

Supporting information

for

Hybrid amino/iminopyridines with auxiliary phosphines enhancing their zinc complex catalysts for the ring-opening polymerization of lactide

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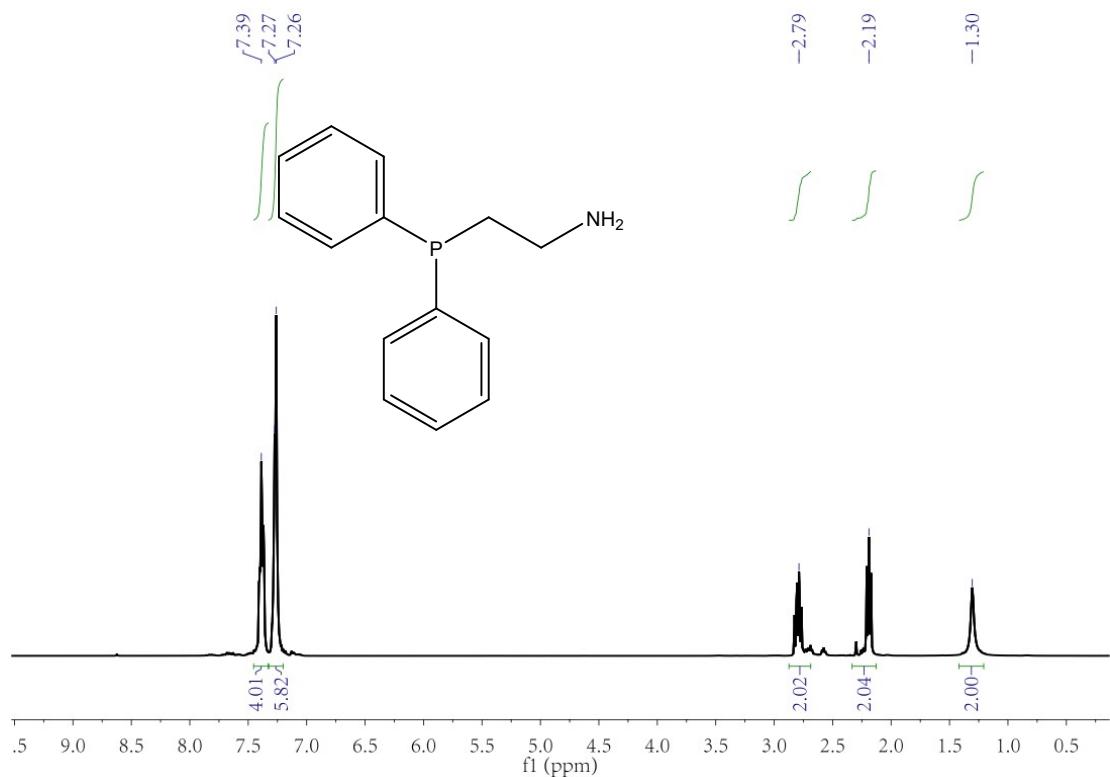


Figure S1 ^1H NMR spectrum of Diphenylphosphinoethylamine; recorded in CDCl_3 at 25 °C

