

Realization of a low carbon society through game changing technologies

Development of cyanobacteria specialized in substance production by cell division control technology and application to photosynthetic aromatic production

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Summary :

In aiming for substance production with algae, the peak of cell density due to the self-shielding effect of light and the fact that substance production is linked to cell division and light energy cannot be concentrated in substance production hindered practical application. This study focuses on the control mechanism of cell growth and develops a technique to intensively and continuously produce useful aromatic compounds by separating the link between cell division and substance production by artificially modifying this mechanism. Conventional substance production has relied on alterations in metabolic pathways and metabolic control, but the game-changing property will be demonstrated in the aim of improving substance production capacity based on understanding and controlling the cell cycle and cell growth of cyanobacteria.

