TABLE VII
GC RETENTION TIMES OF PCB CONGENERS RELATIVE TO RT REFERENCE STANDARD ON A SP-2331 FUSED-SILICA CAPILLARY COLUMN

IUPAC	structure	RRT[a]	RRT[b]	RRT[c]	IUPAC	structure	RRT[a]	RRT[b]	RRT[c]
30	246	1.000	1.000	0.2357	67	245-3	1.321	1.531	0.3608
17	24-2	1.120	1.120	0.2640	61	2345	1.332	1.544	0.3639
19	26-2	1.125	1.125	0.2650	64	236-4	1.337	1.549	0.3651
18	25-2	1.132	1.132	0.2667	58	23-35	1.343	1.557	0.3668
23	235	1.142	1.142	0.2692	63	235-4	1.346	1.560	0.3676
34	35-2	1.148	1.148	0.2706	41	234-2	1.351	1.565	0.3689
29	245	1.163	1.163	0.2742	74	245-4	1.369	1.586	0.3738
24	236	1.165	1.165	0.2746	76	345-2	1.388	1.609	0.3791
27	26-3	1.169	1.169	0.2756	80	35-35	1.430	1.657	0.3906
32	26-4	1.202	1.202	0.2833	40	23-23	1.439	1.667	0.3929
25	24-3	1.231	1.231	0.2901	70	25-34	1.456	1.687	0.3977
26	25-3	1.247	1.247	0.2939	66	24-34	1.484	1.719	0.4052
16	23-2	1.260	1.260	0.2970	55	234-3	1.543	1.788	0.4215
28	24-4	1.268	1.268	0.2989	60	234-4	1.616	1.873	0.4414
31	25-4	1.279	1.279	0.3015	56	23-34	1.643	1.904	0.4488
21	234	1.329	1.329	0.3132	79	34-35	1.729	2.004	0.4722
33	34-2	1.352	1.352	0.3186	78	345-3	1.829	2.120	0.4995
20	23-3	1.383	1.383	0.3260	81	345-4	1.920	2.225	0.5244
36	35-3	1.405	1.405	0.3310	77	34-34	2.133	2.472	0.5826
22	23-4	1.427	1.427	0.3363	104	246-26	1.000	1.271	0.2996
39	35-4	1.457	1.457	0.3433	100	246-24	1.056	1.343	0.3164
38	345	1.500	1.500	0.3535	103	246-25	1.059	1.346	0.3172
35	34-3	1.683	1.683	0.3966	121	246-35	1.088	1.383	0.3260
37	34-4	1.772	1.772	0.4176	94	235-26	1.155	1.468	0.3460
50	246-2	1.000	1.159	0.2731	102	245-26	1.183	1.504	0.3545
69	246-3	1.077	1.248	0.2942	96	236-26	1.189	1.511	0.3562
54	26-26	1.091	1.264	0.2979	98	246-23	1.190	1.513	0.3565
73	26-35	1.098	1.272	0.2999	88	2346-2	1.214	1.543	0.3637
51	24-26	1.103	1.278	0.3011	93	2356-2	1.217	1.547	0.3647
53	25-26	1.108	1.284	0.3026	90	235-24	1.258	1.599	0.3769
75	246-4	1.120	1.298	0.3059	91	236-24	1.265	1.608	0.3790
43	235-2	1.137	1.317	0.3105	92	235-25	1.269	1.613	0.3802
47	24-24	1.138	1.319	0.3108	95	236-25	1.271	1.616	0.3809
62	2346	1.141	1.322	0.3115	99	245-24	1.279	1.626	0.3831
49	24-25	1.148	1.330	0.3136	101	245-25	1.292	1.642	0.3870
48	245-2	1.153	1.336	0.3148	113	236-35	1.308	1.663	0.3919
65	2356	1.157	1.341	0.3161	119	246-34	1.312	1.668	0.3931
52	25-25	1.160	1.344	0.3168	111	235-35	1.368	1.739	0.4099
45	236-2	1.187	1.376	0.3242	108	2346-3	1.377	1.750	0.4125
68	24-35	1.199	1.389	0.3273	112	2356-3	1.391	1.768	0.4166
72	25-35	1.210	1.402	0.3305	83	235-23	1.396	1.775	0.4183
46	23-26	1.249	1.448	0.3412	116	23456	1.401	1.782	0.4199
59	236-3	1.287	1.491	0.3514	89	234-26	1.407	1.788	0.4215
42	23-24	1.291	1.496	0.3525	125	345-26	1.407	1.788	0.4215
57	235-3	1.296	1.502	0.3540	84	236-23	1.413	1.796	0.4234
44	23-25	1.300	1.506	0.3549	120	245-35	1.432	1.821	0.4292
71	26-34	1.314	1.522	0.3587	115	2346-4	1.442	1.833	0.4320

TABLE VII (continued)
GC RETENTION TIMES OF PCB CONGENERS RELATIVE TO RT REFERENCE
STANDARD ON A SP-2331 FUSED-SILICA CAPILLARY COLUMN

IUPAC	structure	RRT[a]	RRT[b]	RRT[c]	IUPAC	structure	RRT[a]	RRT[b]	RRT[c]
86	2345-2	1.448	1.841	0.4340	160	23456-3	1.891	2.451	0.5775
97	245-23	1.461	1.858	0.4378	138	234-245	1.892	2.452	0.5778
117	2356-4	1.461	1.858	0.4379	158	2346-34	1.898	2.461	0.5799
85	234-24	1.515	1.927	0.4541	163	2356-34	1.916	2.483	0.5851
87	234-25	1.529	1.944	0.4580	159	2345-35	1.965	2.547	0.6002
110	236-34	1.607	2.043	0.4814	166	23456-4	1.997	2.588	0.6099
123	345-24	1.614	2.052	0.4836	129	2345-23	1.997	2.588	0.6100
107	234-35	1.636	2.081	0.4903	162	235-345	2.050	2.657	0.6262
124	345-25	1.639	2.084	0.4910	167	245-345	2.099	2.720	0.6411
109	235-34	1.674	2.129	0.5016	128	234-234	2.260	2.929	0.6903
106	2345-3	1.695	2.155	0.5080	156	2345-34	2.418	3.134	0.7386
118	245-34	1.714	2.179	0.5135	157	234-345	2.466	3.196	0.7532
82	234-23	1.748	2.222	0.5237	169	345-345	3.071	3.981	0.9382
114	2345-4	1.777	2.259	0.5324	188	2356-246	1.000	1.658	0.3907
122	345-23	1.845	2.345	0.5527	184	2346-246	1.018	1.687	0.3976
127	345-35	2.022	2.571	0.6059	179	2356-236	1.197	1.985	0.4679
105	234-34	2.031	2.582	0.6084	176	2346-236	1.222	2.025	0.4773
126	345-34	2.483	3.157	0.7440	186	23456-26	1.252	2.076	0.4891
155	246-246	1.000	1.296	0.3055	182	2345-246	1.280	2.122	0.5001
150	236-246	1.178	1.527	0.3599	178	2356-235	1.304	2.163	0.5096
148	235-246	1.200	1.555	0.3665	175	2346-235	1.312	2.175	0.5125
154	245-246	1.237	1.603	0.3778	187	2356-245	1.358	2.252	0.5307
152	2356-26	1.254	1.625	0.3830	183	2346-245	1.361	2.256	0.5318
145	2346-26	1.271	1.647	0.3881	185	23456-25	1.493	2.475	0.5832
136	236-236	1.421	1.842	0.4341	181	23456-24	1.502	2.490	0.5868
139	2346-24	1.421	1.842	0.4341	174	2345-236	1.560	2.586	0.6095
151	2356-25	1.424	1.846	0.4350	177	2356-234	1.615	2.678	0.6310
144	2346-25	1.425	1.847	0.4353	171	2346-234	1.625	2.694	0.6350
