

Supporting Information

Atomically-precise Au₂₅(SG)₁₈ nanoclusters: Rapid single-step synthesis and application in photothermal therapy

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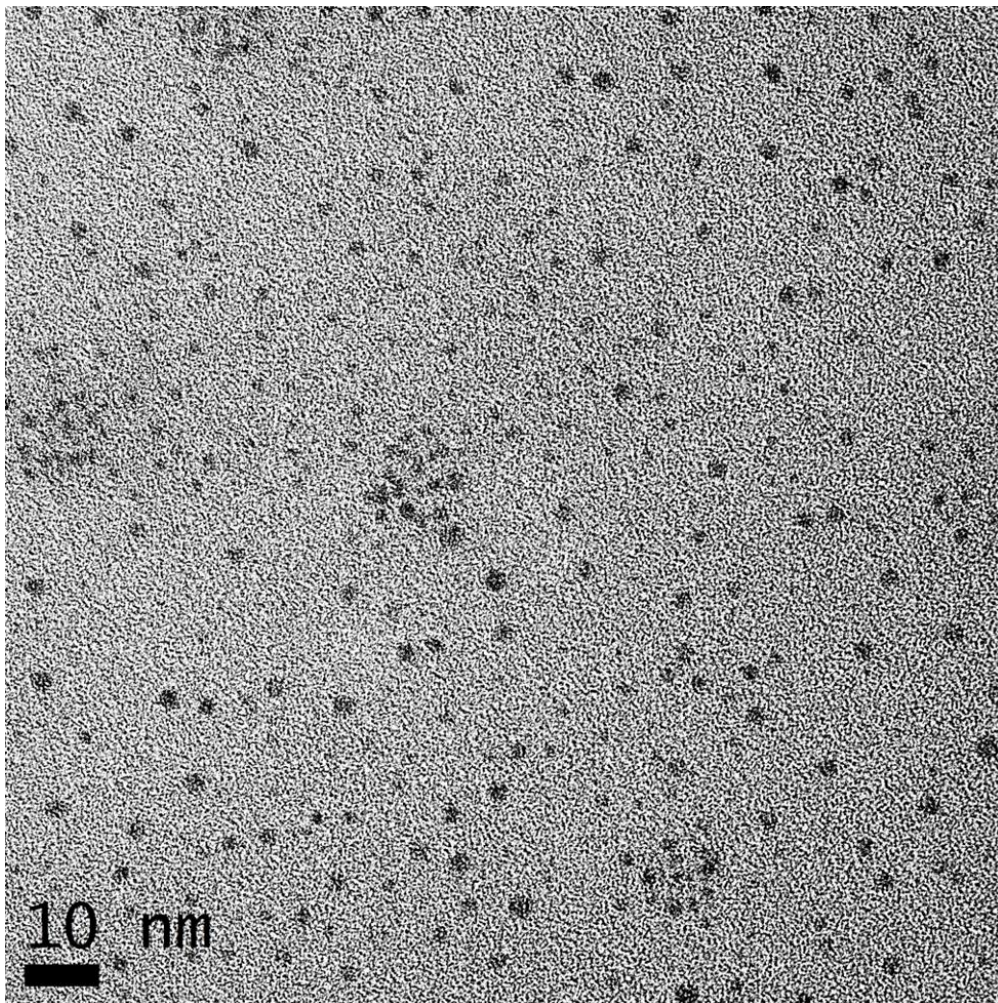


Figure S1. TEM image of the $\text{Au}_{25}(\text{SG})_{18}$ synthesized at room temperature for 24 h showing nanoclusters of ~ 2 nm.

