

Supporting Information

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3 **Three dimensional plasmonic assemblies of AuNPs with overall size of sub-200 nm for chemo-** 4 **photothermal synergistic therapy of breast cancer†**

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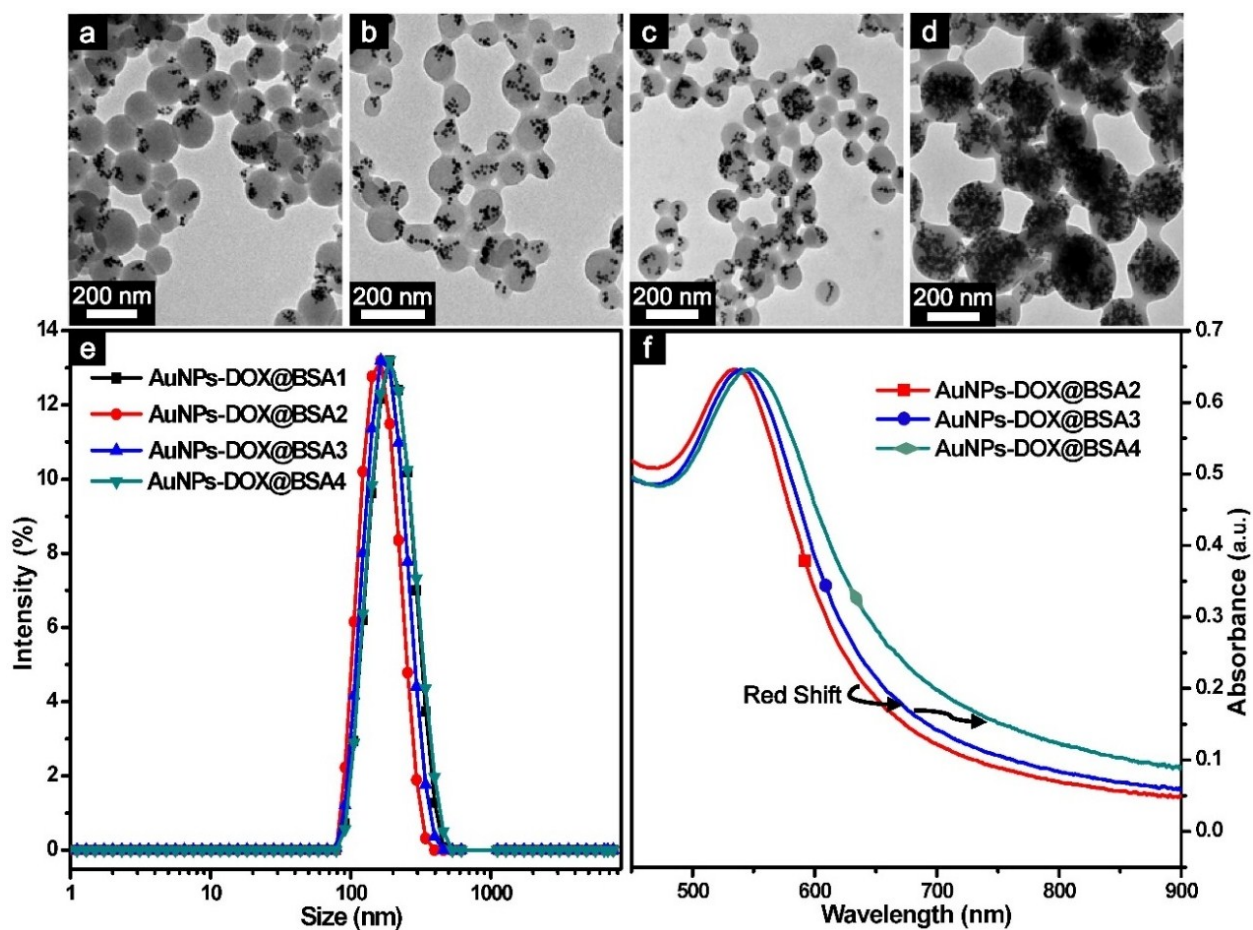
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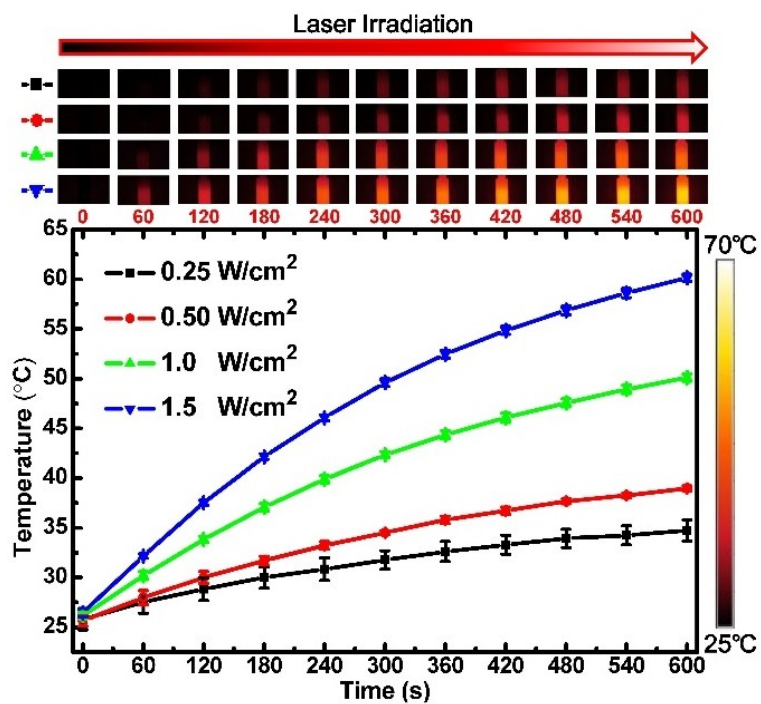
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40 irradiation.....S13



