Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information for

Design and synthesis of Unnatural Coordination Glycopolymer Particles (CGPs): unleashing the potential of catechol-saccharide derivatives.

Celina Bideplán-Moyano, Marcos J. Lo Fiego, Juan José Calmels, Belén Alonso, Gabriel Radivoy, Daniel Ruiz-Molina, Juan Mancebo-Aracil* and Fabiana Nador*

Index

S1. Secondary products obtained after methanolysis

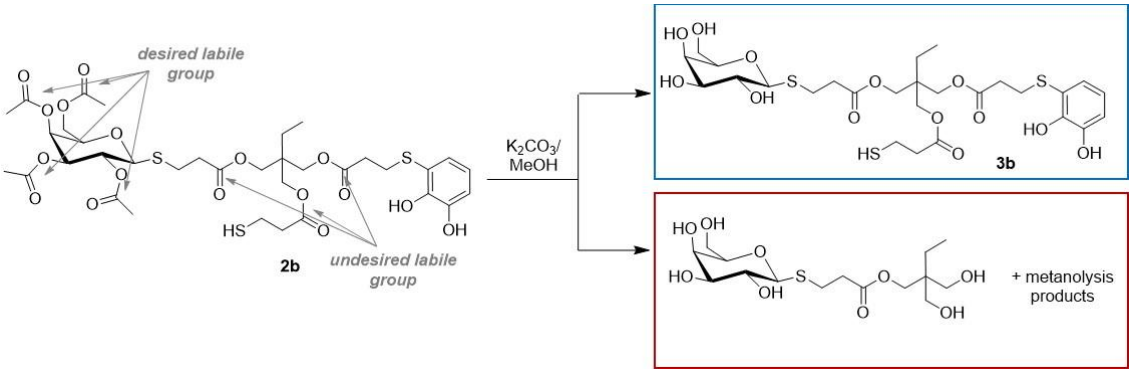


Figure S1. Secondary products obtained after methanolysis under K_2CO_3/MeOH conditions.

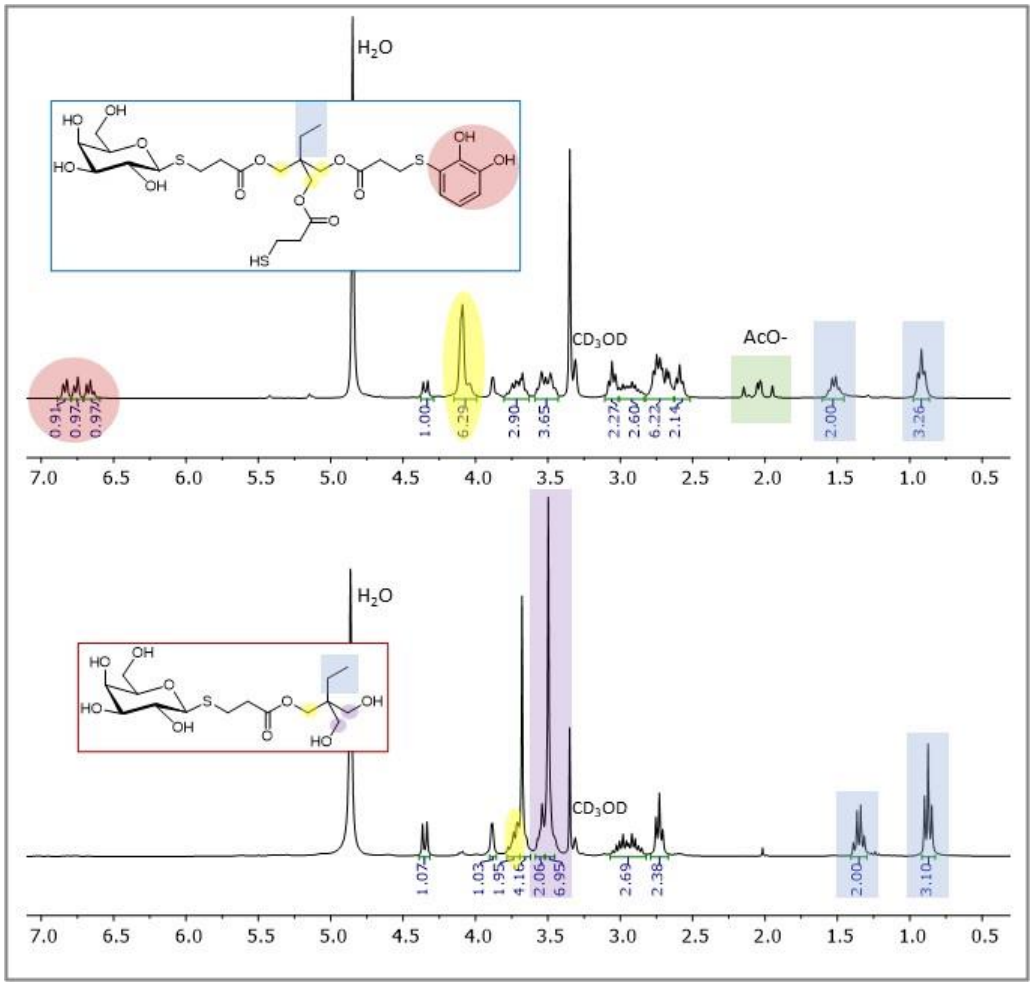


Figure S2. Comparison of ^{1}H NMR of **3b** and secondary products obtained after methanolysis.

S2. UV-Vis of compound 4a

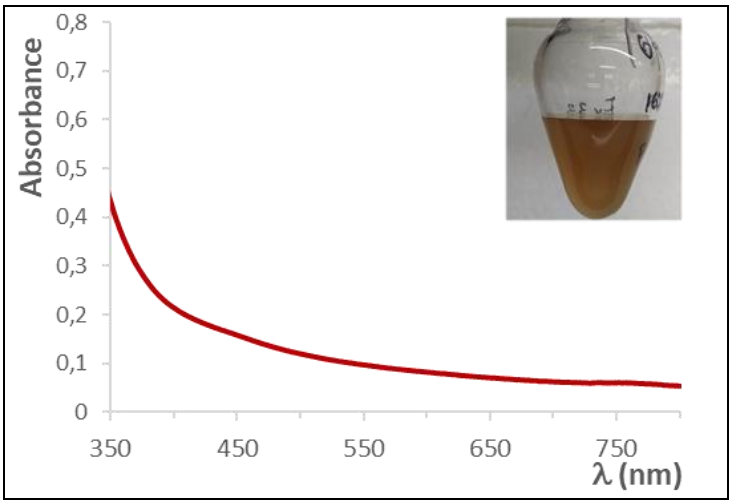


Figure S3. UV-Vis spectra of compound 4a were obtained in the same medium used for the preparation of CGPs, but in the absence of Fe(III), after 24 hours.

S3. IR spectra

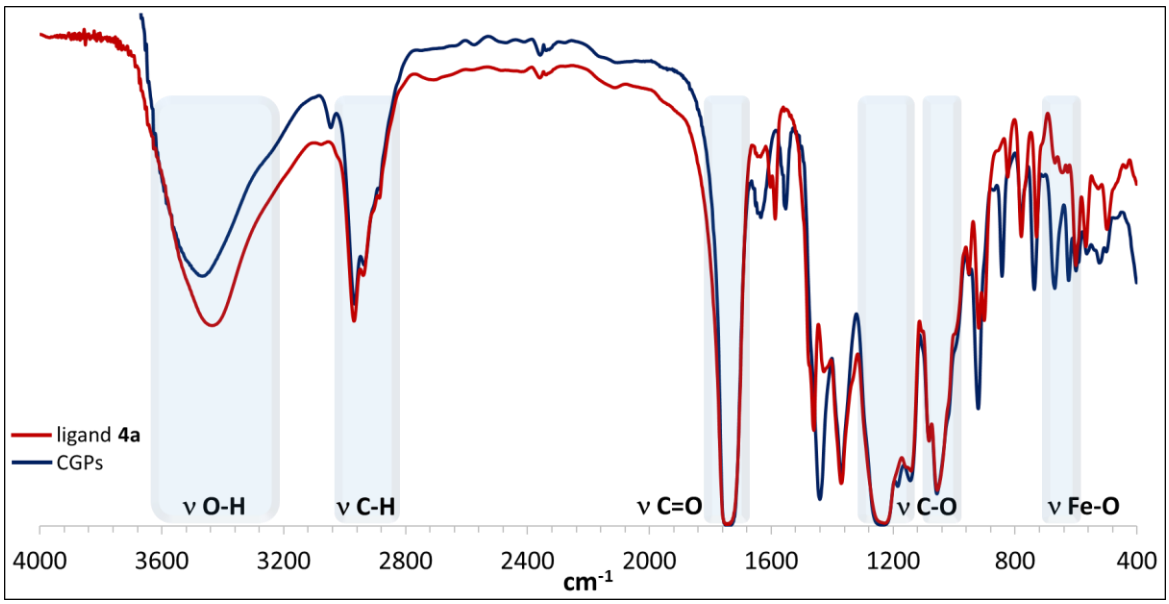


Figure S4. Full IR spectra (KBr) of ligand **4a** and CGPs.

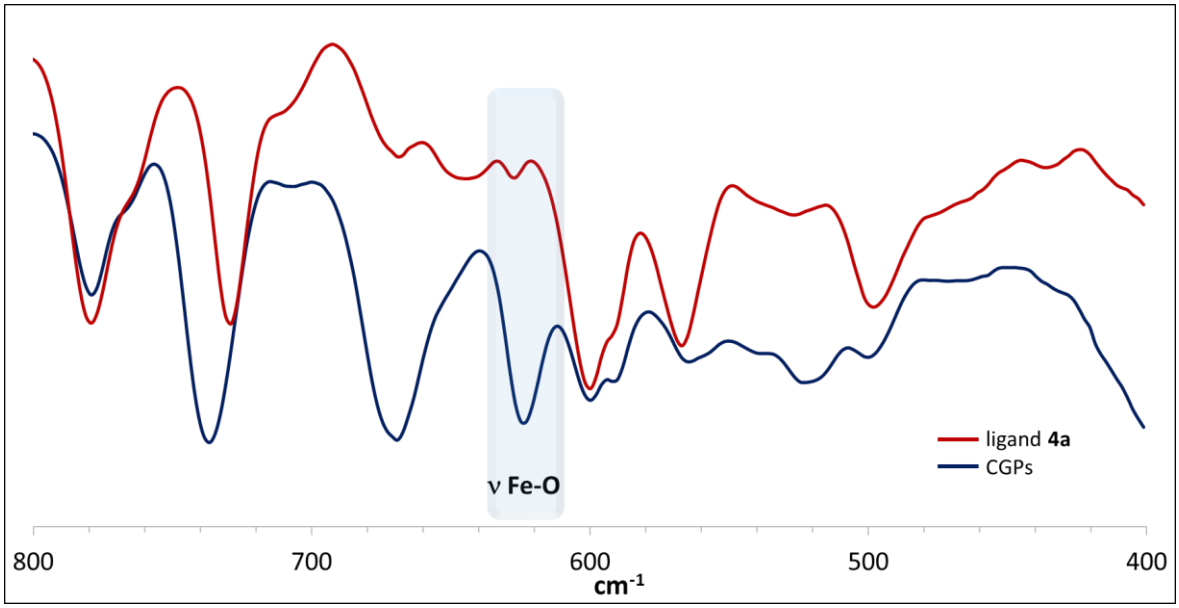


Figure S5. IR spectra (KBr) of ligand **4a** and CGPs in the 400-800 cm^{-1} region.

S4. SEM and EDX of CGPs

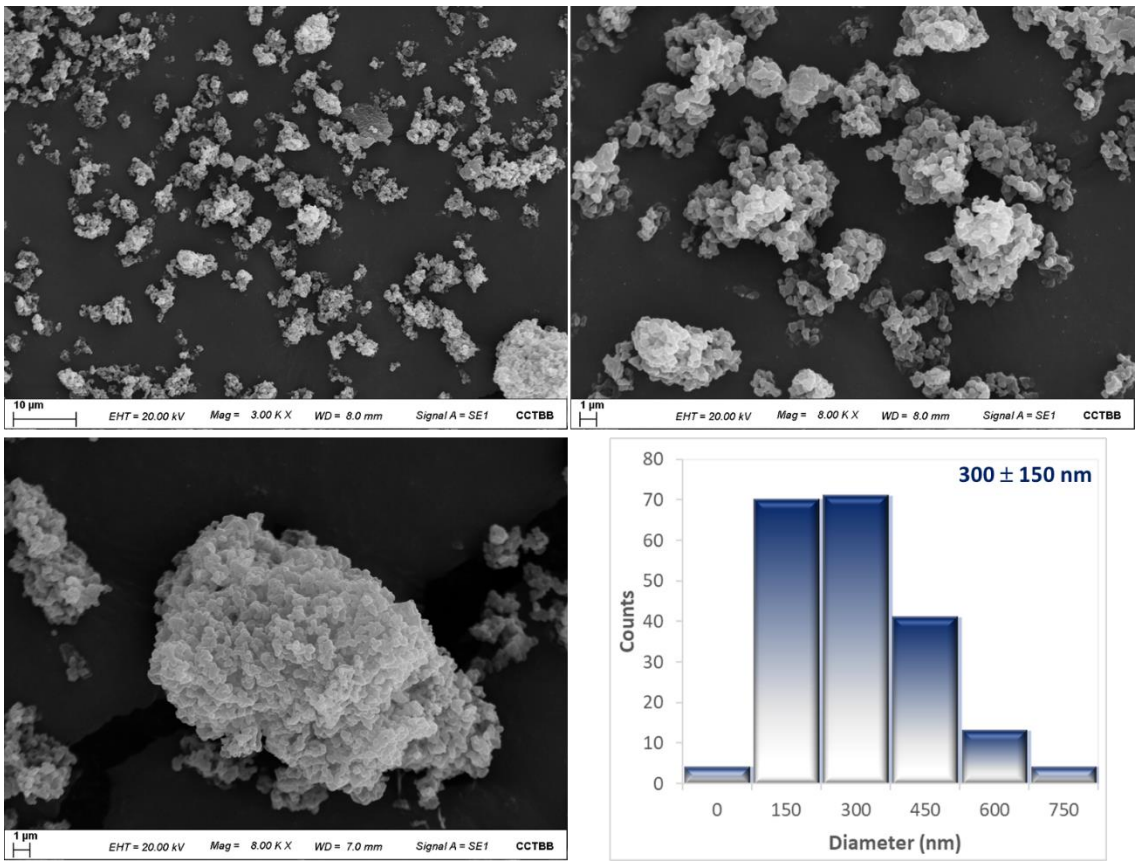


Figure S6. SEM images of CGPs and size distribution histogram.

