

Supplementary Information

X-ray Triggered Pea-shaped LuAG:Mn/Ca Nano-scintillators and their Applications for Photodynamic Therapy

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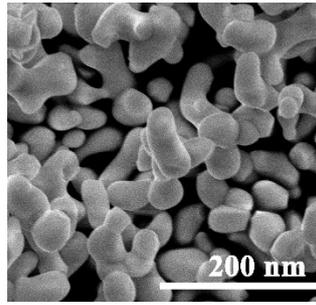


Fig. S1. The SEM image of LAMC nanoscintillators.

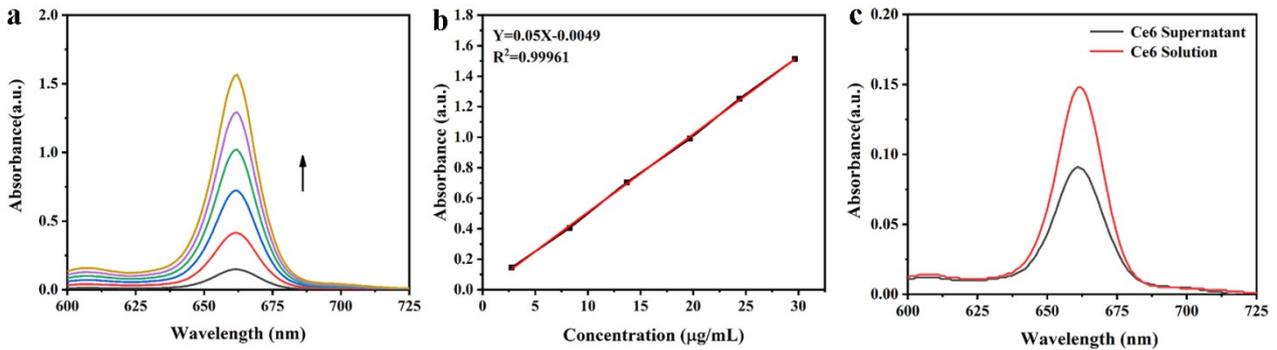


Fig. S2. (a) The UV-vis absorption spectra of photosensitizer Ce6 with different concentrations. (b) The relationship between the concentrations of photosensitizer Ce6 loading and the UV-vis absorption intensities. (c) The UV-vis absorption spectra of Ce6 solution and supernatant in the process of LAMCCS nanocomposites synthesized.

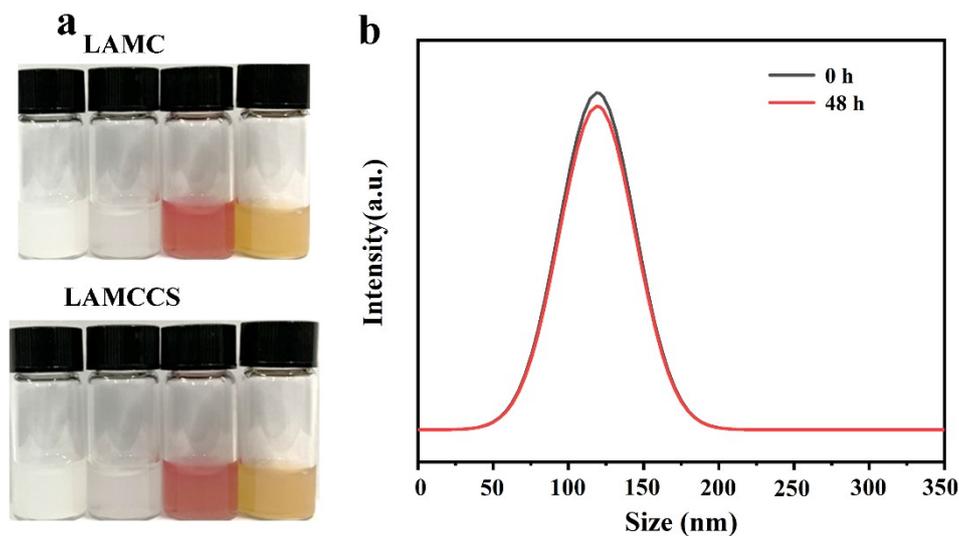


Fig. S3. (a) The biocompatibility analysis of LAMC nanoscintillators or LAMCCS nanocomposites dispersing in H₂O, PBS, DMEM and FBS. (b) The stability analysis of LAMCCS nanocomposites dispersing DMEM from 0 h to 48 h.

