

Table1. Refinement and model statistics

	Dataset I	Dataset II	Dataset III	Dataset IV
Data Collection				
Voltage (kV)	300	300	300	300
Dose (e/Å ²)	35	35	30	30
Nominal Magnification	22,500	22,500	130,000	130,000
Energy filter	-	-	+	+
VPP age post-installation (months)	6	6	12	14
# VPP Positions	18	1	6	1
# of Movies	628	160	735	461
Particles picked	642,775	159,409	500,613	279,190
Particles after 2D classification	155,639	96,631	375,811	193,853
Particles after 3D classification	72,521	96,631	304,638	73,314
Pixel Size (Å)	0.658	0.658	0.535	0.535
# of frames	50	50	40	40
Intended Defocus (µm)	0.5	0.5	0.5	0.5
Beam size (µm)	0.966	0.966	0.931	0.801
Electric charge per movie (nC)	0.41	0.41	0.33	0.24
Refinement				
Resolution (Å)	2.94	2.85	2.51	2.93
Map CC	0.82	0.79	0.80	0.79
All-atom clashscore	3.97	3.61	3.47	2.31
Rotamer outliers (%)	2.05	2.05	0	0.72
Ramachandran plot				
Favored (%)	95.71	95.71	100	99.35
Outliers (%)	0	0	0	0

