Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supplementary Information

Mitochondria-Targeted Nanospheres with Deep Tumor Penetration for Photo/Starvation Therapy

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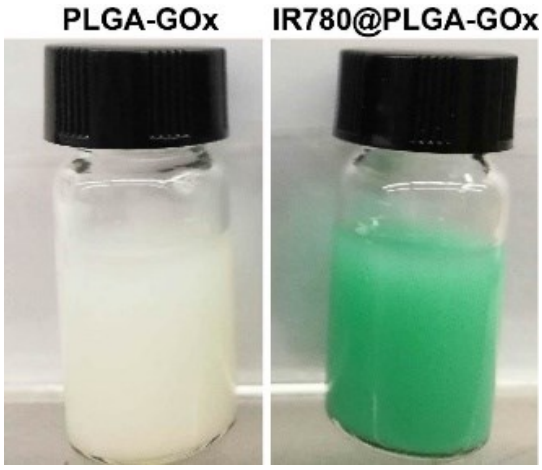

Fig. S1 Digital photographs of PLGA-GOx and IR780@PLGA-GOx dispersed in PBS at concentrations of 10 mg/mL.

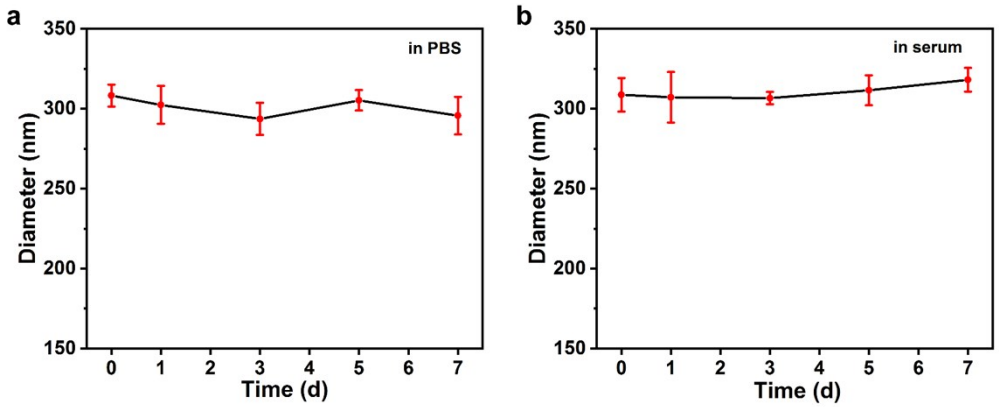

Fig. S2 Stability analysis of IR780@PLGA-GOx nanoparticles in PBS (a) and in serum (b).

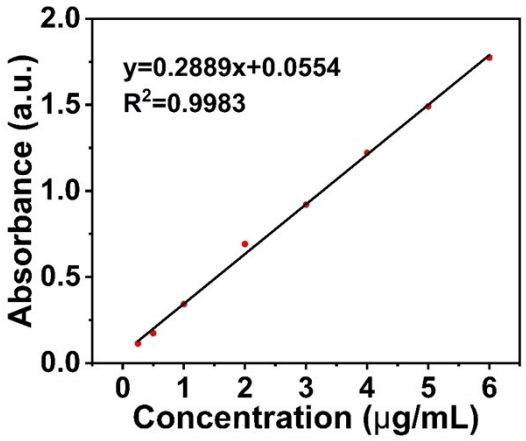

Fig. S3 Relative absorbance intensity of IR780 in UV-vis spectrum at the wavelength of 783 nm.

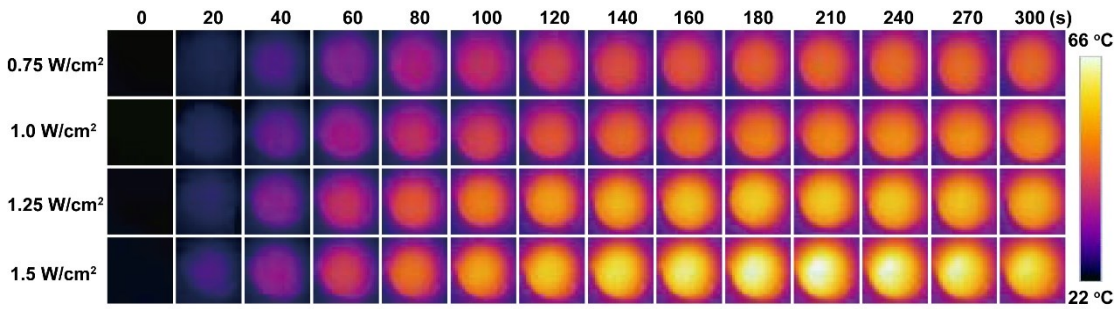

Fig. S4 Infrared thermograms of IR780@PLGA-GOx suspensions irradiated with an 808 nm laser at different power intensities (0.75, 1.0, 1.25 and 1.5 W/cm^2) and for various durations.

