Supporting Information

An Intelligent NIR-responsive Chelate Copper-based Anticancer Nanoplatform for Synergistic Tumor Targeted Chemo-phototherapy

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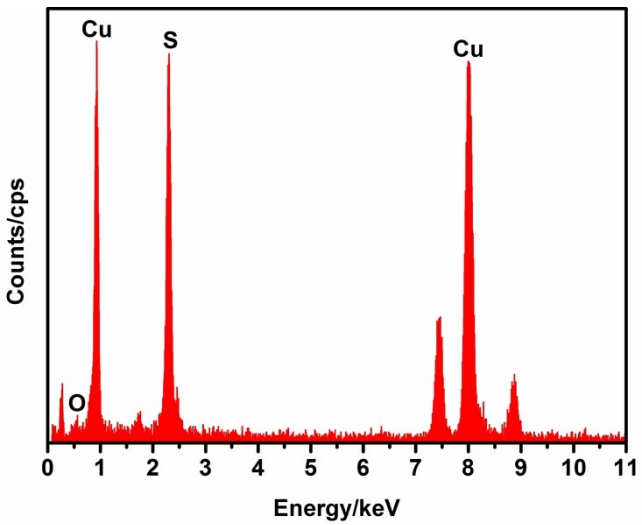

Figure S1. EDS spectrum of $HMCu_{2-x}S$ NPs.

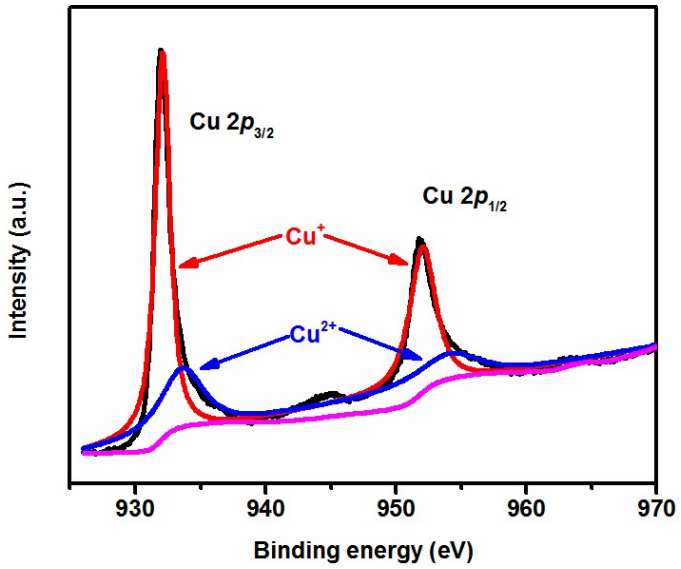

Figure S2. XPS spectra of $HMCu_{2-x}S$ NPs.

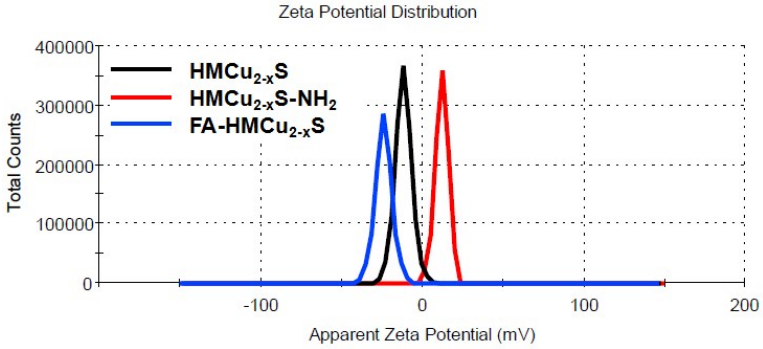

Figure S3. Zeta potential of $HMCu_{2-x}S$, $HMCu_{2-x}S$-NH_2 and FA-$HMCu_{2-x}S$ in PBS.

