

Supplementary Information

Movie S1: Several droplets observed in bright field with a 4X objective. The total time is 30 minutes and it was filmed at 1 frame every 10 seconds. The video is accelerated 900 times.

Movie S2: Single droplet in fluorescence, filmed near the substrate with a 40X objective. The red circle is a guide to the eye, and the red point is at the current position of the droplet. The green line is the trajectory performed by the droplet over the last 3 seconds. The video is at 30 fps and in real time. Scale bar is 30 μm , and droplet radius is 42 μm .

Movie S3: Left: Single droplet in bright field focused on its center with a 40x objective. Right: Tracking of the single droplet. Red circle encloses the entire drop. The red point is at the current position of the droplet, and the blue line is the trajectory performed by the droplet over the last 3 seconds. The video is at 30 fps and in real time. Scale bar is 30 μm , and droplet radius is 27 μm .