Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information for

Covalent and ionic bonding in bi- and tricyclic Group 15 amides: equidistant P–I and As–I bonds and fluxional cations

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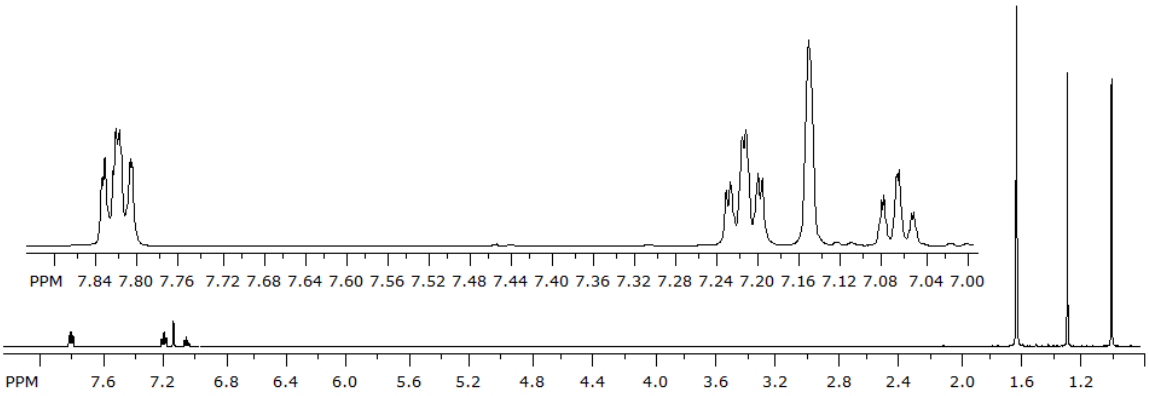

Fig. 1. ^{1}H NMR spectrum of **1b**, benzene-d_6.

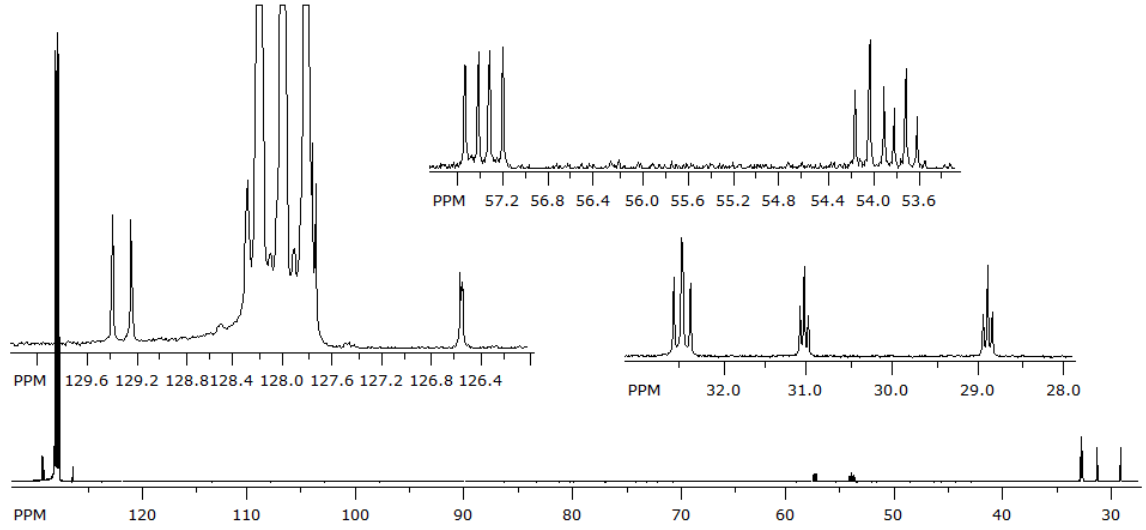

Fig. 2. ^{13}C{^{1}H} NMR spectrum of **1b**, benzene-d_6.

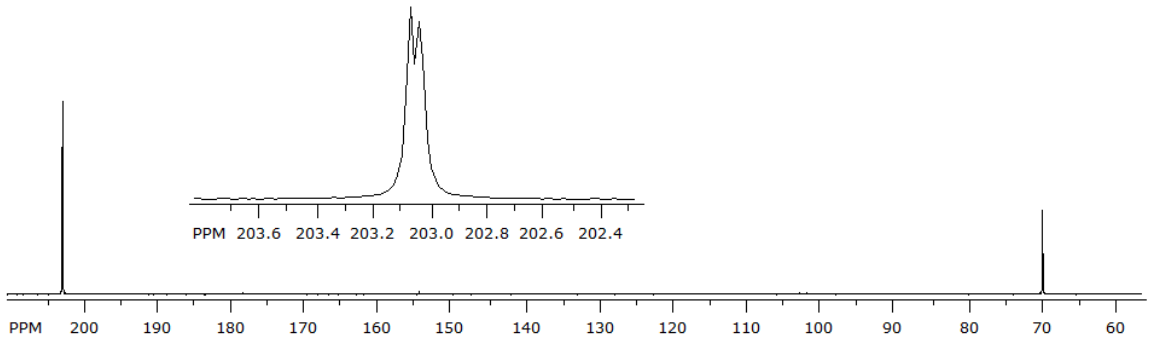

Fig. 3. $^{31}P\{^{1}H\}$NMR spectrum of **1b**, benzene-d_6.

