

Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
 Data File : BM007400.D  
 Acq On : 03 Sep 2016 10:46  
 Operator : UM/SJ  
 Sample : H4639-17  
 Misc :  
 ALS Vial : 28 Sample Multiplier: 1

Instrument :  
 BNA\_M  
 ClientSampleId :  
 BD393

Integration Parameters: LSCINT.P

Integrator: RTE  
 Smoothing : OFF  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 1 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
 Title : SVOA CALIBRATION

Signal : TIC

| peak<br># | R.T.<br>min | first<br>scan | max<br>scan | last<br>scan | PK<br>TY | peak<br>height | corr.<br>area | corr.<br>% max. | % of<br>total |
|-----------|-------------|---------------|-------------|--------------|----------|----------------|---------------|-----------------|---------------|
| 1         | 5.822       | 545           | 550         | 560          | rVB      | 56148          | 96583         | 1.12%           | 0.097%        |
| 2         | 6.963       | 736           | 744         | 759          | rVB      | 685091         | 1193547       | 13.86%          | 1.198%        |
| 3         | 7.128       | 766           | 772         | 778          | rBV      | 492830         | 761472        | 8.84%           | 0.764%        |
| 4         | 7.328       | 799           | 806         | 817          | rVB      | 679984         | 1102992       | 12.80%          | 1.107%        |
| 5         | 7.792       | 876           | 885         | 894          | rBV      | 819612         | 1390630       | 16.14%          | 1.396%        |
| 6         | 8.492       | 998           | 1004        | 1012         | rBV      | 794094         | 1290246       | 14.98%          | 1.295%        |
| 7         | 8.945       | 1074          | 1081        | 1088         | rBV      | 698690         | 1197248       | 13.90%          | 1.202%        |
| 8         | 9.663       | 1196          | 1203        | 1216         | rBV      | 632598         | 1111326       | 12.90%          | 1.116%        |
| 9         | 9.992       | 1253          | 1259        | 1266         | rBV7     | 59769          | 118620        | 1.38%           | 0.119%        |
| 10        | 10.198      | 1282          | 1294        | 1302         | rBV      | 965581         | 1658392       | 19.25%          | 1.665%        |
| 11        | 10.580      | 1349          | 1359        | 1364         | rBV      | 1248487        | 2325636       | 27.00%          | 2.335%        |
| 12        | 10.627      | 1364          | 1367        | 1374         | rVV      | 257405         | 399010        | 4.63%           | 0.401%        |
| 13        | 10.716      | 1375          | 1382        | 1394         | rVV      | 464722         | 889209        | 10.32%          | 0.893%        |
| 14        | 11.598      | 1527          | 1532        | 1540         | rBV      | 78879          | 124748        | 1.45%           | 0.125%        |
| 15        | 11.998      | 1594          | 1600        | 1608         | rBV      | 84433          | 133240        | 1.55%           | 0.134%        |
| 16        | 12.239      | 1635          | 1641        | 1650         | rVB      | 287185         | 522858        | 6.07%           | 0.525%        |
| 17        | 12.457      | 1672          | 1678        | 1685         | rBV      | 201318         | 336899        | 3.91%           | 0.338%        |
| 18        | 12.933      | 1751          | 1759        | 1767         | rVB2     | 98572          | 251388        | 2.92%           | 0.252%        |
| 19        | 13.245      | 1806          | 1812        | 1819         | rBV2     | 177500         | 326589        | 3.79%           | 0.328%        |
| 20        | 13.474      | 1843          | 1851        | 1855         | rBV4     | 37821          | 97792         | 1.14%           | 0.098%        |
| 21        | 13.586      | 1864          | 1870        | 1871         | rBV2     | 85669          | 127610        | 1.48%           | 0.128%        |
| 22        | 13.739      | 1892          | 1896        | 1901         | rBV2     | 175259         | 308717        | 3.58%           | 0.310%        |
| 23        | 13.798      | 1901          | 1906        | 1907         | rVV      | 161716         | 213867        | 2.48%           | 0.215%        |
| 24        | 13.833      | 1907          | 1912        | 1916         | rVV      | 2015862        | 2905643       | 33.73%          | 2.917%        |
| 25        | 13.880      | 1916          | 1920        | 1928         | rVB      | 1202305        | 1757596       | 20.40%          | 1.765%        |
| 26        | 13.980      | 1933          | 1937        | 1941         | rVV2     | 113061         | 184030        | 2.14%           | 0.185%        |
| 27        | 14.115      | 1954          | 1960        | 1973         | rVB      | 2206236        | 3514191       | 40.80%          | 3.528%        |
| 28        | 14.262      | 1979          | 1985        | 1990         | rVB4     | 72359          | 126594        | 1.47%           | 0.127%        |
| 29        | 14.321      | 1990          | 1995        | 2003         | rVB      | 187427         | 254566        | 2.96%           | 0.256%        |
| 30        | 14.427      | 2003          | 2013        | 2019         | rBV2     | 2148814        | 3587829       | 41.65%          | 3.602%        |
| 31        | 14.510      | 2024          | 2027        | 2033         | rVB2     | 83375          | 114362        | 1.33%           | 0.115%        |
| 32        | 14.627      | 2041          | 2047        | 2055         | rBV      | 621493         | 1075638       | 12.49%          | 1.080%        |
| 33        | 14.821      | 2076          | 2080        | 2086         | rVB      | 356020         | 550471        | 6.39%           | 0.553%        |
| 34        | 14.898      | 2087          | 2093        | 2097         | rVV      | 80097          | 125772        | 1.46%           | 0.126%        |

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 Title : SVOA CALIBRATION

|    |        |      |      |      |      |         |         |        |        |
|----|--------|------|------|------|------|---------|---------|--------|--------|
| 35 | 14.939 | 2097 | 2100 | 2109 | rVB5 | 47481   | 95517   | 1.11%  | 0.096% |
| 36 | 15.045 | 2114 | 2118 | 2122 | rVV2 | 81201   | 120580  | 1.40%  | 0.121% |
| 37 | 15.092 | 2122 | 2126 | 2130 | rVB  | 80979   | 107270  | 1.25%  | 0.108% |
| 38 | 15.215 | 2142 | 2147 | 2150 | rVV3 | 125798  | 206548  | 2.40%  | 0.207% |
| 39 | 15.274 | 2153 | 2157 | 2163 | rVB  | 243225  | 326298  | 3.79%  | 0.328% |
| 40 | 15.351 | 2163 | 2170 | 2173 | rBV7 | 45508   | 107422  | 1.25%  | 0.108% |
| 41 | 15.415 | 2174 | 2181 | 2187 | rVV  | 2850586 | 4434413 | 51.48% | 4.452% |
| 42 | 15.462 | 2187 | 2189 | 2193 | rVB2 | 141975  | 154260  | 1.79%  | 0.155% |
| 43 | 15.539 | 2194 | 2202 | 2210 | rBV  | 908384  | 1320065 | 15.32% | 1.325% |
| 44 | 15.680 | 2219 | 2226 | 2233 | rVB4 | 127388  | 284055  | 3.30%  | 0.285% |
| 45 | 15.768 | 2234 | 2241 | 2247 | rVB  | 196639  | 333765  | 3.87%  | 0.335% |
| 46 | 15.833 | 2247 | 2252 | 2258 | rBV3 | 126402  | 236437  | 2.74%  | 0.237% |
| 47 | 15.915 | 2258 | 2266 | 2274 | rVB  | 177645  | 436771  | 5.07%  | 0.438% |
| 48 | 15.998 | 2274 | 2280 | 2287 | rVB2 | 82853   | 198571  | 2.31%  | 0.199% |
| 49 | 16.133 | 2299 | 2303 | 2305 | rBV  | 418784  | 562144  | 6.53%  | 0.564% |
| 50 | 16.286 | 2325 | 2329 | 2336 | rBV7 | 63532   | 125351  | 1.46%  | 0.126% |
| 51 | 16.480 | 2358 | 2362 | 2367 | rVB3 | 72525   | 101413  | 1.18%  | 0.102% |
| 52 | 16.709 | 2395 | 2401 | 2404 | rBV3 | 167302  | 302802  | 3.52%  | 0.304% |
| 53 | 16.745 | 2404 | 2407 | 2410 | rVB3 | 81382   | 109183  | 1.27%  | 0.110% |
| 54 | 16.821 | 2416 | 2420 | 2427 | rBV  | 316916  | 496539  | 5.76%  | 0.498% |
| 55 | 16.927 | 2428 | 2438 | 2444 | rVV2 | 1095554 | 1852512 | 21.51% | 1.860% |
| 56 | 16.980 | 2444 | 2447 | 2458 | rVB4 | 201993  | 398974  | 4.63%  | 0.401% |
| 57 | 17.168 | 2473 | 2479 | 2483 | rBV  | 3056339 | 4502200 | 52.27% | 4.520% |
| 58 | 17.209 | 2483 | 2486 | 2491 | rVB  | 1115244 | 1397856 | 16.23% | 1.403% |
| 59 | 17.268 | 2491 | 2496 | 2501 | rBV  | 3360119 | 4870493 | 56.54% | 4.890% |
| 60 | 17.351 | 2507 | 2510 | 2515 | rBV2 | 77078   | 106623  | 1.24%  | 0.107% |
| 61 | 17.480 | 2529 | 2532 | 2537 | rVB3 | 173716  | 243946  | 2.83%  | 0.245% |
| 62 | 17.574 | 2545 | 2548 | 2552 | rBV  | 90820   | 109138  | 1.27%  | 0.110% |
| 63 | 17.662 | 2559 | 2563 | 2567 | rBV  | 320727  | 376255  | 4.37%  | 0.378% |
| 64 | 17.745 | 2574 | 2577 | 2586 | rVB2 | 153464  | 247707  | 2.88%  | 0.249% |
| 65 | 17.892 | 2599 | 2602 | 2606 | rVB4 | 73979   | 110323  | 1.28%  | 0.111% |
| 66 | 18.056 | 2624 | 2630 | 2633 | rBV2 | 510546  | 1074115 | 12.47% | 1.078% |
| 67 | 18.086 | 2633 | 2635 | 2640 | rVB  | 594228  | 798196  | 9.27%  | 0.801% |
| 68 | 18.227 | 2655 | 2659 | 2664 | rBV4 | 307218  | 538989  | 6.26%  | 0.541% |
| 69 | 18.274 | 2664 | 2667 | 2671 | rVB  | 257391  | 348007  | 4.04%  | 0.349% |
| 70 | 18.356 | 2676 | 2681 | 2684 | rBV2 | 394418  | 524185  | 6.09%  | 0.526% |
| 71 | 18.392 | 2685 | 2687 | 2691 | rBV4 | 79240   | 92078   | 1.07%  | 0.092% |

