Utilising an anilido-imino ligand to stabilise zinc-phosphanide complexes: reactivity and fluorescent properties

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Supplementary Information.

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Figure S1. ORTEP diagram of [(L^{Dipp})Zn(HMDS)] (**2**).

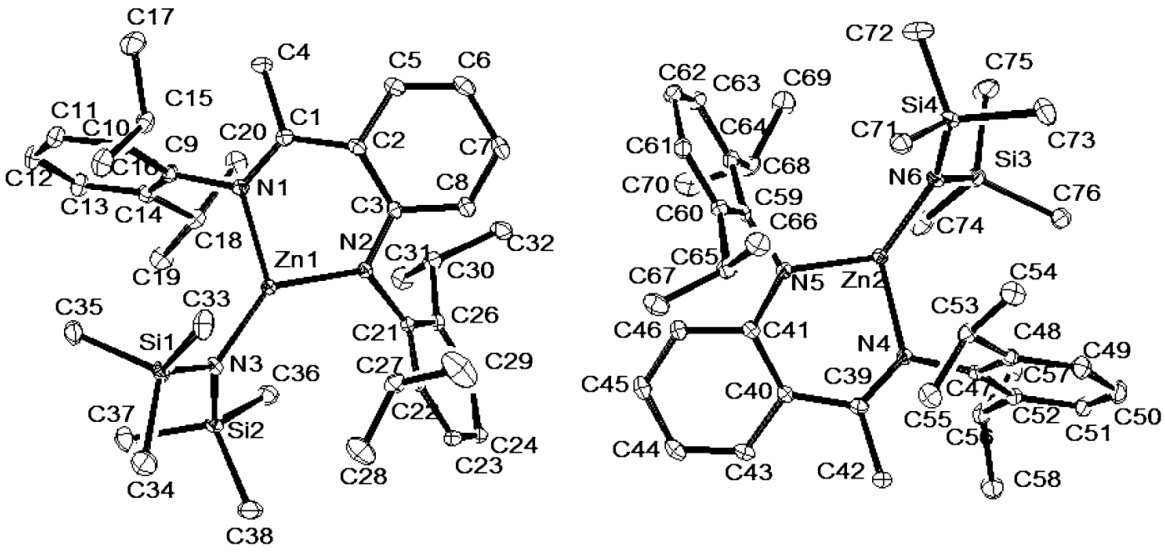


Figure S2. ORTEP diagram of [(L^{Dipp})Zn(PCy$_2$)] (**4**):

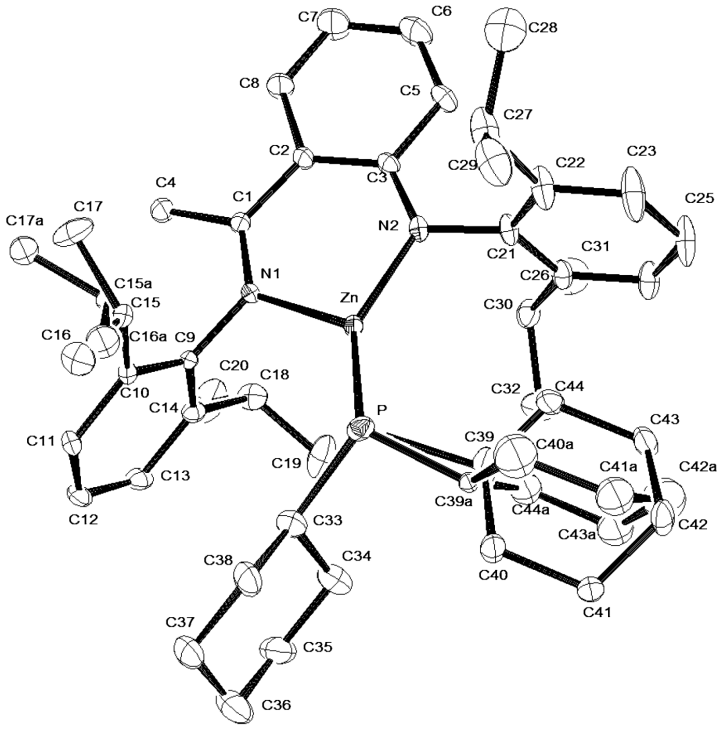


Figure S3. ORTEP diagram of [(L^{Dipp})Zn(PPh_2)] (**5**).

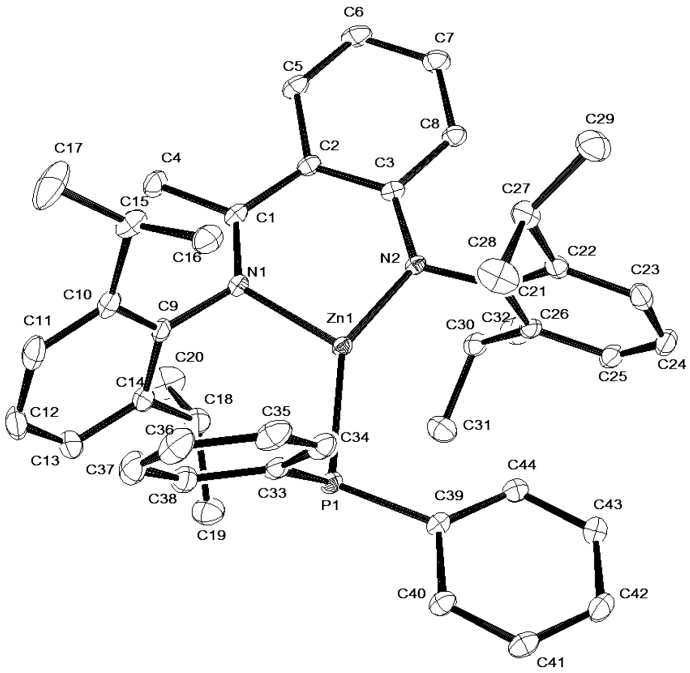


Figure S4. ORTEP diagram of [(L^{Dipp})Zn($Se)_2PCy_2$] (**7**).

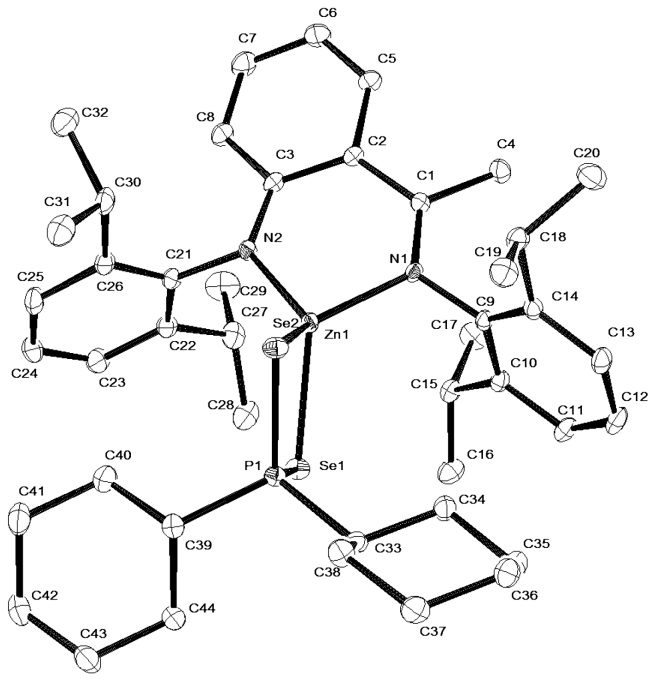


Figure S5. ORTEP diagram of [(L^{Dipp})Zn($Se)_2PCy_2$] (**8**).

