Supporting Information for
Steady and out-of-equilibrium phase diagram of a complex fluid at the nanoliter scale: combining microevaporation, confocal Raman imaging and small angle X-ray scattering†

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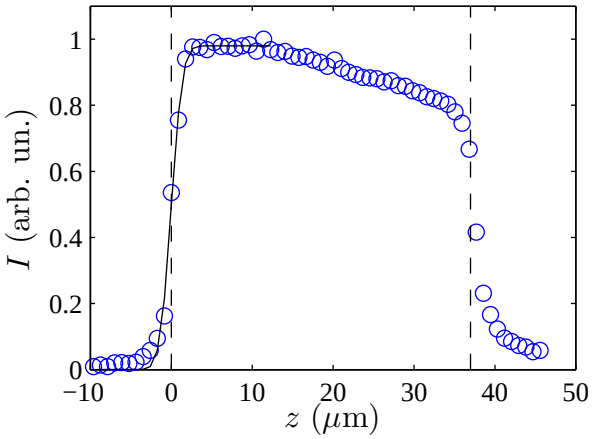

Fig. 1 z-scan of a microevaporator ($h = 37$ μm) filled with water measured using an oil-immersion objective (100×, N.A. 1.3, Olympus). I corresponds to the Raman intensity of the broad peak at 3200–3500 cm^{-1} corresponding to the OH stretching mode. The positions z are corrected using the ratio of the indexes of refraction of water and of the immersion oil. $z < 0$ correspond to the glass slide, $z > 37$ μm to the PDMS membrane. The fit by $\sim 1 + \mathrm{erf}(z/\sigma)$ with $\sigma = 1.6$ μm for the intensity around $z = 0$ (black line) demonstrates the confocality of the measurements.

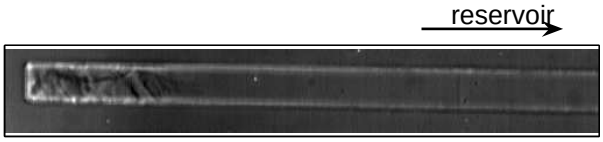

Fig. 2 Movie1.avi: movie showing the tip of a microevaporator during the continuous concentration of P104 (partially crossed polarizer and analyzer). This series shows the boundary L_1/I_1 invading the microevaporator, and the subsequent nucleation and growth of the hexagonal phase H_1 at the tip of the channel. The width of the channel is 200 μm and the duration of the movie is approximatively 2 hours.

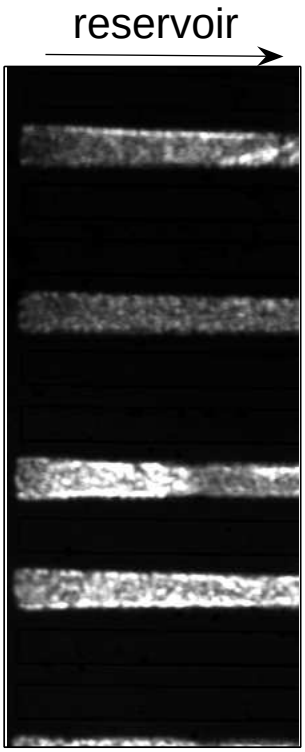

Fig. 3 Movie2.avi: movie showing the tips of 13 identical microevaporators connected to the same reservoir containing a dilute solution of P104 (pictures acquired during the continuous concentration of P104 under crossed polarizer and analyzer, channel width 200 μm). In this sequence of images, the isotropic dense phase has invaded the field of view, and the movie shows nucleation and growth events of a strongly birefringent texture within the isotropic dense phase. The movie lasts approximatively 10 hours.