Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information for

Enhancing the lithium storage performance of iron oxides composites through partial substitution with Ni^{2+} or Co^{2+}

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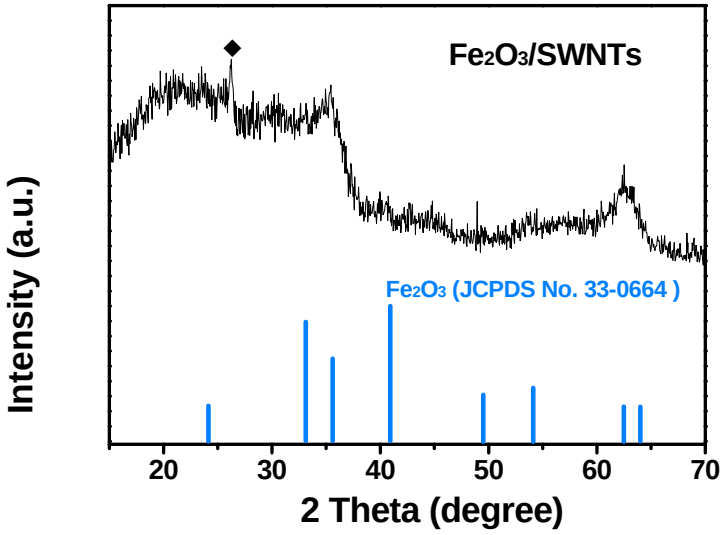

Fig. S1 XRD pattern of the Fe_2O_3/SWNTs composites. The additional peak around 26° (marked as ◆) is from SWNTs.

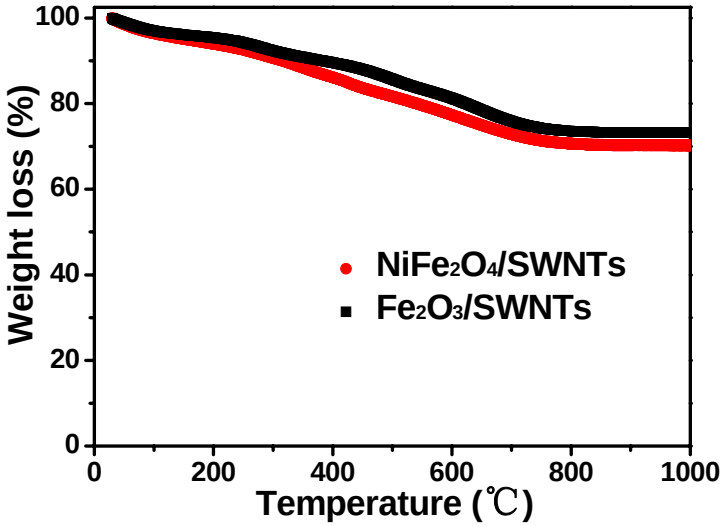

Fig. S2 Thermal gravimetric analysis (TGA) curves of the Fe_2O_3/SWNTs and $NiFe_2O_4$/SWNTs composite obtained at a heating rate of 10 ℃ min^{-1} between 30 and 1000 ℃.

