

## Supporting Information

### Synthesis of SnO<sub>2</sub> pillared carbon using long chain alkylamine grafted graphene oxide: An efficient anode material for Lithium ion batteries.

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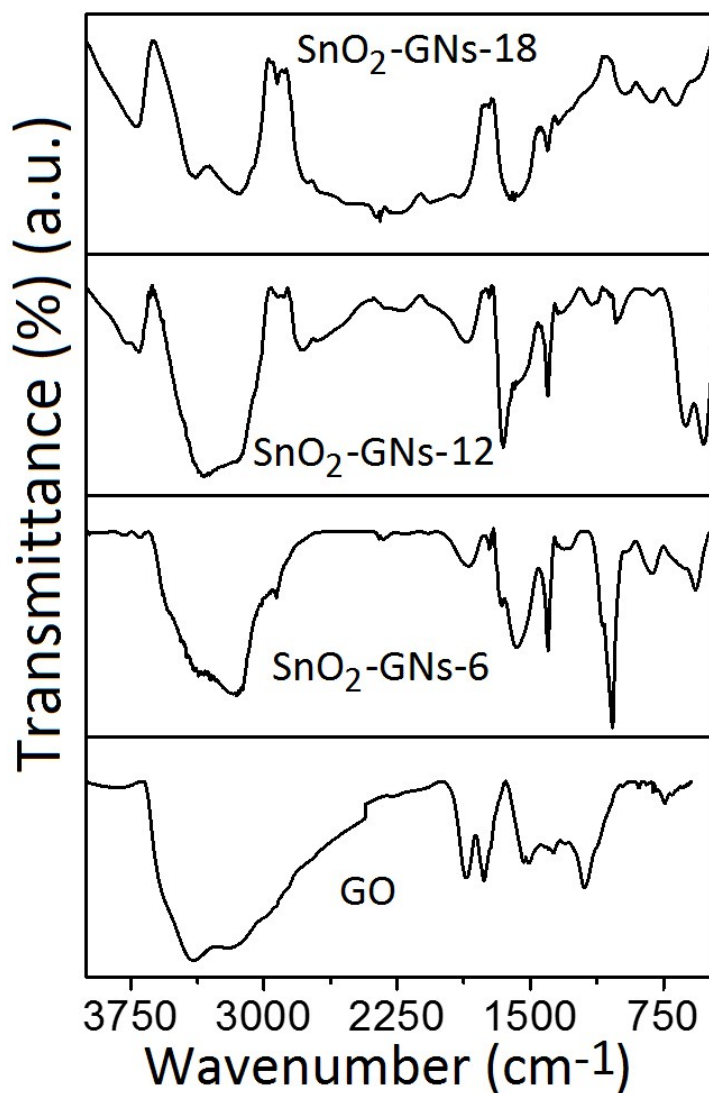


