

# **SYNTHESIS OF TRANSDERMAL PERMEATION ACCELERANTS ON THE BASIS OF PIPERIDIN-3-KARBOXYLIC ACID**

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Transdermal permeation enhancers are chemical compounds which facilitate the drug delivery through the skin. They influence the stratum corneum, as the outer layer of the epidermis. Basic requirements for the enhancer are safety, drug compatibility, biodegradability, and that they must be non-toxic and non-irritating.

The model structure was effective transcarbamate 12, according to which have been synthesized its cyclic analogues:

- Hydrobromide of piperidine-3-carboxylic acid decylester
- Hydrobromide of piperidine-3-carboxylic acid dodecylester
- N-acetyl derivative of piperidine-3-carboxylic acid decylester
- N-acetyl derivative of piperidine-3-carboxylic acid dodecylester
- 3-(decyloxycarbonyl)piperidinium-3-(decyloxycarbonyl)piperidine-1-carbamate
- 3-(dodecylexycarbonyl)piperidinium-3-(dodecylexycarbonyl)piperidine-1-carbamate

Those compounds have been characterized by common spectral methods.

The transdermal permeation activity has been consequently evaluated on the porcine skin in the Franz cells, using theophylline as the model penetrating drug.

The activity has been evaluated using the HPLC method and determined by the Microsoft Excel. The results demonstrated higher activity, both of N-acetyl derivatives of piperidine-3-carboxylic acids, and of carbamates of those esters, then transcarbamate 12 and compounds, which I have synthesized, have.