

Supporting Information

Thermally Driven Characteristic and Highly Photocatalytic Activity Based on **N-isopropyl Acrylamide/High-substituted Hydroxypropyl Cellulose/g-C₃N₄** Hydrogel by Electron Beam Pre-radiation Method

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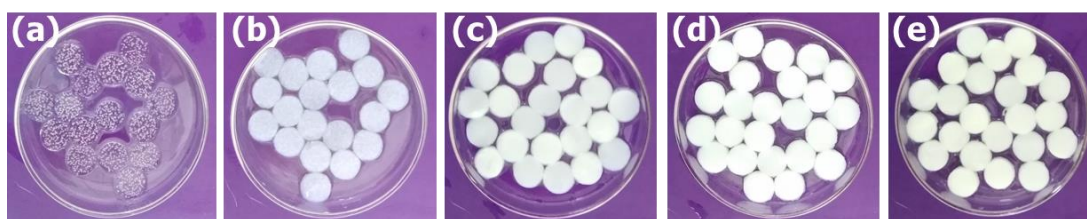


Fig.S1 Photographs of different contents of g-C₃N₄ on NHC hydrogel.

(a: NIPAA/HHPC; b-e: NHC-0.2%, NHC-0.4%, NHC-0.6%, NHC-0.8%)

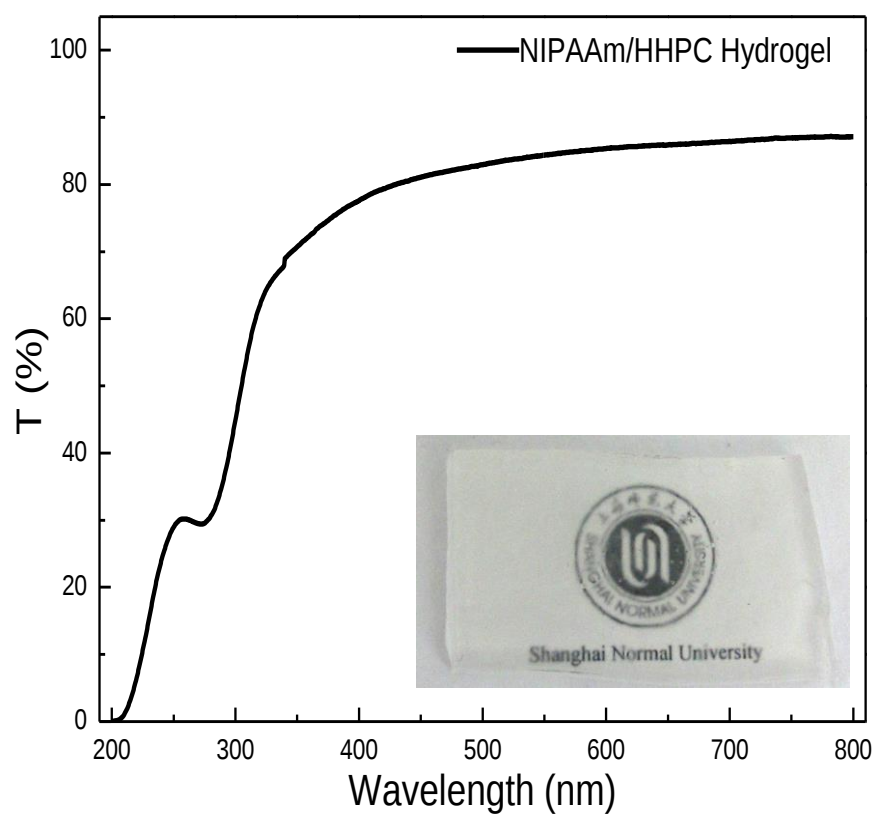


Fig.S2 Transmission spectrum of pure NIPAAm/HHPC hydrogel film.

