

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL032725\  
 Data File : VL042190.D  
 Acq On : 27 Mar 2025 21:24  
 Operator : SY/MD  
 Sample : Q1669-09DUP  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 6 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 AA-2-3262025DUP

Quant Time: Mar 28 02:17:45 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL032725AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD T0-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Fri Mar 28 02:00:52 2025  
 Response via : Initial Calibration

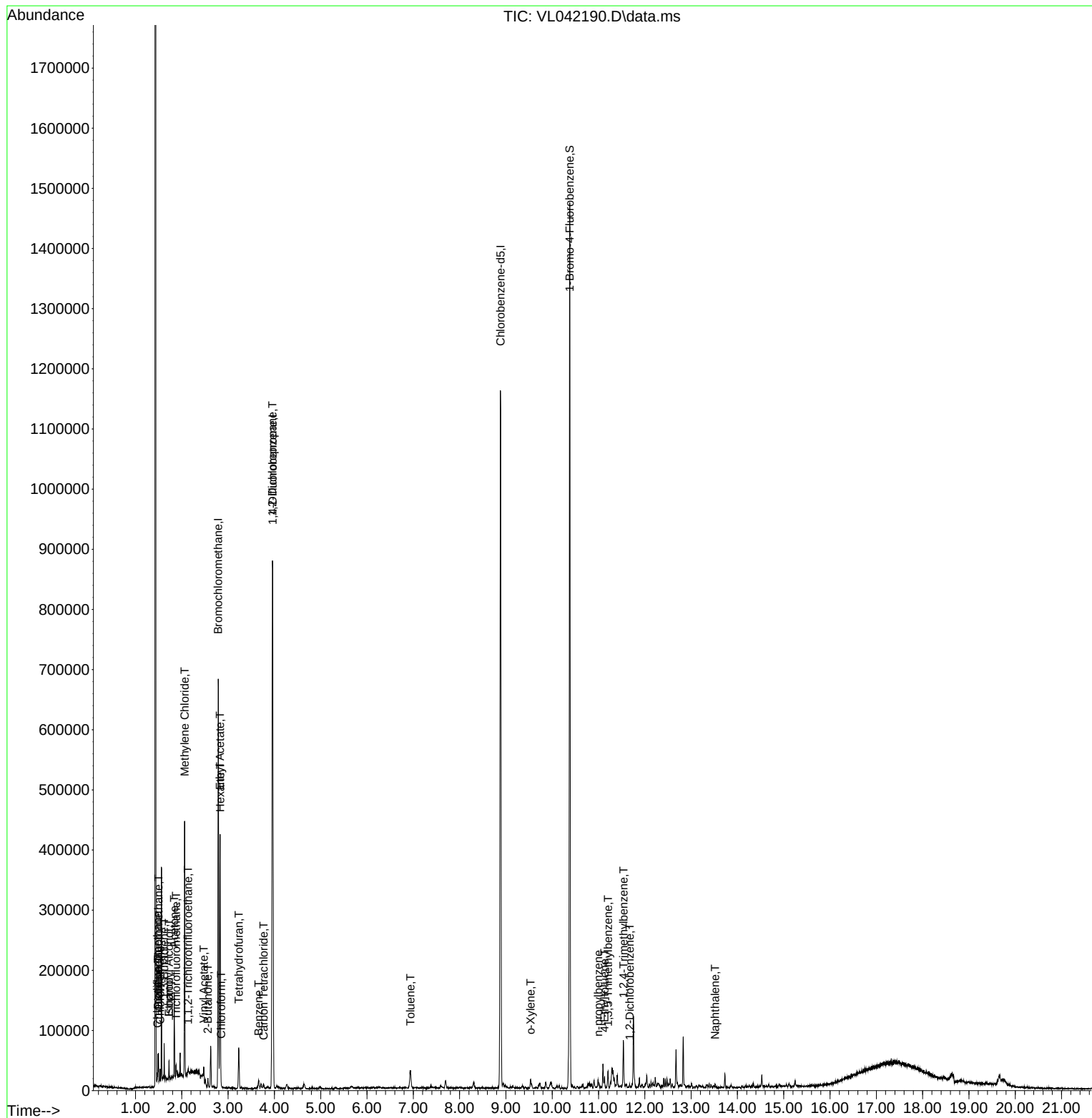
| Compound                      | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-------------------------------|--------|-------|----------|----------|--------|----------|
| -----                         |        |       |          |          |        |          |
| Internal Standards            |        |       |          |          |        |          |
| 1) Bromochloromethane         | 2.787  | 49    | 184637   | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene       | 3.962  | 114   | 532429   | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5          | 8.882  | 117   | 472897   | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds   |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene   | 10.377 | 95    | 386908   | 9.963    | ppbv   | 0.00     |
| Spiked Amount                 | 10.000 | Range | 65 - 135 | Recovery | =      | 99.600%  |
| Target Compounds              |        |       |          |          |        |          |
|                               |        |       |          |          | Qvalue |          |
| 2) Dichlorodifluoromethane    | 1.499  | 85    | 11705    | 0.429    | ppbv   | 100      |
| 3) Chlorodifluoromethane      | 1.476  | 51    | 12361    | 0.444    | ppbv # | 91       |
| 4) Chloromethane              | 1.531  | 50    | 5052     | 0.453    | ppbv # | 85       |
| 9) Propene                    | 1.486  | 41    | 3425     | 0.268    | ppbv   | 91       |
| 11) Trichlorofluoromethane    | 1.878  | 101   | 5282     | 0.199    | ppbv   | 99       |
| 12) 1,1,2-Trichlorotrifluo... | 2.137  | 101   | 1250     | 0.057    | ppbv   | 93       |
| 13) Ethanol                   | 1.722  | 45    | 10556    | 8.748    | ppbv # | 27       |
| 15) Acetone                   | 1.836  | 43    | 60628    | 2.348    | ppbv   | 94       |
| 16) 1,3-Butadiene             | 1.619  | 39    | 3018     | 0.239    | ppbv # | 11       |
| 19) Isopropyl Alcohol         | 1.722  | 45    | 10556    | 0.725    | ppbv # | 61       |
| 20) Methylene Chloride        | 2.062  | 84    | 61810    | 6.427    | ppbv   | 97       |
| 23) Vinyl Acetate             | 2.476  | 43    | 8578     | 0.768    | ppbv # | 56       |
| 25) Ethyl Acetate             | 2.826  | 43    | 69220    | 1.033    | ppbv # | 78       |
| 26) Hexane                    | 2.829  | 57    | 99961    | 3.861    | ppbv # | 32       |
| 29) Chloroform                | 2.852  | 83    | 1916     | 0.051    | ppbv   | 90       |
| 34) 2-Butanone                | 2.564  | 43    | 8734     | 0.226    | ppbv   | 98       |
| 35) Carbon Tetrachloride      | 3.765  | 117   | 1397     | 0.034    | ppbv # | 65       |
| 36) Benzene                   | 3.658  | 78    | 5053     | 0.096    | ppbv   | 96       |
| 39) 1,2-Dichloropropane       | 3.959  | 63    | 134884   | 7.017    | ppbv # | 23       |
| 41) Tetrahydrofuran           | 3.231  | 42    | 5776     | 0.260    | ppbv # | 38       |
| 53) Toluene                   | 6.940  | 91    | 19535    | 0.312    | ppbv   | 94       |
| 60) o-Xylene                  | 9.532  | 91    | 7376     | 0.110    | ppbv   | 78       |
| 64) n-propylbenzene           | 10.992 | 120   | 1074     | 0.041    | ppbv # | 55       |
| 72) 4-Ethyltoluene            | 11.131 | 105   | 7187     | 0.086    | ppbv # | 61       |
| 73) 1,3,5-Trimethylbenzene    | 11.206 | 105   | 7022     | 0.096    | ppbv   | 91       |
| 74) 1,2,4-Trimethylbenzene    | 11.539 | 105   | 24527    | 0.291    | ppbv # | 65       |
| 77) 1,2-Dichlorobenzene       | 11.675 | 146   | 1366     | 0.030    | ppbv   | 87       |
| 79) Naphthalene               | 13.517 | 128   | 3226     | 0.035    | ppbv # | 83       |
| -----                         |        |       |          |          |        |          |

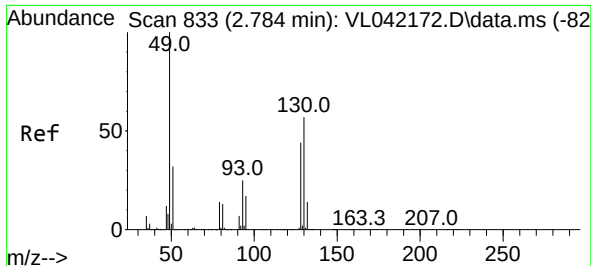
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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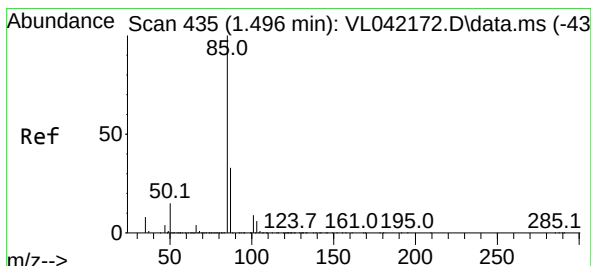
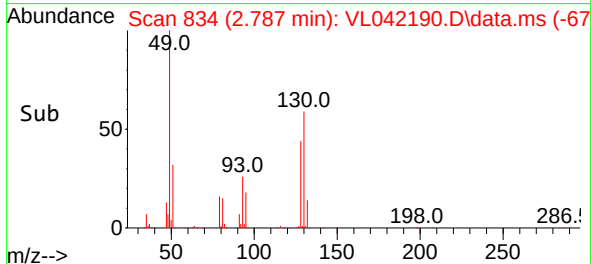
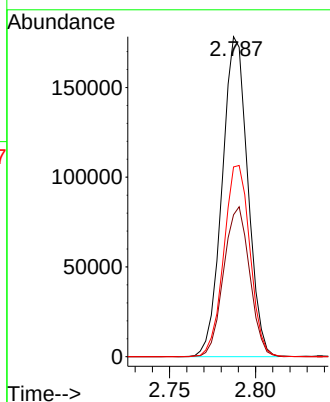
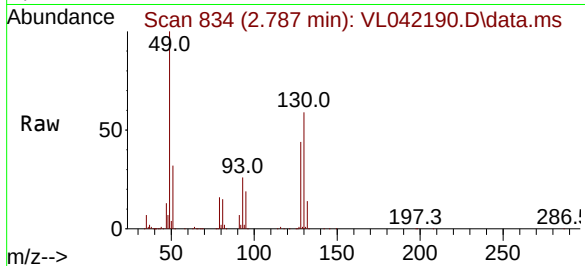




