Supporting Information

Self-Assembled Carrier-Free Nanosonosensitizer for Photoacoustic Imaging-Guided Synergistic Chemo-Sonodynamic Cancer Therapy

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Supplementary figures.

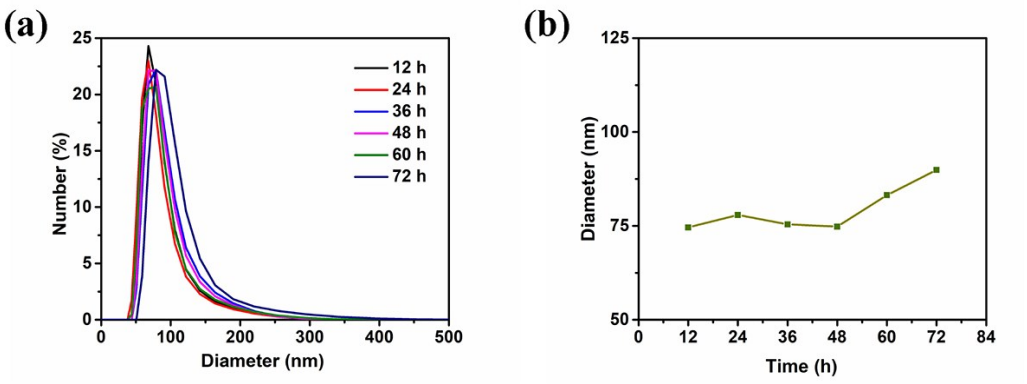

Fig. S1 Stability of Ce6-PTX@IR783 in PBS. (a) Size distribution of Ce6-PTX@IR783 in PBS at different time points after being in a shaker with a shaking speed of 142 rpm at 37°C. (b) Mean diameters of Ce6-PTX@IR783 in 72 h period after being in a shaker with a shaking speed of 142 rpm at 37 °C.