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 2 **Figure S1.** Characterization of the AuNPs-DOX@BSA by TEM, DLS and UV-vis. (a-d): TEM
 3 image of AuNPs-DOX@BSA1-4; (e): Size distribution of AuNPs-DOX@BSA1-4; (f): UV-vis
 4 absorbance spectra of AuNPs-DOX@BSA2-4.

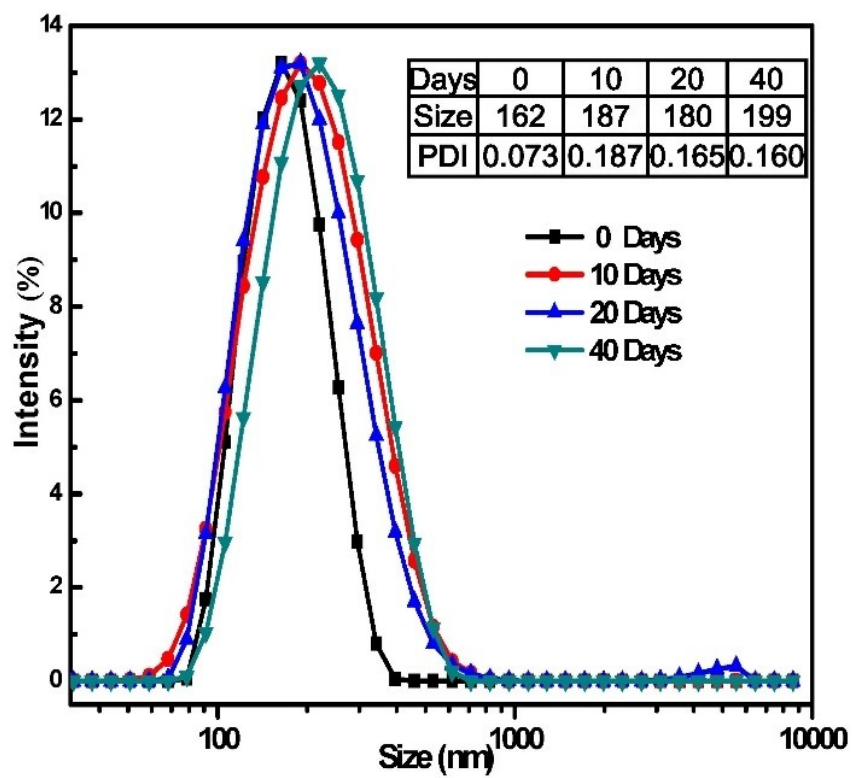
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2 **Figure S2.** Infrared thermal imaging and photothermal heating curves for AuNPs-DOX@BSA4
 3 aqueous dispersion at 1.0 mg/mL with an 808 nm of NIR laser irradiation and various power
 4 density (0.25-1.5 W/ cm²).

