Agilent Technologies

Agilent J&W HP-1

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Table of contents

Clinical research

Quantitative analysis of trimethylsilyl derivative of hydroxyurea in plasma by gas chromatography-mass spectrometry

Journal of Chromatography B, **831**, 42-47 (2006)
H. James *et al.*

Tags
HP-1, 5890 GC, 5970 MSD, clinical research, disease research

Abstract
Analysis of an antitumor drug from plasma was achieved using an Agilent J&W HP-1 GC column. Published by Elsevier B. V.

Energy and chemicals

Fast chemical fingerprinting analysis for biodiesel/diesel blends using commercial solid phase extraction (SPE) cartridge and gas chromatography–mass spectrometry (GC–MS)

Analytical Methods, **5**, 1205-1213 (2013)
Xinchao Ruan *et al.*

Tags
DB-225, HP-5, 6890 GC, 5973 MSD, energy and chemicals, biofuels and alternative energy

Abstract
Characterizations of n-alkanes, PAHs, petroleum biomarkers, and FAMEs were performed on an Agilent 6890/5973 GC/MSD fitted with Agilent J&W HP-5 and DB-225 columns, respectively. Published by the Royal Society of Chemistry.

Environmental

Assessment and analysis of phthalate esters, in Lake Pontchartrain, by SPME combining with GC-MS

Environmental Technology, **34**, 453-462 (2013)
Pengyan Liu *et al.*

Tags
HP-1, 5890 GC, 5971 MS, environmental, water analysis

Abstract
This study for the first time reports a quantitative analysis of phthalates and spatial distribution of phthalates in Lake Pontchartrain, Louisiana, USA using solid phase micro-extraction (SPME) coupled with gas chromatography mass spectroscopy (GC-MS). During 2008–2009, di-n-butylphthalate (DnBP) along with its congener (DiBP) and di(2-ethylhexyl) phthalate (DEHP) were detected in Lake Pontchartrain. Concentrations of these phthalates in the lake were monitored in different areas before and after the opening of the Bonnet Carré Spillway that occurred from April to May in 2008. The concentration of Σ_3PAEs (DnBP, DiBP and DEHP) ranged from 0 to 20 µg/L in the surface water of the lake from March 2008 to June 2009. The distribution of the three phthalates varied with locations in the lake. An increase trend of Σ_3PAEs was observed after the opening of the Bonnet Carré Spillway in the central lake area. The observed increase of the phthalates could be correlated to the opening of the spillway. The SPME followed by GC-MS employed in this study has been proved to be a rapid, sensitive and practical method to quantitatively analyse and evaluate phthalate concentrations in salt lake waters. © 2013 Taylor & Francis.

Zero valent iron reduces toxicity and concentrations of organophosphate pesticides in contaminated groundwater

Chemosphere, **90**, 627-633 (2013)
Annika S. Fjordbøge *et al.*

Tags
HP-1, DB-210, 5890 GC, 6890 GC, environmental, water analysis

Abstract
Organophosphates from water and iron samples were detected by GC on an Agilent 5890 with Agilent J&W Scientific DB 210 and HP-1 columns. Chlorinated compounds and p-nitrophenol were detected by HPLC using an Agilent 1100. Published by Elsevier B. V.

Direct and simultaneous determination of trace-level carbon tetrachloride, peroxyacetyl nitrate, and peroxypropionyl nitrate using gas chromatography-electron capture detection

Journal of Chromatography A, **1266**, 110-115 (2012)
Gen Zhang *et al.*

Tags
DB-210, DB-5, DB-1, HP-1, 5890 GC, environmental, air analysis

Abstract
The authors describe a novel method for directly and simultaneously measuring atmospheric carbon tetrachloride, peroxyacetyl nitrate, and peroxypropionyl nitrate in air using GC/ECD with an Agilent J&W DB-1 GC column. Published by Elsevier B. V.

Food testing and agriculture

Severe Intoxication with the Veterinary Tranquilizer Xylazine in Humans

Journal of Analytical Toxicology, **25**, 245-249 (2001)
U. Hoffmann *et al.*

Tags
HP-1, food testing and agriculture, veterinary drugs

Abstract
Xylazine (Rompun®, Proxylaz®) is a veterinary tranquilizing agent. A case of self-injection of 1.5 g xylazine by a 27-year-old farmer is reported. He subsequently became comatose, hypotensive, bradycardic, and mildly glycemic. An intensive supportive therapy including intubation and ventilation was required. The patient made a full recovery over the next 30 h. The largest concentrations measured were 4.6 mg/L in plasma, 446 mg/L in gastric fluid, and 194 mg/L in urine. The calculated plasma half-life was 4.9 h. Kinetic data correlated with clinical symptoms. Qualitative and quantitative analyses of xylazine were done by thin-layer chromatography, gas chromatography–mass spectrometry, and high-performance liquid chromatography. These methods allow the detection of small amounts substance in stomach, plasma, and urine. Liquid–liquid extraction was used for the isolation of drug. The sensitvity is high, and with these methods, a rapid analysis is possible. Xylazine intoxications in humans are rare. We describe the management of acute poisoning and present a review of xylazine toxicity in humans.

Forensics and toxicology

Rapid method for the simultaneous measurement of nicotine and cotinine in urine and serum by gas chromatography-mass spectrometry

Journal of Chromatography B, **708**, 87-93 (1998)
H. James, Y, Tizabi, R. Taylor

Tags
HP-1, 5890A GC, 5970B MSD, 7673A Autosampler, forensics and toxicology

Abstract
An Agilent J&W HP-1 GC column, fitted to an Agilent 5890A GC with 5970B MSD, was used to develop a simple, sensitive, and rapid method for the simultaneous detection and quantitation of nicotine and its metabolite, cotinine, in urine and serum. Published by Elsevier B.V.

Materials testing and research

Chemical Composition of 13 Commercial Soybean Samples and Their Antioxidant and Anti-inflammatory Properties

Journal of Agricultural and Food Chemistry, **58**, 1844-1849 (2010)
Rodolphe Perriot *et al.*

Tags
HP-20M, HP-1, DB-1, DB-XLB, 5890A GC, 6890N GC, 5973 MS, 5971 MS, materials testing and research, consumer products

Abstract
Since decades mimosa (*Acacia dealbata*) absolute oil has been used in the flavor and perfume industry. Today, it finds an application in over 80 perfumes, and its worldwide industrial production is estimated five tons per year. Here we report on the chemical composition of French mimosa absolute oil. Straight-chain analogues from C6 to C26 with different functional groups (hydrocarbons, esters, aldehydes, diethyl acetals, alcohols, and ketones) were identified in the volatile fraction. Most of them are long-chain molecules: (*Z*)-heptadec-8-ene, heptadecane, nonadecane, and palmitic acid are the most abundant, and constituents such as 2-phenethyl alcohol, methyl anisate, and ethyl palmitate are present in smaller amounts. The heavier constituents were mainly triterpenoids such as lupenone and lupeol, which were identified as two of the main components. (*Z*)-Heptadec-8-ene, lupenone, and lupeol were quantified by GC–MS in SIM mode using external standards and represents 6%, 20%, and 7.8% (*w*/*w*) of the absolute oil. Moreover, odorant compounds were extracted by SPME and analyzed by GC-sniffing leading to the perception of 57 odorant zones, of which 37 compounds were identified by their odorant description, mass spectrum, retention index, and injection of the reference compound.

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