

Description of Additional Supplementary Files

Supplementary Data 1: The strains used in this study.

Supplementary Data 2: The plasmids used in this study.

Supplementary Data 3: The primers used in this study.

Supplementary Data 4: The customized core atom mapping model with redox balance and raw flux data for the strains SA, EcGS-FF-gltA, and EcGS-FF-EcGS.

Supplementary Data 5: The DNA sequences of all plasmids constructed in this study.