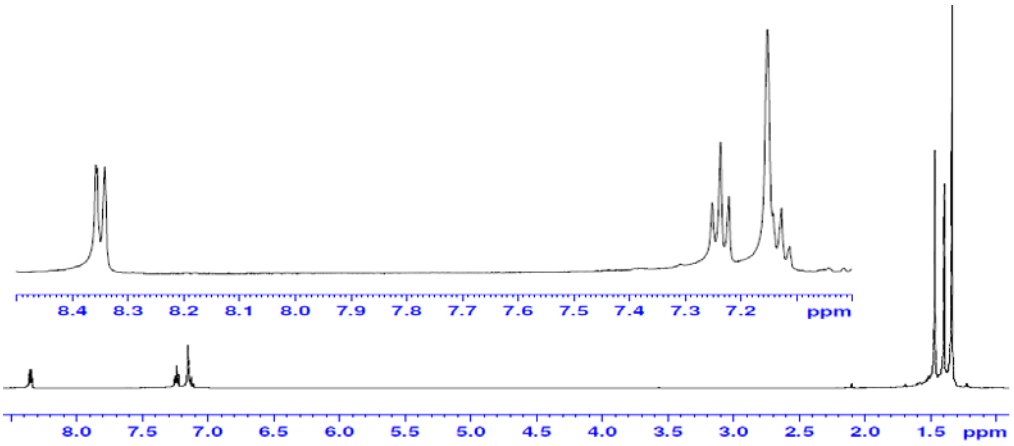

Figure 4. ^{1}H NMR Spectrum of **2b**, benzene-d_6.

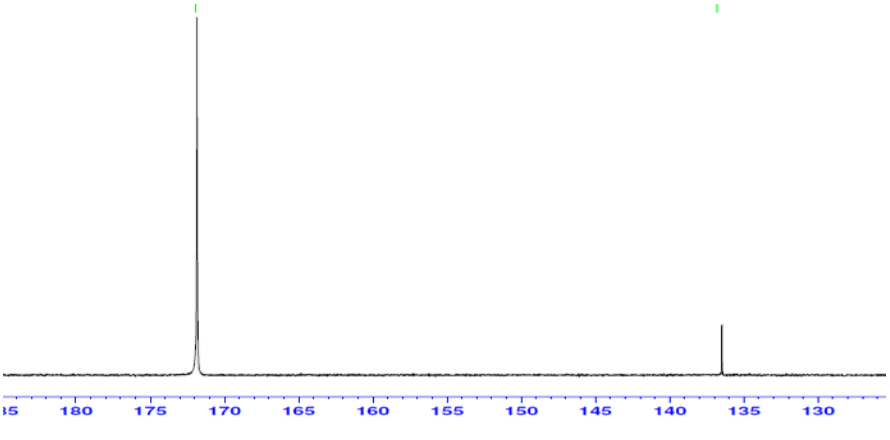

Figure 5. $^{31}P\{^{1}H\}$ NMR Spectrum of **2b** benzene-d_6, external reference at 137.0 ppm.

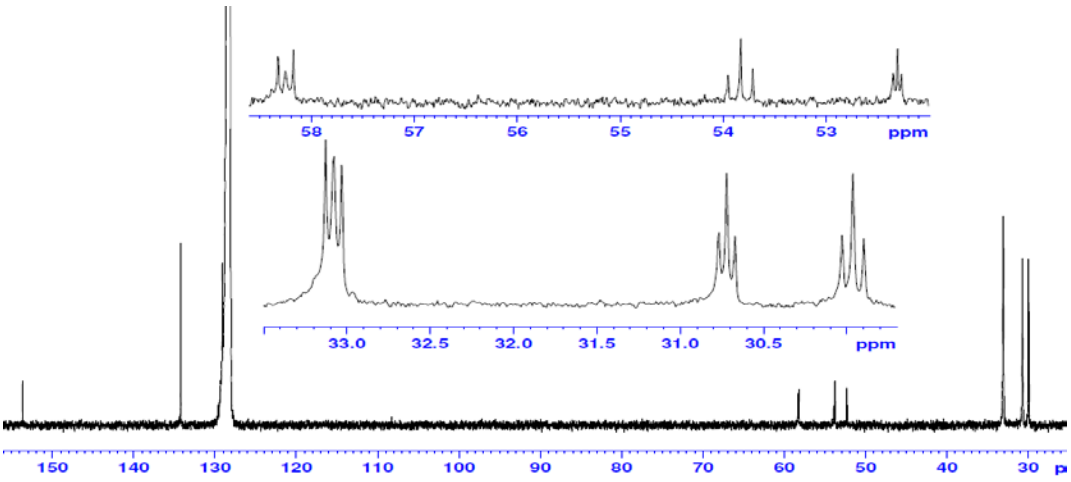

Figure 6. $^{13}C\{^{1}H\}$ NMR Spectrum of **2b,** benzene-d_6.

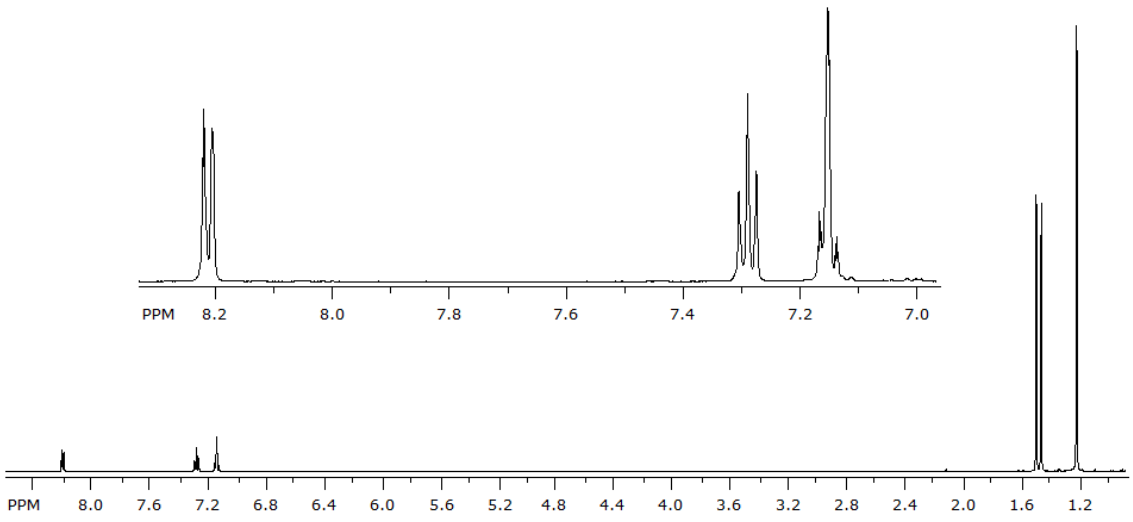

Fig. 7. ^{1}H NMR Spectrum of **3b**, benzene-d_6.

