

Data Path : Z:\VOASRV\HPCHEM1\MSVOA W\DATA\VW022719\  
 Data File : VW008865.D  
 Acq On : 27 Feb 2019 19:56  
 Operator : SY/VA  
 Sample : K1353-03RE  
 Misc : 6.31G/5ML/MSVOA W/SOIL  
 ALS Vial : 21 Sample Multiplier: 1

Instrument :  
 MSVOA\_W  
 ClientSampleId :

Quant Time: Feb 28 07:05:12 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_W\METHOD\82W022119S.M  
 Quant Title : SW846 8260  
 QLast Update : Fri Feb 22 00:38:32 2019  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.95  | 168  | 321102   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.84  | 114  | 509862   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.63 | 117  | 401056   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.56 | 152  | 129929   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |       |     |          |       |         |      |
|---------------------------|-------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 8.31  | 65  | 184264   | 61.18 | ug/l    | 0.00 |
| Spiked Amount             |       |     |          |       |         |      |
|                           |       |     | Recovery | =     | 122.36% |      |
| 35) Dibromofluoromethane  | 7.88  | 113 | 161427   | 52.73 | ug/l    | 0.00 |
| Spiked Amount             |       |     |          |       |         |      |
|                           |       |     | Recovery | =     | 105.46% |      |
| 50) Toluene-d8            | 10.32 | 98  | 576979   | 48.82 | ug/l    | 0.00 |
| Spiked Amount             |       |     |          |       |         |      |
|                           |       |     | Recovery | =     | 97.64%  |      |
| 62) 4-Bromofluorobenzene  | 12.62 | 95  | 158739   | 34.31 | ug/l    | 0.00 |
| Spiked Amount             |       |     |          |       |         |      |
|                           |       |     | Recovery | =     | 68.62%  |      |

## Target Compounds

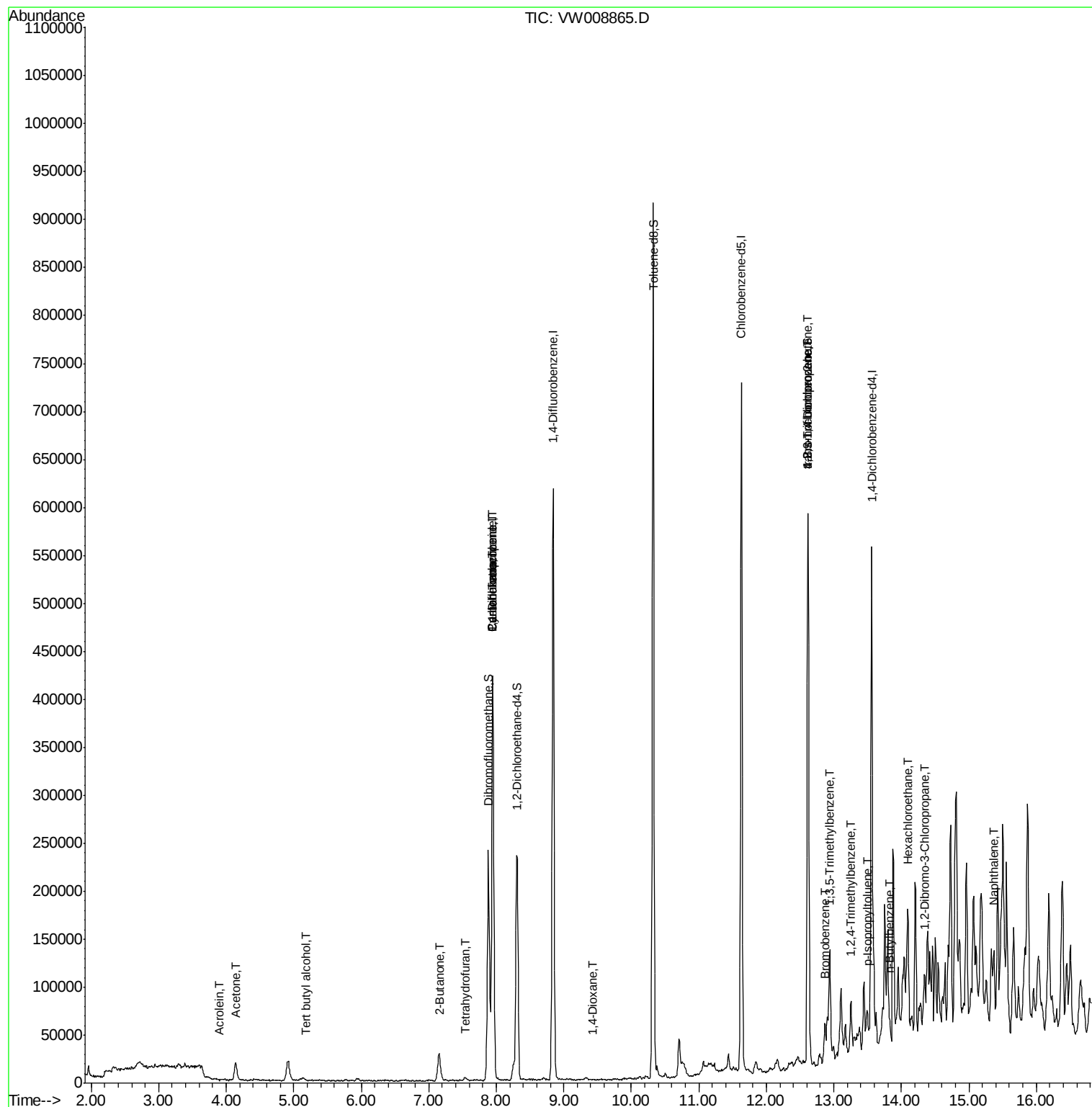
|                                |       |     |       |           | Qvalue |     |
|--------------------------------|-------|-----|-------|-----------|--------|-----|
| 11) Tert butyl alcohol         | 5.18  | 59  | 642   | 2.394     | ug/l # | 88  |
| 13) Acrolein                   | 3.90  | 56  | 55    | 19.959    | ug/l # | 14  |
| 16) Acetone                    | 4.14  | 43  | 31865 | 45.647    | ug/l   | 92  |
| 20) Methylene Chloride         | 4.92  | 84  | 14735 | Below Cal |        | 95  |
| 25) 2-Butanone                 | 7.17  | 43  | 2061  | 2.112     | ug/l # | 63  |
| 29) Tetrahydrofuran            | 7.54  | 42  | 2445  | 3.931     | ug/l # | 80  |
| 31) Cyclohexane                | 7.95  | 56  | 7746  | 1.364     | ug/l # | 17  |
| 36) 1,1-Dichloropropene        | 7.95  | 75  | 23845 | 4.804     | ug/l # | 50  |
| 38) Carbon Tetrachloride       | 7.95  | 117 | 30635 | 5.853     | ug/l # | 16  |
| 49) 1,4-Dioxane                | 9.42  | 88  | 49    | 1.643     | ug/l # | 1   |
| 76) 1,2,3-Trichloropropane     | 12.62 | 75  | 85391 | 79.601    | ug/l # | 100 |
| 77) Bromobenzene               | 12.87 | 156 | 3162  | 1.502     | ug/l # | 32  |
| 80) 1,3,5-Trimethylbenzene     | 12.94 | 105 | 29931 | 3.867     | ug/l   | 94  |
| 81) trans-1,4-Dichloro-2-buten | 12.62 | 75  | 85391 | 193.516   | ug/l # | 6   |
| 84) 1,2,4-Trimethylbenzene     | 13.26 | 105 | 30534 | 3.811     | ug/l   | 99  |
| 86) p-Isopropyltoluene         | 13.50 | 119 | 10490 | 1.189     | ug/l   | 95  |
| 89) n-Butylbenzene             | 13.83 | 91  | 10246 | 1.240     | ug/l # | 74  |
| 90) Hexachloroethane           | 14.10 | 117 | 5705  | 3.950     | ug/l # | 9   |
| 92) 1,2-Dibromo-3-Chloropropan | 14.33 | 75  | 495   | 1.880     | ug/l   | 71  |
| 95) Naphthalene                | 15.37 | 128 | 47383 | 9.926     | ug/l   | 99  |

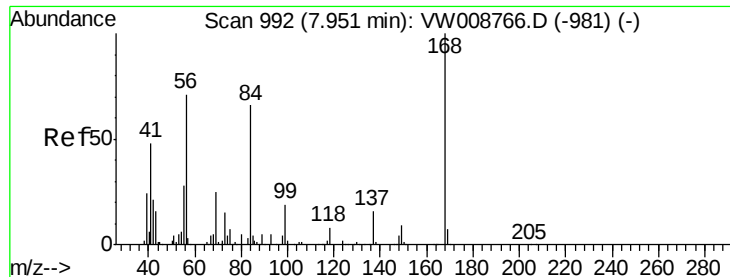
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Time: Feb 28 07:05:12 2019  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA\_W\METHOD\82W022119S.M  
Quant Title : SW846 8260  
QLast Update : Fri Feb 22 00:38:32 2019  
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 7.95 min Scan# 992

Delta R.T. 0.00 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

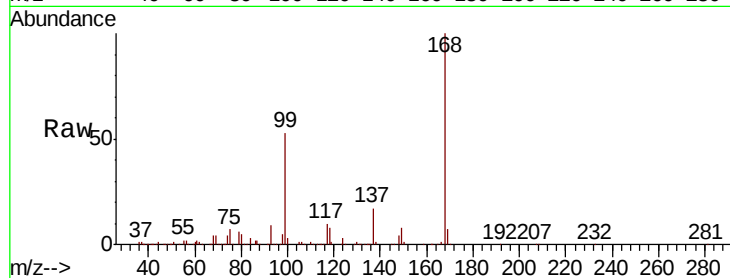
Instrument :  
MSVOA\_W  
ClientSampleId :

Tot Ion:168 Resp: 321102

Ion Ratio Lower Upper

168 100

99 53.0 42.2 63.2



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VW

7.95

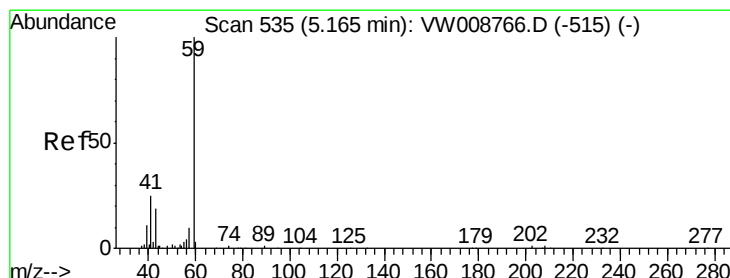
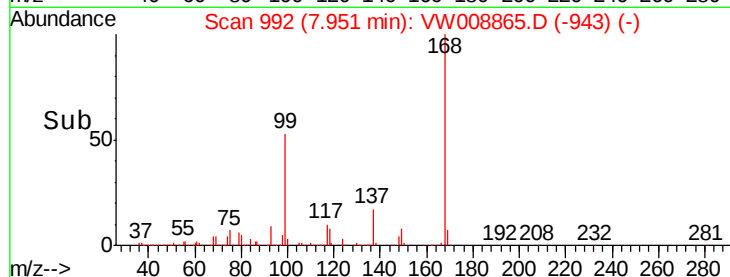
150000

