

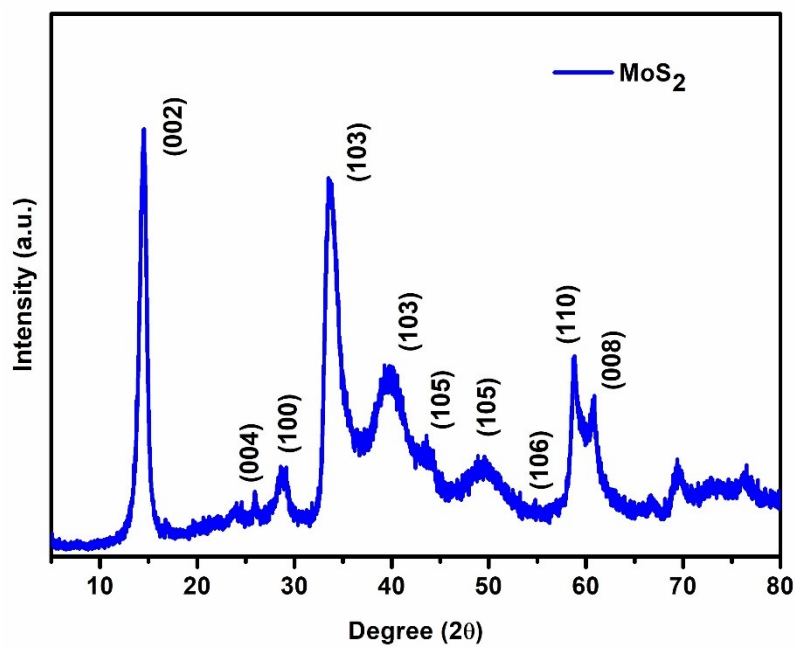
# Supporting Information

## **2D Hybrid Nanocomposite: A Promising Anode Material for Lithium-ion Batteries at High Temperature**

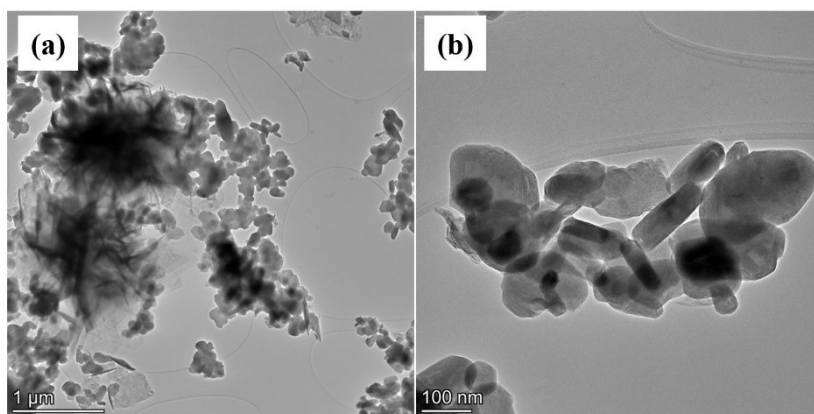
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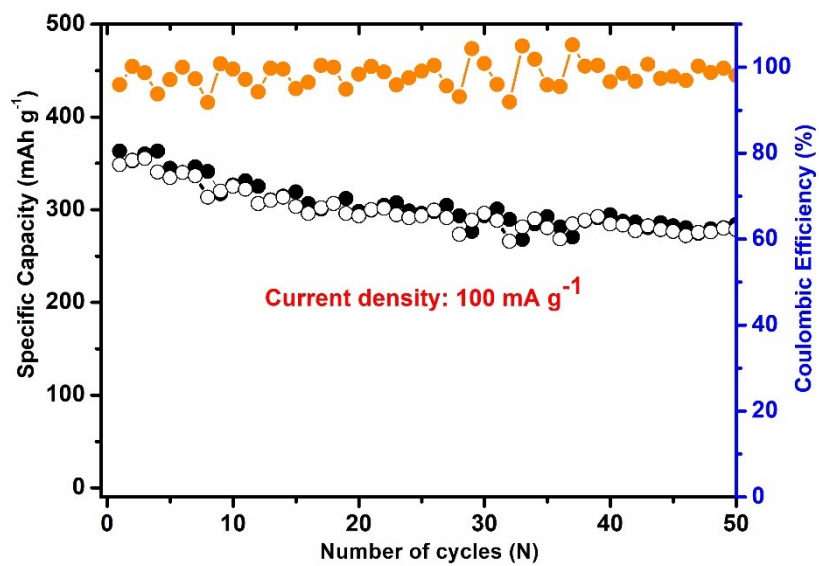
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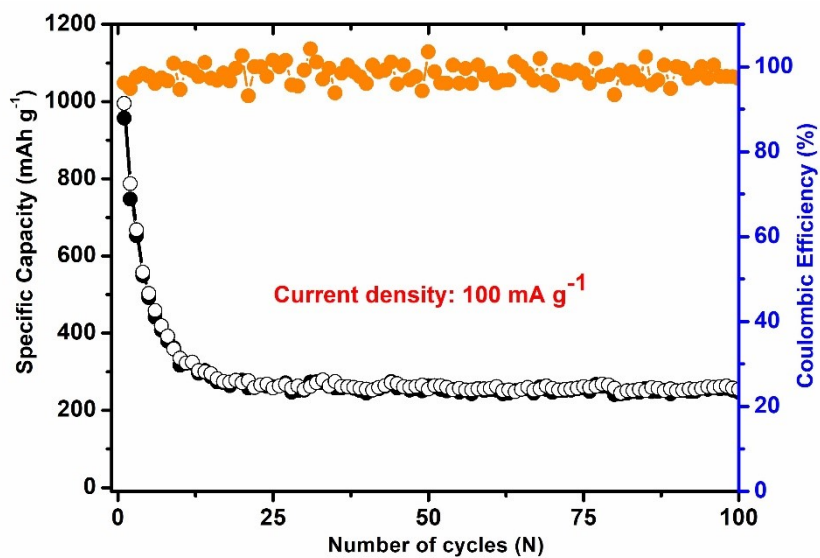
**Figure S1.** XRD of pure MoS<sub>2</sub>.



