

Rachel Hradecky
Perkins Coie LLP
Librarian
131 S Dearborn, Suite 1700
Chicago, IL 60603
USA

29th November 2019

Dear Rachel

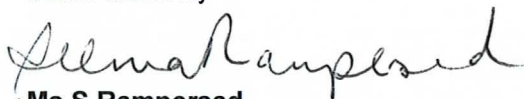
"Title: "Ultralow Surface Energy Plasma Polymer Films,"
Chem. Mater. 2000, 12, 2031-2038.
S. R. Coulson, I. S. Woodward, and J. P. S. Badyal
Published: Washington, DC: American Chemical Society, ©1989-
Shelfmark(s): Document Supply 3172.028000
Science, Technology & Business (P) JB 00 -E (153)".

According to our records, this item was receipted by The British Library on 31th July 2000 and would have been available for public use from that date.

A scan of the cover pages showing the date stamp on page one indicating the date of availability has been attached, together with the table of contents.

Please note that we can only provide the date that the British Library made this item available for public use; for the actual date of publication, please contact the publisher.

Yours sincerely



Ms S Rampersad

LOAN BAN EXPIRES

31

JULY 2000
VOLUME 12 NUMBER 7

CHEMISTRY OF MATERIALS

A PUBLICATION OF THE AMERICAN CHEMICAL SOCIETY

31-JUL-2000 BSDS
CHEMISTRY OF MATERIALSBOSTON SPA
LS23 7BQ

*ETOC



3172.028000

VOL 12 PART 7

PB

SS
1/1

0000020

NY

CHEMISTRY OF MATERIALS

Chemistry of Materials (ISSN 0897-4756) is published monthly by the American Chemical Society at 1155 16th St., N.W., Washington, DC 20036. Periodicals postage paid at Washington, DC, and additional mailing offices. POSTMASTER: Send address changes to *Chemistry of Materials*, Member & Subscriber Services, P.O. Box 3337, Columbus, OH 43210.

American Chemical Society

1155 16th St., N.W.
Washington, DC 20036
(202) 872-4614
TDD (202) 872-6076
Fax (202) 776-8264

Publishing Operations

American Chemical Society
2540 Olentangy River Road
P.O. Box 3330, Columbus, OH 43210
(614) 447-3665
Fax (614) 447-3745; Telex 6842086
E-mail acsproof@acs.org

Member & Subscriber Services

American Chemical Society
P.O. Box 3337, Columbus, OH 43210
(614) 447-3776; (800) 333-9511
Fax (614) 447-3671
E-mail service@acs.org

Advertising Office

Centcom, Ltd.
676 East Swedesford Road
Suite 202, Wayne, PA 19087-1612
(610) 964-8061

Publications Division

Robert D. Bovenschulte, Director

Publishing Operations

Mary E. Scanlan, Director

Journal Publications

Anne C. O'Melia, Manager; Kathy E. Duffy, Journals Editing Manager; Margaret A. Winship, Associate Editor

Sales & Marketing

Justin R. Spence, Director
Dean J. Smith, Manager, Institutional Sales



Canadian GST Reg. No. 127571347
Printed in the USA

Copyright Permission: See copyright status form for certain rights (<http://pubs.acs.org>). Reprographic copying beyond that permitted by Section 107 or 108 of the U.S. Copyright Act is allowed, provided that \$19.00 per article is paid to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Republication or reproduction for sale of articles or abstracts in this journal is permitted only by written permission from the Copyright Office, ACS, Washington, DC. Tel: (202) 872-4368. Fax: (202) 776-8112. E-mail: copyright@acs.org.

Subscription Donations: Members may donate/share their personal subscriptions to/with libraries but only after 5 years from publication.

Editorial Information

Instructions for Authors and Copyright Status Form: See the first issue of each volume or visit the Publications Division Web site (<http://pubs.acs.org>). Please conform to these instructions when submitting manuscripts.

Manuscript Submission: Send manuscripts to the Editor, Leonard V. Interrante, Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180. Authors in Europe can send their manuscripts directly to our European office: Hellmut Eckert, Institut für Physikalische Chemie, Westfälische Wilhelms-Universität Münster, Schlossplatz 7, D-48149 Münster, Germany.

Accepted Papers and Proofs: Direct correspondence to Publishing Operations, Columbus, OH. Tel: (614) 447-3665. Fax: (614) 447-3745. E-mail: acsproof@acs.org.

