Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Material

Synthesis of Narrow-Band Curled Carbon Nitride Nanosheets with High Specific Surface Area for Hydrogen Evolution from Water Splitting by Low-Temperature Aqueous Copolymerization to Form Copolymer

Wenbo Liu, Zhendong Zhang, Deguang Zhang, Runwei Wang, Zongtao Zhang, Shilun Qiu*

a State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun 130012, China

E-mail: zzhang@jlu.edu.cn

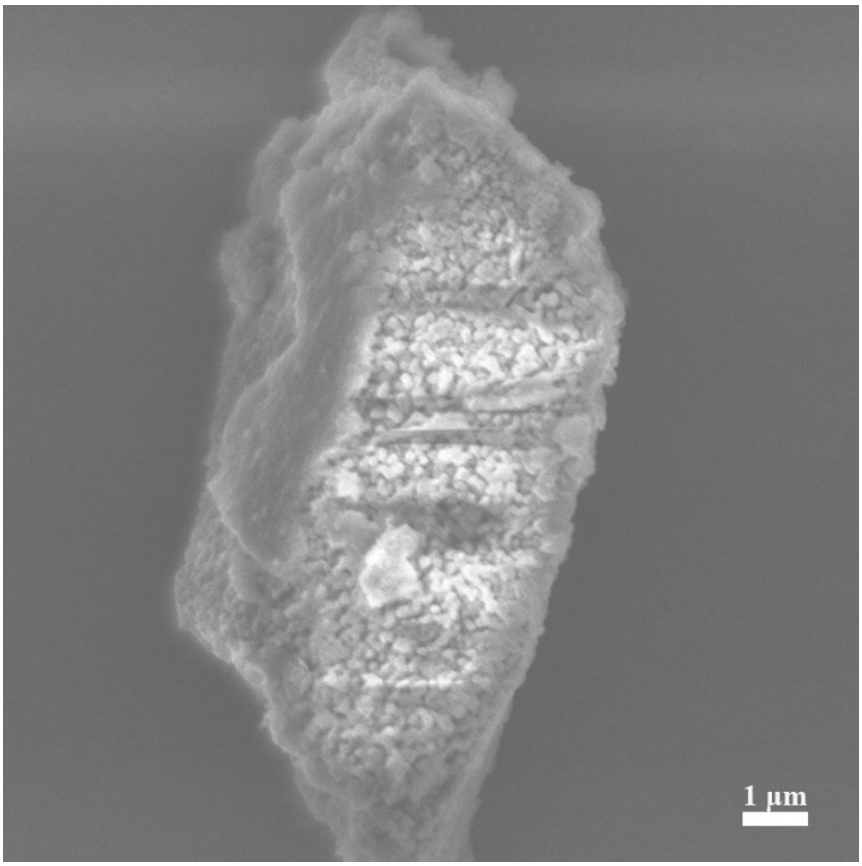

Fig. S1 SEM image of the B-C_3N_4.

