Supporting Information

Mussel directed synthesis of SnO_2/graphene oxide composite for energy storage

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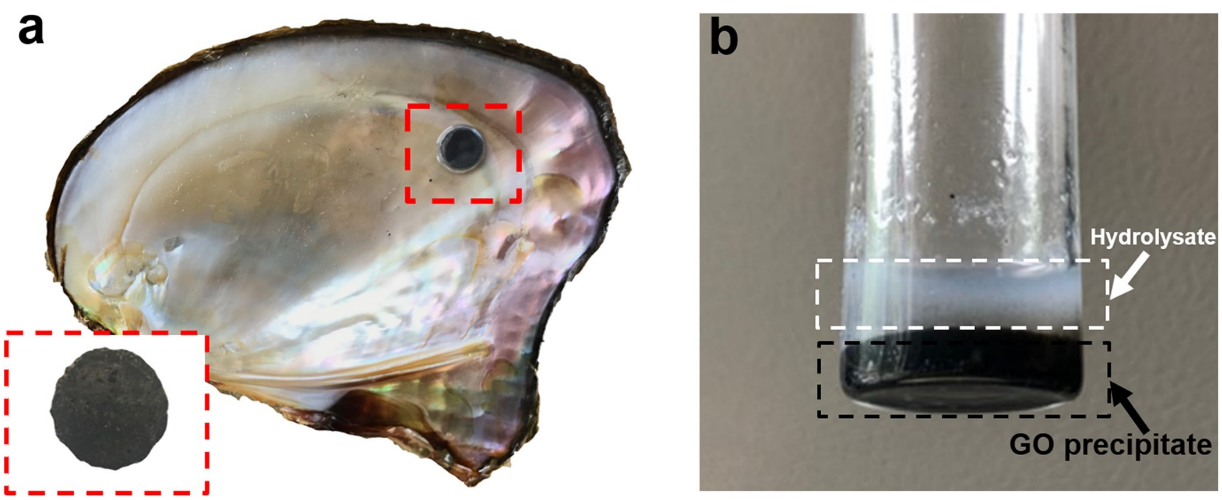

Fig. S1. Macroscopic pictures of blister pearl after different processing (a) mineralized in living mussels for 90 days. (b) aged in water for 90 days.

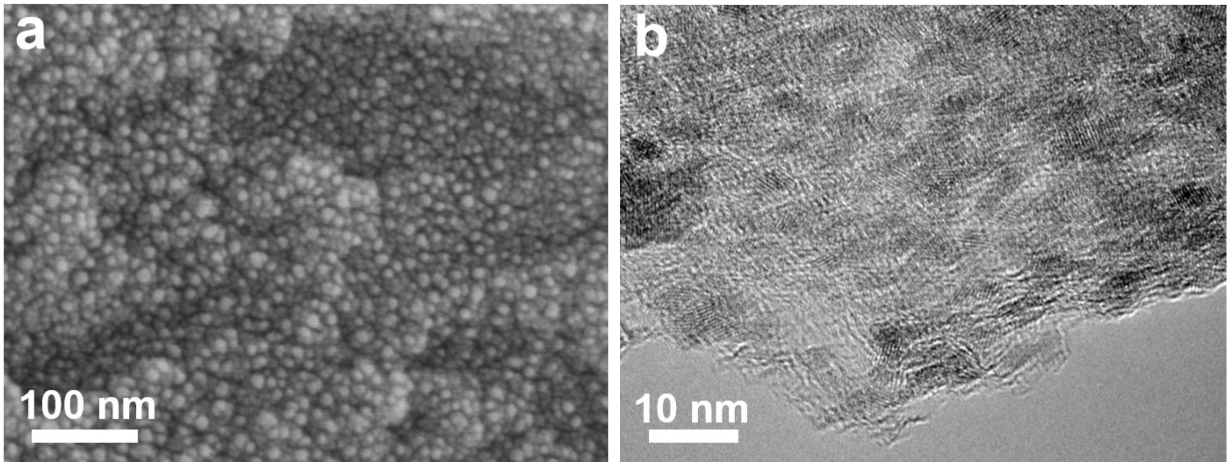

Fig. S2. SEM and TEM images of bm SnO_2/GO.

