

INTISARI

Ekstrak etanol buah strawberry, kulit buah jeruk bali, dan buah langsung terbukti secara ilmiah memiliki aktivitas antioksidan. Penelitian ini bertujuan mendapatkan formula krim penangkap radikal 2,2-difenil-1-pikrilhidrazil (DPPH) tipe *oil in water* (O/W) dengan penggunaan Polawax dan Simulsol 165 sebagai *emulsifying agent* serta penambahan Natrosol HBR dan Keltrol CG-SFT sebagai *thickening agent* untuk mendapatkan sifat fisik dan sifat kimia krim yang baik serta stabil.

Krim dibuat menjadi empat formula, yaitu: Polawax 7% (Formula 1), Simulsol 165 7% (Formula 2), Simulsol 165 7% dan Keltrol CG-SFT (Formula 3), serta Simulsol 165 7% dan Natrosol HBR 1% (Formula 4). Sifat fisika yang diukur adalah daya sebar, daya lekat, pH, viskositas, dan derajat pemisahan. Sifat kimia dilakukan dengan mengukur persen penangkapan radikal DPPH dari krim yang dilarutkan dalam etanol menjadi konsentrasi 0,225 mg/mL; 0,450 mg/mL; dan 0,675 mg/mL. Sifat fisik dan aktivitas penangkapan radikal DPPH krim diuji saat sebelum dan sesudah krim mengalami *cycling test*.

Formula krim yang paling stabil secara fisik adalah Formula 3 namun dari segi stabilitas kimia mengalami penurunan aktivitas setelah mengalami *cycling test* kecuali pada konsentrasi tinggi yaitu 0,675 mg/ml. Formula yang paling stabil secara kimia adalah Formula 1 karena stabil pada seluruh konsentrasi persen penangkapan radikal DPPH.

Kata kunci: strawberry, langsung, kulit jeruk bali, krim, DPPH

ABSTRACT

Strawberry fruit flesh, grapefruit fruit skin peel, and langsung fruit flesh in the form of ethanol extract have antioxidant activity. The aim of this research was to get the best formula of radical 2,2-dyphenyl-1,pikrylhydrazyl (DPPH) scavenging cream in a form of oil in water (O/W) using Polawax and Simulsol 165 as emulsifying agent also Natrosol HBR and keltrol CG-SFT as thickening agent then evaluating its physical and chemical properties also the stability from those properties.

There were four cream formulas: Polawax 7% (Formula 1), Simulsol 165 7% (Formula 2), Simulsol 165 7% and Keltrol CG-SFT 1% (Formula 3), also Simulsol 165 7% and Natrosol HBR 1% (Formula 4). Physical properties evaluation of the cream was done by evaluating spreadability, stickiness, pH, viscosity, and centrifugation test. Chemical properties evaluation of the cream was done by measuring radical DPPH scavenging percentage of the cream which dissolved with ethanol then made it into three concentration which are 0,225 mg/mL; 0,450 mg/mL; dan 0,675 mg/mL. The physical and chemical properties evaluation were evaluated before and after the cream gone through the cycling test.

The most stable cream in physical properties category is the Formula 3 but its chemical properties was decreasing after it been through the cycling test except for the highest concentration which was 0,675 mg/mL. The most stable cream in chemical properties category was Formula 1 because it was stable in every concentrations of radical DPPH scavenging percentage.

Keywords: strawberry, grapefruit, langsung, cream, DPPH