

Title: **Determination of the skin permeation of cosmetic creams components through PAMPA measurements.**

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Cosmetics are becoming increasingly important in daily life; they are used regularly by an increasing number of people and large quantities are consumed every year.

In the development of a new cosmetic product, one of the most important steps is the study of the skin permeability, of the new used substances; to evaluate their security and efficacy. Due to the high demand for cosmetic products, there is a need to define a fast and effective method to analyse the permeation of these compounds. Nowadays, for permeability analysis it is very common the use an “in vitro” technique that imitates the skin permeability. This is the case of skin parallel artificial membrane permeability assay (skin-PAMPA), an effective technique to reproduce the passive diffusion of compounds, through the stratum corneum (skin limiting layer). For the development of the skin-PAMPA method is very important the use of a good quantification technique that analyses the product concentration that has crossed the artificial membrane.

In this work, an exhaustive bibliographic search has been carried out to find which are the most used compounds in cosmetic creams at the moment, so that interest in the study of their permeability is expected. These are collagen, lactic acid, ascorbic acid, hyaluronic acid, and cannabidiol.

Then, another search about the most commonly used quantification methods for each of the selected compounds has been performed. Finally, among the encountered methods, one of them has been selected to be implemented in the quantification step of the skin-PAMPA technique, in case of a possible subsequent experimental analysis of the permeation of these compounds, in the future, in the laboratory.

Keywords: Cosmetic industry, cosmeceutical, cosmetic cream, skin-PAMPA, skin permeation, quantification, collagen, lactic acid, hyaluronic acid, ascorbic acid, cannabidiol..