

SUPPORTING INFORMATION

Ru²⁺ complexes with terpyridine ligands appended with terthiophene chromophores: electropolymerization and energy reservoir effect

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¹H NMR spectra of the two complexes in CD₃CN registered on a Varian VXR 300.

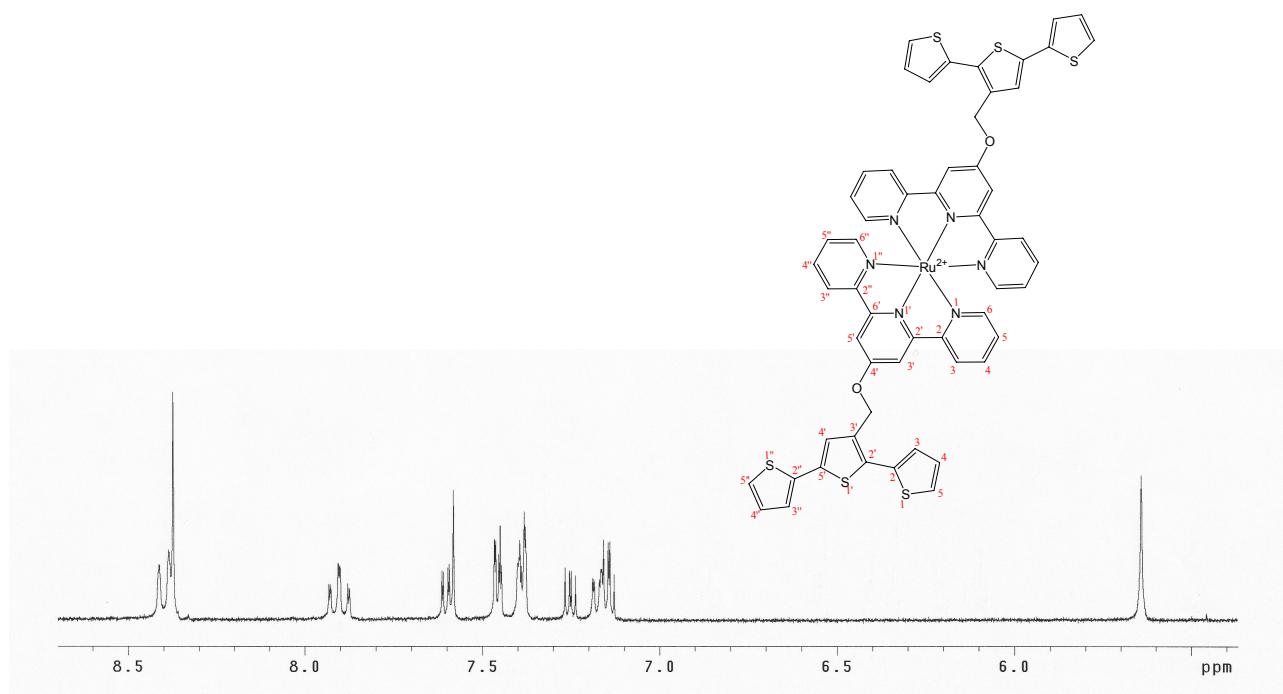


Figure S1. ¹H NMR spectrum of [Ru(TTT)₂]²⁺ in CD₃CN (Varian VXR 300).

¹H NMR (CD₃CN, ppm): δ = 8.40 (d, 2H, H3+H3'' terpyridine, J=7.8 Hz), 8.34 (s, 2H, H3'+H5' terpyridine), 7.91 (td, 2H, H4+H4'' terpyridine, J=7.8, 1.5 Hz), 7.61 (dd, 1H, H5 or H5'' terthiophene, J=5.1, 1.1 Hz), 7.59 (s, 1H, H4' terthiophene), 7.45 (m, 2H partially overlapping, H5 or H5'' terthiophene (J=5.1, 1.1 Hz) + H3 or H3'' terthiophene), 7.38 (m, 3H partially overlapping, H6+H6'' terpyridine + H3 or H3'' terthiophene), 7.25 (dd, 1H, H4 or H4'' terthiophene, J=5.1, 3.6 Hz), 7.17 (ddd, 2H, H5+H5'' terpyridine, J=7.8, 5.6, 1.4 Hz), 7.14 (dd, 1H, H4 or H4'' terthiophene, J=5.1, 3.6 Hz), 5.64 (s, 2H, CH₂).

