

## Supporting Information

### Immobilizing Ag/Cu<sub>2</sub>O on cotton fabric to enhance visible light photocatalytic activity

Lili Wang, Haiyan Mao, Ziyin Li, Chunxia Wang, Dawei Gao\*

College of Textiles and Clothes, Yancheng Institute of Technology, Yancheng, 224051, P.R. China

Corresponding author:

\* Dawei Gao, Tel: (+86)-515-88298132; E-mail: [gaodawei@ycit.edu.cn](mailto:gaodawei@ycit.edu.cn)

## **Experimental Section**

### **Optimization of Ag/Cu<sub>2</sub>O composites**

The Ag/Cu<sub>2</sub>O composites were prepared as described below [1,2]. A certain quantity of as-prepared Cu<sub>2</sub>O-2 was homogeneously dispersed in 50 mL of deionized water by ultrasonic method for 30 min. Then, 10 mL of AgNO<sub>3</sub> aqueous solution with Ag/Cu<sub>2</sub>O molar ratios of 0.1, 0.3, 0.5 and 0.7 were dropwise added to the Cu<sub>2</sub>O solution respectively. Then, the resultant suspension was stirred for 45 min. The final suspension was centrifuged and washed with deionized water and for three times, and then the product was dried in an oven at 60 °C for 12 h. Ag/Cu<sub>2</sub>O composites prepared with different molar ratios were named as sample A, B, C, D, respectively. After that, the photocatalytic activities of the samples were evaluated by the degradation of methyl orange (MO).

## Results

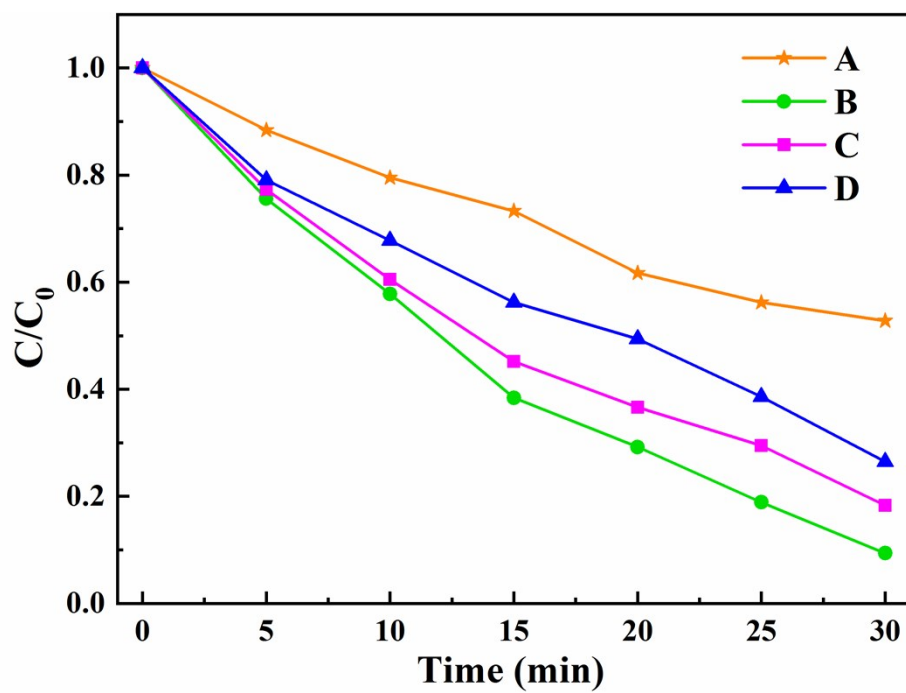


Figure S1. Photocatalytic activities of Ag/Cu<sub>2</sub>O composites with different molar ratios (A 0.1, B 0.3, C 0.5 and D 0.7).

## Supporting Information References

- [1] W. X. Zhang, X. N. Yang, Q. Zhu, K. Wang, J. B. Lu, M. Chen, Z. H. Yang, One-pot room temperature synthesis of Cu<sub>2</sub>O/Ag composite nanospheres with enhanced visible-light-driven photocatalytic performance, *Ind. Eng. Chem. Res.*, 2014, **53(42)**, 16316-16323.
- [2] H. Y. Qin, Q. Wei, J. M. Wu, F. Yang, B. Zhou, Y. Wang, S. W. Tian, Effects of Ag nanoparticles on the visible-light-driven photocatalytic properties of Cu<sub>2</sub>O nanocubes, *Mater. Chem. Phys.*, 2019, **232**, 240-245.