Electronic Supplementary Material (ESI) for Nanoscale.

A core/shell/satellite anticancer platform for 808 NIR light-driven multimodal imaging and combined chemo-/photothermal therapy

Guixin Yang, Ruichan Lv, Fei He, Fengyu Qu, Shili Gai, Shaokang Du, Zibo Wei and Piaoping Yang**

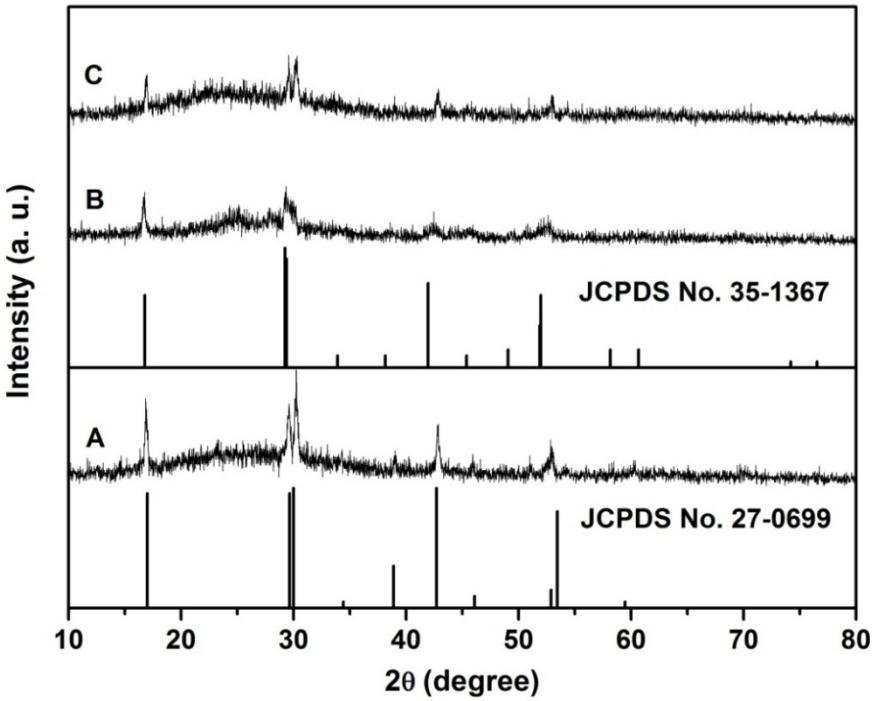

Fig. S1 XRD patterns of (A) $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb, (B) $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb@$NaNdF_4$:Yb, and (C) $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb@ $NaNdF_4$@SiO_2. The vertical bars show the peak positions and intensities for pure $NaGdF_4$ (JCPDS No. 27-0699) and $NaNdF_4$ (JCPDS No. 35-1367) as a reference.

