

Supporting Information

Electrostatic vs Electronic interactions within oxidized multinuclear Pt(bipyridine)(dithiolene) complexes

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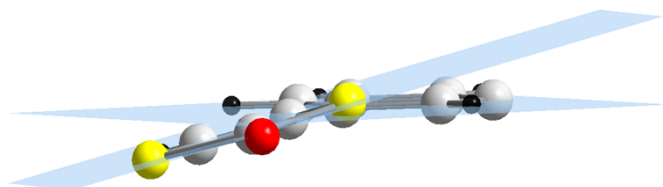


Fig. S1: Side view of 1,3-bis(dithiol-2-one) **3** with the central phenyl ring in the horizontal plane and the dithiole ring in the other one, the angle between the planes amounts to $14.2(2)^\circ$.

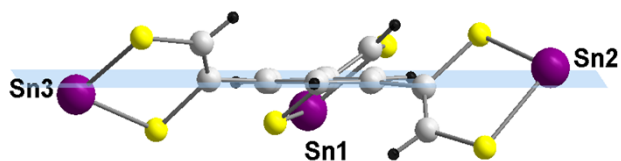


Fig. S2: Side view of compound **7** with the central phenyl ring in the horizontal plane showing the angles between the metalladithiolene planes and the phenyl ring plane rings in the range of $35.4(5)^\circ - 49.1(3)^\circ$. Butyl chains have been omitted for clarity

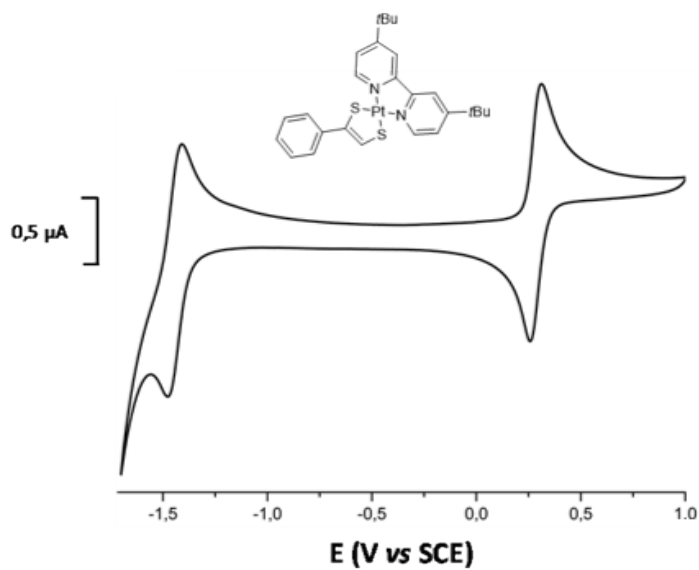


Fig. S3: Cyclic voltammogram of **PtP** in CH_2Cl_2 using 0.1 M of $[\text{NBu}_4][\text{PF}_6]$ as supporting electrolytes. $v=100 \text{ mV}\cdot\text{s}^{-1}$.

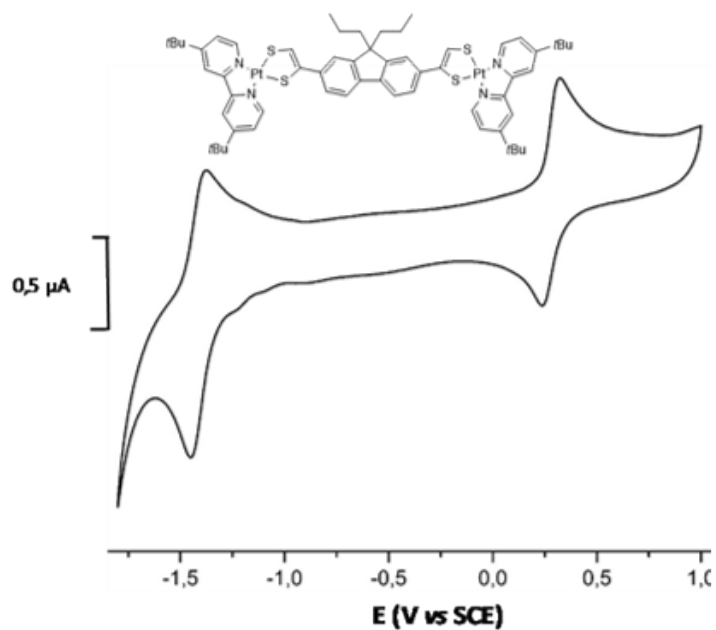


Fig. S4: Cyclic voltammogram of **Pt₂FI** in CH_2Cl_2 using 0.1 M of $[\text{NBu}_4][\text{PF}_6]$ as supporting electrolytes. $v=100 \text{ mV}\cdot\text{s}^{-1}$.

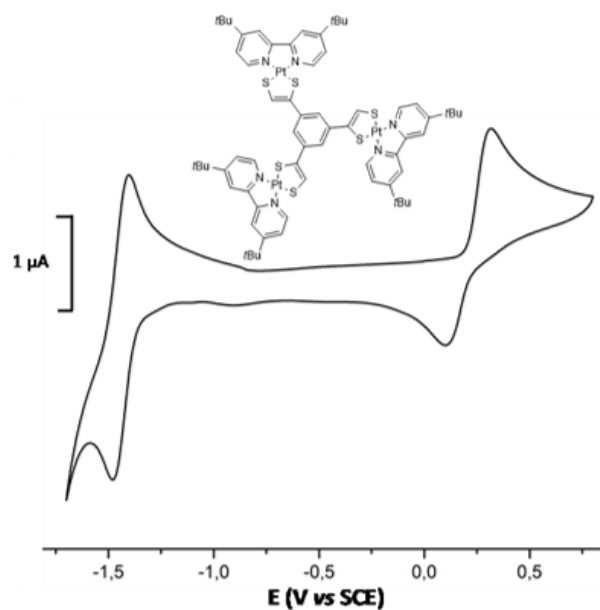


Fig. S5: Cyclic voltammogram of **Pt₃1,3,5-P** in CH₂Cl₂ using 0.1 M of [NBu₄][PF₆] as supporting electrolytes. $v=100 \text{ mV}\cdot\text{s}^{-1}$.

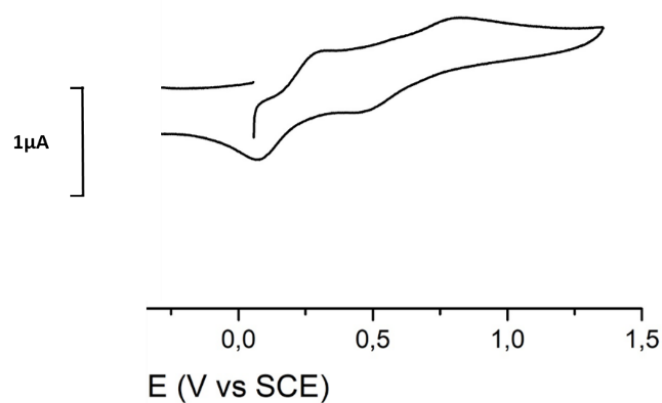


Fig. S6: Cyclic voltammogram of **Pt₃1,3,5-P** in CH₂Cl₂ using 0.005 M of [NBu₄][BARF] as supporting electrolytes. $v=100 \text{ mV}\cdot\text{s}^{-1}$.

