

ABSTRAK

NURI PRATIWI NINGSIH, 2024, PENETAPAN KADAR FENOL TOTAL PADA EKSTRAK DAUN SONGGOLANGIT (*Tridax procumbens*) DENGAN METODE EKSTRAKSI BERTINGKAT N-HEKSAN, ETIL ASETAT, DAN ETANOL, KARYA TULIS ILMIAH, PROGRAM STUDI D-III FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. Dibimbing oleh apt. Mamik Ponco Rahayu, S.Si., M.Si.

Daun songgolangit (*Tridax procumbens* L.) merupakan tanaman yang diketahui mengandung senyawa fenol yang berperan sebagai antioksidan. Senyawa fenol ini penting untuk menangkal radikal bebas yang dapat merusak sel tubuh. Penelitian ini bertujuan untuk menentukan kadar fenol total pada ekstrak n-heksan, etil asetat, dan etanol 70% dari daun songgolangit.

Ekstraksi serbuk daun songgolangit dilakukan secara bertingkat menggunakan metode refluks, dimulai dari pelarut non-polar (n-heksan), semi-polar (etil asetat), hingga polar (etanol 70%). Penetapan kadar fenol total dilakukan dengan metode Folin-Ciocalteu dan pengukuran absorbansi menggunakan spektrofotometer UV-Vis pada panjang gelombang 736 nm. Data yang diperoleh dianalisis secara statistik menggunakan one-way ANOVA untuk mengetahui perbedaan kadar antar ekstrak.

Hasil penelitian menunjukkan kadar fenol total pada masing-masing ekstrak n-heksan sebesar 0,23% GAE, etil asetat sebesar 1,62% GAE dan etanol 70% sebesar 3,66% GAE. Kadar fenol tertinggi pada ekstrak etanol 70% sebesar 3,66% GAE. Uji statistik one-way ANOVA menunjukkan adanya perbedaan signifikan antar ketiga ekstrak ($p < 0,05$), yang diperkuat dengan uji lanjut Tukey HSD. Hasil ini menunjukkan bahwa pelarut etanol 70% lebih efektif mengekstraksi senyawa fenol dari daun songgolangit dibandingkan pelarut n-heksan dan etil asetat.

Kata kunci: daun songgo langit, fenol total, Folin-Ciocalteu, n-heksan, etil asetat, etanol 70%

ABSTRACT

NURI PRATIWI NINGSIH, 2024, DETERMINATION OF TOTAL PHENOLIC CONTENT IN SONGGOLANGIT LEAF EXTRACT (*Tridax procumbens*) USING A SUCCESSIVE EXTRACTION METHOD WITH N-HEXANE, ETHYL ACETATE, AND ETHANOL, SCIENTIFIC PAPER, DIPLOMA III PHARMACY STUDY PROGRAM, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY. Supervised by apt. Mamik Ponco Rahayu, S.Si., M.Si.

Tridax procumbens L. (commonly known as songgolangit leaves) was known to contain phenolic compounds that acted as antioxidants. These phenolic compounds were important in neutralizing free radicals that could damage body cells. This study aimed to determine the total phenolic content in the n-hexane, ethyl acetate, and 70% ethanol extracts of songgolangit leaves.

The extraction of powdered songgolangit leaves was carried out stepwise using the reflux method, starting with a non-polar solvent (n-hexane), followed by a semi-polar solvent (ethyl acetate), and finally a polar solvent (70% ethanol). The determination of total phenolic content was conducted using the Folin–Ciocalteu method, and the absorbance was measured using a UV-Vis spectrophotometer at a wavelength of 736 nm. The data obtained were statistically analyzed using one-way ANOVA to determine the differences in phenolic content among the extracts.

The results showed that the total phenolic content in the n-hexane extract was 0,23% GAE, in the ethyl acetate extract was 1,62% GAE, and in the 70% ethanol extract was 3.66% GAE. The highest phenolic content was found in the 70% ethanol extract at 3,66% GAE. Statistical analysis using one-way ANOVA showed a significant difference among the three extracts ($p < 0.05$), which was further confirmed by the Tukey HSD post hoc test. These results indicated that 70% ethanol was more effective in extracting phenolic compounds from songgolangit leaves compared to n-hexane and ethyl acetate.

Key words: songgolangit leaves, total phenolic, Folin-Ciocalteu, n-hexane, ethyl acetate, 70% ethanol