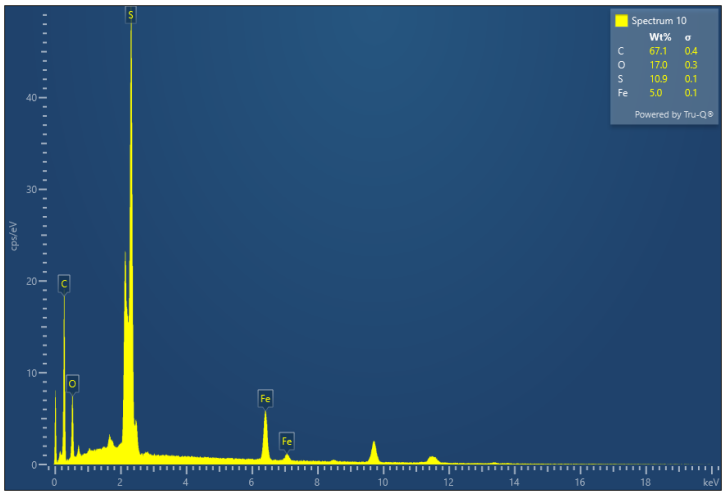


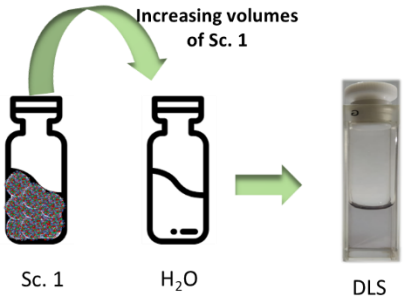
Figure S7. EDX spectrum of CGPs.

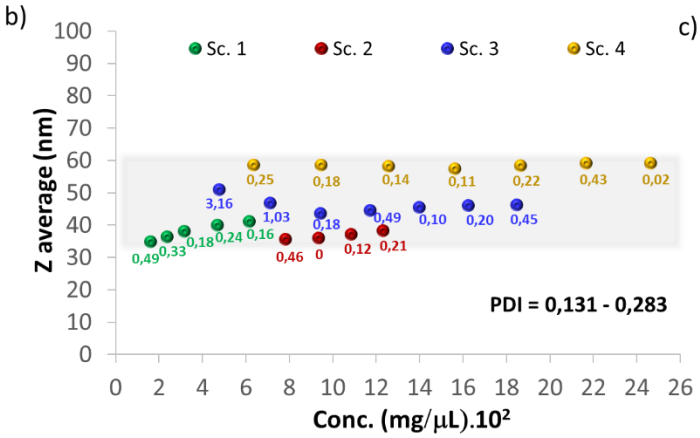
S5. DLS and Zeta Potential of CGPs samples in different conditions

Figure S8. CGPs solutions in EtOH, AcOEt, DMSO, H_2O and PBS buffer (pH ~ 7,4).

a)

Name	CGPs in 125 µL DMSO	Conc.(mg/µL)
Sc. 1	2 mg	1,6
Sc. 2	4 mg	3,2
Sc. 3	6 mg	4,8
Sc. 4	8 mg	6,4





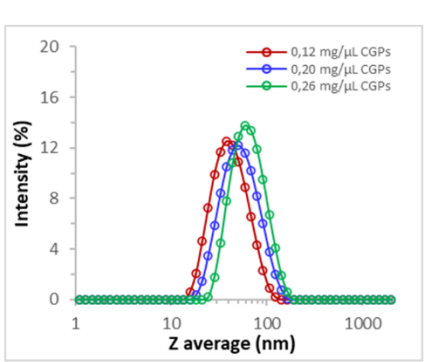


Figure S9. Figure S9. DLS measurements (represented as Z-average mean size) of different concentrations of CGPs/DMSO solutions in H_2O. Standard deviation values are indicated below each data point.

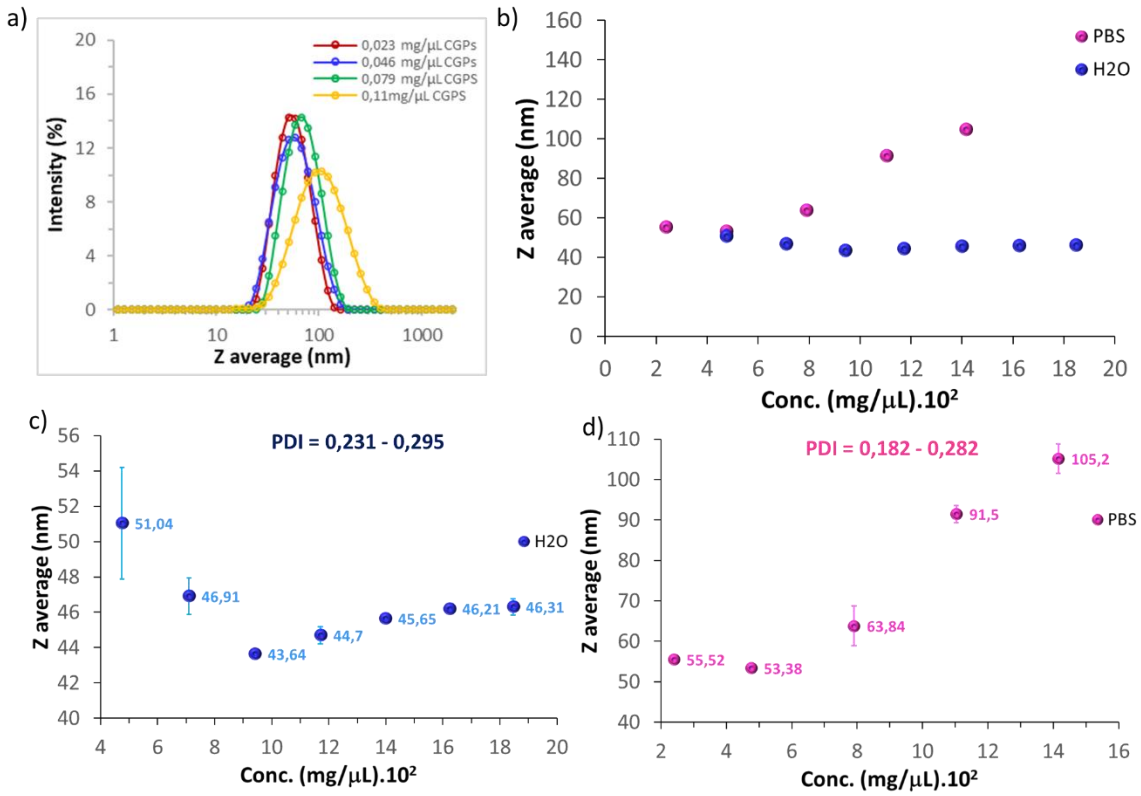


Figure S10. a) DLS measurements (represented as Z-average mean size) of different concentrations of CGPs/DMSO solutions in PBS buffer (pH ~ 7.4); b) A comparison depicting the Z-average mean size of distinct concentrations of CGPs/DMSO in both H_2O and PBS buffer solutions; c) The same graph as in b), illustrating an upward extension on the y-axis from 40 to 56 nm, highlighting the standard deviation values for each measurement and the PDI range; d) The identical graph as in b), displaying an upward extension on the y-axis from 40 to 110 nm, accentuating the standard deviation values for each measurement and the PDI range.

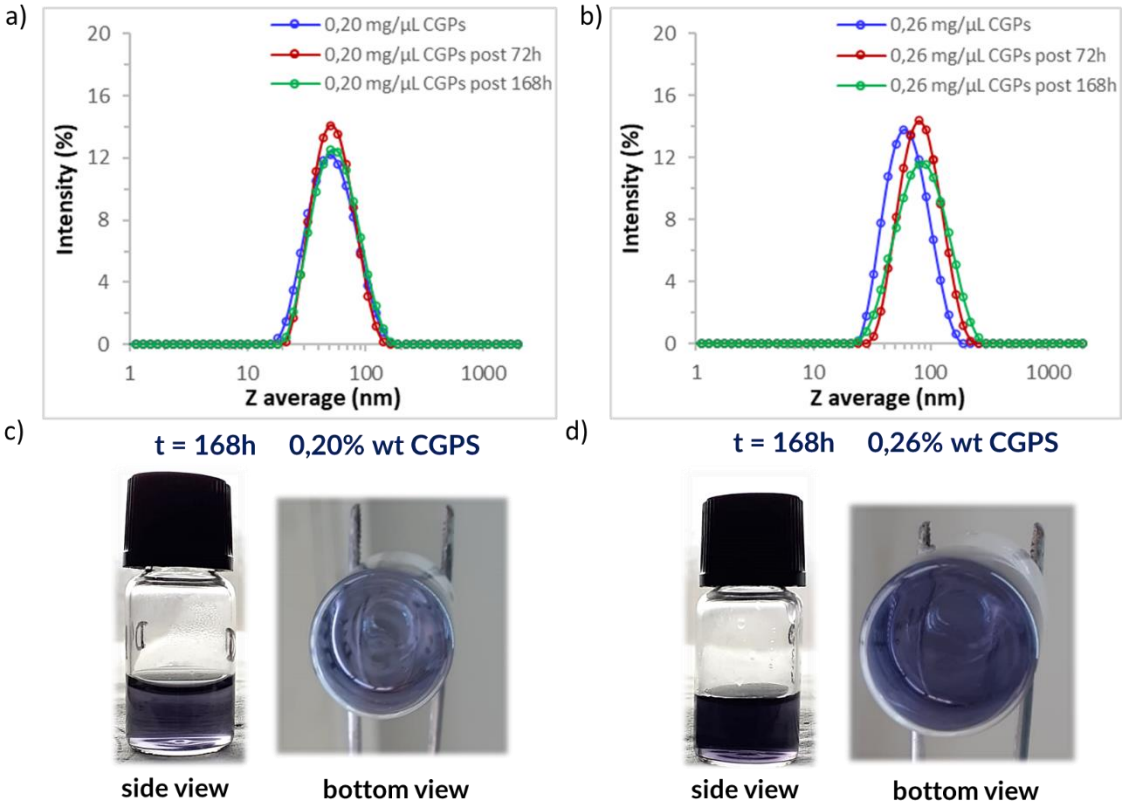


Figure S11. DLS (represented in Z average) of different concentrations of CGPs/DMSO solutions in H_2O at t = 0 h, t = 72 h and t = 168 h.

