

Facile synthesis of Z-scheme $\text{Ag}_2\text{CO}_3/\text{Ag}/\text{AgBr}$ ternary heterostructured nanorods with improved photostability and photoactivity

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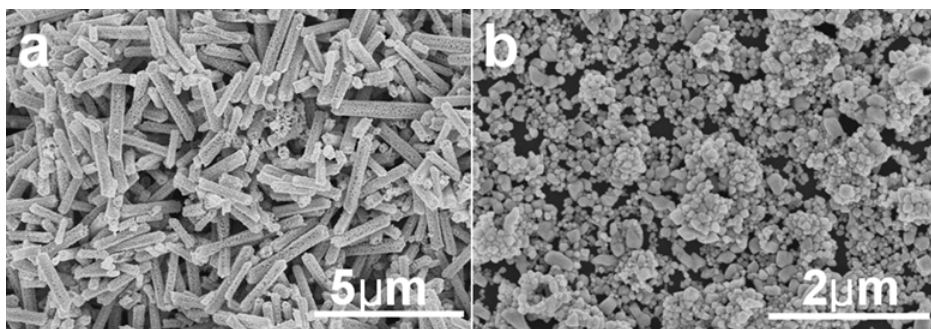


Fig. S1 SEM images of the as-prepared 1D $\text{Ag}_2\text{CO}_3/\text{Ag}/\text{AgBr}$ HNRs (sample H-2) and AgBr/Ag (sample H-4) synthesized with 10.96mM of CTAB.

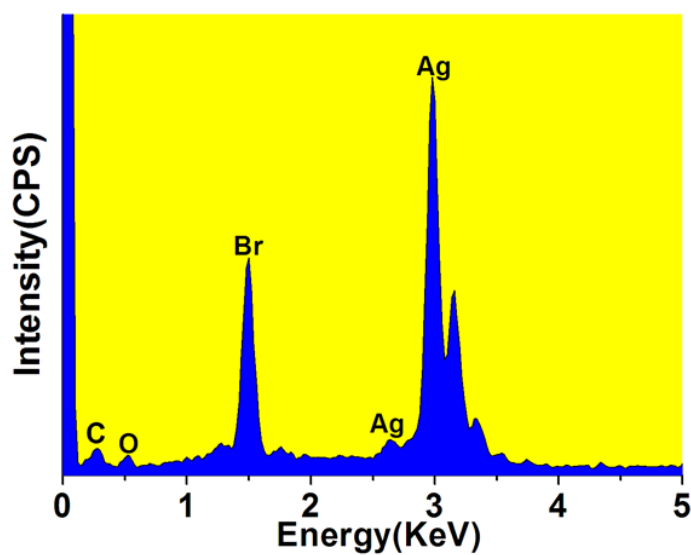


Fig. S2 EDS spectrum of the as-prepared sample H-2.

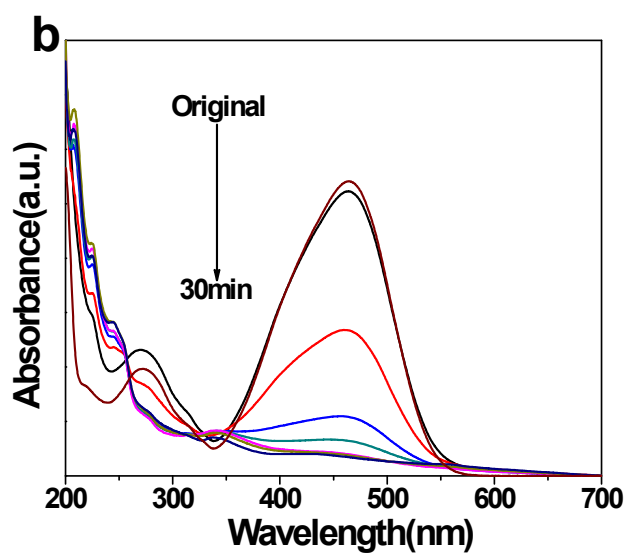
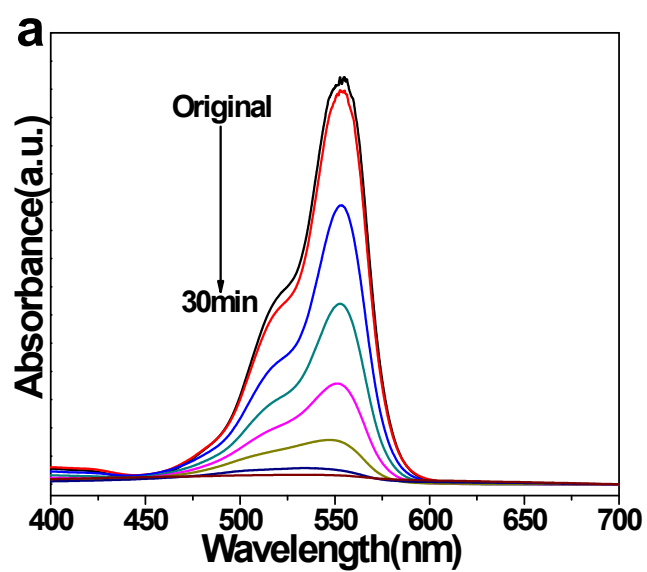


