

Supporting Information
for
Exploring architectures displaying multimeric presentations of a trihydroxypiperidine iminosugar

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Characterization data, ¹H NMR and ¹³C NMR spectra of synthesized compounds and IC₅₀ graphics of compounds 11·HCl and 15

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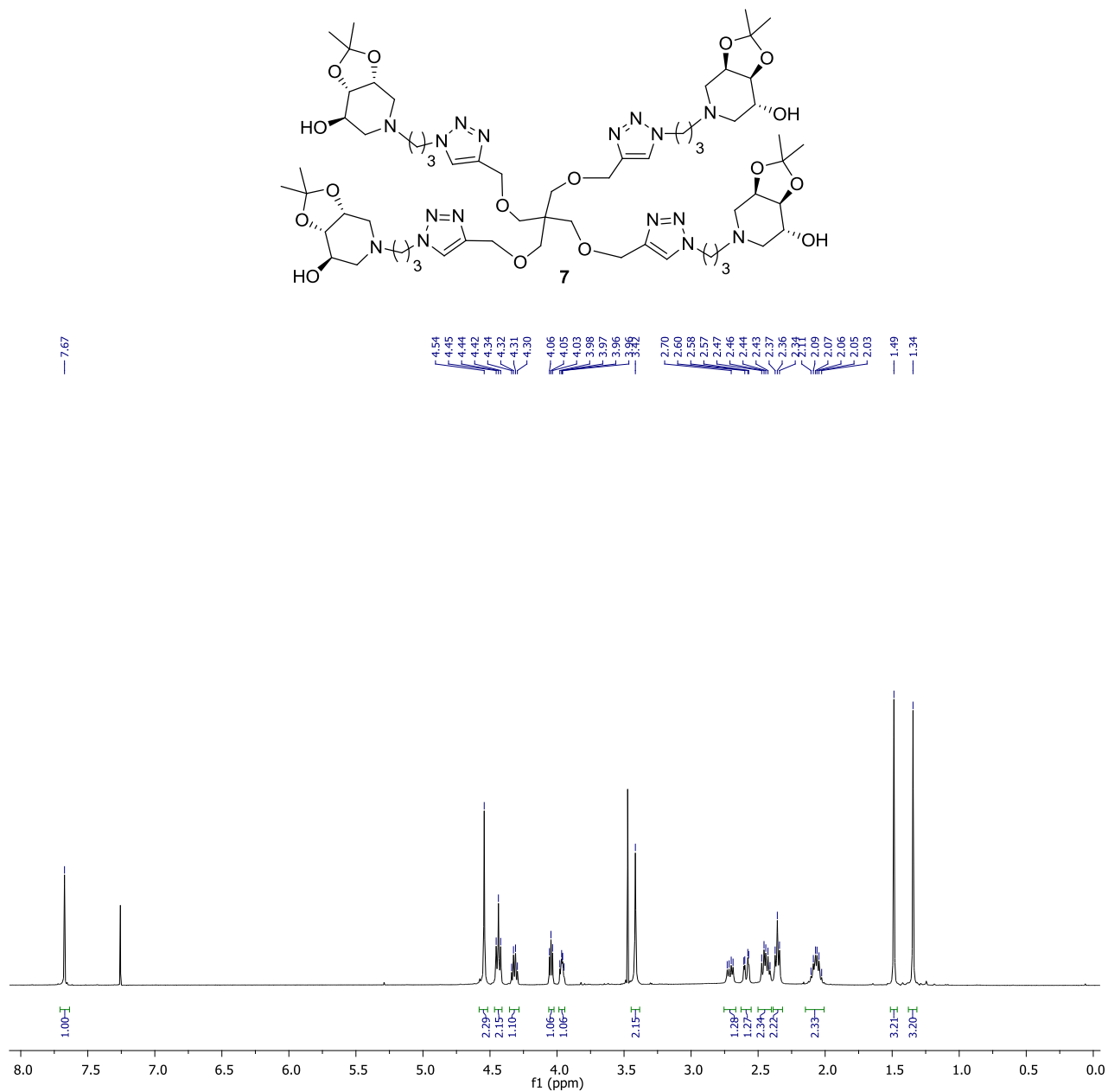


Figure S1: ^1H NMR spectrum of compound **7** (400 MHz, CDCl_3).

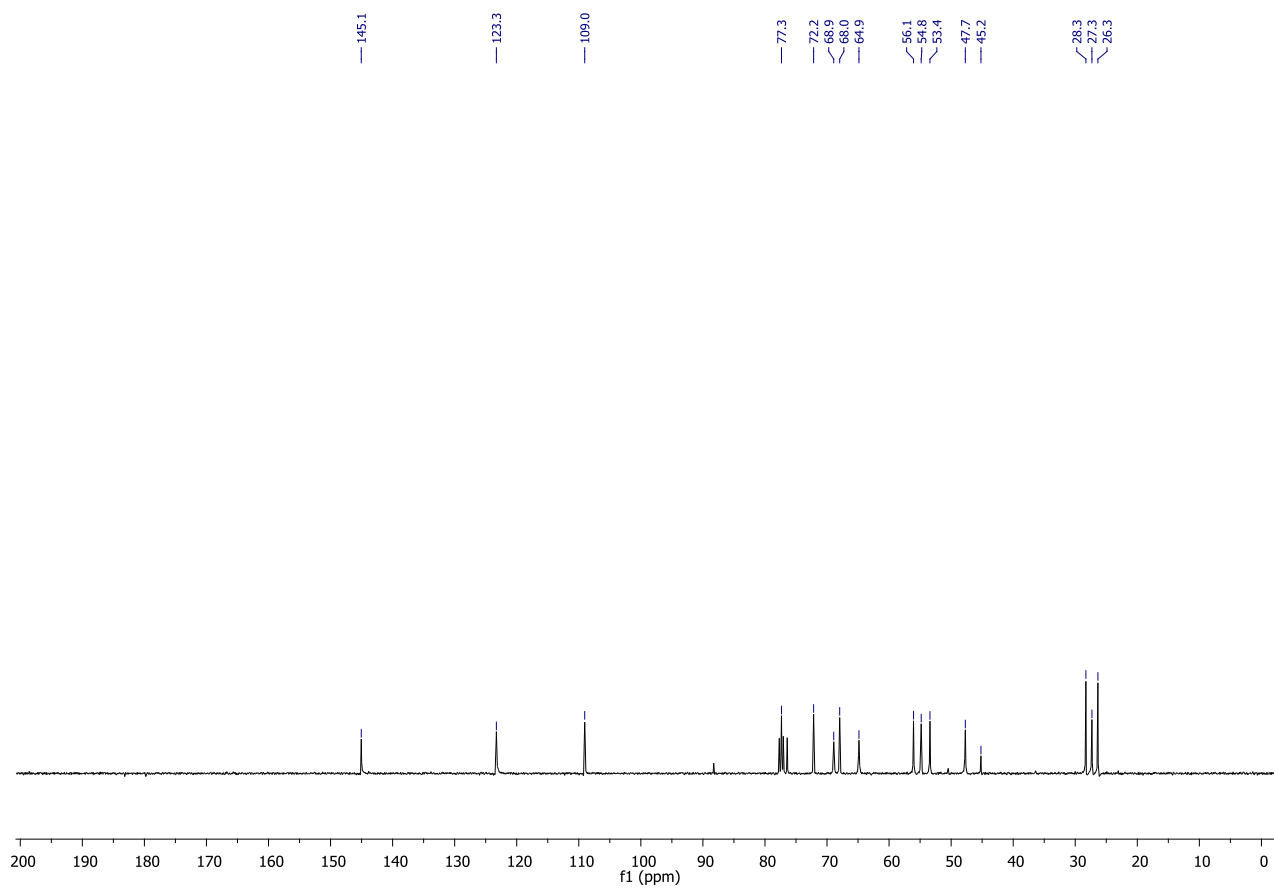


Figure S2: ^{13}C NMR spectrum of compound **7** (50 MHz, CDCl_3).

