

Supplementary Information: A Graphene-based Microfluidic Platform for Electrocrystallization and *In Situ* X-ray Diffraction

Shuo Sui, Yuxi Wang, Christos Dimitrakopoulos, and Sarah L. Perry *

Department of Chemical Engineering, University of Massachusetts Amherst

Correspondence: perrys@engin.umass.edu

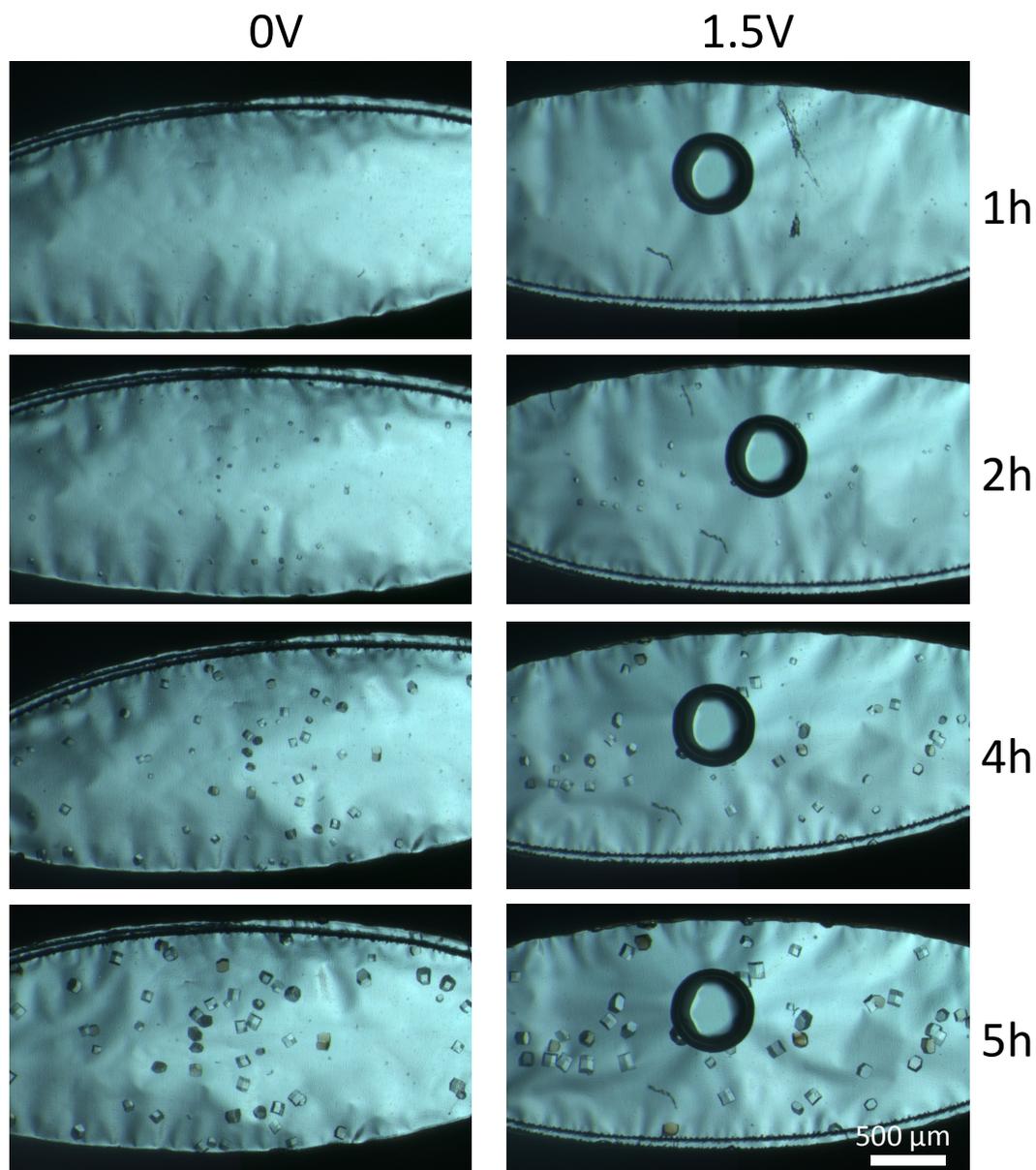


Figure S1. Optical micrographs under cross-polarized light showing the time evolution of HEWL crystal nucleation and growth with the application of 0V and 1.5V in a microfluidic device. The bubble observed in the 1.5V sample was the result of air trapped in the device during assembly.

