

Supporting Information

Near-infrared fluorescence imaging-guided focused ultrasound-mediated therapy against rheumatoid arthritis by MTX-ICG-loaded iRGD-modified echogenic liposomes

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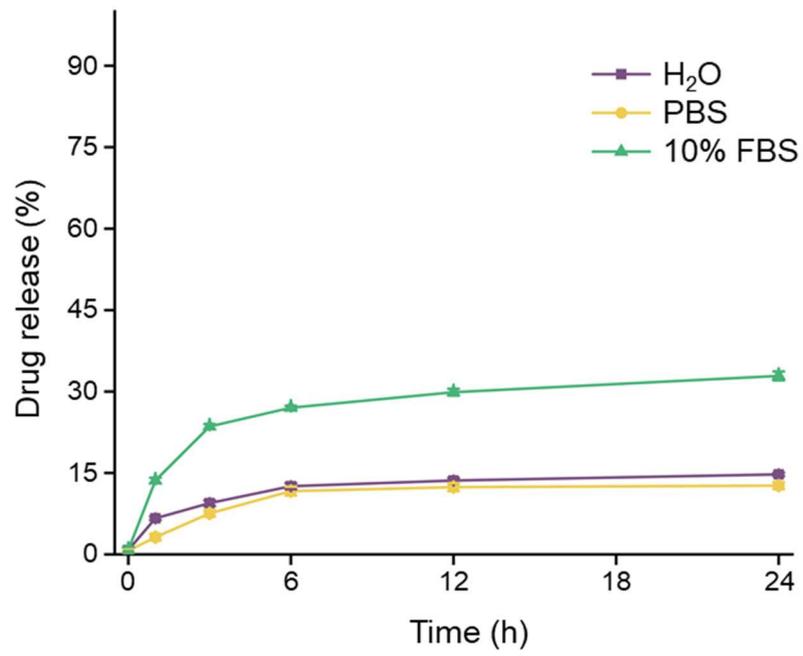


Figure S1. Drug release profiles of iELPs in H₂O, PBS and 10% FBS after 24 h incubation.

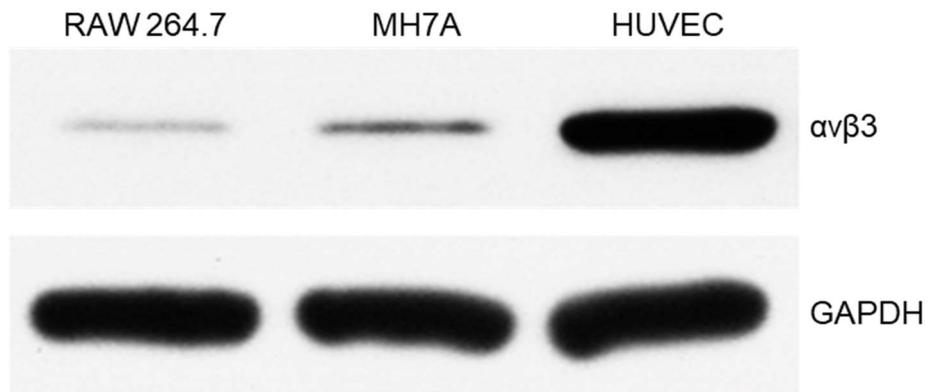


Figure S2. The assessment of integrin $\alpha\beta 3$ expression for three cells through Western blotting.

