

Supporting Information

Templateless Infrared Heating Process for Fabricating Carbon Nitride Nanorods with Efficient Photocatalytic H₂ Evolution

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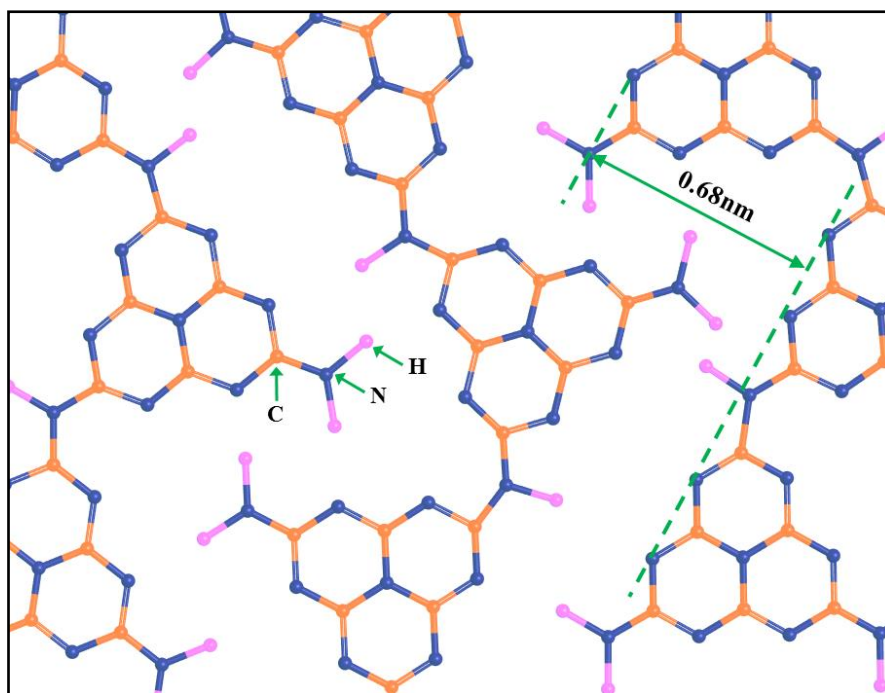


Figure S1. Structure models of carbon nitride sheets of polymeric melon.

Table S1. Elemental composition of the carbon nitrides synthesized at different heating powers obtained using C/H/N analysis

Samples	Carbon atom%	Nitrogen atom%	Hydrogen atom%	Oxygen atom%	n(C)/n(N)
CN-35%	26.71	45.16	26.73	1.4	0.591
CN-40%	27.94	43.89	26.1	2.07	0.636
CN-50%	29.18	45.18	23.02	2.62	0.646
CN-70%	29.59	46.14	21.42	2.85	0.641
CN-100%	29.83	45.56	20.8	3.81	0.655

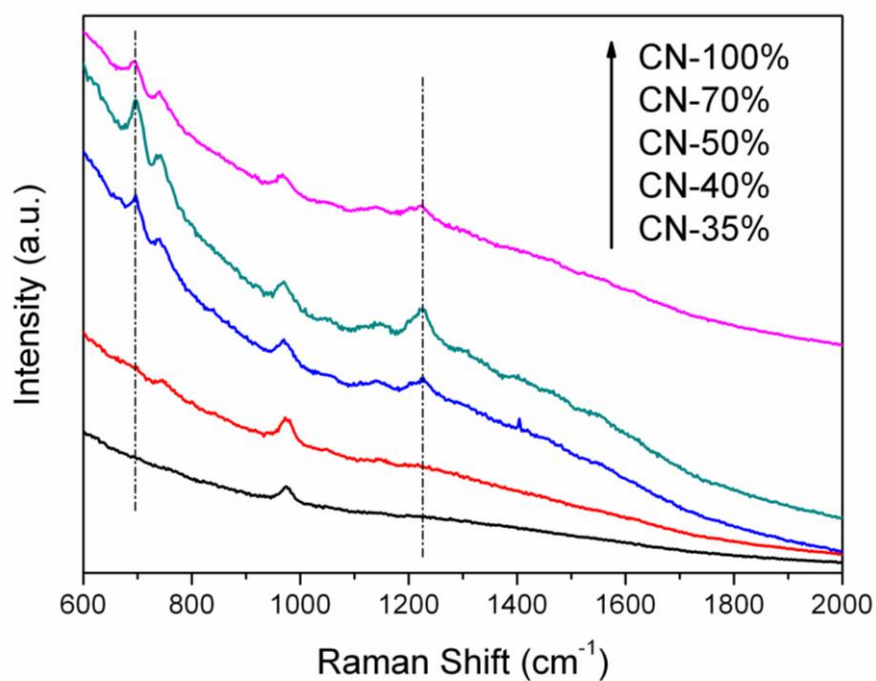


Figure S2. Raman spectra of the carbon nitrides synthesized at different heating powers.

