

# Ferric Chloride Promoted Glycosylation of Alkyl Thioglycosides

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## NMR spectra of known compounds

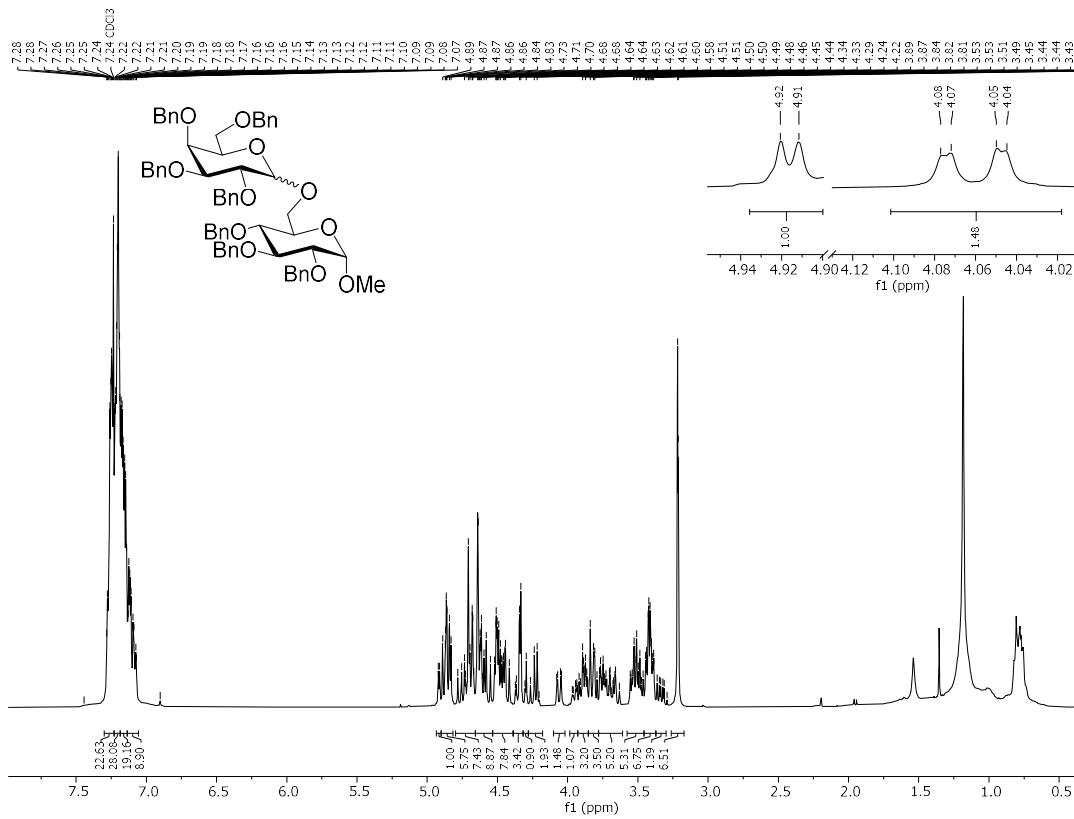
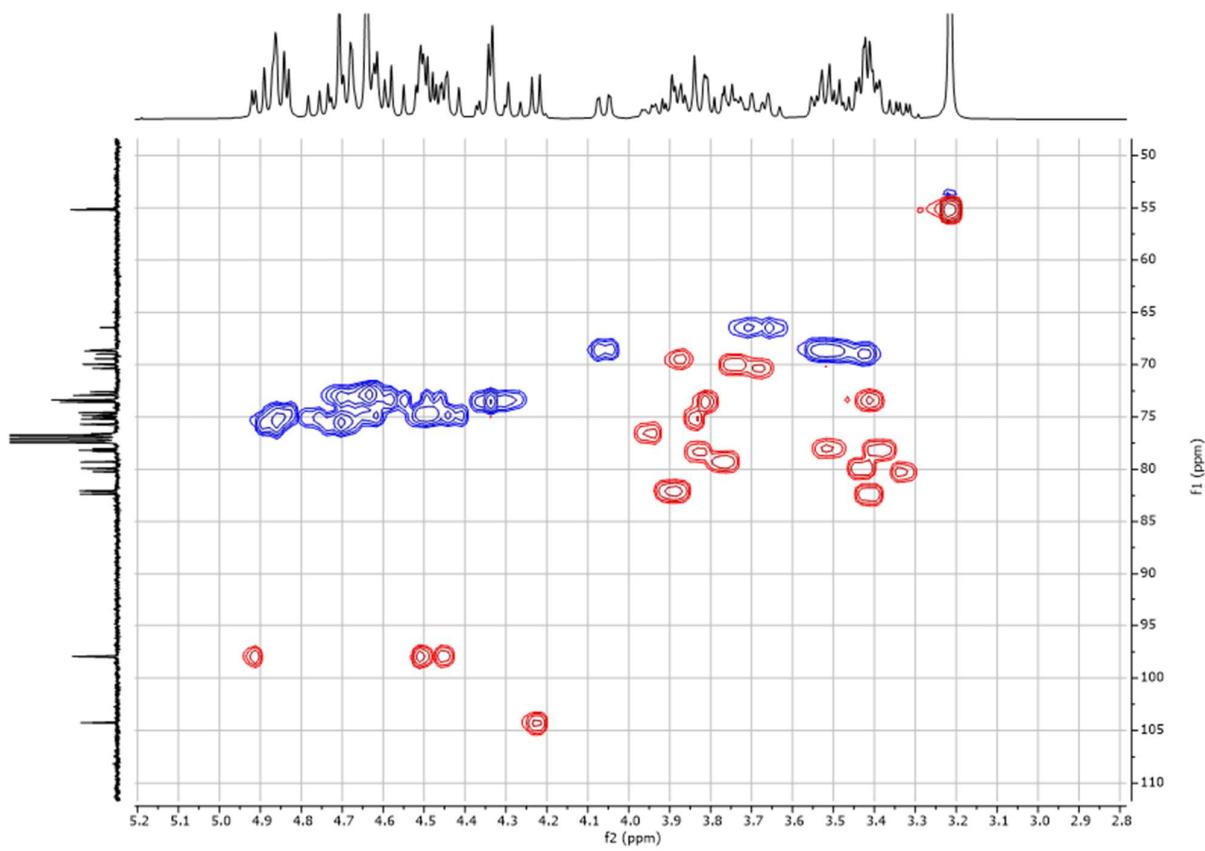
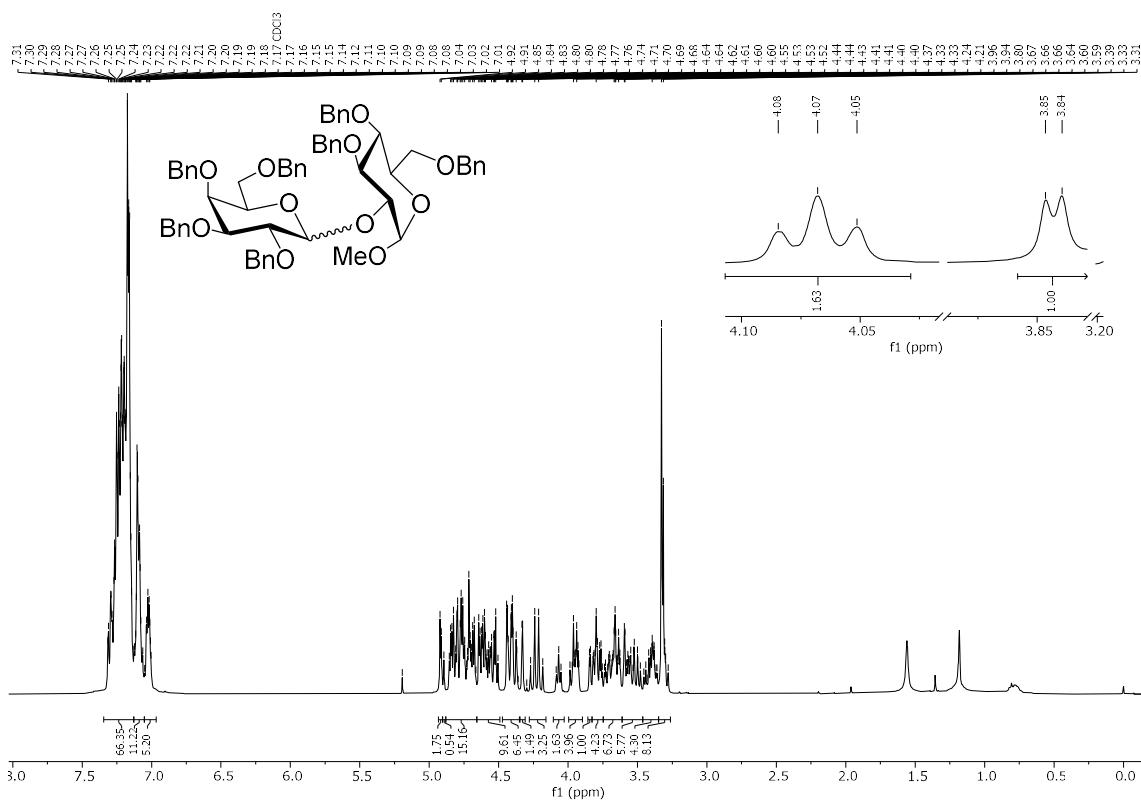


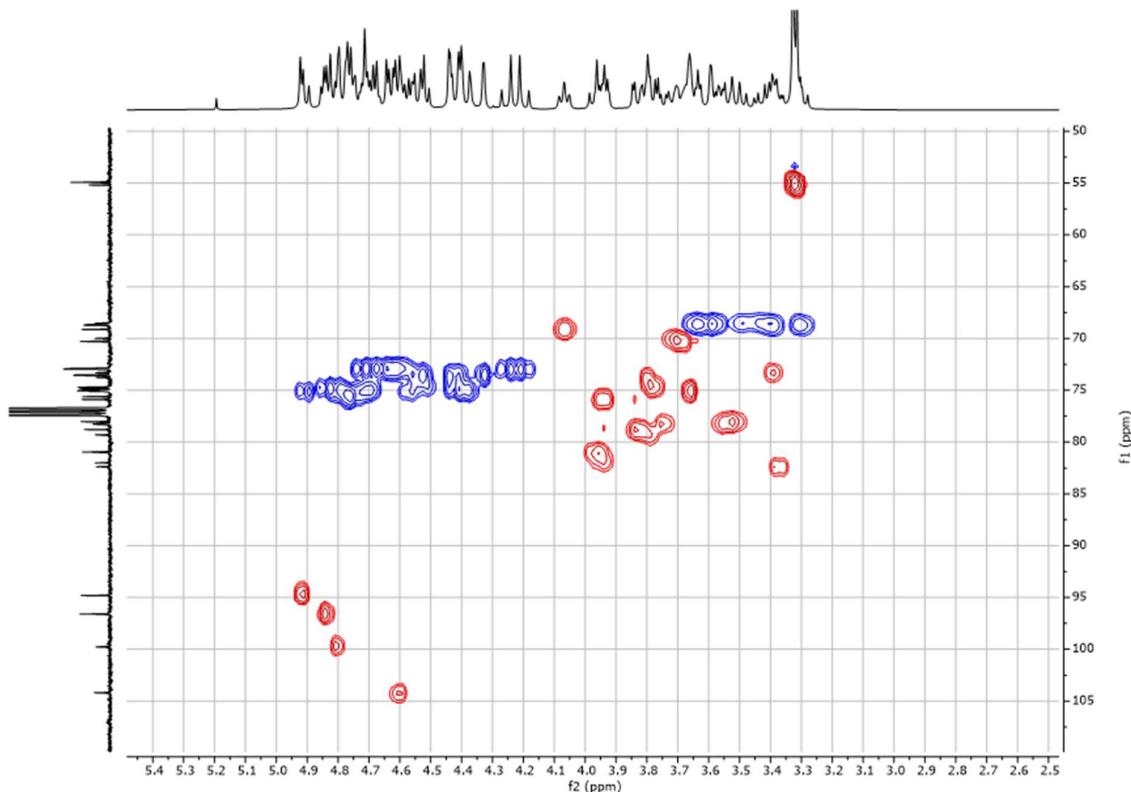
Figure S1. <sup>1</sup>H NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 3.