S6. Characterization of compounds 1

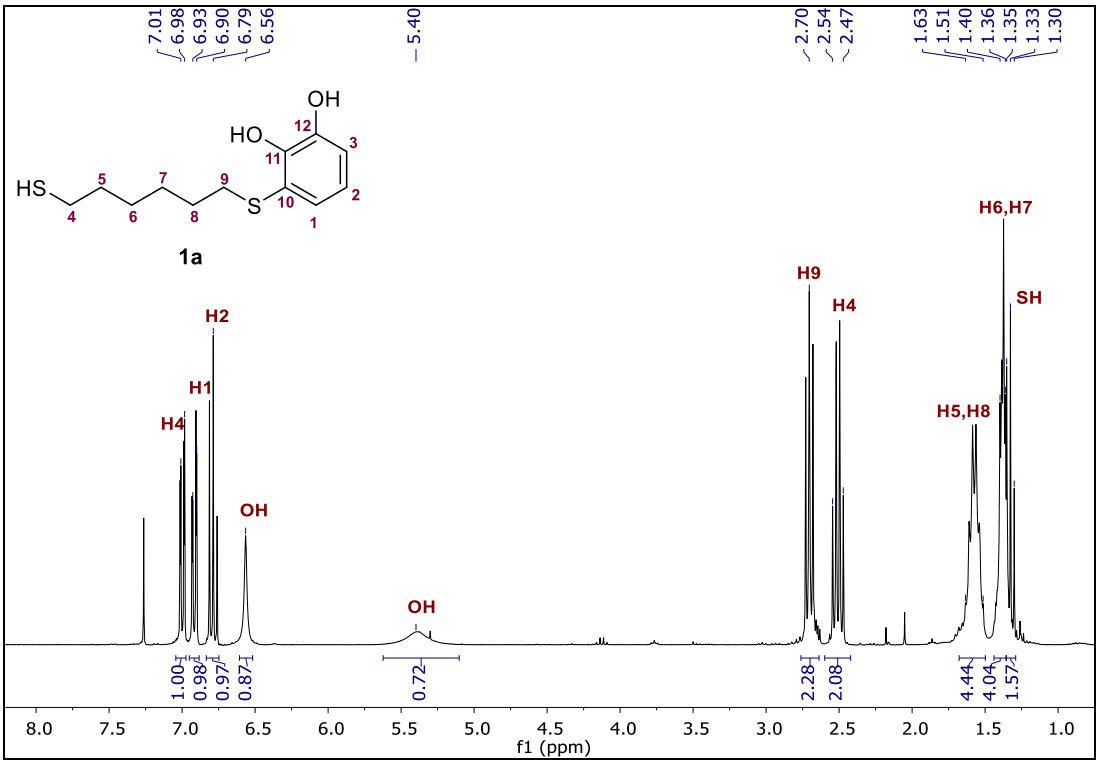


Figure S12. ^{1}H NMR of **1a** in $CDCl_3$

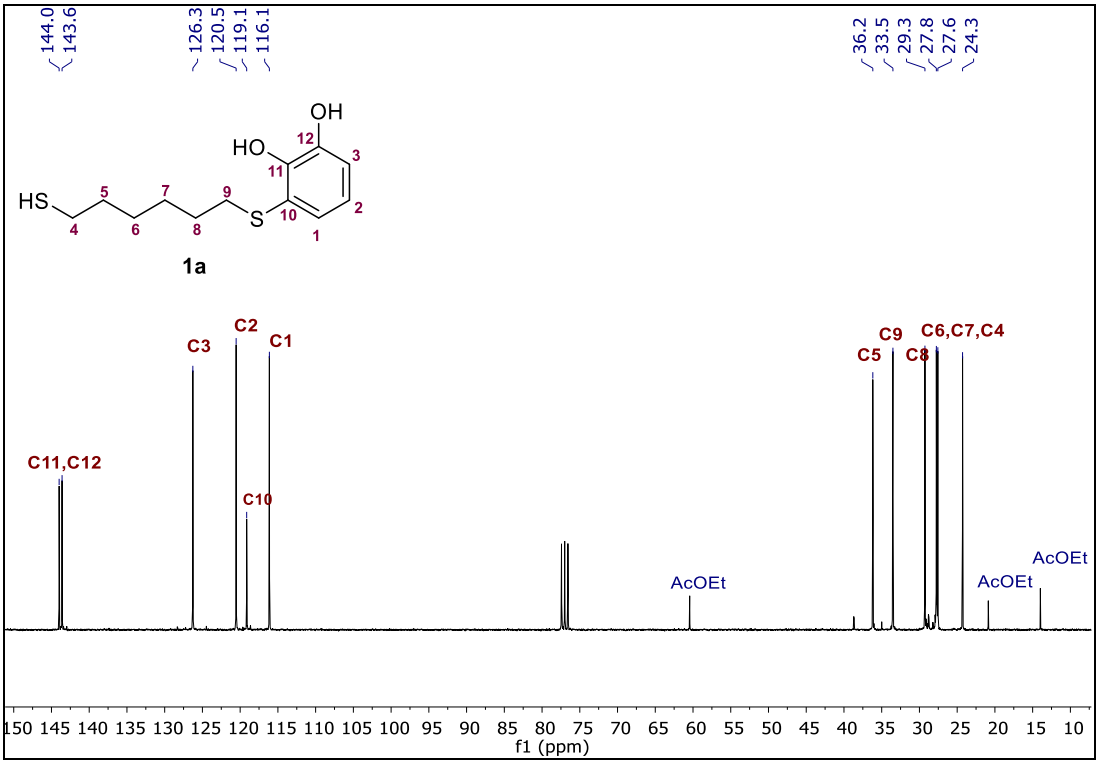


Figure S13. ^{13}C NMR of **1a** in $CDCl_3$

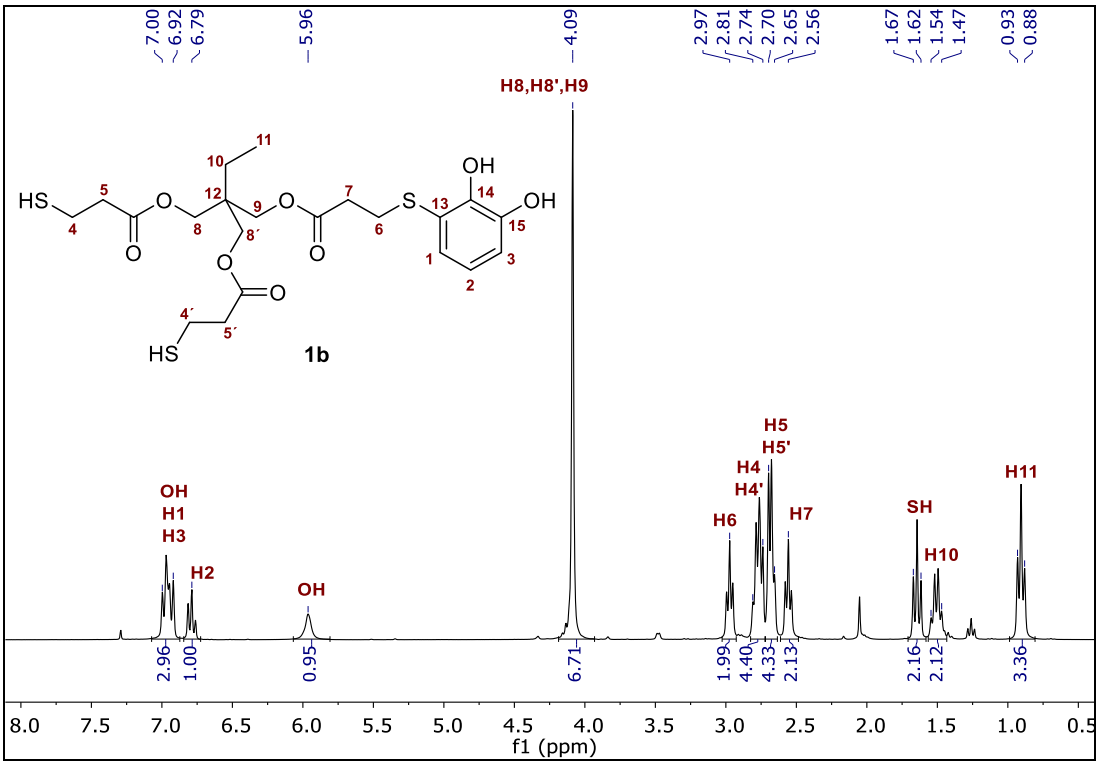


Figure S14. ^{1}H NMR of **1b** in $CDCl_3$

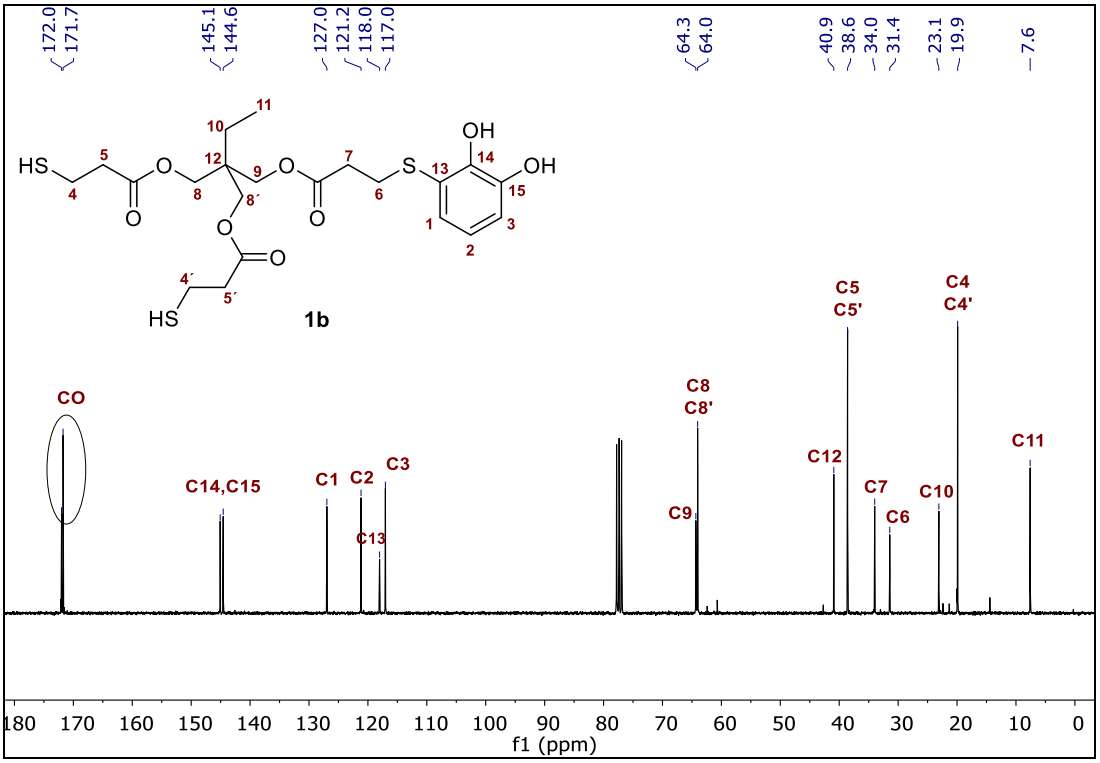


Figure S15. ^{13}C NMR of **1b** in $CDCl_3$

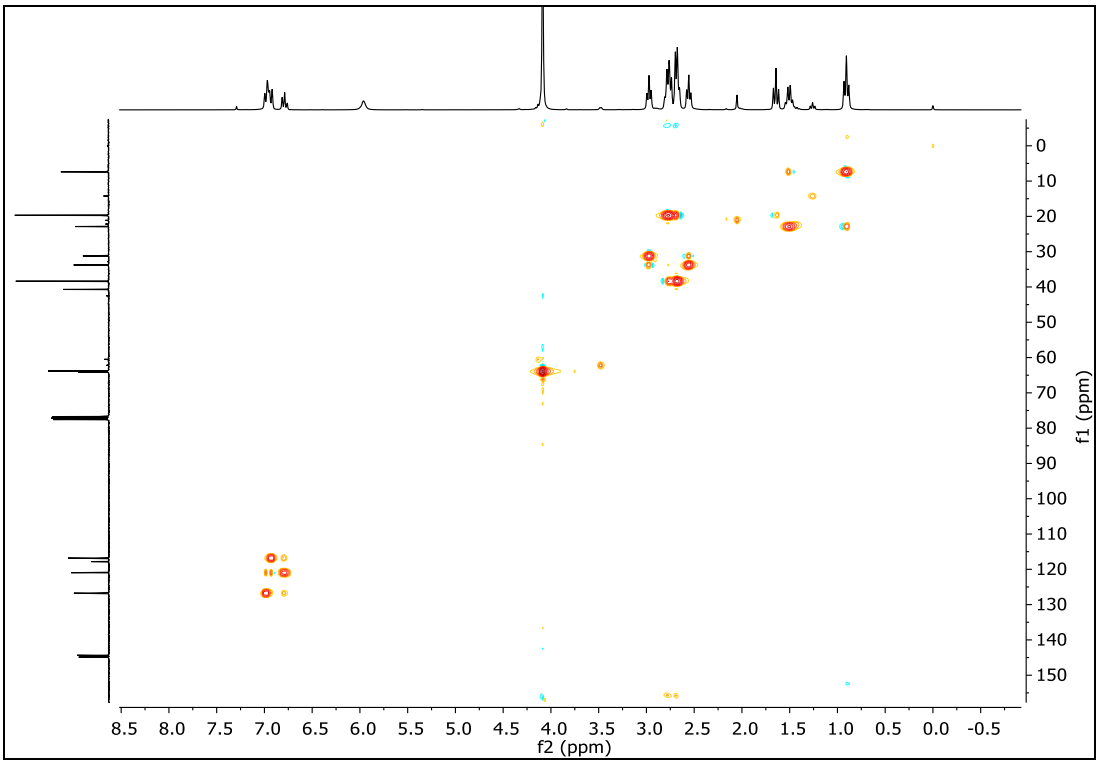