100000

50000

0

Time-->



#11

Tert butyl alcohol

Concen: 2.394 ug/l

RT: 5.18 min Scan# 538

Delta R.T. 0.02 min

Lab File: VW008865.D

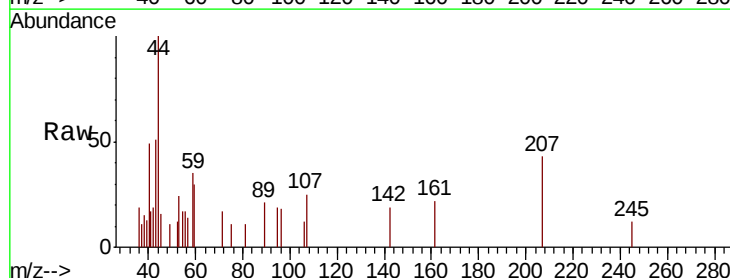
Acq: 27 Feb 2019 19:56

Tgt Ion: 59 Resp: 642

Ion Ratio Lower Upper

59 100

57 16.4 9.3 13.9#



Abundance Ion 59.00 (58.70 to 59.70): VW

Ion 57.00 (56.70 to 57.70): VW

5.18

600

500

400

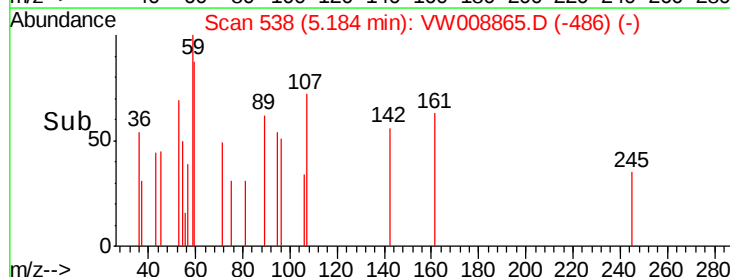
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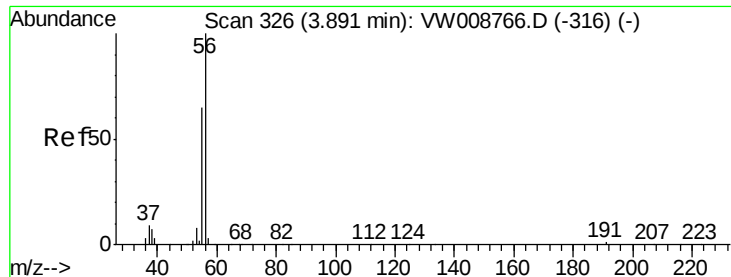
200

100

0

Time-->

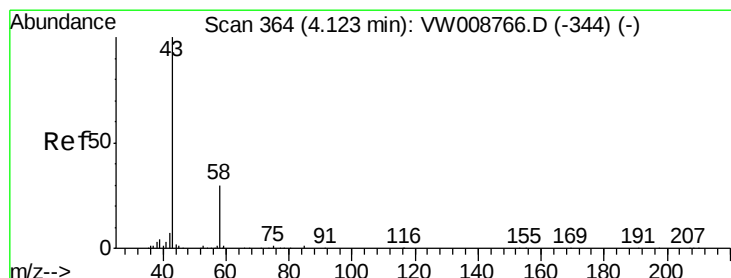
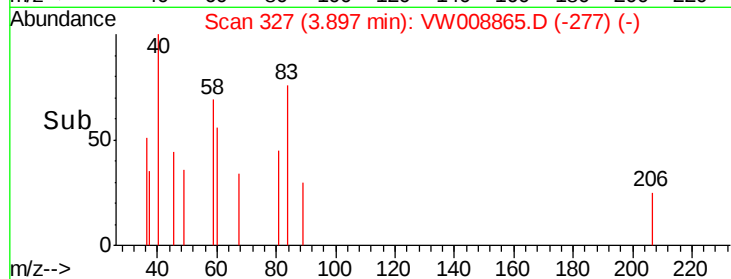
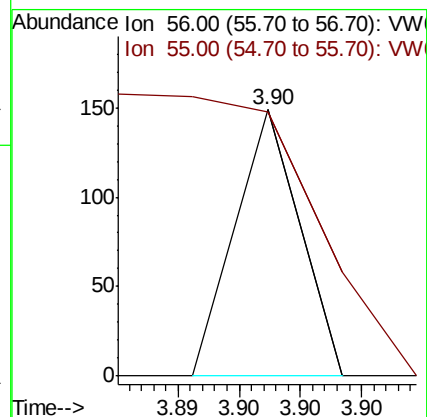
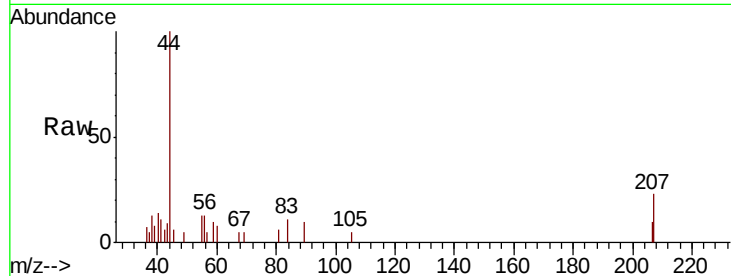




#13  
Acrolein  
Concen: 19.959 ug/l  
RT: 3.90 min Scan# 327  
Delta R.T. 0.01 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

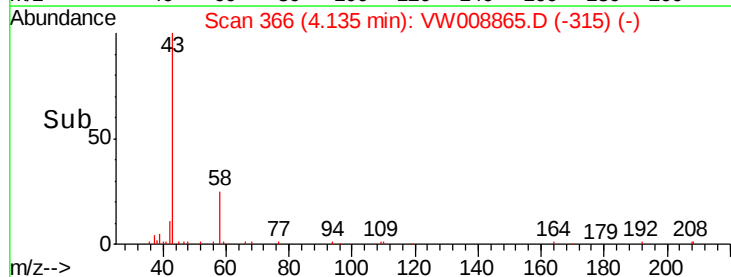
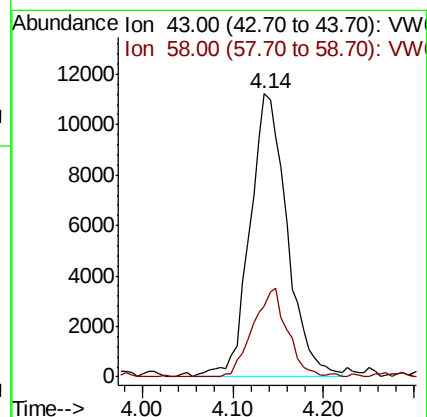
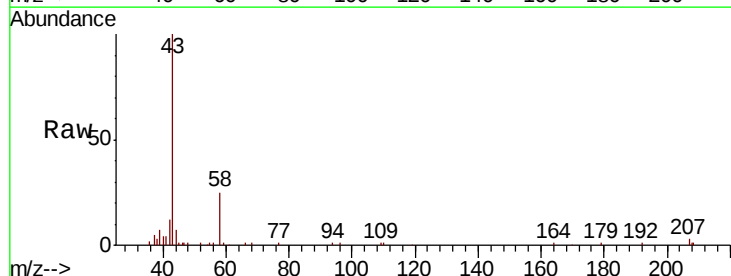
Instrument :  
MSVOA\_W  
ClientSampleId :

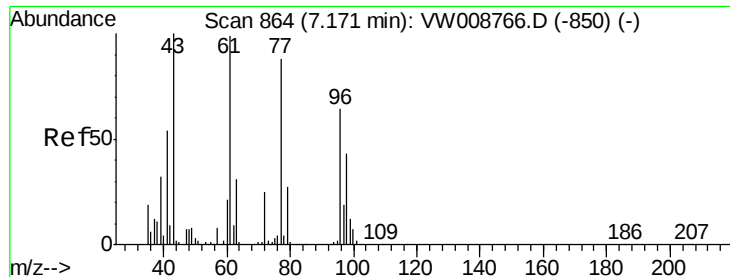
Tot Ion: 56 Resp: 55  
Ion Ratio Lower Upper  
56 100  
55 0.0 56.9 85.3#



#16  
Acetone  
Concen: 45.647 ug/l  
RT: 4.14 min Scan# 366  
Delta R.T. 0.01 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

Tgt Ion: 43 Resp: 31865  
Ion Ratio Lower Upper  
43 100  
58 25.2 23.8 35.6





#25

2-Butanone

Concen: 2.112 ug/l

RT: 7.17 min Scan# 864

Delta R.T. 0.00 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

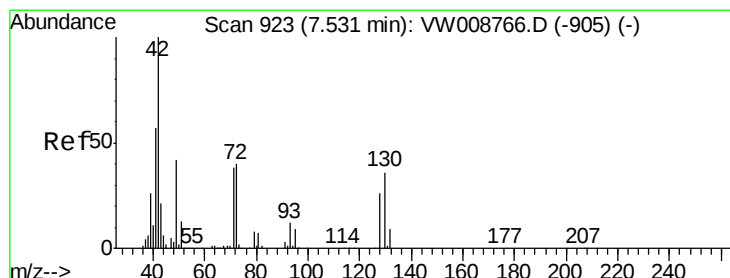
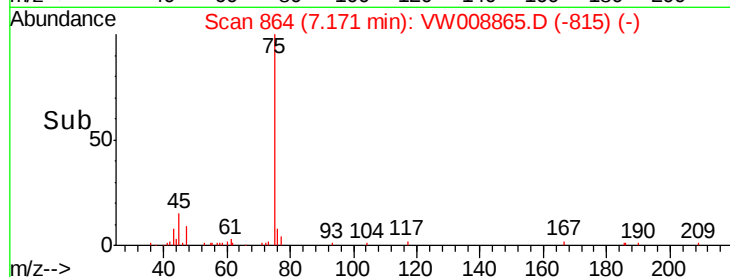
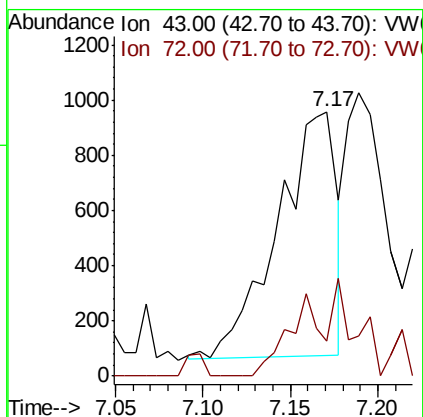
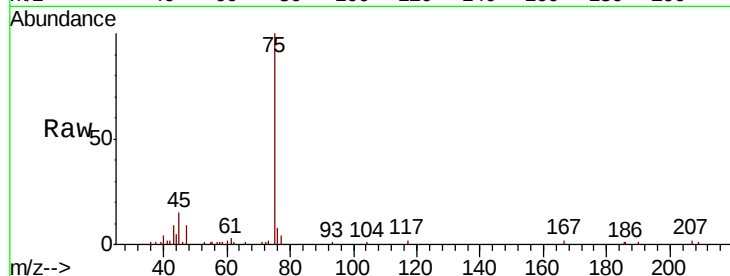
Instrument :  
MSVOA\_W  
ClientSampled :

