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Supporting Information

Dual Wavelength-Activatable Gold Nanorod Complex for Synergistic Cancer Treatment

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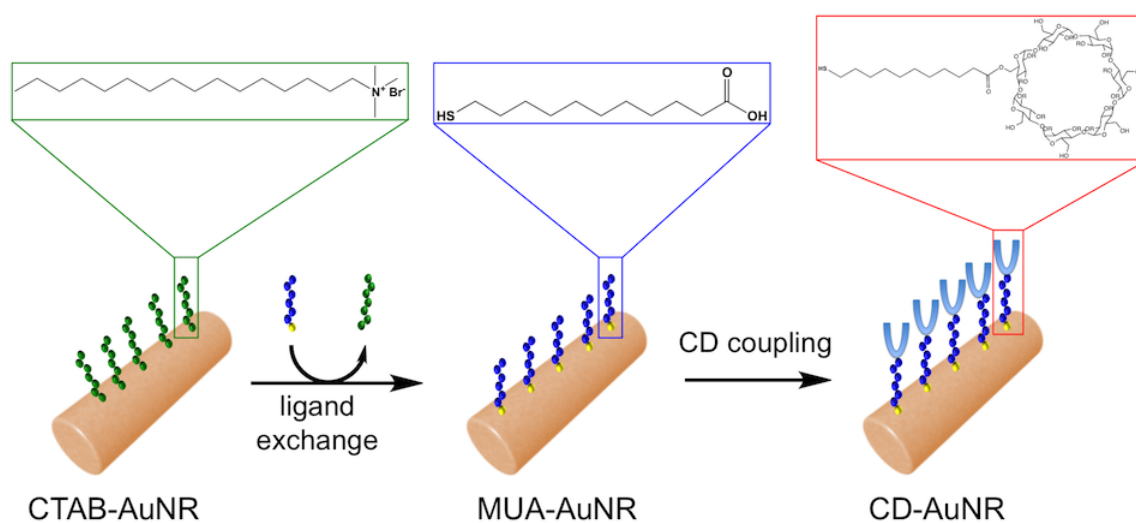


Fig. S1. Step-by-step functionalization AuNRs. CTAB-AuNR was converted to MUA-AuNR via ligand exchange method while MUA-AuNR was coupled with CD to produce CD-AuNR.

