Electronic Supplementary Information

Spectroscopic, electrochemical and photovoltaic properties of Pt(II) and Pd(II) complexes of chelating 1,10-phenanthroline appended perylene diimide

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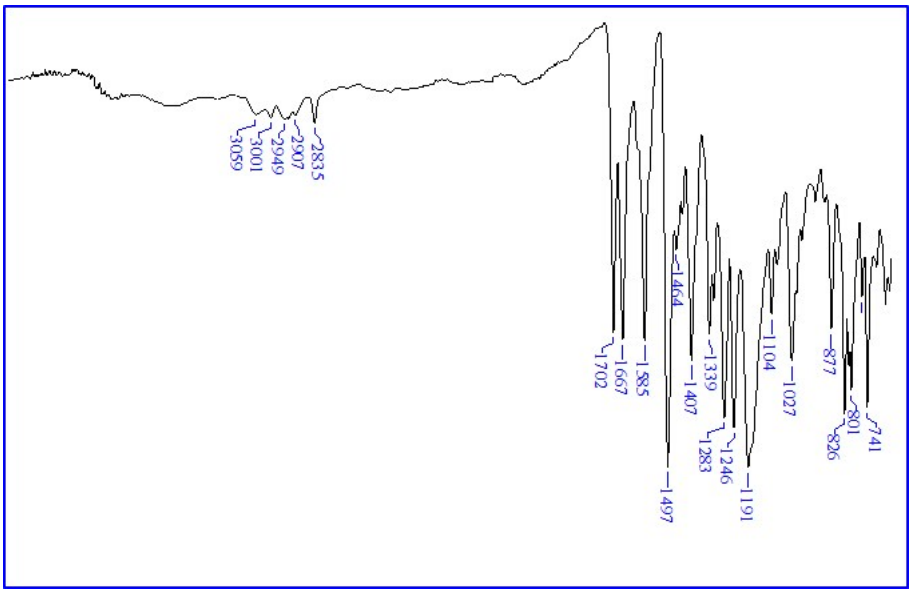