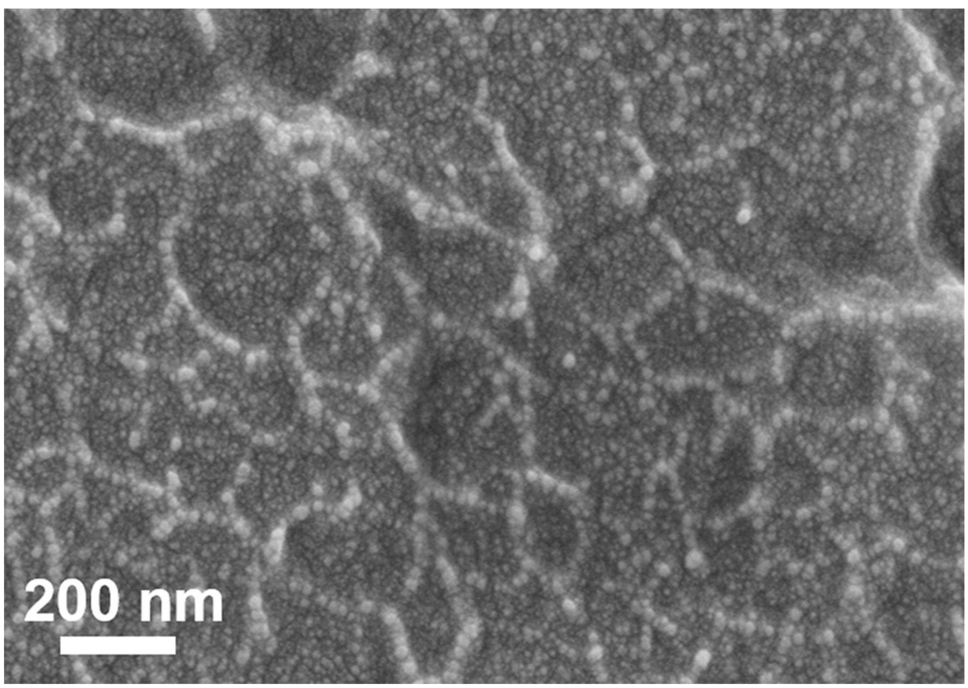

Fig. S3. SEM image of precursor aged in water for 90 days.

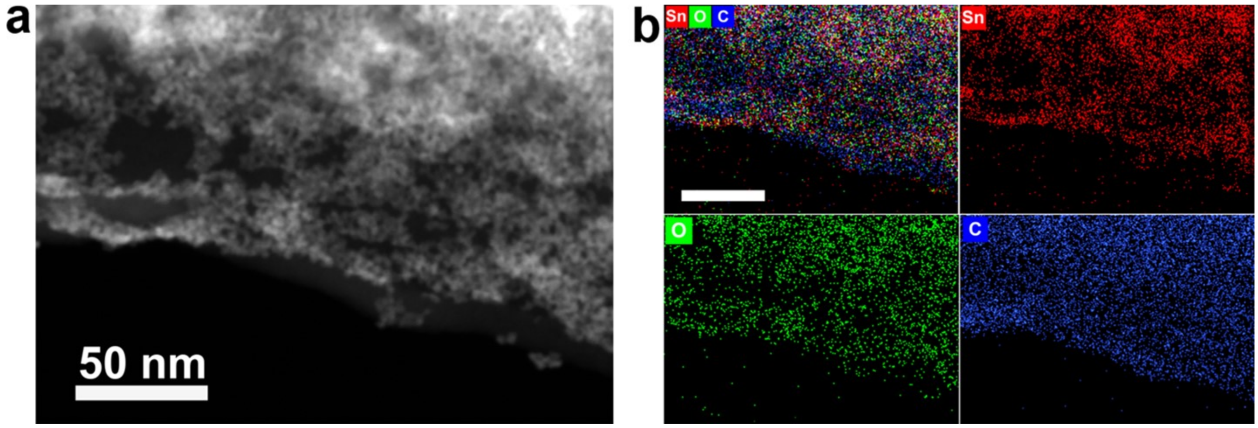

Fig. S4. (a) STEM image and (b) corresponding tin, oxygen, carbon EDX elemental mapping images of precursor aged in water for 90 days. Scale bar in the inset is 50 nm.