Fig. S1 FT-IR spectra of GO and SnO<sub>2</sub> pillared carbon

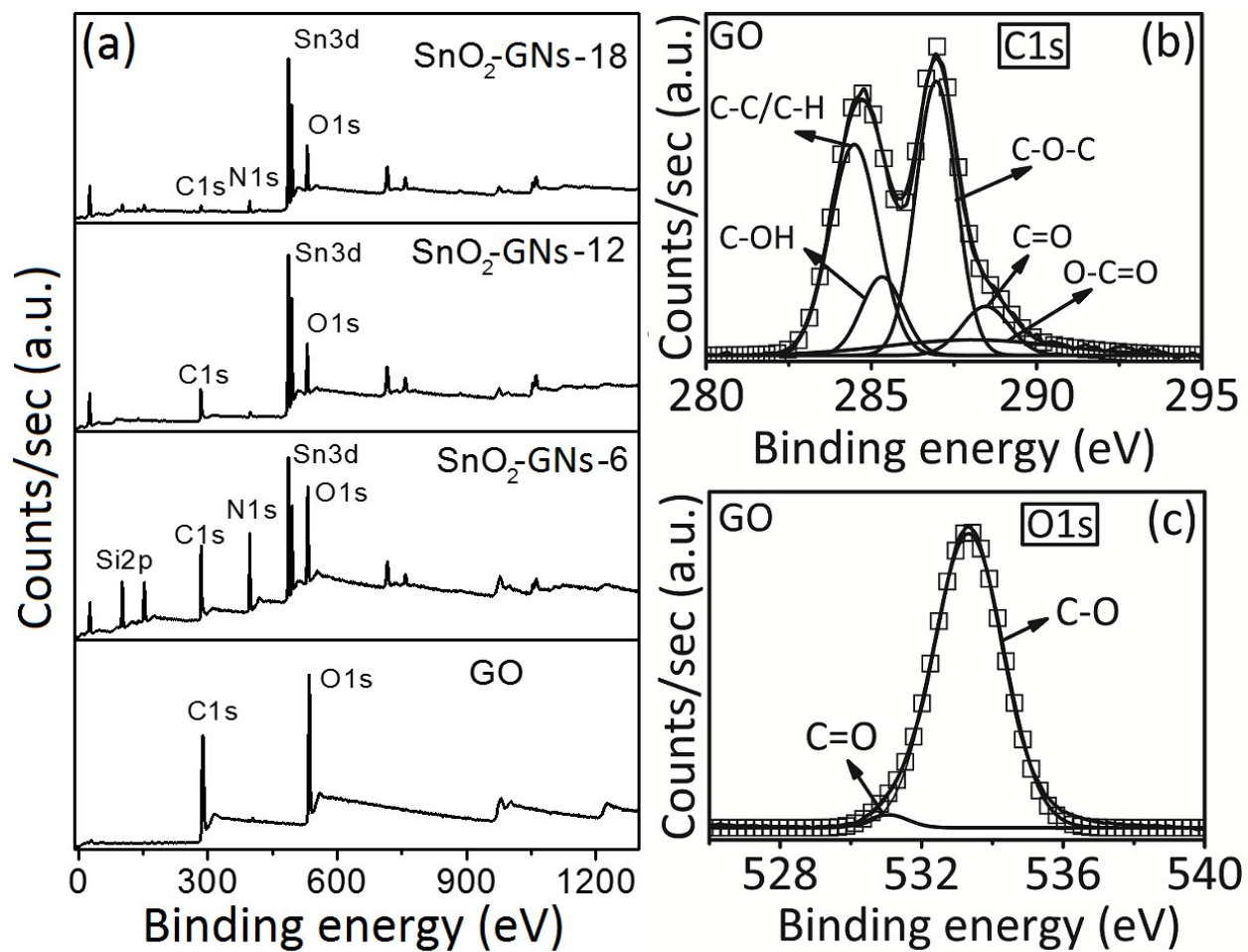


Fig. S2 XPS survey scan results of GO and SnO<sub>2</sub> pillared carbon (a) and high resolution C1s (b) and O1s spectra (c) of GO

