

Supplemental Information

Robust partitioning in thermoplastic

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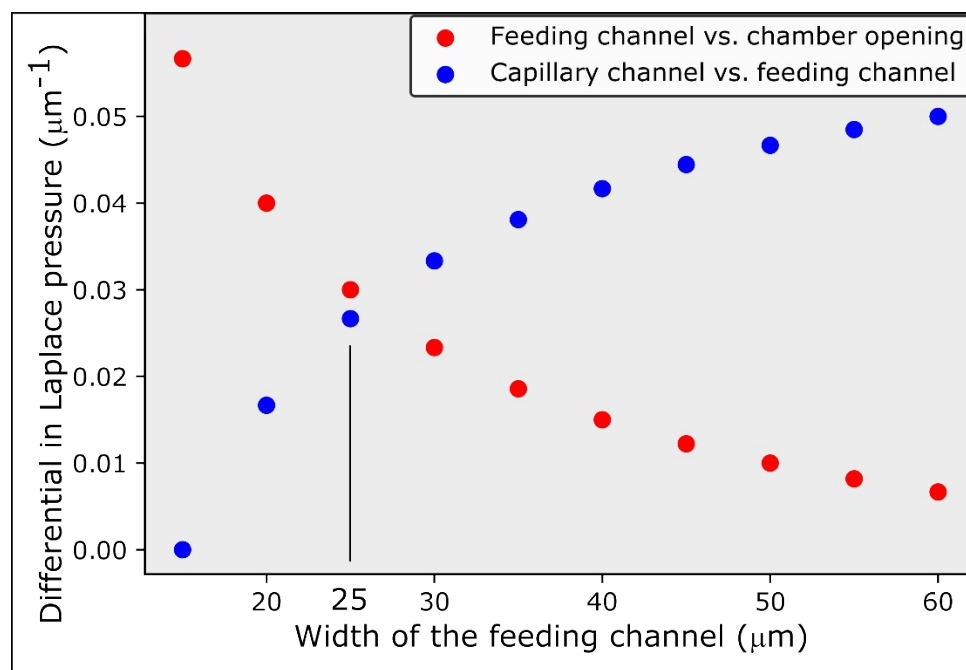
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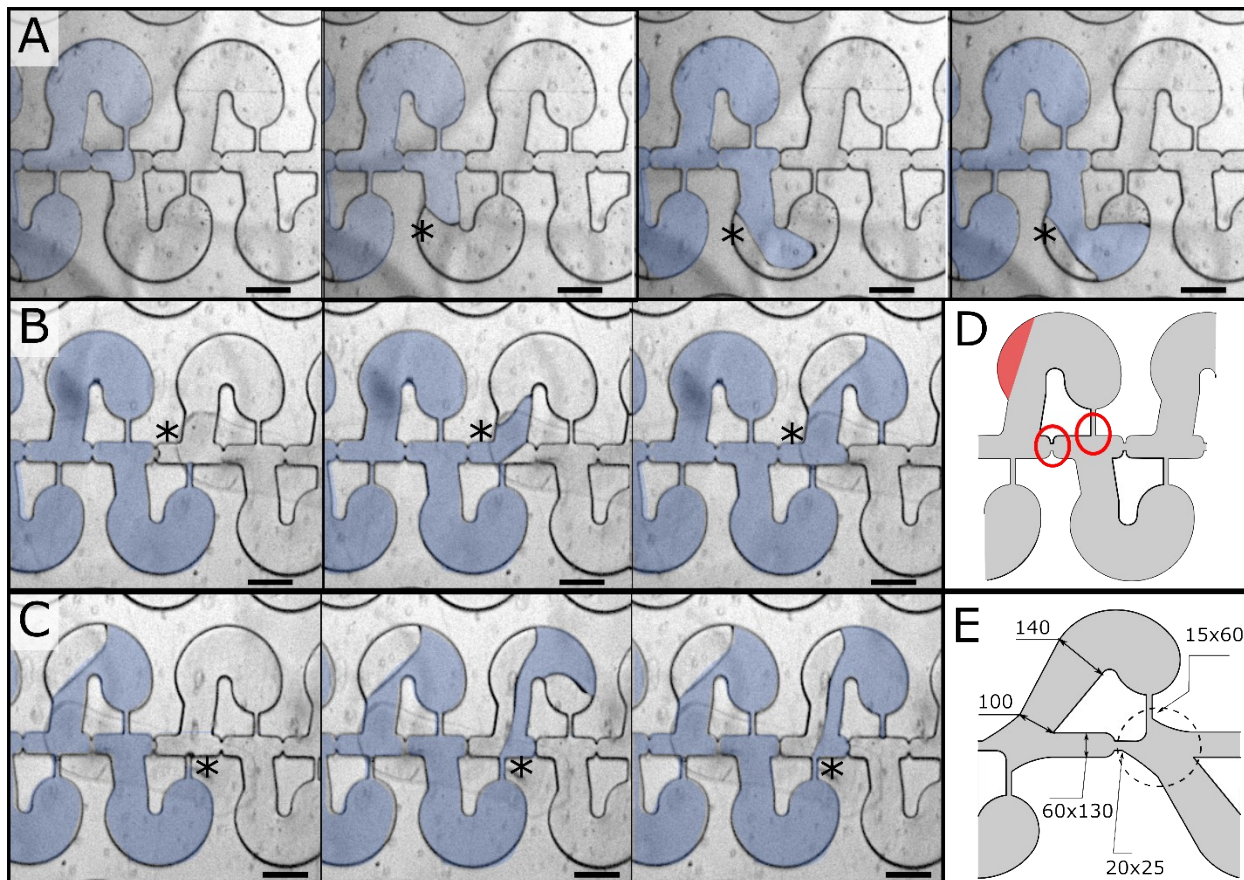
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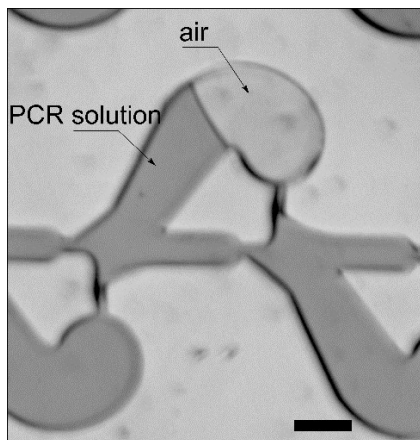
Supplemental figure



