

Supporting Information

Highlight on the solution processes occurring on silver(I)-assembling porphyrins in presence of an excess of silver salt

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NMR Spectra

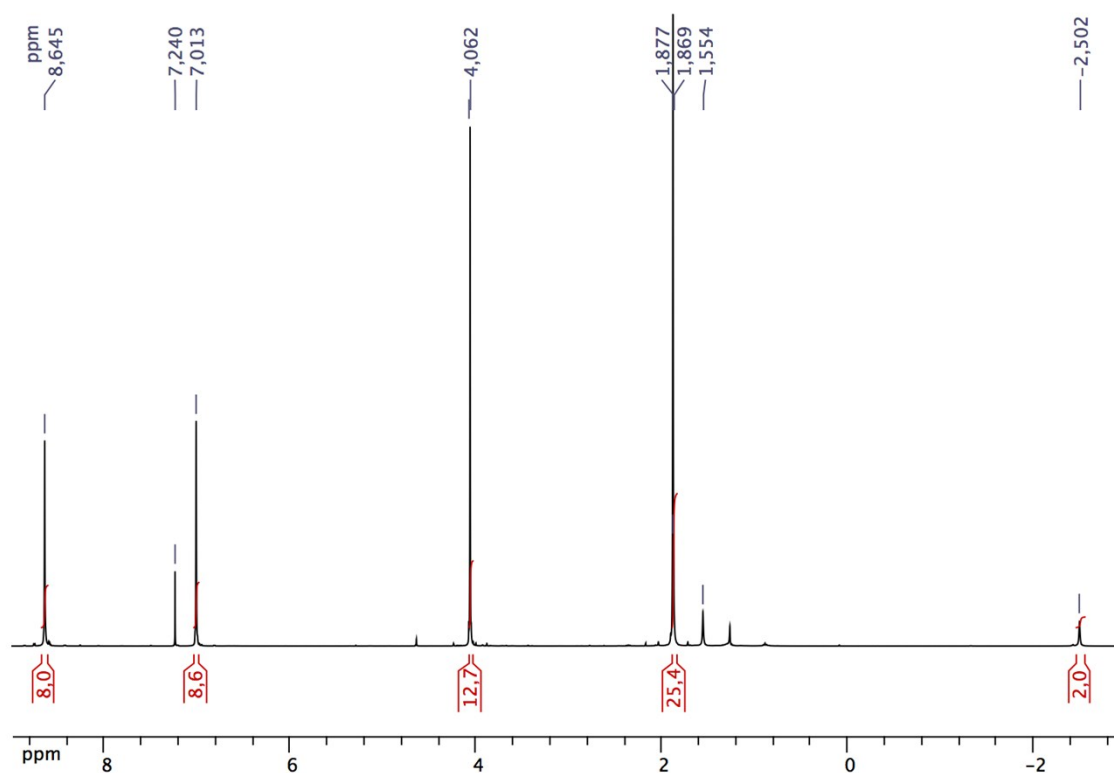


Fig. S11. ¹H NMR (CDCl₃, 400 MHz) spectrum of *meso*-tetrakis(2,6-dimethyl-4-methoxyphenyl)porphyrin.

