

**A green and fast strategy for the scalable synthesis of Fe₂O₃/graphene
with significantly enhanced Li-ion storage properties**

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I Experimental Section

Graphene oxide (GO) was prepared from graphite powders according to a modified Hummers' method.¹ The detail procedures were the same as our published studies.²⁻⁴

Synthesis of HGs (commercial hematite/graphene) The GO was mixed with commercial Fe₂O₃ with a weight rate of 8:2 by sonicating. Then, 1 mL N₂H₄·H₂O was added in and the mixture was refluxed for 15 min with a microwave heater. Thirdly, the resulting products were collected by centrifugation, washed repeatedly with deionized water and dried under vacuum at 353 K for 24 h. Finally, HGs were achieved by treating the dry products at 493 K in Ar atmosphere to remove the impurities. The oxygen-containing groups were removed during the reduction procedures, therefore the weight ratio of Fe₂O₃ to graphene in HGs was about 8.4:1.6, which was similar to that of HGCs.

References

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II Synthesizing HGCs at Large Scale



Figure S1. The weight of HGCs which could be prepared by a large reactor.

III FESEM Images of Anode Materials on Copper Foils

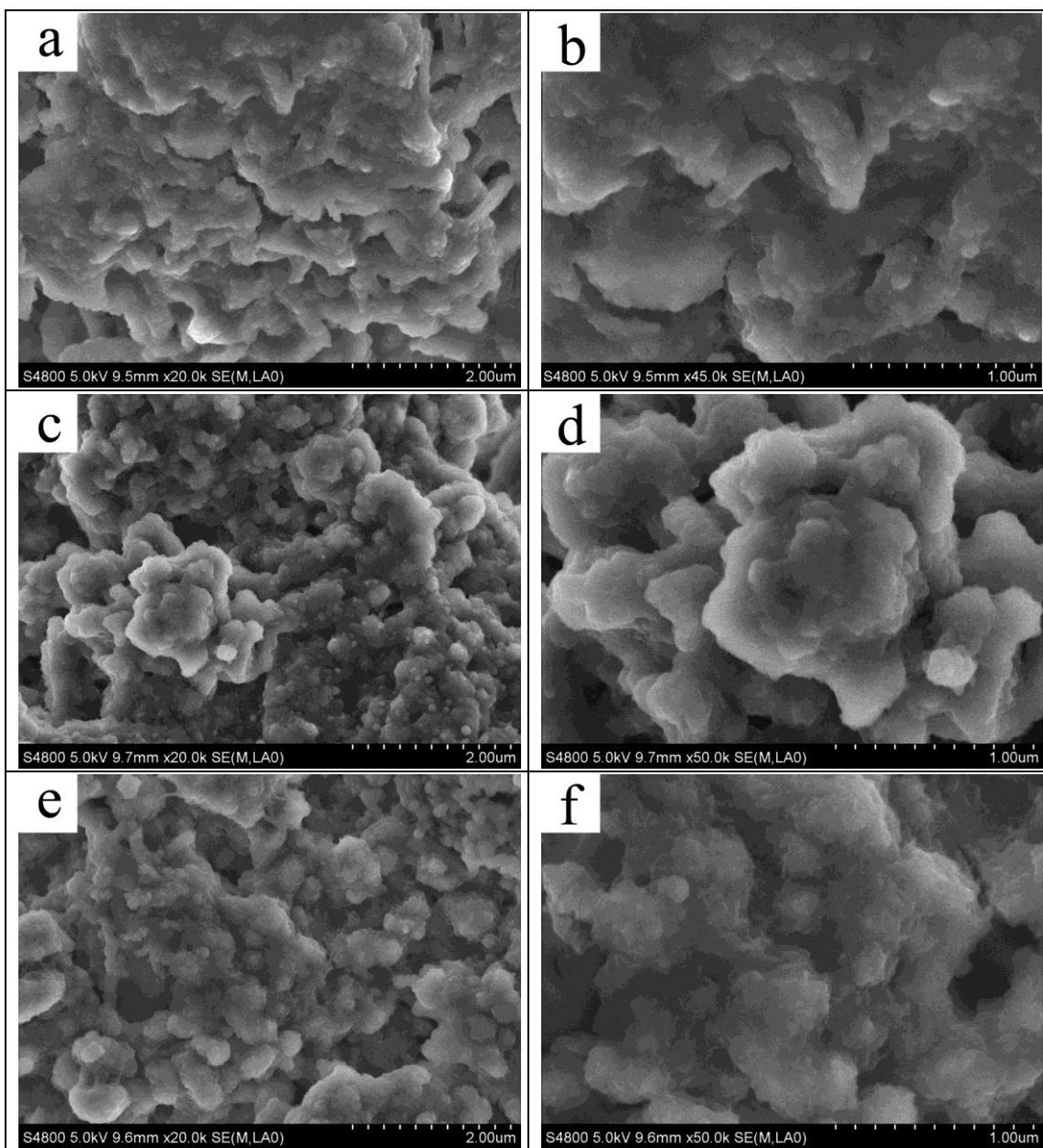


Figure S2. FESEM images of HGCs (a, b), HGs (c, d) and CHs (e, f) on copper foils after 100 cycles.