

Supporting Information

Hydrogen liberation from the hydrolytic dehydrogenation of dimethylamine-borane at room temperature by using a novel ruthenium nanocatalyst †

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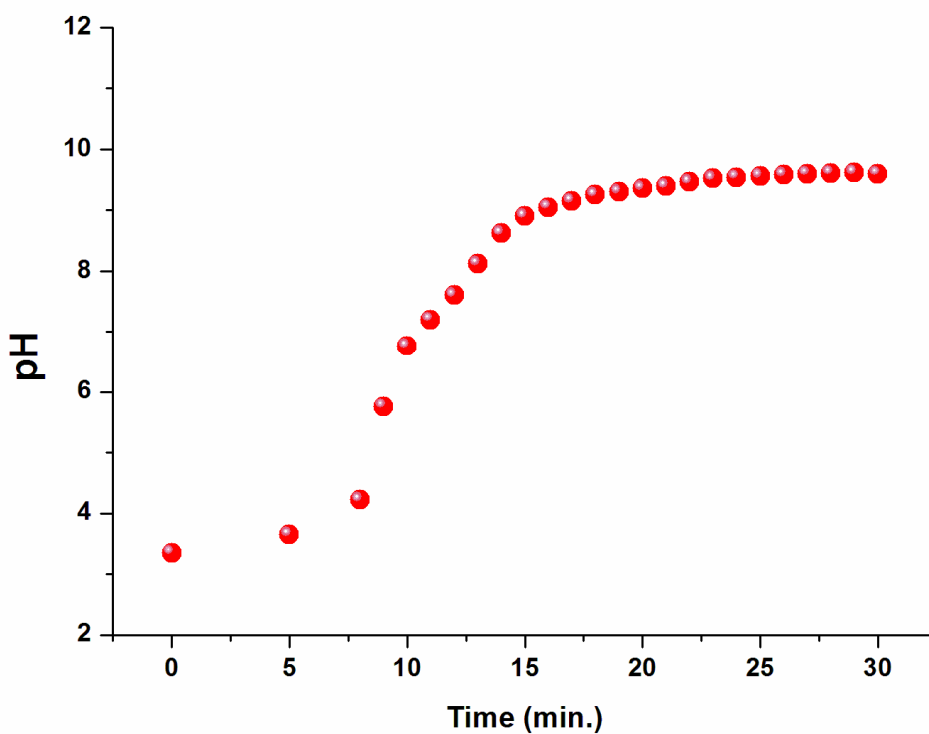


Fig. ESI-1. Plot of volume of hydrogen (mL) generated versus time (min) for the *in-situ* generated ruthenium(0) nanoparticles catalyzed hydrolytic dehydrogenation of dimethylamine-borane starting with 1.0 mM $\text{RuCl}_3 \cdot 3\text{H}_2\text{O}$ precatalyst, 20 mM $[(\text{C}_4\text{H}_9)_4\text{N}](\text{H}_2\text{PO}_4)$ and 100 mM $(\text{CH}_3)_2\text{NHBH}_3$ at $25 \pm 0.1^\circ\text{C}$

