

Electronic Supplementary information (ESI)

Ternary silver chlorobromide nanocrystals: intrinsic influence of size and morphology on photocatalytic activity

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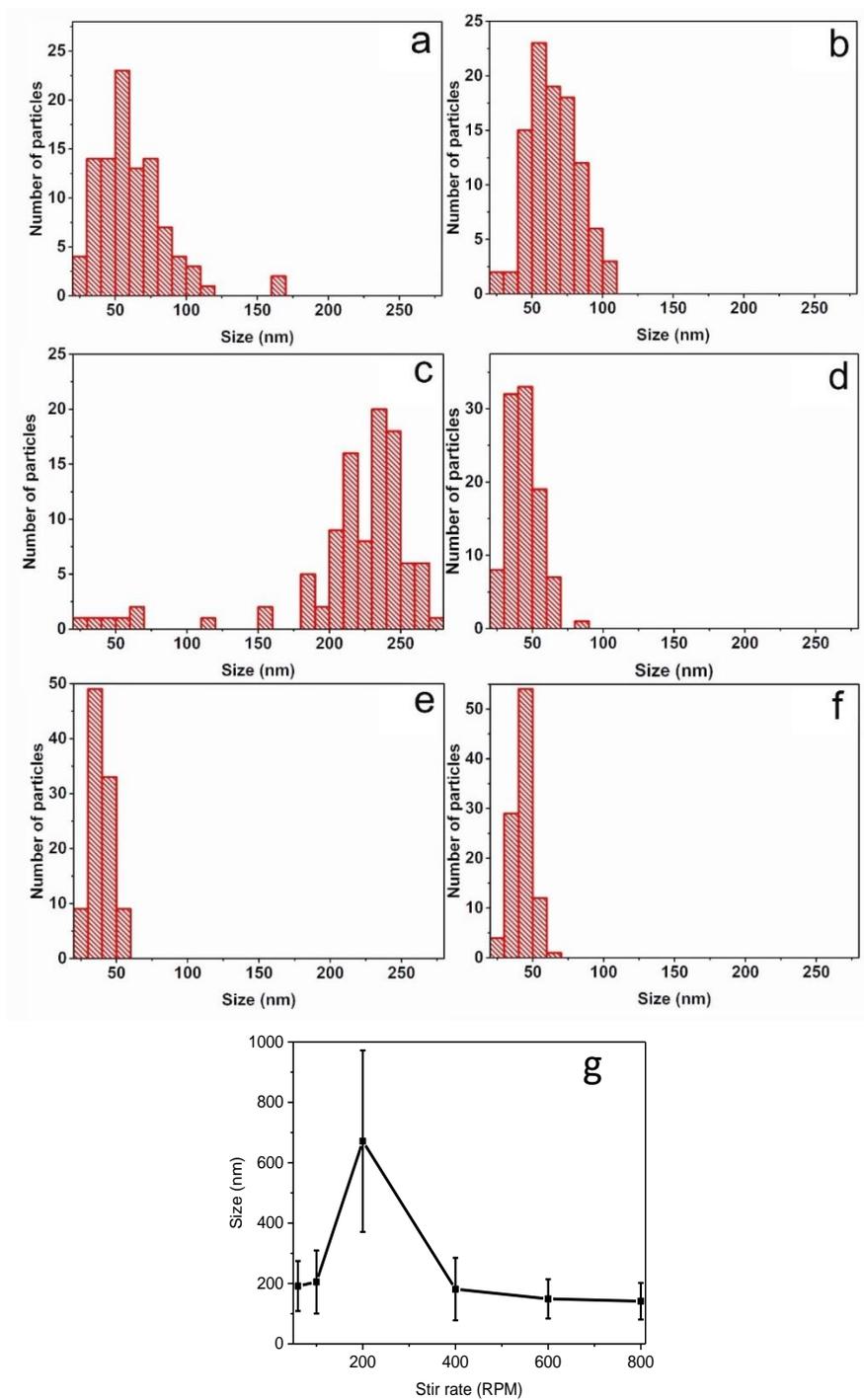


Figure S1. Statistic histograms of size distributions of $\text{AgCl}_{0.5}\text{Br}_{0.5}$ nanoparticles synthesized with various stir rates: a) 60 rpm, b) 100 rpm, c) 200 rpm, d) 400 rpm, e) 600 rpm, and f) 800 rpm. The nanoparticles correspond to the SEM images shown in Figure 1a-f, respectively. Each sample was analyzed with 100 particles. g) Hydrodynamic size and size deviation measured with dynamic light scattering (DLS) method.