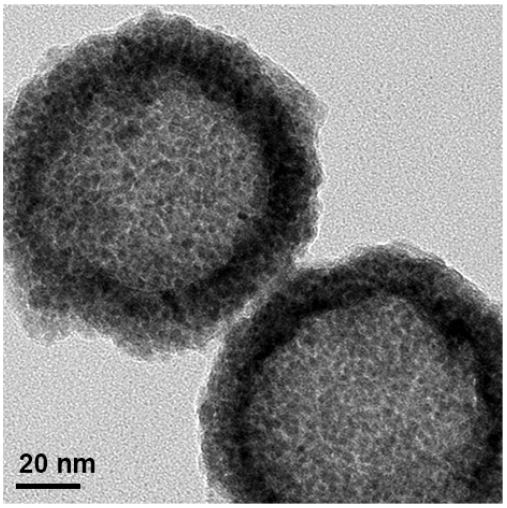

Figure S4. TEM image of FA-$HMCu_{2-x}S$.

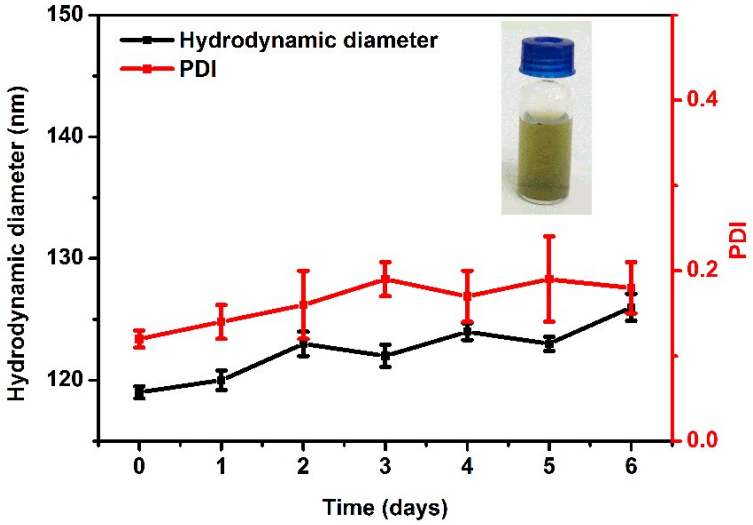

Figure S5. Colloidal stability of FA-HMCu$_{2-x}$S/BLM/LM in PBS over 6 days, where the digital photo showed the high dispersion after 6 days (inset).

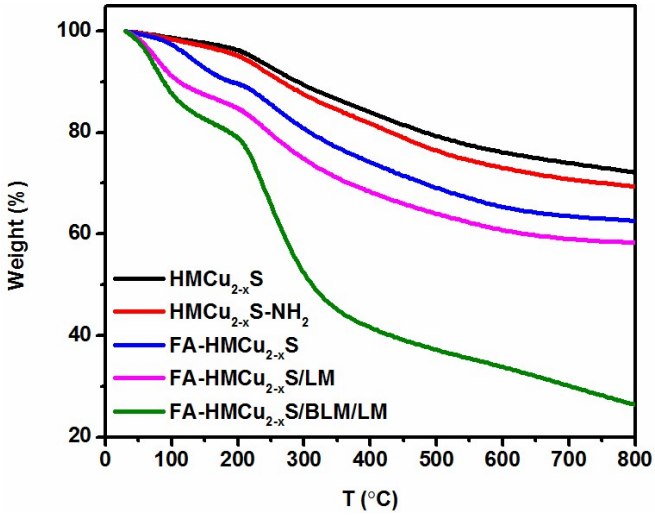

Figure S6. TGA curves of HMCu$_{2-x}$S, HMCu$_{2-x}$S-NH$_2$, FA-HMCu$_{2-x}$S, FA-HMCu$_{2-x}$S/LM and FA-HMCu$_{2-x}$S/BLM/LM.

