1. SUMMARY

The major aim of this dissertation was to synthesize and test isosteric analogs of T12. On the whole, 76 new compounds were prepared which have not previously been published. 28 compounds were tested as the transdermal permeation enhancers.

Structure of these synthesized compounds was confirmed by FTIR, ^{1}H NMR and ^{13}C NMR analysis. Purity of the carbamate salts was verified by CHN analysis.

With respect to the results, financial and time demandingness, permeation-enhancing activity was measured only on selected compounds. More than 400 permeation experiments were performed, more than 3000 HPLC chromatograms were analysed.

To sum up, the permeation studies have shown that there is the relationship between structure and action of the studied compounds in the middle-lipophilic donor medium. Permeation-enhancing activity from the 60% propyleneglycol donor medium is in the following order: ester >> carbonate > ketone ≥ amide = carbamate = alkane.

Furthermore, there have been found another arguments confirming proposed mechanism of action of T12 – CO_2 release in stratum corneum.