

SUPPLEMENTARY INFORMATION

Pavlova gyrans as a potential source of essential fatty acids, sterols and pigments: culture under low temperature

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Table S1. Summary of different parameters obtained from *Pavlova gyrans* grown under control and low-temperature stress (LTS) conditions. Values are expressed as mean $\pm$ standard deviation (n = 3). The growth rate (μ) and doubling time (DT) values were calculated at the exponential growth phase, while the other parameters were measured by day 10 of culture. **Chl a**: autofluorescence of chlorophyll a; **CD**: cell density; **DW**: dry weight; **TAGs**: Triacylglycerides * stands for statistically significant differences (p < 0.05).

	Control	LTS
μ (div day ⁻¹)	1.01 $\pm$ 0.21	0.98 $\pm$ 0.32
DT (hours)	23.81 $\pm$ 2.31	24.42 $\pm$ 0.56
CD (cell mL ⁻¹)	8.9E+06 $\pm$ 7.7E+05	1.2E+07 $\pm$ 1.3E+06 *
DW (mg L ⁻¹)	200 $\pm$ 28.28	305 $\pm$ 10.60 *
Chl a (a.u)	26.01 $\pm$ 4.51	74.77 $\pm$ 0.99 *
TAGs (mg L ⁻¹)	6.35 $\pm$ 0.28	5.93 $\pm$ 0.34

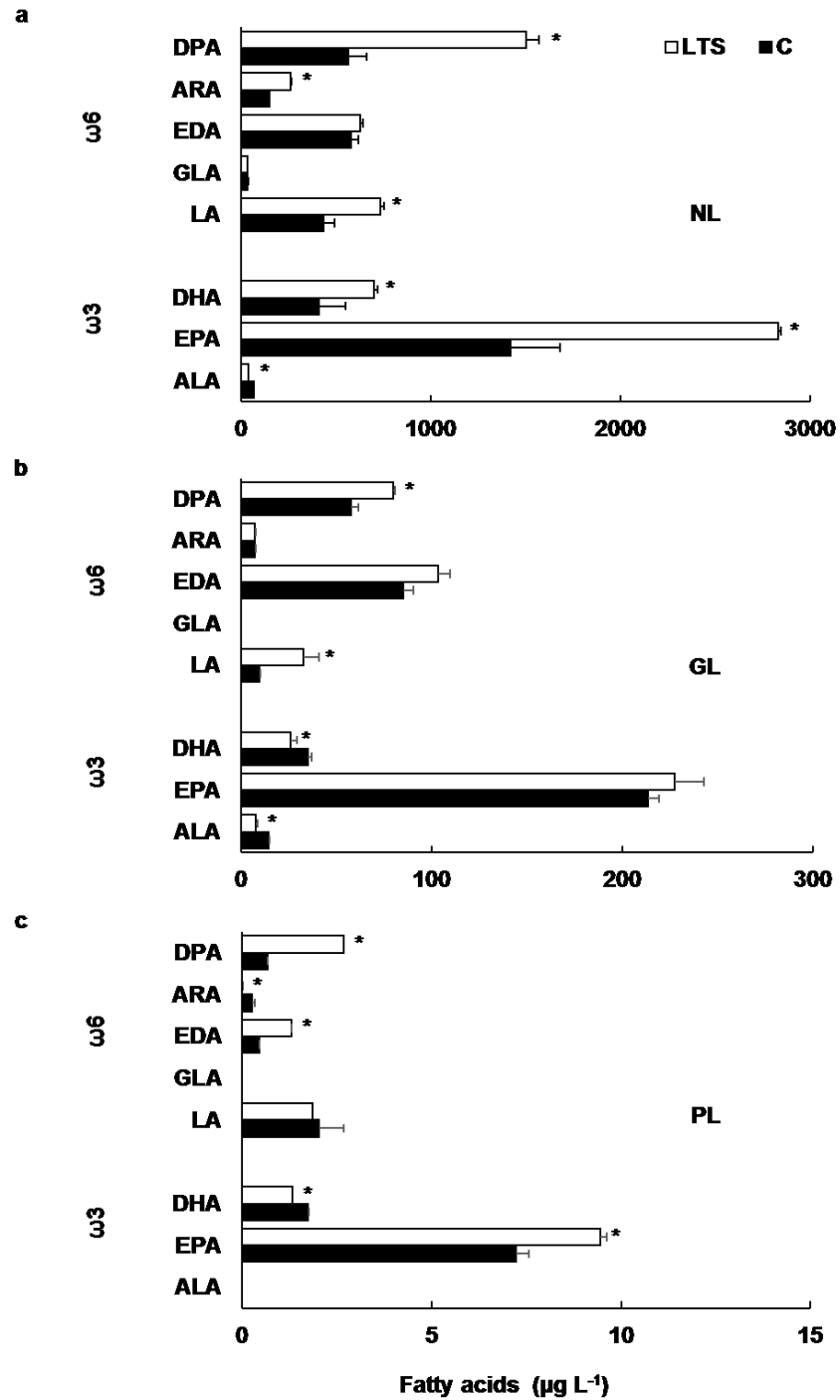


Fig. S1 PUFAs production of *Pavlova gyrans* considering lipid fractions. The figure shows the production of omega 3 fatty acids ($\omega 3$): linolenic acid (ALA), eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA); and omega 6 fatty acids ($\omega 6$): linoleic (LA), gamma-linolenic (GLA), arachidonic (ARA) and docosapentaenoic (DPA). The results are expressed as $\mu\text{g L}^{-1}$ for **a)** neutral lipid (NL), **b)** glycolipid (GL) and **c)** phospholipid (PL) fractions obtained from *P. gyrans* grown under C and SLT conditions. Conversion factors (F) of 0.62, 0.21 and 0.03 for NL, GL and PL fractions, respectively were used to estimate fatty acid production. Values are presented as mean $\pm$ standard deviation ($n = 4$). * Indicates significant differences ($p < 0.05$) between growth conditions for each fatty acid mentioned for each lipid fraction

Table S2. Comparison of PUFA content among *Pavlova gyrans* and other species of microalgae. Fatty acids are expressed as mg of fatty acid per 100 g biomass⁻¹ (mg 100 g⁻¹). Values for each species were obtained from: ¹ Matos et al. (2021), ² Bonfanti et al. (2018), ³ Xu et al. (2008), ⁴ Tibbetts et al. (2020) and ⁵ Almeyda et al. (2020). The estimated values for *P. gyrans* and the diatom (⁵) corresponds to the LTS condition.

Fatty acids	<i>P. gyrans</i>	<i>I. galbana</i>¹	<i>I. galbana</i>²	<i>P. viridis</i>³	<i>Pav459</i>⁴	<i>C. closterium</i>⁵
C 20:4ω6 ARA	151	66	69	120		1090
C 20:5ω3 EPA	1889	234	276	1480	3370	2640
C 22:5ω6 DPA	966	358	...	780	860	
C 22:5ω3 DPA	...	35	43	...	...	
C 22:6ω3 DHA	448	1637	2146	270	1640	320
PUFAs	4300	9154	10829	3280	7700	5630
ω3	2361	6217	7867	2220	6210	2960
ω6	1939	2847	2829	1010	1250	2650
ω3/ω6 ratio	1.22	2.18	2.80	2.20	4.97	1.12