

Real time optimization of microalgae cultivating system

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Bio-oriented secondary metabolites production characterized by distinct cultivation environment of growth and production, is optimized in a framework of two-stage approach. Each stage's kinetic models are constructed by using logistic and Luedeking-Piret model and utilized for searching the termination times having optimal productivity and time yield. In addition, the kinetic models are modified in real-time manner for compensating the plant model mismatch. Simulation results show that termination of both stages in transient condition has improved yield, being compared with the yield of steady state strategy. Based on these results, necessities of proper two-stage schedule optimization in real-time manner for plant scale bio-process are raised.

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