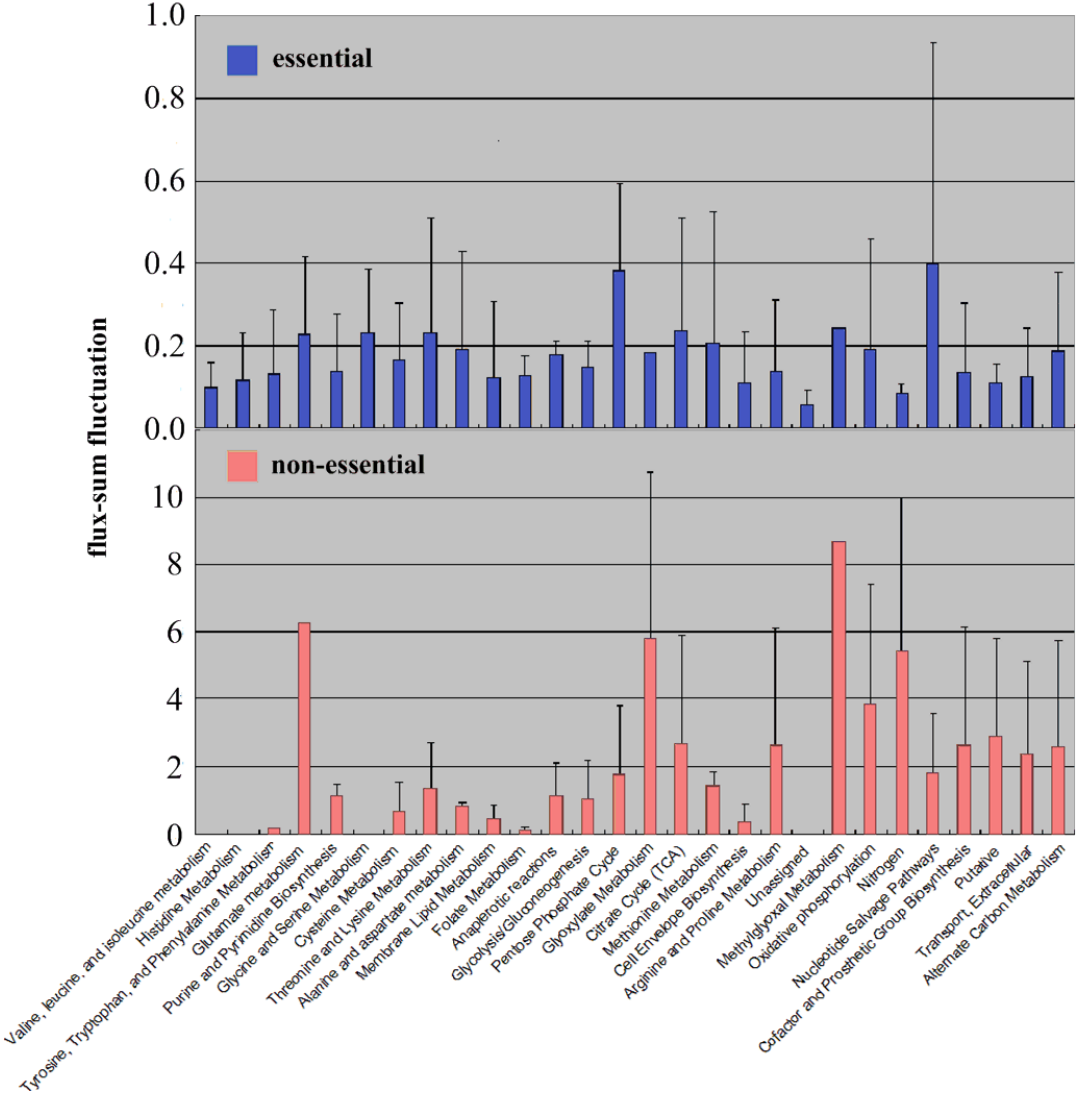
flux-sum fluctuation
essential
non-essential
1.0
0.8
0.6
0.4
0.2
0.0
10
8
6
4
2
0
Valine, leucine, and isoleucine metabolism
Histidine Metabolism
Tyrosine, Tryptophan, and Phenylalanine Metabolism
Glutamate metabolism
Purine and Pyrimidine Biosynthesis
Glycine and Serine Metabolism
Cysteine Metabolism
Threonine and Lysine Metabolism
Alanine and aspartate metabolism
Membrane Lipid Metabolism
Folate Metabolism
Anaplerotic reactions
Glycolysis/Gluconeogenesis
Pentose Phosphate Cycle
Glyoxylate Metabolism
Citrate Cycle (TCA)
Methionine Metabolism
Cell Envelope Biosynthesis
Arginine and Proline Metabolism
Unassigned
Methylglyoxal Metabolism
Oxidative phosphorylation
Nitrogen
Nucleotide Salvage Pathways
Cofactor and Prosthetic Group Biosynthesis
Putative
Transport, Extracellular
Alternate Carbon Metabolism