Electronic Supplementary Materials

Silica Template-Assistant Synthesis of SnO_2@Porous Carbon Composites as Anode Materials with Excellent Rate Capability and Cycling Stability for Lithium-Ion Batteries

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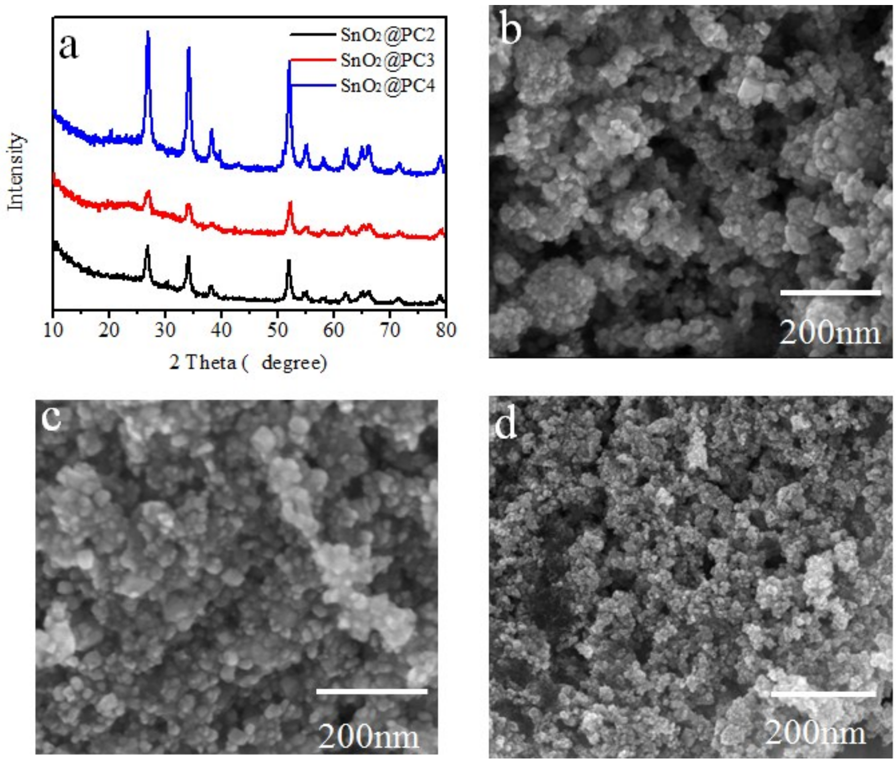

Figure.S1. (a) XRD patterns; (b) FE-SEM image of SnO_2@PC2, SnO_2@PC3, and SnO_2@PC4 samples.

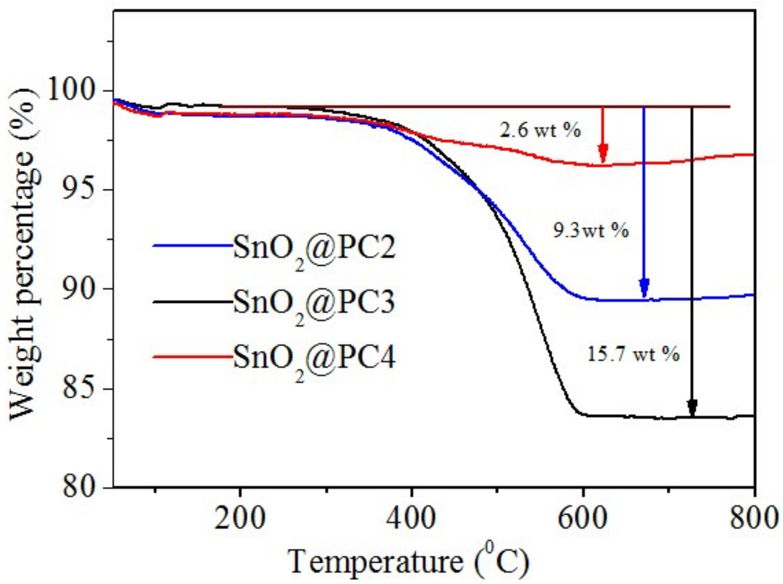

Figure S2: TGA curves for the prepared three SnO_2@PC2, SnO_2@PC3, and SnO_2@PC4 samples.

