

Supplementary Information

Anodically fabricated TiO₂-SnO₂ nanotubes and their application in lithium ion batteries

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Tab. S1. ICP-OES analysis of the as-cast Ti–Sn alloys.

Alloy	Sn concentration (at.%)	Ti concentration (at.%)
Ti-1Sn	1.003 ± 0.001	98.997 ± 0.001
Ti-5Sn	5.003 ± 0.001	94.997 ± 0.001
Ti-10Sn	10.014 ± 0.001	89.986 ± 0.001

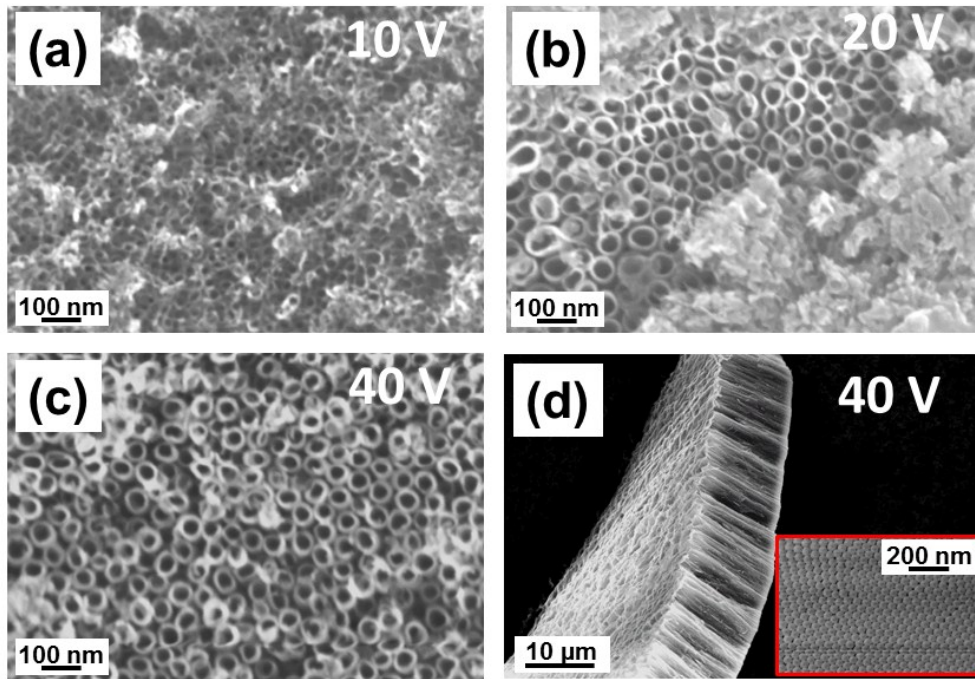


Fig. S1. SEM micrographs of the $\text{TiO}_2/\text{SnO}_2$ nanotubes (T5S sample) at 10 V (a), 20 V (b) and 40 V (c), respectively, for 5 h. Cross-sectional view for the sample formed at 40 V (d). The inset in (d) shows the nanotube bottoms.