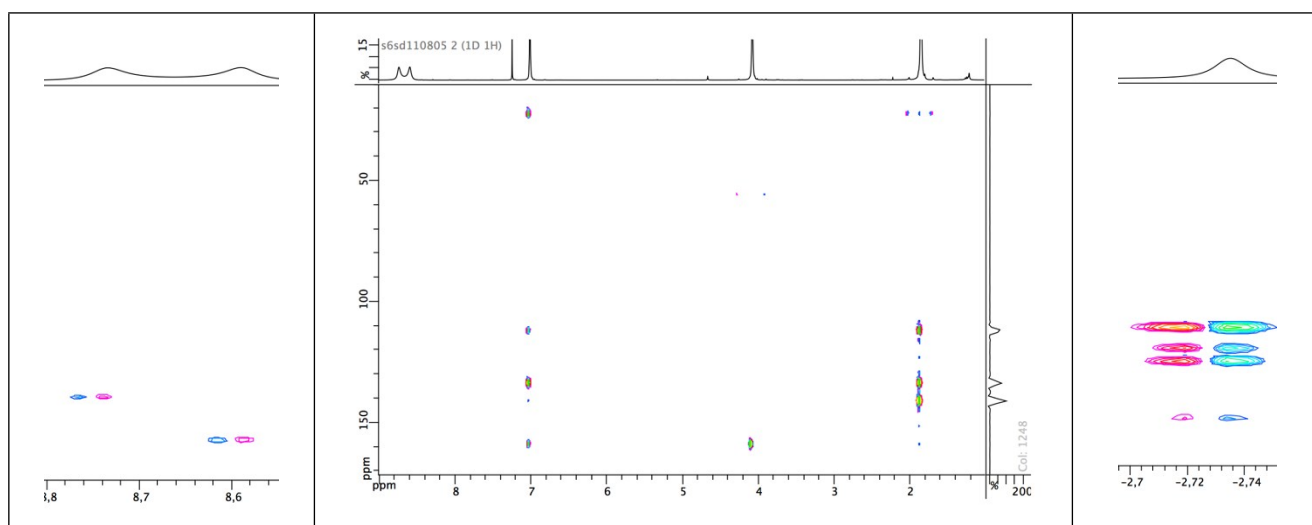


Fig. S12. ¹H-¹³C HMBC NMR (CDCl₃, 100 MHz, 223 K) spectrum of *meso*-tetrakis(2,6-dimethyl-4-methoxyphenyl)porphyrin.

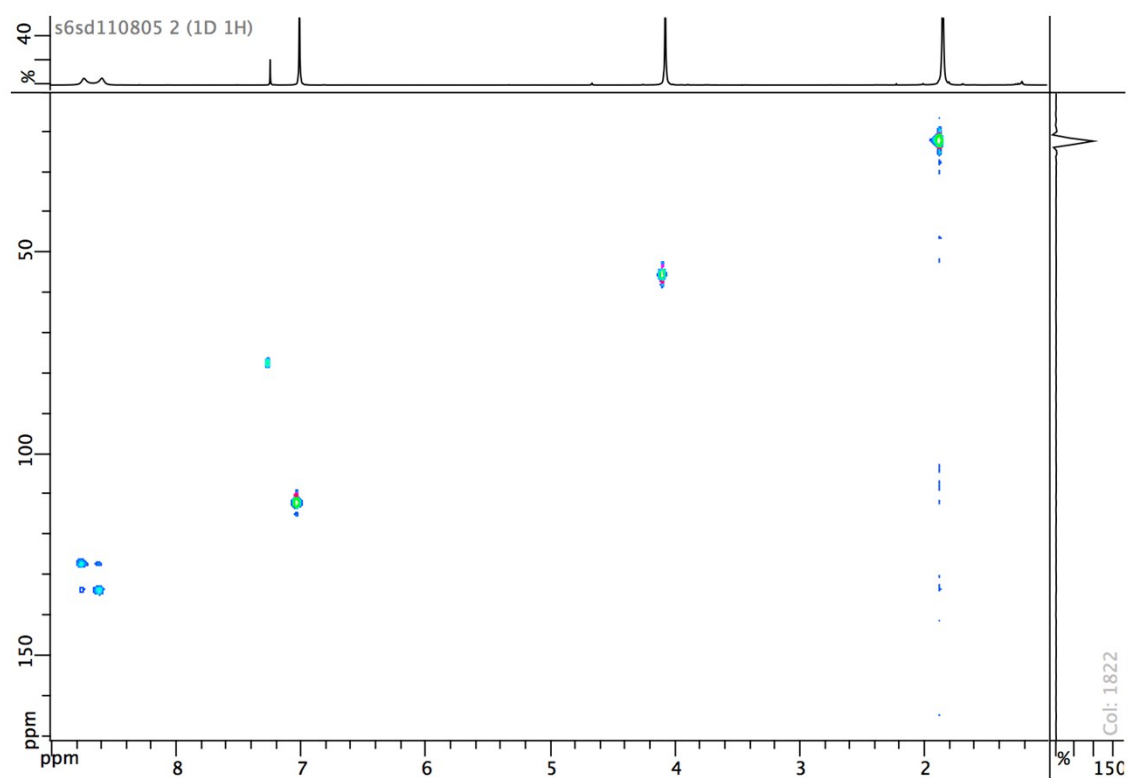


Fig. S13. ^1H - ^{13}C HSQC NMR (CDCl_3 , 100 MHz, 223 K) spectrum of *meso*-tetrakis(2,6-dimethyl-4-methoxyphenyl)porphyrin.

