SUPPORTING INFORMATION

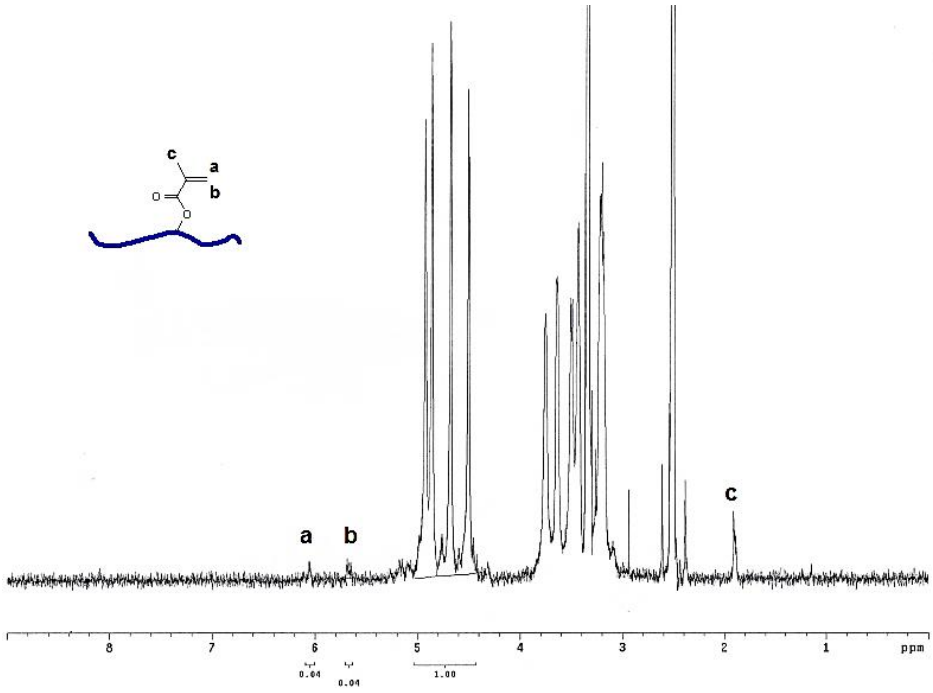


Figure S1. ^{1}H-NMR spectrum of GelMA. Peaks corresponding to methacrylate are noted (**a** to **c**).

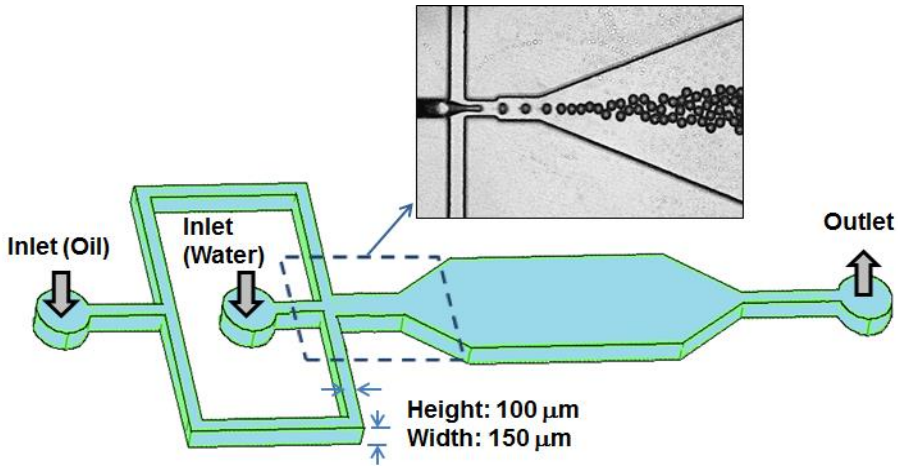


Figure S2. Schematics of the microfluidic flow-focusing geometry to generate droplets.

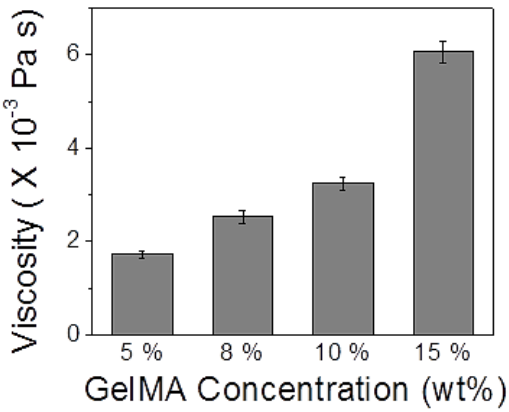


Figure S3. Viscosity values (in Pa s) of various concentrations of GelMA.

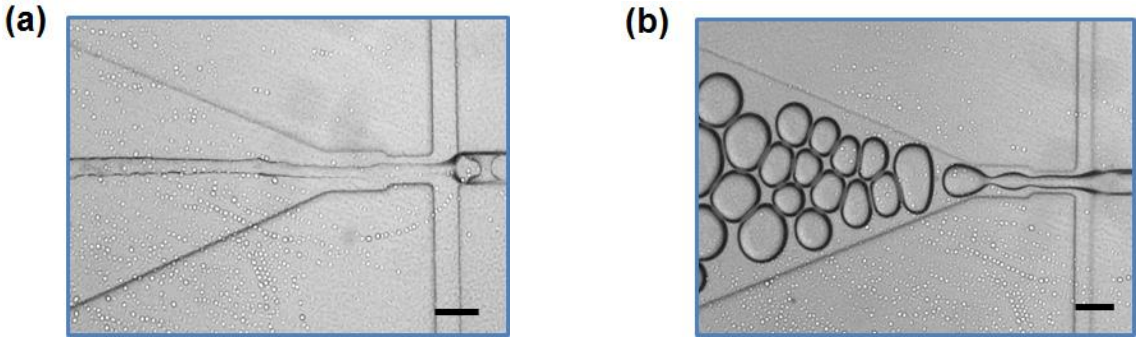


Figure S4. Microfluidic flow-focusing device used to generate droplets with (a) pure mineral oil or (b) mineral oil supplemented with 8 wt% Span®80 as oil phase. (Scale bar: 200 μm)