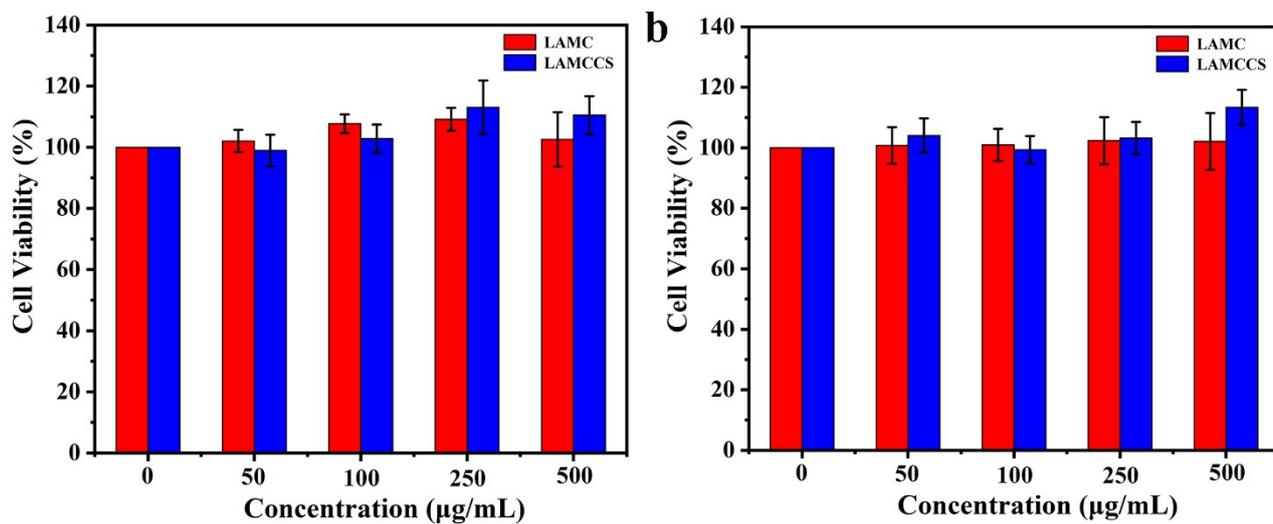


Fig. S4. Cell viabilities of Caski cell incubated with different concentration of LAMC nanoscintillators and LAMCCS nanocomposites for 24 h (a) and 48 h (b), respectively.

