

Supporting information

for

Screening Sensitive Nanosensors via the Investigation of Shape-Dependent Localized Surface Plasmon Resonance of Single Ag Nanoparticles

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Addition figures (Fig. S1-S7) are displayed below.

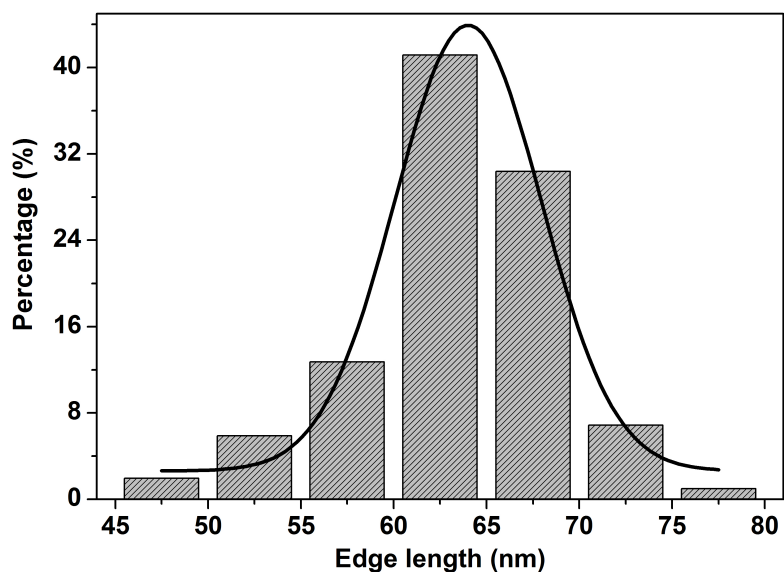


Fig. S1. A bar diagram illustrating the distribution of the edge length of Ag nanocubes. The prepared Ag nanocubes had an average edge length of about 64 nm.

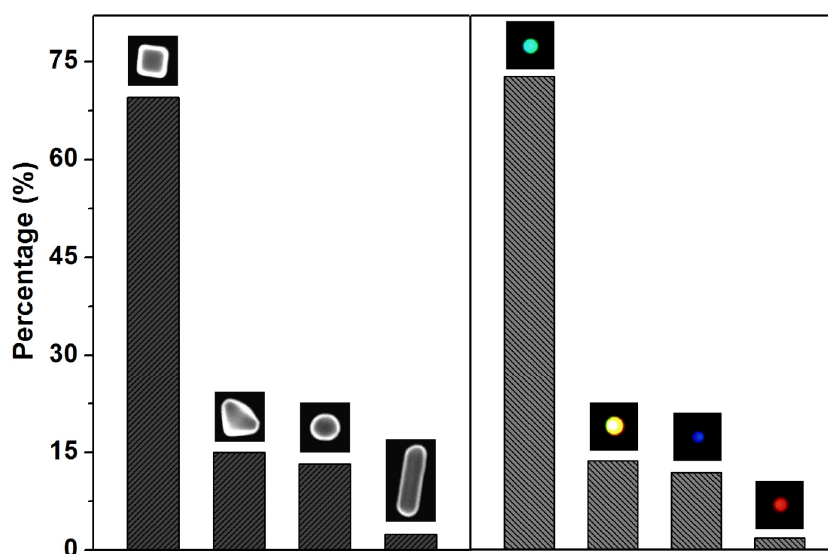


Fig. S2. The statistics of the particle shape and scattering light color populations. The populations of cubes, triangular bipyramids, spheres, and rods are about 69.5%, 15%, 13.2%, and 2.4%, and the populations of cyan, yellow, blue and red lights are 72.7%, 13.6%, 11.8%, and 1.9%, respectively.

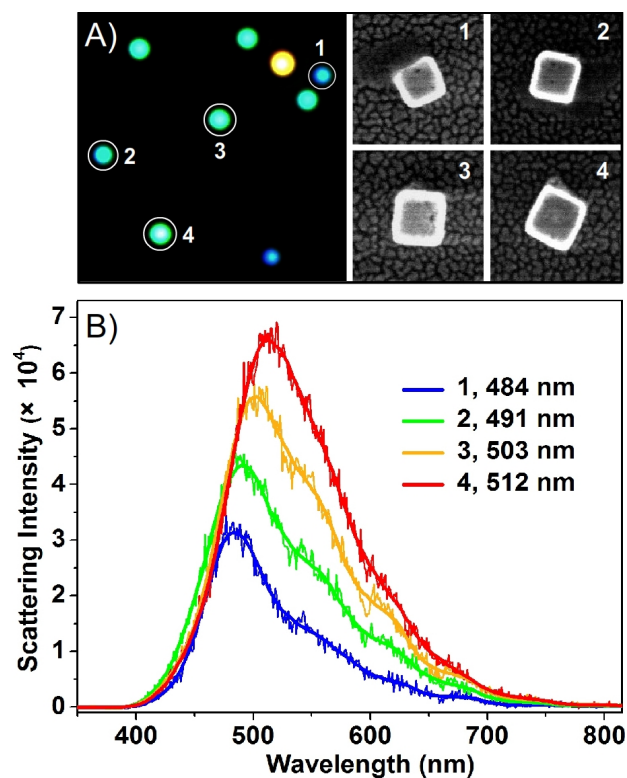


Fig. S3. (A) Dark-field light scattering image of Ag nanoparticle and the corresponding SEM images of numbered particles. The particle sizes are 63.8 nm, 69.6 nm, 76 nm, and 81.4 nm for Particle 1 to 4. (B) Resonant Rayleigh light scattering spectra of the four particles in A. The peak wavelengths are listed in the figure.

