

**Formation of  $\mu$ -Dinitrogen (Salen)Osmium complexes via Ligand-induced N $\cdots$ N Coupling of (Salen)osmium(VI) Nitrides**

Wai-Lun Man,<sup>a</sup> Gui Chen,<sup>a</sup> Shek-Man Yiu,<sup>a</sup> Lam Shek,<sup>a</sup> Wai-Yeung Wong,<sup>b</sup> Wing-Tak Wong<sup>c</sup> and Tai-Chu Lau \*<sup>a</sup>

<sup>a</sup>Department of Biology and Chemistry, City University of Hong Kong, Tat Chee Avenue, Kowloon Tong, Hong Kong, China

<sup>b</sup>Department of Chemistry, Hong Kong Baptist University, Waterloo Road, Kowloon Tong, Hong Kong, China

<sup>c</sup>Department of Chemistry, University of Hong Kong, Pokfulam Road, Hong Kong, China

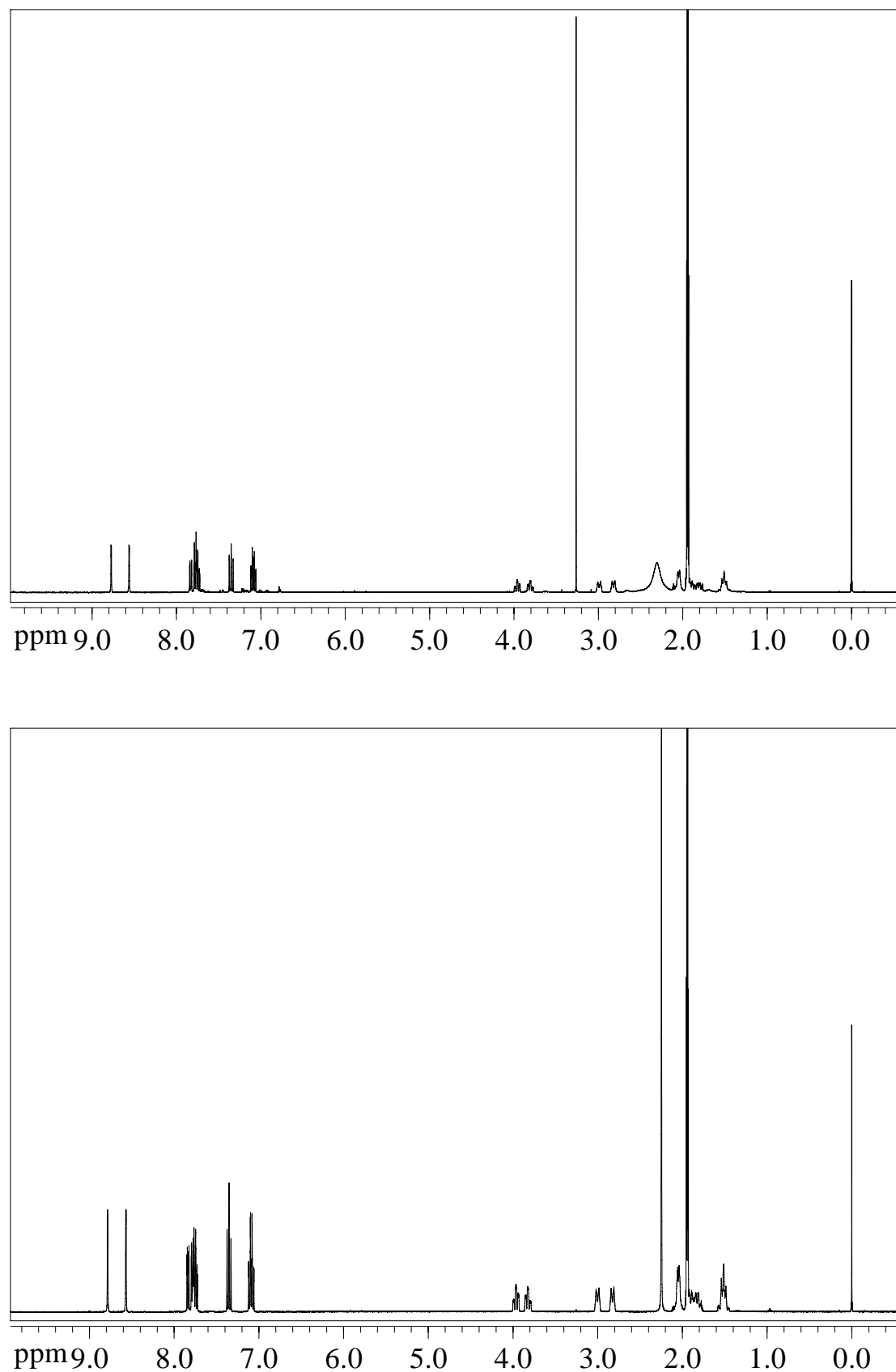


Figure S1. <sup>1</sup>H NMR (400 MHz) spectra of [Os<sup>VI</sup>(N)(L)(OH<sub>2</sub>)](PF<sub>6</sub>) **1a** (top) and [Os<sup>VI</sup>(N)(L)(MeOH)](ClO<sub>4</sub>) **1b** (bottom) in CD<sub>3</sub>CN.

