



Supporting Information

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A Digital-to-Channel Microfluidic Interface via Inkjet Printing
of Silver and UV Curing of Thiol–Enes

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Table S1. Cost estimation of the device

Part of Device	Cost [USD]
Ink	\$ 0.04
Substrate (Bottom Plate)	\$ 0.03
Glass Slide (Bottom Plate)	\$ 0.25
Adhesive (Bottom Plate)	\$ 0.24

FluoroPel (Bottom Plate)	\$
	0.35
Thiol-ene ^{a)}	\$
	0.27
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Total (Bottom Plate)	\$
	1.17
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Substrate (Top Plate)	\$
	0.02
Glass (Top Plate)	\$
	0.06
Adhesive (Top Plate)	\$
	0.06
FluoroPel (Top Plate)	\$
	0.03
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Total (Top Plate)	\$
	0.17
Total	\$
	1.34
Total (w/o Adhesive and Glass)	\$
	0.74

^{a)}Includes dielectric layer and microchannel

Table S2. Time estimation of the fabrication of batch of eight devices

Process	Time [min]
Bottom plate	
Inkjet printing of electrodes (1 × A4 sheet, 8 individual devices)	10
Cutting and affixing 8 individual devices on glass supports	5
Spin coating of thiol-ene dielectric (~1 min/device)	8
Masked exposure and patterning of thiolene (~1 min/device)	8
Fluoropolymer spin coating (~1 min/device)	8
Baking of fluoropolymer (done in parallel on hot plate)	15
Total time (for 8 bottom plates)	54
Top plate	
Fluoropolymer spin coating (~1 min/device)	8
Baking of fluoropolymer (done in parallel on hot plate)	15

Cutting and affixing individual top plate on glass support	5
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Total time (for 8 top plates)	28
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MCE channel^{a)}

Pouring thiol-ene over PDMS carefully (for 8 devices)	8
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UV curing (4 min/4 devices in parallel)	8
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Pre-heating of parts before bonding (in parallel)	5
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Bonding+UV curing (~2 min/device)	16
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Total time (for 8 MCE channels)	37
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Total time to fabricate 8 integrated devices	119^{b)}
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^{a)}One time process of SU-8 master fabrication and PDMS mold preparation was not added, ^{b)}MCE channels (37 min) can in most parts be fabricated parallel to DMF bottom and top plates, which reduces the total fabrication time to ca. 82 min.

Video S1. Transfer of water droplet with food color (blue) from DMF part to the sample inlet of the MCE microchannel