Supplementary data for

Colorimetric detection of UV light-induced single-strand DNA breaks using gold nanoparticles

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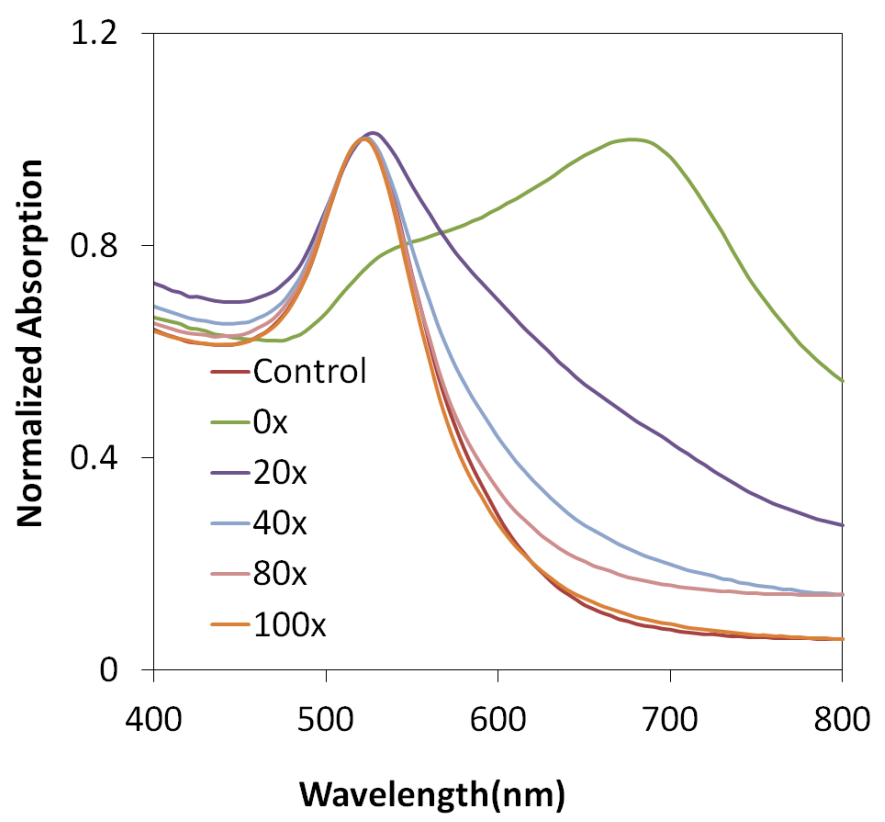
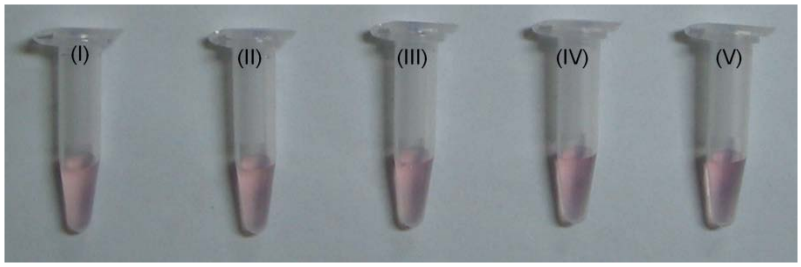
Materials

All the chemicals were purchased from Sigma-Aldrich (Louisiana, USA) and used as received. HPLC-grade purified DNA, poly(dA)$_{20}$ (M.W=6202.2 g/mole, ε= 243400 L/mol·cm), and 5'-GGA AAG GAG CGA AGG AGA GG-3' (M.W=6354.2 ε= 221100 L/mol·cm) were obtained from Bioneer (Daejeon, South Korea).

