

Table S1. Cryo-EM data collection, processing, and refinement statistics.

| PDB ID | 7KF5 | 7KF7 | 7KF8 | 7KF6 |
|---|----------------|--------------------------|--------------------------|--------------|
| Structure | EEE (3 Closed) | EEB (1 Open 2 Closed) | EBB (2 Open 1 Closed) | BBB (3 Open) |
| Data collection and processing | | | | |
| Magnification (X) | 81,000 | 81,000 | 81,000 | 81,000 |
| Voltage (kV) | 300 | 300 | 300 | 300 |
| Electron microscope type | Krios-GIF-K2 | Krios-GIF-K3 | Krios-GIF-K3 | Krios-GIF-K3 |
| Defocus range (μm) | -1.0 to -2.5 | -1.0 to -2.5 | -1.0 to -2.5 | -1.0 to -2.5 |
| Total exposure time (s) | 3.3 | 3.3 | 3.3 | 3.3 |
| Energy filter width (eV) | 20 | 20 | 20 | 20 |
| Pixel size (\AA) | 1.08 | 1.08 | 1.08 | 1.08 |
| Total dose ($\text{e}^-/\text{\AA}^2$) | 50 | 50 | 50 | 50 |
| No. of frames | 40 | 40 | 40 | 40 |
| Does rate ($\text{e}^-/\text{\AA}^2/\text{physical pixel}$) | 7.7 | 7.7 | 7.7 | 7.7 |
| No. of initial micrographs | 5,621 | 5,621 | 5,621 | 5,621 |
| No. of initial particle images | 549,454 | 549,454 | 549,454 | 549,454 |
| No. of final particle images | 21,108 | 75,703 | 43,395 | 13,304 |
| Symmetry | C3 | C1 | C1 | C3 |
| Resolution (\AA) | 3.20 | 2.82 | 3.02 | 3.40 |
| FSC threshold | 0.143 | 0.143 | 0.143 | 0.143 |
| Map resolution range (\AA) | 2.75 to 8.73 | 2.38 to 7.36 | 2.65 to 7.98 | 2.88 to 9.06 |
| Refinement | | | | |
| Model resolution cutoff (\AA) | 3.20 | 2.82 | 3.02 | 3.40 |
| Model composition | | | | |
| No. of protein residues | 3,122 | 3,122 | 3,122 | 3,122 |
| No. of ligands | 0 | 1 | 2 | 3 |
| RMSD ^a | | | | |
| Bond lengths (\AA) | 0.005 | 0.005 | 0.005 | 0.005 |
| Bond angles ($^\circ$) | 0.790 | 0.644 | 0.420 | 0.420 |
| Validation | | | | |
| MolProbity score | 1.65 | 1.91 | 1.65 | 1.91 |
| Clash score | 9.12 | 6.73 | 8.34 | 7.21 |
| Poor rotamers (%) | 0 | 0 | 0 | 0 |
| Ramachandran plot (%) | | | | |
| Favored | 96.77 | 97.40 | 96.83 | 97.25 |
| Allowed | 3.23 | 2.60 | 3.17 | 2.75 |
| Disallowed | 0 | 0 | 0 | 0 |
| CC ^b mask | 0.78 | 0.83 | 0.80 | 0.77 |
| CC box | 0.74 | 0.73 | 0.74 | 0.73 |
| CC vol | 0.76 | 0.83 | 0.78 | 0.76 |

^aRoot mean square deviation.^bCorrelation coefficient.