## **Supplementary Information**

## Low frequency nanobubble-enhanced ultrasound mechanotherapy for noninvasive

## cancer surgery

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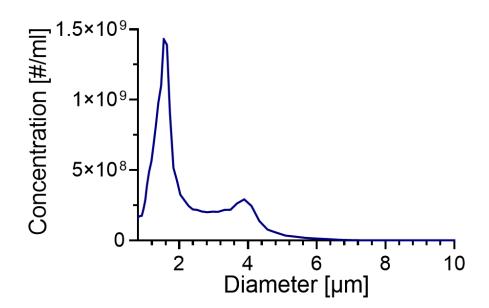
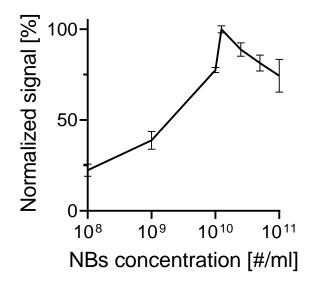
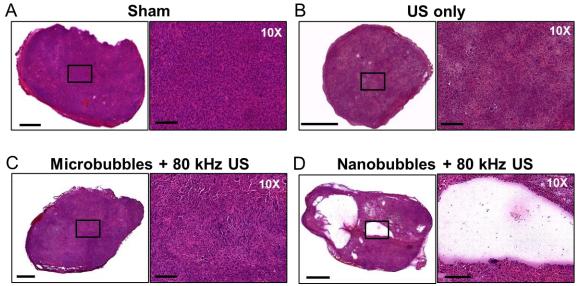


Fig. S1 Microbubble characterization. Microbubble size distribution and particle concentration.



**Fig. S2 Nanobubble concentration optimization for the mimicking phantom experiments.** Inclusion signal as a function of NB concentration.



**Fig. S3 Histological photomicrographs of control and treated groups.** (A) Sham tumor, (B) Tumor treated with low frequency ultrasound (US) only, (C) Tumor treated with low frequency US 10 min after systemic injection of microbubbles and (D) Tumor treated with low frequency US 10 min after systemic injection of nanobubbles. Scale bars are 1 mm for tumor cross- sections and 200 µm for 10x magnified images.