

Fabrication of a PDMS Bio Reactor For Toxicology Tests on Liver Cells



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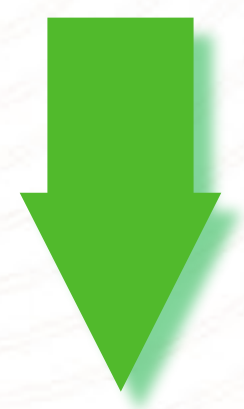
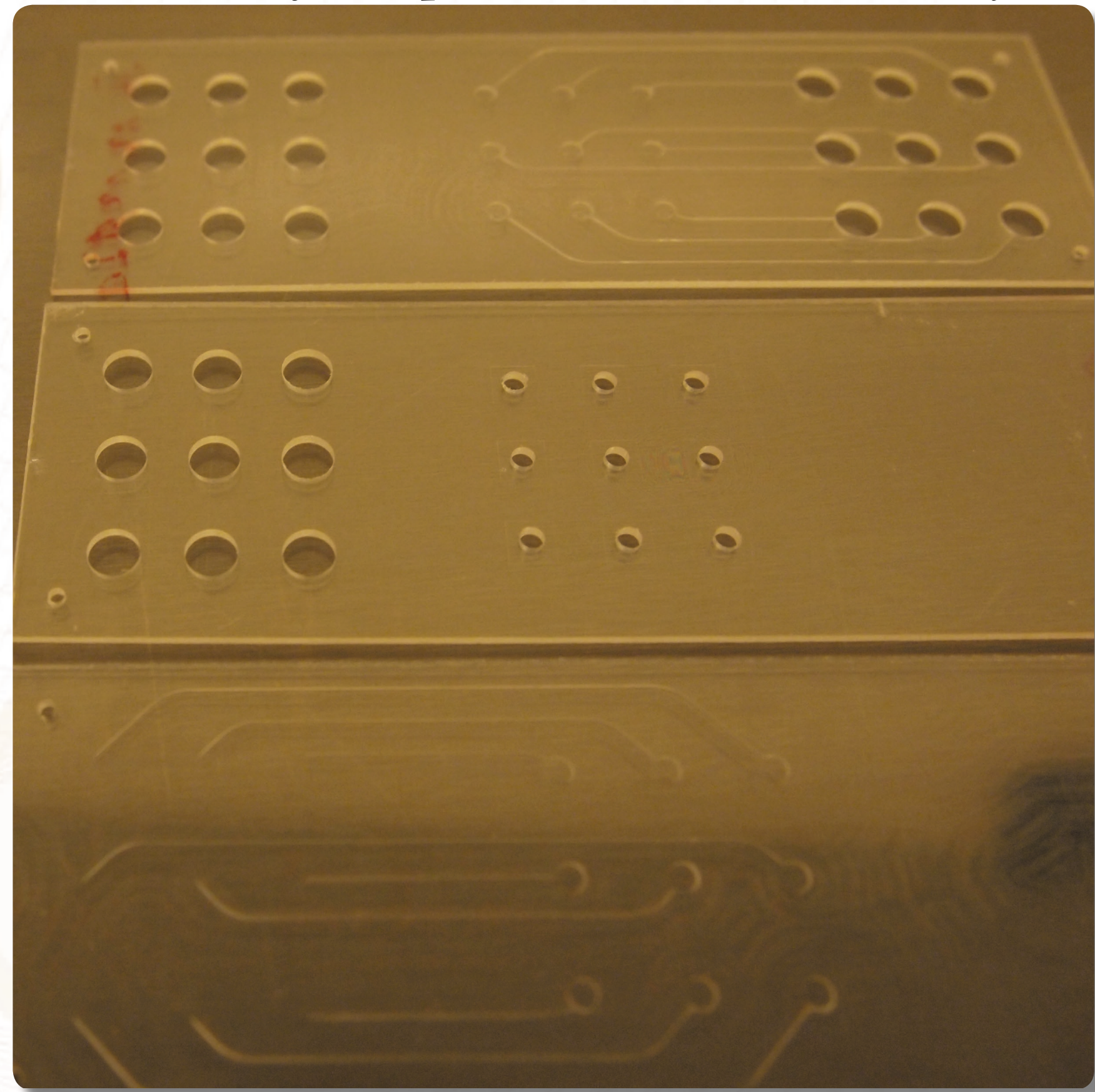
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Faster design to realization time in order to investigate the optimum design for a rigid bio reactor in CoC (Cyclic olefin copolymer)