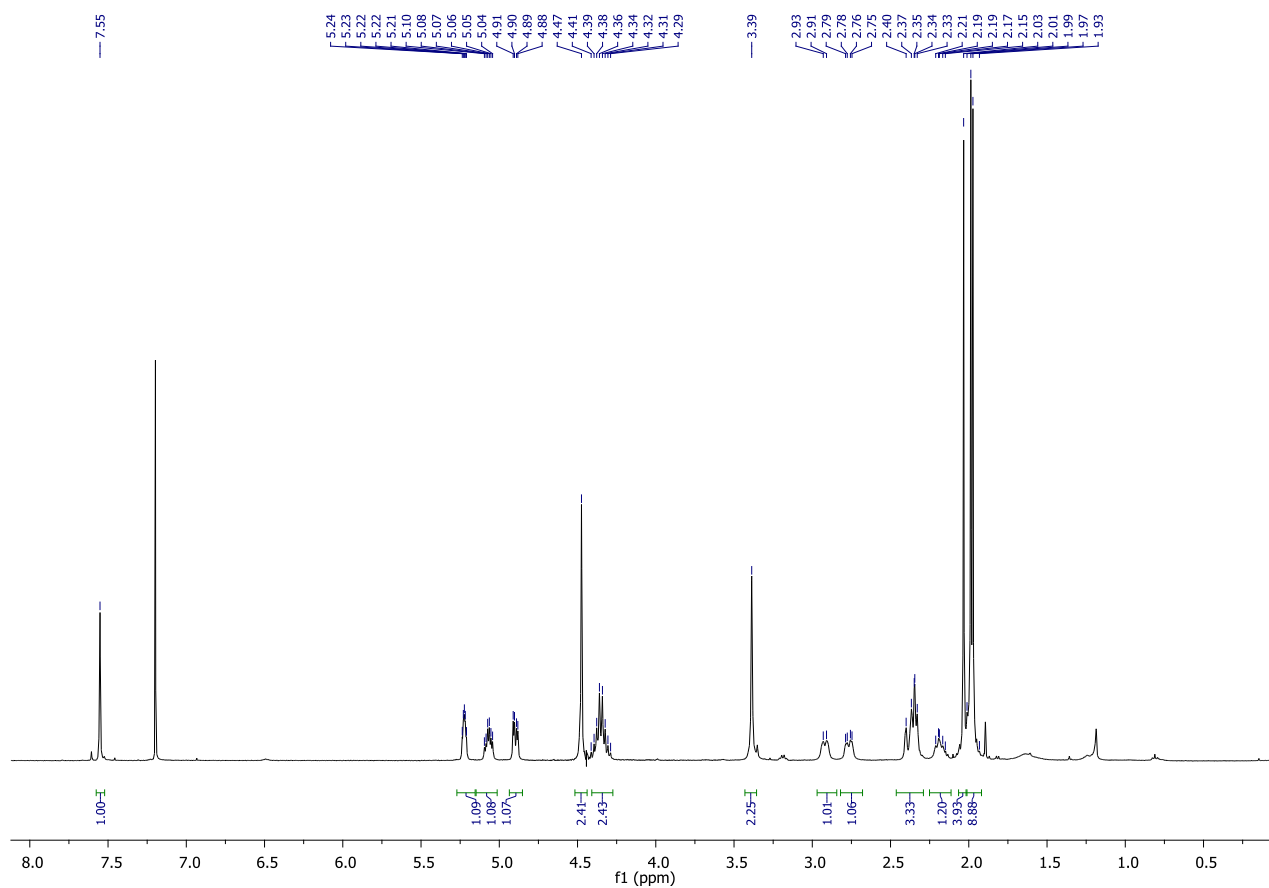
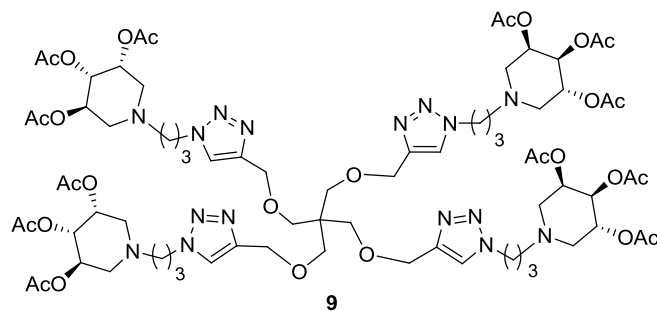


Figure S3: ^1H NMR spectrum of compound **9** (400 MHz, CDCl_3).

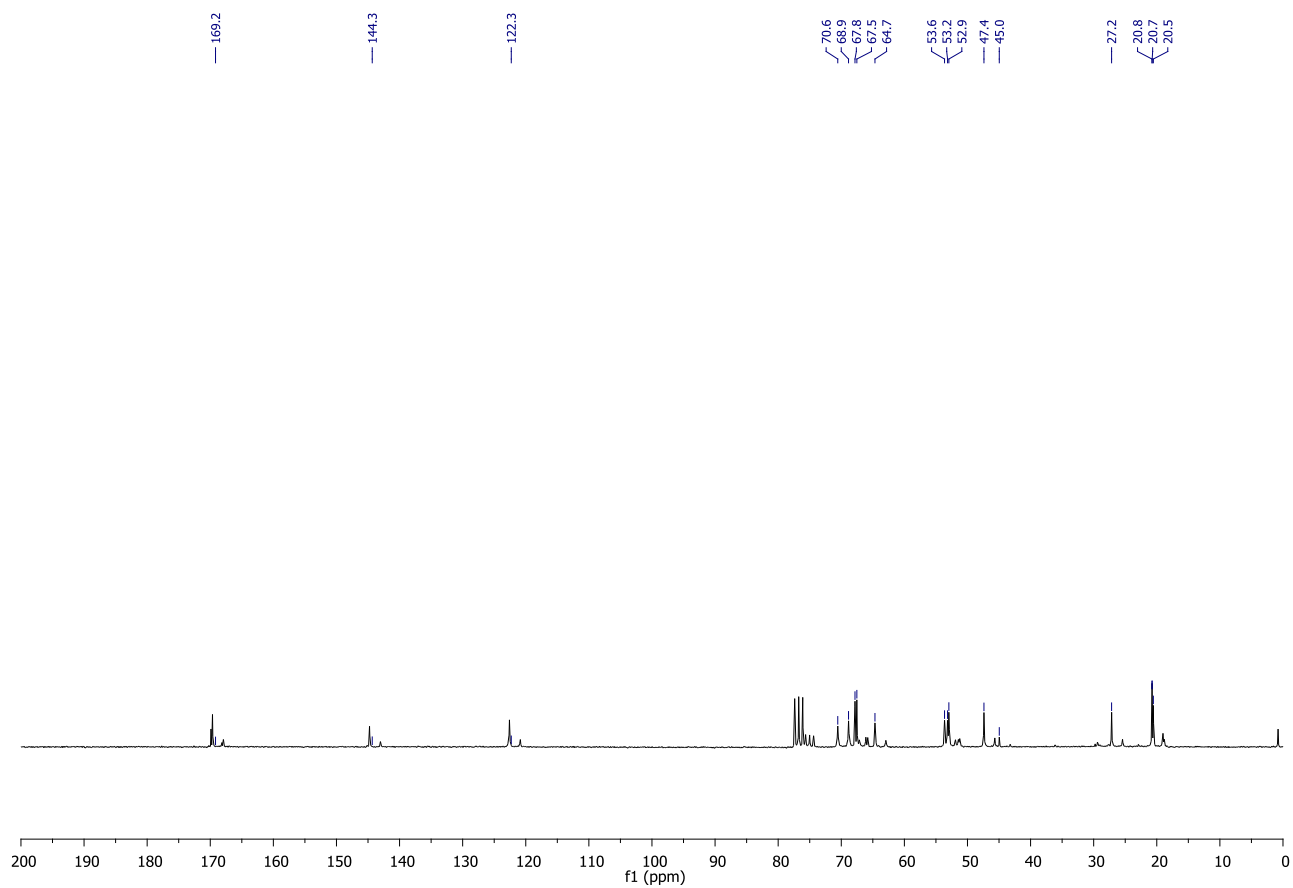


Figure S4: ^{13}C NMR spectrum of compound **9** (50 MHz, CDCl_3).

