

Supplementary Information

Facile synthesis of core–shell porous Fe₃O₄@C microspheres with high lithium storage performance

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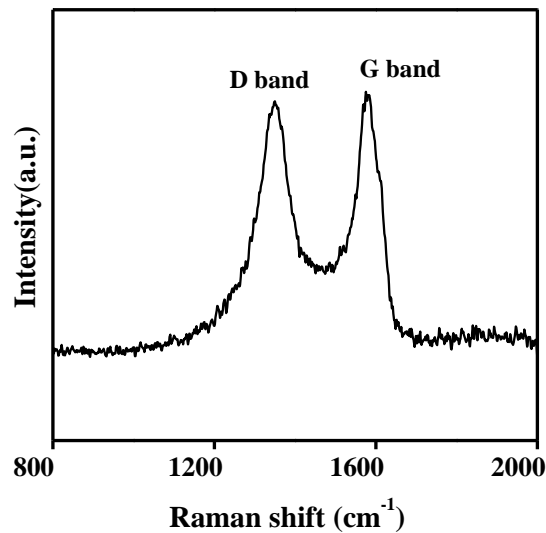


Fig.S1 Raman spectra of the CP-Fe₃O₄@C composite.

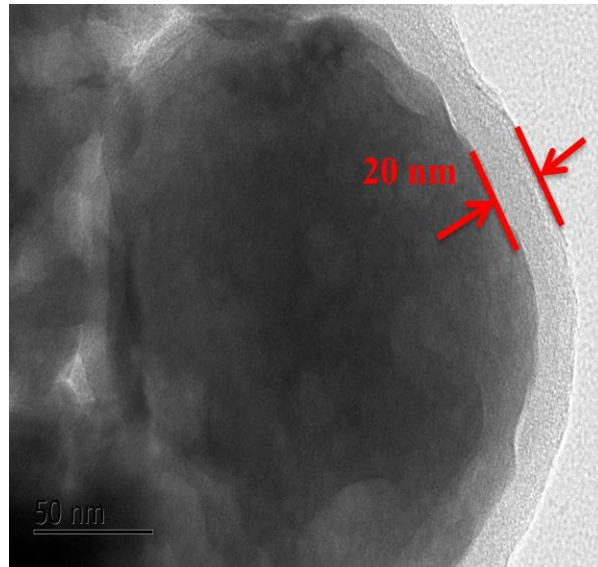


Fig.S2 TEM of the CP-Fe₃O₄@C composite.

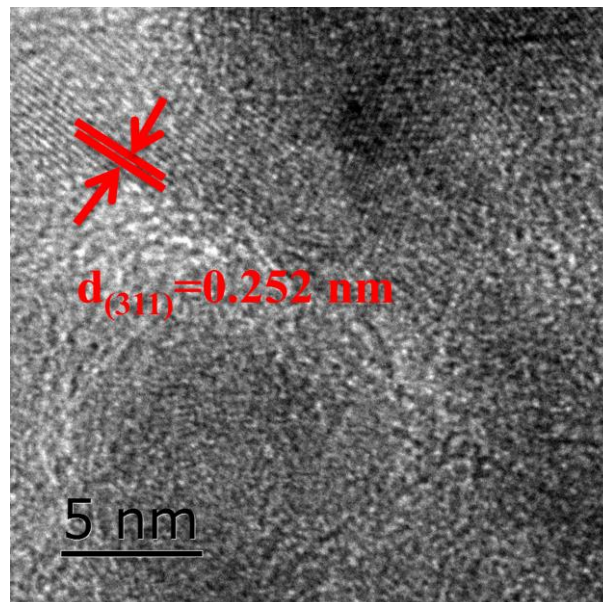


Fig.S3 High-resolution TEM image of CP-Fe₃O₄@C composite.

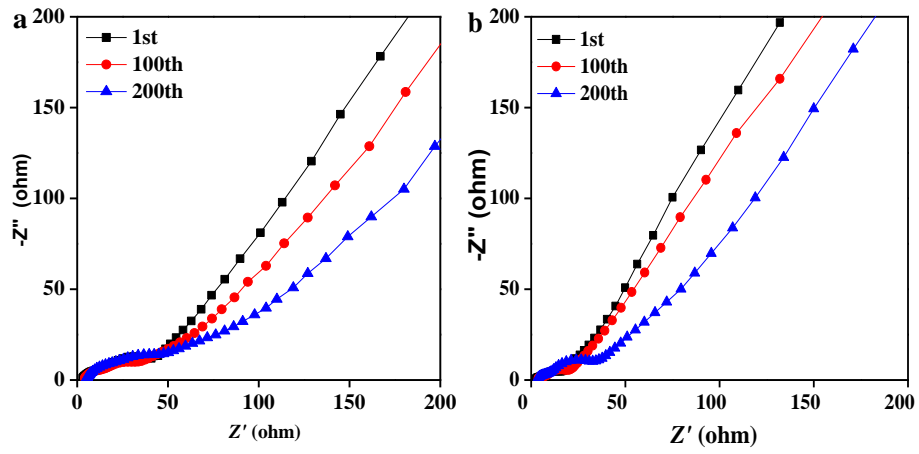


Fig.S4 Nyquist plots of (a) the $\text{Fe}_3\text{O}_4@GU$ and (b) Fe_2O_3 at different cycles.

Tab.S1 The synthetic methods and electrochemical lithium storage performance of different Fe₃O₄/carbon composites

Samples	Preparation method	Cyclic life	References
C@Fe ₃ O ₄ @C	Hydrothermal and Thermal treatment	1194 mAh g ⁻¹ after 120 cycles at 0.05 A g ⁻¹	Liu[1] et al. 2017
magnetite@carbon	chemical vapor deposition	1100 mAh g ⁻¹ after 60 cycles at 0.1 A g ⁻¹	Luo[2] et al. 2015
Fe ₃ O ₄ /Carbon	Hydrothermal and carbonizing	878.7 mAh g ⁻¹ after 200 cycles at 0.2 A g ⁻¹	Wang[3] et al. 2015
Fe ₃ O ₄ /carbon	Hydrothermal	762.1 mAh g ⁻¹ after 50 cycles at 0.1 C	Xiong[4] et al. 2012
Fe ₃ O ₄ /C microspheres	solvothermal calcination	747 mAh g ⁻¹ after 50 cycles at 0.1 A g ⁻¹	Liu[5] et al. 2014
Fe ₃ O ₄ -reduced graphene oxide	Microwave assisted combustion synthesis	612 mAh g ⁻¹ after 50 cycles at 1 C	Bhuvaneswari[6] et al. 2014
Fe ₃ O ₄ /Graphene	Solvothermal	907 mAh g ⁻¹ after 65 cycles at 0.0926 A g ⁻¹	Jing[7] et al. 2014
core-shell porous Fe ₃ O ₄ /carbon	Solvothermal	785 mAh g ⁻¹ after 200 cycles at 0.3 A g ⁻¹	This work

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[3]L. Wang, J. Wu, Y. Chen, X. Wang, R. Zhou, S. Chen, Q. Guo, H. Hou, Y. Song, Hollow Nitrogen-doped Fe₃O₄/Carbon Nanocages with Hierarchical Porosities as Anode Materials for Lithium-ion Batteries, Electrochem. Acta. 186 (2015) 50–57.

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