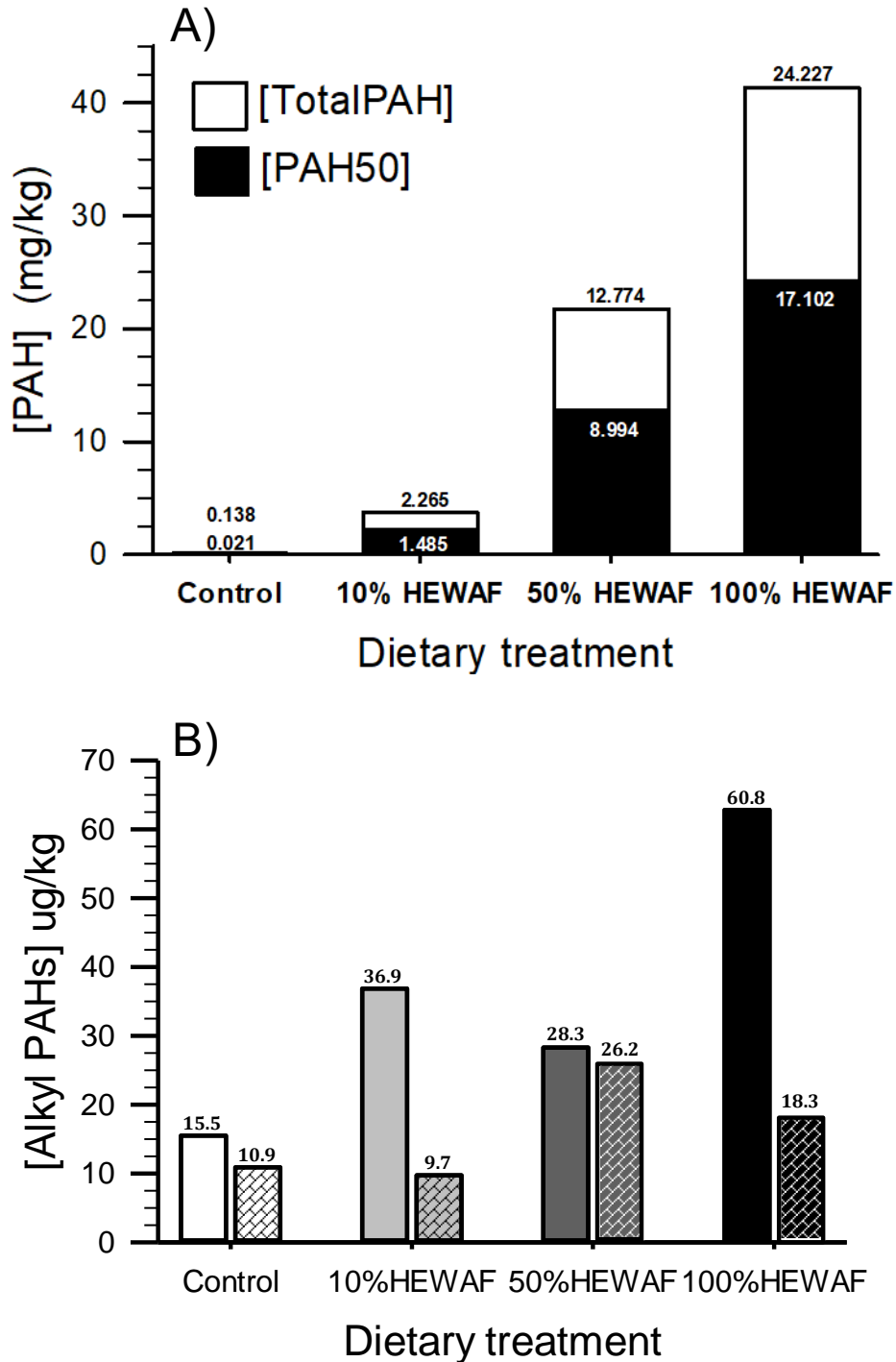