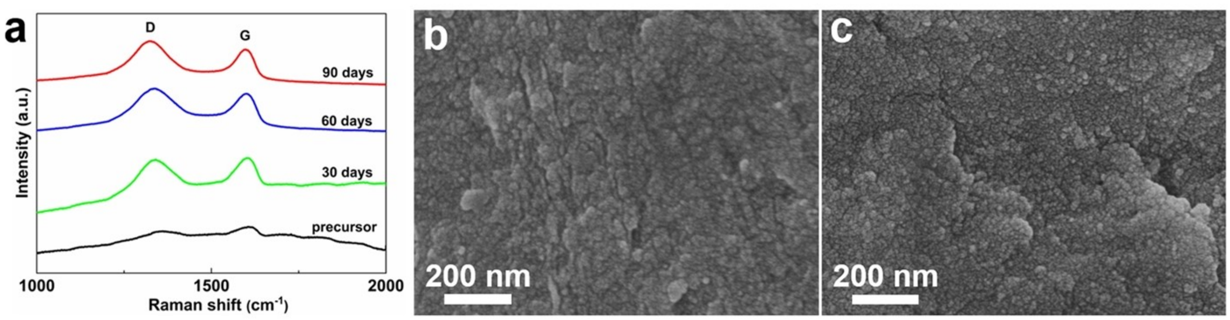

Fig. S5. (a) Raman spectra of bm SnO_2/graphene oxide composite after mineralization of 0~90 days. SEM images of bm SnO_2/graphene oxide composite after mineralization in living mussels for different lengths of time. (b) 30 days. (c) 60 days.

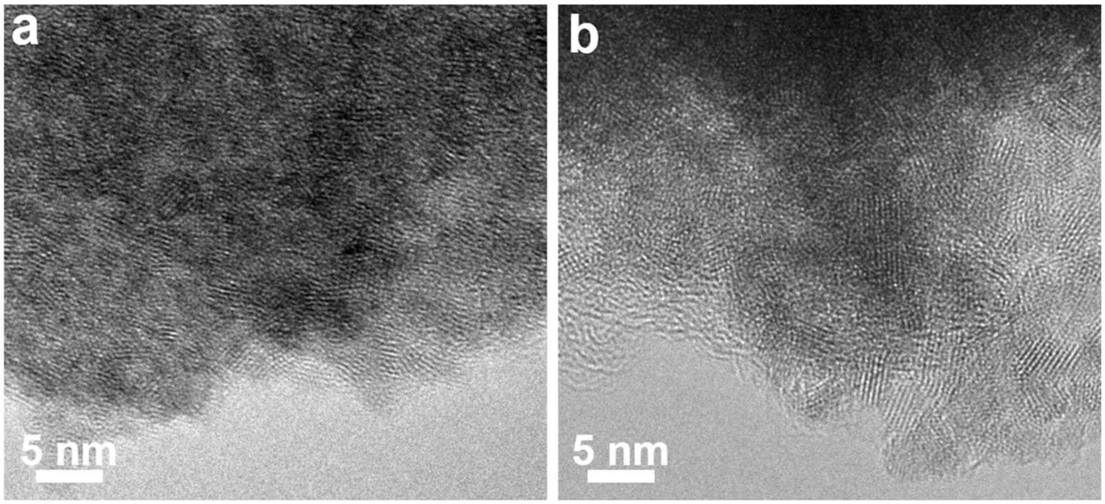

Fig. S6. HRTEM images of bm SnO_2/graphene oxide composite after mineralization in living mussels for (a) 30 days. (b) 60 days.

