

Supplementary Information

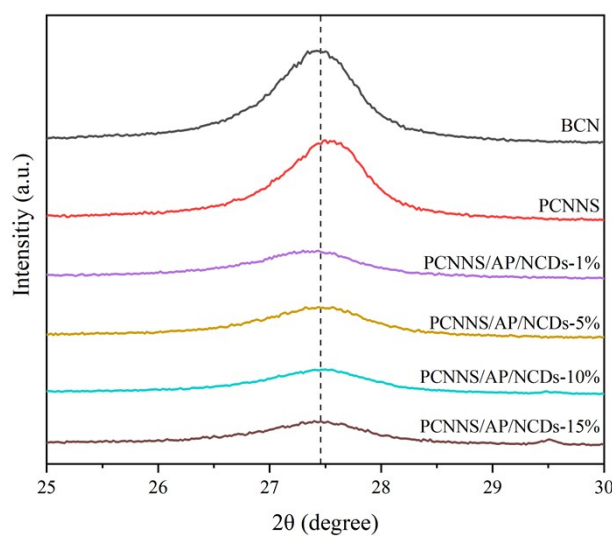


Fig. S1. High-resolution spectra of XRD around (002) peak.

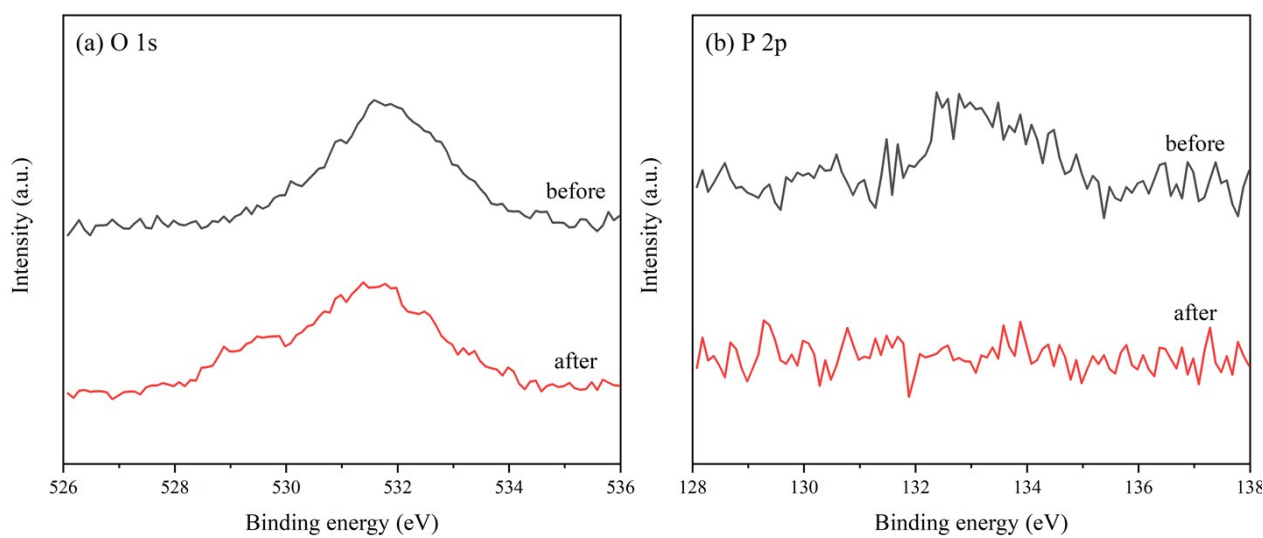


Fig. S2. High-resolution (a) O 1s and (b) P 2p of the PCNNS/AP/NCDs-10% composite.

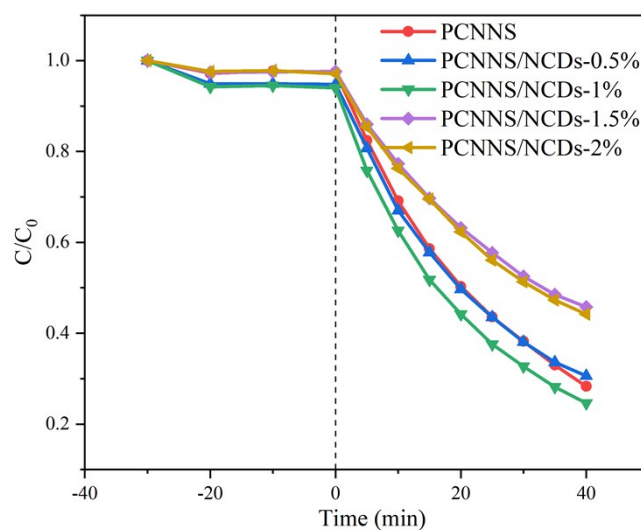


Fig. S3. Photocatalytic activities of PCNNS and PCNNS/NCDs-x% for TC degradation under visible light irradiation.

