

Supporting Information for Synthesis and catalysis of Z-stereoretentive ruthenium carbene catalyst chelated by 2,4,5,7-tetrachloro-1,8-dimercaptonaphthalene for olefin metathesis

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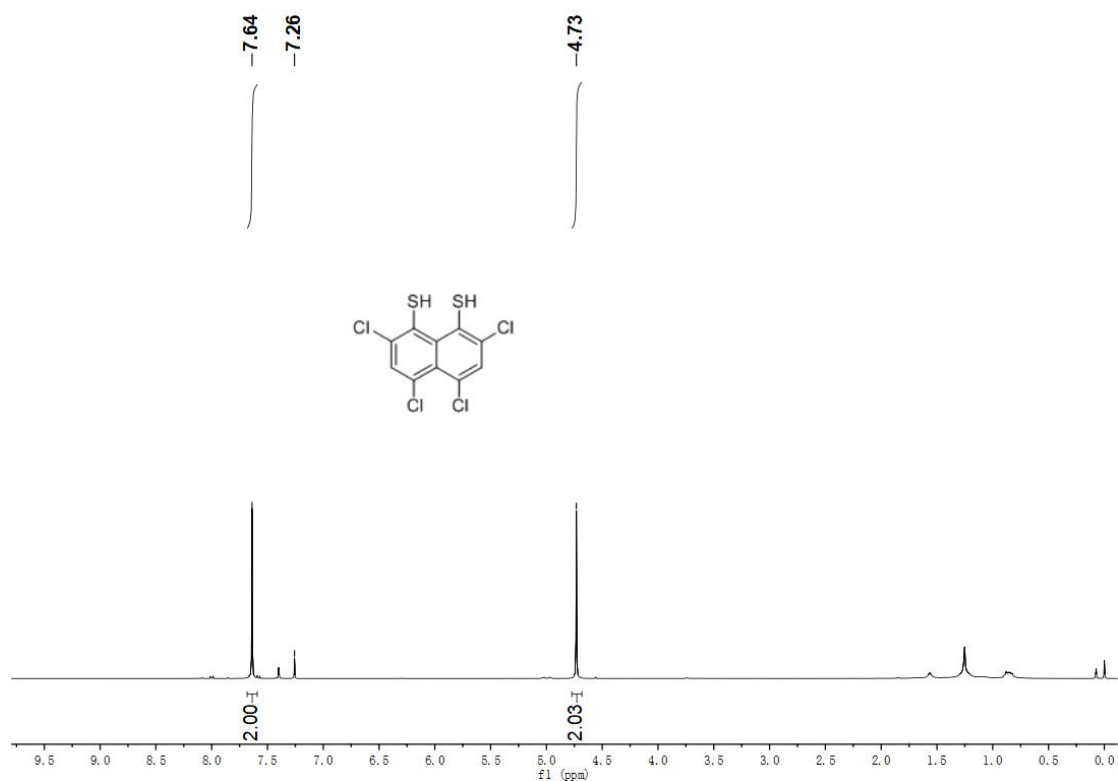