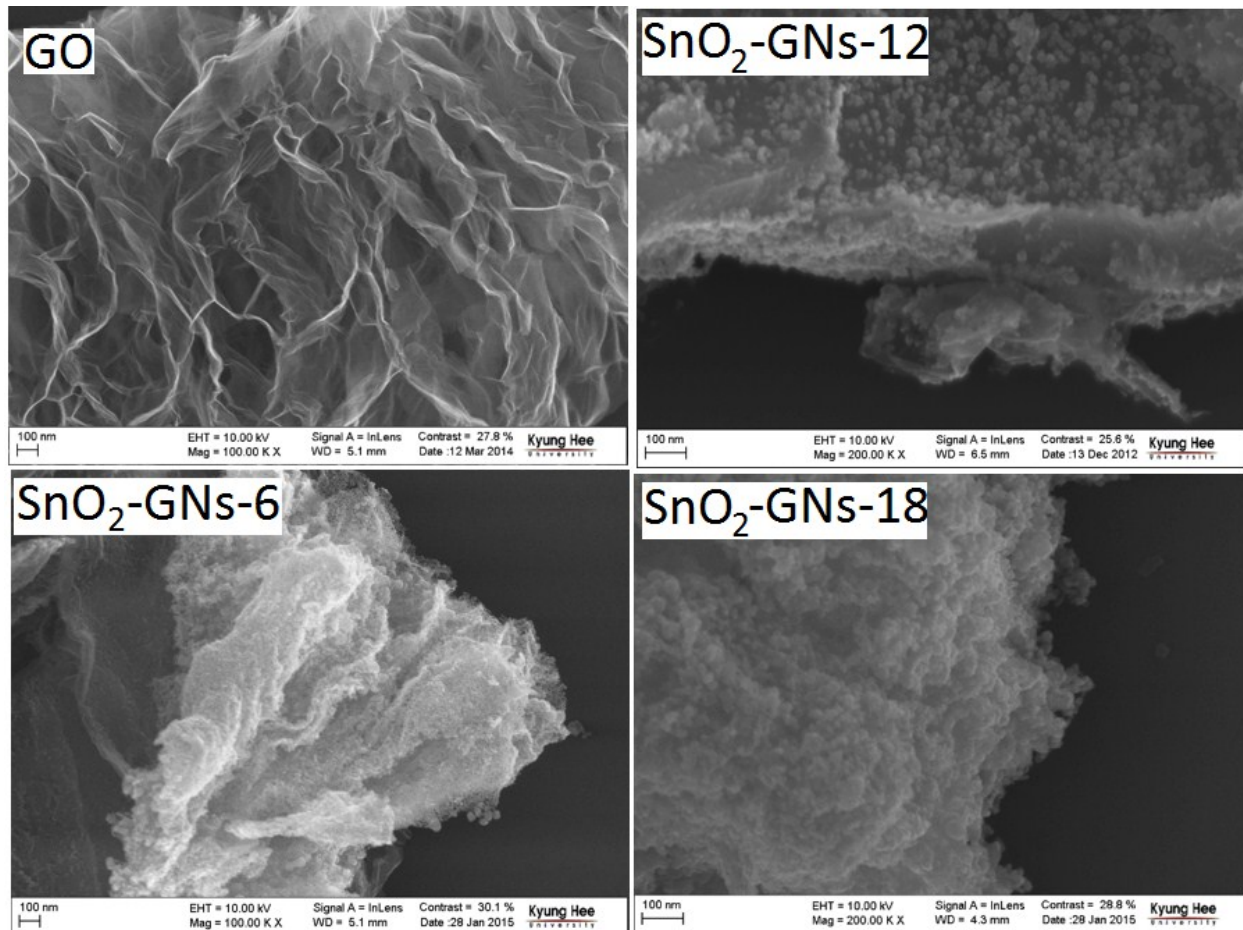


Fig. S3 FE-SEM images of GO and SnO<sub>2</sub> pillared carbon

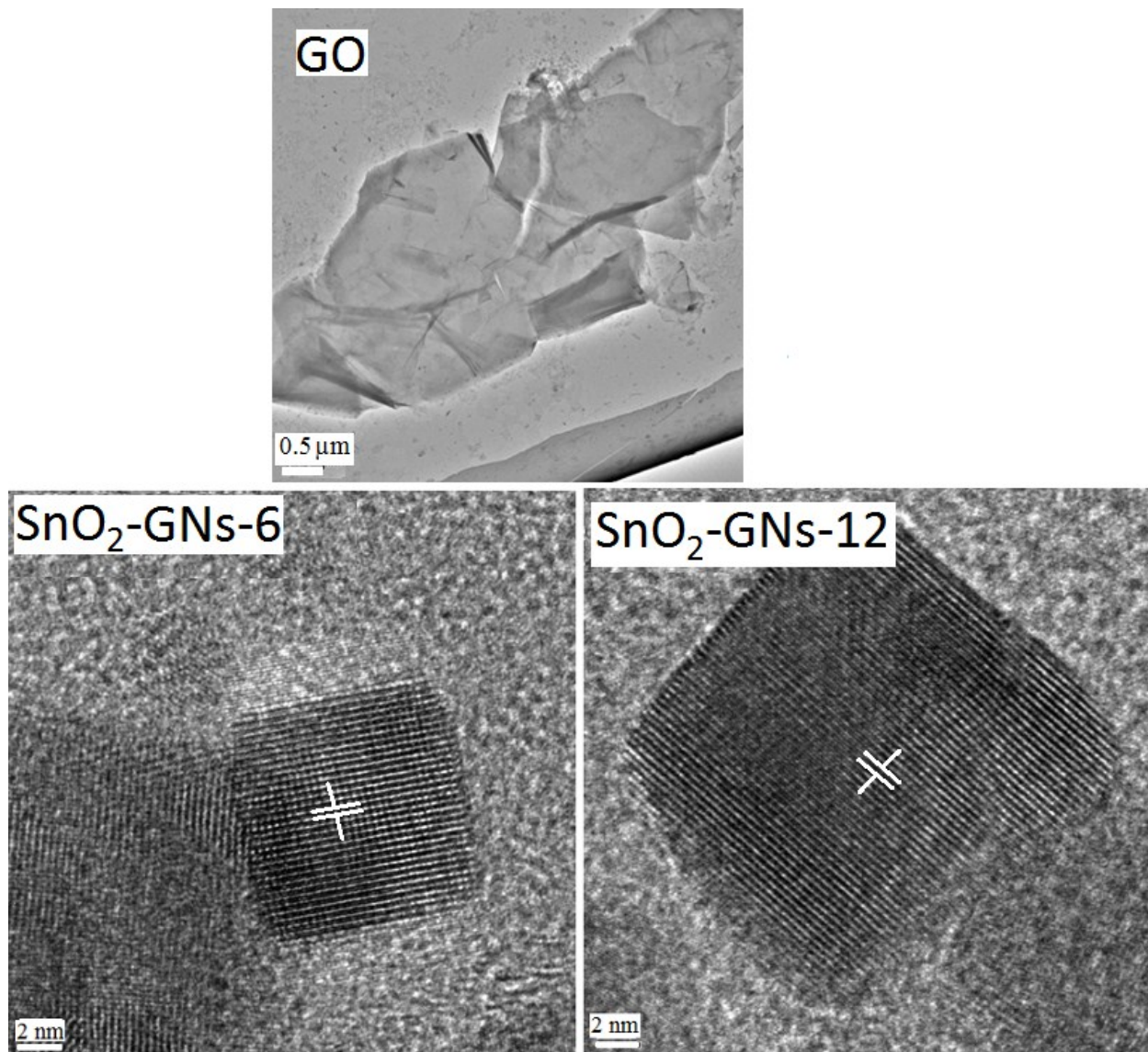


Fig. S4 TEM images of pristine GO