

Supporting Information

Scope and Limitations of Xanthate-Mediated Synthesis of Functional γ-Thiolactones.

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NMR spectra of 4-(pent-4-en-1-hydroxy)2H-chromen-2-one.

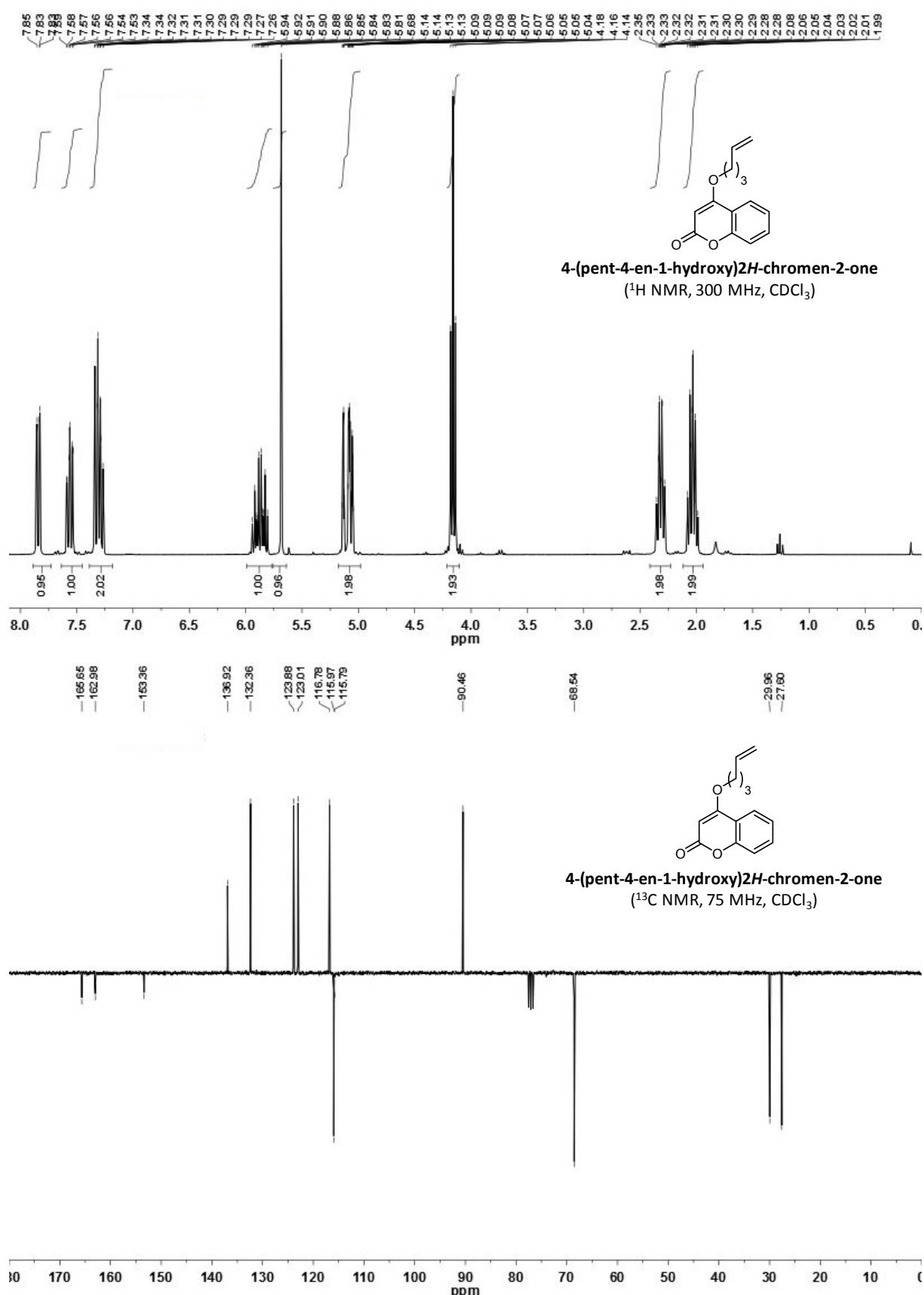


Figure S1. ^1H and ^{13}C NMR spectra of 4-(pent-4-en-1-hydroxy)2H-chromen-2-one.

NMR spectra of methyl 2-methyl-4-pentenoate.

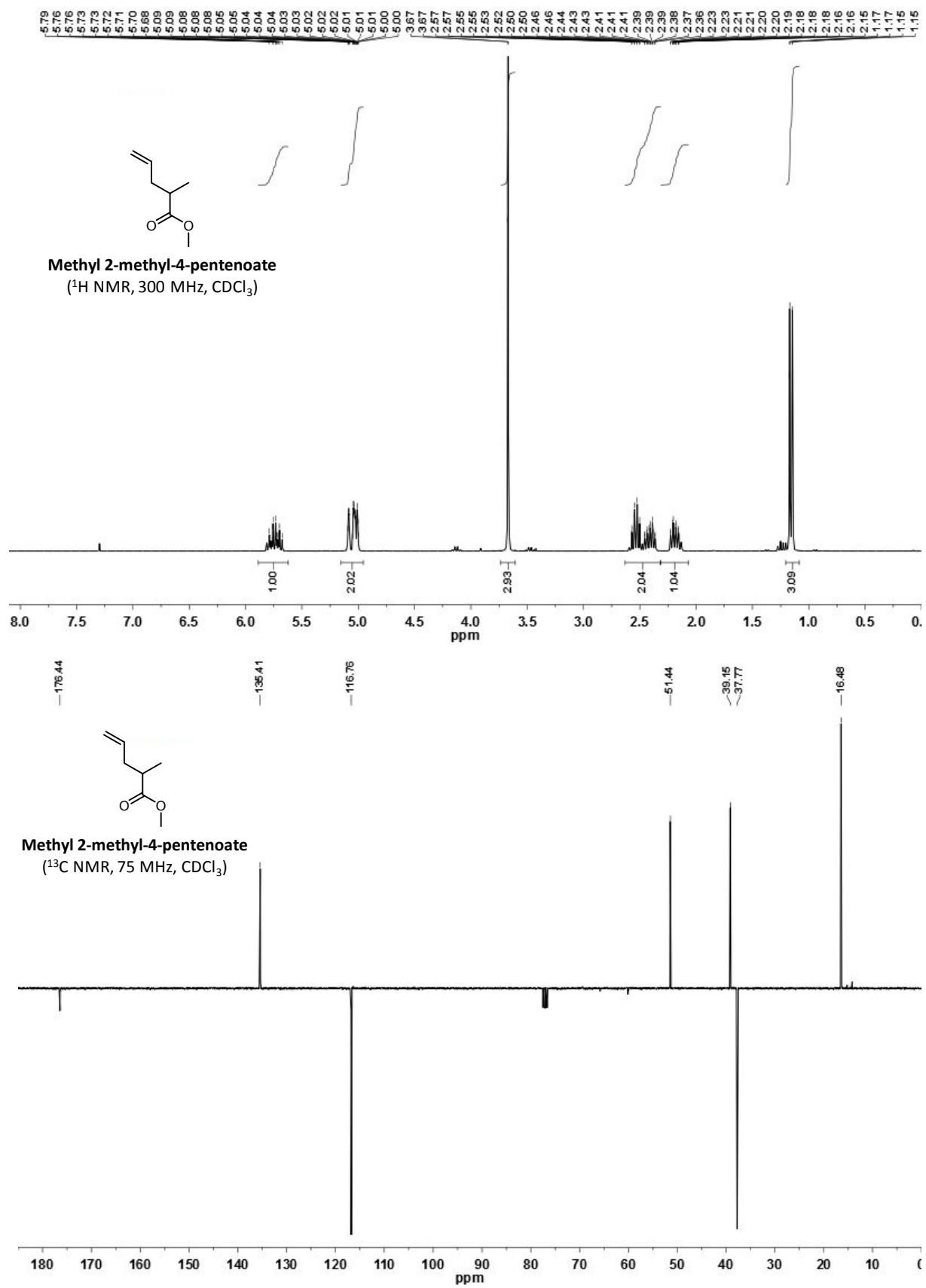


Figure S2. ^1H and ^{13}C NMR spectra of methyl 2-methyl-4-pentenoate.

NMR spectra of xanthates XA3 to XA6.

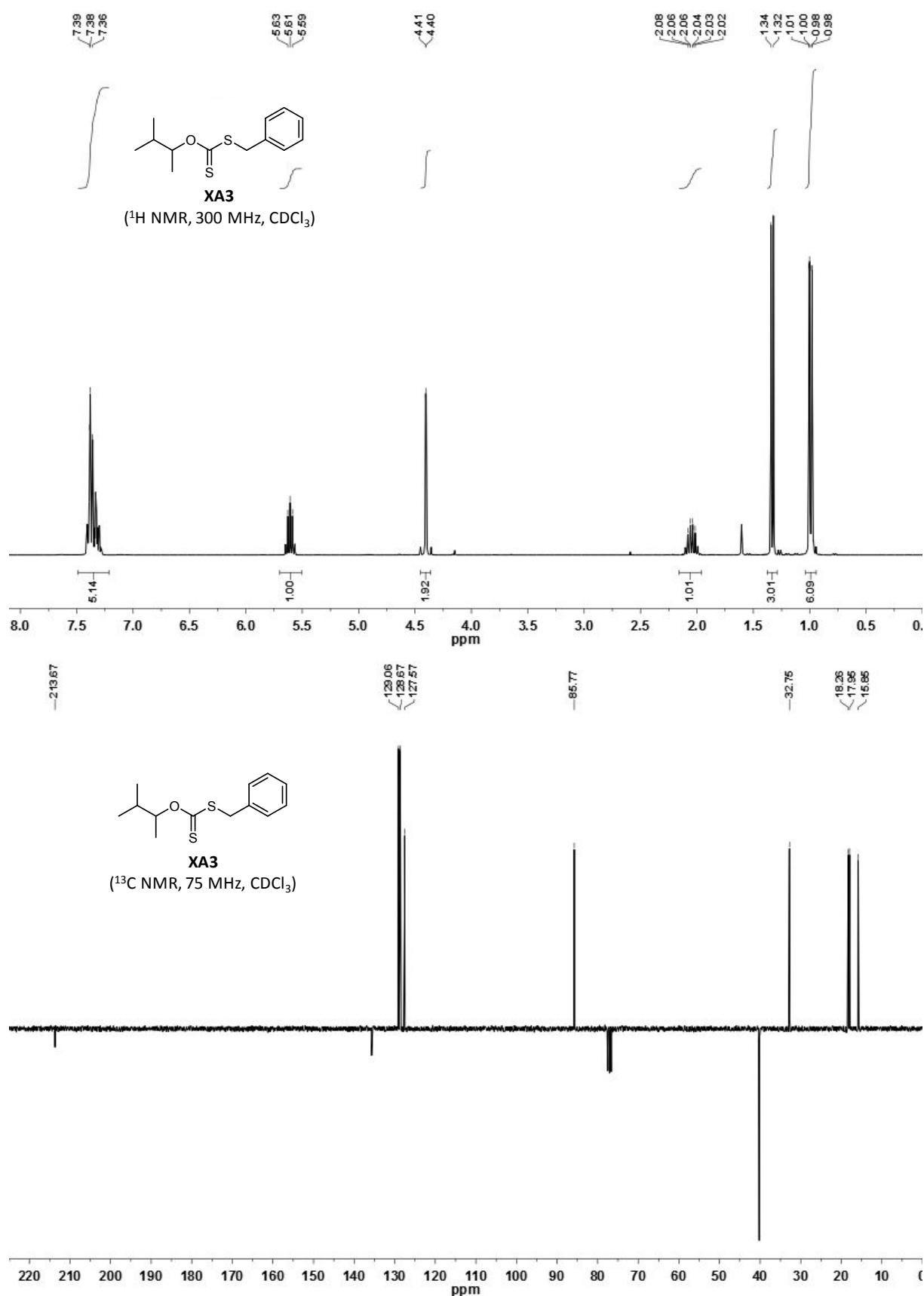


Figure S3. ^1H and ^{13}C NMR spectra of compound **XA3**.

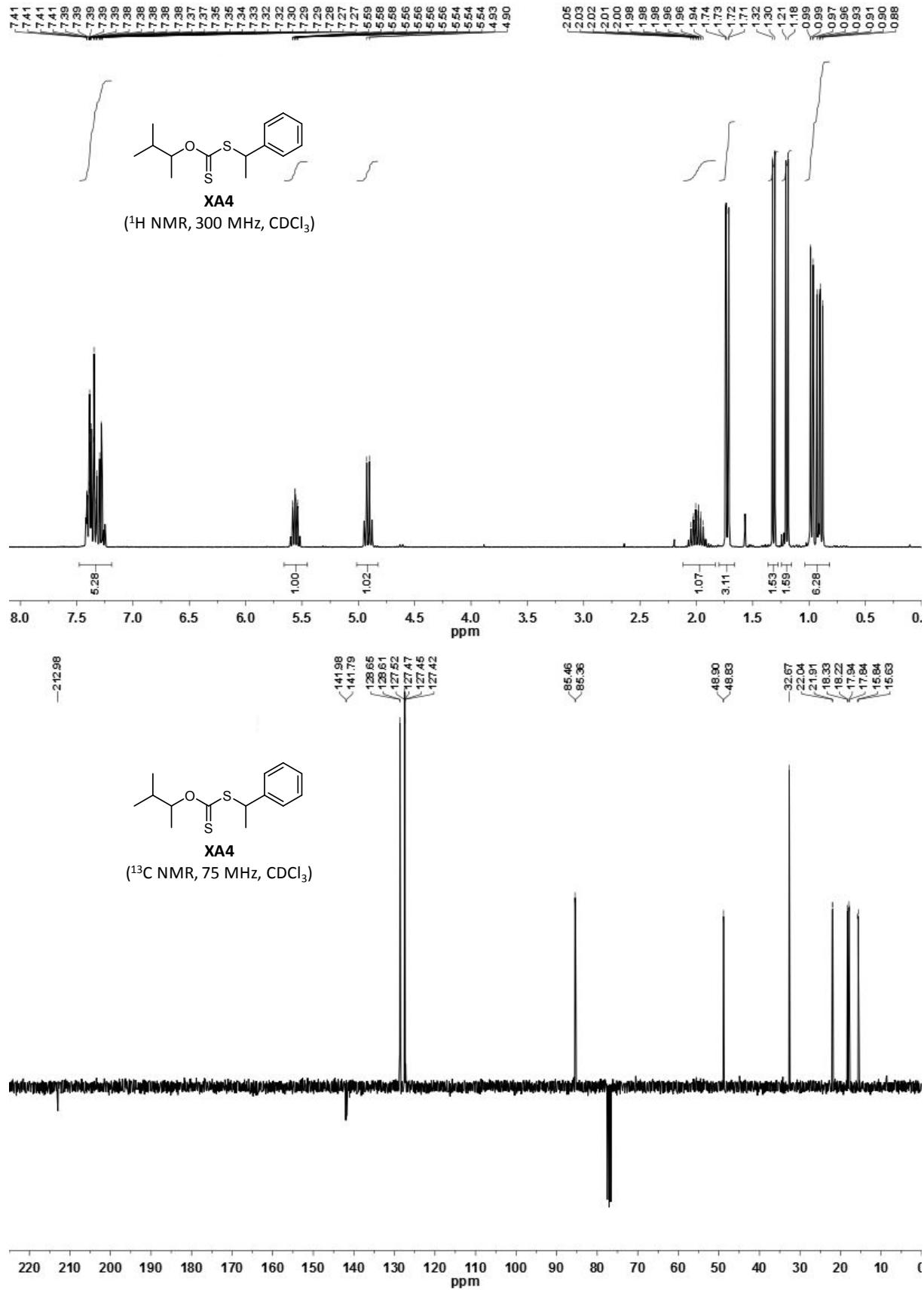


Figure S4. ^1H and ^{13}C NMR spectra of compound **XA4**.