Fig. S1. FT-IR spectrum of **1**

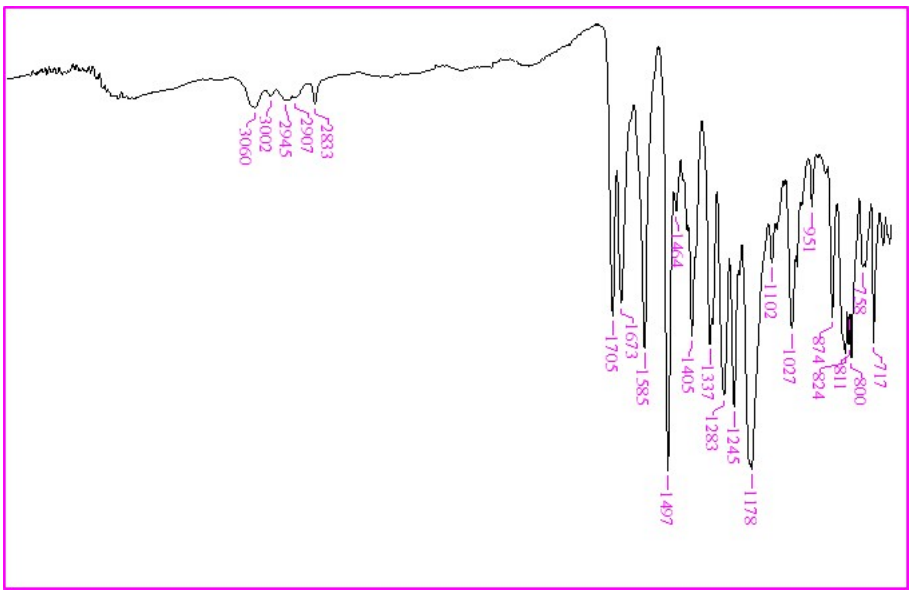

Fig. S2. FT-IR spectrum of **2**

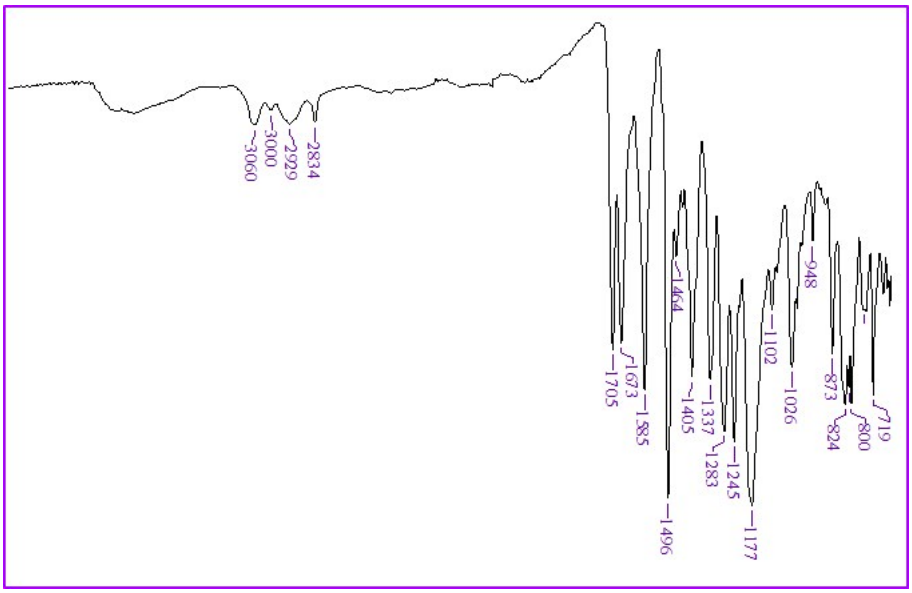

Fig. S3. FT-IR spectrum of **3**

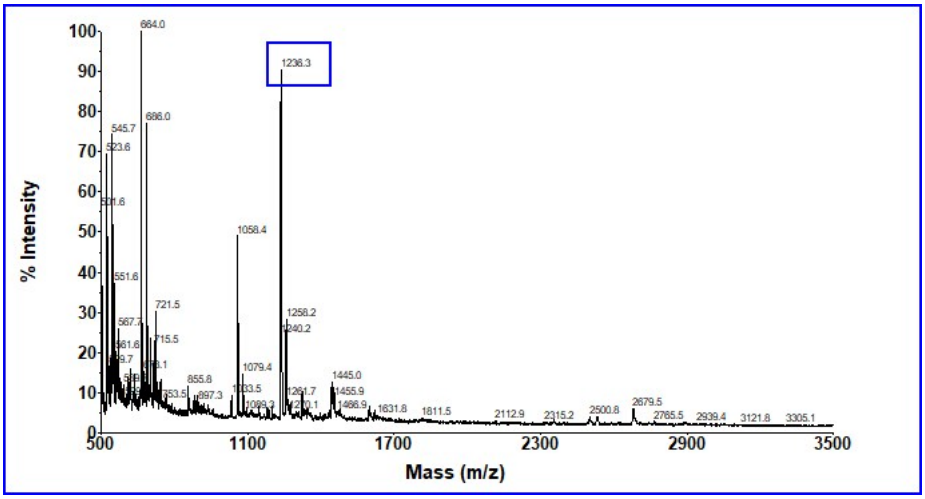

Fig. S4. MALDI-TOF spectrum of **1**

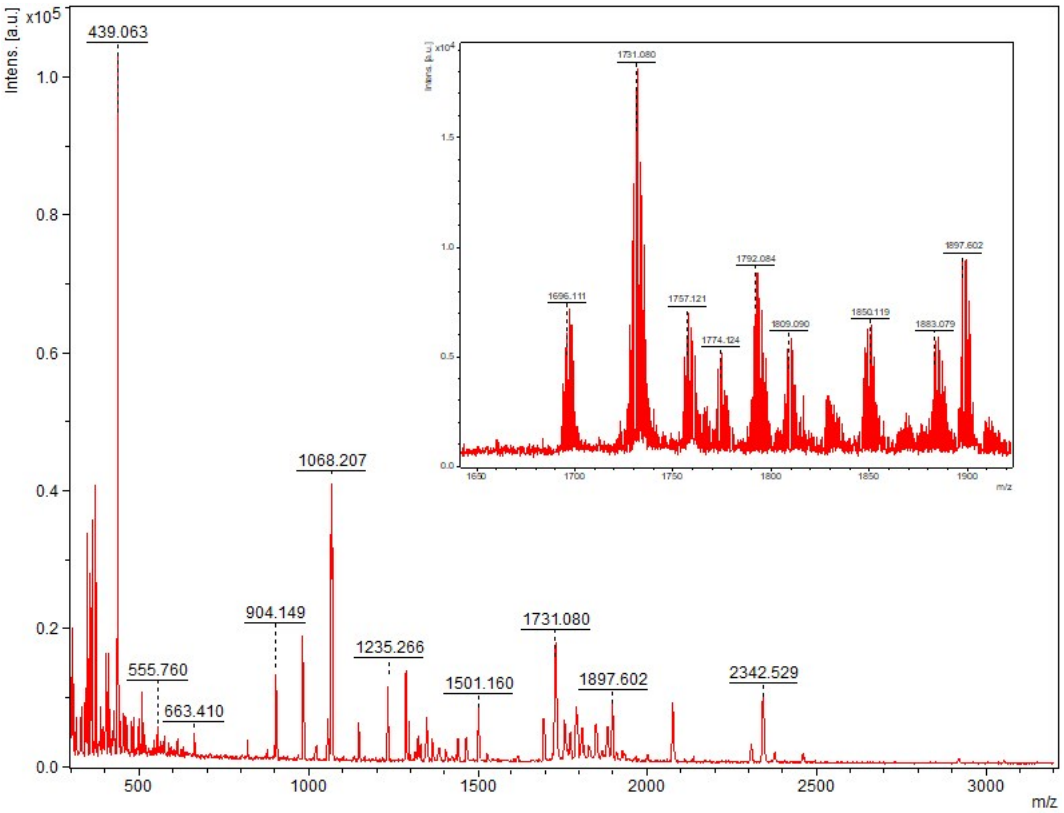

Fig. S5. MALDI-TOF spectrum of **2**