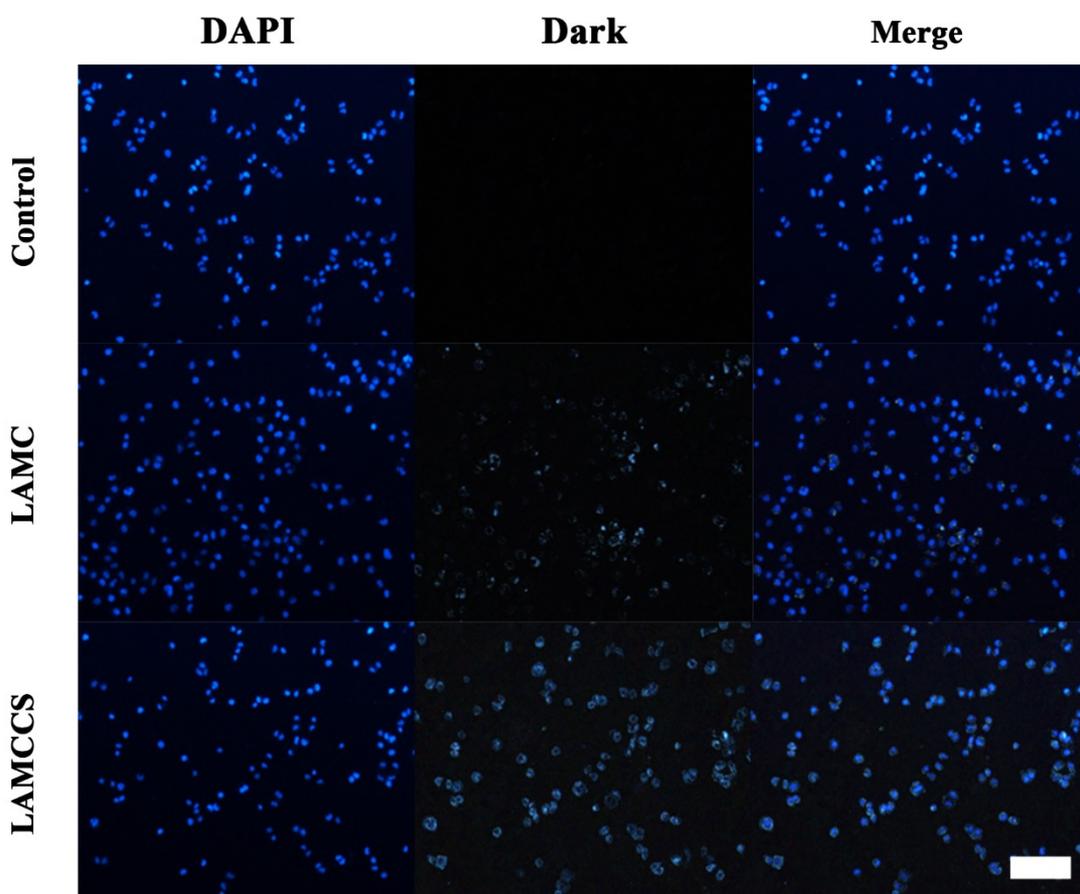


Fig. S5. Dark-field optical microscopy images of HeLa cells incubated with LAMC nanoscintillators or LAMCCS nanocomposites (100 µg/mL).

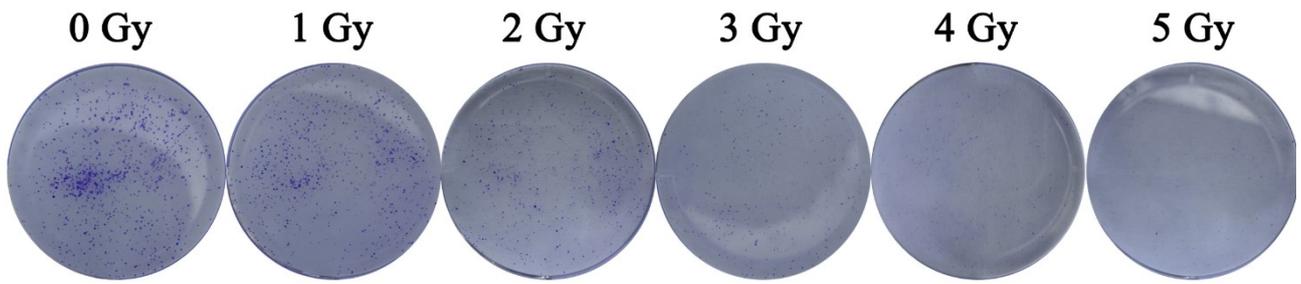


Fig. S6. Cell death and cloning results under different X-ray doses for control group.

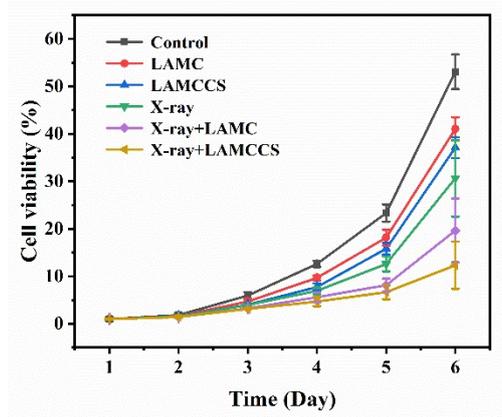


Fig. S7. Cell proliferation changing of HeLa cells incubated with LAMC nanoscintillators or LAMCCS nanocomposites after X-ray irradiated (2 Gy).

