Electronic Supplementary Material (ESI) for Environmental Science: Nano.

Supporting Information

Constructing Cu_2O/Bi_2MoO_6 p-n heterojunction towards boosted photo-assisted-electro-Fenton-like synergy degradation of ciprofloxacin

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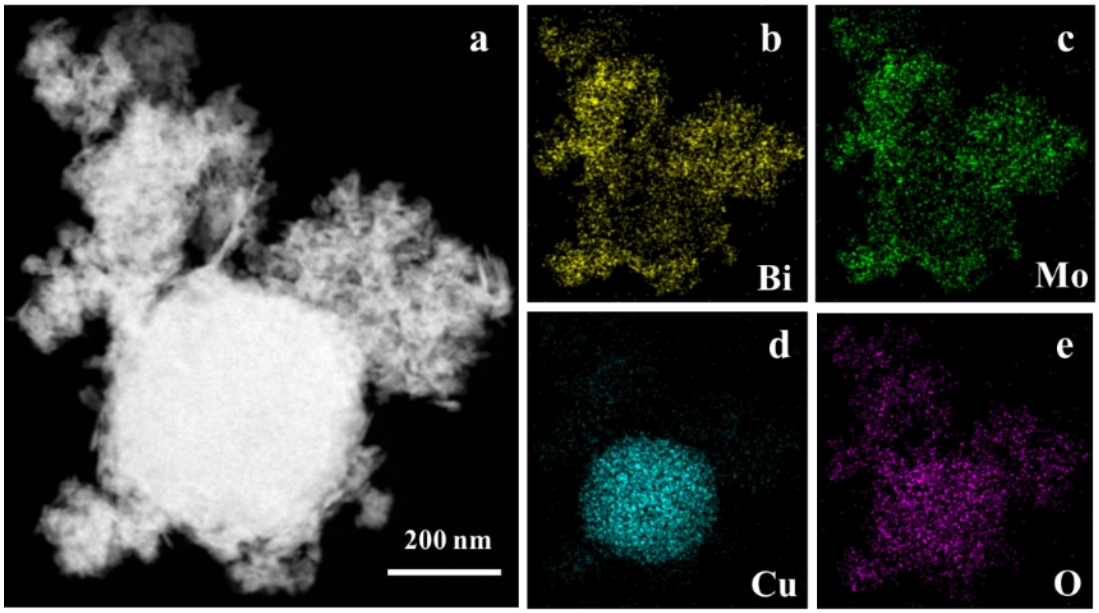


Fig. S1 EDS elemental mapping of CBM-25%.

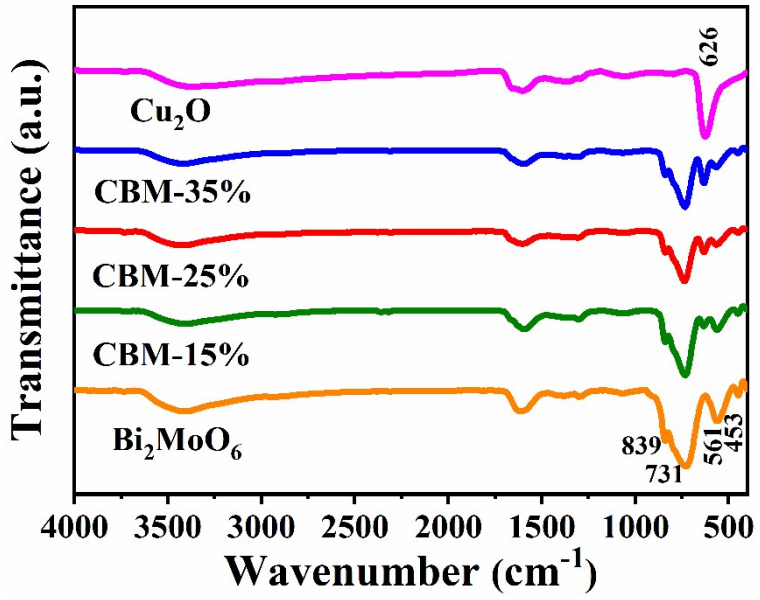


Fig. S2 FT-IR spectrum of Cu_2O, Bi_2MoO_6 and CBM-w% (15%, 25% and 35%).

