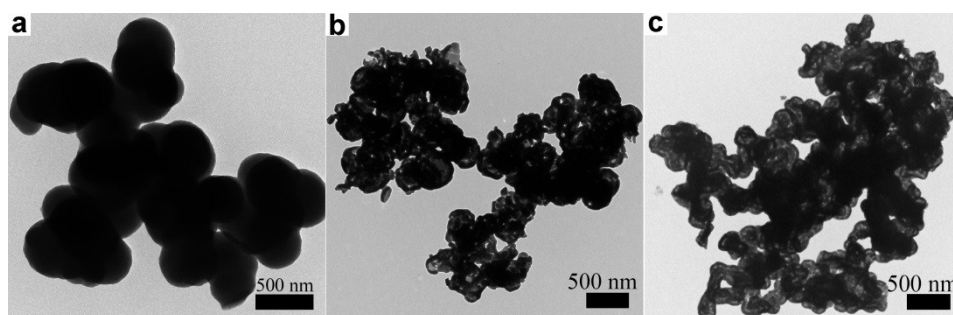


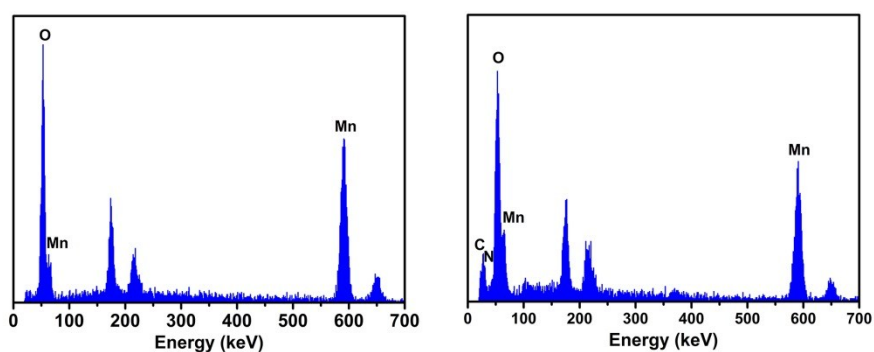
## Supporting Information

### Formation of porous nitrogen-doped carbon-coating MnO nanospheres for advanced reversible lithium storage

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**Figure S1.** TEM images of (a) Mn(OAc)<sub>2</sub>-C-8, (b) porous Mn<sub>2</sub>O<sub>3</sub> nanospheres and (c) MnO@NC nanospheres.



**Figure S2.** Energy-dispersive X-ray spectroscopy (EDS) plots of pure Mn<sub>2</sub>O<sub>3</sub> and MnO@NC nanospheres. Peaks of C and N appear from the decomposition of PDA.

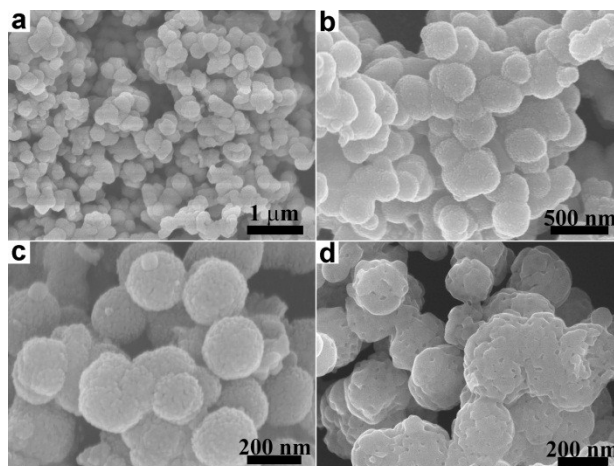


Figure S3. (a), (b), (c) Low-magnification SEM images of the MnO@NC composites and (d) SEM image of porous Mn<sub>2</sub>O<sub>3</sub> nanospheres.

