Supplementary Information

Accelerated Fenton degradation for azo dyes wastewater via a novel Z-scheme CoFeN-g-C_3N_4 heterojunction photocatalyst with excellent charge transfer under visible light irradiation

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Fig. S1 Multifunctional photocatalytic reactor.

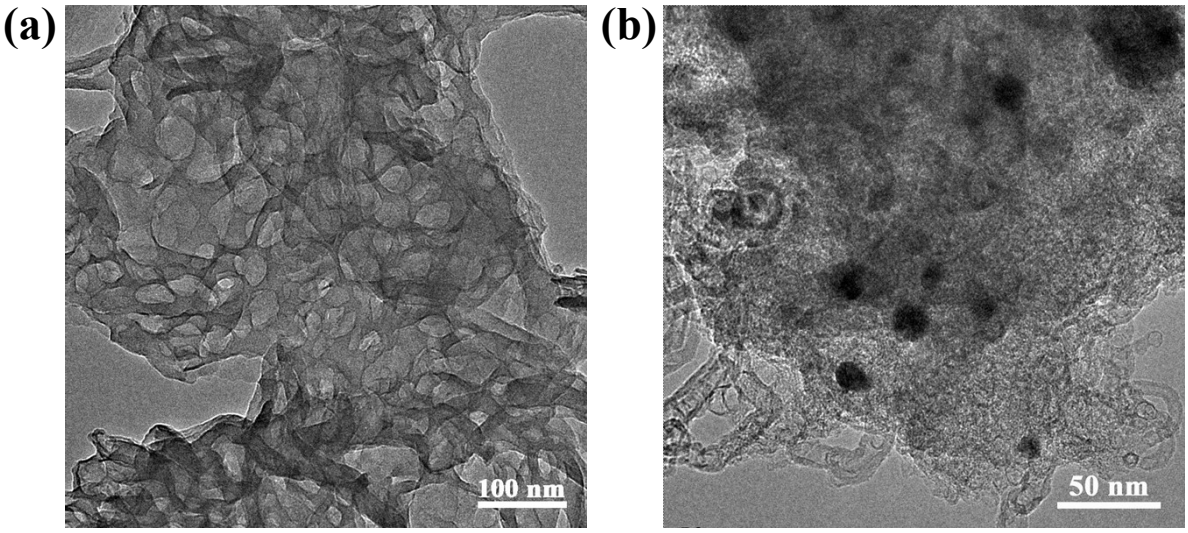

Fig. S2 TEM images of (a) CN and (b) CFN.

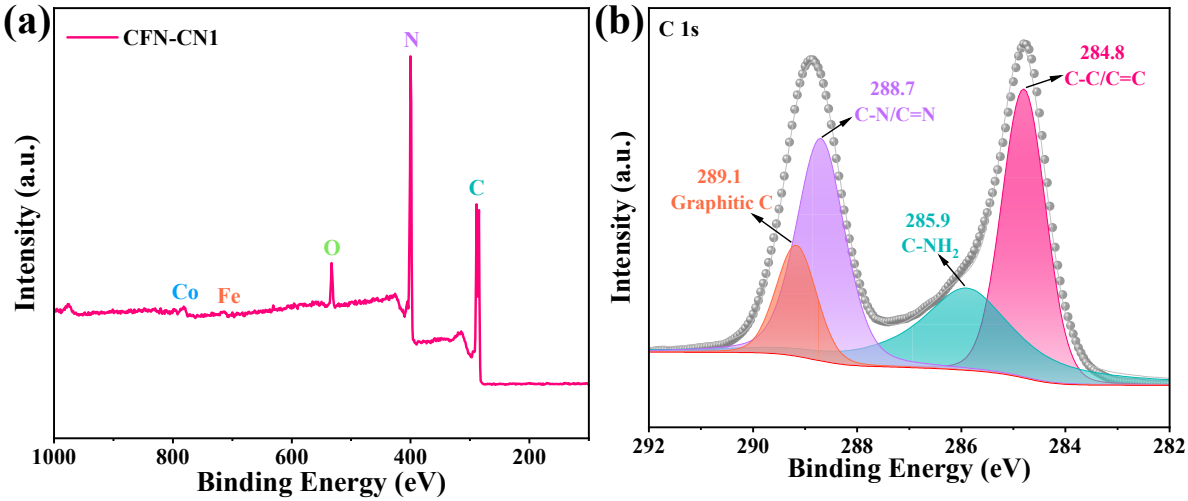

Fig. S3 (a) Full XPS spectra of CFN-CN1, (c) C 1s High-resolution XPS spectrum of CFN-CN1.