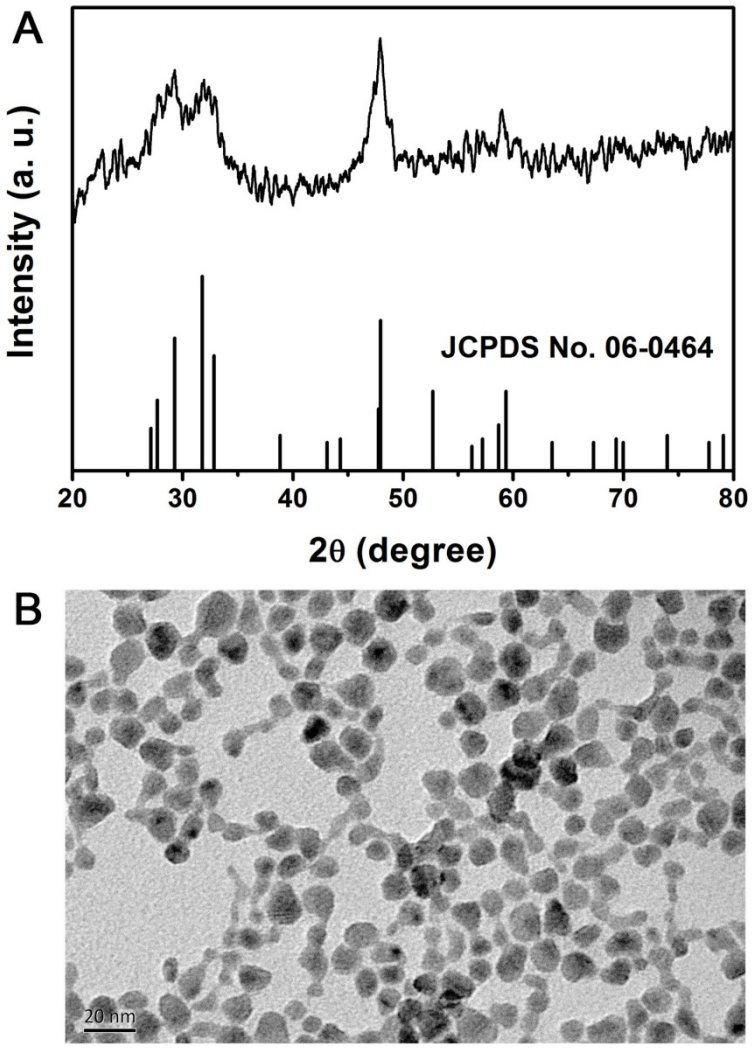

Fig. S2 XRD pattern and TEM image of CuS nanoparticles.

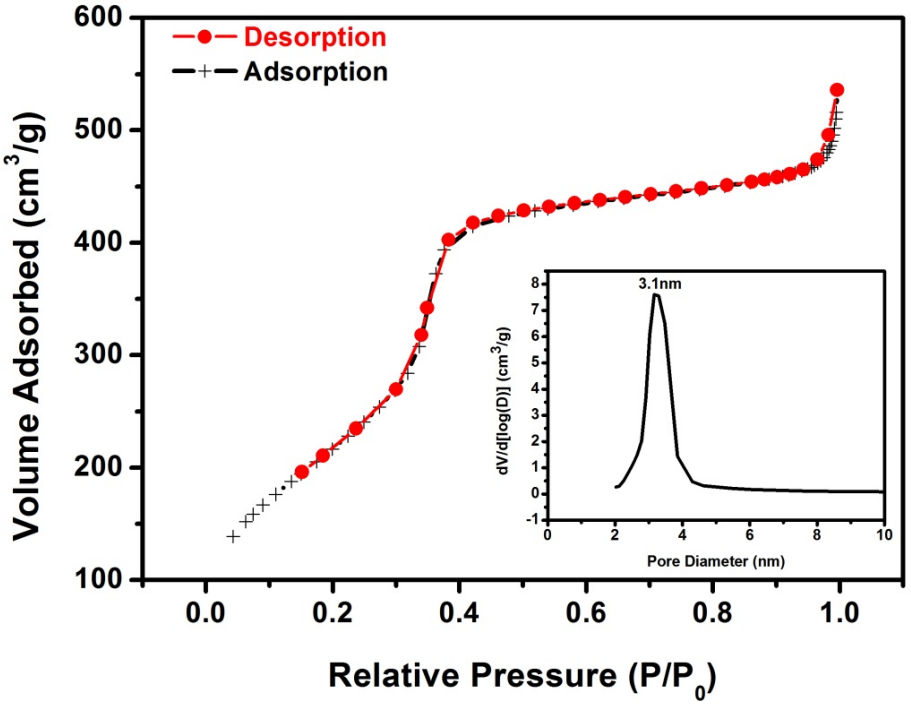

Fig. S3 N_2 adsorption/desorption isotherm and pore size distribution (inset) of as-synthesized UCMSNs.

