Supplementary Information For

Amide-Directed Formation of Five-Coordinate Osmium-Alkylidenes from Alkynes

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^{1}H and ^{13}C{^{1}H}-APT NMR spectra of complexes **2- 9** and ^{1}H-^{13}C HMBC and ^{1}H-^{13}C HSQC NMR spectra of complexes **6** and **7.**

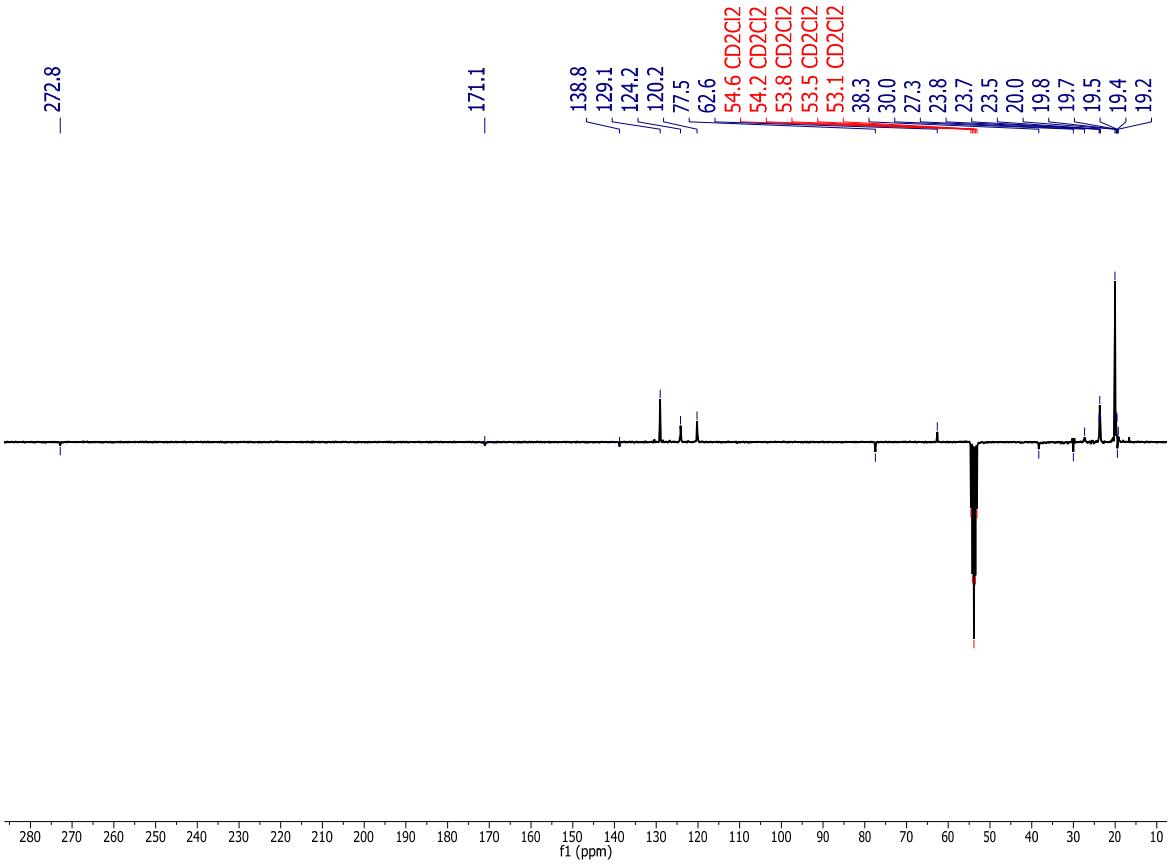

Figure S1. Complex **2** $^{13}C\{^{1}H\}$ APT (Bruker 300 MHz, CD_2Cl_2)

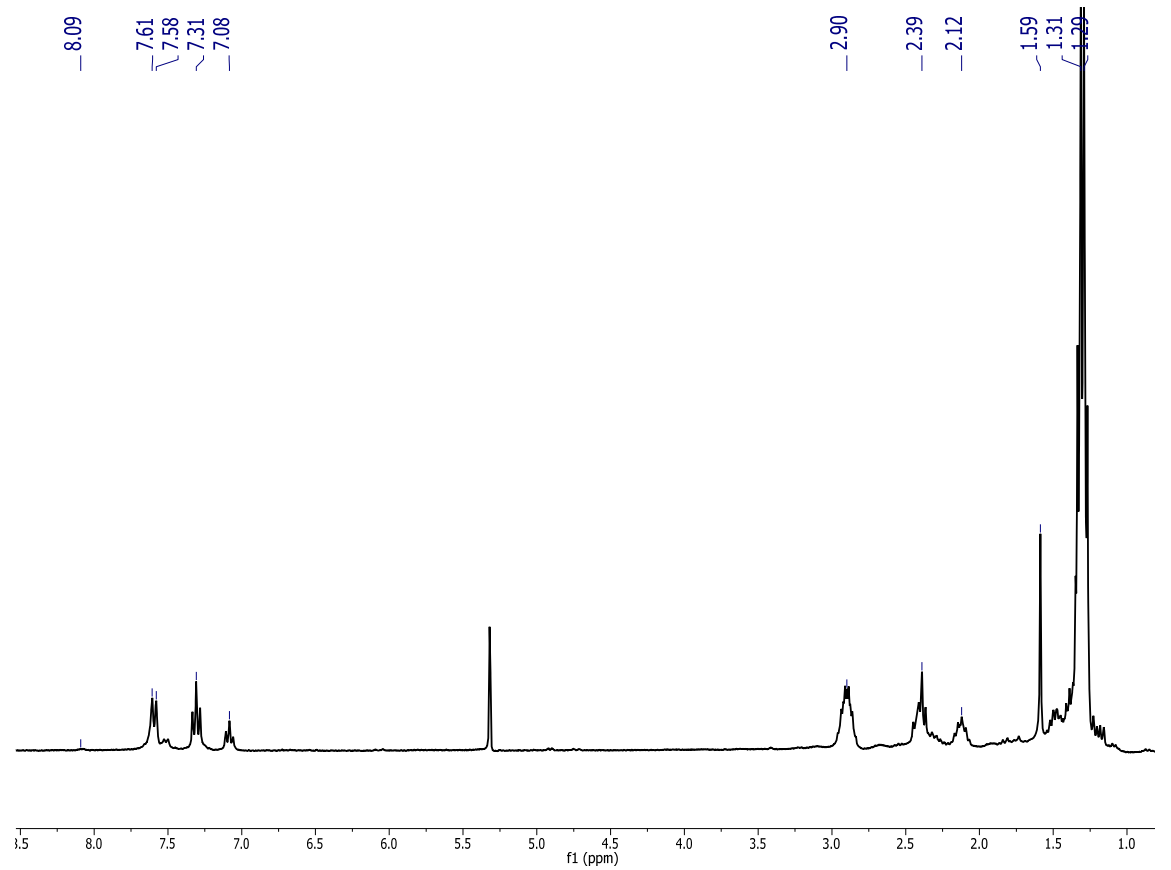

Figure S2. Complex **2** ^{1}H (Bruker 300 MHz, CD_2Cl_2)