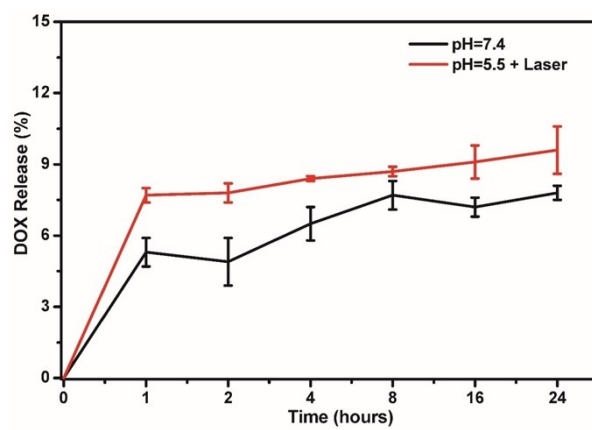
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2 **Figure S3.** Change in size distribution of the AuNPs-DOX-BSA4-FA measured by DLS during
 3 storage at 4 °C.

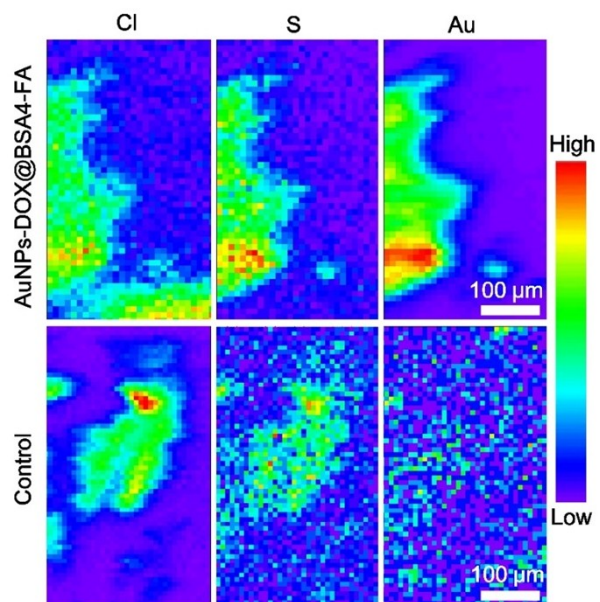
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2 **Figure S4.** The release behavior of DOX from AuNPs-DOX@BSA4-FA at pH 7.4 or 5.5 with or
3 without a 808 nm laser irradiation (1.5 W/cm², 5 min).

