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

Supporting Information

Superior sodium-ion storage performance of Co_3O_4@Nitrogen-doped carbon: Derived from a metal-organic framework

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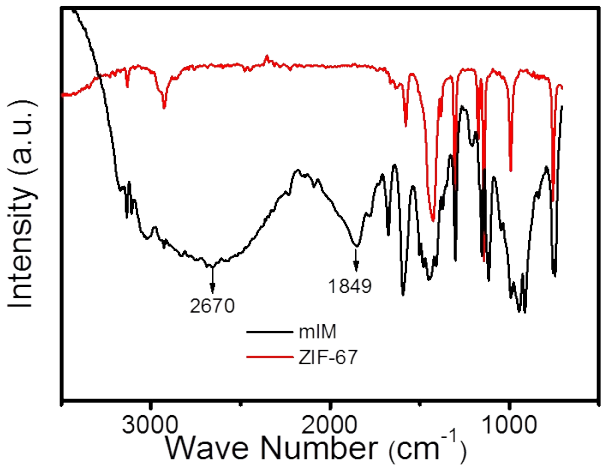

Fig. S1. FTIR spectra of 2-methylimidazole (mIM) raw material and the obtained ZIF-67. Due to the coordination between Co^{2+} and mIM, the typical bands of mIM at 2670 cm^{-1} (associated with N−H···N hydrogen bonding) and 1849 cm^{-1} (between N−H···N out-of-plane bending and the N-H stretching peaks) disappear in ZIF-67.

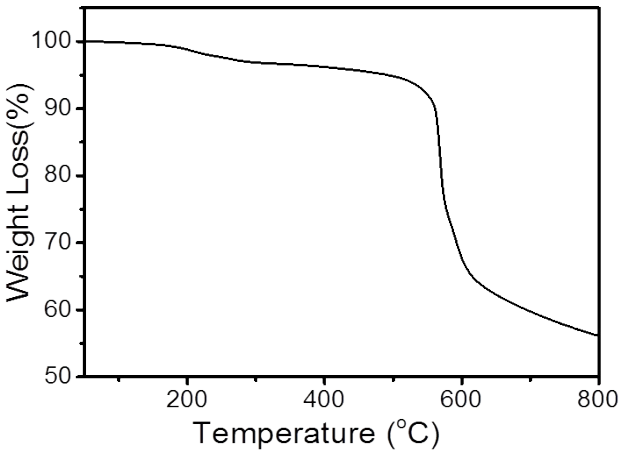

Fig. S2. TGA plot of the ZIF-67 precursor. TGA was carried out in Ar with a heating rate of 10 °C min^{-1}.

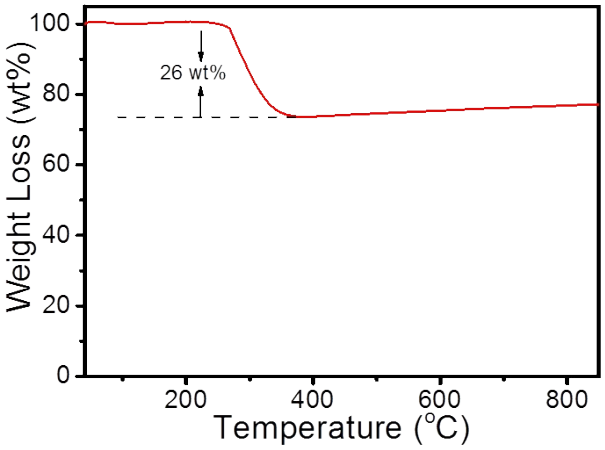

Fig. S3. TGA plot of the as-obtained Co_3O_4@NC. TGA was carried out in air with a heating rate of 10 °C min^{-1}.