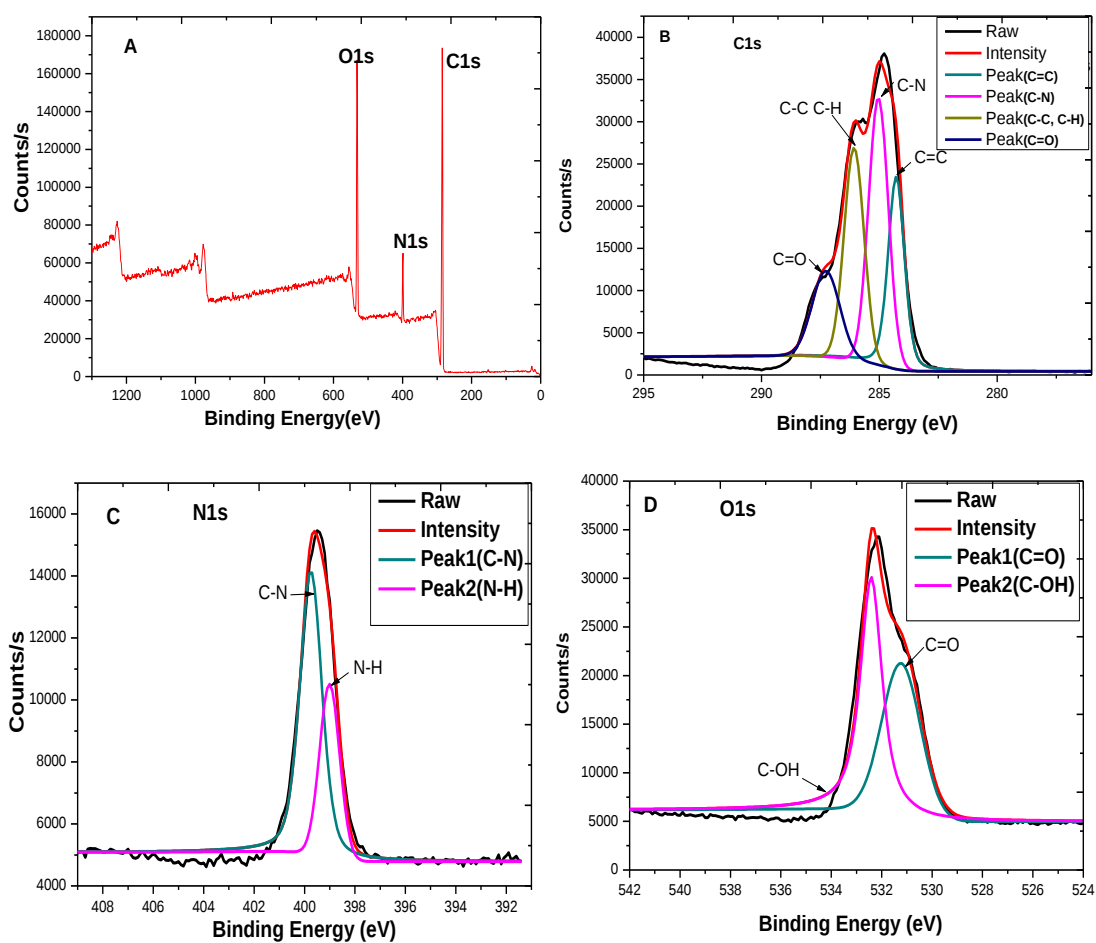


Fig. S3 XPS spectrum of NIPAAM/HHPC hydrogel.

(A) XPS general spectrum of NIPAAM/HHPC hydrogel; (B) C1s; (C) N1s; (D) O1s.