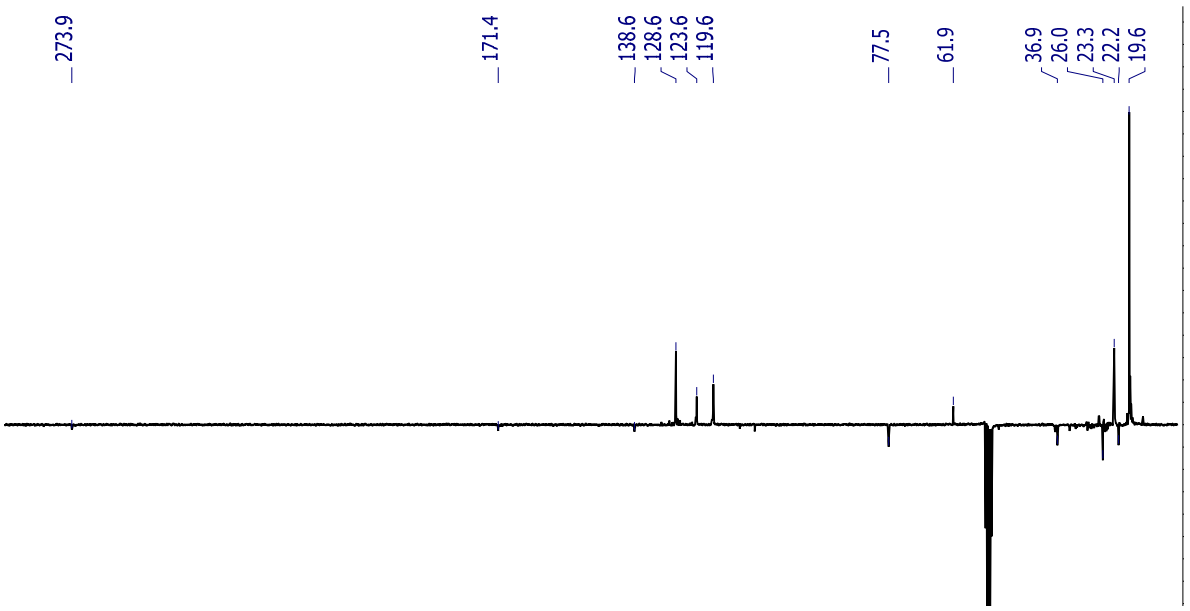

Figure S3. Complex **3** $^{13}C\{^{1}H\}$ APT (Bruker 300 MHz, CD_2Cl_2)

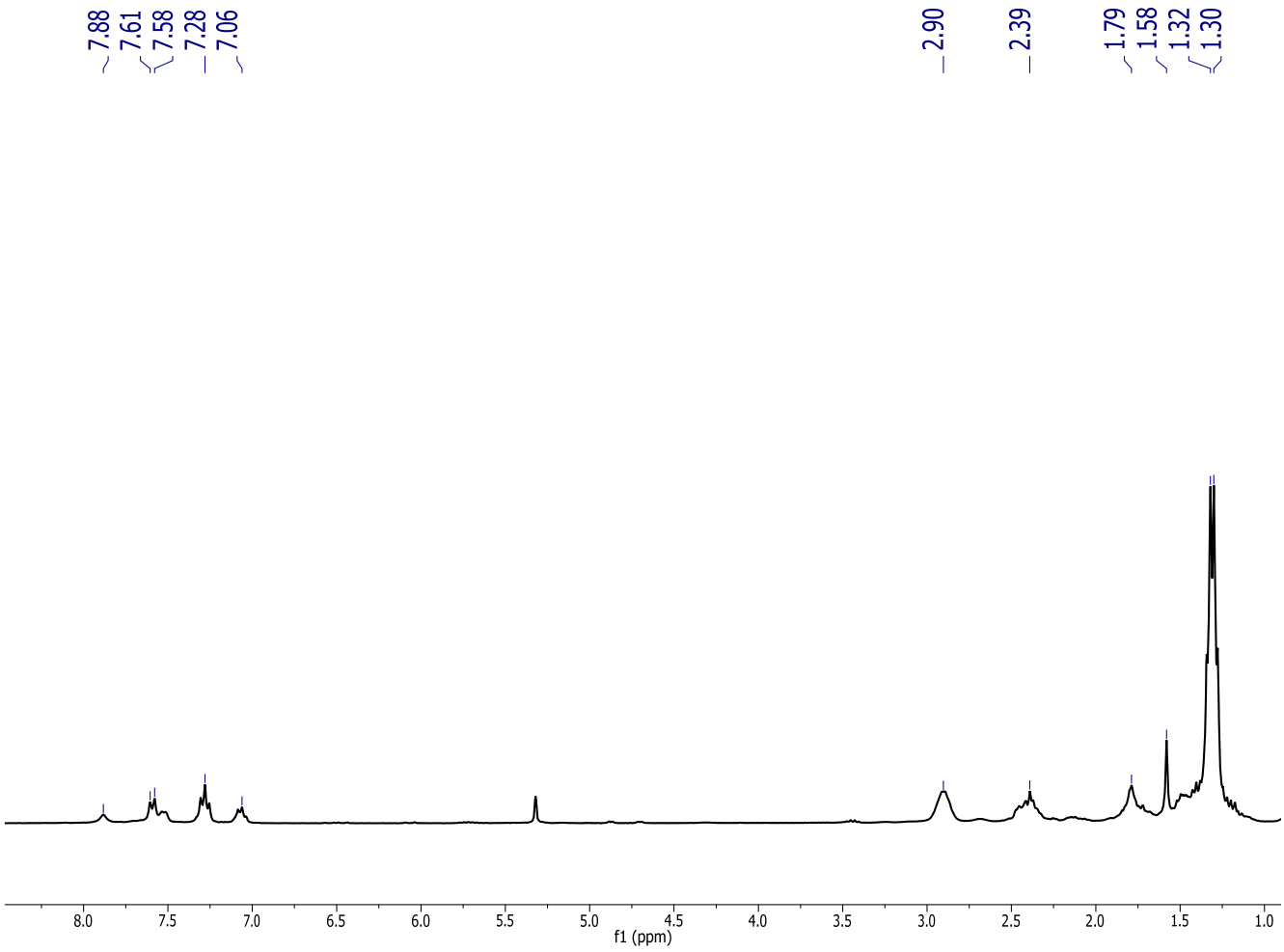

Figure S4. Complex **3** ^{1}H (Bruker 300 MHz, CD_2Cl_2)

