

Supporting Information

A Facile Photosynthesis of *trans*-Dioxoruthenium(VI) Porphyrins

Yan Huang, Eric Vanover and Rui Zhang*

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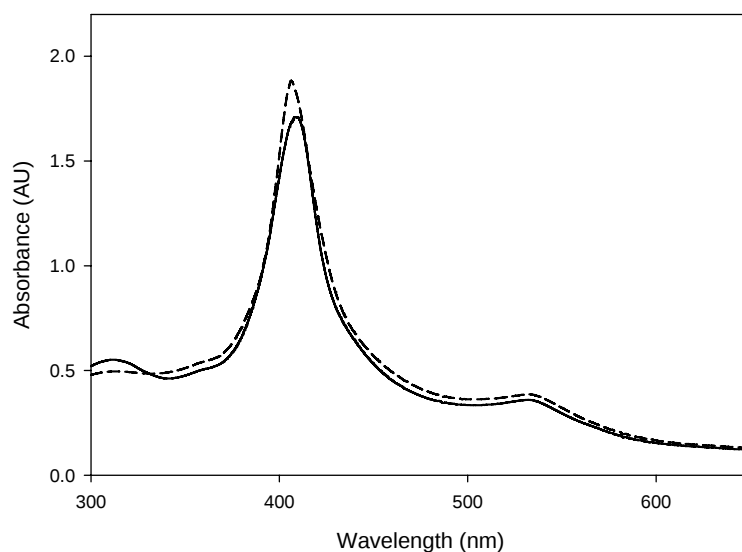


Figure S1. UV-visible spectra of Ru^{IV}(TMP)Cl₂ (**1a**, dashed) and Ru^{IV}(TMP)(ClO₃) (**2a**, solid) in CH₃CN.

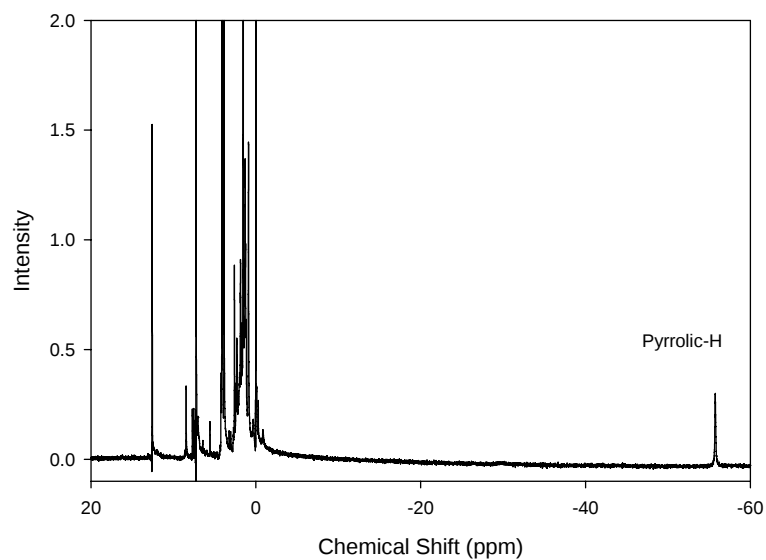


Figure S2. ¹H NMR spectrum of Ru^{IV}(TMP)Cl₂ (**1a**) in CDCl₃.

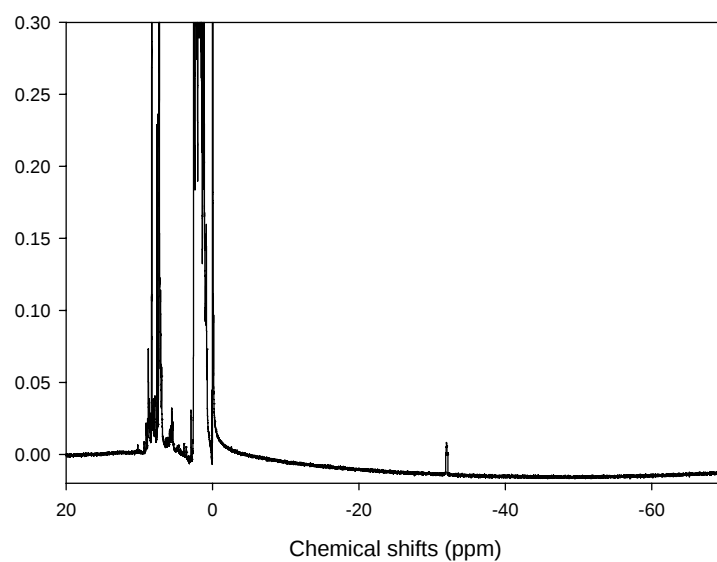


Figure S3. ^1H NMR spectrum of $\text{Ru}^{\text{IV}}(\text{TMP})(\text{ClO}_3)_2$ (**2a**) in CD_3CN .

