

# CV of Dr. Jérôme Waser

Associate Professor in Organic Chemistry

Laboratory of Catalysis and Organic Synthesis (LCSO)

Ecole Polytechnique Fédérale de Lausanne, EPFL-SB-ISIC-LCSO

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Born on October 18<sup>th</sup>, 1977, in Sierre, Valais, Switzerland

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ORCID: 0000-0002-4570-914X

## Education

- 2006-2007 Stanford University, chemistry, Stanford, California, USA  
Postdoctoral fellow, adviser: *Prof. Barry M. Trost*
- 2002-2006 Swiss Federal Institute of Technology (ETH), chemistry, Zurich, Switzerland  
Ph. D., adviser: *Prof. Erick M. Carreira*, degree in 2006
- 1997-2001 Swiss Federal Institute of Technology (ETH), chemistry, Zurich, Switzerland  
Diploma (master) work, adviser: *Prof. Erick M. Carreira*, in 2001  
“Diplom” (master degree) in 2001

## Academic Positions

- 2014- Associate Professor in Organic Chemistry, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.
- 2007-2014 Assistant Professor in Organic Chemistry, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.

## Research Experience

- Since 2007 Development of *Umpolung* strategies based on the use of hypervalent iodine reagents. Alkynylation of C-H bonds, X-H bonds and olefins using palladium and gold catalysts as well as metal-free methods. Cyclization and annulation reactions based on the opening of small rings for the synthesis of complex nitrogen-rich molecules. Total synthesis of bioactive alkaloids.
- 2006-2007 Postdoctoral studies with *Prof. Barry M. Trost*: “*Total Synthesis of (-)-Pseudolaric Acid B*.” Multi-step synthesis of a natural product with promising antifungal and antitumor activity. Use of transition metal catalysts for a rapid and atom-economical access to the complex core structure of the pseudolaric acids.
- 2002-2005 Ph. D. with *Prof. Erick M. Carreira*: “*Hydrazines and Azides via the Metal-Catalyzed Hydrohydrazination and Hydroazidation of Olefins*.” Development of novel cobalt and manganese catalysts for the amination of non-activated olefins using silanes and electrophilic nitrogen sources, including synthesis and screening of metal complexes, optimization and mechanistic studies, as well as the examination of the reaction scope.

- 2001 Diploma (master) work with *Prof. Erick M. Carreira* under the direction of *Christian Fischer*: “*Advances Towards the Total Synthesis of the Clathramides: Diastereoselective Addition of (Trimethylsilyl)cyanide to a Fused Five-five Ring System.*” Multi-step synthesis of marine natural products.
- 2000 Internship (3 months) in Lonza AG, Visp VS, under the direction of *Dr. Y. Bessard*: Methoxycarbonylation of aromatic compounds and diverse short syntheses.
- 2000 Advanced laboratory course (4 months) in the group of *Prof. D. Seebach*, under the direction of *A. Heckel*: Synthesis of TADDOL derivatives for the catalysis of the *Diels-Alder* reaction.
- 1997-2001 Studies in chemistry with specialization in organic chemistry and analytical chemistry.

## Awards/Prizes

- 2017 ERC Consolidator Grant 2017
- 2016 Springer Heterocyclic Chemistry Award
- 2014 Werner Prize 2014 of the Swiss Chemical Society
- 2014 Member, Young Academy of Europe
- 2013 ERC Starting Grant 2013
- 2012 Silver Medal, European Young Chemist Award 2012
- 2011 Prix A.F. Schl fli 2011 of the Swiss Academy of Sciences
- 2009 Thieme Journal Award 2009
- 2005 Selection for the “Roche Symposium for Leading Chemists of the Next Decade”
- 1997 Award for the best scientific “Matura” of the “Kollegium Spiritus Sanctus”

## Funding/Fellowships

- 2017 ERC-CON-Grant 2017, “*SeleCHEM: Overcoming the Selectivity Challenge in Chemistry and Chemical Biology via Innovative Tethering Strategies*”
- 2017 Swiss National Science Foundation Sinergia Research Grant, number: N  CRSII5\_171026 (Together with the group of Prof. Alexander Adibekian at the University of Geneva, ” *Identification of Targets of Bioactive Compounds using Hypervalent Iodine Reagents* ”
- 2016 Swiss National Science Foundation Research Grant, number: N  200021\_165788, ” *Strained Rings: New Applications in Catalysis and Synthesis*”
- 2015 Swiss National Science Foundation Conference Grant, number: N  20CO21\_164201, ”*5<sup>th</sup> International Conference on Hypervalent Iodine Chemistry*”
- 2015 Swiss National Science Foundation Research Grant, number: N  200021\_159920, ”*Multi-Functionalization and Domino Reactions for Accessing Molecular Complexity*”
- 2013 Roche Unrestricted Research Grant: “*Synthesis and Functionalization of Heterocycles*”
- 2013 Swiss National Science Foundation Research Grant, number: 200020\_149494, ” *Annulation Reactions: Stereoselective Access to Nitrogen-Rich Building Blocks for the Synthesis of Bioactive Compounds*”
- 2013 ERC-STG-Grant 2013, “*iTools4MC: Hypervalent Iodine Reagents: A Tool Kit for Accessing Molecular Complexity*”

- 2013 Academic host for Dr. Reto Frei, Recipient of the IIF Marie Curie Fellowship: “*CasDKP: Synthesis of Diketopiperazine Based Bioactive Compounds via Palladium Cascade Alkynylation Reactions*”
- 2012 Roche Unrestricted Research Grant: “*Synthesis and Functionalization of Heterocycles*”
- 2012 NCCR (National Center of Competence in Research) in Chemical Biology Grant
- 2011 Scientific Exchange Program NMS-CH Fellowship, Fellow: Mr. Gergely Laszlo Tolnai: “*Acetylene Chemistry for the Construction and Functionalization of Heterocycles: New tools for the Synthesis of Natural Products, Drugs and Organic Materials*”
- 2011 Roche Unrestricted Research Grant: “*Synthesis and Functionalization of Heterocycles*”
- 2011 Swiss State Grant (Secrétariat d’état à l’éducation et à la recherche), number: C10.0116, in the framework of COST action CM0804 ”*Total Synthesis of Gonioma and Aspidosperma Alkaloids: New Anticancer Agents*”
- 2011 Swiss National Science Foundation Research Grant, number: 200021\_119810,” *New Catalytic C-C Bond Forming Reactions: Asymmetric Alkynylation of Enolates*”
- 2010 Roche Unrestricted Research Grant: “*Synthesis and Functionalization of Heterocycles*”
- 2010 ESF-COST Conference Grant
- 2010 Academic host for Dr. Fides Benfatti, Recipient of the IEF Marie Curie Fellowship: “*VVINCAncer: Novel vinca alkaloids analogs as anticancer agents: a multidisciplinary quest*”
- 2010 Swiss National Science Foundation Research Grant, number: 200021\_129874,” *Cyclization Reactions: New Access towards Active Substances against Cancer and Neurologic Diseases*”
- 2009 JSP Fellowship of the 44<sup>th</sup> Bürgenstock Conference
- 2008 Swiss National Science Foundation Research Grant, number: 200021\_119810,” *New Catalytic C-C Bond Forming Reactions*”
- 2007 Roche Research Foundation postdoctoral fellowship
- 2006 Swiss National Science Foundation postdoctoral fellowship
- 2004 Roche Research Foundation fellowship
- 1997 “Bourse d’étude et prêt d’honneur du Canton du Valais”

