

SUPPORTING MATERIAL

The photoinduced electron transfer between the cationic complexes

$\text{Ru}(\text{NH}_3)_5\text{pz}^{2+}$ and *trans*- $[\text{RuCl}([\text{15}] \text{aneN}_4)\text{NO}]^{2+}$ mediated by phosphate ion.

Visible light generation of nitric oxide for biological targets

Roberto S. da Silva,* Mario S. P. Marchesi, Chosu Khin, Claire Lunardi, Lusiane M. Bendhack, and Peter C. Ford*

Supplementary Figures

Figure S1: Franz cell utilized for measuring the diffusion rate of ruthenium complexes from a water/oil emulsion containing RuNO^{2+} , Rupz^{2+} or a mixture of the two in 10 mM pH7.4 phosphate buffer solution. Concentration of each complex in the emulsion is 1 mM.

Figure S2: Chamber utilized for the pharmacological assays.

Figure S3: Electronic spectrum of *trans*- $[\text{RuCl}([\text{15}] \text{aneN}_4)(\text{NO})][\text{BF}_4]_3$ (0.15 mM) in aqueous phosphate buffer solution (10 mM, pH 7.4).

Figure S4: *Dashed line:* Electronic spectrum of $[\text{Ru}(\text{NH}_3)_5(\text{pz})][\text{BF}_4]_2$ (2.7×10^{-5} M) in aqueous solution. *Solid line:* Aqueous solution containing *trans*- $[\text{RuCl}([\text{15}] \text{aneN}_4)(\text{NO})][\text{BF}_4]_3$ (8×10^{-5} M) and $[\text{Ru}(\text{NH}_3)_5(\text{pz})][\text{BF}_4]_2$ (2.7×10^{-5} M) with no phosphate added.

Figure S5: Electronic spectrum of $[\text{Ru}(\text{NH}_3)_5(\text{pz})\text{Ru}([\text{15}] \text{aneN}_4)\text{Cl}]^{4+}$ in aqueous solution prepared by reacting $\text{Ru}(\text{NH}_3)_5(\text{pz})^{3+}$ with *trans*- $\text{RuCl}([\text{15}] \text{aneN}_4)(\text{H}_2\text{O})^{2+}$.

Figure S6: Time course of NO release from $\text{RuNO}^{2+}:\text{Rupz}^{2+}$ (1 mM) entrapped in a w/o emulsion under 436 nm light irradiation, in 10 mM phosphate buffer solution pH 7.4. Mass membrane = 0.200 g.

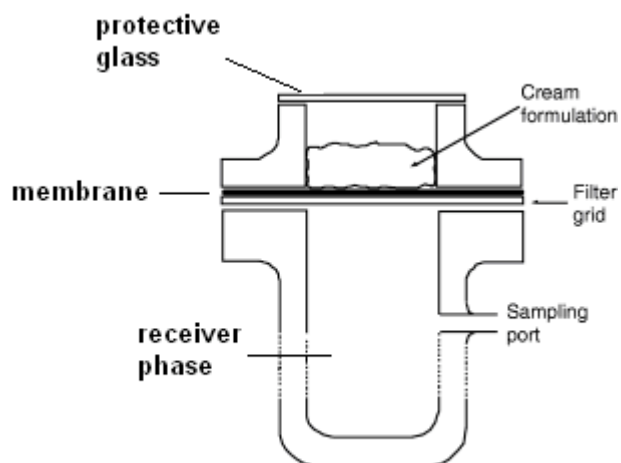


Figure S1: Franz cell utilized for measuring the the diffusion rate of ruthenium complexes from a water/oil emulsion containing **RuNO^{2+}** , **Rupz^{2+}** or a mixture of the two in 10 mM pH 7.4 phosphate buffer solution. Concentration of each complex in the emulsion is 1 mM.

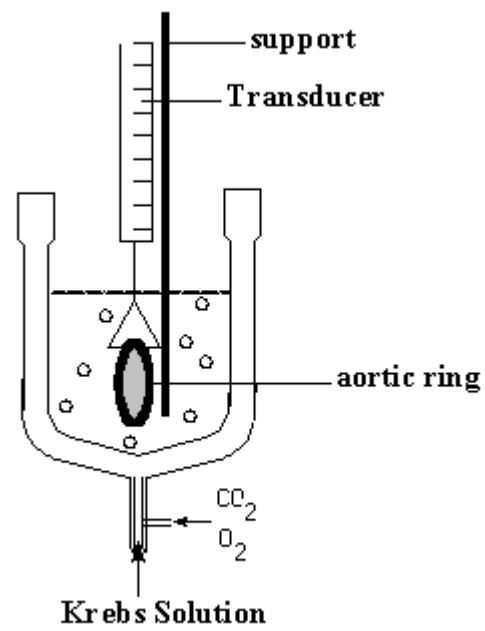
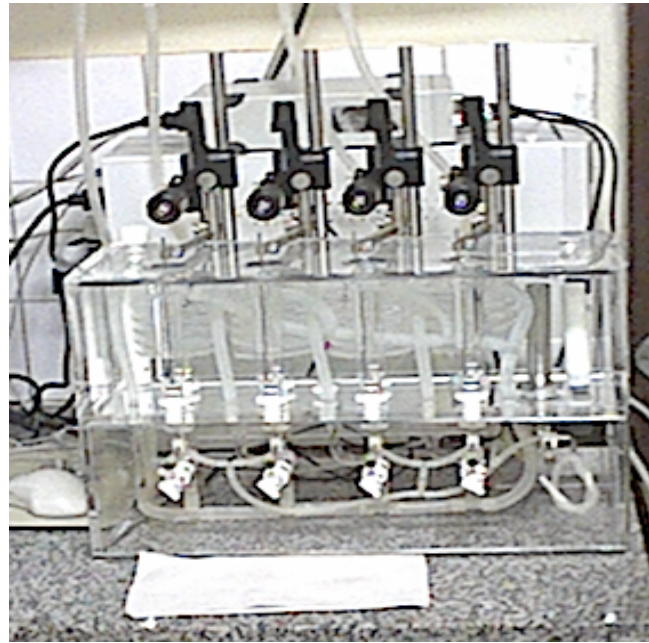