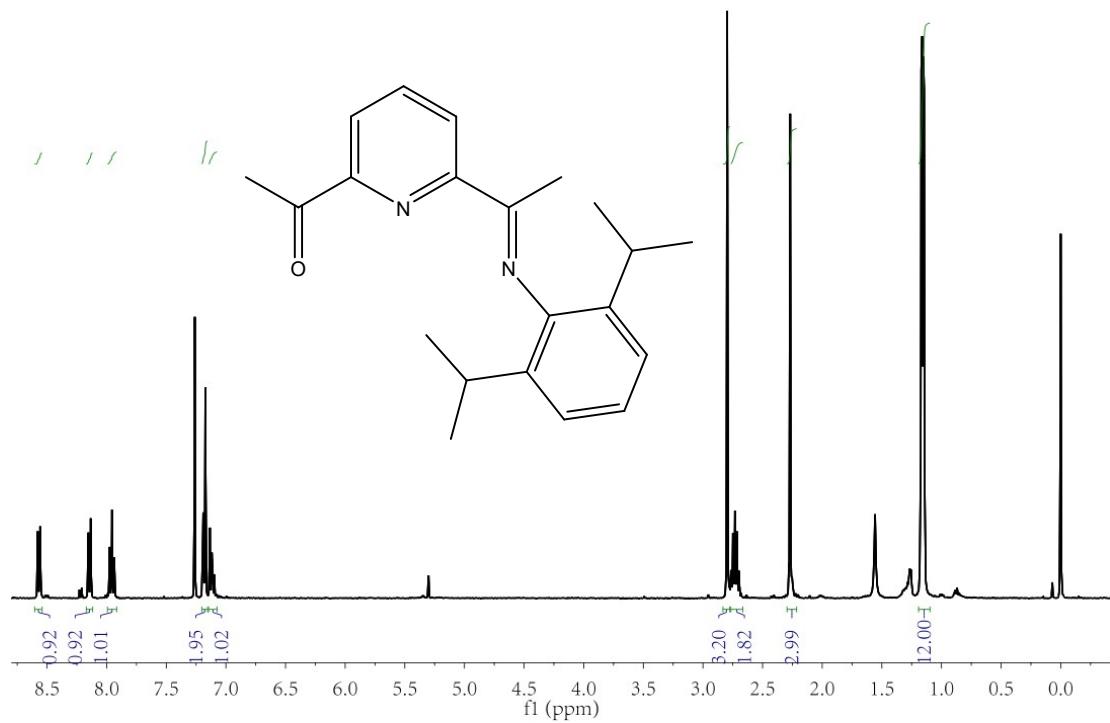


Figure S2 ^1H NMR spectrum of monoimino SI recorded in CDCl_3 at 25 °C

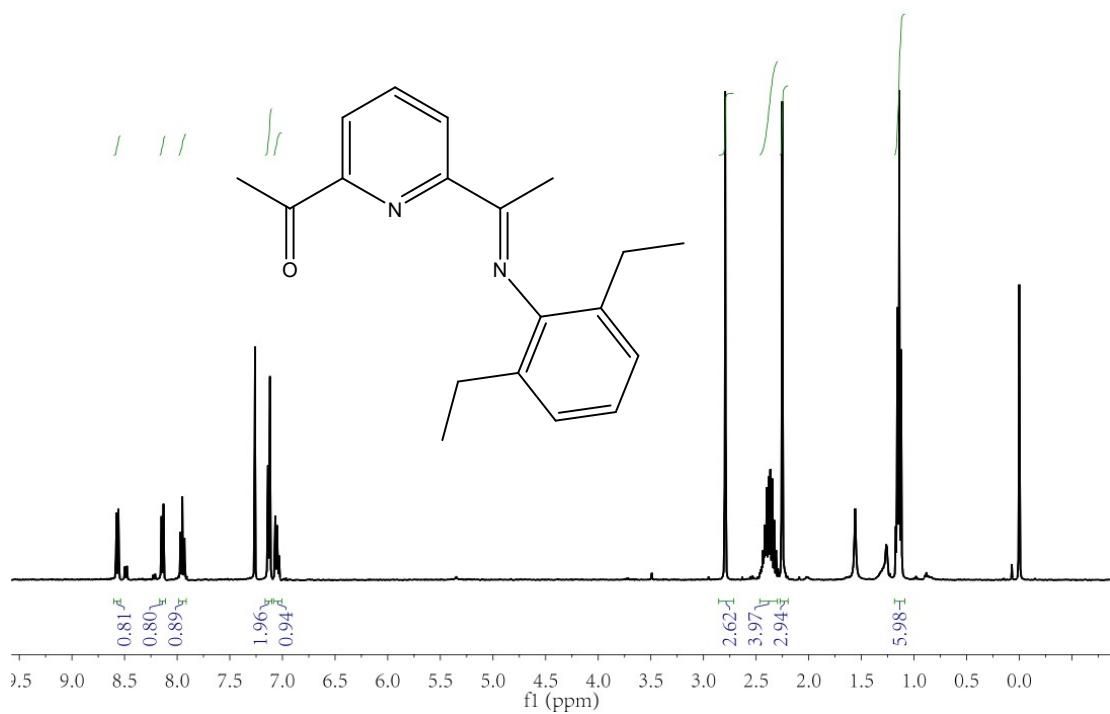


Figure S3 ¹H NMR spectrum of monoimino S2 recorded in CDCl₃ at 25 °C

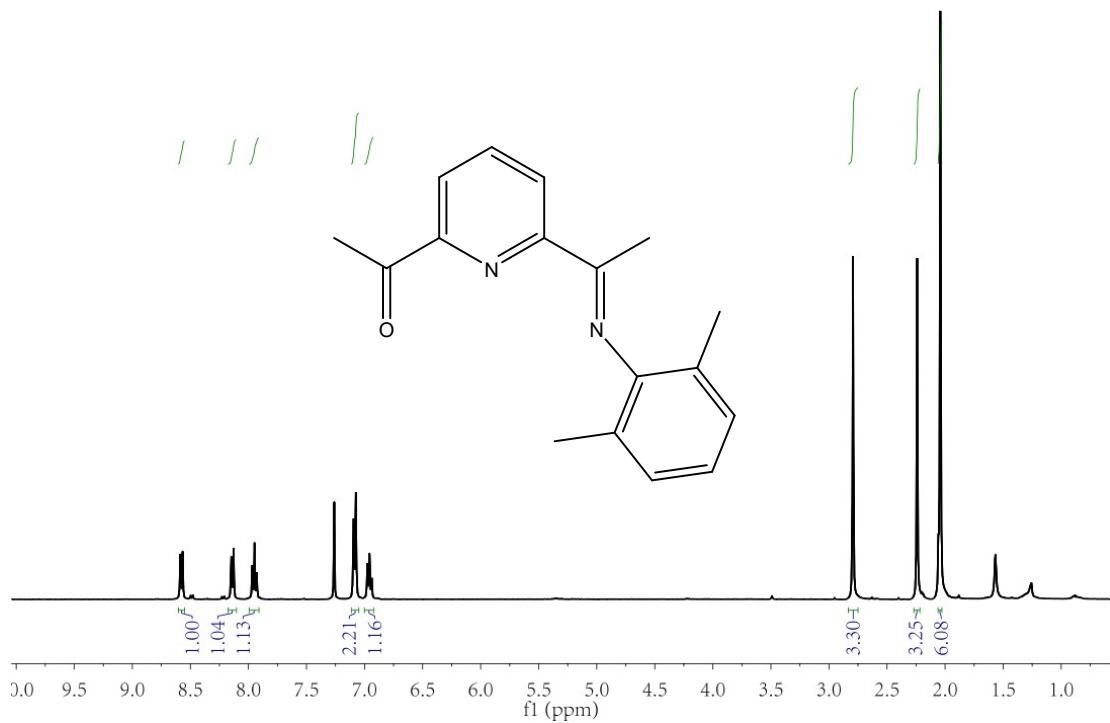


Figure S4 ¹H NMR spectrum of monoimino S3 recorded in CDCl₃ at 25 °C

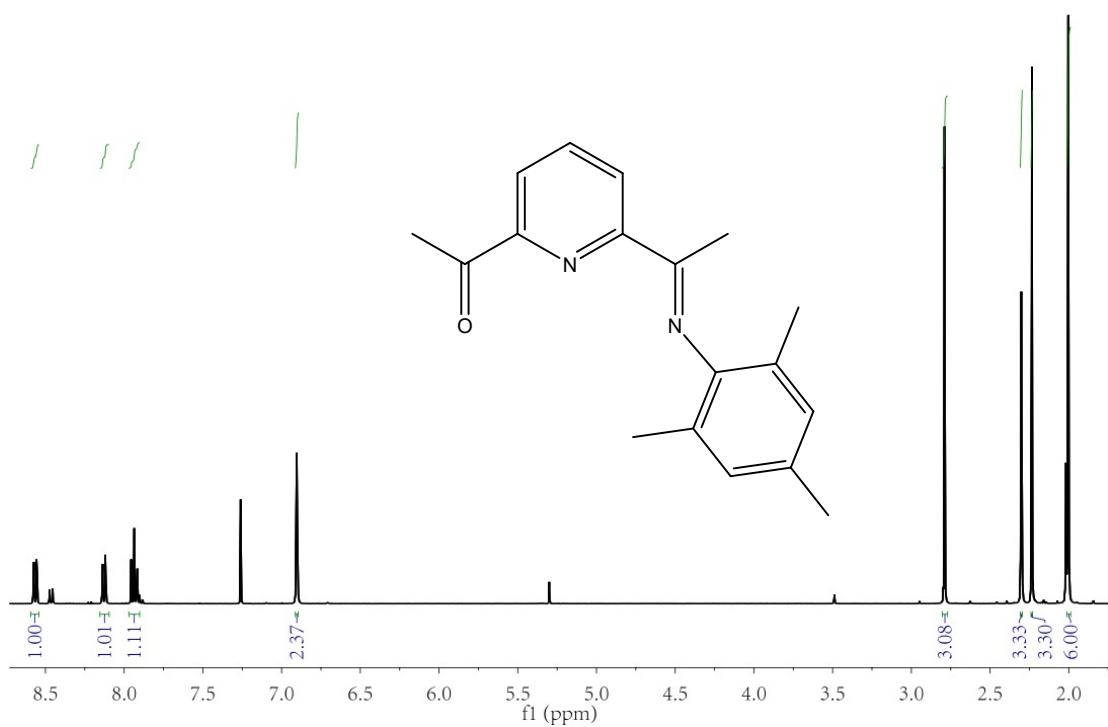


Figure S5 ^1H NMR spectrum of monoimino S4 recorded in CDCl_3 at 25 °C

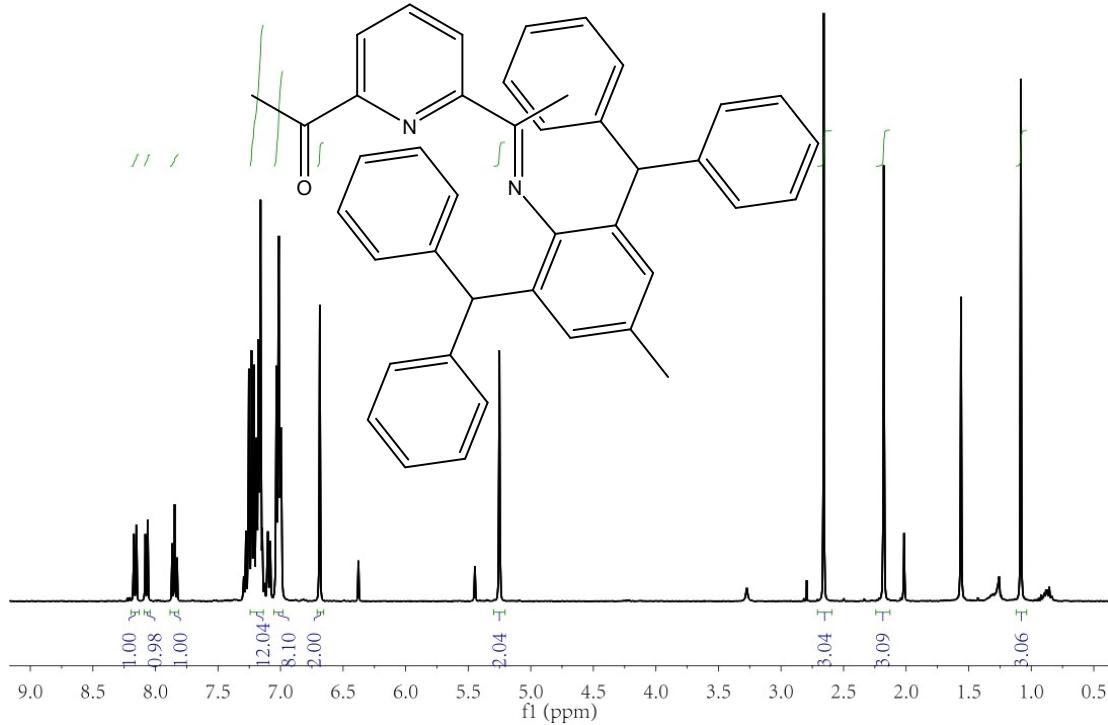


