Electronic Supplementary Information (ESI)

Multifunctional Cu_xS- and DOX-loaded AuNR@mSiO_2 Platform for Combined Melanoma Therapy with Inspired Antitumor Immunity

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Supplementary Figures:

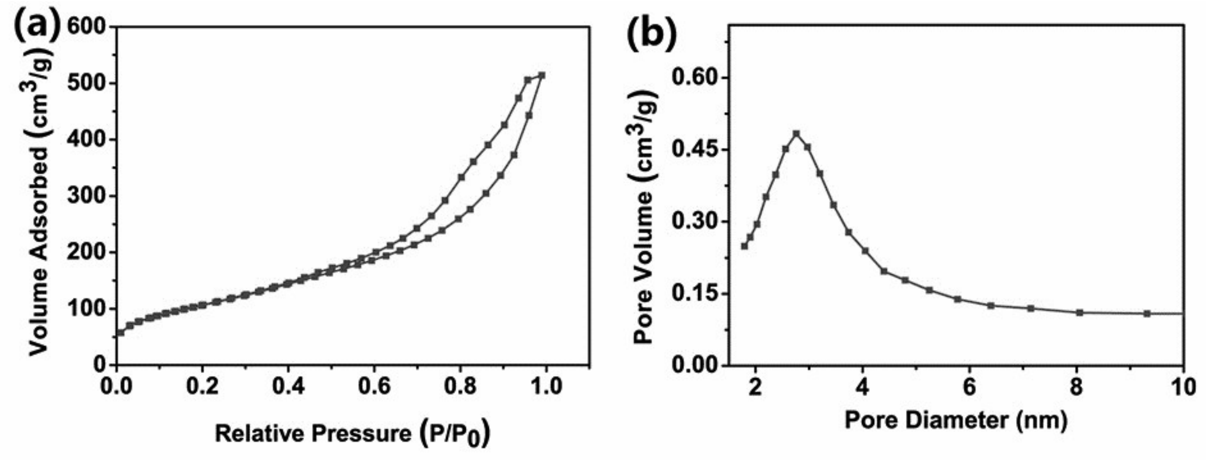

Fig. S1 The BET assay of pore size and specific surface area of AuNR@mSiO_2. (a) Nitrogen absorption isotherms of AuNR@mSiO_2 and (b) the corresponding pore size distribution obtained from adsorption branch of AuNR@mSiO_2.