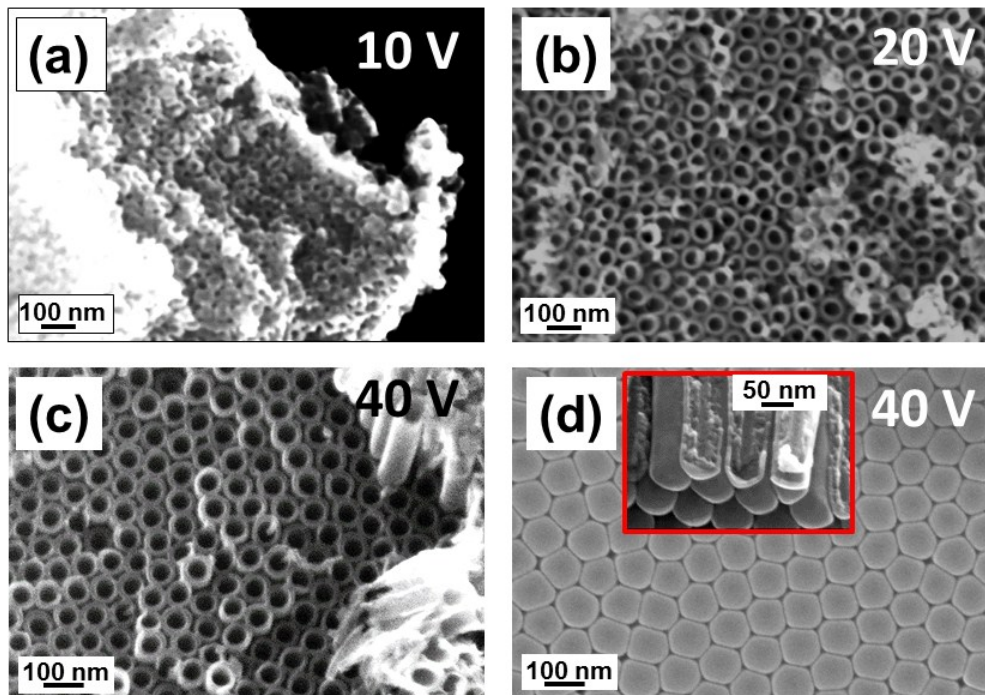


Fig. S2. SEM micrographs of the $\text{TiO}_2/\text{SnO}_2$ nanotubes (T10S sample) formed at 10 V (a), 20 V (b) and 40 V (c), respectively, for 5 h. Bottom view of the sample formed at 40 V (d). The inset in (d) shows the cross-sectional nanotube walls.

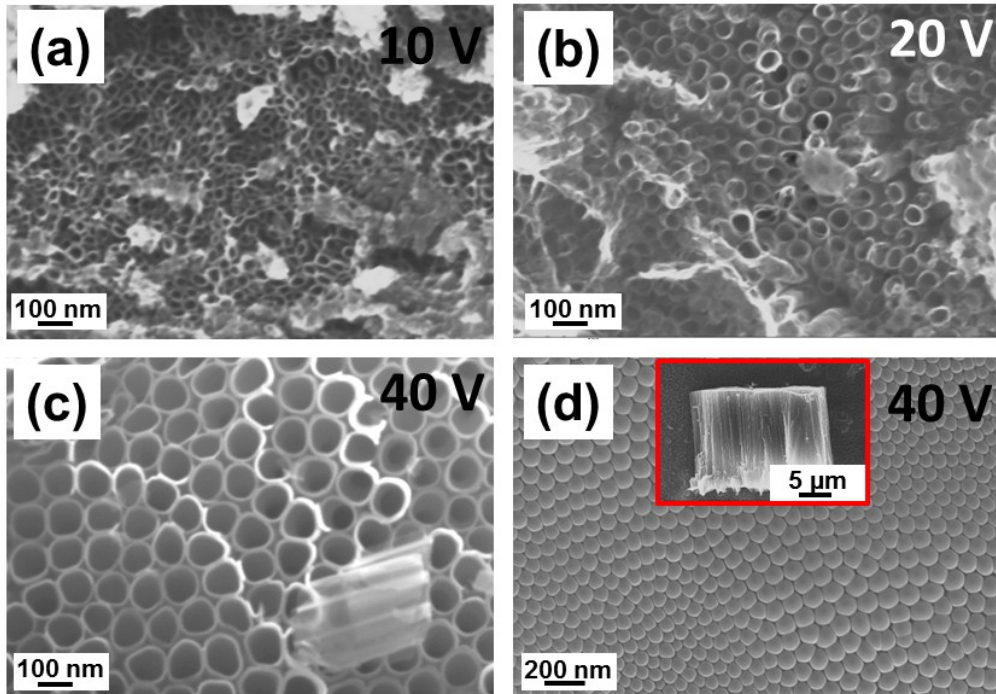


Fig. S3. SEM micrographs of pure TiO_2 nanotubes formed at 10 V (a), 20 V (b) and 40 V (c), respectively, for 5 h. Bottom view of the sample formed at 40 V (d). The inset in (d) shows the cross-sectional view.

