

Support information for:

In-situ constructed bimetallic sulfide heterostructures on 3D graphene for efficient lithium storage

Xiuzhen Wang,^{a*} Yangbo Cai,^a Chenyu Wu,^a Wei Kong,^a Tao Wei^{a,*}

^a School of Energy and Power, Jiangsu University of Science and Technology, Zhenjiang 212003, Jiangsu, China.

*Corresponding authors: xzwang@just.edu.cn; wt863@just.edu.cn

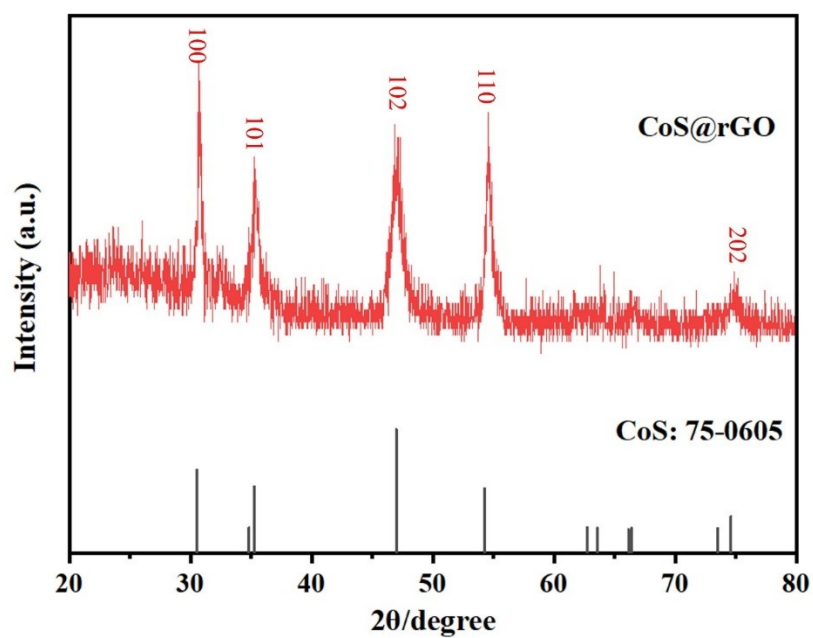


Fig. S1. XRD pattern of CoS@rGO sample.