## Affiliation

Swiss Chemical Society

Swiss Academy of Sciences

Young Academy of Europe

American Chemical Society

Gesellschaft Deutscher Chemiker

Société Vaudoise des Sciences Naturelles (member of the scientific committee 2008-2015)

## Teaching

- 2012- Bachelor course EPFL: *Atomes, Ions, Molécules et Fonctions* (120-250 students, 20 h).
- 2011- Doctoral course EPFL: *Frontiers in Organic Chemistry* (6-11 students, 10 h + 36 h workshop, jointly with Prof. Xile Hu).
- 2010- Bachelor course EPFL: *synthèse asymétrique* (12-46 students, 28 h).
- 2010- Advanced master course EPFL: *Catalytic Asymmetric Reactions in Organic Synthesis* (7-20 students, 28 h).
- 2007-2010 Master course EPFL: *Structure and Reactivity* (15-25 students, 28 h).

## Management and Administration

- 2015- Director of the Section of Chemistry and Chemical Engineering (SCGC)
- 2015- Member of the direction of the Faculty of Basic Sciences (FSB)
- 2015- Member of the Steering Committee of the Institute of Chemical Sciences and Engineering (ISIC)
- 2014-2015 Member of the task force for the reformation of teaching and education at EPFL
- 2014-2015 Member of the master admission committee of EPFL
- 2013- Member of the academic commission of the section of chemistry and chemical engineering
- 2008- Member of the teaching commission of the section of chemistry and chemical engineering
- 2008-2011 Re-organization and coordination of organic chemistry teaching at EPFL (bachelor and master level)
- 2007- Director of the Laboratory of Catalysis and Organic Synthesis, Supervisor of 12 postdoctoral fellows, 20 PhD theses (9 completed) and 13 master theses

## Conference Organization and Outreach

- 2017 Broad audience introduction about chemistry at the Radio Rouge FM (<https://www.facebook.com/rougefm/videos/vb.248457349395/10155259922434396/?type=2&theater> )
- 2016 Presentation of synthetic chemistry experiments during the EPFL open days (<http://archiveweb.epfl.ch/portesuvertes.epfl.ch/> )
- 2016 Chairman of the 5<sup>th</sup> International Conference on Hypervalent Iodine Chemistry (ICHIC 2016, Les Diablerets, Switzerland, 80 attendees, <http://isic3.epfl.ch/ICHIC2016/> )
- 2013 Co-Chairman of the Swiss Summer School in Synthesis and Catalysis in Villars
- 2012 Co-Chairman of the symposium “*Current Challenges in Catalysis and Synthesis*” EPFL and University of Geneva, Switzerland
- 2009-2013 Organization of broad audience conferences in chemistry for the SVSN (Société Vaudoise des Sciences Naturelles). In charge of special activities for the year of chemistry 2011 at EPFL.

2007- Co-Organizer of the Organic Chemistry Seminar Series at EPFL (15-20 speakers a year) and the Institute seminars

## Reviewing Activities

- 2011 – Expert for ANR (Agence Nationale de la Recherche), SNF (Swiss National Science Foundation), DFG (Deutsche Forschungsgemeinschaft), La Caixa Foundation, Tier 1 Grant of the Nanyang Technological University Singapore, Doctoral Fellowship Program of the Austrian Academy of Sciences, ACS Petroleum Research Fund, FWO Research Foundation Flanders and Foundation for Polish Science.
- 2010 – Expert for 9 PhD defenses outside EPFL.
- 2007 – Active reviewer for the following peer-reviewed journals: *Angewandte Chemie*, *Journal of the American Chemical Society*, *Chemical Science*, *Nature Communications*, *Chemical Reviews*, *Organic Letters*, *Chemistry-A European Journal*, *Journal of Organic Chemistry*, *Chemical Communications*, *Chemical Society Reviews*, *Advanced Synthesis and Catalysis*, *Synlett*, *ACS Chemical Biology*, *ACS Medical Chemistry Letters*, *Organic Frontiers*, *Organic and Biomolecular Chemistry*, *Tetrahedron*, *Tetrahedron Letters*, *European Journal of Organic Chemistry*, *Journal of Organometallic Chemistry*, *Helvetica Chimica Acta*.

## Publications

### 1. Peer-Review Journal Articles

- (91) “*Bench-Stable Electrophilic Indole and Pyrrole Reagents: Serendipitous Discovery and Use in C–H Functionalization*”  
Caramenti, P.; Waser, J. *Helv. Chim. Acta* **2017**, DOI: 10.1002/hlca.201700221.
- (90) “*Dearomatization of Electron Poor Six-Membered N-Heterocycles through [3+2] Annulation with Aminocyclopropanes*”  
Preindl, J.; Chakrabarty, S.; Waser, J. *Chem. Sci.* **2017**, 8, 7112-7118.
- (89) “*Indole- and Pyrrole-BX: Bench-Stable Hypervalent Iodine Reagents for Heterocycle Umpolung*”  
Caramenti, P.; Nicolai, S.; Waser, J. *Chem. Eur. J.* **2017**, 23, 14702-14706.
- (88) “*Enantioselective Copper-Catalyzed Oxy-Alkynylation of Diazo Compounds*”  
Hari, D. P.; Waser, J. *J. Am. Chem. Soc.* **2017**, 139, 8420-8423.
- (87) “*Palladium-Catalyzed Carboamination of Allylic Alcohols Using a Trifluoroacetaldehyde-Derived Tether*”  
Muriel, B.; Orcel, U.; Waser, J. *Org. Lett.* **2017**, 19, 3548-3551.
- (86) “*Divergent Access to (1,1) and (1,2)-Azidolactones from Alkenes using Hypervalent Iodine Reagents*”  
Alazet, S.; Le Vaillant, F.; Nicolai, S.; Courant, T.; Waser, J. *Chem. Eur. J.* **2017**, 23, 9501-9504.
- (85) “*Heterotetracenes: Flexible Synthesis and in Silico Assessment of the Hole Transport Properties*”  
Li, Y.; Gryn'ova, G.; Saenz, F.; Jeanbourquin, X.; Sivula, K.; Corminboeuf, C.; Waser, J. *Chem. Eur. J.* **2017**, 23, 8058-8065.
- (84) “*Room Temperature Decarboxylative Cyanation of Carboxylic Acids Using Photoredox Catalysis and Cyanobenziodoxolones: a Divergent Mechanism Compared to Alkynylation*”  
Le Vaillant, F.; Wodrich, M. D.; Waser, J. *Chem. Sci.* **2017**, 8, 1790-1800.
- (83) “*One-Pot Three-Component Synthesis of Vicinal Diamines via In Situ Amino Formation and Carboamination*”  
Orcel, U.; Waser, J. *Angew. Chem.* **2016**, 128, 13073-13077; *Angew. Chem., Int. Ed.* **2016**, 55, 12881-12885.
- (82) “*Divergent Reactivity of Thioalkynes in Lewis Acid Catalyzed Annulations with Donor–Acceptor Cyclopropanes*”  
Racine, S.; Hegedus, B.; Scopelliti, R.; Waser, J. *Chem. Eur. J.* **2016**, 22, 11997-12001.
- (81) “*Gold-catalyzed direct alkynylation of tryptophan in peptides using TIPS-EBX*”  
Tolnai, G. L.; Brand, J. P.; Waser, J. *Beilstein J. Org. Chem.* **2016**, 12, 745-749.
- (80) “*Copper-Catalyzed Oxy-Alkynylation of Diazo Compounds with Hypervalent Iodine Reagents*”  
Hari, D. P.; Waser, J. *J. Am. Chem. Soc.* **2016**, 138, 2190-2193.
- (79) “*Nucleoside Analogues: Synthesis from Strained Rings*”  
Racine, S.; Vuilleumier, J.; Waser, J. *Isr. J. Chem.* **2016**, 56, 566-577.  
Invited article in the special issue dedicated to donor acceptor cyclopropanes.
- (78) “*Alkynylation of Thiols with Ethynylbenziodoxolone (EBX) Reagents:  $\alpha$ - or  $\beta$ -  $\pi$ -Addition?*”  
Wodrich, M. D.; Caramenti, P.; Waser, J. *Org. Lett.* **2016**, 18, 60-63.

