

11º Boletim Informativo
Divisão de Química Orgânica
Sociedade Brasileira de Química
2º trimestre/2017

Diretor: Mauricio Moraes Victor (UFBA)

Vice-Diretor: Cristiano Raminelli (UNIFESP-Diadema)

Tesoureiro: Giovanni Wilson Amarante (UFJF)



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1) Editorial: 11º Boletim da DQO

Prezados Sócios da SBQ e Membros da Divisão de Química Orgânica!

Chegou o grande momento: IUPAC 2017. As malas já estão sendo preparadas, estamos prontos para o momento de prestigiar o maior evento de Química já realizado no Brasil. A comunidade química será protagonista desta grande realização da Ciência brasileira, e não podemos perder esta oportunidade. Compareçam.

Igualmente importante são as comemorações dos 40 anos da Sociedade Brasileira de Química. Como dito no editorial do exemplar comemorativo aos 40 anos, “orgulhosa das ações que a trouxeram até aqui e com plena consciência da sua responsabilidade futura e dos desafios a serem vencidos nos próximos quarenta anos.” Parabéns a todos que colaboraram e ainda contribuem para o fortalecimento de nossa Sociedade.

Neste importante momento, este boletim finaliza a apresentação dos participantes do simpósio “Chemical Synthesis”. Esperamos que as informações sejam úteis.

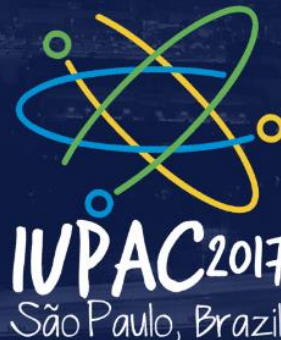
Quaisquer dúvidas, questionamentos, sugestões e matérias para este boletim devem ser enviados para o email quimicaorganica.s bq@gmail.com

Divisão de Química Orgânica - DQO

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46th World Chemistry Congress

40ª Reunião Anual da Sociedade Brasileira de Química

Sustainability & Diversity through Chemistry

July 9 to 14, 2017 - São Paulo - Brazil

2) Informes:

Chemical Synthesis (CS)

Chemistry is an enabling science. No material of any type can be studied or utilized in a larger context unless it can be prepared, and thus Chemical Synthesis plays a central role in science, technology, and society, broadly defined. There is a constant demand in all quarters of society for new molecules in diverse arenas – from therapeutics to agrochemicals to functional materials of every description. Although it is probably true that, given enough resources and time, any reasonable molecule can be synthesized, substantial advances are still necessary to furnish a specific molecule in appropriate amounts under the modern constraints of time, economics, and environmental sustainability. The Chemical Synthesis symposium plans to cover the following four topics, which address many of the modern challenges of the discipline. Synthetic method; total synthesis of biologically active natural products; catalysis and structure, function, mechanisms and processes.

Symposium Organizers: Luiz F. Silva Jr (Universidade de São Paulo, São Paulo, SP, Brazil - luizfsjr@iq.usp.br) and Gary Molander (University of Pennsylvania, Philadelphia, PA, EUA - gmolandr@sas.upenn.edu)

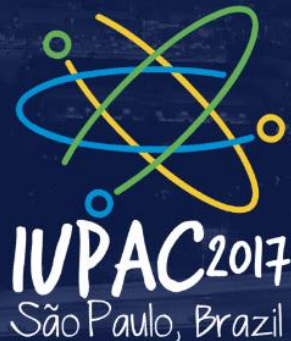
Topics

4.1 Total Synthesis of Biologically Active Natural Products

4.2 Catalysis

4.3 Structure, Function, Mechanisms and Processes

4.4 Synthetic Methods



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Keynote Lectures Accepted Invitations