#1  
Bromochloromethane  
Concen: 10.000 ppbv  
RT: 2.787 min Scan# 81  
Delta R.T. 0.003 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

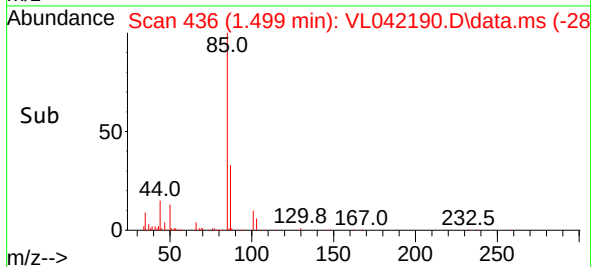
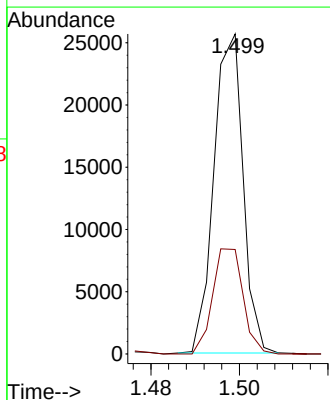
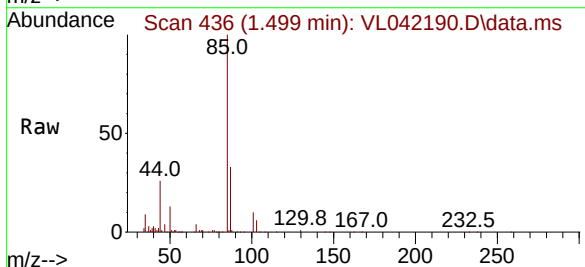
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

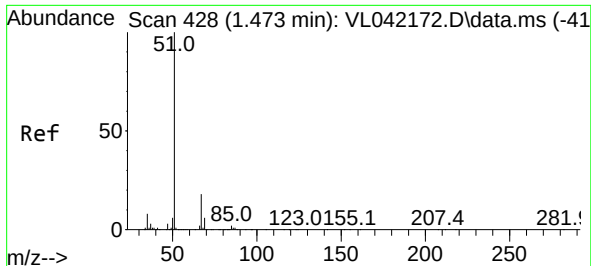
Tgt Ion: 49 Resp: 184637  
Ion Ratio Lower Upper  
49 100  
128 47.5 22.9 68.5  
130 61.0 28.8 86.4



#2  
Dichlorodifluoromethane  
Concen: 0.429 ppbv  
RT: 1.499 min Scan# 436  
Delta R.T. 0.003 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 85 Resp: 11705  
Ion Ratio Lower Upper  
85 100  
87 32.8 26.1 39.1

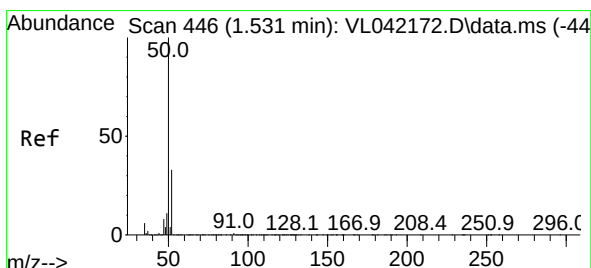
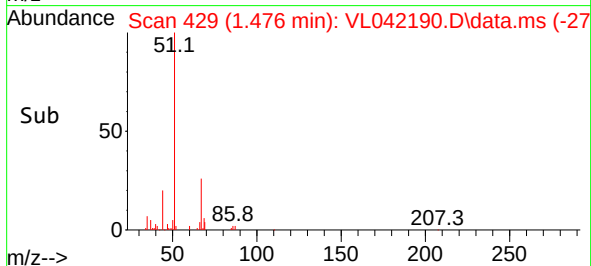
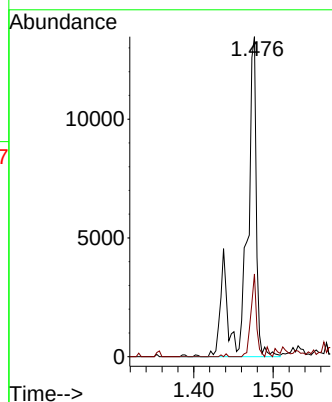
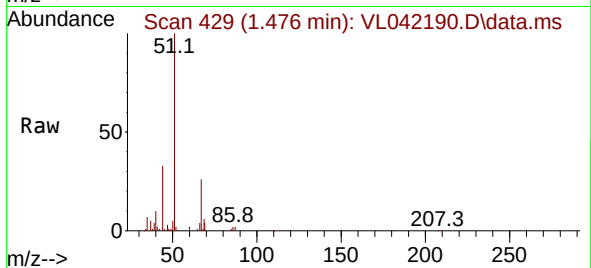




#3  
Chlorodifluoromethane  
Concen: 0.444 ppbv  
RT: 1.476 min Scan# 428  
Delta R.T. 0.003 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

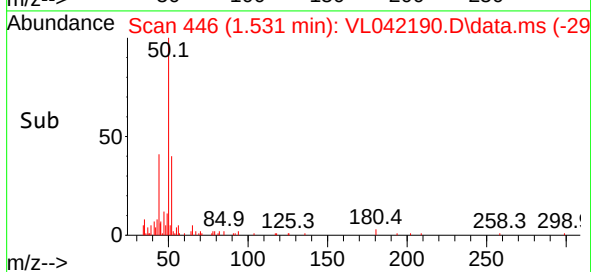
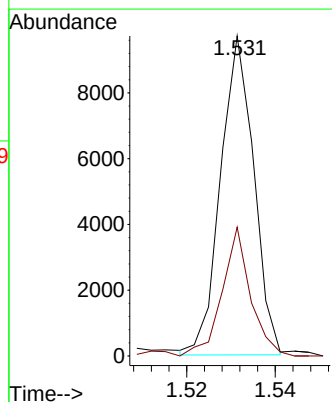
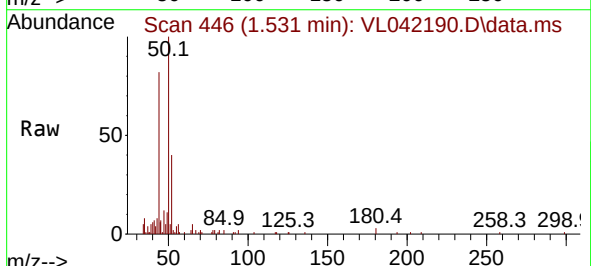
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

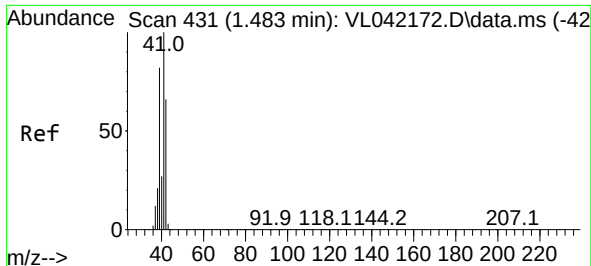
Tgt Ion: 51 Resp: 12361  
Ion Ratio Lower Upper  
51 100  
67 14.9 15.0 22.6#



#4  
Chloromethane  
Concen: 0.453 ppbv  
RT: 1.531 min Scan# 446  
Delta R.T. 0.000 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 50 Resp: 5052  
Ion Ratio Lower Upper  
50 100  
52 40.8 26.1 39.1#





#9

Propene

Concen: 0.268 ppbv

RT: 1.486 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

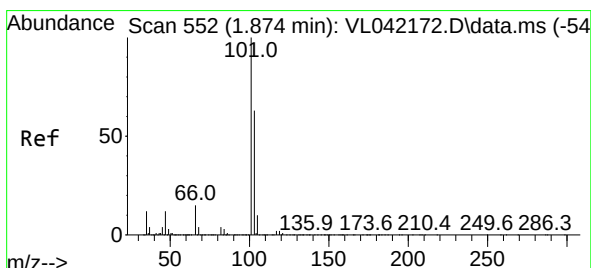
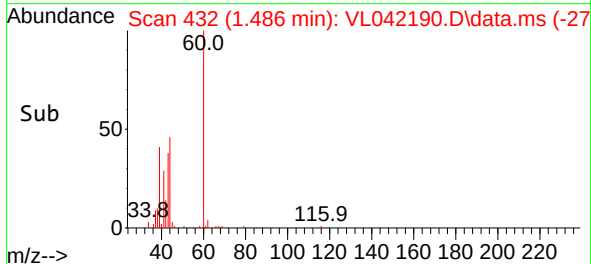
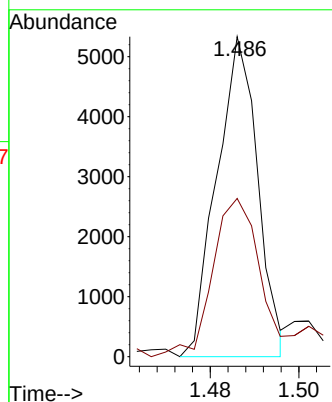
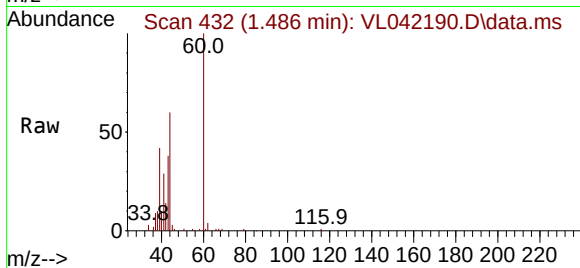
AA-2-3262025DUP

