

**Comparative study in single- and binary-contaminant systems:
Photodegradation of tetracycline and imidacloprid on flower-
shaped Ag/AgBr/BiOBr under visible-light irradiation**

Jingjing Zhang^a, Jingtao Dai^a, Jian Chen^{ab*}

^a College of Chemistry and Environmental Engineering, Yancheng Teachers University, 2
Xiwang South Road, Yancheng 224007, Jiangsu, People's Republic of China;

^b Department of Geography and Resource Management, The Chinese University of Hong
Kong, Shatin, N.T., Hong Kong, People's Republic of China.

□ Corresponding author: Jian Chen

E-mail: chenj01@yctu.edu.cn

Tel/Fax: +86-515-88233180

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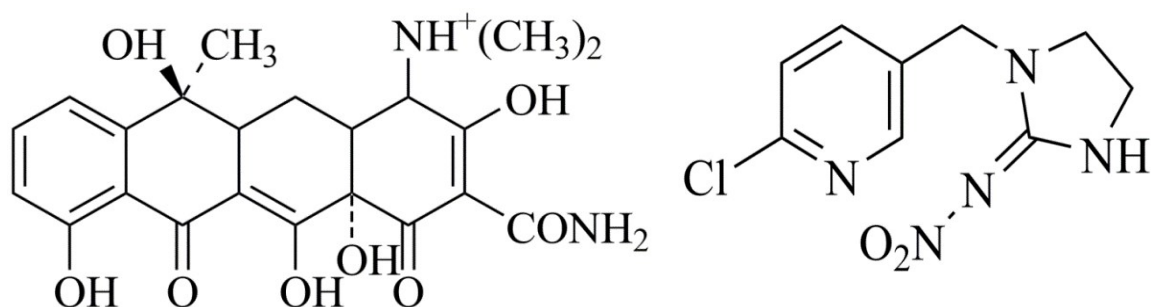
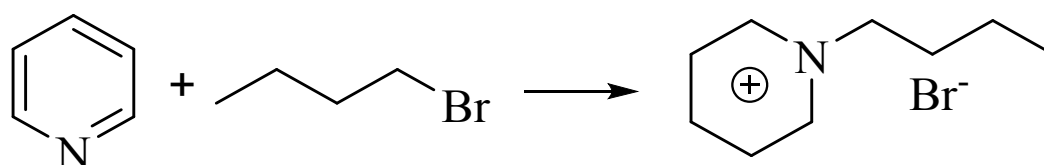


Fig. S1 Chemical structure of tetracycline (left) and imidacloprid (right)



¹H NMR (400 MHz, D₂O):

0.81~0.85 (t, 3H), 1.2~1.3 (m, 2H), 1.85~1.93 (m, 2H), 4.48~4.52 (t, 1H),
7.93~7.97 (t, 2H), 8.41~8.45 (m, 1H), 8.73~8.75 (d, 2H).

FT-IR:

3427, 3146, 3087, 2961, 2935, 2874, 1635, 1571, 1465, 1381, 1338, 1168,
840, 753 cm⁻¹.

Melting point: 105-106 °C

Scheme S1 Synthesis and characterization of [Bpy]Br Ionic liquid

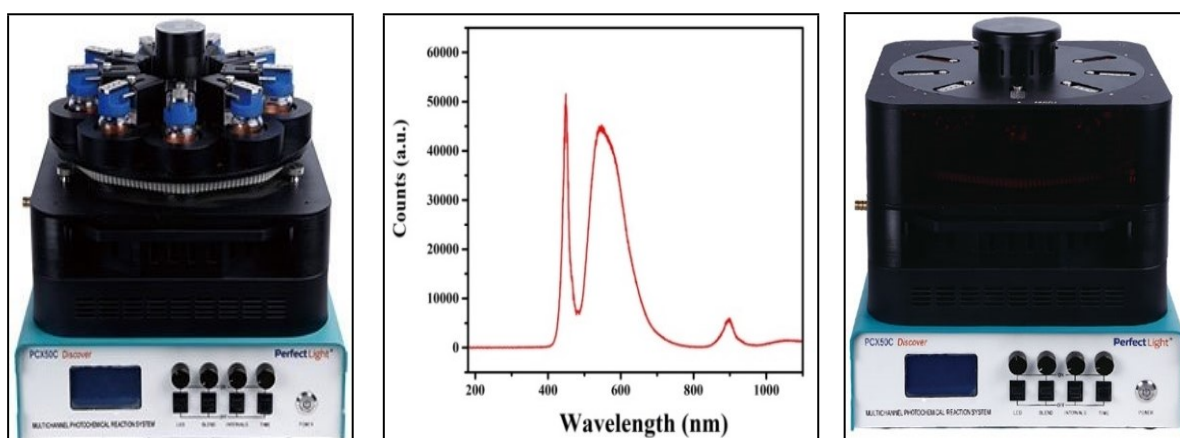


Fig. S2 Multichannel photocatalytic reactor (PCX50C Discover, Beijing Perfectlight Science and Technology Co., Ltd., Beijing, China) and its emission spectrum

