

## Supporting Information

Efficient degradation of organic pollutants and hydrogen evolution  
by g-C<sub>3</sub>N<sub>4</sub> using melamine as the precursors and urea as the modifier

Peng Wang<sup>a</sup>, Shihan Sun<sup>a</sup>, Xueyu Zhang<sup>a</sup>, Xin Ge<sup>b,\*</sup>, Wei Lü<sup>\*</sup>,

<sup>a</sup>Key Laboratory of Advanced Structural Materials, Ministry of Education,  
Changchun University of Technology, Changchun 130012, China

<sup>b</sup>State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of  
Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P. R. China

[\\*xge@ciac.ac.cn](mailto:xge@ciac.ac.cn); [\\*lw771119@hotmail.com](mailto:lw771119@hotmail.com)

\*To whom all correspondence should be addressed.

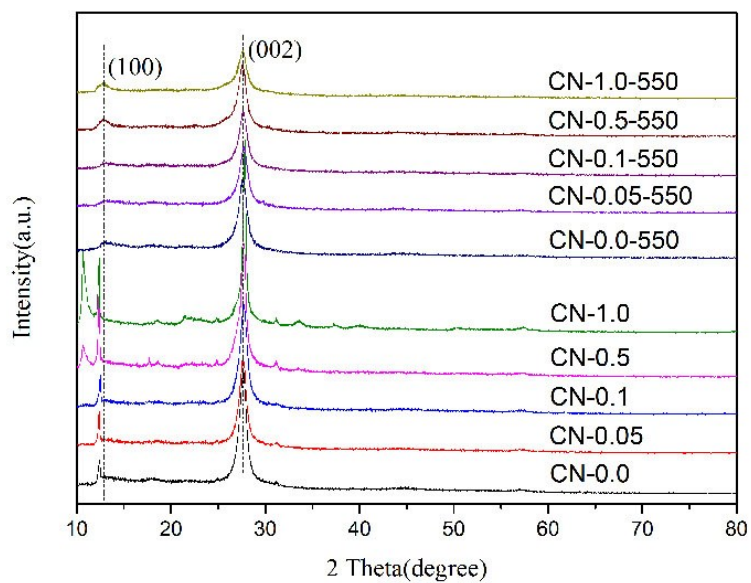


Fig. S1 XRD patterns of CN-X and CN-X-550 samples

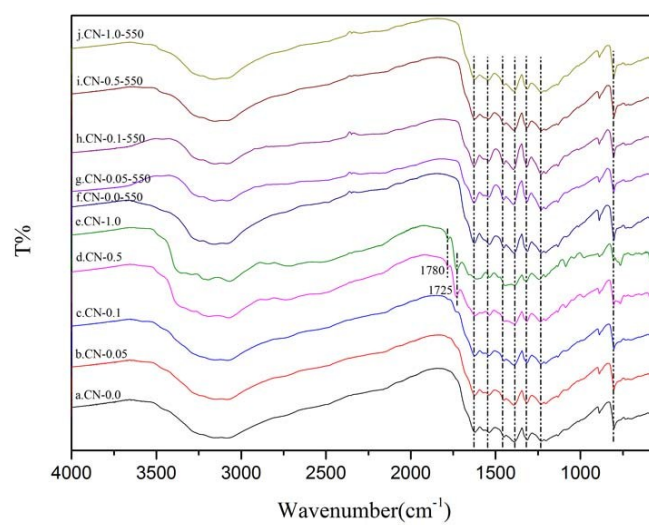


Fig. S2 FT-IR spectra of CN-X and CN-X-550 samples

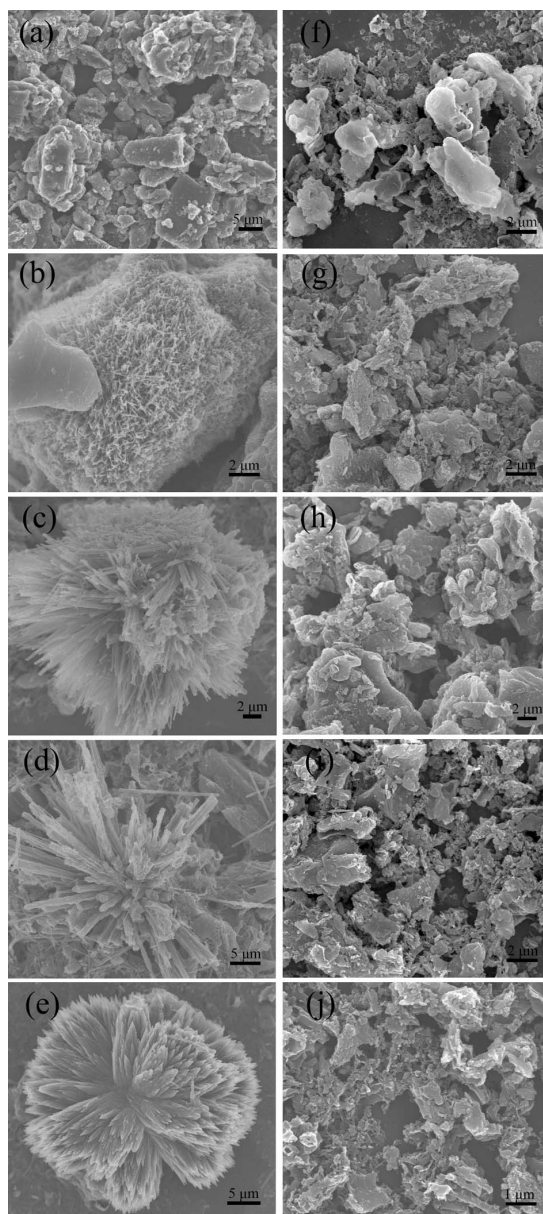


Fig. S3 SEM images of (a) CN-0.0, (b) CN-0.05, (c) CN-0.1, (d) CN-0.5, (e) CN-1.0, (f) CN-0.0-550, (g) CN-0.05-550, (h) CN-0.1-550, (i) CN-0.5-550, (j) CN-1.0-550

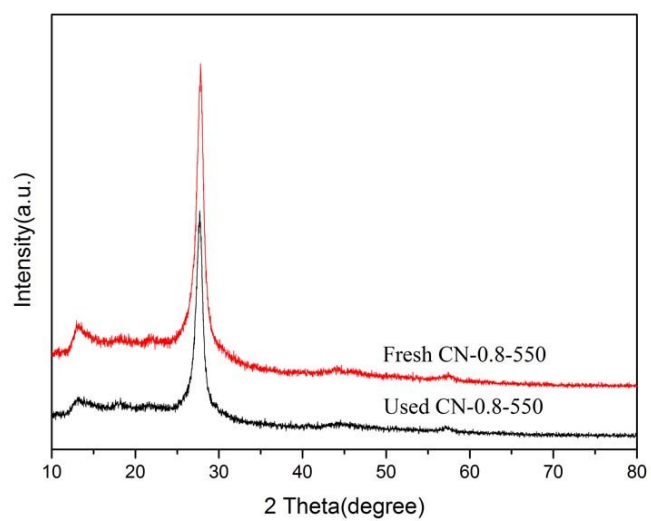


Fig. S4 XRD patterns of Used and Freshed CN-0.8-550 sample after MO degradation S7. TEM、HRTEM and EDS element mapping of CN-0.8-550 after H<sub>2</sub> evolution

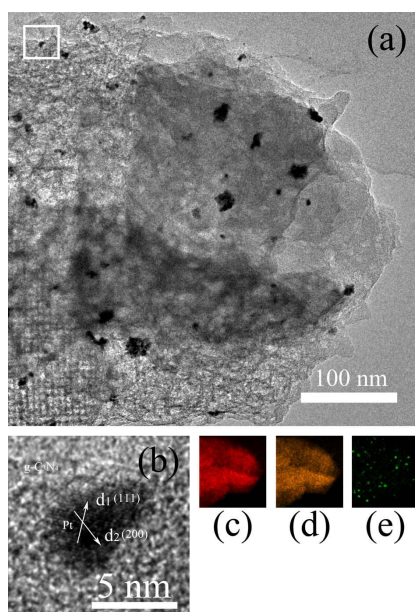


Fig. S5 The used CN-0.8-550's (a) TEM, (b) HRTEM images, and EDS element mapping of (c) C, (d) N (e)Pt elements

