Supplementary Material (ESI) for Dalton Transactions

Supplementary Information

Synthesis, Photophysical and Electrochemical Properties of Heterodinuclear Ru-Mn and Ru-Zn Complexes Bearing Ambident Schiff Base Ligand.

Pascal Guillo[a], Olivier Hamelin,*[a] Frédérique Loiseau[b], Jacques Pécaut[c] and Stéphane Ménage[a]

[a] Laboratoire de Chimie et Biochimie des Métaux ; Université Joseph Fourier, Grenoble, France ; CNRS UMR 5249, France ; CEA, DSV/ iRTSV/LCBM, Grenoble, France ; CEA-Grenoble, Bat K', 17 rue des Martyrs, F-38054 Grenoble Cedex 9 (France).

[b] Département Chimie Moléculaire ; Université Joseph Fourier, Grenoble, France ; CNRS UMR 5250, France ; Université Joseph Fourier - Grenoble 1, BP 53, 38041 GRENOBLE cedex 9 (France).

[c] Service de Chimie Inorganique et Biologique ; Université Joseph Fourier, Grenoble, France ; CEA, DSM/DRFMC/SCIB, CEA-Grenoble, 17 rue des Martyrs, F-38054 Grenoble Cedex 9 (France).

To whom correspondence should be addressed : Olivier Hamelin, E-mail : ohamelin@cea.fr , tel 00(33)438789108.

UV/Vis Spectroscopy

Absorption spectra of **HL** and of all complexes were recorded in ethanol (17 μM).

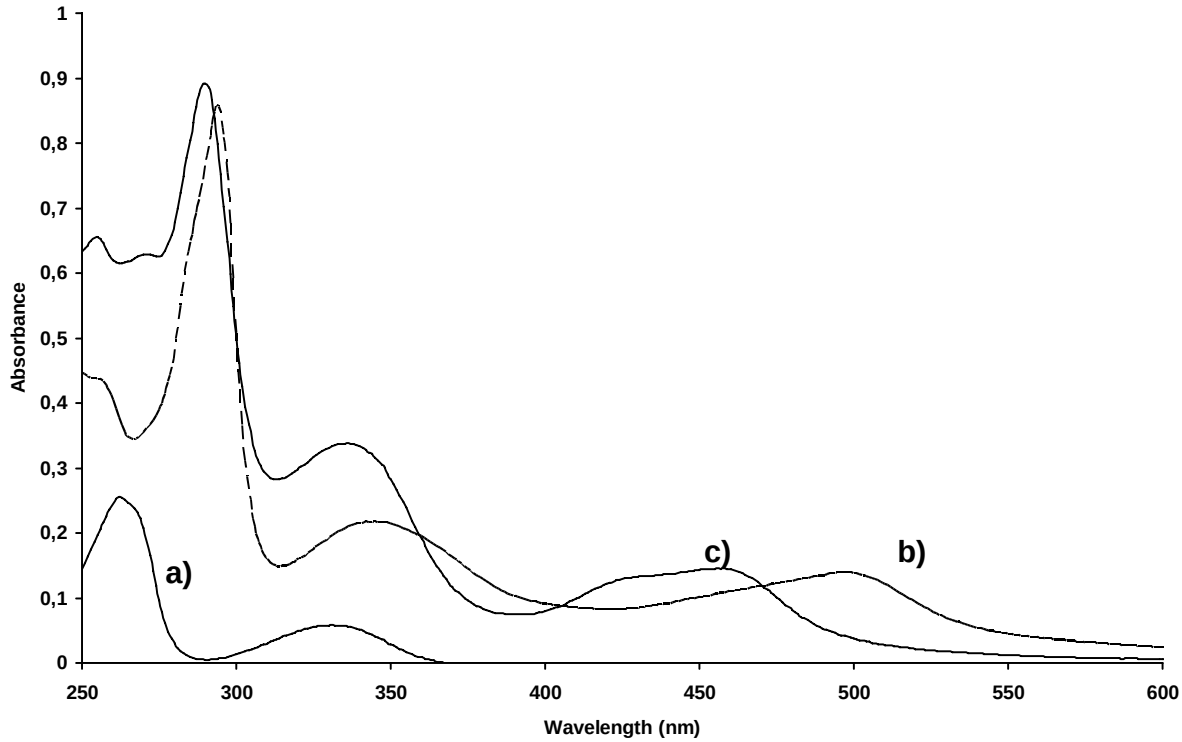

Fig. S1. Absorption spectra of **HL** (a) ; [**1**][PF_6] (b) ; [**2**][PF_6]$_2$ (c)

Cyclic voltammetry.

Cyclic voltammograms of all complexes were recorded in a CH_3CN solution of (n-Bu_4N)BF_4 (0.1 mol.L^{-1}) on a glassy carbon electrode (100 mV.s^{-1}) starting on reduction (potentials versus Ag/AgCl).

