

Table 2 Chromatographic solutes and descriptors						
E	Excess molar refraction					
S	Dipolarity / polarizability					
A	Hydrogen bond acidity					
B	Hydrogen bond basicity					
V	McGowan's characteristic volume					
No.	Compound	E	S	A	B	V
1	Benzene	0.610	0.52	0.00	0.14	0.7164
2	Toluene	0.601	0.52	0.00	0.14	0.8573
3	Ethylbenzene	0.613	0.51	0.00	0.15	0.9982
4	Propylbenzene	0.604	0.50	0.00	0.15	1.1391
5	Butylbenzene	0.600	0.51	0.00	0.15	1.2800
6	Pentylbenzene	0.594	0.51	0.00	0.15	1.4209
7	Hexylbenzene	0.591	0.50	0.00	0.15	1.5620
8	Heptylbenzene	0.577	0.48	0.00	0.15	1.7029
9	Octylbenzene	0.579	0.48	0.00	0.15	1.8438
10	Nonylbenzene	0.578	0.48	0.00	0.15	1.9847
11	Decylbenzene	0.579	0.47	0.00	0.15	2.1256
12	Allylbenzene	0.717	0.60	0.00	0.22	1.0961
13	Cumene	0.602	0.49	0.00	0.16	1.1391
14	<i>t</i> -Butylbenzene	0.614	0.49	0.00	0.16	1.2800
15	<i>o</i> -Xylene	0.663	0.56	0.00	0.16	0.9980
16	<i>m</i> -Xylene	0.623	0.52	0.00	0.16	0.9980
17	<i>p</i> -Xylene	0.613	0.52	0.00	0.16	0.9980
18	Naphthalene	1.340	0.92	0.00	0.20	1.0854
19	1-Methylnaphthalene	1.344	0.90	0.00	0.20	1.2260
20	2-Methylnaphthalene	1.304	0.92	0.00	0.20	1.2260
21	1-Ethylnaphthalene	1.371	0.87	0.00	0.20	1.3670
22	2-Ethylnaphthalene	1.331	0.87	0.00	0.20	1.3670
23	Aniline	0.955	0.96	0.26	0.50	0.8162
24	<i>N,N</i> -dimethylaniline	0.957	0.84	0.00	0.47	1.0980
25	Phenylurea	1.110	1.40	0.77	0.77	1.0730
26	Pyridine	0.631	0.84	0.00	0.52	0.6753
27	2-ethylpyridine	0.613	0.70	0.00	0.49	0.9570
28	Indazole	1.180	1.25	0.54	0.34	0.9050
29	Carbazole	1.787	1.42	0.47	0.26	1.3150
30	Acridine	2.356	1.32	0.00	0.58	1.4130
31	Nicotinamide	1.010	1.09	0.63	1.00	0.9317
32	Caffeine	1.500	1.60	0.00	1.35	1.3630
33	<i>o</i> -Toluidine	0.966	0.92	0.23	0.45	0.9570
34	<i>m</i> -Toluidine	0.946	0.95	0.23	0.55	0.9570
35	<i>p</i> -Toluidine	0.923	0.95	0.23	0.52	0.9570
36	1-Naphtylamine	1.670	1.26	0.20	0.57	1.1850
37	Benzoic acid	0.730	0.90	0.59	0.40	0.9317
38	Isophthalic acid	0.940	1.46	1.14	0.77	1.1470
39	Trimesic acid	1.140	1.84	1.71	1.10	1.3623
40	1-Naphtoic acid	1.200	1.27	0.52	0.48	1.3007
41	1-Naphtylacetic acid	1.300	1.35	0.54	0.40	1.4416
42	Anisole	0.708	0.75	0.00	0.29	0.9160
43	Benzaldehyde	0.820	1.00	0.00	0.39	0.8730
44	Naphthylaldehyde	1.470	1.19	0.00	0.47	1.2420
45	Acetophenone	0.818	1.01	0.00	0.48	1.0139
46	Propiophenone	0.804	0.85	0.00	0.51	1.1548
47	Valerophenone	0.795	0.95	0.00	0.50	1.4366
48	<i>o</i> -Methylacetophenone	0.780	1.00	0.00	0.51	1.1550
49	<i>m</i> -Methylacetophenone	0.806	1.00	0.00	0.51	1.1550
50	<i>p</i> -Methylacetophenone	0.842	1.00	0.00	0.52	1.1550

