## Supporting Information for

## Long-Term, High-Rate Lithium Storage Capabilities of TiO<sub>2</sub> Nanostructured Electrodes Using 3D Self-Supported Indium Tin Oxide Conducting Nanowire Arrays

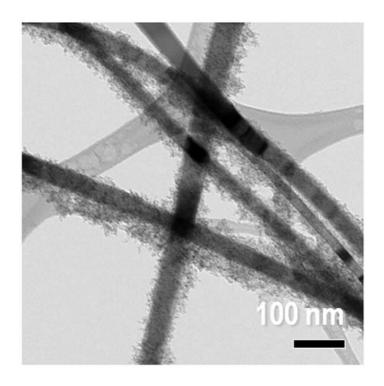
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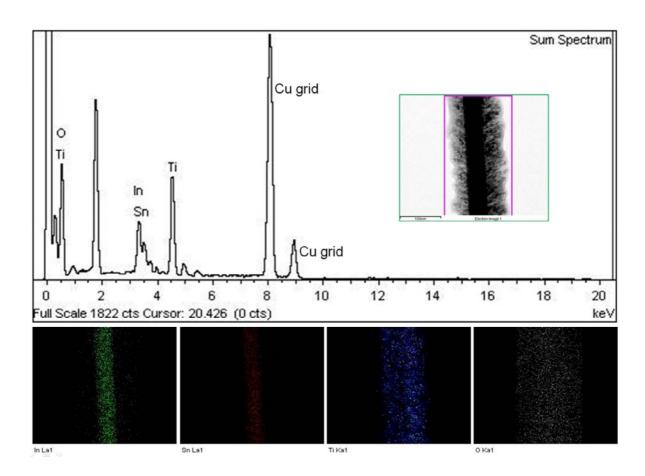
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**Figure S1.** Typical TEM image of ITO/TiO<sub>2</sub> hybrid nanowires.



**Figure S2.** EDS elemental mapping results of an individual ITO/TiO<sub>2</sub> nanowire, marked by a red square region in the inset.

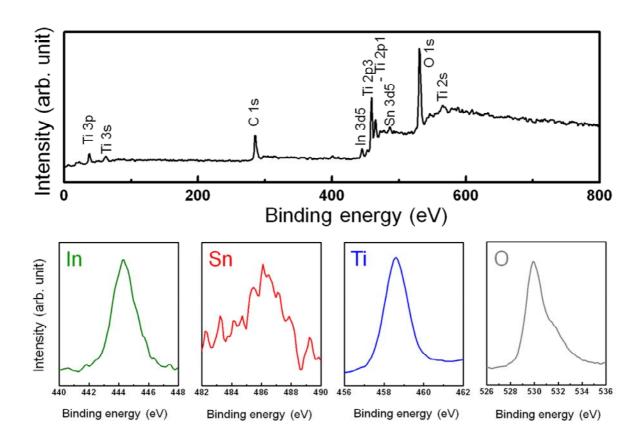
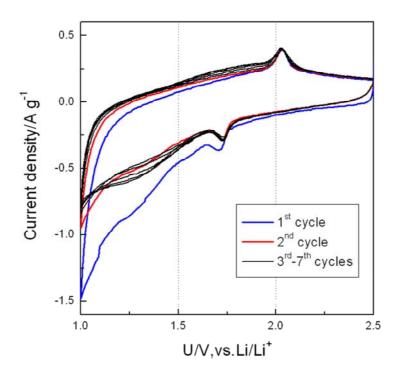
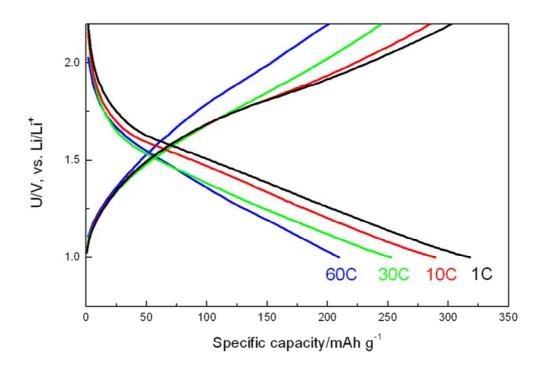


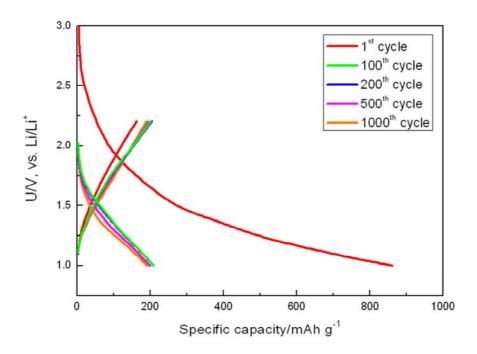
Figure S3. Wide and narrow scan XPS spectra for a bundle of the ITO/TiO<sub>2</sub> hybrid nanowires.



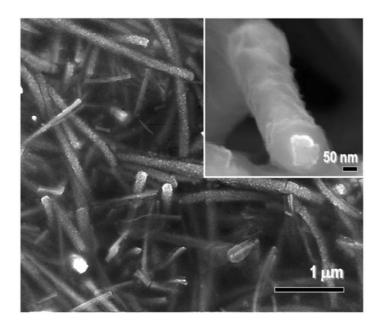
**Figure S4.** Typical cyclic voltammetry of the ITO/TiO<sub>2</sub> hybrid nanostructured electrode at a scanning rate of  $0.2 \text{ mV s}^{-1}$ .



**Figure S5.** Charging-discharging curves of an ITO/TiO<sub>2</sub> hybrid nanostructured electrode at different C rates.



**Figure S6.** Charging-discharging curves of an ITO/TiO<sub>2</sub> hybrid nanostructured electrode.



**Figure S7.** SEM image of a fully lithiated ITO/TiO<sub>2</sub> hybrid nanostructured electrode (taken after 400 cycles). The Inset shows the FE-SEM image of a fully lithiated individual nanowire.