

Supporting Information

Fabrication of Ag-coated AgBr nanoparticles and their plasmonic photocatalytic applications

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FE-SEM image of the AgBr prepared at 25°C with PVA stabilizer.

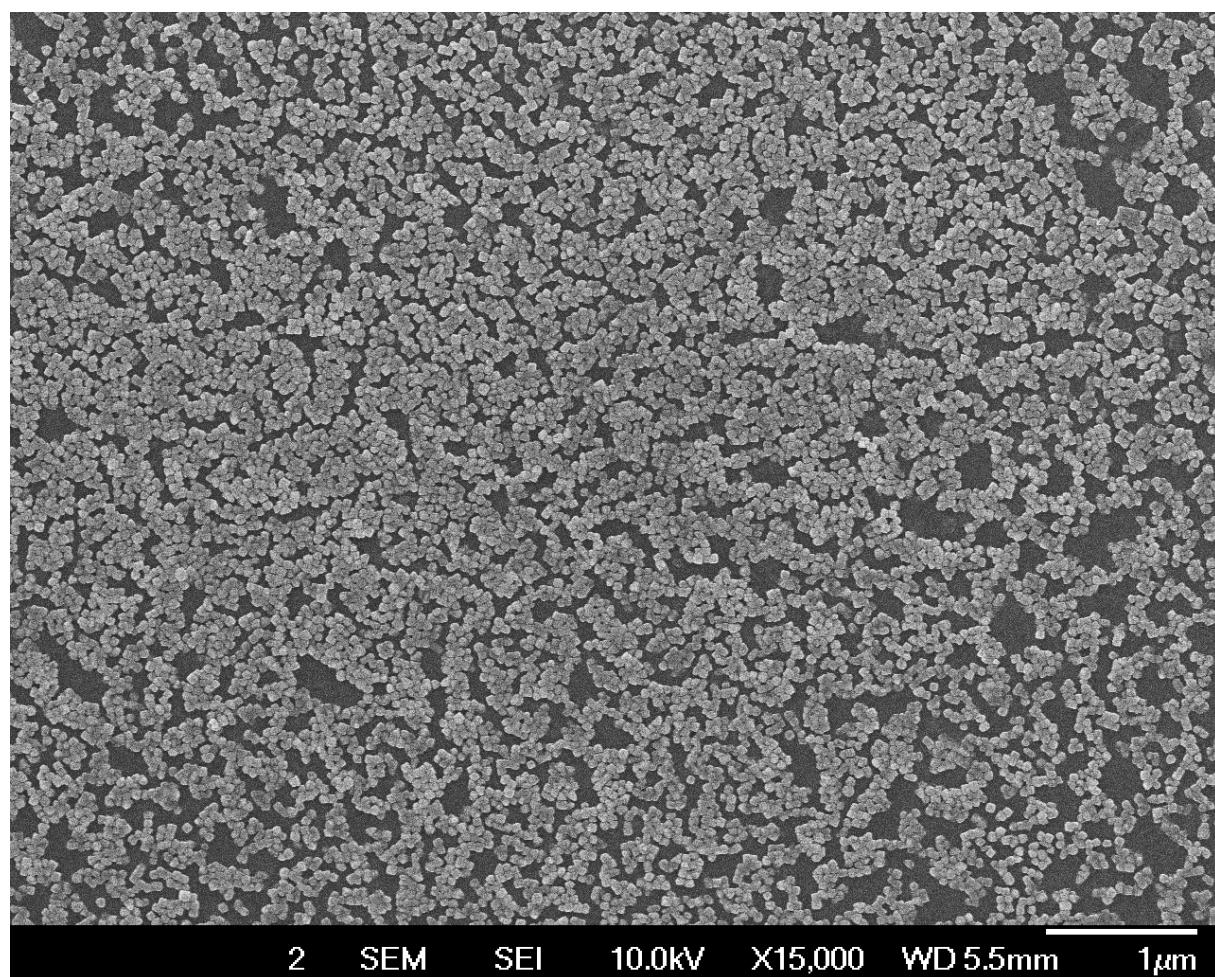


Fig. S1 Low-magnification FE-SEM images of the AgBr nanoparticles prepared under the same condition as in Figure 1a.