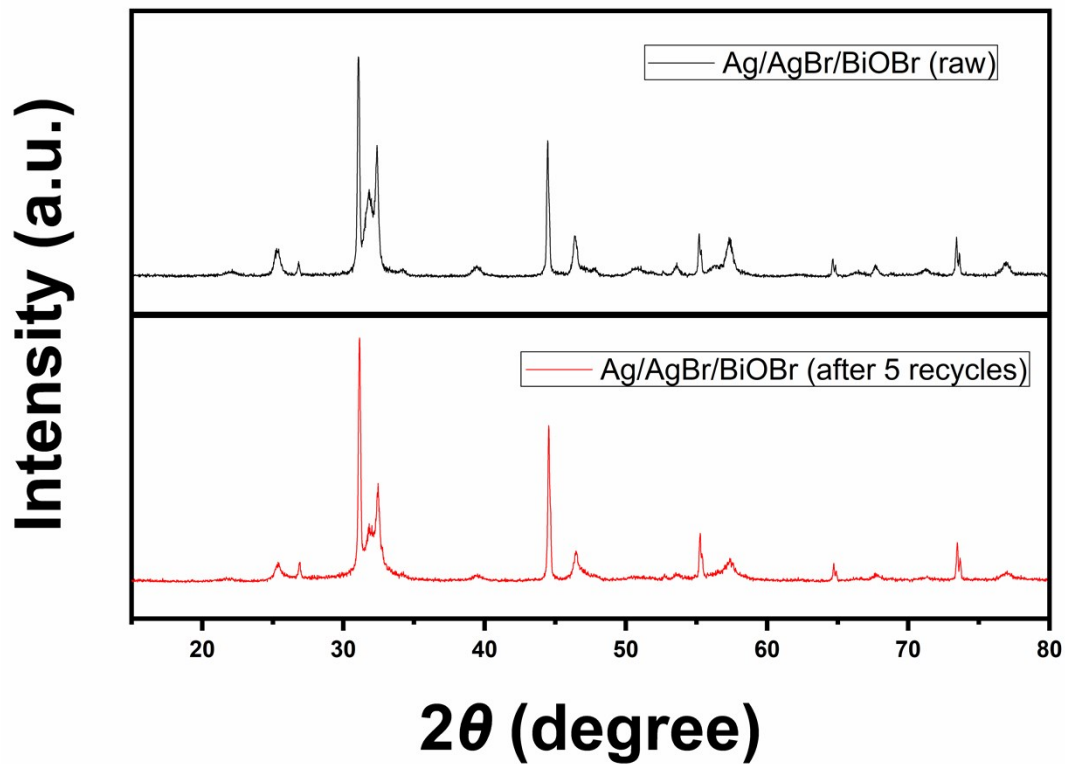


Fig. S3 XRD patterns of raw and recycled Ag/AgBr/BiOBr

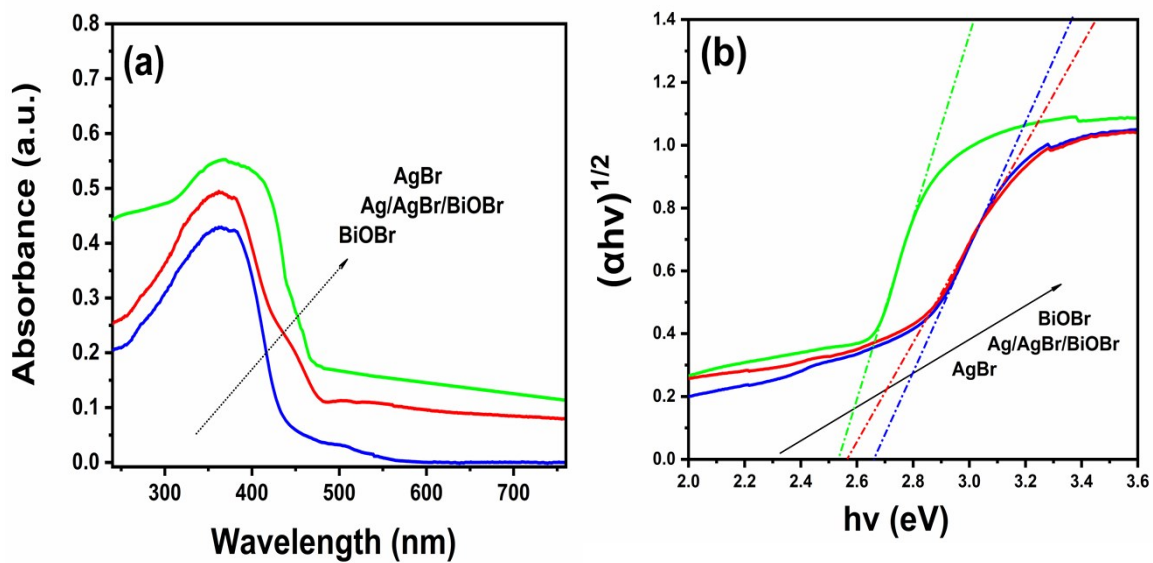


Fig. S4 UV-Vis DRS (a) and the Tauc plots of as-prepared catalysts (b)