Tgt Ion: 41 Resp: 3425

Ion Ratio Lower Upper

41 100

42 76.6 55.4 83.2



#11

Trichlorofluoromethane

Concen: 0.199 ppbv

RT: 1.878 min Scan# 553

Delta R.T. 0.003 min

Lab File: VL042190.D

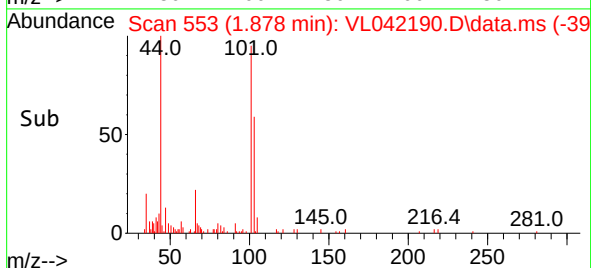
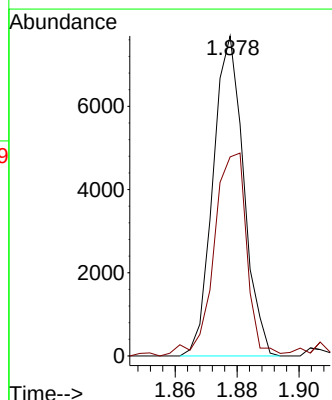
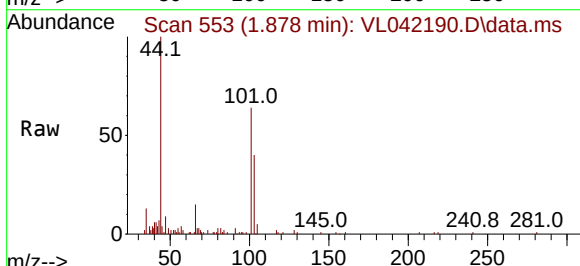
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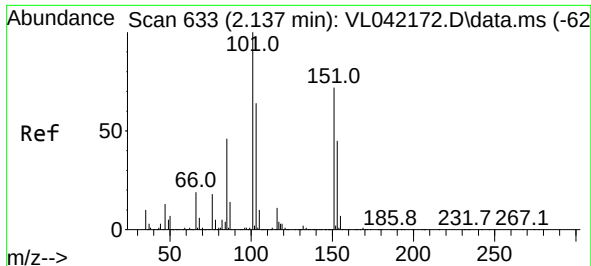
Tgt Ion: 101 Resp: 5282

Ion Ratio Lower Upper

101 100

103 62.1 50.2 75.2

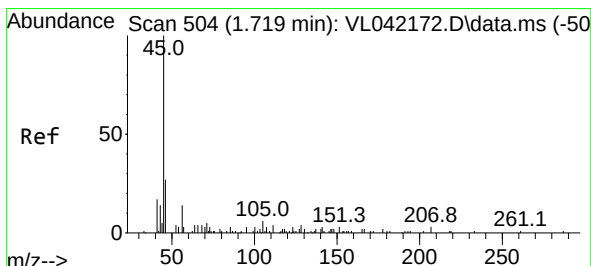
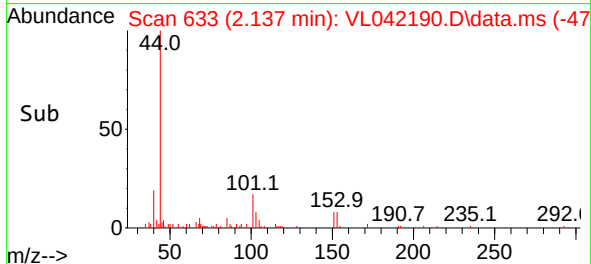
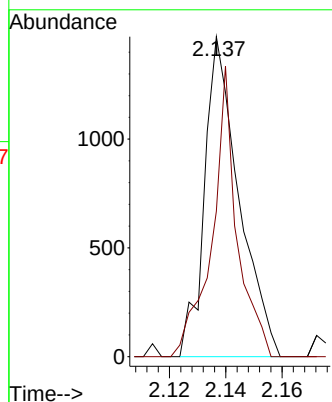
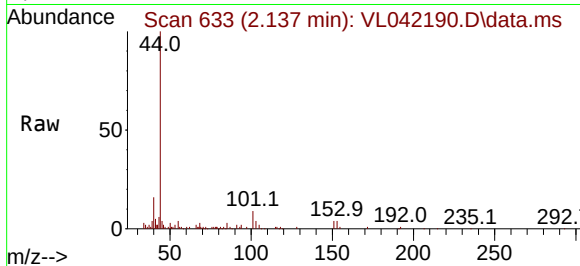




#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.057 ppbv  
 RT: 2.137 min Scan# 61  
 Delta R.T. 0.000 min  
 Lab File: VL042190.D  
 Acq: 27 Mar 2025 21:24

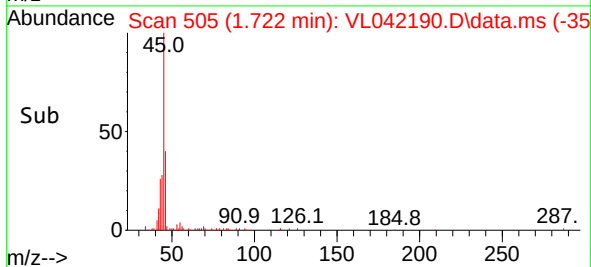
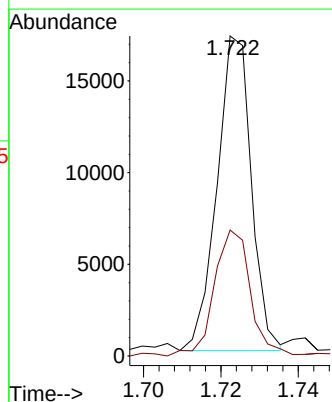
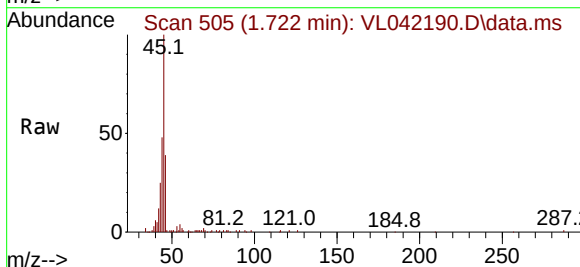
Instrument :  
 MSVOA\_L  
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 AA-2-3262025DUP

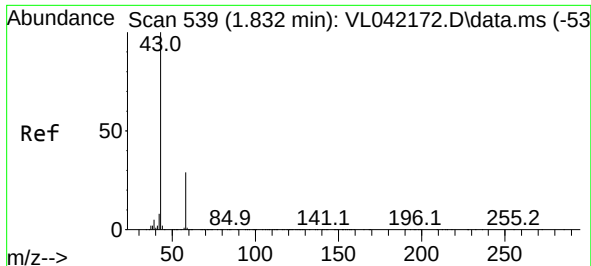
Tgt Ion:101 Resp: 1250  
 Ion Ratio Lower Upper  
 101 100  
 151 65.2 57.1 85.7



#13  
 Ethanol  
 Concen: 8.748 ppbv  
 RT: 1.722 min Scan# 505  
 Delta R.T. 0.003 min  
 Lab File: VL042190.D  
 Acq: 27 Mar 2025 21:24

Tgt Ion: 45 Resp: 10556  
 Ion Ratio Lower Upper  
 45 100  
 46 0.0 20.2 80.8#





#15

Acetone

Concen: 2.348 ppbv

RT: 1.836 min Scan# 54

Delta R.T. 0.003 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

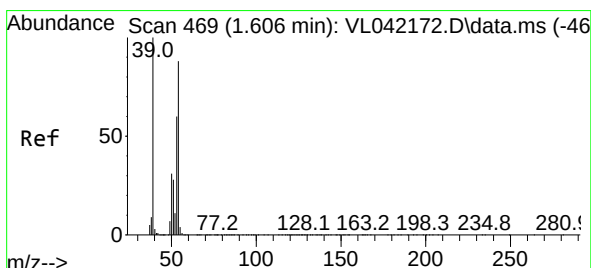
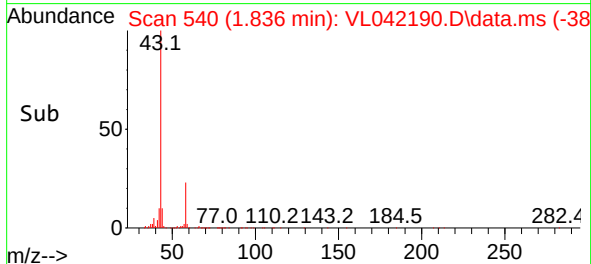
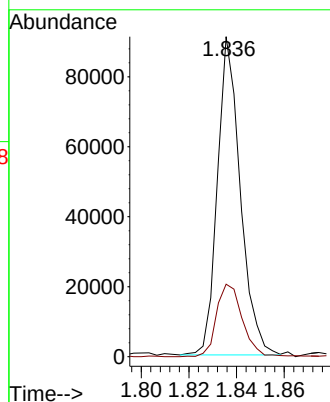
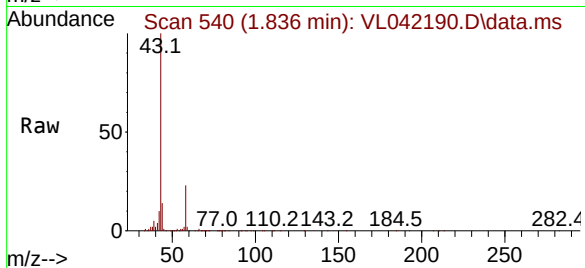
AA-2-3262025DUP

Tgt Ion: 43 Resp: 60628

Ion Ratio Lower Upper

43 100

58 25.8 23.2 34.8



#16

1,3-Butadiene

Concen: 0.239 ppbv

RT: 1.619 min Scan# 473

Delta R.T. 0.013 min

Lab File: VL042190.D

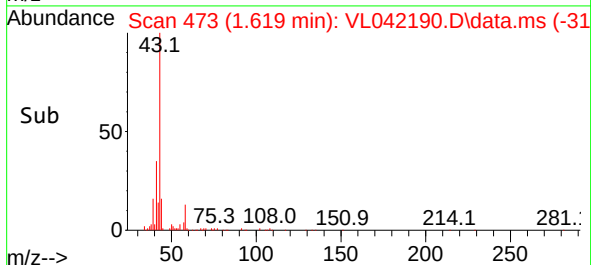
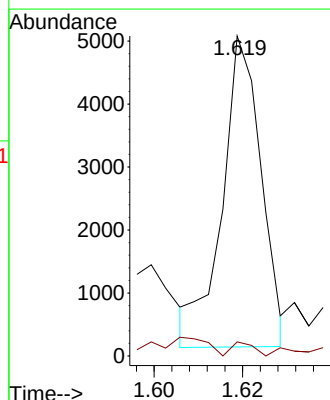
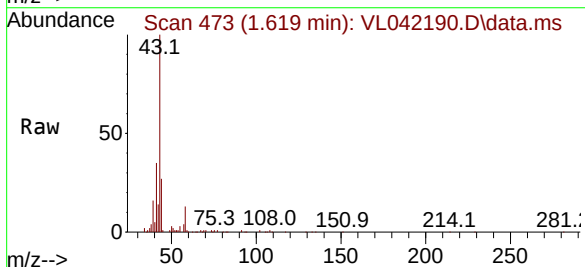
Acq: 27 Mar 2025 21:24

