

SYNTHESIS OF 2, 5- DISUBSTITUTED-1, 3, 4- THIADIAZOLE DERIVATIVES AND EVALUATION OF THEIR ANTIBACTERIAL ACTIVITY

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ABSTRACT

In this work 2, 5- dimercapto-1, 3, 4-thiadiazole[1] was synthesized from the reaction of hydrazine hydrate with carbon disulfide and then was converted into the hydrazino derivative [2], Reaction of compound [2] with phenyl isocyanate, phenyliso thiocyanate, 4-chloro phenyliso thiocyanate leads to formation compounds[3-5] On otherhand treatment of compounds [1] with thiosemicarbazide gave compound[6], which upon refluxing with o ethyl chloro formate in dry benzene yielded derivative [11]. Moreover, Schiff Bases derivatives [7-10] have been synthesized by treatment of compound([2, 6]with various aromatic aldehyde

New synthesized compounds were characterized by their melting points, FT-IR and (1H-NMR, 13C-NMR 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-Thiadiazole, Schiff Bases, Carbamates, Fused Heterocyclic Rings