Table S1 Elements content of the Co_3O_4@NC sample

Element	Co	C	N
Content (wt%)	54	22	4

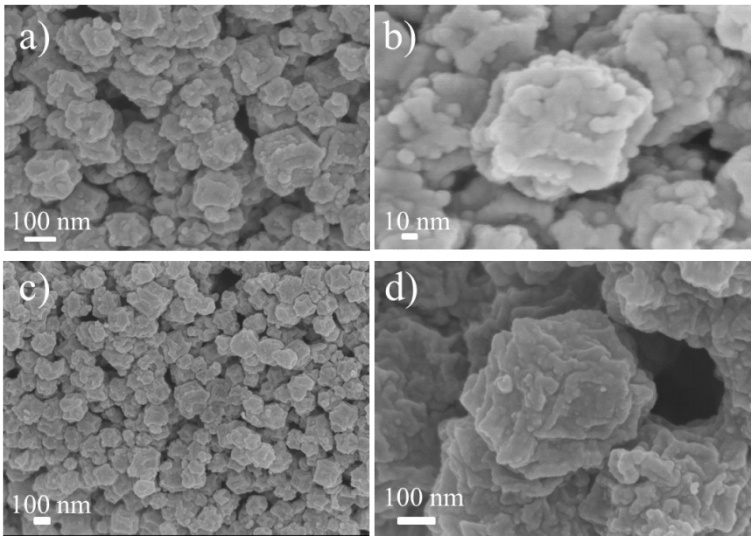

Fig. S4. SEM images of (a, b) the Co@NC intermediate, and (c, d) the pure Co_3O_4 at different magnifications.

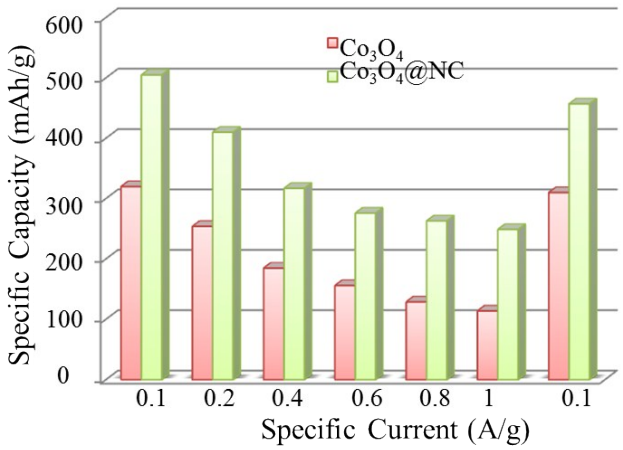

Fig. S5. Rate capability comparison of the Co_3O_4 and Co_3O_4@NC electrodes (0.1−1 $A \cdot g^{-1}$).

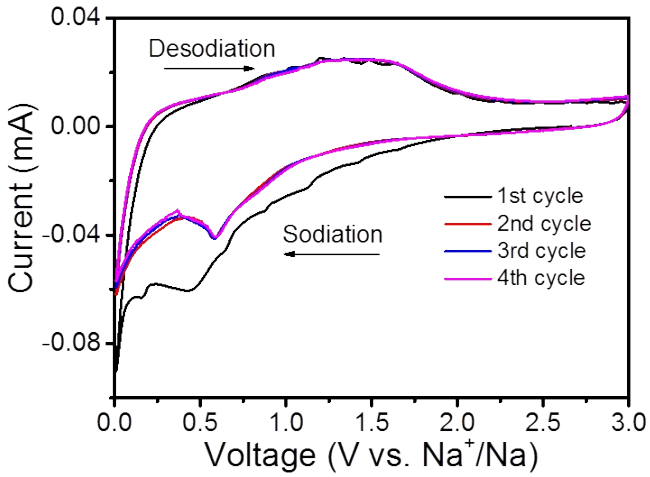

Fig. S6. Cyclic voltammograms for the first 4 cycles of the Co_3O_4@NC electrode, scanned at 0.1 $mV \cdot s^{-1}$.