

**ANTIMICROBIAL ACTIVITY STUDY OF
2-[6-(1H-BENZIMIDAZOL-2-YL)-5-METHYL-4-OXOTHIENO[2,3-*d*]
PYRIMIDIN-3(4H)-YL DERIVATIVES WITH N-ARYLACETAMIDE
AND (3-ARYL-1,2,4-OXADIAZOL-5-YL)METHYL SUBSTITUENTS**

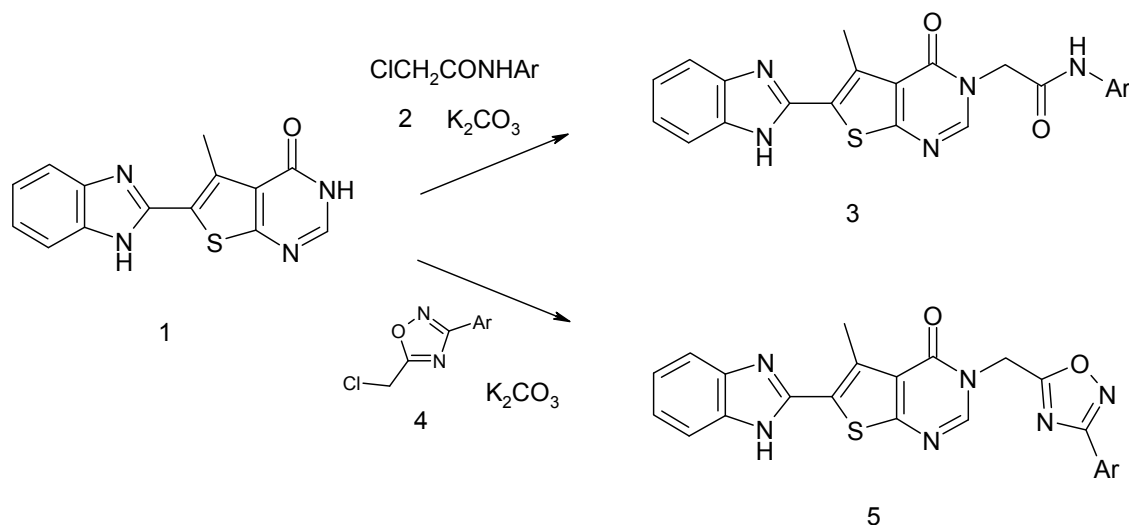
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Among the derivatives of 6-hetarylthieno[2,3-*d*]pyrimidines there are compounds known as antimicrobials. Therefore, the aim of our work was to develop the methods for preparation of novel potent antimicrobials, which were the products of 6-(1*H*-benzimidazol-2-yl)-5-methylthieno[2,3-*d*]pyrimidin-4(3*H*)-one **1** alkylation with N-arylchloroacetamides **2** and 5-(chloromethyl)-3-aryl-1,2,4-oxadiazoles **4**. As the result of the mentioned alkylation reaction 2-[6-(1*H*-benzimidazol-2-yl)-5-methyl-4-oxothieno[2,3-*d*]pyrimidin-3(4*H*)-yl]-N-phenylacetamides **3** and 6-(1*H*-benzimidazol-2-yl)-5-methyl-3-[(3-phenyl-1,2,4-oxadiazol-5-yl)methyl]thieno[2,3-*d*]pyrimidin-4(3*H*)-ones **5** were obtained (scheme).

Scheme



Antimicrobial activity study was performed by the co-workers of Microorganism biochemistry and nutrient media laboratory of the Institute of microbiology and immunology n. I.I.Mechnikov NAMS of Ukraine (head PhD Tatyana P. Osolodchenko). The experiment was performed by agar-well diffusion method.

It was found that all of the compounds have moderate antimicrobial activity. Some of them inhibited the growth of *Staphylococcus aureus* ATCC 25923 and *Bacillus subtilis* ATCC 6633 bacterial strains.