

Supplementary information

for

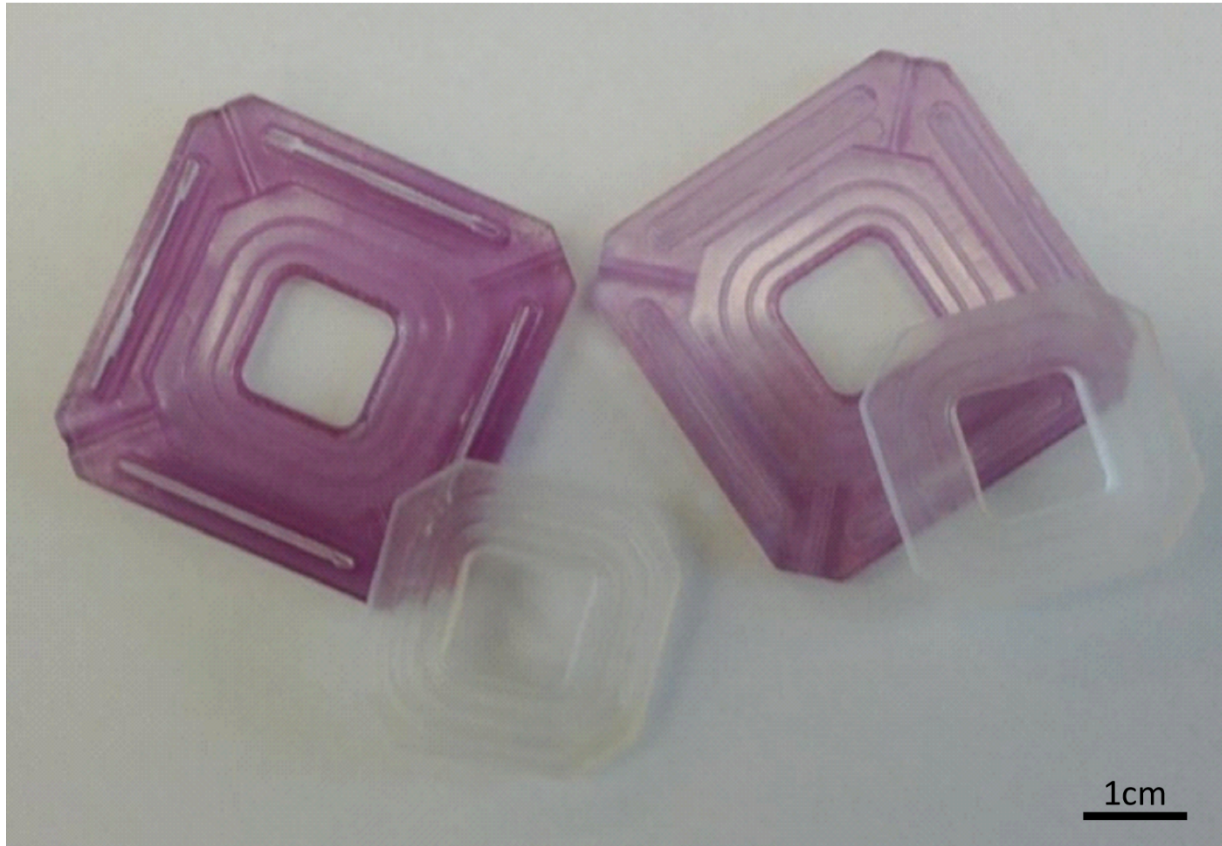
Construction of a Liposome Dialyzer for preparation of high-value, small-volume liposome formulations

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Supplementary Figures S1-S14, showing assembly of the liposome dialyzer.

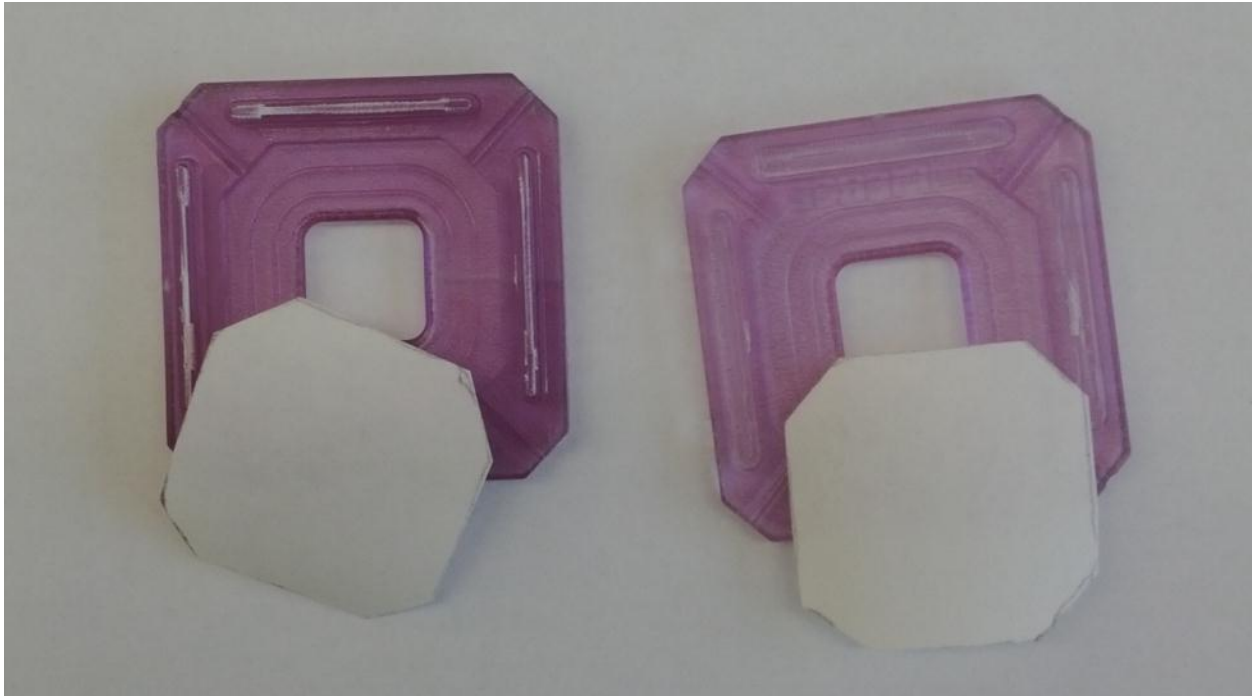
Supplementary Figures S15-S19, showing assembly of the G2 version of the liposome dialyzer.

