

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL060121\  
 Data File : VL037079.D  
 Acq On : 1 Jun 2021 20:56  
 Operator : SY/AP  
 Sample : M2548-01  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Jun 02 03:02:59 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL051821AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Tue May 18 12:00:15 2021  
 QLast Update : Tue May 18 12:00:15 2021  
 Response via : Initial Calibration

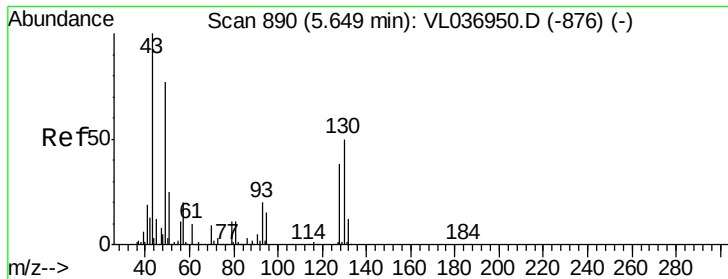
| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.65  | 49   | 1343205  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.16  | 114  | 3894560  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.07 | 117  | 3533664  | 10.00 | ppbv  | 0.00     |

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| System Monitoring Compounds |        |       |          |          |      |        |
| 68) 1-Bromo-4-Fluorobenzene | 14.39  | 95    | 2558554  | 9.64     | ppbv | 0.00   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 96.40% |

| Target Compounds               |       |     |         |       | Ovalue    |
|--------------------------------|-------|-----|---------|-------|-----------|
| 2) Dichlorodifluoromethane     | 3.04  | 85  | 57410   | 0.252 | ppbv 100  |
| 3) Chlorodifluoromethane       | 2.98  | 51  | 75124   | 0.305 | ppbv 99   |
| 4) Chloromethane               | 3.13  | 50  | 46307   | 0.553 | ppbv 91   |
| 9) Propene                     | 3.01  | 41  | 40256   | 0.457 | ppbv # 81 |
| 10) Heptane                    | 8.11  | 43  | 8402    | 0.038 | ppbv # 1  |
| 11) Trichlorofluoromethane     | 3.94  | 101 | 52271   | 0.248 | ppbv 93   |
| 12) 1,1,2-Trichlorotrifluoroet | 4.47  | 101 | 8411    | 0.056 | ppbv # 55 |
| 13) Ethanol                    | 3.60  | 45  | 86382   | 7.347 | ppbv # 35 |
| 15) Acetone                    | 3.84  | 43  | 904615  | 6.575 | ppbv 96   |
| 17) tert-Butyl alcohol         | 4.31  | 59  | 8537    | 0.068 | ppbv # 72 |
| 19) Isopropyl Alcohol          | 3.98  | 45  | 30496   | 0.412 | ppbv # 30 |
| 20) Methylene Chloride         | 4.33  | 84  | 194713  | 2.640 | ppbv 98   |
| 23) Vinyl Acetate              | 5.05  | 43  | 33111   | 0.152 | ppbv # 53 |
| 25) Ethyl Acetate              | 5.67  | 43  | 445082  | 1.346 | ppbv # 79 |
| 26) Hexane                     | 5.67  | 57  | 614778  | 3.640 | ppbv # 46 |
| 34) 2-Butanone                 | 5.24  | 43  | 71303   | 0.503 | ppbv # 61 |
| 35) Carbon Tetrachloride       | 7.00  | 117 | 7935    | 0.031 | ppbv # 74 |
| 36) Benzene                    | 6.87  | 78  | 69703   | 0.208 | ppbv # 92 |
| 39) 1,2-Dichloropropane        | 7.16  | 63  | 925497  | 7.162 | ppbv # 26 |
| 41) Tetrahydrofuran            | 5.73  | 42  | 3289    | 0.041 | ppbv # 40 |
| 44) 2,2,4-Trimethylpentane     | 7.84  | 57  | 48447   | 0.084 | ppbv # 42 |
| 50) 4-Methyl-2-Pentanone       | 8.76  | 43  | 54533   | 0.233 | ppbv # 75 |
| 53) Toluene                    | 9.79  | 91  | 1031524 | 2.584 | ppbv 99   |
| 58) Ethyl Benzene              | 12.70 | 91  | 20574   | 0.041 | ppbv 90   |
| 60) o-Xylene                   | 13.67 | 91  | 11809   | 0.030 | ppbv # 24 |
| 74) 1,2,4-Trimethylbenzene     | 16.75 | 105 | 26638   | 0.059 | ppbv # 71 |

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





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 min Scan# 891

Delta R.T. 0.00 min

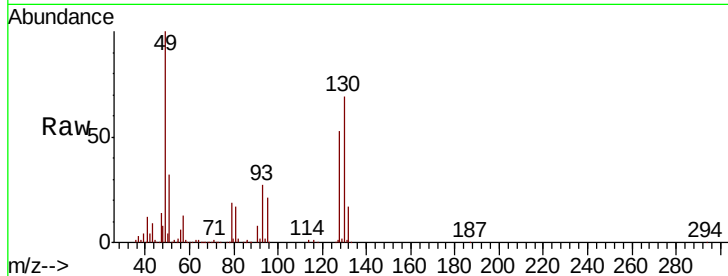
Lab File: VL037079.D

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Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion: 49 Resp: 1343205

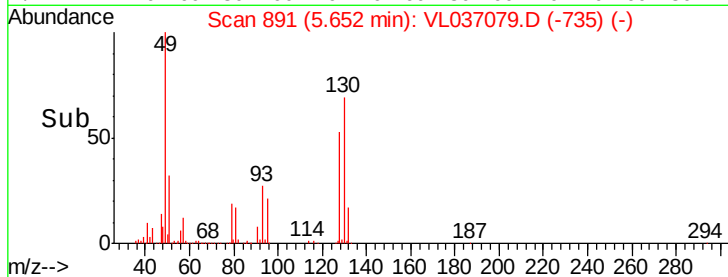
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 49  | 100   |       |       |
| 128 | 57.4  | 26.9  | 80.7  |
| 130 | 72.9  | 33.8  | 101.4 |



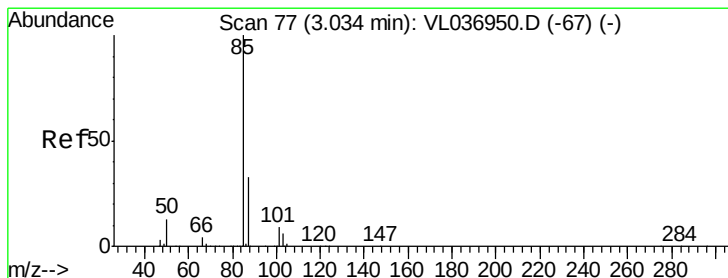
Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



Time-->



#2

Dichlorodifluoromethane

Concen: 0.252 ppbv

RT: 3.04 min Scan# 79

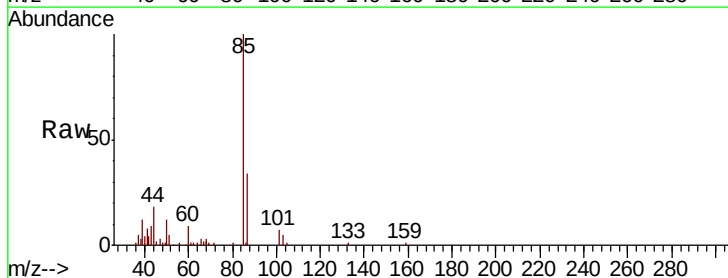
Delta R.T. 0.01 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

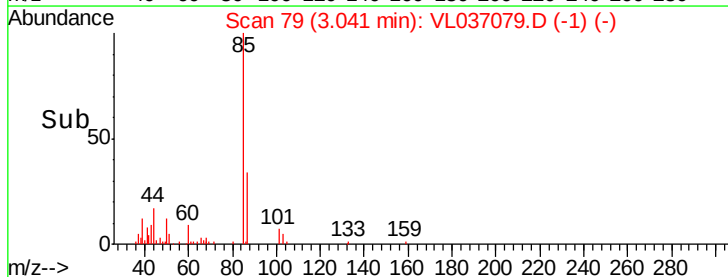
Tgt Ion: 85 Resp: 57410

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 85  | 100   |       |       |
| 87  | 33.4  | 26.6  | 39.8  |

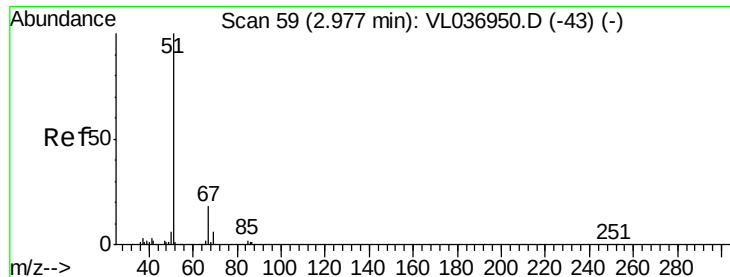


Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0



Time-->



#3

Chlorodifluoromethane

Concen: 0.305 ppbv

RT: 2.98 min Scan# 59

Delta R.T. -0.00 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

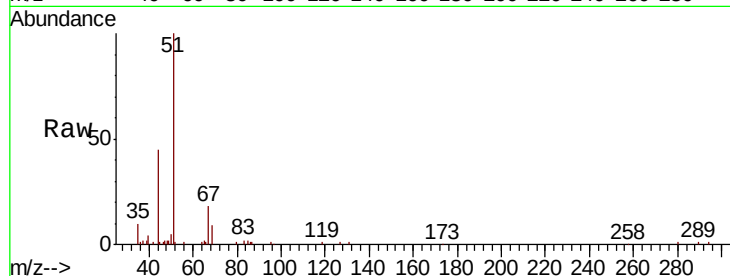
ClientSampleId :

Tot Ion: 51 Resp: 75124

Ion Ratio Lower Upper

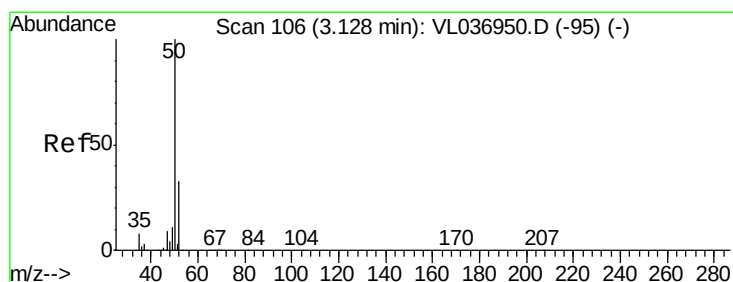
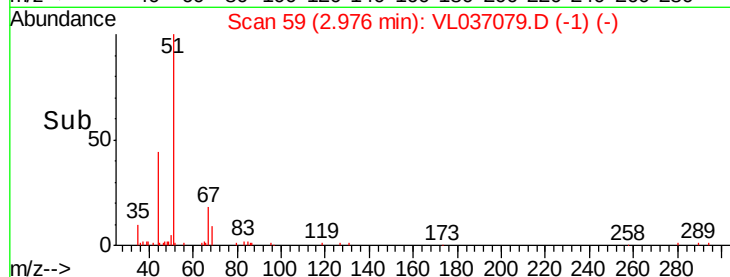
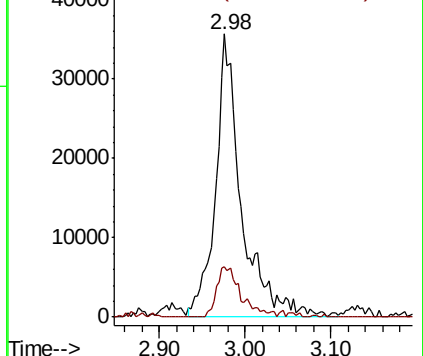
51 100