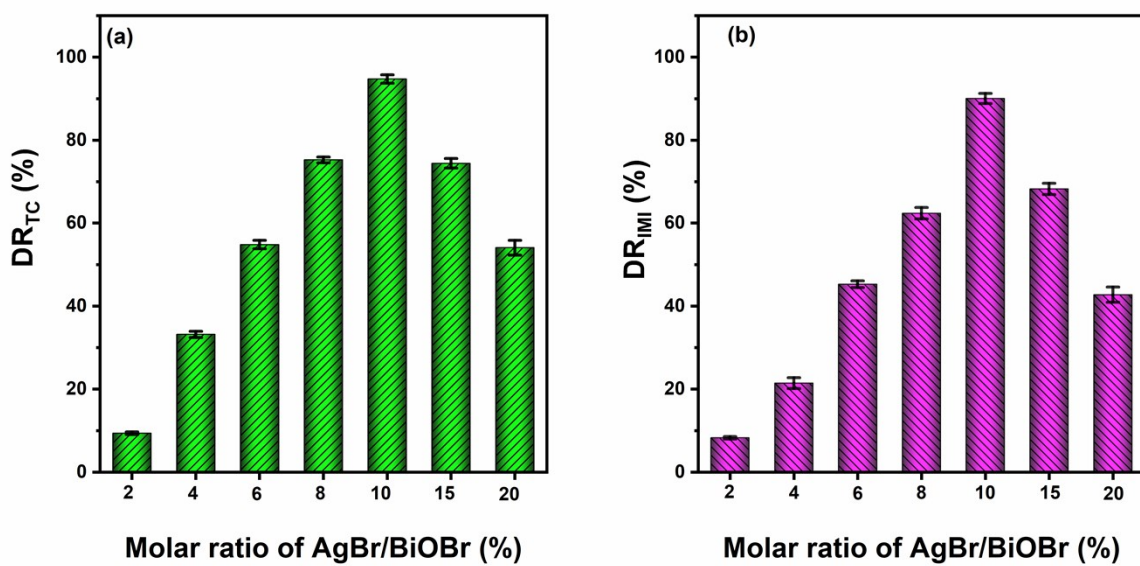


Fig. S5 Effect from molar ratio of AgBr/BiOBr on TC (a) and IMI (b) photo-degradation (C_0 , 10 μ M; pH_0 , 4.5; catalyst dosage, 1 g/L)

