Electronic Supplementary Information (SI)

Facile fabrication of SnO_2@TiO_2 core-shell structures as anode materials for lithium-ion batteries

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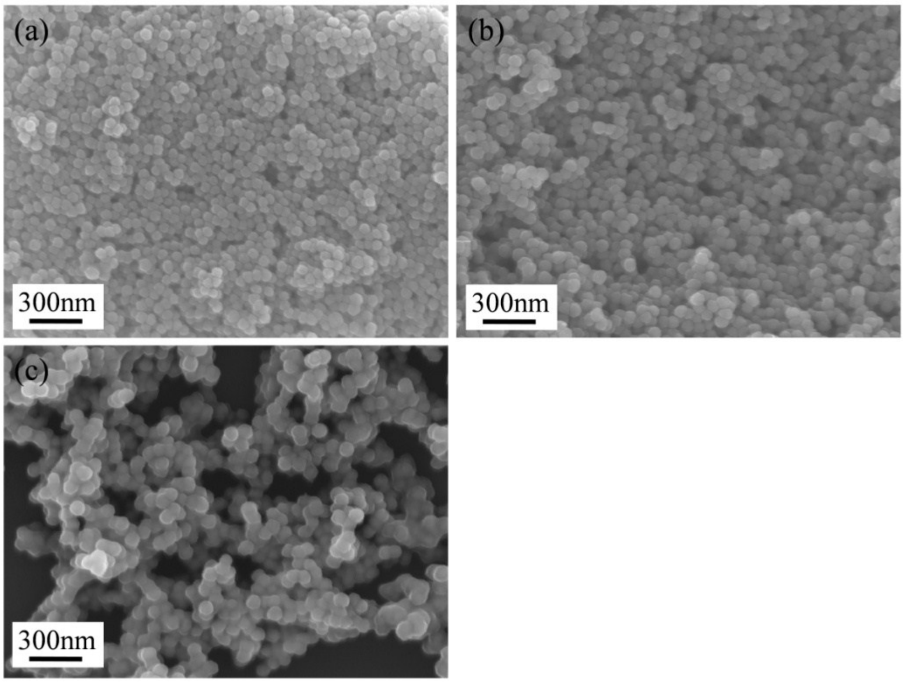

Fig. S1. SEM images of the carbon-coated SnO_2 precursors precipitated in different concentration of aqueous glucose solution, (a) 0.5 M, (b) 0.8 M and (c) 1.1 M.

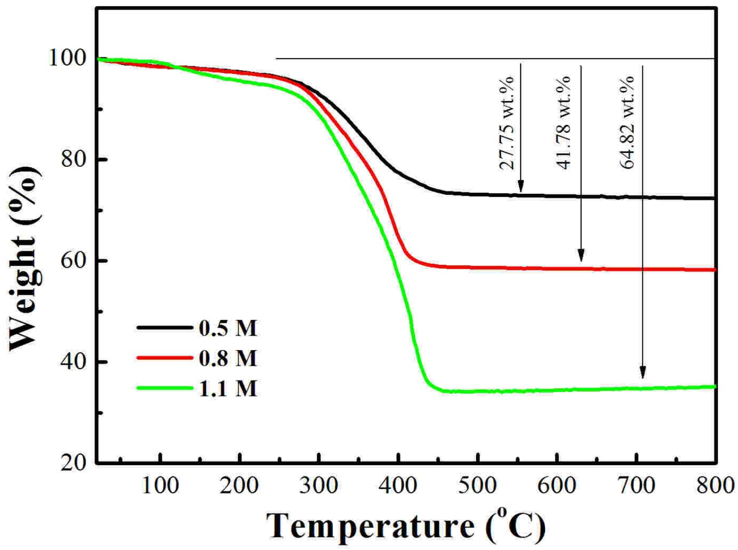

Fig. S2. TG curves of the carbon-coated SnO_2 precursors.

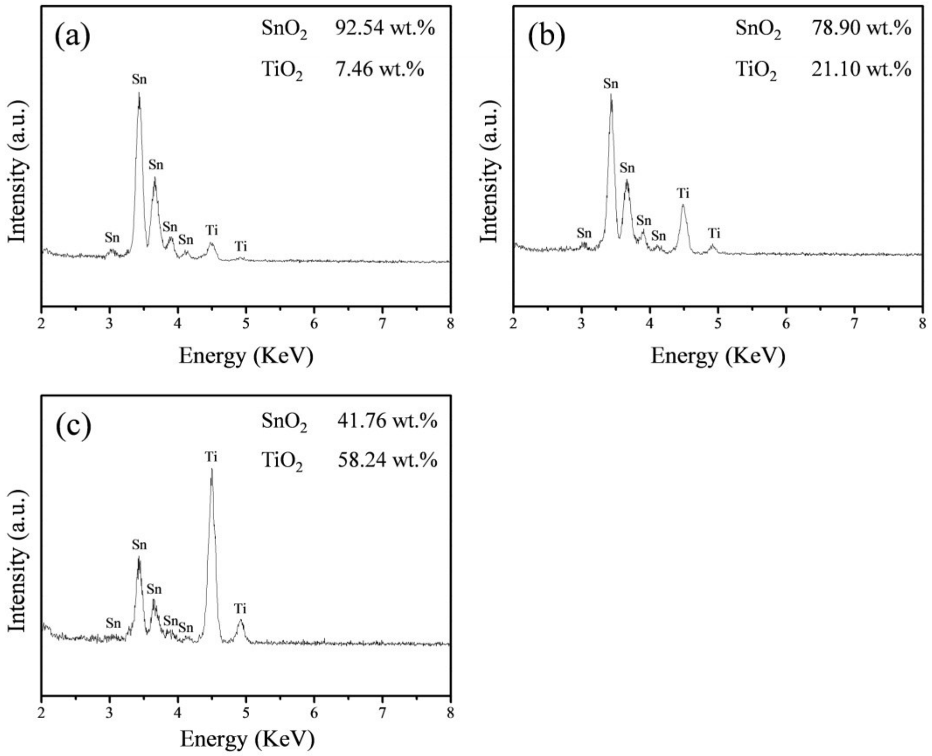

Fig. S3. EDS results of the final composites, (a) SnO_2@TiO_2-0.5 composite, (b) SnO_2@TiO_2-0.8 composite and (c) SnO_2@TiO_2-1.1 composite.

