Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Cobalt oxide combined with carbon nanotubes into two-dimensional networks derived from lamellar coordination polymer for durable lithium and sodium storages

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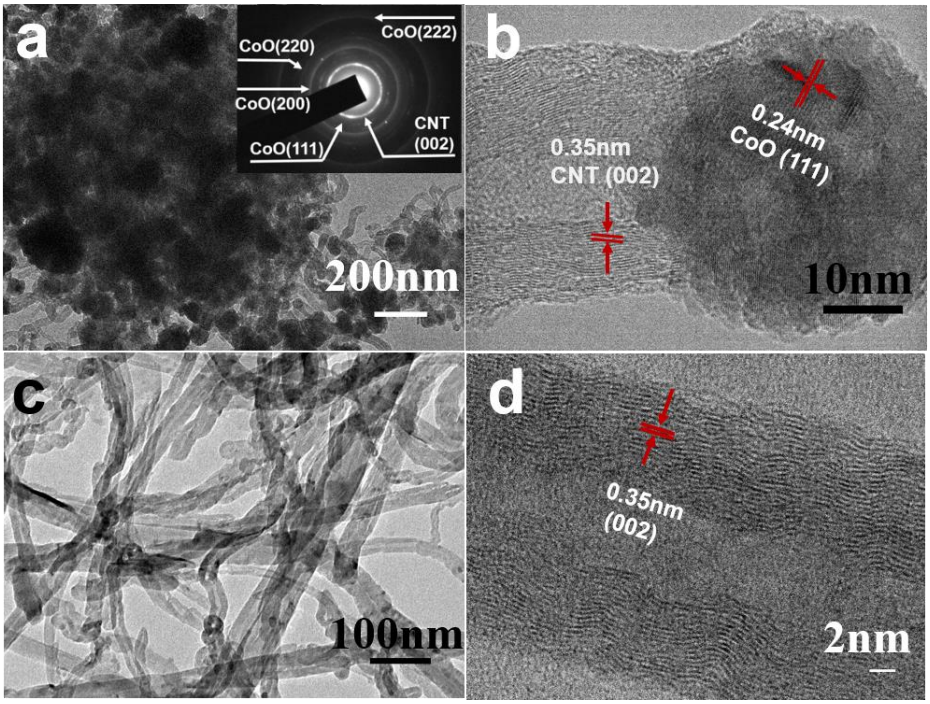


Figure S1. TEM image (a), SAED analysis (inset of a), and HRTEM images (b) of CoO-NCNTs. TEM morphology of vigorously ultrasonic treatment of CoO-NCNTs (c, d) in different magnifications.

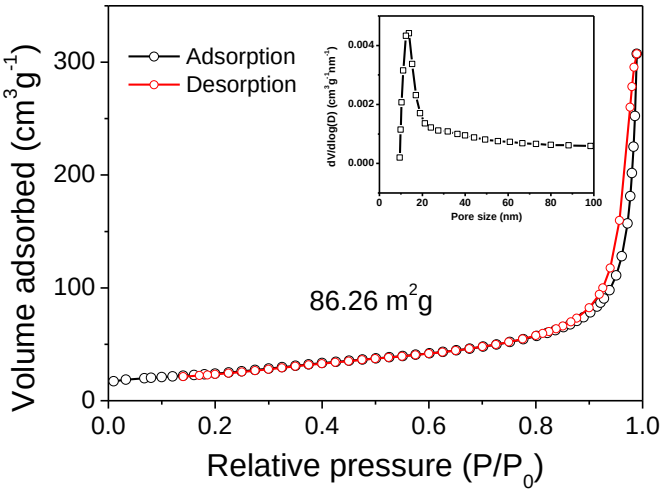


Figure S2. Nitrogen adsorption/desorption isotherms of CoO-NCNTs; inset: The pore size distribution calculated using the BJH method basing on the desorption curve.

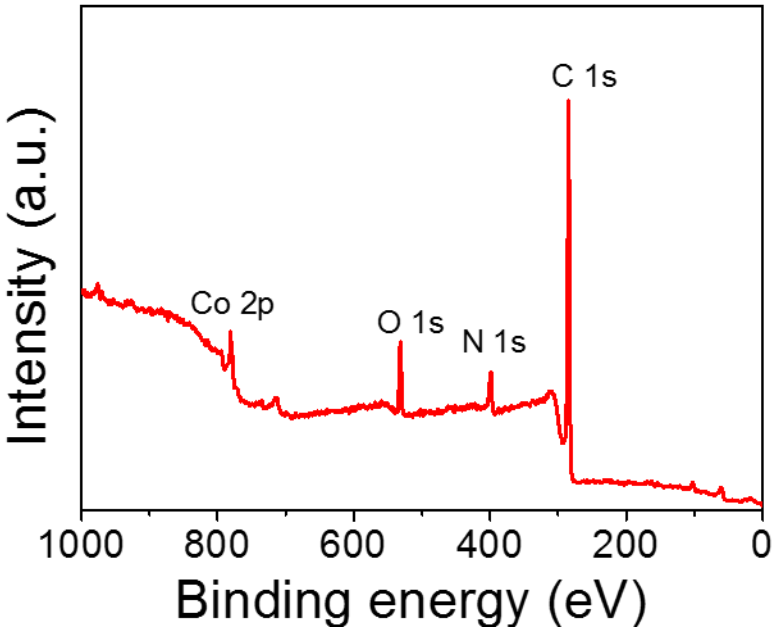


Figure S3. XPS survey spectrum of CoO-NCNTs.