Tot Ion: 43 Resp: 2061

Ion Ratio Lower Upper

43 100

72 6.0 19.7 29.5#



#29

Tetrahydrofuran

Concen: 3.931 ug/l

RT: 7.54 min Scan# 924

Delta R.T. 0.01 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

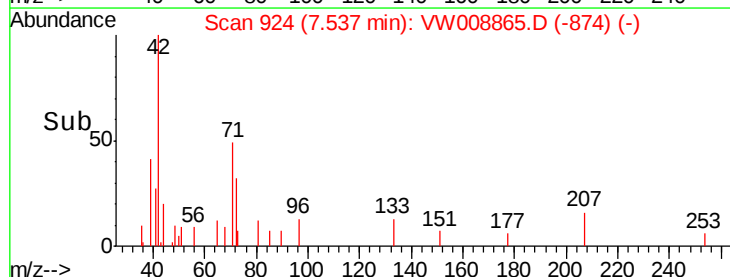
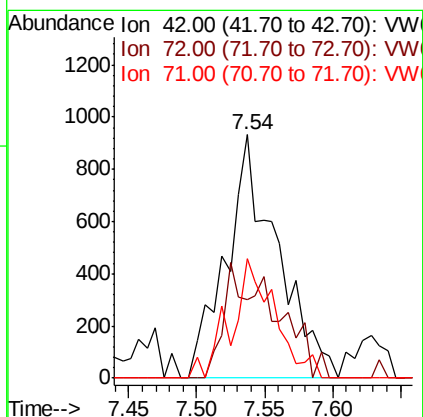
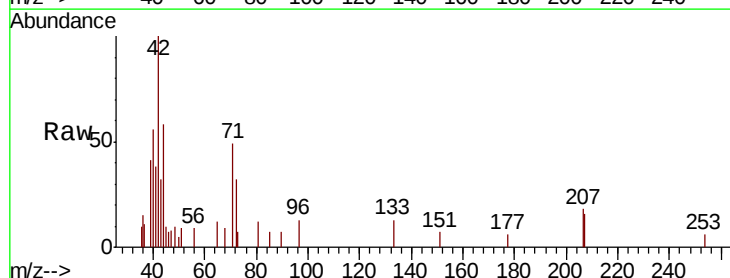
Tgt Ion: 42 Resp: 2445

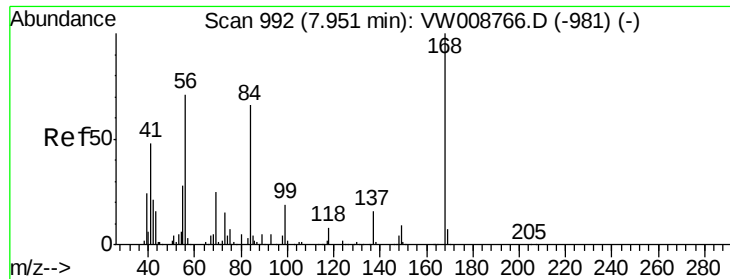
Ion Ratio Lower Upper

42 100

72 19.7 32.7 49.1#

71 42.0 31.3 46.9

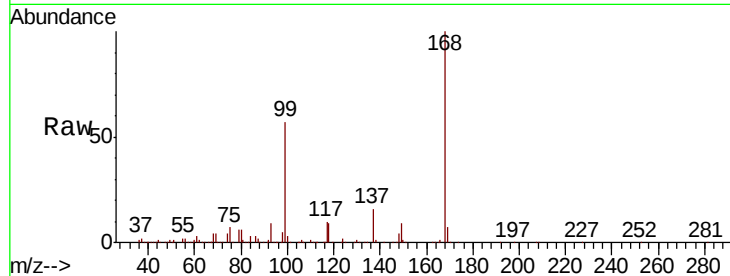




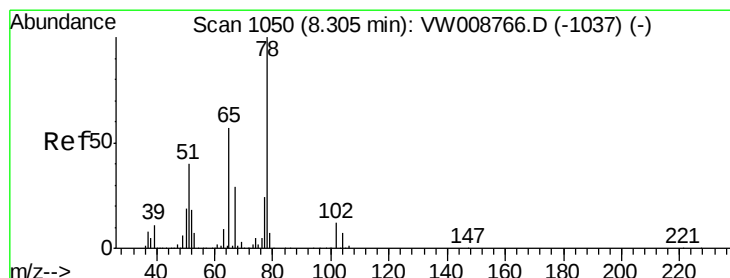
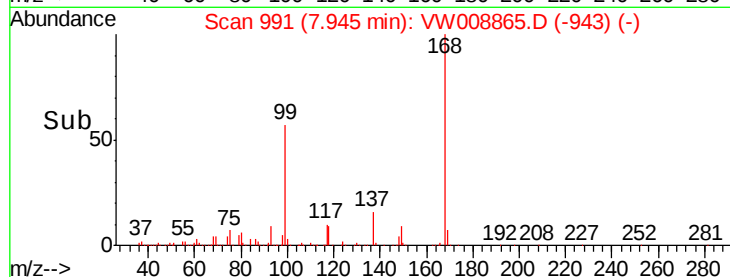
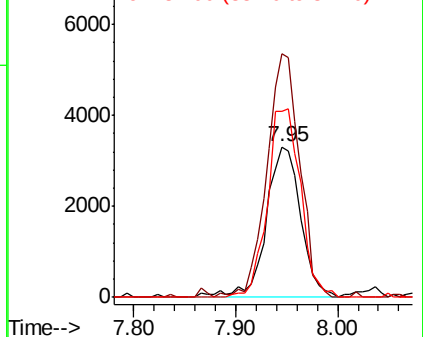
#31  
Cyclohexane  
Concen: 1.364 ug/l  
RT: 7.95 min Scan# 991  
Delta R.T. -0.01 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

Instrument :  
MSVOA\_W  
ClientSampled :

Tot Ion: 56 Resp: 7746  
Ion Ratio Lower Upper  
56 100  
69 161.6 28.2 42.4#  
84 123.4 74.1 111.1#

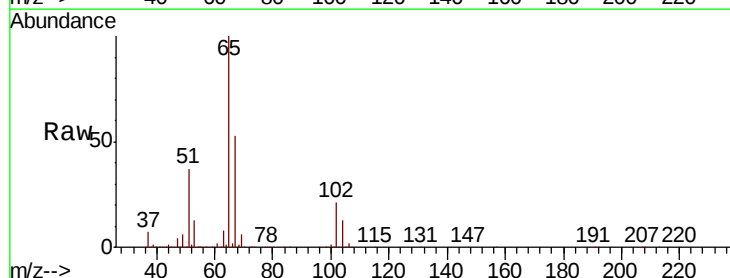


Abundance Ion 56.00 (55.70 to 56.70): VW  
Ion 69.00 (68.70 to 69.70): VW  
Ion 84.00 (83.70 to 84.70): VW

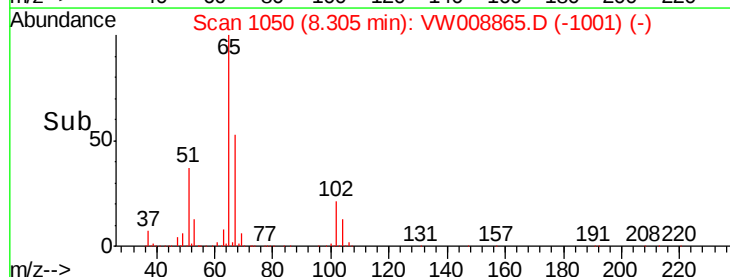
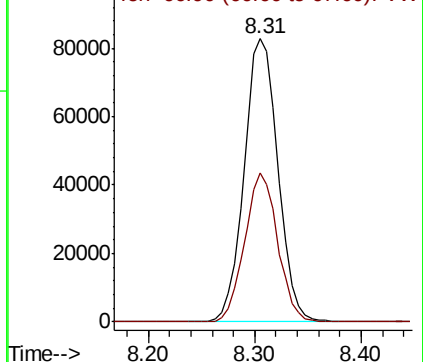


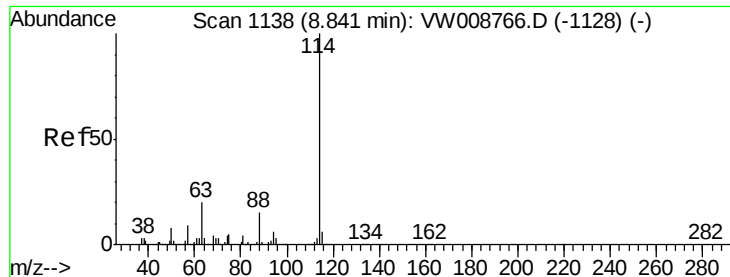
#33  
1,2-Dichloroethane-d4  
Concen: 61.184 ug/l  
RT: 8.31 min Scan# 1050  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

