

## SUPPORTING INFORMATION

# $\beta$ -Mannosidase from *Cellulomonas fimi*: Immobilization Study and Application in the $\beta$ -Mannoside Synthesis

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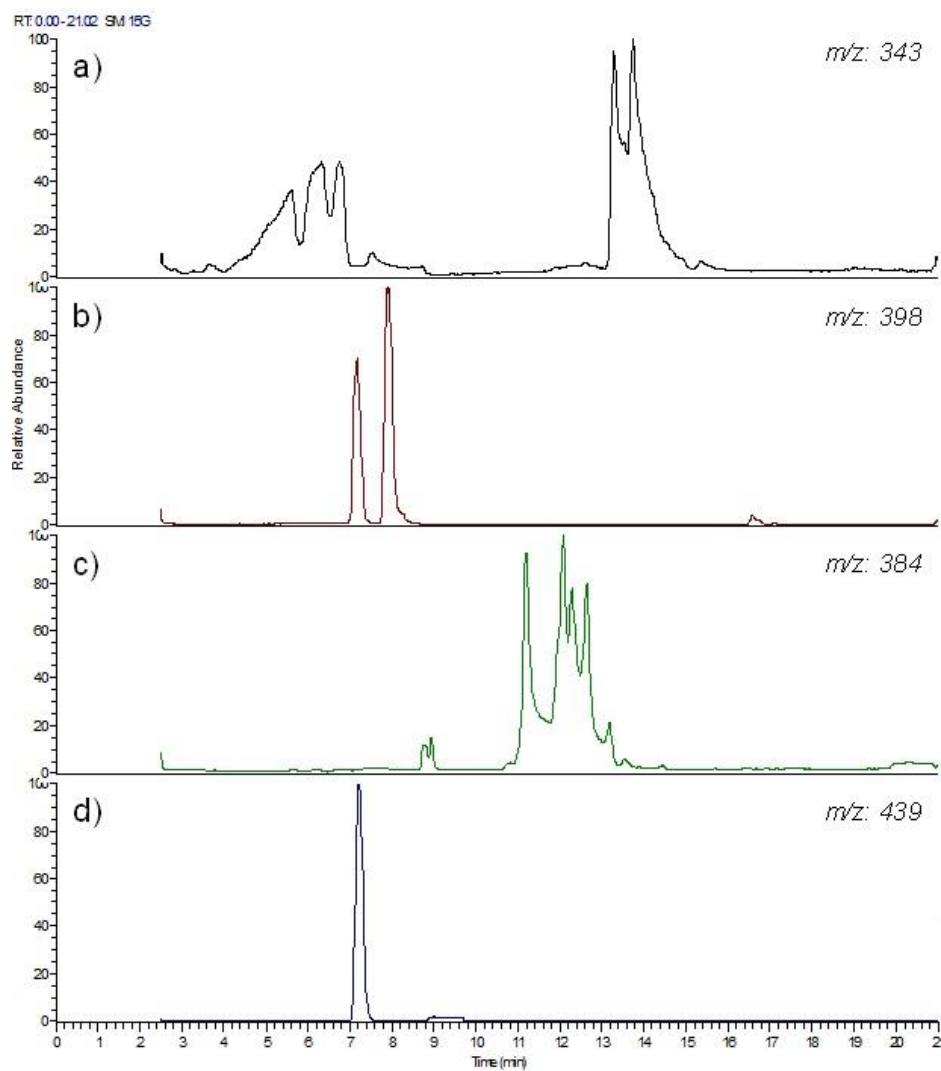
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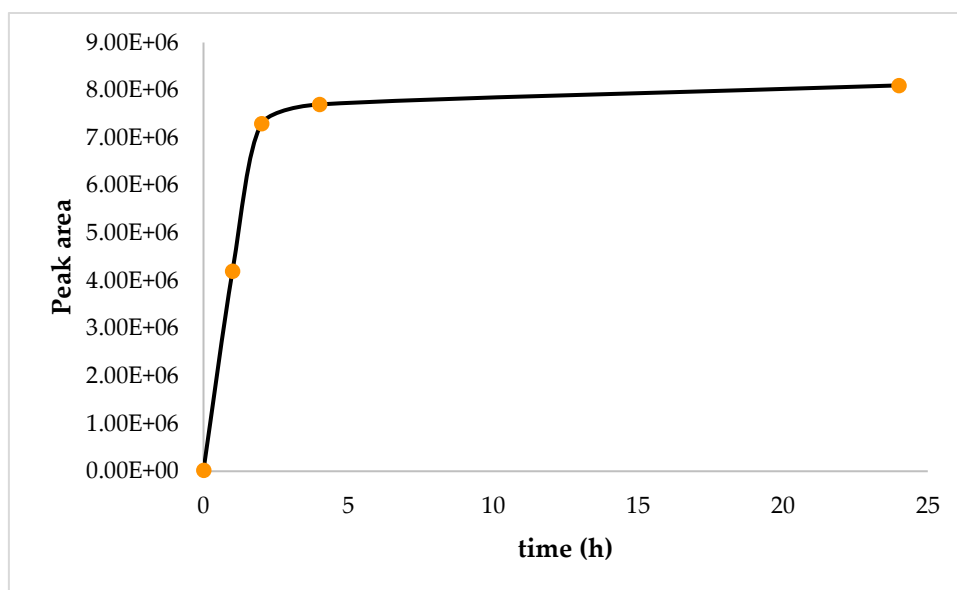
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### Supplementary Schemes

