Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Facile synthesis of SnO_2 nanocrystals anchored onto graphene nanosheets as the anode material for lithium-ion batteries

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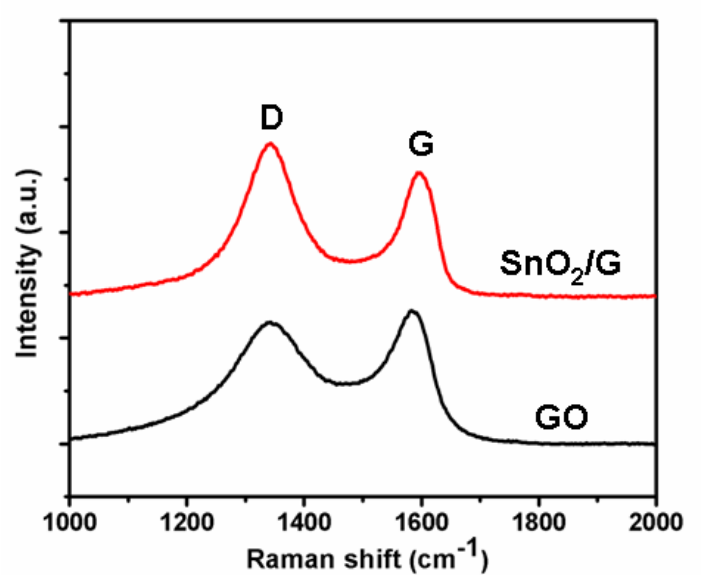

Fig. S1 Raman spectra of the as-prepared SnO_2/graphene nanocomposite (red) and graphene oxide nanosheets (black).

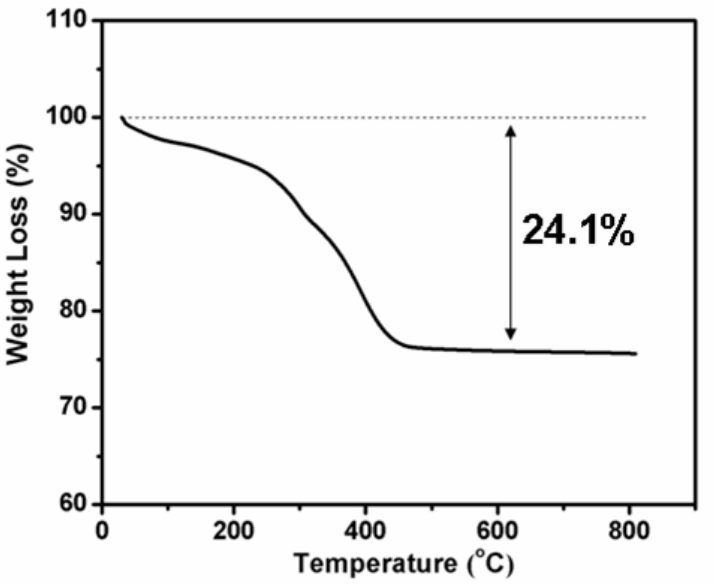

Fig. S2 TG analysisi of the as-prepared SnO_2/graphene nanocomposite under air flow with a temperature ramp of 10℃ min^{-1}.

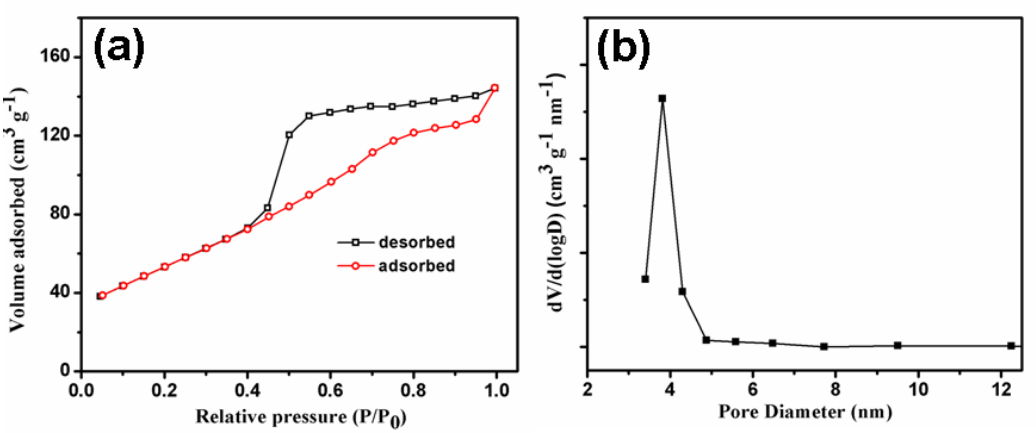

Fig. S3 (a) Nitrogen adsorption/desorption isotherm and (b) Barrett-Joyner-Halenda (BJH) pore size distribution plot of the as-prepared SnO_2/graphene nanocomposite.