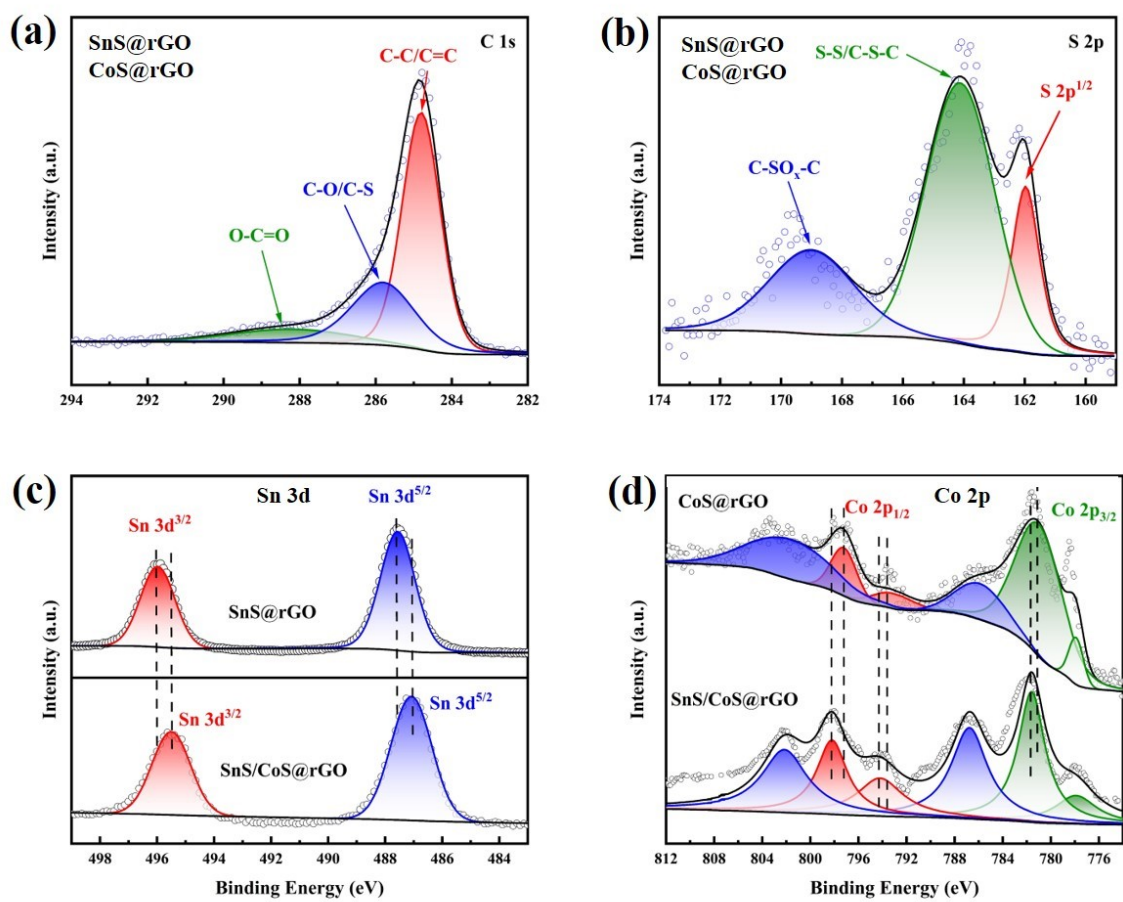


Fig. S2. CoS@rGO, SnS@rGO sample: (a-d) High-resolution XPS spectra of C 1s, S 2p, Sn 3d, Co 2p.

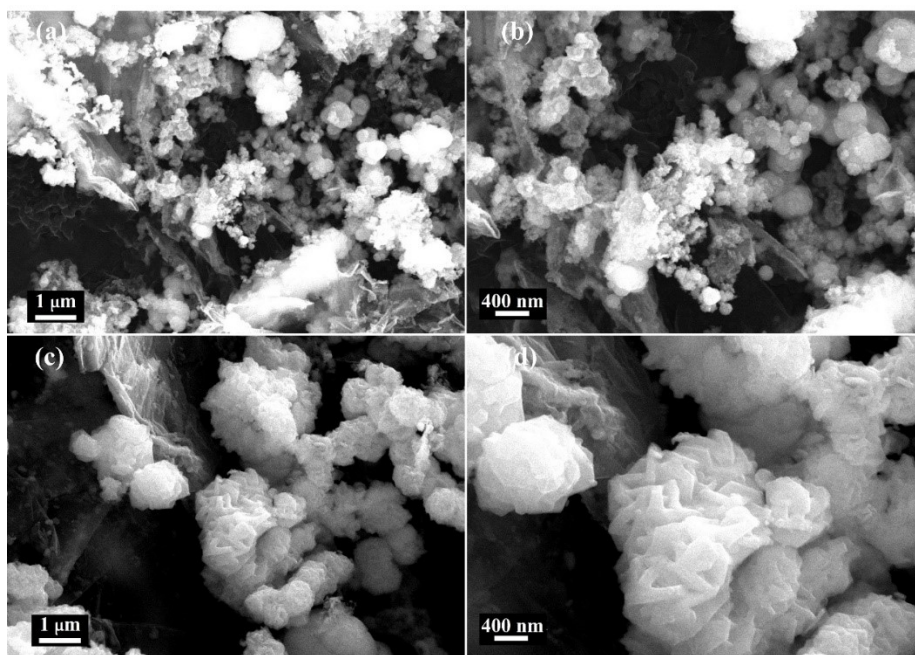


Fig. S3. SEM image of SnS@rGO (a-b) and CoS@rGO (c-d) samples.

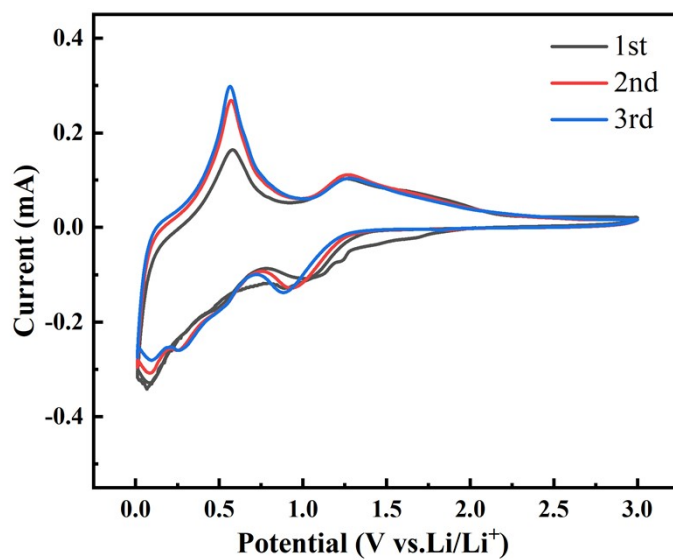


Fig. S4. CV curves of SnS@rGO sample at a scan rate of 0.1 mV s^{-1} for LIBs.