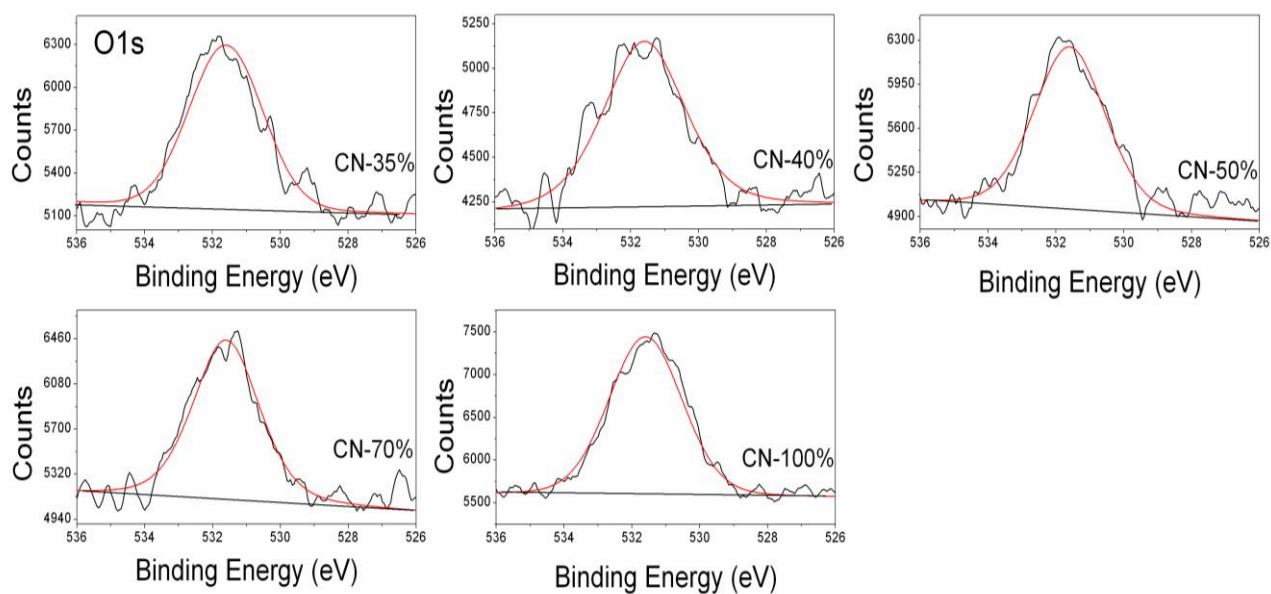


Figure S3. O 1s XPS high-resolution spectra of the carbon nitrides synthesized at different heating powers.

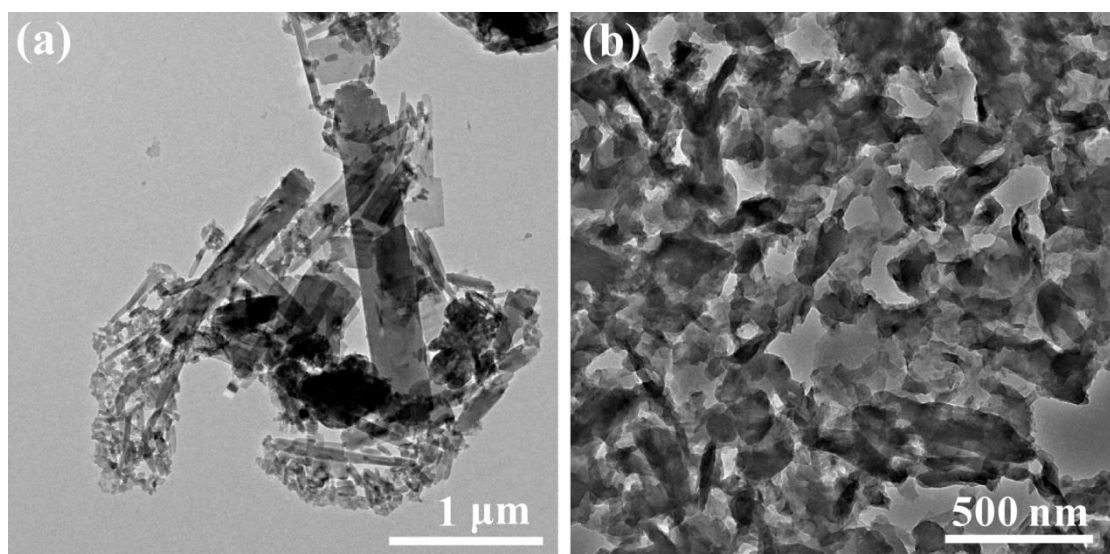


Figure S4. TEM images of a) CN-35% and b) CN-100%.