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|    |        |      |      |      |      |         |         |         |        |
|----|--------|------|------|------|------|---------|---------|---------|--------|
| 72 | 18.545 | 2709 | 2713 | 2716 | rBV  | 395765  | 515917  | 5.99%   | 0.518% |
| 73 | 18.586 | 2716 | 2720 | 2726 | rVB2 | 461489  | 653364  | 7.58%   | 0.656% |
| 74 | 18.792 | 2752 | 2755 | 2758 | rBV3 | 111967  | 116396  | 1.35%   | 0.117% |
| 75 | 18.962 | 2780 | 2784 | 2786 | rBV  | 402971  | 584776  | 6.79%   | 0.587% |
| 76 | 19.056 | 2797 | 2800 | 2803 | rVB  | 186221  | 225656  | 2.62%   | 0.227% |
| 77 | 19.103 | 2804 | 2808 | 2813 | rVV  | 378124  | 568802  | 6.60%   | 0.571% |
| 78 | 19.227 | 2824 | 2829 | 2835 | rVB  | 2364107 | 3241873 | 37.63%  | 3.255% |
| 79 | 19.286 | 2837 | 2839 | 2843 | rVV  | 151593  | 165809  | 1.92%   | 0.166% |
| 80 | 19.562 | 2880 | 2886 | 2889 | rBV  | 5138305 | 7537432 | 87.50%  | 7.567% |
| 81 | 19.662 | 2899 | 2903 | 2909 | rVB2 | 310895  | 491696  | 5.71%   | 0.494% |
| 82 | 19.909 | 2941 | 2945 | 2953 | rBV5 | 290422  | 755105  | 8.77%   | 0.758% |
| 83 | 20.591 | 3059 | 3061 | 3065 | rVB  | 381388  | 410817  | 4.77%   | 0.412% |
| 84 | 20.833 | 3098 | 3102 | 3108 | rBV  | 783757  | 1038214 | 12.05%  | 1.042% |
| 85 | 21.056 | 3137 | 3140 | 3148 | rVB3 | 1096885 | 1693035 | 19.65%  | 1.700% |
| 86 | 21.350 | 3184 | 3190 | 3194 | rBV2 | 4993452 | 8614165 | 100.00% | 8.648% |
| 87 | 21.386 | 3194 | 3196 | 3206 | rVB  | 1622965 | 2288854 | 26.57%  | 2.298% |
| 88 | 22.938 | 3457 | 3460 | 3466 | rVB  | 1084734 | 1696056 | 19.69%  | 1.703% |
| 89 | 23.427 | 3539 | 3543 | 3547 | rBV  | 739989  | 1293885 | 15.02%  | 1.299% |
| 90 | 23.480 | 3547 | 3552 | 3557 | rVV2 | 2983979 | 5165717 | 59.97%  | 5.186% |
| 91 | 23.627 | 3571 | 3577 | 3583 | rVB  | 2585915 | 4722879 | 54.83%  | 4.742% |

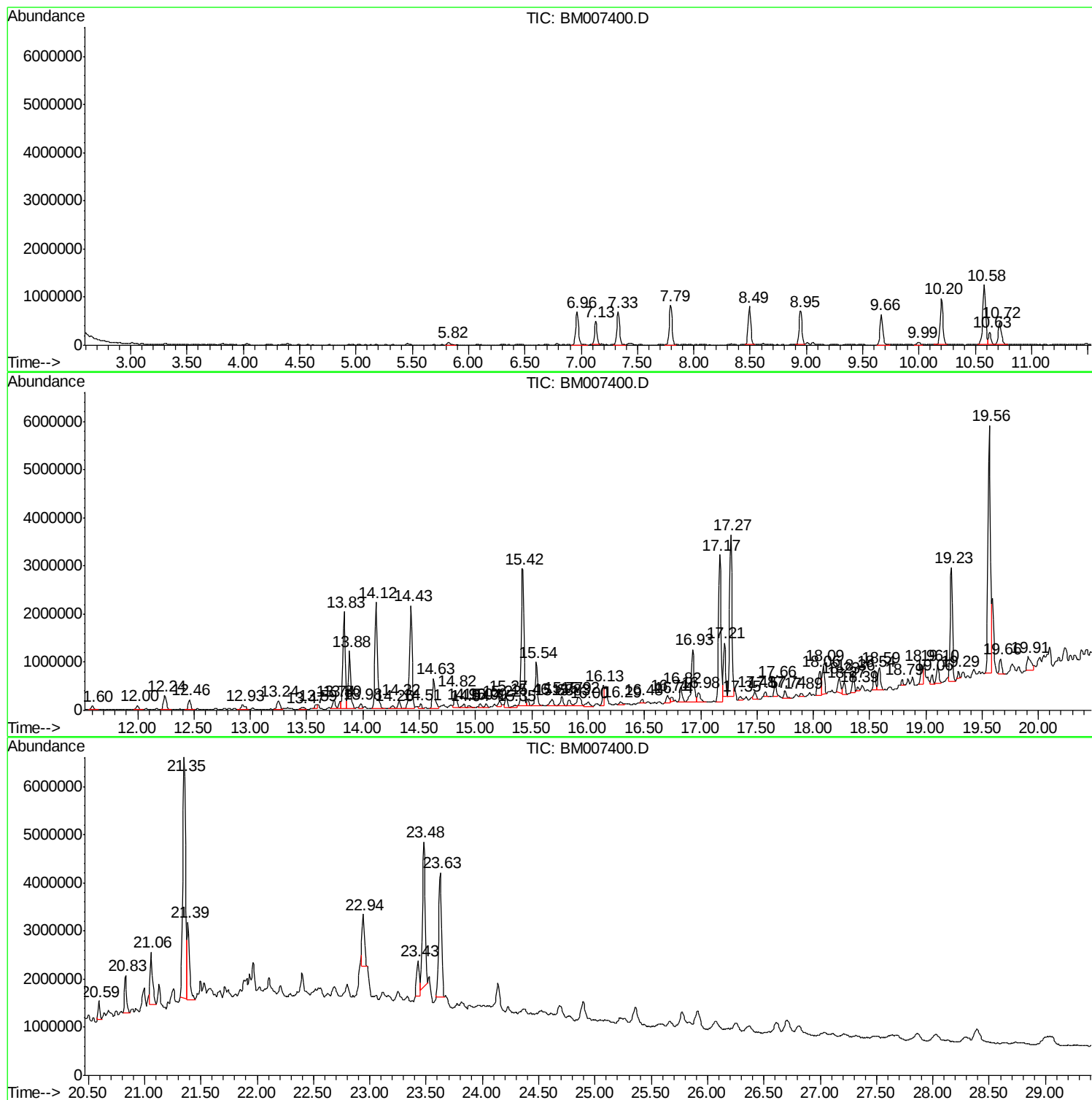
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Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P



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Quant Title : SVOA CALIBRATION

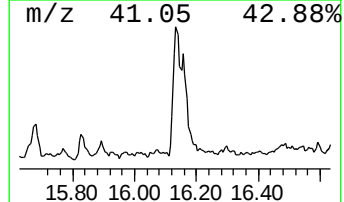
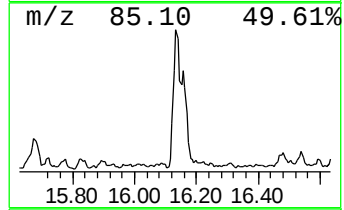
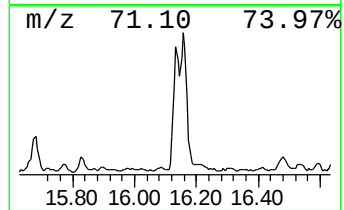
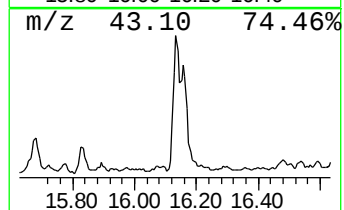
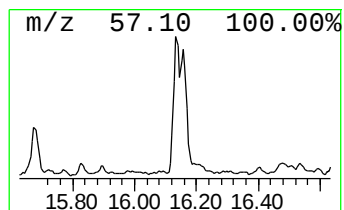
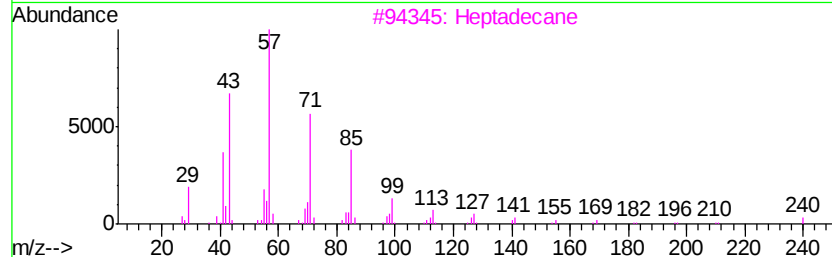
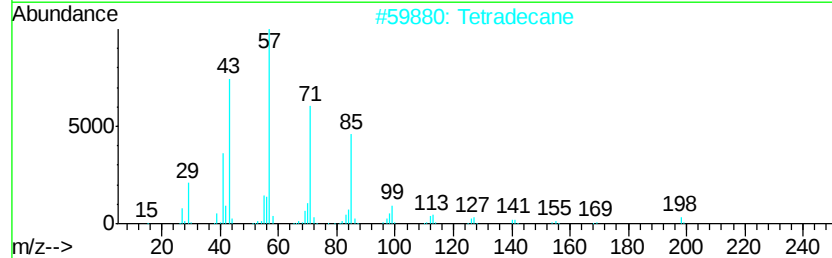
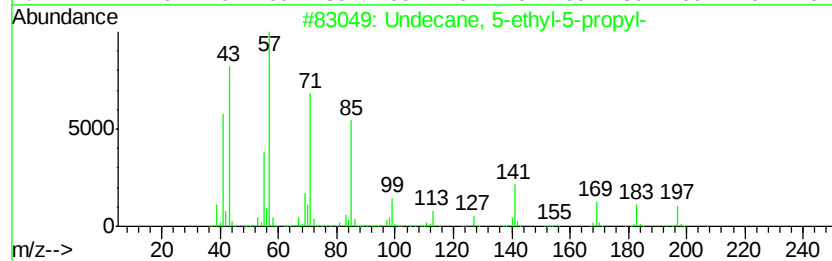
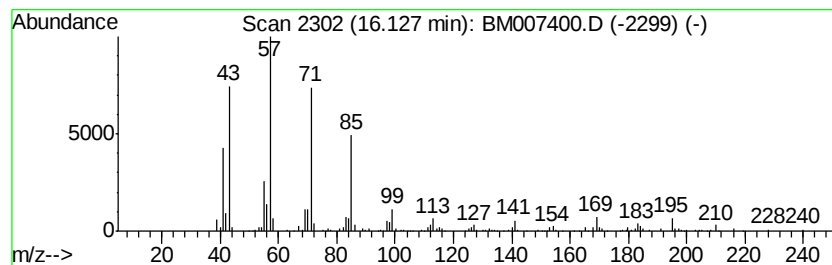
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 2 (DEL) Alkane: Straight-Chai... Concentration Rank 10

