

# Strain improvement for production of homo-organic acid based on multi-objective simulation

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## Abstract

The advent of *in silico* genome-scale model developed various algorithms to apply to metabolic engineering. Flux balance analysis (FBA) optimizes a specific objective function by linear programming under pseudo-steady state based on the stoichiometry of metabolic reactions. However, to improve a strain for biochemical production, the organism should be investigated from diverse sides simultaneously such as biomass formation, biochemical production, and waste secretion. In this respect, we propose a new approach called the flux scanning with compromised objective fluxes (FSCOF), which is multi-objective algorithm. FSCOF can investigate the correlation between the biomass formation, biochemical production, and waste secretion.

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**Keywords:** *in silico* genome-scale model, multi-objective algorithm, FSCOF

## Figure

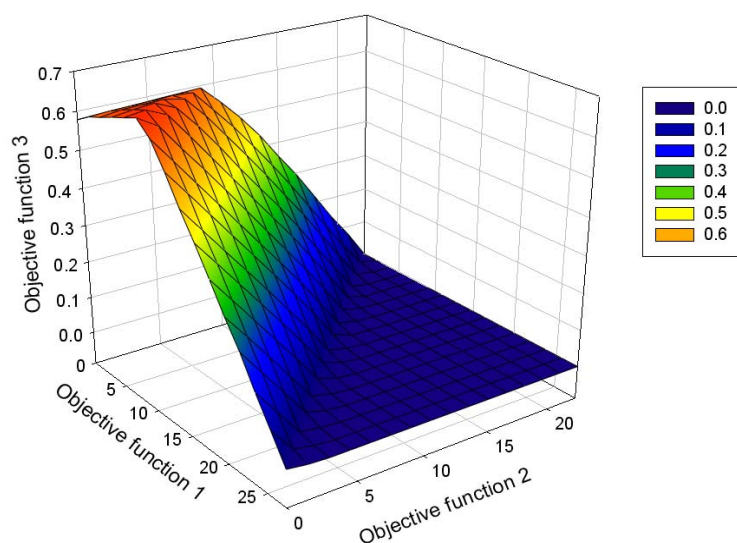


Figure 1. Multi-objective simulation by FSCOF.

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