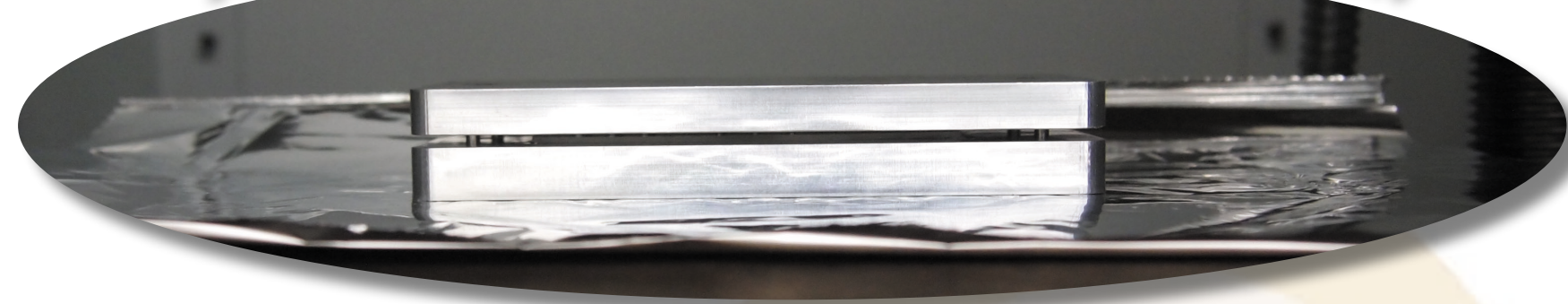


Rigid CoC Bio Reactor (HeMiBio)

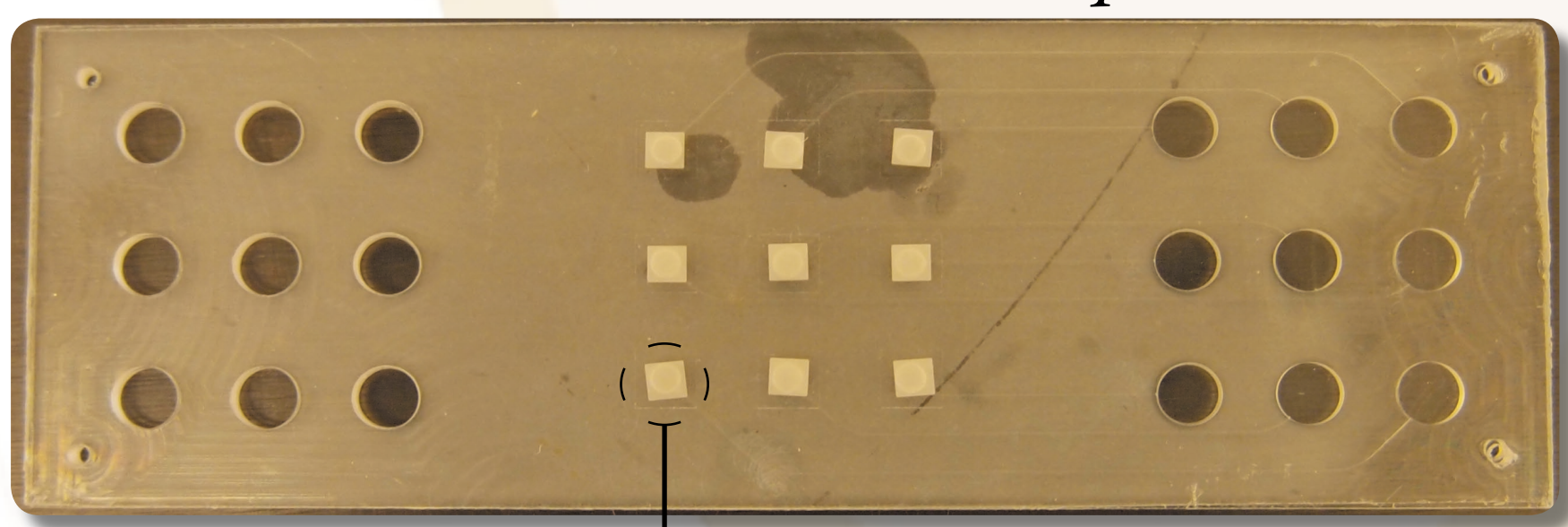
CoC Slides for Top, Middle and Bottom Layer