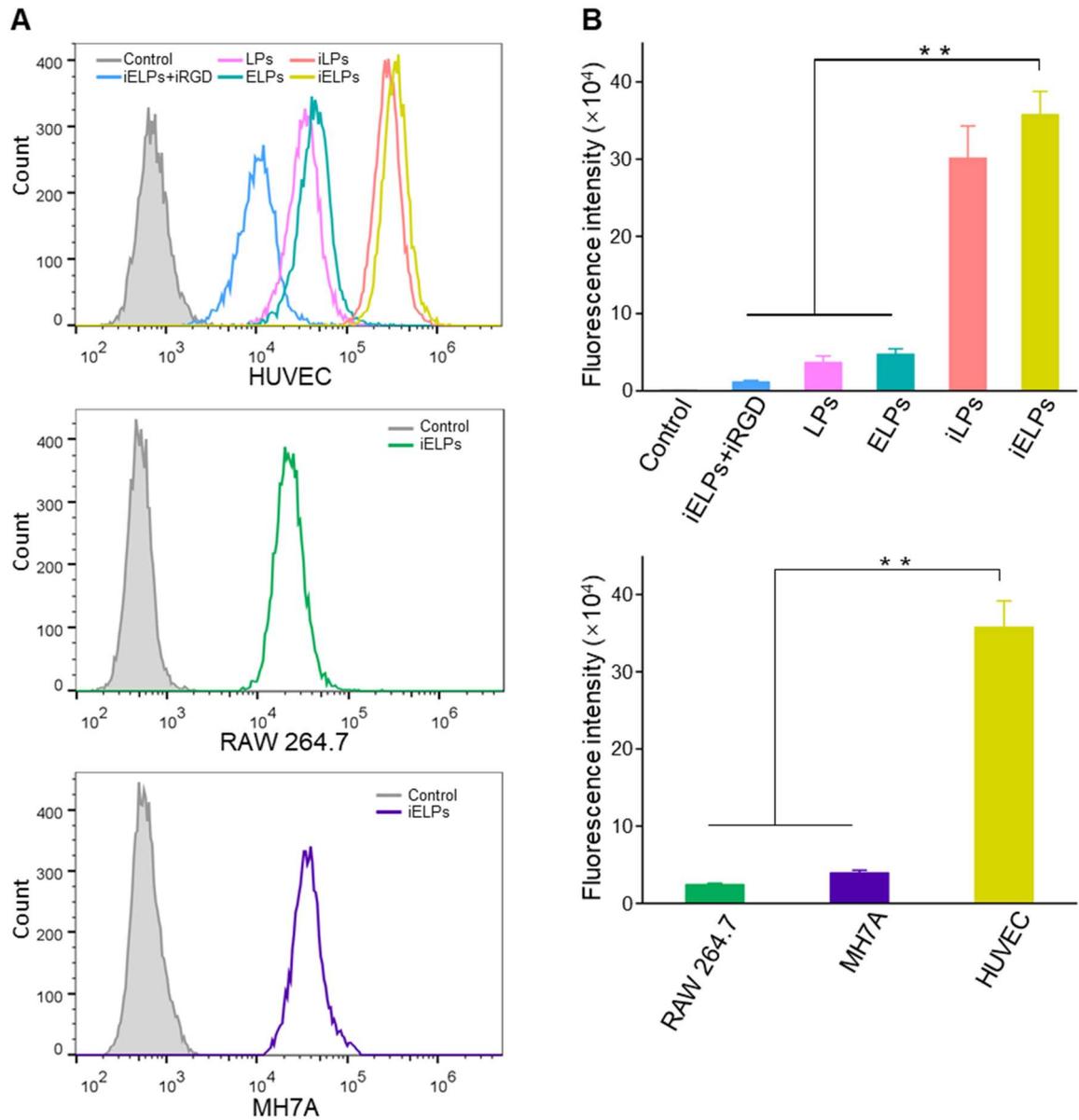


Figure S3. (A) The uptake analysis of HUVECs, RAW 264.7 cells and MH7A cells by flow cytometry. (B) Fluorescence intensity of HUVECs, RAW 264.7 cells and MH7A cells from flow cytometric analysis (** $P < 0.01$).

Abbreviations: iLPs: the control of non-lyophilized liposomes containing MTX and ICG decorated with iRGD peptide; LPs: the control of non-lyophilized liposomes containing MTX and ICG decorated.

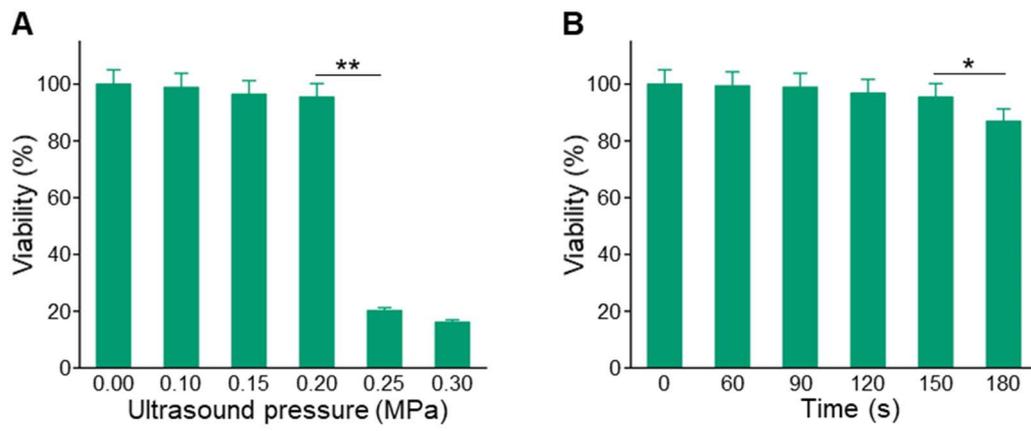


Figure S4. (A, B) *In vitro* cytotoxicity of low frequency ultrasound at varying acoustic pressure (A) and duration (B) (* $P < 0.05$, ** $P < 0.01$).

