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Supporting information for article:

3D printed droplet generation devices for serial femtosecond crystallography enabled by surface coating

Austin Echelmeier, Daihyun Kim, Jorvani Cruz Villarreal, Jesse Coe, Sebastian Quintana, Gerrit Brehm, Ana Egatz-Gomez, Reza Nazari, Raymond G. Sierra, Jason E. Koglin, Alexander Batyuk, Mark S. Hunter, Sébastien Boutet, Nadia Zatsepin, Richard A. Kirian, Thomas D. Grant, Petra Fromme and Alexandra Ros This supplementary information contains Figure S1, referring to contact angle measurements for the studied surfaces and coatings, Figure S2 showing additional diffraction images for PSI crystals as well as the description of supplementary video 1.

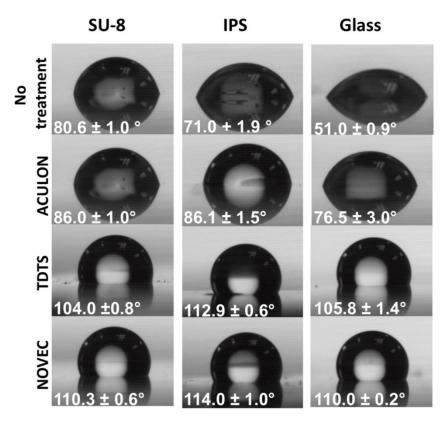


Figure S1. Static water contact angle (θ) measurements. Images of a 2 μ L water-in-air droplet on SU-8, IP-S and glass, before and after treatment with the three fluorinated chemicals.

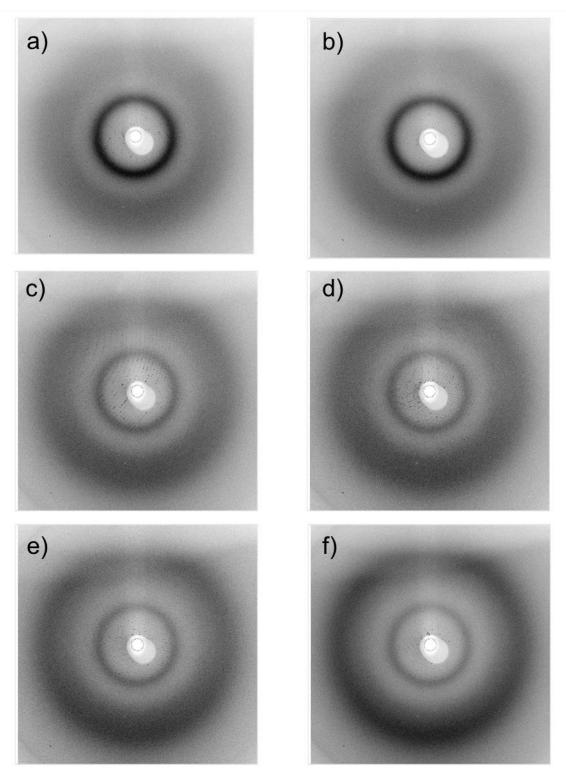


Figure S2. PSI Diffraction Images. Examples of diffraction images with a high volume fraction of oil, noted by the intense oil ring at low resolution, are shown on the top a)-b). Diffraction images with higher volume fraction of water are shown in c)-f), noted by the more intense water ring at higher resolution.

Supplementary Video 1. Droplet formation in a 3D printed droplet generator

Droplets of PSI buffer ($Q_{PSI \, buffer} = 0.5 \, \mu L \, min^{-1}$) generated in oil ($Q_{oil} = 6 \, \mu L \, min^{-1}$) with a 3D printed droplet generator that has been surface treated with Novec. The video is slowed by 100x.