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 16.13 | 2.50 ng/ul | 562144 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID                | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------------|-----|---------|-------------|------|
| 1    | 5  | Undecane, 5-ethyl-5-propyl- | 226 | C16H34  | 002755-07-9 | 86   |
| 2    |    | Tetradecane                 | 198 | C14H30  | 000629-59-4 | 81   |
| 3    |    | Heptadecane                 | 240 | C17H36  | 000629-78-7 | 80   |
| 4    |    | Heneicosane                 | 296 | C21H44  | 000629-94-7 | 74   |
| 5    |    | Pentadecane                 | 212 | C15H32  | 000629-62-9 | 72   |



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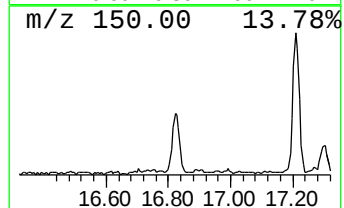
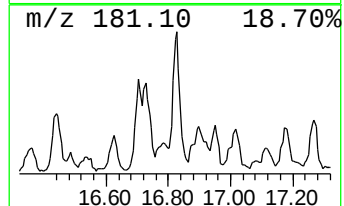
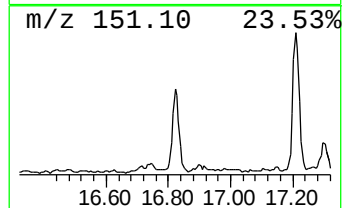
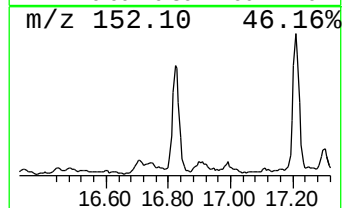
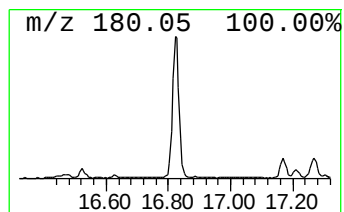
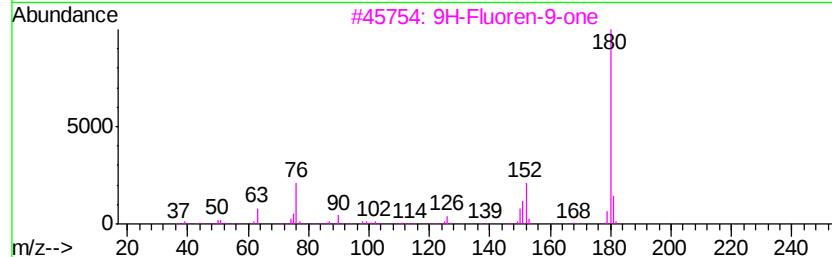
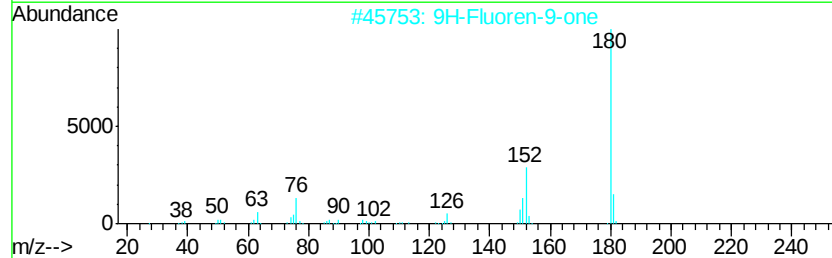
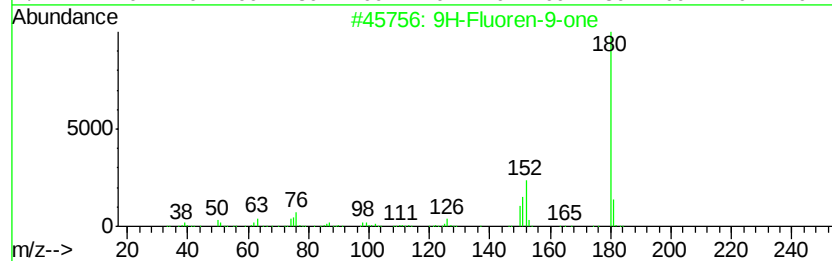
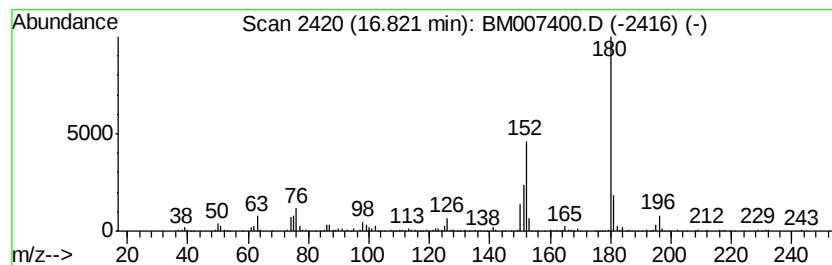
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 3 9H-Fluoren-9-one Concentration Rank 15

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 16.82 | 2.21 ng/ul | 496539 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID      | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------|-----|---------|-------------|------|
| 1    | 5  | 9H-Fluoren-9-one  | 180 | C13H8O  | 000486-25-9 | 93   |
| 2    |    | 9H-Fluoren-9-one  | 180 | C13H8O  | 000486-25-9 | 93   |
| 3    |    | 9H-Fluoren-9-one  | 180 | C13H8O  | 000486-25-9 | 91   |
| 4    |    | 9H-Fluoren-9-one  | 180 | C13H8O  | 000486-25-9 | 91   |
| 5    |    | Benzo[h]cinnoline | 180 | C12H8N2 | 000230-31-9 | 91   |



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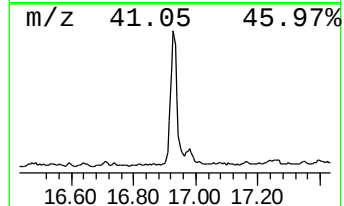
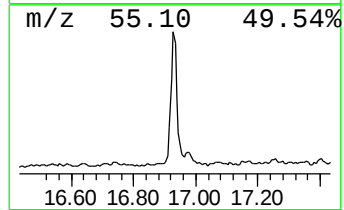
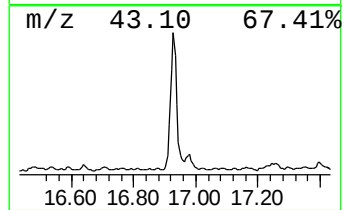
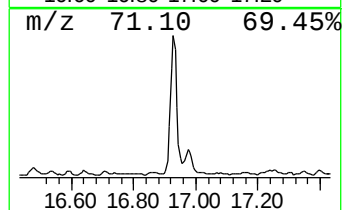
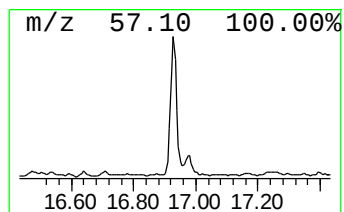
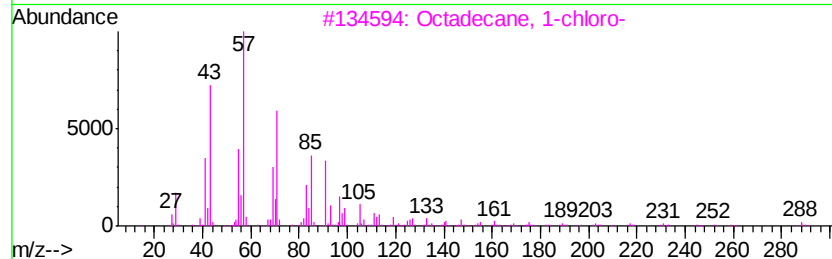
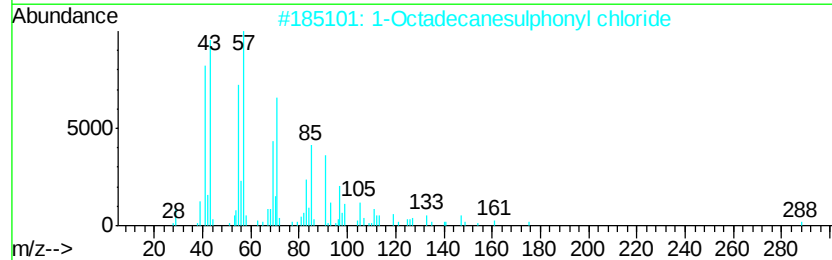
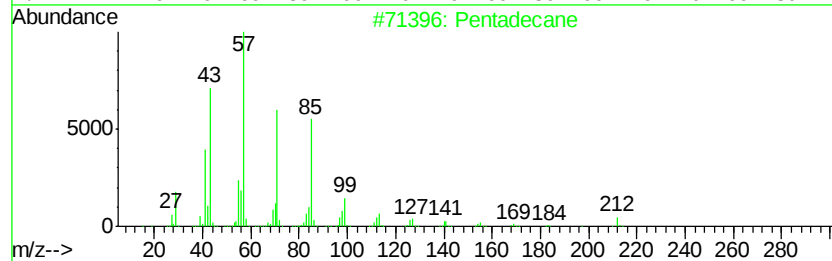
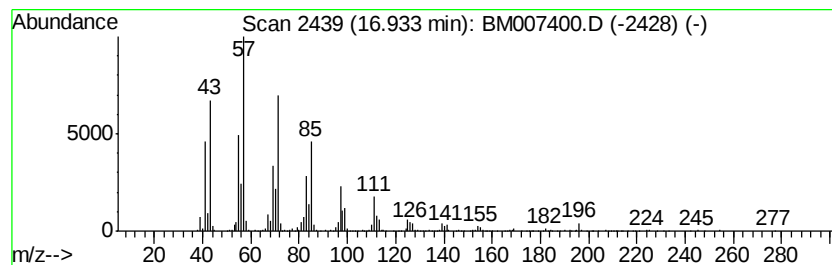
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TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 4 (DEL) Alkane: Straight-Chai... Concentration Rank 1

| R.T.  | EstConc    | Area    | Relative to ISTD | R.T.  |
|-------|------------|---------|------------------|-------|
| 16.93 | 8.23 ng/ul | 1852510 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID                   | MW  | MolForm     | CAS#         | Qual |
|------|----|--------------------------------|-----|-------------|--------------|------|
| 1    | 5  | Pentadecane                    | 212 | C15H32      | 000629-62-9  | 92   |
| 2    |    | 1-Octadecanesulphonyl chloride | 352 | C18H37ClO2S | 1000342-70-4 | 91   |
| 3    |    | Octadecane, 1-chloro-          | 288 | C18H37Cl    | 003386-33-2  | 91   |
| 4    |    | Hexadecane, 1-chloro-          | 260 | C16H33Cl    | 004860-03-1  | 90   |
| 5    |    | Tridecane                      | 184 | C13H28      | 000629-50-5  | 86   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