Figure S1. Disassembled Slide-A-Lyzers, ready for assembly.



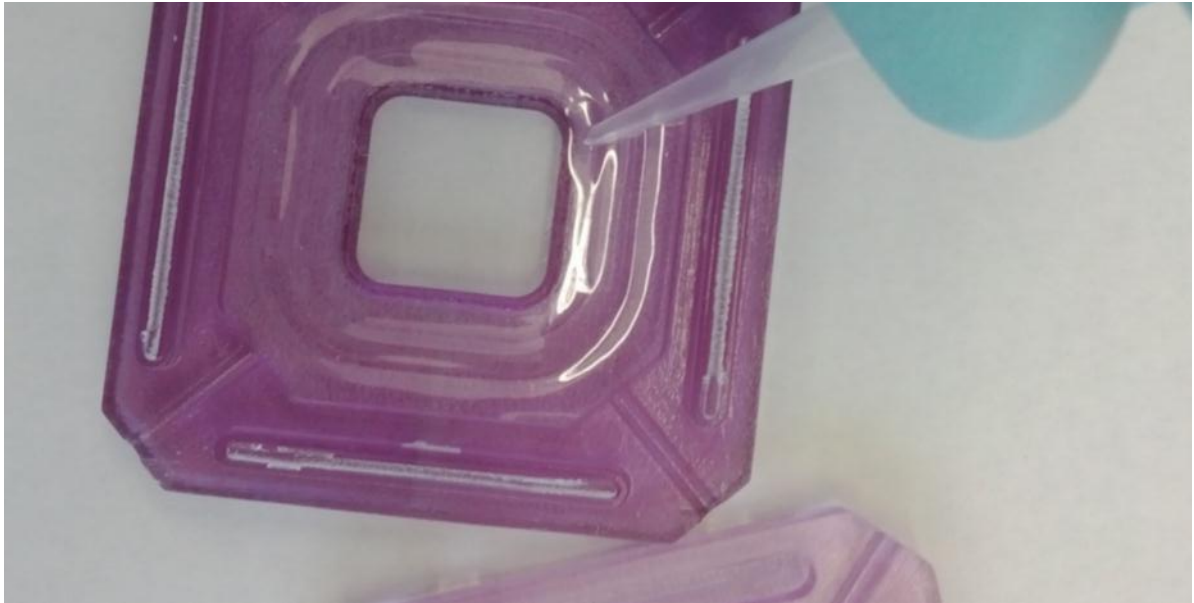
Two gaskets from two Slide-A-Lyzer units and both parts of the plastic frame of one of the Slide-A-Lyzers are used. Note that one of the gaskets (right) still has one dialysis membrane attached.

Figure S2. PCR film, cut to fit dialyzer frames.