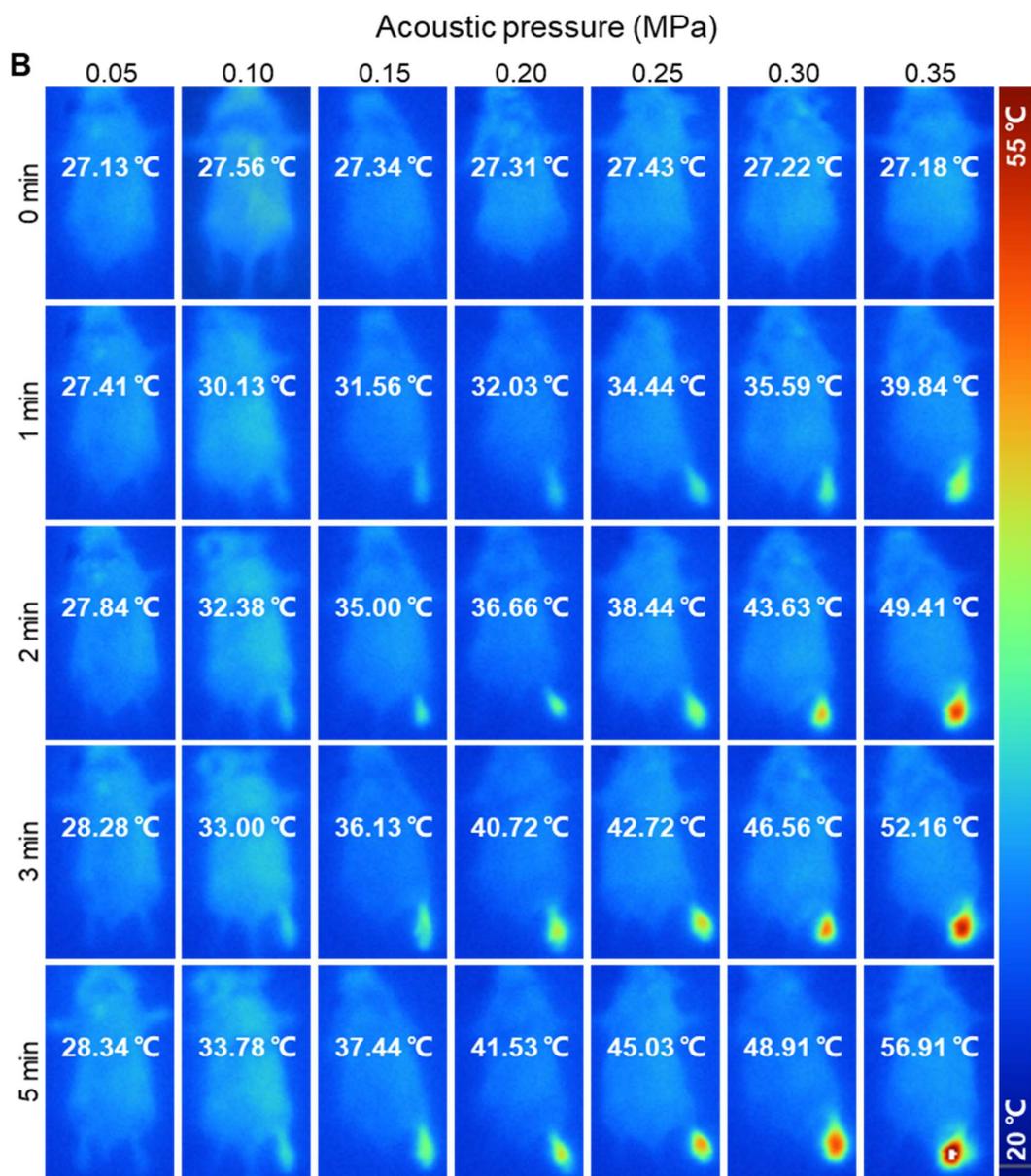
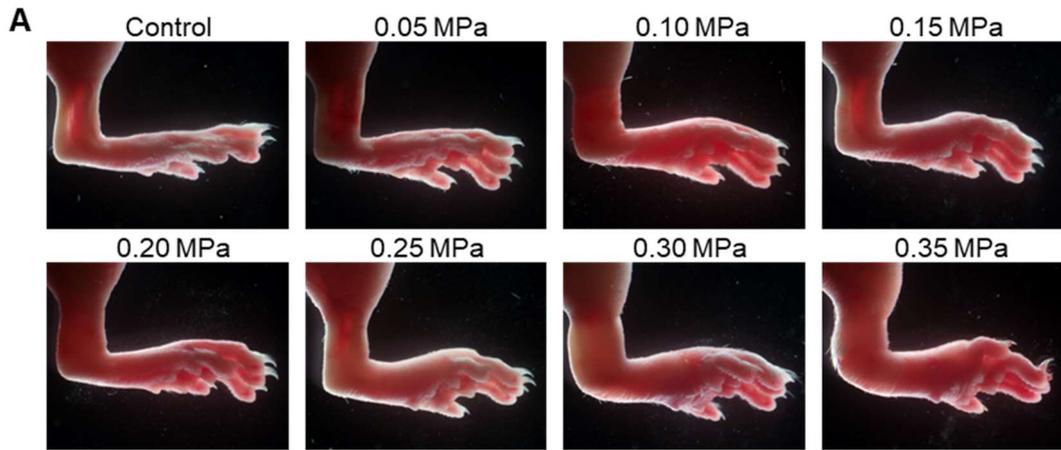


