Application Report 398

Shorter Analysis Time for Method 8270D on the SLB-5ms

Typical run times for US EPA Method 8270 range from 23 to 45 minutes. In this application, the high maximum operating temperature of the SLB-5ms was utilized to reduce run time to < 19 minutes.

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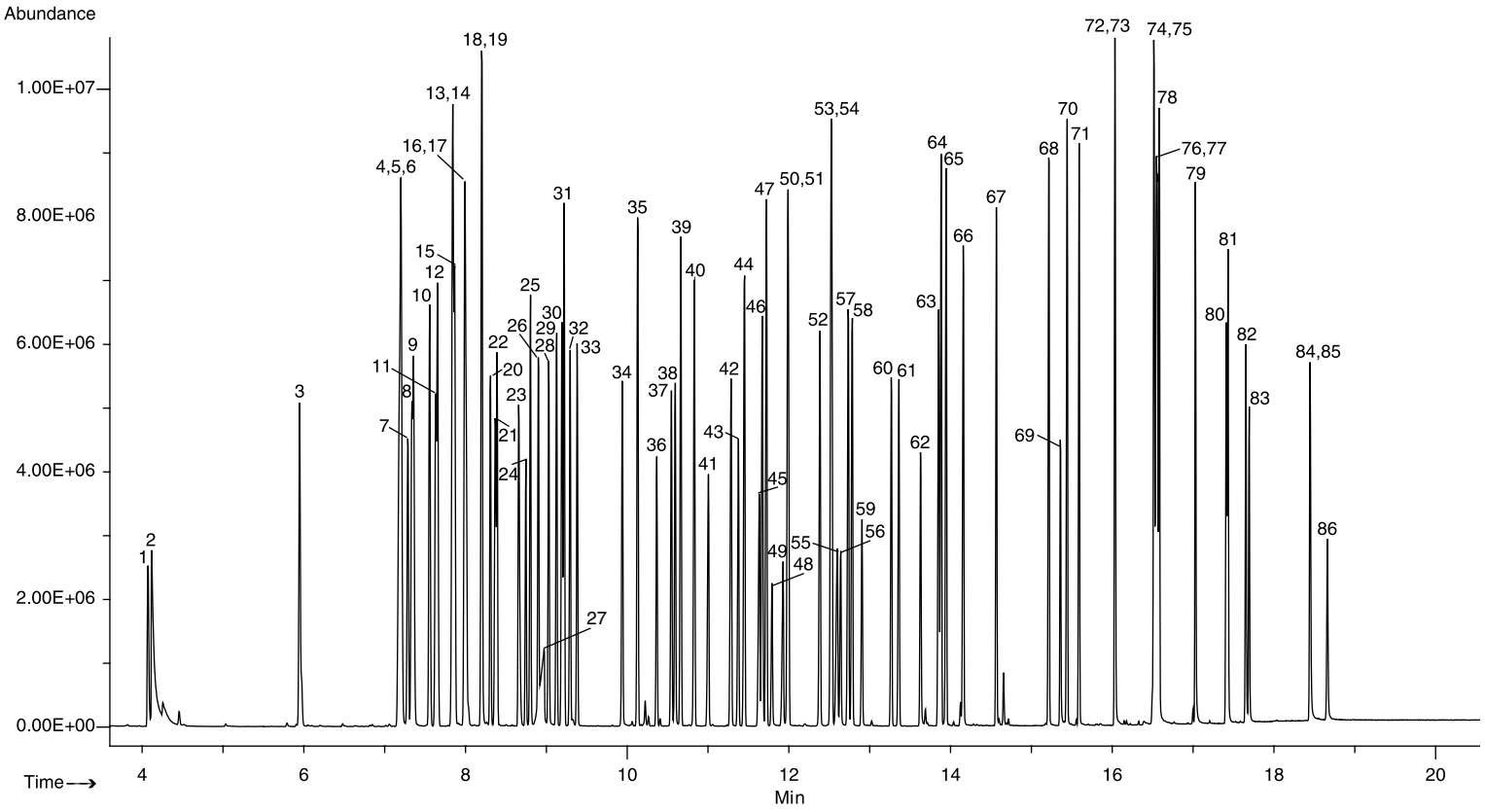
Acquisition System: 6890 GC / 5973 MSD