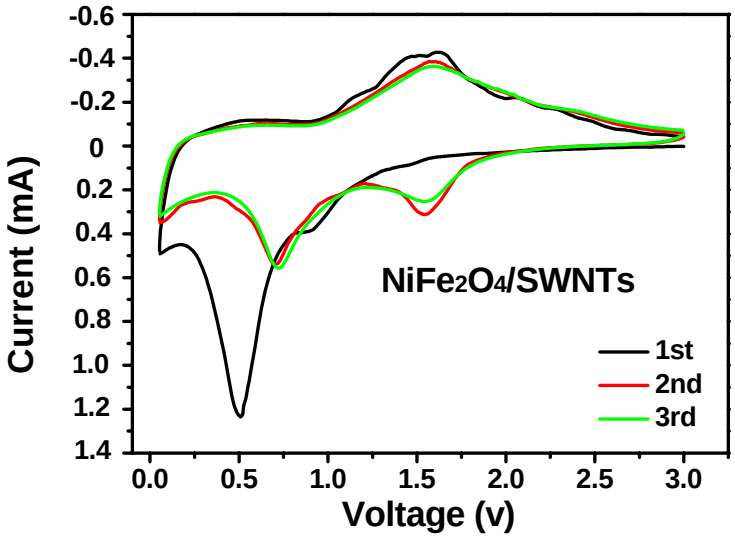

Fig. S3 Cyclic voltammetry of the $NiFe_2O_4$/SWNTs composite at a scan rate of 0.3 mV s^{-1}.

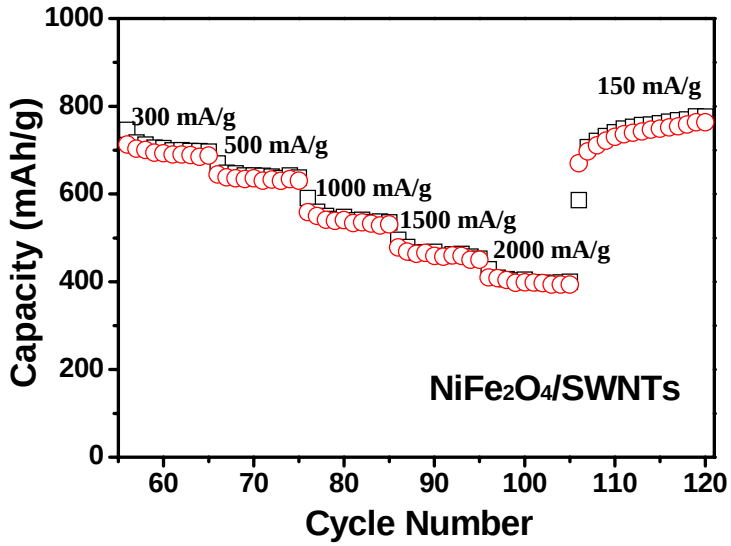

Fig. S4 Rate performance of the $NiFe_2O_4$/SWNTs composite after 55 cycles under various current densities from 150 to 2000 mA g^{-1}.

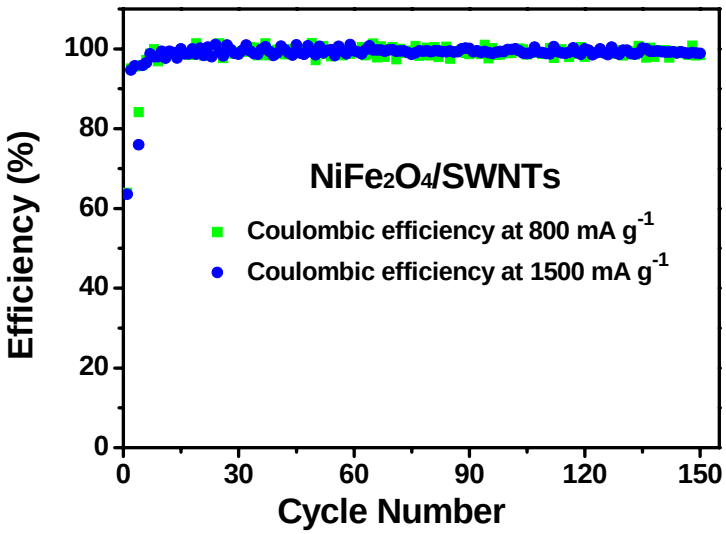

Fig. S5 Coulombic efficiency of the $NiFe_2O_4$/SWNTs composite at high current densities of 800 mA g^{-1} and 1500 mA g^{-1}.

