

Supporting information

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Figure SI-1



Figure SI-2.

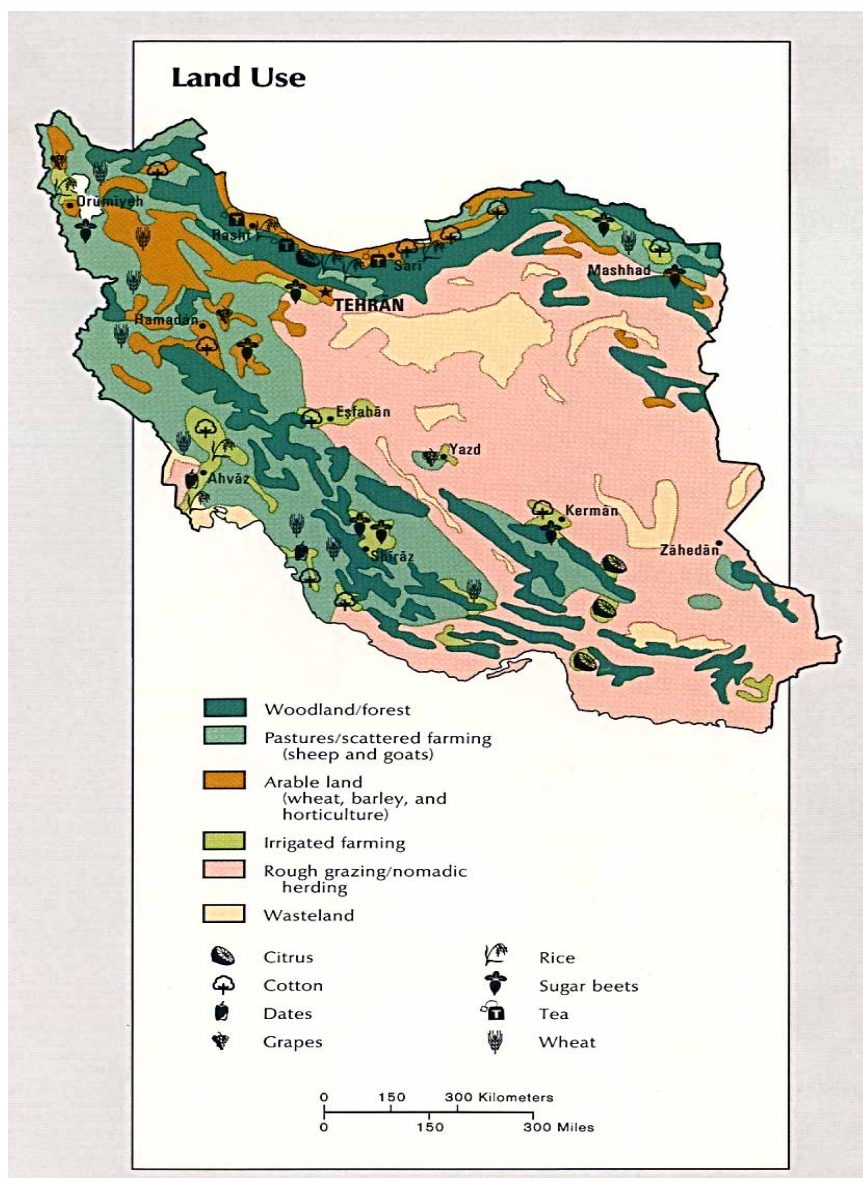
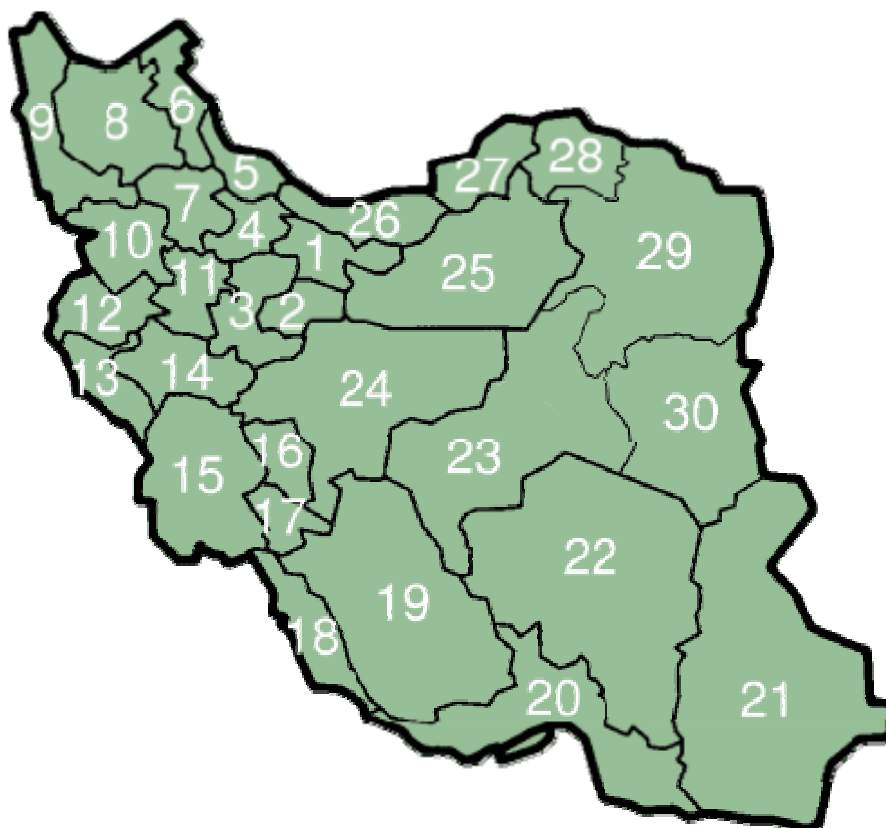