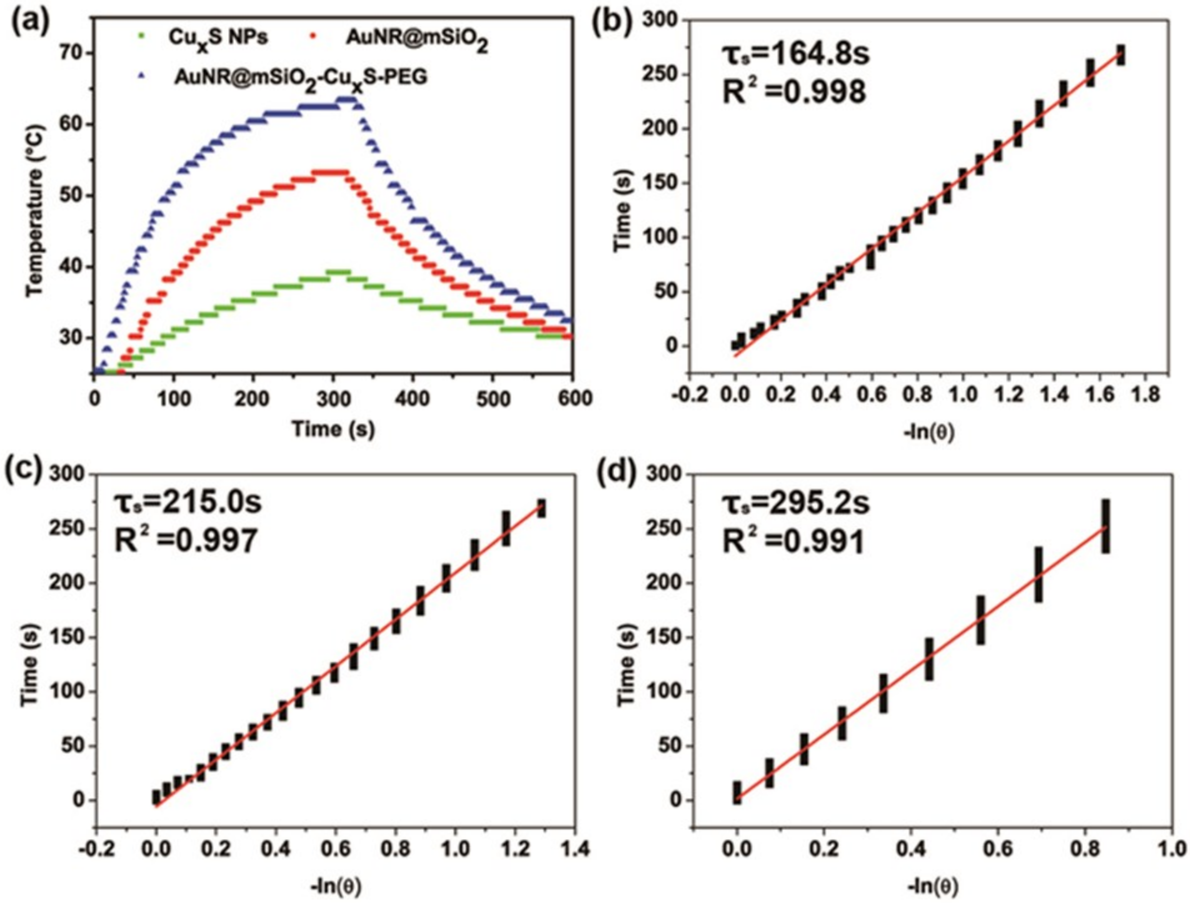

Fig. S2 The photothermal conversion efficiency of AuNR@mSiO_2-Cu_xS-PEG, AuNR@mSiO_2 and Cu_xS NPs. (a) The temperature elevation of nanocomposites aqueous solutions irradiated with 1.0 W/cm^2 NIR for 5 min and turned off for 5 min. (b-d) Linear time data versus -lnθ obtained from the cooling period of the aqueous solution containing (b) AuNR@mSiO2-CuxS-PEG nanocomposites (containing 0.1 mg/mL Cu_xS NPs and 0.05 mg/mL AuNR@mSiO_2), (c) AuNR@mSiO_2 (0.05 mg/mL) and (d) Cu_xS NPs (0.1 mg/mL), respectively. The photothermal conversion efficiency calculated is 69.7 %, 36.8 % and 14.5 %, respectively.