67 17.7 14.6 21.8



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.553 ppbv

RT: 3.13 min Scan# 107

Delta R.T. 0.00 min

Lab File: VL037079.D

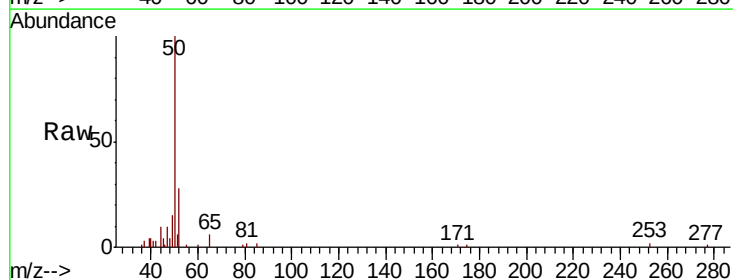
Acq: 1 Jun 2021 20:56

Tgt Ion: 50 Resp: 46307

Ion Ratio Lower Upper

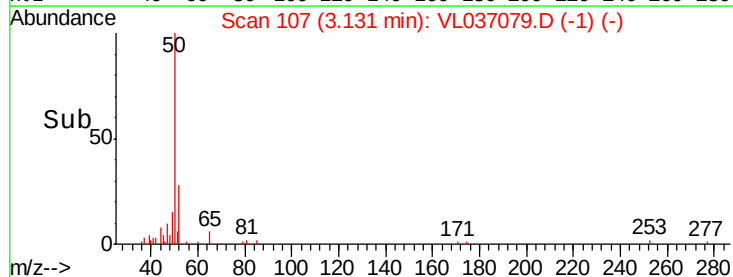
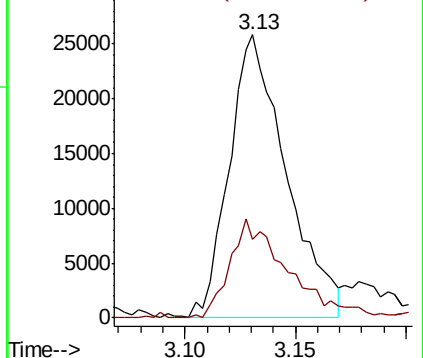
50 100

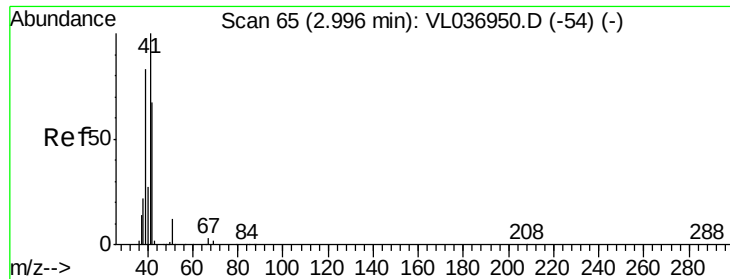
52 27.7 26.1 39.1



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 0.457 ppbv

RT: 3.01 min Scan# 69

Delta R.T. 0.01 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

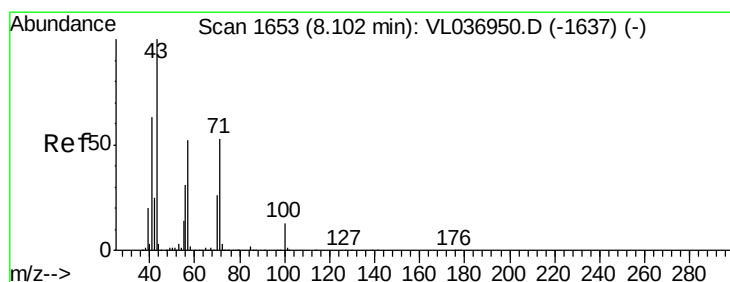
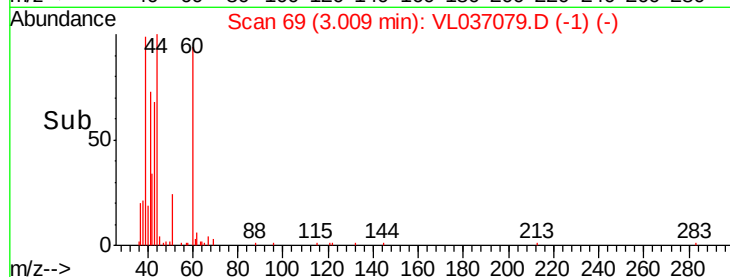
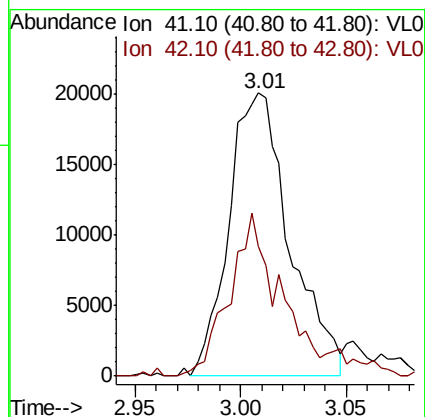
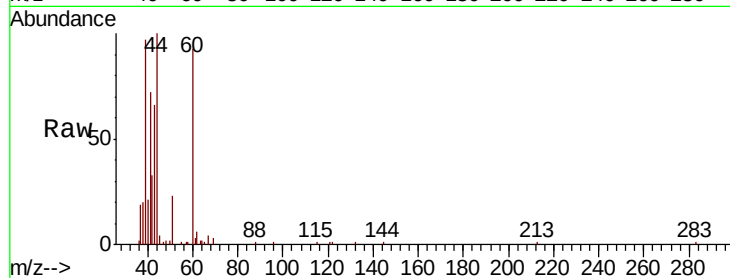
ClientSampleId :

Tot Ion: 41 Resp: 40256

Ion Ratio Lower Upper

41 100

42 52.5 53.9 80.9#



#10

Heptane

Concen: 0.038 ppbv

RT: 8.11 min Scan# 1655

Delta R.T. 0.01 min

Lab File: VL037079.D

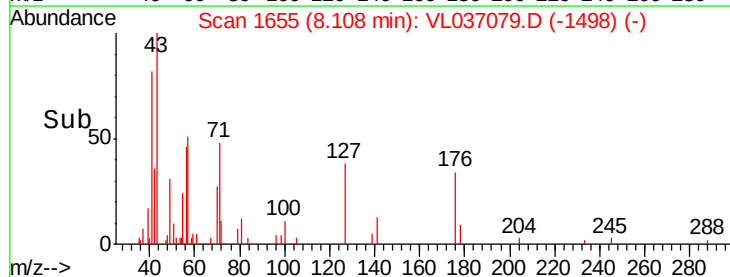
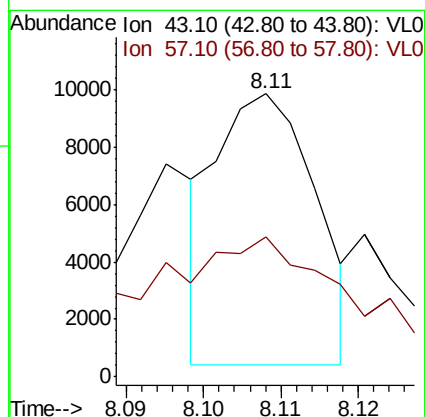
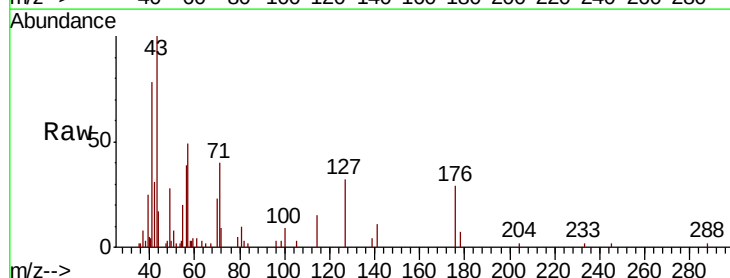
Acq: 1 Jun 2021 20:56

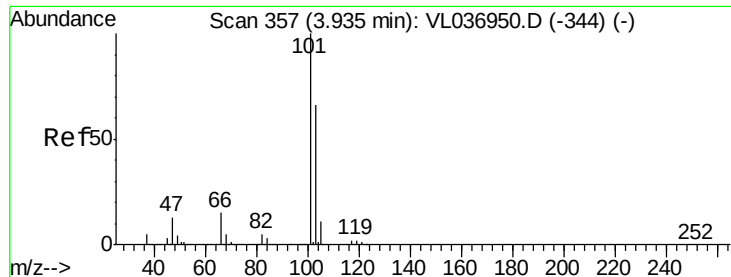
Tgt Ion: 43 Resp: 8402

Ion Ratio Lower Upper

43 100

57 141.9 41.0 61.6#

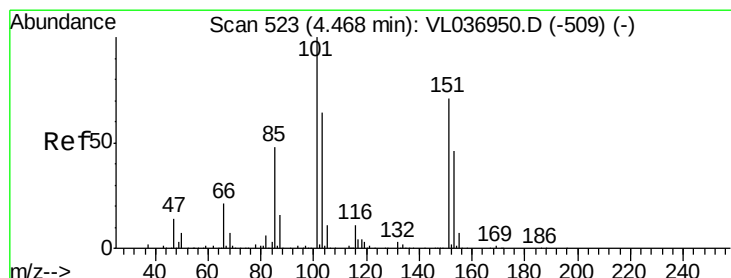
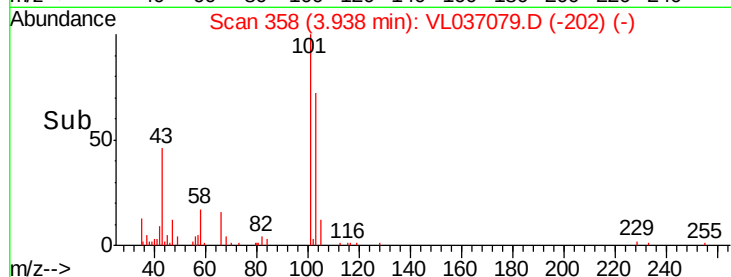
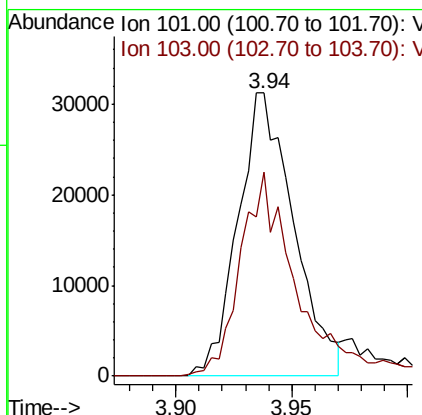
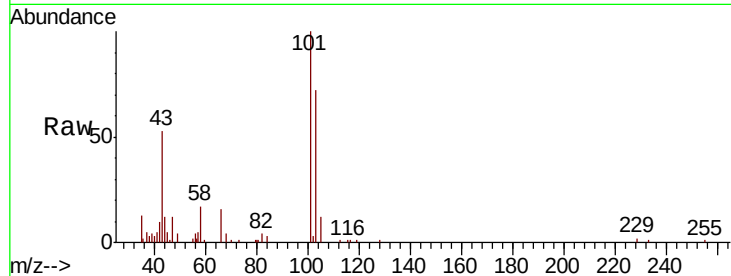




