

ABSTRACT

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Thesis Title: Determination of Lipophilicity of Potential Drugs

This rigorous thesis deals with the determination of lipophilicity of new synthesized potential drugs based on pyrazine structure by reversed phase high performance liquid chromatography.

The theoretical part contains a brief overview of the drugs development and clinical studies, there are also summarized historical and currently common used processes for lipophilicity estimating, including the basic principles of chromatography.

Another part of thesis is engaged in to the measurement of specific samples of drugs on a Zorbax ECLIPSE XDB-C8 600 Bar, 50.0x3.0 mm, 1.8 μm column. This column was chosen in order to shorten the retention times of the measured samples compared with C18 column packing. For the lipophilicity values of the examined drugs are considered the logarithm of capacity factor values which were determined by extrapolation to zero concentration of methanol in the mobile phase.

In conclusion there was made a comparison of the results with the values previously obtained on a Zorbax ECLIPSE XDB-C18 600Bar, 50.0x4.6 mm, 1.8 μm column and the values obtained by a mathematical calculation in program ChemDraw Ultra 12.0.

Keywords: drugs, drugs development, lipophilicity, reversed phase liquid chromatography, capacity factor