

ESI:

Facile fabrication of mesoporous BiOCl/(BiO)₂CO₃/Bi₂O₃ ternary flower-like heterostructured microspheres with high visible-light-driven photoactivity

Atangana Etogo,^a Enlai Hu,^a Chunmei Zhou,^b Yijun Zhong,^a Yong Hu^{a,b,*} and Zhanglian Hong^{b,*}

^aInstitute of Physical Chemistry, Zhejiang Normal University, Jinhua, 321004, P. R. China. E-mail: yonghu@zjnu.edu.cn

^b State Key Lab of Silicon Materials, College of Materials Science and Engineering, Zhejiang University, Hangzhou, 310027, P. R. China, E-mail: hong_zhanglian@zju.edu.cn

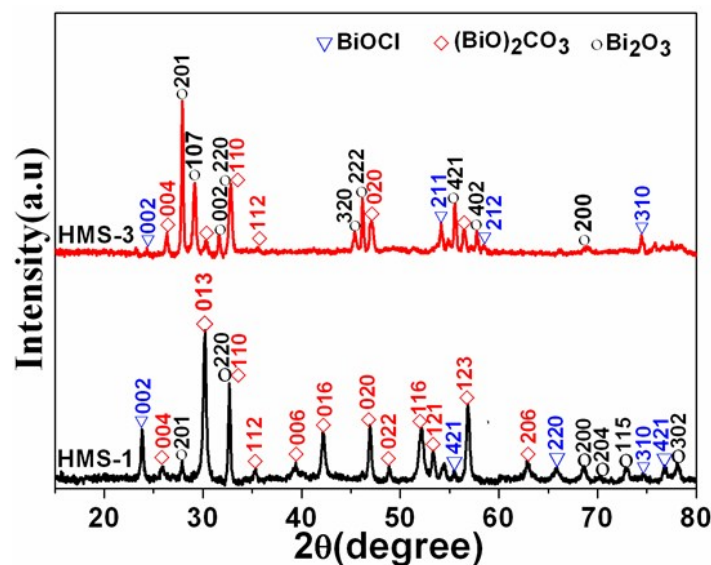


Fig.S1 XRD patterns of as-prepared sample HMS-1 and HMS-3.

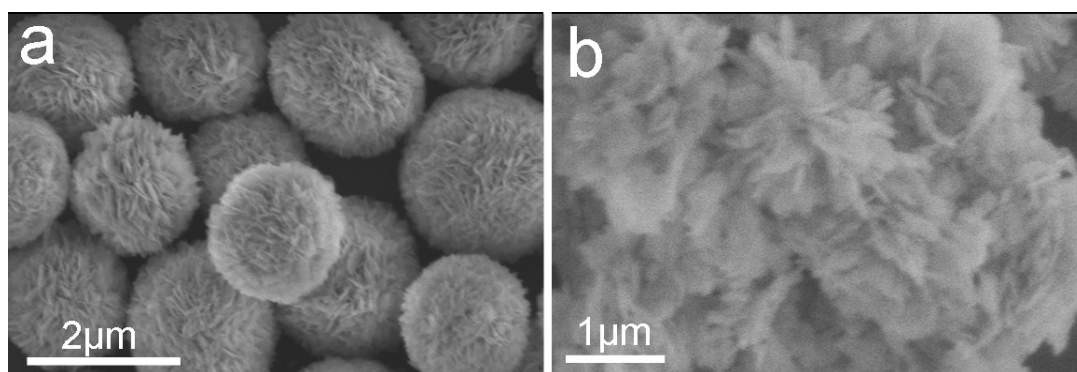


Fig. S2 SEM images of the as-prepared (a) $\text{BiOCl}/(\text{BiO})_2\text{CO}_3$ and (b) $\text{Bi}_2\text{O}_3/(\text{BiO})_2\text{CO}_3$ binary composites.

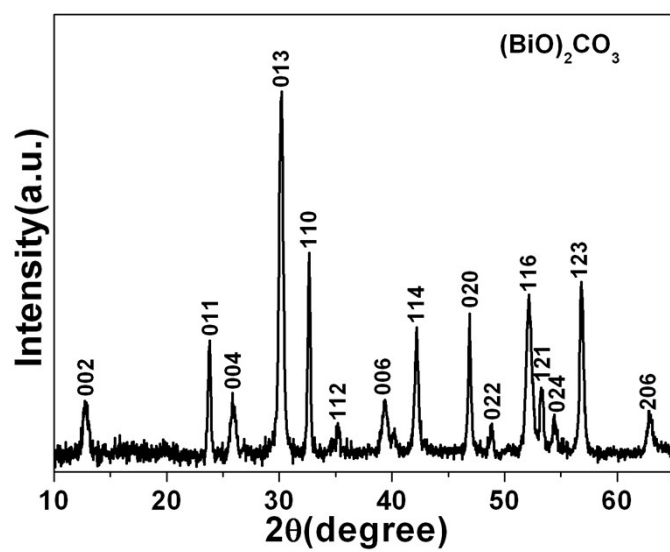


Fig. S3 XRD pattern of as-prepared pure $(\text{BiO})_2\text{CO}_3$ microspheres.