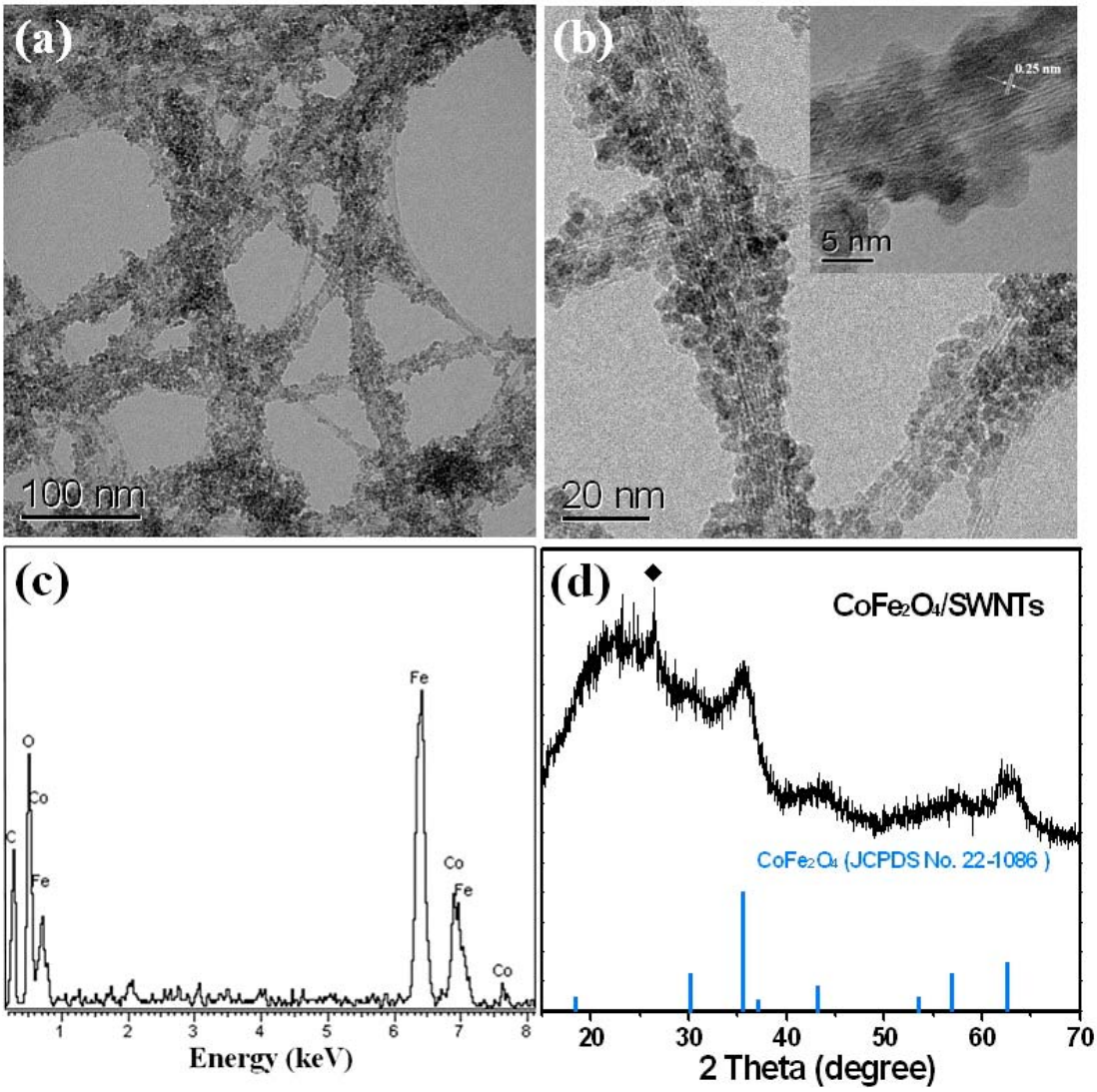

Fig. S6 Morphology and structure characterizations of the $CoFe_2O_4$/SWNTs composite: (a) and (b) TEM images; (c) EDS pattern; (d) XRD pattern.

