

The data set shown here is the raw data and videos for the paper “Lipid coated liquid crystal droplets for the on-chip detection of antimicrobial peptides”.

Three videos were enclosed.

- (1) lipid coated LC droplets generation using microfluidic device (figure_2d_video.avi);
- (2) the switching of direct field of lipid coated LC droplets from radial to bipolar states under the continuous flow of SMP43 (support_information_video2-SMP43_6uM_treatment_taken_every_5min.mov);
- (3) A video related to the FRAP experiment on the lipid monolayer at the interface of liquid crystal and buffer solution, showing that lipid in this monolayer is mobile (every1s_frap.avi).

The data for Figure 4(b), showing the linear gradient could be generated by the “tree shape network” structure are saved in Figure4b.xlsx.

The size of droplets as a function of flow rate is the original data for Figure S4 and the data are saved in Size-flowrateratio.xlsx.

The image file “20171102-2timedilute_x10_size_and_concentration.jpg” is the example image file used for the analysis of size distribution in Figure 5c.