Supporting Information for

Fe$_3$O$_4$ nanoparticles integrated graphene sheets for high-performance half and full lithium-ion cells

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Figure S1. Thermogravimetric result of RGO-Fe$_3$O$_4$ nanocomposite oxidation in air environment with a heating rate of 10 °C/min.
**Figure S2.** Raman spectroscopy of the as-prepared RGO-Fe₃O₄ nanocomposites.
Figure S3. TEM images of the as-synthesized RGO-Fe₃O₄ nanocomposites.
Figure S4. SEM (a,b), and TEM images (c,d) of pure Fe$_3$O$_4$ nanoparticles.
**Figure S5.** Galvanostatic charge/discharge profiles of pure Fe$_3$O$_4$ nanoparticles at different cycling rate of (a) 0.2C, (b) 0.5C, (c) 1C, with a cutoff voltage window of 2.8 V to 0.002 V.