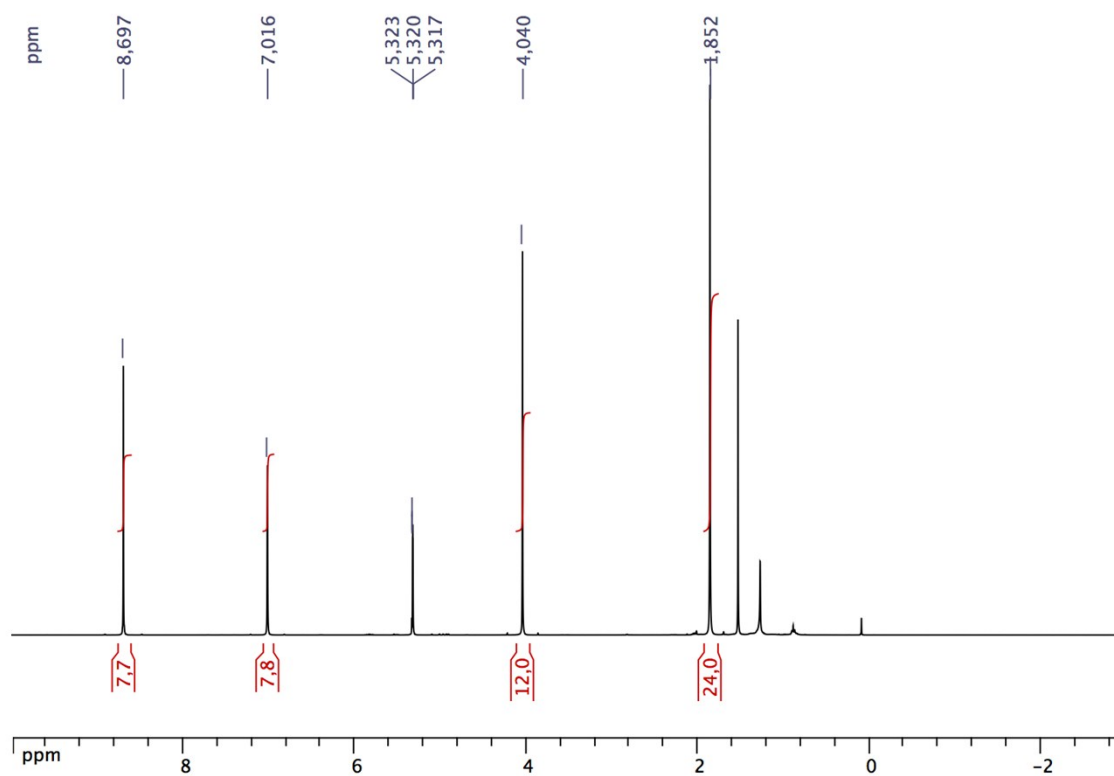


Fig. S14. ¹H NMR (CD₂Cl₂, 400 MHz) spectrum of Zn-Ref.

