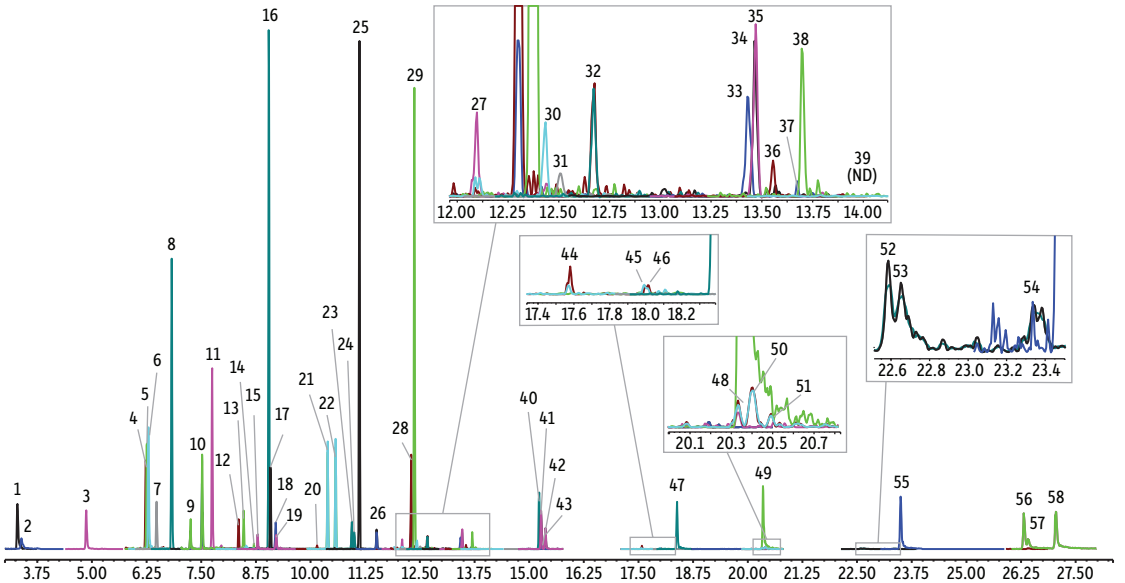
Low-Level Acidic, Basic, and Neutral Semivolatiles on RMX-5Sil MS by GC-MS/MS



GC_EV1528

Column	RMX-5Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 17323)
Standard/Sample	
	8270 Calibration mix #1 (cat.# 31618)
	8270 Calibration mix #2 (cat.# 31619)
	8270 Calibration mix #5 (cat.# 31995)
	Base neutral surrogate mix (4/89 SOW) (cat.# 31024)
	Acid surrogate mix (4/89 SOW) (cat.# 31025)
	Revised SV internal standard mix (cat.# 31886)
Diluent:	Dichloromethane
Conc.:	50 ppb (100 ppb internal standards)
Injection	
Inj. Vol.:	1 µL split (split ratio 5:1)
Liner:	Topaz 4.0 mm ID Precision liner w/wool (cat.# 23305)
Inj. Temp.:	250 °C
Split Vent Flow Rate:	6 mL/min
Oven	
Oven Temp.:	40 °C (hold 1 min) to 280 °C at 12.4 °C/min to 315 °C at 3.3 °C/min (hold 1 min)
Carrier Gas	He, constant flow
Flow Rate:	1.2 mL/min @ 40 °C
Detector	SRM/MRM
Acquisition Type:	SRM/MRM
Source Temp.:	330 °C
Transfer Line Temp.:	280 °C
Analyzer Type:	Triple Quadrupole
Ionization Mode:	EI
Collision Gas:	Ar
Tune Type:	PFTBA
Tune Emission Current:	70 µA
Instrument	Thermo Scientific TSQ 8000 Triple Quadrupole GC-MS
Sample Preparation	Standards were combined and diluted to a concentration of 50 ppb with internal standards added at 100 ppb.