Journal Policies: The American Chemical Society and its Editors assume no responsibility for the statements and opinions advanced by contributors. Registered names and trademarks, etc., used in this publication, even without specific indication thereof, are not to be considered unprotected by law.

Document Number: At the end of each document is a 9-character code that serves as a link between the printed and electronic products and facilitates retrieval of the document in electronic form.

Digital Object Identifier (DOI): The DOI identification system for digital media has been designed to provide persistent and reliable identification of digital objects. Information on the DOI and its governing body, the International DOI Foundation, can be found at <http://www.doi.org>. In the Web editions of ACS journals, the DOI appears at the top of the HTML version of an article and at the bottom of the first page in its PDF version; in the print editions, the DOI appears in the same location as in the PDF version.

2000 Subscription and Ordering Information

		North America	Outside North America*
Printed Edition	Members	\$ 83	\$180
	Student Members	\$ 62	\$159
	Nonmembers	\$229	\$326
	Institutional	\$804	\$901
Web Edition†	Members	\$ 50	\$ 50
Print/Web Combination†	Members	\$133	\$230

* Air service included. † For Institutional rates, call Member & Subscriber Services.

Web Edition: This journal is available to subscribers via the Internet. Contact Member & Subscriber Services [Tel: (614) 447-3776 or (800) 333-9511. Fax: (614) 447-3671. E-mail: service@acs.org] or visit the Publications Division Web site (<http://pubs.acs.org>) for additional details.

New and Renewal Subscriptions: Send with payment to American Chemical Society, Department L-0011, Columbus, OH 43268-0011. Institutional subscribers in Japan must enter subscription orders with Maruzen Company Ltd., 3-10 Nihonbashi 2-chome, Chuo-ku, Tokyo 103, Japan. Tel: (03) 272-7211.

Change of Address: Notify Member & Subscriber Services, ACS, Columbus, OH. Tel: (614) 447-3776 or (800) 333-9511. Fax: (614) 447-3671. E-mail: address@acs.org. Include both old and new addresses and a mailing label from a recent issue.

Microfilm, Microfiche, Back Issue, and Printed Edition Single Issue Orders: Send requests to Publications Support Services, ACS, Washington, DC. Tel: (202) 872-4376. Fax: (202) 872-6325. E-mail: pss@acs.org. Printed edition not available prior to 1996.

Bulk Reprint Orders: For quotes and information, contact CJS Reprint Services. Tel: (888) 257-2134 or (410) 819-3991. Fax: (410) 820-9765.

Claims for Issues Not Received: Claims will be honored only if submitted within 90 days of the issue date (subscribers in North America) or within 180 days of the issue date (all other subscribers). Send requests to Member & Subscriber Services, ACS, Columbus, OH. Tel: (614) 447-3776 or (800) 333-9511. Fax: (614) 447-3671. E-mail: service@acs.org.

Supporting Information (SI): SI from 1995 to present is available free of charge via the Internet (<http://pubs.acs.org>) from the journal's home page. For information on electronic access, send E-mail to si-help@acs.org. SI prior to 1995 is available, for a fee, from Publications Support Services. Tel: (202) 872-4376. Fax: (202) 872-6325. E-mail: pss@acs.org.

© Copyright 2000 American Chemical Society

CHEMISTRY OF MATERIALS[®]

VOLUME 12, NUMBER 7
JULY 2000

CMATEX 12(7) 1807–2064 (2000)
ISSN 0897-4756

Registered in the U.S. Patent and Trademark Office
Copyright 2000 by the American Chemical Society

EDITORIAL

L. V. Interrante 1807 Special Issue on Organic–Inorganic Nanocomposite Materials

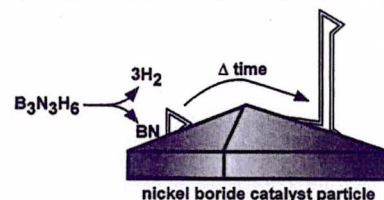
COMMUNICATIONS

Oleg R. Lourie, Carolyn R. Jones,
Bart M. Bartlett,
Patrick C. Gibbons,
Rodney S. Ruoff,* and
William E. Buhro*