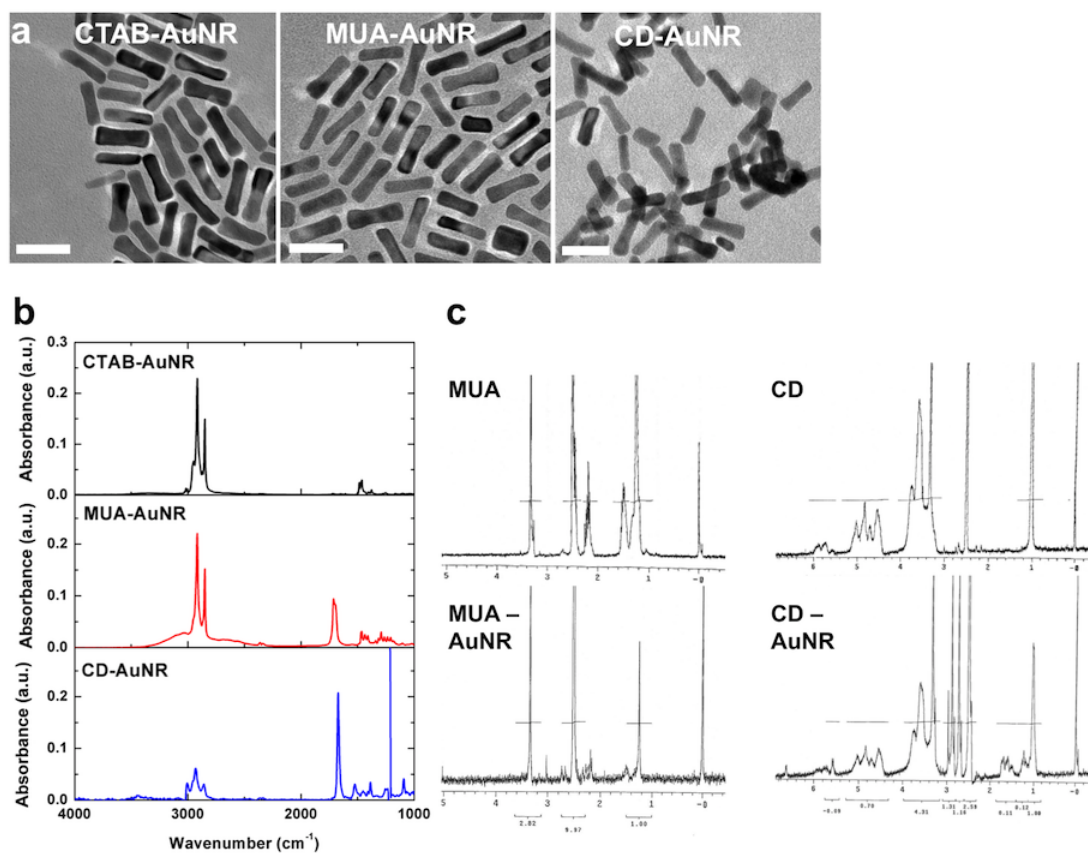


Fig. S2. Characterization of AuNRs using A) TEM, B) FTIR and C) ^1H NMR analyses. For the TEM analysis, aspect ratios of the different AuNRs were calculated to be 3.7 ± 0.6 for CTAB-AuNR, 3.6 ± 0.5 for MUA-AuNR and 3.7 ± 0.7 for CD-AuNR. For the ^1H NMR analysis, the comparison of the spectra generated by AuNRs with the starting materials of MUA and CD showed functionalization of MUA-AuNR and CD-AuNR.

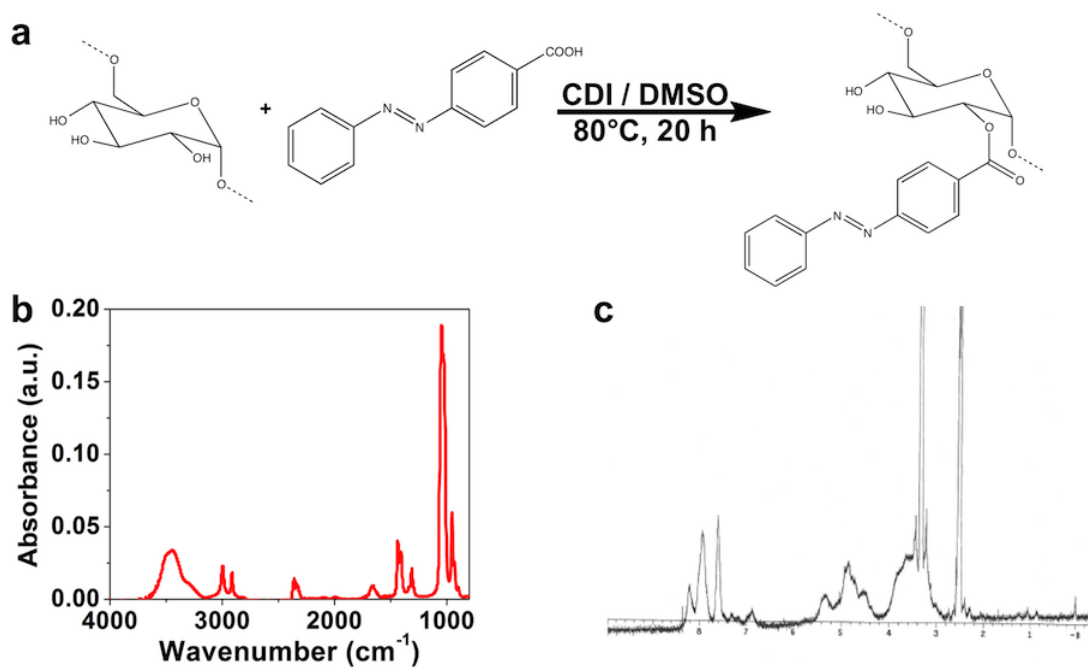


Fig. S3. A) Scheme of the synthesis of DexAzo. Characterization of DexAzo using B) FTIR and C) ^1H NMR.

