Supplemental Information

Simultaneous Conduction and Valence Band Regulation of Indium-Based Quantum Dots for Efficient H_2 Photogeneration

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1. Table S1

Table S1. Comparison of photocatalytic H_2 evolution with reported cadmium chalcogenide QDs-based systems.

Photocatalysts	Cocatalysts	Light Source	Donor	TON vs. QD	Time (h)	Refer.
CdTe QDs	[FeFe]-H_2ase	>420 nm	H_2A	157.6	10	[1]
CdSe QDs	[FeFe]-H_2ase	>400 nm	H_2A	3 206	80	[2]
CdSe QDs	Ni-DHLA	520 nm	H_2A	1 200 000	360	[3]
CdTe QDs	Co^{2+}	>400 nm	H_2A	219 100	70	[4]
CdSe QDs	Ni^{2+}	>400 nm	IPA	15 340	20	[5]
CdS QDs	Co^{2+}	>420 nm	Na_2SO_3	29 000	88	[6]
CdSe/ZnS QDs	Cobaloxime	>400 nm	TEOA	>10 000	10	[7]
CdS QDs	Ni^{2+}	>400 nm	glycerol	38 405	20	[8]
ZnS modified CdSe QDs	None	450 nm	H_2A	440 000	40	[9]
CdSe QDs	ZnSe	>400 nm	H_2A	~5000	12	[10]
CdSe/$Zn_{1-x}Fe_xS$ QDs	FeS	405 nm	TEA	600 000	172 h	[11]
$Cu_{0.4}$-$ZnIn_2S_4$ QDs	Ni^{2+}	460 nm	H_2A	20 260	16 h	This work

2. Figure S1

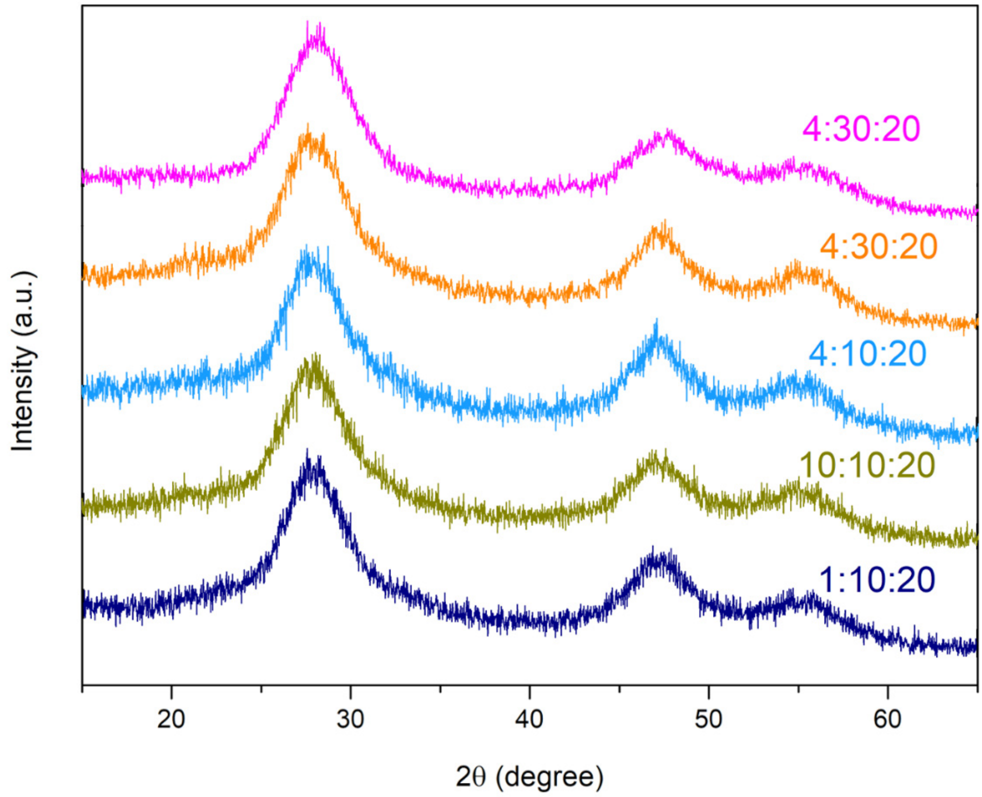

Figure S1. The XRD patterns of Cu-doped Zn-In-S QDs (The ratio in the graph represents the molar ratio of Cu:Zn:In).

