Supporting Information Available

Ruthenium-Catalyzed Oxidation of Alcohols by Bromate in Water

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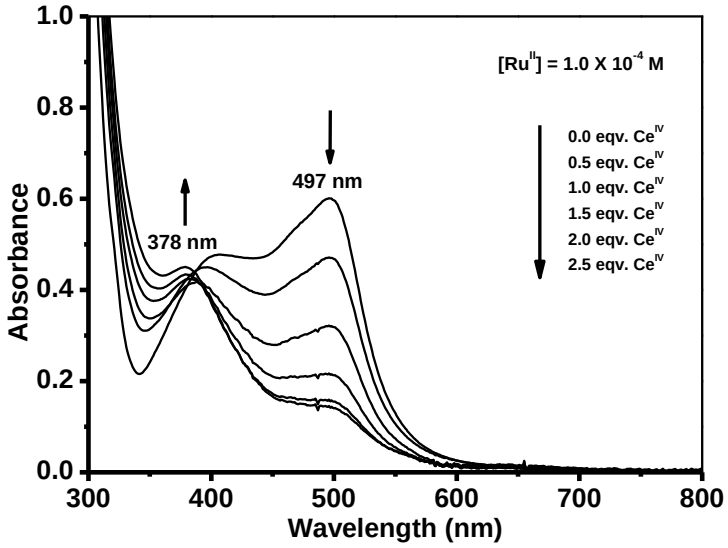

Fig. S1 Spectrophotometric titration for **Ce^{IV}** and 1.0 x 10^{-4} M **Ru^{II}** in water at 23 ^{0}C.

Materials

All organic substrates were obtained from Sigma-Aldrich and purified according to literature methods.[1] Sodium bromate was purchased from Acros Organic Chemicals and purified by recrystallization from water. *cis*-[Ru(2,9-Me_2phen)$_2$(OH_2)$_2$](PF_6)$_2$ was synthesized according to a published procedure.[2,3] Doubly distilled water was employed throughout the experiments. d^{12}-cyclohexanol (98+ atom % D) was purchased from Medical Isotopes and used as received.

Instrumentation

Ion chromatography was performed on a Dionex ICS-1600 liquid chromatograph equipped with a Dionex IonPac AS12A Analytical (4 × 200 mm) column. 2.7 mM Na_2CO_3/0.3 mM $NaHCO_3$ was used as eluent with a flow rate of 2.0 mL/min. Chromatography calibration standards were prepared in the 0.02−0.2 mM concentration range. Gas chromatographic analysis was performed on a HP5890 GC/FID instrument equipped with a DB-FFAP (30 m × 0.25 mm i.d.) or HP-5MS (30 m × 0.25 mm i.d.) column. GC/MS measurements were carried out on a HP6890 gas chromatograph interfaced to a HP 5975 mass selective detector. Electrospray ionization mass spectrometry (ESI/MS) was performed on a PE SCIEX API 365 mass spectrometer. The analyte solution was continuously infused with a syringe pump at a constant flow rate of 5 μL min^{-1} into the pneumatically assisted electrospray probe with nitrogen as the nebulising gas. Kinetic experiments were done by using a Agilent 8453 diode-array spectrophotometer.

References

1. *Purification and Laboratory Chemicals*, ed. D. D. Perrin and W. L. F. Armarego, Pergamon, New York, 3rd edn., 1988.
2. A. S. Goldstein, R. H. Beer and R. S. Drago, *J. Am. Chem. Soc.*, 1994, **116**, 2424.
3. J. P. Collin and J. P. Sauvage, *Inorg. Chem.*, 1986, **25**, 135.