Figure S16. HSQC of **1b** in $CDCl_3$

S7. Characterization of compounds 2

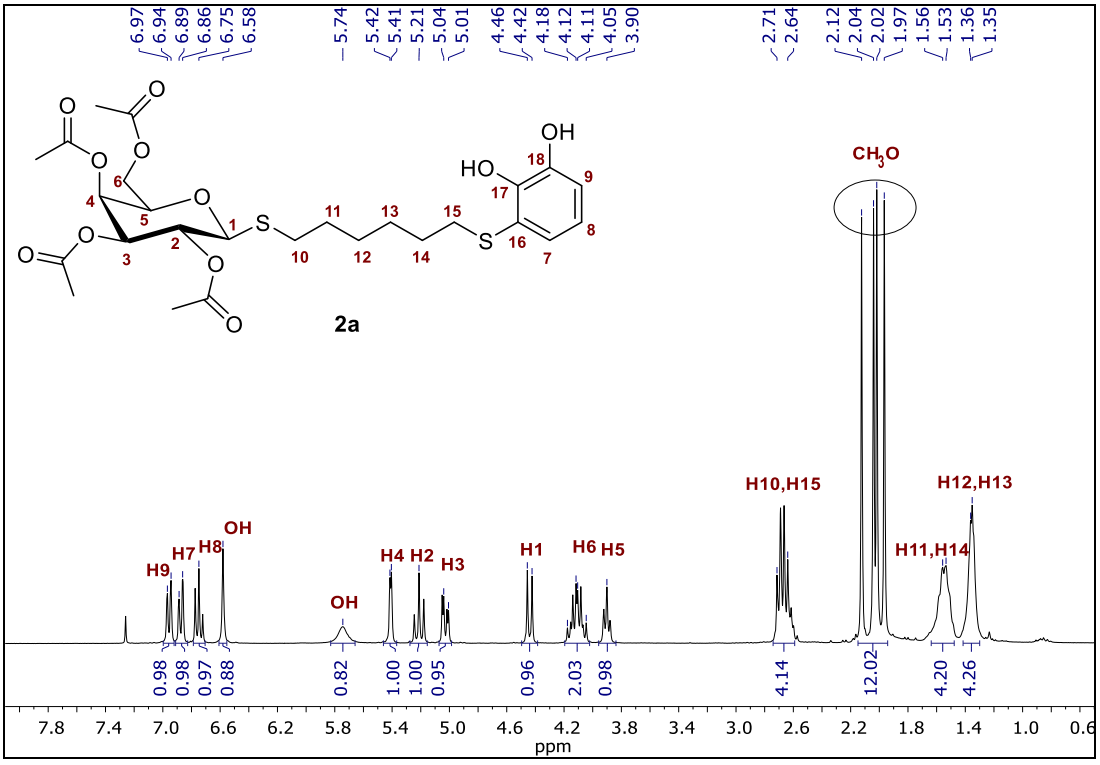


Figure S17. ^1H NMR of **2a** in $CDCl_3$

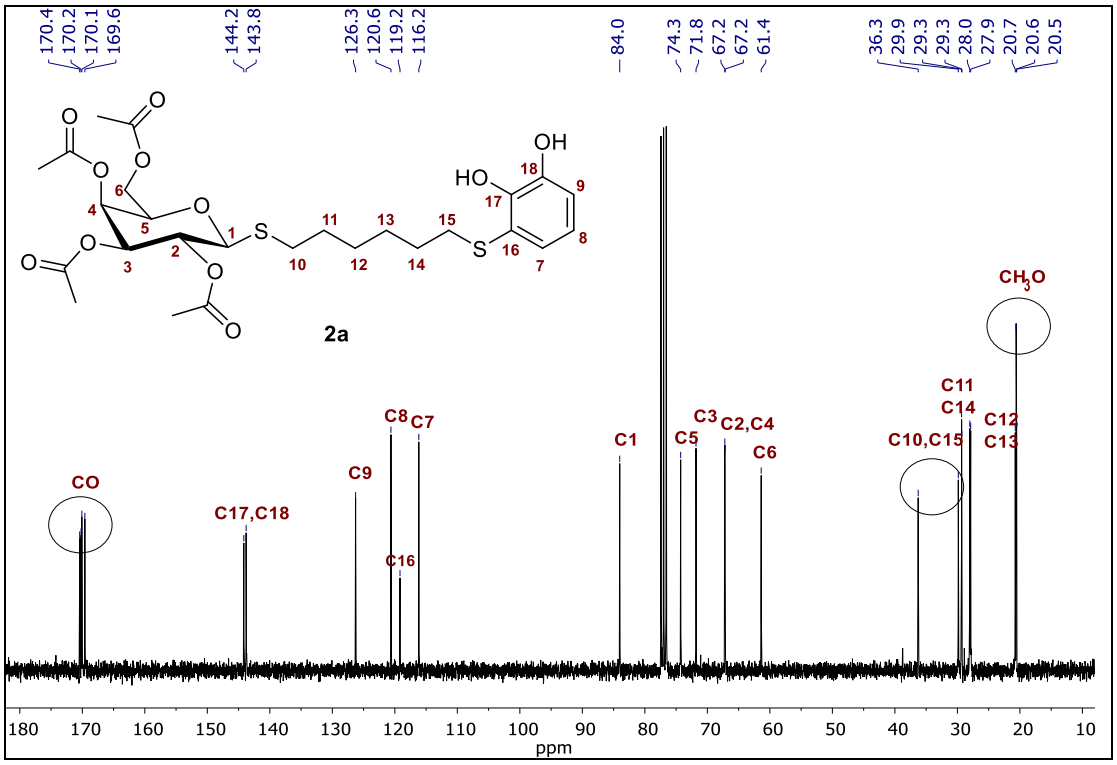


Figure S18. ^{13}C NMR of **2a** in $CDCl_3$

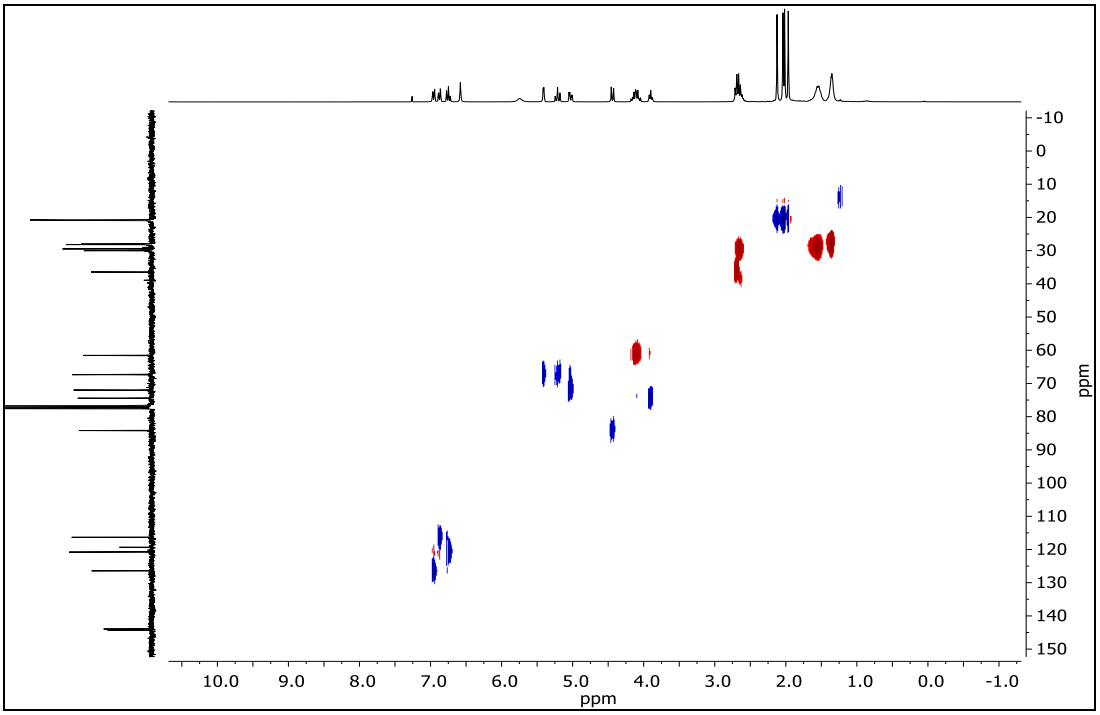


Figure S19. HSQC of **2a** in $CDCl_3$

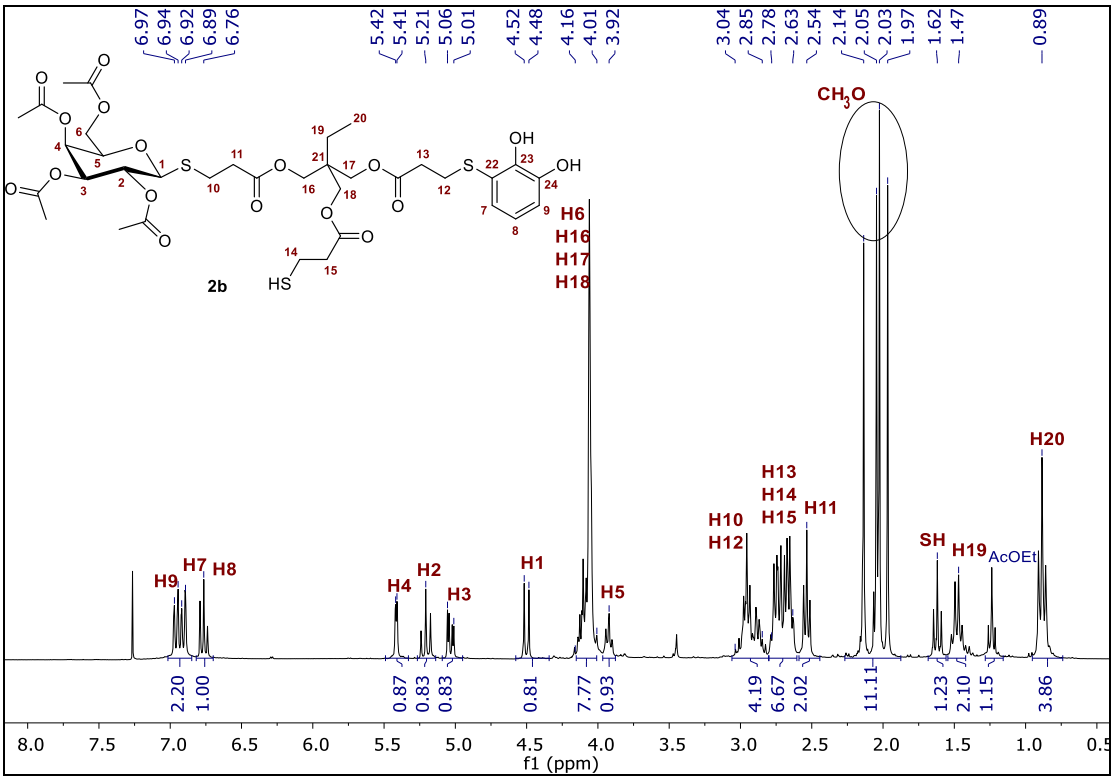


Figure S20. ^{1}H NMR of **2b** in $CDCl_3$