Figure S1. ¹H NMR spectrum for compound **9**

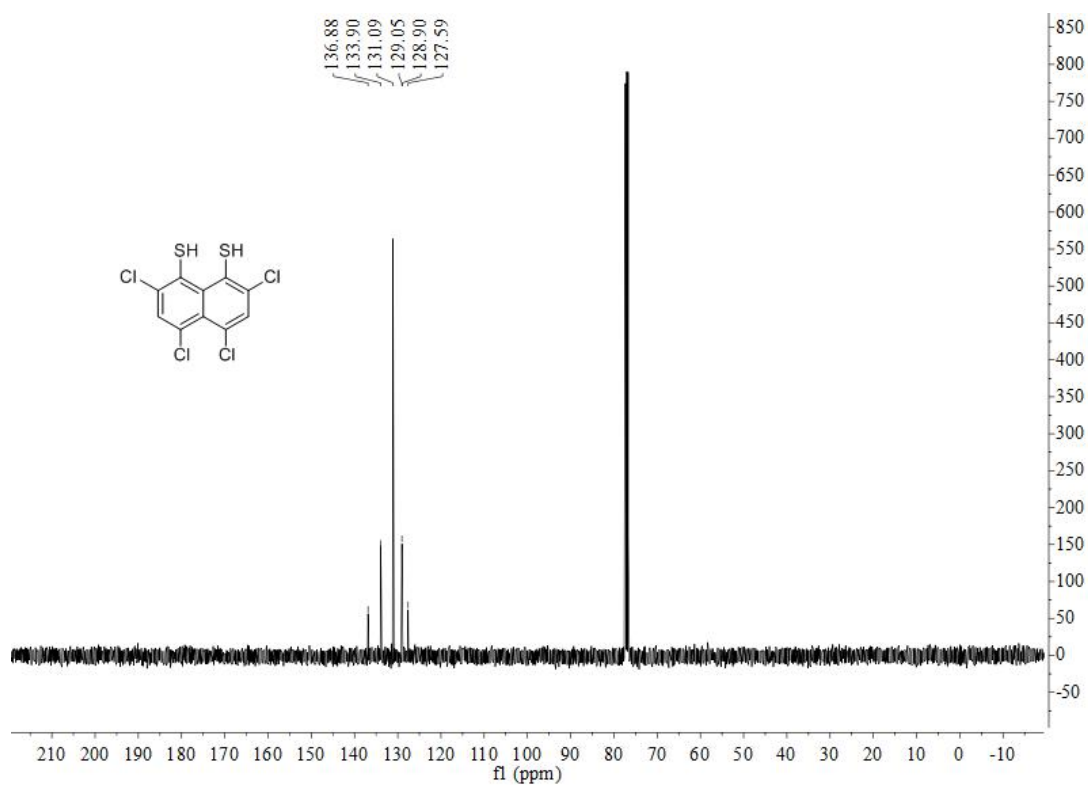


Figure S2. ¹³C NMR spectrum for compound **9**

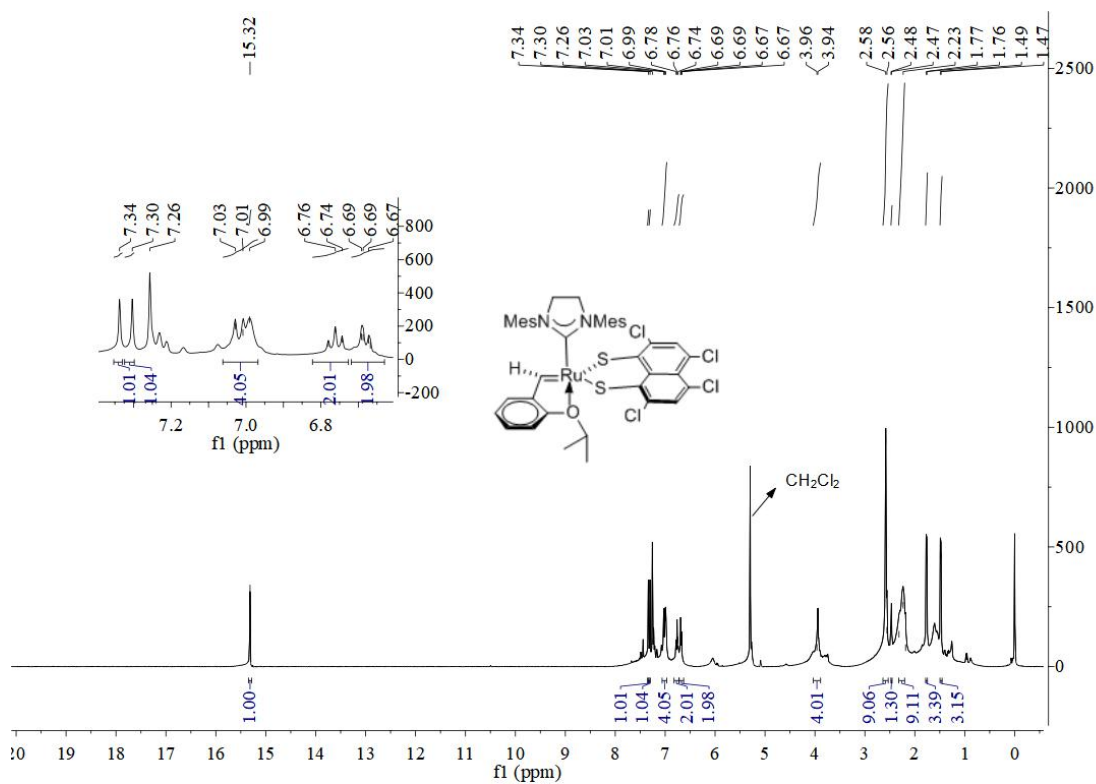


Figure S3. ¹H NMR spectrum for compound 11

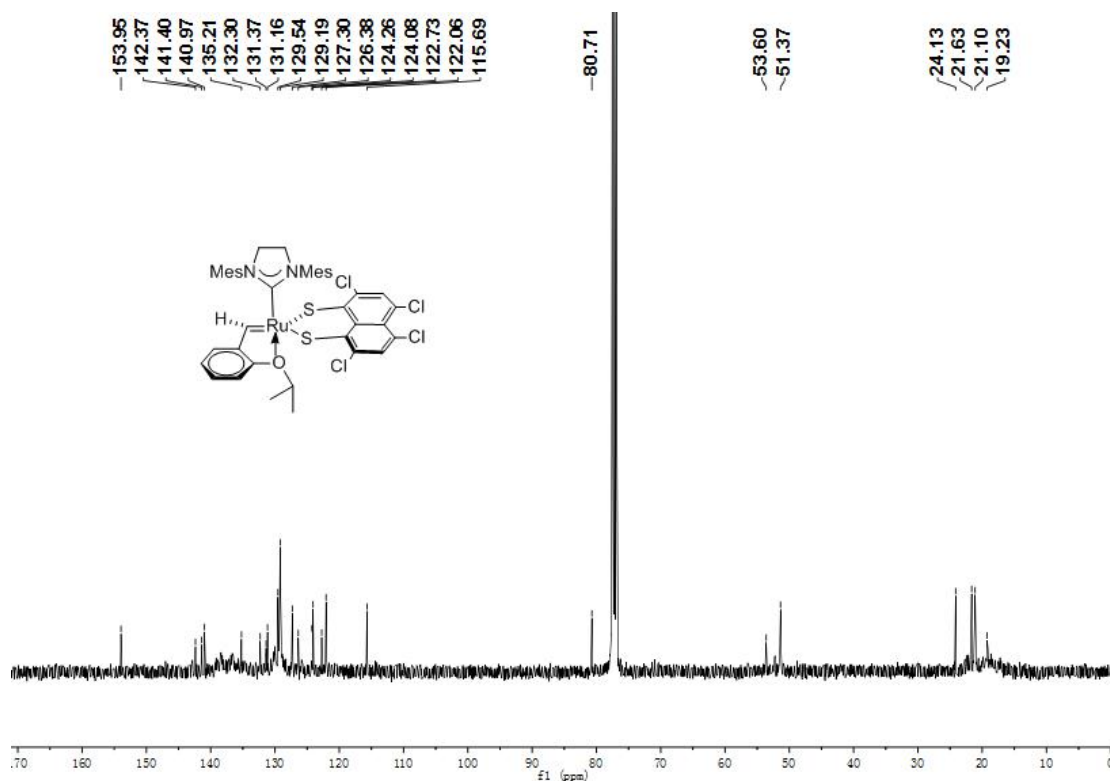


Figure S4. ¹³C NMR spectrum for compound 11

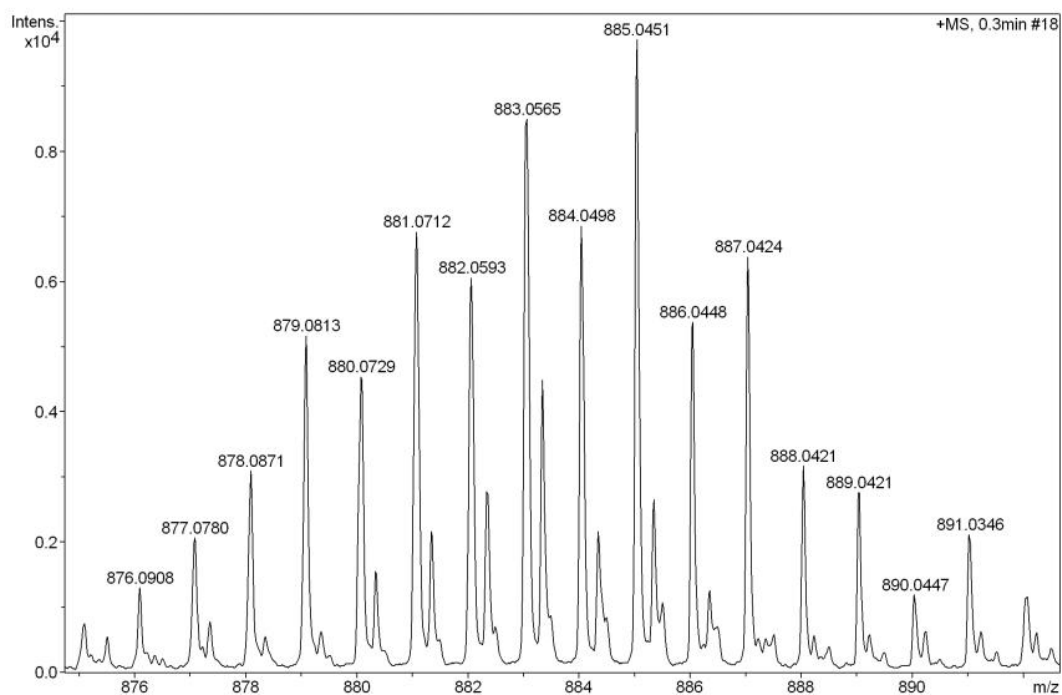


Figure S5. HR-MS spectrum of compound **11**

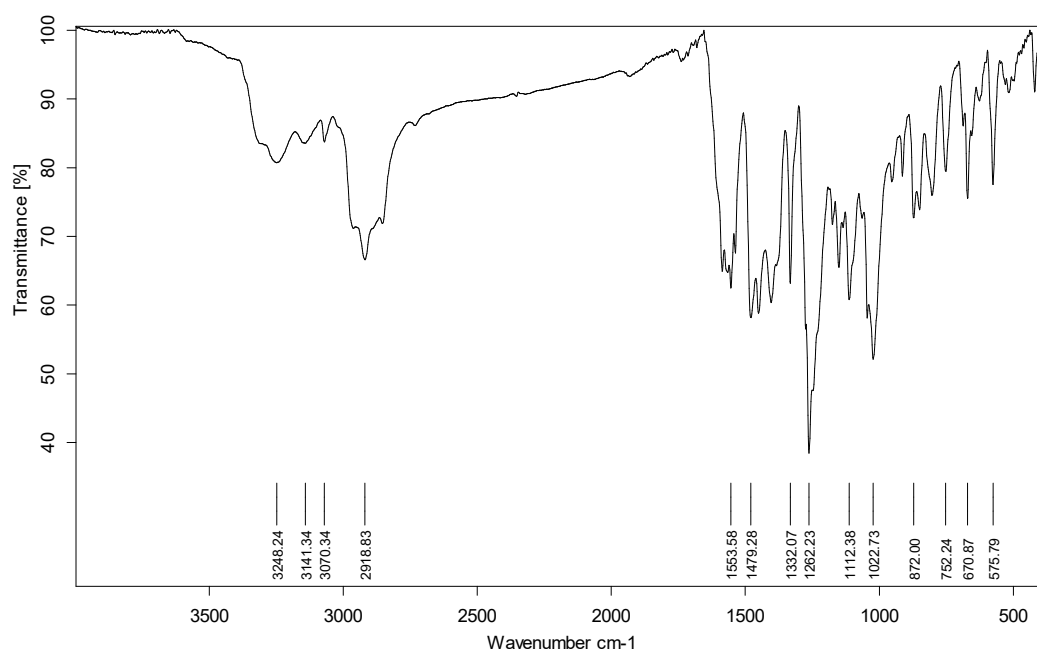


