

Electronic Supporting Information (ESI) for

Comparative Study on Sandwich-Structured $\text{SiO}_2@\text{Ag}@\text{SnO}_2$ and inverse $\text{SiO}_2@\text{SnO}_2@\text{Ag}$: Key Roles of Shell Ordering and Interfacial Contact on Modulating the Photocatalytic Properties

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ESI-1

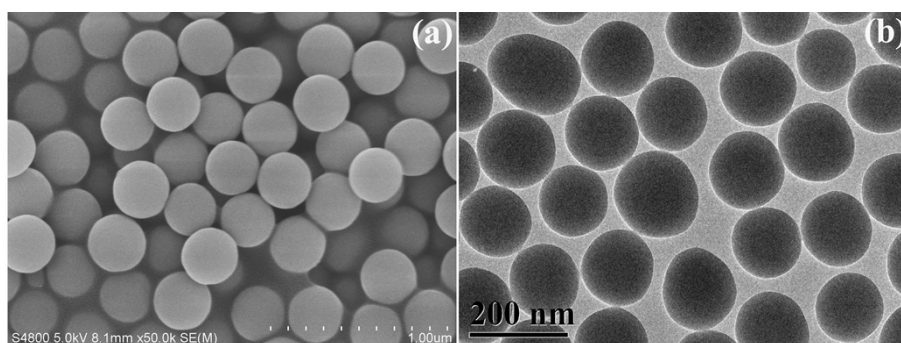


Fig.S1 SEM (a) and TEM (b) of SiO₂ spheres

ESI-2

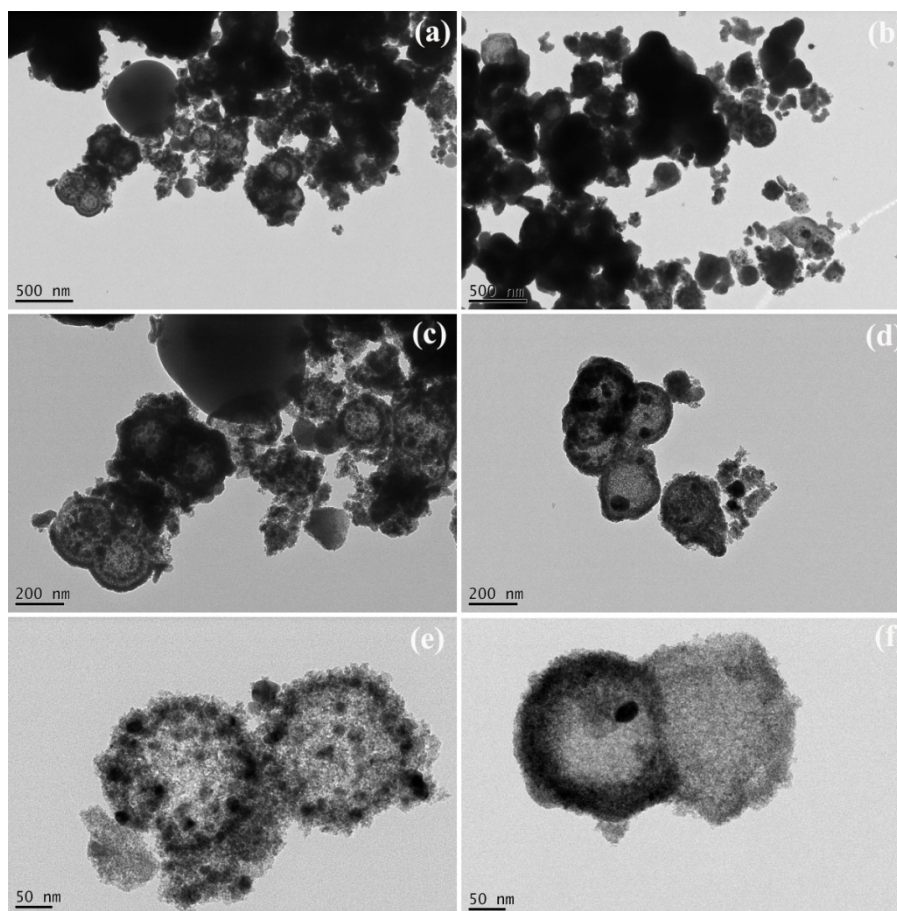


Fig.S2 TEM images of SiO₂@Ag@SnO₂ with two SnO₂ layers (a, c, e) and three SnO₂ layers (b, d, f)