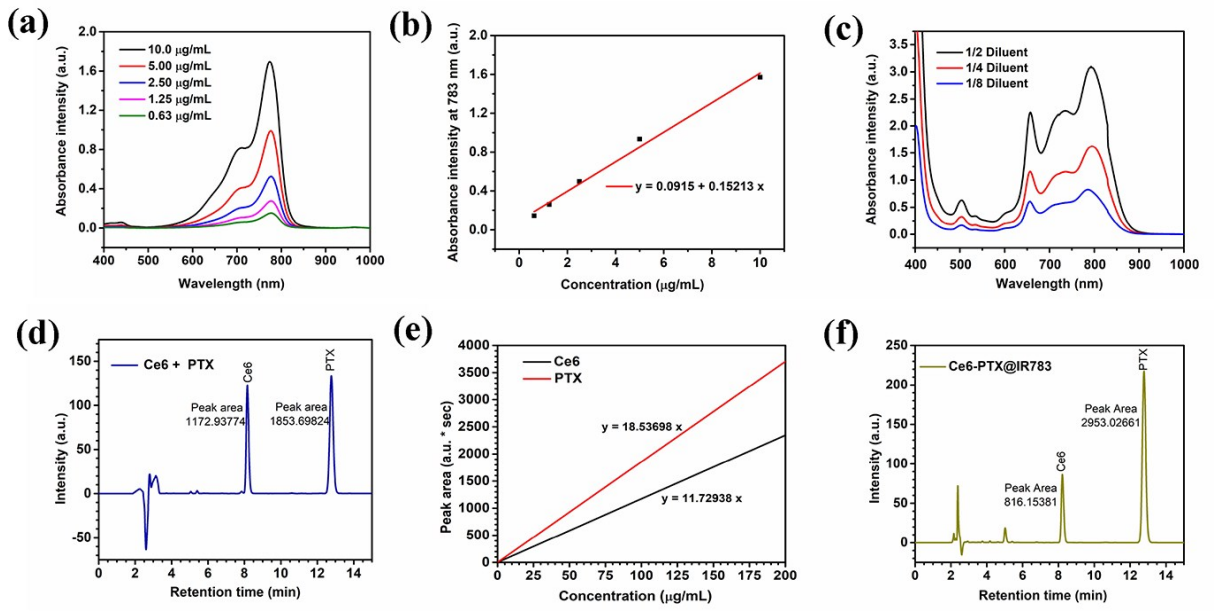

Fig. S2 Quantitative assessment of IR783 content in Ce6-PTX@IR783. (a) Absorbance intensity spectra of standard IR783 at different concentrations measured by UV-vis-NIR. (b) Functional relationship of the concentration of IR783 and its absorbance intensity at 783 nm. (c) Absorbance intensity spectrum of Ce6-PTX@IR783 with different dilution concentration (diluted to 1/2 and 1/4 concentration of 1 mL standard Ce6-PTX@IR783 PBS solution, respectively). (d) Spectrum of standard 100 μg Ce6 and 100 μg PTX measured by HPLC. Peak area was calculated by multiplying intensity (a.u.) by the retention time (sec). (e) Functional relationships between the concentration of Ce6 and PTX and their peak area of HPLC, respectively. (f) Spectrum of standard 1 mL Ce6-PTX@IR783 PBS solution measured by HPLC. The peak areas of Ce6 and PTX were calculated by multiplying their intensity (a.u.) by the retention time (sec). A tube of Ce6-PTX@IR783 nanomedicine acquired according to the synthesis procedure and suspended in 1 mL PBS solution was set as 1 mL standard Ce6-PTX@IR783 PBS solution.

Table. S1 The quantitative assessment of PTX and Ce6 loading amount in 1 mL standard Ce6-PTX@IR783 PBS solution measured by HPLC. A tube of Ce6-PTX@IR783 nanomedicine acquired according to the synthesis procedure and suspended in 1 mL PBS solution was set as 1 mL standard Ce6-PTX@IR783 PBS solution.

The Sample	Content of PTX (μg)	Content of Ce6 (μg)
1 mL standard Ce6-PTX@IR783 PBS solution	**159.30**	**69.58**

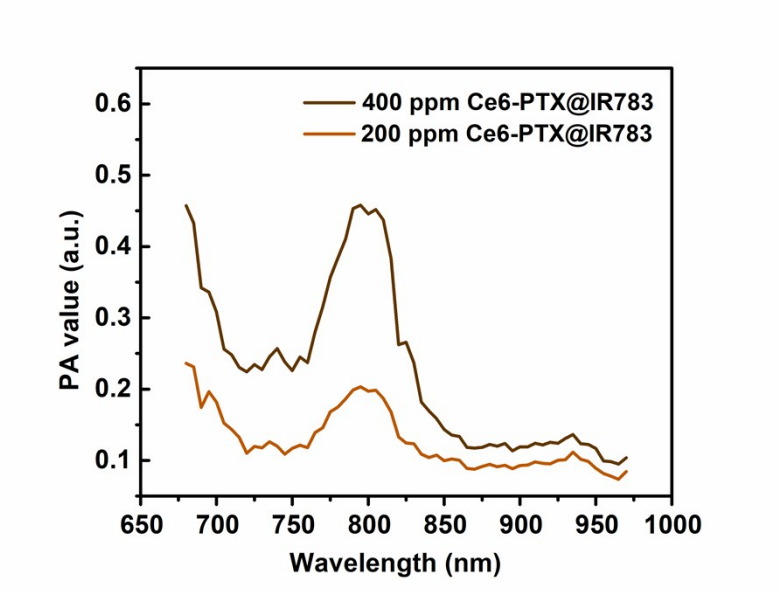

Fig. S3 Photoacoustic spectrum of Ce6-PTX@IR783. Photoacoustic signal intensity of Ce6-PTX@IR783 with different concentration at different excitation wavelength.