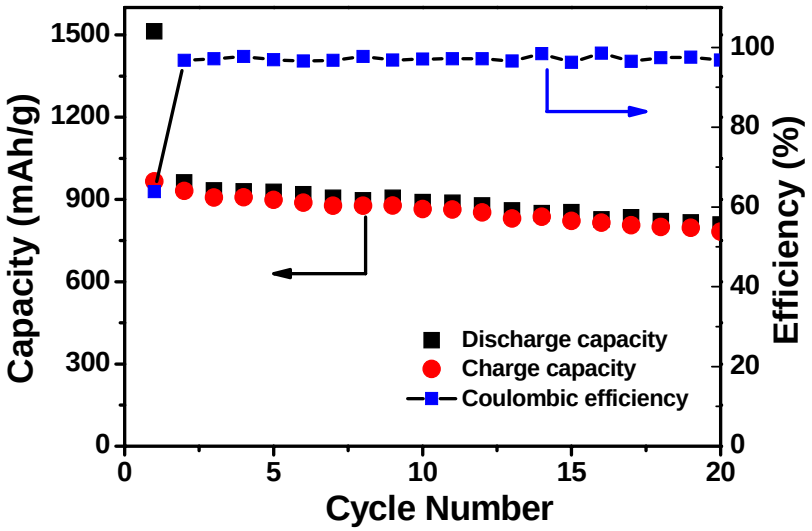

Fig. S7 Cycling performance and coulombic efficiency of the $CoFe_2O_4$/SWNTs electrode at a current density of 150 mA g^{-1}.

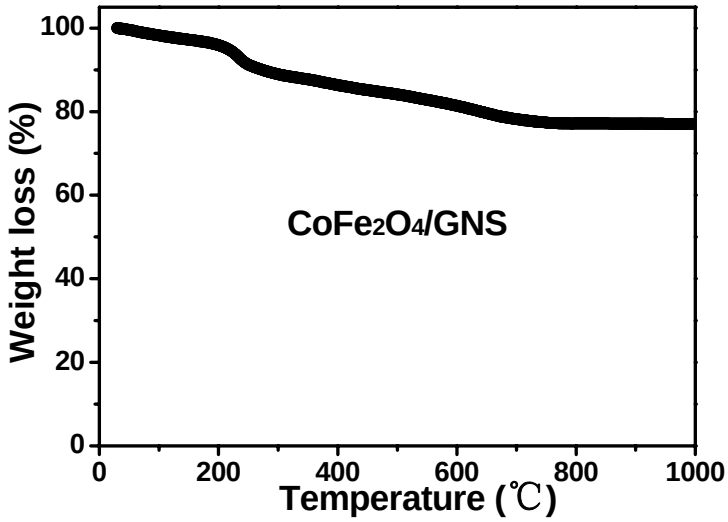

Fig. S8 Thermal gravimetric analysis (TGA) curve of the $CoFe_2O_4$/GNS composite obtained at a heating rate of 10 ℃ min^{-1} between 30 and 1000 ℃.

