

Supplementary information (ESI) for RSC Advances.

Amine-functionalized MIL-53(Al) with embedded ruthenium nanoparticles as a highly efficient catalyst for the hydrolytic dehydrogenation of ammonia borane

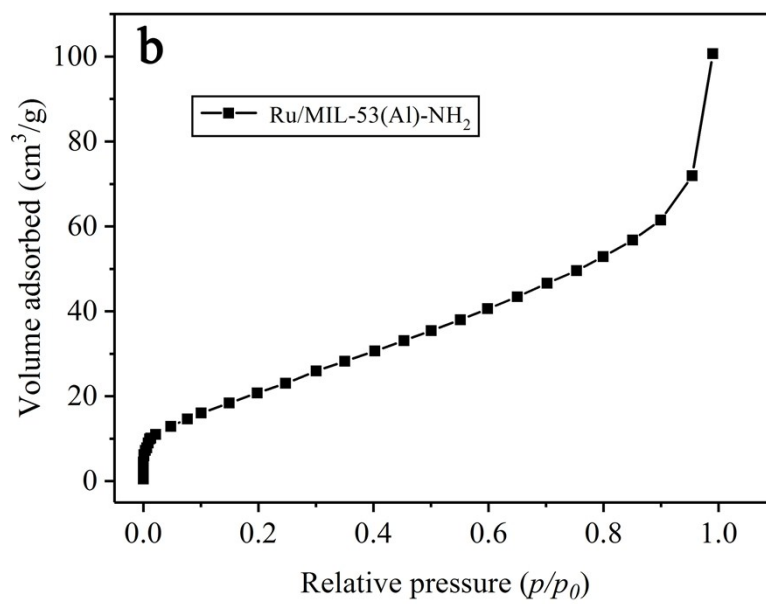
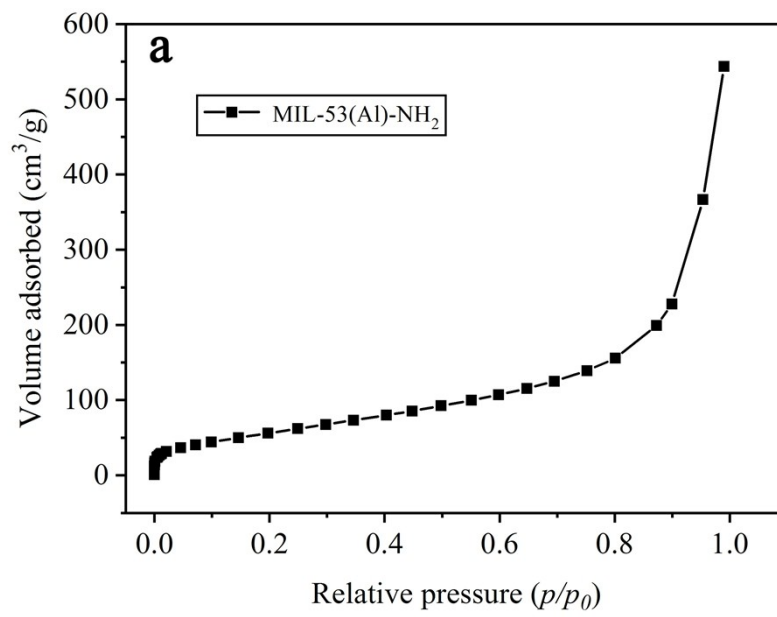
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Supplementary (S1):



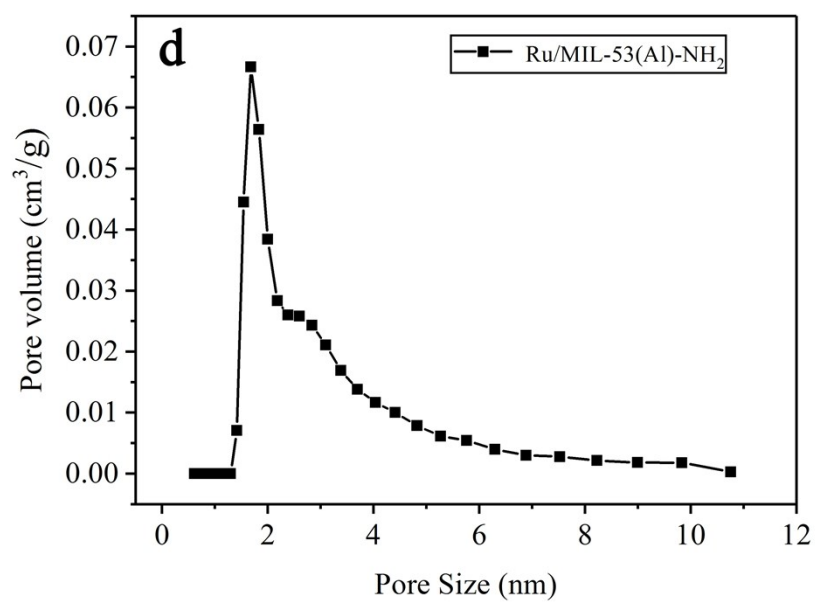
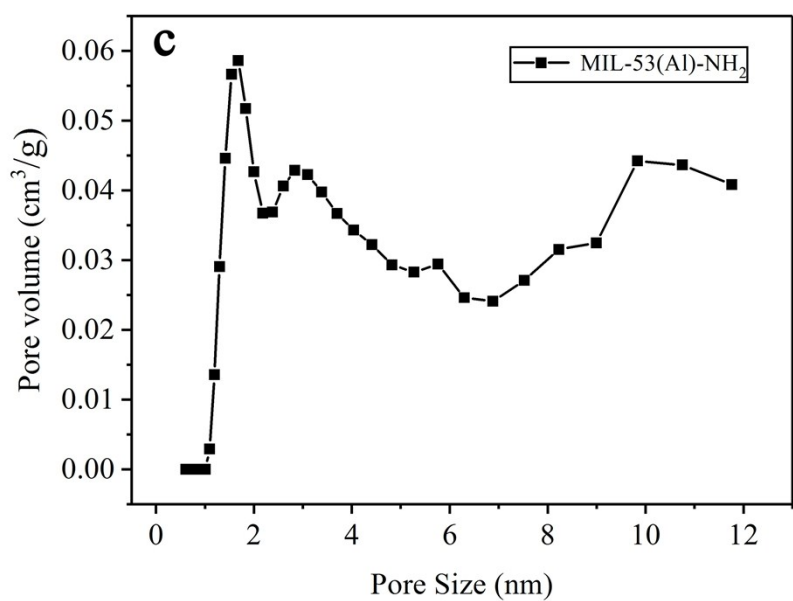


Fig. S1 N₂ sorption isotherms of (a) MIL-53(Al)-NH₂ and (b) Ru/MIL-53(Al)-NH₂; pore size distributions of (c) MIL-53(Al)-NH₂ and (d) Ru/MIL-53(Al)-NH₂.

Supplementary (S2):

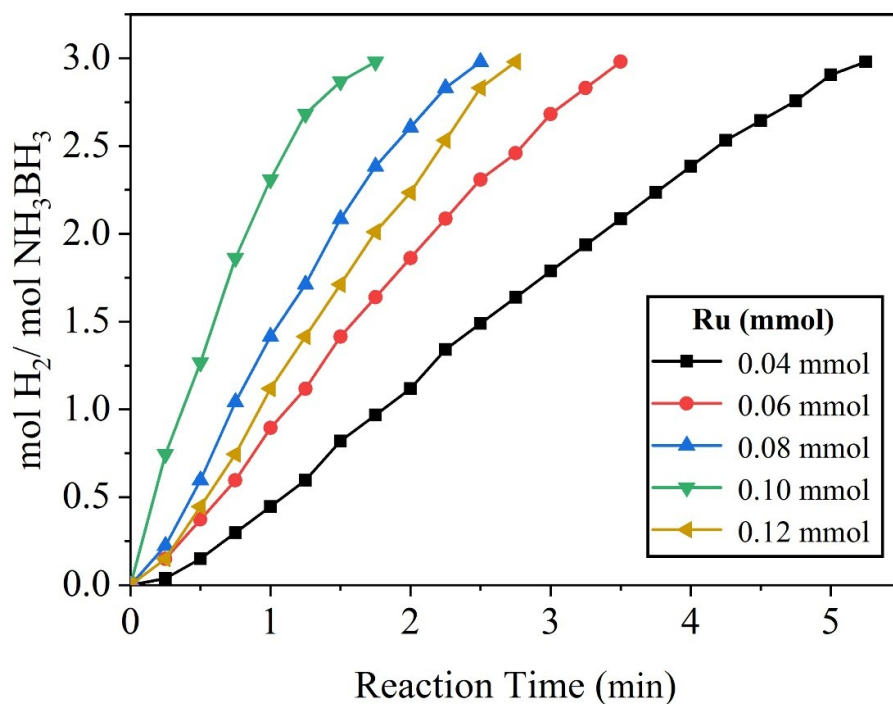


Fig. S2 mol H₂/ mol H₃NBH₃ versus time graph for different initial Ru additions in Ru/MIL-53(Al)-NH₂ used for the hydrolysis of AB (18.5 mg) at 25 °C.

Supplementary (S3):

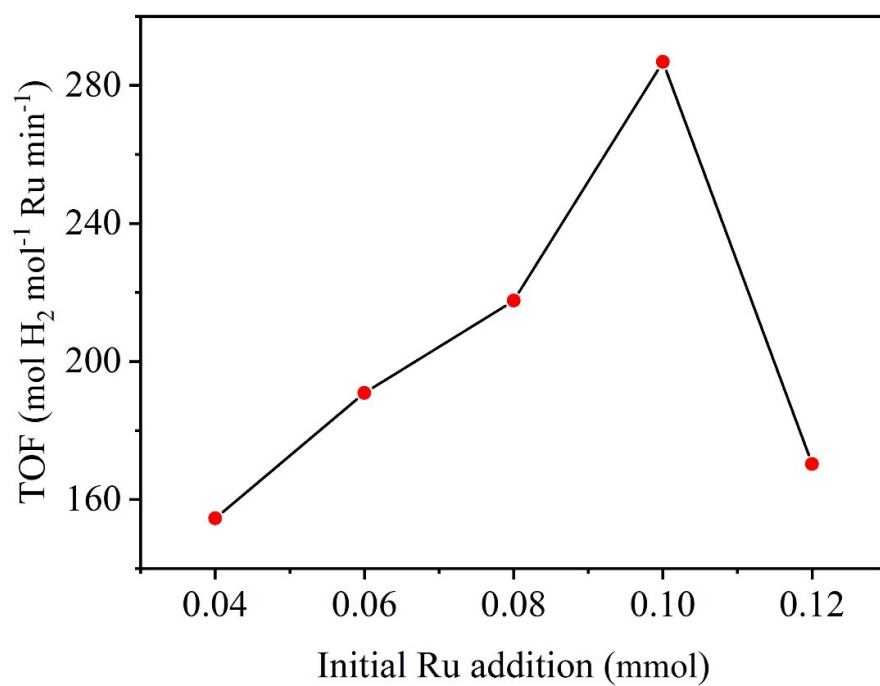


Fig. S3 The TOF values (mol H₂ min⁻¹ mol⁻¹ Ru⁻¹) versus initial Ru addition for the hydrolysis of AB (18.5 mg) at 25 °C.