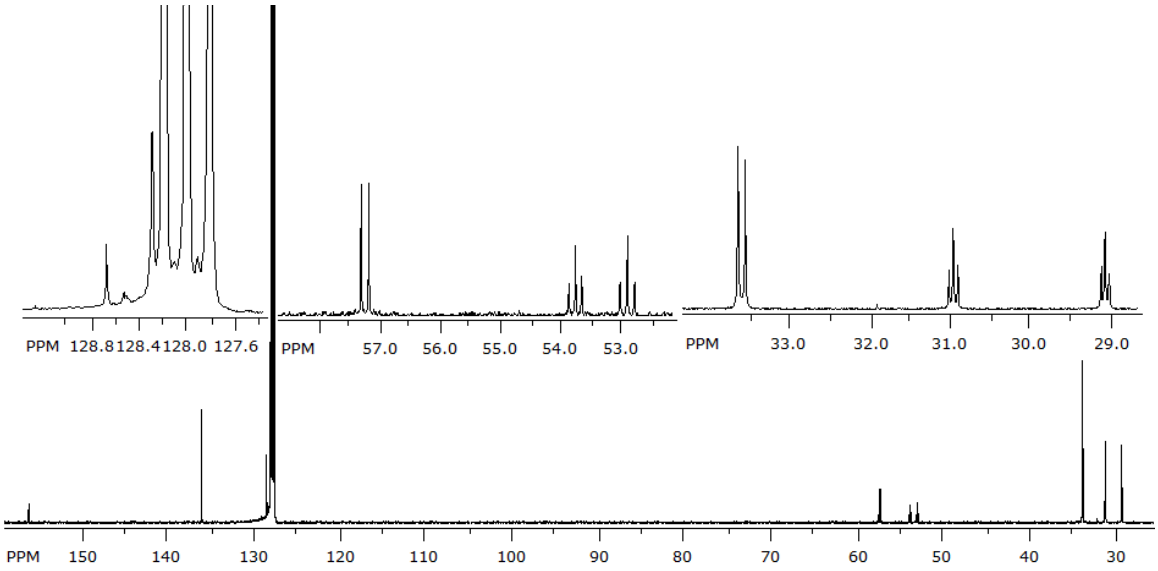

Fig. 8. $^{13}C\{^{1}H\}$ NMR Spectrum of **3b,** benzene-d_6.

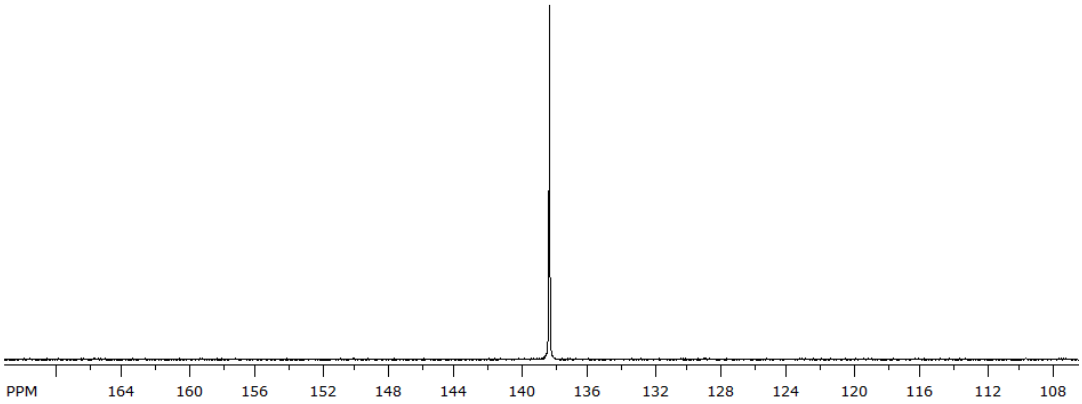

Fig. 9. $^{31}P\{^{1}H\}$ NMR Spectrum of **3b**, benzene-d_6.

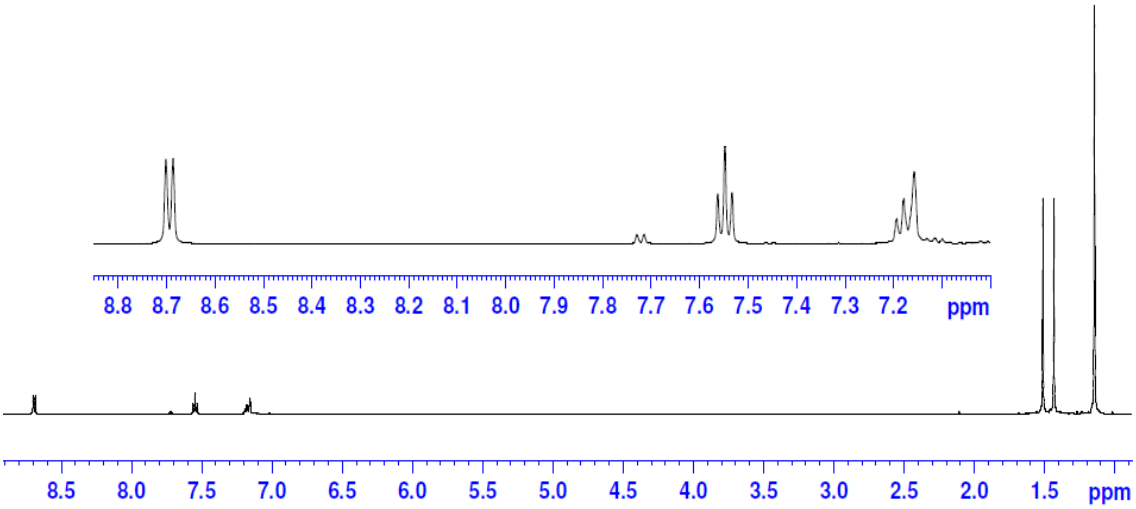

Figure 10. ^{1}H NMR spectrum of **4b**, benzene-d_6.