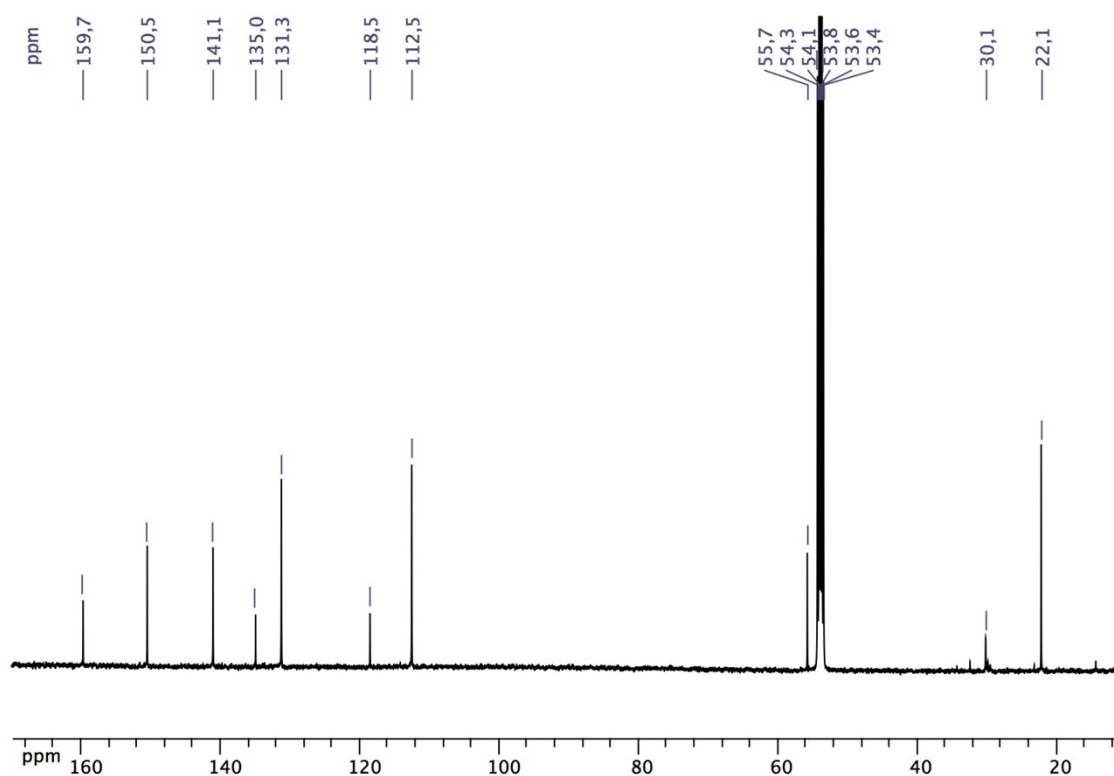


Fig. S15. ¹³C NMR (CD₂Cl₂, 126 MHz) spectrum of Zn-Ref.

Additional spectroscopic and photophysical data

Table SI1. Luminescence data of reference compounds **2H-Ref** and **Zn-Ref** in CH₂Cl₂ at room temperature.

	$\lambda_{\text{max}} / \text{nm}^a$	ϕ_{fl}^b	τ / ns^c
2H-Ref	654, 716	0.11	10.2
Zn-Ref	594, 646	0.036	2.2

^a From corrected spectra. ^b Fluorescence quantum yields determined using tetraphenyl-porphyrin in aerated toluene as a standard ($\phi_{\text{fl}}=0.11$).¹ ^c Fluorescence lifetimes, excitation at 465 nm.

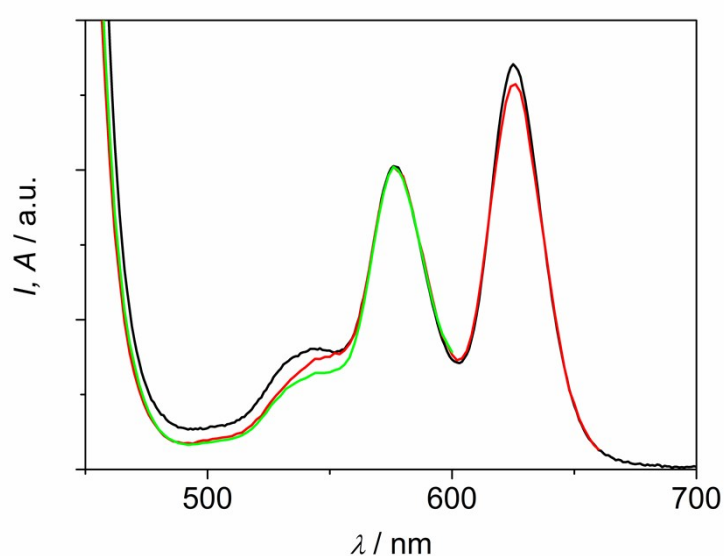


Fig. SI6. Corrected excitation spectra (green line $\lambda_{\text{em}} = 642 \text{ nm}$, red line $\lambda_{\text{em}} = 692 \text{ nm}$) and arbitrarily scaled absorption spectrum (black line) of the final species formed upon titration of **2H-TPyP** with [Ag(SbF₆)].

