Electronic Supplementary Information for

Constructing porous intramolecular donor-acceptor integrated carbon nitride with m-aminophenol doped for boosting photocatalytic degradation and hydrogen evolution activity

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Contents

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Materials

Urea, tetracycline (TC), m-aminophenol, aniline, phenol and triethanolamine (TEOA) were achieved from Aladdin Reagent Co., Ltd. Isopropanol (IPA), ascorbic acid (AA), EDTA-2Na and $H_2PtCl_6 \cdot 6H_2O$ were given from Sinopharm Chemical Reagent Co., Ltd. Unless otherwise specified, all reagents in the whole experiments are analytical pure reagents without treatment.

Characterization

The crystalline phase structure of the products was recorded by Rigaku (Japan) D/Max 2500 X-ray diffractometry (XRD). The fourier transform infrared spectrum (FT-IR) of the photocatalysts were obtained by thermoscientific Nicolet 4700 FT-IR spectrometer. The morphology and microstructure were observed by field emission scanning electron microscopy (FESEM, Hitachi regulus 8100) and transmission electron microscopy (TEM, JEM-2100F). The X-ray photoelectron spectroscopy (XPS) was tested by ESCALAB250XI electronic spectrometer (VG scientific, USA). Photoluminescence spectra (PL) of the products were measured by F4500 (Hitachi, Japan) PL detector. UV-vis diffuse reflectance spectrum (UV-vis DRS) was conducted on a Cary 500 spectrometer (Shimadzu UV-2550, Japan). The photocurrent response (PCR), electrochemical impedance spectroscopy (EIS) and Mott-Schottky test were performed on three-electrode system using an electrochemical workstation (Chenhua workstation CHI600E).

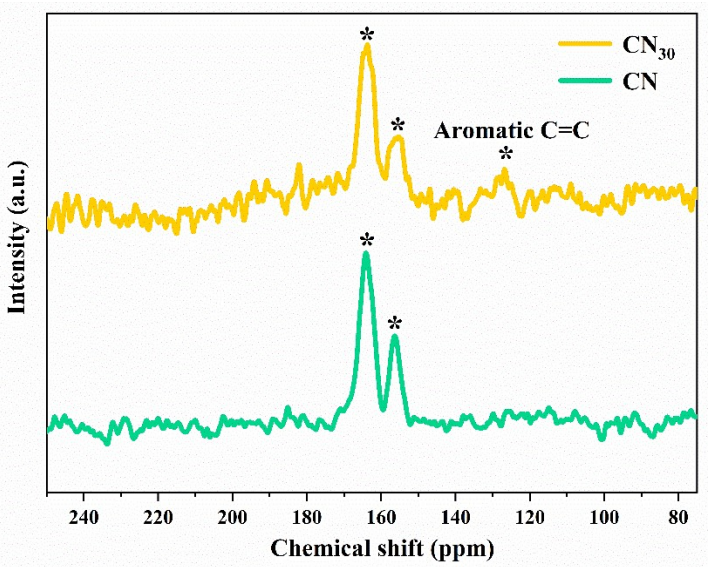

Fig. S1 Solid-state ^{13}C NMR spectra in CN and CN_{30}.