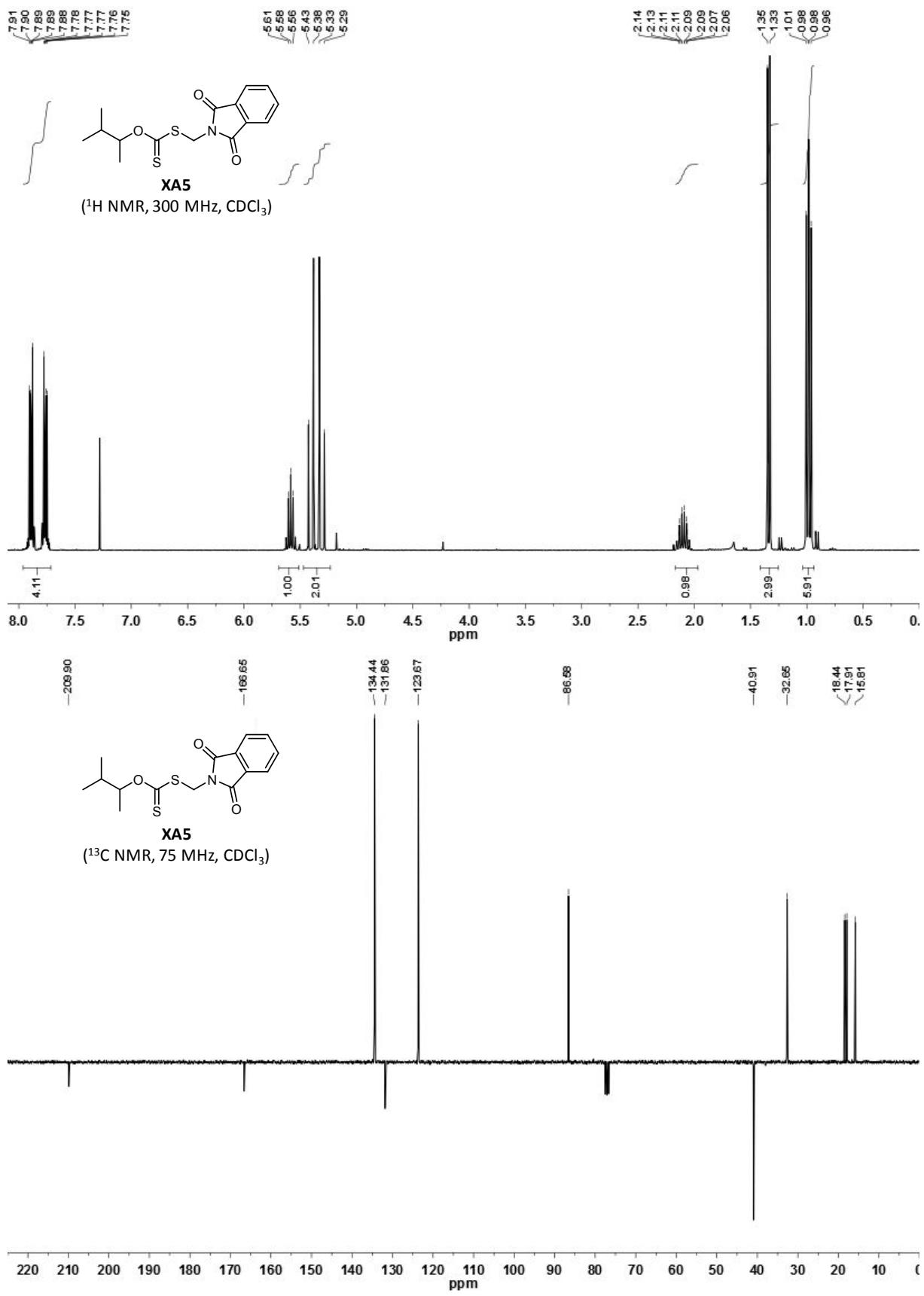
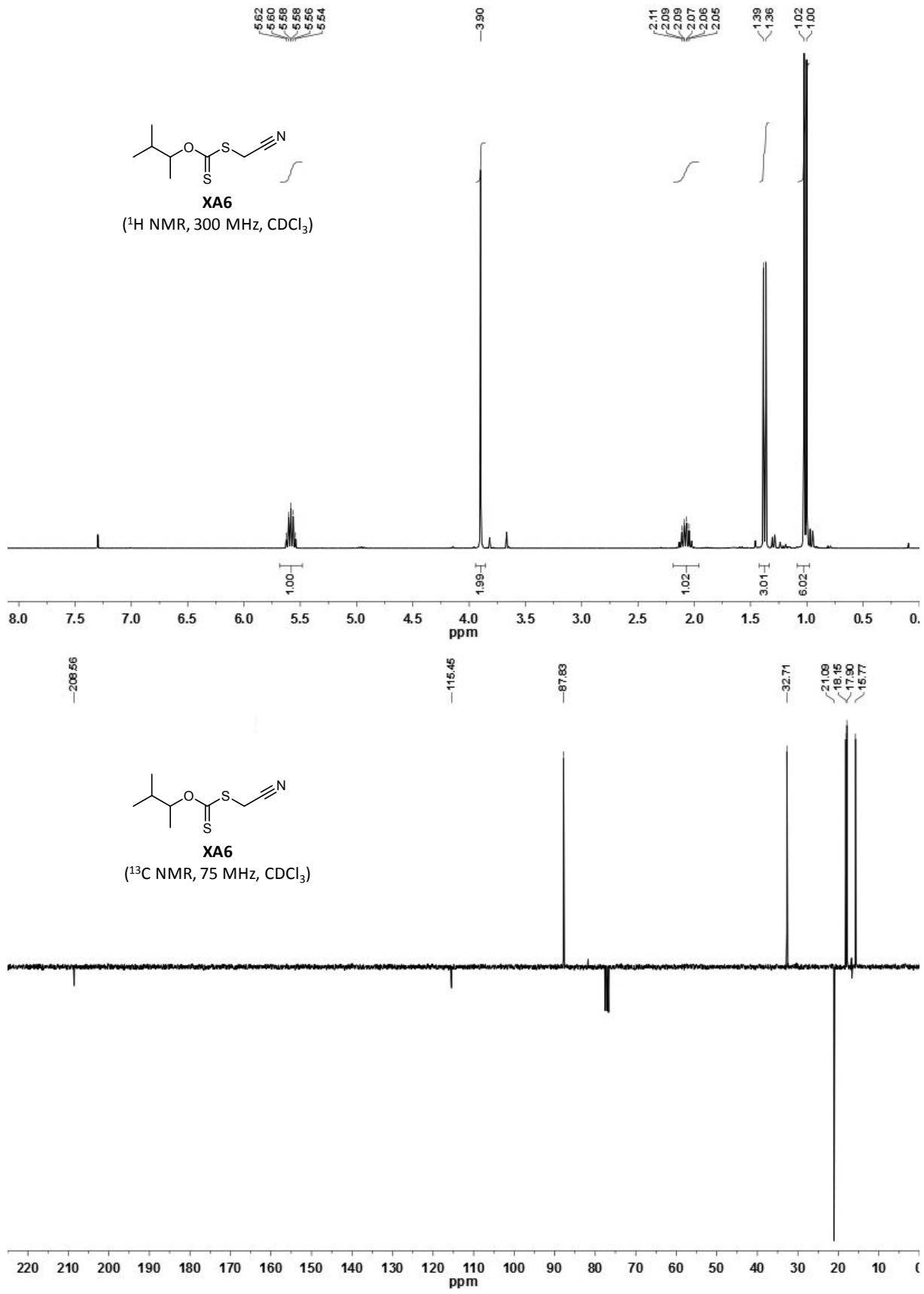


Figure S5. ^1H and ^{13}C NMR spectra of compound **XA5**.



NMR spectra of monoadducts M10 to M23.

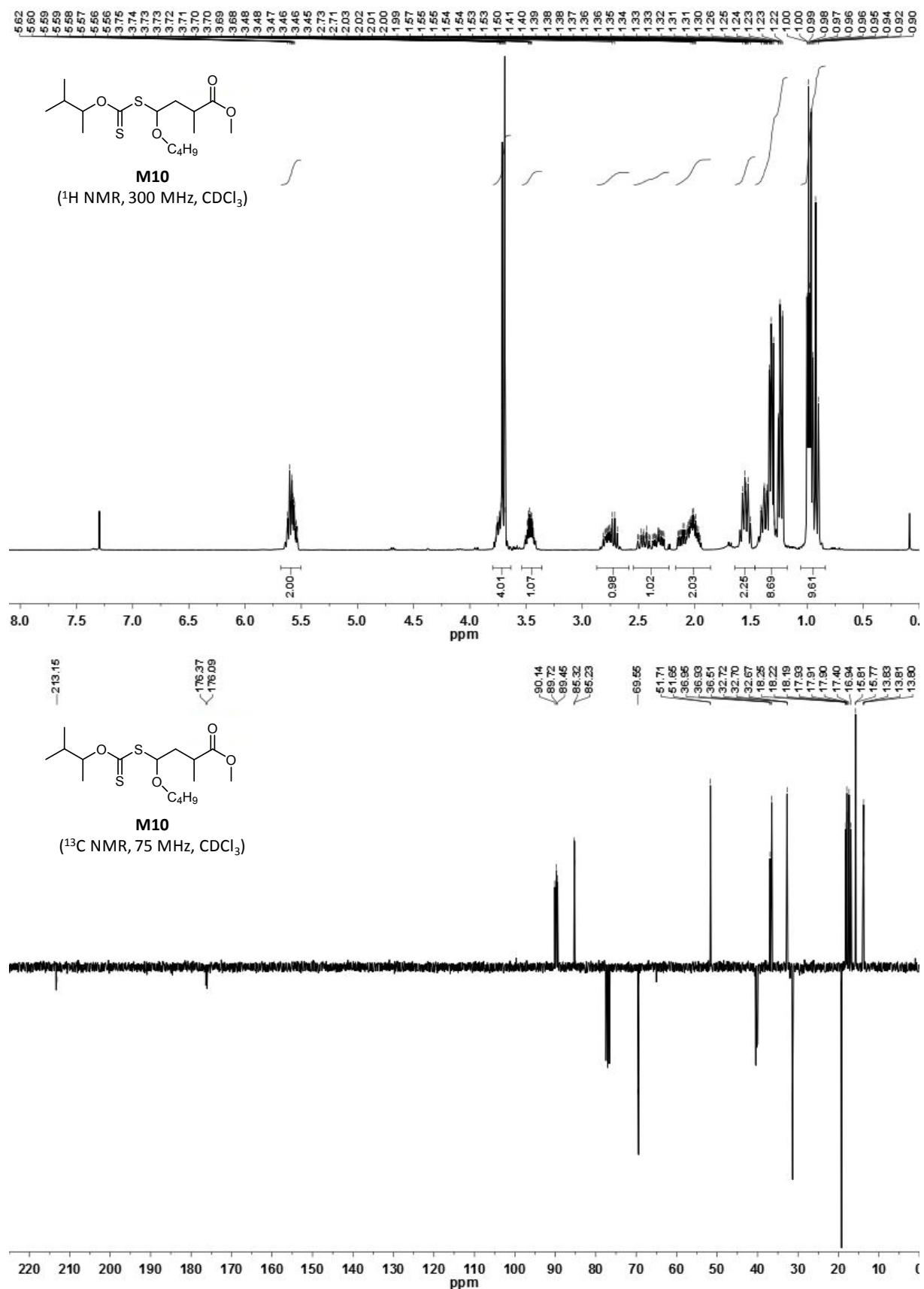


Figure S7. ^1H and ^{13}C NMR spectra of compound **M10**.

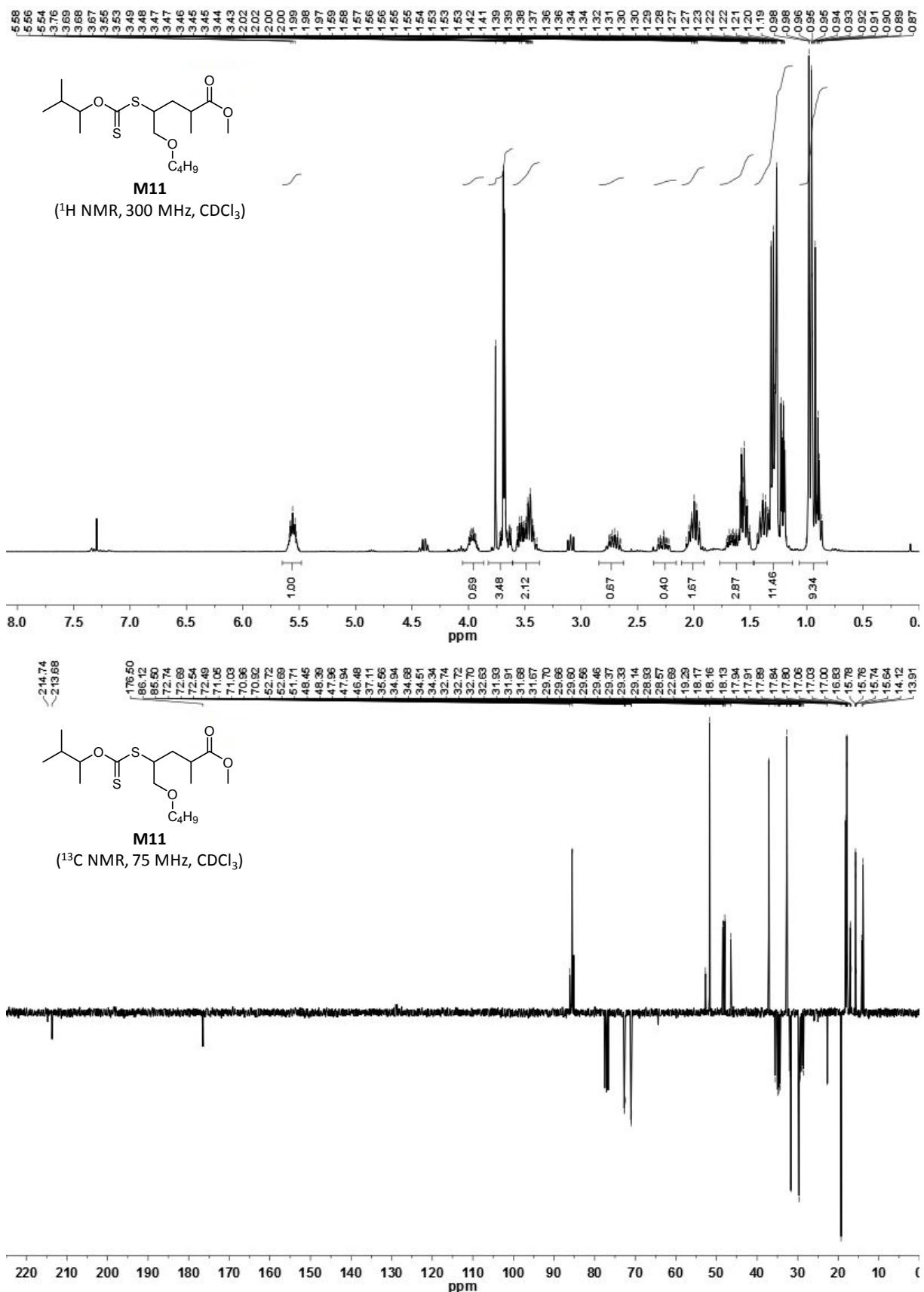


Figure S8. ^1H and ^{13}C NMR spectra of the compound **M11**.

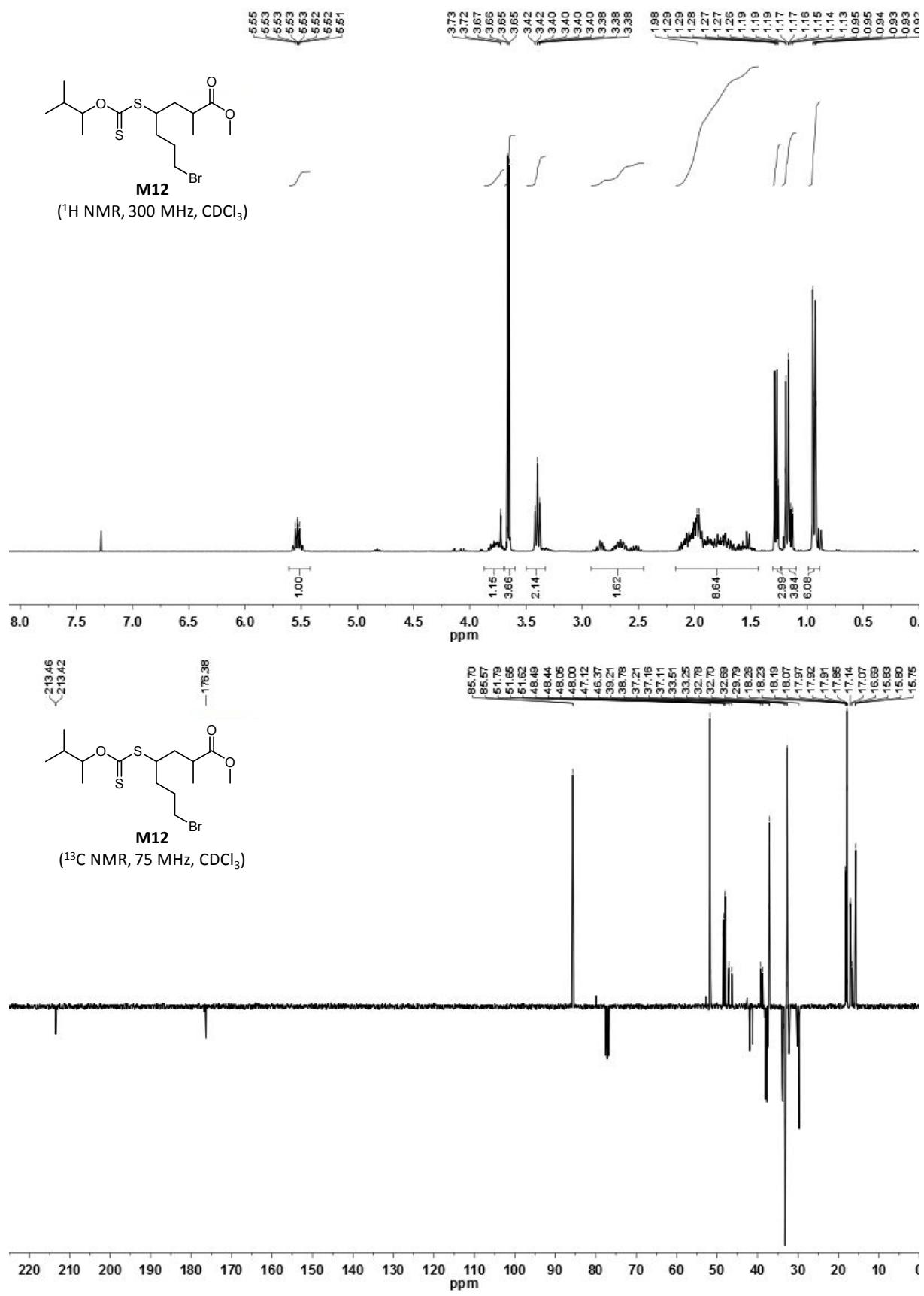


Figure S9. ¹H and ¹³C NMR spectra of compound M12.