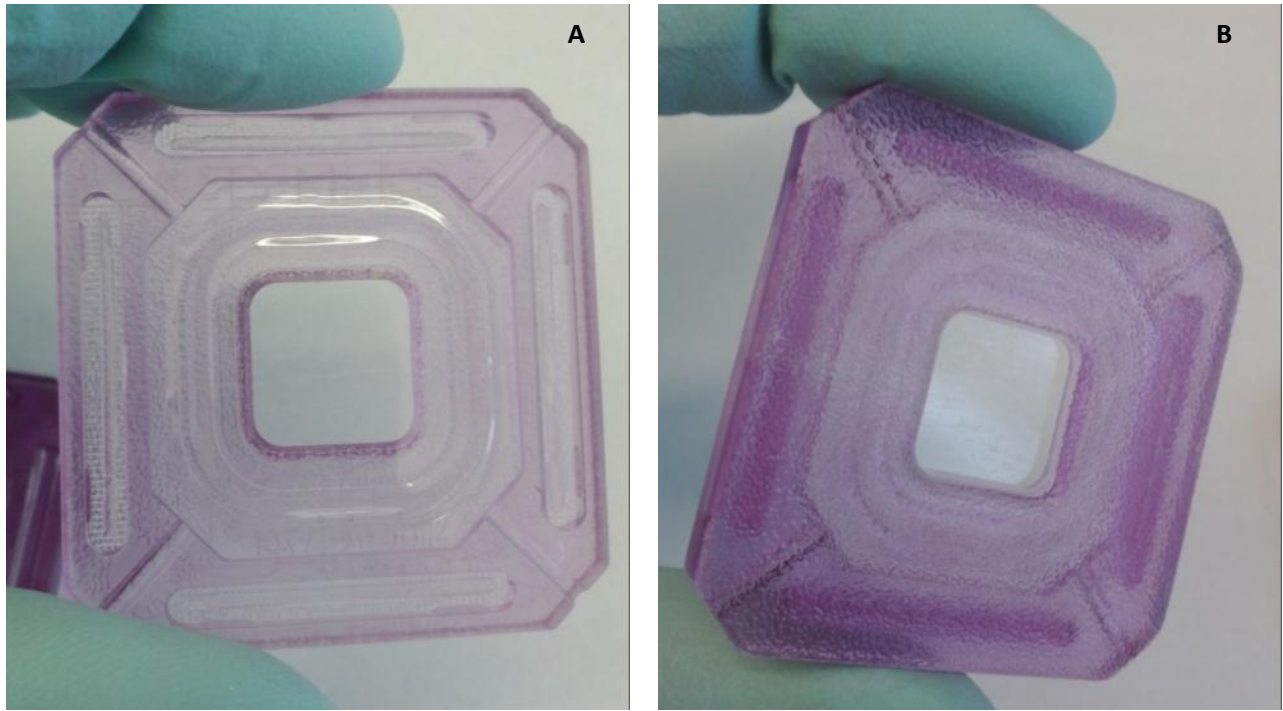
Two pieces of PCR film, with the back paper still attached, cut out in the shape and size big enough to cover the openings in the plastic frame.

Figure S3. Application of PCR film to dialyzer frame.



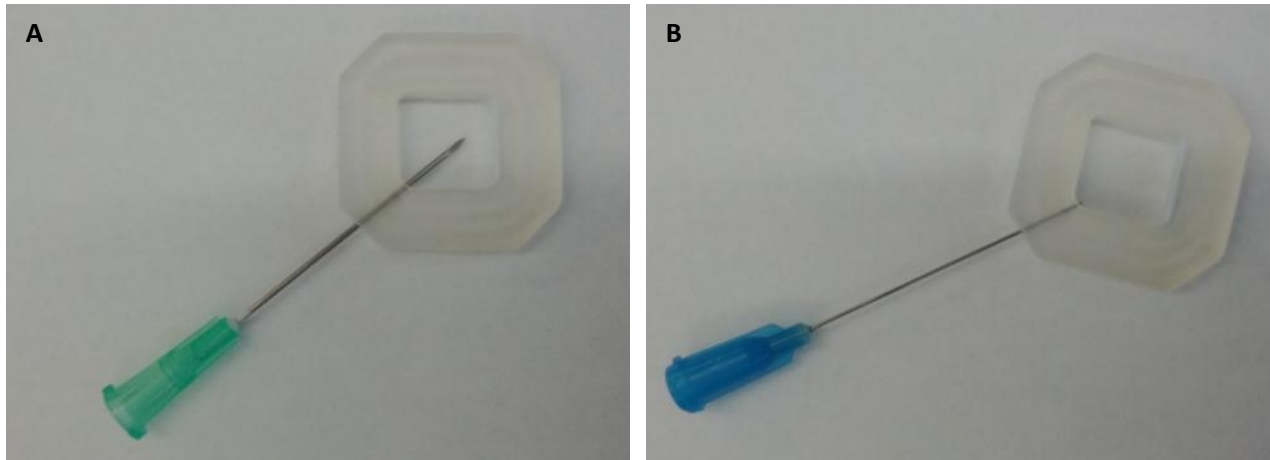
The cut piece of PCR film is applied to the inside of one half of the plastic frame, and pressed into grooves of the inside of the frame with a pipette tip.

Figure S4. Dialyzer frame with PCR film applied.



The PCR film applied to the inside of one half of the plastic frame. The film's sticky side points to the outside of the dialyzer (B), and the film fully covers the opening in the half-frame. A: inside of the half-frame, B: outside.

