Electronic Supplementary Material (ESI) for Lab on a Chip.

Electronic Supplementary Information.

Non-adhesive contrast substrate for single-cell trapping and Raman spectroscopic analysis

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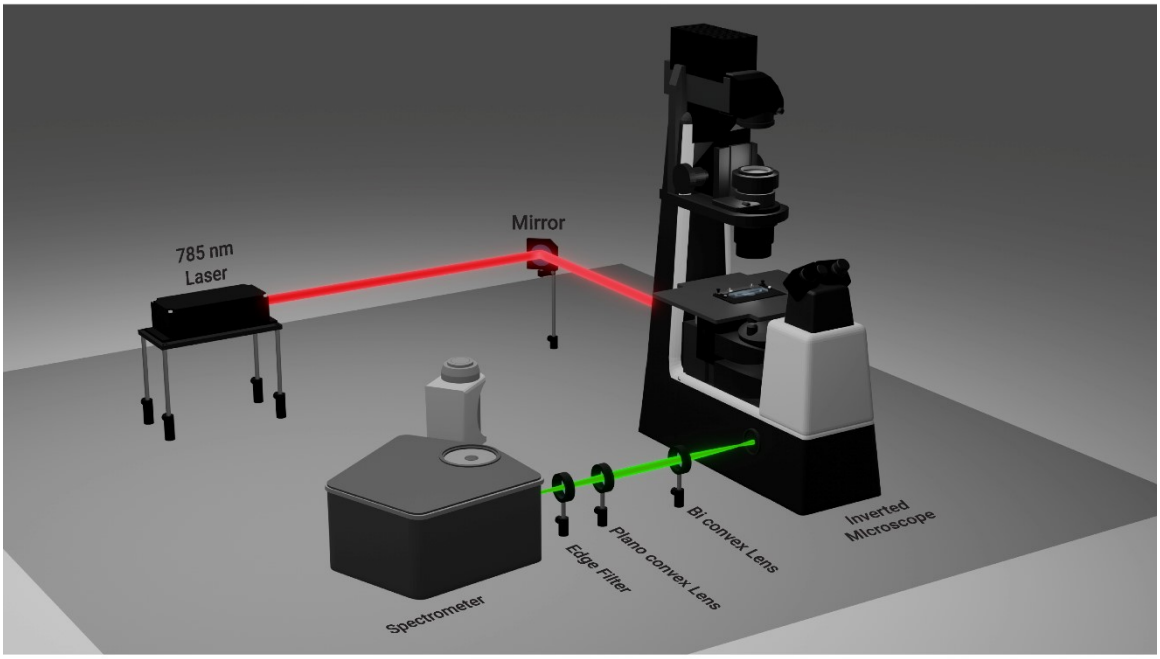

Fig. S1. Schematic of Raman setup

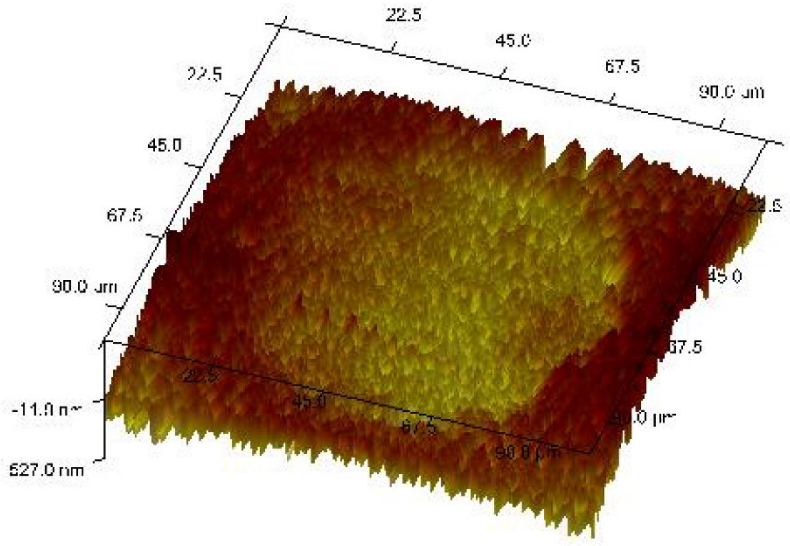

Fig. S2. AFM image of non-adhesive contrast surface created with laser power greater than 204 mW