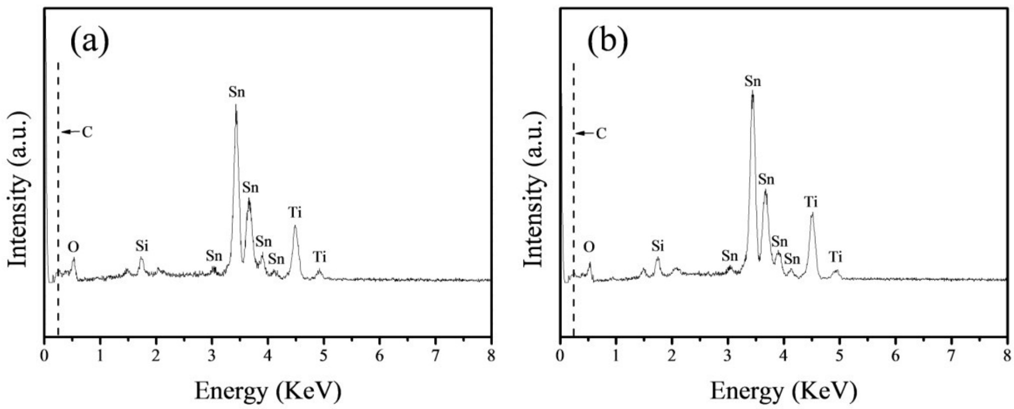

Fig. S4. Comparison of the EDS results of the SnO_2@TiO_2-0.8 composite obtained by different sintering methods, (a) calcined in Muffle oven, and (b) calcined in tube furnace in air flow.

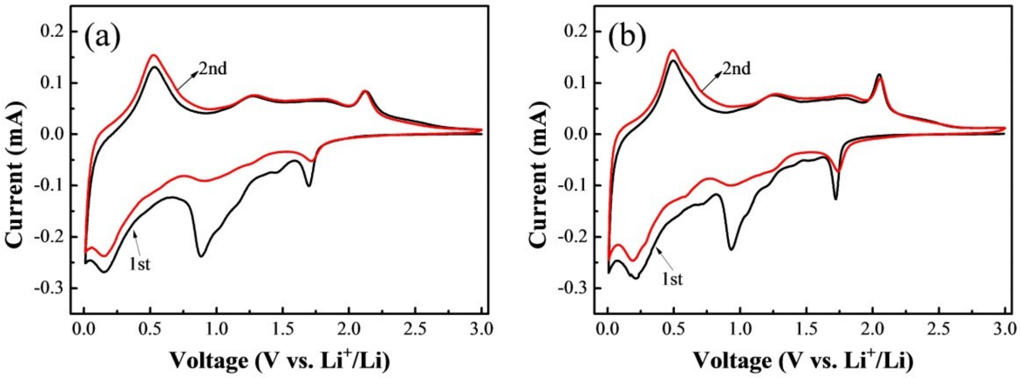

Fig. S5. Comparison of the CV results of the SnO_2@TiO_2-0.8 composite obtained by different sintering methods, (a) calcined in Muffle oven, and (b) calcined in tube furnace in air flow. As shown in Fig. S5, there are no obvious differences between them, further implying the carbon is possible combusted.

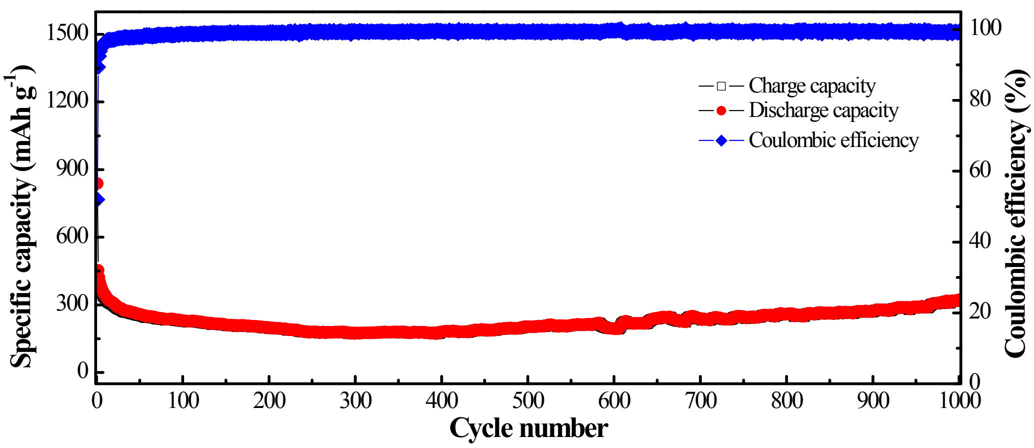

Fig. S6 Galvanostatic charge/discharge cycle performances of the SnO_2@TiO_2-0.5 composite at a current density of 1000 mA g^{-1}. It shows that a discharge capacity of 324 mAh g^{-1} is delivered after 1000 cycles, lower than that of the SnO_2@TiO_2-0.8 composite (617 mAh g^{-1}).