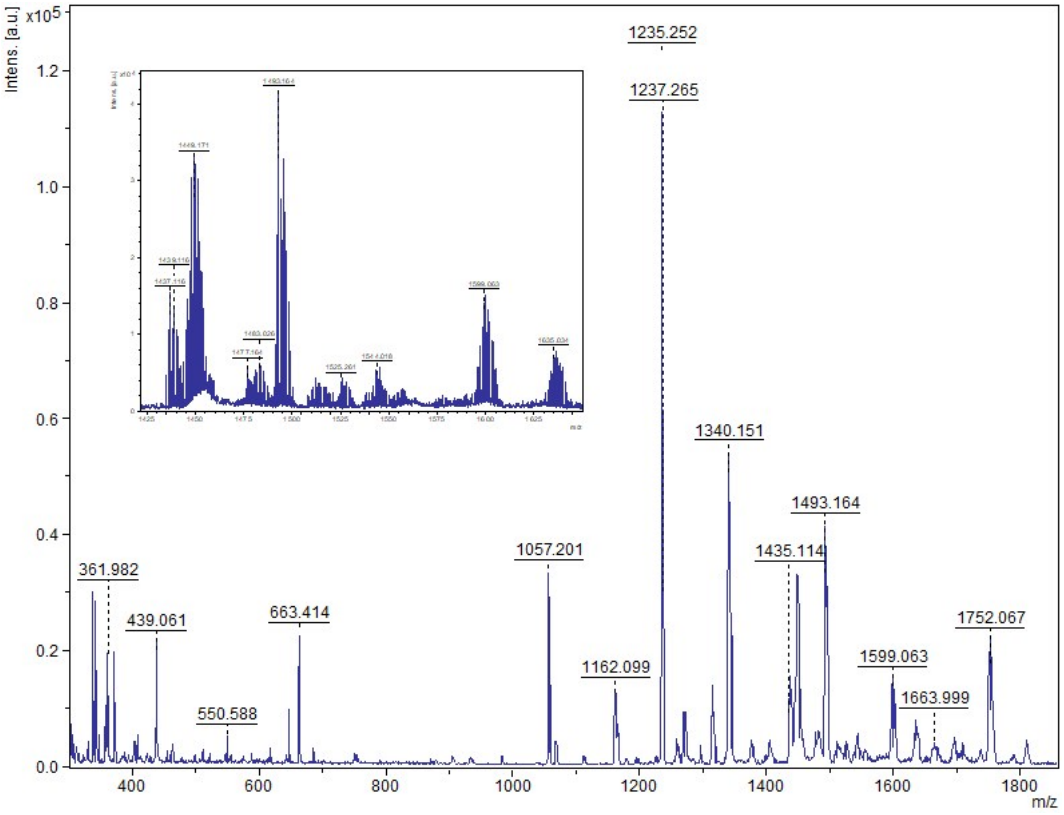

Fig. S6. MALDI-TOF spectrum of **3**

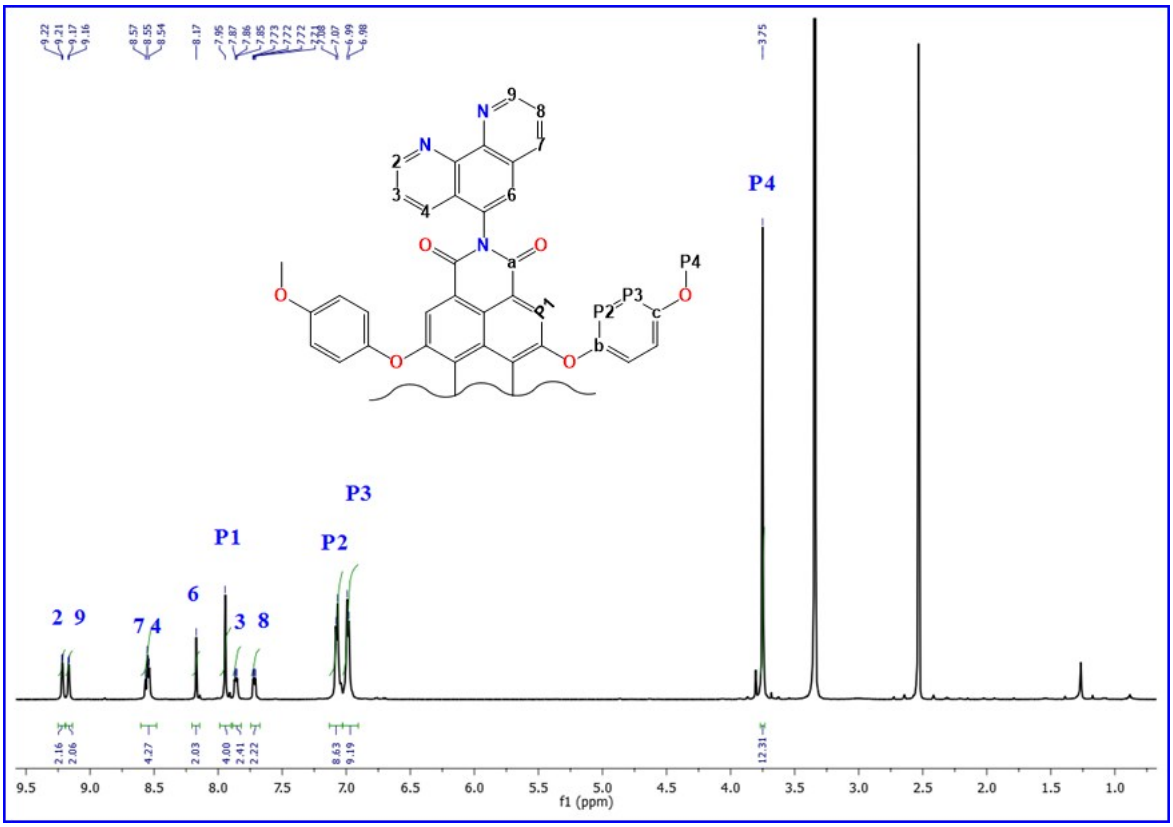

Fig. S7. ^{1}H NMR spectrum of **1**

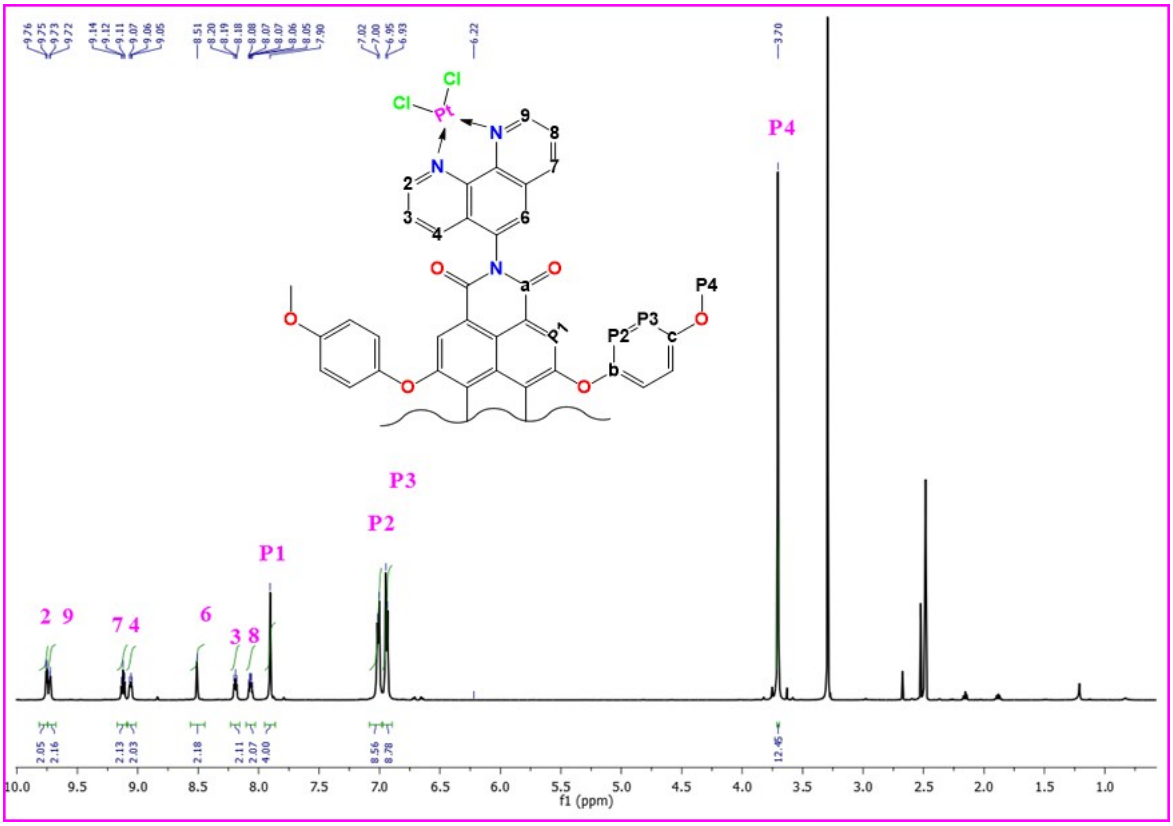

Fig. S8. ^{1}H NMR spectrum of **2**

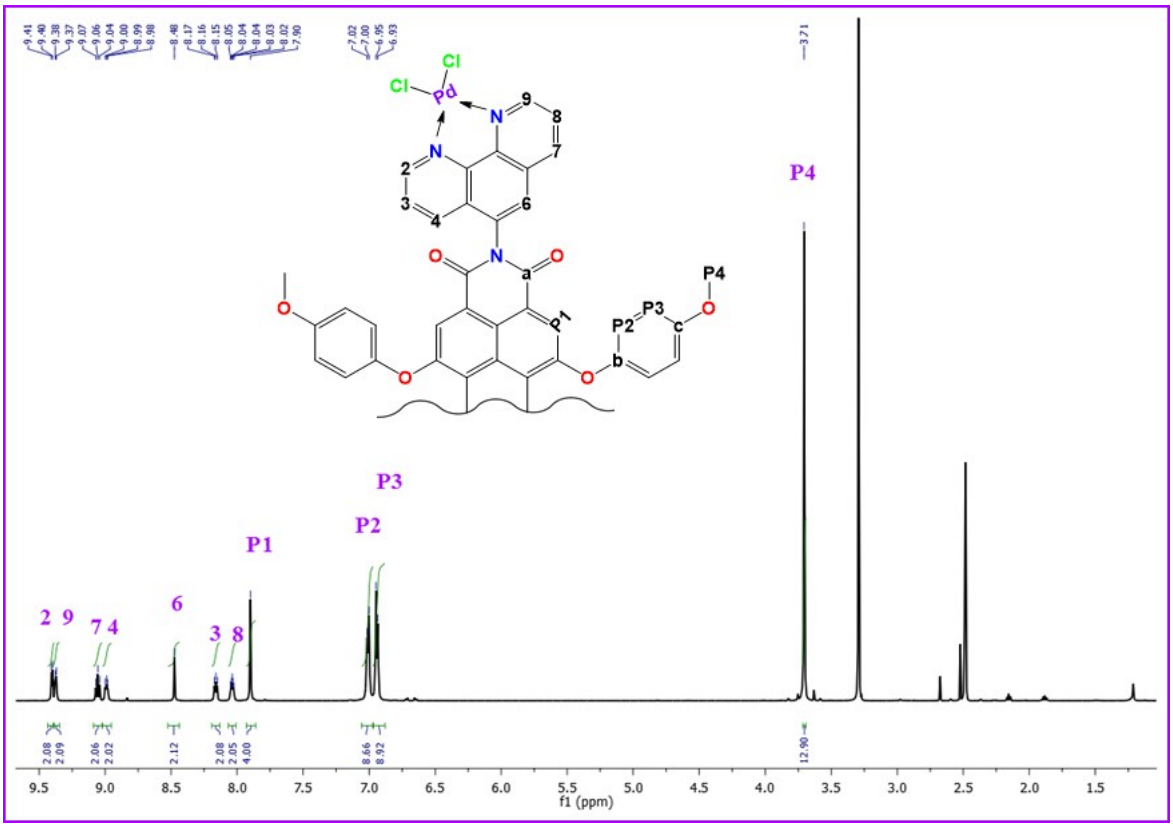

Fig. S9. ^{1}H NMR spectrum of **3**

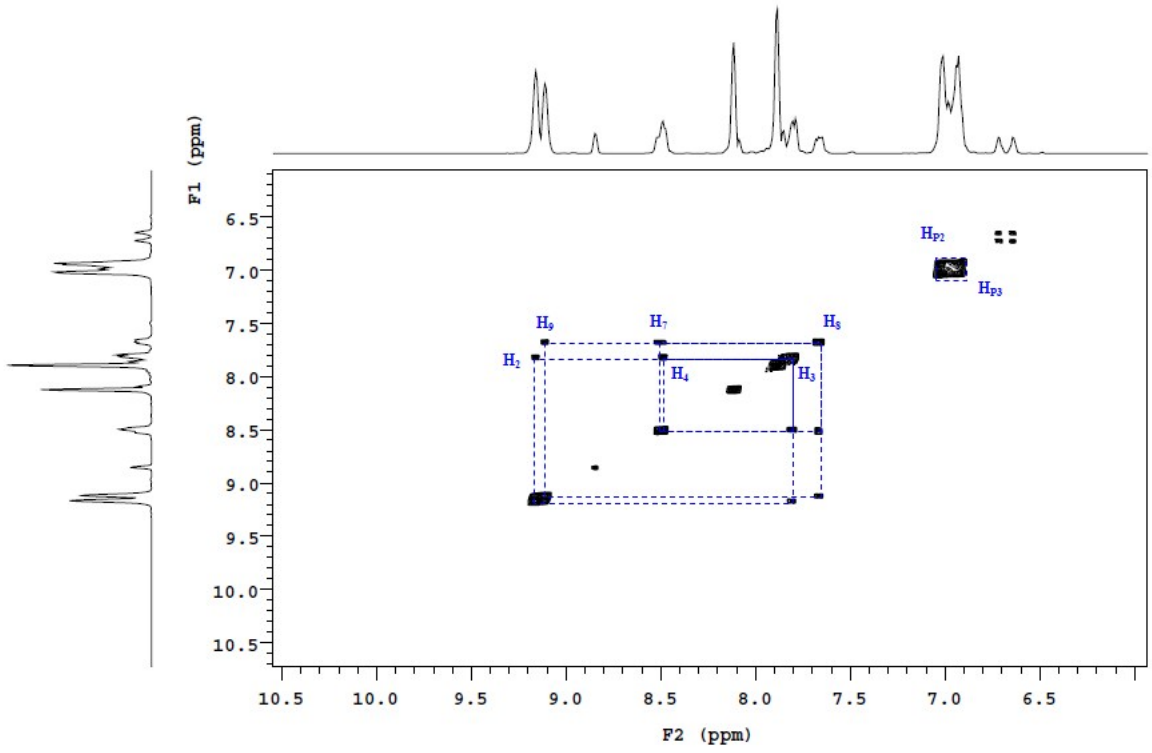

