

Development of jet-fuel production platform of Synthetic Biology-based engineered
Corynebacterium glutamicum

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Advanced biofuels that target direct replacement of transportation fuels such as gasoline, diesel, and jet-fuel, have had attentions due to rising petroleum costs and environmental concerns. Recently microbial cell factories based on Synthetic Biology have been developed to produce 'Drop-in-Chemicals' from renewable feedstocks. In this work, we have focused on the production of jet-fuel from biomass and developed a microbial cell factory that enables to produce the possible candidates of jet-fuel, which requires the high density of energy contents and low freezing point and viscosity. *Corynebacterium glutamicum*, a widely-known industrial bacterium, was engineered by introducing biofuel producing pathway constructed in the BioBrick-formatted expression vector systems. In addition, the effect of cultivation of *C. glutamicum* for the jet-fuel production was investigated for the higher-production. The jet-fuel production platform by engineered *C. glutamicum* could be extended to further biofuels and biochemicals application.