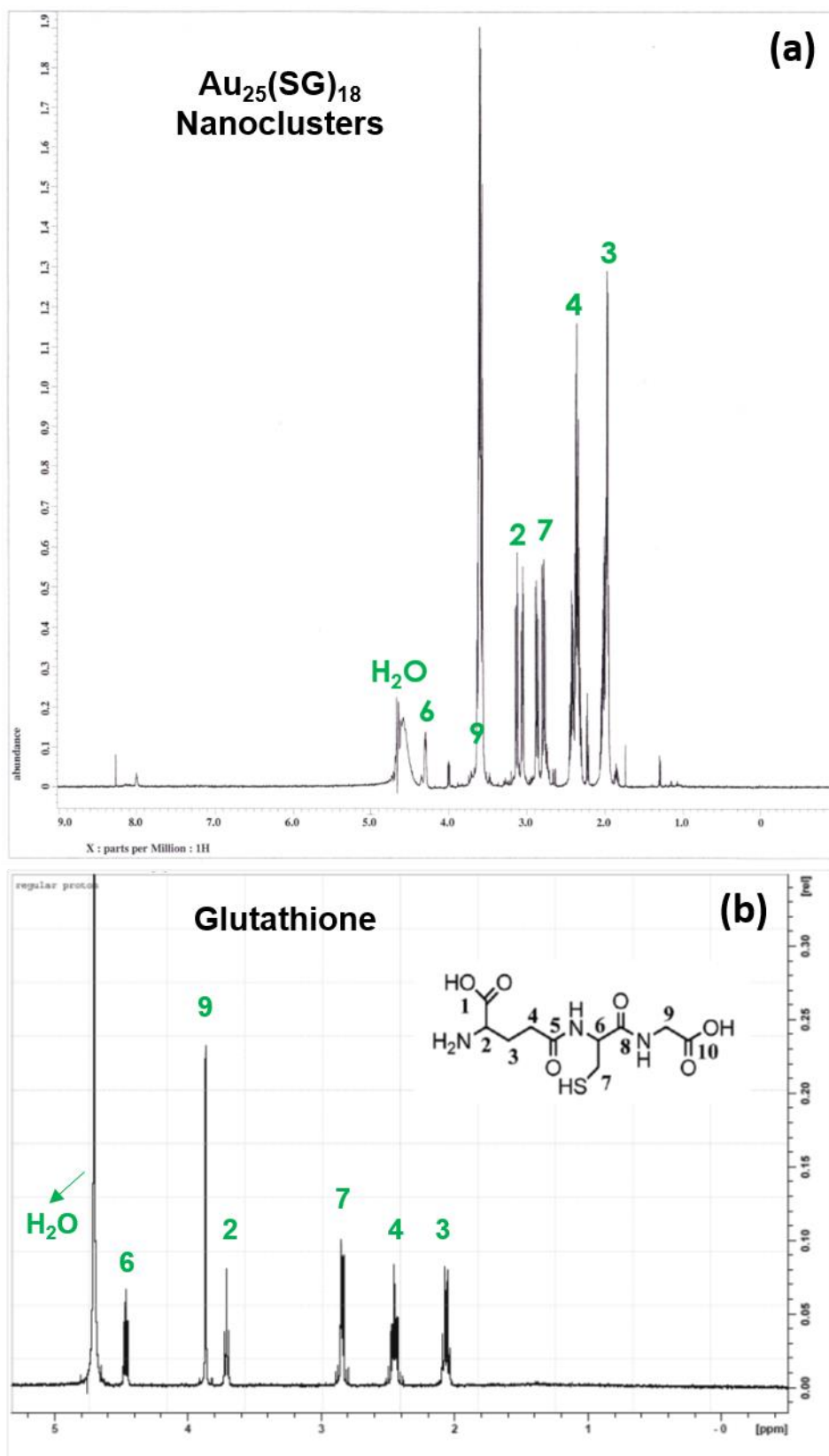


Figure S2. ^1H NMR spectrum of (a) the $\text{Au}_{25}(\text{SG})_{18}$ nanoclusters synthesized at room temperature for 24 h and (b) pure glutathione molecules. The characteristic ^1H NMR peaks for glutathione are numbered on the structure of glutathione (inset).