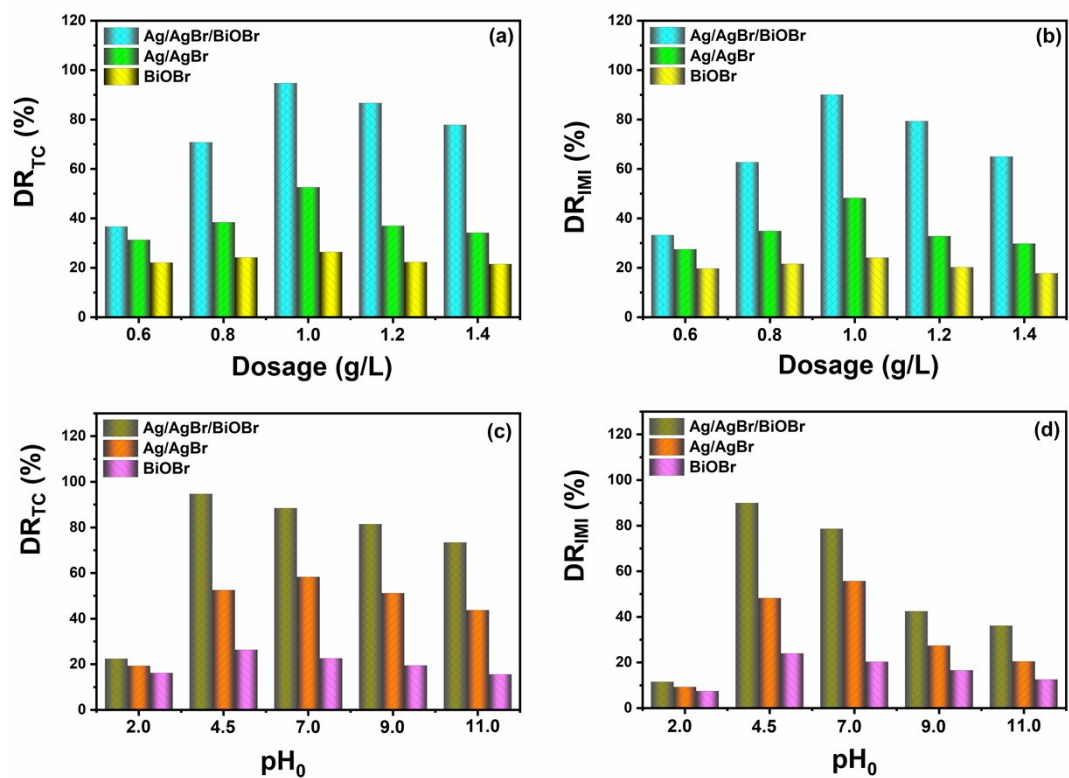


Fig. S6 Photocatalytic degradation of TC/IMI (C_0 , 10 μM) over the as-prepared catalysts (a/b: pH₀, 4.5; c/d: catalyst dosage, 1 g/L)

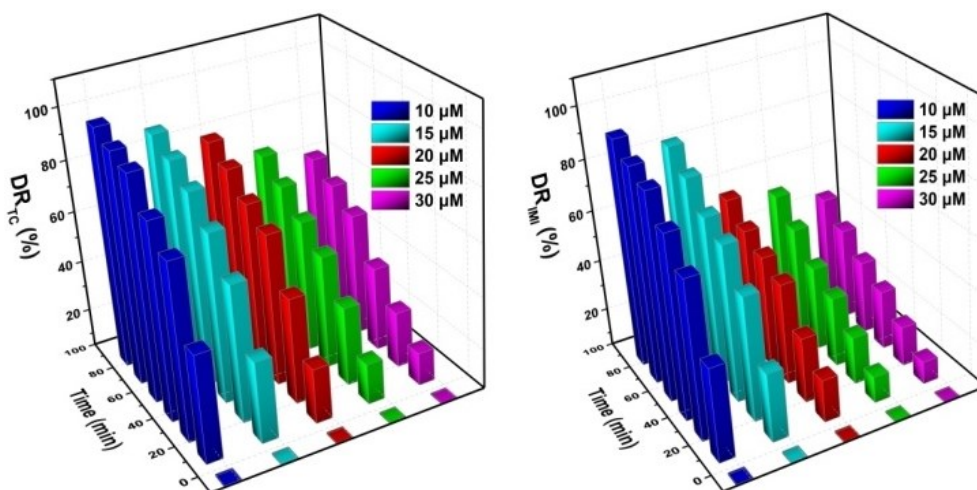


Fig. S7 Effect from C_0 on the photo-degradation (pH₀, 4.5; catalyst dosage, 1 g/L)

