

Proposal for Dissertation Topic in the Doctoral Study Programme at the Faculty of Pharmacy, Masaryk University

Study type (full-time/distant): full-time

Full name of the study programme: Pharmacy

Department*): Department of Chemical Drug

Head of the Department: Assistant Prof. Radka Opatřilová, PhD.

Number of available stipends: 1

Dissertation topic

Determination of medicine-important sugars / sugar alcohols by HPLC with evaporative light-scattering detector (ELSD)

Summary

Saccharides and sugar alcohols are an important part of human nutrition, they are also used as part of special diets and they also serve as additives in many medicinal products. Recently, the market with so-called energy products for sports resp. for increased physical activity. The subject of this proposal is the development of HPLC separation method as an alternative to traditional enzymatic procedures with a photometric detection, which are costly and as alternatives to cheap optical methods (e.g. polarimetry), which are, however, not separation methods and cannot distinguish individual sugars.

Preliminary aims

Develop an analytical method incl. sample preparation for a selected carbohydrate or sugar alcohol in medical or dietary formulations, or food.

Grant funding

- Information about associated grant(s): [Klikněte nebo klepněte sem a zadejte text.](#)

- Information about the availability of employment or project funding above the framework of the MU-awarded stipend: [Klikněte nebo klepněte sem a zadejte text.](#)

Brief requirements according to the Subject Area Board (SAB)

- Publication activities: Experience with publishing scientific papers and previous active participation in conferences are welcome. Prior to study completion, the student must be an author of at least two papers in journals with impact factor (first author in at least one of these).
- Information about a compulsory scientific stay abroad: [Klikněte nebo klepněte sem a zadejte text.](#)
- The student's involvement in teaching activities at the faculty: [Klikněte nebo klepněte sem a zadejte text.](#)
- English language knowledge (specify the requirements): Knowledge of English by word and in writing is a must (the students must be able of understanding the scientific literature).

Information about the supervisor

Name, surname, titles: doc. Bc. RNDr. Jiří Pazourek, Ph.D.

- Publication activity of the supervisor: Number of publications in Web of Science:32 , h-index:14
- Success in grant project submission (grant projects awarded): GAČR P503/12/0337, (LC06035), FRVŠ 456/2011
- International cooperation (potentially with the possibility of student's stay): [Klikněte nebo klepněte sem a zadejte text.](#)
- Number of current doctoral students led by the supervisor: 0
- Number of successful PhD graduates led by the supervisor and their further career: PhD = 4: Institute of Criminological Police Ústí (CZ), Faculty of Pharmacy University Bratislava (SK), Institute of Forensic Medicine, Faculty of Medicine MUNI, Department of Chemistry, Faculty of Science, MUNI; Bc = 25

Information about the Consultant

Name, surname, titles:

- Publication activity of the supervisor: Number of publications in Web of Science: , h-index:
- Success in grant project submission (grant projects awarded): [Klikněte nebo klepněte sem a zadejte text.](#)

- **International cooperation (potentially with the possibility of student's stay):** Klikněte nebo klepněte sem a zadejte text.
- **Number of current doctoral students led by the supervisor:** Klikněte nebo klepněte sem a zadejte text.
- **Number of successful PhD graduates led by the supervisor and their further career:** Klikněte nebo klepněte sem a zadejte text.