

Supplementary

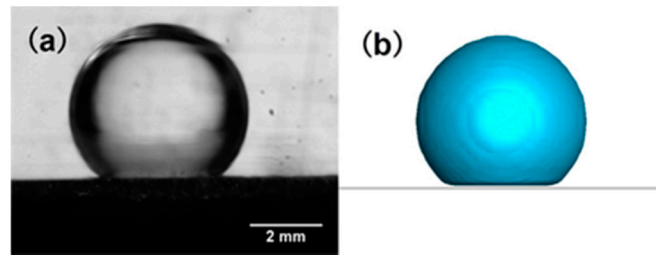


Figure S1. (a) Image of a water droplet surrounded by silicon oil on a pure nickel surface and (b) a droplet simulated by LBM with $G_{w,k}$ of ± 0.06 .

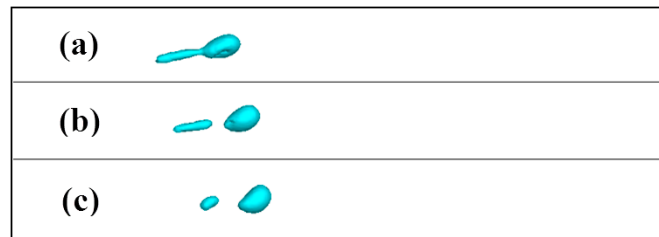


Figure S2. Evolution of one droplet breakup: (a) $t=0.09$ s, (b) $t=0.096$ s, and (c) $t=0.102$ s.

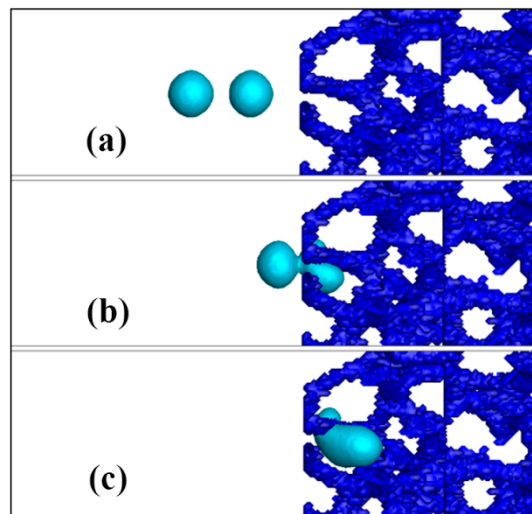


Figure S3. Hydrodynamics of two successive droplets passing a metal foam with D_b of 2.00 ($L_d = 7.32$, $Ca = 0.061$, $D_d = 1.33$): (a) $t=0.12$ s, (b) $t=0.144$ s, and (c) $t=0.168$ s.