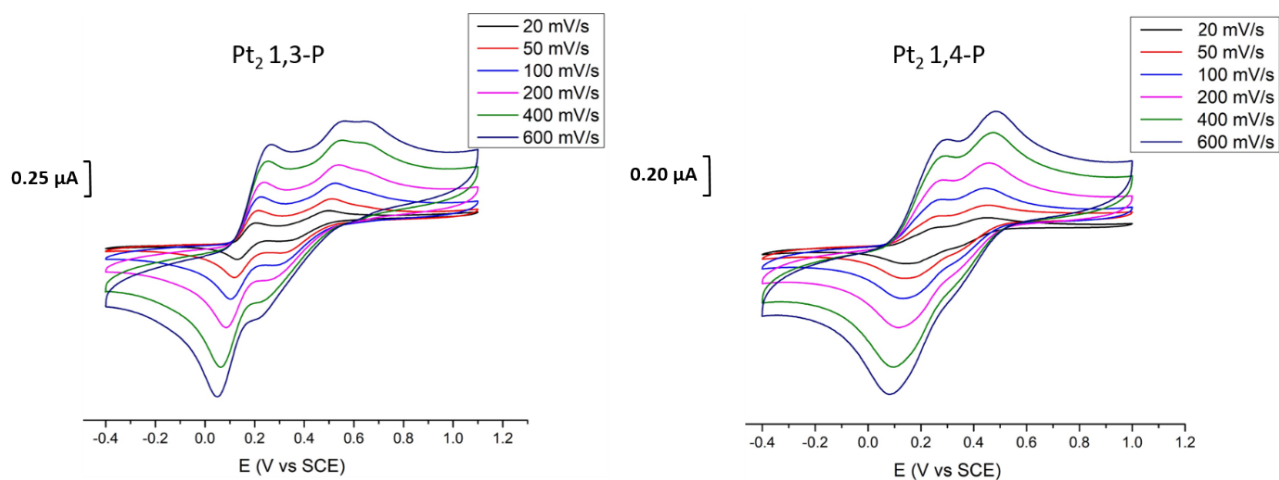


Fig. S7: Cyclic voltammogram of **Pt₂1,3-P** (left) and **Pt₂1,4-P** (right) in CH₂Cl₂ using 0.005 M of [NBu₄][BArF] as supporting electrolytes. 20 mV/s < v < 600 mV/s.

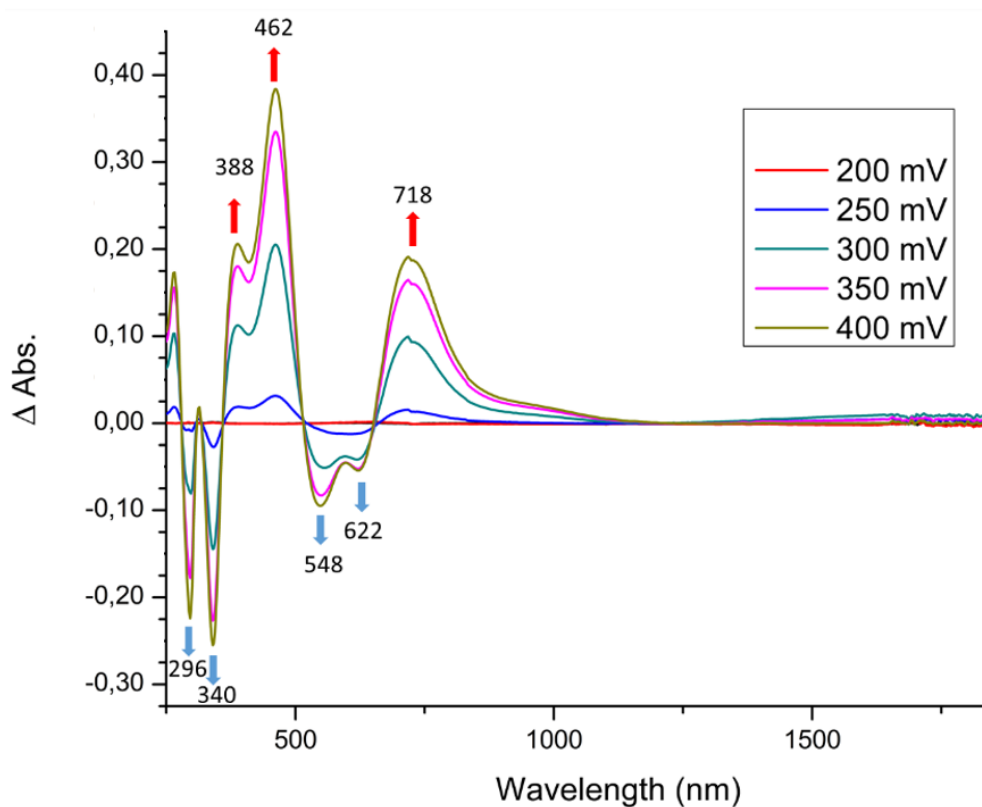


Fig. S8: Differential UV-vis-NIR spectra of **PtP** monitored upon gradual oxidation of the neutral complex with 0.2 M [Bu₄N][PF₆] as the supporting electrolyte.

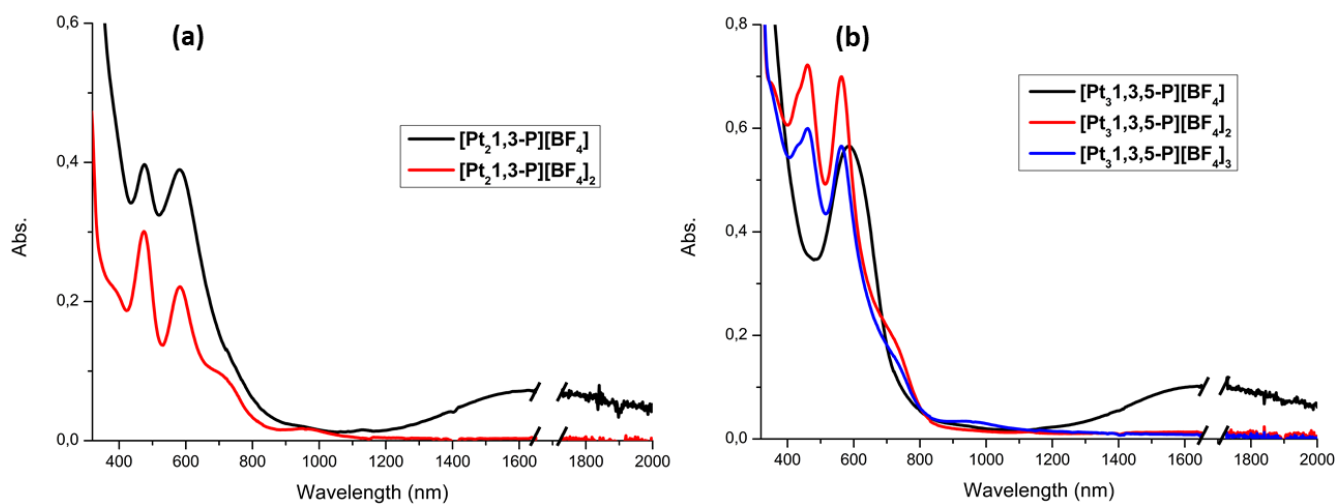


Fig. S9: UV-vis-NIR spectrum of Oxidized $\text{Pt}_2\text{1,3-P}$ and $\text{Pt}_3\text{1,3,5-P}$ complexes.

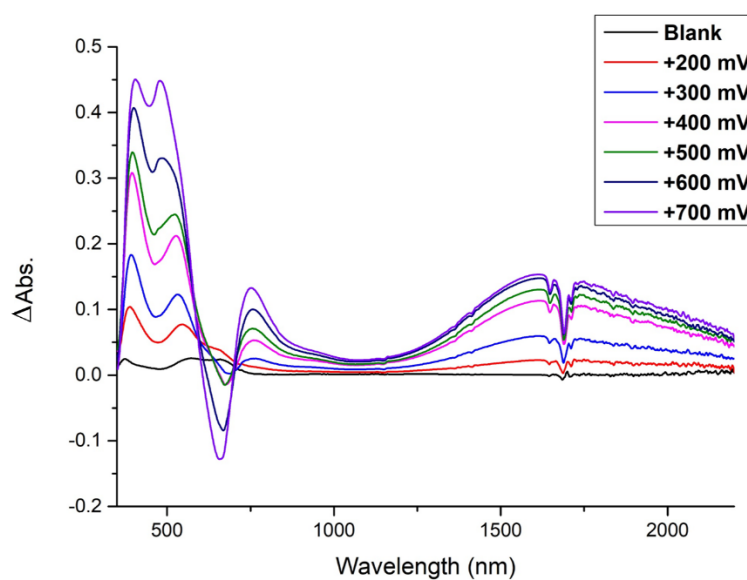


Fig. S10: Differential UV-vis-NIR spectra of $\text{Pt}_3\text{1,3,5-P}$ monitored upon gradual oxidation of the neutral complex with 0.005 M $[\text{Bu}_4\text{N}][\text{BArF}]$ as the supporting electrolyte.

