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Elastic Response of Liquid Crystalline Mixtures JONATHAN WHITMER, Department of Chemical and Biomolecular Engineering, University of Notre Dame — Liquid crystalline (LC) materials comprised of multiple mesogenic species, or mesogenic species and dopants, are widely used industrially to obtain materials having specific viscous, optical, or elastic properties. While commonly used materials exhibit additive elastic constants in the homogenous liquid phase, it is less clear how these materials respond to inhomgenous applied stresses often occurring in confinement. Here we utilize coarse-grained LC models and a recently developed formalism for free-energy calculations to investigate the elastic coefficients of LC mixtures and their behavior under asymmetric stress.

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