Supplementary Figures

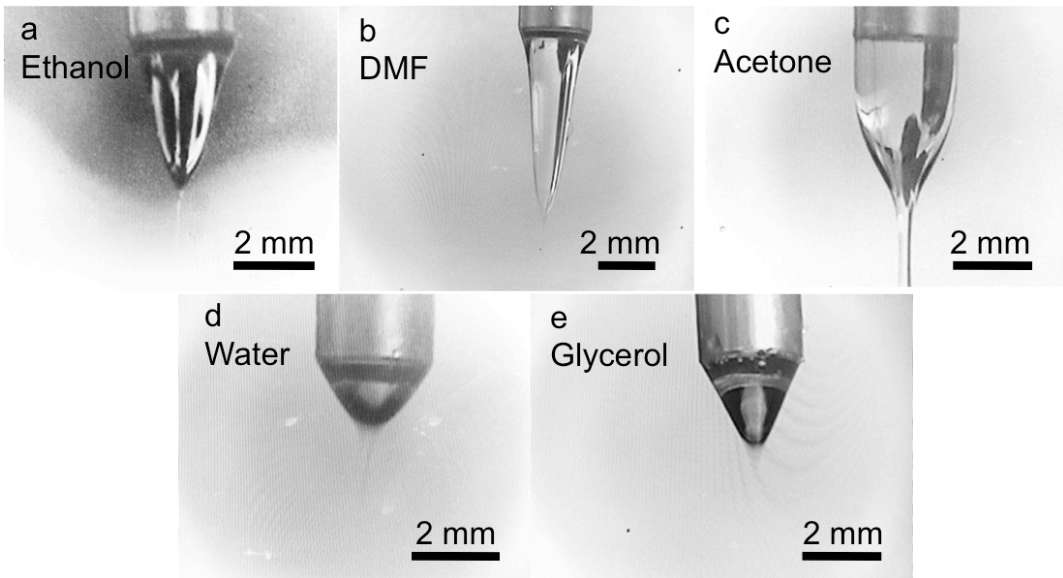

Figure S1. Jetting photographs during fibre formation: (a) ethanol, jet diameter D_0 = 88 μm; (b) DMF, jet diameter D_0 = 72 μm; (c) acetone, jet diameter D_0 = 409 μm; (d) water, jet diameter D_0 = 52 μm; (e) glycerol, jet diameter D_0 = 69 μm. The tonal and colour balance of the photographs have been adjusted to brighten the images.