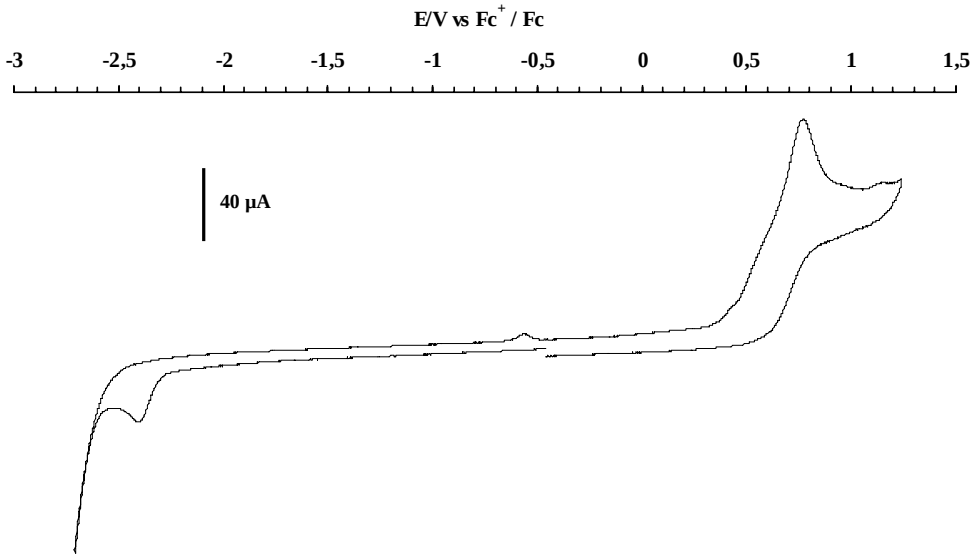

Fig. S2. Cyclic voltamogramm of **HL**.

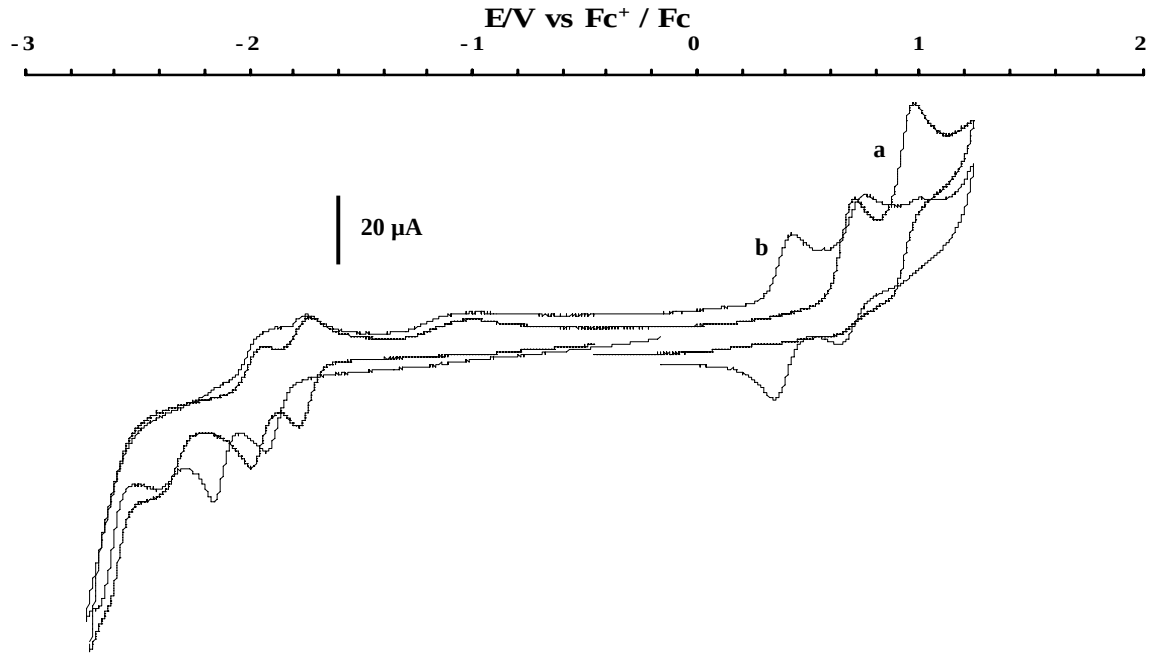

Fig. S3. Cyclic voltammograms of [**1**][PF_6] (b) and [**2**][PF_6]$_2$ (a).

