

ABSTRACT

Charles University, Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Chemistry and Pharmaceutical Analysis

Candidate: Samuel Sovič

Tutor: PharmDr. Pavla Pilařová, Ph.D.

Title of Thesis: The use of liquid chromatography in pharmaceutical analysis II

The diploma thesis deals with the analysis of the retention behavior of selected antiepileptics: Gabapentin, Levetiracetam, Primidone and Lamotrigine. Three different C₁₈ stationary phases were tested such as Phenyl; PFP; Kinetex, different mobile phase composition, column temperature and suitable wavelengths in the range of 210-220 nm for all analytes. The optimal analysis conditions were on an Agilent Eclipse XDB-Phenyl 5 μm column (4.6 mm x 150 mm), at a temperature of 40 °C and a flow rate of MP at 0.8 ml/min, at a wavelength of 220 nm. By creating a gradient, the analysis was shortened from 15 minutes with isocratic elution to 9 minutes. The method was partially validated in terms of linearity, accuracy, precision, selectivity and robustness. After that, the method was applied for real samples of patients from FN HK.