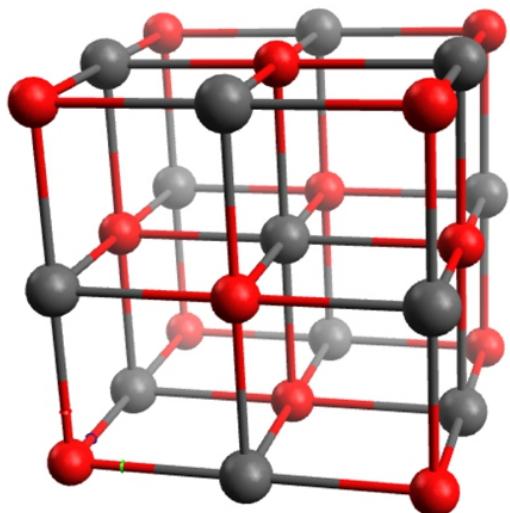
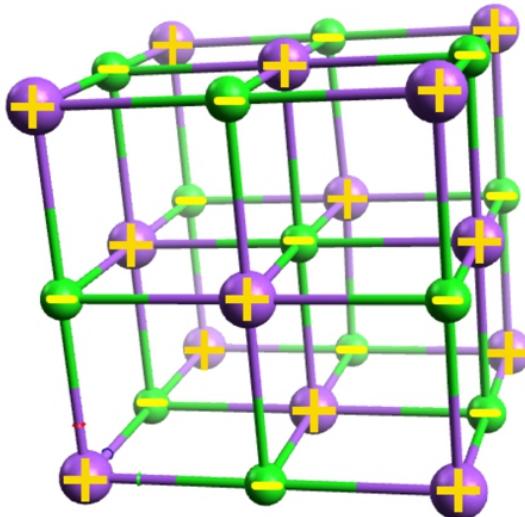


Open Journal of Physical Chemistry



(a)

Double-face-centered cubic crystal MgS with 6 bonds.
Magnesium even-atoms are grey and sulfur even-atoms are red.



(b)

Double-face-centered cubic crystal NaCl with 6 bonds. Sodium Na(-) odd-atoms are green and chloride Cl(+) odd-atoms are purple.

Journal Editorial Board

ISSN: 2162-1969 (Print), 2162-1977 (Online)

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

Editor-in-Chief

Prof. Kalliat T. Valsaraj Louisiana State University, USA

Editorial Board

Prof. Tapio Ala-Nissilä	Aalto University School of Science and Technology, Finland
Dr. Subbiah Alwarappan	University of South Florida, USA
Dr. Jeng-Da Chai	National Taiwan University, Chinese Taipei
Prof. Haisheng Chen	Chinese Academy of Sciences, China
Dr. Yongsheng Chen	Georgia Institute of Technology, USA
Dr. Zhengdong Cheng	Texas A&M University, USA
Dr. Krishnan Achary Damodaran	University of Pittsburgh, USA
Dr. Ramesh L. Gardas	Indian Institute of Technology Madras, India
Prof. Shimaa Mohamed Elsaed Hamouda	Chemistry at Egyptian Petroleum Research Institute (EPRI), Egypt
Prof. Santamaría Holek Iván	Universidad Nacional Autónoma de México, México
Dr. Peng Jiang	University of Florida, USA
Dr. Maksym Kryvohuz	California Institute of Technology, USA
Dr. Subrata Kundu	Central Electrochemical Research Institute (CECRI), India
Prof. Yue Li	Chinese Academy of Sciences, China
Dr. Shiang-Tai Lin	National Taiwan University, Chinese Taipei
Dr. Manosh C. Paul	University of Glasgow, UK
Prof. Andre Silva Pimentel	Pontifical Catholic University of Rio de Janeiro, Brazil
Dr. Madhumita B. Ray	University of Western Ontario, Canada
Dr. M. V. Reddy	National University of Singapore, Singapore
Dr. Stephan P. A. Sauer	University of Copenhagen, Denmark
Dr. Yang-hsin Shih	National Taiwan University, Chinese Taipei
Prof. Ricardo Alexandre Galdino da Silva	Universidade Federal de São Paulo, Brazil
Dr. Subith S. Vasu	University of Central Florida, USA
Prof. Jingsong Zhang	University of California, USA
Prof. Tierui Zhang	Chinese Academy of Sciences (CAS), China
Dr. Xinyi Zhang	Monash University, Australia
Prof. Qingdong Zheng	Chinese Academy of Sciences, China