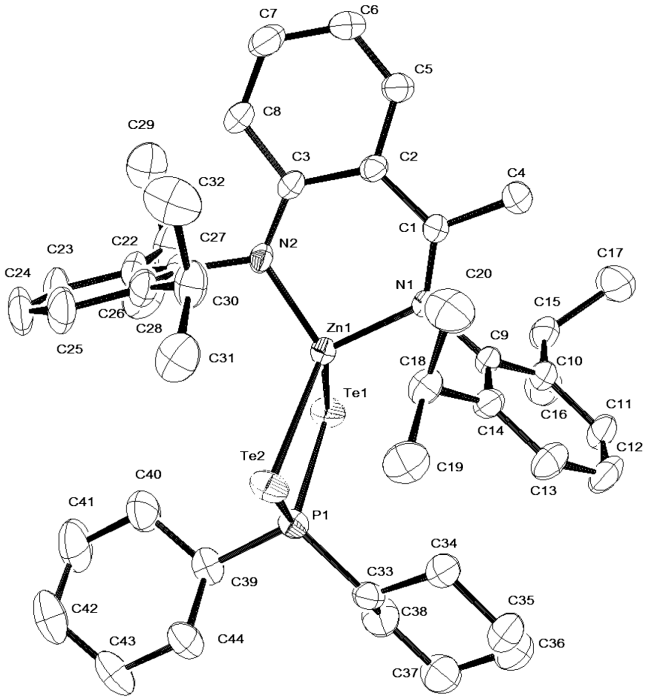
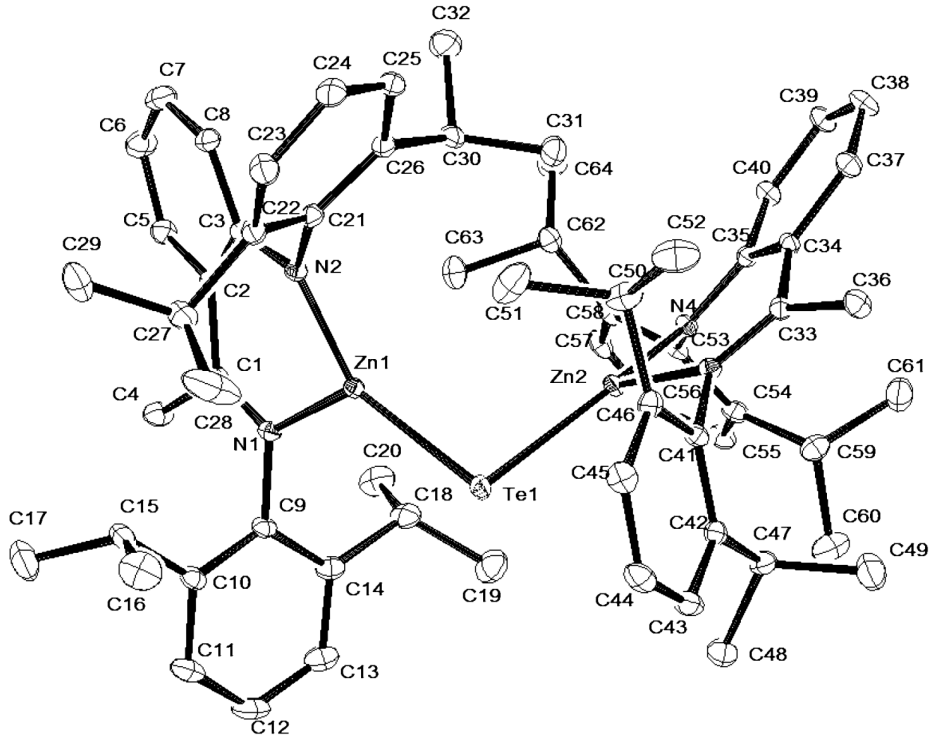


Figure S6. ORTEP diagram of [(L^{Dipp})ZnTeZn(L^{Dipp})] (**10**).



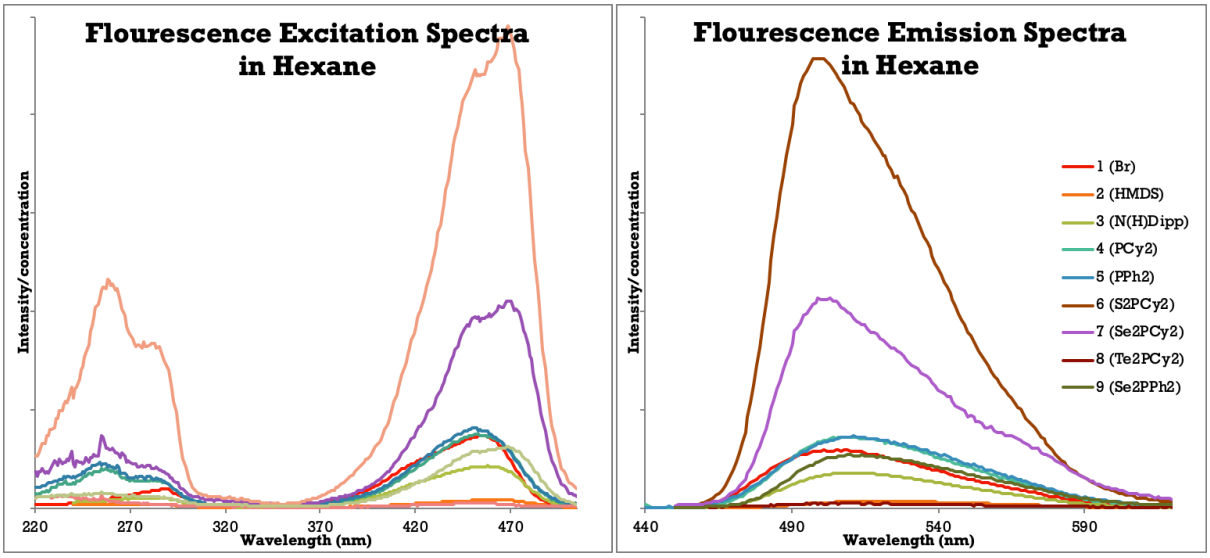


Figure S7. Fluorescence and emission spectra of compounds **1** – **9**.

Figure S8. ^{1}H NMR spectrum of [(L^{Dipp})ZnBr] **1** with hexane.

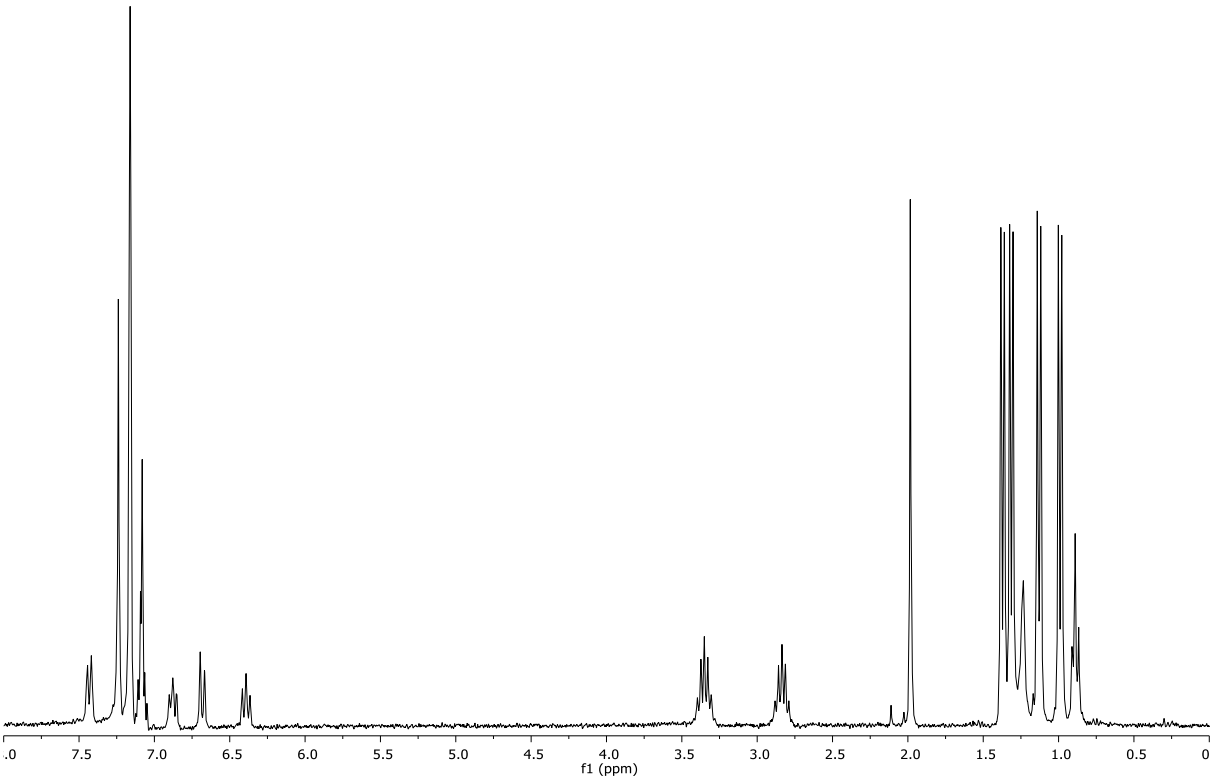


Figure S9. ^{13}C NMR spectrum of [(L^{Dipp})ZnBr] **1** with hexane.