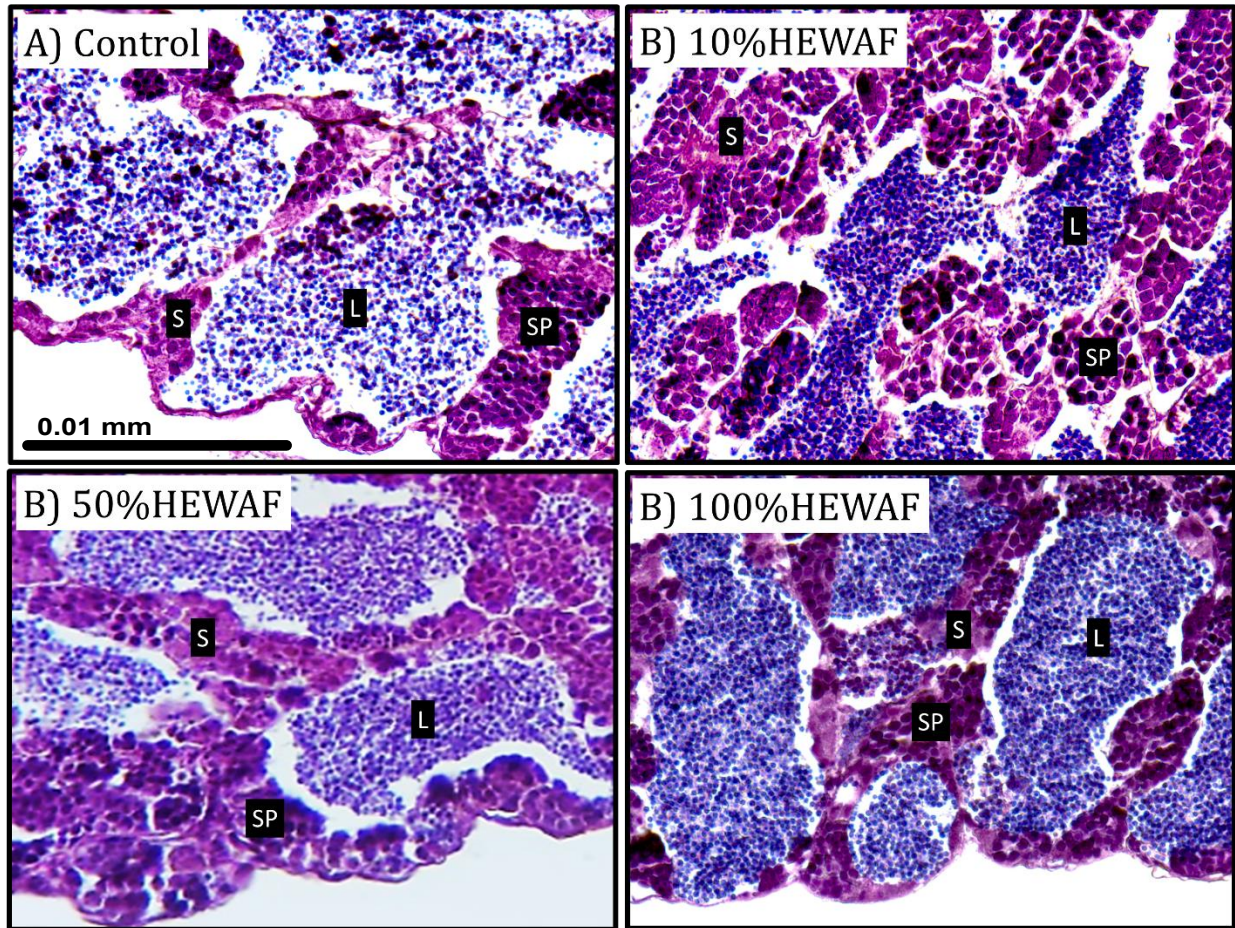


