

## **Supporting Information**

**for:**

**Synthesis of uniform and superparamagnetic Fe<sub>3</sub>O<sub>4</sub> nanocrystals  
embedded in a porous carbon matrix for superior lithium ion  
battery anode**

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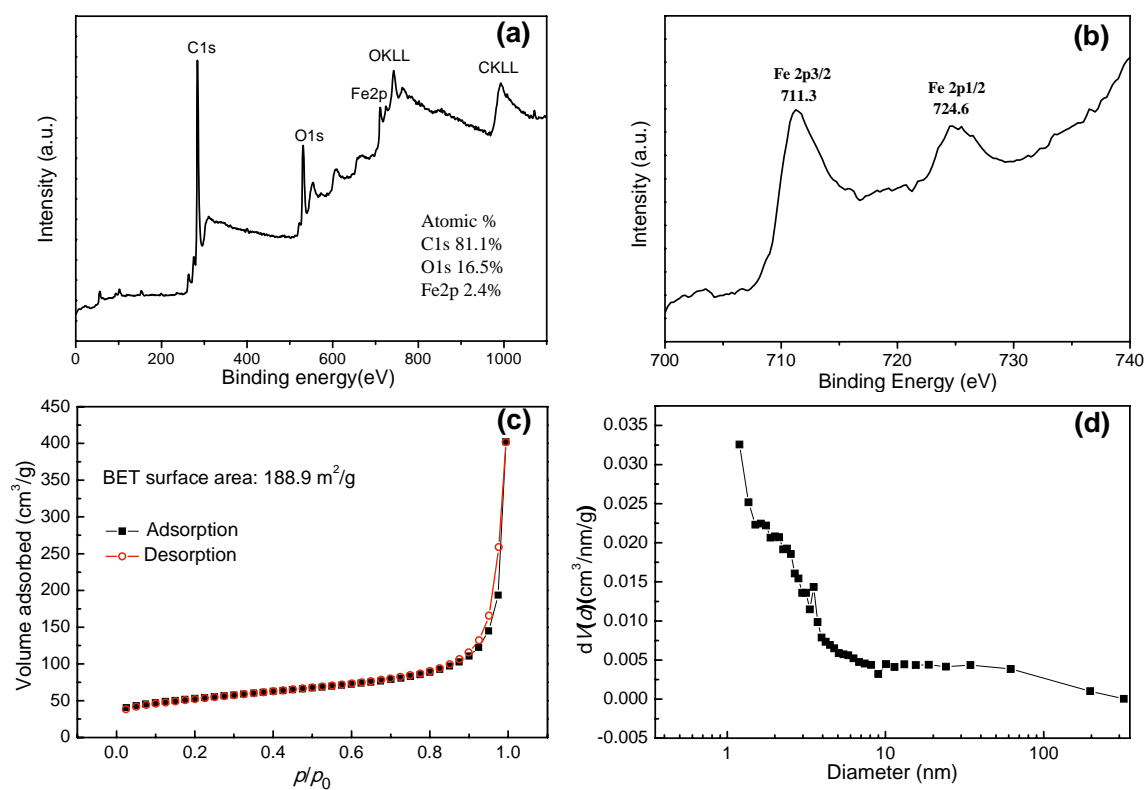


Figure S1 (a) and (b) XPS spectra of the  $\text{Fe}_3\text{O}_4/\text{C}$  composite. (c) BET specific surface area and (d) pore size distribution of the  $\text{Fe}_3\text{O}_4/\text{C}$  composite.