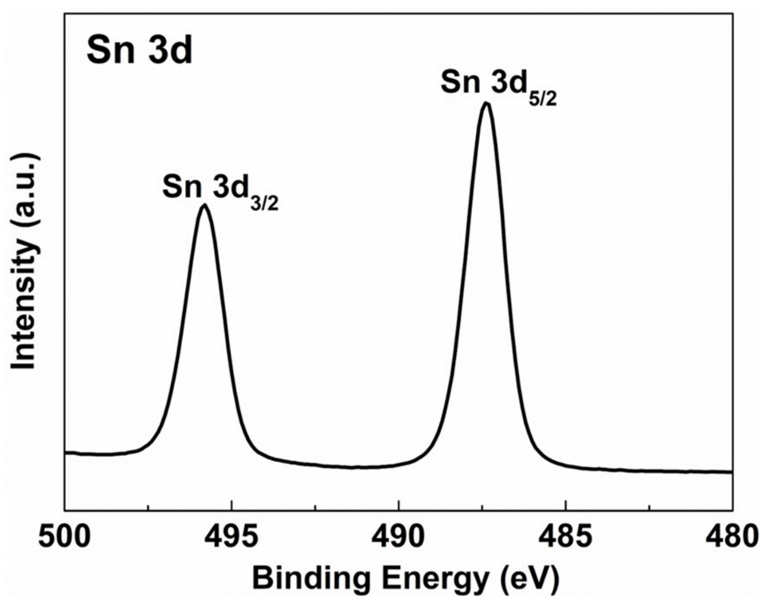

Fig. S7. High-resolution XPS Sn 3d spectrum.

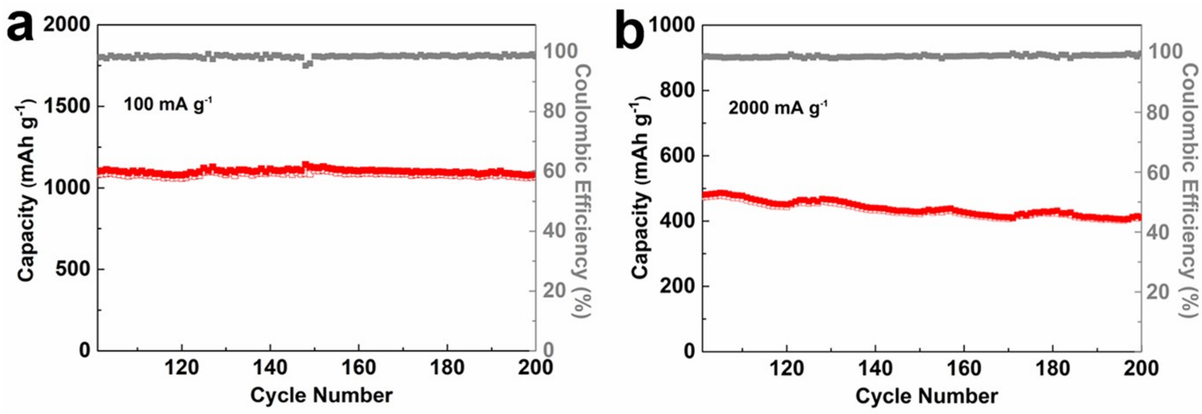

Fig. S8. Longer cycling performance at 100 mA g^{-1} and 2000 mA g^{-1} of bm SnO_2/GO electrode.

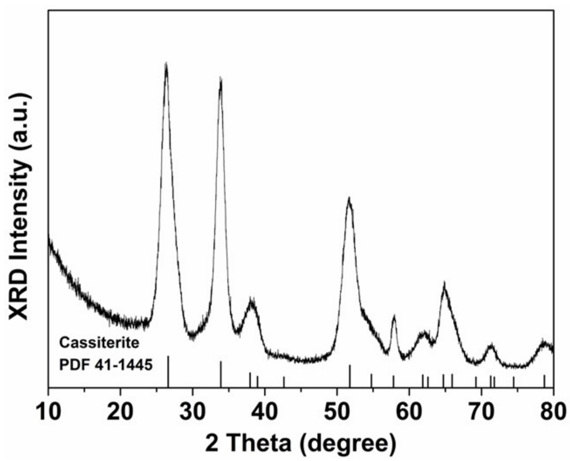

Fig. S9. XRD pattern of SnO_2/GO synthesized by hydrothermal method.

