

## Supporting Information

# Study of Indium Phosphide Quantum Dots/Carbon Quantum Dots System for Enhanced Photocatalytic Hydrogen Production from Hydrogen Sulfide

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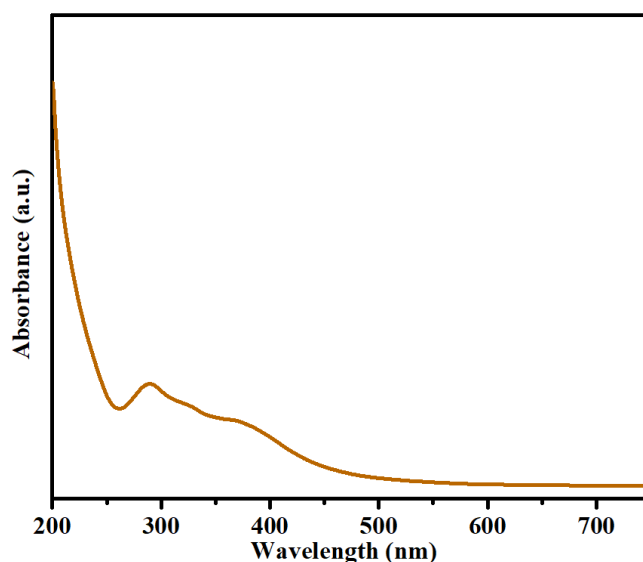


Figure S1 UV-vis spectrum of CQDs.

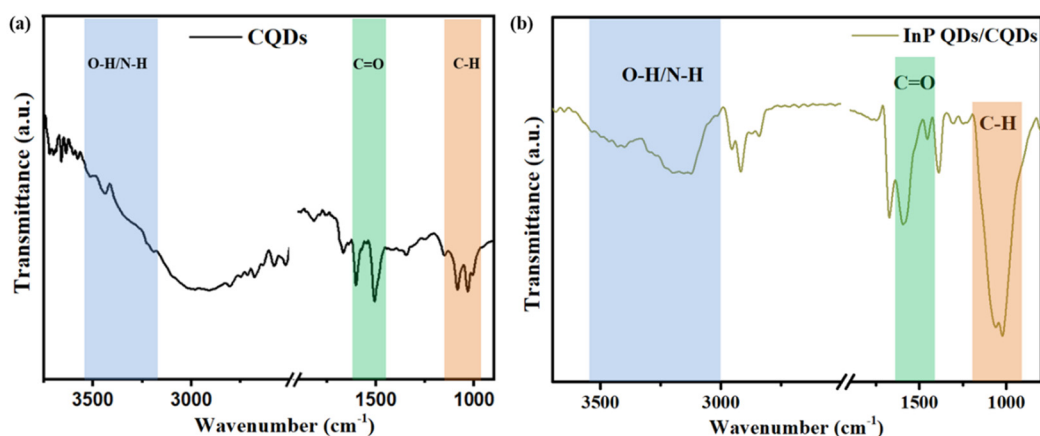


Figure S2 The FTIR spectra of (a) CQDs and (b) InP QDs/CQDs system.

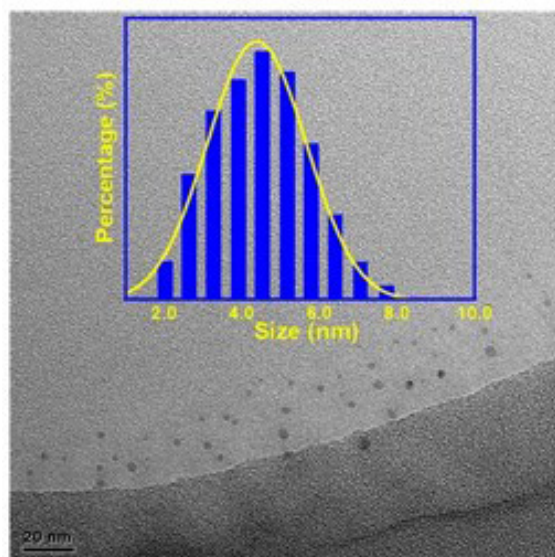


Figure S3 TEM of CQDs.

