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Bio–chemical study of synthesized various compounds of anil– arabinose compound

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ABSTRACT - In this paper, series of various organic compounds [1-11] were synthesized from anil –arabinose compound, which contain two imine –groups can be react as starting material with other compounds (sodium azide, chloro acetyl chloride, azo compound, thiol, secondary amine, maleic anhydride, primary amine) to produce cyclic and open cyclic compounds from (azitidine, form azane, diazepine, thiazine, diazane, sulfide). A detailed discussion of the structural elucidation of newly synthesized compounds [1-11] was confirmed by (melting points, elemental analysis C.H.N, FT.IR, H.NMR)–spectra, and antimicrobial study on the Gram –positive and Gram –negative bacteria.

Key words - Azetidine, Formazan, Diazepine, Sugar-imine

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Carbohydrate are amajor class of naturally occurring organic compounds,which involves only Two functional groups: ketone or aldehyde carbonyls and alcohol hydroxyl groups.During the Past few years carbohydrates have received increasing attention as stereo differentiating auxiliaries in stereo selective synthesis[1,2].

The presence of acarbohydratemoity side chain in any synthesized compound may overcome the Frequently observed water insolubility problem.

On the other hand,the incorporation of imine- mono saccahrides compound with other Compounds such as sodium azide or chloro acetyl chloride…etc., to produce fused rings and open rings compounds which was known to possess various pharmacological activities like antibacterial, analegesic, antiinflammatory, anticonvulsant, antimicrobial activities[3,4].

The hetero cyclic compounds bearing sugars in their structure have many applications in Biological science,and most of imine compounds bearing mono or bi cycles have chemical[5]and biological importance[6-10].

EXPERIMENTAL METHODOLOGY

All chemicals used (purity 99.98 %), FT.IR -spectra :were recorded on shimadzu 8300, KBr -disc, H.NMR-spectra were recorded on varian 300 MHz spectrometer using TMs as an internal standard and elemental analysis (C.H.N)–elemental (analyses system GmbH) –Germany Vario EL.III, in environmental science in Jordan. the melting points were determined in open capillary tubes by electro thermal 9300 LTD, U.K., microbial study in lab of Bio-Department in Education College.

Synthesis of compound [1]:

A mixture of (0.1 mole, 6.85 g) of hydrazine with (0.2 mole, 30 gm) of arabinose sugar reacted under refluxing for (4 hrs) in presence of glacial acetic acid (drops) and absolute ethanol as solvent with stirrer by used mechanical stirrer the precipitate filtered and dried, recrystallized from absolute ethanol to give 84 per cent from imine –arabinose named compound [1].

Synthesis of compounds [2-6] :

A mixture of compound [1] (0.01 mole, 2.96 g) with (0.02