51	Benzophenone	1.447	1.50	0.00	0.50	1.4810
52	Methylbenzoate	0.733	0.85	0.00	0.48	1.0726
53	Ethylbenzoate	0.689	0.85	0.00	0.46	1.2140
54	Propylbenzoate	0.675	0.80	0.00	0.46	1.3540
55	Butylbenzoate	0.668	0.80	0.00	0.46	1.4953
56	Benzylbenzoate	1.264	1.42	0.00	0.51	1.6804
57	Dimethylphthalate	0.780	1.41	0.00	0.88	1.4290
58	Diethylphthalate	0.729	1.40	0.00	0.88	1.7110
59	Dipropylphthalate	0.713	1.40	0.00	0.86	1.9924
60	Dibutylphthalate	0.700	1.40	0.00	0.86	2.2700
61	Naphthylacetate	1.130	1.25	0.00	0.62	1.4416
62	Coumarin	1.060	1.79	0.00	0.46	1.0620
63	Benzonitrile	0.742	1.11	0.00	0.33	0.8711
64	Cyanonaphthalene	1.190	1.25	0.00	0.41	1.2401
65	Naphthylacetonitrile	1.430	1.44	0.00	0.53	1.3810
66	Nitrobenzene	0.871	1.11	0.00	0.28	0.8906
67	Nitronaphthalene	1.600	1.51	0.00	0.29	1.2596
68	<i>o</i> -Nitrotoluene	0.866	1.11	0.00	0.28	1.0320
69	<i>m</i> -Nitrotoluene	0.874	1.10	0.00	0.25	1.0320
70	<i>p</i> -Nitrotoluene	0.870	1.11	0.00	0.28	1.0320
71	<i>o</i> -Nitrobenzylalcohol	1.059	1.11	0.45	0.65	1.0900
72	<i>m</i> -Nitrobenzylalcohol	1.064	1.35	0.44	0.64	1.0900
73	<i>p</i> -Nitrobenzylalcohol	1.064	1.39	0.44	0.62	1.0900
74	<i>o</i> -Nitrophenol	1.045	1.05	0.05	0.37	0.9490
75	<i>m</i> -Nitrophenol	1.050	1.57	0.79	0.23	0.9490
76	<i>p</i> -Nitrophenol	1.070	1.72	0.82	0.26	0.9490
77	Chlorobenzene	0.718	0.65	0.00	0.07	0.8288
78	Bromobenzene	0.882	0.73	0.00	0.09	0.8910
79	Iodobenzene	1.188	0.82	0.00	0.12	0.9750
80	1-Fluoronaphthalene	1.320	0.82	0.00	0.18	1.1030
81	1-Chloronaphthalene	1.540	0.92	0.00	0.15	1.2078
82	1-Bromonaphthalene	1.670	0.97	0.00	0.17	1.2604
83	1-Iodonaphthalène	1.840	1.04	0.00	0.20	1.3436
84	Phenylethan-1-ol	0.784	0.83	0.30	0.66	1.0570
85	Benzyl alcohol	0.803	0.87	0.39	0.56	0.9160
86	Naphthalene methanol	1.640	1.19	0.27	0.64	1.2850
87	Naphthalene ethanol	1.670	1.21	0.23	0.72	1.4259
88	Phenol	0.805	0.89	0.60	0.30	0.7751
89	Eugenol	0.946	0.99	0.22	0.51	1.3540
90	Vanillin	1.040	1.33	0.32	0.67	1.1313
91	Pyrocatechol	0.970	1.10	0.88	0.47	0.8338
92	Resorcinol	0.980	1.00	1.10	0.58	0.8340
93	Hydroquinone	1.000	1.00	1.16	0.60	0.8337
94	Phloroglucinol	1.355	1.12	1.40	0.82	0.8925
95	α -Naphthol	1.520	1.05	0.61	0.37	1.1441
96	β -Naphthol	1.520	1.08	0.61	0.40	1.1440
97	<i>o</i> -Chlorophenol	0.853	0.88	0.32	0.31	0.8975
98	<i>m</i> -Chlorophenol	0.909	1.06	0.69	0.15	0.8975
99	<i>p</i> -Chlorophenol	0.915	1.08	0.67	0.20	0.8975
100	<i>o</i> -Cresol	0.840	0.86	0.52	0.30	0.9160
101	<i>m</i> -Cresol	0.822	0.88	0.57	0.34	0.9160
102	<i>p</i> -Cresol	0.820	0.87	0.57	0.31	0.9160
103	2,3-Dimethylphenol	0.850	0.85	0.52	0.36	1.0569
104	2,4-Dimethylphenol	0.840	0.80	0.53	0.39	1.0570
105	2,5-Dimethylphenol	0.840	0.79	0.54	0.37	1.0570
106	2,6-Dimethylphenol	0.860	0.79	0.39	0.39	1.0570
107	3,4-Dimethylphenol	0.830	0.86	0.56	0.39	1.0570
108	3,5-Dimethylphenol	0.820	0.84	0.57	0.36	1.0570

109	<i>o</i> -Isopropylphenol	0.822	0.79	0.52	0.44	1.1978
110	<i>m</i> -Isopropylphenol	0.811	0.92	0.55	0.46	1.1978
111	<i>p</i> -Isopropylphenol	0.791	0.89	0.55	0.38	1.1978
112	Biphenyl	1.360	0.99	0.00	0.26	1.3242
113	1-Phenylnaphthalene	1.910	1.08	0.00	0.30	1.6932
114	Diphenylméthane	1.220	1.04	0.00	0.33	1.4651
115	Acenaphthene	1.604	1.05	0.00	0.22	1.1726
116	Acenaphthylene	1.750	1.14	0.00	0.26	1.2156
117	Fluorene	1.588	1.03	0.00	0.20	1.3570
118	Phenanthrene	2.055	1.29	0.00	0.26	1.4540
119	Anthracene	2.290	1.34	0.00	0.26	1.4540
120	9-Methylantracene	2.290	1.30	0.00	0.26	1.5950
121	Fluoranthene	2.377	1.53	0.00	0.20	1.5850
122	Pyrene	2.808	1.71	0.00	0.29	1.5850
123	Chrysene	3.027	1.73	0.00	0.36	1.8230
124	Benz[a]anthracene	2.992	1.70	0.00	0.33	1.8230
125	Tetracene	2.847	1.70	0.00	0.32	1.8230
126	Benzo[a]pyrene	3.625	1.98	0.00	0.44	1.9536
127	Perylene	3.256	1.76	0.00	0.42	1.9536
128	Binaphthyl	2.820	1.81	0.00	0.31	2.0622