Tgt Ion: 65 Resp: 184264  
Ion Ratio Lower Upper  
65 100  
67 51.7 0.0 101.4



Abundance Ion 64.90 (64.60 to 65.60): VW  
Ion 66.90 (66.60 to 67.60): VW

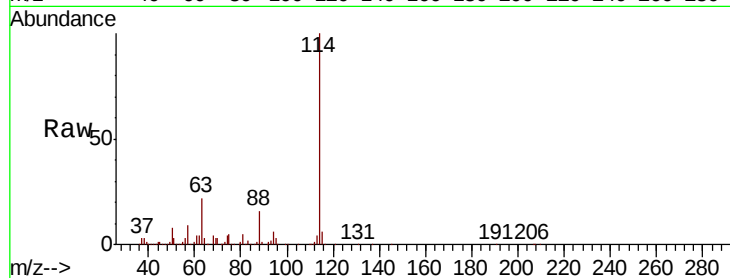




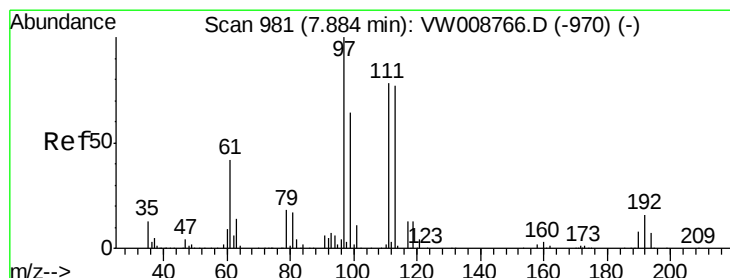
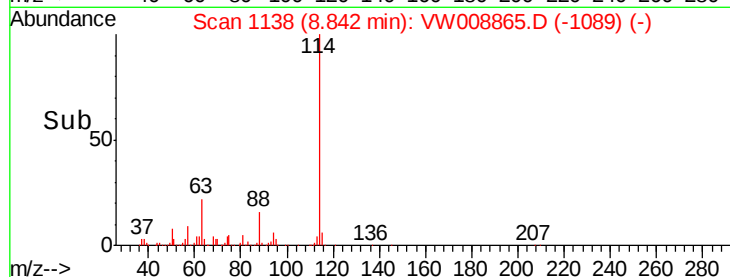
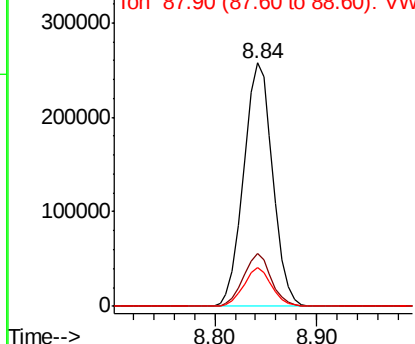
#34  
1,4-Difluorobenzene  
Concen: 50.000 ug/l  
RT: 8.84 min Scan# 1138  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

Instrument :  
MSVOA\_W  
ClientSampleId :

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 21.6  | 0.0   | 40.8  |
| 88      | 16.0  | 0.0   | 30.4  |

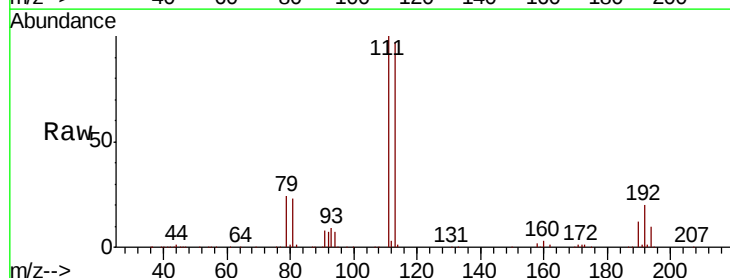


Abundance Ion 113.90 (113.60 to 114.60): V  
Ion 63.00 (62.70 to 63.70): VW  
Ion 87.90 (87.60 to 88.60): VW

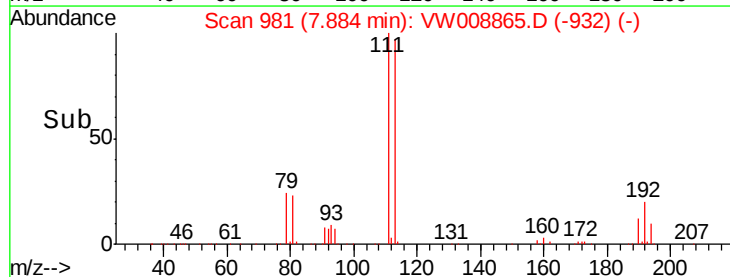
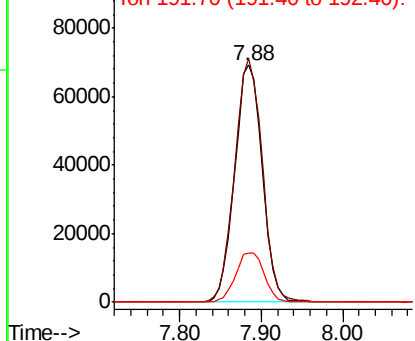


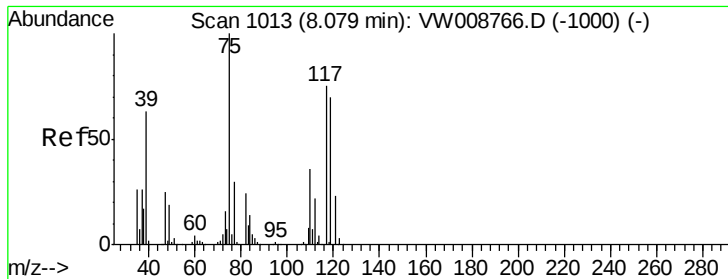
#35  
Dibromofluoromethane  
Concen: 52.732 ug/l  
RT: 7.88 min Scan# 981  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 113     | 100   |       |       |
| 111     | 102.7 | 81.9  | 122.9 |
| 192     | 21.7  | 17.1  | 25.7  |



Abundance Ion 112.80 (112.50 to 113.50): V  
Ion 110.80 (110.50 to 111.50): V  
Ion 191.70 (191.40 to 192.40): V

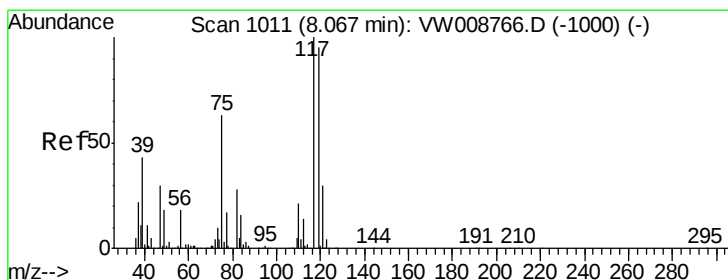
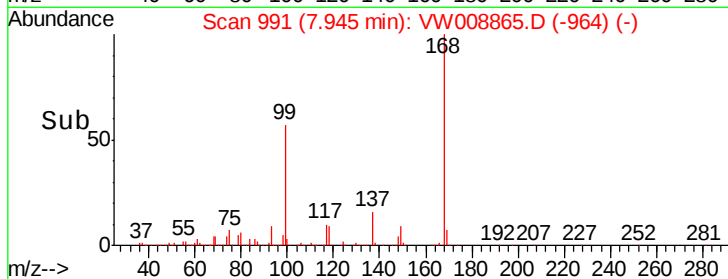
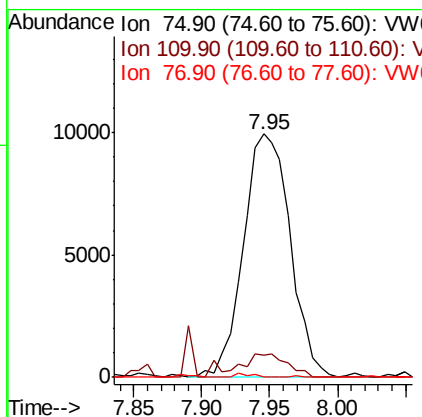
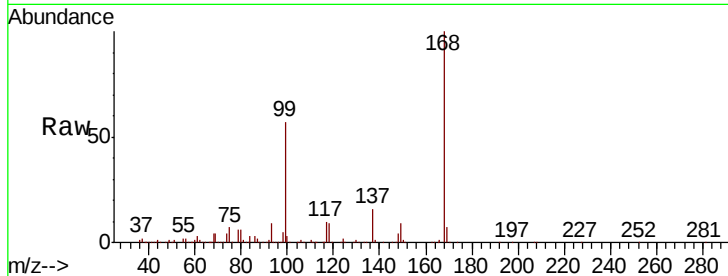




#36  
 1,1-Dichloropropene  
 Concen: 4.804 ug/l  
 RT: 7.95 min Scan# 991  
 Delta R.T. -0.13 min  
 Lab File: VW008865.D  
 Acq: 27 Feb 2019 19:56

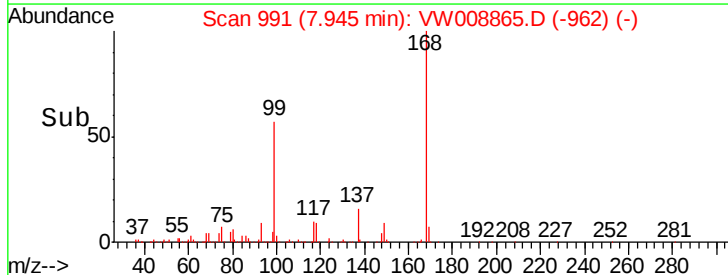
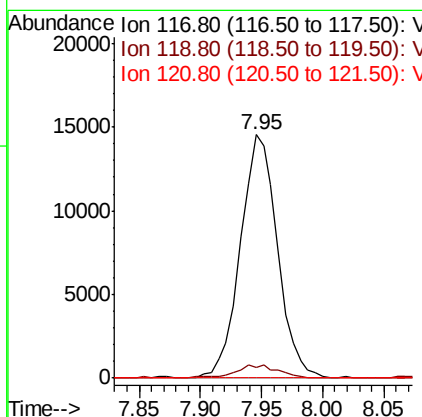
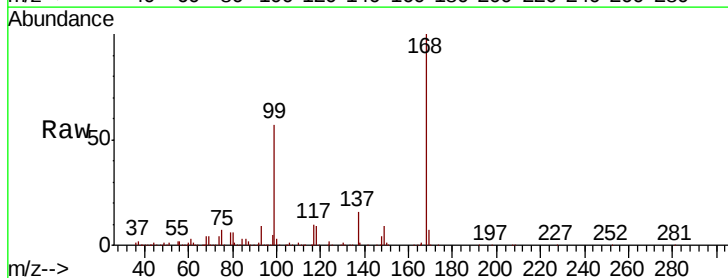
Instrument :  
 MSVOA\_W  
 ClientSampled :

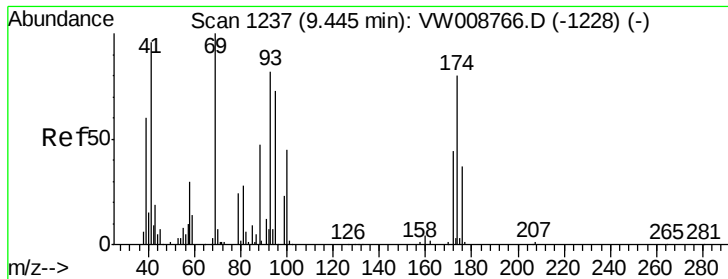
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 75      | 100   |       |       |
| 110     | 8.7   | 17.5  | 52.6# |
| 77      | 0.5   | 24.5  | 36.7# |