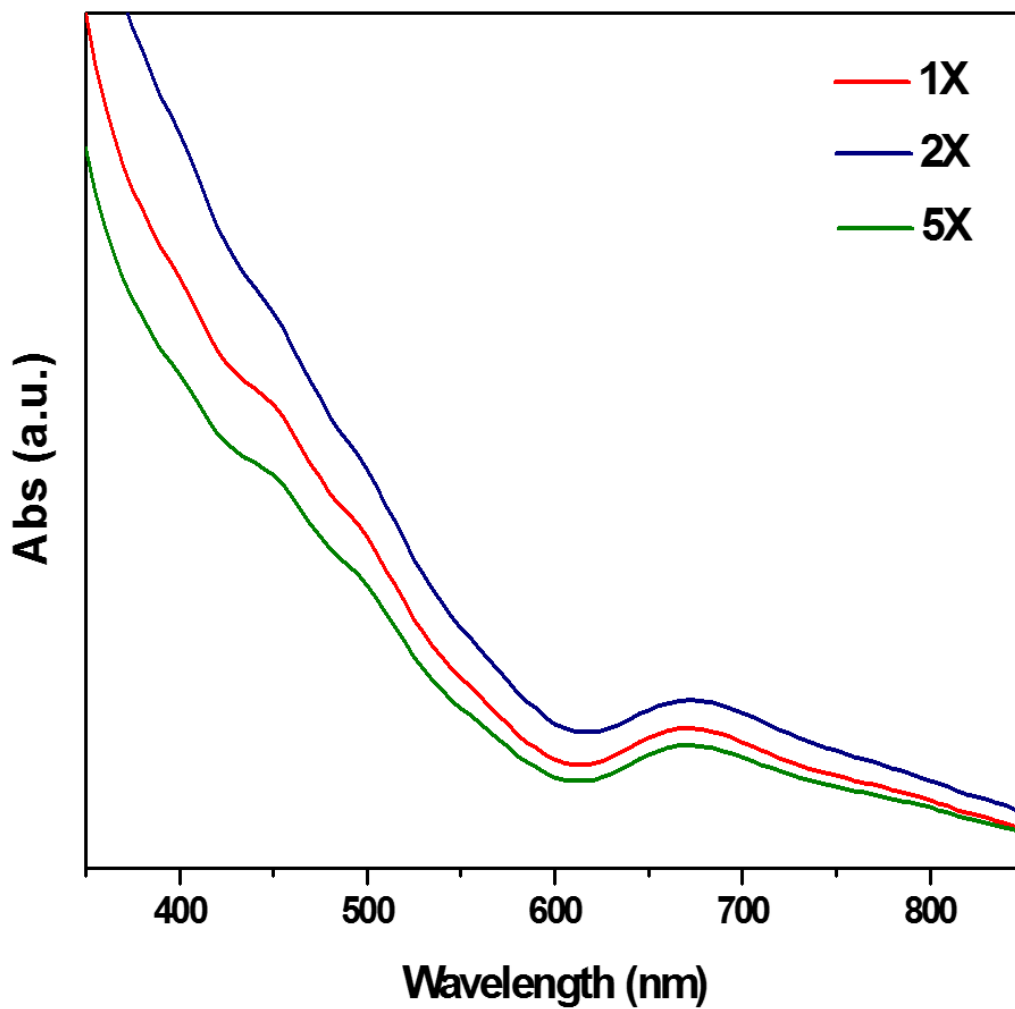


Figure S3. UV-Visible absorption spectra of the Au₂₅(SG)₁₈ nanoclusters synthesized at room temperature for 24 h using different volumes of reactants (1X, 2X, and 5X times the original volume).

