

**PENENTUAN KADAR FLAVONOID TOTAL FRAKSI N-HEKSAN, ETIL
ASETAT, DAN AIR DARI EKSTRAK DAUN PANDAN WANGI (*Pandanus
amaryllifolius* (Roxb.)) DENGAN METODE SPEKTROFOTOMETRI UV-VIS**

Nisa Bkti Arini¹, Rengganis Ulvia²

INTISARI

Latar Belakang: Flavonoid adalah senyawa metabolit sekunder dalam tanaman yang memiliki aktivitas antioksidan, antikanker, antibakteri, antivirus dan antiinflamasi. Salah satu tanaman yang mengandung senyawa flavonoid adalah daun pandan wangi (*Pandanus amaryllifolius* (Roxb.)). Daun pandan wangi memiliki banyak manfaat seperti mencegah diabetes peradangan, dan infeksi bakteri. Flavonoid dalam daun pandan wangi dapat disari dengan proses ekstraksi, salah satunya maserasi dan dapat dipisahkan dengan metode fraksinasi.

Tujuan Penelitian: Mengetahui perbandingan kadar flavonoid total ekstrak etanol 96% dan fraksi daun pandan dengan metode spektrofotometri UV-Vis.

Metode Penelitian: Serbuk halus daun pandan wangi diekstraksi menggunakan metode maserasi dengan pelarut etanol 96% (1:10). Dilakukan fraksinasi menggunakan pelarut n-heksan, etil asetat, dan air. Pada masing-masing ekstrak etanol 96% dan fraksi dilakukan uji kualitatif organoleptik, skrining fitokimia, dan uji kuantitatif kadar flavonoid total dengan kuersetin sebagai standar. Flavonoid yang diperoleh dalam satuan mgQE/g.

Hasil: Nilai rendemen ekstrak etanol 96% dan fraksi air, etil asetat, n-heksan secara berturut-turut adalah 19,2%, 4,98%, 1,35%, dan 1,49%. Skrining fitokimia ekstrak dan fraksi etil asetat mengandung senyawa flavonoid, alkaloid, saponin, tanin, dan fenolik, sedangkan fraksi n-heksan dan fraksi air mengandung senyawa flavonoid, saponin, tanin, dan fenolik. Kadar flavonoid total paling tinggi yaitu fraksi etil asetat $119.320 \pm 0,555$ mgQE/g, dilanjutkan ekstrak etanol, fraksi n-Heksan, dan air secara berturut-turut adalah $67,793 \pm 0,635$ mgQE/g; $63,567 \pm 0,585$ mgQE/g dan $11,061 \pm 0,515$ mgQE/g.

Kesimpulan: Terdapat perbedaan kadar flavonoid total ekstrak etanol 96% dan fraksi daun pandan wangi. Fraksi etil asetat daun pandan wangi menghasilkan kadar flavonoid total paling tinggi dibandingkan dengan sampel lainnya.

Kata kunci: *Pandanus amaryllifolius* (Roxb.), Fraksinasi, Flavonoid, Spektrofotometri UV-Vis

¹Mahasiswa Farmasi Universitas Jenderal Achmad Yani Yogyakarta

²Dosen Farmasi Universitas Jenderal Achmad Yani Yogyakarta

**DETERMINATION OF TOTAL FLAVONOID CONTENTS OF N-HEXANE,
ETHYL ACETATE AND WATER FRACTIONS FROM PANDAN WANGI
(*Pandanus amaryllifolius* (Roxb.)) LEAF EXTRACT USING UV-VIS
SPECTROPHOTOMETRY METHOD**

Nisa Beki Arini¹, Rengganis Ulvia²

ABSTRACT

Background: Flavonoids are secondary metabolite compounds in plants that have antioxidant, anticancer, antibacterial, antiviral and anti-inflammatory activities. One plant that contains flavonoid compounds is fragrant pandan leaves (*Pandanus amaryllifolius* (Roxb.)). Fragrant pandan leaves have many benefits such as preventing diabetes, inflammation and bacterial infections. The flavonoids in fragrant pandan leaves can be extracted using an extraction process, one of which is maceration and can be separated using the fractionation method.

Research Objective: To determine the comparison of total flavonoid content of 96% ethanol extract and pandan leaf fraction using the UV-Vis spectrophotometric method.

Research Method: Fine powder of fragrant pandan leaves was extracted using the maceration method with 96% ethanol solvent (1:10). Fractionation was carried out using n-hexane, ethyl acetate and water as solvents. On each 96% ethanol extract and fraction, qualitative organoleptic tests, phytochemical screening, and quantitative tests for total flavonoid levels were carried out with quercetin as a standard. Flavonoids obtained are in mgQE/g units.

Results: The yield values of 96% ethanol extract and water, ethyl acetate, n-hexane fractions were 19.2%, 4.98%, 1.35% and 1.49% respectively. Phytochemical screening of the extract and ethyl acetate fraction contained flavonoids, alkaloids, saponins, tannins and phenolics, while the n-hexane fraction and water fraction contained flavonoids, saponins, tannins and phenolic compounds. The highest total flavonoid content was the ethyl acetate fraction $119,320 \pm 0.555$ mgQE/g, followed by the ethanol extract, n-Hexane fraction, and water respectively 67.793 ± 0.635 mgQE/g; 63.567 ± 0.585 mgQE/g and 11.061 ± 0.515 mgQE/g.

Conclusion: There were differences in the total flavonoid levels of the 96% ethanol extract and the fragrant pandan leaf fraction. The ethyl acetate fraction of fragrant pandan leaves produced the highest total flavonoid levels compared to other samples.

Key words: *Pandanus amaryllifolius* (Roxb.), Fractionation, Flavonoids, UV-Vis Spectrophotometry.

¹Student of Pharmacy Universitas Jenderal Achmad Yani Yogyakarta

²Lecturer of Pharmacy Universitas Jenderal Achmad Yani Yogyakarta