

Supporting Information

Additional figures

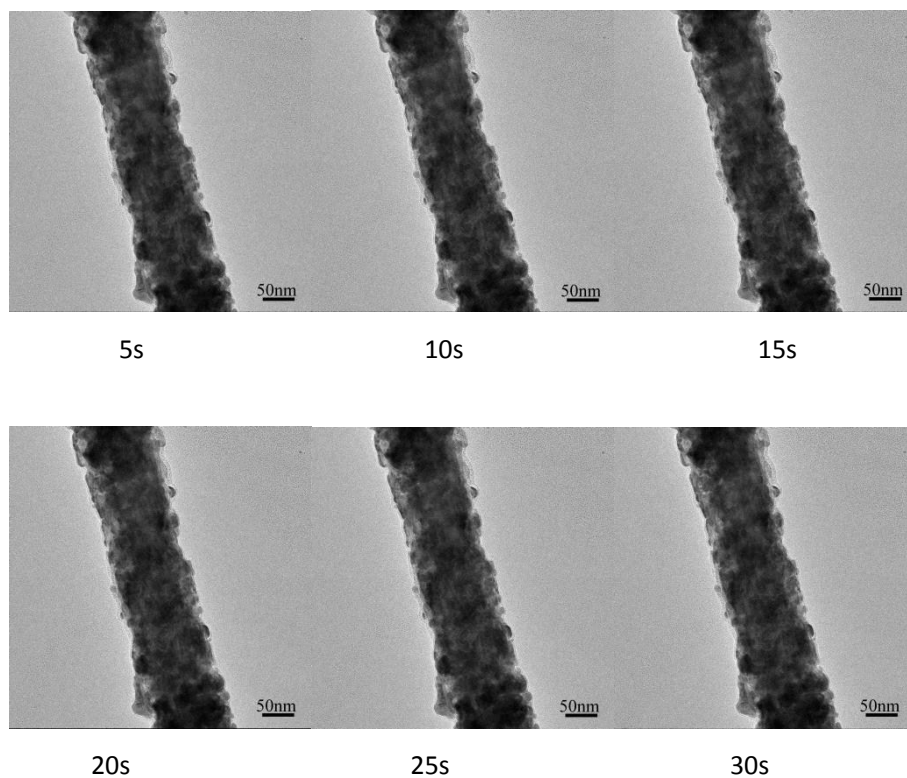


Fig. S1 TEM images of the wire-shaped Ag/Ag₂CO₃ irradiated under electron beam of TEM for different time.

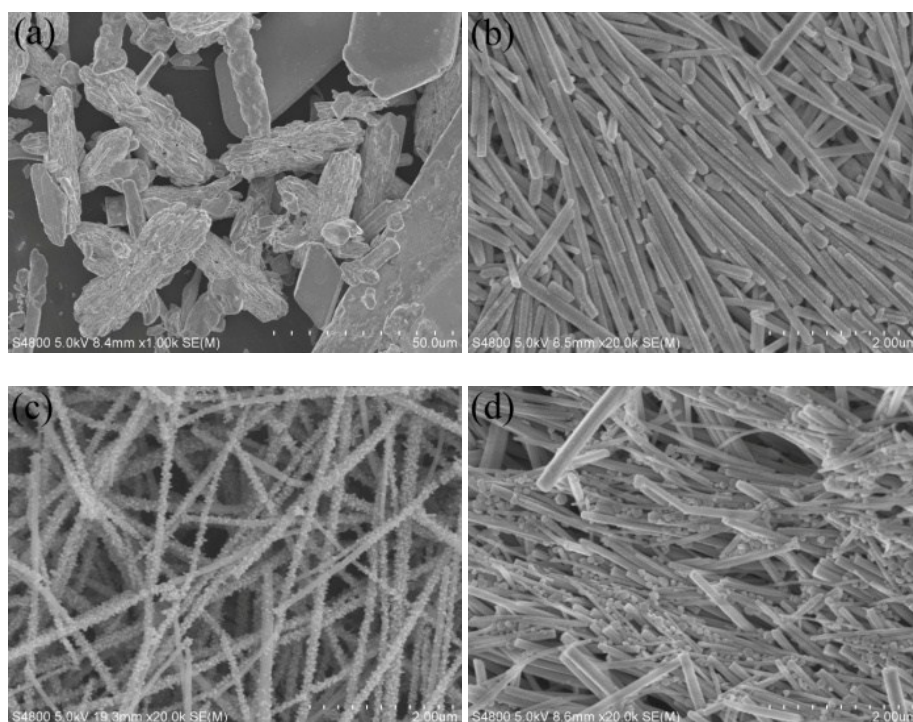


Fig. S2 The SEM images of the products synthesized at the different mass PVP. (a) 0g; (b) 0.2g; (c) 0.4g; (d) 0.6g.

