

Supplementary data for

Regulation of surface plasmon resonance and oxygen vacancy defects in chlorine doped Bi-BiO_{2-x} for imidacloprid photo- degradation

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Scheme S1. The synthesis flow diagram of Cl-Bi-BiO_{2-x} and BiOCl .

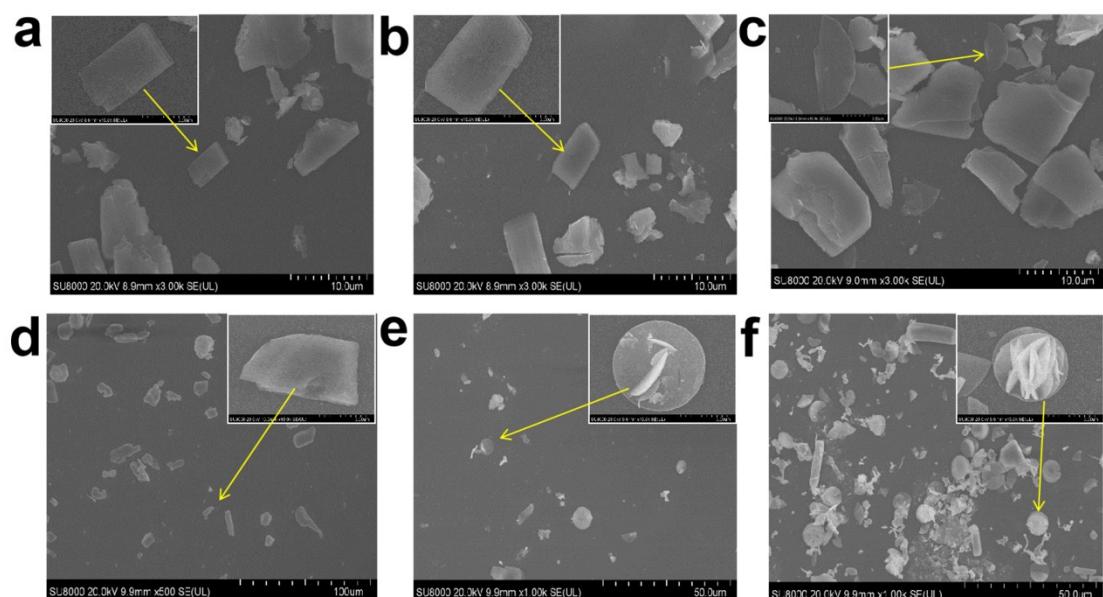


Fig. S1. (a) SEM images of $\text{Cl-BiO}_{2-x}/120$, (b) $\text{Cl-BiO}_{2-x}/140$, (c) $\text{Cl-Bi-BiO}_{2-x}/160$, (d) $\text{Cl-Bi-BiO}_{2-x}/170$, (e) $\text{Cl-Bi-BiO}_{2-x}/180$, (f) $\text{Cl-Bi-BiO}_{2-x}/190$.

