

Supporting Information

For

**MOF nanosheet-derived carbon-layer-coated CoP/g-C₃N₄
photocatalysts with enhance charge transfer for efficient
photocatalytic H₂ generation**

Yan Ma^a, Dianjun Chi^a, Yuping Tao^a, Shengjun Liu^{*a}, Lei Dong^a, Yu Chen^a, Lifang He^{*a}
and Kui Zhang^a

*School of Chemistry and Chemical Engineering, Anhui University of Technology,
Ma'anshan, Anhui 243032, China*

***Corresponding authors:** Shengjun Liu, E-mail: lsj1990@mail.ustc.edu.cn.

Lifang He, E-mail: lifanghe@ahut.edu.cn.

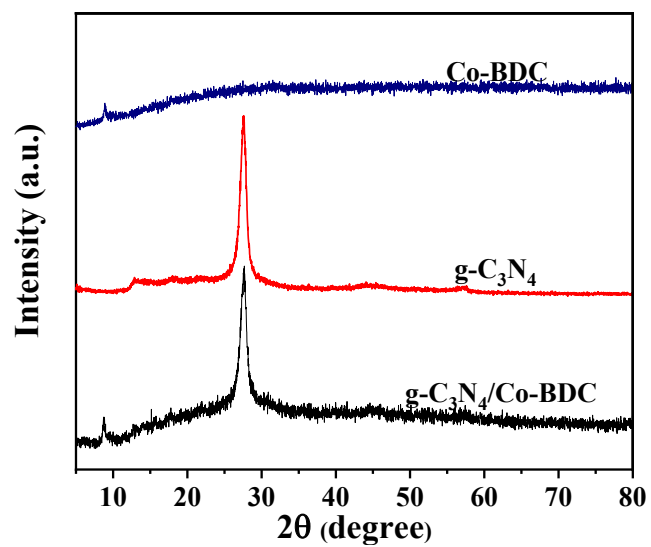


Figure S1. XRD patterns of Co-BDC nanosheets, g-C₃N₄ nanosheet and g-C₃N₄/ Co-BDC nanosheet.

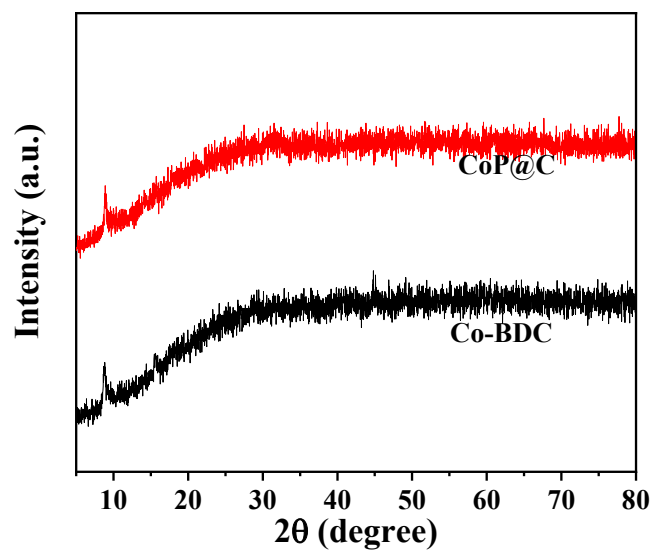


Figure S2. XRD patterns of CoP@C.

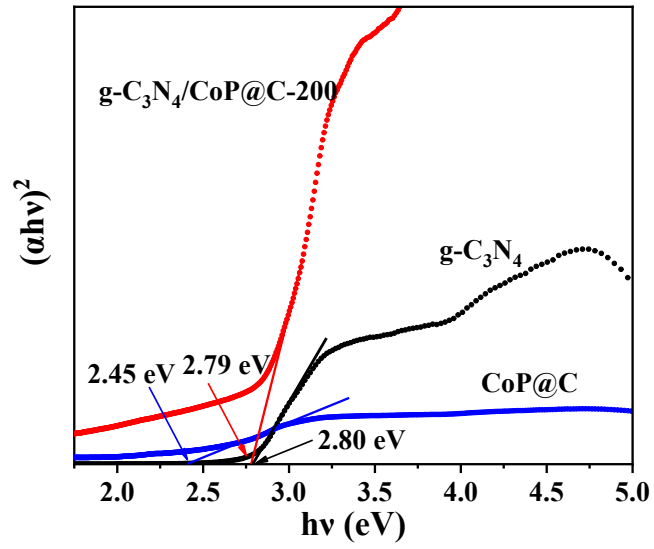


Figure S3. $(\alpha h\nu)^2$ versus $h\nu$ plot of $g\text{-C}_3\text{N}_4$, $\text{CoP}@C$ and $g\text{-C}_3\text{N}_4/\text{CoP}@C\text{-200}$.