#11  
 Trichlorofluoromethane  
 Concen: 0.248 ppbv  
 RT: 3.94 min Scan# 358  
 Delta R.T. 0.00 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

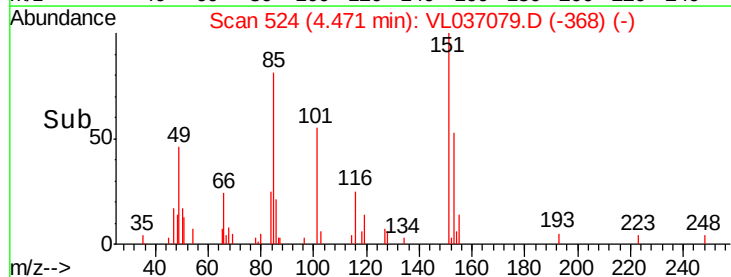
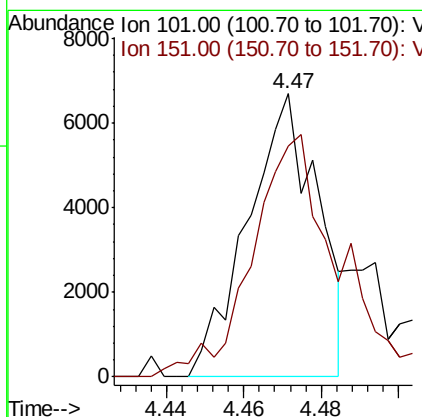
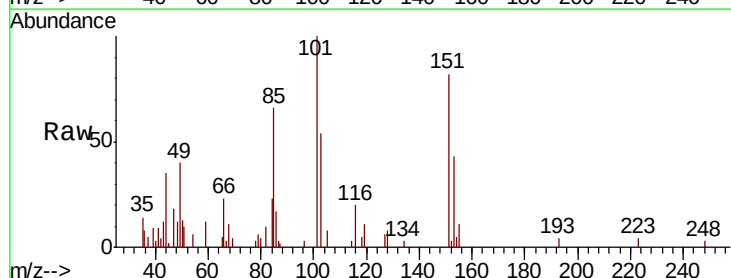
Instrument :  
 MSVOA\_L  
 ClientSampleId :

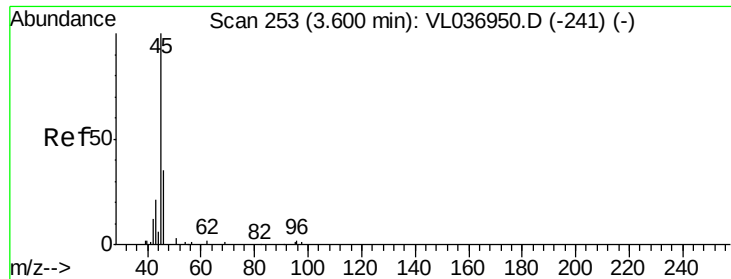
Tot Ion:101 Resp: 52271  
 Ion Ratio Lower Upper  
 101 100  
 103 71.4 52.6 79.0



#12  
 1,1,2-Trichlorotrifluoroethane  
 Concen: 0.056 ppbv  
 RT: 4.47 min Scan# 524  
 Delta R.T. 0.00 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

Tgt Ion:101 Resp: 8411  
 Ion Ratio Lower Upper  
 101 100  
 151 109.2 57.7 86.5#

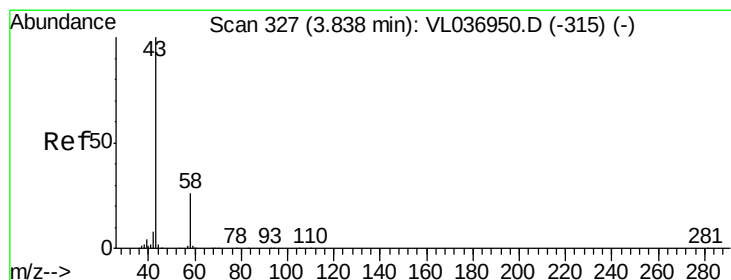
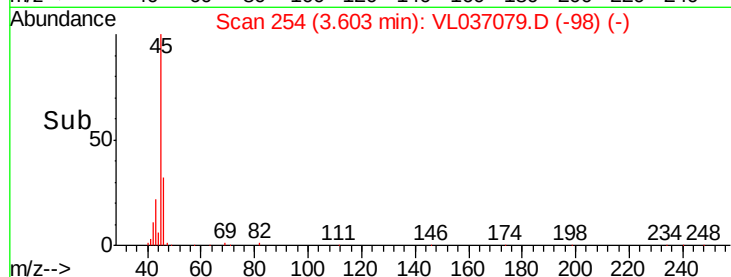
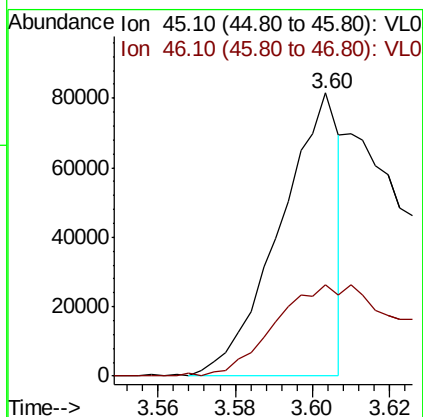
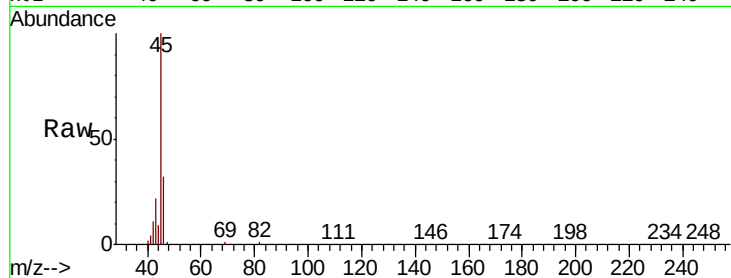




#13  
Ethanol  
Concen: 7.347 ppbv  
RT: 3.60 min Scan# 254  
Delta R.T. 0.00 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

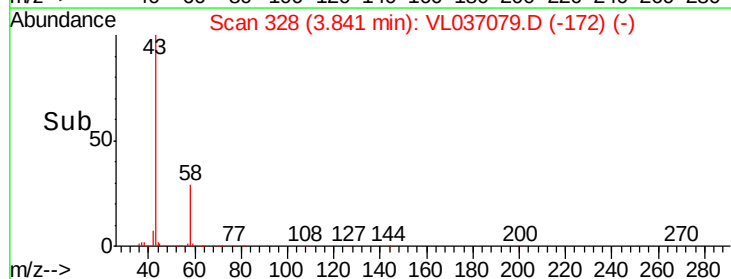
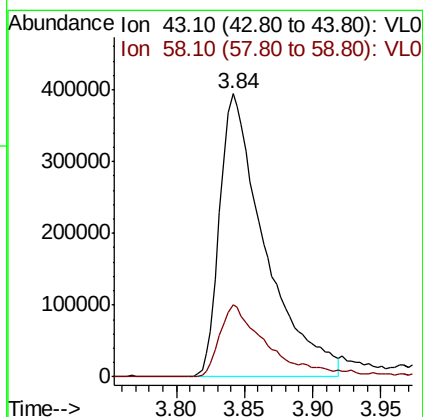
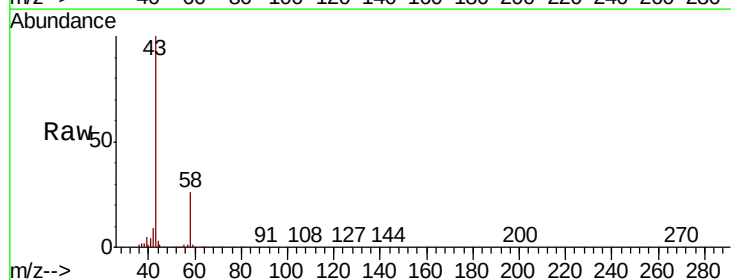
Instrument :  
MSVOA\_L  
ClientSampleId :

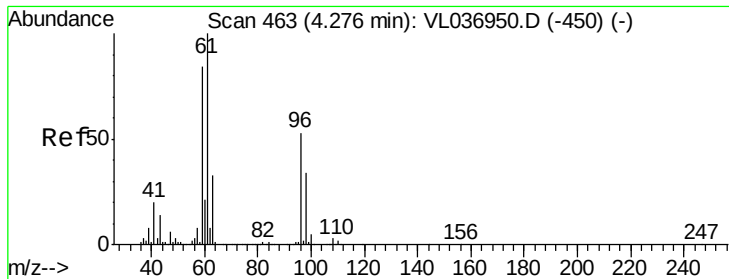
Tot Ion: 45 Resp: 86382  
Ion Ratio Lower Upper  
45 100  
46 0.0 16.3 65.3#



#15  
Acetone  
Concen: 6.575 ppbv  
RT: 3.84 min Scan# 328  
Delta R.T. 0.00 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