and lattice images of SnO<sub>2</sub> crystals

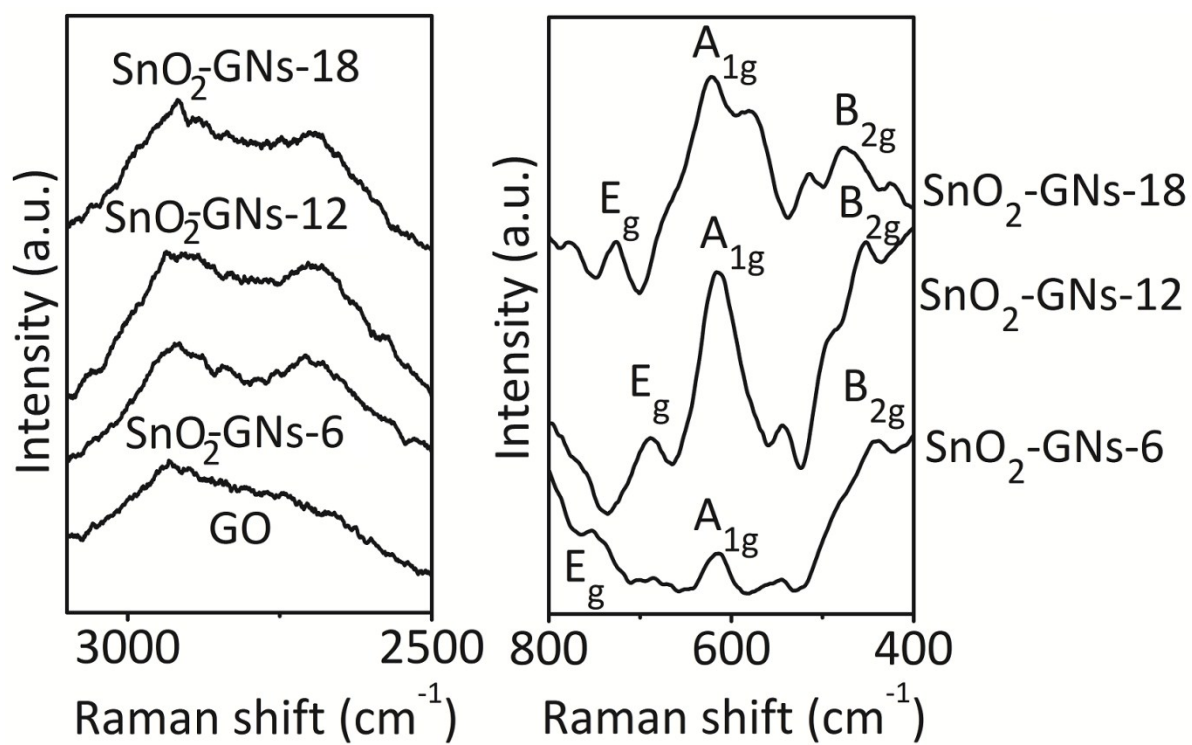


Fig. S5 Raman spectroscopic results of GO and SnO<sub>2</sub> pillared carbon at selected ranges