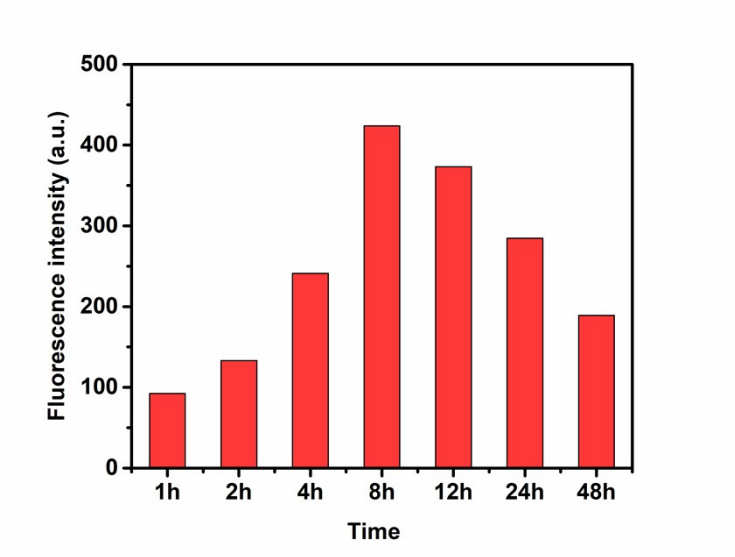

Fig. S4 Fluorescence intensity of tumor site at different time points after intravenous injection of Ce6-PTX@IR783 nanomedicine.

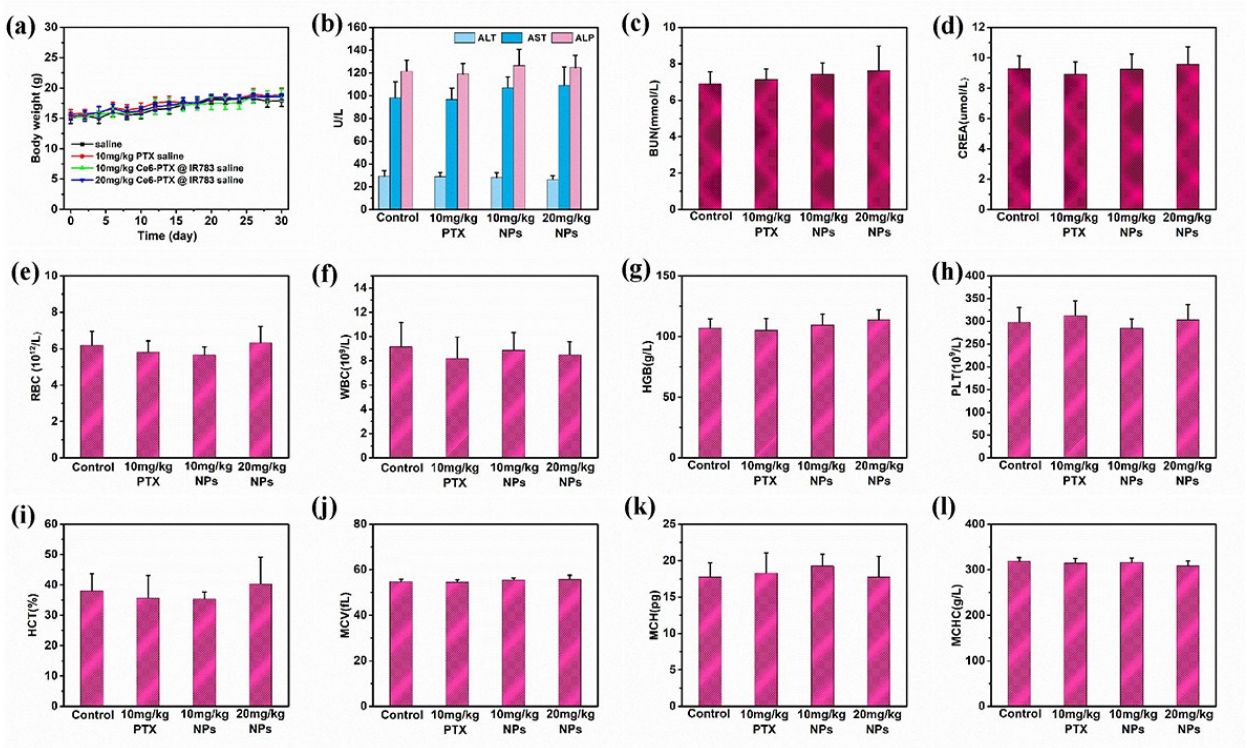

Fig. S5 *In vivo* biosafety evaluation of Ce6-PTX@IR783. (a) Body-weight changes of different treatment groups. (b) Biochemistry test of liver function markers and (c, d) renal function markers. (e-l) Routine blood test of different groups.