Hot Embossing the slides to bond them



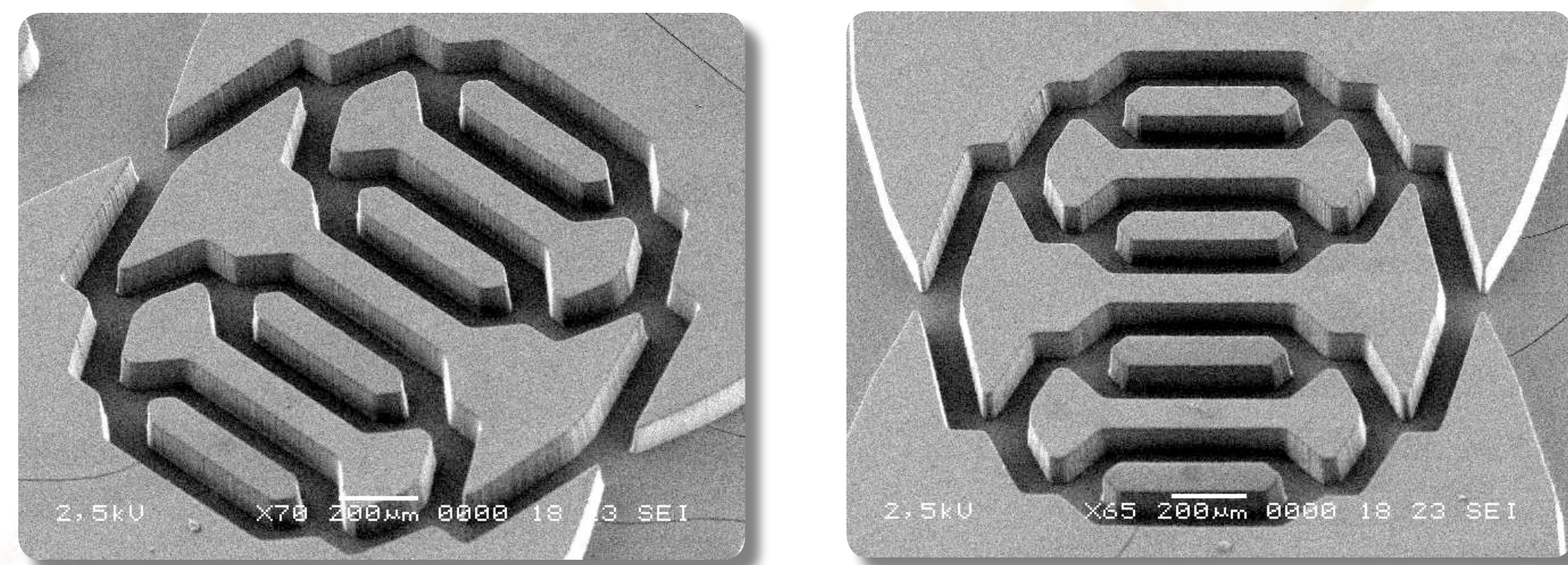
Final Fabricated Sample