Fig. S10. COSY spectrum of **1**

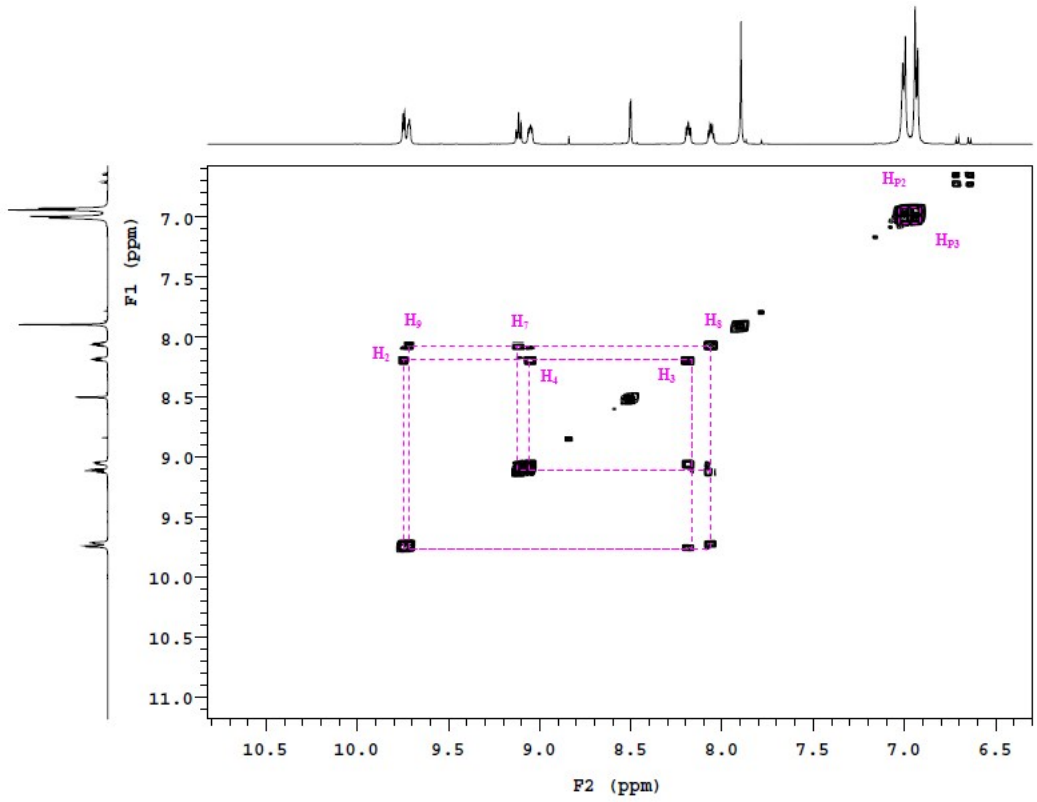

Fig. S11. COSY spectrum of **2**

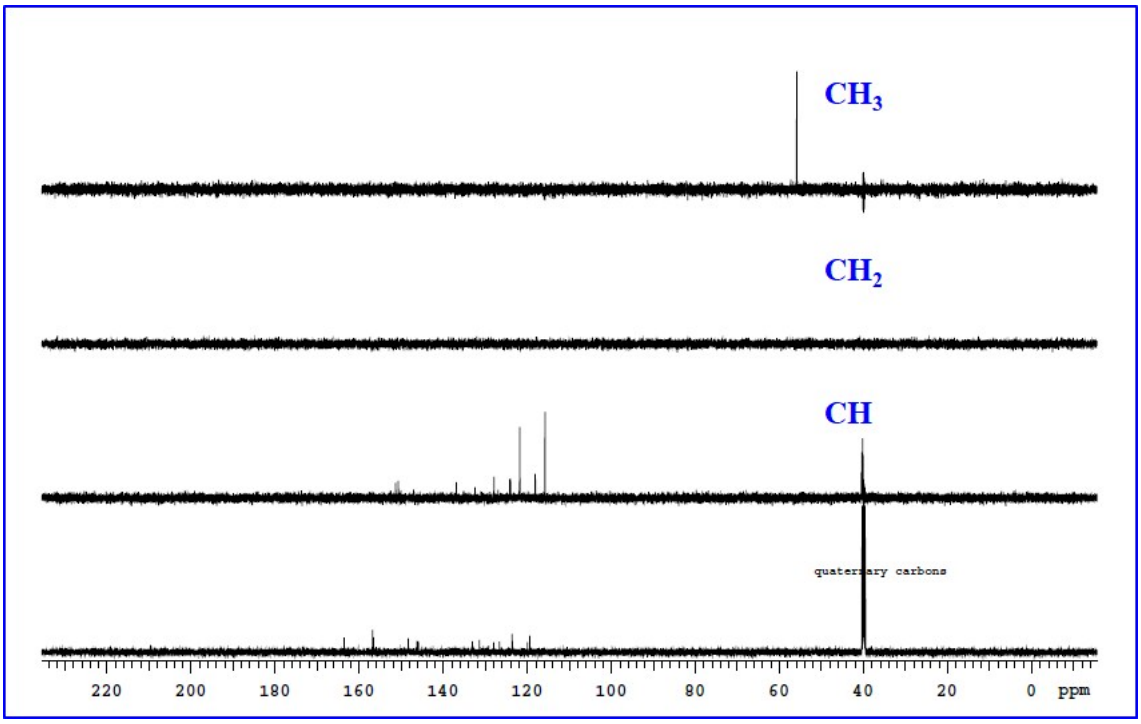

Fig. S12. ^{13}C NMR DEPT spectrum of **1**

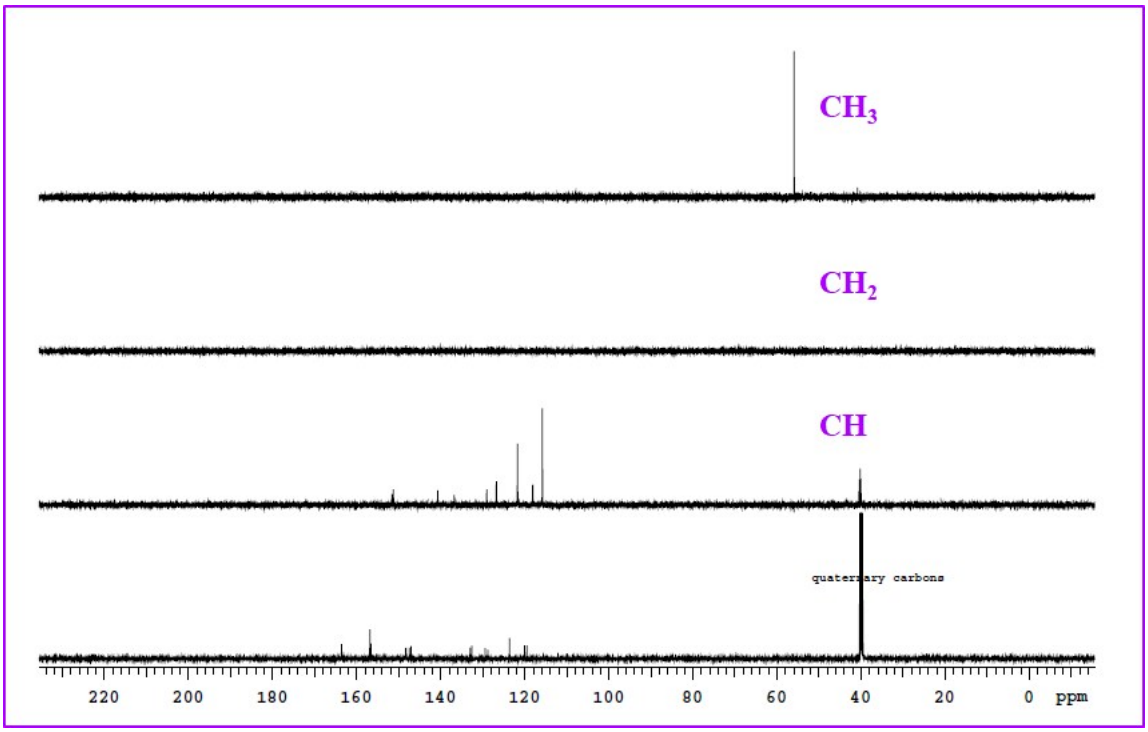

Fig. S13. ^{13}C NMR DEPT spectrum of **3**

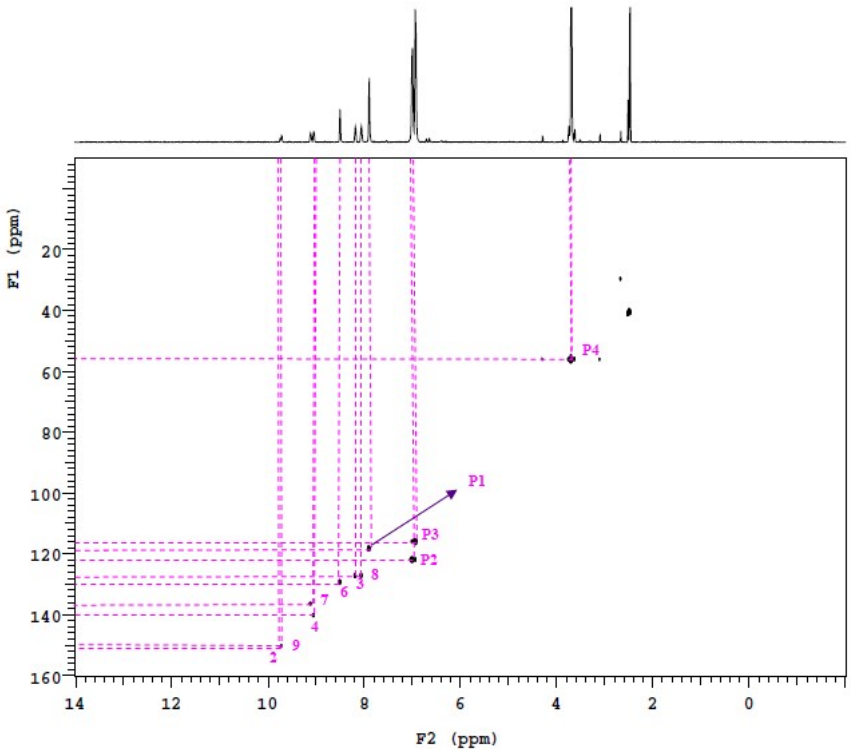

