Electronic Supplementary Information

Electrochromic behaviour of Ir(III) bis-cyclometalated 1,2-dioxolene tetra-halo complexes: a fully reversible catecholate/semiquinone redox switch

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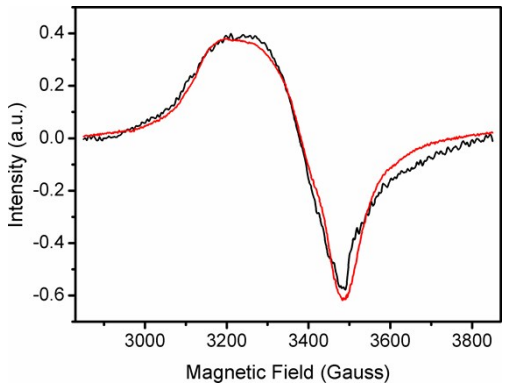
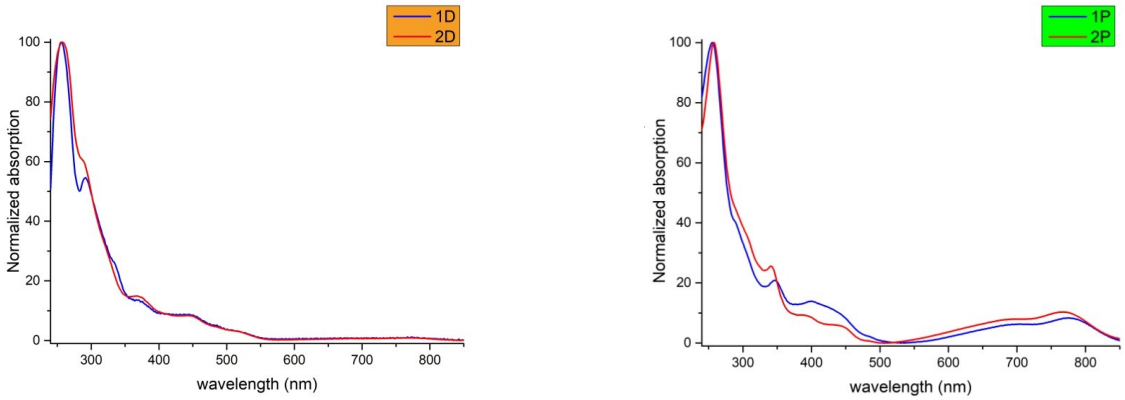


Figure S1. Normalized EPR spectra of complexes **1P** (red line) and **2P** (black line) in dichloromethane solution recorded in the frozen state at 77 K. The concentration of the samples was 5 mM.



a) b)

Figure S2. Overlay of the absorption spectra of complexes **1D**/**2D** (a) and **1P**/**2P** (b), respectively

