

Fig. S1a: Abbreviated flow diagram for the selection of the extraction solvent (where ACN: Acetonitrile, DCM: Dichloromethane, EA: Ethyl Acetate, PSA: Primary Secondary Amine)

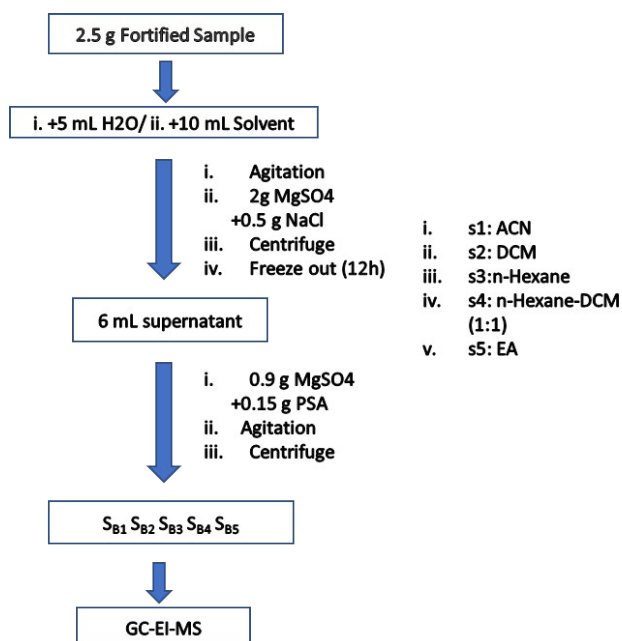


Fig. S1b: Abbreviated flow diagram for the selection of the extraction solvent (where ACN: Acetonitrile, DCM: Dichloromethane, EA: Ethyl Acetate, PSA: Primary Secondary Amine)

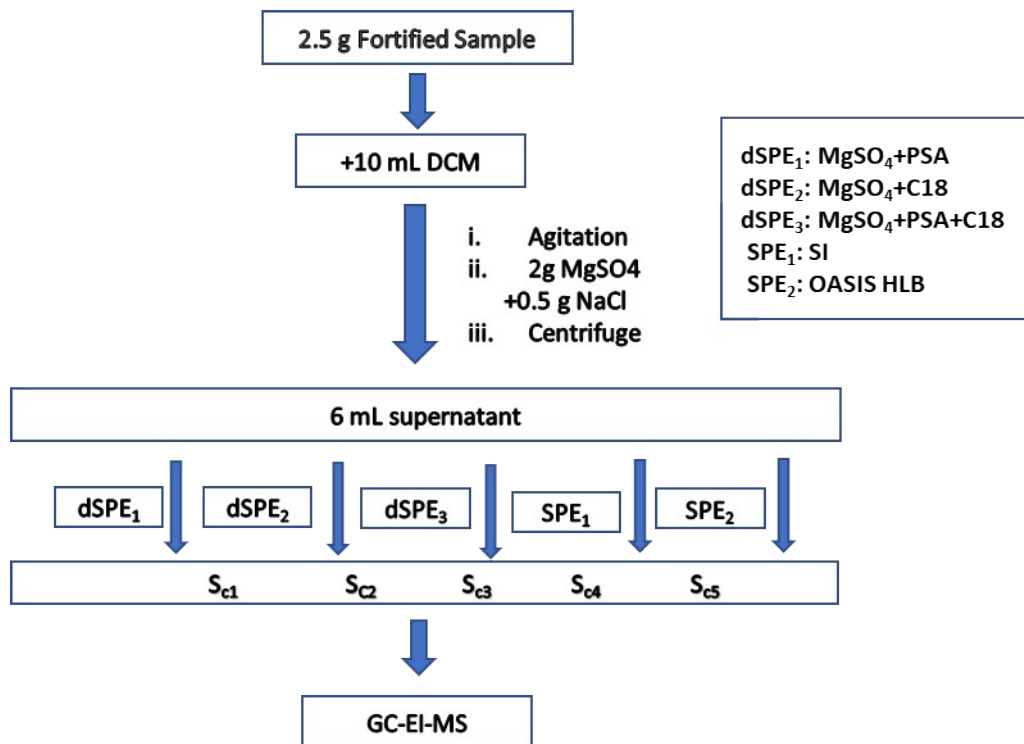


Fig. S2: Abbreviated flow diagram for the selection of sample purification (where PSA: Primary Secondary Amine, SI: Silica cartridge, dSPE: Dispersive Solid Phase Extraction, SPE: Solid Phase Extraction)