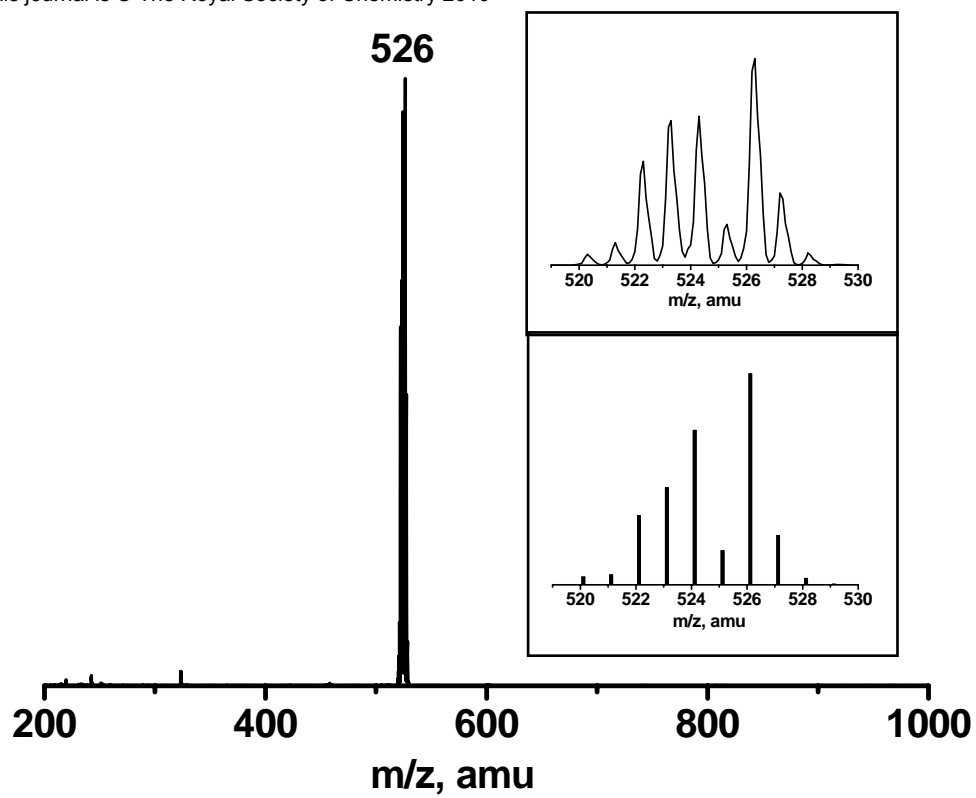


Figure S2. ESI mass spectrum of  $[\text{Os}^{\text{VI}}(\text{N})(\text{L})(\text{OH}_2)](\text{PF}_6)$  **1a** in  $\text{CH}_3\text{CN}$ . (Insets show the expanded and simulated patterns)

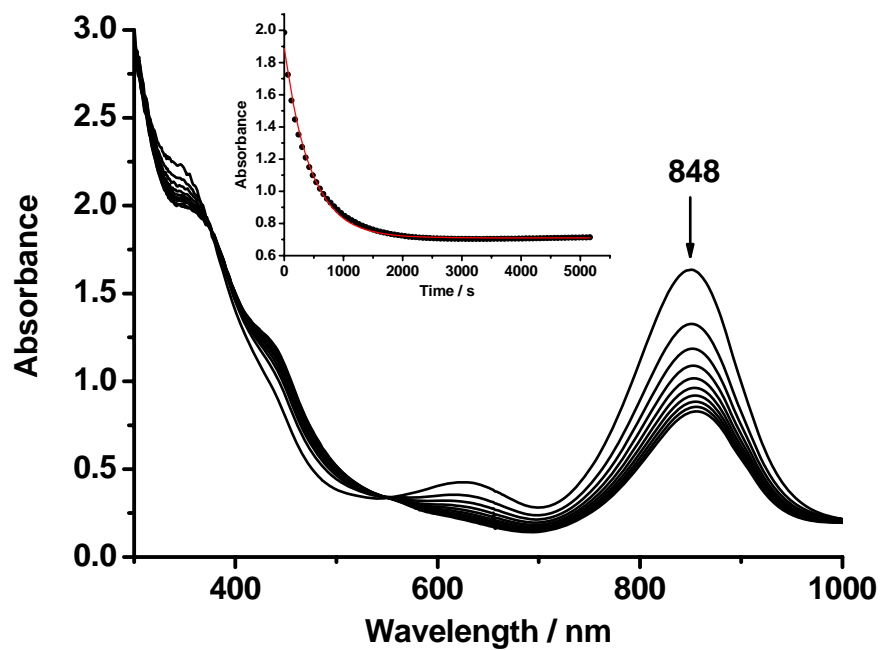


Figure S3. Spectral changes for the reduction of  $[4\text{-}^t\text{Bupy}(\text{L})\text{Os}^{\text{III}}\text{-N}\equiv\text{NOs}^{\text{III}}(\text{L})(4\text{-}^t\text{Bupy})](\text{PF}_6)_2$  (**15**) ( $8 \times 10^{-5}$  M) by 4- $^t\text{Bupy}$  (0.85 M) in  $\text{CH}_3\text{CN}$  at 298K. Total time = 9000s. Inset shows the absorbance-time trace at 848 nm.