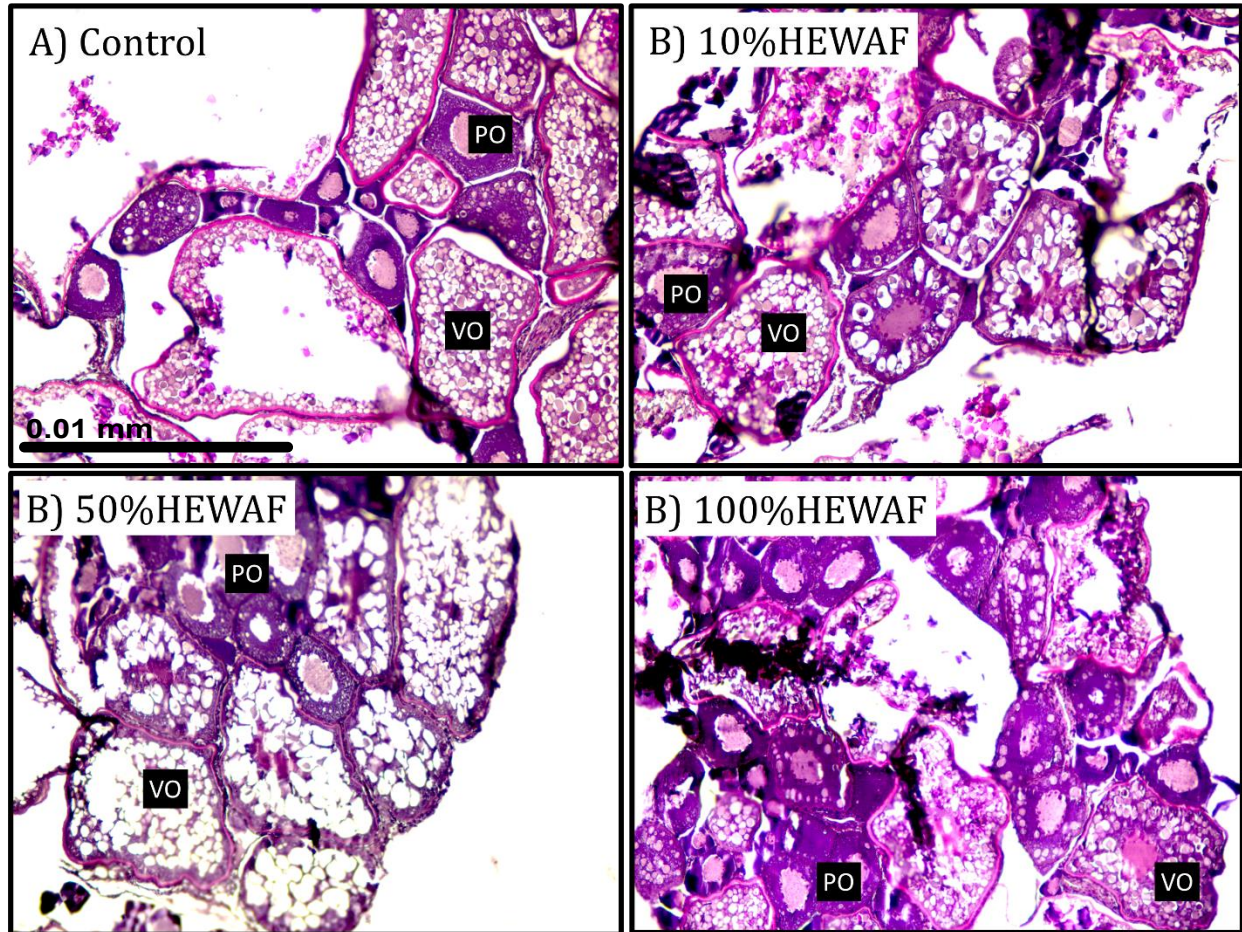
**Fig. S1. A) Concentration of PAHs in dietary treatments AND .  $\Sigma$ TotPAH** is the sum of all the different PAHs compounds found in the diet.  $\Sigma$ PAH50 represents the fifty most common PAHs in the toxicology literature. **B) Concentration of Alkyl PAHs estimated from pooled whole body fish per treatment group.** Empty bars and patterned bars refer to female and male fish respectively.



