

## Supporting Information

### Size Control of Au@Cu<sub>2</sub>O Octahedra for Excellent Photocatalytic Performance

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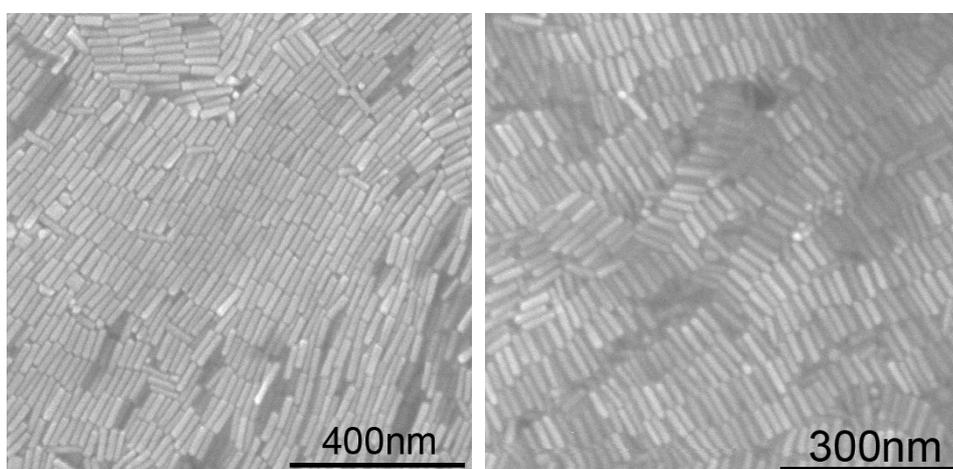


Fig. S1 FESEM images of the typical as-synthesized Au nanorods.

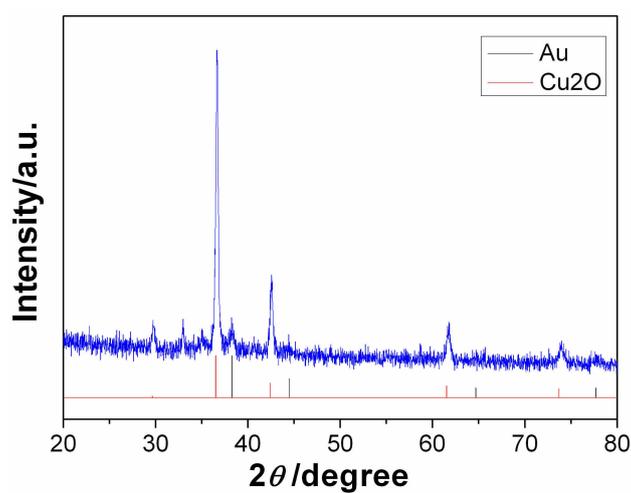


Fig. S2 Typical XRD pattern of Au@Cu<sub>2</sub>O octahedra.

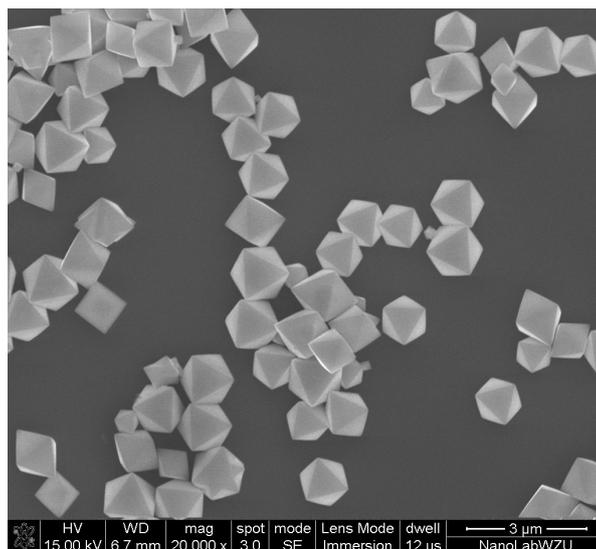


Fig. S3 SEM image of  $\text{Cu}_2\text{O}$  octahedra prepared without Au nanorods.

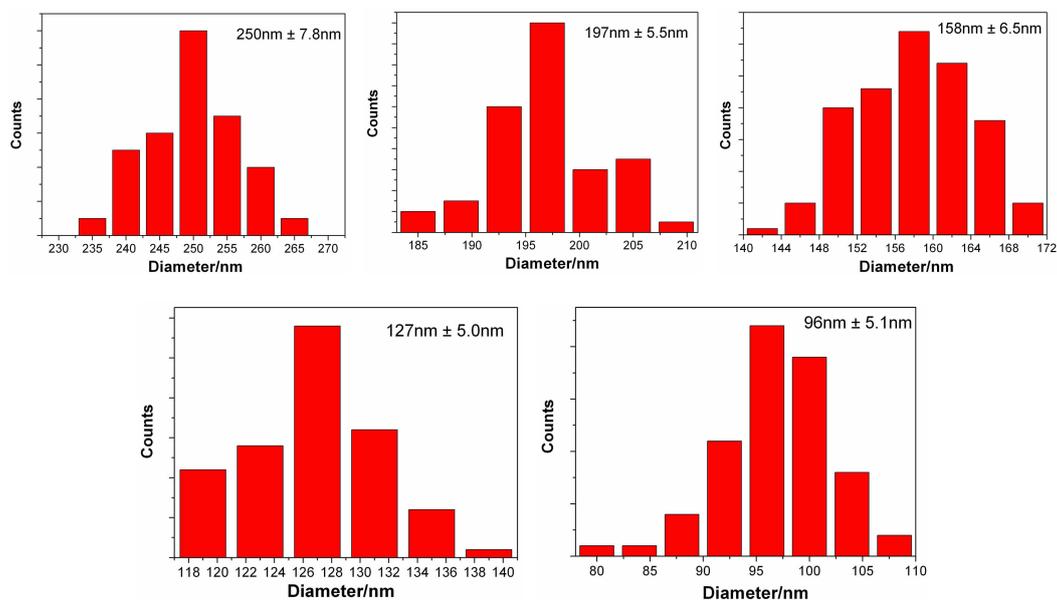


Fig. S4 Size distribution histograms and standard deviations of the five samples.

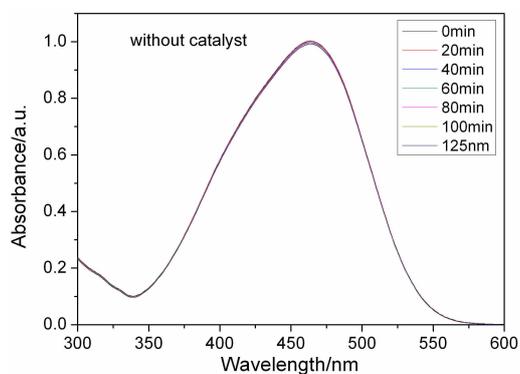


Fig. S5 UV-vis absorption spectra of methyl orange as a function of irradiation time when there was no catalyst.