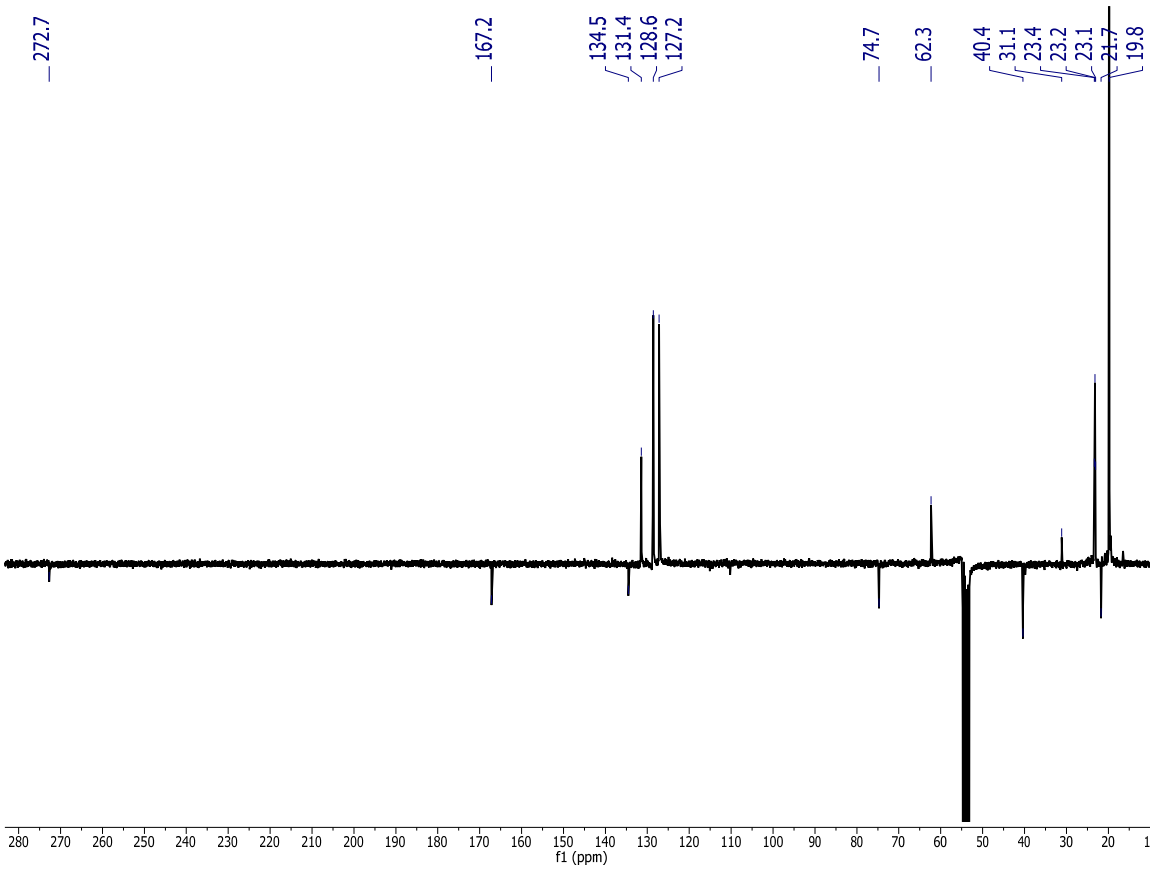

Figure S5. Complex **4** $^{13}C\{^{1}H\}$ APT (300 MHz, CD_2Cl_2)

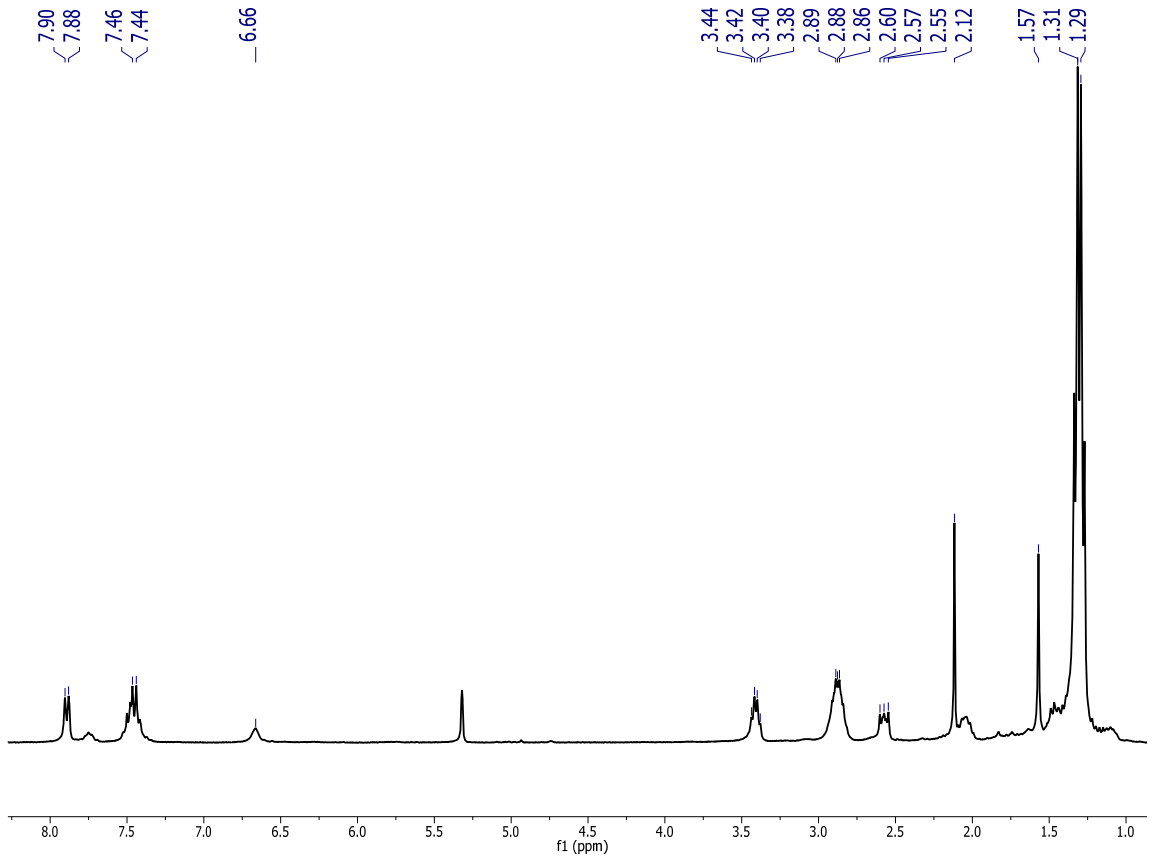

Figure S6. Complex **4** ^{1}H (300 MHz, CD_2Cl_2)