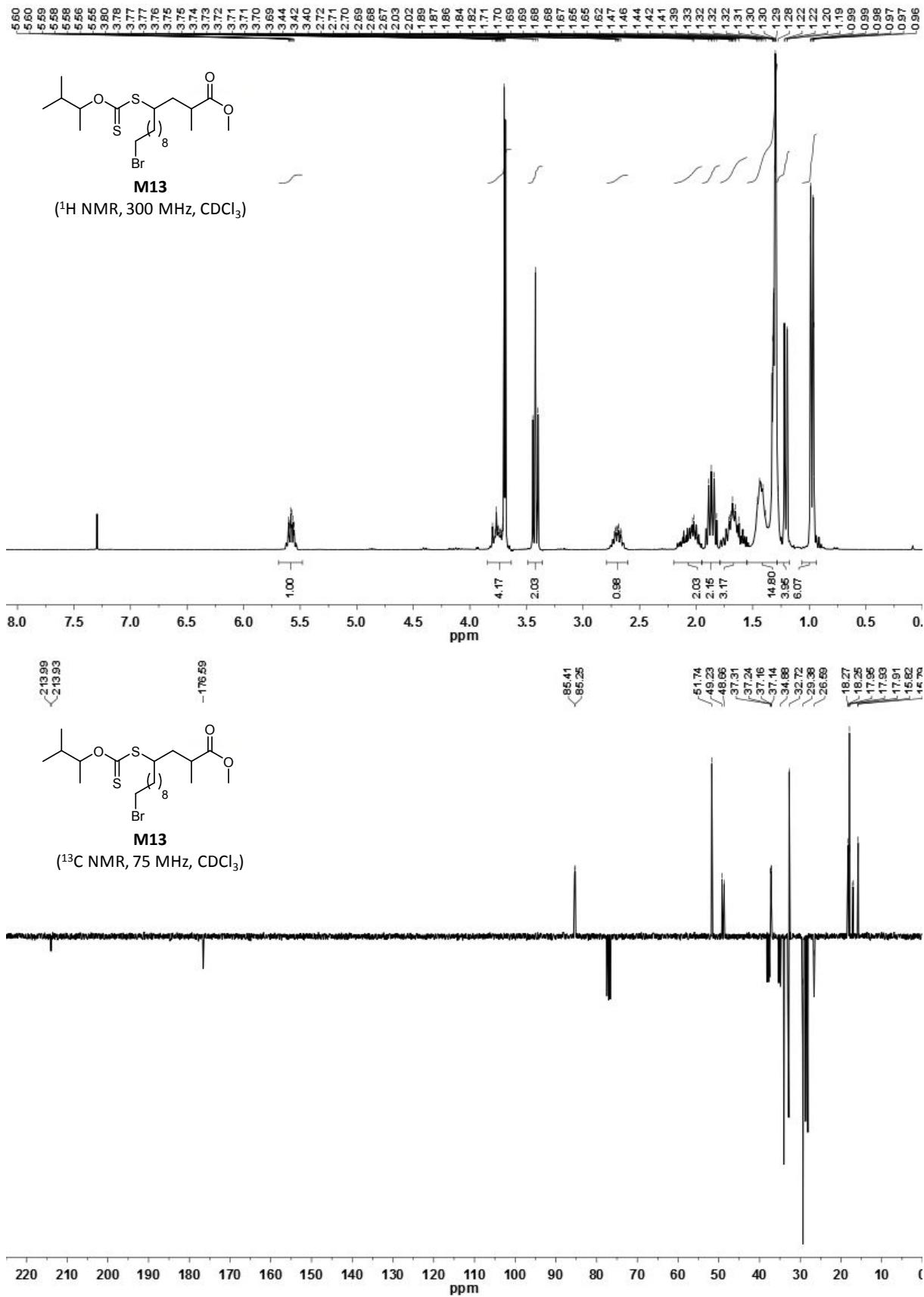
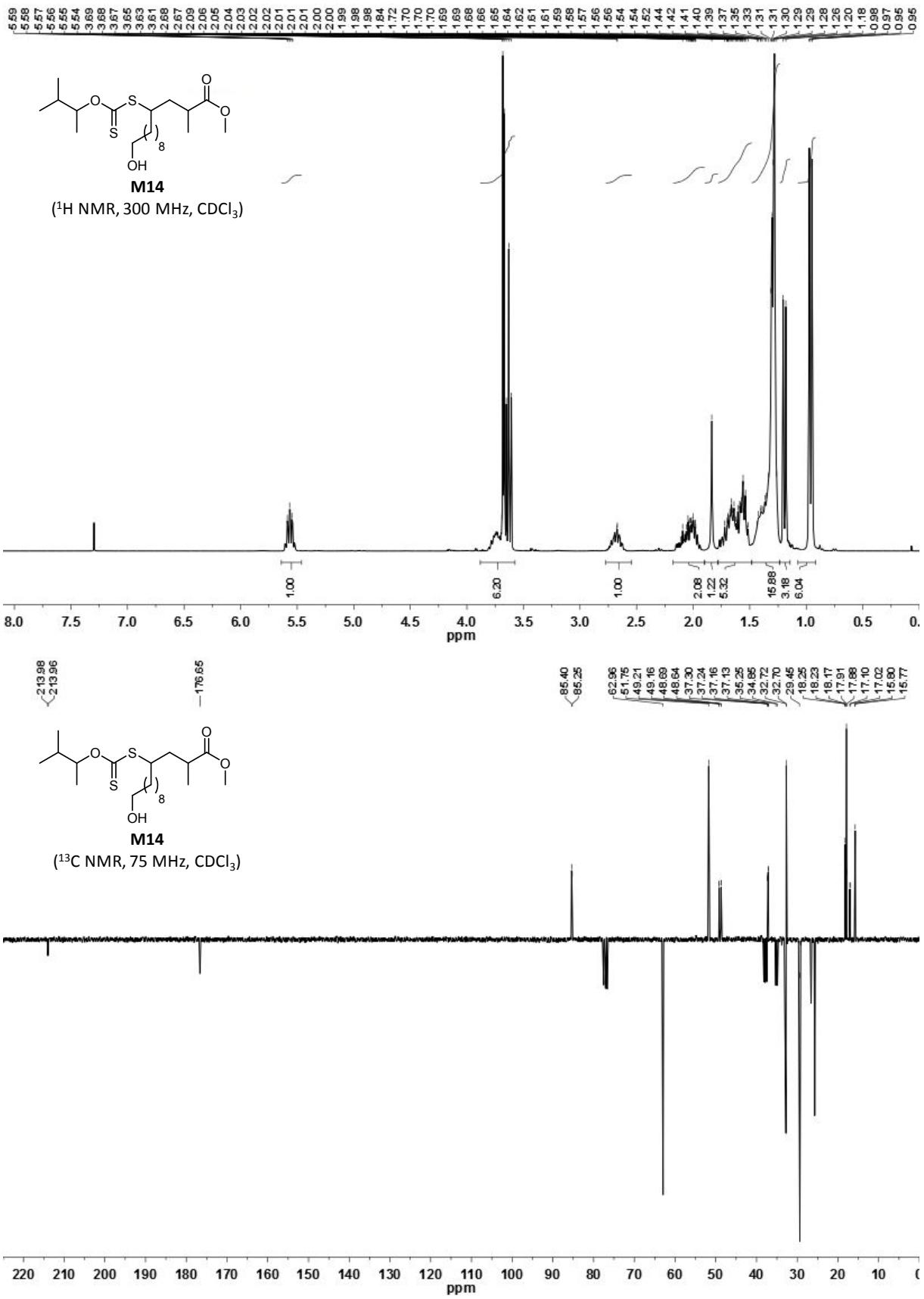


Figure S10. ^1H and ^{13}C NMR spectra of compound **M13**.



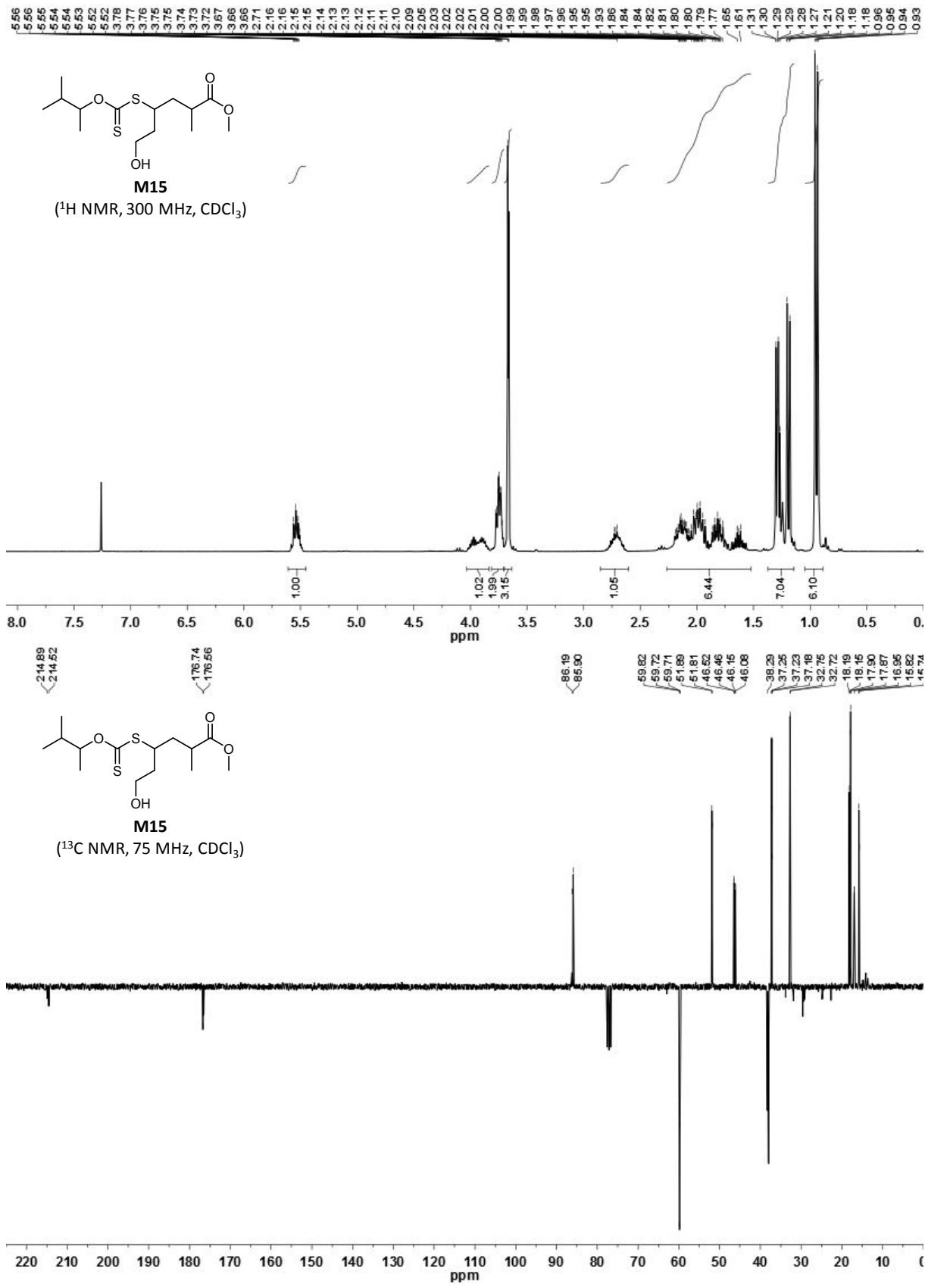


Figure S12. ^1H and ^{13}C NMR spectra of compound **M15**.

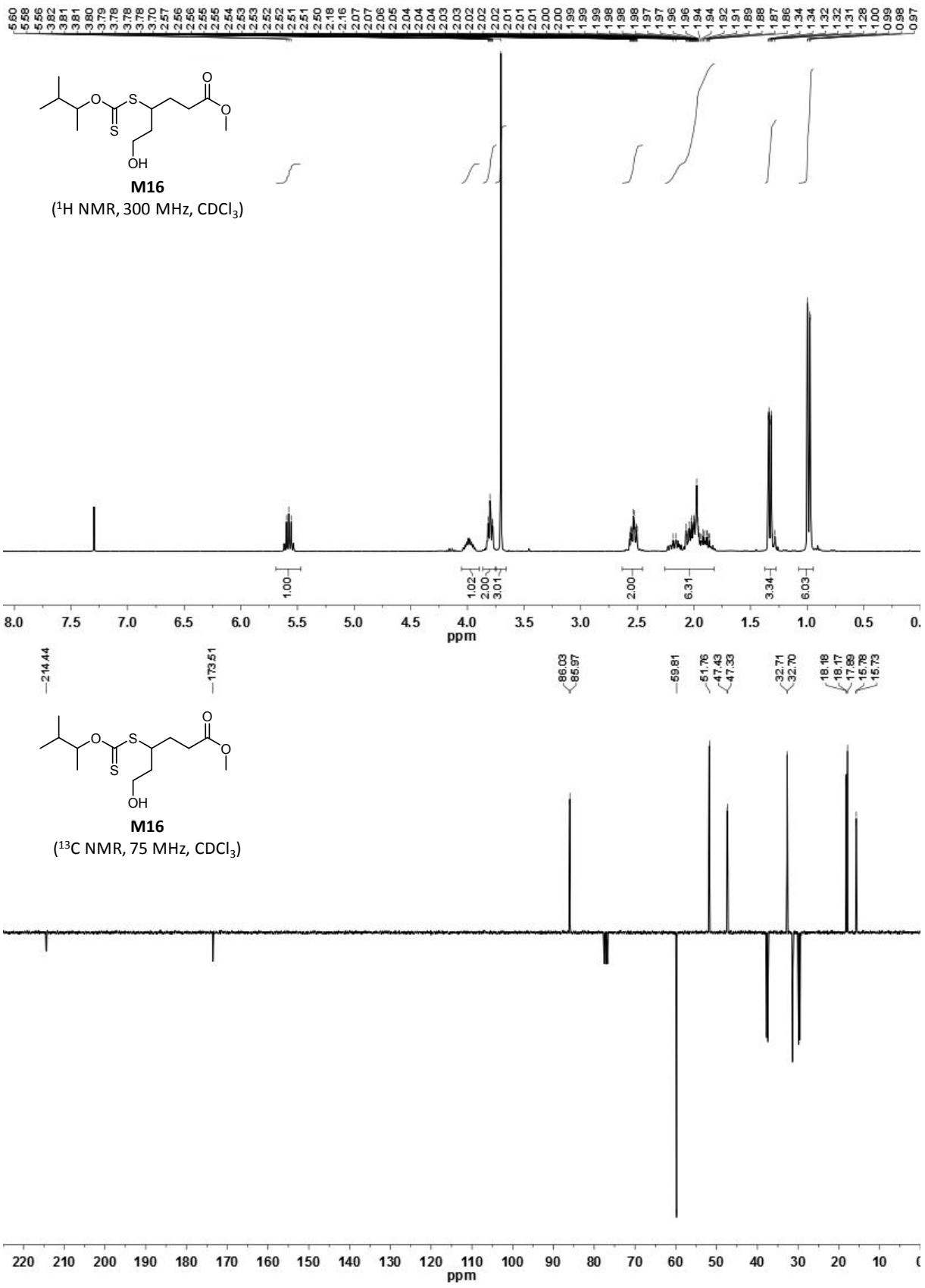


Figure S13. ¹H and ¹³C NMR spectra of compound M16.

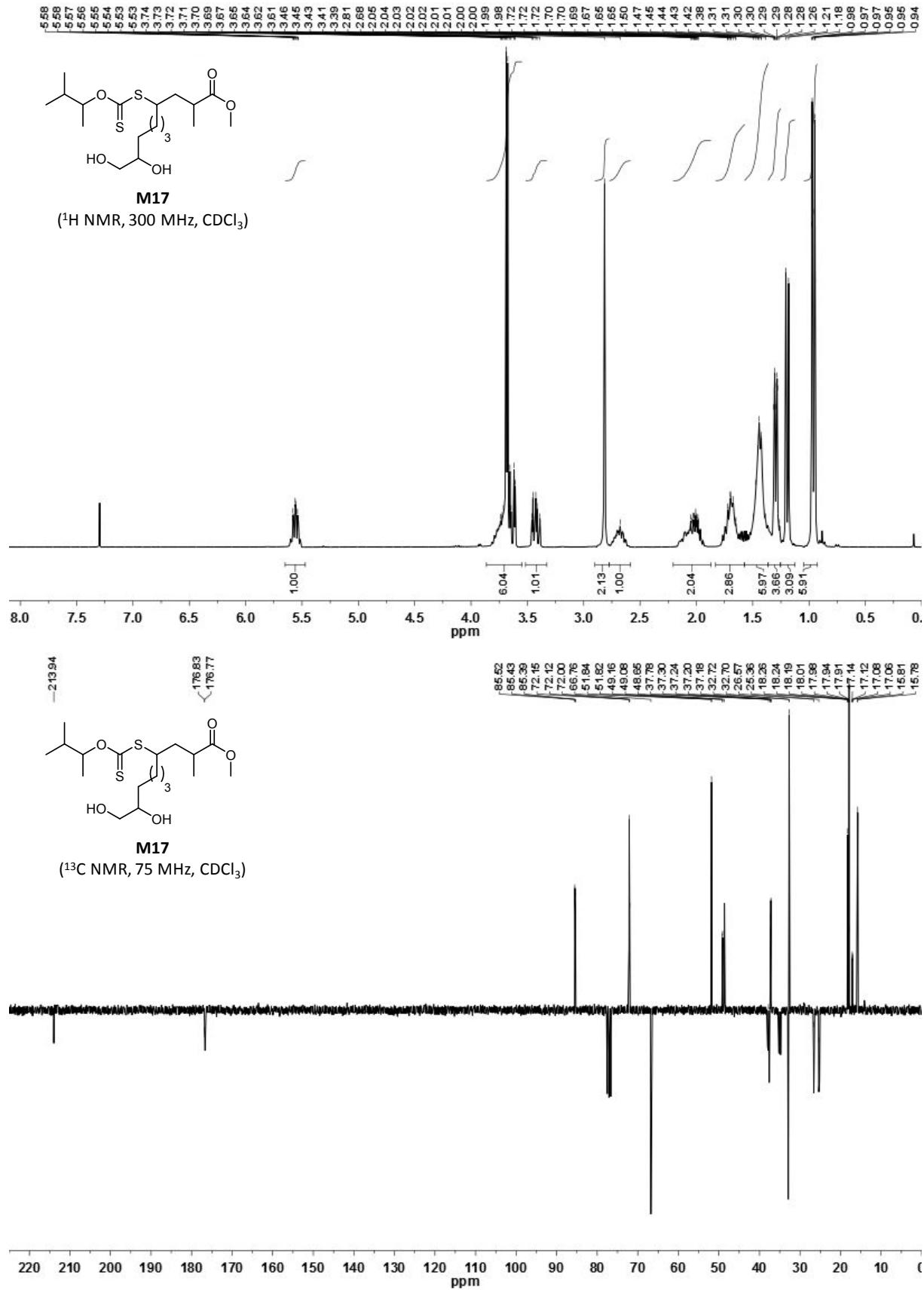


Figure S14. ^1H and ^{13}C NMR spectra of compound **M17**.