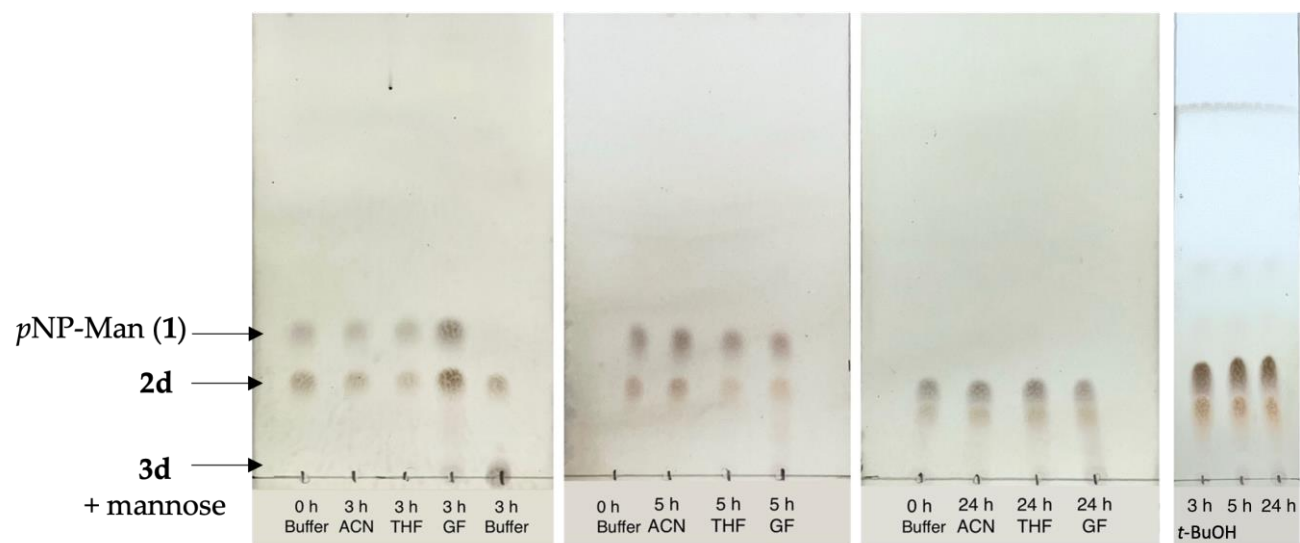
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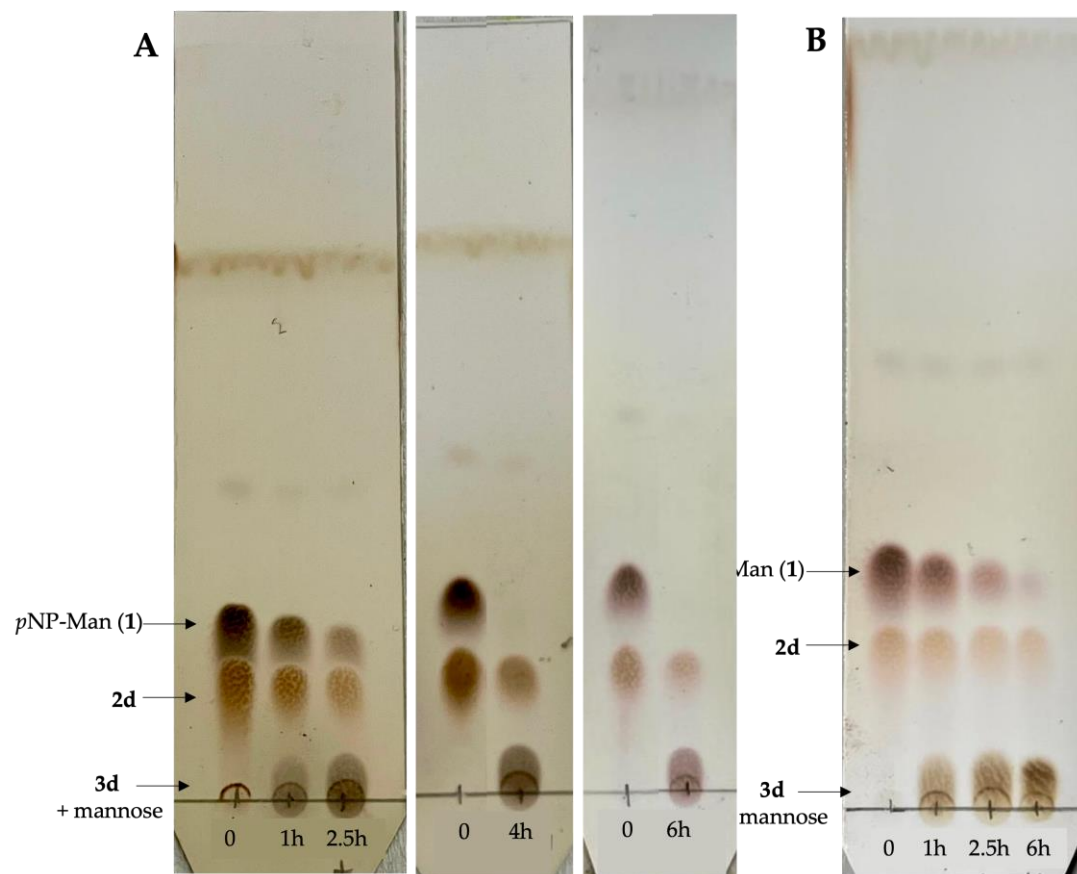
**Figure S1.** LC-MS extracted ion chromatograms: acceptor screening. a) D-mannose (**2a**), b) D-mannose-SCH<sub>2</sub>CN (**2b**), c) N-acetyl-D-glucosamine (**2c**), d) N-acetyl-D-glucosamine-SCH<sub>2</sub>CN (**2d**).



