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Electronic Supplementary Information

Sonochemistry-enabled uniform coupling of SnO_2 nanocrystals with graphene sheets as anode materials for lithium-ion batteries

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Table S1 The comparison of various SnO_2-based composites.

Electrode description	**Synthesize method**	**Reversible capacity**	**Rate capability**	**Cycling stability**	**Ref.**
SnO_2/RGO (30 wt.%)	Sonochemical method	650 mAh g^{-1} at 100 mA g^{-1}	273 mAh g^{-1} at 500 mA g^{-1}	87% after 100 cycles (100 mA g^{-1})	**This work**
SnO_2/RGO (40 wt.%)	Microwave-assisted method	350 mAh g^{-1} at 300 mA g^{-1}	300 mAh g^{-1} at 500 mA g^{-1}	62 mAh g^{-1} after 50 cycles (100 mA g^{-1})	[1]
SnO_2/graphene wrapped carbon nanotubes (74 wt.%)	Solar reduction technique	497 mAh g^{-1} at 100 mA g^{-1}	161 mAh g^{-1} at 500 mA g^{-1}	84% mAh g^{-1} after 100 cycles (50 mA g^{-1})	[2]
SnO_x/N-doped Carbon (55.6 wt.%)	Sacrificial template method with ethanol steam reforming process	651 mAh g^{-1} at 100 mA g^{-1}	231 mAh g^{-1} at 600 mA g^{-1}	435 mAh g^{-1} after 500 cycles (1000 mA g^{-1})	[3]
SnO_2/graphene (26 wt. %)	Solution-based process	690 mAh g^{-1} at 100 mA g^{-1}	---	63% after 20 cycles (100 mA g^{-1})	[4]
rGO/SnO_2@CF	Self-assembly approach	400 mAh g^{-1} at 100 mA g^{-1}	305 mAh g^{-1} at 500 mA g^{-1}	78% after 100 cycles (100 mA g^{-1})	[5]
Graphene-wrapped SnO_2 nanotubes (SnO_2-NTs/G) (20.6 wt. %)	Sn-nanorod-templated self-assembly route	718.2 mAh g^{-1} at 100 mA g^{-1}	379.8 mAh g^{-1} at 500 mA g^{-1}	52% after 200 cycles (100 mA g^{-1})	[6]

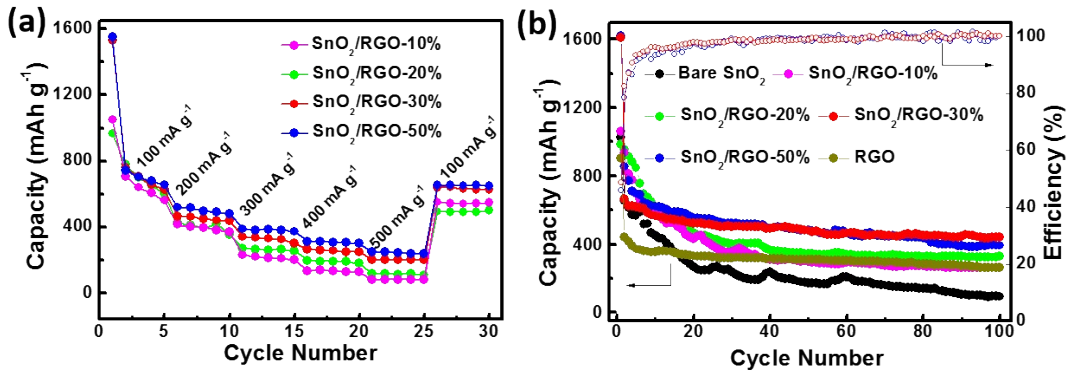

Fig. S1 (a) Rate performance, (b) cycling performance and coulombic efficiency at 100 mA g^{-1} of SnO_2/graphene nanocomposites with different GO content.

References

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