Supporting Information for Publication Only

Using the Abe's approach [1] we have evaluated the changes undergone by the indole compounds on electronic photoexcitation in its dipole moments and isotropic polarizability. This approach is given by the equation :

$[(\mu_i)^2 - (\mu_0)^2] + (\alpha_i) \cdot A = B$

Where μ_i and μ_0 are the dipole moments of the chromophore in the excited and ground states, respectively, which are involved in the electronic transition, and α_i is the isotropic polarizability of the excited electronic state. of its slope we can obtain the isotropic polarizability for the chromophore, and of its ordinate at the origin we can obtain the dipole moment for the excited electronic state.

Where

$A = 3 \text{ x } [(2(\varepsilon^s - (n^s)^2)(\varepsilon^s + (n^s)^2)) / \varepsilon^s ((n^s)^2 + 2)^2 + ((n^s)^2 - 1) / ((n^s)^2 + 2)]^{-1} \text{ x } [kt \text{ x } ((\varepsilon^s - (n^s)^2) (2\varepsilon^s + (n^s)^2) / \varepsilon^s ((n^s)^2 + 2)^2 + 0.5 ((n^s)^2 - 1) / ((n^s)^2 + 2))) (I^s(I - hc\nu)) / (I^s + I - hc\nu)]$

and

$B = 3 \text{ x } [(2(\varepsilon^s - (n^s)^2)(\varepsilon^s + (n^s)^2)) / \varepsilon^s ((n^s)^2 + 2)^2 + ((n^s)^2 - 1) / ((n^s)^2 + 2)]^{-1} \text{ x } [kt \text{ x } ((\varepsilon^s - (n^s)^2) (2\varepsilon^s + (n^s)^2) / \varepsilon^s ((n^s)^2 + 2)^2 + 0.5 ((n^s)^2 - 1) / ((n^s)^2 + 2))) \text{ x } (I^s \text{ x } I / I^s +)) (\alpha_0) - 8.351 \text{ x } 10^{-42} \text{ x } (\rho^s/M^s)^{1/3} \text{ x } \Delta\nu \text{ x } (((M/\rho)^{1/3} + (M^s/\rho^s)^{1/3})^{-4} + ((M/\rho)^{1/3} + 3(M^s/\rho^s)^{1/3})^{-4} + ((M/\rho)^{1/3} + 5 (M^s/\rho^s)^{1/3})^{-4})^{-1}]$

The notations s will refer to solvent.

The values of A and B can be calculated from observed values of : molecular mass (M), densities (ρ), refraction index (n), dielectric constant(ε), ionization potential(I) and electronic transition energies(ν). The corresponding densities, refraction index and dielectric constant of the ClB to the different studied temperatures are dear from the measured values of these magnitudes [2-4].

[1] Abe, T. *Bull. Chem. Soc. Japan* **1966**, 39, 936.

[2] Smyth, C.P.; Rogers, H.E. *J. Am. Chem. Soc.* 52, 2227 (1930).

[3] Audsley, A.; Goss, F.R. *J. Chem. Soc.* 497 (1942).

[4] Harris, F.E.; Haycock, E.W.; Alder, .J. *J. Chem. Phys.* 21, 1943 (1953).