

Supporting Information

A curly architected graphitic carbon nitride ($g\text{-C}_3\text{N}_4$)
towards efficient visible-light photocatalytic H_2 evolution

Yuanzhi Hong,^a Longyan Wang,^a Enli Liu,^{a,b} Jiahui Chen,^a Zhiguo Wang,^a Shengqu
Zhang,^a Xue Lin,^{a,*} Xixin Duan^{a,*} and Junyou Shi^{a,b*}

^a*School of Materials Science and Engineering, Beihua University, 3999 Binjiang East
Road, Jilin 132013, People's Republic of China*

^b*School of Agriculture and Food Engineering, Shandong University of Technology, 266
Xincun West Road, Zibo 255000, People's Republic of China*

**Corresponding authors:*

jlsdlinxue@126.com (X. Lin); duanxixin@hotmail.com (X. Duan); bhsjy64@163.com (J. Shi)

Figure and Table Captions

Figure S1. H₂ evolved rate of GCN-CLA with loading the different amount of Pt.

Figure S2. Photocatalytic H₂ evolved performance of GCN-CLA by loading with 3 wt% of Pt, Au and Ag.

Figure S3. Particle size distribution curves of GCN-B and GCN-CLA samples.

Figure S4. Pore size distribution plots of as-made GCN-B and GCN-CLA samples.

Figure S5. FT-IR spectra of as-prepared GCN-B, GCN-0, and GCN-1 samples.

Figure S6. Survey XPS spectra of as-fabricated GCN-B and GCN-CLA samples.

Figure S7. EIS spectra of as-synthesized GCN-0, GCN-1, and GCN-CLA samples.

Figure S8. VB-XPS spectra of GCN-B and GCN-CLA samples.

Figure S9. H₂ evolved rate over as-synthesized samples under full arc irradiation.

Figure S10. H₂ evolved rate of GCN-CLA using different amount of catalyst.

Figure S11. H₂ evolved rate of GCN-CLA using lactic acid, triethanolamine, methanol and ethanol as sacrificial agents.

Figure S12. H₂ evolved activity of GCN-CLA reaction at different temperature.

Figure S13. H₂ evolved activity of GCN-CLA via *in-situ* and pre-loading 3 wt% Pt.

Figure S14. H₂ evolved rate of various GCN samples vs the amount of N element.

Table S1. The C and N elements amount of GCN-B, GCN-0, GCN-1 and GCN-CLA from XPS analysis.

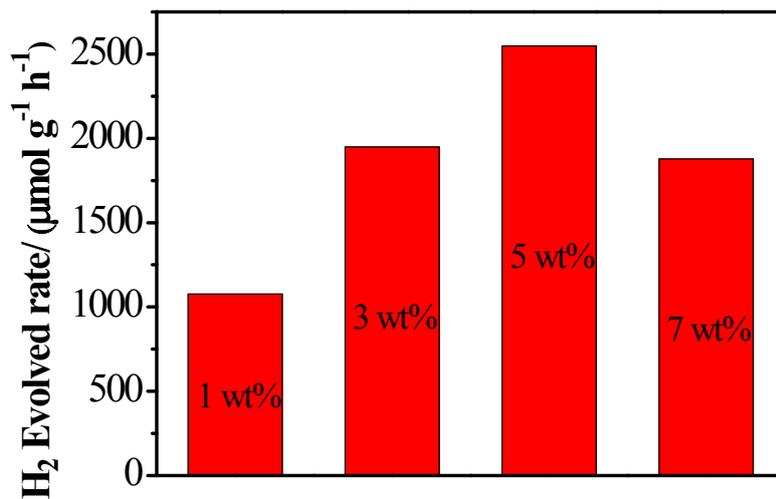


Figure S1. H₂ evolved rate of GCN-CLA with loading the different amount of Pt.

