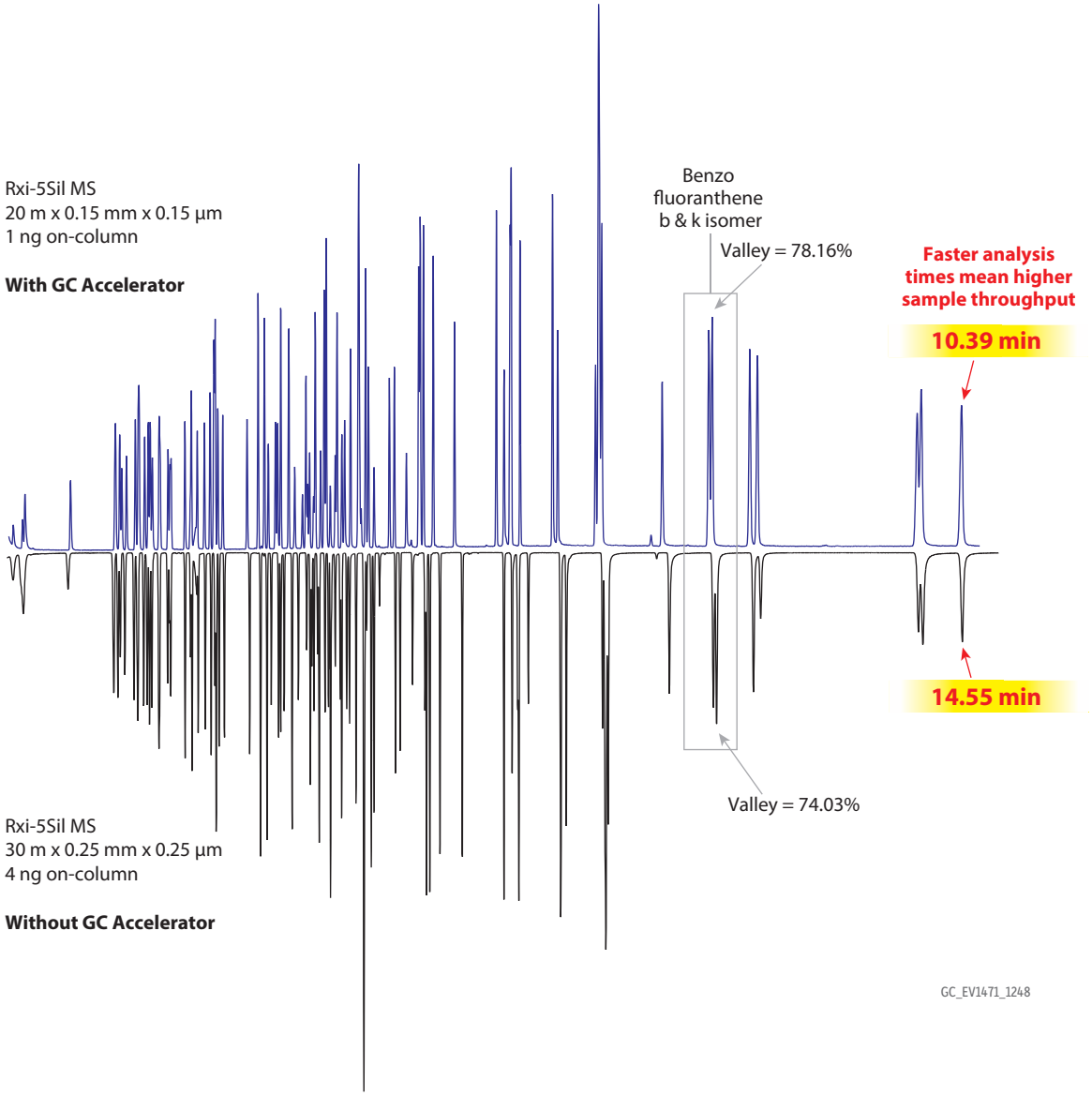
Semivolatiles on Rxi-5Sil MS by U.S. EPA Method 8270 Using the GC Accelerator Oven Insert Kit and Split Injection



Compound list for both top and bottom chromatograms:

