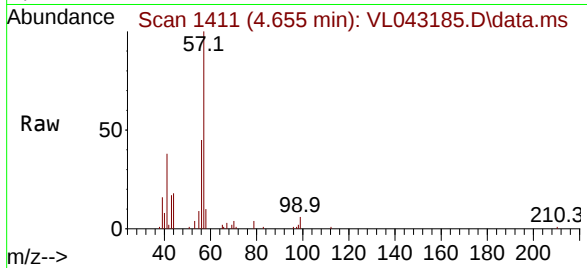




#44
2,2,4-Trimethylpentane
Concen: 0.141 ppbv
RT: 4.655 min Scan# 1411
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

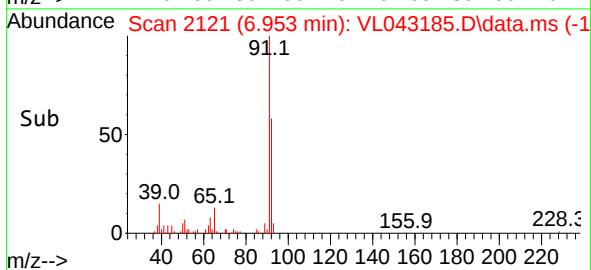
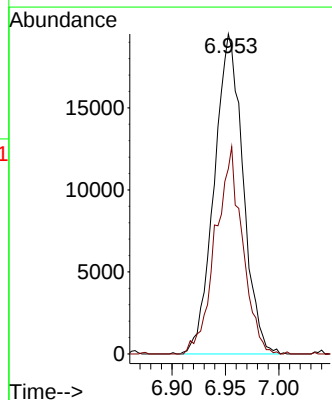
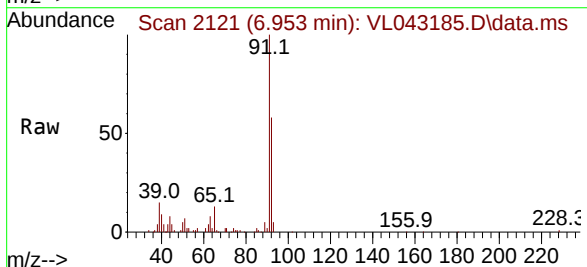
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

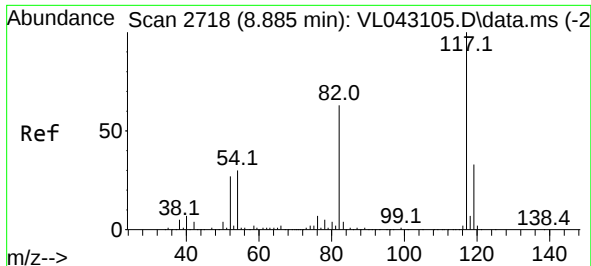
Tgt Ion: 57 Resp: 8905
Ion Ratio Lower Upper
57 100
41 95.4 26.3 39.5#
56 0.0 25.9 38.9#



#53
Toluene
Concen: 0.824 ppbv
RT: 6.953 min Scan# 2121
Delta R.T. 0.013 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 91 Resp: 36603
Ion Ratio Lower Upper
91 100
92 60.9 48.8 73.2

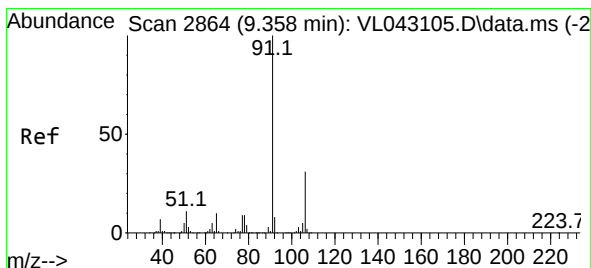
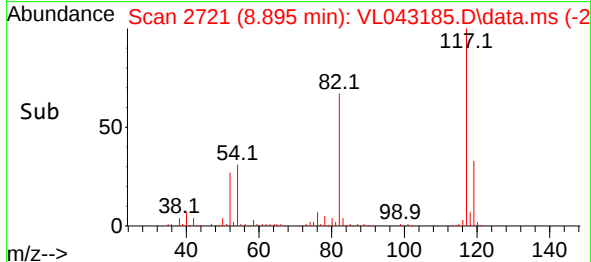
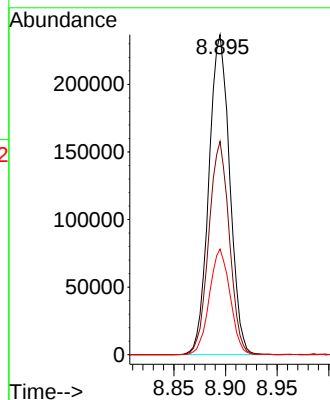
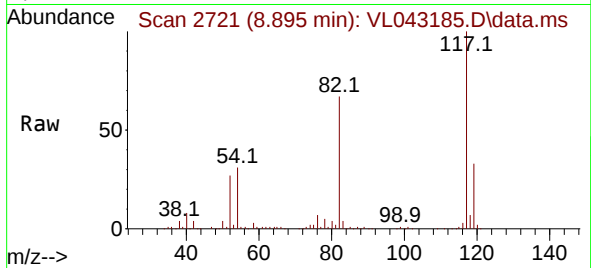