Table of Contents

Volume 6 Number 2

May 2016

The Even-Odd and the Isoelectronicity Rules Applied to Single Covalent Bonds in Ionic, Double-Face-Centered Cubic and Diamond-Like Crystals

G. Auvert, M. Auvert.....21

Methane Steam Reforming on Supported Nickel, Effect of Nickel Content for Product Hydrogen

A. Belhadi, S. Boumaza, A. Djadoun, M. Trari, O. Cherifi.....34

Synthesis, Structural and Dielectric Properties of $\text{SrBi}_{1.8}\text{Ce}_{0.2}\text{Ta}_2\text{O}_9$

M. Afqir, A. Tachafine, D. Fasquelle, M. Elaatmani, J.-C. Carru, A. Zegzouti, M. Daoud.....42

Open Journal of Physical Chemistry (OJPC)

Journal Information

SUBSCRIPTIONS

The *Open Journal of Physical Chemistry* (Online at Scientific Research Publishing, www.Scirp.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$69 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 © 2016 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 © 2016 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

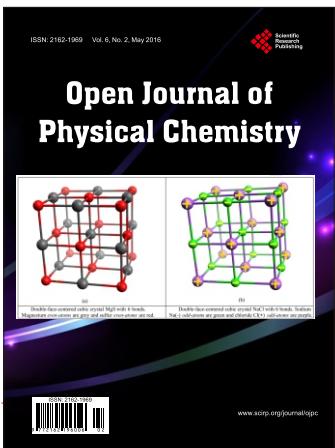
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any 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: ojpc@scirp.org

Call for Papers



Open Journal of Physical Chemistry

ISSN: 2162-1969 (Print), 2162-1977 (Online)

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

Editor-in-Chief

Prof. Kalliat T. Valsaraj

Louisiana State University, USA

Editorial Board

Prof. Tapio Ala-Nissilä

Dr. Subbiah Alwarappan

Dr. Jeng-Da Chai

Prof. Haisheng Chen

Dr. Yongsheng Chen

Dr. Zhengdong Cheng

Dr. Krishnan Achary Damodaran

Dr. Ramesh L. Gardas

Prof. Shimaa Mohamed Elsaeed Hamouda

Prof. Santamaría Holek Iván

Dr. Peng Jiang

Dr. Maksym Kryvohuz

Dr. Subrata Kundu

Prof. Yue Li

Dr. Shiang-Tai Lin

Dr. Manosh C. Paul

Prof. Andre Silva Pimentel

Dr. Madhumita B. Ray

Dr. M. V. Reddy

Dr. Stephan P. A. Sauer

Dr. Yang-hsin Shih

Prof. Ricardo Alexandre Galdino da Silva

Dr. Subith S. Vasu

Prof. Jingsong Zhang

Prof. Tierui Zhang

Dr. Xinyi Zhang

Prof. Qingdong Zheng

Open Journal of Physical Chemistry (OJPC) is an international journal dedicated to the latest advancement of physical chemistry. 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 physical chemistry.

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

- Acoustic Chemistry
- Biophysical Chemistry
- Chemical Kinetics
- Chemical Thermodynamics
- Colloid Chemistry
- Crystal Chemistry
- Electrochemistry
- Magnetochemistry
- Marine Physical Chemistry
- Materials Science
- Micromeritics
- Molecular Cluster
- Molecular Reaction Dynamics
- Photochemistry
- Physical and Chemical Metallurgy Process
- Physical Organic Chemistry
- Quantum Chemistry
- Solid-state Chemistry
- Spectroscopy
- Surface Chemistry
- Surface Structural Chemistry
- X-ray Crystallography

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

Website and E-Mail

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

E-mail: ojpc@scirp.org