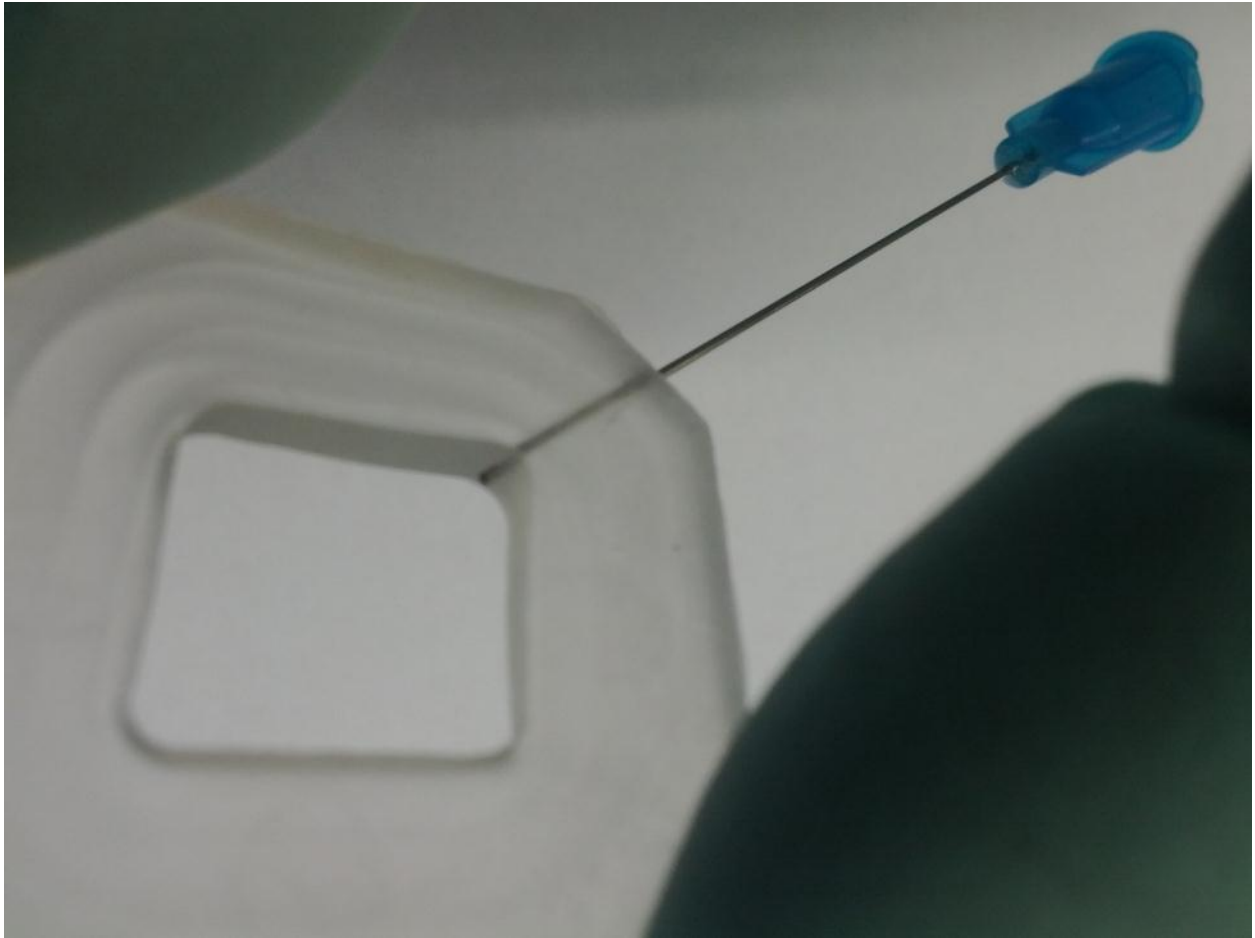
Figure S5. Insertion of needle into gasket.



A: A silicone gasket is pre-punctured with a beveled needle.

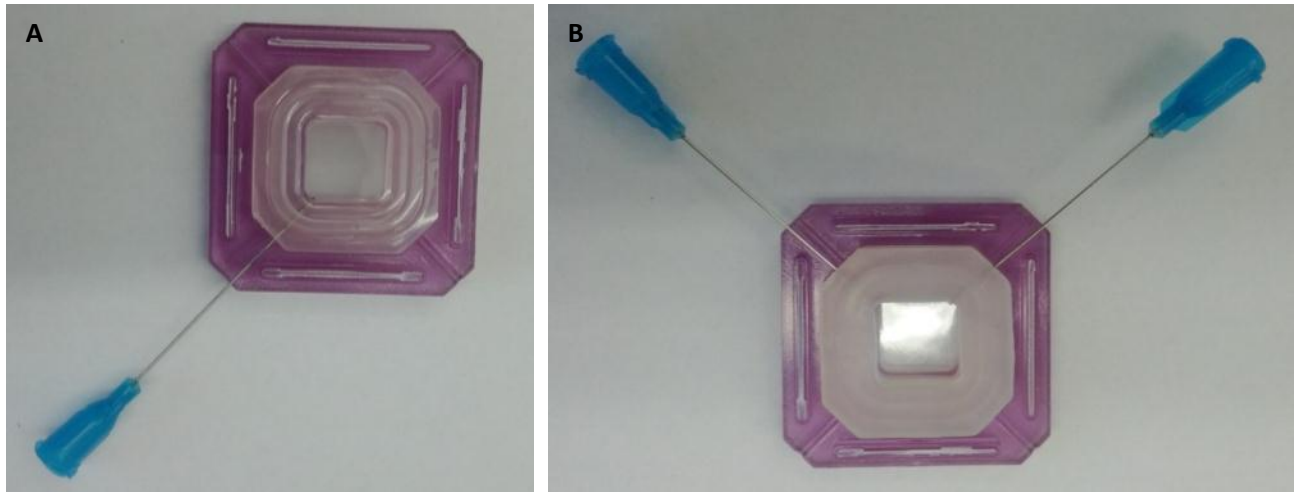
B: The blunt needle is inserted into the opening made with the beveled needle.

Figure S6. Needle after insertion into gasket.



The blunt needle is positioned so that the blunt end of the needle goes all the way through the gasket, but it does not stick out more than half a millimeter inside the gasket.

