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**Chiral amplification and sensing of chirality with lyotropic chromonic liquid crystals.** MOHAN SRINIVASARAO, JUNG OK PARK, JINXIN FU, KARTHIK NAYANI, RUI CHANG, Georgia Institute of Technology — Due to the anisotropic elastic properties of lyotropic chromonic liquid crystals (LCLCs), a spontaneously twisted chiral structure has been reported in the achiral LCLCs system under cylindrical confinement. It is found that the handedness of chirality could be biased with a minute amount of a chiral additive. The entire system becomes "homochiral" and takes on the handedness of the additive. When 1% by weight of L-glutamic acid was added to LCLCs in a cylinder, the LCLC sbecomes homochiral and possesses giant optical rotation. We explore the mechanism for this based on the "sergeants-and-soldiers" and the "majority-rule" principles known for organic molecular systems.

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