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.895 min Scan# 21
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

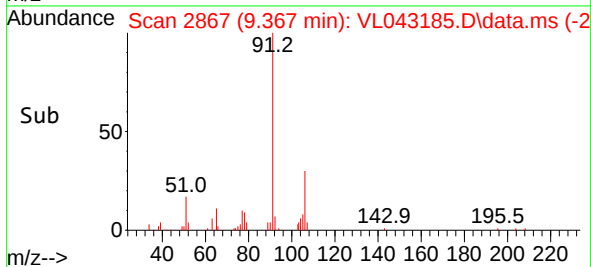
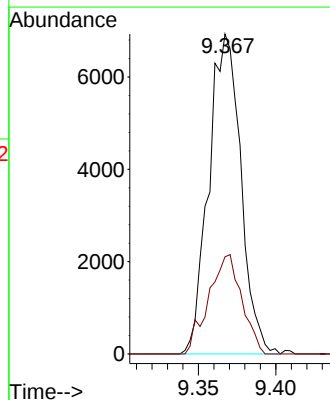
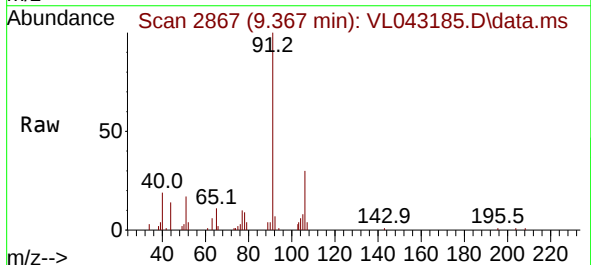
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

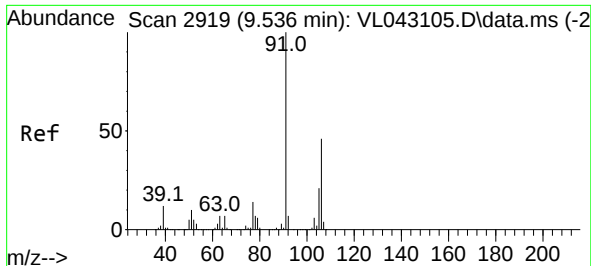
Tgt Ion:117 Resp: 331668
Ion Ratio Lower Upper
117 100
82 65.9 53.8 80.8
119 32.9 25.4 38.0



#58
Ethyl Benzene
Concen: 0.175 ppbv
RT: 9.367 min Scan# 2867
Delta R.T. 0.010 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 91 Resp: 9967
Ion Ratio Lower Upper
91 100
106 30.4 24.8 37.2





#59

m/p-Xylene

Concen: 0.464 ppbv

RT: 9.542 min Scan# 2919

Delta R.T. 0.006 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Instrument :

MSVOA_L

ClientSampleId :

