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Computer simulations of the self-assembly of chiral superstructures from rigid achiral constituents CHRISTOPHER HIXSON, FANGYONG YAN, DAVID EARL, Department of Chemistry, University of Pittsburgh — We present the results of computer simulations of an achiral rigid bent-core model system at a range of temperatures and densities. We observe nematic and smectic phases, but more interestingly observe chiral micelles and columns at lower densities. The origin of these chiral features are explored using minimization techniques and parallel tempering searches. We show that chiral structures are minima of the potential energy surface. Additionally, we show that the addition of chiral dopant induces the system to order into a single twist direction.[1]

[1]Fangyong Yan, Christopher Adam Hixson, and David J. Earl, Phys. Rev. Lett. **101**, 157801 (2008)

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