Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Controlling the Morphology and Composition of Ag/AgBr Hybrid Nanostructures and Enhancing Their Visible Light Induced Photocatalytic Properties

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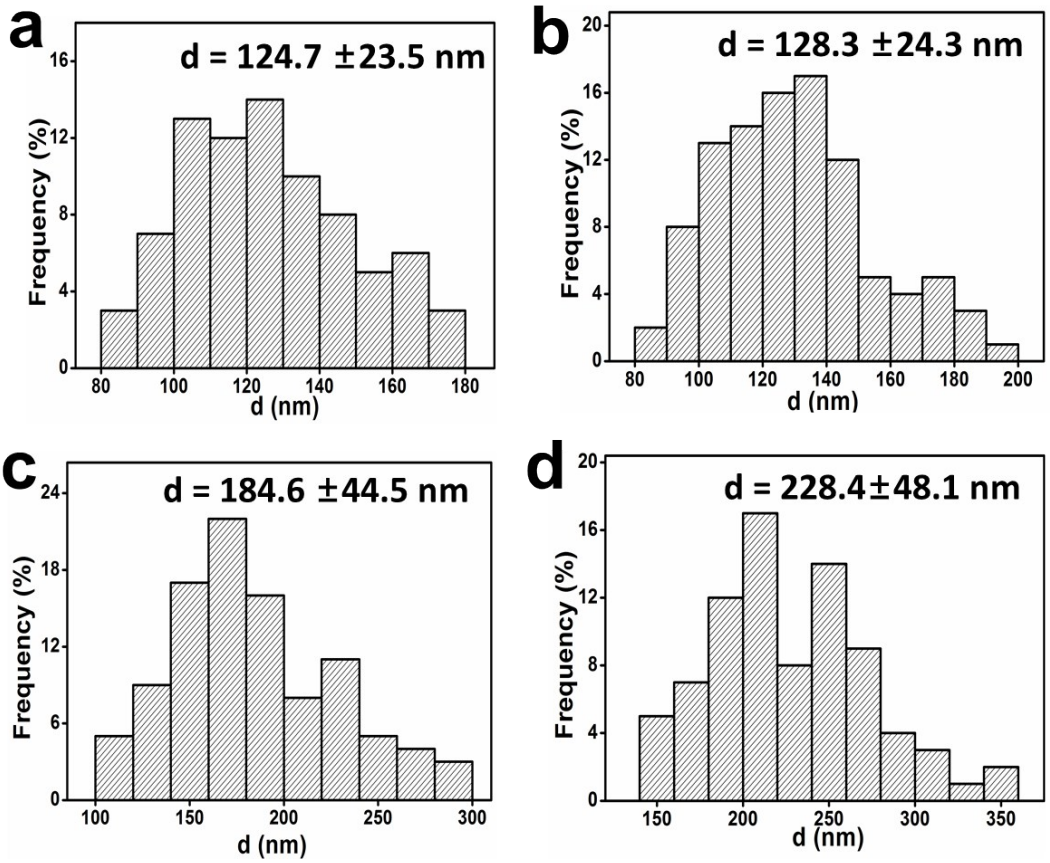

Fig. S1. Particle size distributions of the AgBr nanoparticles synthesized at various reaction temperatures shown in Fig. 2a−d. The reaction temperature was (a) 30 °C, (b) 50 °C , (c) 70 °C, and (d) 90 °C, respectively.

