SUPPORTING INFORMATION

Evaporation Controlled Particle Patterns in a Polymer Droplet

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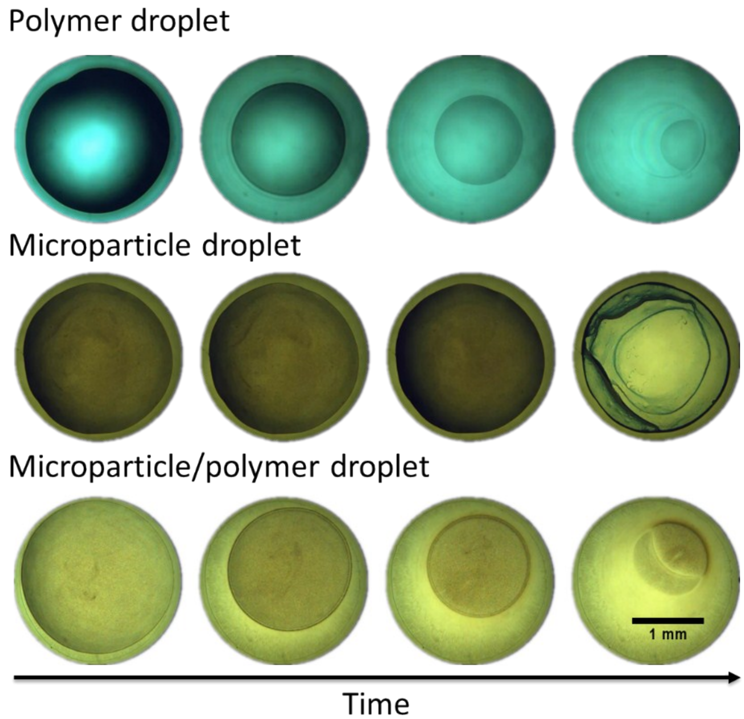

Figure S1. Top-view optical microscope images of water droplets containing pure PVP (top), PS particles (middle), and PS microparticles in PVP (bottom) on piranha-treated glass substrates during drying. A typical pinning of contact line is observed in evaporating colloidal particle drop, whereas the contact lines of pure polymer and microparticle/polymer droplets recede freely.

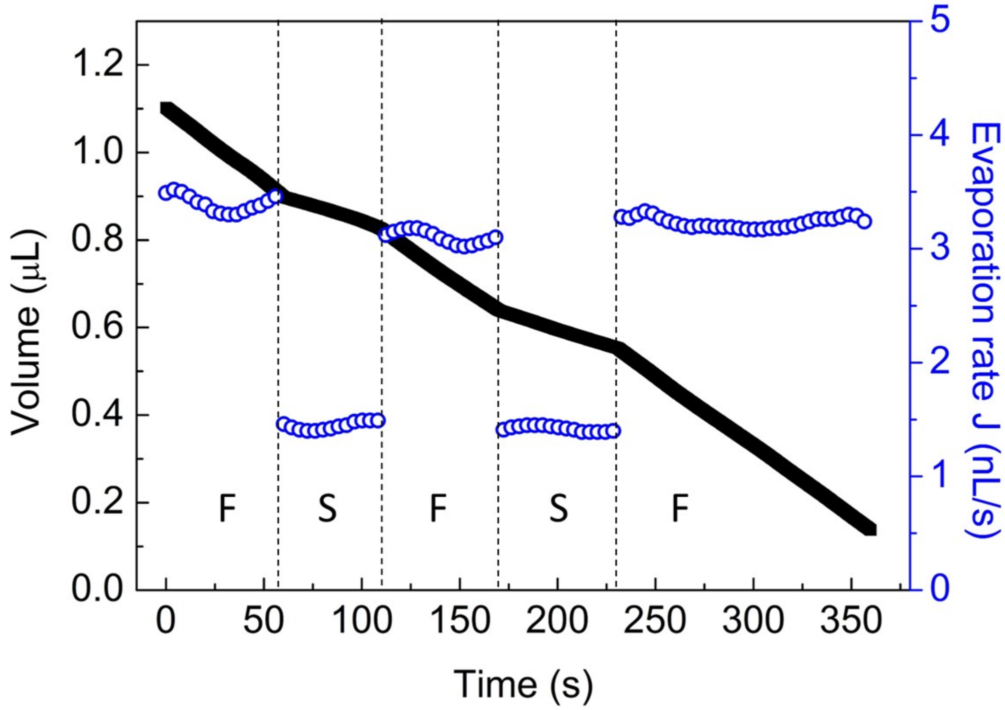

Figure S2. Droplet volume and evaporation rate changes with time.