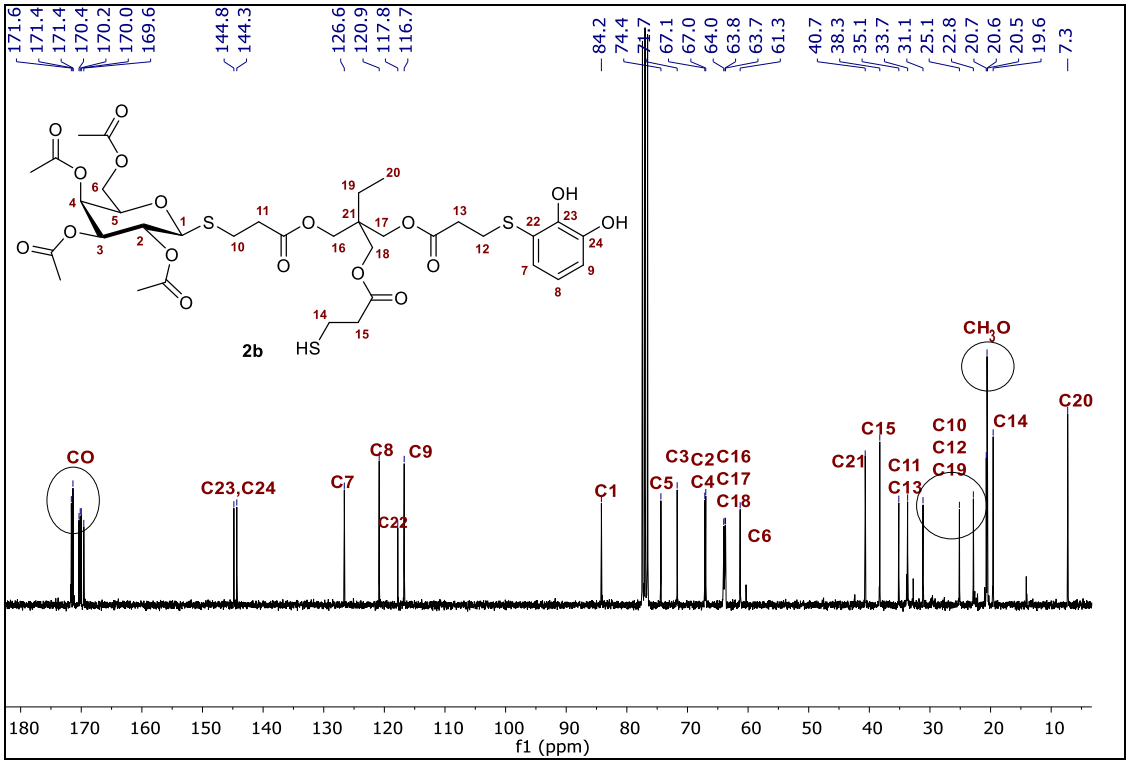


Figure S21. ^{13}C NMR of **2b** in $CDCl_3$

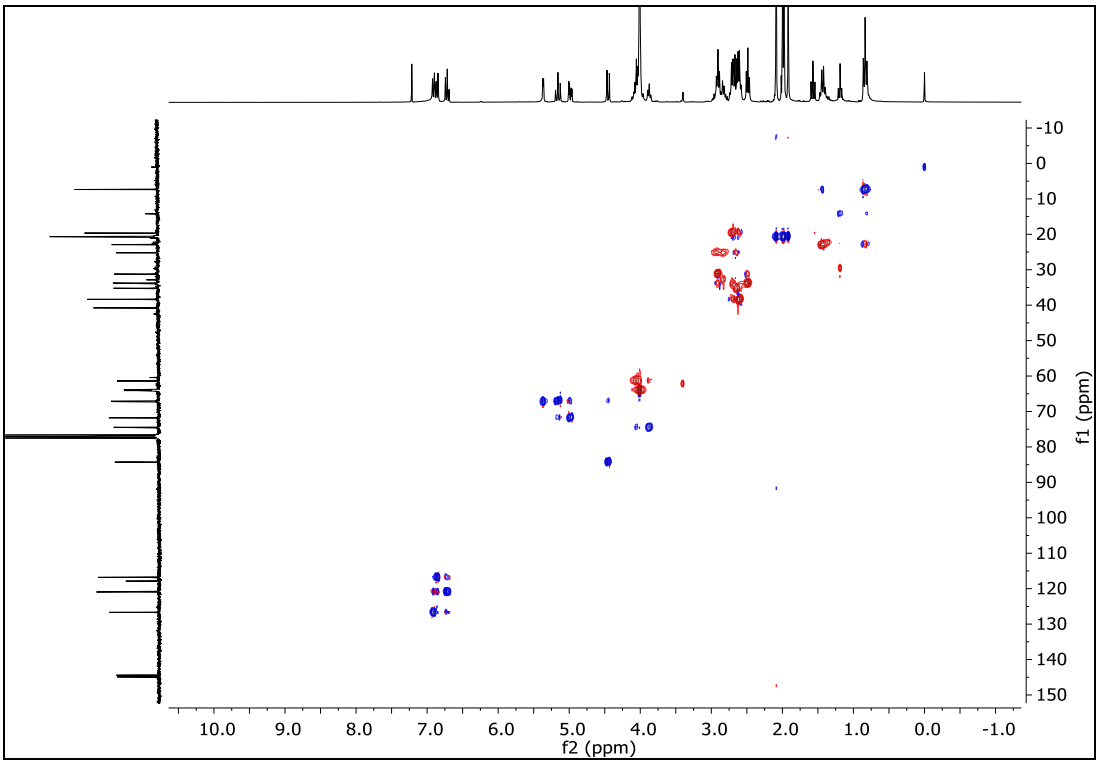


Figure S22. HSQC of **2b** in $CDCl_3$

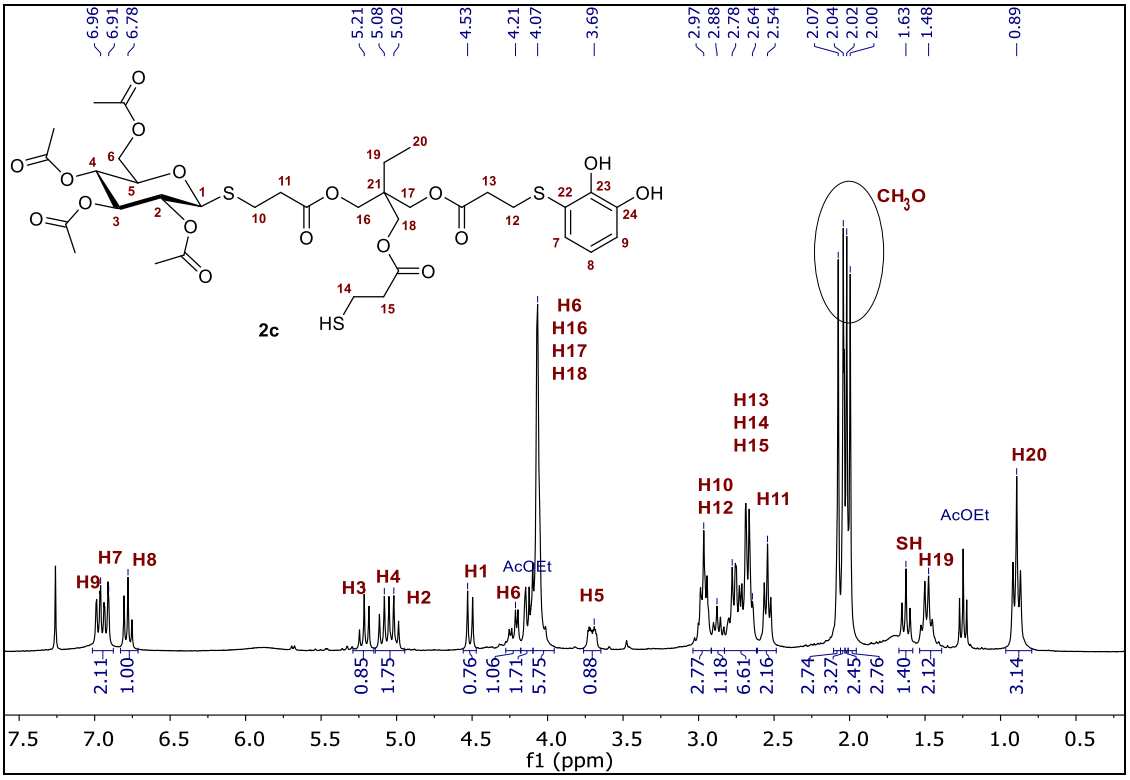


Figure S23. ^{1}H NMR of **2c** in $CDCl_3$

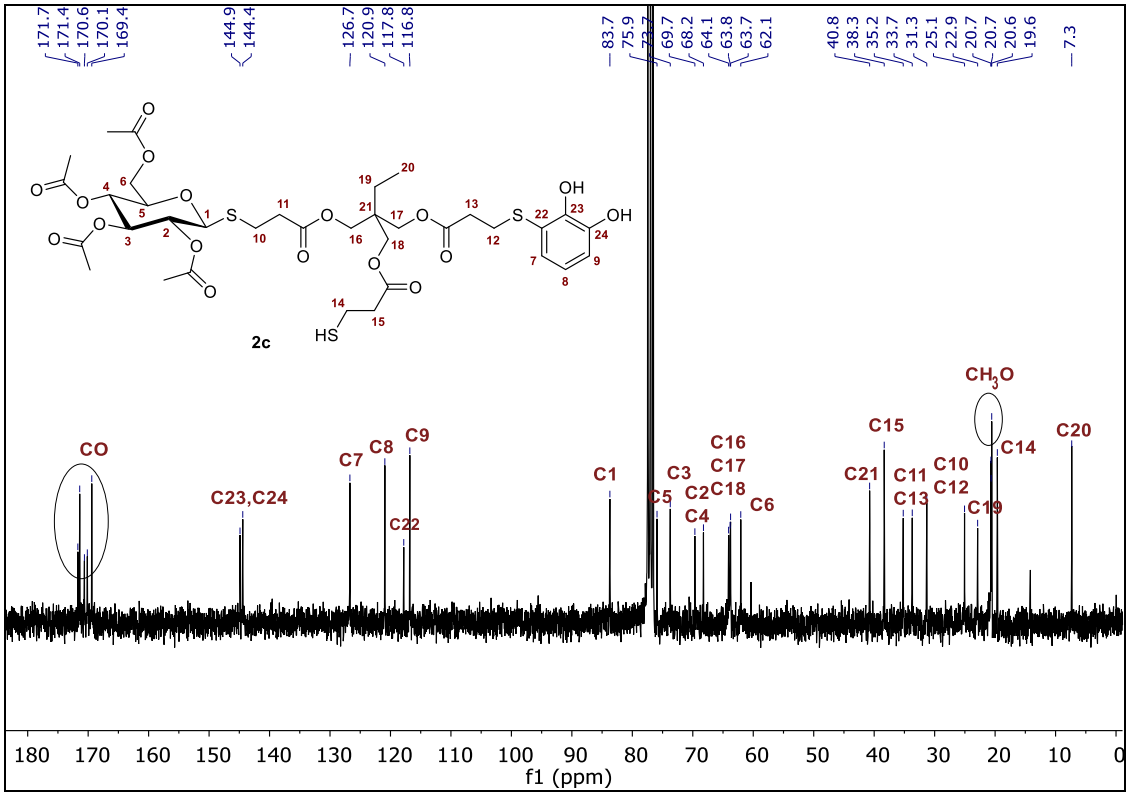


Figure S24. ^{13}C NMR of **2c** in $CDCl_3$

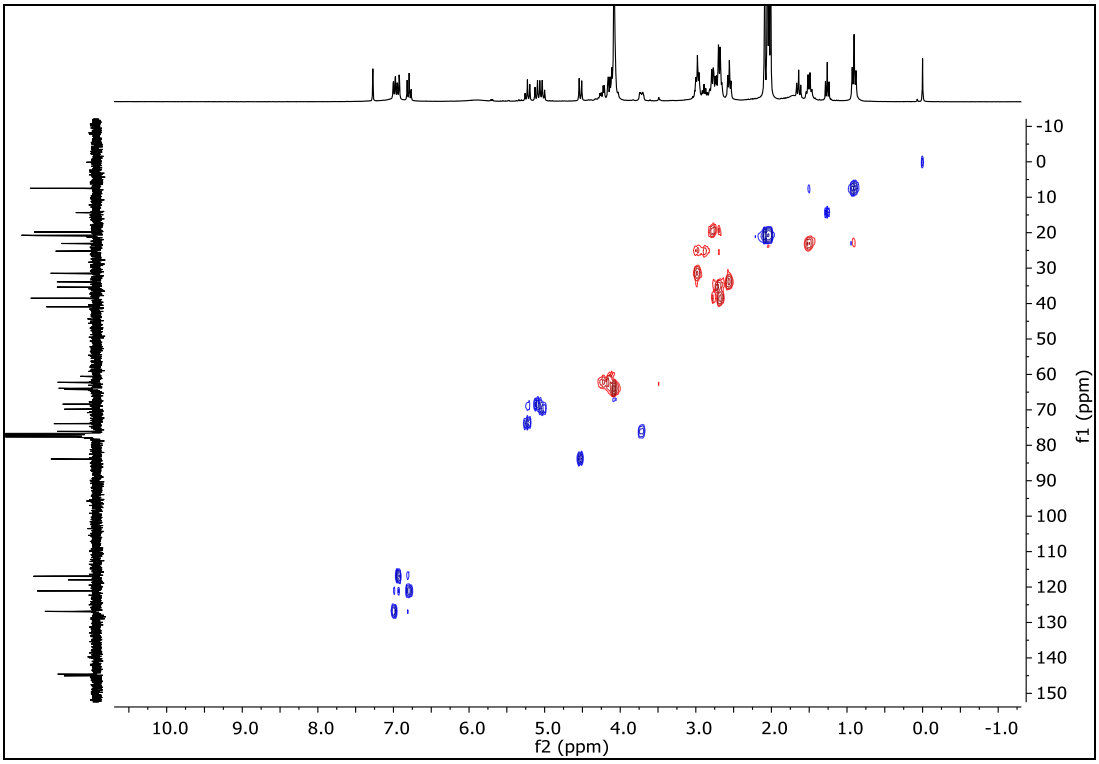


Figure S25. HSQC of **2c** in $CDCl_3$