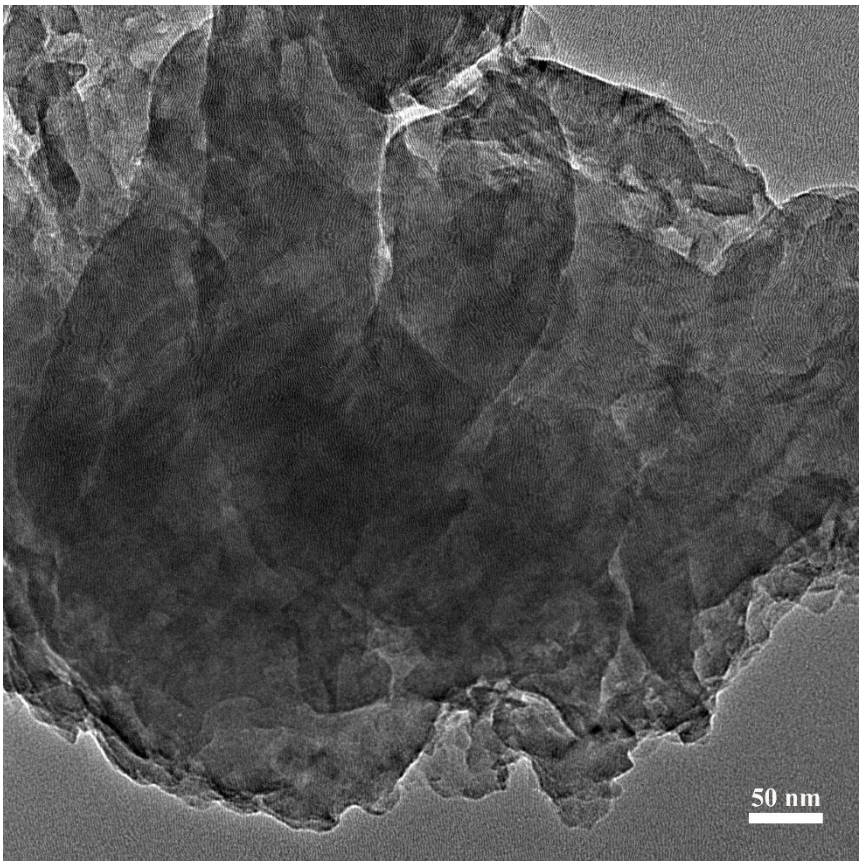

Fig. S2 TEM image of the B-C_3N_4.

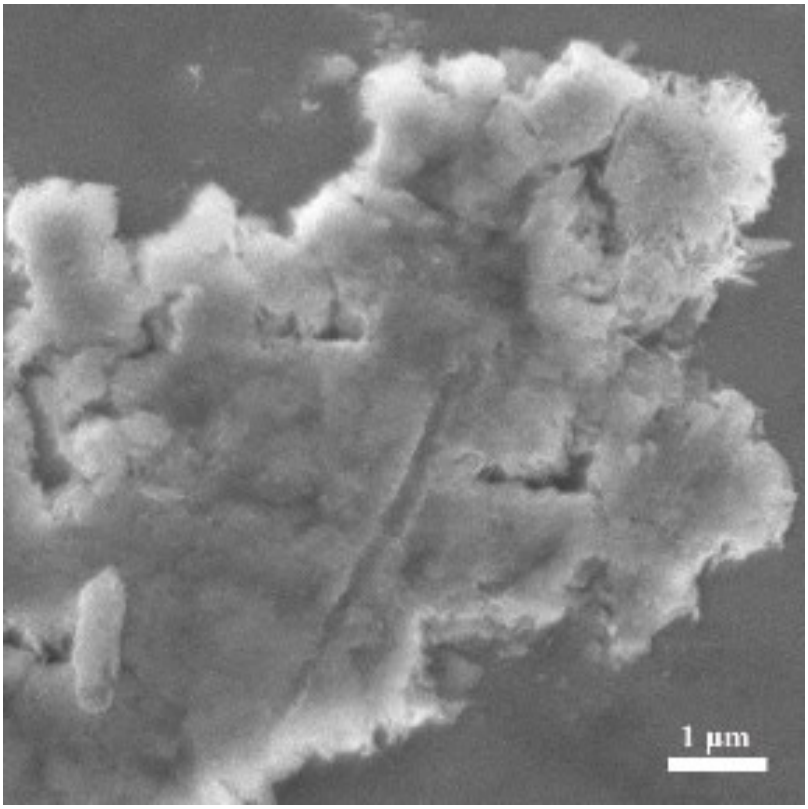

Fig. S3 SEM image of the copolymer after thermal polycondensation.

