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**Photophysics of guest-host liquid crystal systems containing naphthopyran derivatives** MARIACRISTINA RUMI, Air Force Rsch Lab - WPAFB, TAMAS KOSA, LUDMILA SUKHOMLINOVA, BAHMAN TAHERI, Alpha Micron Inc., TIMOTHY WHITE, TIMOTHY BUNNING, Air Force Rsch Lab - WPAFB — Photoinduced order-increase changes can be observed in guest-host liquid crystal systems containing certain phototropic species, such as naphthopyrans. We are investigating the dynamics of the naphthopyran photoinduced interconversion reaction and the related liquid crystal order increase process as a function of excitation conditions and temperature. The thermal relaxation from different photostationary states is also been monitored. The guest-host system behavior is compared with that of the same guest species in isotropic media and other photoresponsive materials in liquid crystalline media, to determine if the naphthopyran interconversion reaction is affected by the anisotropy of the environment surrounding the guest molecules. This will provide a better understanding of the mutual influence of the guest and host molecules on the properties of the photoresponsive mixed systems.

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