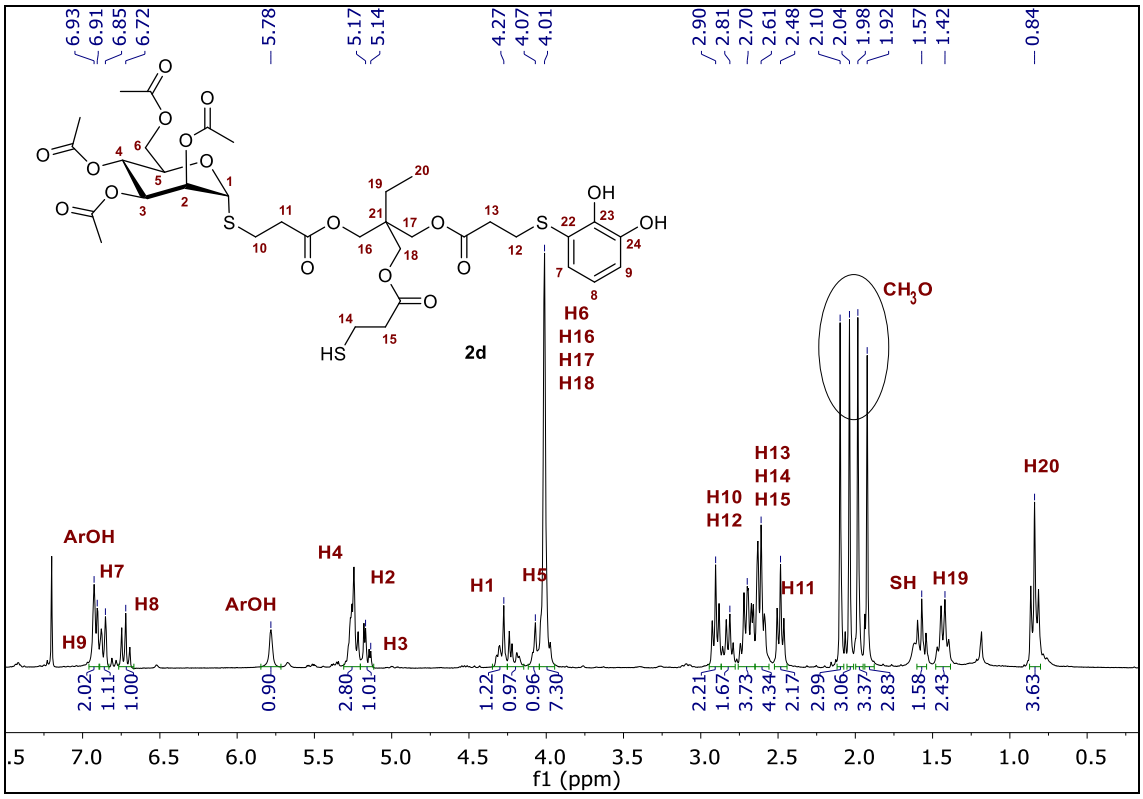


Figure S26. ^{1}H NMR of **2d** in $CDCl_3$

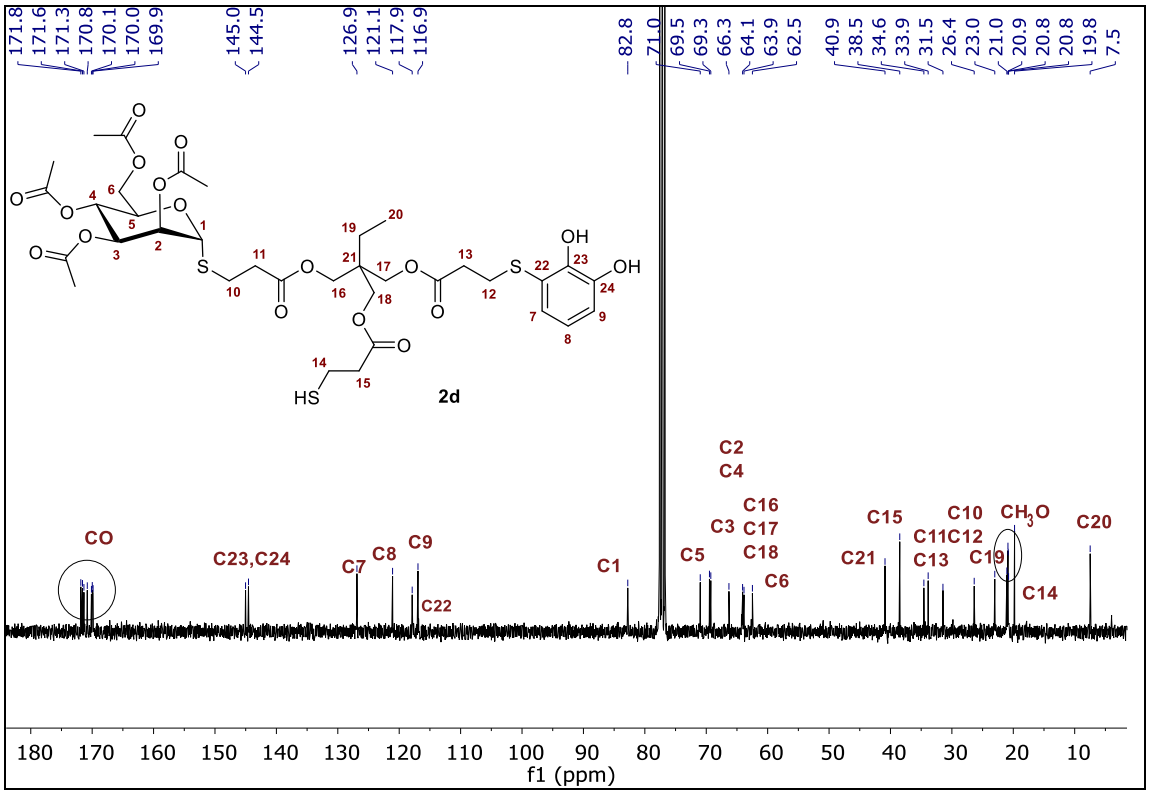


Figure S27. ^{13}C NMR of **2d** in $CDCl_3$

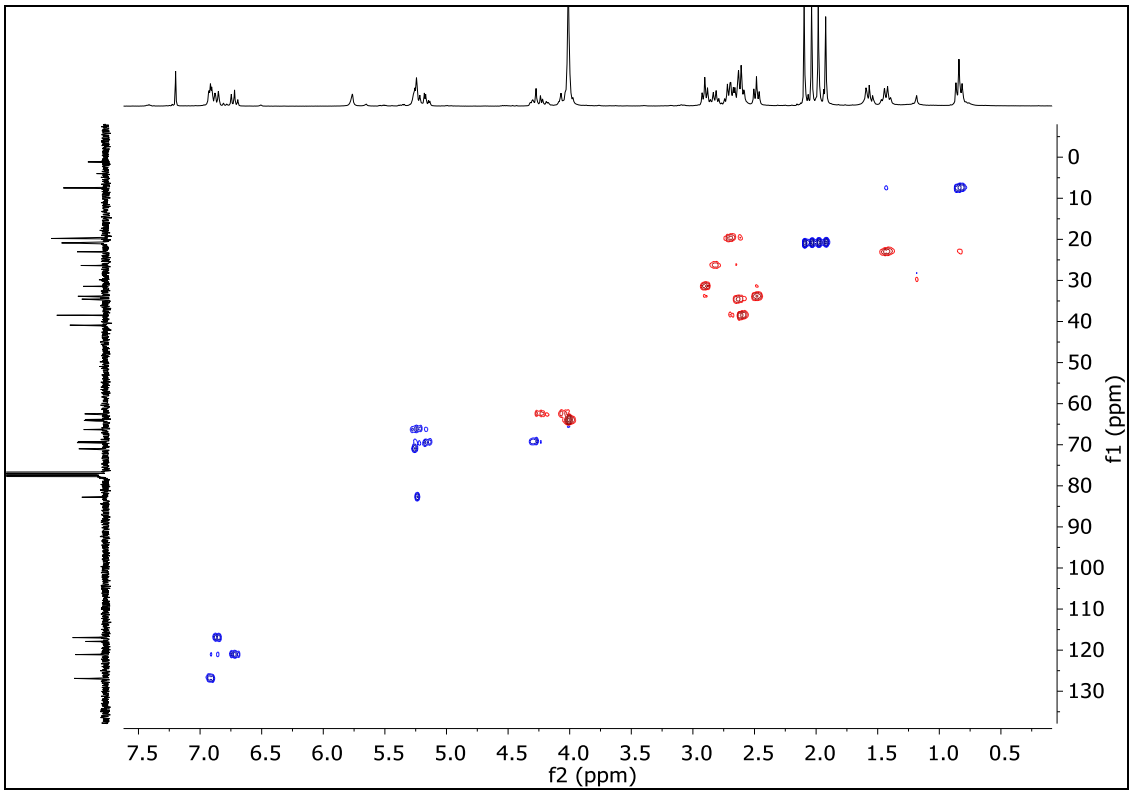


Figure S28. HSQC of **2d** in $CDCl_3$

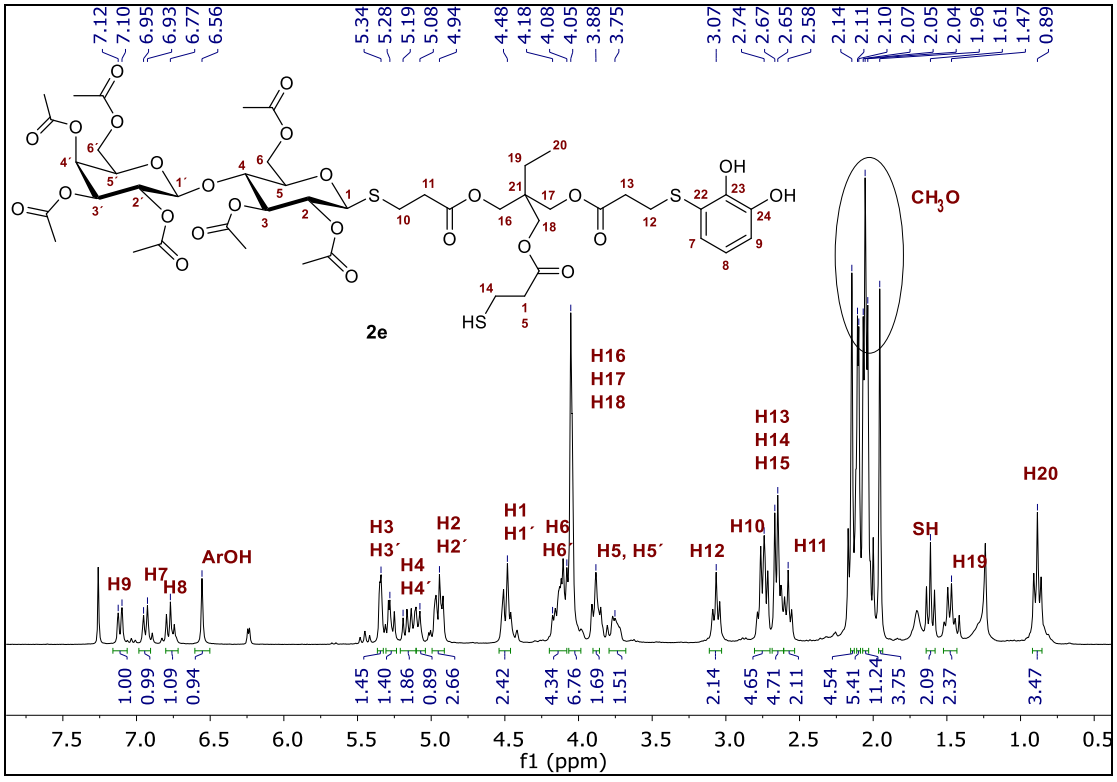


Figure S29. ^1H NMR of **2e** in $CDCl_3$

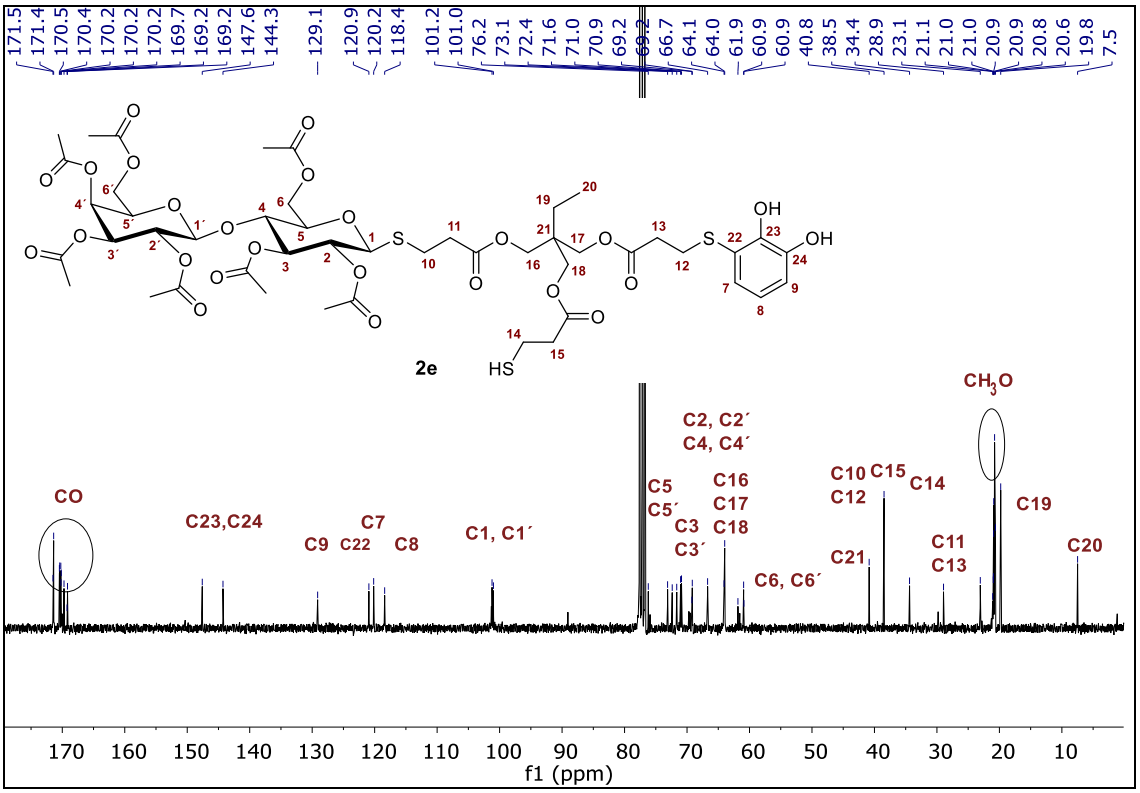


Figure S30. ^{13}C NMR of **2e** in $CDCl_3$

