Short Communication

One pot synthesis of Fe₂O₃-reduced graphene nanocomposite as cathode material for Lithium Ion Batteries

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Due to their advantages of a high voltage, high specific capacity, long cycling life, low pollution, etc., lithium-ion batteries are widely used in consumer electronics, such as smart phones and laptops. Fe₂O₃ is chosen as the object of study in this work. Combining Fe₂O₃ with RGO allows for combining the advantages of a high specific surface area, high stability and high electrical conductivity to produce a new material for high-performance cathodes. The Fe₂O₃/RGO composite exhibits a remarkably high reversible specific capacity of 1582 mAh/g with a specific discharge capacity of 812 mAh/g at 0.1C after 100 cycles.

Keywords: Lithium-ion batteries; Cathode materials; Graphene; Fe₂O₃; Hydrothermal

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