

ABSTRAK

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Judul : **Formulasi Sediaan *Lotion* Ekstrak Etanol Daun Jambu Kristal (*Psidium guajava* cv. Kristal L.) Sebagai Antioksidan dengan Metode DPPH (*1,1-difenil-2-pikrilhidrazi*)**

Daun jambu kristal (*Psidium guajava* cv. Kristal L.) mengandung senyawa metabolit sekunder seperti flavonoid, tanin, dan fenolik yang berpotensi sebagai antioksidan alami. Penelitian ini bertujuan untuk memformulasikan sediaan *lotion* yang mengandung ekstrak etanol daun jambu kristal serta mengetahui sediaan dan aktivitas antioksidannya menggunakan metode DPPH. Ekstraksi dilakukan dengan metode maserasi menggunakan pelarut etanol 96%. Ekstrak yang diperoleh diformulasikan ke dalam sediaan *lotion* dengan variasi konsentrasi, yaitu Formula 1 (0,5%), Formula 2 (1%), dan Formula 3 (1,5%), serta Formula 0 sebagai kontrol. Evaluasi mutu fisik meliputi uji organoleptik, homogenitas, pH, daya sebar, dan viskositas. Hasil evaluasi menunjukkan bahwa seluruh sediaan *lotion* bersifat homogen, berbentuk cair, berwarna hijau tua, berbau khas, dengan nilai pH berkisar 7,22–7,79, daya sebar 5,5–7,7 cm, serta viskositas 3731–7655 cP, sehingga memenuhi persyaratan sediaan topikal. Hasil uji aktivitas antioksidan menunjukkan nilai IC_{50} ekstrak etanol 96% daun jambu kristal sebesar 53,01 ppm yang termasuk kategori antioksidan kuat. Sediaan *lotion* Formula 1, Formula 2, dan Formula 3 memiliki nilai IC_{50} berturut-turut sebesar 1.948 ppm, 1.761 ppm, dan 1.300 ppm, yang menunjukkan aktivitas antioksidan sangat lemah hingga lemah. Peningkatan konsentrasi ekstrak dalam sediaan *lotion* dapat meningkatkan aktivitas antioksidan, meskipun masih lebih rendah dibandingkan ekstrak murni.

Kata kunci: Antioksidan, Daun jambu kristal, *DPPH*, *Lotion*

ABSTRACT

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Judul : *Formulation of Lotion Containing Ethanolic Extract of Crystal Guava Leaves (*Psidium guajava* cv. Kristal L.) as an Antioxidant Using the DPPH (1,1-Diphenyl-2-Picrylhydrazyl) Method*

Crystal guava leaves (*Psidium guajava* cv. Kristal L.) contain secondary metabolites such as flavonoids, tannins, and phenolic compounds with potential antioxidant activity. This study aimed to formulate a *lotion* containing ethanol extract of crystal guava leaves and to evaluate its physical characteristics and antioxidant activity using the *DPPH* method. Extraction was carried out by maceration using 96% ethanol as the solvent. The extract was formulated into *lotion* preparations with varying concentrations: Formula 1 (0.5%), Formula 2 (1%), and Formula 3 (1.5%), with Formula 0 as a control. Physical evaluations included organoleptic properties, homogeneity, pH, spreadability, and viscosity. The results showed that all *lotion* formulations were homogeneous, liquid, dark green in color, and had a characteristic odor, with pH values ranging from 7.22 to 7.79, spreadability of 5.5–7.7 cm, and viscosity of 3731–7655 cP, meeting the requirements for topical preparations. Antioxidant activity testing revealed that the ethanol extract of crystal guava leaves had an IC_{50} value of 53.01 ppm, classified as a strong antioxidant. Meanwhile, Formula 1, Formula 2, and Formula 3 *lotions* showed IC_{50} values of 1,948 ppm, 1,761 ppm, and 1,300 ppm, respectively, indicating very weak to weak antioxidant activity. Increasing extract concentration enhanced antioxidant activity, although it remained lower than that of the extract alone.

Keywords: Antioxidant, Crystal guava leaves, *DPPH*, *Lotion*