

Description of Additional Supplementary Files

Supplementary Dataset 1

Metabolic capabilities of heterotrophs and phototrophs.

Supplementary Dataset 2

Constraints applied to the models

Supplementary Dataset 3

Metabolites production parameters by SPC

Supplementary Dataset 4

Unique metabolic capabilities in *E. coli* K-12 and *E. coli* W

Supplementary Dataset 5

Measurements of intracellular and extracellular metabolites by NMR and GC-MS

Supplementary Dataset 6

RNA-seq metadata

Supplementary Dataset 7

Expression analysis

Supplementary Dataset 8

Gene essentiality results

Supplementary Dataset 9

Genes with different role in monoculture and in the community