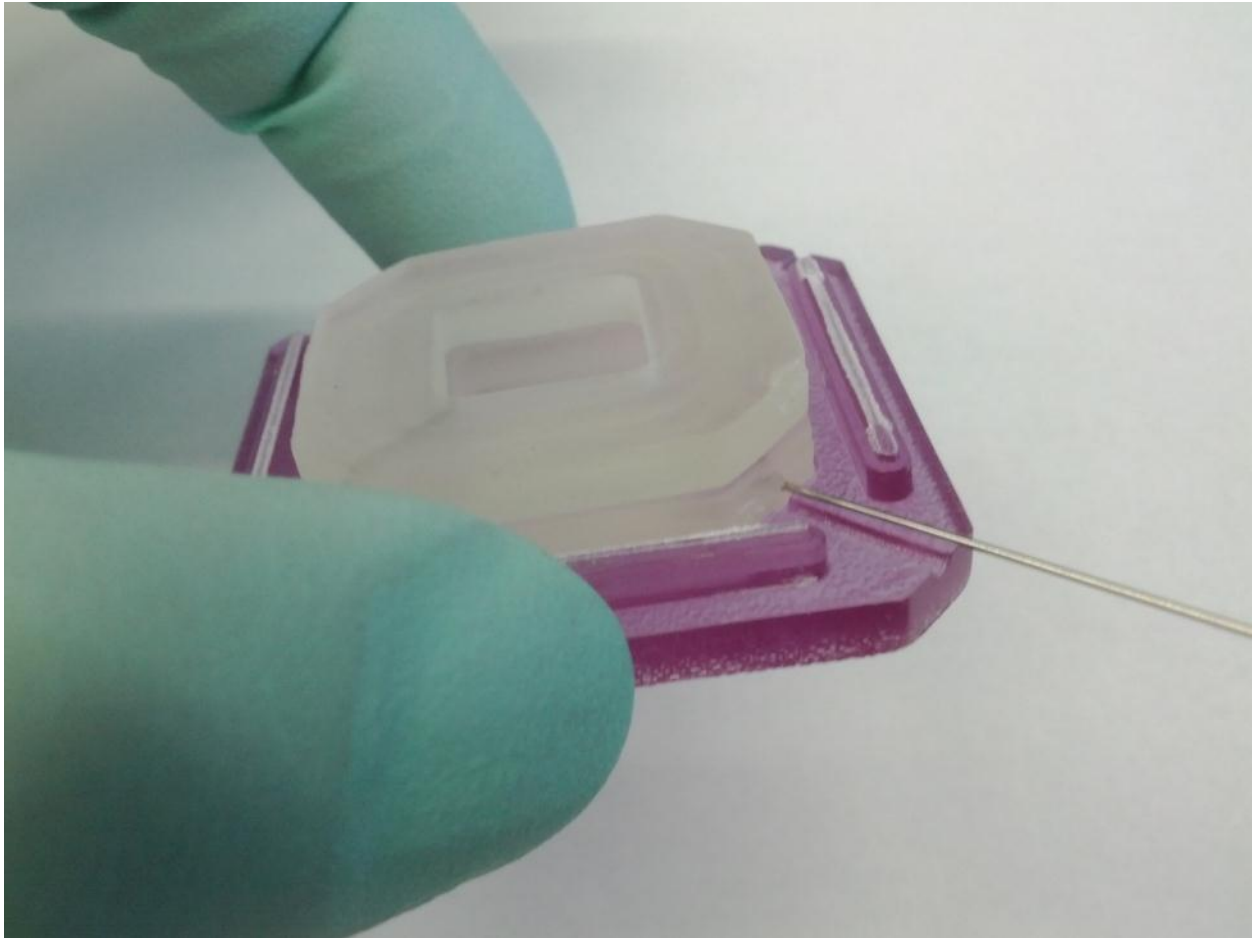
Figure S7. Orientation of gaskets with needles inserted.



A: A silicone gasket is aligned to cover the window on one half of the plastic frame.

B: The second silicone gasket is aligned on top of the first one, with the single remaining dialysis membrane between the gaskets.

Figure S8. Alignment of silicone gaskets.



Side view of the one half of the plastic frame with both silicone gaskets aligned on it.

One of the two blunt needles going through the gaskets is visible.

Figure S9. Assembled dialyzer before application of epoxy.



Both halves of the plastic frame assembled with two silicone gaskets, two needles, and one dialysis membrane, ready to be glued.

Figure S10. Dialyzer in bar clamp, ready for application of epoxy.



The dialyzer assembly, placed in the bar clamp for gluing. The bar clamps are wrapped in plastic to avoid contamination from the epoxy (and avoid the dialyzer being permanently glued to the clamp if some epoxy leaks out).

Figure S11. Alignment of silicone gaskets in bar clamp assembly.



