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Uniform Bubbles Generated in the Simple Microfluidic Device KENG-HUI LIN, NARAYAN MISHRA, HSIN-YI LIN, CHIN-CHEN KUO, CHIAO-LUN CHEN, Academia Sinica, Institute of Physics — We construct a bubble generator by two tiny capillary tubes embedded in a square capillary tube which is the same as the double emulsion set up from Weitz lab (Science 308 537 (2005)). Bubbles generated in this device are uniform in size. The size is a function of the distance between two capillary tubing, the orfice of the tubing and the flow speed of the air jet and the surrounding fluid. The bubbles are stabilized with surfactant and organize themselves into foam of uniform size distribution. We put polymer in the surrounding fluid and crosslink it. The solidified foam shows interconnectivity between the voids.

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