#38  
 Carbon Tetrachloride  
 Concen: 5.853 ug/l  
 RT: 7.95 min Scan# 991  
 Delta R.T. -0.12 min  
 Lab File: VW008865.D  
 Acq: 27 Feb 2019 19:56

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 117     | 100   |       |        |
| 119     | 4.1   | 76.1  | 114.1# |
| 121     | 0.0   | 24.0  | 36.0#  |

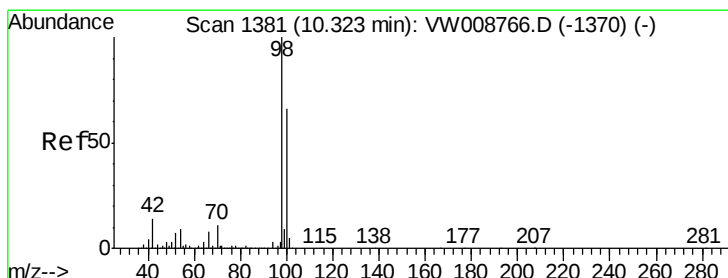
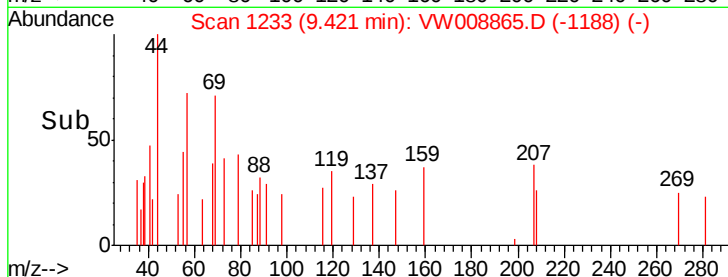
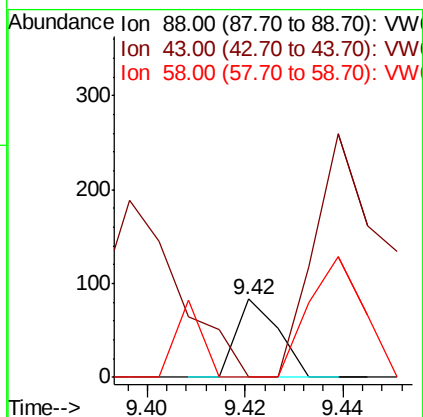
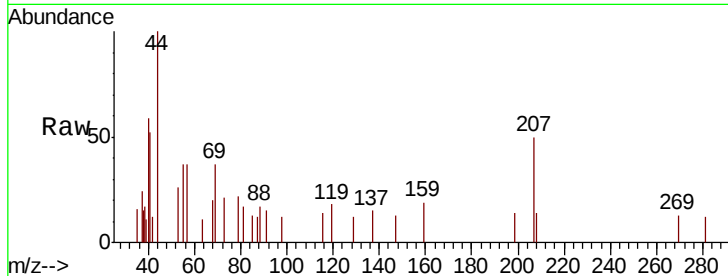




#49  
1,4-Dioxane  
Concen: 1.643 ug/l  
RT: 9.42 min Scan# 1233  
Delta R.T. -0.02 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

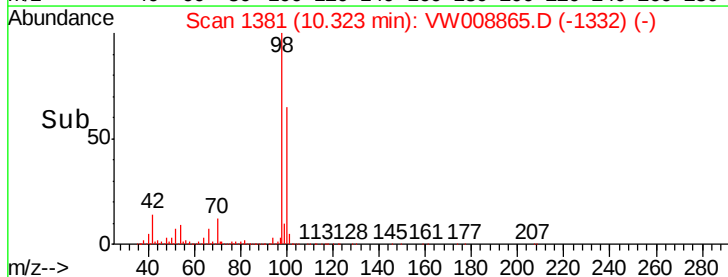
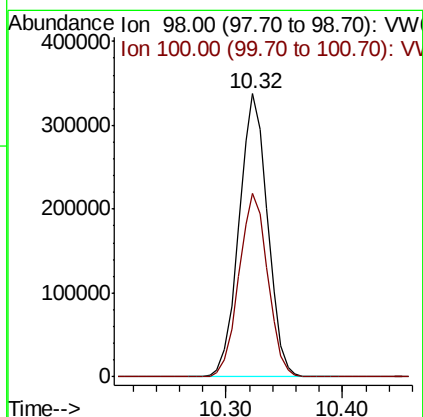
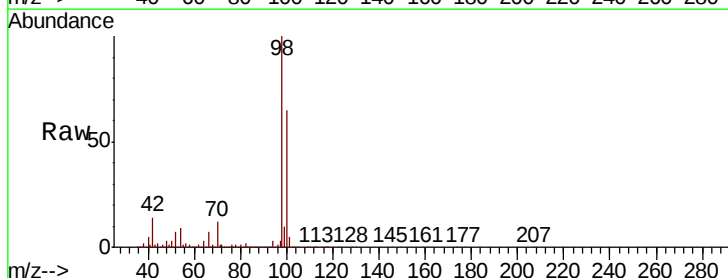
Instrument :  
MSVOA\_W  
ClientSampleId :

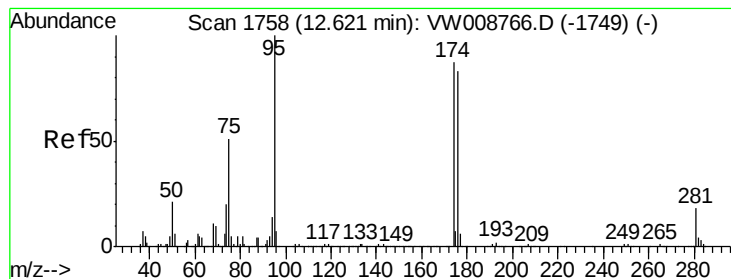
Tot Ion: 88 Resp: 49  
Ion Ratio Lower Upper  
88 100  
43 502.0 29.0 43.4#  
58 204.1 52.0 78.0#



#50  
Toluene-d8  
Concen: 48.824 ug/l  
RT: 10.32 min Scan# 1381  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

Tgt Ion: 98 Resp: 576979  
Ion Ratio Lower Upper  
98 100  
100 65.5 52.4 78.6





#62

4-Bromofluorobenzene

Concen: 34.307 ug/l

RT: 12.62 min Scan# 1757

Delta R.T. -0.01 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

ClientSampleId :

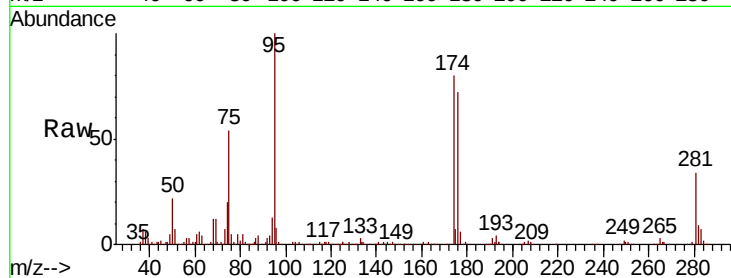
Tot Ion: 95 Resp: 158739

Ion Ratio Lower Upper

95 100

174 88.5 0.0 169.2

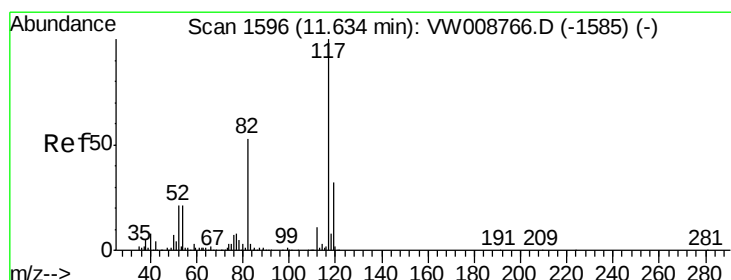
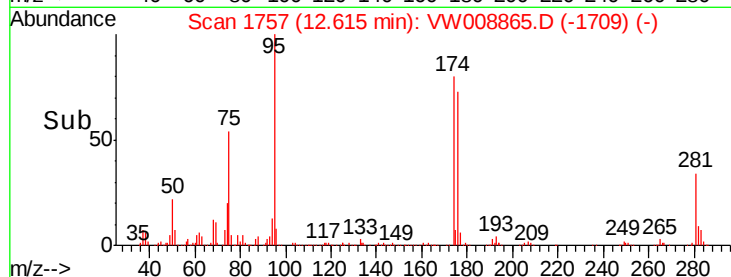
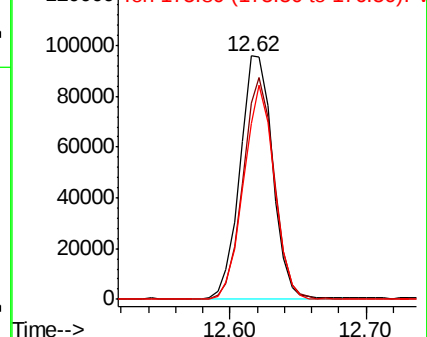
176 84.0 0.0 163.6



Abundance Ion 94.90 (94.60 to 95.60): VW

Ion 173.80 (173.50 to 174.50): VW

Ion 175.80 (175.50 to 176.50): VW



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 11.63 min Scan# 1596

Delta R.T. 0.00 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

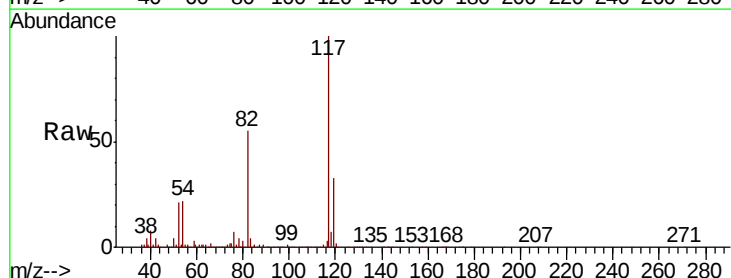
Tgt Ion: 117 Resp: 401056

Ion Ratio Lower Upper

117 100

82 54.9 42.2 63.4

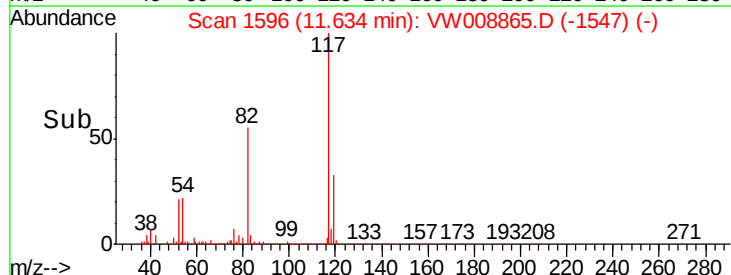
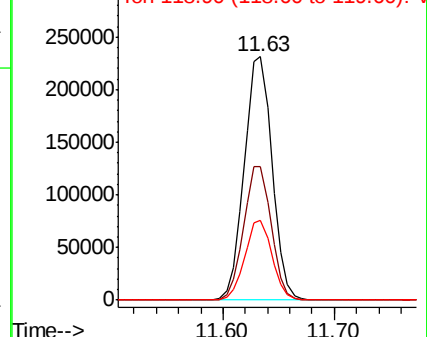
119 32.8 25.9 38.9