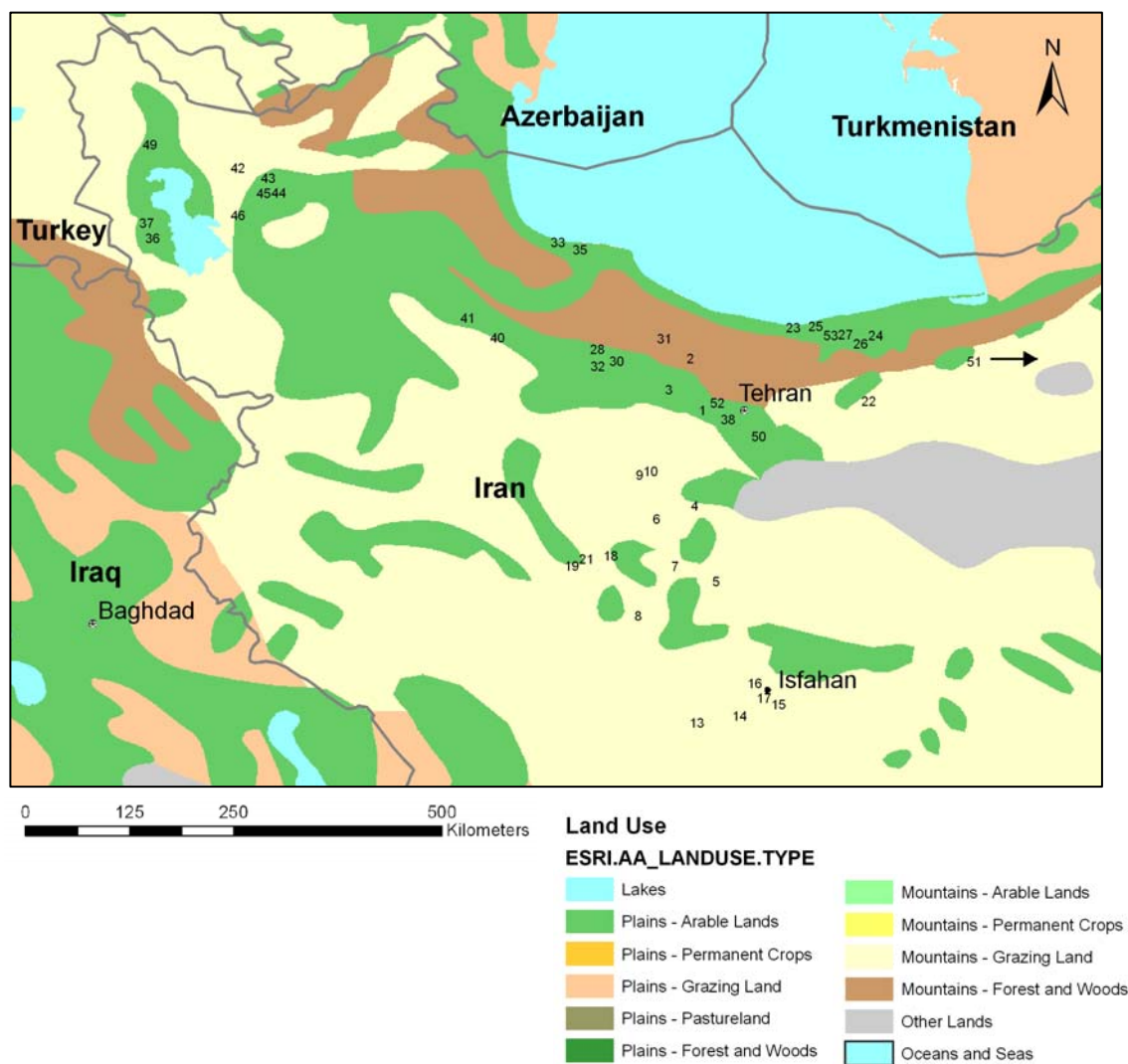
Figure SI-3.



