

Supporting Information

Controllable Drug Release System based on phase change molecules as gatekeepers for Bimodal Tumor Therapy with Enhanced Efficacy

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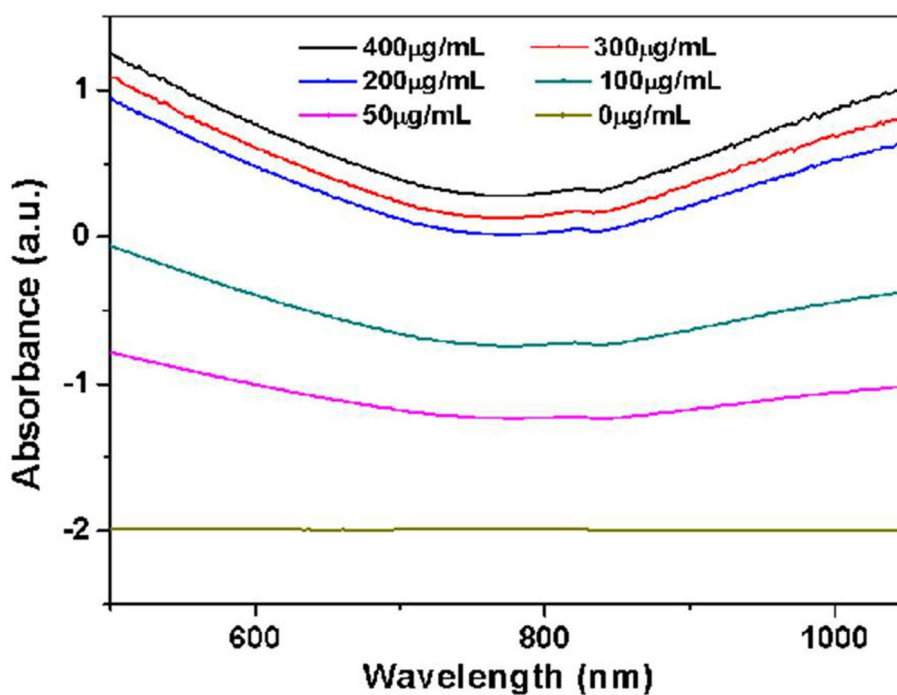


Fig S1. The UV-Vis-NIR absorption spectra of Cu₉S₅@mSiO₂-PEG.

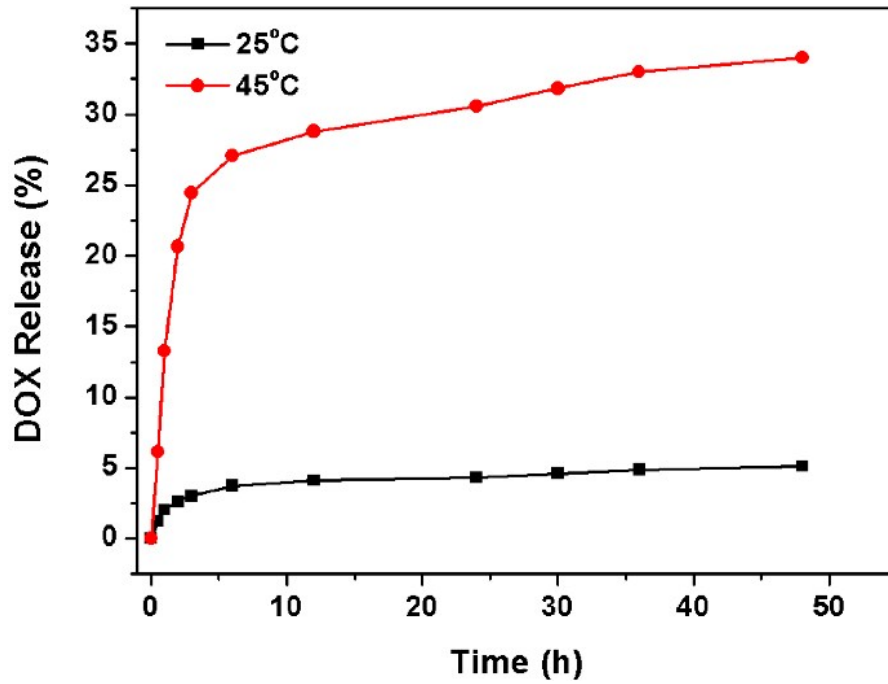


Fig S2. DOX cumulative release from $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG@DOX@TD}$ core-shell nanoparticles in phosphate-buffer saline (pH=5.0) at different temperatures (T=25 °C and 45 °C).

