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CCEPTED MANUSCRIPT

Hierarchical flower-like SnS grafted with glucosamine-derived

nitrogen-doped carbon enhanced reversible Li-storage with

performance

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Abstract:

A simple hydrothermal plus annealing method has been developed to fabricate

SnS/NC nanocomposites and their electrochemcial Li-storage performance has also

been investigated. The as-prepared composites are characterized by XRD, SEM, EDS,

Raman, BET and XPS. In this composite, ultrathin SnS nanosheets are well hybridized

with glucosamine-derived nitrogen-doped carbon to form hierarchical porous

architectures with large surface areas. Benefiting from the desirable structural merits as

well as the generated synergism between components, the SnS/NC composite electrode

delivers an enormously enhanced electrochemical lithium-storage performance

including large reversible capacity of 832 mA h g⁻¹ after 100 cycles, enhanced

cyclability and superior high-rate capability.

Keywords: Tin sulfides; N-doped carbon; Nanocomosites; Anode; Li-ion battery.

Introduction

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