

Description of Additional Supplementary Information

Supplementary Data 1: Recurrent mutations in *E. coli*

Supplementary Data 2: Recurrent mutations in *S. cerevisiae*

Supplementary Data 3: Complete mutation dataset obtained from breseq for *E. coli*

Supplementary Data 4: Complete mutation dataset obtained from breseq for *S. cerevisiae*

Supplementary Data 5: Original *E. coli* proteomics data presented in Supplementary Fig. 5

Supplementary Data 6: Original *S. cerevisiae* proteomics data from the same cocultures as shown in Supplementary Fig. 5

Supplementary Data 7: Original *S. cerevisiae* proteomics data for Fig. 2i and Supplementary Fig. 6

Supplementary Data 8: *E. coli* strains used in this study

Supplementary Data 9: *S. cerevisiae* strains used in this study