Supporting Information for

Metal-Organic Framework-Assisted Synthesis of Compact Fe_2O_3 Nanotubes in Co_3O_4 Host with Enhanced Lithium Storage Properties

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Supplementary Figures and Tables

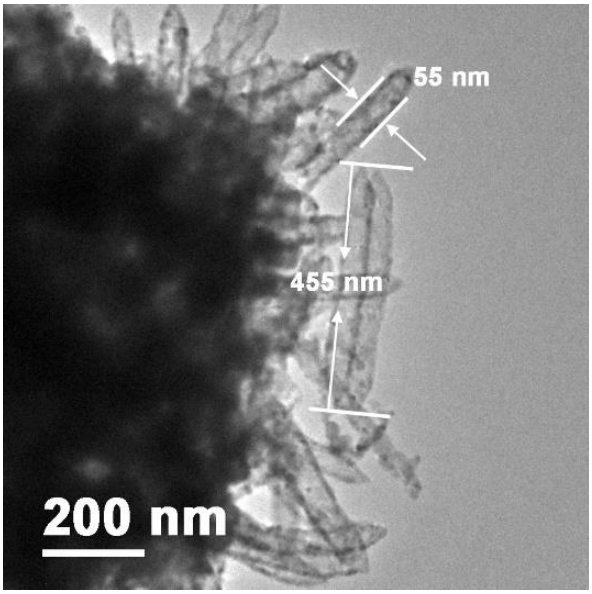

Fig. S1 Magnified TEM image of the Fe_2O_3 nanotubes@Co_3O_4 composites

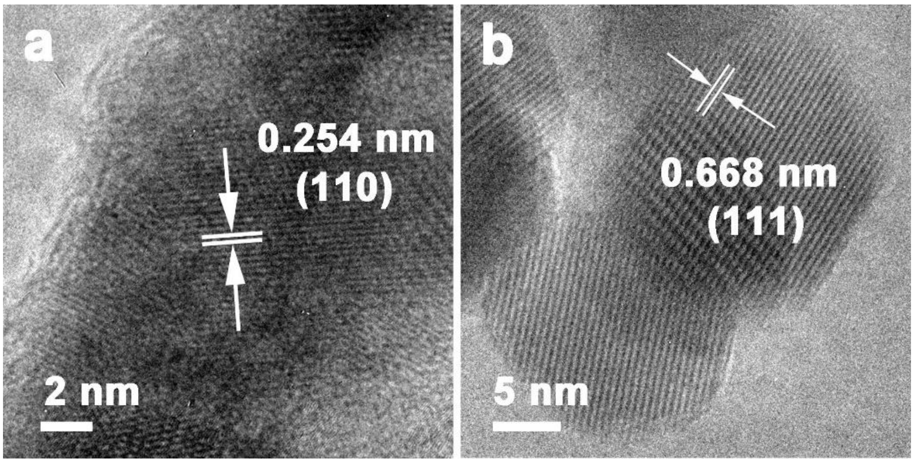

Fig. S2 HRTEM images of **a** Fe_2O_3 nanotube and **b** Co_3O_4 host

