

**Electronic Supplementary Information**

**Tailoring aromatic ring-terminated edges of g-C<sub>3</sub>N<sub>4</sub> nanosheets for efficient  
photocatalytic hydrogen evolution with simultaneous antibiotic wastewater  
removal**

Zhihong Chen, Shanshan Li, Yannan Peng, Chun Hu\*

Institute of Environmental Research at Greater Bay, Key Laboratory for Water Quality  
and Conservation of the Pearl River Delta, Ministry of Education, Guangzhou  
University, Guangzhou 510006, China.

\* Corresponding Author:

Phone: +86-20-39346609; fax: +86-10-62923541

E-mail: [huchun@rcees.ac.cn](mailto:huchun@rcees.ac.cn)

**Figure Caption:**

Figure S1 The corresponding EDS spectra of CNS (A) and ARCNS (B)

Figure S2 (A) The dual-functional photocatalytic activity of CNS and ARCNS without using Pt as co-catalyst; (B) TEM of ARCNS-3 recovered after dual-functional photocatalytic reaction tests.

Figure S3 Changes in the characteristic absorption of TC at different irradiation times in the present of ARCNS-3.

Figure S4 (A) The dual-functional photocatalytic activity and (B) UV-vis diffuse-reflectance spectrum and wavelength-dependent AQY of ARCNS-3 under different monochromatic light irradiation.

Figure S5 Total ion chromatograms of TC solution after 2 h dual-functional photocatalytic reaction in the present of ARCNS-3

Figure S6 The BET surface area of the as-prepared samples.

Figure S7 The EPR spectra of CNS and ARCNS-3 in dark and light condition.

**Table Caption:**

Table S1 Identification of the intermediates with small molecular weight of TC by GC-MS.

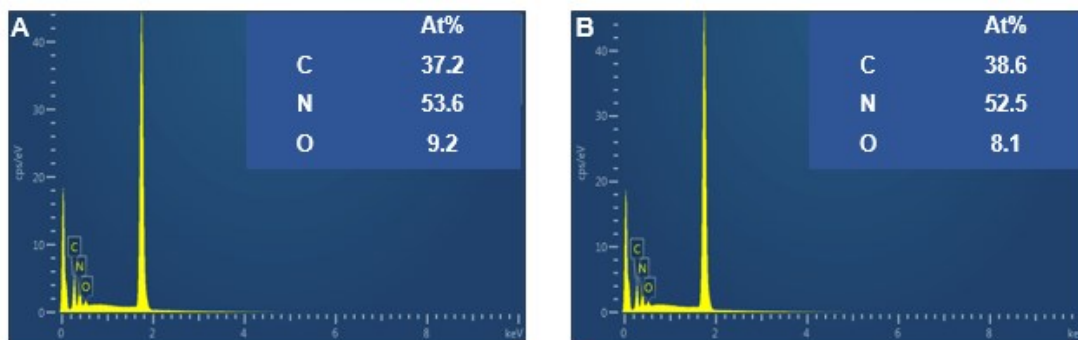


Figure S1 The corresponding EDS spectra of CNS (A) and ARCNS (B)

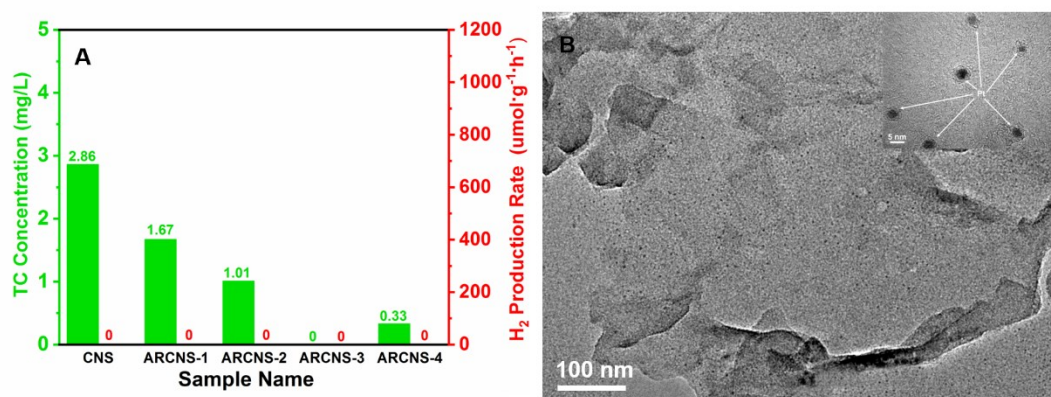


Figure S2 (A) The dual-functional photocatalytic activity of CNS and ARCNS without using Pt as co-catalyst; (B) TEM of ARCNS-3 recovered after dual-functional photocatalytic reaction tests.

