Supplementary Table 1. Potential salt bridges in *Ec*TrpF, *Tm*TrpF and *Tt*TrpF structures. The interactions are sorted by the acidic residue number. The distances between residues are reported as the shortest distance between the side chain O and N atoms, for *Tt*TrpF the distance is reported separately in chains A and B. Location in structure describes the location of the ionic interaction using the secondary structures or the loop structures in the N- or C-terminal end of the barrel.

*Ec*TrpF

Acidic residue	Basic residue	Distance (Å)	Connect	Location
E256	K375	3.0	Barrel-Barrel	N-loops
D267	R264	2.7	Helix-Helix	α1
D273	K269	2.8	Helix-Helix	α1
D318	K322	3.2	Helix-Helix	α3
E337	K357	3.3	Barrel-Loop	C-loops
D425	K258	2.6	Barrel-Barrel	β8-β1
E431	R289	2.3	Loop-Loop	C-loops
E431	K437	2.6	Loop-Loop	C-loops

*Tm*TrpF

Acidic residue	Basic residue	Distance (Å)	Connect	Location
D14	K189	3.0	Helix-Loop	
D24	K203	2.9	Helix-Barrel	N-loops
D42	R45	3.4	Helix-Loop	
E63	K67	3.7	Helix-Helix	α3
E86	K102	3.0	Loop-Barrel	
E96	K93	3.9	Helix-Helix	α4
E120	R92	2.6	Loop-Helix	N-loops
D149	R148	3.0	Helix-Helix	α6
D170	R173	3.4	Helix-Helix	α7
D178	K5	2.8	Barrel-Barrel	β8-β1
D193	K196	3.1	Helix-Helix	α8

E184	R36	2.6	Loop-Loop	C-loops
E184	K190	3.1	Loop-Loop	C-loops

*Tt*TrpF

Acidic residue	Basic residue	Distance, A (Å)	Distance, B (Å)	Connect	Location
E12	R10	3.2	2.7	Helix-Helix	α1
D13	R10	3.0	3.1	Helix-Helix	α1
D61	R60	> 4.0	3.3	Loop-Loop	C-loops
E72	R75	> 4.0	3.4	Helix-Helix	α3
E73	R69	> 4.0	3.7	Helix-Helix	α3
E84	K101	3.9	> 4.0	Barrel-Loop	C-loops
E85	K101	3.8	3.5	Barrel-Loop	C-loops
E91	R95	3.1	> 4.0	Helix-Helix	α4
E106	K126	> 4.0	4.0	Loop-Loop	C-loops
E132	R127	> 4.0	2.7	Loop-Loop	C-loops
E161	R195	3.5	2.6	Inter Helix	α7-α8
E162	R136	2.8	> 4.0	Inter Helix	α7-α6
D172	K4	2.8	2.6	Barrel-Barrel	β8-β1
E178	R35	2.9	2.9	Loop-Loop	C-loops
E178	K184	3.0	3.1	Loop-Loop	C-loops