Electronic supplementary information (ESI)

Engineering microtubular SnO_2 architechture assembled by interconnected nanosheets for high lithium storage capacity

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Fig. S1 The SAED pattern of hollow SnO_2 microtubes.

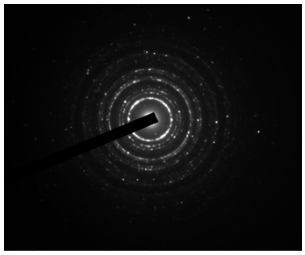

Table S1 The detailed experimental conditions.

Experiment	Materials	Quantity	Temperature, time
I	NH_4F + cotton	14 mmol + 300 mg	180 ºC, 24 h
II	$SnCl_2 \cdot 2H_2O$ + cotton	7 mmol + 300 mg	180 ºC, 24 h
III	NH_4F + $SnCl_2 \cdot 2H_2O$ + cotton	7 mmol + 14 mmol+ 300 mg	180 ºC, 24 h

Fig. S2 SEM images of the cotton treated by NH_4F at the temperature of 180 ºC.

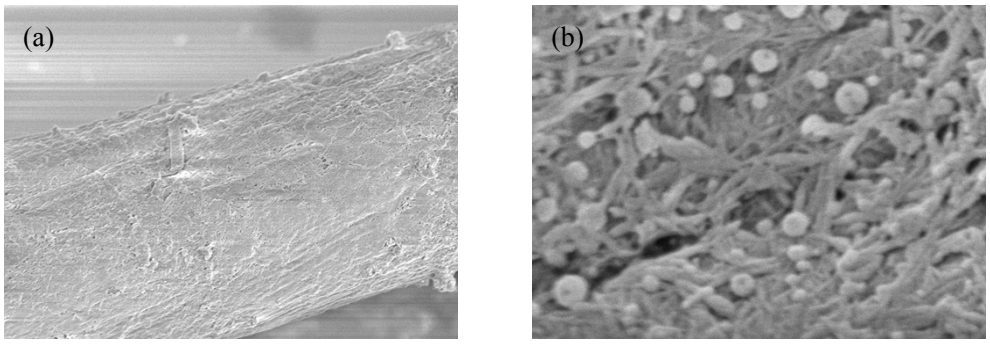

Fig. S3 SEM image of the nanoparticle film.

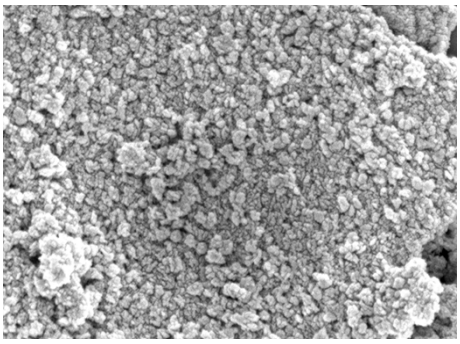

Fig. S4 SEM images of the samples obtained with different concentrations of $SnCl_2 \cdot 2H_2O$. (a,e: 1 mmol; b,f: 3 mmol; c,g: 5 mmol; d,h: 15 mmol).

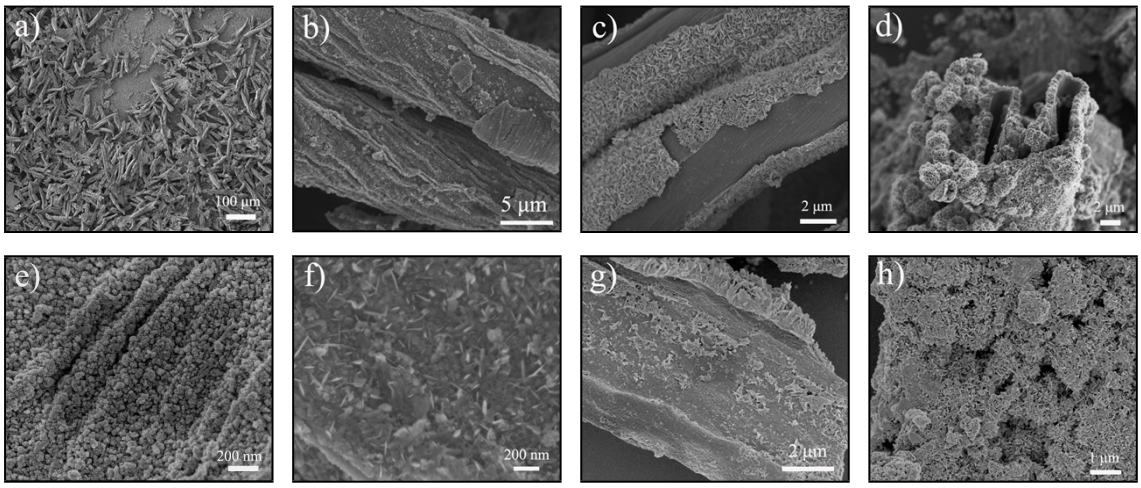

Table S2 The pH value of the solution before and after hydrothermal treatment.

