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Surface-induced structure formation of polymer dispersed liquid crystals on chemically gradient substrate JUN WANG, Iowa State University, JIANFENG XIA, Fudan University, SUCK WON HONG, Iowa State University, FENG QIU, Fudan University, ZHIQUN LIN, Iowa State University — We investigate that the domains of polymer dispersed liquid crystals (PDLC) thin film can be directed into ordered structures by a chemically gradient substrate. A unique phase separation kinetics was observed. The pattern on the substrate was successfully transferred to the PDLC film, resulting in alternating LC rich phase and polymer rich phase as confirmed by confocal Raman measurements. This simple yet novel approach enables the organization of micrometer size LC domains in thin polymer matrix without photo irradiation.

Jun Wang
Iowa State University

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