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A New Transdermal Drug Delivery System Containing Hydroquinone

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***SUMMARY*. Hydroquinone (HQ) is a drug reported to possess manifold biological activities. HQ is highly unstable into various topical vehicles, presenting low topical bioavailability and a relevant level of toxicity. The Pluronic® Lecithin Organogel (PLOme) is a phospholipidic microemulsion designed for transdermal purposes. The aim of this work was therefore to incorporate HQ into PLOme. We evaluated the stability, the kinetic profile and the antimicrobial activity of HQ- incorporated PLOme. No relevant pH variation was observed. Long-term stability test showed an HQ degradation which led to a short shelf life. HQ permeation rate obtained was lower from PLOme than from a gel matrix. Free and PLOme-encapsulated hydroquinone showed to have a great *in vitro* inhibitory potential against of *S. aureus* strains. The encapsulation of HQ due its unstable characteristics could be an alternative to optimize its therapeutic usage, and so further investigation is required on this pharmaceutical form before commercialization.**

KEY WORDS: Hydroquinone, Kinects, Pluronic® lecithin organogel, Stability, *Staphylococcus aureus* transdermal liposome.

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