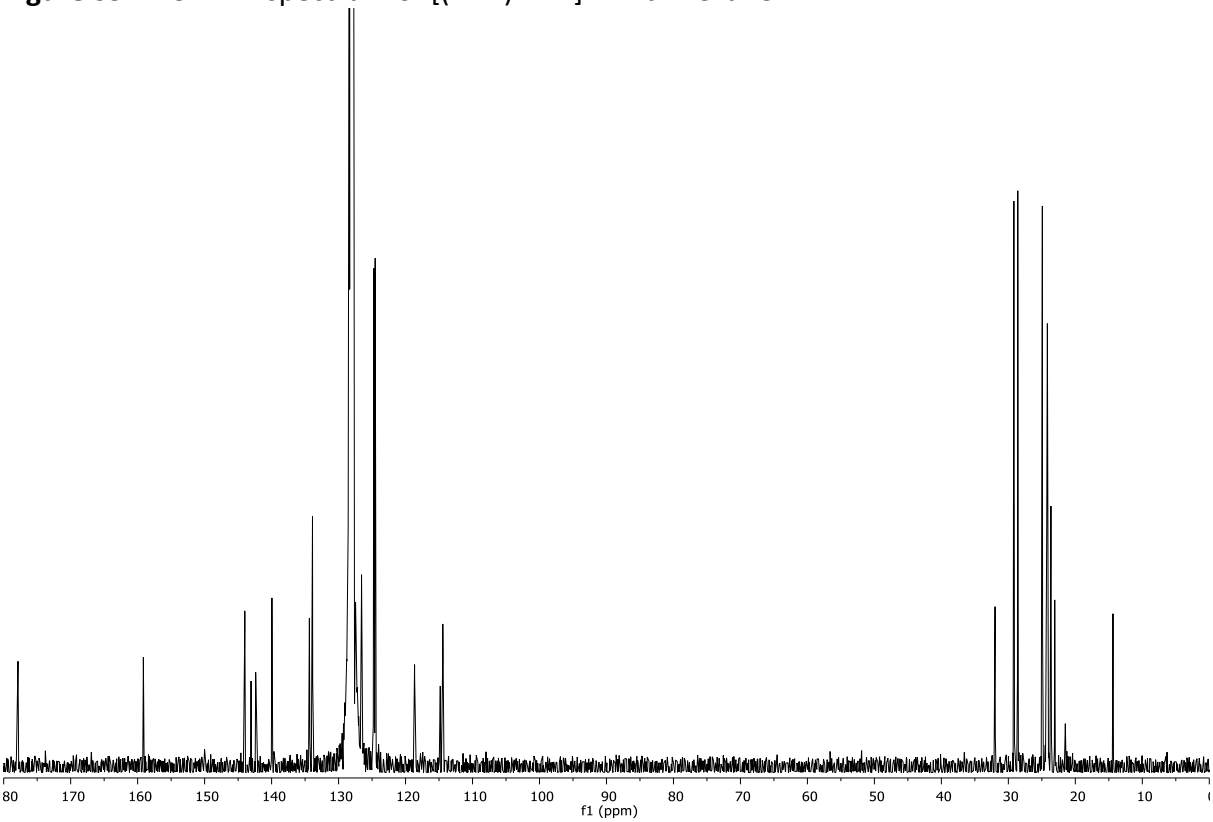


Figure S10. ^{1}H NMR spectrum of [(L^{Dipp})ZnHMDS] **2**.

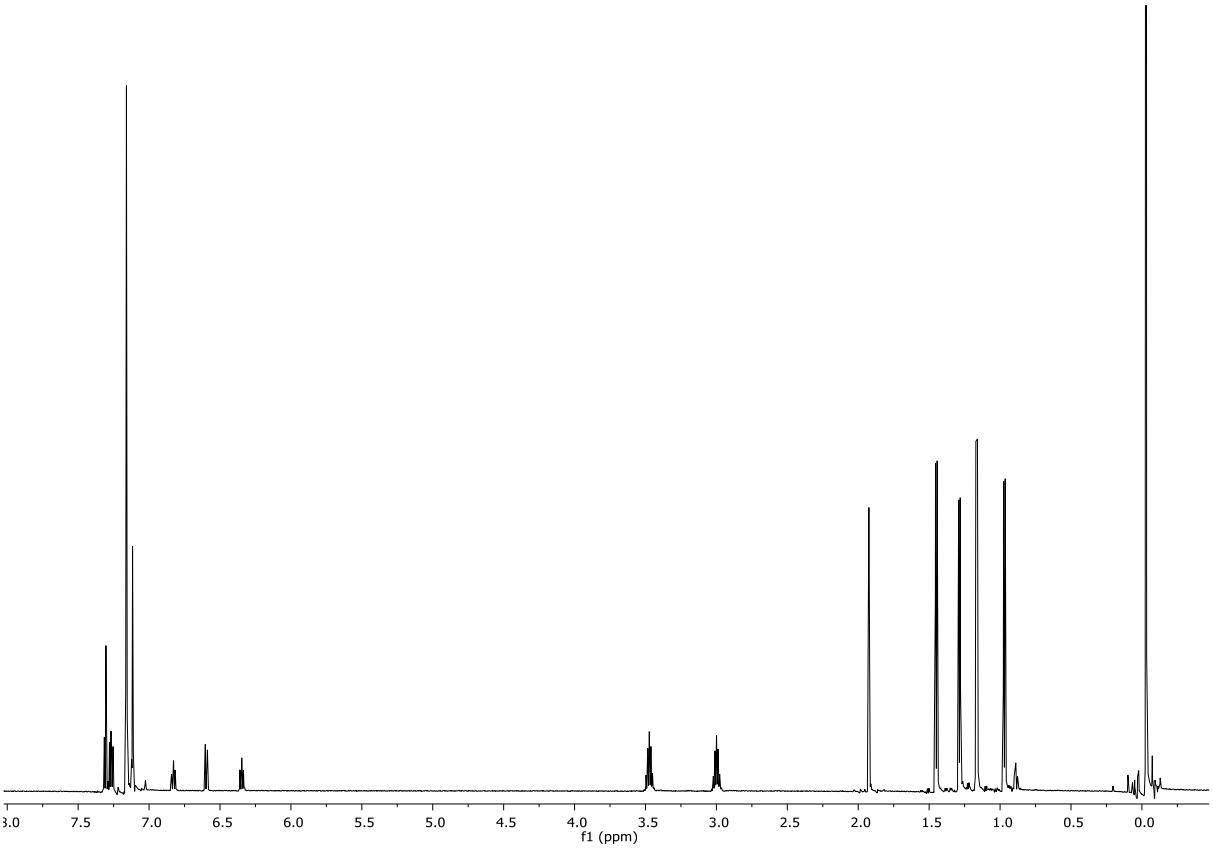


Figure S11. ^{13}C NMR spectrum of [(L^{Dipp})ZnHMDS] **2**.

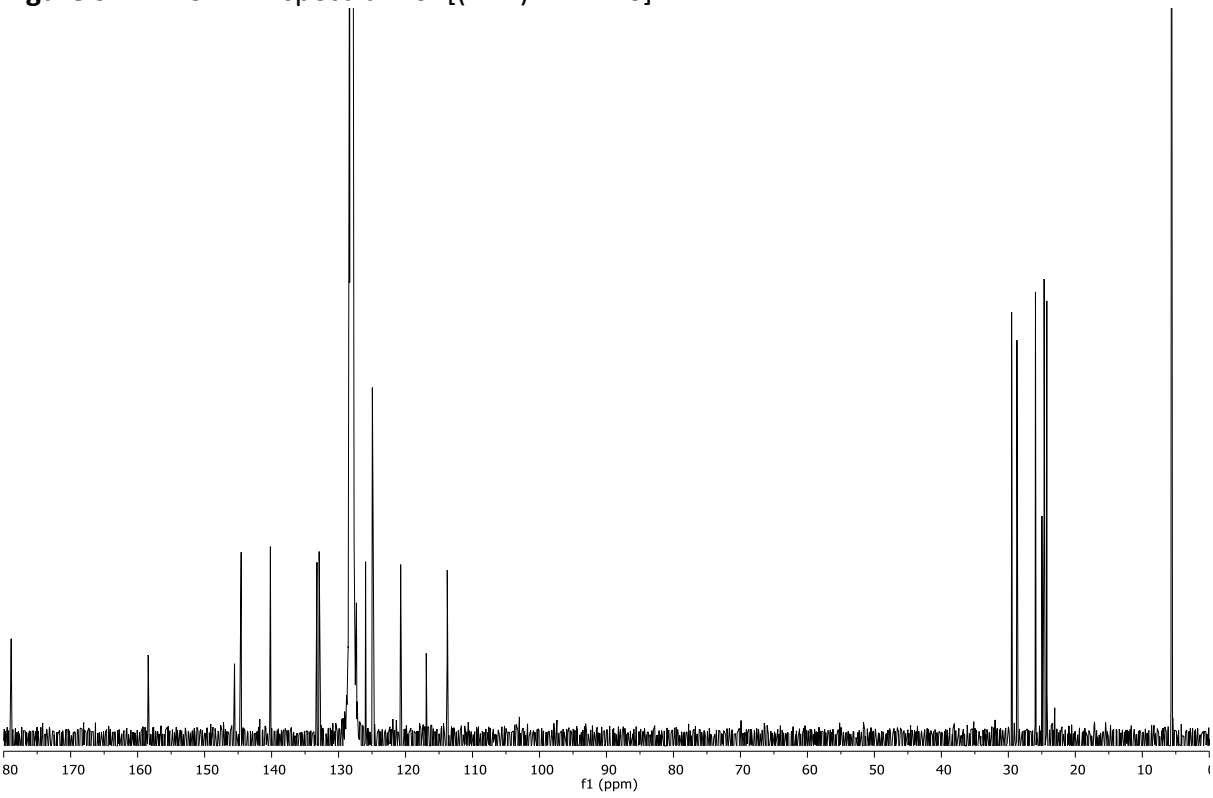


Figure S12. ^{1}H NMR spectrum of [(L^{Dipp})ZnNH(Dipp)] **3**.

