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

Shearing bridge bond in carbon nitride vesicles with enhanced hot carrier utilization for photocatalytic hydrogen production

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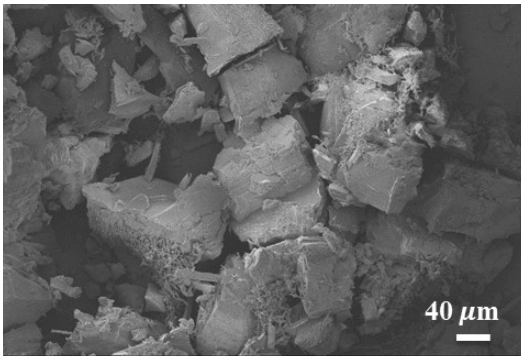

Figure S1 The SEM image of as-purchased melamine.

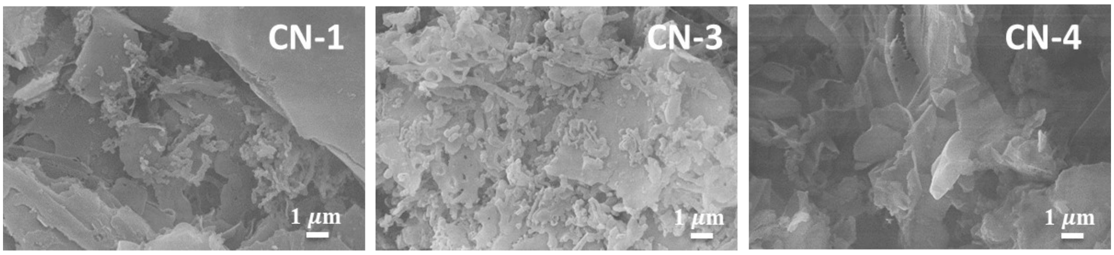

Figure S2 SEM images of other CN-x samples as indicated.

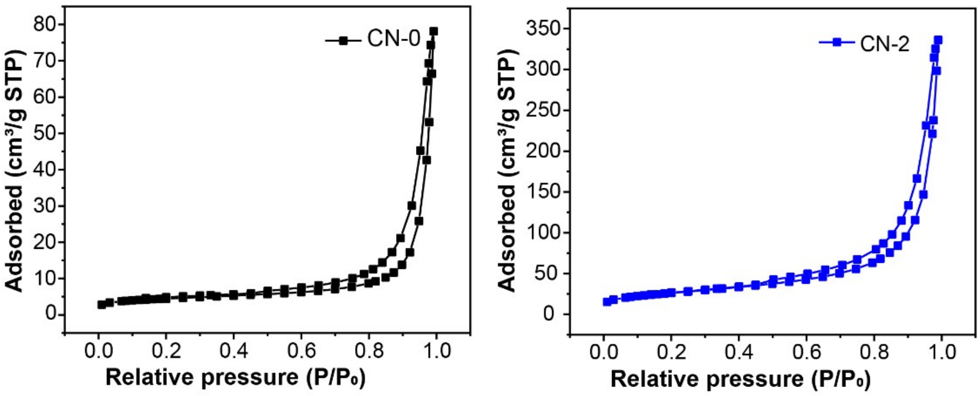

Figure S3 N_2 adsorption isothermals of CN-0 and CN-2 as indicated.

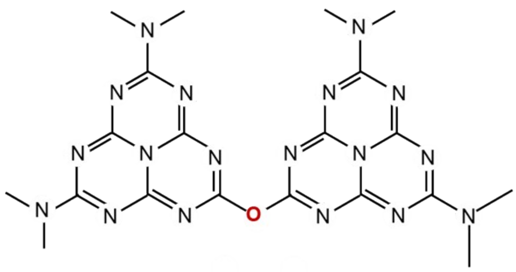

Figure S4 The corresponding bonding of C-O-C in g-C_3N_4 structure.

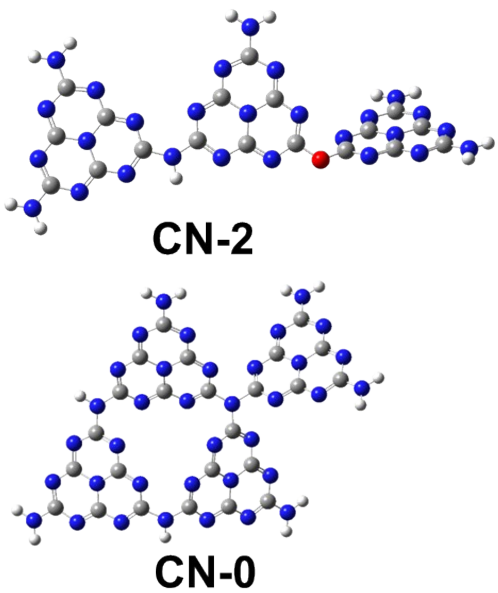

Figure S5 The optimized ground state geometry of CN-2 and CN-0 as indicated.