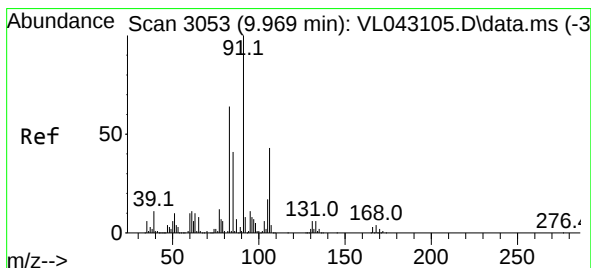
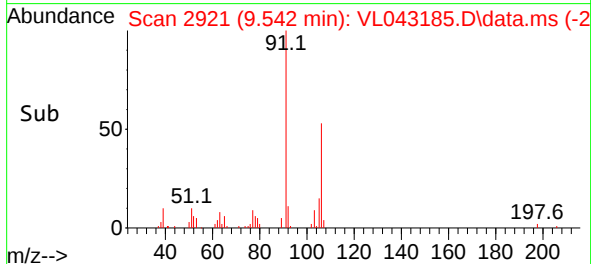
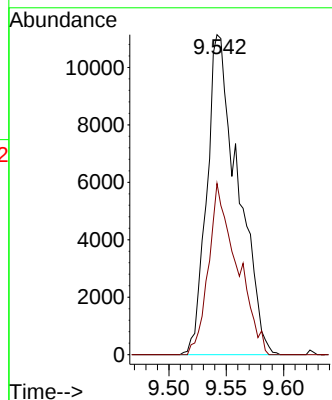
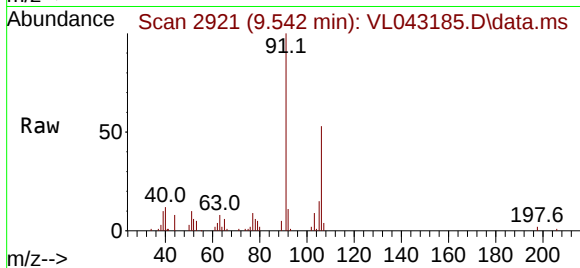
IA1ADL

Tgt Ion: 91 Resp: 21079

Ion Ratio Lower Upper

91 100

106 48.7 38.0 57.0



#60

o-Xylene

Concen: 0.165 ppbv

RT: 9.976 min Scan# 3055

Delta R.T. 0.006 min

Lab File: VL043185.D

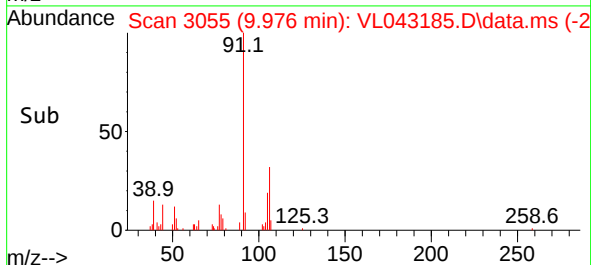
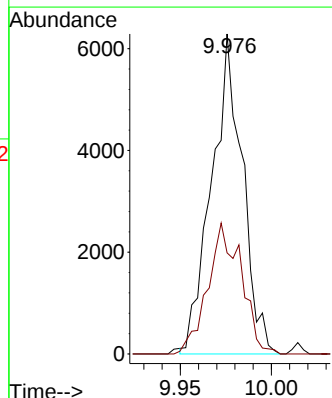
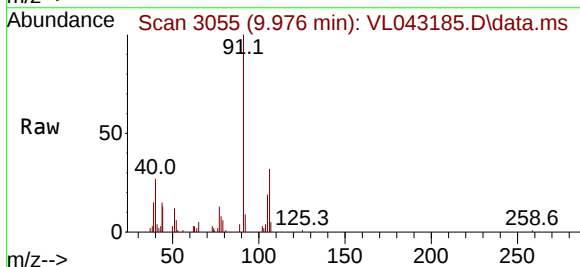
Acq: 11 Nov 2025 11:41

