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**Competition between liquid crystalline (LC) ordering and block copolymer (BCP) microphase separation in a series of LCBCPs** KISHORE TENNETI, Drexel University, XIAOFANG CHEN, Peking University, CHRISTOPHER LI, Drexel University, XINHUA WAN, QI-FENG ZHOU, Peking University, LIXIA RONG, BENJAMIN HSIAO, Stony Brook University, DREXEL UNIVERSITY TEAM, PEKING UNIVERSITY COLLABORATION, STONY BROOK UNIVERSITY COLLABORATION — A comprehensive study displaying a rich variety of liquid crystalline (LC) phase structures (SmA, ColN, ColH, ColR) and block copolymer (BCP) morphologies (tetragonal perforated and transverse-parallel lamellae) observed in liquid crystalline LCBCP systems will be presented. The systems under investigation differ in the flexibility of interactions between the mesogen and polymer backbone. Both covalent and non-covalent interactions are investigated in a series of mesogen-jacketed-, side-chain- and hydrogen bonded- LCBCPs and the influence of composition and molecular architecture on the final phase behavior will be presented. The factors that lead to the domination of either LC ordering or BCP microphase separation will also be reported.

Kishore Tenneti  
Drexel University

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