

PURE AND APPLIED CHEMISTRY

IUPAC PRESIDENT *Christopher Brett* (Portugal)

VICE PRESIDENT *Javier Garcia Martinez* (Spain)

PAST PRESIDENT *Qi-Fend Zhou* (China/Beijing)

SECRETARY GENERAL *Richard Hartshorn* (New Zealand)

TREASURER *Colin Humphris* (UK)

COMMITTEE ON PUBLICATIONS AND CHEMINFORMATICS DATA STANDARDS (CPCDS)

Leah McEwen (USA, chair); *James Liu* (USA, secretary); *Greg Banik* (USA); *Ian Bruno* (UK); *Stuart Chalk* (USA); *Jeremy Frey* (UK); *Wolfram Koch* (Germany); *Carmen Nitsche* (USA); *Kounosuke Oisaki* (Japan); *Ethel Rios-Orlandi* (Puerto Rico); *Rusli Daik* (Malaysia); *Margherita Gavagnin* (Italy); *Supa Hannongbua* (Thailand)

EDITORIAL ADVISORY BOARD

Richard Hartshorn (New Zealand, IUPAC Secretary General, Acting Chair)

Mark Cesa (USA)

Nicole Moreau (France)

Natalia Tarasova (Russia)

Kazuyuki Tatsumi (Japan)

Pietro Tundo (Italy)

Qi-feng Zhou (China/Beijing)

Roger Hiorns (France), Polymer

Zoltán Mester (Canada), Analytical Chemistry

Yehuda Shevah (Israel), Chemistry and the Environment

Rita Cornelis (Belgium), Chemistry and Human Health

Alan Hutton (South Africa), Chemical Nomenclature and Structure Representation

EX OFFICIO MEMBERS

Leah McEwen (USA), Committee on Publications and Cheminformatics Data Standards, chair

Jürgen Stohner (Switzerland), Interdivisional Committee on Terminology, Nomenclature and Symbols, chair

Hugh D. Burrows (Portugal), PAC Scientific Editor

IUPAC DIVISION REPRESENTATIVES

Ron D. Weir (Canada), Physical and Biophysical Chemistry

Miki Hasegawa (Japan), Inorganic Chemistry

Nikolay Nifantiev (Russia), Organic and Biomolecular Chemistry

ABSTRACTED/INDEXED IN Baidu Scholar · Cabell's Whitelist · CABI (over 50 subsections) · Chemical Abstracts Service (CAS): CAplus; SciFinder · Chimica · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC: cnpLINKer · Dimensions · EBSCO (relevant databases) · EBSCO Discovery Service · Ei Compendex · Engineering Village · Gale/Cengage · Genamics JournalSeek · Google Scholar · Japan Science and Technology Agency (JST) · J-Gate · Journal Citation Reports/Science Edition · JournalGuide · JournalTOCs · KESLI-NDSL (Korean National Discovery for Science Leaders) · Microsoft Academic · MyScienceWork · Naviga (Softweco) · Paperbase · Pirabase · Polymer Library · Primo Central (ExLibris) · ProQuest (relevant databases) · Publons · QOAM (Quality Open Access Market) · ReadCube · Reaxys · SCImago (SJR) · SCOPUS · Semantic Scholar · Sherpa/RoMEO · Summon (ProQuest) · TDNet · TEMA Technik und Management · Ulrich's Periodicals Directory/ulrichsweb · WanFang Data · Web of Science: Current Contents/Physical, Chemical and Earth Sciences; Science Citation Index; Science Citation Index Expanded · WorldCat (OCLC)

ISSN 0033-4545 · e-ISSN 1365-3075

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

SCIENTIFIC EDITOR, CONFERENCE AND SPECIAL TOPIC PAPERS Prof. Hugh D. Burrows, Department of Chemistry, University of Coimbra, Coimbra, Portugal, Email: burrows@ci.uc.pt

EDITORS, IUPAC RECOMMENDATIONS AND TECHNICAL REPORTS Prof. Dr. Jürgen Stohner, Department of Life Sciences and Facility Management, Institute of Chemistry and Biotechnology, Zurich University of Applied Sciences, Wädenswil, Switzerland, Email: juergen.stohner@zhaw.ch
Prof. D. Brynn Hibbert, University of New South Wales, School of Chemistry, Sydney NSW 2052 Australia, Email: b.hibbert@unsw.edu.au