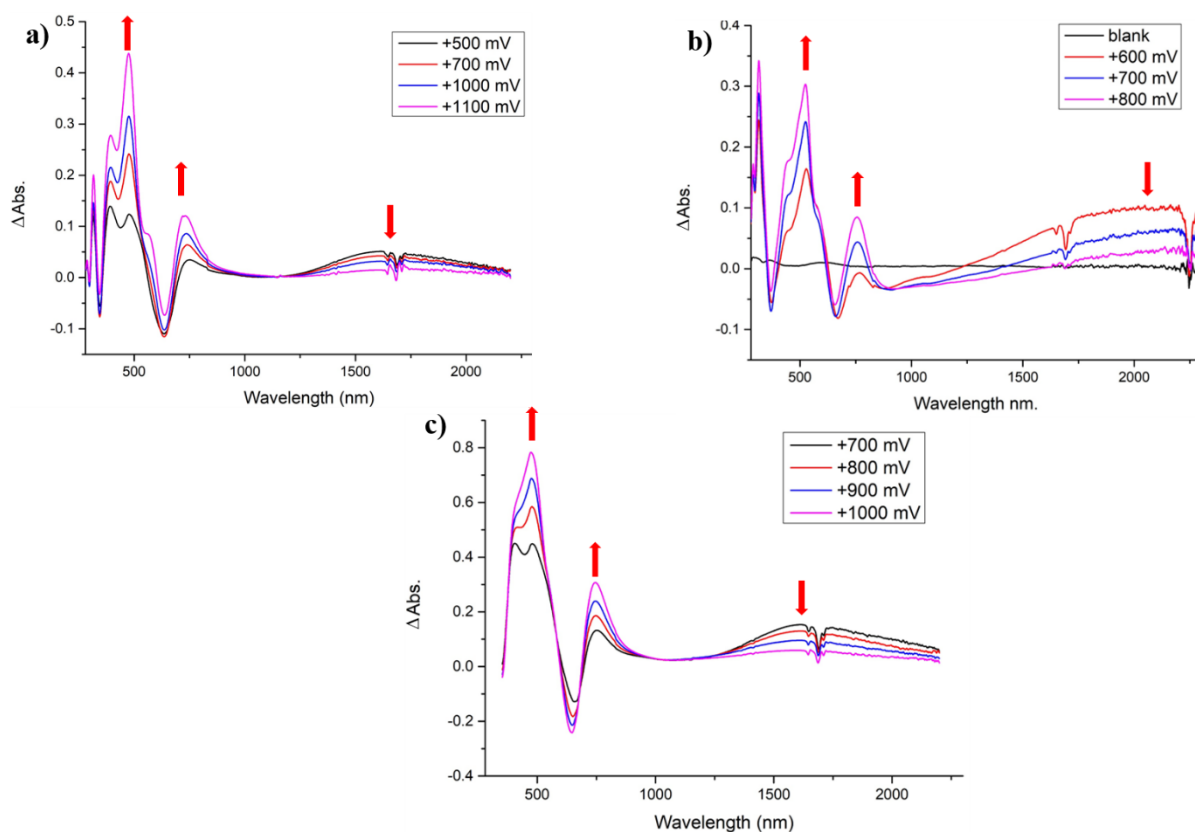


Fig. S11: Differential UV-vis-NIR spectra of **Pt₂1,3-P** (a), **Pt₂1,4-P** (b) and **Pt₃1,3,5-P** (c) monitored upon gradual oxidation with 0.005 M [Bu₄N][BARf] as the supporting electrolyte.

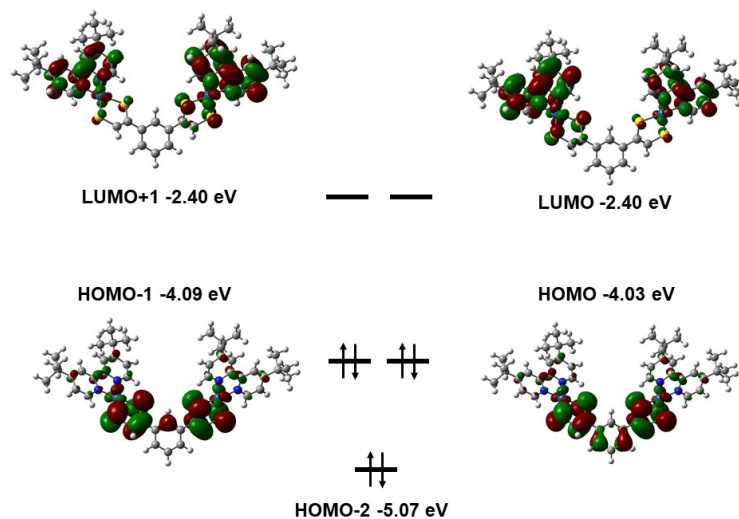


Fig. S12: Frontier molecular orbitals (HOMO, HOMO-1, LUMO and LUMO+1) and calculated energy levels for complex **Pt₂1,3-P**.