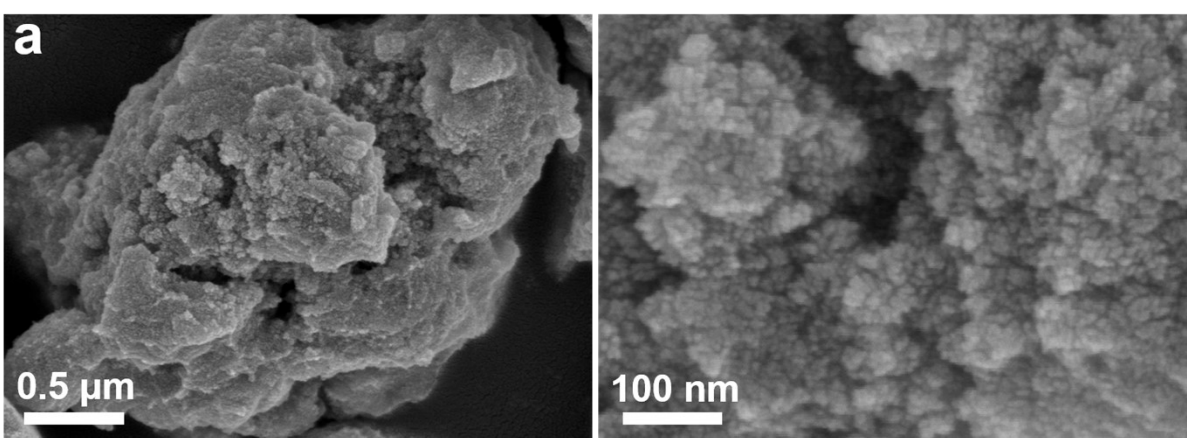

Fig. S10. SEM images of of SnO_2/GO synthesized by hydrothermal method.

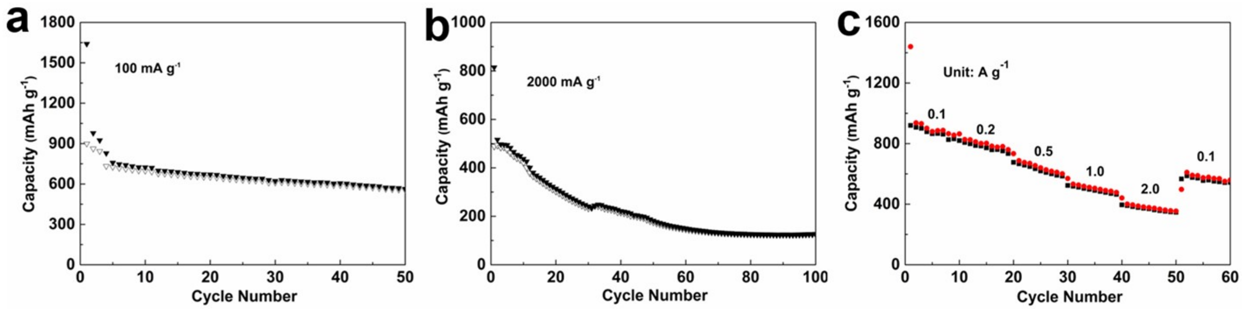

Fig. S11. Electrochemical performance of SnO_2/GO electrode synthesized by hydrothermal method. Cycling performance at (a) 100 mA g^{-1}. and (b) 2000 mA g^{-1}. (c) Rate capability.

Table S1. Electrochemical performance comparison of bm SnO_2/GO and reported state-of-the-art tin-based electrodes

Sample	Current density (mA g^{-1})	Cycle number	Discharge capacity (mA h g^{-1})	Reference
Biomineralized SnO_2/graphene oxide composite	100	100	1099	This Work
C@SnO_2-rGO-SnO_2	2000	1200	525	1
SnO_2/Cu/GNS	100	200	890.6	2
SnO_2@CMK-8	780	500	629	3
Sandwich-SnO_2/GS	2000	200	563.9	4
ATO/rGO	1249	100	813	5
SnO_2/GAs	100	50	702	6
SnO_2 NR/RGO	200	70	1089	7
HTGS/SnO_2	50	50	940.3	8
SnO_2@RGO	500	100	817.2	9
SnO_2-QDs/N-GNs	100	80	800	10

References

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