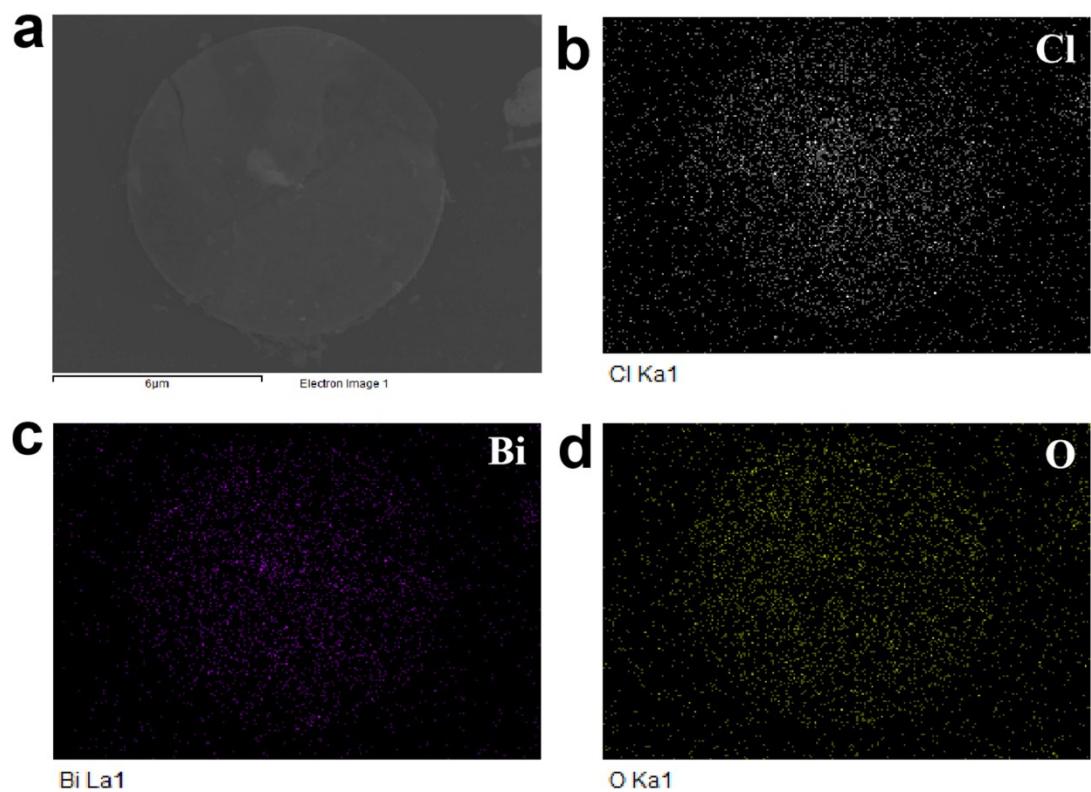


Fig. S2. Elemental mappings of Cl-Bi-BiO_{2-x}/170.

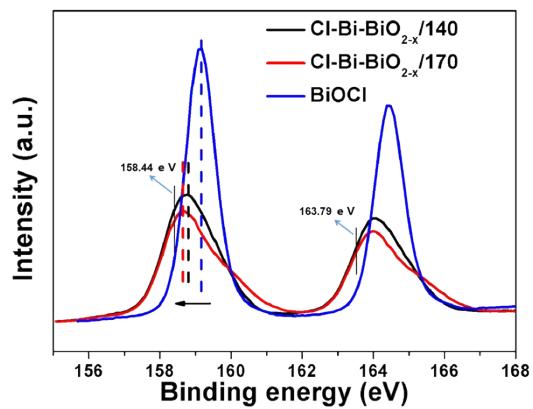


Fig. S3. The high-resolution 4f Bi XPS spectra of Cl-Bi-BiO_{2-x}/140, Cl-Bi-BiO_{2-x}/170 and BiOCl.

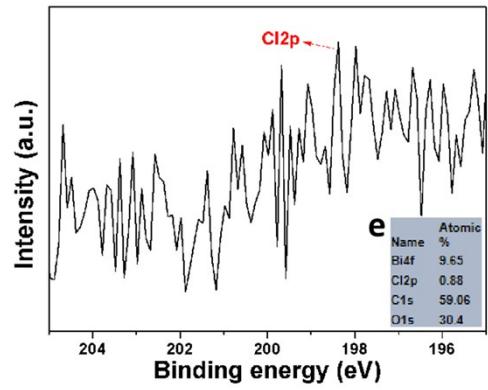


Fig. S4. XPS results of Cl-Bi-BiO_{2-x}/170 Cl 2p and (e) inset EDX results.

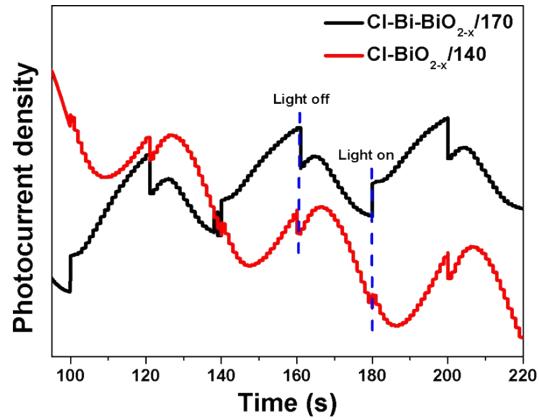


Fig. S5. Transient photocurrent responses of Cl-BiO_{2-x}/140 and Cl-Bi-BiO_{2-x}/170 under simulate sunlight.