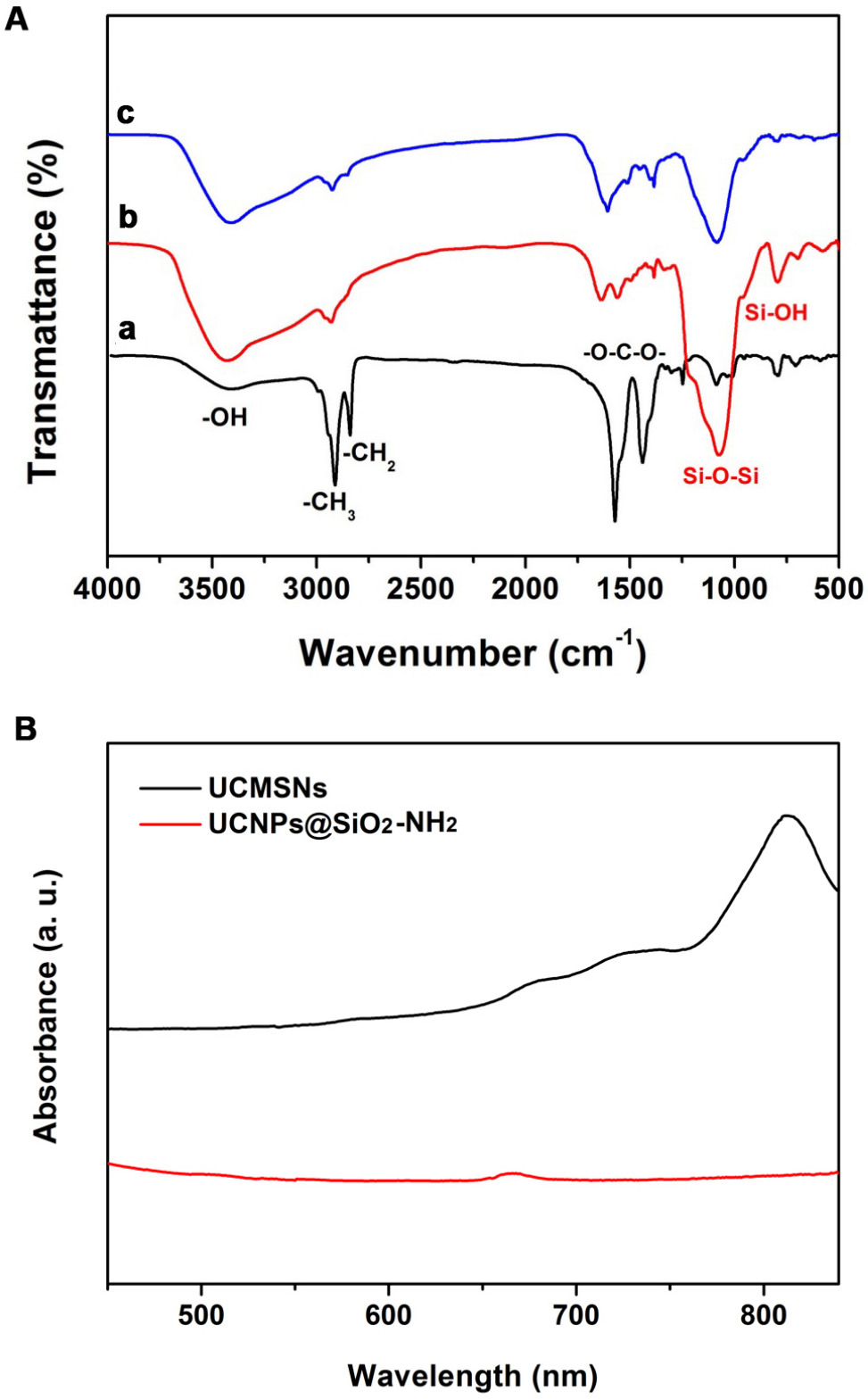

Fig. S4 FT-IR spectra of UCNPs, UCNPs@SiO_2-NH_2 and UCMSNs (A). UV absorption spectrum of UCNPs@SiO_2-NH_2 and UCMSNs (B)

