

Supporting information

High improvement of visible-light photocatalytic H₂-evolution based on cocatalyst-free Zn_{0.5}Cd_{0.5}S synthesized by a two-step process

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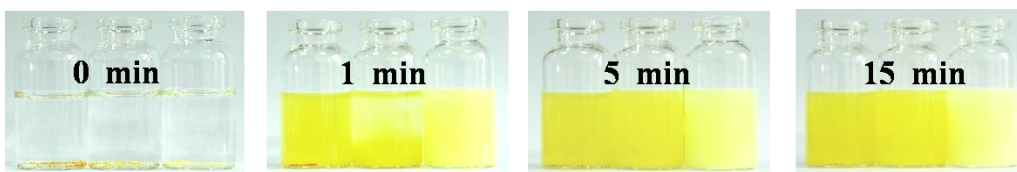


Fig. S1 Pictures of dispersed ZnCdS-C, ZnCdS-H and ZnCdS-CH samples at 0 min, 1 min, 5 min and 15 min. In each picture, ZnCdS-C, ZnCdS-H and ZnCdS-CH samples are placed in left bottle, middle bottle and right bottle, respectively. The experiment conditions for all samples are the same.

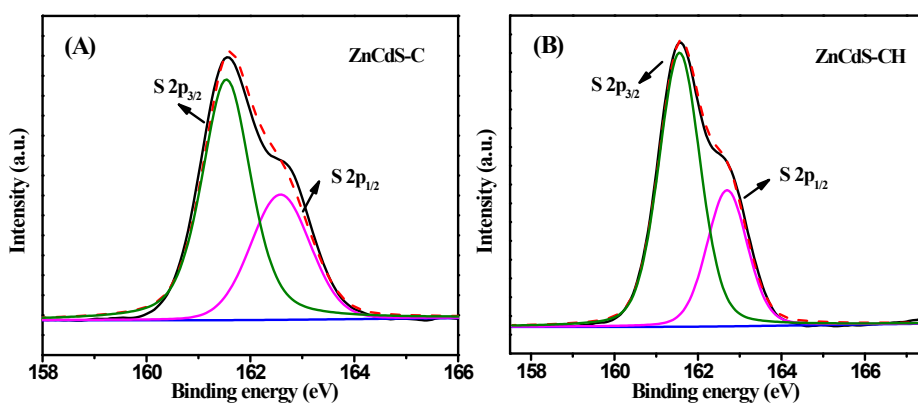


Fig. S2 High-resolution XPS spectra of S 2p for ZnCdS-C (A) and ZnCdS-CH (B)

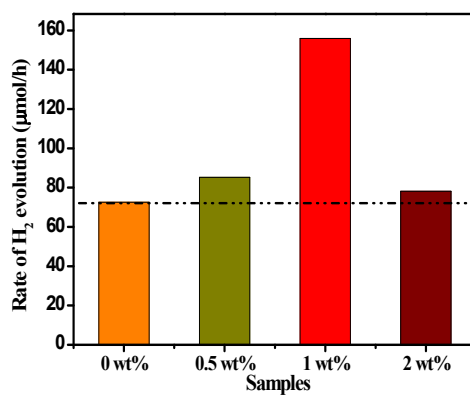


Fig. S3 Comparison of photocatalytic H₂ production rates over ZnCdS-C sample with different Pt loading (wt %) under visible-light irradiation (≥ 420 nm).

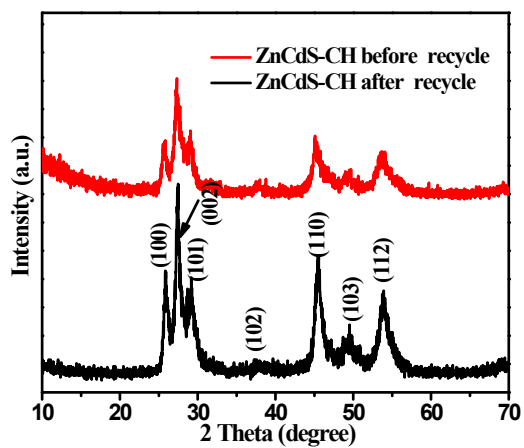


Fig. S4 Comparison of ZnCdS-CH samples before and after recycle.

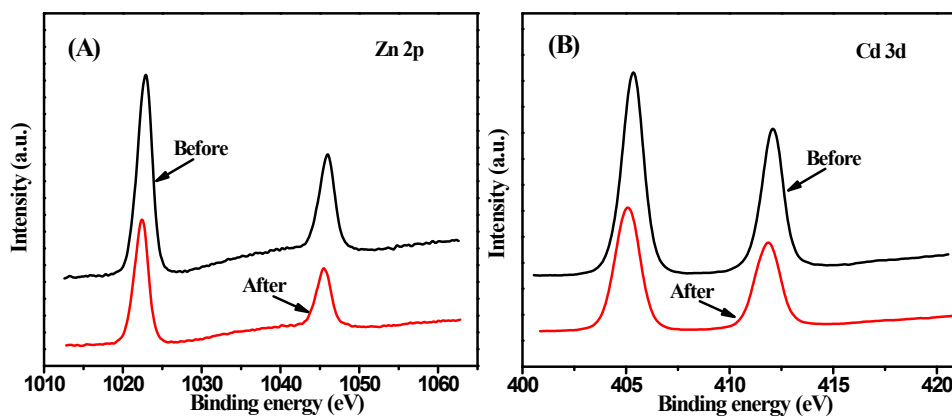


Fig. S5 High-resolution XPS spectra of Zn 2p and Cd 3d for ZnCdS-CH samples before and after recycle study.