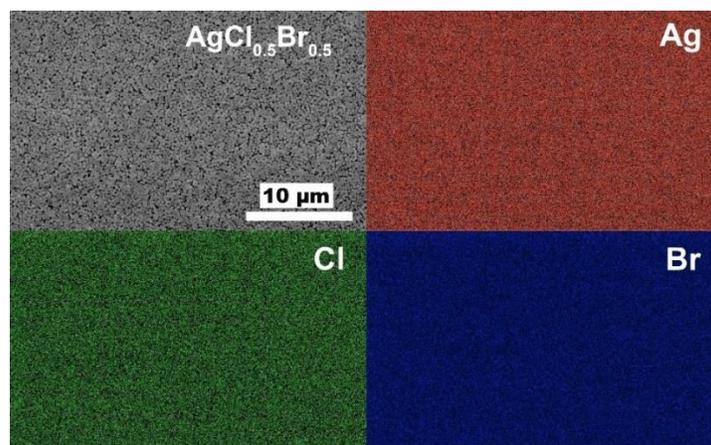


Figure S2. Elemental mapping of the 217-nm nanocubes of $\text{AgCl}_{0.5}\text{Br}_{0.5}$ using energy dispersive X-ray scattering (EDX) method, showing the uniform distribution of Ag, Cl and Br in the nanocubes.

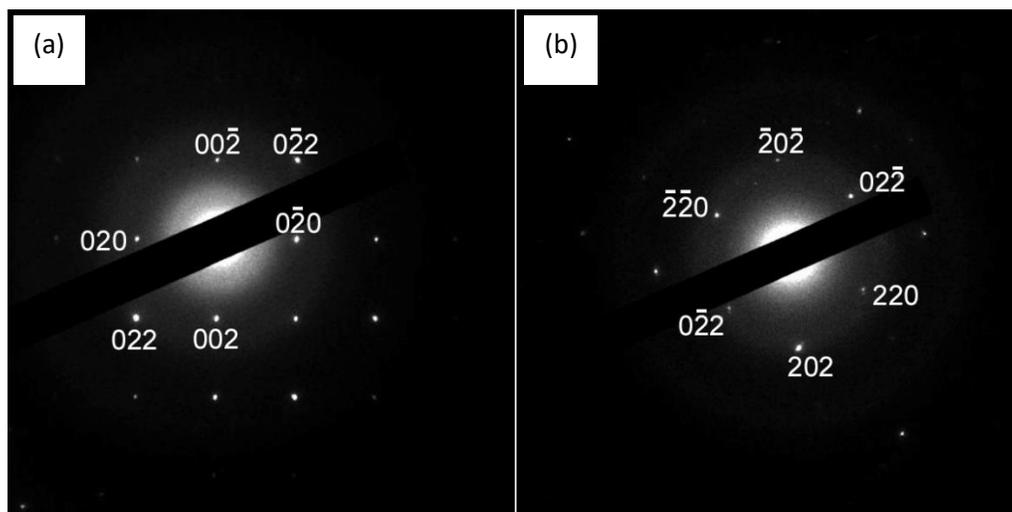


Figure S3. Electron diffraction patterns of a) a nanocube and b) a nanosphere recorded by aligning the electron beam perpendicular to one surface of individual nanoparticles. The square symmetry of the diffraction spots in (a) highlights that the surfaces of the nanocubes are bounded by $\{100\}$ facets. The hexagonal symmetry of the diffraction spots in (b) indicates that the nanospheres are bounded by $\{111\}$ facets.