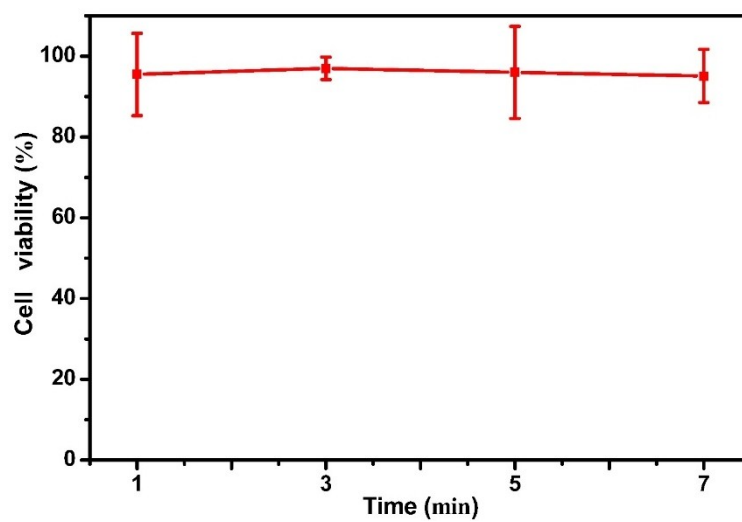
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2 **Figure S5.** XFM images of the MCF-7 cells incubated with AuNPs-DOX@BSA4-FA for 4 h
 3 showing element fluorescence of Cl, S and Au. The MCF-7 cells without incubation of AuNPs-
 4 DOX@BSA4-FA is used as the control.

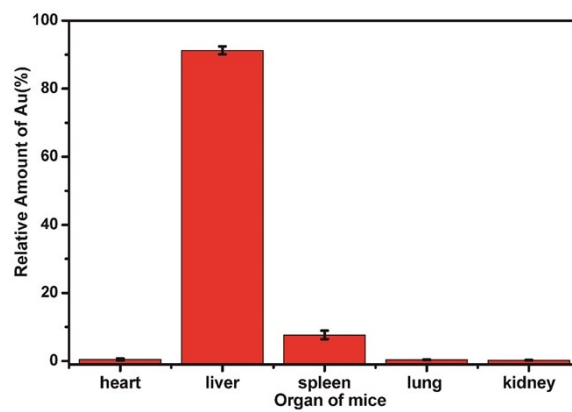
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2 **Figure S6.** Cell viability of MCF-7 cells treated with laser irradiation (808 nm, 2.0 W/cm²) for
3 various irradiation time without administration of any nanoparticles.

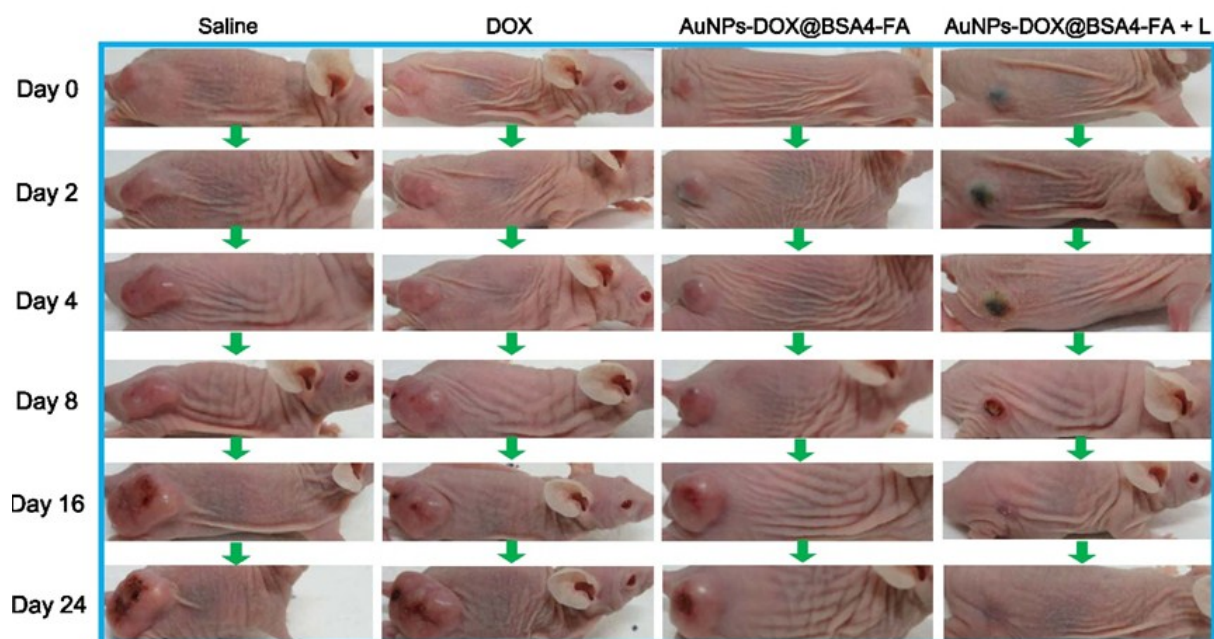
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2 **Figure S7.** The in vivo biodistribution of AuNPs-DOX@BSA4-FA after 24 h of intravenous
3 injection (200 μ L, 2.0 mg/mL).

