

ABSTRAK

PENETAPAN KADAR FLAVONOID TOTAL DAN FENOLAT TOTAL DARI DAUN DAN BATANG LEGUNDI (*Vitex Trifolia*) SERTA UJI ANTIOKSIDAN DENGAN MENGGUNAKAN METODE DPPH (1,1-difenil-2- pikrilhidrazil)

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Tanaman Legundi (*Vitex trifolia*) telah lama digunakan dalam pengobatan tradisional karena kandungan senyawa bioaktifnya yang berkhasiat, seperti flavonoid dan fenolat. Penelitian ini bertujuan untuk menentukan kadar flavonoid total dan fenolat total dari ekstrak daun dan batang Legundi, serta menguji aktivitas antioksidannya menggunakan metode DPPH (1,1-difenil-2-pikrilhidrazil) IC_{50} . Metode penelitian ekstraksi sampel menggunakan pelarut n-heksana, etil asetat, dan etanol. Penetapan kadar flavonoid total dilakukan dengan metode spektrofotometri UV-Vis menggunakan kuersetin sebagai standar, sedangkan kadar fenolat total diukur menggunakan reagen Folin-Ciocalteau dengan asam galat sebagai standar. Aktivitas antioksidan diuji dengan metode DPPH untuk menentukan nilai IC_{50} dari setiap ekstrak. Hasil penelitian menunjukkan bahwa ekstrak etil asetat dari daun dan batang Legundi memiliki kadar flavonoid total masing-masing sebesar $6,12 \pm 0,06$ mg QE/mg ekstrak dan $3,65 \pm 0,03$ mg QE/mg ekstrak, sedangkan kadar fenolat total masing-masing sebesar $11,17 \pm 0,05$ mg GAE/mg ekstrak dan $9,36 \pm 0,05$ mg GAE/mg ekstrak. Uji aktivitas antioksidan dengan metode DPPH menunjukkan bahwa ekstrak etil asetat memiliki aktivitas antioksidan yang signifikan, dengan nilai IC_{50} masing-masing sebesar $30,300 \pm 1,124$ μ g/mL untuk daun dan $12,449 \pm 0,494$ μ g/mL untuk batang.

Kata Kunci: *Vitex trifolia*, antioksidan, DPPH, Flavonoid total, Fenolat total.

ABSTRACT

DETERMINATION OF TOTAL FLAVONOID AND TOTAL PHENOLIC CONTENT IN LEAVES AND STEMS OF LEGUNDI (VITEX TRIFOLIA) AND ANTIOXIDANT TESTING USING DPPH (1,1-DIPHENYL-2-PICRYLHYDRAZYL) METHOD

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The Legundi plant (*Vitex trifolia*) has long been used in traditional medicine due to its nutrient content of bioactive compounds, such as flavonoids and phenolates. The study aims to determine the total flavonoid and total phenolate levels of Legundi leaf and stem extract, as well as to test its antioxidant activity using the DPPH (1,1-diphenyl-2-picrylhydrazyl) IC₅₀ method. The sample extraction research method uses n-hexane solvents, ethyl acetate, and ethanol. Total flavonoid levels were measured using UV-Vis spectroscopic photometry using quersetin as standard, while total phenolate levels were measured using Folin-Ciocalteau reagents with lactic acid as standard. The antioxidant activity was tested using the DPPH method to determine the IC₅₀ value of each extract. The results of the study showed that the ethyl acetate extract from Legundi leaves and stems had total flavonoid levels of 6.12 ± 0.06 mg QE/mg extracts and 3.65 ± 0.03 mg Qe/mg extract respectively, while the total phenolate levels were 11.17 ± 1.05 mg GAE/mg extract and 9.36 ± 0.5 mg GaE/ mg extract. Antioxidant activity tests with the DPPH method indicated that the extract of ethylacetate had significant antioxidant activities, with the respective IC₅₀ values of 30.300 ± 1.124 µg/mL for leaf and $12.449 \pm 0,494$ µg / mL for stem.

Keywords: *Vitex trifolia*, antioxidants, DPPH, total flavonoids, total phenolates.