

Abstract

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Synthesis of substituted arylguanidines as potential drugs XV

Diploma thesis

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Antimicrobial and antifungal resistance are terms that are very often used today. The increase in bacterial strains resistant to the antibiotics used is alarming, as is the increase in resistance in pathogens causing mycotic diseases. The increasing state of resistance requires the synthesis of new substances with antifungal and antibacterial activity.

Two different 1,1-dimethyl-2-[3-methyl-4-(alkylsulfanyl)phenyl]guanidinium derivatives, two different 2-[3-methyl-4-(alkylsulfanyl)phenyl]guanidinium nitrates, which differed in alkyl chain length, were synthesized in the thesis work. These substances were sent for antibacterial tests to the Department of Biological and Medical Sciences, Faculty of Pharmacy, Charles University in Hradec Kralove. The substances showed antibacterial and antifungal activity against several bacterial pathogens comparable to or better than the standards used.

The substance 1,1-dimethyl-2-[5-methyl-2-(decylsulfanyl)phenyl]guanidine was also synthesized, which complements a series of substances synthesized in previous years.

A total of 11 new substances were synthesized in this work, which have not yet been described in the literature.