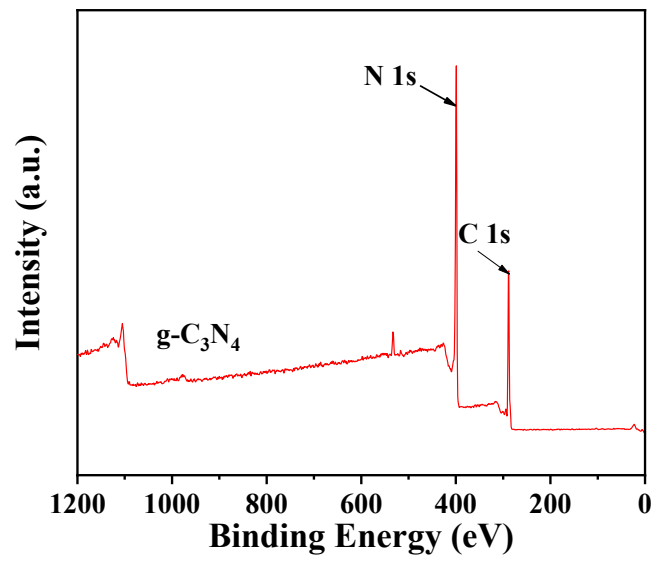


Figure S4. XPS survey spectrum of the $g\text{-C}_3\text{N}_4$.

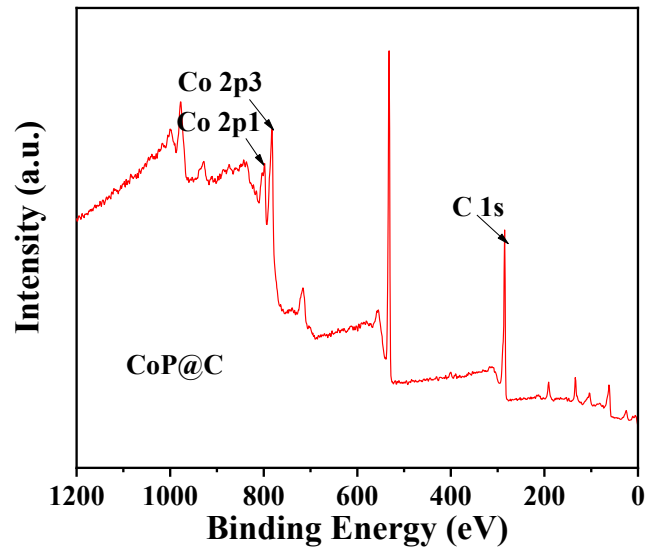


Figure S5. XPS survey spectrum of the CoP@C.

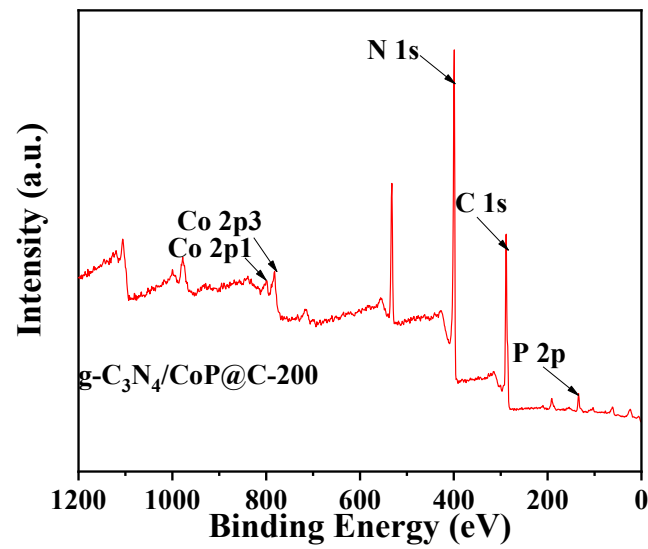


Figure S6. XPS survey spectrum of the g-C₃N₄/CoP@C.

