

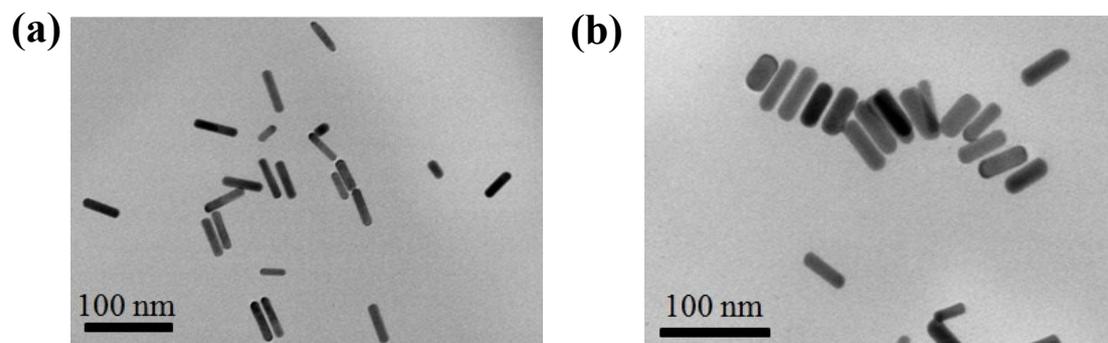
## Supporting Information

### Spiky TiO<sub>2</sub>/Au nanorod plasmonic photocatalysts with enhanced visible-light photocatalytic activity

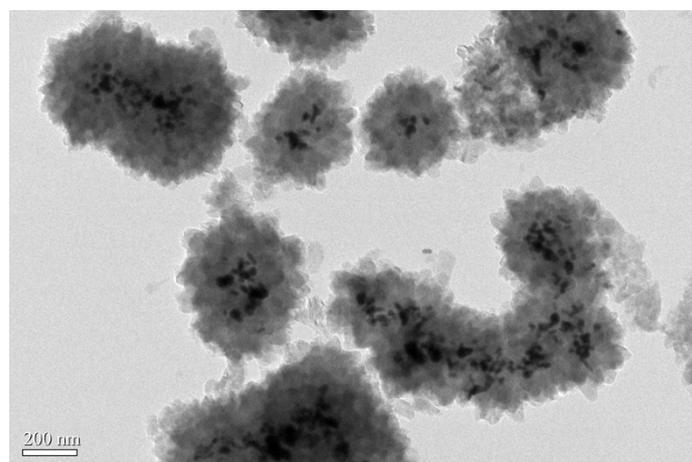
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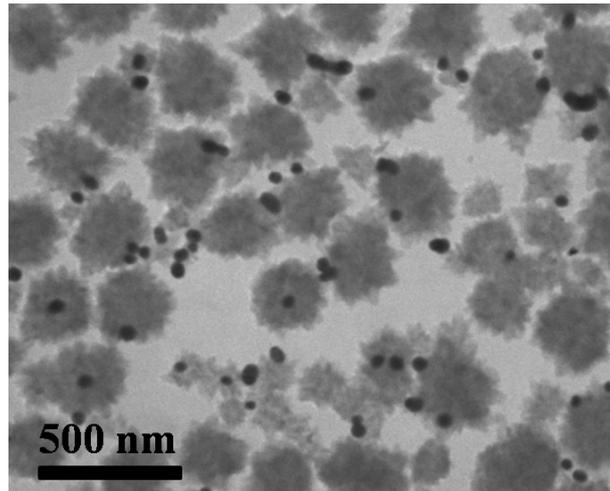
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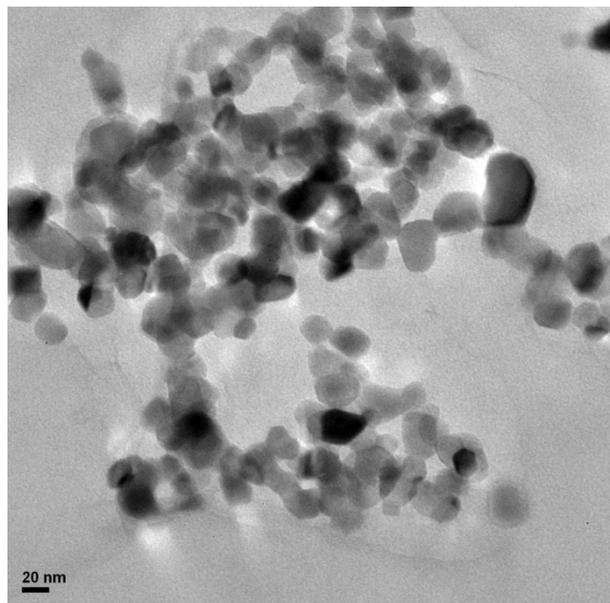
**Fig. S1.** TEM images of (a) AuNR-805 and (b) AuNR-730 with the aspect ratios of 4.1 and 2.7, respectively.