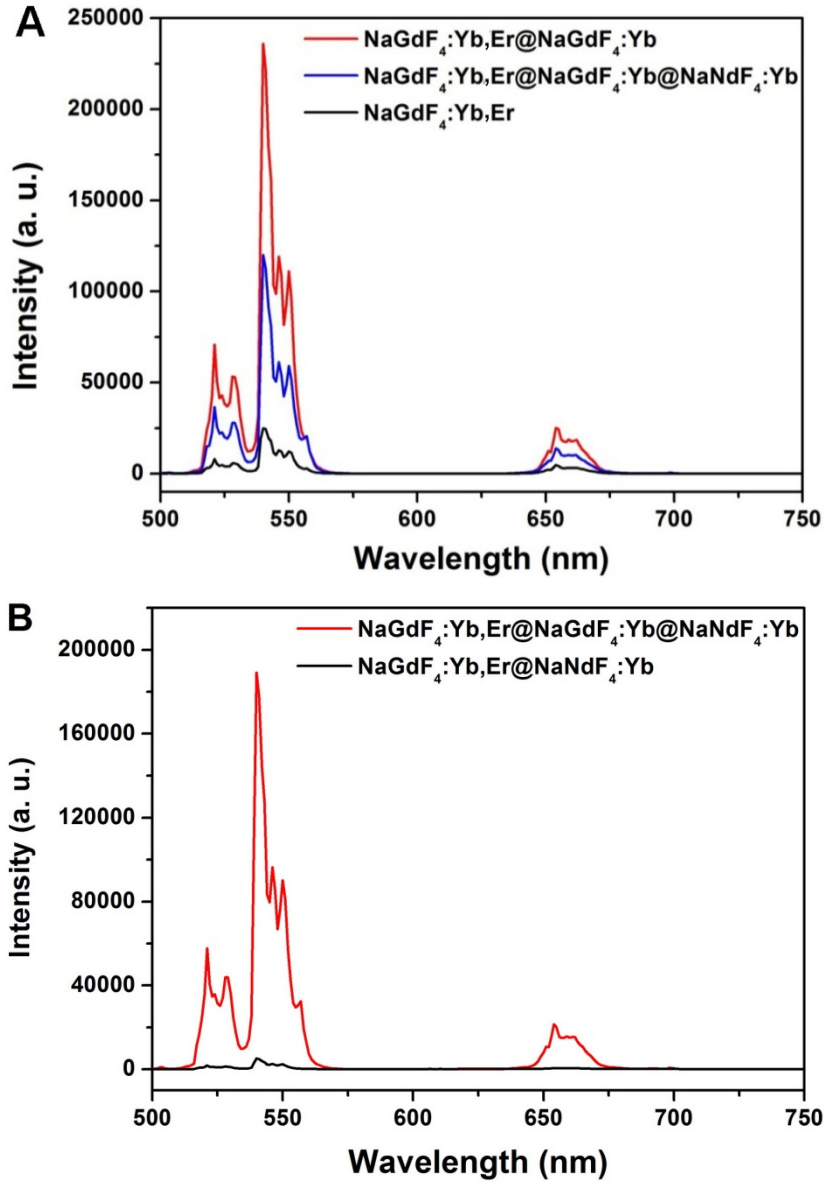

Fig. S5 UC emission spectra of $NaGdF_4$:Yb,Er, $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb, $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb@$NaNdF_4$:Yb excited by 980 nm NIR light (A). UC emission spectra of $NaGdF_4$:Yb,Er@$NaGdF_4$:Yb@$NaNdF_4$:Yb and $NaGdF_4$:Yb,Er@ $NaNdF_4$:Yb excited by 808 nm NIR light (B).