ANDRÉ CHARETTE 11º Boletim DQO

CANADA

DEVELOPMENT OF NEW CYCLOPROPANATION REACTIONS IN BATCH AND IN FLOW TO ACCESS POLYSUBSTITUTED CYCLOPROPANES

ANTONIO ECHAVARREN 9º Boletim DQO

SPAIN

MAKING AND BREAKING CYCLOPROPANES WITH GOLD

GARY A. MOLANDER 11º Boletim DQO

UNITED STATES

SINGLE ELECTRON PROCESSES: ENABLING ORGANIC SYNTHESIS VIA PHOTOREDOX CATALYSIS

ILAN MAREK 9º Boletim DQO

ISRAEL

REMOTE FUNCTIONALIZATION

JOHN MONTGOMERY 11º Boletim DQO

UNITED STATES

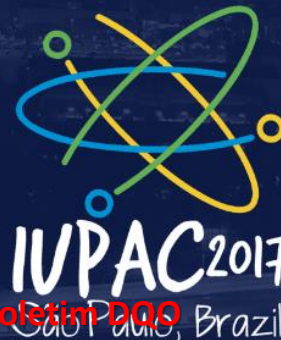
NEW CATALYSTS, REACTIVITY, AND MECHANISTIC INSIGHTS IN NICKEL-CATALYZED TRANSFORMATIONS

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São Paulo, Brazil

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10º Boletim DQO⁷ - São Paulo - Brazil

Keynote Lectures Accepted Invitations

KARL-ANKER JORGESEN 9º Boletim DQO

DENMARK

ORGANOCATALYSIS FOR SYNERGISTIC CATALYSIS AND CYCLOADDITION REACTIONS

MAGNUS RUEPING 10º Boletim DQO

GERMANY

SUSTAINABLE CATALYSIS - CONCEPTS AND APPLICATIONS

MATTHEW SIGMAN 10º Boletim DQO

UNITED STATES

ENANTIOSELECTIVE FORMATION OF REMOTE CHIRAL CENTERS THROUGH PD-CATALYZED ALKENE FUNCTIONALIZATION

MIKE KRISCHE 10º Boletim DQO

UNITED STATES

HYDROGEN-MEDIATED C-C BOND FORMATION

RONALDO PILLI 10º Boletim DQO

BRAZIL

SYNTHESIS AND STRUCTURAL ELUCIDATION OF NATURAL DIHYDROPYRANONES

Invited Lectures Accepted Invitations

ARIEL MARCELO SAROTTI 11º Boletim DQO ARGENTINA

ASSIGNMENT OF COMPLEX MOLECULES BY GIAO NMR CALCULATIONS. APPLICATIONS IN THE COMPUTER-GUIDED SYNTHESIS OF NATURAL PRODUCTS.

DAVID NICEWICZ 10º Boletim DQO UNITED STATES

NEW AVENUES IN SYNTHESIS VIA ORGANIC PHOTOREDOX CATALYSIS

DIOGO LÜDTKE 11º Boletim DQO BRAZIL

Stereoselective Carbon-Carbon Bond Formation Using Organozinc Reagents

ERIC MEGGERS 11º Boletim DQO GERMANY

VISIBLE-LIGHT-ACTIVATED ASYMMETRIC TRANSITION METAL CATALYSIS

GERALDINE MASSON 10º Boletim DQO FRANCE

VISIBLE LIGHT PHOTOREDOX CATALYSIS AS A TOOL FOR ORGANIC SYNTHESIS

GWILHERM EVANO 11º Boletim DQO BELGIUM

COPPER-CATALYZED RADICAL REACTIONS

JEAN-PIERRE VORS 11º Boletim DQO FRANCE

MITOCHONDRIAL RESPIRATION INHIBITORS, BREAKING THE DOGMA FOR A SUCCESS STORY IN FUNGICIDES DISCOVERY

JEFFREY N. JOHNSTON 11º Boletim DQO UNITED STATES

NEW CATALYSTS, METHODS, AND STRATEGIES FOR THERAPEUTIC DEVELOPMENT AND ON-DEMAND NATURAL PRODUCT TOTAL SYNTHESIS

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IVPAC2017
São Paulo, Brazil

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KÁLMÁN SZABÓ 11º Boletim DQO SWEDEN