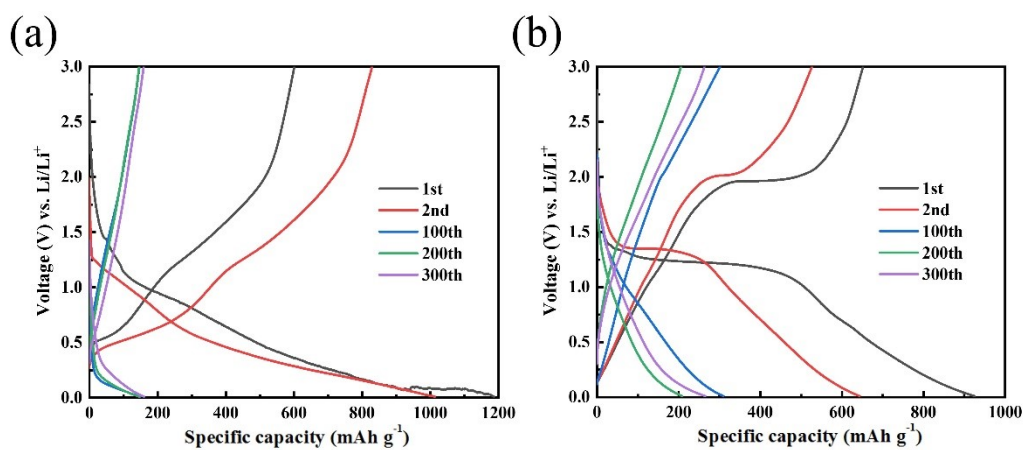


Fig. S5. Charge-discharge curves of (a) SnS@rGO and (b) CoS@rGO at 500 mA g^{-1} .

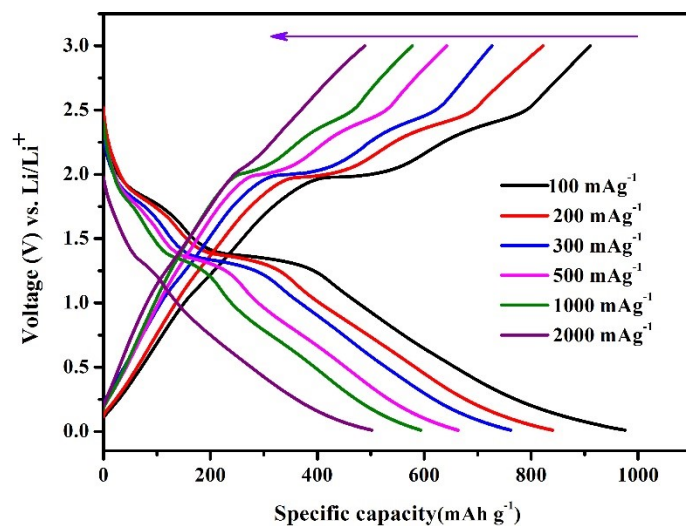


Fig. S6. Charge-discharge curves of SnS/CoS@rGO at different current densities.

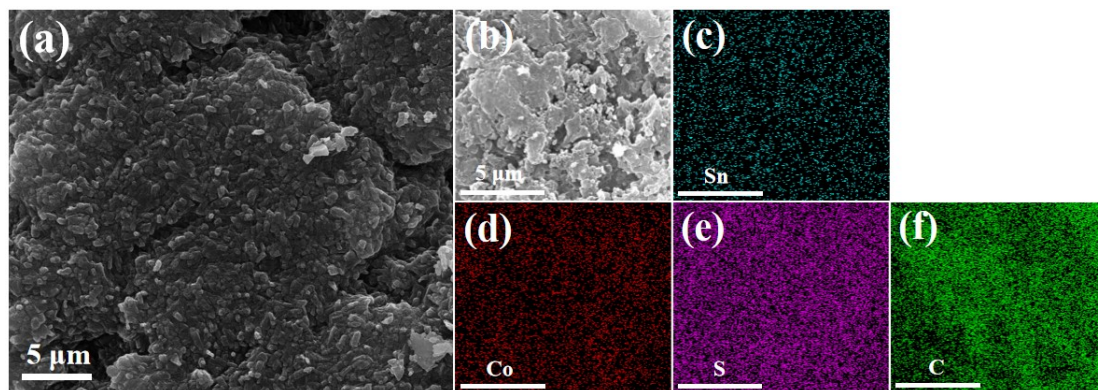


Fig. S7. Morphological and structural investigation of SnS/CoS@rGO after 100 cycles: (a) SEM image. (b-f) SEM image and the EDS elemental mappings of Sn, Co, S and C.

Table S1. Comparison of the electrochemical performance of the SnS/CoS@rGO anodes with the other SnS-based composite anodes of LIB in literatures.

Materials	Current Density (mA g ⁻¹)	Reversible capacity (mAh g ⁻¹)	Cycling number	Ref.
C@SnS@C	1000	918.0	330	[1]
Co ₉ S ₈ /SnS	1000	820.6	500	[2]
FeS/SnS@N-C	500	796.9	200	[3]
rod-like SnO ₂ /SnS	100	1182.5	50	[4]
SnS-C/NS@CNFs	1000	455.8	1000	[5]
SnS/S-GNS	100	803	100	[6]
ZnS/SnS@NC	200	775.5	200	[7]
SnS@CNT	1000	615	500	[8]
SnS/CoS@rGO	500	1223	400	Our work
	1000	846	400	

References

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