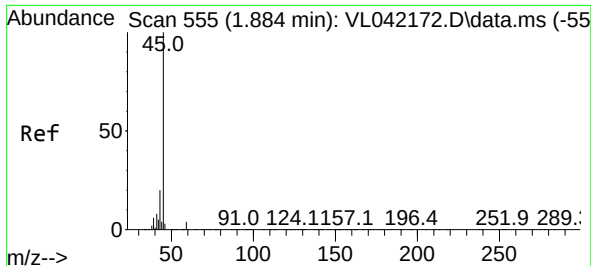
Tgt Ion: 39 Resp: 3018

Ion Ratio Lower Upper

39 100

54 0.0 60.7 91.1#

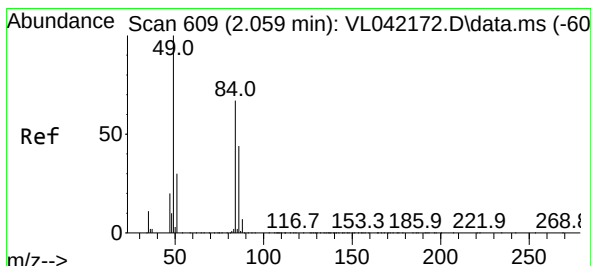
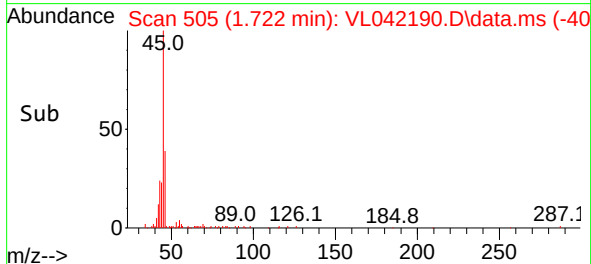
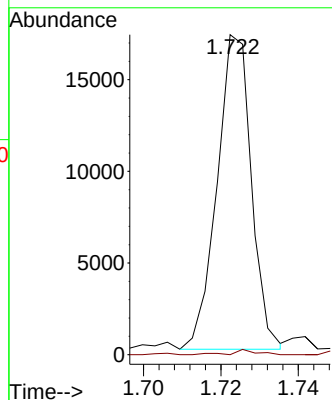
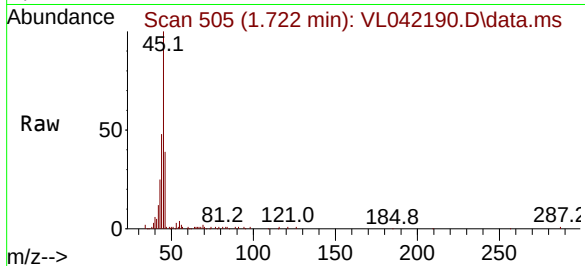




#19  
Isopropyl Alcohol  
Concen: 0.725 ppbv  
RT: 1.722 min Scan# 505  
Delta R.T. -0.162 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

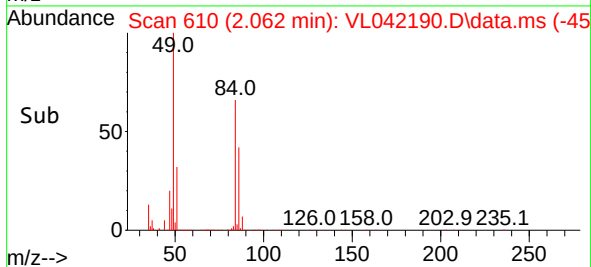
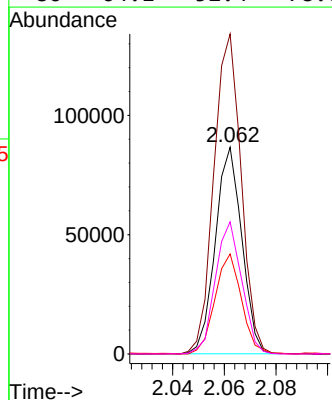
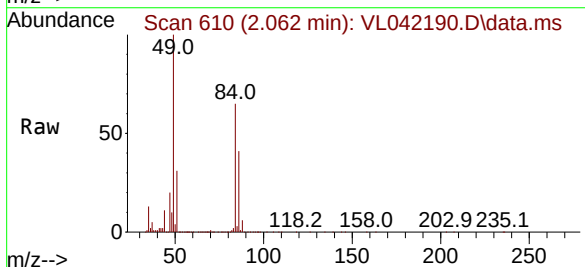
Instrument :  
MSVOA\_1  
ClientSampleId :  
AA-2-3262025DUP

Tgt Ion: 45 Resp: 10556  
Ion Ratio Lower Upper  
45 100  
58 20.6 36.9 55.3#

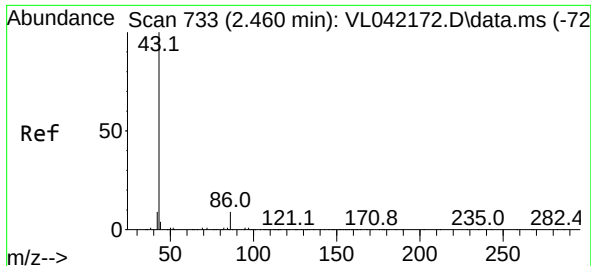


#20  
Methylene Chloride  
Concen: 6.427 ppbv  
RT: 2.062 min Scan# 610  
Delta R.T. 0.003 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 84 Resp: 61810  
Ion Ratio Lower Upper  
84 100  
49 155.0 120.2 180.4  
51 48.5 37.4 56.0  
86 64.1 52.4 78.6



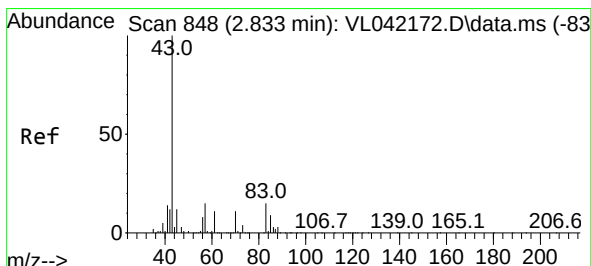
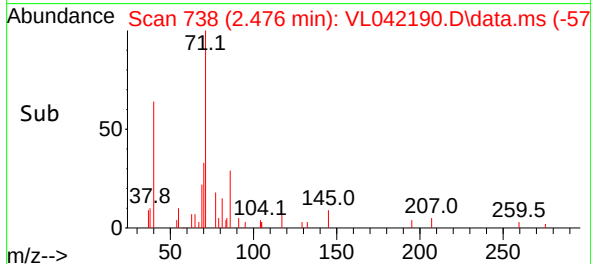
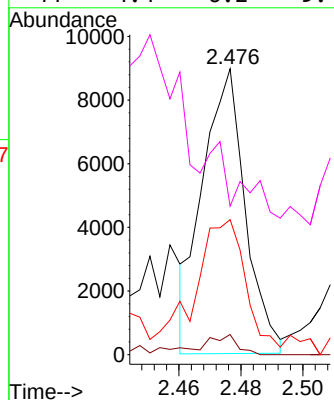
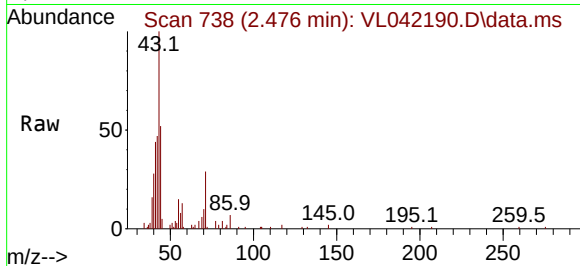




#23  
Vinyl Acetate  
Concen: 0.768 ppbv  
RT: 2.476 min Scan# 71  
Delta R.T. 0.016 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

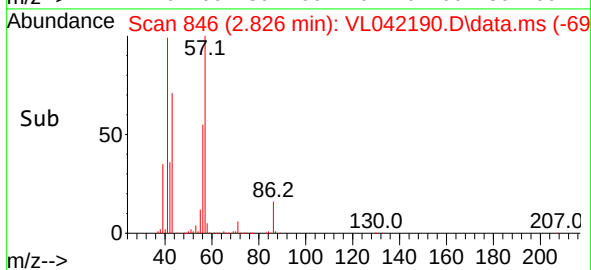
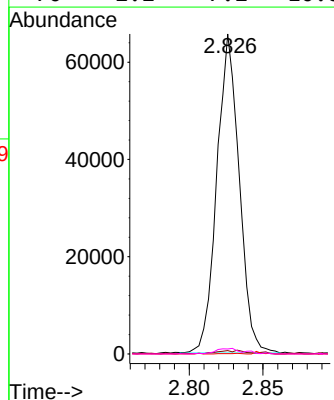
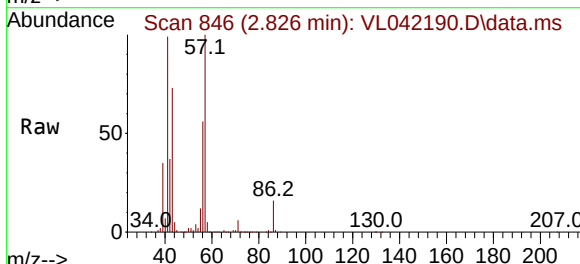
Instrument :  
MSVOA\_1  
ClientSampleId :  
AA-2-3262025DUP

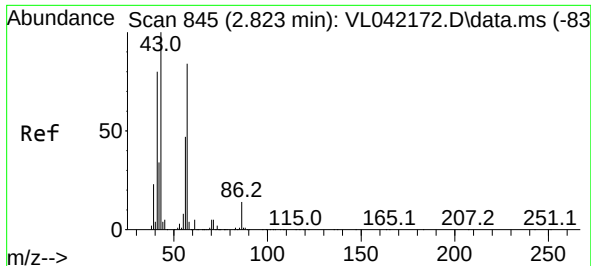
|             |                |
|-------------|----------------|
| Tgt Ion: 43 | Resp: 8578     |
| Ion Ratio   | Lower Upper    |
| 43          | 100            |
| 86          | 7.5 5.5 8.3    |
| 42          | 47.2 8.6 13.0# |
| 44          | 4.4 6.2 9.4#   |