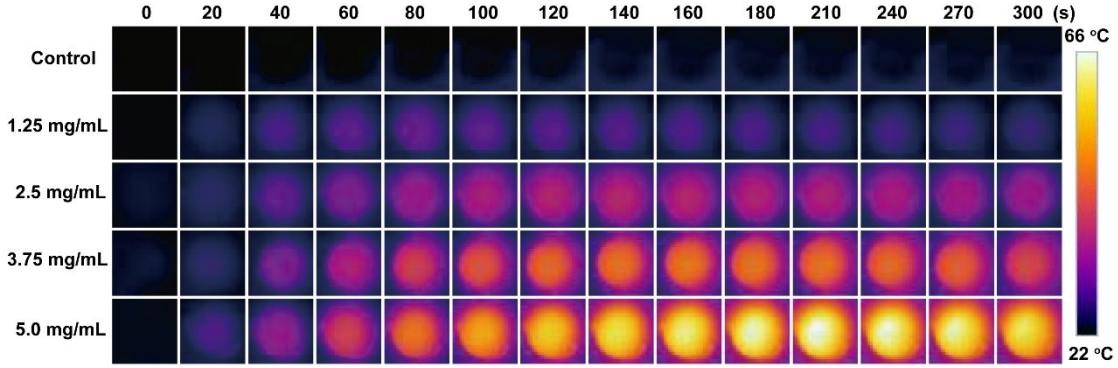

Fig. S5 Infrared thermograms of IR780@PLGA-GOx suspensions at different concentrations (0, 1.25, 2.5, 3.75 and 5 mg/mL) irradiated with an 808 nm laser for various durations.

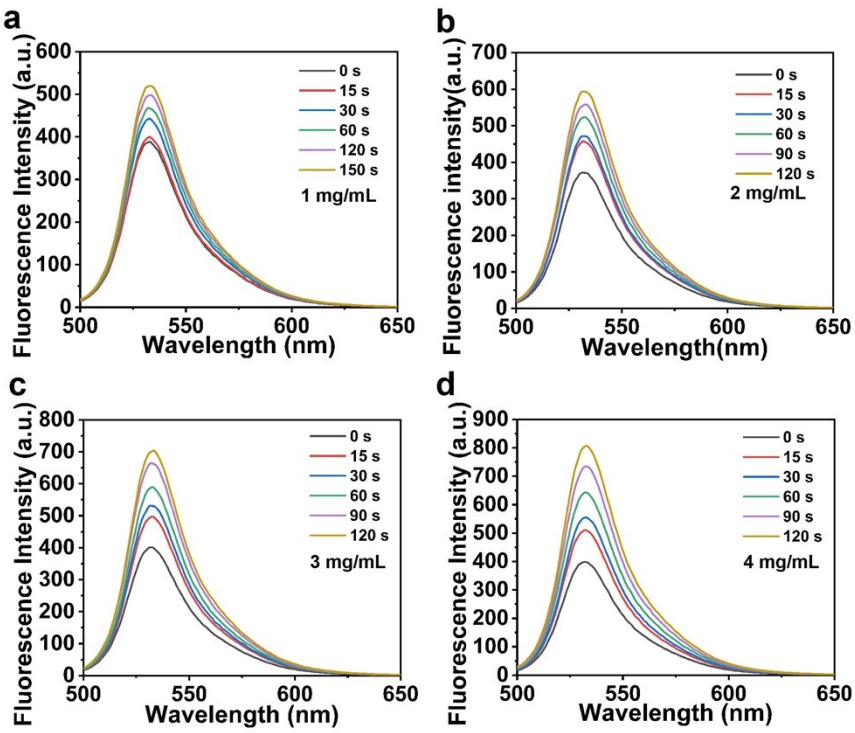

Fig. S6 *In vitro* ROS generation of IR780@PLGA-GOx as assisted by irradiation with an 808 nm laser (1.5 W/cm^2) for increasing durations. The concentration of IR780@PLGA-GOx was (a) 1 mg/mL (PLGA equivalence), (b) 2 mg/mL (PLGA equivalence), (c) 3 mg/mL (PLGA equivalence), or (d) 4 mg/mL (PLGA equivalence).

