

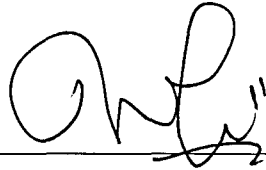
**EXTRACTION AND CHARACTERIZATION OF GELATIN FROM
SUTCHI CATFISH (*Pangasius hypophthalmus*) SKINS PRESERVED
BY FREEZE-DRYING AND FREEZING METHODS**

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**Final Year Project Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Food Science and Technology
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

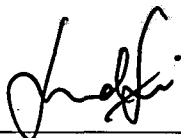
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This Final Year Project entitled “**Extraction and characterization of gelatin from sutchi catfish (*Pangasius hypophthalmus*) skins preserved by freeze-drying and freezing methods**” was submitted by Noorazimah Binti Ibrahim, in partial fulfilment 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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ABSTRACT

EXTRACTION AND CHARACTERIZATION OF GELATIN FROM SUTCHI CATFISH (*Pangasius hypophthalmus*) SKINS PRESERVED BY FREEZE-DRYING AND FREEZING METHODS

Sutchi catfish skins were preserved by two different methods and then washed in sodium chloride (NaCl) solution prior to gelatin extraction process. Sutchi catfish skins preserved by freeze-drying method exhibited higher yield of gelatin which was 16.20% compared to yield of gelatin extracted from frozen sutchi catfish skin at -20°C. Both gelatins with different preservation method were compared in terms of their appearance, odour, protein content, amino acid composition, melting point, gelling point and viscosity. The gelatin obtained was whitish shiny, crystal-like and soft-textured in appearance with barely detectable fishy odour in powder form and slightly detectable fishy odour as dried solution. The protein content in the frozen sutchi catfish skin gelatin contains 28.63% and freeze-dried sutchi catfish skin gelatin contains 21.00%. The amino acid composition of gelatin revealed high proportion of alanine and glutamine in frozen and freeze-dried sutchi catfish skin gelatin, respectively. Melting and gelling point of gelatin from freeze-dried sutchi catfish skin was lower which were 20.6°C and 12.3°C compared to frozen sutchi catfish skin gelatin which were 22.6°C and 12.9°C. The viscosity of freeze-dried sutchi catfish skin gelatin solution was higher compared to frozen sutchi catfish skin gelatin solution.