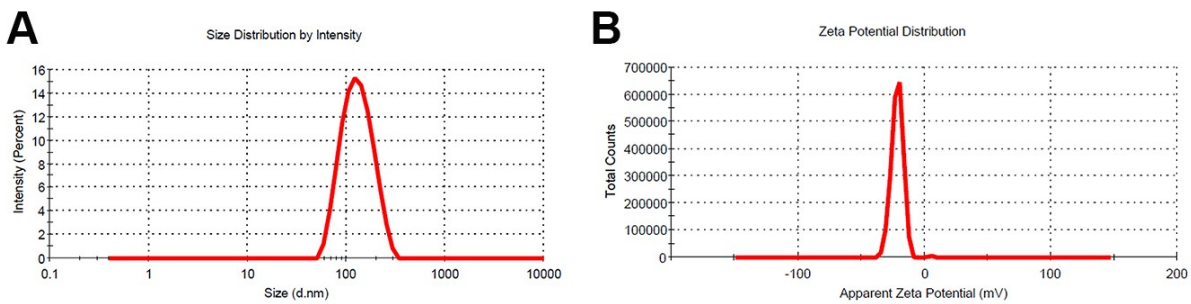

Figure S7. Hydrodynamic size distribution (A) and zeta potential (B) of FA-$HMCu_{2-x}S$/BLM/LM by DLS analysis.

Table S1. Comparison of the modified BET specific surface area and BJH pore diameter of the samples based on N_2 adsorption-desorption isotherms.

Sample	$HMCu_{2-x}S$	FA-$HMCu_{2-x}S$	FA-$HMCu_{2-x}S$/LM	FA-$HMCu_{2-x}S$/BLM/LM
S_{BET} ($m^2\ g^{-1}$)	155.8	124	29.5	25.4
Pore diameter (nm)	5.1	4.8	~0	~0

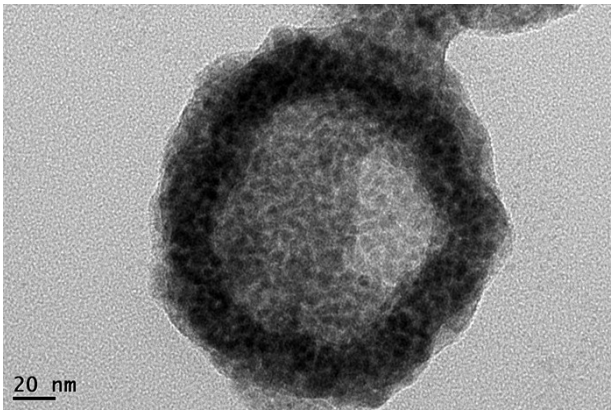

Figure S8. TEM image of FA-$HMCu_{2-x}S$/BLM/LM after NIR irradiation (808 nm, 2 W cm^{-2}, 3 min).

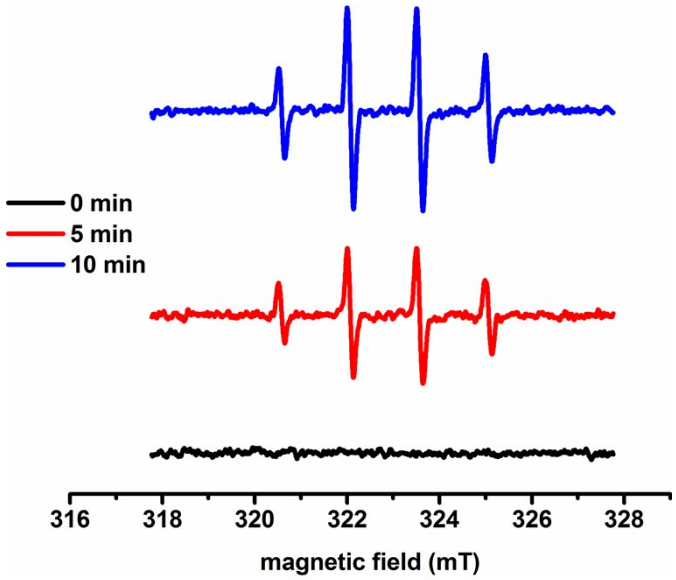

Figure S9. ESR spectrum of the spin trapped • OH generated by $HMCu_{2-x}S$ (2 mg mL^{-1}) under NIR irradiation for different time.