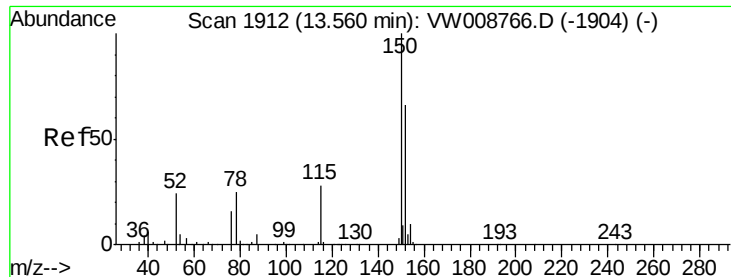


Abundance Ion 116.90 (116.60 to 117.60): VW

Ion 82.00 (81.70 to 82.70): VW

Ion 118.90 (118.60 to 119.60): VW





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 13.56 min Scan# 1912

Delta R.T. 0.00 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

ClientSampleId :

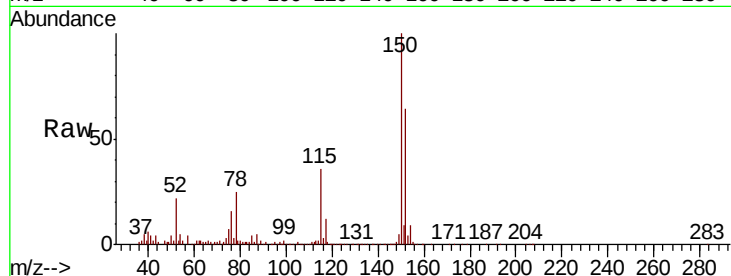
Tot Ion:152 Resp: 129929

Ion Ratio Lower Upper

152 100

115 57.4 28.6 85.8

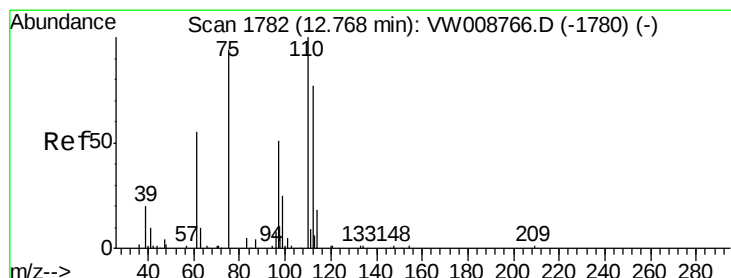
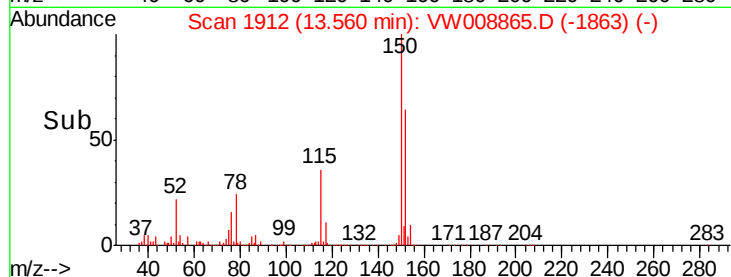
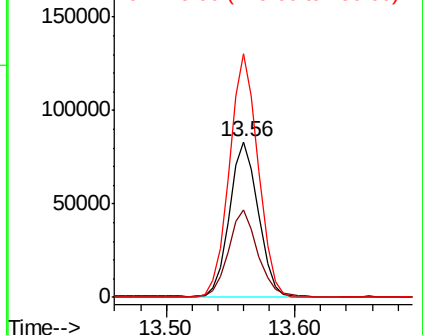
150 156.0 0.0 348.0



Abundance Ion 151.90 (151.60 to 152.60): V

Ion 114.90 (114.60 to 115.60): V

Ion 149.90 (149.60 to 150.60): V



#76

1,2,3-Trichloropropane

Concen: 79.601 ug/l

RT: 12.62 min Scan# 1758

Delta R.T. -0.15 min

Lab File: VW008865.D

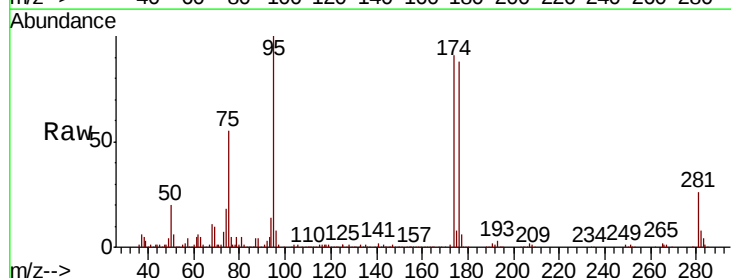
Acq: 27 Feb 2019 19:56

Tgt Ion: 75 Resp: 85391

Ion Ratio Lower Upper

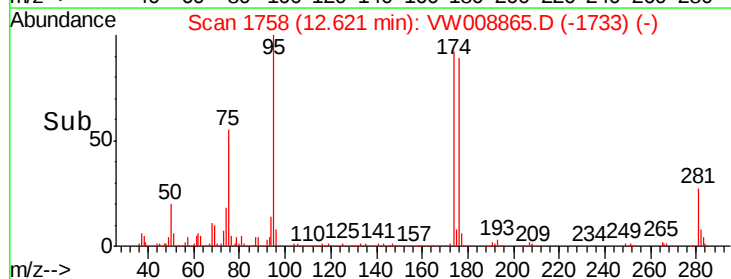
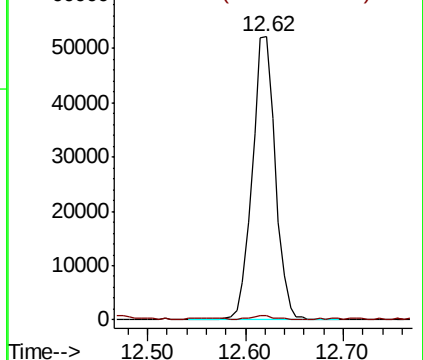
75 100

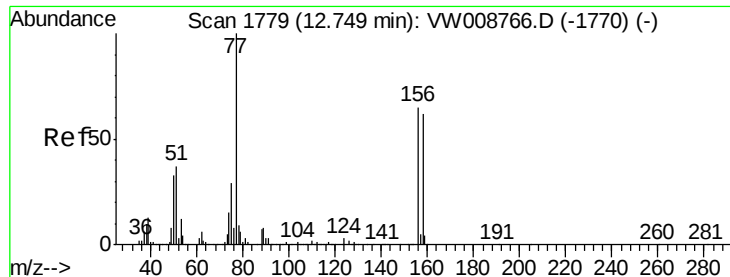
77 1.1 0.0 0.0#



Abundance Ion 74.90 (74.60 to 75.60): VW

Ion 77.00 (76.70 to 77.70): VW





#77

Bromobenzene

Concen: 1.502 ug/l

RT: 12.87 min Scan# 1799

Delta R.T. 0.12 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

ClientSampleId :

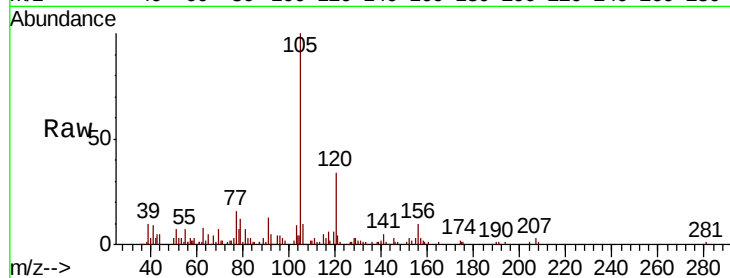
Tot Ion:156 Resp: 3162

Ion Ratio Lower Upper

156 100

77 96.2 89.1 267.4

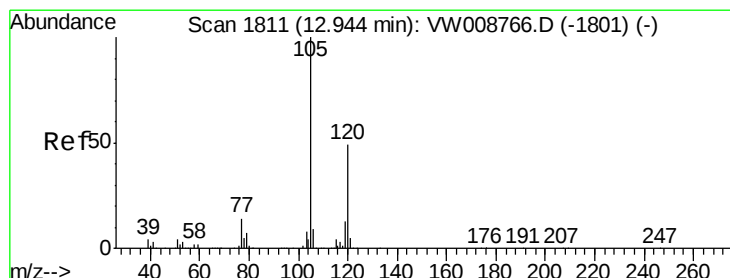
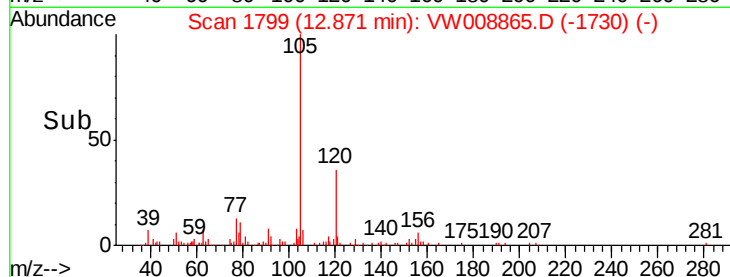
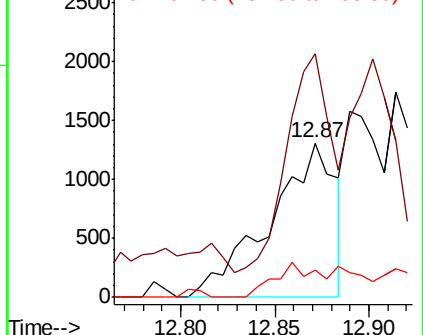
158 14.7 49.2 147.6#



