

## Abstract

This thesis deals with the optimization of separation conditions determine paracetamol, caffeine, propifenazone and 4-aminophenol in Proprietary Medicinal Products Valetol. As an analytical method was chosen HPLC with UV detection mainly for the following reasons:

- many other tablets contain excipients which are from the sample during analysis impossible, and separated themselves determination of active substances
- to monitor the stability of active substances

The work was conceived as original, and the emphasis is on the greatest possible simplicity and less time consuming and optimized separation while maintaining high accuracy and reliability of the method. Optimal conditions suitable for the final validation of the separation were found on a column of C-18 RP-amide. Total analysis time does not exceed 13 minutes with equilibration after gradient elution of the column to its original condition. All substances are separated with a resolution greater than 1.5. The peaks of substances are symmetric and do not show significant peak tailing besides AMF. The zero line is despite the gradient elution stable.