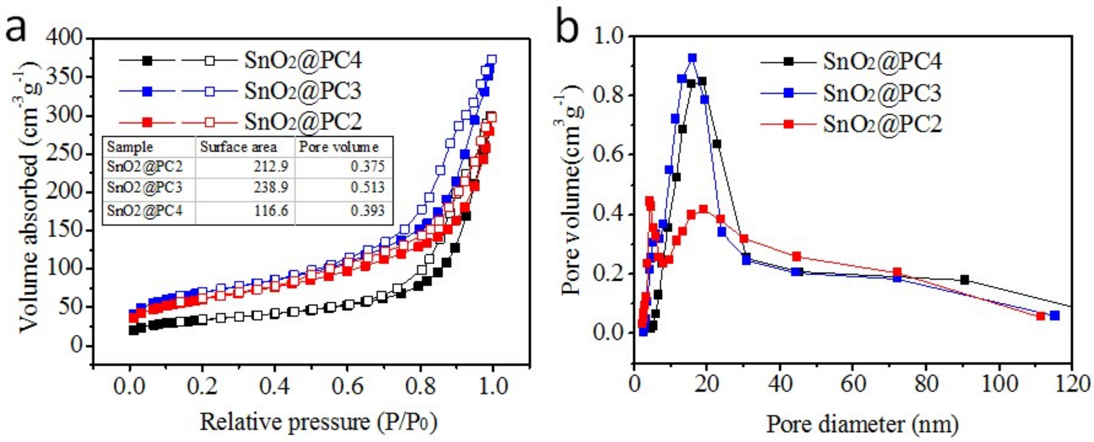

Figure.S3. Isothermal Nitrogen adsorption–desorption isotherms (a); pore-size-distribution curves of SnO_2@PC2, SnO_2@PC3, and SnO_2@PC4 samples (b).

