

Photophysical and Photochemical Properties of Green Fluorescent Liquid Crystalline Systems

Ivo Grabchev and Jean-Marc Chovelon^a

Institute of Polymers, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

^a Université Claud Bernard - Lyon 1, Laboratoire d'Application de la Chimie à l'Environnement (LACE), CNRS - UMR 5634, 43, boulevard du 11 novembre 1918, F-69622 Villeurbanne Cedex

Reprint requests to Prof. I. G.; E-mail: grabchev@polymer.bas.bg

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The photophysical properties of polymer-dispersed liquid crystal systems, containing naphthalimide dye as fluorescent units are reported. Investigations have been carried out on some 1,8-naphthalimide derivatives both in isotropic and anisotropic media, and their photophysical properties have been described. The orientational order parameters of the dyes in nematic liquid crystal ZLI 1840 have been determined. The photostability of the dye/liquid crystal systems has been investigated and the effect that the substituents in the naphthalimide structure have upon the orientation of the dye was discussed.

Key words: Liquid Crystal Display; Polymer-dispersed Liquid Crystal; 1,8-naphthalimide Dyes; Photodegradation; Photophysics.