

Supplementary Information

High-rate amorphous SnO₂ nanomembrane anodes for Li-ion batteries with long cycling life

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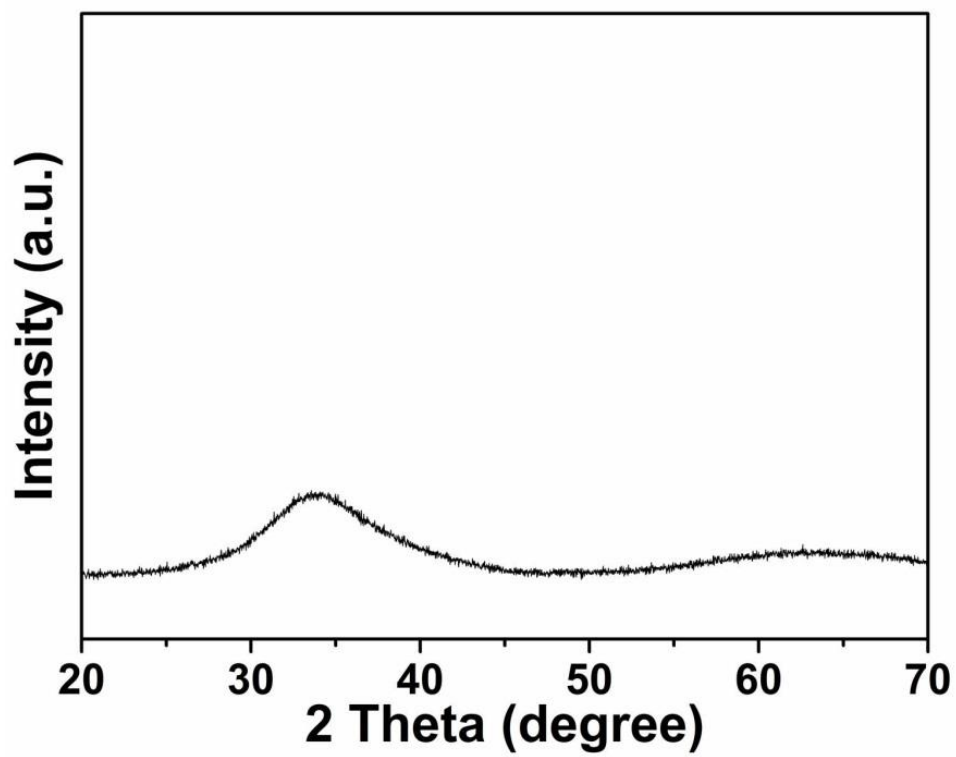


Fig. S1 XRD pattern of the as-prepared SnO₂ rolled-up nanomembranes.

Table S1 Electrochemical performance comparison of various SnO₂-based anodes.

SnO ₂ -based Anodes	Current density/Capacity/Cycle life	Maximum rate	Voltage window	Ref.
ultra-small SnO ₂ nanocrystals	392 mA g ⁻¹ /910 mAh g ⁻¹ /100 cycles	8C (6.27 A g ⁻¹)	0.01–2.0 V	1
SnO ₂ nanowires	100 mA g ⁻¹ /~300 mAh g ⁻¹ /50 cycles		0.05–1.5 V	2
Sn/SnO ₂ nanowires	100 mA g ⁻¹ /814 mAh g ⁻¹ /100 cycles		0–2.2V	3
SnO ₂ nanorods on graphene	200 mA g ⁻¹ /576 mAh g ⁻¹ /50 cycles		0.005–3 V	4
SnO ₂ nanotubes	100 mA g ⁻¹ /468 mAh g ⁻¹ /30 cycles		0.005–1.5 V	5
SnO ₂ nanosheets	78.2 mA g ⁻¹ /559 mAh g ⁻¹ /20 cycles		0.005–3 V	6
SnO ₂ nanoboxes	0.2C/570 mAh g ⁻¹ /40 cycles		0.01–2.0 V	7
double-shelled SnO ₂ yolk–shell nanospheres	625 mA g ⁻¹ /642 mAh g ⁻¹ /40 cycles		0.005–1 V	8
SnO ₂ hollow spheres	160 mA g ⁻¹ /~700 mAh g ⁻¹ /20cycles		0.01–2.0 V	9
porous SnO ₂ nanotubes	180 mA g ⁻¹ /807mAh g ⁻¹ /50 cycles (0–2 V)	1.88 A g ⁻¹ (0-2V) 7.82 A g ⁻¹ (0-3V)		10
ultra-small SnO ₂ particles in micro/mesoporous carbon	1.4 A g ⁻¹ /443 mA h g ⁻¹ /2000 cycles	10C (14 A g ⁻¹)	0.01–1.5 V	11
3 nm SnO ₂ nanoparticles/graphene	2 A g ⁻¹ /1813 mA h g ⁻¹ /1000 cycles	10 A g ⁻¹	0.005–3 V	12
ultrasnall SnO ₂ nanoparticles in carbon	800 mA g ⁻¹ /712.8 mAh g ⁻¹ /378 cycles	3 A g ⁻¹	0.01–3.0 V	13
sandwiched graphene/SnO ₂ nanorods/carbon	1000 mA g ⁻¹ /~800 mAh g ⁻¹ /350 cycles	3 A g ⁻¹	0.01–3 V	14
SnO ₂ nanomembranes	1.6 A g ⁻¹ /854 mAh g ⁻¹ /1000 cycles	40 A g ⁻¹	0.01–3 V	Current work

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