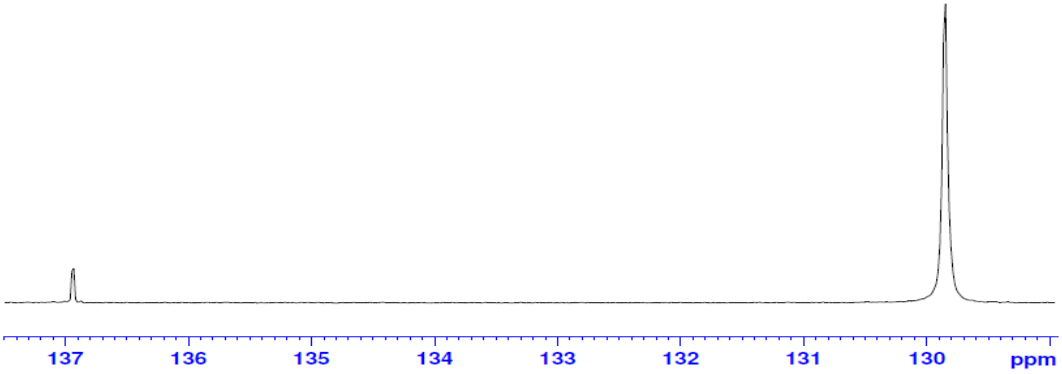

Figure 11. $^{31}P\{^{1}H\}$ NMR spectrum of **4b**, benzene-d_6, external reference at 137.0 ppm.

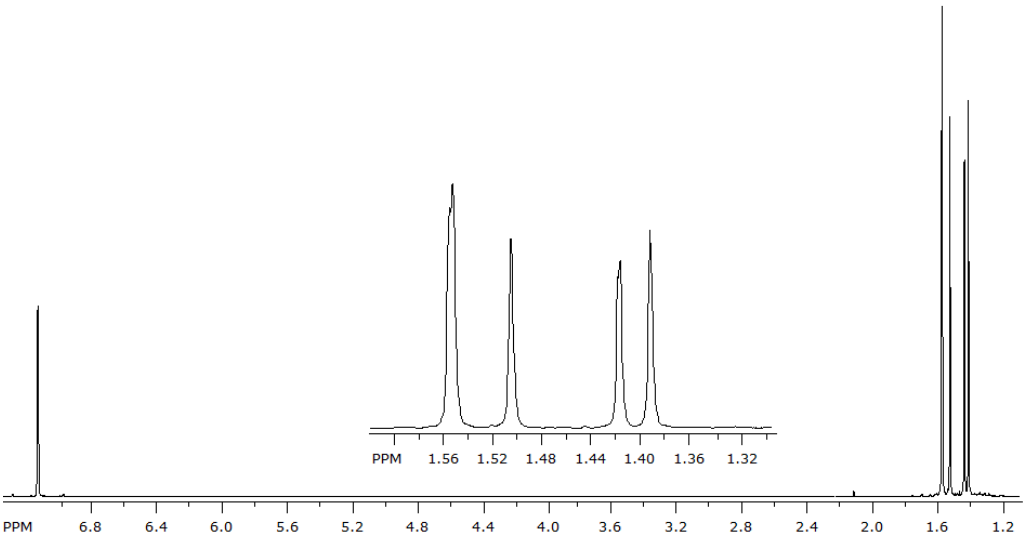

Fig. 12. ^{1}H NMR spectrum of **1e,** benzene-d_6.

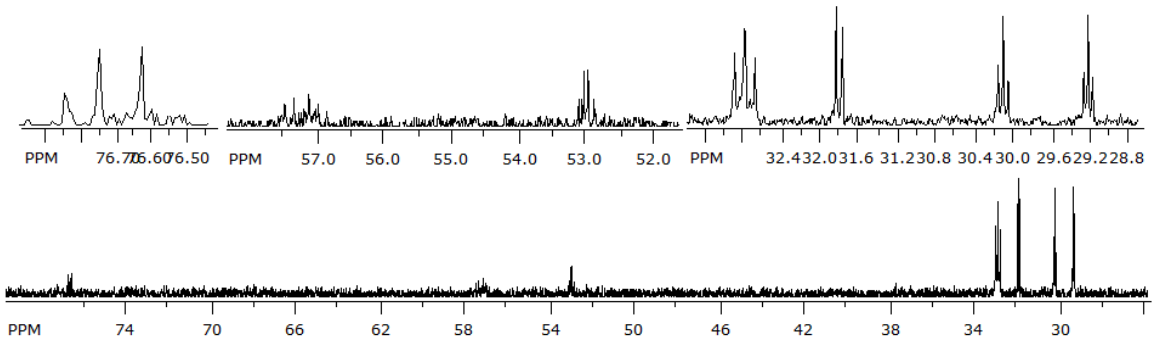

Fig. 13. $^{13}C\{^{1}H\}$ NMR spectrum of **1e,** benzene-d_6.

