

Supplementary Materials: Determination of the Oxidative Stress Biomarkers of 8-Hydroxydeoxyguanosine and Dityrosine in the Gills, Skin, Dorsal Fin, and Liver Tissue of Atlantic Salmon (*Salmo salar*) Parr

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Table S1. Absolute (AR; N=3 replicates) and relative recoveries (RR; N=3 replicates) of 8OHDG and DIY (Mean \pm RSD %).

	Method A				Method B			
	AR		RR		AR		RR	
	8OHDG	DIY	8OHDG	DIY	8OHDG	DIY	8OHDG	DIY
First extraction ^a	23 \pm 3.9	1.10*	80 \pm 24	27*	59 \pm 5.8	72 \pm 4.6	101 \pm 11	104 \pm 13
Second extraction ^a					18 \pm 1.9	25 \pm 1.5	100 \pm 10	114 \pm 12
Low ^b					71 \pm 7.2	71 \pm 5.7	101 \pm 4.7	96.3 \pm 1.8
High ^b					72 \pm 5.1	78 \pm 7.8	97 \pm 3.1	104 \pm 1.5

*Detected in one sample out of the 3 replicates.

^aThese two extractions were based on the medium fortified concentration (10 ng/mL for 8OHDG and 500 ng/mL for DIY)

^bLow and High represent low (1 ng/mL for 8OHDG and 50 ng/mL for DIY) and high fortified concentrations (100 ng/mL for 8OHDG and 5000 ng/mL for DIY), respectively, and were performed with Method B.

Note: the final extraction protocol is highlighted with green color (method B). The second extraction cycle was not incorporated in method B (see main manuscript).

Table S2. Spearman correlations of 8OHDG and DIY concentrations between the 4 tissues.

DIY	skin	gills	dorsal fin	liver
skin		0.338**	−0.287**	−0.030
gills			−0.224**	0.039
dorsal fin				0.044
liver				
8OHDG	skin	gills	dorsal fin	liver
skin		0.079	0.138	−0.856**
gills			−0.177	−0.174
dorsal fin				0.265
liver				