147	2356-24	1.426	1.848	0.4355	192	23456-35	1.682	2.788	0.6571
135	235-236	1.449	1.878	0.4427	172	2345-235	1.704	2.825	0.6658
140	234-246	1.462	1.895	0.4465	173	23456-23	1.705	2.827	0.6662
149	236-245	1.496	1.939	0.4570	180	2345-245	1.749	2.899	0.6832
133	235-235	1.523	1.974	0.4652	191	2346-345	1.784	2.958	0.6970
143	2345-26	1.524	1.976	0.4656	193	2356-345	1.798	2.980	0.7024
161	2346-35	1.529	1.981	0.4670	170	2345-234	2.063	3.421	0.8062
168	246-345	1.539	1.994	0.4700	190	23456-34	2.085	3.456	0.8146
165	2356-35	1.543	1.999	0.4712	189	2345-345	2.333	3.868	0.9115
146	235-245	1.560	2.022	0.4765					
142	23456-2	1.574	2.041	0.4809					
153	245-245	1.593	2.065	0.4867					
134	2356-23	1.621	2.101	0.4951					
131	2346-23	1.628	2.110	0.4973					
137	2345-24	1.743	2.259	0.5323					
141	2345-25	1.757	2.277	0.5367					
132	234-236	1.789	2.319	0.5465					
130	234-235	1.848	2.395	0.5645					
164	236-345	1.888	2.447	0.5767					

RRT[a]: relative to the RT of IUPAC #30
RRT[b]: relative to the RT of first elute isomer
RRT[c]: relative to the sum of IUPAC #52 and #180

	#	DB5MS RT	MCB	#	RT	DiCB	#	RT	TrCB	#	RT	TeCB	#	RT	PeCB	#	RT
2-	1	13.367	2-	1	13.367												
3-	2	14.280	3-	2	14.280												
4-	3	14.388	4-	3	14.388												
2,2'-	4	14.808				2,2'-	4	14.808									
2,6-	10	14.813				2,6-	10	14.813									
2,5-	9	15.390				2,5-	9	15.390									
2,4-	7	15.392				2,4-	7	15.392									
2,3'-	6	15.608				2,3'-	6	15.608									
2,3-	5	15.767				2,3-	5	15.767									
2,4'-	8	15.777				2,4'-	8	15.777									
3,5-	14	16.075				3,5-	14	16.075									
2,2',6-	19	16.180							2,2',6-	19	16.180						
2,4,6-	30	16.347							2,4,6-	30	16.347						
3,3'-	11	16.513				3,3'-	11	16.513									
3,4-	12	16.640				3,4-	12	16.640									
3,4'-	13	16.657				3,4'-	13	16.657									
2,2',5-	18	16.657							2,2',5-	18	16.657						
2,2',4-	17	16.708							2,2',4-	17	16.708						
4,4'-	15	16.798				4,4'-	15	16.798									
2,3',6-	27	16.855							2,3',6-	27	16.855						
2,3,6-	24	16.885							2,3,6-	24	16.885						
2,2',3-	16	17.052							2,2',3-	16	17.052						
2,4',6-	32	17.063							2,4',6-	32	17.063						
2',3,5-	34	17.220							2',3,5-	34	17.220						
2,3,5-	23	17.245							2,3,5-	23	17.245						
2,4,5-	29	17.325							2,4,5-	29	17.325						
2,2',6,6'-	54	17.342										2,2',6,6'-	54	17.342			
2,3',5-	26	17.455							2,3',5-	26	17.455						
2,3',4-	25	17.500							2,3',4-	25	17.500						
2,2',4,6-	50	17.572										2,2',4,6-	50	17.572			
2,4',5-	31	17.643							2,4',5-	31	17.643						
2,4,4'-	28	17.660							2,4,4'-	28	17.660						
2,2',5,6'-	53	17.818										2,2',5,6'-	53	17.818			
2,3,4-	21	17.820							2,3,4-	21	17.820						
2',3,4-	33	17.835							2',3,4-	33	17.835						
2,3,3'-	20	17.842							2,3,3'-	20	17.842						
2,2',4,6'-	51	17.925										2,2',4,6'-	51	17.925			
2,3,4'-	22	18.003							2,3,4'-	22	18.003						
2,2',3,6-	45	18.082										2,2',3,6-	45	18.082			
3,3',5-	36	18.125							3,3',5-	36	18.125						
2,2',3,6'-	46	18.223										2,2',3,6'-	46	18.223			
2,3',4,6-	69	18.265										2,3',4,6-	69	18.265			
2,3',5',6-	73	18.278										2,3',5',6-	73	18.278			
3,4',5-	39	18.310							3,4',5-	39	18.310						
2,2',5,5'-	52	18.345										2,2',5,5'-	52	18.345			
2,2',3,5-	43	18.363										2,2',3,5-	43	18.363			
2,2',4,5'-	49	18.417										2,2',4,5'-	49	18.417			
2,2',4,4'-	47	18.468										2,2',4,4'-	47	18.468			
2,2',4,5-	48	18.470										2,2',4,5-	48	18.470			
2,4,4',6-	75	18.475										2,4,4',6-	75	18.475			
3,4,5-	38	18.488							3,4,5-	38	18.488						
2,3,5,6-	65	18.523										2,3,5,6-	65	18.523			
2,3,4,6-	62	18.548										2,3,4,6-	62	18.548			
2,2',4,6,6'-	104	18.628													2,2',4,6,6'-	104	18.628
3,3',4-	35	18.707							3,3',4-	35	18.707						
2,2',3,5'-	44	18.733										2,2',3,5'-	44	18.733			
2,3,3',6-	59	18.767										2,3,3',6-	59	18.767			
2,2',3,4'-	42	18.802										2,2',3,4'-	42	18.802			
3,4,4'-	37	18.882							3,4,4'-	37	18.882						
2,3',5,5'-	72	18.912										2,3',5,5'-	72	18.912			
2,3',4',6-	71	18.945										2,3',4',6-	71	18.945			
2,3',4,5'-	68	18.980										2,3',4,5'-	68	18.980			
2,2',3,4-	41	18.982										2,2',3,4-	41	18.982			
2,3,4',6-	64	18.997										2,3,4',6-	64	18.997			
2,2',3,6,6'-	96	19.073													2,2',3,6,6'-	96	19.073
2,2',4,5',6-	103	19.105													2,2',4,5',6-	103	19.105
2,2',3,3'-	40	19.120										2,2',3,3'-	40	19.120			
2,3,3',5-	57	19.165										2,3,3',5-	57	19.165			
2,2',4,4',6-	100	19.217													2,2',4,4',6-	100	19.217
2,3',4,5-	67	19.243										2,3',4,5-	67	19.243			
2,3,3',5'-	58	19.297										2,3,3',5'-	58	19.297			
2,2',3,5,6'-	94	19.357													2,2',3,5,6'-	94	19.357
2,3,4',5-	63	19.365										2,3,4',5-	63	19.365			
2,3,4,5-	61	19.440										2,3,4,5-	61	19.440			
