Electronic Supplementary Information

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Titile: Acid-base equilibria of various oxidation states of aqua-ruthenium

complexes with 1,10-phenanthroline-5,6-dione in aqueous media

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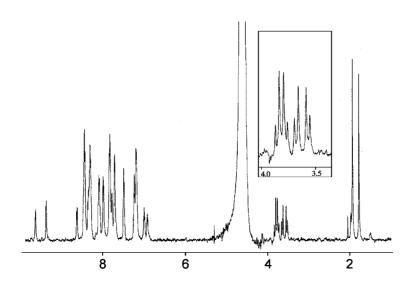


Fig. S1. ¹H NMR spectrum of $[1](ClO_4)_2$ in D_2O .

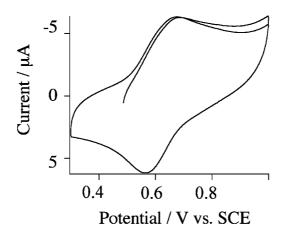


Fig. S2. Cyclic voltammogram of $[1](ClO_4)_2$ in 0.1 mol dm⁻³ phosphate buffer (pH 6.37).

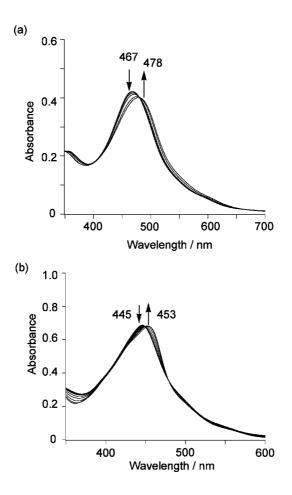


Fig. S3. pH Dependent UV-vis spectra of $[2]^{2+}$ in H₂O (a) and that in CH₃CN/H₂O (1:9 v/v) (b). The arrows in the figure indicate the direction of the changes by increasing of pH.

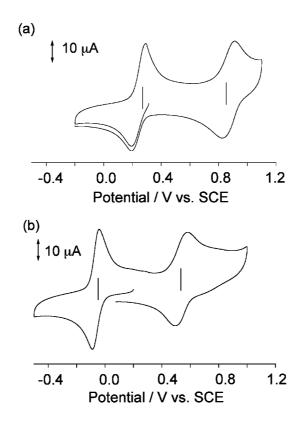


Fig. S4. Cyclic voltammograms of $[\mathbf{2}](ClO_4)_2$ in 0.1 mol dm⁻³ phosphate buffer solutions at pH 1.67 (a), and 7.87 (b).