Fig. S14. HSQC spectrum of **2**

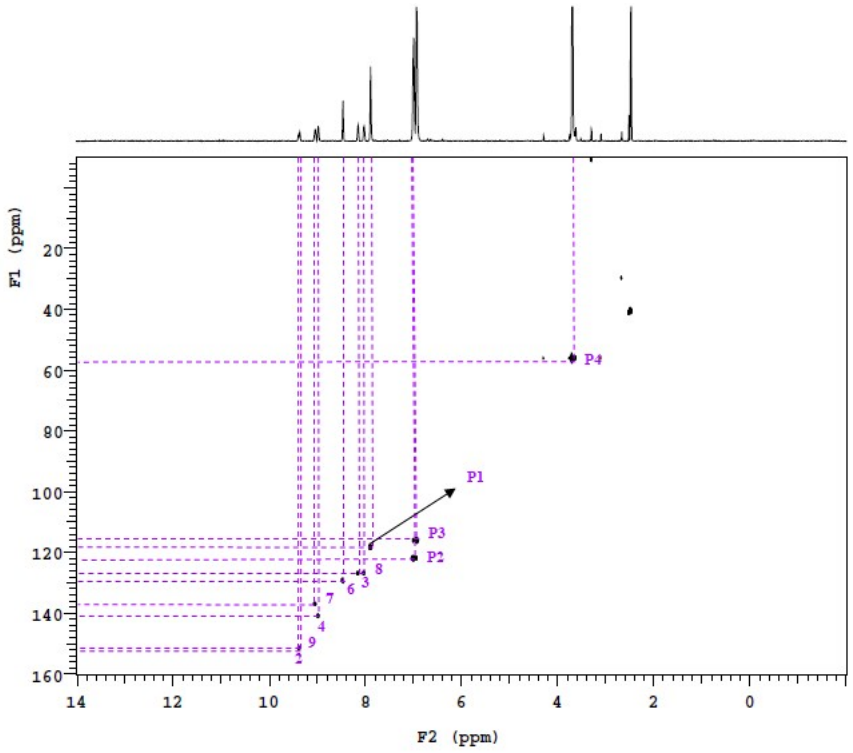

Fig. S15. HSQC spectrum of **3**

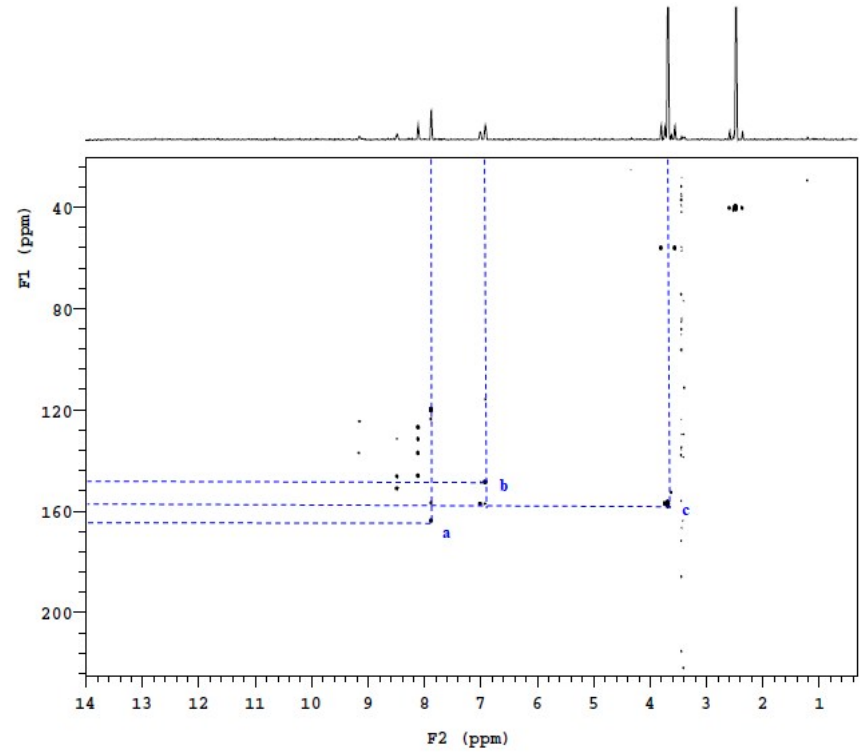

Fig. S16. HMBC spectrum of **1**

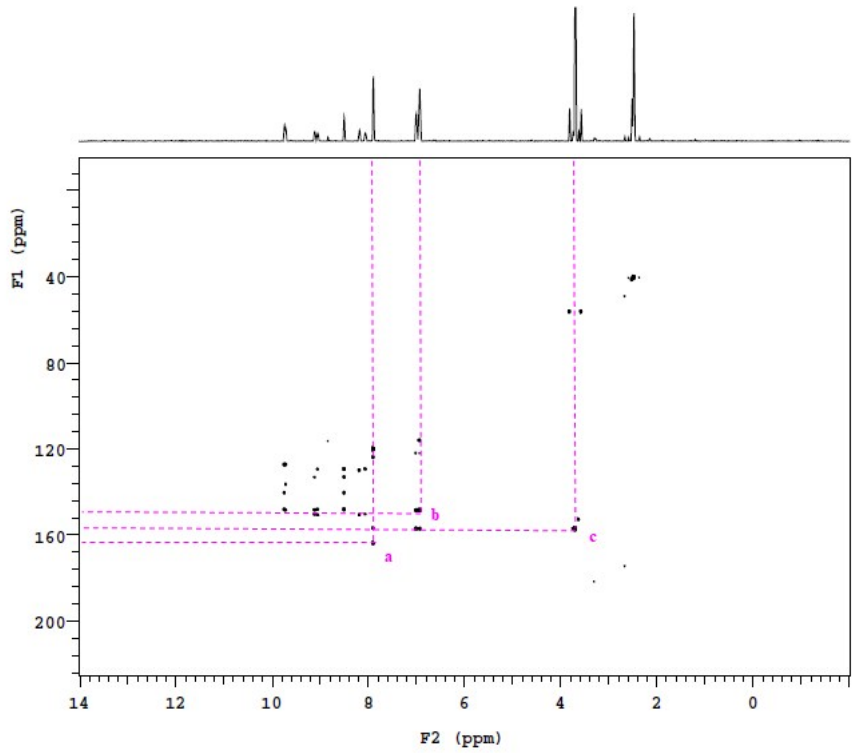

Fig. S17. HMBC spectrum of **2**

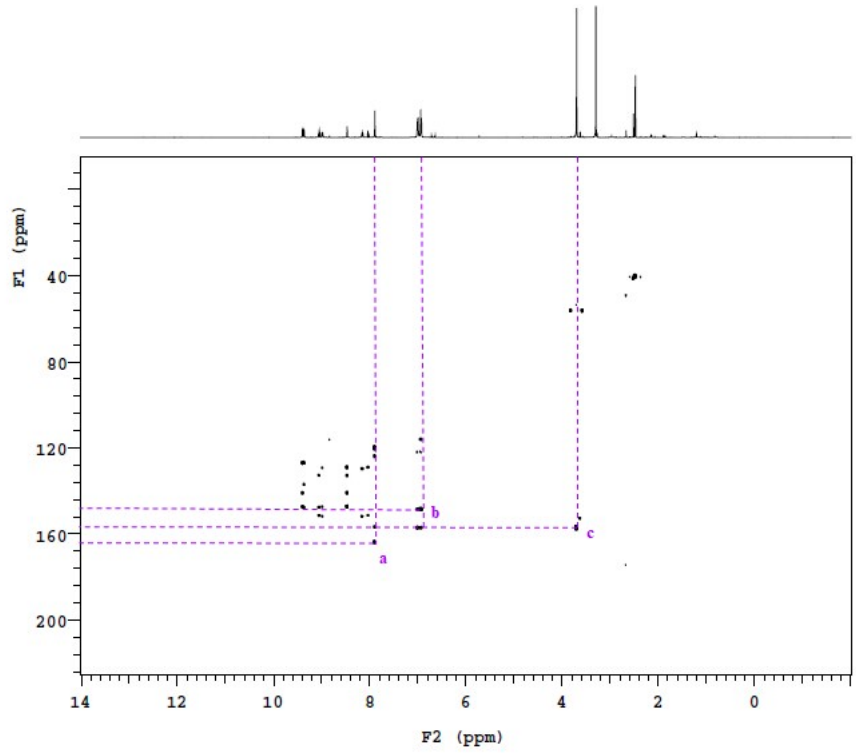

Fig. S18. HMBC spectrum of **3**

