

ABSTRAK

VALIDASI METODE PENETAPAN KADAR ALKALOID PADA EKSTRAK ETANOL DAUN ASAM JAWA (*Tamarindus indica L.*) SECARA SPEKTROFOTOMETRI UV-VIS

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Alkaloid merupakan suatu golongan senyawa organik yang terbanyak ditemukan di alam. Hampir seluruh senyawa alkaloid berasal dari tumbuh-tumbuhan dan tersebar luas dalam berbagai jenis tumbuhan. Salah satunya yaitu daun asam jawa (*Tamarindus indica L.*). Tujuan dari penelitian ini yaitu untuk melakukan validasi metode penentuan kadar alkaloid dalam ekstrak etanol daun asam jawa (*Tamarindus indica L.*), agar memenuhi kriteria validasi metode analisis (*Limit Of Detection (LOD)*, *Limit Of Quantitation (LOQ)*, Linearitas, Presisi, Akurasi) secara Spektrofotometri Uv-Vis dalam menentukan kadar alkaloid dalam ekstrak etanol daun asam jawa (*Tamarindus indica L.*). Hasil validasi metode analisis dalam penentuan kadar alkaloid total ekstrak daun asam jawa (*Tamarindus indica L.*) memenuhi kriteria validasi metode analisis secara spektrofotometri UV-Vis dengan hasil regresi linier pada uji linieritas adalah $y = 0,0742x + 0,1239$ dan koefisien korelasi (r) 0,9972; spesifisitas yang baik, *limit of detection (LOD)* adalah 0,0375 ppm dan *limit of quantitation (LOQ)* adalah 0,1251 ppm, rata-rata hasil uji akurasi dengan konsentrasi rata-rata hasil uji akurasi dengan rata-rata nilai *% recovery* 107,64% memenuhi persyaratan 75-120%, sedangkan rata-rata hasil uji presisi dengan rata-rata *%RSD* 1,0543% $\pm 0,1443$ memenuhi persyaratan $< 8\%$. Kadar alkaloid total dalam ekstraksi daun asam jawa (*Tamarindus indica L.*) didapatkan kadar rata-rata 1,6467% b/b $\pm 0,0869$.

Kata Kunci : Alkaloid, Spektrofotometri UV-Vis, Validasi Metode

ABSTRACT

VALIDATION METHOD FOR DETERMINING ALKALOID INTENSITY IN ETHANOL EXTRACTS (*Tamarindus indica L.*) THE UV-VIS SPECTROPHOTOMETRY

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Alkaloids are a class of organic compounds that are most commonly found in nature. Almost all alkaloid compounds come from plants and are widespread in various types of plants. One of them is tamarind leaves (*Tamarindus indica L.*). The purpose of this study is to validate the method of determining alkaloid levels in tamarind leaf ethanol extract (*Tamarindus indica L.*), in order to meet the validation criteria of analytical methods (*Limit Of Detection* (LOD), *Limit Of Quantitation* (LOQ), Linearity, Precision, Accuracy) by Uv-Vis Spectrophotometry in determining alkaloid levels in tamarind leaf ethanol extract (*Tamarindus indica L.*). The results of the validation of the analytical method in determining the total alkaloid levels of tamarind leaf extract (*Tamarindus indica L.*) meet the validation criteria of the analysis method by UV-Vis spectrophotometry with linear regression results in the linearity test are $y = 0.0742x + 0.1239$ and the correlation coefficient (r) 0.9972; good specificity, the limit of detection (LOD) is 0.0375 ppm and the limit of quantitation (LOQ) is 0.1251 ppm, the average accuracy test results with the average concentration of accuracy test results with an average % recovery value of 107.64% meet the requirements of 75-120%, while the average precision test results with an average of %RSD 1.0543% \pm 0.1443 meet the requirements < 8%. Total alkaloid levels in the extraction of tamarind leaves (*Tamarindus indica L.*) are obtained average levels 1.6467% w/b \pm 0.0869.

Keywords: Alkaloids, UV-Vis Spectrophotometry, Validation Methods