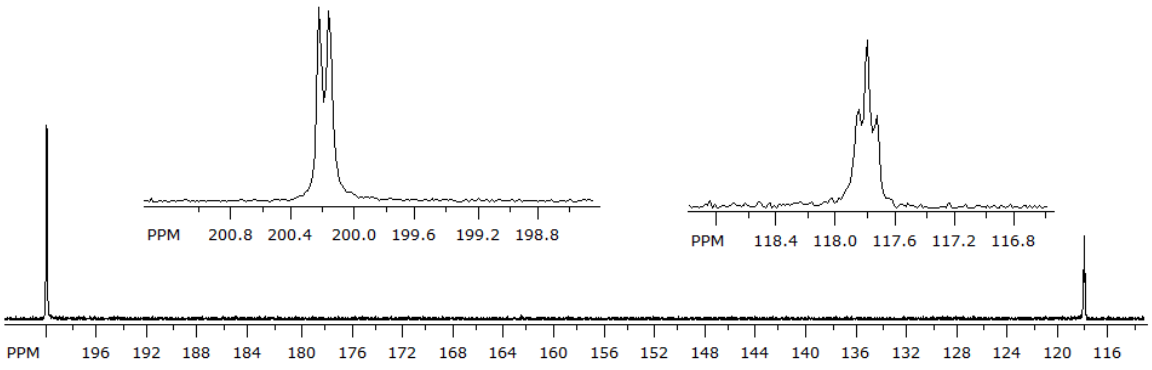

Fig. 14. $^{31}P\{^{1}H\}$ NMR spectrum of **1e**, benzene-d_6.

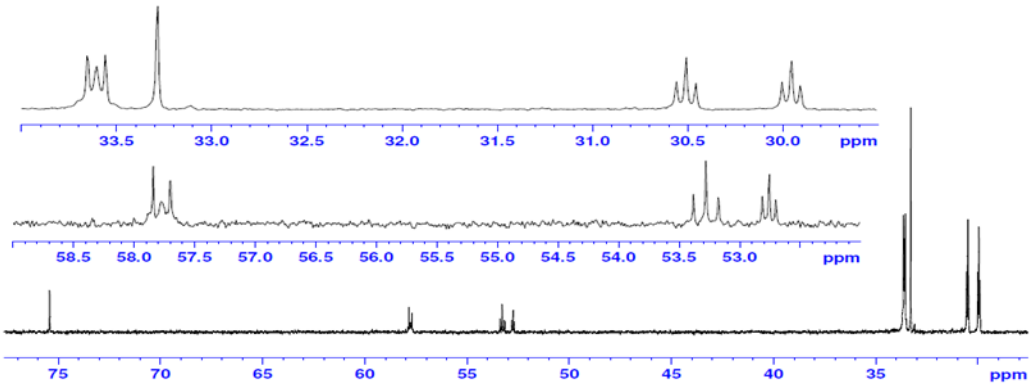

Fig. 15**.** $^{13}C\{^{1}H\}$ NMR spectrum of **2e,** benzene-d_6.

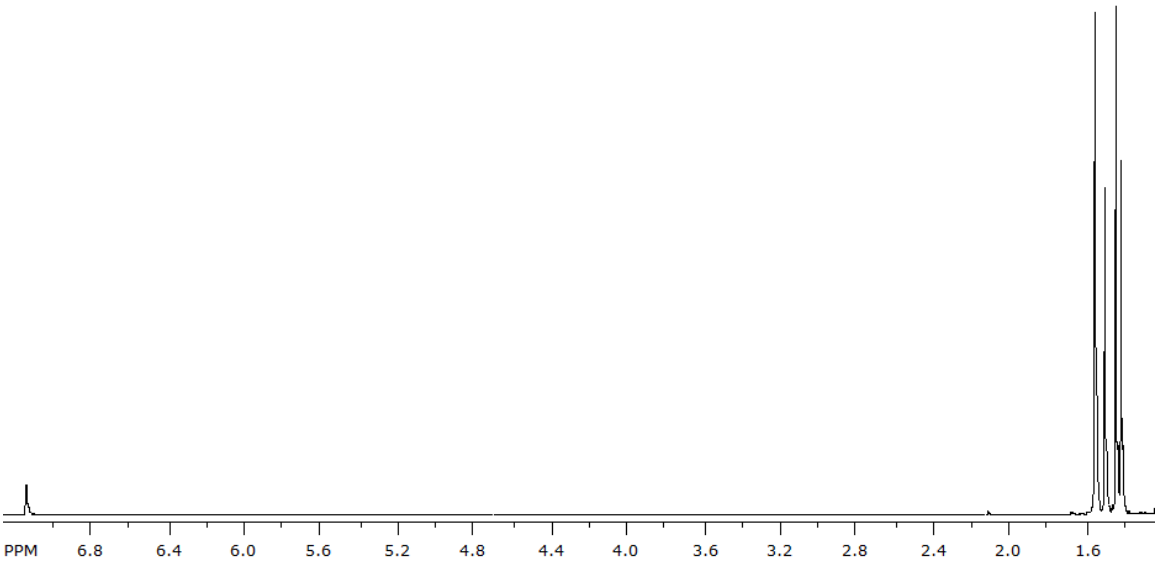

Fig. 16**.** ^{1}H NMR spectrum of **3e**, benzene-d_6.

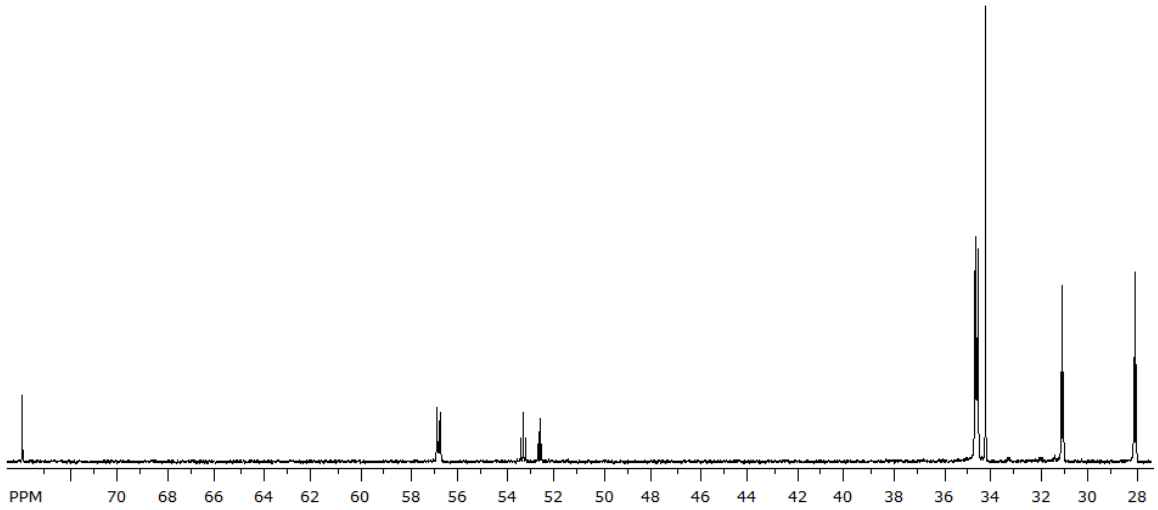

Fig. 17. $^{13}C\{^{1}H\}$ NMR spectrum of **3e**, benzene-d_6.