Fig. S3 Absorption spectral changes of RhB (a) and MO (b) aqueous solutions over sample H-2 under visible light irradiation.

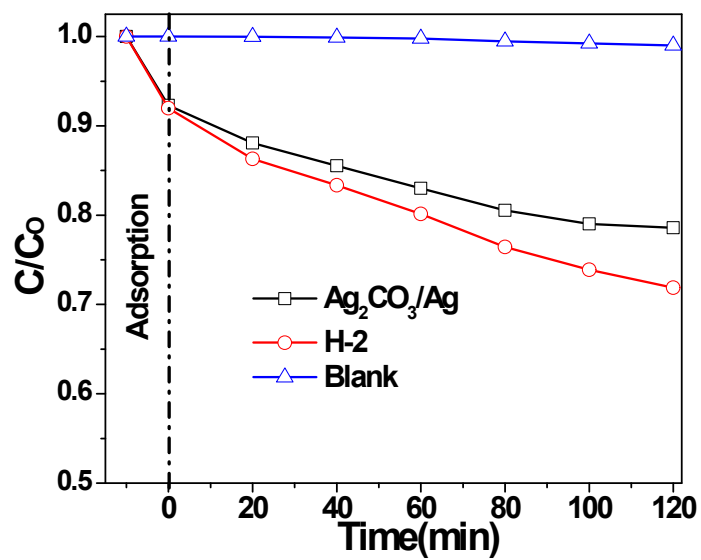


Fig. S4 Photocatalytic degradation of benzyl alcohol using sample H-2 and Ag₂CO₃/Ag under visible-light illumination.

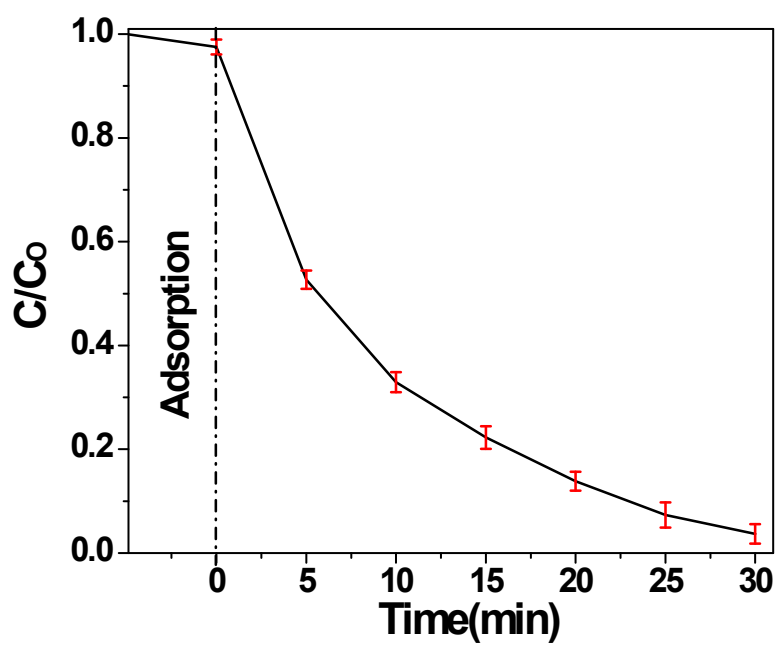


Fig. S5 Photocatalytic degradation of RhB using sample H-2 under visible-light illumination. Error bars are the repeatability errors assuming $\pm 2.5\%$ concentration determination error.

