

**DETERMINATION OF QUALITY PARAMETERS AND TEST ANTIOXIDANT
ACTIVITIES OF 70% ETHANOL EXTRACT OF SEROJA LEAVES (*Nelumbo nucifera*
Gaertn.)**

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ABSTRACT

Objectice: The purpose of this study was evaluated the quality parameters and analyzed the antioxidant activity of seroja leaves *Nelumbo nucifera* Gaertn.

Methods: The quantification of chemical compound was determined its total phenol and flavonoid levels. The evaluate the antioxidant activity was determined by the comparability of the four common radical scavenging assays using 2,2'-azino-bis-3-ethylbenzthiazoline-6-sulphonic acid (ABTS); 1, 1-diphenyl-2-picrylhydrazyl (DPPH) radical; cupric ion reducing antioxidant capacity (CUPRAC); ferric reducing antioxidant power (FRAP); and 2-thiobarbituric acid (TBA) methods.

Results: The results of phytochemical screening for simplicia powder and 70% ethanol extract of seroja leaves contain secondary metabolites of alkaloids, flavonoids, saponins, tannins, coumarin, quinones, and triterpenoid steroids. The results of the determination of the quality parameters meet the requirements of quality and safety standard of medicinal herb. The result of the determination of total phenol content from 70% ethanol extract of Seroja leaves was 181.62 ± 0.82 mg GAE/g extract. The results of the determination of total flavonoid levels from 70% ethanol extract of seroja leaves amounted to 289.83 ± 1.04 mg QE/g extract. The results of antioxidant activity tests using the ABTS, DPPH, and TBA methods showed IC₅₀ respectively 287.7 mg/l, 22.3 mg/l, and 352.6 mg/l and CUPRAC and FRAP methods had antioxidant capacity of 160.76 ± 0.35 and 253.36 ± 0.48 mg AAE/g extract.

Conclusion: Seroja leaves (*Nelumbo nucifera* Gaertn.) has the potential to be used as antioxidant medicinal herb and its extract meet the standard of quality control and safety.

Keywords: Seroja (*Nelumbo nucifera* Gaertn.), antioxidants, ABTS, CUPRAC, DPPH, FRAP, TBA.

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