2,4,4',5-	74	19.453										2,4,4',5-	74	19.453			
2,2',4,5,6'-	102	19.507													2,2',4,5,6'-	102	19.507
2,2',3',4,6-	98	19.510													2,2',3',4,6-	98	19.510
2',3,4,5-	76	19.525										2',3,4,5-	76	19.525			
2,3',4',5-	70	19.543										2,3',4',5-	70	19.543			
2,2',3,5,6-	93	19.545													2,2',3,5,6-	93	19.545
2,3',4,5',6-	121	19.560													2,3',4,5',6-	121	19.560
2,2',3,5',6-	95	19.568													2,2',3,5',6-	95	19.568
3,3',5,5'-	80	19.583										3,3',5,5'-	80	19.583			
2,3',4,4'-	66	19.597										2,3',4,4'-	66	19.597			
2,2',3,4,6-	88	19.622													2,2',3,4,6-	88	19.622
2,2',3,4',6-	91	19.702													2,2',3,4',6-	91	19.702
2,3,3',4-	55	19.753										2,3,3',4-	55	19.753			
2,2',4,4',6,6'-	155	19.815															
2,2',3,5,5'-	92	19.895													2,2',3,5,5'-	92	19.895
2,3,3',4'-	56	19.912										2,3,3',4'-	56	19.912			
2,3,4,4'-	60	19.932										2,3,4,4'-	60	19.932			
2,2',3,3',6-	84	19.983													2,2',3,3',6-	84	19.983
2,2',3,4',5-	90	20.005													2,2',3,4',5-	90	20.005
2,2',4,5,5'-	101	20.018													2,2',4,5,5'-	101	20.018
2,2',3,4,6'-	89	20.037													2,2',3,4,6'-	89	20.037
2,3,3',5',6-	113	20.037													2,3,3',5',6-	113	20.037
2,2',4,4',5-	99	20.108													2,2',4,4',5-	99	20.108
3,3',4,5'-	79	20.185										3,3',4,5'-	79	20.185			
2,3',4,4',6-	119	20.212													2,3',4,4',6-	119	20.212
2,2',3,4',6,6'-	150	20.237															
2,3,3',5,6-	112	20.247													2,3,3',5,6-	112	20.247
2,2',3,3',5-	83	20.298													2,2',3,3',5-	83	20.298
2,3,3',4,5'-	108	20.308													2,3,3',4,5'-	108	20.308
3,3',4,5-	78	20.387										3,3',4,5-	78	20.387			
2,2',3,5,6,6'-	152	20.390															
2,2',3',4,5-	97	20.423													2,2',3',4,5-	97	20.423
2,2',3,4,5-	86	20.440													2,2',3,4,5-	86	20.440
2',3,4,5,6'-	125	20.442													2',3,4,5,6'-	125	20.442
2,3,3',5,5'-	111	20.475													2,3,3',5,5'-	111	20.475
2,3,4',5,6-	117	20.498													2,3,4',5,6-	117	20.498

2,2',3,4,6,6'-	145	20.513							
2,3,4,5,6-	116	20.528					2,3,4,5,6-	116	20.528
2,2',3,4',5,6'-	148	20.528							
2,3,4,4',6-	115	20.537					2,3,4,4',6-	115	20.537
2,2',3,4,5'-	87	20.547					2,2',3,4,5'-	87	20.547
3,4,4',5-	81	20.572	3,4,4',5-	81	20.572				
2,3',4,5,5'-	120	20.598					2,3',4,5,5'-	120	20.598
2,2',3,4,4'-	85	20.615					2,2',3,4,4'-	85	20.615
2,2',3,3',6,6'-	136	20.677							
2,2',4,4',5,6'-	154	20.687							
2,3,3',4',6-	110	20.707					2,3,3',4',6-	110	20.707
3,3',4,4'-	77	20.775	3,3',4,4'-	77	20.775				
2,2',3,5,5',6-	151	20.915							
2,2',3,3',4-	82	20.935					2,2',3,3',4-	82	20.935
2,2',3,3',5,6'-	135	20.992							
2,2',3,4,5',6-	144	21.003							
2,2',3,4',5,6-	147	21.065							
2',3,4,5,5'-	124	21.077					2',3,4,5,5'-	124	21.077
2,3,3',4',5-	107	21.117					2,3,3',4',5-	107	21.117
2,3,3',4,6-	109	21.127					2,3,3',4,6-	109	21.127
2,2',3,4',5',6-	149	21.143							
2,2',3,4,4',6-	139	21.152							
2',3,4,4',5-	123	21.162					2',3,4,4',5-	123	21.162
2,2',3,4,4',6'-	140	21.215							
2,3,3',4,5-	106	21.217					2,3,3',4,5-	106	21.217
2,3',4,4',5-	118	21.232					2,3',4,4',5-	118	21.232
2,2',3,4,5,6'-	143	21.320							
2,2',3,3',5,6-	134	21.340							
2,2',3,3',5,5'-	133	21.355							
2,3,3',5,5',6-	165	21.427							
2,2',3,3',4,6-	131	21.445							
2,3,4,4',5-	114	21.448					2,3,4,4',5-	114	21.448
2,2',3,4',5,6,6'-	188	21.452							
2',3,3',4,5-	122	21.462					2',3,3',4,5-	122	21.462
2,2',3,4,5,6-	142	21.470							
2,3,3',4,5',6-	161	21.495							
2,2',3,4',5,5'-	146	21.497							
2,2',3,4,4',6,6'-	184	21.618							
2,2',4,4',5,5'-	153	21.628							
2,3',4,4',5',6-	168	21.637							
2,2',3,3',4,6'-	132	21.710							
2,3,3',4,4'-	105	21.743					2,3,3',4,4'-	105	21.743
3,3',4,5,5'-	127	21.745					3,3',4,5,5'-	127	21.745
2,2',3,4,5,5'-	141	21.902							
2,2',3,3',5,6,6'-	179	21.907							
2,2',3,4,4',5-	137	22.025							
2,2',3,3',4,6,6'-	176	22.062							
2,2',3,3',4,5'-	130	22.068							
2,3,3',4',5',6-	164	22.148							
2,3,3',4',5,6-	163	22.155							
2,2',3,4,4',5'-	138	22.200							
2,3,3',4,5,6-	160	22.227							
2,3,3',4,4',6-	158	22.235							
2,2',3,4,5,6,6'-	186	22.270							
2,2',3,3',5,5',6-	178	22.305							
2,2',3,3',4,5-	129	22.362							
2,2',3,3',4,5',6-	175	22.432							
3,3',4,4',5-	126	22.447					3,3',4,4',5-	126	22.447
2,2',3,4,4',5,6'-	182	22.500							
2,2',3,4',5,5',6-	187	22.502							
2,3,4,4',5,6-	166	22.517							
2,3,3',4,5,5'-	159	22.575							
2,2',3,4,4',5',6-	183	22.632							
2,3,3',4',5,5'-	162	22.693							
2,2',3,3',4,4'-	128	22.807							
2,3',4,4',5,5'-	167	22.835							
2,2',3,4,5,5',6-	185	22.903							
2,2',3,3',4,5,6'-	174	23.070							
2,2',3,4,4',5,6-	181	23.097							
2,2',3,3',4',5,6-	177	23.188							
2,2',3,3',5,5',6,6'-	202	23.222							
2,2',3,3',4,4',6-	171	23.310							
