CONffIDENCE WP1

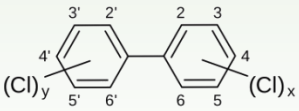
Rapid and cost-efficient tests for organic pollutants and pesticides in the food chain

Introduction

The CONffIDENCE project (Contaminants in Food and Feed; Inexpensive Detection for Control of Exposure) aims to further improve food safety in Europe by the development of fast and cost-efficient methods for the detection of a wide range of chemical contaminants in different food and feed commodities. The project is funded by the European Commission in the 7th Framework Programme, call identifier FP7-KBBE-2007-1, Grant Agreement number 211326.

Work package 1 focuses on the development of detection methods for various organic pollutants and pesticides in fish, (fish) feed, cereals, potatoes and vegetables.

Persistent organic pollutants



Objectives

- Single, simplified extraction method for POPs.
- Multiplex flow cytometric immunoassay for POPs.
- Mass spectrometry profiling strategy.



Results so far

- Extraction, clean-up, identification and quantification of BFR, PCB, PAH, non-ortho PCB in fish by GC-TOF-MS in just one hour.
- Method selected by AOAC as candidate method for evaluation of oil spill in Gulf of Mexico in 2010.
- Prototype flow cytometric assay for PCB, PBDE and PAH.

Contact

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Perfluorinated compounds

Objectives

- Harmonized simplified mass spectrometric assay for PFCs.
- Toxicological assessment of different PFCs.

Results so far

- Fast simplified LC-MS/MS method for PFCs in fish and milk established.
- Toxicity evaluation using standard tests



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Pesticides

Objectives

- Electrochemical magneto immunosensor assay for paraquat and diquat.
- Feasibility of DESI/DART approach to detect dithiocarbamates on vegetables/fruit surfaces

Results so far

- Prototype electrochemical magneto immunosensor assay sensitively detects paraquat but not successful for diquat.
- DESI/DART allows rapid detection of thiram and ziram at MRL level on several vegetables/fruits, but an intermediate rinsing step is required.

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