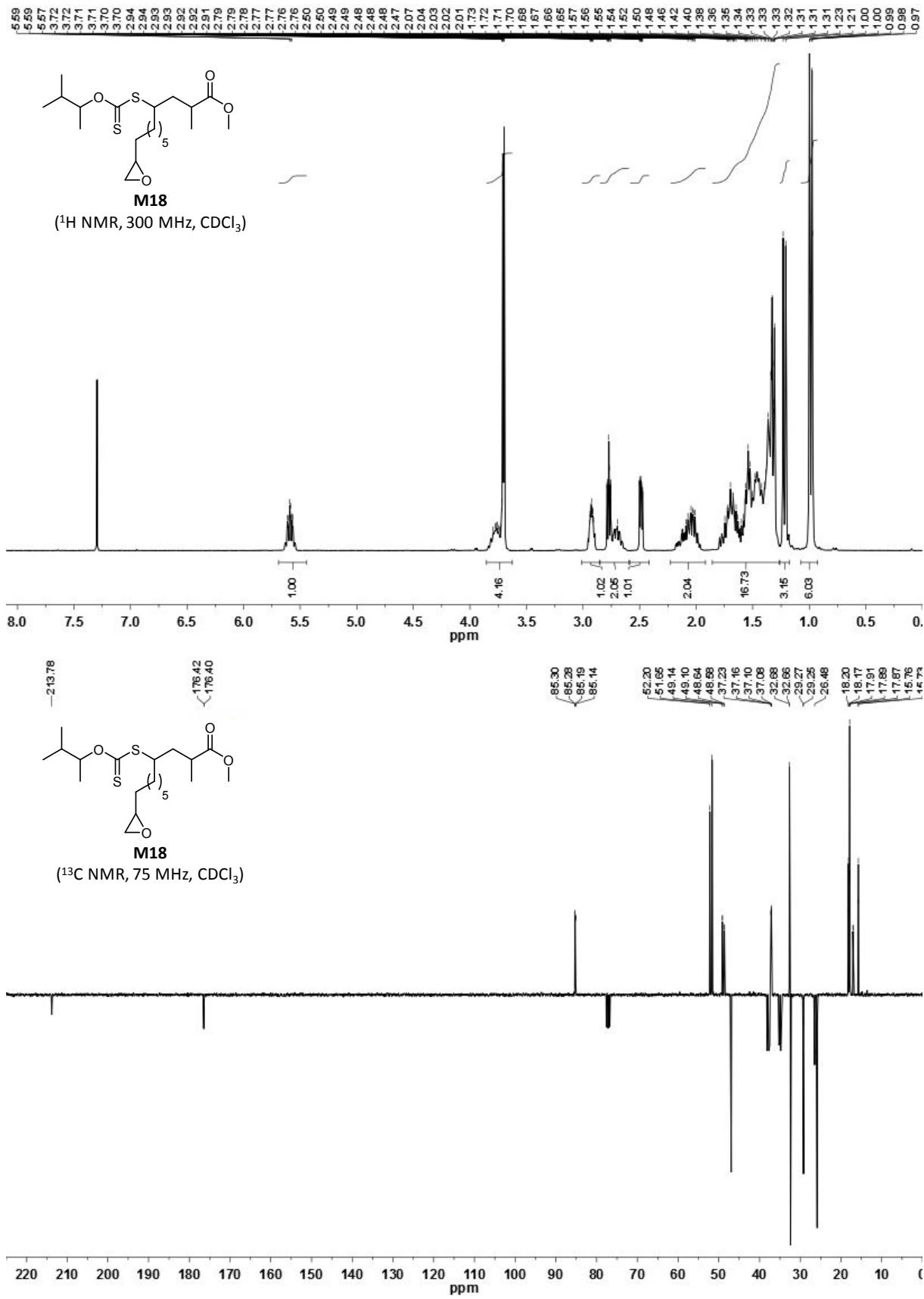
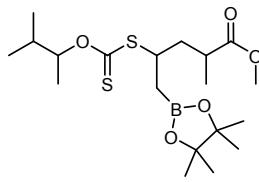
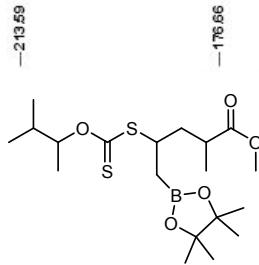
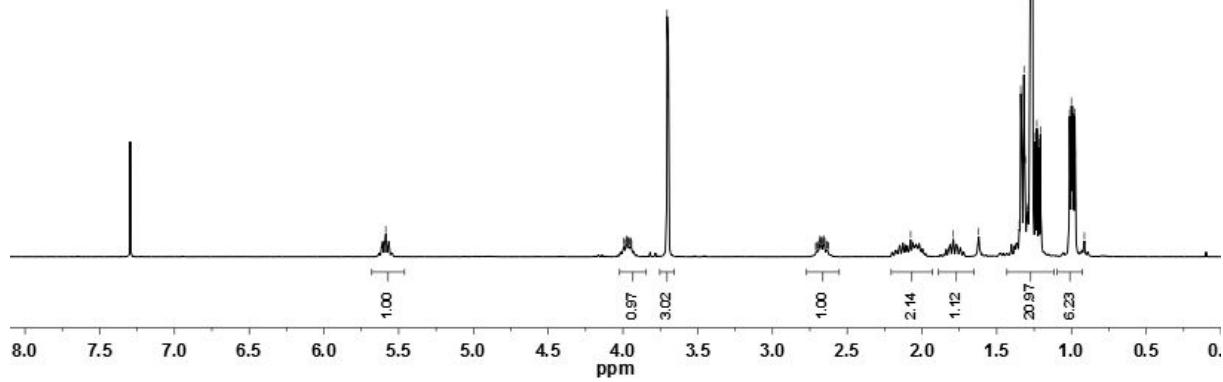


Figure S15. ^1H and ^{13}C NMR spectra of compound **M18**.



M19



M19
(^{13}C NMR, 75 MHz, CDCl_3)

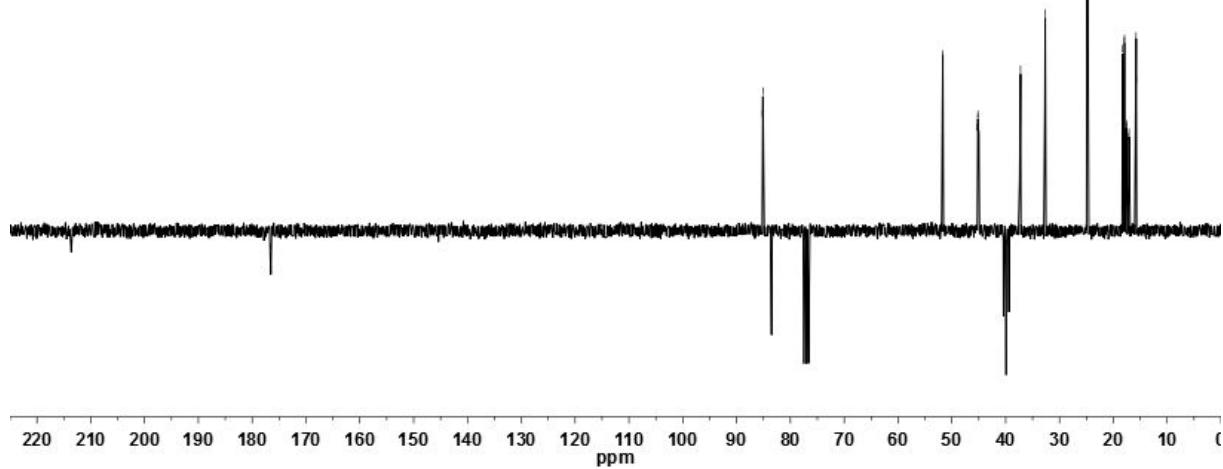


Figure S16. ^1H and ^{13}C NMR spectra of compound **M19**.

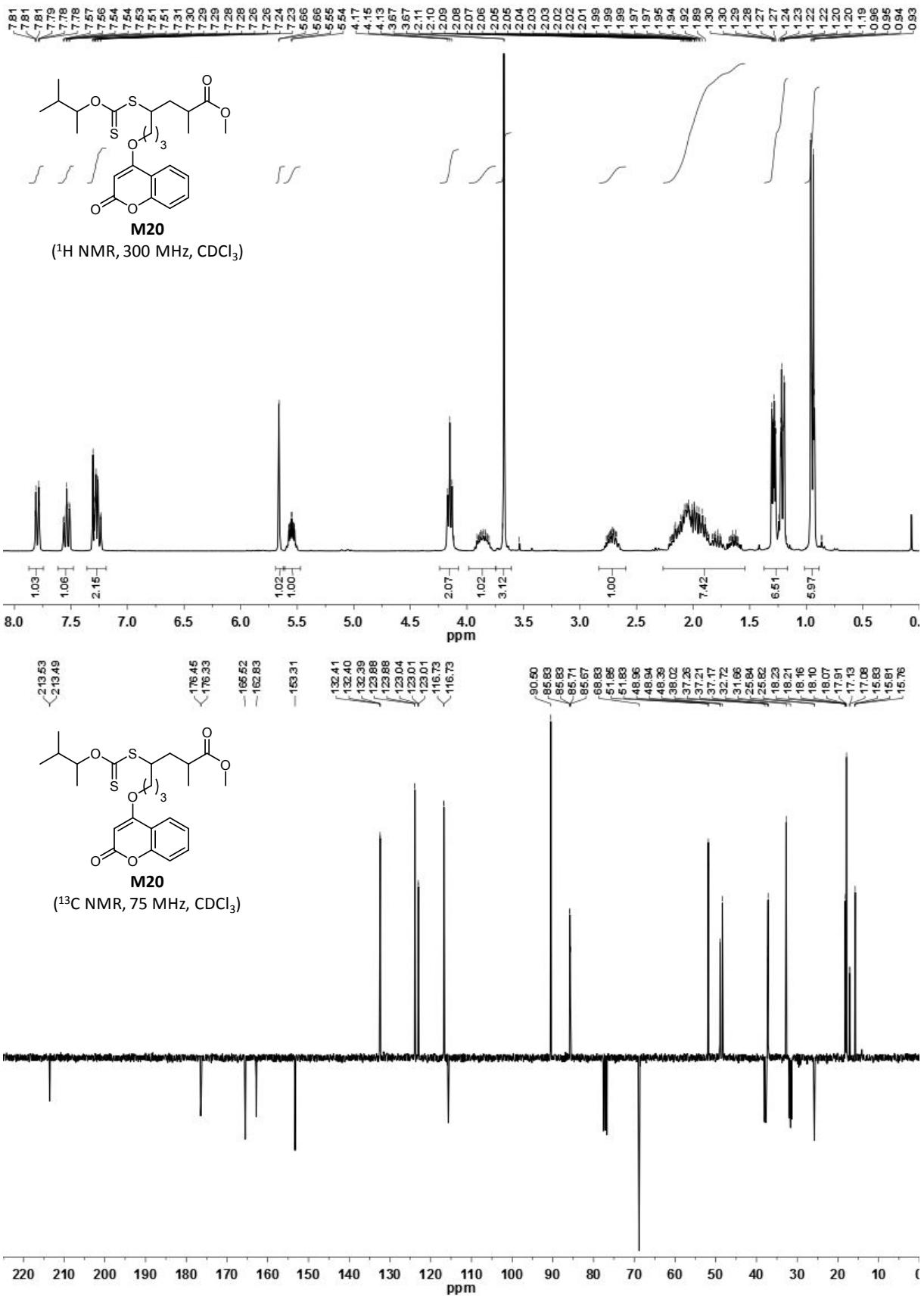


Figure S17. ¹H and ¹³C NMR spectra of compound M20.

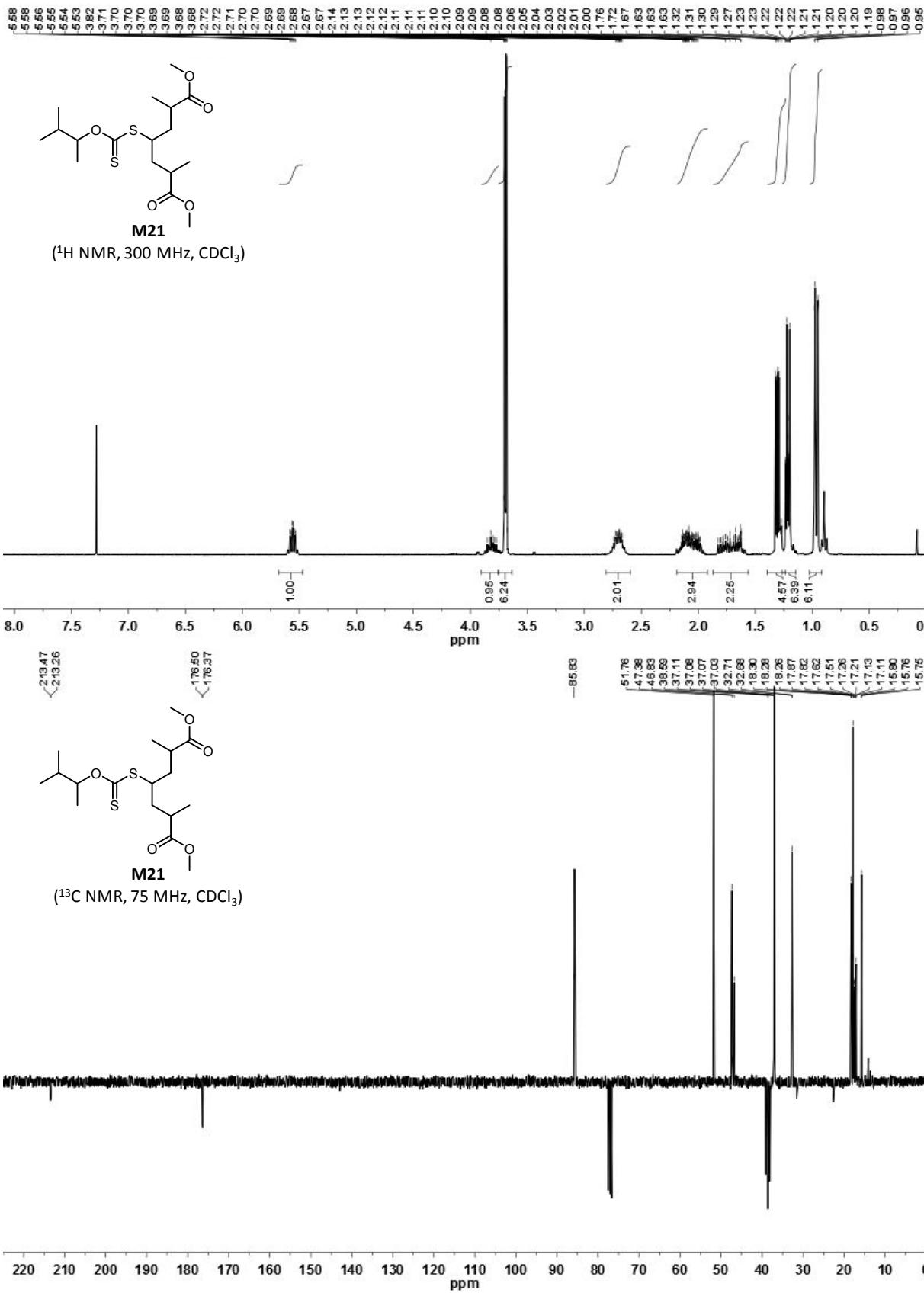


Figure S18. ¹H and ¹³C NMR spectra of compound **M21**.

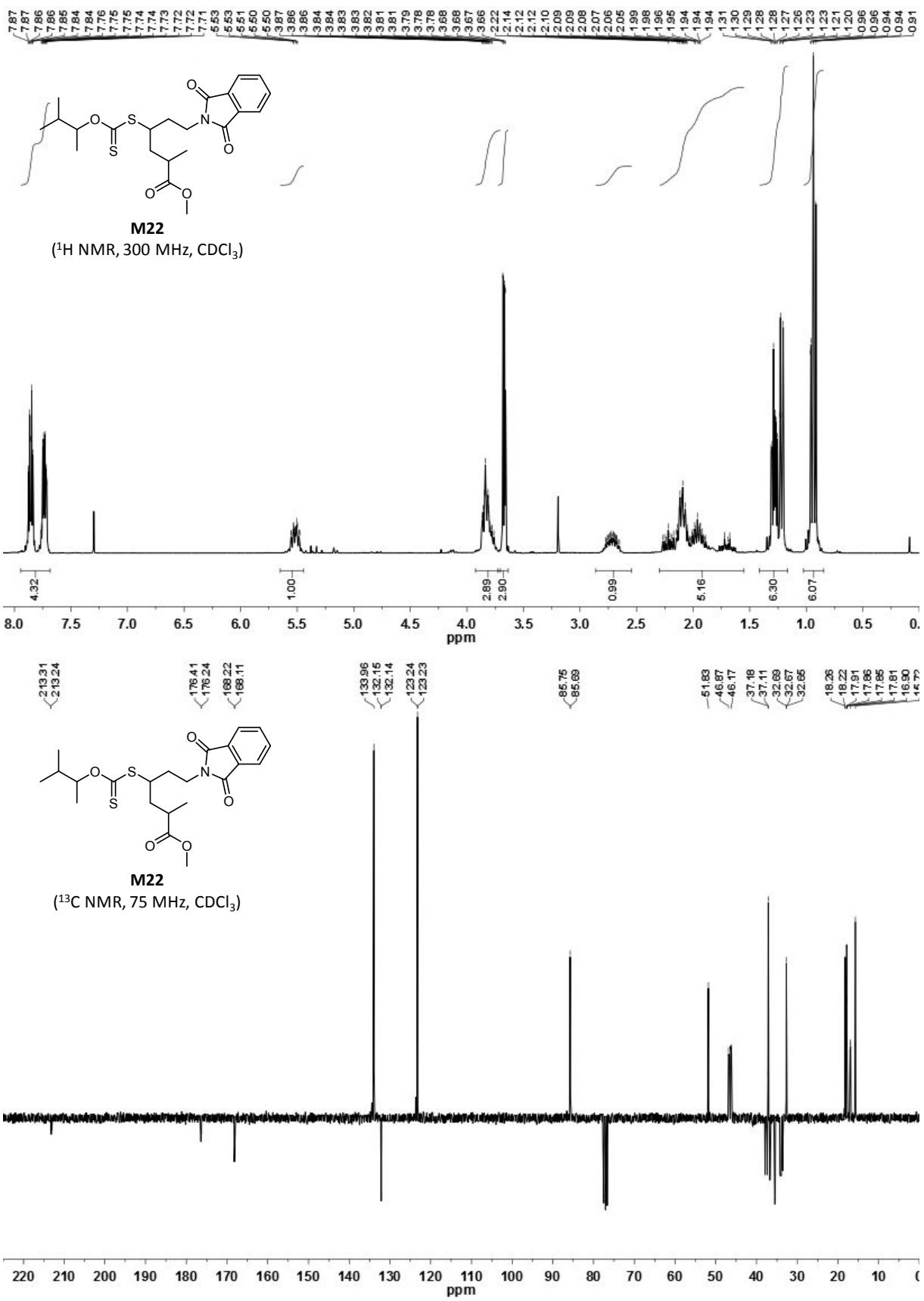


Figure S19. ^1H and ^{13}C NMR spectra of compound **M22**.

