Supplementary Information

Drop-on-Demand Electrohydrodynamic Printing of Nematic Liquid Crystals

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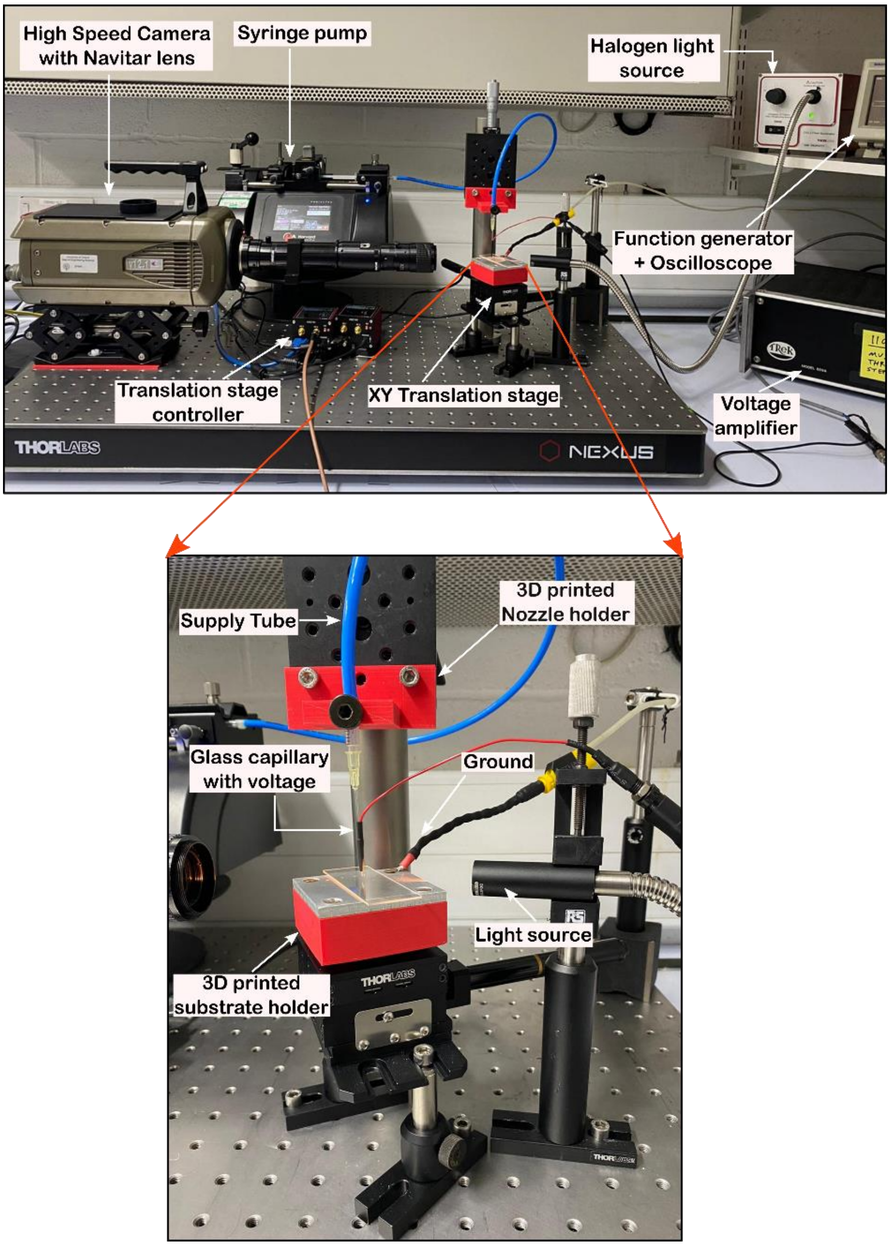

Figure S1: EHD Printing system. Photographs of the EHD printing system developed in this study. The key components are labelled.

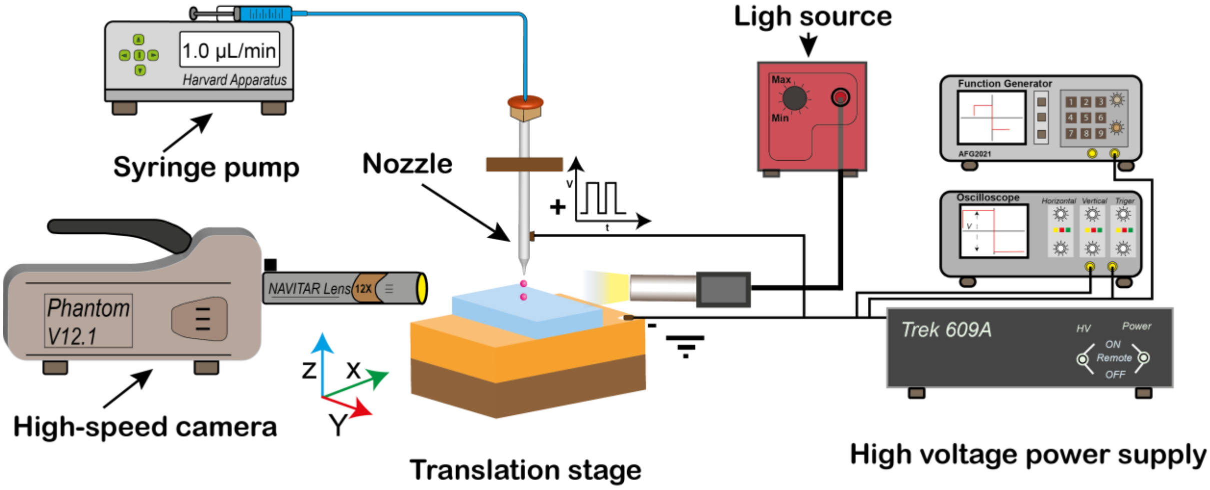

Figure S2: Graphical illustration of the EHD printing setup used to print nematic LC droplets.

