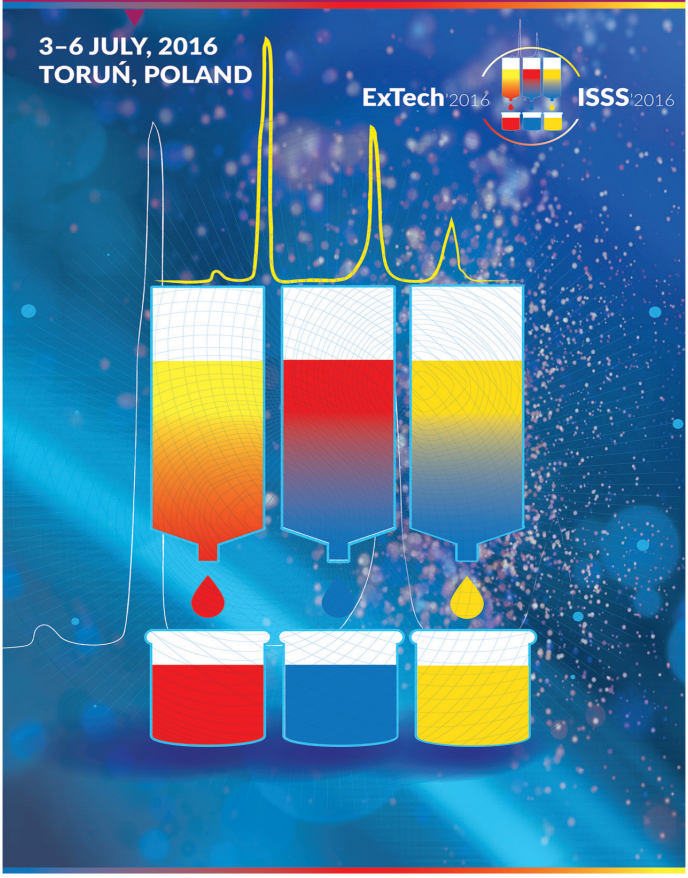
ExTech'2016 ISSS'2016

18TH INTERNATIONAL SYMPOSIUM ON ADVANCES IN EXTRACTION TECHNOLOGIES & 22ND INTERNATIONAL SYMPOSIUM ON SEPARATION SCIENCES



Ministerstwo Nauki i Szkolnictwa Wyższego

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S1–P3

Effect of temperature on enantioseparation of selected drug substances Solid-phase microextraction of endocrine disruptors from water samples

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Among the wide range of organic compounds used in human activities, the group of substances, called "endocrine disruptors", should be highlighted. Endocrine disruptors such as man-made and natural hormones caused a need to improve the analytical base of determination of hormones in the environment. Existing methods for determining endocrine disruptors in water bodies are based on chromatographic analysis [1-3].

Modern requirements of "green" analytical chemistry to the development of new effective methods are aimed to reduction and complete elimination of the use of toxic organic solvents.

In this work, researches were carried out on model samples of surface waters of large water bodies of the Republic of Kazakhstan: Syrdarya river and Balkhash lake, contaminated with a mixture of hormones: ethinylestradiol, norgestrel, mesterolone, 17α-estradiol, 17β-estradiol.

Determination of endocrine disruptors in water samples was performed using gas chromatography system with mass spectrometric detection (7890A/5975C). Extraction coating based on 100 μm of polydimethylsiloxane was used for solid-phase microextraction of endocrine disruptors. Extraction of analytes was carried out by immersing the fiber into the water sample. This technique allowed to determine five added hormones in water.

The optimized parameters of solid-phase microextraction made it possible to determine all the target analytes in the samples. The detection limit of the developed technique does not exceed 0.02 mg/L.

References: [1] A. Mousa, C. Basheer, A. Rahman Al–Arfaj, Application of electro-enhanced solid-phase microextraction for determination of phthalate esters and bisphenol A in blood and seawater samples, Talanta 115(2013), 308–313.

[2] K. Sanfilippo, B. Pinto, M.P. Colombini, U. Bartolucci, D. Reali, Determination of trace endocrine disruptors in ultrapure water for laboratory use by the yeast estrogen screen (YES) and chemical analysis (GC/MS), J. Chromatogr B 878(2010), 1190–1194.

[3] R.I. Bonansea, M.V. Amé, D.A. Wunderlin, Determination of priority pesticides in water samples combining SPE and SPME coupled to GC-MS. A case study: Suquia River basin (Argentina), Chemosphere 90 (2013), 1860–1869.

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