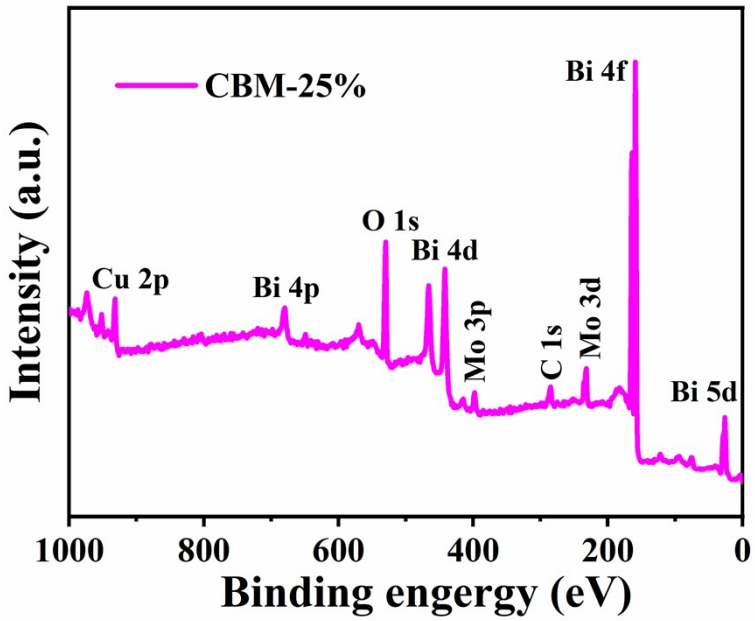


Fig. S3 XPS survey scan spectrum of CBM-25%.

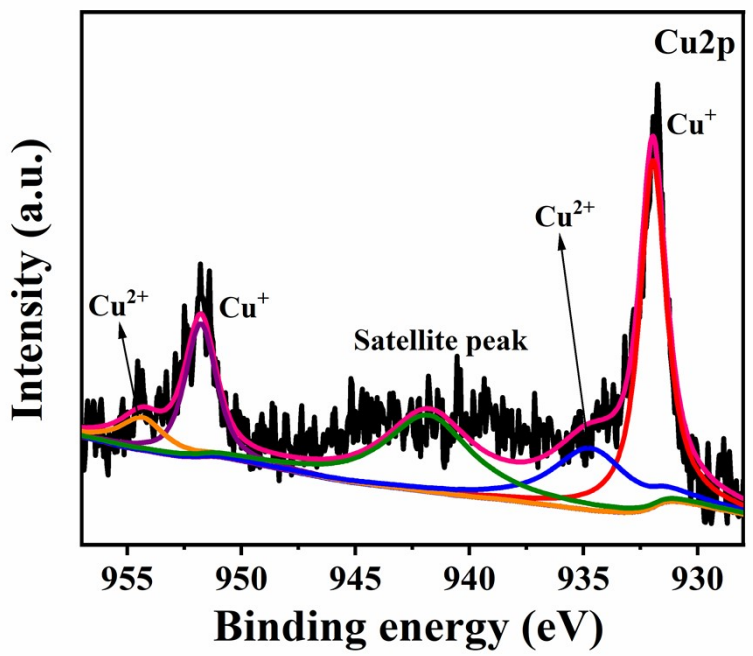


Fig. S4 The fine spectrum of Cu 2p with CBM-25% after the PAEF-like process.