Tgt Ion: 43 Resp: 904615  
Ion Ratio Lower Upper  
43 100  
58 27.8 24.0 36.0



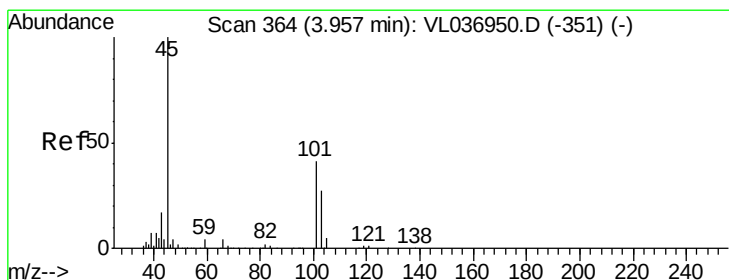
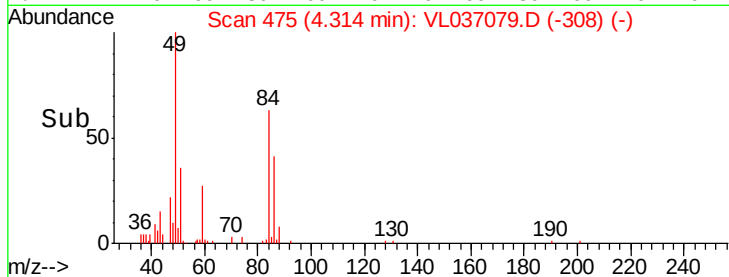
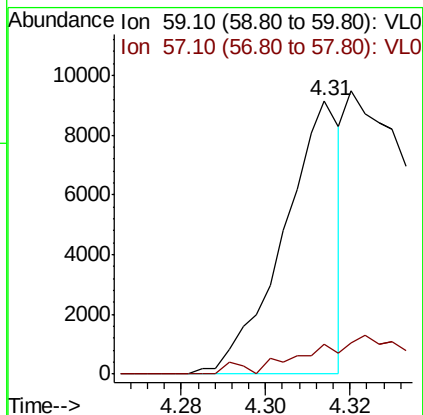
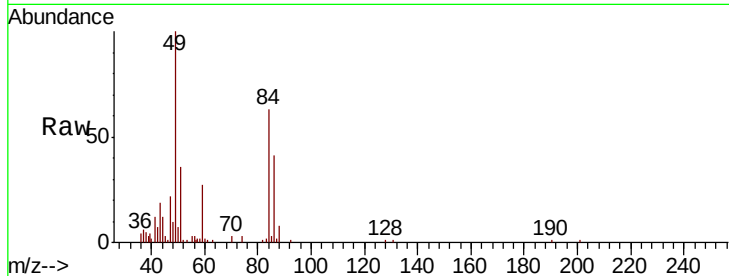


#17

tert-Butyl alcohol  
Concen: 0.068 ppbv  
RT: 4.31 min Scan# 475  
Delta R.T. 0.04 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

Instrument :  
MSVOA\_L  
ClientSampleId :

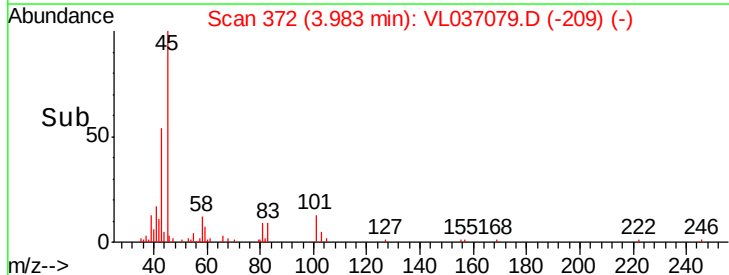
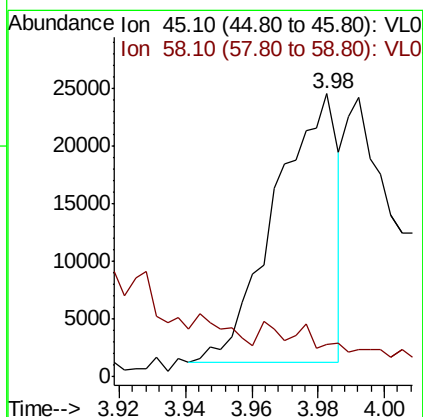
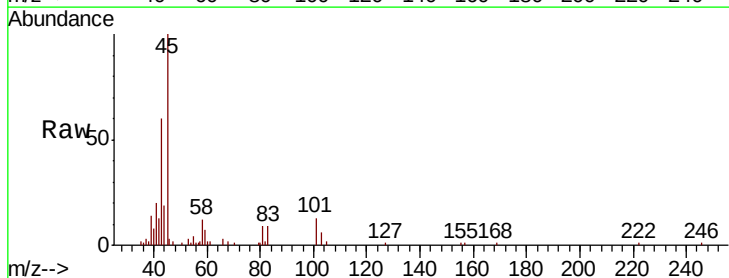
Tot Ion: 59 Resp: 8537  
Ion Ratio Lower Upper  
59 100  
57 0.0 8.3 12.5#



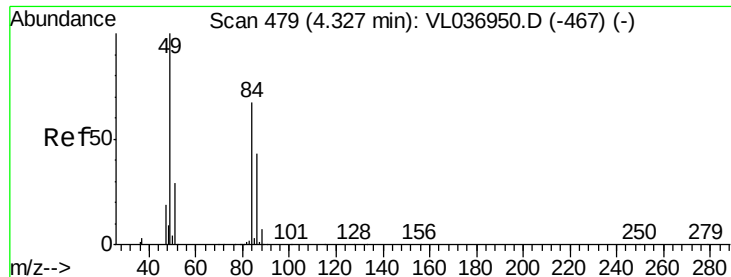
#19

Isopropyl Alcohol  
Concen: 0.412 ppbv  
RT: 3.98 min Scan# 372  
Delta R.T. 0.03 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

Tgt Ion: 45 Resp: 30496  
Ion Ratio Lower Upper  
45 100  
58 0.0 37.2 55.8#



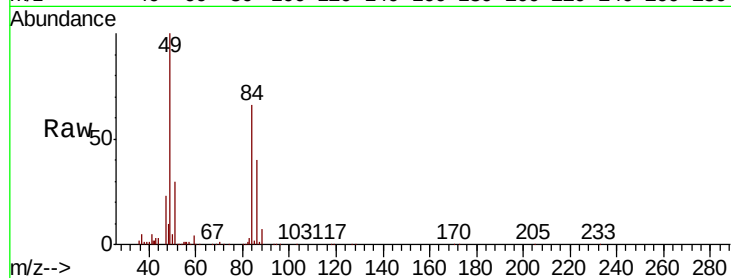




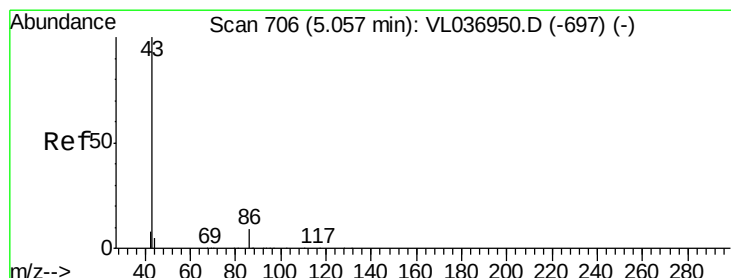
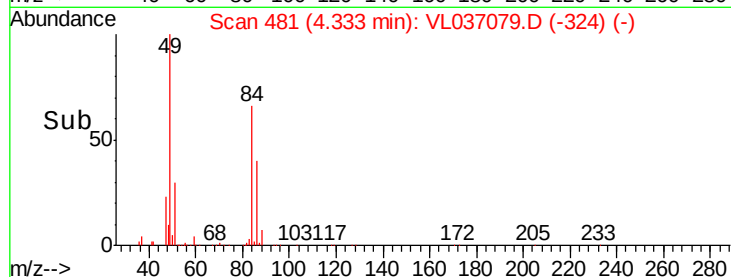
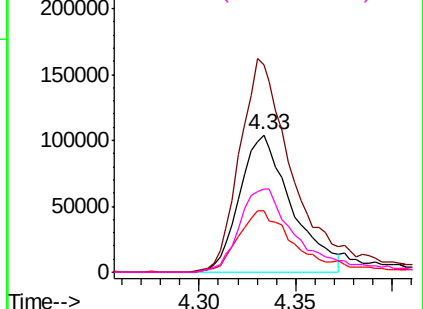
#20  
Methylene Chloride  
Concen: 2.640 ppbv  
RT: 4.33 min Scan# 481  
Delta R.T. 0.01 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

Instrument :  
MSVOA\_L  
ClientSampled :

| Tot Ion: | 84    | Resp: | 194713 |
|----------|-------|-------|--------|
| Ion      | Ratio | Lower | Upper  |
| 84       | 100   |       |        |
| 49       | 151.8 | 119.8 | 179.6  |
| 51       | 44.7  | 35.1  | 52.7   |
| 86       | 60.7  | 50.9  | 76.3   |

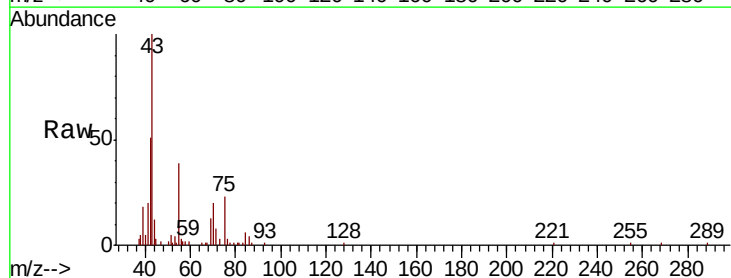


Abundance Ion 84.00 (83.70 to 84.70): VL0  
Ion 49.10 (48.80 to 49.80): VL0  
Ion 51.10 (50.80 to 51.80): VL0  
Ion 86.00 (85.70 to 86.70): VL0

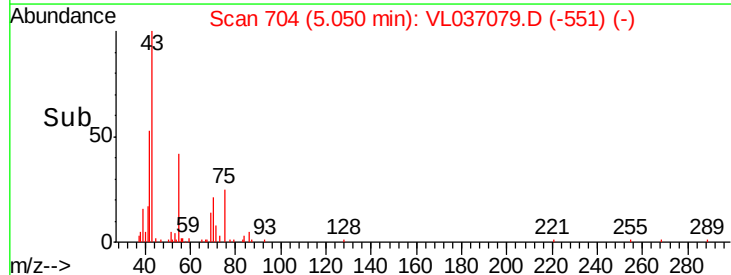
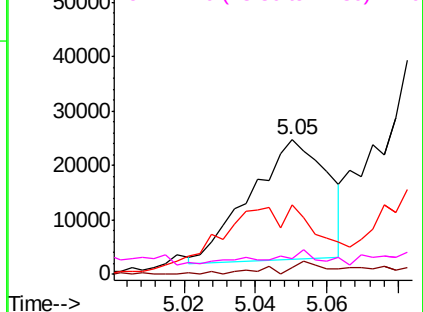


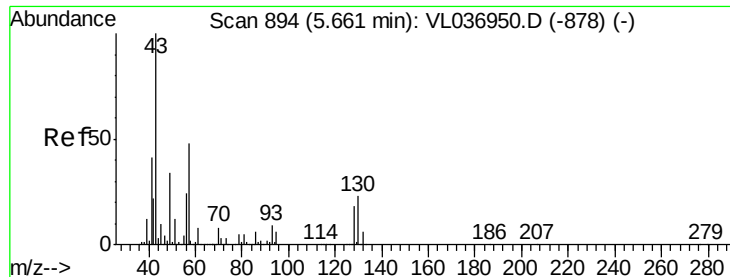
#23  
Vinyl Acetate  
Concen: 0.152 ppbv  
RT: 5.05 min Scan# 704  
Delta R.T. -0.01 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

| Tgt Ion: | 43    | Resp: | 33111 |
|----------|-------|-------|-------|
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 4.0   | 5.8   | 8.8#  |
| 42       | 43.8  | 7.4   | 11.2# |
| 44       | 2.9   | 3.3   | 4.9#  |



Abundance Ion 43.10 (42.80 to 43.80): VL0  
Ion 86.10 (85.80 to 86.80): VL0  
Ion 42.10 (41.80 to 42.80): VL0  
Ion 44.10 (43.80 to 44.80): VL0

