

Optimisation of an effervescent pineapple tablet

ABSTRACT

This study is mainly undertaken to design and optimize an effervescent tablet formulation of Josapine pineapple by using the D-optimal experimental design methodology. Josapine pineapple powder, citric acid, sodium carbonate and stevia were used in the formulations as independent variables. Tablets were prepared by the direct compression method and evaluated for their disintegration time and sensory properties which were regarded as responses in a D-optimal design. Formulation V3 was selected as the optimum formulation with pineapple powder, citric acid, sodium carbonate and stevia at 49.59, 20.00, 11.96 and 18.45%, respectively. In addition, V3 has a very fast disintegration time and quite high overall acceptability which represents the consumer approval. The observed values of the responses obtained from the optimized formulation were very close to the predicted values where the euclidean distance calculated for V3 was equal to 0.26. In conclusion, this study reveals that the effervescent pineapple tablet has a wide potential for future development and can be enhanced for commercialization.

Keyword: D-optimal; Effervescent tablet; Stevia; Josapine pineapple powder