Figure S6. IR spectrum of **11**

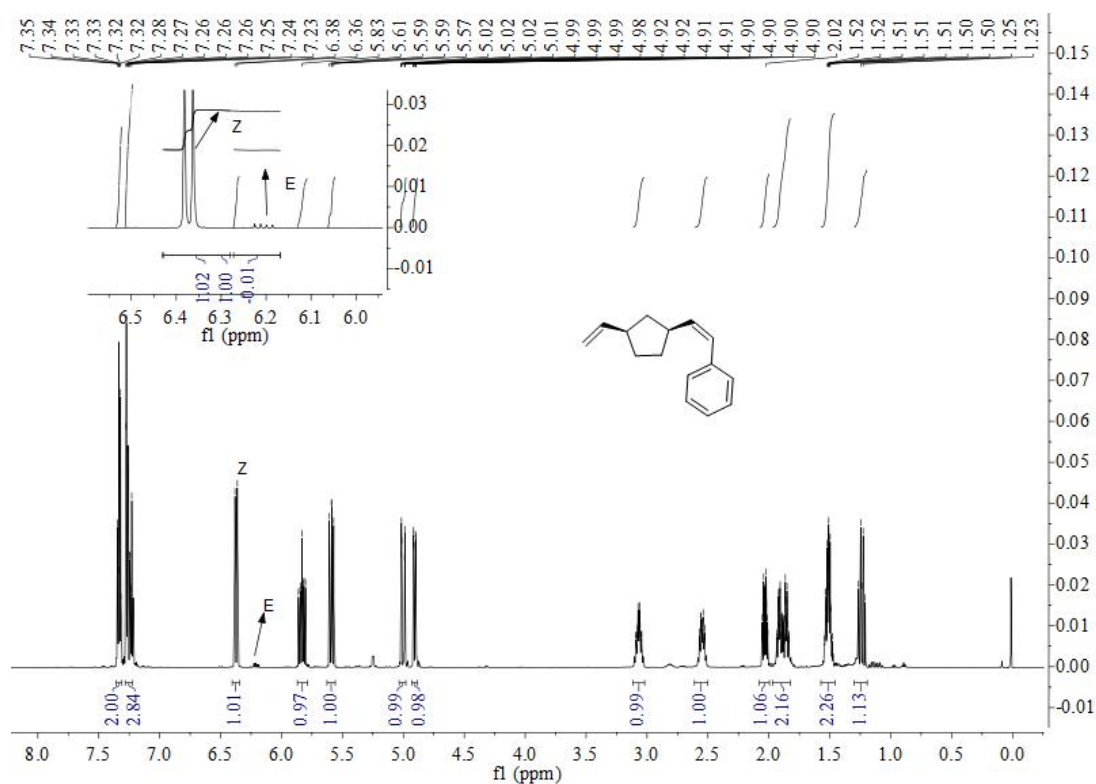


Figure S7. ^1H NMR spectrum for compound 12

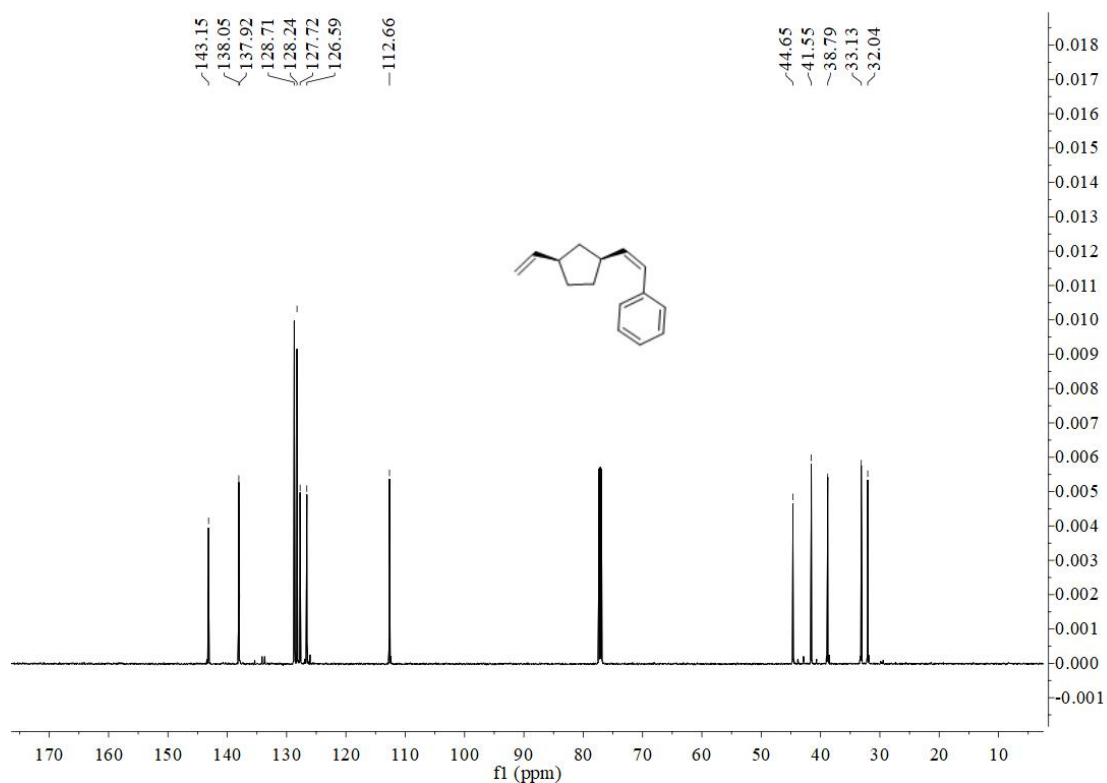


Figure S8. ^{13}C NMR spectrum for compound 12

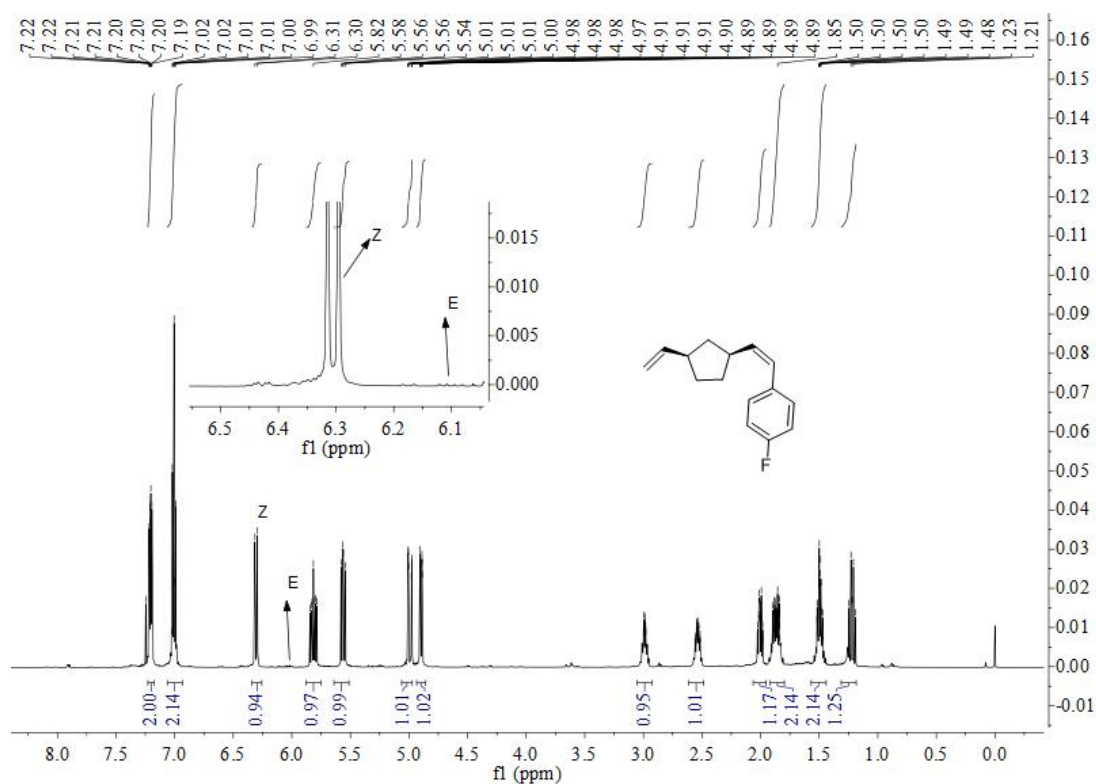


Figure S9. ¹H NMR spectrum for compound **13**

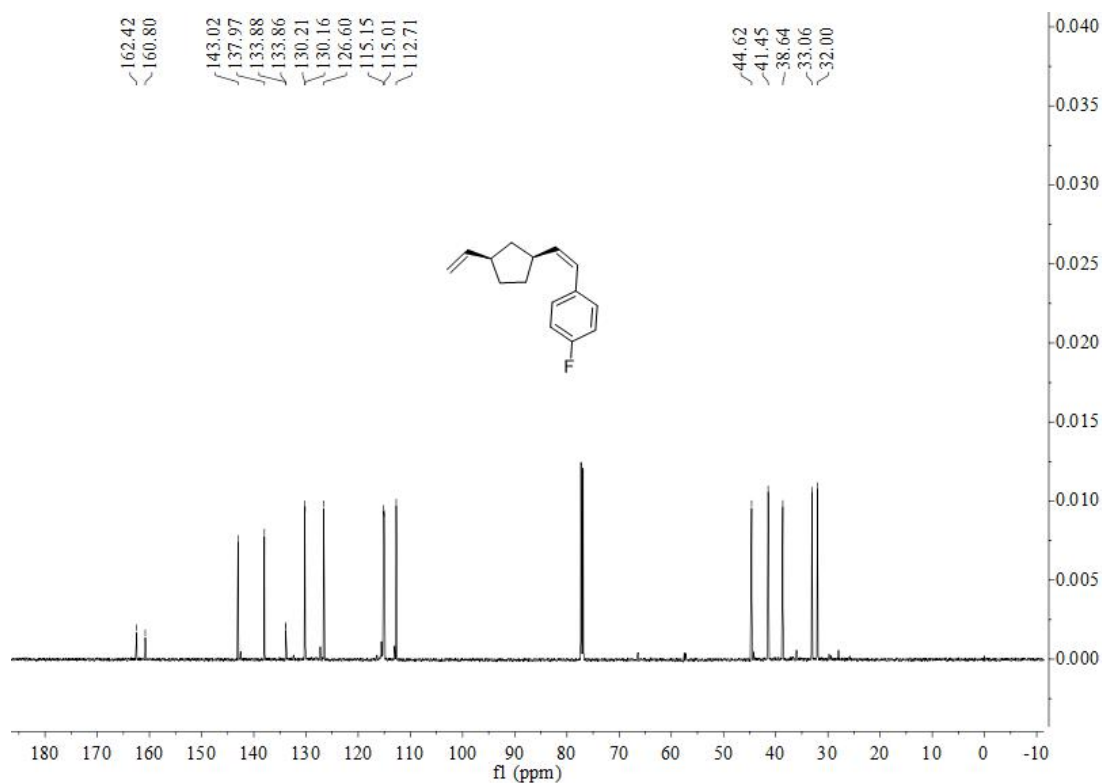


Figure S10. ¹³C NMR spectrum for compound **13**