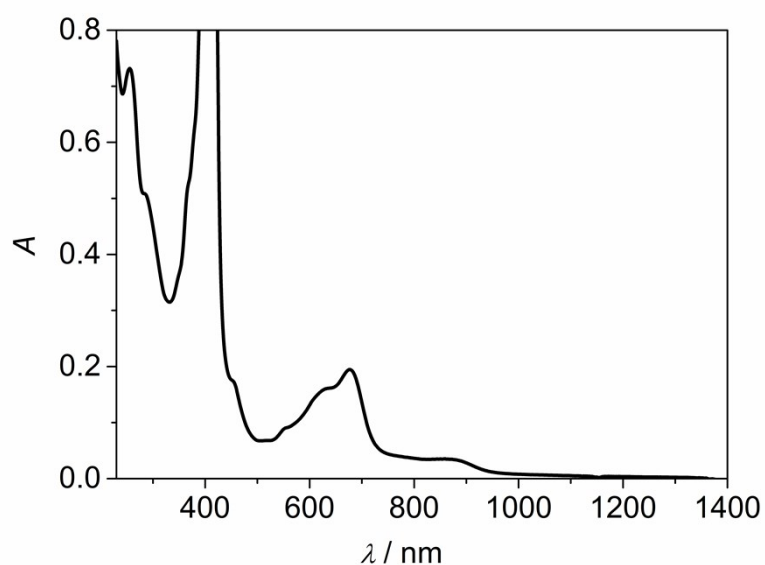


Fig. SI7. Absorption spectrum of a solution of **Zn-TPyP** in CH₂Cl₂ ($1.1 \times 10^{-5} \text{ M}$) upon addition of 15 equivalents of [Ag(SbF₆)], collected with a UV-VIS-NIR spectrophotometer.

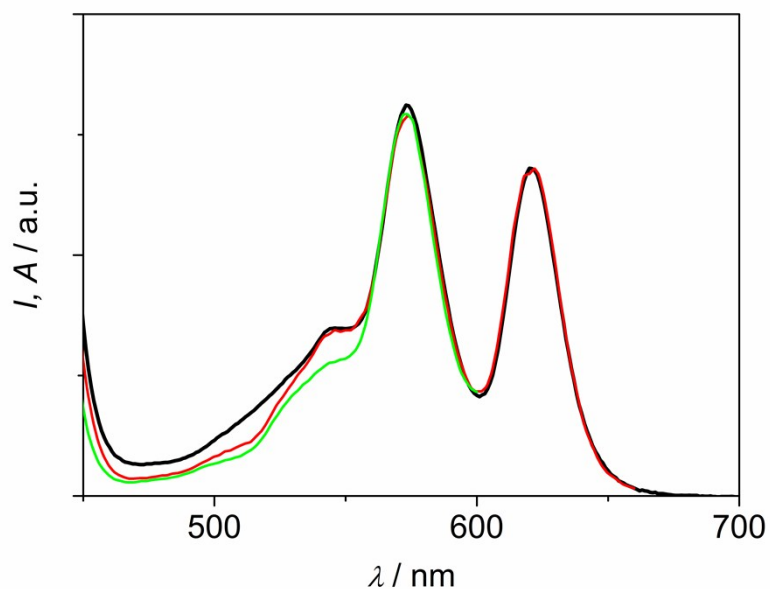


Fig. S18. Corrected excitation spectra (green line $\lambda_{\text{em}} = 630$ nm, red line $\lambda_{\text{em}} = 690$ nm) and arbitrarily scaled absorption spectrum (black line) of the final species formed upon titration of **2H-Ref** with $[\text{Ag}(\text{SbF}_6)]$.

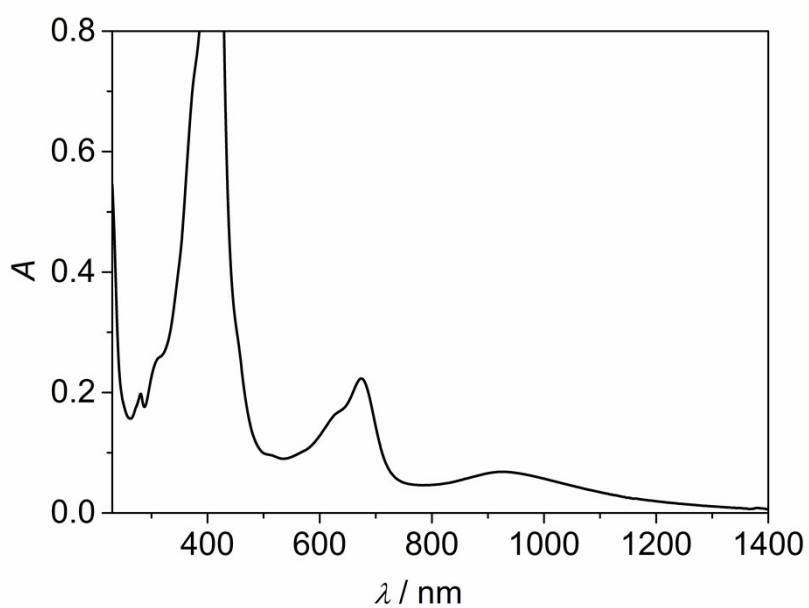


Fig. S19. Absorption spectrum of a solution of **Zn-Ref** in CH_2Cl_2 (1.1×10^{-5} M) upon addition of 15 equivalents of $[\text{Ag}(\text{SbF}_6)]$, collected with a UV-VIS-NIR spectrophotometer.

