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Development and Studies of Nematic Liquid Crystalline Organic Semiconductors SALMA BEGUM, SANJOY PAUL, SUVAGATA TRIPATHI, ROBERT TWIEG, BRETT ELLMAN, Kent State Univ - Kent — A huge body of knowledge exists on the creation and alignment of films of nematic liquid crystals (LCs), raising the promise of electronic devices (OFETs, LEDs, etc.) where the structure of the semiconductor is simply controlled with major implications for device parameters. Nematic LCs, however, typically possess low mobilities due to disorder, and are also susceptible to effects due to ionic conduction and screening. We will present material classes of more practical nematic organic semiconductors as well as novel characterization techniques to measure the effects of ionic motion in the nematic phase.

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