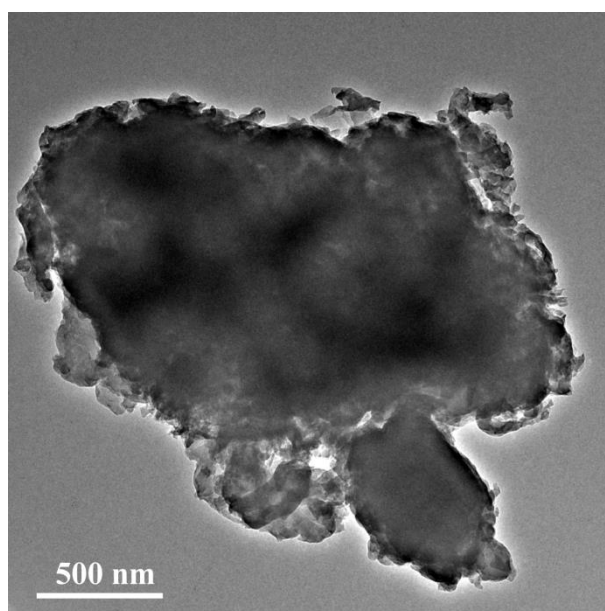


Figure S5. TEM image of the carbon nitrides prepared by heating dicyanamide at 560 °C using tube furnace with a heating rate of 50 °C/min.

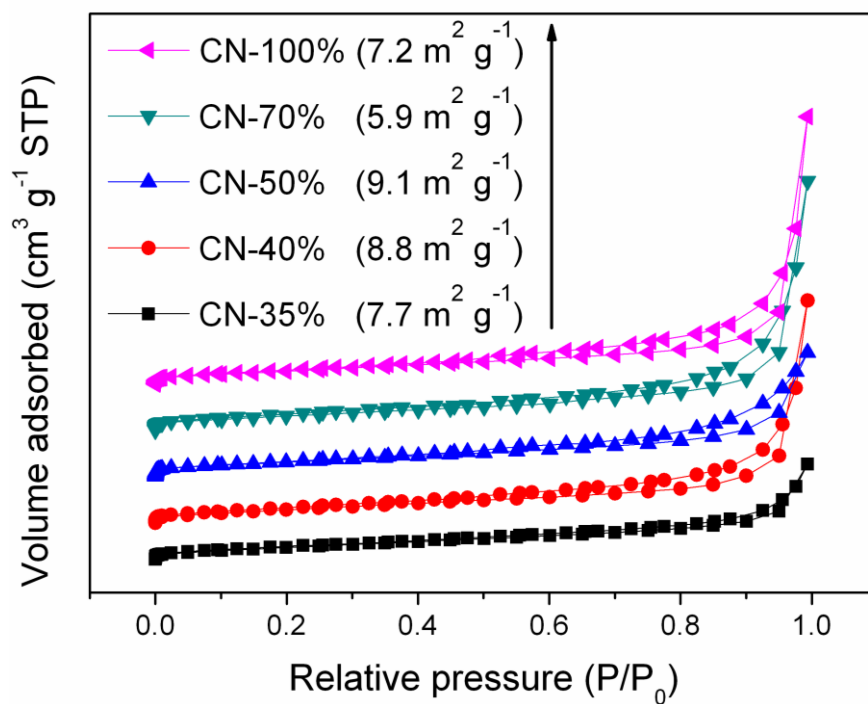


Figure S6. N_2 adsorption isotherms recorded for the carbon nitrides synthesized at different heating powers.