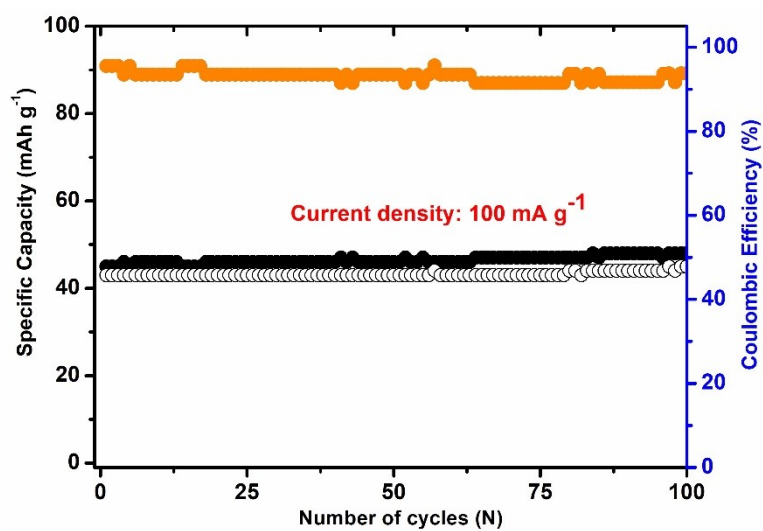
**Figure S2.** TEM images of pure MoS<sub>2</sub>.



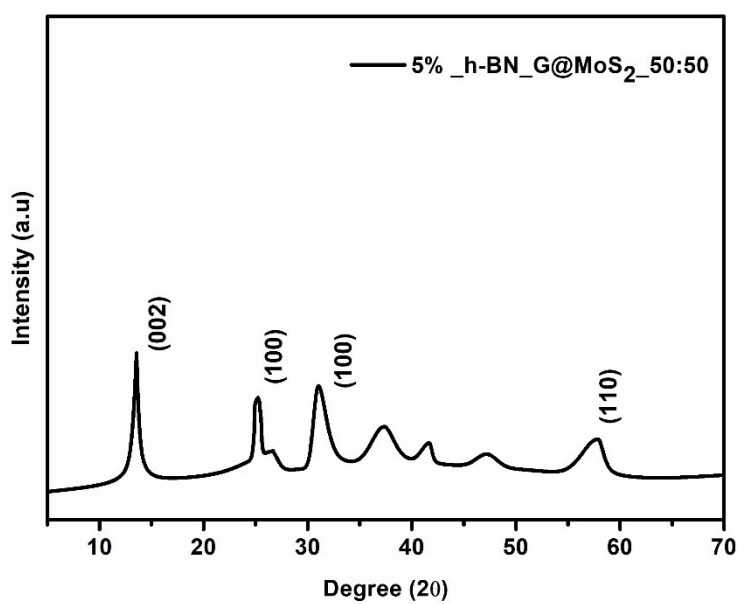
**Figure S3.** Long cycling performance of graphite at current density of 100 m A g<sup>-1</sup>.



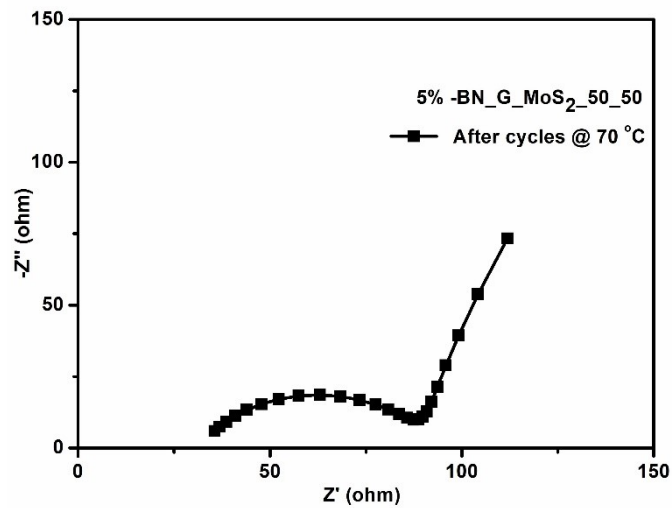
**Figure S4.** Long cycling performance of MoS<sub>2</sub> at current density of 100 m A g<sup>-1</sup>.



**Figure S5.** Long cycling performance of H-BN at current density of 100 m A g<sup>-1</sup>.



**Figure S6.** XRD analysis of the 5% BN-G@MoS<sub>2</sub>-50@50 composite electrode after cycling at 70 °C.



**Figure S7.** Nyquist plot of 5% BN-G@MoS<sub>2</sub>-50@50 composite electrode after cycles at high temperature.