**Table S4.** Relative energies and Boltzmann populations of stable conformers of glucose.

|  |  |  |
| --- | --- | --- |
| **Entry No.** | **Δ*E*** **(kcal/mol)** | **Population 1** |
| -1 | 0.00 | 1.000 |
| -2 | 1.45 | 0.086 |
| -3 | 1.58 | 0.069 |
| -4 | 2.35 | 0.019 |
| -5 | 2.43 | 0.017 |
| -1 | 0.00 | 1.000 |
| -2 | 1.44 | 0.088 |
| -3 | 1.68 | 0.059 |
| -4 | 2.15 | 0.026 |
| -5 | 2.32 | 0.020 |

1 Relative population is calculated by the Boltzmann distribution at a temperature of 298 K.