

Supplementary Information

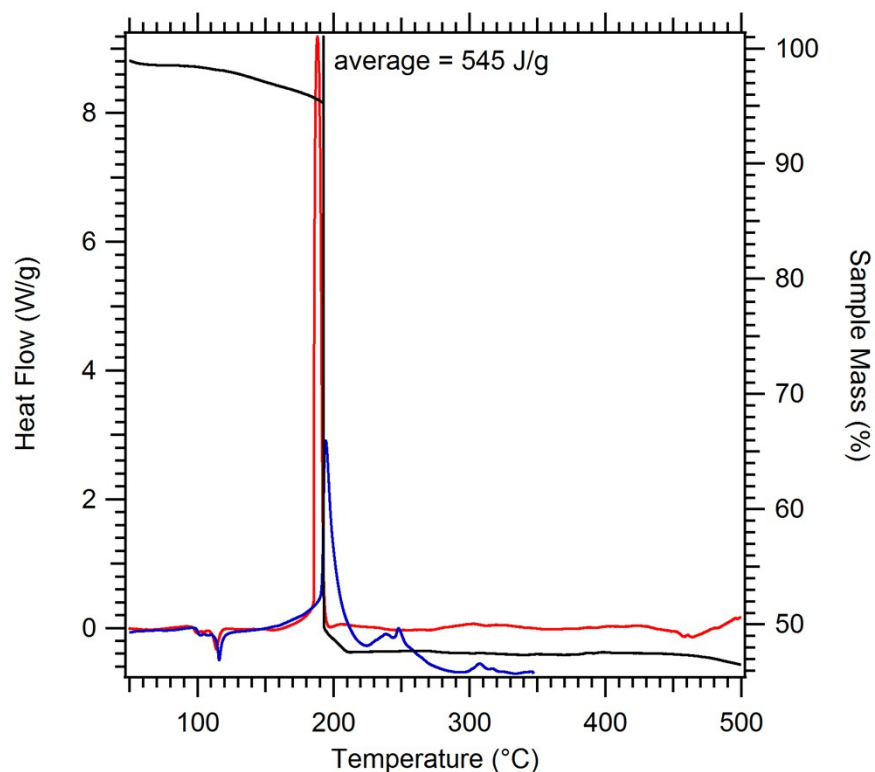


Figure S1: DSC data from $\text{NaBH}_4 + 3\text{S}$ during thermal ramping at 5 °C/min. The signal past 200 °C is not very reliable due to significant sample loss from the crucible during hydrogen release. The red line is from a PerkinElmer DSC and the blue line is from a Setaram DSC, where both integrated exotherms are comparable. The sample mass from TG (PerkinElmer, black) illustrates significant sample loss from the crucible upon gas release.

