EXCITED STATE ELECTRIC DIPOLE MOMENT OF TWO SUBSTITUTED INDOLES THROUGH SOLVATOCHROMIC SHIFTS

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The determination of excited state electric dipole moment through solvent shifts is one of the easiest approaches to understand the molecular structure in the excited state. These studies have gained importance due to their application in photo science, especially if they are of biological importance. In view of this the excited state electric dipole moments of two substituted indoles, which are of biological importance, are determined and reported here. The fluorescence shifts have been used and the results found seem to be more consistent in comparison with the one calculated through absorption shifts. The results presented are also discussed. A qualitative estimate of the orientation of the dipole moments in ground and excited state are also presented and discussed. Of the several methods proposed, the one proposed from N.H.Ayachit[1], N.H.Ayachit et al [2] and N.H.Ayachit G.Neeraja Rani[3] is used in view of the several advantages it has. References: 1.N.H.Ayachit, Chemical Physics Letters 164, 272(1989). 2.N.H.Ayachit, D.K.Deshpande, M.A. Shashidhar and K. Suryanarayana Rao, Spectrochimica Acta, 42A, 585, 1405(1986). 3.N.H.Ayachit and G.Neeraja Rani, Physics and Chemistry of Liquids,45, 41(2007).