**Table describing fitting parameters of models of the *E. coli* SecA dimer.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Modela** | **χ2** | ***c1b*** | ***c2*c** |
| **2FSG** | 3.66 | 0.99 | 3.36 |
| **2IBM** | 14.99 | 1.05 | 4.00\* |
| **2IPC** | 24.08 | 1.05 | 0.51 |
| **1M6N** | 30.81 | 1.05 | 4.00\* |
| **1NL3** | 25.01 | 1.05 | 1.73 |
| **6GOX** | 5.25 | 1.03 | 1.38 |

aSecA template structures used to generate models of the *E. coli* SecA homodimer

bVariable for scaling of the atomic radius, which also controls the excluded volume of the molecule (permitted range: 0.99 - 1.05)

cVariable used to adjust the difference between the densities of the hydration layer and the bulk water (permitted range: -2.0 - 4.0)

\*Fitting reached limit of permitted range, which suggests overfitting of the data.