

Electronic Supplementary Information

Redox reactions of a Ru^{III}-edta complex with thioamino acids. Kinetic and mechanistic studies

Debabrata Chatterjee,* Ujjwal Pal, Sarita Ghosh and Rudi van Eldik*

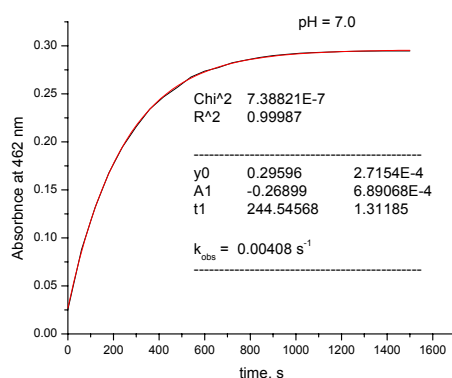


Figure S1. Kinetic traces at different pH for reduction of [Ru^{III}(edta)(pz)]⁻ by cysteine (CySH). [Ru^{III}] = 1 × 10⁻⁴ M, [CySH] = 1 × 10⁻³ M, T = 21 °C. Black line – experimental trace; red line – single-exponential fit.

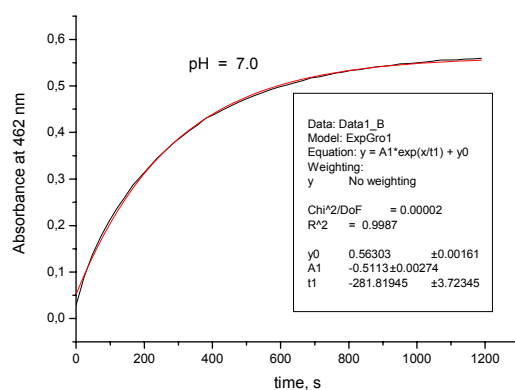


Figure S2. Kinetic traces at different pH for reduction of [Ru^{III}(edta)(pz)]⁻ by glutathione (GSH). [Ru^{III}] = 1 × 10⁻⁴ M, [GSH] = 1 × 10⁻³ M, T = 21 °C. Black line – experimental trace; red line – single-exponential fit.

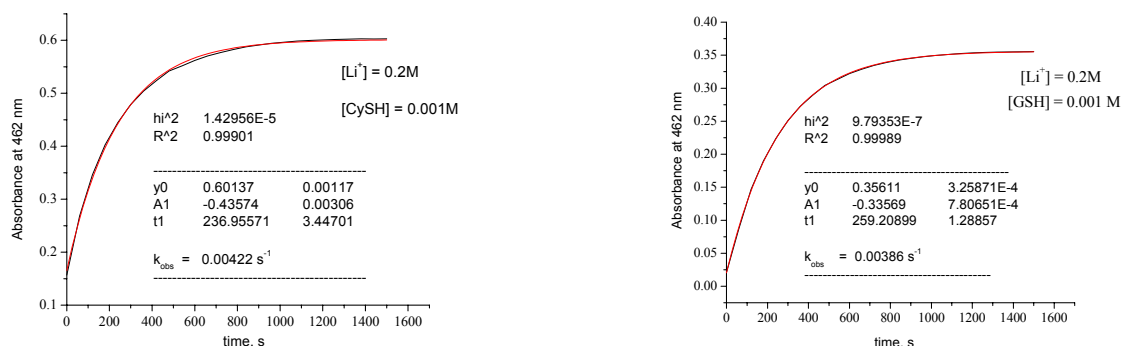


Figure S3. Kinetic traces for reduction of $[\text{Ru}^{\text{III}}(\text{edta})(\text{pz})]^-$ by RSH in the presence of various alkali cations. $[\text{Ru}^{\text{III}}] = 1 \times 10^{-4}\text{ M}$, $[\text{RSH}] = 1 \times 10^{-3}\text{ M}$, $T = 21\text{ }^\circ\text{C}$, $\text{pH} = 5.0$ (1mM acetate buffer). Black line – experimental trace; red line – single-exponential fit.