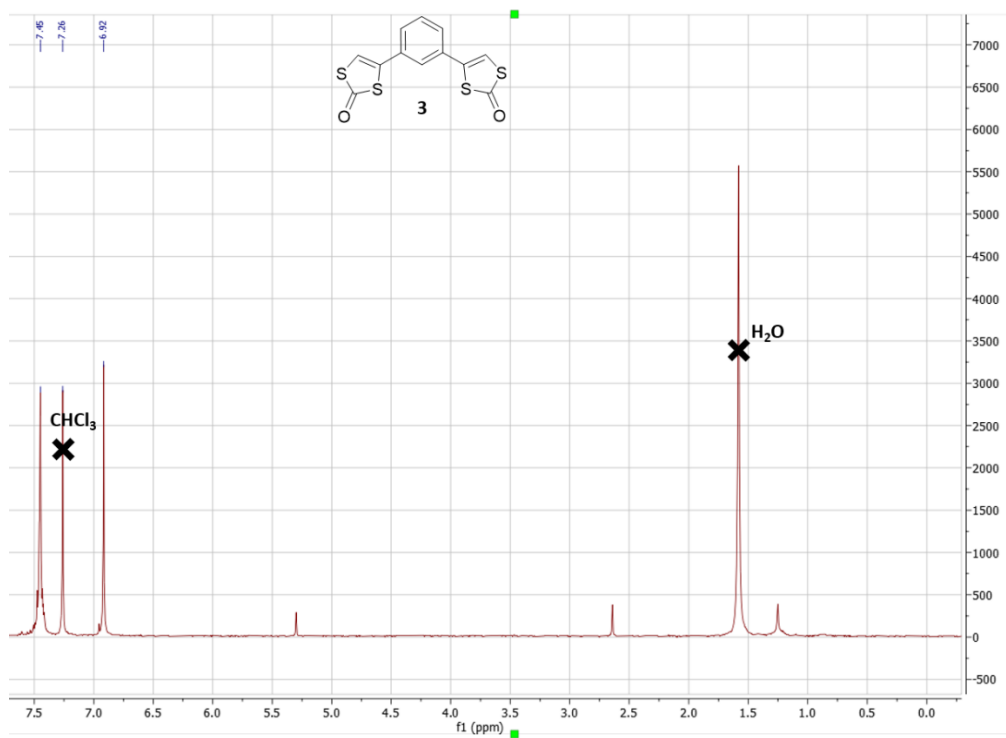


Fig. S13: ¹H RMN of 3

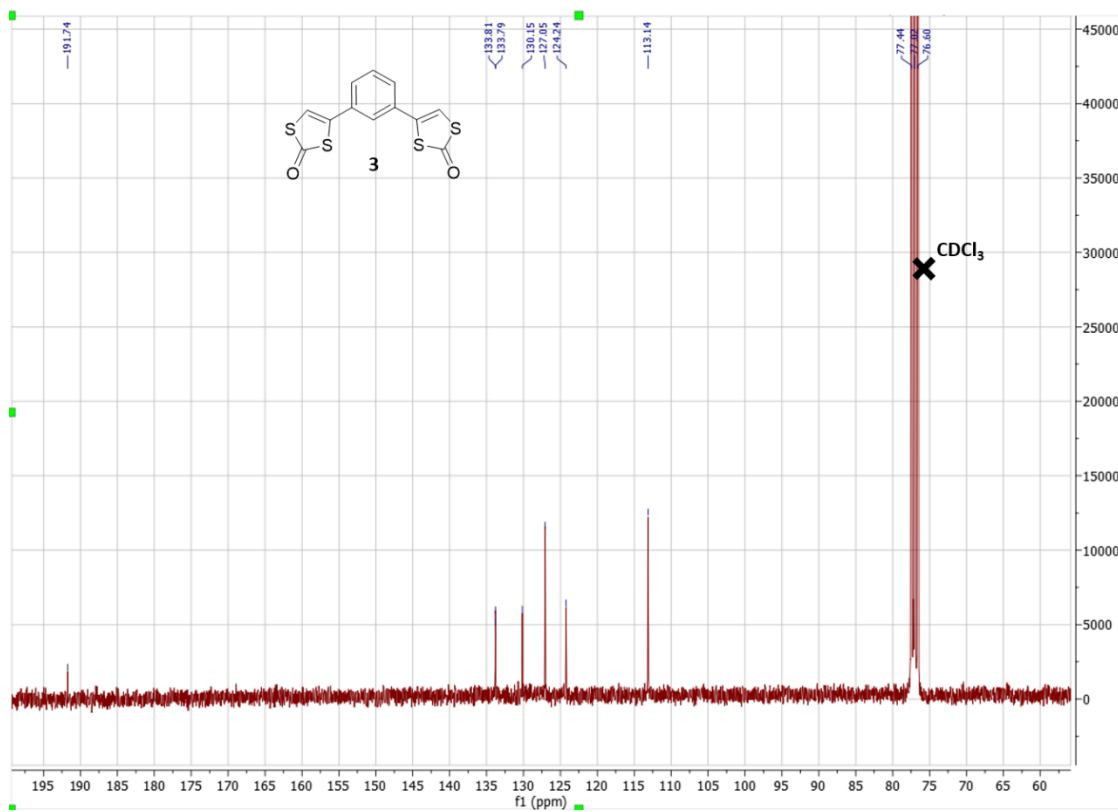


Fig. S14: ¹³C RMN of 3

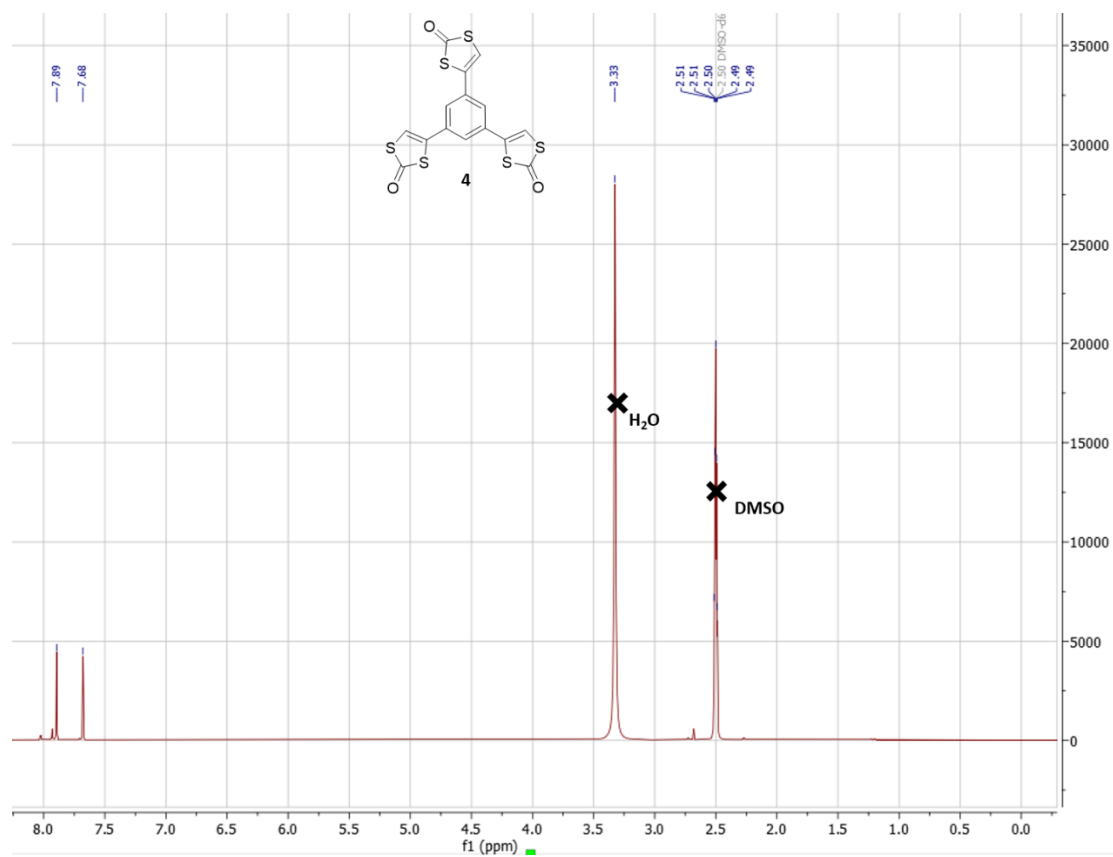


Fig. S15: ^1H RMN of 4

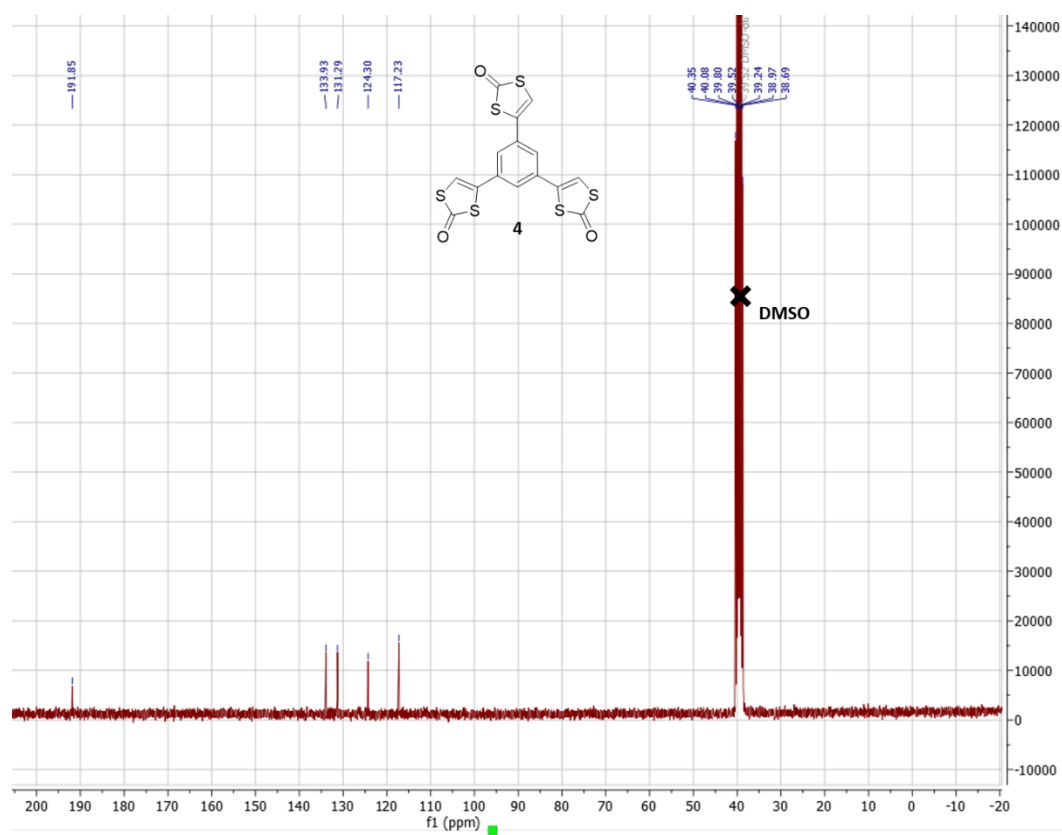