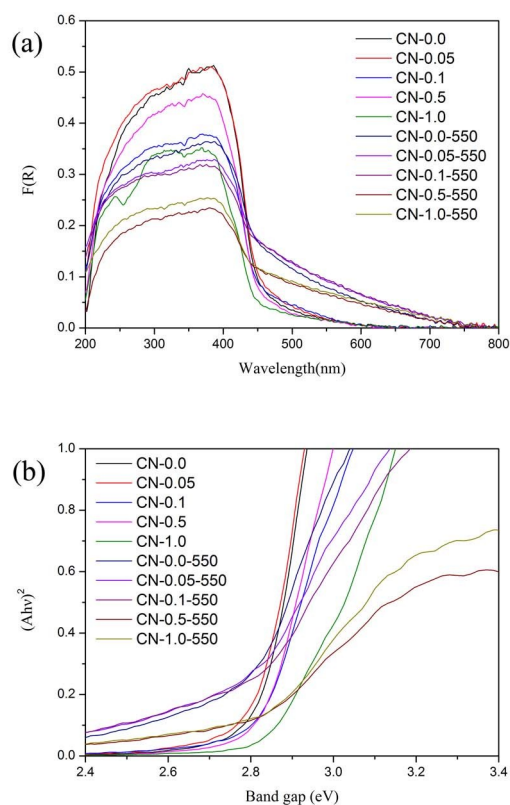


Fig. S6 (a) UV-Vis DRS and (b) plots of  $(Ah\nu)^2$  vs photon energy of CN-X and CN-X-550

Table SI Band gap energy for CN-X and CN-X-550

Sample	CN-0.0	CN-0.05	CN-0.1	CN-0.5	CN-1.0
Band gap energy (eV)	2.81	2.81	2.81	2.82	2.83
Sample	CN-0.0-550	CN-0.05-550	CN-0.1-550	CN-0.5-550	CN-1.0-550
Band gap energy (eV)	2.76	2.73	2.74	2.76	2.81

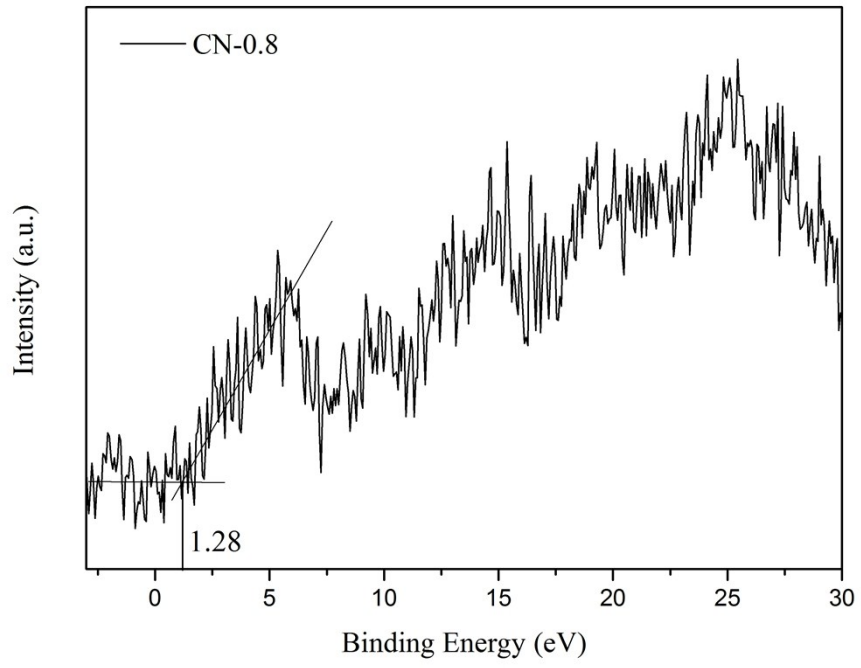


Fig. S7 VB-XPS for the UCN sample