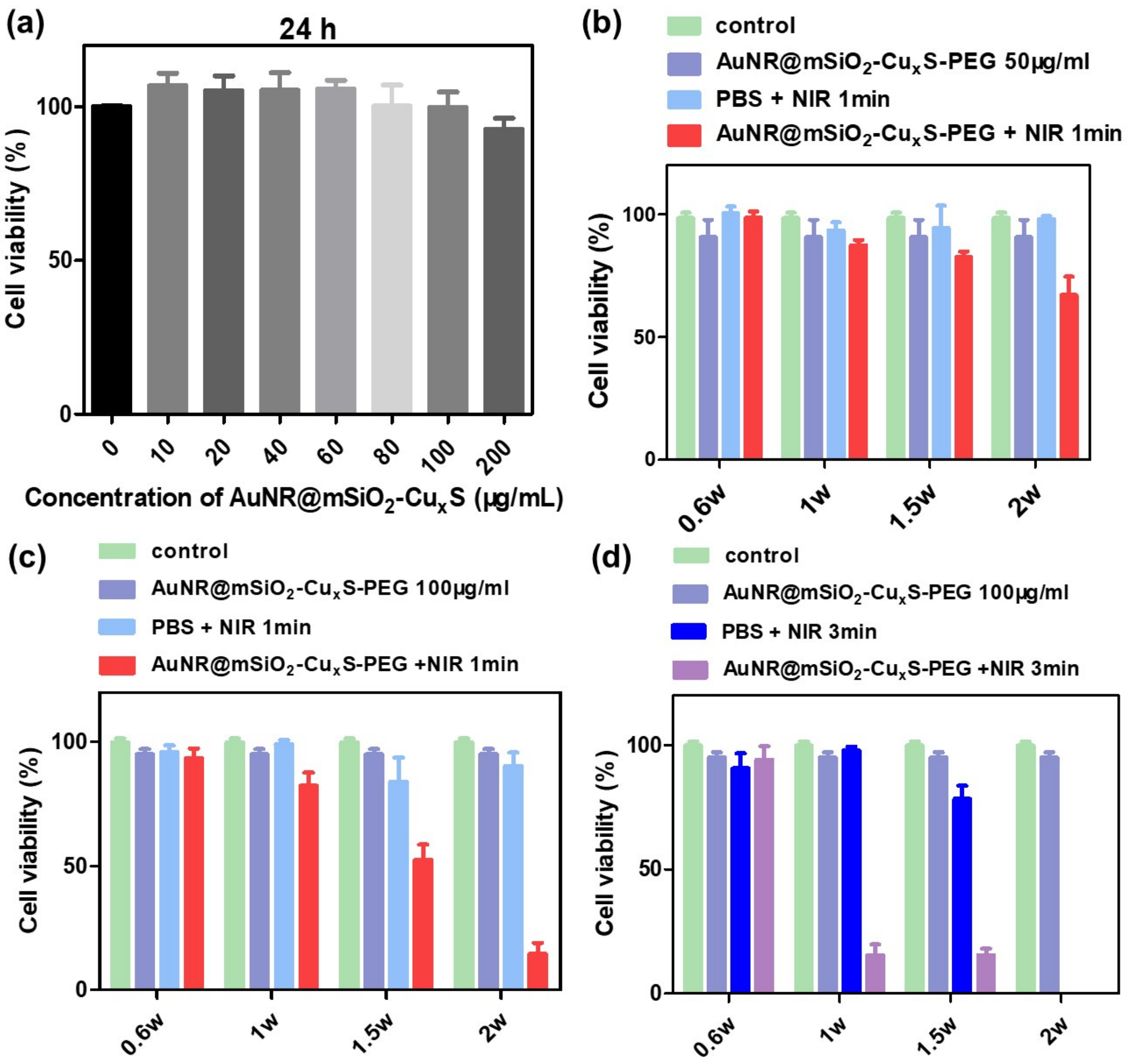

Fig. S3 Cell viability of B16/F10 melanoma cells treated with various concentrations of AuNR@mSiO$_2$-Cu$_x$S-PEG with or without laser irradiation. (a) Cell viability of B16/F10 cells treated with AuNR@mSiO$_2$-Cu$_x$S-PEG with various concentrations for 24 h. (b-d) The B16/F10 melanoma cells were treated with AuNR@mSiO$_2$-Cu$_x$S-PEG at concentration of 50 and 100 μg/mL as indicated for 24 h. After that, the cells were irradiated by a 808 nm laser with varying time and power densities.

