Supporting Information

Room-temperature synthesis of Zn$_{0.80}$Cd$_{0.20}$S solid solution with a high visible-light photocatalytic activity for hydrogen evolution

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Fig. S1 XRD patterns of Zn$_{1-x}$Cd$_x$S samples prepared at different pH.
**Fig. S2** UV-Vis absorption spectra of Zn$_{1-x}$Cd$_x$S samples prepared at different pH.

**Fig. S3** Photocatalytic degradation of RhB over Zn$_{0.80}$Cd$_{0.20}$S under visible light irradiation ($\lambda \geq 420$ nm).