** : $p < 0.01$

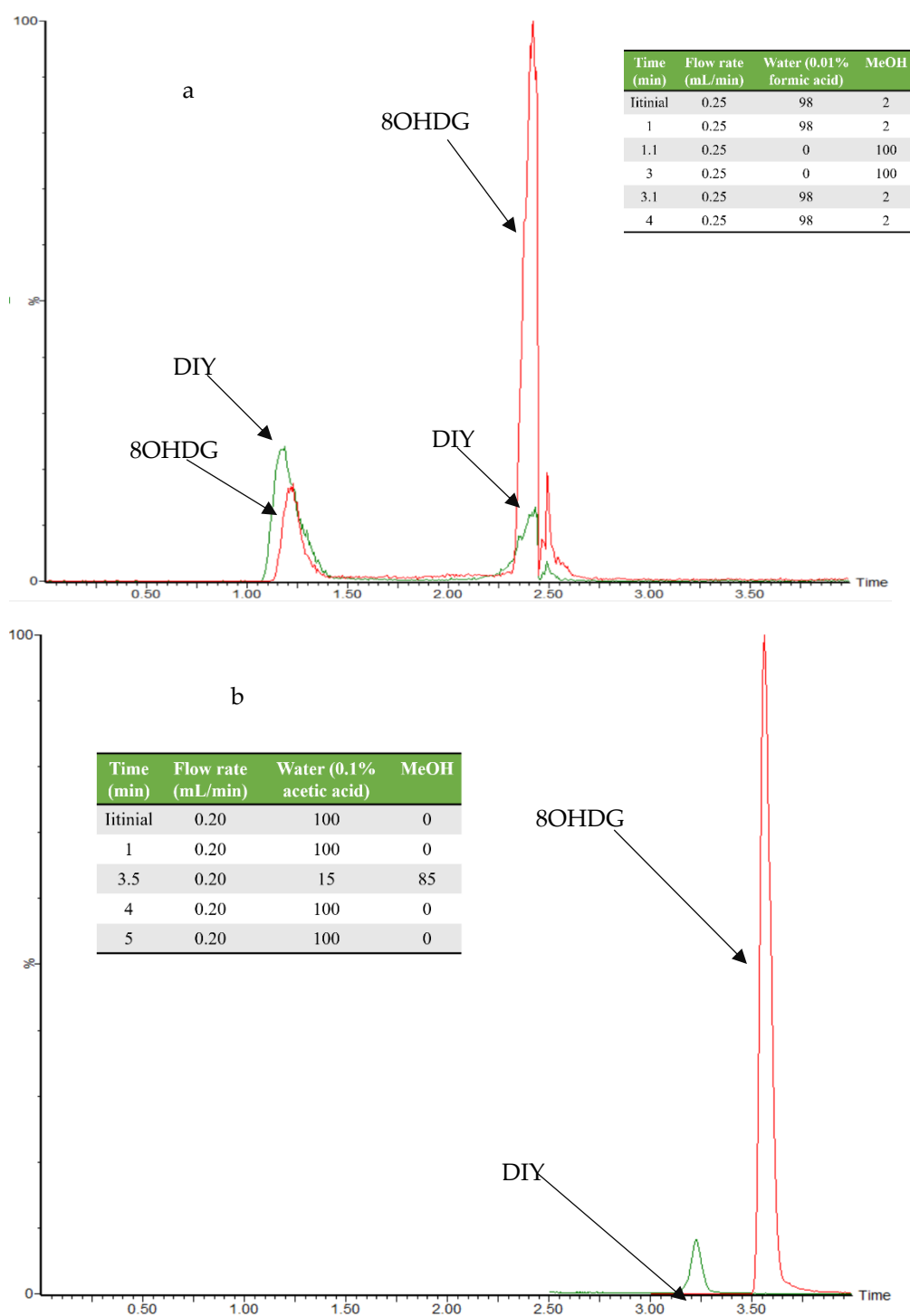


Figure S1. Total ion current chromatogram of 8OHDG and DIY separated by Kinetex C18 (30 × 2.1 mm, 1.3 μm) (a) and ACQUITY UPLC HSS T3 (100 × 2.1 mm, 1.7 μm) (b) at a concentration of 10 ng/mL for DIY and 8OHDG in solvent matrix.

