

Electronic Supplementary Information (ESI)

Low-cost ternary Ni-Fe-P catalysts supported on Ni foam for hydrolysis of ammonia borane

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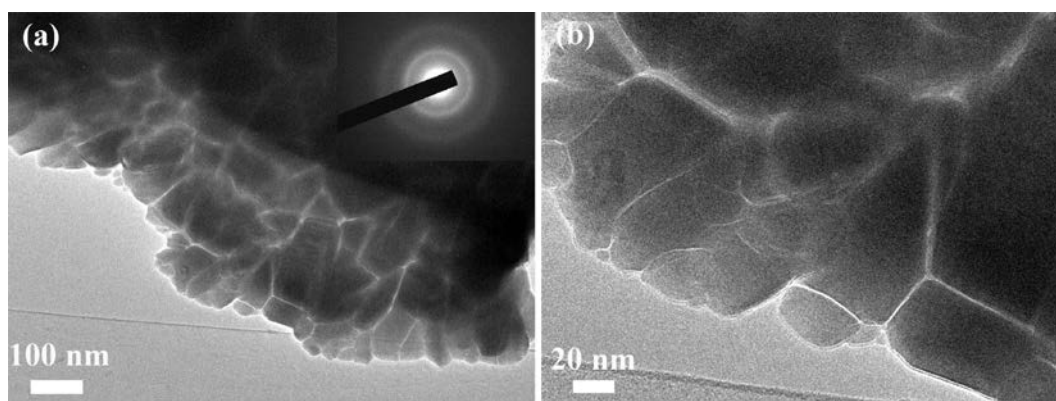


Fig. S1 TEM images of the as-prepared Ni-Fe-P catalyst. The inset of (a) is the SAED pattern of an individual Ni-Fe-P fragments.

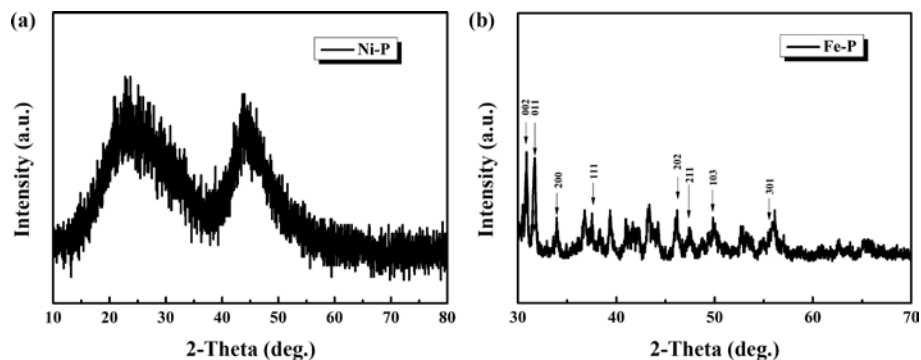


Fig. S2 XRD images of as-prepared Ni-P catalyst (a) and Fe-P catalyst (b).

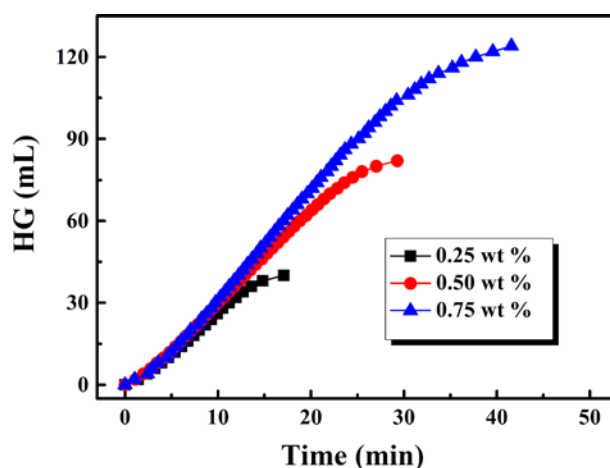


Fig. S3 Hydrogen release from aqueous NH_3BH_3 solution (8 mL, 30 °C) with different concentrations in the presence of Ni-Fe-P/Ni foam catalyst. The mass of catalyst is 5 mg.

