

**Supplementary Table 1.** Cryo-EM and Refinement Statistics of *P. calidifontis* and *A. veneficus* ECNs

Parameter	<i>P. calidifontis</i>	<i>A. veneficus</i>
<b>Data collection and processing</b>		
Voltage (kV)	300	300
Electron exposure (e <sup>-</sup> Å <sup>-2</sup> )	46	45
Pixel size (Å)	1.08	1.08
Particle images (n)	101,864	92,602
Shift (pixel)	36	36
<b>Helical symmetry</b>		
Point group	C1	C1
Helical rise (Å)	32.38	32.74
Helical twist (°)	54.72	33.52
<b>Map resolution (Å)</b>		
Map:map FSC (0.143)	3.8	3.9
Model:map FSC (0.38)	3.8	4.1
d <sub>99</sub>	4.1	4.4
<b>Refinement and Model validation</b>		
Ramachandran Favored (%)	87.0	90.3
Ramachandran Outliers (%)	0.0	0.4
RSCC	0.84	0.76
Clashscore	15.2	36.3
Bonds RMSD, length (Å)	0.007	0.005
Bonds RMSD, angles (°)	0.910	0.868
<b>Deposition ID</b>		
PDB (model)	8E5F	8E5G
EMDB (map)	EMD-27911	EMD-27912