

Design of Dendritic Molecules Bearing Donor-Acceptor Groups (Pyrene-Bodipy): Optical and Photophysical Properties

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Abstract : In this work, we report the synthesis of a novel series of dendritic molecules bearing donor-acceptor groups (pyrene-bodipy) with potential applications in energy transfer. Initially, first and second generation Fréchet type dendrons (Py2-G1OH and Py4-G2OH) were prepared from 1-pyrenylbutanol and 3,5-dihydroxybenzylic alcohol. These compounds were further linked to a bodipy unit via an esterification reaction in order to obtain the desired products (Bodipy-G1Py2) and Bodipy-G2Py4). These compounds were fully characterized by FTIR and ¹H and ¹³C NMR spectroscopy and their molecular weights were determined by MALDITOF. The optical and photophysical properties of these molecules were evaluated by absorbance and fluorescence spectroscopy, in order to compare their behaviour with other analogue molecules.

Keywords : bodipy, dendritic molecules, optical properties, pyrene

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