ABSTRACT

This rigorous thesis deals with modification of method for separation carotenoids lutein, betacarotene and zeaxanthin borrowed from diploma thesis (Optimization of chromatographic conditions for HPLC determination of chosen carotenoids, Petra Dvořáková, 2009). HPLC with VIS detection is the basic method. This method was modified by gradient elution for compressed time of analysis. Four ways of gradient elution were tested during optimization of new procedure. The second aim of this rigorous thesis is summary of extraction ways for carotenoids published in special literature and proposition of extraction procedures for carotenoids from dietary products. Extraction with organic solvents was used during searching for optimal way for extraction. Simple extraction with organic solvent was tested as basic method, but extraction with previous modification of sample (saponification or acidification of extraction medium) was tested too. In spite of testing of many various ways for extraction and many various organic solvents, there wasn't find optimal and universal extraction way.