3. Figure S2

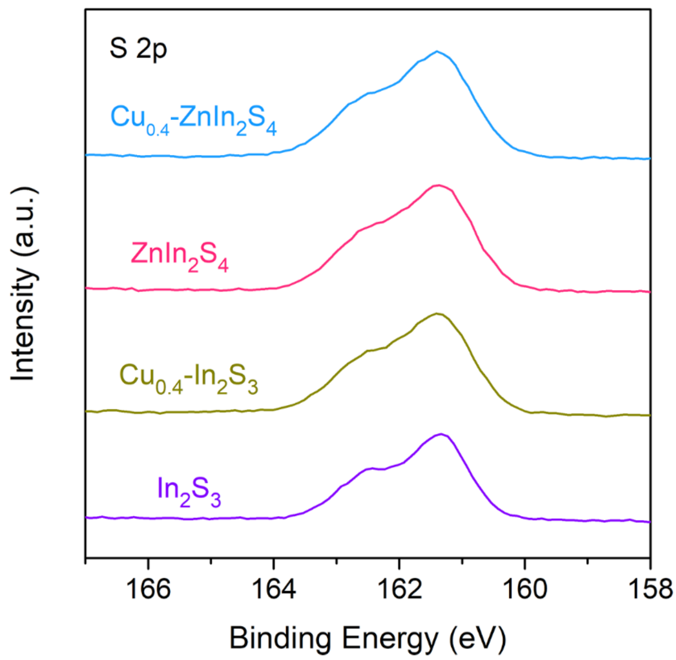

Figure S2. The high-resolution XPS spectra of S 2p of In_2S_3, $Cu_{0.4}$-In_2S_3, $ZnIn_2S_4$ and $Cu_{0.4}$-$ZnIn_2S_4$ QDs.

4. Figure S3

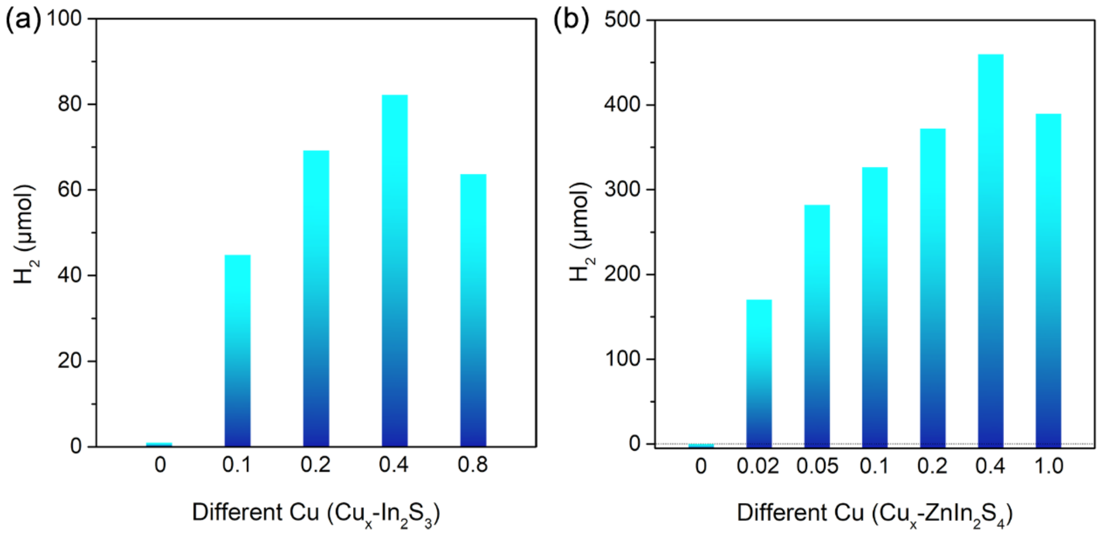

Figure S3. The photocatalytic H_2 evolution comparison of different contents of Cu doped (a) In_2S_3 and (b) $ZnIn_2S_4$ QDs.

5. Reference

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