#25  
Ethyl Acetate  
Concen: 1.033 ppbv  
RT: 2.826 min Scan# 846  
Delta R.T. -0.006 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

|             |               |
|-------------|---------------|
| Tgt Ion: 43 | Resp: 69220   |
| Ion Ratio   | Lower Upper   |
| 43          | 100           |
| 45          | 1.9 8.2 12.2# |
| 61          | 0.4 7.3 10.9# |
| 70          | 2.2 7.2 10.8# |

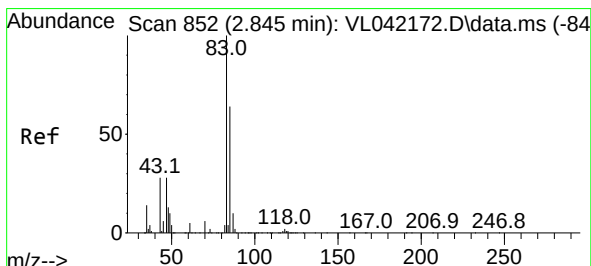
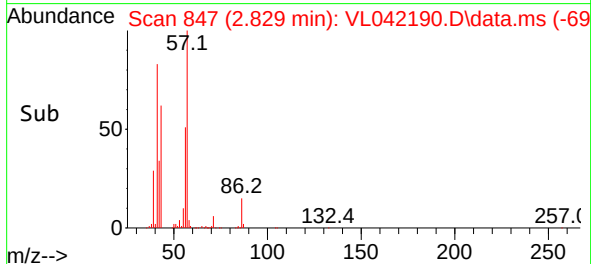
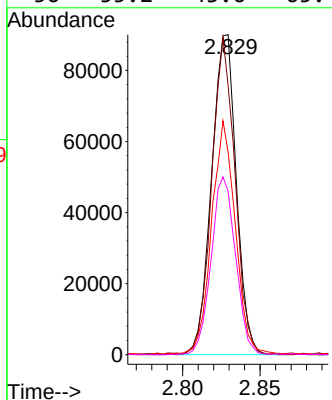
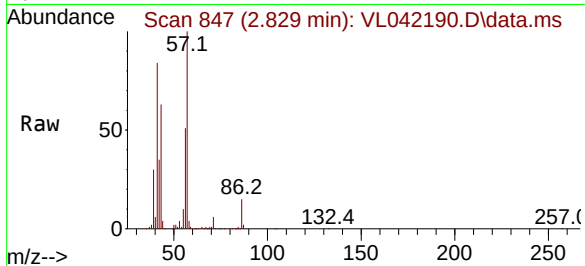




#26  
Hexane  
Concen: 3.861 ppbv  
RT: 2.829 min Scan# 84  
Delta R.T. 0.006 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

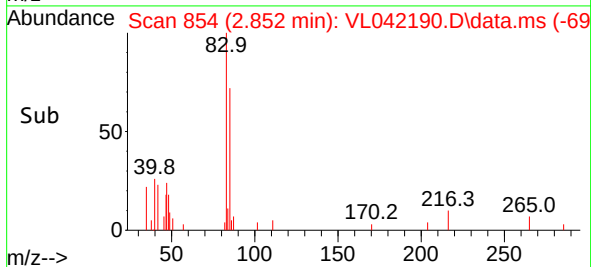
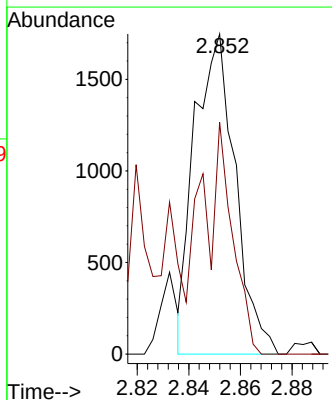
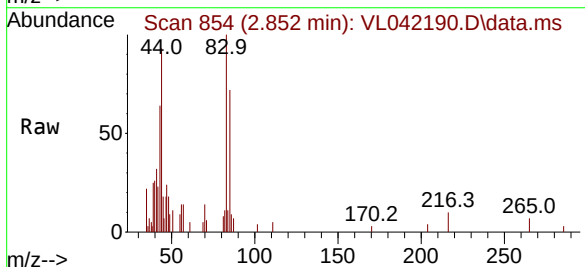
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

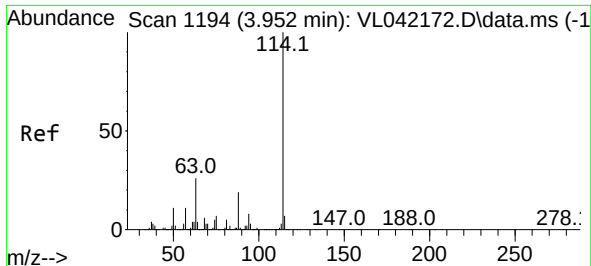
Tgt Ion: 57 Resp: 99961  
Ion Ratio Lower Upper  
57 100  
41 93.0 76.6 114.8  
43 71.0 207.8 311.8#  
56 55.2 43.6 65.4



#29  
Chloroform  
Concen: 0.051 ppbv  
RT: 2.852 min Scan# 854  
Delta R.T. 0.006 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 83 Resp: 1916  
Ion Ratio Lower Upper  
83 100  
85 72.4 51.4 77.2





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.962 min Scan# 1197

Delta R.T. 0.010 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

AA-2-3262025DUP

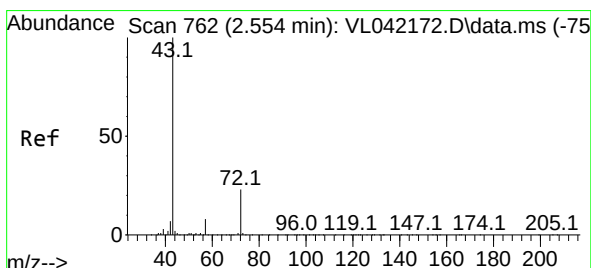
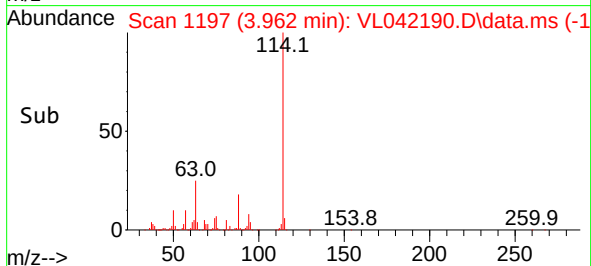
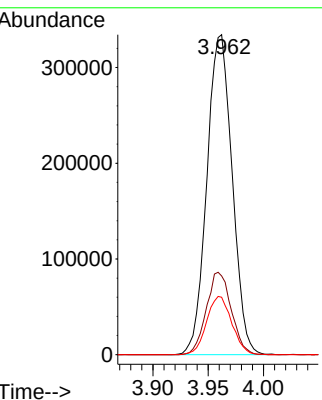
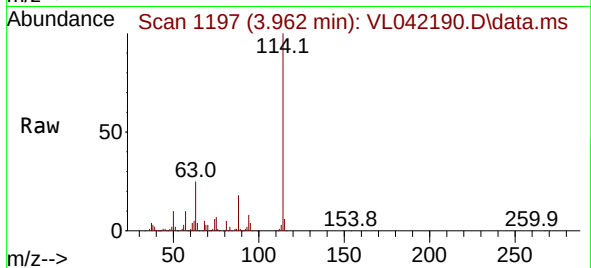
Tgt Ion:114 Resp: 532429

Ion Ratio Lower Upper

114 100

63 25.4 20.7 31.1

88 18.1 15.0 22.4



#34

2-Butanone

Concen: 0.226 ppbv

RT: 2.564 min Scan# 765

Delta R.T. 0.010 min

Lab File: VL042190.D

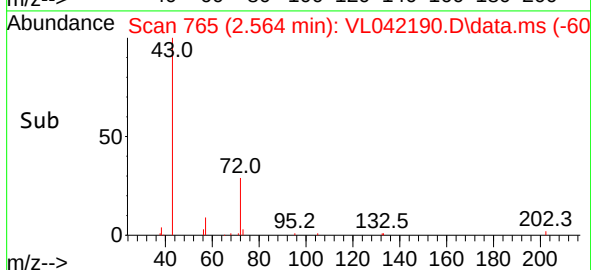
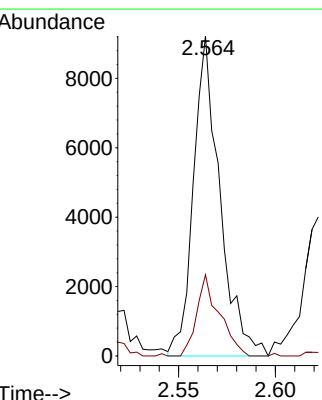
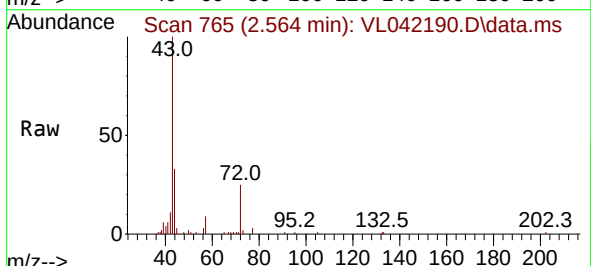
Acq: 27 Mar 2025 21:24

