## **Electronic Supplementary Information**

## Acoustic enrichment of sperm for in vitro fertilization

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## Supplementary Figures.

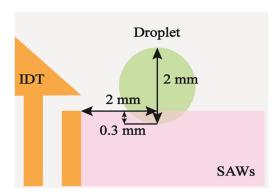
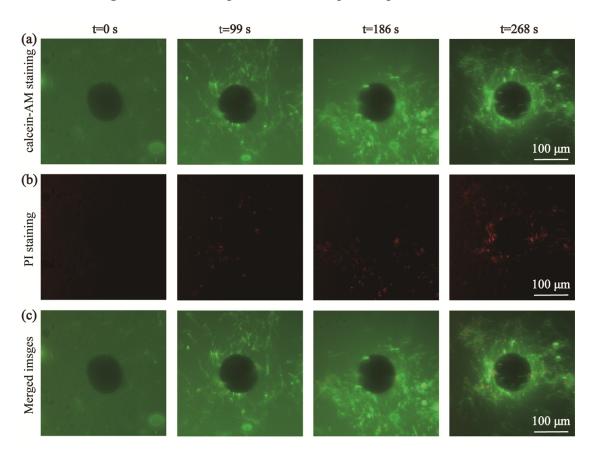


Fig. S1 The relative position of the liquid droplet in the device.



**Fig. S2** Enrichment process of live and dead sperm around PS particles with a diameter of 100 μm during acoustic treatment. (a) Fluorescently stained sperm with calcein-AM, which indicated their viability. (b) Fluorescently stained sperm with PI, which indicates their death. (c) The merged images of fluorescently stained sperm with calcein-AM and PI.

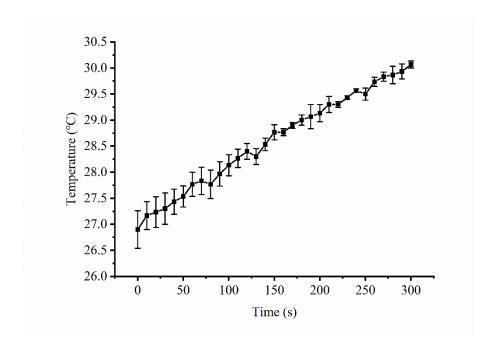


Fig. S3 The temperature distribution of a 1  $\mu$ L droplet on the substrate over time.