

Support information

**Highly efficient BiVO₄ single-crystal photocatalyst with selective
Ag₂O-Ag modification: orientation transport, rapid interfacial
transfer and catalytic reaction**

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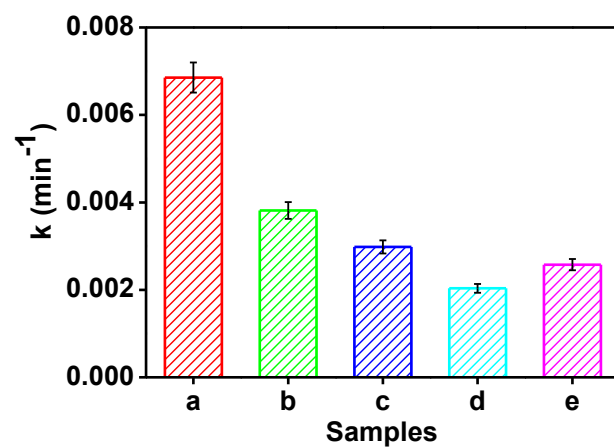


Fig. S1. The rate constant (k) of MO decomposition by $\text{Ag}_2\text{O-Ag/BiVO}_4$ photocatalysts obtained by heating up to $300\text{ }^\circ\text{C}$ and keeping for different time in the air: (a) 0 h, (b) 1/6 h, (c) 1 h, (d) 3 h, and (e) 6 h.

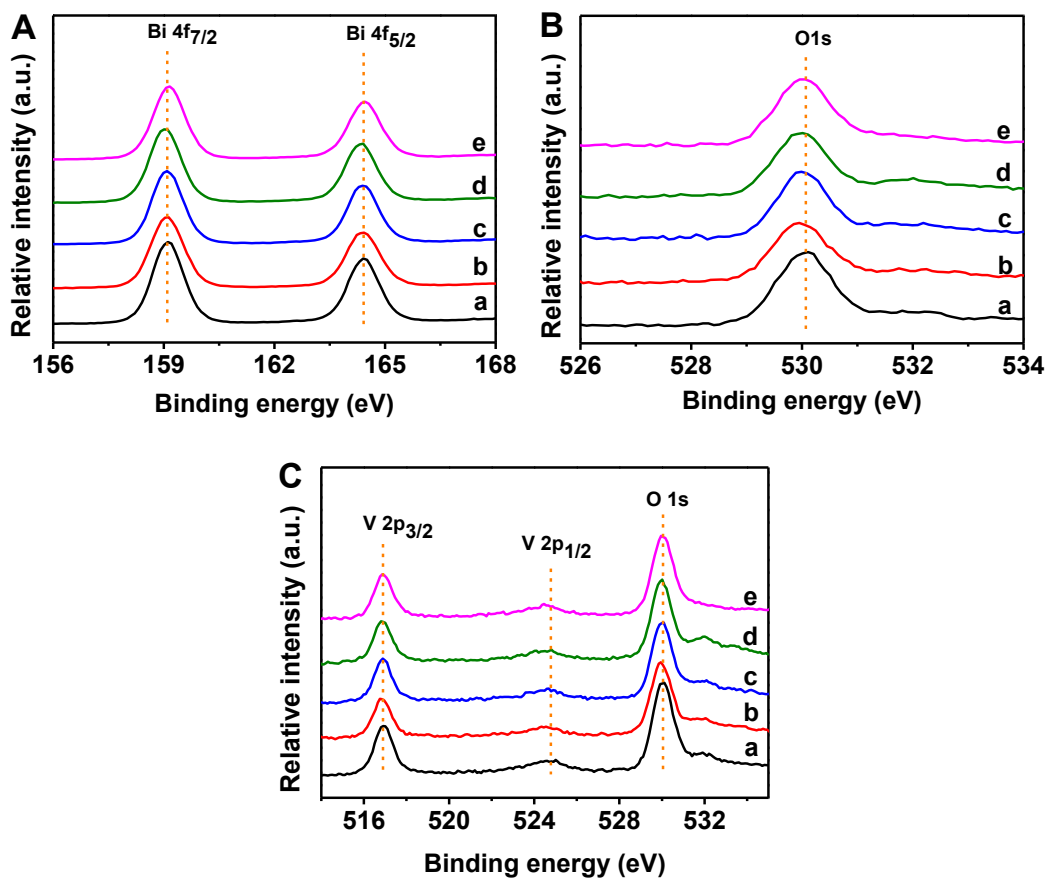


Fig. S2. The high-resolution XPS spectra of (A) Bi 4f, (B) O 1s and (C) V 2p for various samples: (a) BiVO₄, (b) Ag/BiVO₄, (c) Ag₂O-Ag/BiVO₄, (d) Ag₂O-Ag/BiVO₄ (6h), and (e) Ag₂O-Ag/BiVO₄ after use (photocatalytic degradation of MO).

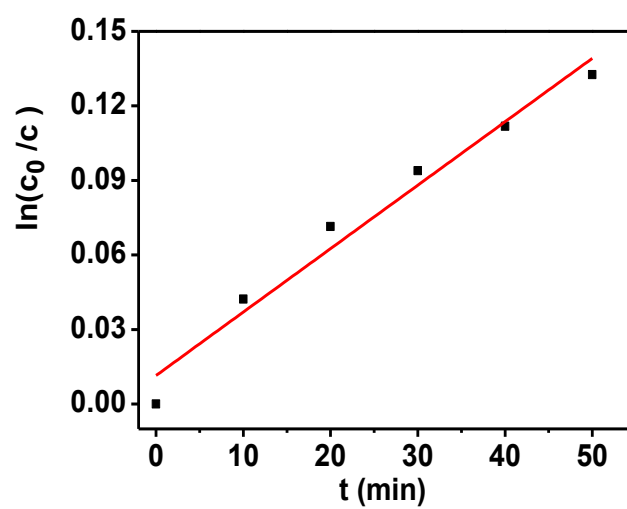


Fig. S3. The photocatalytic performance of Ag₂O-Ag/BiVO₄ for degradation of phenol.

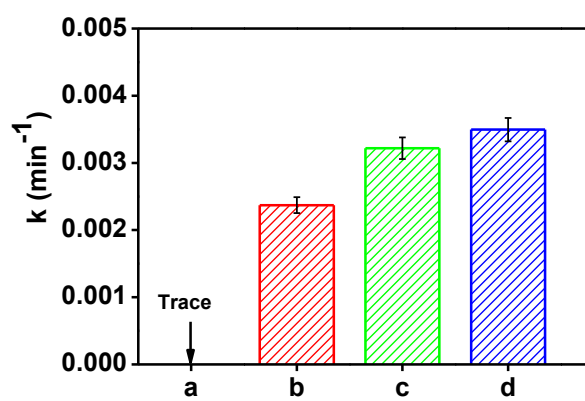


Fig. S4. The rate constant (k) of MO decomposition by various photocatalysts: (a)

BiVO_4 , (b) Cu(II)/BiVO_4 , (c) Ag/BiVO_4 , (d) Cu(II)-Ag/BiVO_4 .