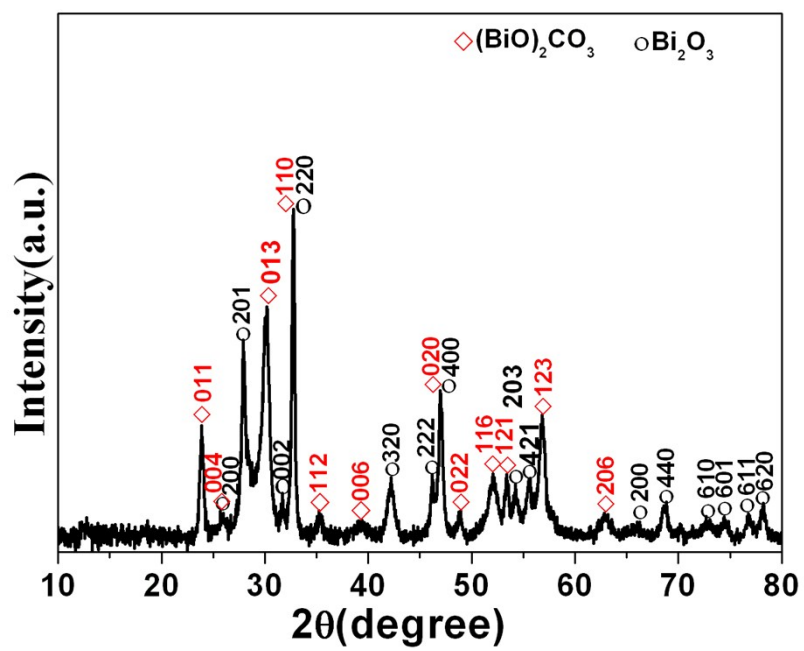


Fig.S4 XRD pattern of as-prepared Bi₂O₃/(BiO)₂CO₃ binary composites

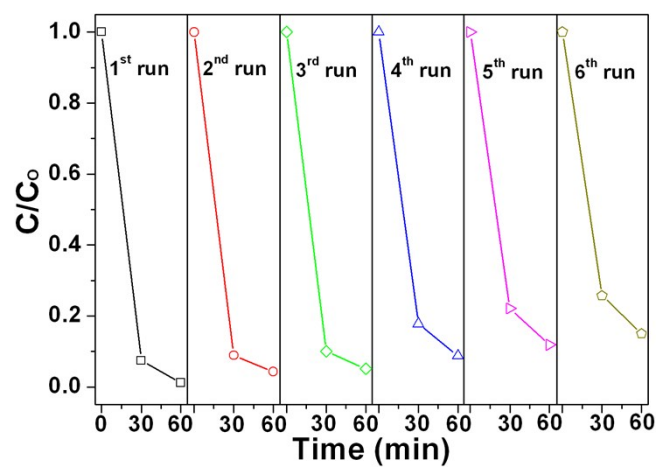


Fig. S5 .Cycling times of the photocatalytic degradation of MO in the presence of mesoporous flower-like BiOCl/(BiO)₂CO₃/Bi₂O₃ (HMS-2) under solar light irradiation.

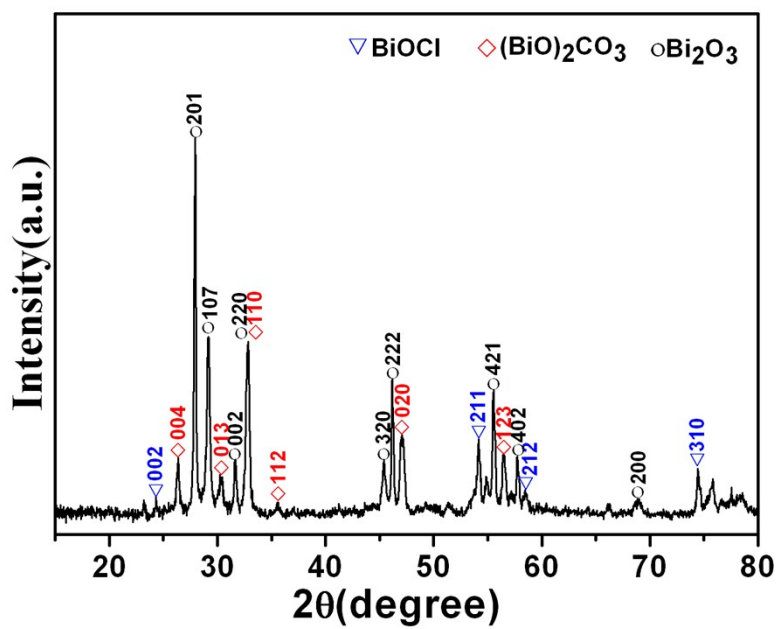


Fig. S6 XRD pattern of mesoporous flower-like $\text{BiOCl}/(\text{BiO})_2\text{CO}_3/\text{Bi}_2\text{O}_3$ (HMS-2) after 3 cycles of photodegradation of MO.