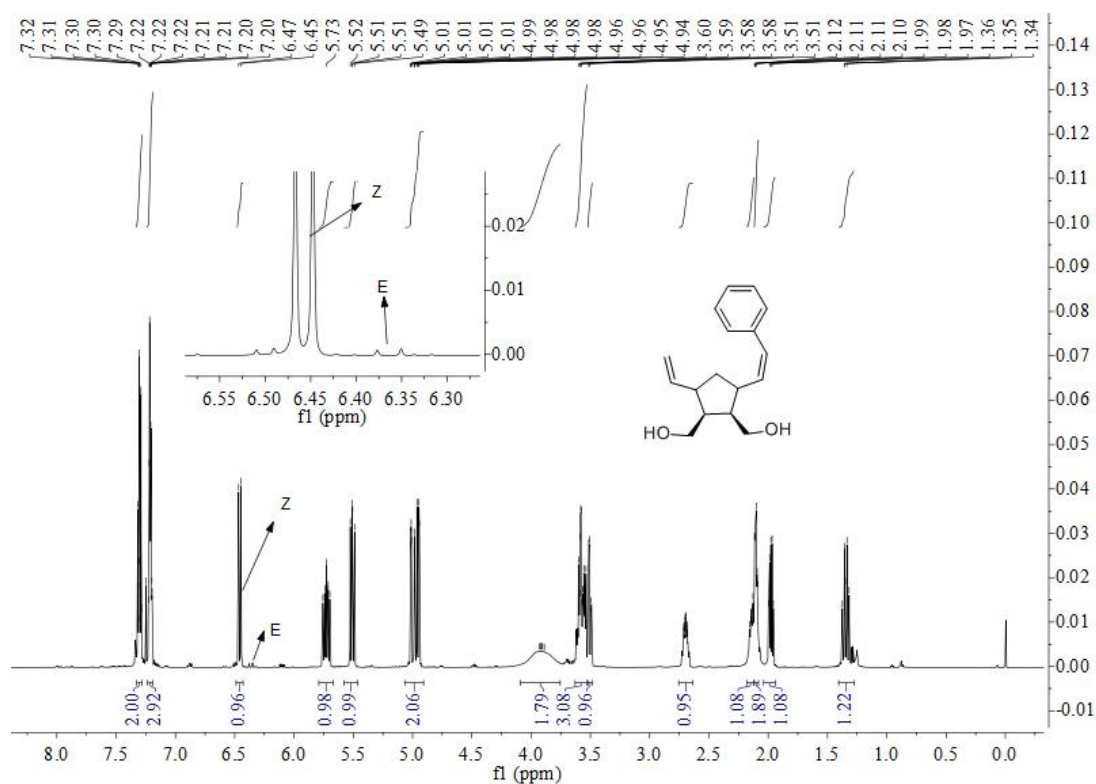


Figure S11. ¹H NMR spectrum for compound 14

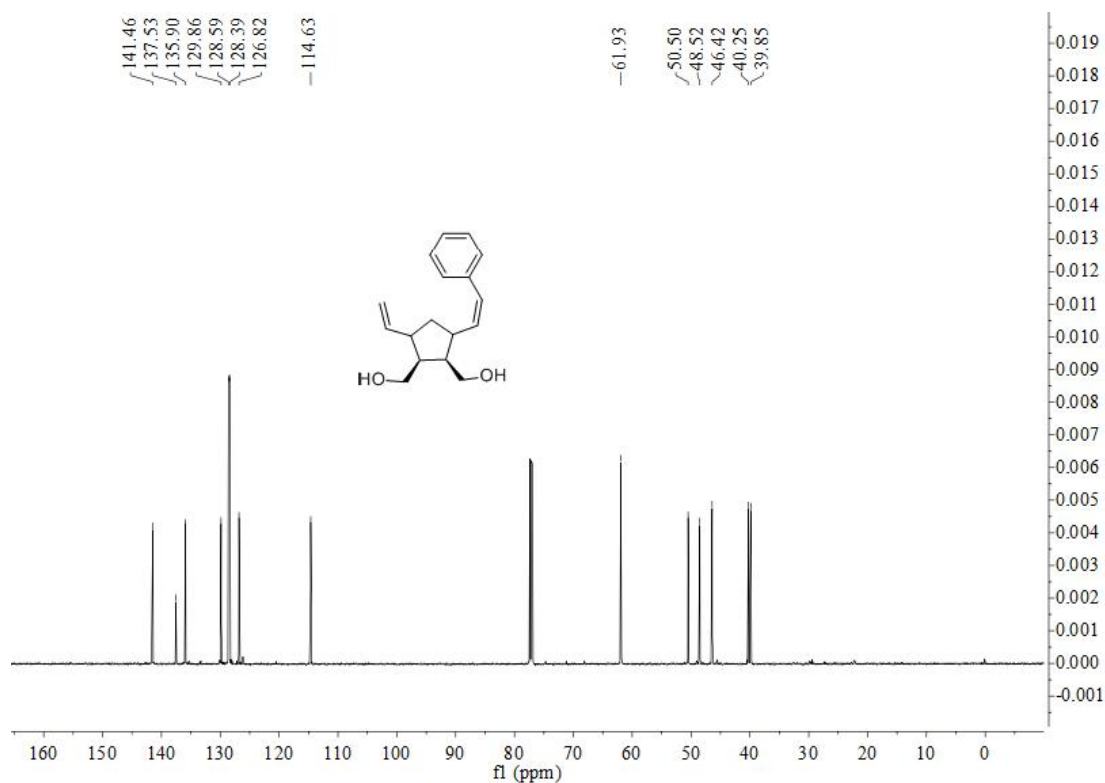


Figure S12. ¹³C NMR spectrum for compound 14

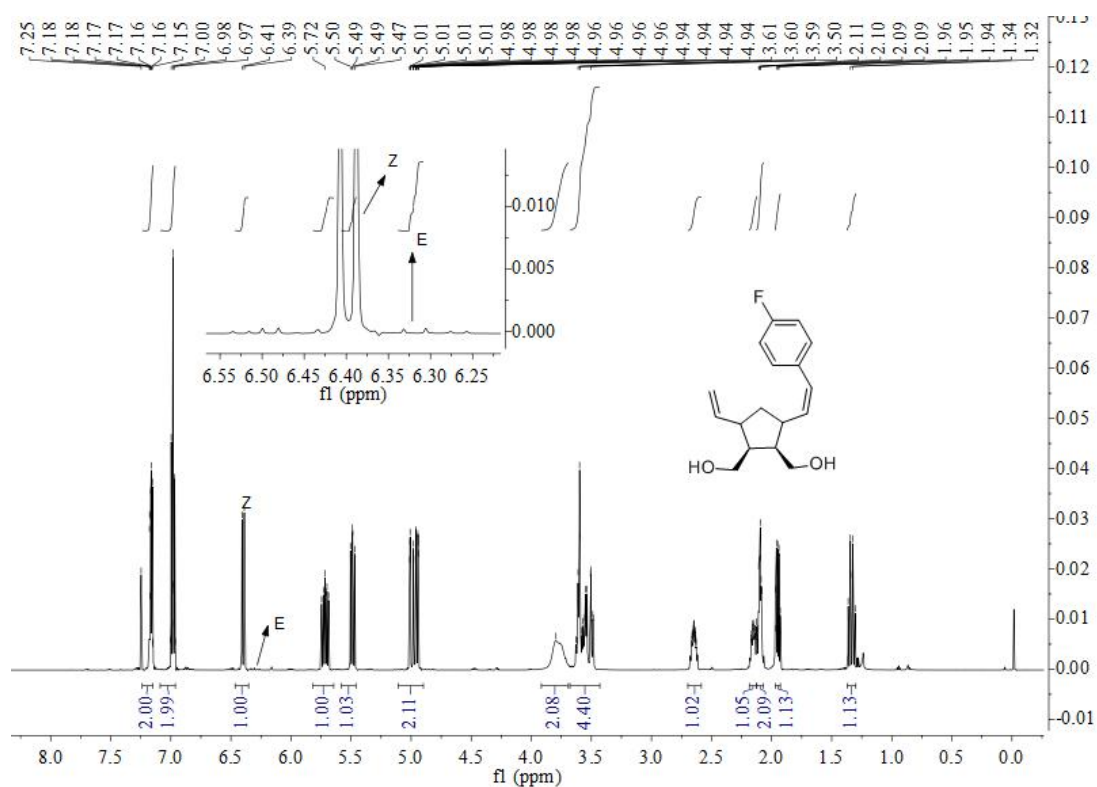


Figure S13. ¹H NMR spectrum for compound 15

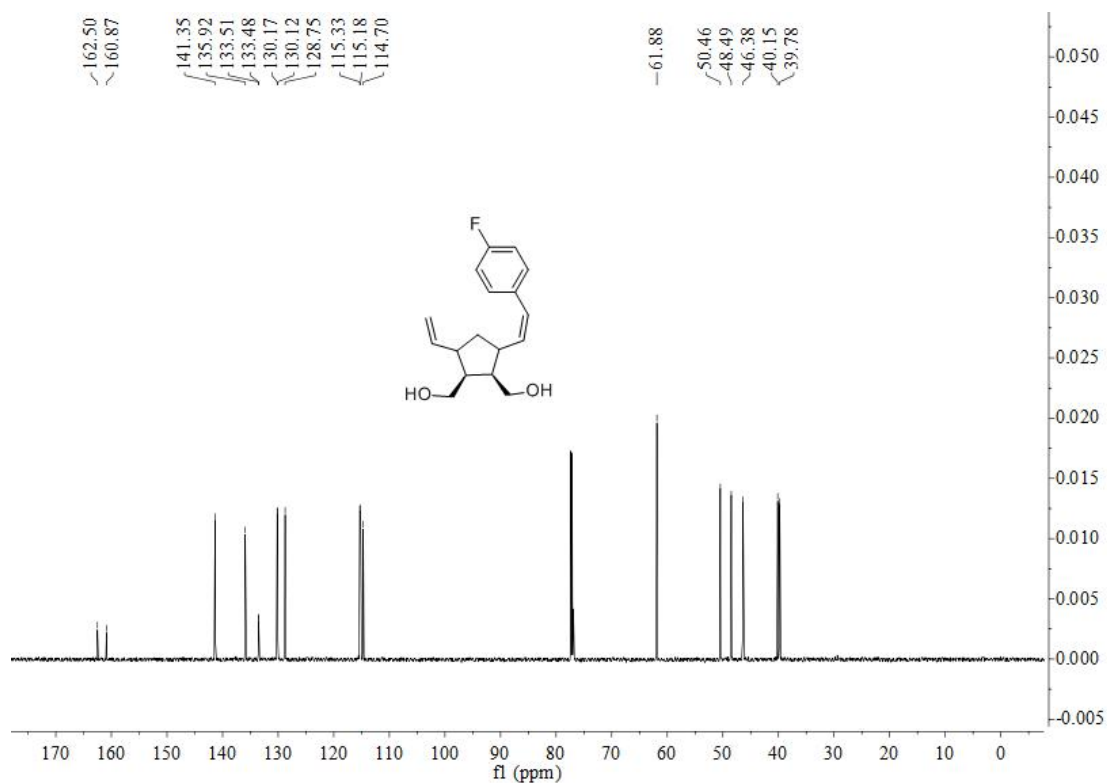


Figure S14. ¹³C NMR spectrum for compound 15

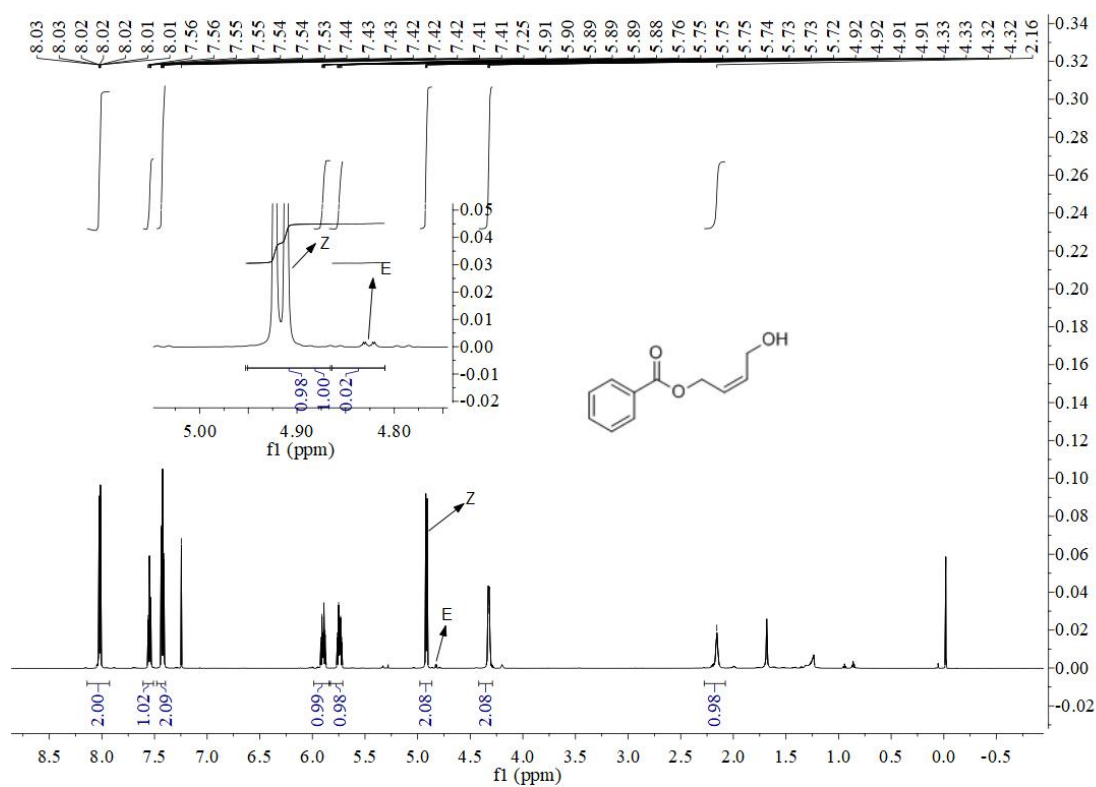


Figure S15. ^1H NMR spectrum for compound 16

