Photophysical Properties of Fluorescent Copolymers of Methylmethacrylate for Use in Liquid Crystalline Systems

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The free radical copolymerisation of five fluorescent 4-allylamino-*N*-phenyl-substituted 1,8-naphthalimide dyes (MDs) with methylmethacrylate (MMA) has been investigated. The utility of the copolymers prepared as fluorescent component in polymer/liquid crystal systems has been investigated. The basic photophysical properties of monomeric dyes, poly(MMA-co-MD) and poly(MMA-co-MD)/liquid crystal mixtures are discussed. The influence of poly(MMA-co-MD) on the phase transition temperature from the nematic to the isotropic state of poly(MMA-co-MD)/liquid crystal mixtures have also been investigated.

Key words: Fluorescence Polymers; Polymethylmethacrylate; 1,8-Naphthalimide; Liquid Crystals; Photophysics.