

Supporting Information

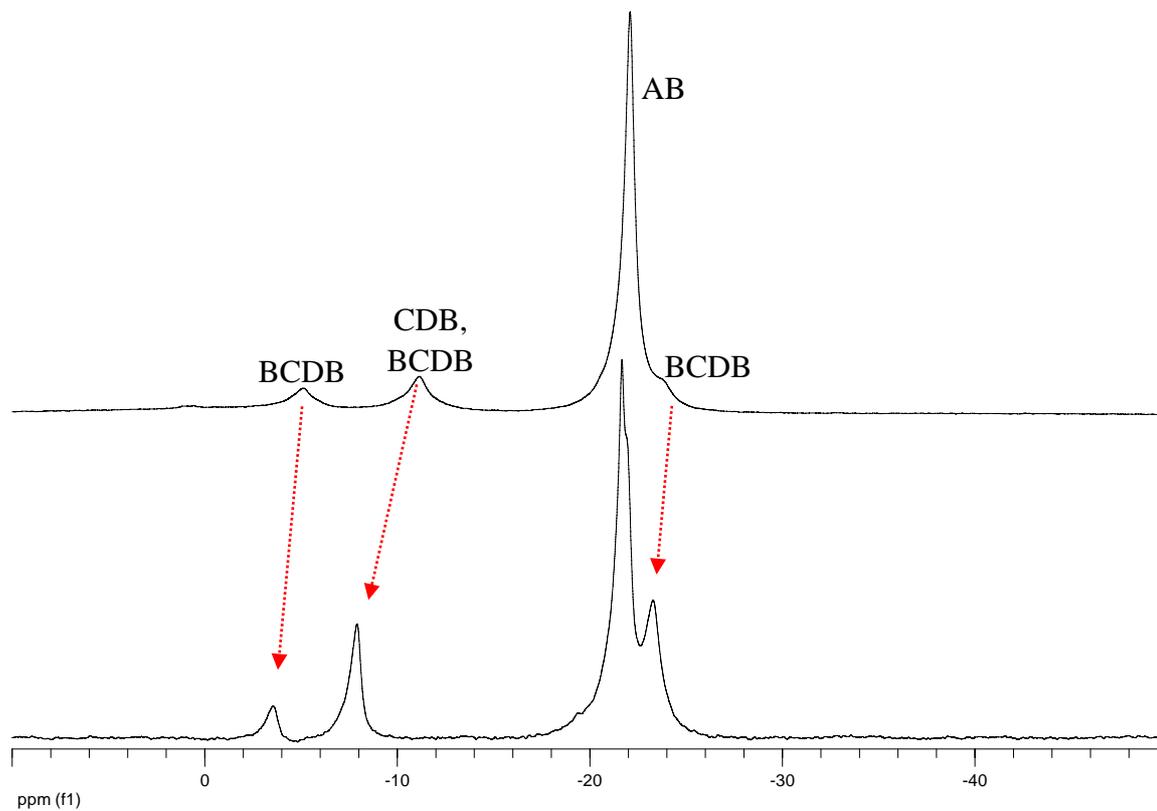


Figure S1 Top: AB, CDB and BCDB, generated by heating AB in THF at 50 C for 18 hours. Bottom: Adding LiH to the above reaction mixture results in Li-CDB and Li-BCDB based on the observed change in chemical shift.