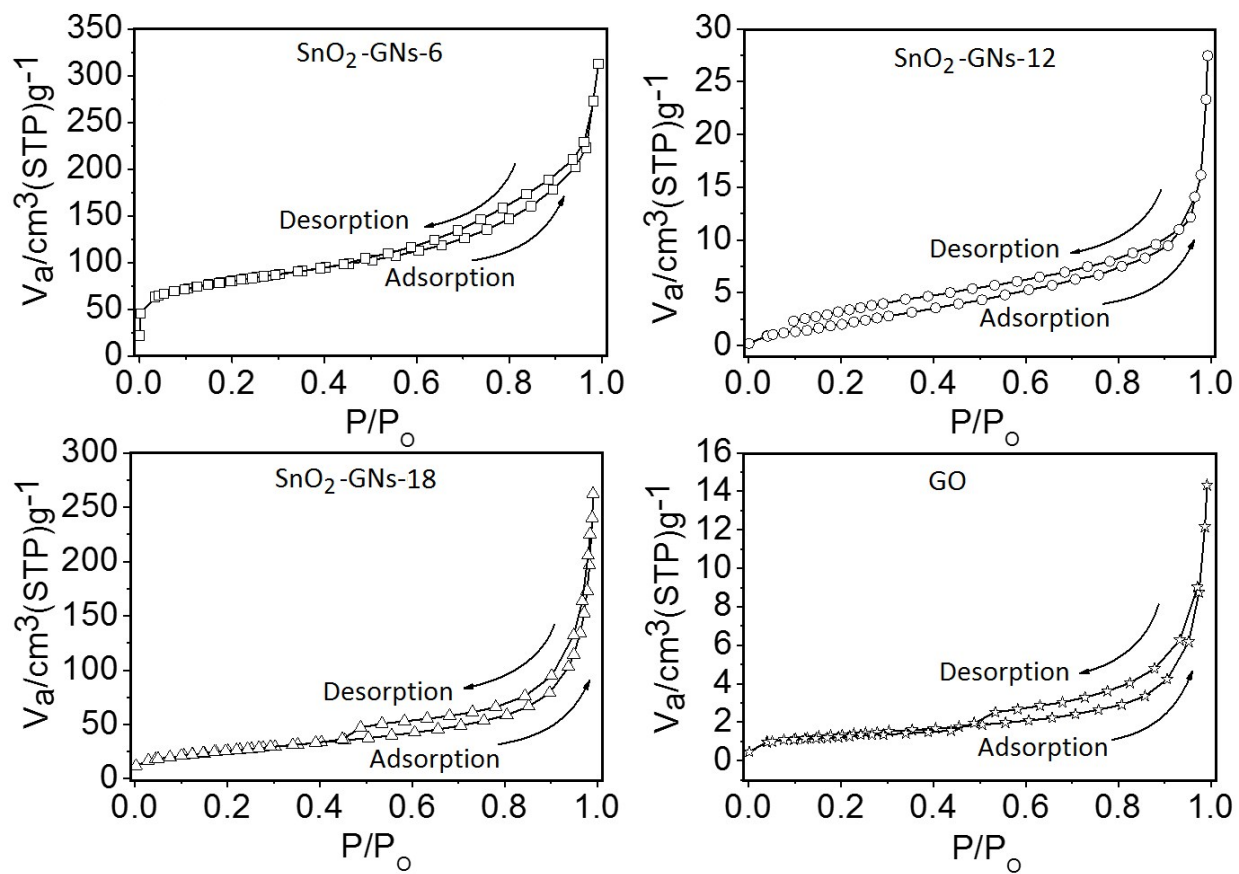


Fig. S6 BET N<sub>2</sub> adsorption-desorption curves of GO and SnO<sub>2</sub> pillared carbons