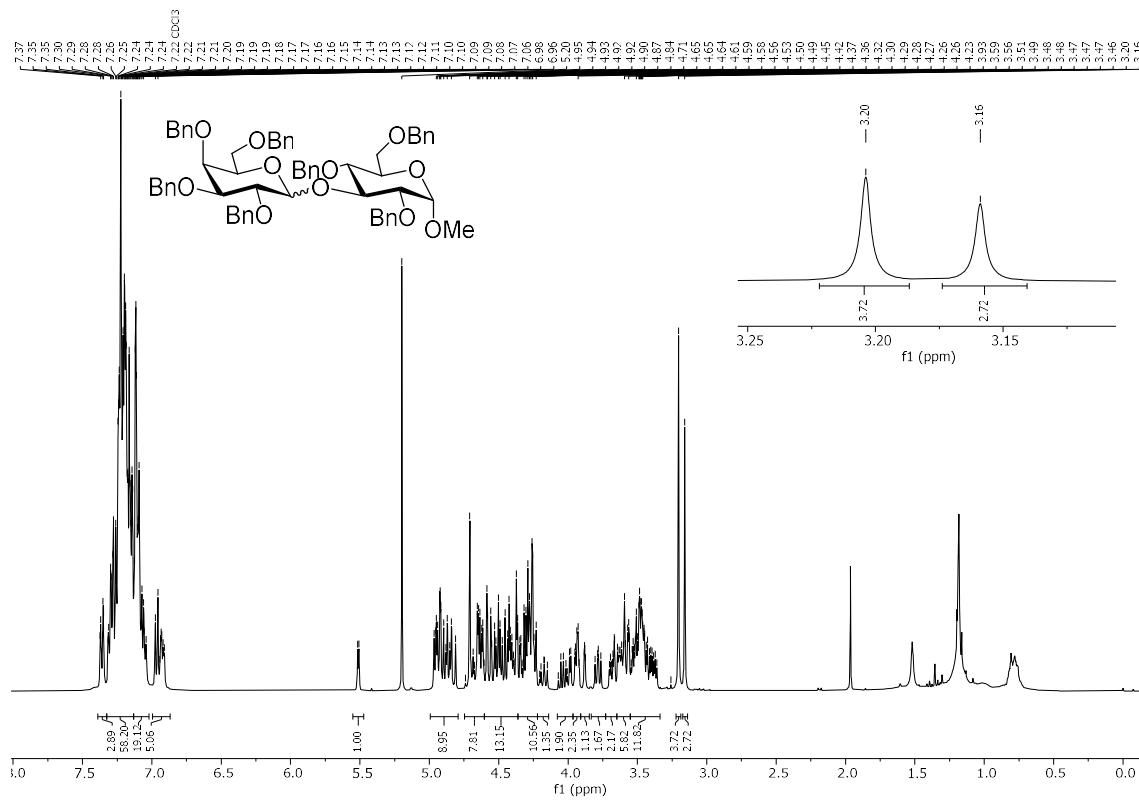
**Figure S2.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 3.



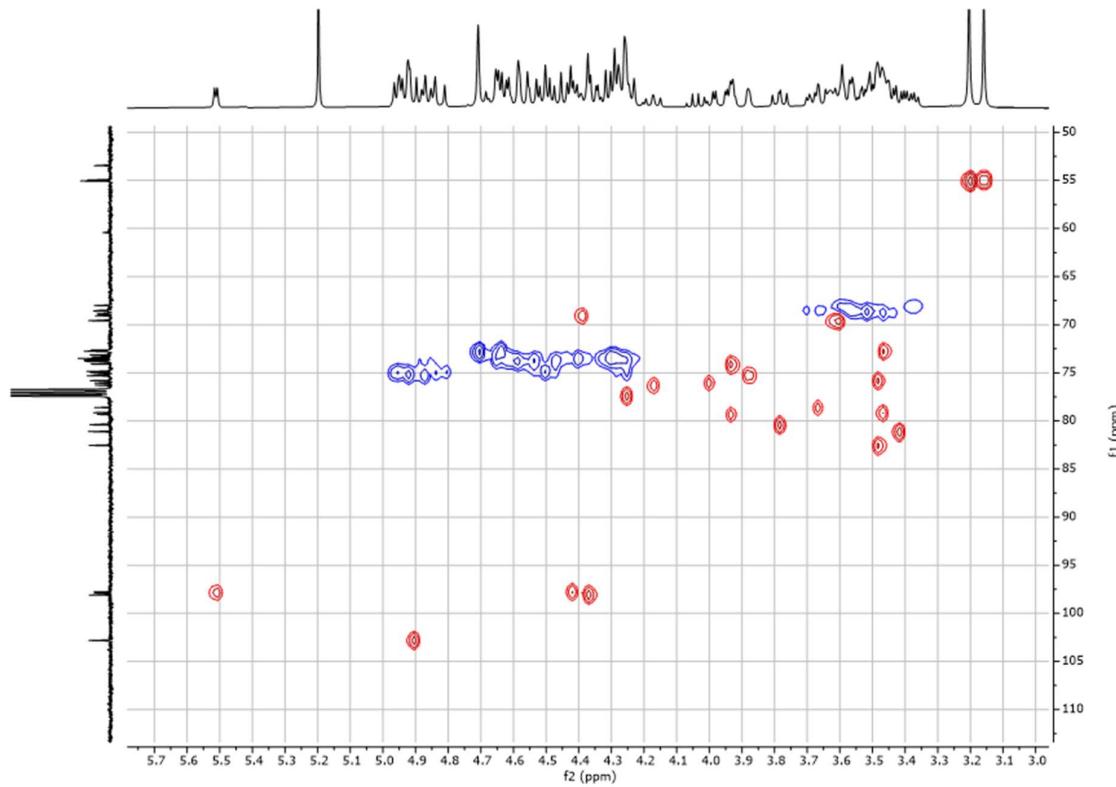
**Figure S3.**  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 5.



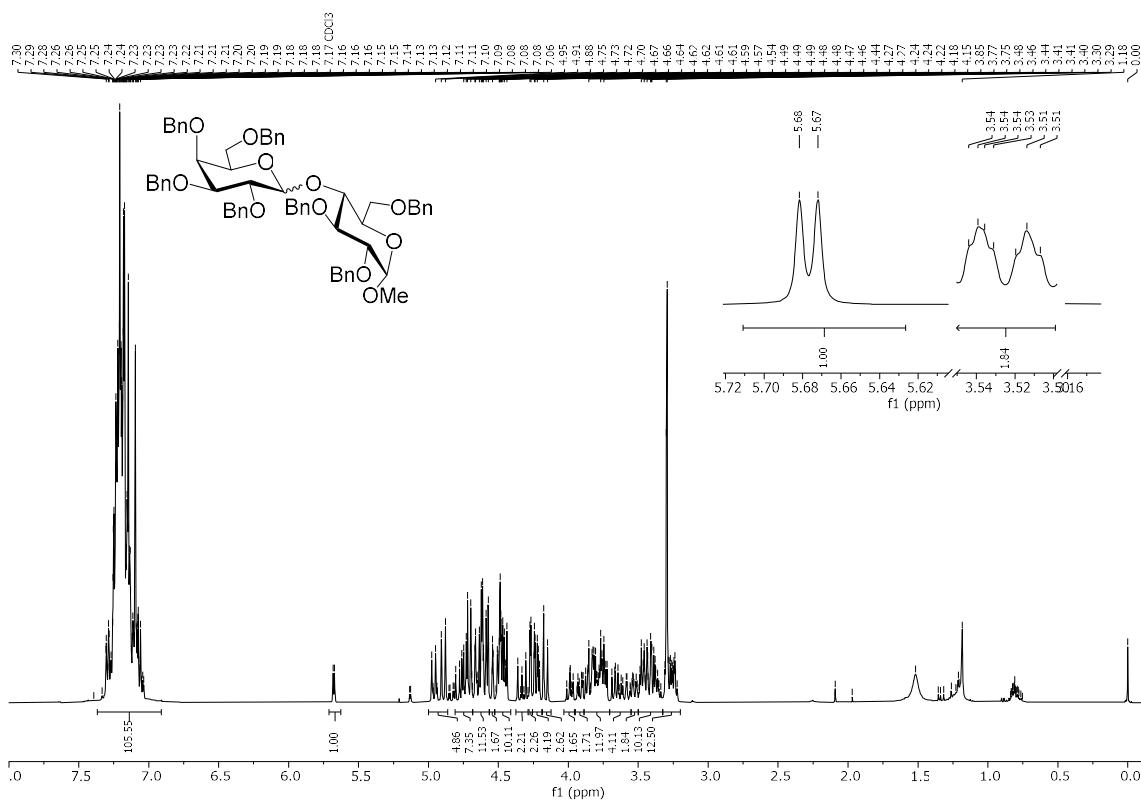
**Figure S4.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 5.



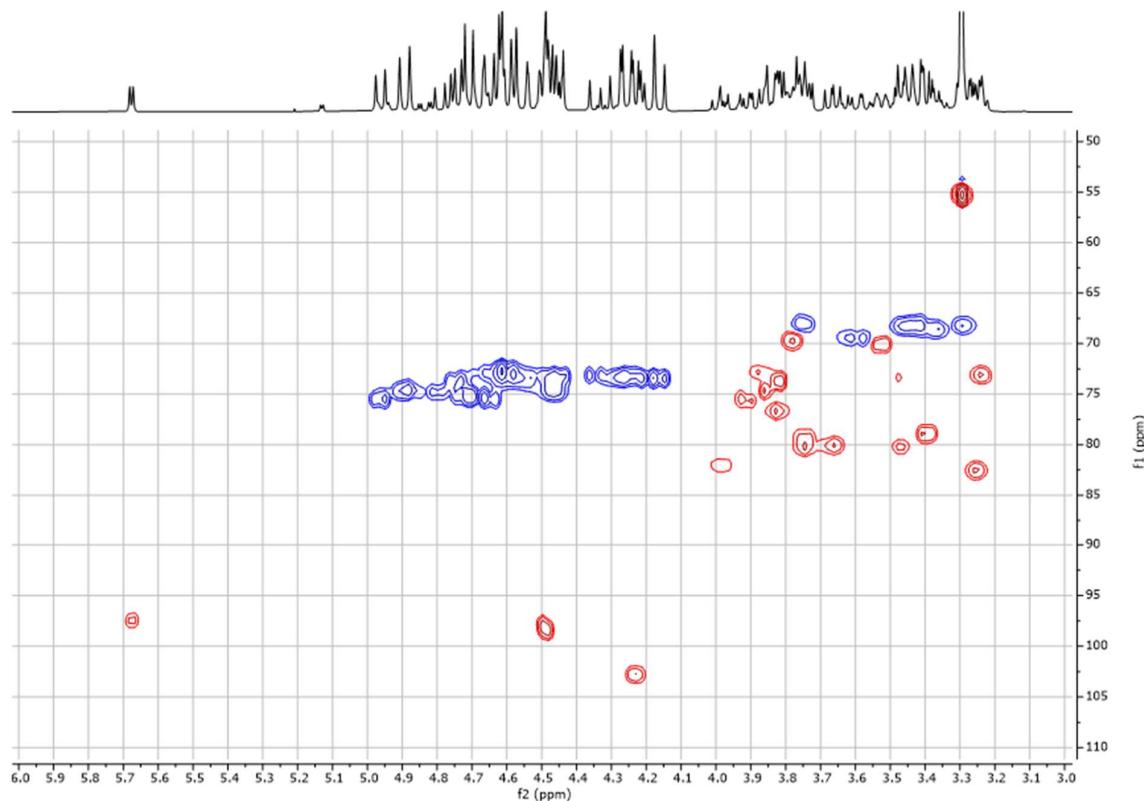
**Figure S5.**  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 7.



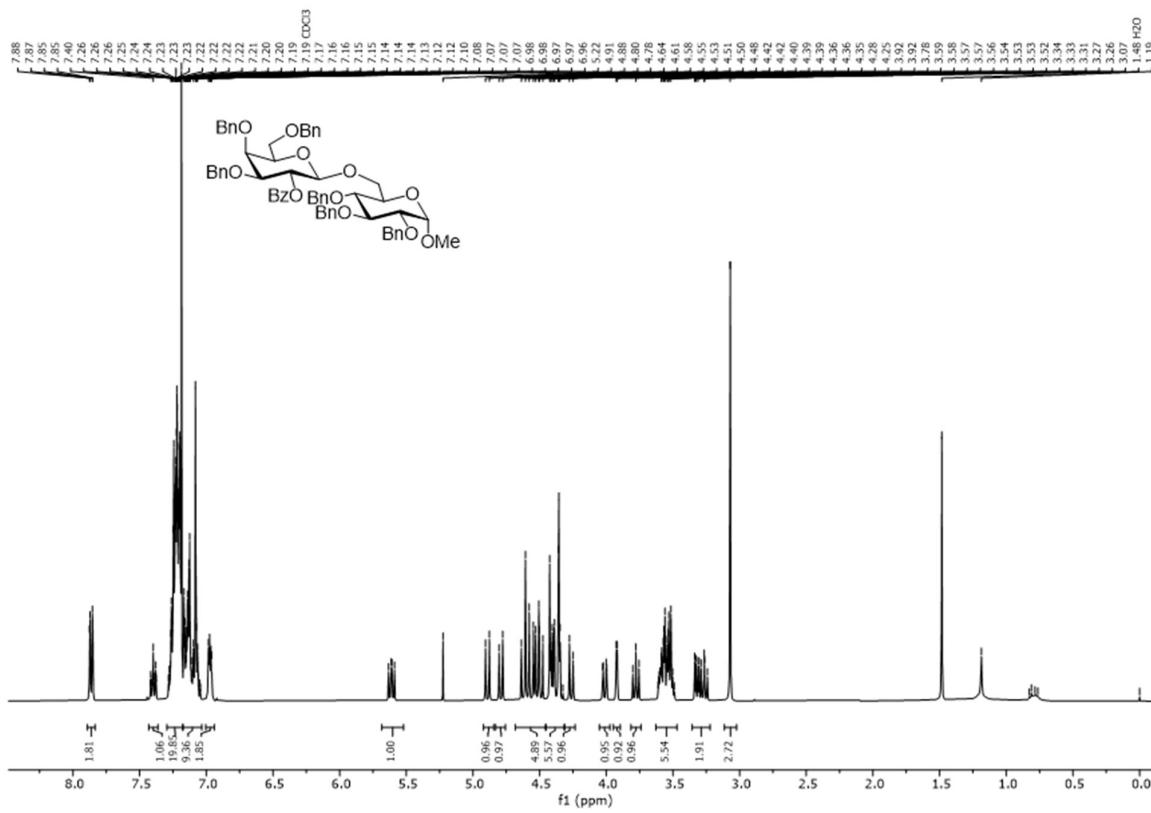
**Figure S6.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 7.



