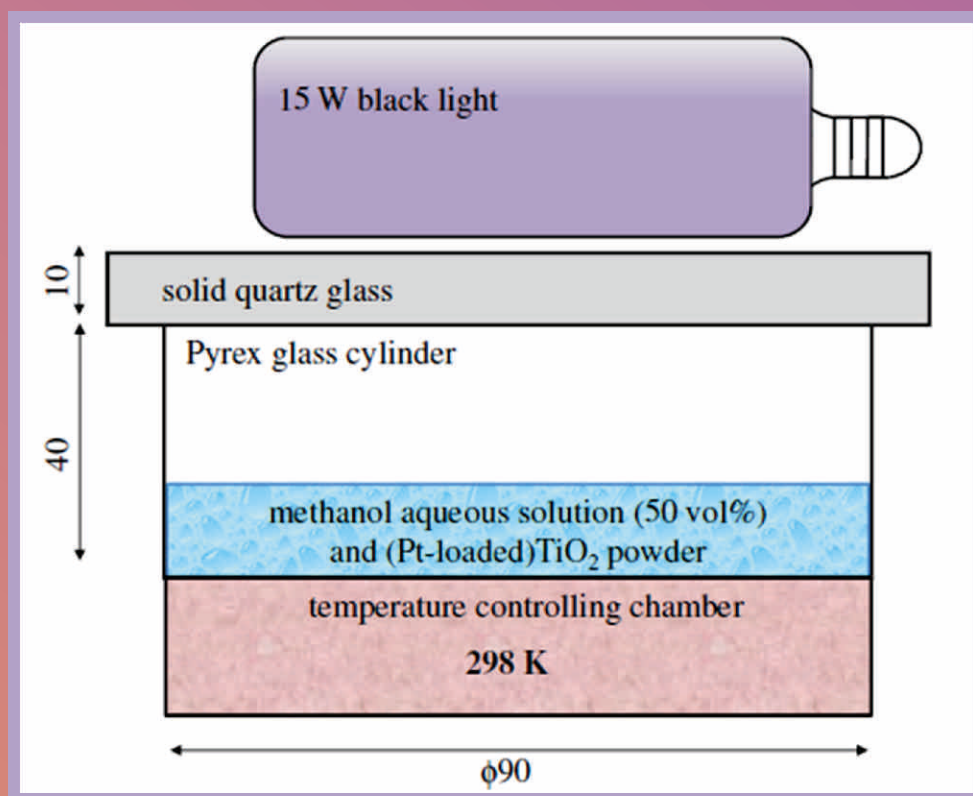




Green and Sustainable Chemistry



ISSN: 2160-6951



Journal Editorial Board

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

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

Editor-in-Chief

Prof. Nour-Eddine Es-Safi

Mohammed V-Agdal University Rabat, Morocco

Editorial Board

Prof. Abbas Afkhami

Prof. Salah Akkal

Prof. Nelson Belzile

Prof. Asim Bhaumik

Prof. Pradip K. Bhowmik

Prof. George Bratulescu

Prof. Chieh-Ming James Chang

Prof. Jo-Shu Chang

Prof. Xiuyun Chuan

Prof. T. C. Chung

Prof. Mircea Darabantu

Prof. Zhen Fang

Dr. Majid Ghashang

Prof. Chin-Pao Huang

Dr. Qilin Huang

Prof. Mo Hunsen

Prof. William E. Acree Jr.