Figure S6 ^1H NMR spectrum of monoimino S5 recorded in CDCl_3 at 25 °C

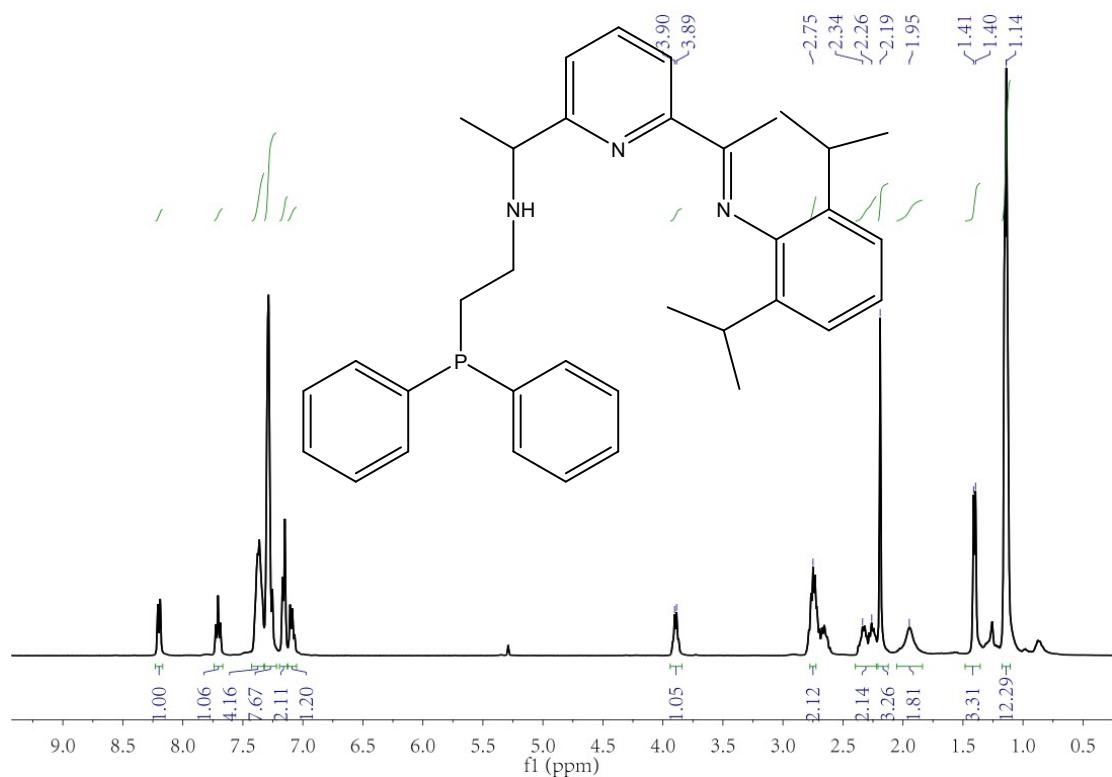


Figure S7 ^1H NMR spectrum of L1 recorded in CDCl_3 at 25 °C

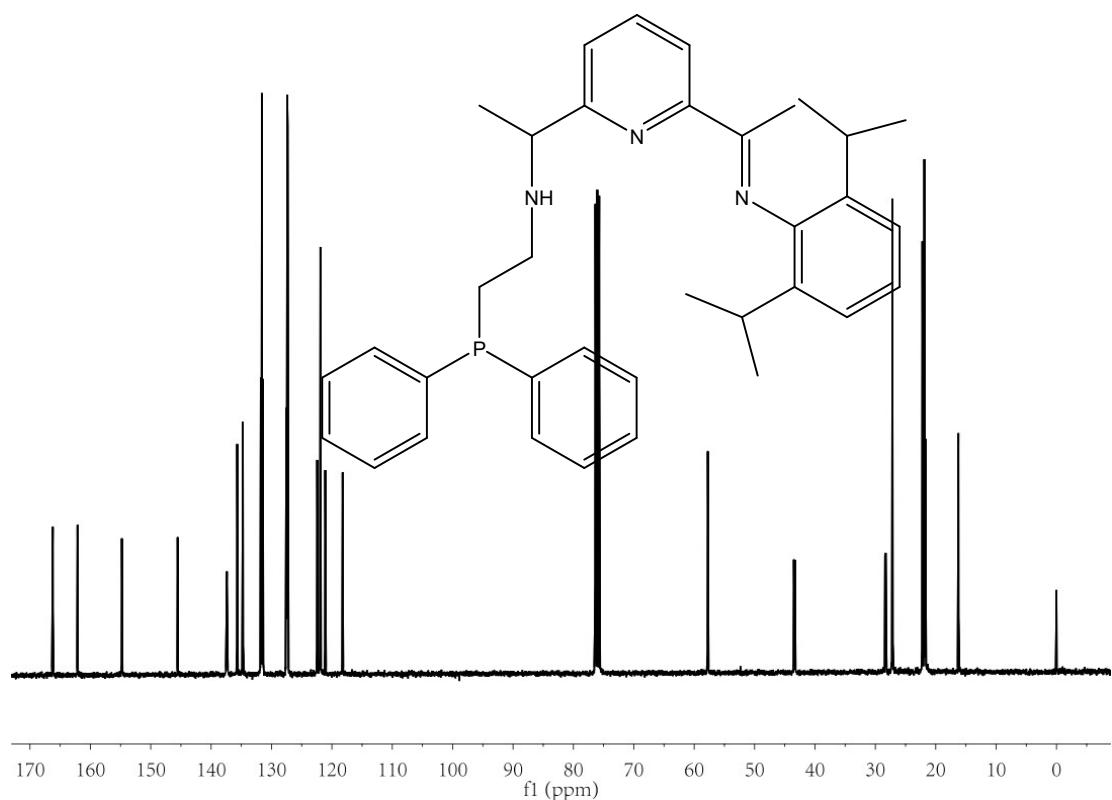


Figure S8 ^{13}C NMR spectrum of L1 recorded in CDCl_3 at 25 °C

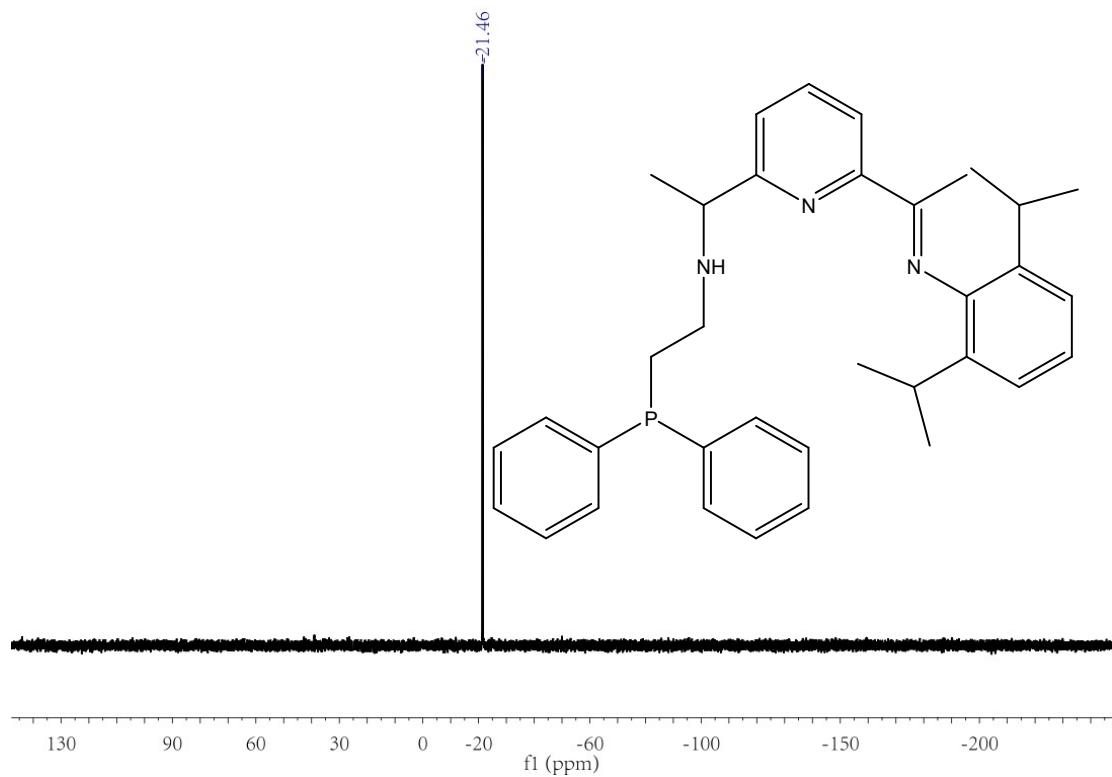


Figure S9 ^{31}P NMR spectrum of L1 recorded in CDCl_3 at $25\text{ }^\circ\text{C}$

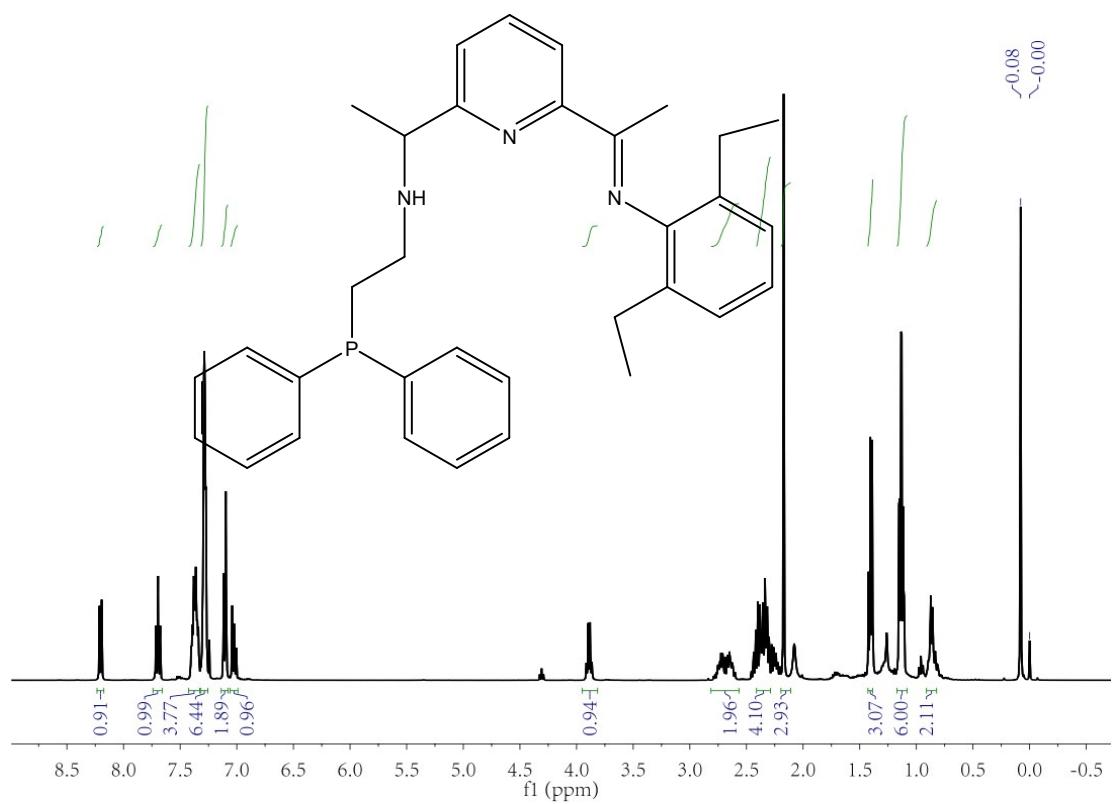


Figure S10 ^1H NMR spectrum of L2 recorded in CDCl_3 at $25\text{ }^\circ\text{C}$

