ABSTRAK

RESQINAH AZZAHRA. *Aktivitas Inhibisi Enzim Alfa-Glukosidase Dari Ekstrak Bunga Kersen (Muntingia calabura L.) Secara In Vitro.* (Dibimbing oleh **St. Maryam** dan **Masdiana Tahir**).

Tumbuhan kersen merupakan salah satu tumbuhan yang sangat potensial untuk dimanfaatkan karena memiliki beberapa kandungan bioaktif yang bermanfaat untuk kesehatan salah satunya ialah flavonoid. Penelitian ini bertujuan untuk mengetahui aktivitas inhibisi enzim alfa-glukosidase dari ekstrak etanol bunga kersen (*Muntingia calabura* L.) secara in vitro menggunakan alat instrument *Microplate reader*. Metode penelitian ini diawali dengan penyiapan sampel dengan cara dimaserasi menggunakan pelarut etanol 96% lalu dilakukan uji penghambatan aktivitas enzim alfa-glukosidase menggunakan substrat p-nitrofenil-α-D-glukopiranosida (PNPG) dan akarbosa sebagai pembanding. Potensi suatu senyawa dalam menghambat aktivitas enzim dapat diketahui melalui perhitungan IC50. Hasil penelitian menunjukkan bahwa ekstrak etanol bunga kersen (*Muntingia calabura* L.) memiliki nilai IC50 sebesar 158,262 µg/mL dan nilai IC50 akarbosa sebesar 0,256 µg/mL.

Kata Kunci: Bunga kersen (*Muntingia calabura* L.), alfa-glukosidase, IC50

ABSTRACT

RESQINAH AZZAHRA. *In Vitro Inhibition Assay of Alpha-Glucosidase of Jamaica Cherry Extract (Muntingia calabura L.).* (Supervised by **St. Maryam** and **Masdiana Tahir).**

The *Muntingia calabura* L., commonly referred to as Jamaica cherry, is recognized for its significant potential in therapeutic applications, primarily attributed to its rich bioactive constituents, notably flavonoids. The primary objective of this study was to elucidate the inhibitory activities of alpha-glucosidase enzyme derived from the ethanol extract of Jamaica cherry using the microplate reader instrument. The experimental methodology entailed an initial phase of sample preparation, wherein Jamaica cherry underwent maceration with a 96% ethanol. Subsequent phases involved assessing the inhibitory potential of alpha-glucosidase, employing p-nitrophenyl-α-D-glucopyranoside (PNPG) as the substrate, with acarbose serving as the benchmark for comparison. The inhibitory capacity of a compound was quantitatively represented through its IC_{50} value. The findings of this research revealed that the ethanol extract of Jamaica cherry exhibited an IC_{50} value of 158.262 µg/mL, in contrast to acarbose, which demonstrated an IC_{50} of 0.256 µg/mL.

Keywords: Jamaica cherry (*Muntingia calabura* L.), alpha-glucosidase, IC_{50}.