Fig. S16: ^{13}C RMN of 4

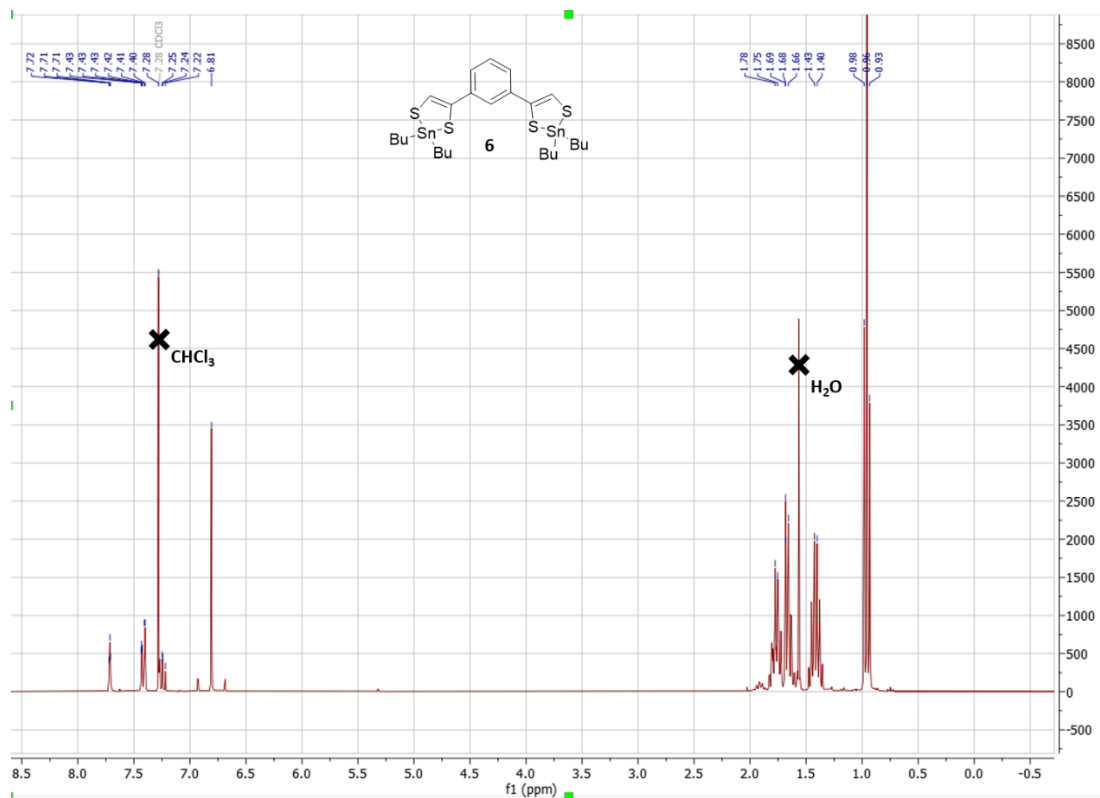


Fig. S17: ^1H RMN of **6**

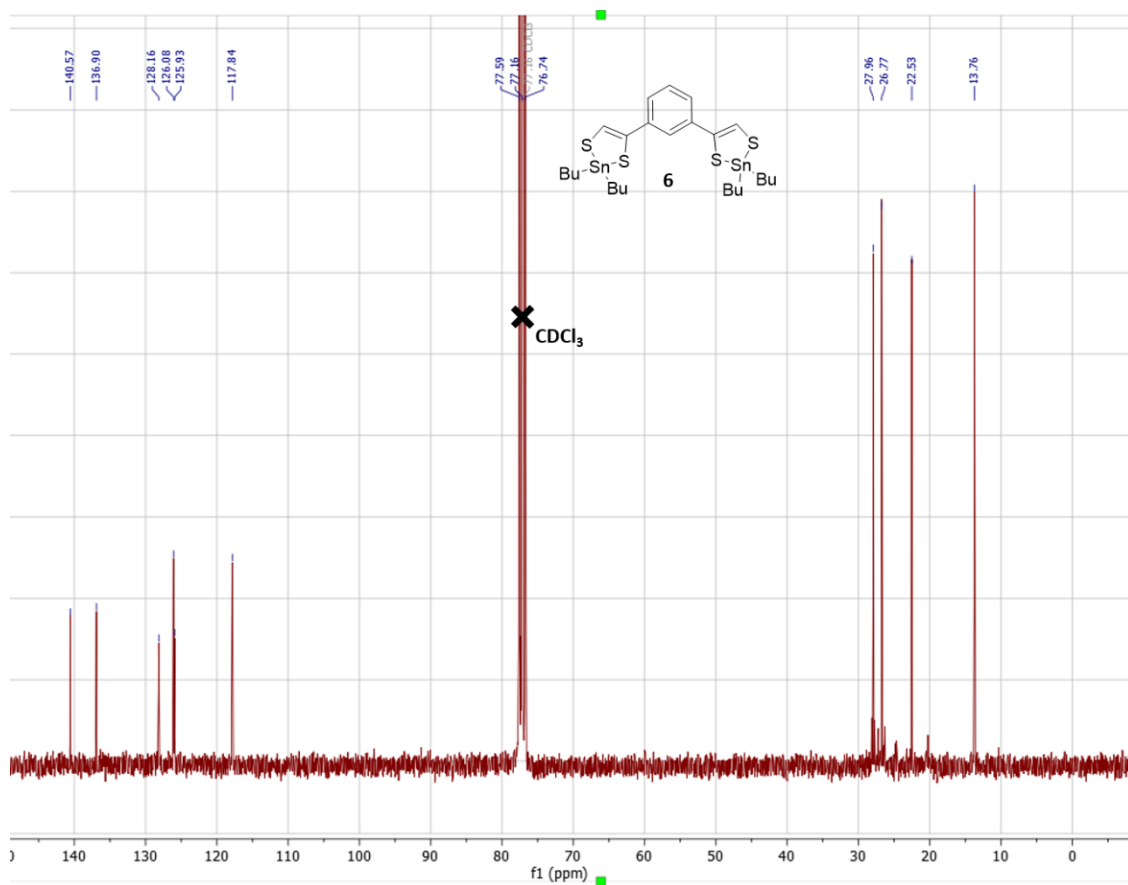


Fig. S18: ^{13}C RMN of **6**

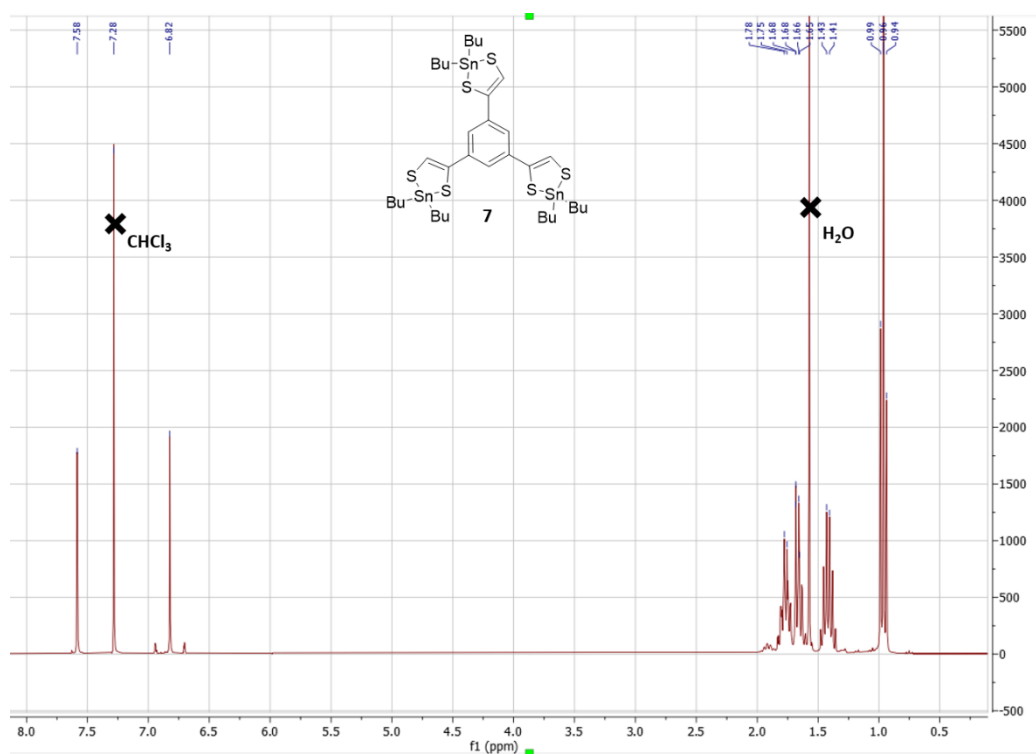


Fig. S19: ^1H RMN of 7

