

## Supplementary Tables

**Supplemental Table S1**

Average values of spectrophotometric and chemical degradation analyses of control, MFC (BS-small, BS-medium, BS-large) and RFC (RS-small, RS-medium, RS-large) in Materials #1. The number of samples in each group = 3.

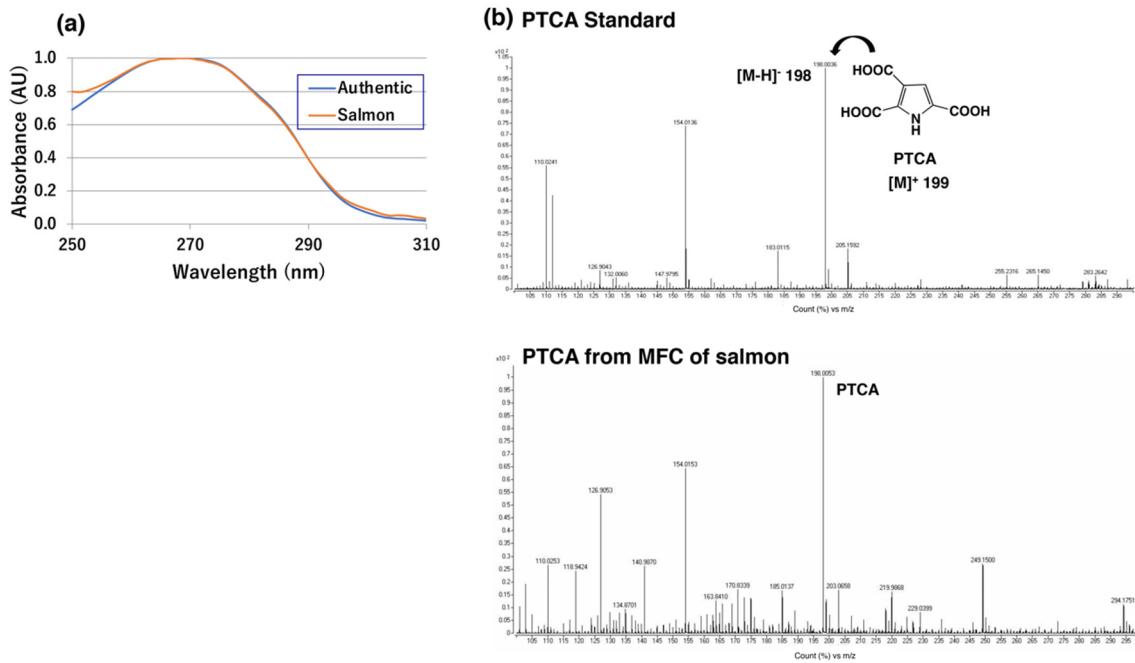
	A500 x 1000 (1/mg)	A650/A500 x 100	PTCA (ng/mg)	PDCA (ng/mg)	4-AHP (ng/mg)	3-AHP (ng/mg)	HI-DOPA (ng/mg)	PB-5SCD (ng/mg)	4-AHP/3-AHP
Control	6.5	2.6	0.72	0.23	0.26	0.13	4.7	2.3	2.0
BS-small	7.3	6.8	3.4	0.32	0.15	0.28	2.4	2.6	0.54
BS-medium	9.7	18.2	7.0	0.42	0.12	0.30	4.5	2.1	0.40
BS-large	14.7	22.0	19.4	0.95	0.13	0.53	4.9	2.2	0.25
RS-small	14.8	6.8	2.1	0.24	0.47	0.57	10.3	4.3	0.83
RS - medium	19.6	5.3	1.6	0.27	0.66	1.0	15.3	5.2	0.66
RS - Large	20.8	5.0	0.7	0.23	0.71	0.85	17.0	5.1	0.83

**Supplemental Table S2**

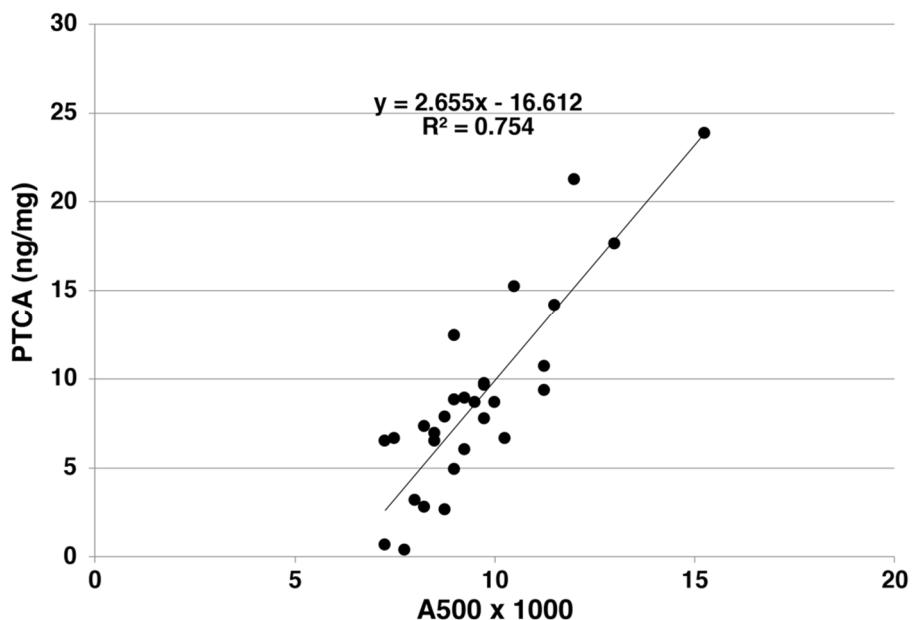
Average values of spectrophotometric and chemical degradation analyses of control (n = 2), MFC (BS-small, n = 3; BS-medium, n = 17; BS-large, n = 7) and RFC (n = 3) in Materials #2.

	A500 x 1000 (1/mg)	A650/A500 x 100	PTCA (ng/mg)	PDCA (ng/mg)	4-AHP (ng/mg)	3-AHP (ng/mg)	HI-DOPA (ng/mg)	4-AHP/3-AHP
Control (n = 2)	7.5	6.7	0.33	0.30	0.13	0.74	15.3	0.18
BS - small (n = 3)	8.3	9.0	2.5	0.45	0.11	0.68	10.1	0.16
BS - medium (n = 17)	9.2	15.8	7.8	0.60	0.19	0.90	11.0	0.21
BS - Large (n=7)	11.6	18.6	13.7	0.70	0.14	0.47	12.5	0.30
RFC (n = 3)	24.6	9.9	0.35	0.55	0.61	1.2	18.8	0.51

## Supplementary figures



**Supplemental Figure S1.** The identification of PTCA was obtained by isolating PTCA in a preparative scale AHPO in MFC. The UV-VIS (Suppl. Fig. S1a) and Mass spectra (Suppl. Fig. S1b) were confirmed by the comparison of authentic PTCA samples and PTCA isolated from MFC of salmon.



**Supplemental Figure S2.** The correlation of PTCA with A500 values. The PTCA values correlated well ( $R^2 = 0.754$ ) with the A500 values with a background value of 0.006/mg. This shows that MFC is mostly due to EM.