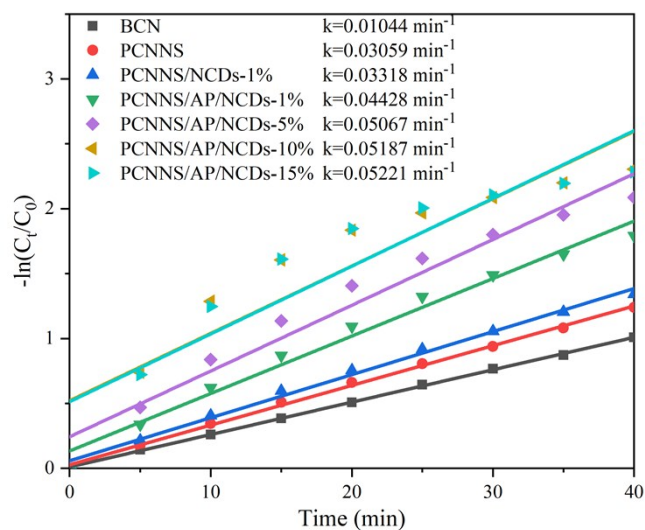


Fig. S4. Pseudo-first-order for the photocatalytic degradation of TC with as-prepared samples.

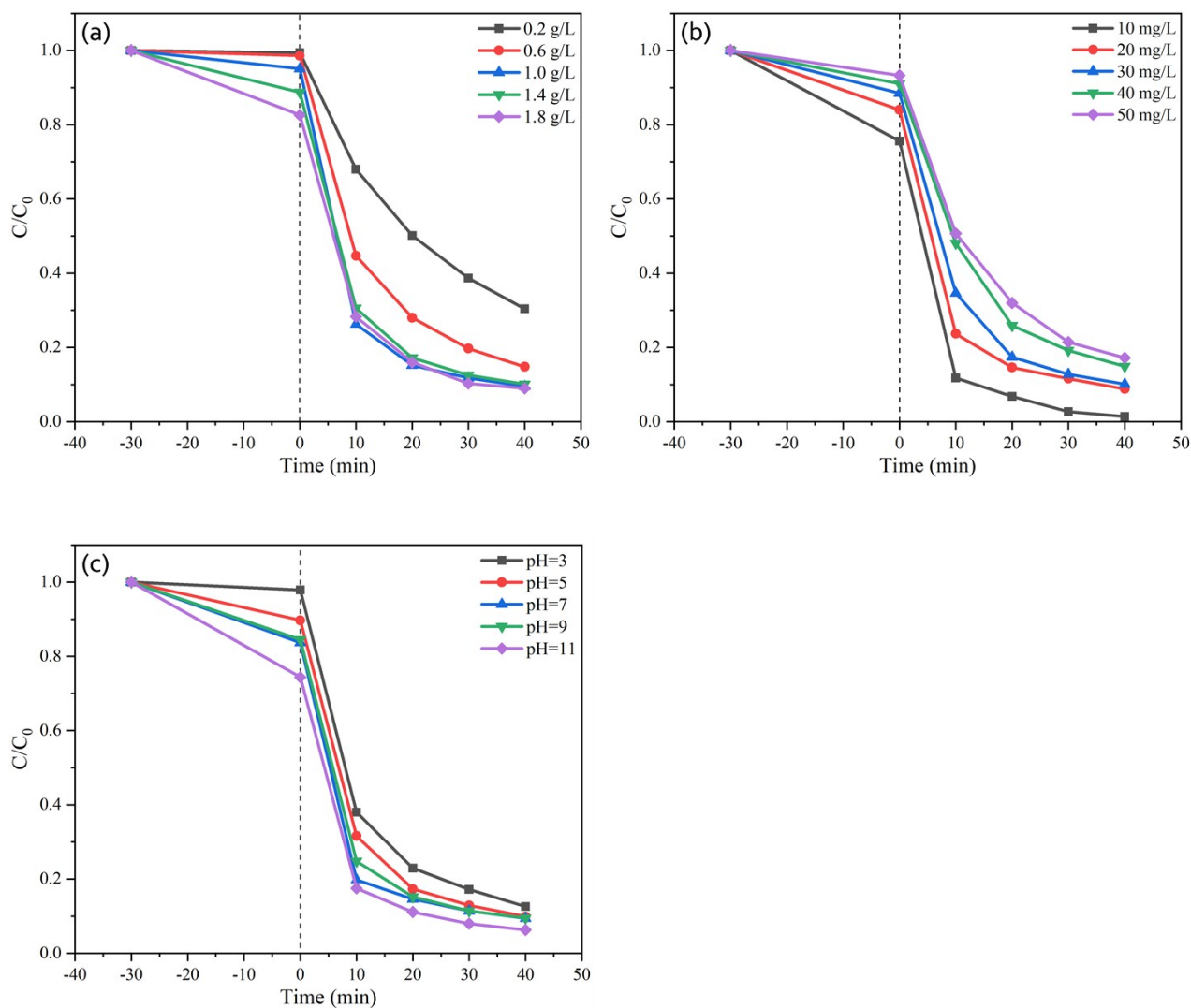


Fig. S5. Influence of (a) catalyst dosages, (b) TC concentration and (c) pH on the photocatalytic degradation towards TC. Conditions: $t = 25\text{ }^{\circ}\text{C}$, $\text{pH} = 7$, $[\text{TC}] = 