**Supplemental Table 1**

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 2**

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 |

![ダイアグラム

自動的に生成された説明]()**Supplemental Figure 1**. The identification of PTCA was obtained by isolating PTCA in a preparative scale AHPO in MFC. The UV-VIS (Suppl. Fig. 1a) and Mass spectra (Suppl. Fig. 1b) were confirmed by the comparison of authentic PTCA sample~~s~~ and PTCA isolated from MFC of salmon.

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自動的に生成された説明]()**Supplemental Figure 2.** The correlation of PTCA with A500 values. The PTCA values correlated well (R2 = 0.754) with the A500 values with a background value of 0.006/mg. This shows that MFC is mostly due to EM.