

One pot microwave-assisted synthesis of Ag decorated yolk@shell structured TiO₂ microspheres

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Supporting Information:

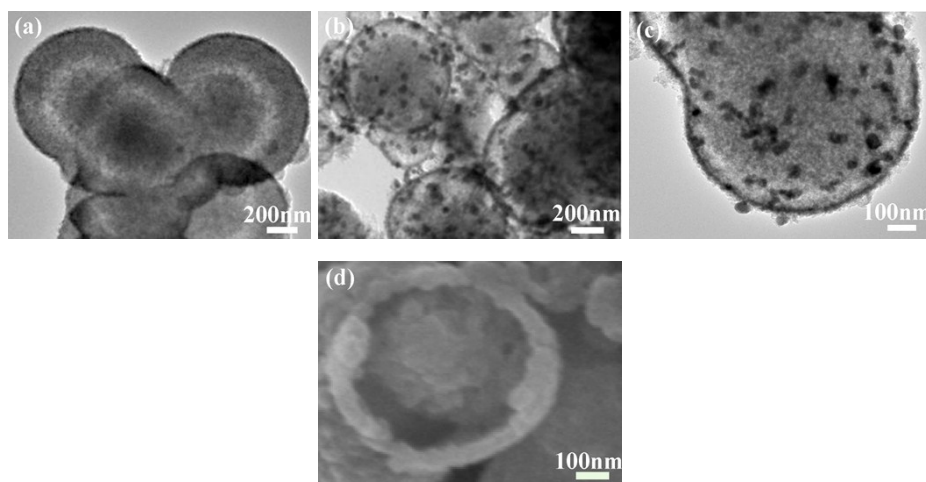


Figure S1. TEM images of the different products: (a) Ag-TS0; (b) Ag-TS1; (c) Ag-TS3, (d) SEM image of Ag-TS3.

Table 1. Ag content of the different samples

sample	AgNO ₃ (mmol)	Ag (wt %) ^a	Ag (wt %) ^b
Ag-TS1	0.044	1.42	1.21
Ag-TS2	0.074	3.64	3.26
Ag-TS3	0.222	9.71	7.81

^a determined by the ICP measurement. ^b determined by the EDX measurement.

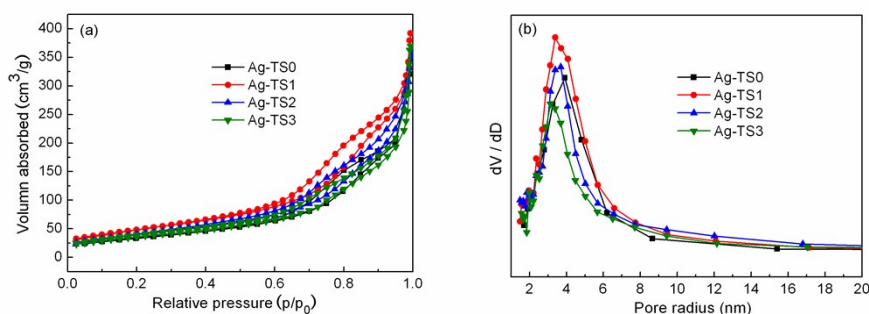


Figure S2. (a) Nitrogen sorption isotherms and (b) pore size distribution curves of the different samples.

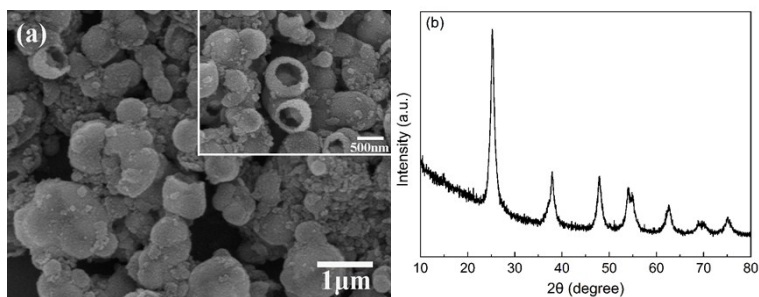


Figure S3. (a) FESEM image and (b) XRD pattern of the products prepared without the addition of urea when the other conditions were maintained. Inset in (a) is the corresponding enlarged image.