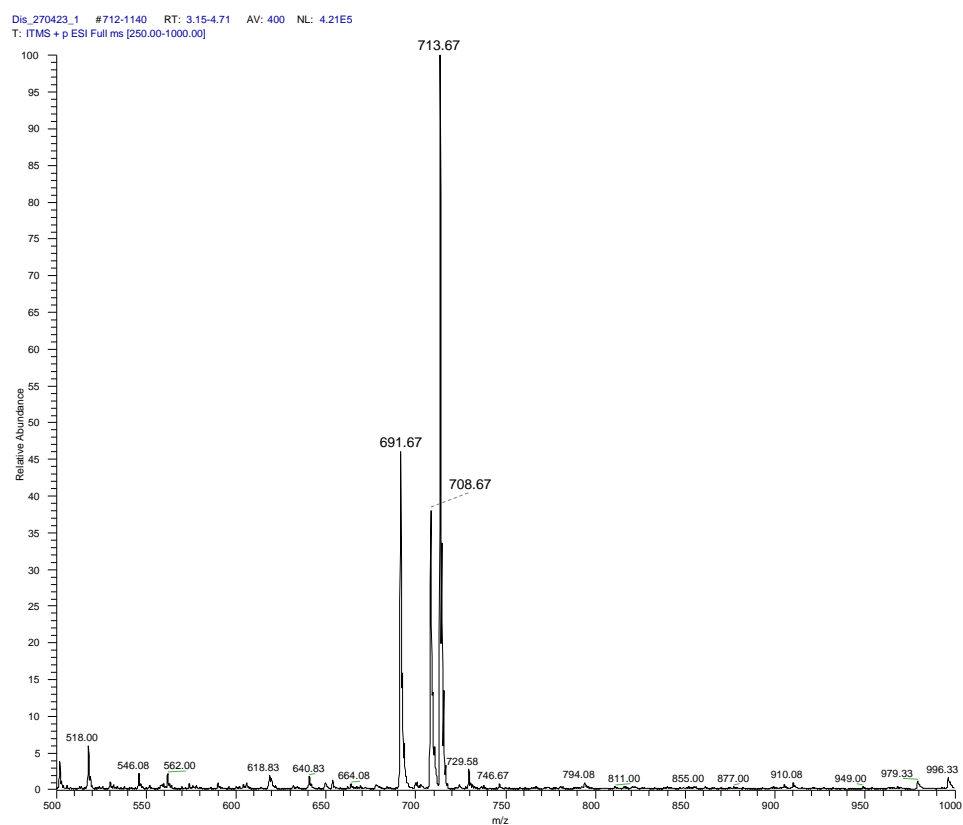
**Figure S2.** LC-MS monitoring of transglycosylation reaction in 100 mM maleate buffer pH 6.5.