Abundance Ion 155.80 (155.50 to 156.50): V

Ion 77.00 (76.70 to 77.70): VW

Ion 157.80 (157.50 to 158.50): V



#80

1,3,5-Trimethylbenzene

Concen: 3.867 ug/l

RT: 12.94 min Scan# 1811

Delta R.T. 0.00 min

Lab File: VW008865.D

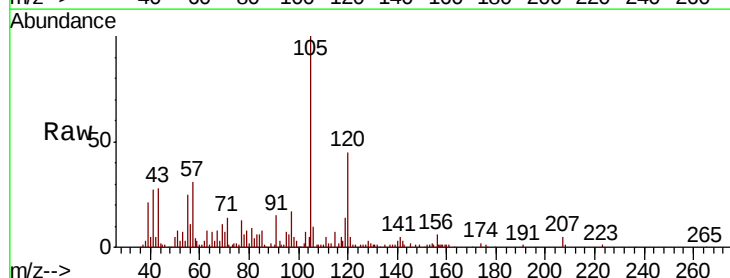
Acq: 27 Feb 2019 19:56

Tgt Ion:105 Resp: 29931

Ion Ratio Lower Upper

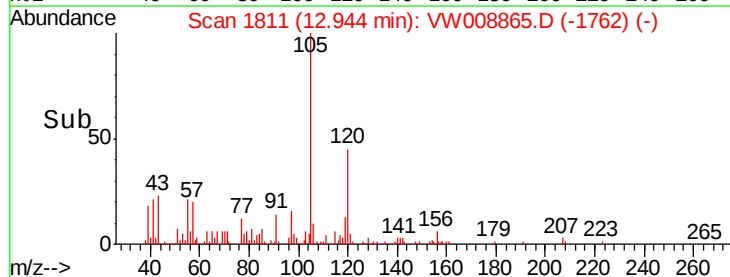
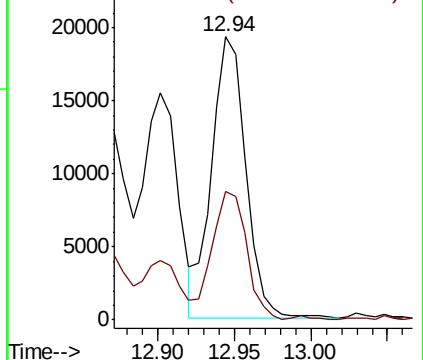
105 100

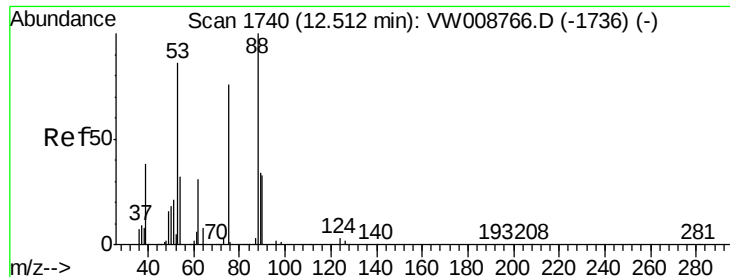
120 45.8 24.8 74.4



Abundance Ion 105.00 (104.70 to 105.70): V

Ion 120.00 (119.70 to 120.70): V





#81

trans-1,4-Dichloro-2-butene

Concen: 193.516 ug/l

RT: 12.62 min Scan# 1758

Delta R.T. 0.11 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

ClientSampleId :

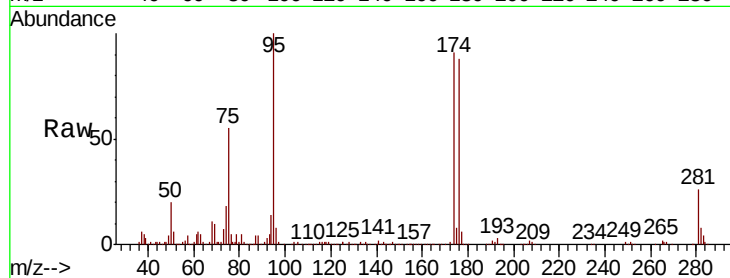
Tot Ion: 75 Resp: 85391

Ion Ratio Lower Upper

75 100

53 0.2 88.2 132.2#

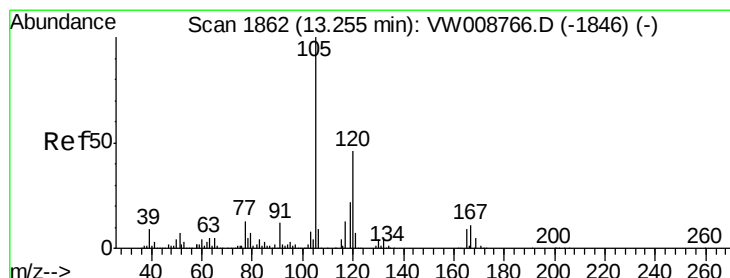
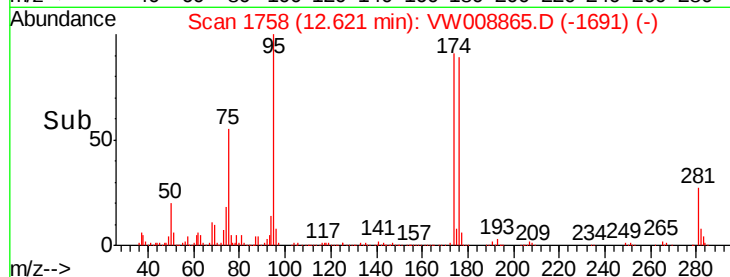
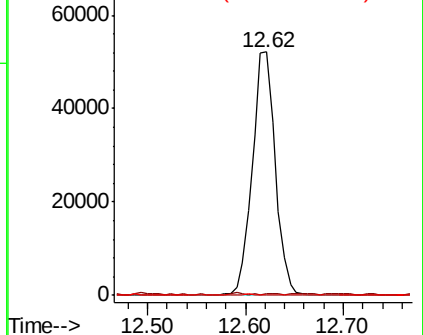
89 0.2 39.5 59.3#



Abundance Ion 74.90 (74.60 to 75.60): VW

Ion 53.00 (52.70 to 53.70): VW

Ion 88.90 (88.60 to 89.60): VW



#84

1,2,4-Trimethylbenzene

Concen: 3.811 ug/l

RT: 13.26 min Scan# 1862

Delta R.T. 0.00 min

Lab File: VW008865.D

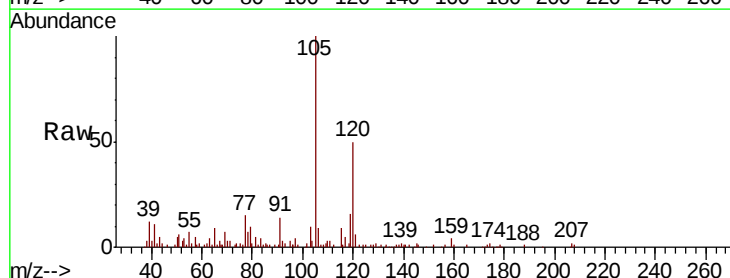
Acq: 27 Feb 2019 19:56

Tgt Ion: 105 Resp: 30534

Ion Ratio Lower Upper

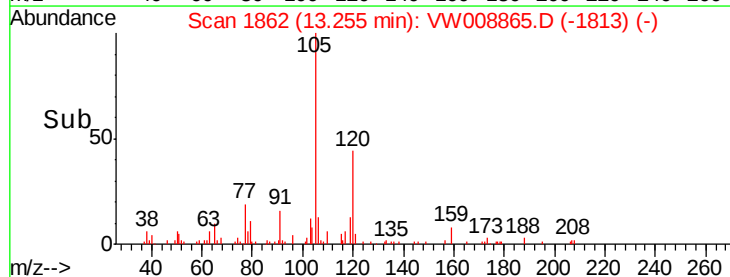
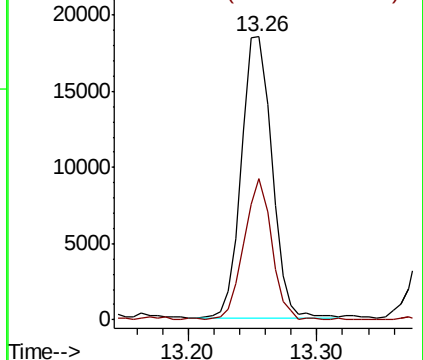
105 100

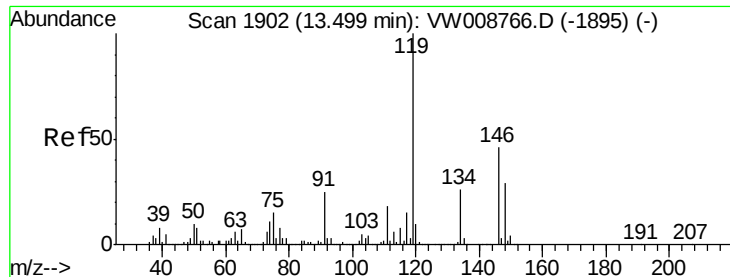
120 45.2 22.8 68.4



Abundance Ion 105.00 (104.70 to 105.70): V

Ion 120.00 (119.70 to 120.70): V

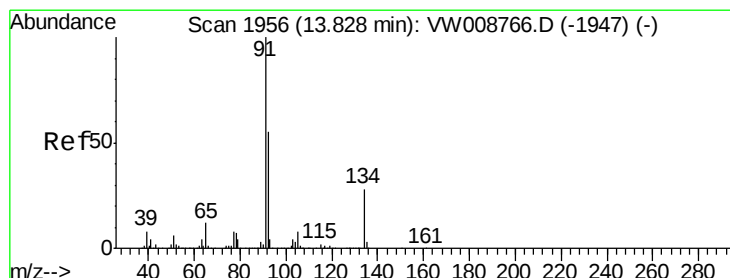
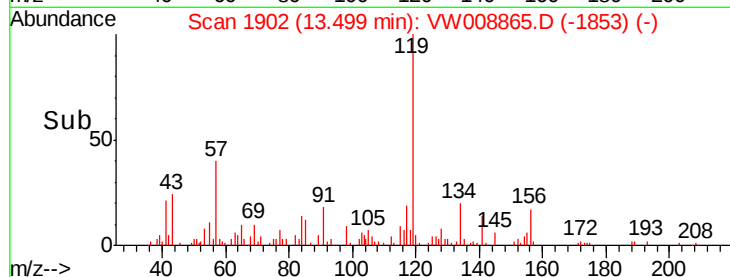
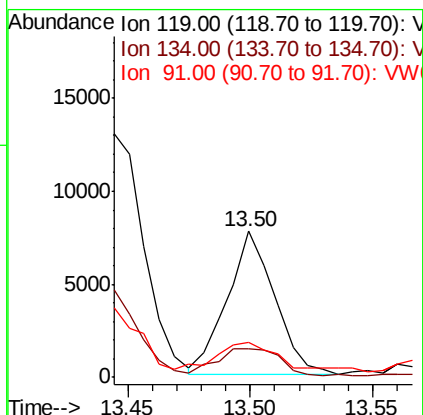
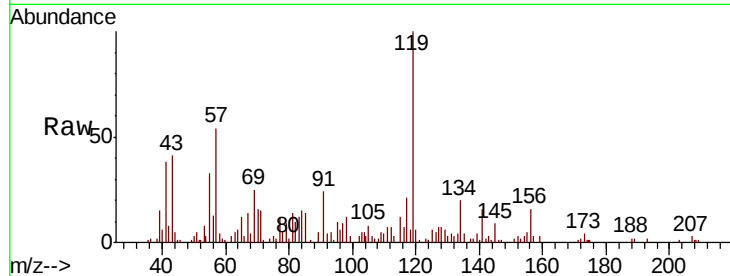