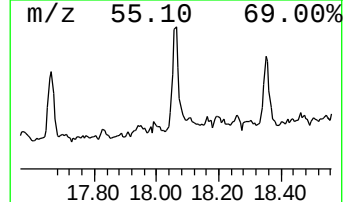
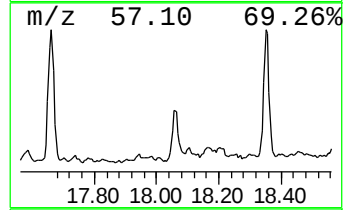
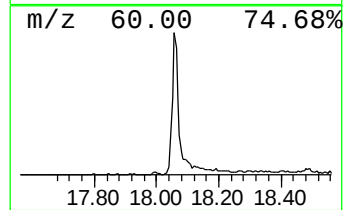
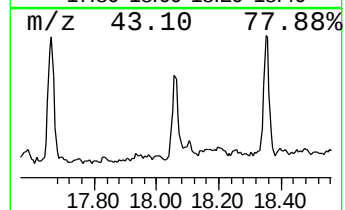
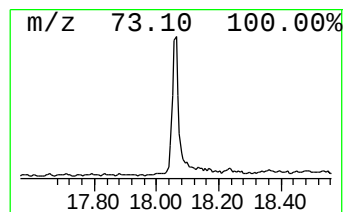
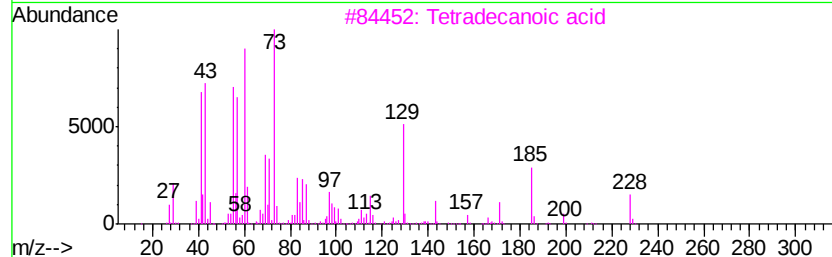
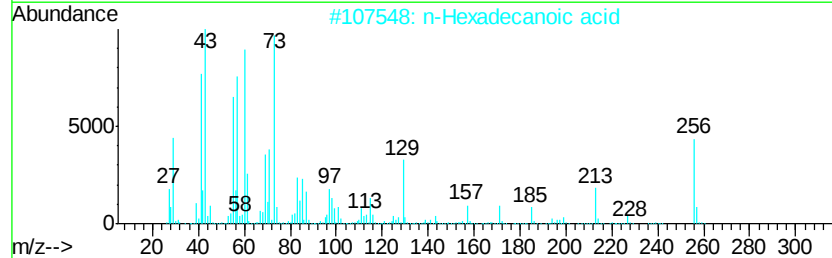
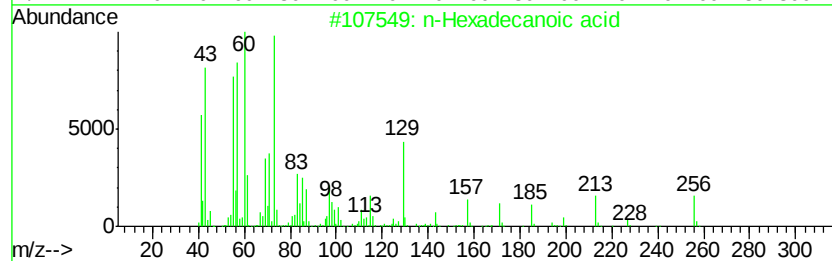
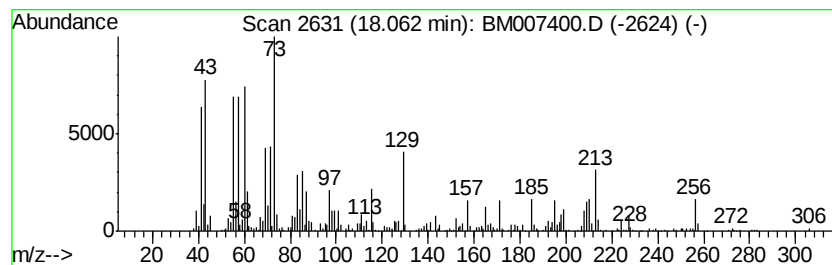
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 5 n-Hexadecanoic acid Concentration Rank 3

| R.T.  | EstConc    | Area    | Relative to ISTD | R.T.  |
|-------|------------|---------|------------------|-------|
| 18.06 | 4.77 ng/ul | 1074120 | Phenanthrene-d10 | 17.17 |

| Hit# of | 5 | Tentative ID          | MW  | MolForm  | CAS#        | Qual |
|---------|---|-----------------------|-----|----------|-------------|------|
| 1       |   | n-Hexadecanoic acid   | 256 | C16H32O2 | 000057-10-3 | 98   |
| 2       |   | n-Hexadecanoic acid   | 256 | C16H32O2 | 000057-10-3 | 92   |
| 3       |   | Tetradecanoic acid    | 228 | C14H28O2 | 000544-63-8 | 83   |
| 4       |   | Anthracene, 9-methyl- | 192 | C15H12   | 000779-02-2 | 59   |
| 5       |   | Pentadecanoic acid    | 242 | C15H30O2 | 001002-84-2 | 58   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

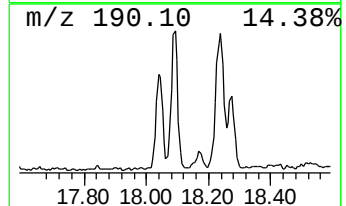
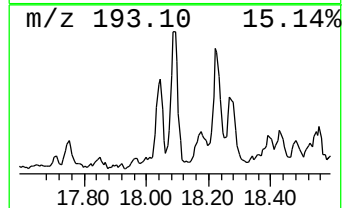
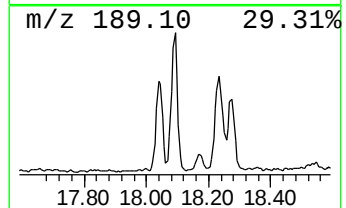
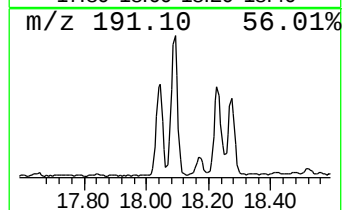
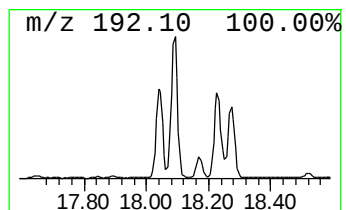
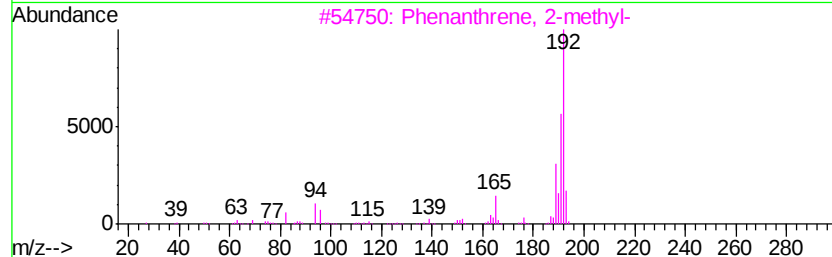
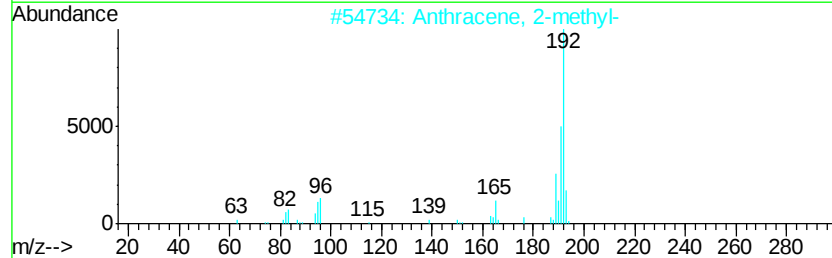
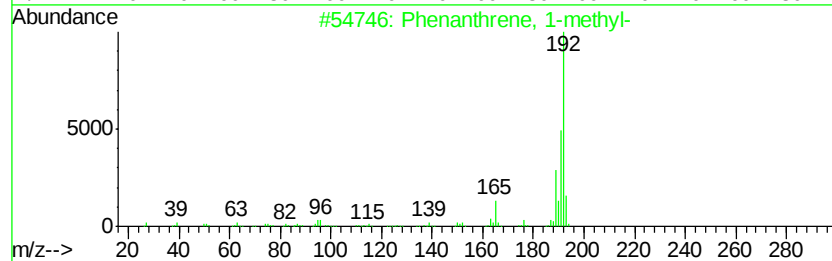
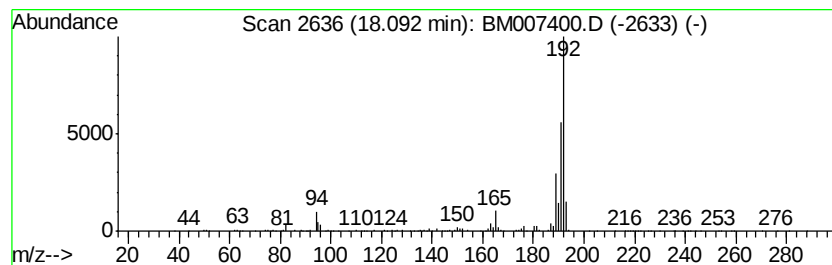
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 6 Phenanthrene, 1-methyl- Concentration Rank 5

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.09 | 3.55 ng/ul | 798196 | Phenanthrene-d10 | 17.17 |

| Hit# of | 5 | Tentative ID                         | MW  | MolForm | CAS#        | Qual |
|---------|---|--------------------------------------|-----|---------|-------------|------|
| 1       |   | Phenanthrene, 1-methyl-              | 192 | C15H12  | 000832-69-9 | 93   |
| 2       |   | Anthracene, 2-methyl-                | 192 | C15H12  | 000613-12-7 | 91   |
| 3       |   | Phenanthrene, 2-methyl-              | 192 | C15H12  | 002531-84-2 | 91   |
| 4       |   | Anthracene, 2-methyl-                | 192 | C15H12  | 000613-12-7 | 90   |
| 5       |   | 1H-Cyclopropa[1]phenanthrene, 1a,... | 192 | C15H12  | 000949-41-7 | 90   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