Chem. Mater. 2000, 12, 1808 ■

CVD Growth of Boron Nitride Nanotubes

Multiwalled BN nanotubes are grown from nickel boride catalyst particles by chemical vapor deposition at 1000–1100 °C using borazine, $B_3N_3H_6$, as the precursor. This precursor is generated in situ from molten salt that forms from mixtures of $(NH_4)_2SO_4$, $NaBH_4$, and Co_3O_4 at 300–400 °C. The BN nanotubes have concentric-tube structures, are free of internal closures, have crystalline walls, and exhibit lengths of up to $\sim 5 \mu m$. The nanotubes often possess bulbous, flag-like, or club-like tip closures. A root-growth mechanism is proposed for the catalyzed process.

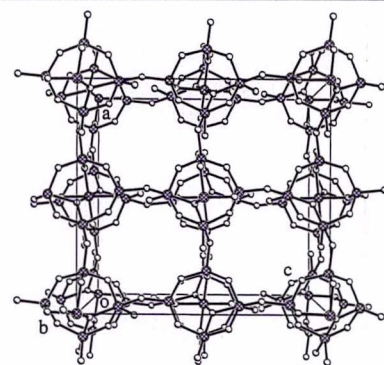


Xianhui Bu,* Pingyun Feng, and
Galen D. Stucky*

Chem. Mater. 2000, 12, 1811 ■

First Open-Framework Zinc Germanates
by a Molecular Templating Route

Despite the recent progress in the synthesis of new germanates, no zinc germanate has been synthesized by using a molecular templating route. A unique type of zincogermanate framework has now been prepared by using ethylenediamine as the structure-directing agent. The three-dimensional framework can be simply described as the face-centered packing of an elongated neutral cluster unit, Ge_9O_{18} .

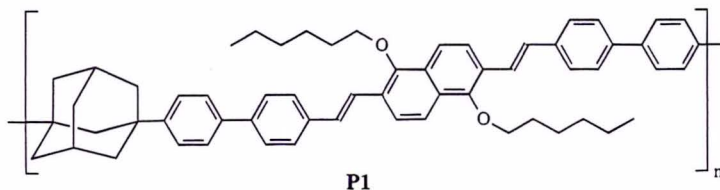


Shiying Zheng,* Jianmin Shi,* and
Raphaele Mateu

Chem. Mater. 2000, 12, 1814 ■

Novel Blue Light Emitting Polymer Con-
taining an Adamantane Moiety

A novel blue light emitting polymer **P1** containing a rigid adamantane moiety in the polymer main chain was synthesized. A similar green light emitting polymer was also prepared by effective control of the conjugation length. The incorporation of the adamantane units is an efficient π -conjugation interrupter. Blue light emission and low turn-on voltage were obtained from a single-layer LED fabricated from **P1**.



