

**EXTRACTION AND CHARACTERIZATIONS OF  
GELATIN FROM PATIN (*Pangasius sutchi*) SKINS**

**NADIAH HAZWANI HASHIM**

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Degree of Bachelor of Science (Hons.) Food Science and Technology  
in the Faculty of Applied Sciences  
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## APPROVAL SHEET

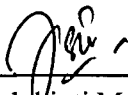
This Final Year Project Report entitled “Extraction and Characterizations of Gelatin from Patin (*Pangasius sutchi*) skins” was submitted by Nadiah Hazwani Hashim, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons) Food Science and Technology, in the Faculty of Applied Sciences, and was approved by



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Dr. Normah Ismail  
Supervisor

B.Sc.(Hons.) Food Science & Technology  
Faculty of Applied Sciences  
Universiti teknologi MARA  
40450 Shah Alam  
Selangor



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Puan Fuziah binti Mohamed Othman  
Project Coordinator  
B.Sc.(Hons.) Food Science & Technology  
Faculty of Applied Sciences  
Universiti teknologi MARA  
40450 Shah Alam  
Selangor

---

Dr. Noriham binti Abdullah  
Head of Programme  
B.Sc.(Hons.) Food Science & Technology  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
40450 Shah Alam  
Selangor

Date: \_\_\_\_\_

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## ABSTRACT

### EXTRACTION AND CHARACTERIZATIONS OF GELATIN FROM PATIN (*Pangasius sutchi*) SKINS

The primary aim of this study is to determine whether gelatin can be extracted from patin skins (*Pangasius sutchi*). Patin skins became by-products from fish processing industry and utilization of these by-products to produce valuable gelatin can give benefit to the entire world. From this study, gelatins were successfully extracted from patin skins. This study also important to determine the effect of different preservation methods on patin skins to their physical characteristics. Patin skins were preserved by two different methods and then washed by NaCl prior to gelatin extraction process. Patin skins preserved by freeze-drying method (FDPSG) exhibited higher yield extraction of gelatin which was 16.67% compared to yield of gelatin extracted from frozen patin skin at -20 °C (FPSG). However, there were no significant difference ( $p>0.05$ ) between yield of FDPSG and FPSG. Those gelatins were compared with the commercial gelatin (CG) in terms of their pH, moisture content, colour, gel strength, texture profile analysis (TPA), viscoelastic properties and gelling and melting point. Compared to FDPSG and FPSG, CG had a significantly ( $p<0.05$ ) higher pH and moisture content. Gel strength, springiness and chewiness of FDPSG was significantly ( $p<0.05$ ) higher compared to those FPSG and CG. There were no significant ( $p>0.05$ ) difference between FDPSG and FPSG in terms of hardness, cohesiveness and gumminess of gelatin. Patin gelatins are thermostated gels and this was evidenced by viscoelastic properties of FDPSG and FPSG.  $G'$  increased at low temperature and decreased at higher temperature. There was a negative relationship between phase angle ( $\delta$ ) and storage modulus ( $G'$ ) where  $\delta$  decrease when the  $G'$  increase. CG was found to have a significantly ( $p<0.05$ ) higher value of melting and gelling point compared to FDPSG and FPSG. Gelling and melting point of FDPSG and FPSG were not significantly ( $p>0.05$ ) different.