Map accessed from <http://en.wikipedia.org/wiki/Iran> on 18.08.2007

Numbers in the map refer to individual provinces. The study area includes the provinces of E.Azarbaijan (8), W.Azarbaijan (9), Zanjan (7), Gilan (5), Ghazvin (4), Mazandaran (26), Tehran (1), Markazi (3), Qom (2), Isfahan (24), Chaharmahal and Bakhtiari (16), Razavi Khorasan (29).

Figure SI-4.



Some of the sampling sites overlap due to their proximity to each other (e.g., site 20 in vicinity of sites 19 and 21); site 51 is outside the area shown in this map (see Figure 1).

Figure SI-5.

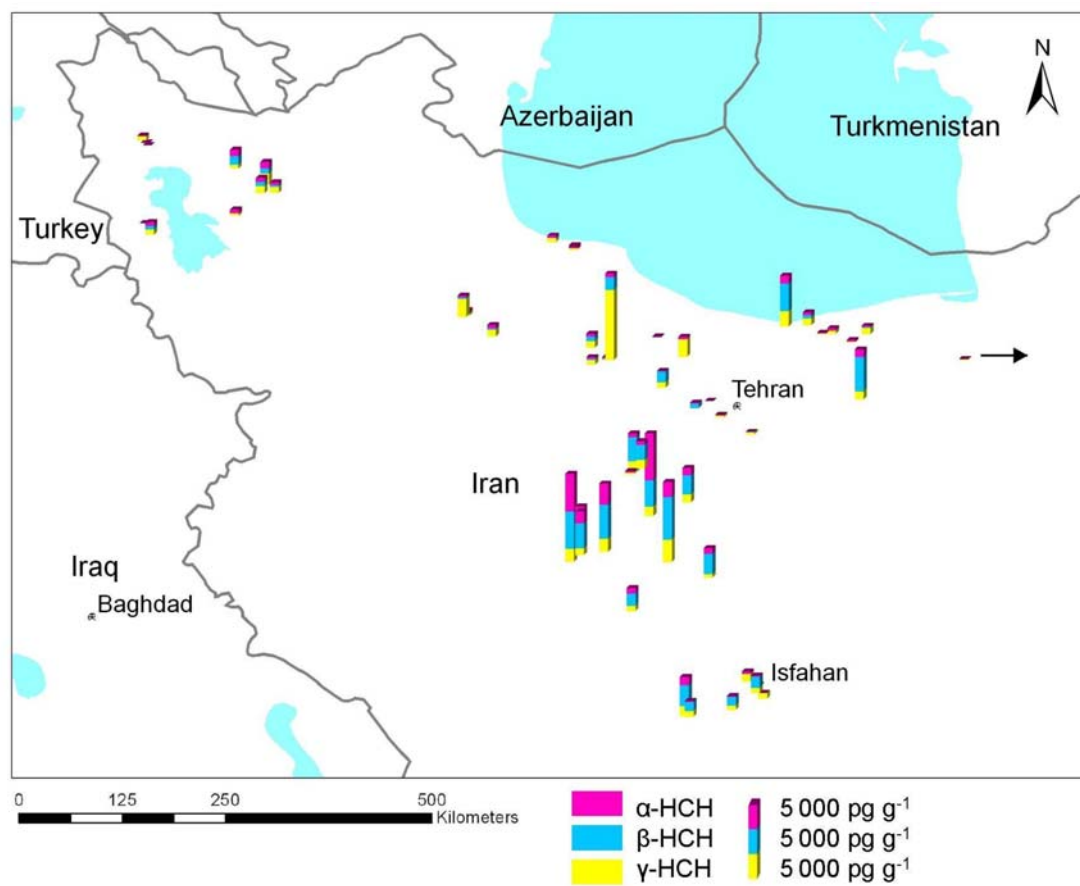


Figure SI-6.

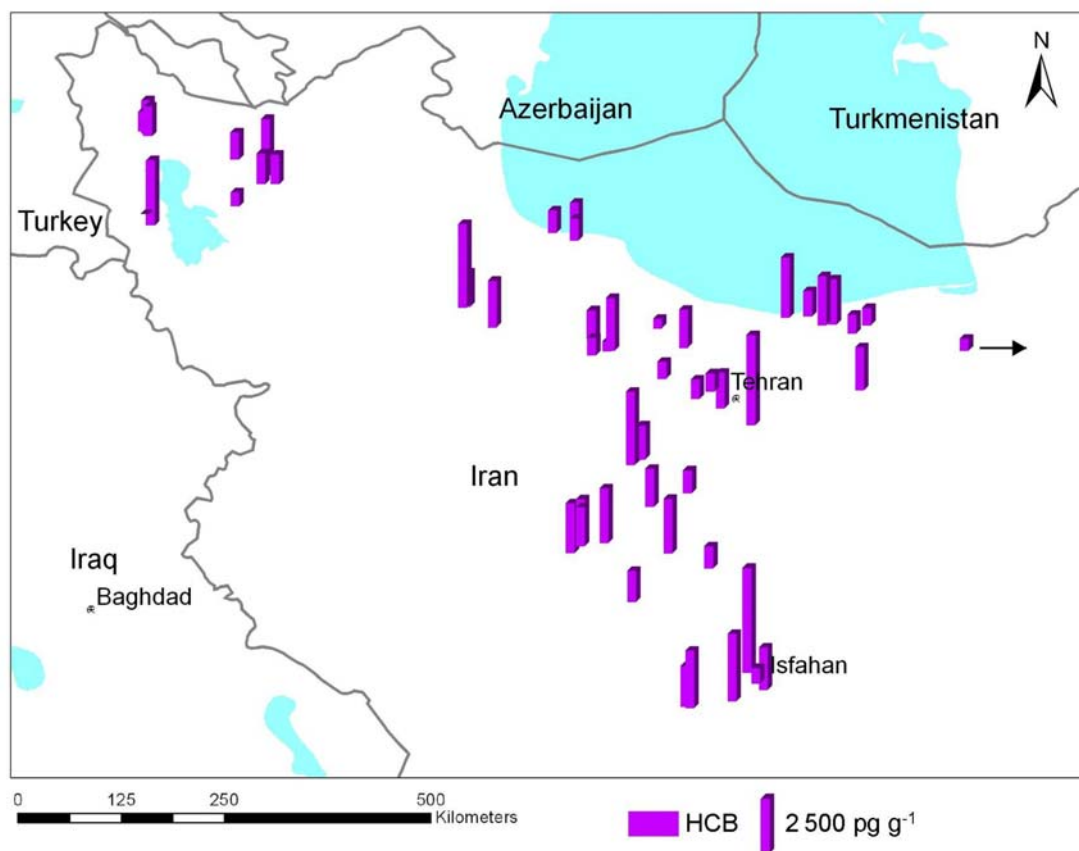


Table SI-1.