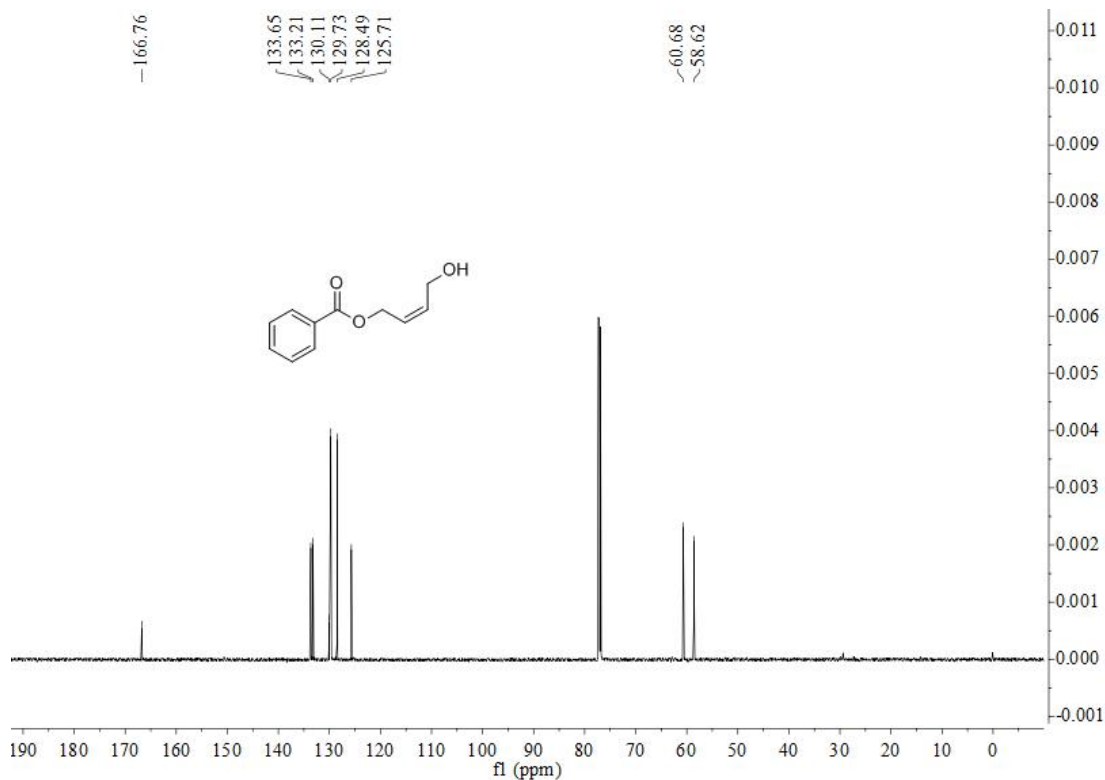


Figure S16. ^{13}C NMR spectrum for compound 16

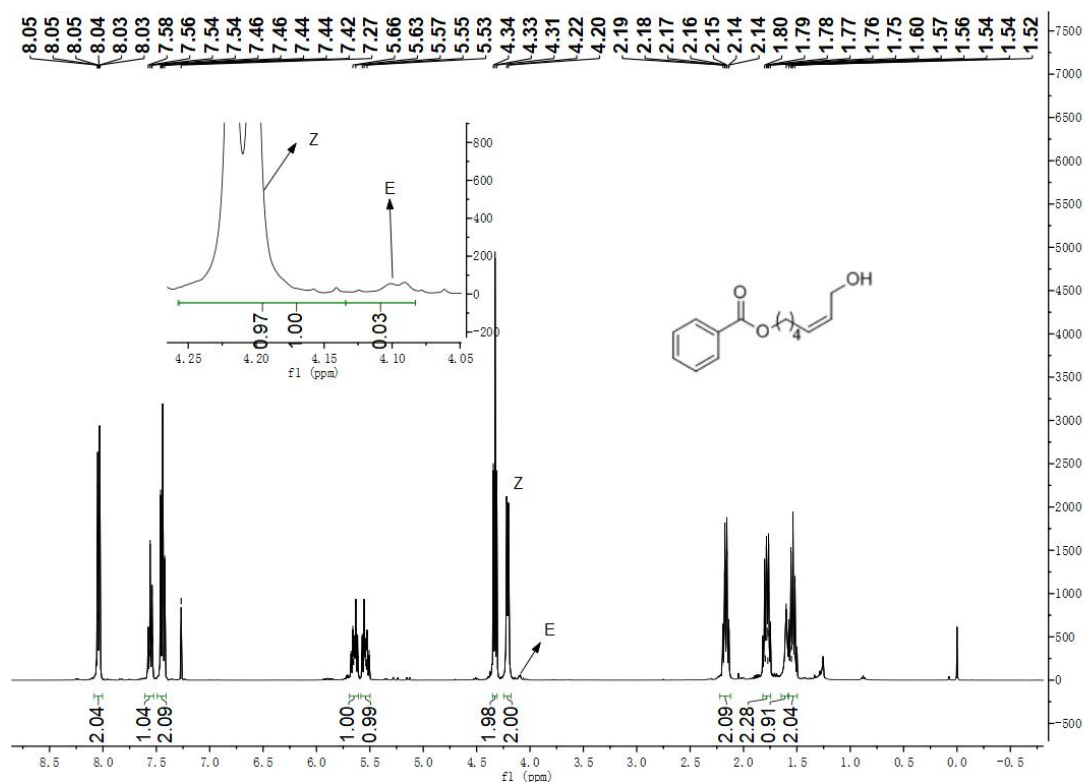


Figure S17. ¹H NMR spectrum for compound 17

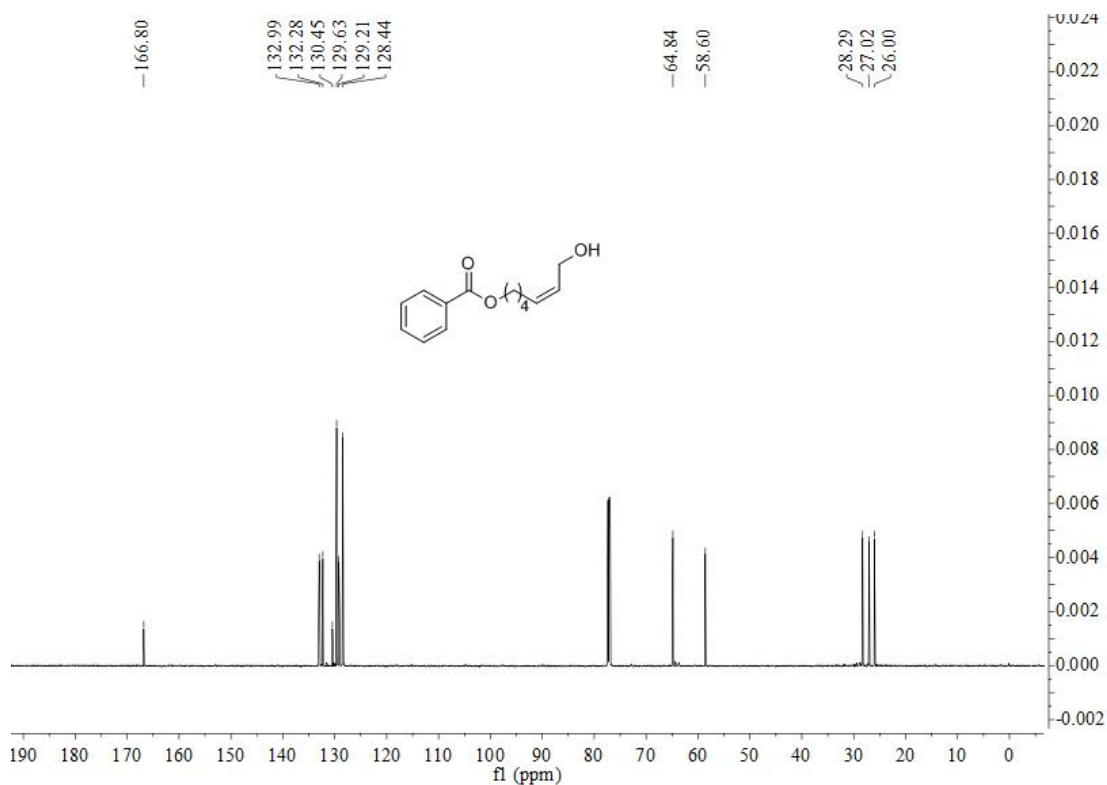


Figure S18. ¹³C NMR spectrum for compound 17

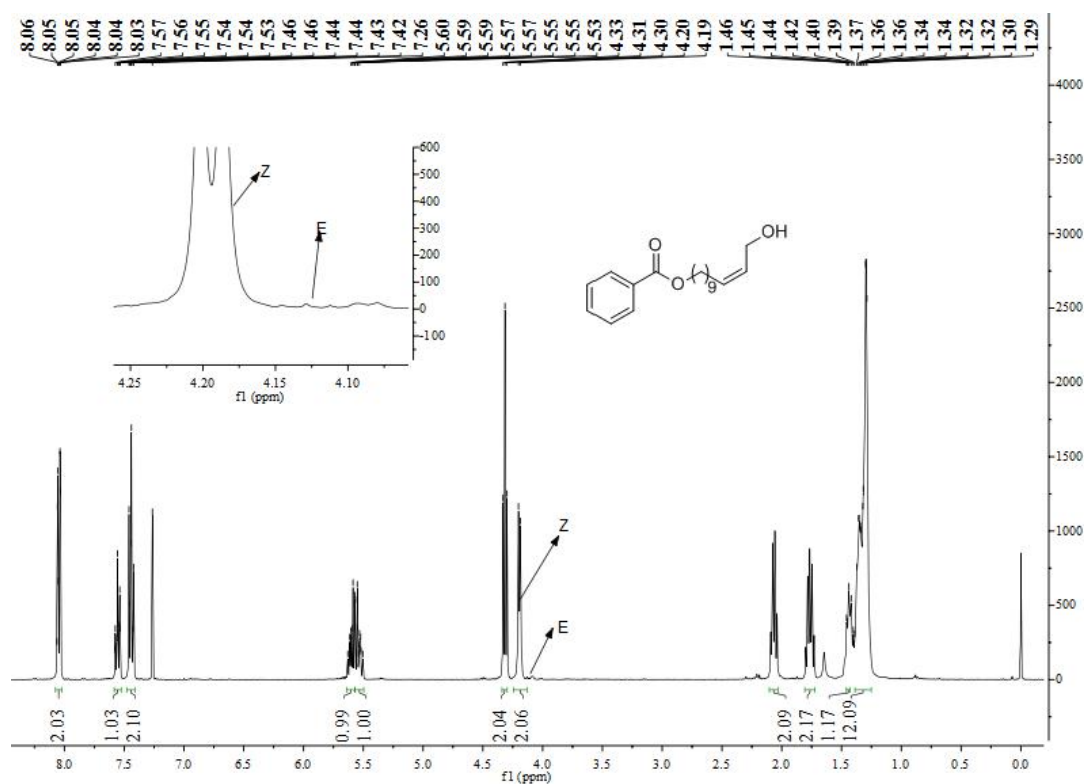


Figure S19. ¹H NMR spectrum for compound 18

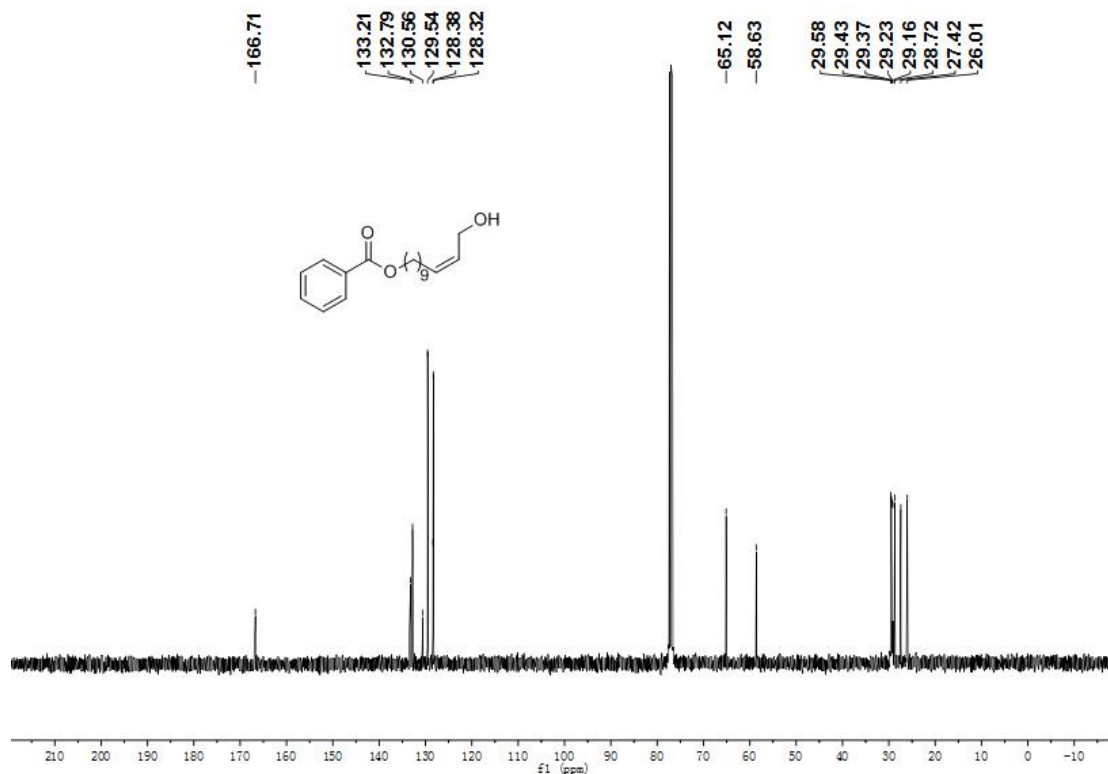


Figure S20. ¹³C NMR spectrum for compound 18