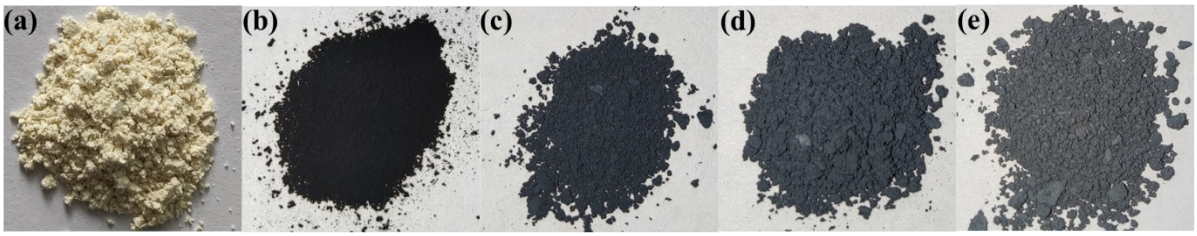

Fig. S4 Photos of all samples (a) CN, (b) CFN, (c) CFN-CN1, (d) CFN-CN2 and (e) CFN-CN3.

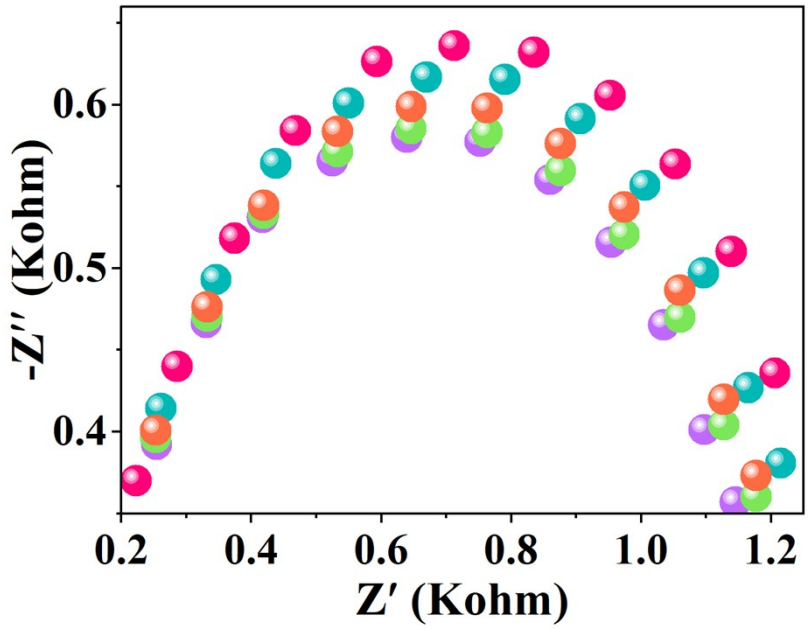

Fig. S5 EIS Nyquist plot of the catalysts.

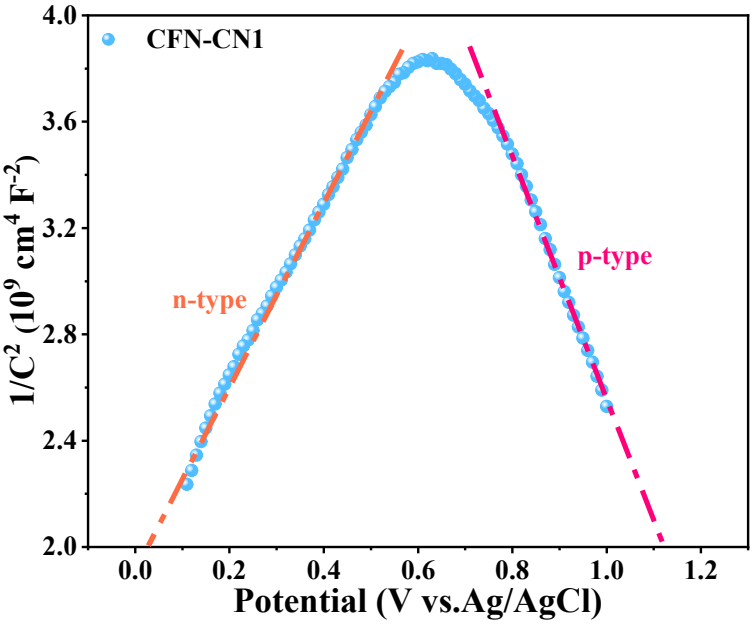

Fig. S6 M-S plots vs. Ag/AgCl CFN-CN1.