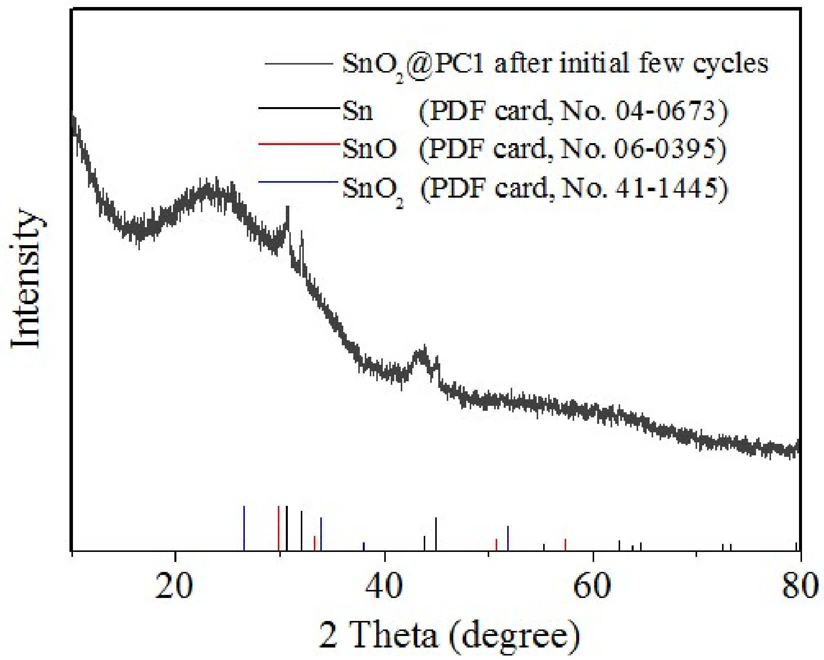

Figure S4: XRD pattern of the SnO_2@PC1 anode after initial few cycles

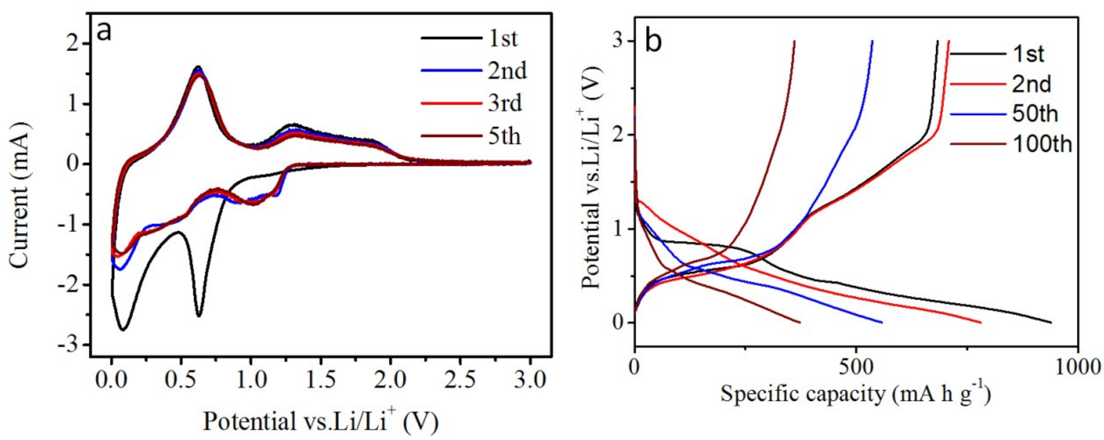

Figure.S5. Electrochemical performances evaluation of bare SnO_2 anode, (a) CV curves; (b) Charge-discharge curves of SnO_2 anode at current density of 0.2 A g^{-1}.

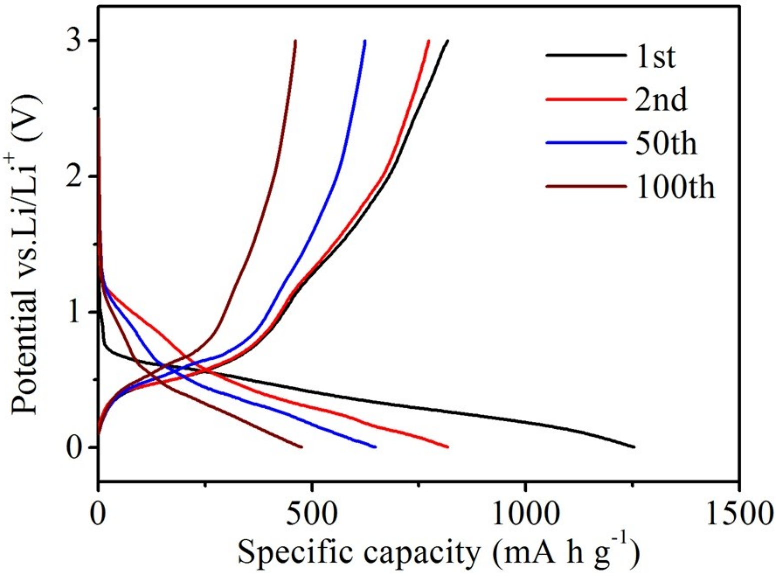

Figure.S6. Charge-discharge curves of SnO_2@C anode in LIBs at current density of 0.2 A g^{-1}.

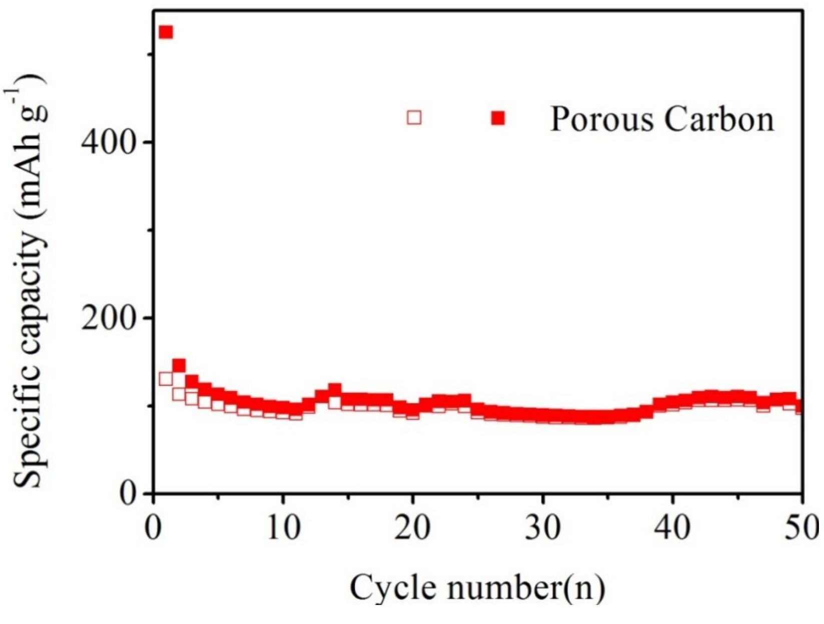

Figure.S7: Cycling performance curves of the pure carbon anode at a current density of 0.2 A^{-1} g in LIBs.

