Supporting Information

Metal-organic Framework-derived Hierarchical Co_3O_4@$MnCo_2O_{4.5}$ Nanocubes with Enhanced Electrocatalytic Activity for Na–O_2 Batteries

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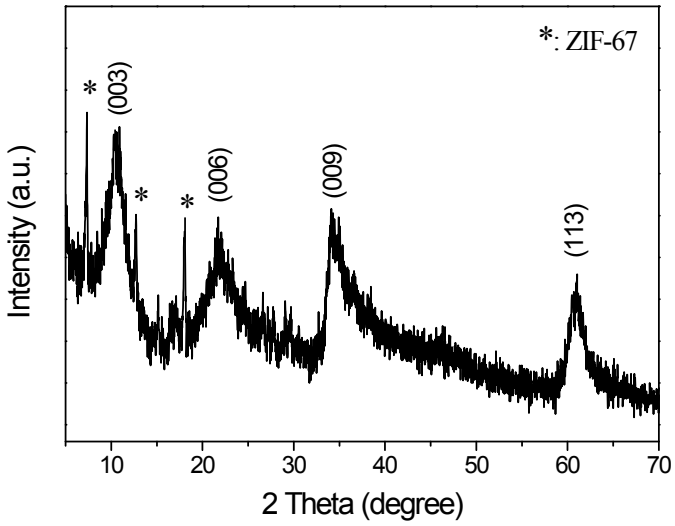

Fig. S1 XRD pattern of the ZIF-67/Mn-Co LDH after refluxed in a mixed solvent of water and ethanol at 90 °C.

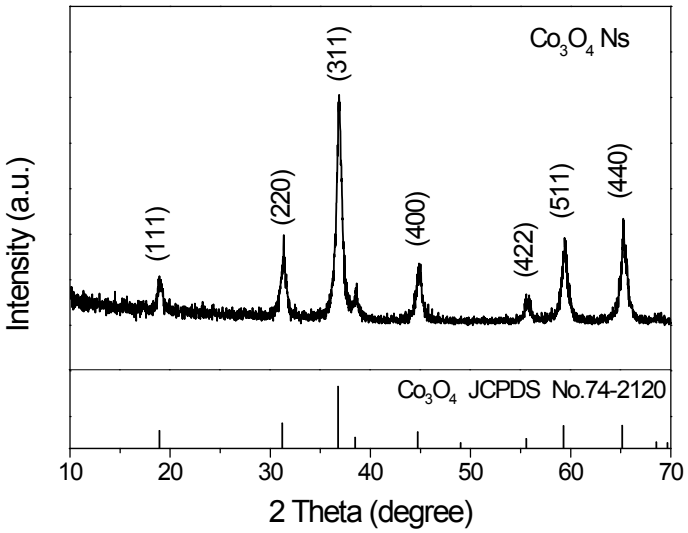

Fig. S2 XRD patterns of the as-prepared Co_3O_4 Ns.

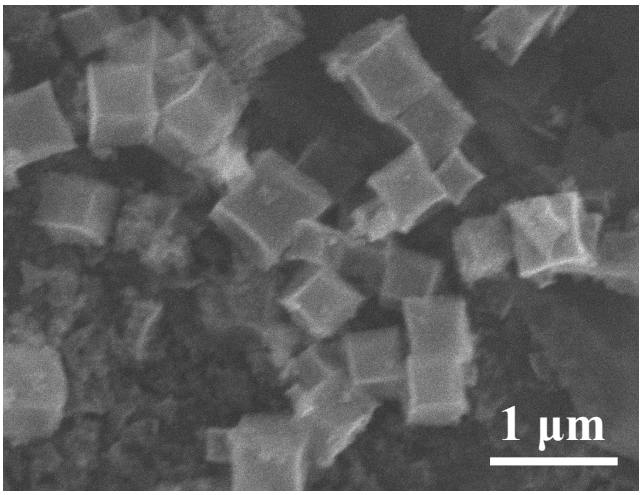

Fig. S3 SEM image of the as-prepared Co_3O_4 Ns.