Peaks

1. 1,4-Dioxane-d8 (IS)
2. 1,4-Dioxane
3. N-Nitrosodimethylamine
4. Pyridine
5. 2-Fluorophenol (SS)
6. Phenol-d6 (SS)
7. Phenol
8. Aniline
9. Bis(2-chloroethyl)ether
10. 2-Chlorophenol
11. 1,3-Dichlorobenzene
12. 1,4-Dichlorobenzene-D4 (IS)
13. 1,4-Dichlorobenzene
14. Benzyl alcohol
15. 1,2-Dichlorobenzene
16. 2-Methylphenol
17. Bis(2-chloroisopropyl)ether
18. 4-Methylphenol
19. 3-Methylphenol
20. N-Nitroso-di-*n*-propylamine
21. Hexachloroethane
22. Nitrobenzene-D5 (SS)
23. Nitrobenzene
24. Isophorone
25. 2-Nitrophenol
26. 2,4-Dimethylphenol
27. Benzoic acid
28. Bis(2-chloroethoxy)methane
29. 2,4-Dichlorophenol
30. 1,2,4-Trichlorobenzene
31. Naphthalene-D8 (IS)
32. Naphthalene
33. 4-Chloroaniline
34. Hexachlorobutadiene
35. 4-Chloro-3-methylphenol
36. 2-Methylnaphthalene
37. 1-Methylnaphthalene
38. Hexachlorocyclopentadiene
39. 2,4,6-Trichlorophenol
40. 2,4,5-Trichlorophenol
41. 2-Fluorobiphenyl (SS)
42. 2-Chloronaphthalene
43. 2-Nitroaniline
44. 1,4-Dinitrobenzene
45. Dimethyl phthalate
46. 1,3-Dinitrobenzene
47. 2,6-Dinitrotoluene
48. 1,2-Dinitrobenzene
49. Acenaphthylene
50. 3-Nitroaniline
51. Acenaphthene-d10 (IS)
52. Acenaphthene
53. 2,4-Dinitrophenol
54. 4-Nitrophenol
55. 2,4-Dinitrotoluene
56. Dibenzofuran
57. 2,3,5,6-Tetrachlorophenol
58. 2,3,4,6-Tetrachlorophenol
59. Diethyl phthalate
60. 4-Chlorophenyl phenyl ether
61. Fluorene
62. 4-Nitroaniline
63. 4,6-Dinitro-2-methylphenol
64. N-nitrosodiphenylamine
65. 1,2-Diphenylhydrazine
66. 2,4,6-Tribromophenol (SS)
67. 4-Bromophenyl phenyl ether
68. Hexachlorobenzene
69. Pentachlorophenol
70. Phenanthrene-D10 (IS)
71. Phenanthrene
72. Anthracene
73. Carbazole
74. di-*n*-Butyl phthalate
75. Fluoranthene
76. Benzidine
77. Pyrene-D10 (SS)
78. Pyrene
79. *p*-Terphenyl-d14 (SS)
80. 3,3'-Dimethylbenzidine
81. Butyl benzyl phthalate
82. Bis(2-ethylhexyl)adipate
83. 3,3'-Dichlorobenzidine
84. Benz[a]anthracene
85. Chrysene-D12 (IS)
86. Bis(2-ethylhexyl)phthalate
87. Chrysene
88. Di-*n*-octyl phthalate
89. Benzo[b]fluoranthene
90. Benzo[k]fluoranthene
91. Benzo[a]pyrene
92. Perylene-D12 (IS)
93. Indeno[1,2,3-cd]pyrene
94. Dibenz[a,h]anthracene
95. Benzo[ghi]perylene

Top c-gram conditions:

Column	Rxi-5Sil MS, 20 m, 0.15 mm ID, 0.15 µm (cat.# 43816)
Sample	8270 MegaMix (cat.# 31850) 8270 Benzidines mix (cat.# 31852) Benzoic acid (cat.# 31879) 1,4-Dioxane (cat.# 31853) Revised B/N surrogate mix (cat.# 31888) Acid surrogate mix (4/89 SOW) (cat.# 31063) Revised SV internal standard mix (cat.# 31886)
Diluent:	Methylene chloride
Conc.:	20 µg/mL (IS/SS 20 µg/mL)
Injection	
Inj. Vol.:	1 µL split (split ratio 20:1)
Liner:	Topaz 4 mm single taper w/wool (cat.# 23303)
Inj. Temp.:	275 °C
Split Vent Flow Rate:	12 mL/min
Oven	
Oven Temp.:	70 °C (hold 0.7 min) to 285 °C at 39.8 °C/min to 305 °C at 4.3 °C/min to 320 °C at 28.5 °C/min (hold 0.7 min)
Carrier Gas	He, constant flow
Flow Rate:	0.72 mL/min
Detector	MS
Mode:	Scan
Transfer Line Temp.:	280 °C
Analyzer Type:	Quadrupole
Source Temp.:	330 °C
Quad Temp.:	180 °C
Electron Energy:	70 eV
Solvent Delay Time:	1.3 min
Tune Type:	DFTPP
Ionization Mode:	EI
Scan Range:	39-550 amu
Scan Rate:	9.8 scans/sec
Instrument	Agilent 7890B GC & 5977A MSD

Bottom c-gram conditions:

Column	Rxi-5Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 13623)
Sample	8270 MegaMix (cat.# 31850) 8270 Benzidines mix (cat.# 31852) Benzoic acid (cat.# 31879) 1,4-Dioxane (cat.# 31853) Revised B/N surrogate mix (cat.# 31888) Acid surrogate mix (4/89 SOW) (cat.# 31063) Revised SV internal standard mix (cat.# 31886)
Diluent:	Methylene chloride
Conc.:	40 µg/mL (IS/SS 20 µg/mL)
Injection	
Inj. Vol.:	1 µL split (split ratio 10:1)
Liner:	Premium 4 mm Precision liner w/wool (cat.# 23305.5)
Inj. Temp.:	270 °C
Split Vent Flow Rate:	12 mL/min
Oven	
Oven Temp.:	70 °C (hold 1 min) to 285 °C at 28 °C/min to 305 °C at 3 °C/min to 320 °C at 30 °C/min (hold 1 min)
Carrier Gas	He, constant flow
Flow Rate:	1.2 mL/min
Detector	MS
Mode:	Scan
Transfer Line Temp.:	280 °C
Analyzer Type:	Quadrupole
Source Temp.:	270 °C
Quad Temp.:	150 °C
Electron Energy:	70 eV
Solvent Delay Time:	1.3 min
Tune Type:	DFTPP
Ionization Mode:	EI
Scan Range:	35-550 amu
Scan Rate:	5.36 scans/sec
Instrument	Agilent 7890A GC & 5975C MSD