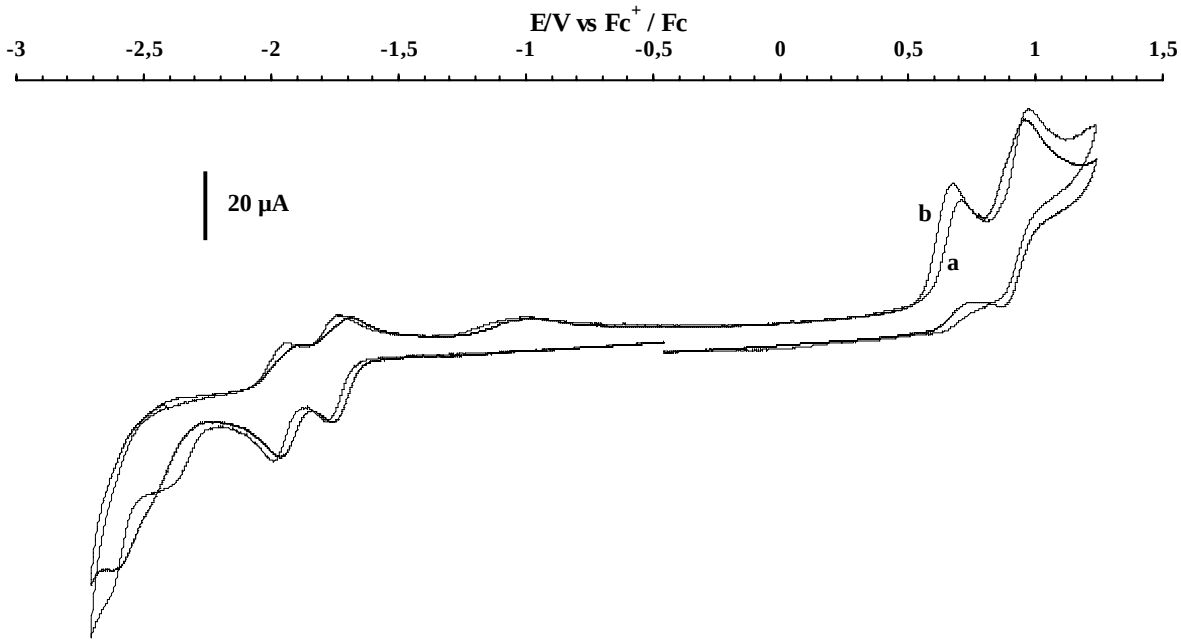

Fig. S4. Cyclic voltammograms of [**2**][PF_6]$_2$ (a) and [**5**][PF_6]$_2$ (b).

RPE Spectroscopy

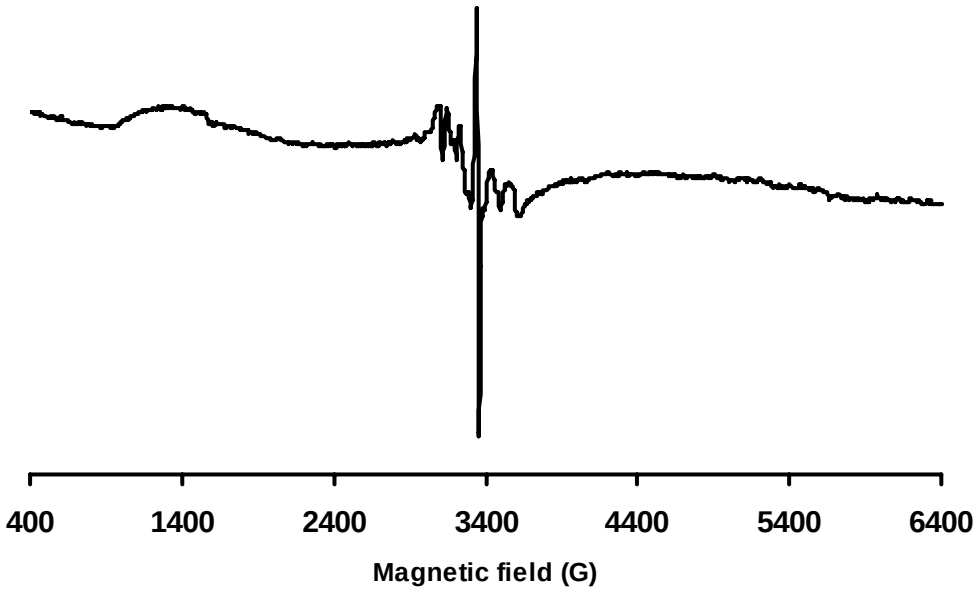

Fig. S5. X-band EPR spectrum at 20 K in frozen CH_3CN of the one-electron oxidized complex generated by electrolysis of $[\mathbf{4}]^{2+}$ at 0.81 V versus Fc^+/Fc. Conditions : microwave frequency, 9.387 GHz ; microwave power, 1.992 mW ; modulation amplitude, 10.00 G ; time constant, 40.960 ms ; conversion time, 163.840 ms.