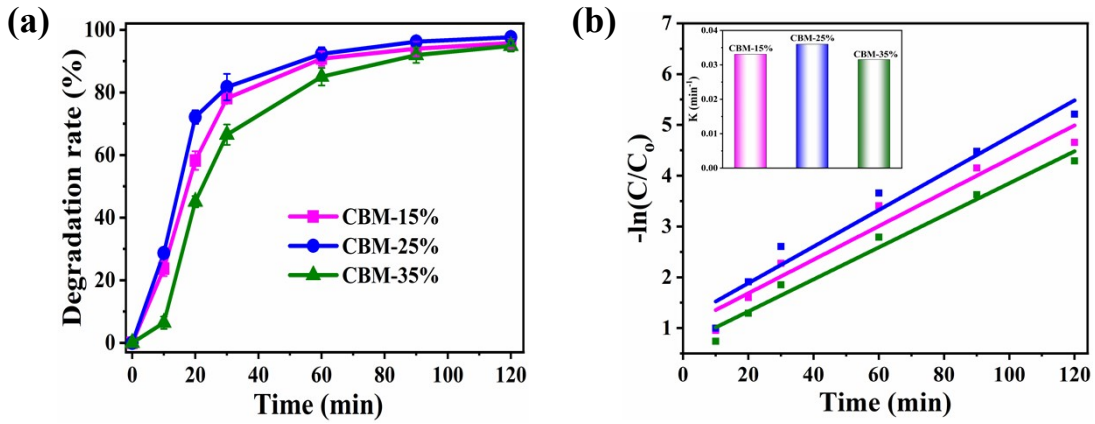


Fig. S5 CIP (a) degradation curves and (b) kinetic curves for CBM-w% (15%, 25% and 35%) in the PAEF-like system.

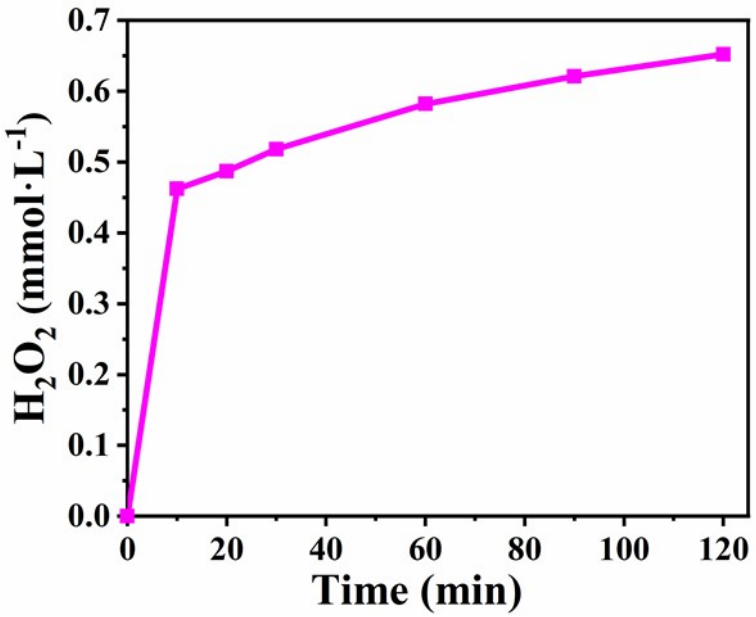


Fig. S6 The concentration of H_2O_2 for CBM-25% catalyst in the PAEF-like system.