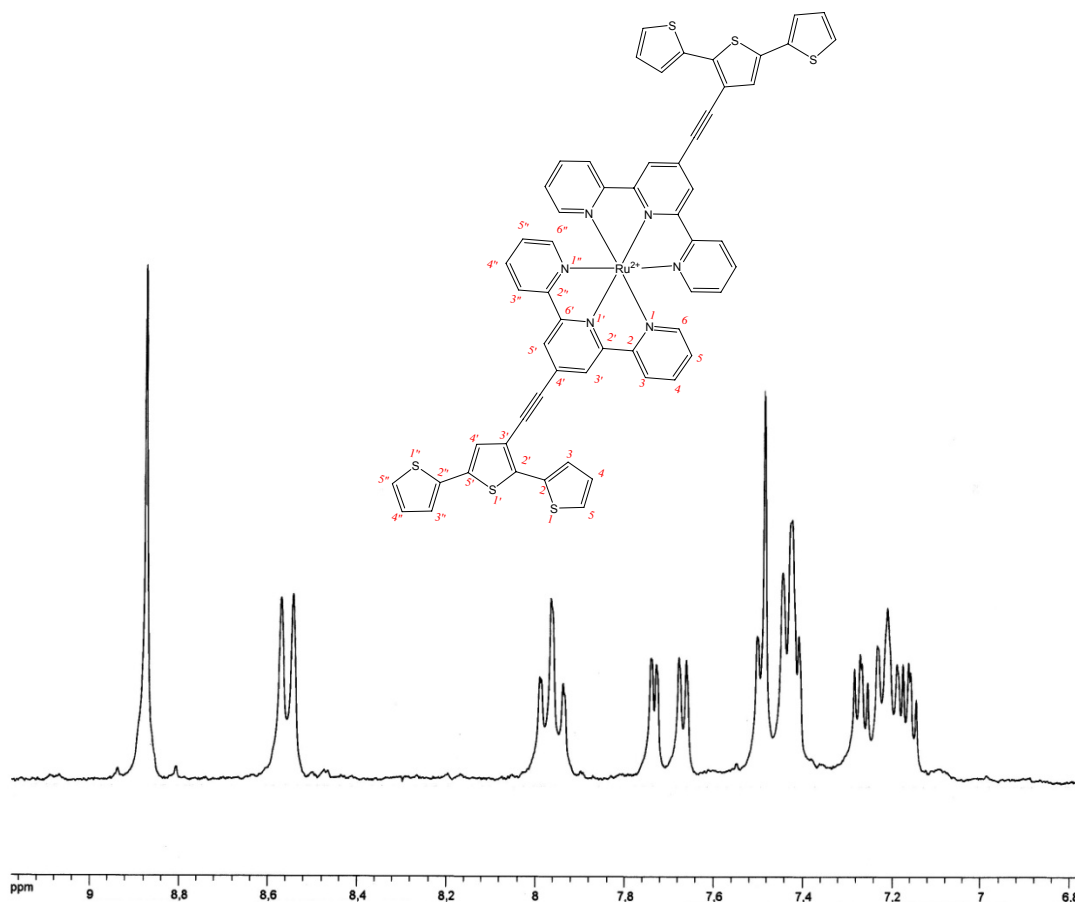


Figure S2. ^1H NMR spectrum of $[\text{Ru}(\text{TAT})_2]^{2+}$ in CD_3CN (Varian 300 MHz).

