

Supporting Information for “Microfluidic nanobubbles: observations of a sudden contraction of microbubbles into nanobubbles”

Ali A. Paknahad^{abc}, Intesar O. Zalloum^{bce}, Michael C. Kolios^{bce}, and Scott S. H. Tsai^{*abcd}

^a Department of Mechanical and Industrial Engineering, Toronto Metropolitan University, Toronto, Ontario M5B 2K3, Canada.

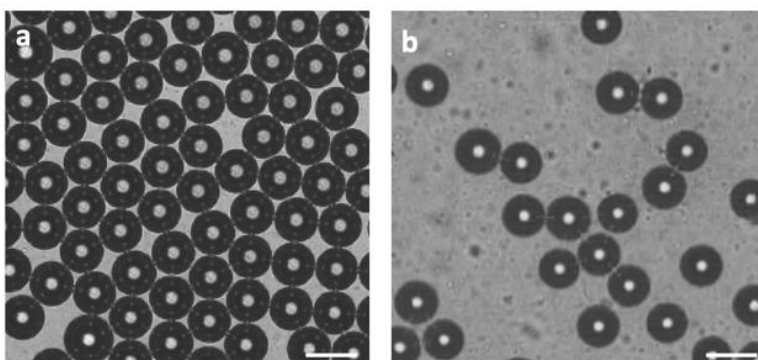
^b Institute for Biomedical Engineering, Science and Technology (iBEST), A Partnership Between Toronto Metropolitan University and St. Michael's Hospital, Toronto, Ontario M5B 1T8, Canada.

^c Keenan Research Centre for Biomedical Science, Unity Health Toronto, Toronto, Ontario M5B 1W8, Canada.

^d Graduate Program in Biomedical Engineering, Ryerson University, Toronto M5B 2K3, Canada. E-mail: scott.tsai@ryerson.ca

^e Department of Physics, Toronto Metropolitan University, Toronto, Ontario M5B 2K3, Canada. Email: mkolios@ryerson.ca

Figure S1



A comparison of the final diameter D_f of MBs under two scenarios: a) without dilution with DI water, and b) after dilution with a factor of approximately 12 with DI water. In both cases the final diameter D_f of bubbles post-shrinkage is around 8 μm . The initial MB diameter $D_i \approx 53 \mu\text{m}$ in both experiments. We used a 0.17 wt % C_3F_8 gas mixture and a 1.1 mg/mL lipid solution. The bubbles in b) are less concentrated compared to the MBs in a) because of dilution using DI water. These results suggest that dilution by DI water does not significantly change the resulting MB diameter. Scale bars indicate 10 μm .