ABSTRAK

SKRINING FITOKIMIA, KADAR FENOL TOTAL, DAN AKTIVITAS ANTIOKSIDAN DAUN SALAM KOJA (*Murraya koenigii*) BERBASIS *NATURAL DEEP EUTECTIC SOLVENT* (NADES)

Latar Belakang: Daun salam koja (*Murraya koenigii*) banyak dimanfaatkan sebagai obat tradisional yang memiliki efek farmakologi sebagai antioksidan hingga antitumor. NADES (*Natural Deep Eutectic Solvent*) merupakan campuran pelarut organik yang dinilai lebih aman untuk ekstraksi. Penelitian ini bertujuan untuk mengetahui kandungan metabolit sekunder, kadar fenol total dan aktivitas antioksidan daun salam koja yang diekstraksi menggunakan pelarut NADES.

Metodologi: Penelitian ini dilakukan beberapa tahapan yaitu pembuatan larutan NADES (*Natural Deep Eutectic Solvent*) dengan metode pengadukan dan pemanasan, uji fisikokimia NADES berupa uji densitas dan viskositas, ekstraksi menggunakan metode UAE (*Ultrasonic Assisted Extraction*), skrining fitokimia ekstrak, penetapan kadar fenol total menggunakan metode Folin-Ciocalteu dan uji antioksidan menggunakan metode DPPH.

Hasil Penelitian: Rendemen hasil ekstraksi didapatkan berkisar antara 31-36%. Kandungan metabolit pada ekstrak daun salam koja menggunakan pelarut NADES mengandung senyawa golongan flavonoid, alkaloid, steroid dan triterpenoid. Kadar fenol total ekstrak daun salam koja menggunakan pelarut NADES S-Mla memiliki kadar fenol total paling baik yaitu 64,89 mg GAE/g dan memiliki aktivitas antioksidan terkuat dengan nilai IC_{50} 285 ppm.

Kesimpulan: Ekstrak NADES daun salam koja mengandung senyawa golongan flavonoid, alkaloid, steroid dan terpenoid. Ekstrak memiliki aktivitas sebagai antioksidan.

Kata Kunci: Antioksidan, Kadar Fenol Total, *Murraya koenigii*, NADES

ABSTRACK

PHYTOCHEMICAL SCREENING, TOTAL PHENOLIC CONTENT, AND ANTIOXIDANT ACTIVITY OF KOJA BAY LEAF (Murraya koenigii) BASED ON NATURAL DEEP EUTECTIC SOLVENT (NADES)

Background: *Koja bay leaf (Murraya koenigii) is widely used as a traditional medicine that has pharmacological effects as an antioxidant to antitumor. NADES (Natural Deep Eutectic Solvent) is a mixture of organic solvents that is considered safer for extraction. This study aims to determine the content of secondary metabolites, total phenolic content and antioxidant activity of koja bay leaves extracted using NADES solvent.*

Methodology: *This research was carried out in several stages, namely the manufacture of NADES (Natural Deep Eutectic Solvent) solution using the stirring and heating method, NADES physicochemical tests in the form of density and viscosity tests, extraction using the UAE (Ultrasonic Assisted Extraction) method, screening of extract phytochemicals, determination of total phenolic content using the Folin-Ciocalteu method and antioxidant tests using the DPPH method.*

Research Results: *The yield of the extraction results was obtained in the range of 31-36%. The metabolite content in the koja bay leaf extract using NADES solvent contains flavonoids, alkaloids, steroids and triterpenoids. The total phenolic content of koja bay leaf extract using NADES S-Mla solvent has the best total phenol content of 64,89 mg GAE/g and has the strongest antioxidant activity with an IC value of IC_{50} 285 ppm.*

Conclusion: *NADES extract of koja bay leaf contains flavonoids, alkaloids, steroids and terpenoids. The extract has antioxidant activity.*

Keywords: *Antioxidants, Murraya koenigii, NADES, Total Phenolic Content*