Sample No.	Sampling site	Site Description	Sample No.	Sampling site	Site Description
1	Safadasht-Karaj	Agricultural	28	Aghababa-Ghazvin	Rural
2	Karaj(Suburbs)	Large industrial city	29	Dasht e Abi-Alvand	Agricultural
3	Tankaran-Hahtgerd	Rural	30	Nowrabad-Alvand	Industrial
4	Jamkaran-Ghom	Suburban	31	Hir-Alamot	Rural
5	Varcheh- Khomein	Rural	32	Ghaghazan-Ghazvin	Rural
6	Salafchehan	Rural	33	Bander e Anzali	Urban
7	Delijan	Agricultural	34	Khoman-2 Raht	Suburban
8	Saeedabad-Golpaygan	Suburban	35	Khoman-1 Raht	Suburban
9	Saveh(suburbs)	Industrial	36	Uroumia	Urban
10	Ahmadabad-Saveh	Suburban	37	Chongharalay-Uroumia	Rural
11	Assiabak band-Saveh	Rural	38	Islamshahr-Tehran	Urban
12	Shahrekor(suburbs) 1	Agricultural	39	Zanjan suburbs	Suburban
13	Shahrekor(suburbs) 2	Agricultural	40	Moshkabad-Zanjan	Suburban
14	Zarrin shahr-Isfahan	Suburban-Industrial	41	Dolanab-Zanjan	Suburban
15	Margh-Isfahan	Suburban	42	Soufian-Tabriz	Suburban
16	Adrym-Isfahan	Suburban-Industrial	43	Tabriz	Large industrial city
17	Abriham shahr-Isfahan	Suburban-Industrial	44	Basmenj-Tabriz	Suburban
18	Kheirabad-Arak	Suburban-Industrial	45	Zarnagh-Tabriz	Suburban
19	Govar-Arak	Suburban	46	Azarshahr-Tabriz	Suburban
20	Hassanabad-Arak(1)	Suburban	47	Bolamaj-Khoy	Rural
21	Nazmabad-Arak(2)	Suburban	48	Sarab-Khoy	Rural
22	Firouzkooh	Agricultural	49	Bakhtiar-Khoy	Suburban
23	Rooyan(Alamdeh)	Suburban	50	Saadabad-Gharchak	Suburban-Industrial
24	Nezami road-Ghsemshahr	Suburban	51	Commercial butter-Neishabocr	Semi-Industrial
25	Berjendeh-Mahmoodabad	Suburban	52	Commercial butter-Tehran	Industrial
26	Galoogah-Babol	Rural	53	Commercial butter-Amol	Industrial
27	Amol(suburbs)	Semi-Industrial			

Table SI-2.

