# Electronic Supplementary Information

## A Cyclometallated Fluorenyl Ir(III) Complex as a Potential Sensitiser for Two-Photon Excited Photodynamic Therapy (2PE-PDT)

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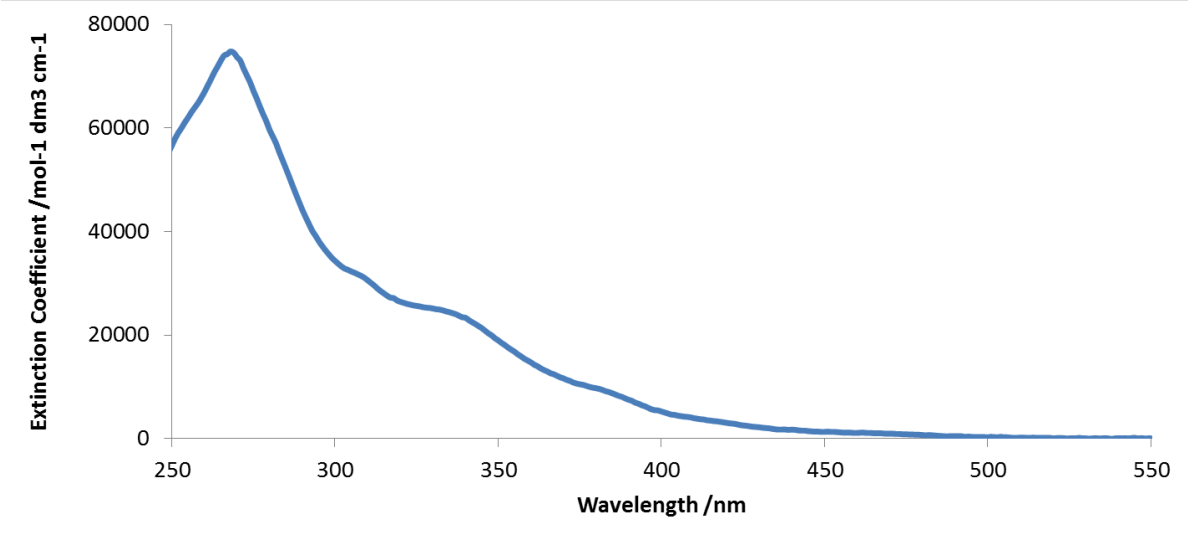


Figure 1. Electronic absorption spectrum of **IrppyL1** in degassed acetonitrile solution at $2x10^{-5}$ M concentration

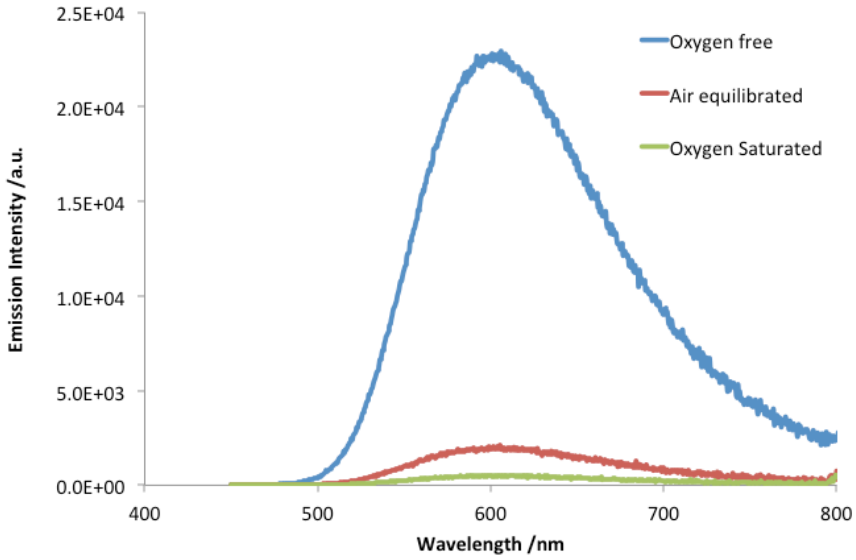


Figure 2. Emission spectra of **IrppyL1** in a degassed (oxygen free) acetonitrile solution, an air equilibrated solution and an oxygen saturated solution.