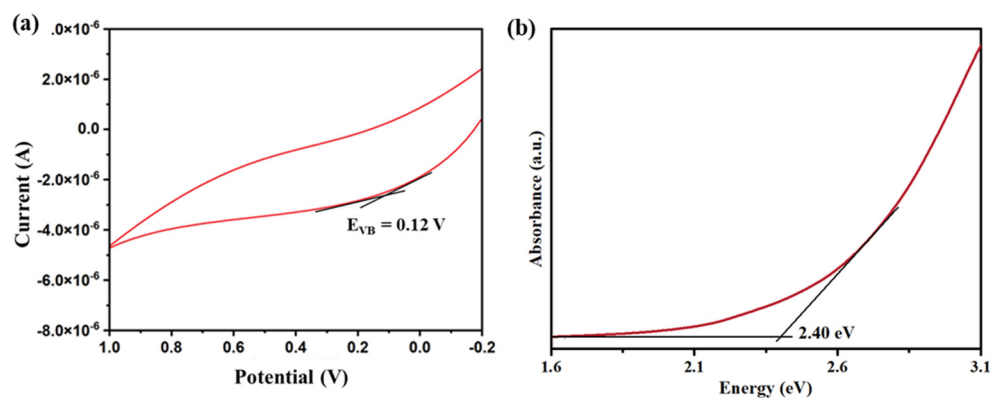


Figure S4 (a) Band gap calculation of CQDs from CV measurements. Electrolyte: tetrabutylammonium tetrafluoroborate (0.1 M); scan rate: 10 mV s<sup>-1</sup>. (b)  $(\alpha h\nu)^2$  and Energy curve graph of CQDs.