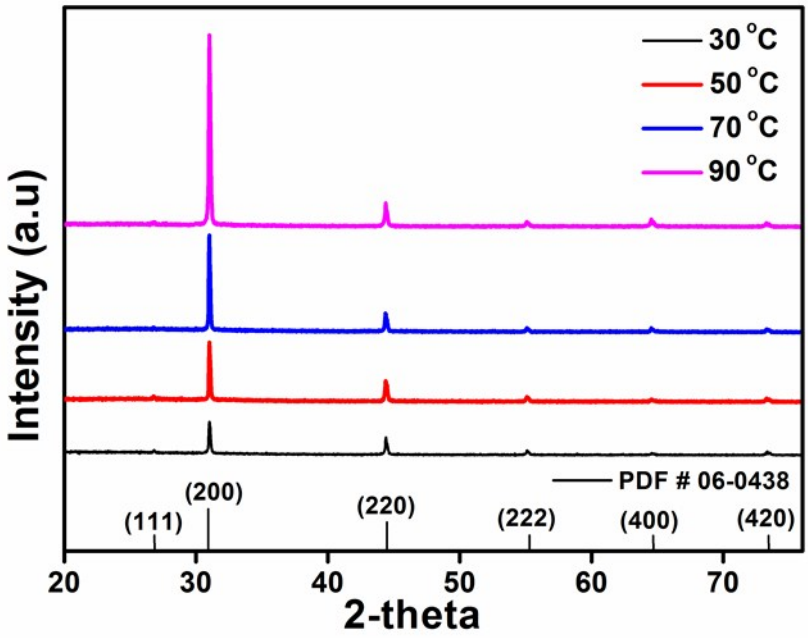

Fig. S2. XRD pattern of AgBr nanoparticles synthesized at various reaction temperatures shown in Fig. 2a−d.

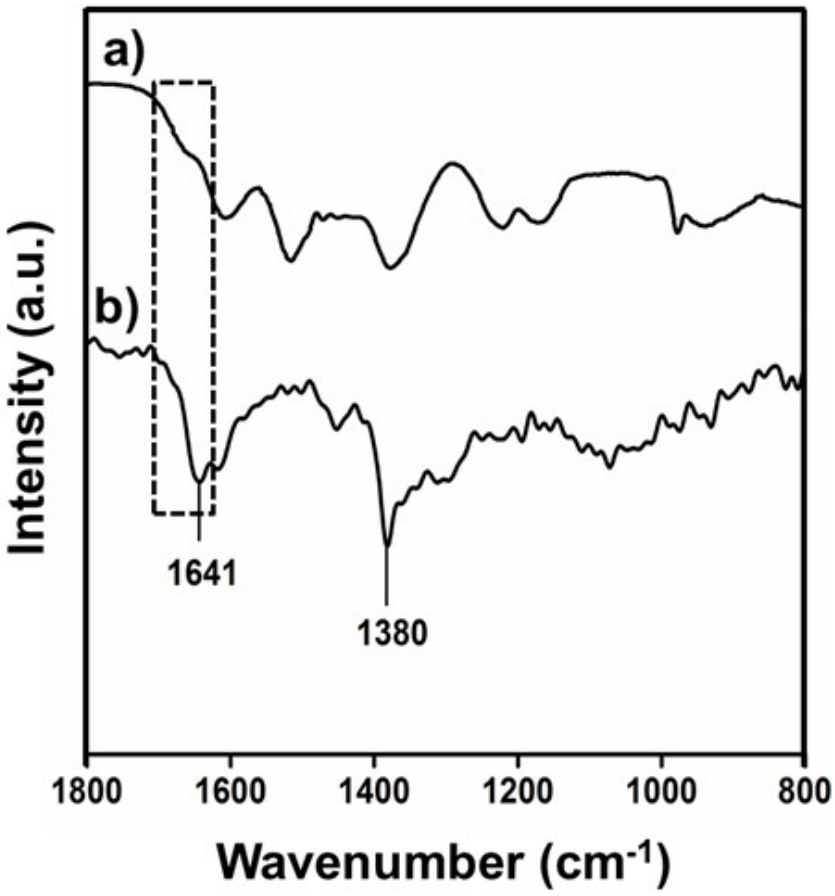

Fig. S3. FTIR spectra of (a) PEI, and (b) PEI-stabilized AgBr nanoparticles: samples prepared under same conditions as shown in Fig. 2b