Additional electrochemical data

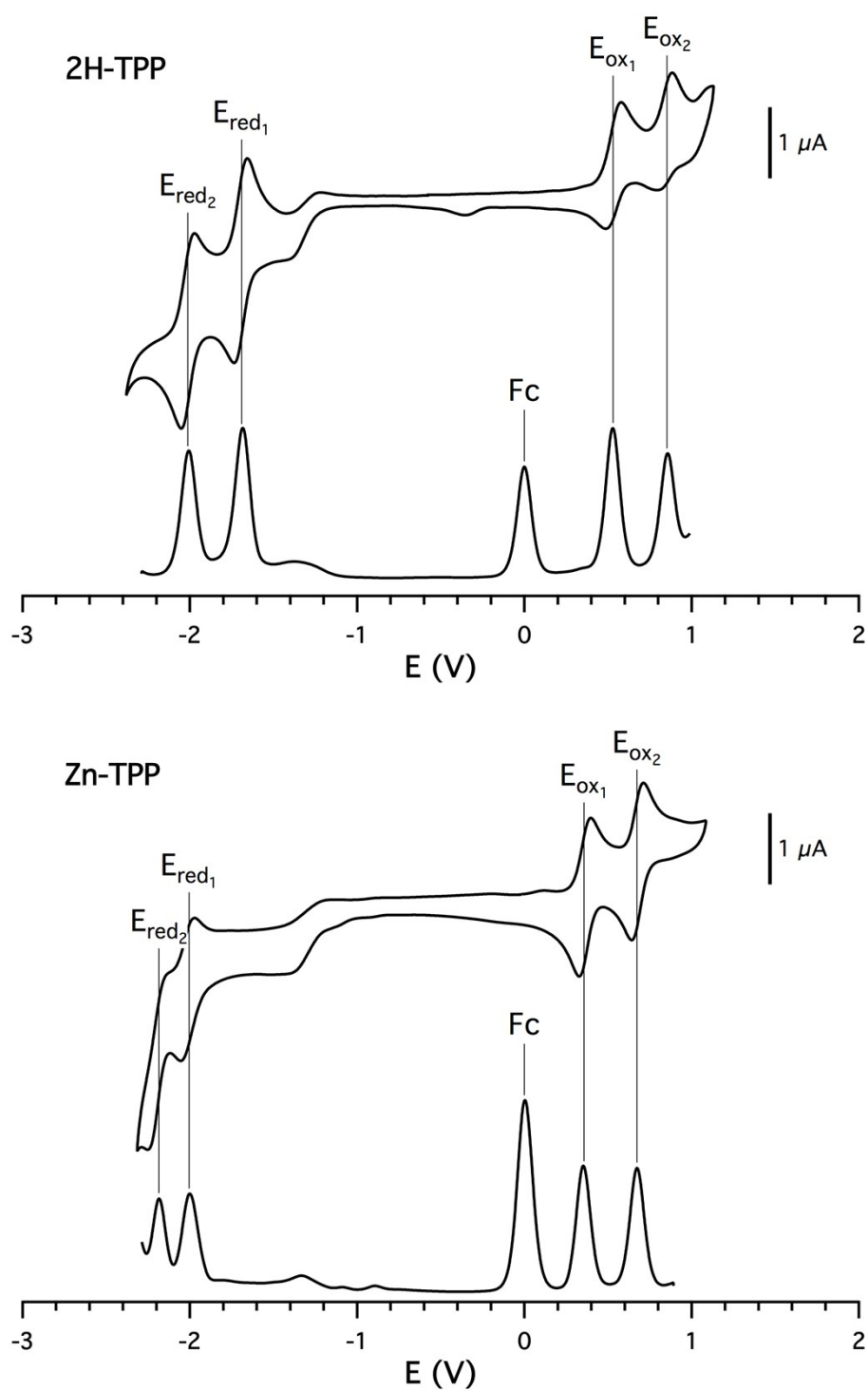


Fig. S110. Cyclic (top panel) and square wave (bottom panel) voltammetry scans of 2H-TTP and Zn-TTP in CH_2Cl_2 solution.