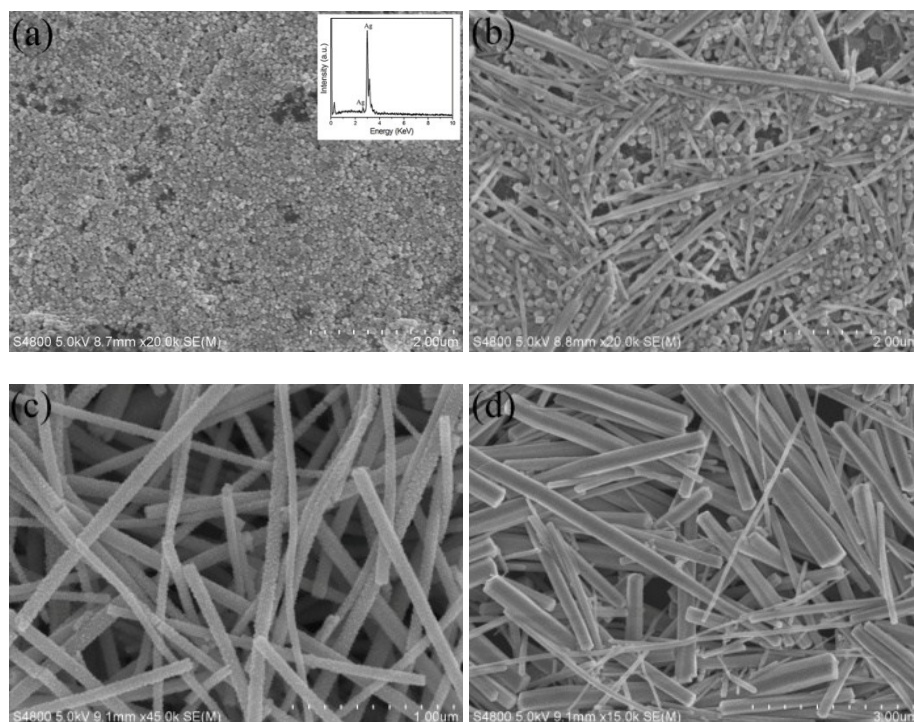


Fig. S3 The SEM images of the products synthesized at the different mass urea. (a) 0g; (b) 0.06g; (c) 0.12g; (d) 0.24g

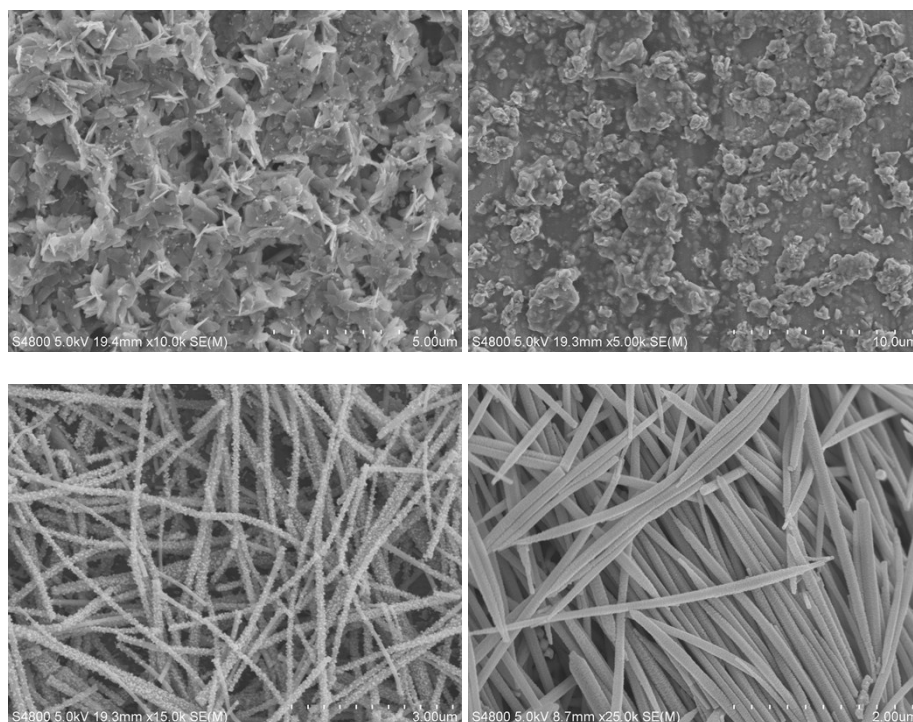


Fig. S4 The SEM images of the products synthesized for the different reaction time. (a) 1 h; (b) 4 h; (c) 8 h; (d) 12 h.