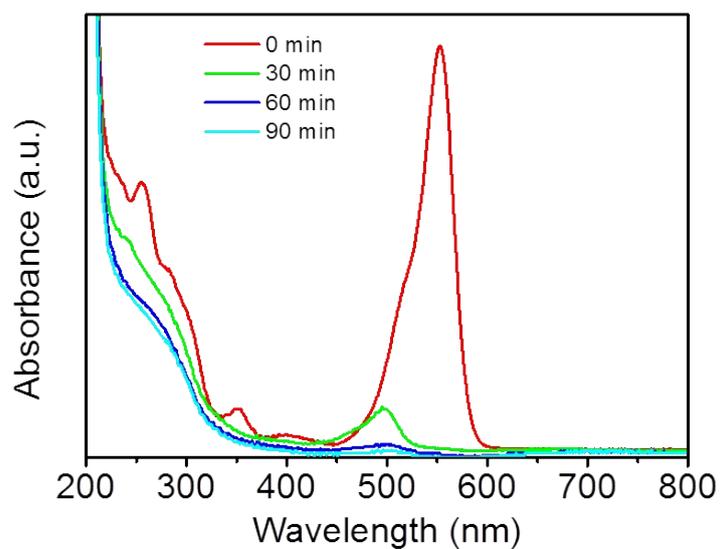
**Fig. S2.** TEM image of TiO<sub>2</sub>/AuNR core-shell nanostructure.



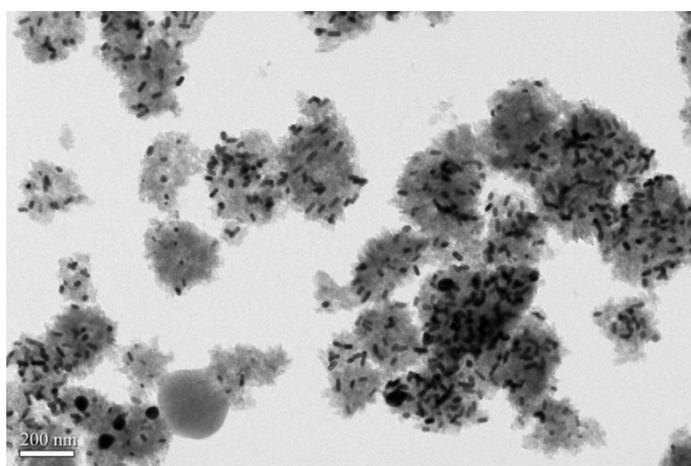
**Fig. S3.** TEM image of TiO<sub>2</sub>/AuNS nanohybrids.



**Fig. S4.** TEM image of commercial TiO<sub>2</sub> (P25).



**Fig. S5.** UV-Vis absorption spectra of RhB under 420-780 nm irradiation of different periods to track RhB photodegradation in the presence of  $\text{TiO}_2/\text{AuNR-685}$  photocatalyst.



**Fig. S6.** TEM image of recycled  $\text{TiO}_2/\text{AuNR-685}$  photocatalyst.