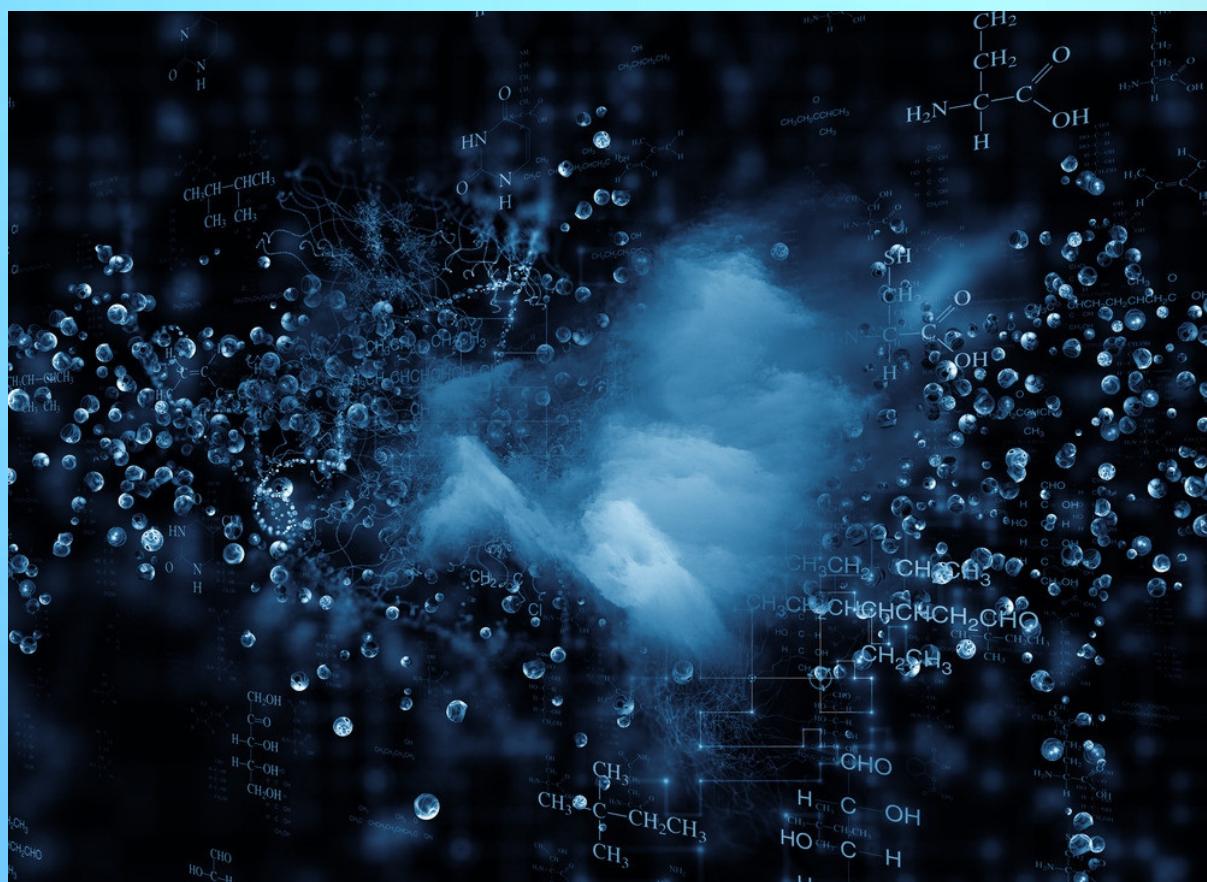


# American Journal of Analytical Chemistry



ISSN: 2156-8251



9 772156 825004

13

[www.scirp.org/journal/ajac](http://www.scirp.org/journal/ajac)