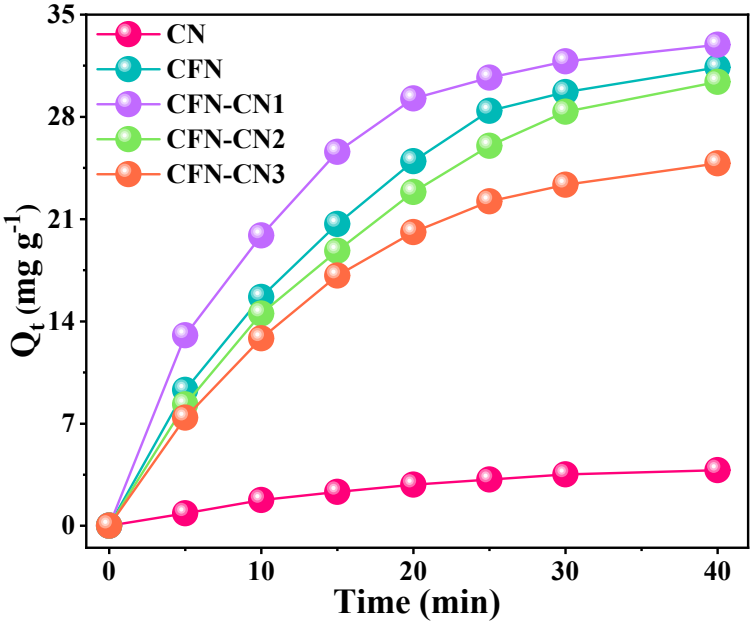

Fig. S7 Comparison of adsorption performance of different catalysts. Experimental conditions: $[MO]_0$ = 10 mg L^{-1}, [catalyst] = 0.2 g L^{-1}, natural pH.

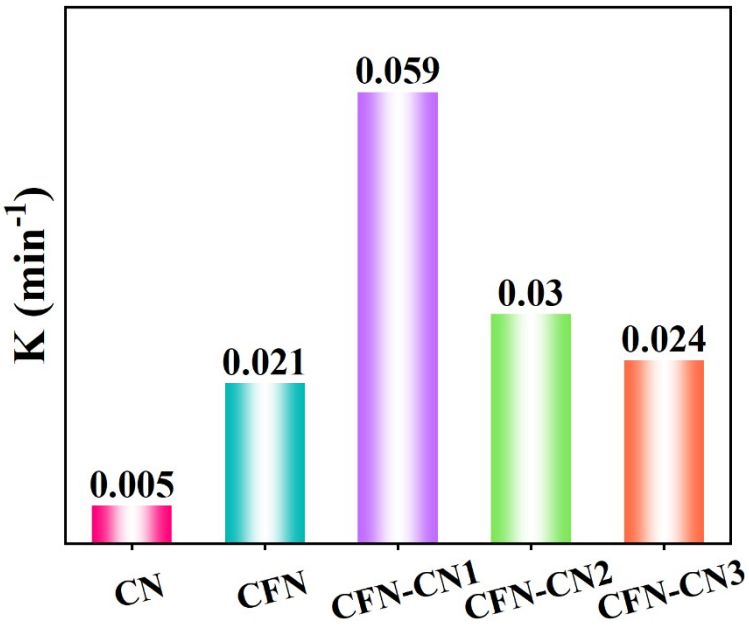

Fig. S8 Degradation rate constants of MO with different catalysts. Experimental conditions: $[MO]_0$ = 10 mg L^{-1}, [catalyst] = 0.2 g L^{-1}, $[H_2O_2]$ = 75 mM, natural pH.