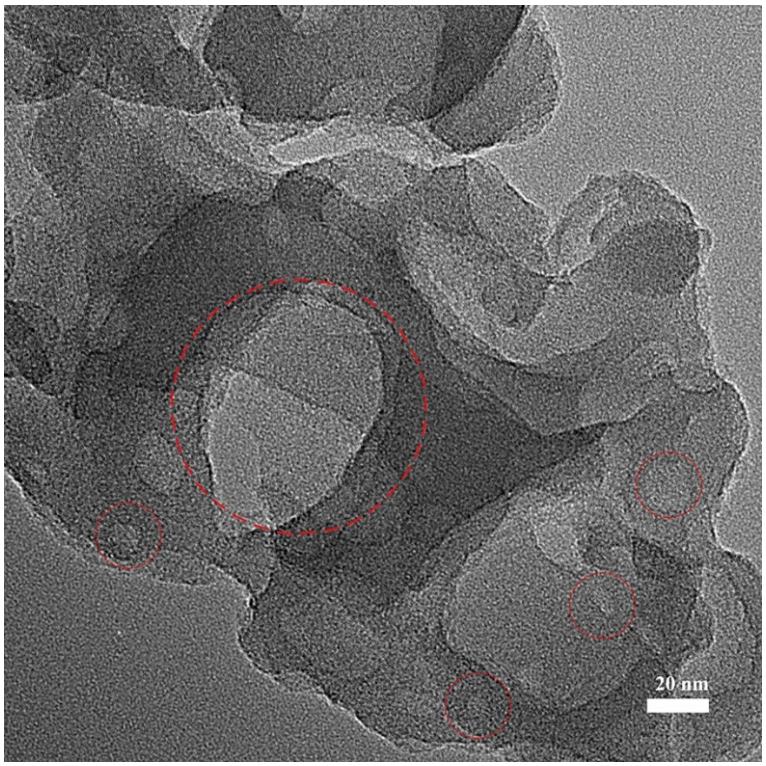

Fig. S4 TEM image of NS-C_3N_4 with hierarchical porous structure.