Table S1: Material properties of nematic LC BL006 at a frequency of 1kHz and a temperature of 20 ^{o}C. A surface tension value for BL006 was not available and so a value for 5CB is presented to provide an indication of the typical order of magnitude.[51], [52]

Material Parameter	Value
Dielectric permittivity ($\epsilon_{\|\|}$)	22
Conductivity (Sm^{-1})	10^{-10}
Viscosity (mPa. s)	71
Surface tension ($mN \cdot m^{-1}$)	~29
Density ($kg \cdot cm^{-3}$)	1010

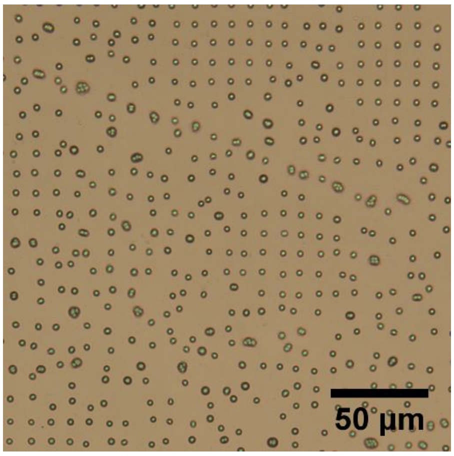

Figure S3: Poorly-controlled Taylor Cone mode EHD Printing. Optical microscope image of droplets printed in the Taylor Cone mode at 10 Hz pulse frequency.

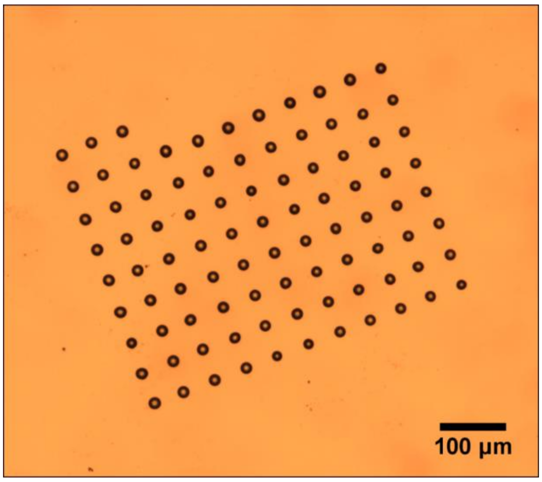

Figure S4: Optical microscopy image of EHD printed nematic LC droplets deposited onto glass substrates with a homeotropic alignment layer. The printing was performed in the microdripping mode with a 40 µm outer diameter glass capillary to form a well-defined controlled array.

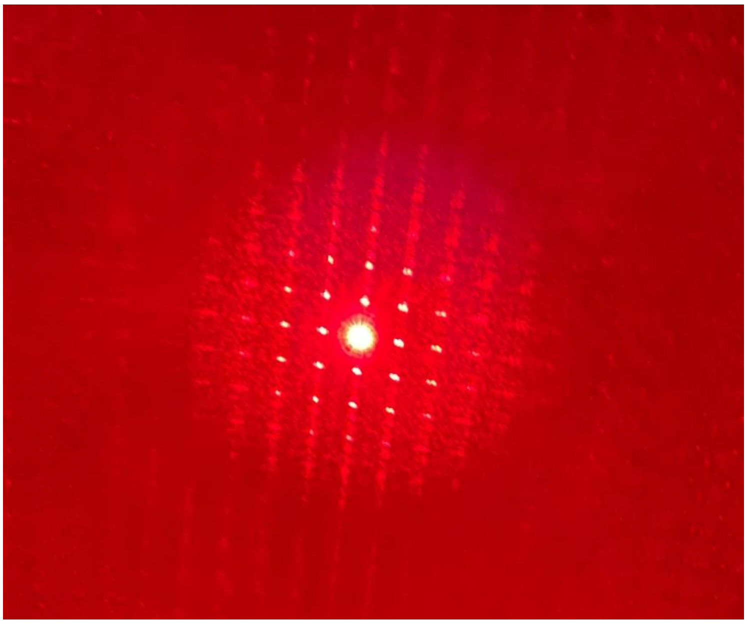

Figure S5: Far-field diffraction pattern of an EHD-printed nematic LC droplet array deposited onto glass substrates with a homeotropic alignment layer. A He-Ne laser emitting at λ = 632 nm was used to illuminate the printed LC array and the far-field diffraction pattern was observed on a white screen, which was subsequently captured using a CCD camera.