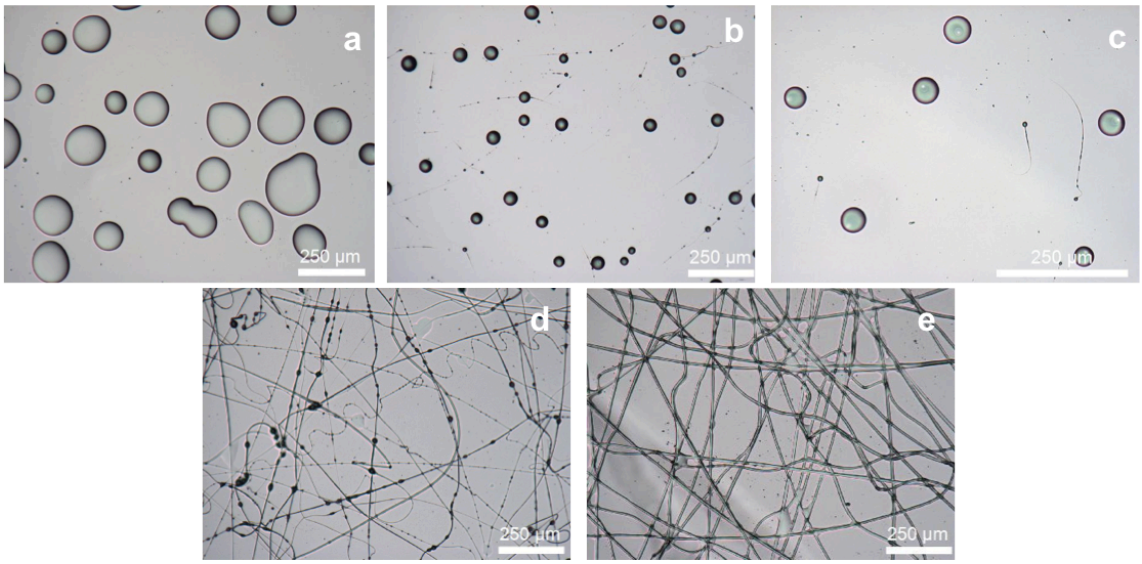

Figure S2. The transition from droplet to fibre formation in coaxial EHD processing of sheath PLGA solution as the flow rate of glycerol changed in the core-nozzle. (a) 0 µl/min. (b-d) 10 µl/min unstable jetting generating various morphologies: (b) bimodal particle size distribution, incipient secondary particles showing alignment, amongst larger core-shell particles showing encapsulation, (c) higher magnification image of (b), (d) twin cone-shape jets occurred at the nozzle exit and fibres formed. (e) 20 µl/min, electrospinning occurred and continuous fibres with no beads formed.

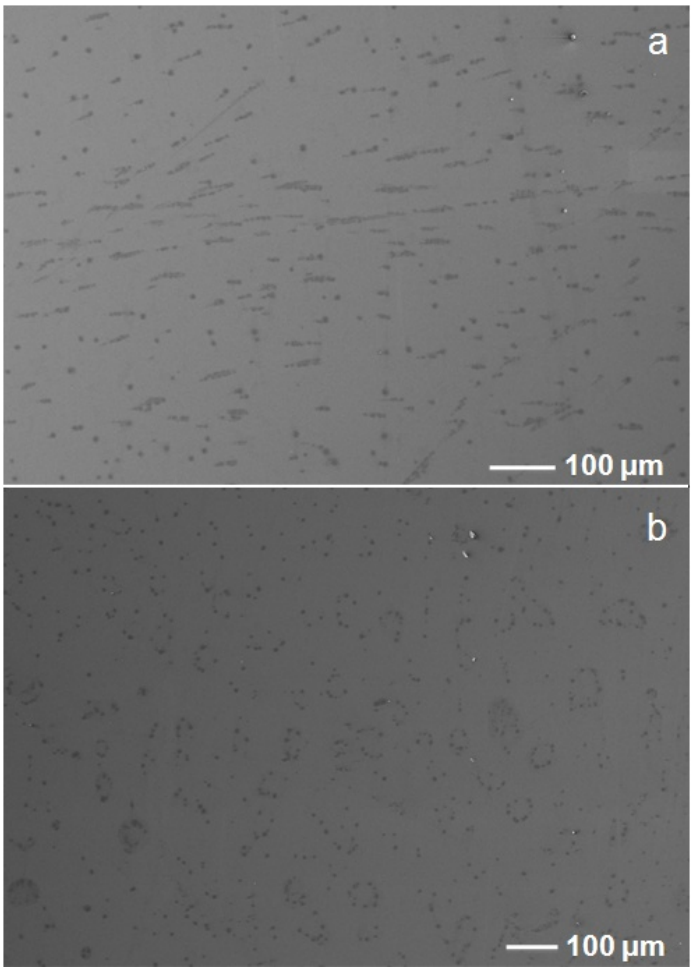

Figure S3. SEM images showing the patterns of satellite particles observed when (a) water, (b) DMF, was infused through the core-nozzle.

