

Supplementary Materials

Zn-doped SnS with sulfur vacancies for photocatalytic hydrogen evolution from water

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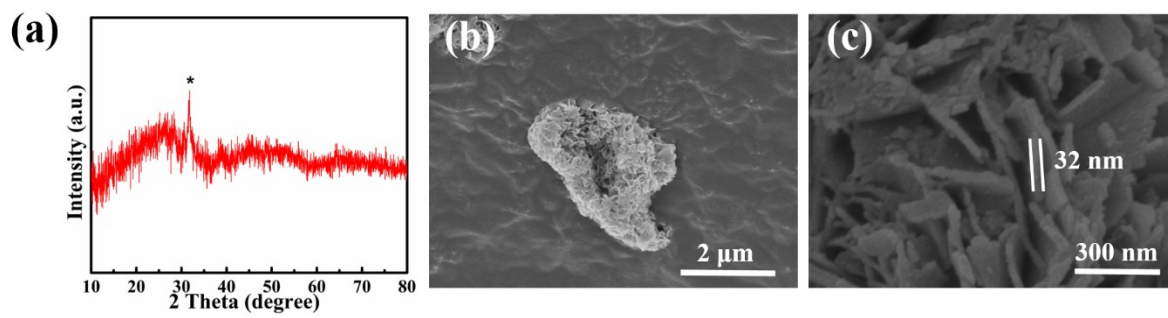


Fig. S1. (a) XRD patterns of SnS-0.6 sample; (c-d) SEM images of SnS-0.6 sample.

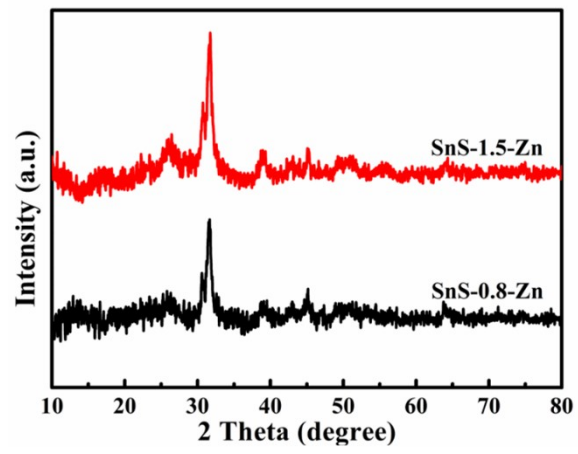


Fig. S2. XRD patterns of SnS-0.8-Zn, and SnS-1.5-Zn samples

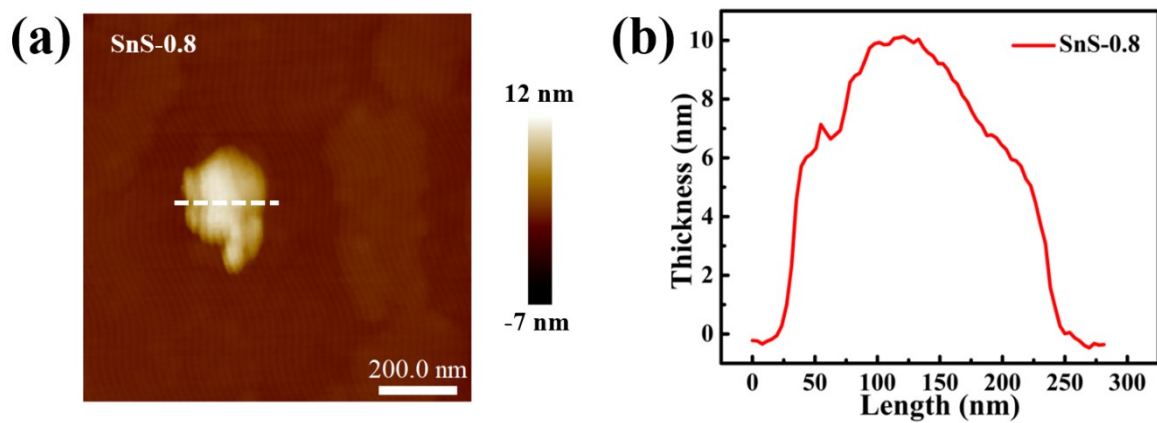


Fig. S3. (a) AFM image and (b) typical thickness curves of the nanosheets.

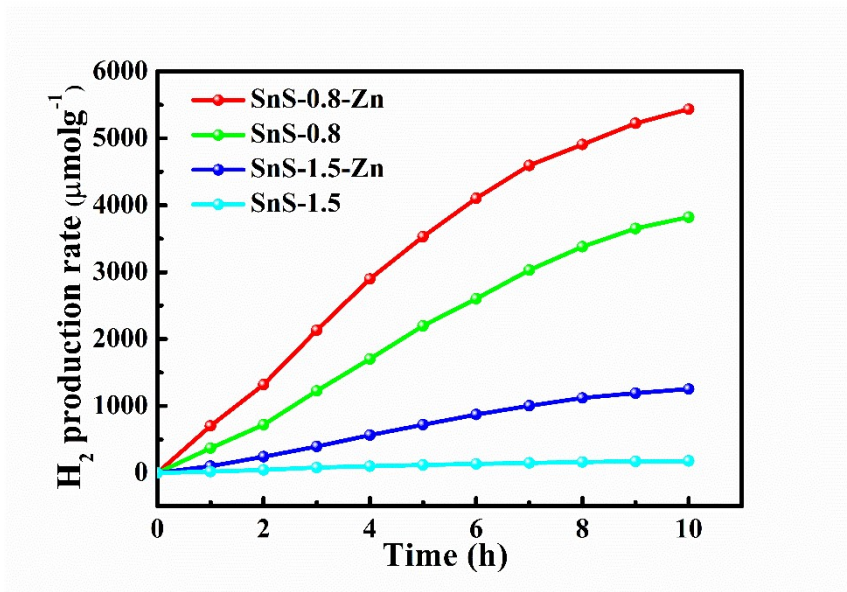


Fig. S4. Photocatalytic H₂ evolution process of SnS-0.8-Zn, SnS-0.8, SnS-1.5-Zn and SnS-1.5 samples with Pt loaded for 10 h.