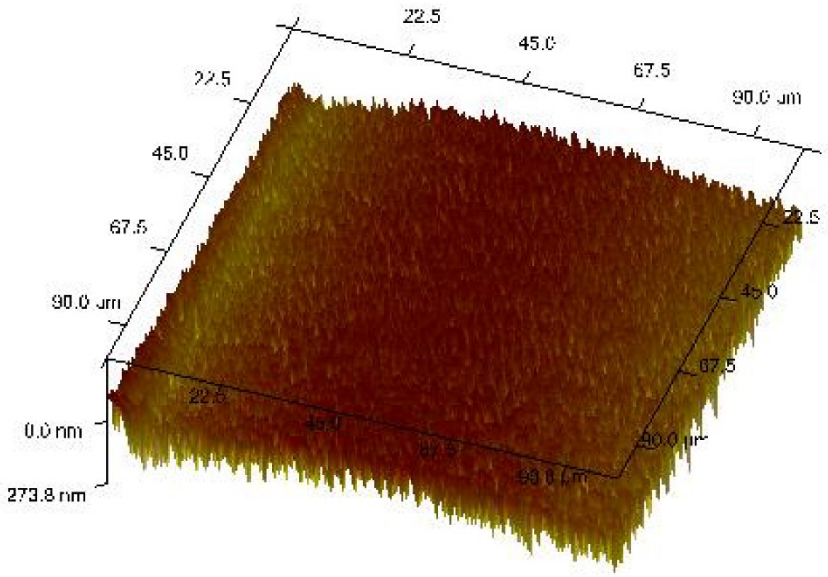

Fig. S3. AFM image of non-adhesive contrast surface created with laser power less than 204 mW