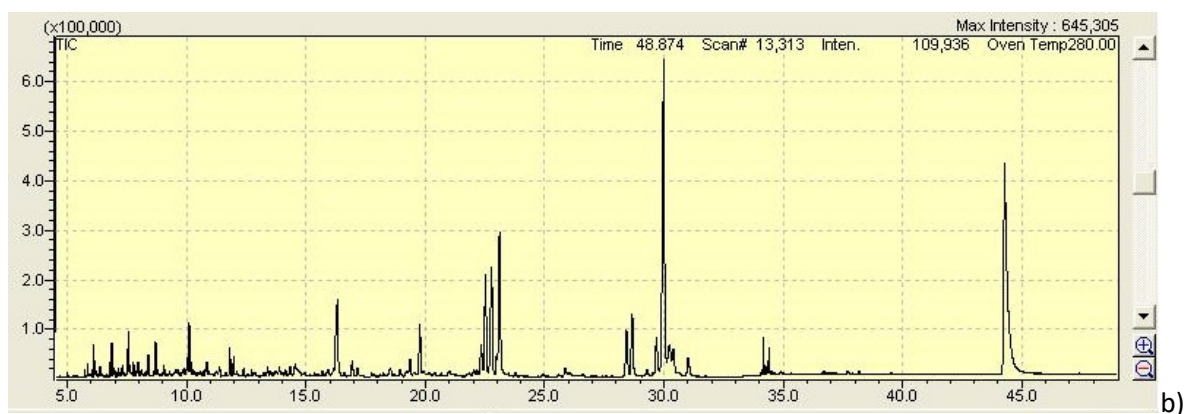
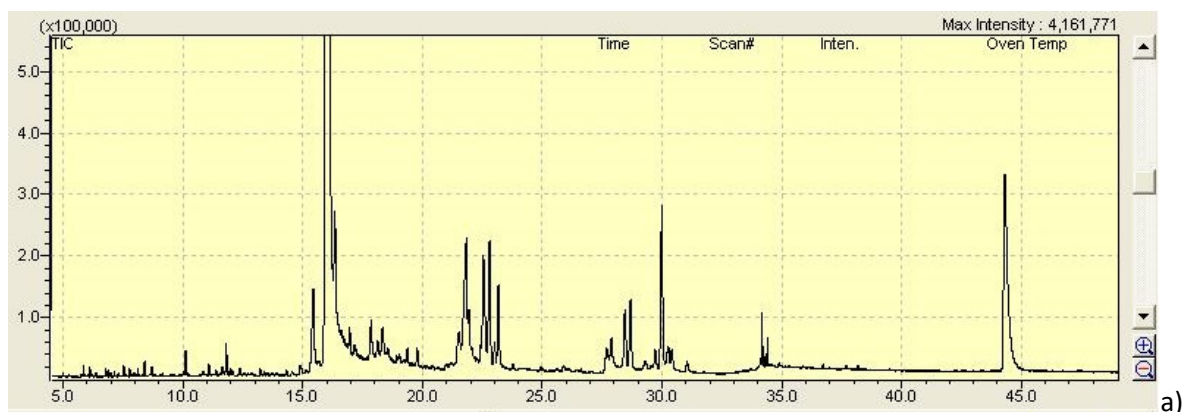


Fig. S3: TIC chromatogram of blank samples with 3 different purification procedure; a) dSPE (MgSO<sub>4</sub>+PSA), b) dSPE(MgSO<sub>4</sub>+PSA+C18 and c) SPE (Isolute SI cartridge)