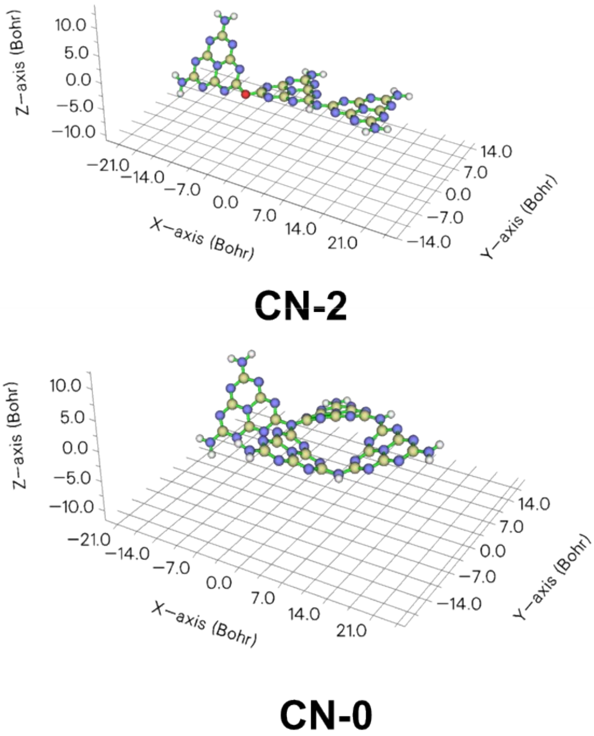

Figure S6 The illustrations of 3D analytical conformation of of CN-2 and CN-0 as indicated.

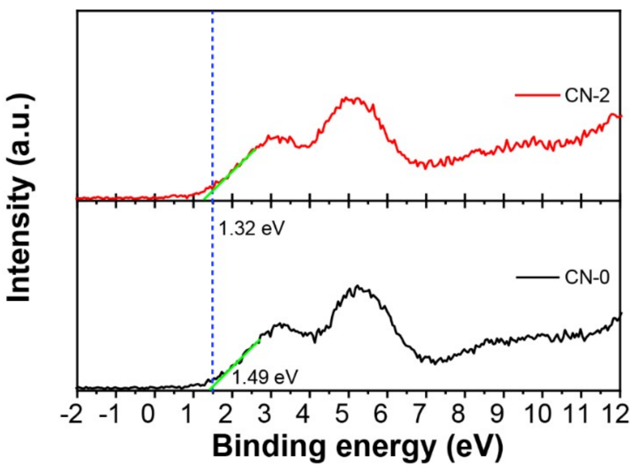

Figure S7 VB-XPS spectra of CN samples as indicated.

Table S1 *Summary of reported g-C_3N_4 for H_2 evolution reaction.*

Catalyst	*Light source*	*H_2 yield (μmol/h/g)*	*Experimental conditions*	*Reference*
SCN nanosheets	*λ>420 nm*	*111.5*	*1 wt% Pt 10% TEOA*	[1]
O-doping (g-C_3N_4)	*λ>420 nm*	*348*	*3 wt% Pt 10% TEOA*	[2]
FAT-1.0	*λ>420 nm*	*772*	*3 wt% Pt 10% TEOA*	[3]
C defective-C_3N_4	*λ>420 nm*	*82.9*	*3 wt% Pt 10% TEOA*	[4]
OH-CN3	*λ>420 nm*	*310*	*1 wt% Pt 10% lactic acid*	[5]
1D g-C_3N_4 nanotubes	*λ>420 nm*	*118.5*	*3 wt% Pt 10% TEOA*	[6]
bulk P–g-C_3N_4	*λ>420 nm*	*600*	*1 wt% Pt 10% TEOA*	[7]
C-doping C_3N_4	*λ>420 nm*	*666*	*1 wt% Pt 10% TEOA*	[8]
CRed-AT-C_3N_4	*λ>420 nm*	*246.2*	*3 wt% Pt 10% TEOA*	[9]
carbon nitride vesicles	*λ>420 nm*	*608.3*	*1 wt% Pt 10% TEOA*	*This work*

Supporting references

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