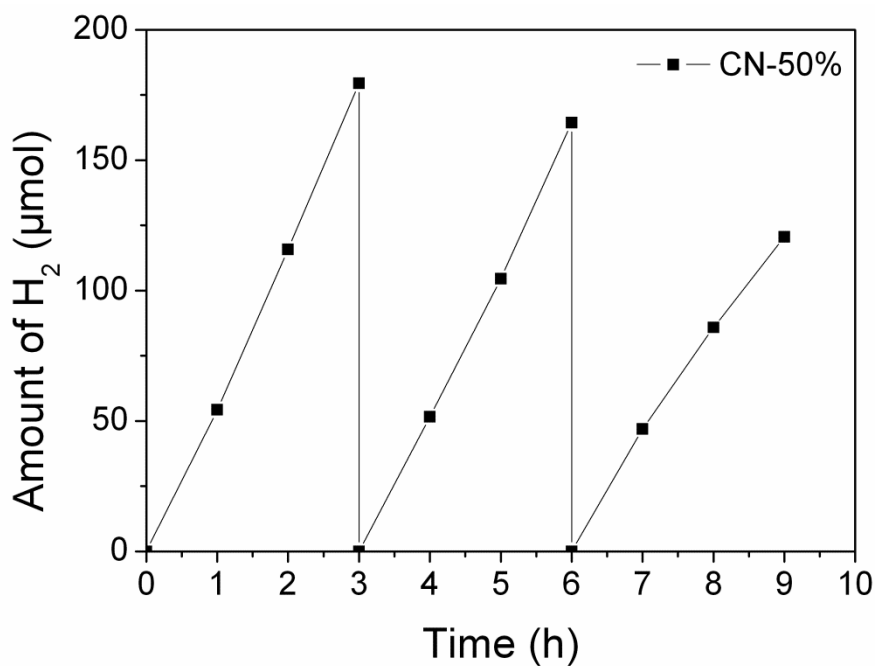


Figure S7. Stability test for sample CN-50% irradiated with visible light ($> 400 \text{ nm}$).

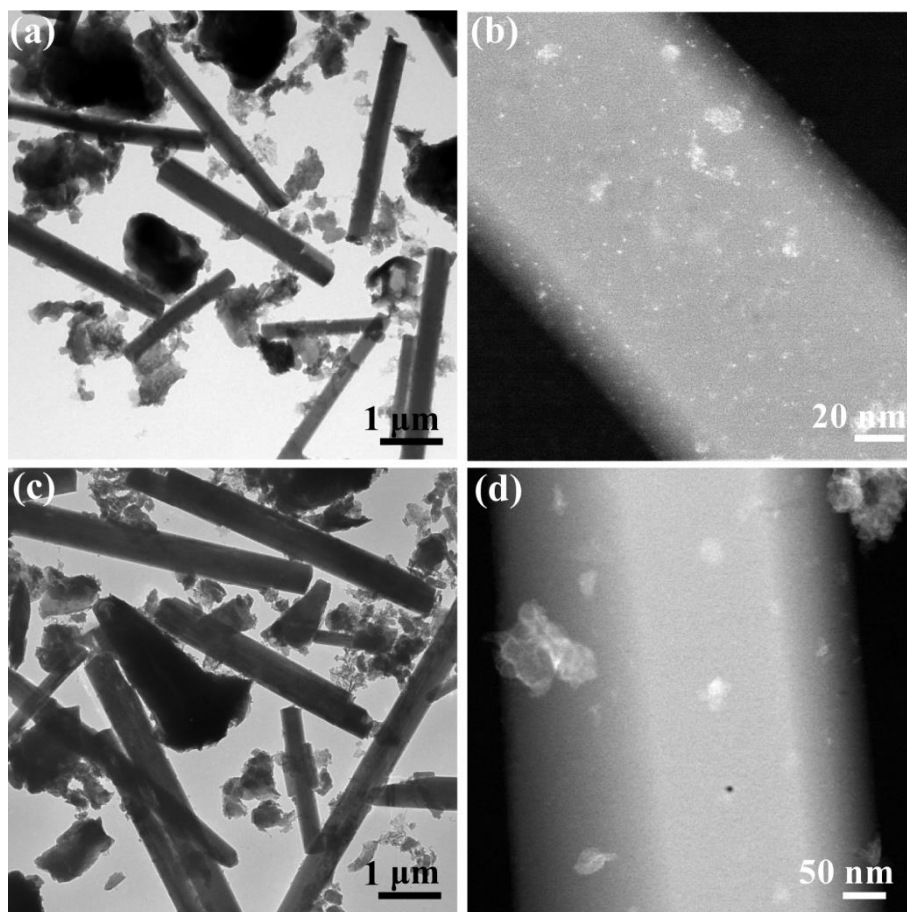


Figure S8. (a) TEM image and (b) HADDF-STEM image of Pt/CN-50% irradiated for 3 h. (c) TEM image and (d) HADDF-STEM image of Pt/CN-50% irradiated for 9 h.