

Polarity Dependent Photoisomerization Of Ether Substituted Azodyes: Synthesis And Photoswitching Behavior

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ABSTRACT

Two new ether substituted azodyes were synthesized and characterized by different spectral analysis such as ¹H NMR, ¹³C NMR, FTIR and UV/Vis. Synthesized compounds were used to study the photoisomerization phenomenon by using UV-Vis spectro-photometer. Interesting polarity dependent effect is observed for the first time on these materials. *Trans-cis (E-Z)* and *cis-trans (Z-E)* conversion occurred within 41 s and 445 min, respectively for both the compounds in solutions. Polarizing optical microscopy studies revealed that there is no liquid crystal phase for both the compounds. The dramatic variation in the optical property is speculated to be the polarity of the chemical species. These derivatives are useful to fabricate optical data storage devices.

KEYWORDS: Photoisomerization; Polarity; E/Z isomers; Back relaxation; Azodyes

[DOI:10.1016/j.saa.2015.05.027](https://doi.org/10.1016/j.saa.2015.05.027)