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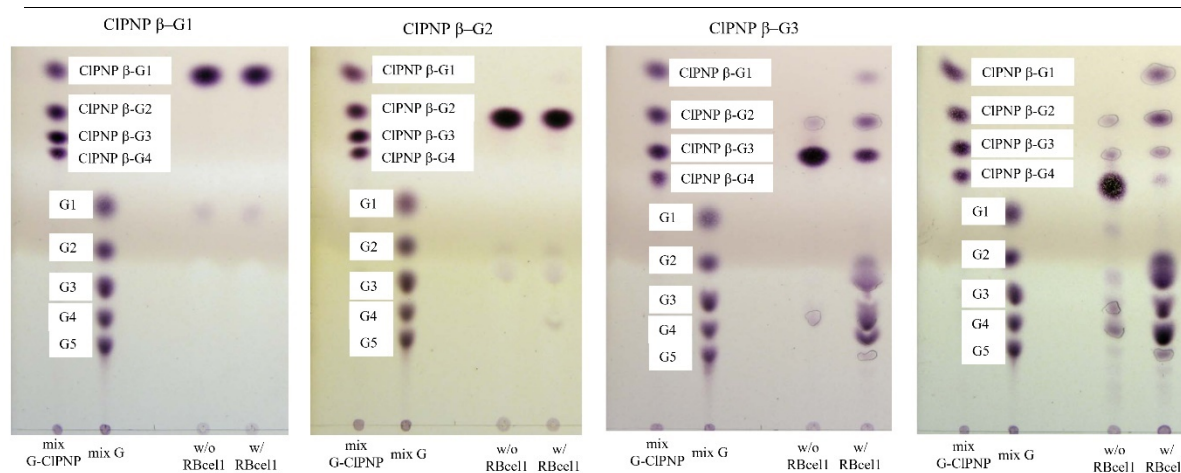
**Supporting information for article:**

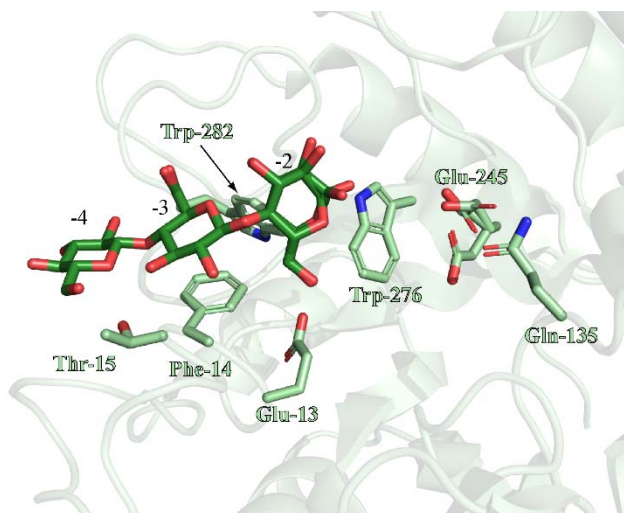
**Highlighting the factors governing transglycosylation in the GH5\_5  
endo-1,4- $\beta$ -glucanase RBcel1**