30\text{ mg/L}$, and $[\text{catalyst}] = 0.1\text{ g/L}$. The experiments of different effect factors were conducted by changing one of the key effect factors while keeping the other two parameters constant except for the temperature.

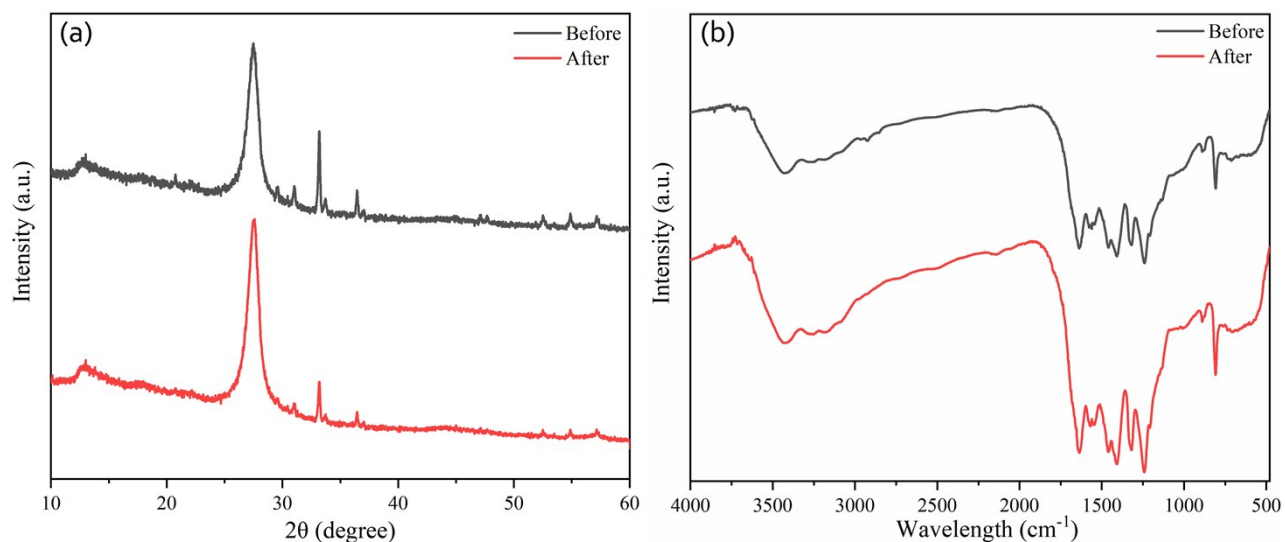


Fig. S6. (a) XRD and (b) FTIR patterns of the PCNNS/AP/NCDs-10% composite before and after the reaction.

