

Synthesis and Characterization of Chromenofromimidate

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Abstract : Chromenederivatives are an important class of heterocycles that are found in a wide range of natural products. Chromenes are commonly used as cosmetics, food additives, and possibly biodegradable agrochemicals. Recently, the synthesis of chromene derivatives has drawn more attention due to their pharmacological and biological applications. In the present work, we are interested in the synthesis and characterization of chromeno [2,3-b] pyridin-4-yl) formimidate, carried out in 4 steps: (i) the synthesis of 3-cyanoiminocoumarins is realized first by Knoevenagel reaction by reacting malonitrile with variously substituted o-phenolic benzaldehydes. In order to undergo reduction by sodium tetraborohydride NaBH₄ to lead to new 2-amino-3-cyano-4H-chromenes, these compounds were easily transformed by the action of malonitrile leading to 2,4-diamino-5H-chromeno [2,3-b] pyridine-3-carbonitrile under microwave activation. For the final step, the action of triethylorthoformate on 2,4-diamino-5H-chromeno [2,3-b] pyridine-3-carbonitrile leads to new chromeno [2,3-b] pyridinoheterocycles. -4-yl) formimidate. The synthesized compounds have been characterized by different spectroscopic techniques ¹H-NMR, ¹³C-NMR, and IRTF.

Keywords : chromene, microwave, knovenagel condensation, chromeno [2, 3-b] pyridine

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