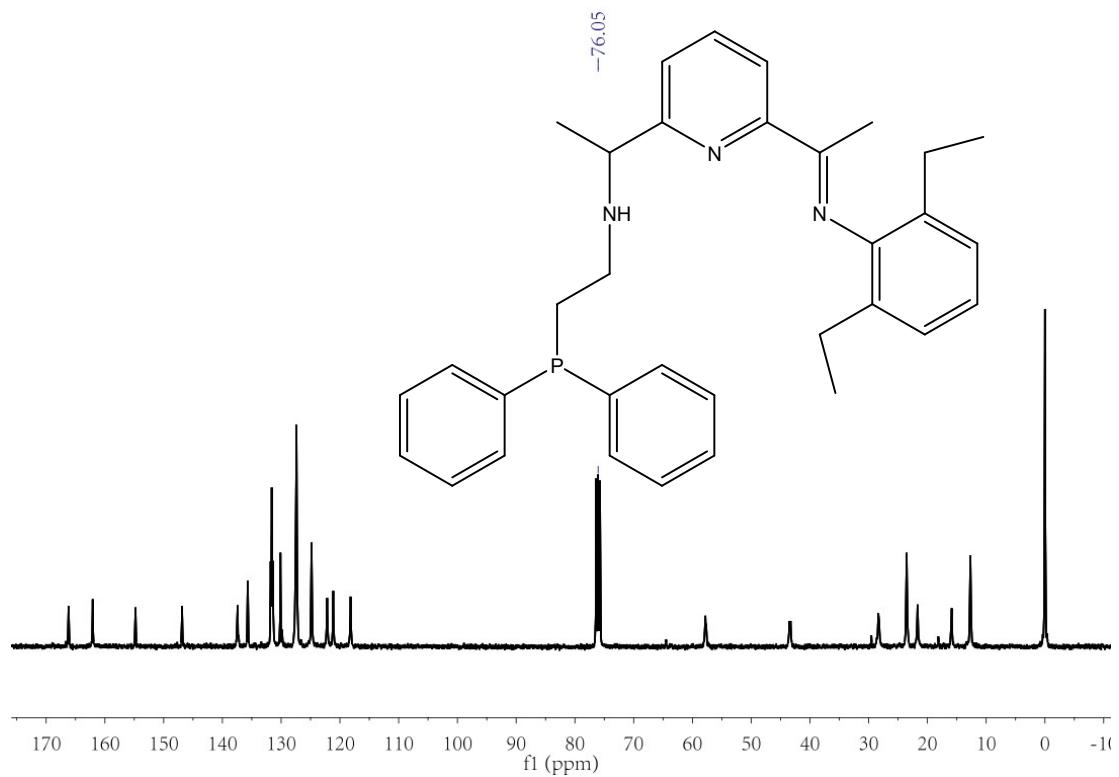


Figure S11 ^{13}C NMR spectrum of L2 recorded in CDCl_3 at 25 °C

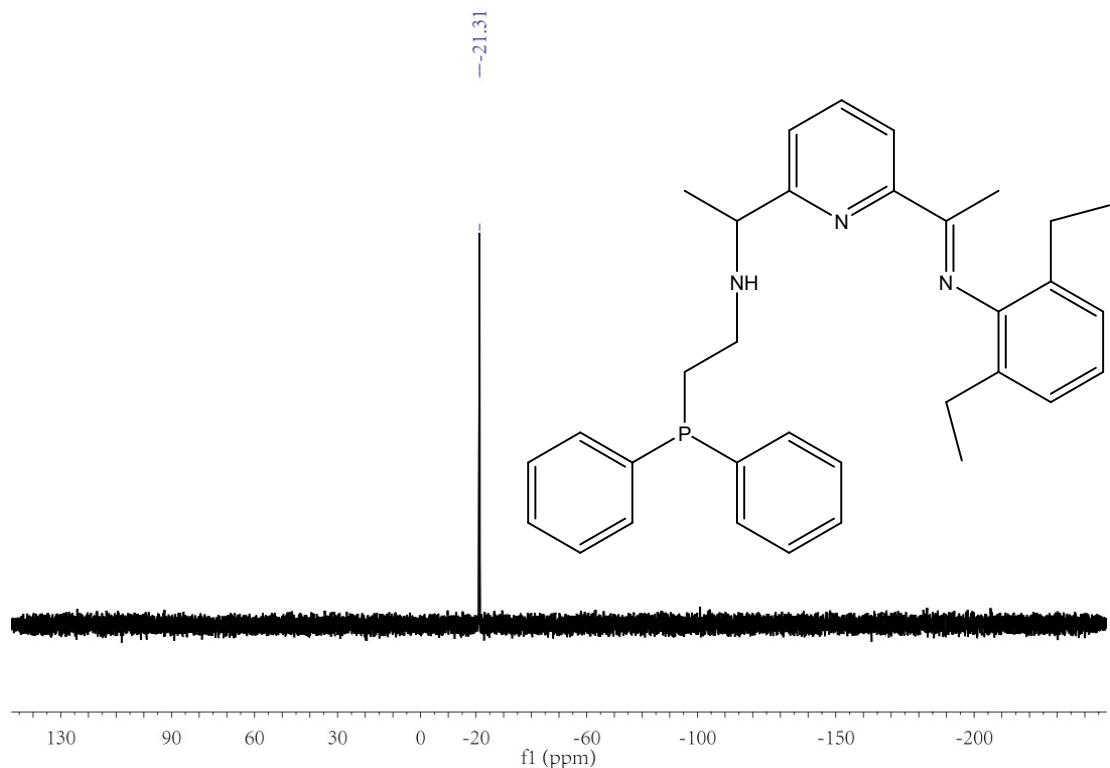


Figure S12 ^{31}P NMR spectrum of L2 recorded in CDCl_3 at 25 °C

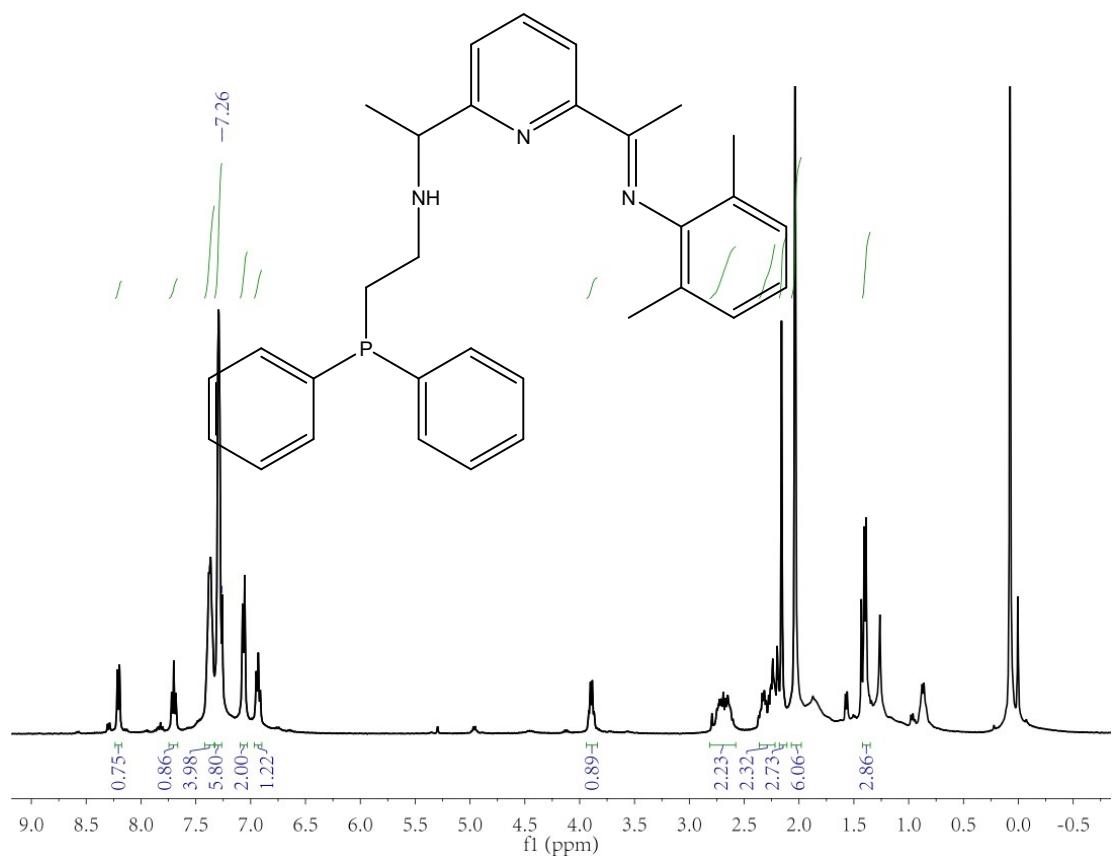


Figure S13 ^1H NMR spectrum of L3 recorded in CDCl_3 at 25 °C

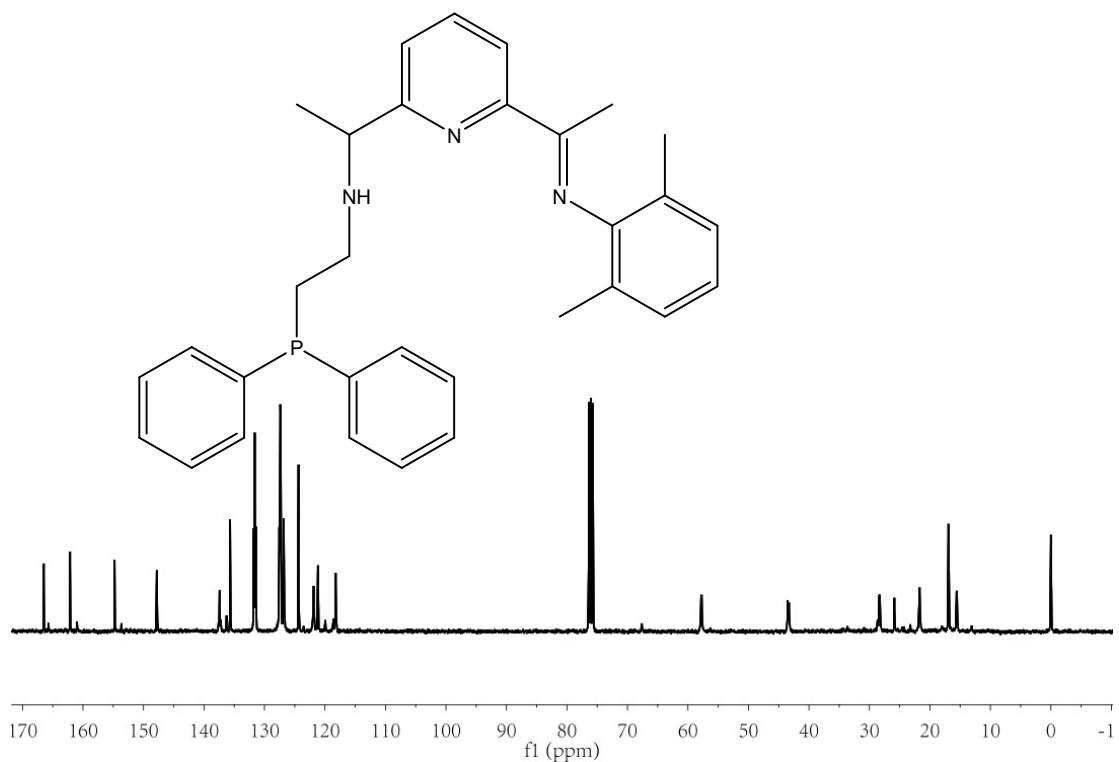


Figure S14 ^{13}C NMR spectrum of L3 recorded in CDCl_3 at 25 °C

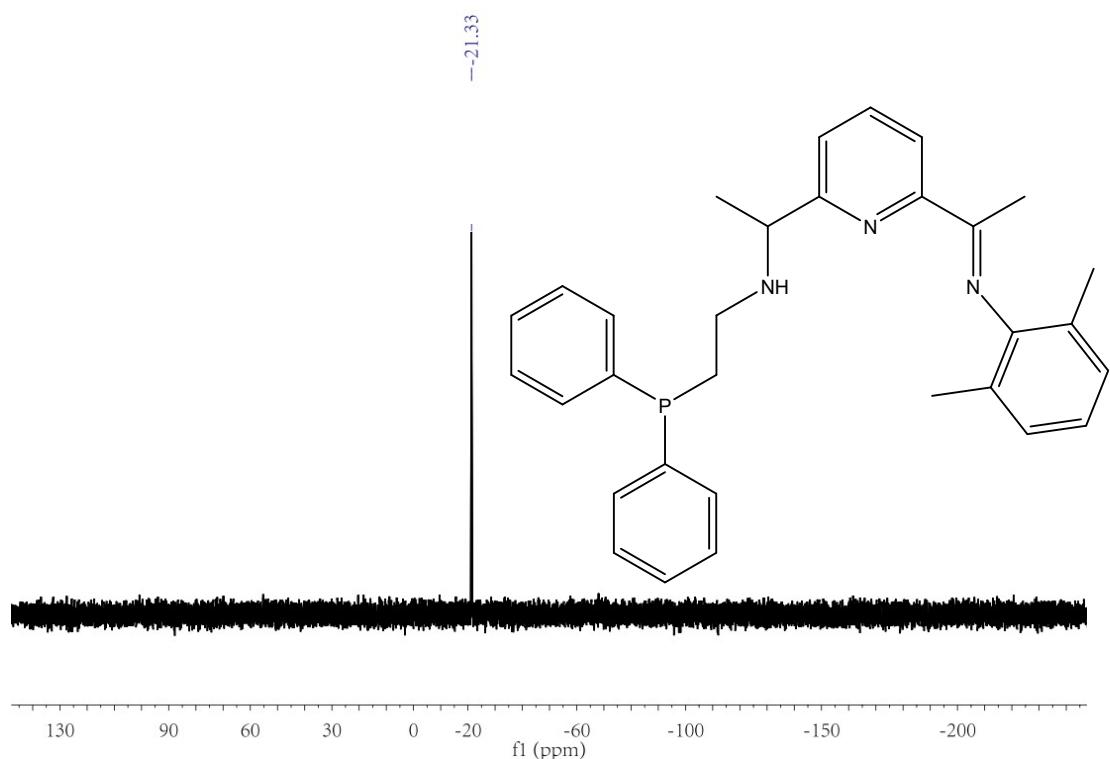


Figure S15 ^{31}P NMR spectrum of L3 recorded in CDCl_3 at 25 °C

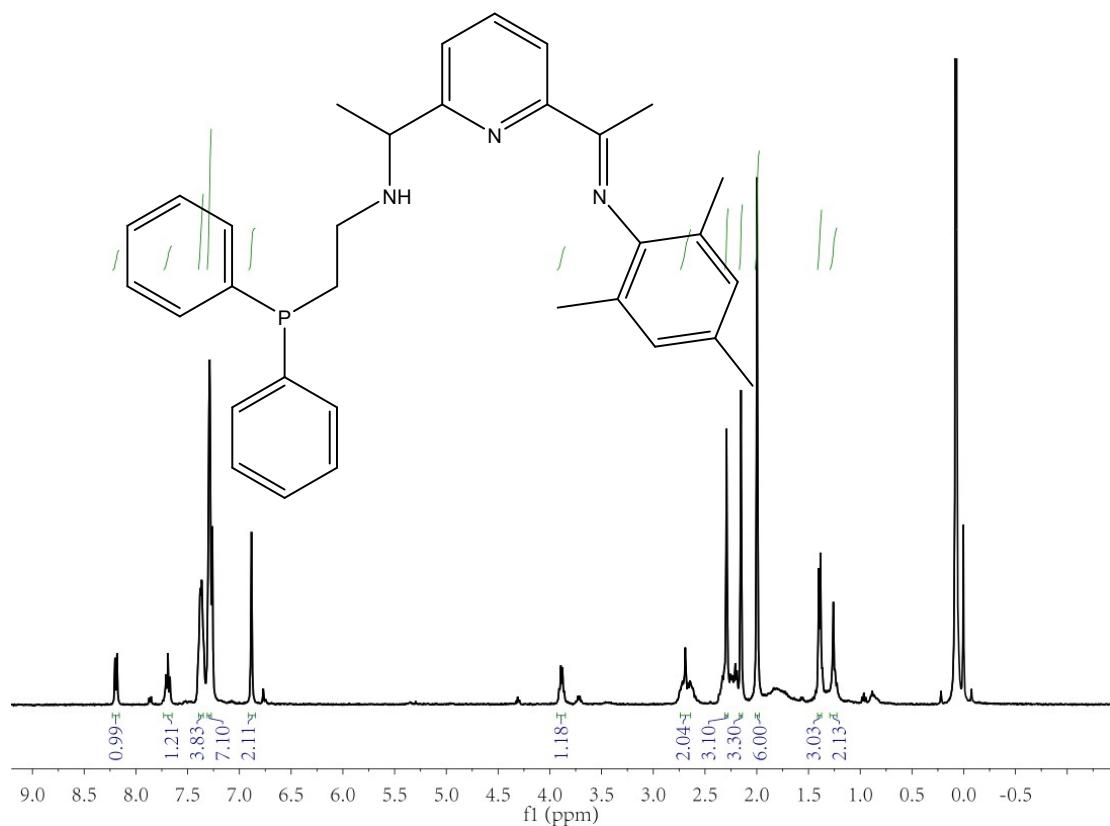


Figure S16 ^1H NMR spectrum of L4 recorded in CDCl_3 at 25 °C