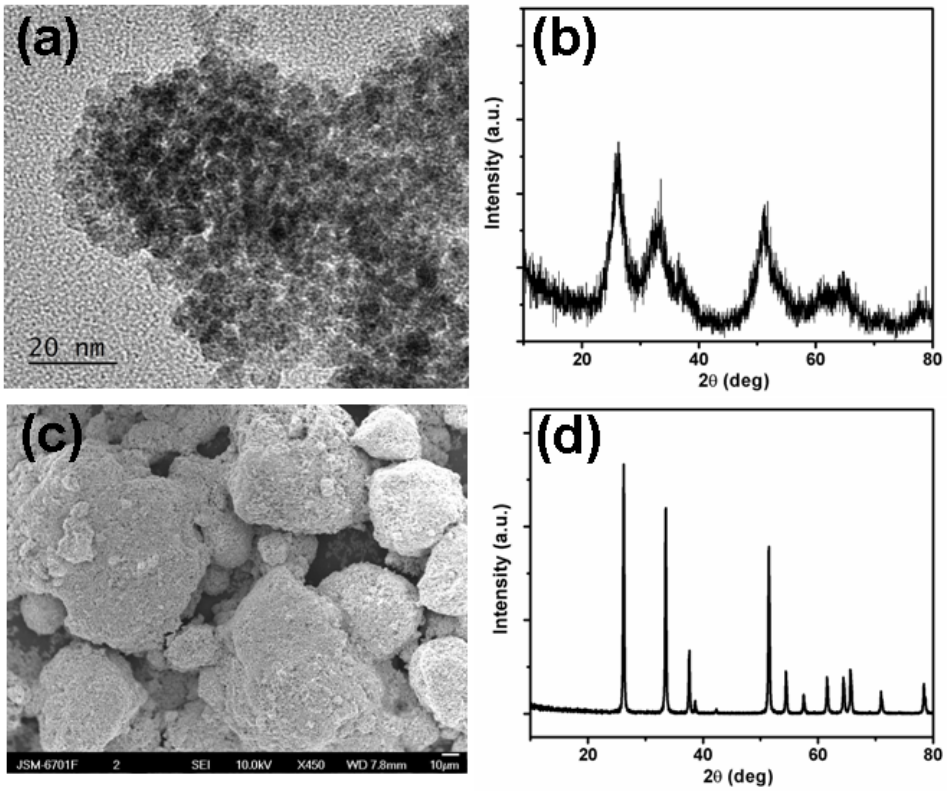

Fig. S4 (a) TEM image and (b) XRD pattern of the bare SnO_2 nanoparticles. (c) SEM image and (d) XRD pattern of the bulk SnO_2 powders.

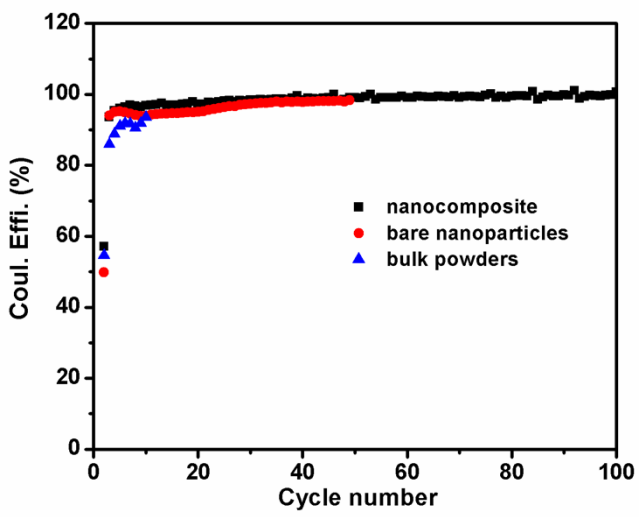

Fig. S5 Coulombic efficiency for the electrodes of SnO_2/graphene nanocomposite, bare SnO_2 nanoparticles and bulk SnO_2 powders in the voltage range of 0.01-3.0 V (versus Li^+/Li) at a current density of 500 mA g^{-1}.

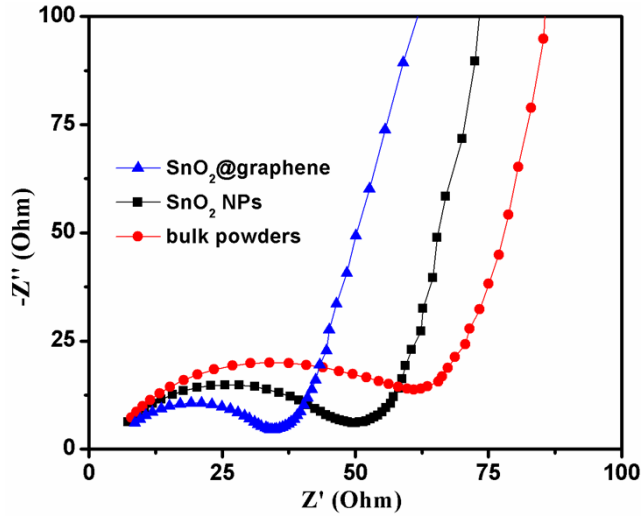

Fig. S6 Nyquist plots of the electrode made from SnO_2/graphene nanocomposite, bare SnO_2 nanoparticles and bulk SnO_2 powders before cycling obtained by applying a sine wave with amplitude of 10.0 mV over the frequency range 100 kHz-10 mHz.