Supporting Information

Synergy ascension of SnS/MoS_2 binary metal sulfides on initial coulombic efficiency and stable capacity for lithium storage

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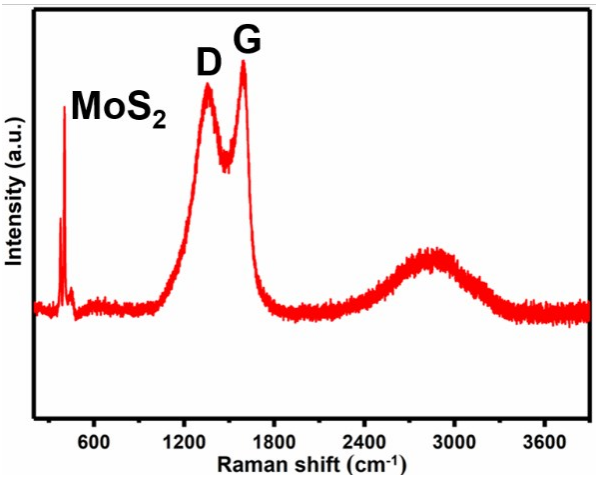

Fig. S1 Raman spectrum of the $SnS/MoS_2/C$ sample.

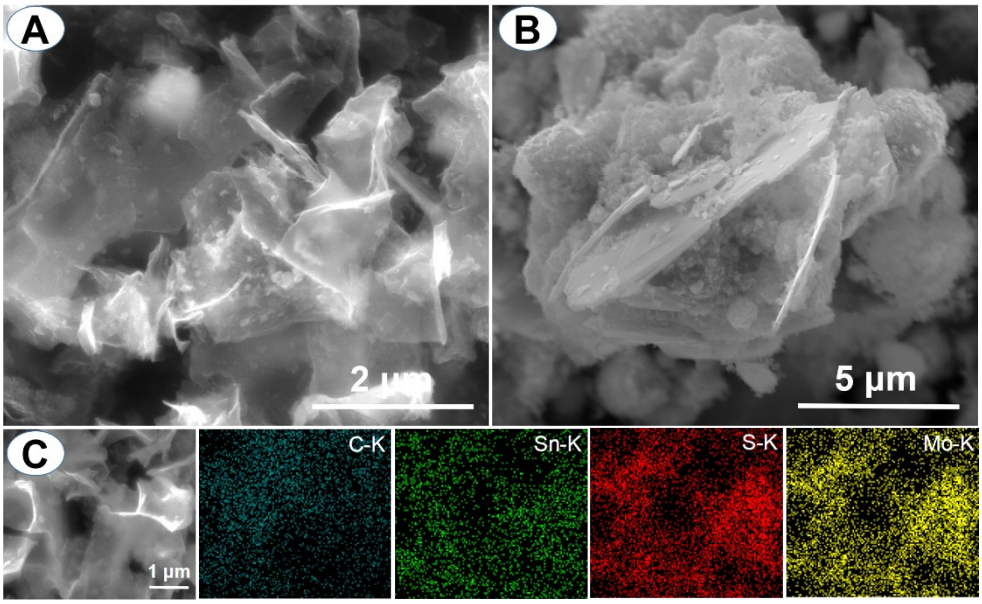

Fig. S2 SEM images of the SnS/C (A) and MoS_2/C (B) samples, and EDS mapping of the SnS/MoS_2/C (C).

