

ISSN: 2160-6951 Vol. 1, No. 3, August 2011



Scientific
Research

Green and Sustainable Chemistry



ISSN: 2160-6951



www.scirp.org/journal/gsc

Journal Editorial Board

ISSN Print: 2160-6951 ISSN Online: 2160-696X

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

Editor in Chief

Prof. José A. Mayoral
Prof. Liang-Nian He

University of Zaragoza, Spain
Nankai University, China

Editorial Board

Prof. Pradip K. Bhowmik
Prof. David A. Cleary
Dr. Monika Gupta
Prof. Chang-Sik Ha
Prof. Chin-pao Huang
Prof. Mo Hunsen
Prof. György Keglevich
Prof. Andrei I. Khlebnikov
Prof. Teruyuki Kondo
Prof. Roberto Fernández Lafuente
Prof. Zhimin Liu
Prof. Yuezhong Meng
Prof. Akbar Mobinikhaledi
Prof. Ram S. Mohan
Prof. José Antonio Mayoral Murillo
Prof. Kotohiro Nomura
Prof. Likun Pan
Prof. Cyril Párkányi
Prof. Anand V. Patwardhan
Prof. Sang-Eon Park
Prof. Maurizio Peruzzini
Prof. Yongsoon Shin
Prof. Piotr Stepnowski
Prof. Steven L. Suib
Prof. Mahmoud Farag Mahmoud Zawrah
Prof. Silvia Licoccia
Prof. Abdelkrim Chemseddine

Prof. Ali Ramazani
Dr. Amany Abdel Haleim El-Kheshen
Prof. Andrew Tsotinis
Prof. Artur Manuel Soares Silva
Prof. Ashok Kumar Singh
Prof. Ashraf Mostafa Kamal Hassan Abadi
Prof. Asim Bhaumik
Prof. Ayman Ahmed El-Faham
Prof. Bhisma Kumar Patel
Prof. BIRINCHI KUMAR DAS
Prof. C. Sanjeeviraja
Prof. Chieh-ming James Chang
Prof. Chi-Wi ONG
Prof. George Bratulescu
Prof. Gonghua Song
Prof. Gurdip Singh
Prof. Hiroaki Tada
Prof. Hongjie Zhang
Prof. Ismael SAADOUNE
Prof. James M. Cook
Prof. Jie-Sheng Chen
Prof. JIN ZHU
Prof. Jin Ming Gao
Dr. Jo-Shu Chang
Prof. Józef Drabowicz
Prof. K.K. Bhasin
Dr. Kailash Chandra
Prof. Lijian Liu
Prof. AVEROUS Luc
Prof. Luiz Everson da Silva
Prof. MD. WAHAB KHAN
Prof. Michael G. Stamatakis
Prof. DARABANTU MIRCEA
Dr. Mohamedally Kurmoo
Prof. ANDREI I. KHEBNIKOV
Prof. SHAILENDRA KUMAR KULSHRESHTHA
Prof. Nagatoshi Nishiwaki
Prof. Zhihui Shao
Prof. Zhen Fang
Dr. Pol Vilas G.
Prof. T. C. (Mike) Chung
Prof. S.V. Ranga Nayakulu
Prof. Shichun Mu
Prof. Mohammed Abd El-Dayem Sallam
Prof. Ying-Ling Liu
Prof. Yingming Pan
Prof. Valeria Conte
Dr. Valerian Dragutan
Prof. Yoon-Bong Hahn
Prof. Abbas Afkhami
Prof. Wenfeng Shangguan
Prof. Xiuling Cui
Dr. Venkateswara Rao Batchu
Prof. Akkal Salah
Prof. Nelson Belzile
Prof. Yves Blache
Prof. Sarani bt. Zakaria
Prof. Zhong-Yong YUAN
Prof. Ying Yu
Prof. Darabantu Mircea
Prof. Yoon-Sik Lee

University of Nevada Las Vegas, USA
Gonzaga University, USA
University of Jammu, India
Pusan National University, Korea (South)
University of Delaware, USA
Kenyon College, USA
Budapest University of Technology and Economics, Hungary
Altai State Technical University, Russia
Kyoto University, Japan
Consejo Superior de Investigaciones Científicas, Spain
The Chinese Academy of Sciences (ICCAS), China
Sun Yat-Sen University, China
University of Arak, Iran
Illinois Wesleyan University, USA
University of Zaragoza, Spain
Tokyo Metropolitan University, Japan
East China Normal University, China
Florida Atlantic University, USA
Nathalal M. Parekh Marg, India
Inha University, Korea (South)
Istituto di Chimica dei Composti Organometallici, ICCOM CNR, Italy
Pacific Northwest National Laboratory, USA
University of Gdańsk, Poland
University of Connecticut, USA
Advanced materials and Nanotechnology Group, NRC, Egypt
University of Rome Tor Vergata, Italy
Institute of Materials for Photovoltaics (E-I5) Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany
Zanjan University, Iran
National Research Centre, Egypt
University of Athens, Greece
Universidade de Aveiro, Portugal
Indian Institute of Technology, India
The German University, Egypt
Indian Association for the Cultivation of Science, India
Science-Alexandria University, Egypt
Indian Institute of Technology Guwahati, India
Gauhati University, India
Alagappa University, India
National Chung Hsing University, Chinese Taipei
National Sun Yat Sen University, Chinese Taipei
University of Craiova, Romania
East China University of Science and Technology, China
D.D.U Gorakhpur University, India
Kinki University, Japan
Chinese Academy of Sciences, China
Faculty of Science and Technologies Marrakesh Morocco, Morocco
University of Wisconsin-Milwaukee, USA
Shanghai Jiao Tong University, China
Nanjing University, China
Northwest A&F University, China
National Cheng Kung University, China
Jan D'ugosz University, Poland
Panjab University, India
Indian Institute of Technology, India
Wuhan University, China
University of Strasbourg, France
Universidade Federal do Paraná, Brazil
Bangladesh Univ. of Engg. & Tech, Bangladesh
National University of Athens, Greece
University Babes-Bolyai Cluj-Napoca, France
UNIVERSITE DE STRASBOURG, Germany
Altai State Technical University, Russia
Atomic Energy Education Society, India
Kochi University of Technology, Japan
Yunnan University, China
Chinese Academy of Sciences, China
Argonne National Laboratory, USA
The Pennsylvania State University, USA
Vignani's Institute of Technology & Aeronautical Engineering, India
Wuhan University of Technology, China
Alexandria University, Egypt
National Tsing Hua University, Chinese Taipei
Guangxi Normal University, China
University of Roma Tor Vergata, Italy
Romanian Academy of Sciences, Romania
Chonbuk National University, Korea (South)
Bu-Ali Sina University, Iran
Shanghai Jiao Tong University, China
Huaqiao University, China
Indian Institute of Chemical Technology, India
University of Constantine, Algeria
Laurentian University, Canada
Université du Sud Toulon-Var, France
Universiti Kebangsaan Malaysia, Malaysia
Nankai University, China
Huazhong Normal University, China
University Babes-Bolyai Cluj-Napoca, Romania
Seoul National University, Korea (South)

