

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

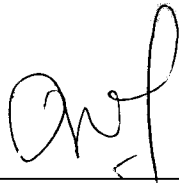
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**Final Year Project Report Submitted in  
Partial Fulfilment of the Requirement for the  
Degree of Bachelor of Science (Hons.) Food Science and Technology  
in the Faculty of Applied Sciences  
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## APPROVAL SHEET

This Final Year Project Report entitled “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

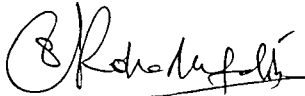


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## ABSTRACT

### 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,  $\alpha 1$  and  $\alpha 2$ . 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.