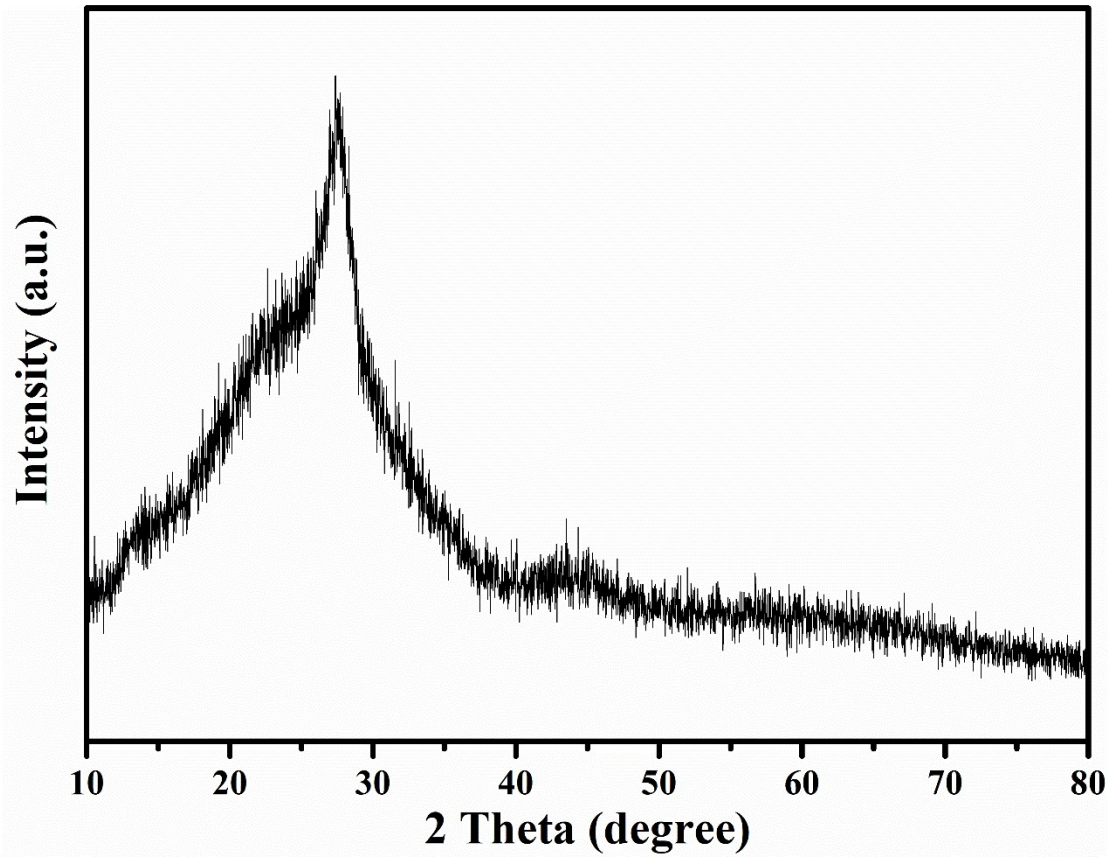

Fig. S5 XRD image of copolymer after thermal polycondensation.

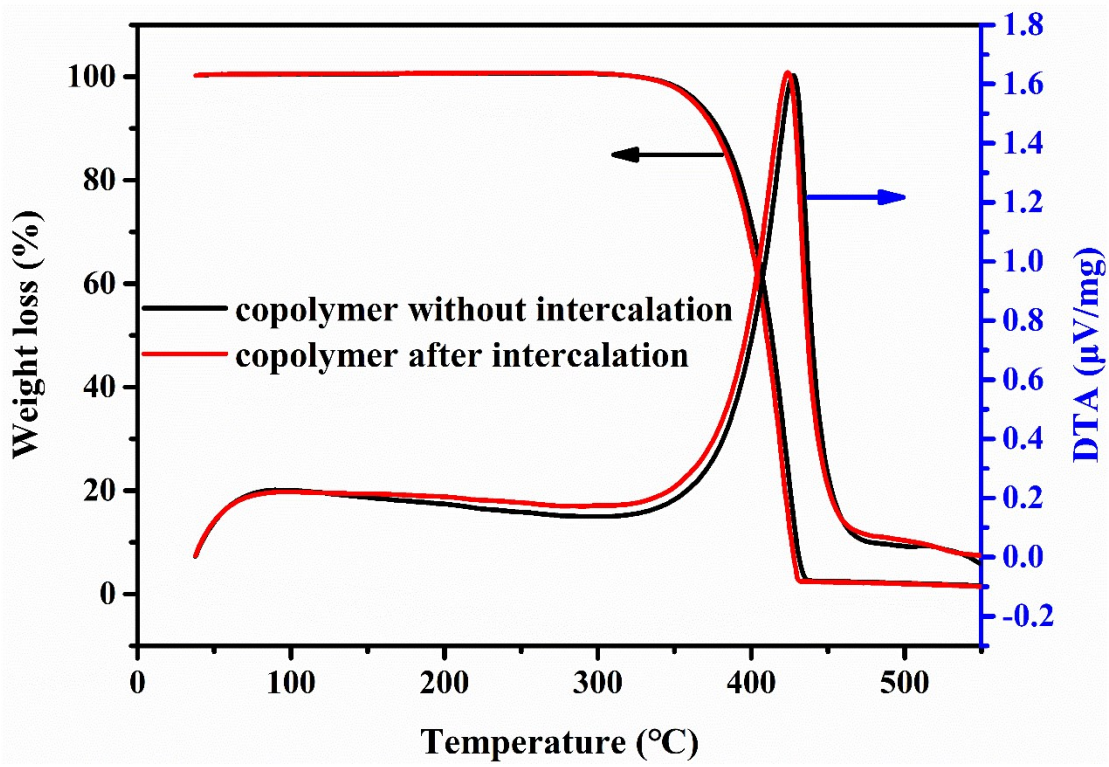

Fig. S6 thermogravimetric analysis-differential thermal analysis (TGA-DTA) measurement of copolymer without intercalation and copolymer after intercalation.