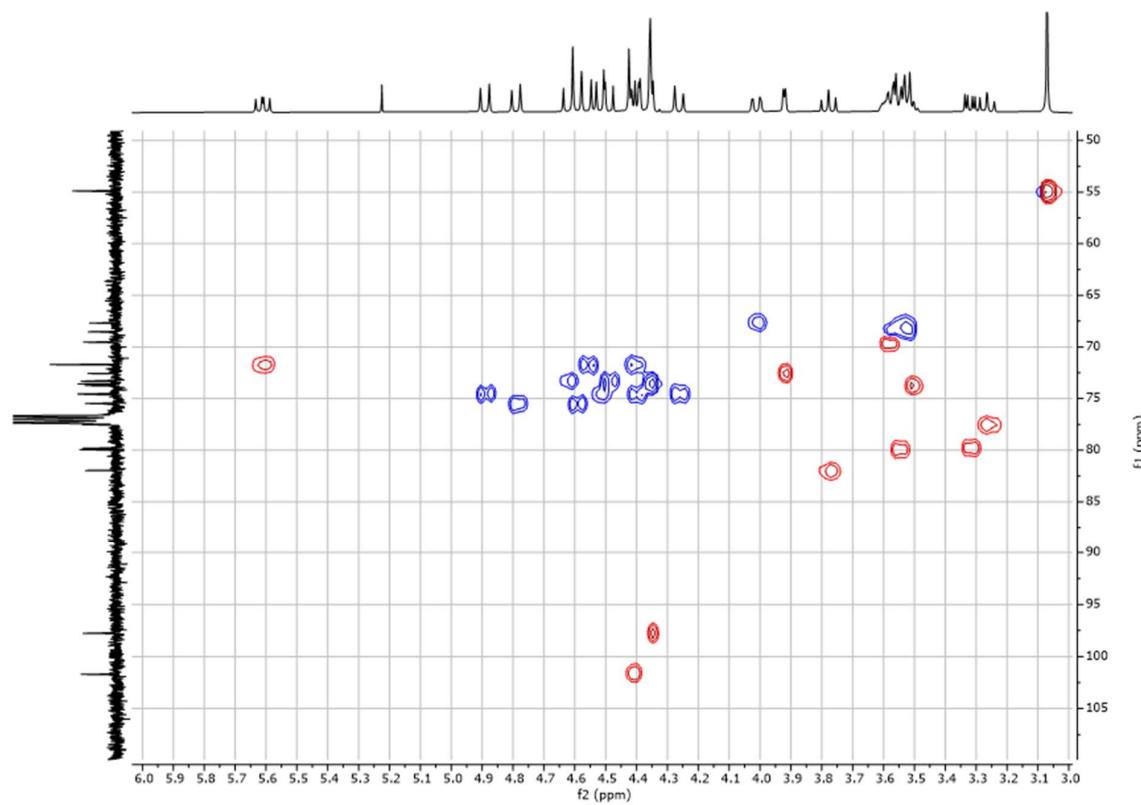
**Figure S7.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 9.



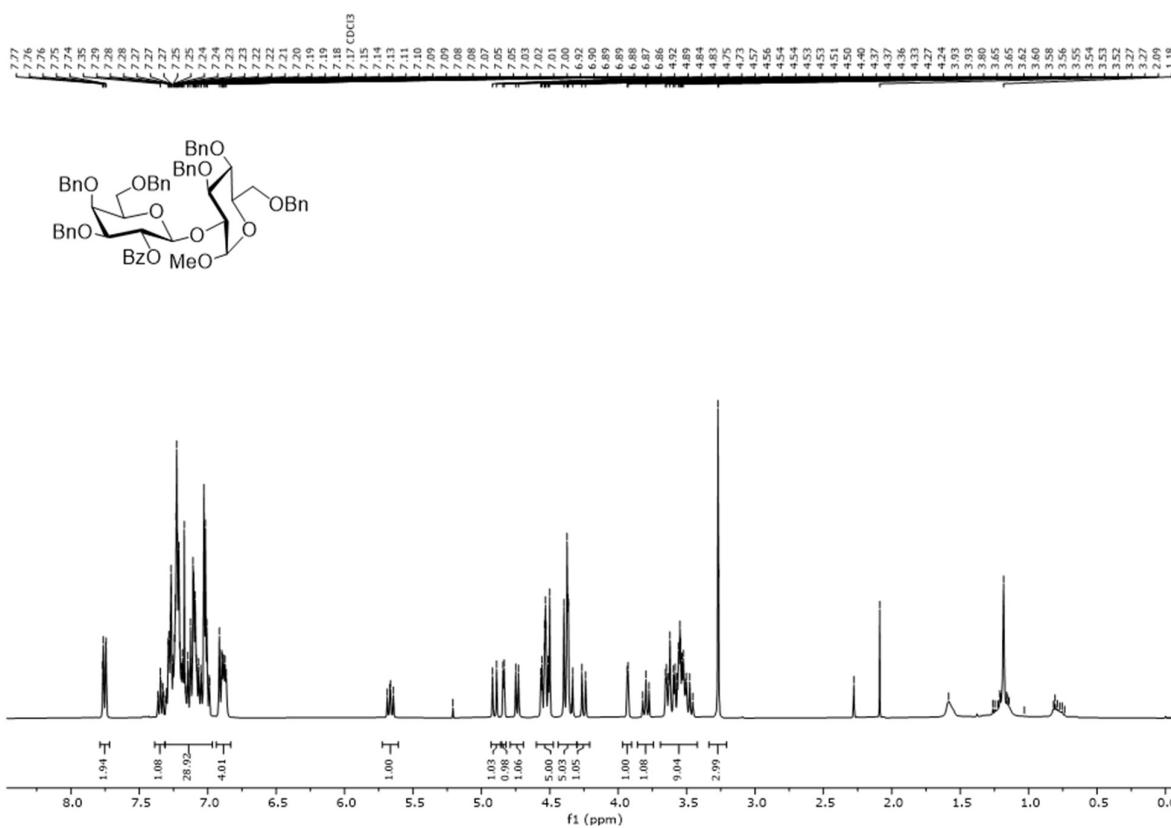
**Figure S8.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 9.



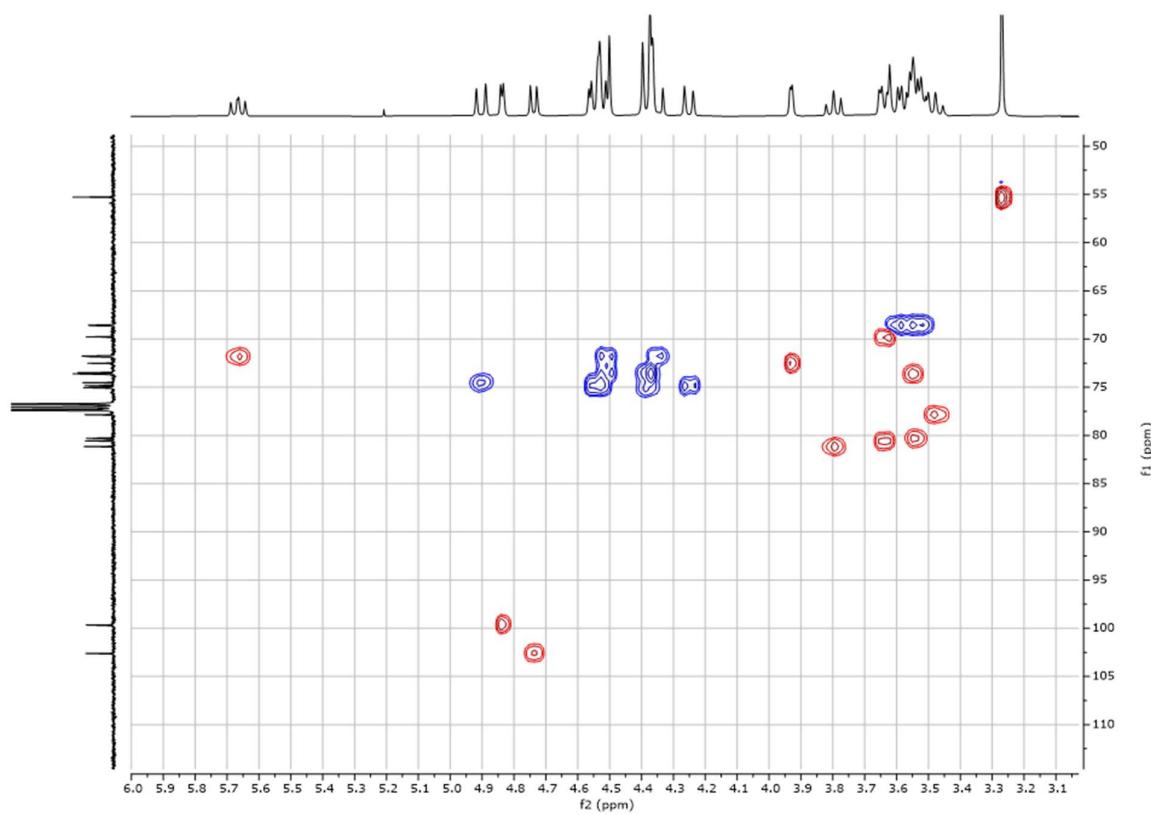
**Figure S9.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 11.



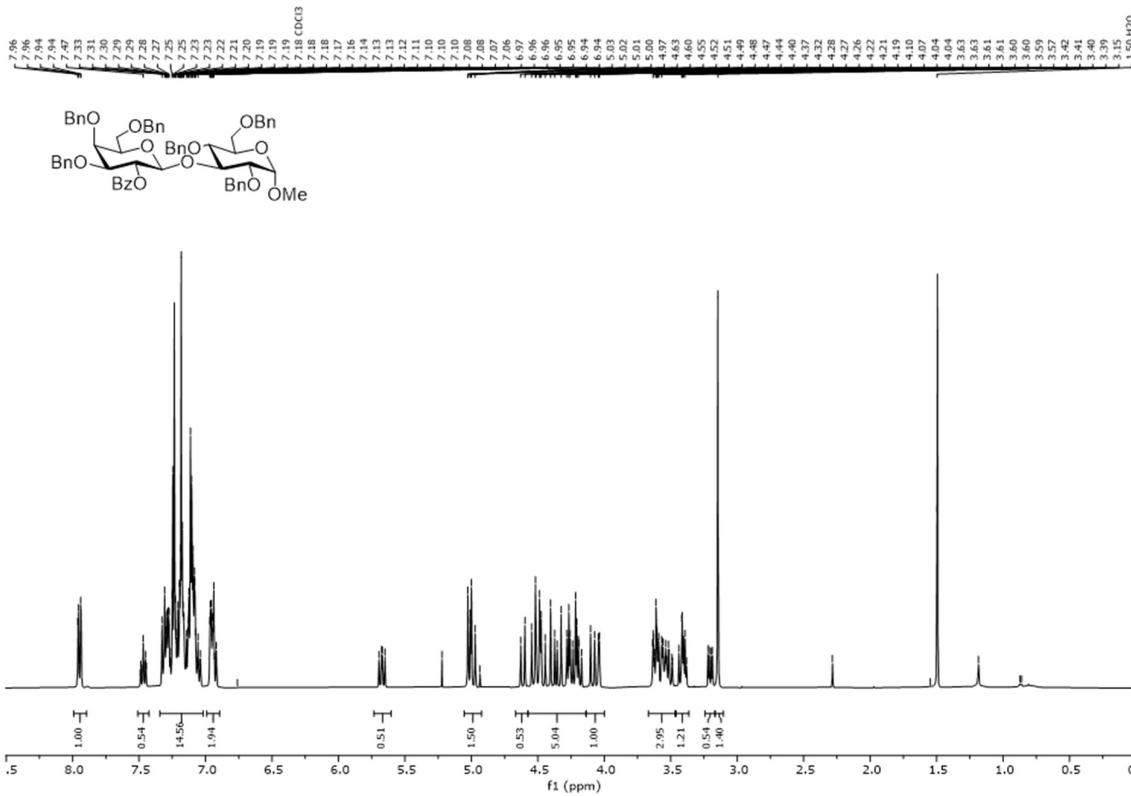
**Figure S10.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 11.



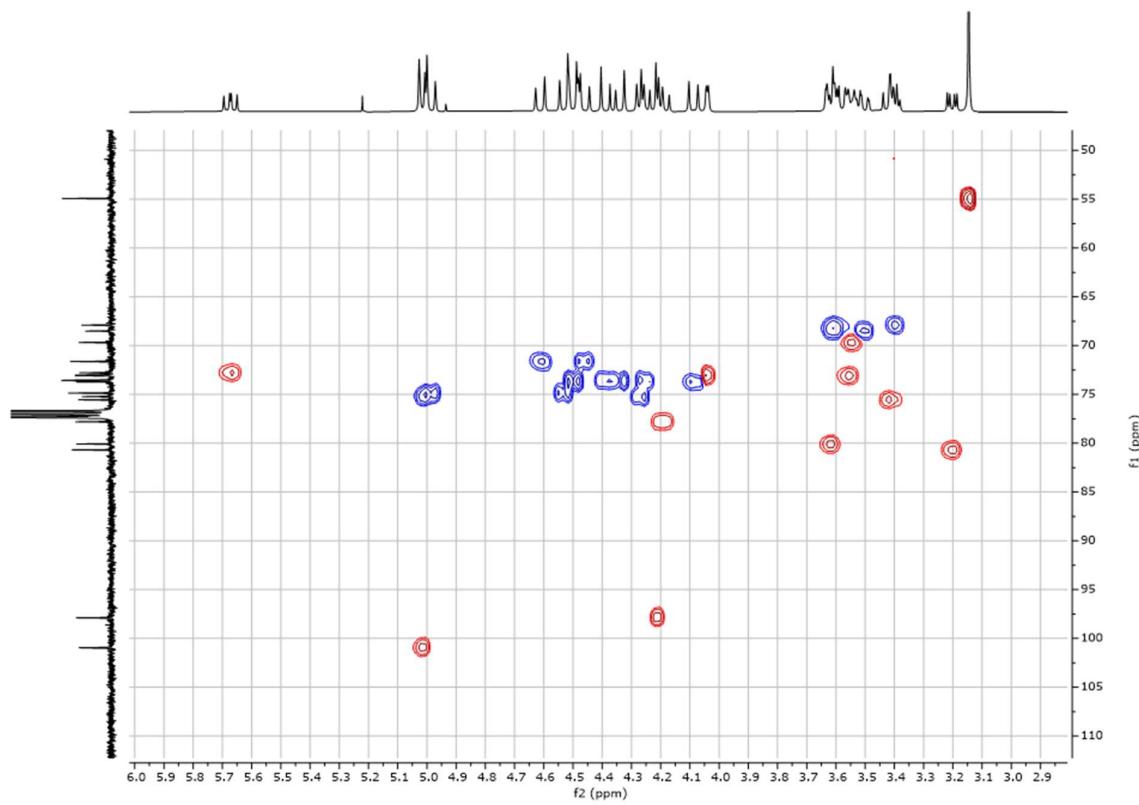
**Figure S11.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 12.



