Supplementary date

High efficient degradation of tetracycline by activated peroxymonosulfate over MoS_2/ZnO heterostructure nanocomposite

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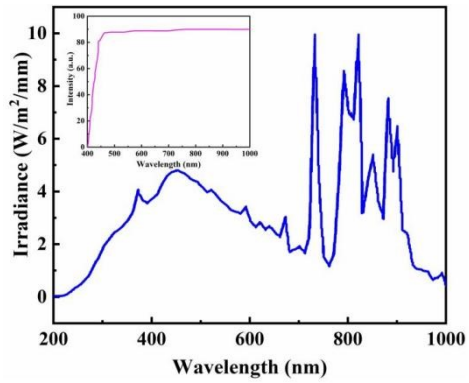

Figure S1 Xe spectrum produced by Xenon lamp and transmittance of the cut-off film (Inserted).

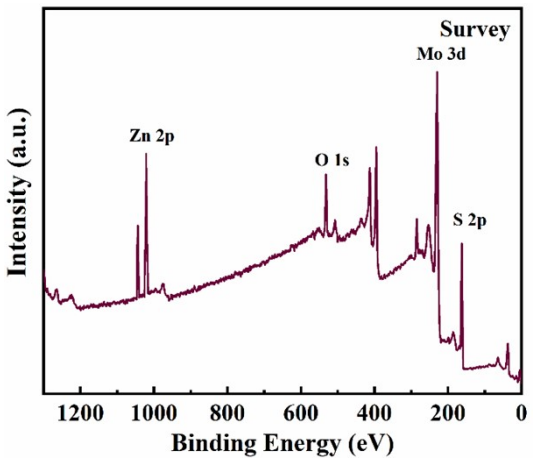

Figure S2 The XPS survey spectrum.

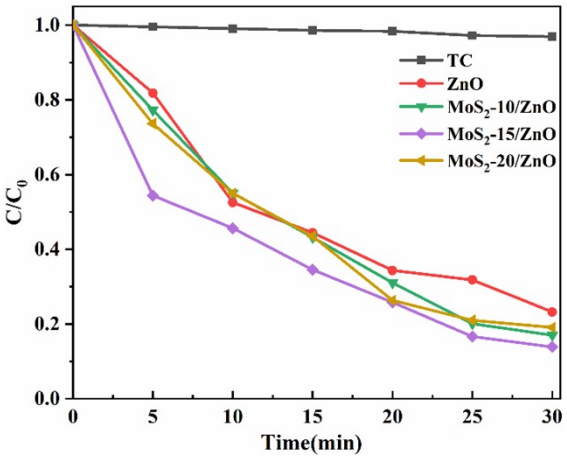

Figure S3 Degradation of TC by different proportions of complexes.

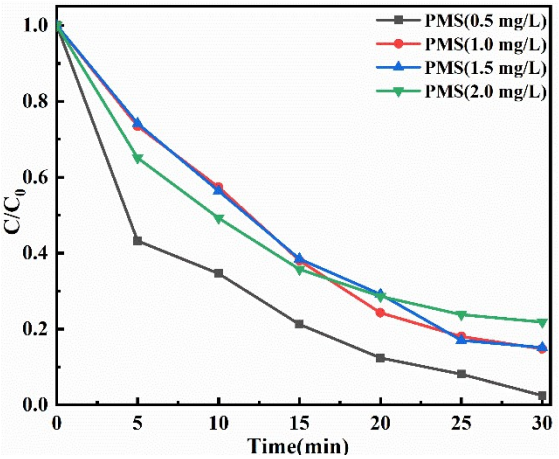

Figure S3 The effect the concentration of PMS on TC degradation.

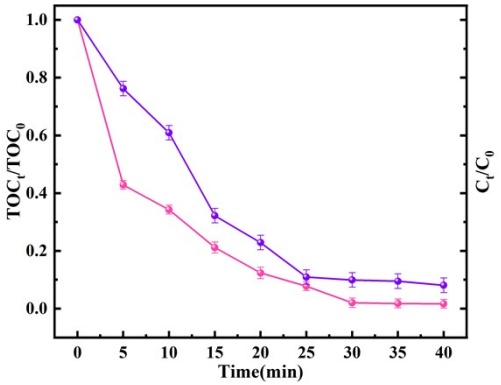

Figure S4 TOC removal rate and degradation rate of TC.

