

Supporting information for

## Construction of novel polyethylenimine-g-C<sub>3</sub>N<sub>4</sub>/BiOCl heterojunctions for the efficient photocatalytic degradation of nitro explosives

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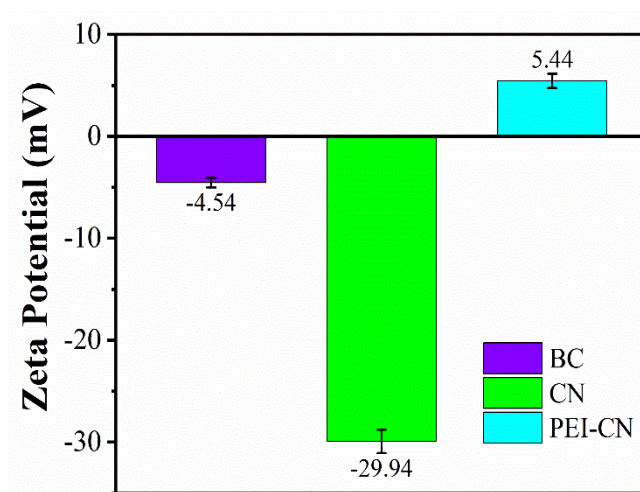


Fig. S1 Zeta potential of BC, CN and PEI-CN.

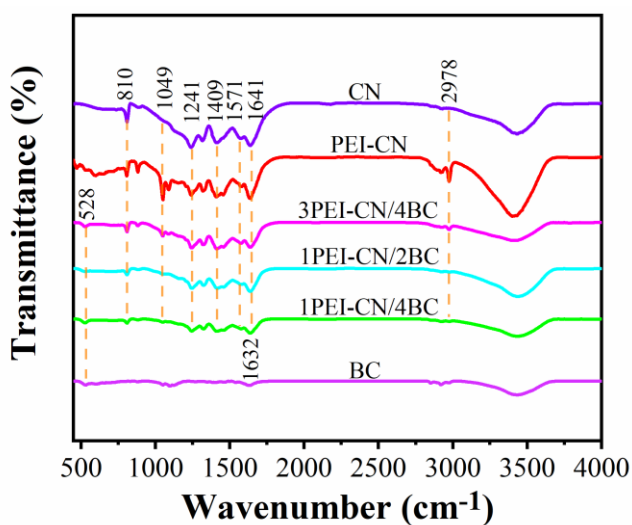


Fig. S2 FT-IR spectra of the prepared samples.

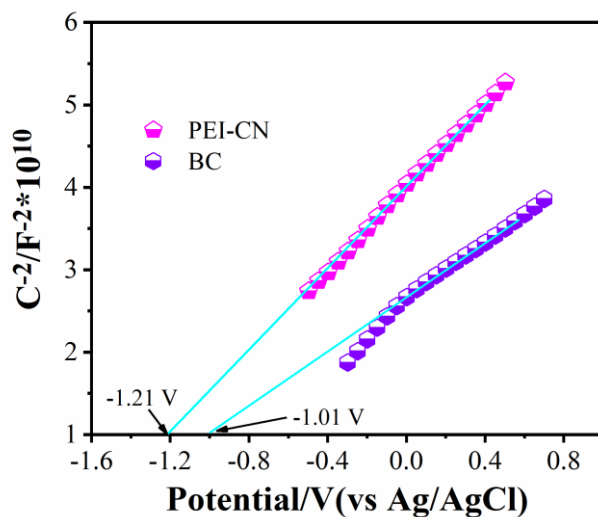


Fig. S3 Mott-Schottky curves of PEI-CN and BC.

Table. S1  $k$ ,  $S_{\text{BET}}$ , and  $k_s$  of the prepared PEI-CN, BC and 1PEI-CN/2BC.

Sample	$k$	$S_{\text{BET}}$	$k_s^a$
	$\text{min}^{-1}$	$\text{m}^2 \text{g}^{-1}$	$\text{g min}^{-1} \text{m}^{-2}$
PEI-CN	0.00215	13.997	0.000384
BC	0.01172	6.3982	0.004579
1PEI-CN/2BC	0.04715	10.182	0.011577

<sup>a</sup>  $k_s = k * (\text{catalyst concentration} * S_{\text{BET}})^{-1}$ .