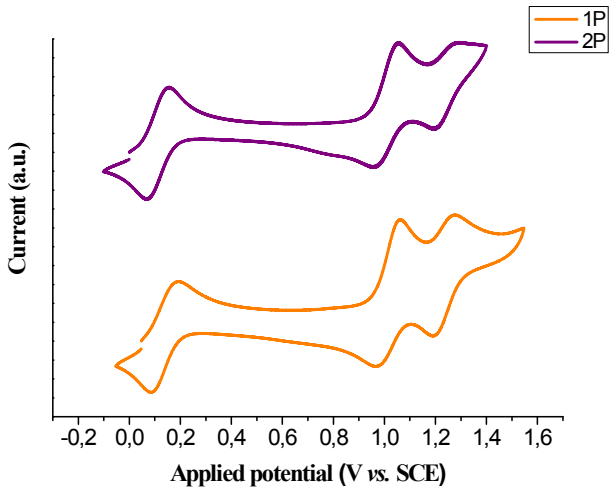
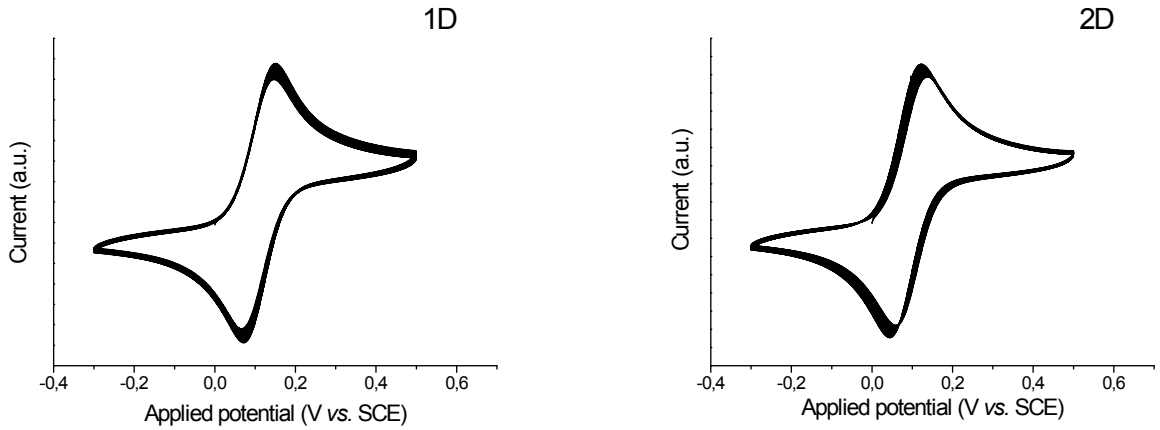
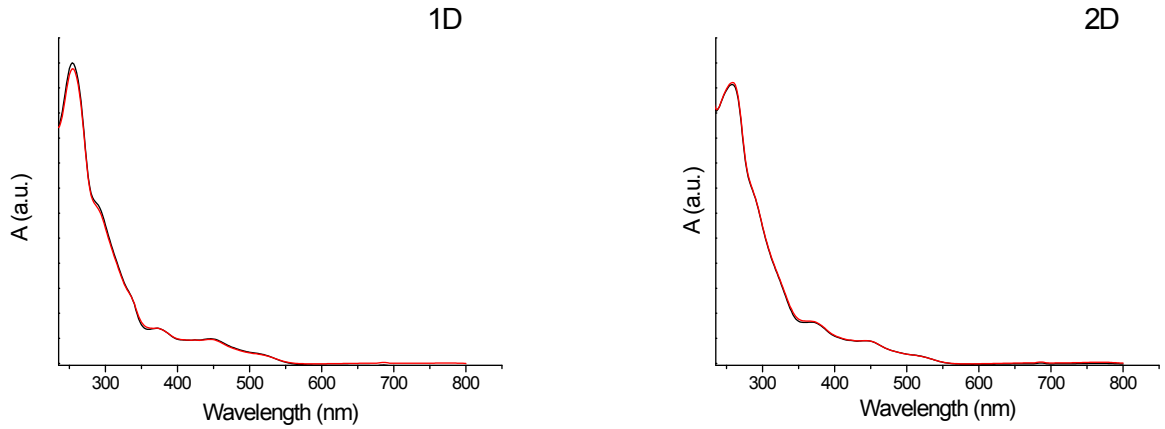


Figure S3. Cyclic voltammograms of complexes **1P (**orange curve**)** and **2P** (violet curve) registered in dichloromethane at a 100 mV/s scan rate



a) b)

Figure S4. Cyclic voltammograms of 85 cat/squi oxidation cycles of complexes **1D** (a) and **2D** (b) registered in dichloromethane at a 100 mV/s scan rate



a) b)

Figure S5. Overlay of the absorption spectra of complexes **1D** (a) and **2D** (b), respectively, before (black trace) and after (red traces) 85 cycles of the cat/squi oxidation wave