2,3,3',4,4',5-	156	23.382							
2,2',3,3',4,5,5',6'-	201	23.432							
2,2',3,3',4,5,6-	173	23.450							
2,2',3,4,4',5,6,6'-	204	23.488							
2,3,3',4,4',5'-	157	23.508							
2,3,3',4,5,5',6-	192	23.557							
2,2',3,3',4,5,5'-	172	23.565							
2,2',3,3',4,4',6,6'-	197	23.633							
2,2',3,4,4',5,5'-	180	23.750							
2,3,3',4',5,5',6-	193	23.767							
2,3,3',4,4',5',6-	191	23.880							
2,2',3,3',4,5',6,6'-	200	24.065							
3,3',4,4',5,5'-	169	24.385							
2,2',3,3',4,4',5-	170	24.542							
2,3,3',4,4',5,6-	190	24.558							
2,2',3,3',4,5,5',6-	198	24.632							
2,2',3,3',4,5,6,6'-	199	24.718							
2,2',3,3',4,4',5',6-	196	24.893							
2,2',3,4,4',5,5',6-	203	24.898							
2,3,3',4,4',5,5'-	189	25.423							
2,2',3,3',4,5,5',6,6'-	208	25.747							
2,2',3,3',4,4',5,6-	195	25.862							
2,2',3,3',4,4',5,6,6'-	207	26.045							
2,2',3,3',4,4',5,5'-	194	26.565							
2,3,3',4,4',5,5',6-	205	26.723							
2,2',3,3',4,4',5,5',6,6'-	206	27.982							
2,2',3,3',4,4',5,5',6,6'-	209	29.363							

MCB	3
DiCB	12
TrCB	24
TeCB	42
PeCB	46
HxCB	42
HpCB	24
OcCB	12
NoCB	3
DeCB	1

HxCB	HxCB	HxCB	HpCB	HpCB	HpCB	OcCB	OcCB	OcCB	NoCB	NoCB	NoCB	DeCB	DeCB	DeCB
2,2',4,4',6,6'-	155	19.815												
2,2',3,4',6,6'-	150	20.237												
2,2',3,5,6,6'-	152	20.390												

2,2',3,4,6,6'-	145	20.513												
2,2',3,4',5,6'-	148	20.528												
2,2',3,3',6,6'-	136	20.677												
2,2',4,4',5,6'-	154	20.687												
2,2',3,5,5',6-	151	20.915												
2,2',3,3',5,6'-	135	20.992												
2,2',3,4,5',6-	144	21.003												
2,2',3,4',5,6-	147	21.065												
2,2',3,4',5',6-	149	21.143												
2,2',3,4,4',6-	139	21.152												
2,2',3,4,4',6'-	140	21.215												
2,2',3,4,5,6'-	143	21.320												
2,2',3,3',5,6-	134	21.340												
2,2',3,3',5,5'-	133	21.355												
2,3,3',5,5',6-	165	21.427												
2,2',3,3',4,6-	131	21.445												
			2,2',3,4',5,6,6'-	188	21.452									
2,2',3,4,5,6-	142	21.470												
2,3,3',4,5',6-	161	21.495												
2,2',3,4',5,5'-	146	21.497												
			2,2',3,4,4',6,6'-	184	21.618									
2,2',4,4',5,5'-	153	21.628												
2,3',4,4',5',6-	168	21.637												
2,2',3,3',4,6'-	132	21.710												
2,2',3,4,5,5'-	141	21.902												
			2,2',3,3',5,6,6'-	179	21.907									
2,2',3,4,4',5-	137	22.025												
			2,2',3,3',4,6,6'-	176	22.062									
2,2',3,3',4,5'-	130	22.068												
2,3,3',4',5',6-	164	22.148												
2,3,3',4',5,6-	163	22.155												
2,2',3,4,4',5'-	138	22.200												
2,3,3',4,5,6-	160	22.227												
2,3,3',4,4',6-	158	22.235												
			2,2',3,4,5,6,6'-	186	22.270									
			2,2',3,3',5,5',6-	178	22.305									
2,2',3,3',4,5-	129	22.362												
			2,2',3,3',4,5',6-	175	22.432									
			2,2',3,4,4',5,6'-	182	22.500									
			2,2',3,4',5,5',6-	187	22.502									
2,3,4,4',5,6-	166	22.517												
2,3,3',4,5,5'-	159	22.575												
			2,2',3,4,4',5',6-	183	22.632									
2,3,3',4',5,5'-	162	22.693												
2,2',3,3',4,4'-	128	22.807												
2,3',4,4',5,5'-	167	22.835												
			2,2',3,4,5,5',6-	185	22.903									
			2,2',3,3',4,5,6'-	174	23.070									
			2,2',3,4,4',5,6-	181	23.097									
			2,2',3,3',4',5,6-	177	23.188									
						2,2',3,3',5,5',6,6'-	202	23.222						
			2,2',3,3',4,4',6-	171	23.310									
2,3,3',4,4',5-	156	23.382												
						2,2',3,3',4,5,5',6'-	201	23.432						
			2,2',3,3',4,5,6-	173	23.450									
						2,2',3,4,4',5,6,6'-	204	23.488						
2,3,3',4,4',5'-	157	23.508												
			2,3,3',4,5,5',6-	192	23.557									
			2,2',3,3',4,5,5'-	172	23.565									
						2,2',3,3',4,4',6,6'-	197	23.633						
			2,2',3,4,4',5,5'-	180	23.750									
			2,3,3',4',5,5',6-	193	23.767									
			2,3,3',4,4',5',6-	191	23.880									
						2,2',3,3',4,5',6,6'-	200	24.065						
3,3',4,4',5,5'-	169	24.385												
			2,2',3,3',4,4',5-	170	24.542									
			2,3,3',4,4',5,6-	190	24.558									
						2,2',3,3',4,5,5',6-	198	24.632						
						2,2',3,3',4,5,6,6'-	199	24.718						
						2,2',3,3',4,4',5',6-	196	24.893						
						2,2',3,4,4',5,5',6-	203	24.898						
			2,3,3',4,4',5,5'-	189	25.423									
									2,2',3,3',4,5,5',6,6'-	208	25.747			
						2,2',3,3',4,4',5,6-	195	25.862						
									2,2',3,3',4,4',5,6,6'-	207	26.045			
						2,2',3,3',4,4',5,5'-	194	26.565						
						2,3,3',4,4',5,5',6-	205	26.723						
									2,2',3,3',4,4',5,5',6-	206	27.982			
												2,2',3,3',4,4',5,5',6,6'	209	29.363

ULTRA-2	min	RRT	HP5	sec	RRT	HP-1	sec	RRT	DB5MS	min	RRT
1	4.481	0.5834	1	795.4	0.8185	1	762.3	0.8123	1	13.36667	0.8177
2	5.214	0.6788	2	846.4	0.8710	2	813	0.8663	2	14.28	0.8736
3	5.301	0.6901	3	852	0.8767	3	817.5	0.8711	3	14.38833	0.8802
4	5.79	0.7538	4	880.7	0.9063	4	844.2	0.8995	4	14.80833	0.9059