#86  
p-Isopropyltoluene  
Concen: 1.189 ug/l  
RT: 13.50 min Scan# 1902  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

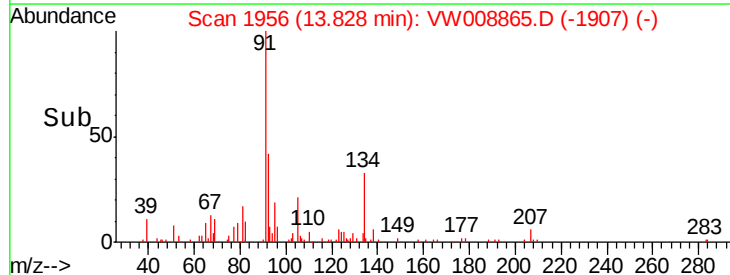
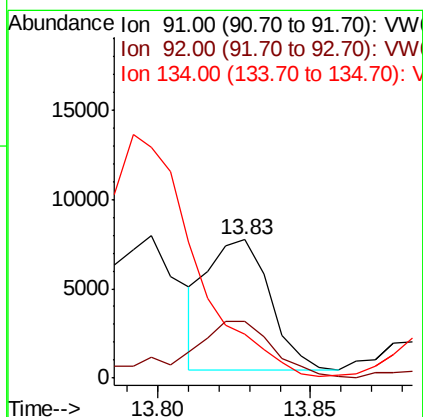
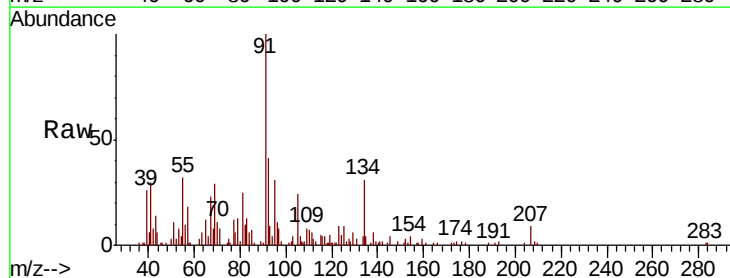
Instrument :  
MSVOA\_W  
ClientSampled :

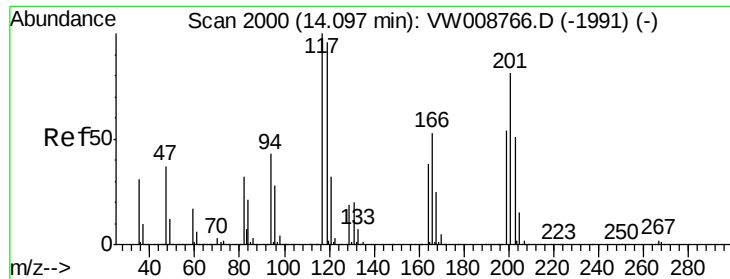
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 119     | 100   |       |       |
| 134     | 25.4  | 13.1  | 39.3  |
| 91      | 20.4  | 12.1  | 36.3  |



#89  
n-Butylbenzene  
Concen: 1.240 ug/l  
RT: 13.83 min Scan# 1956  
Delta R.T. 0.00 min  
Lab File: VW008865.D  
Acq: 27 Feb 2019 19:56

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 91      | 100   |       |       |
| 92      | 63.1  | 26.8  | 80.4  |
| 134     | 0.0   | 13.5  | 40.4# |





#90

Hexachloroethane

Concen: 3.950 ug/l

RT: 14.10 min Scan# 2001

Delta R.T. 0.01 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

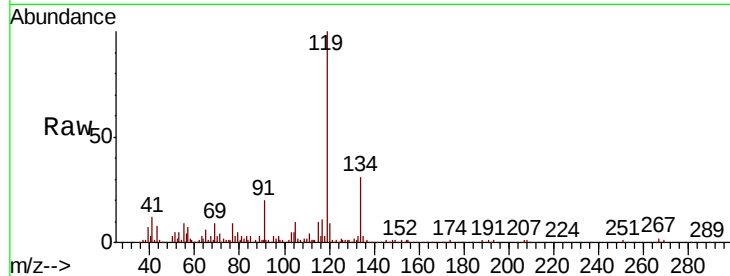
ClientSampled :

Tot Ion:117 Resp: 5705

Ion Ratio Lower Upper

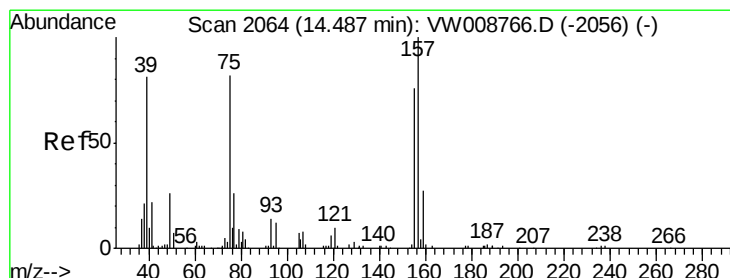
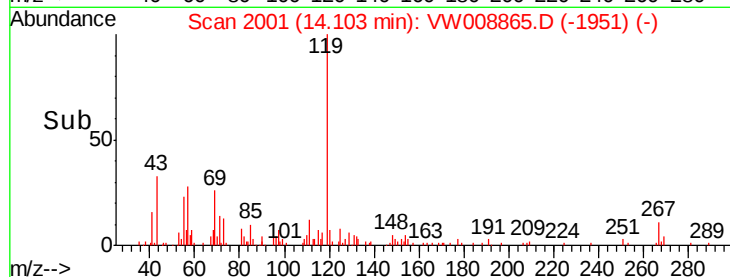
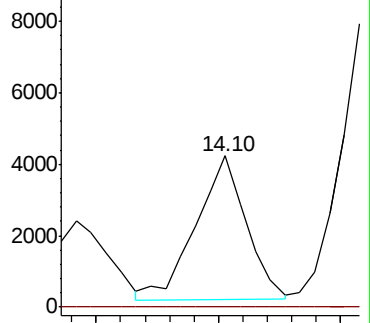
117 100

201 0.0 40.3 120.8#



Abundance Ion 116.80 (116.50 to 117.50): V

Ion 200.70 (200.40 to 201.40): V



#92

1,2-Dibromo-3-Chloropropane

Concen: 1.880 ug/l

RT: 14.33 min Scan# 2039

Delta R.T. -0.15 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

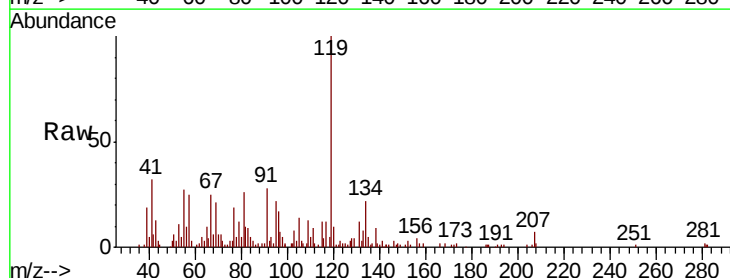
Tgt Ion: 75 Resp: 495

Ion Ratio Lower Upper

75 100

155 76.4 41.8 125.4

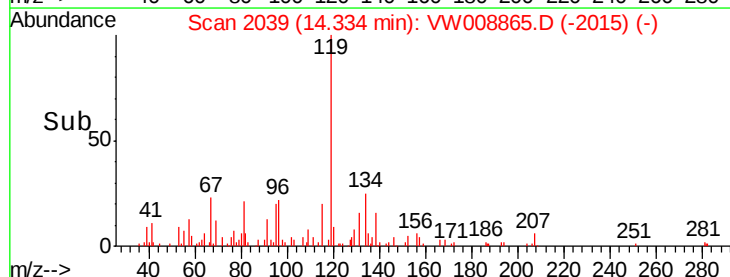
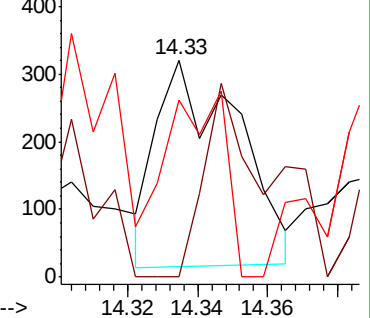
157 65.5 56.6 169.9

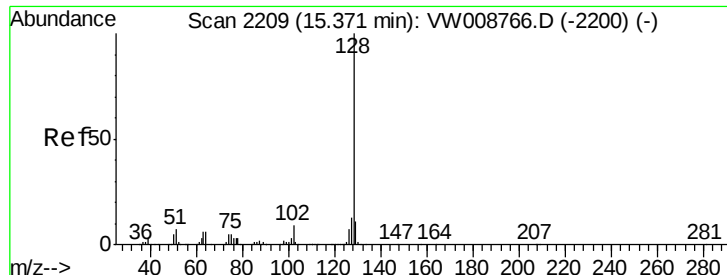


Abundance Ion 74.90 (74.60 to 75.60): VW

Ion 154.80 (154.50 to 155.50): V

Ion 156.80 (156.50 to 157.50): V





#95

Naphthalene

Concen: 9.926 ug/l

RT: 15.37 min Scan# 2209

Delta R.T. 0.00 min

Lab File: VW008865.D

Acq: 27 Feb 2019 19:56

Instrument :

MSVOA\_W

ClientSampleId :

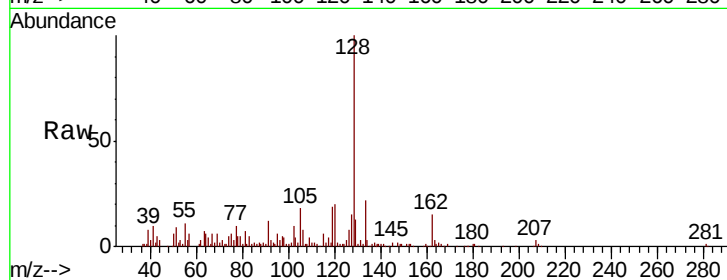
Tot Ion:128 Resp: 47383

Ion Ratio Lower Upper

128 100

127 13.7 10.8 16.2

129 10.7 8.7 13.1



Abundance Ion 128.00 (127.70 to 128.70): V

Ion 127.00 (126.70 to 127.70): V

Ion 129.00 (128.70 to 129.70): V