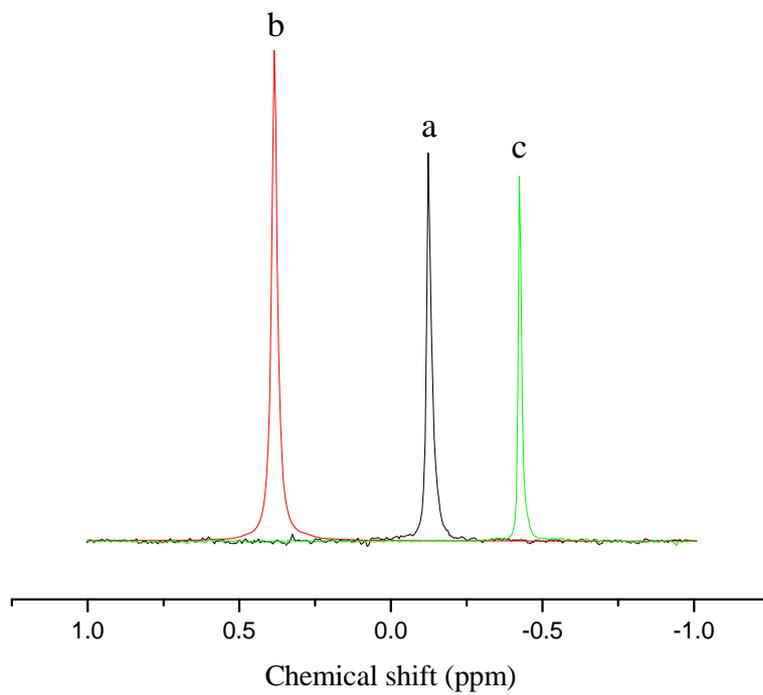


Figure S2 ^7Li NMR spectra of heating LiH-AB THF suspension at 40°C. Samples were collected a) at the end of 1st induction period, reaction time 50min; b) at the end of 1st desorption step, reaction time 1300min; c) at the end of desorption, reaction time 2000min.