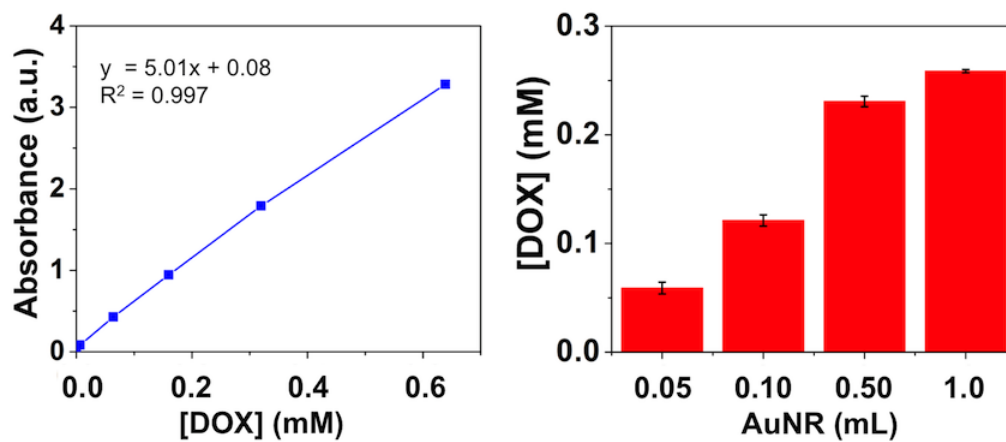


Fig. S4. DOX encapsulation in AuNR-DexAzo complex. A) Standard calibration curve to determine DOX concentration and B) concentration of DOX encapsulated per volume of AuNR.