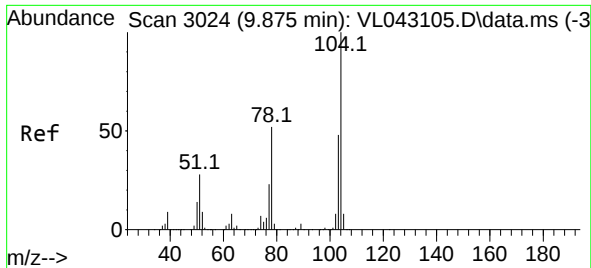
Tgt Ion: 91 Resp: 7399

Ion Ratio Lower Upper

91 100

106 44.6 21.9 65.8

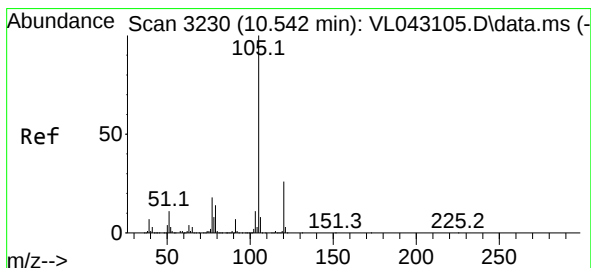
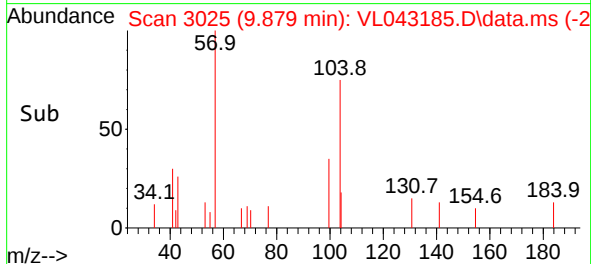
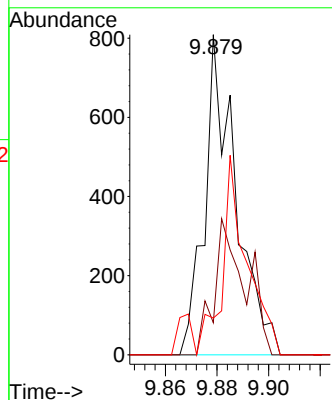
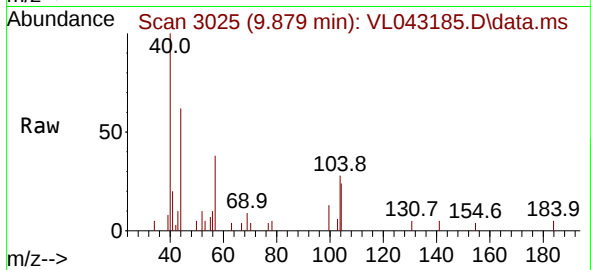




#61
Styrene
Concen: 0.033 ppbv
RT: 9.879 min Scan# 3024
Delta R.T. 0.003 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

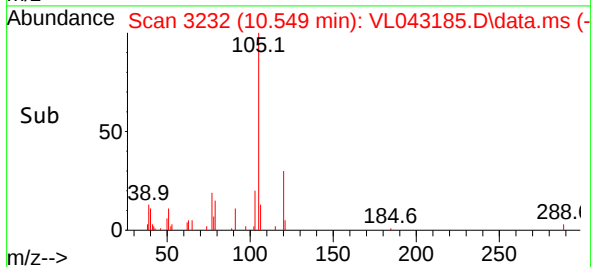
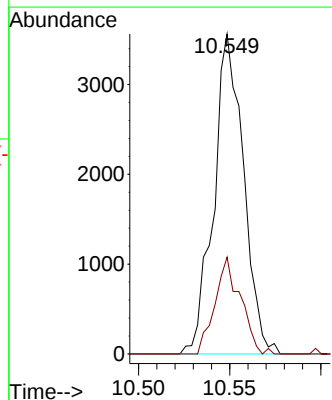
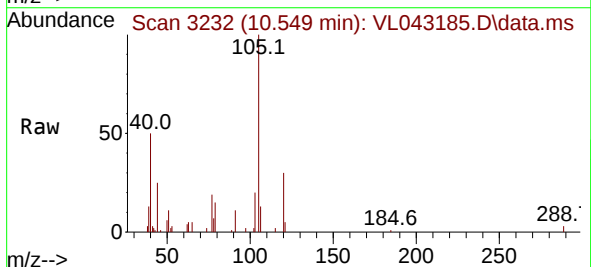
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

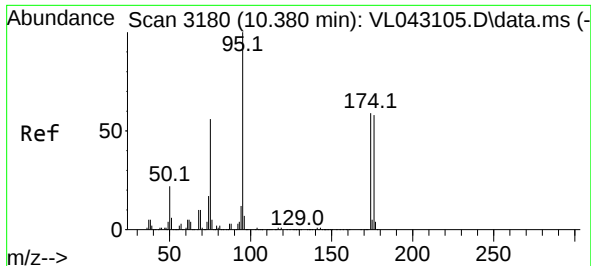
Tgt Ion:104 Resp: 676
Ion Ratio Lower Upper
104 100
78 42.9 40.2 60.2
103 54.7 36.9 55.3



