

HETEROCYCLIC COMMUNICATIONS

EDITOR-IN-CHIEF

Lucjan Strekowski, *Atlanta, USA*

ASSOCIATE EDITORS

Shizuaki Murata, *Nagoya, Japan*

Jaroslav Saczewski, *Gdańsk, Poland*

Chad E. Stephens, *Augusta, USA*

EDITORIAL BOARD

Samuel Achilefu, *St. Louis, USA*

Enzo B. Arevalo-Garcia, *Warsaw, Poland*

Alfons L. Baumstark, *Atlanta, USA*

Margaret Brimble, *Auckland, New Zealand*

Richard A. Bunce, *Stillwater, USA*

Mark Elliott, *Cardiff, UK*

D. C. Gautam, *Jaipur, India*

Markus W. Germann, *Atlanta, USA*

Donald Hamelberg, *Atlanta, USA*

Maged M. Henary, *Atlanta, USA*

Hiromasa Kiyota, *Okayama, Japan*

K. Kononowicz, *Kraków, Poland*

Mahendra Kumar, *Jaipur, India*

Hiroshi Nishino, *Kumamoto, Japan*

Takashi Okano, *Tokyo, Japan*

Siva S. Panda, *Gainesville, USA*

Steven E. Patterson, *Minneapolis, USA*

Jagath Reddy, *Hyderabad, India*

Sylvain Routier, *Orléans, France*

Andrzej Rykowski, *Siedlce, Poland*

Franciszek Saczewski, *Gdańsk, Poland*

Stewart W. Schneller, *Auburn, USA*

Björn C. G. Söderberg, *Morgantown, USA*

Valery F. Traven, *Moscow, Russia*

Klaus Weisz, *Greifswald, Germany*

Peng-Fei Xu, *Lanzhou, China*

Paweł Zajdel, *Kraków, Poland*

Anna Zawisza, *Łódź, Poland*

DE GRUYTER

ABSTRACTED/INDEXED IN Chemical Abstracts, Chemistry Citation Index, Current Contents, Journal Citation Reports/Social Science Edition, SciSearch, Scopus

The publisher, together with the authors and editors, has taken great pains to ensure that all information presented in this work (programs, applications, amounts, dosages, etc.) reflects the standard of knowledge at the time of publication. Despite careful manuscript preparation and proof correction, errors can nevertheless occur. Authors, editors and publisher disclaim all responsibility for any errors or omissions of liability for the results obtained from use of the information, or parts thereof, contained in this work.

The citation of registered names, trade names, trademarks, etc. in this work does not imply, even in the absence of a specific statement, that such names are exempt from laws and regulations protecting trademarks etc. and therefore free for general use.

ISSN 0793-0283 · e-ISSN 2191-0197

All information regarding notes for contributors, subscriptions, Open access, back volumes and orders is available online at www.degruyter.com/hc

RESPONSIBLE EDITOR Prof. Lucjan Strekowski, Department of Chemistry, Georgia State University, P.O. Box 4098, Atlanta, Georgia 30302-4098, USA, Tel.: +1 (404) 413 – 5509, Email: lucjan@gsu.edu

JOURNAL MANAGER Dr. Torsten Krüger, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany, Tel.: +49 (0)30 260 05 – 176, Fax: +49 (0)30 260 05 – 298, Email: hetcycl.commun.editorial@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS Claudia Neumann, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany. Tel.: +49 (0)30 260 05-226, Fax: +49 (0)30 260 05-322, Email: anzeigen@degruyter.com

© 2014 Walter de Gruyter GmbH, Berlin/Munich/Boston

TYPESETTING Compuscript Ltd., Shannon, Ireland

PRINTING Franz X. Stickle Druck und Verlag e.K., Ettenheim
Printed in Germany



Contents

Review

Galal H. Elgemeie and Reham A. Mohamed

Application of dimethyl *N*-cyanodithioiminocarbonate in synthesis of fused heterocycles and in biological chemistry — 313

Research Articles

Weiwei Liu, Quxiang Li, Fengchang Cheng, Dahua Shi and Zhiling Cao

Synthesis of novel glycosyl 1,3,4-oxadiazole derivatives — 333

Shima Rezaeian, Mohammad Rahimizadeh, Hossein Eshghi, Mehdi Bakavoli, Kamahldin Haghbini and Mohammad Saadatmandzadeh

Synthesis of the new heterocyclic system 7,8-dihydro-6*H*-benzotetrazolothiadiazine and derivatives — 339

Naveen Gautam, Ankita Garg, Thandi Lal, Dinesh Chand Gautam and Jyoti Joshi

Synthesis and antimicrobial assessment of new substituted 10*H*-phenothiazines, their sulfone derivatives, and ribofuranosides — 343

Sergey P. Ivonin, Bohdan B. Kurpil', Oleksandr O. Grygorenko and Dmitry M. Volochnyuk

Reaction of hydrazones derived from electron-deficient ketones with Vilsmeier-Haack reagent — 351

Maaroor Zarei and Aliasghar Jarrahpour

Silphos as an efficient heterogeneous reagent for the synthesis of 2-azetidinones — 355

Ayşegül Gümüş and Sibel Uçur

Regioselective one-pot synthesis of 1,4-disubstituted 1,2,3-triazole derivatives — 361