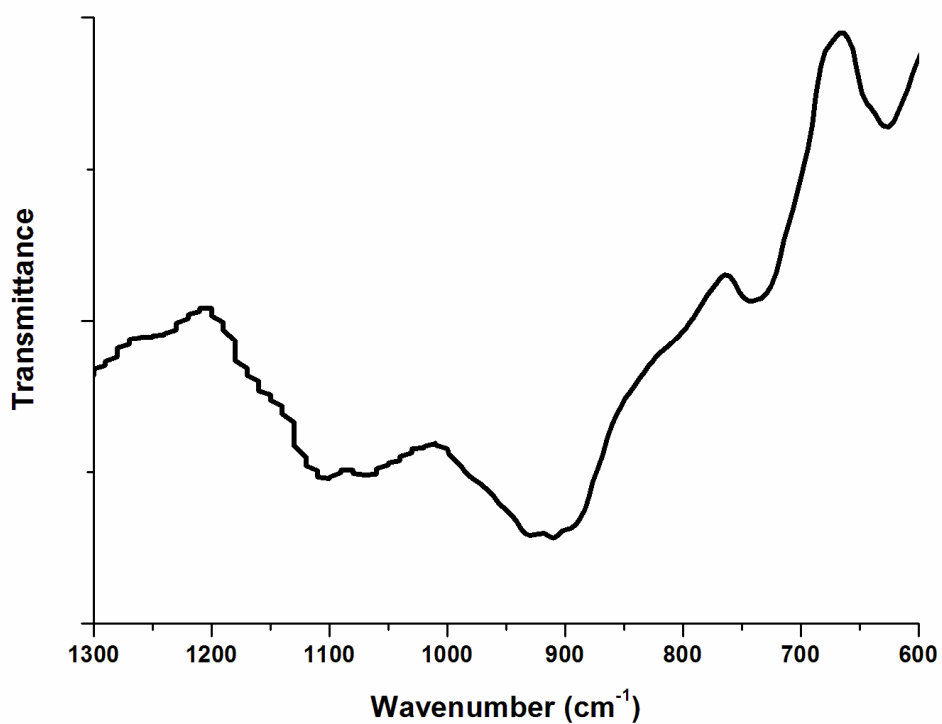


Fig. ESI-2. ATR-IR spectrum of the bulk ruthenium isolated at the end of the hydrolytic dehydrogenation of dimethylamine-borane.

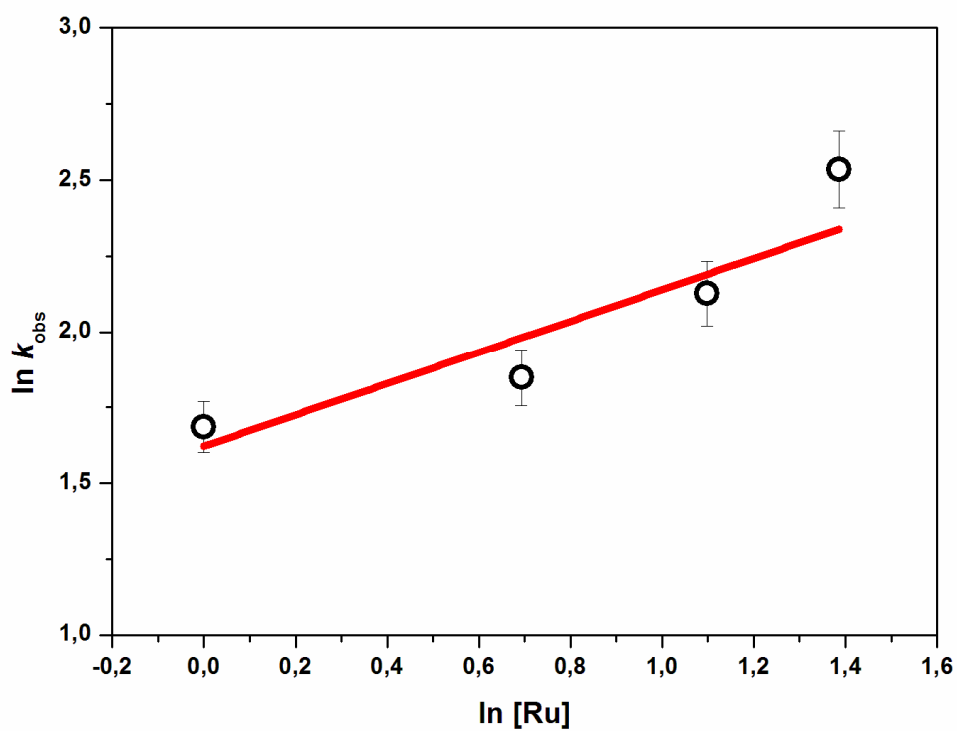


Fig. ESI-3. $\ln k_{obs}$ vs $\ln[Ru]$ plot for the *in-situ* generated RuNPs catalyzed hydrolytic dehydrogenation of dimethylamine-borane.

