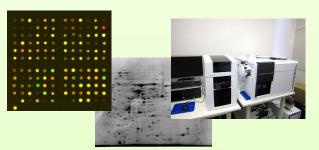
Metabolic Engineering

Understanding of microorganisms as a system, and development of methods for production of target products

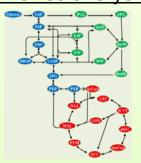
Fermentation engineering



Omics analysis



in silico analysis



Delvelopment of ...

- 1) metabolome analysis
- 2) metabolic flux analysis
- 3) methodology for identification of genes conferring desired phenotype from multi omics data
- 4) in silico methods for prediction of optimal metabolic pathway to produce target product
- 5) genetic manipulation technique for rapid metabolic engineering
- 6) breeding method to obtain strains tolerant to stress during production process
- 7) breeding method to improve availability of biomass resource
- 8) fermentation process for maximization of the potential of microorganisms
- Achievement of bioproduction for petroleum substitute

Creation of valuable strains

- Optimization of metabolic pathway for production
- Breeding of strains robust to production process