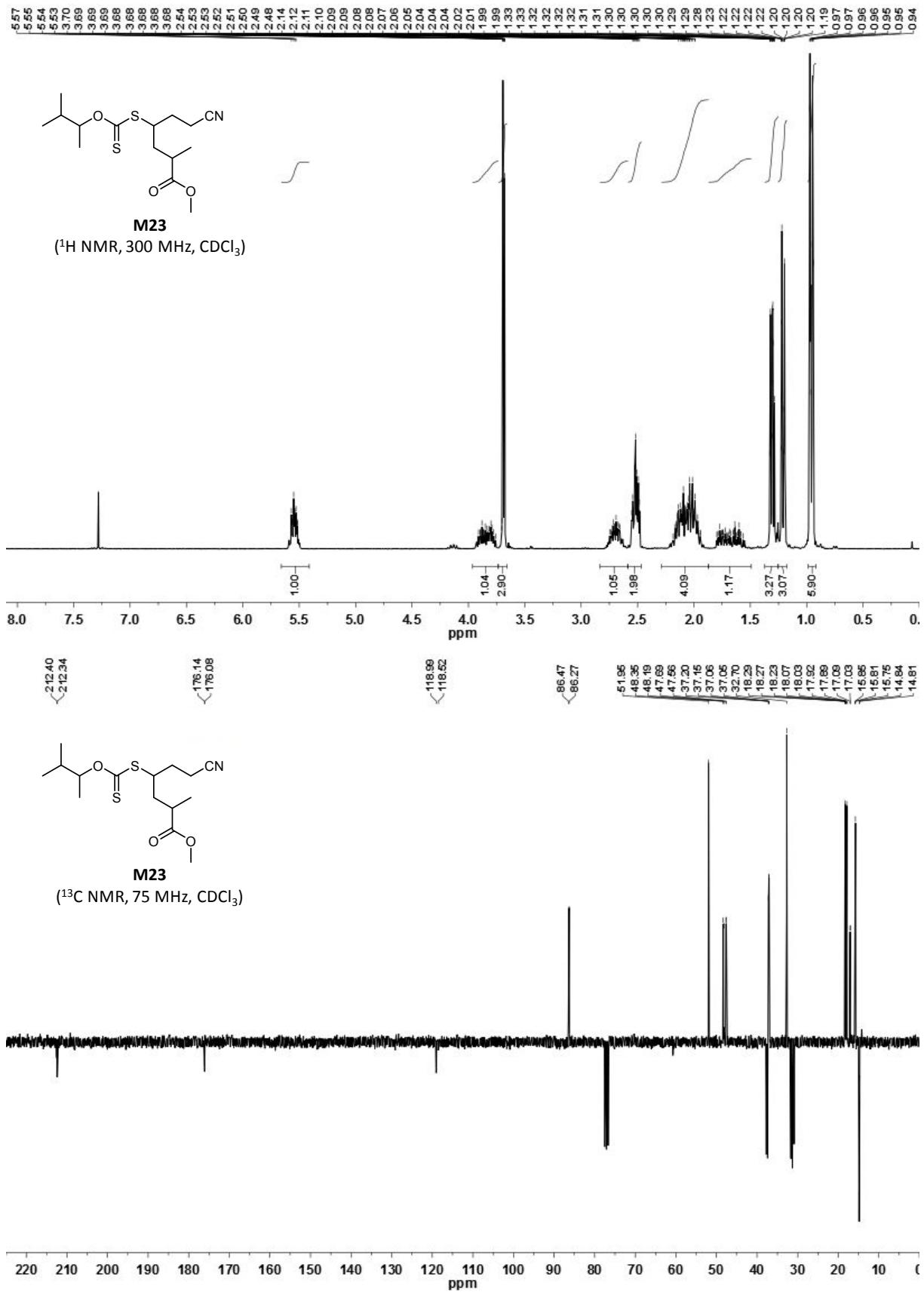
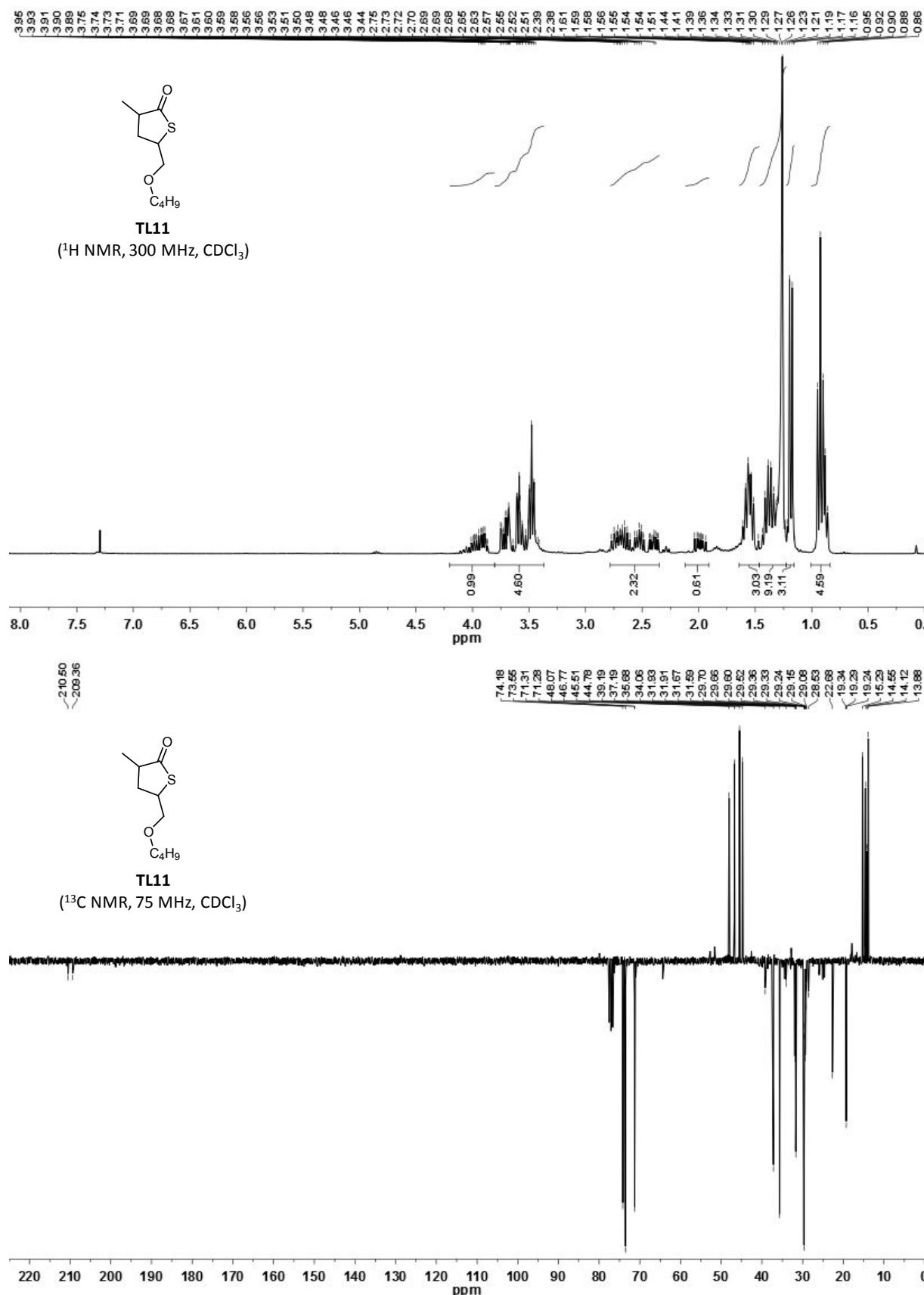


Figure S20. ^1H and ^{13}C NMR spectra of compound **M23**.

NMR spectra of thiolactones TL11 to TL27.



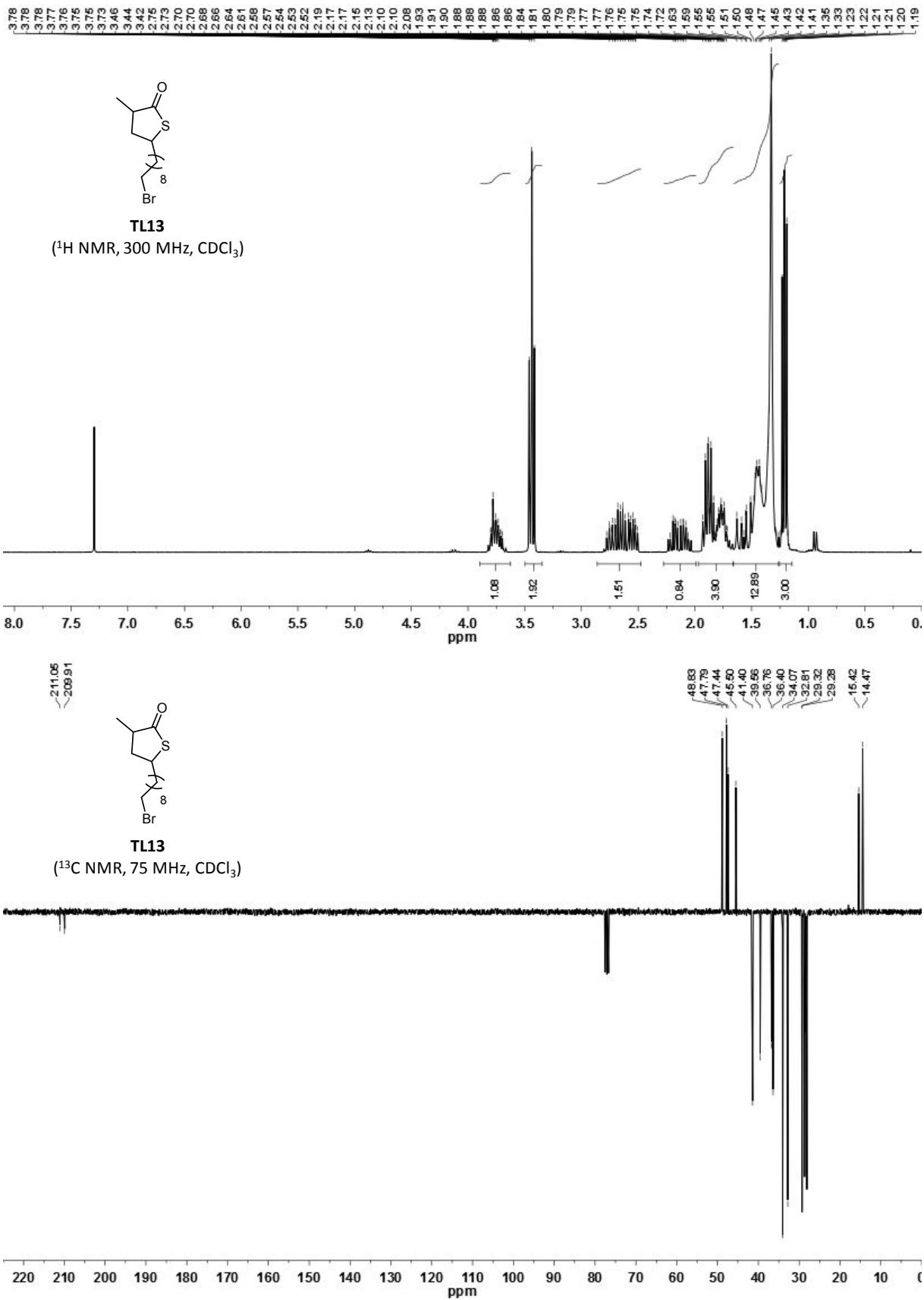


Figure S22. ^1H and ^{13}C NMR spectra of compound **TL13**.

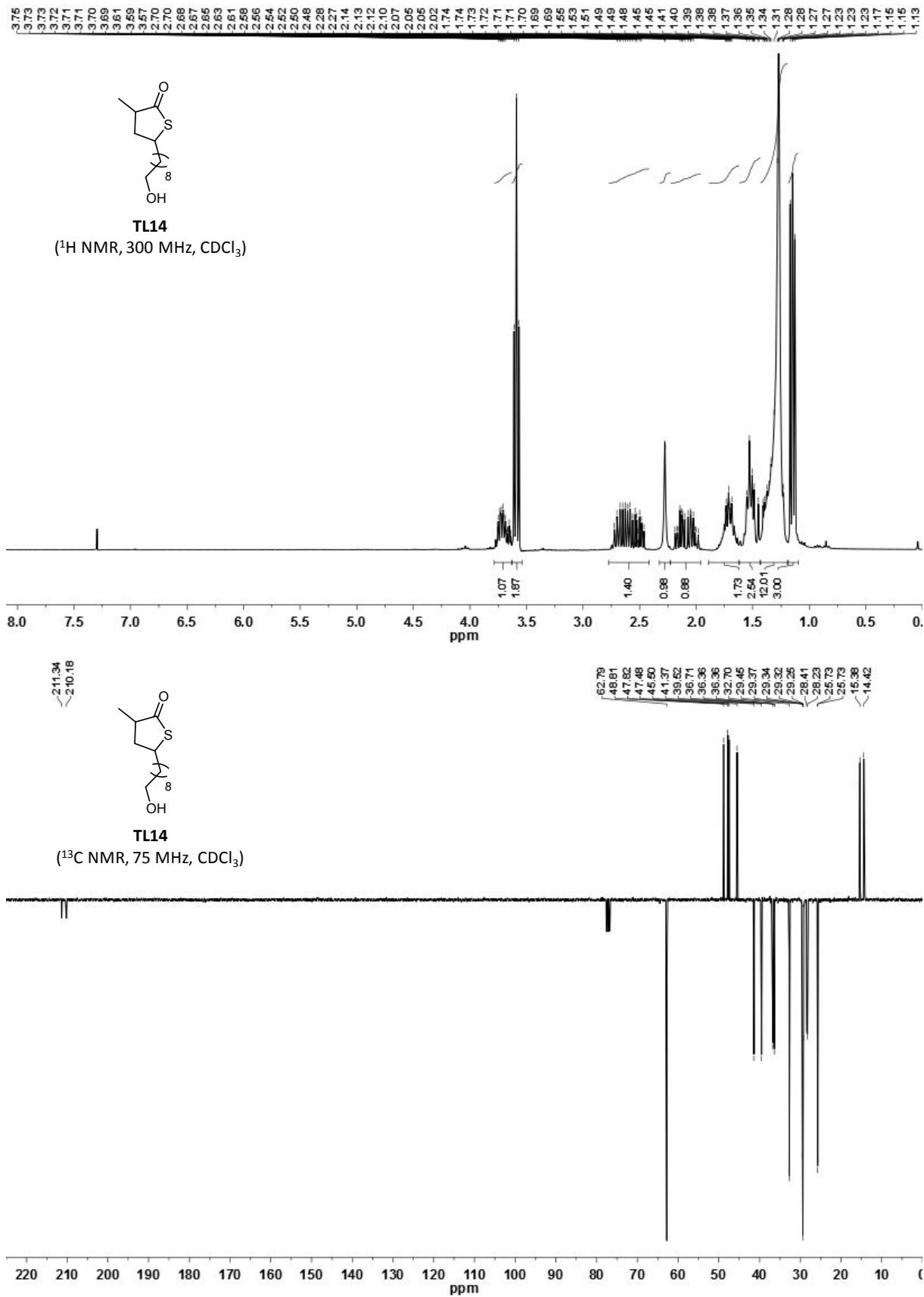


Figure S23. ^1H and ^{13}C NMR spectra of compound **TL14**.

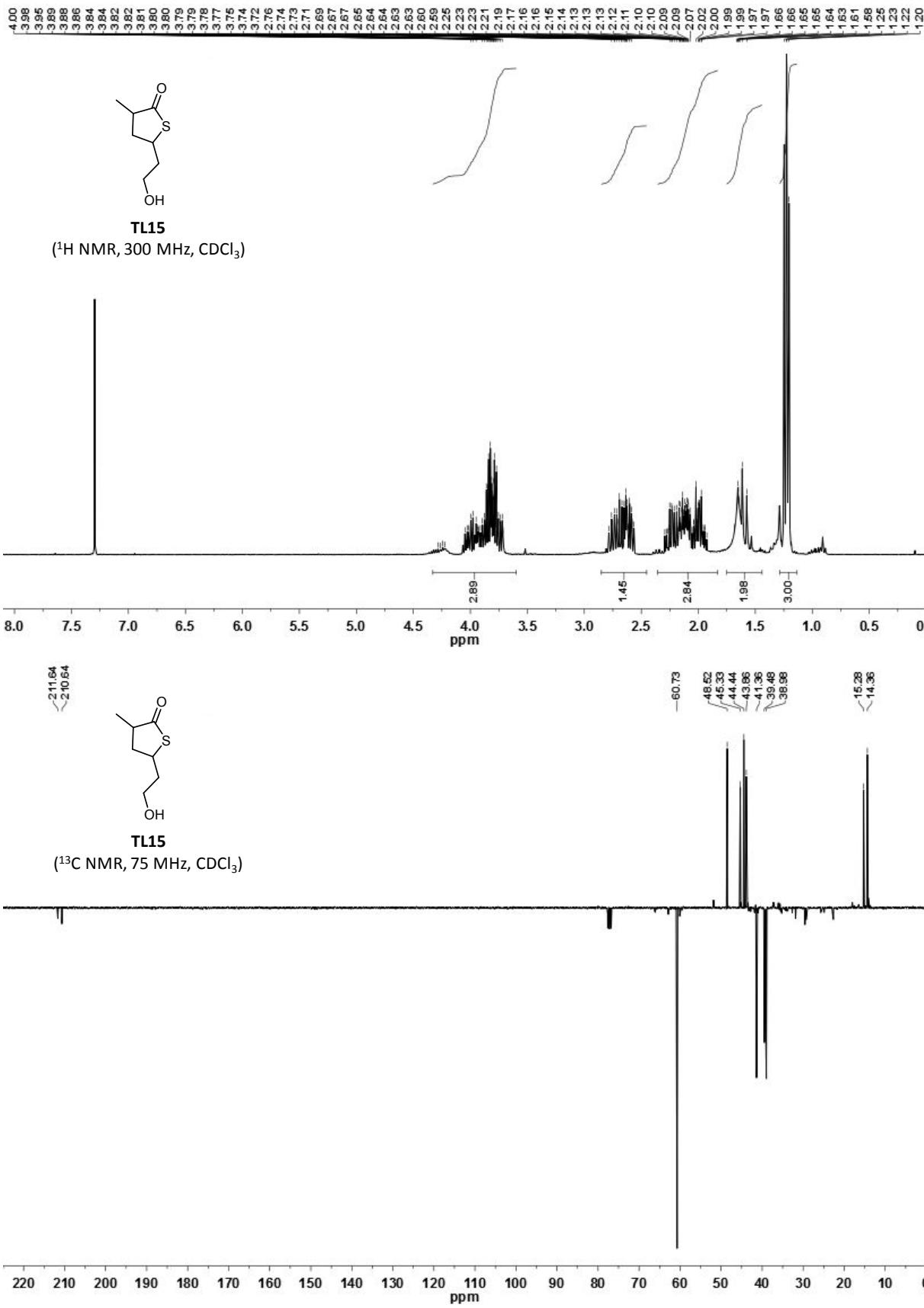


Figure S24. ^1H and ^{13}C NMR spectra of compound **TL15**.