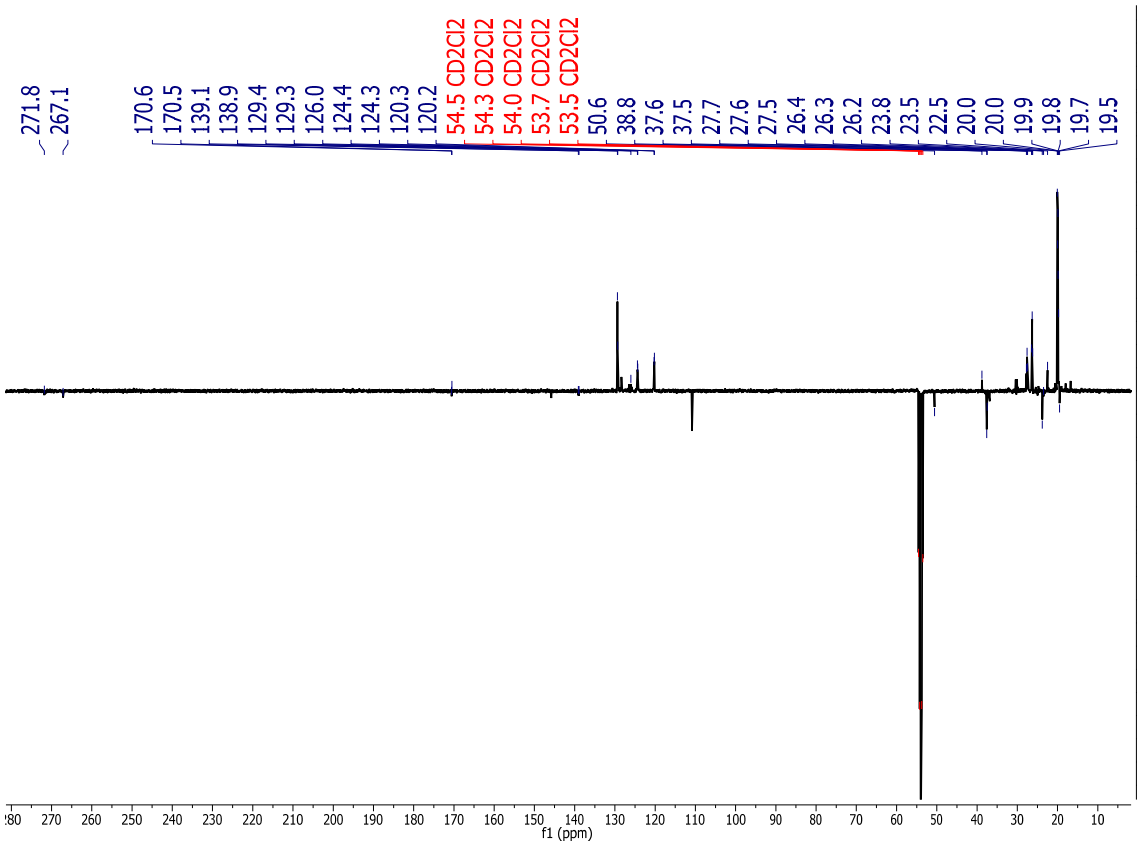

Figure S7. Complexes **5** and **6** $^{13}C\{^{1}H\}$ APT (400 MHz, CD_2Cl_2)

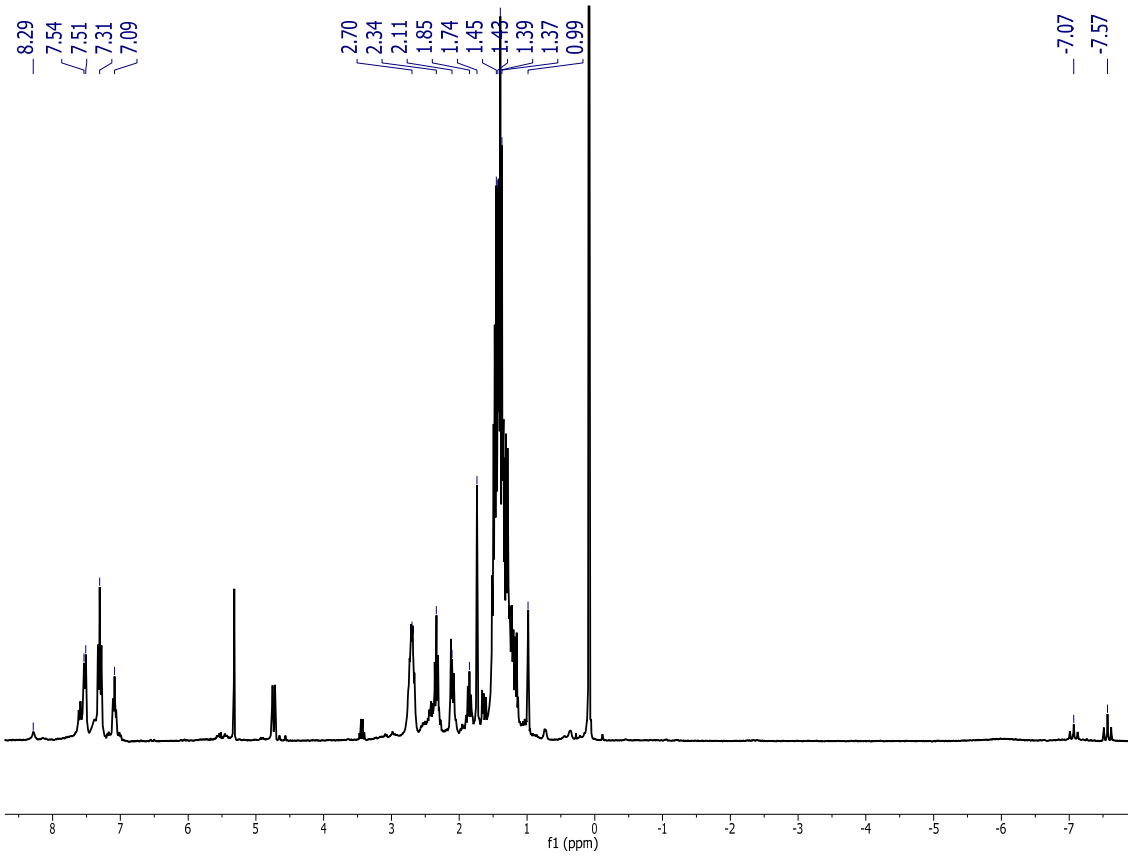

Figure S8. Complexes **5** and **6** ^{1}H (400 MHz, CD_2Cl_2)