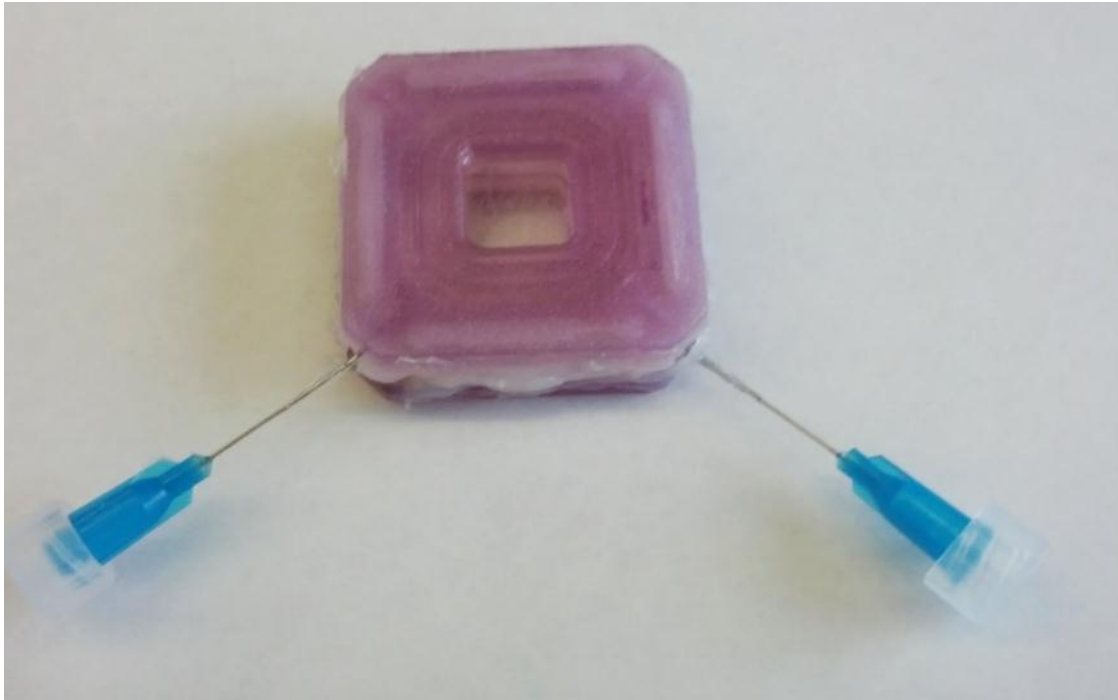
The dialyzer assembly in the bar clamp, with silicone gaskets properly aligned.

Figure S12. Application of epoxy to dialyzer.



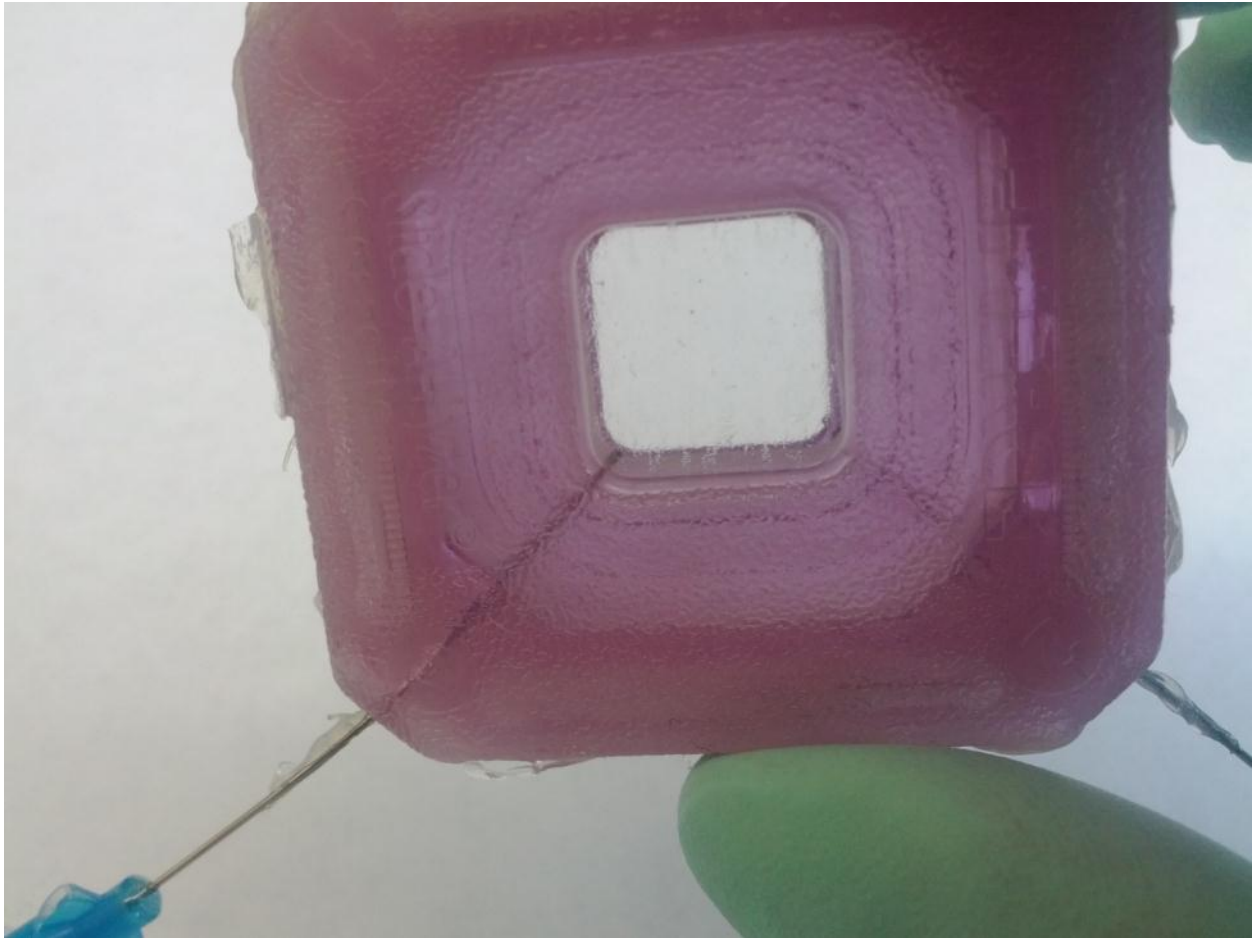
Epoxy, applied to all sides of the dialyzer assembly and the outer diameter of the blunt needles.