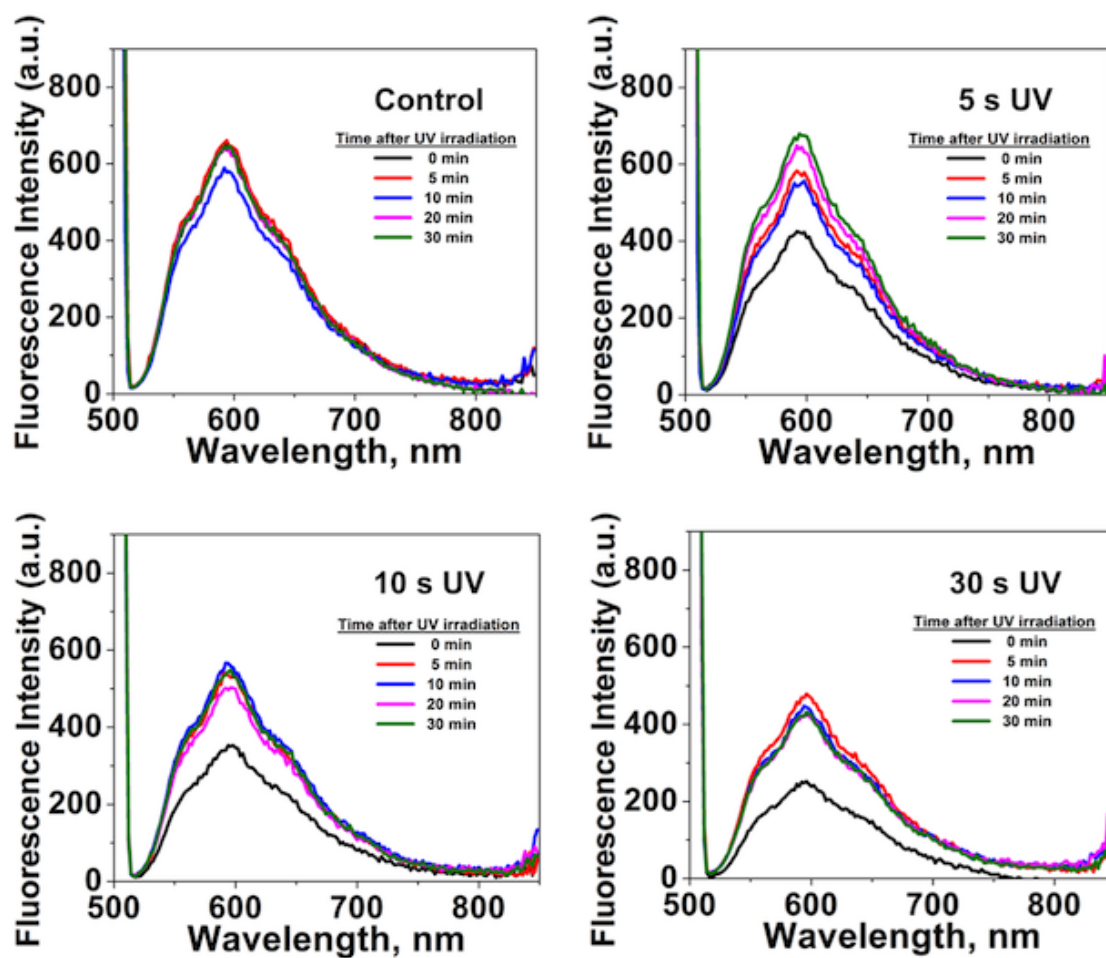


Fig. S5. Plots of fluorescence scan illustrating DOX release profiles at different UV irradiation times.

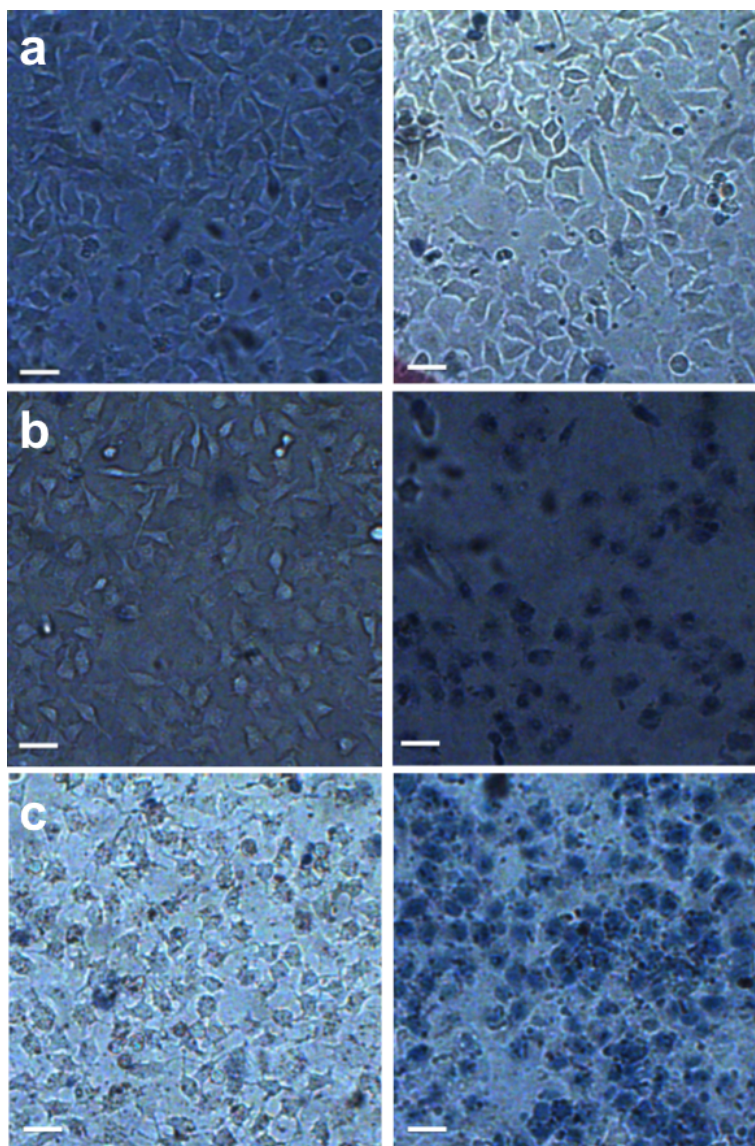


Fig. S6. Photothermal effect of IR irradiation. Bright-field images of HeLa cells without (left column) and with (right column) laser irradiation: A) HeLa cells only, B) HeLa cells incubated with FA-CD-AuNR-DexAzo and C) HeLa cells incubated with DOX-loaded FA-CD-AuNR-DexAzo (Scale bars = 10 μm). The cells are stained using trypan blue.

