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Blue-shifting tuning of the selective reflection of polymer stabilized cholesteric liquid crystals†

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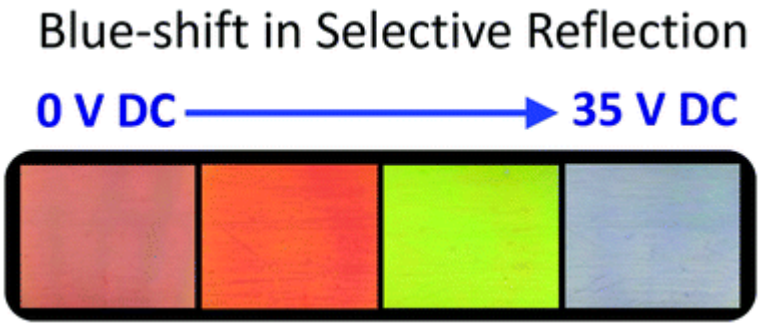
Abstract

We report on electrically-induced, large magnitude (>300 nm), and reversible tuning of the selective reflection in polymer stabilized cholesteric liquid crystals (PSCLCs) prepared from negative dielectric anisotropy nematic liquid crystal hosts. The electrically-induced blue shift in the selective reflection of the PSCLCs is distinguished from our prior reports of bandwidth broadening and red-shifting tuning of the selective reflection in PSCLCs. The dominant factor in delineating the electro-optic response of the PSCLCs detailed here are the preparation conditions. Specifically, long exposure to UV intensity exceeding 250 mW

cm^{-2}. Other factors are shown to contribute to the response, including the type and concentration of photoinitiator.



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Supplementary files

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WMV (1404K)

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