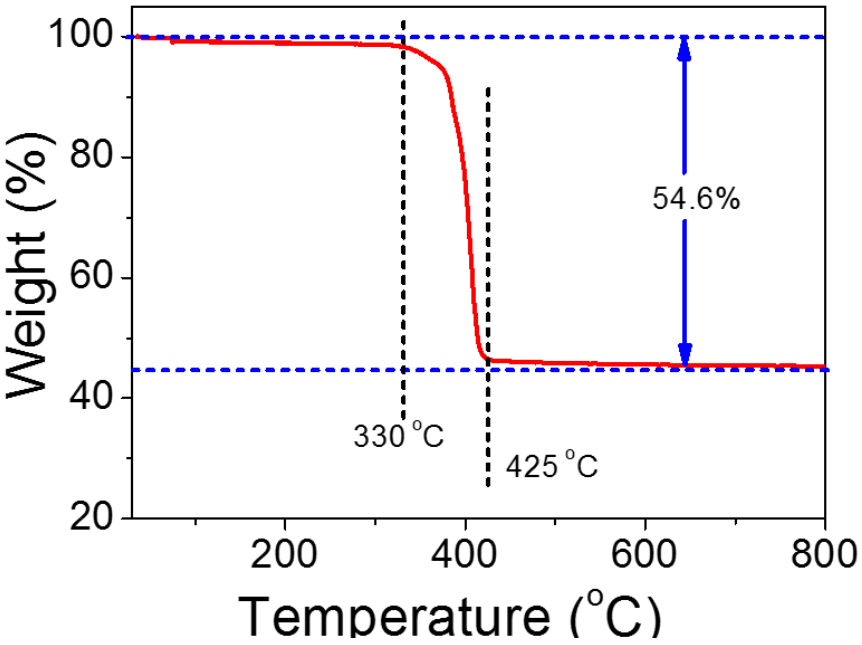
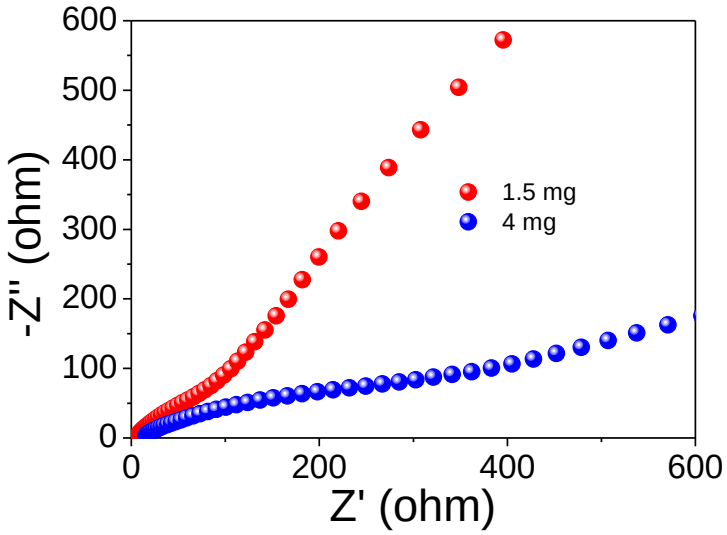


Figure S4. Thermogravimetric analysis of CoO-NCNTs.



FigureS5. Electrochemical impedance conparison spectra (EIS) of CoO-NCNTs materials for LIBs with different loading mass.