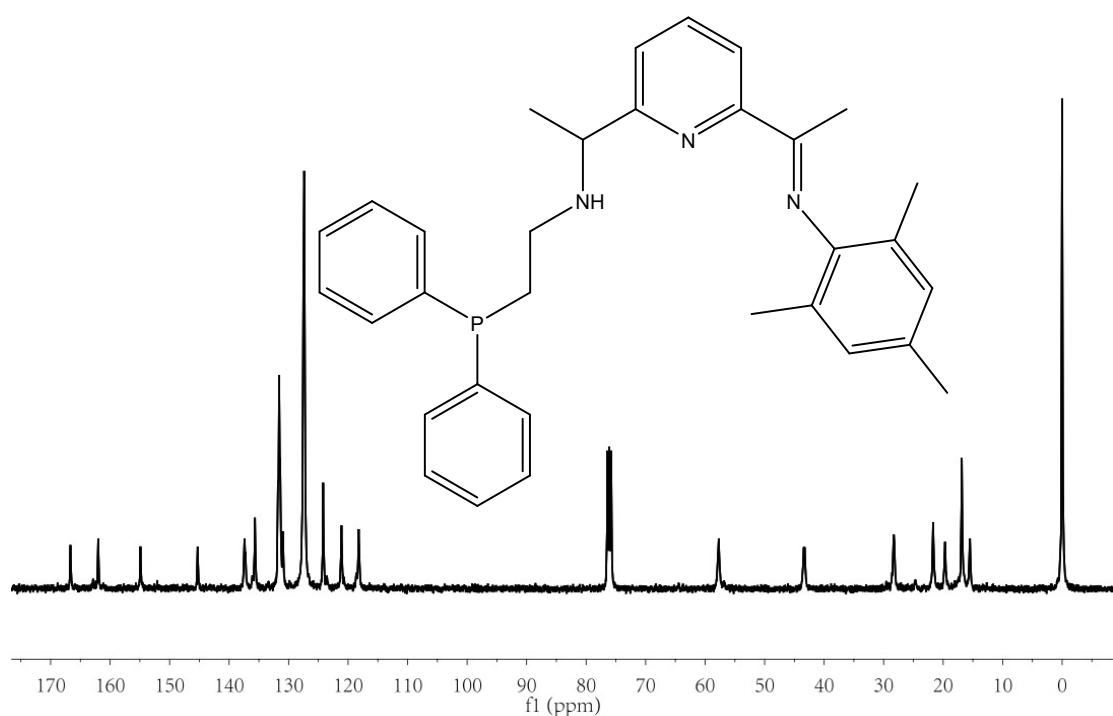


Figure S17 ^{13}C NMR spectrum of L4 recorded in CDCl_3 at 25 °C

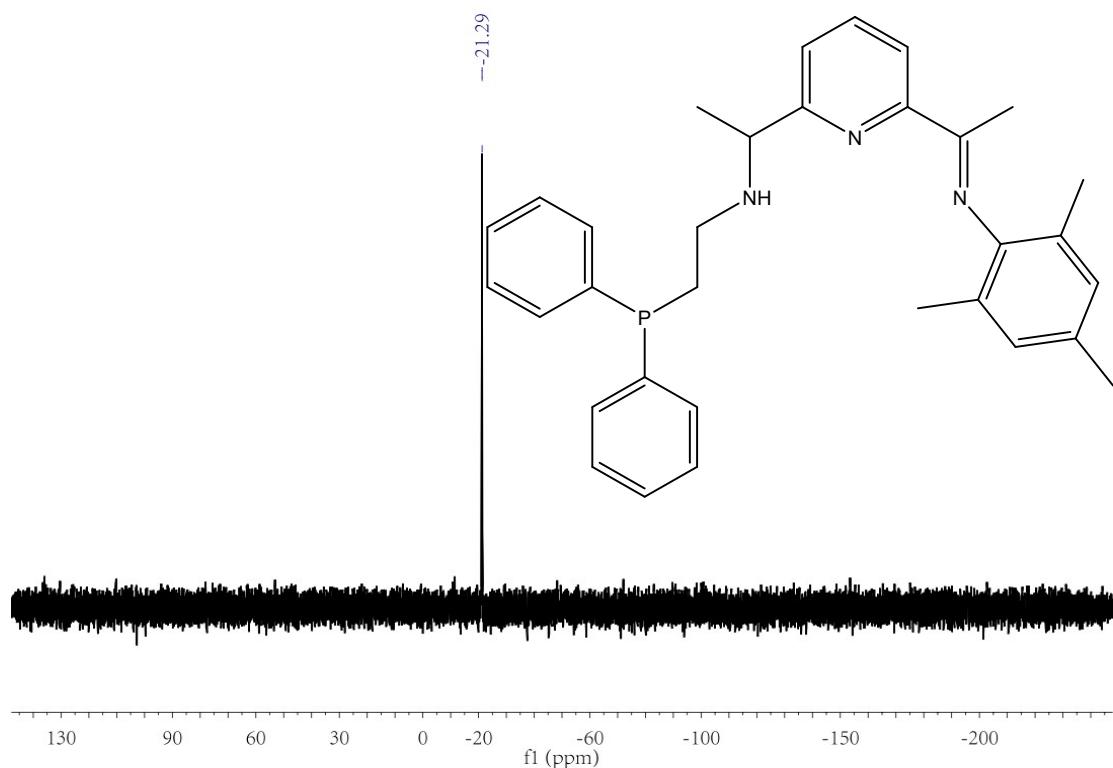


Figure S18 ^{31}P NMR spectrum of L4 recorded in CDCl_3 at 25 °C

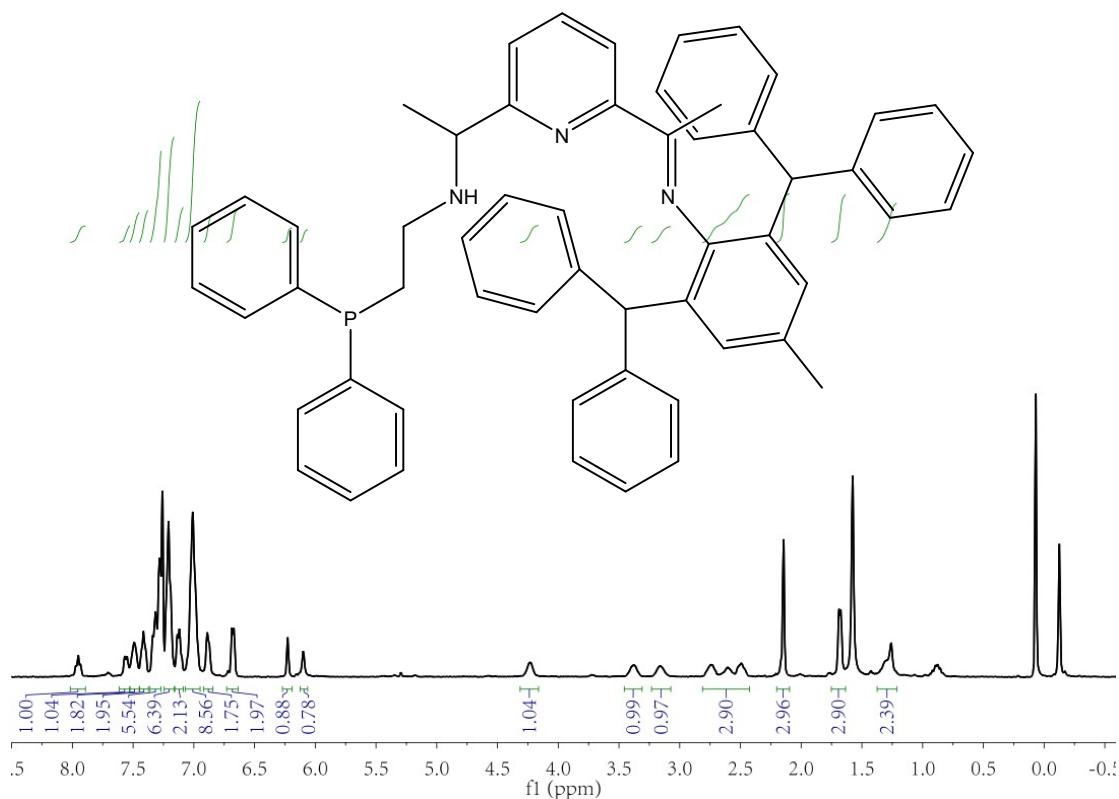


Figure S19 ^1H NMR spectrum of L5 recorded in CDCl_3 at 25 °C

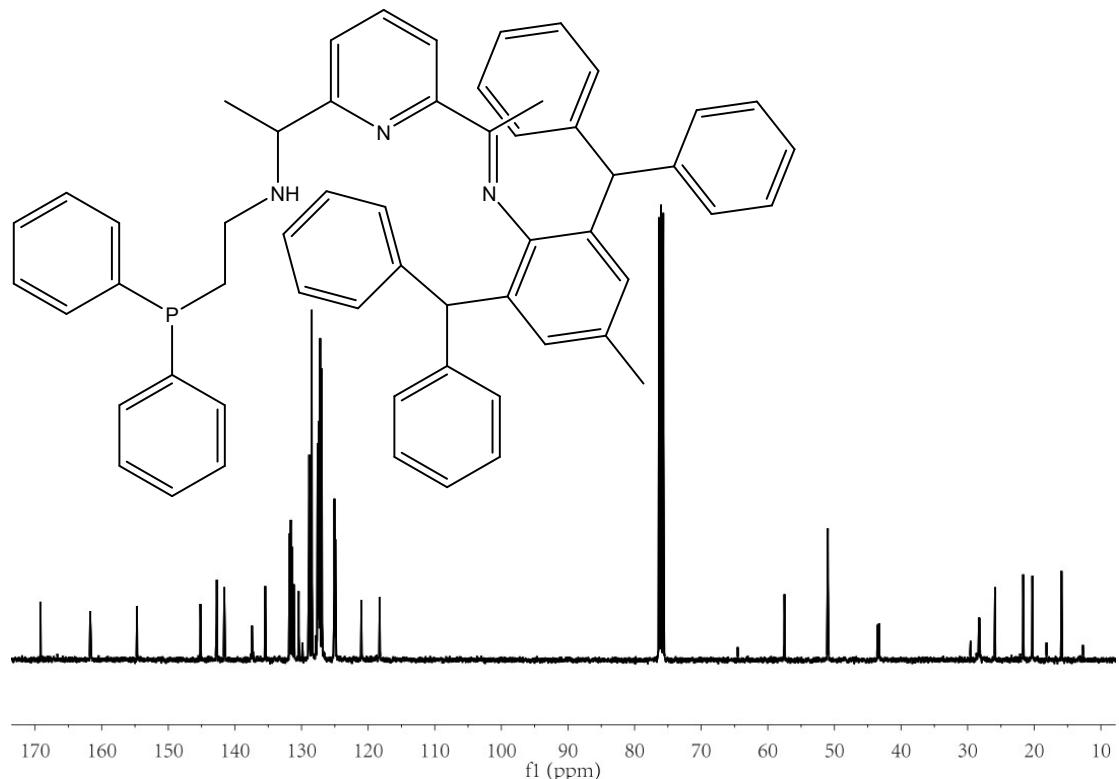


Figure S20 ^{13}C NMR spectrum of L5 recorded in CDCl_3 at 25 °C

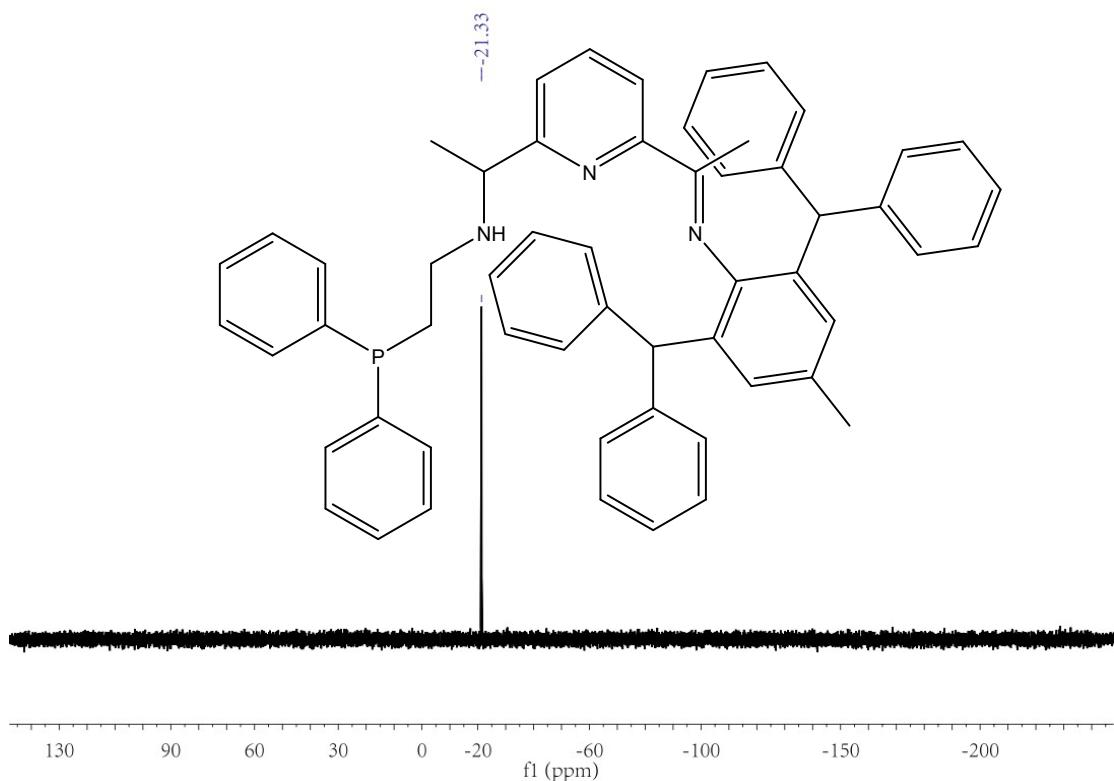


Figure S21 ^{31}P NMR spectrum of L5 recorded in CDCl_3 at $25\text{ }^\circ\text{C}$

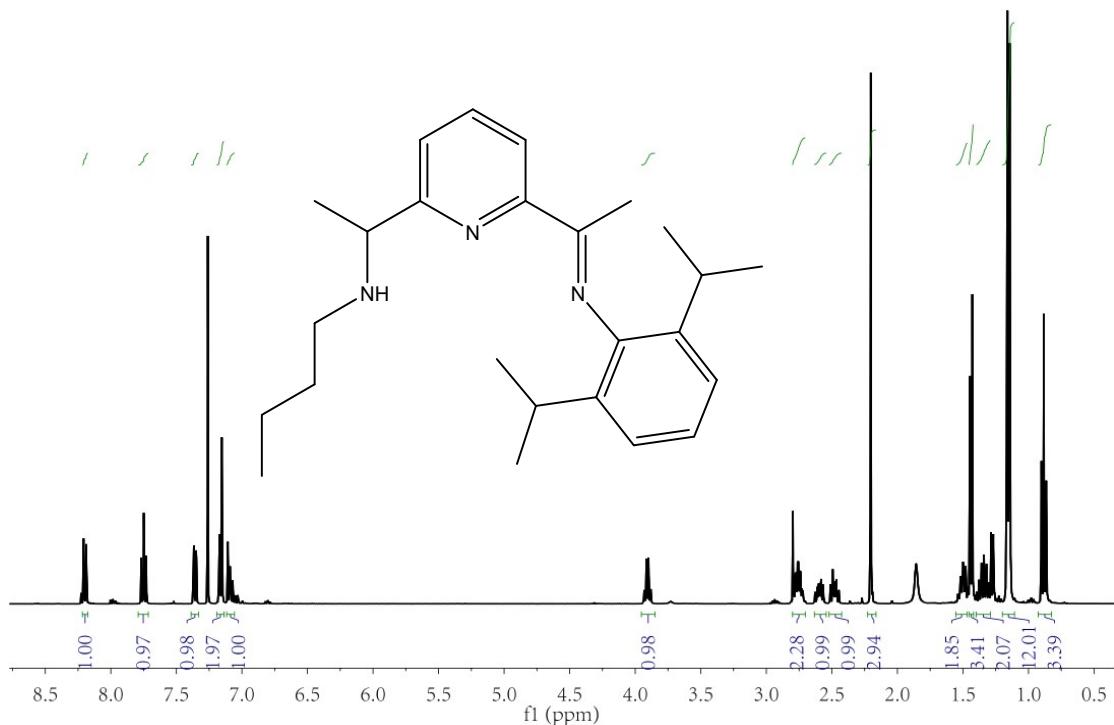


Figure S22 ^1H NMR spectrum of L6 recorded in CDCl_3 at $25\text{ }^\circ\text{C}$