# Journal Editorial Board

ISSN Print: 2156-8251 ISSN Online: 2156-8278

<http://www.scirp.org/journal/ajac>

## Editor-in-Chief

**Prof. Raman Venkataraman** University of Pittsburgh, USA

## Editorial Board

<b>Dr. Jimmy Thomas Efird</b>	University of North Carolina, USA
<b>Dr. Paola Fermo</b>	University of Milan, Italy
<b>Dr. Gustavo Stoppa Garbellini</b>	Federal University of São Carlos (UFSCAR), Brazil
<b>Prof. Hitoshi Habuka</b>	Yokohama National University, Japan
<b>Prof. Bin Hu</b>	Wuhan University, China
<b>Dr. Abubakr M. Idris</b>	King Khalid University, Saudi Arabia
<b>Dr. Muntean Edward Ioan</b>	University of Agricultural Sciences and Veterinary Medicine (USAMV) Cluj-Napoca, Romania
<b>Dr. Harald John</b>	Bundeswehr Institute of Pharmacology and Toxicology, Germany
<b>Prof. Do Hyun Kim</b>	Korea Advanced Institute of Science and Technology, South Korea
<b>Prof. Raghavendra V. Kulkarni</b>	BLDEA's College of Pharmacy, India
<b>Dr. Kong M. Li</b>	University of Sydney, Australia
<b>Prof. Robert J. Linhardt</b>	Rensselaer Polytechnic Institute (RPI), USA
<b>Prof. Georges Lognay</b>	Gembloux Agro-Bio Tech, Belgium
<b>Dr. Rocio Maceiras-Castro</b>	University of Vigo, Spain
<b>Prof. Lijie Men</b>	Johnson & Johnson, USA
<b>Dr. Tanja Mimmo</b>	Free University of Bolzano, Italy
<b>Prof. Kingsuk Mukhopadhyay</b>	Defence Materials & Stores Research & Development Establishment, India
<b>Prof. K. Natarajan</b>	Bharathiar University, India
<b>Dr. Mu. Naushad</b>	King Saud University, Saudi Arabia
<b>Prof. Li Niu</b>	Chinese Academy of Sciences, China
<b>Prof. Hyun Gyu Park</b>	Korea Advanced Institute of Science and Technology, South Korea
<b>Prof. Tae Jung Park</b>	Chung-Ang University, South Korea
<b>Prof. Surendra Prasad</b>	University of the South Pacific, Fiji
<b>Dr. Ziyaur Rahman</b>	Food and Drug Administration, India
<b>Prof. Susana Rodríguez-Couto</b>	Unit of Environmental Engineering, Spain
<b>Dr. José Manuel Amigo Rubio</b>	University of Copenhagen, Denmark
<b>Dr. Hans Sanderson</b>	Aarhus University, Denmark
<b>Prof. Alberto Chisvert Sania</b>	University of Valencia, Spain
<b>Prof. Xuping Sun</b>	Chinese Academy of Sciences, China
<b>Prof. Yugang Sun</b>	Argonne National Laboratory, USA
<b>Prof. Ciddi Veeresham</b>	Kakatiya University, India
<b>Prof. Gavin M. Walker</b>	Queen's University Belfast, UK
<b>Prof. Thomas P. West</b>	South Dakota State University, USA
<b>Dr. Qingli Wu</b>	Rutgers University, USA
<b>Prof. Tangfu Xiao</b>	Chinese Academy of Sciences, China
<b>Dr. George Zachariadis</b>	Aristotle University of Thessalonike, Greece
<b>Prof. Anyun Zhang</b>	Zhejiang University, China
<b>Prof. Tonglai Zhang</b>	Beijing Institute of Technology, China

## Table of Contents

Volume 6 Number 13

December 2015

### Analytical Tools and Strategic Approach to Detect Poor Quality Medicines, Identify Unknown Components, and Timely Alerts for Appropriate Measures: Case Study of Antimalarial Medicines

- V. Habyalimana, J. K. Mbinze, N. K. Tshilombo, A. Dispas, A. Y. Loconon, P.-Y. Sacré, J. Widart, P. De Tullio, S. Counerotte, J.-L. K. Ntokamunda, E. Ziemons, P. Hubert, R. M. Djang'eing'a.....977

### Fast and Sensitive Chiral Analysis of Amphetamines and Cathinones in Equine Urine and Plasma Using Liquid Chromatography Tandem Mass Spectrometry