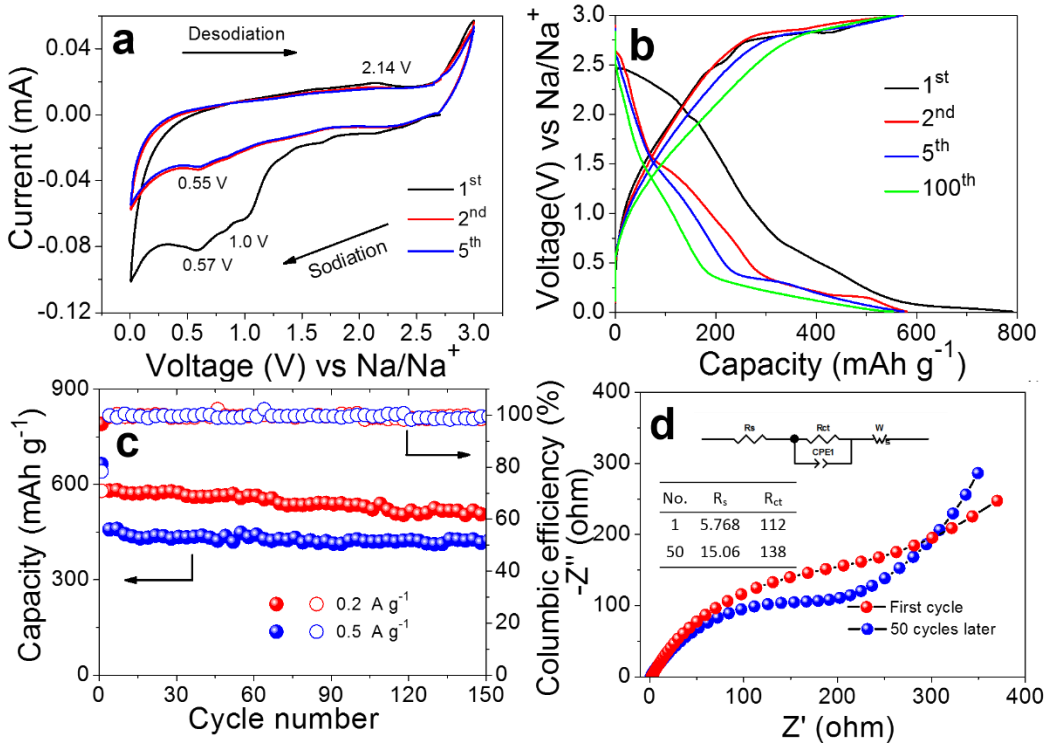


Figure S6. Electrochemical performances of CoO-NCNTs for sodium storage. (a) Cyclic voltammograms at a scan rate of 0.5 mV s^{-1}. (b) Selected galvanistatic charge-discharge voltage profiles of at current density of 0.2 A g^{-1}. (c) Cycling performances at distinct current densities of 0.2 and 0.5 A g^{-1}. (d) Electrochemical impedance spectra (EIS) in selected cycles, and the equivalent circuit diagram, as well as the three-line table of relative resistances.

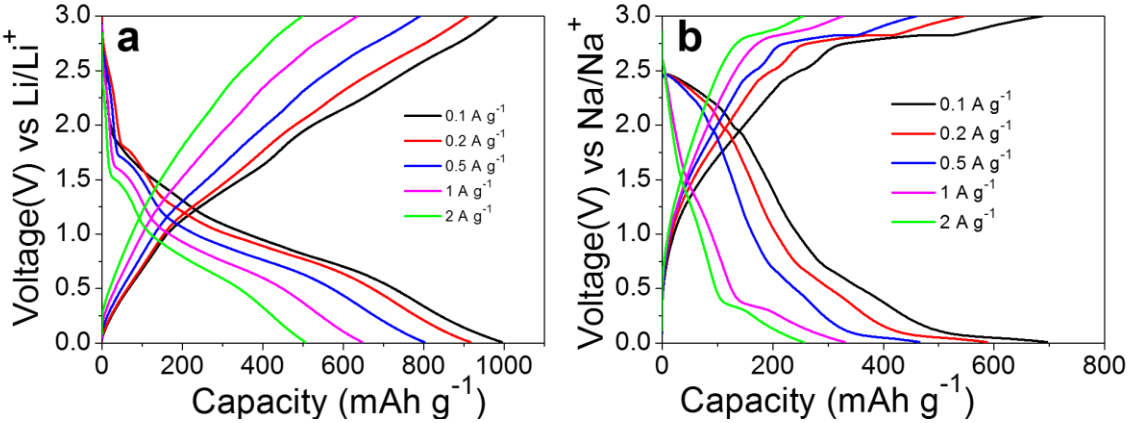


Figure S7. galvanistatic charge-discharge voltage profiles of CoO-NCNTs electrode at various current densities for LIBs and SIBs.

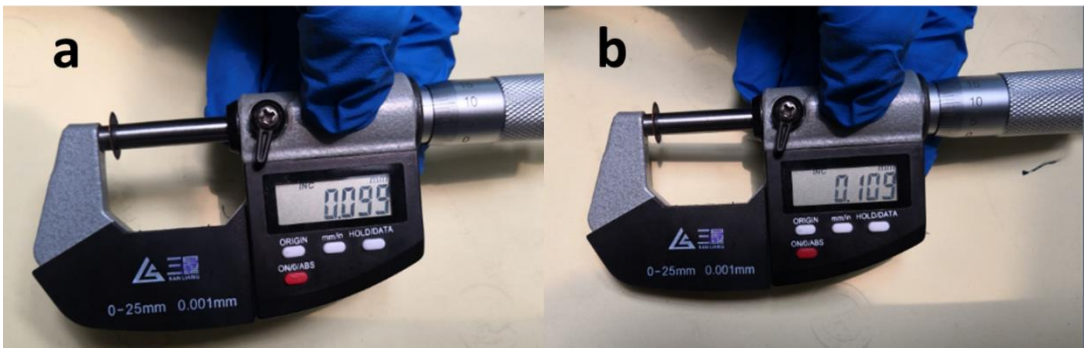


Figure S8. The measurement process of electrode thickness that before cycle (a), and after long-term cycles (b).