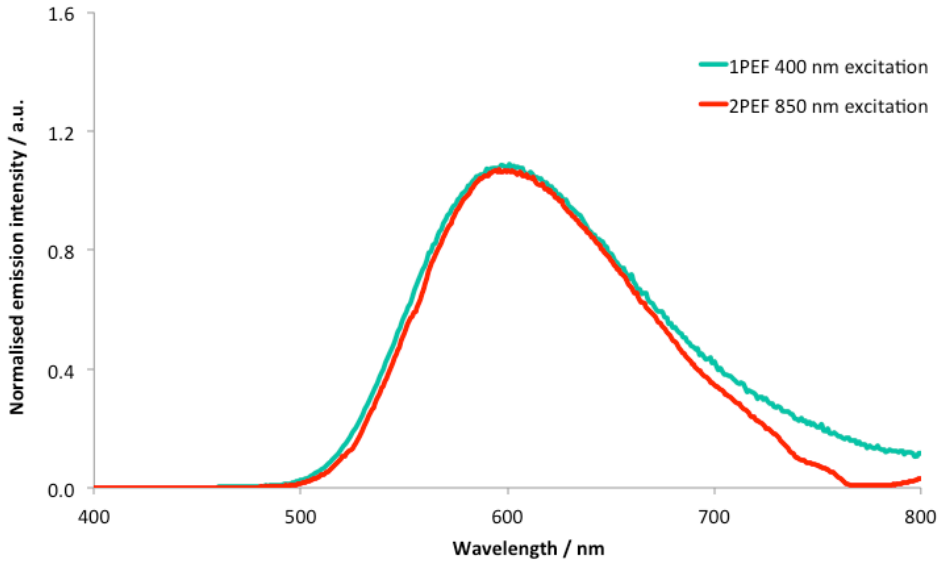


Figure 3. The emission profile of **IrppyL1** in acetonitrile solution from single-photon (400 nm) excitation and two-photon (850 nm) excitation are the superimposable, indicating that the same excited state is reached by either excitation method.

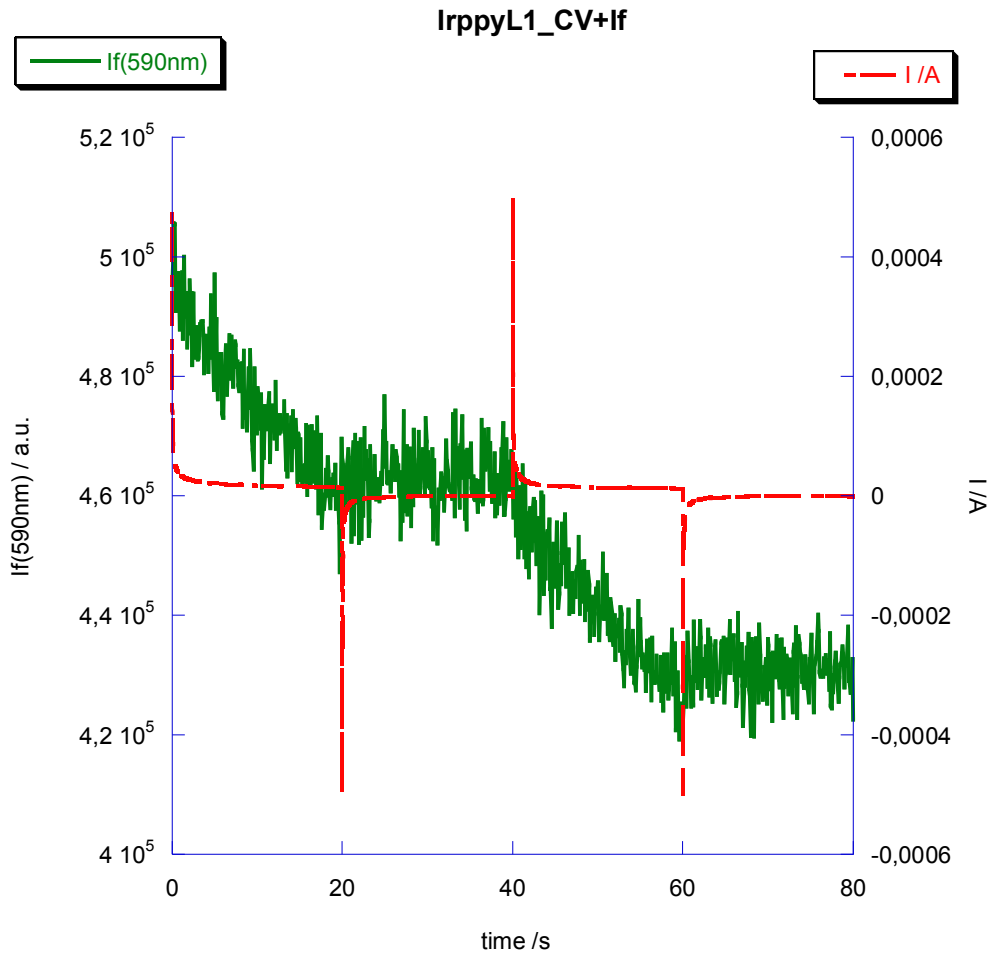

Figure 4. Two cycles of oxidation and reduction of **IrppyL1** in the spectro-electrochemical cell measuring current (red dashed trace) and emission intensity (green trace) at 590 nm against time as the voltage is scanned at a rate of 5 $mVs^{-1}$. After each oxidation the emission intensity is reduced and not recovered after reduction.