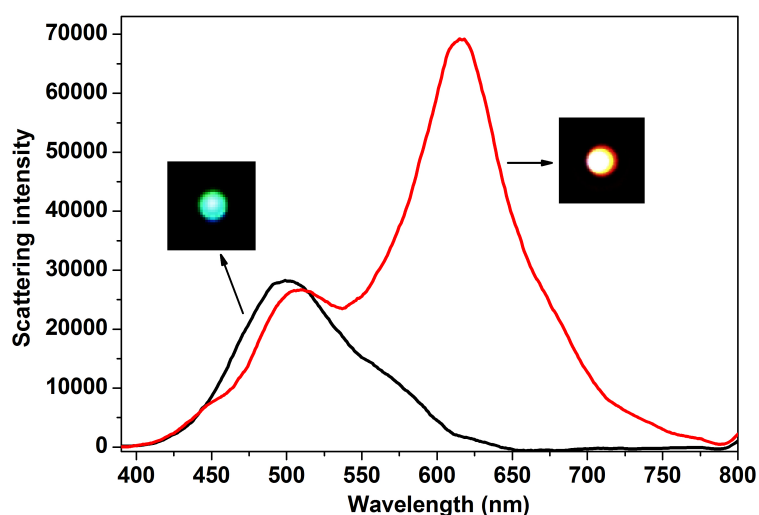


Fig. S4. Resonant Rayleigh light scattering spectra of a single Ag nanocube (black curve) and coupled Ag nanocubes (red curve). The corresponding dark-field light scattering images of the particles are inserted.

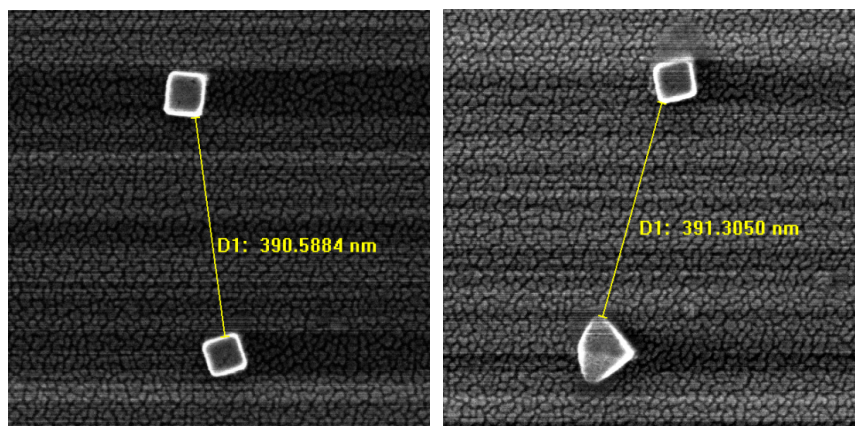


Fig. S5. SEM images of the particles 1 and 2 (left), 7 and 8 (right) in Figure 2A. The both gaps between particles 1 and 2, 7 and 8 are about 390 nm.

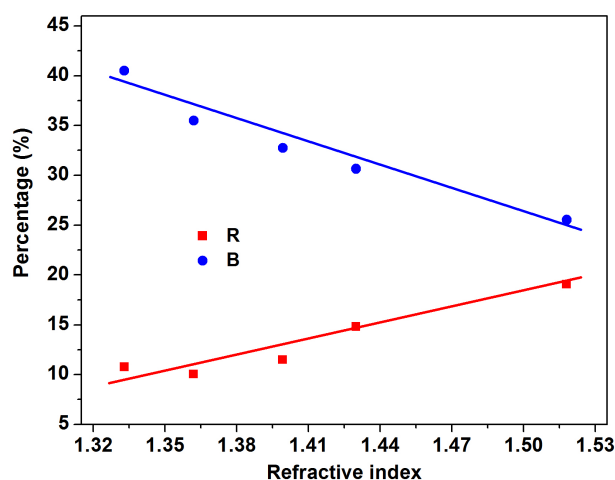


Fig. S6. The relationship of P_R and P_B of the corresponding Ag nanocube in Figure 4A with the surrounding RI.

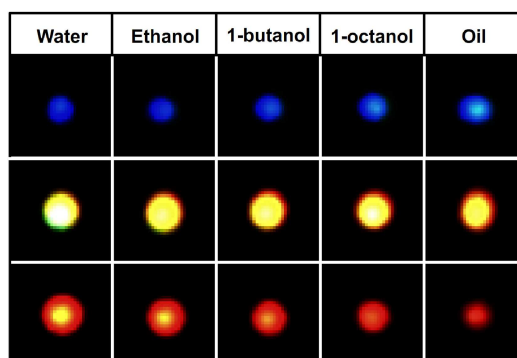


Fig. S7. Dark-field light scattering images of a single Ag nanosphere, triangular nanobipyramid, and nanorod in various solvent environments (left to right): water, ethanol, 1-butanol, 1-octanol, and oil.