- C. C. Wang, P. Hartmann-Fischbach, T. R. Krueger, A. Lester, A. Simonson, T. L. Wells, M. O. Wolk, N. J. Hidlay.....995

### Impregnation of Carbonate Rock with Bituminous Compounds. II. Improvement of the Impregnation Material

- F. M. Gumerov, M. I. Farakhov, V. F. Khayrtdinov, R. F. Gabitov, Z. I. Zaripov, I. Sh. Khabriyev, T. R. Akhmetzyanov.....1004

### Rheological and Sensory Properties of Four Kinds of Dark Chocolates

- X. Gao, T. T. Guo, F. Han, Y. Tian, Z. H. Zhang.....1010

### Development and Substantiation of a RP-HPLC Method for Monitoring of Impurities in Pirfenidone Drug Substance

- S. B. Bodempudi, R. Babur, K. S. Reddy.....1019

### Atomic epn(ep) Spin Models and Spectral Lines

- D. Kim, B.-H. Ha.....1030

### Impregnation of Carbonate Rock with Bituminous Compounds. III.

#### Thermophysical Properties of the Impregnation Material

- Z. I. Zaripov, I. R. Gabitov, R. R. Nakipov, F. M. Gumerov, M. I. Farakhov, V. F. Khayrtdinov.....1038

### Stability Indicating RP-HPLC Method for Estimation of Impurities of Vitamin D<sub>3</sub> Analogue and Corticosteroid Used as Antipsoriatic Drugs. An Attempt to Characterize Pre-Calcipotriene

- R. K. Bhogadi, A. Satyanarayana, N. S. Rao, S. Arutla, A. M. Reddy.....1050

### Hydrothermal Carbonization of Nonylphenol Ethoxylates Waste Liquid for Energy Source Generation

- Y. Q. Ge, W. Q. Zhang, G. Xue, P. H. Rao.....1059

## American Journal of Analytical Chemistry (AJAC)

### Journal Information

#### SUBSCRIPTIONS

The *American Journal of Analytical Chemistry* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published monthly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$89 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

#### SERVICES

##### Advertisements

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

##### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

#### COPYRIGHT

##### COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2015 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

##### COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:

Copyright © 2015 by author(s) and Scientific Research Publishing Inc.

##### REUSE RIGHTS FOR INDIVIDUAL PAPERS:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### DISCLAIMER OF LIABILITY

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: [ajac@scirp.org](mailto:ajac@scirp.org)



# American Journal of Analytical Chemistry

ISSN Print: 2156-8251 ISSN Online: 2156-8278

<http://www.scirp.org/journal/ajac>

**American Journal of Analytical Chemistry** is a peer reviewed international journal dedicated to the latest advancement of analytical chemistry. The goal of this journal is to keep a record of the state-of-the-art research and to promote study, research and improvement within its various specialties. With an open access publication model of this journal, all interested readers around the world can freely access articles online. Now we sincerely invite you to submit your research manuscript to **AJAC**.

## Editor-in-Chief

**Prof. Raman Venkataramanan**      University of Pittsburgh, USA

## Subject Coverage

The American Journal of Analytical Chemistry publishes original papers including but not limited to the following fields:

- Analytical Chemistry Applications in Engineering
- Atomic and Molecular Spectroscopy (UV, IR, Raman, NMR, MS, Microscopy, FS)
- Chemical Sensors, Biosensors and Related Technologies
- Chemometrics
- Chemosensitive Materials
- Chromatography and Electrophoresis
- Composite Materials
- Electroanalysis and Electroanalytical Techniques
- Environmental, Clinical, Biological and Agrochemical Applications
- Environmental, Health and Forensic Analysis
- High-Throughput Screening
- Ion Exchange Materials
- Novel Extraction and Microextraction Procedures
- Sample Preparation
- Separation Techniques for Hazardous Substances
- Thermal Analysis

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the AJAC.

## Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

## Website and E-Mail

<http://www.scirp.org/journal/ajac>      E-mail: [ajac@scirp.org](mailto:ajac@scirp.org)