

Materials List for

Bilayer Microfluidic Device for Combinatorial Plug Production

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Materials

Name	Company	Catalog Number	Comments
1,1,3,3 tetramethyldisiloxane	Merck Life Science NV	MFCD00008256	
4 channel digital input/output module	WAGO Kontakttechnik GmbH	750-504	
Acetone	Boom Labs	BOOMSKEUZW3	
Analysis Software	Eindhoven University of Technology	https://github.com/SysBioOncology/BilayerMicrofluidicsAnalysis_JoVE	
AZ 40XT 11D	Merck Life Science NV	212299	Positive photoresist
AZ 726 MIF developer	Merck Life Science NV	10055824960	Developer for positive photoresist
Biopsy Punch, Rapid Core	World Precision Instruments Germany, GMBH	504529	0.75 mm ID, W/Plunge
Blue food dye	PME	FC1036	
Controller end module	WAGO Kontakttechnik GmbH	750-600	
Ethernet Controller	WAGO Kontakttechnik GmbH	750-881	
FC-40	Merck Millipore	F9755-100ML	
Fluigent flow unit	Fluigent	FLU-S-D	
Fluigent pressure system	Fluigent	MFCS-EZ	0 - 2 bar
Fluorescein	Merck Life Science NV	MFCD00005050	
Hot plate	Torrey Pines Scientific	HP61	
Inverted microscope	Nikon Instruments	Eclipse Ti-E	
Isopropanol	Boom Labs	BOOMSKEUZE3	
LabVIEW (Software Version 20)	Eindhoven University of Technology	https://github.com/SysBioOncology/BilayerMicrofluidicsAnalysis_JoVE/tree/main/LabVIEW_8_inlet_device_VERSION_1	All files have been saved for LabVIEW version 20. It is advised to use this version or higher to open the files.
Luer stubs	Instech Laboratories, Inc.	LS23	23 ga, 0.5"
Male Luer to barb connectors	Cole Parmer	45505-32	3/32" ID
MasterFlex PTFE tubing	Avator/VWR	48634	
Microscope Slides	VWR	470150-480	
Microscope slides, Plain	Corning	2947-75X50	
Mineral Oil	Merck Millipore	330760-1L	
mr DEV 600	Micro resist Technology	R815100	Developer for negative photoresist

Oven	Thermo Scientific	Heraeus T6P 50045757	
Oxygen plasma asher	Quorum Technologies	K1050X	
Photomask	CAD/Art Services, Inc.		
Photomask Design	Eindhoven University of Technology (Adapted from Merten Lab, EPFL)	https://github.com/SysBioOncology/BilayerMicrofluidicsAnalysis_JoVE/blob/main/8_inlet_JoVE_device_design.dwg	
Pneumatic valve array	FESTO		1x 8 valve array, Normally closed valves
Silicon Wafers	Silicon Materials		<1-0-0>, 100 mm diameter, 525 µm thickness
Single edge blades	GEM Scientific		
Soft tubing	Fluigent		1 mm ID, 3 mm OD
Spin coater	Laurell Technologies Corporation	WS-650MZ-23NPPB	
Stereo microscope	Olympus Corporation	SZ61	
SU-8 3050	Kayakli Advanced Materials	Y311075 1000L1GL	Negative photoresist
Sylgard 184 Silicone Elastomer Kit (PDMS)	Dow	1317318	
Syringe	B Braun Injekt - F Fine Dosage Syringe	10303002	
UV-LED exposure system	Idonus	UV-EXP150S-SYS	
Vacuum pump	Vacuumbrand GmbH	MD1C	
Weighing scales	Sartorius	M-prove	