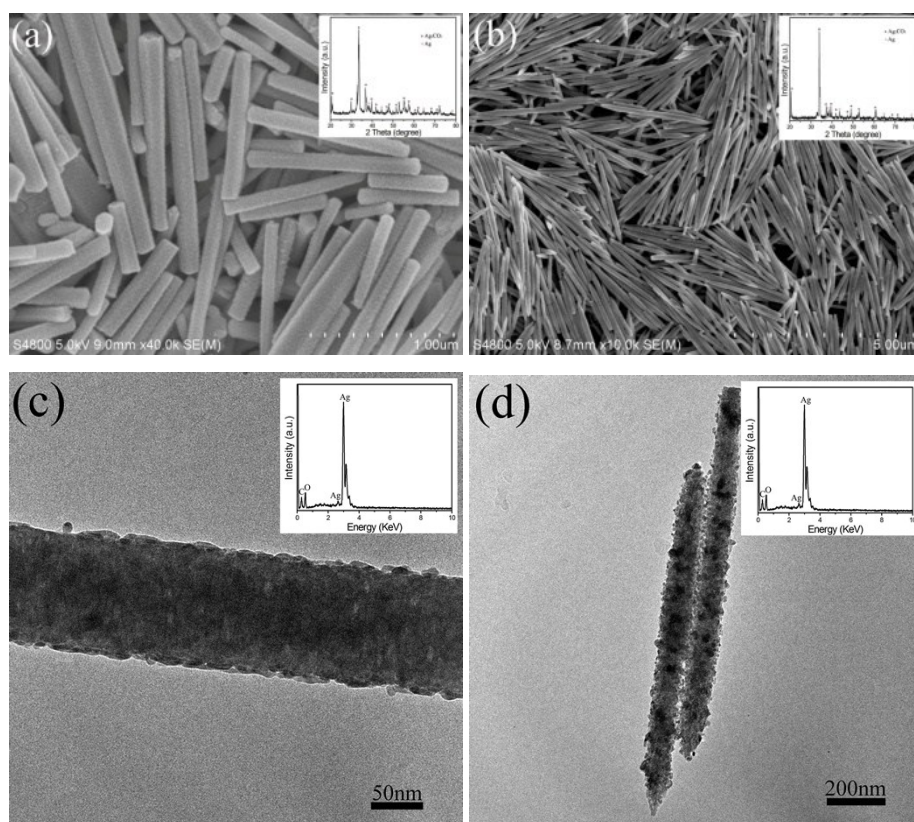


Fig. S5 The characterization results of other two products with different morphologies synthesized according to the reaction conditions in Table1. (a) SEM and (c) TEM images of nanorods; (b) SEM and (d) TEM images of nanospindles. The inserts are corresponding XRD and EDX patterns.

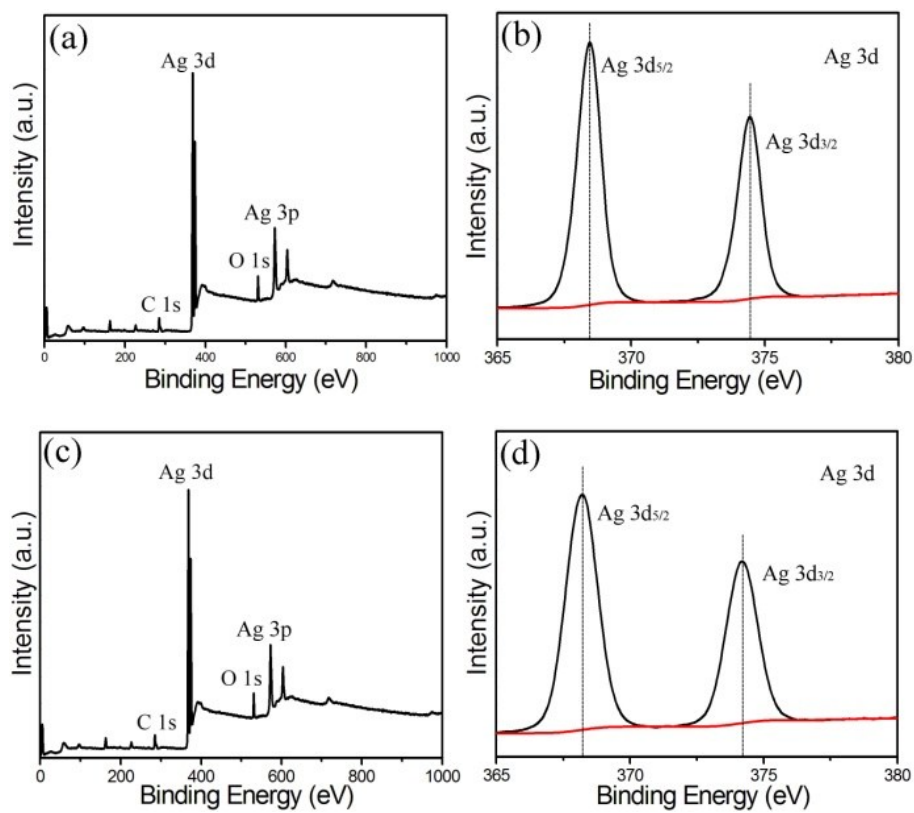


Fig. S6 The XPS results of other two products with different morphologies synthesized according to the reaction conditions in Table1. (a), (b) nanorods; (c), (d) nanospindles.