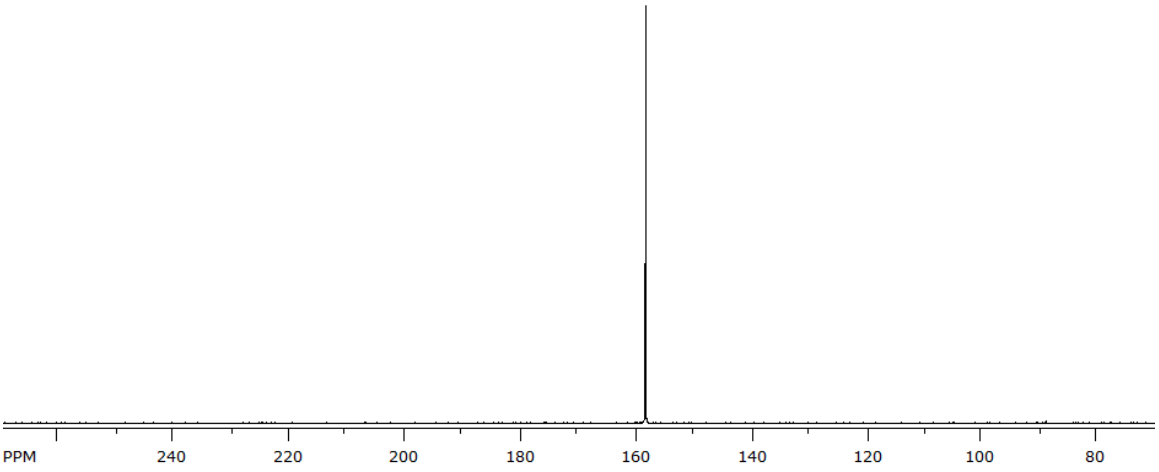

Fig. 18. $^{31}P\{^{1}H\}$ NMR spectrum of **3e,** benzene-d_6.

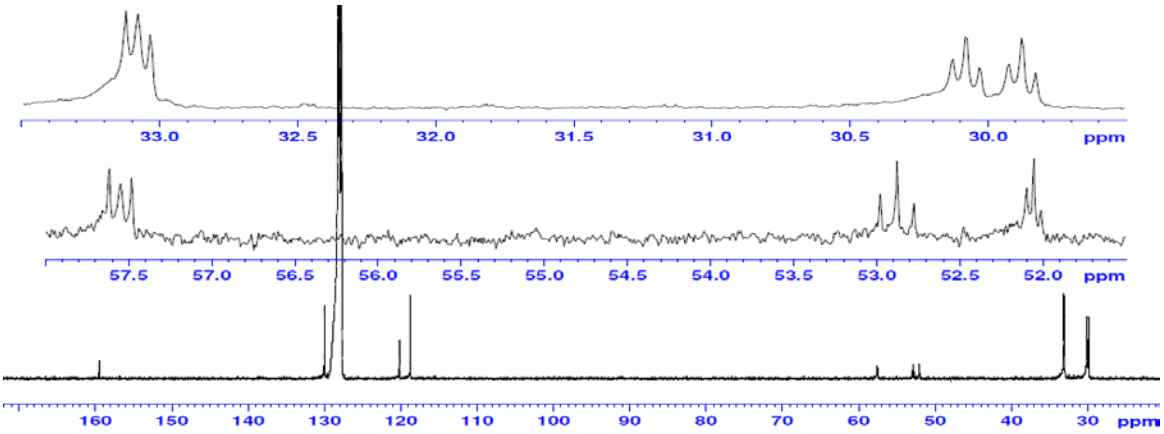

Fig. 19. $^{13}C\{^{1}H\}$ NMR spectrum of **2f,** benzene-d_6.

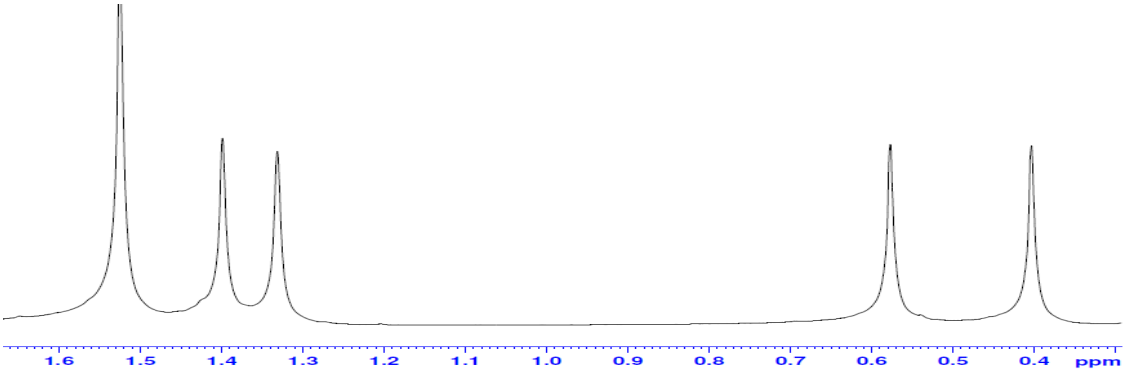

Fig. 20. ^{1}H NMR spectrum of **2d,** benzene-d_6.