- (77) "Enantioselective Synthesis of Homoallylic Azides and Nitriles via Palladium-Catalyzed Decarboxylative Allylation"  
Vita, M. V.; Caramenti, P.; Waser, J. *Org. Lett.* **2015**, *17*, 5832-5835.
- (76) "Room-Temperature Decarboxylative Alkynylation of Carboxylic Acids Using Photoredox Catalysis and EBX Reagents"  
Le Vaillant, F.; Courant, T.; Waser, J. *Angew. Chem.* **2015**, *127*, 11352-11356; *Angew. Chem., Int. Ed.* **2015**, *54*, 11200-11204.
- (75) "Intramolecular Palladium-Catalyzed Alkene Carboalkynylation"  
Nicolai, S.; Swallow, P.; Waser, J. *Tetrahedron* **2015**, *71*, 5959-5964. Invited article in the special issue dedicated to Prof. Barry M. Trost at the occasion of the Tetrahedron Prize.
- (74) "Platinum-Catalyzed Domino Reaction with Benziodoxole Reagents for Accessing Benzene-Alkynylated Indoles"  
Li, Y.; Waser, J. *Angew. Chem.* **2015**, *127*, 5528-5532; *Angew. Chem., Int. Ed.* **2015**, *54*, 5438-5442.
- (73) "Palladium-Catalyzed Vicinal Amino Alcohols Synthesis from Allyl Amines by *in Situ* Tether Formation and Carboetherification"  
Orcel, U.; Waser, J. *Angew. Chem.* **2015**, *127*, 5339-5343; *Angew. Chem., Int. Ed.* **2015**, *54*, 5250-5254.
- (72) "[4+2]-Annulations of Aminocyclobutanes"  
Perrotta, D.; Racine, S.; Vuilleumier, J.; de Nanteuil, F.; Waser, J. *Org. Lett.* **2015**, *17*, 1030-1033.
- (71) "One-Pot, Three-Component Arylalkynyl Sulfone Synthesis"  
Chen, C. C.; Waser, J. *Org. Lett.* **2015**, *17*, 736-739.
- (70) "General and Practical Formation of Thiocyanates from Thiols"  
Frei, R.; Thibaut, C.; Wodrich, M. D.; Waser, J. *Chem. Eur. J.* **2015**, *21*, 2662-2668.
- (69) "Fast and Highly Chemoselective Alkynylation of Thiols with Hypervalent Iodine Reagents Enabled Through a Low Energy Barrier Concerted Mechanism"  
Frei, R.; Wodrich, M. D.; Hari, D. P.; Borin, P. A.; Chauvier, C.; Waser, J. *J. Am. Chem. Soc.* **2014**, *136*, 16563-16573.
- (68) "Enantioselective Synthesis of Polycyclic Carbocycles via an Alkynylation–Allylation–Cyclization Strategy"  
Vita, M. V.; Mieville, P.; Waser, J. *Org. Lett.* **2014**, *16*, 5768-5771.
- (67) "Room temperature alkynylation of H-phosphi(na)tes and secondary phosphine oxides with ethynylbenziodoxolone (EBX) reagents"  
Chen, C. C.; Waser, J. *Chem. Commun.* **2014**, *50*, 12923-12926.
- (66) "Diester-Substituted Aminocyclopropanes: Synthesis and Use in [3+2]-Annulation Reactions"  
Serrano, E.; de Nanteuil, F.; Waser, J. *Synlett* **2014**, *25*, 2285-2288.  
Invited contribution to a Synlett cluster on activated cyclopropanes.
- (65) "Synthesis of (Carbo)nucleoside Analogues by [3+2] Annulation of Aminocyclopropanes"  
Racine, S.; de Nanteuil, F.; Serrano, E.; Waser, J. *Angew. Chem.* **2014**, *126*, 8627-8627; *Angew. Chem., Int. Ed.* **2014**, *53*, 8484-8487.
- (64) "Dynamic Kinetic Asymmetric [3 + 2] Annulation Reactions of Aminocyclopropanes"  
de Nanteuil, F.; Serrano, E.; Perrotta, D.; Waser, J. *J. Am. Chem. Soc.* **2014**, *136*, 6239-6242.
- (63) "Total Synthesis and Biological Evaluation of Jerantinine E"