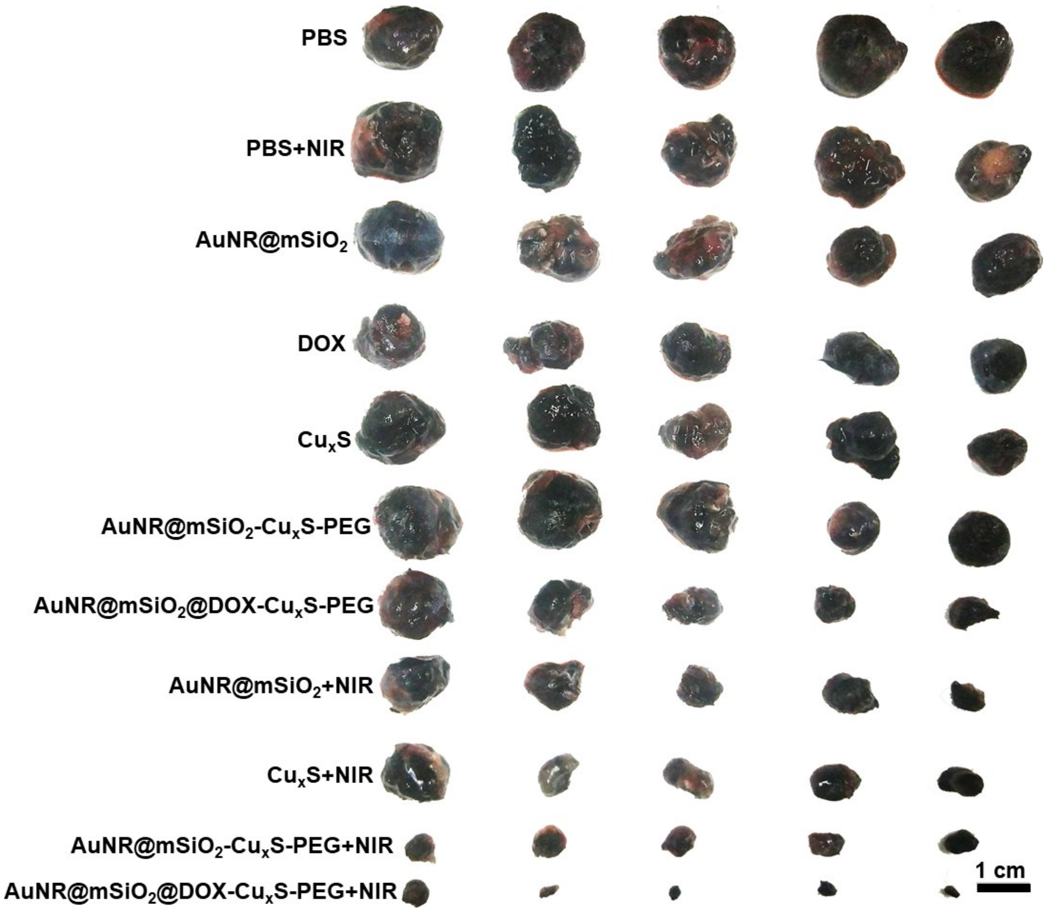

Fig. S4 *In-situ* subcutaneous melanoma mice model was constructed as indicated. The photographs of the in-situ tumors collected at the end of experiment (n = 5).

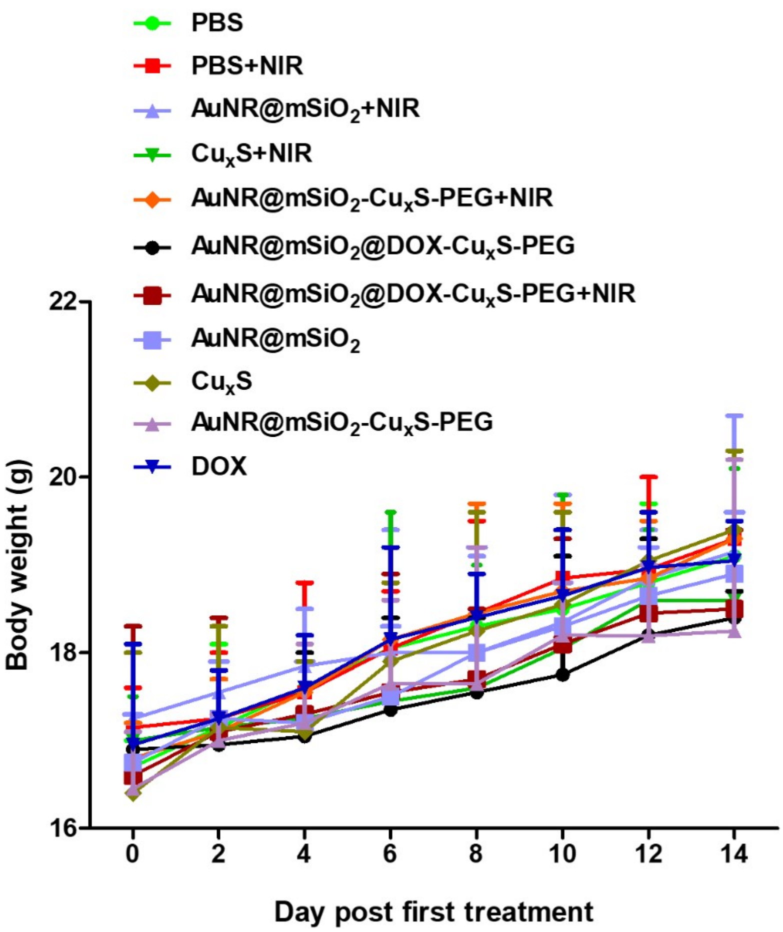

Fig. S5 Body weight of tumor-bearing mice receiving treatments as indicated. Data were presented as mean ± SD (n = 5).