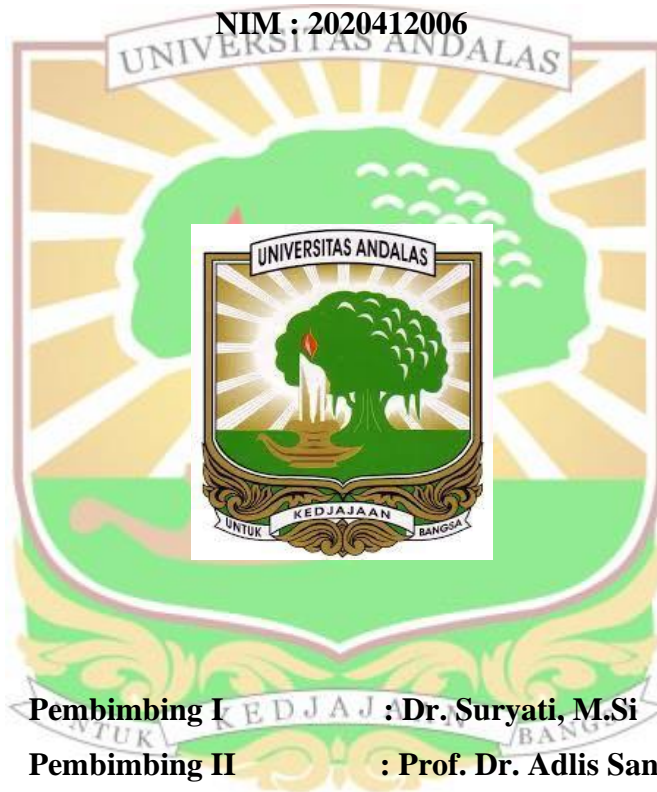


**POTENSI SITOTOKSIK MINYAK ATSIRI YANG DIISOLASI DARI  
DAUN TUMBUHAN *Clibadium surinamense* L TERHADAP SEL KANKER  
PAYUDARA T47D**

**TESIS**

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# POTENSI SITOTOKSIK MINYAK ATSIRI YANG DIISOLASI DARI DAUN TUMBUHAN *Clibadium surinamense* L TERHADAP SEL KANKER PAYUDARA T47D

Oleh : Rahmi Vika Ulia (2020412006)

(Dibawah bimbingan : Dr. Suryati dan Prof. Dr. Adlis Santoni)

## Abstrak

Tumbuhan *Clibadium surinamense* L merupakan tumbuhan perdu yang mudah ditemukan, secara tradisional tumbuhan ini telah digunakan untuk mengobati beberapa penyakit antara lain mengobati luka, menghambat kanker, demam, sakit perut dan diabetes melitus. Hasil uji fitokimia ekstrak tumbuhan ini diketahui mengandung triterpenoid, steroid, fenolik, flavonoid, alkaloid, dan saponin. Isolasi minyak atsiri dari daun tumbuhan *Clibadium surinamense* L dilakukan dengan metoda hidrodistilasi, diperoleh minyak berupa cairan berwarna kuning muda dengan massa jenis 0,968 g/mL. Analisis komponen kimia dengan spektrometer *Gas Chromatography-Mass-Spectrometry* (GC-MS) melalui perbandingan dengan data *Nasional Institute of Standard and Technologies* (NIST) diketahui adanya 55 senyawa (kelompok monoterpen dan sesquiterpen) dengan lima senyawa utama yaitu  $\beta$ -caryophyllene (30,4 %),  $\beta$ -sesquiphellandrene (8,46 %),  $\beta$ -carene (8,16 %),  $\alpha$ -bisabolene (4,05 %), dan  $\alpha$ -humulene (4,0 %). Uji potensi sitotoksik minyak atsiri hasil isolasi dengan metoda *Brine Shrimp Lethality Test* (BSLT) terhadap larva udang *Artemia salina* L menunjukkan aktivitas sangat toksik dengan nilai  $LC_{50}$  0,9261  $\mu$ g/mL dan uji dengan metoda MTT (*Microculture tetrazoliumm*) terhadap sel kanker payudara T47D juga menunjukkan aktivitas sangat sitotoksik dengan nilai  $IC_{50}$  12,72  $\mu$ g/mL.

**Kata Kunci :** *Clibadium surinamense* L, minyak atsiri, BSLT, metoda MTT



**CYTOTOXIC POTENTIAL OF ESSENTIAL OIL ISOLATED FROM  
*Clibadium surinamense* L LEAVES AGAINST T47D BREAST CANCER  
T47D CELLS**

By : Rahmi Vika Ulia

Supervised : Dr. Suryati and Prof. Dr. Adlis Santoni

**Abstract**

*Clibadium surinamense* L is a shrub that is easy to find. Traditionally this plant has been used to treat several diseases, including treating wounds, inhibiting cancer, fever, stomach ache, and diabetes mellitus. The phytochemical test results of the extract are known to contain triterpenoids, steroids, phenolics, flavonoids, alkaloids, and saponins. Isolation of essential oil of *Clibadium surinamense* L leaves was carried out by hydrodistillation, obtained oil in the form of light yellow liquid with a density of 0.968 g/mL. Analysis of chemical components by Gas Chromatography-Mass-Spectrometry (GC-MS) spectrometer through comparison with National Institute of Standards and Technologies (NIST) data revealed the presence of 55 compounds (monoterpenes and sesquiterpenes groups) with five main compounds, namely  $\beta$ -caryophyllene (30.4%),  $\beta$ -sesquiphellandrene (8.46%), 3-carene (8.16%),  $\alpha$ -bisabolene (4.05%), and  $\alpha$ -humulene (4.0%). Test of cytotoxic potential of essential oil isolated by Brine Shrimp Lethality Test (BSLT) method against *Artemia salina* L shrimp larvae showed highly toxic activity with LC<sub>50</sub> value of 0.9261  $\mu$ g/mL and test with MTT (Microculture tetrazolium) method against T47D breast cancer cells also showed highly cytotoxic activity with IC<sub>50</sub> value of 12.72  $\mu$ g/mL.

**Key words** : *Clibadium surinamense* L, BSLT essential oil, MTT assay