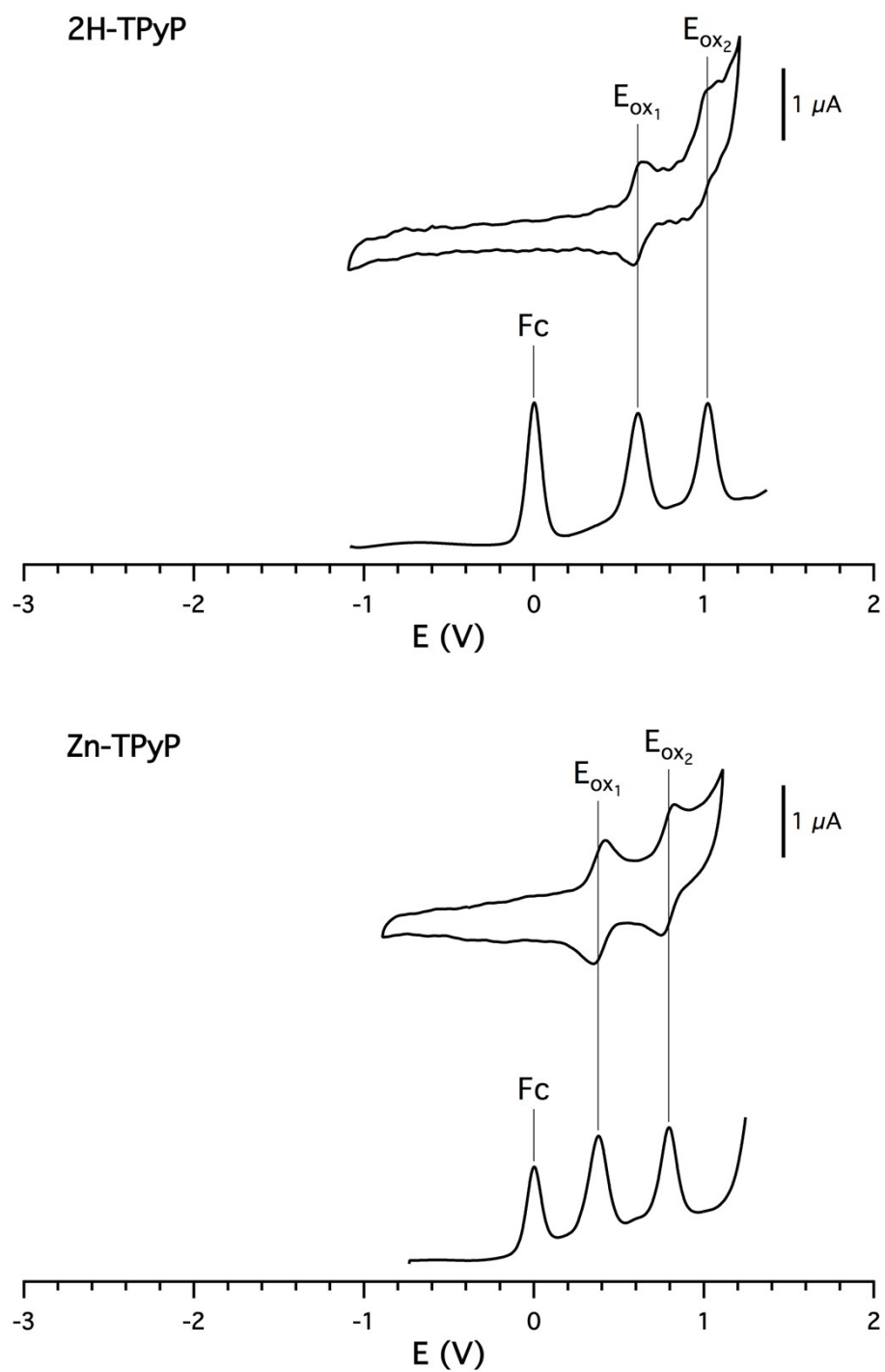


Fig. SI11. Cyclic (top panel) and square wave (bottom panel) voltammetry scans of **2H-TPyP** and **Zn-TPyP** in CH_2Cl_2 solution.