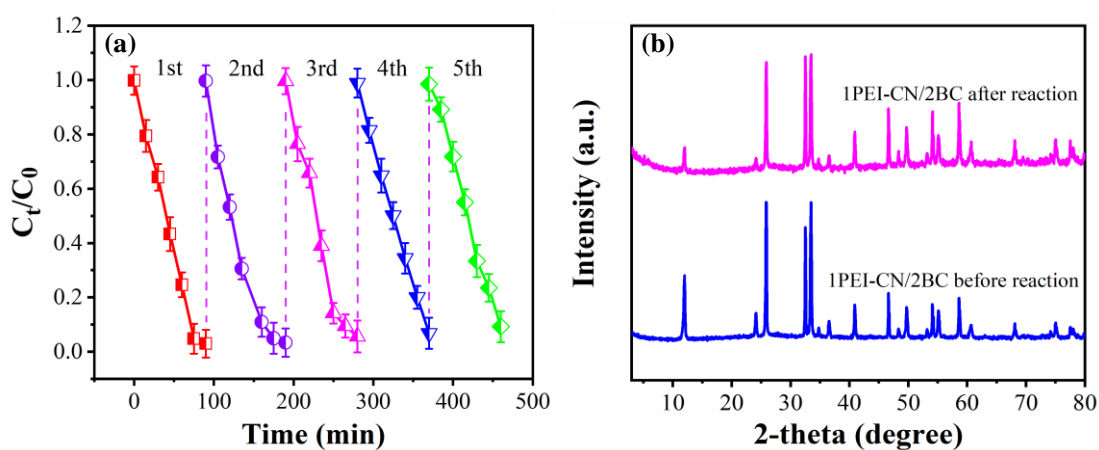
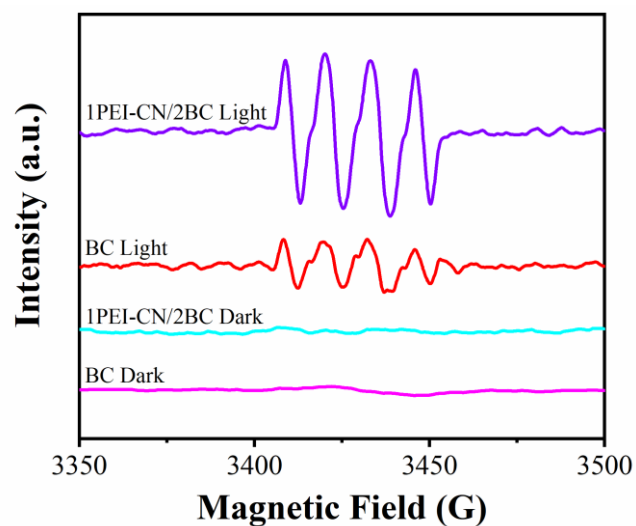
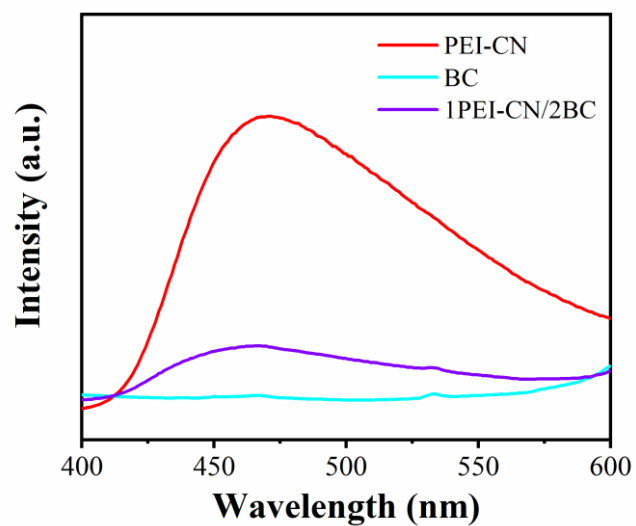


Fig. S4 (a) Five consecutive cycles of PNP degradation using 1PEI-CN/2BC and (b) XRD patterns of 1PEI-CN/2BC before and after reaction.



**Fig. S5** EPR spectra of radical adduct trapped by DMPO in 1PEI-CN/2BC: methanol dispersion (for DMPO- $\bullet$ O<sub>2</sub><sup>-</sup>).



**Fig. S6** PL spectra of PEI-CN, BC and 1PEI-CN/2BC ( $\lambda_{exc}=315$  nm).