

## Supporting Information

### **Top-down tailoring of nanostructured manganese molybdate enhances its lithium storage properties**

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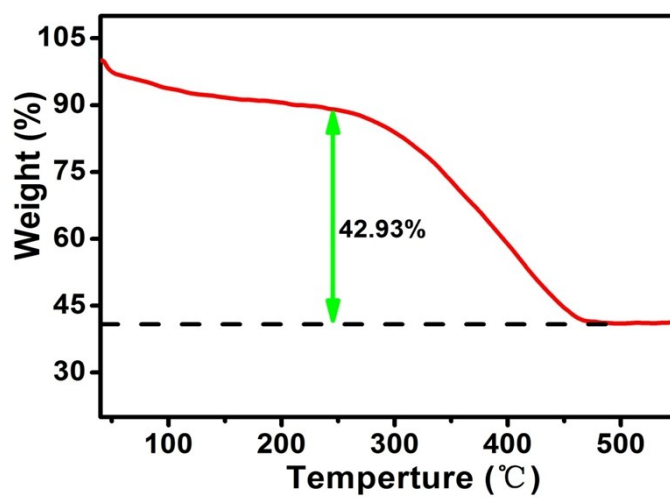


Figure S1. TG curve of the MnMoO<sub>4</sub>/NC composite.

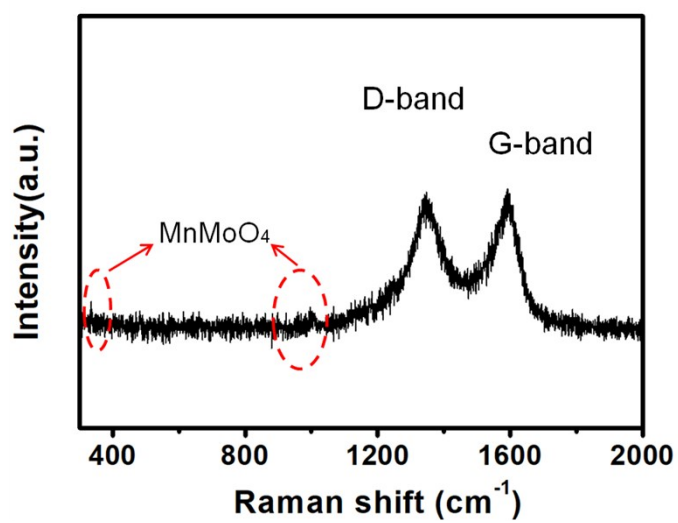
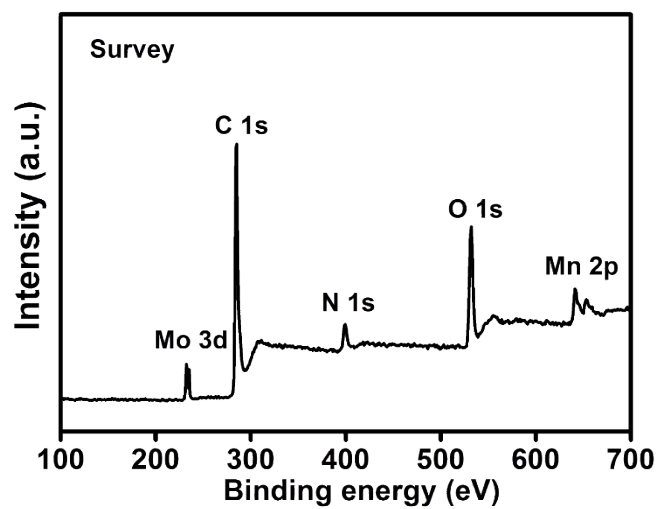
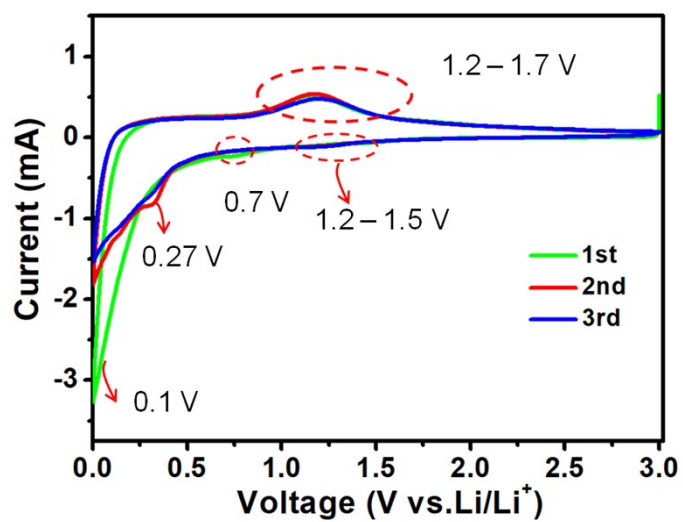