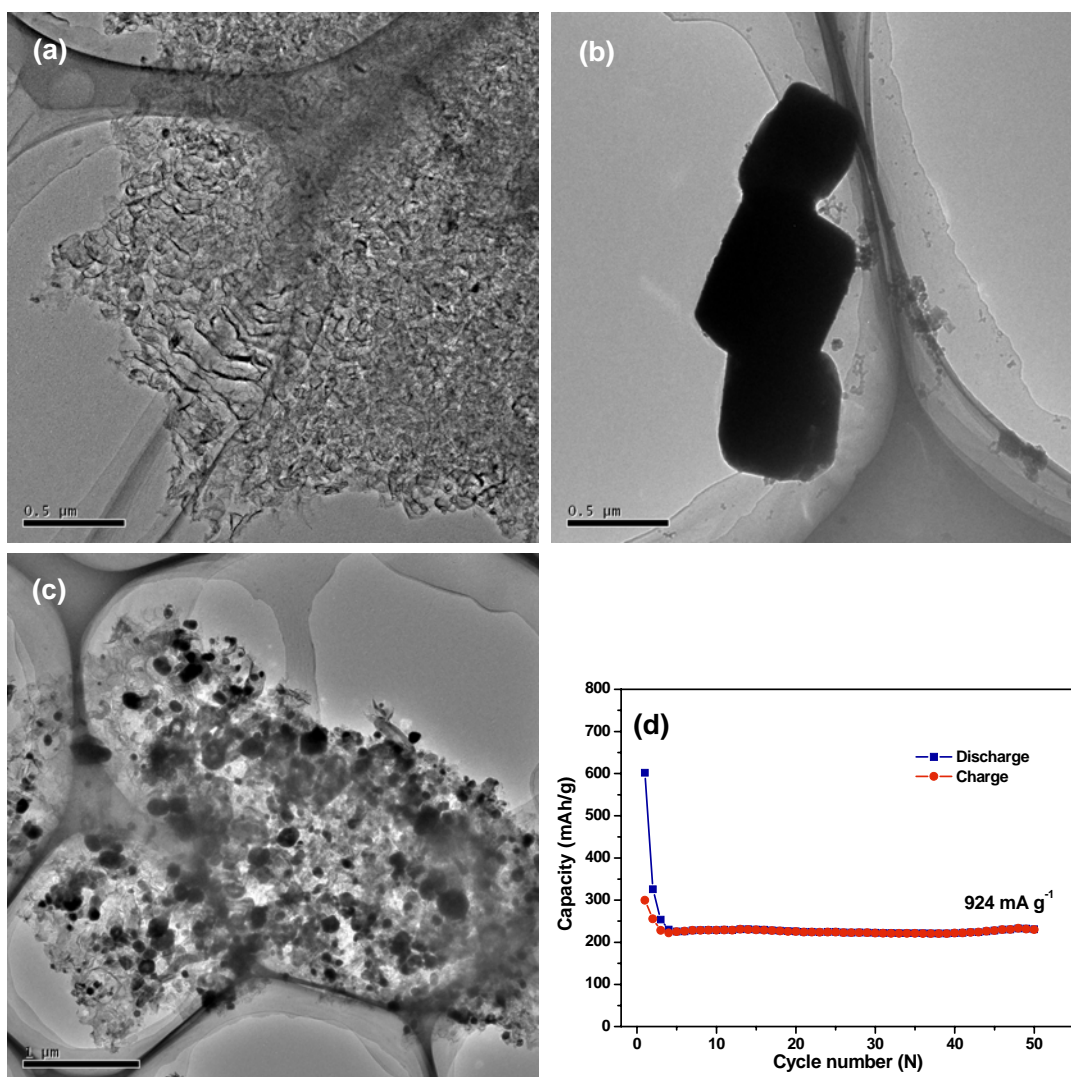


Figure S2 TEM images of the carbonization products synthesized without (a) Fe(NO<sub>3</sub>)<sub>3</sub>·9H<sub>2</sub>O, (b) citric acid, and (c) NaCl. (d) Cycling performance of bare carbon matrix obtained by removing the Fe<sub>3</sub>O<sub>4</sub> from the Fe<sub>3</sub>O<sub>4</sub>/C composite, cycling took place between 0.005 and 3.00 V vs. Li/Li<sup>+</sup> at a cycling rate of 924 mA g<sup>-1</sup>.

