

ABSTRACT

Charles University in Prague, Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Chemistry and Drug Analysis

Candidate **Mgr. Dana Honcová-Zobalová**

Consultant **RNDr. Veronika Opletalová, Ph.D.**

Title of Thesis **Acetylpyrazines as intermediates for the synthesis of biologically active derivatives of pyrazine III.**

The rigorous thesis is aimed at the preparation of 5-alkylpyrazin-2-carbonitriles, 5-alkyl-2-acetylpyrazines and their thiosemicarbazones and *N,N*-dimethylthiosemicarbazones. *N,N*-dimethylthiosemicarbazone of acetophenone was prepared for comparison. Theoretical part deals with the structure and properties of thiosemicarbazones and their biological effects. The following compounds were prepared and characterized during experimental work:

- 5-isopropylpyrazin-2-carbonitrile
- 5-pentylpyrazin-2-carbonitrile
- 5-hexylpyrazin-2-carbonitrile
- 5-heptylpyrazin-2-carbonitrile
- 1-(5-isopropylpyrazin-2-yl)ethan-1-one
- 1-(5-pentylpyrazin-2-yl)ethan-1-one
- 1-(5-hexylpyrazin-2-yl)ethan-1-one
- 1-(5-heptylpyrazin-2-yl)ethan-1-one
- 1-(5-hexylpyrazin-2-yl)ethan-1-one thiosemicarbazone
- 1-pyrazin-2-ylethan-1-one *N,N*-dimethylthiosemicarbazone
- 1-(5-pentylpyrazin-2-yl)ethan-1-one *N,N*-dimethylthiosemicarbazone
- 1-(5-hexylpyrazin-2-yl)ethan-1-one *N,N*-dimethylthiosemicarbazone
- 1-fenylethan-1-one *N,N*-dimethylthiosemicarbazone

The prepared thiosemicarbazones and *N,N*-dimethylthiosemicarbazones will be tested as potential antimycotic, antituberculous and antineoplastic agents.