PREPARATION AND STABILITY OF COSMETIC EMULSIONS ENRICHED BY LIPOSOME PARTICLES WITH NATURAL UV FILTERS

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Abstract

Presented work is focused on possibilities of preparation of cosmetic emulsion with added liposome particles. Beta carotene, tocoferol, vitamin C and catechin as representative of natural antioxidants and UV filters were encapsulated into liposomes using several types of techniques.

Sedimentation stability of emulsions was analyzed by analytical ultracentrifugation. The efficiency of encapsulation was evaluated by HPLC/UV-VIS and spectrophotometrical methods. Size of prepared particles was determined by dynamic light scattering and stability of particles was determined using zeta potential. Moreover, long-term stability of particles in cosmetic emulsions was studied too. To analyse sun protection factor (SPF) spectrophotometry was used.

In this work it was found that prepared oil-in-water emulsions enriched by liposome particles are physically stable and can be used in sunscreen preparations. All of actives were encapsulated with high efficiency a and prepared particles exhibited excellent stability. It was found, that neither type of particle or encapsulated substance does not significantly affect the sedimentation stability of emulsions.

Keywords: Cosmetic emulsion, liposom, UV filter, encapsulation

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