

ABSTRACT

EFFECT OF MYRISTIC ACID COMPOSITION ON PARTICLE SIZE OF NANOSTRUCTURED LIPID CARRIERS (NLC) KOENZIM Q10

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Aging is a biological process that cannot be avoided and is not a pathological condition, it is correlated with various skin and body pathologies, including disorders, degenerative, benign and malignant neoplasms. Coenzyme Q10 is a natural compound found in the mitochondrial inner membrane. This study aims to determine the effect of Myristic Acid concentration on the particle size of nanostructured lipid carriers coenzyme Q10 as an anti-aging preparation. This research begins with the optimization of 3 different formulas of myristic acid (10%, 11% and 12%), and containing the active ingredient coenzyme Q10 as much as 1%. Physical characteristics evaluation was carried out after 24 hours after the preparation was made, the formula nanostructured lipid carriers coenzyme Q10 cream was stirred using Ultraturax High Shear Homogenizer. Observations were made to test the particle size using a Particle Size Analyzer (PSA). The results of the research on the particle size of each of the resulting formulas are in the size range of 20-200nm. The results of the particle size of each formula have a particle size range of F1 = 134,13-132,73 nm; F2 = 117,58-119,57 nm and F3 = 101,36-102,84 nm. The research data were statistically processed using Shapiro-Wilk analysis and the Anova One Way follow-up test. The results of this study indicate that differences in the concentration of Myristic Acid have an effect on particle size in the preparation of nanostructured lipid carriers coenzyme Q10 with no significant difference ($p > 0.05$).

Keyword :Coenzyme Q10, Myristic Acid, Nanostructured Lipid Carriers, Particle Size