RECENT ADVANCES IN THE PREPARATION AND APPLICATION OF ALLYLBORONIC ACIDS IN ORGANIC SYNTHESIS

KARL A SCHEIDT 11º Boletim DQO UNITED STATES

COOPERATIVE CATALYSIS FOR CHEMICAL SYNTHESIS

MARY P. WATSON 11º Boletim DQO UNITED STATES

NICKEL-CATALYZED CROSS-COUPPLING REACTIONS OF ALKYL AMINE AND ALCOHOL DERIVATIVES

NIDHI JAIN 11º Boletim DQO INDIA

NEW STRATEGIES FOR THE C-H FUNCTIONALIZATION WITH PALLADIUM AND COPPER: FROM MICRO TO NANO-SCALE CATALYSIS

OLIVIER BAUDOIN 10º Boletim DQO SWITZERLAND

RING CONSTRUCTION BY PD-CATALYZED C(SP³)-H ACTIVATION

SARAH TRICE 10º Boletim DQO UNITED STATES

MODERN CHEMISTRY: TOOLS TO ENABLE THE PRACTICING CHEMIST

YOUNG HO RHEE 10º Boletim DQO SOUTH KOREA

CHIRAL N,O- AND O,O-ACETALS: A POWERFUL BUILDING BLOCK IN ORGANIC SYNTHESIS

YUJIRO HAYASHI 9º Boletim DQO JAPAN

POT ECONOMY AND TIME ECONOMY IN THE SYNTHESIS OF BIOLOGICALLY ACTIVE MOLECULES

3) Palestrantes IUPAC 2017:

Keynote Lecture: Prof. André Charette



Research:

- ✓ Design and development of new synthetic methods with complete stereocontrol
- ✓ New efficient routes to dihydropyridines and its conversion to piperidines
- ✓ The enantioselective cyclopropanation reaction
- ✓ The synthesis of natural amino acids, dihydropyrroles and other heterocyclic compounds using efficient catalytic asymmetric methods
- ✓ The synthesis of complex natural products

The Department of Chemistry
Université de Montréal, Roger Gaudry Building, D-633
P.O. Box 6128, Stn Downtown, Montréal, QC H3C 3J7
Canada
Contact: andre.charette@umontreal.ca

Keynote Lecture: Prof. Gary A. Molander



Research:

- ✓ **Development of new synthetic methods and their application to the synthesis of organic molecules**
- ✓ **Photoredox cross coupling**
- ✓ **Methods toward the rapid synthesis of azaborines**
- ✓ **Organofluorine chemistry**
- ✓ **Reductive cross-coupling**

Hirschmann-Makineni Professor of Chemistry
Department of Chemistry, University of Pennsylvania
231 South 34th Street Philadelphia, PA 19104-6323
USA
Contact: gmolandr@sas.upenn.edu

Keynote Lecture: Prof. John Montgomery



Research:

- ✓ **New nickel-catalyzed reactions**
- ✓ **The reductive coupling of two π -components**
- ✓ **Total or formal total syntheses of complex molecules**
- ✓ **The development of new catalytic reactions**
- ✓ **The discovery of new glycosylation methods**

930 N. University, Department of Chemistry
University of Michigan
Ann Arbor, MI 48109-1055
USA
Contact: jmontg@umich.edu

Invited Lecture: Prof. Ariel Marcelo Sarotti



Research:

- ✓ Development of chiral organocatalysts derived from biomass
 - ✓ Use of molecular modelling for the rational design of organic reactions and the development of new tools of structural elucidation
- Synthesis of natural products

Instituto de Química Rosario
Department of Organic Chemistry
Suipacha 531, Rosario, Santa Fe
Argentina
Contact: sarotti@iquir-conicet.gov.ar