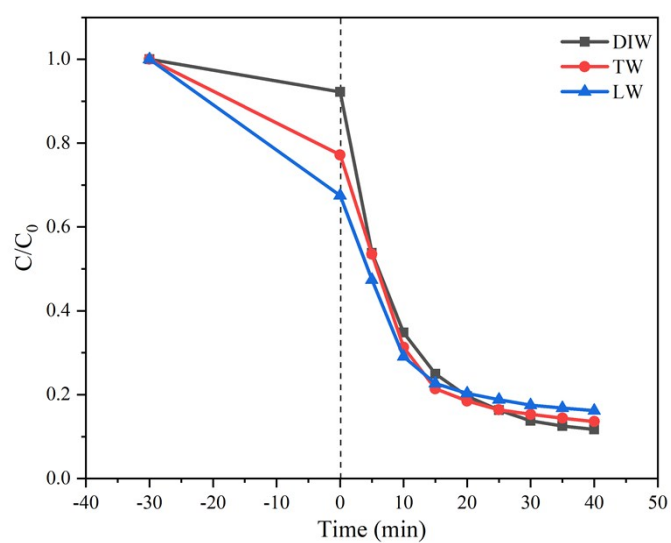
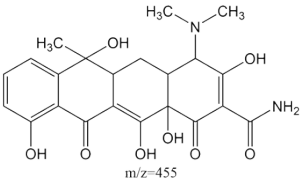
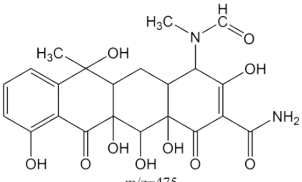
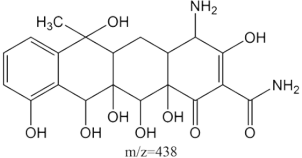
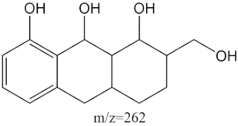
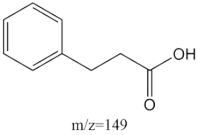
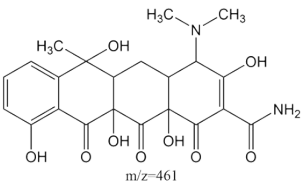


Fig. S7. Photocatalytic activities of PCNNS/AP/NCDs-10% for TC degradation with TW and LW under sunlight.

Table S1. VB and CB potentials of PCNNS and Ag₃PO₄.

semiconductor	E _g	X	E _{VB}	E _{CB}
PCNNS	2.58	4.72	1.51	-1.07
Ag ₃ PO ₄	2.30	5.96	2.61	0.31

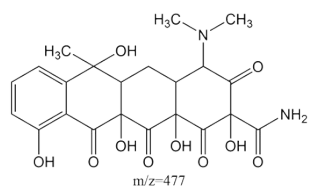
Table S2. The possible intermediates of TC degradation under visible light irradiation.

Product No.	m/z	molecular formula	molecular structure
A	455	C ₂₂ H ₂₄ N ₂ O ₈	
I ₁	475	C ₂₂ H ₂₄ N ₂ O ₁₀	
I ₂	438	C ₂₀ H ₂₄ N ₂ O ₉	
I ₃	262	C ₁₅ H ₂₀ O ₄	
I ₄	149	C ₉ H ₁₀ O ₂	
II ₁	461	C ₂₂ H ₂₄ N ₂ O ₉	

II₂

477

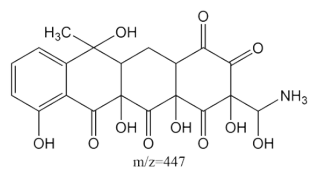
C₂₂H₂₄N₂O₁₀



II₃

447

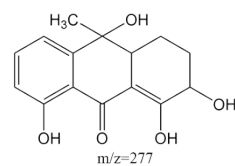
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II₄

277

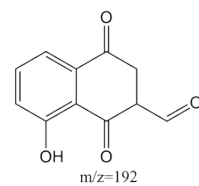
C₁₅H₁₆O₅



II₅

192

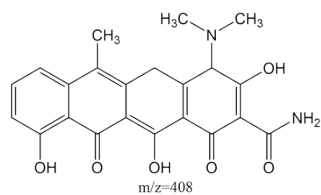
C₁₁H₈O₄



III₁

408

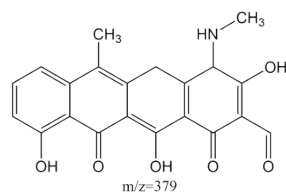
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III₂

379

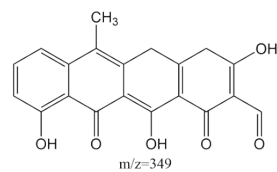
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III₃

349

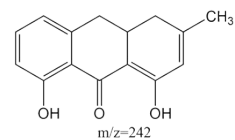
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III₄

242

C₁₅H₁₄O₃



III₅

228

C₁₄H₁₂O₃