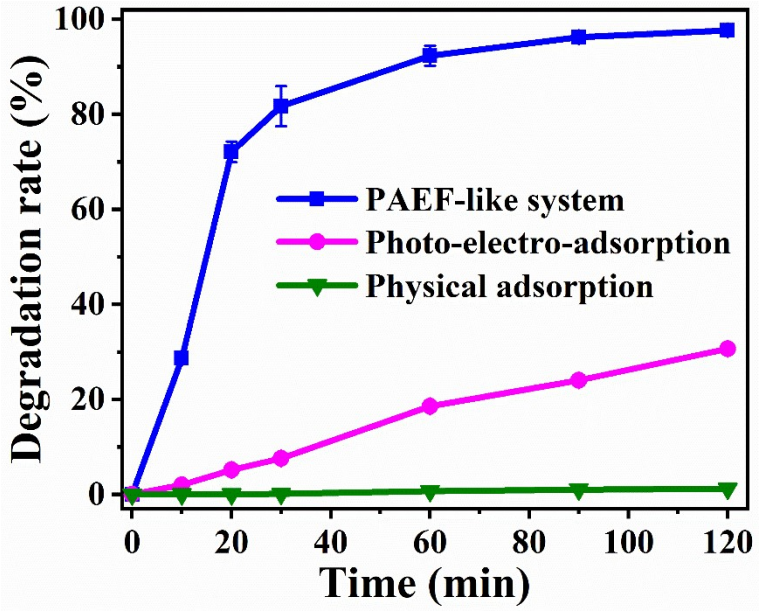


Fig. S7 Degradation curves of CIP in the PAEF-like system (with CBM-25%), in photo-electro-adsorption process (without CBM-25%) and in physical adsorption process (with CBM-25% and CF).

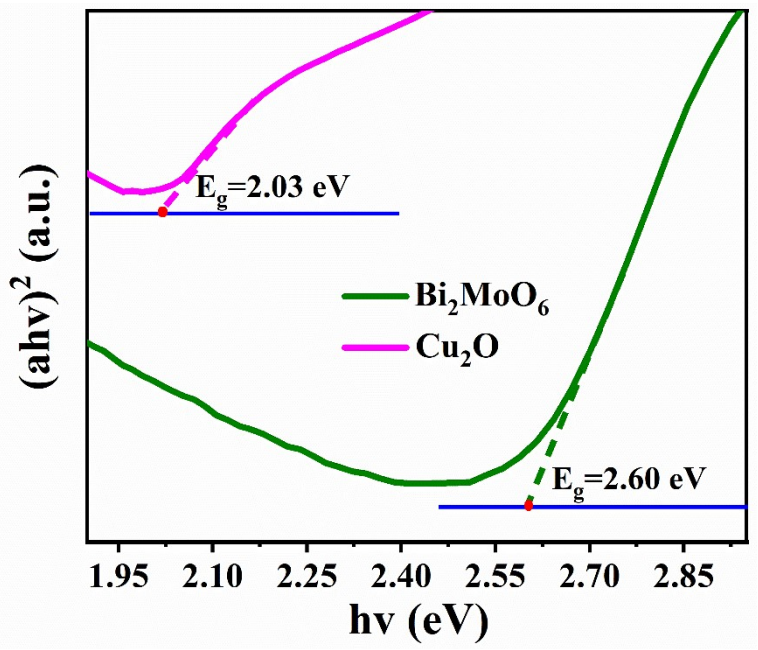


Fig. S8 Tauc plots of Cu_2O and Bi_2MoO_6.

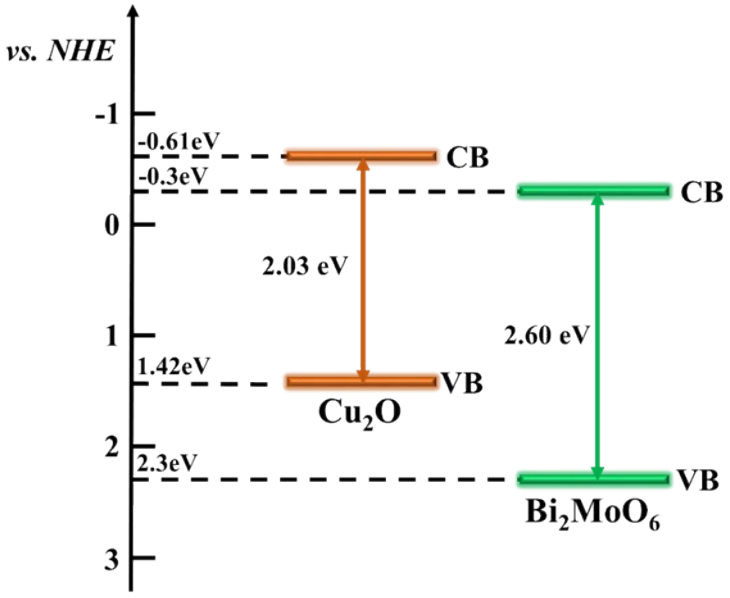


Fig. S9 Energy band structures of Cu_2O and Bi_2MoO_6.

