Table S1. Summary of target PCB congeners. Numbers are BZ numbers (Ballschmiter and Zell, 1980) listed in order of elution from an HT8-PCB column.

Homologue	BZ#
Mono-CBs	#1
	#2
	#3
Di-CBs	#10
	#4
	#9
	#7
	#6
	#8/#5
	#14
	#11
	#13/#12
	#15
Tri-CBs	#19
	#30
	#18
	#17
	#24
	#27
	#32
	#16
	#23
	#34
	#29
	#26
	#25
	#31
	#28
	#21
	#20/#33
	#22
	#36
	#39
	#38
	#35
	#37
Tetra-CBs	#54
	#50
	#53
	#51
	#45
	#46
	#52/#69
	#73
	#43
	#49
	#65/#75
	#48/#47
	#62
	#44
	#59
	#42
	#64
	#72
	#71
	#41
	#68
	#40
	#57
	#67
	#63
	#58
	#61
	#74
	#70
	#76
	#80
	#66
	#55
	#60
	#56
	#79
	#78
	#81
	#77
Penta-CBs	#104
	#96
	#103
	#100
	#94
	#102/#93
	#98/#95
	#88
	#91
	#121
	#92
	#84
	#89
	#90
	#101
	#113
	#99
	#112/#119
	#83
	#108
	#86
	#117/#97
	#125/#116
	#87/#115
	#111
	#85
	#120/#110
	#82
	#124
	#109/#107
	#123
	#106
	#118
	#114
	#122
	#105
	#127
	#126
Hexa-CBs	#155
	#150
	#152
	#145
	#136
	#148
	#154
	#151
	#135
	#144
	#147
	#149/#139
	#140
	#143
	#134
	#142
	#131
	#133
	#165
	#146
	#132
	#161
	#153
	#168
	#141
	#137
	#130
	#164/#163
	#138
	#160
	#158
	#129
	#166
	#159
	#128
	#162
	#167
	#156
	#157
	#169
Hepta-CBs	#188
	#184
	#179
	#176
	#186
	#178
	#175
	#182/#187
	#183
	#185
	#174
	#181
	#177
	#171
	#173
	#172
	#192
	#180
	#193
	#191
	#170
	#190
	#189
Octa-CBs	#202
	#200
	#204
	#197
	#199
	#198
	#201
	#196
	#203
	#195
	#194
	#205
Nona-CBs	#208
	#207
	#206
Deca-CBs	#209

K. Ballschmiter and M. Zell, Analysis of polychlorinated biphenyls (PCB) by glass capillary gas chromatography, Fresenius' Journal of Analytical Chemistry, 1980, 302, 20-31.

Table S2. List of rate constants that were used for mass-balance analysis

	log K_{OW} [a]	Rate constant for chemical uptake via the respiratory surface (k_1)[b]	Rate constant for overall chemical elimination (k_2)[c]	Rate constant for chemical uptake via ingestion of suspended and bottom sediment (k_{sed})[d]		
		L kg^{-1} d^{-1}	d^{-1}	d^{-1}		
				Average	day 14	day 28
#101	6.38	652	0.007	0.0061	0.0061	0.0062
#99	6.39	648	0.007	0.0025	0.0038	0.0013
#118	6.46	619	0.006	0.0035	0.0038	0.0032
#87/#115	6.47	615	0.006	0.0010	0.0012	0.0007
#132	6.58	569	0.004	0.0038	0.0040	0.0037
#151	6.64	543	0.004	0.0036	0.0016	0.0055
#135	6.64	543	0.004	0.0021	–[e]	0.0021
#105	6.65	539	0.004	0.0019	0.0018	0.0019
#149/#139	6.67	531	0.004	0.0017	–[e]	0.0017
#120/#110	6.69	523	0.003	0.0038	0.0047	0.0030
#128	6.74	502	0.003	0.0009	–[e]	0.0009
#138	6.83	464	0.002	–[e]	–[e]	–[e]
#164/#163	7.01	391	0.002	0.0026	–[e]	0.0026

[a]Hawker and Connell (1988)

[b] The rate constant k_1 was estimated using data from a bioconcentration study of the dioxin-like PCBs (tetra- to hepta-chlorinated, non-*ortho*-, and mono-*ortho*-substituted PCB congeners; the congeners had log *K*ow values of 6.36–7.71 [Hawker and Connell, 1988]) in marbled sole (Fishery Agency, 2003). We analyzed the data by using our own analysis of the reported data based on first-order kinetics. We used reliable k_1 values for congeners with K_{OW} values ranging from 6.36 to 7.71; a good linear relationship was observed between k_1 and log K_{OW} (see Fig. S1).

[c]The rate constant k_2 was estimated using the empirical equation based on K_{OW} (Equation 7) proposed by Hawker and Connell (1988).

[d]For each congeners, we used the average, minimum, and maximum k_{sed} values that were obtained at days 14 and 28.

[e]The rate constant k_2 could not be calculated for #135, #149/#139, #128, #138, and #164/#163 because their $C'_{F\text{-}W}$ values were greater than their C'_F values.

