*Cell viability analysis*

For cell viability analysis, a 1.0 mL microalgal sample was centrifuged at 10,000×*g* for 5 min (Legend Micro 17R; Thermo Fisher Scientific, Waltham, MA, USA). Following centrifugation, 950 µL of the supernatant was discarded, and 50 µL of a 0.4% (w/v) trypan blue dye solution was added to the remaining volume. The mixture was pipetted for 1 min to ensure proper mixing, followed by incubation for 10 min on the bench at room temperature (25ºC). The algal cells were subsequently washed twice with 1 mL of distilled water and vortexed for 1 min. An aliquot of 10 µL from the microalgal mixture was loaded onto a hemocytometer, and stained and unstained cells were counted under a bright-field microscope.