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Preparation, thermal and spectroscopic investigation of fluorine compounds bearing 5,6-diphenyl-1,2,4-triazine-3-hydrazone moieties

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Abstract

This study reports the preparation, thermal and spectroscopic evaluation of a series of new fluorine compounds containing nitrogen heterocyclic aromatic systems. In addition, the resulted products of fluorine labeled heterocyclic compounds were in good yield and purity. The characterization of these compounds was performed using ¹H NMR spectroscopy, FT-IR spectroscopy, thermal gravimetric analysis, UV-VIS spectroscopy and fluorescence spectroscopy. The results obtained using ¹H NMR and FT-IR measurements were in good agreement with chemical structure of synthesized fluorine labeled compounds. Thermal gravimetric analysis data suggested that fluorine labeled compounds have good thermal stability. The optical behavior of newly prepared fluorine labeled compounds provided that these compounds have significant absorption in the UV region. In addition, all fluorine compounds, except for chromone hydrazine derivatives (VI) are found to have very weak fluorescence background, which may lead to the advantages of using fluorine labeled compounds in optical studies of the other solutes.

Author Keywords

5,6-Diphenyl-1,2,4-triazine-3-hydrazones; Fluorescence; Fluorine substituted compounds; Thermal analysis; UV-VIS

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