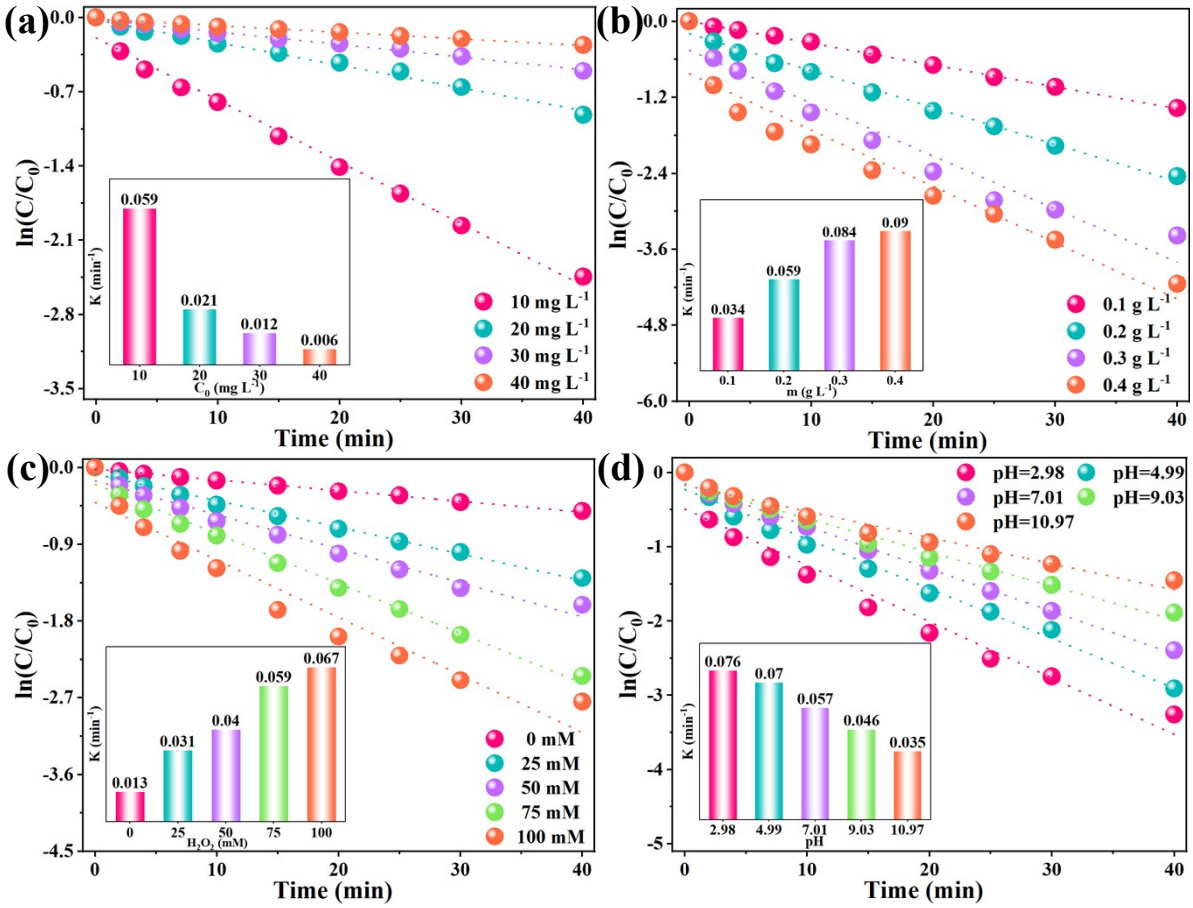

Fig. S9 Kinetic analysis curves (a) original MO concentration, (b) catalyst dosage, (c) H_2O_2 concentration, (d) pH, the illustration in (a), (b), (c) and (d) are the corresponding degradation rate constant. Experimental conditions: $[MO]_0$ = 10 mg L^{-1}, [catalyst] = 0.2 g L^{-1}, $[H_2O_2]$ = 75 mM, natural pH.