Editorial Assistant

Karen Zhang

Scientific Research Publishing, USA. Email: gsc@scirp.org

TABLE OF CONTENTS

Volume 1 Number 3

August 2011

Degradation and Detoxification of Banana Postharvest Treatment Water Using Advanced Oxidation Techniques

D. E. Santiago, E. P. Melián, C. F. Rodríguez, J. A. O. Méndez, S. O. Pérez-Báez, J. M. Doña-Rodríguez.....39

Anaerobic Biotransformation of Nitro-Compounds to Amines by Bovine Rumen Fluid

A. Rodríguez, I. Irazoqui, G. Álvarez, C. Cajarville, J. L. Repetto, M. González, H. Cerecetto.....47

Preparation of α -Bromoketones and Thiazoles from Ketones with NBS and Thioamides in Ionic Liquids

Y. Izumisawa, H. Togo.....54

Eco-friendly Synthesis of Cyclododecanone from Cyclododecatriene

Q. Feng, D.-K. Yuan, D.-Q. Wang, X.-M. Liang, J.-J. Zhang, J.-P. Wu, F.-H. Chen.....63

A Green Microwave-Assisted Synthesis of New Pyridazinium-Based Ionic Liquids as an Environmentally Friendly Alternative

M. Messali, S. A. Ahmed.....70

Highly Regio-Selective Synthesis of β -Amino Alcohol by Reaction with Aniline and Propylene Carbonate in Self Solvent System over Large Pore Zeolite Catalyst

A. K. Kinage, P. P. Upare, A. B. Shivarkar, S P. Gupte.....76

Comparison of Cellulose Decomposition by Microwave Plasma and Radio Frequency Plasma

K. Konno, H. Onodera, K. Murata, K. Onoe, T. Yamaguchi.....85

Cerium (IV) Ammonium Nitrate (CAN) Mediated Reactions IV. A Highly Efficient Synthesis of N,N'-Diarylsubstituted Formamidines in Water at Ambient Temperature

K. U. Sadek, A. Alnajjar, R. A. Mekheimer, N. K. Mohamed, H. A. Mohamed.....92

Preparation of BiVO₄@Fiber Composites and the Photocatalytic Property for Degradation of Organic Dyes under Visible-Light

W. Lu, D. S. Yu, X. C. Zhou, Y. Zhang, J. Q. Yu.....98

(2-Hydroxyethyl)ammonium Lactates—Highly Biodegradable and Essentially Non-Toxic Ionic Liquids

S. Pavlovica, A. Zicmanis, E. Gzibovska, M. Klavins, P. Mekss.....103

Combination of Transition Metals-(2,4-Pentanedionate) and P₂O₅ as a Regioselective Catalytic System for Nitric Acid Nitration of Ar-Himachalene

I. Hossini, M. A. Harrad, B. Boualy, M. A. Ali, L. E. Firdoussi, A. Karim.....111

Green and Sustainable Chemistry (GSC)

Journal Information

SUBSCRIPTIONS

The Green and Sustainable Chemistry (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$39 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

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

E-mail: sub@scirp.org

COPYRIGHT

Copyright©2011 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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: gsc@scirp.org



Green and Sustainable Chemistry (GSC)

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

Green and Sustainable Chemistry (GSC) covers subjects relating to reducing the environmental impact of chemicals and fuels by developing alternative and sustainable technologies that are non-toxic to living things and the environment. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of Green and Sustainable Chemistry.

Subject Coverage

This journal invites original research and review papers that address the following issues. Topics of interest include, but are not limited to:

- Biotechnology Alternatives
- Chemical Aspects of Renewable Energy
- Design of New, Greener and Safer Chemicals and Materials
- Environmentally Improved Routes and Methods
- Improved Process Engineering
- Improved Production Methods, Formulation and Delivery Systems
- Methodologies and Tools for Measuring Environmental Impact
- Sustainable Resources
- The Use of Biotechnology Alternatives to Chemistry-based Solutions

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 GSC.

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/gsc>

E-mail: gsc@scirp.org