

Optimization of POP analysis in small sample amounts.

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The use of human dried-blood spots (DBS) as a minimally invasive method to assess exposure to persistent organic pollutants (POPs) is gaining interest. Considering a few microliters (20-100 μ L) of capillary blood to measure selected representative POPs however represents several serious analytical challenges, mainly in terms of method sensitivity and handling of blank levels. We report on the study of cryogenic zone compression (CZC) gas chromatography (GC) hyphenated to high-resolution (HR) time-of-flight (TOF) mass spectrometry (MS), operating in low temperature negative chemical ionization (NCI) mode for isotope dilution (ID) quantification of PCB-153 and DDE in 20 μ L DBS. These preliminary data are promising in terms of considering DBS testing for characterization of human exposure to selected POPs.