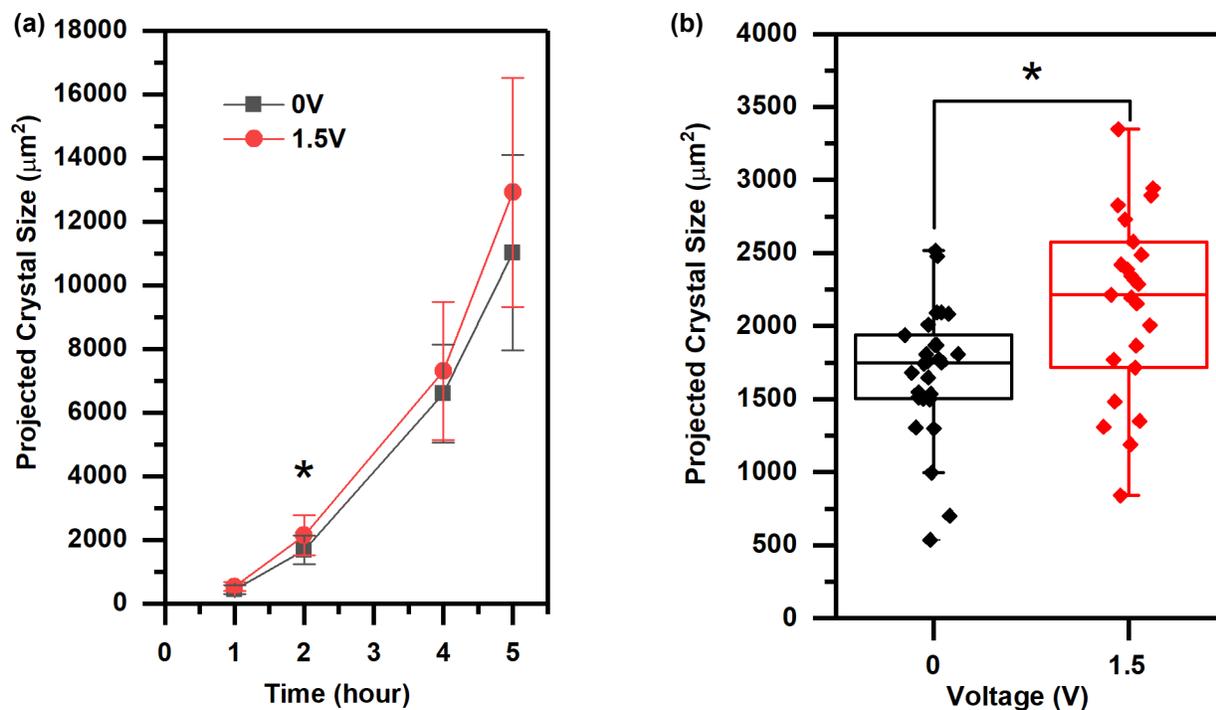


Figure S2. (a) A plot of the average crystal size as a function of time from the images in **Figure S1**. Error bars represent the standard deviation. **(b)** A box and whiskers plot of the crystal size distribution at 2h with the application of voltages at 0V and 1.5V. The middle line shows the median, and the ends of the box indicate the upper and lower quartiles. *Crystals prepared at 1.5V at 2h were statistically larger than those prepared at 0V, ANOVA $p < 0.01$.