

Nonlinear optical properties of selected natural pigments extracted from spinach: Carotenoids

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Description

They are report here, for the first time in authors knowledge, results on third order nonlinear optical susceptibilities from a series of natural pigments extracted from spinach. The measurements were performed in-situ at 532 nm wavelength using degenerate four wave mixing technique (DFWM). For comparison third order nonlinear optical susceptibilities of the same pigments were also evaluated using third harmonic generation (THG) set up at 1064 nm. The electronic contribution to the observed properties was also deduced. The measurements were performed on thin films deposited on a thick glass substrate. These pigments were also identified by UV–VIS spectral analysis. All these results were in good agreement with the literature data.