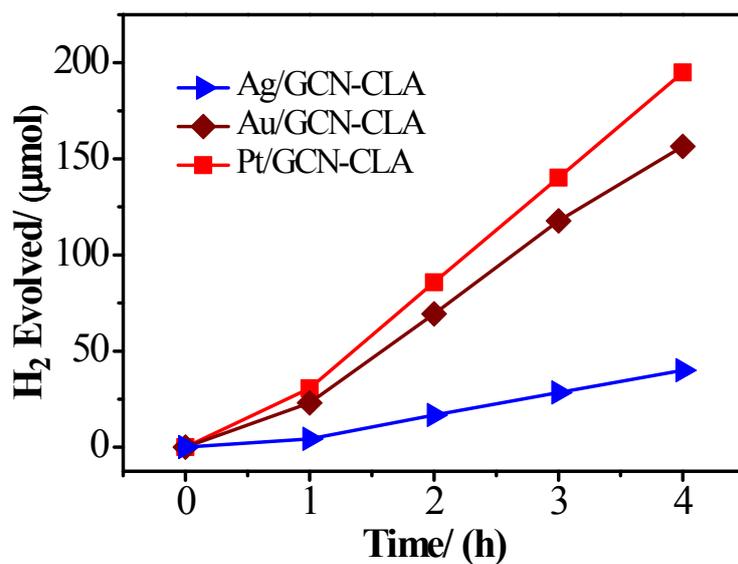


Figure S2. Photocatalytic H₂ evolved performance of GCN-CLA by loading with 3 wt% of Pt, Au and Ag.

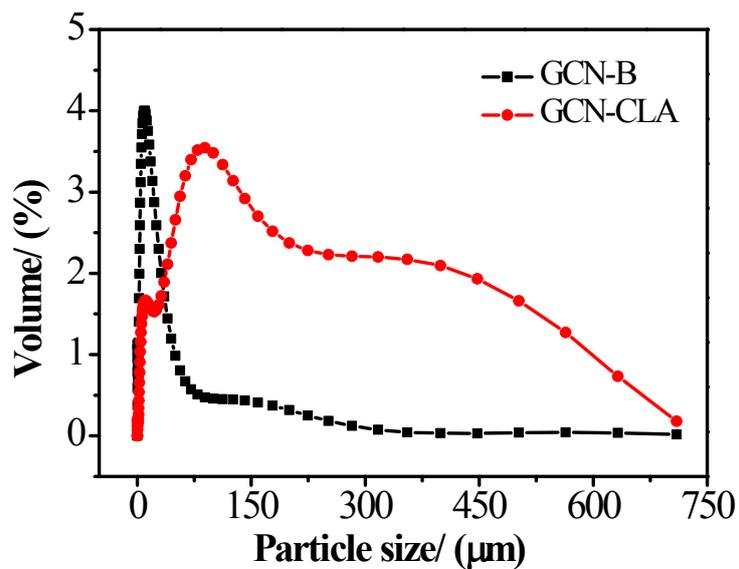


Figure S3. Particle size distribution curves of GCN-B and GCN-CLA samples.

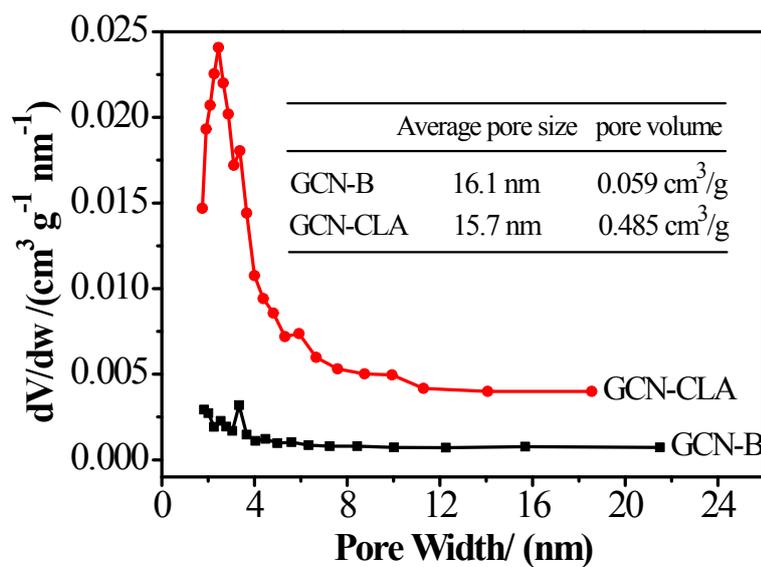


Figure S4. Pore size distribution plots of as-made GCN-B and GCN-CLA samples.

