

JOURNAL OF AOAC INTERNATIONAL

A Peer-Reviewed Journal Publishing Basic
and Applied Research in the Analytical
Sciences Related to Foods, Drugs,
Agriculture, and the Environment

EDITORIAL BOARD

Sarwar Gilani, Chair
Kaushik Banerjee
Lei Bao
Joseph M. Betz
Joe Bolson
Paula N. Brown
Brendon Gill
Thomas Hammack
James Harnly
James Hungerford
Melissa Phillips
Bert Popping
Marina Torres Rodriguez
Robert E. Rathbone, *Staff Liaison*

JOURNAL EDITORS

Agricultural Materials
Nancy Thies
Chemometrics
James Harnly
Dietary Supplements
Albert E. Pohland
Drug Formulations and Clinical Methods
Samir Wahab
Food Biological Contaminants
Anthony D. Hitchens
Food Chemical Contaminants
Albert E. Pohland
Food Composition and Additives
Sarwar Gilani
Microbiological Methods
Anthony Hitchens
Residues and Trace Elements
Alexander J. Krynski
Statistical Analysis
George W. Laflamme, Jr.
Veterinary Drug Residues
Joe Bolson
Acquisitions Editor
Joseph Sherma

JOURNAL STAFF

Publisher:	E. James Bradford
Sr Director, Publications:	Robert E. Rathbone
Production Manager:	Jennifer Diaz
Production Editor:	Tien L. Milor
Subscriptions:	Chris Bradley

Advertising Sales:

AOAC INTERNATIONAL
2275 Research Blvd, Suite 300
Rockville, MD 20850, USA
Tel: +1-301-924-7077, Fax: +1-301-924-7089
E-mail: cbradley@aoac.org

AOAC BOARD OF DIRECTORS

President:	Erik J.M. Konings
President-Elect:	Norma R. Hill
Treasurer:	Jonathan W. DeVries
Secretary:	Darryl M. Sullivan
Immediate Past President:	James M. Harnly
Directors:	David Acheson Lei Bao DeAnn L. Benesh Brad Guskowicz Douglas A. Hille Ronald L. Johnson Clay Dellefsen Daniel Fabricant Daniel Schmitz

Directors-at-Large:

Table of Contents

July/August 2015 Vol. 98, No. 4

JAINEE 98(4) 847-1140 (2015)

32A **Cumulative Author Index**

36A **Instructions to Authors**

SPECIAL GUEST EDITOR SECTION

- 847 Assessment of Antioxidant and Antibacterial Potential of Medicinal Herbs and Botanical Preparations
Teresa Kowalska and Lukasz Cieřla
- 850 Direct Bioautography as a High-Throughput Screening Method for the Detection of Antibacterial Components from Plant Sources
Agnes M. M6ricz and P6ter G. Ott
- 857 TLC-Direct Bioautography and LC/MS as Complementary Methods in Identification of Antibacterial Agents in Plant Tinctures from the *Asteraceae* Family
Wioleta Jesionek, Agnes M. M6ricz, P6ter G. Ott, B6la Kocsis, and Gy6rgyi Horv6th
- 862 Application of Electron Paramagnetic Resonance Spectroscopy for Investigating Antioxidant Activity of Selected Herbs
Mariola Bartoszek and Justyna Polak
- 866 Investigation of Antioxidant Activity of Pomegranate Juices by Means of Electron Paramagnetic Resonance and UV-Vis Spectroscopy
Violeta Kozik, Krystyna Jarzembek, Agnieszka J6drzejowska, Andrzej B6k, Justyna Polak, Mariola Bartoszek, and Katarzyna Pytlakowska
- 871 A Comparison of Antibacterial Activity of Selected Thyme (*Thymus*) Species by Means of the Dot Blot Test with Direct Bioautographic Detection
Marta Orłowska, Teresa Kowalska, Mieczysław Sajewicz, Wioleta Jesionek, Irena M. Choma, Barbara Majer-Dziedzic, Grażyna Szymczak, and Monika Waksmundzka-Hajnos
- 876 Antioxidant Activity of Selected Thyme (*Thymus* L.) Species and Study of the Equivalence of Different Measuring Methodologies
Marta Orłowska, Teresa Kowalska, Mieczysław Sajewicz, Katarzyna Pytlakowska, Mariola Bartoszek, Justyna Polak, and Monika Waksmundzka-Hajnos

AGRICULTURAL MATERIALS

- 883 Evaluation of Laboratory Procedures to Quantify the Neutral Detergent Fiber Content in Forage, Concentrate, and Ruminant Feces
Marc6lia Medrado Barbosa, Edenio Detmann, Gabriel Cipriano Rocha, Marcia de Oliveira Franco, and Sebastião de Campos Valadares Filho

Copyright, 2015 by AOAC INTERNATIONAL, Inc. All rights reserved. The *Journal of AOAC INTERNATIONAL* [ISSN 1060-3271 (print), ISSN 1944-7922 (digital)] is published bimonthly by AOAC INTERNATIONAL, 2275 Research Blvd, Suite 300, Rockville, MD, 20850 USA. Subscriptions for Vol. 98 (2015) are: Members, \$470.00 in North America, \$570.00 outside North America; Nonmembers, \$690.00 in North America, \$810.00 outside North America. Periodicals postage paid at Rockville, Maryland, USA, and additional mailing offices. Abstracted or indexed in AGRICOLA, Analytical Abstracts, Biological Abstracts, Cambridge Scientific Abstracts, Chemical Abstracts, Current Advances in Ecological Sciences, Current Contents, and others. Printed in USA.
POSTMASTER: Send address changes to *Journal of AOAC INTERNATIONAL*, 2275 Research Blvd, Suite 300, Rockville, MD, 20850 USA.