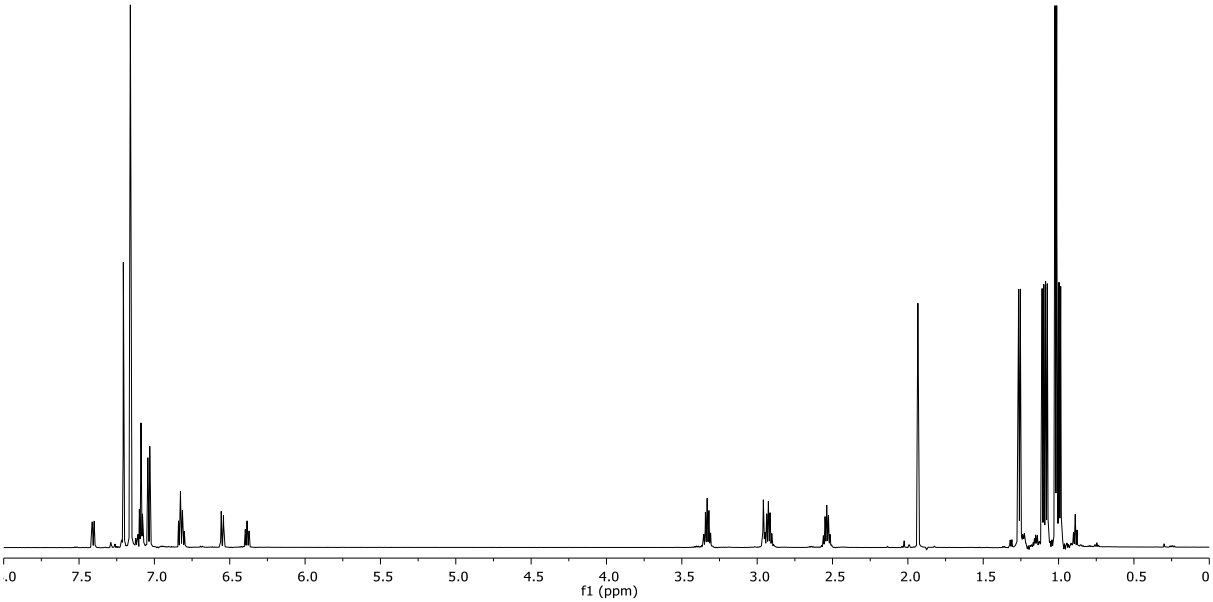


Figure S13. ^{13}C NMR spectrum of [(L^{Dipp})ZnNH(Dipp)] **3**.

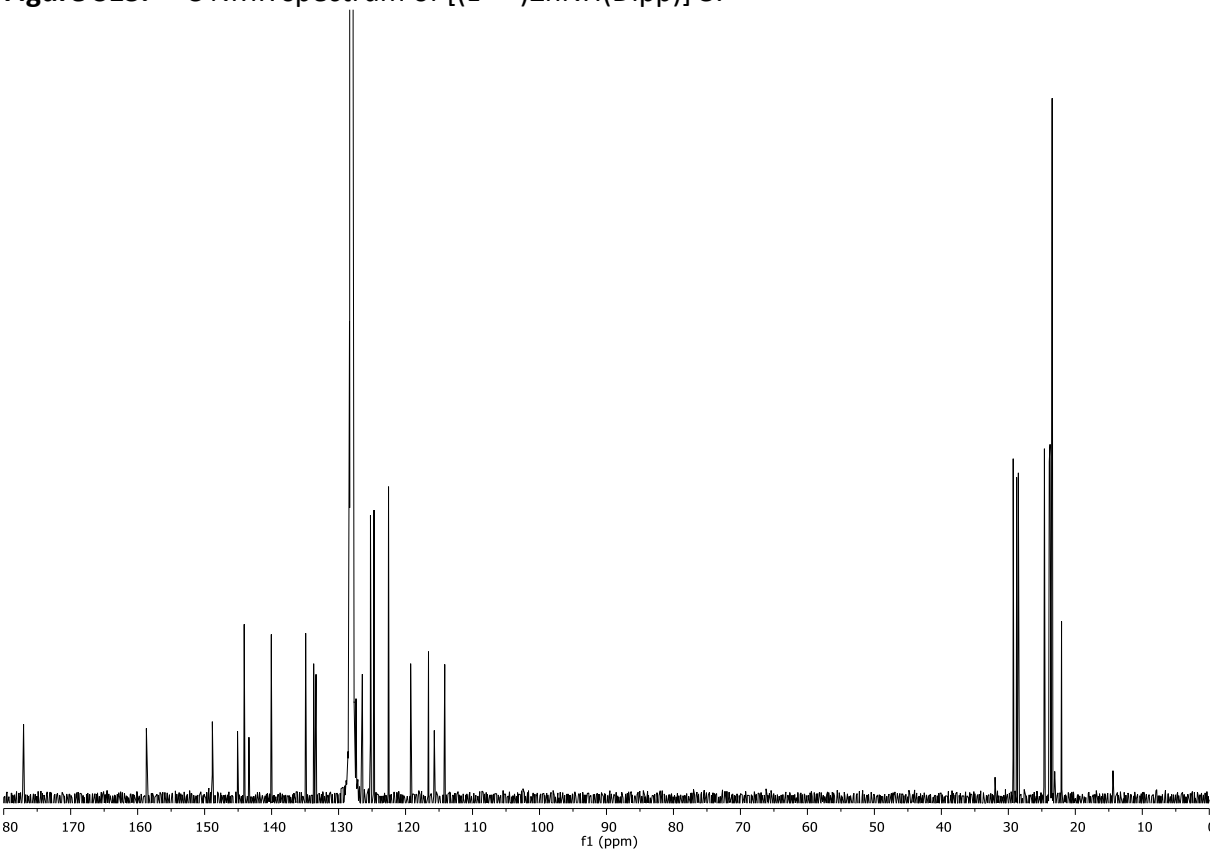


Figure S14. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})ZnPCy_2] **4**.

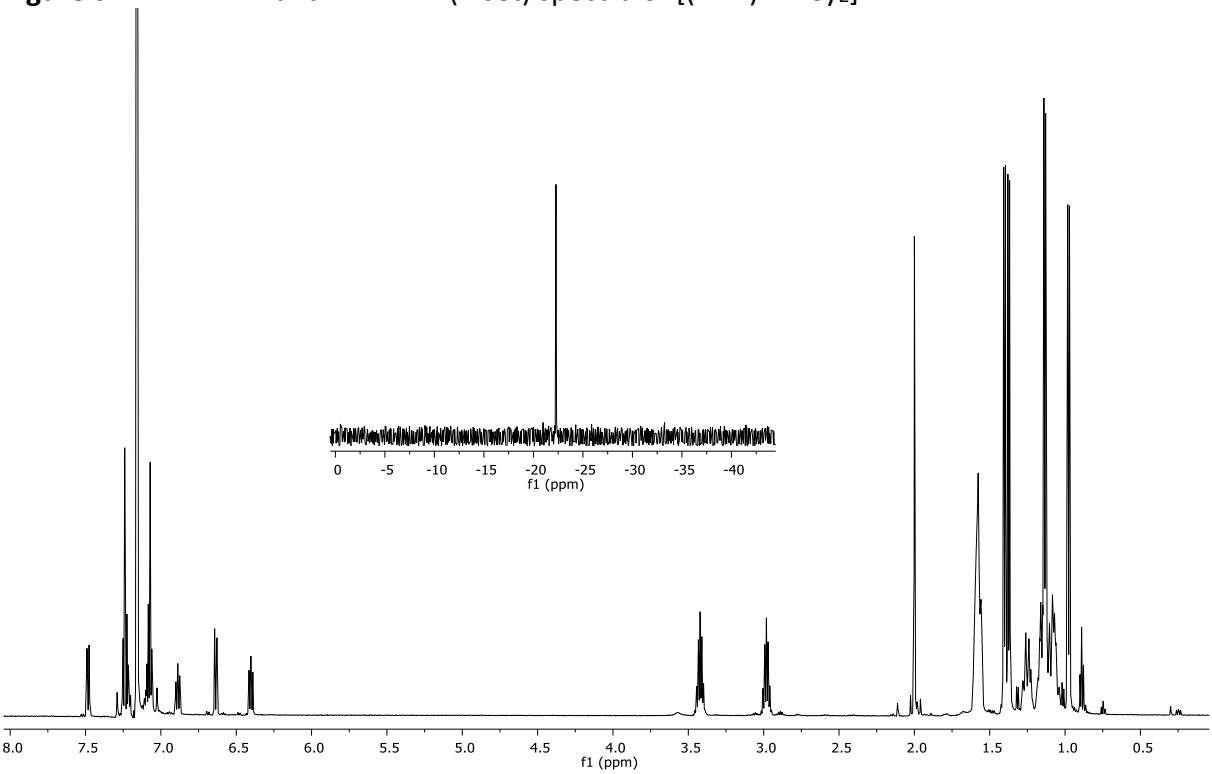


Figure S15. ^{13}C NMR spectrum of [(L^{Dipp})ZnPCy_2] **4**.