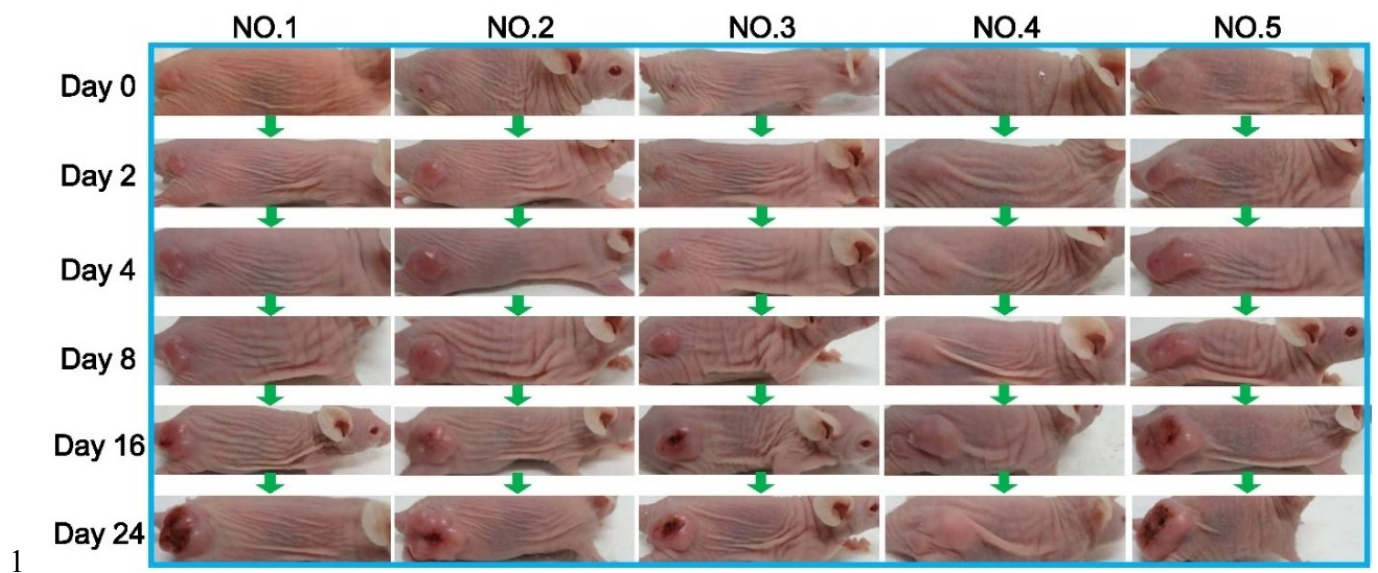
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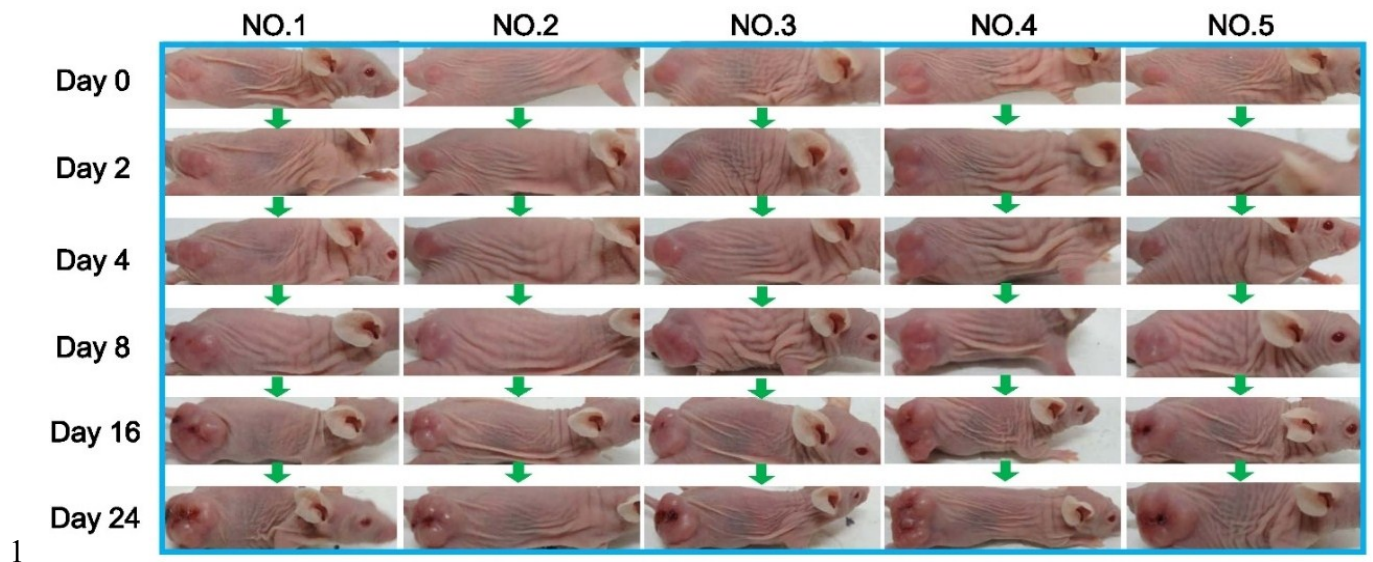
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2 **Figure S8.** Representative photos of the four groups (Saline, DOX, AuNPs-DOX@AN4-FA, or
 3 AuNPs-DOX@AN4-FA + Laser) of MCF-7 tumor-bearing mice during the period of therapies.

