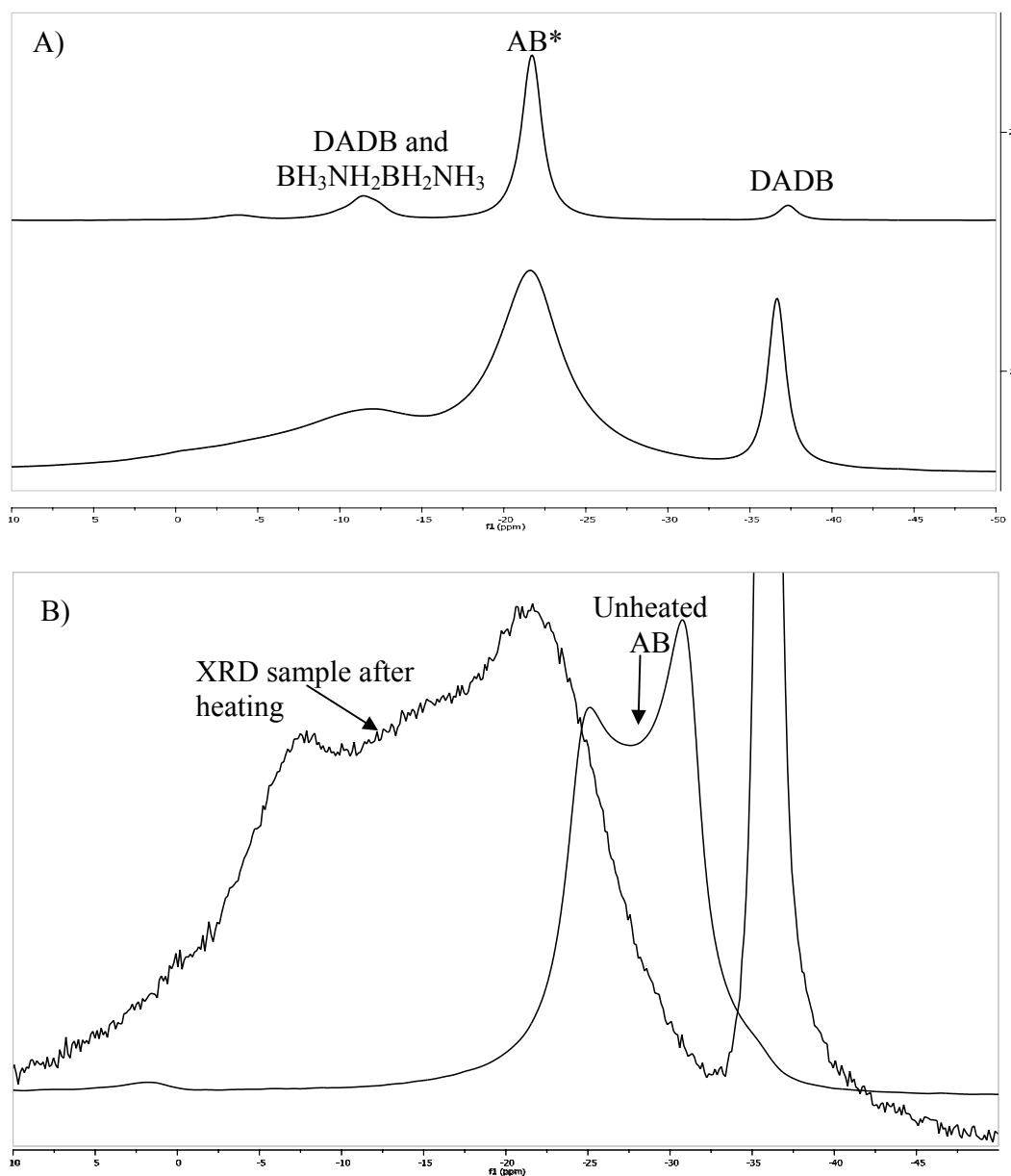


Supplemental data for:

Characterization of a New Phase of Ammonia Borane

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Figure S1. $^{11}\text{B}\{^1\text{H}\}$ data taken for the sample used for ex situ XRD measurements. A) Top. AB* at temperature before cooling. Bottom. The sample after cooling to RT. B) The sample after XRD at RT, overlaid with unheated AB shows that there is no normal phase AB left after the XRD measurements.



