Electronic Supplementary Information

Transition from Escaped to Decomposed Nematic Defects, and *vice versa*

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**Video 1**: Real time bright field video of Escaped Radial \((m = +1)\) to Split defect \((m = +1/2)\) transition in ZLI-4330 as voltage was ramped upward at \(\sim 1\ \text{V s}^{-1}\) in the neighbourhood of the threshold electric field \(E_{th} \sim 29.6\ \text{V \mu m}^{-1}\). Notice the jitter in the defect just before the transition occurs, and the co-rotation of the defects above the threshold. Scale bar corresponds to 15 \(\mu\text{m}\).

**Video 2**: Real time bright field video of transition from a pair of \(m = +1/2\) defects to an Escaped Radial configuration in 5CB as voltage was ramped upward at \(\sim 0.1\ \text{V s}^{-1}\) in the neighbourhood of the threshold electric field \(E_{th} \sim 0.28\ \text{V \mu m}^{-1}\). Scale bar corresponds to 15 \(\mu\text{m}\).

**Video 3**: Real time bright field video of Split defect \((m = -1/2)\) to Escaped Radial \((m = -1)\) transition in 5CB as voltage was ramped upward at \(\sim 0.32\ \text{V s}^{-1}\) in the neighbourhood of the threshold electric field \(E_{th} \sim 0.36\ \text{V \mu m}^{-1}\). The width of the half-integer defects is approximately 700 nm.

**Video 4**: Real time polarized microscope video after the transition from a pair of \(m = +1/2\) defects to an Escaped Radial configuration in 5CB as voltage was ramped downward at \(\sim 0.1\ \text{V s}^{-1}\). The video shows a dark ring, corresponding to an optical phase retardation \(\alpha = 4\pi\), collapsing toward the defect core as the director field returns toward the xy-plane away from the core with decreasing electric field. This indicates that the region beyond the dark ring has a retardation \(\alpha > 4\pi\). Scale bar corresponds to 15 \(\mu\text{m}\).

**Supplementary Figure 1**: Polarized microscope images of the ER to \(m = +1/2\) split defect. The threshold field is slightly larger for this defect than that shown in Fig. 5 of the main article, likely due to small differences in the surface scribing conditions.

Supplementary Figure 1: Polarized microscope images of ER to split defects at \(E = a) 0, \ b) 1.1, \ c) 35.1\ \text{V \mu m}^{-1}\). Then d) 35.1, e) 0 \text{V \mu m}^{-1}. Scale bar corresponds to 15 \(\mu\text{m}\).