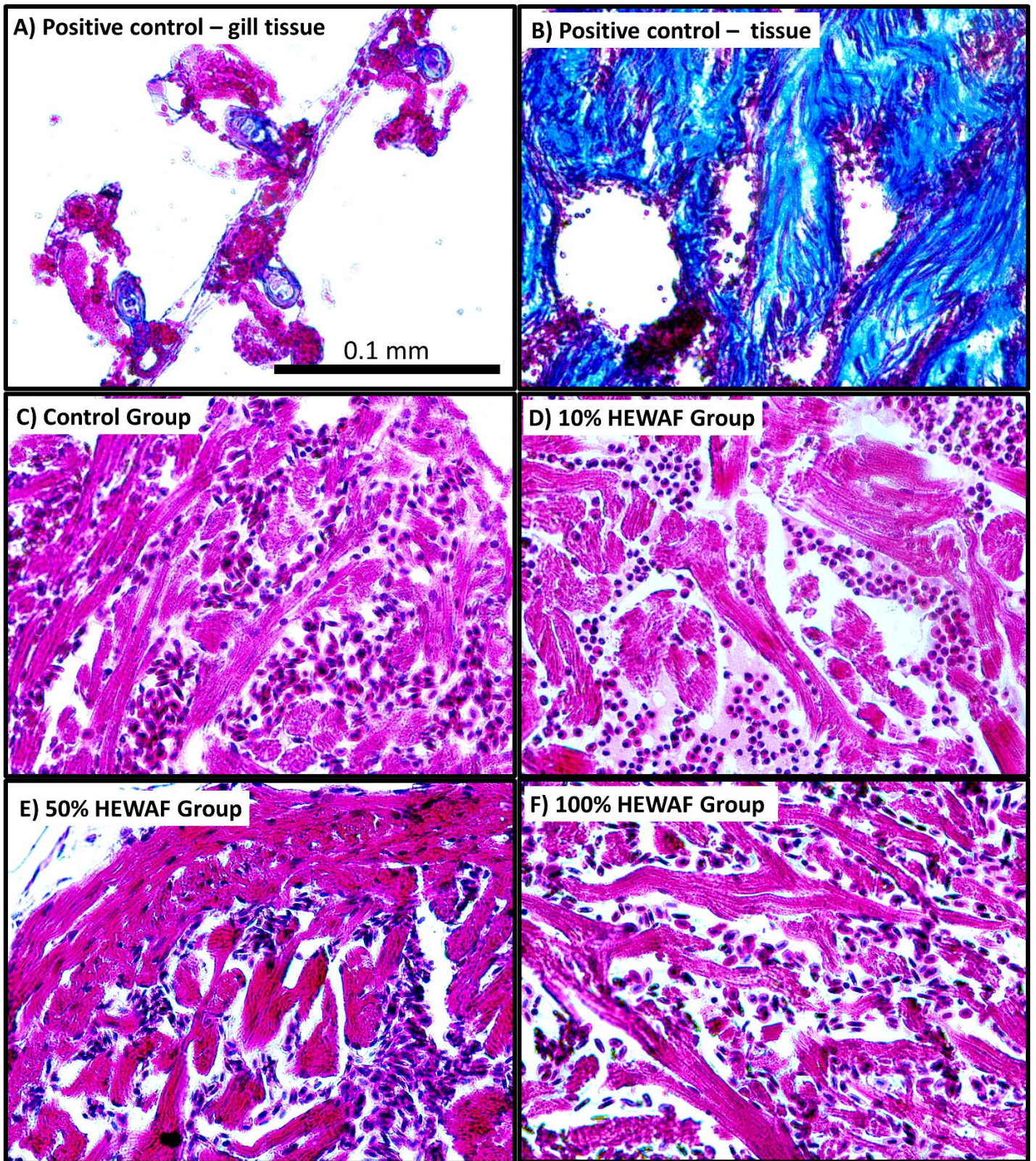
**Fig. S2. Male gonadal sections.** A) Control, B) 10%HEWAF, C) 50%HEWAF and D) 100%HEWAF. L= lumina, S= spermatogonia, SP= spermatocysts



