

**Electronic Supplementary Information (ESI) for**

Polypyrrole-assisted synthesis of roselike MoS<sub>2</sub>/nitrogen-containing carbon/graphene hybrids and their robust lithium storage performances

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**This PDF file includes:**

**Fig. S1 to S6**

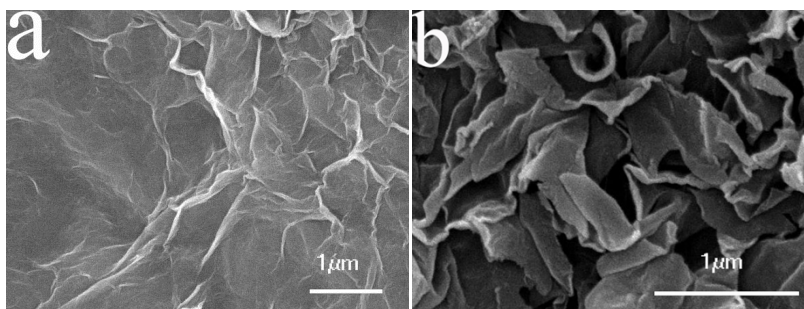


Fig. S1 SEM images of GO (a) and PPy/GO (b).

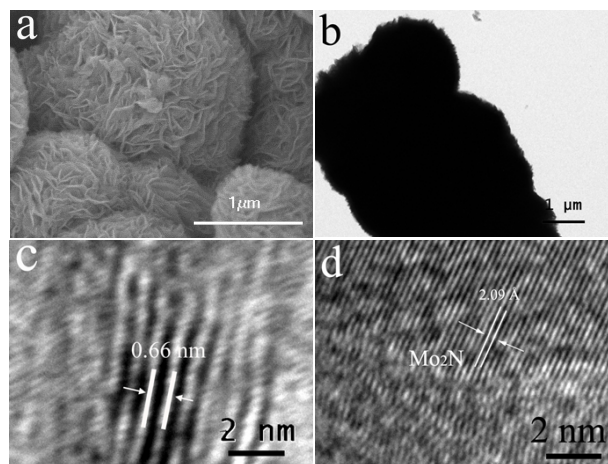


Fig. S2 SEM image (a), TEM image (b), HRTEM image (c) of bare MoS<sub>2</sub> nanosheets, and HRTEM image of Mo<sub>2</sub>N in the MoS<sub>2</sub>/NC/G hybrids (d).

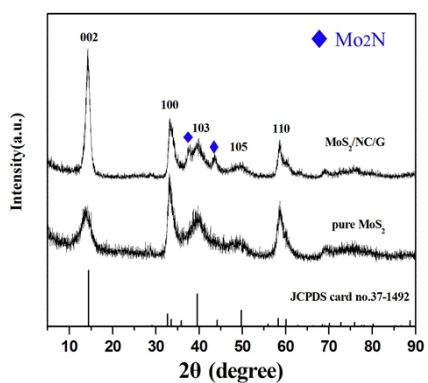


Fig. S3 XRD patterns of the MoS<sub>2</sub>/NC/G hybrids and the bare MoS<sub>2</sub> nanosheets.

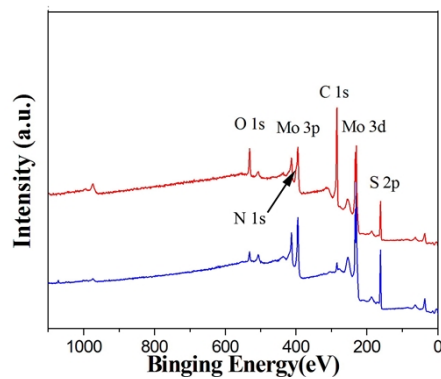


Fig. S4 XPS survey spectra of the MoS<sub>2</sub>/NC/G hybrids and the bare MoS<sub>2</sub> nanosheets.

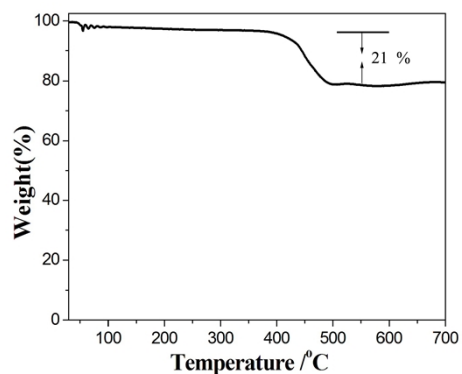


Fig. S5 TG curve of the MoS<sub>2</sub>/NC/G hybrids at a heating rate of 10 °C min<sup>-1</sup> in air.

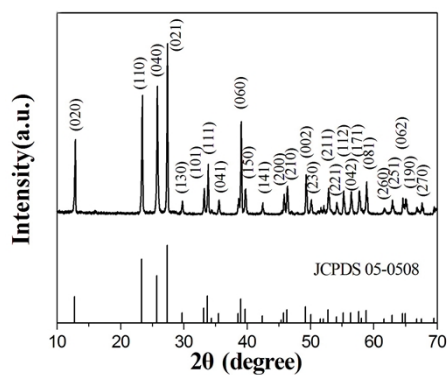


Fig. S6 XRD pattern of the MoS<sub>2</sub>/NC/G hybrids after calcination at 600 °C for 4 h in air.

The XRD pattern of the MoS<sub>2</sub>/NC/G hybrids after calcination at 600 °C for 4 h in air is shown in Figure S6, it is clear that all the identified diffraction peaks of the sample MoS<sub>2</sub>/NC/G hybrids after calcination at 600 °C samples can be clearly assigned to the phase-pure MoO<sub>3</sub> (JCPDS card no. 05-0508).