

**BIOACTIVE COMPONENTS FROM CUCAMELON (*Melothria scabra*)**  
**WITH POTENTIAL  $\alpha$ -AMYLASE AND  $\alpha$ -GLUCOSIDASE**  
**INHIBITORY ACTIVITY**

A Thesis

Presented to

The College of Arts and Sciences

Central Philippine University

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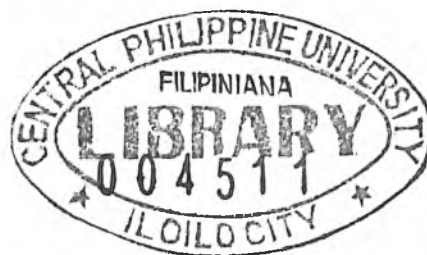
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Bachelor of Science in Chemistry

Melrose B. Heria

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*scabra*) WITH POTENTIAL  $\alpha$ -AMYLASE AND  $\alpha$ -GLUCOSIDASE  
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**ABSTRACT**

Cucamelons (*Melothria scabra*) are found growing in the wild in the Philippines. The lack of available literature regarding the plant species prompted to conduct of this study. This study aimed to extract and fractionate bioactive components from cucamelon with potential  $\alpha$ -amylase and  $\alpha$ -glucosidase inhibitory activity. Cucamelon fruit samples were obtained from Brgy. Pagsanga-an Pavia, Iloilo, extracted with methanol, fractionated using silica column chromatography, and assayed for  $\alpha$ -amylase and  $\alpha$ -glucosidase inhibitory activity. Results show that most but not all of the fractions have  $\alpha$ -amylase inhibitory activity. Only four fractions showed  $\alpha$ -amylase activity, namely, acetone ( $8.97 \pm 1.54$ ), acetone: methanol, 4:1 ( $15.54 \pm 2.12$ ), acetone: methanol, 3:2 ( $11.30 \pm 2.51$ ), and acetone: methanol, 1:4 ( $17.94 \pm 2.19$ ). Only one fraction had  $\alpha$ -glucosidase inhibitory activity, which is acetone: methanol, 3:2 ( $3.59 \pm 1.10$ ). Cucamelon has a low inhibitory activity for  $\alpha$ -amylase and  $\alpha$ -glucosidase, enzyme markers of diabetes, which can be compensated by increasing the daily intake. It is recommended that unripe cucamelon fruits can be eaten regularly as salads, or pickled to help prevent the risk of developing diabetes.