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Synthesis of compounds of hetero (Atoms, cycles) via anil compounds

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ABSTRACT - In this paper, synthesis of a series ofcompounds of hetero(Atoms, cycles) from (5,6,7,8-membered) ring via cyclo addition reaction of anil compound to produce compound [1-13]. The structure of the newly synthesized compounds [1-13] were confirmed with (C.H.N)- analysis and substantiated with (FT.IR, H.NMR) data and melting points.

Key words - heterocyclic, Eightmemberd ring, Cyclo addition, Anil

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Hetromacrocycles by far are the largest classical division of organic chemistry. Hetero cycles bearing nitrogen, sulphur, oxygen, constitute the core structure of a number of biologically interesting compounds, some of them are pyrazoles, imidazoles, which are structural subunits of several biologically active compounds[1-4].

Heterocycles have been used a scaffold to synthesize numerous therapeutic molecules, which are known for their medicinal importance as anticancer antibacterial, antiseptics, and are known to be involved in a number of biological reactions such as inhibition of DNA, RNA and protein synthesis[5-8].

The utility of anil compounds lay in their usefulness as synthonsin the synthesis of bio active molecules, it has ben found that the activity of hetero cycles increases on the incorporation of anil groups [9-14].

EXPERIMENTAL METHODOLOGY

– All chemicals used were supplied from BDH and Fluka- company, purity 99.5 per cent.

– All measurements were carried out by :

Melting points :

Electro thermal 9300, melting point engineering LTD, U.K

FT. IR spectra :

Fourrier transform infrared shimadzu 8300 – (FT. IR), KBr disc was performed by CO.S.Q.C. Iraq

H.NMR-spectra and (C.H.N)-Analysis :

In center lab – Institute of Earth and Environmental Science, Al –Byat University, Jordan.

Synthesis of compound [1]:

Condensation reaction by refluxing ethanolic mixture of equimolaramounts (0.1 mole,12.0 g) of p-methyl benzaldehyde and (0.1 mole,9.7 g) of 2-amino thiophene were react for (2hrs), the precipitate was filtered and recrystallized from ethanol to produce 83 per cent of anil compounds [1].

Synthesis of compounds [2-5]:

A mixture of compound [1] (0.01 mole, 2.01 g)was reacted with one of {(0.01 mole,1.38 g)of 2-mercapto benzaldehyde), (0.01mole, 1.19 g of 2-amino benzaldehyde), (0.01 mole, 1.20 g of salicyldehyde), (0.01mole, 0.75 g of alanine)}, respectively, under reflux for (10hrs) in presence of anhydrous 1,5-dioxan (100) ml, the precipitate was filtered, dried, and crystallized from absolute ethanol to produce per cent (86, 84, 82, 86), respectively from compounds [2, 3, 4, 5].