Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

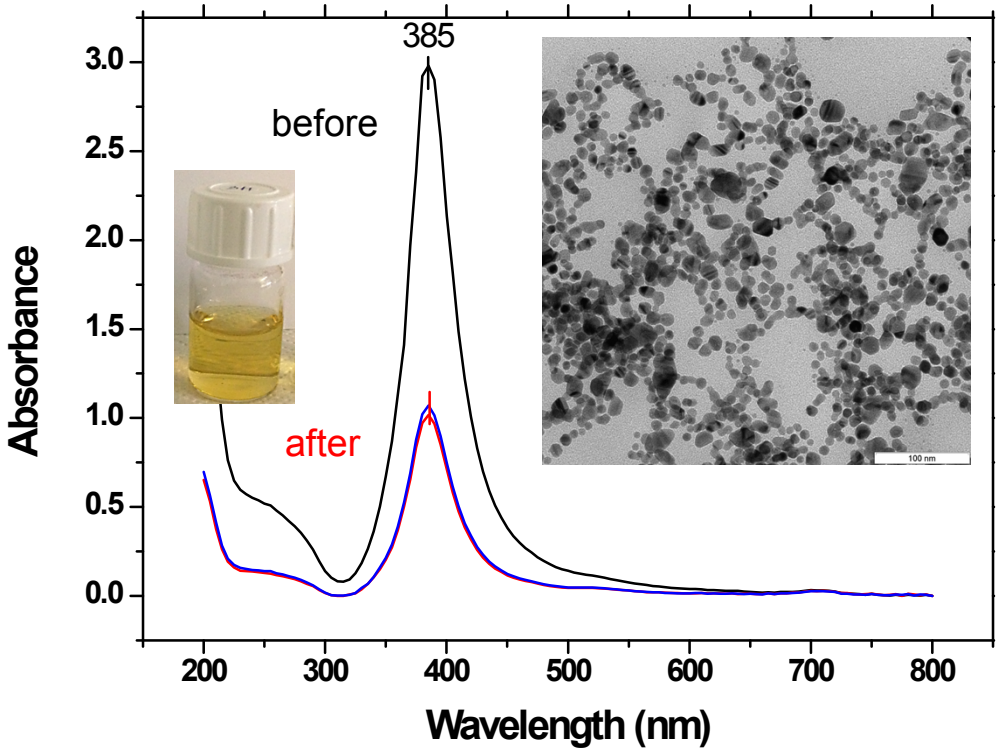

Figure SI.1 UV-Vis absorbance spectra of silver nanoparticles coated with polyethylene glycol (1,000 Da) before and after heat treatment at 37ºC or 70ºC. Two inserts show a snapshot of freshly prepared silver-PEG1 colloidal solution and a corresponding TEM image of these NPs at 70ºC. The scale bar is 100 nm.