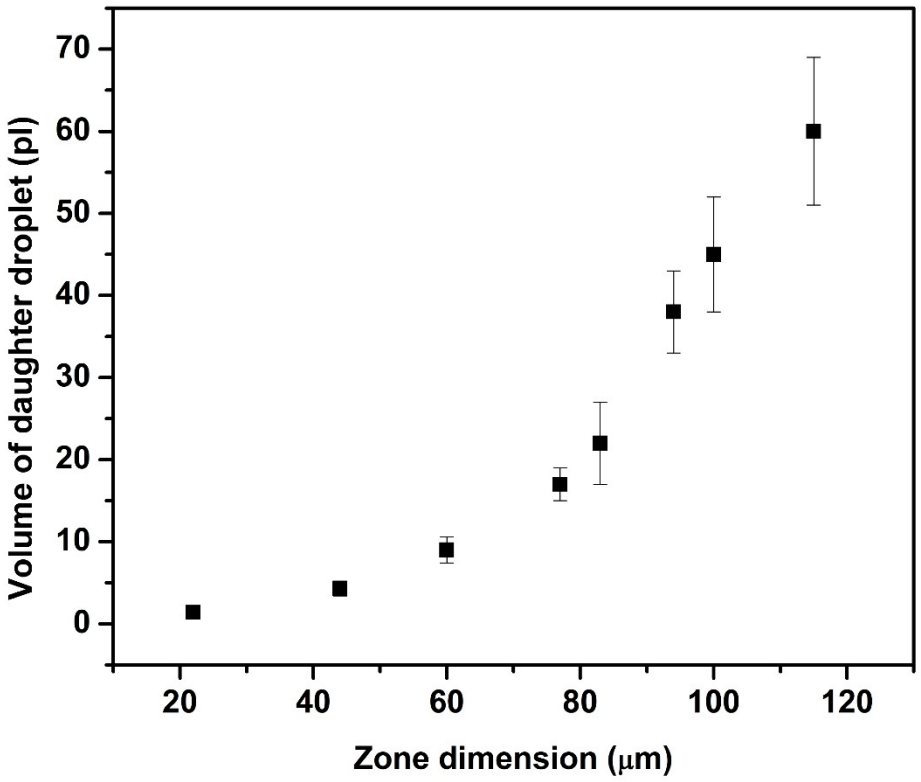

Fig. S4. Volume of the daughter droplet in various hydrophilic zones

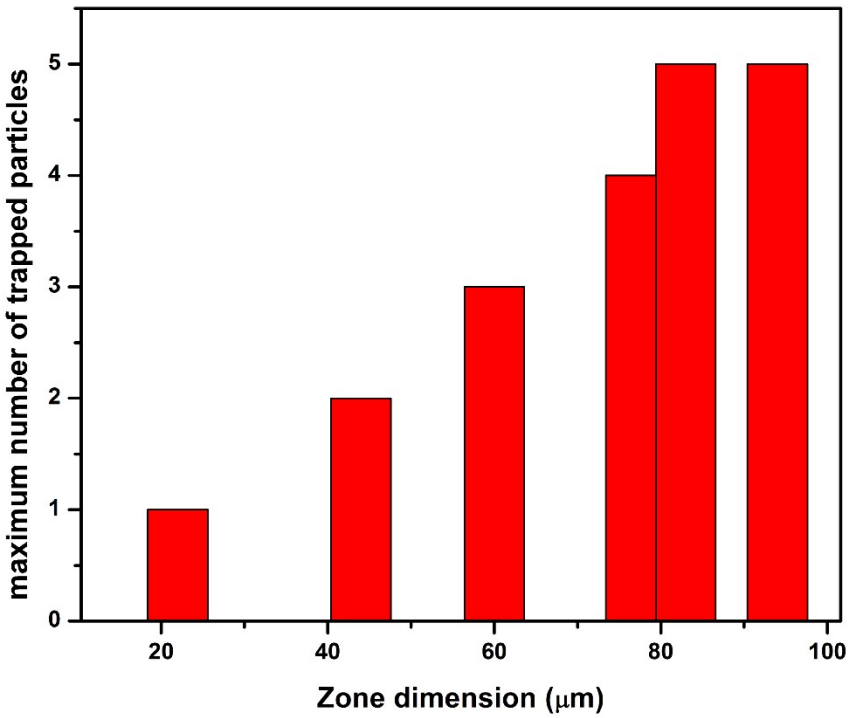

Fig. S5. The maximum number of particles trapped in the different hydrophilic zone dimension

Table S1. Raman peak assignment of Polystyrene bead

Raman peak of Polystyrene bead (cm^{-1})	**Assignment**
613	Radial ring deformation of C-C-C
751	Out of plane deformation of C-H
788	Radial ring deformation of C-C-C
833	Out of plane deformation of C-H
896	Out of plane deformation of C-H
993	stretching of C-C
1022	in-plane bending of C-H
1149	in-plane bending of C-H
1175	in-plane bending of C-H
1195	in-plane bending of C-H
1324	out-of -plane ring deformation of C-C-C, out-of-plane bending of C-H
1445	stretching of C-C
1575	stretching of C-C
1596	stretching of C-C

Table S2. Raman peak assignment of yeast cell

Raman peak of Yeast cell (cm^{-1})	**Assignment**
595	cytochrome c
637	tyrosine
662	thymine
750	cytochrome *c* and *b*
778	cytosine, thymine
802	RNA phosphate backbone
834	phenylalanine
902	rocking CH_2
966, 996	cytochrome *c* and *b*
1024	phenylalanine
1064, 1072	saturated compounds (C-C)
1120, 1144, 1167	cytochrome c and b
1199	phenylalanine, tyrosine
1240	saccharides, amino acids, nucleotides
1293	twisting CH_2 ; cytochrome *c* and *b*; amide III
1308, 1338	cytochrome *c* and *b*
1446	scissoring CH_2, umbrella CH_3 modes
1596	cytochrome *c* and *b* : phenylalanine
1651	amide I (1650 cm^{-1}) and other C = O, C = C
1733	C = O

Table S3. Raman peak assignment of Human mononuclear cell

Raman peak of MNC (cm^{-1})	**Assignment**
785	C/U nucleic acids
826	O-P-O marker for RNA in A-form structure
1094	PO_2^- nucleic acids
1153	Ribose and weak nucleic acid base vibrations
1221	Protein, Phenylalanine, Tyrosine
1343	A/G nucleic acids
1374	Cytochrome C
1446	Lipids/phospholipids, Protein CH_2 CH_3 stretching
1521	Protein Amide II –N-H bending and C-N stretching, Tyrosine
1578	Cytochrome C. A and G in nucleic acids, Possible Arginine band
1657	Protein Amide I α-helix/β-turn. Lipid ν(C=C)