**Supplementary Table 1.** Fatty acid methyl ester profile (%) of algae grown in normal BG11 media. Data is mean of biological triplicates ± SE. The C18:3 (n-3) values for six species were analyzed using One-way ANOVA. Tukey’s test with same alphabets superscripted to the mean±SE values indicates no statistical difference.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fatty acid | *C. minutissima* | *Desmodesmus sp.* MCC34 | *D. salina* | *D. tertiolecta* | *N. muscorum* | *A. doliolum* |
| C14 | 7.48± 0.22 | 2.44± 0.06 | 2.31 ±0.09 | 18.02± 0.52 | 6.19 ±0.18 | 7.89 ±0.21 |
| C16 | 26.48± 0.78 | 25.58± 0.78 | 20.43 ±0.66 | 23.71 ±0.71 | 41.86 ±1.21 | 25.88 ±0.71 |
| C16:1 | 0.97 ±0.03 | 2.48 ±0.06 | 7.16 ±0.22 | 3.41 ±0.07 | 8.16 ±0.31 | 15.54 ±0.41 |
| C16:2 | 12.67 ±0.38 | 2.35 ±0.06 | 11.19 ±0.28 | 3.57 ±0.08 | \_ | 0.61 ±0.05 |
| C18 | 2.84 ±0.10 | 1.83 ±0.03 | 3.04 ±0.08 | 8.70 ±0.24 | 7.48 ±0.18 | 1.30 ±0.05 |
| C18:1 | 8.45 ±0.23 | 15.04 ±0.51 | 26.17 ±0.77 | 18.34 ±0.44 | 0.88 ±0.01 | 20.93 ±0.61 |
| C16:4 | 0.20 ±0.01 | 5.39 ±0.15 | \_ | \_ | \_ | \_ |
| C18:2 | 34.74 ±1.01 | 15.79 ±0.44 | 19.52 ±0.69 | 14.89 ±0.41 | 22.09 ±0.66 | 20.48 ±0.56 |
| C18:3  ( n-6) | \_ | 4.28 ±0.13 | 1.32 ±0.07 | \_ | \_ | \_ |
| C18:3  ( n-3) | 6.18 ±0.18f | 24.82 ±0.61a | 8.02 ±0.21d | 9.36 ±0.41c | 13.33 ±0.51b | 7.36 ±0.21e |
| C18:4 | \_ | \_ | 0.85 ±0.01 | \_ | \_ | \_ |
| SFA | 36.80 ±1.21 | 29.85 ±0.87 | 25.78 ±0.81 | 50.42 ±1.62 | 55.53 ±1.81 | 35.07 ±1.01 |
| MUFA | 9.42 ±0.21 | 17.53 ±0.48 | 33.33 ±0.92 | 21.75 ±0.71 | 9.04 ±0.16 | 36.48 ±1.19 |
| PUFA | 53.79 ±1.54 | 52.62 ±1.52 | 40.89 ±1.21 | 27.83 ±0.78 | 35.42 ±1.13 | 28.45 ±0.76 |

\*SFA-saturated fatty acid, MUFA-Monounsaturated fatty acid, PUFA-Polyunsaturated fatty acid