Bulk AgBr prepared without PVA stabilizer

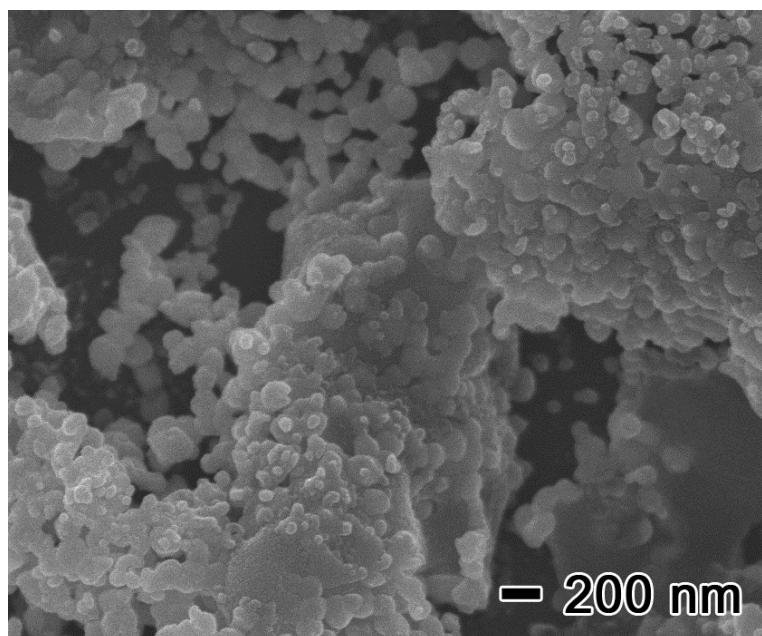


Fig. S2 FE-SEM images of the AgBr nanoparticles prepared under the same condition as in Figure 1a except for the absence of PVA stabilizer.

FE-SEM image of the AgBr prepared under lower PVA concentration condition.

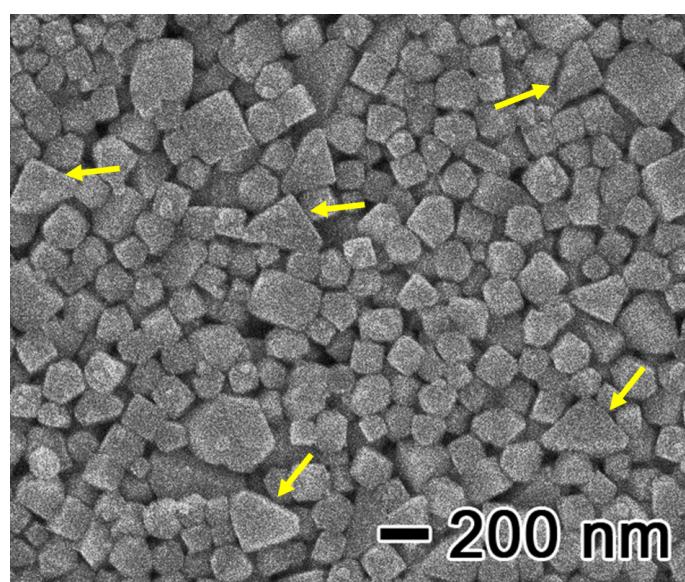


Fig. S3 FE-SEM images of the AgBr nanoparticles prepared under the same condition as in Figure 1a except for the concentration of PVA (molar ratio to silver precursor is 50). The arrows indicate the trigonal prism shaped AgBr.

Photocatalytic efficiency comparison test.