#62
Isopropylbenzene
Concen: 0.050 ppbv
RT: 10.549 min Scan# 3232
Delta R.T. 0.006 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion:105 Resp: 4045
Ion Ratio Lower Upper
105 100
120 25.9 20.2 30.4

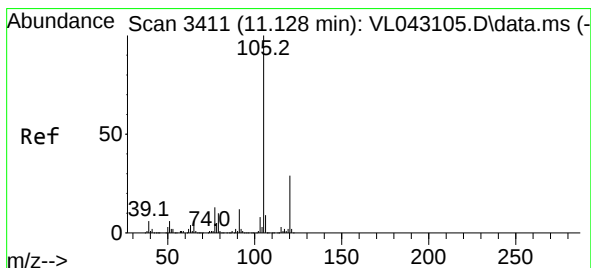
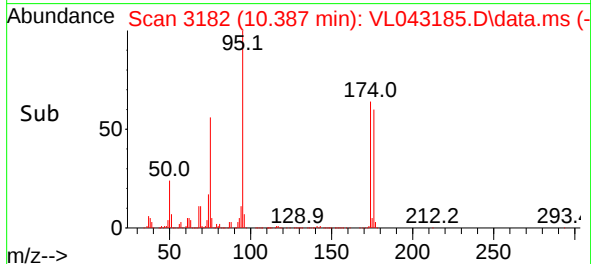
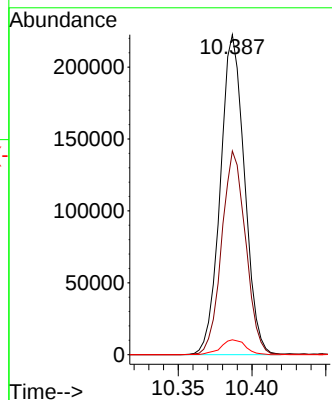
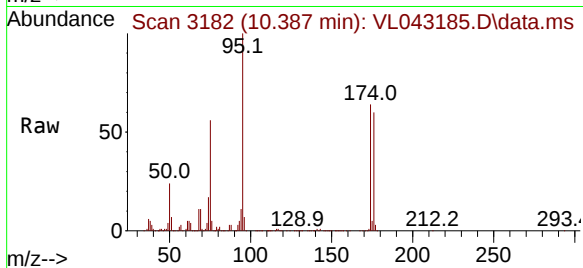




#68
1-Bromo-4-Fluorobenzene
Concen: 9.838 ppbv
RT: 10.387 min Scan# 3182
Delta R.T. 0.006 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

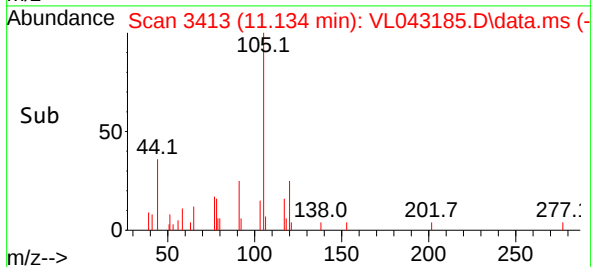
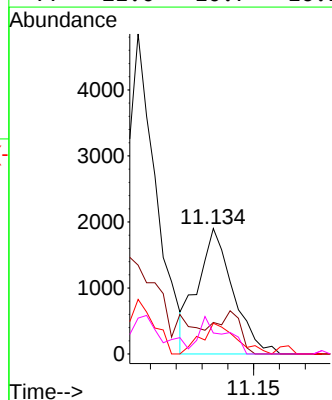
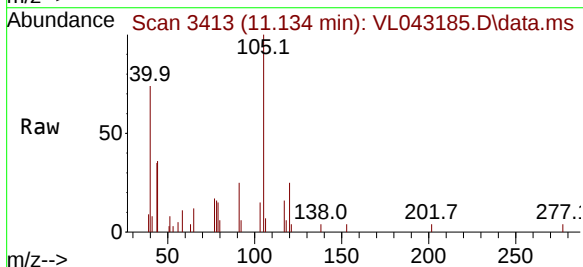
Instrument :
MSVOA_L
ClientSampleId :
IA1ADL