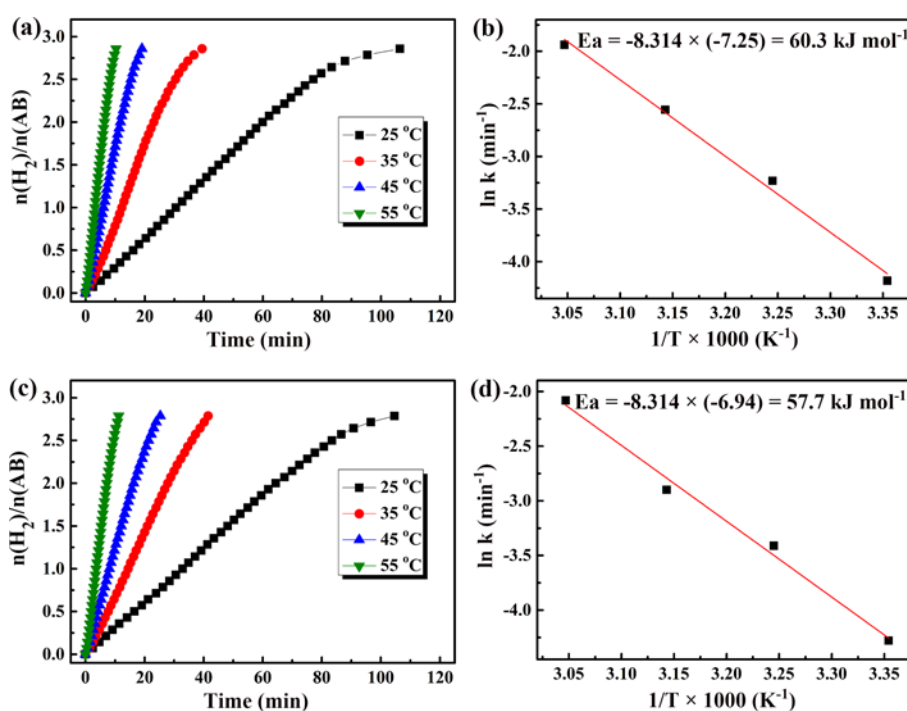


Fig. S4 $\text{H}_2/\text{NH}_3\text{BH}_3$ molar ratio vs time for Ni-P/Ni foam (a) and Fe-P/Ni foam (c) catalyzed hydrolysis of AB (0.5 wt %, 8 ml) at four different temperatures in the range of 25–55 °C; the mass of catalyst is 5 mg. The corresponding Arrhenius plot (b) and (d) obtained from the data in panel (a) and (c).

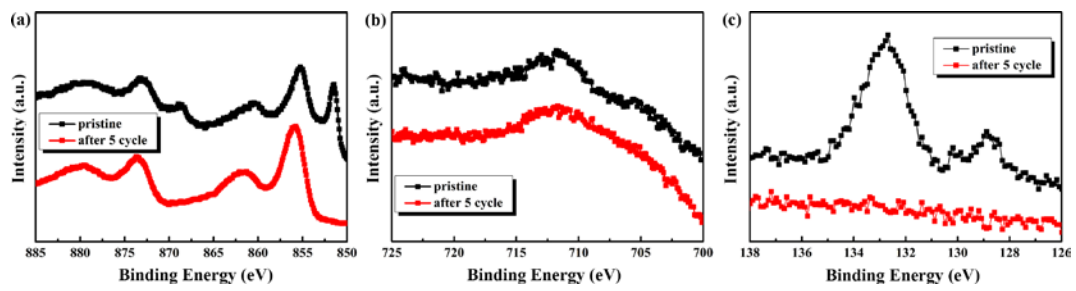


Fig. S5 XPS spectra of Ni 2p (a), Fe 2p (b), and P 2p (c) of pristine and cycled Ni-Fe-P/Ni foam catalysts.