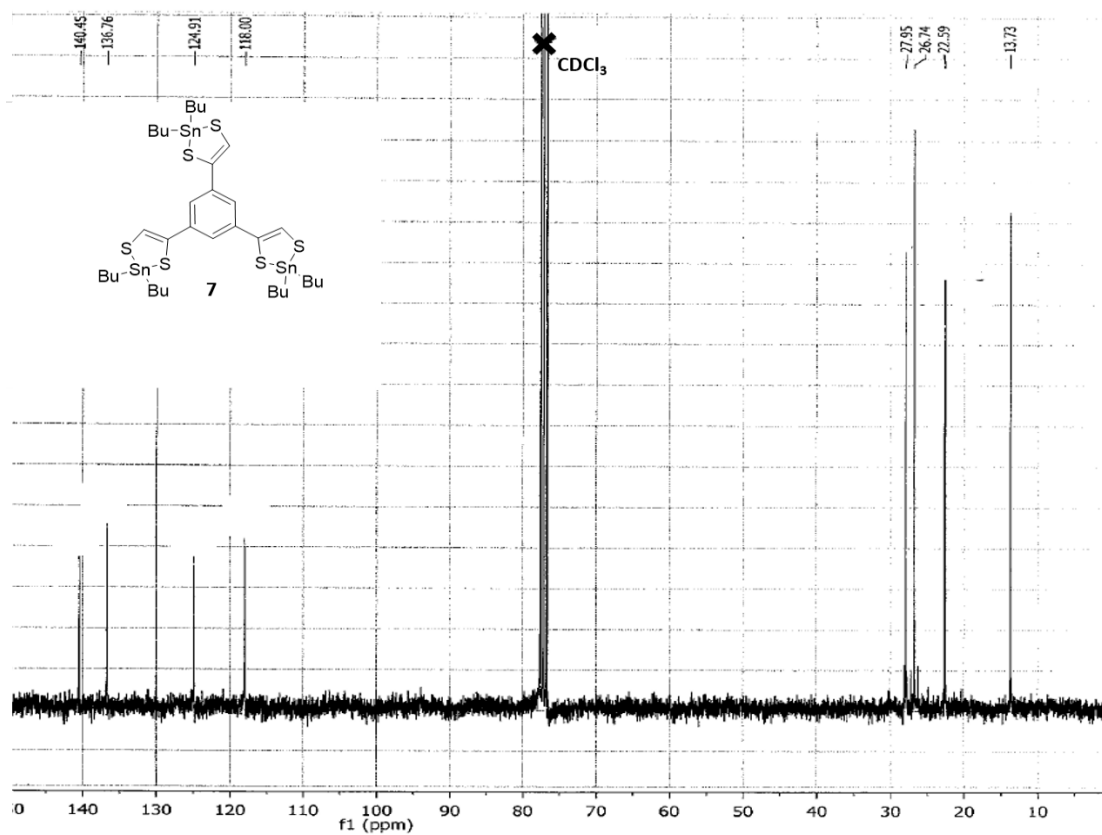


Fig. S20: ^{13}C RMN of 7

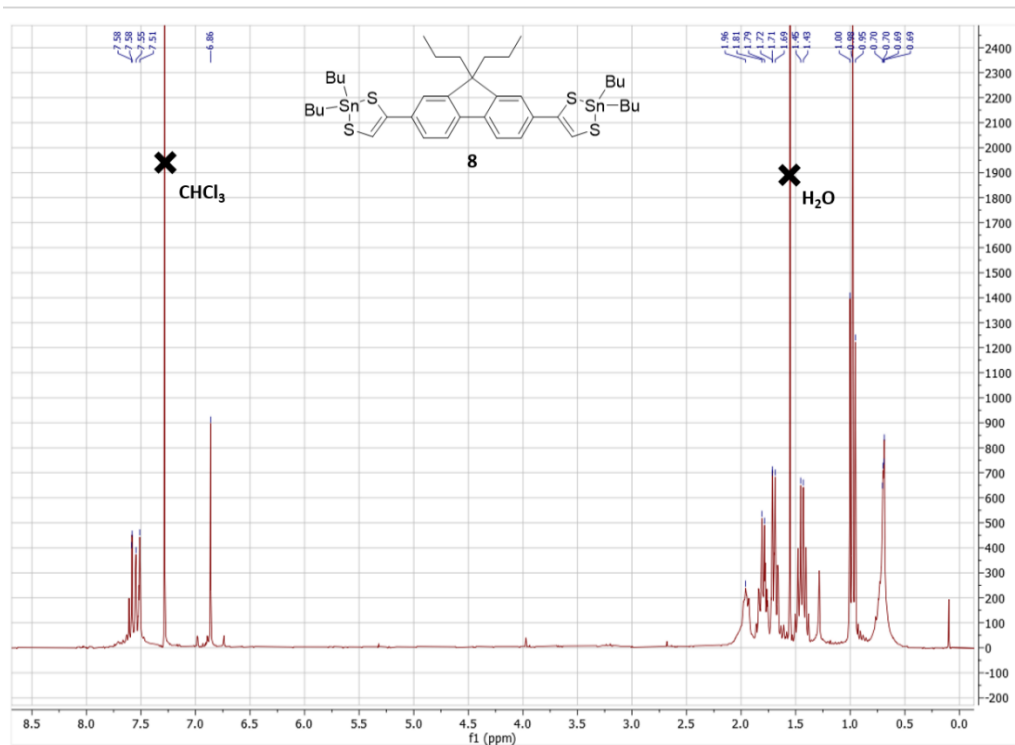


Fig. S21: ¹H RMN of 8

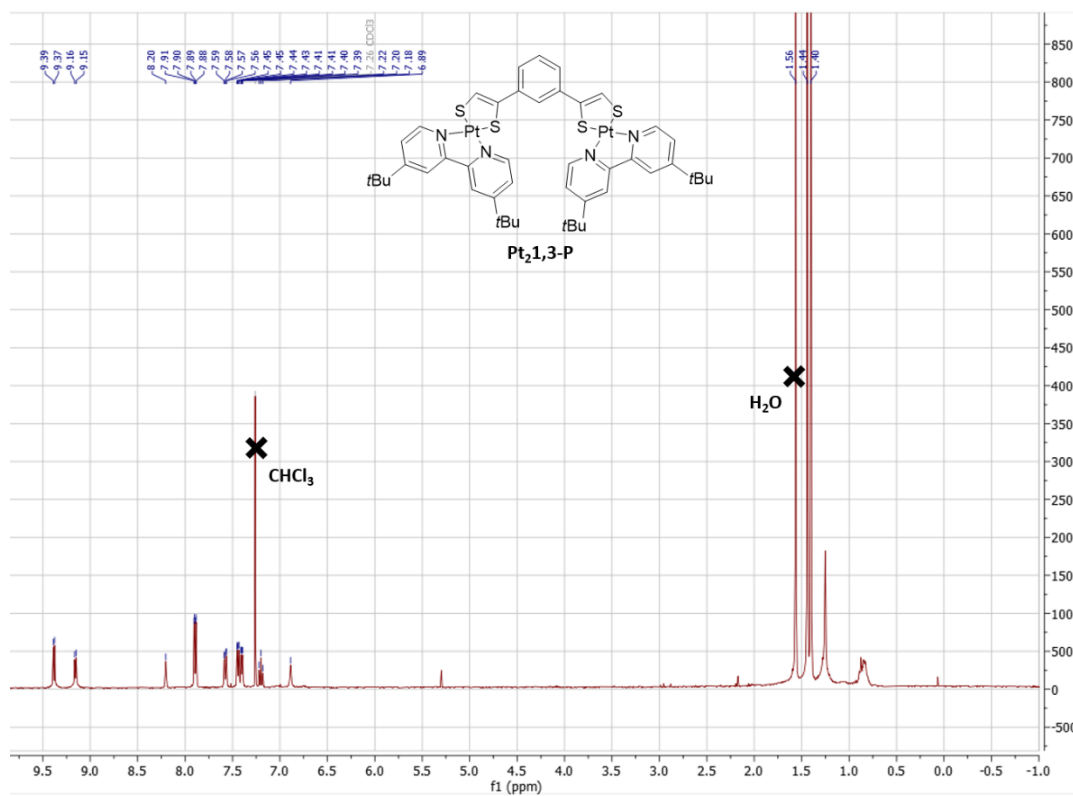


Fig. S22: ¹H RMN of Pt₂,1,3-P