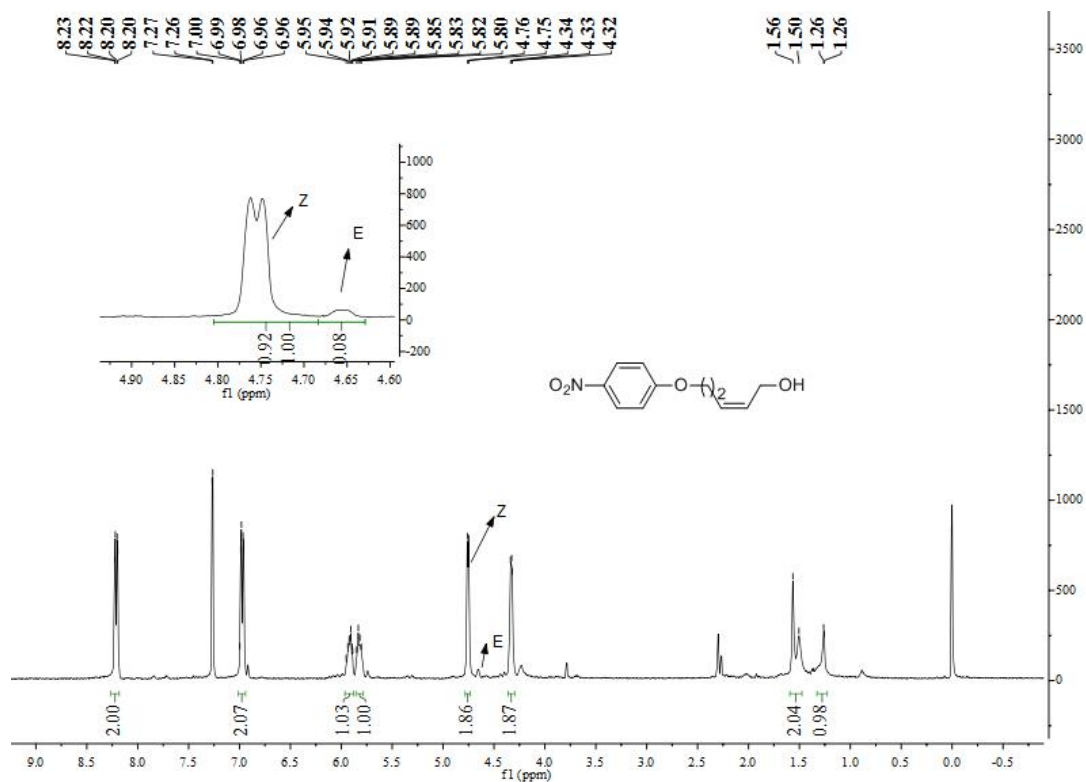


Figure S21. ¹H NMR spectrum for compound 19

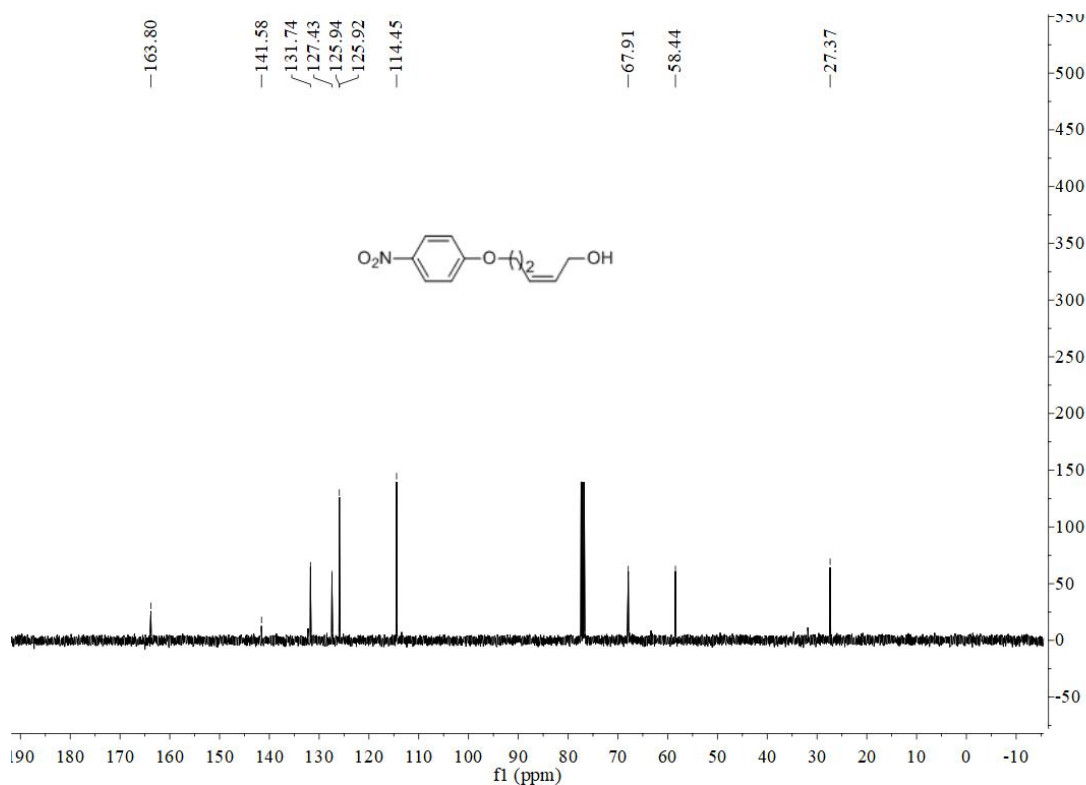


Figure S22. ¹³C NMR spectrum for compound 19

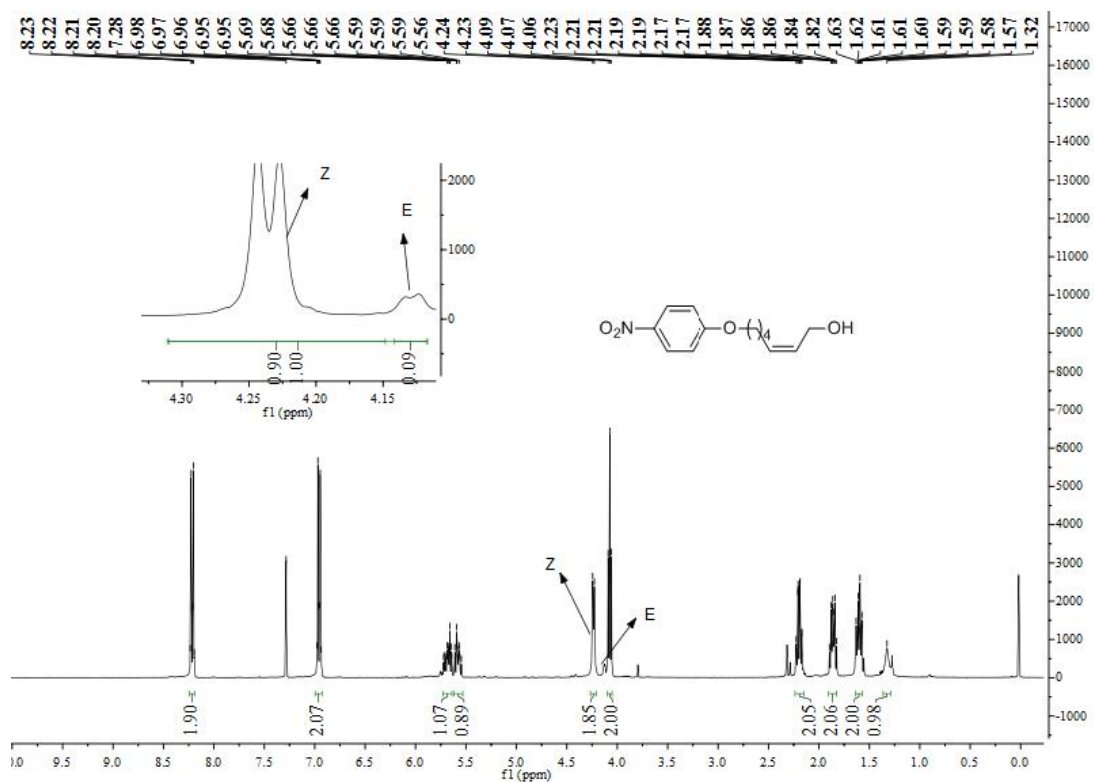


Figure S23. ¹H NMR spectrum for compound 20

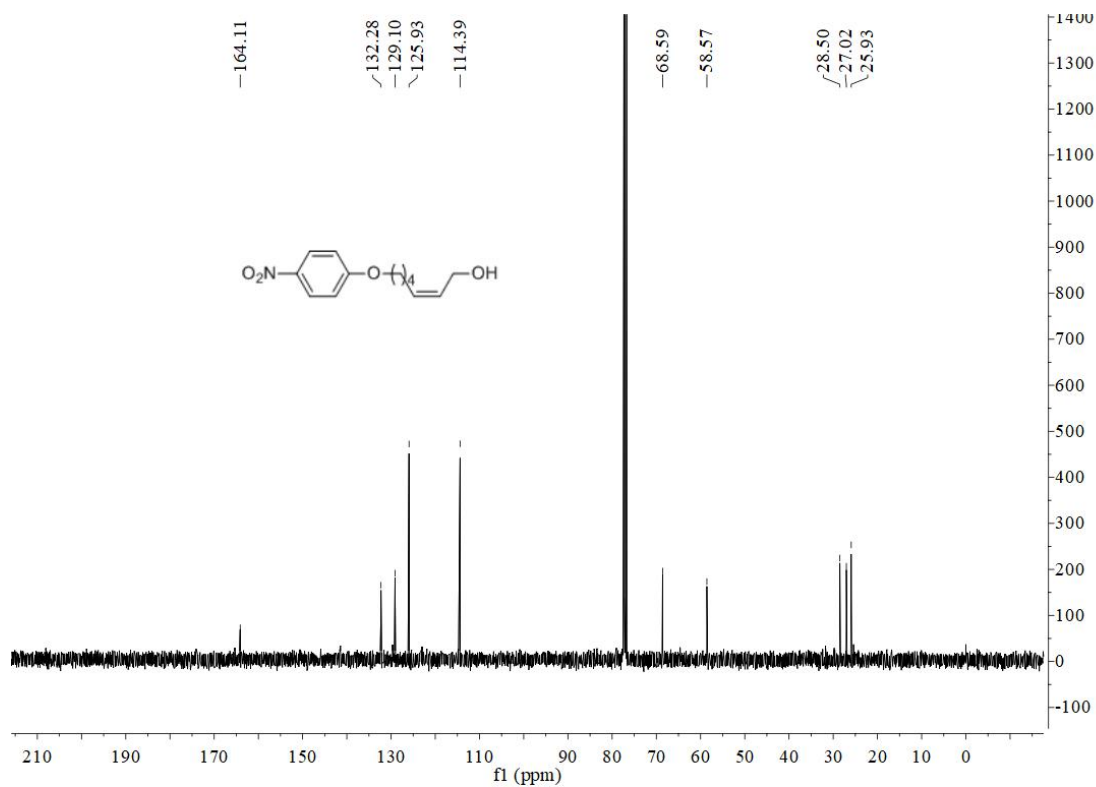


Figure S24. ¹³C NMR spectrum for compound 20

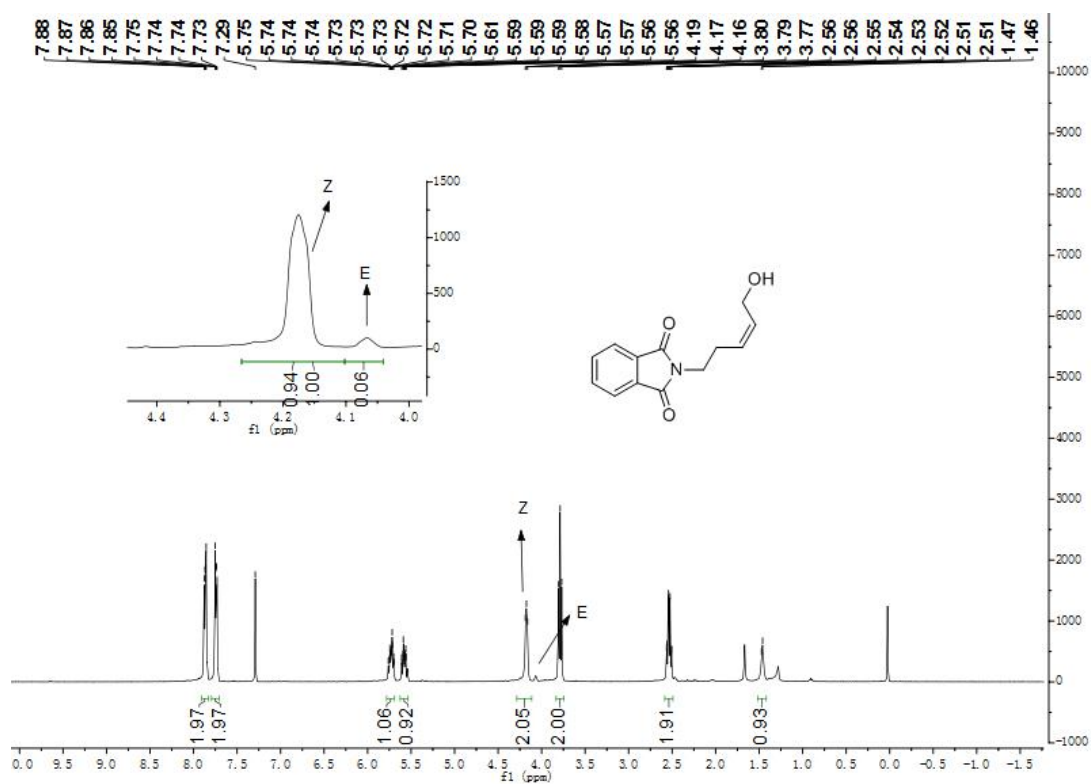