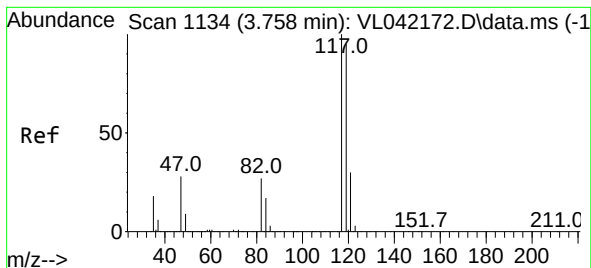
Tgt Ion: 43 Resp: 8734

Ion Ratio Lower Upper

43 100

72 21.9 18.2 27.2





#35

Carbon Tetrachloride

Concen: 0.034 ppbv

RT: 3.765 min Scan# 1136

Delta R.T. 0.006 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

AA-2-3262025DUP

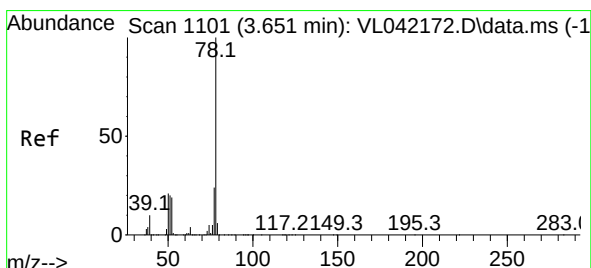
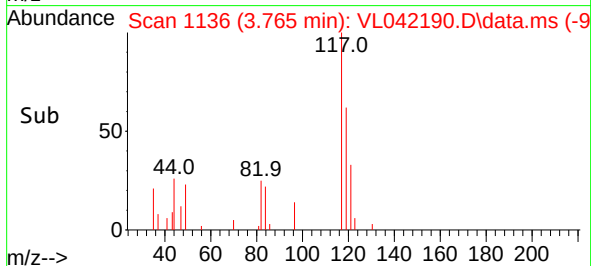
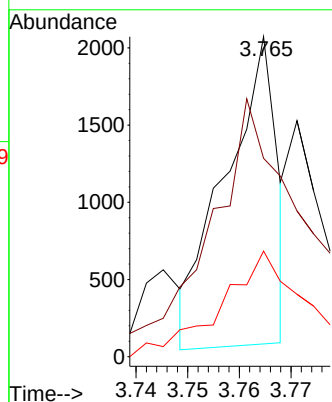
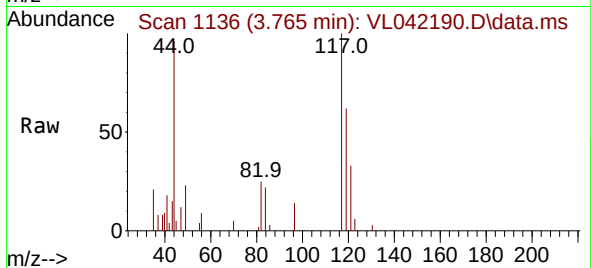
Tgt Ion:117 Resp: 1397

Ion Ratio Lower Upper

117 100

119 51.0 76.2 114.2#

121 31.2 24.2 36.4



#36

Benzene

Concen: 0.096 ppbv

RT: 3.658 min Scan# 1103

Delta R.T. 0.006 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

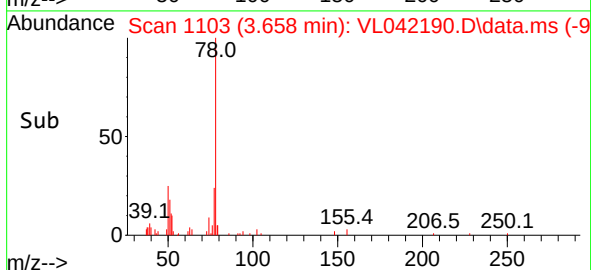
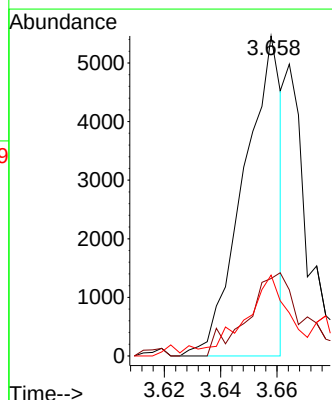
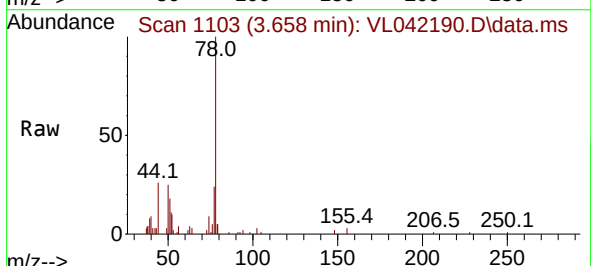
Tgt Ion: 78 Resp: 5053

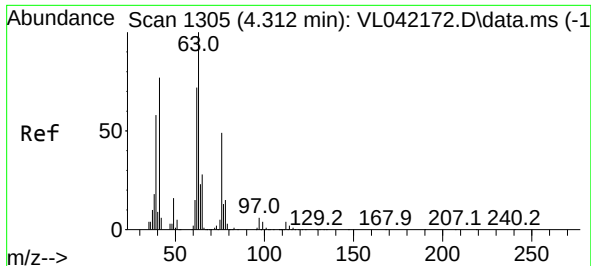
Ion Ratio Lower Upper

78 100

77 24.2 19.1 28.7

50 24.3 16.6 24.8





#39

1,2-Dichloropropane

Concen: 7.017 ppbv

RT: 3.959 min Scan# 1196

Delta R.T. -0.353 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

AA-2-3262025DUP

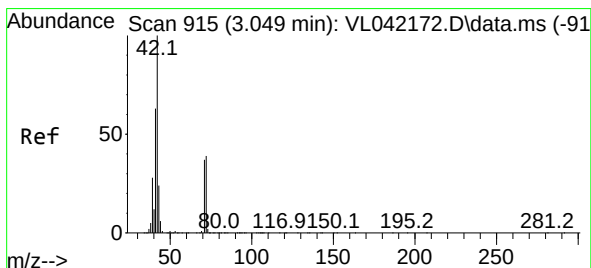
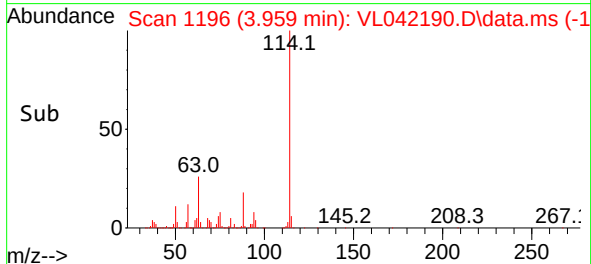
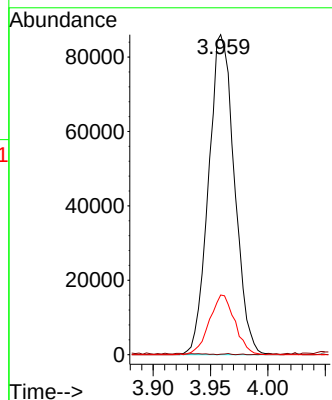
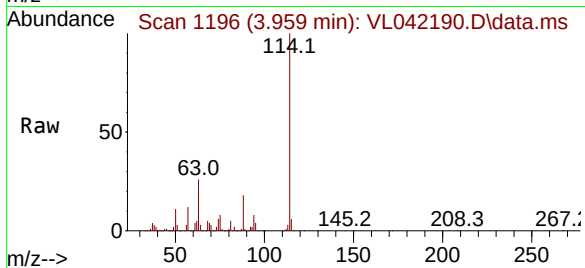
Tgt Ion: 63 Resp: 134884

Ion Ratio Lower Upper

63 100

41 0.0 61.7 92.5#

62 18.7 57.6 86.4#



#41

Tetrahydrofuran

Concen: 0.260 ppbv

RT: 3.231 min Scan# 971

Delta R.T. 0.181 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

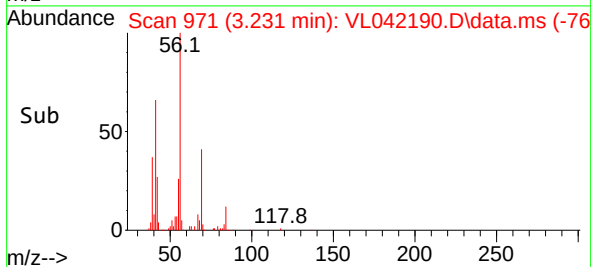
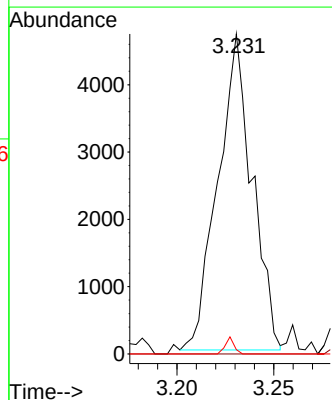
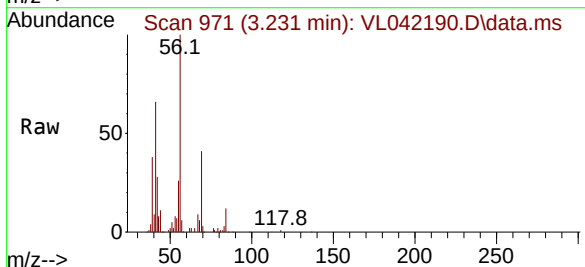
Tgt Ion: 42 Resp: 5776

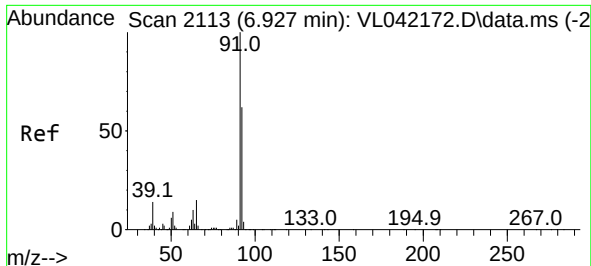
Ion Ratio Lower Upper

42 100

72 1.6 31.4 47.0#

71 0.0 30.2 45.4#

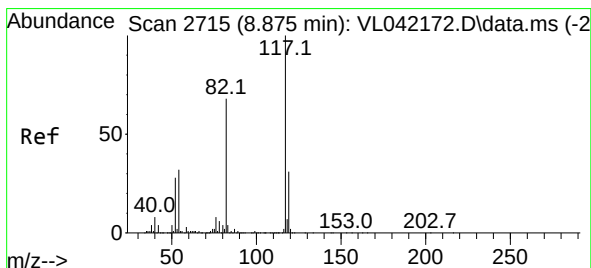
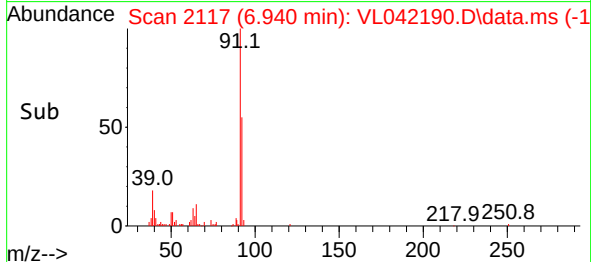
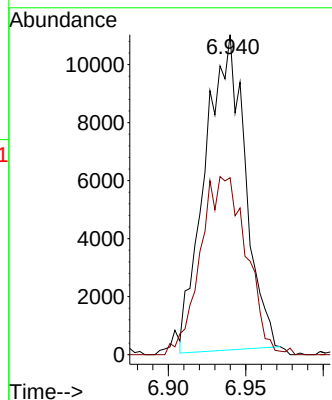
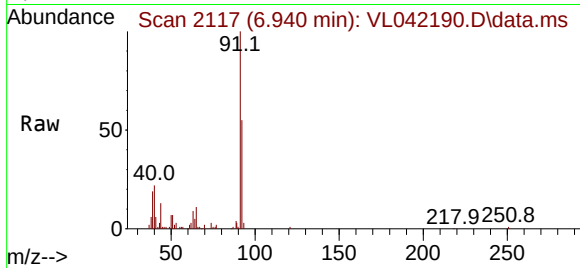