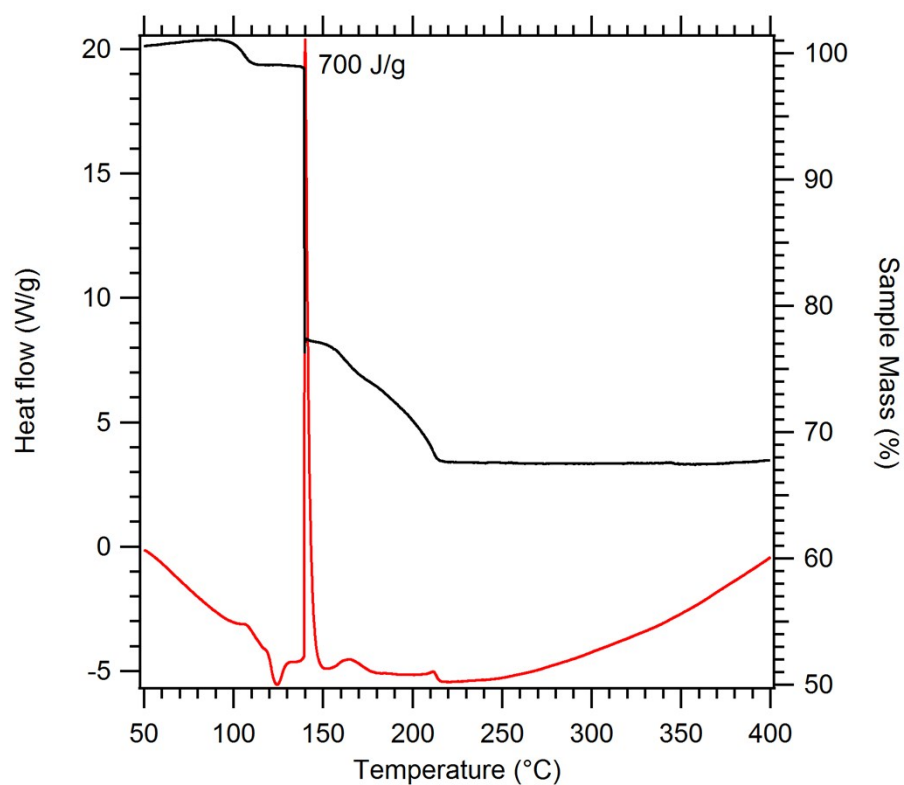


Figure S2: DSC data from $\text{LiBH}_4 + \text{S}$ during thermal ramping at 5 $^{\circ}\text{C}/\text{min}$ (PerkinElmer). The signal past 150 $^{\circ}\text{C}$ is not very reliable due to significant sample loss from the crucible during hydrogen release. The sample mass from TG (PerkinElmer DSC, black) illustrates significant sample loss from the crucible upon gas release.

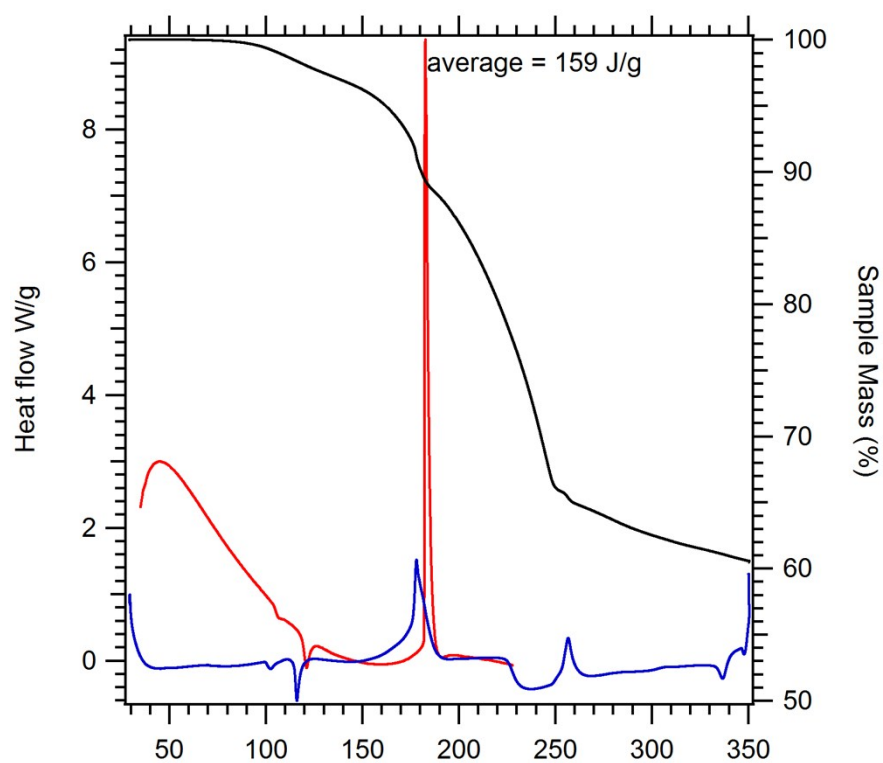


Figure S3: DSC data from $\text{KBH}_4 + 3\text{S}$ during thermal ramping at 5 °C/min. The signal past 200 °C is not very reliable due to significant sample loss from the crucible during hydrogen release. The red line is from a PerkinElmer DSC and the blue line is from a Setaram DSC, where both integrated exotherms are comparable. The sample mass from TG (Setaram DSC, black) illustrates significant sample loss from the crucible upon gas release.