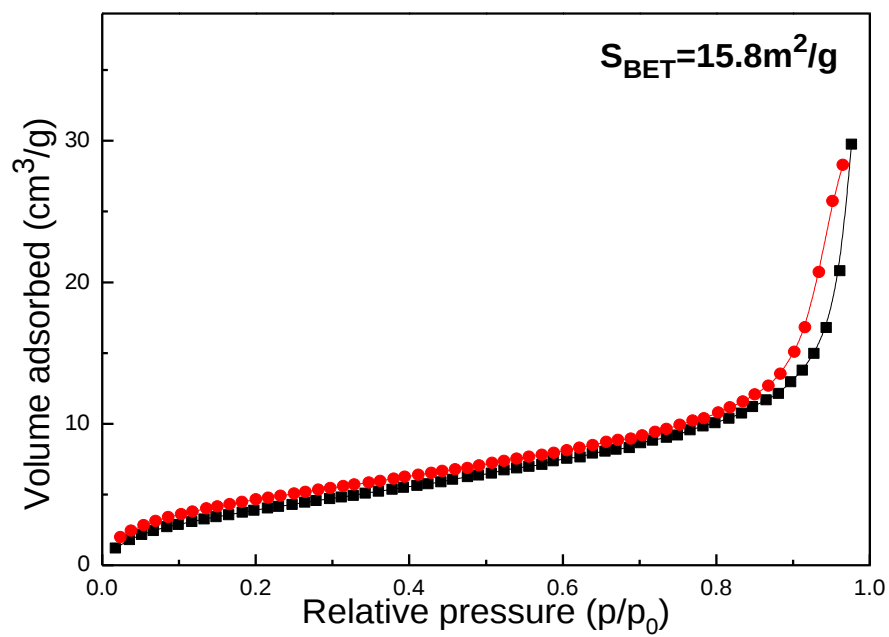


Fig.S4 The adsorption-desorption isotherms of NHC-0.8 % hydrogel with N_2 .

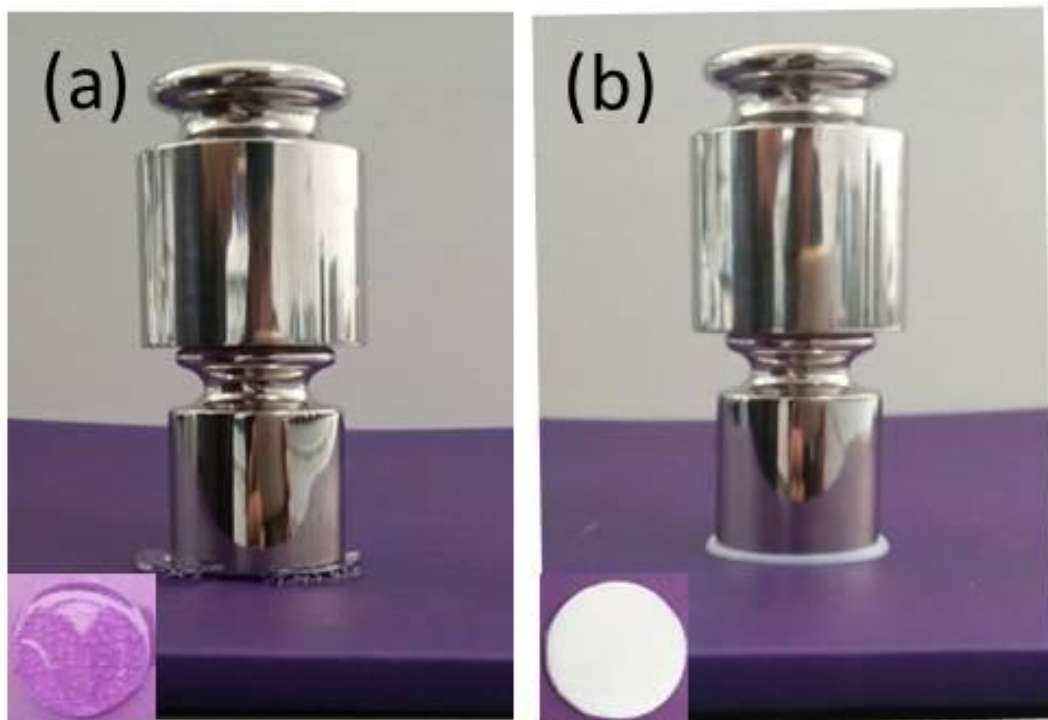


Fig.S5 The mechanical properties of NHC hydrogels under 300 g weight.

(a) NIPAAm /HHPC hydrogel; (b) NHC-0.8% hydrogel.

Table S1 Results of curve fitting of the high-resolution XPS spectra for the C 1s, O 1s and N1s regions.

Names	Elements	Start BE	Peak BE	End BE	Height CPS	FWHM eV	Area (P) CPS.eV	Atomic %
NHC	C1s	290.6	284.85	281.8	32108.47	1.63	89674.7	72.1
	O1s	536.3	532.16	528.2	28249.31	2.43	67948.47	20.64
	N1s	403.3	399.37	396.3	8549.87	1.51	14590.23	7.26
NIPAm/ HHPC	C1s	290.5	285.04	281.9	35507.93	2.63	102802.0	71.86
	O1s	536.1	532.26	528.1	31151.76	2.51	77689.64	20.52
	N1s	403.2	399.47	396.7	10620.54	1.50	17640.75	7.63