- Frei, R.; Raja, S.; Franke, R.; Sasse, F.; Staedler, D.; Gerber-Lemaire, S.; Waser, J. *Angew. Chem.* **2013**, *125*, 13615-13618; *Angew. Chem., Int. Ed.* **2013**, *52*, 13373-13376.
- (62) "Zinc-Gold Cooperative Catalysis for the Direct Alkynylation of Benzofurans"  
Li, Y.; Waser J. *Beilstein J. Org. Chem.* **2013**, *9*, 1763-1767.
- (61) "Synthesis of Aminocyclobutanes via Iron-Catalyzed [2+2] Cycloaddition"  
de Nanteuil, F.; Waser, J. *Angew. Chem.* **2013**, *125*, 9179-9183; *Angew. Chem., Int. Ed.* **2013**, *52*, 9009-9013.
- (60) "Catalytic Friedel-Crafts Reaction of Aminocyclopropanes"  
de Nanteuil, F.; Loup, J.; Waser, J. *Org. Lett.* **2013**, *15*, 3738-3741.
- (59) "A Highly Chemoselective and Practical Alkynylation of Thiols"  
Frei, R.; Waser, J. *J. Am. Chem. Soc.* **2013**, *135*, 9620-9623.
- (58) "Azidation of Beta-Keto Esters and Silyl Enol Ethers with a Benziodoxole Reagent"  
Vita, M.V.; Waser J. *Org. Lett.* **2013**, *15*, 3246-3249.
- (57) "Ethynylbenziodoxolones (EBX) as Reagents for the Ethynylation of Stabilized Enolates"  
Fernández González, D.; Brand, J. P.; Mondière, R.; Waser J. *Adv. Synth. Catal.* **2013**, *355*, 1631-1639.
- (56) "Gold-Catalyzed Regioselective Synthesis of 2- and 3-Alkynyl Furans"  
Li, Y.; Brand, J. P.; Waser J. *Angew. Chem.* **2013**, *125*, 6875-6879; *Angew. Chem., Int. Ed.* **2013**, *52*, 6743-6747.
- (55) "Pd(0)-Catalyzed Alkene Oxy- and Aminoalkynylation with Aliphatic Bromoacetylenes"  
Nicolai, S.; Sedigh-Zadeh, R.; Waser J. *J. Org. Chem.* **2013**, *78*, 3783-3801.
- (54) "C2-Selective Direct Alkynylation of Indoles"  
Tolnai, G. L.; Ganss, S.; Brand, J. P.; Waser J. *Org. Lett.* **2013**, *15*, 112-115.
- (53) "Synthesis of 1-[(Triisopropylsilyl)ethynyl]-1λ3,2-benziodoxol-3(1H)-one and Alkynylation of Indoles, Thiophenes, and Anilines"  
Brand, J. P.; Waser J. *Synthesis* **2012**, *44*, 1155-1158.
- (52) "Ethynyl Benziodoxolones for the Direct Alkynylation of Heterocycles: Structural Requirement, Improved Procedure for Pyrroles and Insights into the Mechanism."  
Brand, J. P.; Chevalley, C.; Scopelliti, R.; Waser J. *Chem. Eur. J.* **2012**, *18*, 5655-5666.
- (51) "Catalytic Enantiospecific [3+2] Annulation of Aminocyclopropanes with Ketones"  
Benfatti, F.; de Nanteuil F.; Waser J. *Chem. Eur. J.* **2012**, *18*, 4844-4849.
- (50) "Para-Selective Gold-Catalyzed Direct Alkynylation of Anilines"  
Brand, J. P.; Waser J. *Org. Lett.* **2012**, *14*, 744-747.
- (49) "Iron-Catalyzed [3 + 2] Annulation of Aminocyclopropanes with Aldehydes: Stereoselective Synthesis of Aminotetrahydrofurans."  
Benfatti, F.; de Nanteuil F.; Waser J. *Org. Lett.* **2012**, *14*, 386-389.
- (48) "Pd(0)-Catalyzed Oxy- and Aminoalkynylation of Olefins for the Synthesis of Tetrahydrofurans and Pyrrolidines."  
Nicolai, S.; Waser J. *Org. Lett.* **2011**, *13*, 6324-6327.
- (47) "Catalytic [3+2] Annulation of Aminocyclopropanes for the Enantiospecific Synthesis of Cyclopentylamines."  
de Nanteuil, F.; Waser J.\* *Angew. Chem.* **2011**, *123*, 12281-12285; *Angew. Chem., Int. Ed.* **2011**, *50*, 12075-12079.
- (46) "Formal homo-Nazarov and other Cyclizations Reactions of Activated Cyclopropanes"



- De Simone, F.; Saget, T.; Benfatti, F.; Almeida S., Waser J.\* *Chem. Eur. J.* **2011**, *17*, 14527-14538.
- (45)“A Palladium-Catalyzed Aminoalkynylation Strategy towards Bicyclic Heterocycles: Synthesis of Trachelanthamidine.”  
Nicolai, S.; Piemontesi, C.; Waser J.\* *Angew. Chem.* **2011**, *123*, 4776-4779; *Angew. Chem., Int. Ed.* **2011**, *50*, 4680-4683.
- (44)“One-pot Gold Catalyzed Synthesis of 3-Silylethynyl Indoles from Unprotected o-Alkynylanilines”  
Brand, J. P.; Chevalley, C.; Waser J.\* *Beilstein J. Org. Chem.* **2011**, *7*, 565-569.
- (43)“Direct Alkynylation of Thiophenes: Cooperative Activation of TIPS-Ethynyl-Benziodoxolone with Gold and Brønsted Acids.”  
Brand, J. P.; Waser J.\* *Angew. Chem.* **2010**, *122*, 7462-7465; *Angew. Chem., Int. Ed.* **2010**, *49*, 7304-7307.
- (42)“Ethynyl 1,2-benziodoxol-3-(1H)-one (EBX): An Exceptional Reagent for the Ethynylation of Keto-, Cyano- and Nitro- Esters.”  
Fernández González, D.; Brand, J. P.; Waser J. *Chem. Eur. J.* **2010**, *16*, 9457-9461.
- (41)“Catalytic Selective Cyclizations of Aminocyclopropanes: Formal Synthesis of Aspidospermidine and Total Synthesis of Goniomitine.”  
De Simone F.; Gertsch, J.; Waser J. *Angew. Chem.* **2010**, *122*, 5903-5906; *Angew. Chem., Int. Ed.* **2010**, *49*, 5767-5770.
- (40)“Synthesis of Chiral Bifunctional (Thio)Urea N-Heterocyclic Carbenes”  
Brand, J. P.; Osuna Siles, J. I.; Waser J. *Synlett* **2010**, 881-884.
- (39)“Pd-Catalyzed Intramolecular Oxyalkynylation of Alkenes with Hypervalent Iodine”  
Nicolai, S.; Erard, S.; Fernández González, D.; Waser J. *Org. Lett.* **2010**, *12*, 384-387.
- (38)“Direct Alkynylation of Indole and Pyrrole Heterocycles”  
Brand, J. P.; Charpentier, J.; Waser J. *Angew. Chem.* **2009**, *121*, 9510-9513; *Angew. Chem., Int. Ed.* **2009**, *48*, 9346-9349.
- (37)“Catalytic Formal Homo-Nazarov Cyclization”  
De Simone, F.; Andres, J.; Torosantucci, R.; Waser J. *Org. Lett.* **2009**, *11*, 1023-1026.
- (36)“Total Synthesis of (-)-Pseudolaric Acid B”  
Trost, B. M., Waser, J., Meyer, A. *J. Am. Chem. Soc.* **2008**, *130*, 16424-16434.
- (35)“Cobalt-Catalyzed Synthesis of Tertiary Azides from  $\alpha,\alpha$ -Disubstituted Olefins under Mild Conditions Using Commercially Available Reagents”  
Gaspar B.; Waser J.; Carreira E. M. *Synthesis* **2007**, 3839-3845.
- (34)“Total Synthesis of (-)-Pseudolaric Acid B”  
Trost, B. M.; Waser, J.; Meyer, A. *J. Am. Chem. Soc.* **2007**, 14556-14557.
- (33)“Hydrazines and Azides via the Metal-Catalyzed Hydrohydrazination and Hydroazidation of Olefins”  
Waser, J.; Gaspar, B.; Nambu H.; Carreira, E. M. *J. Am. Chem. Soc.* **2006**, *128*, 11693-11712.
- (32)“Cobalt-Catalyzed Hydrohydrazination of Dienes and Enynes: Access to Allylic and Propargylic Hydrazides”  
Waser, J.; González-Gómez, J. C.; Nambu H.; Huber, P.; Carreira, E. M. *Org. Lett.* **2005**, *7*, 4249-4252. Cited: 18.
- (31)“Cobalt-Catalyzed Hydroazidation of Olefins: Convenient Access to Alkyl Azides”  
Waser, J.; Nambu, H.; Carreira, E. M. *J. Am. Chem. Soc.* **2005**, *127*, 8294-8295.