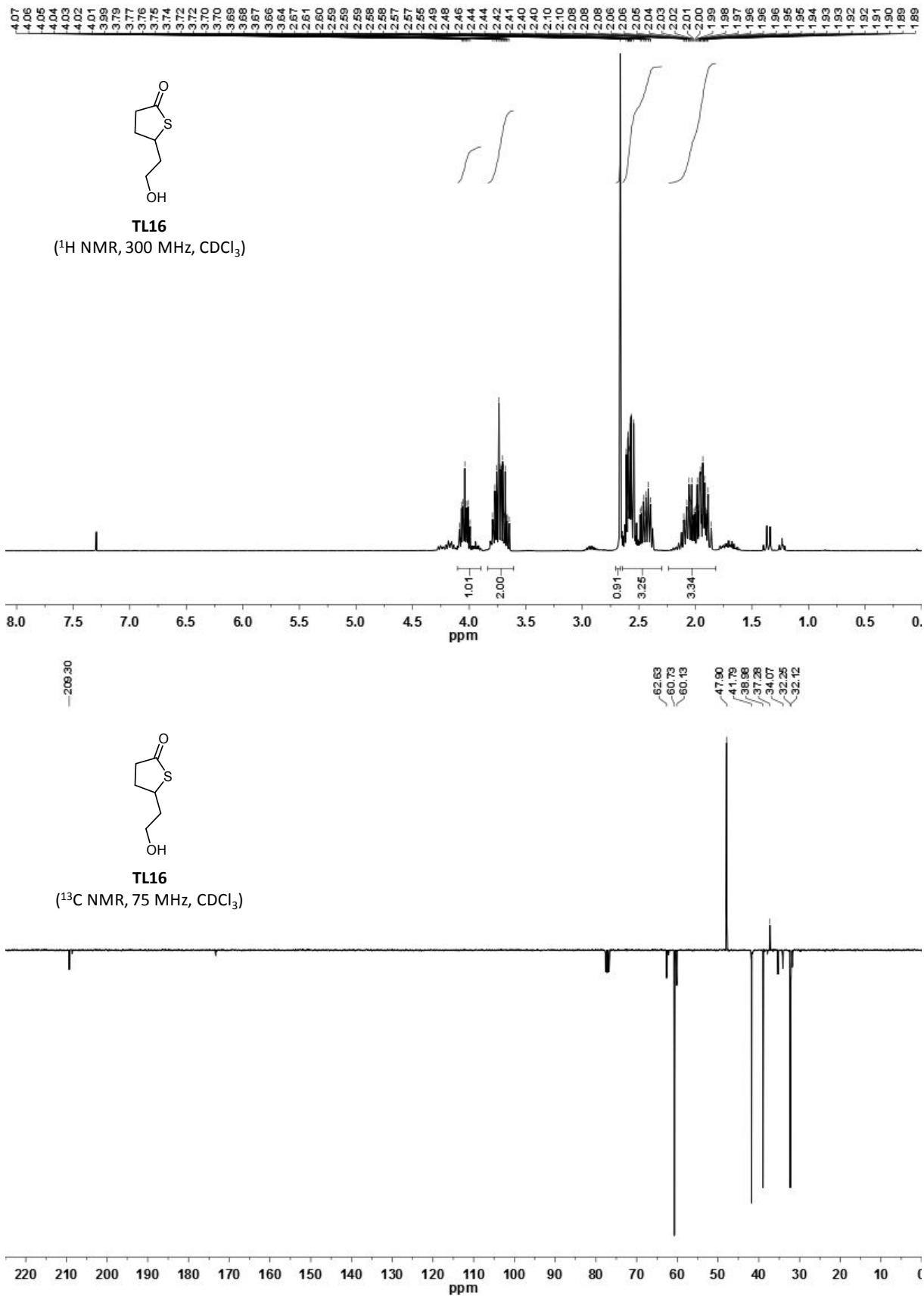


Figure S25. ^1H and ^{13}C NMR spectra of compound **TL16**.

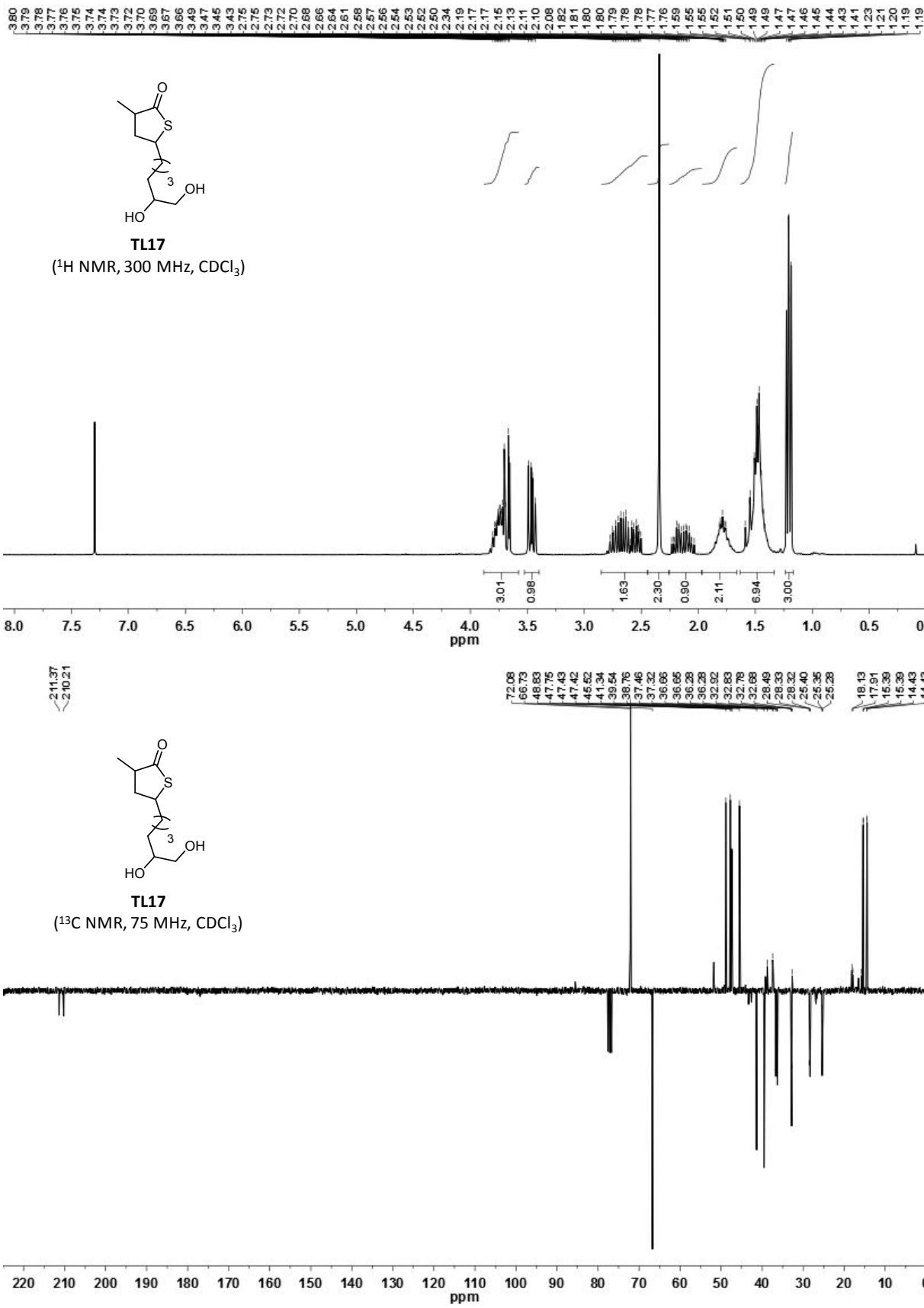


Figure S26. ^1H and $^{\text{13}}\text{C}$ NMR spectra of compound **TL17**.

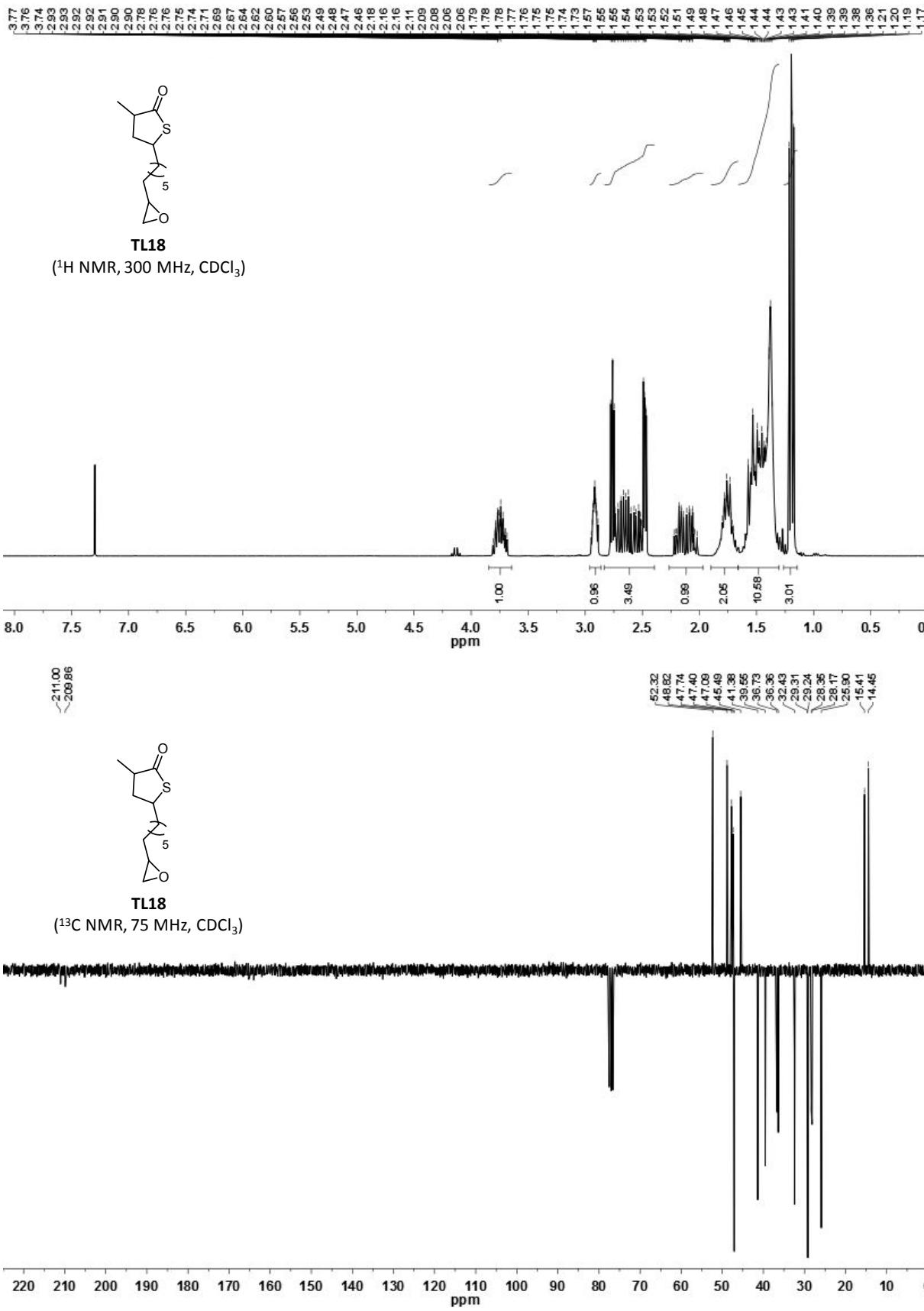


Figure S27. ^1H and ^{13}C NMR spectra of compound **TL18**.

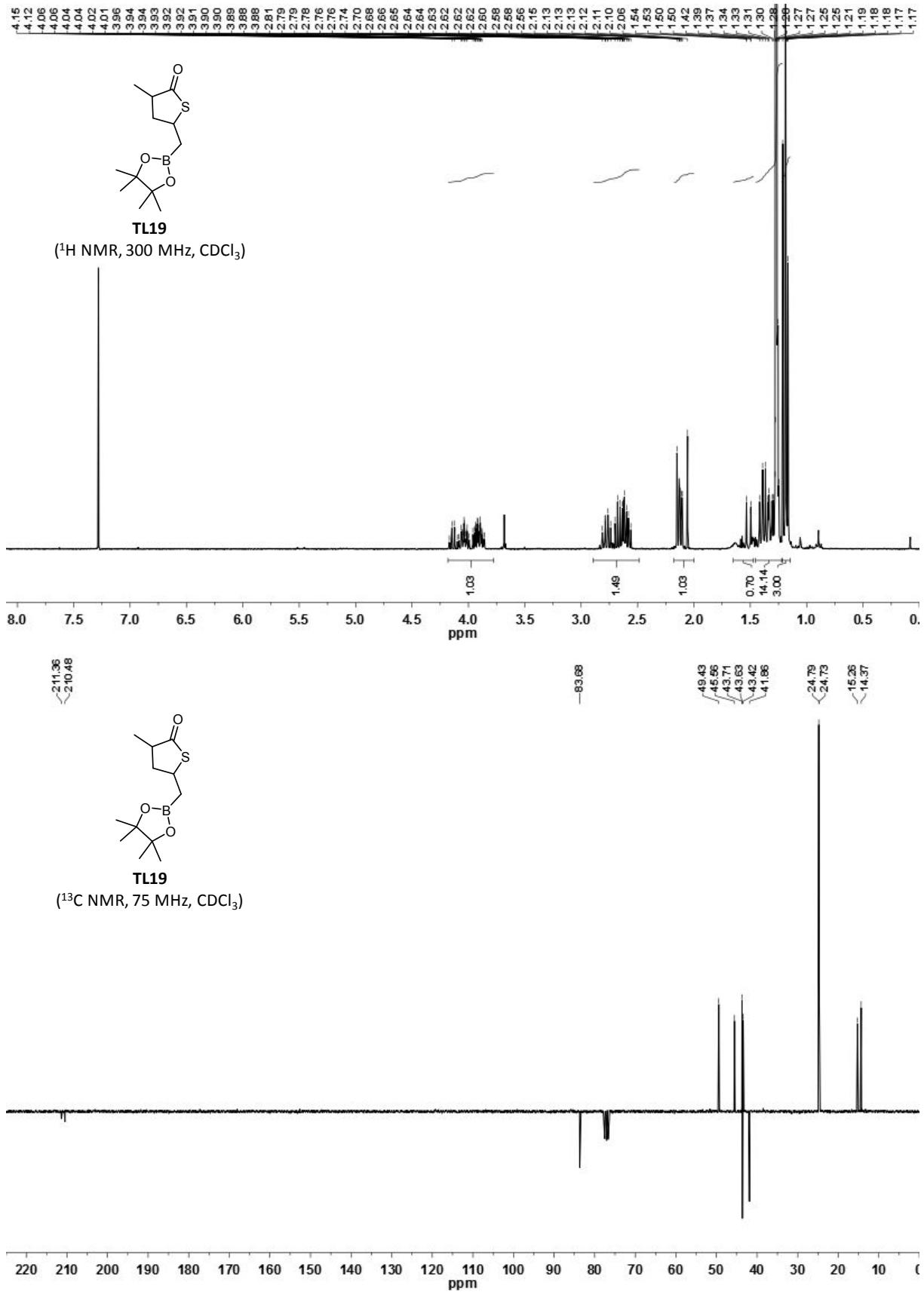


Figure S28. ^1H and ^{13}C NMR spectra of compound **TL19**.