Figure S5. (A) Changes in the articular surface after sonication at different acoustic pressures. (B) Realtime photothermal images of acoustic mice.

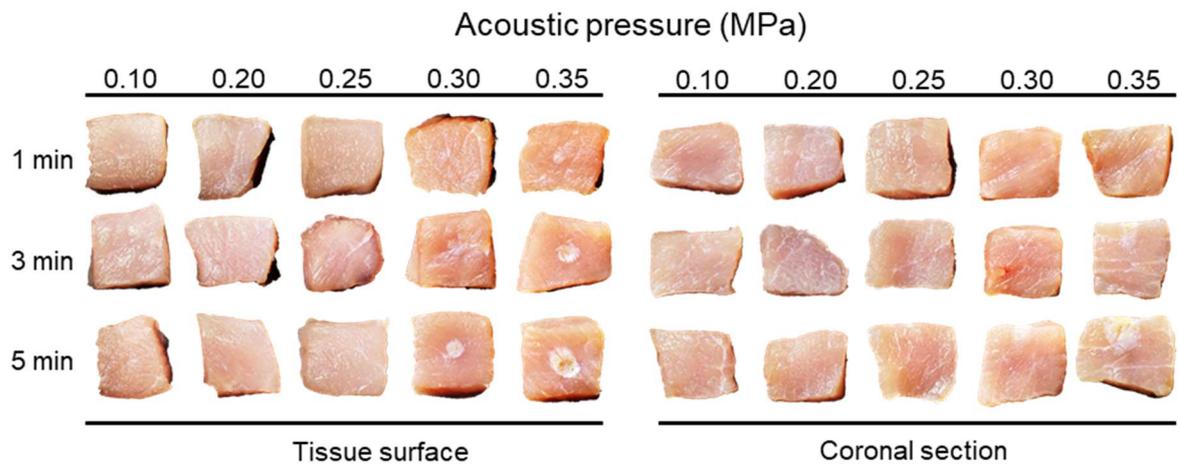


Figure S6. Porcine tissue damage and temperature changes varying acoustic pressure and duration.

