

Abstract Submitted
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Novel chiral dopants: Light and environmental sensitivity SETH BOURG, SHANNON ROSARIO, PETR SHIBAEV, Fordham University, Department of Physics — The effectiveness of novel chiral dopants based on compounds able to form hydrogen bonds is studied for the compounds themselves, their hydrogen-bonded associates with non-chiral light sensitive molecules and with other chiral dopants. The effect of association is discussed in terms of the chemical structure and the shape of the substitute. Light irradiation of chiral hydrogen-bonded associates based on light sensitive azo-derivatives leads to changes of twisting power of the latter. This change is compared to that produced by chemical bonding between chiral dopants and associates. The behavior of chiral dopants in different liquid crystalline matrices is studied, and the response of liquid crystals to environmental changes, manifested not only in changes of helical pitch [1] but also in structural changes, is discussed.

[1] P.V. Shibaev, D. Chiappetta, R. L. Sanford, P. Palffy-Muhoray, M. Moreira, W. Cao, M. M. Green, *Macromolecules*, 39, 3986 (2006).

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