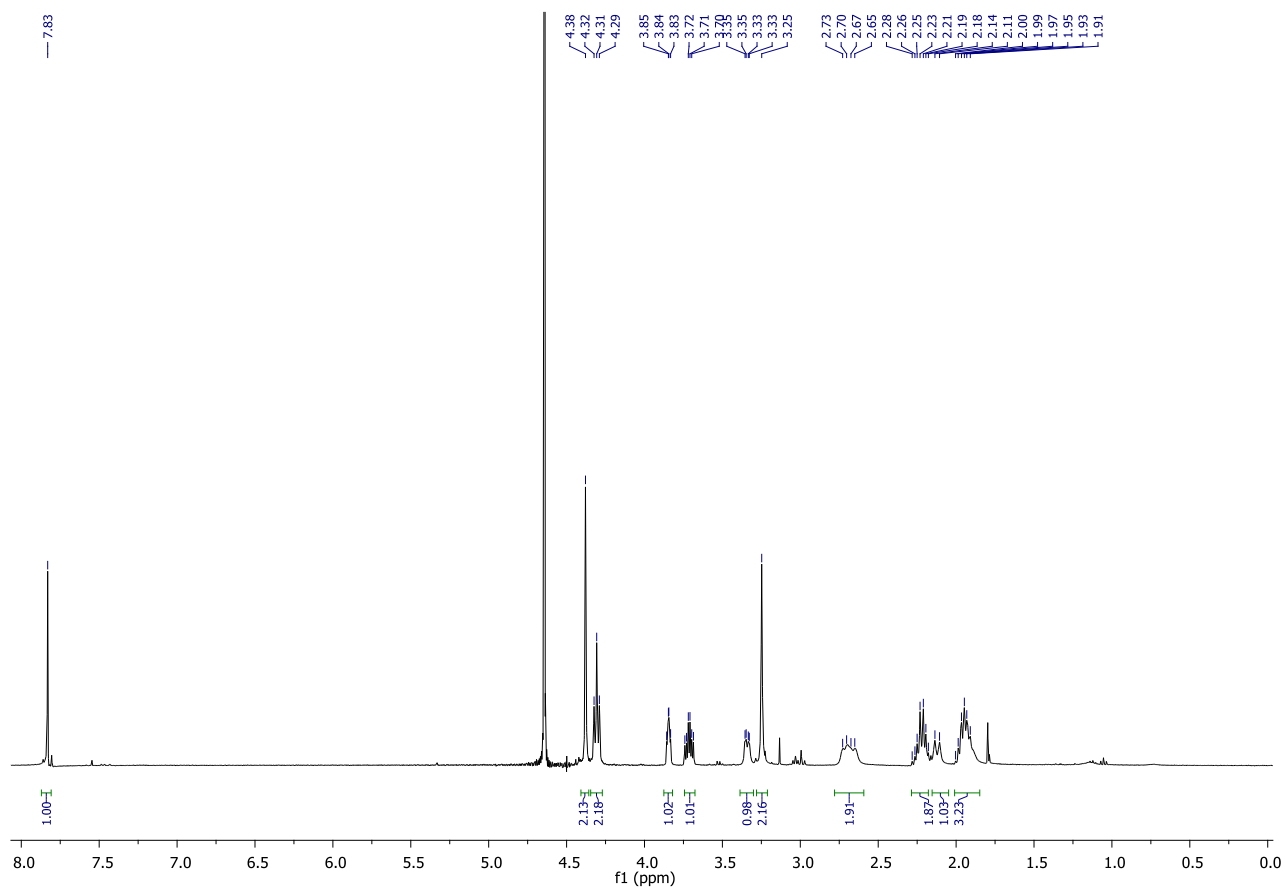
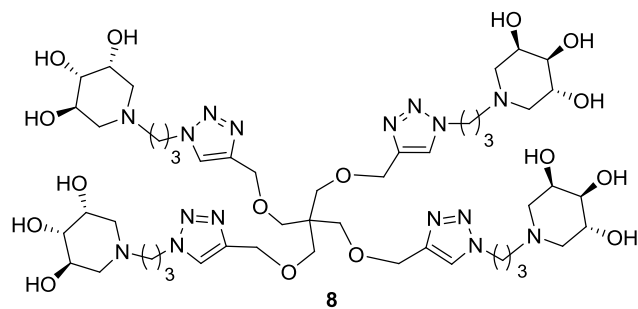


Figure S5: ^1H NMR spectrum of compound **8** (400 MHz, D_2O).

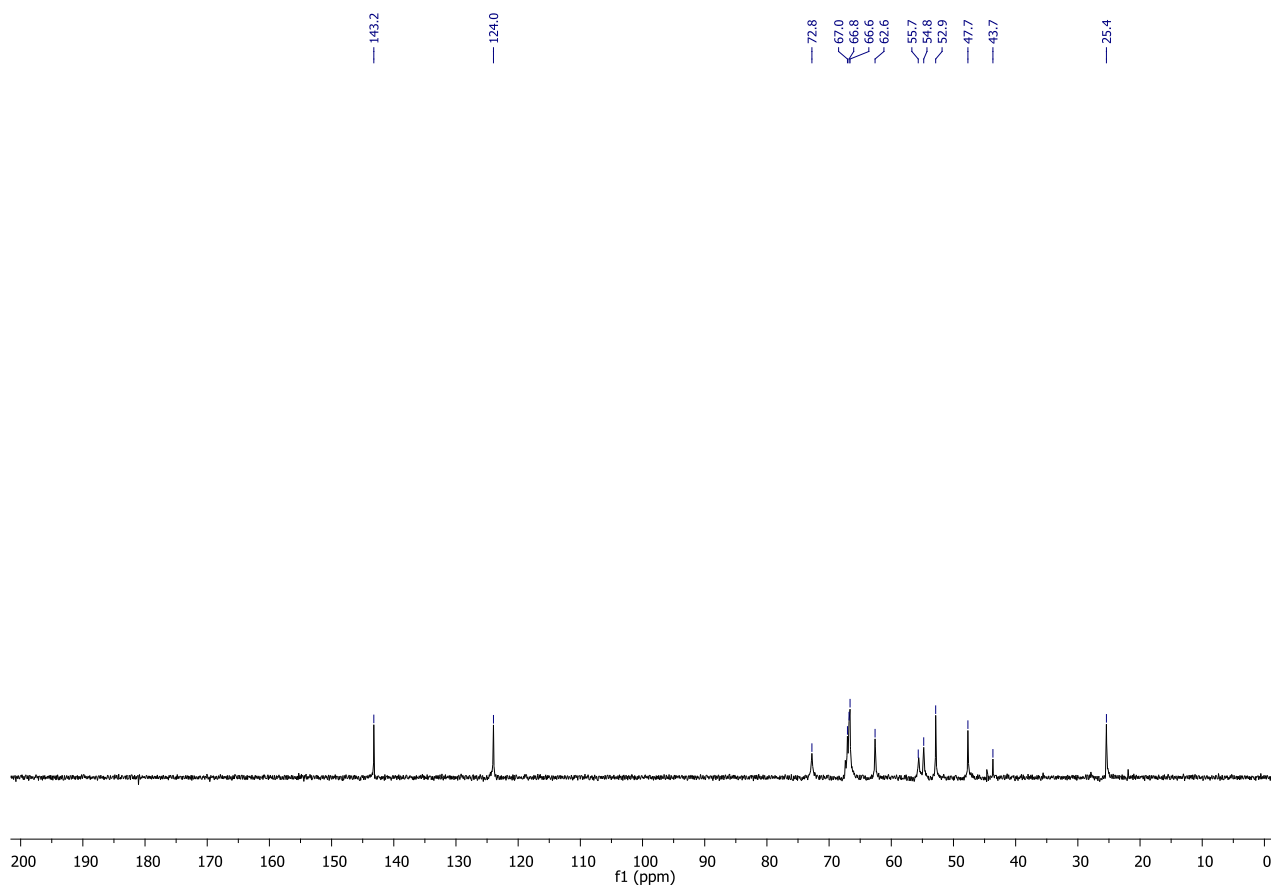


Figure S6: ^{13}C NMR spectrum of compound **8** (50 MHz, D_2O).