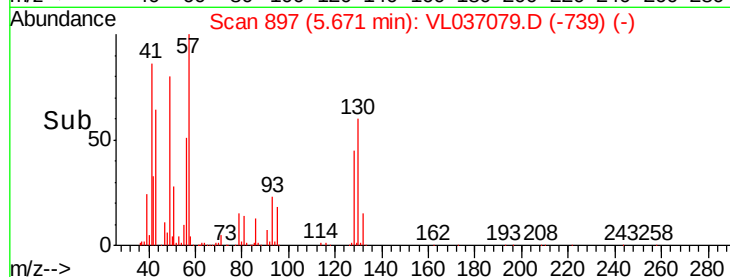
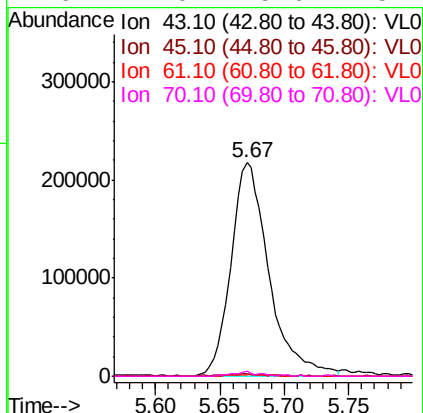
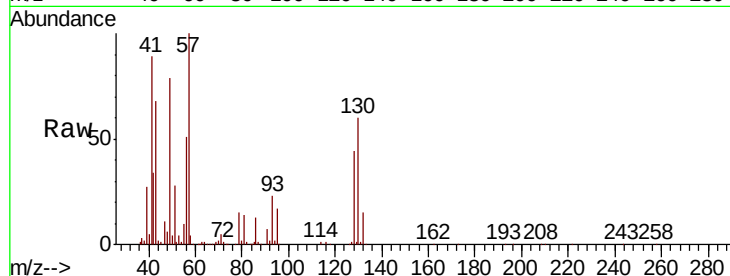




#25  
Ethyl Acetate  
Concen: 1.346 ppbv  
RT: 5.67 min Scan# 897  
Delta R.T. 0.01 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

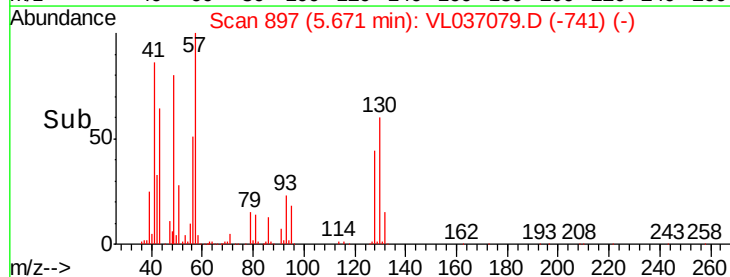
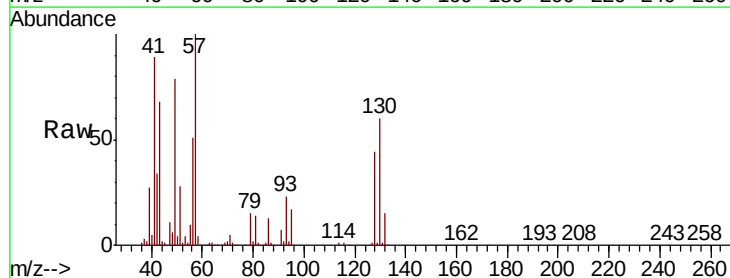
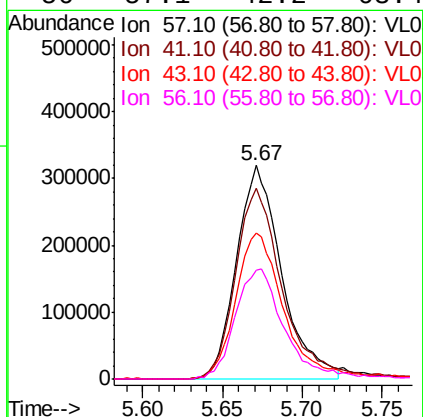
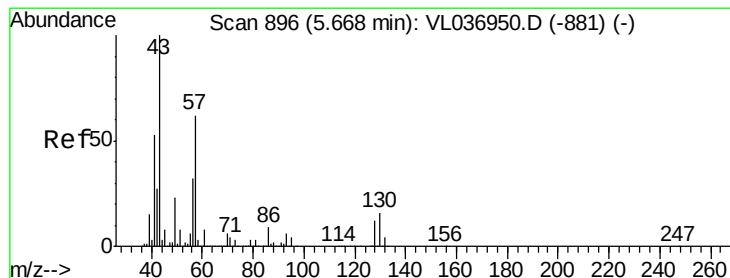
Instrument :  
MSVOA\_L  
ClientSampleId :

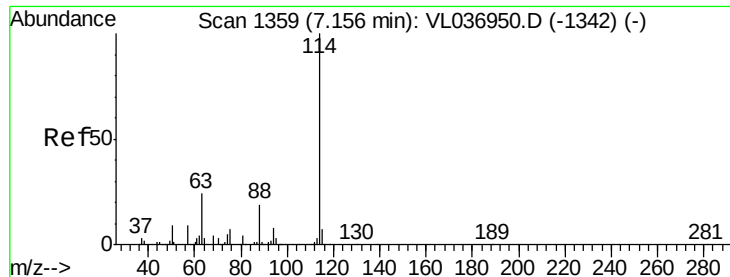
|          |       |       |        |
|----------|-------|-------|--------|
| Tot Ion: | 43    | Resp: | 445082 |
| Ion      | Ratio | Lower | Upper  |
| 43       | 100   |       |        |
| 45       | 1.5   | 7.8   | 11.8#  |
| 61       | 0.8   | 7.8   | 11.8#  |
| 70       | 2.0   | 5.6   | 8.4#   |



#26  
Hexane  
Concen: 3.640 ppbv  
RT: 5.67 min Scan# 897  
Delta R.T. 0.00 min  
Lab File: VL037079.D  
Acq: 1 Jun 2021 20:56

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 57    | Resp: | 614778 |
| Ion      | Ratio | Lower | Upper  |
| 57       | 100   |       |        |
| 41       | 93.8  | 70.5  | 105.7  |
| 43       | 73.5  | 165.8 | 248.8# |
| 56       | 57.1  | 42.2  | 63.4   |

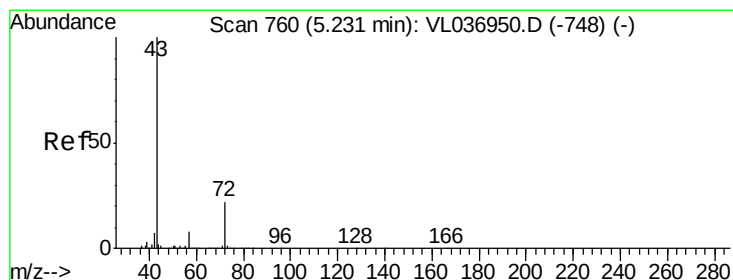
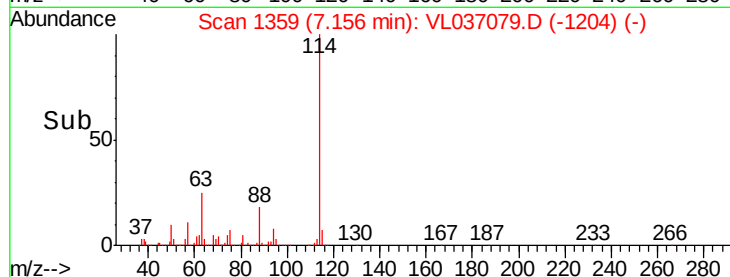
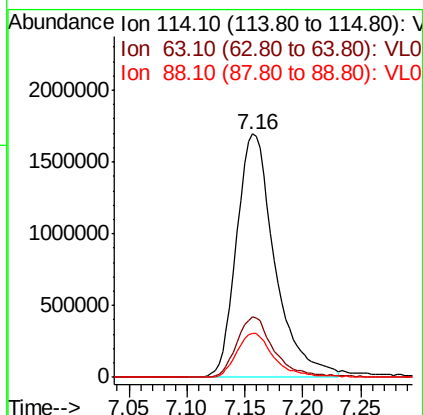
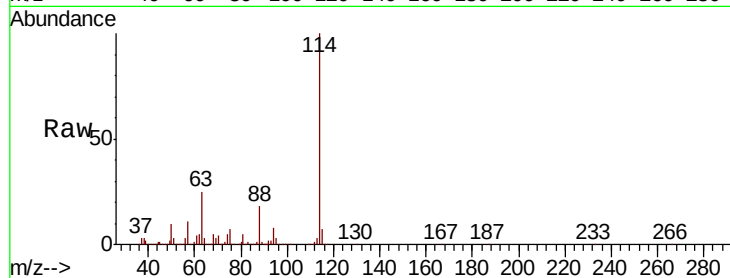




#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.16 min Scan# 1359  
 Delta R.T. -0.00 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

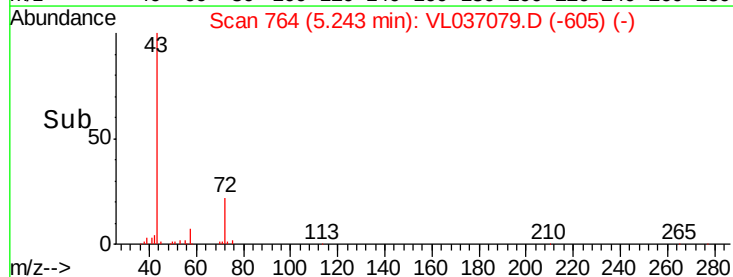
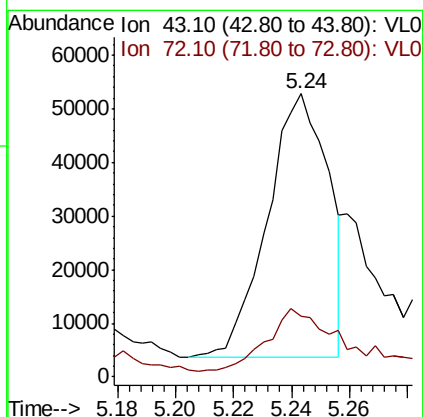
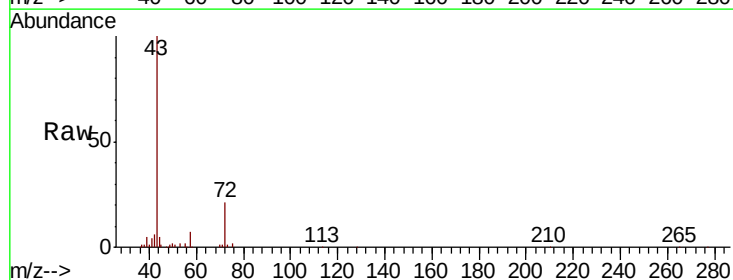
Instrument :  
 MSVOA\_L  
 ClientSampleId :