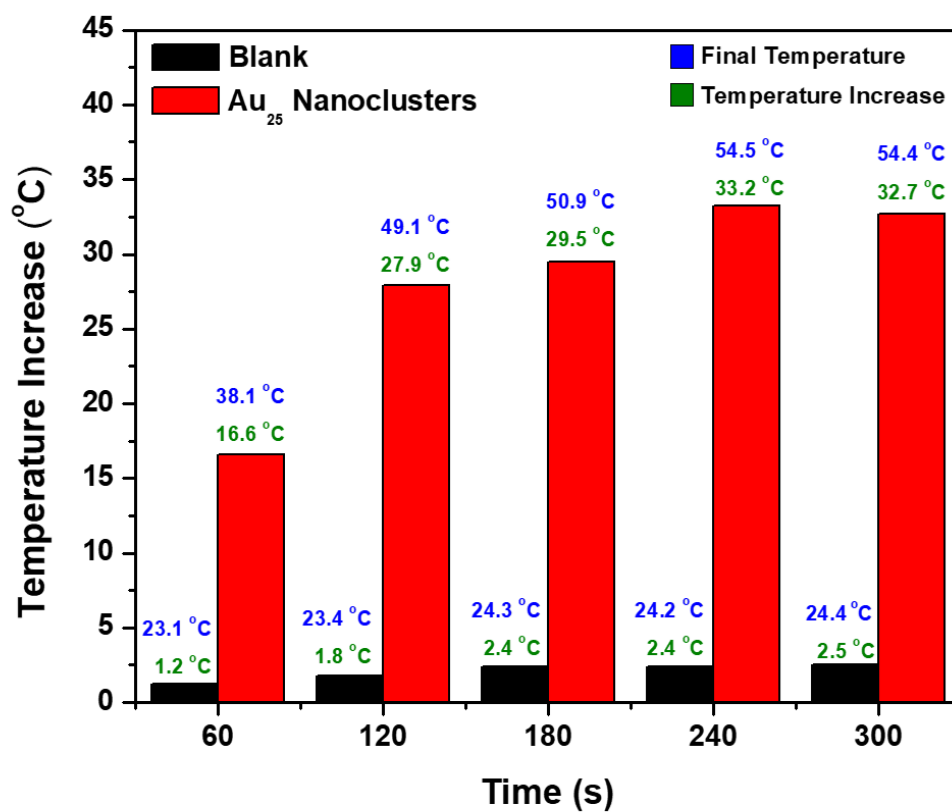


Figure S4. The PTT effect of Au₂₅(SG)₁₈ nanoclusters studied at different times.

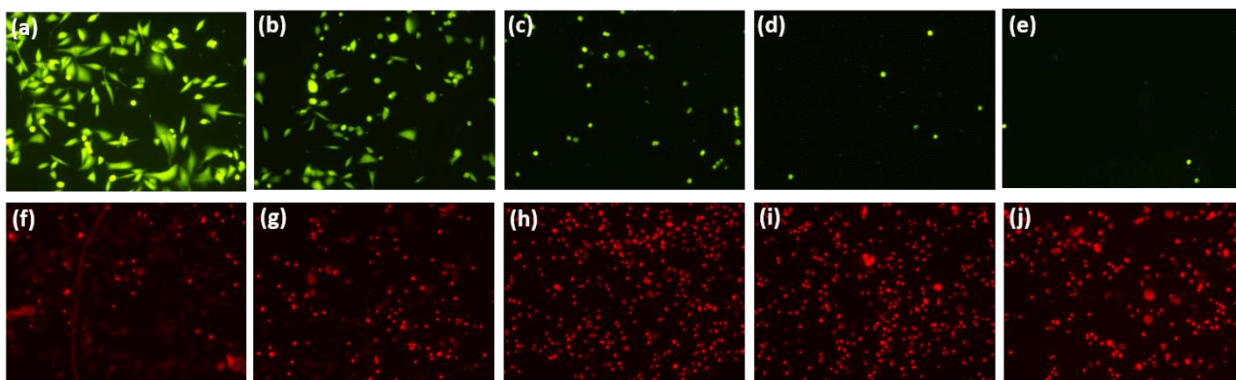


Figure S5. MDA-MB-231 cells stained with (a-e) Calcein-AM and (f-j) EthD-1 after laser irradiation (power = 8.75 W/cm^2) for a time duration of 1 min to 5 min, respectively.

