

ABSTRAK

Arsitya Pradana., 2021, OPTIMASI GELATIN DAN KARAGENAN SEBAGAI *GELLING AGENT* PADA SEDIAAN *GUMMY CANDY* PARASETAMOL DENGAN METODE *SIMPLEX LATTICE DESIGN*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI SURAKARTA.

Sediaan parasetamol yang beredar di pasaran saat ini berbentuk tablet, tablet kunyah, sirup, suspensi dan emulsi. Ketersediaan formula obat parasetamol untuk anak di Indonesia masih terbatas. Tujuan dari penelitian ini untuk melakukan suatu pengembangan sediaan parasetamol yang *acceptable* atau mudah diterima oleh masyarakat dalam bentuk sediaan permen kenyal yaitu *gummy candy*.

Rancangan formula *gummy candy* parasetamol untuk di optimasi dengan metode *Simplex Lattice Design* (SLD) kemudian pembuatan 8 run *gummy candy* variasi konsentrasi gelatin dan karagenan. Pengujian mutu fisik masing-masing formula *gummy candy* meliputi pengujian organoleptik, kekenyalan, pH dan kadar air. Validasi metode analisis dengan parameter akurasi, presisi, spesifitas, linearitas dan LOD LOQ kemudian dilanjutkan dengan pengujian keseragaman kandungan sediaan *gummy candy* parasetamol dengan menggunakan *spektrofotometer UV-Vis*.

Hasil penelitian konsentrasi gelatin dan karagenan berpengaruh terhadap kekenyalan, pH dan kadar air sediaan *gummy candy* parasetamol. Gelatin berpengaruh dominan terhadap peningkatan kekenyalan, karagenan berpengaruh dominan terhadap peningkatan pH dan kadar air. Formula optimum didapatkan dengan proporsi gelatin 599,226 mg dan karagenan 400,774 mg.

Kata kunci : gelatin, *gummy candy*, karagenan, parasetamol, *simplex lattice design*

ABSTRACT

Arsitya Pradana., 2021, OPTIMIZATION OF GELATIN AND CARRAGEENAN AS GELLING AGENT IN PARASETAMOL GUMMY CANDY PREPARATION USING *SIMPLEX LATTICE DESIGN* METHOD, SKRIPSI, FACULTY OF PHARMACY,SETIA BUDI UNIVERSITY SURAKARTA.

Tablets, chewable tablets, syrups, suspensions, and emulsions are all examples of paracetamol formulations available today. In Indonesia, the availability of paracetamol medication formulations for children remains limited. The goal of this study was to create a paracetamol preparation in the shape of a chewy candy, specifically gummy candy, that is acceptable or easily accepted by the general audience.

The Simplex Lattice Design (SLD) approach was used to optimize the formula for paracetamol gummy candy, which was then used to make gummy candy with different concentrations of gelatin and carrageenan. Organoleptic testing, elasticity testing, pH testing, and water content testing are all part of the physical quality testing of each gummy candy formula. Validation of the analytical method using accuracy, precision, and specificity parameters.

The researchers discovered that the amount of gelatin and carrageenan in paracetamol gummy candy preparations affected the elasticity, pH, and water content. Carrageenan has a dominant influence on boosting pH and water content, while gelatin has a dominant effect on improving flexibility. The best formula had 599,226 mg of gelatin and 400,774 mg of carrageenan.

Keywords : carrageenan, gelatin, gummy candy, paracetamol, simplex lattice design