CLAIMS

1. A method of reducing bubble volume, comprising:

(a) providing a microfluidic device comprising a microchannel, the microchannel made of a polymer that is substantially gas impermeable, the microchannel comprising a bubble, the bubble having a volume; and

(b) flowing fluid under pressure through the microchannel under conditions such that the bubble volume is reduced.

2. A method according to Claim 1, in which the microchannel is in fluidic communication with a first reservoir at a first end of the microchannel, and a second reservoir at a second end of the microchannel.

3. A method according to Claim 2, in which the first reservoir comprises fluid under a first pressure and the second reservoir comprises fluid under a second pressure, in which the first pressure is greater than the second pressure.

4. A method according to Claim 1, in which the microchannel is in a perfusion manifold.

5. A method according to Claim 4, in which the perfusion manifold is engaged with and in fluidic communication with a microfluidic chip.

6. A method according to Claim 5, in which the perfusion manifold comprises a skirt, the skirt comprising a side track engaging the microfluidic chip.

7. A method according to Claim 6, in which the microfluidic chip comprises one or more ports and the perfusion manifold is in fluidic communication with the microfluidic chip through the one or more ports.

8. A method according to Claim 3, in which the first pressure is 21kPa and the second pressure is 20kPa.

9. A method according to Claim 1, in which the bubble is a gas bubble.

10. A method according to Claim 9, in which the gas is oxygen, nitrogen or a mixture thereof.

11. A method according to Claim 1, in which the bubble is an air bubble.

12. A method according to Claim 1, in which the flowing of fluid is at a flow rate of 40uL/hr.

13. A method according to Claim 1, in which the microfluidic device comprises viable cells in the microchannel and the fluid comprises media supplied to the viable cells.

14. A method according to Claim 13, in which the media prior to step (b) was degassed.

15. A method according to Claim 13, in which the media of step (b) is unsaturated.

16. A method according to Claim 13, in which the media prior to step (b) was not degassed.

17. A method according to Claim 1, in which step (b) is performed for at least one 1 hour.

18. A method according to Claim 17, in which step (b) is performed for 2 hours.

19. A method according to Claim 17, further comprising (c) introducing fluid into the microchannel, in which the fluid has not been degassed.