

Supplementary Information

UV photocatalytic activity of Au@ZnO core-shell nanostructure with enhanced UV emission

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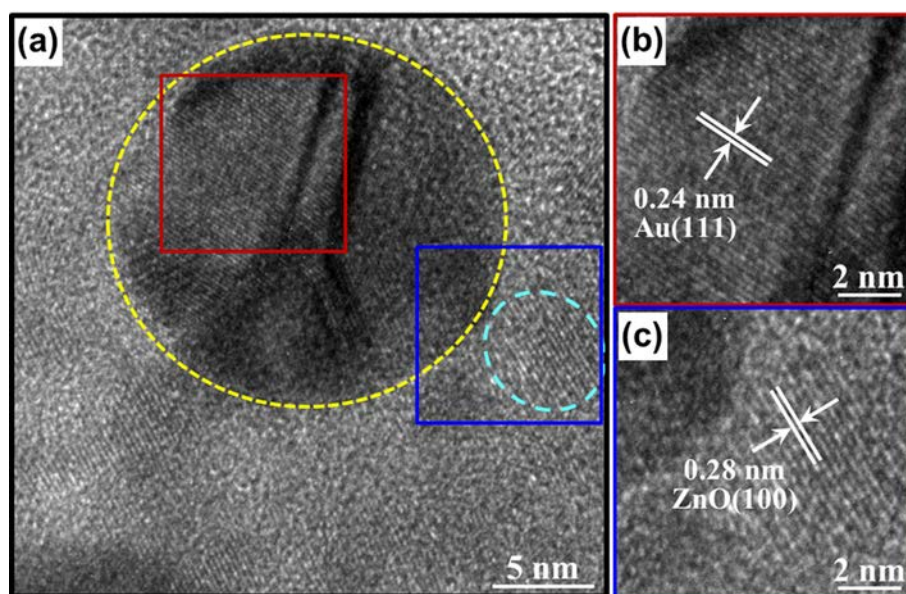


Fig. S1 (a) HRTEM image of an AZ1 Au@ZnO nanostructure, showing (b) Au(111) crystal planes and (c) ZnO(100) crystal planes.

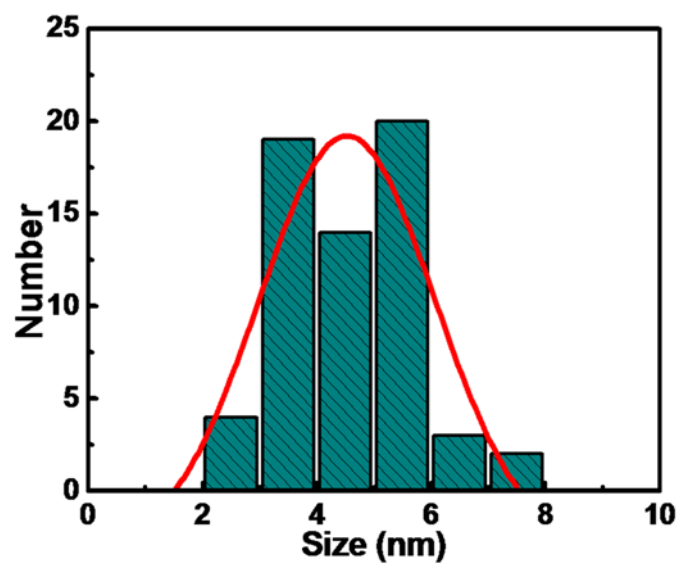


Fig. S2. Size distribution of the ZnO nanocrystallines in Au@ZnO nanostructures.