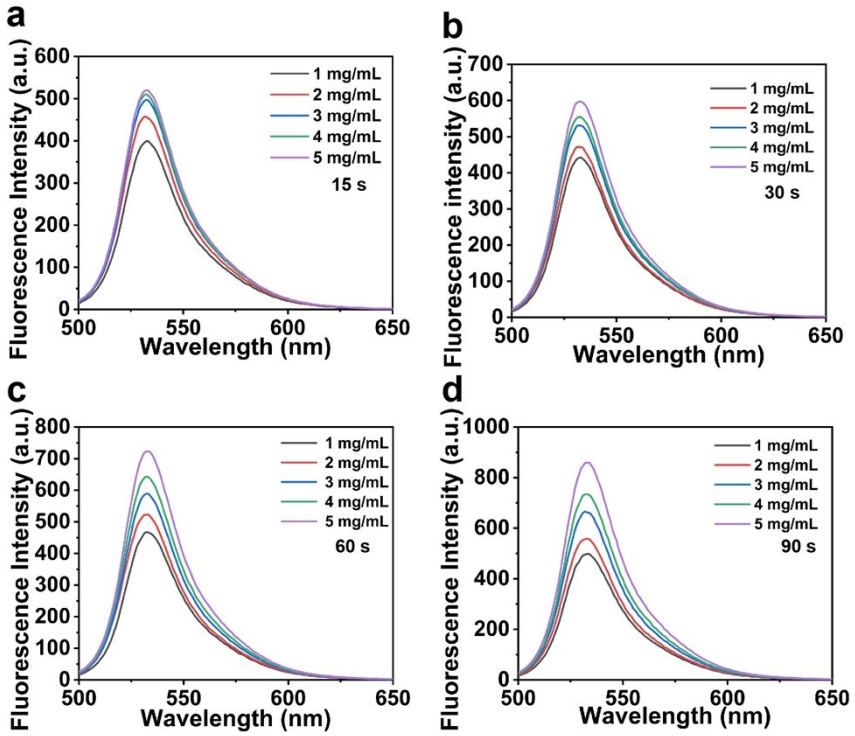

Fig. S7 *In vitro* ROS generation of different concentrations of IR780@PLGA-GOx as assisted by irradiation with an 808 nm laser (1.5 W/cm^2). The irradiation time was (a)

15 s, (b) 30 s, (c) 60 s, or (d) 90 s.

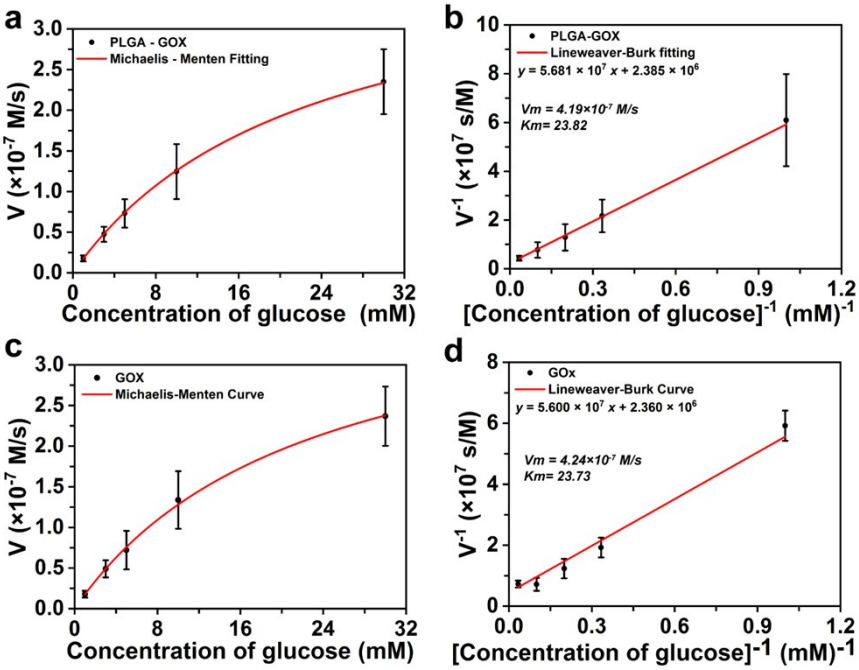

Fig. S8 (a) Lineweaver–Burk plot of PLGA-GOx; (b) Michaelis–Menten kinetics of PLGA-GOx; (c) Lineweaver–Burk plot of GOx; (d) Michaelis–Menten kinetics of GOx.

