

Electronic Supporting Information

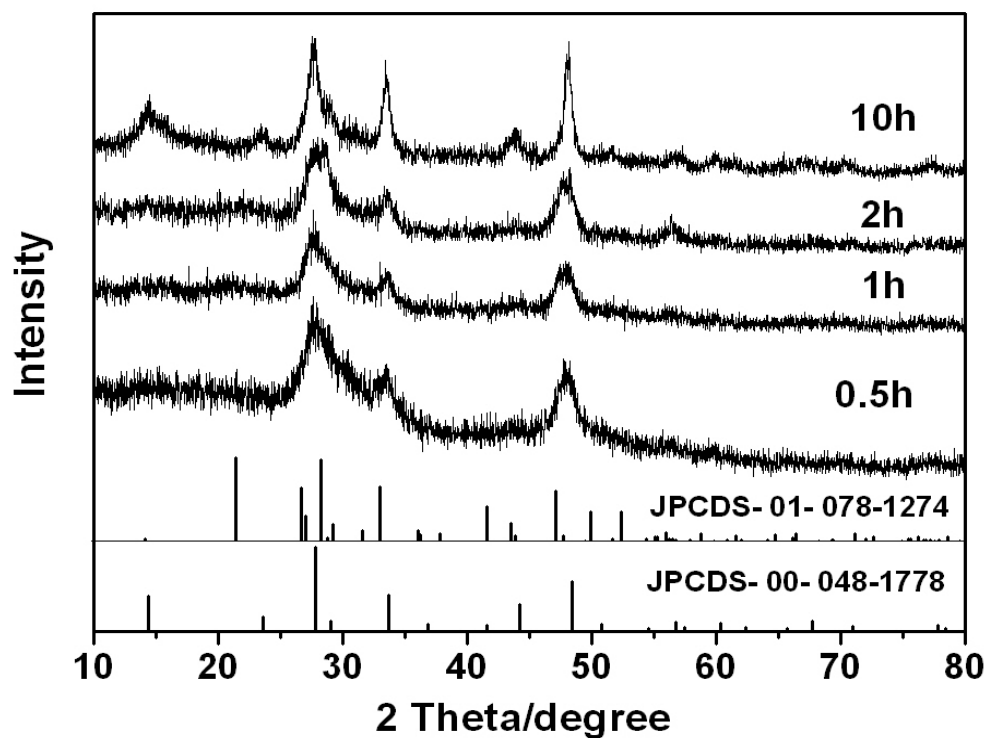


Fig. S1 XRD pattern of the ZnIn₂S₄ samples synthesized using Zn(NO₃)₂ and In(NO₃)₃ at 120 °C for different reaction time.