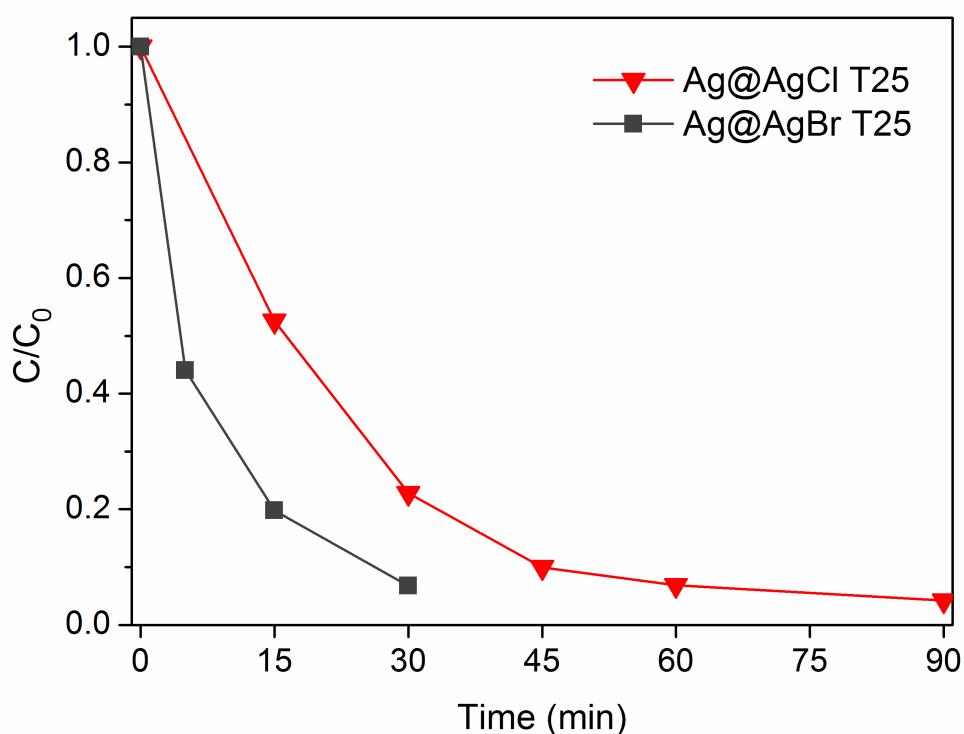


Fig. S4 Photocatalytic degradation of MB over Ag@AgCl and Ag@AgBr composites under visible light irradiation (> 400 nm, 100 W xenon-lamp). For the test, 10 mg of as-prepared samples were added into the 50 mL of MB-dissolved aqueous solution (50 mg/L).

Ag@AgCl T25 sample was synthesized under the same condition as the Ag@AgBr T25 except that the sodium bromide was replaced with sodium chloride. In addition, the reduction was conducted for 8 hour (optimized reduction time)^{S1}.

Photocatalytic degradation of MB, MO and RhB over Ag@AgBr composite.

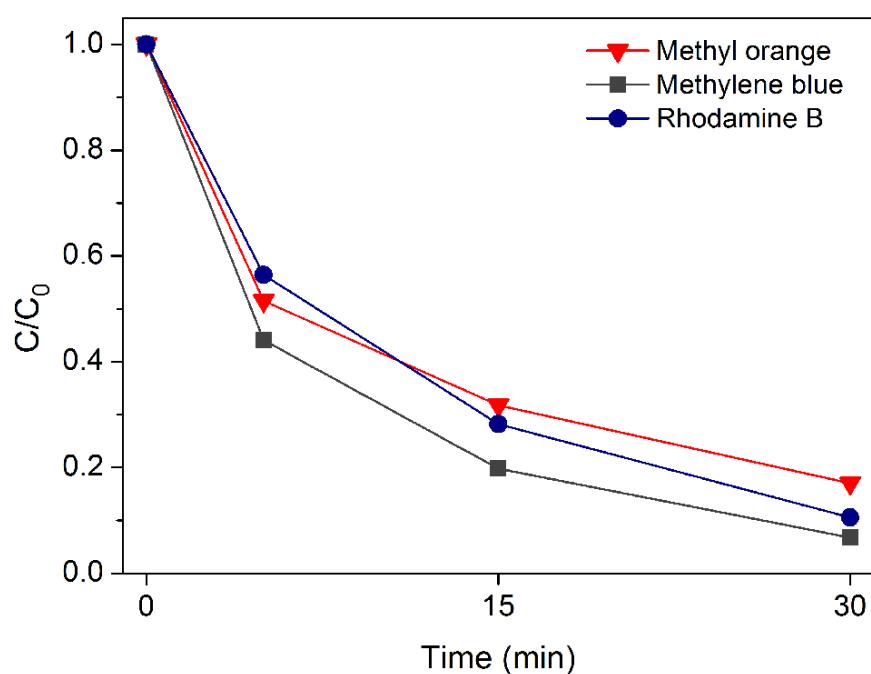


Fig. S5 Photo-degradation curves of MO (methyl orange), MB (methylene blue) and RhB (rhodamine B) dyes over Ag@AgBr T25 nanocomposites (> 400 nm, 100 W xenon-lamp). For the test, 10 mg of as-prepared samples were added into the 50 mL of dye-dissolved aqueous solutions (50 mg/L).

Reference

S1. J. Song, J. Roh, I. Lee and J. Jang, *Dalton Trans.*, 2013, 42, 13897