

Abstract Submitted
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Double Emulsions through Wettability Control in PDMS Microfluidic Devices¹ CHRISTIAN HOLTZE, Harvard University, ELISA MELE, Università' degli Studi di Lecce, DAVID WEITZ, Harvard University — Hydrodynamic Flow Focusing allows for the well-controlled production of monodisperse double and multiple emulsions. While this method of emulsification is well described for glass capillary devices, it has not yet been developed for PDMS devices that are readily accessible using soft-lithography. The reason is the difficulty of spatially controlling the wetting behavior of PDMS microchannels. We will present a novel technique of photopatterning that allows for the production of double emulsions in PDMS devices. Moreover, owing to an optimized setup, smaller droplets may be made down to a size range that was not accessible using the conventional approaches.

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