

Microbial Bioproduction with Design of Metabolism and Enzyme Engineering

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Abstract : Technologies of metabolic engineering or synthetic biology are essential for effective microbial bioproduction. It is especially important to develop an in silico tool for designing a metabolic pathway producing an unnatural and valuable chemical such as fossil materials of fuel or plastics. We here demonstrated two in silico tools for designing novel metabolic pathways: BioProV and HyMeP. Furthermore, we succeeded in creating an artificial metabolic pathway by enzyme engineering.

Keywords : bioinformatics, metabolic engineering, synthetic biology, genome scale model

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