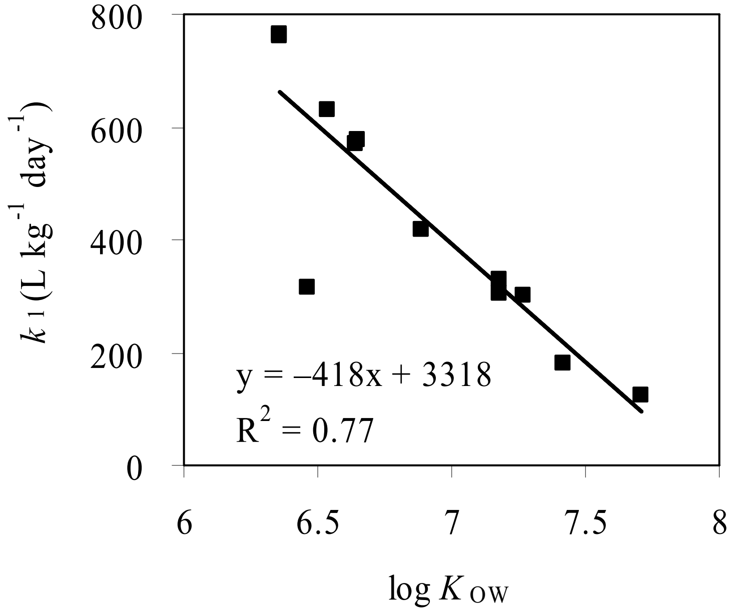

Fig. S1. Relationship between k_1 and log K_{OW}. The reference rate constant k_1 was obtained by our own analysis of the data from a bioconcentration study of the dioxin-like PCBs (tetra- to hepta-chlorinated, non-*ortho*- and mono-*ortho*-substituted PCB congeners; the congeners had log *K*ow values of 6.36–7.71 [Hawker and Connell, 1988]) in marbled sole (Fishery Agency, 2003). Based on these reference k_1, we established a regression equation between k_1 and log K_{OW} (k_1 = –418 log K_{OW} + 3318). We calculated the k_1 values that were used in the mass-balance analysis by using this regression equation.

