

Enhancing the biodiesel quality of *Nannochloropsis gaditana* with oxidative stress induced by triiodide resin

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To improve the microalgal biodiesel quality, several methods such as catalytic upgrade or oxidative stress induction were attempted. But there has been not invented efficient process. In the present study, triiodide known as oxidizing agent by capturing electrons from cultivated *Nannochloropsis gaditana*. When cells culture reach to the early stationary phase, dry cell weight concentration was 1.6 g/L, the culture was induced by triiodide resin with different concentration (0.1, 0.5, 1.0, 2.0, and 4.0 g/L) for 48 hr in 250 ml baffled flask. After induction, the change of lipid contents and composition in *N. gaditana*, lipid was extracted and transesterificated to fatty acid methyl ester (FAME) for measuring with gas chromatography. Compared to culture without triiodide induction, induced *N. gaditana* culture contained shorter fatty acid chains. This results indicate that it is possible to enhance the biodiesel quality by short-term triiodide resin induction.