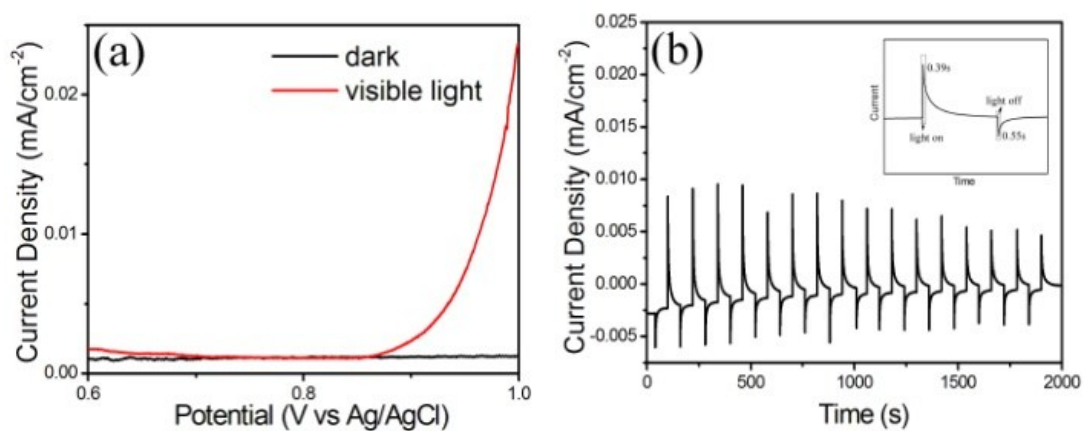


Fig. S7 j-v curve (a) and i-t (b) of as-prepared nanowires.

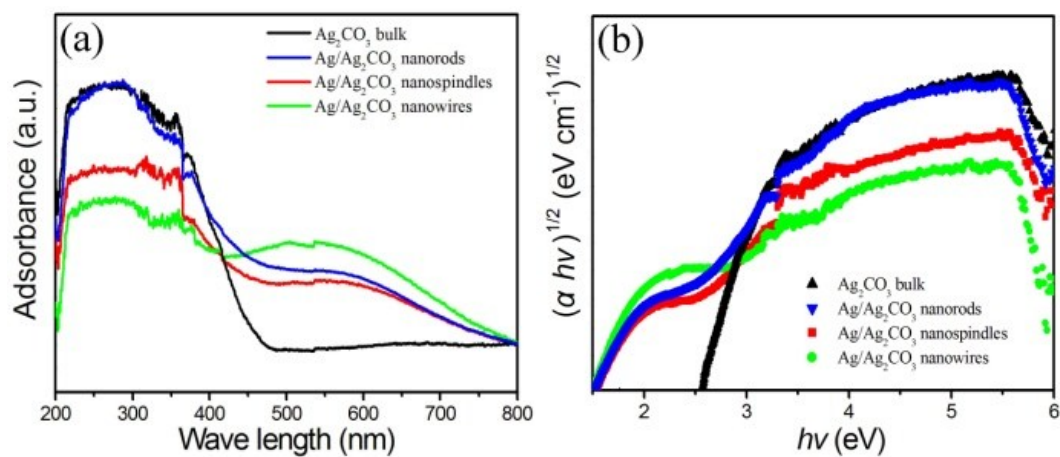


Fig. S8 (a) UV-vis diffuse reflectance spectra and (b) plot of $(\alpha hv)^{1/2}$ versus $h\nu$ of Ag₂CO₃ bulk, Ag/Ag₂CO₃ nanowires, nanospindles and nanorods.