Prof. György Keglevich

Prof. Shailendra Kumar Kulshreshtha

Prof. Roberto Fernández Lafuente

Prof. Yoon-Sik Lee

Prof. Silvia Licoccia

Prof. Yangsheng Liu

Dr. Ying-Ling Liu

Prof. Averous Luc

Prof. Ram S. Mohan

Prof. S. V. Ranga Nayakulu

Prof. Nagatoshi Nishiwaki

Prof. Kotohiro Nomura

Prof. Yingming Pan

Dr. Vilas G. Pol

Dr. Batchu Venkateswara Rao

Prof. Ismael Saadoun

Prof. Mohammed Abd El-Dayem Sallam

Prof. Zhihui Shao

Prof. Yongsoon Shin

Prof. Artur Manuel Soares Silva

Prof. Gurdip Singh

Prof. Gonghua Song

Prof. Piotr Stepnowski

Dr. K. D. Verma

Prof. Hongjie Zhang

Prof. Jin Zhu

Bu-Ali Sina University, Iran

University of Constantine, Algeria

Laurentian University, Canada

Indian Association for the Cultivation of Science, India

University of Nevada, USA

University of Craiova, Romania

National Chung Hsing University, Chinese Taipei

National Cheng Kung University, Chinese Taipei

Peking University, China

The Pennsylvania State University, USA

University Babes-Bolyai, Romania

Chinese Academy of Sciences, China

Islamic Azad University, Iran

University of Delaware, USA

Huazhong Agriculture University, China

Kenyon College, USA

The University of North Texas, USA

Budapest University of Technology and Economics, Hungary

Atomic Energy Education Society, India

Consejo Superior de Investigaciones Científicas, Spain

Seoul National University, South Korea

University of Rome Tor Vergata, Italy

Peking University, China

National Tsing Hua University, Chinese Taipei

University of Strasbourg, France

Illinois Wesleyan University, USA

Guru Nanak Engg College, India

Kochi University of Technology, Japan

Tokyo Metropolitan University, Japan

Guangxi Normal University, China

Argonne National Laboratory, USA

Indian Institute of Chemical Technology, India

Faculty of Science and Technologies Marrakesh, Morocco

Alexandria University, Egypt

Yunnan University, China

Pacific Northwest National Laboratory, USA

Universidade de Aveiro, Portugal

Deen Dayal Upadhyay Gorakhpur University, India

East China University of Science and Technology, China

University of Gdańsk, Poland

Sri Venkateswara P.G. College, India

Chinese Academy of Sciences, China

Nanjing University, China

Table of Contents

Volume 4 Number 2

May 2014

Comparative Study of Hydrogen Electrooxidation on Gold and Platinum in Solutions Containing Perchlorate Ion

A. E. Von Mengershausen, N. V. Almeida, M. N. Barzola, J. O. Zerbino, S. M. Esquenoni, M. G. Sustersic.....55

Coupling of Wind Energy and Biogas with a High Temperature Steam Electrolyser for Hydrogen and Methane Production

N. Monnerie, M. Roeb, A. Houaijia, C. Sattler.....60

New One-Pot Methods for Preparation of Cyclohexanecarbonitrile—Green Chemistry Metrics Evaluation for One-Pot and Similar Multi-Step Syntheses

J. Simbera, R. Sevcik, P. Pazdera.....70

Enhancement of Photocatalytic Water Splitting Rate via Rayleigh Convection

S. Deguchi, B. Kariya, N. Isu, S. Shimasaki, H. Banno, S. Miwa, K. Sawada, J. Tsuge, S. Imaizumi, H. Kato, K. Tokutake.....80

Effect of TiO₂ Crystallite Diameter on Photocatalytic Water Splitting Rate

H. Banno, B. Kariya, N. Isu, M. Ogawa, S. Miwa, K. Sawada, J. Tsuge, S. Imaizumi, H. Kato, K. Tokutake, S. Deguchi.....87

Nano- γ -Fe₂O₃: Efficient, Reusable and Green Catalyst for *N*-tert-Butoxycarbonylation of Amines in Water

V. Medisetti, U. Parimi, R. B. Anagani, K. V. V. V. Satyanarayana.....95

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: \$79 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 AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2014 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 © 2014 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.

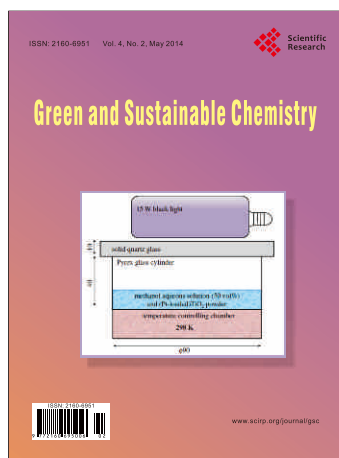
DISCLAIMER OF LIABILITY

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: gsc@scirp.org



Call for Papers

Green and Sustainable Chemistry (GSC)

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

<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
- Flow Chemistry and Continuous Processing
- 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

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science, by delivering superior scientific publications and scientific information solution provider that enable advancement in scientific research.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, world-wide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



**Scientific
Research**

Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org