

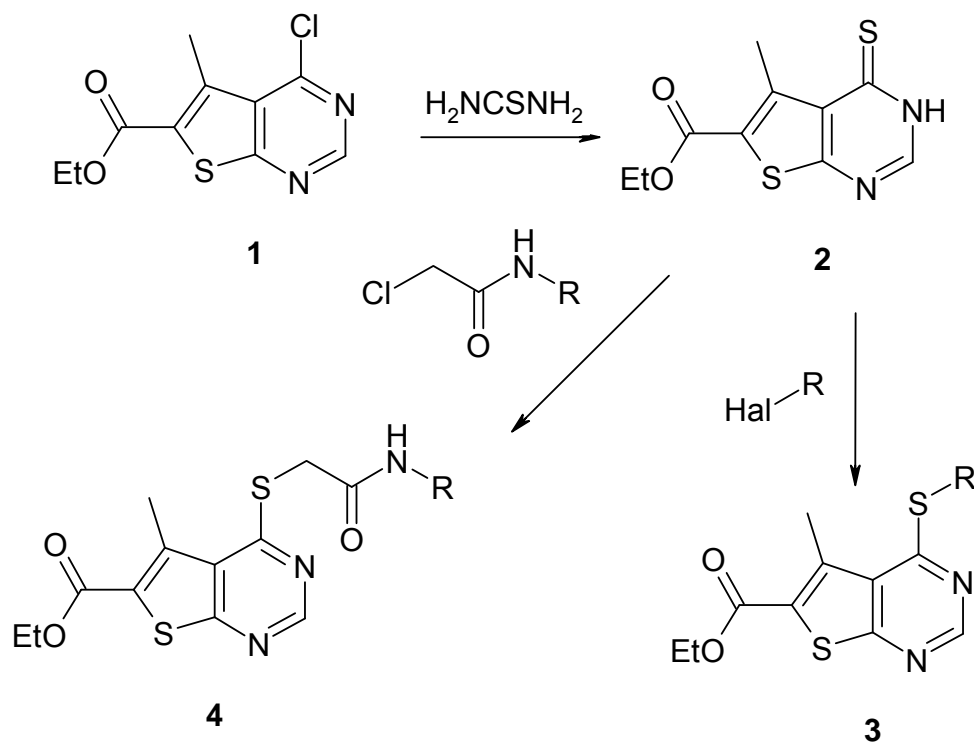
# ANTIMICROBIAL ACTIVITY OF ETHYL 4-(ALKYLTHIO)-5-METHYLTHIENO[2,3-*d*]PYRIMIDINE-6-CARBOXYLATES

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The derivatives of thieno[2,3-*d*]pyrimidine with thiol substituents are known as the compounds with antimicrobial activity. Therefore, study of antimicrobial properties for the compounds of this class is a promising approach for obtaining of novel antimicrobials. The target molecules were prepared by interaction of ethyl 5-methyl-4-chlorothieno[2,3-*d*]pyrimidine-6-carboxylate with thiourea to give the intermediate thione **2**. Further modification of the compound **2** was performed by its reaction with corresponding halides in DMF using triethylamine as the base. Then the derivatives of ethyl 4-(alkylthio)-5-methylthieno[2,3-*d*]pyrimidine-6-carboxylates **3** and **4** were studied for antimicrobial activity.



Antimicrobial activity screening was performed by agar-well diffusion method. The screening study showed that the compounds **3** and **4** are active against *Bacillus subtilis* and *Candida albicans* fungi. It was determined that the presence of benzyl radical at the position 4 sulphur atom increases antimicrobial activity of ethyl 4-(alkylthio)-5-methylthieno[2,3-*d*]pyrimidine-6-carboxylates against *Proteus vulgaris*, while the derivatives of mercaptoacetic acid at position 4 appeared to be active against the strain *Staphylococcus aureus*.