- (30) “Catalytic Hydrohydrazination of a Wide Range of Alkenes with a Simple Mn Complex”  
Waser, J.; Carreira, E. M. *Angew. Chem.* **2004**, *116*, 4191-4194; *Angew. Chem., Int. Ed.* **2004**, *43*, 4099-4102.
- (29) “Convenient Synthesis of Alkylhydrazides by the Cobalt-catalyzed Hydrohydrazination Reaction of Olefins and Azodicarboxylates”  
Waser, J.; Carreira, E. M. *J. Am. Chem. Soc.* **2004**, *126*, 5676-5677.
- (28) “Synthetic Process Development and Scale Up of Palladium-Catalyzed Alkoxyacylation of Chloropyridines”  
Crettaz, R.; Waser, J.; Bessard, Y. *Org. Process Res. Dev.* **2001**, *5*, 572-574.

## 2. Peer-Review Journal Articles from Collaboration

- (27) “Gold-Catalyzed Domino Cyclization-Alkynylation Reactions with EBX Reagents: New Insights into the Reaction Mechanism”  
Ghari, H.; Li, Y.; Roohzadeh, R.; Caramenti, P.; Waser, J.; Ariaferd, A. *Dalton Transactions* **2017**, *46*, 12257-12262.
- (26) “Ethyne benziodoxolones: functional terminators for cell-penetrating poly(disulfide)s”  
Morelli, P.; Martin-Belloch, X.; Tessier, R.; Waser, J.; Sakai, N.; Matile, S. *Polym. Chem.* **2016**, *7*, 3465-3470.
- (25) “1-Alkynyltriazenes as Functional Analogues of Ynamides”  
Perrin, F. G.; Kiefer, G.; Jeanbourquin, L.; Racine, S.; Perrotta, D.; Waser, J.; Scopelliti, R.; Severin, K. *Angew. Chem.* **2015**, *127*, 13591-13594; *Angew. Chem., Int. Ed.* **2015**, *54*, 13393-13396.
- (24) “Proteome-Wide Profiling of Targets of Cysteine-reactive Small Molecules by using Ethynyl Benziodoxolone Reagents”  
Abegg, D.; Frei, R.; Cerato, L.; Hari, D.P.; Wang, C.; Waser, J.; Adibekian, A. *Angew. Chem.* **2015**, *127*, 11002-11007; *Angew. Chem., Int. Ed.* **2015**, *54*, 10852-10857.
- (23) “Photocatalytic Redox Reactions for In-Source Peptide Fragmentation”  
Qiao, L.; Bi, H.; Busnel, J. M.; Waser, J.; Yang, P.; Girault, H. H.; Liu, B. *Chem Eur. J.* **2009**, *15*, 6711-6717.

## 3. Review Articles

- (22) “Decarboxylative Alkynylation and Cyanation of Carboxylic Acids using Photoredox Catalysis and Hypervalent Iodine Reagents”  
Le Vaillant, F.; Waser, J. *Chimia* **2017**, *71*, 226-230.
- (21) “In situ tether formation from amines and alcohols enabling highly selective Tsuji–Trost allylation and olefin functionalization”  
Orcel, U.; Waser, J. *Chem. Sci.* **2017**, *8*, 32-39.
- (20) “Benziodoxol(on)e Reagents as Tools in Organic Synthesis: The Background behind the Discovery at the Laboratory of Catalysis and Organic Synthesis”  
Waser, J. *Synlett* **2016**, *27*, 2761-2773.
- (19) “Cyclic Hypervalent Iodine Reagents for Atom-Transfer Reactions: Beyond Trifluoromethylation”  
Li, Y.; Hari, D. P.; Vita, M. V.; Waser, J. *Angew. Chem.* **2016**, *128*, 4512-4531; *Angew. Chem., Int. Ed.* **2016**, *55*, 4436-4454.
- (18) “Cyclic Hypervalent Iodine Reagents and Iron Catalysis: the Winning Team for Late-Stage C-H Azidation”

- Vita, M. V.; Waser, J. *Angew. Chem.* **2015**, *127*, 5380-5382; *Angew. Chem., Int. Ed.* **2015**, *54*, 5290-5292.
- (17) “*Taming Hypervalent Bonds and Strained Rings for Catalysis and Synthesis*”  
de Nanteuil, F.; Li, Y.; Vita, M. V.; Frei, R.; Serrano, E.; Racine, S.; Waser, J. *Chimia* **2014**, *68*, 516-521.  
Invited article for the awarding of the Werner Prize.
- (16) “*Cyclization and annulation reactions of nitrogen-substituted cyclopropanes and cyclobutanes*”  
de Nanteuil, F.; De Simone, F.; Frei, R.; Benfatti, F.; Serrano, E.; Waser, J. *Chem. Commun.* **2014**, *50*, 10912-10928.  
Invited feature article.
- (15) “*Gold-Catalyzed Alkynylation: Acetylene-Transfer instead of Functionalization*”  
Brand, J. P.; Li, Y.; Waser, J. *Israel. J. Chem.* **2013**, *53*, 901-910.  
Invited contribution to the special issue on gold catalysis (Editor: A. S.K Hashmi).
- (14) “*Asymmetric Organocatalysis Meets Hypervalent Iodine Chemistry for the alpha-Functionalization of Carbonyl Compounds*”  
Fernández González, D.; Benfatti, F.; Waser, J. *Chemcatchem* **2012**, *4*, 955-958.
- (13) “*Indole Alkaloids Synthesis via a Selective Cyclization of Aminocyclopropanes*”  
De Simone, F.; Waser, J. *Chimia* **2012**, *66*, 233-236.
- (12) “*Electrophilic Alkynylation: The Dark Side of Acetylene Chemistry*”  
Brand, J.P.; Waser, J.; *Chem. Soc. Rev.* **2012**, *41*, 4165-4179.
- (11) “*Cyclopropanes and Hypervalent Iodine Reagents: High Energy Compounds for Applications in Synthesis and Catalysis*”  
Fernández González, D.; De Simone, F.; Brand, J. P.; Nicolai, S.; Waser, J.; *Chimia* **2011**, *65*, 649-651.
- (10) “*Cyclization of Aminocyclopropanes in Indole Alkaloids Synthesis*”  
De Simone, F.; Waser, J.; *Synlett* **2011**, 589-593.
- (9) “*Benziodoxole-Based Hypervalent Iodine Reagents for Atom-Transfer Reactions*”  
Brand, J. B.; Fernández González, D.; Nicolai, S.; Waser, J. *Chem. Commun.* **2011**, *47*, 102-115. Invited feature article to the “Emerging Investigator Issue”.
- (8) “*Cyclization and Cycloaddition Reactions of Cyclopropyl Carbonyls and Imines*”  
De Simone, F.; Waser J. *Synthesis* **2009**, 3353-3374.
- (7) “*Cyclization of Cyclopropyl Carbonyls and the Homo-Nazarov Reaction*”  
De Simone, F.; Waser J. *Chimia* **2009**, *63*, 162-167.