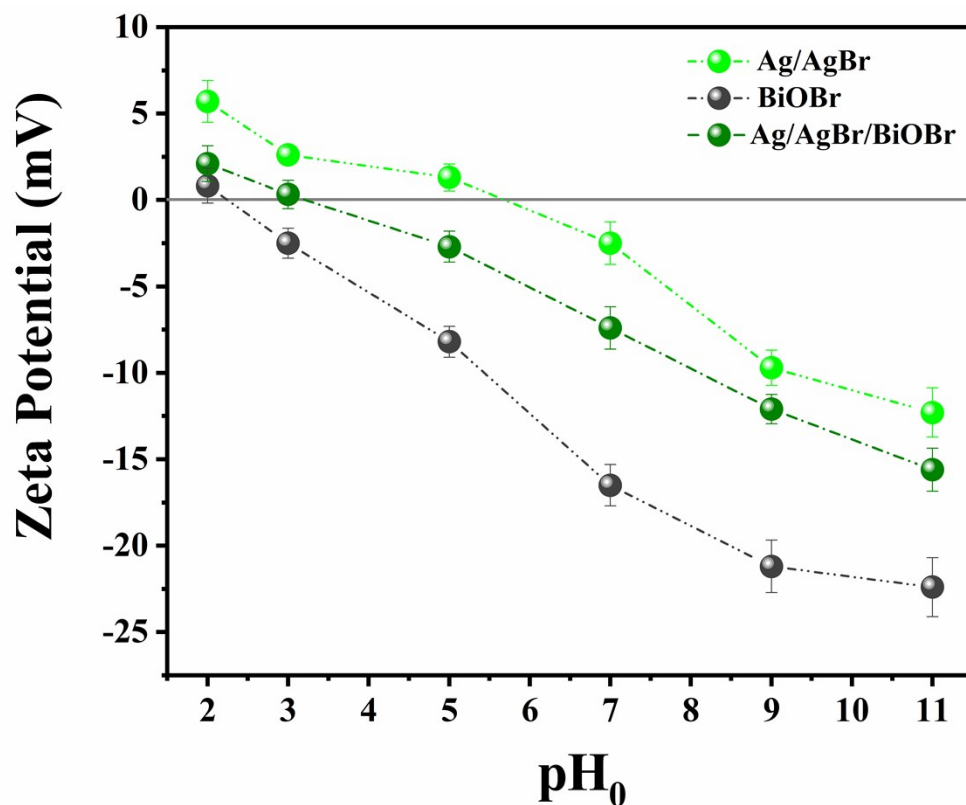


Fig. S8 Zeta potential of as-prepared catalysts as function of pH (ionic strength, 0.01 M; dosage, 1 g/L)

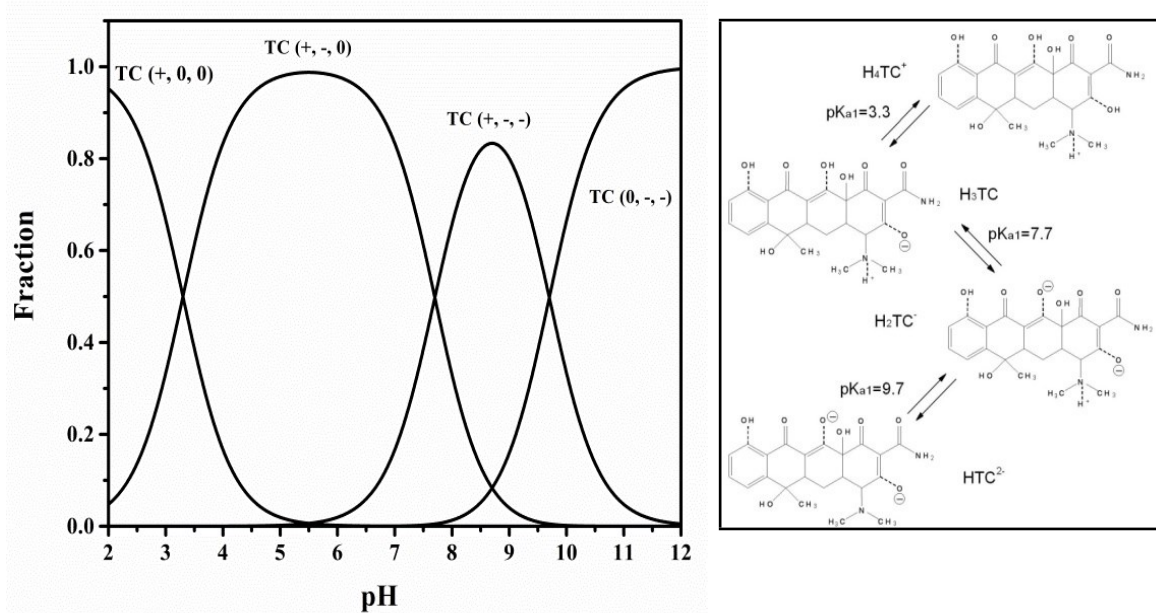


Fig. S9 TC's species distribution (left) and transformation (right) over pH