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Fluorescence emission color changes of acrylonitrile derivatives, structure and optical properties

Solid state lighting (SSL) of organic chromophores has attracted much attention due to their potential applications in devices such as light-emitting diodes, photovoltaic devices and sensors. Tuning and controlling the wavelength of emission of an organic material is crucial to identify the appropriate application and the optical properties of different dyes in the solid state and strongly depend on the molecular structure and intermolecular interactions. Recently, organic chromophores that exhibit quenching of fluorescence in the solid state have been reported and this phenomenon is termed as aggregation caused quenching (ACQ). Herein, we report results from optical characterization (absorption and emission) of α , β -unsaturated acrylonitrile with structures of electron donor D- π -A acrylonitrile derivatives. The investigation reveals differences in the characteristic emission such as an enhancement in fluorescence in solvent, as well as in the solid state. Their photophysical properties have been investigated to evaluate the effect of the substituents, which afforded a dye that exhibited emission depending of the morphology.

Biography

María J Percino received her first degree in Chemistry at the Universidad Autónoma de Puebla, Mexico and MSc in Inorganic Chemistry at Universidad Nacional Autónoma de Mexico. Her PhD in Polymer Chemistry at Al-Farabi KazNU ex-URSS. Her area of research interest is polymerization process, synthesis of functional monomers as well as the design and crystals engineering of organic compounds to study photoluminescence, conductivity and supramolecular chemistry. She has published more than 65 papers in reputed journals.

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