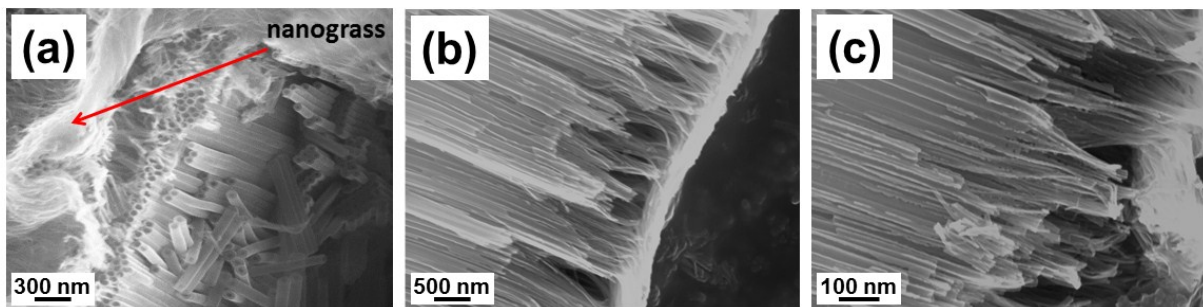


Fig. S4. SEM micrographs of $\text{TiO}_2/\text{SnO}_2$ nanotubes (T10S sample) prepared at 40 V; Top view showing the nanograss formed on the top of the some nanotubes (a), cross-sectional view at low magnification (b), cross-sectional view at high magnification showing the separation of the nanotube walls into nanoneedles or nanograss.

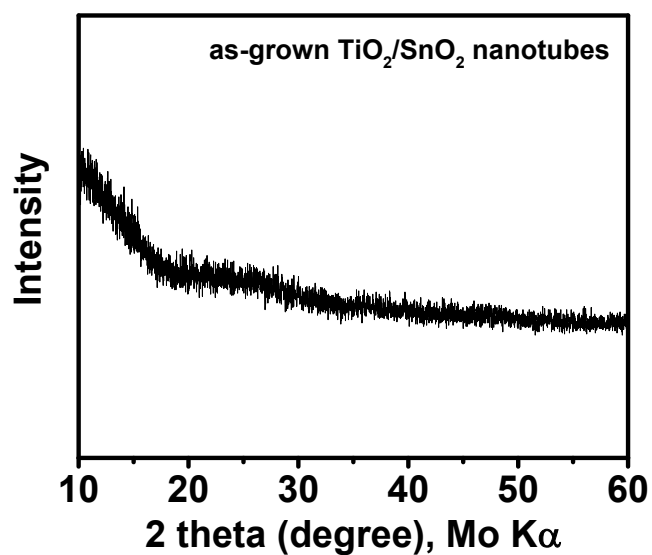


Fig. S5. XRD pattern of the as-grown $\text{TiO}_2/\text{SnO}_2$ nanotubes (T10S sample) prepared at 40 V represents the amorphous state of the as-grown nanotubes.

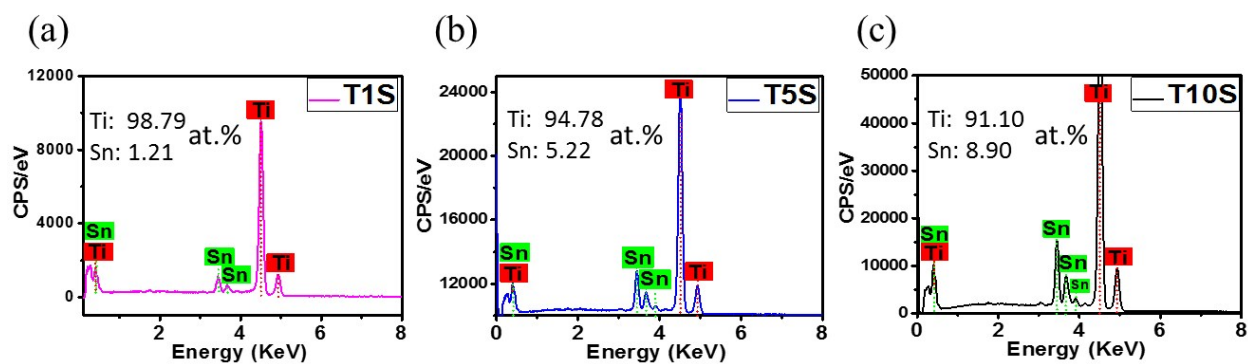


Fig. S6. Quantitative analysis of Ti and Sn contents in T1S (a), T5S (b) and T10S (c) electrodes obtained from EDXS elemental mapping.