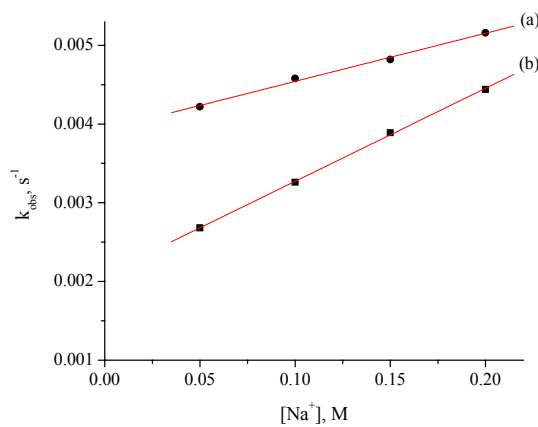


Figure S4. Plots of k_{obs} versus $[\text{Na}^+]$ for the reduction of $[\text{Ru}^{\text{III}}(\text{edta})(\text{pz})]^-$ by (a) cysteine and (b) glutathione $[\text{Ru}^{\text{III}}] = 1 \times 10^{-4}\text{ M}$, $[\text{GSH}] = 1 \times 10^{-3}\text{ M}$, $T = 21\text{ }^\circ\text{C}$, $\text{pH} = 5.0$ (1mM acetate buffer).

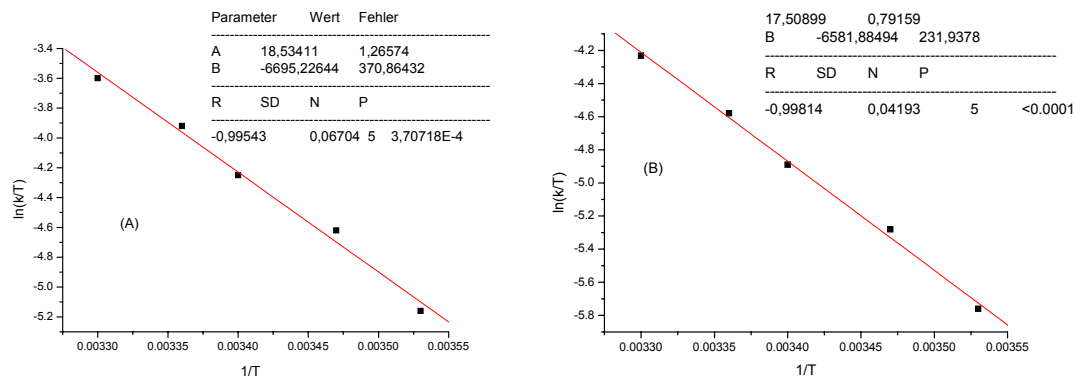


Figure S5. Eyring plots for reduction of $[\text{Ru}^{\text{III}}(\text{edta})(\text{pz})]^-$ with (a) cysteine and (b) glutathione

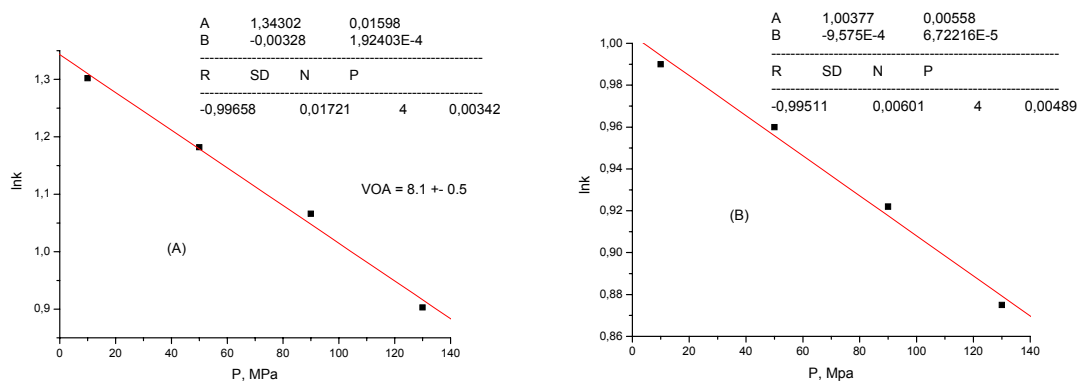


Figure S6. Plots of $\ln k$ versus pressure for reduction of $[\text{Ru}^{\text{III}}(\text{edta})(\text{pz})]^-$ by (A) cysteine and (B) glutathione