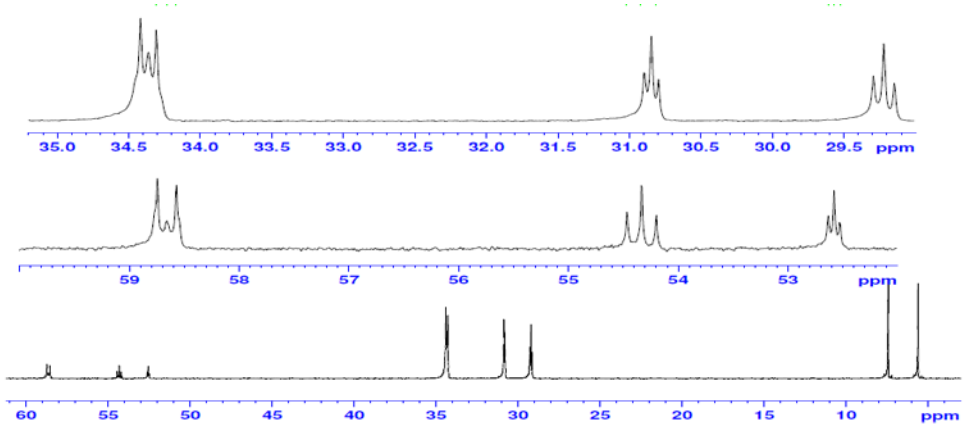

Fig. 21. $^{13}C(^{1}H)$ NMR spectrum of **2d,** benzene-d_6.

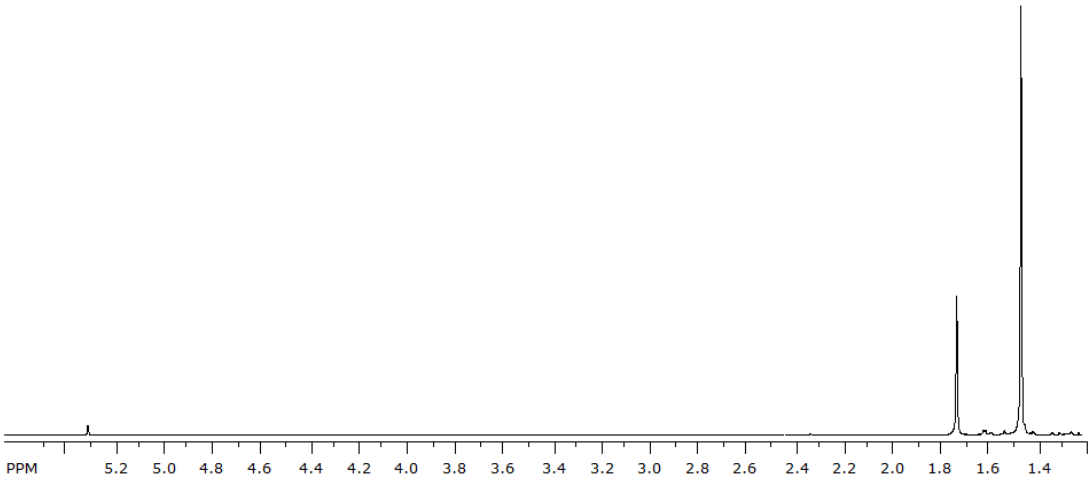

Fig. 22**.** ^{1}H NMR spectrum of **1g,** CD_2Cl_2.

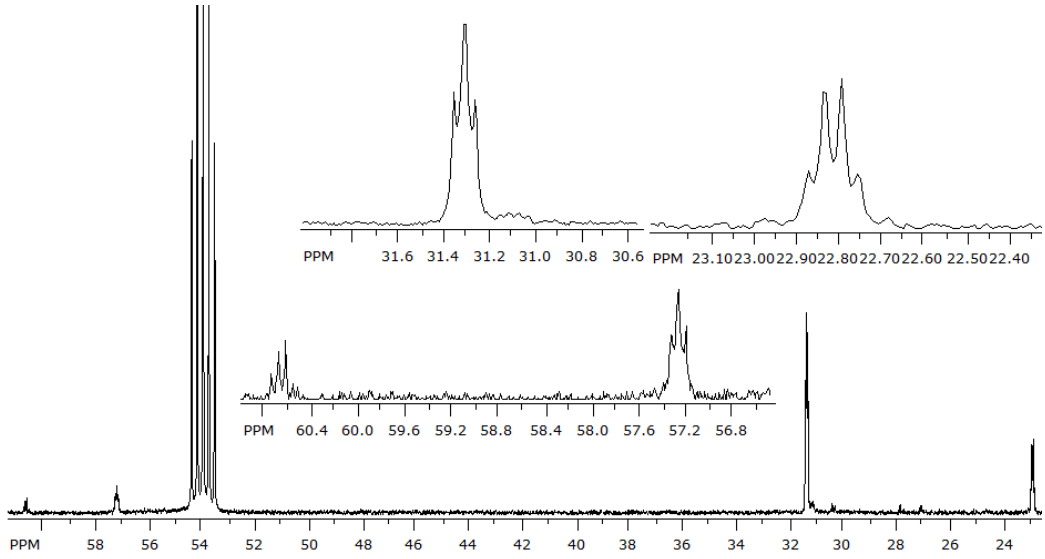

Fig. 23. $^{13}C\{^{1}H\}$ NMR spectrum of **1g,** CD_2Cl_2.