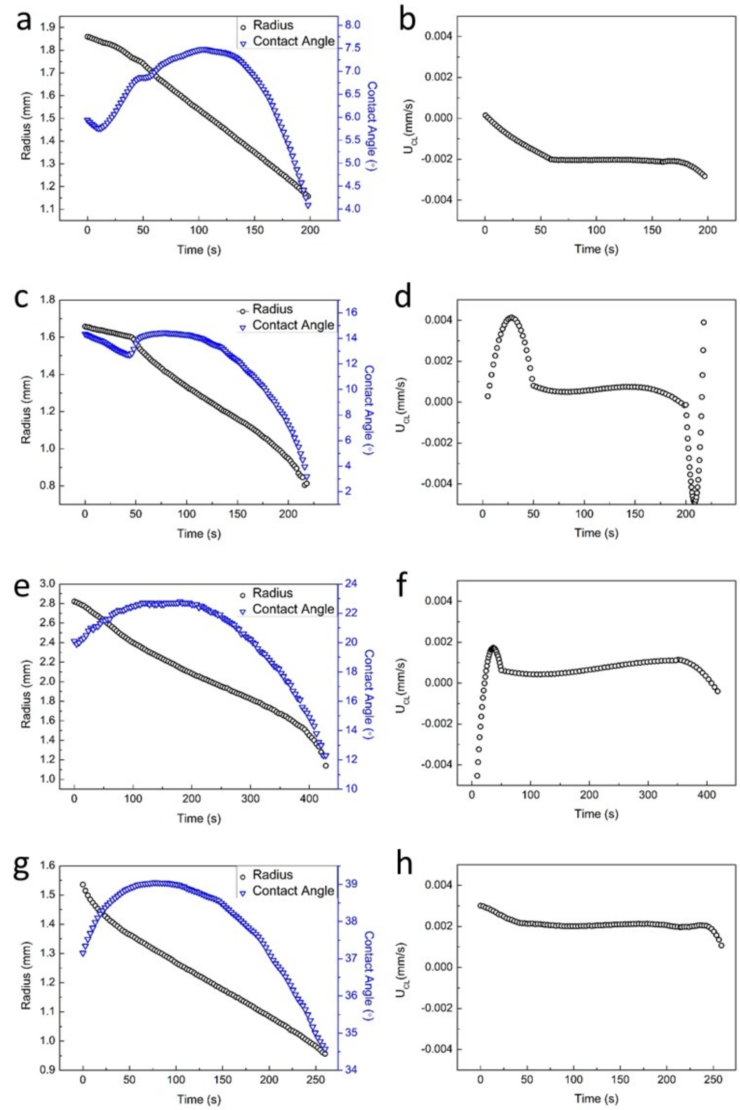

Figure S3. Evolution of radius and contact angle for microparticle/polymer droplet under ambient environment on (a) mica, (c) piranha-glass, (e) piranha-silicon and (g) acetone-glass; the corresponding U_{CL} change on (b) mica, (d) piranha-glass, (f) piranha-silicon and (i) acetone-glass