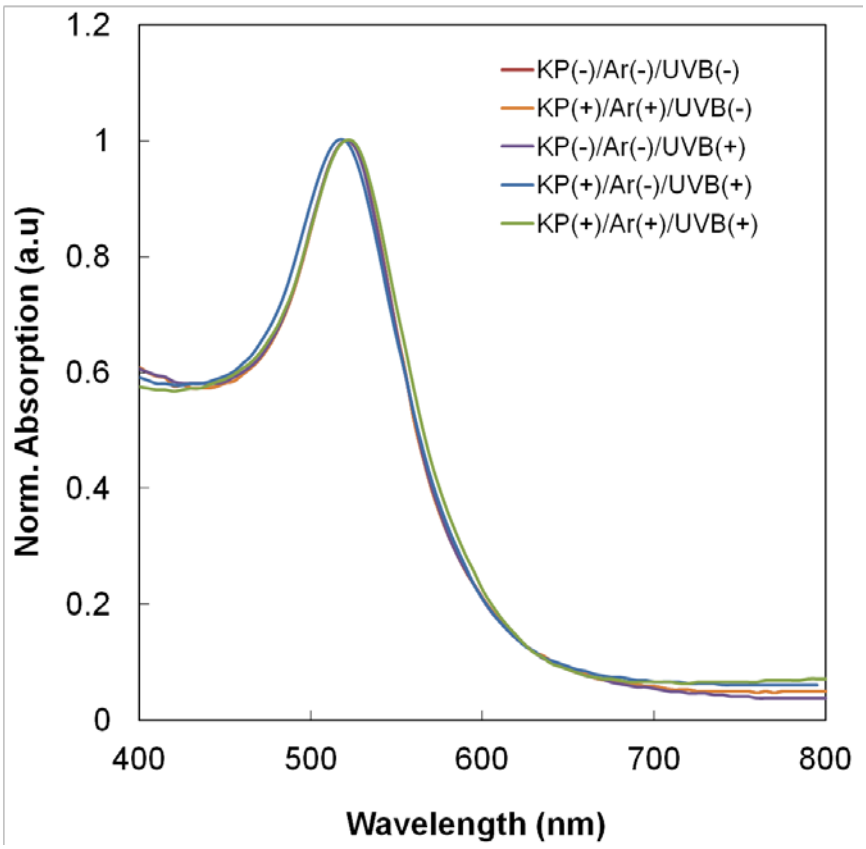


FigS1. Normalized absorption spectra of mixtures containing AuNPs and various amount of DNA against to 30 mM KCl in 10 mM HEPES pH 7.4.

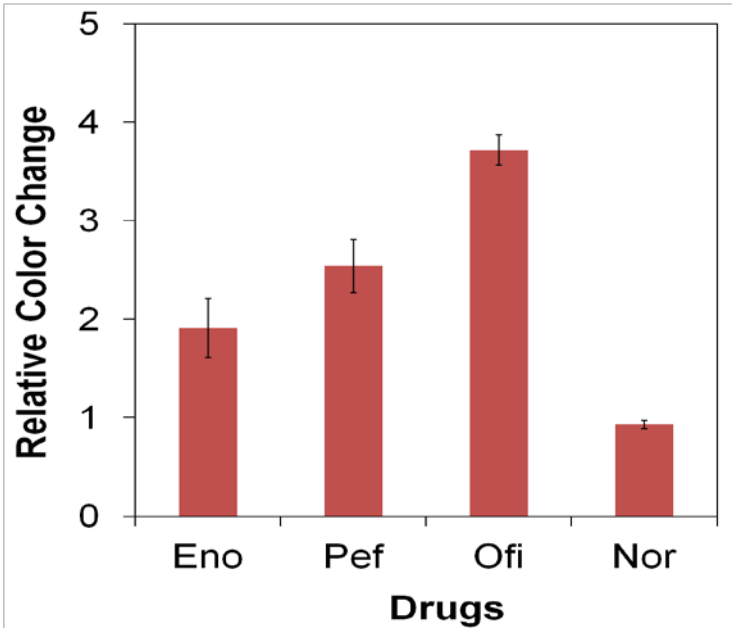
(a)



(b)



FigS2. (a) Photograph and (b) absorption spectra of mixtures of AuNPs and poly(A)$_{20}$ exposed to different combinations of UVB irradiation (UVB), ketoprofen (KP) and argon (Ar) purging. (I): ss DNA without UVB irradiation, Ar purging and KP, (II): without UVB irradiation, with Ar purging and with KP, (III): with UVB irradiation, without KP and without Ar purging, (IV): with UVB irradiation, with Ar purging and with KP, and (V): with UVB irradiation, without Ar purging and with KP.



FigS3. Parallel screening of the photosensitization of DNA. After UVB irradiation of ss DNA in the presence of various drugs, the DNA was mixed with AuNPs, followed by the addition of salt. The color changes of the samples were were analyzed quantitatively by measuring the absorption ratios of the samples and dividing them by the absorption ratio for the sample containing AuNPs and UVB-irradiated DNA in the absence of drugs Eno: enoxacin, Per: pefloxacin, Ofi: ofloxacin, and Nor: norfloxacin