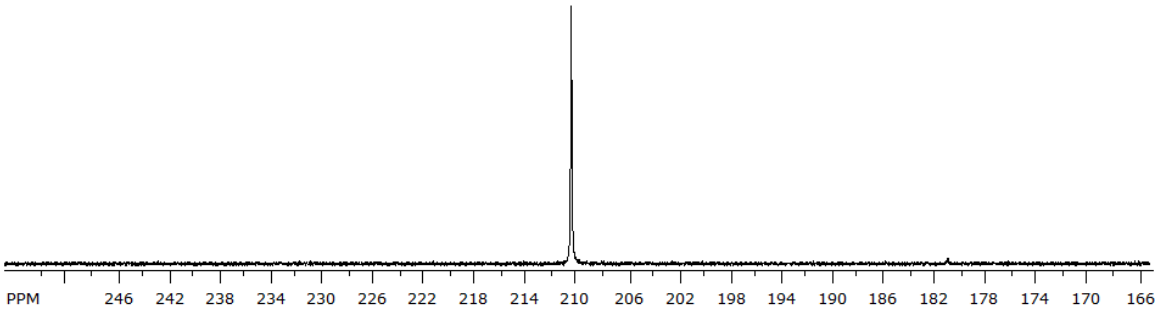

Fig. 24. $^{31}P\{^{1}H\}$NMR spectrum of **1g,** CD_2Cl_2.

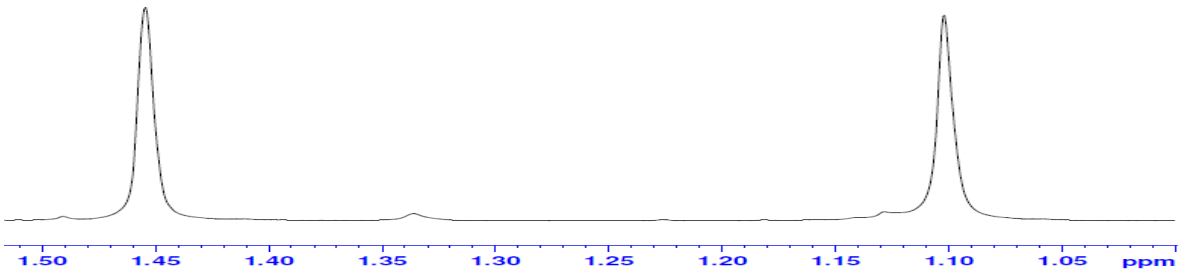

Fig. 25. ^{1}H NMR spectrum of **3g**, CD_2Cl_2.

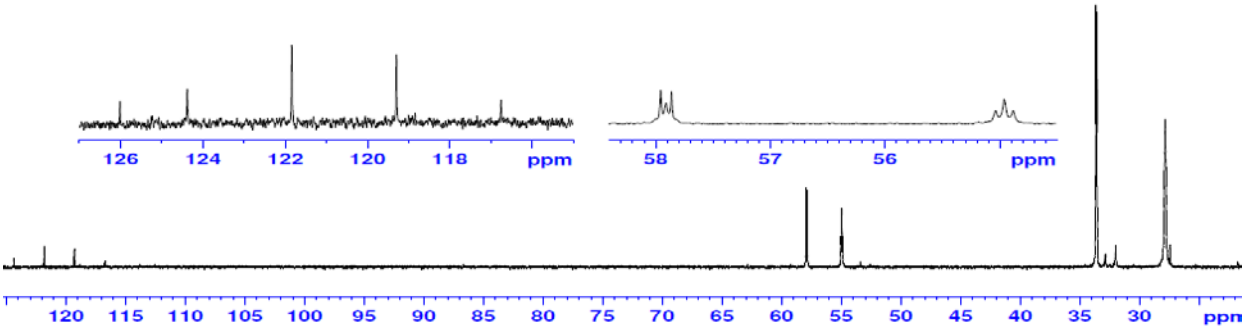

Fig. 26. $^{13}C\{^{1}H\}$ NMR spectrum of **3g,** CD_2Cl_2.

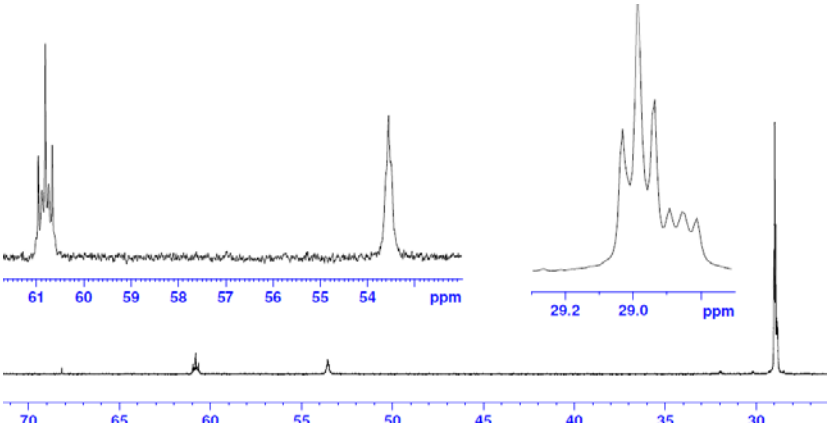

Fig. 27. $^{13}C\{^{1}H\}$ NMR spectrum of **1h,** benzene-d_6.

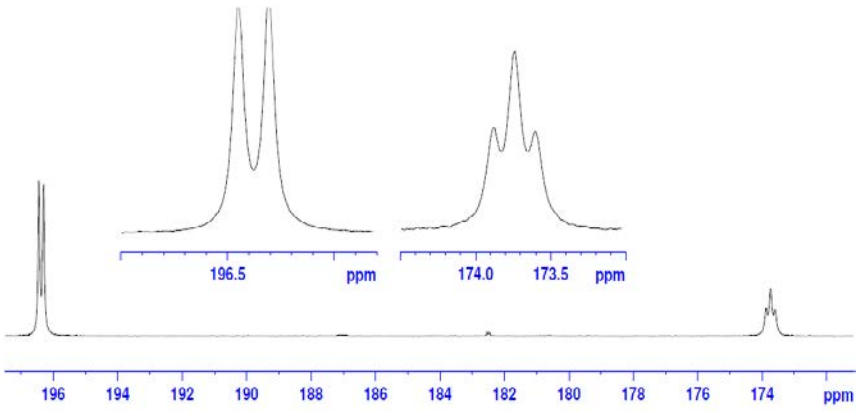

Fig. 28. $^{31}P\{^{1}H\}$ NMR spectrum of **1h,** benzene-d_6.