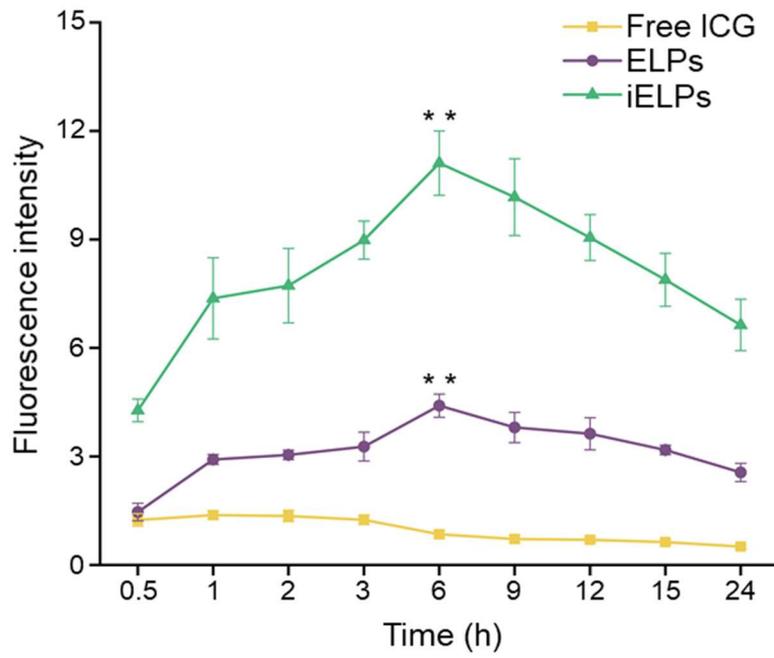


Figure S7. Time-dependent change in NIR fluorescence intensity of two symptomatic paws in CIA mice treated with free ICG, ELPs or iELPs (** $P < 0.01$).

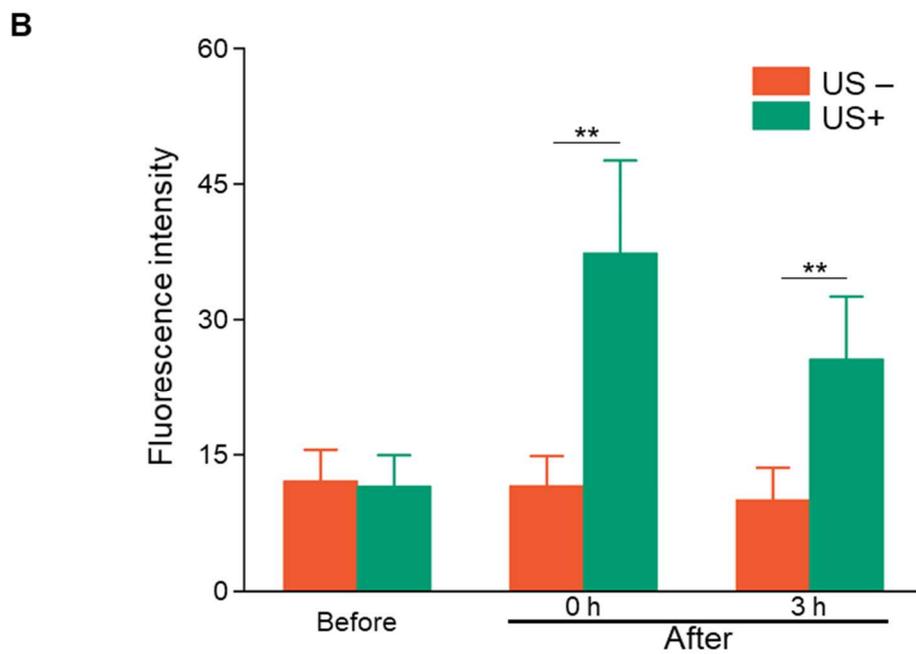
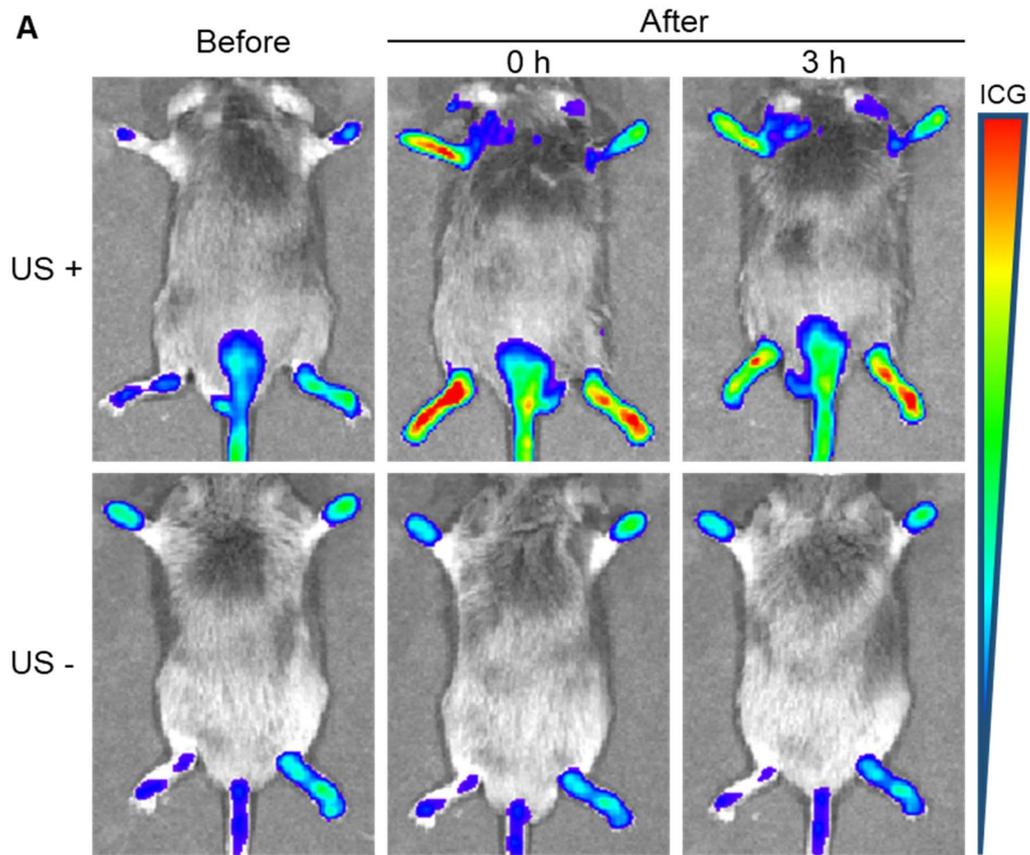