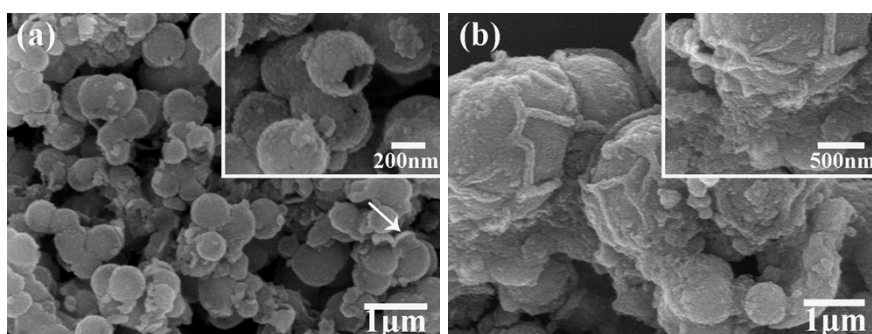


Figure S4. (a) FESEM image of the product prepared by microwave treatment at 180 °C for 30 min. (b) FESEM image of the product prepared at 120 °C for 30 min by the conventional heating method using the electric dry oven. Inset in (a) and (b) are the corresponding enlarged images.

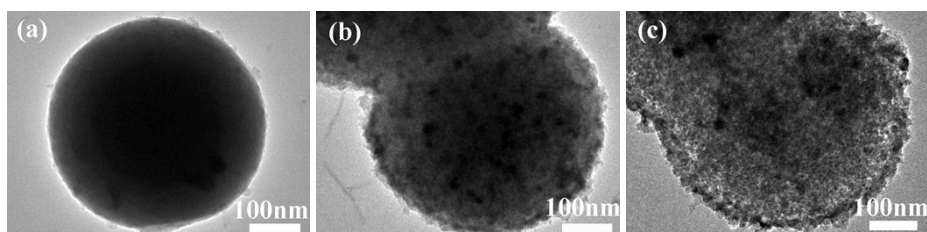


Figure S5. TEM images of the as-synthesized products at 120 °C with the different reaction times. (a) 1 min; (b) 5 min; (c) 10 min.

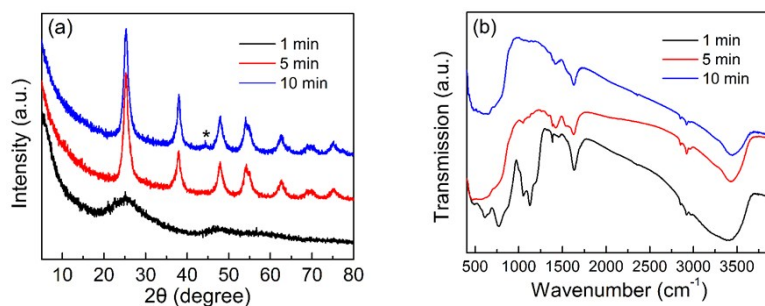


Figure S6. (a) XRD patterns and (b) FTIR spectra of the as-synthesized products at 120 °C with the different reaction times.

Table 2. Total Cr ions concentration (ppm) measured by ICP, which remained in the photocatalytic reaction solution after 2 h illumination with the different photocatalysts

photocatalyst	Ag-TS0	Ag-TS1	Ag-TS2	Ag-TS3
Cr ions concentration	4.1	2.2	0.07	0.05

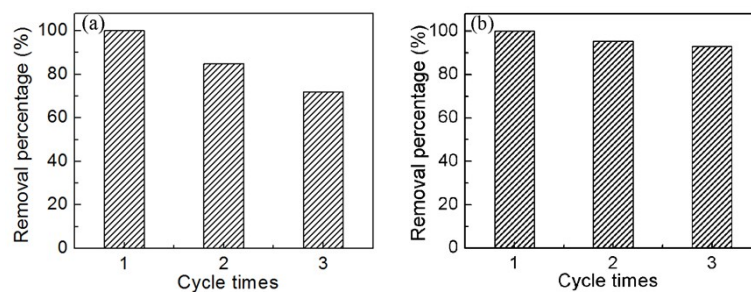


Figure S7. Durability of Ag-TS2 under irradiation for the three cycles: (a) Cr(VI); (b) MB.