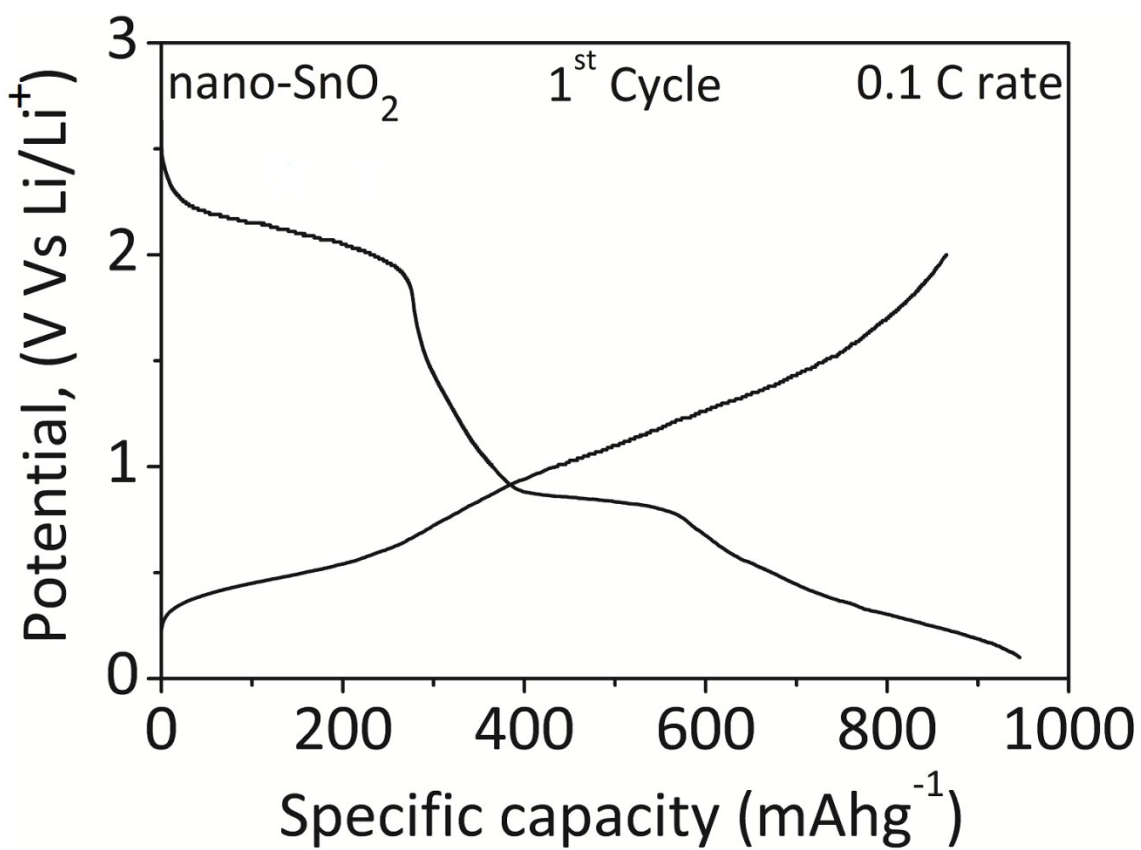


Fig. S7 Electrochemical charge-discharge profile for 1<sup>st</sup> cycle of nano-SnO<sub>2</sub> based electrodes

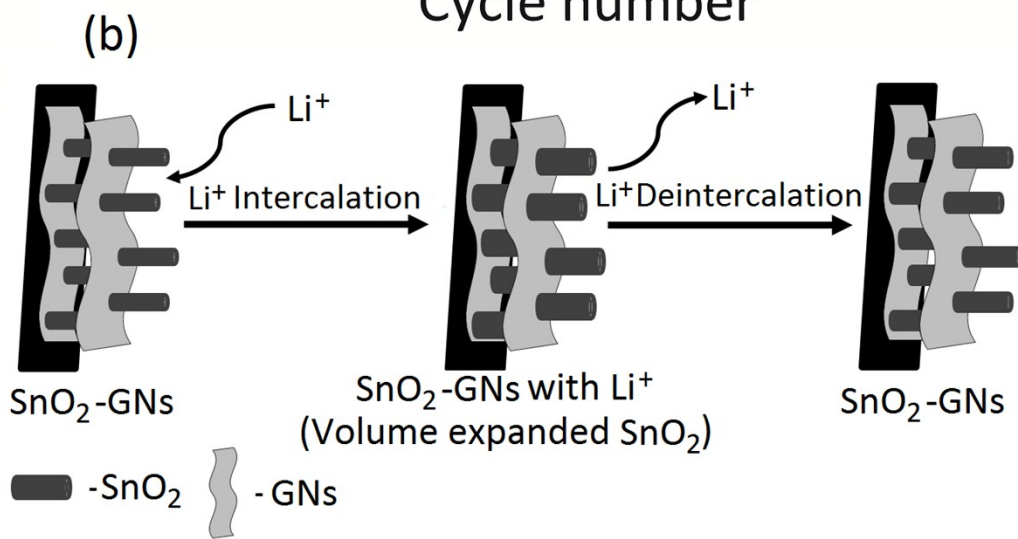
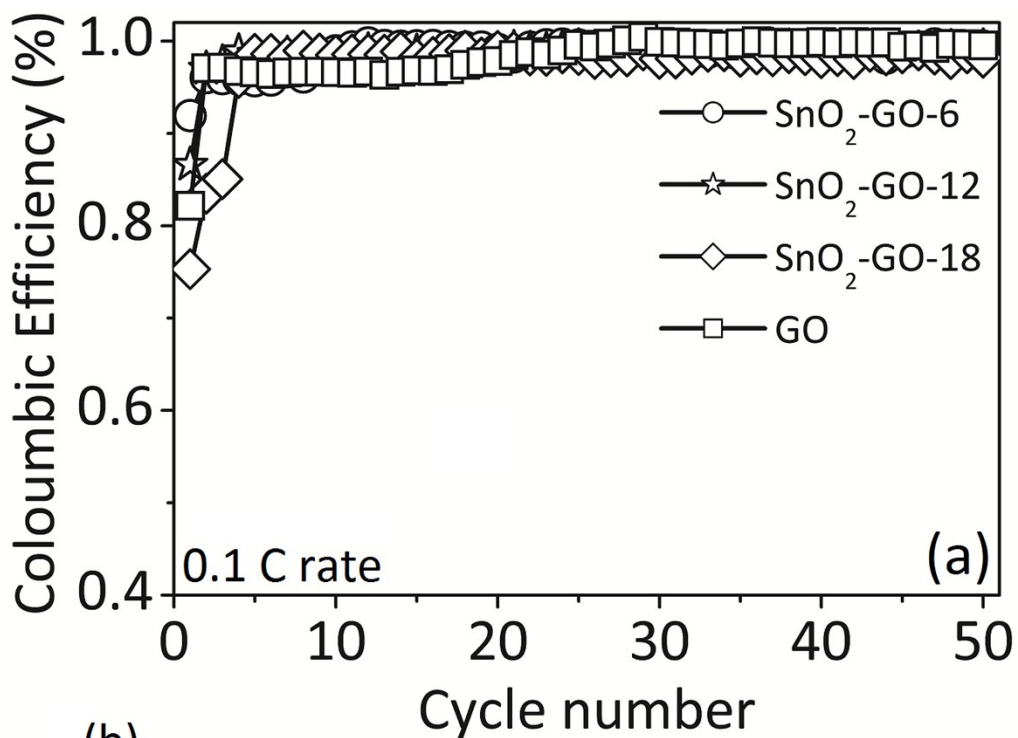


