

Development of Effective Microalgal Biodiesel Production Process from Wet Microalgal Biomass of *Dunaliella tertiolecta* LB999

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Bioenergy could replace fossil fuels and reduce greenhouse gas emissions. Biodiesel production via transesterification of biologically-produced lipids would benefit environment by producing sustainable energies from reproducible resources. Lipids from microalgae can be effective feedstocks for biodiesel production, but the currently-available technology for lipid extraction and conversion processes are not suitable for producing biodiesels from microalgae due to high moisture contents. Additionally, the dewatering process of microalgae before lipid extraction is an energy-intensive step which prevents an economic production of microalgal biodiesel. In this study, we have developed an effective dewatering method and biodiesel production process for *Dunaliella tertiolecta*. The resulting direct wet process showed a reduction of biodiesel production cost by 54%, and low lipid loss (0.87%, based on total lipid) while maintaining the same FAME (fatty acid methyl ester) production when compared to conventional (dry route) biodiesel production process.