Table S2: Distance between active site CA atoms. The residues were identified using a structure of TpMan in complex with β-D-glucose (PDB id: 3PZI), where the distances between ligand and residue are lower than 5 Å.

Pairs	Distances between CA atoms (Å)			Distance between CB atoms (Å)		
	pH 8	pH 6	pH 4	pH 8	pH 6	pH 4
TRP:134-GLU:198	7.8	7.3	8.4	6.6	6.3	7.5
TRP:134-ARG:200	9.3	9.9	9.8	9.3	9.6	9.8
TRP:134-GLU:235	12.6	13	13.7	11.4	12	12.5
TRP:134-TRP:253	18.3	19	18.9	17.1	18	18.1
TRP:134-TYR:280	15.7	16.3	16.3	13	13.8	13.7
TRP:134-HIS:283	14.8	14.4	15.4	12.2	11.9	12.8
TRP:134-TRP:284	15.7	15.5	17	14.9	14.8	16.2
GLU:198-ARG:200	6.4	6.4	6.1	6.8	6.8	6.4
GLU:198-GLU:235	5.3	6	5.7	5.2	6	5.4
GLU:198-TRP:253	14.8	15.4	15.3	14.2	15	15.1
GLU:198-TYR:280	12	12.6	12.5	9.9	10.7	10.3
GLU:198-HIS:283	13.5	13.1	14	11.1	10.8	11.4
GLU:198-TRP:284	13.3	13.1	14.3	11.8	11.8	12.7
ARG:200-GLU:235	8.7	8.6	9	7.8	7.5	7.6
ARG:200-TRP:253	12.3	12.8	13.1	10.8	11.8	11.9
ARG:200-TYR:280	15.5	16	16	13.7	14.3	13.9
ARG:200-HIS:283	15.6	15.4	15.9	13.6	13.5	13.3
ARG:200-TRP:284	14.3	14.2	15.4	12.7	12.7	13.3
GLU:235-TRP:253	12.3	12.8	13.2	11.2	11.7	12.6
GLU:235-TYR:280	9.3	10	10.1	8.2	9.3	9.1
GLU:235-HIS:283	12.4	12.7	13.1	10.5	11.1	11
GLU:235-TRP:284	11.3	11.5	12.4	8.9	9.3	10.1
TRP:253-TYR:280	13.2	13.3	13.6	12.9	13	13.7
TRP:253-HIS:283	12.2	12.2	11.6	12.2	12.2	11.5
TRP:253-TRP:284	8.7	8.8	8.6	7.9	7.9	8.2
TYR:280-HIS:283	5.6	6	5.7	4.4	4.7	4.6
TYR:280-TRP:284	6.2	6.3	6.5	5.5	5.4	6.3
HIS:283-TRP:284	3.7	3.5	3.6	5.5	5.3	5.2
Sum of distances	**320.8**	**326.1**	**335.2**	**289.3**	**297.2**	**304.2**
Average	11.5	11.6	12	10.3	10.6	10.9
Standard deviation	3.7	3.8	3.9	3.2	3.3	3.4