**Fig. S3. Female gonadal sections.** A) Control, B) 10%HEWAF, C) 50%HEWAF and D) 100%HEWAF. PO = Previtellogenic oocytes, VO = vitellogenic oocytes.



**Fig. S4. Masson's trichrome staining technique in ventricular tissue.** Positive control stains, **A)** gill tissue and **B)** bulbus arteriosus tissue. **C)** Control, **D)** 10%HEWAF, **E)** 50%HEWAF and **F)** 100%HEWAF groups, respectively.



**Table. S1. List of components and nominal concentrations (ug/Kg and mg/kg) for each diet treatment.** The sum of all the components listed below was considered the “Total PAH concentration”. The components highlighted with gray color were considered for the 50 PAHs most frequently measured PAHs (Dubansky et al., 2018; Johansen et al., 2017). ND= not determined.

Polycyclic Aromatic Hydrocarbon (PAHs) Concentrations in dietary treatments					
COMPONENT	CONTROL FOOD (ug/Kg)	10% HEWAF (ug/Kg)	50% HEWAF (ug/Kg)	100% HEWAF (ug/Kg)	BLANK (ug/Kg)
cis/trans-Decalin	117	63.2	72.6	113	ND
C1-Decalins	ND	116	115	212	ND
C2-Decalins	ND	175	269	422	ND
C3-Decalins	ND	ND	412	745	ND
C4-Decalins	ND	ND	518	940	ND
Benzo(b)thiophene	ND	ND	ND	ND	ND
C1-Benzothiophenes	ND	ND	ND	29.3	ND
C2-Benzothiophenes	ND	ND	ND	33.1	ND
C3-Benzothiophenes	ND	ND	ND	41.6	ND
C4-Benzothiophenes	ND	ND	ND	ND	ND
Naphthalene	7.78	36.7	164	312	0.493
C1-Naphthalenes	ND	133	666	1330	ND
C2-Naphthalenes	ND	274	1340	2470	ND
C3-Naphthalenes	ND	245	1270	2140	ND
C4-Naphthalenes	ND	218	781	1310	ND
Biphenyl	ND	19.5	99.6	174	ND
Dibenzofuran	ND	ND	17.0	33.6	ND
Acenaphthylene	ND	ND	D	ND	ND
Acenaphthene	ND	ND	9.28	18.9	ND
Fluorene	ND	18.9	102	206	ND
C1-Fluorenes	ND	53.9	294	563	ND
C2-Fluorenes	ND	126	466	858	ND
C3-Fluorenes	ND	ND	465	810	ND
Anthracene	ND	ND	ND	ND	ND
Phenanthrene	7.16	46.0	232	456	ND
C1- Phenanthrenes/Anthracenes	ND	114	580	1130	ND
C2- Phenanthrenes/Anthracenes	ND	114	686	1260	ND
C3- Phenanthrenes/Anthracenes	ND	85.5	466	908	ND
C4- Phenanthrenes/Anthracenes	ND	ND	249	639	ND
Retene	ND	ND	13.7	22.3	ND
Dibenzothiophene	ND	ND	30.2	55.3	ND
C1-Dibenzothiophenes	ND	ND	112	207	ND
C2-Dibenzothiophenes	ND	ND	163	327	ND
C3-Dibenzothiophenes	ND	ND	109	256	ND
C4-Dibenzothiophenes	ND	ND	ND	ND	ND
Benzo(b)fluorene	ND	ND	9.14	20.0	ND

Fluoranthene	ND	ND	ND	11.0	ND
Pyrene	ND	ND	20.6	39.2	ND
C1-Fluoranthenes/Pyrenes	ND	ND	67.1	122	ND
C2-Fluoranthenes/Pyrenes	ND	ND	141	255	ND
C3-Fluoranthenes/Pyrenes	ND	ND	136	274	ND
C4-Fluoranthenes/Pyrenes	ND	ND	ND	227	ND
Naphthobenzothiophene	ND	ND	ND	16.4	ND
C1-Naphthobenzothiophenes	ND	ND	ND	85.8	ND
C2-Naphthobenzothiophenes	ND	ND	ND	ND	ND
C3-Naphthobenzothiophenes	ND	ND	ND	ND	ND
C4-Naphthobenzothiophenes	ND	ND	ND	ND	ND
Benz(a)anthracene	6.31	ND	ND	11.6	ND
Chrysene	ND	ND	53.4	77.2	ND
C1-Chrysenes	ND	ND	103	191	ND
C2-Chrysenes	ND	ND	163	294	ND
C3-Chrysenes	ND	ND	ND	ND	ND
C4-Chrysenes	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo(a)fluoranthene	ND	ND	ND	ND	ND
Benzo(e)pyrene	ND	ND	ND	14.7	ND
C30-Hopane	ND	ND	55.5	98.9	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND
Perylene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
4-Methyldibenzothiophene	ND	8.04	48.6	101	ND
2-Methyldibenzothiophene	ND	ND	20.2	39.9	ND
1-Methyldibenzothiophene	ND	ND	16.2	28.8	ND
3-Methylphenanthrene	ND	18.5	101	211	ND
2-Methylphenanthrene	ND	22.4	120	249	ND
2-Methylanthracene	ND	ND	ND	ND	ND
9-Methylphenanthrene	ND	23.8	135	275	ND
1-Methylphenanthrene	ND	21.3	106	207	ND
2-Methylnaphthalene	ND	95.5	506	1010	ND
1-Methylnaphthalene	ND	92.4	491	858	ND
2,6-Dimethylnaphthalene	ND	72.6	467	913	ND
2,3,5-Trimethylnaphthalene	ND	71.3	313	575	ND
Carbazole	ND	ND	ND	ND	ND
Fluorene-d10	82	78	80	73	87
Fluoranthene-d10	94	84	92	83	90
Terphenyl-d14	88	87	95	85	90
	<b>CONTROL</b>	<b>10%</b>	<b>50%</b>	<b>100%</b>	<b>BLANK</b>
	<b>FOOD</b>	<b>HEWAF</b>	<b>HEWAF</b>	<b>HEWAF</b>	<b>BLANK</b>
	<b>(ug/Kg)</b>	<b>(ug/Kg)</b>	<b>(ug/Kg)</b>	<b>(ug/Kg)</b>	<b>(ug/Kg)</b>
SUM TOTAL PAH	138.25	2264.54	12774.12	24227.60	0.493

