PENGARUH METODE MASERASI DAN SOXHLETASI TERHADAP KANDUNGAN ANTIOKSIDAN DAUN KELOR (*Moringa Oleifera* L.) MENGGUNAKAN LC-MS

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INTISARI

Daun kelor (*Moringa Oleifera* L.) memiliki kandungan metabolit sekunder yaitu flavonoid, alkaloid, tannin, saponin, dan terpenoid yang berperan sebagai antioksidan alami. Penelitian ini bertujuan untuk mengetahui kandungan senyawa antioksidan ekstrak hasil maserasi dan soxhletasi daun kelor yang diamati dengan LC-MS serta untuk mengetahui kaitan antara aktivitas antioksidan ekstrak hasil maserasi dan soxhletasi dengan senyawa antioksidan hasil LC-MS. Pada uji LC-MS didapatkan total senyawa metabolit sekunder yang terdapat pada ekstrak hasil maserasi sebesar 101 senyawa dengan komposisi total flavonoid sebanyak 70,9872%, fenol sebanyak 8,09702%, alkaloid sebanyak 3,35195%, tannin sebanyak 2,0379%, dan terpenoid sebanyak 0,40774%. Pada ekstrak hasil soxhletasi total senyawa metabolit sekunder sebanyak 83 senyawa dengan komposisi total flavonoid sebanyak 75,60657%, fenol sebanyak 13,11861%, alkaloid sebanyak 4,25605%, tannin sebanyak 1,10229%, saponin sebanyak 1,3839%, dan terpenoid sebanyak 0,5636%. Diperkuat dengan uji DPPH ekstrak daun kelor dibuat dengan variasi konsentrasi 10 ppm, 50 ppm, dan 100 ppm dimana menggunakan asam askorbat sebagai pembanding. Didapatkan nilai IC_{50} pada ekstrak hasil maserasi sebesar 32,092 ppm dan ekstrak hasil soxhletasi sebesar 14,328 ppm yang memiliki aktivitas antioksidan yang sangat kuat. Berdasarkan hasil tersebut dapat dikatakan bahwa metode soxhletasi lebih baik dibandingaan dengan metode maserasi dari hasil uji menggunakan LC-MS.

Kata Kunci : Daun Kelor, antioksidan, Maserasi, Soxhletasi LC-MS.

THE EFFECT OF MACERATION AND SOXHLETATION METHODS ON THE ANTIOXIDANT CONTENT OF MORINGA LEAVES (*Moringa Oleifera* L.) USING LC-MS

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ABSTRACT

Moringa leaves (*Moringa Oleifera* L.) contain secondary metabolites, namely flavonoids, alkaloids, tannins, saponins and terpenoids which act as natural antioxidants. This research aims to determine the antioxidant compound content of extracts resulting from maceration and soxhletation of Moringa leaves observed using LC-MS and to determine the relationship between the antioxidant activity of extracts resulting from maceration and soxhletation with antioxidant compounds resulting from LC-MS. In the LC-MS test, it was found that the total secondary metabolite compounds contained in the macerated extract were 101 compounds with a total composition of flavonoids of 70.9872%, phenols of 8.09702%, alkaloids of 3.35195%, tannins of 2.0379%, and terpenoids as much as 0.40774%. In the extract resulting from soxhletation, the total number of secondary metabolite compounds was 83 compounds with a total composition of flavonoids of 75.60657%, phenols of 13.11861%, alkaloids of 4.25605%, tannins of 1.10229%, saponins of 1.3839%, and terpenoids as much as 0.5636%. Strengthened by the DPPH test, Moringa leaf extract was made with varying concentrations of 10 ppm, 50 ppm and 100 ppm, using ascorbic acid as a comparison. The IC_{50} value was obtained for the maceration extract of 32,092 ppm and the soxhletation extract of 14,328 ppm which has very strong antioxidant activity. Based on these results, it can be said that the soxhletation method is better than the maceration method from the test results using LC-MS.

Keywords : Moringa leaves, antioxidants, Maceration, Soxhletation, LC-MS.