

Materials List for:

# One-Step Approach to Fabricating Polydimethylsiloxane Microfluidic Channels of Different Geometric Sections by Sequential Wet Etching Processes

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URL: <https://www.jove.com/video/57868>

DOI: [doi:10.3791/57868](https://doi.org/10.3791/57868)

## Materials

| Name                                      | Company                                     | Catalog Number          | Comments                        |
|---|---|-------------------------|---------------------------------|
| 1-Methyl-2-Pyrrolidinone                  | Tedia, Fairfield, OH                        | ME-1962                 | NMP                             |
| 10 ml Syringe                             | Becton-Dickinson, Franklin Lakes, NJ        | 302151                  |                                 |
| 150 mm Petri dish                         | Dogger Science                              | DP-43151                |                                 |
| 1H,1H,2H,2H-Perfluorooctyltrichlorosilane | Alfa Aesar, Ward Hill, MA                   | L16606                  | 97 % silane                     |
| 4" Silicon Dummy Wafer                    | Wollemi Technical, Taoyuan, Taiwan          | -                       |                                 |
| Acetone                                   | ECHO Chemical, Miaoli, Taiwan               | AH3102-000000-72EC      |                                 |
| AG Double Expose Mask Aligner             | M&R Nano Technology, Taoyuan, Taiwan        | AG500-4D-D-V-S-H        |                                 |
| Biopsy Punch                              | Miltex, Plainsboro, NJ                      | 33-31                   |                                 |
| Blunt Needle                              | Jensen Global, Santa Barbara, CA            | Gauge 16                |                                 |
| Buffered Oxide Etch                       | ECHO Chemical, Miaoli, Taiwan               | PH3101-000000-72EC      |                                 |
| Desiccator                                | A-VAC Industries, Anaheim, CA               | 35.10001.01             |                                 |
| Fluorescein Sodium Salt Water             | Sigma-Aldrich Co., St Louis, MO             | F6300                   |                                 |
| ImageJ                                    | National Institutes of Health, Bethesda, MD | Ver. 1.51               | Imaging Processing Program      |
| Inverted Fluorescence Microscope          | Leica Microsystems, Wetzlar, Germany        | DMI 6000 B              |                                 |
| Isopropyl Alcohol (IPA)                   | ECHO Chemical, Miaoli, Taiwan               | CMOS112-00000-72EC      |                                 |
| Leica Application Suite                   | Leica Microsystems GmbH                     | LAS X                   |                                 |
| MATLAB                                    | MathWorks, Natick, MA                       | R2015b                  | Programming for MR evaluation   |
| Mechanical Convection Oven                | ThermoFisher Scientific, Waltham, MA        | Lindberg Blue M MO1450C |                                 |
| Plasma Treatment System                   | Nordson MARCH, Concord CA                   | PX-250                  | Oxygen plasma surface treatment |
| Polydimethylsiloxane (PDMS)               | Dow Corning, Midland, MI                    | SYLGARD 184             |                                 |
| Polyethylene Tubing                       | Becton-Dickinson and Company, Sparks, MD    | 427446                  | PE 205, 10'                     |
| Spin Coater                               | ELS Technology, Hsinchu, Taiwan             | ELS 306MA               |                                 |
| Negative Tone Photoresist                 | MicroChem, Westborough, MA                  | SU-8 2050               |                                 |
| Negative Tone Photoresist Developer       | MicroChem, Westborough, MA                  | Y020100                 | SU-8 Developer                  |
| Surgical Blade                            | Feather, Osaka, Japan                       | 5005093                 | PDMS cutting                    |

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|---------------------------------------|---------------------------|------------|--|
| Syringe Pump                          | Chemyx, Houston, TX       | Fusion 400 |  |
| Tetra-n-butylammonium Fluoride (TBAF) | Alfa Aesar, Ward Hill, MA | A10588     |  |