

Electronic Supplementary Information

Microfluidic resonant cavities enable acoustophoresis on a disposable superstrate

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Supplementary Figures

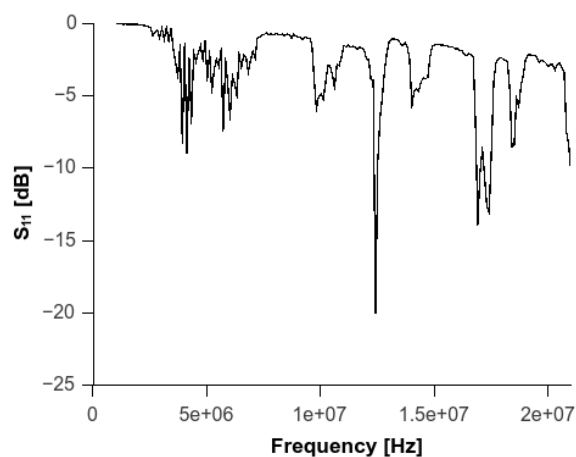


Figure S1. Frequency spectra of slanted SAW transducer. Fundamental frequency range from 3.7 MHz to 5.5 MHz and further higher harmonic responses up to 21 MHz.

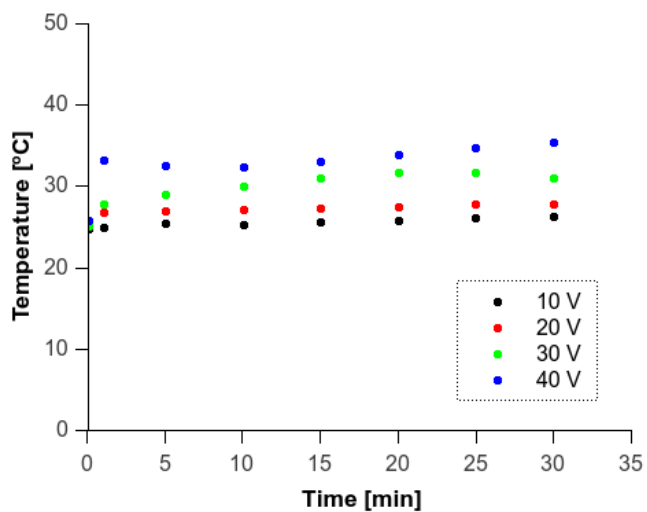


Figure S2. Highest temperature values measured on the surface of the superstrate for different voltages (4.138 MHz) applied to the SAW transducer. Measurements taken using infrared camera (Ti 25, Fluke, USA)

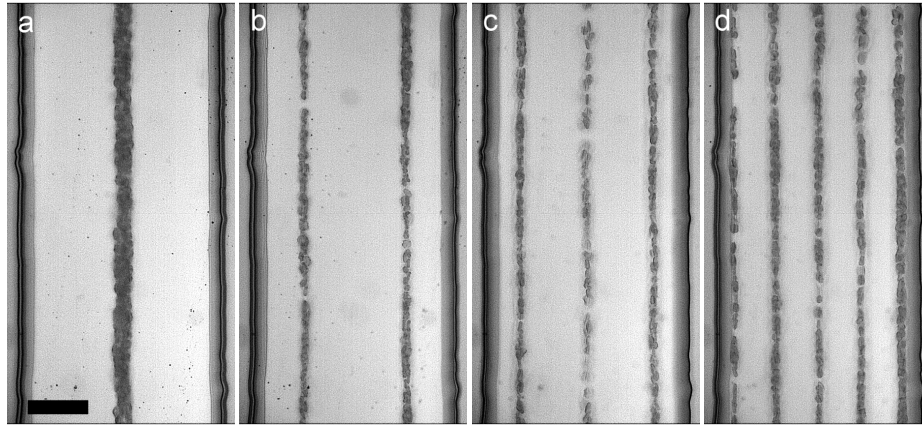


Figure S3. Identified resonance frequencies for superstrate leading to flexible linear alignments of blood cells into 1 to 5 pressure nodal planes. (a) 4.138 MHz, (b) 8 MHz, (c) 12.514 (d) 20.504 MHz. Scale bar: 50 μm .

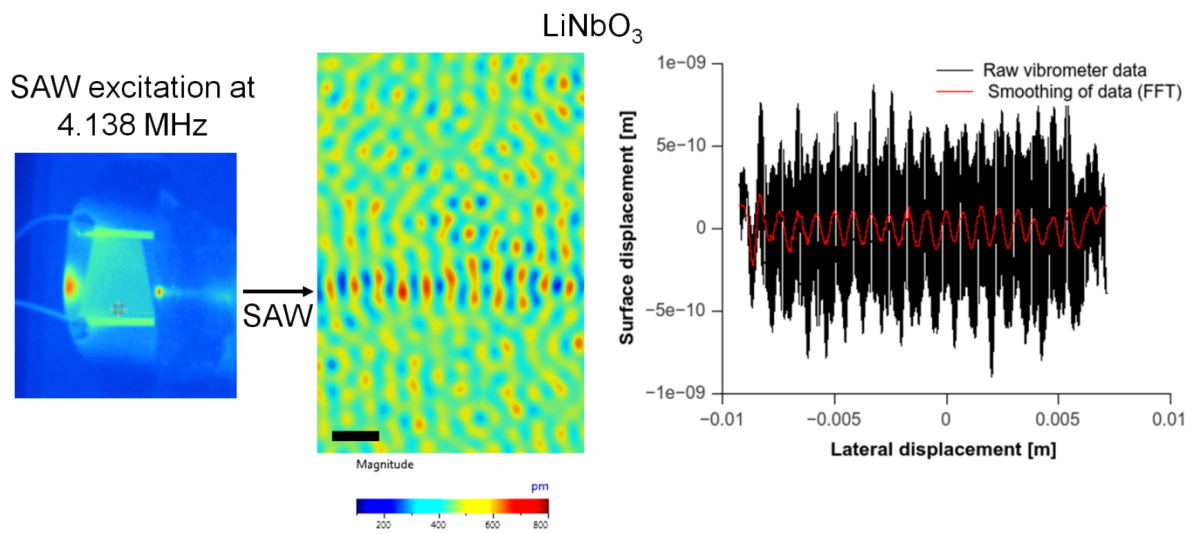


Figure S4. Displacement on LiNbO_3 surface after actuation of slanted SAW transducer at 4.138 MHz indicates a beam aperture of 2 mm to 3 mm. A fast Fourier filter was applied to reduce high frequency noise of the raw vibrometer data. Scale bar: 2mm. The actuation power was limited by the equipment to 30 mW, ~ 2 orders of magnitude smaller than the power used in the trapping experiments (2 W).