ESI-3

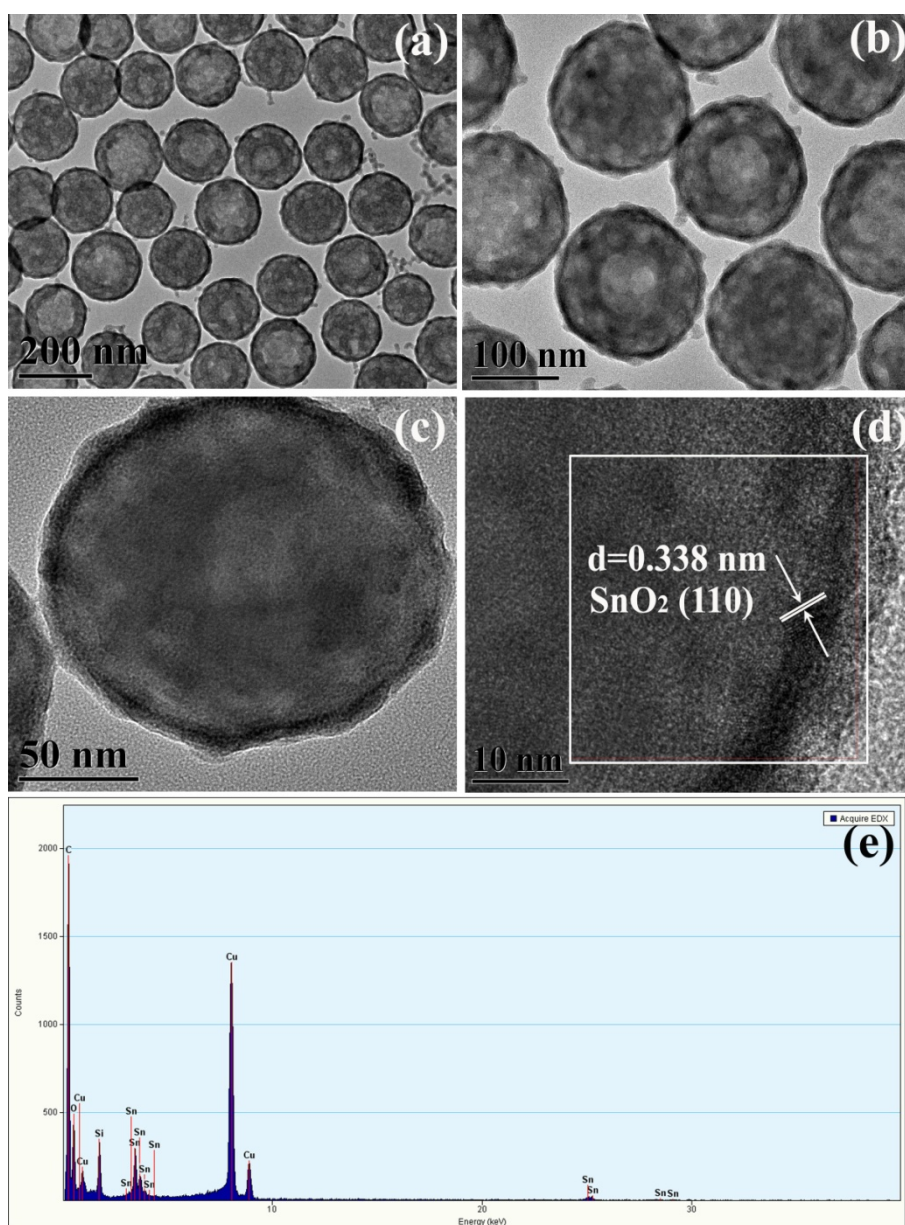


Fig.S3 TEM, HRTEM images and EDS spectrum of $\text{SiO}_2@\text{SnO}_2$ -1

ESI-4

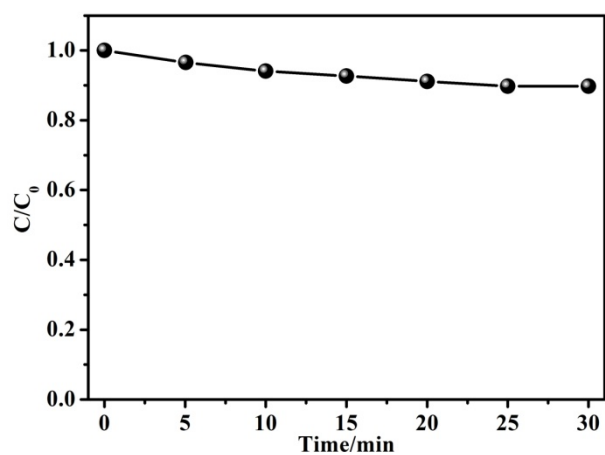


Fig.S4 Photocatalysis profile of RhB without catalyst under UV light irradiation

ESI-5

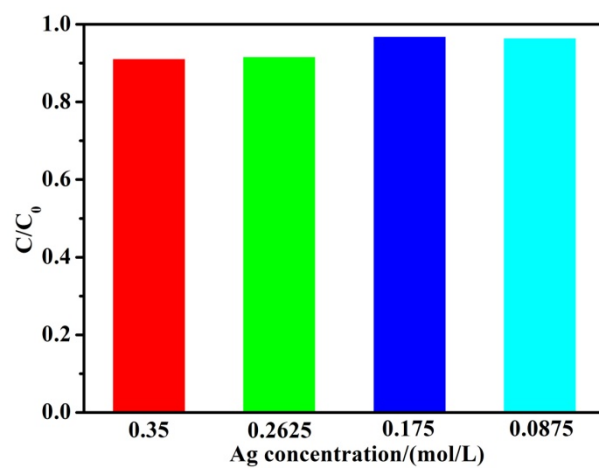


Fig.S5 Photocatalysis profiles of RhB over $\text{SiO}_2@\text{Ag}$ with different Ag concentrations within 30 min under UV light irradiation