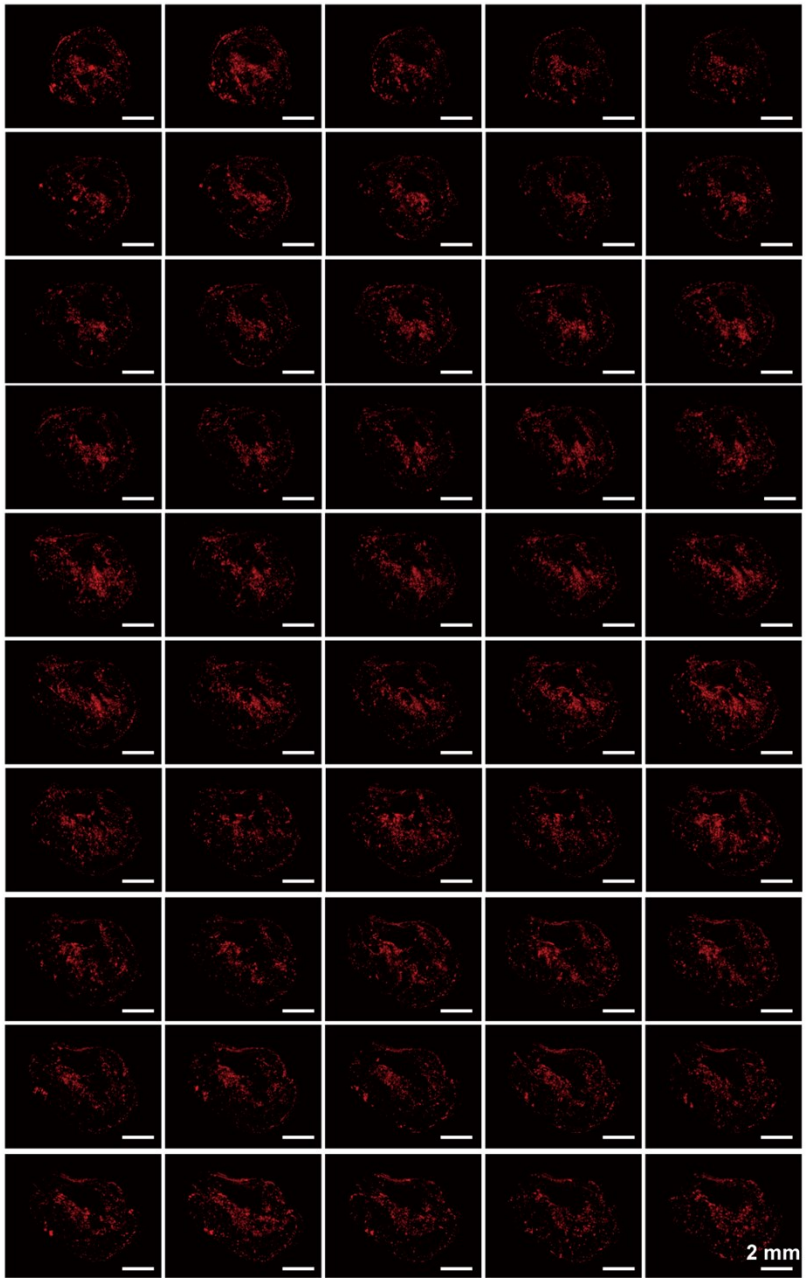

Fig. S9 Tomographic scanning of tumor tissue in 25 μm intervals after intravenous injection of IR780@PLGA-GOx.