Fig. S8 (a) Variation of coulombic efficiency with cycle number of GO and SnO<sub>2</sub> pillared carbon (b) Possible mechanism of lithium-ion intercalation and deintercalation process in SnO<sub>2</sub> pillared carbon



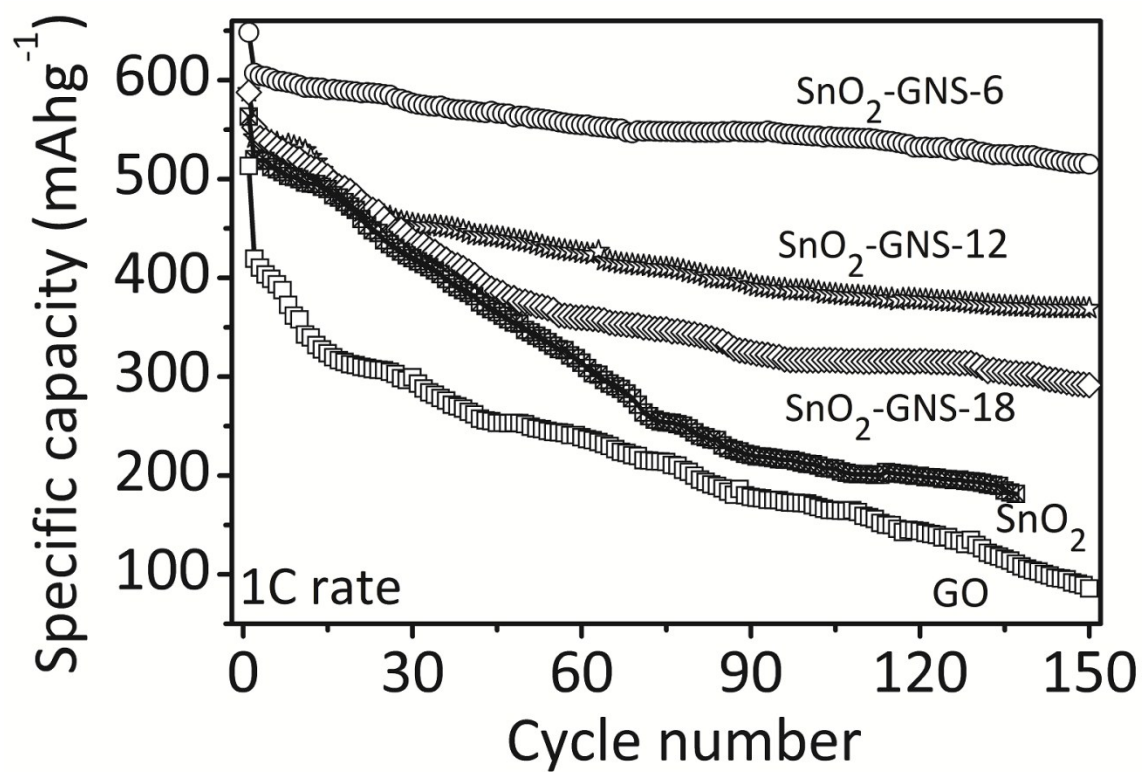


Fig. S9 Cyclic performance of GO, SnO<sub>2</sub> pillared carbon (SnO<sub>2</sub>-GNS-6; SnO<sub>2</sub>-GNS-12; SnO<sub>2</sub>-GNS-18) and nano-SnO<sub>2</sub> based electrodes

