SYNTHESIS OF SOME CHALCONES BASED ON 1-(2-HYDRAZINEYL-4-METHYLTHIAZOL-5-YL)ETHAN-1-ONE

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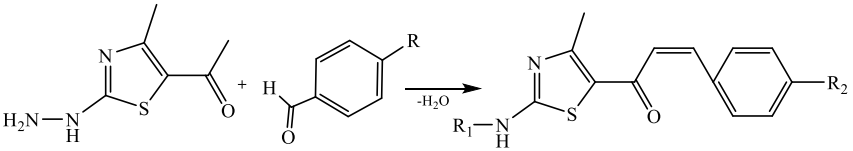
Despite the rapid development of science, there is still a continuous demand for substances used to combat infectious diseases. The reason for this is the adaptation of microorganisms to the drugs used over time and the formation of new mutations. Therefore, the preparation of new anti-microbial agents or the synthesis of compounds with more effective functions is one of the crucial issues. One of the modern approaches in drug synthesis is to protect existing medications from microbial resistance. There are several substances that have widespread application because they are resistant to the effects mentioned above. Examples of such compounds include preparations containing a thiazole fragment. Chalcone derivatives of these types of compounds and their subsequent transformation products are successfully applied in the treatment of a number of diseases. Specifically, these types of compounds are substances used against various allergic diseases, hypertension, schizo-phrenia, as anti-inflammatories, against HIV infection, as analgesics (painkillers), and as anti-cancer agents. Furthermore, many substances from this series are important starting compounds for the synthesis of other significant drugs used in the treatment of the aforementioned diseases.

In the presented research work, as a continuation of our previous research work various chalcones were synthesized from the interaction of the compound 1-(2-hydrazineyl-4-methylthia-zol-5-yl)ethan-1-one with aldehydes. The general scheme of the reaction is as follows:



R = H, Br, CH_3

1 mmol 1-(2-hydrazineyl-4-methylthiazol-5-yl)ethan-1-one in ethanol (50 ml), was added dropwise to a cooled solution of corresponding 1 mmol aldehydes. Then 3 ml of concentrated NaOH solution was added. The solution was allowed to stir at room temperature (3 h). After some time solid started separating out. The solid was recrystallized from ethanol to give the title chalcones. The yield of chalcones was 60–78 %.