ARTICLES

- Seong-Ju Hwang, Hyo-Suk Park, Jin-Ho Choy,* and Guy Campet 1818 Evolution of Local Structure around Manganese in Layered LiMnO₂ upon Chemical and Electrochemical Delithiation/Relithiation
- Dmitriy V. Soldatov and John A. Ripmeester* 1827 Inclusion in Microporous β -Bis(1,1,1-trifluoro-5,5-dimethyl-5-methoxy-acetylacetonato)copper(II), an Organic Zeolite Mimic ■
- Leo van Wüllen,* Hellmut Eckert, and Georg Schwering 1840 Structure-Property Correlations in Lithium Phosphate Glasses: New Insights from ³¹P ↔ ⁷Li Double-Resonance NMR
- C. M. Fang,* G. A. de Wijs, R. A. de Groot, H. T. Hintzen, and G. de With 1847 Bulk and Surface Electronic Structure of the Layered Sub-Nitrides Ca₂N and Sr₂N
- Chun Yin, Yan-zhu Zhao, Chang-zheng Yang,* and Shu-yi Zhang 1853 Single-Ion Transport Light-Emitting Electrochemical Cells: Designation and Analysis of the Fast Transient Light-Emitting Responses
- Carola Braunbarth, Hugh W. Hillhouse, Sankar Nair, Michael Tsapatsis,* Allen Burton, Raul F. Lobo,* Richard M. Jacubinas, and Steven M. Kuznicki 1857 Structure of Strontium Ion-Exchanged ETS-4 Microporous Molecular Sieves
- Jeffrey W. Gilman,* Catheryn L. Jackson, Alexander B. Morgan, Richard Harris, Jr., Evangelos Manias, Emmanuel P. Giannelis, Melanie Wuthenow, Dawn Hilton, and Shawn H. Phillips 1866 Flammability Properties of Polymer-Layered-Silicate Nanocomposites. Polypropylene and Polystyrene Nanocomposites
- E. H. Lan, B. Dunn,* and J. I. Zink* 1874 Sol-Gel Encapsulated Anti-Trinitrotoluene Antibodies in Immunoassays for TNT
- Hong Mei Jin, Yi Li, Hong Lin Liu, and Ping Wu* 1879 Study on the Behavior of Additives in Steel Hot-Dip Galvanizing by DFT Calculations
- C. Tarducci, E. J. Kinmond, J. P. S. Badyal,* S. A. Brewer, and C. Willis 1884 Epoxide-Functionalized Solid Surfaces
- Xiaoqiang Hou* and R. James Kirkpatrick 1890 Solid-State ⁷⁷Se NMR and XRD Study of the Structure and Dynamics of Seleno-Oxyanions in Hydrotalcite-like Compounds
- Karine Heuzé, Cécile Mézière, Marc Fourmigué,* Patrick Batail,* Claude Coulon, Enric Canadell, Pascale Auban-Senzier, and Denis Jérôme 1898 An Efficient, Redox-Enhanced Pair of Hydrogen-Bond Tweezers for Chloride Anion Recognition, a Key Synthon in the Construction of a Novel Type of Organic Metal based on the Secondary Amide-Functionalized Ethylenedithiotetrathiafulvalene, β'' -(EDT-TTF-CONHMe)₂[Cl·H₂O] ■
- Alexander J. Norquist, Margaret E. Welk, Charlotte L. Stern, and Kenneth R. Poeppelmeier* 1905 Synthesis of the Neutral (CuF(NC₅H₅)₄)₂NbOF₅ Cluster ■
- Nobuhito Imanaka, Tomohiro Ueda, Yusuke Okazaki, Shinji Tamura, and Gin-ya Adachi* 1910 Trivalent Ion Conduction in Molybdates Having Sc₂(WO₄)₃-Type Structure
- Kaupo Kukli,* Mikko Ritala, and Markku Leskelä 1914 Atomic Layer Deposition and Chemical Vapor Deposition of Tantalum Oxide by Successive and Simultaneous Pulsing of Tantalum Ethoxide and Tantalum Chloride
- Sébastien Donze, Lionel Montagne,* and Gérard Palavit 1921 Thermal Conversion of Heavy Metal Chlorides (PbCl₂, CdCl₂) and Alkaline Chlorides (NaCl, KCl) into Phosphate Glasses
- M. A. Monge,* E. Gutiérrez-Puebla, C. Cascales, and J. A. Campá 1926 A Copper Germanate Containing Potassium in Its Two-Dimensional Channel Network ■
- Anne Donat-Bouillud, Isabelle Lévesque,* Ye Tao, Marie D'Iorio, Serge Beaupré, Pierre Blondin, Maxime Ranger, Jimmy Bouchard, and Mario Leclerc 1931 Light-Emitting Diodes from Fluorene-Based π -Conjugated Polymers

