# PHOTOCHEMISTRY OF INTRAMOLECULAR CHARGE TRANSFER MOLECULES

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A molecule with intramolecular charge transfer character is very useful for the investigation interfacial properties of complex systems and micropolarity and microviscosity in heterogeneous systems. We have studied many nitro substituted aromatic systems in homogeneous solutions and microheterogeneous media.

We have studied solvatochromic effects of 4-(4′-nitrophenylazo)-1-naphthol (NPNOH) and changes in physical properties in micellar media. Hydrogen bonding effects significantly affect electronic transition energy obtained in homogeneous solutions. Electronic transition energy of NPNOH solubilized in micellar solutions suggests that the nitro group of NPNOH orients towards the interface. NPNOH was deprotonated with strong base and generated $NPNO^-$. The nitro group of $NPNO^-$ resides, however, far from the interface of micellar media. A solubilization process of NPNOH in micellar solutions was studied. The absorption spectrum of Octadecyl 4-(4′-nitrophenylazo)-1-naphthylether (NPNOR) was obtained in Langmuir-Blodgett film. J-aggregate was formed with NPNOR.

4-hydroxy-4′-nitrosilbene(HN) in homogeneous solutions and micellar media was studied. Hydrogen bonding interaction and solvatochromic effect were studied in homogeneous solutions and micellar media. Significant hydrogen bonding interaction was involved in solvatochromic shift of HN. Assessment of solubilization sites of HN in micellar media was studied. Broad range of solubilization sites are available for HN in micellar media. The absorption spectrum and fluorescence spectrum of HN were investigated.

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