10	5.795	0.7545	10	880.9	0.9065	10	846.2	0.9017	10	14.81333	0.9062
9	6.39	0.8319	9	913.1	0.9396	9	879.6	0.9372	9	15.39	0.9415
7	6.405	0.8339	7	914.1	0.9406	7	880.7	0.9384	7	15.39167	0.9416
6	6.681	0.8698	6	927.5	0.9544	6	892	0.9505	6	15.60833	0.9548
8	6.847	0.8914	8	935.1	0.9622	8	898.6	0.9575	5	15.76667	0.9645
5	6.882	0.8960	5	936.3	0.9635	5	898.7	0.9576	8	15.77667	0.9651
14	7.233	0.9417	14	952.9	0.9806	14	918.4	0.9786	14	16.075	0.9834
19	7.443	0.9690	19	960.8	0.9887	19	920.6	0.9809	19	16.18	0.9898
30	7.681	1.0000	30	971.8	1.0000	30	938.5	1.0000	30	16.34667	1.0000
11	7.817	1.0177	11	977.3	1.0057	11	939.6	1.0012	11	16.51333	1.0102
12	8.017	1.0437	12	983.9	1.0125	13	946.6	1.0086	12	16.64	1.0179
13	8.018	1.0439	13	984.1	1.0127	12	947.4	1.0095	13	16.65667	1.0189
18	8.112	1.0561	18	988.5	1.0172	18	951.8	1.0142	18	16.65667	1.0189
17	8.184	1.0655	17	991.7	1.0205	15	952.9	1.0153	17	16.70833	1.0221
15	8.194	1.0668	15	991.8	1.0206	17	955.2	1.0178	15	16.79833	1.0276
27	8.459	1.1013	27	1001.9	1.0310	27	965	1.0282	27	16.855	1.0311
24	8.479	1.1039	24	1001.9	1.0310	24	965.1	1.0283	24	16.885	1.0329
32	8.743	1.1383	32	1012.9	1.0423	16	973	1.0368	16	17.05167	1.0431
16	8.754	1.1397	16	1013	1.0424	32	975.1	1.0390	32	17.06333	1.0438
34	9.036	1.1764	34	1022.8	1.0525	54	987.2	1.0519	34	17.22	1.0534
23	9.077	1.1817	23	1024	1.0537	34	987.4	1.0521	23	17.245	1.0549
29	9.197	1.1974	29	1028.4	1.0582	23	988.6	1.0534	29	17.325	1.0598
54	9.236	1.2024	54	1029.6	1.0595	29	992.8	1.0579	54	17.34167	1.0608
26	9.351	1.2174	26	1033.9	1.0639	26	997.4	1.0628	26	17.455	1.0678
25	9.45	1.2303	25	1037.3	1.0674	25	999.5	1.0650	25	17.5	1.0705
31	9.654	1.2569	31	1043.9	1.0742	31	1005.1	1.0710	50	17.57167	1.0749
50	9.671	1.2591	50	1044	1.0743	28	1008.4	1.0745	31	17.64333	1.0793
28	9.709	1.2640	28	1045.1	1.0754	50	1008.8	1.0749	28	17.66	1.0803
21	10.061	1.3099	21	1056.2	1.0868	21	1017.3	1.0840	53	17.81833	1.0900
33	10.066	1.3105	33	1057.2	1.0879	20	1018.3	1.0850	21	17.82	1.0901
20	10.075	1.3117	20	1057.4	1.0881	53	1019.5	1.0863	33	17.835	1.0910
53	10.101	1.3151	53	1058.5	1.0892	33	1019.6	1.0864	20	17.84167	1.0914
51	10.284	1.3389	51	1064	1.0949	51	1026.1	1.0933	51	17.925	1.0965
22	10.363	1.3492	22	1066.2	1.0971	22	1026.3	1.0936	22	18.00333	1.1013
36	10.546	1.3730	45	1072.8	1.1039	45	1032.9	1.1006	45	18.08167	1.1061
45	10.564	1.3753	36	1072.9	1.1040	36	1036.4	1.1043	36	18.125	1.1088
46	10.874	1.4157	46	1081.7	1.1131	46	1040.5	1.1087	46	18.22333	1.1148
39	10.893	1.4182	39	1082.9	1.1143	39	1043.8	1.1122	69	18.265	1.1173
69	10.947	1.4252	69	1085	1.1165	52	1048.3	1.1170	73	18.27833	1.1181
52	11.014	1.4339	73	1087.1	1.1186	69	1049.6	1.1184	39	18.31	1.1201
73	11.039	1.4372	52	1087.2	1.1187	73	1050.7	1.1196	52	18.345	1.1222
43	11.173	1.4546	43	1090.6	1.1222	43	1054.3	1.1234	43	18.36333	1.1233
49	11.194	1.4574	49	1091.7	1.1234	49	1055	1.1241	49	18.41667	1.1266
38	11.292	1.4701	38	1094	1.1257	38	1057.3	1.1266	47	18.46833	1.1298
47	11.314	1.4730	47	1094.9	1.1267	47	1058.5	1.1279	48	18.47	1.1299
75	11.335	1.4757	75	1096.2	1.1280	75	1059.4	1.1288	75	18.475	1.1302
48	11.36	1.4790	48	1096.2	1.1280	48	1059.5	1.1289	38	18.48833	1.1310
65	11.487	1.4955	65	1099.5	1.1314	65	1063.9	1.1336	65	18.52333	1.1331
62	11.558	1.5048	62	1101.8	1.1338	62	1065.2	1.1350	62	18.54833	1.1347
104	11.696	1.5227	104	1106.1	1.1382	35	1065.2	1.1350	104	18.62833	1.1396
35	11.697	1.5228	35	1106.2	1.1383	104	1068.4	1.1384	35	18.70667	1.1443
44	11.867	1.5450	44	1110.6	1.1428	44	1070.5	1.1406	44	18.73333	1.1460
59	11.957	1.5567	59	1114	1.1463	37	1072.9	1.1432	59	18.76667	1.1480
42	12.017	1.5645	37	1115	1.1474	59	1073.8	1.1442	42	18.80167	1.1502
37	12.018	1.5646	42	1115	1.1474	42	1073.9	1.1443	37	18.88167	1.1551
72	12.194	1.5876	72	1120.4	1.1529	72	1084	1.1550	72	18.91167	1.1569
71	12.332	1.6055	71	1122.8	1.1554	71	1084.3	1.1554	71	18.945	1.1589
64	12.387	1.6127	64	1125	1.1576	64	1085	1.1561	68	18.98	1.1611
41	12.405	1.6150	41	1125	1.1576	41	1085	1.1561	41	18.98167	1.1612
68	12.409	1.6155	68	1126	1.1587	96	1089.3	1.1607	64	18.99667	1.1621
96	12.599	1.6403	96	1130.6	1.1634	68	1089.5	1.1609	96	19.07333	1.1668
103	12.724	1.6566	103	1133.9	1.1668	40	1092.8	1.1644	103	19.105	1.1687
40	12.742	1.6589	40	1134	1.1669	103	1099.4	1.1714	40	19.12	1.1696
57	12.776	1.6633	57	1136.2	1.1692	57	1099.6	1.1717	57	19.165	1.1724
100	12.97	1.6886	67	1140.5	1.1736	67	1104	1.1763	100	19.21667	1.1755
67	12.971	1.6887	100	1140.6	1.1737	100	1104.1	1.1765	67	19.24333	1.1772
58	13.113	1.7072	58	1145	1.1782	58	1104.9	1.1773	58	19.29667	1.1804
63	13.216	1.7206	63	1147.3	1.1806	63	1107.1	1.1796	94	19.35667	1.1841
94	13.333	1.7358	94	1150.5	1.1839	74	1112.7	1.1856	63	19.365	1.1846
74	13.391	1.7434	74	1151.6	1.1850	94	1112.8	1.1857	61	19.44	1.1892
61	13.439	1.7496	61	1152.6	1.1860	61	1113.9	1.1869	74	19.45333	1.1900
