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Newly synthesized schiff bases: Structure analysis, theoretical IR, UV, ¹H, ¹³C-NMR spectra and structure-activity relationship

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Schiff bases are most widely used organic compounds. They are used as pigments and dyes, catalyst, intermediates and polymer stabilizer. They exhibit a biological activities, including antifungal, antibacterial, antimalarial, antiproliferative, anti-inflammatory, antiviral, antipyretic, and herbicide properties. Furthermore, they have anti-tumor activity. These are widely applicable in analytical determination, using complex formation reactions, utilizing the variation in their spectroscopic characteristics following changes in pH and solvent. They have been used for manufacturing organic light emitting diodes having significant applications in night-vision readable displays, optical communications, laser technology and optical sensors recently [1]. To understand the mechanism of these properties, we need to some physicochemical properties of the five Schiff bases (Figure 1) synthesized by our group. Their structures were elucidated by ¹H-NMR, ¹³C-NMR. Two out of the Schiff bases are original. Their properties have been searched DFT method with Gaussian 09 [2] program (B3LYP/6-311++G(d,p)) and compared with experimental values.

Biography

Ulku Dilek Uysal has completed her PhD in 2001 from Gazi University and postdoctoral studies from Intitute of Chemical Technologies of Italian National Council of Research (CNR). She is proffessor of Anadolu University at Chemistry Department. She has published more than 25 papers.

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