SPECTROSCOPIC STUDY OF COUMRAINS AS A POTENTIAL LASER MATERIAL

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A detailed analysis of electronic absorption and fluorescence spectra of coumarin dyes in sol-gel matrix and several polar and non polar liquid solvents are reported in the region 190- 400 nm. The effect of solute concentration on the relative intensities of the absorption bands is studied. The CNDO/S-CI- method is used to calculate the electronic transitions of coumarins with the optimised geometries. A good agreement is observed between the experimental and theoretical results. Study of spectral shifts supported by the theoretical results leads us to predict coumarins as a potential laser material.