

## Summary

This thesis deals with the utilization of capillary electromigration methods for the analysis of biologically active substances.

In the Theoretical part historical progress, instrumentation and separation mechanisms of different electromigration methods are discussed. In addition brief overviews mapping chiral separation by means of CE and complex-formation for the separation selectivity enhancement are also included. Two final sections of Theoretical part are focused on specific features of method optimization and method validation in CE.

Practical part is presented by comments on published papers, which were attached in full text version to Addendum. The results presented in this thesis cover two areas. First area is focused on the utilization of electromigration methods for the analysis of polyphenols in plant materials while second area is dealing with the development, optimization and validation of CE methods for quality control of pharmaceuticals and/or nutraceuticals.

The first area of the practical part overviews new trends (papers published between 1999-2005) in the analysis of polyphenols by CE. The second paper focused on the analysis of polyphenols is an original investigation of new kind of BGE based on complex-forming reagent – sodium tungstate – that was applied in the assay of polyphenols in *Hypericum perforatum* extract.

The second topic is also represented by two publications. The first study was realized in cooperation with a working group of prof. Gerhard Scriba. An original CZE method for the determination of impurities in escitalopram including (*R*)-enantiomer was devised. The last publication deals with the development of new CZE method with contactless conductivity detection for the determination of glucosamine content in pharmaceuticals and dietary supplements.