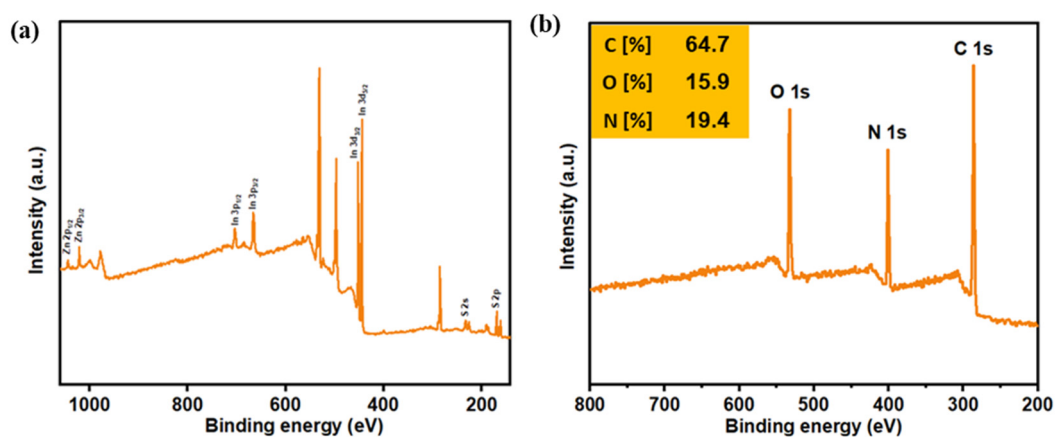
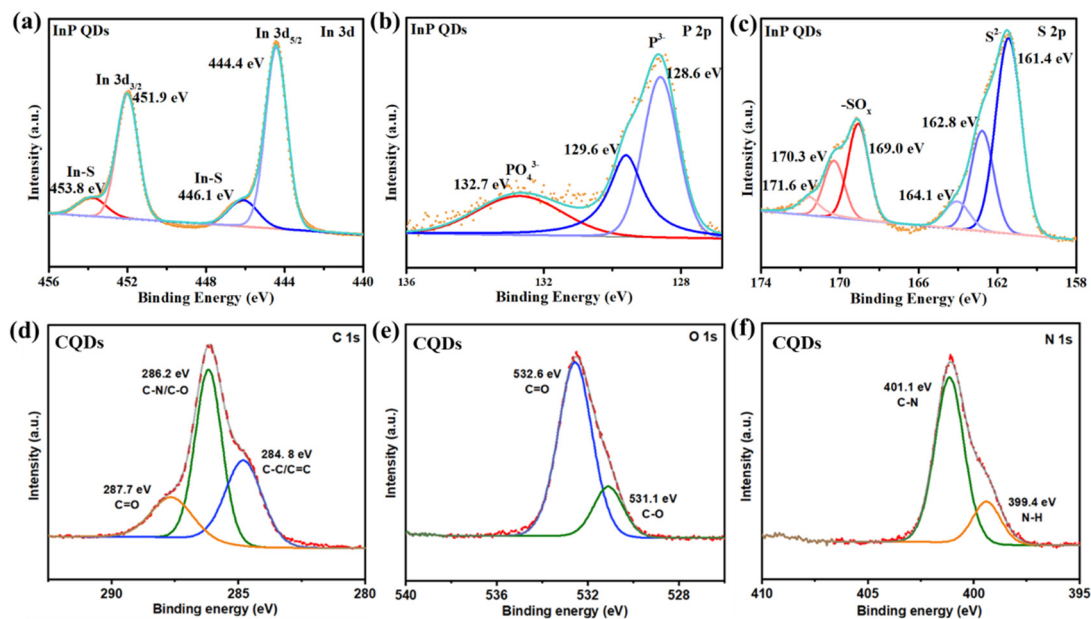
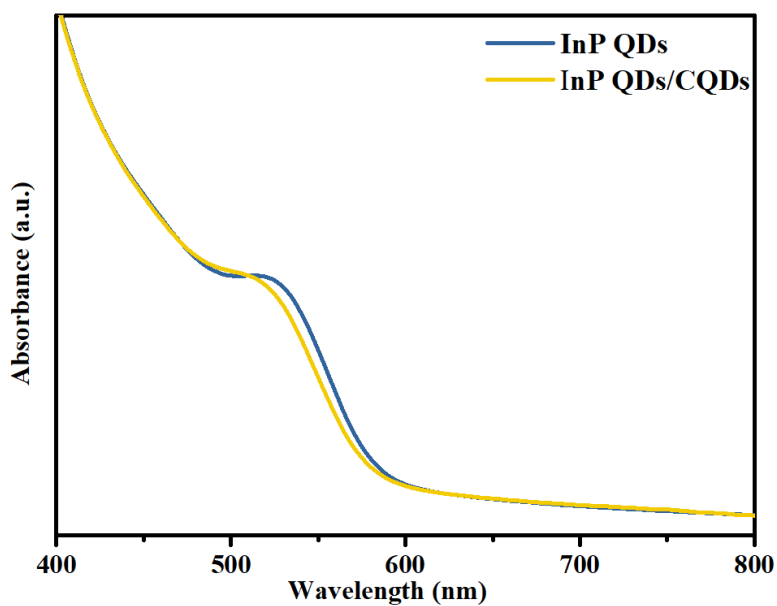


Figure S5 The XPS survey spectra of (a) InP QDs and (b) CQDs.



**Figure S6** The XPS fine spectra of InP QDs and CQDs. (a) In 3d; (b) P 2p; (c) S 2p of InP QDs. (d) C 1s; (e) O 1s; (f) N 1s of CQDs.



**Figure S7** UV-vis spectra of InP QDs and InP QDs/CQDs system.

**Table S1** The wt.% element composition of InP QDs by ICP-OES measurement

Sample	In (wt.%)	P (wt.%)	S (wt.%)	Zn (wt.%)	P: In	S:In	Zn:In
InP QDs	41.87	7.62	7.12	3.93	0.18	0.17	0.09