

Supplementary Information

Topological Defects Induced by Air Inclusions in Ferroelectric

Nematic Liquid Crystals with Ionic Doping

Zhongjie Ma^a, Shengzhu Yi^{a,b}, Miao Jiang^a, Mingjun Huang^{c,d}, Satoshi Aya^{c,d}, Rui Zhang^b,
Qi-Huo Wei^{*a,c}

^a Department of Mechanical and Energy Engineering, Southern University of Science and Technology; Shenzhen, 518055, China.

^b Department of Physics, The Hongkong University of Science and Technology, Clear Water Bay, Hong Kong, China.

^c Guangdong Provincial Key Laboratory of Functional and Intelligent Hybrid Materials and Devices, South China University of Technology; Guangzhou 510640, China.

^d South China Advanced Institute for Soft Matter Science and Technology (AISMST), School of Emergent Soft Matter, South China University of Technology; Guangzhou 510640, China.

^e Center for Complex Flows and Soft Matter Research, Southern University of Science and Technology; Shenzhen 518055, China.

*Corresponding Authors

E-mail: weiqh@sustech.edu.cn

The file includes:

Figure S1-S3

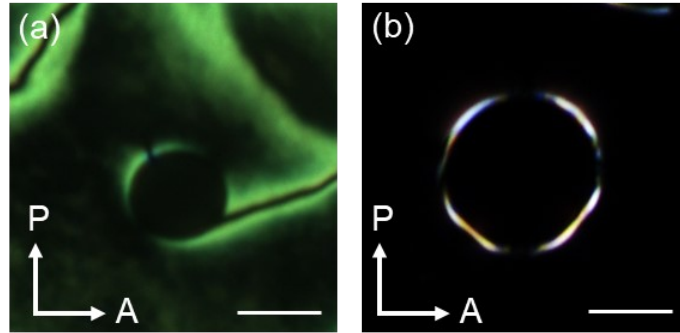


Figure S1 The cross polarized optical images of CTAB (a) and PDMAOP (b) doped RM734 in the N phase. The scale bars are 20 μm . The cell thickness is 5 μm .

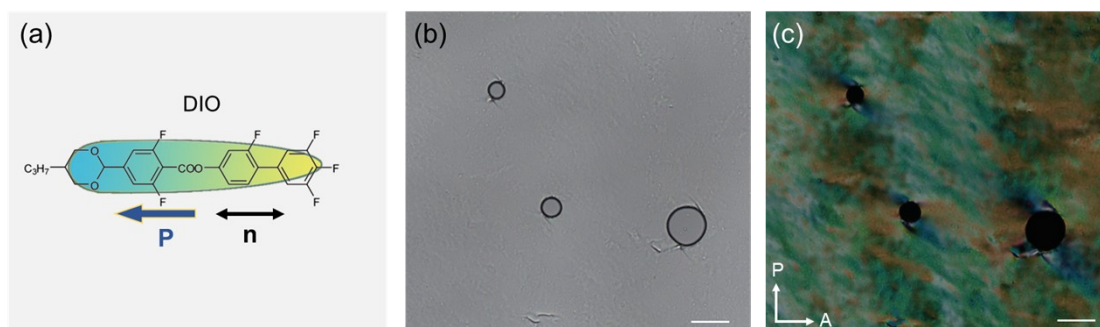


Figure S2 (a) The molecular structure of DIO. (b-c) Typical bright field (b) and cross polarized optical (c) image of topological defects around air inclusions for PDMAOP doped DIO (0.1 wt%). The images were obtained at 55°C and the texture is the chiral ground state. The scale bars are 50 μm . The cell thickness is 5 μm .

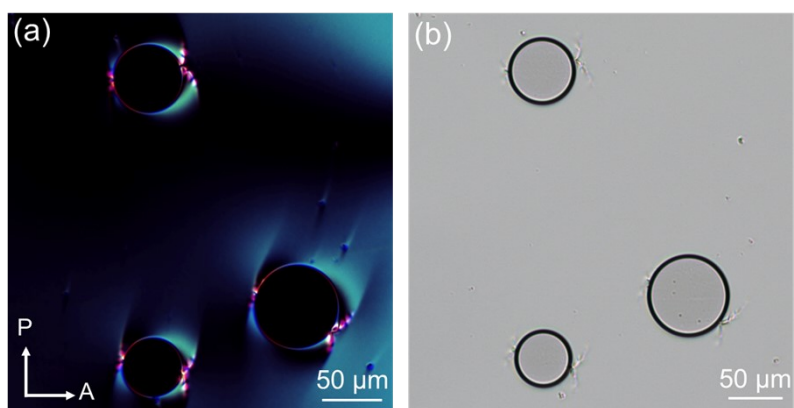


Figure S3 Polarized (a) and bright field (b) images of topological defects around air inclusions in PDTAC doped RM734. The cell thickness is 5 μm .