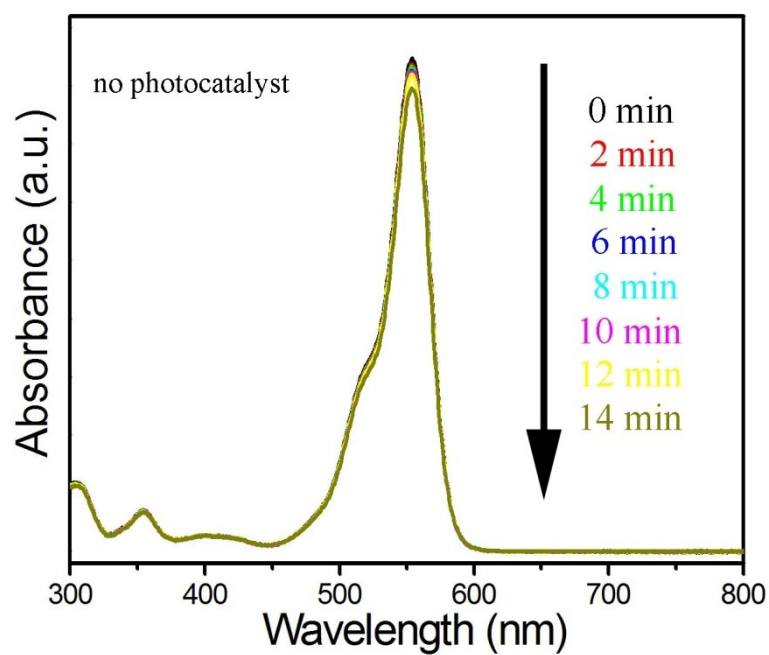


Fig. S9 UV-vis spectra of RhB exposed in visible light for the different time without any photocatalyst.

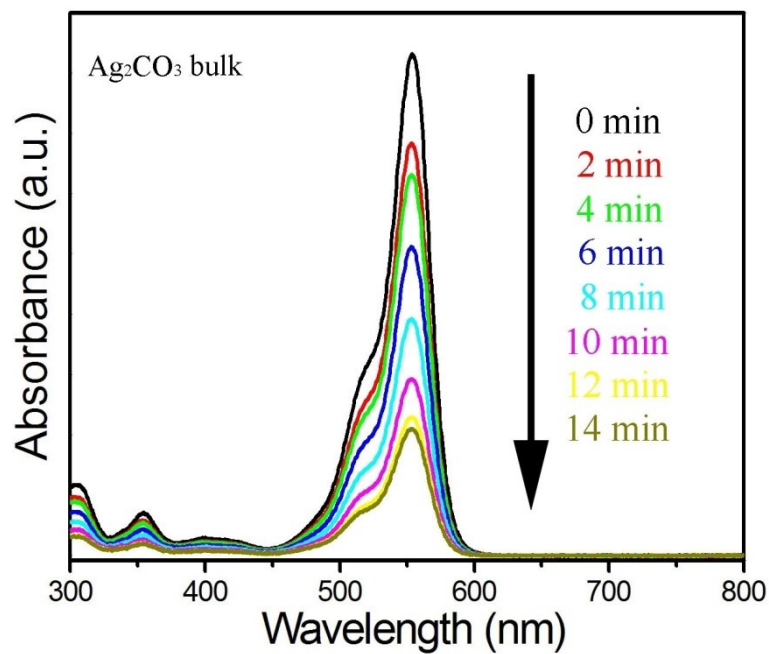


Fig. S10 UV-vis spectra of RhB exposed in visible light for the different time in the present of pure Ag_2CO_3 bulks.

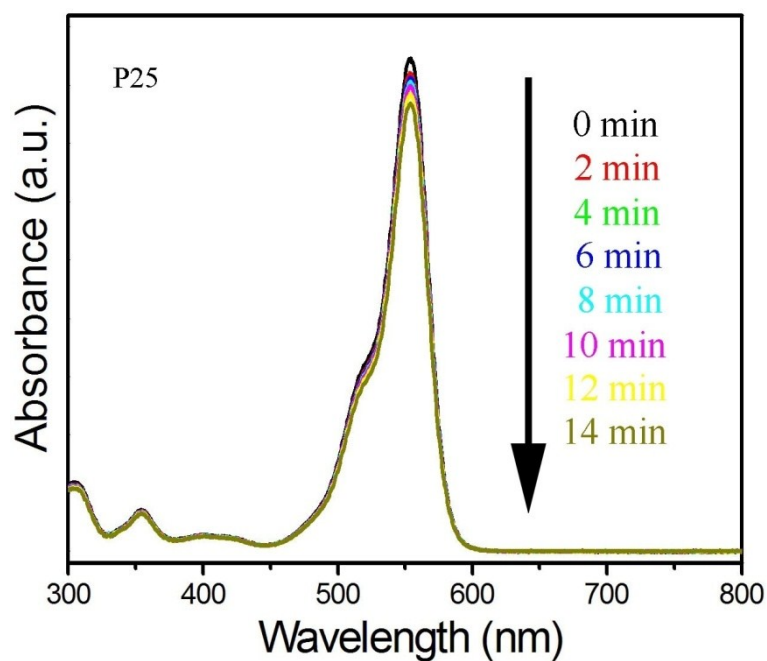


Fig. S11 UV-vis spectra of RhB exposed in visible light for the different time in the present of P25.

