Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Chitosan-derived carbon supported CoO combined with CdS facilitates visible light catalytic hydrogen evolution

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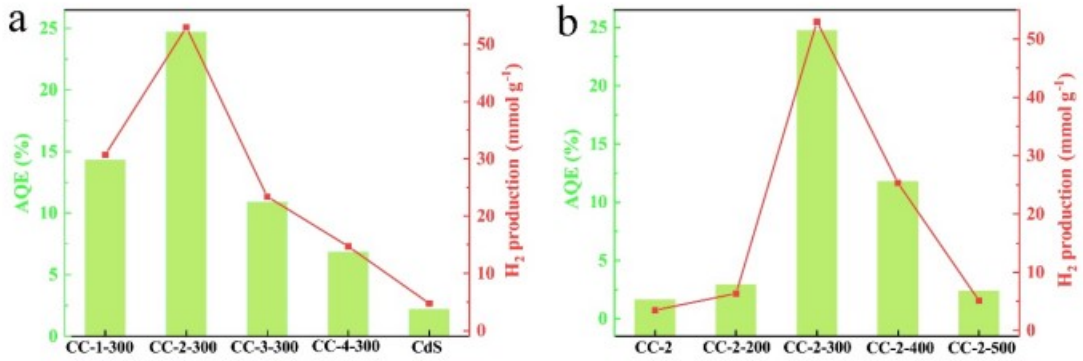

Figure S1. The quantum efficiency of different catalysts.

Table S1. Comparison between CC-2-300 and other reported catalysts on the visible-light photocatalytic hydrogen evolution reaction.

Photocatalysts	**Photocatalyst dosage (mg)**	**Light source**	**Sacrificial reagent & Reaction solvent**	**Hydrogen evolution rate (mmol/g/h)**	**Refs.**
CC-2-300	10	300 W Xe lamp λ ≥420nm	20 vol% LA, Water (40 mL)	10.60	This work
CdS/NiAl LDH	10	5 W LED white light	0.25 M Na_2SO_3 +0.35 M Na_2S, Water (30 mL)	7.09	[1]
CoPx/CdS NRs	10	300 W Xe lamp λ> 420nm	1.5 M Na_2SO_3 +2.1 M Na_2S, Water (20 mL)	0.50	[2]
NMS/SCN	50	300 W Xe lamp λ >420nm	10 vol% TEOA, Water (90 mL)	0.6585	[3]
CdSe/CdS	10	300 W Xe lamp λ ≥400nm	0.1 M Na_2SO_3/Na_2S	1.153	[4]

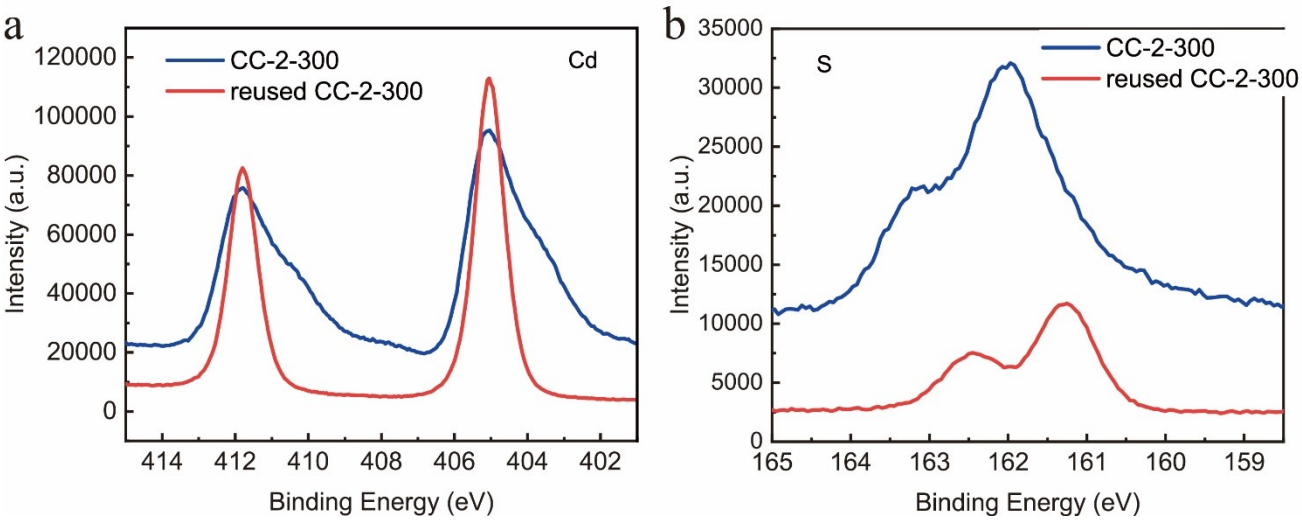

Figure S2. The XPS Cd3d and S2p spectra of recycled CC-N-300 after five runs.

References

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[4] A. Thibert, F.A. Frame, E. Busby, M.A. Holmes, F.E. Osterloh, D.S. Larsen, Sequestering high-energy electrons to facilitate photocatalytic hydrogen generation in CdSe/CdS nanocrystals, J. Phys. Chem. Lett., 2 (2011) 2688-2694.