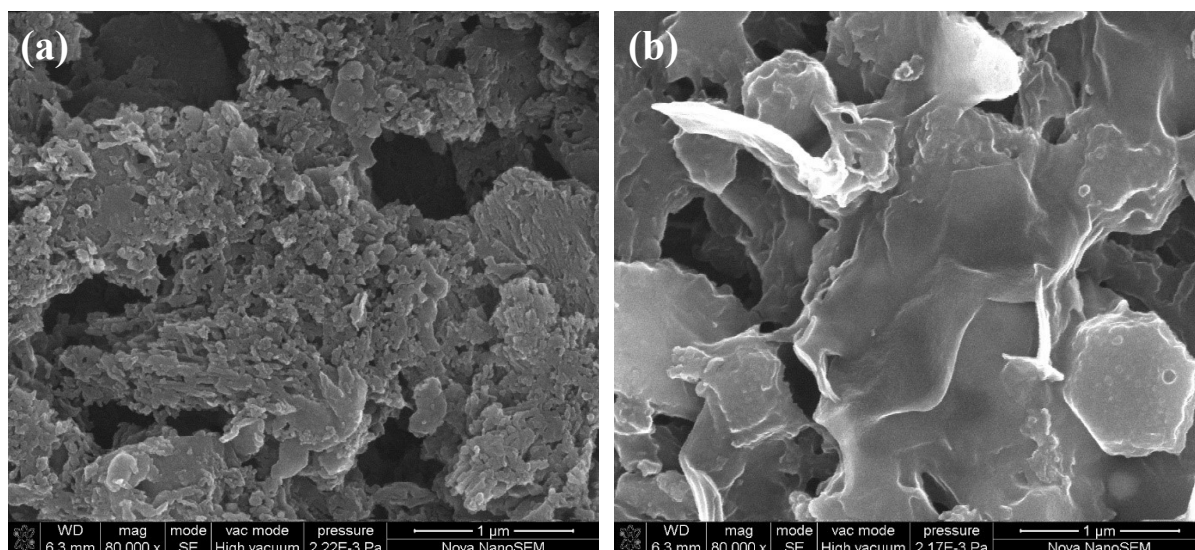


Figure S7. SEM of (a) bulk g-C₃N₄ and g-C₃N₄ nanosheet.

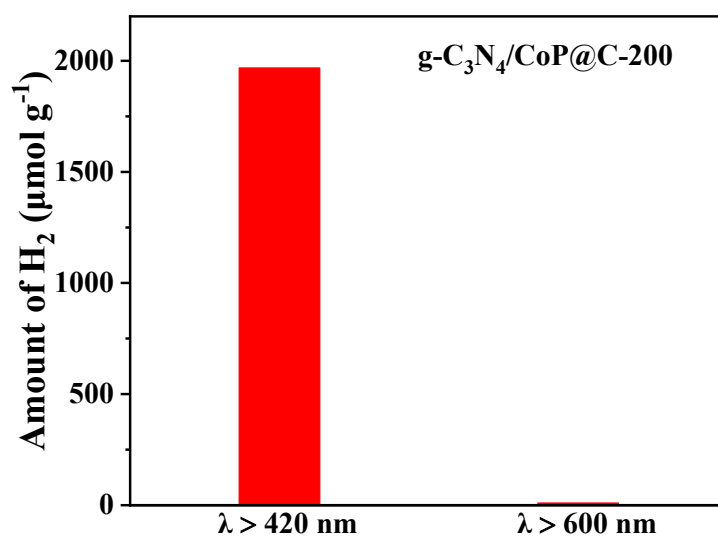


Figure S8. H₂ evolution of g-C₃N₄/CoP@C-200 under illumination (λ > 420 nm and λ > 600 nm).

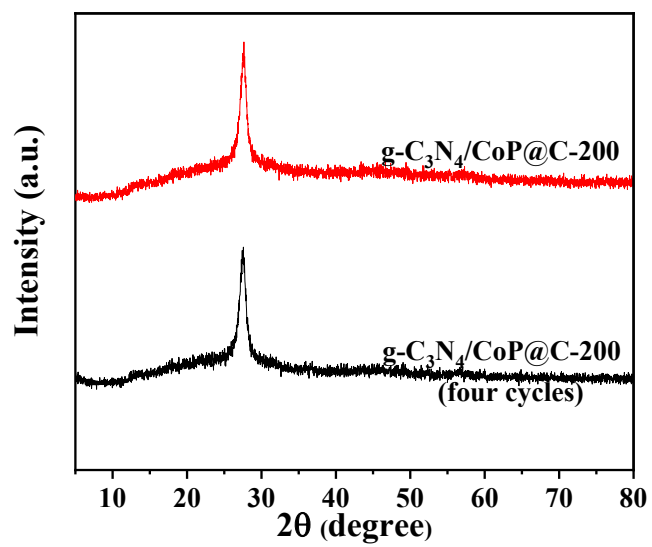


Figure S9. XRD patterns of g-C₃N₄/CoP@C-200 before and after photocatalysis.