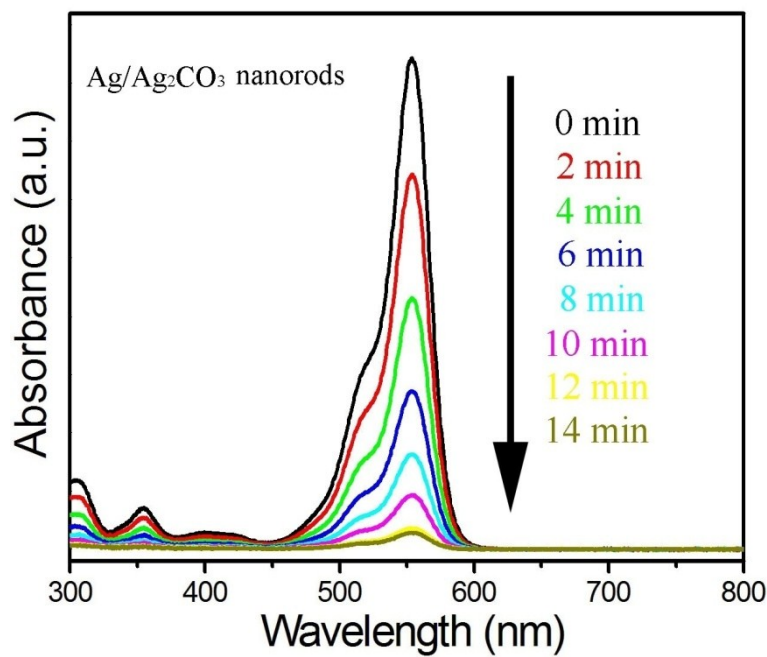


Fig. S12 UV-vis spectra of RhB exposed in visible light for the different time in the present of pure Ag/Ag₂CO₃ nanorods.

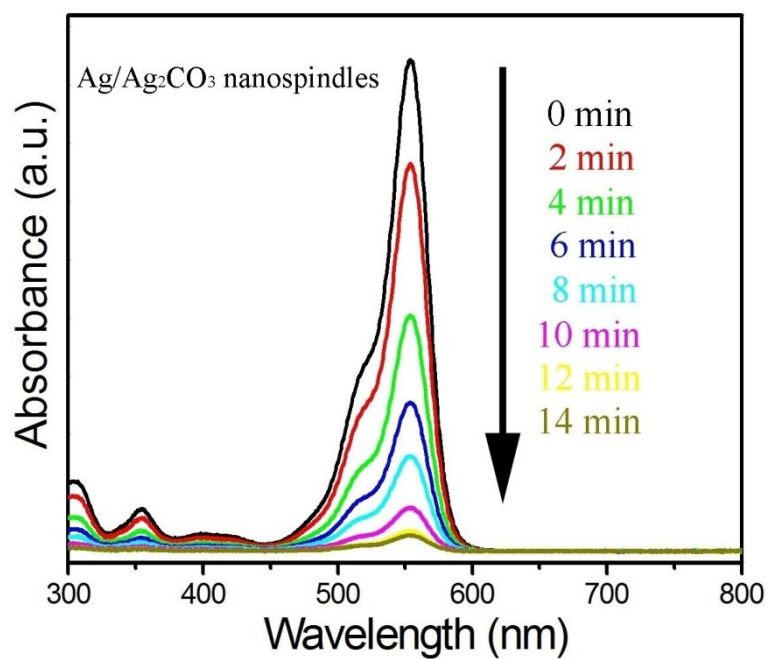


Fig. S13 UV-vis spectra of RhB exposed in visible light for the different time in the present of pure Ag/Ag₂CO₃ nanospindles.

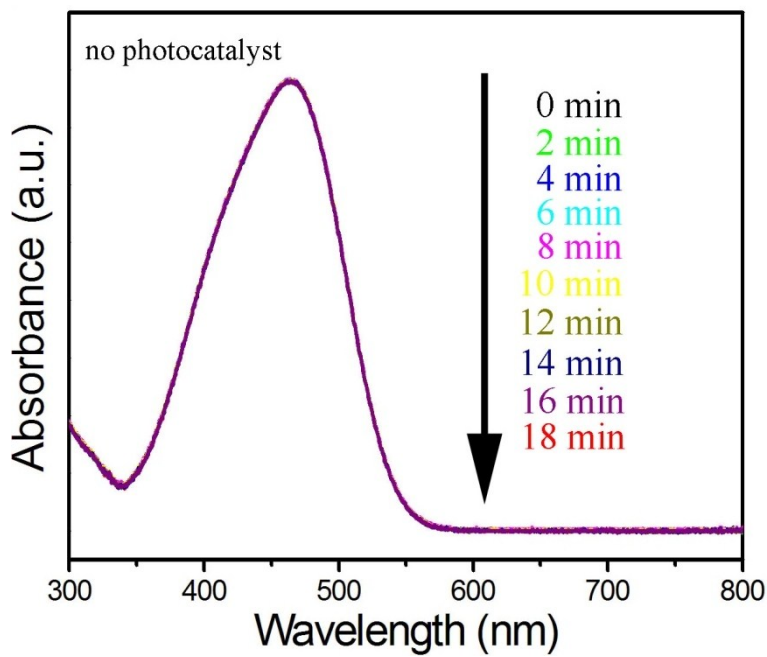


Fig. S14 UV-vis spectra of MO exposed in visible light for the different time without any photocatalyst.