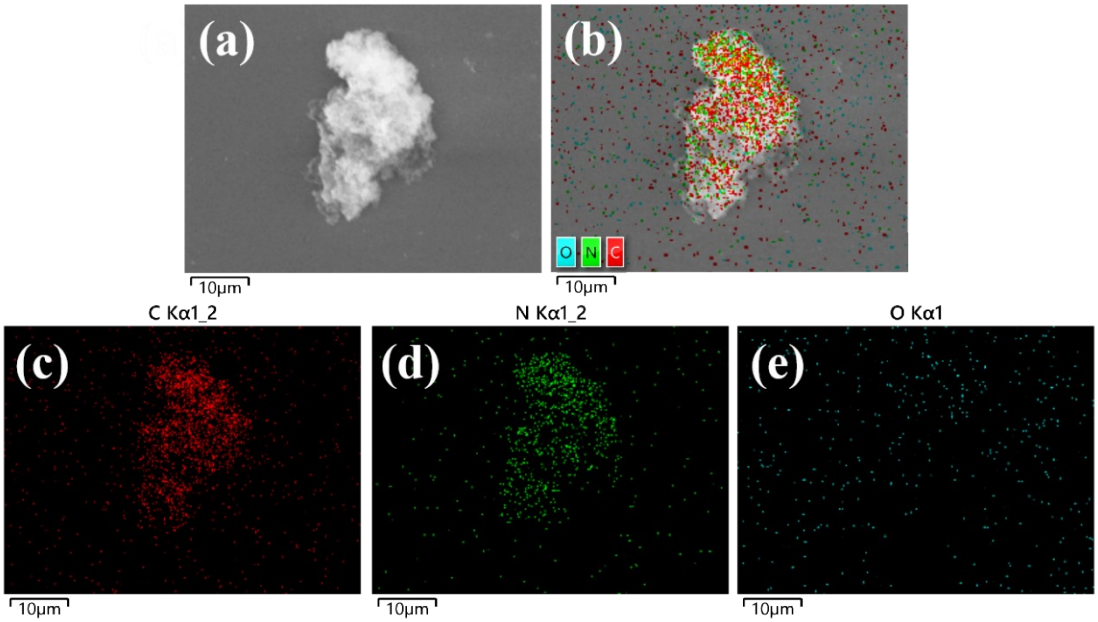

Fig. S2 SEM mapping images of CN_{30}.

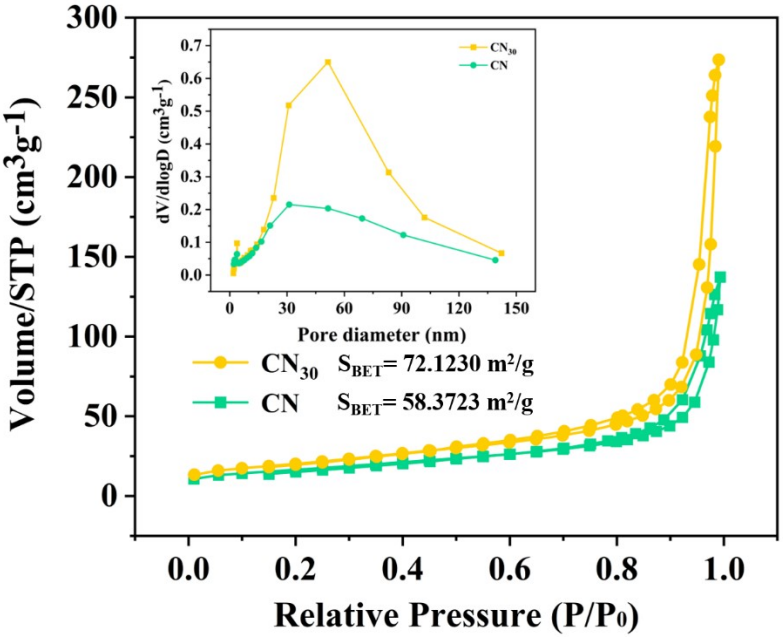

Fig. S3 N_2 adsorption-desorption isotherms and pore size distribution curves (**inset**) of CN and CN_{30}.

