

ESI:

Facile one-pot synthesis of uniform TiO₂-Ag hybrid hollow spheres with enhanced photocatalytic activity

Sunli Wang,^{a†} Huanhuan Qian,^{a†} Yong Hu,^{*a} Wei Dai,^a Yijun Zhong,^a Jiafu Chen,^b and Xiao Hu^c

Experimental Section:

Synthesis of P25-Ag hybrids: In a typical experiment, 0.02g P25 and 0.005g AgNO₃ were dissolved in 40 mL of distilled water with the assistance of ultrasonication for 10 min. Successively, the mixture was transferred into a 50 mL Teflon-lined autoclave, and maintained at 150 °C for 10 h. After collected by centrifugation, the products were washed with ethanol and distilled water three times, before dried at 80°C for more than 6 h.

Synthesis of TiO₂-Ag hybrids: In a typical procedure, 0.096 g of Ti(SO₄)₂, 0.288g of urea and 0.005g AgNO₃ were dissolved in 40 mL of distilled water with the assistance of ultrasonication for 10 min. Successively, the mixture was transferred into a 50 mL Teflon-lined autoclave, and maintained at 150 °C for 10 h. After collected by centrifugation, the products were washed with ethanol and distilled water three times, before dried at 80°C for more than 6 h. The final hybrid hollow spheres were obtained after calcination the above samples at 400 °C in static air for 2 h.

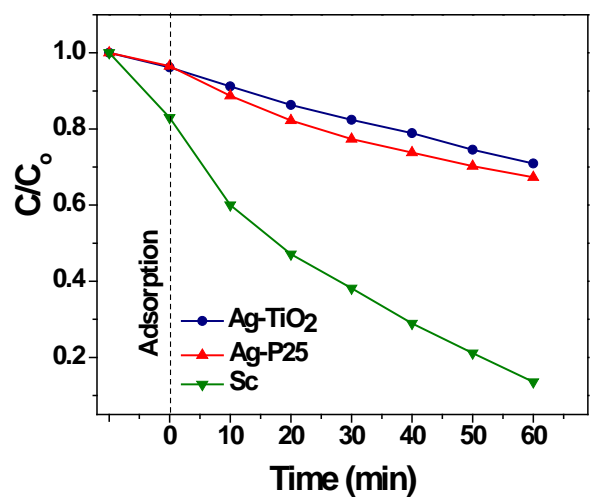


Fig. S1. The photocatalytic degradation of RhB using different photocatalysts.