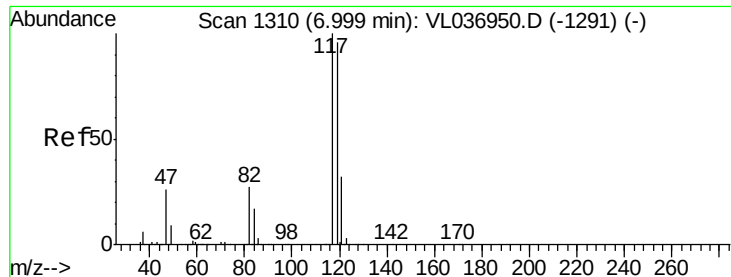
Tot Ion:114 Resp: 3894560  
 Ion Ratio Lower Upper  
 114 100  
 63 24.8 19.6 29.4  
 88 17.9 14.6 21.8



#34  
 2-Butanone  
 Concen: 0.503 ppbv  
 RT: 5.24 min Scan# 764  
 Delta R.T. 0.01 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

Tgt Ion: 43 Resp: 71303  
 Ion Ratio Lower Upper  
 43 100  
 72 43.0 19.0 28.4#





#35

Carbon Tetrachloride

Concen: 0.031 ppbv

RT: 7.00 min Scan# 1310

Delta R.T. -0.00 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

ClientSampleId :

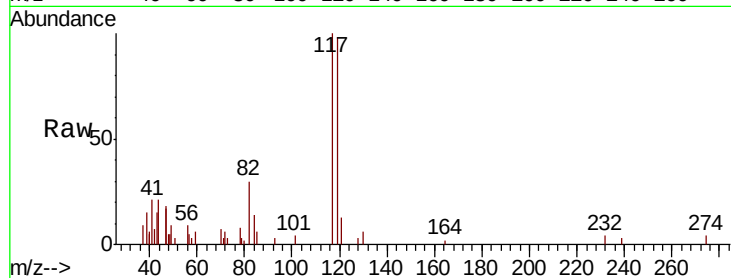
Tot Ion:117 Resp: 7935

Ion Ratio Lower Upper

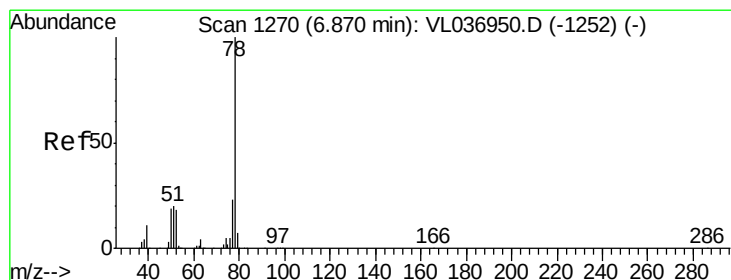
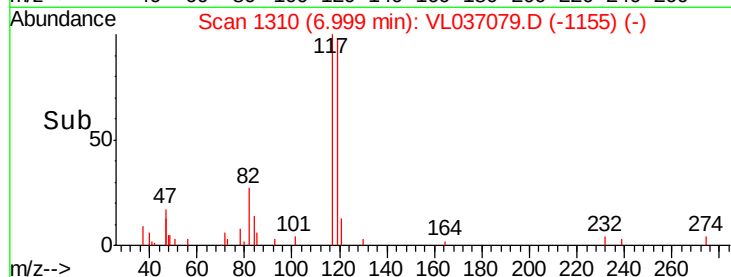
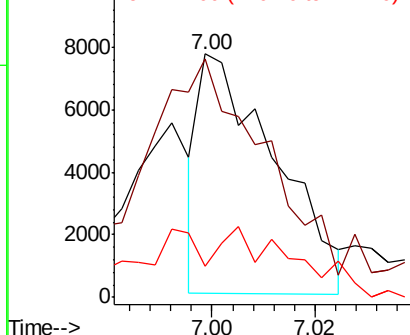
117 100

119 111.1 76.6 114.8

121 0.0 25.8 38.6#



Abundance Ion 117.00 (116.70 to 117.70): V  
Ion 119.00 (118.70 to 119.70): V  
Ion 121.00 (120.70 to 121.70): V



#36

Benzene

Concen: 0.208 ppbv

RT: 6.87 min Scan# 1271

Delta R.T. 0.00 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

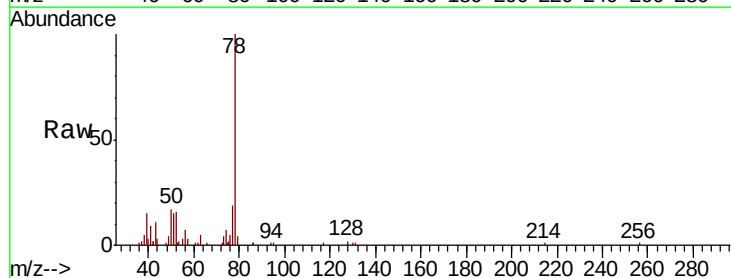
Tgt Ion: 78 Resp: 69703

Ion Ratio Lower Upper

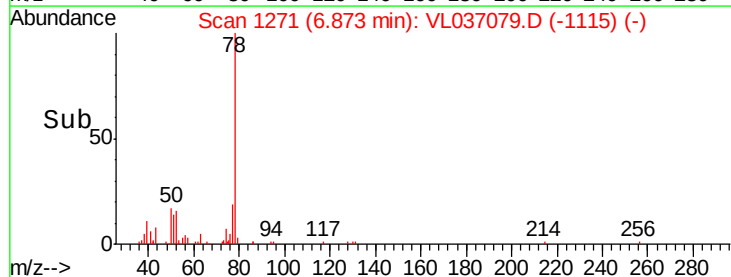
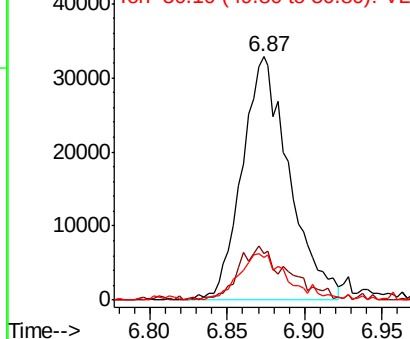
78 100

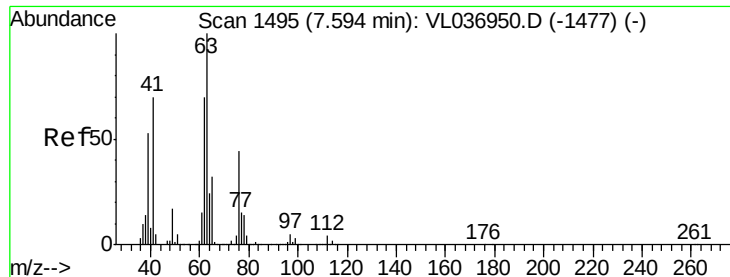
77 18.3 18.6 28.0#

50 16.6 15.0 22.4



Abundance Ion 78.10 (77.80 to 78.80): VL0  
Ion 77.10 (76.80 to 77.80): VL0  
Ion 50.10 (49.80 to 50.80): VL0





#39

1,2-Dichloropropane

Concen: 7.162 ppbv

RT: 7.16 min Scan# 1359

Delta R.T. -0.44 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

ClientSampleId :

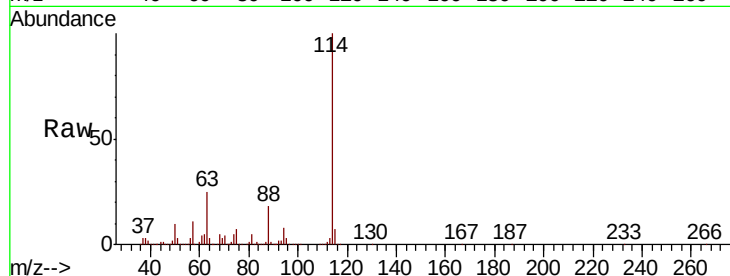
Tot Ion: 63 Resp: 925497

Ion Ratio Lower Upper

63 100

41 0.0 55.7 83.5#

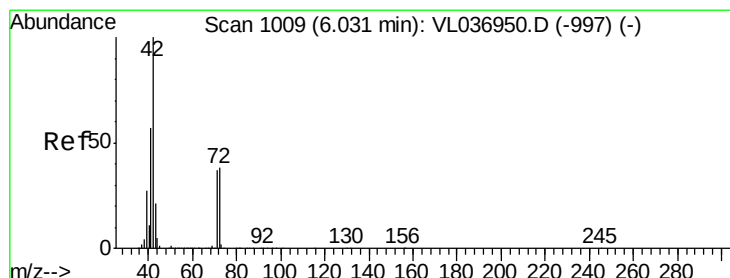
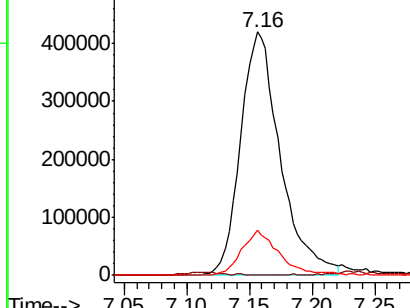
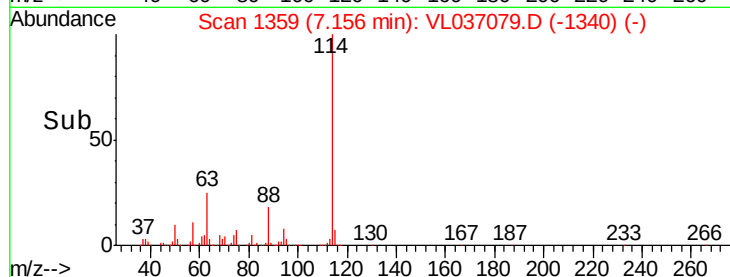
62 18.5 56.2 84.4#



Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 62.10 (61.80 to 62.80): VL0



#41

Tetrahydrofuran

Concen: 0.041 ppbv

RT: 5.73 min Scan# 914

Delta R.T. -0.31 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

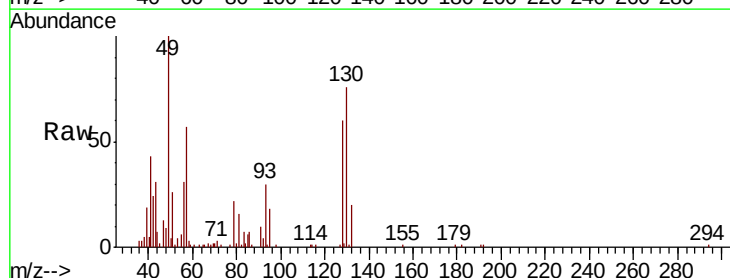
Tgt Ion: 42 Resp: 3289

Ion Ratio Lower Upper

42 100

72 4.6 31.4 47.2#

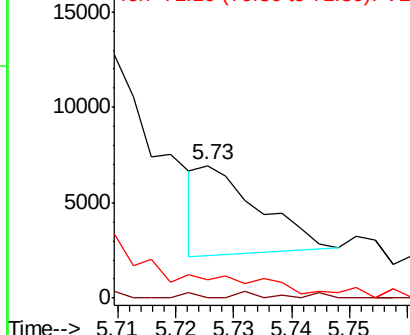
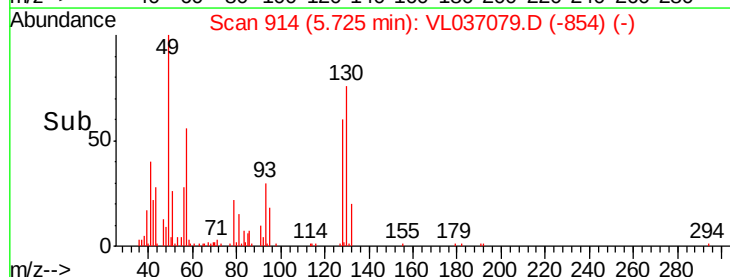
71 0.0 30.4 45.6#

