

**Figure S2.** Incubation of *N. oceanica* cells in the environmental photobioreactor (ePBR). A, *N. oceanica* cells were inoculated in the f/2 medium containing NH<sub>4</sub>Cl (left image) and were incubated in the ePBR to stationary phase (day 1, S1; middle image) and further grown for 8 days (S8; right image). Cultures were incubated under fluctuating light at 23°C and were sparged with air enriched to 5% CO<sub>2</sub> at 0.37 L min<sup>-1</sup> for 2 min per h. B, Light conditions for the cultures in the ePBR: fluctuating lights (0 to 2,000 μmol photons m<sup>-2</sup> s<sup>-1</sup>) under diurnal 14/10 h light/dark cycle.