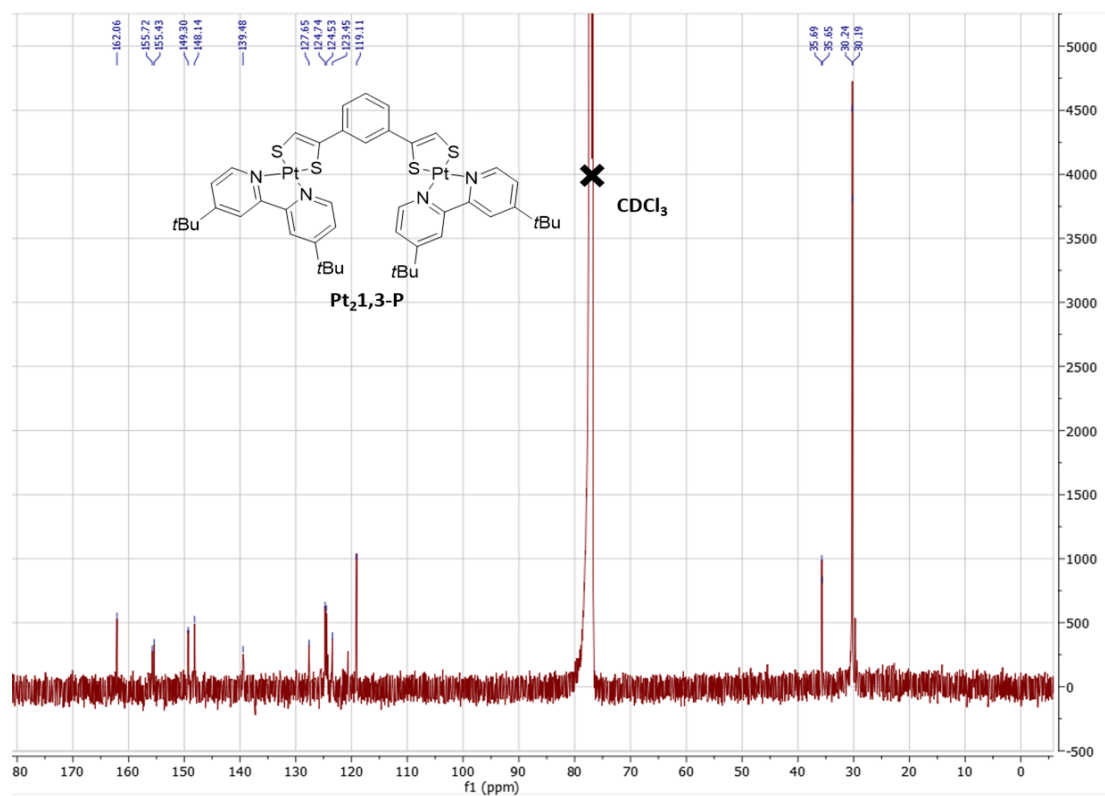


Fig. S23: ^{13}C RMN of $Pt_{2,1,3-P}$

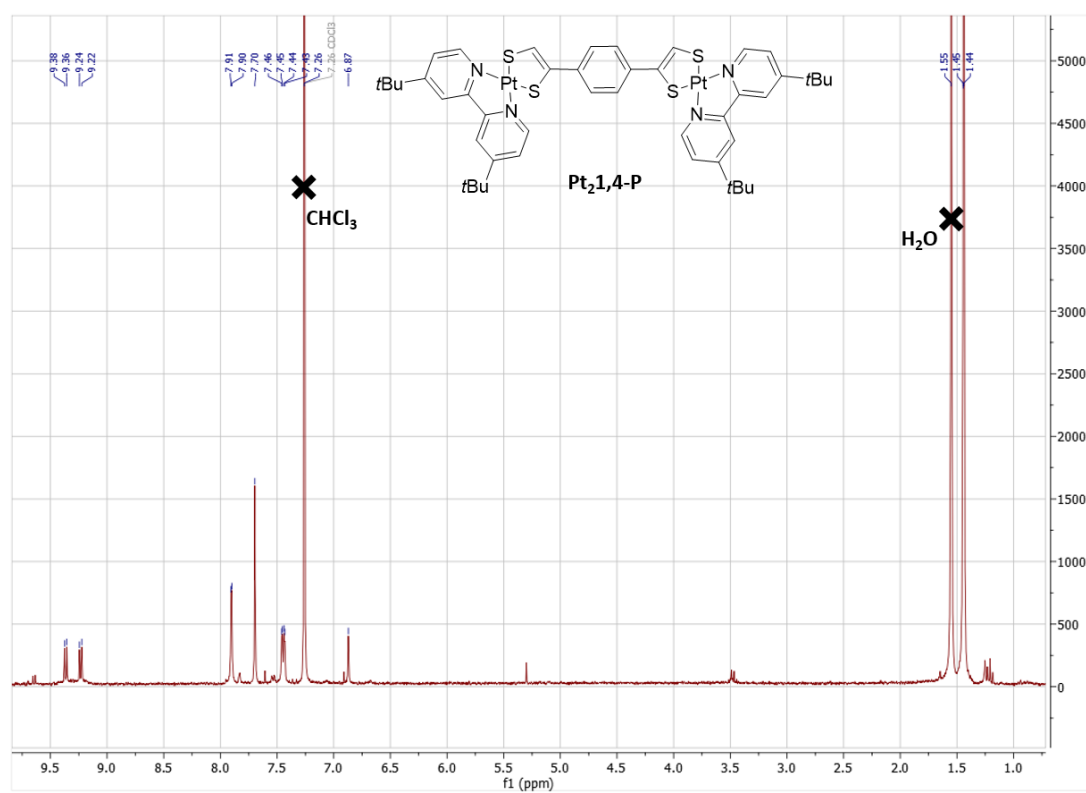


Fig. S24: 1H RMN of $Pt_{2,1,4-P}$

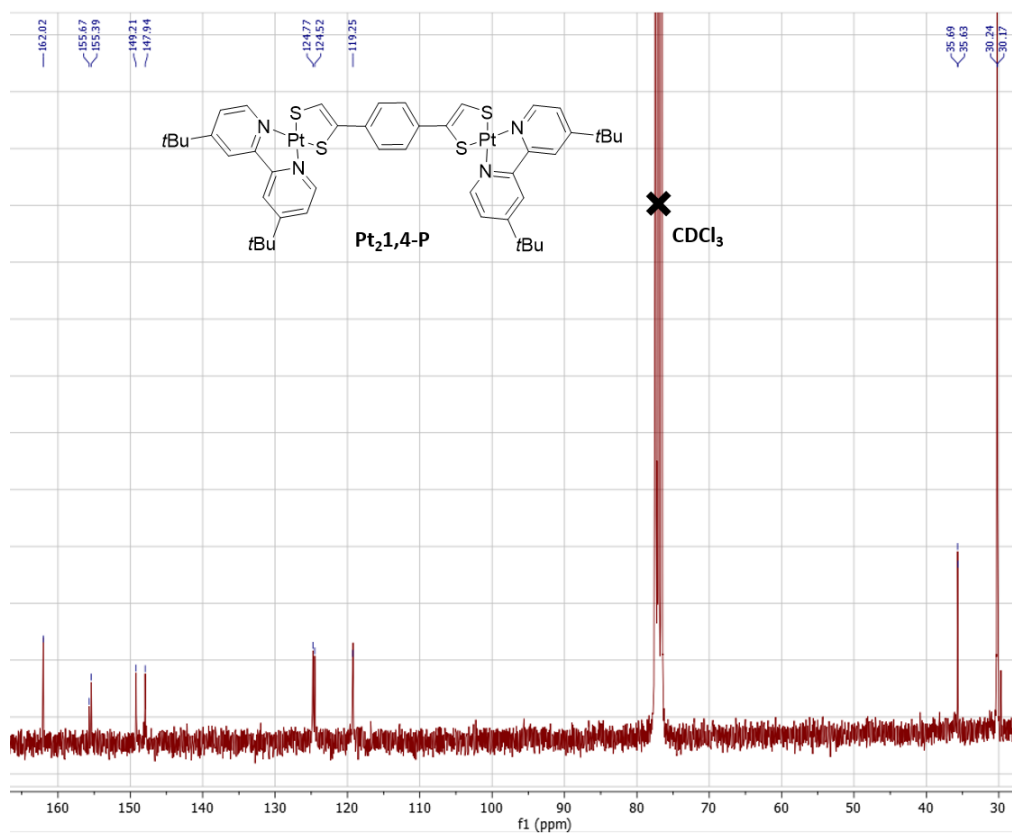


Fig. S25: ^{13}C RMN of $\text{Pt}_2,1,4\text{-P}$

