



# Agilent Technologies

**Agilent J&W DB-5**

A collection of citations to advance your research

## **Table of contents**

[Environmental](#)

[Food testing and agriculture](#)

[Forensics and toxicology](#)

[Metabolomics](#)

## 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<sub>2</sub> 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<sup>-1</sup>. 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. © 2012 Taylor & Francis.

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### [Full evaporation dynamic headspace and gas chromatography–mass spectrometry for uniform enrichment of odor compounds in aqueous samples](#)

*Journal of Chromatography A*, **1240**, 59-68 (2012)  
Nobuo Ochiai *et al.*

**Tags**  
DB-5, DB-WAX, 5975T LTM Column Module, 7890 GC, 5975C MSD, environmental, air analysis

#### **Abstract**

FEDHS was superior to standard dynamic headspace sampling in an investigation of odor compounds in water. Agilent J&W GC columns and a low thermal mass (LTM) module were employed. Published by Elsevier B. V.

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[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.

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## Food testing and agriculture

[Finding of pesticides in fashionable fruit juices by LC-MS/MS and GC-MS/MS](#)

*Food Chemistry*, **134**, 2398-2405 (2012)  
Kevin Tran *et al.*

**Tags**  
HP-5ms UI, DB-5, DB-17, 7890A GC,  
5975C MSD, 7000 Triple Quadrupole MS, food  
testing and agriculture, pesticides, fruit juice

**Abstract**

Over 100 pesticides were detected in mushrooms, açai, goji, mangosteen, noni, pomegranate, and sea buckthorn using an Agilent GC/MSD equipped with Agilent J&W GC columns. Published by Elsevier B.V.

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[Analysis of Phthalide, Fenobucarb and Inabenfide in Unpolished Rice Using Selective Gel Permeation Chromatography](#)

*Journal of Pesticide Science*, **29**, 117-120 (2004)  
I. Saito *et al.*

**Tags**  
DB-200, DB-5, 5890 GC, food testing and  
agriculture, pesticides

**Abstract**

Fenobucarb insecticide in rice was analyzed using Agilent J&W GC columns fitted to an Agilent 5890 GC.

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[Monitoring and risk assessment of pesticide residues in yuza fruits \(\*Citrus junos\* Sieb. ex Tanaka\) and yuza tea samples produced in Korea](#)

*Food Chemistry*, **135**, 2930-2933 (2012)  
Kwang-Geun Lee, Suk-Kyung Lee

**Tags**  
DB-5, DB-5ms, ZORBAX Eclipse XDB, 6890N GC, 7683 Autosampler, food testing and agriculture, pesticides

**Abstract**

An optimized method was developed for the analysis of seven pesticides in yuza and yuza tea using Agilent J&W GC columns and an Agilent ZORBAX Eclipse XDB LC column. Published by Elsevier B. V.

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[Methyl-branched flavor compounds in fresh and processed apples](#)

*Journal of Agricultural and Food Chemistry*, **46**,  
4496-4500 (1998)  
Katja Schumacher *et al.*

**Tags**  
CP-Carbowax 400 for Volatiles in Alcohol, DB-5, food testing and agriculture

**Abstract**

Methyl-branched volatiles in apples and processed apples are investigated. The ratio of 3-methyl-branched and 2-methyl-branched flavor compounds was determined and the enantiomeric distribution of the latter investigated. The enantiomeric ratios of 2-methyl-branched volatiles are analyzed, using heptakis(2,3-di-O-methyl-6-O-tert-butyldimethylsilyl)- $\beta$ -cyclodextrin as an efficient enantioselective stationary phase in capillary GC. 2-Methylbutanoic acid and the corresponding esters (methyl-n-hexyl ester), 2-methylbutanol, and 2-methylbutyl acetate were detected as genuine flavor compounds favoring (S)-configuration and high enantiomeric purity (>99%). 3-Methylbutanoic acid, 3-methylbutanol, and 3-methylbutyl acetate are proved to be not genuine compounds of the apple aroma but fermentation products. Reprinted with permission from the *Journal of Agricultural and Food Chemistry*. Copyright 1998 American Chemical Society.

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[Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project: 1993-1996 Update](#)

*NOAA Technical Memorandum*, NOS ORCA 130,  
257 pp (1998)  
G. G. Lauenstein, A. Y. Cantillo (eds)

**Tags**  
CP-Sil 5/C18 CB for PCB, DB-17ht, DB-5,  
DB-5ms, ChromSpher PAH, 5880A GC, 5890 GC,  
food testing and agriculture, persistent organic  
pollutants

**Abstract**

Analyses undertaken during the mussels watch project made extensive use of Agilent instruments variously equipped with Agilent J&W GC columns or Agilent LC columns. Published by the US National Oceanic and Atmospheric Administration.

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[Analytical Techniques of Non Dioxin-Like Polychlorinated Biphenyls](#)

*Journal of the National Food Reference Laboratory*, **1**, 45-52 (2010)  
Gül Çelik Çakiroğullari, Devrim Kiliç

**Tags**  
CP-Sil 5/C18 CB for PCB, CP-Sil 8 CB for PCB,  
DB-5, DB-5ms, HP-5, HP-5ms, food testing and  
agriculture, persistent organic pollutants

**Abstract**

The authors describe a range of analytical techniques for the detection of PCBs, using Agilent J&W GC columns. Published by the Turkish National Food Reference Laboratory.

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[One-step extraction for gas chromatography with flame photometric detection of 18 organophosphorus pesticides in Chinese medicine health wines](#)

*Journal of Chromatography B*, **885**, 90-96 (2012)  
Qianzhen Liu *et al.*

**Tags**  
VF-1701ms, DB-5, 6890N GC, 7683 Autosampler,  
food testing and agriculture, pesticides

**Abstract**

The identity of organophosphorus pesticides in wine was confirmed by Agilent J&W columns fitted to an Agilent 6890n GC. Published by Elsevier B. V.

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## Forensics and toxicology

### [Analytical methods for abused drugs in hair and their applications](#)

*Analytical and Bioanalytical Chemistry*, **397**,  
1039-1067 (2010)  
Mitsuhiro Wada *et al.*

**Tags**  
DB-5, DB-5ms, HP-5, HP-5ms, CP-Sil 5 CB,  
ZORBAX SB-Phenyl, ZORBAX Eclipse XDB-C18,  
Bond Elut Certify, forensics and toxicology,  
criminalistics

#### **Abstract**

A comprehensive review of drug extraction methods described the use of many Agilent products, including Bond Elut Certify for sample extraction, Agilent J&W DB-5, DB-5ms, HP-5, HP-5ms, and CP-Sil 5 CB GC columns, and Agilent ZORBAX StableBond SB-Phenyl and ZORBAX Eclipse XDB-C18 LC columns. Published by Springer.

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## Metabolomics

### [Synthesis of methyl ketones by metabolically engineered \*Escherichia coli\*](#)

*Journal of Industrial Microbiology &  
Biotechnology*, **39**, 1703-1712 (2012)  
John Park *et al.*

**Tags**  
VF-5ht, DB-5, metabolomics

#### **Abstract**

Agilent J&W GC columns were used in an investigation of microbially produced methyl ketones. Published by Elsevier B. V.

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