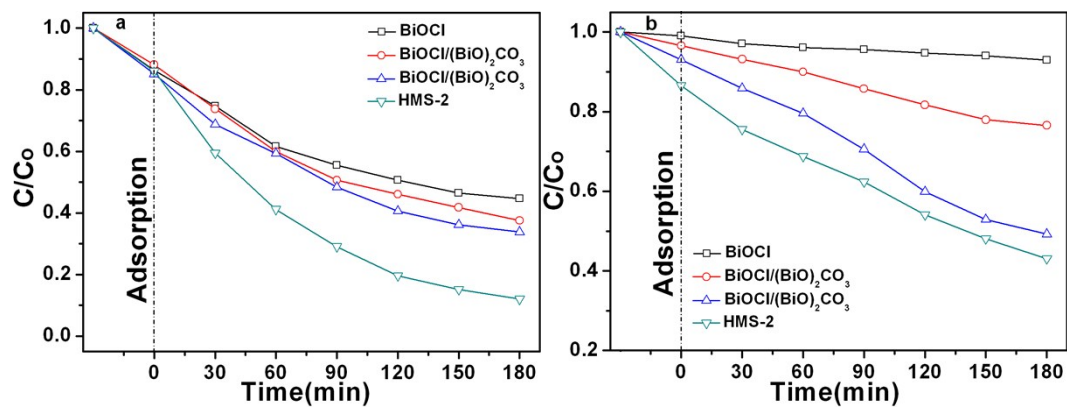


Fig. S7 Photocatalytic degradation of the MO and Phenol mixture in the presence of different photocatalysts under visible-light illumination.

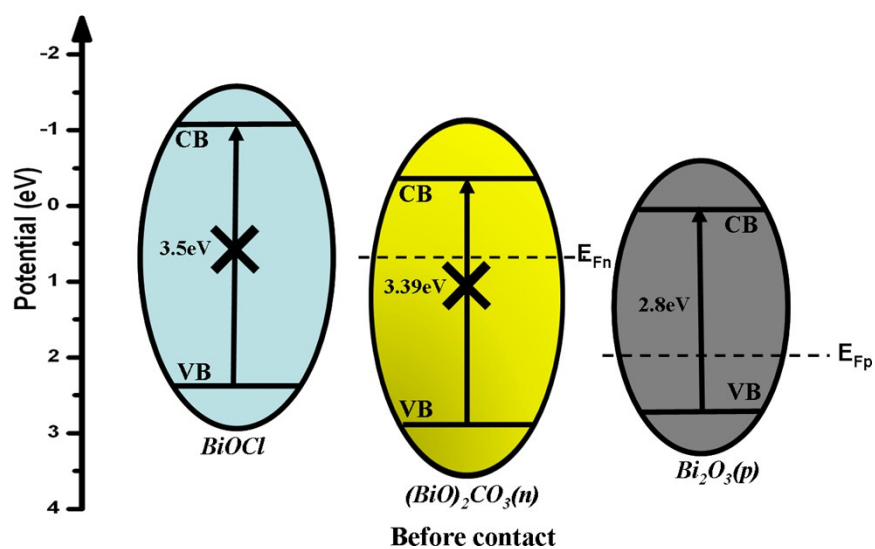


Fig. S8 Schematic diagram of charge transfer between n-Type $(\text{BiO})_2\text{CO}_3$ and p-Type Bi_2O_3 before contact.

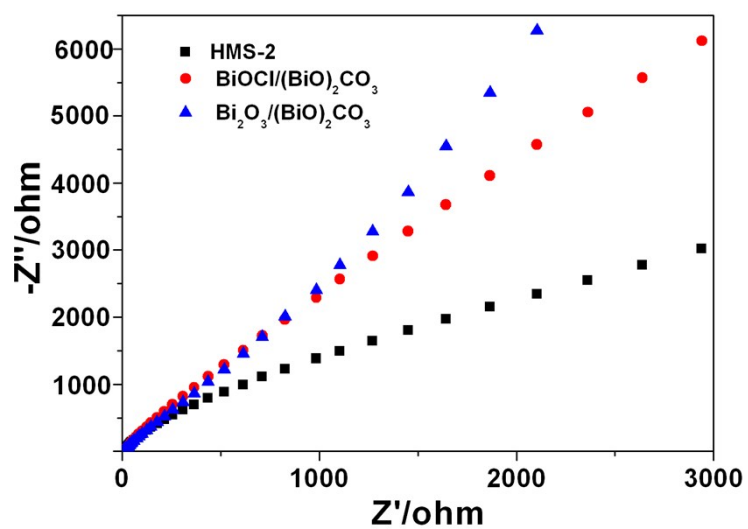


Fig. S9 Electrochemical impedance spectra of the as-prepared mesoporous flower-like $\text{BiOCl}/(\text{BiO})_2\text{CO}_3/\text{Bi}_2\text{O}_3$ (HMS-2) and different $\text{BiOCl}/(\text{BiO})_2\text{CO}_3$, $\text{Bi}_2\text{O}_3/(\text{BiO})_2\text{CO}_3$ binary hetero-nanostructures.