Sample	HCB	op'-DDD	pp'-DDD	op'-DDE	pp'-DDE	op'-DDT	pp'-DDT	ΣDDT	pp'-DDT/pp'-DDE	α-HCH	β-HCH	γ-HCH	ΣHCH	α/γ-HCH
1	922		356		11128		2182	13667	0.20	187	877		1064	
2	1782		1404	60	30781	265	3847	36297	0.12	448		3613	4061	0.12
3	795		189		15334	45	408	15975	0.03	95	2186	1130	3412	0.08
4	1074	555	13867	398	105838	423	21167	141295	0.20	1461	3844	1626	6931	0.90
5	1033		1672		56224	62	2266	60224	0.04	1099	4121	716	5936	1.54
6	1771	285	6940	829	174491	771	48673	230876	0.28	9445	5345	1870	16660	5.05
7	2539	3473	107998	1476	402590	1417	94635	606639	0.24	2979	8644	4574	16198	0.65
8	1465	592	19169	283	56715	310	19138	95331	0.34	1099	2452	1128	4679	0.97
9	1450	270	8949	627	54835	168	8864	72817	0.16	695	4893	2150	7739	0.32
10	1584	161	4077	378	35903	182	5730	45893	0.16	740	3025	1745	5509	0.42
11	3426		357		9656		686	10699	0.07	273		367	639	0.74
12	1904	694	21268	1331	200128	955	32335	254686	0.16	1603	4261	1949	7812	0.82
13	2672	84	1155	97	26505	151	1629	29440	0.06	171	1830	1229	3229	0.14
14	3151	424	8390	150	41100	630	9859	59979	0.24	196	1741	928	2865	0.21
15	1980		470		4913	114	1270	6767	0.26			1195	1195	0.00
16	4895	57	1259	88	23097		2222	26578	0.10	492		1585	2077	0.31
17	733	74	1658	101	18452	75	2086	22270	0.11	222	2272	951	3445	0.23
18	2551	761	20616	862	153329	64	30926	204935	0.20	4278	6884	2666	13829	1.60
19	2326	471	13067	148	80912	225	14066	108270	0.17	7579	7554	2657	17790	2.85
20	2196	80	1654	107	39605	118	2693	44070	0.07	2488	6467	888	9843	2.80
21	1815	808	23220	326	107285	357	15091	145953	0.14	2360	5091	1376	8827	1.71
22	2014	60	1538		31322	139	2278	35278	0.07	1420	6980	1634	10034	0.87
23	2801		758		11356	91	1093	13297	0.10	1572	5562	3120	10254	0.50
24	803		318		7699		269	8287	0.03	202	187	1315	1704	0.15
25	1189	98	3424	58	31133	154	4001	38713	0.13	532	612	1448	2592	0.37
26	888	55	114		9637		166	9918	0.02	268		243	512	1.10

Table SI-2, continued.

Sample	HCB	op'-DDD	pp'-DDD	op'-DDE	pp'-DDE	op'-DDT	pp'-DDT	ΣDDT	pp'-DDT/pp'-DDE	α-HCH	β-HCH	γ-HCH	ΣHCH	α/γ-HCH
27	2125	94	377		15858	80	571	16886	0.04	473		618	1091	0.77
28	1342	306	8010	96	37451	133	10017	55632	0.27	567	925	1416	2908	0.40
29	460		190		6343	45	194	6972	0.03	219	176	201	596	1.09
30	2463	217	6253	55	48419	78	4406	59156	0.09	700	2581	14124	17404	0.03
31	453	327	8339	202	57946	160	7890	74336	0.14	113	77		189	
32	830		1025		4954		1487	7466	0.30	289	283	928	1500	0.31
33	1042		192		5958		144	6295	0.02	416	133	699	1249	0.59
34	1763		381		21623		504	22508	0.02	345	370	200	916	1.72
35	1019		412		10415		862	11688	0.08	225		281	506	0.80
36	3040	220	6497	113	106696	144	9544	122880	0.09	810	705	972	2487	0.83
37				115	1096		97	1192	0.09					
38	1661	138	241	51	12910		974	14125	0.08	84		395	479	0.21
39	1605	366	8949	72	19411	312	11941	40614	0.62	504	128	522	1154	0.96
40	2182	125	2348		10218	87	2523	15175	0.25	582	302	1402	2286	0.42
41	3903		1930		30460	134	1010	33534	0.03	362	253	3665	4280	0.10
42	1260		651		7658		2234	10543	0.29	1291	1726	760	3778	1.70
43	2638	477	12151	141	95730	44	14073	121998	0.15	1273	959	2305	4538	0.55
44	1363	199	5678	97	34246	109	7033	47065	0.21	591	374	1196	2160	0.49
45	1435		8890	77	24043		9535	42468	0.40	800	791	1494	3085	0.54
46	656	72	3782		11876		1006	16664	0.08	699		460	1159	1.52
47	1564		7950		4313	508	2638	15408	0.61	89			89	
48	935		1093	53	11493	48	1855	14489	0.16	108		850	958	0.13
49	1386		251		5873	97	349	6570	0.06					
50	4220	66	2330	74	12977	79	4111	19498	0.32		87	409	496	
51	581				663			663				164	164	
52	861				3931			3931						
53	2300		139		3849	57	144	4189	0.04	76		214	289	0.35

Table SI-3.