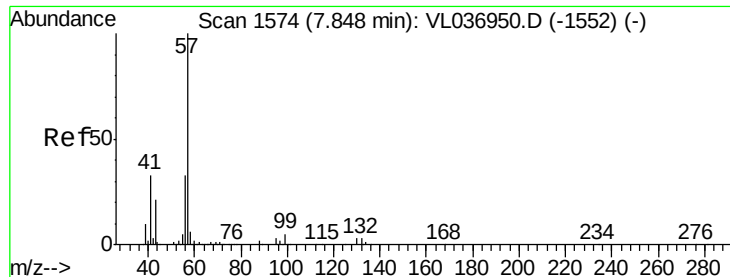


Abundance Ion 42.10 (41.80 to 42.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

Ion 71.10 (70.80 to 71.80): VL0

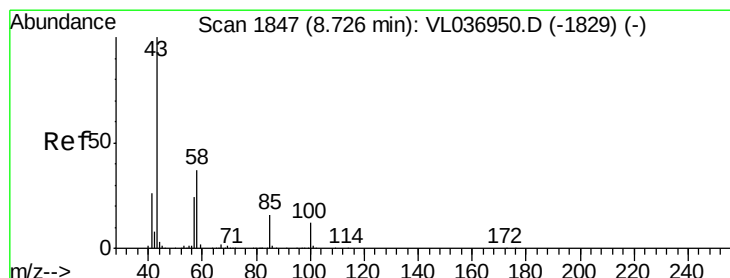
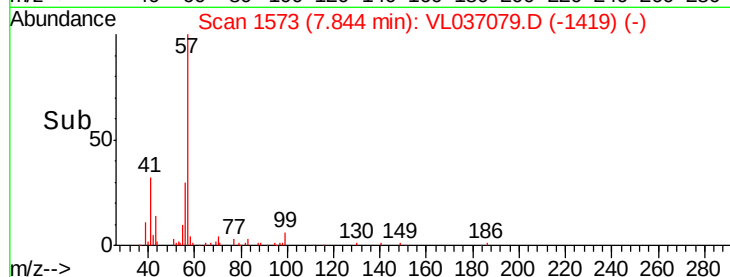
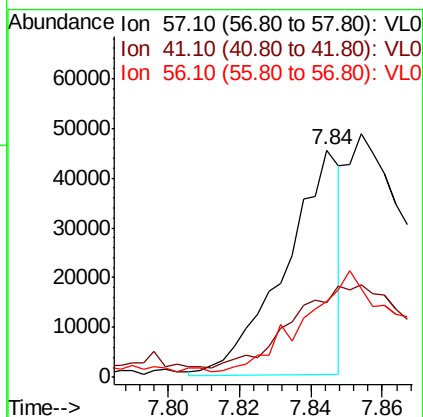
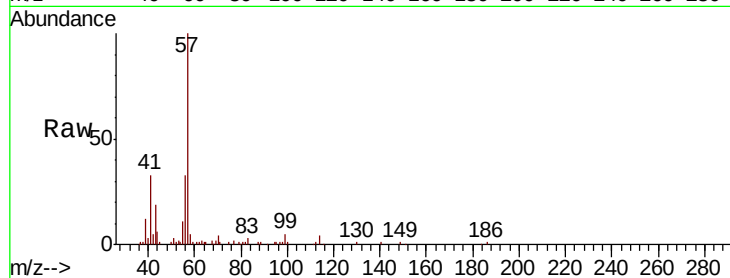




#44  
 2,2,4-Trimethylpentane  
 Concen: 0.084 ppbv  
 RT: 7.84 min Scan# 1573  
 Delta R.T. -0.00 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

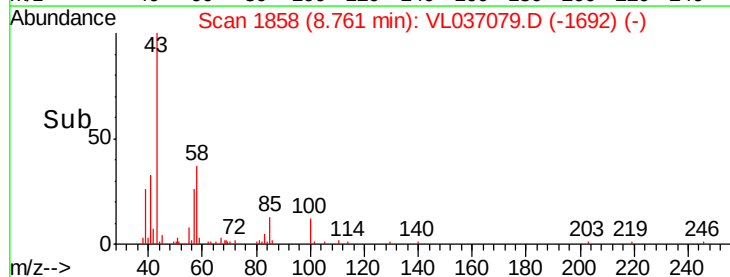
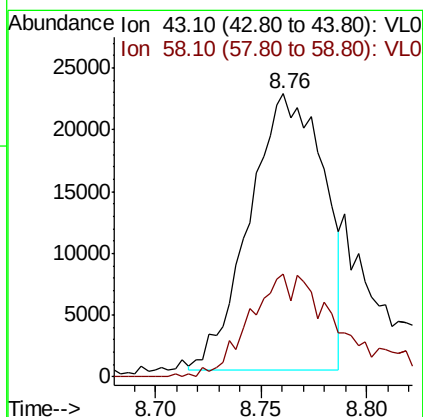
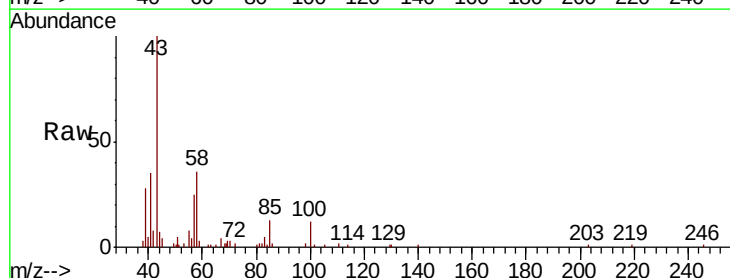
Instrument :  
 MSVOA\_L  
 ClientSampleId :

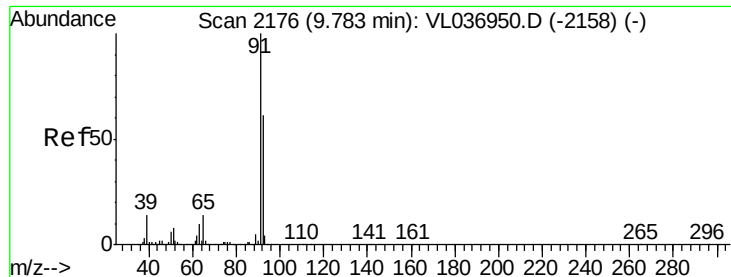
Tot Ion: 57 Resp: 48447  
 Ion Ratio Lower Upper  
 57 100  
 41 0.0 27.0 40.4#  
 56 0.0 25.4 38.2#



#50  
 4-Methyl-2-Pentanone  
 Concen: 0.233 ppbv  
 RT: 8.76 min Scan# 1858  
 Delta R.T. 0.04 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

Tgt Ion: 43 Resp: 54533  
 Ion Ratio Lower Upper  
 43 100  
 58 51.9 29.4 44.2#





#53

Toluene

Concen: 2.584 ppbv

RT: 9.79 min Scan# 2177

Delta R.T. 0.00 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

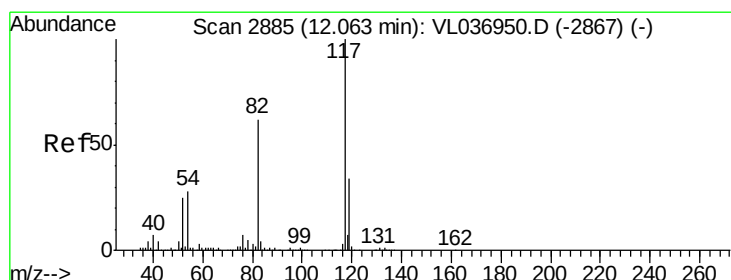
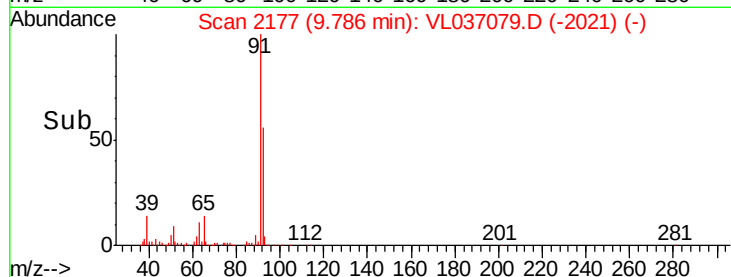
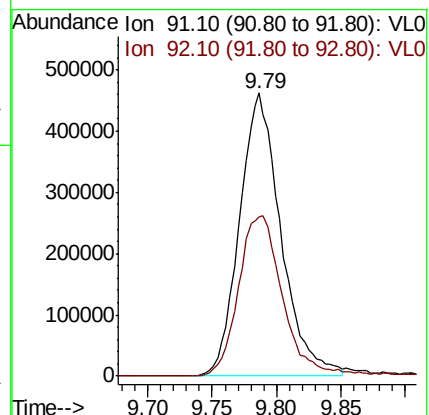
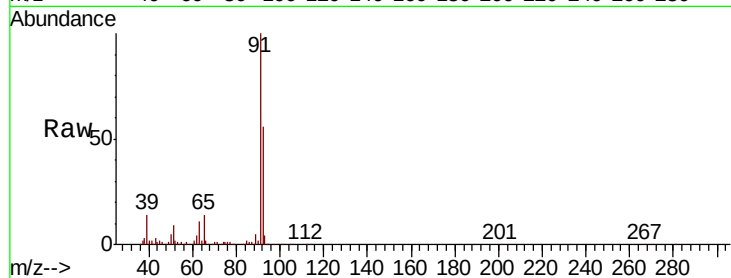
ClientSampleId :