#### 4. Book Chapters and Conference Reports

- (6) “*Alkynylation with Hypervalent Iodine Reagents*”  
Waser, J.; in *Topics in Current Chemistry, Current Developments in Hypervalent Iodine Chemistry*, Ed. Wirth, T., Springer **2015**, DOI: 10.1007/128\_2015\_660.
- (5) “*7. Synthesis of Saturated Heterocycles via Metal-Catalyzed Formal Cycloaddition Reactions that Generate a C–N or C–O Bond*”  
Waser, J.; in *Topics in Heterocyclic Chemistry, Vol. 32 Synthesis of Heterocycles via Metal-Catalyzed Reactions that Generate one or More Carbon Heteroatom Bonds*, Ed. Wolfe, J. P., Springer **2013**, p. 225-270.
- (4) “*SILYL ETHYNYL BENZIODOXOLONE REAGENTS*”

- Fernández González, D.; Nicolai, S.; Waser, J.; *Electronic Encyclopedia of Reagents for Organic Synthesis*, John Wiley & Sons **2012**, DOI: 10.1002/047084289X.rm01503.
- (3) “*Synthesis of (3-Chlorobutyl)benzene by the Cobalt-Catalyzed Hydrochlorination of 4-Phenyl-1-butene*”  
Gaspar, B.; Waser, J.; Carreira, E. M. *Organic Syntheses* **2010**, 87, 88.
- (2) “*Azides by Olefin Hydroazidation Reactions*”  
Waser J; Carreira, E. M. in *Organic Azides: Syntheses and Applications*, Bräse, S.; Banert, K. eds, Wiley, 2010, Ch. 4, p. 95-112.
- (1) “*The 44<sup>th</sup> EUCHEMS Conference on Stereochemistry (Bürgenstock Conference 2009)*”  
Cramer, N.; Waser J. *Chimia* **2009**, 63, 512-515.

## Invited Lectures in Conferences, University and Industry

- (94) “”  
6<sup>th</sup> International Conference on Hypervalent Iodine Chemistry, ICHIC 2018, Cardiff, Wales, July 2018.
- (93) “*Strained Rings, Hypervalent Bonds, Tethers: New Disconnections for Organic Synthesis*”  
Georg-August-Universität Göttingen, Göttingen, Germany, February 5, 2018.
- (92) “*Catalytic Reactions with Cyclic Hypervalent Iodine Reagents*”  
Frontiers in Organic Synthesis and Catalysis, IISER Kolkata, Kolkata, India, January 10, 2018
- (91) “*Cyclic Hypervalent Iodine Reagents: A Treasure of Reactivity for Organic Synthesis*”  
International Conference on Chemistry for Human Development (ICCHD-2018), Heritage Institute of Technology, Kolkata, India, January 8, 2018.
- (90) “*Heterocycle and Alkaloid Synthesis using Cyclopropanes and Hypervalent Iodine Reagents*”  
Davies Collison Cave plenary lecture, 38<sup>th</sup> RACI Symposium, University of Perth, Perth, Australia, December 6, 2017.
- (89) “*Alkynylation of Thiols, Radicals and Carbenes with Hypervalent Iodine Reagents*”  
Davies Collison Cave plenary lecture, 38<sup>th</sup> RACI Symposium, University of Adelaide, Adelaide, Australia, December 4, 2017.
- (88) “*Electrophilic Alkynylation with and without Hypervalent Iodine Reagents*”  
Davies Collison Cave plenary lecture, 38<sup>th</sup> RACI Symposium, University of Melbourne, Melbourne, Australia, December 1, 2017.
- (87) “*Cyclic Hypervalent Iodine Reagents: Alkynylation and Beyond*”  
Davies Collison Cave plenary lecture, 38<sup>th</sup> RACI Symposium, University of Sydney, Sydney, Australia, November 29, 2017.
- (86) “*Ring-Strain and Hypervalent Bonds: From Synthesis to Chemical Biology*”  
Davies Collison Cave plenary lecture, 38<sup>th</sup> RACI Symposium, University of Queensland, Brisbane, Australia, November 27, 2017.
- (85) “*Ring-Strain and Hypervalent Bonds: A Treasure of Reactivity for Reaction Discovery*”  
Westfälische Wilhelms-Universität Münster, Münster, Germany, October 26, 2017.
- (84) “*Functionalization with Hypervalent Iodine Reagents: From Small Organic Compounds to Biomolecules*”  
Austrian Chemical Days 2017, Salzburg, Austria, September 25, 2017.
- (83) “*Nitrogen-Substituted Strained Ring in Cyclization and Annulation Reactions*”

- Regio Symposium 2017, Liestal, Switzerland, September 8, 2017.
- (82) “*A Toolbox of Hypervalent Iodine Reagents for Organic Synthesis*”  
Regio Symposium 2017, Liestal, Switzerland, September 6, 2017.
- (81) “*Strained Rings, Hypervalent Bonds, Tethers: Reactivity Design for Reaction Discovery*”  
Peking University, Beijing, China, June 30, 2017.
- (80) “*A Toolbox of Hypervalent Iodine Reagents for Metal Catalysis*”  
19<sup>th</sup> IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS), Jeju Island, Korea, June 28, 2017.
- (79) “*A Toolbox of Hypervalent Iodine Reagents for Organic Synthesis*”  
ERC Chemistry Day, University of Pavia, Pavia, Italy, May 22, 2017.
- (78) “*Strained Rings, Hypervalent Bonds, Tethers: New Disconnections for Organic Synthesis*”  
Firmenich, Geneva, April 12, 2017.
- (77) “*Alkynylation with Hypervalent Iodine Reagents: From Catalysis to Chemical Biology*”  
University of California Berkeley, USA, April 7, 2017.
- (76) “*Modulating the Reactivity of Hypervalent Iodine Reagents and Carbonyl Tethers with the Trifluoromethyl Group*”  
253<sup>rd</sup> American Chemical Society National Meeting, San Francisco, USA, April 3, 2017.
- (75) “*Tethers and Hypervalent Bonds: Enabling Tools for Organic Synthesis*”  
ICIQ Tarragona, Spain, March 17, 2017.
- (74) “*Strained Rings, Hypervalent Bonds, Tethers: Reactivity Design for Reaction Discovery*”  
Syngenta Crop Protection AG, Stein Switzerland, February 23, 2017.
- (73) “*Ethynylbenziodoxol(on)es (EBX): Versatile Hypervalent Iodine Reagents for Electrophilic Alkynylation*”  
21<sup>st</sup> International Conference on Organic Synthesis, IIT Bombay, Mumbai, India, December 13, 2016.
- (72) “*Alkynylation of Diazo Compounds and Olefins with and without Hypervalent Iodine Reagents*”  
Pre-ICOS Symposium, IISER Bhopal, Bhopal, India, December 10, 2016.
- (71) “*Cyclic Hypervalent Iodine Reagents: Applications in Catalysis and Synthesis*”  
COST meeting on C-H Activation in Organic Synthesis (CHAOS), Vienna University of Technology, Vienna Austria, September 27, 2016.
- (70) “*Benziodoxoles: Heterocyclic Hypervalent Iodine Reagents with Exceptional Reactivity in Catalysis and Synthesis*”  
Symposium on Advances in Heterocyclic Organic Chemistry (SAHOC) 2016, University of Sheffield, Sheffield, UK, September 1, 2016.
- (69) “*Exploiting the Reactivity of Strained Rings and Hypervalent Bonds for the Synthesis of Heterocycles*”  
Springer Heterocyclic Chemistry Award Lecture, 27<sup>th</sup> European Colloquium on Heterocyclic Chemistry, Amsterdam, the Netherlands, July 6, 2016.
- (68) “*Strained Rings and Hypervalent Bonds: New Disconnections for Organic Synthesis*”  
TU Braunschweig, Braunschweig, Germany, May 23, 2016.
- (67) “*Electrophilic Alkynylation with Hypervalent Iodine Reagents*”  
University of Paris Sud, Orsay, France, October 15, 2015.
- (66) “*Exploiting the Reactivity of Weak Bonds to Enable Non-Conventional Disconnections*”  
University of Geneva, Switzerland, September 17, 2015.