SUM TPAH50	21.25	1484.50	8994.32	17102.70	0.493
	<b>CONTROL</b>	<b>10%</b>	<b>50%</b>	<b>100%</b>	<b>BLANK</b>
	<b>FOOD</b>	<b>HEWAF</b>	<b>HEWAF</b>	<b>HEWAF</b>	<b>BLANK</b>
	<b>(mg/Kg)</b>	<b>(mg/Kg)</b>	<b>(mg/Kg)</b>	<b>(mg/Kg)</b>	<b>(mg/Kg)</b>
SUM TOTAL PAH	0.14	2.27	12.77	24.23	0.00
SUM TPAH50	0.02	1.485	8.994	17.10	0.00

**Table. S2. List of components and nominal concentrations (ug/Kg and mg/kg) of for Alkylated PAHs in whole body fish per experimental group.** The sum of all the components is listed at the bottom of each column. ND= not determined.

Component	Control Female	Control Male	10%HEWAF Female	10%HEWAF Male	50%HEWAF Female	50%HEWAF Male	100%HEWAF Female	100%HEWAF Male	Blank method
Naphthalene	ND	1.4	1.8	0.95	1.1	ND	1.0	1.2	ND
2-Methylnaphthalene	1.6	ND	2.0	ND	1.4	1.9	2.0	2.3	ND
1-Methylnaphthalene	1.4	ND	2.1	ND	1.3	1.4	1.5	1.8	ND
C2-Naphthalenes	ND	ND	ND	ND	8.1	6.8	15	ND	ND
C3-Naphthalenes	ND	ND	6.7	ND	7.3	8.5	17	ND	ND
C4-Naphthalenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	ND	ND	ND	ND	ND	ND	ND	2.3	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	1.6	0.79	0.96	ND	ND	ND	ND	0.99	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	1.1	1.3	1.9	0.98	1.6	1.1	1.6	1.6	ND
C1-Fluorenes	ND	ND	ND	ND	ND	ND	6.1	ND	ND
C2-Fluorenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C3-Fluorenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzothiophene	ND	ND	1.1	ND	ND	ND	0.92	ND	ND
C1-Dibenzothiophenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2-Dibenzothiophenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C3-Dibenzothiophenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	7.5	6.3	12	7.8	7.5	6.5	9.1	8.1	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND
C1-Phenanthrenes/Anthracenes	ND	ND	7.0	ND	ND	ND	8.6	ND	ND
C2-Phenanthrenes/Anthracenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C3-Phenanthrenes/Anthracenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C4-Phenanthrenes/Anthracenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	1.2	1.1	1.3	ND	ND	ND	ND	ND	ND
Pyrene	0.62	ND	ND	ND	ND	ND	ND	ND	ND



C1-Fluoranthenes/Pyrenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	0.48	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND
C1-Chrysenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2-Chrysenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C3-Chrysenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
C4-Chrysenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(e)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene-d10	66	69	66	53	60	53	56	67	68
Fluoranthene-d10	88	88	85	67	76	67	69	85	84
Terphenyl-d14	87	90	87	73	81	73	74	93	81
<b>SUM TOTAL</b>	<b>15.5</b>	<b>10.89</b>	<b>36.86</b>	<b>9.73</b>	<b>28.3</b>	<b>26.2</b>	<b>62.82</b>	<b>18.29</b>	<b>0</b>