OPTIMIZATION OF RAPID AND SIMPLE HPLC-DAD METHOD FOR ANALYSIS OF GLYCOALKALOIDS SOLANINE AND CHACONINE IN POTATOES

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Abstract

A simple and rapid HPLC-DAD method has been developed for separation of glycoalkaloids solanine and chaconine in potatoes. Several HPLC method variables have been tested, including series of mobile phases with different amount of organic modifier acetonitrile in the mobile phase, the effect of buffer concentration and pH, as well as the effect of temperature and flow rate on the retention and resolution of the analysed analytes. Separation of solanine and chaconine was performed on a Shimadzu Shim-pack GIST C18 column (250 mm × 4 mm I.D., 5 µm particle size). Satisfactory resolution and relatively short analysis time were obtained when separation was performed at ambient temperature with isocratic elution, using the optimal mobile phase consisting of 30 % (*v/v*) acetonitrile and 70 % KH_2PO_4 with concentration of 20 mM and pH 6,57. The flow rate on the mobile phase was 1 mL/min and detection of solanine and chaconine was performed on a wavelength of 204 nm.

Key words: *olanine, chaconine, HPLC optimization*.