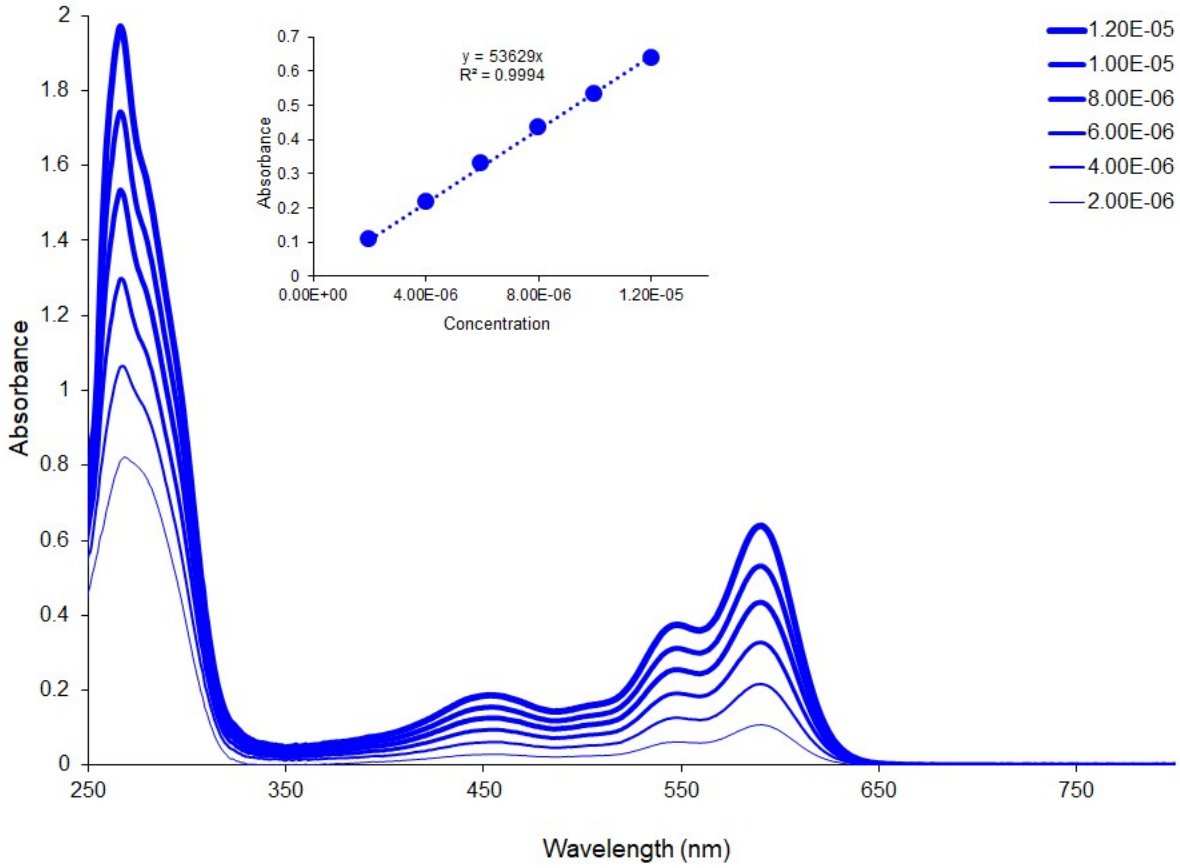

Fig. S19. Electronic absorption spectra of **1** in DMSO at different concentrations (inset: plot of absorbance vs. concentration)

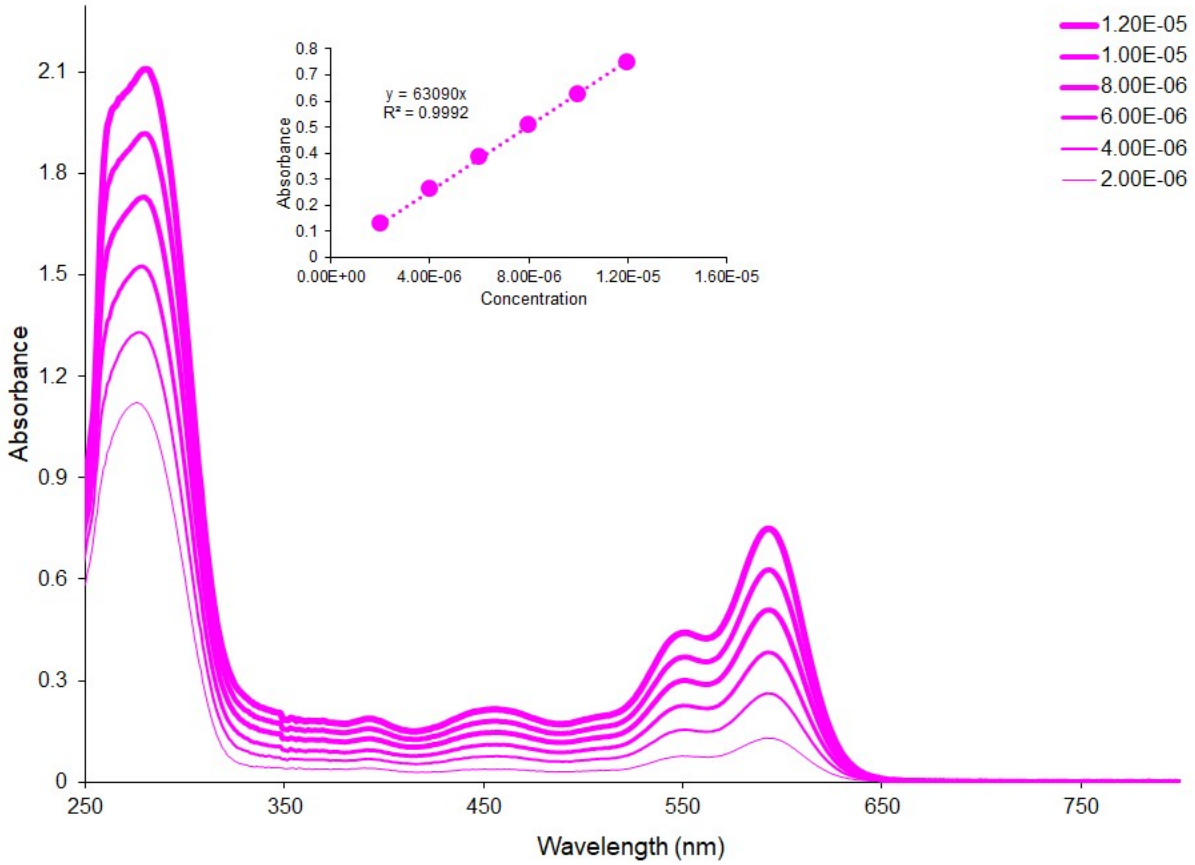

Fig. S20. Electronic absorption spectra of **2** in DMSO at different concentrations (inset: plot of absorbance vs. concentration)