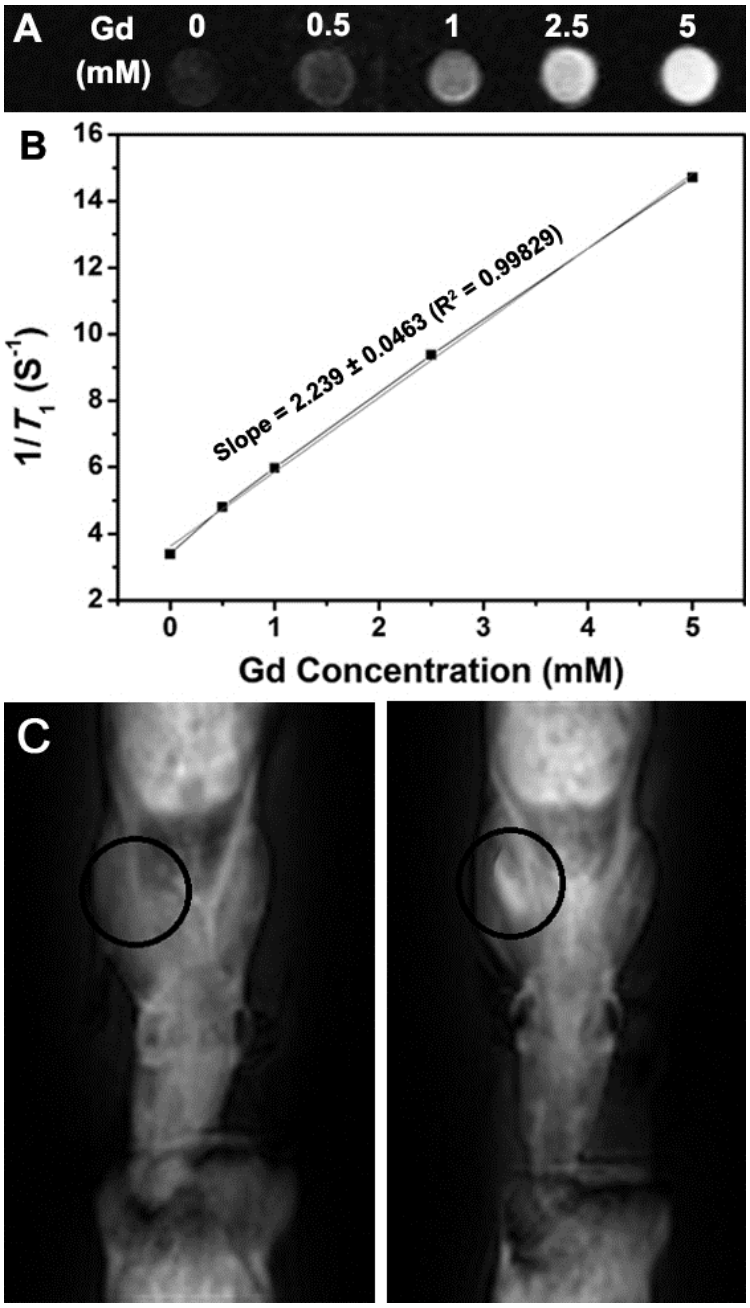

Fig. S6 (A) *In vitro* T_1-weighted MR images of UCMSNs as a function of Gd molar concentration. (B) Relaxation rate $1/T_1$ *versus* the Gd concentration, (C) T_1-weighted MR images of a tumor-bearing Balb/c mouse: pre-injection (left) and after injection (right).