- (65) "*Electrophilic Alkynylation and Annulation Reactions of Strained Rings*"  
13<sup>th</sup> Rencontre de Chimie Organique, Paris, France, June 5, 2015.
- (64) "*Taming Hypervalent Bonds and Strained Rings for Catalysis and Synthesis*"  
Friedrich-Schiller-University Jena, Germany, February 11, 2015.
- (63) "*Strained Rings and Hypervalent Iodine Reagents: New Disconnections for Organic Synthesis*"  
Belgian Sigma Aldrich Symposium, Blankenberge, Belgium, December 4, 2014.
- (62) "*Catalysis with Hypervalent Bonds and Strained Rings*"  
University of Stockholm, Sweden, October 23, 2014.
- (61) "*Strained Rings and Hypervalent Bonds: A Treasure of Reactivity for Reaction Discovery*"  
University of Vienna, Austria, October 9, 2014.
- (60) "*Cyclic Hypervalent Iodine Reagents: A Treasure of Reactivity for Catalysis and Synthesis*"  
Molecular Complexity in Modern Chemistry, Moscow, Russia, September 16, 2014.
- (59) "*Strained Rings and Hypervalent Bonds: New Disconnections for Organic Synthesis*"  
Kyoto University, Kyoto, Japan, July 11, 2014.
- (58) "*Taming Hypervalent Bonds and Strained Rings for Catalysis and Synthesis*"  
Kitasato University, Tokyo, Japan, July 9, 2014.
- (57) "*Hypervalent Iodine Reagents and Strained Rings: Non-Conventional Disconnections of Chemical Bonds*"  
Tokyo University, Tokyo, Japan, July 8, 2014.
- (56) "*Benziodoxol(on)es: A Treasure of Reactivity for Catalysis and Synthesis*"  
4<sup>th</sup> International Conference on Hypervalent Iodine Chemistry, Narita, Chiba, Japan, July 4, 2014.
- (55) "*Exploiting the Reactivity of Hypervalent Bonds and Strained Rings for Reaction Discovery*"  
Institute of Microbial Chemistry (BIKAKEN), Tokyo, Japan, July 1, 2014.
- (54) "*Taming Hypervalent Bonds and Strained Rings for Catalysis and Synthesis*"  
Spring Meeting of the Swiss Chemical Society, Fribourg, Switzerland, April 24, 2014.  
Werner award lecture.
- (53) "*Hypervalent Bonds and Strained Rings: A Treasure for Catalysis and Synthesis*"  
Spring Meeting of the French Chemical Society, Paris, France, March 25, 2014.
- (52) "*Hypervalent Iodine Reagents and Strained Rings: Non-Conventional Disconnections of Chemical Bonds*"  
Université de Strasbourg-Institut de Chimie-UMR 7177, February 14, 2014.
- (51) "*Hypervalent Iodine Reagents: New Tools for the Synthesis of Alkynes*"  
Symposium Osaka University-EPFL-Nitto Denko, University of Osaka, Japan, December 3, 2013.
- (50) "*Electrophilic Acetylenes and Aminocyclopropanes: From Catalysis to Alkaloid Synthesis*"  
University of Glasgow, Glasgow, UK, November 15, 2013.
- (49) "*Nitrogen-Substituted Strained Rings: From Catalysis to Natural Products Synthesis*"  
Symposium in traditional Chinese medicine and drug discovery, Shanghai Institute of Materia Medica, Shanghai, China, October 25, 2013.
- (48) "*Electrophilic Alkynylation of Olefins and Annulation Reactions of Strained Rings*"  
Shanghai Institute of Organic Chemistry, Shanghai, China, October 23, 2013.

- (47) "*Hypervalent Iodine Reagents for Electrophilic Alkynylation*"  
Beijing Symposium 2013 on "New Frontiers in Organic Chemistry: New Reagents, New Reactions", Beijing, China, October 10, 2013.
- (46) "*Electrophilic Alkynylation: the Dark Side of Acetylene Chemistry*"  
GECO 54, Le Cornic, France, August 26, 2013.
- (45) "*Electrophilic Alkynylation with and without Metal Catalysts*"  
15<sup>th</sup> Asian Chemical Congress, August 20, 2013, Singapore
- (44) "*Electrophilic Alkynylation of Olefins and Annulation Reactions of Strained Rings*"  
Division of Chemistry and Biological Chemistry, Nanyang Technological University, Singapore, August 19, 2013.
- (43) "*Electrophilic Alkynylation: the Dark Side of Acetylene Chemistry*"  
Erick M. Carreira 50<sup>th</sup> Birthday Symposium, ETH Zurich, Switzerland, July 4, 2013.
- (42) "*Taming Hypervalent Bonds and Strained Rings for Catalysis and Synthesis*"  
Department of Chemistry Giacomo Ciamician, University of Bologna, June 28, 2013.
- (41) "*Electrophilic Alkynylation of Olefins and Annulation Reactions of Aminocyclopropanes*"  
Department of Chemistry, University of Toronto, Toronto, Canada, June 7, 2013.
- (40) "*Nitrogen-Substituted Small Rings: from Catalysis to Alkaloid Synthesis*"  
Department of Chemistry, University of Western Ontario, London, Canada, June 6, 2013.
- (39) "*Electrophilic Alkynylation of Olefins and Annulation Reactions of Aminocyclopropanes*"  
Department of Chemistry, McGill University, Montreal, Canada, June 5, 2013.
- (38) "*Nitrogen-Substituted Small Rings: from Catalysis to Alkaloid Synthesis*"  
Département de Chimie, Université du Québec à Montréal, Montreal, Canada, June 4, 29, 2013.
- (37) "*Electrophilic Alkynylation of Olefins and Annulation Reactions of Aminocyclopropanes*"  
Department of Chemistry, University of Montreal, Canada, June 3, 2013.
- (36) "*Direct Electrophilic Alkynylation with Hypervalent Iodine Reagents*"  
96<sup>th</sup> Canadian Society for Chemistry Conference (CSC), Quebec, Canada, May 29, 2013.
- (35) "*Catalysis and Synthesis with Cyclopropanes and Electrophilic Acetylenes*"  
Institute of Chemistry, Eötvös Loránd University, Hungary, February 11, 2013.
- (34) "*Ethynylbenziodoxolones: Hypervalent Iodine Reagents for Electrophilic Alkynylation*"  
6<sup>th</sup> International Meeting on Halogen Chemistry, HALCHEM VI, December 10, 2012, Bangalore, India.
- (33) "*Catalysis with Electrophilic Acetylenes and Cyclopropanes*"  
Institut de Chimie Moléculaire de Reims, Reims, France, November 7, 2012.
- (32) "*Aminocyclopropanes and Electrophilic Acetylenes: from Catalysis to Alkaloid Synthesis*"  
Institute de Chimie, Université de Neuchâtel, Switzerland, November 5, 2012.
- (31) "*Cyclopropanes and Electrophilic Acetylenes: from Catalysis to Synthesis*"  
Max-Planck Institut für Kohlenforschung, Mülheim, Germany, October 30, 2012.
- (30) "*Electrophilic Acetylenes and Cyclopropanes for the Synthesis and Functionalization of Heterocycles*"  
Actelion Pharmaceuticals Ltd, Allschwill, Switzerland, October 29, 2012.
- (29) "*Ring strain and Hypervalent Bonds: a Treasure for Catalysis and Synthesis*"  
University of British Columbia, Vancouver, Canada, October 12, 2012.
- (28) "*Catalysis with Aminocyclopropanes and Electrophilic Acetylenes*"