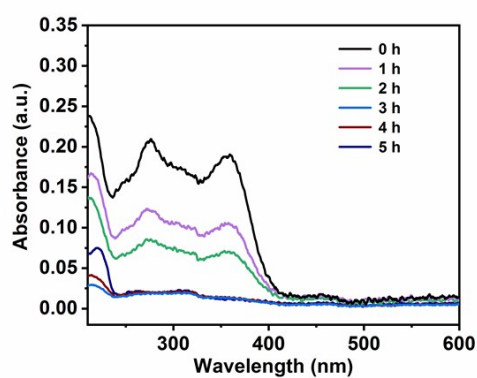


Figure S3 Changes in the characteristic absorption of TC at different irradiation times in the present of ARCNS-3.

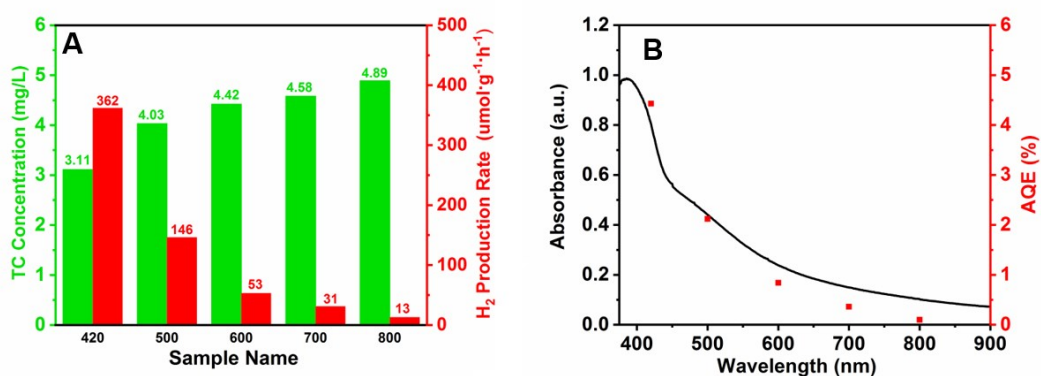


Figure S4 (A) The dual-functional photocatalytic activity and (B) UV-vis diffuse-reflectance spectrum and wavelength-dependent AQY of ARCNS-3 under under different monochromatic light irradiation.

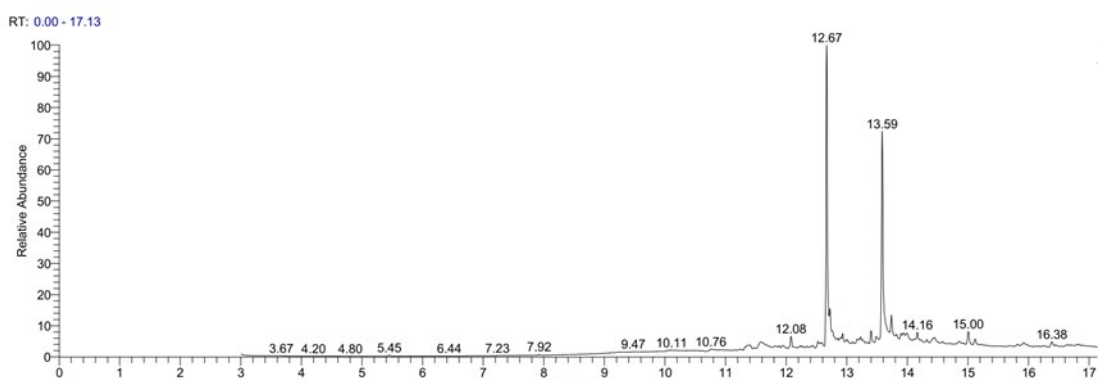


Figure S5 Total ion chromatograms of TC solution after 2 h dual-functional photocatalytic reaction in the presence of ARCNS-3