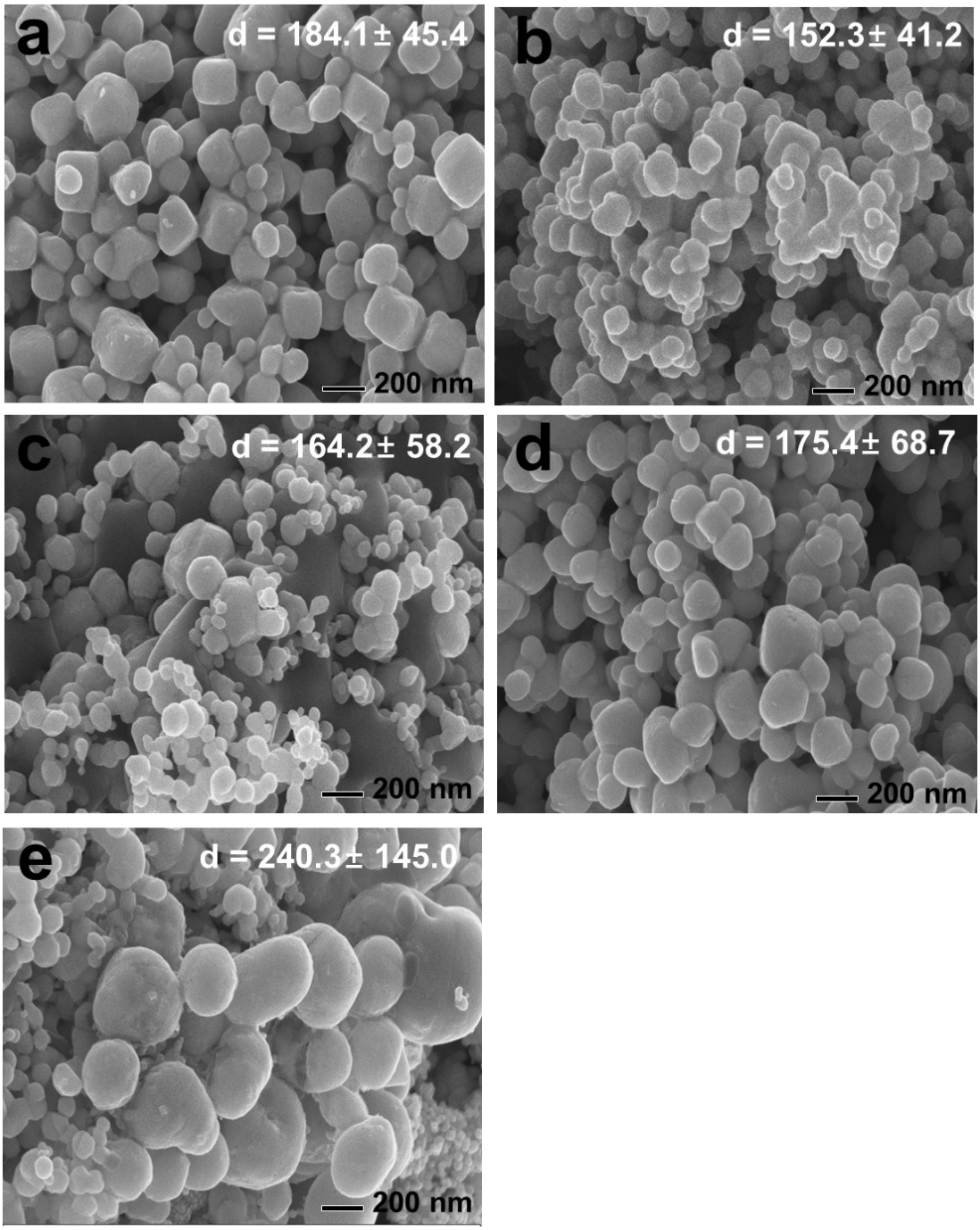

Fig. S4. (a−e) SEM images of AgBr nanoparticles prepared under the same conditions as those in Fig. 2b, except that the synthesis was conducted at various concentrations of $AgNO_3$. The concentration was (a) 0.1 M, (b) 1.0 M, (c) 1.5 M, (d) 2.0 M, and (e) 2.5 M.