**Figure S3.** Co-solvents screening. TLC monitoring ( $\text{CHCl}_3/\text{MeOH}$ , 5:1).



**Figure S4.** Transglycosylation reaction catalyzed by immobilized *Cf*- $\beta$ -Man (A) and soluble *Cf*- $\beta$ -Man (B). TLC monitoring ( $\text{CHCl}_3/\text{MeOH}$ , 5:1).



**Figure S5.** ESI-MS spectrum of **4d**.  $[M+H]^+ = 691.67\ m/z$ ;  $[M+NH_4]^+ = 708.67\ m/z$ ;  $[M+Na]^+ = 713.67\ m/z$ .

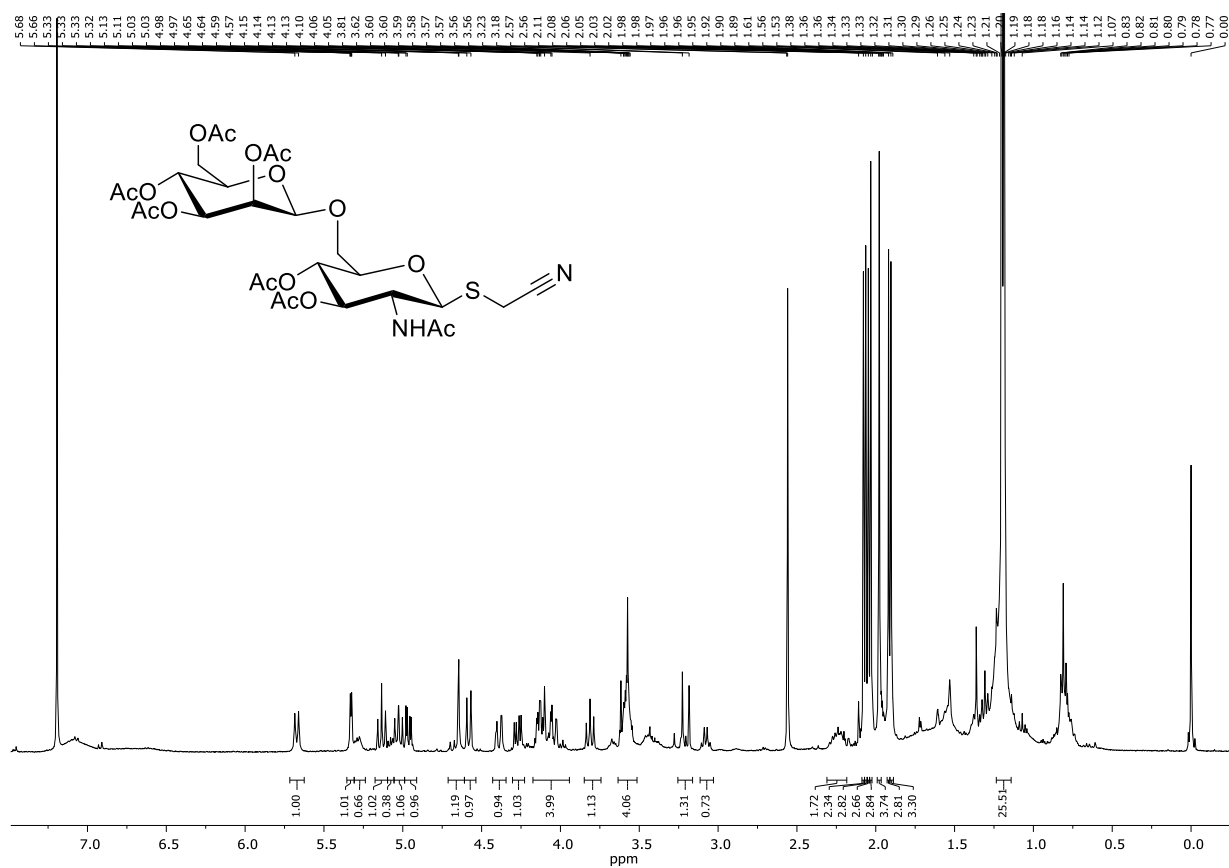


Figure S6.  $^1\text{H}$  NMR spectrum of 4d.