70	13.552	1.7644	70	1155	1.1885	70	1116.5	1.1897	102	19.50667	1.1933
76	13.616	1.7727	76	1157.2	1.1908	76	1119.4	1.1928	98	19.51	1.1935
98	13.632	1.7748	102	1158.2	1.1918	98	1119.4	1.1928	76	19.525	1.1944
102	13.65	1.7771	98	1158.3	1.1919	66	1120.5	1.1939	70	19.54333	1.1955
80	13.652	1.7774	80	1158.4	1.1920	102	1120.6	1.1940	93	19.545	1.1956
66	13.719	1.7861	66	1159.5	1.1931	95	1121.8	1.1953	121	19.56	1.1965
93	13.744	1.7894	93	1160.6	1.1943	93	1122.7	1.1963	95	19.56833	1.1971
95	13.754	1.7907	95	1161.7	1.1954	80	1124.8	1.1985	80	19.58333	1.1980
121	13.84	1.8018	121	1163.8	1.1976	88	1126.3	1.2001	66	19.59667	1.1988
88	13.909	1.8108	88	1165	1.1988	91	1127.1	1.2010	88	19.62167	1.2003
91	14.042	1.8281	91	1168.3	1.2022	55	1128.2	1.2021	91	19.70167	1.2052
55	14.111	1.8371	55	1170.6	1.2046	121	1129.5	1.2035	55	19.75333	1.2084
155	14.364	1.8701	155	1177.1	1.2113	56	1136	1.2104	155	19.815	1.2121
56	14.482	1.8854	56	1179.3	1.2135	60	1136.1	1.2105	92	19.895	1.2170
60	14.518	1.8901	60	1179.3	1.2135	155	1141.7	1.2165	56	19.91167	1.2181
92	14.532	1.8919	92	1179.4	1.2136	84	1142.7	1.2176	60	19.93167	1.2193
84	14.718	1.9162	84	1185	1.2194	92	1143.1	1.2180	84	19.98333	1.2224
101	14.789	1.9254	101	1187.1	1.2215	89	1146.1	1.2212	90	20.005	1.2238
90	14.81	1.9281	90	1187.2	1.2217	90	1149.3	1.2246	101	20.01833	1.2246
89	14.82	1.9294	89	1188.3	1.2228	101	1150.6	1.2260	89	20.03667	1.2257
113	14.954	1.9469	113	1190.6	1.2251	113	1153.8	1.2294	113	20.03667	1.2257
99	15.04	1.9581	99	1192.8	1.2274	99	1154.9	1.2306	99	20.10833	1.2301
79	15.099	1.9658	79	1193.9	1.2285	79	1155.1	1.2308	79	20.185	1.2348
119	15.349	1.9983	119	1200.4	1.2352	119	1162.8	1.2390	119	20.21167	1.2364
150	15.384	2.0029	150	1200.5	1.2353	150	1162.9	1.2391	150	20.23667	1.2379
112	15.455	2.0121	112	1202.7	1.2376	112	1163.7	1.2400	112	20.24667	1.2386
83	15.563	2.0262	108	1205	1.2400	83	1164.8	1.2411	83	20.29833	1.2417
108	15.582	2.0286	83	1205	1.2400	78	1164.9	1.2412	108	20.30833	1.2423
78	15.582	2.0286	78	1206	1.2410	108	1167.4	1.2439	78	20.38667	1.2471

152	15.746	2.0500	152	1209.3	1.2444	152	1169.4	1.2460	152	20.39	1.2473
97	15.815	2.0590	97	1210.5	1.2456	97	1170.8	1.2475	97	20.42333	1.2494
86	15.873	2.0665	86	1211.6	1.2468	86	1173.8	1.2507	86	20.44	1.2504
125	15.924	2.0732	125	1213.8	1.2490	125	1174.9	1.2519	125	20.44167	1.2505
111	15.968	2.0789	111	1214.8	1.2501	81	1175.1	1.2521	111	20.475	1.2525
117	16.032	2.0872	117	1216.1	1.2514	117	1175.9	1.2530	117	20.49833	1.2540
145	16.056	2.0904	87	1216.1	1.2514	87	1176	1.2531	145	20.51333	1.2549
87	16.065	2.0915	116	1217	1.2523	115	1177.4	1.2546	116	20.52833	1.2558
81	16.066	2.0917	145	1217.2	1.2525	145	1178.2	1.2554	148	20.52833	1.2558
116	16.105	2.0967	81	1217.2	1.2525	111	1178.3	1.2555	115	20.53667	1.2563
115	16.122	2.0989	115	1217.2	1.2525	85	1179.3	1.2566	87	20.54667	1.2569
148	16.216	2.1112	148	1220.4	1.2558	116	1180.6	1.2580	81	20.57167	1.2584
120	16.224	2.1122	120	1220.5	1.2559	136	1182.8	1.2603	120	20.59833	1.2601
85	16.28	2.1195	85	1221.5	1.2569	120	1183.7	1.2613	85	20.615	1.2611
136	16.403	2.1355	136	1224.9	1.2604	77	1184.2	1.2618	136	20.67667	1.2649
110	16.54	2.1534	110	1227	1.2626	148	1184.8	1.2624	154	20.68667	1.2655
77	16.542	2.1536	77	1227.2	1.2628	110	1186.1	1.2638	110	20.70667	1.2667
154	16.572	2.1575	154	1228.2	1.2638	154	1193.8	1.2720	77	20.775	1.2709
82	17.099	2.2261	82	1240.5	1.2765	82	1196	1.2744	151	20.915	1.2794
151	17.134	2.2307	151	1241.5	1.2775	151	1203.9	1.2828	82	20.935	1.2807
135	17.348	2.2586	135	1246.1	1.2823	135	1208.1	1.2873	135	20.99167	1.2841
144	17.385	2.2634	144	1246.1	1.2823	124	1208.2	1.2874	144	21.00333	1.2848
124	17.394	2.2645	124	1247.2	1.2834	144	1209.3	1.2885	147	21.065	1.2886
147	17.539	2.2834	147	1250.5	1.2868	107	1209.4	1.2887	124	21.07667	1.2893
109	17.583	2.2892	109	1251.5	1.2878	109	1210.5	1.2898	107	21.11667	1.2918
107	17.586	2.2895	107	1251.5	1.2878	147	1211.7	1.2911	109	21.12667	1.2924
123	17.71	2.3057	123	1253.7	1.2901	123	1212.6	1.2921	149	21.14333	1.2934
149	17.728	2.3080	139	1254.8	1.2912	149	1214.8	1.2944	139	21.15167	1.2939
139	17.752	2.3112	149	1254.9	1.2913	139	1214.9	1.2945	123	21.16167	1.2945
118	17.825	2.3207	118	1255.9	1.2923	118	1215.9	1.2956	140	21.215	1.2978
106	17.832	2.3216	106	1255.9	1.2923	106	1216.1	1.2958	106	21.21667	1.2979
140	17.892	2.3294	140	1257.1	1.2936	140	1218.6	1.2985	118	21.23167	1.2988
143	18.181	2.3670	143	1263.8	1.3005	143	1224.8	1.3051	143	21.32	1.3042
134	18.256	2.3768	134	1266	1.3027	134	1226	1.3063	134	21.34	1.3054
133	18.335	2.3871	133	1267	1.3038	114	1227	1.3074	133	21.355	1.3064
114	18.396	2.3950	114	1268.3	1.3051	122	1229.3	1.3099	165	21.42667	1.3107
131	18.474	2.4052	122	1270.5	1.3074	131	1230.4	1.3110	131	21.445	1.3119
122	18.505	2.4092	131	1270.5	1.3074	133	1231.6	1.3123	114	21.44833	1.3121
