

### **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Mutations identified in the evolution, related to Fig. 2f

File Name: Supplementary Data 2

Description: Strains and plasmids used in this study

File Name: Supplementary Data 3

Description: List of primers used in this study

File Name: Supplementary Data 4

Description: Sequences of the codon optimized genes used in this study