YUSRIDAH HASIBUAN. Isolation and identification of α-glucosidase inhibitor compound from the leaves extracts of takokak (Solanum torvum). Supervised by IRMA HERAWATI SUPARTO and IRMANIDA BATUBARA.

This study aimed to isolate the alpha-glucosidase inhibitor compounds on leaves and fruit of takokak (Solanum torvum). The leaves and fruit were extracted with n-hexane, ethylacetate, methanol and water and determined the activity of α-glucosidase inhibitors. Leaves extract has properties as an inhibitor, while no activity was found in the fruits extract. The IC₅₀ values of methanol extract of Solanum torvum leaves was 100 ppm. Fractionation performed on leaf extracts using silica gel column chromatography. Fractionation results obtained six fractions (1-6) and the most active fraction was fraction 2 (IC₅₀ 18.28 ppm). Fraction 2 was separated further by preparative thin layer chromatography and obtained ten fractions. One fraction has the highest activity of α-glucosidase inhibitors with IC₅₀ of 67.02 ppm. Phytochemical assay, ultraviolet visible spectroscopy and infrared spectroscopy on the fraction with the highest activity showed that the active compound as inhibitors was flavon.

Keywords: Solanum torvum, leaves, α-glucosidase, flavon.