

ABSTRACT

PENGARUH KECEPATAN PENGADUKAN PADA PEMBUATAN NANOSTRUCTURED LIPID CARRIER (NLC) KOENZIM Q10 TERHADAP STABILITAS FISIK

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Coenzyme Q10 functions as an antioxidant that can protect the body from damage caused by free radicals. Coenzyme Q10 is a fat-soluble compound which has the weakness of having poor penetration in penetrating the skin, so it is necessary to choose a delivery system that can improve stability and increase penetration, one of which is making a Nanostructured Lipid Carrier (NLC) preparation. This research aims to determine the effect of stirring speed in the preparation of Nanostructured Lipid Carrier (NLC) coenzyme q10 on physical stability, with a solid lipid formula of 10% myristic acid and 7% caprylic liquid lipid, using 3 different variations of stirring speed, namely: F1 (3,500 rpm) , F2 (7,000 rpm), F3 (11,000 rpm). The NLC preparation that has been made is then stored for 24 hours for physical stability testing of the preparation including organoleptic tests (shape, color and odor), homogeneity test, pH test and spreadability test. Using 3 stability test methods, namely: Centrifugation Method, Heat-Shock Method, and Freeze-Thaw Method. The results obtained from the Freeze-Thaw method test can be concluded that the average produced at each pH in the test meets the skin pH range specifications, namely in the range 4.5 - 6.5, while the pH value before F1 was obtained was 5.48, F2 5.4, F3 5.58 while the pH value after obtaining F1 5.67, F2 5.2. The pH value of the preparation must meet specifications. testing before had met the specifications for the spread power range, namely 5-7 cm, while the test results before the spread power were F1 5.7, F2 6.6, F3 6, while the test results after the spread power did not meet the specifications with results F1 3.6, F2 4.3. Based on the stability test before and after, it can be concluded that the stirring speed in each formula influences the results of the stability test after the preparation has been tested.

Keywords: *Coenzyme Q10, influence of stirring speed, physical stability of nanostructured lipid carrier (nlc) preparation.*