Polymer Capsules with Tunable Shell Thickness Synthesized via Janus-to-core shell Transition of Biphasic Droplets Produced in a Microfluidic Flow-Focusing Device

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Electronic Supplementary Information

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Supplementary figures

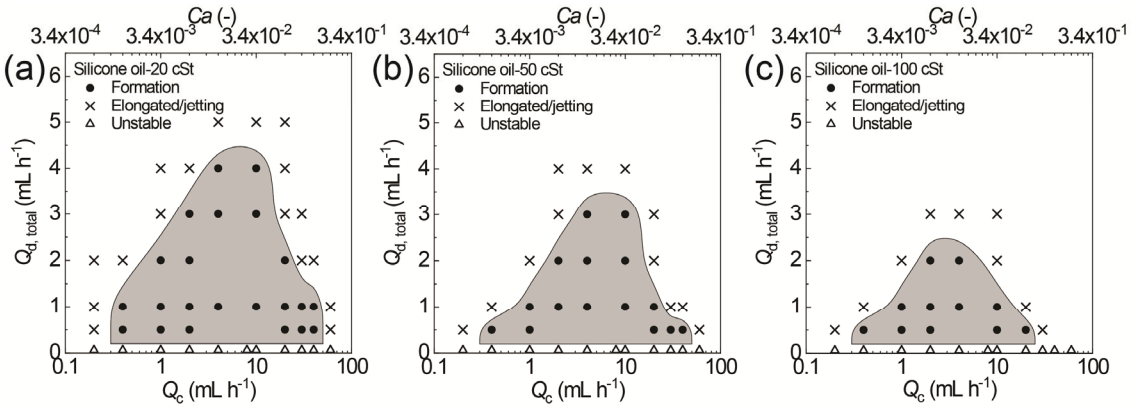

Figure S1 Flow pattern diagrams for producing biphasic droplets with different silicone oil viscosities: (a) 20 cSt; (b) 50 cSt; (c) 100 cSt.

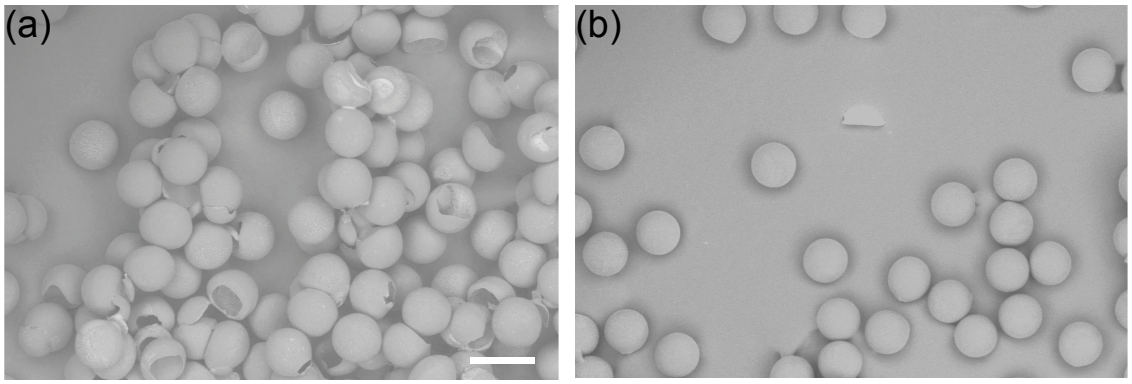

Figure S2 Particles obtained using different tube length (a) 5 cm, (b) 150 cm. Q_m:Q_s =1:1. $Q_{d,\,total}$ = 1.0 mL h^{-1}, Q_c = 6.0 mL h^{-1} × 2. Scale bar: 200 μm.

Supplemental Movie Caption

FF_Janus01.mov: Movie clip of the formation of Janus droplets at a flow-focusing microfluidic geometry, recorded at 10,000 fps. Flow rates of monomer (Q_m) and silicone oil (Q_s) are $Q_m = Q_s = 0.5$ mL h^{-1}. Flow rate of PVA aqueous phase (Q_c) is $Q_c = 6.0$ mL $h^{-1} \times 2$.

FF_Janus02.mov: Movie clip of the formation of Janus droplets at a flow-focusing microfluidic geometry, recorded at 10,000 fps. Flow rates are $Q_m = 0.1$ mL h^{-1}, $Q_s = 0.9$ mL h^{-1}, and $Q_c = 6.0$ mL $h^{-1} \times 2$.

FF_Janus03.mov: Movie clip of the formation of Janus droplets at a flow-focusing microfluidic geometry, recorded at 10,000 fps. Flow rates are $Q_m = 0.2$ mL h^{-1}, $Q_s = 0.8$ mL h^{-1}, and $Q_c = 6.0$ mL $h^{-1} \times 2$.