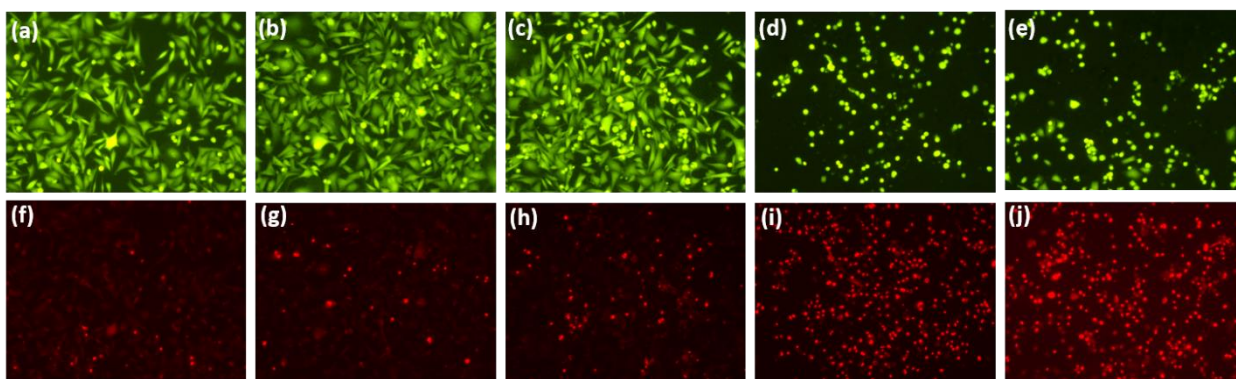


Figure S6. MDA-MB-231 cells stained with (a-e) Calcein-AM and (f-j) EthD-1 after laser irradiation (power = 7.5 W/cm^2) for a time duration of 1 min to 5 min, respectively.

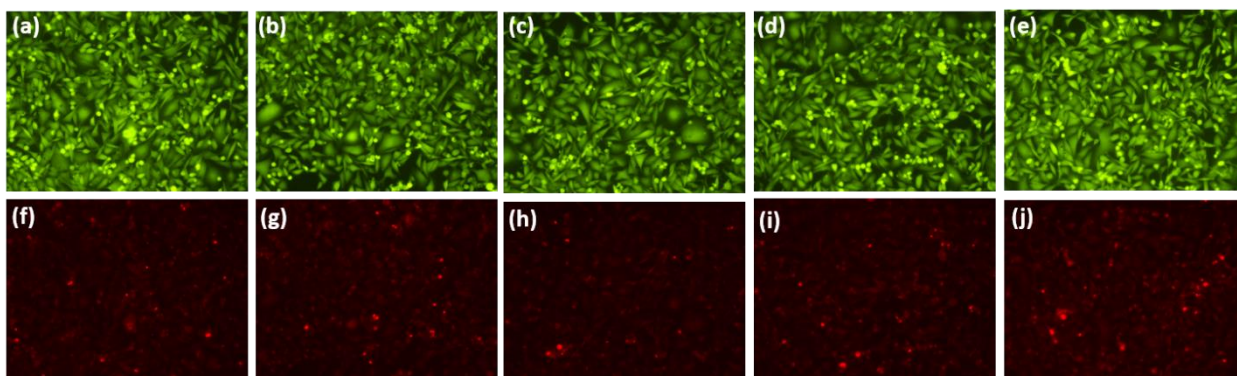


Figure S7. MDA-MB-231 cells stained with (a-e) Calcein-AM and (f-j) EthD-1 after laser irradiation (power = 6.25 W/cm^2) for a time duration of 1 min to 5 min, respectively.

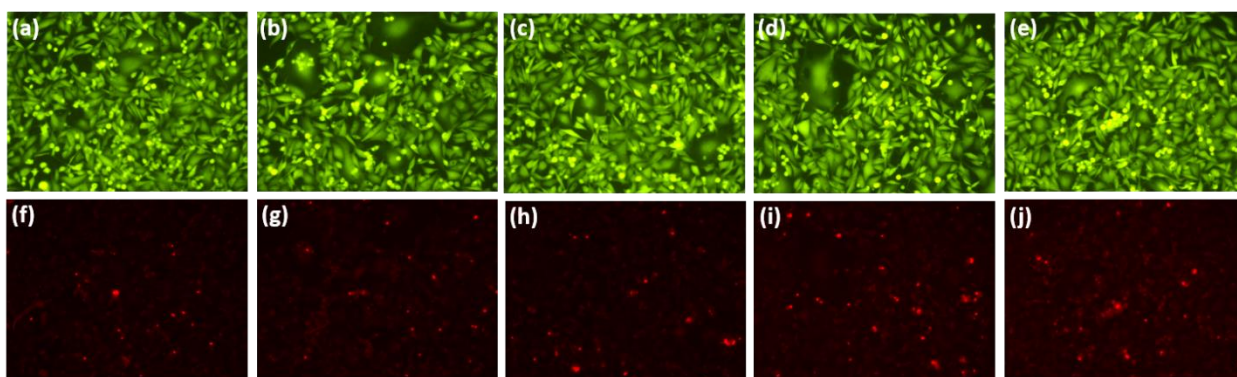


Figure S8. MDA-MB-231 cells stained with (a-e) Calcein-AM and (f-j) EthD-1 after laser irradiation (power = 5 W/cm²) for a time duration of 1 min to 5 min, respectively.

