COMPARATIVE STUDY OF THREADFIN BREAM (*Nemipterus japonicas)* SCALE COLLAGEN EXTRACTED USING PINEAPPLE WASTE JUICE AND CITRIC ACID

NURUL HASANAH BINTI ABD MAJID

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APPROVAL SHEET

This Final Year Project Report entitled **"Comparative Study of Threadfin Bream (Nemipterus japonicas) Scale Collagen Extracted using Pineapple Waste Juice and Citric Acid"** was submitted by Nurul Hasanah Binti Abd Majid, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Science and Food Technology, in the Faculty of Applied Science, and was approved by

Dr Normah Binti Ismail
Supervisor
B. Sc. (Hons) Food Science and Technology
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Dr Siti Roha Binti Ab Mutalib
Project Coordinator
B. Sc. (Hons) Food Science and Technology
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Dr. Normah Ismail
Programme Coordinator
B. Sc. (Hons) Food Science and Technology
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Date: JAN 26 TH 2016

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Nurul Hasanah Binti Abd Majid

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ABSTRACT

COMPARATIVE STUDY OF THREADFIN BREAM (*NEMIPTERUS JAPONICAS*) SCALE COLLAGEN EXTRACTED USING PINEAPPLE WASTE JUICE AND CITRIC ACID

Collagen was isolated from the scale of threadfin bream using 0.5 M citric acid and pineapple waste juice at the duration 12hrs at 4 °C. The collagen physiochemical characteristics were studied and compared. The collagen yield were about 2.93 to 52.83% (on a dry weight basis), depending on the extraction solution. Pineapple waste juice treated collagen were light yellow (L = 89.18, a* = -0.19, b* = 9.28) while collagen produced using 0.5 M citric acid were white (L = 96.00, a* = 0.22, b* = 0.99). Sensory evaluation on odor recognition study showed the collagen extracted with pineapple juice had pungent sour odor while collagen produced using 0.5 M citric acid had chemical odor. The SDS PAGE profile threadfin bream collagen were type I collagens and consist of two different chains, α1 and α2. Threadfin bream scale collagens extracted using 0.5 M citric acids were more viscous than those from pineapple waste juice extracted collagen. Collagen from pineapple waste juice can be used as potential alternative for the production of acid soluble collagen.