

## ABSTRACT

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Title of Thesis:

Metabolomic analysis of urine samples using ultra performance liquid  
chromatography and high resolution mass spectrometry

Metabolomics is inquiring into the analysis of small-molecule metabolites within biologic system. This branch promises great progress not only as a diagnostic tool for disease. As suitable objects for the analysis are bio-fluids (e.g. urine, serum, saliva) and as common analytical techniques that are employed for the metabolomic analysis are NMR, GC/MS and LC/MS. Metabolomic analysis provides a great number of data and it is a problematic task to go through it. There is an effort to design system of effective identification. The aim of this work is to find optimal conditions for metabolomic analysis and to test reliability of computer-assisted workflow for the detection and identification of compounds. This should be as the first stage to following effort to discover biomarkers and to define differences between the results of metabolomic analysis of urine sample obtained from health person and patients with hypertension, patients with diabetes and other diseases.