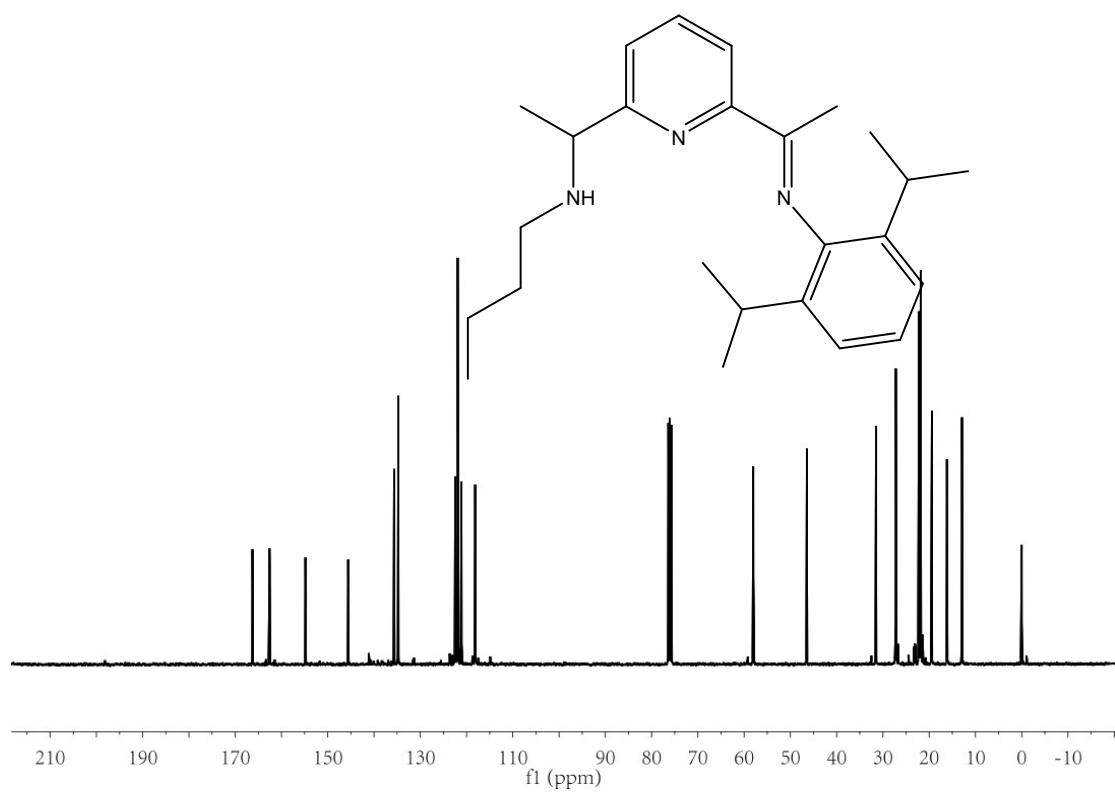


Figure S23 ^{13}C NMR spectrum of L6 recorded in CDCl_3 at 25 °C

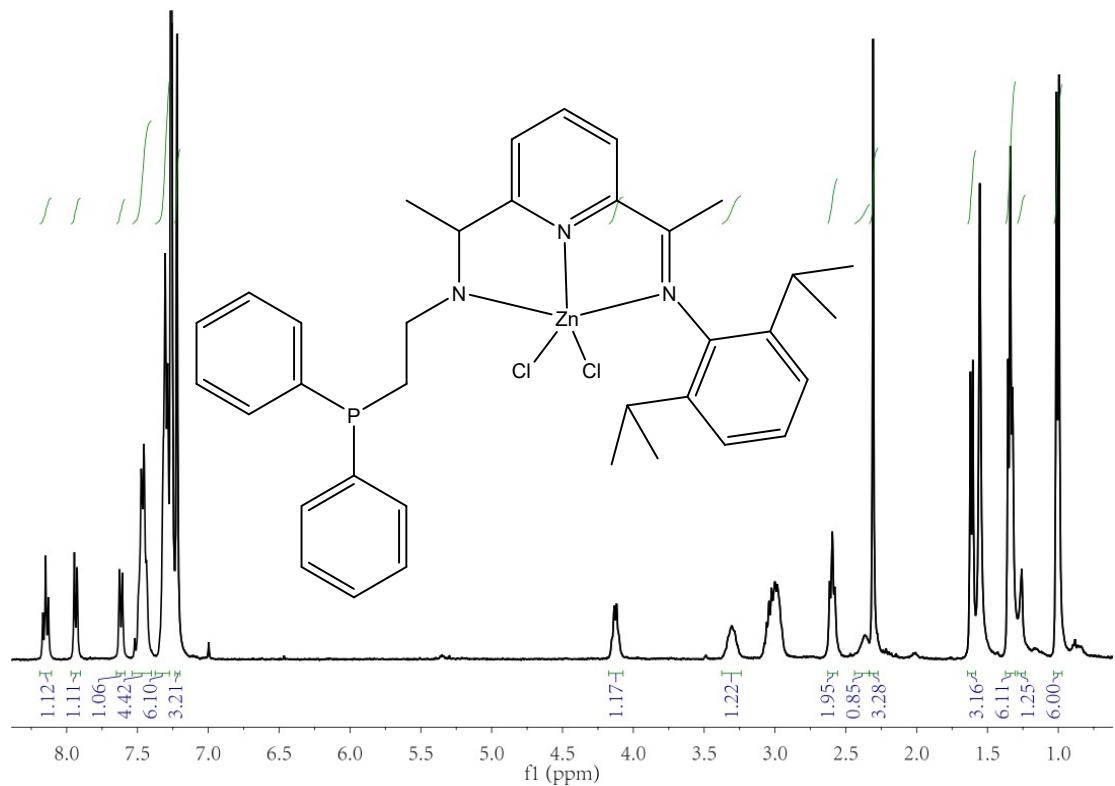


Figure S24 ^1H NMR spectrum of Zn1 recorded in CDCl_3 at 25 °C

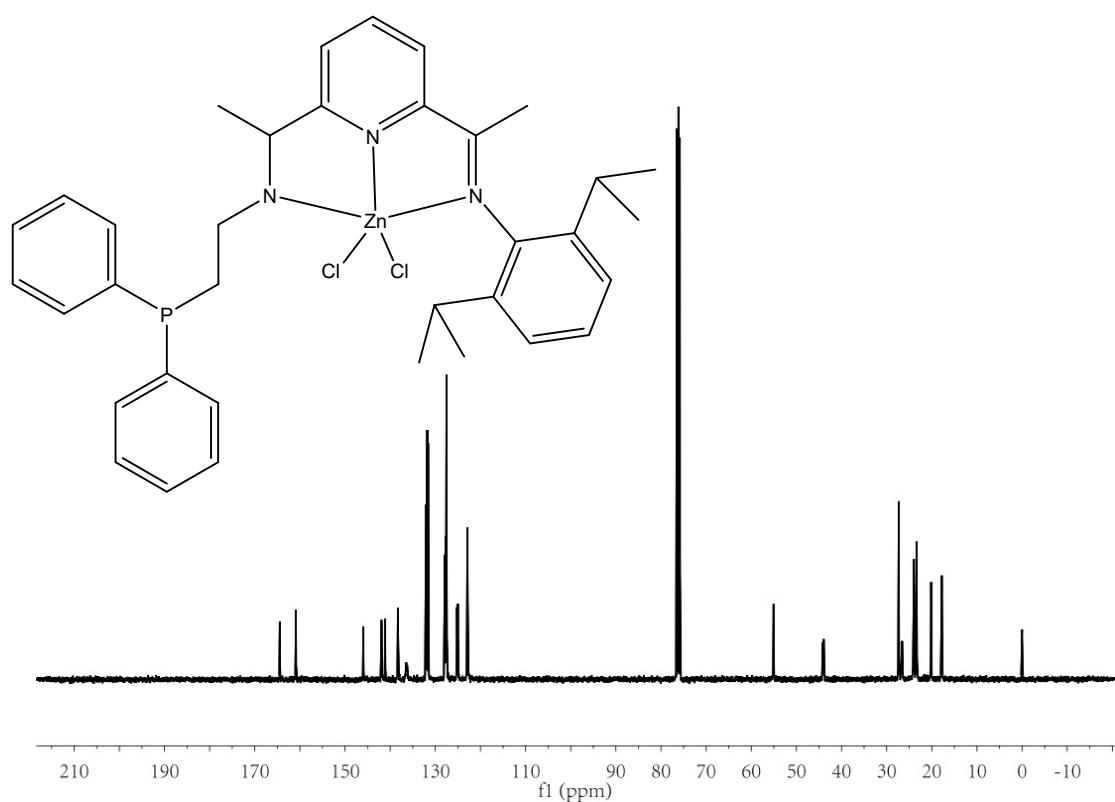


Figure S25 ^{13}C NMR spectrum of Zn1 recorded in CDCl_3 at 25 °C

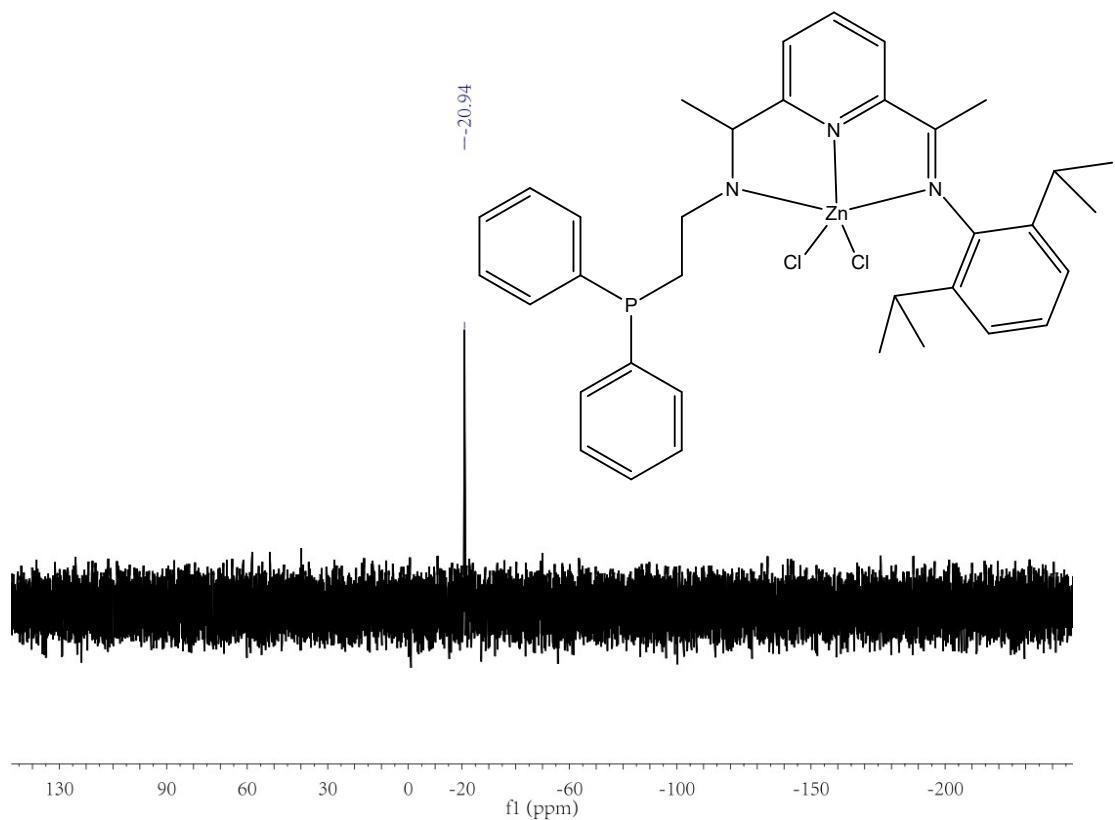


Figure S26 ^{31}P NMR spectrum of Zn1 recorded in CDCl_3 at 25 °C

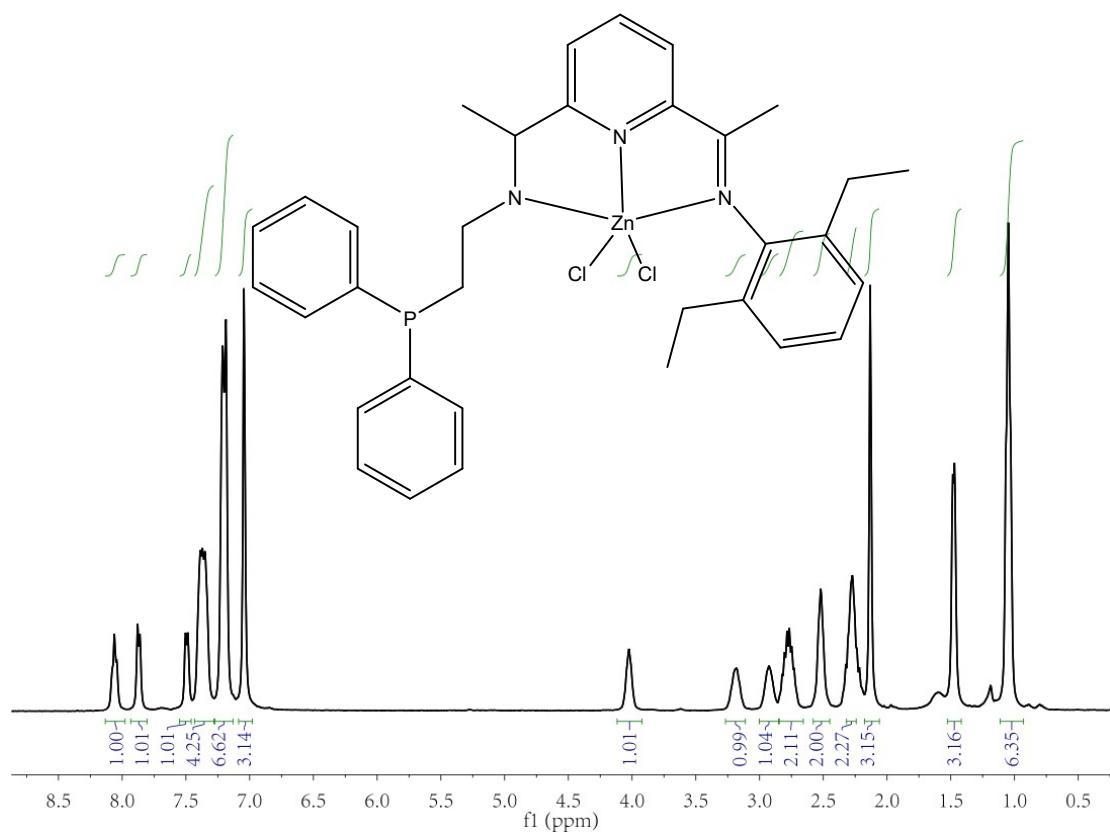


Figure S27 ^1H NMR spectrum of Zn2 recorded in CDCl_3 at 25 °C

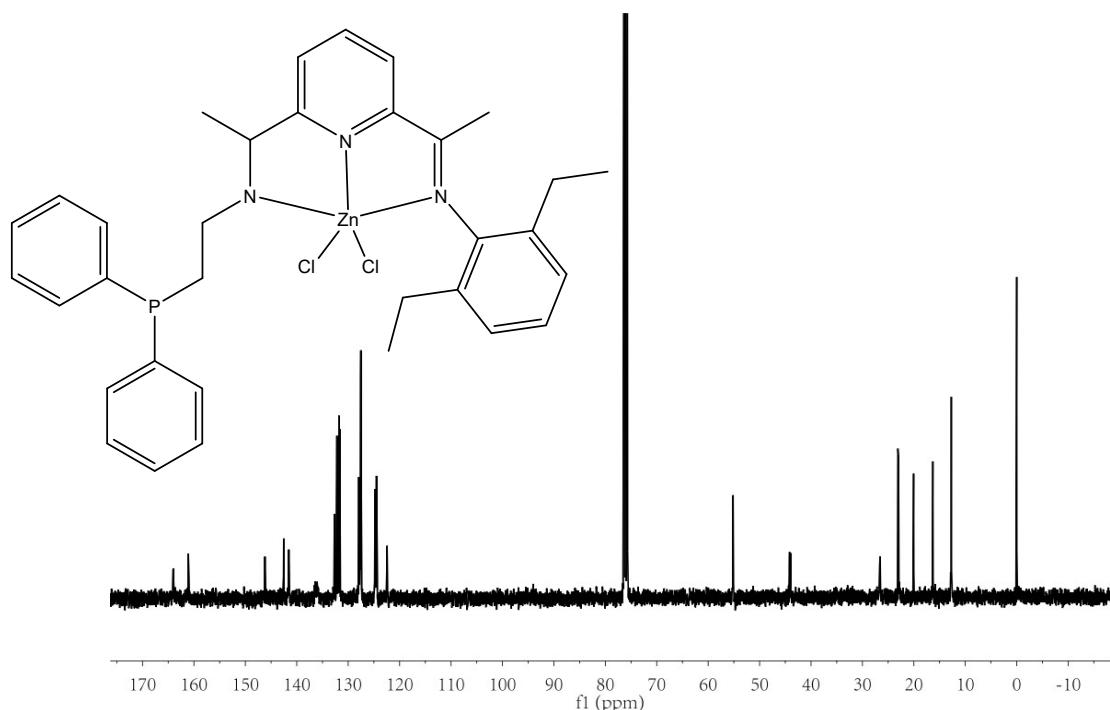


Figure S28 ^{13}C NMR spectrum of Zn2 recorded in CDCl_3 at 25 °C

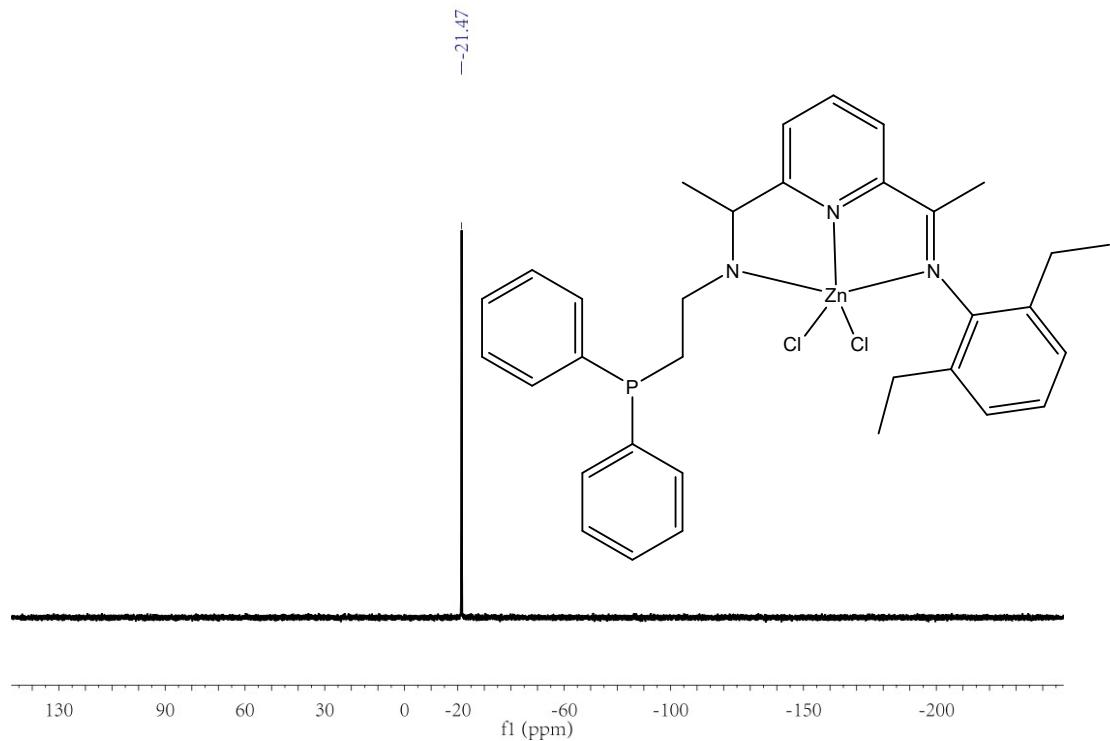


Figure S29 ^{31}P NMR spectrum of Zn2 recorded in CDCl_3 at 25°C

