PDMS TWO LAYER DEVICE FABRICATION

MATERIALS:

- Flow and control layer molds
- Sylgard 184 silicone elastomer kit: Base part and a Curing agent
- TMCS

PROCEDURE:

□ Place molds into a TMCS vapor chamber

□ Control layer mixture: 20g Base + 4g Curing agent

□ Mix for 1 minute, degas for 2 minutes (standard protocol)

□ Pour onto control layer mold and place mold in vacuum chamber for at least 20min

□ Flow layer mixture: 20g Base + 1g Curing agent

□ Mix for 1 minute and degas for 2 minutes (standard protocol)

□ Spin coat onto flow layer at 2200-2400rpm for 35secs

□ Remove control layer mold from vacuum chamber, making sure no bubbles are left on the surface (remove with a toothpick if you see some)

□ Place the control and flow layer in a 80C convection oven and incubate for 30 minutes (timing is critical here!)

□ Cut out control layer

□ Punch holes

□ Align to flow layer

□ Put aligned device back into 80C oven and incubate for at least 90 minutes (and here you can increase the backing time)

□ Remove devices from oven

□ Cut them out

To clean the wafers use:

- Air-gun
- Isopropanol
- PDMS