Figure S8. (A) NIR images of CIA mice treated with iELPs before and after ultrasonication. (B) Comparison of fluorescence intensities in the paws (** $P < 0.01$).

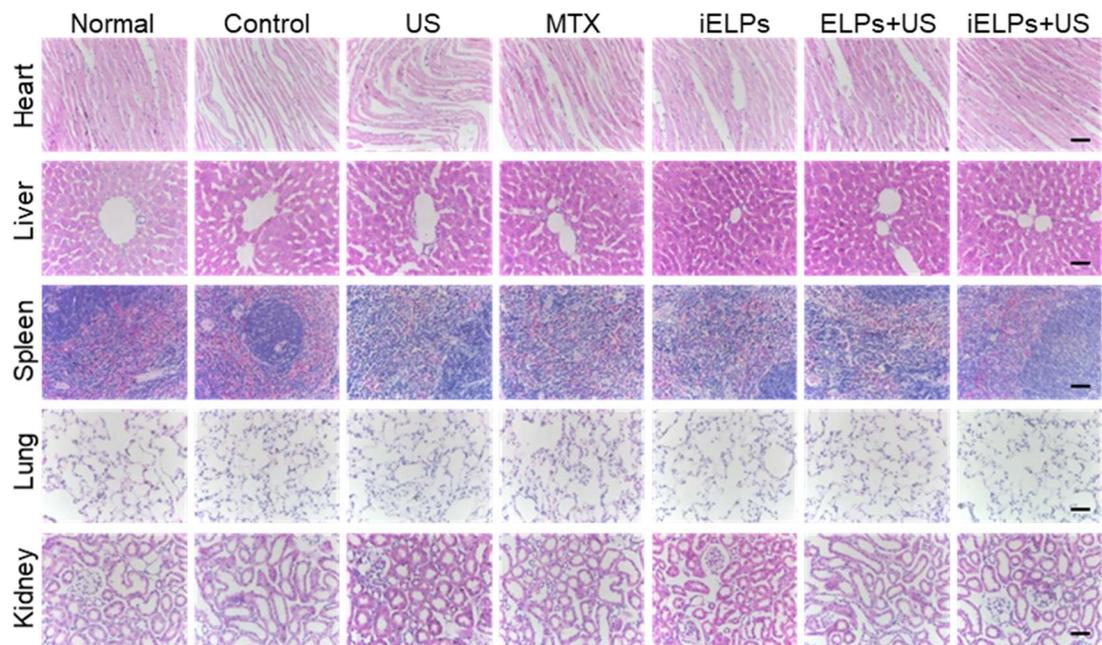


Figure S9. H&E stained images of major organs from the differentially-treated mice.
(Scale bar = 50 μm .)