Flow Cell Protocol

1. Place weigh boat on analytical balance and tare. Weigh out Sylgard base and curing agent at a 10:1 ratio. (~7-8g of base for five cells ~15-16g for ten)
2. Stir mixture for 5 minutes
3. Place weigh boat in bell jar and evacuate until all air bubbles are gone from the mixture. This can be expedited by re-pressurizing the chamber by slowly releasing the valve that attaches the bell jar to the vacuum, then replace onto bell jar. Repeat every few minutes.
4. Once air bubbles are removed place the steel molds onto the analytical balance and tare. Pour the mixture into the mold such that it occupies the volume uniformly without covering the input/output columns. Slightly overfill such that there is a lip along the edge of the mold for easy removal (~1-2g.) Repeat for all five molds.
5. Place the filled molds in the bell jar to again remove air bubbles (same as step 3)
6. Cure on hot plate at 100 C for 30 minutes.

Mounting Protocol

1. Before applying optical adhesive to cassette; place coverslip over cassette such that it is as straight as possible and in the middle of the opening.
2. Apply Norland 61 optical adhesive to the cassette using a disposable pipette. The optical adhesive should be applied in such a way that they surround reservoir holes on the frame of the cassette. This prevents the excess liquid from flowing onto the ribbon during placement.
3. Place the coverslip onto the cassette as in (1) such that it is straight and centered within the opening. Make sure to remove the sample label before doing this. (The ribbon is on the same side as the label and should be placed face down onto the cassette)
4. Cure in UV light for 3-5 minutes
5. Using a sharpie, mark a corner of the coverslip that indicates the start of the ribbon.
6. If necessary score any excess glass hanging off the edge of the cassette frame using a diamond knife. Score along the edge of the frame in order to get a clean break. Apply light pressure to the glass using the flat paddled forceps in order to break along score.
7. Take a flow cell and clean with scotch tape in order to remove any dust on the surface.
8. Place the flow cell around the ribbon in such a way that the entire ribbon is within the flow chamber.
9. Lightly press the flow cell down such that it adheres to the surface of the coverslip
10. Wait 10 minutes to ensure flow cell adherence.
11. Repeat steps 7-10 as necessary if flow cell lifts off coverslip.