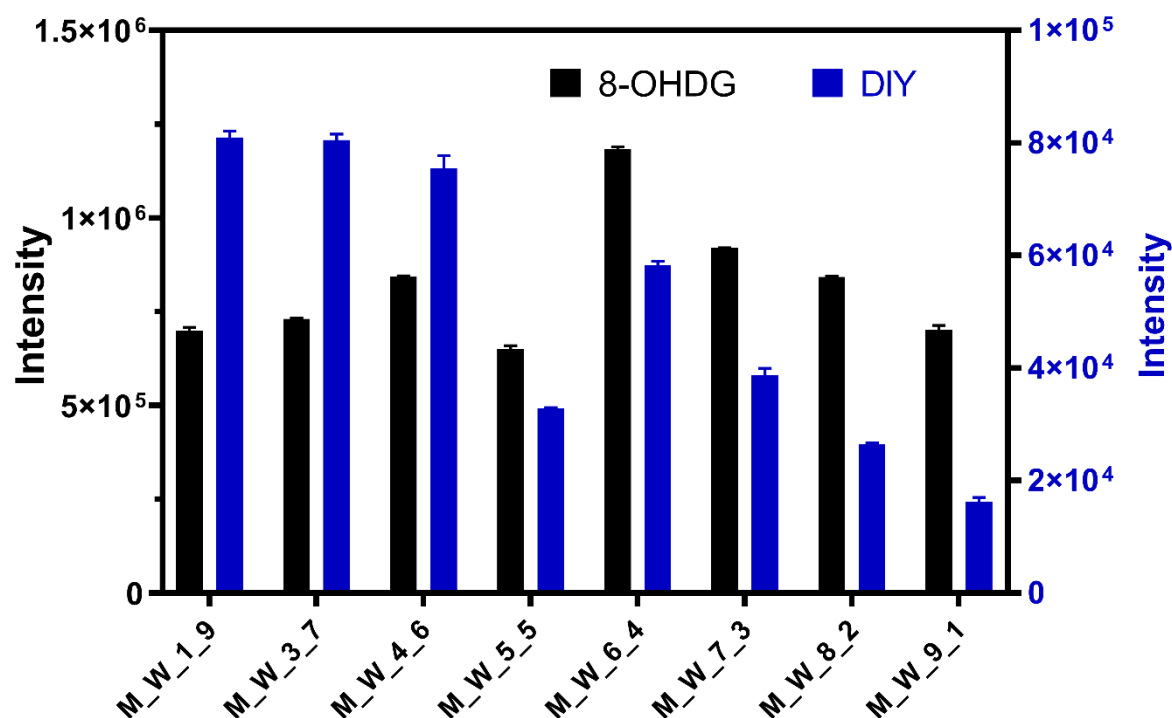


Figure S2. The intensity of 8OHDG and DIY in different solvent (M: MeOH; W: water; e.g., M_W_1_9 denotes methanol/water, 1:9 v/v) at a fortified amount of 10 ng for DIY and 8OHDG in solvent matrix.

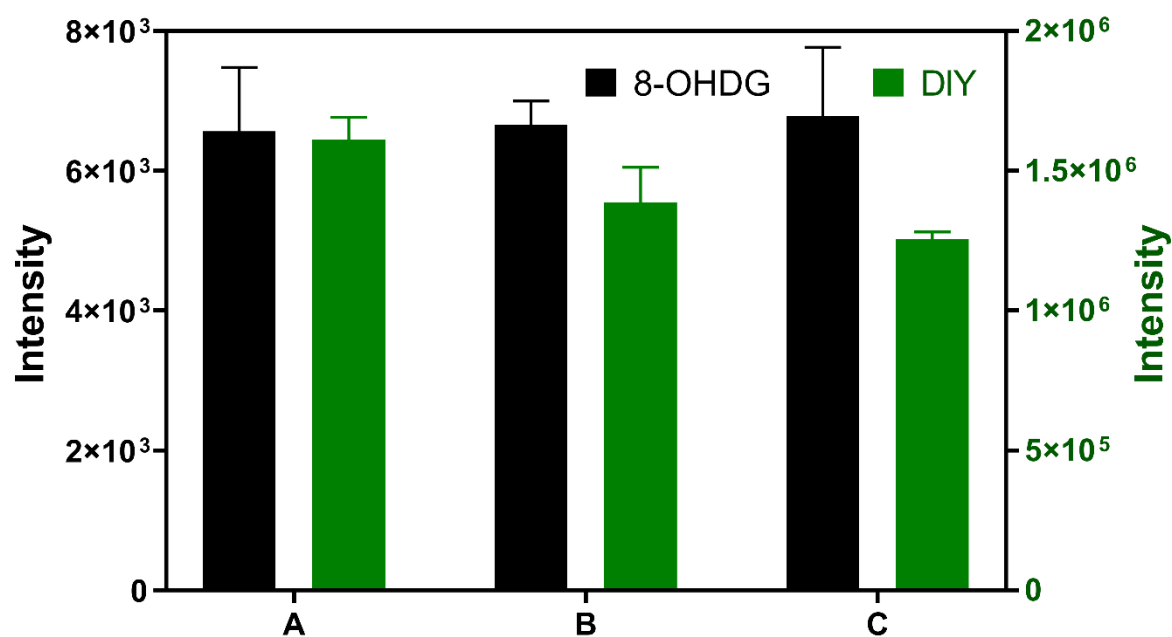


Figure S3. The intensity of 8OHDG and DIY in different extracted solutions (A: MeOH with 1% w/v ammonium formate; B: MeOH/Water (1:1 v/v); C: MeOH with 1% v/v formic acid) at a fortification level of 10 ng for DIY and 8OHDG in pooled matrix sample.