- Cédric Boissière, André Larbot, and Eric Prouzet* 1937 Synthesis of Mesoporous MSU-X Materials Using Inexpensive Silica Sources
- Jeremy J. Harris, Jacqueline L. Stair, and Merlin L. Bruening* 1941 Layered Polyelectrolyte Films as Selective, Ultrathin Barriers for Anion Transport
- G. S. Nolas,* B. C. Chakoumakos, B. Mahieu, Gary J. Long, and T. J. R. Weakley 1947 Structural Characterization and Thermal Conductivity of Type-I Tin Clathrates
- D. R. Kammler, T. O. Mason,* and K. R. Poeppelmeier 1954 Phase Relationships, Transparency, and Conductivity in the Cadmium Indate-Cadmium Stannate System
- Michal Kruk, Mietek Jaroniec,* Chang Hyun Ko, and Ryong Ryoo ■ 1961 Characterization of the Porous Structure of SBA-15
- Christopher M. Bender, James M. Burlitch,* Duane Barber, and Clifford Pollock 1969 Synthesis and Fluorescence of Neodymium-Doped Barium Fluoride Nanoparticles
- Richard I. Walton, Franck Millange, Dermot O'Hare,* Capucine Paulet, Thierry Loiseau, and Gérard Férey* 1977 Synthesis, Structures, and Reactivity of Two Compounds Containing the Tancoite-like $[\text{Ga}(\text{HPO}_4)_2\text{F}]^{2-}$ Chain
- Srikant Pathak, Marcia T. Greci, Raymond C. Kwong, Karine Mercado, G. K. Surya Prakash,* George A. Olah, and Mark E. Thompson* 1985 Synthesis and Applications of Palladium-Coated Poly(vinylpyridine) Nanospheres
- Franck Millange, Richard I. Walton, Lixu Lei, and Dermot O'Hare* 1990 Efficient Separation of Terephthalate and Phthalate Anions by Selective Ion-Exchange Intercalation in the Layered Double Hydroxide $\text{Ca}_2\text{Al}(\text{OH})_6\cdot\text{NO}_3\cdot 2\text{H}_2\text{O}$
- Markus Niederberger, Hans-Joachim Muhr, Frank Krumeich, Fabian Bieri, Detlef Günther, and Reinhard Nesper* 1995 Low-Cost Synthesis of Vanadium Oxide Nanotubes via Two Novel Non-Alkoxide Routes
- M. A. Monge,* E. Gutiérrez-Puebla, J. L. Martínez, I. Rasines, and J. A. Campa 2001 Cation Distribution in Lithium Nickel Oxide Crystals
- Mikhail Khoudiakov, Arthur B. Ellis,* John H. Perepezko,* Sungtae Kim, and Keith D. Kepler 2008 Low-Temperature, Mercury-Mediated Synthesis of Aluminum Intermetallics
- Carmen I. Butoi, Neil M. Mackie, Lara J. Gamble, David G. Castner, Jeffrey Barnd, Anne M. Miller, and Ellen R. Fisher* 2014 Deposition of Highly Ordered CF_2 -Rich Films Using Continuous Wave and Pulsed Hexafluoropropylene Oxide Plasmas
- P. Audebert, F. Miomandre, S. G. Di Magno, V. V. Smirnov, and P. Hapiot 2025 Polymerization of 3,4-Difluoropyrrole: Electrochemical and Physicochemical Behavior of Poly(Difluoropyrrole)
- S. R. Coulson, I. S. Woodward, J. P. S. Badyal,* S. A. Brewer, and C. Willis 2031 Ultralow Surface Energy Plasma Polymer Films
- R. J. Waltman 2039 Experimental and Theoretical Investigation of the Effect of Lubricant Structure on the Bonding Kinetics of Perfluoroalkylpolyethers on CH_x Amorphous Hydrogenated Carbon
- Alisa Bronshtein, Nadav Aharonson, Avner Turniansky, and Miriam Altstein* 2050 Sol-Gel-Based Immunoaffinity Chromatography: Application to Nitroaromatic Compounds
- Young Kyu Hwang, Soo Yuen Woo, Jong Hyeon Lee, Duk-Young Jung,* and Young-Uk Kwon* 2059 Micropatterned CdS Thin Films by Selective Solution Deposition Using Microcontact Printing Techniques

ADDITIONS AND CORRECTIONS

Rupali Gangopadhyay and 2064 Conducting Polymer Nanocomposites: A Brief Overview
Amitabha De

■ Supporting Information is available free of charge via the Internet at <http://pubs.acs.org>.

* In papers with more than one author, the asterisk indicates the name of the author to whom inquiries about the paper should be addressed.

On the Cover

High magnification TEM image of a polypropylene-*graft*-maleic anhydride montmorillonite nanocomposite. The image shows a large multilayer stack of montmorillonite plates where polymer has intercalated into the galleries. At the edges of this stack, individual layers are beginning to exfoliate. (Artwork is courtesy of the National Institute of Standards and Technology.) See "Flammability Properties of Polymer-Layered-Silicate Nanocomposites. Polypropylene and Polystyrene Nanocomposites" by Jeffrey W. Gilman, Catheryn L. Jackson, Alexander B. Morgan, Richard Harris, Jr., Evangelos Manias, Emmanuel P. Giannelis, Melanie Wuthenow, Dawn Hilton, and Shawn H. Phillips, p 1866.