Agilent Technologies

Agilent J&W CP-WAX 52 CB

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Environmental

Rapid determination of ultra-trace amounts of acrylamide contaminant in water samples using dispersive liquid–liquid microextraction coupled to gas chromatography-electron capture detector

International Journal of Environmental Analytical Chemistry, **92**, 1493-1505 (2012)
Yadollah Yaminia *et al.*

Tags
CP-Wax 52 CB, DB-5, 6890N GC, 5973 MSD, environmental, water analysis

Abstract
The objective of the present study was to develop and validate a rapid, highly sensitive, and reliable extraction method to determine acrylamide in water samples. The method was based on the derivatisation of the acrylamide in the presence of KBr, HBr and saturated Br_2 solution into 2,3-dibromopropionamide and dispersive liquid–liquid microextraction (DLLME) followed by gas chromatography–electron capture detection (GC–ECD) of the analyte. Different parameters that affect the DLLME process such as types and volumes of disperser solvent, ionic strength of aqueous solution and extraction time were investigated and optimised. Under optimal conditions, excellent linearity was obtained between concentration of acrylamide and the response of ECD with correlation of determination (R^2) of 0.9999. The precision of the method, which was determined by calculating the relative standard deviations (RSD) of the at least three replicate measurements, was 3.6%. The method presented in this study is sensitive enough for the determination of acrylamide in different water samples with the limit of detection (LOD) value of 1 ng L^{-1}. The mean percentage recoveries exceeded 91% for all of spiking levels in the real water samples. The results obtained from DLLME method are validated by EPA method 8032A.

Food testing and agriculture

Purification of vetiver alcohols and esters for quantitative high-performance thin-layer chromatography determination in Haitian vetiver essential oils and vetiver acetates

Journal of Chromatography A, **1241**, 103-111 (2012)
Lionel Paillat *et al.*

Tags
VF-WAXms, VF-1ms, DB-WAX, CP-Sil 5 CB, CP-WAX 52 CB, 7890 GC, 5975C MSD, 6890N GC, 5973N MS, food testing & agriculture, dietary supplements, natural compounds & additives

Abstract
GC/MS and comprehensive GC × GC/MS analysis, using a range of Agilent J&W columns fitted to different Agilent GC/MS systems, was used to quantify alcohols and acetates in Haitian vetiver essential oils. Published by Elsevier B. V.

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