**S2\_Table: Fatty acids composition of the five diets employed in this study, reported as percentage of each FAME for the total fatty acid content for each diet (% total FA) and as absolute fame content µg of FA per mg of algae dry weight (µgFA mgDW-1).** AA: arachidonic acid – 20:4n-6, EPA: eicosapentaenoic acid – 20:5n-3, DHA: docosahexaenoic acid – 22:6n-3; DMA: dimethylacetals. Data are reported as average of three replicates ± SD. Statistical differences are reported in comparison to ShellPaste. FA evidenced by SIMPER and differing significantly between diets are in **bold**. Letters correspond to statistical significance: a p>0.05, b p<0.05, c p<0.01, d p<0.001 (**†**).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FA Class** |  | ***C. fusiformis CCAP 1017/2*** | | | |  |  | ***I. galbana CCAP 927/1*** | | | |  |  | ***M. subterranean CCAP 848/1*** | | | |  |  | ***N. oceanica CCAP 849/10*** | | | |  |  | **ShellPaste** | | | |  |
| **% total FA** | | | **µgFA mgDW-1** | | | **% total FA** | | | **µgFA mgDW-1** | | | **% total FA** | | | **µgFA mgDW-1** | | | **% total FA** | | | **µgFA mgDW-1** | | | **% total FA** | | | **µgFA mgDW-1** | | |
| **14:0** | **6.75a** | | **±0.54** | **6.73a** | **±0.66** | | **18.57d** | | **±0.30** | **16.47d** | **±2.12** | | **0.26d** | | **±0.01** | **0.26d** | **±0.02** | | **4.12c** | | **±1.22** | **4.04a** | **±1.85** | | **6.62a** | | **±0.79** | **4.89a** | **±1.48** | |
| 15:0 | 0.47a | | ±0.02 | 0.47a | ±0.08 | | 0.26b | | ±0.02 | 0.23a | ±0.01 | | 0.49a | | ±0.22 | 0.48a | ±0.20 | | 0.31b | | ±0.05 | 0.30a | ±0.09 | | 0.62a | | ±0.09 | 0.46a | ±0.13 | |
| 16:0 | 18.50a | | ±2.07 | 18.43a | ±2.54 | | 10.15a | | ±0.11 | 8.99a | ±0.98 | | 19.31a | | ±0.99 | 19.06a | ±1.33 | | 18.68a | | ±6.74 | 18.33a | ±9.51 | | 13.77a | | ±1.38 | 10.16a | ±2.73 | |
| 18:0 | 0.33b | | ±0.05 | 0.33a | ±0.08 | | 0.49a | | ±0.16 | 0.44a | ±0.20 | | 0.23c | | ±0.04 | 0.23a | ±0.02 | | 0.59a | | ±0.28 | 0.58a | ±0.34 | | 0.73a | | ±0.11 | 0.54a | ±0.17 | |
| **16:1n-9** | **4.04b** | | **±0.89** | **4.11a** | **±1.36** | | **2.93c** | | **±0.10** | **2.60b** | **±0.36** | | **10.67a** | | **±0.45** | **10.53c** | **±0.50** | | **4.97a** | | **±1.72** | **4.61a** | **±1.47** | | **7.31a** | | **±0.89** | **5.30a** | **±0.89** | |
| **16:1n-7** | **19.61d** | | **±1.58** | **19.55d** | **±2.37** | | **2.14d** | | **±0.24** | **1.89c** | **±0.21** | | **2.31d** | | **±0.28** | **2.27c** | **±0.12** | | **22.03d** | | **±1.07** | **20.86d** | **±3.55** | | **10.95a** | | **±1.23** | **8.05a** | **±2.02** | |
| **18:1n-9** | **3.24a** | | **±1.82** | **3.07a** | **±1.18** | | **11.34b** | | **±0.23** | **10.06c** | **±1.34** | | **1.30b** | | **±0.18** | **1.27b** | **±0.08** | | **4.51a** | | **±2.72** | **4.40a** | **±3.23** | | **6.03a** | | **±1.37** | **4.41a** | **±1.35** | |
| 18:1n-7 | 0.94a | | ±0.45 | 0.96a | ±0.53 | | 2.37b | | ±0.56 | 2.09b | ±0.46 | | 4.47d | | ±0.72 | 4.46d | ±1.10 | | 0.50a | | ±0.09 | 0.47a | ±0.06 | | 1.23a | | ±0.03 | 0.89a | ±0.15 | |