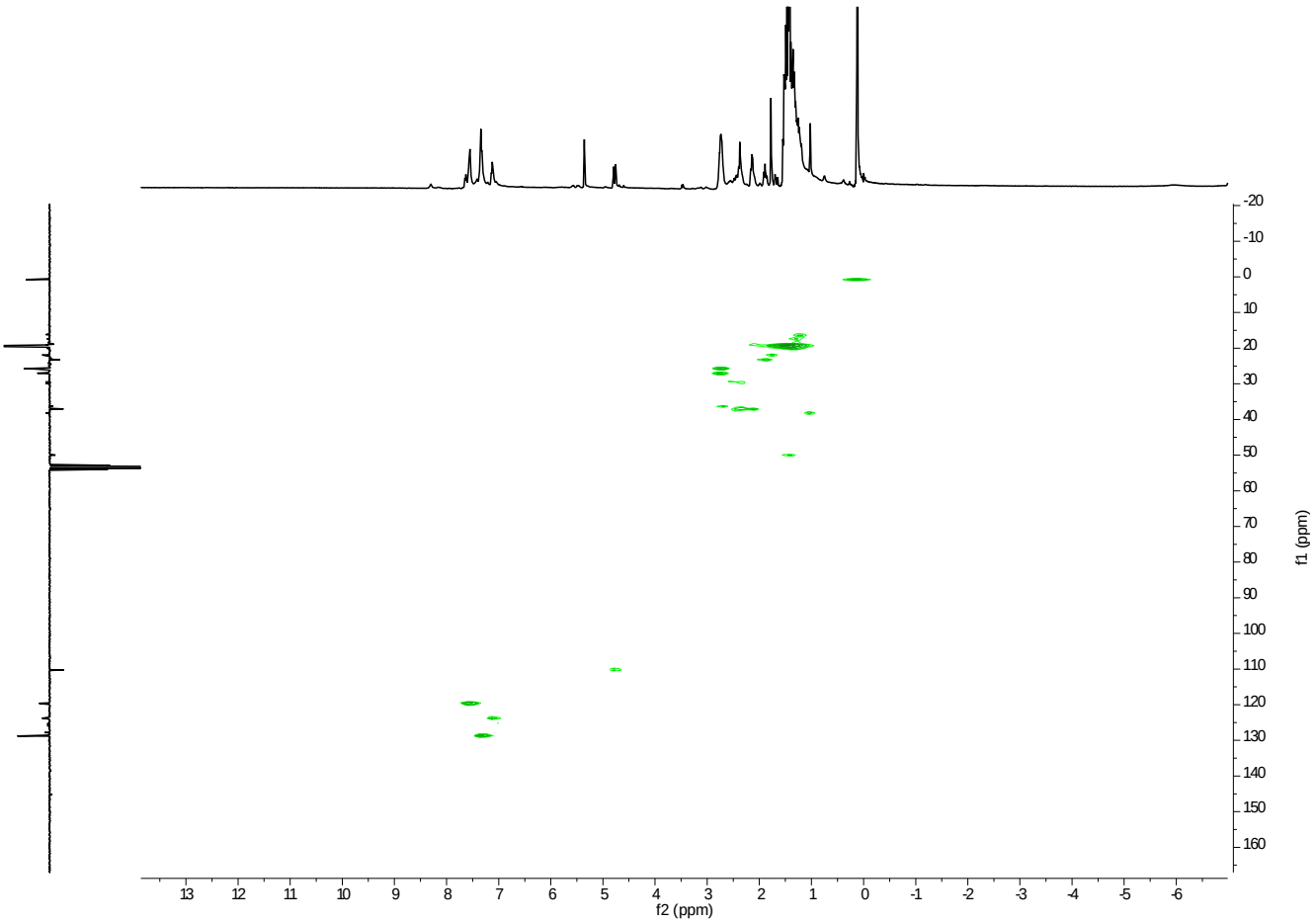

Figure S9. Complexes **5** and **6** (^{1}H-^{13}C) HSQC (400 MHz, CD_2Cl_2)

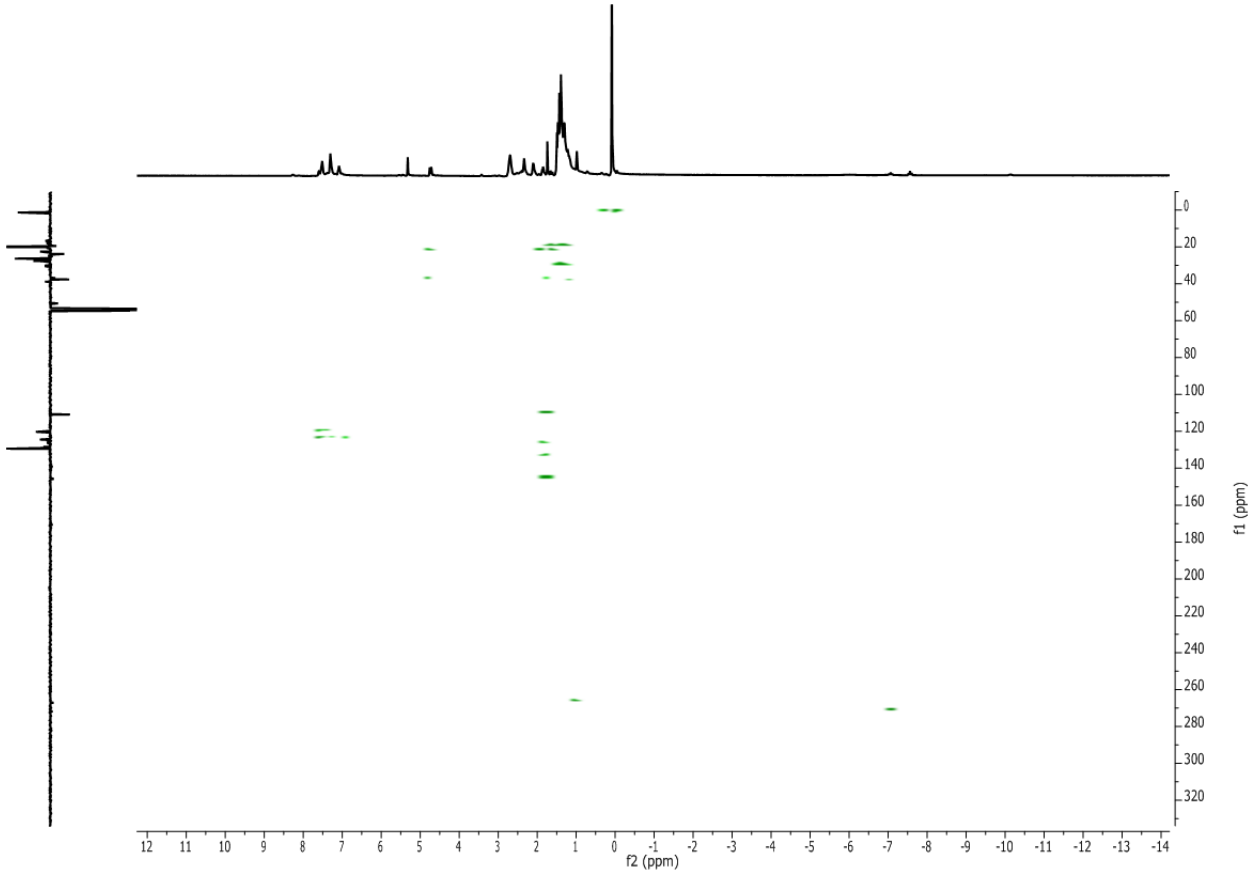

Figure S10. Complexes **5** and **6** (^{1}H-^{13}C) HMBC (400 MHz, CD_2Cl_2)