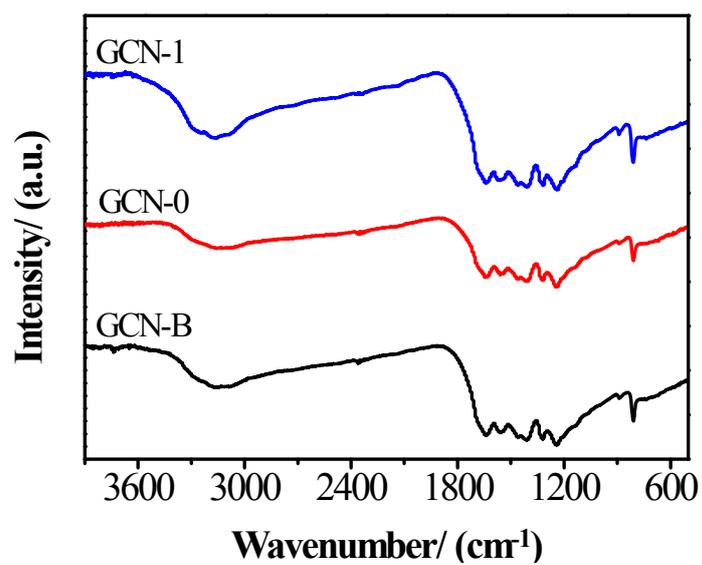


Figure S5. FT-IR spectra of as-prepared GCN-B, GCN-0, and GCN-1 samples.

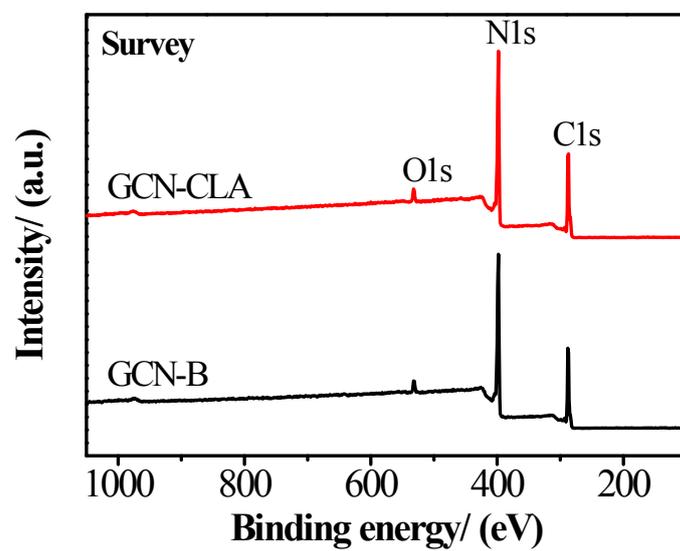


Figure S6. Survey XPS spectra of as-fabricated GCN-B and GCN-CLA samples.

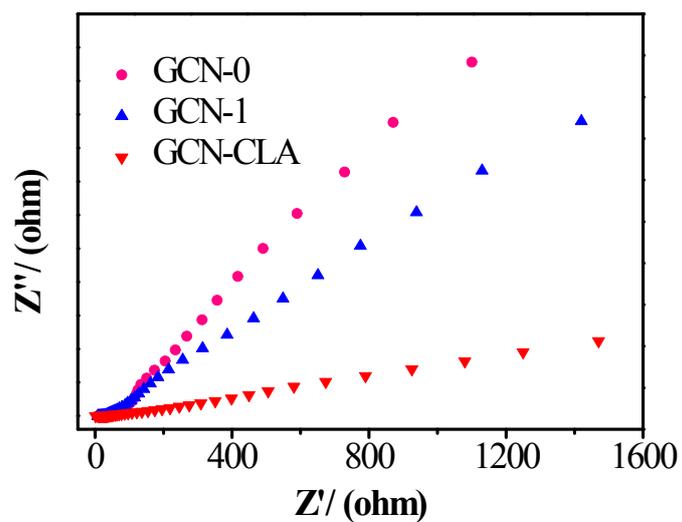


Figure S7. EIS spectra of as-synthesized GCN-0, GCN-1, and GCN-CLA samples.