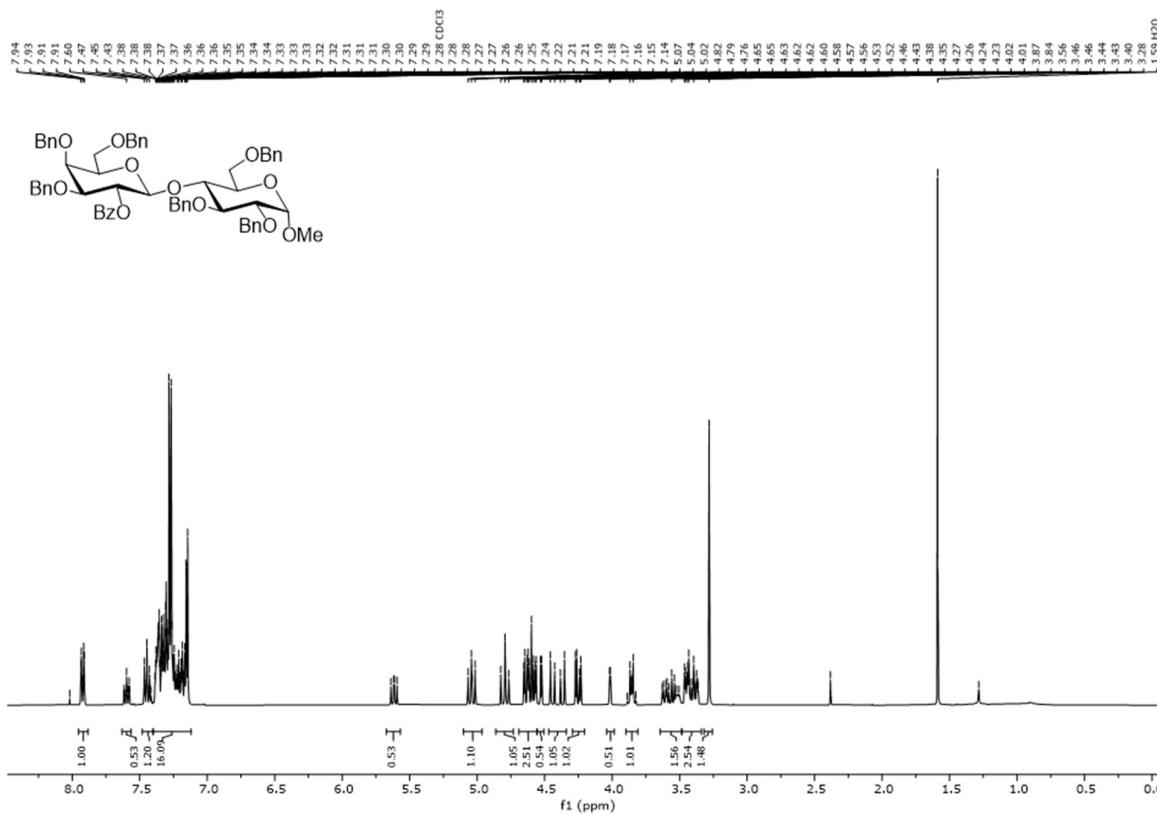
**Figure S12.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 12.



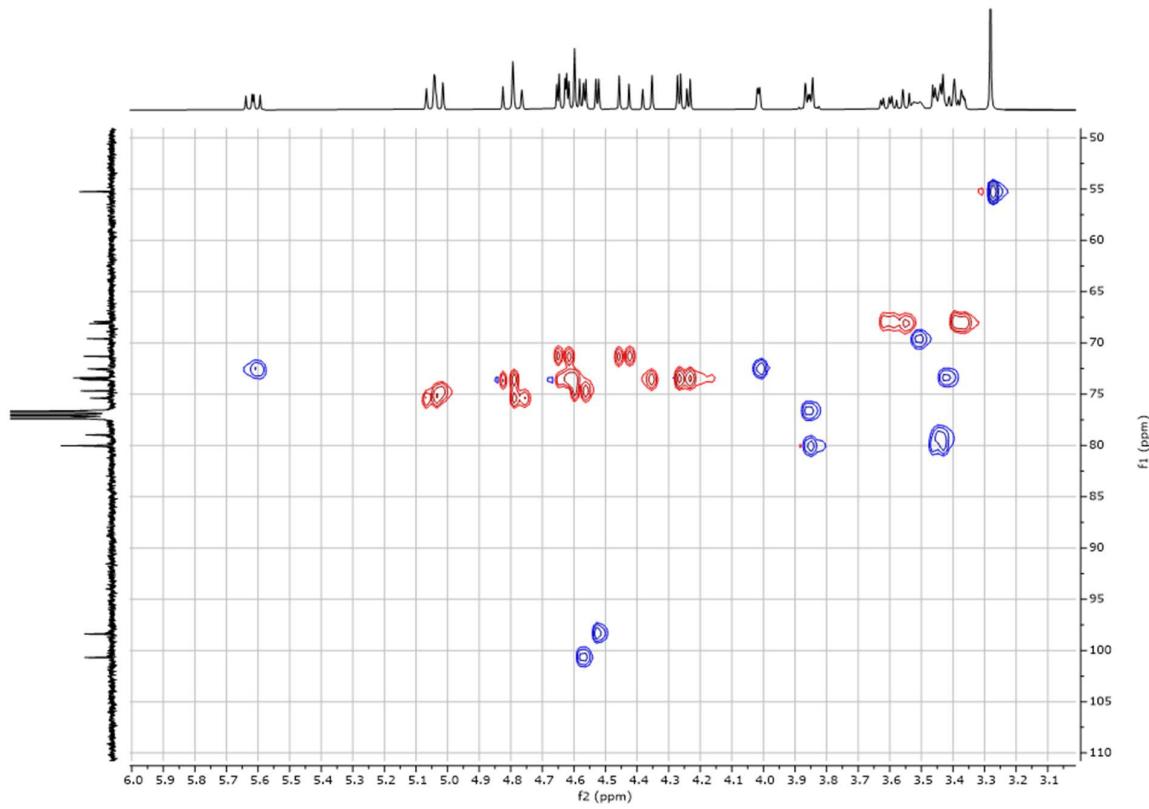
**Figure S13.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 13.



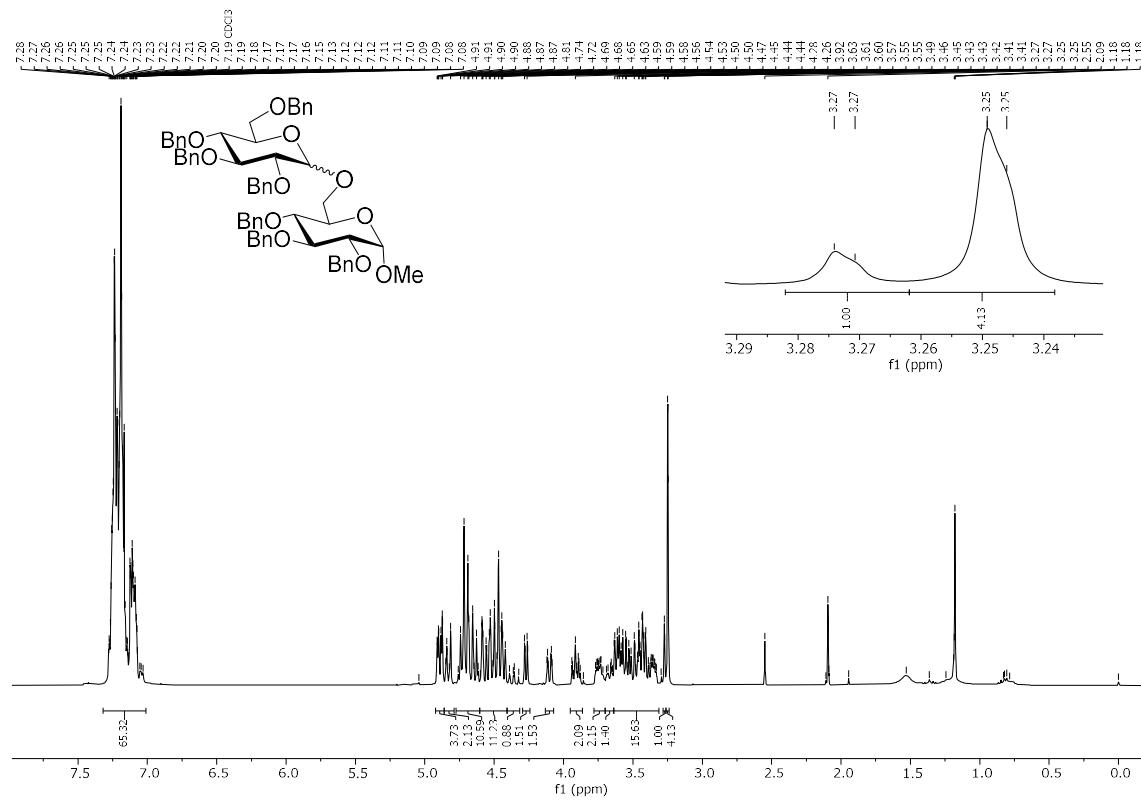
**Figure S14.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 13.



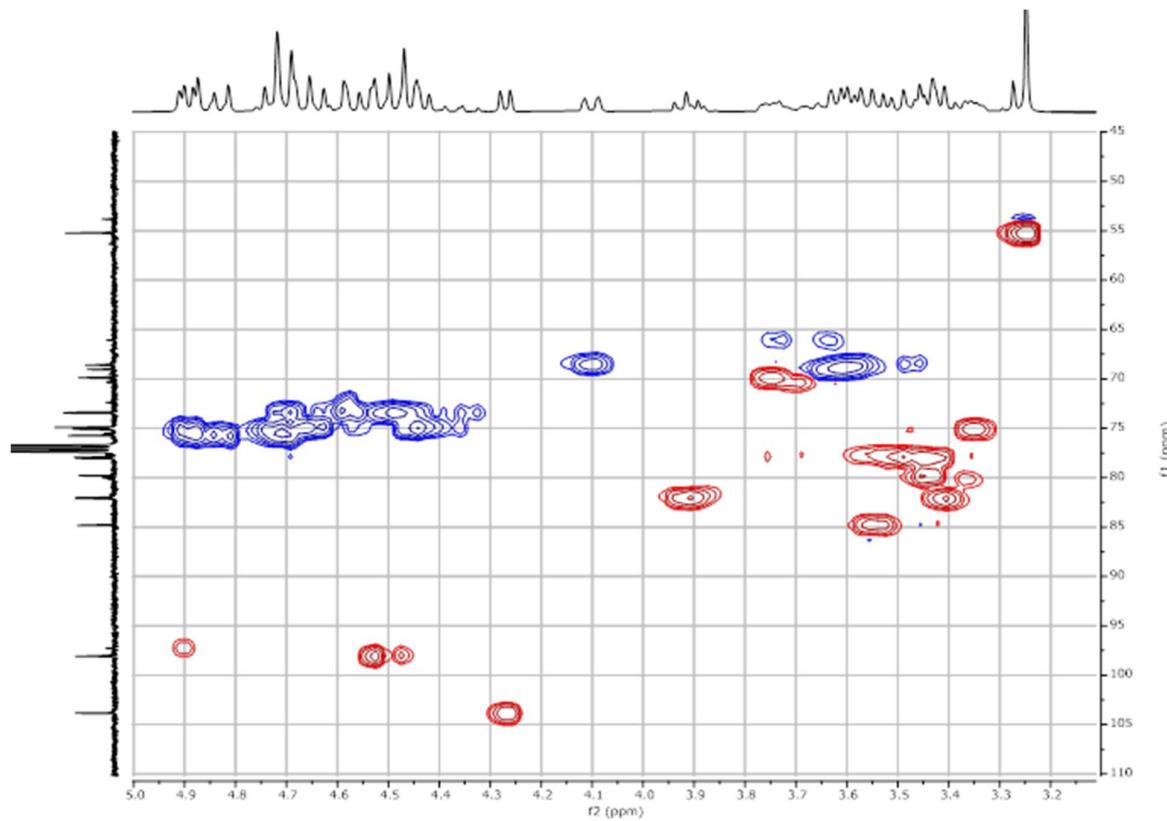
**Figure S15.**  $^1\text{H}$  NMR Spectrum of ( $\text{CDCl}_3$ , 400 MHz) Compound 14.