IUPAC SECRETARIAT PO Box 13757, Research Triangle Park, NC 27709-3757, USA; Tel.: +1 919-485-8700; Fax: +1 919-485-8706, Email: secretariat@iupac.org; Web site: www.iupac.org

JOURNAL MANAGER Joshua Gannon, De Gruyter, 125 Pearl St Boston, MA 02110, USA, Tel.: +1 857-284-7073-103, Fax: +1 857-284-7358, Email: joshua.gannon@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 05-264, Email: anzeigen@degruyter.com

© 2020 Walter de Gruyter GmbH, Berlin/Boston

TYPESETTING Compuscript Ltd., Shannon, Ireland

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



Contents

Conference papers

Angela Sorbo, Maria Ciprotti, Andrea Colabucci, Marilena D'Amato, Marco Di Gregorio, G. Fornari Luswergh, Anna C. Turco and Laura Ciaralli

Proficiency testing as a tool to assess quality of data: the experience of the EU Reference Laboratory for chemical elements in food of animal origin — 383

Riccardo Checchetto, Daniele Rigotti, Alessandro Pegoretti and Antonio Miotello

Chloroform desorption from poly(lactic acid) nanocomposites: a thermal desorption spectroscopy study — 391

Elisa Panzarini, Cristian Vergallo, Francesco Paolo Fanizzi, Stefania Mariano, Ada Maria Tata and Luciana Dini

The dialogue between died and viable cells: in vitro and in vivo bystander effects and ^1H -NMR-based metabolic profiling of soluble factors — 399

Robinson B. Dinamarca, Rodrigo Espinoza-González, Cristian H. Campos and Gina Pecchi

Magnetic Pt single and double core-shell structures for the catalytic selective hydrogenation of cinnamaldehyde — 413

Francesca Baldassarre, Angelo De Stradis, Giuseppe Altamura, Viviana Vergaro, Cinzia Citti, Giuseppe Cannazza, Agostina L. Capodilupo, Luciana Dini and Giuseppe Ciccarella

Application of calcium carbonate nanocarriers for controlled release of phytodrugs against *Xylella fastidiosa* pathogen — 429

Muhammad Siddiq, Khush Bakhat and Muhammad Ajmal

Stimuli responsive microgel containing silver nanoparticles with tunable optical and catalytic properties — 445

Zahra Ahali Abadeh, Giovanna Saviano, Paolo Ballirano and M. Gabriella Santonicola

Curcumin-loaded zeolite as anticancer drug carrier: effect of curcumin adsorption on zeolite structure — 461

Zoi Salta, Agnie M. Kosmas and Oscar N. Ventura

Kinetics and thermodynamics of the hydroxylation products in the photodegradation of the herbicide Metolachlor — 473

Thomas Jakschitz, Martin Fischnaller, Jean-Christophe Noel, Ronald Gstir, Daniela Rainer, Peter Rutzinger, Günther Bonn and Bernd Michael Rode

Electronic cigarettes – an important progress or just another risk for health? — 485

Réka Henyecz, Zoltán Mucsi and György Keglevich

A surprising mechanism lacking the Ni(0) state during the Ni(II)-catalyzed P–C cross-coupling reaction performed in the absence of a reducing agent – An experimental and a theoretical study — 493

Liliya Yu. Kovalenko, Vladimir A. Burmistrov, Yuliya A. Lupitskaya, Fedor A. Yaroshenko, Elena M. Filonenko and Elena A. Bulaeva

Ion exchange of H^+/Na^+ in polyantimonic acid, doped with vanadium ions — 505

Viktor Vyatkin

Spin-orbital exclusion principle and the periodic system — 515

IUPAC Technical Report

Karl-Heinz Hellwich, Richard M. Hartshorn, Andrey Yerin, Ture Damhus and Alan T. Hutton

Brief guide to the nomenclature of organic chemistry (IUPAC Technical Report) — 527