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Effect of carbon nanotubes on the crystallization and ordering behavior of liquid crystals GEORGI GEORGIEV, ERIN GOMBOS, MICHAEL MCINTYRE, Assumption College, ROBERT JUDITH, PEGGY CEBE, Tufts University, ASSUMPTION COLLEGE COLLABORATION, TUFTS UNIVERSITY COLLABORATION — We used carbon nanotubes (CNTs) to affect the crystallization behavior of smectic, cholesteric and nematic liquid crystals and of their blends at different compositions. Using polarized microscopy and microscopic transmission ellipsometry we observed significant change in the crystal structure and orientation. The carbon nanotubes served as nucleation centers for crystal growth. Differential Scanning Calorimetry results showed large shifts in the phase transition temperatures. This is due to the effect of the CNTs on the crystallization kinetics. Research supported by: Assumption College Faculty Development Grant, funding for students' stipends, instrumentation and supplies, the NSF Polymers Program of the DMR, grant (DMR-0602473) and NASA grant (NAG8-1167).

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