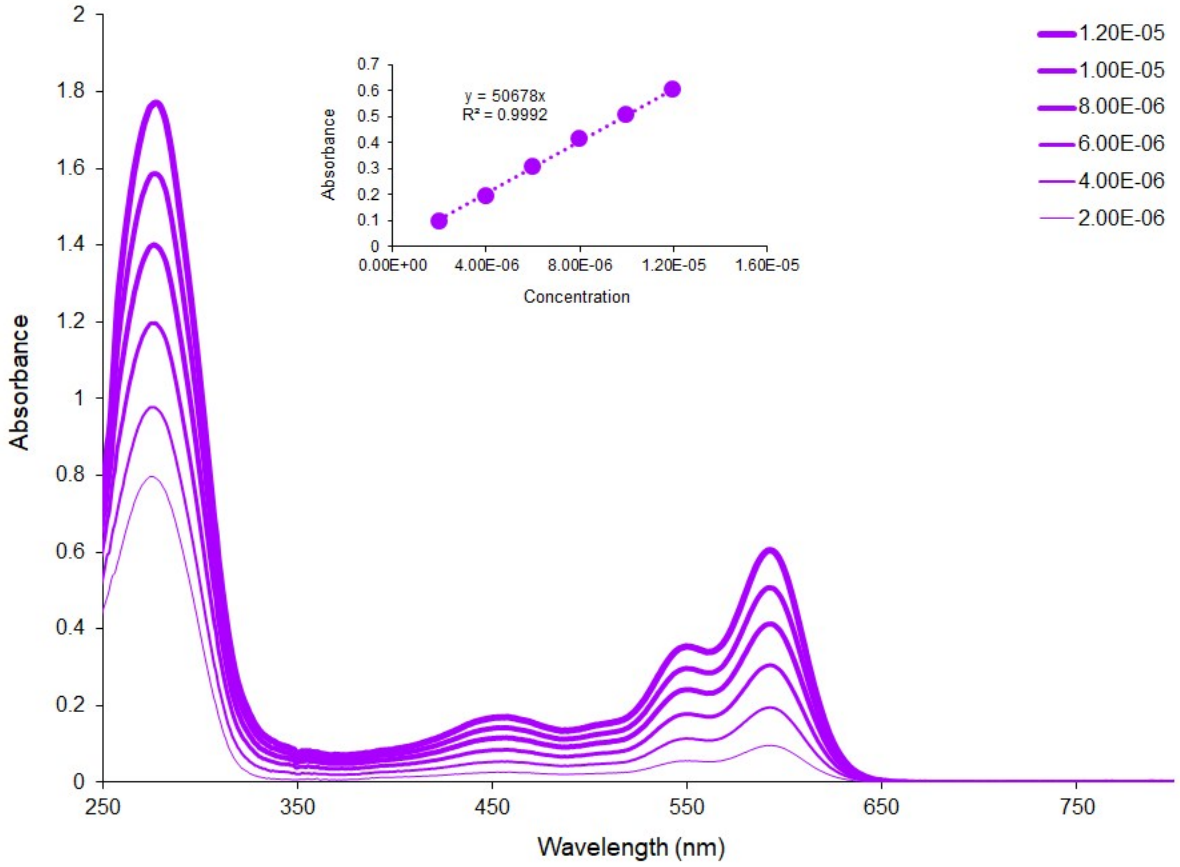

Fig. S21. Electronic absorption spectra of **3** in DMSO at different concentrations (inset: plot of absorbance vs. concentration)

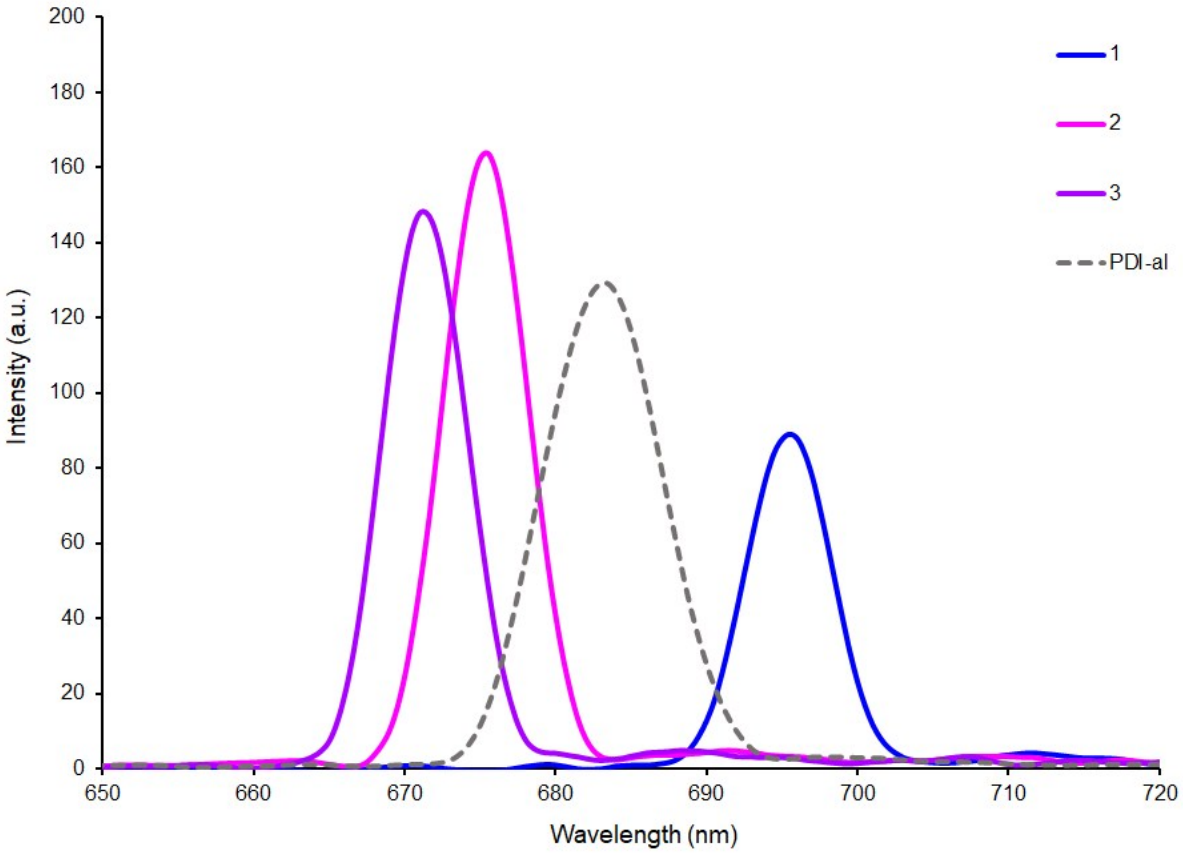

Fig. S22. The fluorescence emission spectra of **1**, **2**, **3** and PDI-al in DMSO (absorbance 0.02)