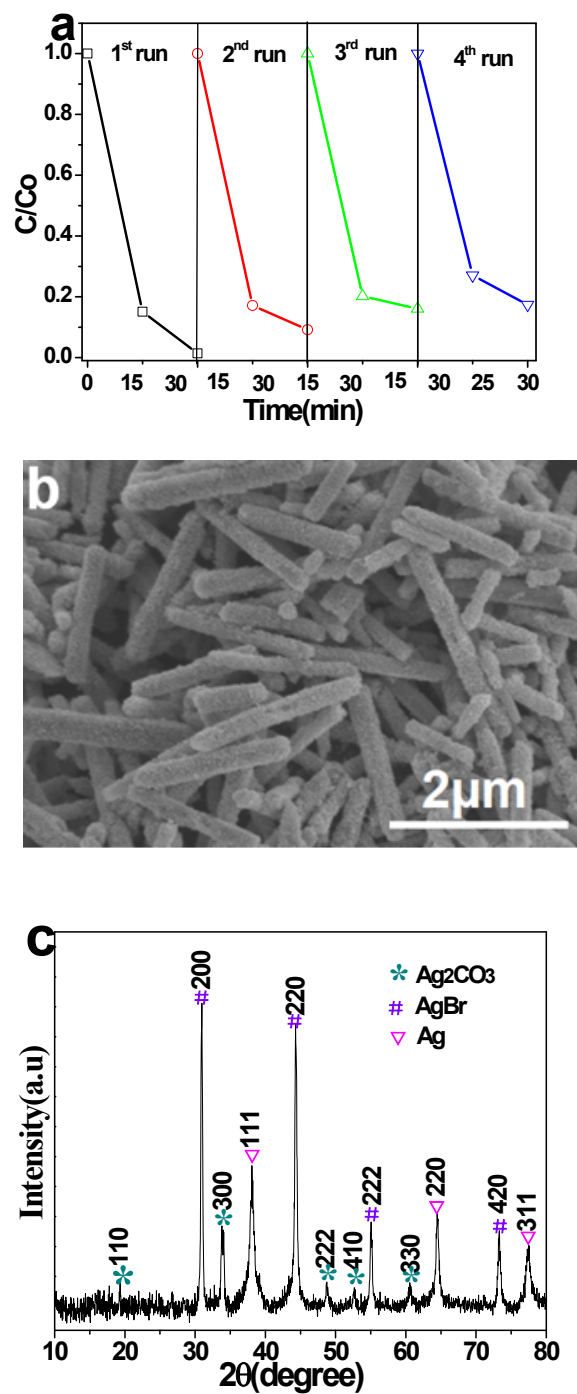


Fig. S6 4 cycles of the degradation of RhB using sample H-2: (a) SEM image (b) and XRD pattern (c) of sample Sc after 4 cycles of the degradation of RhB.

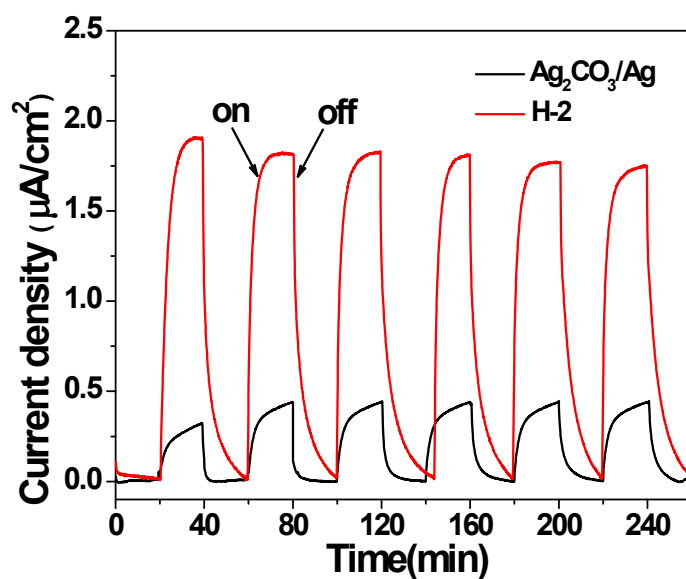


Fig. S7 Photocurrent response of the as-prepared binary $\text{Ag}_2\text{CO}_3/\text{Ag}$ and ternary $\text{Ag}_2\text{CO}_3/\text{Ag}/\text{AgBr}$ HNRs (sample H-2) under visible-light illumination.

Sample H-2	Atomic (%)				Molar ratio Br : Ag
	C	O	Br	Ag	
Before four times recycling	18.71	19.95	17.97	43.37	0.414
After four times recycling	18.59	16.86	18.66	45.89	0.4066

Table S1. Composition of the as-prepared sample H-2 before and after 4 times recycling.