

# CHALCONES AND THEIR ANALOGS AS POTENTIAL DRUGS VII

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## ***Abstract of the rigorous thesis:***

This synthetic thesis is focused on searching of potential drugs from the group of chalcone derivatives and links up to the long-term studied topic at our department. Antibacterial and antifungal effects are the main examined biological activities.

In the theoretical part of this thesis there were arranged various antineoplastic effects of naturally occurring or synthetic chalcones. The bibliographic searches involve items from the last decade. Possible interventions on the level of control processes, proteosynthesis and nucleic acid synthesis, influence on mitosis, apoptosis and the P-glycoprotein and the action on angiogenesis and cancer invasivity were summarized. In addition antioxidant activity and other mechanisms of chemoprevention were introduced as well. Different methods of chalcone synthesis were summed up in conclusion.

In the frame of the experimental part substituted derivatives and heterocyclic analogs of chalcones were synthesized by means of condensation reaction. All the synthetic products were characterized by melting points, IR and NMR spectra. Their purity was checked by thin-layer chromatography and elemental analysis.

Inhibition effect against *Mycobacterium tuberculosis* H<sub>37</sub>Rv (ATCC 27294) in the range of 13 – 71 % and weak antifungal activity on 8 strains of tested fungi were recorded in partial results of biological activity evaluation.