

Materials List for:

Microfluidic Chips Controlled with Elastomeric Microvalve Arrays

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Materials

Name	Type	Company	Catalog Number	Comments
Clean silicon wafers	Supplies	Silicon Sense Inc.	3P0110TEST	3-inch diameter, P/Boron
"Master" wafers containing SU-8 patterns	Supplies			Fabricated in house using standard photolithography procedures
Desiccators (2)	Equipment	VWR international	24987-048	One for silanization, one for PDMS de-bubbling.
Balance	Equipment	OHAUS Corp.	SC6010	
Oven	Equipment	Sheldon Manufacturing, Inc.	1330GM	
MiniVortexer	Equipment	VWR international	58816-121	
Spinner	Equipment	Headway Research Inc.	PWM32	
Plasma etcher	Equipment	Plasmatic Systems, Inc.	Plasma Preen II-973	
Hot Plate	Equipment	Torre Pines Scientific	HP30A	
Stereoscope	Microscope	Nikon Instruments	TMZ1500	
CCD camera	Equipment	Diagnostic Instruments	SPOT RT	
Solenoid valves	Equipment	Lee Company	LHDA0511111H	
Data acquisition board	Hardware	National Instruments	PCI 6025E, CB-50LP	
LabView	Software	National Instruments	Version 8.0	
Tridecafluoro-1,1,2,2,-tetrahydrooctyl)-1-trichlorosilane	Reagent	United Chemical Technologies	T2492	Silanization must be done in a chemical fume hood.
PDMS prepolymer and crosslinker	Reagent	Dow Corning	Sylgard 184	
Hexane	Reagent	EMD Millipore	HX0295-6	
Color Dyes	Reagent	Spectrum Chemical Mfg. Corp.	FD&C 110, 135, 150	Blue #1, Yellow #5, Red #3.
3 ml disposable transfer pipets	Supplies	Fisher Scientific	13-711-20	
Kimwipes	Supplies	Kimberly-Clark Corporation	34155	
Weighing boats	Supplies	VWR international	12577-027	
Tongue depressor	Supplies	Fisher Scientific	11-700-555	
P100 dishes	Supplies	Fisher Scientific	08-772E	
Silicone tubing (1.14 mm inner diameter (I.D.))	Supplies	Cole-Parmer	07625-30	
Tygon tubing (O.D. 1/16 in; I.D. 1/32 in)	Supplies	Cole-Parmer	06418-02	
Duco Cement	Supplies	Devcon Inc.	6245	
Razor blade	Tools	VWR international	55411-050	
Needles	Tools	Fisher Scientific	0053482 (25 Gauge)	

#5 Forceps	Tools	Fine Science Tools	11251-20	
50 ml centrifuge tube	Supplies	Fisher Scientific	05-526B	
Seal wrap film	Supplies	AEP Industries Inc.	0153877	
1.5 ml microcentrifuge tubes	Supplies	Fisher Scientific	05-406-16	
15 ml centrifuge tubes	Supplies	BD Biosciences	352097	
Purple nitrile power-free gloves	Supplies	VWR international	40101-348	
1.2 mm Harris biopsy punch	Tools	Ted Pella, Inc.	15074	