Short Communication

Synthesis of Si-SiO_x/rGO/PPy Composite as Anode Material for Li-ion Batteries via in-situ Polymerization Process

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Si-SiO_x/rGO/PPy composite is successfully synthesized via in-situ polymerization process, and then investigated by X-ray diffraction (XRD), scanning electron microscope (SEM), transmission electron microscopy (TEM), infrared Spectroscopy (IR) and charge-discharge test. It is proved that Si-SiO_x/rGO/PPy composite possesses much better electrochemical performance in comparison with Si-SiO_x and Si-SiO_x/rGO composites. It possesses a reversible lithium capacity of 1478.3 mAh·g⁻¹ at 100 mA·g⁻¹, and 30.4% of its capacity is remained after 70 cycles.

Keywords: Si-SiO_x; rGO; PPy, Anode material; In-situ polymerization

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