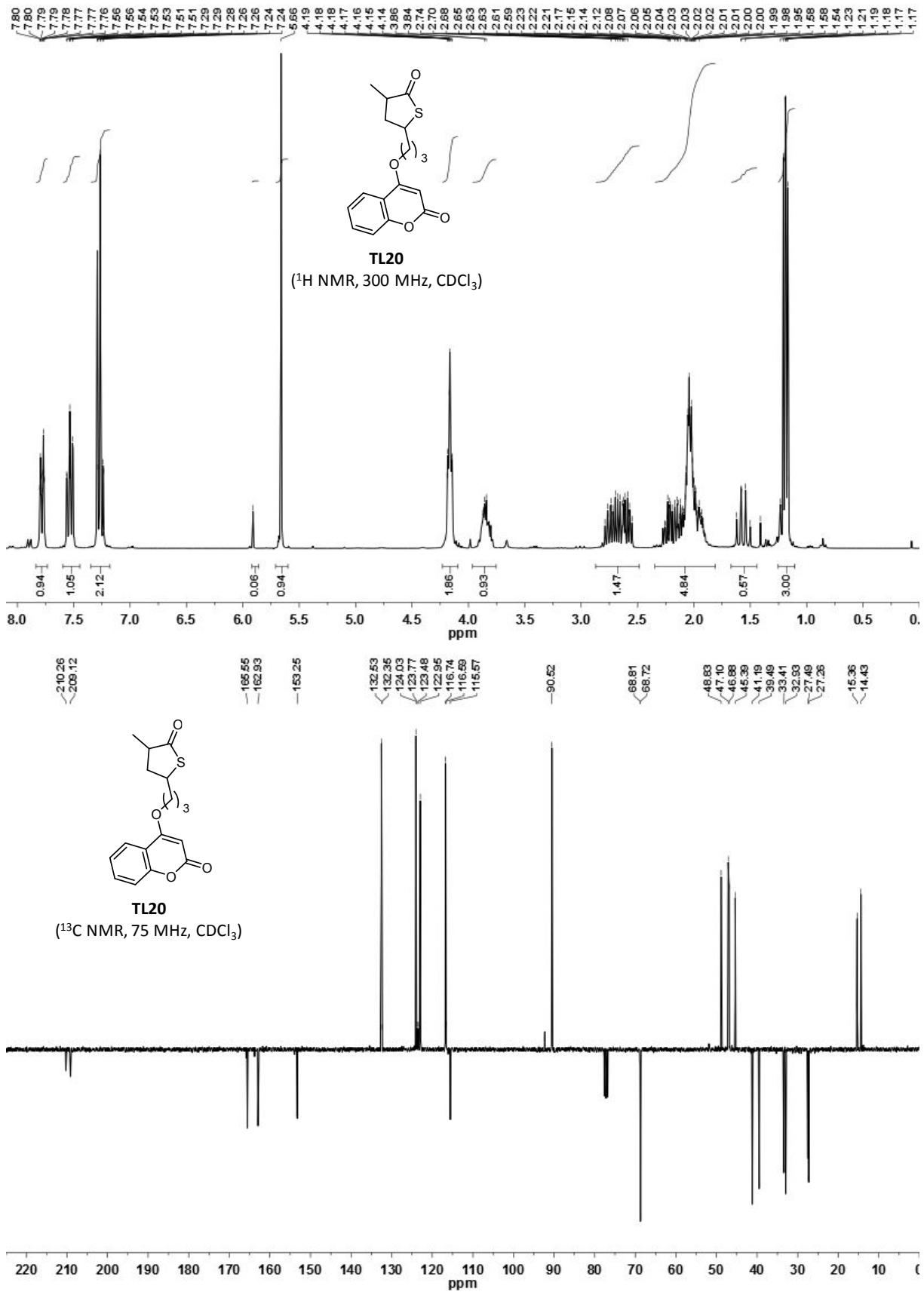


Figure S29. ^1H and ^{13}C NMR spectra of compound **TL20**.

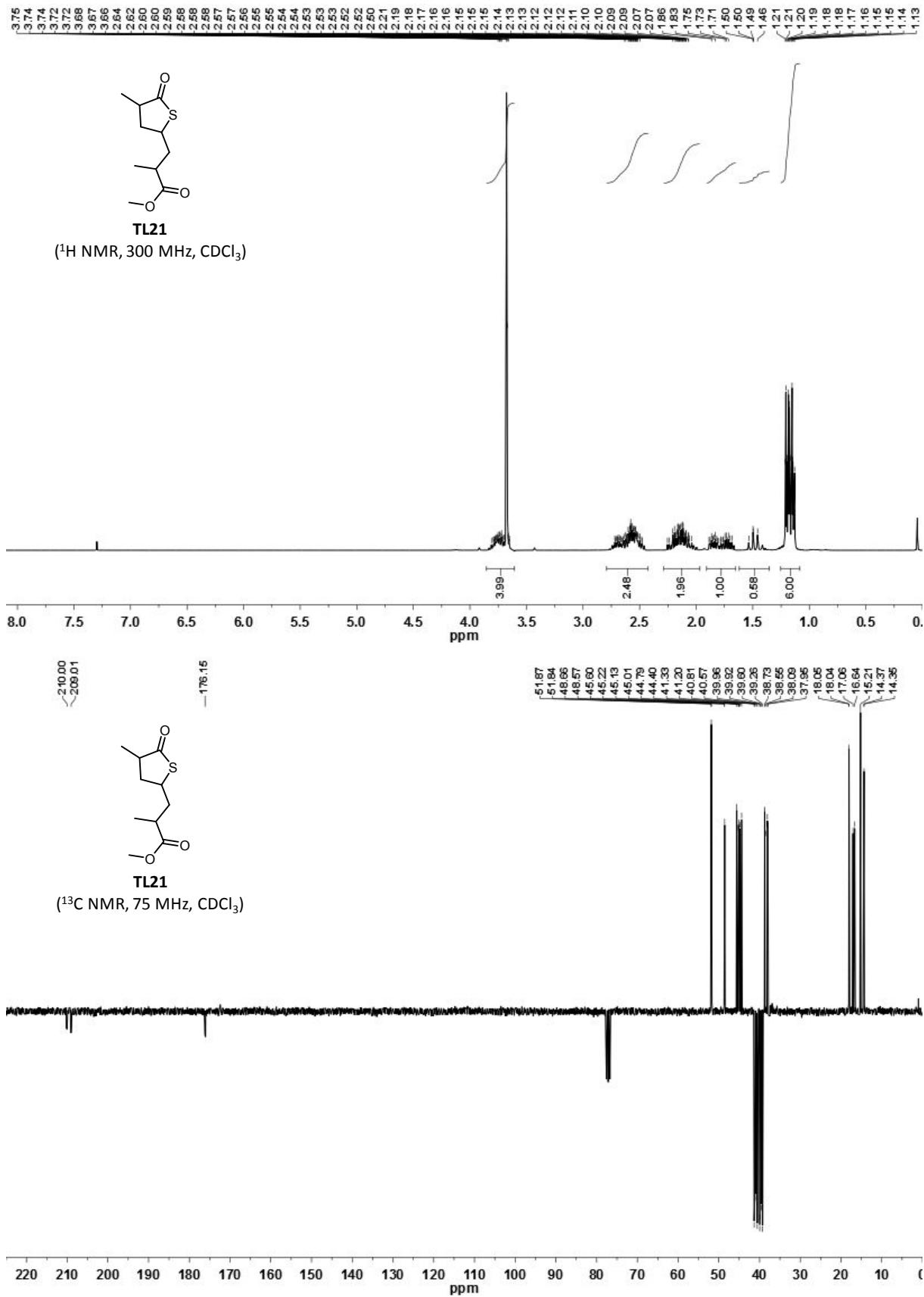


Figure S30. ^1H and ^{13}C NMR spectra of compound **TL21**.

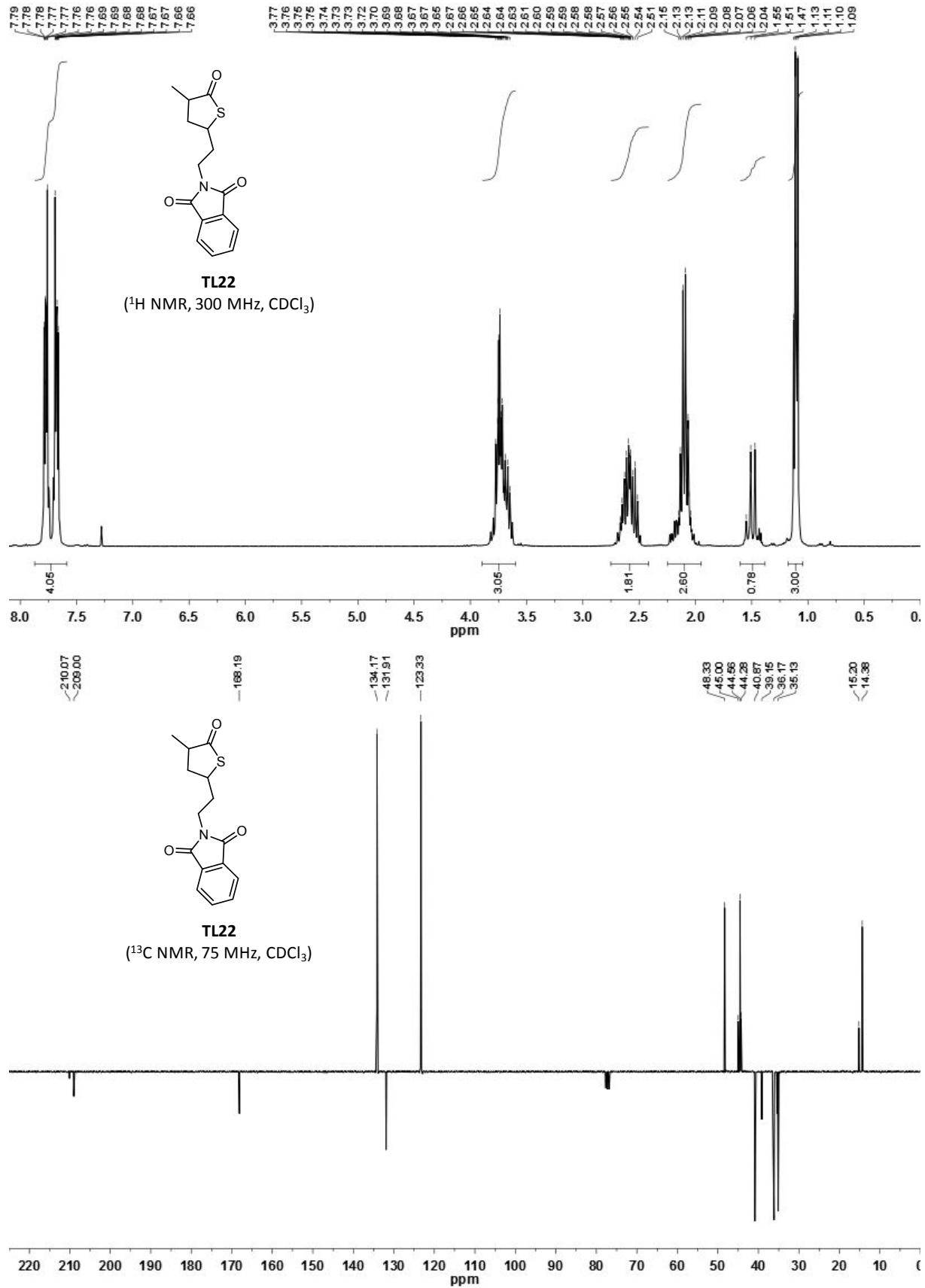


Figure S31. ^1H and ^{13}C NMR spectra of compound **TL22**.

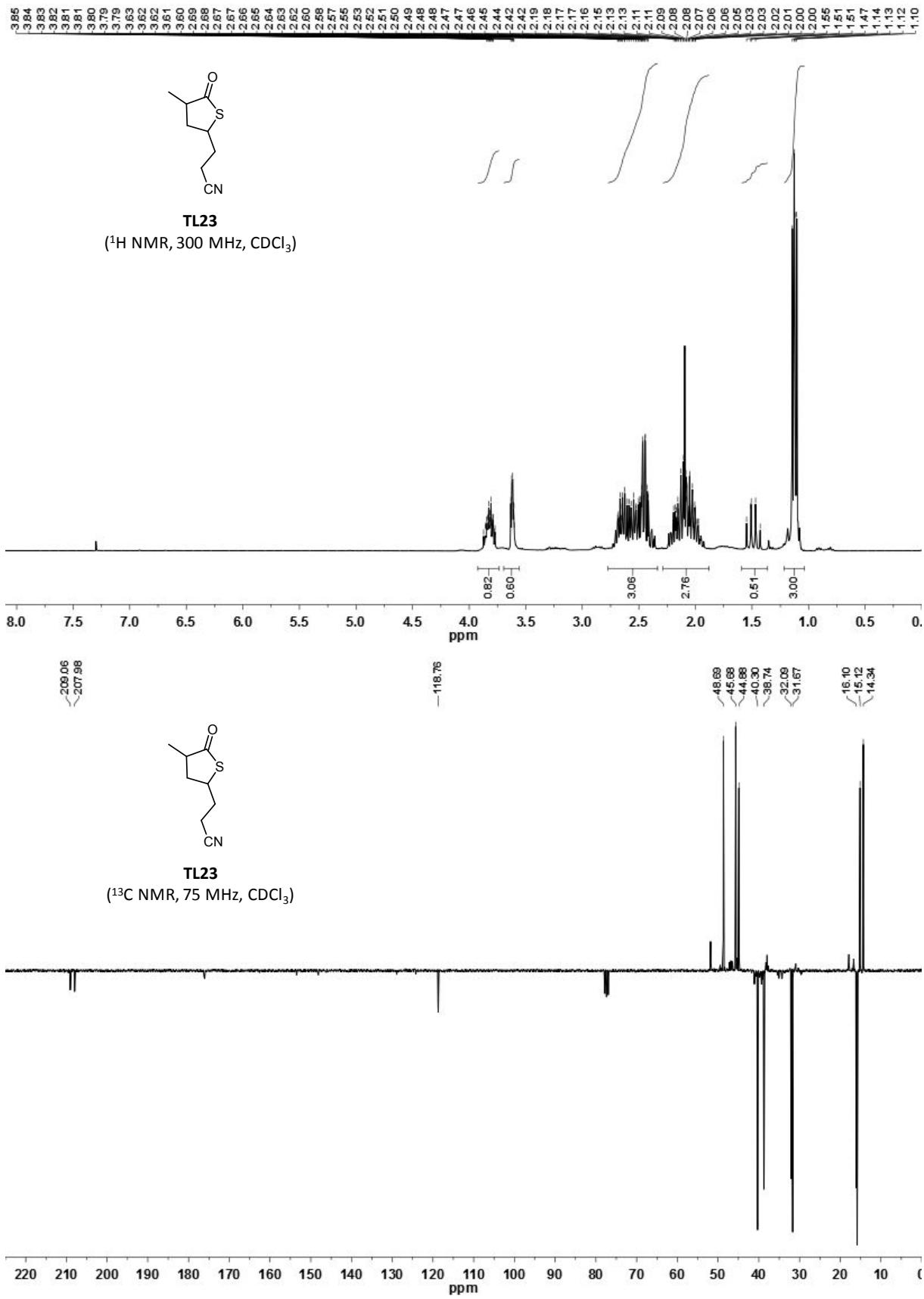


Figure S32. ^1H and ^{13}C NMR spectra of compound **TL23**.

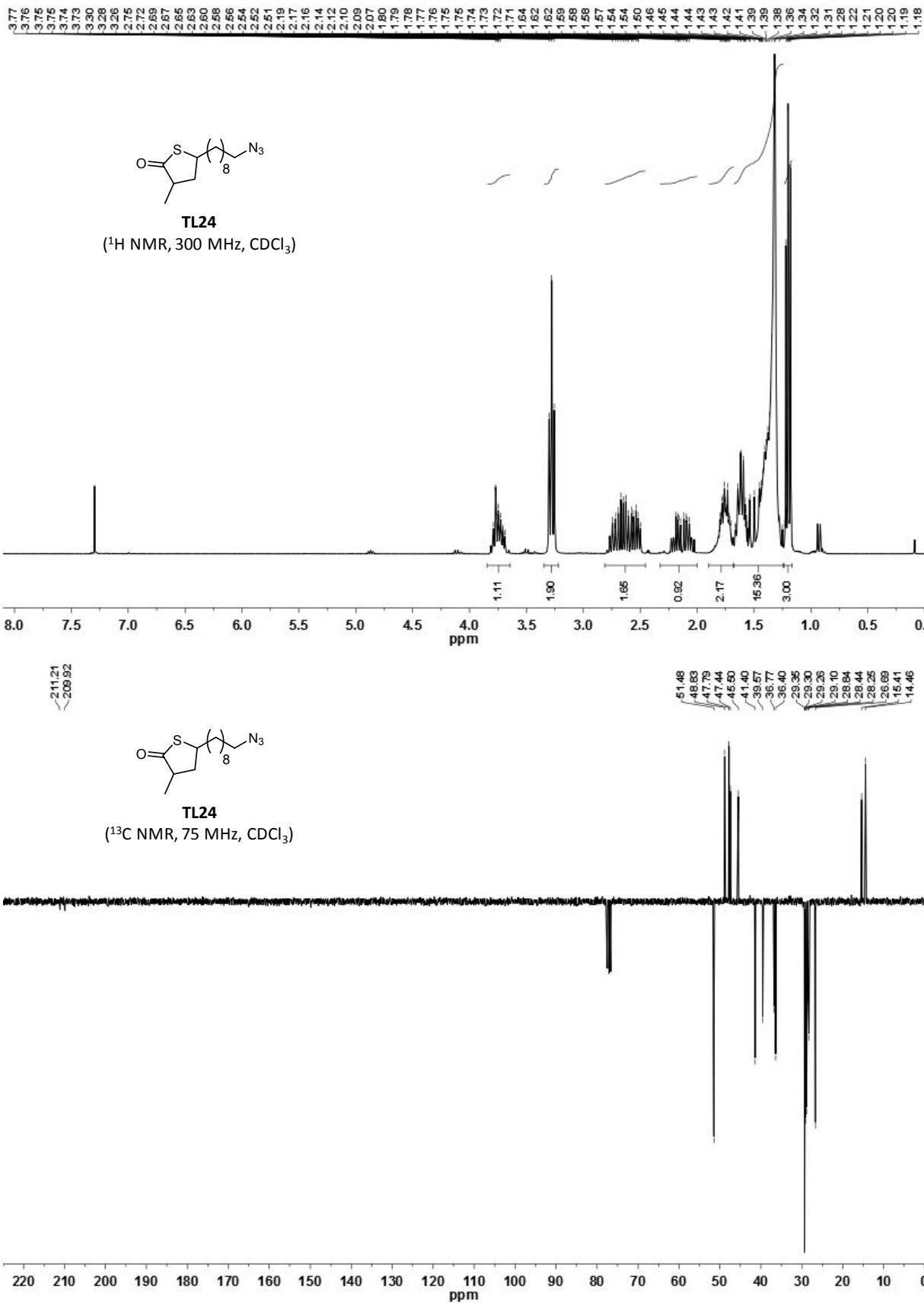


Figure S33. ^1H and ^{13}C NMR spectra of compound **TL24**.