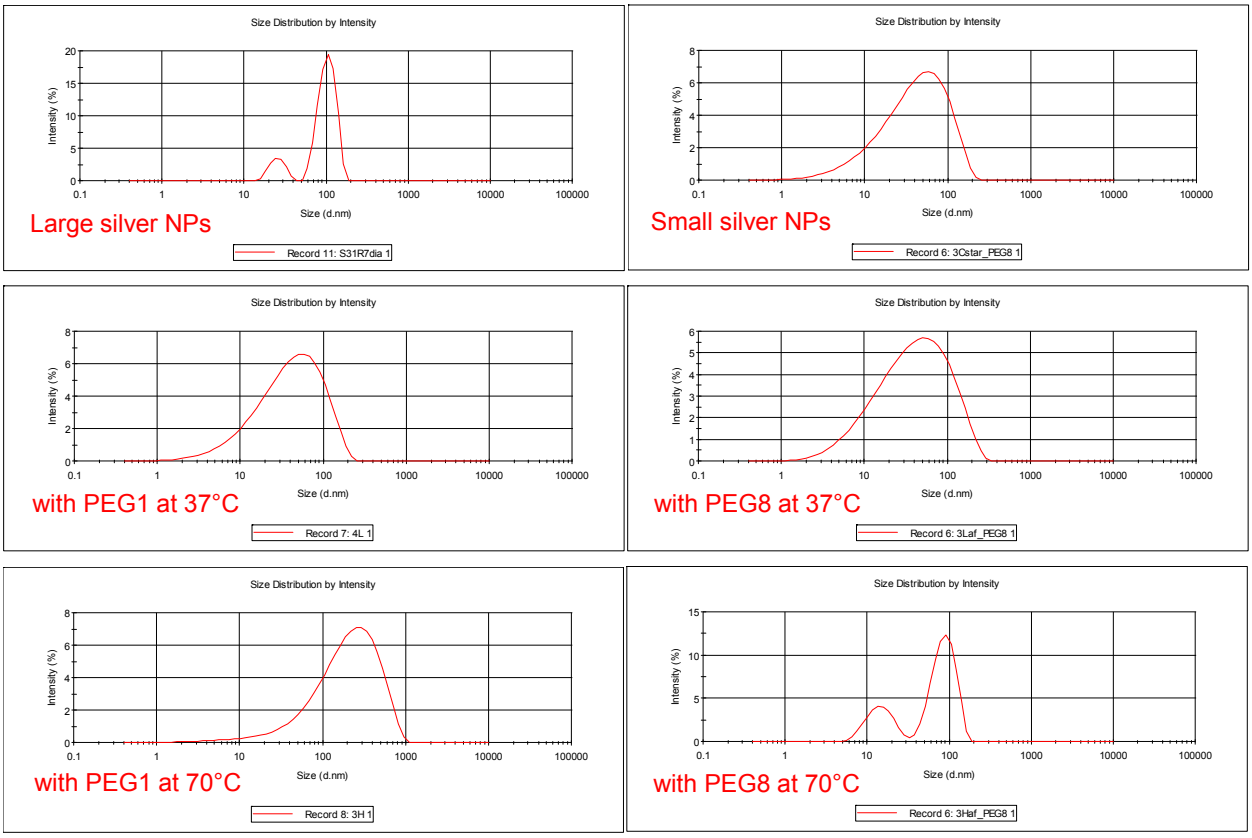

Figure SI.2. Dynamic Light scattering diagrams of large and small silver nanoparticles without polyethylene glycol (upper row), silver nanoparticles in polyethylene glycol with 1,000 Da (PEG1) or 8,000 Da (PEG8) at 37°C (middle row) or at 70°C (lowest row).