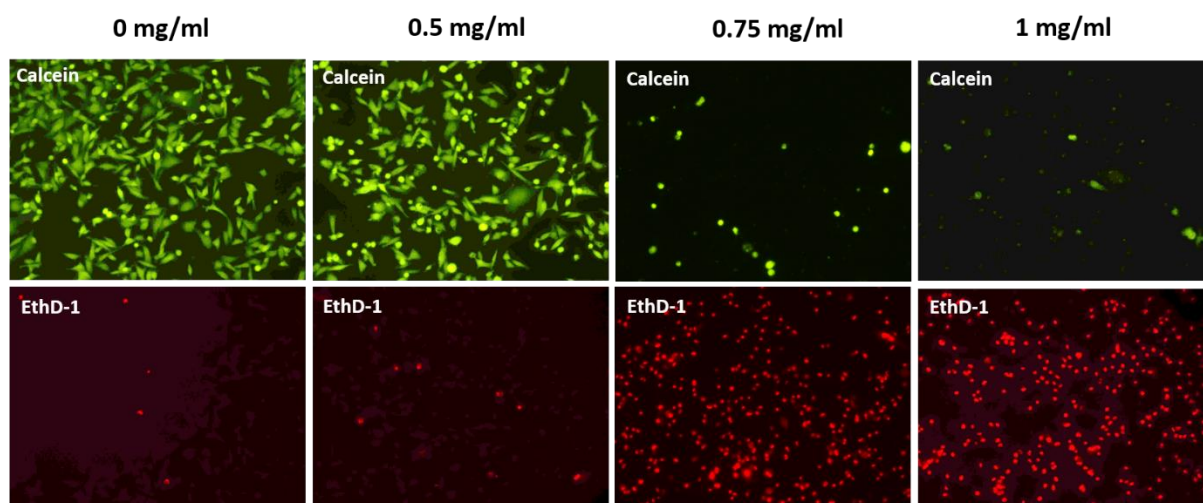


Figure S9. Cell viability study performed at different concentrations of the $\text{Au}_{25}(\text{SG})_{18}$ nanoclusters using a laser intensity of 10 W/cm^2 for 2 min.

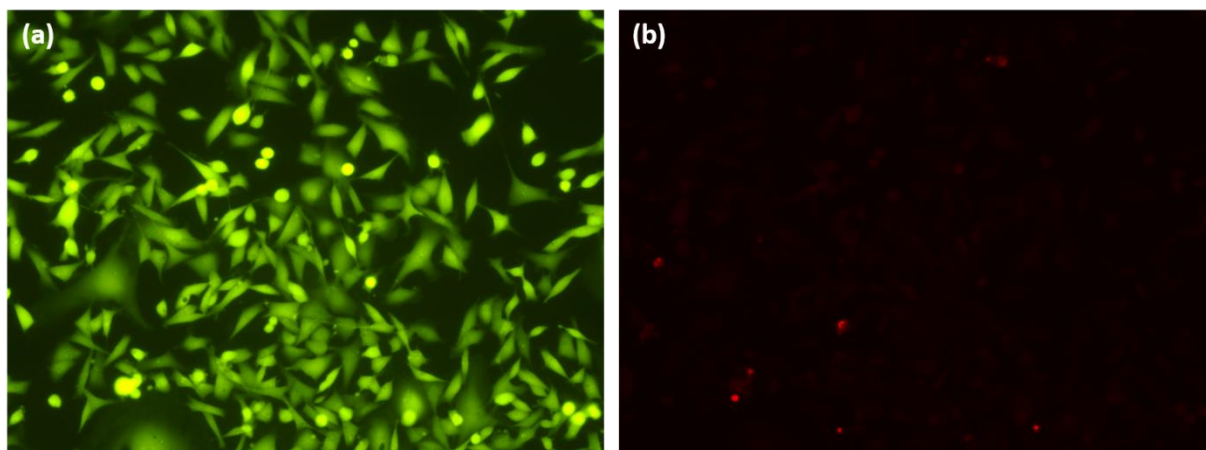


Figure S10. (a) Calcein-AM and (b) EthD-1 stained MDA-MB-231 cells without the presence of nanoclusters and after irradiation with a laser power of 10 W/cm^2 for 5 min, respectively.