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Effect of blending on nematic order in semiflexible polymers KIRAN KHANAL, JUTTA LUETTNER-STRATHMANN, Departments of Physics and Chemistry, University of Akron — Semiflexible polymers of sufficient stiffness exhibit liquid crystalline order at sufficient polymer concentrations. In this work, we investigate blends of flexible and semiflexible polymers with the aid of Monte Carlo simulations of a bond-fluctuation model. The model is an extension of Shaffer's bond-fluctuation model, where chain stiffness is controlled by including different forms of bending penalties, and includes attractive interactions between monomers. From simulations for a range of values of the bending energy, density, and temperature, we determine the effect of concentration of the flexible polymer on liquid crystalline order and domain formation.

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