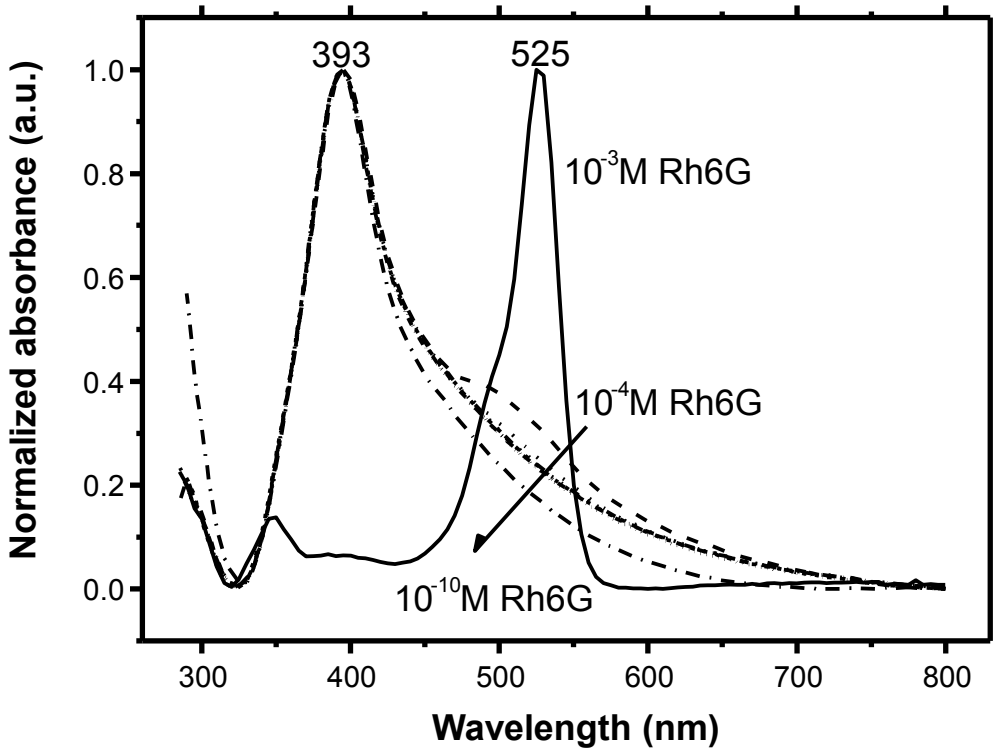

Figure SI.3 UV-Vis absorbance spectra of silver-boron colloidal solution after incubation with rhodamine 6G aqueous solution at different concentration from 10^{-3} mol·L^{-1} to 10^{-10} mol·L^{-1} in the presence of 10^{-4} mol·L^{-1} NaCl.