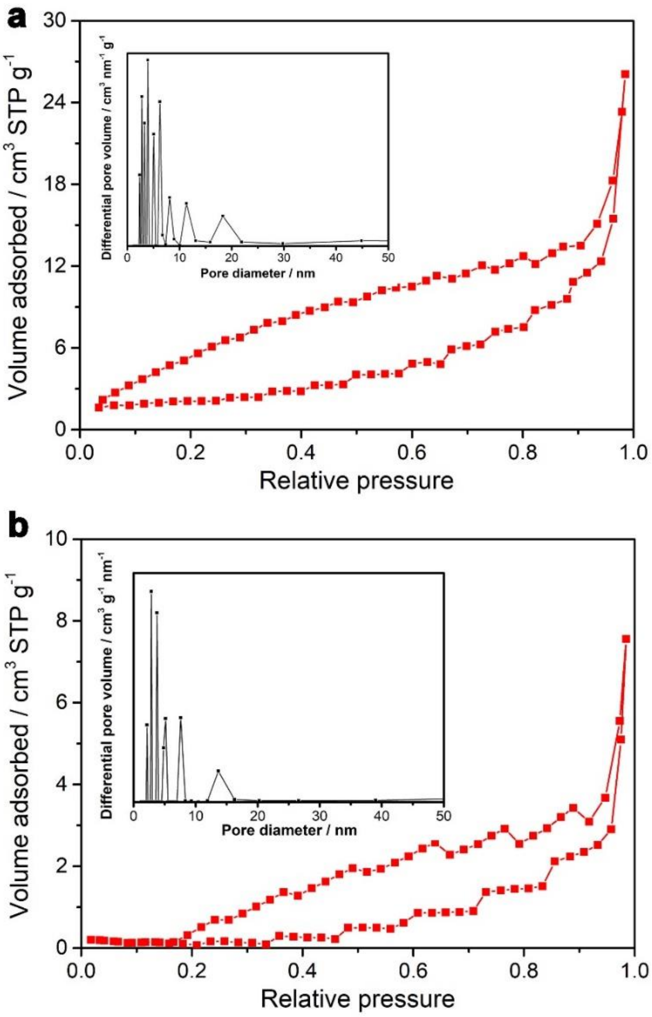

Fig. S3 N_2 sorption isotherms (inset: pore size distributions) of **a** Fe_2O_3 and **b** Co_3O_4 nanostructures derived from MIL-88B and ZIF-67, respectively

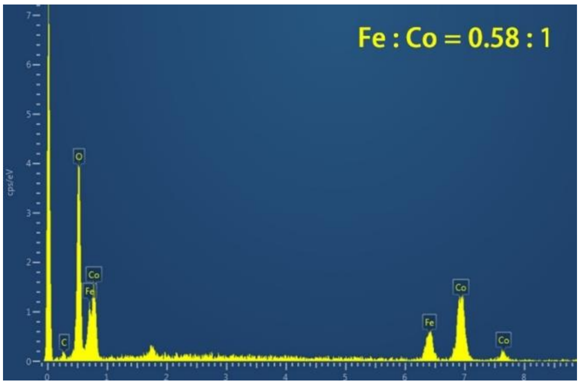

Fig. S4 EDX spectrum of Fe_2O_3 nanotubes@Co_3O_4 composites

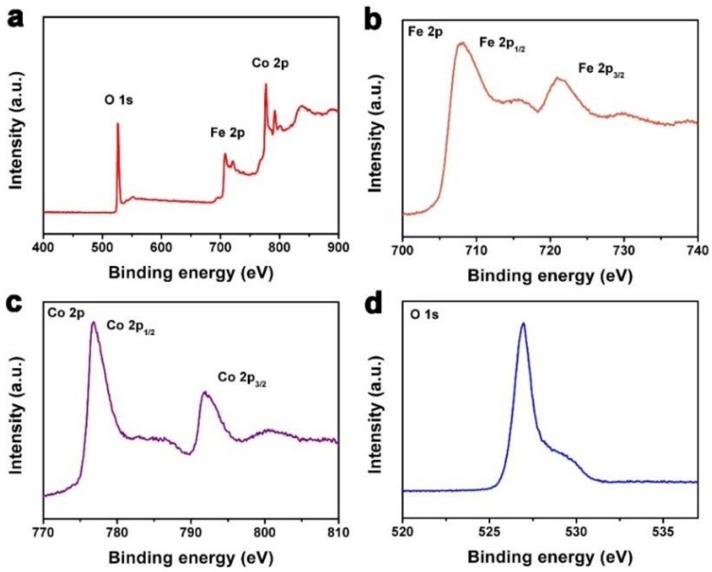

Fig. S5 XPS spectra of Fe_2O_3 nanotubes@Co_3O_4 composites: **a** survey spectrum, and high-resolution spectra of **b** Fe 2p, **c** Co 2p, and **d** O 1s