Experiment	Materials	Before Hydrothermal treatment	After Hydrothermal treatment
I	NH_4F+Water	5.48	5.50
II	$SnCl_2 \cdot 2H_2O$ +Water	1.65	1.00
III	$SnCl_2 \cdot 2H_2O$ +NH_4F+Water	2.61	2.19

Fig. S5 The TGA curve of the hollow SnO_2 microtubes (Red line) and cotton (Black line).(the inset is TGA curve of hollow SnO_2 microtubes in the narrow range of 96.5 to 100 %)

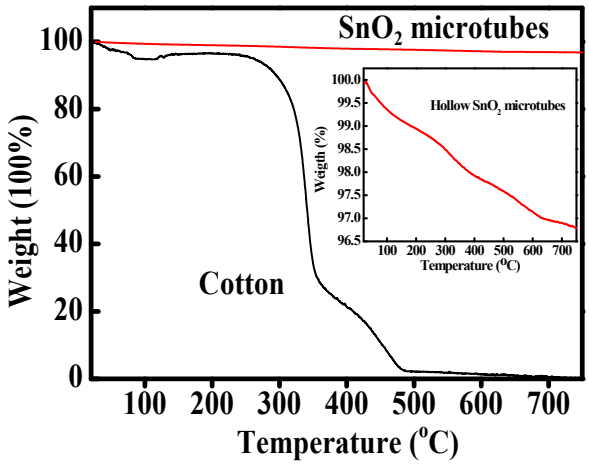

Fig. S6 (a) SEM image and (b) XRD pattern of commercial SnO_2 .

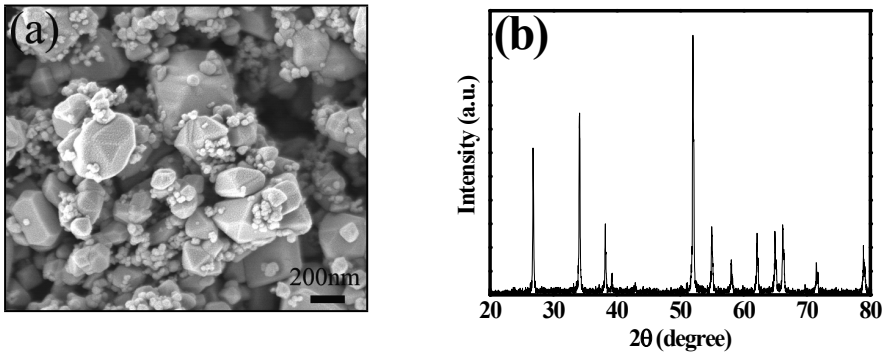

Fig. S7 SEM images of the hollow SnO_2 microtube electrode after 50 cycles of charging and discharging processes at a rate of 1C.

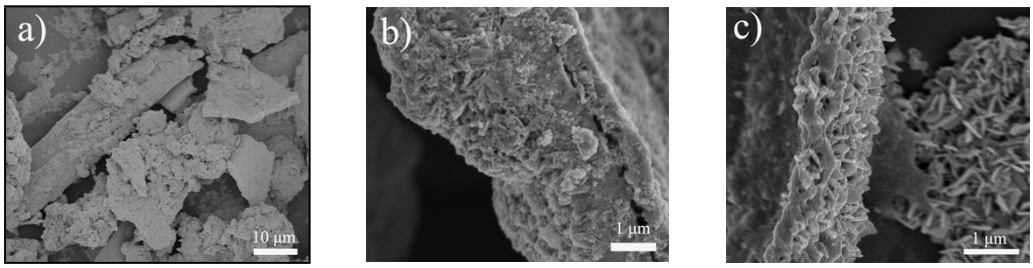

Fig. S8 Cycling performance of hollow SnO_2 microtubes and commercial SnO_2 power between 50 to 100 cycles at a rate of 1C.