142	18.532	2.4127	142	1271.6	1.3085	142	1232.8	1.3136	188	21.45167	1.3123
165	18.565	2.4170	165	1272.6	1.3095	165	1236	1.3170	122	21.46167	1.3129
188	18.619	2.4240	188	1273.8	1.3108	146	1237	1.3181	142	21.47	1.3134
146	18.659	2.4292	146	1274.8	1.3118	188	1237.3	1.3184	161	21.495	1.3149
161	18.752	2.4413	161	1276	1.3130	161	1239.2	1.3204	146	21.49667	1.3150
153	18.955	2.4678	153	1281.5	1.3187	105	1240.4	1.3217	184	21.61833	1.3225
184	18.959	2.4683	184	1281.5	1.3187	132	1240.5	1.3218	153	21.62833	1.3231
132	19.09	2.4854	168	1282.7	1.3199	184	1243.7	1.3252	168	21.63667	1.3236
168	19.099	2.4865	132	1283.6	1.3208	153	1243.8	1.3253	132	21.71	1.3281
127	19.136	2.4913	127	1284.9	1.3222	127	1246	1.3277	105	21.74333	1.3301
105	19.158	2.4942	105	1284.9	1.3222	168	1247.4	1.3291	127	21.745	1.3302
141	19.603	2.5521	141	1294.7	1.3323	141	1256	1.3383	141	21.90167	1.3398
179	19.692	2.5637	179	1297.1	1.3347	179	1258	1.3404	179	21.90667	1.3401
137	19.966	2.5994	137	1301.6	1.3394	137	1261.5	1.3442	137	22.025	1.3473
176	20.056	2.6111	176	1304.9	1.3428	130	1263.9	1.3467	176	22.06167	1.3496
130	20.098	2.6166	130	1304.9	1.3428	176	1264.8	1.3477	130	22.06833	1.3500
164	20.329	2.6467	164	1310.3	1.3483	138	1268.1	1.3512	164	22.14833	1.3549
163	20.355	2.6500	163	1310.4	1.3484	164	1269.3	1.3525	163	22.155	1.3553
138	20.378	2.6530	138	1311.5	1.3496	163	1269.5	1.3527	138	22.2	1.3580
160	20.458	2.6635	160	1312.6	1.3507	158	1272.5	1.3559	160	22.22667	1.3597
158	20.498	2.6687	158	1313.8	1.3519	186	1273.7	1.3572	158	22.235	1.3602
186	20.522	2.6718	186	1314.8	1.3530	160	1273.8	1.3573	186	22.27	1.3623
129	20.78	2.7054	129	1319.1	1.3574	126	1277	1.3607	178	22.305	1.3645
126	20.814	2.7098	178	1319.3	1.3576	129	1277.1	1.3608	129	22.36167	1.3679
178	20.822	2.7108	126	1320.4	1.3587	178	1283	1.3671	175	22.43167	1.3722
175	21.092	2.7460	175	1326	1.3645	166	1284.9	1.3691	126	22.44667	1.3731
166	21.115	2.7490	166	1326.9	1.3654	175	1289.3	1.3738	182	22.5	1.3764
187	21.239	2.7651	187	1329.3	1.3679	159	1290.2	1.3747	187	22.50167	1.3765
182	21.245	2.7659	159	1329.3	1.3679	187	1291.4	1.3760	166	22.51667	1.3774
159	21.252	2.7668	182	1329.3	1.3679	182	1292.6	1.3773	159	22.575	1.3810
183	21.512	2.8007	162	1334.7	1.3734	128	1293.9	1.3787	183	22.63167	1.3845
162	21.535	2.8037	183	1334.9	1.3736	162	1294.9	1.3798	162	22.69333	1.3882
128	21.792	2.8371	128	1340.4	1.3793	183	1297.2	1.3822	128	22.80667	1.3952
167	21.839	2.8432	167	1341.4	1.3803	167	1301.4	1.3867	167	22.835	1.3969
185	22.058	2.8718	185	1346	1.3851	185	1306.9	1.3925	185	22.90333	1.4011
174	22.452	2.9231	174	1353.6	1.3929	174	1312.6	1.3986	174	23.07	1.4113
181	22.532	2.9335	181	1355.8	1.3951	181	1314.7	1.4009	181	23.09667	1.4129
177	22.735	2.9599	177	1360.2	1.3997	177	1317.1	1.4034	177	23.18833	1.4185
202	22.913	2.9831	202	1362.6	1.4021	171	1322.5	1.4092	202	23.22167	1.4205
171	22.969	2.9904	171	1364.8	1.4044	156	1322.6	1.4093	171	23.31	1.4259
156	23.032	2.9986	156	1365.9	1.4055	202	1326.3	1.4132	156	23.38167	1.4303
173	23.278	3.0306	173	1371.3	1.4111	157	1326.9	1.4139	201	23.43167	1.4334
201	23.332	3.0376	201	1371.4	1.4112	173	1329.3	1.4164	173	23.45	1.4345
157	23.335	3.0380	157	1371.5	1.4113	201	1333.6	1.4210	204	23.48833	1.4369
204	23.419	3.0490	204	1373.7	1.4136	204	1336.9	1.4245	157	23.50833	1.4381
172	23.585	3.0706	192	1376.9	1.4169	172	1337.1	1.4247	192	23.55667	1.4410
192	23.608	3.0736	172	1377.1	1.4171	192	1340.4	1.4282	172	23.565	1.4415
197	23.725	3.0888	197	1379.2	1.4192	197	1340.5	1.4283	197	23.63333	1.4457
180	23.925	3.1148	180	1383.6	1.4237	180	1342.5	1.4305	180	23.75	1.4529
193	24.054	3.1316	193	1385.9	1.4261	193	1345.8	1.4340	193	23.76667	1.4539
191	24.278	3.1608	191	1390.3	1.4306	191	1350.4	1.4389	191	23.88	1.4608
200	24.543	3.1953	200	1396.9	1.4374	200	1355.9	1.4448	200	24.065	1.4721
169	24.999	3.2547	169	1404.6	1.4454	169	1362.6	1.4519	169	24.385	1.4917
170	25.478	3.3170	170	1413.7	1.4547	170	1369.5	1.4592	170	24.54167	1.5013
190	25.515	3.3218	190	1414.7	1.4558	190	1372.5	1.4624	190	24.55833	1.5023
198	25.758	3.3535	198	1420.3	1.4615	198	1381.4	1.4719	198	24.63167	1.5068
199	25.938	3.3769	199	1422.6	1.4639	199	1384.7	1.4754	199	24.71833	1.5121
203	26.205	3.4117	203	1429.2	1.4707	203	1390.1	1.4812	196	24.89333	1.5228
196	26.239	3.4161	196	1429.2	1.4707	196	1390.3	1.4814	203	24.89833	1.5231
189	26.998	3.5149	189	1443.6	1.4855	189	1401.3	1.4931	189	25.42333	1.5552
208	27.803	3.6197	208	1459.2	1.5015	195	1415.9	1.5087	208	25.74667	1.5750
195	27.892	3.6313	195	1460.2	1.5026	208	1420.4	1.5135	195	25.86167	1.5820
207	28.292	3.6834	207	1466.9	1.5095	207	1427.1	1.5206	207	26.045	1.5933
194	29.172	3.7979	194	1480.2	1.5232	194	1437.9	1.5321	194	26.565	1.6251
205	29.506	3.8414	205	1485.8	1.5289	205	1444.6	1.5393	205	26.72333	1.6348
206	31.893	4.1522	206	1520.1	1.5642	206	1478	1.5749	206	27.98167	1.7117
