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Czech J. Food Sci.

**Drábová L.,
Pulkrabová J.,**

**Kaláčková K.,
Hradecký J.,
Suchanová M.,
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J.:**

Novel approaches to determination of PAHs and halogenated POPs in canned fish

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A simple method is described for simultaneous isolation of 7 indicator polychlorinated biphenyls (PCBs), 10 polybrominated diphenyl ethers (PBDEs), 22 organochlorine pesticides (OCPs), and 16 polycyclic aromatic hydrocarbons (16 EU PAHs). The sample preparation procedure, including a pressurised liquid extraction (PLE) followed by gel permeation chromatography (GPC) for the selective isolation of the target compounds, was optimised and validated.

For the final identification/quantitation of the target PCBs, PBDEs, OCPs, and PAHs, gas chromatography (GC) coupled to a high speed time-of-flight mass spectrometer (TOF MS) was used. The performance characteristics of the procedure were assessed including the recoveries (86– 118% for PCBs, 73– 113% for PBDEs, 71– 113% for OCPs, and 85– 111% for PAHs), repeatabilities (3– 12% PCBs, 3– 9% PBDEs, 1– 11% OCPs and 3– 10% PAHs), and limits of quantitation (LOQs – 0.5 µg/kg PCBs, 0.1– 0.3 µg/kg PBDEs, 0.1– 0.5 µg/kg OCPs, and 0.03– 0.1 µg/kg PAHs). Within the follow-up study, this method will be used for the monitoring of contamination of canned fish and sea food products available at the Czech market.

Keywords:

PAHs; POPs; canned fish; GC-TOF MS

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