

Supporting Information

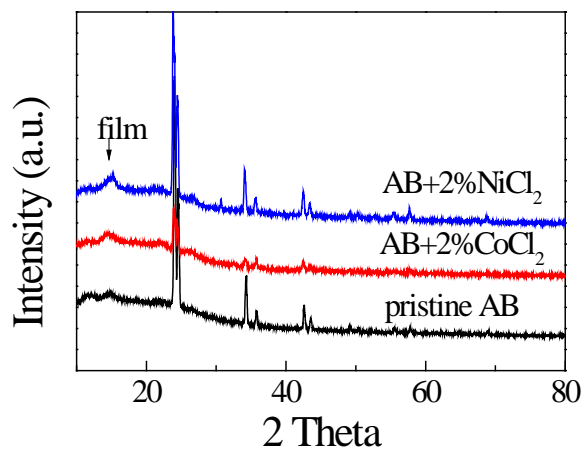


Figure S1. XRD patterns of the AB sample doped with 2.0 mol % Co or Ni compared with the pristine AB.

XRD was employed to identify the crystal structure of samples after doping AB with catalysts. We can only see the peaks of the pristine AB, showing that the main component is still AB after the catalyst doping.

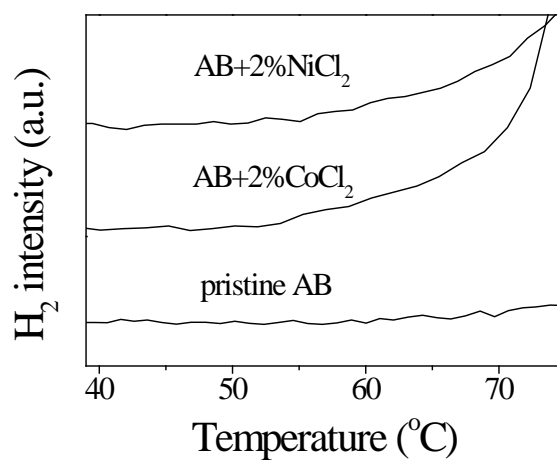


Figure S2. Magnified TPD-MS spectra of the pristine and 2.0 mol % Co or Ni-doped AB samples in the temperature range of 40 to 70 °C, respectively. It can be seen that those catalyst-doped AB samples start to release hydrogen at ca. 50 °C.

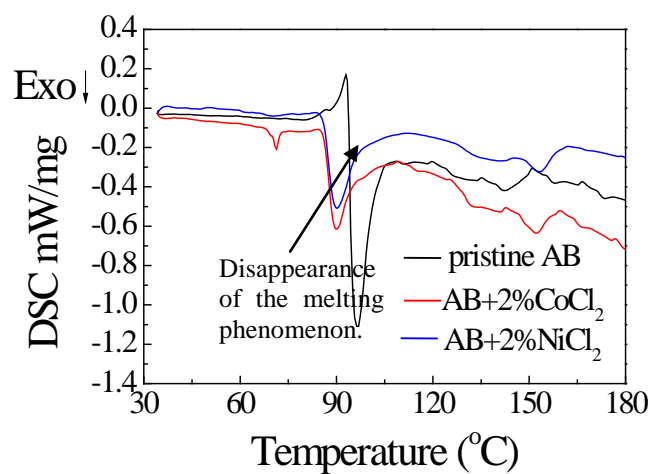


Figure S3. DSC profiles of dehydrogenation of the pristine, Co-doped and Ni-doped AB samples at a heating rate of $0.5\text{ }^{\circ}\text{C min}^{-1}$, respectively. Apparently, barely any endothermic peaks were observed for the Co or Ni-doped AB samples at ca. $100\text{ }^{\circ}\text{C}$, which is obviously different from the pristine AB.