

## Posudek vedoucího diplomové práce

**Příjmení a jméno studenta:** Ngo Thi Hong Linh  
**Studijní program:** Chemistry and technology of Materials  
**Studijní obor:** Polymer Engineering  
**Zaměření**  
(pokud se obor dále dělí):  
**Ústav:** inženýrství polymerů  
**Vedoucí diplomové práce:** Doc. Ing. Pavel Mokrejš, Ph.D.  
**Akademický rok:** 2018/2019

**Název diplomové práce:**

Extraction of gelatines from untraditional sources of chicken/hen collagen

**Hodnocení diplomové práce s využitím klasifikační stupnice ECTS:**

<b>Kritérium hodnocení</b>	<b>Hodnocení dle ECTS</b>
1. Aktuálnost použité literatury	<b>B - velmi dobře</b>
2. Využití poznatků z literatury	<b>B - velmi dobře</b>
3. Zpracování teoretické části	<b>B - velmi dobře</b>
4. Popis experimentů a metod řešení	<b>A - výborně</b>
5. Kvalita zpracování výsledků	<b>A - výborně</b>
6. Interpretace získaných výsledků a jejich diskuze	<b>A - výborně</b>
7. Formulace závěrů práce	<b>A - výborně</b>
8. Přístup studenta k diplomové práci	<b>A - výborně</b>

Předloženou práci **doporučuji** k obhajobě a navrhuji hodnocení

**A - výborně**

**Komentáře k diplomové práci:**

Master thesis deals with the possibilities of processing hen paws, as a by-product of poultry industry, into collagenous products - gelatines. The aim of the thesis was to refine the feedstock to prepare pure collagen and design 2-stage biotechnological procedure for the conversion of collagen into gelatines.

Theoretical part describes processing of poultry, pigs, cattle and sheep in slaughterhouses. The main part of the Introduction focuses on solid and liquid by-products arising during slaughterhouses processing and possibilities of their utilisation; in some countries for culinary purposes and in other countries for processing into feed, fertilisers, protein hydrolysates or gelatines. The Introduction involves chapters referring to manufacturing of gelatines from traditional tissues (animal hides/skin and bones), properties and applications of gelatines.

In the experimental part, to study the influence of 3 selected processing parameters (enzyme addition, enzyme treatment time and gelatine extraction time) on the degree of conversion and quality of prepared gelatines factorial schemes with one central experiment and one repetition were used. Gelatine gel strength, viscosity, pH and ash content were determined according to Official Procedures of the Gelatine Manufacturers Institute of America. 2-level factorial design of experiments and evaluation of the results were carried out with software Minitab 17.2.1 (Fujitsu, Japan).

The results of the master thesis are beneficial to the practise. By suitable choice of processing conditions, by-product hen paws can be processed into high quality gelatines (Bloom value 270-410, ash content < 2.0 %) with the extraction efficiency 12-21 %. Hen gelatines may be a suitable alternative to gelatines made from mammals (cattle, pigs) or fish, meet Halal and Kosher requirements and can be used in food and pharmaceutical applications.

A female-master student Linh Thi Hong Ngo proved to be very skilful, faithful, punctual, hardworking and having analytical thinking. As a supervisor, I am very satisfied with all her performance during her Master studies and Master Thesis works.

The goals of the thesis were fulfilled, the Master Thesis is a genuine work and I recommend it for further processing with an excellent grade.

**Otázky vedoucího diplomové práce:**

Ve Zlíně dne **20. 05. 2019**

Podpis vedoucího diplomové práce