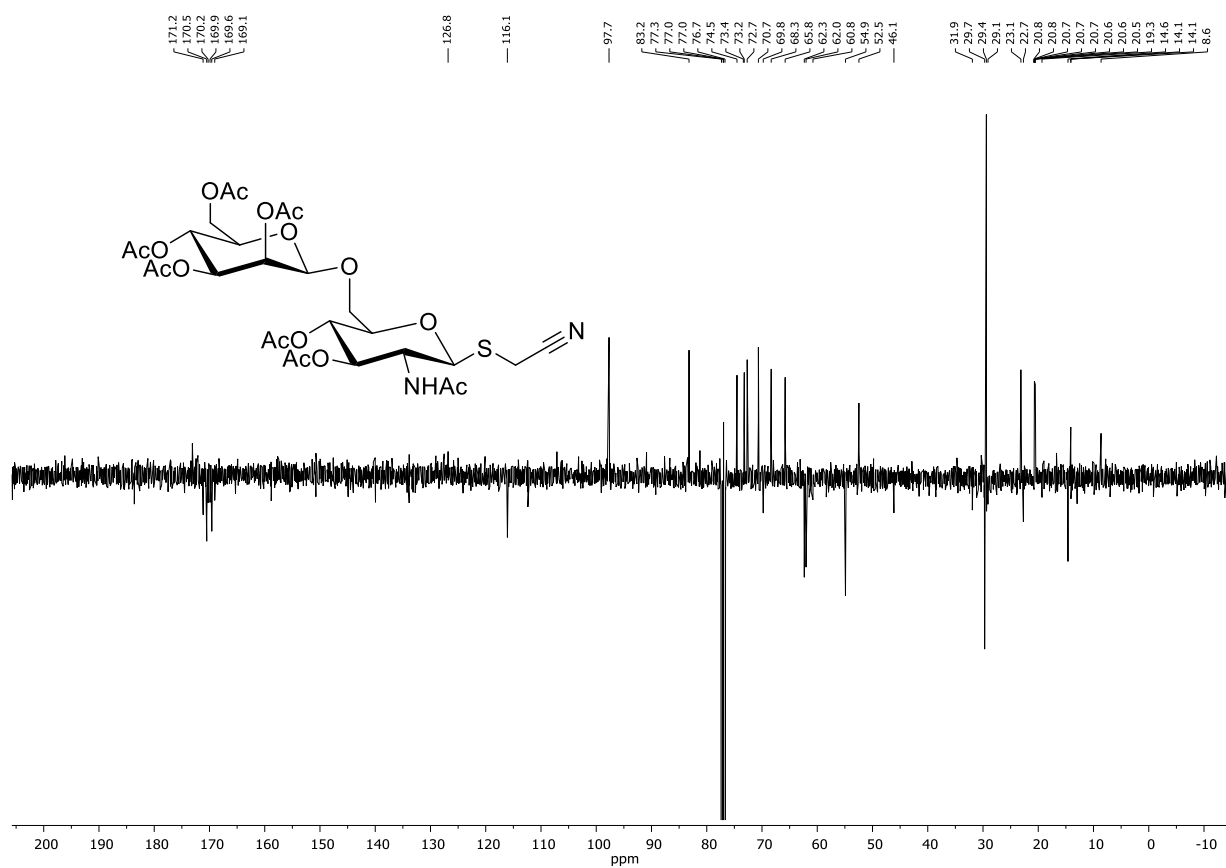
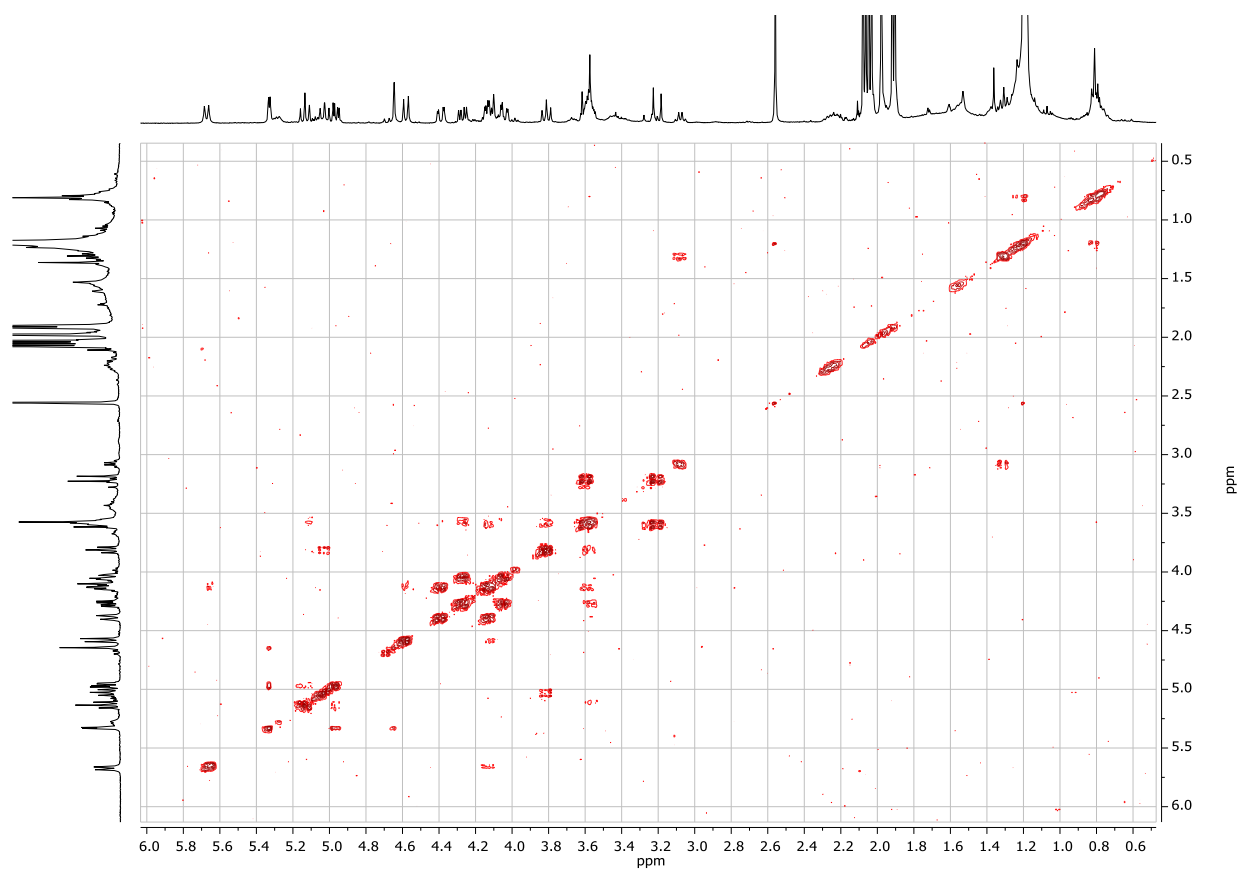


Figure S7.  $^{13}\text{C}$  NMR spectrum of **4d**.