Keynote Lecture: Prof. Diogo S. Lüdtkke



Research:

- ✓ **Stereoselective carbon-carbon bond formation using organozinc reagents**
- ✓ **Preparation of new chiral ligands and catalysts and their application in asymmetric catalysis**
- ✓ **Chiral organochalcogen compounds with potential biological activities**

Universidade Federal do Rio Grande do Sul
Department of Chemistry
Av. Bento Gonçalves, 9500. Porto Alegre, RS
Brazil
Contact: dsludtke@iq.ufrgs.br

Invited Lecture: Prof. Eric Meggers



Research:

- ✓ **Asymmetric catalysis with chiral-at-metal complexes**
- ✓ **Asymmetric synthesis of octahedral metal complexes**
- ✓ **Chemical biology and medicinal chemistry with inert metal complexes**
- ✓ **Bioorthogonal catalysis with organometallics**

Fachbereich Chemie
Philipps-Universität Marburg
Hans-Meerwein-Straße 4
35043 Marburg, Germany
Contact: meggers@chemie.uni-marburg.de

Invited Lecture: Prof. Gwilherm Evano



Research:

- ✓ **Natural/bioactive products synthesis**
- ✓ **New processes in copper catalysis/copper organometallic chemistry**
- ✓ **Chemistry of ynamides**
- ✓ **Polymers**

Laboratoire de Chimie Organique
Université Libre de Bruxelles
Avenue F. D. Roosevelt, 50 CP160/06
B-1050 Brussels, Belgium
Contact: gevano@ulb.ac.be

Invited Lecture: Dr. Jean-Pierre Vors



Research:

- ✓ Fluorinated heterocycles
- ✓ Mitochondrial respiration inhibitors
- ✓ Structure-activity relationship
- ✓ Crop protection compounds

Bayer CropScience

Lyon, France

Contact: <https://www.bayer.fr/>

Invited Lecture: Prof. Jeffrey N. Johnston



Research:

- ✓ **Contemporary enantioselective catalysis**
- ✓ **Catalysis to the synthesis of therapeutics**
- ✓ **Total synthesis of complex natural products**

Department of Chemistry
Vanderbilt University
7330 Stevenson Center, Station B 351822
Nashville, TN, USA 37235
Contact: jeffrey.n.johnston@vanderbilt.edu

Invited Lecture: Prof. Kálmán J. Szabó



Research:

- ✓ Homogenous catalysis
- ✓ Metal catalysis
- ✓ Organocatalysis
- ✓ Asymmetric catalysis (allylation reactions)
- ✓ Organoboron chemistry
- ✓ Organofluorine chemistry

Stockholm University
Department of Organic Chemistry, Arrhenius Laboratory,
SE-106 91 Stockholm, Sweden
Contact: kalman@organ.su.se

Invited Lecture: Prof. Karl A. Scheidt



Research:

- ✓ **New catalytic reactions**
- ✓ **Transition metal catalyzed reactions**
- ✓ **Total synthesis of Natural Products and Analogues for Biological purposes**

Department of Chemistry
Northwestern University
2145 Sheridan Road, Evanston, IL 60208
Contact: scheidt@northwestern.edu

Invited Lecture: Prof. Mary P. Watson



Research:

- ✓ **New methods for organic synthesis**
- ✓ **Enantioselective metal catalyzed transformations**
- ✓ **Construction of chiral molecules**

University of Delaware
Department of Chemistry & Biochemistry
209 Lammot DuPont Laboratory
Newark, DE 19716
Contact: mpwatson@udel.edu

Invited Lecture: Prof. Nidhi Jain



Research:

- ✓ Catalysis by ionic liquid stabilized transition metal nanoparticles
- ✓ Development of novel reaction methodologies in organic synthesis
- ✓ Structural studies of DNA adducts with environmental carcinogens

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Hauz Khas, New Delhi 110016
Contact: njain@chemistry.iitd.ac.in