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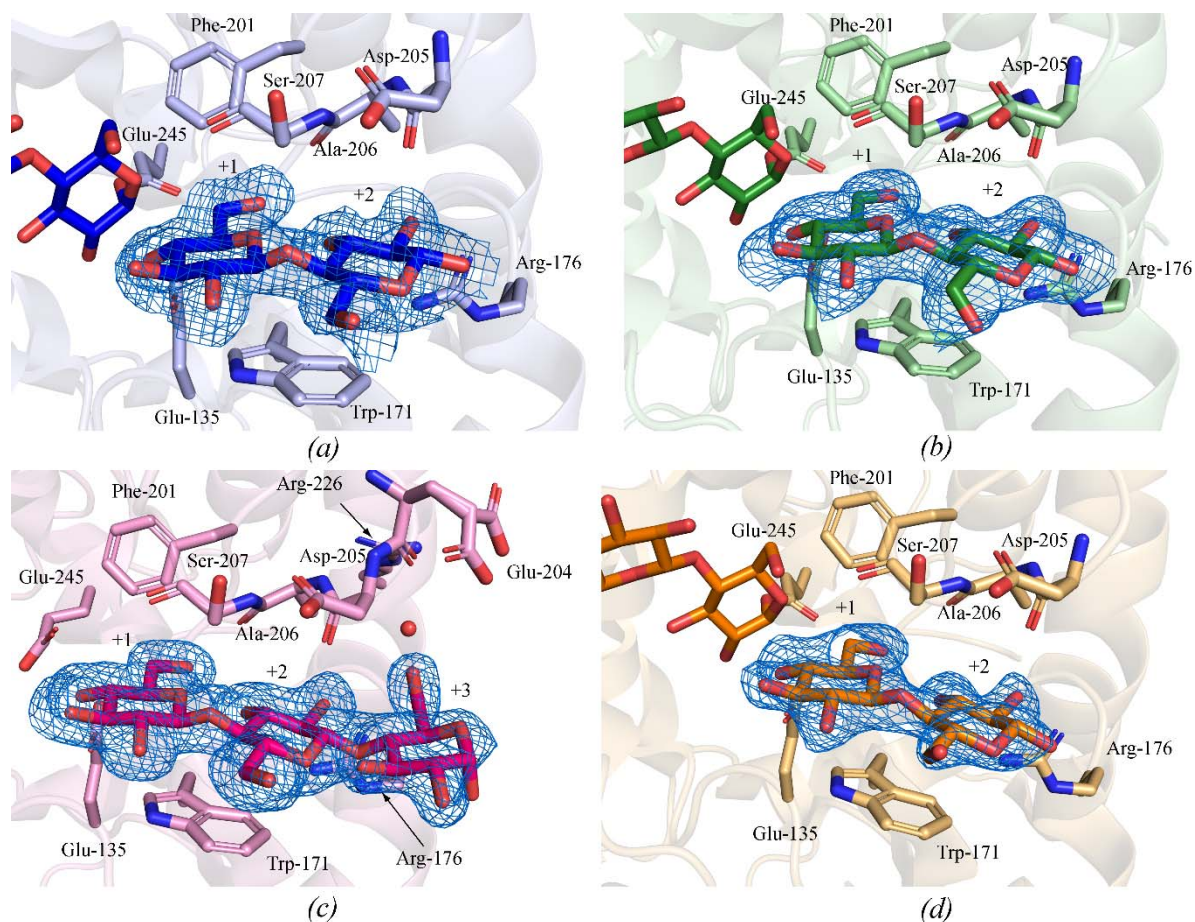
**Table S1** Real-space correlation coefficient (RSCC) and median B-factors of the ligands found in the structure of RBcell1\_Y201 in complex with G3.

Subsites	RSCC / B-factors ( $\text{\AA}^2$ )			
	Monomer A	Monomer B	Monomer C	Monomer D
-6	-	0.83 / 40	-	-
-5	-	0.76 / 44	0.86 / 46	-
-4	0.91 / 30	0.89 / 40	0.91 / 37	0.80 / 43
-3	0.94 / 28	0.96 / 37	0.95 / 28	0.92 / 36
-2	0.96 / 24	0.90 / 34	0.94 / 25	0.96 / 31
-1	0.90 / 31	0.92 / 31	-	0.88 / 32
+1	0.82 / 42	0.87 / 39	0.94 / 24	0.84 / 39
+2	0.86 / 47	0.84 / 43	0.94 / 24	0.90 / 44
+3	-	-	0.82 / 46	-

**Figure S1** TLC analysis of reaction products from the activity of RBcell1\_WT on CIPNP  $\beta$ -G1, CIPNP  $\beta$ -G2, CIPNP  $\beta$ -G3 and CIPNP  $\beta$ -G4. The first two tracks are reference ladders: the first mix (mix G-CIPNP) contains CIPNP  $\beta$ -G1 to G4 and the second mix (mix G) is made of G1, G2, G3, G4, and G5 (8 nanomoles of each). The tracks “w/ RBcell1” and “w/o RBcell1” correspond to the substrate incubated with and without RBcell1\_WT, respectively.



**Figure S2** Close-up view of the -4 to -2 subsites of RBcell\_E135Q monomer B in complex with G3 (PDB code 7P6H). The residues composing the three subsites are emphasized as well as the two catalytic residues, Glu-135 and Glu-245.



**Figure S3** Close-up view of the positive subsites of RBcell\_Y201F in complex with G3. monomer B in complex with G3 (PDB code 7P6J). (a) Monomer A with G2 in its +1 to +2 subsites. (b) Monomer B with G2 in its +1 to +2 subsites. (c) Monomer C with G3 in its +1 to +3 subsites. (d) Monomer D with G2 in its +1 to +2 subsites. The water molecule interacting with glucose unit in the +3 subsite is

represented as a red sphere. The residues composing the three subsites are emphasized as well as the catalytic residues Glu-135 and Glu-245, and Phe-201. The  $2F_o - F_c$  map around G3 is shown as a blue mesh.