Supplementary information for:

Multi vesicular droplets: A cell model system to study vesicle compartmentalised biochemical reactions

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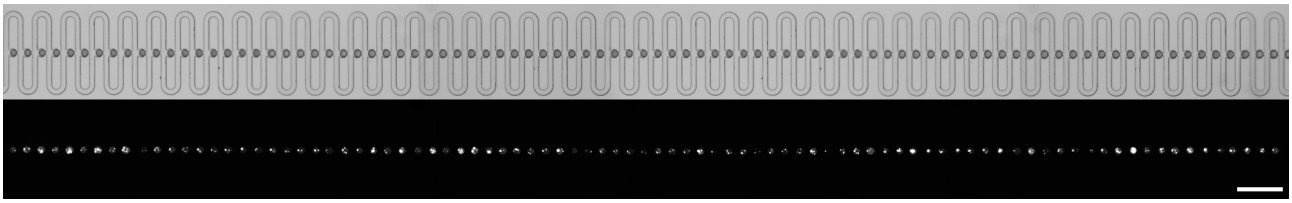

Figure S1: Panoramic view and detail of the 89-trap array. First row: bright field microscopy picture. Four images of the same experiment were stitched together to create a high-resolution panoramic image. The droplets are filled with blue food dye for better visualization. Second row: fluorescence microscopy picture of the same array. The vesicles are filled with fluorescent calcein. Scale bar 250 µm.

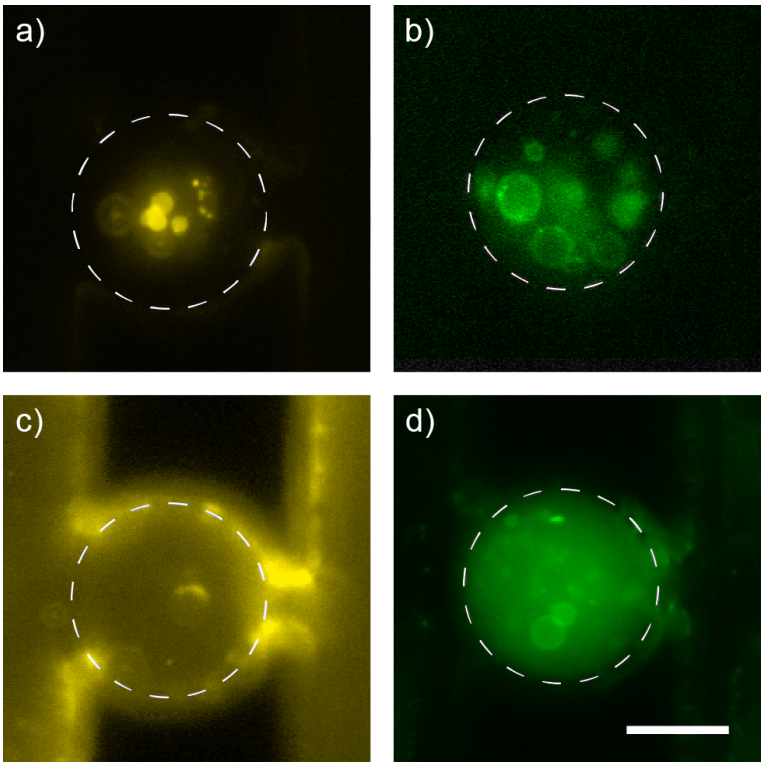

Figure S2: Fluorescent images of labelled vesicles in droplets. The staining was performed off-chip with DiI (a) or Alexa Flour 488 conjugated streptavidin (b), and on-chip with DiI (c) or Alexa Flour 488 conjugated streptavidin (d). The dashed lines are indicating the extents of the droplets, determined by bright-field images. All the images were taken immediately after trapping. Scale bar 25 µm.