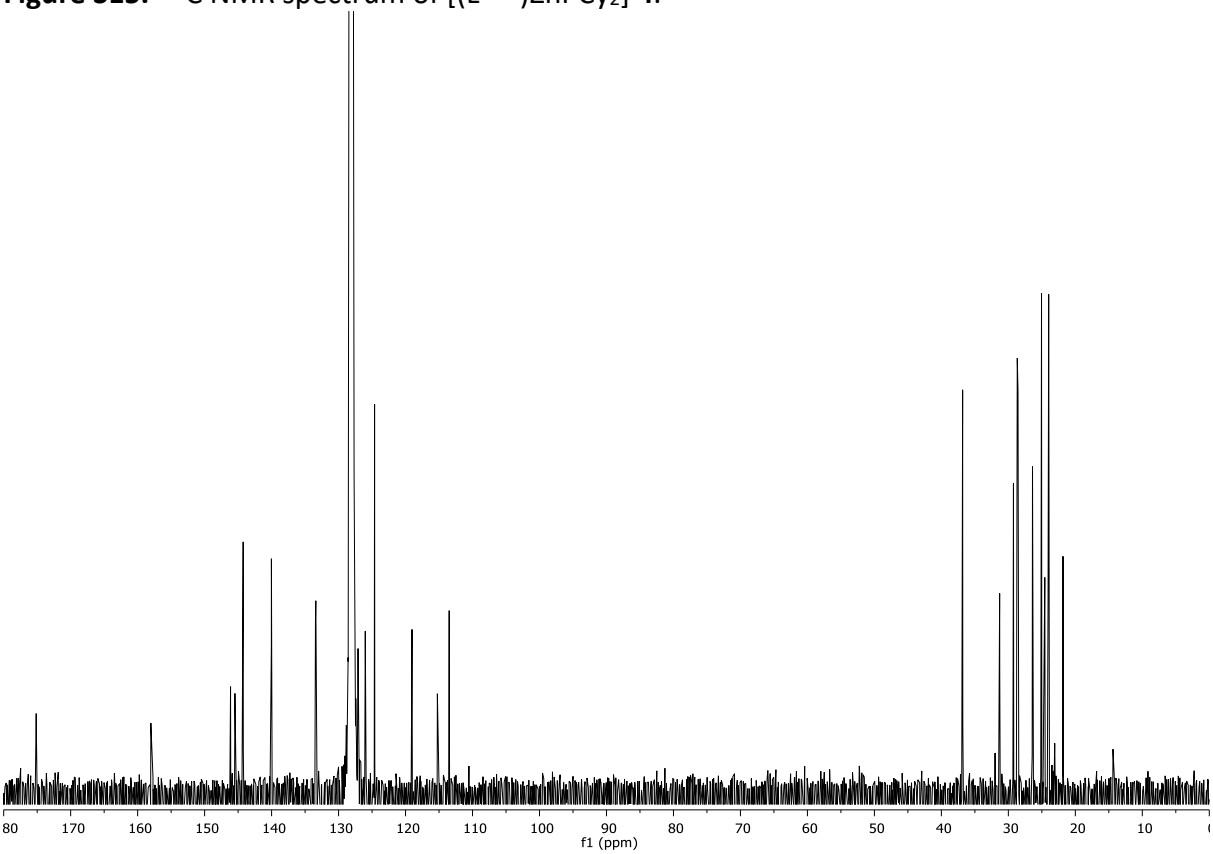


Figure S16. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})ZnPPh$_2$] **5**.

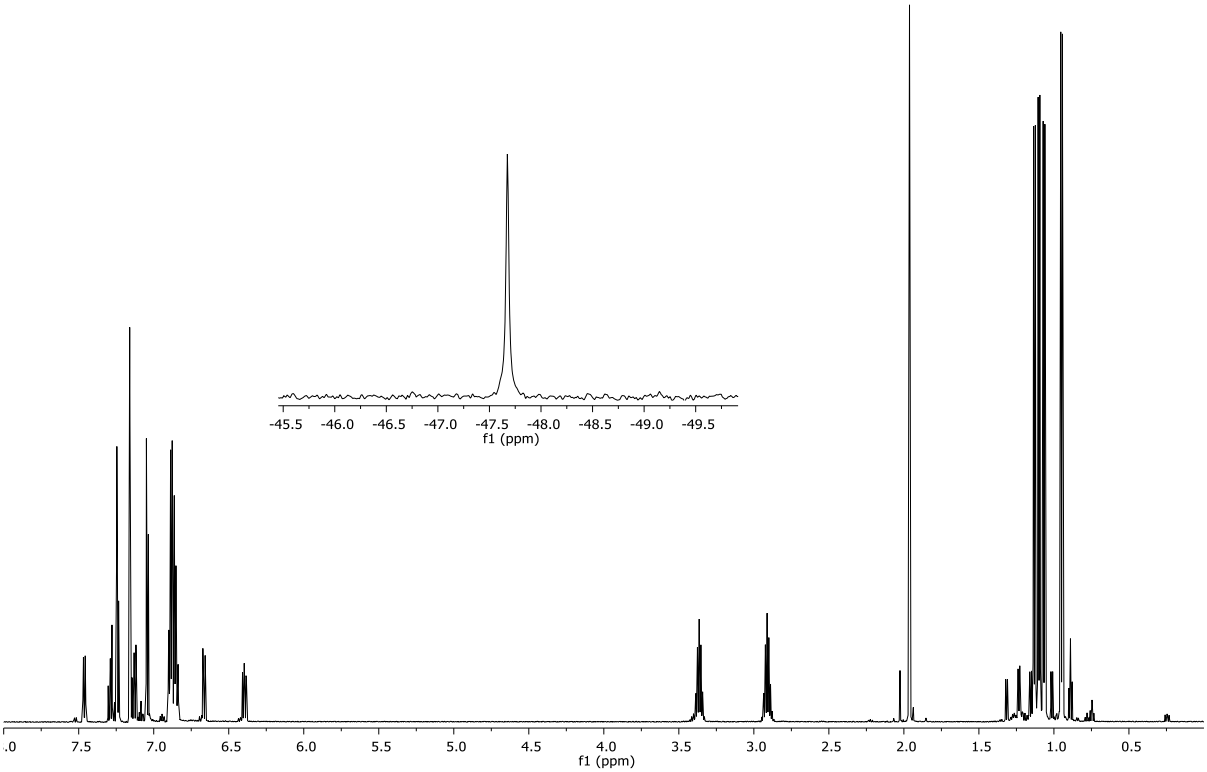


Figure S17. ^{13}C NMR spectrum of of [(L^{Dipp})ZnPPh$_2$] **5**.

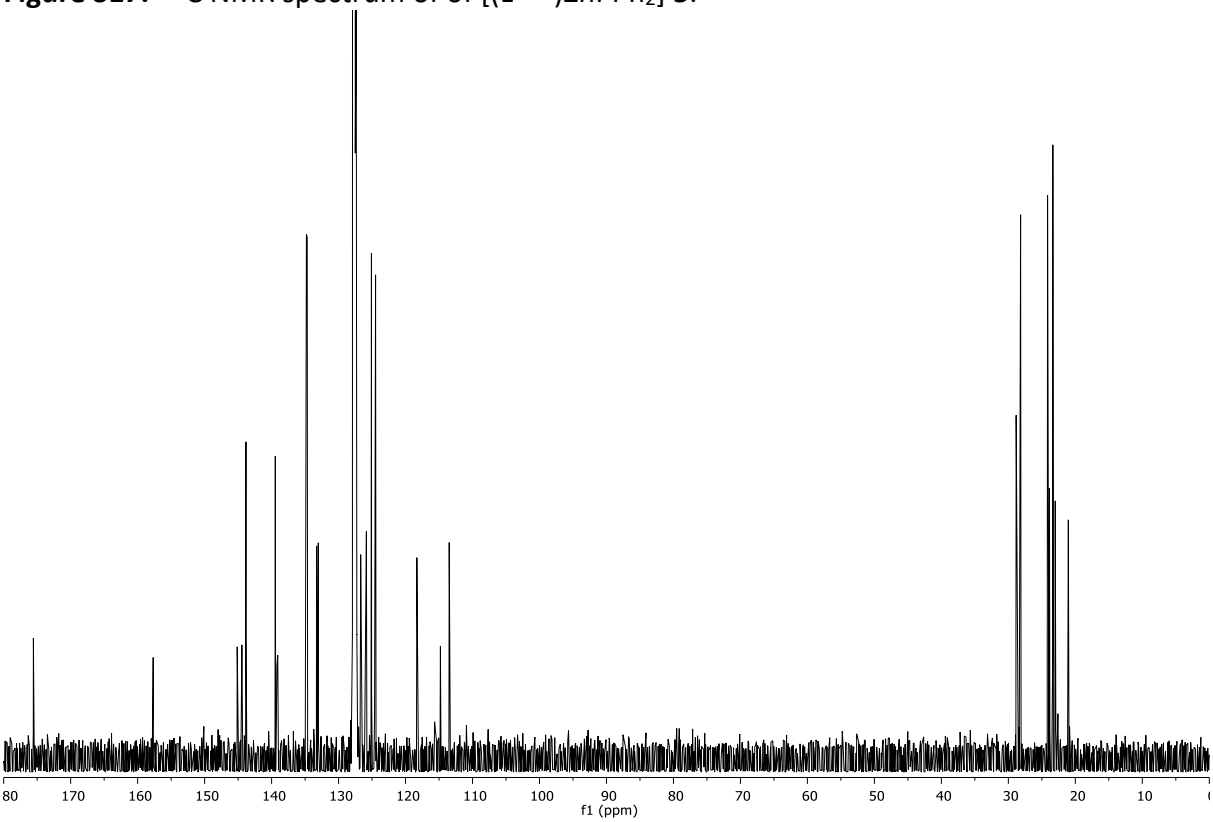


Figure S18. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})Zn(S_2)PCy_2] **6**.