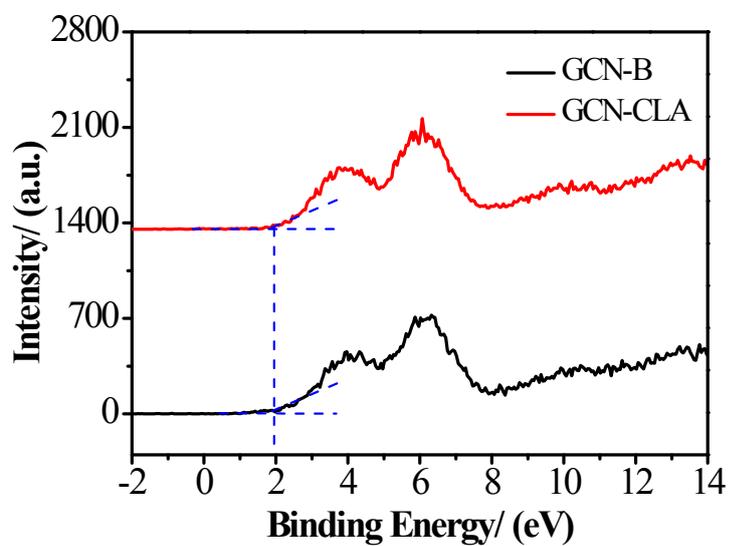


Figure S8. VB-XPS spectra of GCN-B and GCN-CLA samples.

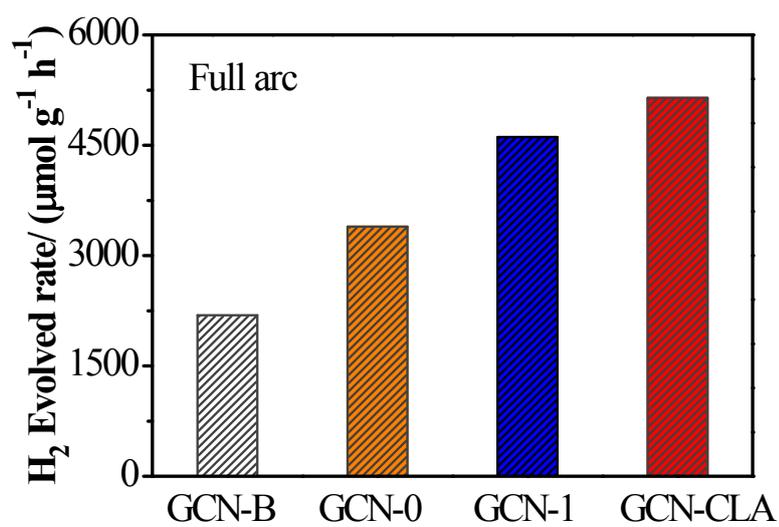


Figure S9. H₂ evolved rate over as-synthesized samples under full arc irradiation.

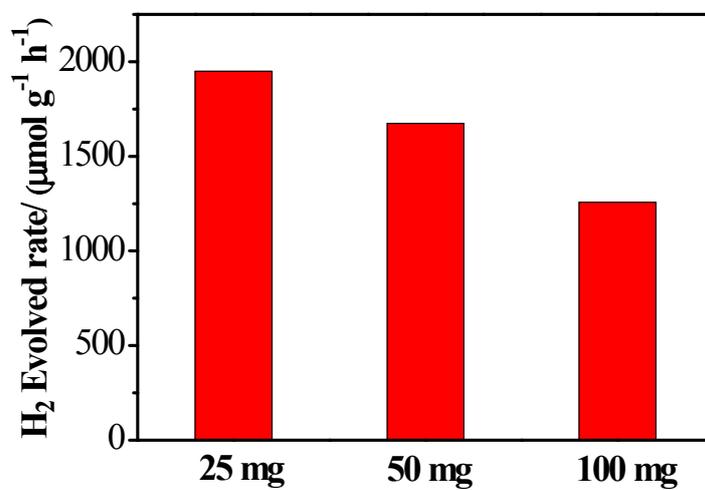


Figure S10. H₂ evolved rate of GCN-CLA using different amount of catalyst.

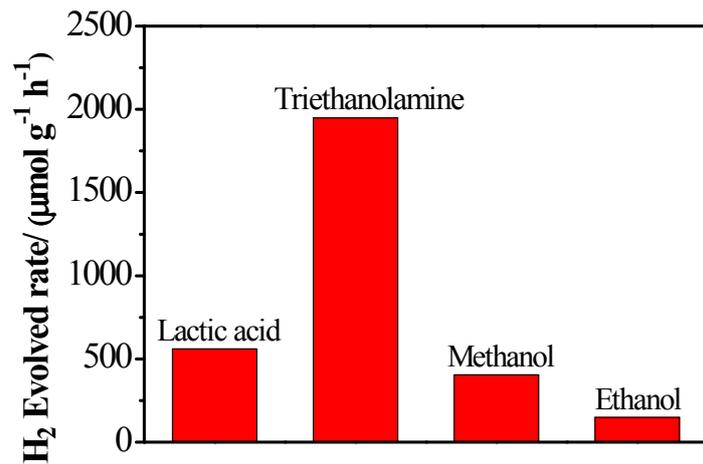


Figure S11. H₂ evolved rate of GCN-CLA using lactic acid, triethanolamine, methanol and ethanol as sacrificial agents.

