

**FORMULATION AND CHARACTERIZATION OF PLGA POLYMER
NANOPARTICLES FROM SNAKE FRUIT SKIN EXTRACT (*Salacca zalacca*
cv. (Gaertn.) Vos.). USING THE SOLVENT EVAPORATION METHOD**

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ABSTRACT

The purpose of this study was to preparation formulation and characteristics of polylactic-co-glycolic-acid (PLGA) polymer nanoparticles from snake fruit skin extract (*Salacca zalacca cv. (Gaertn.) Vos.*). The nanoparticle preparations were prepared using the organic phase emulsification method into the water phase followed by solvent evaporation with stirring using a stirrer. Characterization carried out included organoleptic observation, globule size determination, potential zeta, stability test, and morphological observation. The results of qualitative analysis using thin layer chromatography (TLC) and tube reaction aimed at skin extracts of snake fruit containing flavonoids. Organoleptic results obtained in the form of a turbid white sample color, with a slight odor of ethyl acetate, and samples in the form of suspension liquid, for globule size, obtained values of 174.9 ± 3.119 nm, Polydispersity index 0.375 ± 0.117 Đ. and the zeta potential is -36.4 ± 1.22 mV. In the morphological observation test using Transmission Electron Microscopy (TEM), the sample has a spherical morphological shape and a monodisperse distribution form. The results of the stability test of PLGA nanoparticles from bark extract of *Salacca (Salacca zalacca cv. (Gaertn.) Vos.)* Still remained stable in the cold, liquid freeze and resistance cycles in dilutions of 25, 50, 100, 250 times. It was concluded that snake fruit skin extract can produce good nanoparticle preparations.

Keywords: *Snake fruit skin, fFlavonoids, polylactic-co-glycolic-acid (PLGA) polymers, emulsification.*