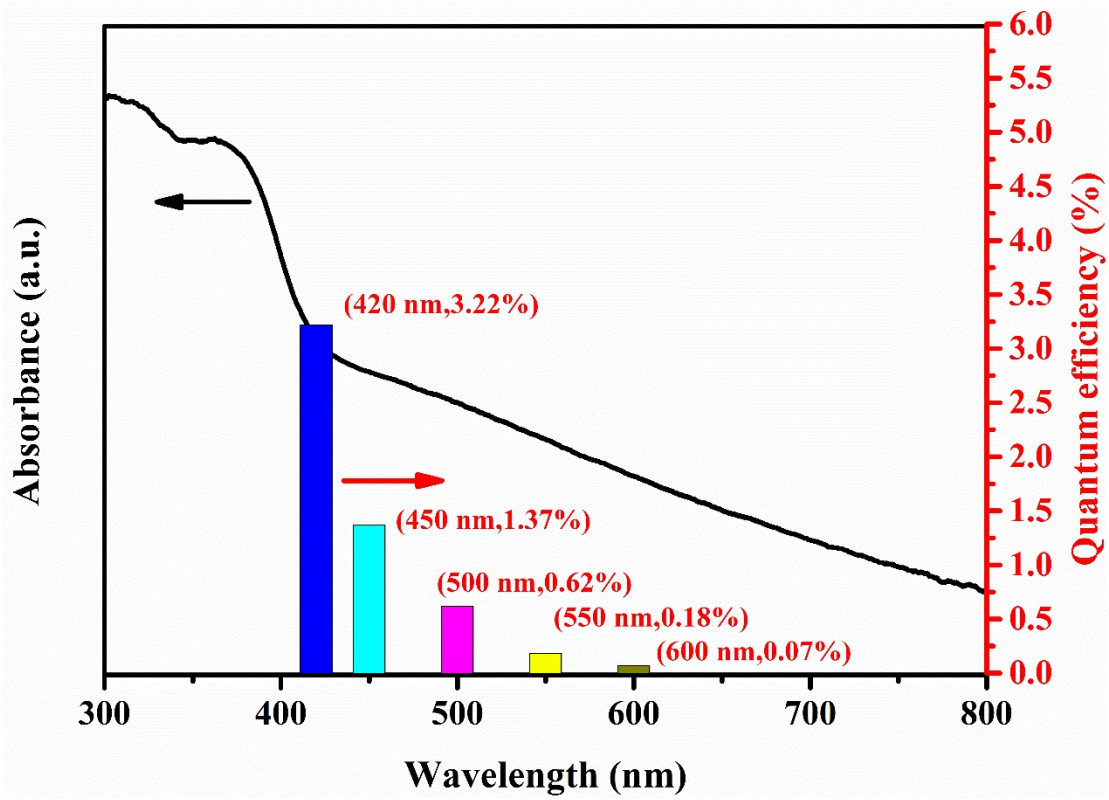

Fig. S7 UV–vis di□use-reflectance spectrum and wavelength-dependent AQE of NS-C_3N_4.