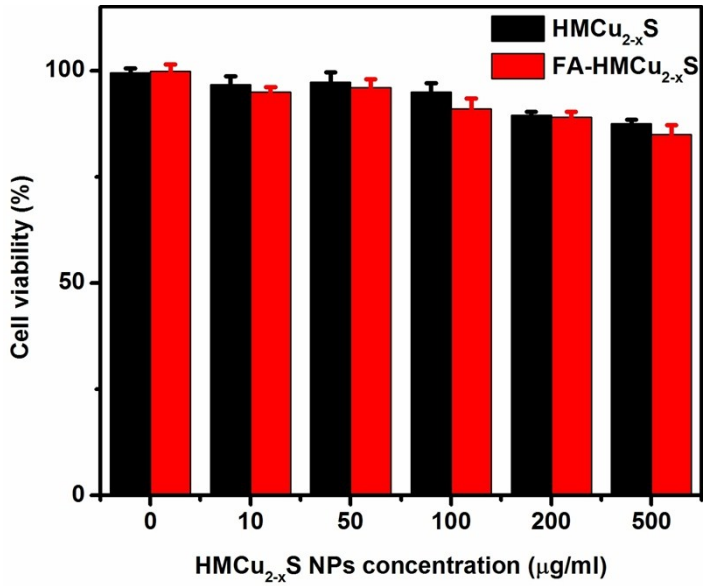

Figure S10. Cell viability of MCF-7 cells incubated for 24 h with different concentrations of FA-$HMCu_{2-x}S$.

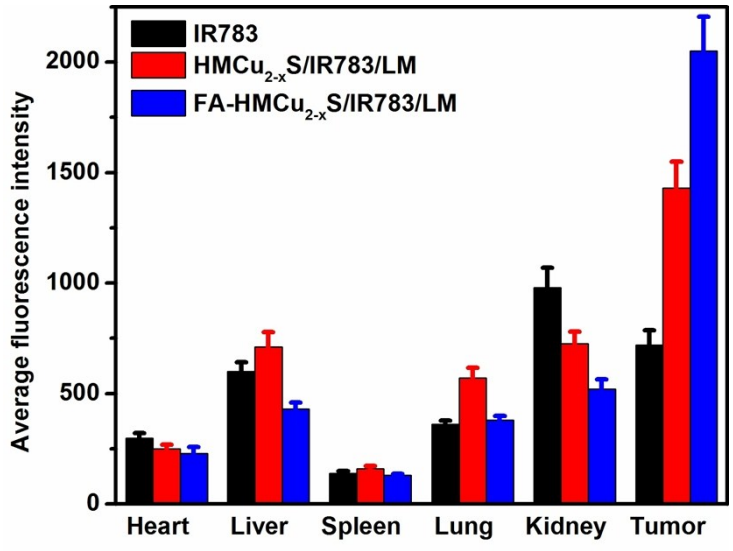

Figure S11. Region-of-interest analysis of the averaged fluorescence intensity in each organ.