Figure S25. ^1H NMR spectrum for compound 21

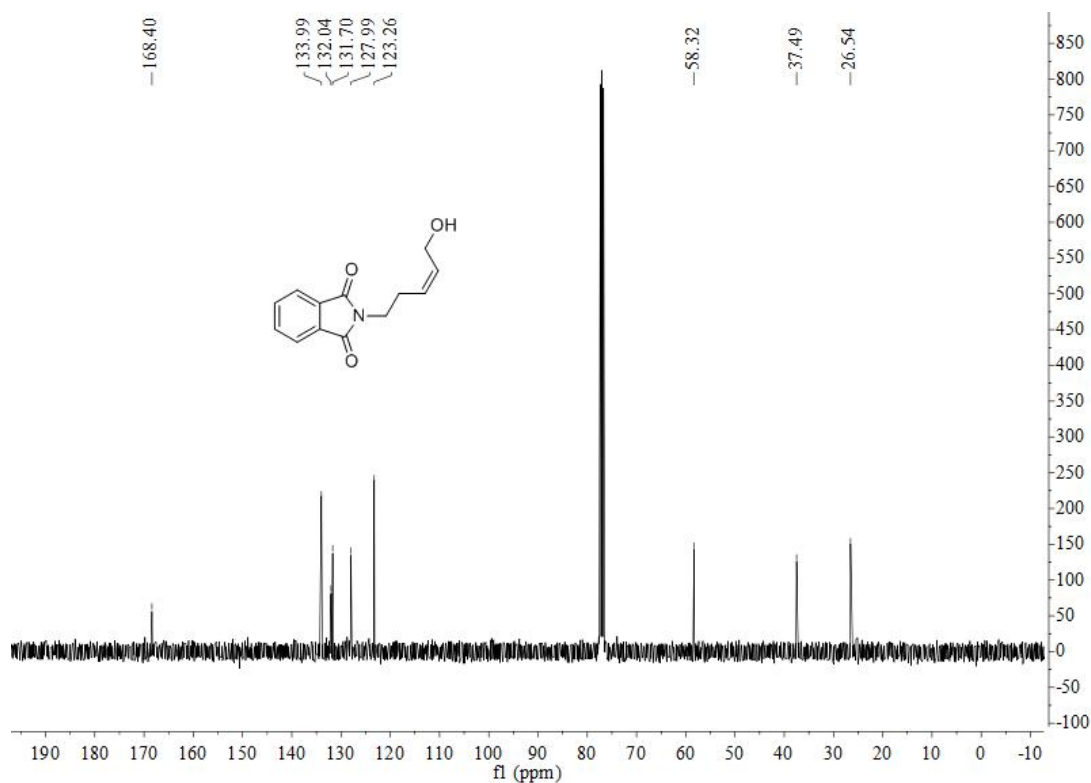


Figure S26. ^{13}C NMR spectrum for compound 21

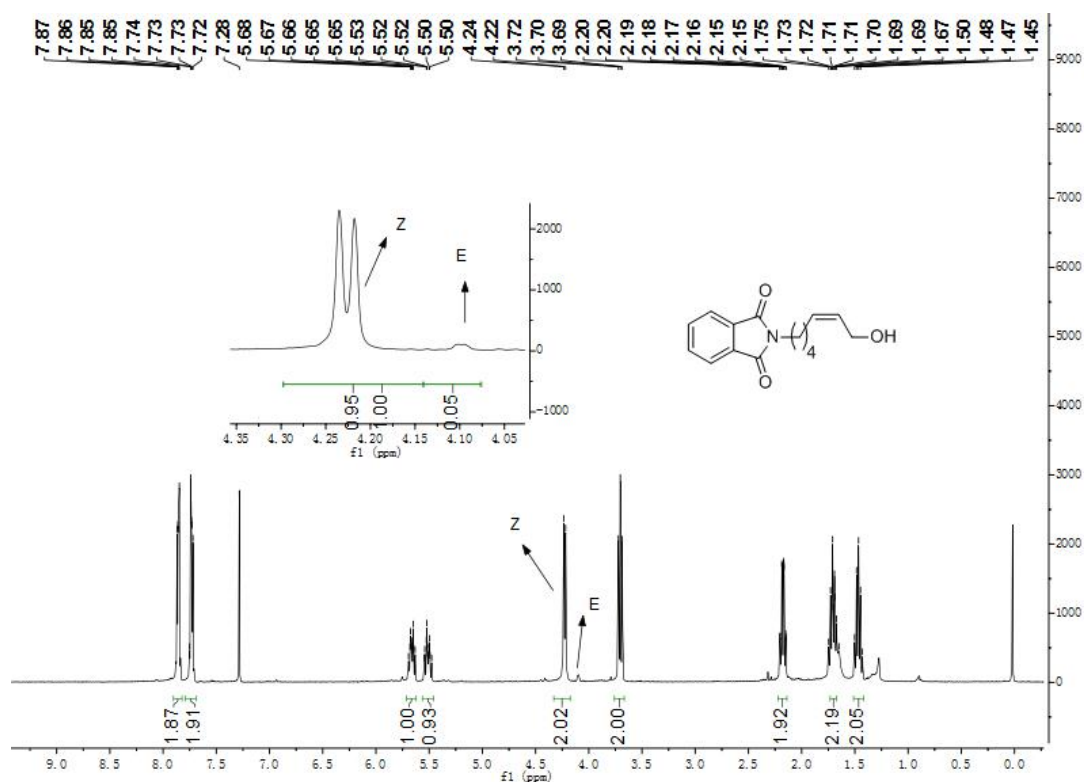


Figure S27. ¹H NMR spectrum for compound **22**

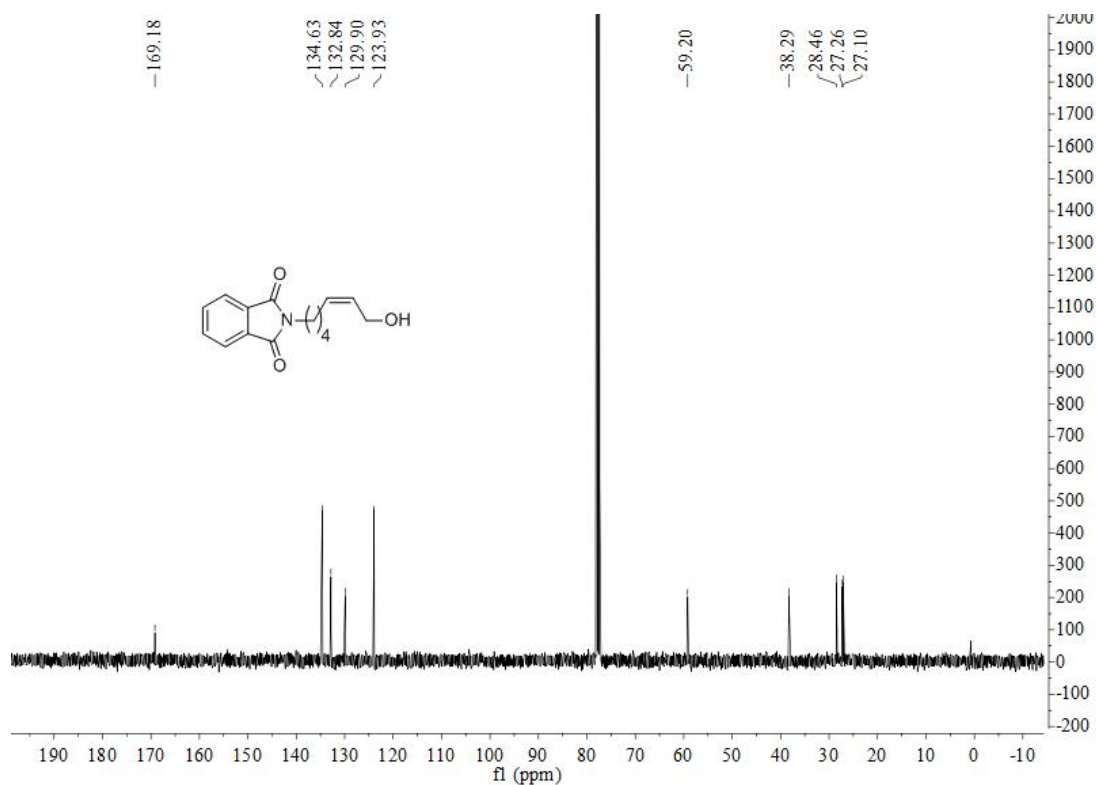


Figure S28. ¹³C NMR spectrum for compound **22**

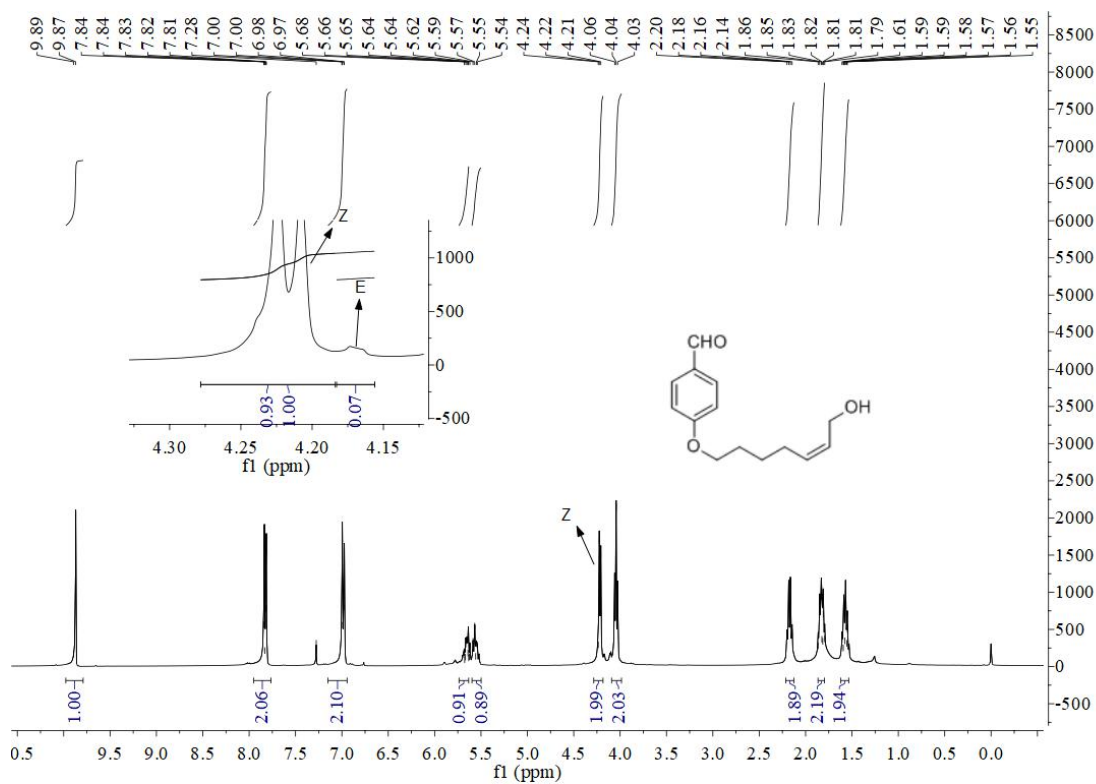


Figure S29. ¹H NMR spectrum for compound **23**

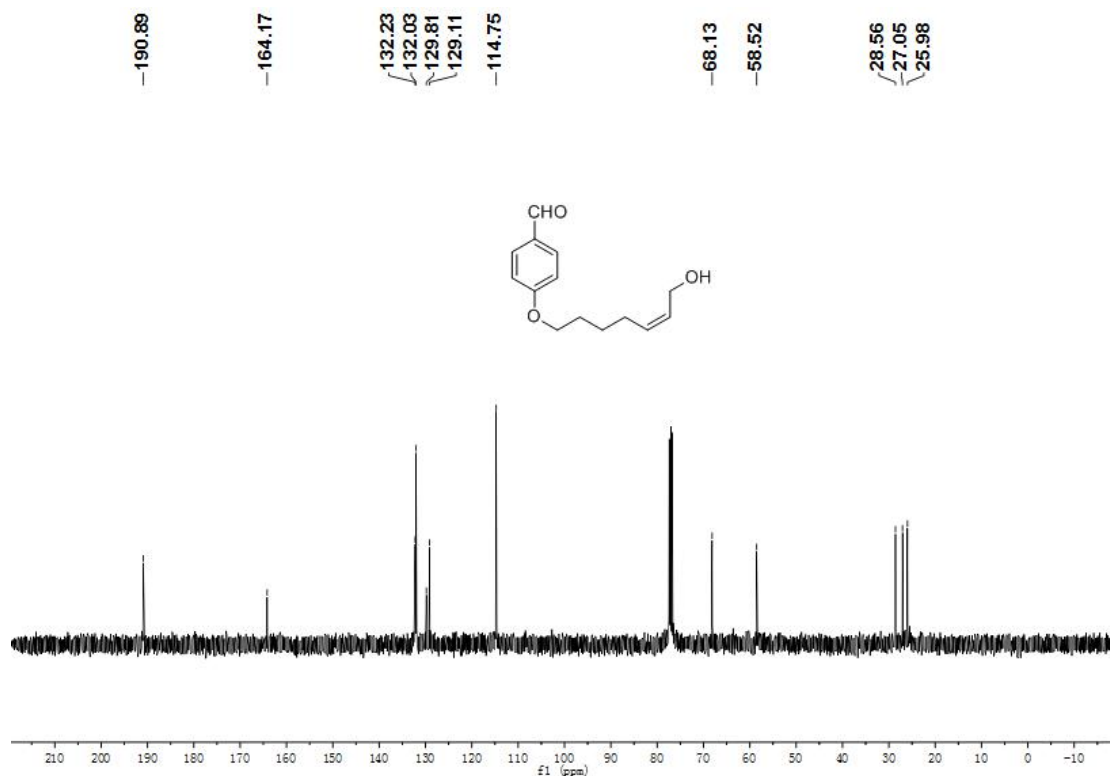