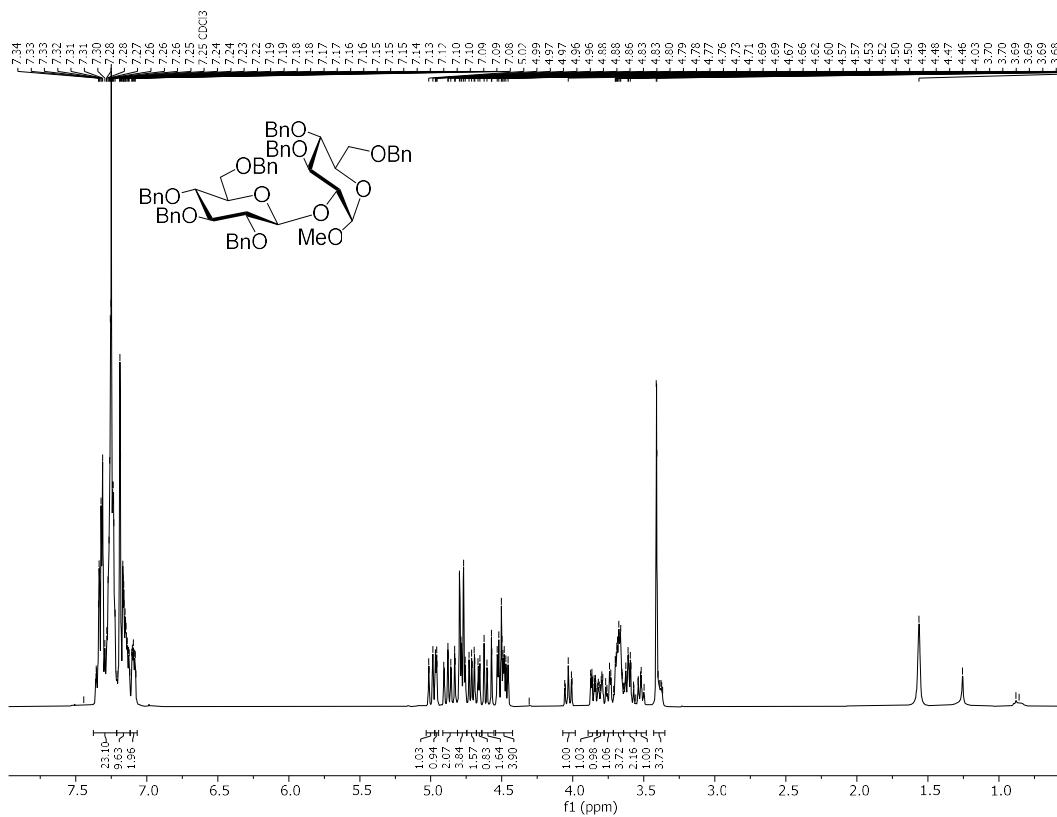
**Figure S16.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 14.



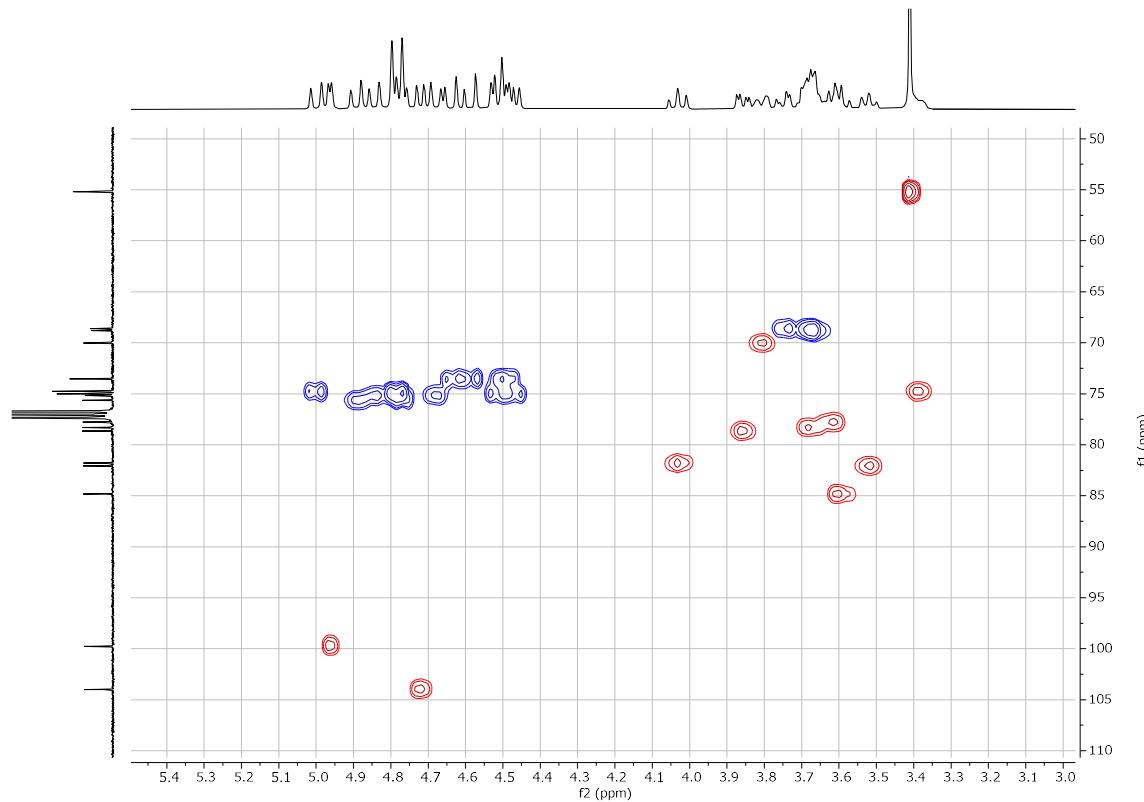
**Figure S17.**  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 16.



**Figure S18.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 16.



**Figure S19.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 17 $\beta$ .



**Figure S20.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 17 $\beta$ .

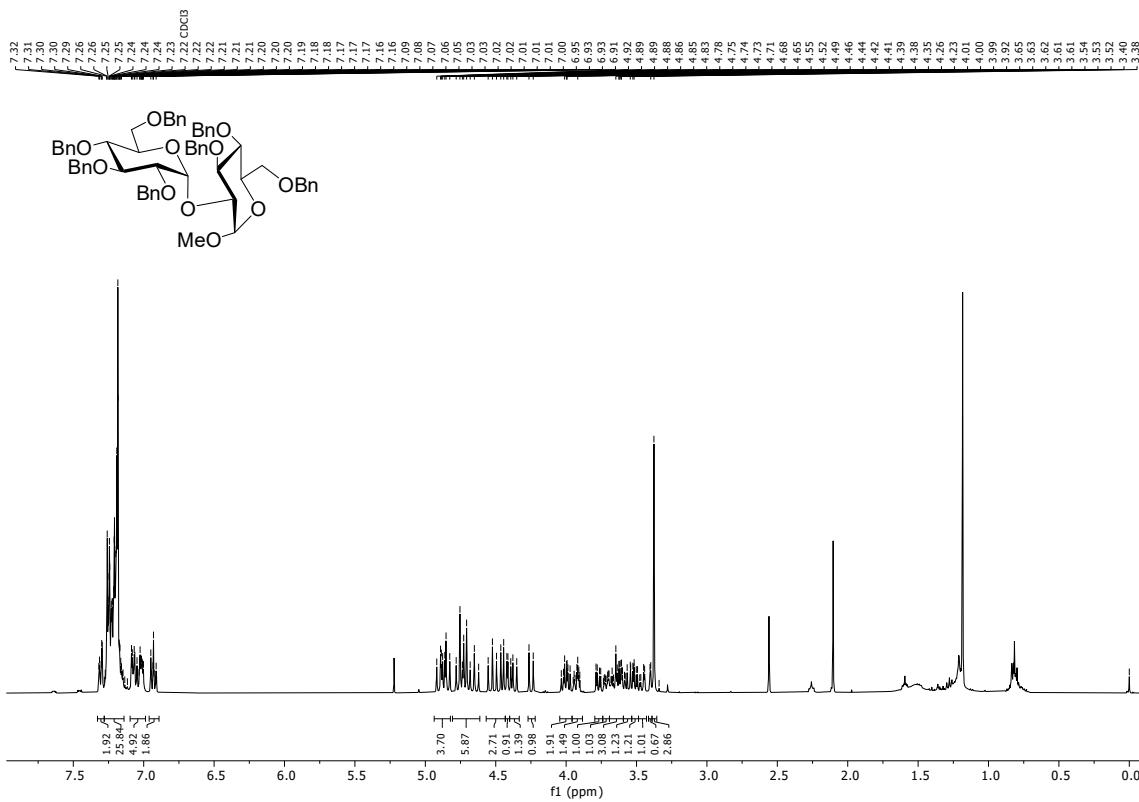


Figure S21. <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 17 $\alpha$ .

