

Abstract

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Title of Thesis: Determination of estrogen derivatives by sequential injection chromatography

This work presents the first utilization of sequential injection chromatography for determination of four estrogen derivatives with similar structure and an internal standard (ethylparaben) with the use of monolithic column Merck® Chromolith® Performance RP-18e 100 mm × 3 mm and pre-column Merck® Chromolith® RP-18e 5 mm × 3 mm of total length 105 mm. A commercially available SIC system – SICrom™ (FIALab® Instruments Inc., USA), mobile phase composed of acetonitrile:water 40:60 (v/v) and CCD UV-VIS detector were used. Spectrophotometric detection was set up at wavelength of 225 nm. The injected volume of sample solutions was 10 µl and 3 ml of mobile phase was pumped isocratic at flow rate 8 µl.s⁻¹. High separation efficiency, good peak symmetry and resolution were obtained at these conditions, showing another possibility of use sequential injection chromatography in analytical chemistry.

Keywords: sequention injection chromatography, monolithic columns, estrogens