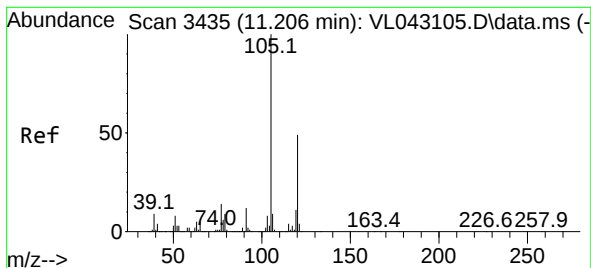
Tgt Ion: 95 Resp: 253627
Ion Ratio Lower Upper
95 100
174 63.5 48.3 72.5
175 4.8 3.8 5.8



#72
4-Ethyltoluene
Concen: 0.033 ppbv
RT: 11.134 min Scan# 3413
Delta R.T. 0.006 min
Lab File: VL043185.D
Acq: 11 Nov 2025 11:41

Tgt Ion: 105 Resp: 1822
Ion Ratio Lower Upper
105 100
120 0.0 24.2 36.4#
91 25.5 10.0 15.0#
77 21.0 10.7 16.1#





#73

1,3,5-Trimethylbenzene

Concen: 0.037 ppbv

RT: 11.219 min Scan# 3439

Delta R.T. 0.013 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Instrument :

MSVOA_L

ClientSampleId :

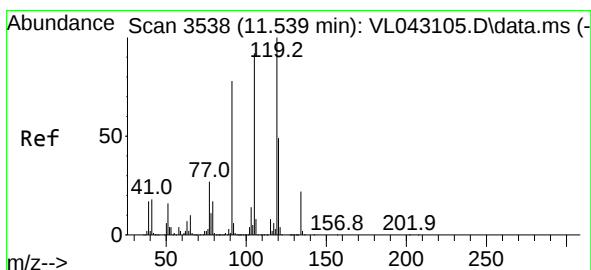
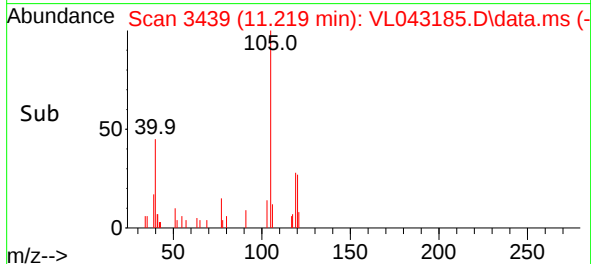
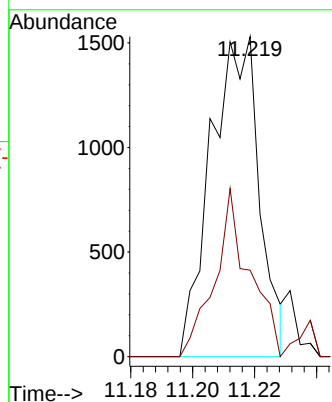
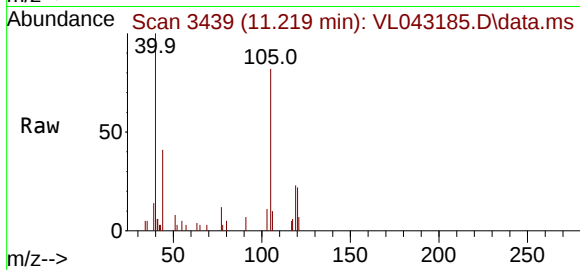
IA1ADL

Tgt Ion:105 Resp: 1665

Ion Ratio Lower Upper

105 100

120 35.1 39.0 58.6#



#74

1,2,4-Trimethylbenzene

Concen: 0.110 ppbv

RT: 11.549 min Scan# 3541

Delta R.T. 0.010 min

Lab File: VL043185.D

Acq: 11 Nov 2025 11:41

Tgt Ion:105 Resp: 5622

Ion Ratio Lower Upper

105 100

120 49.1 42.8 64.2

91 7.5 68.3 102.5#

77 10.1 23.4 35.0#