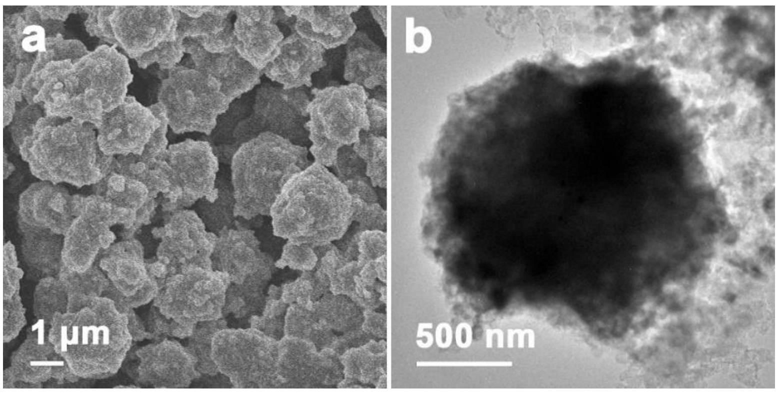

Fig. S6 **a** FESEM and **b** TEM images of the Fe_2O_3 nanotubes@Co_3O_4 composites after cycling for 80 cycles

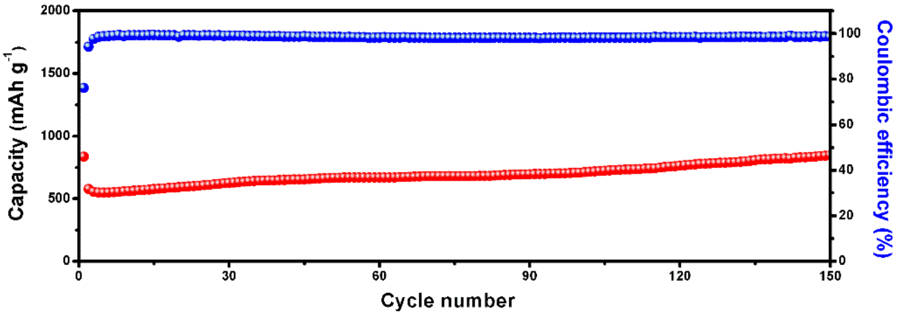

Fig. S7 The cycling performance of Fe_2O_3 nanotubes@Co_3O_4 composites and corresponding Coulombic efficiency at the current density of 1.0 A g^{-1}

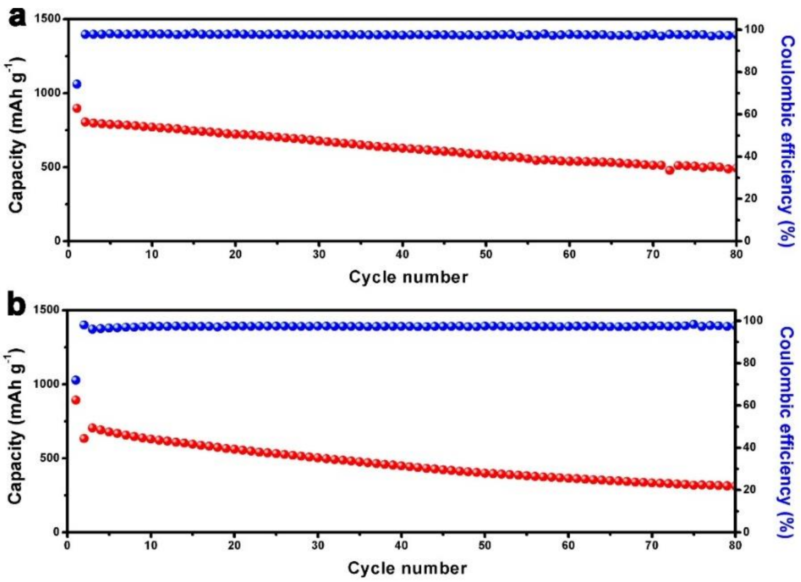

Fig. S8 Cycling performance of MIL-88B and ZIF-67 derived **a** Fe_2O_3 and **b** Co_3O_4 nanostructures and corresponding Coulombic efficiency at the current density of 0.5 A g^{-1}