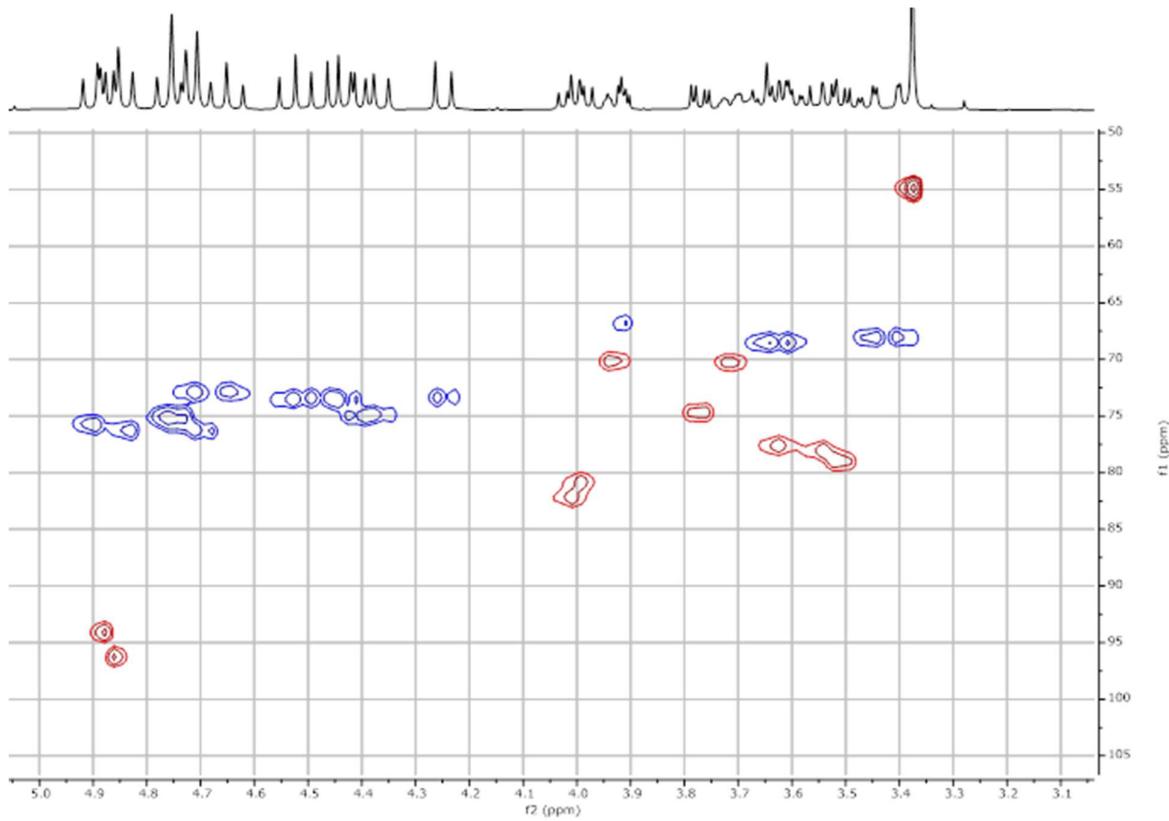
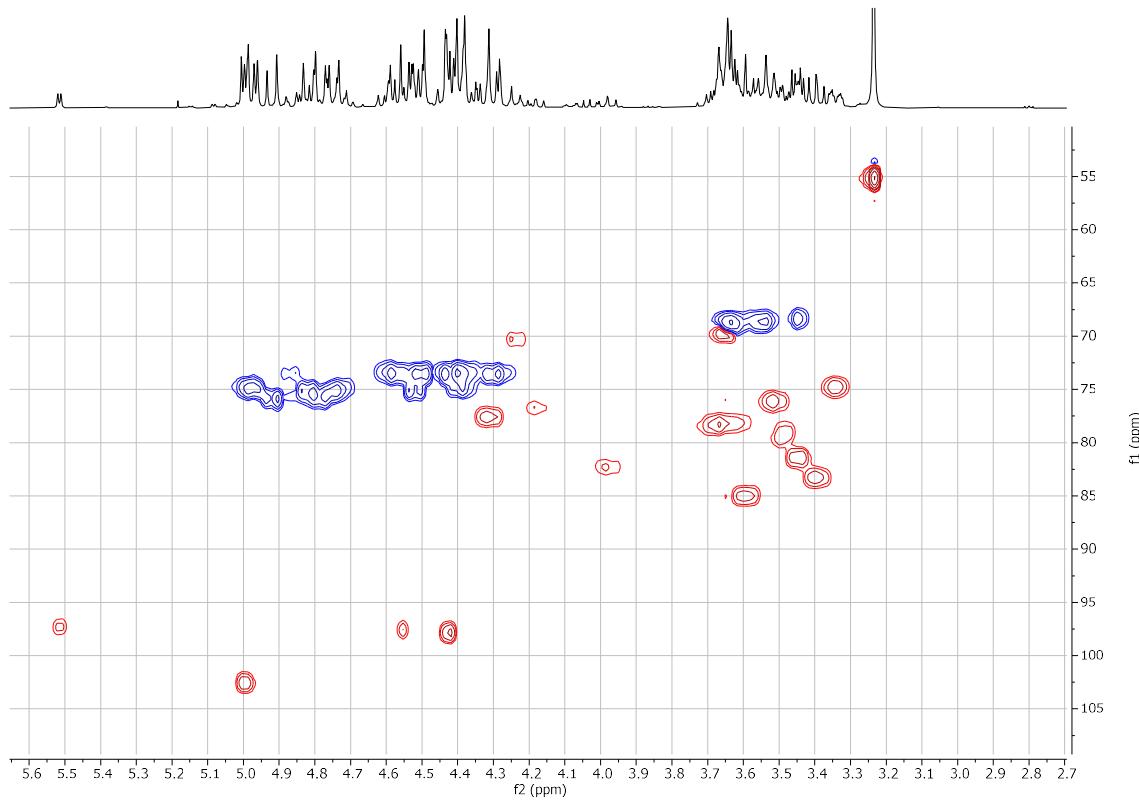
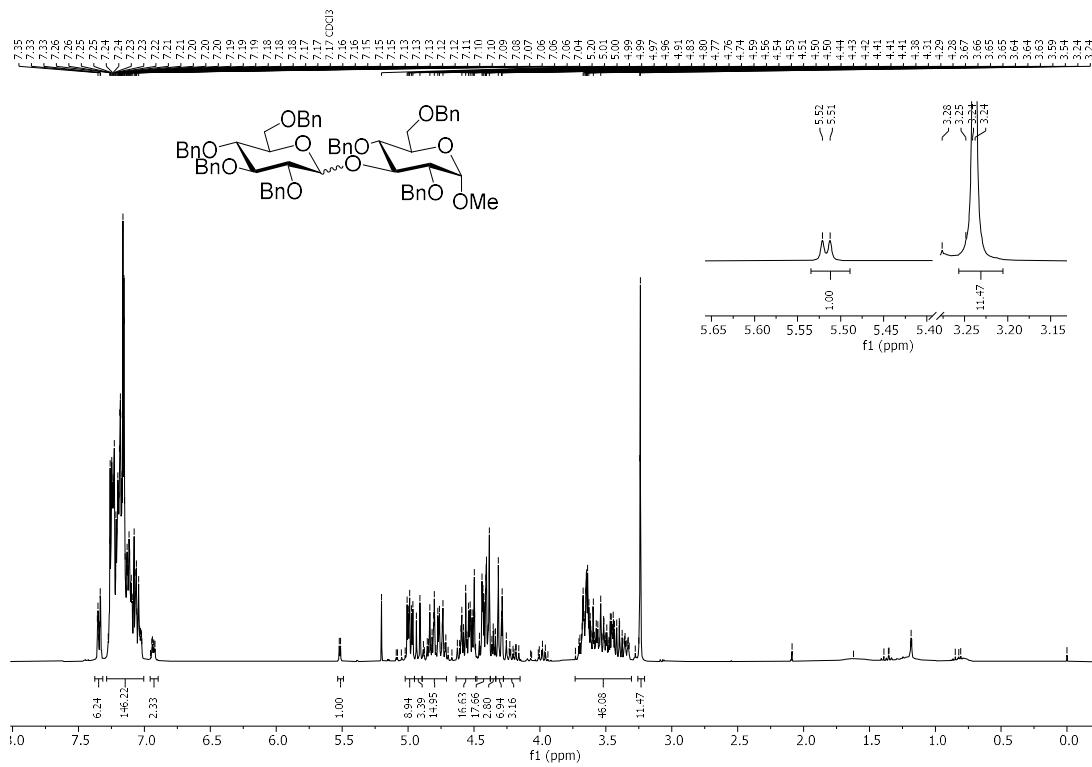
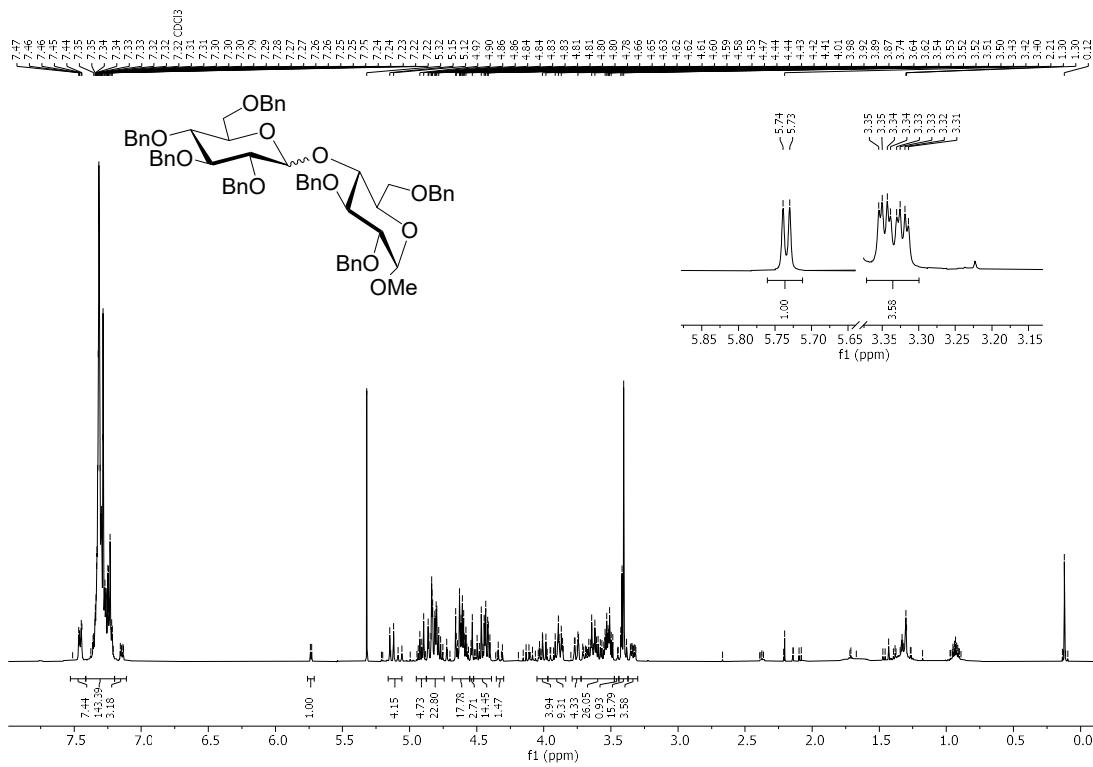


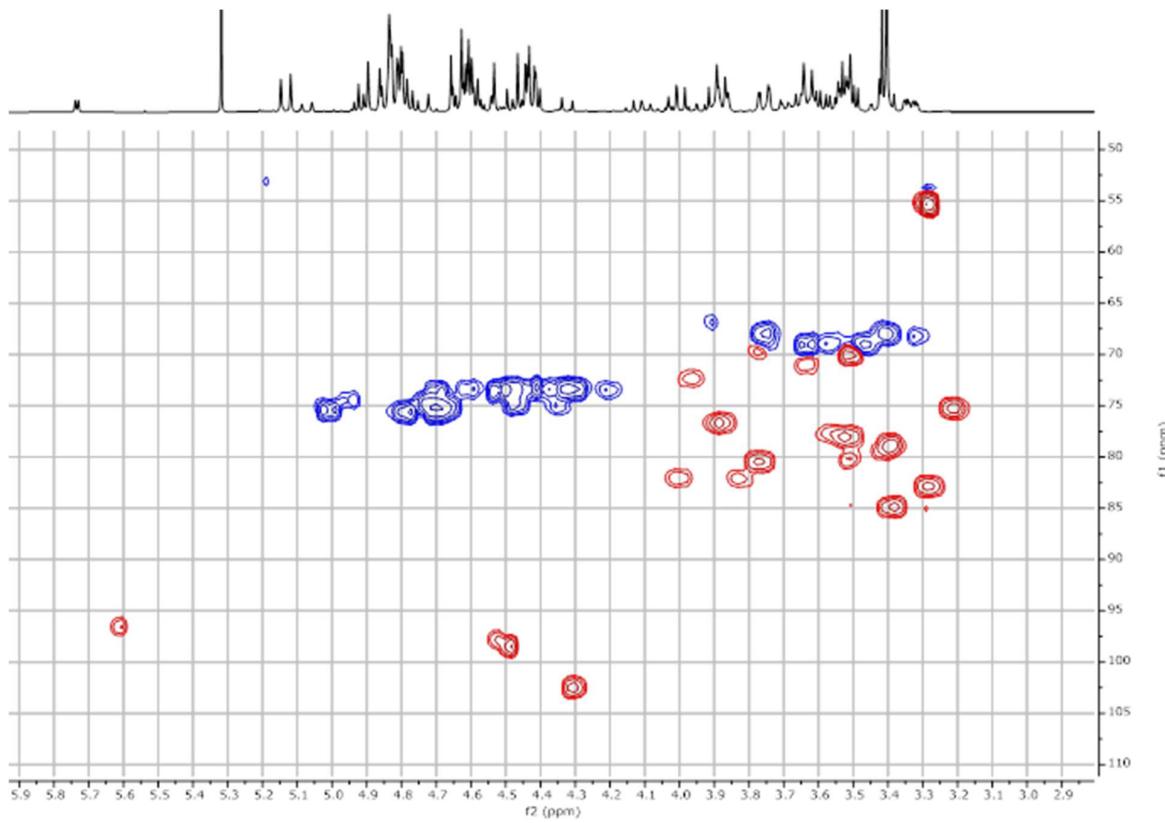
Figure S22. HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 17 $\alpha$ .



