

INTISARI

Tetrahidropentagamavunon-0 (THPGV-0) merupakan salah satu senyawa analog kurkumin yang diketahui memiliki aktivitas antioksidan yang lebih baik dari vitamin E. THPGV-0 mulai dikembangkan dalam berbagai bentuk sediaan salah satunya adalah *lotion*. *Lotion* THPGV-0 diformulasikan dengan kombinasi asam stearat dan *triethanolamine* sebagai emulgator. Tujuan penelitian ini untuk mengetahui komposisi asam stearat dan *triethanolamine* yang akan menghasilkan formula *lotion* THPGV-0 yang menghasilkan sifat fisik yang optimum.

Penentuan formula optimum dengan metode *Simplex Lattice Design* menggunakan *software Design Experts* versi 10 dengan respon viskositas, *adhesiveness*, *cohesiveness*, dan pH. Stabilitas *lotion* akan diuji dengan metode dipercepat *freeze and thaw* dan sentrifugasi. Hasil uji formula optimum akan diverifikasi secara statistik dengan menggunakan metode *One-Sample-t-Test* dengan taraf kepercayaan 95%. Sifat fisik formula optimum akan dianalisis menggunakan *One-Way ANOVA*. Aktivitas antioksidan pada formula optimum akan diuji dengan metode DPPH.

Hasil penelitian menunjukkan bahwa formula optimum *lotion* memiliki komposisi asam stearat 10,45% dan TEA 1,55%. Formula optimum *lotion* memiliki pH $7,709 \pm 0,054$ dan viskositas $3405 \pm 20,817$ mPa.S. Hasil uji stabilitas dipercepat menunjukkan *lotion* mengalami kenaikan viskositas dengan metode *freeze thaw* dan *lotion* menunjukkan hasil yang stabil dengan metode sentrifugasi. Pada uji antioksidan diketahui bahwa *lotion* memiliki sifat antioksidan dengan nilai IC_{50} 112,093 mg/ml.

Kata kunci : THPGV-0, *lotion*, antioksidan, asam stearat, triethanolamine

ABSTRACT

Tetrahydropentagamavunon-0 (THPGV-0) is one of curcumin analog that already known for its antioxidant activity. THPGV-0 has a better antioxidant activity than vitamin E. THPGV-0 has been made into several pharmaceutical forms such as lotion. THPGV-0 lotion been formulated with stearic acid and triethanolamine as emulgator. This study was aimed to determine the amount of stearic acid and triethanolamine as emulgator in order to obtain a lotion with a good physical quality and stable in storage.

Optimization of THPGV-0 lotion formula was designed by using Simplex Lattice Design method. The stability of the lotion was tested by accelerated test with freeze thaw and sentrifugation method. The result of the optimum lotion test was statistically verified with one sample t-test. The result of lotion stability test was statistically analyzed with One-Way ANOVA. Analysis of radical scavenging activity was determined by DPPH method.

The optimal lotion formula was achieved with 10.45% of stearic acid and 1.55% triethanolamine. The optimum lotion formula has pH value 7.709 ± 0.054 and viscosity value 3405 ± 20.817 mPa.S. Tests with freeze thaw test showing that lotion has increasing in viscosity and test with sentrifugation indicate a stable lotion. The results showed that the THPGV-0 lotion has IC_{50} at 112,093 mg/ml.

Keyword : THPGV-0, lotion, antioxidant, stearic acid, triethanolamine