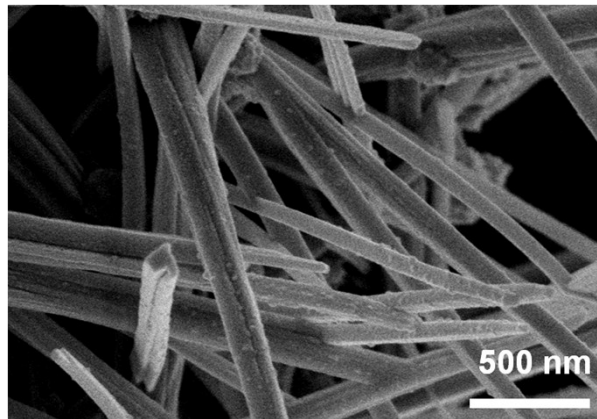
Figure S2. Raman spectrum of the MnMoO<sub>4</sub>/NC composite.



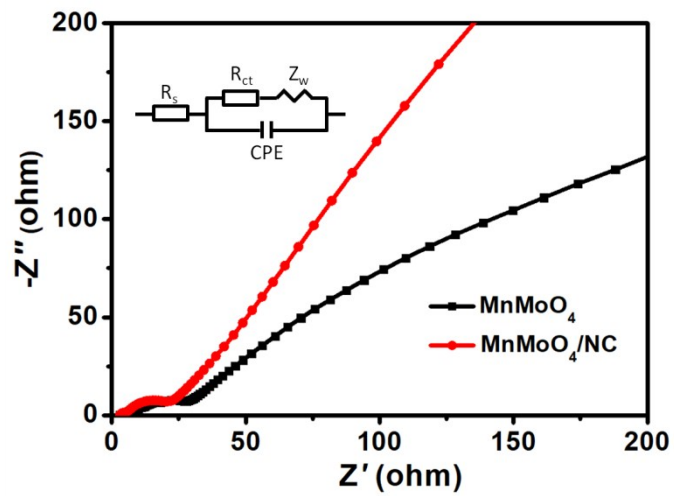
**Figure S3.** The survey spectrum of the MnMoO<sub>4</sub>/NC composite.



**Figure S4.** CV curve of the MnMoO<sub>4</sub>/NC composite at 0.1 mV S<sup>-1</sup>.



**Figure S5.** SEM image of the MnMoO<sub>4</sub> nanorods.



**Figure S6.** EIS spectra of the MnMoO<sub>4</sub>/NC composite and pure MnMoO<sub>4</sub>. The inset is corresponding equivalent circuit.

**Table S1.** Comparison of electrochemical performance of molybdate-based anode materials

Molybdates	Capacity and stability (mAh g <sup>-1</sup> )	Rate capability (mAh g <sup>-1</sup> )	Ref.
MnMoO <sub>4</sub> /NC nanospheres	657 after 100 cycles at 0.1 A g <sup>-1</sup>	375 after 200 cycles at 1 A g <sup>-1</sup>	This work
MnMoO <sub>4</sub> nanorods	131 after 100 cycles at 0.5 A g <sup>-1</sup>	285 after 40 cycles at 1 A g <sup>-1</sup>	[1]
NiMoO <sub>4</sub> nanorods	120 after 70 cycles at 0.1 A g <sup>-1</sup>	-	[2]
MgMoO <sub>4</sub> /rGO	597 after 300 cycles at 0.1 A g <sup>-1</sup>	224 after 60 cycles at 1 A g <sup>-1</sup>	[3]
Mn <sub>2</sub> Mo <sub>3</sub> O <sub>8</sub> /rGO	518 after 50 cycles at 0.1 A g <sup>-1</sup>	495 after 50 cycles at 0.2 A g <sup>-1</sup>	[4]
Ag <sub>2</sub> Mo <sub>2</sub> O <sub>7</sub> powder	190 after 70 cycles at 0.1 A g <sup>-1</sup>	124 after 70 cycles at 0.5 A g <sup>-1</sup>	[5]
Cu <sub>3</sub> Mo <sub>2</sub> O <sub>9</sub> micropompons	153 after 100 cycles at 0.1 A g <sup>-1</sup>	-	[6]
ZnMoO <sub>4</sub> nanoparticles	389 after 90 cycles at 0.1 A g <sup>-1</sup>	207 after 80 cycles at 0.5 A g <sup>-1</sup>	[7]
ZnMoO <sub>4</sub> /rGO	632 after 100 cycles at 0.1 A g <sup>-1</sup>	-	[8]
Mn <sub>2</sub> Mo <sub>3</sub> O <sub>8</sub> nanoparticles	210 after 50 cycles at 0.1 A g <sup>-1</sup>	1A g <sup>-1</sup>	[9]

NC: nitrogen-doped carbon

rGO: reduced graphene oxide

-: not available

## Reference

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