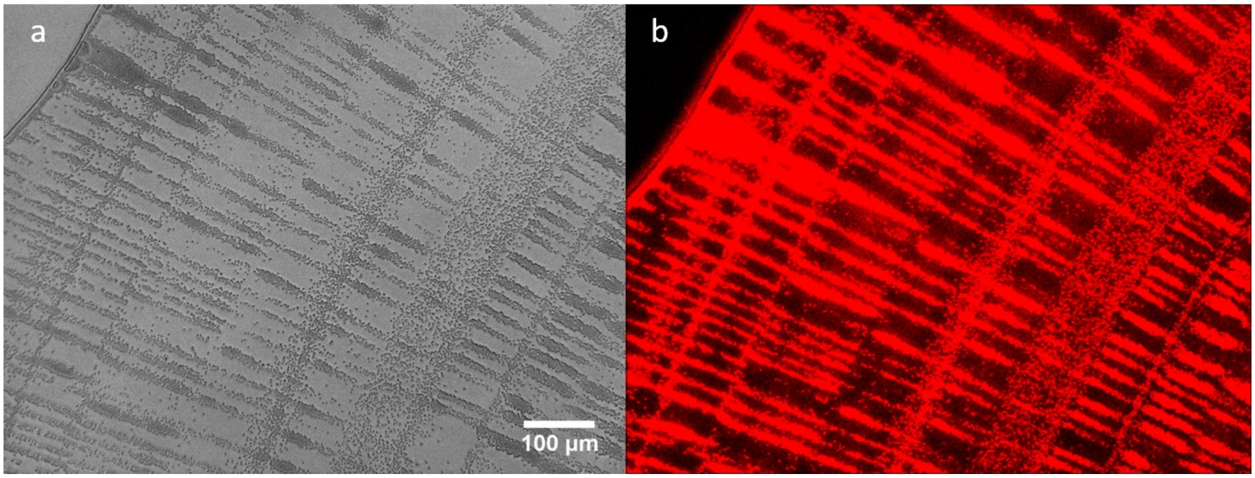

Figure S4. Optical (a) and confocal (b) images of polymer solution with 1 µm and 100 nm fluorescently labeled PS particles (0.2mg/ml). Some nanoparticles are deposited between stripes.

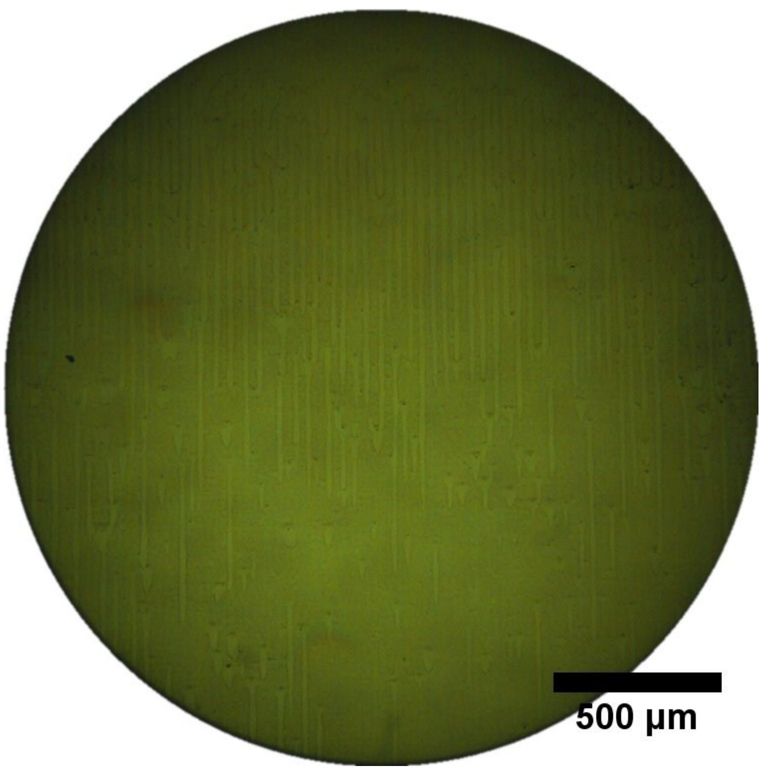

Figure S5. optical images of continuously withdrawn substrate from nanoparticle/polymer solution. Parallel stripes are formed on top of dipped substrates

Determining contact angle in tensiometer:

The net force on substrate using tensiometer is calculated by $F = P\gamma_{lv}cos\theta - \rho_l gAx$. P is the length of contact line and equals $P = 2(t + w)$, t is the thickness and w is the width of substrate, A is the cross-section area of substrate ($A = tw$), x is the immersion depth. $P\gamma_{lv}cos\theta$ is interfacial force and $\rho_l gAx$ is buoyant force.