^1H NMR (CD_3CN , ppm): $\delta = 8.87$ (s, 2H, $\text{H}3' + \text{H}5'$ terpyridine), 8.55 (d, 2H, $\text{H}3 + \text{H}3''$ terpyridine, $J = 7.9$ Hz), 7.96 (td, 2H, $\text{H}4 + \text{H}4''$ terpyridine, $J = 7.9, 1.4$ Hz), 7.73 (dd, 1H, $\text{H}3$ or $\text{H}3''$ terthiophene, $J = 3.7, 1.1$ Hz), 7.66 (dd, 1H, $\text{H}5$ or $\text{H}5''$ terthiophene, $J = 5.1, 1.1$ Hz), 7.50 (d, 1H partially overlapping, $\text{H}5$ or $\text{H}5''$ terthiophene, $J \approx 5$ Hz), 7.48 (s, 1H, $\text{H}4'$ terthiophene), 7.45 (ddd, 2H, $\text{H}6 + \text{H}6''$ terpyridine, $J = 5.4$ Hz), 7.42 (dd, 1H, $\text{H}3$ or $\text{H}3''$ terthiophene, $J = 3.7, 1.1$ Hz), 7.27 (dd, 1H, $\text{H}4$ or $\text{H}4''$ terthiophene, $J = 5.1, 3.7$ Hz), 7.22 (ddd, 2H, $\text{H}5 + \text{H}5''$ terpyridine, $J = 7.9, 5.4, 1.5$ Hz), 7.17 (dd, 1H, $\text{H}4$ or $\text{H}4''$ terthiophene, $J = 5.1, 3.7$ Hz).

For more details on the NMR spectra and characterization of the two complexes, see ref. 16 in the text.

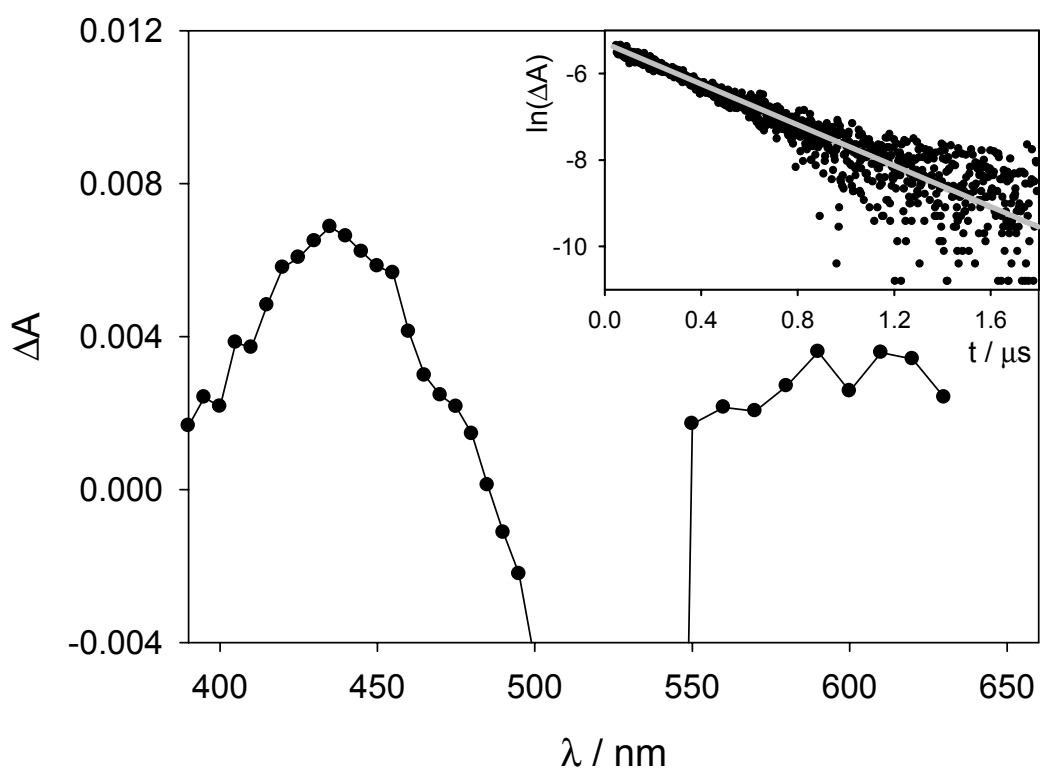


Figure S3. Transient absorption spectrum of $[\text{Ru}(\text{TAT})_2]^{2+}$ in deaerated acetonitrile solution at 298 K by excitation at 532 nm. Inset shows the absorption decrease at 435 nm.