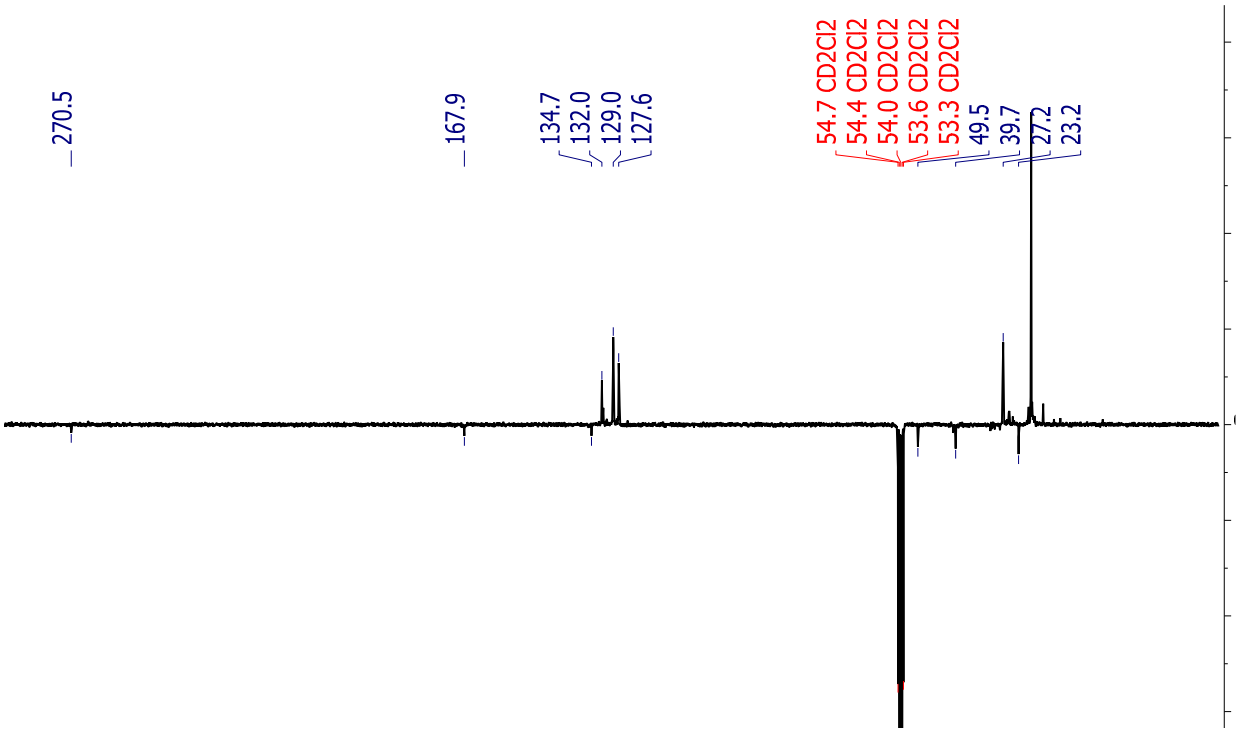

Figure S11. Complex **7** $^{13}C\{^{1}H\}$ APT (300 MHz, CD_2Cl_2)

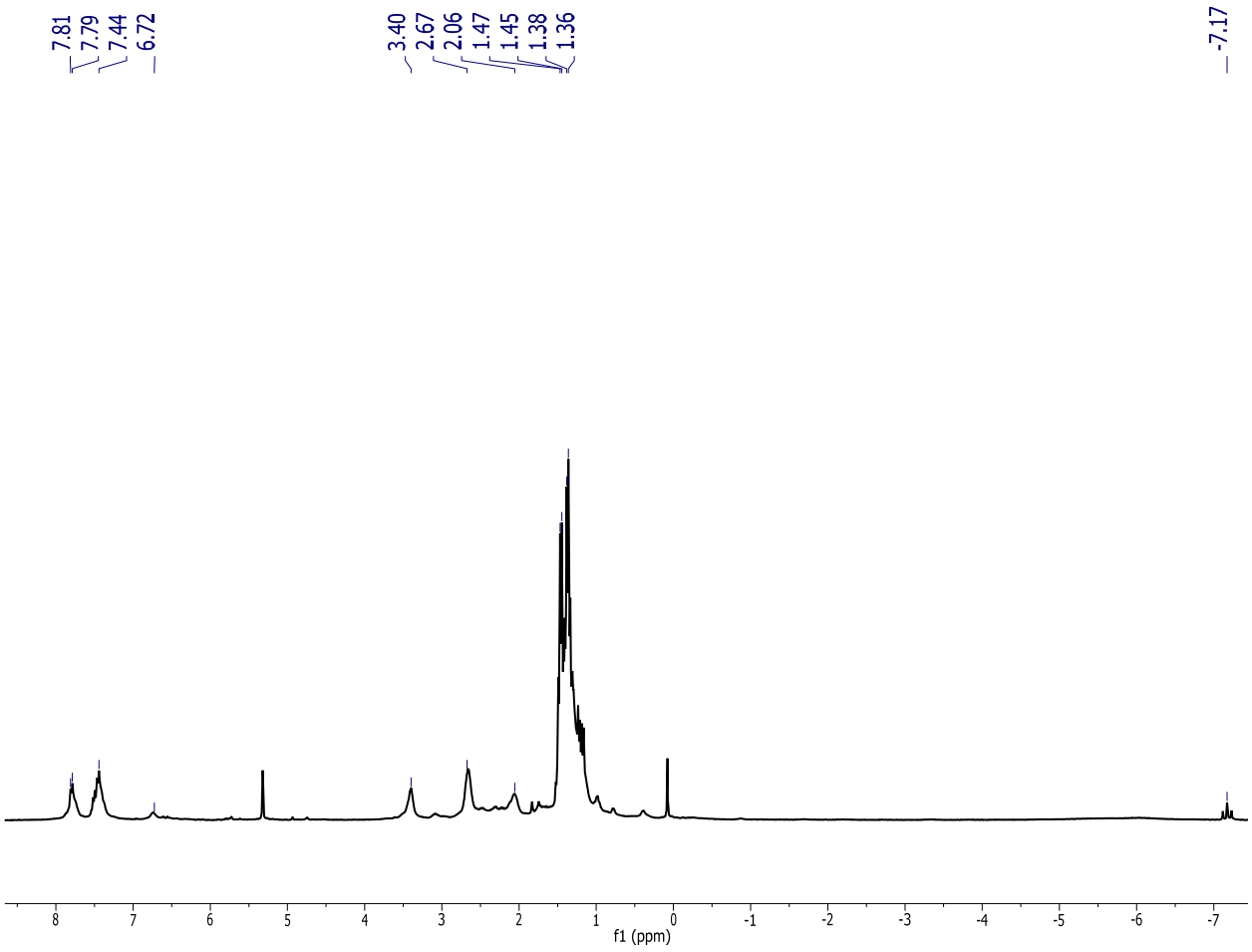

Figure S12. Complex **7** ^{1}H (300 MHz, CD_2Cl_2)

