Short Communication

Facile Synthesis of Hierarchical MnO@C Nanoplates for High-Performance Lithium-Ion Batteries

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A facile strategy for synthesis of hierarchical MnO@C nanoplates has been developed *via* one-step pyrolysis of Mn-glycolate coordination polymers. Core-shell MnO@C nanoparticles with ultrasmall sizes as the primary building blocks are interconnected to construct porous nanoplates. The unique architecture is favorable for the fast diffusion of lithium ions and electrons, accommodating the volume change of MnO during the lithiation/delithiation process and alleviating the side reactions on the interface between MnO and electrolyte. As a result, these hierarchical MnO@C nanoplates exhibit fascinating Li⁺ storage performance such as high reversible capacities, good cycling stability and rate capability when served as an anode material for lithium-ion batteries.

Keywords: MnO; Nanocomposite; Anode material; Lithium-ion battery; Energy storage and conversion

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