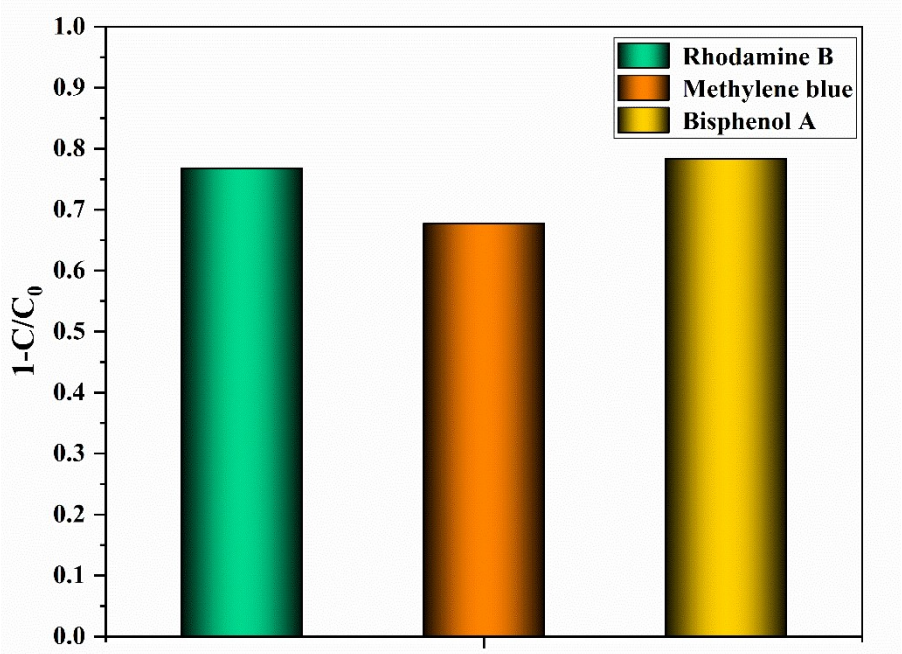

Fig. S4 Degradation performance of CN_{30} towards rhodamine B, methylene blue, bisphenol A.

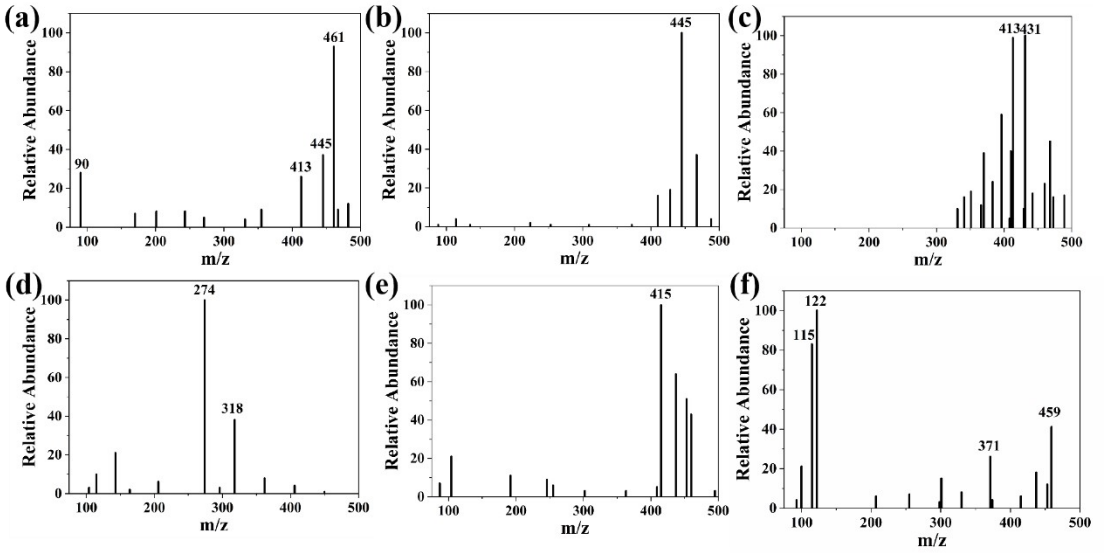

Fig. S5 Mass spectra of the degradation of TC over CN_{30} sample at (a) 2.56 min, (b) 3 min, (c) 6.37 min, (d) 6.84 min, (e) 8.29 min and (f) 8.79 min.