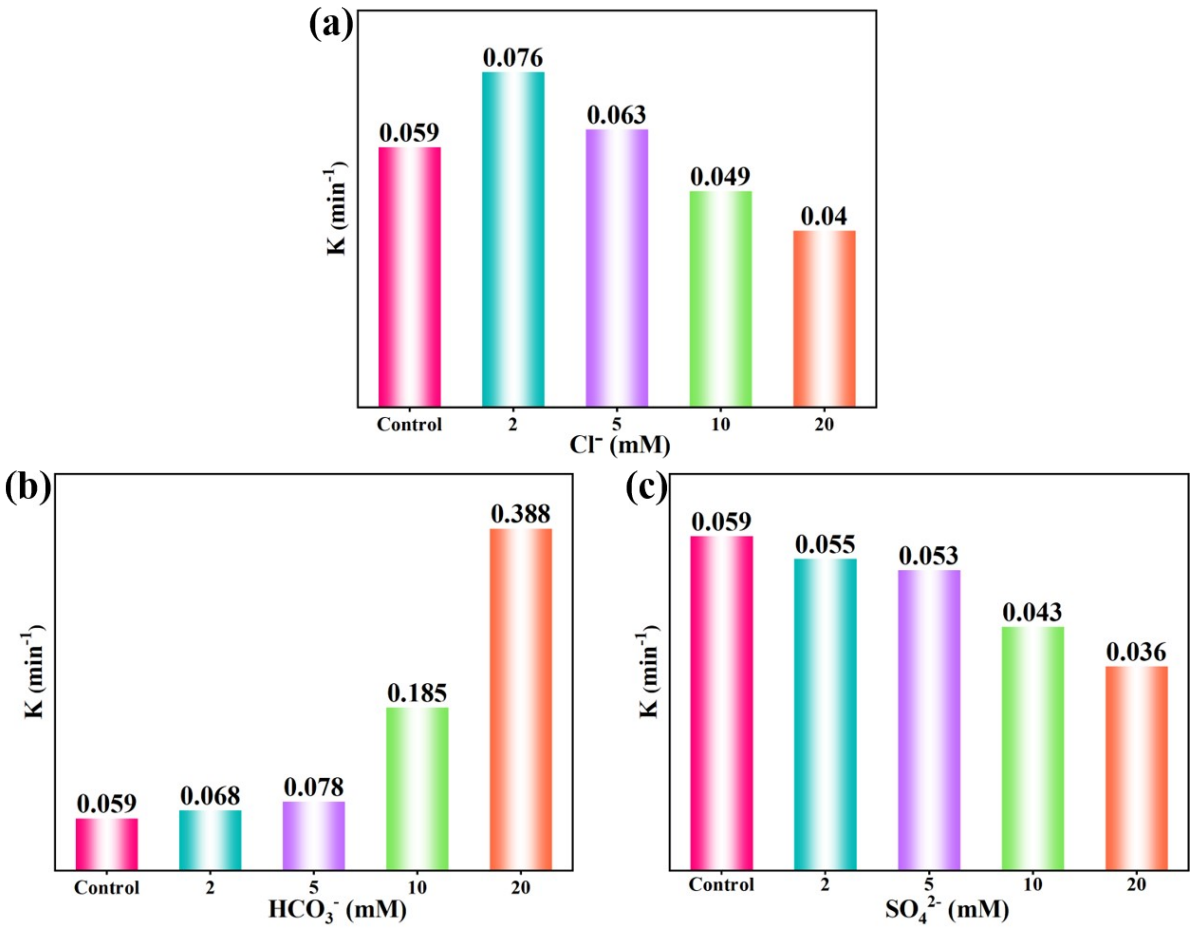

Fig. S10 Degradation rate constants of different inorganic anions (a) Cl^-, (b) HCO_3^- and (c) SO_4^{2-}. Experimental conditions: $[MO]_0$ = 10 mg L^{-1}, [catalyst] = 0.2 g L^{-1}, $[H_2O_2]$ = 75 mM, natural pH.

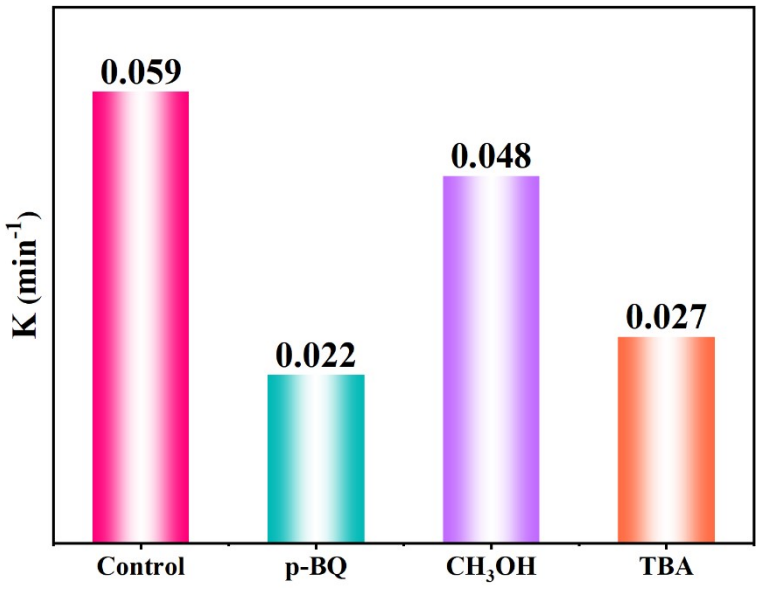

Fig. S11 Degradation rate constants for the addition of different active species traps. Experimental conditions: $[MO]_0$ = 10 mg L^{-1}, [catalyst] = 0.2 g L^{-1}, $[H_2O_2]$ = 75 mM, natural pH.

Table S1
BET specific surface area and pore volume of catalyst

	BET Surface Area (m^2 g^{-1})	Pore Volume (cm^3 g^{-1})
CN	36.203	0.109
CFN	357.47	0.201
CFN-CN1	249.45	0.212
CFN-CN2	194.467	0.191
CFN-CN3	139.638	0.155