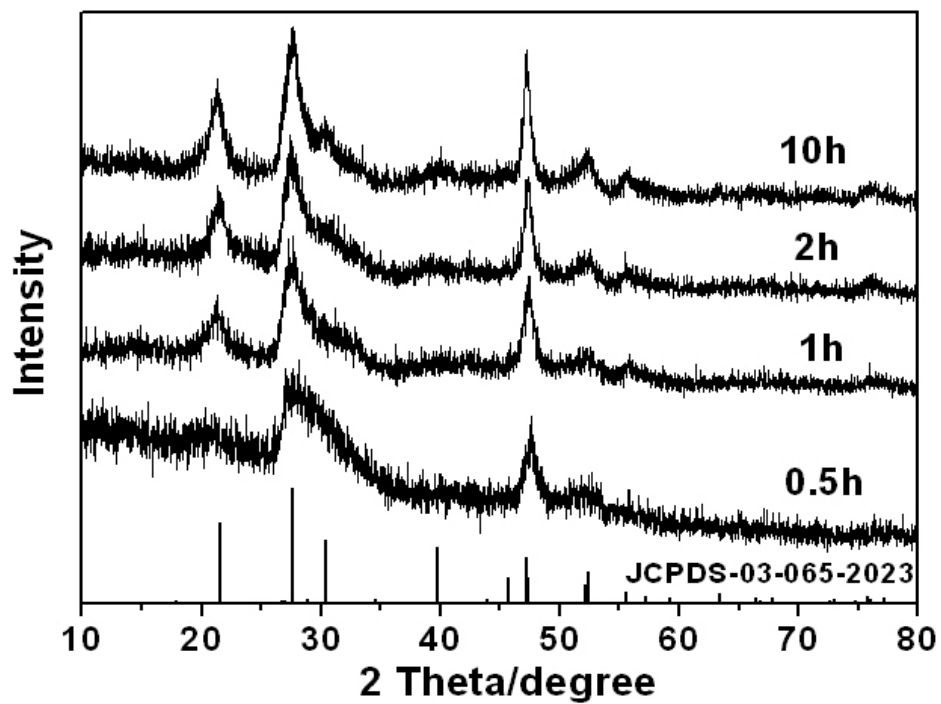


Fig. S2 XRD pattern of the ZnIn₂S₄ samples synthesized using ZnCl₂ and InCl₃ at 120 °C for different reaction time.

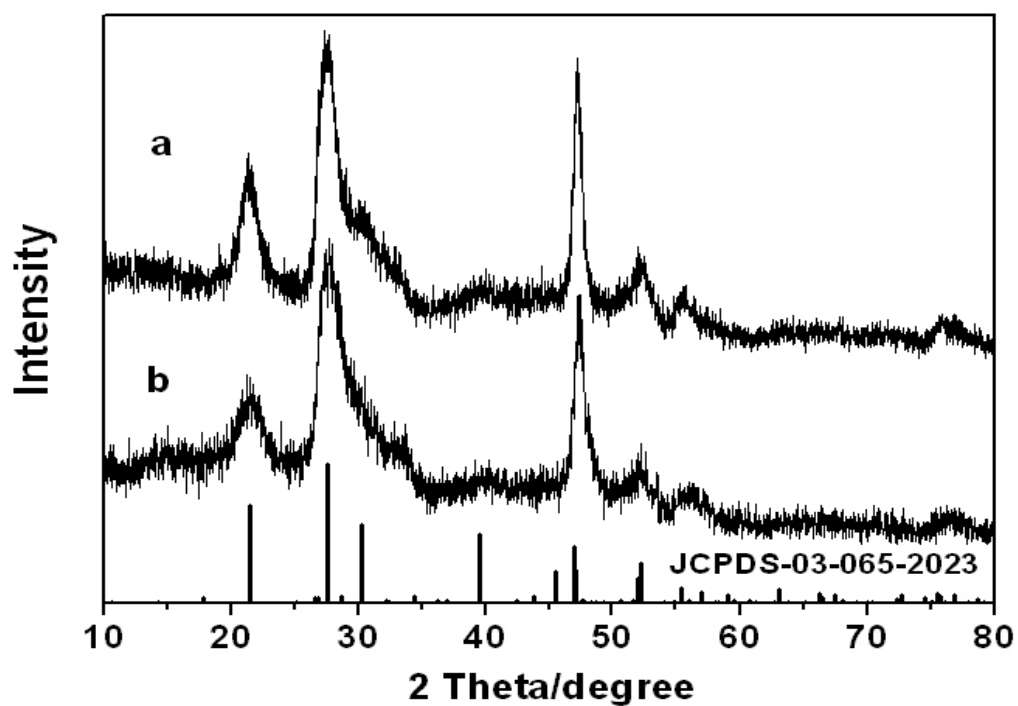


Fig. S3 XRD pattern of the ZnIn_2S_4 samples synthesized using different precursors of $\text{Zn}(\text{NO}_3)_2$ and InCl_3 (a), ZnCl_2 and $\text{In}(\text{NO}_3)_3$ (b) at $120\text{ }^\circ\text{C}$ for 10 h.

