Supplementary Information

Collapse and cavitation during drying of water-saturated PDMS sponges with closed porosity

Phu Tuan Anh Nguyen^{1,2}, Matthieu Vandamme¹, Artem Kovalenko^{2*}

¹ – Navier, Ecole des Ponts, Univ. Gustave Eiffel, CNRS, Marne-la-Vallée, France

² – Laboratoire Sciences et Ingénierie de la Matière Molle, ESPCI Paris, PSL University, Sorbonne Université, CNRS, F-75005 Paris, France

* - corresponding author

SI-1a. Determination of sample density using a hydrostatic balance

The following graphs show the weight change Δm_{pull} measured using a hydrostatic balance divided by the weight of the sample as a function of the solution density.



SI-1b. Pore diameter distribution for the D10-5 sample

The following figures show a microscopy image of the emulsion used for the synthesis of the D10-5 sample and the corresponding number-weighted pore diameter distribution.



SI-1c. Microscopy images of D10-5 sample with a x20 objective in wet (a) and dry (b) states



SI-1d. Pore diameter distributions for the D300-30 and D70-30 samples

The following microscopy images show the cross-sections of the samples D300-30 and D70-30 before drying.





The following figure presents the number-weighted pore diameter distributions $N_i^{section}(d_i)$ for D70-30 and D300-30 samples obtained from the analysis of the in-focus areas of the images given above.



SI-1e. Fraction of pores in sample D200-5 that reopened after drying at 90°C.



SI-1e. Optical microscopy image showing the reopened pore clusters during drying of the sample D50-5NaCl at 60°C.