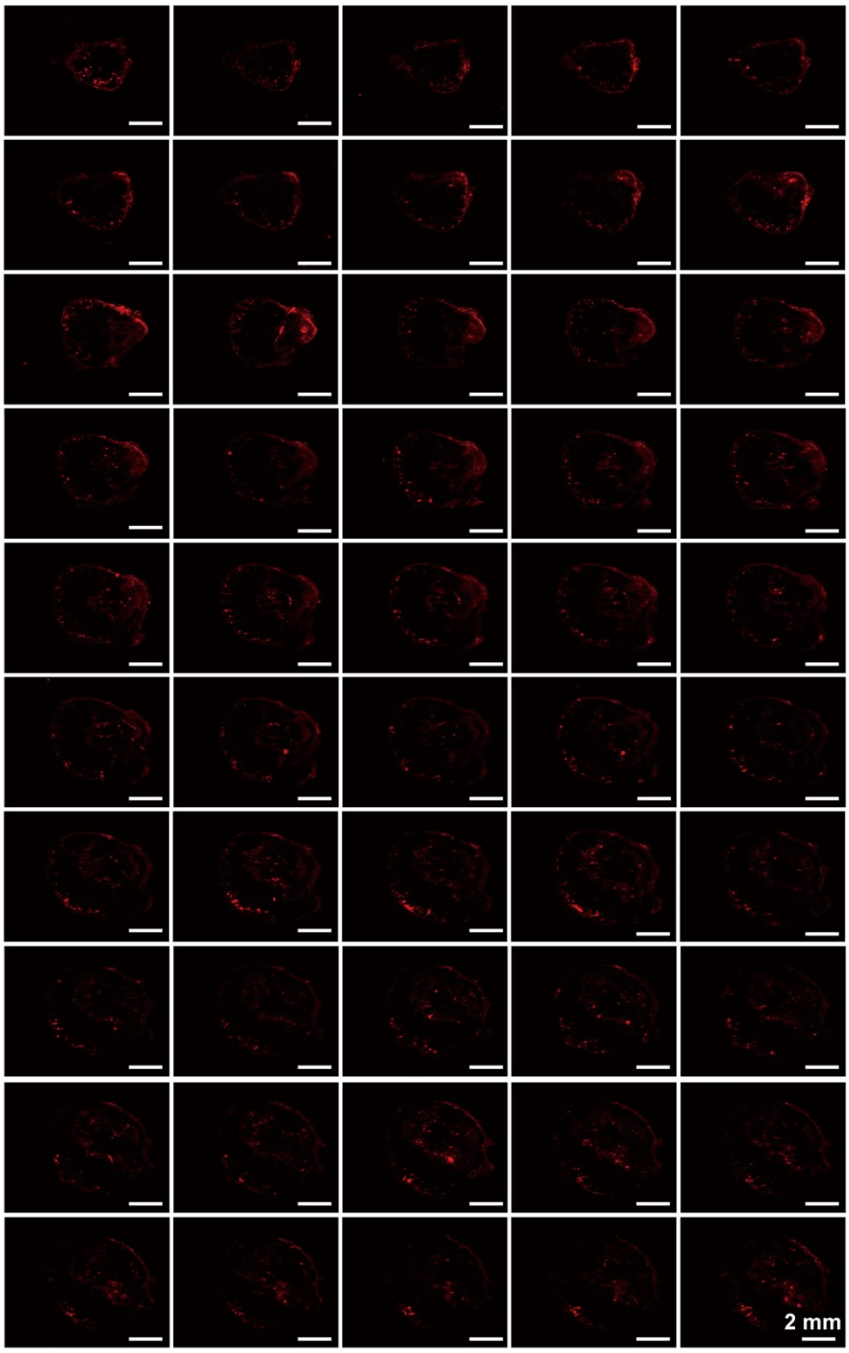

Fig. S10 Tomographic scanning of tumor tissue with 25 μm intervals after intravenous injection of PLGA-GOx.

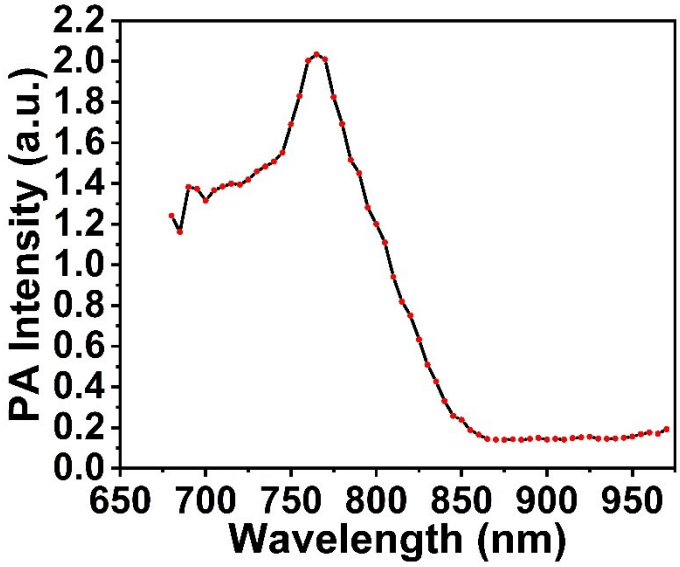

Fig. S11 PA intensity of IR780@PLGA-GOx excitation at wavelengths from 680 to 970 nm.