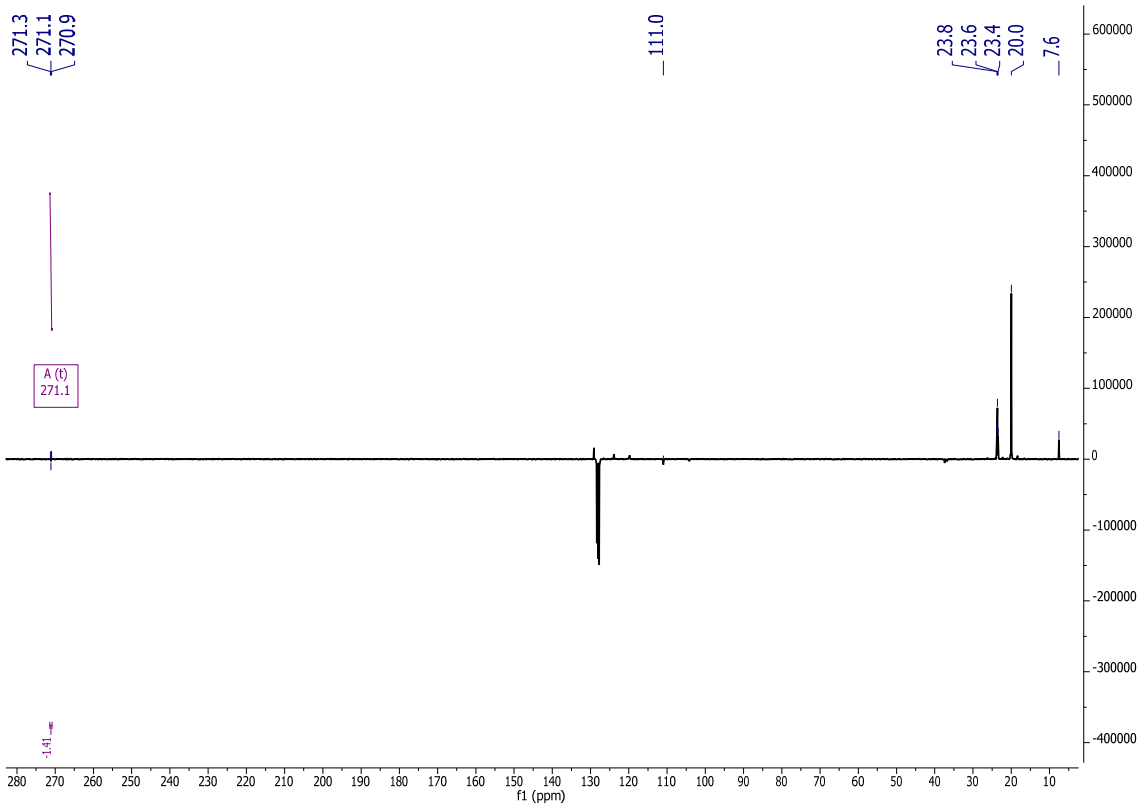

Figure S13. Complex **8** $^{13}C\{^{1}H\}$ APT (300 MHz, C_6D_6)

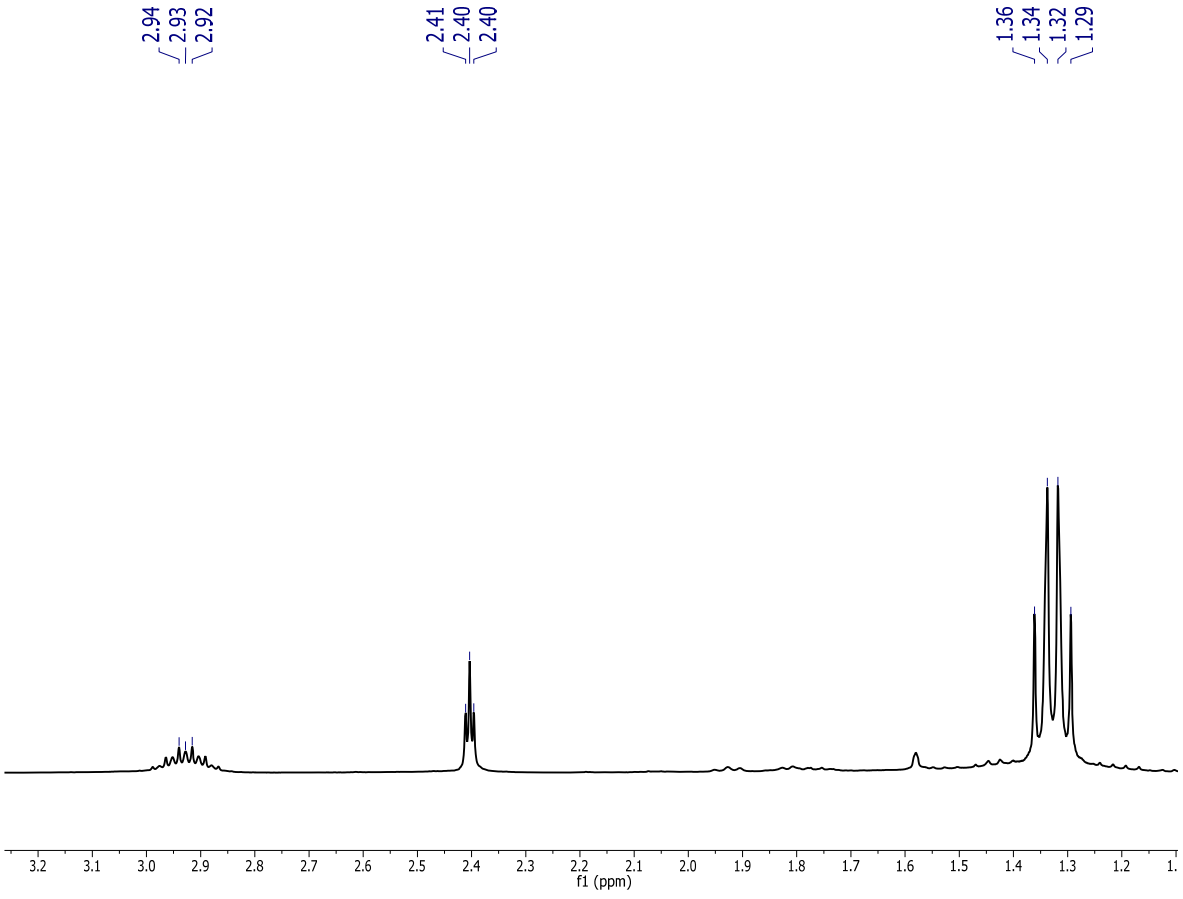

Figure S14. Complex **8** ^{1}H (300 MHz, C_6D_6)