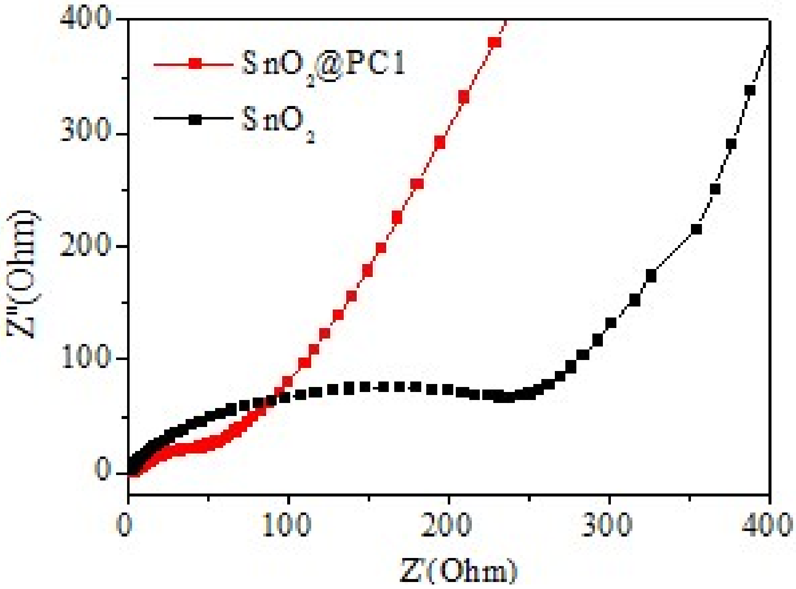

Figure.S8. EIS plots of the SnO_2@PC1 and SnO_2 anodes.

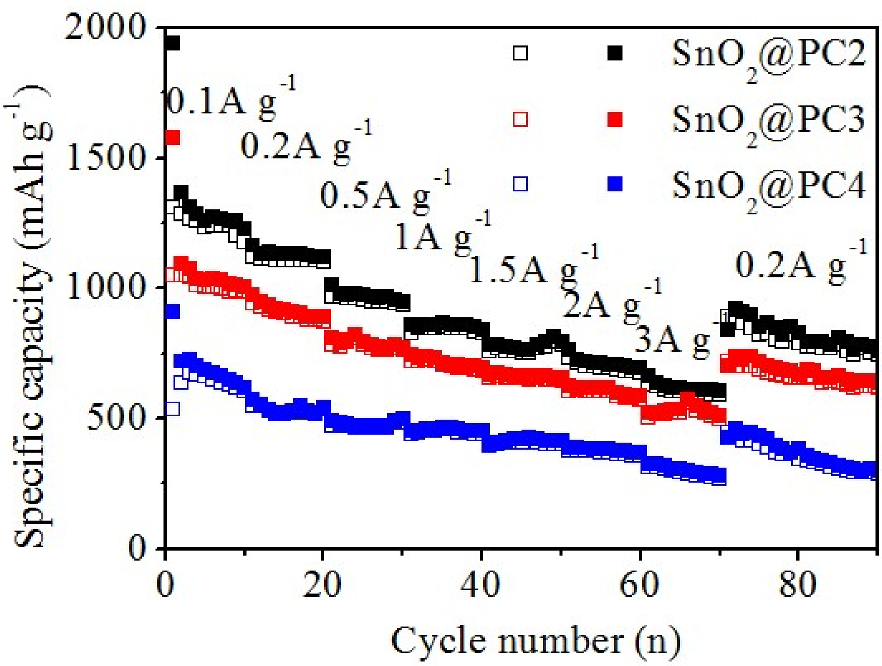

Figure.S9. Rate performance curves of the SnO_2@PC2, SnO_2@PC3, and SnO_2@PC4 anodes at different current densities in LIBs.