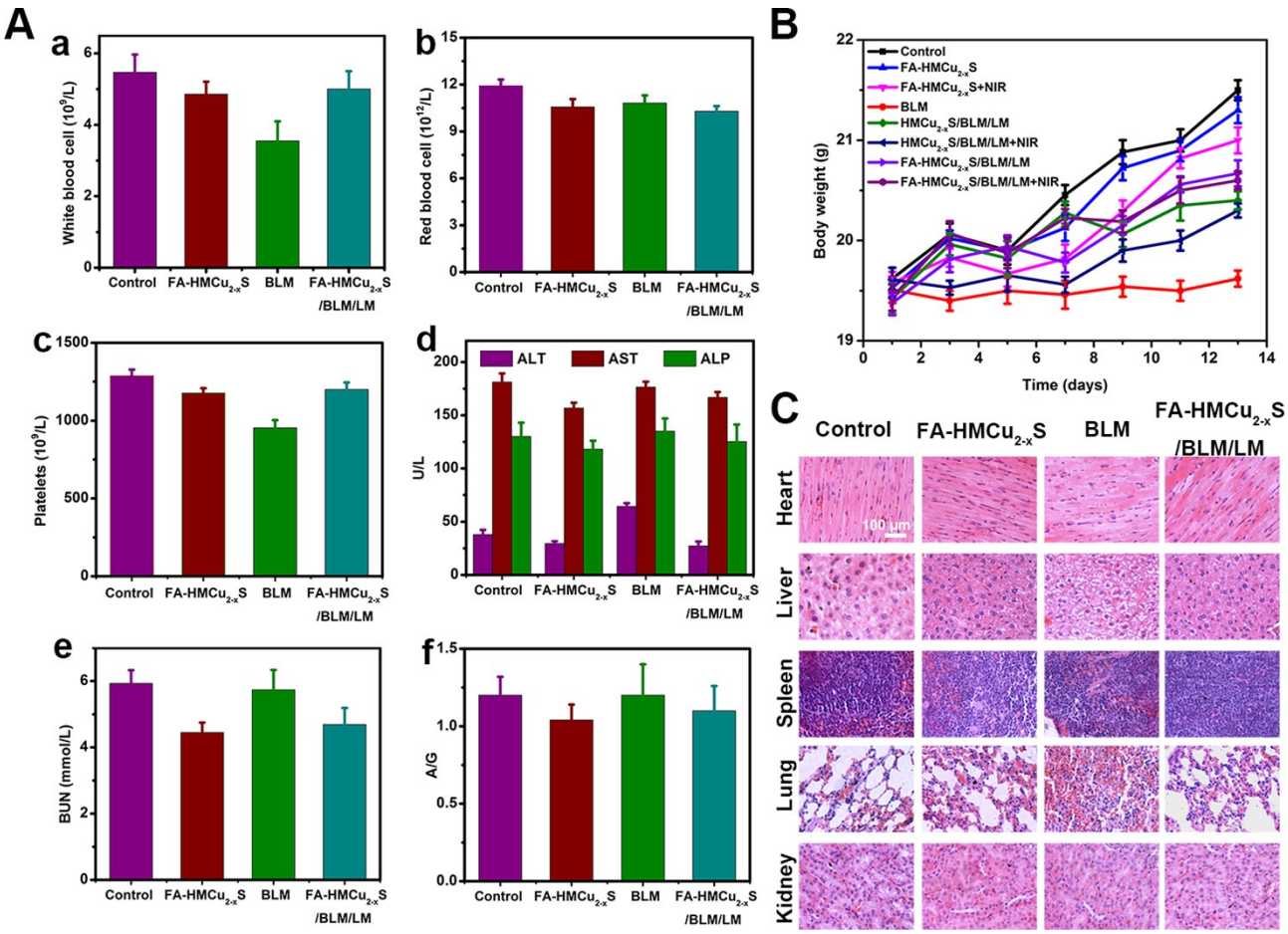

Figure S12. *In vivo* potential toxicity experiments. A) Blood biochemistry and hematology surveys of white blood cells (a), red blood cells (b), platelets (c), liver function markers including alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatase (ALP) (d), blood urea nitrogen (BUN) (e) and albumin/globin (A/G) rations (f). B) Body weight changes as a function of time. C) H&E stained tissues harvested from different groups of mice.