



2024「中技社科技獎學金」

2024 CTCI Foundation Science and Technology Scholarship

境外生研究獎學金

Research Scholarship for International Graduate Students

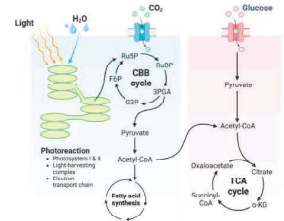
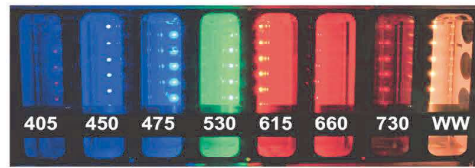
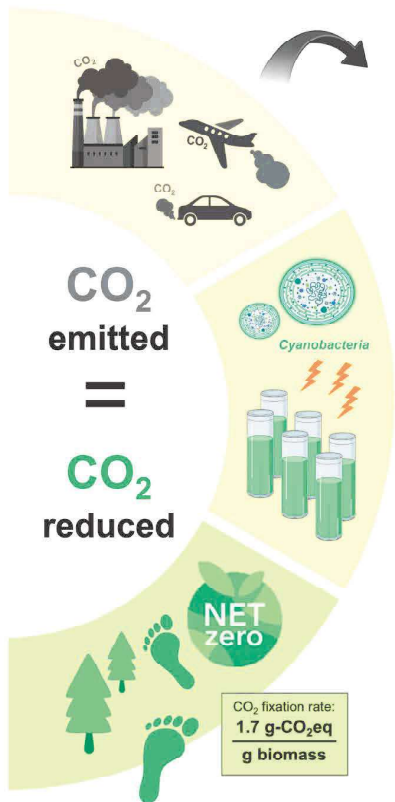


Cyanobacteria for direct air capture: Growth modulation and carbon fixation in marine environment

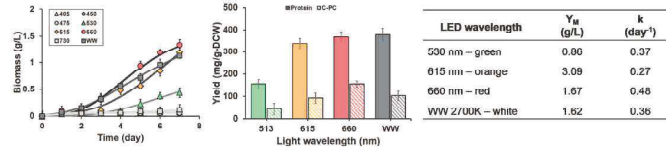
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NSTC 113-2218-E-006-014, NSTC 113-2922-I-006-287

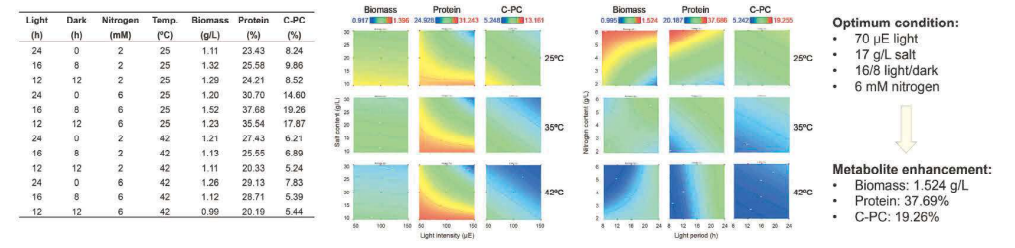


Growth profile under various LED wavelengths

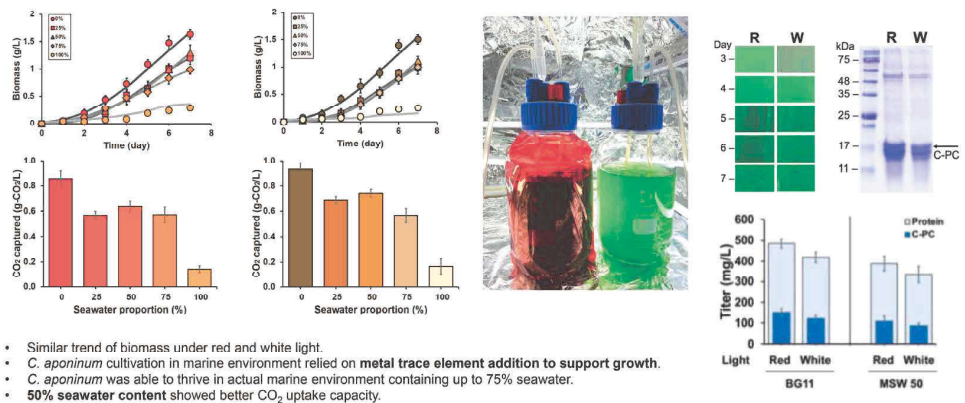


Red light (660 nm) and white light (WW 2700K) promoted growth and protein accumulation.

Simultaneous optimization of cultivation parameters



Cultivation using marine seawater from Penghu, Taiwan



Take-home messages

- C. aponinum* PCC10605 can thrive in elevated salinity and simultaneously accumulate phycocyanin (C-PC).
- Artificial red and white light sources was found to enhance growth, and further supported by optimized cultivation parameters.
- Marine seawater is a feasible water source for cyanobacteria cultivation.
- Future research should focus on elucidating the interplay of biomass accumulation under red light and exploring light regime optimization for further yield improvements.