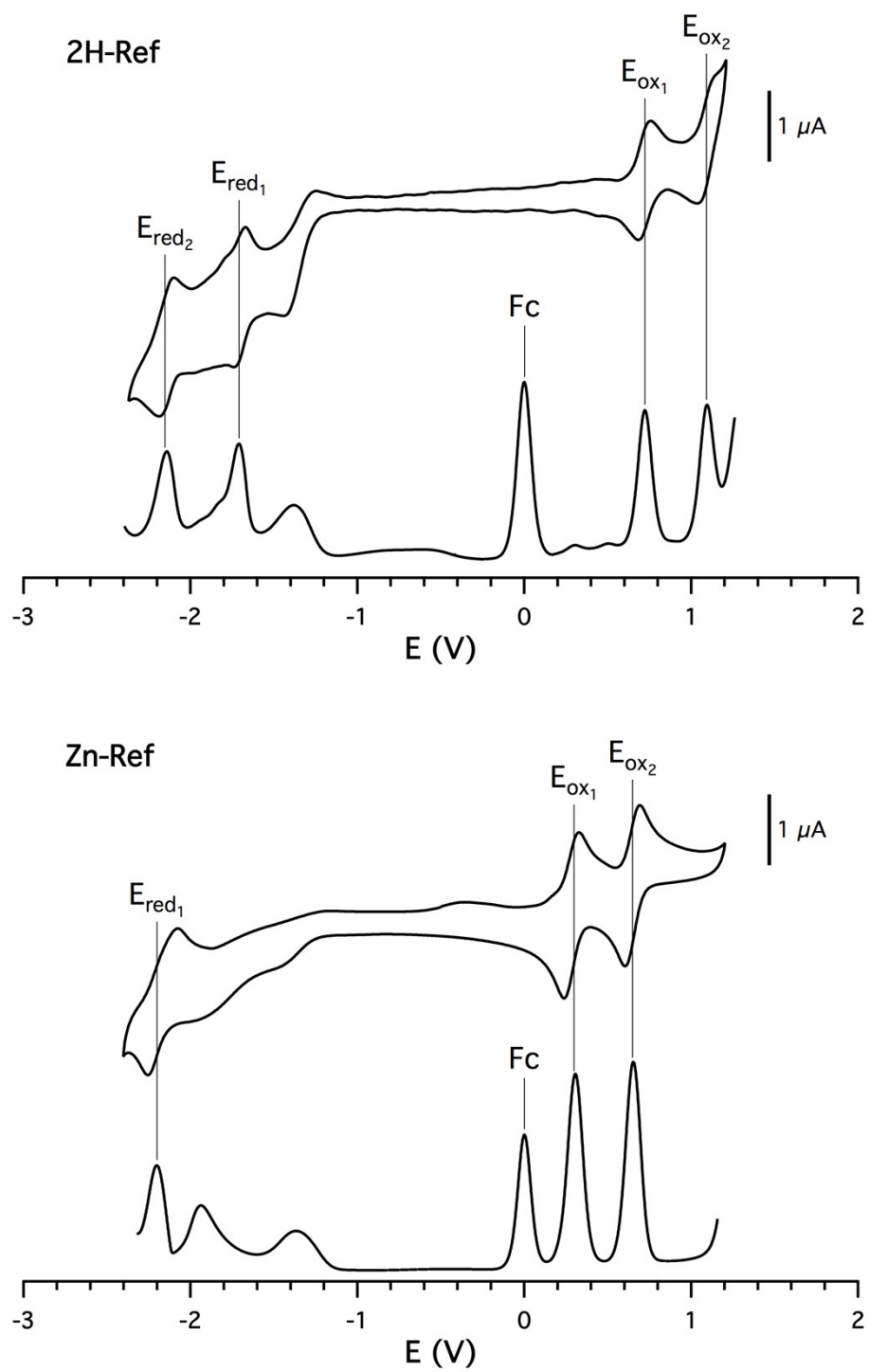


Fig. S112. Cyclic (top panel) and square wave (bottom panel) voltammetry scans of **2H-Ref** and **Zn-Ref** in CH_2Cl_2 solution.

References

1. P. G. Seybold and M. Gouterman, *J. Mol. Spectrosc.*, 1969, **31**, 1-13.