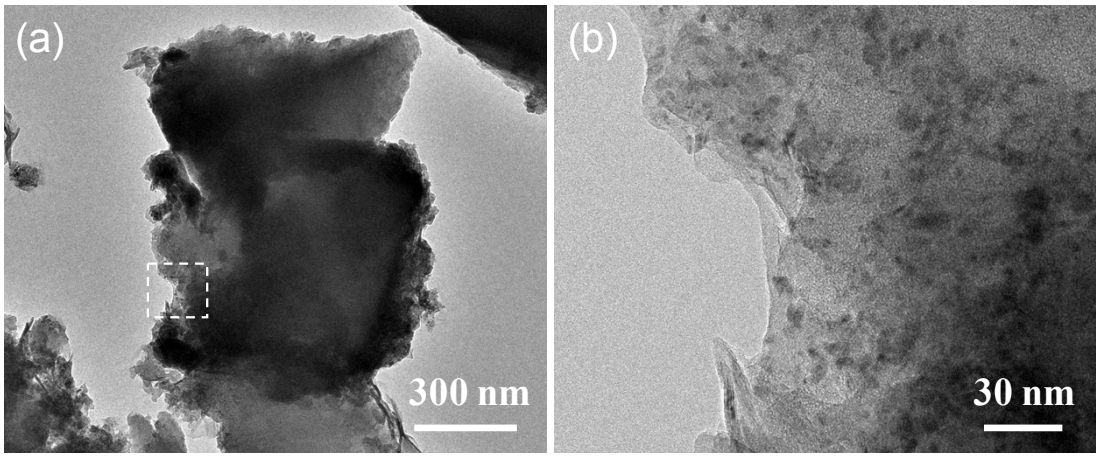

Fig. S4 (a, b) TEM images with different magnifications of *h*–Co_3O_4@$MnCo_2O_{4.5}$ Ns after the discharge process with a capacity limitation of 1000 mAh g^{-1} (b shows the selected area of a).

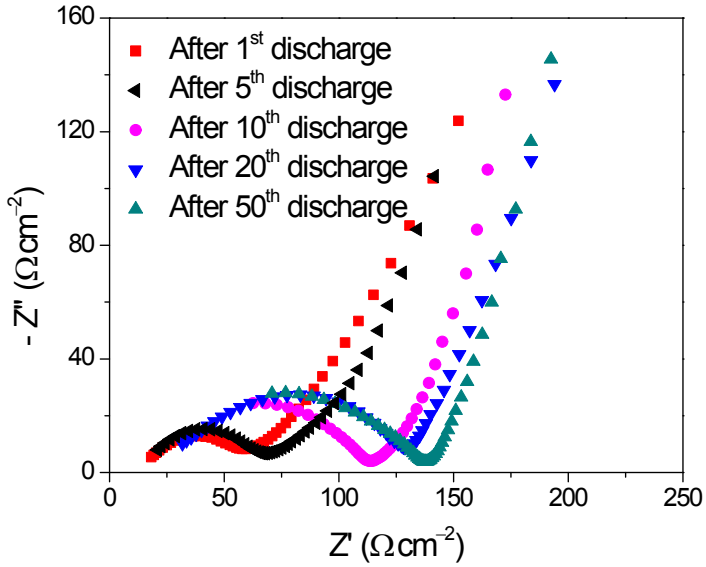

Fig. S5 Electrochemical impedance spectra of the Na–O_2 battery with the *h*–Co_3O_4@$MnCo_2O_{4.5}$ Ns cathode at discharge states of the 1st, 5th, 10th, 20th, and 50th cycles with a limited capacity of 1000 mA h g^{-1}.

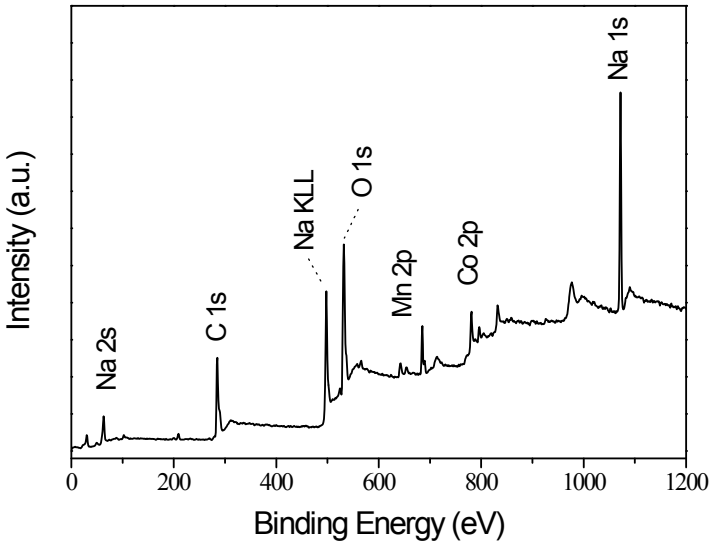

Fig. S6 XPS survey spectrum of the *h*–Co_3O_4@$MnCo_2O_{4.5}$ Ns electrode after the first discharge process with a capacity limitation of 1000 mAh g^{-1}.