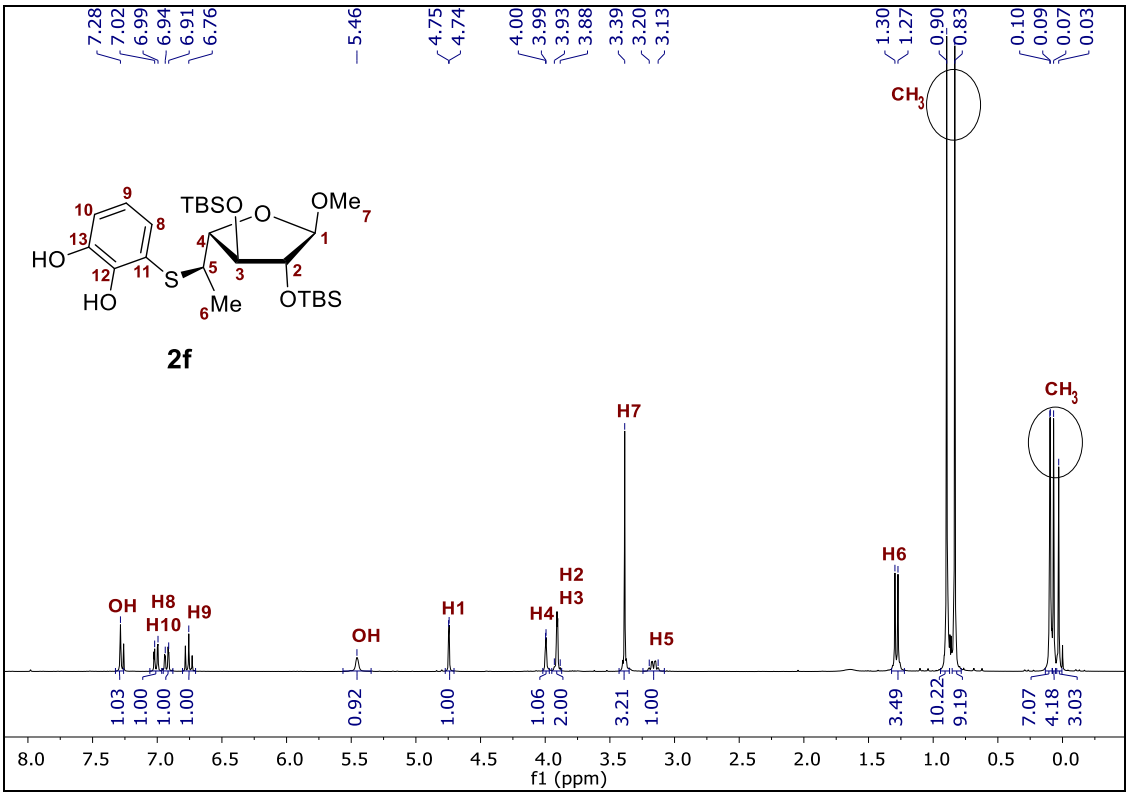


Figure S31. ^{1}H NMR of **2f** in $CDCl_3$

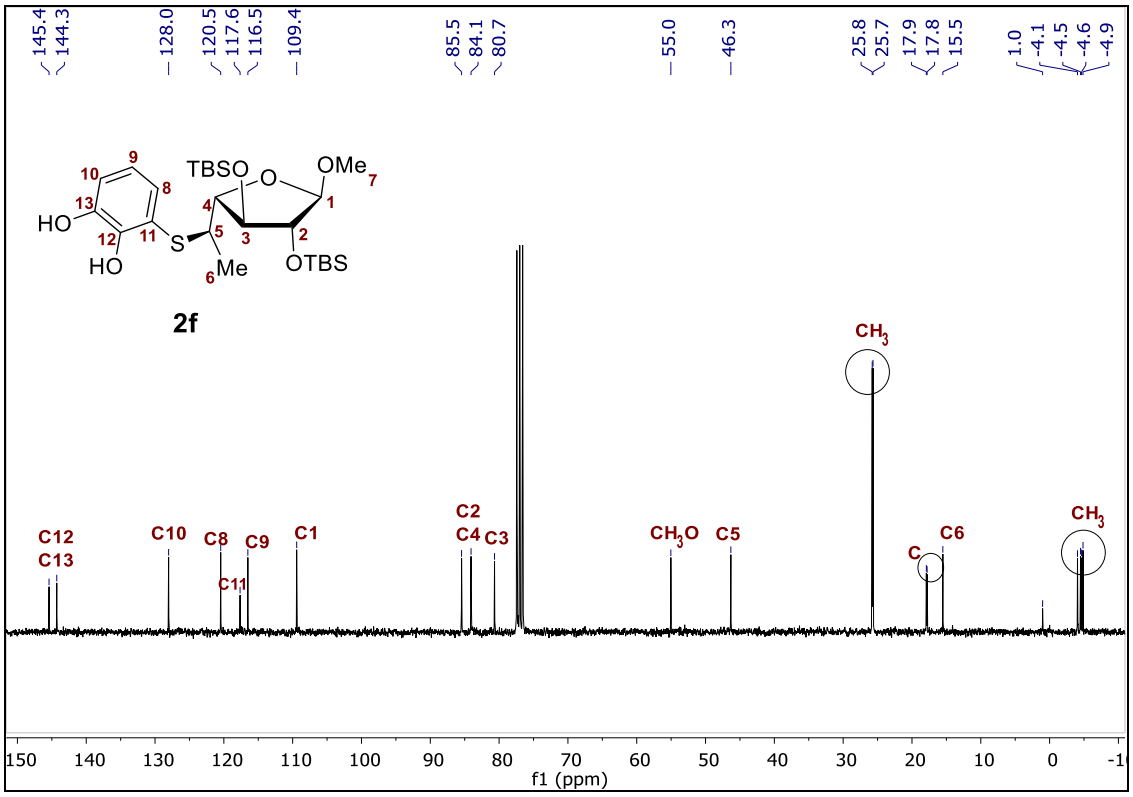


Figure S32. ^{13}C NMR of **2f** in $CDCl_3$

S8. Characterization of compounds 3

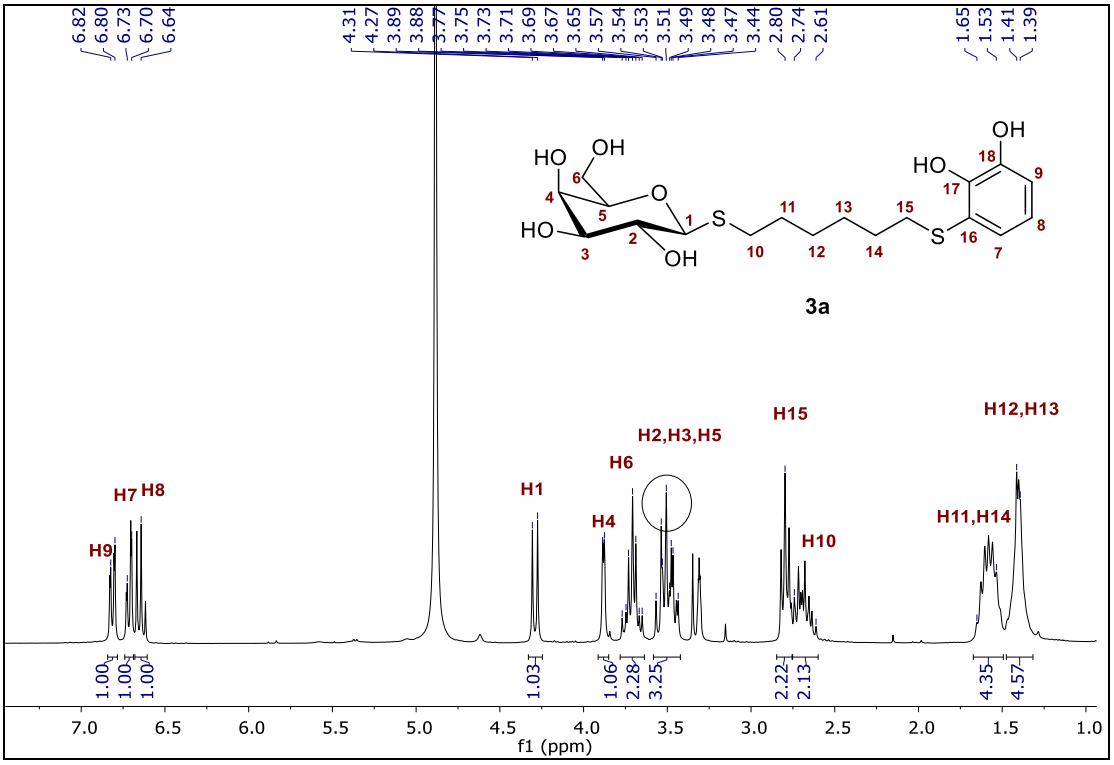


Figure S33. ^{1}H NMR of **3a** in CD_3OD

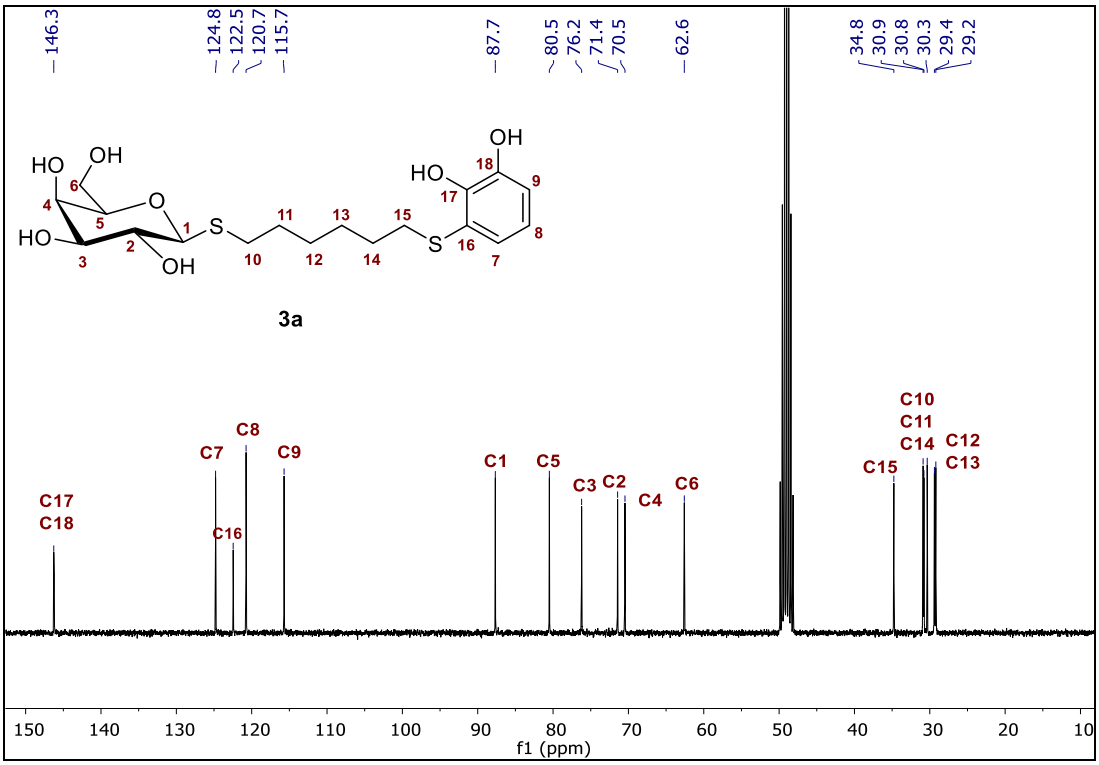


Figure S34. ^{13}C NMR of **3a** in CD_3OD

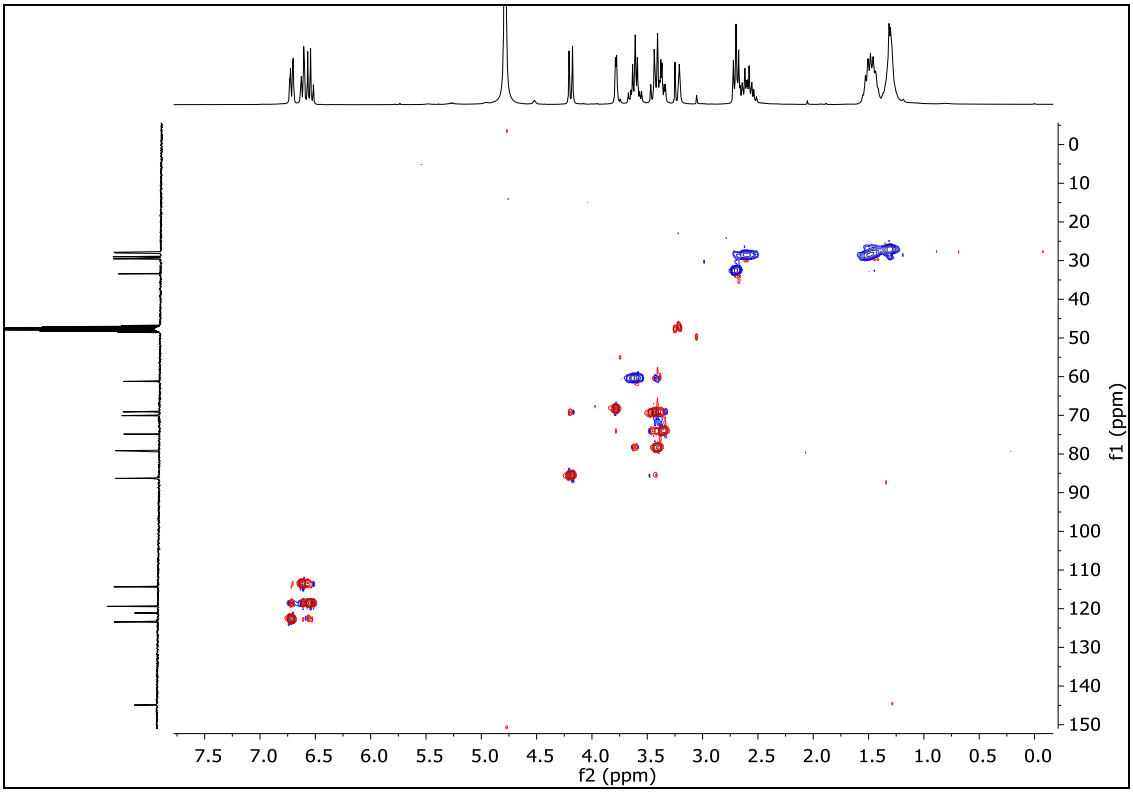