ESI-6

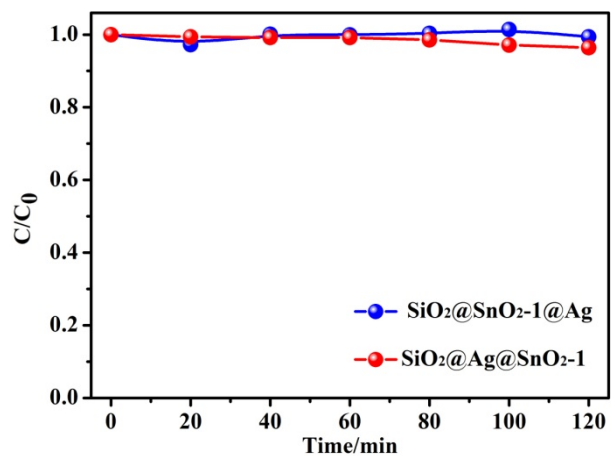


Fig.S6 Photocatalysis profiles of RhB over SiO₂@SnO₂-1@Ag and SiO₂@Ag@SnO₂-1 under visible light irradiation

ESI-7

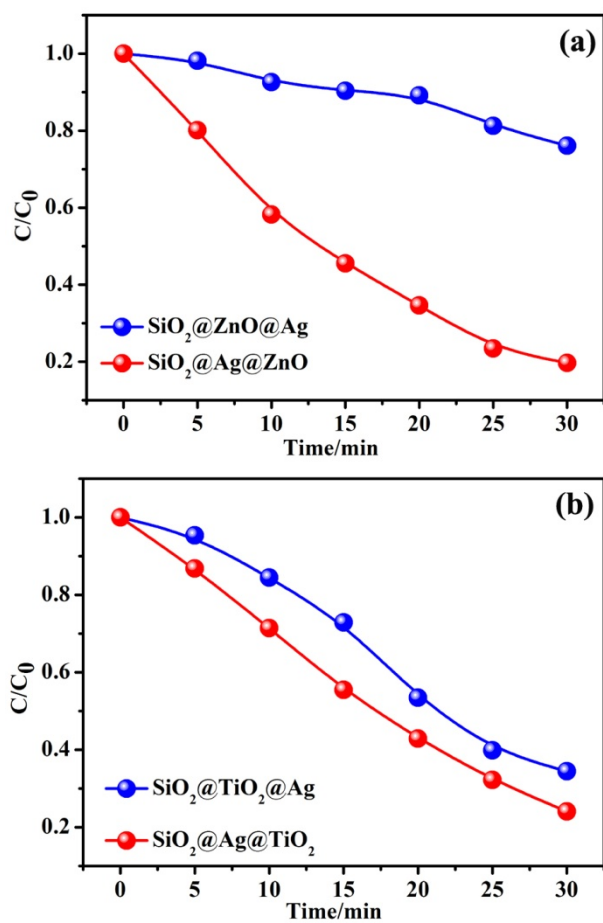


Fig.S7 Photocatalysis profiles of RhB over $\text{SiO}_2@\text{ZnO}@\text{Ag}$ and $\text{SiO}_2@\text{Ag}@\text{ZnO}$ (a) as well as $\text{SiO}_2@\text{TiO}_2@\text{Ag}$ and $\text{SiO}_2@\text{Ag}@\text{TiO}_2$ (b) under UV light irradiation

ESI-8

Table 1 Some parameters for various samples

Samples	$S_{\text{BET}}(\text{m}^2 \cdot \text{g}^{-1})$	$V_{\text{T}}(\text{cm}^3 \cdot \text{g}^{-1})$	$k(\text{min}^{-1})$	R^2	$k/S(\text{g} \cdot \text{m}^{-2} \cdot \text{min}^{-1})$
SiO ₂ @Ag	-	-	0.0026	0.9247	
SiO ₂ @ SnO ₂ -1	-	-	0.0172	0.9941	
SiO ₂ @SnO ₂ -1@Ag	9.3	0.023	0.0033	0.9939	3.55×10^{-4}
SiO ₂ @Ag@SnO ₂ -1	18.0	0.048	0.1007	0.9991	5.59×10^{-3}
SiO ₂ @Ag@SnO ₂ -2	-	-	0.0991	0.9971	-
SiO ₂ @Ag@SnO ₂ -3	-	-	0.0805	0.9946	-