Shape-induced alignment and voltage-controlled switching in cholesteric droplets for smart film applications

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Figures S1 – S4 Step-by-step structure transformation in the oblate cholesteric droplet under increasing and decreasing the electric field.

Movie S1 – The structure transformation in the oblate cholesteric E7-based droplet (cholesteric pitch p_0=8.2 μm, dielectric anisotropy $\Delta\varepsilon > 0$, droplet aspect ratio $\delta \approx 0.2$) with $N_0 = 3.0$.

Movie S2 – The structure transformation in the oblate cholesteric CYLC-45-based droplet (cholesteric pitch p_0=16.0 μm, dielectric anisotropy $\Delta\varepsilon < 0$, droplet aspect ratio $\delta \approx 0.2$) with $N_0 = 2.4$.

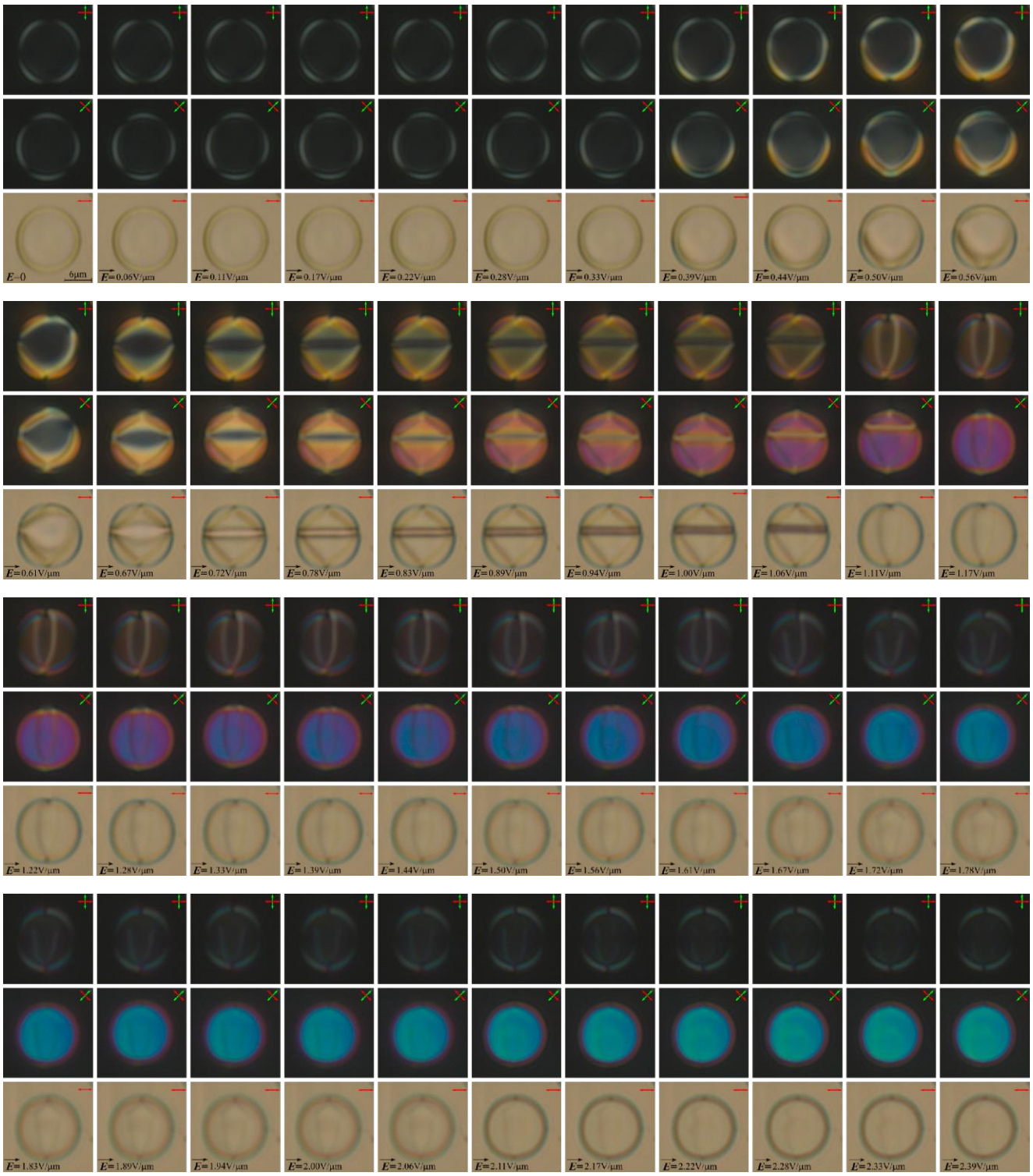

Figure S1 – Structure transformation in the oblate cholesteric E7-based droplet (cholesteric pitch p_0=8.2 μm, dielectric anisotropy $\Delta\varepsilon > 0$, droplet aspect ratio $\delta \approx 0.2$) under increasing the electric field applied in IPS cell with an electrode gap of 90 μm. The voltage was increased stepwise from 0 to 2.39 V/μm with in 0.055V/μm and a time interval of 10-15 s.