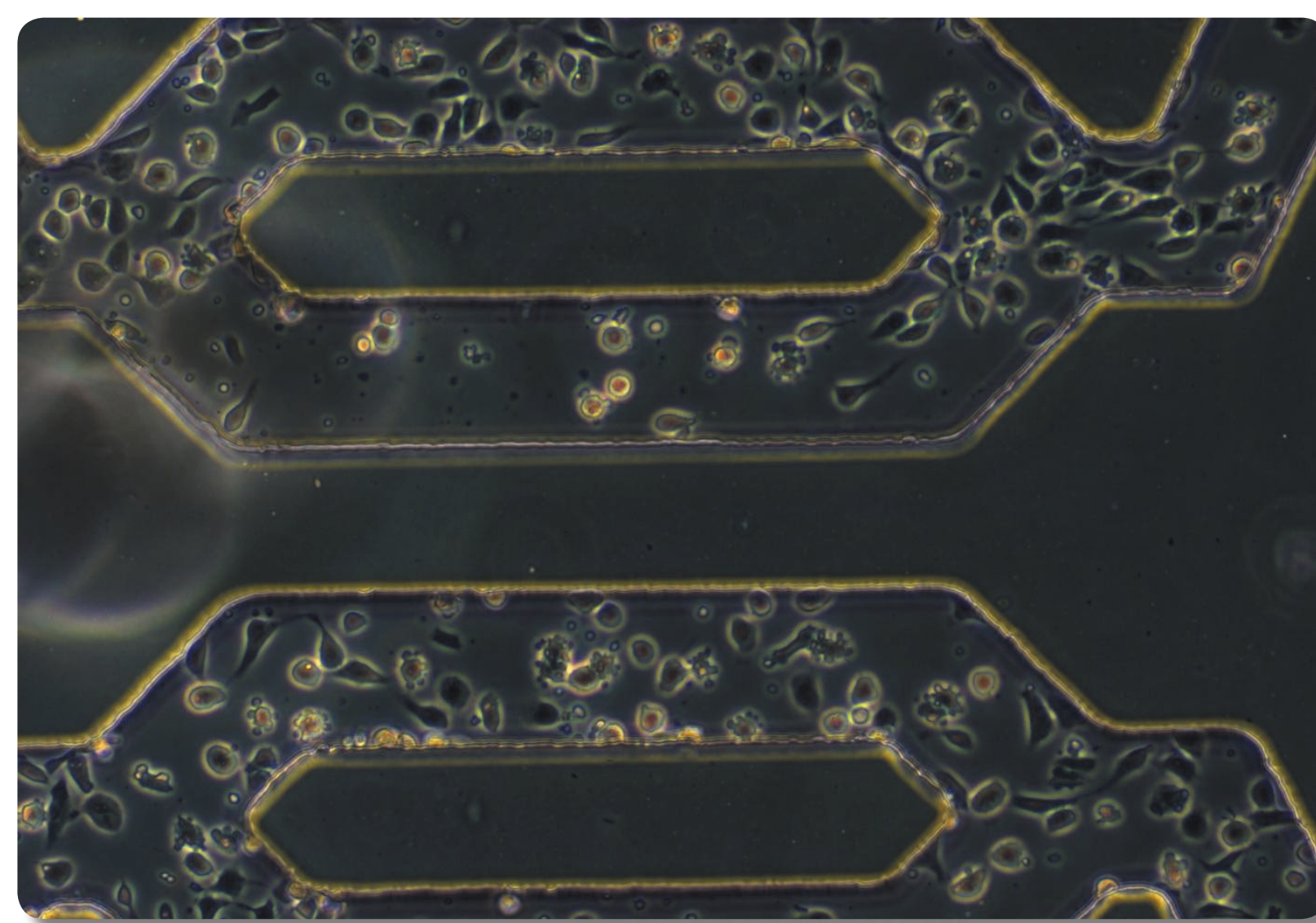
Membranes in Microwells

PDMS Bio Reactor (Hepstem)