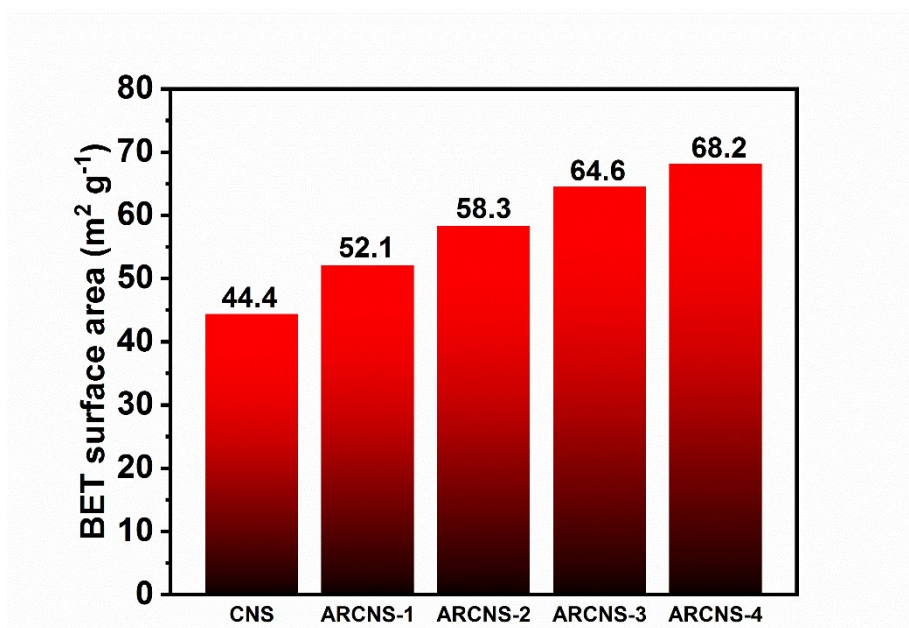


Figure S6 The BET surface area of the as-prepared samples.

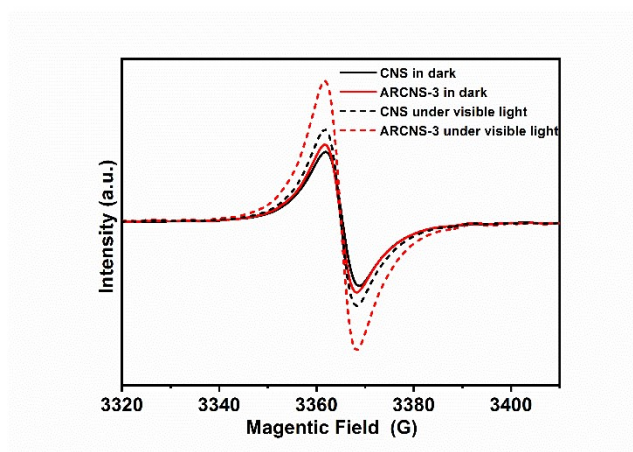
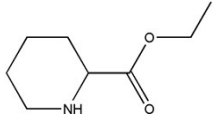
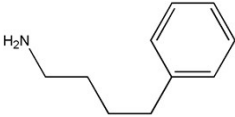
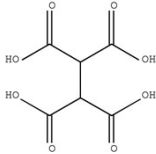
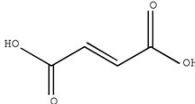
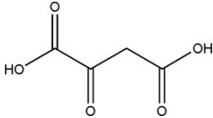
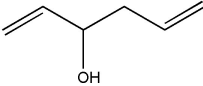
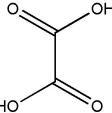
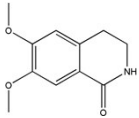


Figure S7 The EPR spectra of CNS and ARCNS-3 in dark and light condition.

Table S1 Identification of the intermediates with small molecular weight of TC by GC-MS.

Radical Intermediate	Retention Time/min	m/z	Possible Molecular Structure
1	5.45	133	
2	7.92	146	
3	10.76	222	
4	12.08	98	
5	12.67	118	
6	13.59	116	
7	14.16	90	
8	15.00	207	
9	16.38	210	