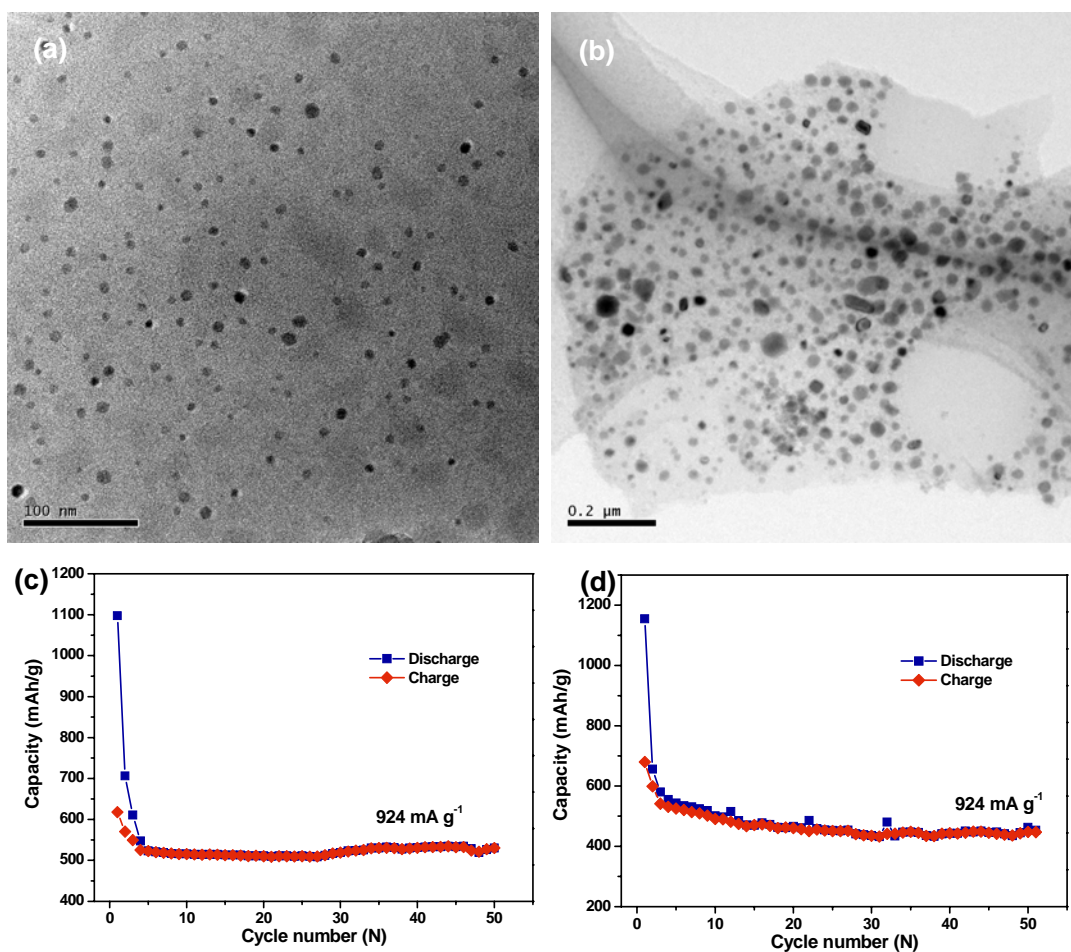


Figure S3 (a) and (b) TEM images of the Fe<sub>3</sub>O<sub>4</sub>/C composite obtained at half and double Fe(NO<sub>3</sub>)<sub>3</sub>·9H<sub>2</sub>O precursor concentration, which were indicated as sample B and C, respectively. Cycling performance of (c) sample B and (d) sample C, cycling took place between 0.005 and 3.00 V vs. Li/Li<sup>+</sup> at a cycling rate of 924 mA g<sup>-1</sup> (1 C).