Figure S13. Completed dialyzer.



Completed dialyzer assembly, removed from the bar clamp after the epoxy has fully cured (24h) and with needles capped.

Figure S14. Close-up image of completed dialyzer.



Close-up of the finished dialyzer assembly, with needles going through the silicone gaskets and into the dialysis chambers.

Figure S15. Disassembled Slide-A-Lyzer G2.



The disassembled G2 dialyzer cassette.

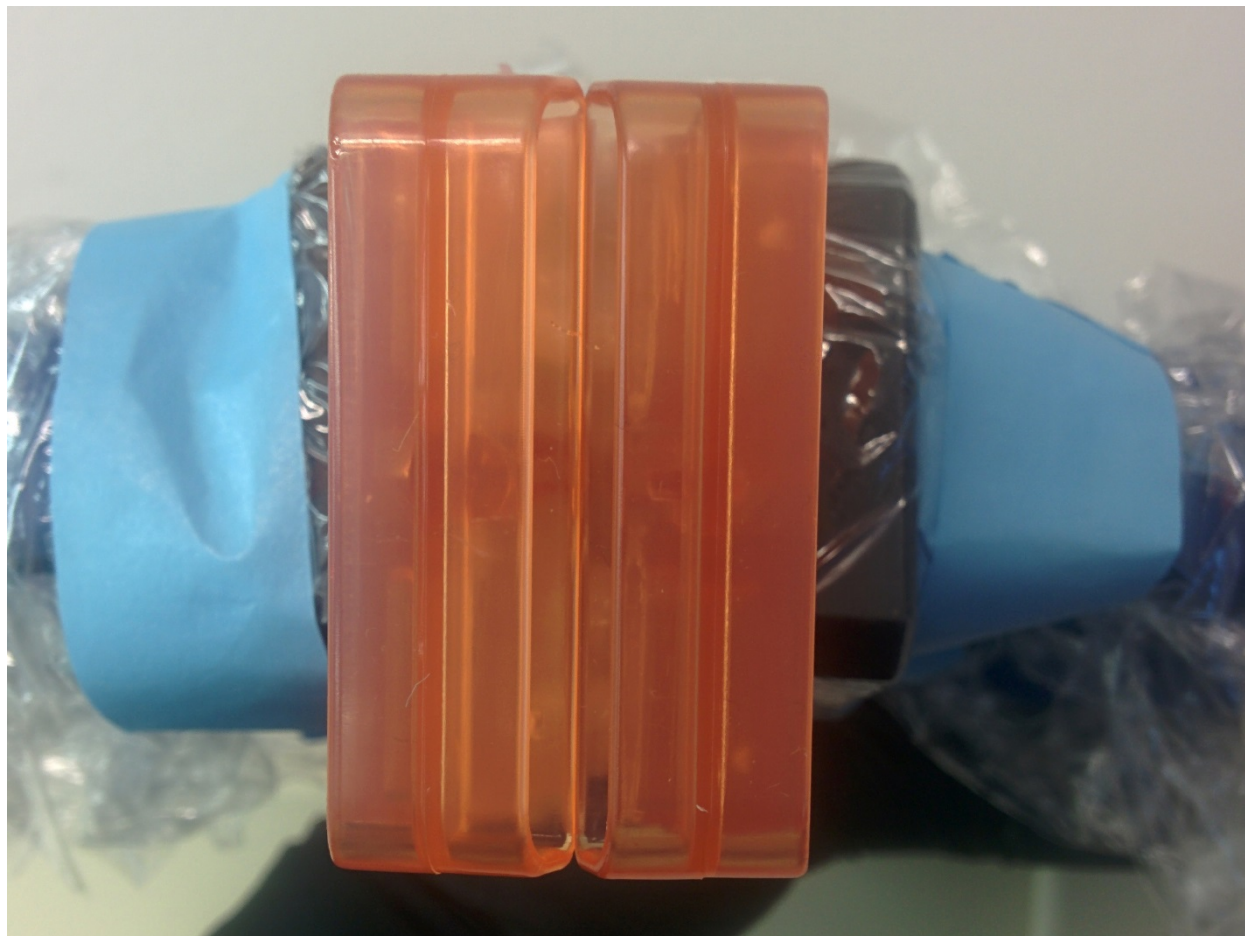
The assembly of the G2 based dialyzer is analogous to the process described for the standard slide-a-lyzer cassette; the few notable differences are shown in figures S15 to S20.

Figure S16. G2 dialyzer in bar clamp with epoxy applied.



