

Dyes with potential application in photochromic materials

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Abstract Photochromic compounds are able to change their absorption spectra when exposed to light or dark conditions. This process is reversible when the photochromic moieties exist, as usually occurs, in two different forms, whose relative concentration depends on the wavelength of incident light. Polymers with side-chain photochromic groups have recently attracted a great deal of interest because the photoisomerisation of the chromophores can induce reversible variation of the macromolecular structure and hence their physical properties. The present paper reports the photochromic response of polymer structures modified with "classical" azo dyes. It discusses the importance of the polymeric support nature, in the chemical transformation process and from the magnitude of the signal in the UV-Vis spectra. We investigated the polymer support of maleic anhydride copolymers modified with azo dyes in the amic and, respectively imides forms.

Keywords: photochromic dyes, polymer, maleic anhydride.