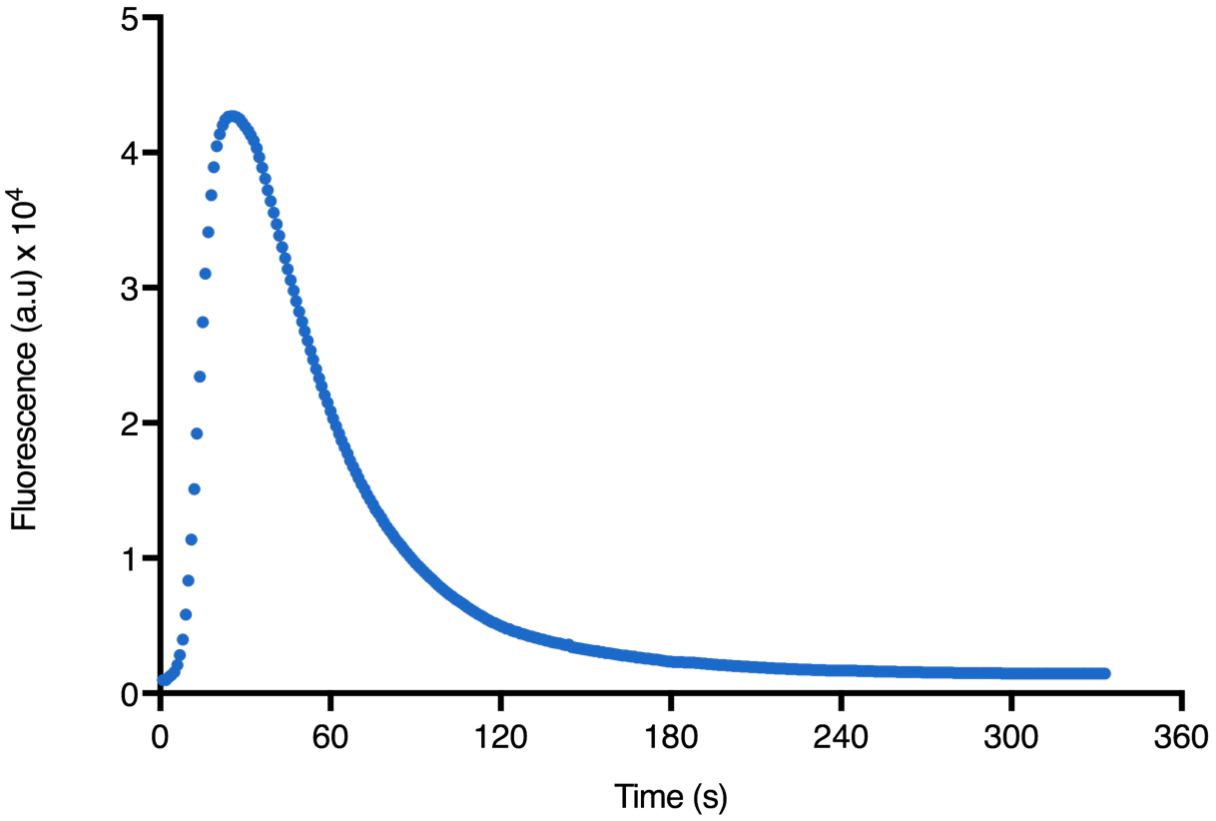

Figure S3: Plot of the mean pixel intensity of a single droplet over time. The droplet was imaged over a longer time to observe its photobleaching curve (n=1). The parameters of the experiment are the same described for Figure 5d.