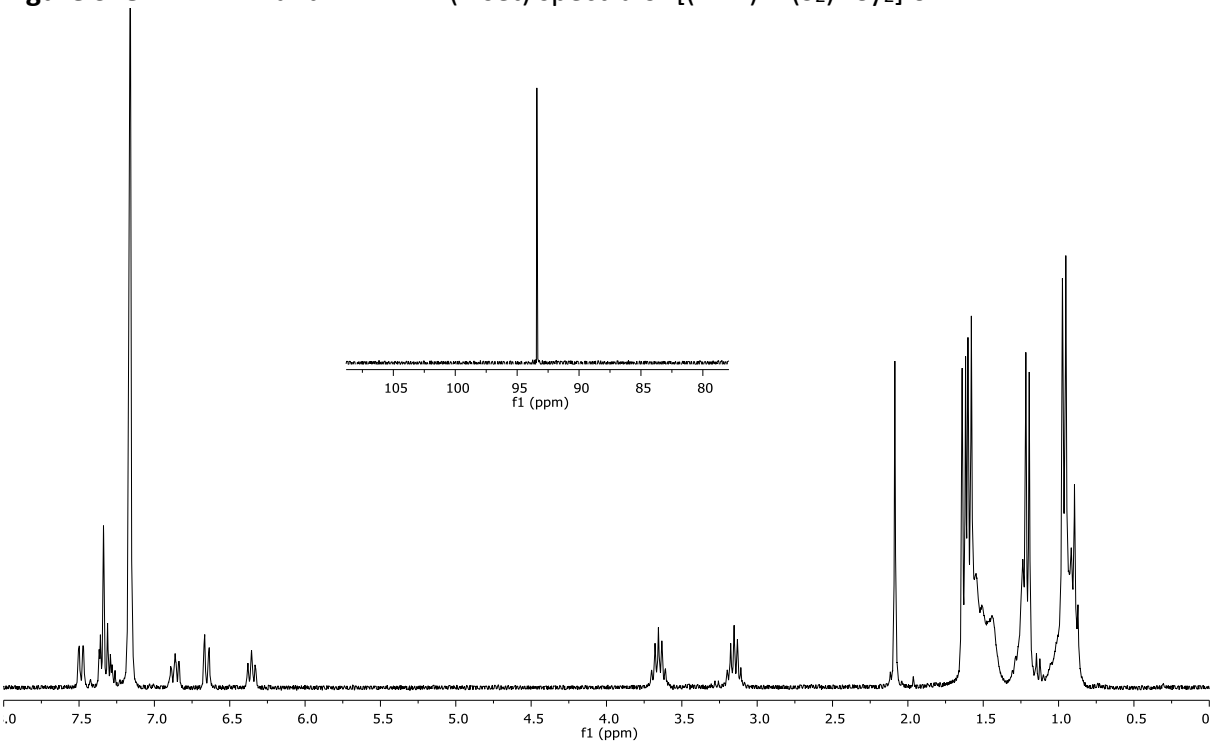


Figure S19. ^{13}C NMR spectrum of [(L^{Dipp})Zn(S_2)PCy_2] **6**.

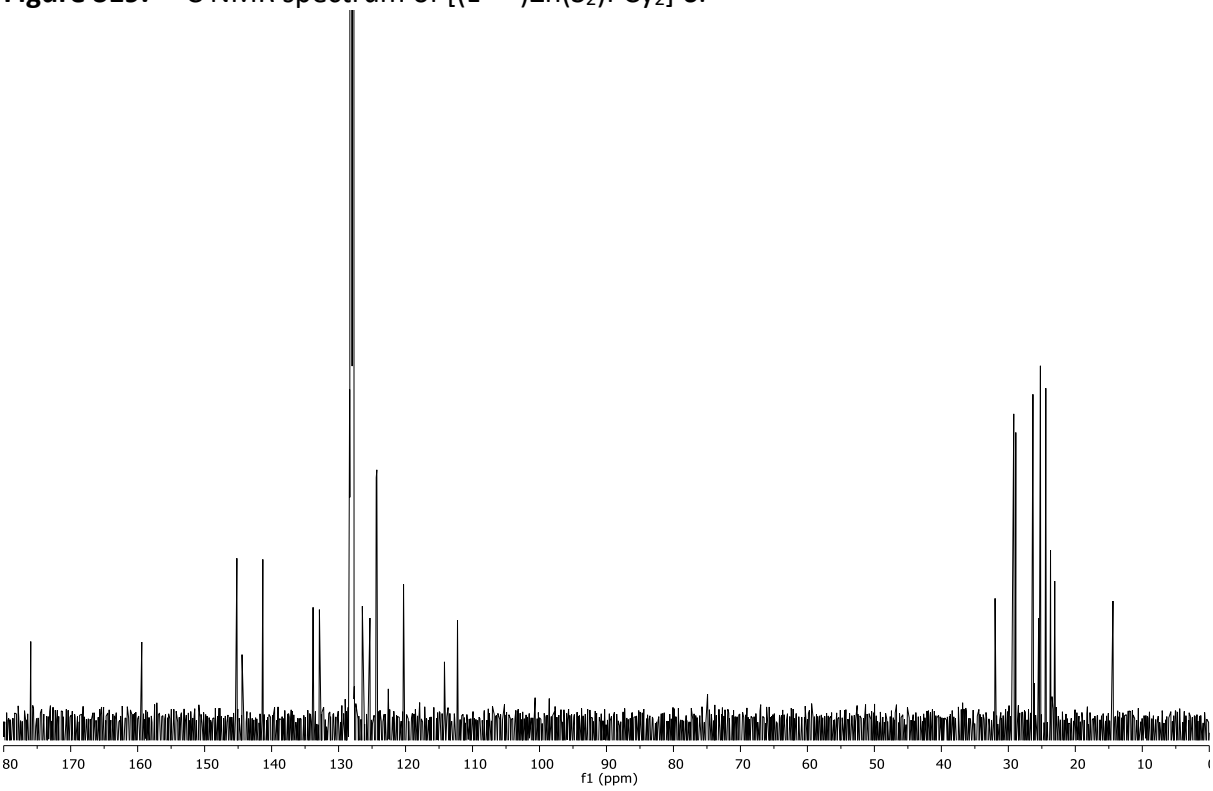


Figure S20. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})Zn(Se_2)PCy_2] **7** with unreacted [(L^{Dipp})ZnPCy_2].

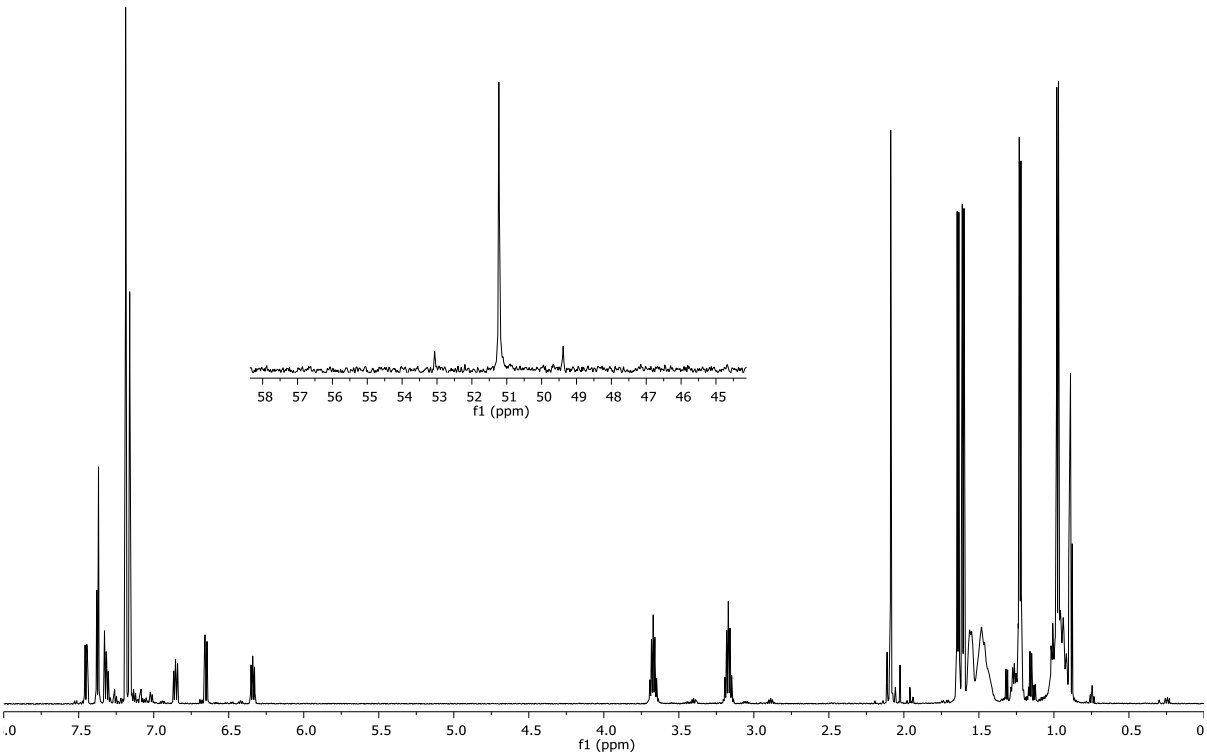


Figure S21. ^{13}C NMR spectrum of [[(L^{Dipp})Zn(Se_2)PCy_2] **7**.