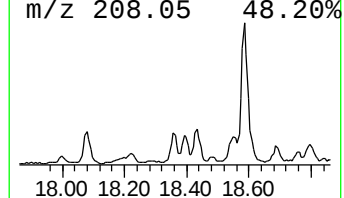
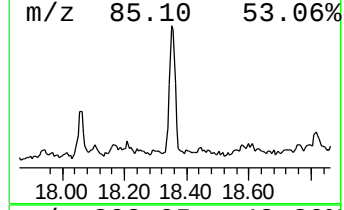
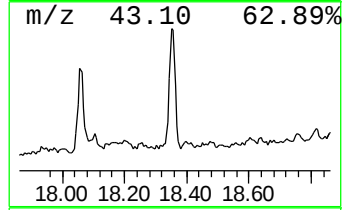
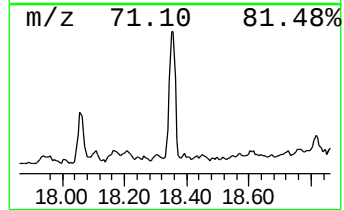
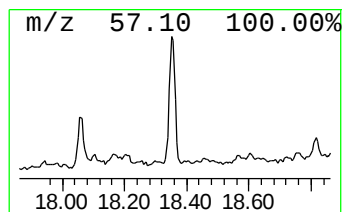
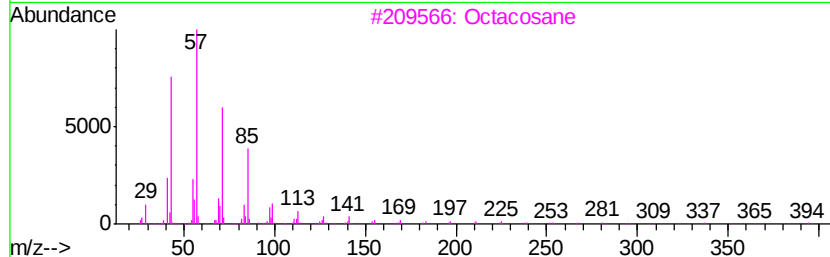
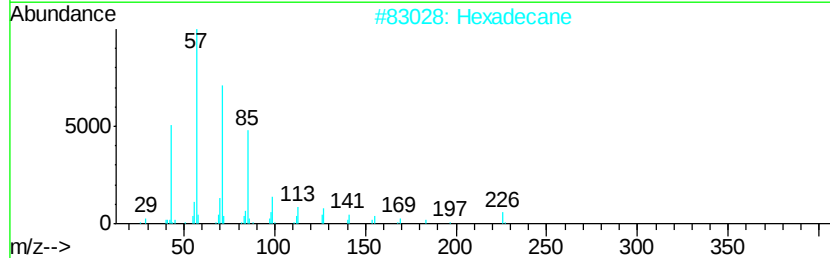
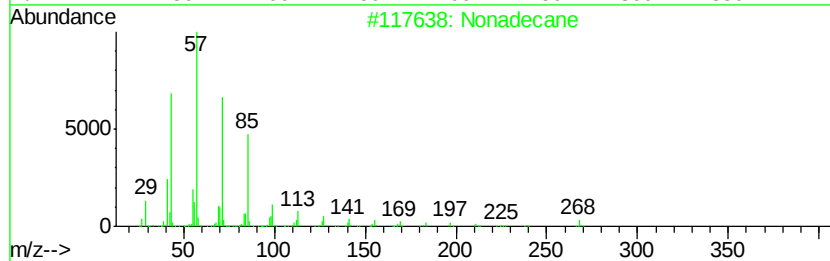
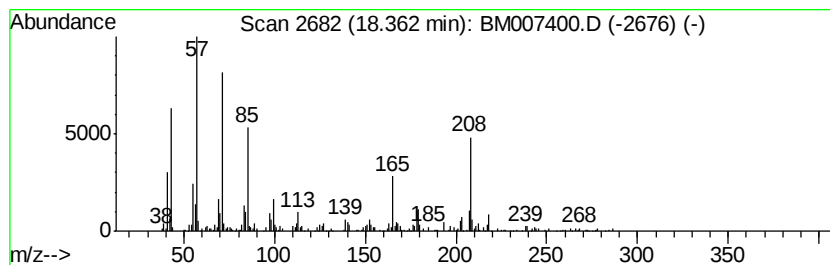
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 8 (DEL) Alkane: Straight-Chai... Concentration Rank 13

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.36 | 2.33 ng/ul | 524185 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID | MW  | MolForm | CAS#        | Qual |
|------|----|--------------|-----|---------|-------------|------|
| 1    | 5  | Nonadecane   | 268 | C19H40  | 000629-92-5 | 94   |
| 2    |    | Hexadecane   | 226 | C16H34  | 000544-76-3 | 89   |
| 3    |    | Octacosane   | 394 | C28H58  | 000630-02-4 | 76   |
| 4    |    | Heptadecane  | 240 | C17H36  | 000629-78-7 | 68   |
| 5    |    | Heneicosane  | 296 | C21H44  | 000629-94-7 | 68   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

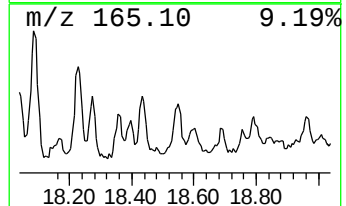
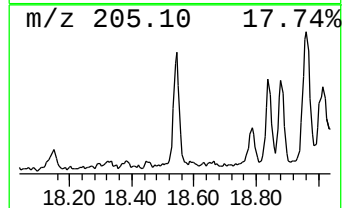
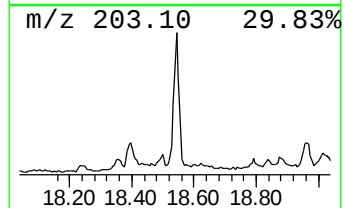
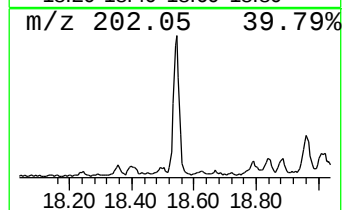
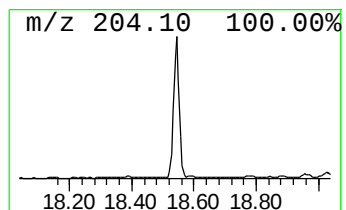
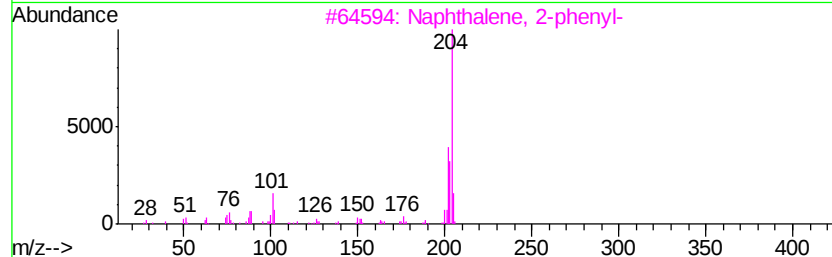
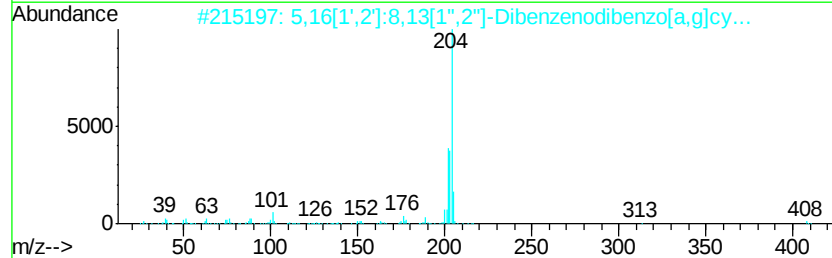
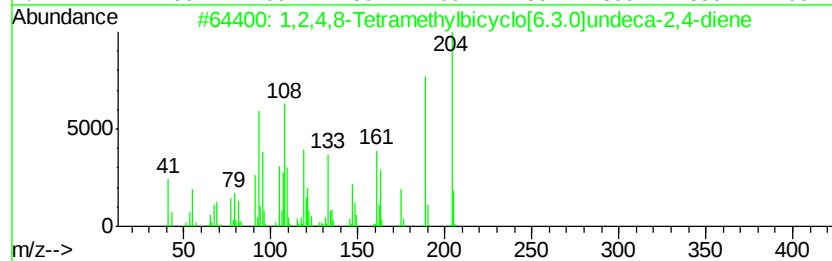
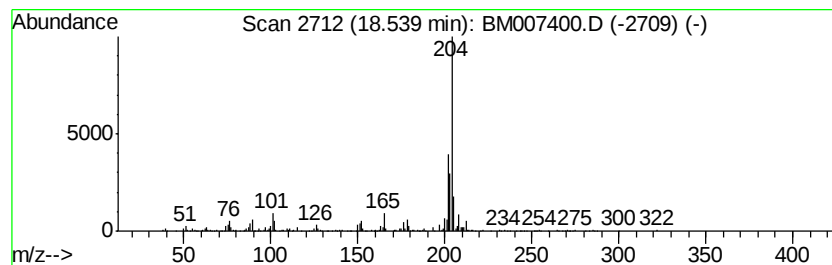
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 9 1,2,4,8-Tetramethylbicyclo[...] Concentration Rank 14

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.54 | 2.29 ng/ul | 515917 | Phenanthrene-d10 | 17.17 |

| Hit# of | 5                                    | Tentative ID | MW     | MolForm | CAS#        | Qual |
|---------|--------------------------------------|--------------|--------|---------|-------------|------|
| 1       | 1,2,4,8-Tetramethylbicyclo[6.3.0...] | 204          | C15H24 |         | 137235-51-9 | 86   |
| 2       | 5,16[1',2']:8,13[1'',2'']-Dibenz...  | 408          | C32H24 |         | 005672-97-9 | 80   |
| 3       | Naphthalene, 2-phenyl-               | 204          | C16H12 |         | 000612-94-2 | 70   |
| 4       | Tricyclo[8.2.2.2(4,7)]hexadeca-2...  | 204          | C16H12 |         | 006572-60-7 | 68   |
| 5       | Naphthalene, 2-phenyl-               | 204          | C16H12 |         | 000612-94-2 | 62   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