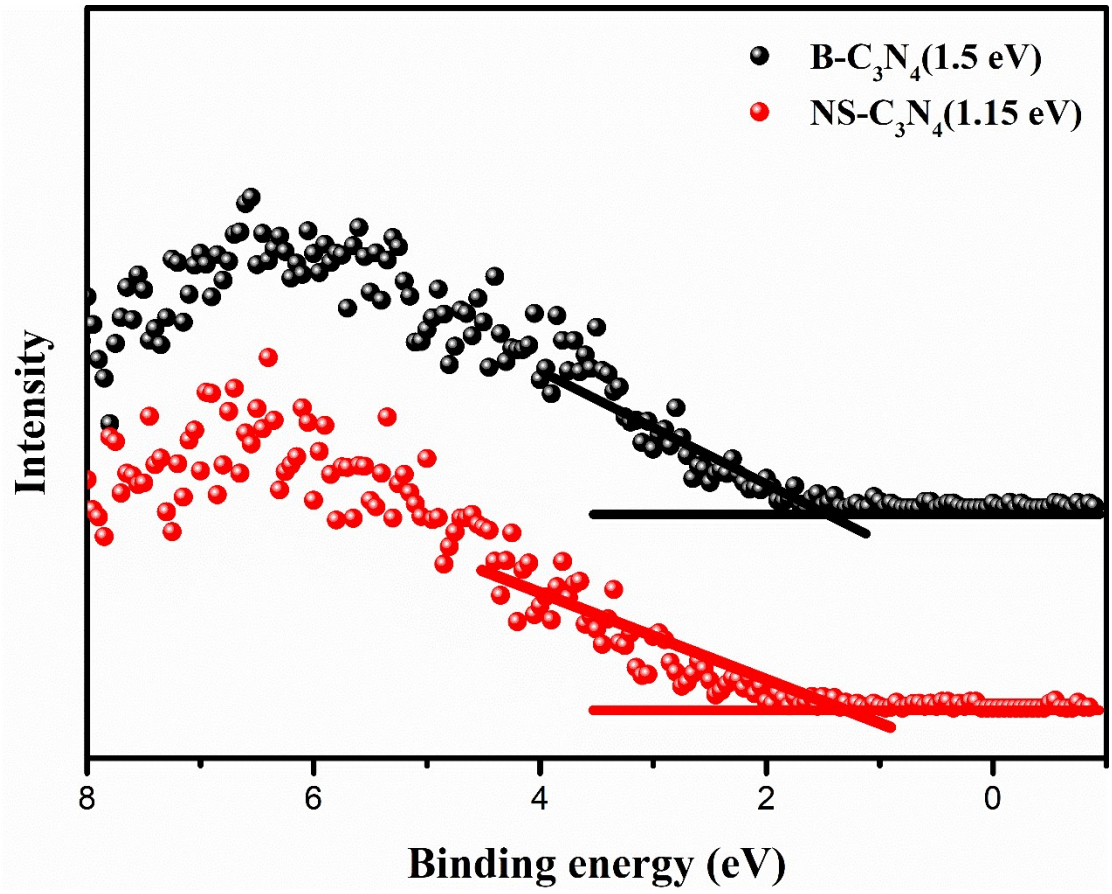

Fig. S8 VB XPS spectra of B-C_3N_4 and NS-C_3N_4.

Sample	Condition	BET (m^2/ g)	HER (μmol/g· h)	Times to B-C_3N_4	Ref
g-C_3N_4 (w-N_2)	Wet nitrogen and reflux	211.2	1113.48 (3% Pt)	6	[1]
CN650NS	650 ℃ 4 h in air, ultrasound 4 h,520 ℃ under hydrogen argon mixture	37.245	2627.8 (0.5 Pt)	24.6	[2]
HC−CN	Ni-foam as the template	39.24	808.5 (3% Pt)	20	[3]
NCN	vapor deposition method	118	926 (3% Pt)	14	[4]
g-C_3N_4(580)-T	Thermal oxidation etching	92.8	1391(3% Pt)	—	[5]
CN-2	Radio frequency (RF) plasma treatment	—	1227.8 (1% Pt)	—	[6]
NS-C_3N_4	Thermal exfoliation copolymer	60.962	4061.8 (1% Pt)	37.5	This work

Table S1. Summary of photocatalytic activity of g-C_3N_4 nanosheets with improved photocatalytic activity.

Sample	C1s At. %	N1s At. %	O1s At. %
B-C_3N_4	54.66	40.17	5.17
NS-C_3N_4	54.96	42.2	2.84

Table S2. Atomic ratio of elements in B-C_3N_4 and NS-C_3N_4.

sample	CB (eV)	VB (eV)	Bandgap (eV)
B-C_3N_4	**-1.14**	**1.5**	**2.64**
NS-C_3N_4	**-0.97**	**1.15**	**2.12**

Table S3. Electronic band structure of B-C_3N_4 and NS-C_3N_4.

Reference

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