- University of California, Los Angeles, USA, October 11, 2012.
- (27) "*Cyclopropanes and Hypervalent Iodine Reagents: Exploiting Small Rings and Weak Bonds in Catalysis and Synthesis*"  
University of California, Irvine, USA, October 10, 2012.
- (26) "*Catalysis with Electrophilic Acetylenes and Cyclopropanes*"  
Stanford University, Stanford, USA, October 9, 2012.
- (25) "*Donor-Acceptor Substituted Aminocyclopropanes and Electrophilic Acetylenes: From Catalysis to Alkaloid Synthesis*"  
Colorado State University, Fort Collins, USA, October 8, 2012.
- (24) "*Catalysis with Cyclopropanes and Hypervalent Iodine Reagents*"  
University of Utah, Salt Lake City, USA, October 5, 2012.
- (23) "*Electrophilic Alkynylation Reagents and Aminocyclopropanes: from Catalysis to Alkaloid Synthesis*"  
Yale University, New Haven, USA, October 3, 2012.
- (22) "*From Catalysis to Natural Product Synthesis: Exploiting the Reactivity of Electrophilic Acetylenes and Cyclopropanes*"  
Boston College, Boston, USA, October 2, 2012.
- (21) "*Metal-Catalyzed Electrophilic Alkynylation and Annulation Reactions of Aminocyclopropanes*"  
Boston University, Boston, USA, October 1, 2012.
- (20) "*Catalytic Electrophilic Alkynylation Reactions: the Dark Side of Acetylene Chemistry*"  
7<sup>th</sup> Asian European Symposium on Metal-Mediated Efficient Organic Synthesis, Tarragona, Spain, July 24, 2012.
- (19) "*Electrophilic Acetylenes and Aminocyclopropanes: Applications in Catalysis*"  
Institut für Organische und Biomolekulare Chemie, Georg-August-Universität Göttingen, Germany, July 9, 2012.
- (18) "*Catalysis with Aminocyclopropanes and Hypervalent Iodine Reagents*"  
Organisch-Chemisches Institut, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany, May 21, 2012.
- (17) "*Electrophilic Alkynylation of C-H and C=C Bonds and Annulation Reactions of Aminocyclopropanes*"  
Institut für Organische Chemie und Biochemie, Albert-Ludwigs-Universität, Freiburg, Germany, January 9, 2012.
- (16) "*Acetylenes and Cyclopropanes: Bottom-Up Approach to Master Dimensionality*"  
119. Annual Congress of the Swiss Academy of Sciences (SCNAT), November 18, 2011.  
Schläfli award 2011 lecture.
- (15) "*Ethynyl Benziodoxolone (EBX) Reagents for the Alkynylation of Olefins and Activated Carbonyls*"  
23. Conference on Advances in Organic Synthesis (CAOS23), Hradec Kralove, Czech Republic, June 29, 2011.
- (14) "*Organo- and Metal- Catalysis with Aminocyclopropanes and Alkynyl Hypervalent Iodine Reagents*"  
Institute of Organic Chemistry, RWTH Aachen, Aachen, Germany, May 31, 2011.
- (13) "*From Catalysis to Natural Product Synthesis: Exploiting the Reactivity of Hypervalent Iodine Reagents and Cyclopropanes*"  
Department Chemie, Universität zu Köln, Köln, Germany, May 30, 2011.



- (12) *“Donor-Acceptor Aminocyclopropanes and Alkynyl Hypervalent Iodine Reagents: From Catalysis to Alkaloid Synthesis”*  
Fachbereich Chemie, Philipps Universität Marburg, Marburg, Germany, May 16, 2011.
- (11) *“Catalytic Reactions using Cyclopropanes and Alkynyl Hypervalent Iodine Reagents: Synthesis and Functionalization of Heterocycles”*  
Basel Chemical Society, Basel, Switzerland, April 28, 2011.
- (10) *“Catalytic Methods Using Donor-Acceptor Aminocyclopropanes and Alkynyl Hypervalent Iodine Reagents”*  
Institut für Chemie und Biochemie, Freie Universität Berlin, April 26, 2011.
- (9) *“Cyclopropanes and Hypervalent Iodine: Small Rings and Weak Bonds for the Synthesis of Alkaloids and Acetylenes”*  
Institut de chimie et biochimie, Université de Lyon, Lyon, France, April 21, 2011.
- (8) *“Cyclization of Activated Cyclopropanes and Catalytic Alkynylation Reactions: Synthesis and Functionalization of Heterocycles”*  
F. Hoffmann-La Roche Ltd, Basel, Switzerland, November 22, 2010.
- (7) *“Alkynyl Benziodoxolones and Cyclopropanes: Umpolung of Acetylenes and Synthesis of Alkaloids”*  
Department de Chimie Organique, Université de Genève, October 21, 2010.
- (6) *“Cyclization of Aminocyclopropanes: Total Synthesis and Bioactivity of Goniomitine”*  
2<sup>nd</sup> Young Investigators Workshop, Regensburg, Germany, August 28, 2010.
- (5) *“Alkynyl Benziodoxolone Reagents and Activated Cyclopropanes: Catalytic Reactions and Application in the Total Synthesis of Goniomitine”*  
Institut de Chimie des Substances Naturelles (ICSN), CNRS, Gif-sur-Yvette, France, June 16, 2010.
- (4) *“Catalytic Alkynylations with Hypervalent Iodine and Cyclizations of Activated Cyclopropanes”*  
Institut de Chimie et des Matériaux d’Orsay (ICMMO, UMR 8182), University of Paris-Sud, Orsay, France, June 15, 2010.
- (3) *“Hypervalency and Ring Strain: Non-Conventional Reactivity for the Synthesis of Alkynes and Heterocycles”*  
Institut parisien de chimie moléculaire (UMR 7201), Université Pierre et Marie Curie, Paris, France, June 14, 2010.
- (2) *“New C-C Bond Forming Reactions: Acetylene-Transfer and Homo-Nazarov Reactions”*  
Lonza AG, Visp, Switzerland, November 30, 2009.
- (1) *“New C-C Bond Forming Reactions: Homo-Nazarov and Acetylene-Transfer Reactions”*  
Ecole Nationale Supérieure de Chimie de Montpellier, Montpellier, France, October 9, 2009.