Sample	PCB congeners																				
	18	22	28+31	41+64	44	49	52	54	70	74	87	90+10	95	99	104	105	110	114	118	123	
1										411				109		74				263	
2	59		263			67	56		29	233			53	131		92				320	
3	55		123			28	27		24	65				54		43				137	
4	45		292	83	101	76	78		96	148	55	211	224	84		88	142			226	30
5	127		254			83	48			85				58		65				205	
6	131	117	413	76		72	85		67	404		58	78	153		114	32			337	
7	227		342			91	95		38	159		61	84	144		134	39			419	27
8	102	77	324		40	39	46		31	53				29		27				108	
9	180	120	374	93	127	93	79		39	316		68	93	192		141	38			477	
10	63		172			41	33			171				102		134				316	
11			147							159				94		88				273	
12	203	90	387	74	65	115	109		45	97		79	130	40		33	38			97	
13	179	91	423	70		118	104		54	123		78	96	62		48	35			146	
14			160			43	31			397			57	126		176			33	397	29
15		160	437	119	52	111	98		38	131		78	268	236		184	42			612	
16			375	64	61	80	86		52	346		105	131	257		366	54		70	875	50
17			231	49	29	35	35			65				42		45				141	
18	155	127	478	99		137	136		66	433		158	290	261		151	101			632	26
19	158	76	356	48	48	150	80		41	179		63	69	137		112	41			324	
20	119		286		48	65	58		29	100		55	88	62		54	30			156	
21	184	138	482	73	77	71	84		95	201		90	79	93		124	135			279	30
22	186	130	380	63	54	71	83		40	187		67	105	210		137	35			485	
23	187		415		48	114	90		50	253		86	143	277		190	52			555	
24	142	139	342	60	60	70	91		62	314		76	80	820		276	42		62	2817	30
25	179	129	446	66	58	116	94		79	176	78	214	193	258		160	101			493	
26	108		271		32	51	53		45	88		74	77	88		45	36			155	

Table SI-3, continued.

Sample	PCB congeners																			
	18	22	28+31	41+64	44	49	52	54	70	74	87	90+10	95	99	104	105	110	114	118	123
27	269	208	945	160	182	219	226		308	344	101	434	297	236		176	218		512	34
28	51		199				35			71	28	61	66	98		55			187	
29			76							47				68		60			138	
30	109	82	283		73	58	142		87	349	38	61	76	109		149	35	28	345	
31		162	369			46	38			31			156						55	
32	56		145			47				91			43	120		70			244	
33			240			86	36			108			81	150		95			295	
34	93		251		37	56	53		47	236	27	62	61	221		119	38		437	
35	49		169			76	35			215	26			123		92			250	
36			151				26			110	40		48	161		117	44		333	
37		109	144			27			32	38										
38			166				25		33	127	24	65	71	90		78	34		214	
39	41		136			55	35		23	50		49	58	58		34	31		109	
40		87	205		30	101	46		34	163	61	86	89	313		232	56		700	
41	2208		158			73	39		42	60		61	53	155					417	
42	70		226		21	45	42		29	147		63	67	110		70	26		230	
43	190	89	461		57	80	85		63	272		130	163	174		91	51		344	
44			122						29	431				193		116			428	
45	472	178	1069	76	131	101	175		96	296		184	198	134		70	69		252	
46			140							64				40		47			102	
47		119	318			59	59			141			77	115		132			228	
48			120				26			90				72		37			149	
49		141	431	102	62	145	196		69	205	109	189	169	413		447	131		1153	
50	186	85	492		75	123	104		72	522	80	157	156	321		224	87	43	794	29
51		172	267			69	37			34			82						35	
52			180			30				26	25		49	32					78	
53		67	196			32	36		25	250		80	65	409		196	37		937	

Table SI-3, continued.