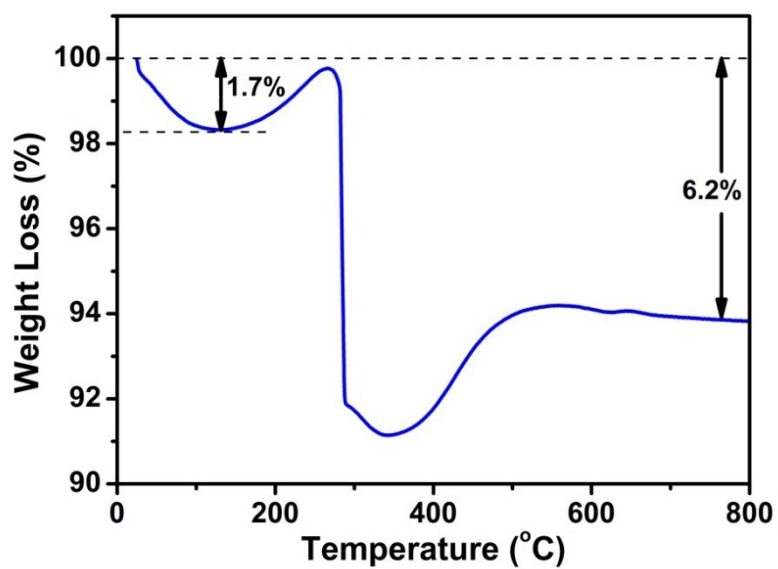
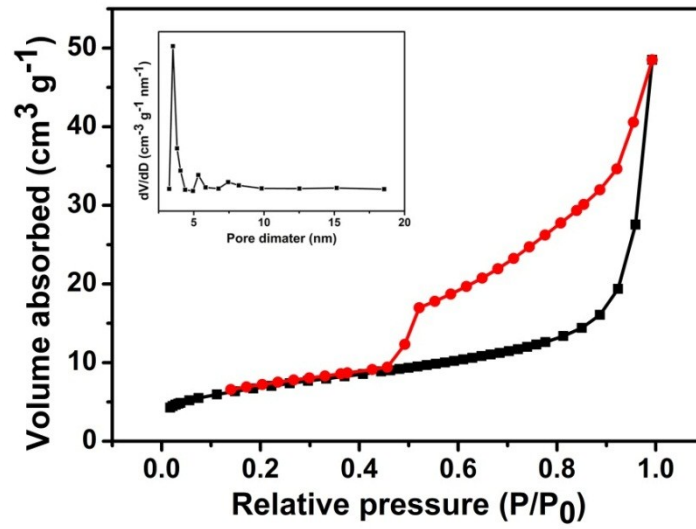
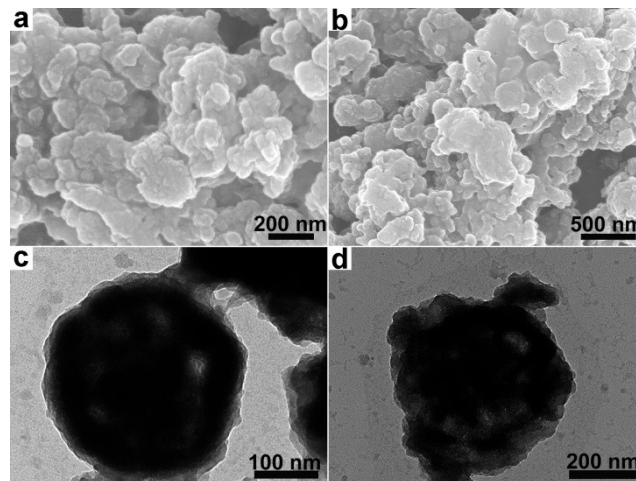


Figure S4. TGA plot of the MnO@NC composites at O<sub>2</sub> atmosphere from room temperature to 800 °C with a heating rate of 10 °C min<sup>-1</sup>



**Figure S5.** Nitrogen adsorption-desorption isotherms and the pore size distribution curve of the MnO@NC nanospheres composites.



**Figure S6.** SEM (a and b) and TEM (c and d) images of MnO@NC nanospheres electrode after 200 cycles.