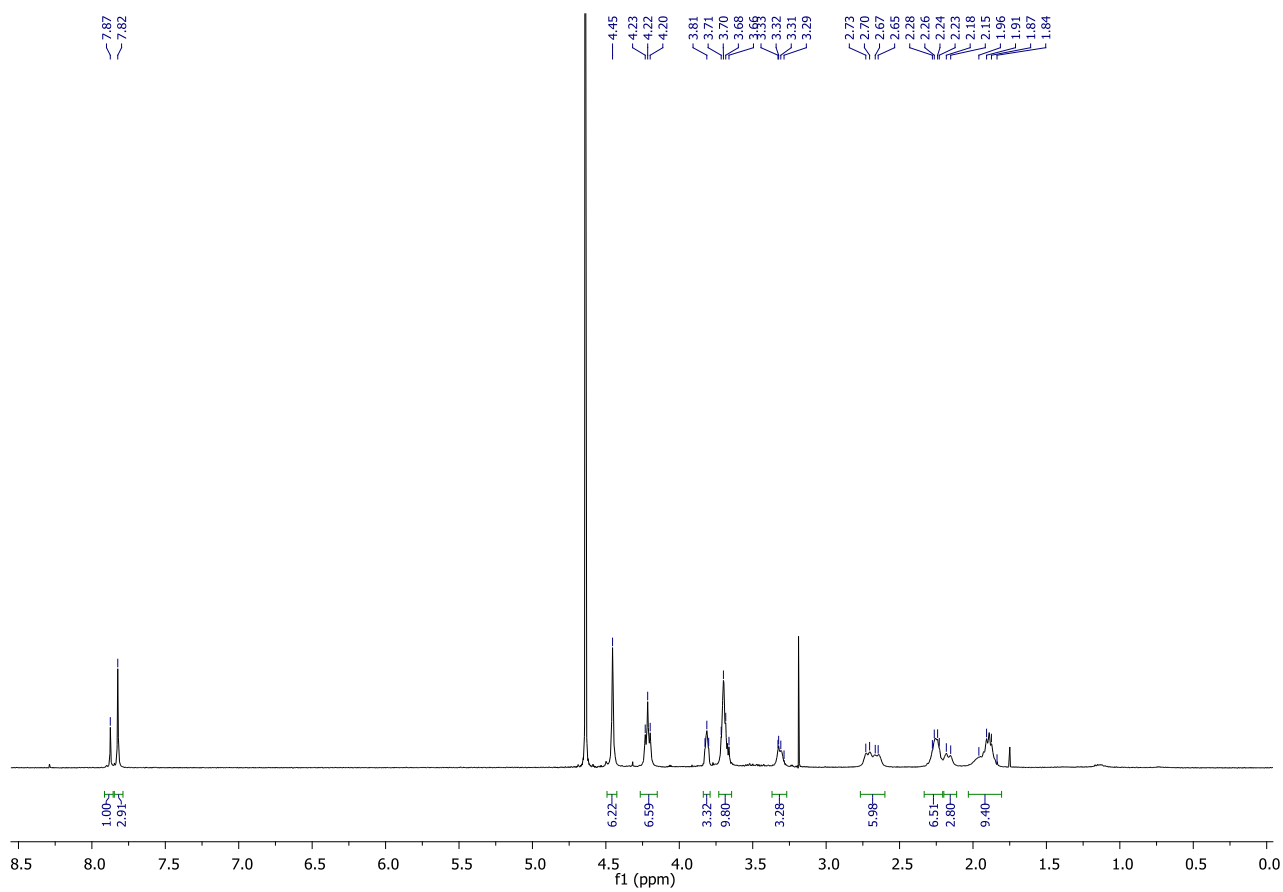
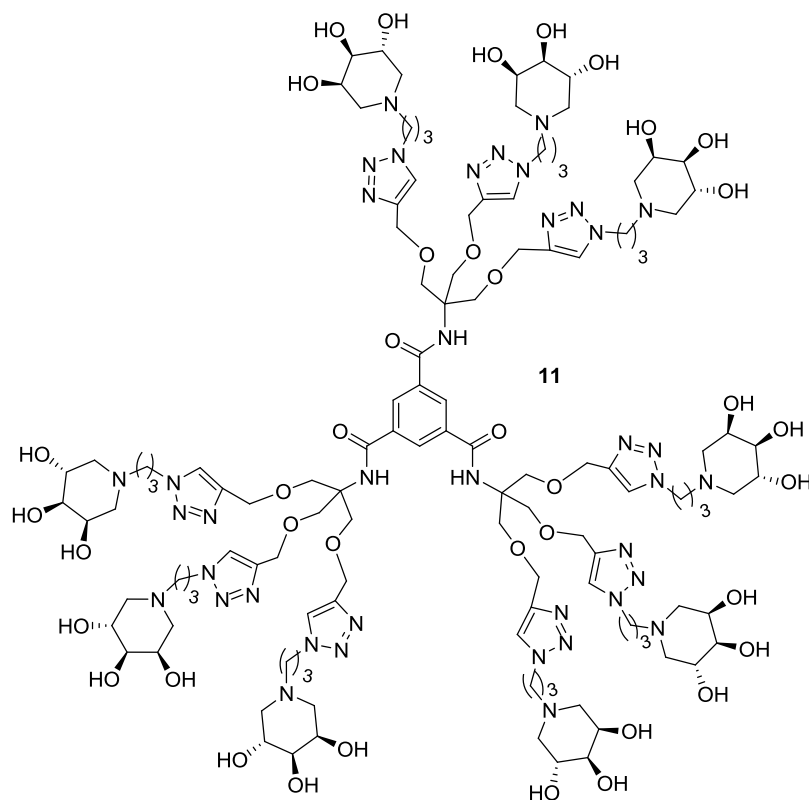


Figure S7: ^1H NMR spectrum of compound **11** (400 MHz, D_2O).

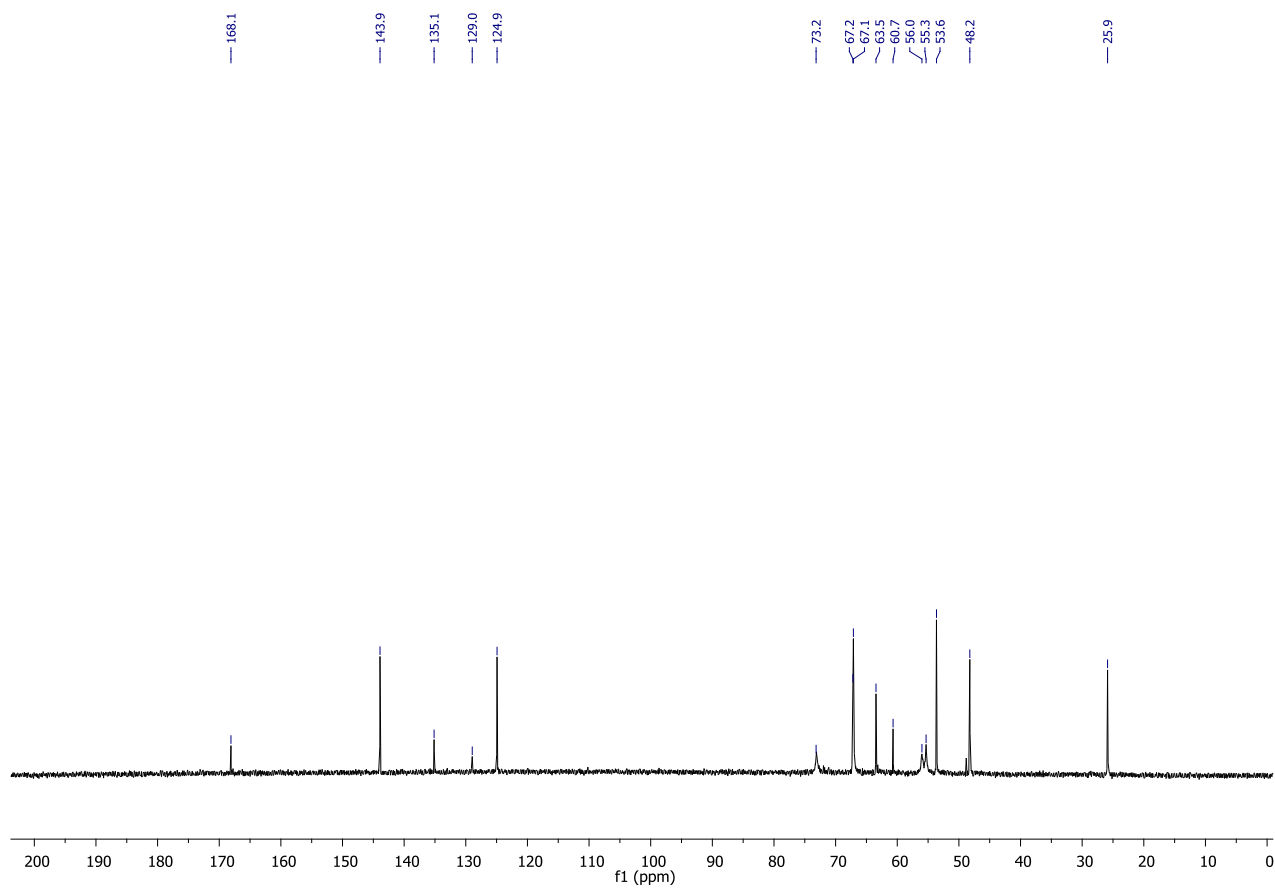


Figure S8: ^{13}C NMR spectrum of compound **11** (100 MHz, D_2O).