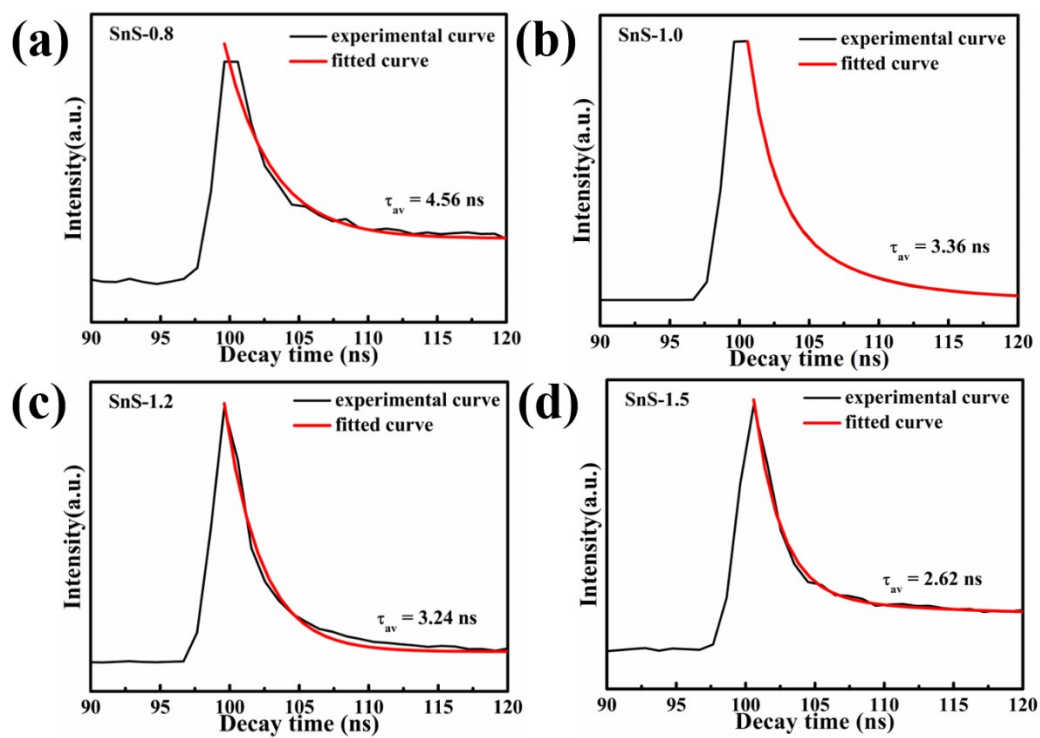


Fig. S5. TRPL decay spectra of (a) SnS-0.8, (b) SnS-1.0, (c) SnS-1.2 and (d) SnS-1.5 samples.

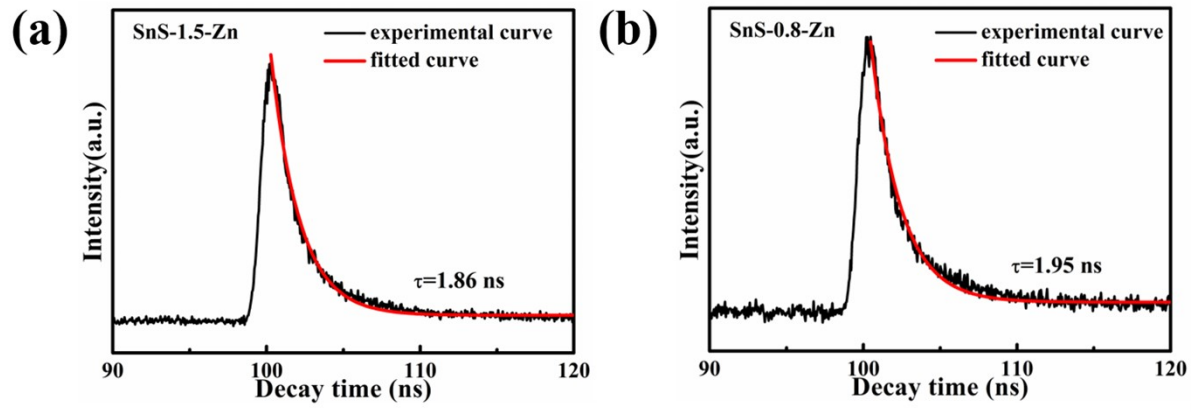


Fig. S6. TRPL decay spectra of (a) SnS-0.8-Zn and (d) SnS-1.5-Zn samples.

Table S1. Kinetic parameters of PL decay for SnS-0.8, SnS-1.0, SnS-1.2, SnS-1.5, SnS-0.8-Zn and SnS-1.5-Zn

Samples	A₁	τ_1 (ns)	A₂	τ_2 (ns)	τ_{av}
SnS-0.8	0.41	5.84	0.63	1.71	4.56
SnS-1.0	0.42	3.36	0.42	3.36	3.36
SnS-1.2	0.71	1.94	0.08	15.5	3.24
SnS-1.5	0.48	2.62	0.48	2.62	2.62
SnS-0.8-Zn	0.81	1.53	0.12	6.74	3.67
SnS-1.5-Zn	0.70	1.31	0.23	5.26	3.55