#53  
Toluene  
Concen: 0.312 ppbv  
RT: 6.940 min Scan# 2113  
Delta R.T. 0.013 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

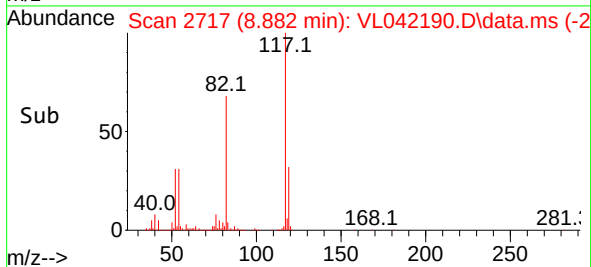
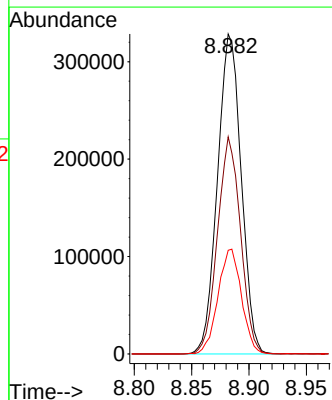
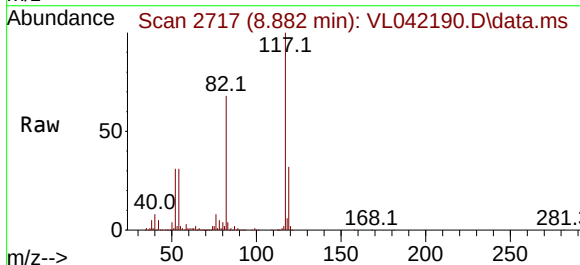
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

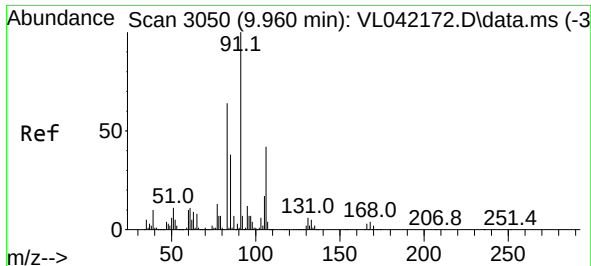
Tgt Ion: 91 Resp: 19535  
Ion Ratio Lower Upper  
91 100  
92 65.2 48.4 72.6



#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 8.882 min Scan# 2717  
Delta R.T. 0.007 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 117 Resp: 472897  
Ion Ratio Lower Upper  
117 100  
82 65.8 55.8 83.6  
119 32.5 25.5 38.3

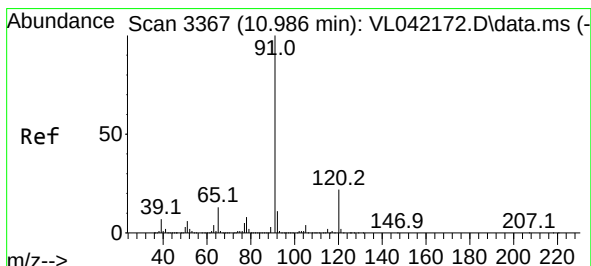
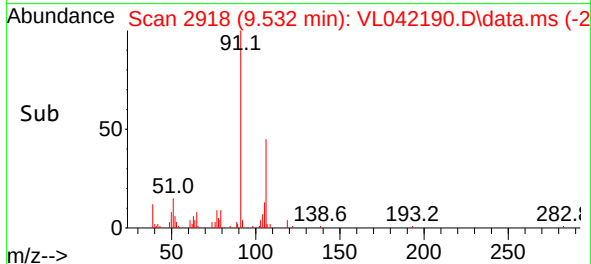
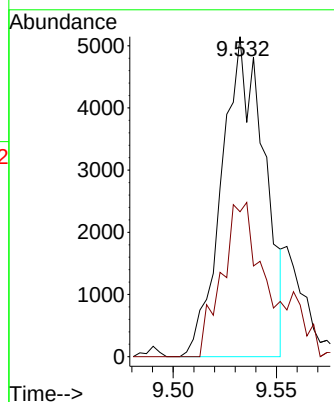
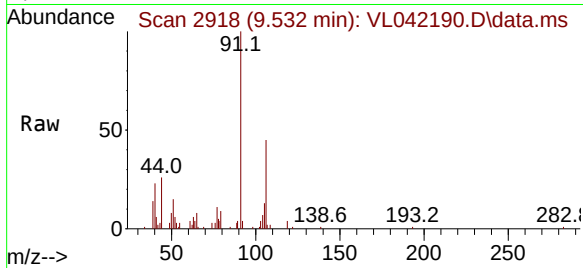




#60  
o-Xylene  
Concen: 0.110 ppbv  
RT: 9.532 min Scan# 2918  
Delta R.T. -0.427 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

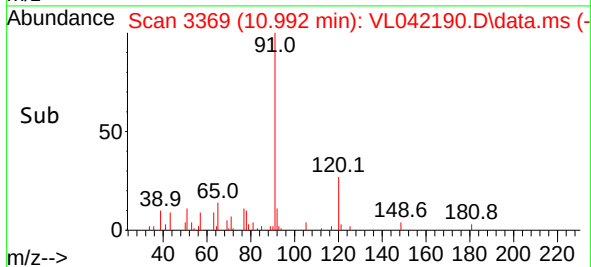
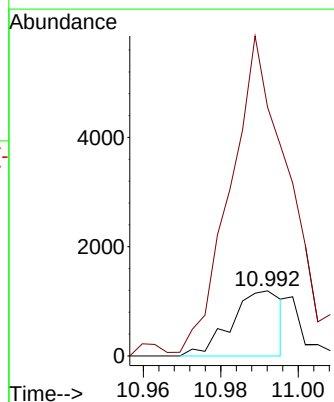
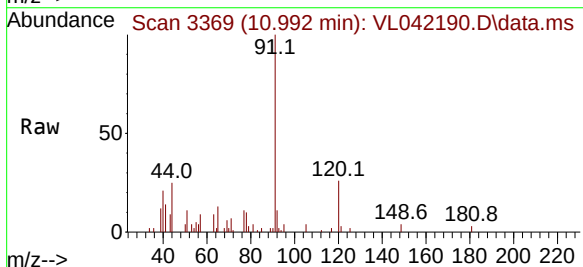
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

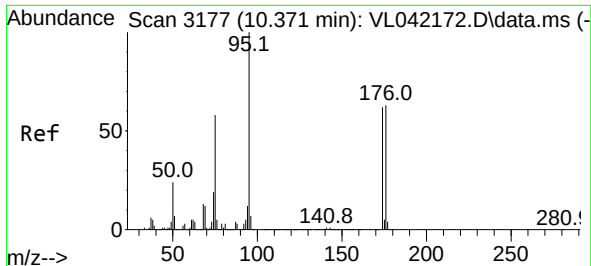
Tgt Ion: 91 Resp: 7376  
Ion Ratio Lower Upper  
91 100  
106 55.3 20.8 62.5



#64  
n-propylbenzene  
Concen: 0.041 ppbv  
RT: 10.992 min Scan# 3369  
Delta R.T. 0.007 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 120 Resp: 1074  
Ion Ratio Lower Upper  
120 100  
91 590.9 376.9 565.3#

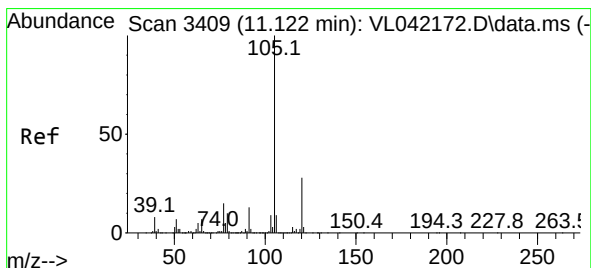
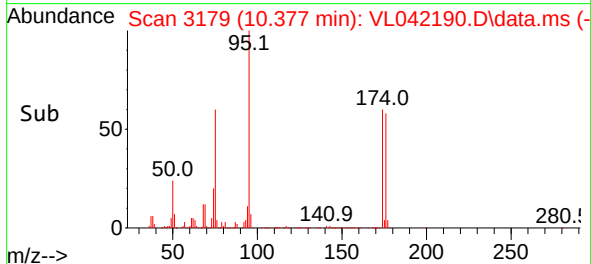
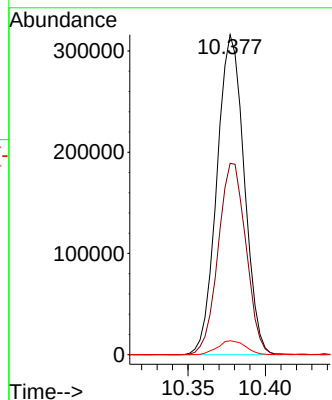
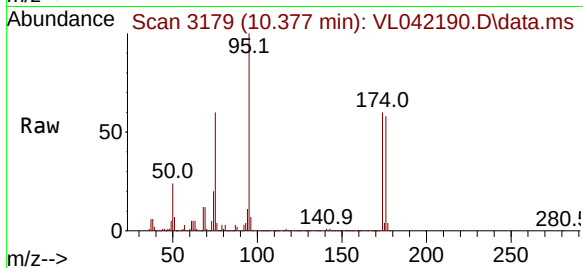




#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.963 ppbv  
RT: 10.377 min Scan# 3177  
Delta R.T. 0.006 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