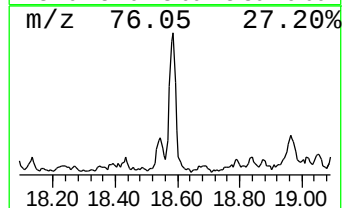
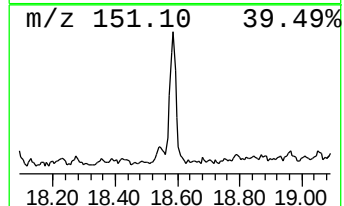
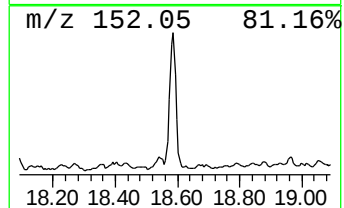
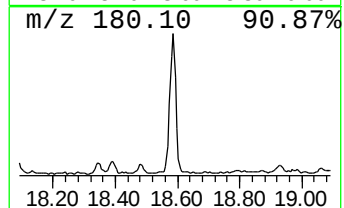
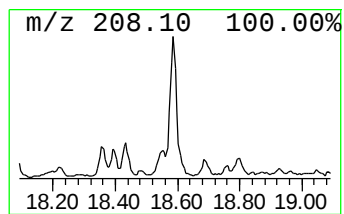
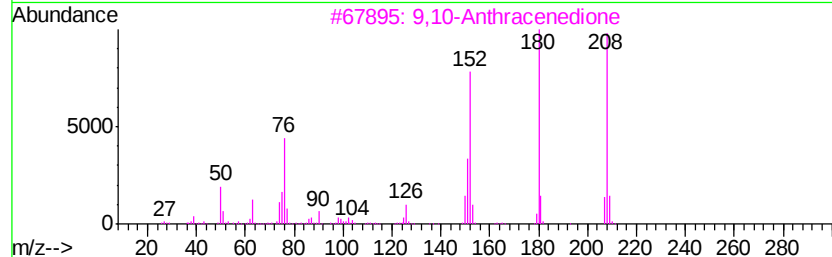
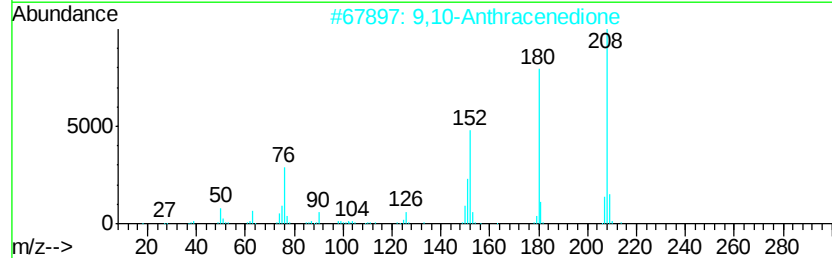
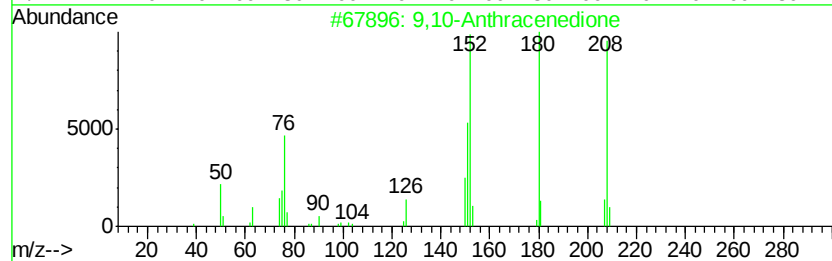
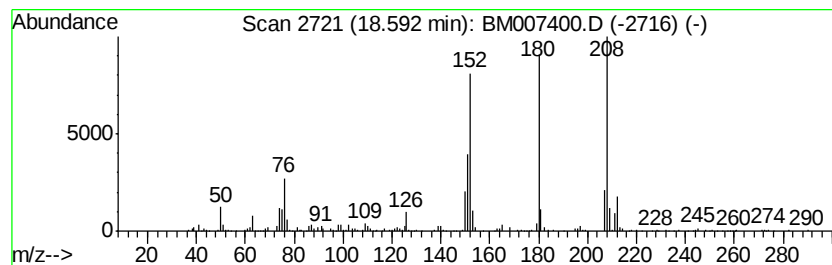
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 10 9,10-Anthracenedione Concentration Rank 6

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.59 | 2.90 ng/ul | 653364 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID         | MW  | MolForm | CAS#        | Qual |
|------|----|----------------------|-----|---------|-------------|------|
| 1    | 5  | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 99   |
| 2    |    | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 94   |
| 3    |    | 9,10-Anthracenedione | 208 | C14H8O2 | 000084-65-1 | 94   |
| 4    |    | 9H-Fluoren-9-one     | 180 | C13H8O  | 000486-25-9 | 70   |
| 5    |    | Benzo[c]cinnoline    | 180 | C12H8N2 | 000230-17-1 | 64   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

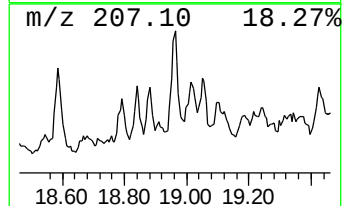
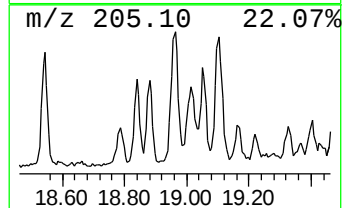
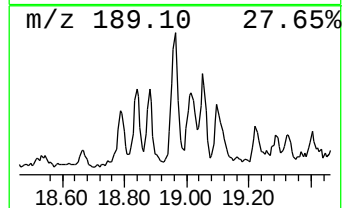
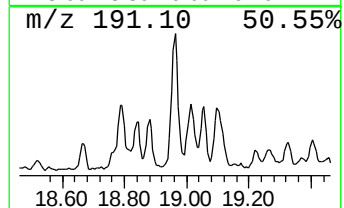
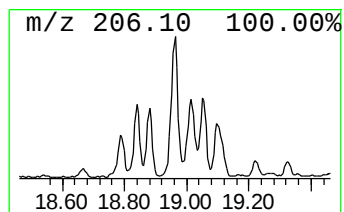
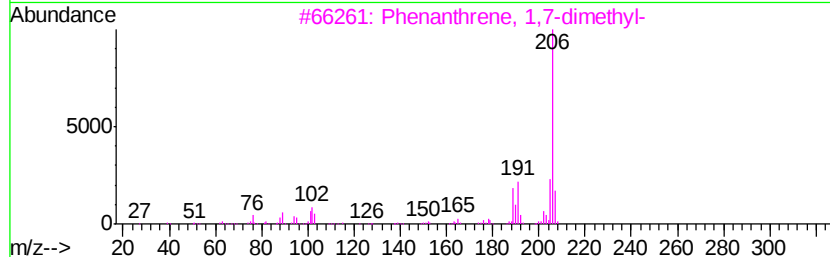
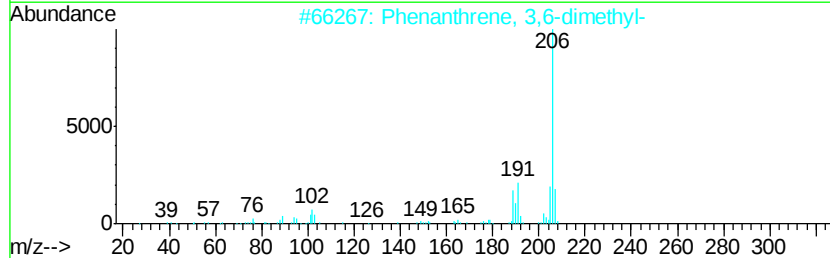
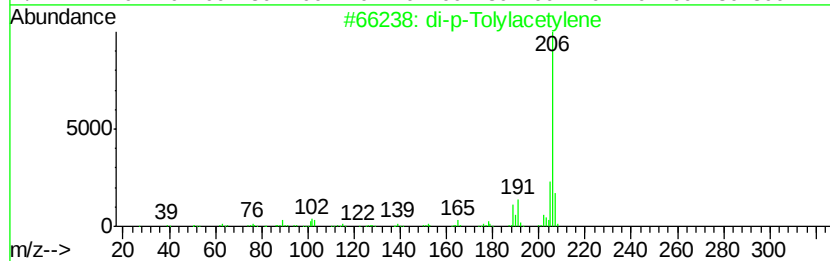
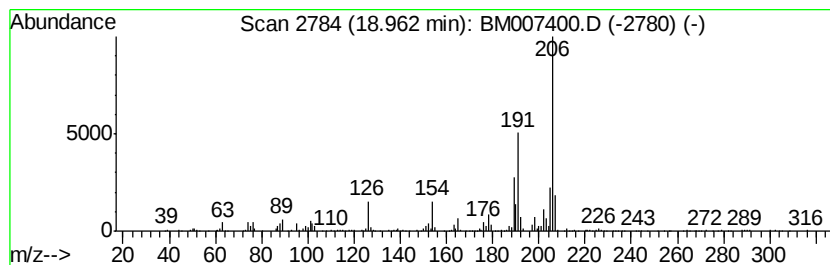
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 11 di-p-Tolylacetylene Concentration Rank 8

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 18.96 | 2.60 ng/ul | 584776 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID                | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------------|-----|---------|-------------|------|
| 1    | 5  | di-p-Tolylacetylene         | 206 | C16H14  | 002789-88-0 | 90   |
| 2    |    | Phenanthrene, 3,6-dimethyl- | 206 | C16H14  | 001576-67-6 | 89   |
| 3    |    | Phenanthrene, 1,7-dimethyl- | 206 | C16H14  | 000483-87-4 | 83   |
| 4    |    | Phenanthrene, 2,3-dimethyl- | 206 | C16H14  | 003674-65-5 | 81   |
| 5    |    | Anthracene, 1,4-dimethyl-   | 206 | C16H14  | 000781-92-0 | 80   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