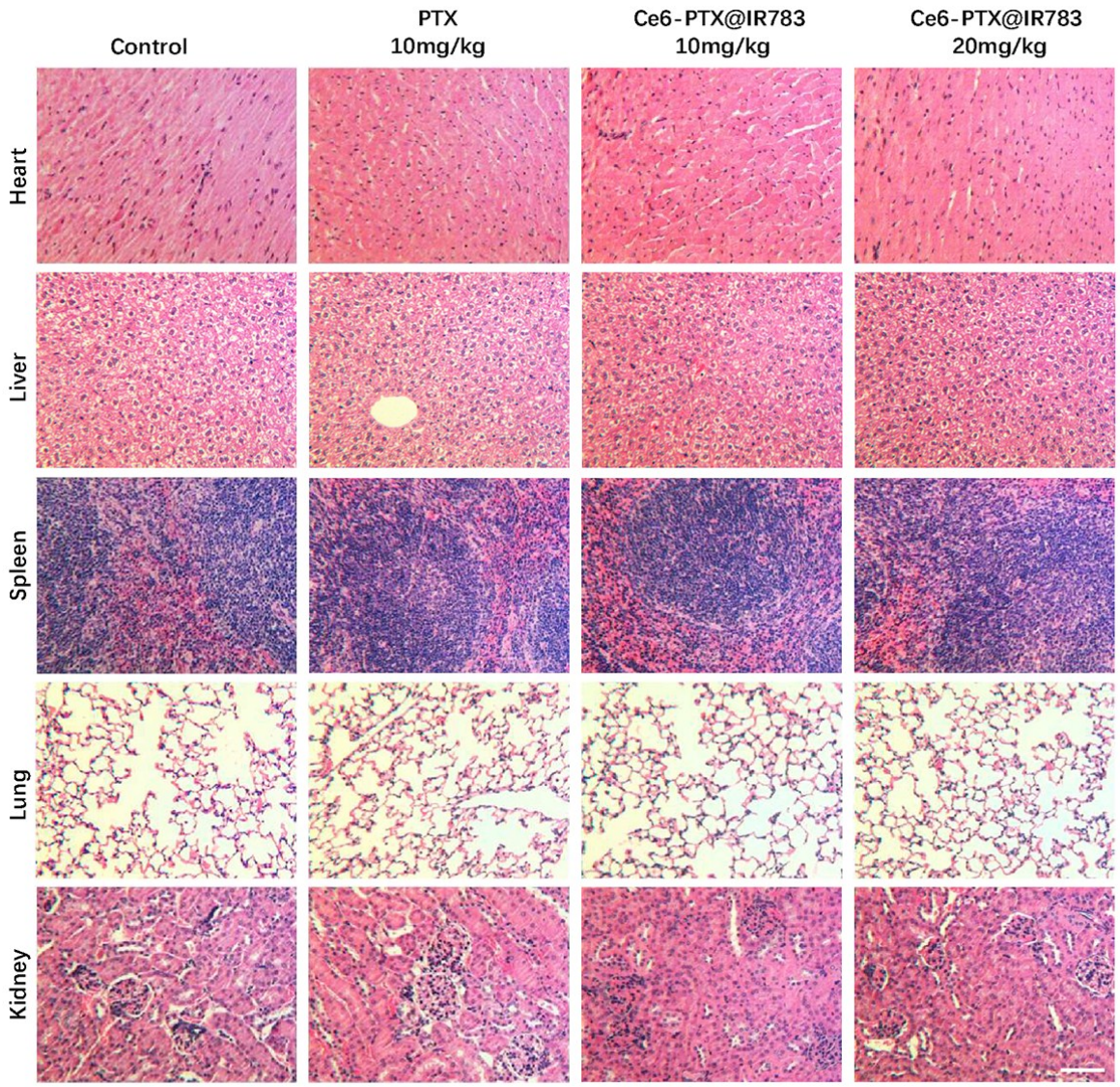

Fig. S6 Histopathological examination. H&E stained images of major organs (heart, liver, spleen, lung and kidneys) in different groups (n = 6). The scale bar is 100 μm.