- 890 Continuing Assessment of the 5-Day Sodium Carbonate-Ammonium Nitrate Extraction Assay as an Indicator Test for Silicon Fertilizers
Wendy Zellner, Russell L. Friedrich, Sujin Kim, Douglas Sturtz, Jonathan Frantz, James Allland, and Charles Krause

DIETARY SUPPLEMENTS

- 896 Determination of Yohimbine in Yohimbe Bark and Related Dietary Supplements Using UHPLC-UV/MS: Single-Laboratory Validation
Pei Chen and Noella Bryden
- 902 HPLC Method for Simultaneous Quantification of Bakuchiol and Minor Furocoumarins in Bakuchiol Extract from *Psoralea corylifolia*
Mijeong Jeong, Thao Hong, Kangwoo Lee, Hyunjung Hwangbo, Minjung Kim, Wenwen Ma, and Michael Zahn
- 907 Simultaneous Quantification of Five Bioactive Flavonoids in High Altitude Plant *Actinocarya tibetica* by LC-ESI-MS/MS
Baljinder Singh, Shreyans K. Jain, Sandip B. Bharate, Manoj Kushwaha, Ajai Prakash Gupta, and Ram A. Vishwakarma

DRUG FORMULATIONS AND CLINICAL METHODS

- 913 Development of a Single Ion Pair HPLC Method for Analysis of Terbinafine, Ofloxacin, Ornidazole, Clobetasol, and Two Preservatives in a Cream Formulation: Application to In Vitro Drug Release in Topical Simulated Media-Phosphate Buffer Through Rat Skin
Anil P. Dewani, Ravindra L. Bakal, Pranjali G. Kokate, Anil V. Chandewar, and Srdhanjali Patra
- 921 A Simple LC/MS/MS Method for the Determination of Moxifloxacin N-Sulfate in Rat Plasma and Its Application in a Pharmacokinetic Study
Jian Li, Yin Yuan, Rong Fan, Qinghong Su, Siyuan Wang, Tianyan Zhou, and Wei Lu

FOOD BIOLOGICAL CONTAMINANTS

- 927 Isolation of *Aeromonas* spp. from Food Products: Emerging *Aeromonas* Infections and Their Significance in Public Health
Mohammad Ismail Alhazmi
- 930 AOAC Official MethodSM Matrix Extension Validation Study of Assurance GDSTM for the Detection of *Salmonella* in Selected Spices
Philip Feldsine, Mandeep Kaur, Khyati Shah, Amy Immerman, Markus Jucker, and Andrew Lienau

FOOD CHEMICAL CONTAMINANTS

- 939 Method Validation for the Quantitative Analysis of Aflatoxins (B1, B2, G1, and G2) and Ochratoxin A in Processed Cereal-Based Foods by HPLC with Fluorescence Detection
Isil Gazioglu and Ufuk Kolak

FOOD COMPOSITION AND ADDITIVES

- 946 Comparison of Column Solid-Phase Extraction Procedures for Spectrophotometric Determination of E129 (Allura Red) in Foodstuff, Pharmaceutical, and Energy Drink Samples
Abdullah Taner Bişgin, Mustafa Uçan, and İbrahim Narin
- 953 Simultaneous Determination of 10 Ultratrace Elements in Infant Formula, Adult Nutritionals, and Milk Products by ICP/MS After Pressure Digestion: Single-Laboratory Validation
Stephane Dubascoux, Marine Nicolas, Celine Fragniere Rime, Janique Richoz Payot, and Eric Poitevin

- 962 Optimized Dispersive Liquid-Liquid Microextraction Method and High Performance Liquid Chromatography with Ultraviolet Detection for Simultaneous Determination of Sorbic and Benzoic Acids and Evaluation of Contamination of These Preservatives in Iranian Foods
Fardin Javanmardi, Seyyed Rafie Arefhosseini, Masood Ansarin, and Mahboob Nemati

INFANT FORMULA AND ADULT NUTRITIONALS

- 971 Analysis of Nucleotide 5'-Monophosphates in Infant Formulas by HPLC-UV: Collaborative Study, Final Action **2011.20**
Brendon D. Gill and Harvey E. Indyk

MICROBIOLOGICAL METHODS

- 980 Evaluation of 3M™ Molecular Detection Assay (MDA) *Listeria monocytogenes* for the Detection of *Listeria monocytogenes* in Selected Foods and Environmental Surfaces: Collaborative Study, First Action **2014.07**
Patrick Bird, Jonathan Flannery, Erin Crowley, James Agin, David Goins, Lisa Monteroso, and DeAnn Benesh
- 993 Evaluation of 3M™ Molecular Detection Assay (MDA) *Listeria* for the Detection of *Listeria* species in Selected Foods and Environmental Surfaces: Collaborative Study, First Action **2014.06**
Patrick Bird, Jonathan Flannery, Erin Crowley, James Agin, David Goins, Lisa Monteroso, and DeAnn Benesh
- 1003 A Method Detection Limit for *Bacillus anthracis* Spores in Water Using an Automated Waterborne Pathogen Concentrator
Ben Humrighouse, Adin Pemberton, Vicente Gallardo, H.D. Alan Lindquist, and Robert LaBudde
- 1013 TLC-Direct Bioautography as a Bioassay Guided Method for Investigation of Antibacterial Compounds in *Hypericum perforatum* L.
Wioleta Jesionek, Agnes M. Móricz, Agnes Alberti, Péter G. Ott, Béla Kocsis, Györgyi Horváth, and Irena M. Choma

LIST OF STANDARDS

- 1021 List of Standards including *Standard Method Performance Requirement*, First and Final Action *Official Methods*