	Peaks	t_R (min)	Conc. (ng/mL)	Mass 1	Product 1	Collision energy 1	Mass 2	Product 2	Collision energy 2
1.	N-Nitrosodimethylamine	3.55	50	74	44	6	74	42	16
2.	Pyridine	3.59	50	79	51	26	52	26	18
3.	2-Fluorophenol	5.03	50	112	92	6	92	63	14
4.	Phenol-d6	6.37	50	99	71	8	99	69	18
5.	Phenol	6.40	50	94	66	10	94	65	16
6.	Aniline	6.45	50	93	66	10	93	65	20
7.	2-Chlorophenol	6.62	50	128	64	14	128	63	24
8.	1,4-Dichlorobenzene-d4	6.96	100	150	115	14	150	78	26
9.	2-Methylphenol	7.38	50	108	80	8	108	77	24
10.	3- and 4-Methylphenol	7.66	50	70	43	6	107	77	14
11.	Nitrobenzene-d5	7.89	50	128	82	12	128	54	28
12.	2-Nitrophenol	8.54	50	139	81	12	139	109	8
13.	2,4-Dimethylphenol	8.61	50	122	107	12	122	77	20
14.	Benzoic acid	8.72	50	122	105	8	122	77	20
15.	2,4-Dichlorophenol	8.95	50	162	63	24	162	98	12
16.	Naphthalene-d8	9.18	100	136	134	14	136	108	18
17.	Naphthalene	9.23	50	128	102	16	129	103	14
18.	4-Chloroaniline	9.35	50	127	100	10	127	65	20
19.	2,6-Dichlorophenol	9.37	50	162	63	24	164	63	26
20.	4-Chloro-3-methylphenol	10.28	50	142	107	12	107	77	12
21.	2-Methylnaphthalene	10.53	50	141	115	16	141	89	30
22.	1-Methylnaphthalene	10.71	50	141	115	16	141	89	30
23.	2,4,6-Trichlorophenol	11.09	50	132	97	10	196	97	24
24.	2,4,5-Trichlorophenol	11.09	50	132	97	10	196	97	24
25.	2-Fluorobiphenyl	11.26	50	172	171	12	172	170	22
26.	o-Nitroaniline	11.66	50	138	92	12	138	65	22
27.	Acenaphthylene	12.24	50	152	102	26	152	76	36
28.	3-Nitroaniline	12.49	50	138	92	12	138	65	20
29.	Acenaphthene-d10	12.53	100	162	160	18	164	162	14
30.	Acenaphthene	12.60	50	153	126	36	153	77	38
31.	2,4-Dinitrophenol	12.70	50	184	154	6	154	79	12
32.	4-Nitrophenol	12.90	50	139	109	6	139	81	14
33.	2,3,4,6-Tetrachlorophenol	13.21	50	232	168	12	234	131	24
34.	4-Nitroaniline	13.60	50	138	108	8	138	80	18
35.	Fluorene	13.61	50	165	115	24	165	139	26
36.	4,6-Dinitro-2-methylphenol	13.71	50	198	168	6	198	121	10
37.	Diphenylamine	13.88	50	169	66	22	170	66	22
38.	2,4,6-Tribromophenol	14.10	50	330	141	36	332	143	34
39.	Pentachlorophenol	15.04	50	228	165	14	270	169	22
40.	Phenanthrene-d10	15.40	100	188	160	20	184	156	22
41.	Phenanthrene	15.46	50	178	152	18	178	151	32
42.	Dinoseb	15.49	50	163	116	14	240	211	8
43.	Anthracene	15.54	50	178	152	18	177	151	18
44.	Fluoranthene	17.78	50	202	176	26	202	152	30
45.	Benzidine	18.05	50	184	156	18	184	166	16
46.	Pyrene	18.20	50	200	174	22	200	149	34
47.	p-Terphenyl-d14	18.57	50	244	242	14	244	240	22
48.	3,3'-Dichlorobenzidine	20.53	50	252	154	26	252	181	22
49.	Chrysene-d12	20.55	100	240	238	14	240	236	30
50.	Benz[a]anthracene	20.63	50	228	202	22	226	200	28
51.	Chrysene	20.63	50	228	202	22	228	201	36
52.	Benzo[b]fluoranthene	22.90	50	252	226	22	250	224	24
53.	Benzo[k]fluoranthene	22.91	50	252	226	22	250	224	24
54.	Benzo[a]pyrene	23.66	50	252	226	22	250	224	26
55.	Perylene-d12	23.81	100	264	262	20	264	260	34
56.	Indeno[1,2,3-cd]pyrene	26.74	50	276	274	38	276	250	30
57.	Dibenz[a,h]anthracene	26.80	50	139	126	8	139	113	14
58.	Benzo[ghi]perylene	27.47	50	276	274	38	138	125	12