

ABSTRACT

This research was about formula optimization of carrot filtrate as UV protection gel dosage form using sorbitol, glycerol and propilenglycole as humectants. The research aimed to obtain the optimum composition of the humectants which obtained good physical properties and good stability of gels.

The design of the research was experimental design and using 3 component's simplex lattice design method, which has got UV protection gel which is acceptable. Each formula was tested in terms of spreadability, viscosity, and viscosity shift. The equation of its formula was analysed statistically using F test with 95 % confidence level. Contour plot for each physical properties test was made and all were combined to yield superimposed contour plot, which showed optimum area of sorbitol, glycerol, and propilenglycole composition.

Optimum diameter of spreadability was determined around 4-5 cm and optimum viscosity was determined around 275 d.Pa.S-325 d.Pa.S, while gel stability was determined with the viscosity shift less than 5%. From the results the optimum superimposed contour plot was obtained.

Keywords :
carrot filtrate, UV protection, sorbitol, glycerol, propilenglycole, simplex lattice design.