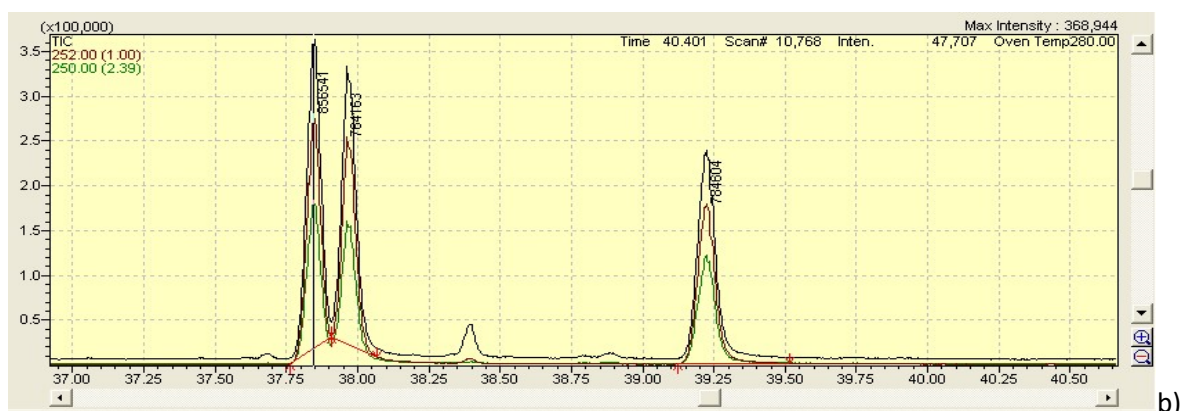
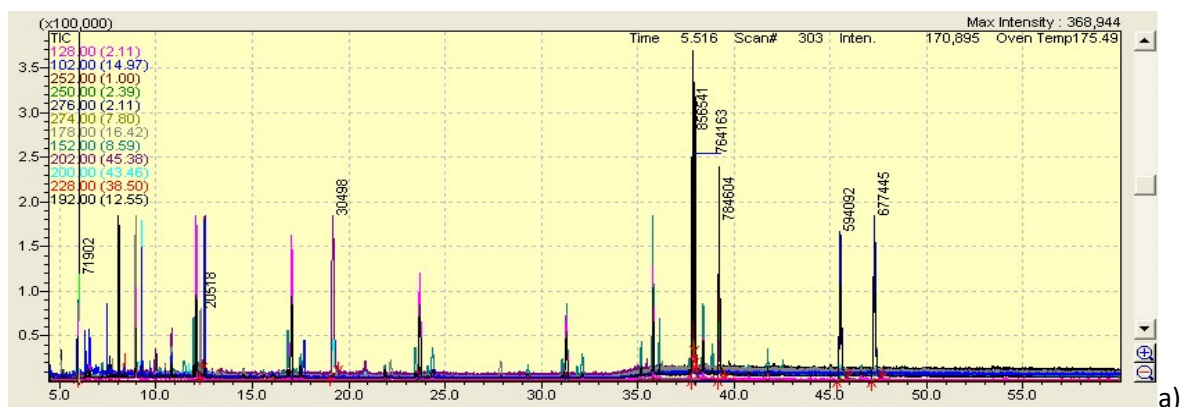


Fig. S4: a) TIC chromatogram of spiked swordfish sample with PAHs standard mixture at  $6.6 \mu\text{g kg}^{-1}$ . Peaks appear in the following order: NA, AN, FL, B[b]F, B[k]F, B[a]P, IP, B[ghi]P.  
 b) A zoom into peaks B[b]F, B[k]F, B[a]P monitoring with ions 252 and 250.