Figure S2: Chamber utilized for the pharmacological assays.

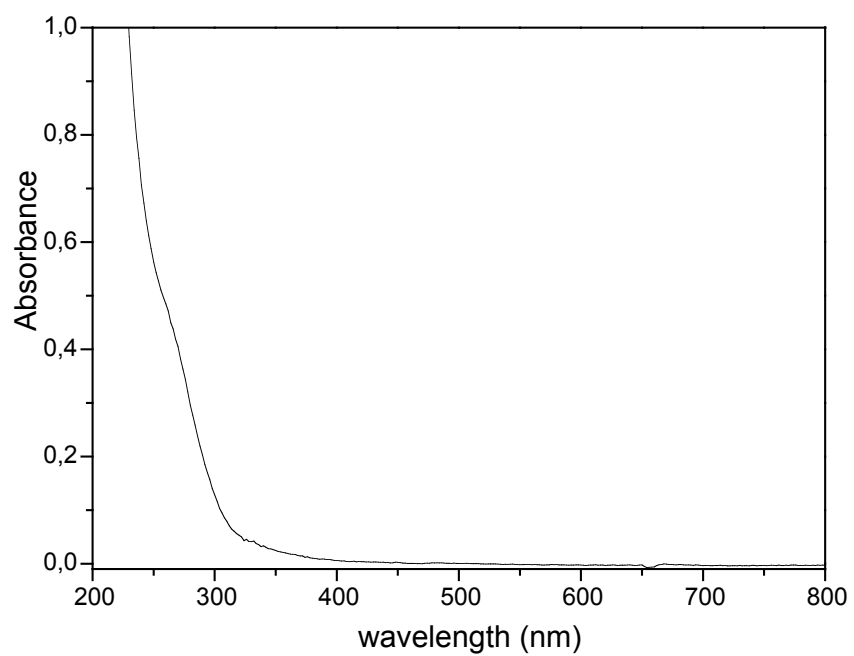


Figure S3: Electronic spectrum of *trans*-[RuCl([15]aneN₄)(NO)][BF₄]₃ (0.15 mM) in aqueous phosphate buffer solution (10 mM, pH 7.4).

