Electronic Supplementary Information

Au-Pt alloy nanoparticles site-selectively deposited on CaIn$_2$S$_4$ nanosteps as efficient photocatalysts for hydrogen production

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Figure S1. TEM image and size distribution of Au$_{0.5}$/CIS (A) and Pt$_{0.5}$/CIS (B) composite.
Figure S2. Size distribution of Au$_{0.5-x}$Pt$_x$/CIS composite with different content of Pt.
Figure S3. EDS spectra of Au$_{0.3}$Pt$_{0.2}$/CIS composite.
Figure S4. XRD patterns of $\text{Au}_{0.5-x}\text{Pt}_x$/CIS composite and $\text{CaIn}_2\text{S}_4$ with enlarged magnification.
Figure S5. Photocatalytic activity of Au/CIS composites as a function of Au content.
Figure S6. Hydrogen production rate of Au$_{0.5}$/CIS, HR-Au$_{0.5}$/CIS, Pt$_{0.5}$/CIS and HR-Pt$_{0.5}$/CIS under visible light irradiation.
Figure S7. XRD patterns of Au$_{0.3}$Pt$_{0.2}$/CIS composite before and after the photocatalytic reaction.
Figure S8. TEM image of photoreduced Pt on Au0.5/CIS composite