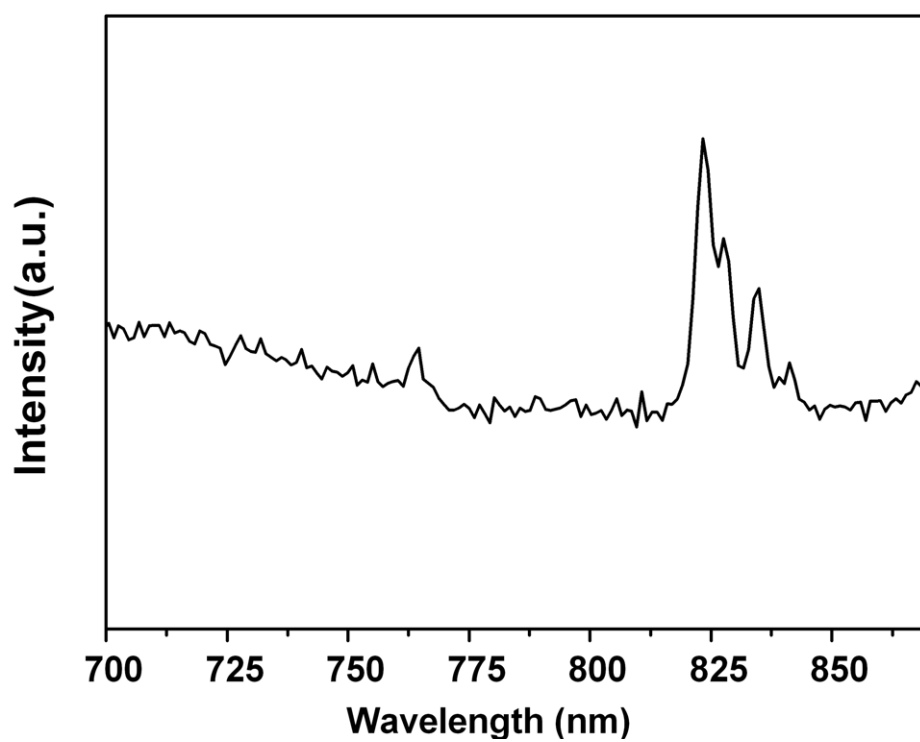


Fig. S4 Solid-state emission spectra for cubic ZnIn₂S₄ at 10K (excitation at 579 nm).

