

Continuous Acetone-Butanol-Ethanol Production with High Productivity Using a Metabolically Engineered Strain of *Clostridium acetobutylicum*

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Anaerobic fermentation processes are generally limited by low cell concentrations that eventually results in low volumetric productivity. The aim of the present study was to establish a continuous fermentation process for a metabolically engineered *C. acetobutylicum* strain which can result in high butanol and ABE productivities. The maximum obtained ABE and butanol productivities were 15.7 and 7.9 g l⁻¹ h⁻¹ respectively. The merit of this work is that this is the first report on continuous fermentation with cell recycling using a metabolically engineered *C. acetobutylicum*. The butanol and ABE productivities obtained during present study is the highest reported productivities obtained during continuous acetone-butanol-ethanol fermentation by any of the reported strains. [This work was supported by the Advanced Biomass R&D Center (ABC) of Korea Grant funded by the Ministry of Education, Science and Technology (2010-0029799). Further supports by GS Caltex, BioFuelChem, and the World Class University Program (R32-2008-000-10142-0) through the National Research Foundation of Korea funded by the MEST are appreciated.]