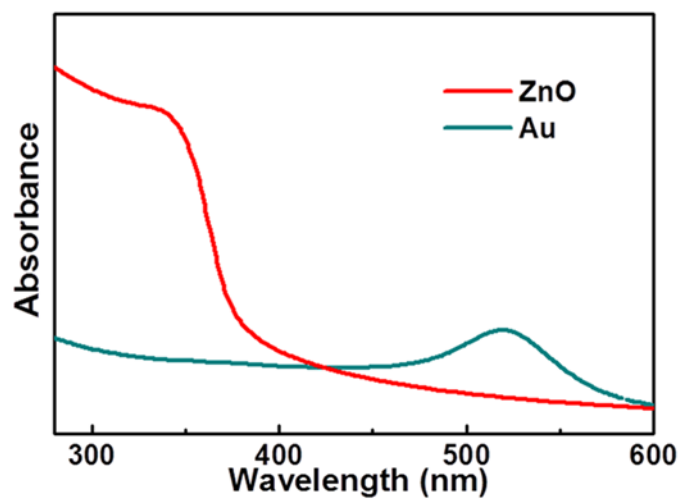


Fig. S3. UV-vis-NIR absorption spectra of pure Au and ZnO samples.

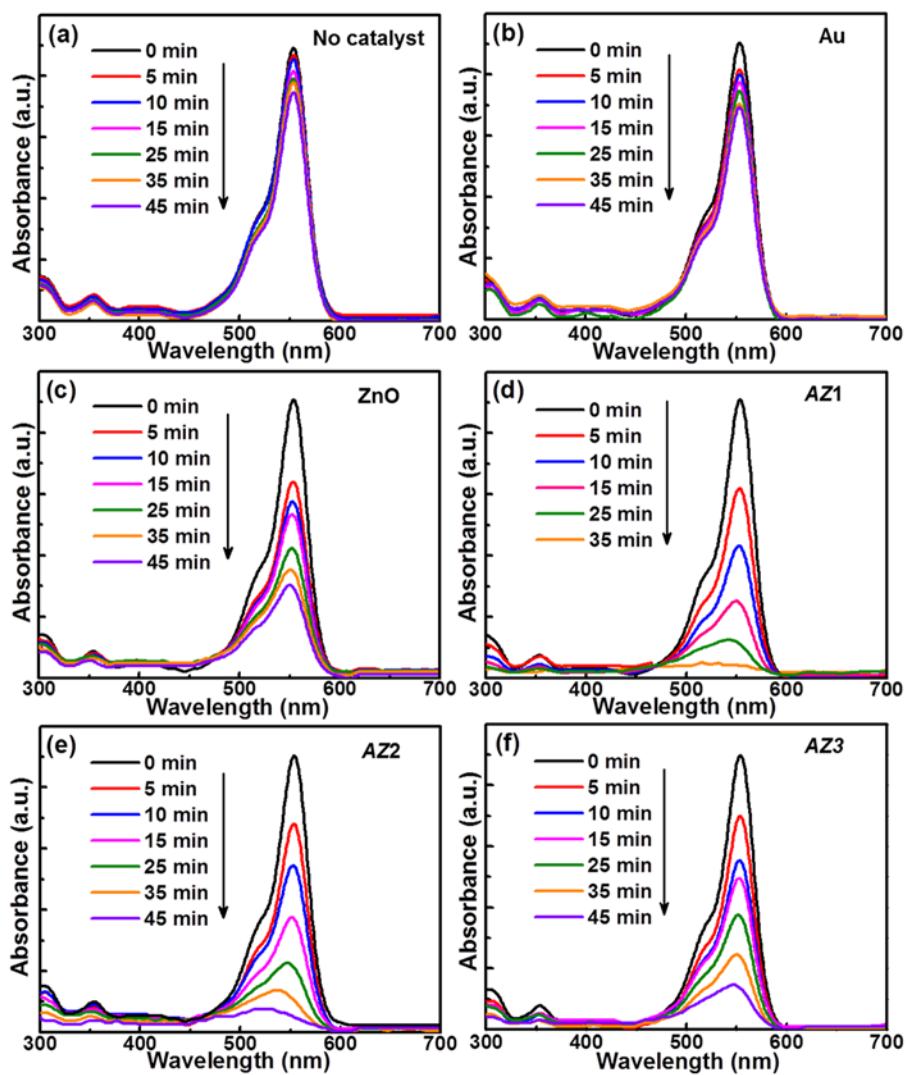


Fig. S4 Temporal evolution of absorption spectra obtained during photocatalysis of RhB under the irradiation of UV light ($\lambda = 365$ nm) with (a) no catalyst, (b) Au NPs, (c) pure ZnO, (d) AZ1, (e) AZ2, and (f) AZ3 samples.