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Branislav Vrana, Lucie Komancová, Jaromír Sobotka

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[1]Branislav Vrana, [1]Lucie Komancová and [1]Jaromír Sobotka

Masaryk University, Faculty of Science,Research Centre for Toxic Compounds in the Environment (RECETOX), Kamenice 753/5, 625 00 Brno, Czech Republic

Corresponding author:

Branislav Vrana

Research Centre for Toxic Compounds in the Environment (RECETOX)

Faculty of Science

Masaryk University

Kamenice 753/5, pavilon A29

625 00 Brno

Czech Republic

tel: +420 549 494 975

e-mail: vrana@recetox.muni.cz

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Abstract

A passive sampler based on stir bars coated with polydimethylsiloxane (PDMS) was calibrated for the measurement of time-weighted average concentrations of hydrophobic micropollutants, including polycyclic aromatic hydrocarbons, polychlorinated biphenyls and organochlorine pesticides, in water. Stir bar/water partition coefficients were measured by equilibrating bars wih sheets made of silicone rubber material for which partition coefficients had been reported previously. Kinetic parameters characterising the exchange of analytes between stir bars and water were determined under controlled exposure conditions using a passive dosing system. The dosing system consisted of silicone rubber sheets with a large surface area, spiked with analytes. During stir bar sampler