Table S1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | MFE structure(kcal/mol) | ensemble prediction(kcal/mol) | Frequency of the MFE in the ensemble | Ensemble diversity | MFE of the centroid structure(kcal/mol) |
| AUG 5' UTR (WT) | -21.30 | -22.35 | 18.17% | 6.43 | -21.30 |
| UCG 5' UTR (mut1) | -22.94 | -23.85 | 22.67% | 4.55 | -22.94 |
| UUG 5' UTR (mut2) | -21.30 | -21.99 | 32.48% | 4.94 | -21.30 |