**Table S6 State mean dwell time values extracted from the three-state fitting model by ebFRET software package** (van de Meent et al 2014)**.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variants | pH | Dwell time (s) | | | | | |
| Low FRET | | Medium FRET | | High FRET | |
| Mean | 1 σ Range | Mean | 1 σ Range | Mean | 1 σ Range |
| SC | 7 | 0.5 | (0.2, 1.3) | 0.8 | (0.4, 1.6) | 2.9 | (1.8, 4.6) |
| 5 | 0.9 | (0.4, 2.3) | 0.4 | (0.2, 1.0) | 0.5 | (0.2, 1.3) |
| EC | 7 | 0.4 | (0.2, 1.0) | 0.4 | (0.2, 0.8) | 2.6 | (1.6, 4.1) |
| 5 | 0.9 | (0.4, 2.3) | 0.6 | (0.3, 1.2) | 1.3 | (0.7, 2.6) |