**Figure S24.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 18.



**Figure S25.**  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 19.



**Figure S26.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 19.

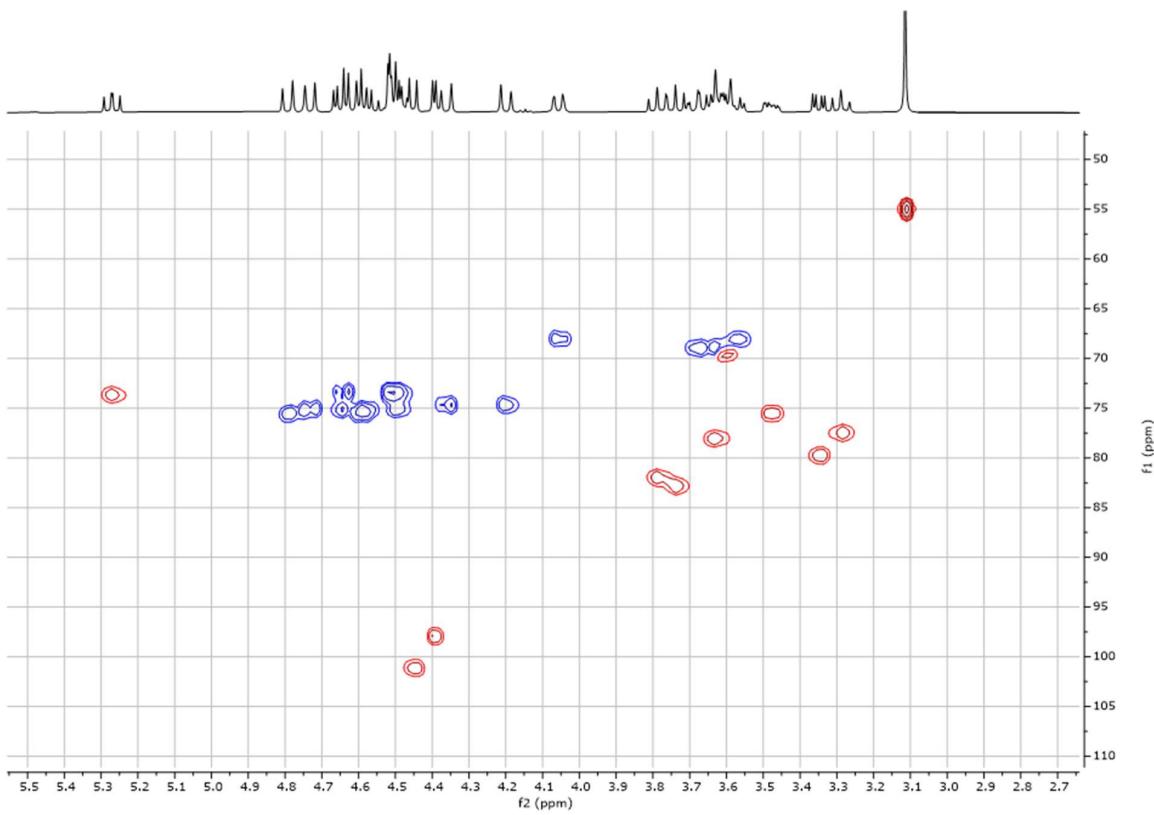
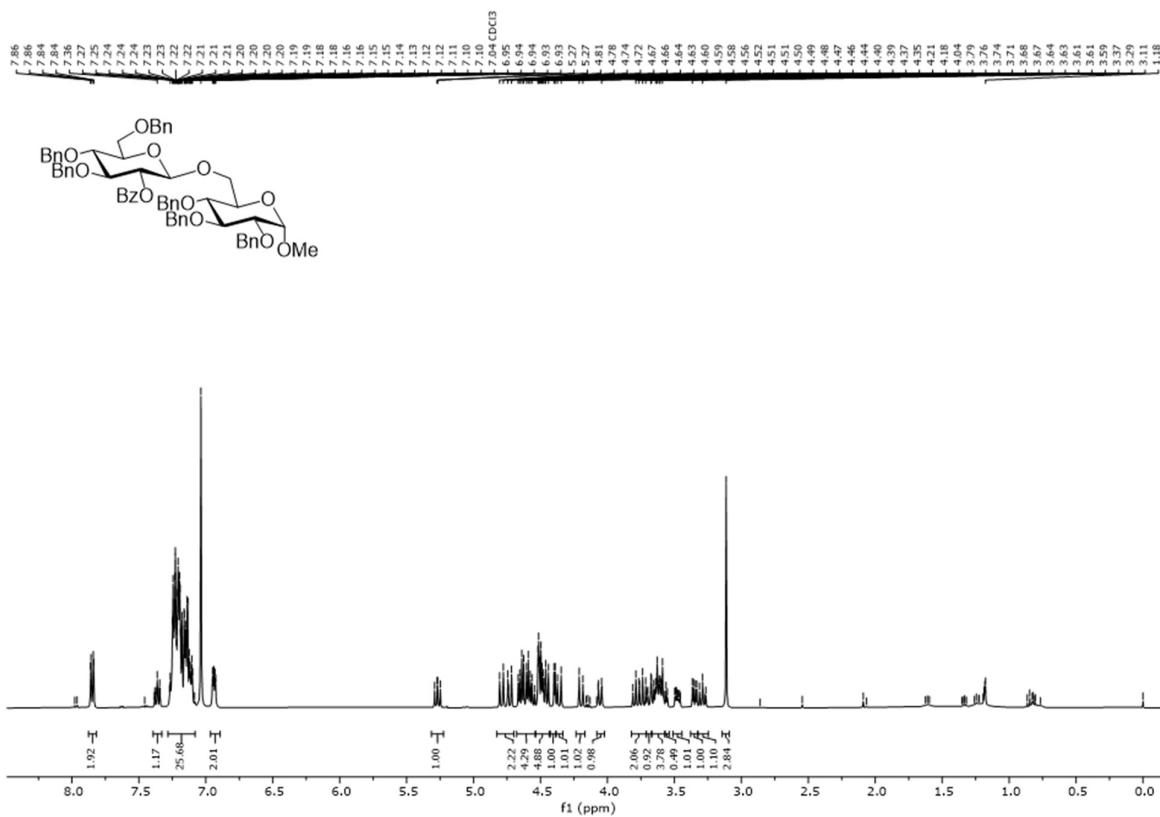
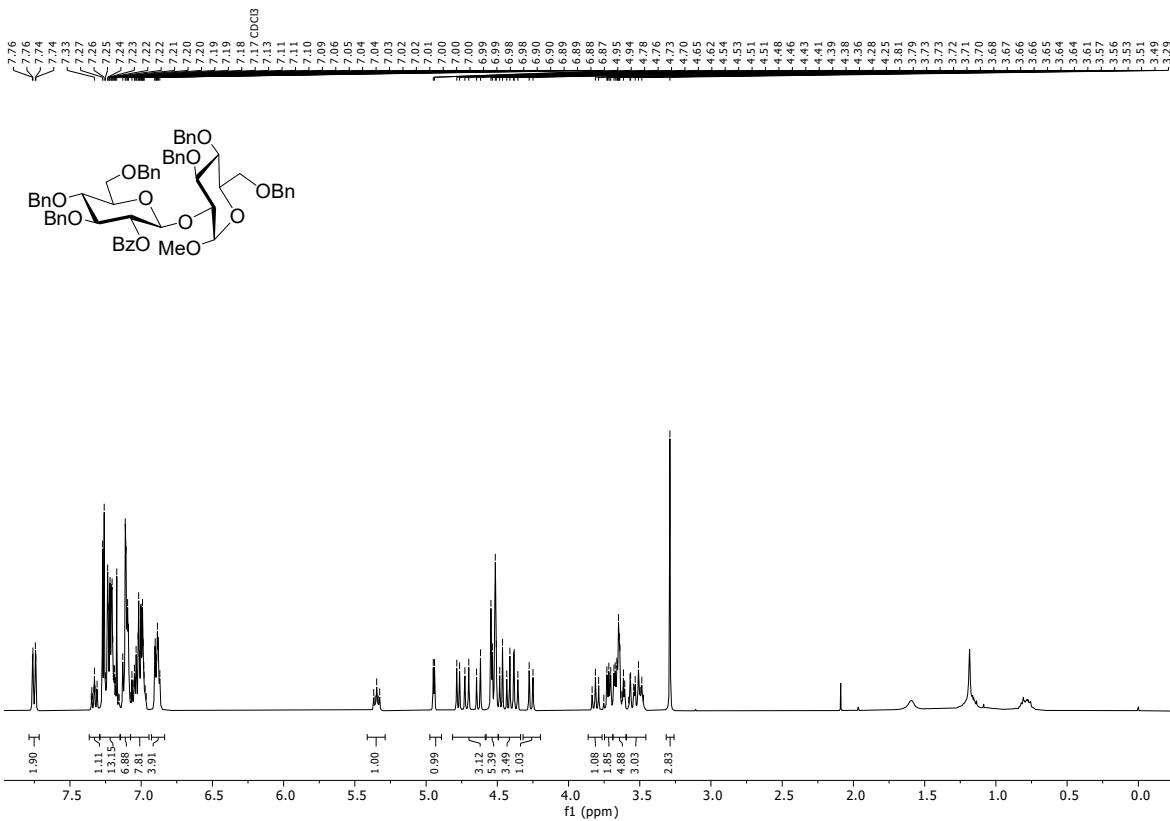
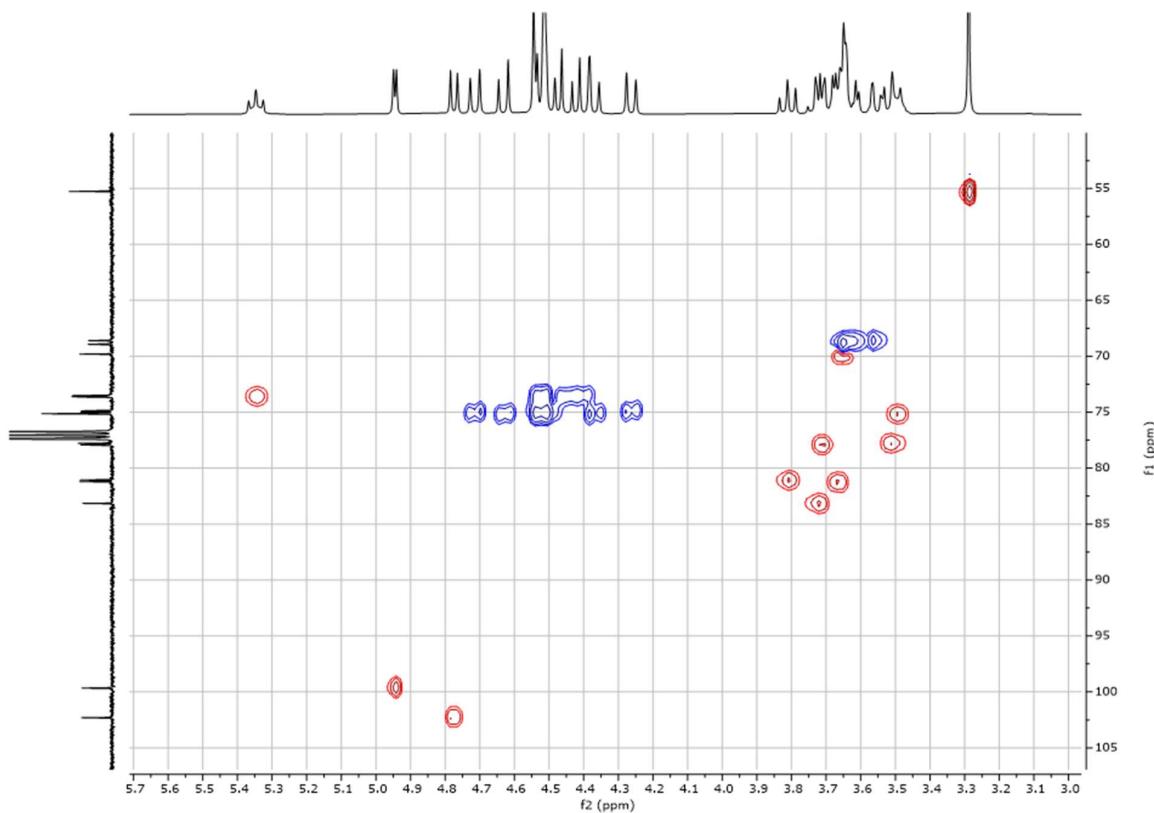


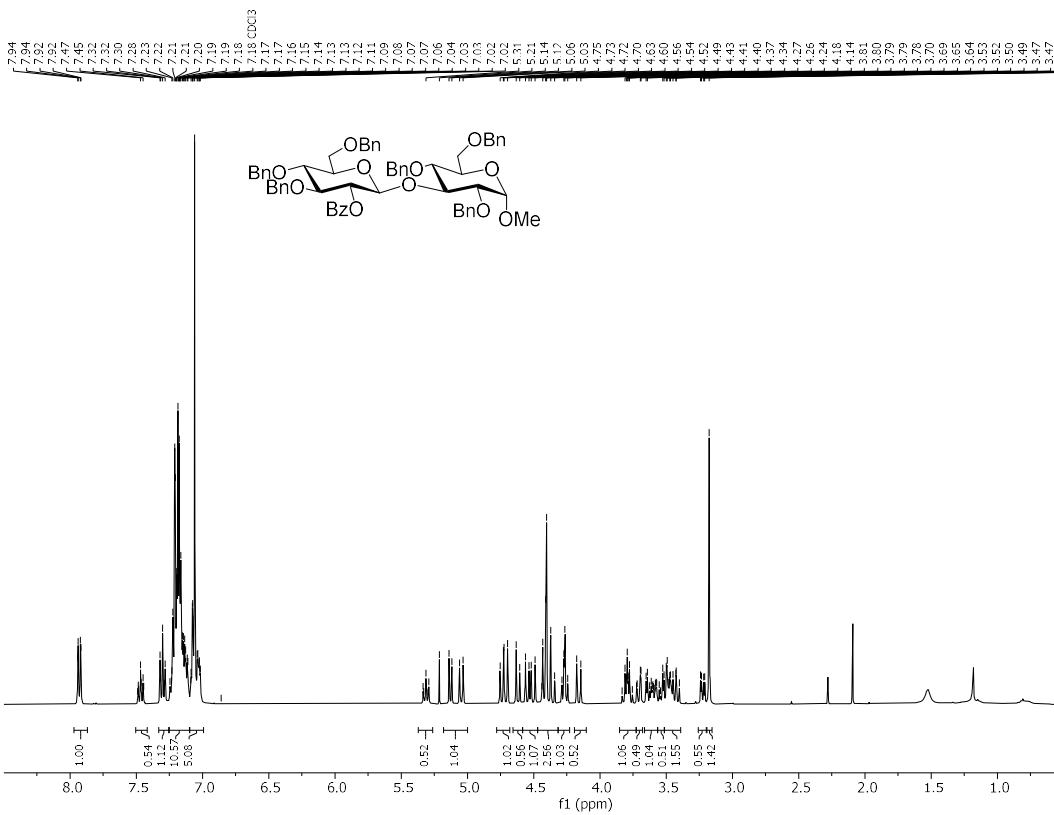
Figure S28. HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 21.



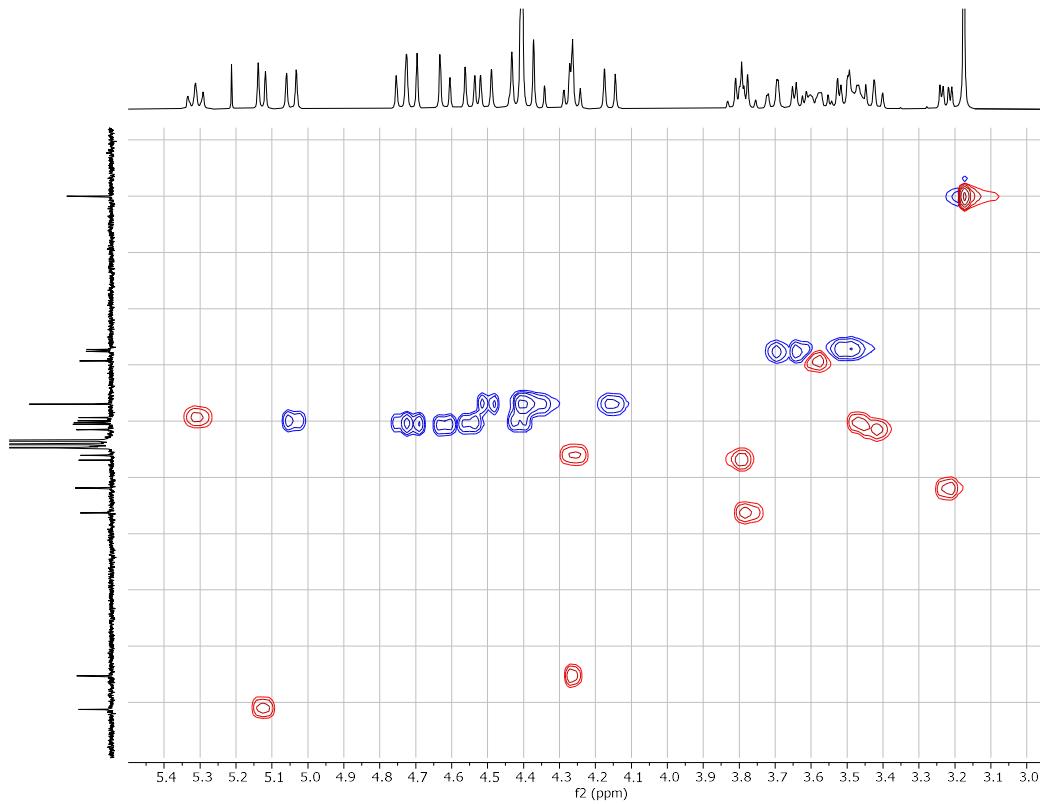
**Figure S29.**  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 22.