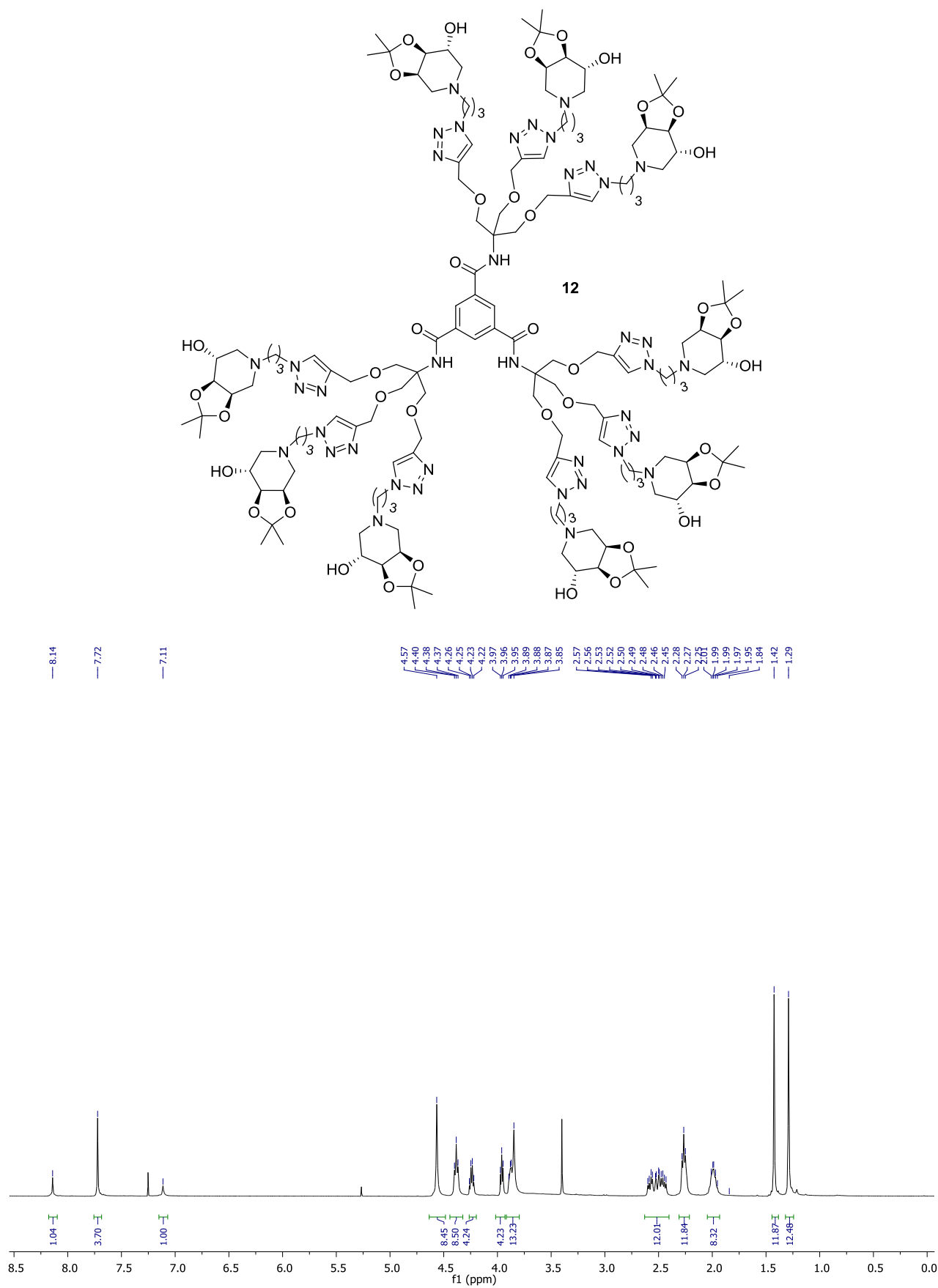


Figure S9: ^1H NMR spectrum of compound **12** (400 MHz, CDCl_3).

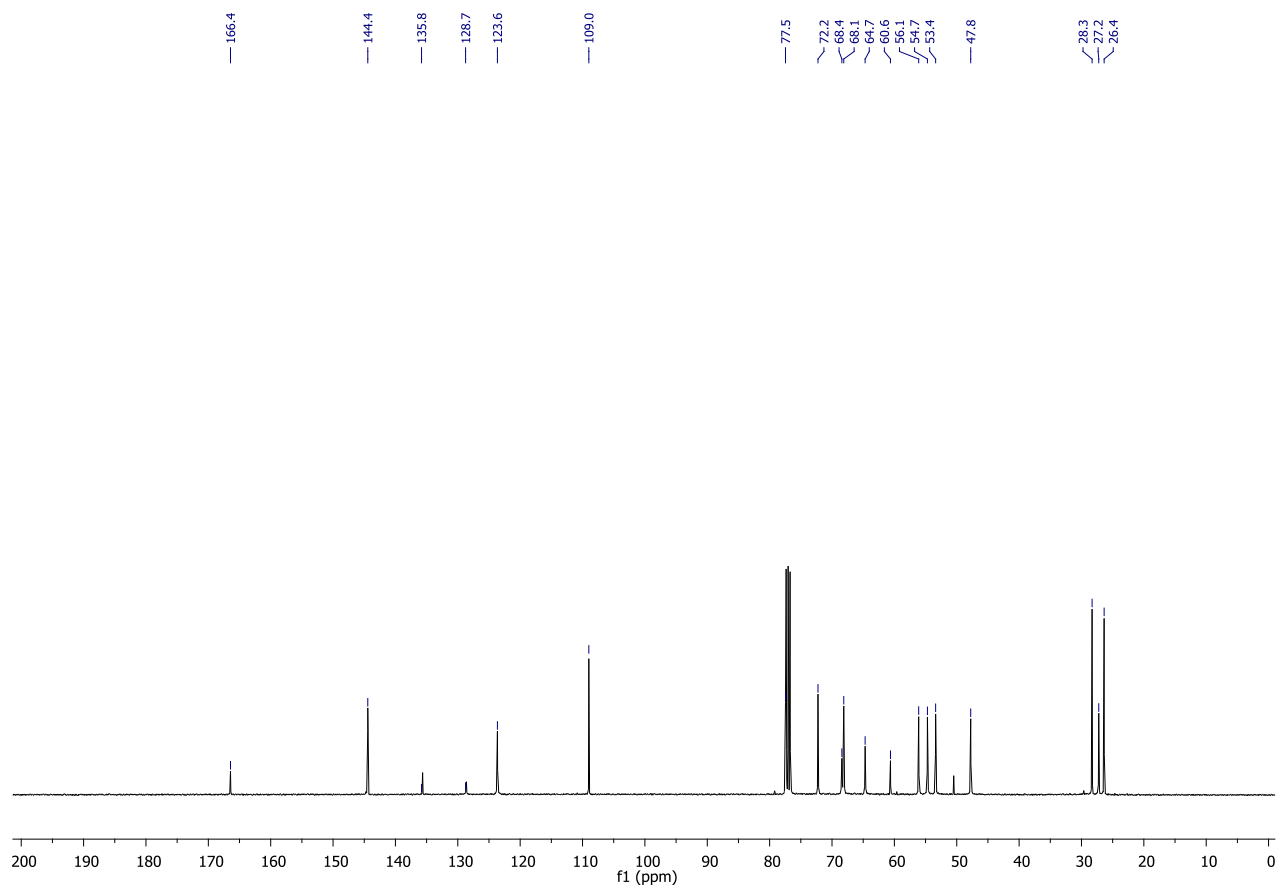


Figure S10: ^{13}C NMR spectrum of compound **12** (100 MHz, CDCl_3).

