Supporting Information

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Nanoporous Nickel Spheres as Highly Active Catalyst for Hydrogen Generation from Ammonia Borane

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Figure S1. (a) XRD pattern of Ni precursors. (b) EDX of Ni precursors (Cu comes from the copper conductive adhesive). (c) TGA curve of Ni precursors under N₂ protection.
Figure S2. (a) XPS patterns of nanoporous Ni and Ni after used for 5 times. (b) XPS analysis of Ni2p states of nanoporous Ni and Ni after used for 5 times.

Figure S3. Room temperature hysteresis curves of the nanoporous Ni spheres. Inset shows an enlarged view around the $H = 0$ region.
**Figure S4.** The plot of time versus volume of hydrogen generated from the hydrolysis of ammonia borane complex catalyzed by nanoporous Ni spheres at different AB concentrations ([Ni] = 8.5 mM, T = 25 ± 1 °C). (Inset: In r vs In [AB] plot)

**Figure S5.** FT-IR spectra of EG and nanoporous Ni spheres and photograph of aqueous Ni solution after kept for two weeks.
Figure S6. (a) Time versus volume of hydrogen generated from hydrolysis of AB catalyzed by nanoporous Ni spheres for re-usability test. (b) TEM image of nanoporous Ni sphere catalyst after used for 5 times. (c) XRD pattern of nanoporous Ni spheres after used for 5 times.