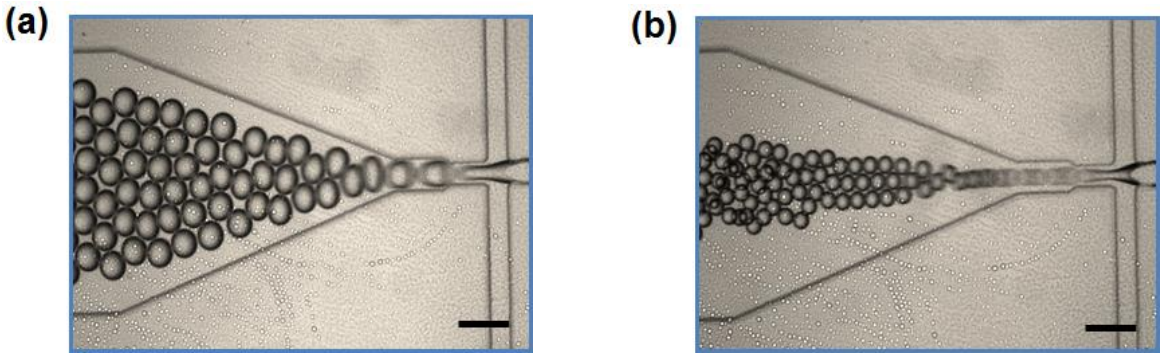
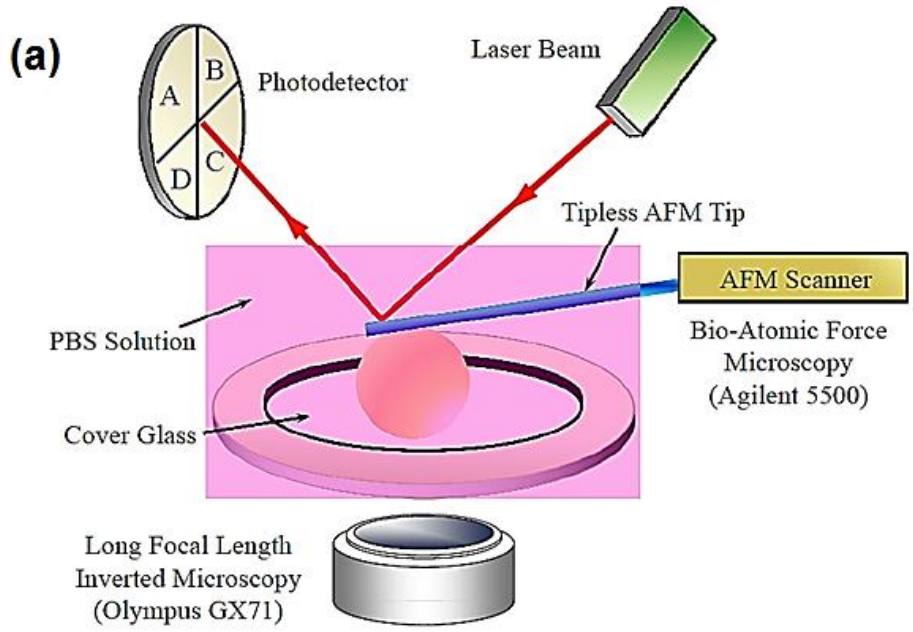


Figure S5. The size of GelMA microgels was controlled by changing the ratio of the flow rates of aqueous and oil flows (Q_{Aq}/Q_O). (a) $Q_{Aq}/Q_O = 0.3$, (b) $Q_{Aq}/Q_O = 0.05$. (Scale bar: 200 μm)



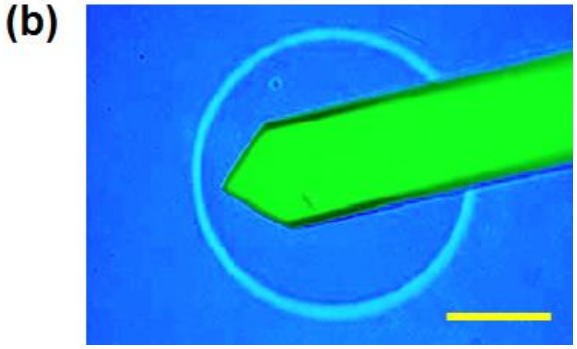


Figure S6. (a) Schematic description for measurement of the stiffness of GelMA microgels by the AFM-assisted nanoindentation. (b) Microscopic image of an AFM cantilever compressing the microgel. (Scale: 50 μm)

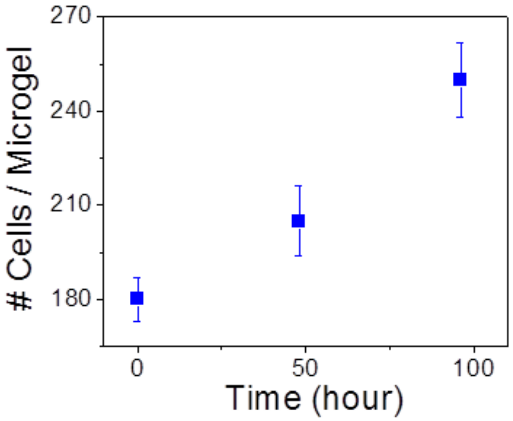


Figure S7. The number of CSP cells adhered to GelMA microgel measured over time.