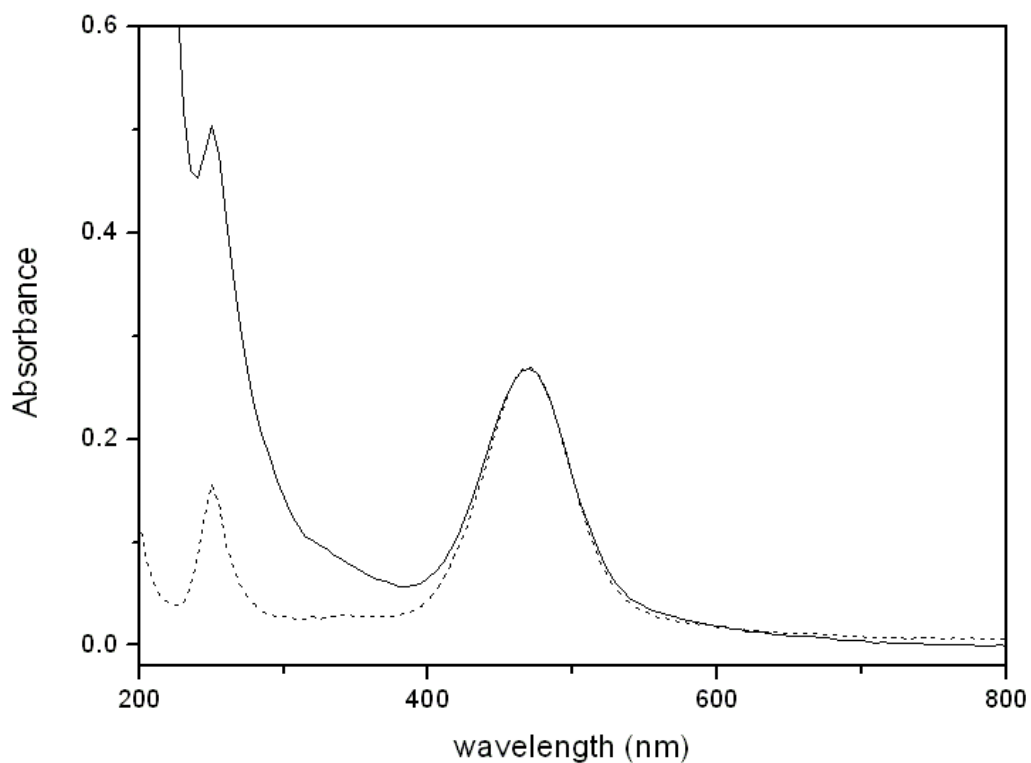


Figure S4: *Dashed line:* Electronic spectrum of [Ru(NH₃)₅(pz)][BF₄]₂ (2.7 × 10⁻⁵ M) in aqueous solution. *Solid line:* Aqueous solution containing *trans*-[RuCl([15]aneN₄)(NO)][BF₄]₃ (8 × 10⁻⁵ M) and [Ru(NH₃)₅(pz)][BF₄]₂ (2.7 × 10⁻⁵ M) with no phosphate added.

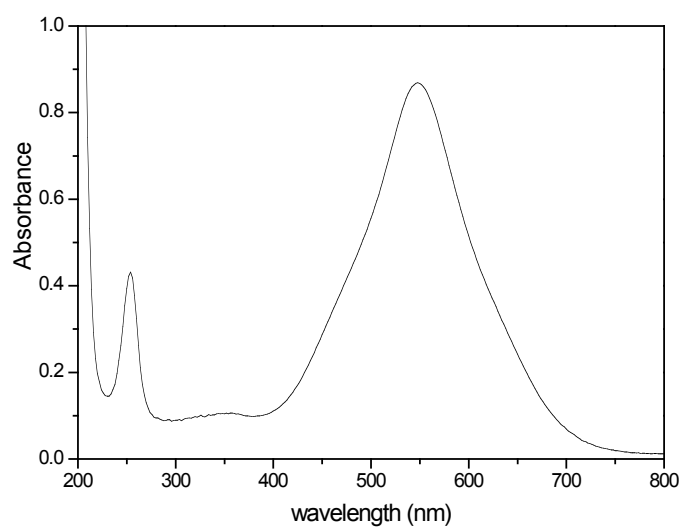


Figure S5: Electronic spectrum of $[\text{Ru}^{\text{III}}(\text{NH}_3)_5(\text{pz})\text{Ru}^{\text{II}}([15]\text{aneN}_4)\text{Cl}]^{4+}$ in aqueous solution as prepared by reaction of $\text{Ru}(\text{NH}_3)_5(\text{H}_2\text{O})^{3+}$ with *trans*- $\text{RuCl}([15]\text{aneN}_4)\text{pz}^+$ in aqueous solution.

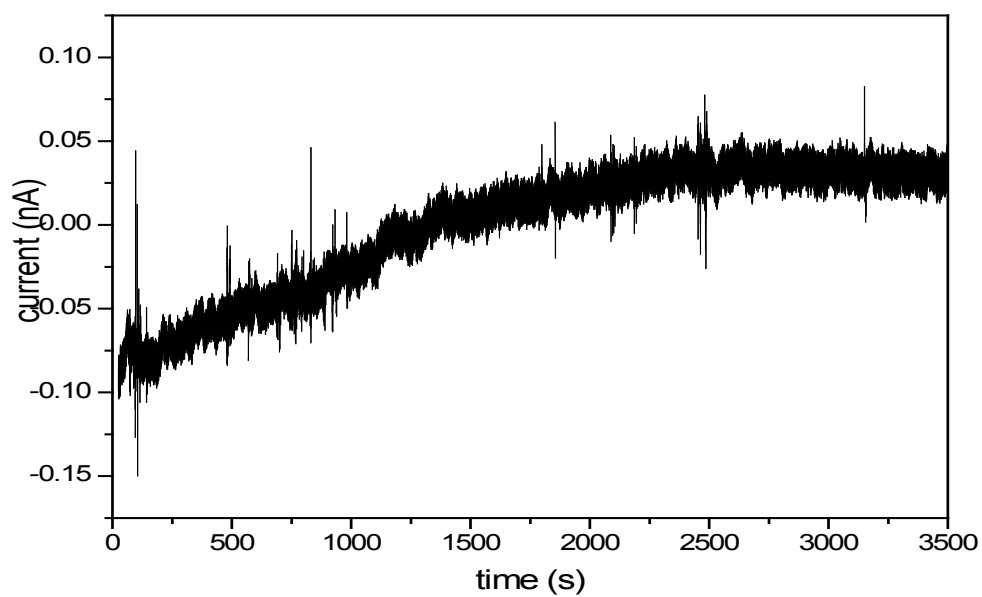


Figure S6: Time course of NO release from **RuNO²⁺:Rupz²⁺** (1 mM) entrapped in a *w/o* emulsion under 436 nm light irradiation, in 10 mM phosphate buffer solution pH 7.4. Mass membrane = 0.200 g.