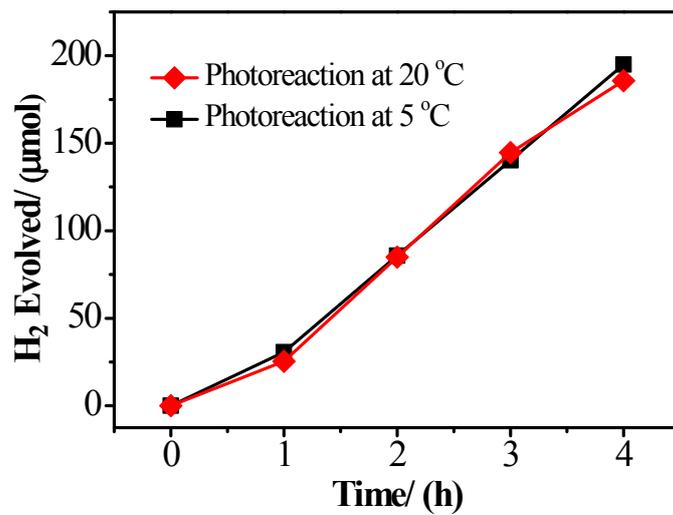


Figure S12. H₂ evolved activity of GCN-CLA reaction at different temperature.

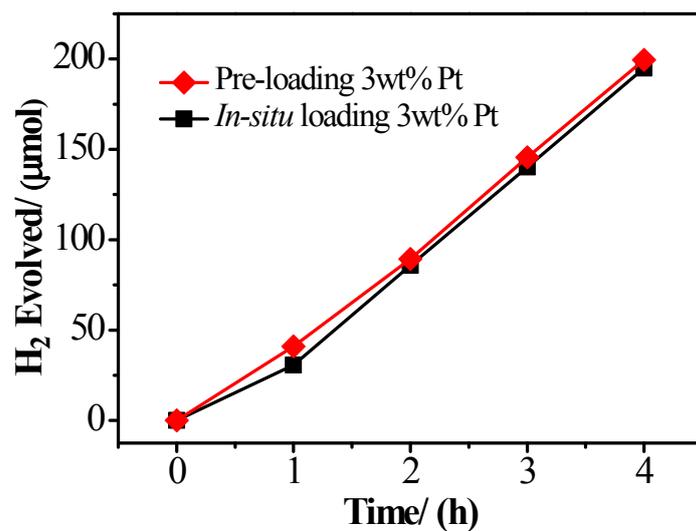


Figure S13. H₂ evolved activity of GCN-CLA via *in-situ* and pre-loading 3 wt% of Pt.

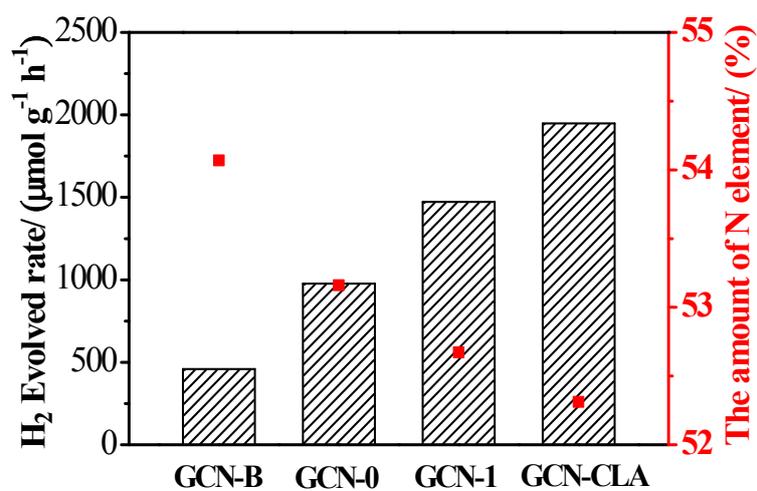


Figure S14. H₂ evolved rate of various GCN samples vs the amount of N element.

Table S1. The C and N elements amount of GCN-B, GCN-0, GCN-1 and GCN-CLA from XPS analysis.

Samples	C	N
GCN-B	42.91	54.07
GCN-0	43.30	53.16
GCN-1	43.56	52.67
GCN-CLA	44.88	52.31