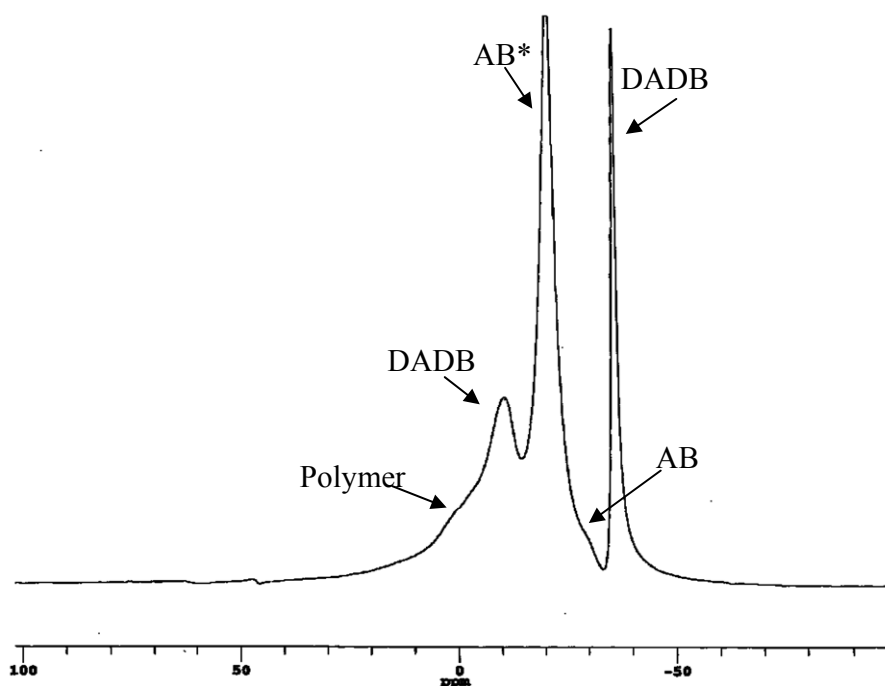


Figure S2. ^{11}B NMR of an AB sample converted to AB^* , as well as initial decomposition products, DADB and linear polymers. The integrated intensity of AB^* is $\sim 50\%$.

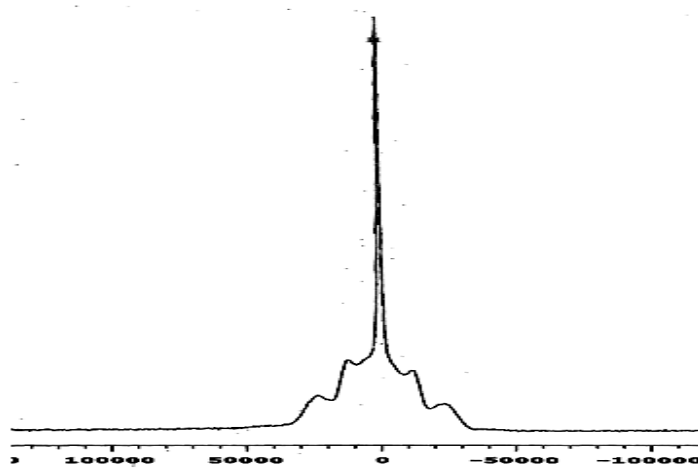


Figure S2a. ^2H NMR of the sample from figure S2. The narrow central resonance is assigned to AB^* , while the broad resonances are residual AB and decomposition products. The integrated intensity of AB^* is $\sim 50\%$, consistent with the ^{11}B NMR and demonstrating further evidence that AB^* is very mobile.