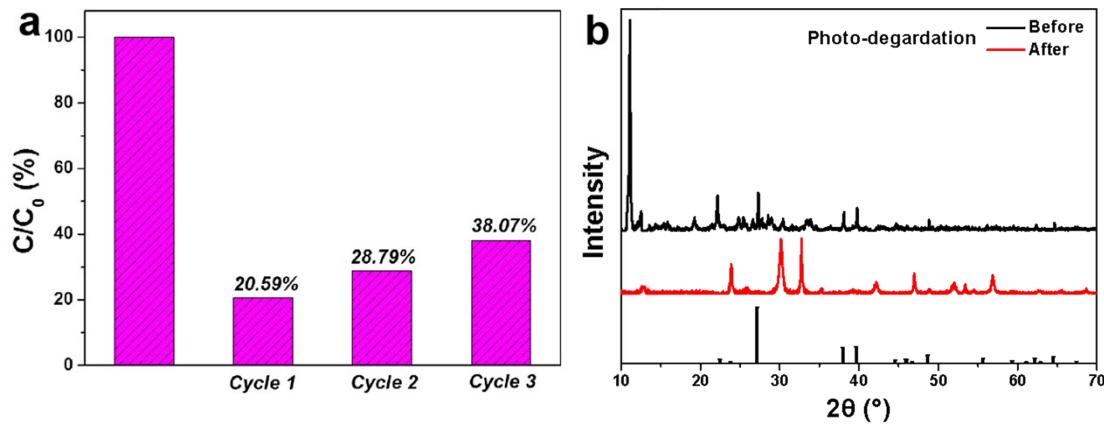


Fig. S6. (a) Imidacloprid removal in the repeated tests over the as-prepared Cl-Bi-BiO_{2-x}/170 and (b) the XRD of Cl-Bi-BiO_{2-x}/170 before and after photo-degradation.

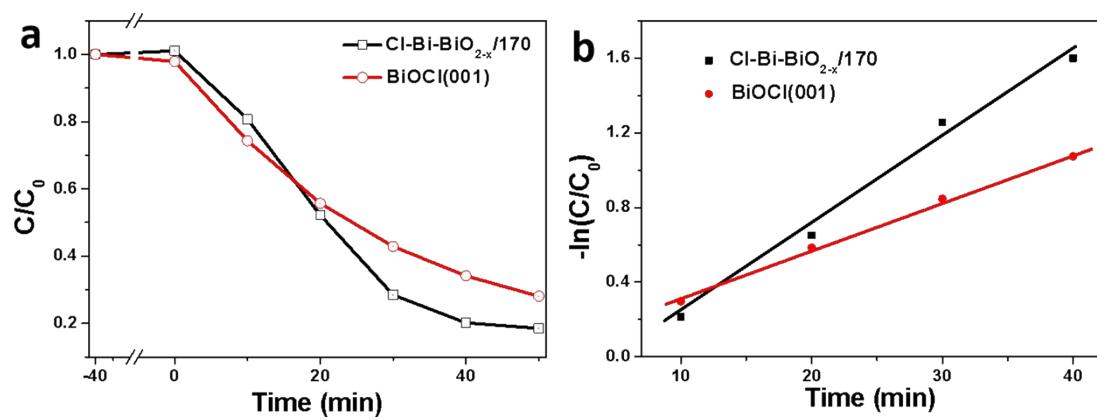


Fig. S7. Photo-degradation of imidacloprid by Cl-Bi-BiO_{2-x}/170 and BiOCl(001) (a); photo-degradation kinetic curves of Cl-Bi-BiO_{2-x}/170 and BiOCl(001) (b).