International Journal of Applied and Natural Sciences (IJANS)
ISSN(P): 2319-4014; ISSN(E): 2319-4022
Vol. 3, Issue 4, July 2014, 61-66

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

SYNTHESIS AND ANTIMICROBIAL ACTIVITY EVALUATION OF SOME NOVEL IMIDES AND SCHIFF BASES CONTAINING 1,3,4-THIADIAZOLINE RING

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ABSTRACT

A novel imides and Schiff bases containing 1,3,4-thiadiazoline ring were synthesized by many steps reaction. The reaction of 4-bromoacetophenon and 4-bromobenzaldehyde with thiosemicarbazide gave thiosemicarbazone $[1]_{a,b}$, afterward cyclization reaction of compound [1] with the acetic anhydride in presence of pyridine led to formation 1,3,4-thiadiazoline compounds $[2]_{a,b}$. These compounds $[2]_{a,b}$ were converted to 2-amino-1,3,4- thiadiazolines $[3]_{a,b}$ by hydrolysis of amide NHCOMe group to amine group using hydrazine hydrate. The new imides $[4]_{a-h}$ and Schiff bases $[5]_{a-h}$ were obtained by the reaction of compounds [3] with different anhydrides and aldehydes, respectively, scheme (1). New synthesized compounds were characterized by their melting points, FT-IR and ^{1}HNMR (of some of them) spectra. The biological activity evaluated of the final products showed that some of these compounds possess good antibacterial activity.

KEYWORDS: 1, 3, 4-Thiadiazoline, Thiosemicarbazone, Imides, Schiff Bases