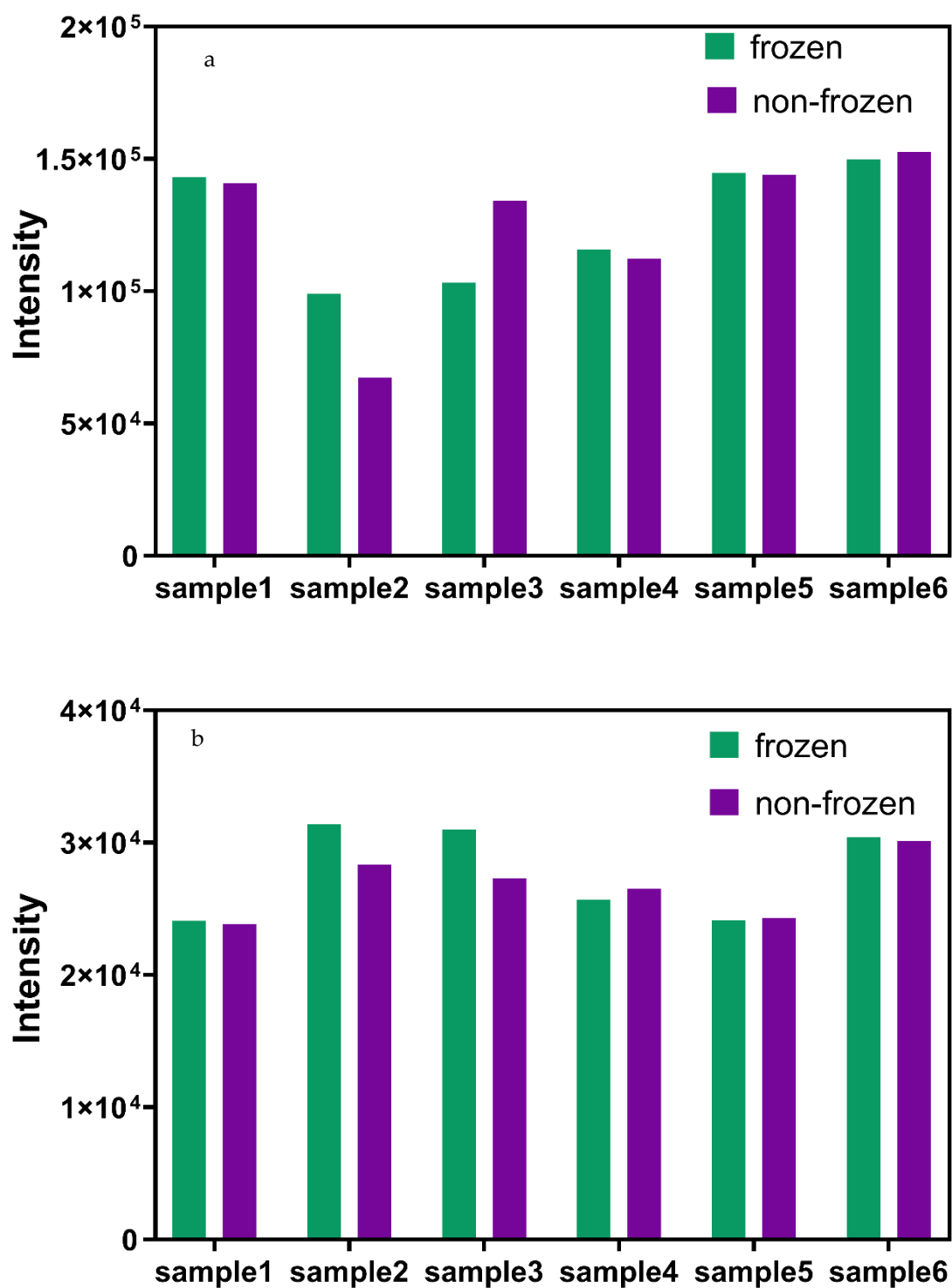


Figure S4. The intensity of $^{15}\text{N}_5\text{-8OHdG}$ (a) and $^{13}\text{C}_6\text{-DIY}$ (b) in the samples with freeze and non-freeze treatment.

