

Figure S1. Secondary structure percentages of mannanases at 12°C

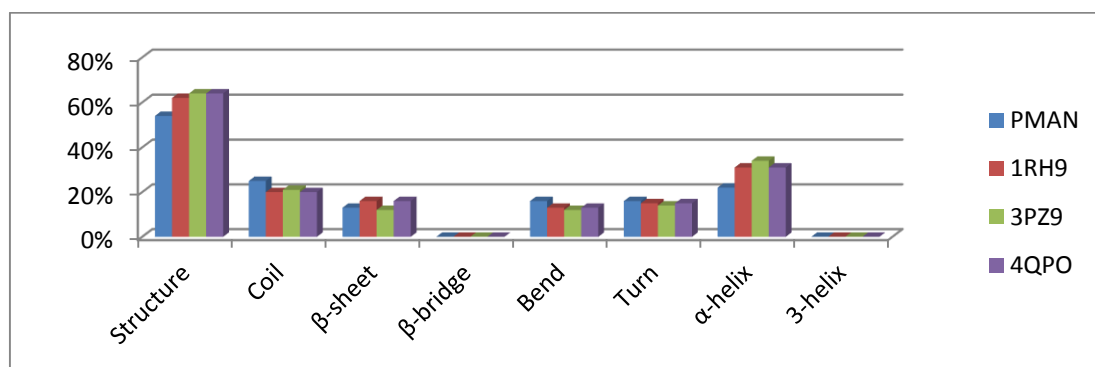


Figure S2. Secondary structure percentages of different mannanases at 80°C

Table S1. Model evaluation summary using different tools

Model evaluation tool	Evaluation scheme	Obtained score	Normal range of the score
PROCHECK	The number of residues in allowed region based on Psi/Phi Ramachandran plot	99.00%	>90%
VERIFY3D	The number of residues having an average 3D-1D score above 0.2	90.06%	>80%
ERRAT	The overall quality for nonbonded atomic interactions	89.33%	>50%

Table S2. Secondary structure percentages of mannanases at 12°C

	Structure	Coil	β -sheet	β -bridge	Bend	Turn	α -helix	3-helix
PMAN	55%	26%	12%	0.03%	13%	17%	23%	0.06%
1RH9	60%	18%	15%	0.02%	10%	15%	36%	0.04%
3PZ9	65%	21%	12%	0.04%	10%	14%	35%	0.03%
4QPO	63%	19%	15%	0.03%	14%	14%	32%	0.03%

Table S3. Secondary structure percentages of mannanases at 80°C

	Structure	Coil	β -sheet	β -bridge	Bend	Turn	α -helix	3-helix
PMAN	54%	25%	13%	0.02%	16%	16%	22%	0.04%
1RH9	64%	20%	16%	0.02%	13%	15%	31%	0.03%
3PZ9	64%	21%	12%	0.04%	12%	14%	34%	0.04%
4QPO	64%	20%	16%	0.02%	13%	15%	31%	0.03%