**Table S1.** Calculated Free Energies (kcal/mol) using RNAeval ([30](#_ENREF_30)) for formation of variant secondary structures of the riboswitch conformation shown in Figure 1

|  |  |
| --- | --- |
| **Construct Name** | **Energy (kcal/mol)** |
| 2P1\_10AT | -42.10 |
| 3P1\_10AT  | -42.50 |
| 3P1\_7AT  | -37.60 |
| 4P1\_9AT  | -42.30 |
| 5P1\_6AT  | -38.8 |
| 5P1\_7AT  | -39.4 |
| 5P1\_8AT  | -42.6 |
| 6P1\_6AT  | -41.3 |
| 6P1\_7AT  | -41.1 |
| 8P1\_5AT  | -42.5 |
| 2P1\_5AT  | -34.9 |
| 3P1\_5AT  | -36.0 |

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