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Facile fabrication of mesoporous BiOCl/(BiO)$_2$CO$_3$/Bi$_2$O$_3$ ternary flower-like heterostructured microspheres with high visible-light-driven photoactivity

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Fig.S1 XRD patterns of as-prepared sample HMS-1 and HMS-3.
Fig. S2 SEM images of the as-prepared (a) BiOCl/(BiO)$_2$CO$_3$ and (b) Bi$_2$O$_3$/(BiO)$_2$CO$_3$ binary composites.
Fig. S3 XRD pattern of as-prepared pure (BiO)$_2$CO$_3$ microspheres.
Fig.S4 XRD pattern of as-prepared Bi$_2$O$_3$/(BiO)$_2$CO$_3$ binary composites
Fig. S5. Cycling times of the photocatalytic degradation of MO in the presence of mesoporous flower-like BiOCl/(BiO)$_2$CO$_3$/Bi$_2$O$_3$ (HMS-2) under solar light irradiation.
Fig. S6 XRD pattern of mesoporous flower-like BiOCl/(BiO)\(_2\)CO\(_3\)/Bi\(_2\)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 (BiO)$_2$CO$_3$ and p-Type Bi$_2$O$_3$ before contact.
Fig. S9 Electrochemical impedance spectra of the as-prepared mesoporous flower-like BiOCl/(BiO)₂CO₃/Bi₂O₃ (HMS-2) and different BiOCl/(BiO)₂CO₃, Bi₂O₃/(BiO)₂CO₃ binary hetero-nanostructures.