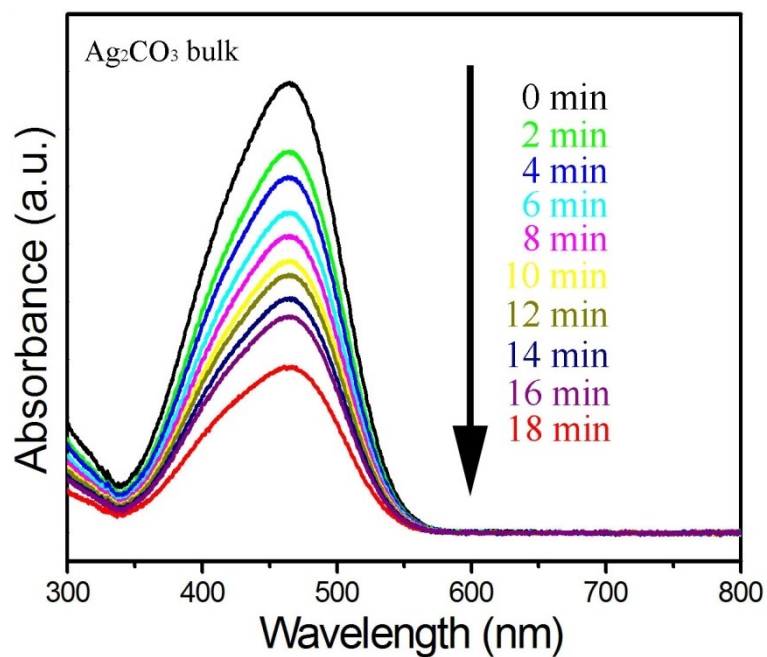


Fig. S15 UV-vis spectra of MO exposed in visible light for the different time in the present of pure Ag_2CO_3 bulks.

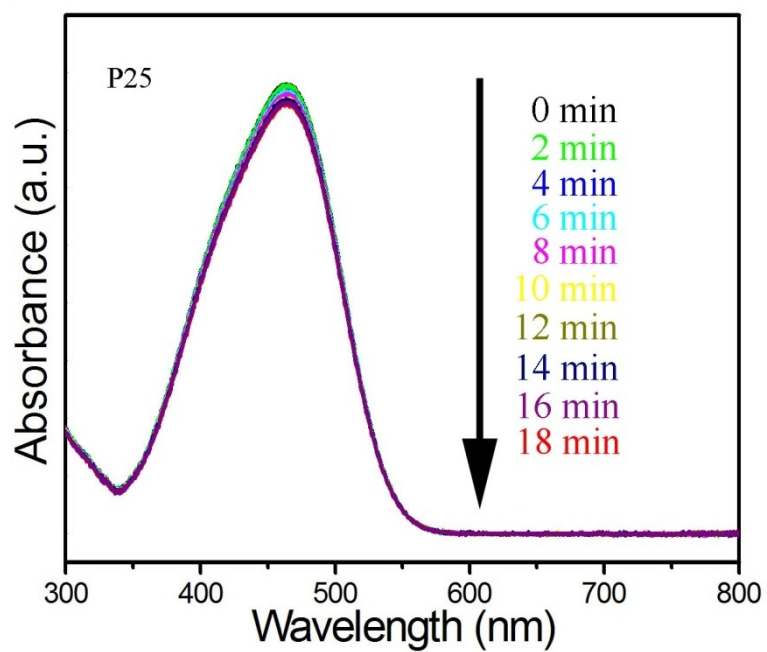


Fig. S16 UV-vis spectra of MO exposed in visible light for the different time in the present of P25.