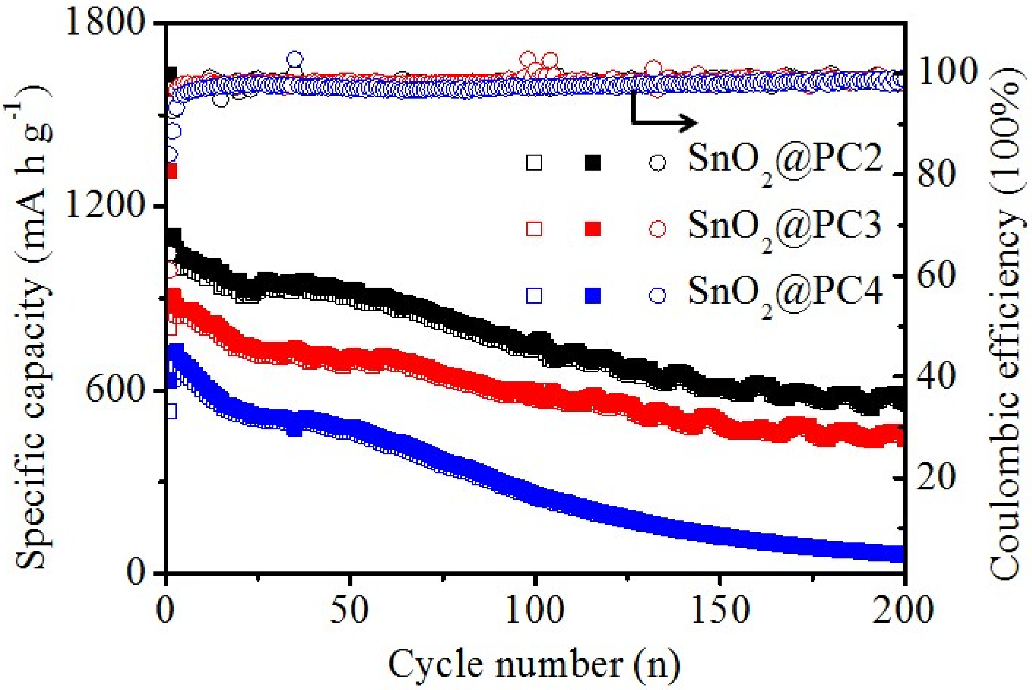

Figure.S10: Cycling performance testing curves of the SnO_2@PC2, SnO_2@PC3, and SnO_2@PC4 anodes in LIBs at a current density of 0.5 A^{-1} g.

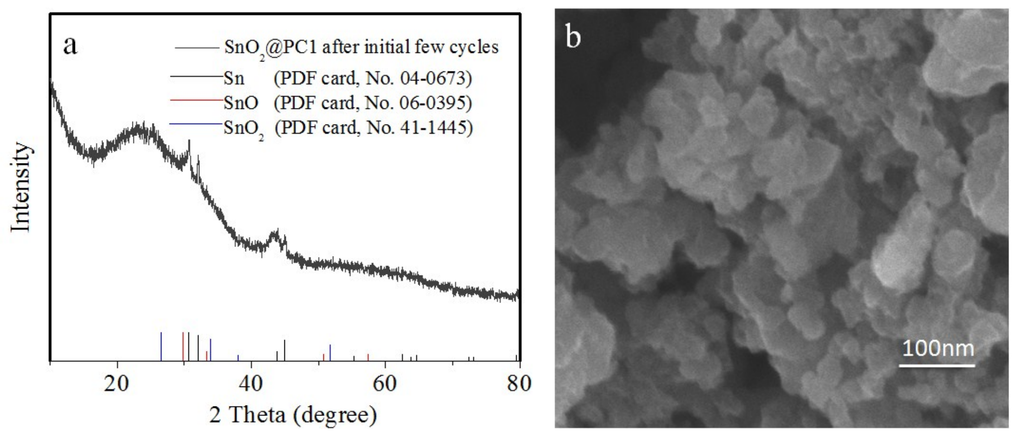

Figure S11. XRD and SEM image of SnO_2@PC1 at 0.2 A^{-1} g after 100 cycles.