

Abstract Submitted
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Textural transformations in lyotropic chromonic liquid crystals under confinement¹ ALIREZA SHAMS, Department of Chemical Engineering, McGill University, Montreal, Quebec H3A 2B2, Canada, XUXIA YAO, School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA, ALEJANDRO D. REY², Department of Chemical Engineering, McGill University, Montreal, Quebec H3A 2B2, Canada, JUNG OK PARK³, School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA, MOHAN SRINIVASARAO⁴, School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30332, USA — Lyotropic chromonic liquid crystals under capillary confinement display textural transformations between planar radial and planar polar modes, in which a +1 disclination branches into two +1/2 lines. The texture transformation is characterized by the nature and kinematics of the branch point, the aperture angle, and the shape of the lines. This work presents and validates a model of these four phenomena, which yield the viscoelastic moduli of these novel mesophases.

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²Corresponding Author.

³Center for Advanced Research on Optical Microscopy, Georgia Institute of Technology, Atlanta, GA 30332, USA

⁴School of Materials Science and Engineering and Center for Advanced Research on Optical Microscopy, Georgia Institute of Technology, Atlanta, GA 30332, USA

Alireza Shams
Department of Chemical Engineering, McGill University,
Montreal, Quebec H3A 2B2, Canada

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