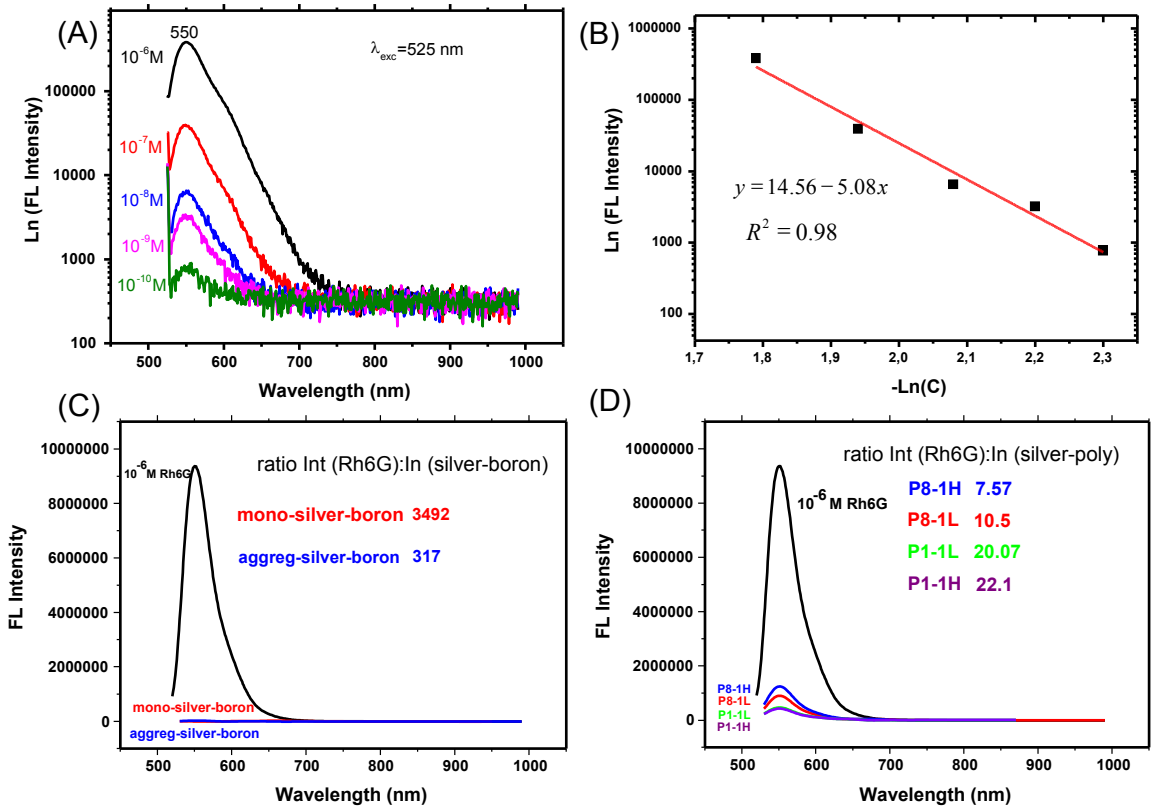

Figure SI.4 Fluorescence spectra of (A) bulk rhodamine 6G aqueous solutions at different concentration from 10^{-6} mol·L^{-1} to 10^{-10} mol·L^{-1} and (B) plot of the fluorescence intensity peaks versus dye concentration; (C) bare silver-boron nanoparticles and (D) silver-PEG nanoparticles.

P8-1L and **P8-1H** are silver NPs coated with 8,000 Da polyethylene glycol after aging at 37°C and 70°C, respectively. **P1-1L** and **P1-1H** are silver NPs coated with 1,000 Da polyethylene glycol after aging at 37°C and 70°C, respectively.

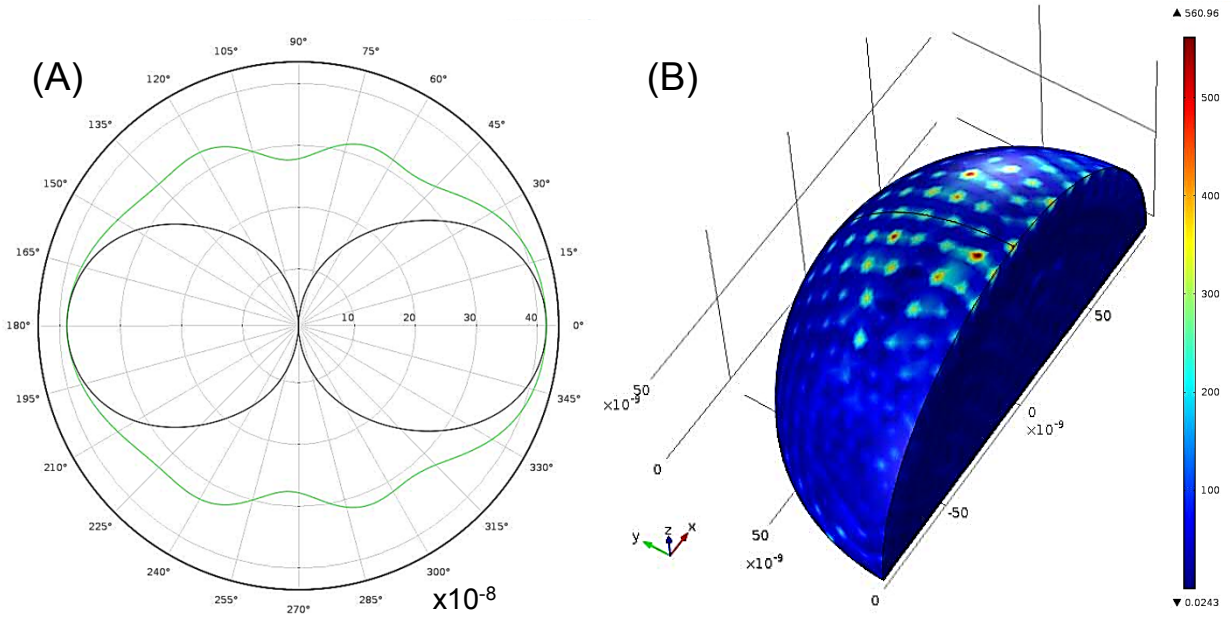

Figure SI.5 (A) 2D far-field scattering diagram with E-field-plane (black) and H-field-plane (green) from the silver NP (100 nm) in water. (B) The 3D electromagnetic power loss density (or total power dissipation density), P_V (W/m^3), over a volume of a silver NP. The excitation wavelength is 785 nm.