Abstract

Umi Latifatul Laeliyah. 24020119130055. α-Amylase Inhibitory Activity of Ethyl Acetate Extract from Bitter Gourd (*Momordica charantia* L.) as a Potential Antidiabetic Compound. In guidance by Sri Pujiyanto and Siti Nur Jannah.

Bitter gourd (*Momordica charantia* L.) is a traditional medicinal plant with various properties, including it's use as an antidiabetic compound. Diabetes melitus (DM) is a metabolic disorder caused by increased blood glucose levels. This study aimed to determine the α-amylase inhibitory activity and the IC_{50} value of bitter gourd ethyl acetate extract (*M. charantia* L.). Extraction was performed by maceration using ethyl acetate solvent with ratio 1:2 b/v for 3x24 hours at room temperature, followed by filtration and concentration using a rotary evaporator. The viscous extract obtained was tested for it's inhibition activity *in-vitro* using the DNS method with 0.5% starch substrate. Absorbance was measured at a wavelength of 540 nm to calculate the percentage of inhibition and IC_{50} value. The assay was conducted on a blank, positive control acarbose, and extract sampels at various concentrations. The result of the α-amylase inhibitory a assay showed that the bitter gourd ethyl acetate extract at a concentration of 312.5 ppm had the highest percentage of inhibition was 63.59% compared to extract concentrations of 625 ppm, 1250 ppm, 2000 ppm, and 2500 ppm. α-amylase inhibitory activity of the bitter gourd ethy acetate extract was categorized as very weak with an IC_{50} value of 5.165 ppm. Acarbose for comparison had an IC_{50} value of 81.88 ppm with highest % inhibition of 76.70%.

Key words: *bitter gourd, α-amylase, ethyl acetate extract*