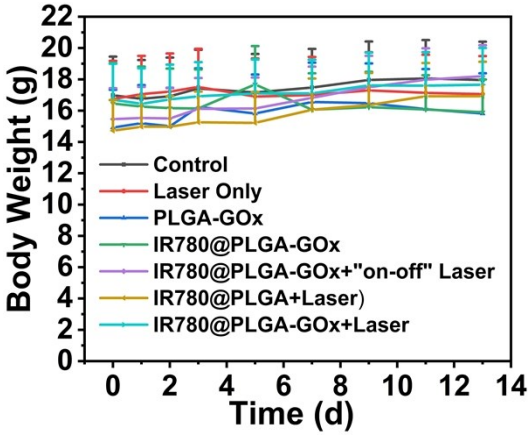

Fig. S12 Body weights of the mice in each group during the treatment period (n = 5).

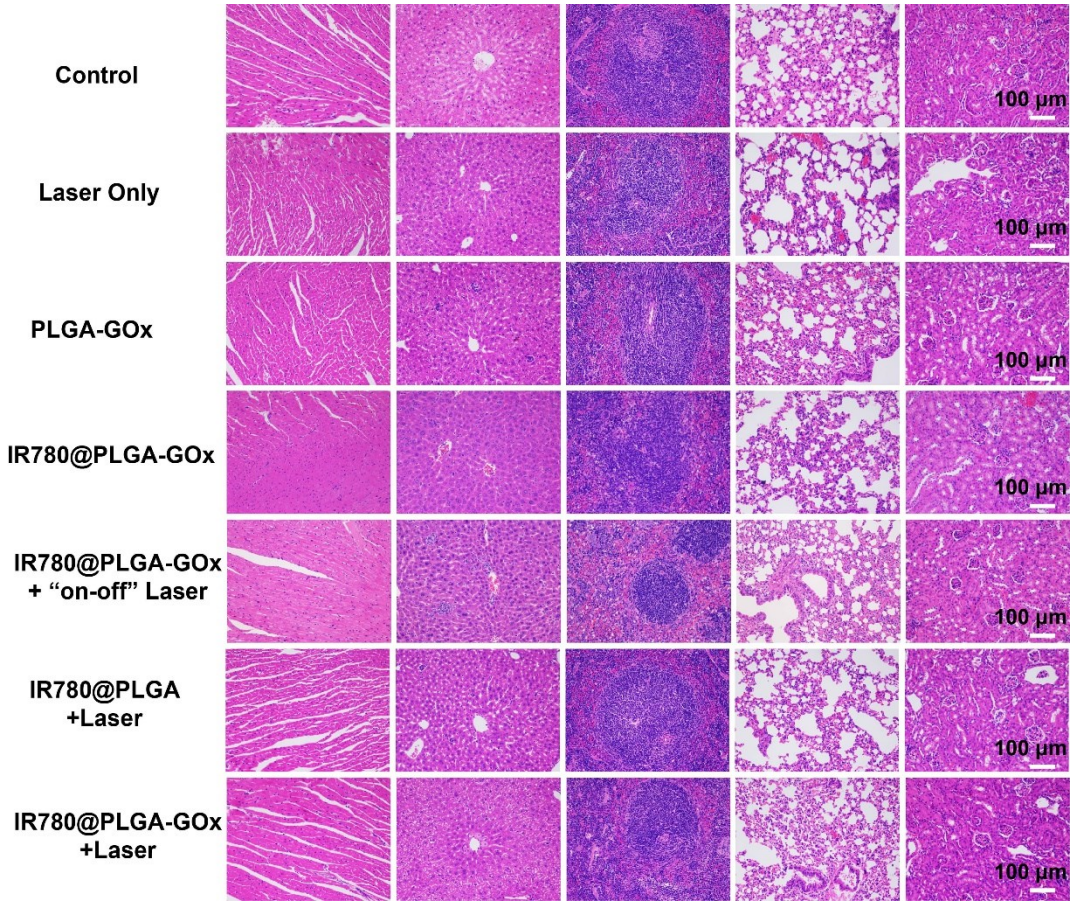

Fig. S13 H&E staining of major organs, including the heart, liver, spleen, lungs and kidneys, of 4T1 tumor-bearing mice post treatment (scale bar: 100 μm).