

## **Abstract**

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Diploma Thesis Title: Application of the Instrumental Methods in Analysis of the Pharmaceutical Preparations

The development and validation of a new high performance liquid chromatography method for the determination of calcium chloride dihydrate in the injection solution are described. This method is based on the combination of ion exchange chromatography and undirect spectrophotometric detection. Ion chromatography was performed in a cation-exchange Supelcosil LC-SCX analytical column (250 mm x 4,6 mm; 5  $\mu$ m) under isocratic conditions with 10 mM nitric acid ( $\text{HNO}_3$ )/ethylenediamine (EDA) pH 3,0 with addition of the probe cupric sulfate pentahydrate as mobile phase at flow-rate 1.0 mL/min. The effects of pH mobile phase, concentration of the competing ion, organic modifiers, and concentration of probe were studied.

Keywords: calcium chloride dihydrate, high performace liquid chromatography, ion exchange chromatography, undirect spectrophotometric detection