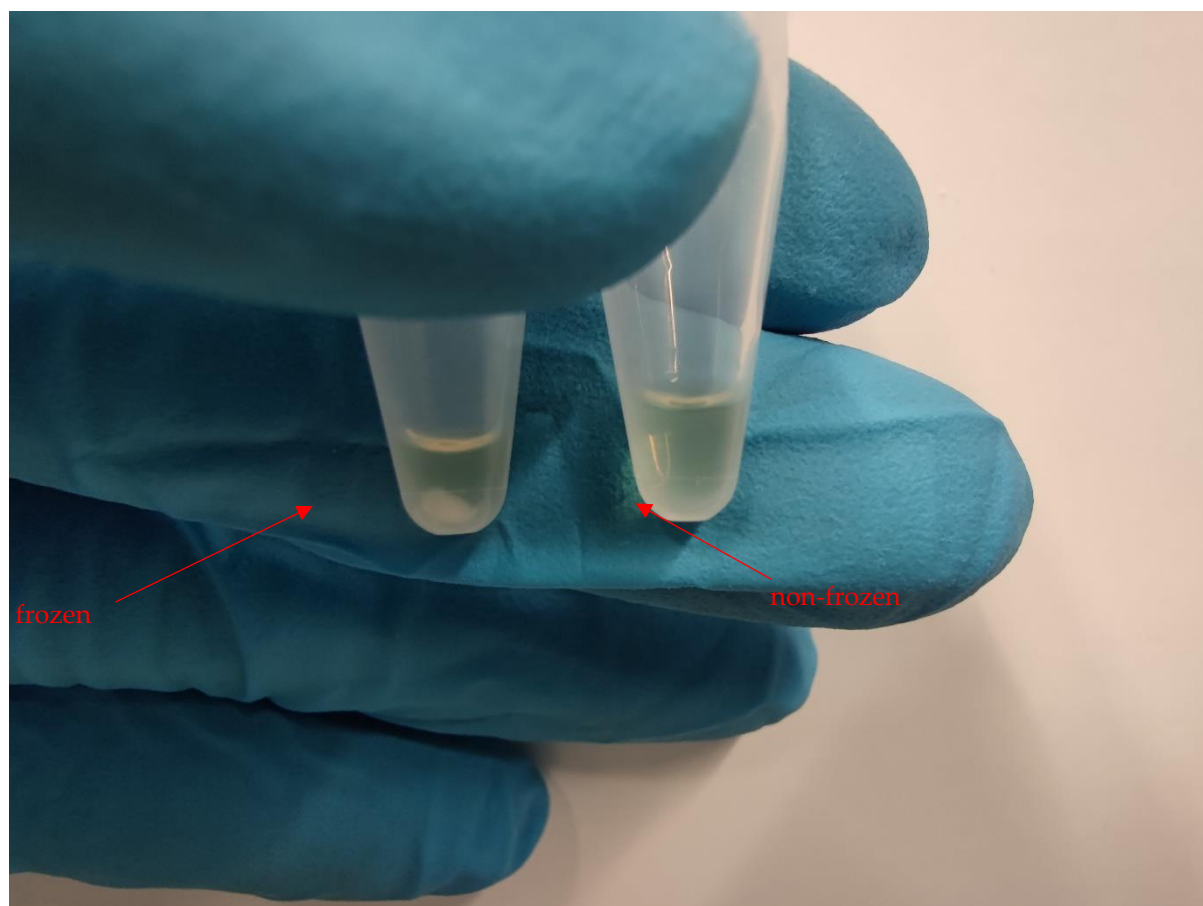


Figure S5. The difference of the same sample treated with freeze and non-freeze treatment.