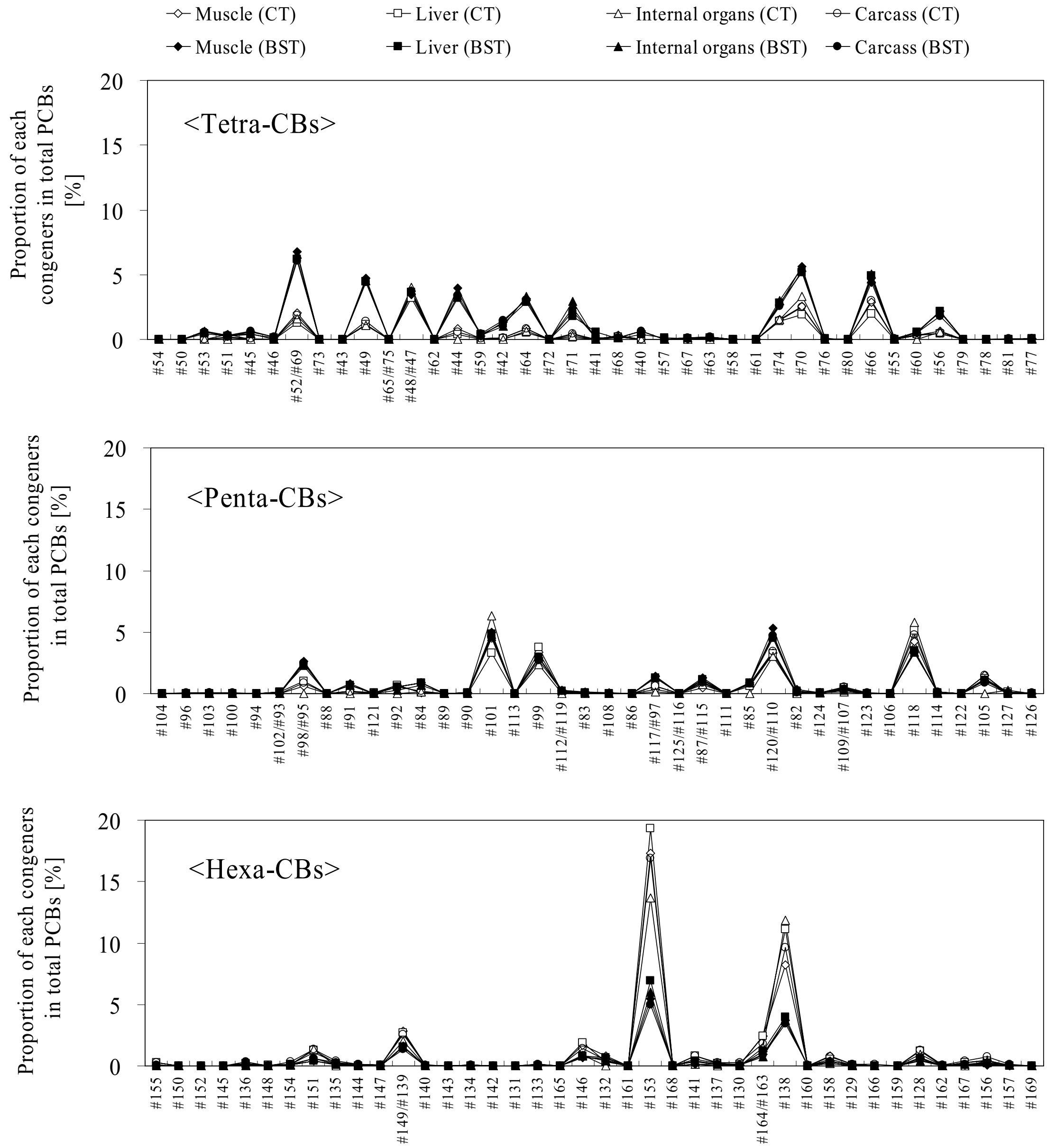

Fig. S2a. Comparison of the proportions of each congener in the total accumulated PCBs among the different fish tissues

CT: Control Tank

BST: Bottom Sediment Tank

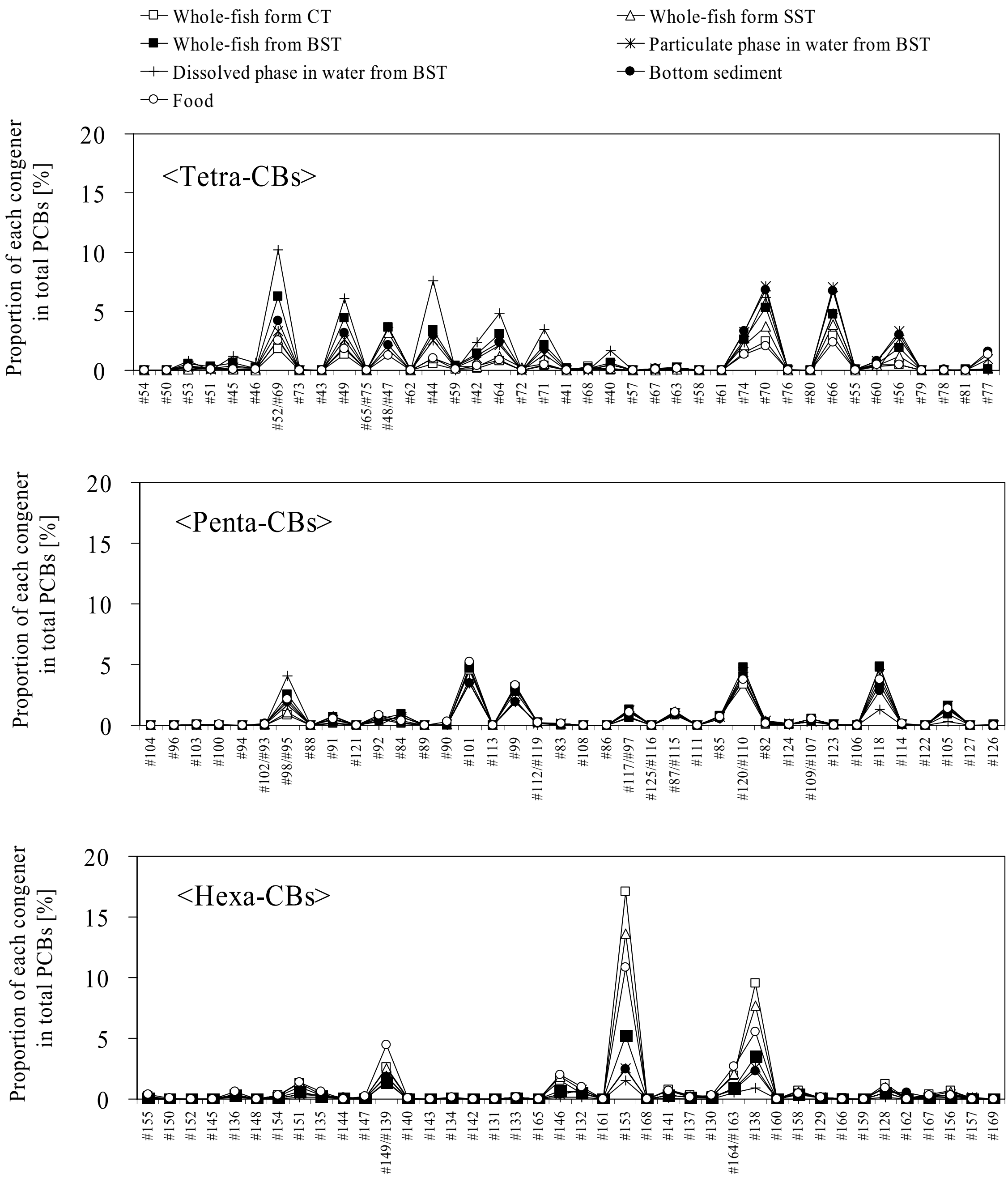

Fig. S2b. Comparison of the proportions of each congener in the total PCBs between the fish samples and other media (food, water, and sediment)

CT: Control Tank

BST: Bottom Sediment Tank