ABSTRACT

Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Department of Pharmaceutical Chemistry and Drug Control
Author: Lucia Semelková
Supervisor: Prof. PharmDr. Martin Doležal, Ph.D.
Title of diploma thesis: Pyrazine Derivatives as Potential Antituberculosis Drugs I.

Tuberculosis is a serious infectious disease, which has been one of the most common causes of death around the world for a long time. Despite of WHO effort to find effective procedures for the treatment and the continuous development of new potential drugs, TBC is still a major global problem. The development and progress of the resistant forms of this disease is the main cause.

Review of the tuberculosis, antitubercular therapy and modern antimycobacterial drugs were presented in the first part of the diploma thesis. The principles and application of microwave assisted synthesis are also described.

Eight new compounds, *i.e.* substituted 3-amino-*N*-benzylpyrazine-2-carboxamides, were prepared. The products were characterized by ^{1}H, ^{13}C NMR and IR spectra; elementary analysis of all compounds was performed, compounds were characterized by the melting points, the log *P* and Clog *P* values were also calculated. The antitubercular, antifungal and antibacterial activity of compounds was examined.