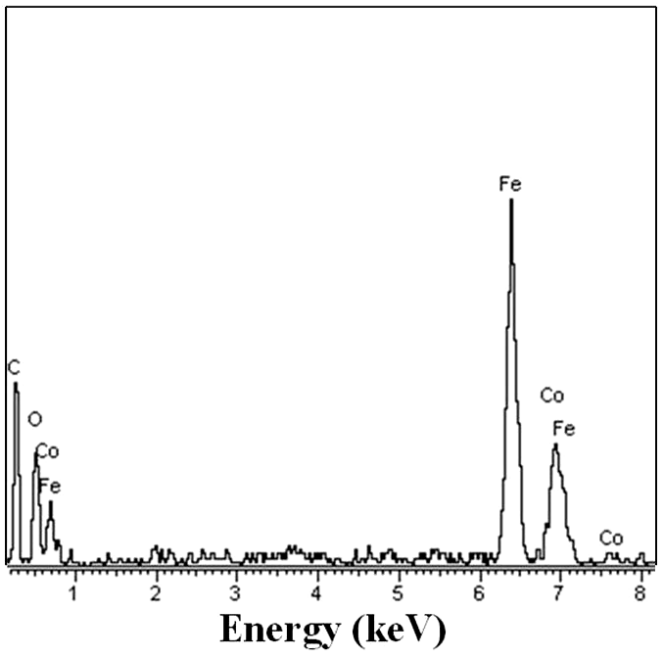

Fig. S9 EDS pattern of the $CoFe_2O_4$/GNS composite.

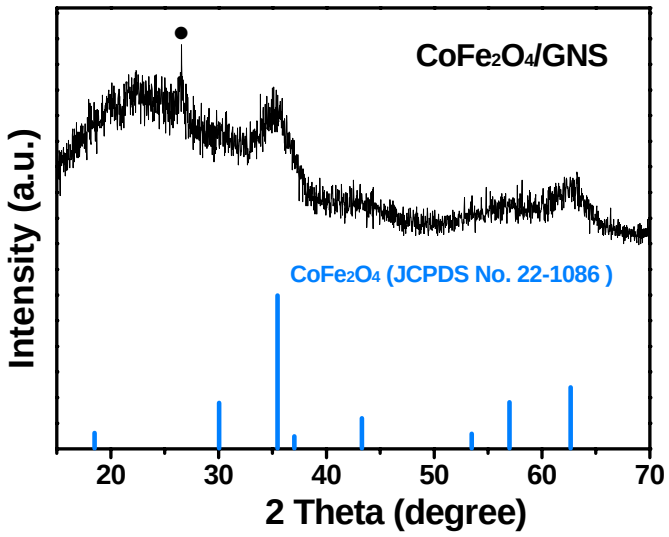

Fig. S10 XRD pattern of the $CoFe_2O_4$/GNS composite. The additional peak around 26° (marked as ◆) is from GNS.

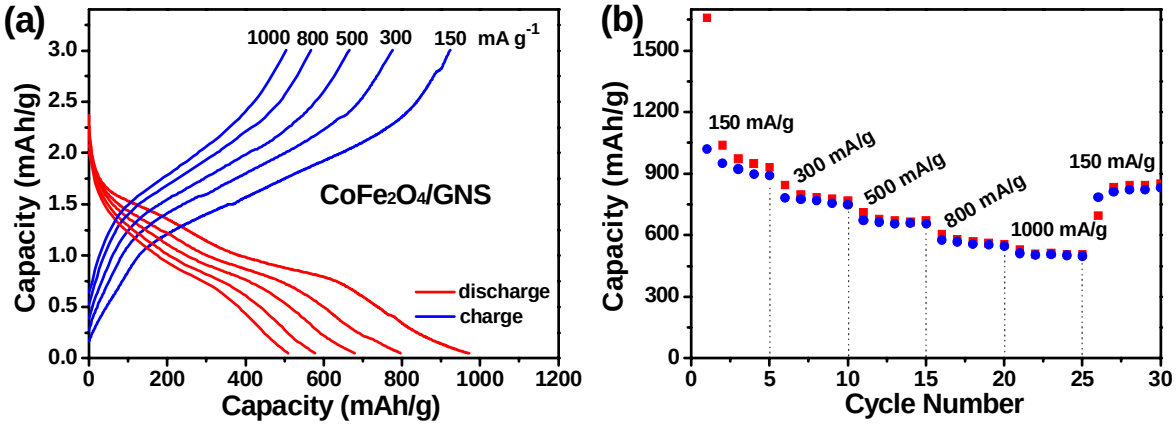

Fig. S11 (a) Discharge/charge curves and (b) Rate capabilities of the $CoFe_2O_4$/GNS composite at various current densities from 150 to 1000 mA g^{-1}.