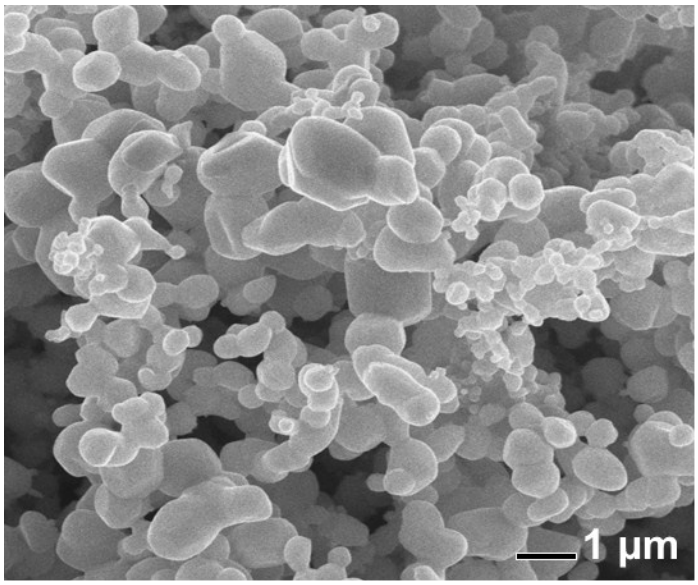

Fig. S5. SEM image of AgBr nanoparticles prepared under the same conditions as those in Fig. 2b, except that the synthesis was conducted in the absence of PEI.

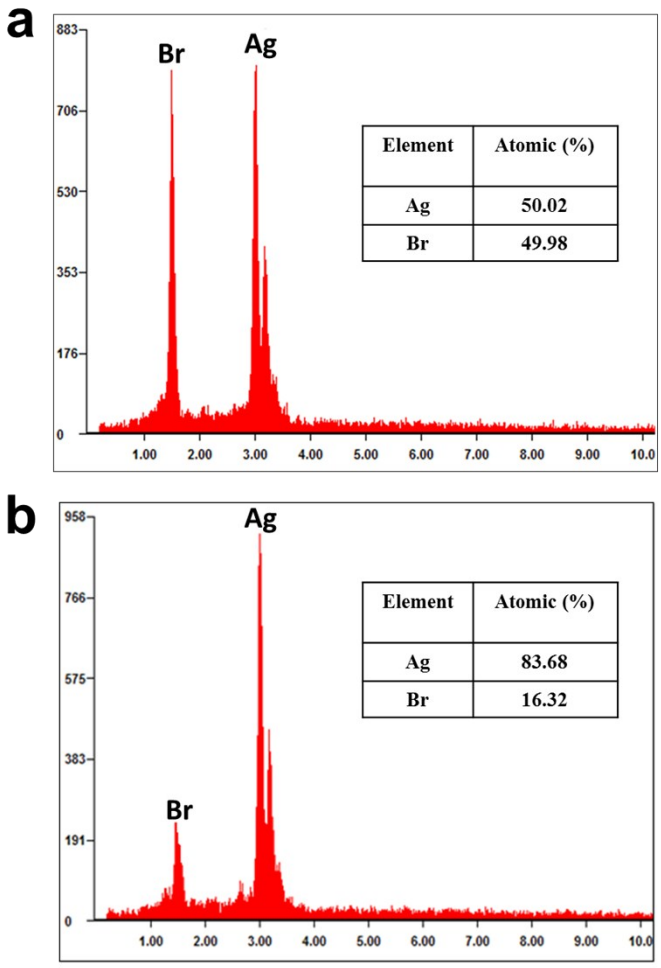

Fig. S6. EDS spectrum of the AgBr and Ag/AgBr-2 as shown in Fig. 2b and Fig. 3f, respectively.