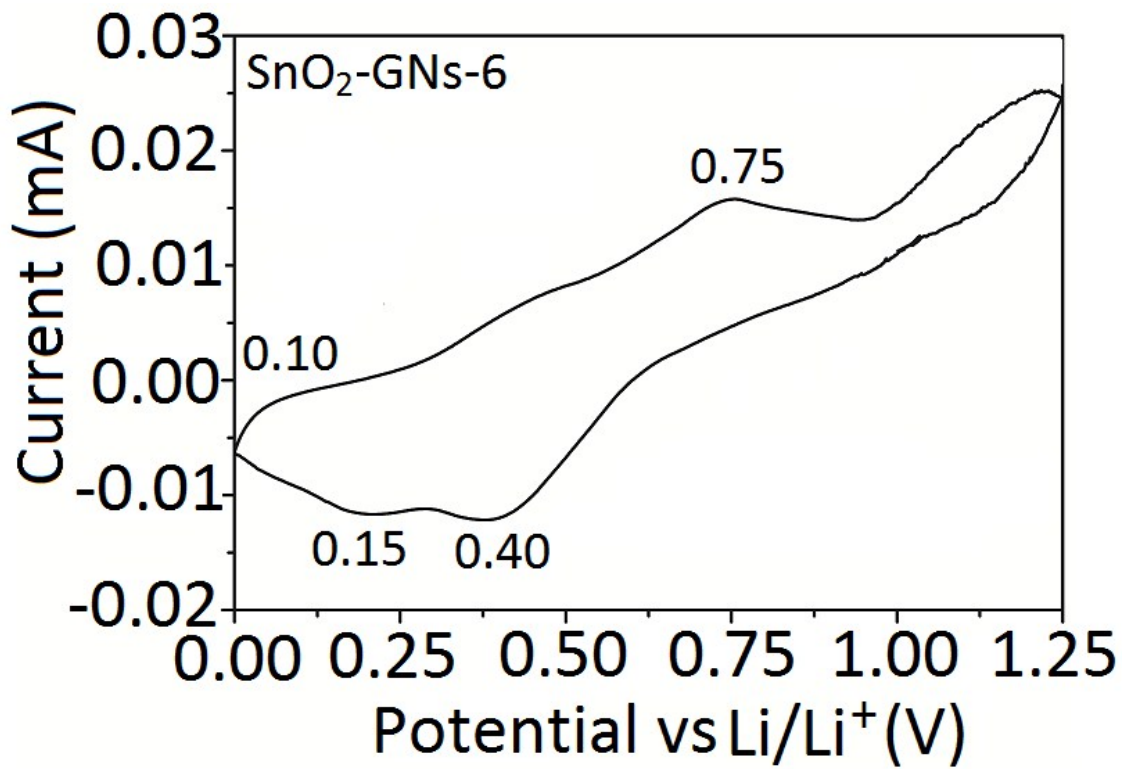


Fig. S10 Cyclic voltammetry results of representative SnO<sub>2</sub>-GNs-6

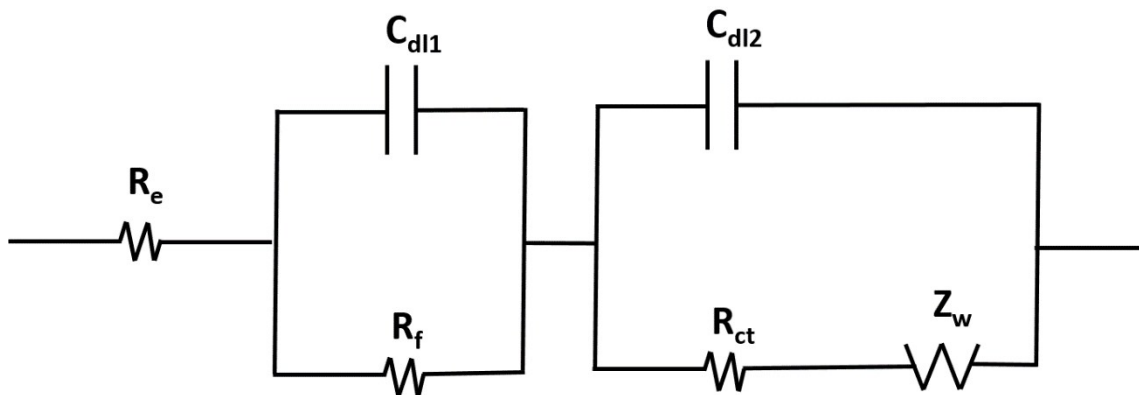


Fig. S11 Model used to calculate various resistance values using EIS data.