

# BiOCOOH microflowers decorated with Ag/Ag<sub>2</sub>CrO<sub>4</sub> nanoparticles as highly efficient photocatalyst for the treatment of toxic wastewater

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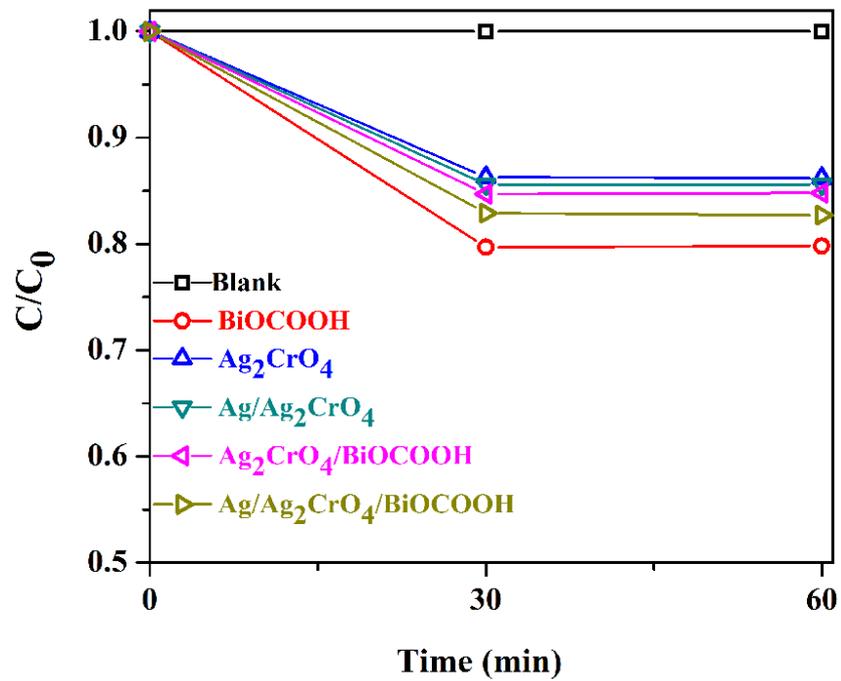
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**(Experimental Section).**

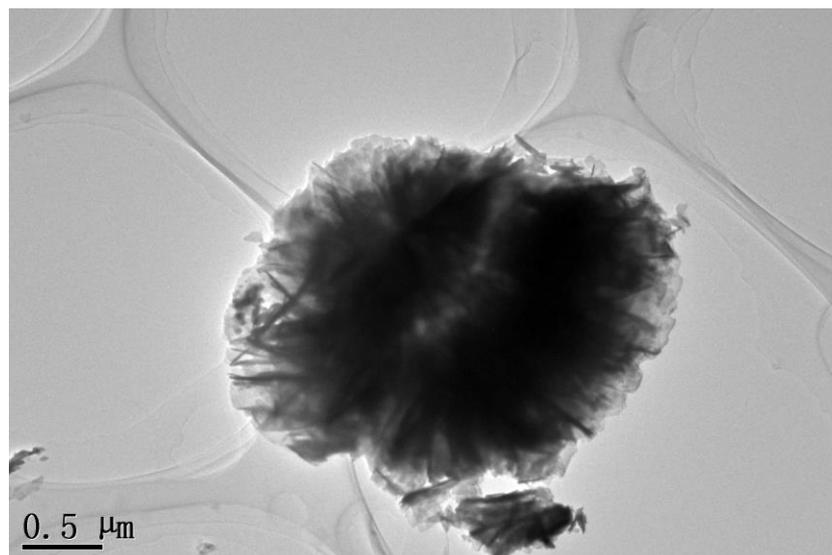
X-ray diffraction data of samples were collected by using a X-ray diffraction (XRD, MiniFlex 600, Rigaku, Japan) diffractometer (Cu-K $\alpha$  radiation at 40 kV and 15 mA,  $\lambda = 0.15418$  nm,  $2\theta$  in the range of 20 to 80  $^\circ$ ). The elemental states were investigated through X-ray photoelectron spectroscopy (XPS) analysis by using an instrument (Thermo SCIENTIFIC, Waltham, U.S.A.) with a standard and monochromatic source (Al K $\alpha$ ) operated at 300 W and calibrated with C 1s. The microstructures and morphologies of samples were visualized using a Hitachi S-4800 scanning electron microscope (SEM, Hitachi S-4800, Tokyo, Japan) and transmission electron microscope (TEM, Tecnai G2F20, Philips, Amsterdam, The Netherlands). The UV-vis diffuse reflectance spectra (DRS) of samples were measured by using a spectrophotometer (Shimadzu UV-2600, Tokyo, Japan). The specific surface areas were measured by using an instrument (Micromeritics ASAP 202, Norcross, U.S.A.). Photoluminescence (PL) analyses were performed on a Hitachi F-7000 spectrophotometer (Tokyo, Japan).

**Table S1** BET surface areas of as-fabricated catalysts

Samples	BiO <sub>2</sub> COOH	Ag <sub>2</sub> CrO <sub>4</sub> / BiO <sub>2</sub> COOH	Ag/Ag <sub>2</sub> CrO <sub>4</sub> / BiO <sub>2</sub> COOH
BET(m <sup>2</sup> g <sup>-1</sup> )	27.35	25.76	25.11



**Figure S1** The absorption profiles of RhB over as-fabricated samples in the dark.



**Figure S2** The TEM image of the used  $\text{Ag}/\text{Ag}_2\text{CrO}_4/\text{BiOCOOH}$ .