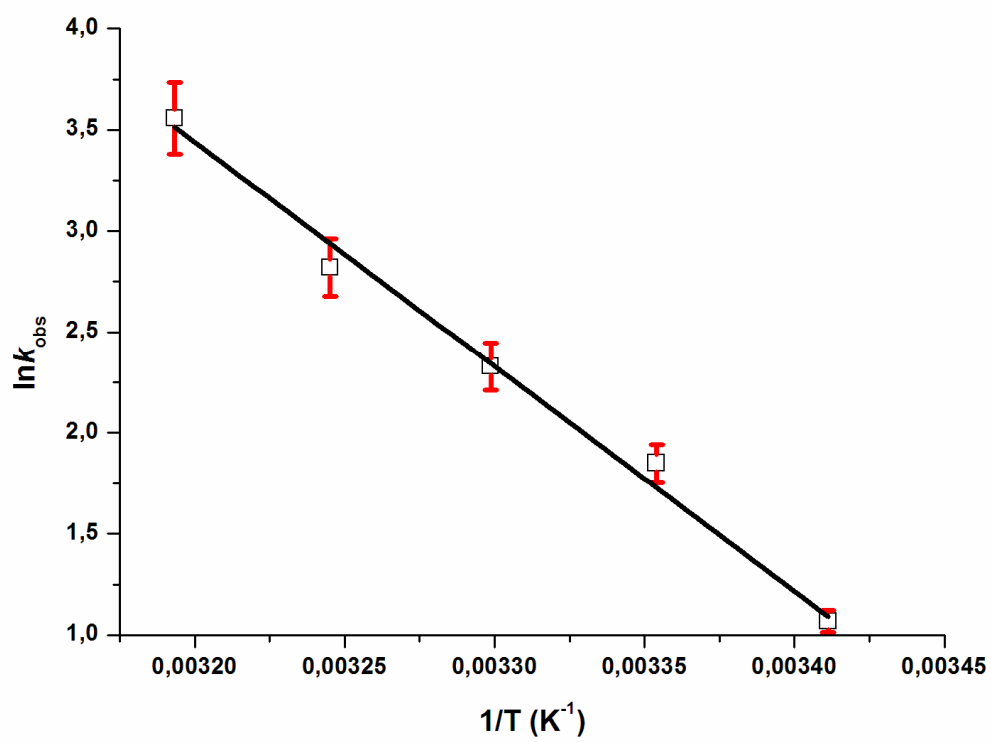


Fig. ESI-4. $\ln k_{\text{obs}}$ vs $1/T$ plot for the *in-situ* generated RuNPs catalyzed hydrolytic dehydrogenation of dimethylamine-borane.

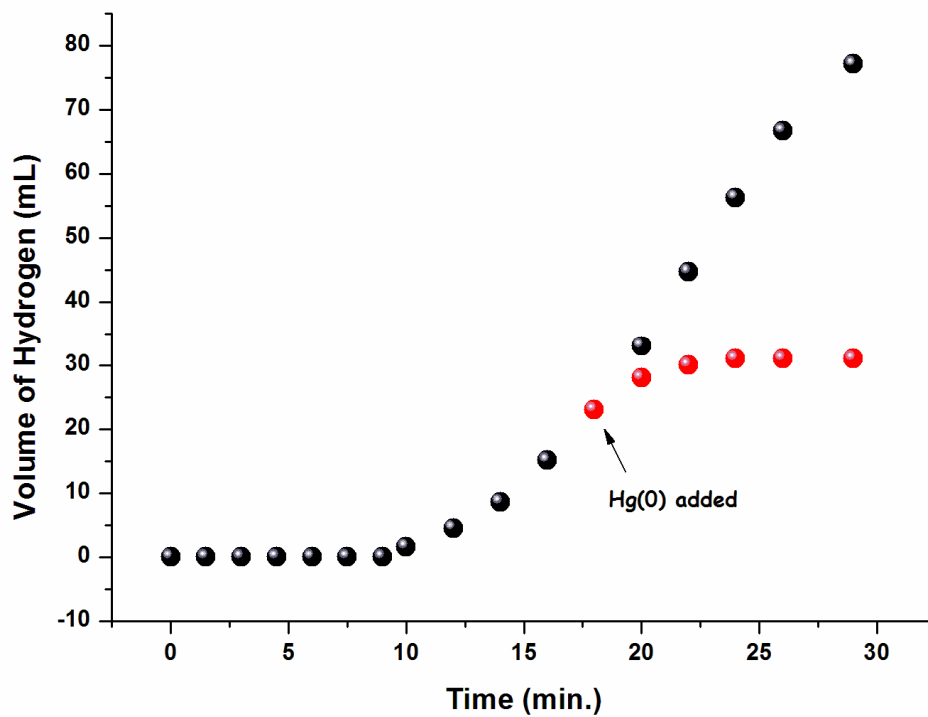


Fig. ESI-5. Hg(0) poisoning experiment for the *in-situ* generated RuNPs catalyzed hydrolytic dehydrogenation of dimethylamine-borane.