Supplemental Information

Figure S1 shows the image of the experimental setup depicted in Figure 1b. For the observation, we used the stereo microscope (Nikon Corporation., Tokyo, Japan, SMZ800). The strobe guide (NIPPON PI CO., LTD., PLG-B30X-1000-4R, Tokyo, Japan) is connected to the strobe scope (Sugawara Laboratories Inc., Kanagawa, Japan, Driver unit: NP-2; Lamphouse: NPL-18) that is triggered by the magnetic pickup sensor (TRANSDUCER SYSTEMS, INC., Kulpsville, PA, USA, VR250-850-5). The 1.5 mm^3 syringe (TERUMO CORPORATION., Tokyo, Japan, SS-01T) is used as a tank that supplies the liquid to the glass capillary by the φ 1 mm plastic hose. We used the table-top centrifuge equipped with a swinging-bucket rotor (HITECH CO., LTD., Tokyo, Japan, ATT 101) was used. The details on CDSD is described in Maeda *et al*. [1].

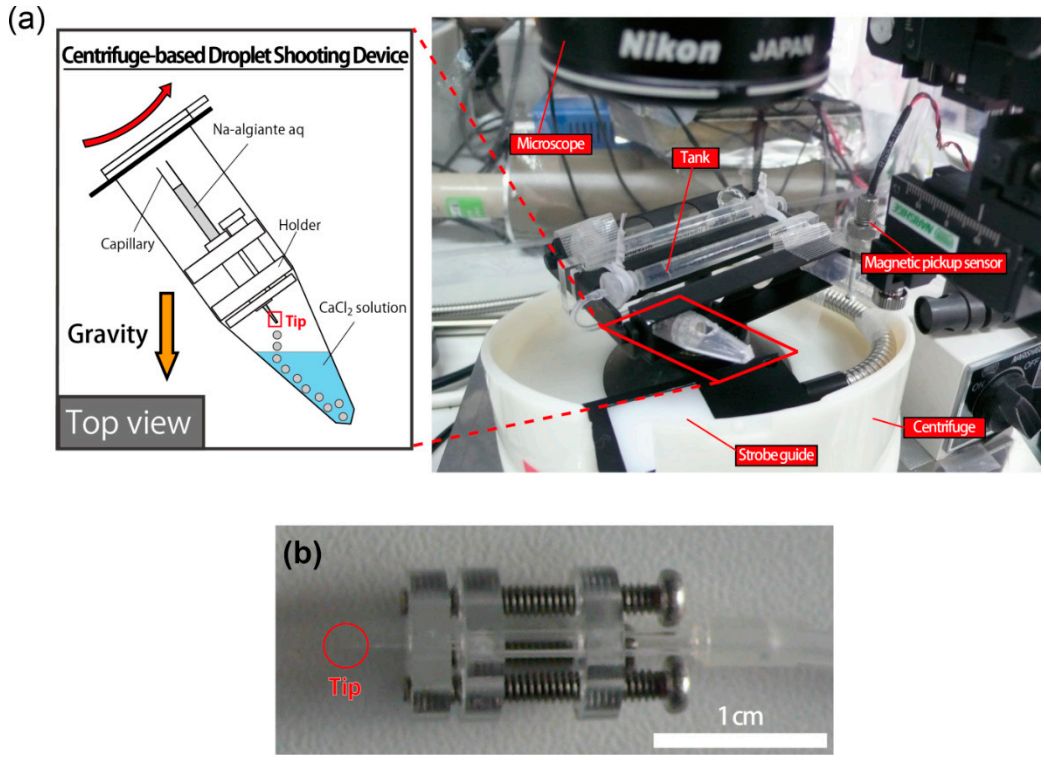

Figure S1. Detailed experimental setup. (**a**) Image of the experimental setup for observation of the capillary jet depicted in Figure 1; (**b**) Image of the acrylic holder in the CDSD. The capillary was positioned in the holder.

Table S1 shows the density, surface tension and viscosity of water and $CaCl_2$ solutions used in the experiments. In all of the particle fabrication experiments, the particle material was sodium alginate solution. A 500 mM $CaCl_2$ solution was used to gelify the solution. The sodium alginate was purchased from Wako Pure Chemicals Industries, Ltd. (Osaka. Japan). The $CaCl_2$ was purchased from Kanto Chemicals Co., Ltd. (Tokyo, Japan).

Table S1. Materials property.

Media	ρ (kg m^{-3})	σ (kg s^{-2})	μ (Pa·s)
Water	10^3	7.1×10^{-2}	7.9×10^{-4}
0.5% (*w*/*w*) Na-alginate aq	10^3	7.1×10^{-2}	7.2×10^{-3}
1.0% (*w*/*w*) Na-alginate aq	10^3	7.1×10^{-2}	2.0×10^{-2}
1.25% (*w*/*w*) Na-alginate aq	10^3	7.1×10^{-2}	2.9×10^{-2}
1.5% (*w*/*w*) Na-alginate aq	10^3	7.1×10^{-2}	4.3×10^{-2}
2.0% (*w*/*w*) Na-alginate aq	10^3	7.0×10^{-2}	8.0×10^{-2}

Table S2. Physical values at the transition from the dripping to the jetting regime.

Media	d_c (μm)	*Oh*	*We*	*Bo*
water	60	1.21×10^{-2}	0.752	0.155
water	85	1.02×10^{-2}	0.621	0.203
water	100	9.38×10^{-3}	0.681	0.264
0.5% (*w*/*w*) Na-alginate aq	100	8.58×10^{-2}	0.446	0.361
1.0% (*w*/*w*) Na-alginate aq	100	2.33×10^{-1}	0.358	0.484
1.0% (*w*/*w*) Na-alginate aq	120	2.12×10^{-1}	0.0883	0.602
1.25% (*w*/*w*) Na-alginate aq	100	3.45×10^{-1}	0.300	0.564
1.5% (*w*/*w*) Na-alginate aq	120	4.63×10^{-1}	0.151	0.767
2.0% (*w*/*w*) Na-alginate aq	120	8.74×10^{-1}	0.0811	0.900
2.0% (*w*/*w*) Na-alginate aq	130	8.40×10^{-1}	0.0659	0.906
2.0% (*w*/*w*) Na-alginate aq	140	8.09×10^{-1}	0.0698	0.992

References

1. Maeda, K.; Onoe, H.; Takinoue, M.; Takeuchi, S. Controlled synthesis of 3D multi-compartmental particles with centrifuge-based microdroplet formation from a multi-barrelled capillary. *Adv. Mater.* **2012**, *24*, 1340–1346.