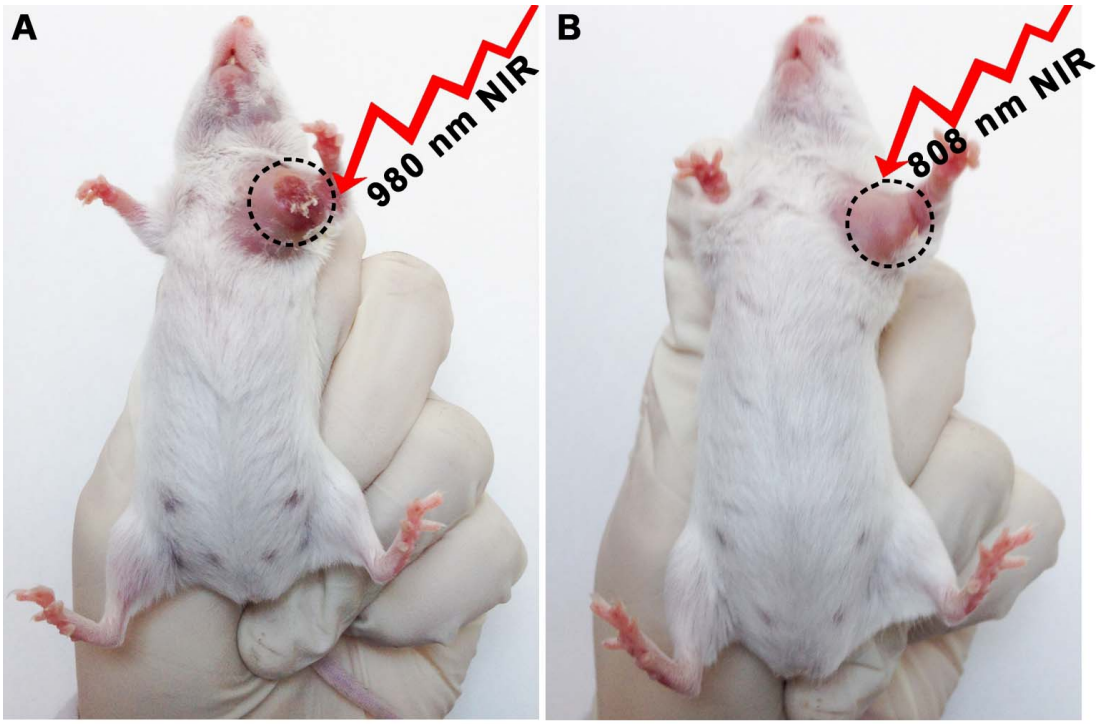

Fig. S7 The digital photos of mice under 980 nm (A) and 808 nm NIR (B) laser irradiation.

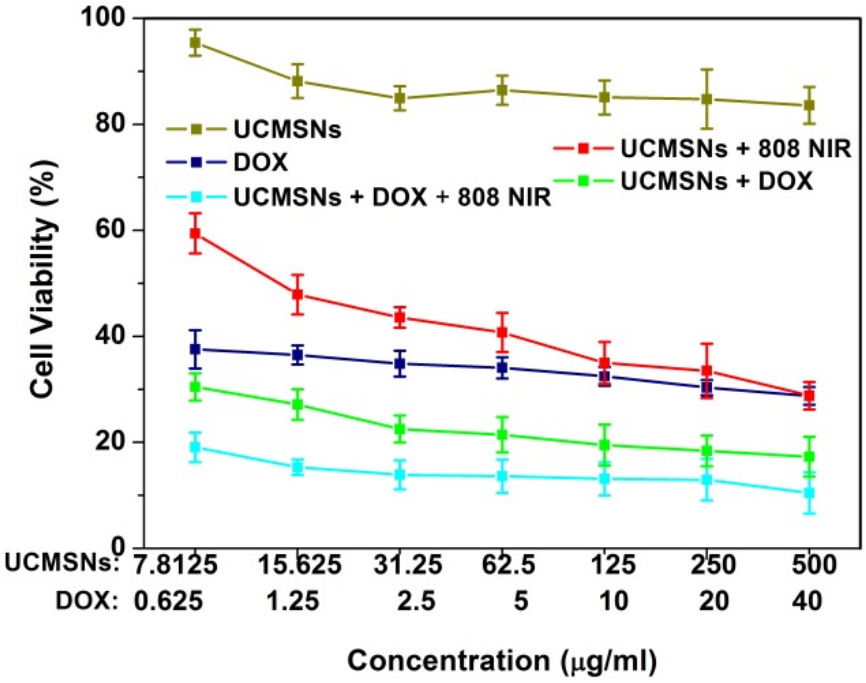

Fig. S8 *In vitro* Hepal-6 cell viabilities incubated with DOX, UCMSNs, UCMSNs+ DOX at various concentrations with and without 808 nm laser NIR.