

## Synthesis of SnO Novel Cabbage Nanostructure and Its Electrochemical Property as an Anode Material for Lithium Ion Battery

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**Abstract :** The novel 3D SnO cabbages self-assembled by nanosheets were successfully synthesized via template-free hydrothermal growth method under facile conditions. The XRD results manifest that the as-prepared SnO is tetragonal phase. The TEM and HRTEM results show that the cabbage nanosheets are polycrystalline structure consisted of considerable single-crystalline nanoparticles. Two typical Raman modes  $A_{1g}=210$  and  $E_g=112$   $\text{cm}^{-1}$  of SnO are observed by Raman spectroscopy. Moreover, galvanostatic cycling tests has been performed using the SnO cabbages as anode material of lithium ion battery and the electrochemical results suggest that the synthesized SnO cabbage structures are a promising anode material for lithium ion batteries.

**Keywords :** electrochemical property, hydrothermal synthesis, lithium ion battery, stannous oxide

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