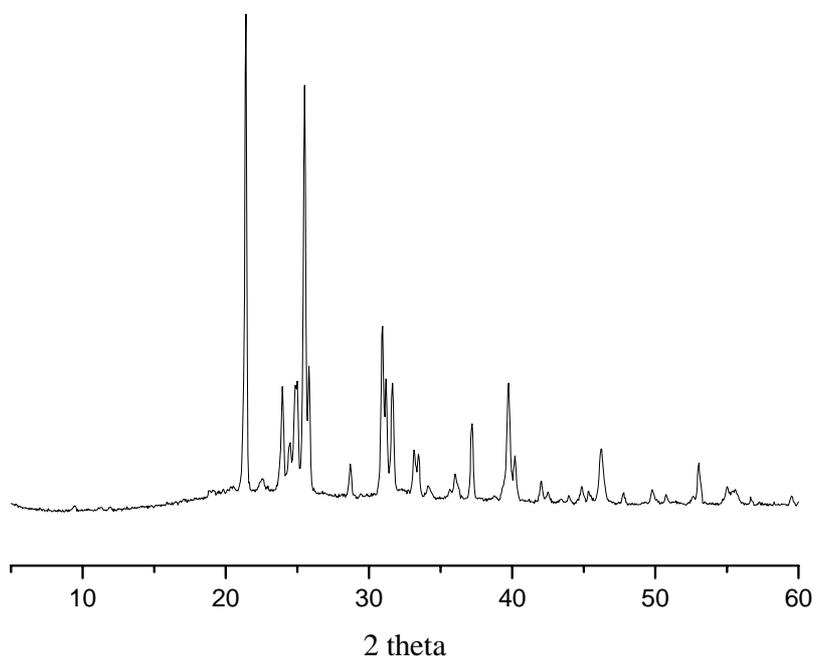


Figure S3 XRD pattern of LiNH_2BH_3 crystal obtained from LiH-AB THF suspension

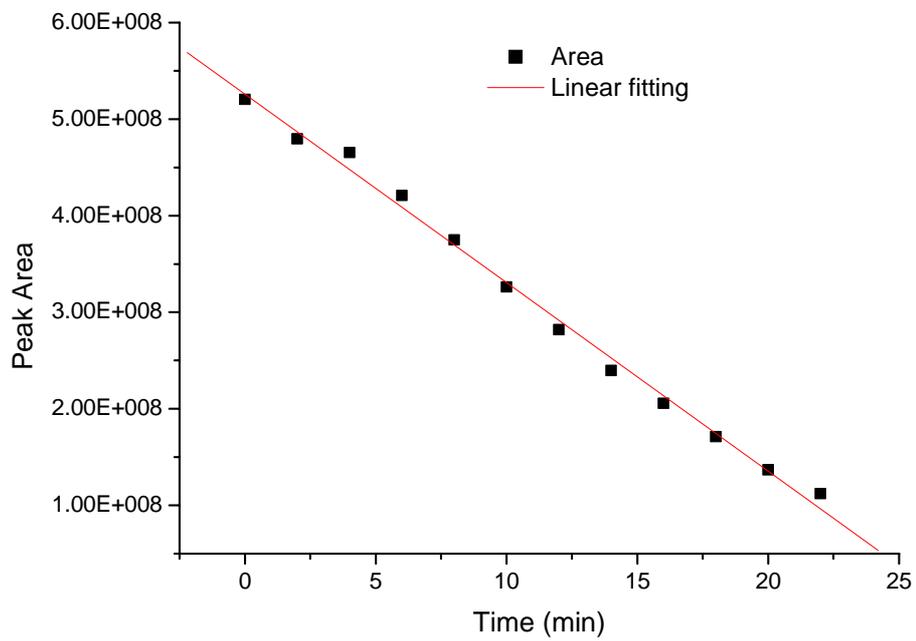


Figure S4 Time dependence of the peak areas of LiNH_2BH_3 integrated from Figure 4.

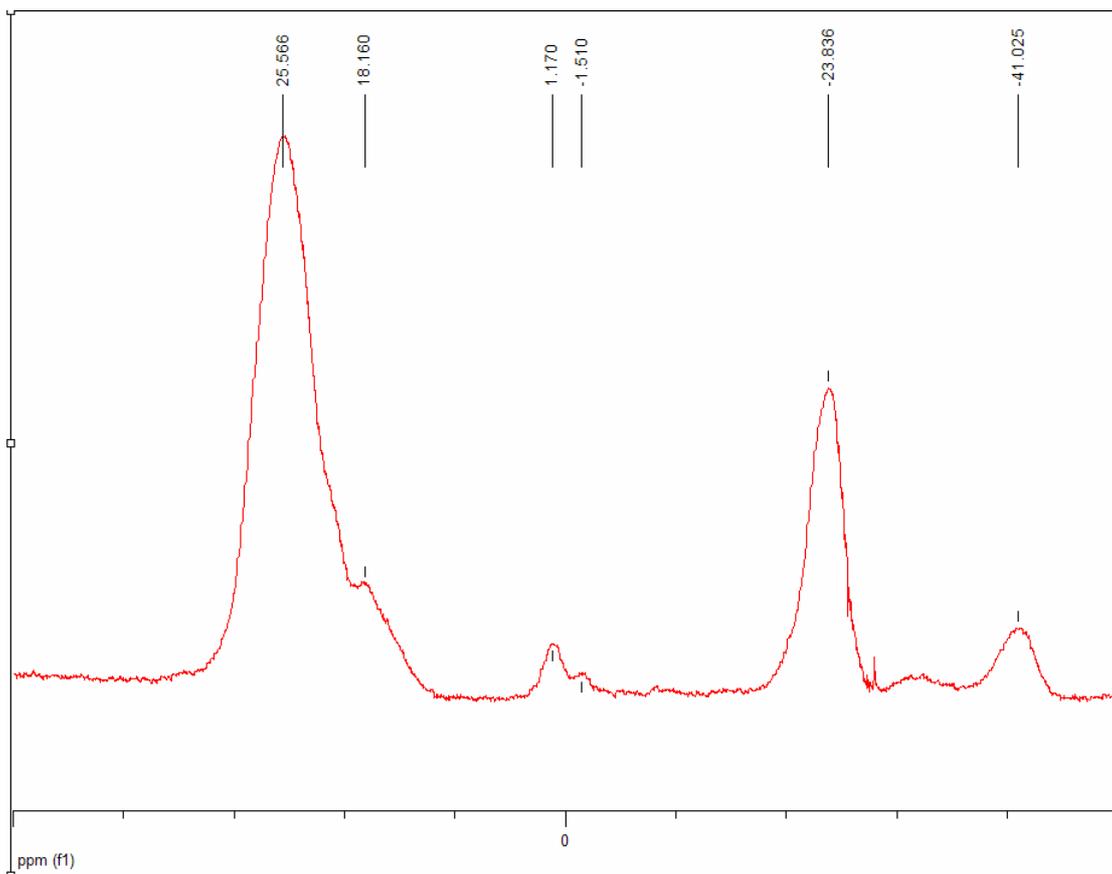


Figure S5 High field solid ^{11}B NMR spectra of precipitation obtained at the end of hydrogen evolution from LiH-AB THF suspension at 55°C