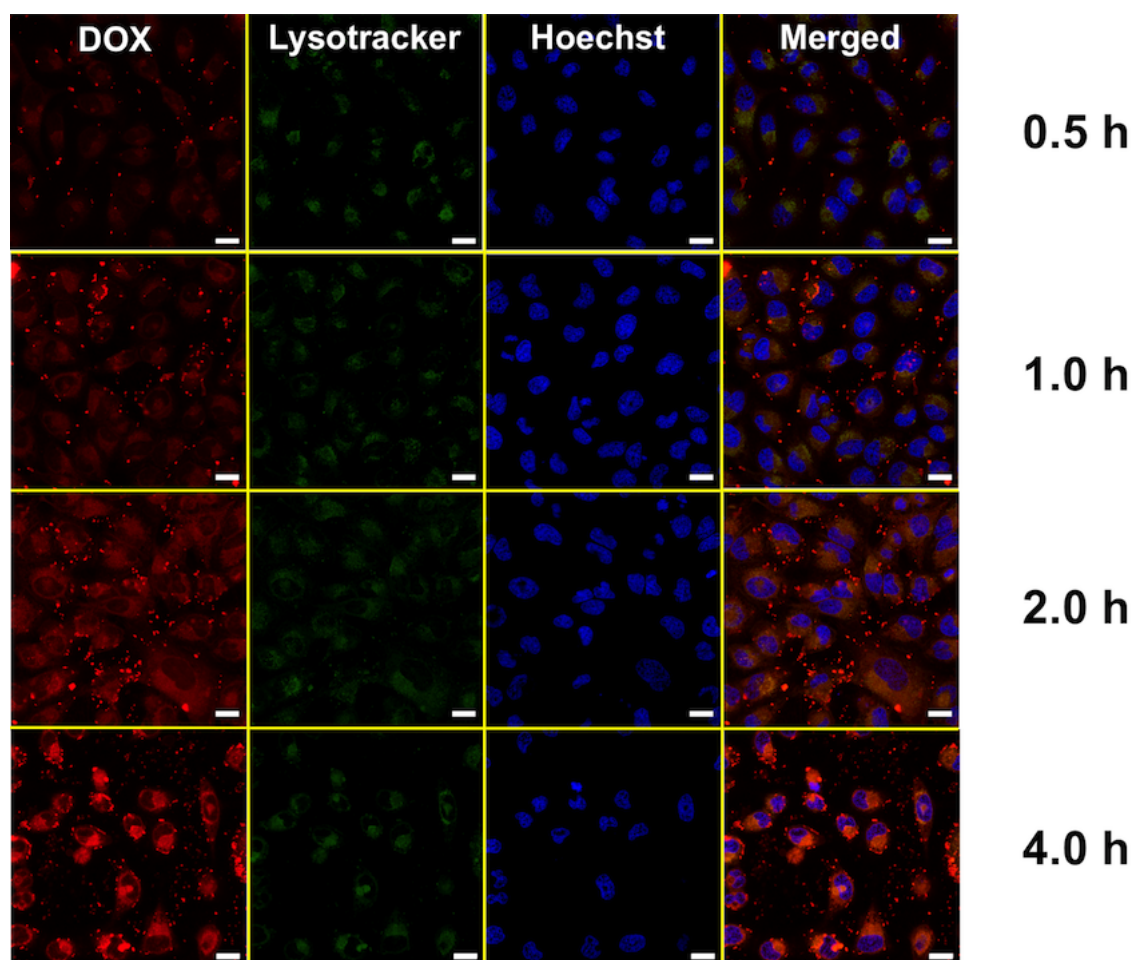


Fig. S7. Confocal laser scanning microscopy images of cells incubated with DOX-loaded AuNR-DexAzo complex at different time points after 5 s of UV exposure.