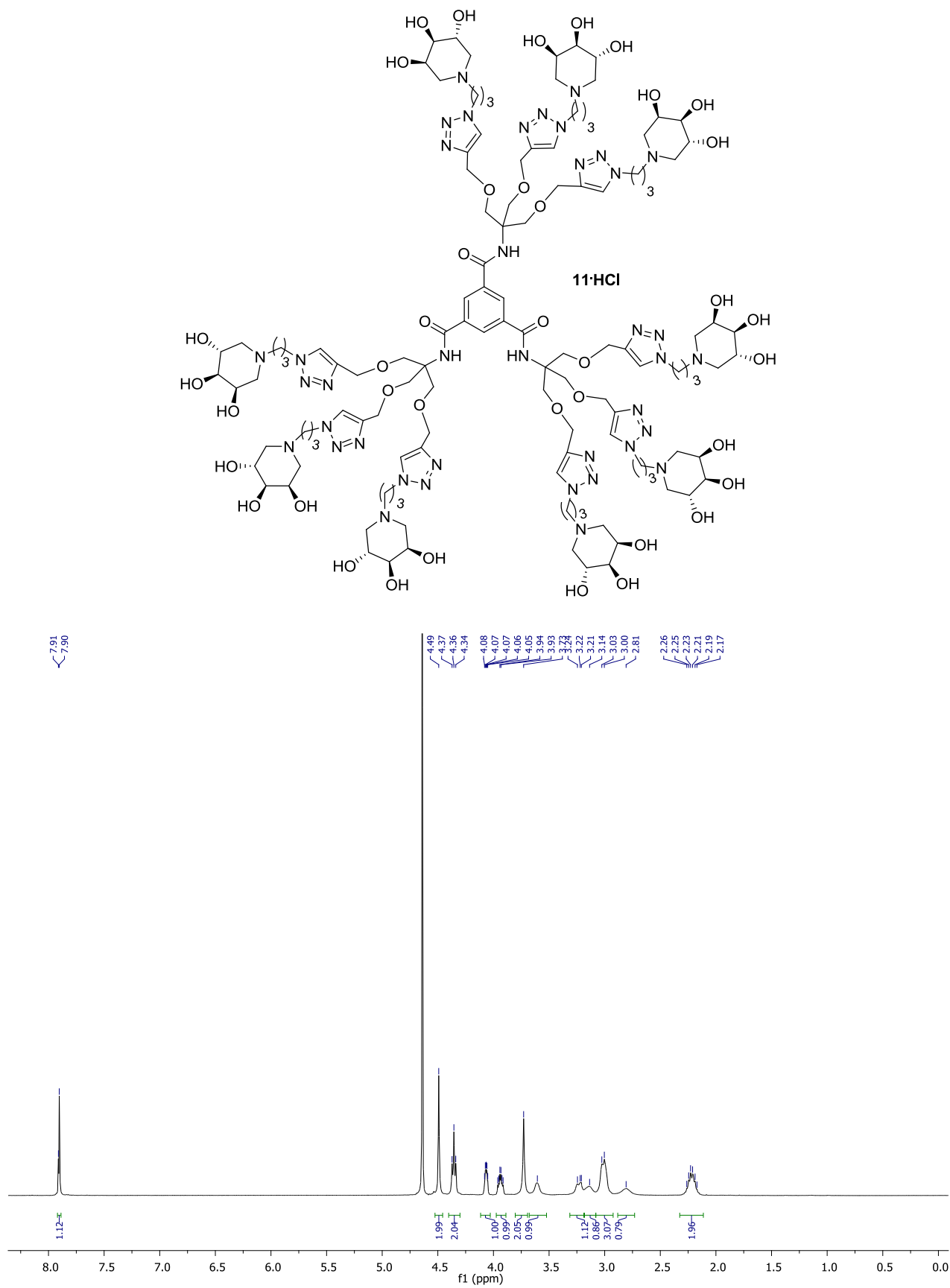


Figure S11: ^1H NMR spectrum of compound **11·HCl** (400 MHz, D_2O).

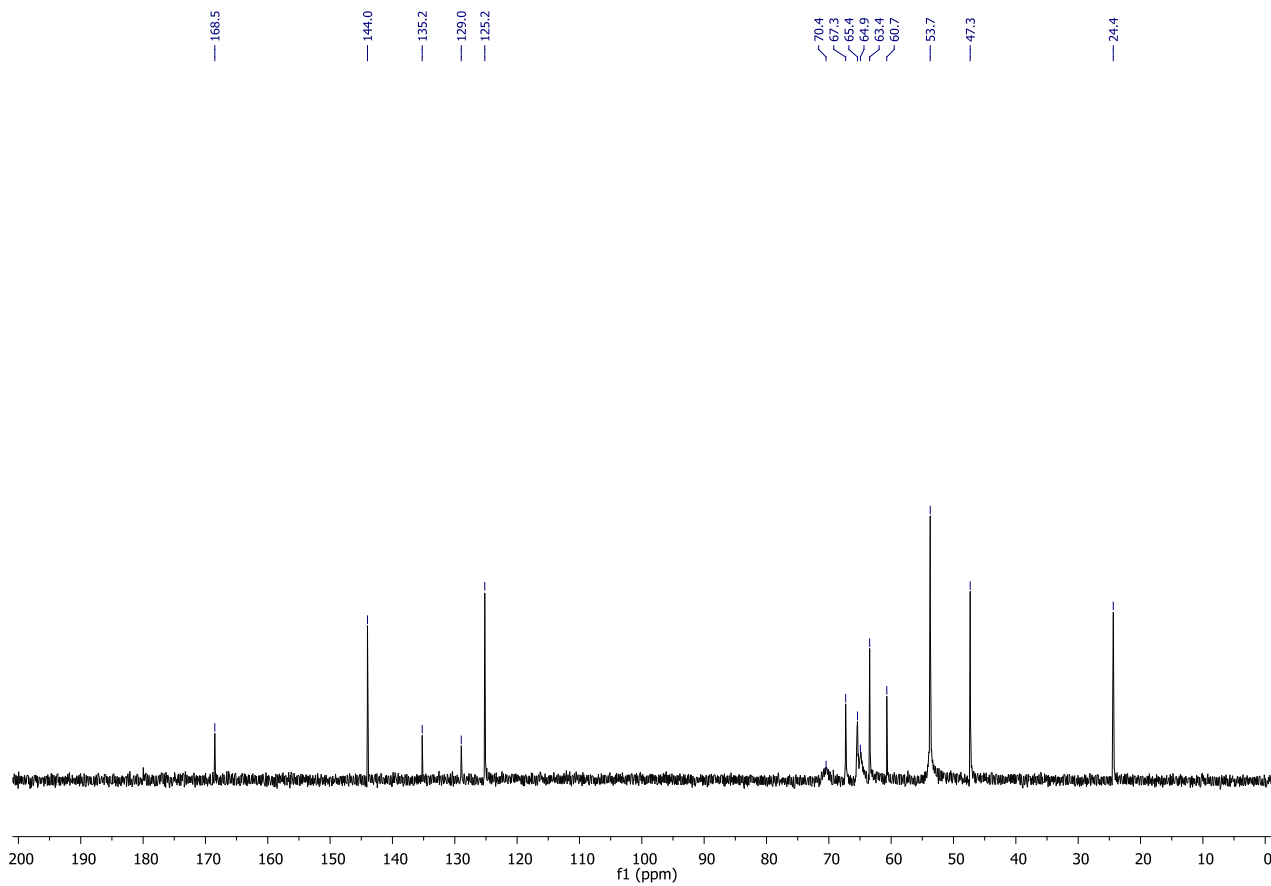


Figure S12: ^{13}C NMR spectrum of compound **11**-HCl (100 MHz, D_2O).