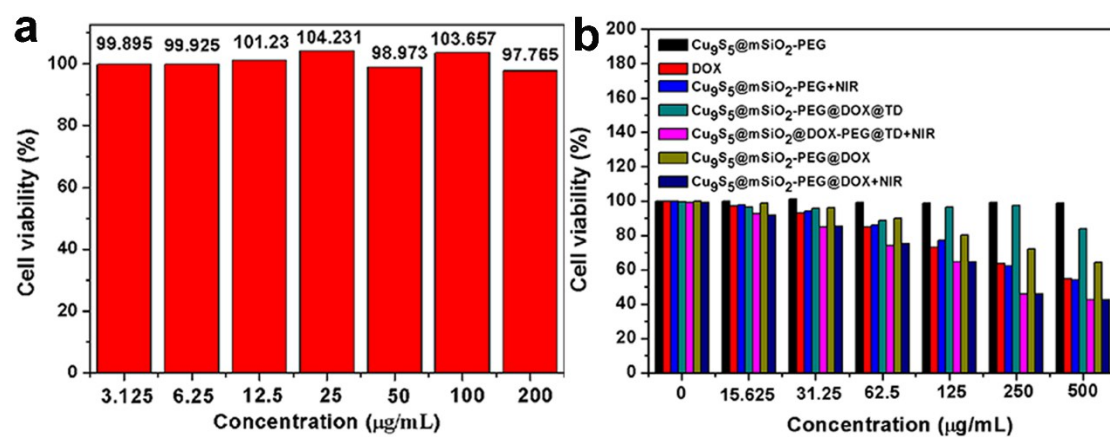


Fig S3. (a) Cell viability of HeLa cells after incubation with $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG}$ for 24 h by using MTT assay; (b) The cell inhibition rate of DOX, $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG}$, $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG@DOX}$ and $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG @ DOX@TD}$ incubated with HeLa cells versus the $\text{Cu}_9\text{S}_5@\text{mSiO}_2$ concentration. Some groups were exposed to 980 nm laser (0.5 W/cm^2) for 5 min.

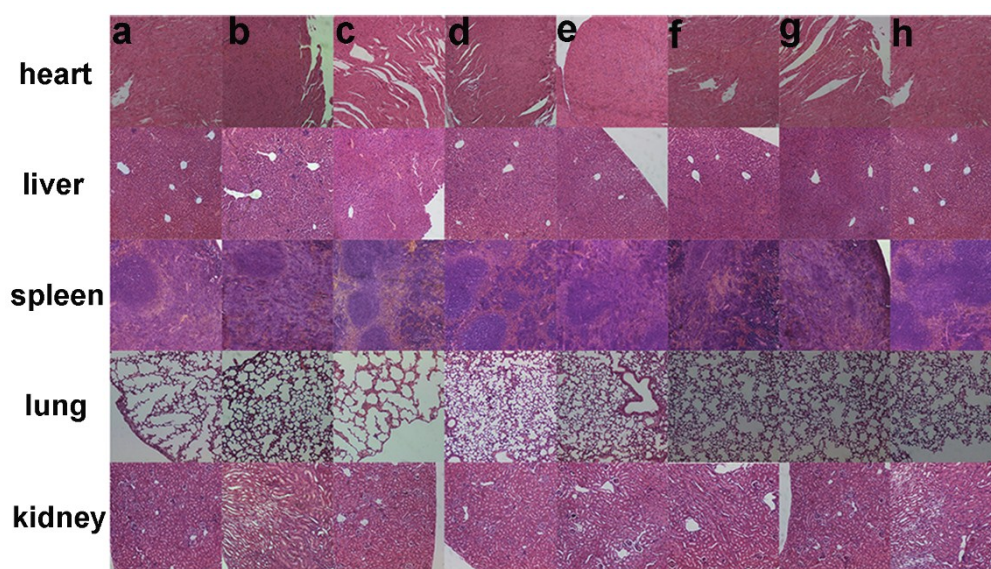


Fig S4. Hmatoxylin and Eosin (H&E) stained images of organs of the groups (a) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG@DOX@TD} + \text{NIR}$, (b) DOX, (c) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG} + \text{NIR}$, (d) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG@DOX@TD}$, (e) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG}$, (f) control, (g) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG@DOX}$ and (h) $\text{Cu}_9\text{S}_5@\text{mSiO}_2\text{-PEG @DOX} + \text{NIR}$, respectively.