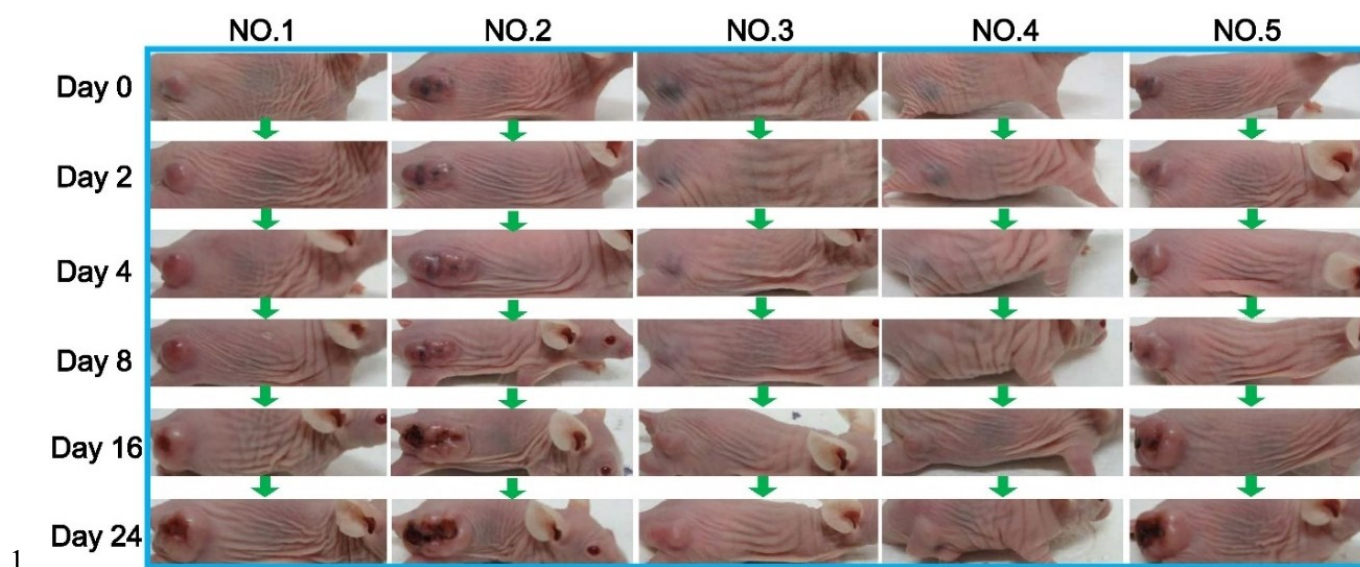
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2 **Figure S9.** The photos of five MCF-7 tumor-bearing mice after injection of saline (saline group).
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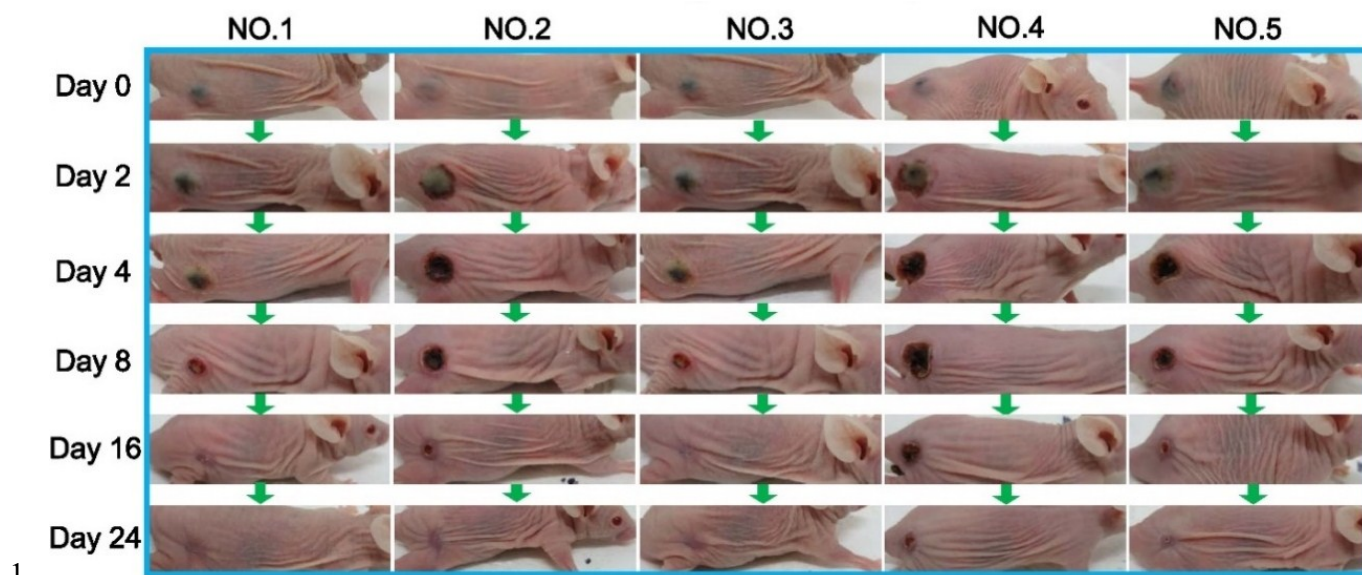


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2 **Figure S10.** The photos of five MCF-7 tumor-bearing mice after injection of free DOX (DOX
3 group).
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2 **Figure S11.** The photos of five MCF-7 tumor-bearing mice after injection of AuNPs-DOX@BSA4-
3 FA (AuNPs-DOX@BSA4-FA group).

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2 **Figure S12.** The photos of five MCF-7 tumor-bearing mice after injection of AuNPs-DOX@BSA4-
3 FA and laser irradiation (AuNPs-DOX@BSA4-FA + L group).

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