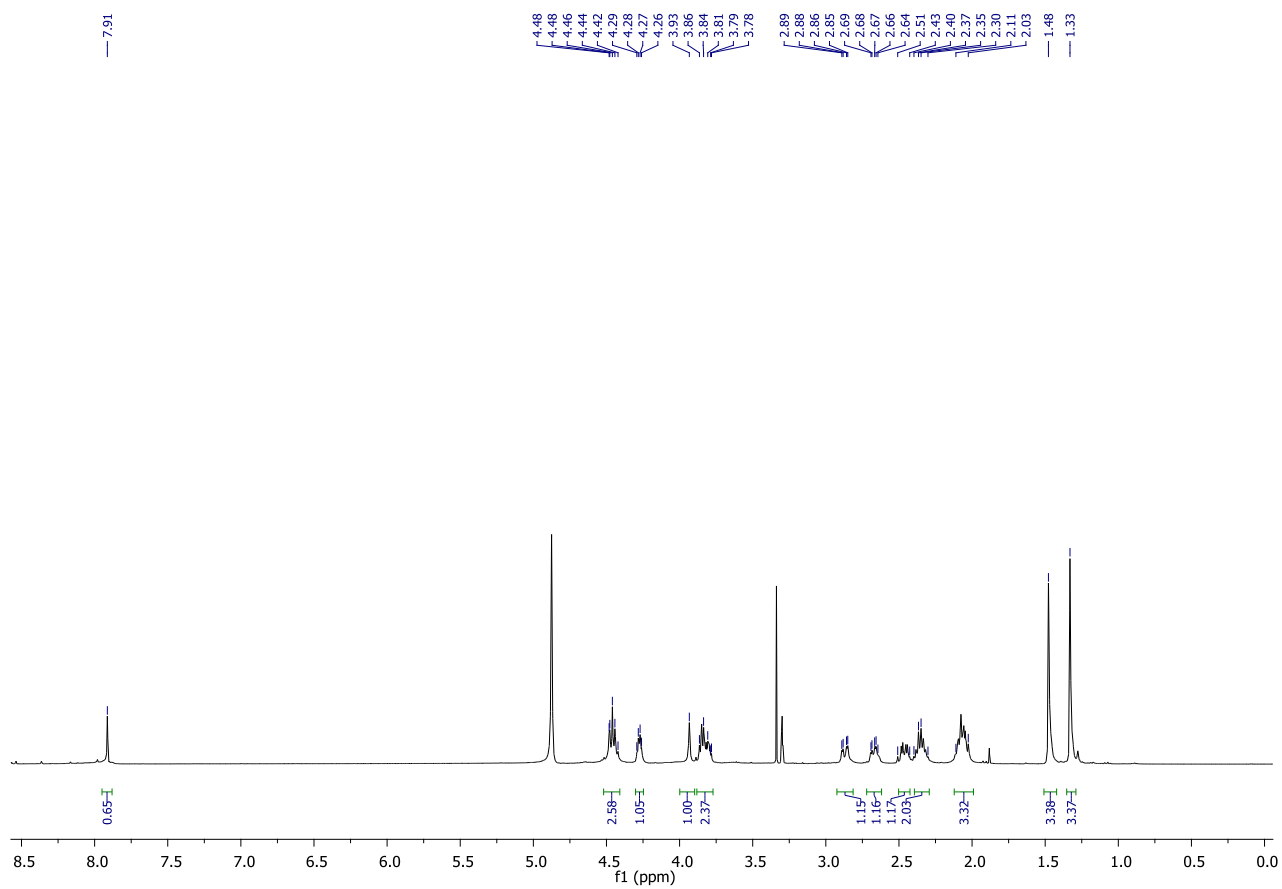
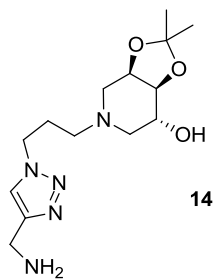


Figure S13: ^1H NMR spectrum of compound **14** (400 MHz, CD_3OD).

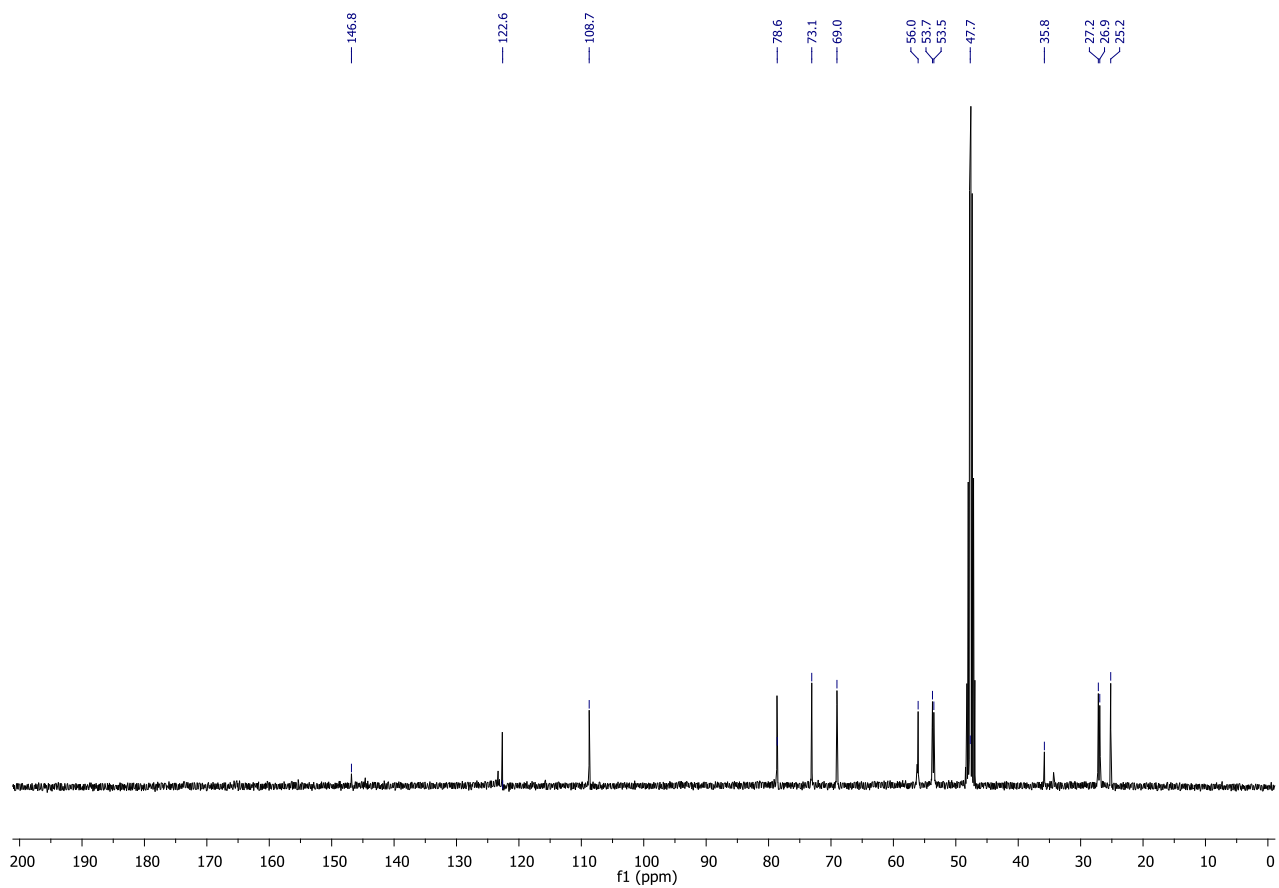


Figure S14: ^{13}C NMR spectrum of compound **14** (100 MHz, CD_3OD).

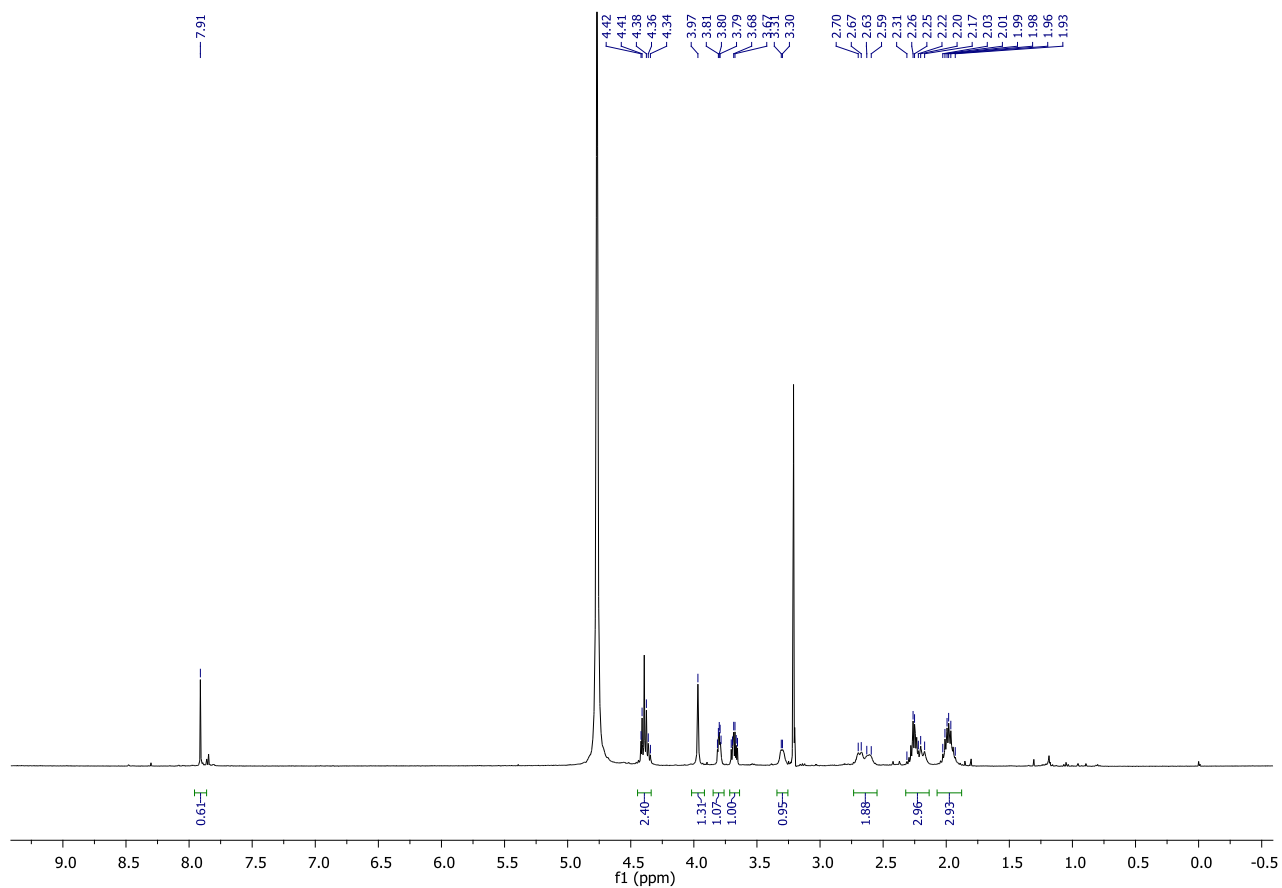
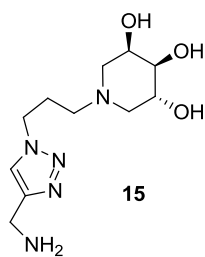


Figure S15: ^1H NMR spectrum of compound **15** (400 MHz, CD_3OD).