PDMS Bio Reactor, 100µm depth, 100µm height



h-ESC after 72h

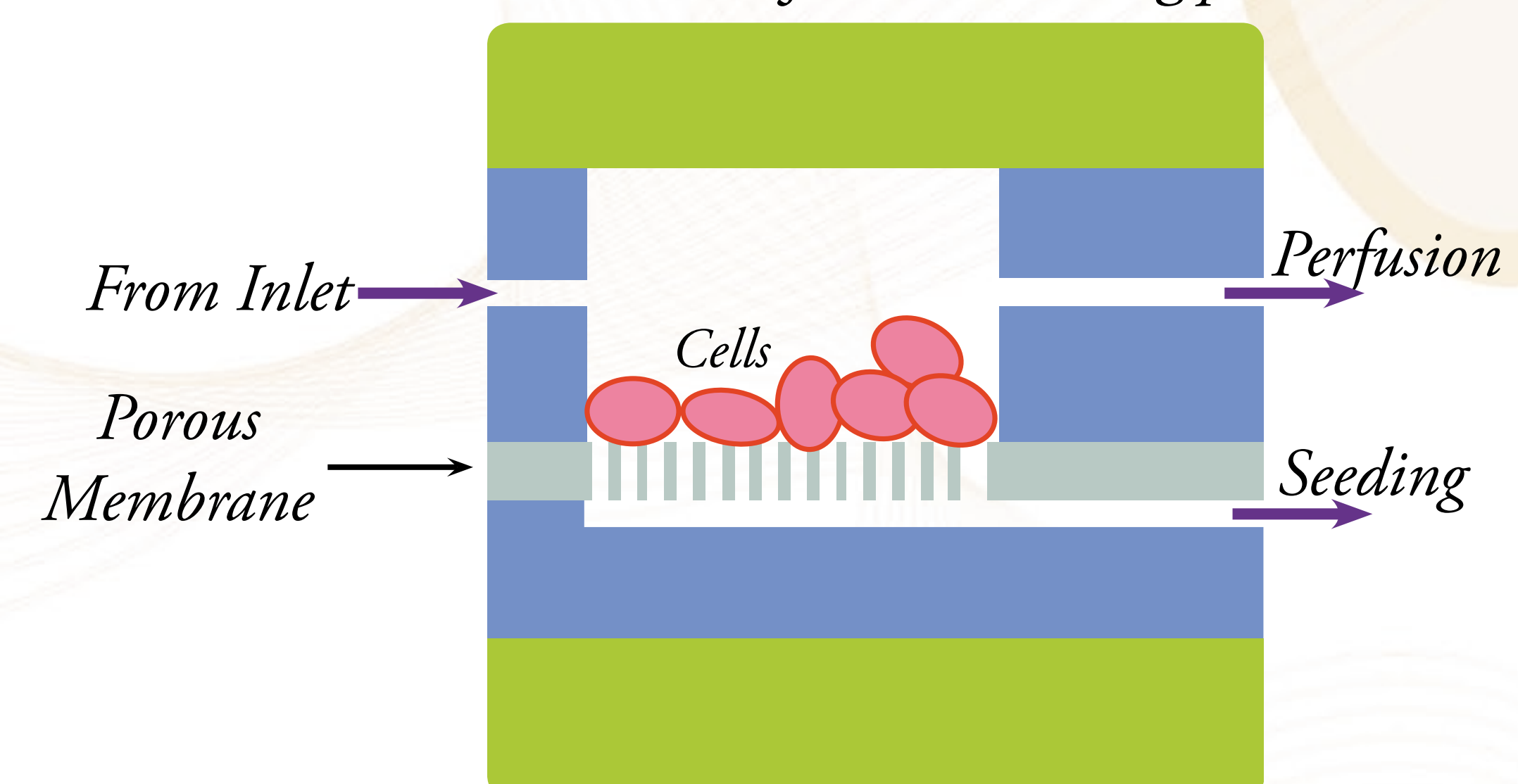


PDMS Bio Reactor (HeMiBio)