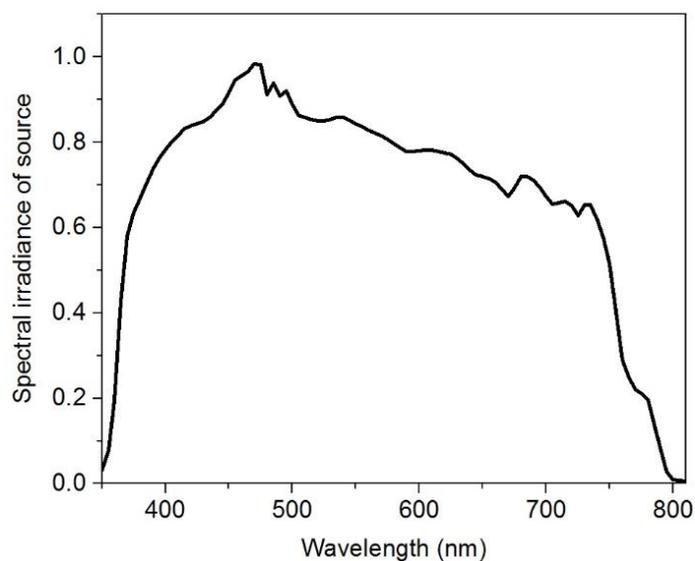


Figure S4. Normalized emission spectra of Xenon light source that was used to irradiate MB solution containing varying photocatalysts.

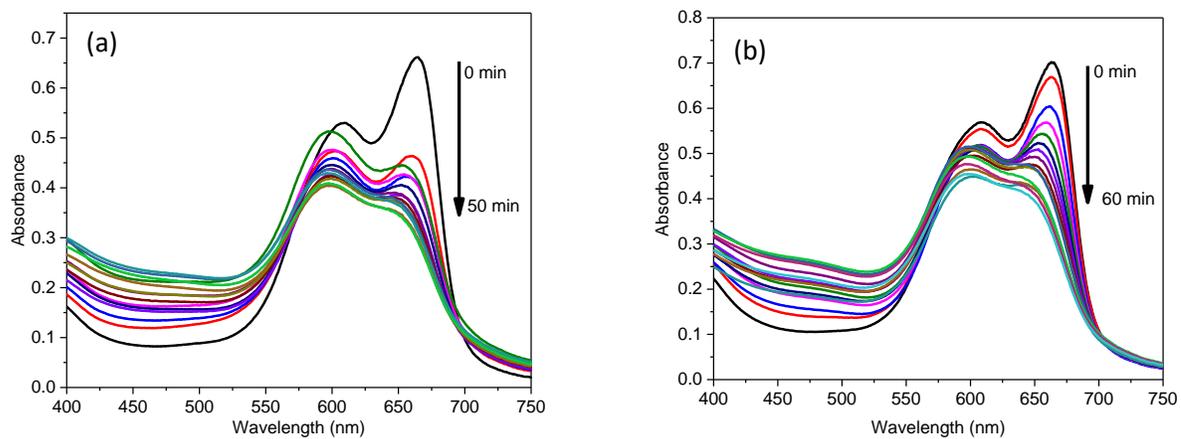


Figure S5. Time-dependent UV-Vis absorbance spectra of MB in the course of photocatalytic reactions with a) 57 nm spheres and b) 43 nm nanocubes as photocatalysts.

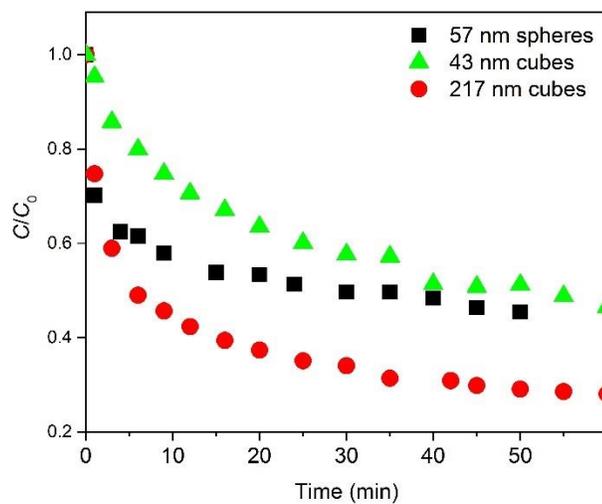


Figure S6. Normalized MB concentration at different reaction times using different nanoparticles as catalysts.