

High throughput multiplexed fluorescence activated droplet sorting

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Supplementary Information

Supplementary Figure S1

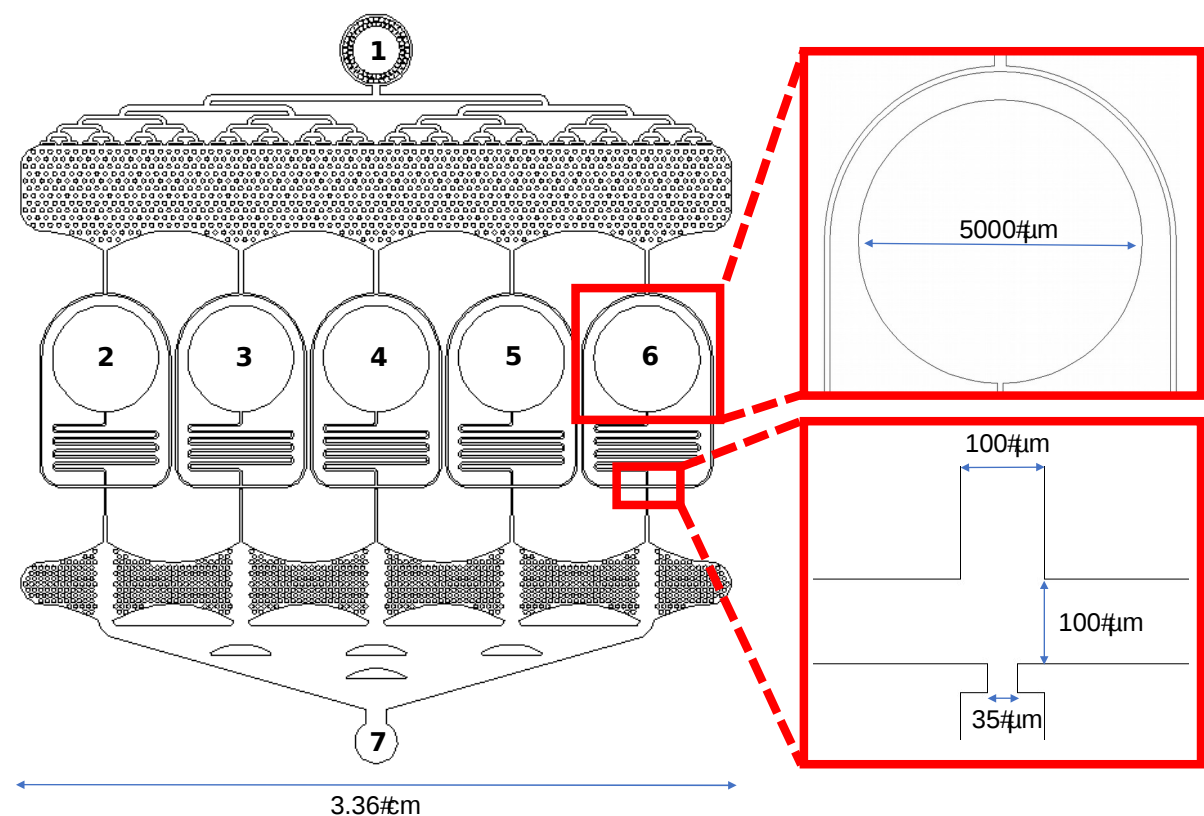


Figure S1. Design of the microfluidic chip used to parallelly emulsify five fluorescently encoded droplet populations. 1: Oil inlet. 2-6: five open wells to deposit independent aqueous phases. 7: Droplet collection outlet.

Supplementary Table S1

Droplet population/targeted sorting channel n °	1	2	3	4	5
Droplet fluorescence concentration (μM)	9.37	18.75	37.5	75	150
Voltage actuation through lower electrode (Vpp)	0	900	1200	0	0
Voltage actuation through upper electrode (Vpp)	0	0	0	900	1200

Table S1. Sum up of the protocol to sort five different fluorescent droplet populations according to a specific actuation voltage.

Supplementary Video 1

Movie S1. Droplet deviation into the upper exterior channel under electric actuation of the upper electrode (1.2 kVpp, 1.7 ms). Droplet selection rate was 80 Hz.

Supplementary Video 2

Movie S2. Droplet deviation into the upper interior channel under electric actuation of the upper electrode (0.9 kVpp, 1.7 ms). Droplet selection rate was 80 Hz.

Supplementary Video 3

Movie S3. Droplet deviation into the central channel in the absence of electric actuation. Droplet selection rate was 80 Hz.

Supplementary Video 4

Movie S4. Droplet deviation into the lower interior channel under electric actuation of the lower electrode (0.9 kVpp, 1.7 ms). Droplet selection rate was 80 Hz.

Supplementary Video 5

Movie S5. Droplet deviation into the lower exterior channel under electric actuation of the lower electrode (1.2 kVpp, 1.7 ms). Droplet selection rate was 80 Hz.

Supplementary Video 6

Movie S6. Droplet deviation into the upper exterior channel under electric actuation of the upper electrode (0.8 kVpp, 3.3 ms). Droplet selection rate was 450 Hz.

Supplementary Video 7

Movie S7. Droplet deviation into the upper interior channel under electric actuation of the upper electrode (0.8 kVpp, 1.17 ms). Droplet selection rate was 450 Hz.

Supplementary Video 8

Movie S8. Droplet deviation into the central channel in the absence of electric actuation. Droplet selection rate was 450 Hz.

Supplementary Video 9

Movie S9. Droplet deviation into the lower interior channel under electric actuation of the lower electrode (0.8 kVpp, 1.17 ms). Droplet selection rate was 450 Hz.

Supplementary Video 10

Movie S10. Droplet deviation into the lower exterior channel under electric actuation of the lower electrode (0.8 kVpp, 3.3 ms). Droplet selection rate was 450 Hz.

Supplementary Video 11

Movie S11. Fluorescence-based droplet sorting of five fluorescently encoded droplet populations (see conditions in Table S1). Droplet sorting rate was 200 Hz.