| 20:1n-11 | 0.41a | | ±0.67 | 0.46a | ±0.74 | | 9.22d | | ±1.02 | 8.22a | ±1.78 | | 0.02b | | ±0.03 | 0.02a | ±0.04 | | 0.02b | | ±0.04 | 0.02a | ±0.03 | | 0.86a | | ±0.40 | 0.61a | ±0.23 | |
| 20:1n-9 | 0.88a | | ±1.30 | 0.97a | ±1.44 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.13a | | ±0.17 | 0.14a | ±0.19 | | 0.16a | | ±0.21 | 0.13a | ±0.15 | | 0.30a | | ±0.04 | 0.22a | ±0.01 | |
| 20:1n-7 | 0.03a | | ±0.03 | 0.04a | ±0.03 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.06a | | ±0.05 | 0.05c | ±0.05 | | 0.07a | | ±0.01 | 0.05a | ±0.01 | |
| 22:1n-11 | 0.08a | | ±0.14 | 0.08a | ±0.15 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.15a | | ±0.17 | 0.15a | ±0.18 | | 0.19a | | ±0.24 | 0.16a | ±0.18 | | 0.21a | | ±0.14 | 0.15a | ±0.09 | |
| 22:1n-9 | 0.00d | | ±0.00 | 0.00c | ±0.00 | | 0.08a | | ±0.02 | 0.08a | ±0.03 | | 0.00d | | ±0.00 | 0.00c | ±0.00 | | 0.02c | | ±0.03 | 0.01c | ±0.02 | | 0.16a | | ±0.05 | 0.11a | ±0.03 | |
| 18:2n-6 | 1.58b | | ±0.61 | 1.53a | ±0.32 | | 5.27b | | ±0.21 | 4.66c | ±0.42 | | 4.63a | | ±0.51 | 4.54c | ±0.14 | | 2.31a | | ±0.24 | 2.17a | ±0.19 | | 3.43a | | ±0.83 | 2.49a | ±0.63 | |
| **18:3n-6** | **2.64d** | | **±0.36** | **2.61c** | **±0.07** | | **0.13a** | | **±0.06** | **0.11a** | **±0.04** | | **4.69d** | | **±0.15** | **4.64d** | **±0.47** | | **0.09a** | | **±0.03** | **0.08a** | **±0.02** | | **0.07a** | | **±0.04** | **0.05a** | ±**0.03** | |
| 20:2n-6 | 0.00d | | ±0.00 | 0.00b | ±0.00 | | 0.14a | | ±0.01 | 0.12a | ±0.02 | | 0.00d | | ±0.00 | 0.00b | ±0.00 | | 0.10a | | ±0.04 | 0.10a | ±0.05 | | 0.11a | | ±0.02 | 0.08a | ±0.01 | |
| 20:3n-6 | 1.08d | | ±0.40 | 1.04c | ±0.20 | | 0.10a | | ±0.01 | 0.09a | ±0.02 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.45c | | ±0.07 | 0.43b | ±0.11 | | 0.04a | | ±0.04 | 0.03a | ±0.03 | |
| **AA** | **9.05d** | | **±0.44** | **9.11d** | **±1.66** | | **0.10c** | | **±0.02** | **0.09a** | **±0.02** | | **0.00d** | | **±0.00** | **0.00a** | **±0.00** | | **5.20d** | | **±0.36** | **4.90d** | **±0.57** | | **0.46a** | | **±0.03** | **0.34a** | ±**0.07** | |
| 22:4n-6 | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.25d | | ±0.01 | 0.22b | ±0.01 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.02a | | ±0.04 | 0.01a | ±0.02 | |
| 22:5n-6 | 0.42a | | ±0.08 | 0.42a | ±0.06 | | 1.75a | | ±1.59 | 1.51a | ±1.32 | | 0.00a | | ±0.00 | 0.00c | ±0.00 | | 0.04a | | ±0.04 | 0.04b | ±0.04 | | 2.77a | | ±0.59 | 2.02a | ±0.57 | |
| **18:3n-3** | **0.15d** | | **±0.10** | **0.16d** | **±0.12** | | **7.19b** | | **±0.37** | **6.37b** | **±0.74** | | **26.63d** | | **±1.02** | **26.28d** | **±1.42** | | **0.11d** | | **±0.04** | **0.10d** | **±0.03** | | **4.48a** | | **±1.44** | **3.23a** | ±**0.99** | |
| **18:4n-3** | **0.98b** | | **±0.33** | **0.95b** | **±0.16** | | **9.86a** | | **±0.49** | **8.71a** | **±0.66** | | **2.99a** | | **±2.54** | **3.03a** | **±2.67** | | **0.05d** | | **±0.04** | **0.04c** | **±0.04** | | **7.50a** | | **±1.86** | **5.39a** | **±1.12** | |