**Figure S8.** COSY spectrum of **4d**.

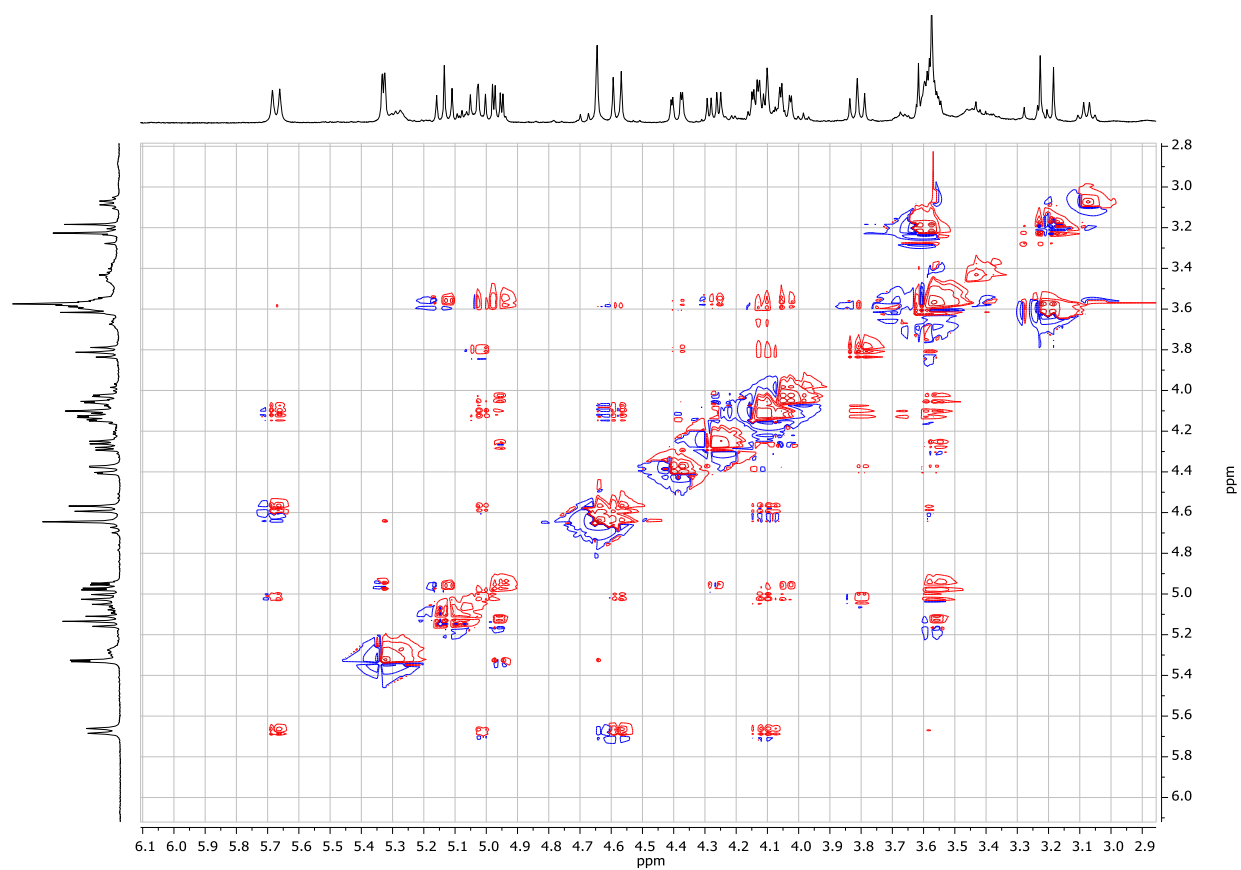
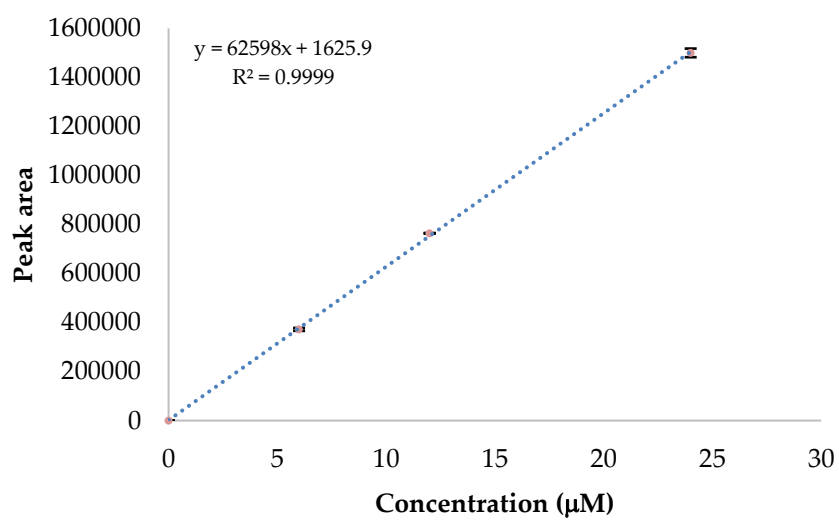
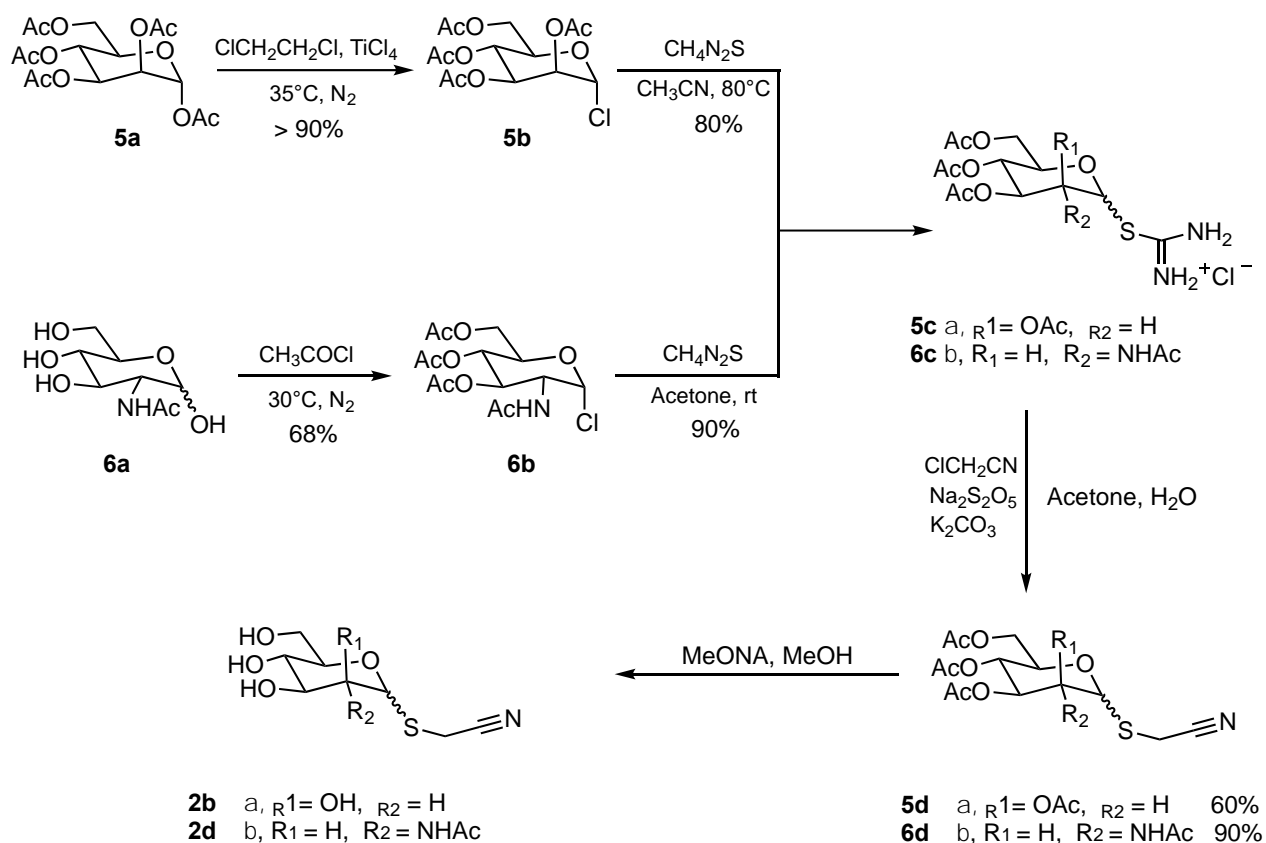


Figure S9. TOCSY spectrum of 4d.



**Figure S10.** HPLC calibration curve of **4d**.



**Scheme S1.** Synthesis of cyanomethyl 1-thio- $\alpha$ -D-mannopyranoside (**2b**) and  $\beta$ -D-N-acetylglucosamine (**2d**).