



Figure S1. Effect of the combination of supraoptimal temperature and different biomass concentrations (A) on mean light availability (B), biomass starch content (C) and volumetric starch concentration (D) in the culture. The vertical line at day 4 represents the shift between biomass accumulation and supraoptimal temperature phases. Blue lines and markers indicate cultivation at 30 °C and red lines and markers indicate cultivation at 39 °C. During the biomass accumulation phase a single *C. reinhardtii* culture was cultivated at 30 °C. After 4 days the culture was split into two, transferred to 39 °C and was diluted to 0.1 g L⁻¹ (dashed red line) and 0.2 g L⁻¹ (solid red line) respectively.



Figure S2. Cultivation vessels where *C. reinhardtii* cultures were incubated at the supraoptimal temperature and with various initial biomass concentrations. The photograph was taken moments after the culture suspension from both panels was discarded. Left panel: culture with biomass density of 0.1 g L^{-1} . Right panel: excessive bio film formation on the back wall where culture with biomass density of 0.8 g L^{-1} was cultivated.