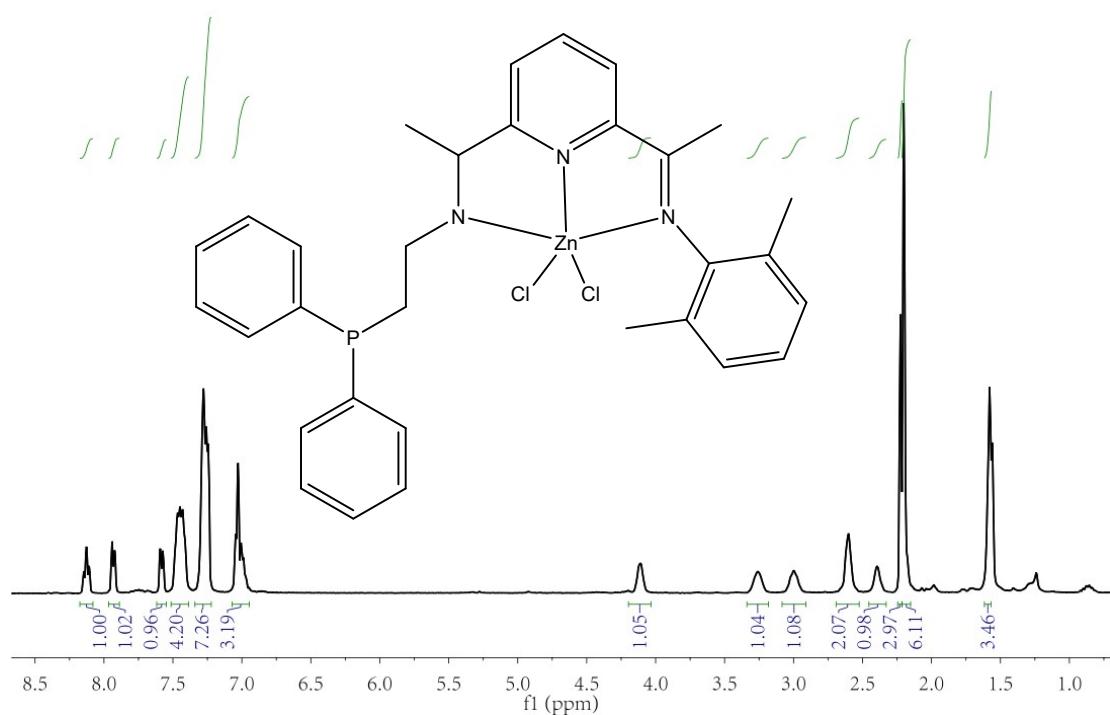


Figure S30 ^1H NMR spectrum of Zn3 recorded in CDCl_3 at 25°C

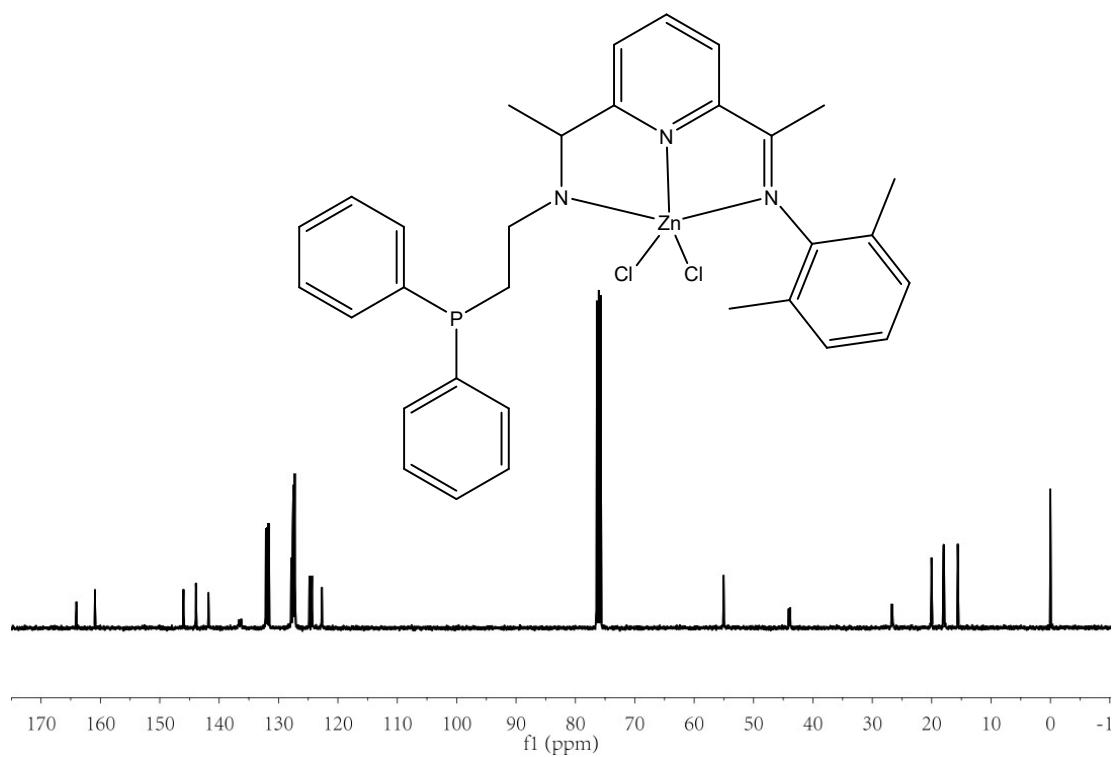


Figure S31 ^{13}C NMR spectrum of Zn3 recorded in CDCl_3 at 25 °C

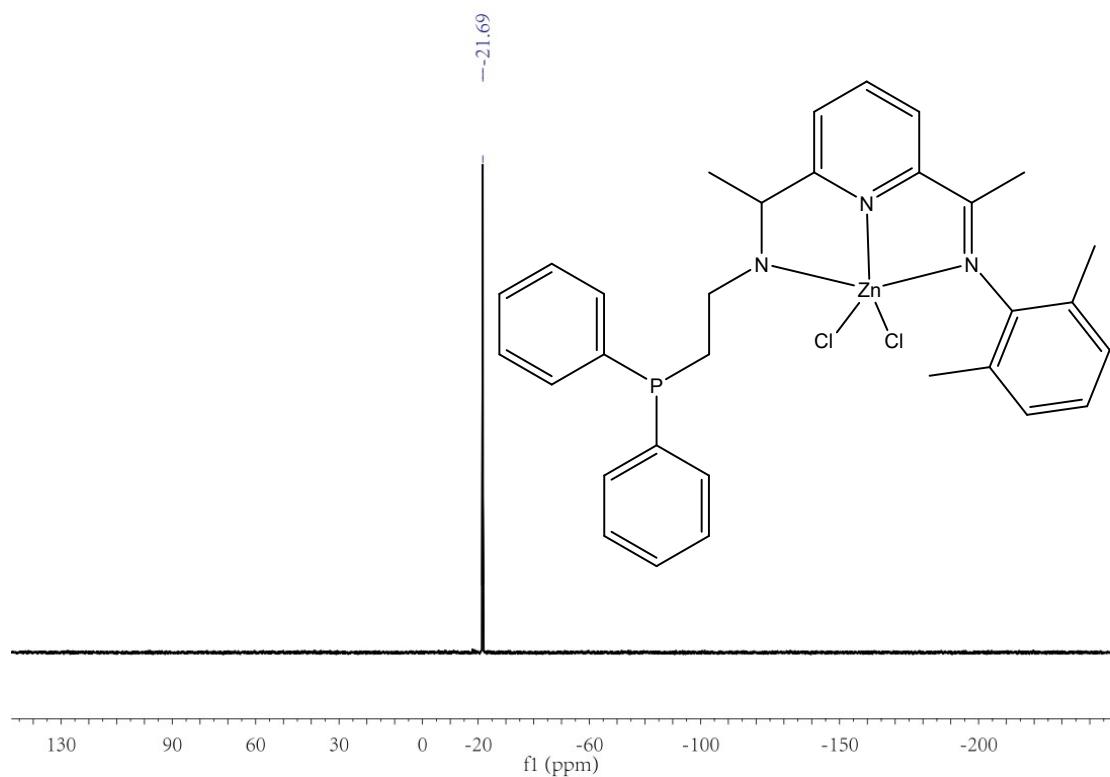


Figure S32 ^{31}P NMR spectrum of Zn3 recorded in CDCl_3 at 25 °C

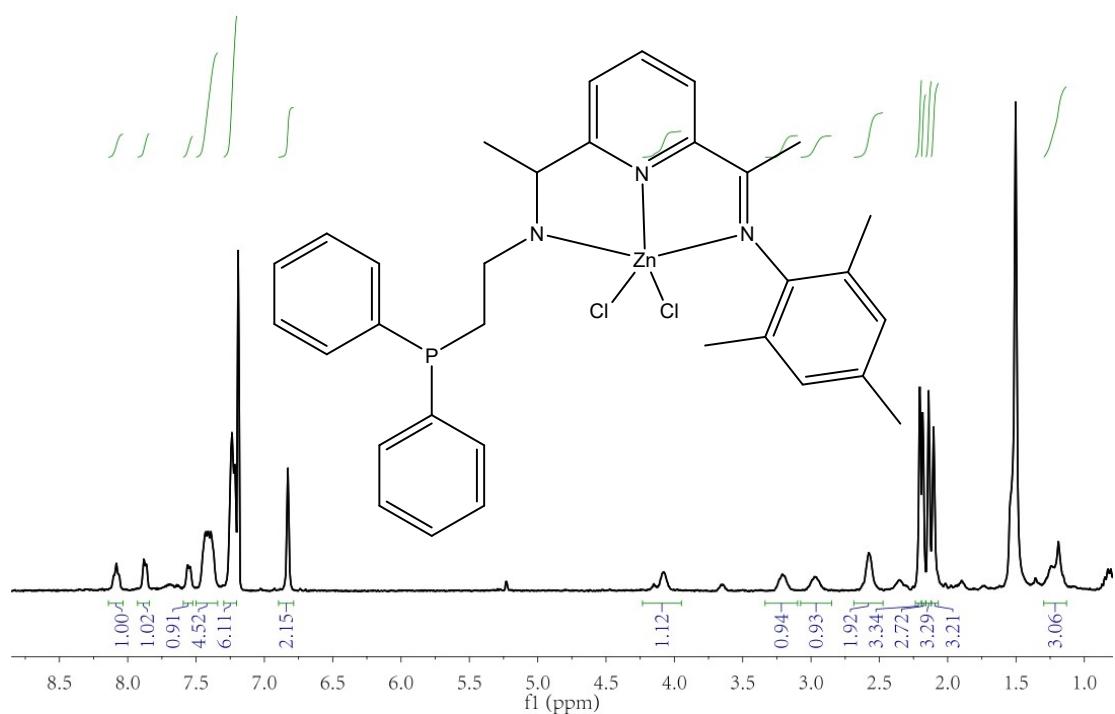


Figure S33 ^1H NMR spectrum of Zn4 recorded in CDCl_3 at 25 °C

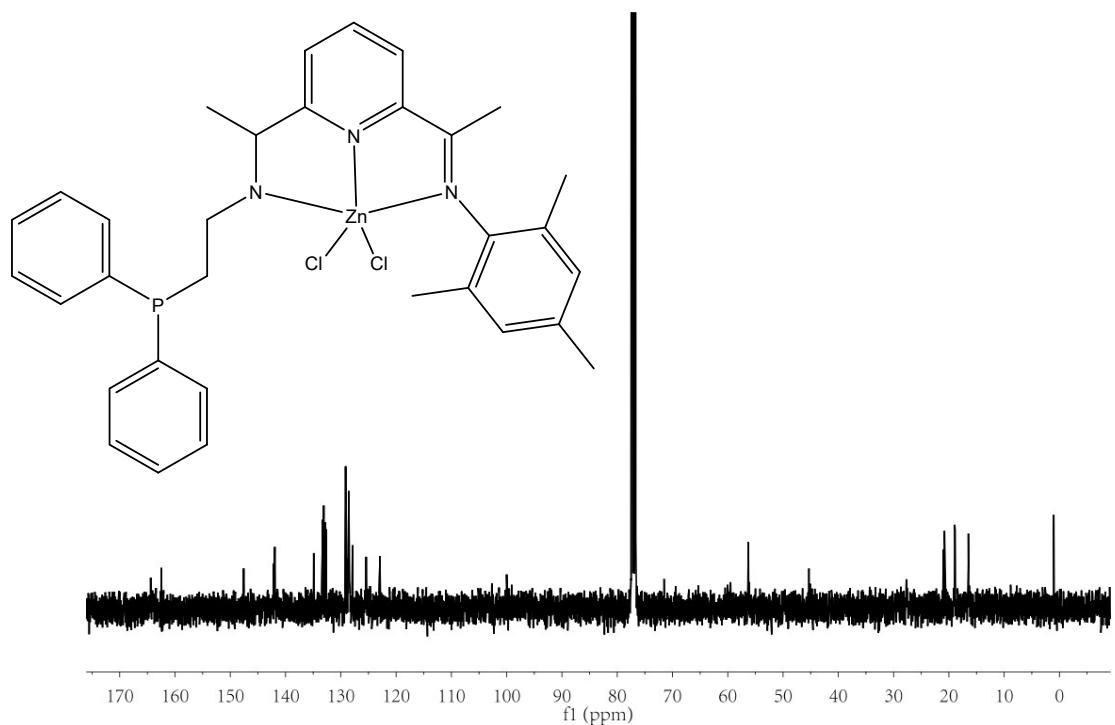


Figure S34 ^{13}C NMR spectrum of Zn4 recorded in CDCl_3 at 25 °C

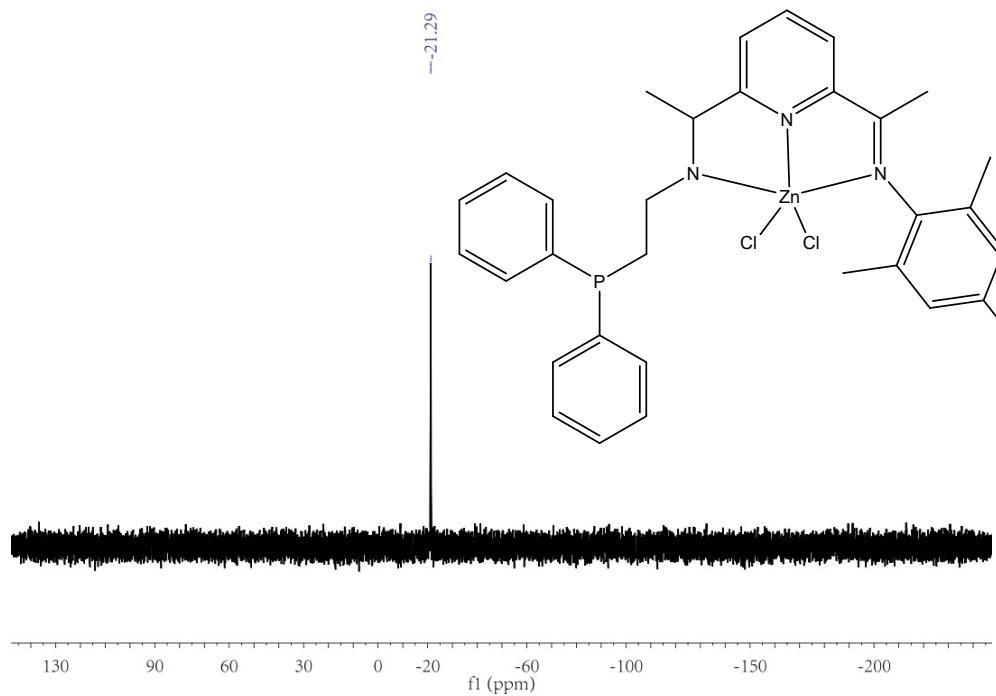


Figure S35 ^{31}P NMR spectrum of Zn4 recorded in CDCl_3 at 25 °C

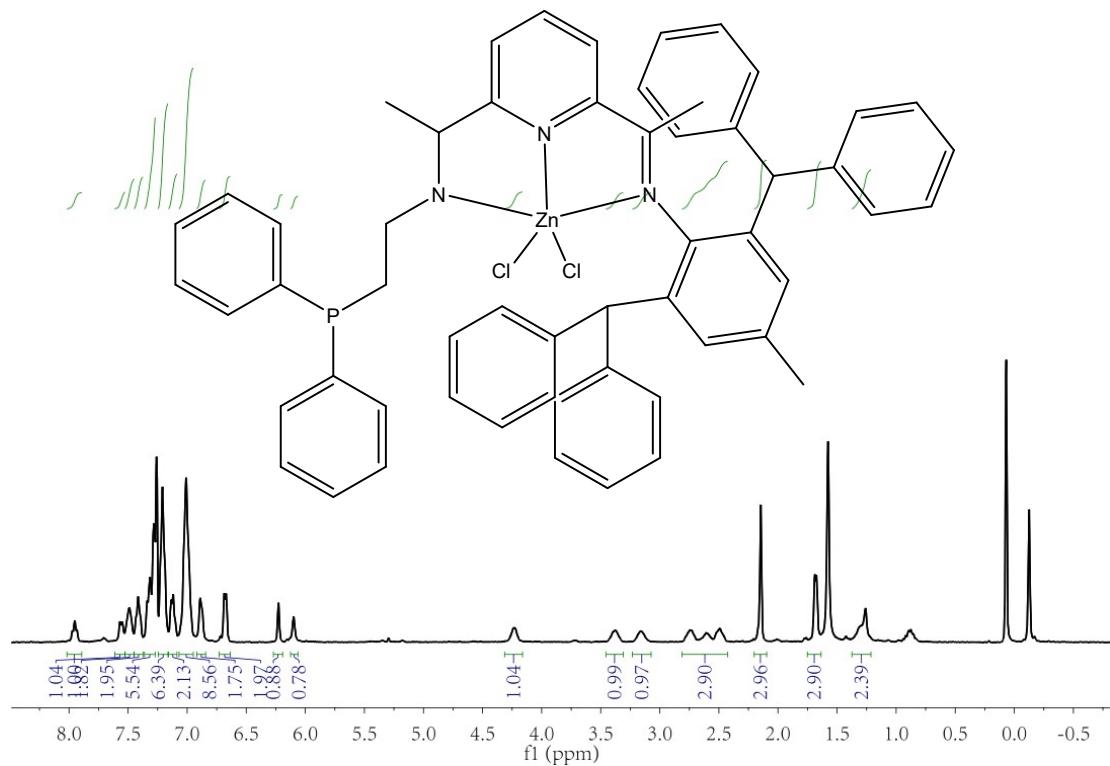


Figure S36 ^1H NMR spectrum of Zn5 recorded in CDCl_3 at 25 °C