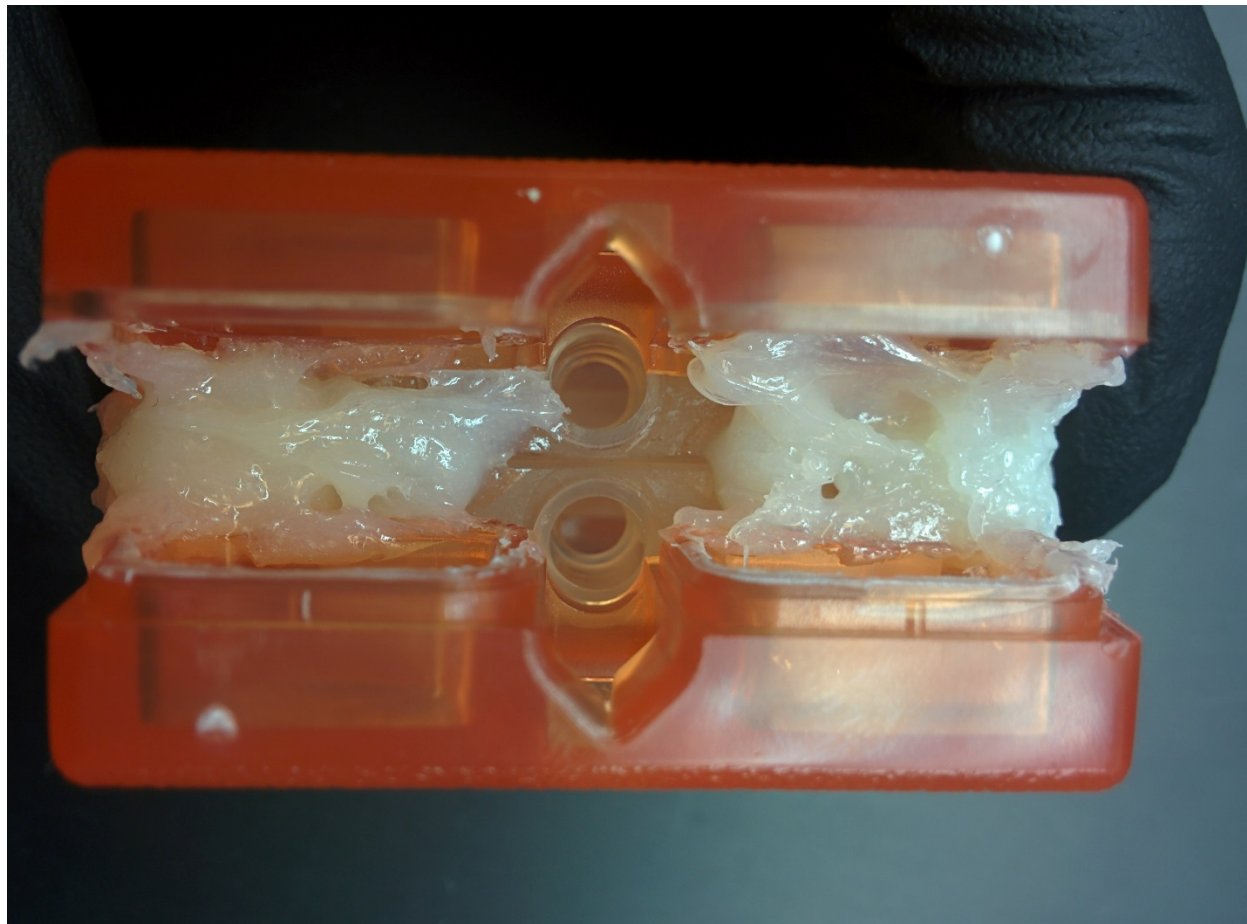
Side view of the G2 dialyzer in the vice clamp, showing parallel alignment of the two sample port plugs aligned on top of the assembly.

Figure S17. Alignment of G2 dialyzer in bar clamp.



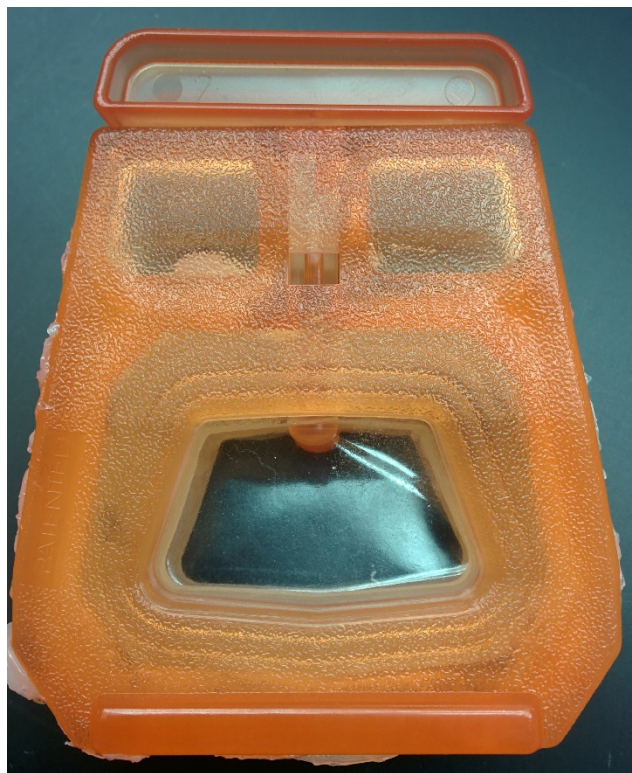
Top view of the G2 dialyzer assembly showing the alignment of the sample port plugs.

Figure S18. Sample ports for G2 dialyzer.



The top view of the assembled G2 dialyzer, showing the sample ports.

Figure S19. Completed G2 dialyzer.



Front view of the fully assembled G2 dialyzer, showing the tip of the sample port plug sticking into the dialysis chamber.