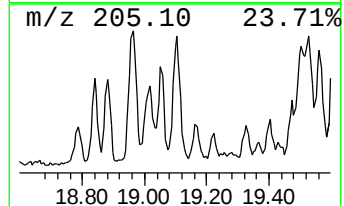
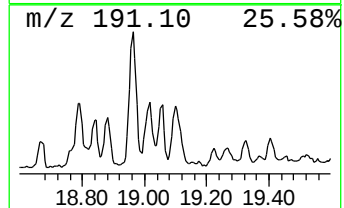
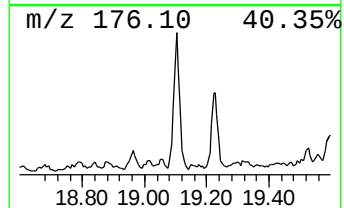
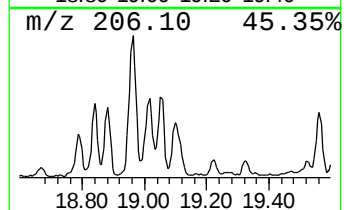
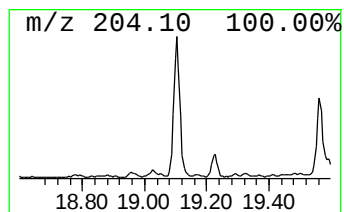
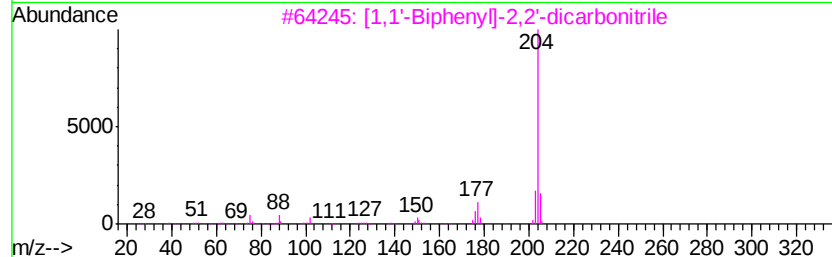
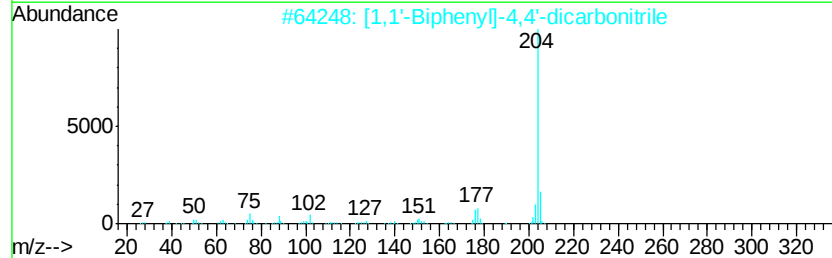
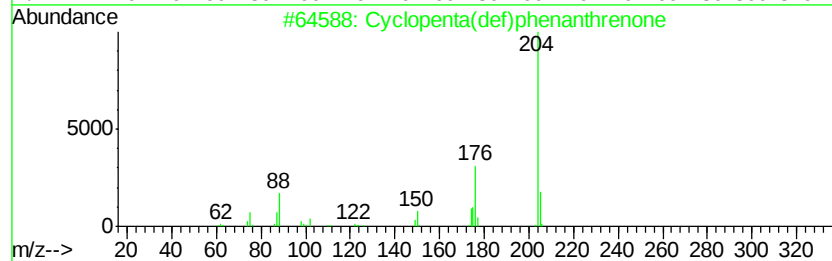
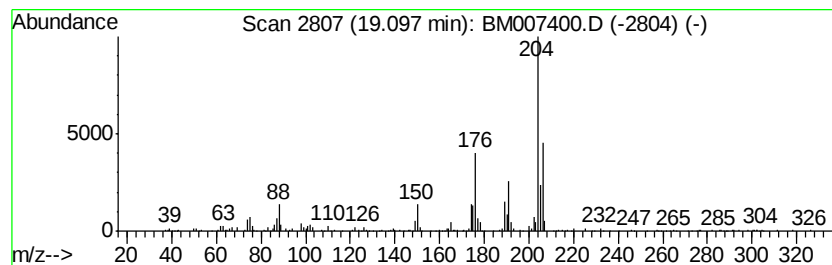
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 12 Cyclopenta(def)phenanthrenone Concentration Rank 9

| R.T.  | EstConc    | Area   | Relative to ISTD | R.T.  |
|-------|------------|--------|------------------|-------|
| 19.10 | 2.53 ng/ul | 568802 | Phenanthrene-d10 | 17.17 |

| Hit# | of | Tentative ID                        | MW  | MolForm   | CAS#        | Qual |
|------|----|-------------------------------------|-----|-----------|-------------|------|
| 1    | 5  | Cyclopenta(def)phenanthrenone       | 204 | C15H8O    | 005737-13-3 | 89   |
| 2    |    | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2   | 001591-30-6 | 49   |
| 3    |    | [1,1'-Biphenyl]-2,2'-dicarbonitrile | 204 | C14H8N2   | 004341-02-0 | 43   |
| 4    |    | 3,4-Biphenyldicarbonitrile          | 204 | C14H8N2   | 004128-63-6 | 43   |
| 5    |    | Pyrimidine, 2-chloro-4-methyl-6-... | 204 | C11H9ClN2 | 032785-40-3 | 43   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

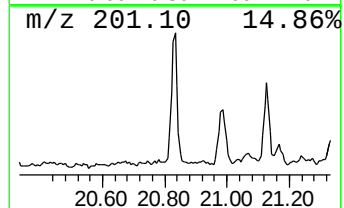
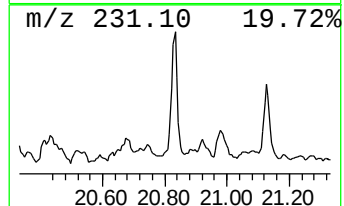
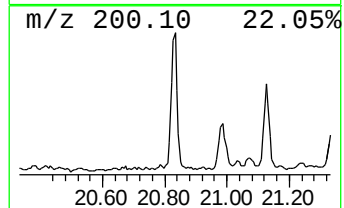
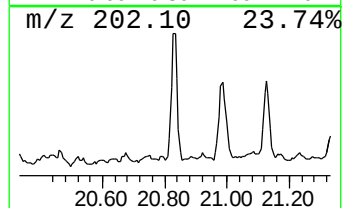
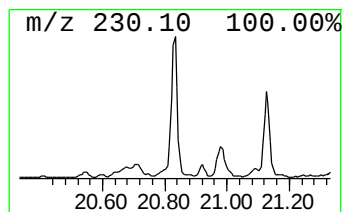
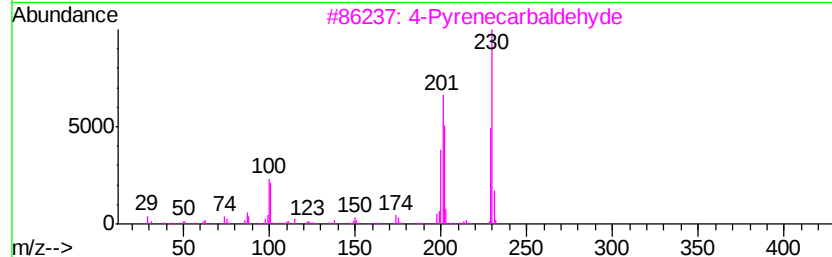
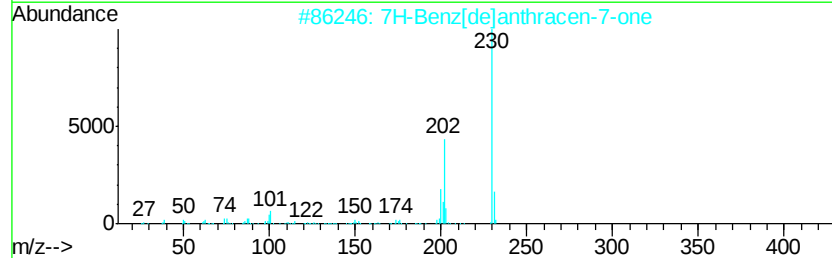
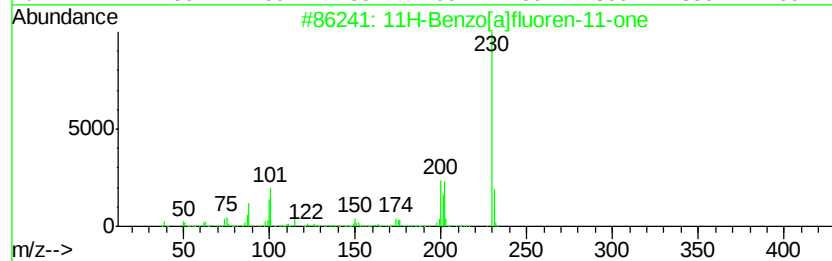
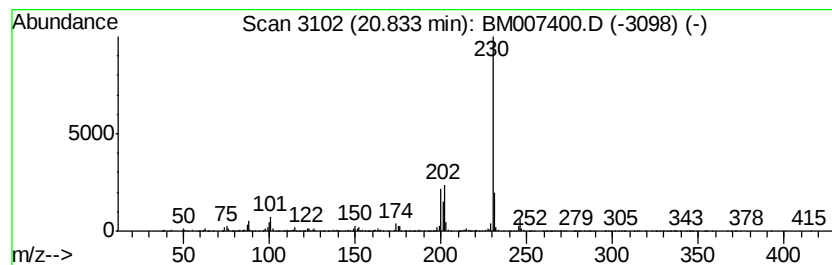
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 13 11H-Benzo[a]fluoren-11-one Concentration Rank 11

| R.T.  | EstConc    | Area    | Relative to ISTD | R.T.  |
|-------|------------|---------|------------------|-------|
| 20.83 | 2.41 ng/ul | 1038210 | Chrysene-d12     | 21.35 |

| Hit# | of | Tentative ID               | MW  | MolForm | CAS#        | Qual |
|------|----|----------------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[a]fluoren-11-one | 230 | C17H10O | 000479-79-8 | 95   |
| 2    |    | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 90   |
| 3    |    | 4-Pyrenecarbaldehyde       | 230 | C17H10O | 022245-51-8 | 83   |
| 4    |    | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 81   |
| 5    |    | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 74   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