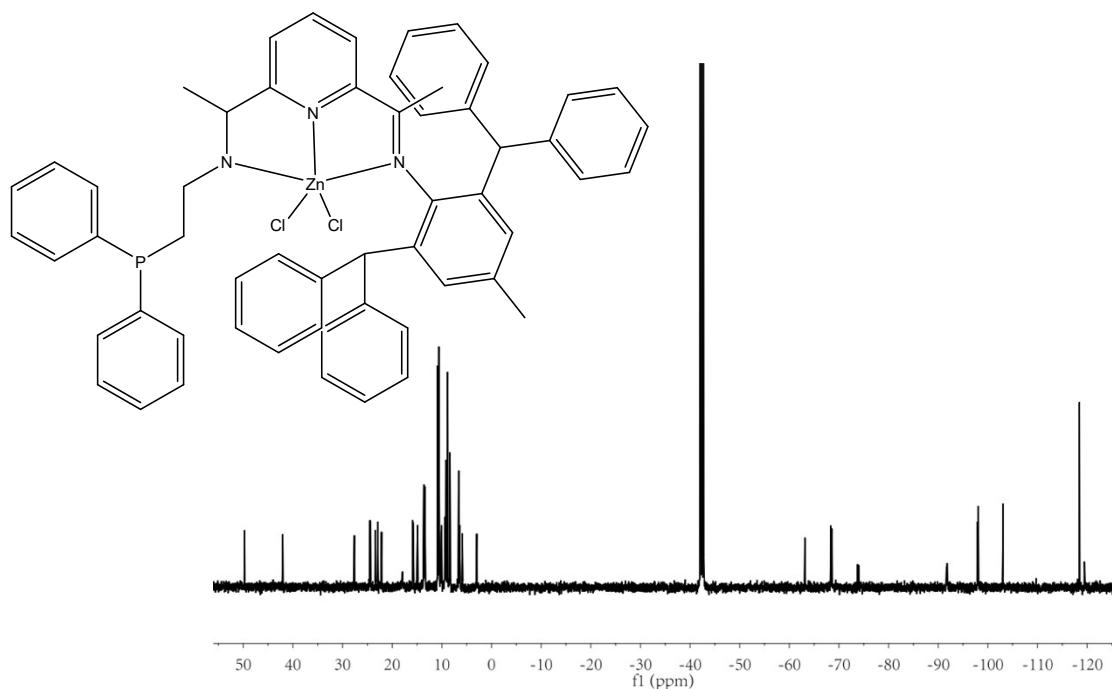


Figure S37 ^{13}C NMR spectrum of Zn5 recorded in CDCl_3 at 25 °C

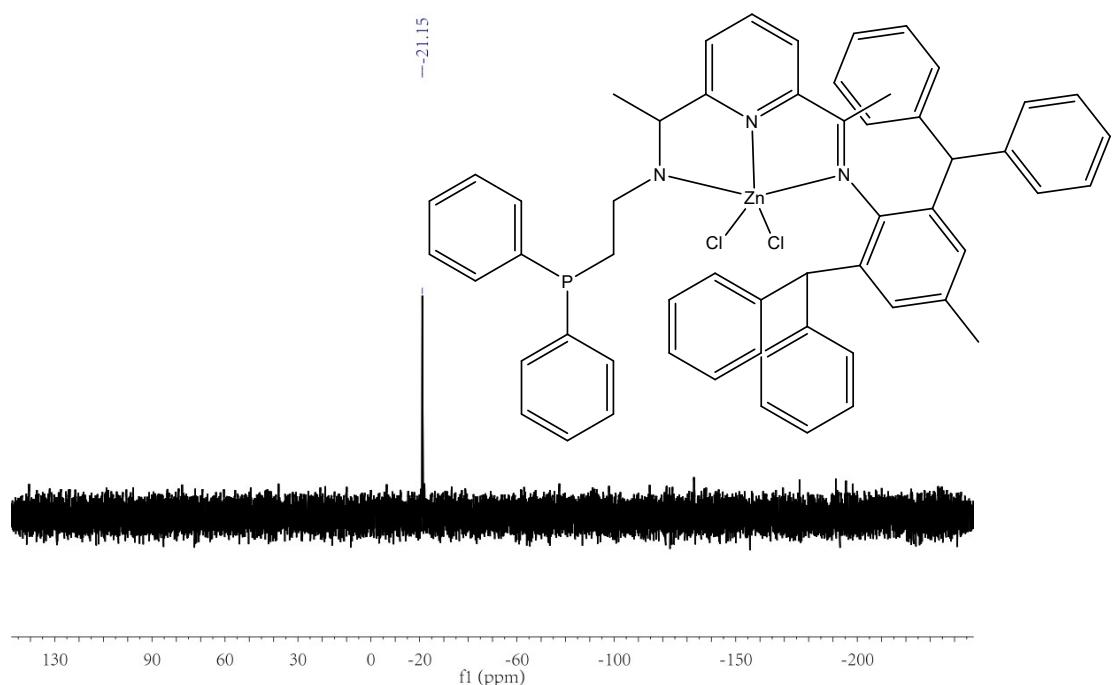


Figure S38 ^{31}P NMR spectrum of Zn5 recorded in CDCl_3 at 25 °C

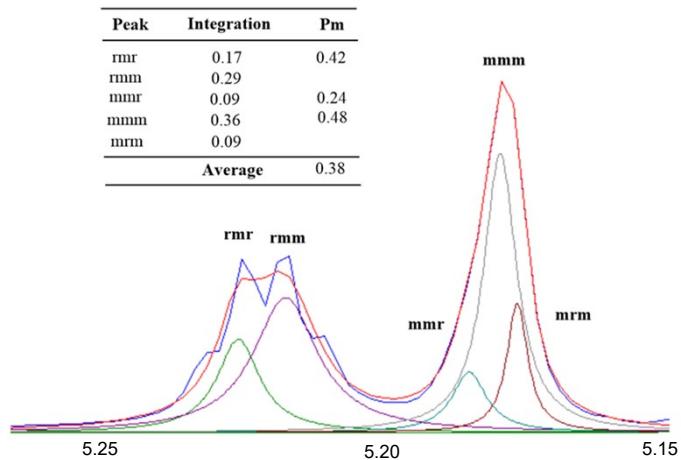


Figure S39 Decoupled ^1H NMR spectra of PLAs by **Zn4** (run 6 in Table 3)

Table SI-1 Comparison of the ^{31}P NMR chemical shifts for **L1 - L5** with those in **Zn1 - Zn5**

| Compound | ^{31}P NMR | Complex | ^{31}P NMR |
|-----------|--|------------|--|
| | chemical shift (ppm, in CDCl_3) | | chemical shift (ppm, in CDCl_3) |
| L1 | 21.46 | Zn1 | 20.94 |
| L2 | 21.31 | Zn2 | 21.47 |
| L3 | 21.33 | Zn3 | 21.69 |
| L4 | 21.29 | Zn4 | 21.29 |
| L5 | 21.33 | Zn5 | 21.15 |