

Physico-chemical properties research of alkyl derivatives of 7-((3-thio-4-methyl-4H-1,2,4-triazole-5-yl)methyl)theophylline

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Введение

Heterocyclic compound properties give endless possibilities to forming new substances with significant biological activity. 1,2,4-triazoles molecule is one of those non-exceptional perspectives we are dealing with. The heterocyclic compound is stable and most frequently featured with severe aromaticity.

Цель исследования

1,2,4-triazole fragment properties in combination with theophylline are still not studied completely.

Материалы и методы

With the help of esterification reaction, hadrazynolysis, nucleophile addition reaction and intermolecular methylisothiocyanate heterocyclization we obtained the output compound that was further interacted with a bunch of halogenalkans. The research of physicochemical properties of above-mentioned compounds was performed using the methods noted in the State Pharmacopoeia of Ukraine.

Результаты

The reaction is often carried out with little heat (70 - 80 °C) for 10 - 30 minutes. The obtained compounds (white solids) have a high probability of antimicrobial and antifungal activity demonstration. Moreover, the second nitrogen atom is characterised with nucleophilic halogenalkyl addition reaction affecting the electronic effects of the molecule in general and also increases their resistance and the possibility of various activities apparition.

Выводы

Ten 1,2,4-triazoles alkyl derivatives-3-thiol compounds are obtained, their physicochemical properties are analyzed, the method of its obtaining is optimized. All obtained compounds appear to be white crystalline substances, well-soluble in methanol and DMF, almost insoluble in water.