**Microchannel Device Preparation**

**Prepare PDMS mixture**

* Prepare the required amount of the PDMS mixture (PDMS base: curing agent = 10:1) in a centrifuge tube
* Mix well with spatula until it turns opaque due to air bubbles
* Centrifuge the mixture at 7400 rpm for 15 minutes to get rid of the air bubbles and settle the impurities to the bottom.

**Prepare PDMS cast**

* Pour the mixture around the 3D printed mold placed inside a petridish
* Place the petridish in a vacuum chamber (100 torr) for 5 minutes to get rid of air bubbles
* Transfer the sample to the oven at 65◦C for at least 12 hours
* Ensure that the PDMS is cured properly and then cut the required portion of the cured PDMS
* Remove the mold from the cast

**Cut inlet/outlet ports**

* One can use Luer stub to create inlet/outlet ports for microfluidic device.
* Using constant pressure, push stub directly down into PDMS all the way through
* Carefully pull the stub out of the device (don’t make use of a twisting motion)
* Repeat for as many ports and devices as needed
* Clean the PDMS cast and place back in Petri dish with feature side up

**Prepare glass slides with PDMS**

* Prepare the PDMS mixture with 1 mL per device
* Place the clean glass slides in a clean petri dish
* Fill 1 mL PDMS to syringe with 5 micron syringe filter
* Use spin coater and wait until PDMS mixture spreads completely (4500 rpm for 2 minutes)
* Repeat process for as many slides as desired
* When finished with all slides, let stand for ≈ 10 min
* Cover petri dish and place in over at 65°C for 28 min, remove immediately
* Gently touch the surface of the slides to check if the curing is OK
* if the surface is sticky then the curing was not sufficient
* When you cannot see your fingerprint on the surface then it has over cured

**Attach PDMS device to glass slide with PDMS**

* Carefully place cast feature side down onto PDMS portion of the glass slide
* Cover Petri dish and place in oven at 65 °C over night
* Remove from oven, clean device (with water, methanol and compressed air) and place back in a clean Petri dish