209	34.535	4.4962	209	1554.5	1.5996	209	1509	1.6079	209	29.36333	1.7963

資料　PCB, Pesticides などの分析法

Environmental Health & Safety Online　　http://www.ehso.com/RSSGuide.htm

STATDATE MEDIA DCS CFR EPA CHEMICAL or METHOD NAME NUMBER
0505 Organohalide Pesticides & PCB products CD-500s 01/01/1989
0505 Organohalide Pesticides & PCB Products by GC 600/R-95-131 CD-1DWS 08/01/1995
0505 Organohalide Pesticides & PCB Products in Water 821/R-93-010-B CD-PESTV 01/01/1989
0508A PCBs screening by perchlorination & GC CD-500s 01/01/1989
0608 PCBs & Organochlorine Pesticides ostwater/Tools 136 App A CD-40_136
0617 Pesticides, Organohalide & PCBs in WW 821/R-93-010-A CD-PESTV 06/01/1993
0680 PCBs & Pesticides in Water/Soil/Sediment - GC/MS 01A0005295
0680 Pesticides & PCBs in water & soil/sediment -GCMS CD-98-Stan 11/01/1985
1668 PCBs in Water, Soil - Isotope Dilution HRGC/HRMS 821/R-97-001 CD-98-1600 03/01/1997
3562 SFE of PCBs & Orgaochlorine Pesticides (OCPs) SW-846 Ch 4.2.1 Update IVA www 01/01/1998
4020 PCBs Screening by Immunoassay SW-846 Ch 4.4 www 12/01/1996
4425 PCBs, Dioxins/Furans by Immunoassay kit - RGS Sw-846 www Update IVB pre release www 09/01/1999
8080A* Organochlorine Pesticides & PCBs by GC deleted 12/01/1996
8082 PCBs by Cap Column GC SW-846 Ch 4.3.1 www 12/01/1996
8082A PCBs by GC SW-846 www Update IVB pre release www 05/01/1999
8275A PAHs and PCBs in Soils/Sludges by TE/GC/MS SW-846 Ch 4.3.2 www 12/01/1996
9078 PCBs in Soil Screening Test SW-846 Ch 4.5 www 12/01/1996
9079 PCBs in Transformer Oil Screening Test SW-846 Ch 4.5 www 12/01/1996
FIELD PCBs - Field Screening by SPE Membranes 540/R-94-519 10/01/1994
FM-18 PCB - GC On-Site Lab Hexane/Methanol/H20 Extr 540/2-88-005 09/01/1988
FM-19 PCB - GC On-Site Lab Hexane Extraction 540/2-88-005 09/01/1988
FM-20 PCB - GC On-Site Lab Hexane/Methanol Extraction 540/2-88-005 09/01/1988
FM-21 PCB - GC On-Site Lab Hexane/Acetone Extraction 540/2-88-005 09/01/1988
LMMB(28 Lake Michigan Mass Balance - Organic (PCB, PAH) www.epa.go OST/Method CD-98-GLN
PCB PCBs in Transformer Fluid and Waste Oils 600/4-81-045
PCBs PCBs in Fish 600/3-90-023 03/01/1990
PCBs Polychlorinated Biphenyls in Fish 600/3-90-023 03/01/1990
TO-04 Organochlorine Pesticides and PCBs - High VolPUF 600/4-89-017 TTN-AMTI
TO-04A Pesticides and PCBs by high volume PUF & GC/MD 625/R-96-010b TTN-AMTI 01/01/1999
TO-09A PCBs and TCDD and Dibenzofurans 625/R-96-010b TTN-AMTI 01/01/1999
TO-10A Pesticides & PCBs by low volume PUF & GC/MD 625/R-96-010b TTN-AMTI 01/01/1999
LMMB(28 Lake Michigan Mass Balance - Organic (PCB, PAH) www.epa.go OST/Method CD-98-GLN
8080A* Organochlorine Pesticides & PCBs by GC deleted 12/01/1996
TO-04 Organochlorine Pesticides and PCBs - High VolPUF 600/4-89-017 TTN-AMTI
0505 Organohalide Pesticides & PCB products CD-500s 01/01/1989
0505 Organohalide Pesticides & PCB Products by GC 600/R-95-131 CD-1DWSU 08/01/1995
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8275A PAHs and PCBs in Soils/Sludges by TE/GC/MS SW-846 Ch 4.3. www 12/01/1996
FM-19 PCB - GC On-Site Lab Hexane Extraction 540/2-88-005 09/01/1988
FM-21 PCB - GC On-Site Lab Hexane/Acetone Extraction 540/2-88-005 09/01/1988
FM-20 PCB - GC On-Site Lab Hexane/Methanol Extraction 540/2-88-005 09/01/1988
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0608 PCBs & Organochlorine Pesticides ostwater/Tools 136 App A CD-40_136
0680 PCBs & Pesticides in Water/Soil/Sediment - GC/MS 01A0005295
TO-09A PCBs and TCDD and Dibenzofurans 625/R-96-010b TTN-AMTI 01/01/1999
8082 PCBs by Cap Column GC SW-846 Ch 4.3. www 12/01/1996
8082A PCBs by GC SW-846 www Update IVB pre release www 05/01/1999
PCBs PCBs in Fish 600/3-90-023 03/01/1990
9078 PCBs in Soil Screening Test SW-846 Ch 4.5 www 12/01/1996
PCB PCBs in Transformer Fluid and Waste Oils 600/4-81-045
9079 PCBs in Transformer Oil Screening Test SW-846 Ch 4.5 www 12/01/1996
1668 PCBs in Water, Soil - Isotope Dilution HRGC/HRMS 821/R-97-001 CD-98-1600 03/01/1997
4020 PCBs Screening by Immunoassay SW-846 Ch 4.4 www 12/01/1996
0508A PCBs screening by perchlorination & GC CD-500s 01/01/1989
4425 PCBs, Dioxins/Furans by Immunoassay kit - RGS Sw-846 www Update IVB pre release www 09/01/1999
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0680 Pesticides & PCBs in water & soil/sediment -GCMS CD-98-Stan 11/01/1985
TO-04A Pesticides and PCBs by high volume PUF & GC/MD 625/R-96-010b TTN-AMTI 01/01/1999
0617 Pesticides, Organohalide & PCBs in WW 821/R-93-010-A CD-PESTV 06/01/1993
PCBs Polychlorinated Biphenyls in Fish 600/3-90-023 03/01/1990
3562 SFE of PCBs & Orgaochlorine Pesticides (OCPs) SW-846 Ch 4.2. Update IVA www 01/01/1998
01A0005295 Determination of Pesticides and PCBs in Water and Oil/Sediment by Gas Chromatography/Mass Spectrometry: Method 680. November 1985 (CD ROM)