Graphene@SnO_2 Nanocomposites using Supercritical Methanol as a High-Performance Anode for Lithium Ion Battery

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To prevent the aggregation and pulverization of SnO2 and improve the performance as anode materials for lithium battery, a facile and efficient method to composite graphene@SnO2 was fabricated by using supercritical methanol and methanol as both solvent and oxidant. In the fabrication process, SnO2 nanoparticles are to be uniformly decorated on the graphene. And the electrochemical test showed a high-performance for lithium battery. The method presented is a simple, economic and green for the preparation of metal-oxide@graphene nanocomposites.