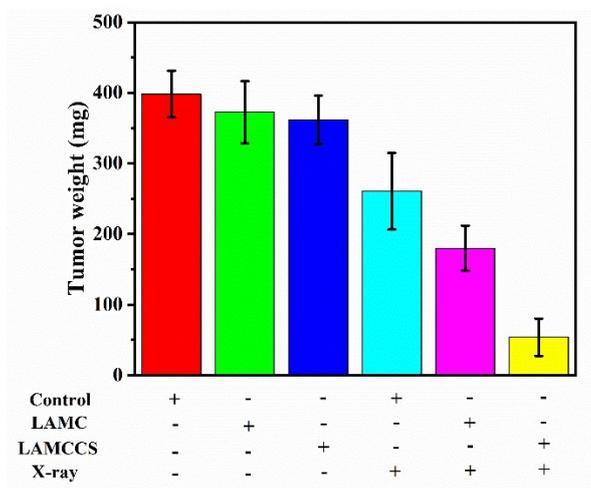


Fig. S8. The tumor weight changing with different treatment groups of mice: (1) PBS, (2) LAMC nanoscintillators, (3) LAMCCS nanocomposites, (4) X-ray, (5) X-ray + LAMC nanoscintillators, and (6) X-ray + LAMCCS nanocomposites.

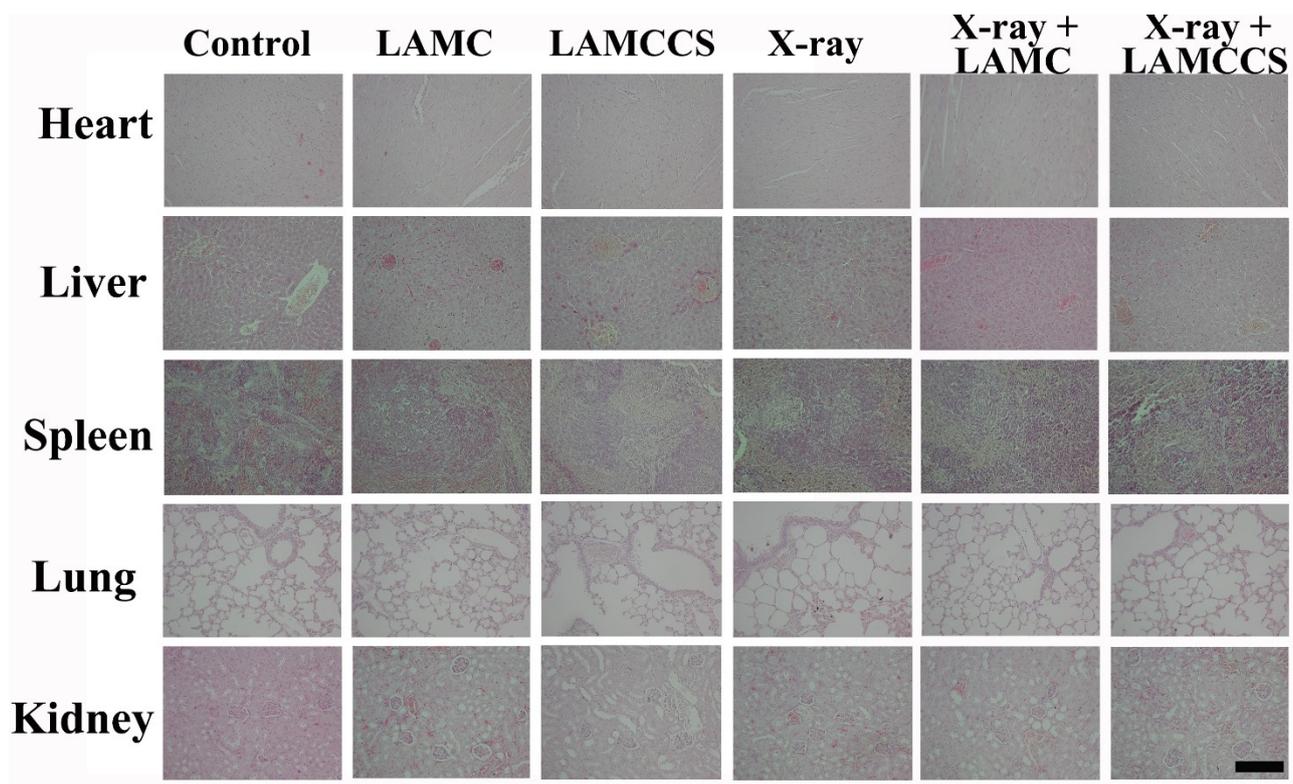


Fig. S9. Representative H&E stained images of main organs including heart, liver, spleen, lung and kidney collected from HeLa tumor bearing nude mice on the last day. The scale bar is 25 μm .