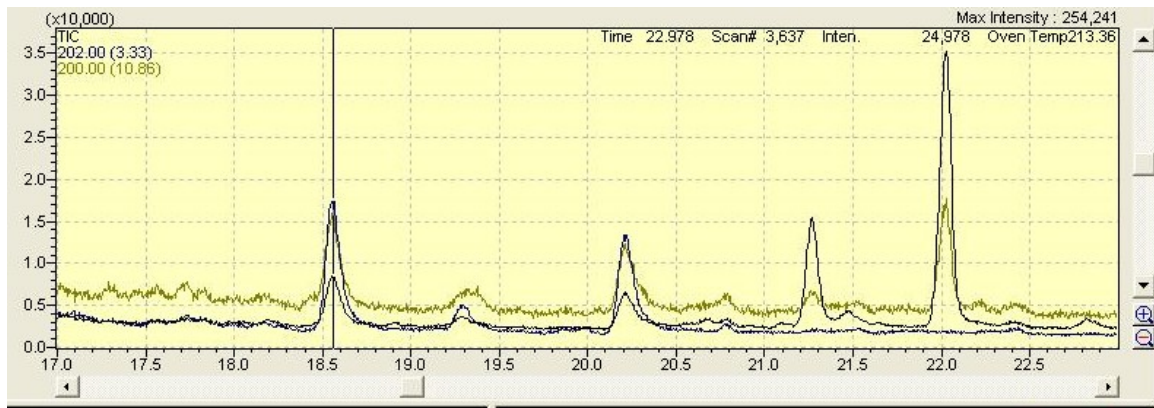


Fig S5: Chromatogram of smoked tuna fish (can). Peak at 18.6 min with ions 202 and 200 stands for FL (Fluoranthene).

Table S1: Regression data analysis at 95% confidence level

Compound	a	Sa	b	Sb	S <sub>y/x</sub>	R <sup>2</sup>
PCB-1	1.197E+06	7.907E+04	2.980E+06	1.963E+06	2.927E+06	0.99
PCB-11	0.68E+06	2.061E+04	-8.380E+05	5.115E+06	7.627E+06	0.997
PCB-28	2.668E+06	9.179E+04	-4.588E+03	2.279E+06	3.397E+06	0.996
PCB-52	0.73E+06	2.802E+04	-4.235E+05	6.956E+06	1.037E+06	0.996
PCB-47	6.860E+05	2.839E+04	-4.709E+05	7.047E+05	1.051E+06	0.995
PCB-117	7.910E+05	3.030E+04	-1.605E+05	7.522E+06	1.122E+06	0.996
PCB-101	6.219E+05	2.161E+04	-3.280E+02	5.364E+06	7.998E+06	0.996
PCB-136	3.593E+05	1.032E+04	1.679E+06	2.563E+06	3.821E+06	0.998
PCB-118	8.326E+05	3.637E+04	-5.571E+05	9.030E+06	1.346E+06	0.994
PCB-153	6.196E+05	2.979E+04	-3.271E+05	7.396E+06	1.103E+06	0.993
PCB-185	2.417E+05	7.261E+06	-1.395E+05	1.803E+06	2.688E+06	0.997
PCB-180	4.076E+05	2.555E+04	-1.664E+05	6.342E+06	9.456E+06	0.99
PCB-209	4.818E+05	2.290E+04	-1.050E+05	5.685E+06	8.476E+05	0.993
NA	1.448E+06	4.312E+04	3.328E+06	2.273E+06	3.073E+06	0.997
AN	3.936E+06	2.584E+05	-1.707E+04	1.363E+04	1.842E+04	0.99
FL	5.624E+06	3.375E+05	-2.177E+04	1.780E+04	2.406E+04	0.99
B[b]F	8.927E+06	6.701E+05	-6.301E+04	3.533E+04	4.776E+04	0.98
B[k]F	9.054E+06	6.577E+05	-6.391E+04	3.468E+04	4.688E+04	0.98
B[a]P	3.589E+06	2.613E+05	-2.971E+04	1.378E+04	1.863E+04	0.98
IP	2.809E+06	2.414E+05	-2.883E+04	1.273E+04	1.721E+04	0.98
B[ghi]P	3.219E+06	2.961E+05	-3.404E+04	1.561E+04	2.110E+04	0.98