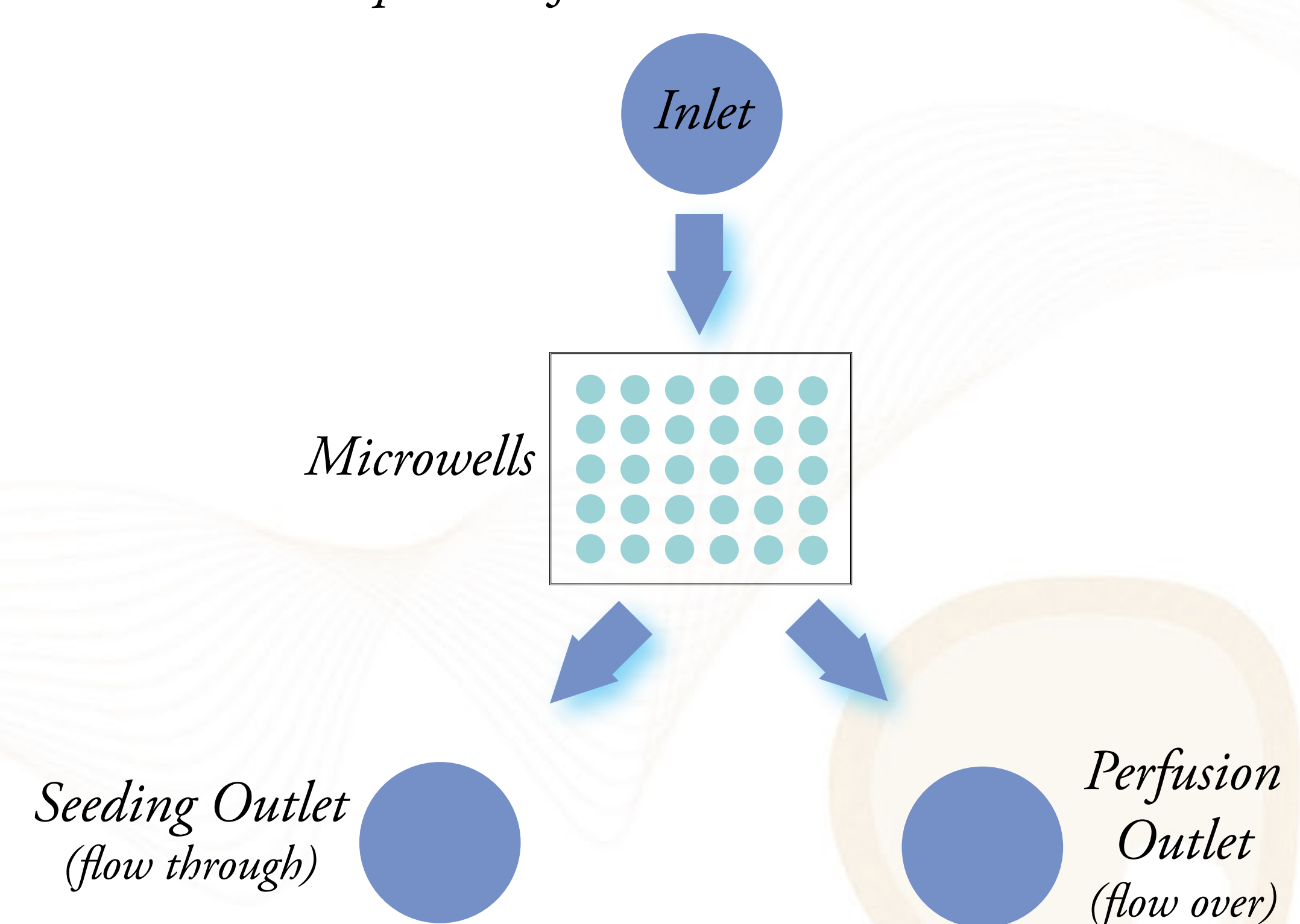
Specifications

- 25 micro wells (500µm diameter)
- Separate seeding and perfusion path
- 100µm × 100µm micro channels
- 1 Inlet, Seeding outlet and Perfusion Outlet
- flow over and flow through design

Cross section of the cell seeding part



Top view of the PDMS bio reactor



- Will be used in HeMiBio for toxicity tests on liver cells
- Costly fabrication materials
- Long waiting time from design to realization
- Suitable for long term applications
- Industrialization capability

- Rapid design to production wait time
- Low cost fabrication
- Suitable for short term applications

Combining the advantages of PDMS bio reactor for the optimal design of rigid CoC bio reactor

Acknowledgements

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