Sample	PCB congeners																			ΣPCB	180/(28+31)		
	138	141	149	151	153+132	155	156	157	158	167	170	174	180	183	187	188	189	194	199			203	
1	296				348		42		38	32	121		175	39							1949		
2	312				461						159		209	51							2497	0.8	
3	230				293		36	20	28	24	150		128	31							1495	1.0	
4	540	109	493	187	788		39		46	31	176	137	324	115	192			39		59	5252	1.1	
5	215				223						177		61								1600	0.2	
6	296		79		395		34		31	31	91		162	40							3295	0.4	
7	399		84	34	527		86	37	56	60	99		198	57						29	3526	0.6	
8	177				235						99		107	28							1524	0.3	
9	504		127	49	549		65	30	57	36	209	28	170	55	35					33	4376	0.5	
10	358				395		49		35		151		122								2143	0.7	
11	566				725		62		61	45	155		264	64							2702	1.8	
12	163		100	49	247						46		83	27							2318	0.2	
13	253		111	49	334		30		33	31	67		113	34	31						2715	0.3	
14	405				489		191	107	68	116	194		294	76				46		69	3506	1.8	
15	793		123	47	891		201	86	128	119	284	40	337	98	38				42	44	5838	0.8	
16	926		137	53	947		407	215	170	233	426	50	393	150						51	99	7229	1.0
17	183				246		37		24	32	139	30	194	52						43	46	1696	0.8
18	759	54	303	104	965		125	36	85	66	269	81	328	98	97					28	43	6692	0.7
19	332		85	40	397		84	41	54	58	134		152	41						26	26	3352	0.4
20	217		92	48	260		30		33	26	63		76									1996	0.3
21	347		115	55	406		55	31	54	54	57		145	39								3594	0.3
22	636		111	43	734		64	29	63	40	117		253	66	40						26	4456	0.7
23	713		117	51	814		65		73	38	322		238	64							37	4991	0.6
24	10007		145	42	15043		1193	144	1127	610	6198	31	12113	2362	66			183	1304		1306	57357	35
25	653	106	332	139	849		46		72	37	122	74	252	91	104						31	5746	0.6
26	210		111	44	273						34		72	30								1896	0.3

Table SI-3, continued.

Sample	PCB congeners																			EPCB	180/(28+31)	
	138	141	149	151	153+132	155	156	157	158	167	170	174	180	183	187	188	189	194	199			203
27	1004	189	823	933	1441		63		94	29	131	176	379	150	233			30		52	10015	0.4
28	202				263				27		32		82								1456	0.4
29	132				152																672	
30	345				302		96	45	41	39	104		132					31			3159	0.5
31					119		38					31									1046	
32	272				328				32		56		259								1763	1.8
33	311				326								65								1794	0.3
34	481		82	31	492		49		57	27	67		141	85							3250	0.6
35	299				326		57		41	31	84		128	34							2035	0.8
36	351			55	467		61	40	46	53	81		109	38							2330	0.7
37																					350	
38	355		92	41	470		82		50	28	41		177	54							2317	1.1
39	171				219						32		71	24							1195	0.5
40	559		113	46	602		80		89	31	66		133	44							3969	0.6
41	278		70		464		47				59		131								4315	0.8
42	239		90	35	299		41		33	22	46		95	26							2073	0.4
43	442		140	65	578		60		47	37	84		184	62	42					51	4044	0.4
44	390				428		64		54	35	66		136	37			101				2630	1.1
45	279		189	96	426				28				87								4609	0.1
46	126				201		45						178								942	1.3
47	185				295																1728	
48	151				200		24		32				53								954	0.4
49	960			152	787		140		118	50	68		136	62	80						6517	0.9
50	1052	37	236	92	1288		174	51	144	93	261		546	162	448		754	51		71	9009	1.1
51	79	37		75	122																1009	
52	141			74	223							36	44		116						1055	0.2
53	1657		97		2194		120		181	86	257		652	208	123			31		59	7993	3.3