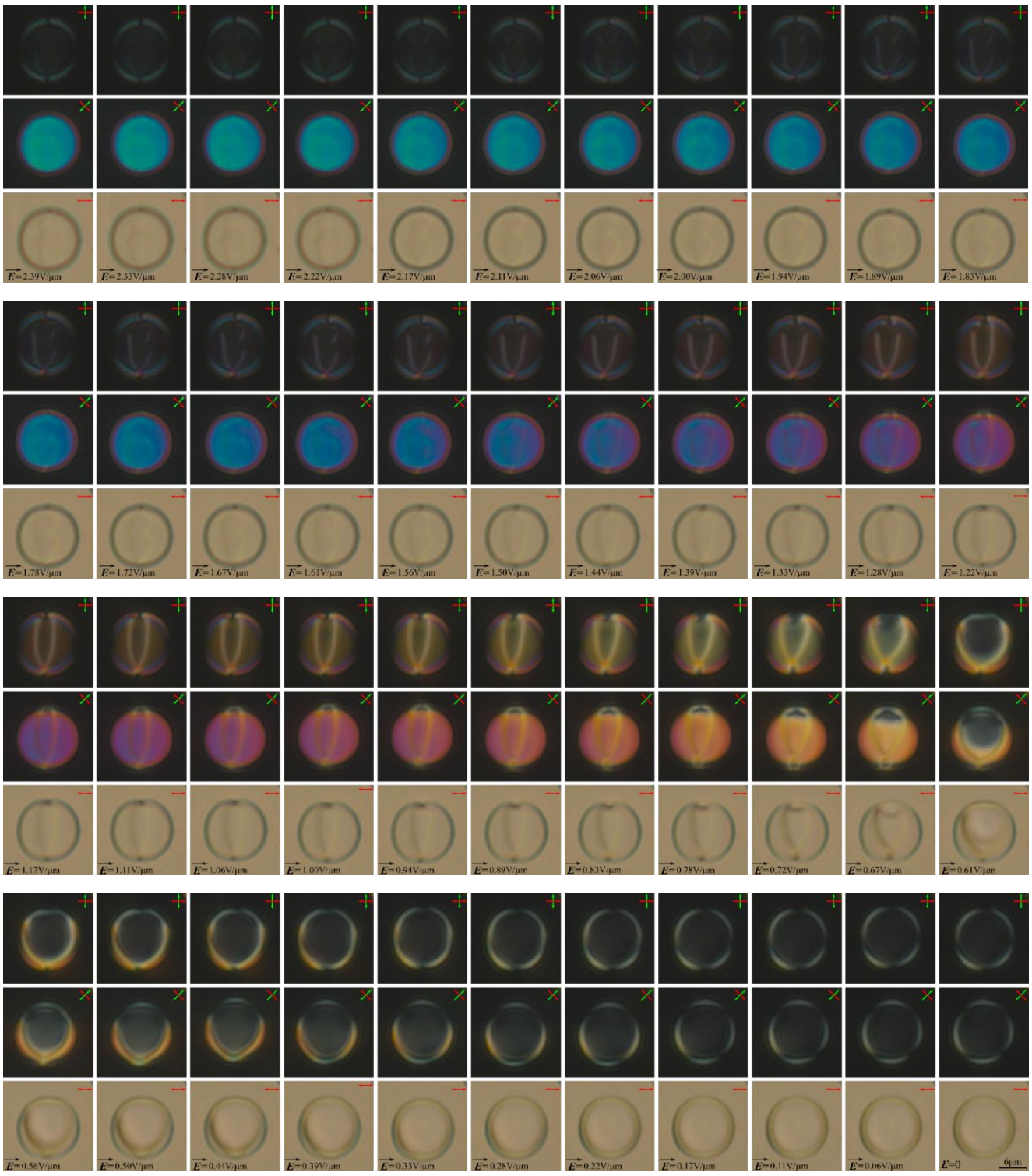

Figure S2 – Structure transformation in the oblate cholesteric E7-based droplet (p_0=8.2 μm, $\Delta\varepsilon > 0$, $\delta \approx 0.2$) under decreasing the electric field applied in IPS cell with an electrode gap of 90 μm. The voltage was decreased stepwise from 2.39 to 0 V/μm in 0.055V/μm and a time interval of 10-15 s.

