

## Template free constructing hollow Fe<sub>3</sub>O<sub>4</sub> architecture embedded in N-doped graphene matrix for lithium store

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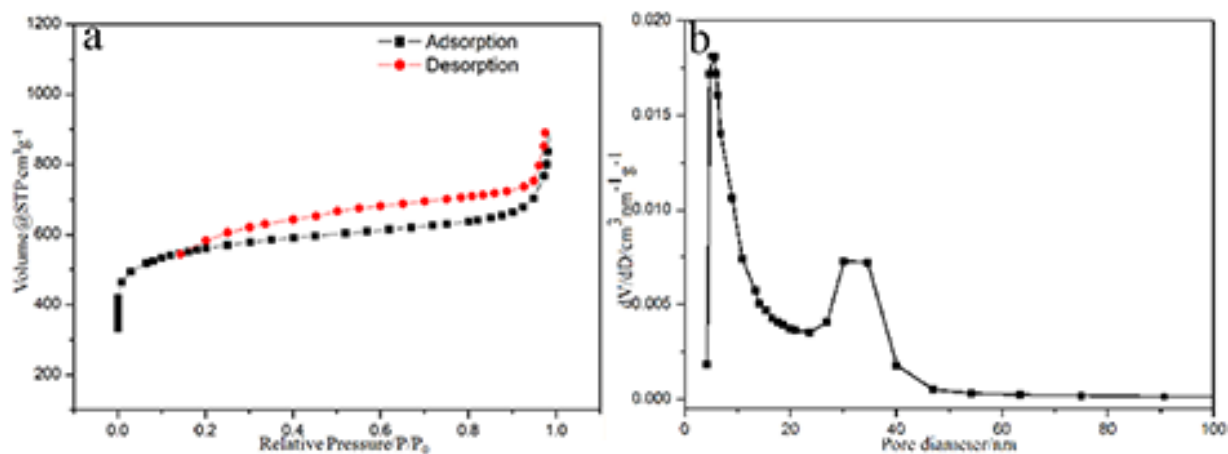
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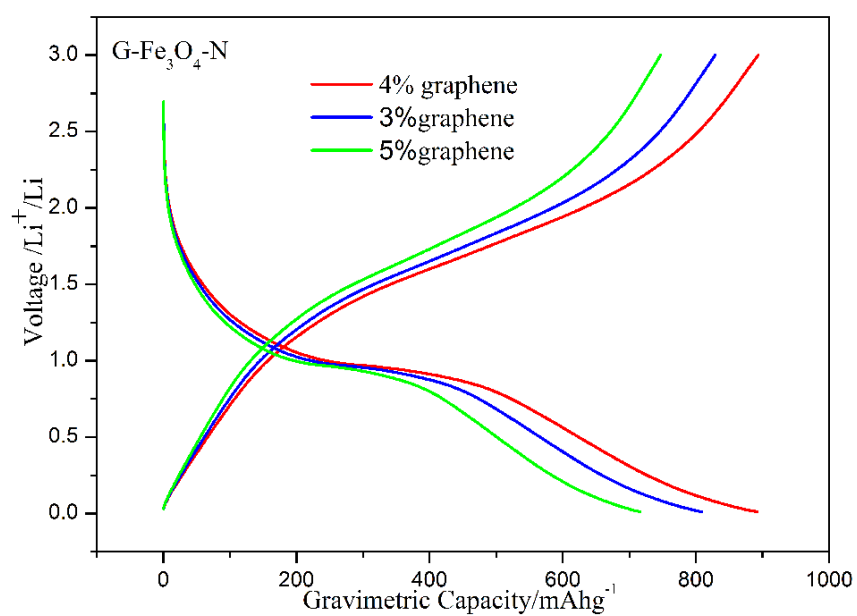
**Fig.S1(a)** N<sub>2</sub> adsorption and desorption isotherm and (b) pore size distribution of nitrogen-doped G-Fe<sub>3</sub>O<sub>4</sub>-N.

**Fig.S2** Charge/discharge curves of G-Fe<sub>3</sub>O<sub>4</sub>-N with different contents of graphene at 50mA g<sup>-1</sup> .

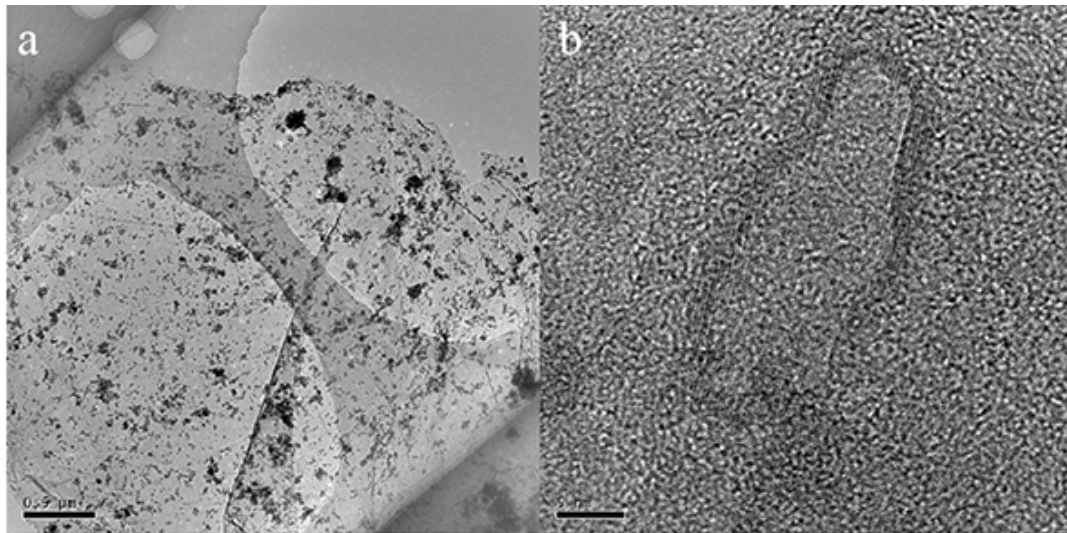
**Fig. S3(a)** The TEM image and **(b)** HRTEM image of G-Fe<sub>3</sub>O<sub>4</sub>-N after 200th cycles.



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