

## Pathway Analysis for Succinic acid Production of *Mannheimia succiniciproducens* and *Escherichia coli*

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*Mannheimia succiniciproducens* MBEL55E is a capnophilic gram-negative bacterium which efficiently produces succinic acid. In order to analyze metabolic pathways of *M.succiniciproducens*, we applied elementary-mode analysis to the biochemical network of *M.succiniciproducens*. We then also analyzed the biochemical network of *Escherichia coli*, in the same way as above, in order to grasp the notable differences between these two organisms. In order to draw clear conclusions, we clustered the solutions of two microorganisms, and compared each other. Each of clusters showed characteristic yield of succinic acid and the number of solutions and clusters of *M.succiniciproducens* is greater than that of *E.coli*. This analysis can show the differences between networks of two organisms, and suggest efficient biochemical network design.

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