

Microwave-Assisted Synthesis of a Class of Pyridine and Purine Thioglycoside Analogs

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Abstract : Microwave-assisted synthesis of a new class of pyridine or purine thioglycoside analogs from readily available starting materials has been described. The key step of this protocol is the formation of sodium pyridine 4-thiolate 4 and pyrazolo[1,5-a]pyrimidine-7-thiolate 5 derivatives via condensation of 1 with cyanoacetanilide derivative 2 or 5-aminopyrazole derivative 3 respectively under microwave irradiation, followed by coupling with halo sugars to give the corresponding pyridine and purine thioglycoside analogs. The obtained compounds were evaluated in vitro against lung (A549), colon (HCT116), liver (HEPG2), and MCF-7(breast) cancer cell lines. Some of them recorded promising activities.

Keywords : antitumor, cyclic sugars, pyrazoles, pyridines, pyrimidines, purines, thioglycosides

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