**Figure S30.** HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 22.



**Figure S31.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 23.



**Figure S32.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 23.

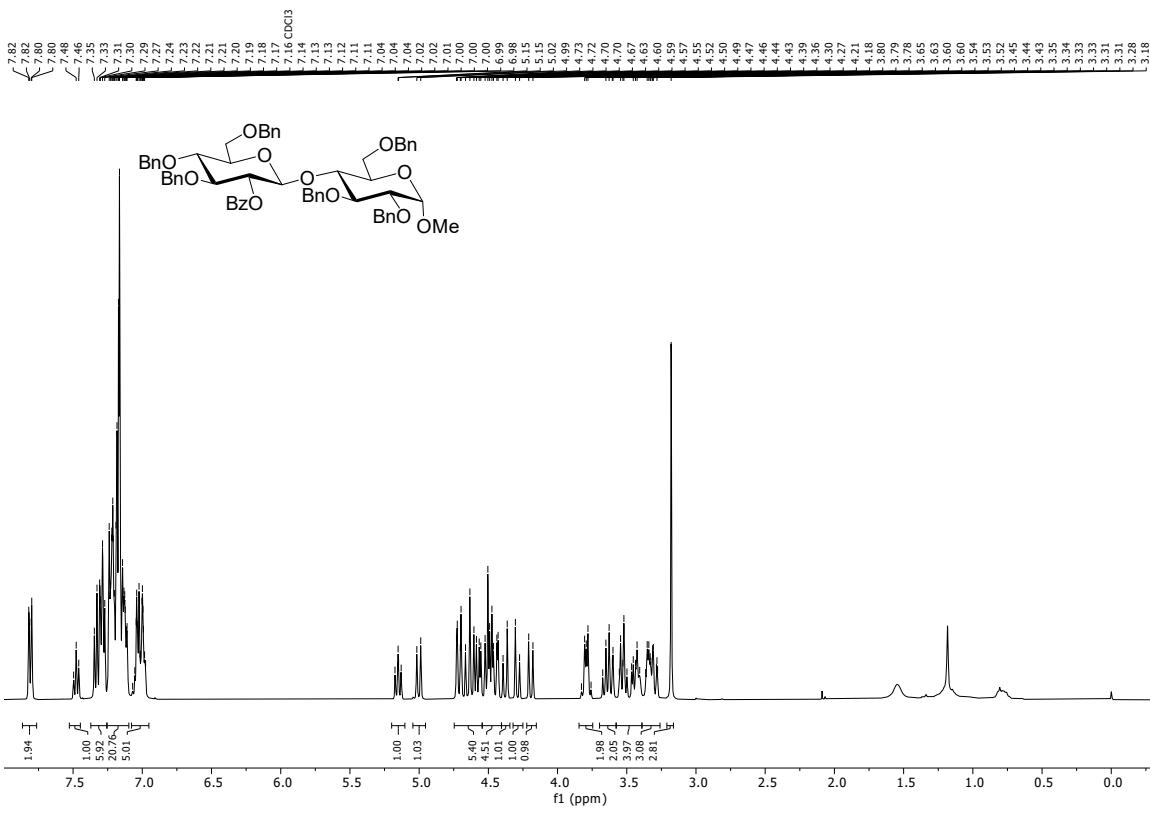


Figure S33.  $^1\text{H}$  NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 24.

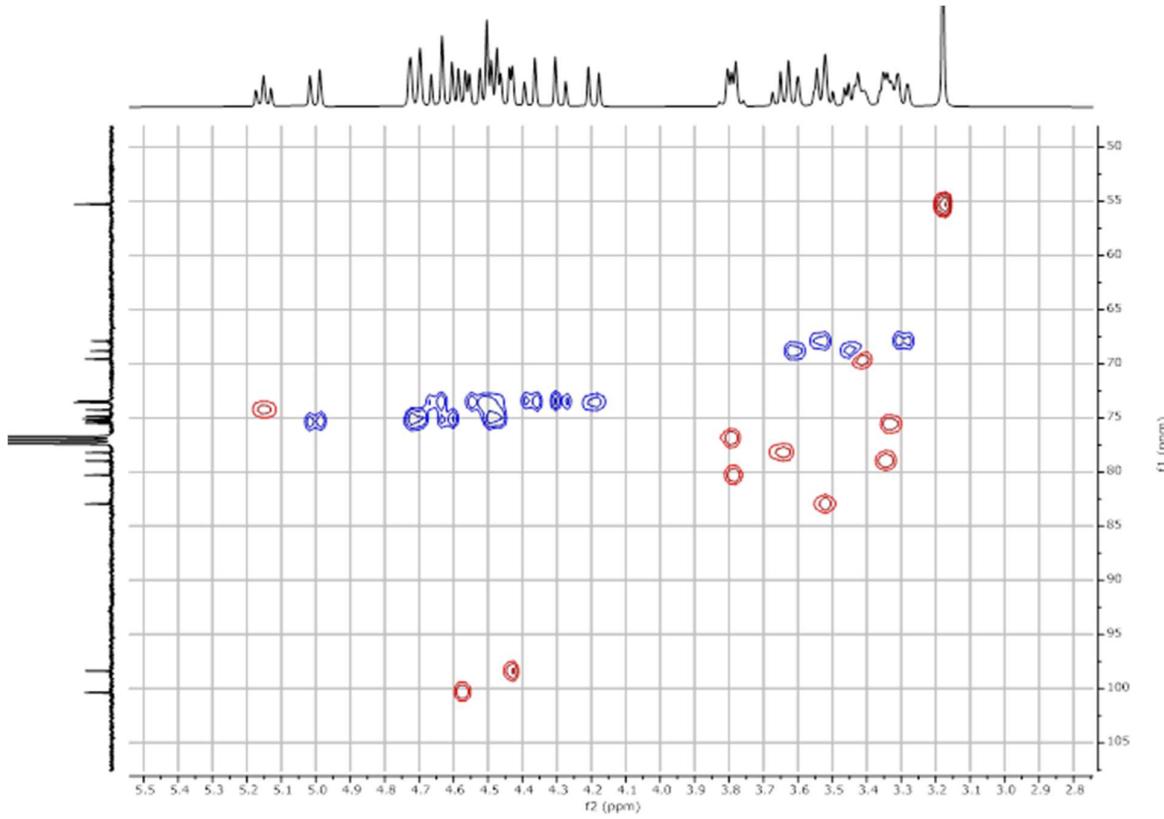
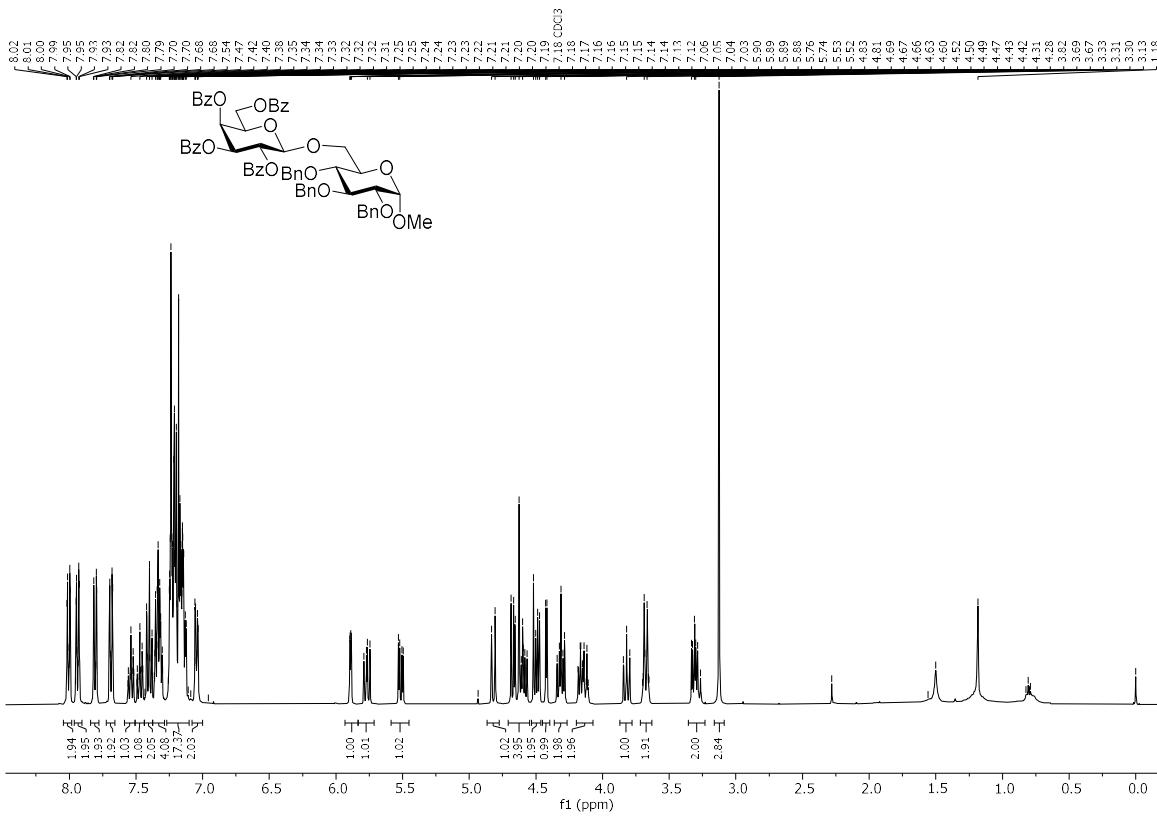
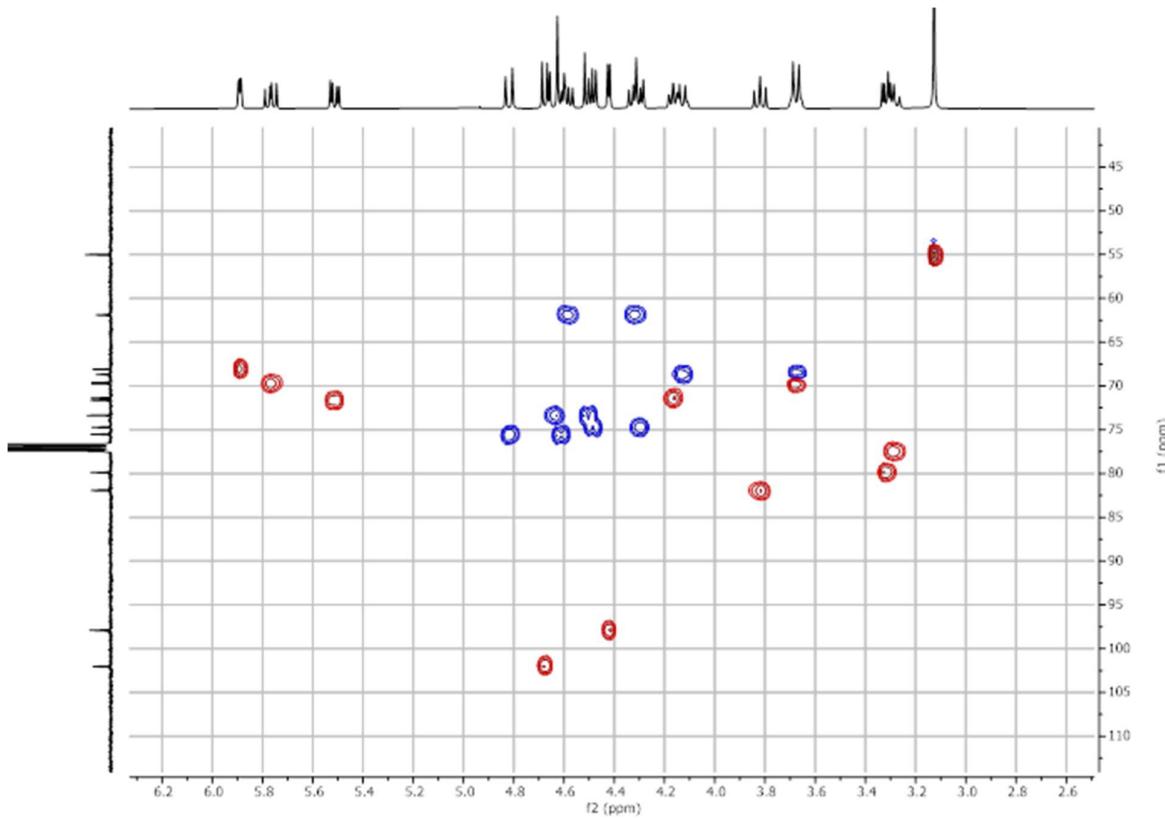


Figure S34. HSQC NMR Spectrum ( $\text{CDCl}_3$ , 400 MHz) of Compound 24.



**Figure S35.** <sup>1</sup>H NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 26.



**Figure S36.** HSQC NMR Spectrum (CDCl<sub>3</sub>, 400 MHz) of Compound 26.