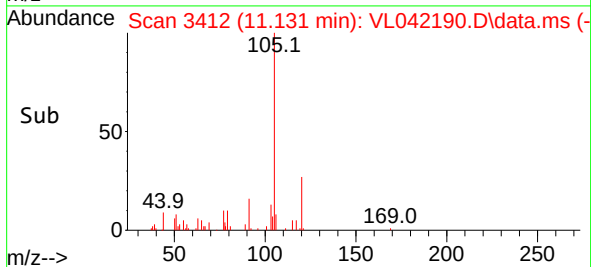
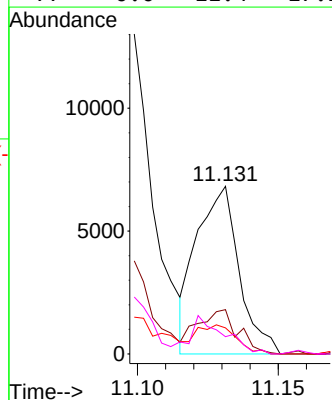
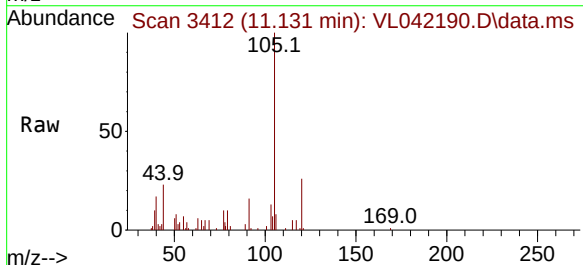
Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

Tgt Ion: 95 Resp: 386908  
Ion Ratio Lower Upper  
95 100  
174 61.2 50.6 76.0  
175 4.5 3.8 5.6

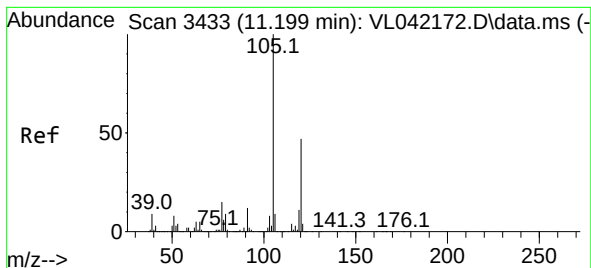


#72  
4-Ethyltoluene  
Concen: 0.086 ppbv  
RT: 11.131 min Scan# 3412  
Delta R.T. 0.010 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Tgt Ion: 105 Resp: 7187  
Ion Ratio Lower Upper  
105 100  
120 0.0 23.4 35.0#  
91 16.8 10.3 15.5#  
77 0.0 11.4 17.2#







#73

1,3,5-Trimethylbenzene

Concen: 0.096 ppbv

RT: 11.206 min Scan# 34

Delta R.T. 0.007 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Instrument :

MSVOA\_L

ClientSampleId :

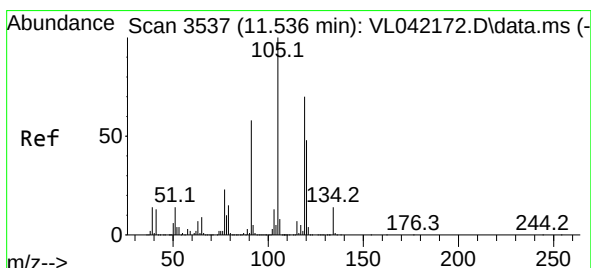
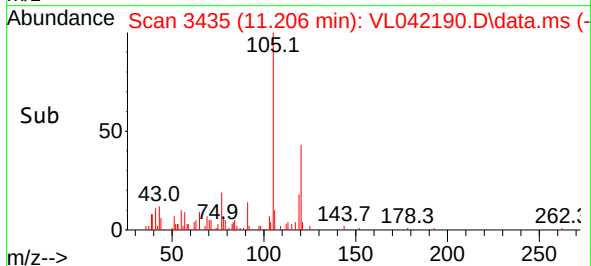
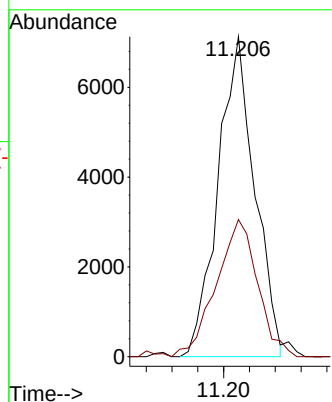
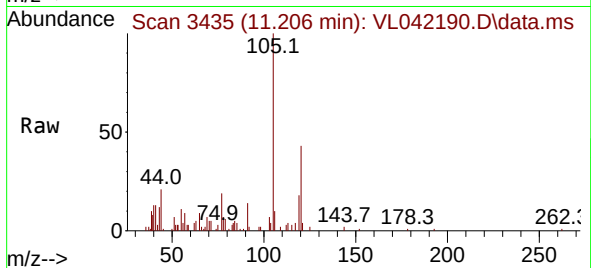
AA-2-3262025DUP

Tgt Ion:105 Resp: 7022

Ion Ratio Lower Upper

105 100

120 40.5 37.4 56.0



#74

1,2,4-Trimethylbenzene

Concen: 0.291 ppbv

RT: 11.539 min Scan# 3538

Delta R.T. 0.003 min

Lab File: VL042190.D

Acq: 27 Mar 2025 21:24

Tgt Ion:105 Resp: 24527

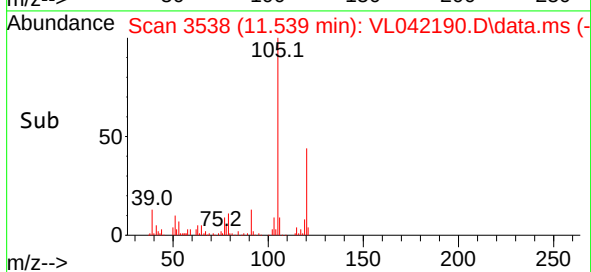
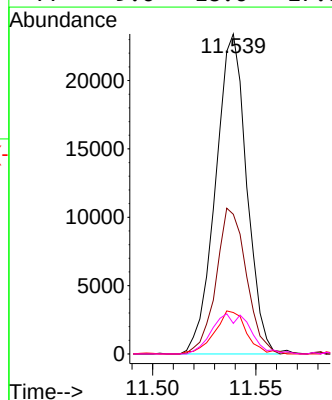
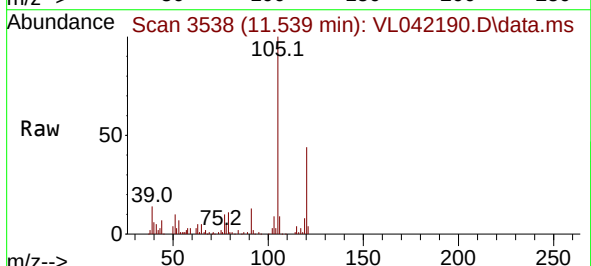
Ion Ratio Lower Upper

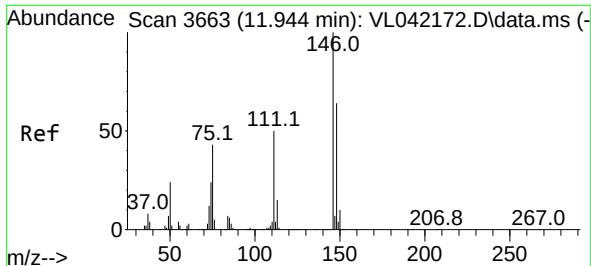
105 100

120 43.6 38.6 58.0

91 12.9 46.2 69.2#

77 9.6 18.6 27.8#

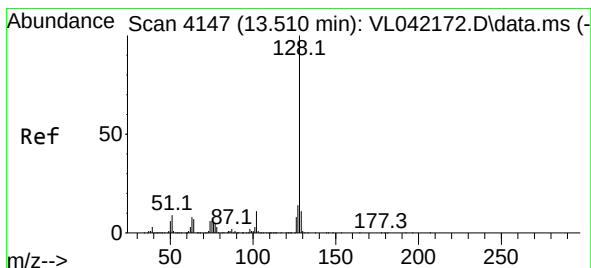
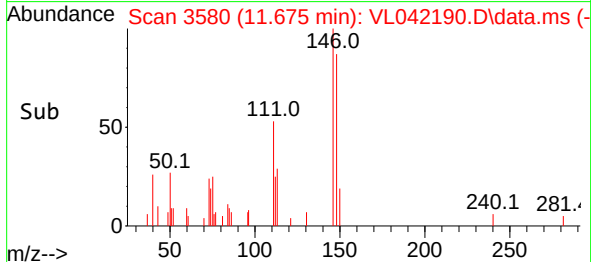
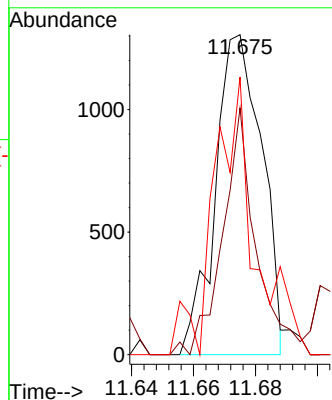
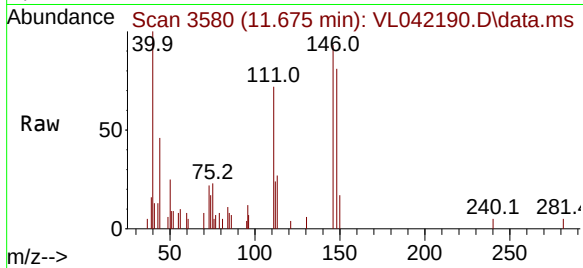




#77  
1,2-Dichlorobenzene  
Concen: 0.030 ppbv  
RT: 11.675 min Scan# 31  
Delta R.T. -0.269 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

Instrument :  
MSVOA\_L  
ClientSampleId :  
AA-2-3262025DUP

|           |       |       |      |
|-----------|-------|-------|------|
| Tgt Ion:  | 146   | Resp: | 1366 |
| Ion Ratio | Lower | Upper |      |
| 146       | 100   |       |      |
| 111       | 55.1  | 24.8  | 74.3 |
| 148       | 76.3  | 31.6  | 94.8 |



#79  
Naphthalene  
Concen: 0.035 ppbv  
RT: 13.517 min Scan# 4149  
Delta R.T. 0.007 min  
Lab File: VL042190.D  
Acq: 27 Mar 2025 21:24

|           |       |       |      |
|-----------|-------|-------|------|
| Tgt Ion:  | 128   | Resp: | 3226 |
| Ion Ratio | Lower | Upper |      |
| 128       | 100   |       |      |
| 127       | 11.7  | 10.8  | 16.2 |
| 129       | 23.0  | 9.0   | 13.4 |

