File titled “ Freq\_NNK “ includes the read numbers for each mutant in different deep sequencing experimental samples (named in terms of MIDs) obtained after processing of the raw deep sequencing data.

File titled “ Fitness Scores and other parameters “ includes the list of MID (Multiplex Identifier) sequences as well as primers used for amplifying the CcdA gene from different experiments before pooling for deep sequencing. This file also contains the Absolute and Relative Fitness Scores calculated for each mutant for the three biological replicates and the averaged Relative Fitness Scores (over the replicates) finally used in the work. The file also contains the relevant information for codon usage values, tRNA abundance, GC content, number of base changes, ribosome stalling, predicted energies for binding to Shine Dalgarno and anti-Shine Dalgarno sequences. We have also include more details in the the ReadMe sheet in the “Fitness Scores and other parameters” excel file.