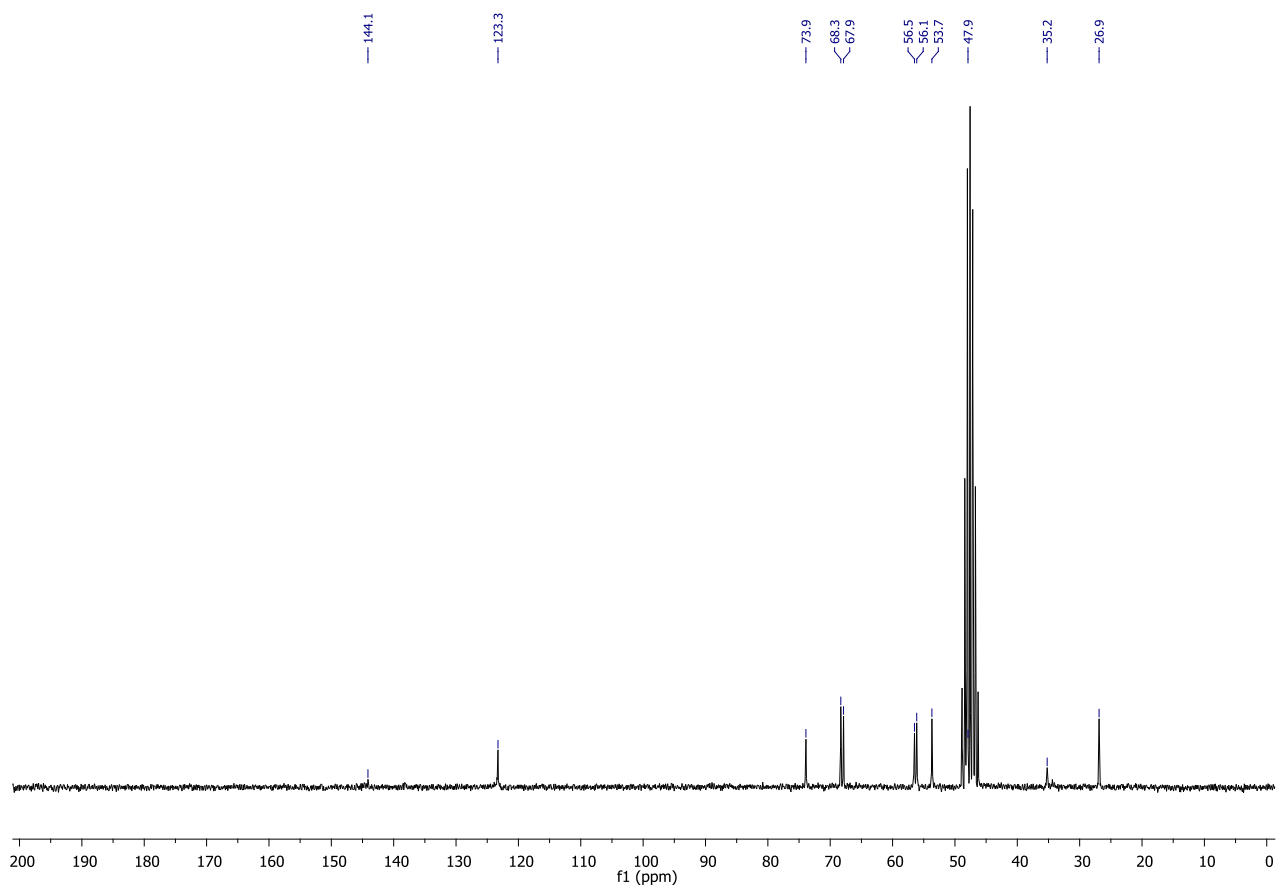


Figure S16: ^{13}C NMR spectrum of compound **15** (50 MHz, CD_3OD).

Glycosidase inhibition assays

The experiments were performed essentially as previously described.¹ Briefly, 0.01–0.5 units/mL of enzyme and inhibitor were pre-incubated for 5 min at rt, and the reaction started by addition of the substrate, buffered to the optimal pH of the enzyme. After 20 min of incubation at 37 °C, the reaction was stopped by addition of sodium borate buffer pH 9.8. The *p*-nitrophenolate formed was measured by visible absorption spectroscopy at 405 nm.

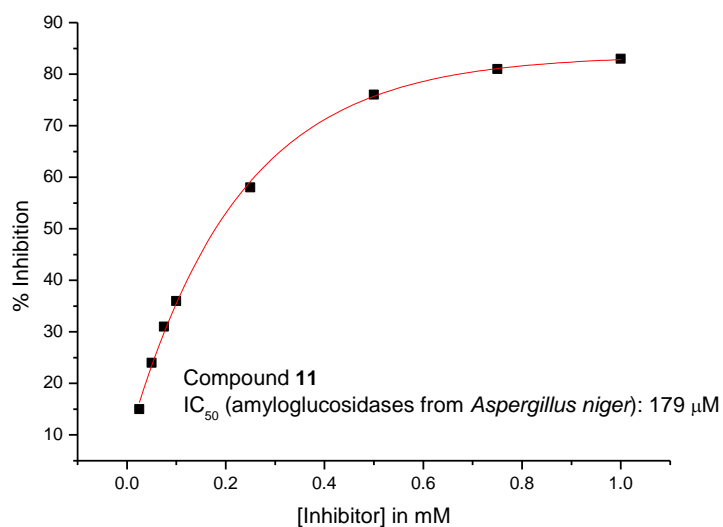


Figure S17: IC₅₀ of compound **11** towards amyloglucosidase.

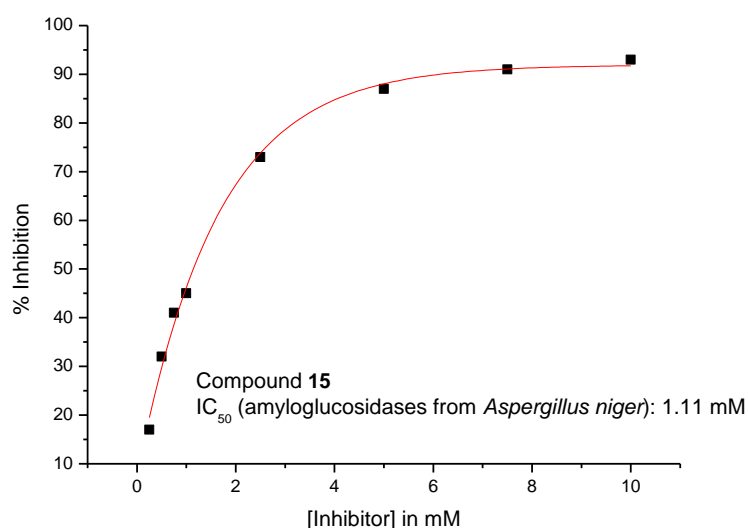


Figure S18: IC₅₀ of compound **15** towards amyloglucosidase.

¹ (a) Saul, R.; Chambers, J. P.; Molyneux, R. J.; Elbein, A. D. *Arch. Biochem. Biophys.* **1983**, *221*, 593–597; (b) Brandi, A.; Cicchi, S.; Cordero, F. M.; Frignoli, R.; Goti, A.; Picasso, S.; Vogel, P. *J. Org. Chem.* **1995**, *60*, 6806–6812.