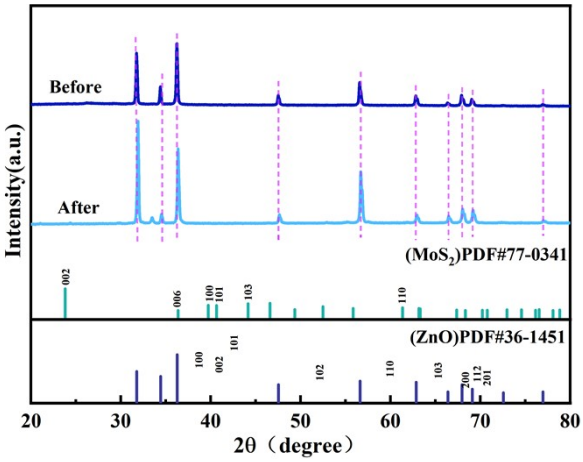

Figure S5 XRD patterns of MZ-15 after 5 cycles' photocatalysis.

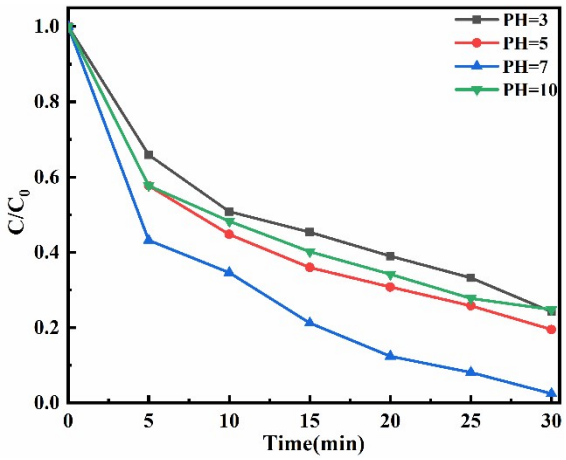

Figure S6 The effect of PH on TC degradation.

Under acidic and neutral conditions, PMS exists in the main form of HSO- 5, which is easily activated to form SO•− 4 to oxidize TC. But PMS mainly exists as SO2− 5 at a high pH value, which has a limited capability of $SO_4^{\bullet-}$ generation.

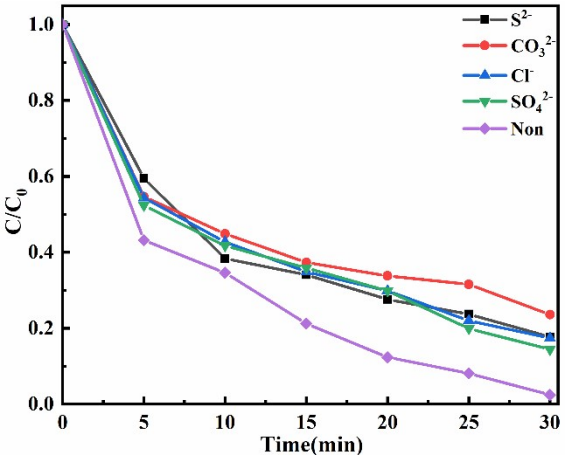

Figure S7 The effect of Coexisting anions on TC degradation.

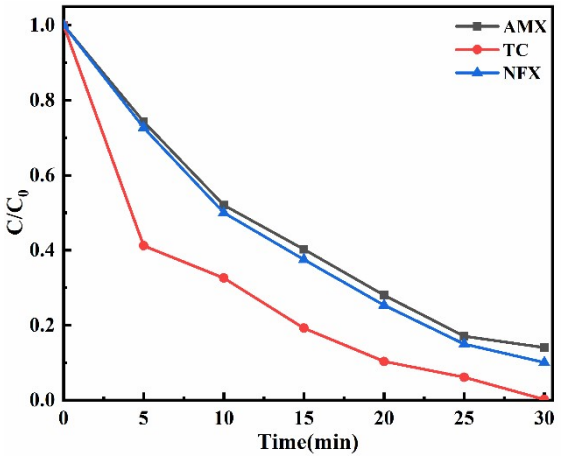

Figure S8 Comparison of degradation of different antibiotics

Table S1 Comparison of photocatalytic efficiency of different ZnO-based hybrid photocatalysts with respect to TC degradation.

Samples	C^a ($g\text{-}L^{-1}$)	Cb TC (mgL^{-1})	Reaction Time (min)	Degradation Efficiency	Kapp (min^{-1})	Reference
$ZnGa_2O_4$/ZnO	0.05	30	30	87.85%	5.7×10^{-3}	(1)
C-ZnO/A-CN	0.02	50	100	86.5%	5.3×10^{-3}	(2)
AgCl/ZnO/g-C_3N_4	1.5	20	50	89.05%	5.9×10^{-3}	(3)
ZnO/$PbBiO_2Cl$	0.5	10	150	97%	8×10^{-2}	(4)
ZnO/g-C_3N_4	0.1	10	60	92.6%	8.1×10^{-3}	(5)
MoS_2/ZnO/PMS	*0.02*	*10*	*30*	*97.56%*	*11.4×10^{-2}*	*This work*

Reference

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