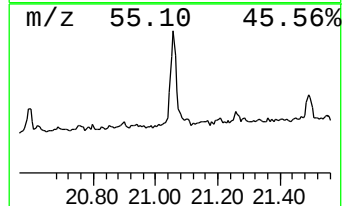
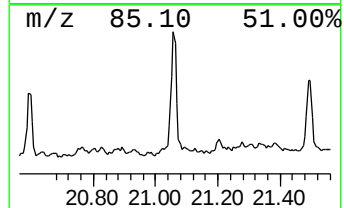
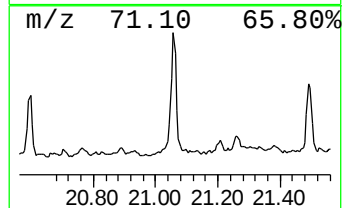
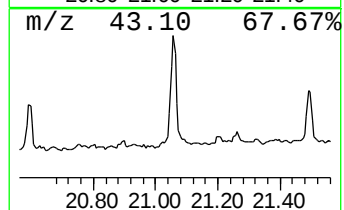
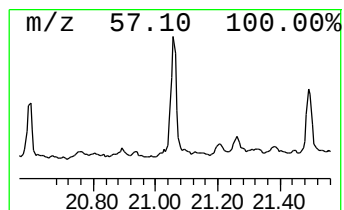
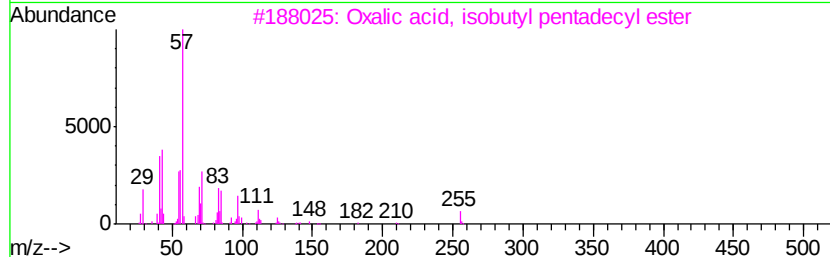
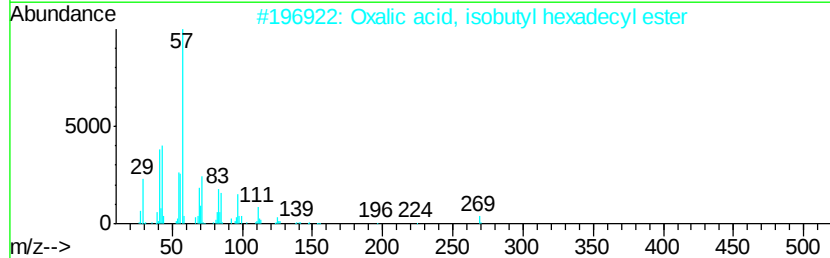
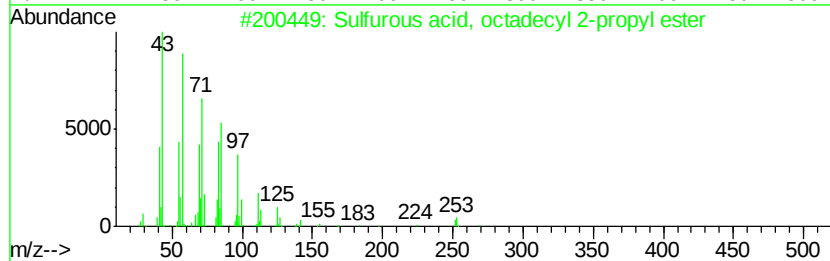
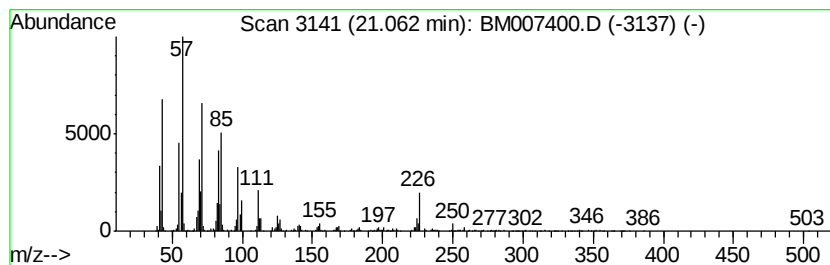
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 14 Sulfurous acid, octadecyl 2... Concentration Rank 4

| R.T.  | EstConc    | Area    | Relative to ISTD | R.T.  |
|-------|------------|---------|------------------|-------|
| 21.06 | 3.93 ng/ul | 1693040 | Chrysene-d12     | 21.35 |

| Hit# | of | Tentative ID                        | MW  | MolForm   | CAS#         | Qual |
|------|----|-------------------------------------|-----|-----------|--------------|------|
| 1    | 5  | Sulfurous acid, octadecyl 2-prop... | 376 | C21H44O3S | 1000309-12-7 | 91   |
| 2    |    | Oxalic acid, isobutyl hexadecyl ... | 370 | C22H42O4  | 1000309-38-1 | 90   |
| 3    |    | Oxalic acid, isobutyl pentadecyl... | 356 | C21H40O4  | 1000309-38-0 | 87   |
| 4    |    | Oxalic acid, isobutyl heptadecyl... | 384 | C23H44O4  | 1000309-38-2 | 87   |
| 5    |    | Oxalic acid, isobutyl octadecyl ... | 398 | C24H46O4  | 1000309-38-3 | 87   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

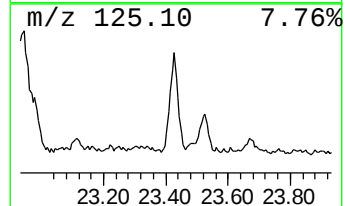
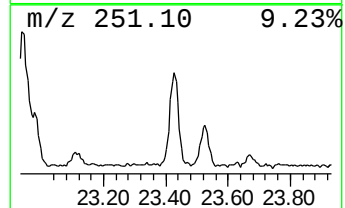
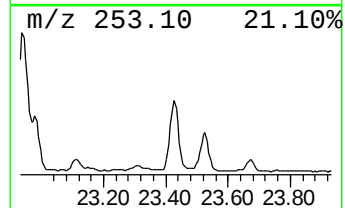
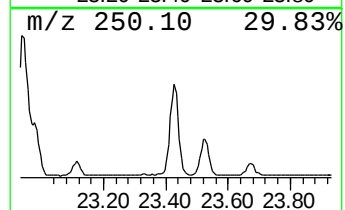
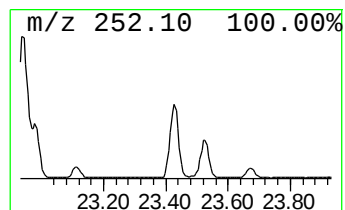
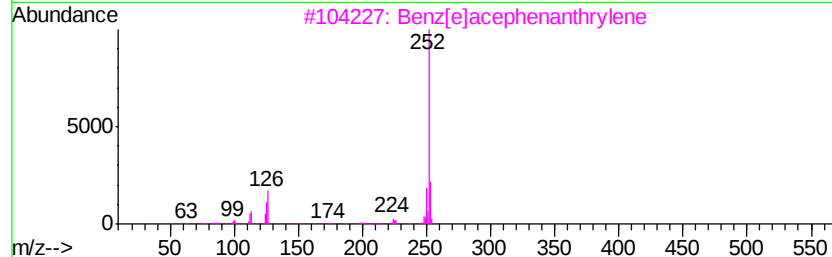
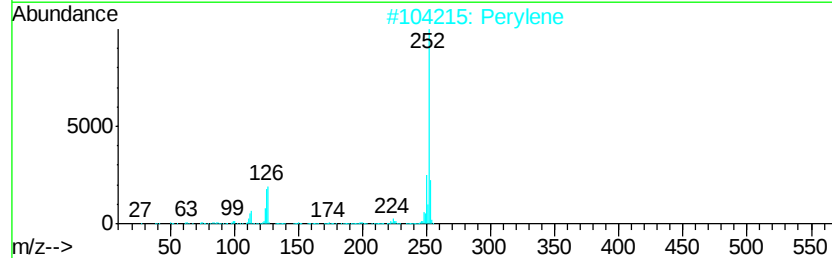
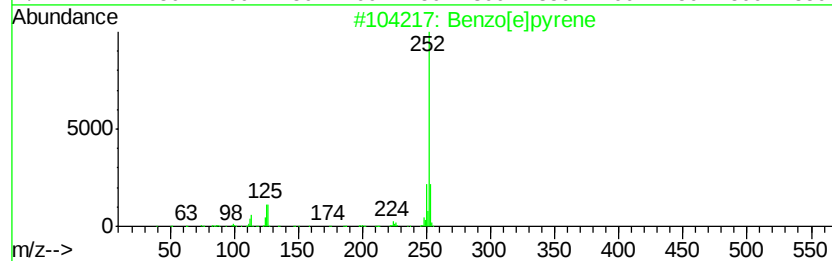
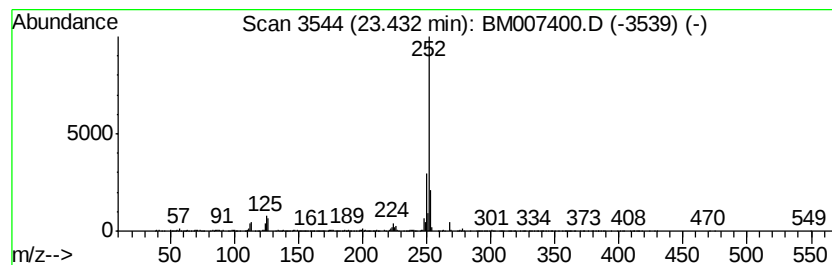
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 15 Benzo[e]pyrene Concentration Rank 2

| R.T.  | EstConc    | Area    | Relative to ISTD | R.T.  |
|-------|------------|---------|------------------|-------|
| 23.43 | 5.48 ng/ul | 1293890 | Perylene-d12     | 23.63 |

| Hit# | of | Tentative ID             | MW  | MolForm | CAS#        | Qual |
|------|----|--------------------------|-----|---------|-------------|------|
| 1    | 5  | Benzo[e]pyrene           | 252 | C20H12  | 000192-97-2 | 95   |
| 2    |    | Perylene                 | 252 | C20H12  | 000198-55-0 | 93   |
| 3    |    | Benz[e]acephenanthrylene | 252 | C20H12  | 000205-99-2 | 93   |
| 4    |    | Benz[e]acephenanthrylene | 252 | C20H12  | 000205-99-2 | 91   |
| 5    |    | Benzo[a]pyrene           | 252 | C20H12  | 000050-32-8 | 91   |



Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM090316\  
Data File : BM007400.D  
Acq On : 03 Sep 2016 10:46  
Operator : UM/SJ  
Sample : H4639-17  
Misc :  
ALS Vial : 28 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
BD393

Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM082316.M  
Quant Title : SVOA CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |         |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|---------|------|
|                      |       |         |       |          | #                     | RT    | Resp    | Conc |
| (DEL) Alkane: Str... | 16.13 | 2.5     | ng/ul | 562144   | 4                     | 17.17 | 4502200 | 20.0 |
| 9H-Fluoren-9-one     | 16.82 | 2.2     | ng/ul | 496539   | 4                     | 17.17 | 4502200 | 20.0 |
| (DEL) Alkane: Str... | 16.93 | 8.2     | ng/ul | 1852510  | 4                     | 17.17 | 4502200 | 20.0 |
| n-Hexadecanoic acid  | 18.06 | 4.8     | ng/ul | 1074120  | 4                     | 17.17 | 4502200 | 20.0 |
| Phenanthrene, 1-m... | 18.09 | 3.5     | ng/ul | 798196   | 4                     | 17.17 | 4502200 | 20.0 |
| (DEL) Alkane: Str... | 18.36 | 2.3     | ng/ul | 524185   | 4                     | 17.17 | 4502200 | 20.0 |
| 1,2,4,8-Tetrameth... | 18.54 | 2.3     | ng/ul | 515917   | 4                     | 17.17 | 4502200 | 20.0 |
| 9,10-Anthracenedione | 18.59 | 2.9     | ng/ul | 653364   | 4                     | 17.17 | 4502200 | 20.0 |
| di-p-Tolylacetylene  | 18.96 | 2.6     | ng/ul | 584776   | 4                     | 17.17 | 4502200 | 20.0 |
| Cyclopenta(def)ph... | 19.10 | 2.5     | ng/ul | 568802   | 4                     | 17.17 | 4502200 | 20.0 |
| 11H-Benzo[a]fluor... | 20.83 | 2.4     | ng/ul | 1038210  | 5                     | 21.35 | 8614170 | 20.0 |
| Sulfurous acid, o... | 21.06 | 3.9     | ng/ul | 1693040  | 5                     | 21.35 | 8614170 | 20.0 |
| Benzo[e]pyrene       | 23.43 | 5.5     | ng/ul | 1293890  | 6                     | 23.63 | 4722880 | 20.0 |