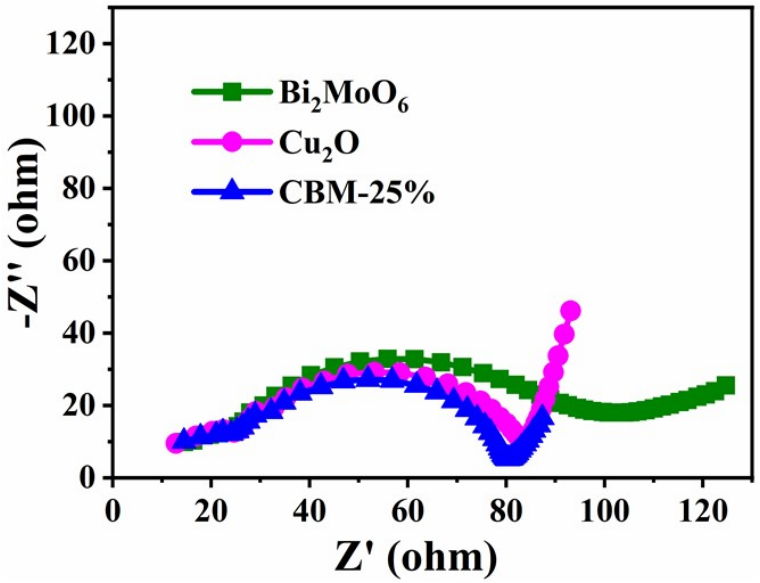


Fig. S10 EIS of Bi_2MoO_6, Cu_2O and CBM-25%.

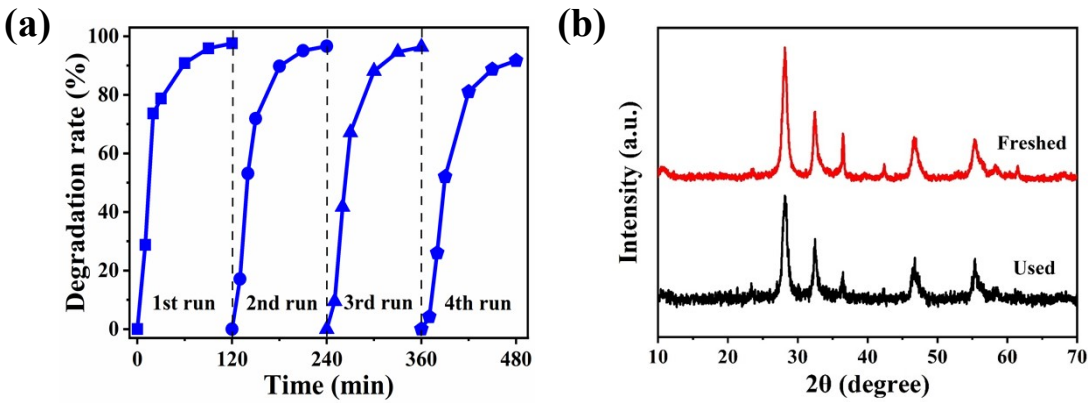


Fig. S11 Cyclic tests of CBM-25% (a) and XRD patterns of fresh and used CBM-25% (b) in the PAEF-like system.

