**Appendix B**

Fatty acid similarity profiles

We used a one-way SIMPER analysis to identify potential food sources and the main fatty acids contributing to the lipid composition of each component (Grall et al., 2006; Gabara, 2014). To limit extraneous data variability while focusing on the most significant fatty acids, only fatty acids contributing to over 70% of the similarities were included in the SIMPER analysis (Table B.1).

**Table B.1.** Relative contribution to observed similarity and mean proportion of fatty acids (FA) among samples for the six animal species, two macroalgal species, and two environmental components (see Table 2.2 for species list) sampled inside (I) or outside (O) of the South site (see Figure 1A). Only fatty acids contributing to at least 70% similarity were included in the similarity percentage analysis (SIMPER).

|  |  |  |  |
| --- | --- | --- | --- |
| ***Asterias rubens* (I)** | |  | |
| **FA** | **Similarity (%)** | | **Proportion (%)** | |
| 20:5ω3 (EPA) | 41.3 | | 31.6 | |
| 20:4ω6 (ARA) | 21.2 | | 19.8 | |
| 18:0 | 7.3 | | 5.9 | |
| 17:1 | 6.9 | | 9.2 | |
|  |  | |  | |
| ***Hiatella arctica* (I)** | |  | |
| **FA** | **Similarity (%)** | | **Proportion (%)** | |
| 20:5ω3 | 19.9 | | 19.3 | |
| 16:0 | 18.5 | | 16.5 | |
| 16:1ω7 | 14.2 | | 12.7 | |
| 22:6ω3 (DHA) | 9.6 | | 8.9 | |
| 18:1ω7 | 7.1 | | 7.0 | |
| 14:0 | 4.1 | | 4.3 | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***Nereis* spp. (I)** | | | |  | | | |
| **FA** | | **Similarity (%)** | | | | **Proportion (%)** | | |
| 20:5ω3 | | | 32.0 | | | | 29.3 | |
| 16:0 | | | 13.0 | | | | 11.1 | |
| 18:1ω7 | | | 7.3 | | | | 6.3 | |
| 18:1ω11 | | | 6.3 | | | | 5.3 | |
| 22:5ω3 | | | 4.9 | | | | 4.8 | |
| 18:0 | | | 4.7 | | | | 4.1 | |
| 22:4ω6 | | | 4.2 | | | | 4.8 | |
|  |  | | | |  | | | |
| ***Ophiopholis aculeata* (I)** | | | |  | | | |
| **FA** | | **Similarity (%)** | | | | **Proportion (%)** | | |
| 20:5ω3 | | 30.7 | | | | 26.8 | | |
| 16:0 | | 9.6 | | | | 15.5 | | |
| 18:1ω7 | | 8.0 | | | | 6.6 | | |
| 14:0 | | 7.5 | | | | 6.5 | | |
| 16:1ω7 | | 7.0 | | | | 5.9 | | |
| 20:1ω11 | | 6.1 | | | | 5.2 | | |
| 18:4ω3 | | 5.1 | | | | 5.1 | | |

**Table B.1 (continued):**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Strongylocentrotus droebachiensis* (I)** | | | |
| **FA** | | **Similarity (%)** | | | | | **Proportion (%)** | | | | |
| 20:5ω3 | | 29.6 | | | | | 24.8 | | | | |
| 20:4ω6 | | 16.3 | | | | | 14.5 | | | | |
| 16:0 | | 10.8 | | | | | 8.8 | | | | |
| 18:1ω7 | | 4.3 | | | | | 3.5 | | | | |
| 18:4ω3 | | 3.9 | | | | | 3.8 | | | | |
| 16:1ω7 | | 3.9 | | | | | 4.1 | | | | |
| 20:2ω6 | | 3.7 | | | | | 3.1 | | | | |
|  |  | | | | |  | | | | |
| ***Tonicella* spp. (I)** | | | | |  | | | |
| **FA** | | | **Similarity (%)** | | | | | **Proportion (%)** | | | |
| 20:5ω3 | | | 25.5 | | | | | 21.8 | | | |
| 16:0 | | | 12.3 | | | | | 10.9 | | | |
| 18:1ω9 | | | 9.7 | | | | | 9.0 | | | |
| 16:1ω7 | | | 9.3 | | | | | 8.1 | | | |
| 18:1ω7 | | | 7.8 | | | | | 6.8 | | | |
| 22:5ω3 | | | 5.3 | | | | | 4.7 | | | |
| 14:0 | | | 3.9 | | | | | 3.6 | | | |
|  |  | | | | |  | | | |
| ***Laminaria digitata* (O)** | | | | |  | | | |
| **FA** | | | **Similarity (%)** | | | | | **Proportion (%)** | | | |
| 16:0 | | | 20.7 | | | | | 17.5 | | | |
| 20:4ω3 | | | 16.1 | | | | | 13.5 | | | |
| 18:1ω9 | | | 16.0 | | | | | 13.0 | | | |
| 18:2ω6 | | | 11.2 | | | | | 9.1 | | | |
| 18:4ω3 | | | 9.6 | | | | | 8.0 | | | |
|  |  | | | | |  | | | |
| ***Lithothamnion glaciale* (I)** | | | | |  | | | |
| **FA** | | | **Similarity (%)** | | | | | **Proportion (%)** | | | |
| N/A | | | N/A | | | | | N/A | | | |
|  |  | | | | |  | | | |
| **Seawater (O)** | | | | |  | | | |
| **FA** | | | **Similarity (%)** | | | | | **Proportion (%)** | | | |
| 18:1ω9 | | | 35.0 | | | | | 32.9 | | | |
| 16:0 | | | 27.8 | | | | | 21.7 | | | |
| 18:0 | | | 23.3 | | | | | 18.2 | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table B.1 (continued):** |  | | |  | | |
| **Sediment (I)** | | |  | | |
| **FA** | | **Similarity (%)** | | | **Proportion (%)** | |
| 16:1ω7 | | 24.1 | | | 20.6 | |
| 16:0 | | 17.2 | | | 14.6 | |
| 18:1ω7 | | 10.4 | | | 9.0 | |
| 20:5ω3 | | 8.7 | | | 7.8 | |
| 18:1ω9 | | 5.3 | | | 5.3 | |
| 20:4ω6 | | 4.2 | | | 3.7 | |
| 16:3ω4 | | 2.8 | | | 2.5 | |