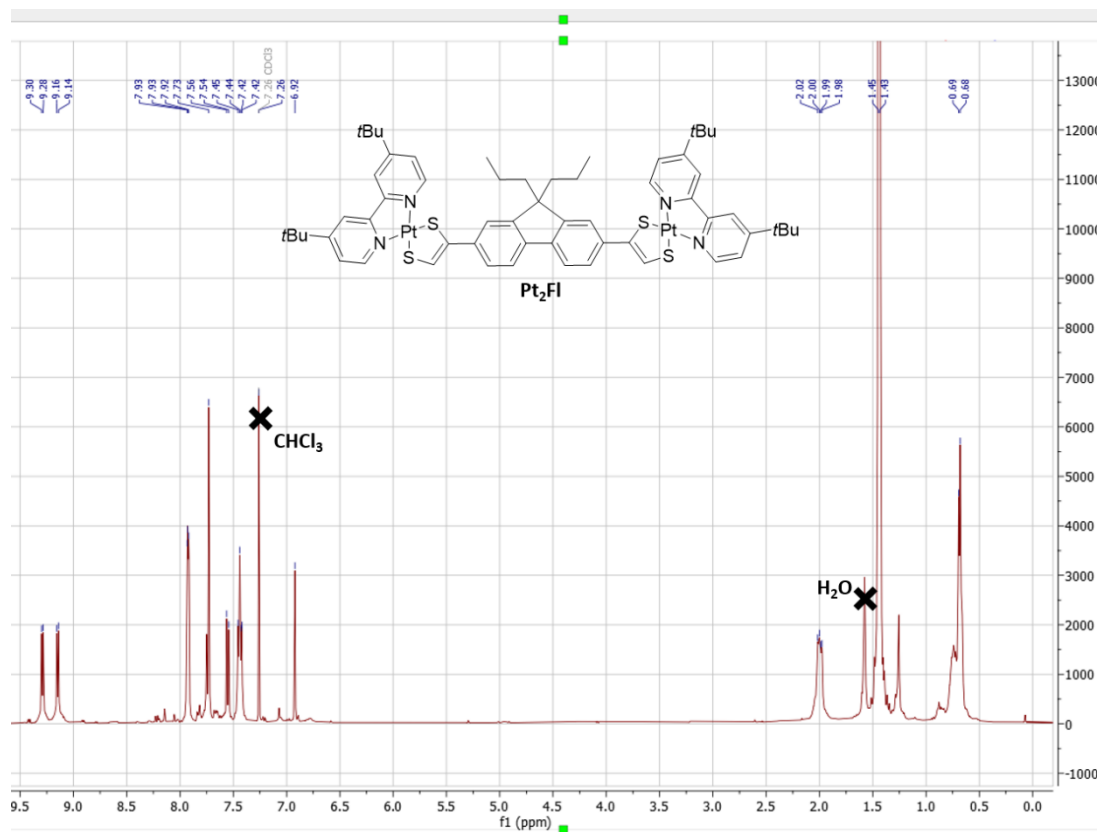


Fig. S26: ^1H RMN of Pt_2FI

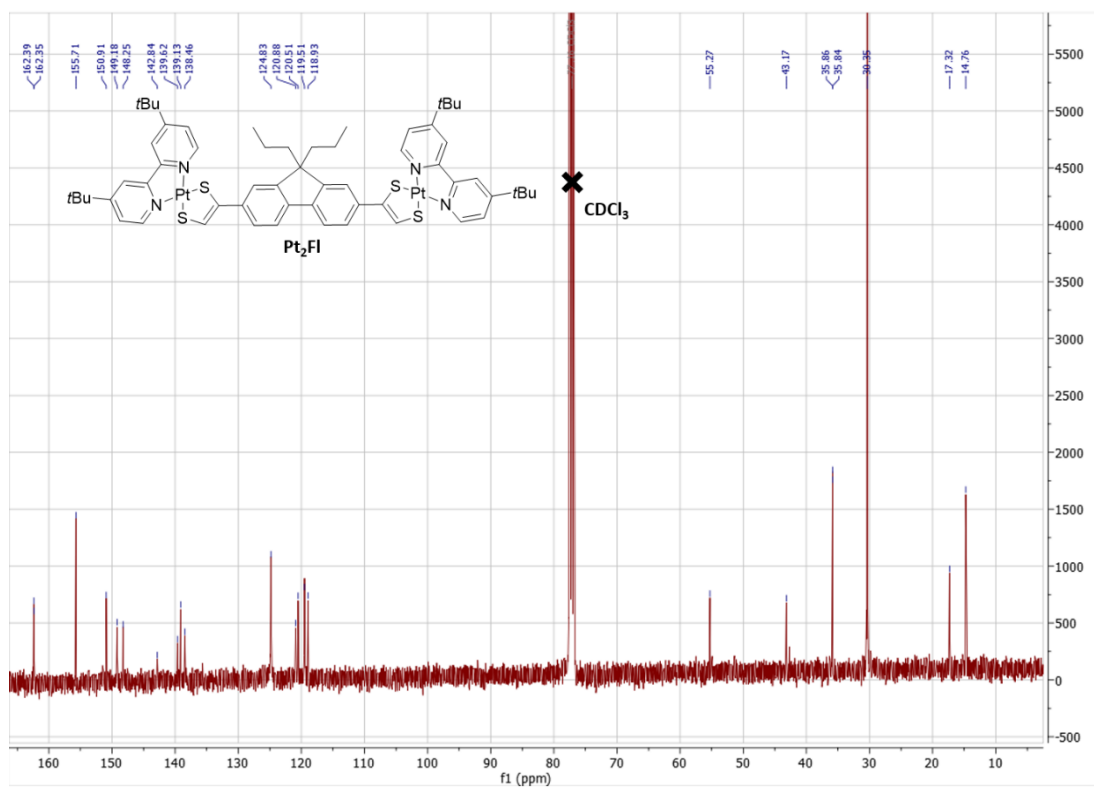


Fig. S27: ^{13}C RMN of Pt_2FI

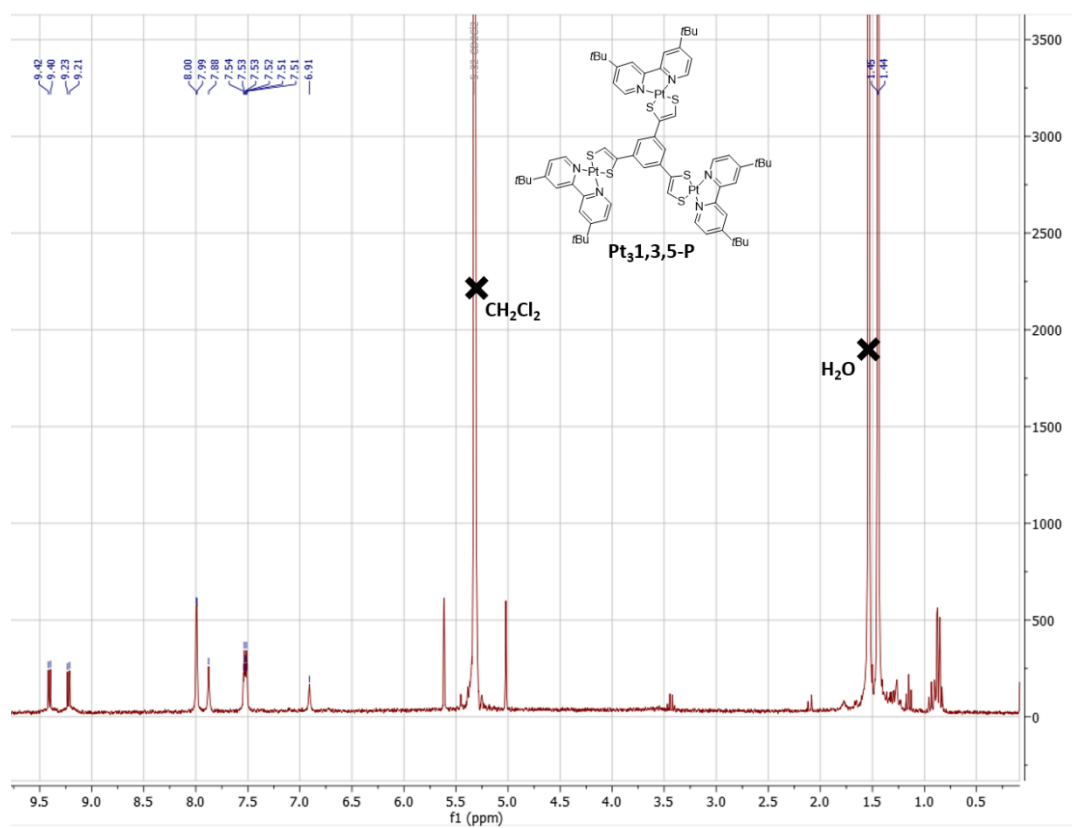


Fig. S28: ^1H RMN of $\text{Pt}_31,3,5\text{-P}$