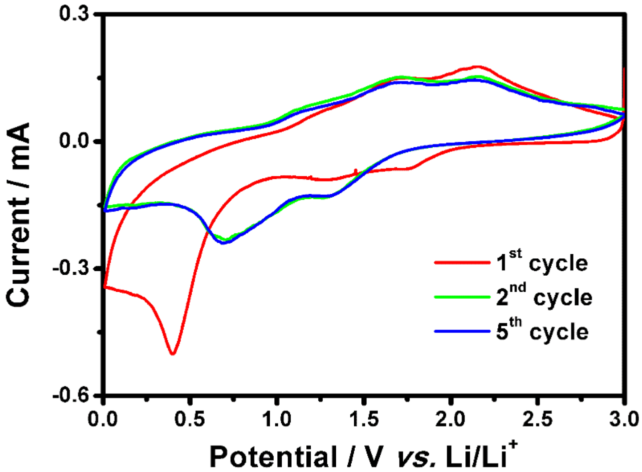

Fig. S9 CV curves of Fe_2O_3 nanotubes@Co_3O_4 composites

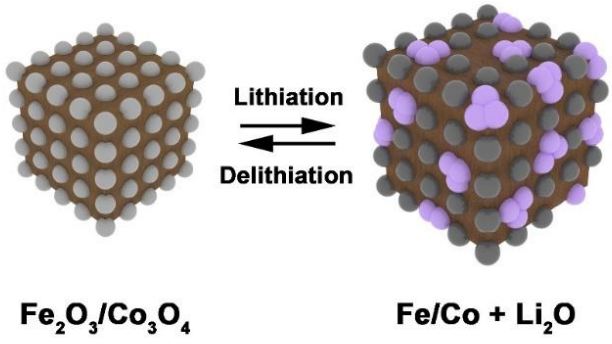

Fig. S10 A schematic representation of the conversion reaction mechanism in Fe_2O_3/Co_3O_4 electrode materials for lithium ion batteries

Table S1 Electrochemical performance of different Fe_2O_3, Co_3O_4, and their composite electrodes

Type of materials	Capacity (mAh g^{-1})	Rate performance	Loading mass	Reference
Fe_2O_3@carbon aerogel composite	725.6 (0.1 A g^{-1})	70.6% from 0.1 to 1 A g^{-1}	NA	[1]
Fe_2O_3-filled CNTs	565 (0.06 A g^{-1})	59.2% from 0.06 to 1.2 A g^{-1}	NA	[2]
Fe_2O_3 nanorods	896 (0.2 A g^{-1})	42.9% from 0.2 to 2.4 A g^{-1}	NA	[3]
carbon/Co_3O_4 nanospheres	738 (0.05 A g^{-1})	57.3% from 0.05 to 2 A g^{-1}	NA	[4]
Co_3O_4/C nanowires	842.3 (0.5 A g^{-1})	26.1% from 0.5 to 8 A g^{-1}	NA	[5]
Co_3O_4 double-shelled hollow spheres	866 (0.178 A g^{-1})	57.8% from 0.178 to 1.78 A g^{-1}	NA	[6]
hybrid Co_3O_4– Fe_2O_3/C particles	782 (0.0731 A g^{-1})	50.5% from 0.0731 to 2.924 A g^{-1}	1.5-2.0 mg cm^{-2}	[7]
Co_3O_4/Fe_2O_3 branched nanowires	980 (0.1 A g^{-1})	NA	1.0-2.0 mg cm^{-2}	[8]
Fe_2O_3 nanotubes@Co_3O_4 composites	726.2 (0.1 A g^{-1})	81.3% from 0.1 to 2 A g^{-1}	0.5-0.8 mg cm^{-2}	This work

References

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