

Materials List for:

# Fabricating High-viscosity Droplets using Microfluidic Capillary Device with Phase-inversion Co-flow Structure

Jiang Li<sup>1</sup>, Jia Man<sup>2</sup>, Zhongnan Li<sup>2</sup>, Haosheng Chen<sup>2</sup>

<sup>1</sup>School of Mechanical Engineering, University of Science and Technology Beijing

<sup>2</sup>State Key Laboratory of Tribology, Tsinghua University

Correspondence to: Haosheng Chen at [chenhs@tsinghua.edu.cn](mailto:chenhs@tsinghua.edu.cn)

URL: <https://www.jove.com/video/57313>

DOI: [doi:10.3791/57313](https://doi.org/10.3791/57313)

## Materials

Name	Company	Catalog Number	Comments
VitroTubes Glass Tubing	VitroCom	8240	Square - Miniature Hollow Glass Tubing, I.D.=0.4mm, OD=0.8mm
VitroTubes Glass Tubing	VitroCom	CV2033	Round - Miniature Hollow Glass Tubing, I.D.=0.2mm, O.D.=0.33mm
VitroTubes Glass Tubing	VitroCom	CV1017	Round - Miniature Hollow Glass Tubing, I.D.=0.1mm, O.D.=0.17mm
VitroTubes Glass Tubing	VitroCom	Q14606	Square - Miniature Hollow Glass Tubing, I.D.=1.05mm+0.1/-0, OD=1.5mm
Standard Glass Capillaries	WPI	1B100-6	Round - Glass Tubing, I.D.=0.58mm, O.D.=1.00mm
Glycerol	Sinopharm Chemical Reagent Beijing	10010618	
Paraffin Liquid	Sinopharm Chemical Reagent Beijing	30139828	
Poly(vinyl alcohol), PVA-124	Sinopharm Chemical Reagent Beijing	30153084	
Span 80	Sigma-Aldrich	85548	
Starch	Sigma-Aldrich	S9765	
Trichloro(octadecyl)silane	Sigma-Aldrich	104817	
Toluidine Blue O	Sigma-Aldrich	T3260	
Honey			Chaste tree honey, common food product purchased from supermarket
DEVCON 5 Minute Epoxy	ITW		Epoxy glue
Blunt Tip Stainless Steel Dispensing Needles (Luer Lock)	Suzhou Lanbo Needle, China	LTA820050	20G x 1/2"
Tungsten/Carbide Scriber	Ullman	1830	For cutting glass tubing
Microscope Slides	Sail Brand	7101	76.2 mm x 25.4 mm, Thickness 1 - 1.2 mm
Polyethylene Tubing	Scientific Commodities	BB31695-PE/5	I.D. = 0.86 mm, O.D. = 1.32 mm
Syringe Pumps	Longer Pump, China	LSP01-1A	3 pumps needed for the experiments