Figure S30. ¹³C NMR spectrum for compound **23**

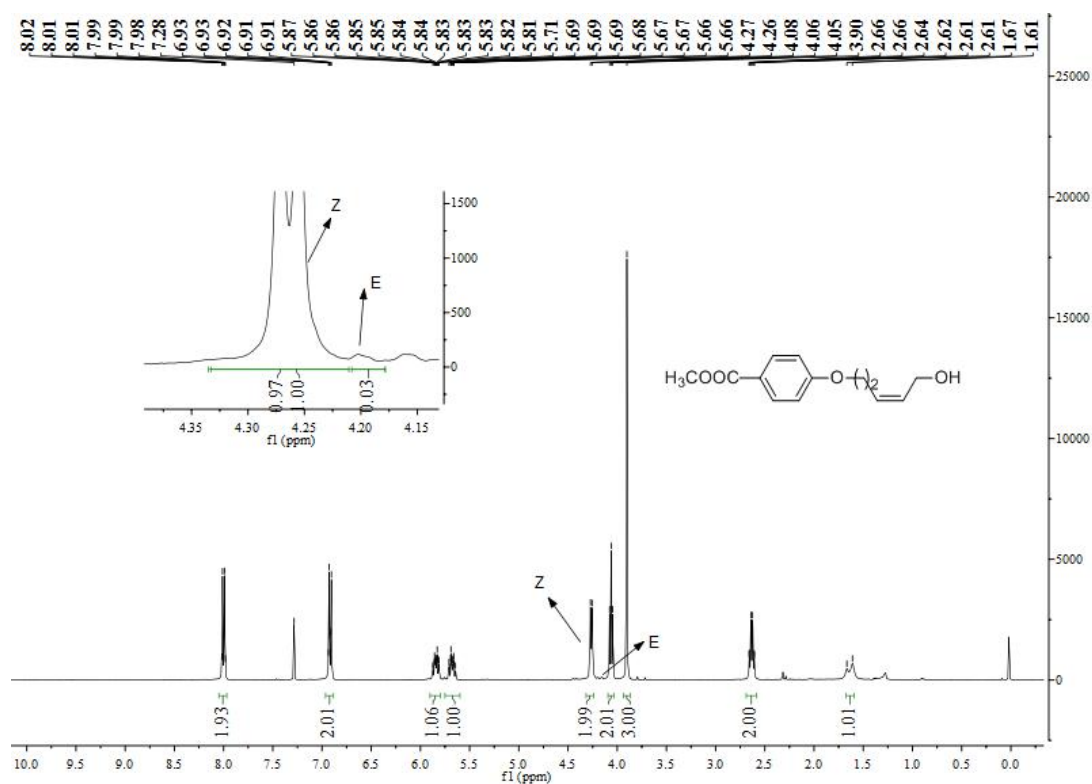


Figure S31. ^1H NMR spectrum for compound 24

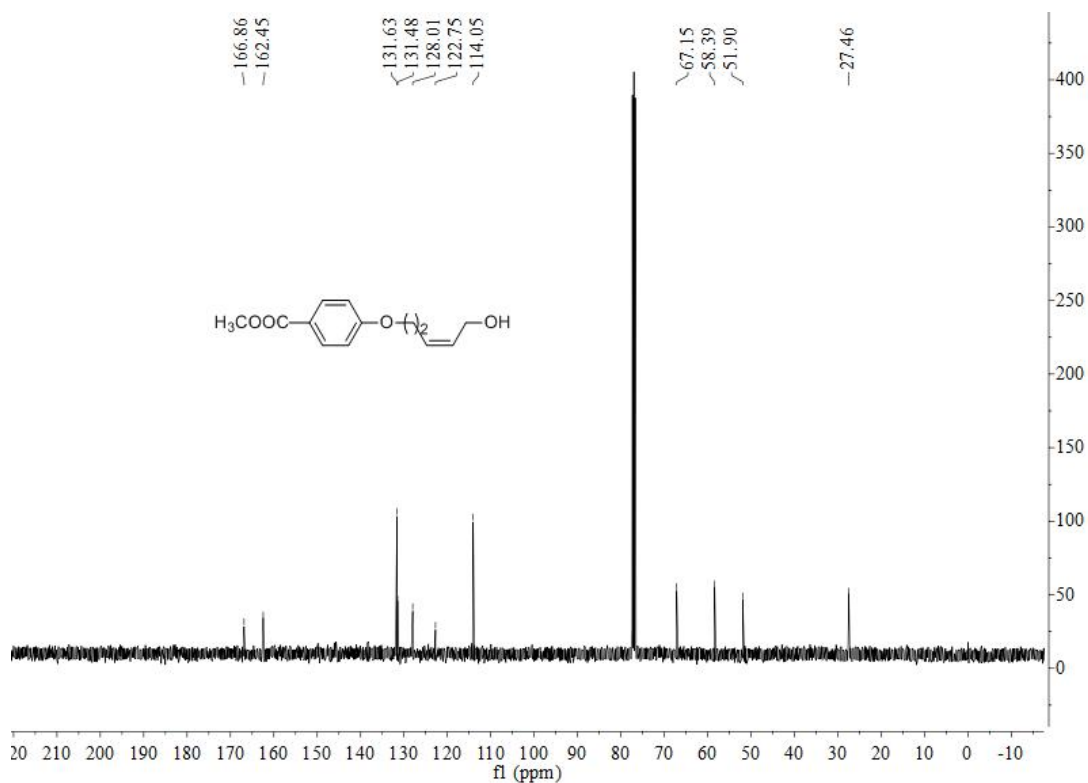


Figure S32. ^{13}C NMR spectrum for compound 24

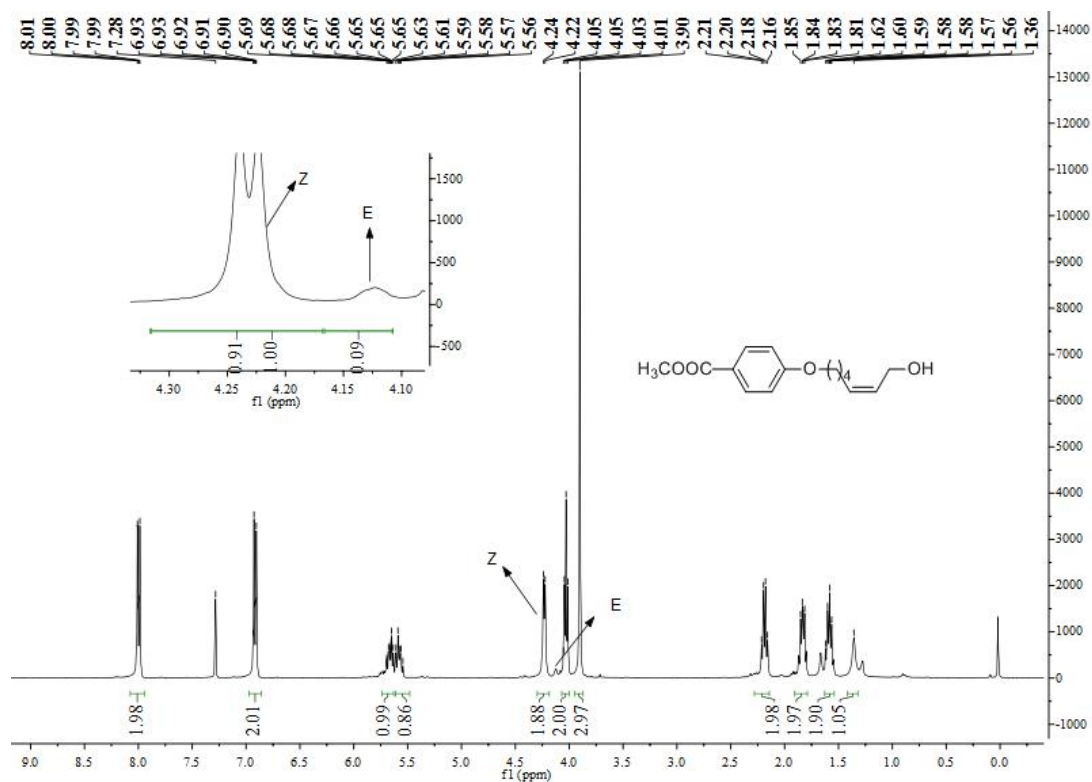


Figure S33. ^1H NMR spectrum for compound 25

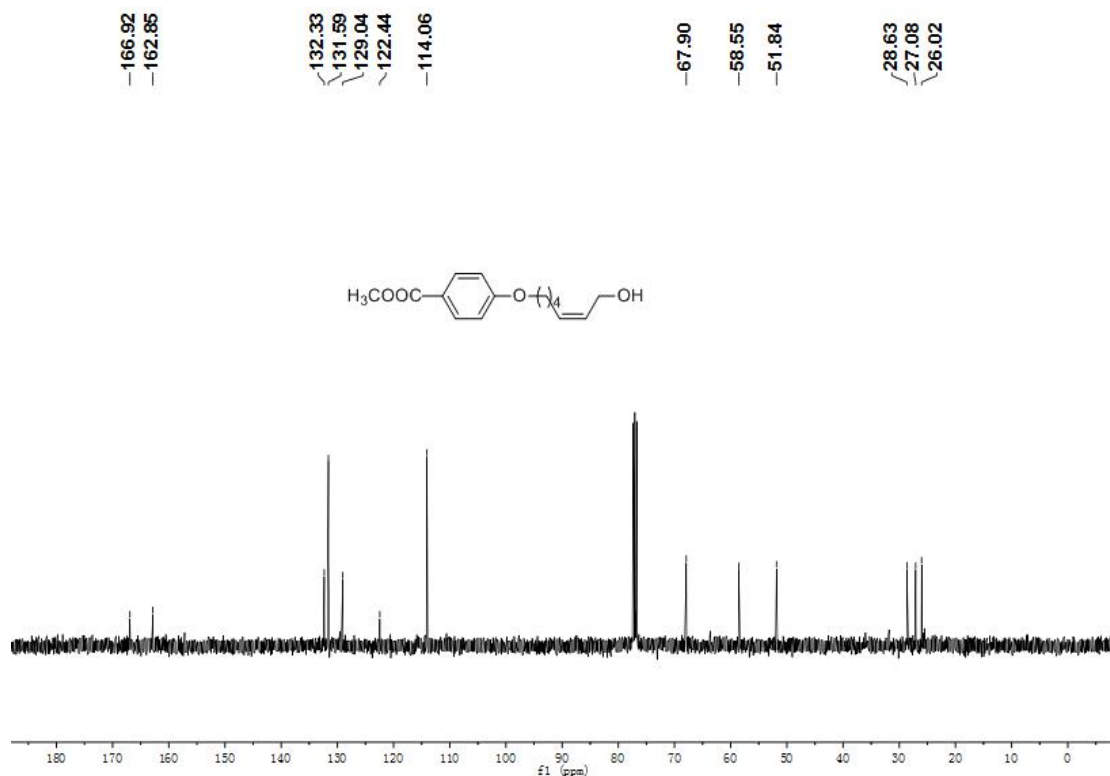


Figure S34. ^{13}C NMR spectrum for compound 25