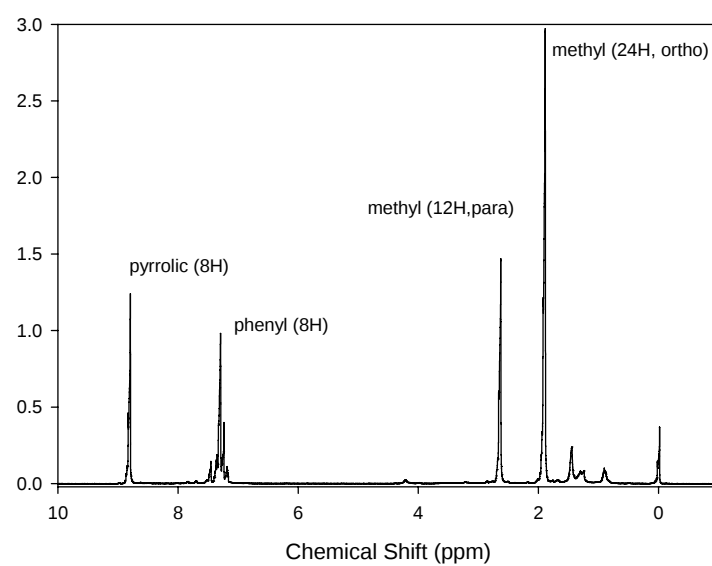


Figure S4. ^1H NMR spectrum of $\text{Ru}^{\text{VI}}(\text{TMP})\text{O}_2$ (**3a**) in CDCl_3 .

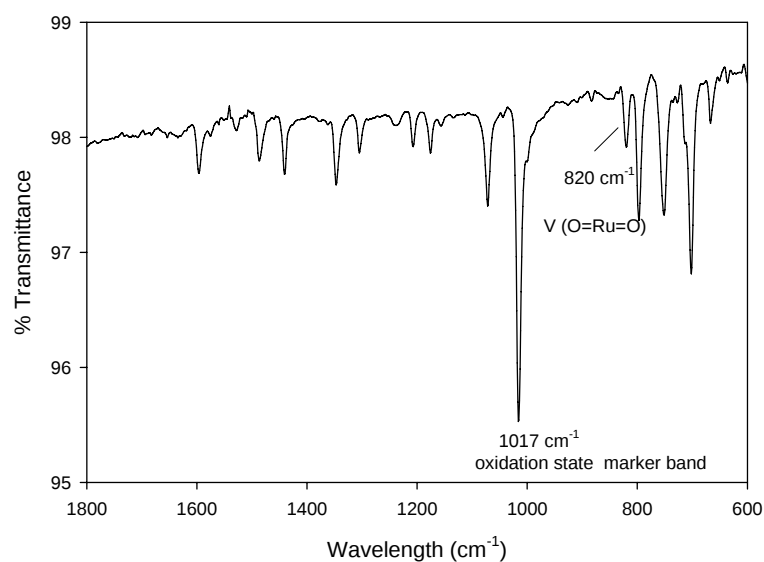


Figure S5. IR spectrum of $\text{Ru}^{\text{VI}}(\text{TMP})\text{O}_2$ (**3a**) (KBr)

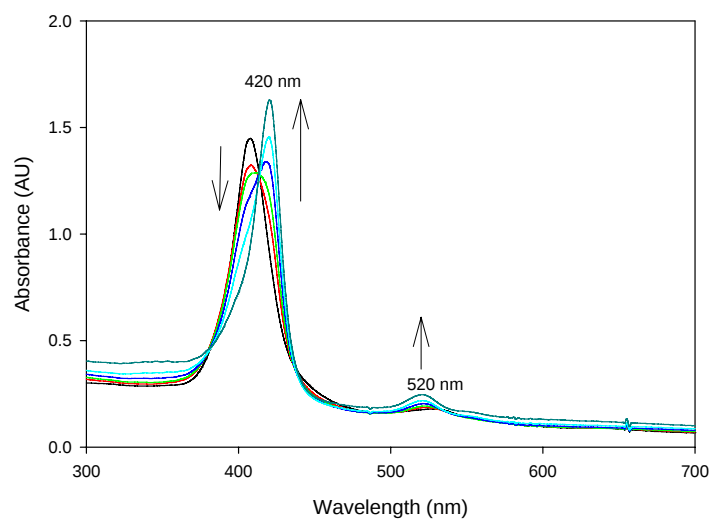


Figure S6. UV-visible spectral change of **2b** ($8.0 \times 10^{-6} \text{ M}$) upon irradiation with a 100 W tungsten lamp in anaerobic CH_3CN solution at 22°C . Spectra were recorded at $t = 0, 6, 14, 20, 26$ and 45 min .

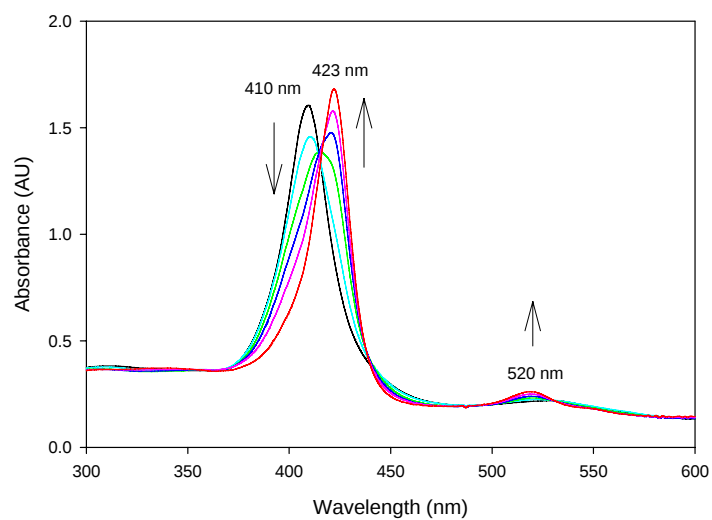


Figure S7. Time-resolved spectrum following irradiation of **2c** (1.0×10^{-5} M) with a 100 W tungsten lamp in anaerobic CH_3CN over 60 minutes, showing the conversion of ruthenium(IV) species **2c** to dioxo ruthenium(VI) **3c**.