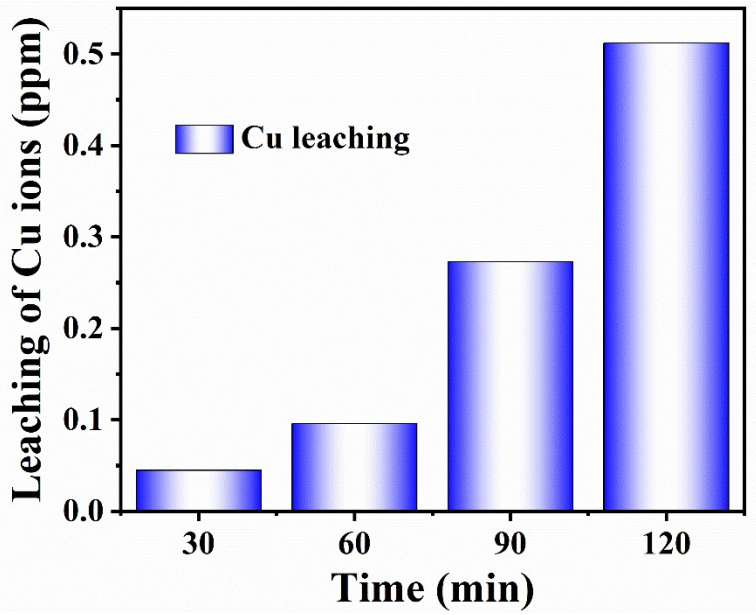


Fig. S12 The leaching concentration of Cu ions in the PAEF-like system.

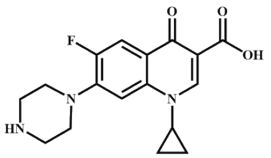
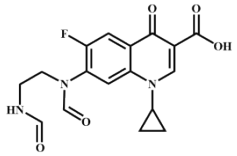
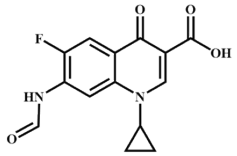
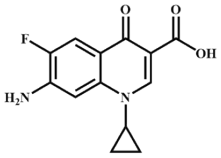
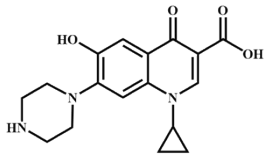
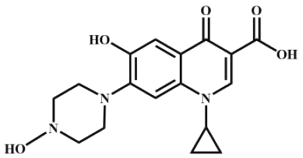
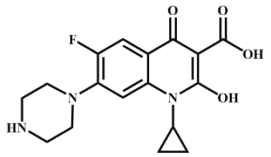
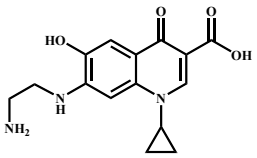
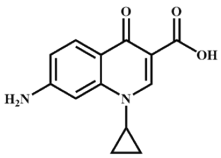
Table S1 BET results of Bi_2MoO_6, Cu_2O and CBM-25%.

Materials	Specific surface area ($m^2 \cdot g^{-1}$)	Pore volume ($cm^3 \cdot g^{-1}$)	Average pore size (nm)
Bi_2MoO_6	54.36	0.245	17.95
Cu_2O	13.46	0.068	22.59
CBM-25%	85.35	0.411	22.85

Table S2 The relative percentages of Cu^{+} and Cu^{2+} calculated by the peak area of Cu 2p fine spectra before and after reaction.

	Cu^{+}	Cu^{2+}
Before reaction	71.47%	28.53%
After reaction	51.15%	48.85%

Table S3 The intermediates of CIP degradation process.

Compounds	Molecular formula	Structural formula	m/z
CIP	$C_{17}H_{18}O_3N_3F$		332
A	$C_{17}H_{16}O_5N_3F$		362
B	$C_{14}H_{11}O_4N_2F$		291
C	$C_{13}H_{11}O_3N_2F$		263
D	$C_{17}H_{19}O_4N_3$		330
E	$C_{17}H_{19}O_5N_3$		346
F	$C_{17}H_{18}O_4N_3F$		348
G	$C_{16}H_{17}O_3N_2F$		304
H	$C_{13}H_{12}O_3N_2$		245