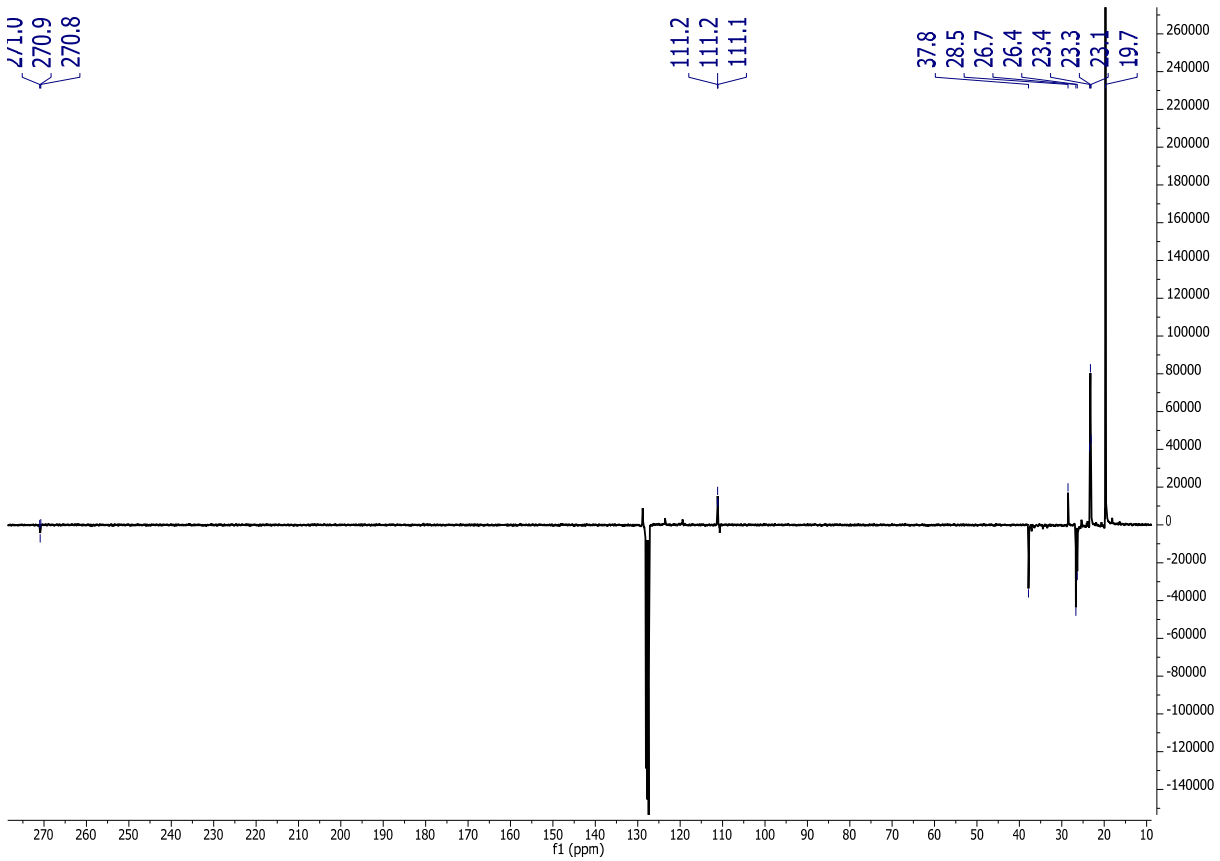

Figure S15. Complex **9** $^{13}C\{^{1}H\}$ APT (300 MHz, C_6D_6)

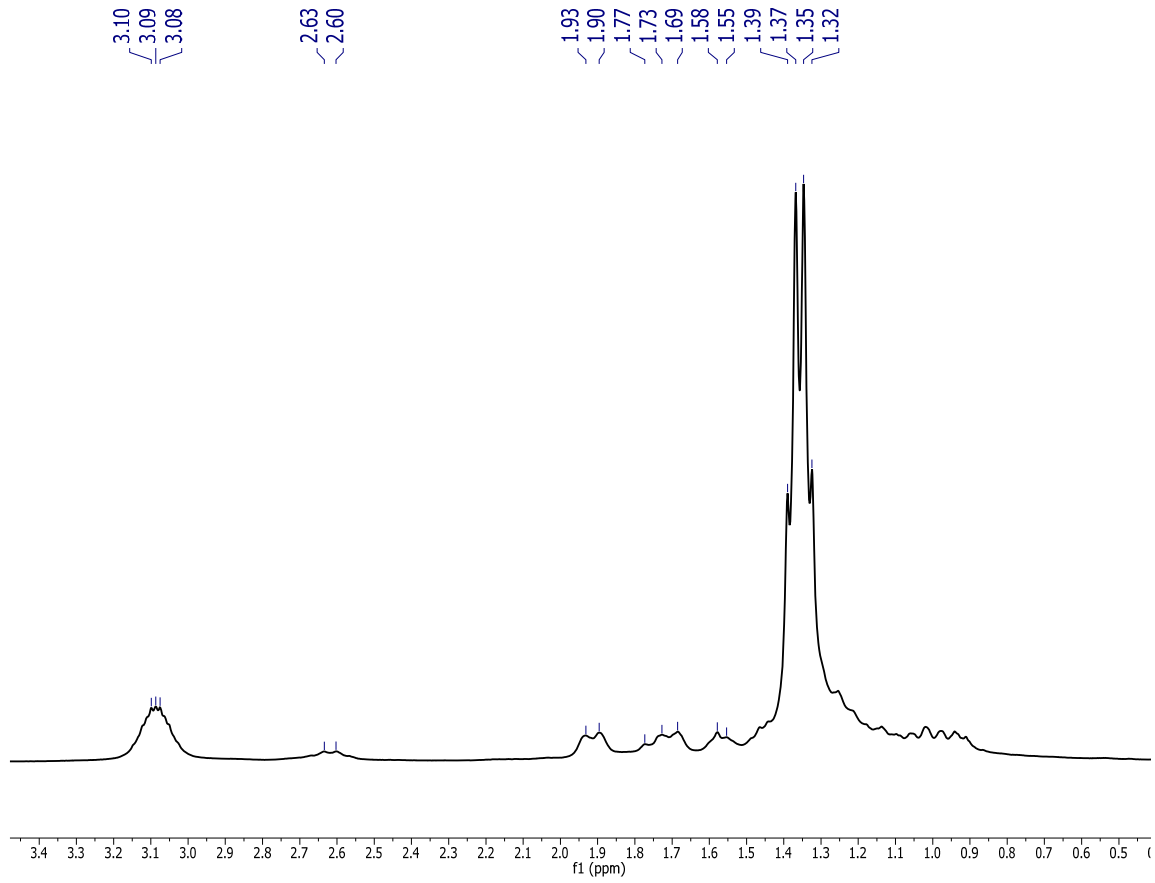

Figure S16. Complex **9** ^{1}H (300 MHz, C_6D_6)