| 20:4n-3 | 0.61a | | ±0.38 | 0.57a | ±0.26 | | 0.00c | | ±0.00 | 0.00c | ±0.00 | | 0.00c | | ±0.00 | 0.00c | ±0.00 | | 0.10a | | ±0.03 | 0.09a | ±0.02 | | 0.27a | | ±0.03 | 0.20a | ±0.05 | |
| **EPA** | **17.05a** | | **±2.74** | **17.34a** | **±4.91** | | **0.78d** | | **±0.17** | **0.70d** | **±0.23** | | **0.04d** | | **±0.07** | **0.04d** | **±0.07** | | **32.79c** | | **±7.57** | **30.67d** | **±6.77** | | **16.17a** | | **±0.75** | **11.86a** | ±**2.73** | |
| 22:5n-3 | 0.14a | | ±0.03 | 0.14a | ±0.02 | | 1.01a | | ±1.60 | 0.90d | ±1.43 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.00a | | ±0.00 | 0.00a | ±0.00 | | 0.10a | | ±0.02 | 0.07a | ±0.02 | |
| **DHA** | **0.79d** | | **±0.09** | **0.80d** | **±0.19** | | **12.69d** | | **±0.28** | **11.27d** | **±1.57** | | **0.05d** | | **±0.08** | **0.05d** | **±0.09** | | **0.00d** | | **±0.00** | **0.00d** | **±0.00** | | **6.17a** | | **±1.63** | **4.47a** | ±**1.25** | |
| 16;2 | 1.31c | | ±0.28 | 1.33a | ±0.44 | | 1.75a | | ±0.22 | 1.57a | ±0.37 | | 0.73d | | ±0.06 | 0.72a | ±0.07 | | 0.35d | | ±0.20 | 0.32b | ±0.19 | | 2.51a | | ±0.24 | 1.85a | ±0.45 | |
| **16;3** | **6.65d** | | **±1.40** | **6.79d** | **±2.23** | | **0.45d** | | **±0.33** | **0.38b** | **±0.25** | | **1.74a** | | **±0.16** | **1.72a** | **±0.19** | | **0.40d** | | **±0.15** | **0.37b** | **±0.07** | | **2.57a** | | **±0.53** | **1.86a** | **±0.41** | |
| 16;4 | 0.70a | | ±0.62 | 0.76a | ±0.67 | | 0.15a | | ±0.01 | 0.13a | ±0.02 | | 10.53a | | ±9.14 | 10.66a | ±9.42 | | 0.08a | | ±0.07 | 0.07a | ±0.07 | | 1.91a | | ±0.38 | 1.40a | ±0.36 | |
| 16:0 DMA | 1.18b | | ±0.24 | 1.20a | ±0.37 | | 0.82c | | ±0.02 | 0.72b | ±0.09 | | 3.09a | | ±0.01 | 3.05c | ±0.26 | | 1.49a | | ±055 | 0.00a | ±0.00 | | 2.26a | | ±0.33 | 1.65a | ±0.35 | |
| *Σ*  SFA | 26.11a | | ±2.10 | 26.02b | ±2.93 | | 29.49a | | ±0.37 | 26.16b | ±3.32 | | 20.29a | | ±0.88 | 20.02a | ±1.20 | | 23.81a | | ±8.18 | 23.34a | ±11.7 | | 22.01a | | ±1.82 | 16.24a | ±4.43 | |
| ***Σ* MUFA** | **29.24a** | | **±1.74** | **29.25a** | **±4.18** | | **28.08a** | | **±0.57** | **24.94a** | **±3.44** | | **19.06d** | | **±0.39** | **18.86a** | **±1.85** | | **32.47c** | | **±2.37** | **30.70a** | **±5.15** | | **27.12a** | | **±0.30** | **19.80a** | **±3.69** | |
| ***Σ* n-6** | **14.77d** | | **±1.17** | **14.70d** | **±1.24** | | **7.74a** | | **±1.53** | **6.80a** | **±1.15** | | **9.31b** | | **±0.49** | **9.18c** | **±0.35** | | **8.19a** | | **±0.56** | **7.71a** | **±0.88** | | **6.91a** | | **±0.33** | **5.02a** | **±0.77** | |
| *Σ*  n-3 | 19.72c | | ±2.29 | 19.95a | ±4.81 | | 31.53a | | ±1.96 | 27.95a | ±3.66 | | 29.70a | | ±1.79 | 29.41a | ±3.61 | | 33.21a | | ±7.65 | 31.04a | ±6.77 | | 34.70a | | **±**2.71 | 25.23a | ±4.36 | |
| *Σ* PUFA | 43.15a | | ±3.91 | 43.53a | ±9.39 | | 41.61a | | ±0.84 | 36.84a | ±3.66 | | 52.02a | | ±10.7 | 51.70a | ±13.0 | | 42.23a | | ±8.42 | 39.51a | ±7.32 | | 48.61a | | **±**1.90 | 35.36a | ±5.75 | |
| **† equal letters indicate similar significance level: a: p>0.05; b: p<0.05; c: p<0.01; d: p<0.001.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |