

Hydrophilic amorphous Cr₂O₃ supported Co species toward efficient hydrogen production from ammonia borane under visible light irradiation

Fenglong Wu^{*a} and Jin Song^{*a}

^a Department of Chemical and Environmental Engineering, Hetao College, Bayan Nur 015000, China

E-mail: wufenglong1983@126.com (F. Wu), jinsonght@sina.com (J. Song)

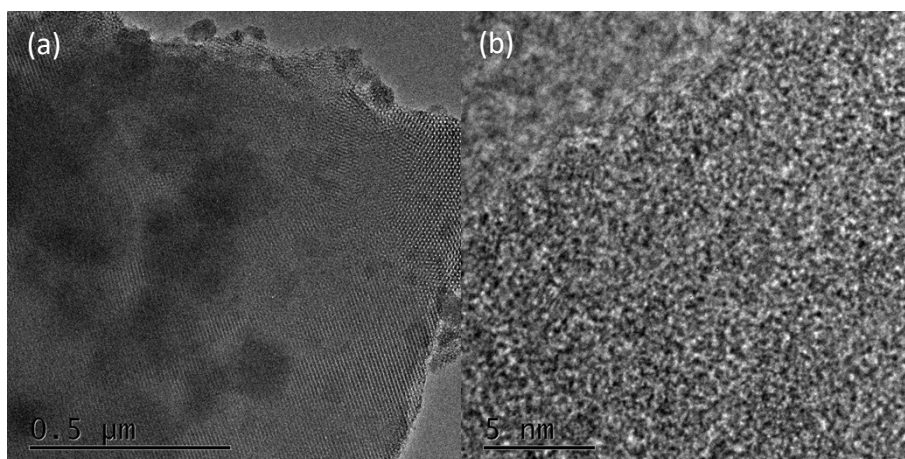


Fig. S1 TEM and HRTEM images of $\text{Cr}_2\text{O}_3\text{-F-0.5}$.

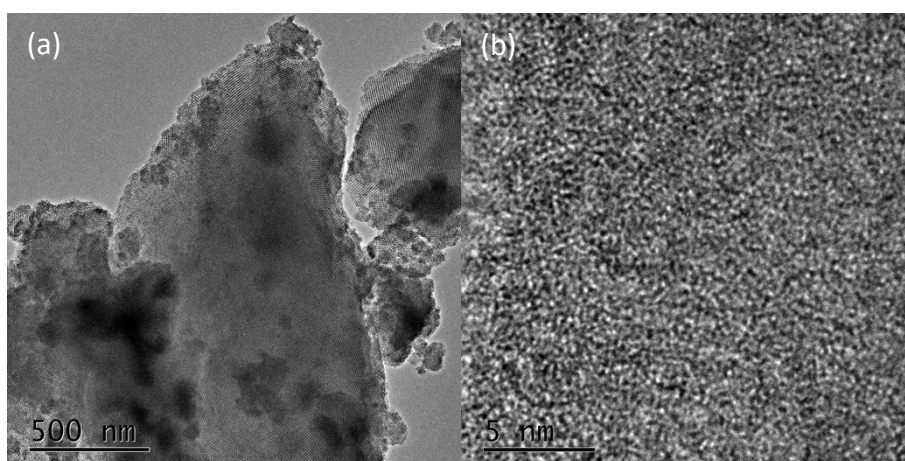


Fig. S2 TEM and HRTEM images of $\text{Cr}_2\text{O}_3\text{-E-0.5}$.

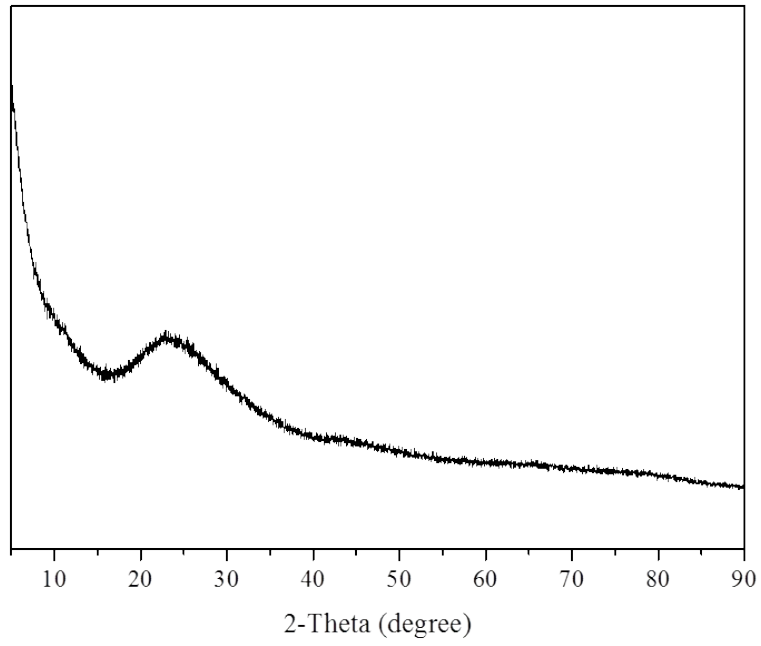


Fig. S3 XRD patterns of Cr₂O₃-E-0.5

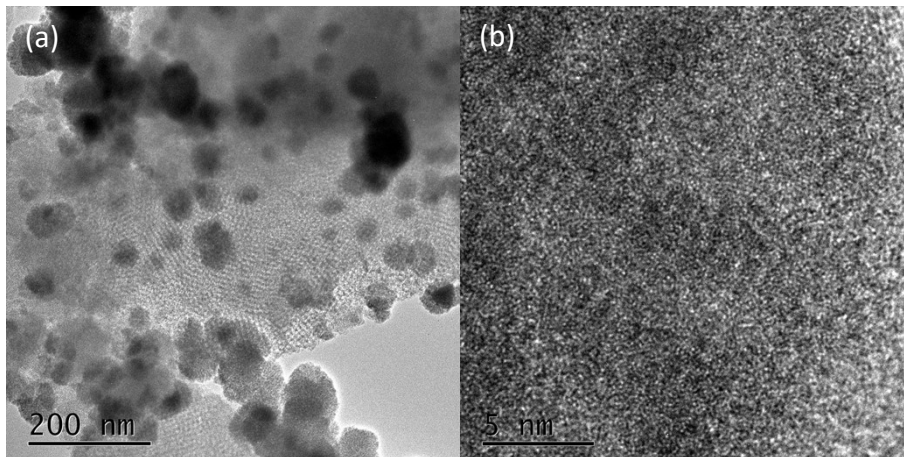


Fig. S4 TEM and HRTEM images of Co/Cr₂O₃-F-0.5.

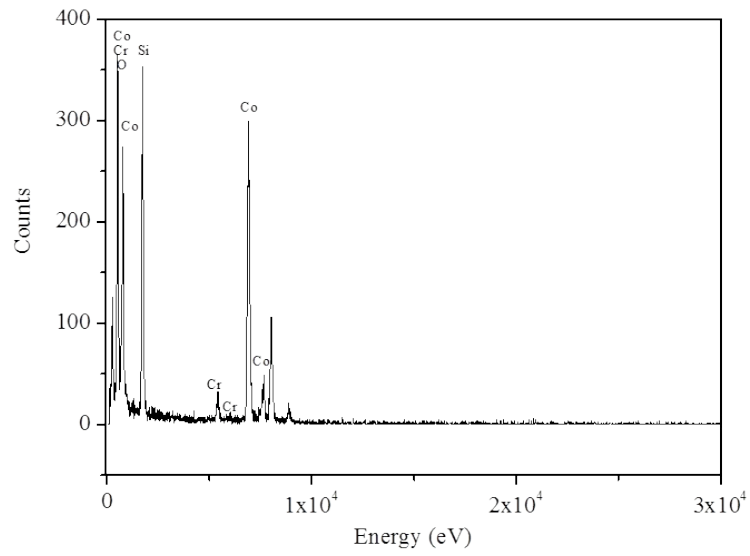


Fig. S5 EDX spectra of Co/Cr₂O₃-F-0.5.

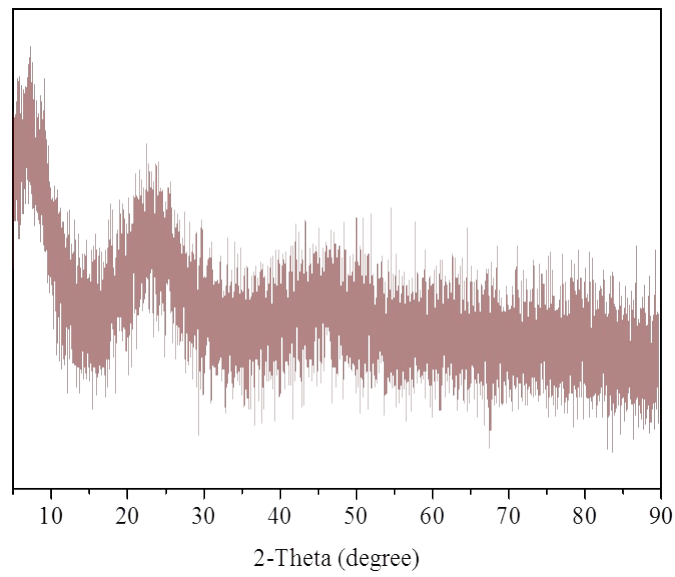


Fig. S6 XRD patterns of Co/Cr₂O₃-F-0.5.

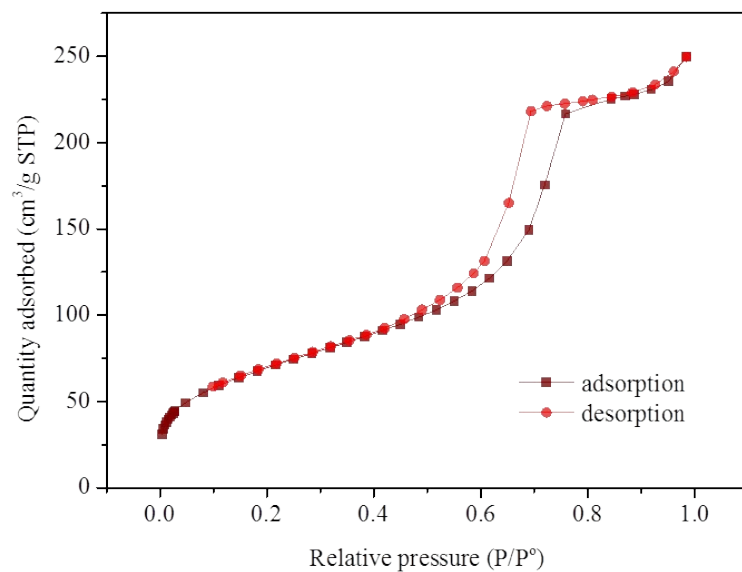


Fig. S7 N₂ adsorption-desorption isotherms of Cr₂O₃-F-0.5.

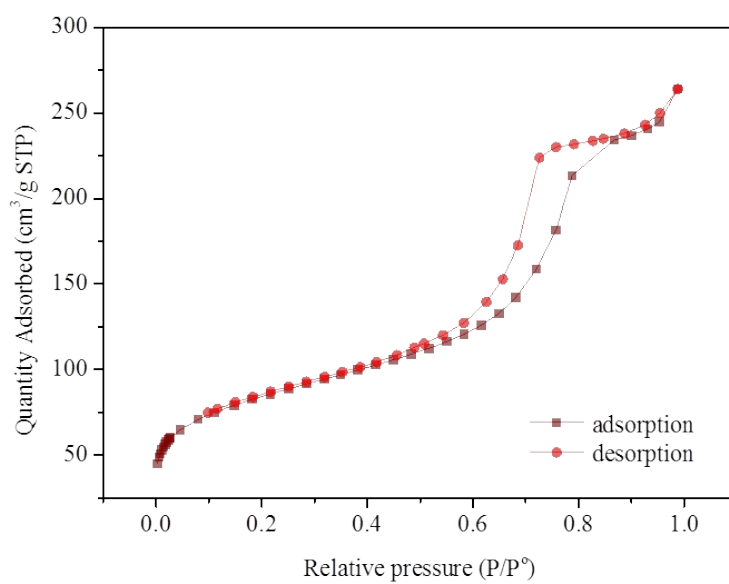


Fig. S8 N₂ adsorption-desorption isotherms of Co/Cr₂O₃-F-0.5.

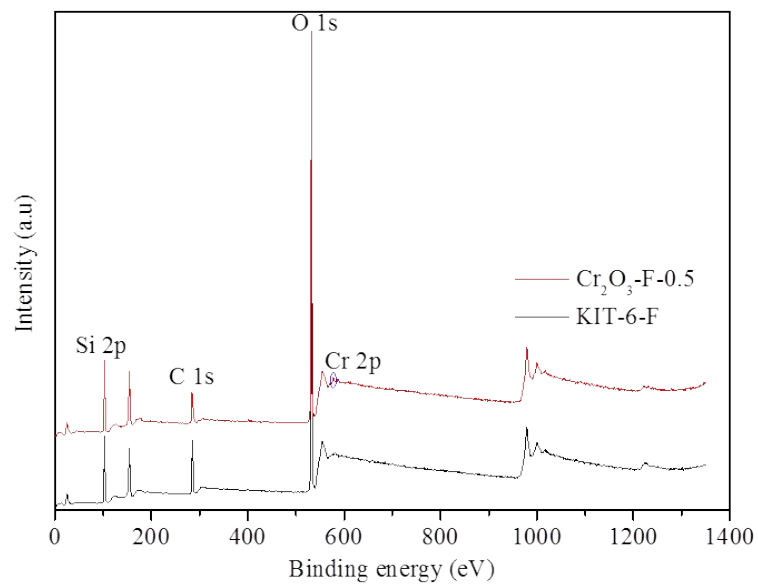


Fig. S9 XPS spectra for Cr₂O₃-F-0.5 and KIT-6-F.

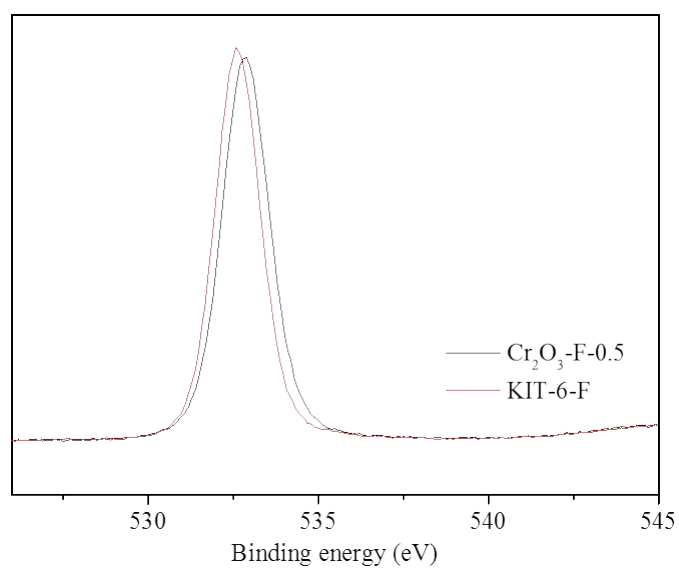


Fig. S10 XPS spectra of O 1s in Cr₂O₃-F-0.5 and KIT-6-F.

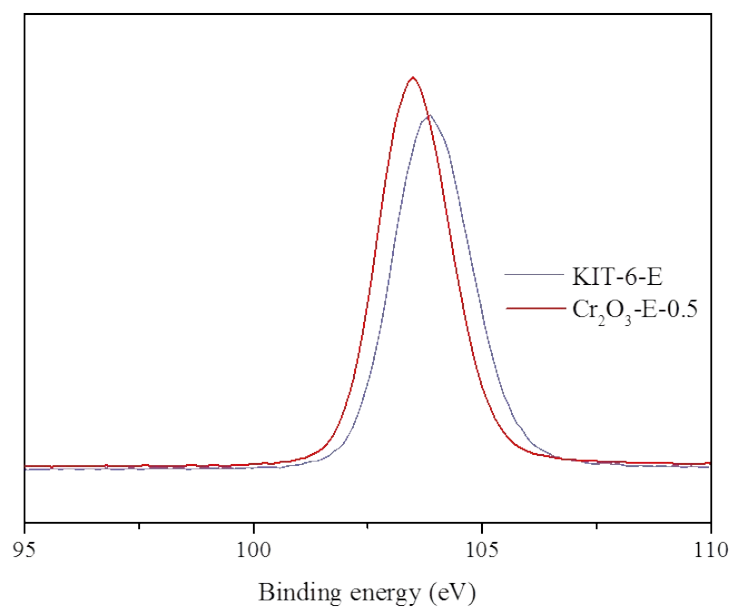


Fig. S11 XPS spectra of Si 2p in Cr₂O₃-E-0.5 and KIT-6-E.

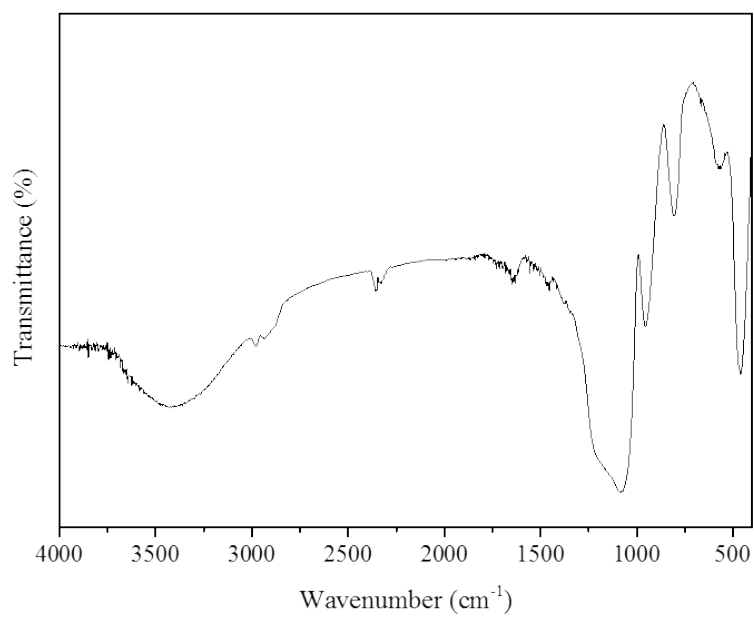


Fig. S12 FTIR spectra of KIT-6-F.

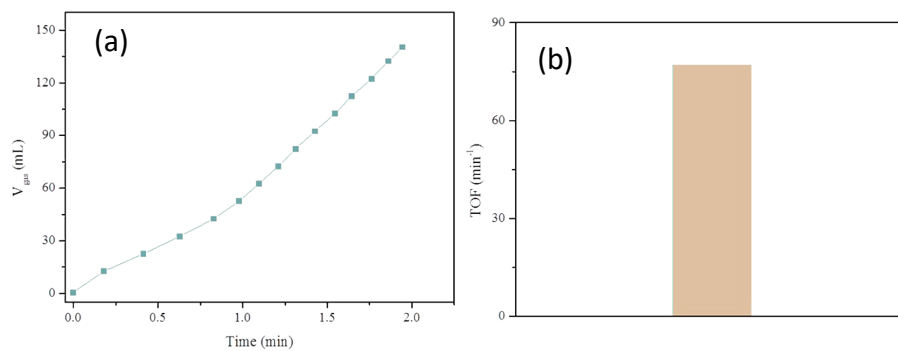


Fig. S13 Plots of time versus volume of H_2 evolution from NH_3BH_3 over $\text{Cr}_2\text{O}_3\text{-F-0.5-M}$ (a) under visible light irradiation, (b) corresponding TOF value.