


# Ing. Monika Faktorová

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## Summary

Experienced Research Assistant with a demonstrated history of working in the research industry. Master's degree focused in Chemical Engineering. Graduate of the Slovak Technical University.

## Experience



### Research Assistant

Polymer Institute of the Slovak Academy of Sciences

*Sep 2020 – Present*

Study, analyze and solve research and development tasks under the guidance of the senior research scientist.



### Laboratory Assistant

Polymer Institute of the Slovak Academy of Sciences

*Oct 2019 - Jan 2020 (4 months)*

Study of the kinetics of radical polymerization of the so-called pulsed laser polymerization combined with gel permeation chromatography (PLP-SEC).



### Laboratory Analyst

Continental

*Jul 2019 - Aug 2019 (2 months)*

Testing of carbon black fillers, analysis of vulcanizates, thermogravimetric analysis, optical emission spectrometry with inductively coupled plasma, infrared spectrometry, gas chromatography, differential scanning calorimetry.



### Doctor's Assistant

Športaqu Púchov

*Jul 2018 - Aug 2018 (2 months)*

Translation from English and communication in English with other workers and with customers, processing orders.

## Education



### Slovenská technická univerzita v Bratislave

Master's degree, Chemical Engineering

*2018 - 2020*

Diploma thesis: Preparation of Tyrosol Beta-D-Fructofuranosides by Immobilized Beta-Fructofuranosidase (APVV-18-0188)

In this work, the commercially available enzyme -  $\beta$ -fructofuranosidase produced by *Saccharomyces cerevisiae* was used for the synthesis of TyrFru. The first experimental part focuses on immobilization of this enzyme on various solid supports.

The second part of the work was focused on mathematical modeling of TyrFru production using free and immobilized enzyme. This part also includes a complete economic evaluation of this production, together with economic sensitivity analysis. The mathematical model incorporates a crucial design parameters of the reactors and their operating conditions and it is prepared to be easily adapted to other reaction conditions in future research. The economic analysis includes the total investments and operating costs.



## **Slovenská technická univerzita v Bratislave**

Bachelor's degree, Chemical Engineering

2015 - 2018

Bachelor thesis: Bioreactor Design for Succinic Acid Production

The aim of the bachelor thesis was to design a batch mechanically mixed bioreactor of industrial dimensions for production of succinic acid. Based on the known annual production of succinic acid and the knowledge gained from reaction kinetics, a suitable volume of the bioreactor and its basic geometric characteristics is suggested by simulation calculations. The knowledge of physical and metabolic processes is linked to a mathematical model consisting of a material balance, an enthalpy balance, and a heat transfer rate equation.

The thesis also includes a brief discussion about the basic investment and operating costs associated with the production of succinic acid.



## **Gymnázium, Bernolákova 37, 94201, Šurany**

2006 - 2015