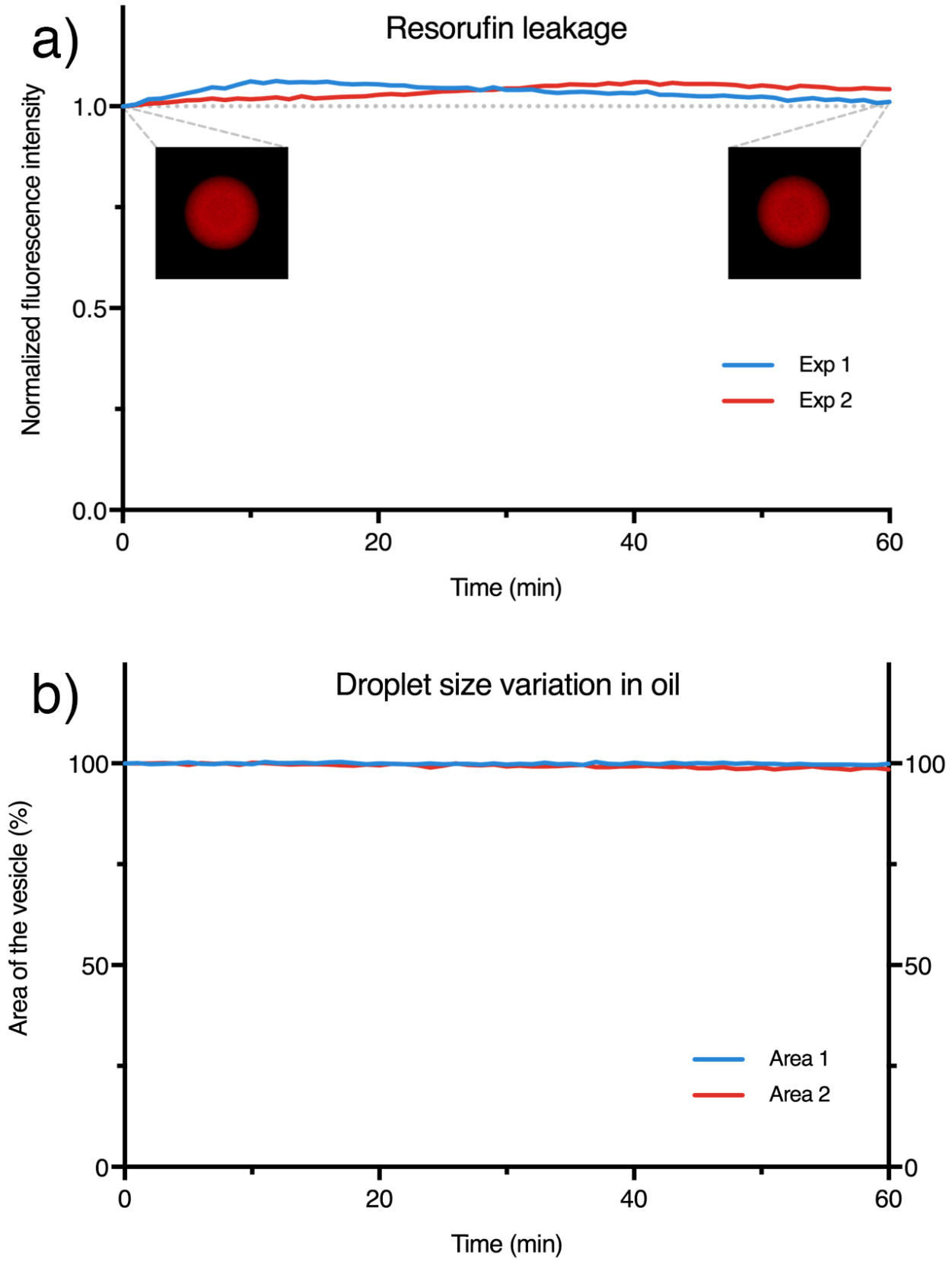

Figure S4: a) Quantification of the resorufin leakage from droplets in fluorinated oil. The droplets contained 33.3 µM of Resorufin and were imaged with ultrashort flashes (0.02 s) of low intensity fluorescence every 60 seconds for 1 hr, in order to minimize photobleaching. b) Plot of the droplet area over time. The observed droplets are the same of the top graph.