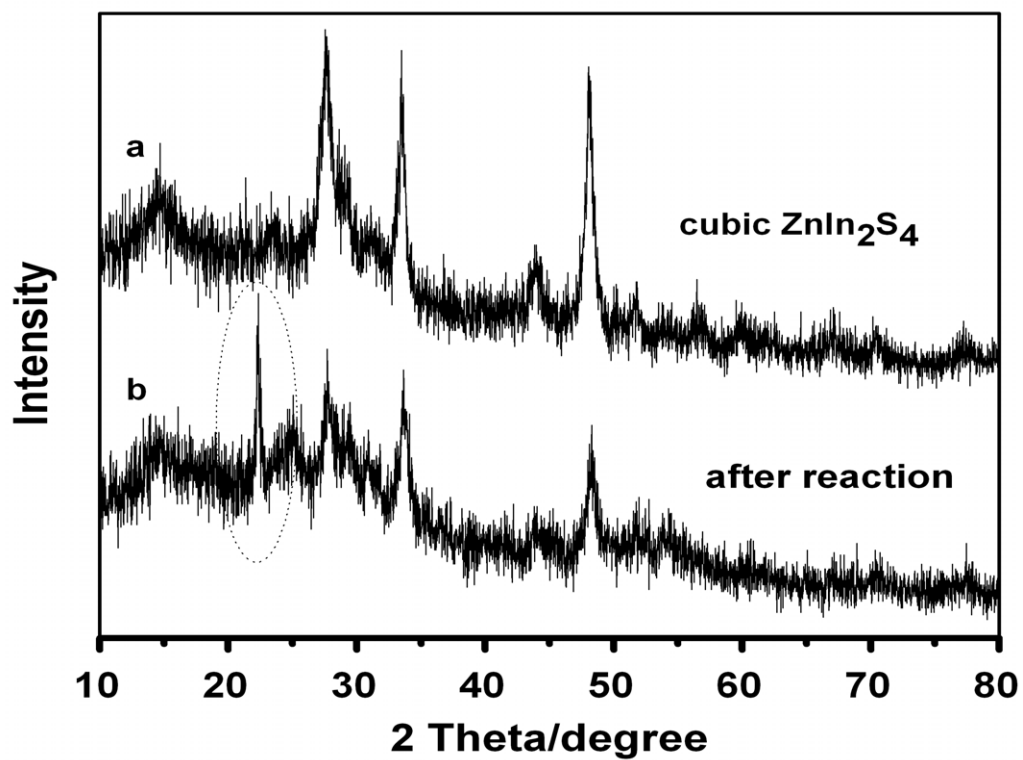


Fig. S5 XRD patterns of cubic ZnIn₂S₄: (a) before photocatalytic reaction; (b) after photocatalytic reaction.

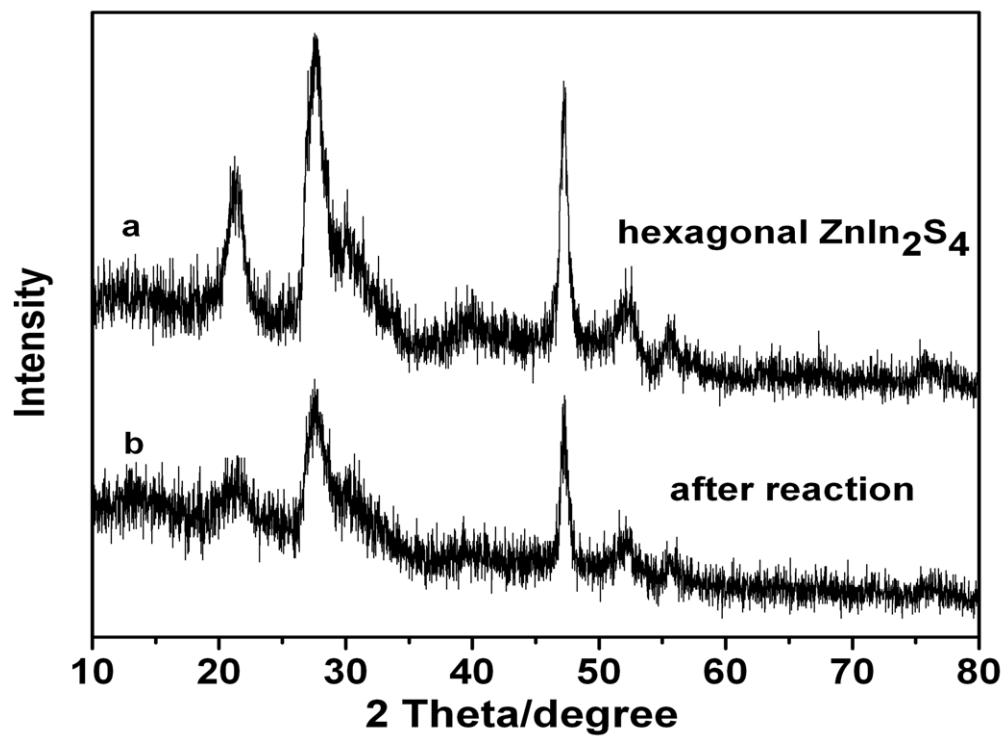


Fig. S6 XRD patterns of hexagonal ZnIn₂S₄ (a) before photocatalytic reaction; (b) after photocatalytic reaction.