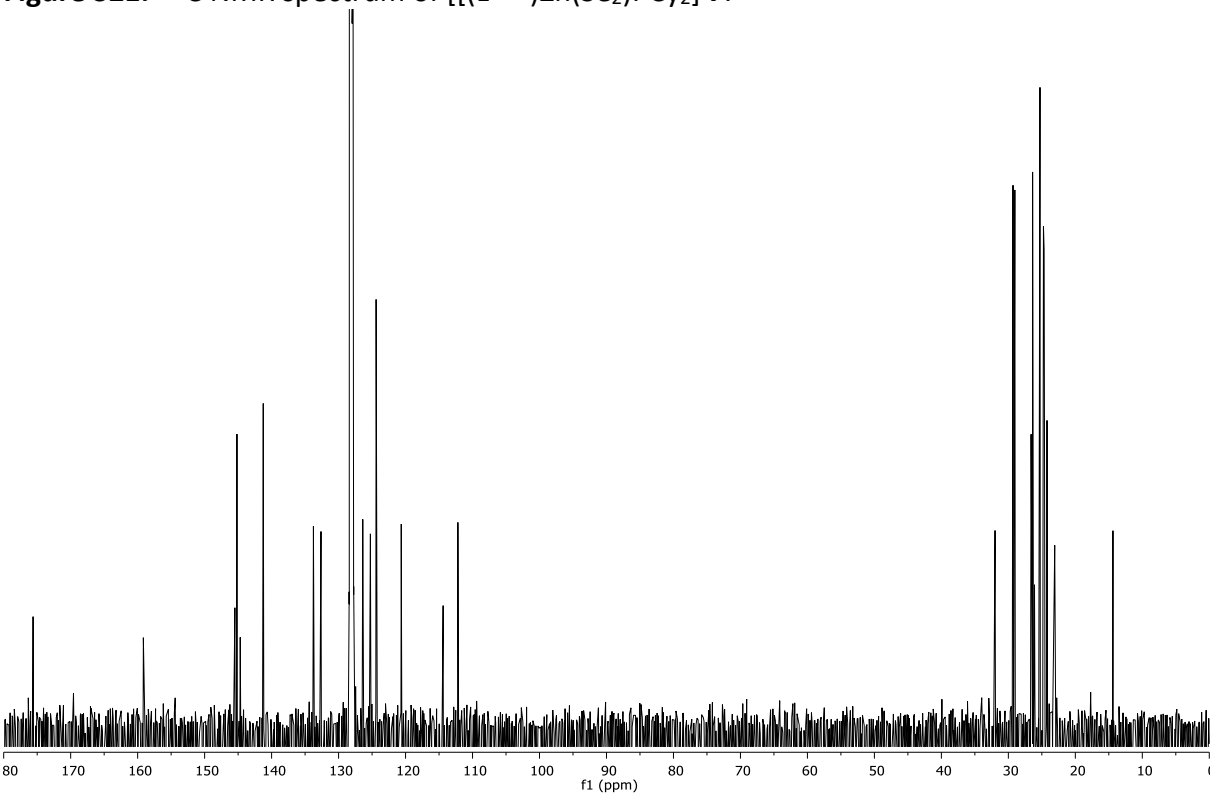


Figure S22. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})Zn(Te_2)PCy_2] **8**.

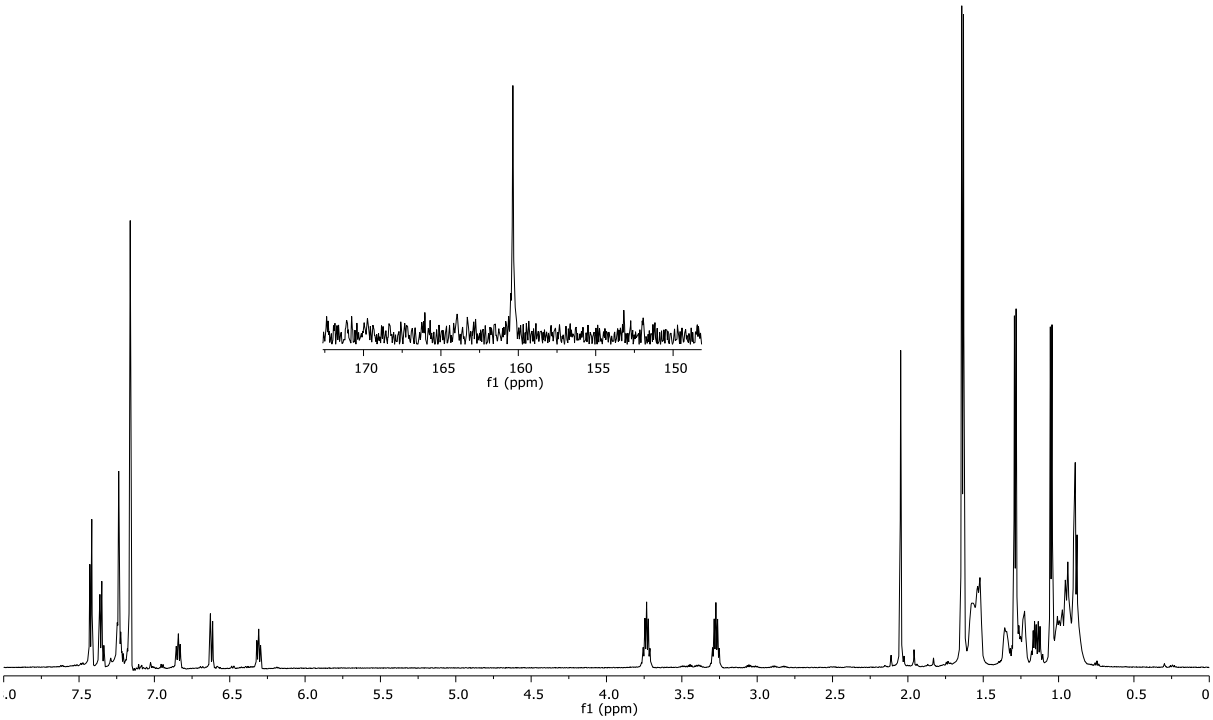


Figure S23. ^{13}C NMR spectrum of [[(L^{Dipp})Zn(Te_2)PCy_2] **8**.

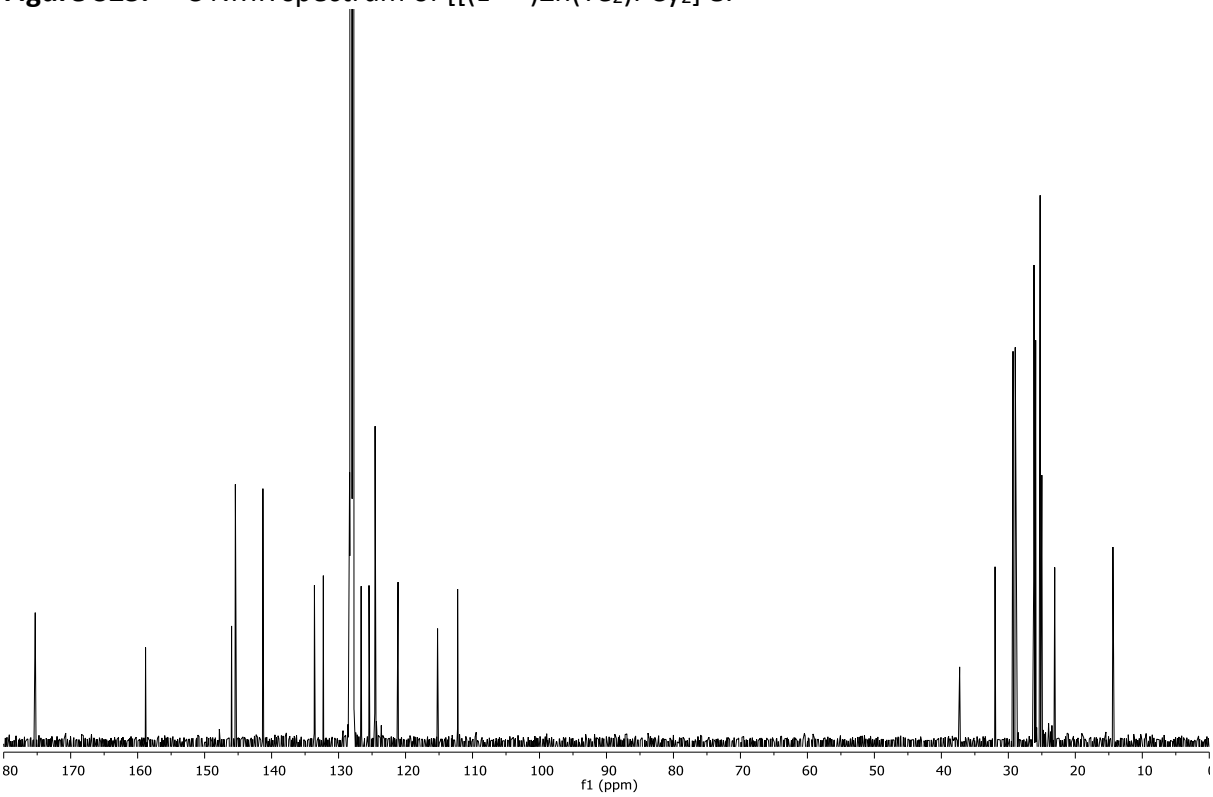


Figure S24. ^{1}H NMR and ^{31}P NMR (inset) spectra of [(L^{Dipp})Zn(Se_2)PPh_2] **9.**

