

Supporting Information for

**An optical nanofibre enabled on-chip single nanoparticle sensor**

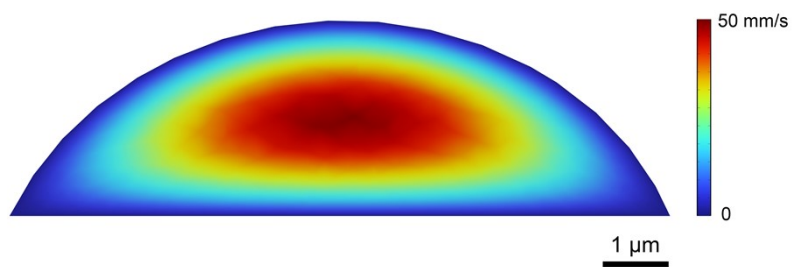
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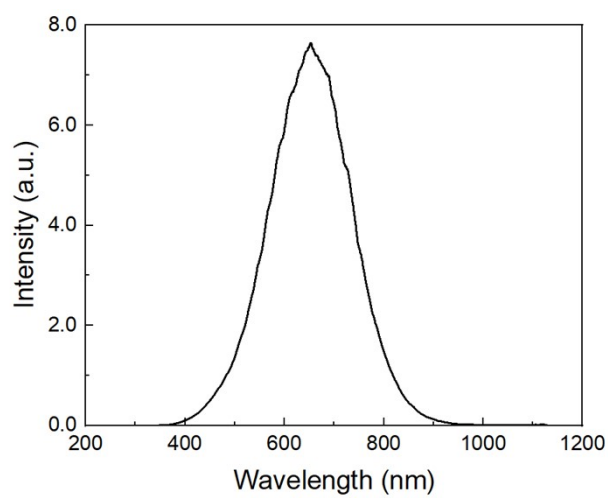
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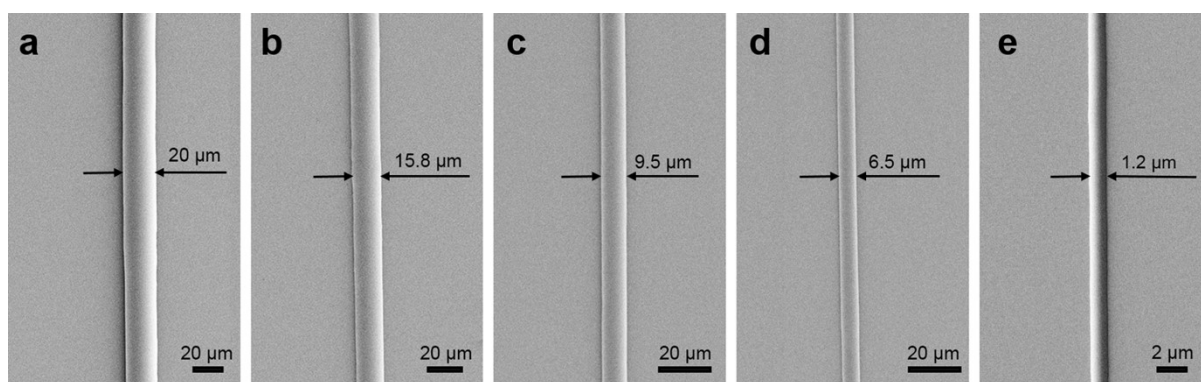
Email: zhang\_lei@zju.edu.cn



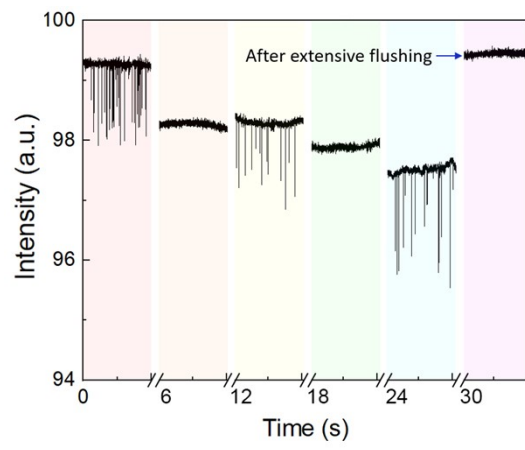
**Figure S1.** Simulation of flow rate distribution in a microchannel (10 μm in width, 3 μm in height).



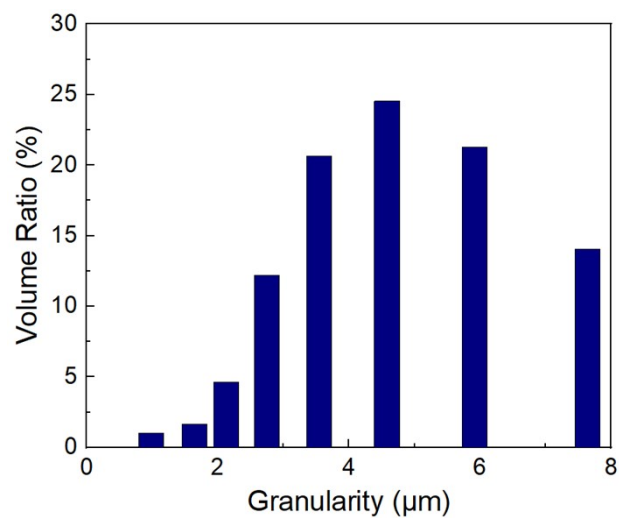
**Figure S2.** Typical transmission spectrum of the nanoparticle sensor with a 700-nm-diameter nanofibre.



**Figure S3.** (a-e) Scanning electron micrographs of SU-8 microwires with different diameters in a range of 1-20  $\mu\text{m}$ . The diameter of each SU-8 microwire is labelled in the micrograph.



**Fig. S4** Recovery of the transmitted intensity after a set of measurements by extensive flushing.



**Fig. S5** The size distribution of the yeasts measured by Mastersizer 3000.

Supplementary Movie S1: Real time detection PS nanoparticle using the optical nanofibre enabled on-chip single nanoparticle sensor.

Supplementary Movie S2: The attached particles can be effectively removed by flushing the channel.