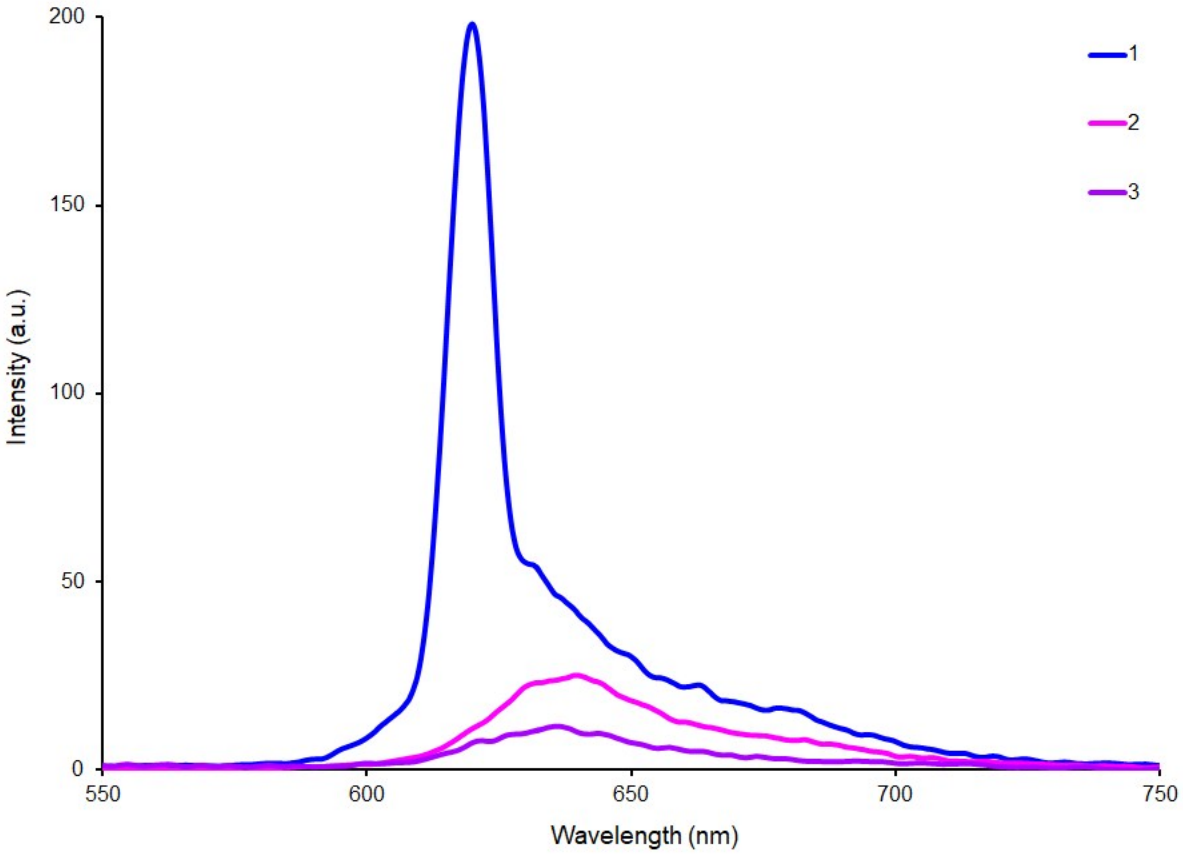

Fig. S23. The fluorescence emission spectra of **1**, **2** and **3** in DCM (1.2×10^{-5} M).

The fluorescence quantum yield determination

Fluorescence quantum yield of **1**, **2**, **3** were determined in DMSO and as a reference *N*,*N*'-*bis*(2,6-diisopropylphenyl)-1,6,7,12-tetraphenoxyperylene-3,4:9,10-tetracarboxylic acid bisimide (Φ_F = 0.96 in $CHCl_3$) [1, 2]. The given quantum yields were averaged from values measured at 0.02 in the absorption maximum.

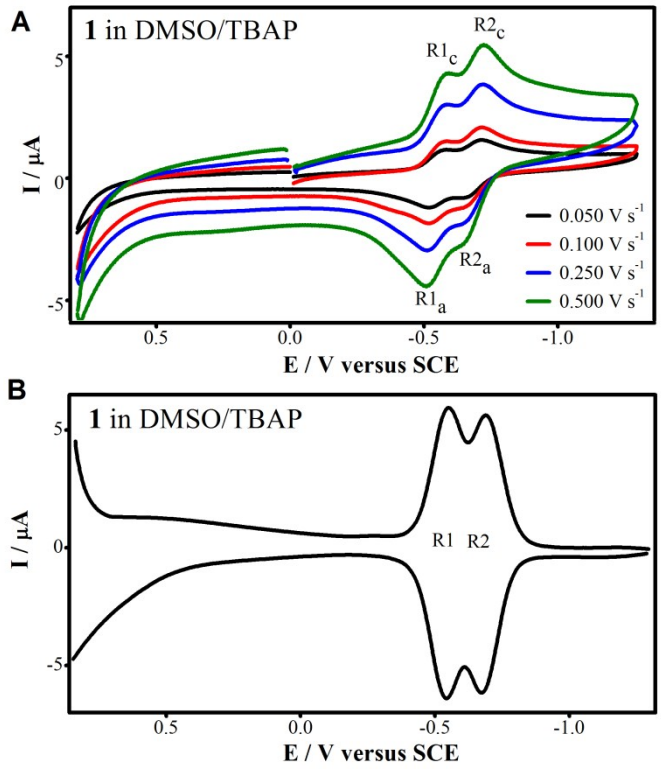

Fig. S24. Cyclic (A) and square wave (B) (pulse width: 100 mV, step width: 5 mV and frequency: 25 Hz) voltammograms of 5.0 x 10^{-4} M **1** in TBAP/DMSO

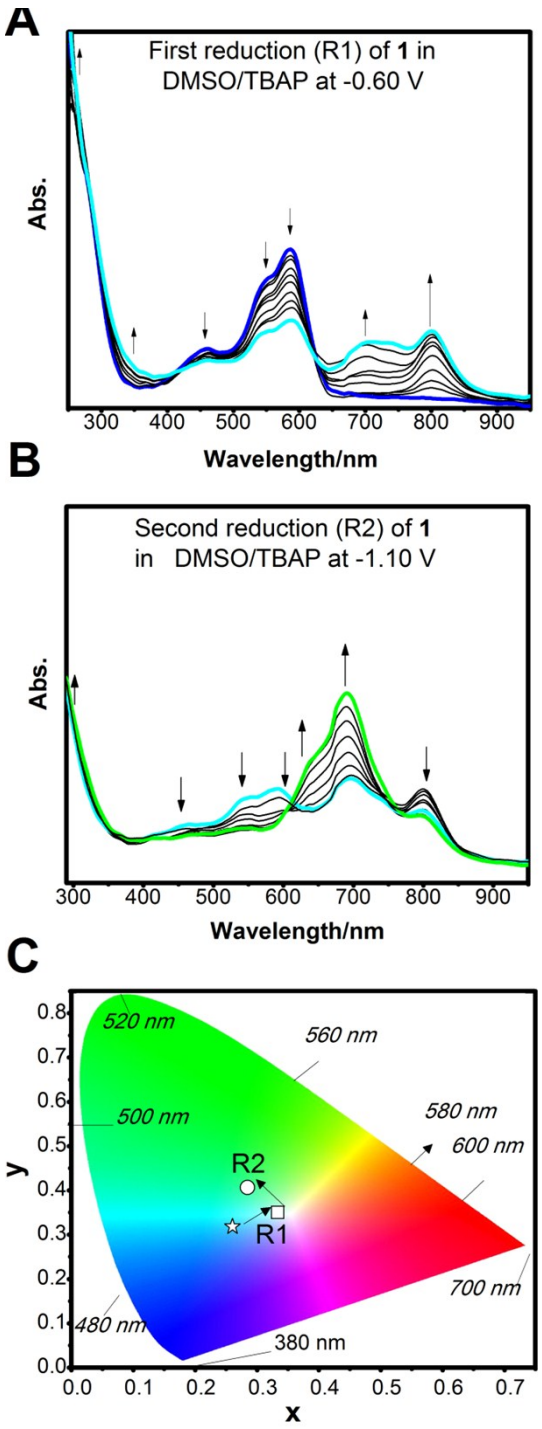

Fig. S25. *In situ* UV/vis spectral (A and B) and colour (C) changes monitored during the redox processes of **1** in TBAP/DMSO. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Additional References

[1] Seybold G, Wagenblast G. New perylene and violanthrone dyestuffs for fluorescent collectors. Dyes Pigments. 1989;11(4):303-17.

[2] Gvishi R, Reisfeld R, Burshtein Z. Spectroscopy and laser action of the “red perylimide dye” in various solvents. Chem Phys Lett. 1993;213(3-4):338-44.