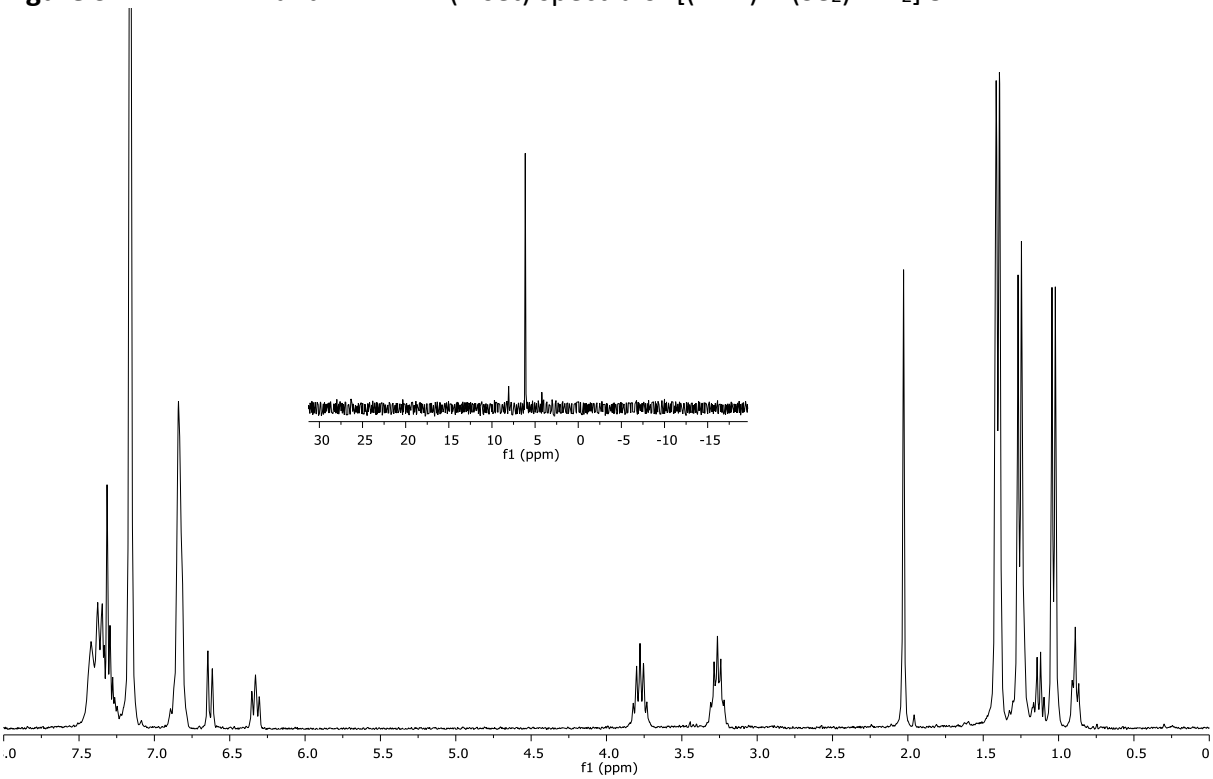


Figure S25. ^{13}C NMR spectrum of [[(L^{Dipp})Zn(Se_2)PPh_2] **9**.

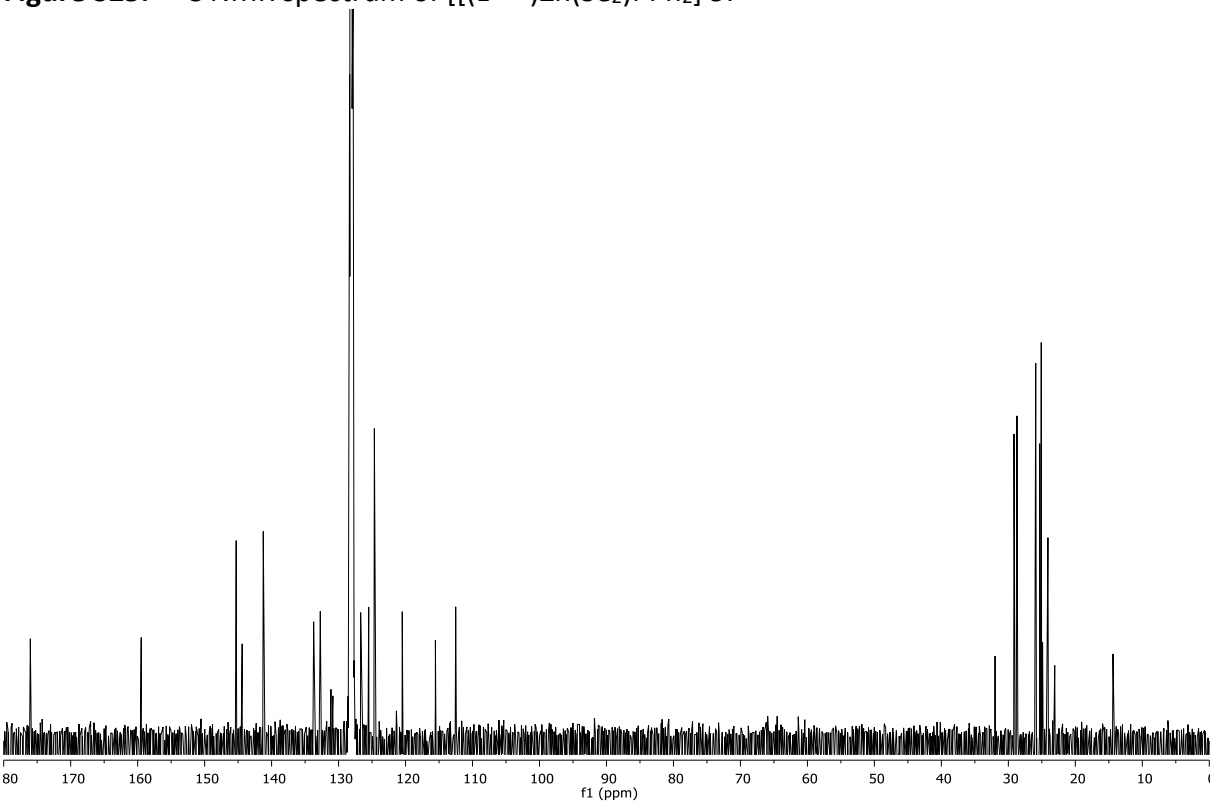


Figure S26. ^{1}H NMR spectrum of [(L^{Dipp})ZnTeZn(L^{Dipp})] **10** with $(Ph_2P)_2$.

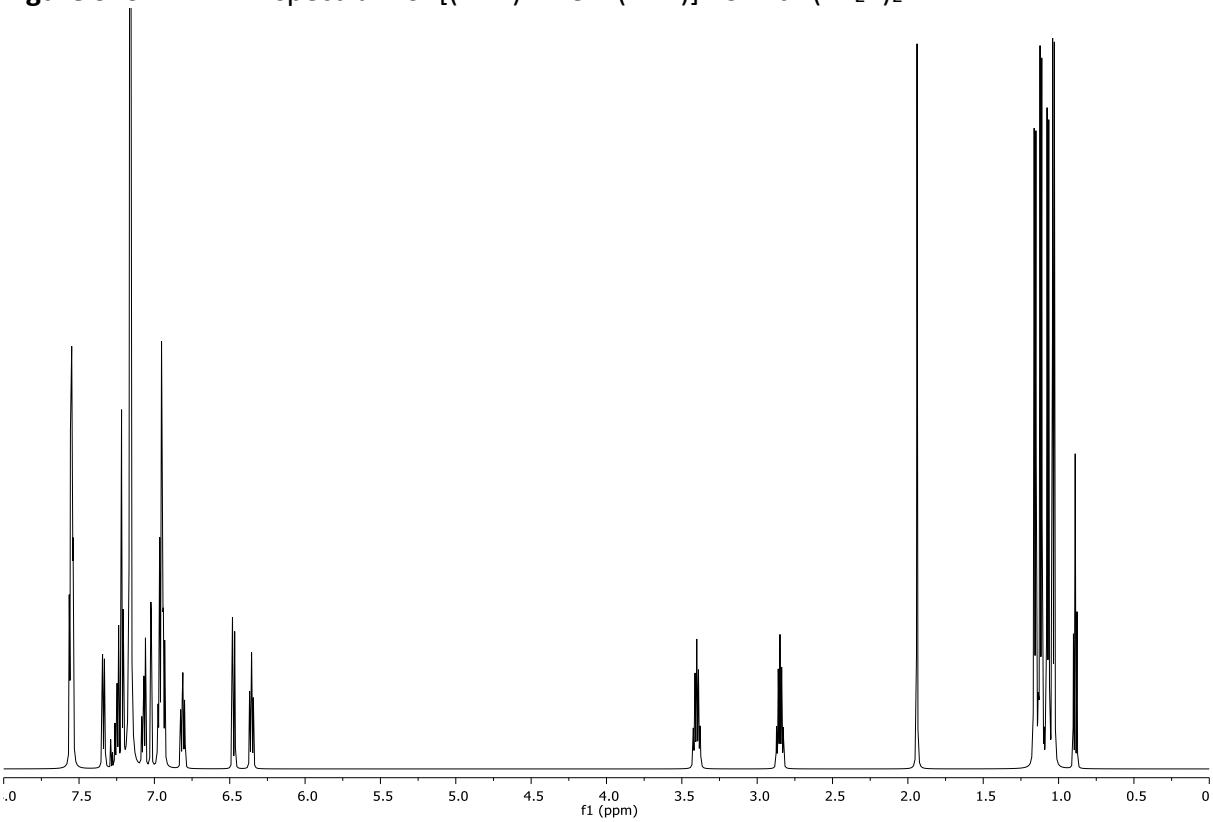


Figure S27. ^{13}C NMR spectrum of of [(L^{Dipp})ZnTeZn(L^{Dipp})] **10** with $(Ph_2P)_2$.