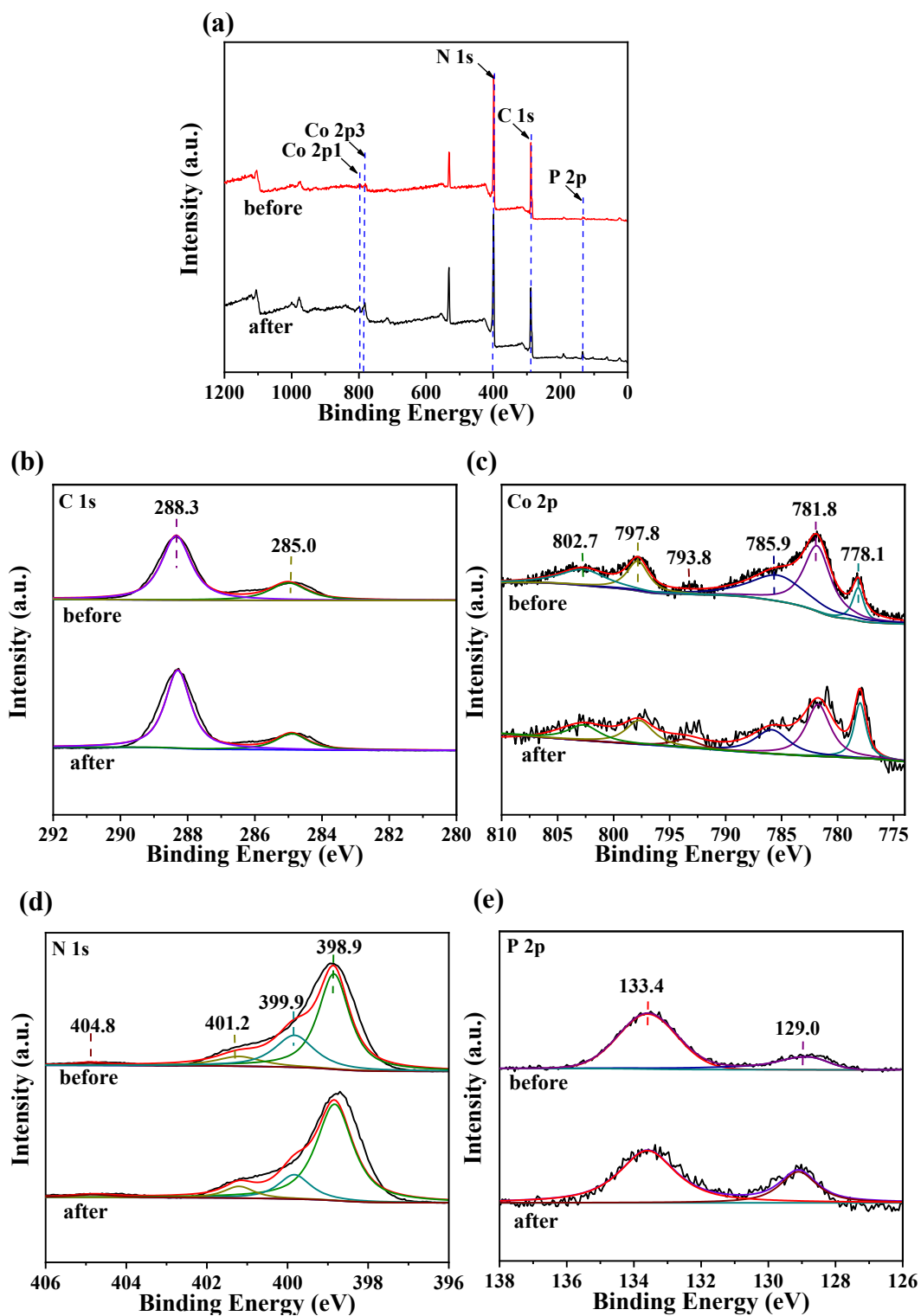


Figure S10. XPS spectra of g-C₃N₄/CoP@C-200 before and after photocatalysis. The similar peaks can be detected in the C 1s, Co 2p, N1s and P 2p spectra before and after photoreaction.

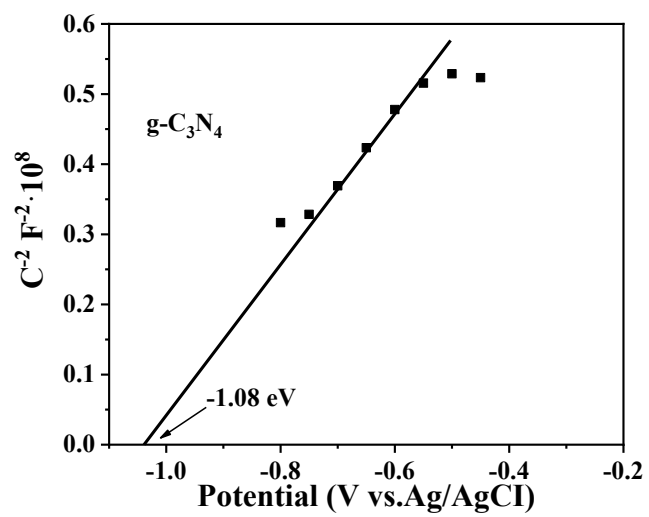


Figure S11. Mott-Schottky plots of g-C₃N₄.