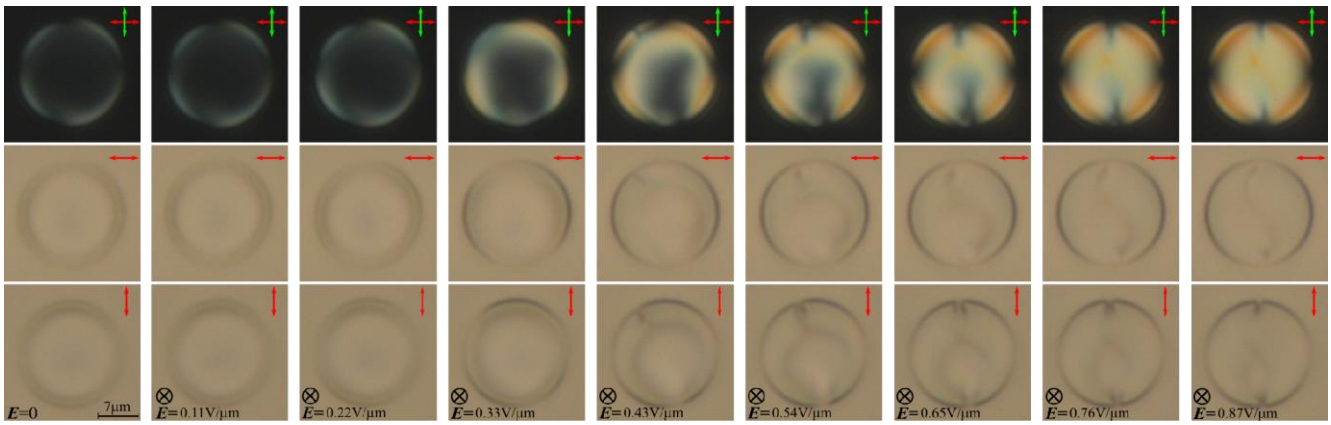

Figure S3 – Structure transformation in the oblate cholesteric CYLC-45-based droplet (cholesteric pitch p_0=16.0 μm, dielectric anisotropy $\Delta\varepsilon < 0$, droplet aspect ratio $\delta \approx 0.2$) under increasing the electric field applied in the sandwich cell (gap 4.6 μm). The voltage was increased stepwise from 0 to 0.87 V/μm in 0.108 V/μm and a time interval of 10-15 s.

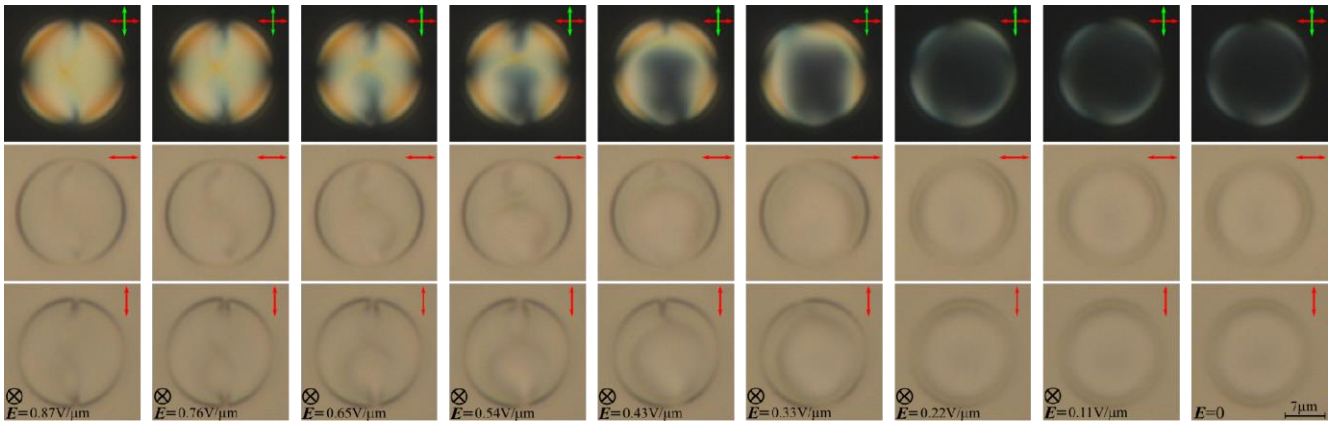

Figure S4 – Structure transformation in the oblate cholesteric CYLC-45-based droplet (p_0=16.0 μm, $\Delta\varepsilon < 0$, $\delta \approx 0.2$) under decreasing the electric field applied in the sandwich cell (gap 4.6 μm). The voltage was decreased stepwise from 0.87 to 0 V/μm in 0.108 V/μm and a time interval of 10-15 s.