Notebook Reference: 1509-099

Key Words

semivolatiles, BNA, 506508, 861148, 46702-U, 48467, 861155, 46955-U, US EPA Method 8270D, RCRA, SLB-5ms, 28471-U



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Conditions

column:	SLB-5ms, 30 m x 0.25 mm I.D., 0.25 µm (28471-U)
oven:	40 °C (3 min.), 20 °C/min. to 100 °C, 15 °C/min. to 200 °C, 30 °C/min. to 350 °C (3 min.)
inj.:	250 °C
MSD interface:	330 °C
scan range:	40-450 m/z
carrier gas:	helium, ramped flow, 1 mL/min. (8 min.), 10 mL/min^2 to 1.5 mL/min. (constant for remainder of run)
injection:	0.5 µL, splitless (0.3 min.)
liner:	2 mm I.D., straight
sample:	25 ng on-column of a 72 component semivolatile standard, 8 surrogates, and 6 internal standards (at 20 ng on-column)

Peak IDs

1. N-nitrosodimethylamine
2. Pyridine
3. 2-fluorophenol (surr.)
4. Aniline
5. Phenol-d_6 (surr.)
6. Phenol
7. Bis(2-chloroethyl)ether
8. 2-chlorophenol-d_4 (surr.)
9. 2-chlorophenol
10. 1,3-dichlorobenzene
11. 1,4-dichlorobenzene-d_4 (I.S.)
12. 1,4-dichlorobenzene
13. 1,2-dichlorobenzene-d_4 (surr.)
14. Benzyl alcohol
15. 1,2-dichlorobenzene
16. 2-methylphenol
17. Bis(2-chloroisopropyl)ether
18. N-nitroso-di-n-propylamine
19. 4-methylphenol
20. Hexachloroethane
21. Nitrobenzene-d_5 (surr.)
22. Nitrobenzene
23. Isophorone
24. 2-nitrophenol
25. 2,4-dimethylphenol
26. Bis(2-chloroethoxymethane)
27. Benzoic acid
28. 2,4-dichlorophenol
29. 1,2,4-trichlorobenzene
30. Naphthalene-d_8 (I.S)
31. Naphthalene
32. 4-chloroaniline
33. Hexachlorobutadiene
34. 4-chloro-3-methylphenol
35. 2-methylnaphthalene
36. Hexachlorocyclopentadiene
37. 2,4,6-trichlorophenol
38. 2,4,5-trichlorophenol
39. 2-fluorobiphenyl (surr.)
40. 2-chloronaphthalene
41. 2-nitroaniline
42. Dimethyl phthalate
43. 2,6-dinitrotoluene
44. Acenaphthylene
45. 3-nitroaniline
46. Acenaphthene-d_{10} (I.S.)
47. Acenaphthene
48. 2,4-dinitrophenol
49. 4-nitrophenol
50. Dibenzofuran
51. 2,4-dinitrotoluene
52. Diethyl phthalate
53. Fluorene
54. 4-chlorophenyl phenyl ether
55. 4-nitroaniline
56. 2-methyl-4,6-dinitrophenol
57. N-nitrosodiphenylamine
58. Azobenzene
59. 2,4,6-tribromophenol (surr.)
60. 4-bromophenyl phenyl ether
61. Hexachlorobenzene
62. Pentachlorophenol
63. Phenanthrene-d_{10} (I.S.)
64. Phenanthrene
65. Anthracene
66. Carbazole
67. Di-n-butyl phthalate
68. Fluoranthene
69. Benzidine
70. Pyrene
71. Terphenyl-d_{14} (surr.)
72. 3,3′-dimethylbenzidine
73. Butylbenzyl phthalate
74. 3,3′-dichlorobenzidine
75. Bis(2-ethylhexyl)phthalate
76. Benzo(a)anthracene
77. Chrysene-d_{12} (I.S.)
78. Chrysene
79. Di-n-octyl phthalate
80. Benzo(b)fluoranthene
81. Benzo(k)fluoranthene
82. Benzo(a)pyrene
83. Perylene-d_{12} (I.S.)
84. Indeno(1,2,3-cd)pyrene
85. Dibenzo(a,h)anthracene
86. Benzo(g,h,i)perylene

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