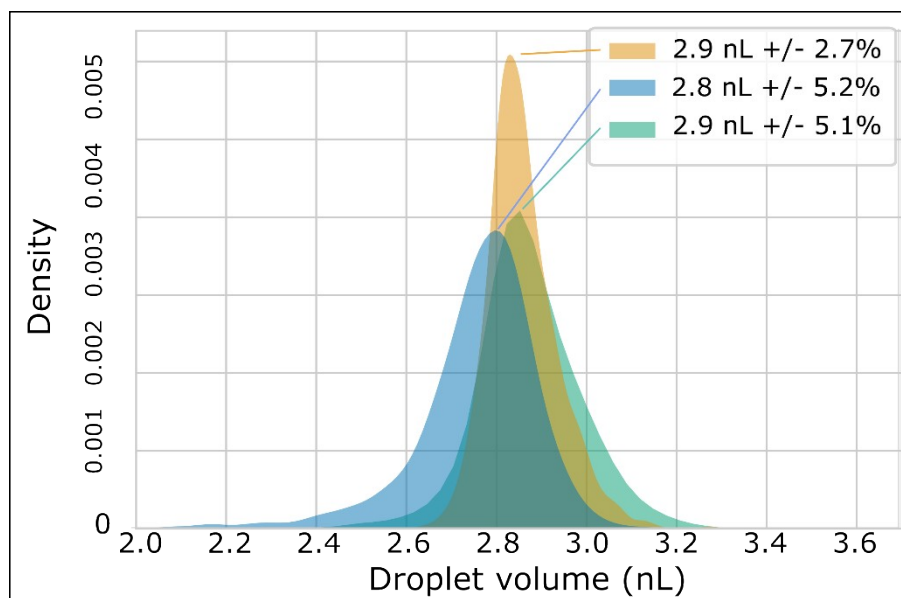
Supp. Fig. S1 Differential Laplace pressures at the two opening/feeding channel and capillary channel/feeding channel junctions, where the chamber opening and the capillary channel are fixed at 100 μm and 15 μm, respectively. A width of 25 μm for the feeding channel assures the best compromise for capillary valving at the two junctions.



Supp. Fig. S2 Failure modes. A) The triple line does not always follow the external wall of the chambers. B-C) Uncontrolled unpinning at the capillary bumps (B) and channels (C). Stars point to the design structure associated with the specific failure mode. D) The design areas that need improvement are highlighted in red. E) New design to address the failure modes. Scale bars represent 100 μm .



Supp. Fig. S3 Example of a filling failure where air remains trapped in the chamber. Scale bar represents 100 μm .



Supp. Fig. S4 Volume distribution of partitions on three different COC imprints.

Supplemental videos

Supp. Movie M1. Filling of an array with a 1000 μL micropipette in real-time.

Supp. Movie M2. Partitioning of an array with a 1000 μL micropipette in real-time.

Supplemental file

CAD design- CAD design of the pattern layers that consist of the parallel channels of chambers (1st layer) and the manifold inlet and outlet (2nd layer).