Tot Ion: 91 Resp: 1031524

Ion Ratio Lower Upper

91 100

92 61.3 49.5 74.3



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.07 min Scan# 2886

Delta R.T. 0.00 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

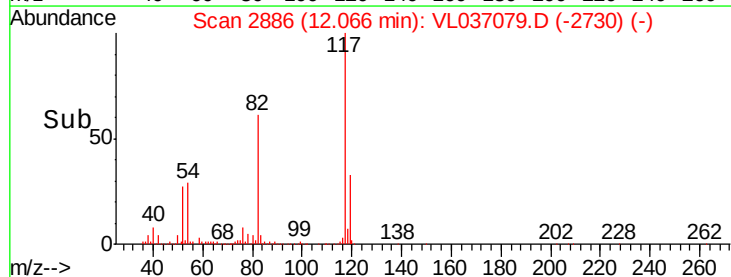
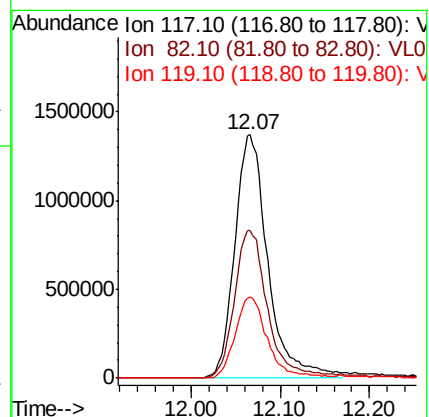
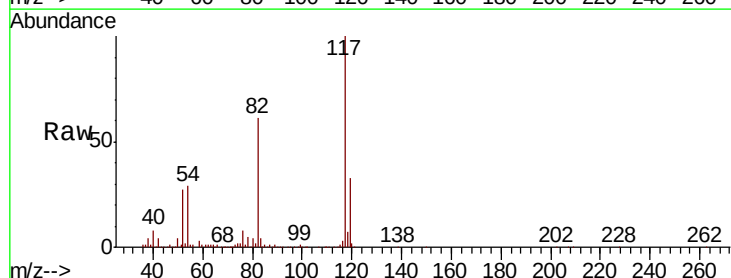
Tgt Ion: 117 Resp: 3533664

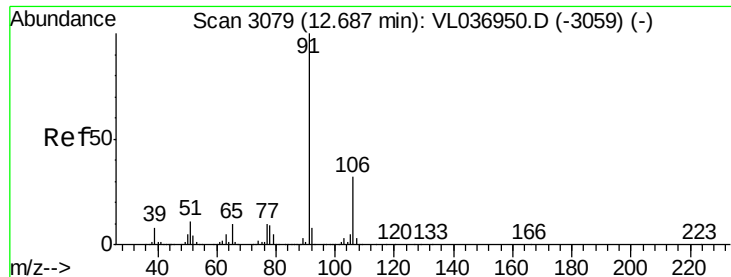
Ion Ratio Lower Upper

117 100

82 62.2 52.6 79.0

119 34.2 46.6 70.0#





#58

Ethyl Benzene

Concen: 0.041 ppbv

RT: 12.70 min Scan# 3082

Delta R.T. 0.01 min

Lab File: VL037079.D

Acq: 1 Jun 2021 20:56

Instrument :

MSVOA\_L

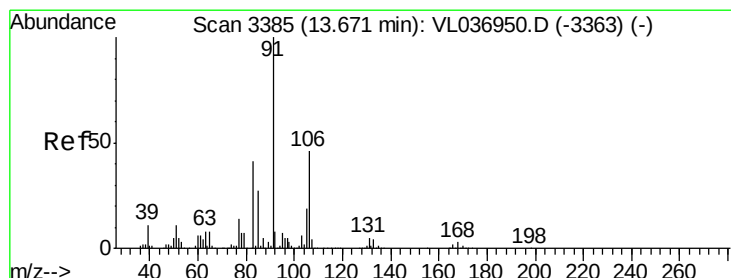
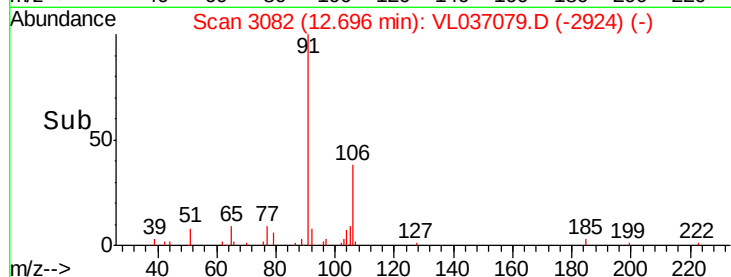
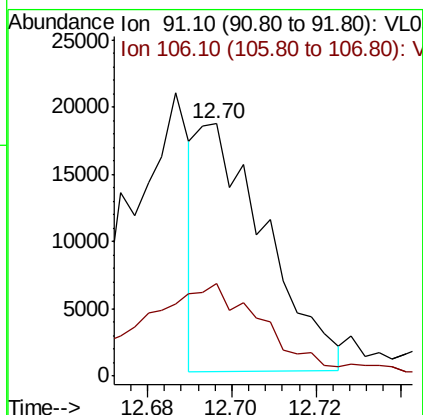
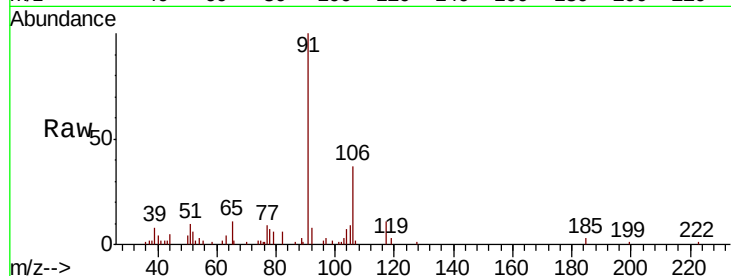
ClientSampleId :

Tot Ion: 91 Resp: 20574

Ion Ratio Lower Upper

91 100

106 37.5 25.6 38.4



#60

o-Xylene

Concen: 0.030 ppbv

RT: 13.67 min Scan# 3386

Delta R.T. 0.00 min

Lab File: VL037079.D

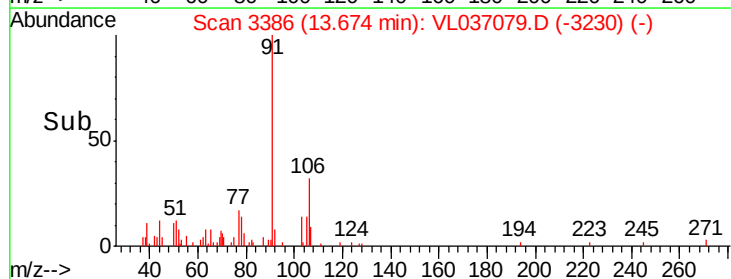
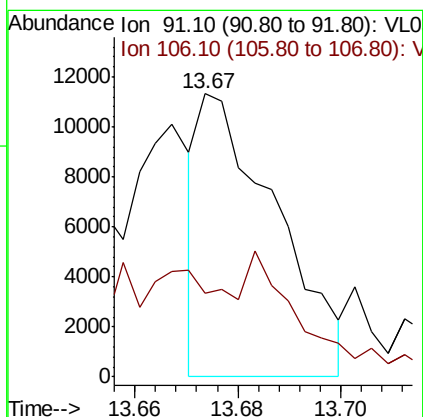
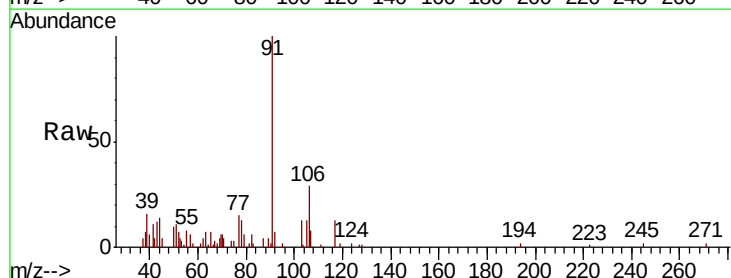
Acq: 1 Jun 2021 20:56

Tgt Ion: 91 Resp: 11809

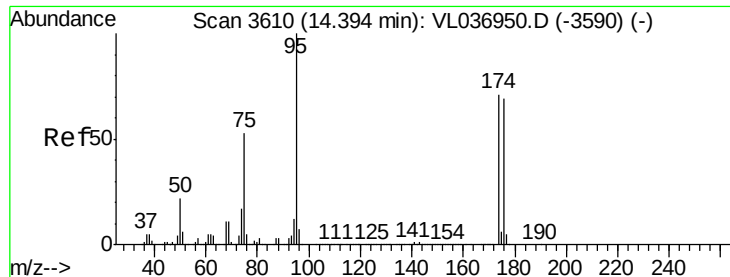
Ion Ratio Lower Upper

91 100

106 97.7 23.4 70.3#



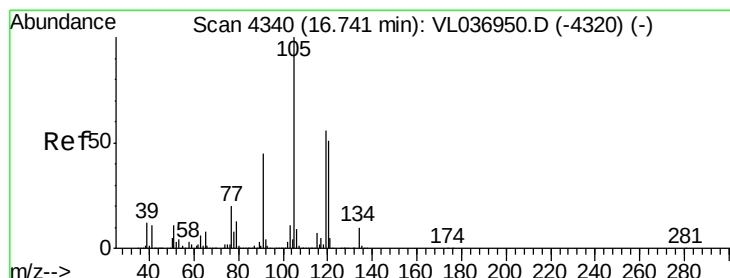
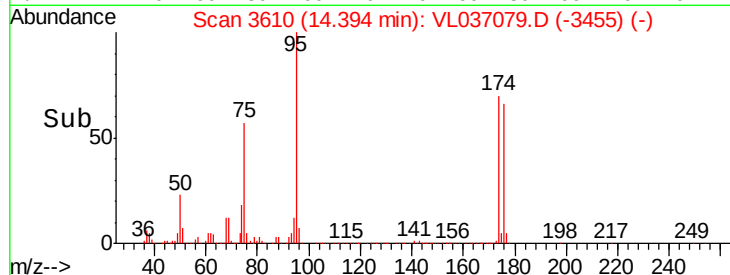
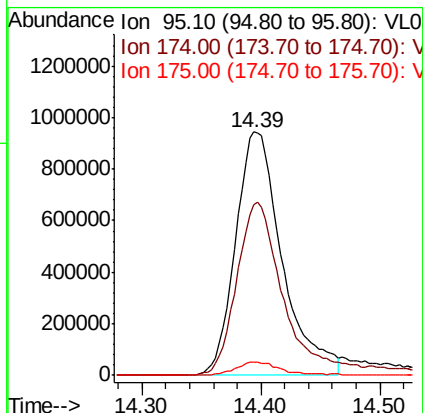
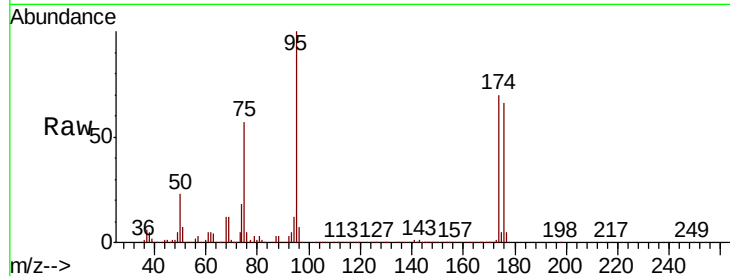




#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 9.638 ppbv  
 RT: 14.39 min Scan# 3610  
 Delta R.T. -0.00 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tot Ion: 95 Resp: 2558554  
 Ion Ratio Lower Upper  
 95 100  
 174 77.1 58.4 87.6  
 175 5.4 4.4 6.6



#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.059 ppbv  
 RT: 16.75 min Scan# 4342  
 Delta R.T. 0.01 min  
 Lab File: VL037079.D  
 Acq: 1 Jun 2021 20:56

Tgt Ion: 105 Resp: 26638  
 Ion Ratio Lower Upper  
 105 100  
 120 45.9 40.6 61.0  
 91 11.2 37.4 56.0#  
 77 7.0 16.2 24.4#

