



# Hierarchical flower-like SnS grafted with glucosamine-derived nitrogen-doped carbon with enhanced reversible Li-storage performance

Limei Xu<sup>a</sup>, Lin Ma<sup>a\*,b</sup>, Xiaoping Zhou<sup>a</sup>, Yan Ling<sup>a</sup>, Xiaolang Wang<sup>a</sup> and Meifeng Chen<sup>a</sup>

*a. School of Chemistry and Chemical Engineering, Engineering Research Center for Clean Energy Materials Chemistry of Guangdong, Lingnan Normal University, Zhanjiang 524048, P. R. China*

*b. Department of Physics, Zhejiang University, Hangzhou 310027, P.R. China.*

## Abstract:

A simple hydrothermal plus annealing method has been developed to fabricate SnS/NC nanocomposites and their electrochemical 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<sup>-1</sup> after 100 cycles, enhanced cyclability and superior high-rate capability.

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

## Introduction

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\* Corresponding author. Tel.: +86 759 3174025; Fax: +86 759 3183510.

E-mail address: mal@lingnan.edu.cn

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