POTENTIAL α-AMYLASE AND α-GLUCOSIDASE INHIBITORY ACTIVITIES OF BIOACTIVE FRACTIONS FROM CALAMANSI *(Citrofortunella microcarpa)* PEELS

A Thesis

Presented to

The College of Arts and Sciences

Central Philippine University

Iloilo City

In Partial Fulfillment

Of the Requirements for the Degree

BACHELOR OF SCIENCE IN CHEMISTRY

By

AILETH MECA C. RIMON

June 2022

POTENTIAL α-AMYLASE AND α-GLUCOSIDASE INHIBITORY ACTIVITIES OF BIOACTIVE FRACTIONS FROM CALAMANSI *(Citrofortunella microcarpa)* PEELS

Aileth Meca C. Rimon

ABSTRACT

Calamansi fruits are commonly used in the Philippines and the peels are discarded as wastes. Epicarpium of calamansi peels were selected for analysis in this study in order to determine their potential *in vitro* inhibition of α-amylase and α-glucosidase, enzyme markers of diabetes mellitus. The potential inhibition of the six fractions against α-amylase ranged from 6.5% to 34.2%, with the acetone-methanol (4:1) fraction having the highest percentage inhibitory activity of 34.2% ± 3.3. However, only two fractions showed inhibition against α-glucosidase with acetone-methanol (4:1) extract having the higher percentage inhibitory activity of 12.3% ± 1.7. Thus, epicarpium from calamansi peels have moderate to low inhibitory activity against α-amylase and α-glucosidase, respectively. Results of this study provide useful information for development of calamansi peels into nutraceuticals that could help with diabetes management.