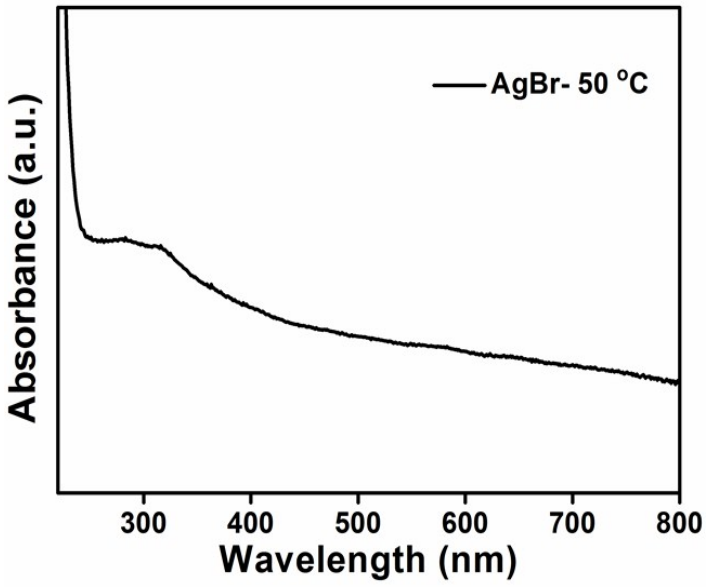

Fig. S7. UV-Vis spectrum of the AgBr nanoparticles prepared at 50 °C shown in Fig. 2b.

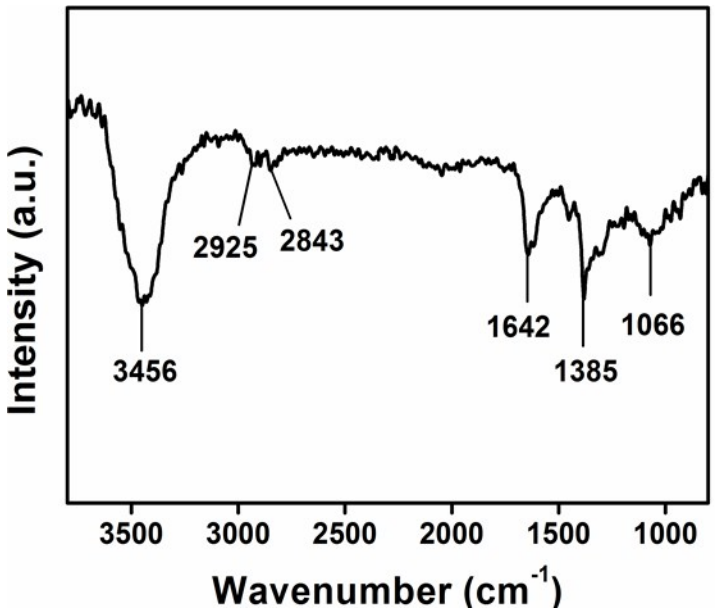

Fig. S8. FT-IR spectrum of the Ag/AgBr hybrid nanostructures shown in Fig. 3f.

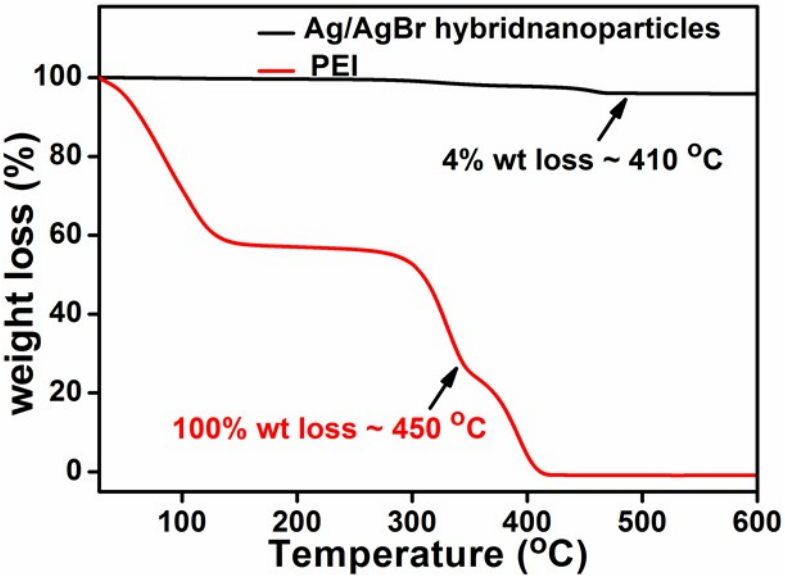

Fig. S9. TGA thermogram of the Ag/AgBr hybrid nanostructures shown in Fig. 3f.