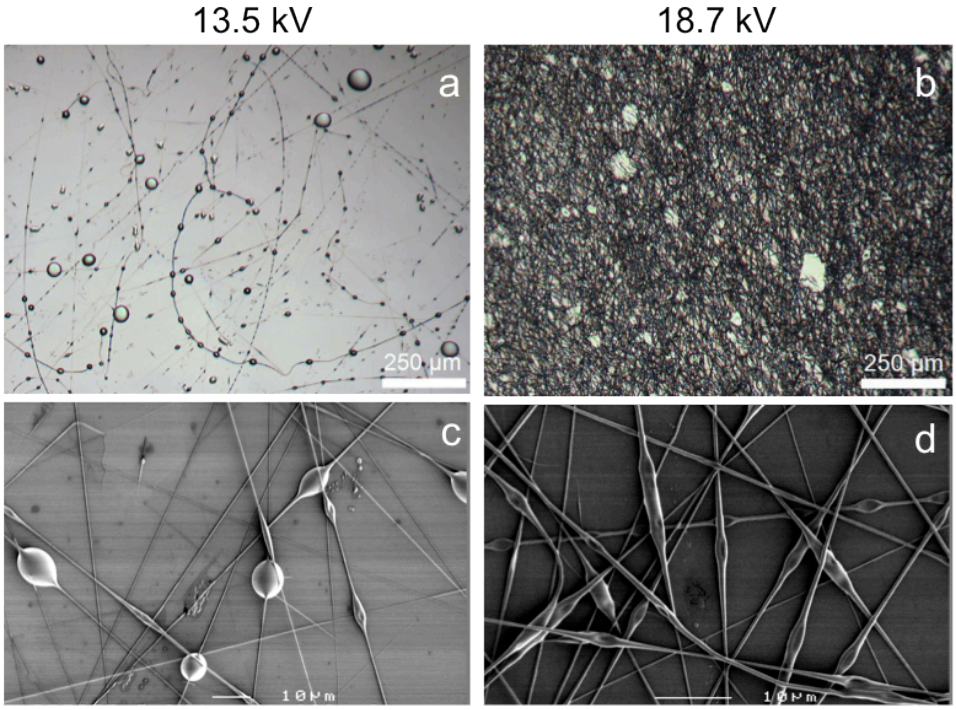

Figure S4. Increasing the applied voltage caused increased fibre formation and elongation of the beads on the fibres (a,c) 13.5 kV; (b,c) 18.7 kV. (a-b) are optical micrographs, (c-d) are higher magnification SEM images showing the elongation of the beads in (b).

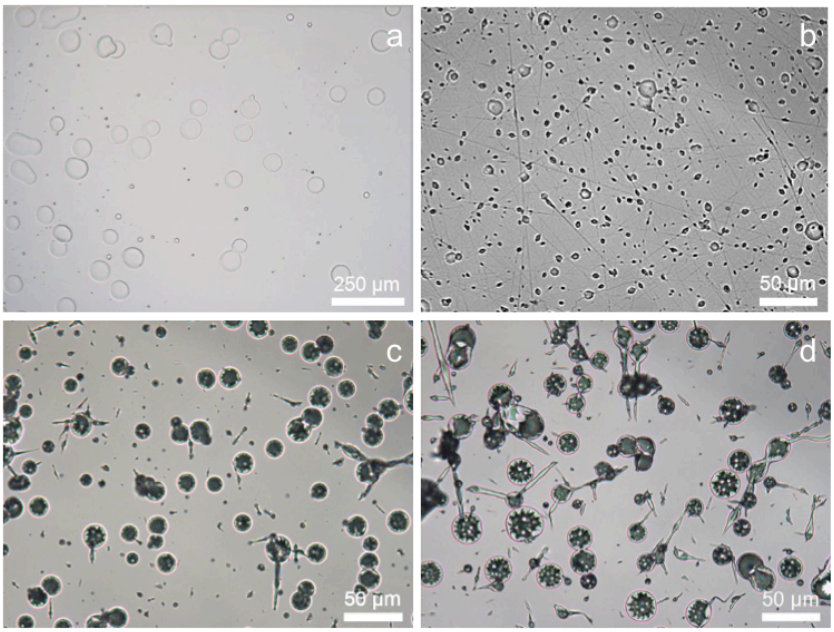

Figure S5. Optical micrographs showing the process occurring when PCL and PMSQ polymer solutions were infused through the sheath nozzle. Samples were collected at a voltage of 10 kV over 50 mm, and a sheath flow rate of 50 µl/min. (a-b) 7%w/w PCL solutions in acetic acid: (a) particles obtained without core liquid, (b) beaded fibres formed at 10 µl/min of core (water) flow rate; (c-d) 50%w/w PMSQ in ethanol solutions: alignment of secondary particles showing initial fibre formation at (c) 10 µl/min, (d) 20 µl/min of core (water) flow rate.