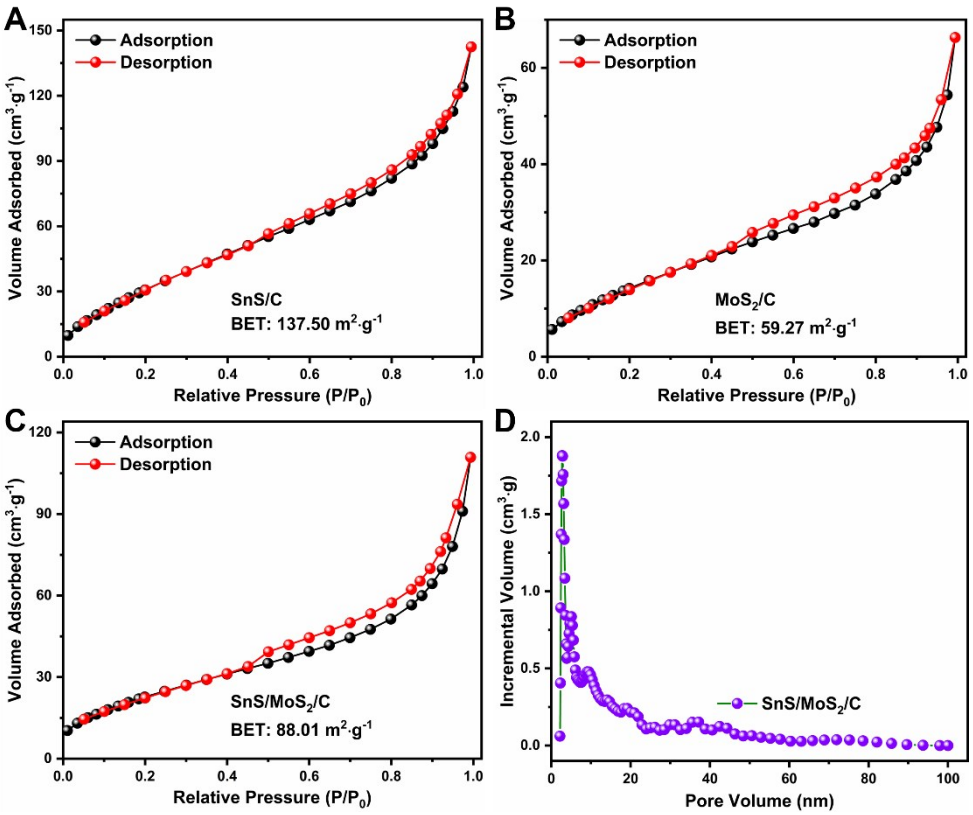

Fig. S3 Nitrogen adsorption–desorption isotherm with BET values (A, B and C) and pore size distribution (D) of the samples.

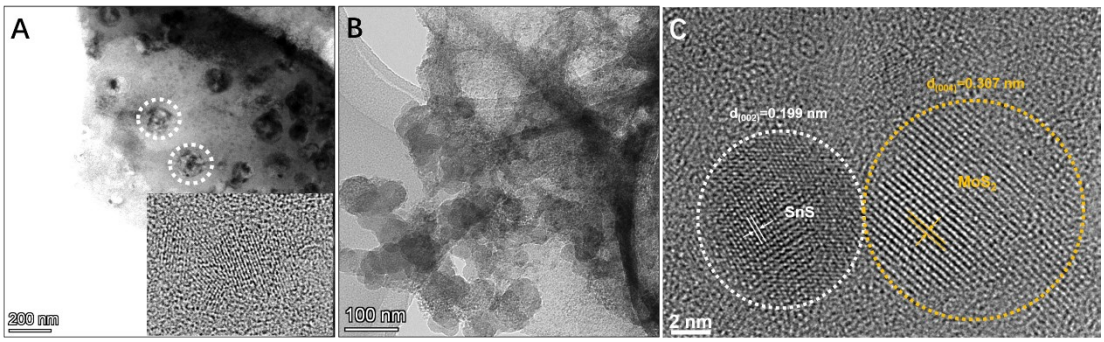

Fig. S4 TEM images of the SnS (A) and SnS/MoS_2/C (B and C) samples after cycling.

Tab. S1 Comparison of the initial coulombic efficiency of the SnS/MoS_2/C with recently reported SnS-based and MoS_2-based anode materials for LIBs.

Sample	Initial discharge capacity ($mAh \cdot g^{-1}$)	Initial charge capacity ($mAh \cdot g^{-1}$)	Initial coulombic efficiency (%)	Ref
SnS/C	1396	625	44.8	[1]
SnS@G	1895.4	1577.0	83.2	[2]
SnS/CBC	1426	971	61	[3]
SnS@SC	1449	1242	85.7	[4]
SnS/N–C	1421.6	1074.4	75.6	[5]
NG-SnS	1438	1254	88.2	[6]
SnS/C	1376	977	71	[7]
SnS/CNT@C	1131.8	1062	79.78	[8]
MoS_2@NC	1103.6	812.1	73.6	[9]
FeS@MoS_2/C	1599.8	1214	75.9	[10]
MoO_3@MoS_2	1202	920	76.6	[11]
MoS_2@C/RGO	1373	1189	86.6	[12]
MoS_2	1076	816	75.8	[13]
MoS_2@NC	845.3	600.2	71	[14]
MoS_2@graphene	1196	835	70	[15]
SnS/MoS_2/C	1400	1134	81	[16]
SnS/MoS_2/C	1249.4	1126.3	90.2	This work

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