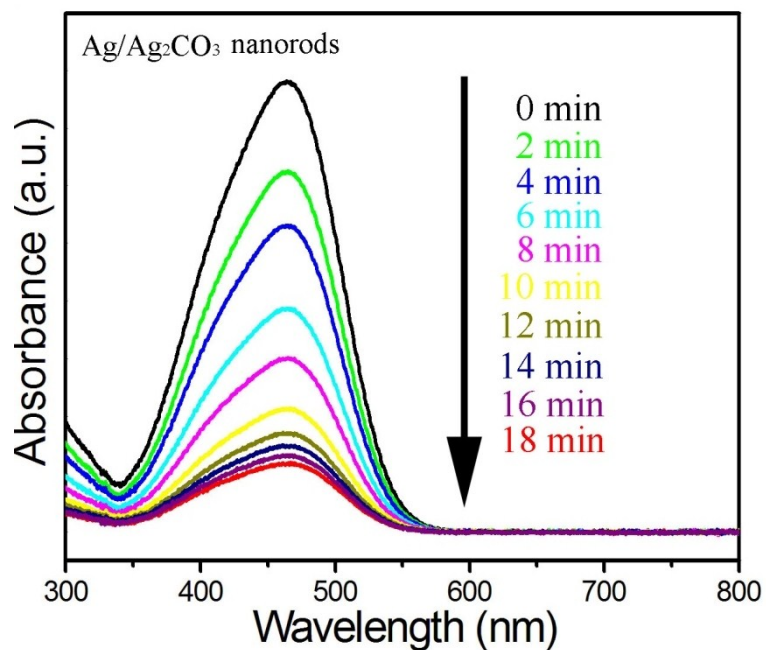


Fig. S17 UV-vis spectra of MO exposed in visible light for the different time in the present of pure Ag/Ag₂CO₃ nanorods.

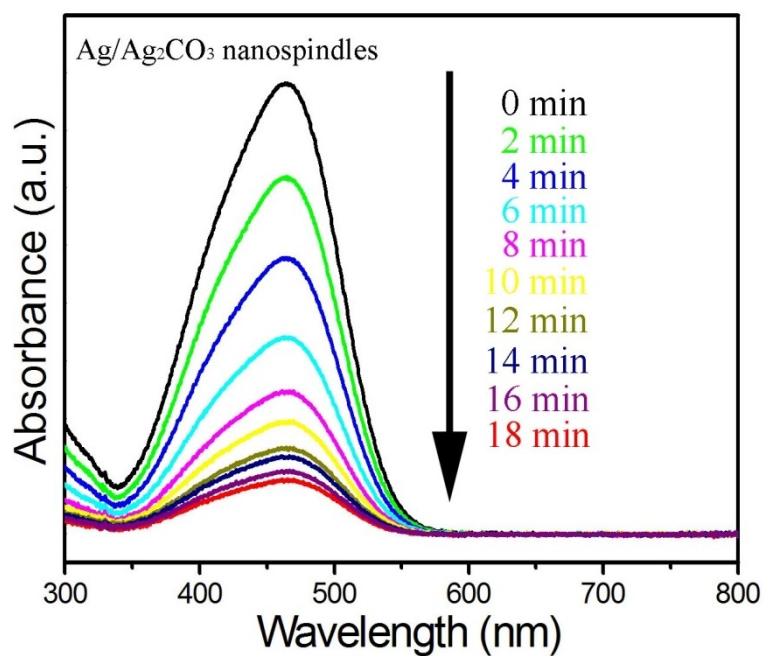


Fig. S18 UV-vis spectra of MO exposed in visible light for the different time in the present of pure Ag/Ag₂CO₃ nanospindles.

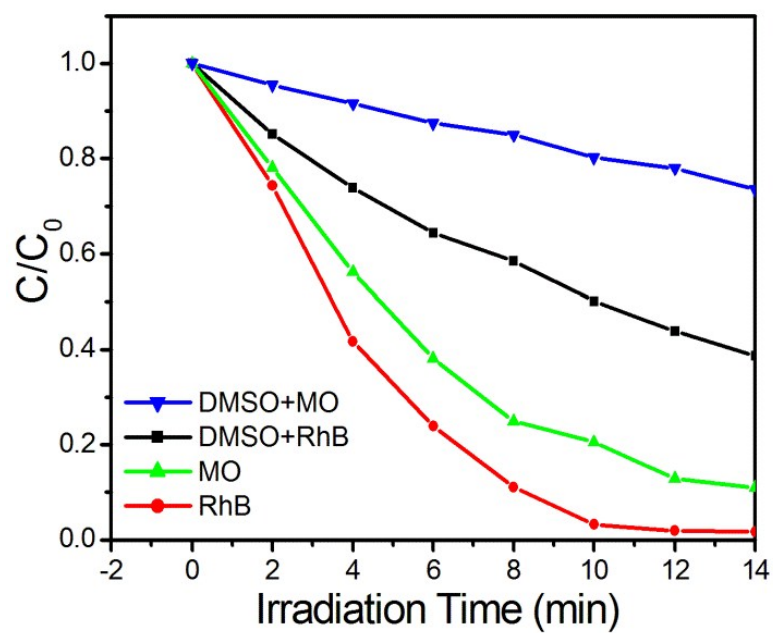


Fig. S19 The Comparison degradation date of dyes in the present of Ag/Ag₂CO₃ nanowire under visible-light irradiation adding DMSO and without DMSO.