Figure S35. HSQC of **3a** in CD_3OD

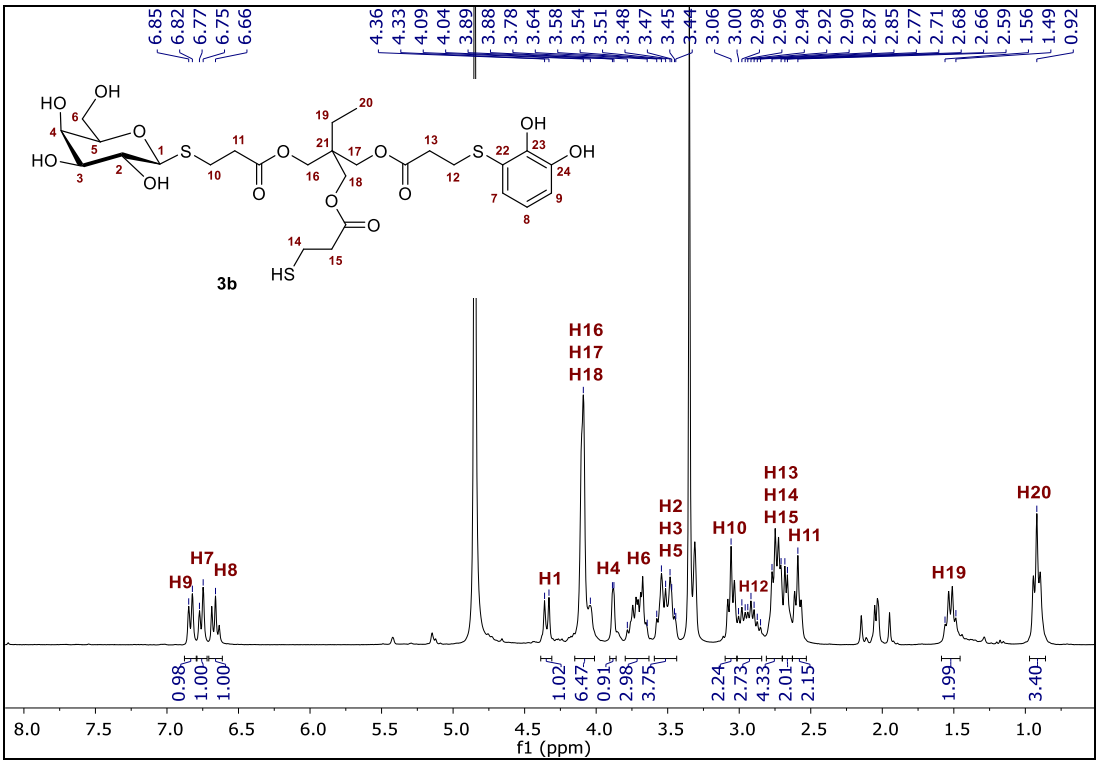


Figure S36. ^{1}H NMR of **3b** in CD_3OD

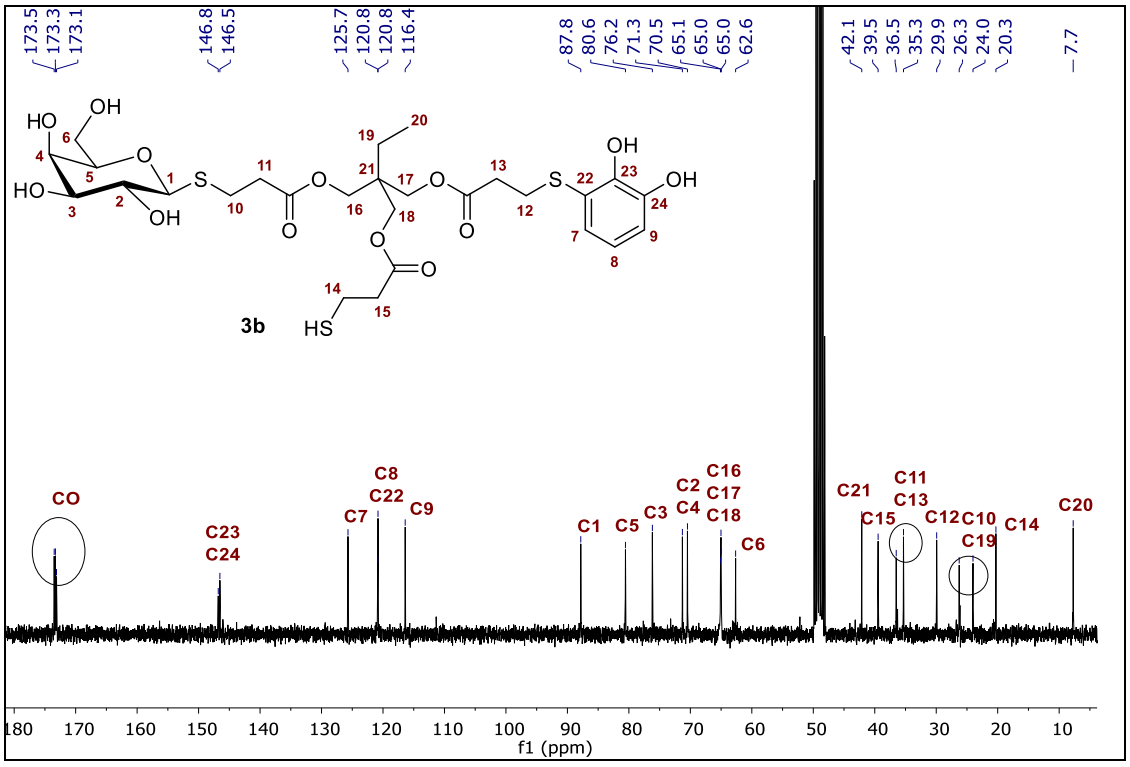


Figure S37. ^{13}C NMR of **3b** in CD_3OD

S9. Characterization of compounds 4

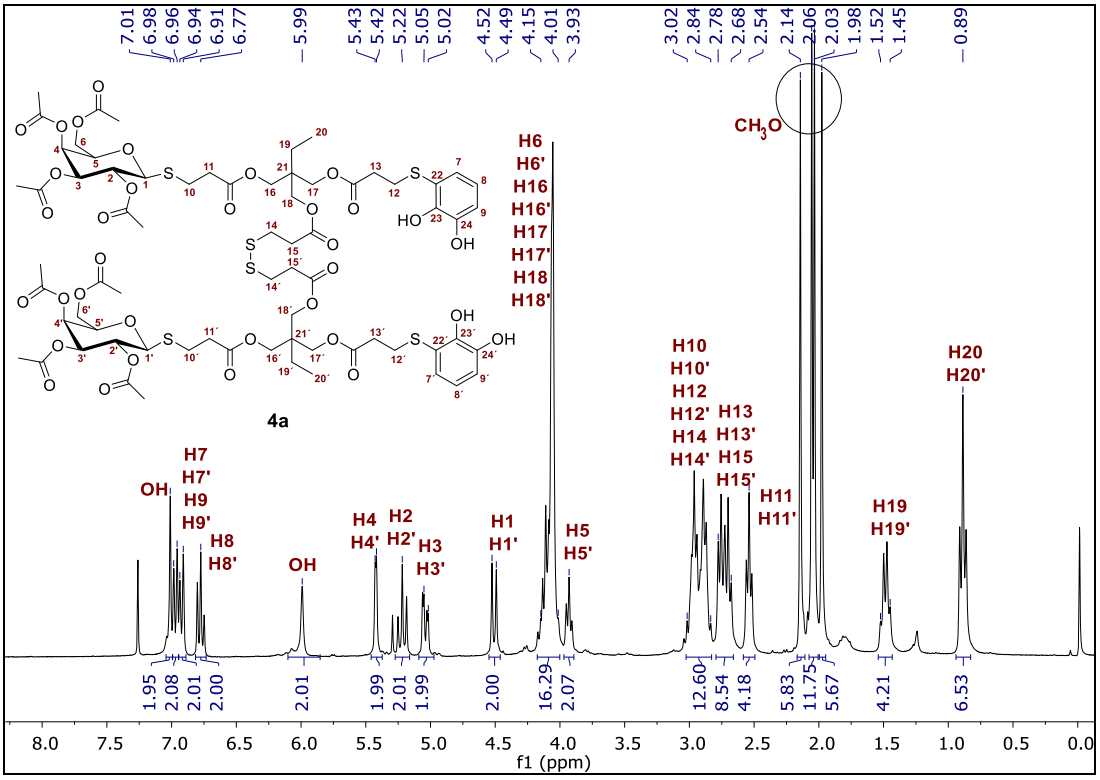


Figure S38. ^{1}H NMR of **4a** in $CDCl_3$

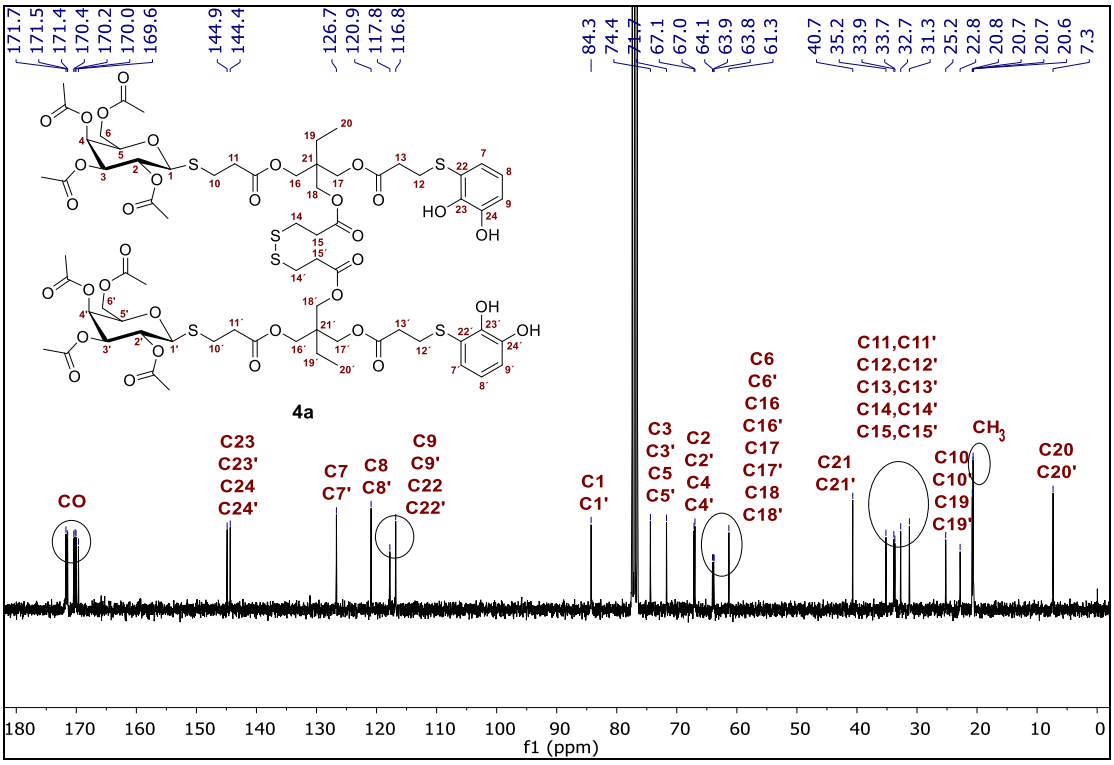


Figure S39. ^{13}C NMR of **4a** in $CDCl_3$