## **Supporting Information**

for

## Reactivity of nitric oxide with ruthenium complexes derived from bidentate ligands: Structure of ruthenium nitrosyl complex, photoinduced generation and estimation of nitric oxide

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Fig. S1. <sup>1</sup>H NMR spectrum of complex 1 in CDCl<sub>3</sub> at room temperature.



Fig. S2. <sup>1</sup>H NMR spectrum of complex 2 in CDCl<sub>3</sub> at room temperature.



Fig. S3. <sup>31</sup>P NMR spectrum of complex 2 in CDCl<sub>3</sub> at room temperature.  $\delta$  41.10 ppm.



Fig. S4. <sup>1</sup>H NMR spectrum of complex 1a in CDCl<sub>3</sub> at room temperature.







Fig. S6. <sup>31</sup>P NMR spectrum of complex 2a in CDCl<sub>3</sub> at room temperature.  $\delta$  22.15 ppm.



Fig. S7. The electronic absorption spectra of 1 (black line) and 2 (red line) in dichloromethane solutions.



Fig. S8. The electronic absorption spectra of 1a (black line) and 2a (red line) in dichloromethane solutions.



**Fig. S9**. IR Spectrum of **1** (KBr disk, cm<sup>-1</sup>): 1920 ( $v_{CO}$ ), 1598 ( $v_{C=N}$ ), 1481, 1456, 1434, 765, 696, 523 ( $v_{PPh3}$ ) cm<sup>-1</sup>.



**Fig. S10**. IR Spectrum of **2** (KBr disk, cm<sup>-1</sup>): 1920( $v_{CO}$ ), 1598 ( $v_{C=N}$ ), 1524, 1428, 744, 691, 516 ( $v_{PPh3}$ ) cm<sup>-1</sup>.



Fig. S11. IR Spectrum of 1a (KBr disk, cm<sup>-1</sup>): 1835 ( $v_{NO}$ ), 1596 ( $v_{C=N}$ ), 1311 ( $v_{NO2}$ ), 751, 693, 523 ( $v_{PPh3}$ ) cm<sup>-1</sup>.



**Fig. S12**. IR Spectrum of **2a** (KBr disk, cm<sup>-1</sup>): 1880 (v<sub>NO</sub>), 1598 (v<sub>C=N</sub>), 1531, 1408, 1326 (v<sub>NO2</sub>), 751, 693, 523 (v<sub>PPh3</sub>) cm<sup>-1</sup>.



**Fig. S13** Electronic spectra of conversion of reduced myoglobin to Mb–NO adduct upon reaction with **2a** in buffer solution (50 mM phosphate buffer, pH 6.8) under exposure of UV light. red line, Met Mb (intense band at 409 nm); green line, reduced Mb (near 433 nm, with excess of sodium dithionite); black line, Mb–NO adduct for **2a** ( $\sim$  7.82 x 10<sup>-6</sup> M) at 421 nm when same solution was exposed to UV light for 2-3 minutes.