Supporting information

Gold Nanoparticle-Enhanced and Size-Dependent Generation of Reactive Oxygen Species from Protoporphyrin IX

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EXPERIMENTAL RESULTS OF CONTROL SAMPLES

The fluoresence intensity of Au NP colloidal soultion (0.67 mM), DHR123 (3.33 μM), PpIX (3.33 μM), and DHR123 solution (3.33 μM) with Au NP colloids (0.67 mM) of various sizes in 96-well plates (150 μL in volume, n=3) was measured using a multi-mode microplate reader (Synergy^{TM} HT, BioTek Instruments, Inc.) at an excitation wavelength of 485/20 nm and an emission wavelength of 528/20 nm at one-minute interval after every one minute irradiation with 24 mW 532 nm laser. The results are summarized in Figure S1.

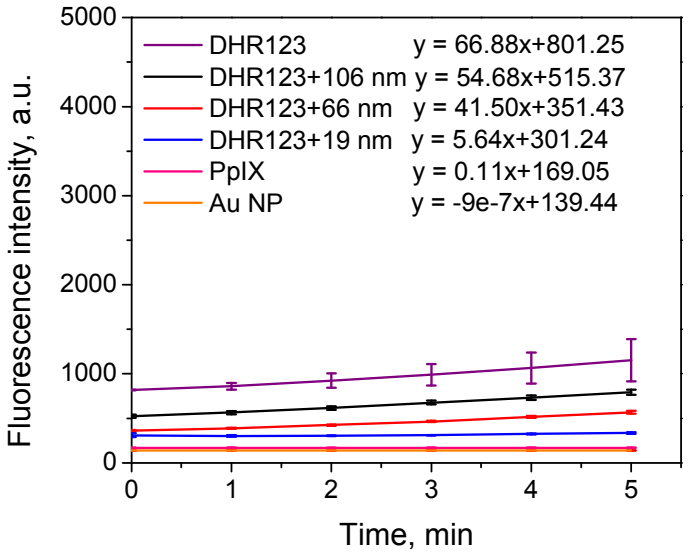

Figure S1. Fluorescence analysis of pure Au NPs, PpIX, DHR123, and DHR123 with various Au NP colloids (19 nm, 66 nm, and 106 nm) after irradiation.

The fluorescence intensity of Rhodamine 123 (R123, 3.33 μM) in 96-well plates (150 μL in total volume, n=3) with Au NPs (0.67 mM) of various sizes was measured using a multi-mode microplate reader (Synergy™ HT, BioTek Instruments, Inc.) at an excitation wavelength of 485/20 nm and an emission wavelength of 528/20 nm after every one minute irradiation with 24 mW 532 nm laser. The results after normalization by the intensity of 19 nm Au NPs are summarized in Figure S2.

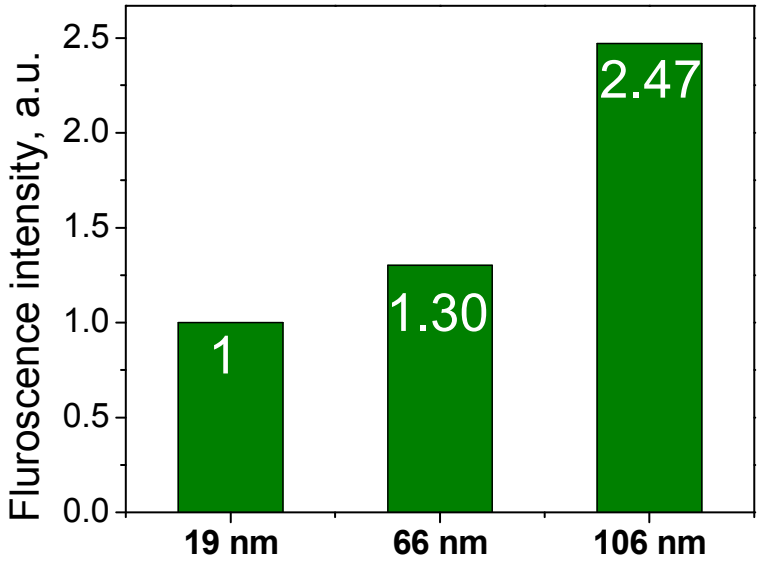

Figure S2. Comparison of the fluorescence intensity of R123 in the presence of Au NPs of various sizes.