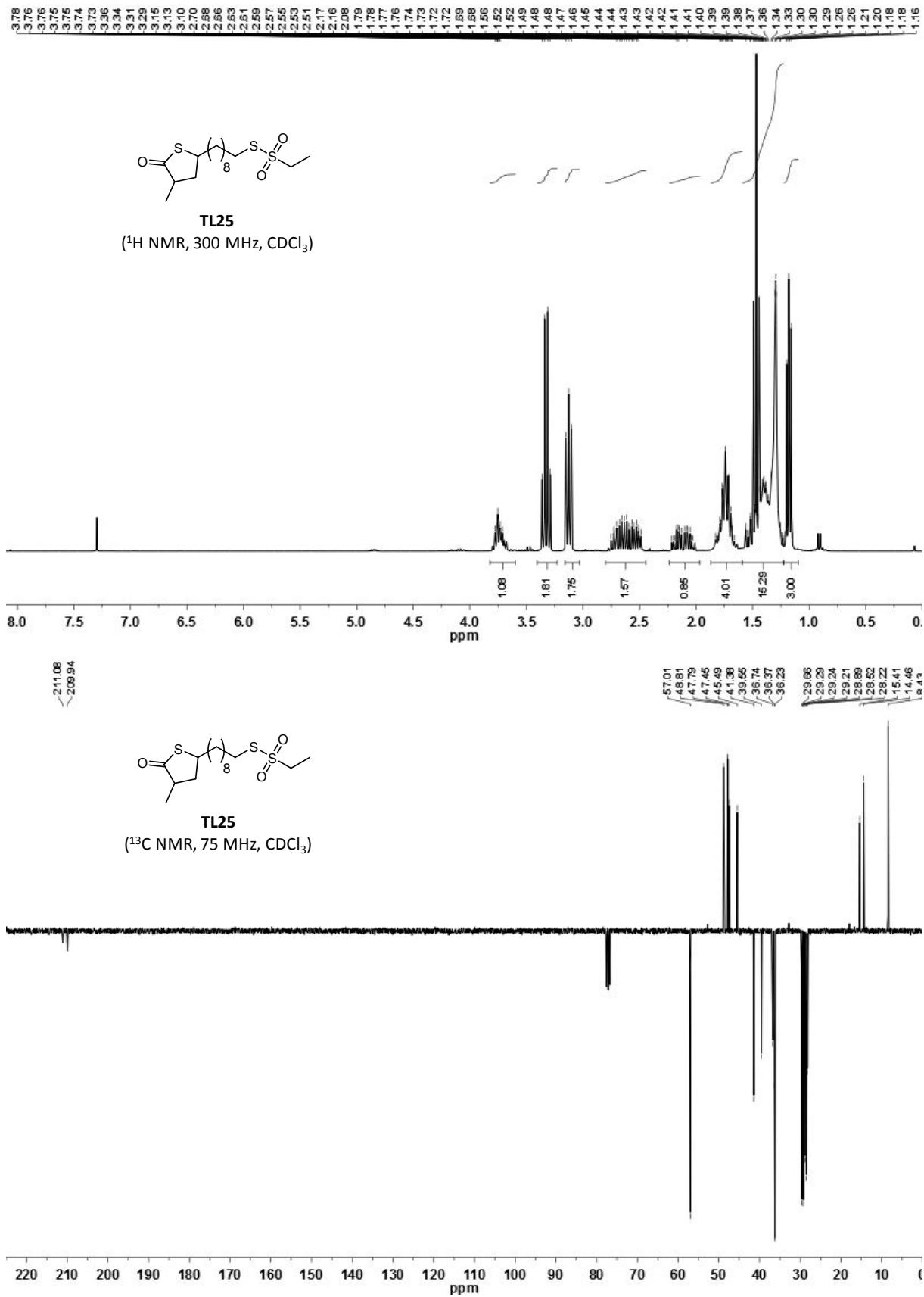


Figure S34. ^1H and ^{13}C NMR spectra of compound **TL25**.

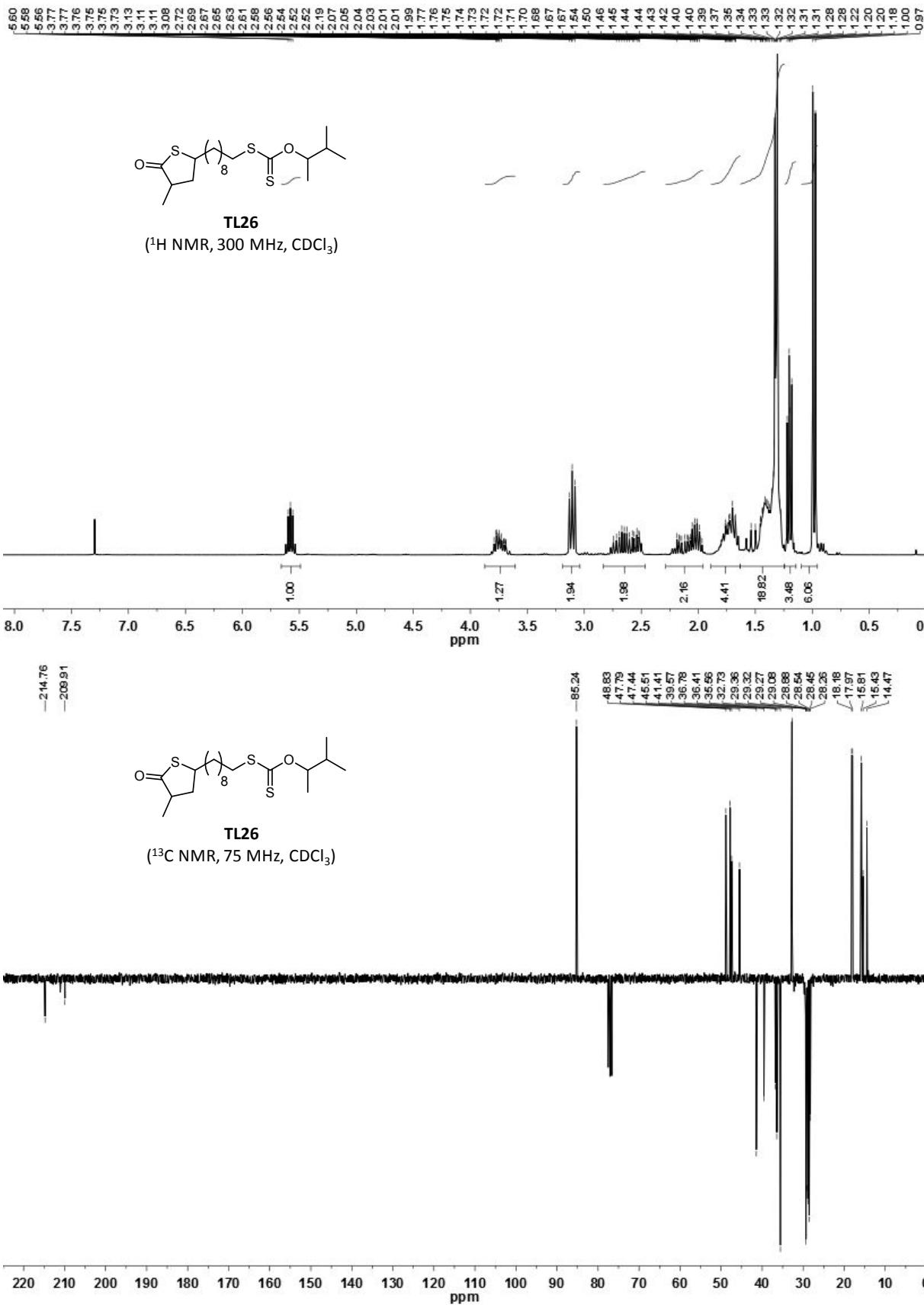
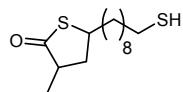
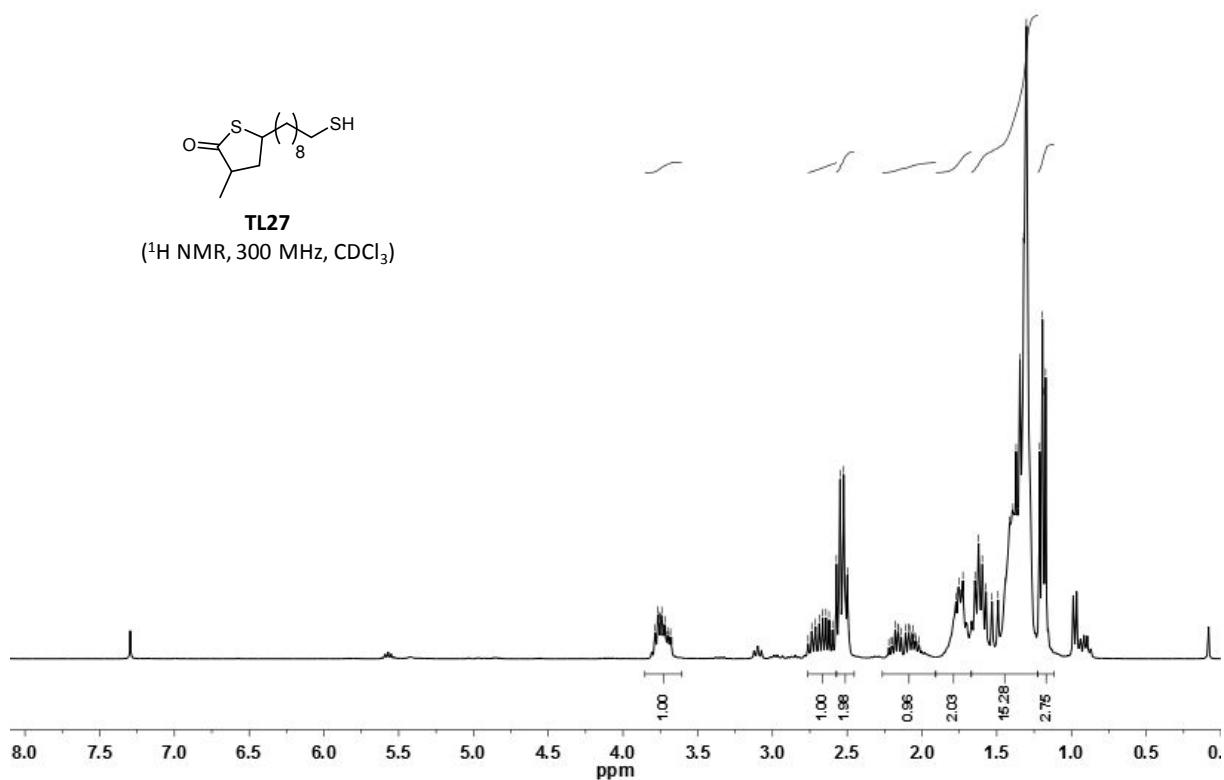


Figure S35. ^1H and ^{13}C NMR spectra of compound **TL26**.

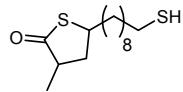
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1.17



(¹H NMR, 300 MHz, CDCl₃)



211.04
209.90



(¹³C NMR, 75 MHz, CDCl₃)

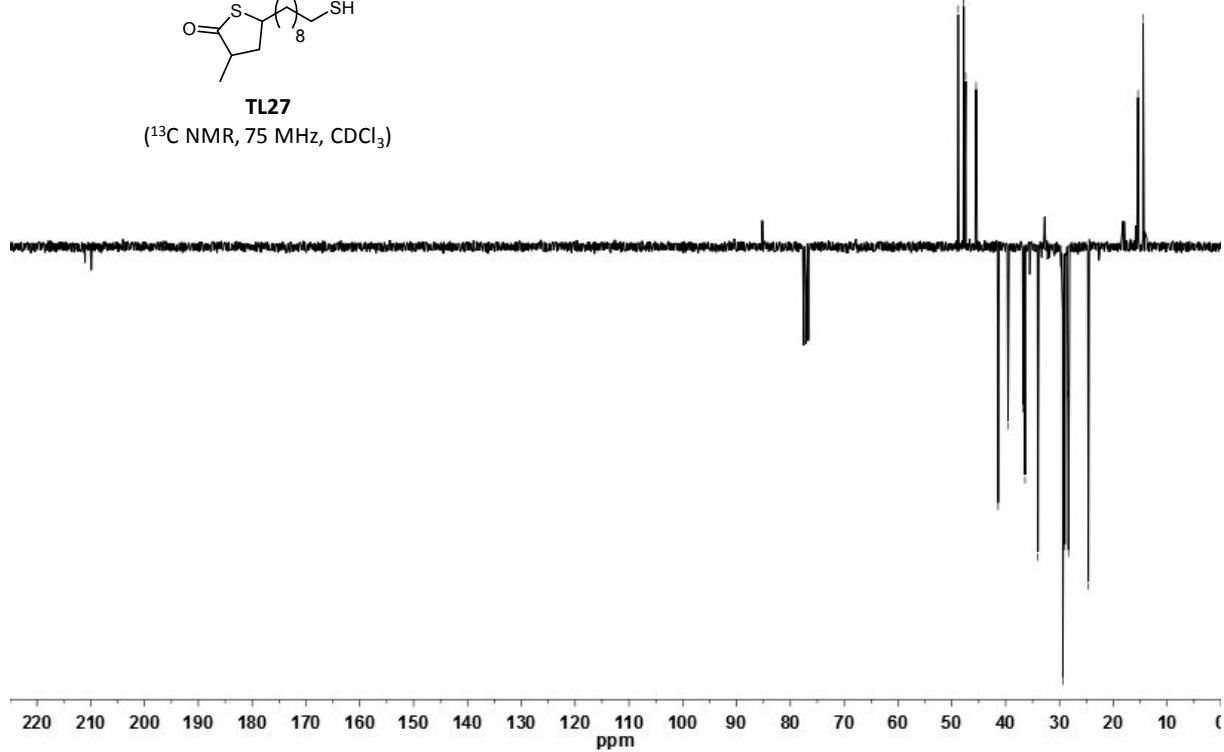


Figure S36. ¹H and ¹³C NMR spectra of compound **TL27**.

NMR spectra of Methyl 2-methyl-3-(tetrahydrothiophen-2-yl)propanoate (THT1).

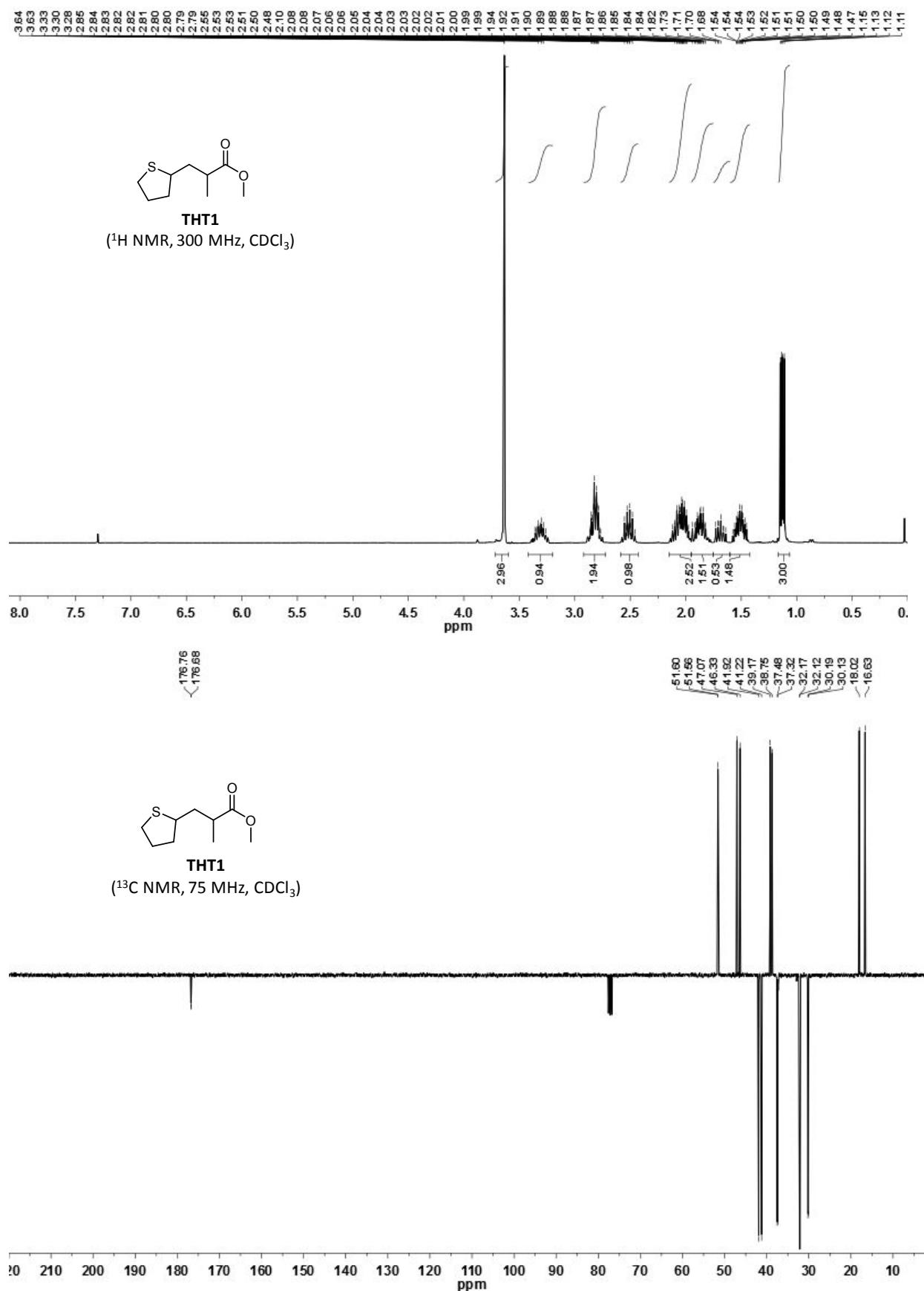


Figure S37. ^1H and ^{13}C NMR spectra of compound **THT1**.