



Dr. Olivier Baslé

CNRS Researcher

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CURRICULUM VITAE

■ POSITION

Since Sept 2018 CNRS Researcher – UPR CNRS 8241 (LCC Toulouse) – *Molecular engineering of precatalysts (A Team)*
Oct. 2011 - August 2018 CNRS Researcher – UMR CNRS 6226 (Univ Rennes) - *Organometallic: Catalysis and Material (OMC)*

■ EDUCATION

- **Habilitation** (2017) – University of Rennes
- **Post-doctoral Fellow** (2011) UMR 5069 – Toulouse University (Advisor: Dr. G. Bouhadir and Dr. Didier Bourissou)
- **Post-doctoral Fellow** (2010) UMR 7313 – Marseille University (Advisor: Pr. J. Rodriguez and Pr. T. Constantieux)
- **Ph.D. in Organic Chemistry** (2006-2009) – McGill University (Advisor: Pr. Chao-Jun Li)
- **M.S. in Organic Chemistry** (2004-2005) – Rennes University (Advisor: Pr. Pierre H. Dixneuf)

■ RESEARCH

Organometallic and Catalysis

- Organic Synthesis Methodologies and Green Chemistry (C-H functionalization & Photochemistry)
- Development of new organometallic complexes with NHC ligands (Cu, Ru, Pd, Rh, Ir)
- Selective and Asymmetric bond formation

■ PUBLICATIONS

57 including 3 patents and 5 book chapters – *h-index* = 24 (>2200 citations; Google Scholar 02/2021)

■ PROFESSIONAL SERVICES

Organizing committee of the Journées de Chimie Organique **2019** (JCO2019).
Elected member of the Organic Chemistry Division of the French Chemical Society DCO-SCF (**2018-2021**).
Organizing committee of the Groupe d'Etudes en Chimie Organique **2018** (GECO 59).
President and organizer of the Groupe d'Etudes en Chimie Organique **2017** (GECO 58).
Elected member of the scientific board of the Ecole Nationale Supérieure de Chimie de Rennes (**2014-2018**).

■ EXPERTISE

ERC advanced grants – Scientific expert (**2020**)
ANR JCJC - Scientific expert (**2016**)
Labex CHARM₃AT - Scientific expert (**2016 & 2018**)
Referee for: *Science*; *Nature Comm.*; *Angew. Chem. Int. Ed.*; *J. Am. Chem. Soc.*; *Chem. Sci.*; *ACS Catal.*; *Org. Lett.*; ...

49. "Chiral NHC Ligands Enable Asymmetric C-H Functionalization."
J. Thongpaen, R. Manguin, O. Baslé*, *Angew. Chem. Int. Ed.* **2020**, *59*, 10242-10251.
48. "Expedient synthesis of conjugated triynes via alkyne metathesis."
I. Curbet, S. Colombel-Rouen, R. Manguin, A. Clermont, A. Quelhas, D. S. Müller, T. Roisnel, O. Baslé, Y. trolez, M. Mauduit, *Chem. Sci.* **2020**, *11*, 4934-4938.
47. "Visible Light Induced Rhodium-Catalyzed C-H Bond Borylation."
J. Thongpaen, R. Manguin, T. Vives, V. Dorcet, C. Duhayon, M. Mauduit, O. Baslé*, *Angew. Chem. Int. Ed.* **2019**, *58*, 15244-15248.
46. "Activation of olefin metathesis complexes containing unsymmetrical unsaturated N-heterocyclic carbenes by copper and gold transmetalation"
F. Kamal, S. Colombel-Rouen, A. Dumas, J.-P. Guégan, T. Roisnel, V. Dorcet, O. Baslé, M. Rouen, M. Mauduit, *Chem. Commun.* **2019**, *55*, 11583-11586.
45. "Catalytically Active Species in Copper/DiPPAM-Catalyzed 1,6-Asymmetric Conjugate Addition of Dialkylzinc to Dienones: A Computational Overview."
S. Halbert, J. Lauberteaux, C. Blons, R. Marcia de Figueiredo, C. Crévisy, O. Baslé, J.-M. Campagne, M. Mauduit, *ChemCatChem.* **2019**, *11*, 4108-4115.
44. "Acyl-Imidazoles: A Privileged Ester Surrogate for Enantioselective Synthesis."
J. Lauberteaux, D. Pichon, O. Baslé, M. Mauduit, R. Marcia de Figueiredo, J.-M. Campagne, *ChemCatChem.* **2019**, *11*, 5705-5722.
43. "A kinetic resolution strategy for the synthesis of chiral octahedral NHC-iridium(III) catalysts."
R. Manguin, D. Pichon, R. Tarrieu, T. Vives, T. Roisnel, V. Dorcet, C. Crévisy, K. Miqueu, L. Favereau*, J. Crassous, M. Mauduit, O. Baslé*, *Chem. Commun.* **2019**, *55*, 6058-6061.
42. "In Situ Generation of Ru-Based Metathesis Catalyst. A Systematic Study"
D. S. Müller, Y. Raoul, J. Le Notre, O. Baslé, M. Mauduit, *ACS Catal.* **2019**, *9*, 3511-3518.
41. "Copper-Catalyzed Asymmetric Conjugate Additions of Bis(pinacolato)diboron and Dimethylzinc to Acyl-N-methylimidazole Michael Acceptors: A Highly Stereoselective Unified Strategy for 1,3,5,...n (OH, Me) Motif Synthesis"
J. Lauberteaux, C. Crévisy, O. Baslé, R. Marcia de Figueiredo, M. Mauduit, J.-M. Campagne, *Org. Lett.* **2019**, *21*, 1872-1876.
40. "Highly selective macrocyclic ring-closing metathesis of terminal olefins in non-chlorinated solvents at low dilution."
A. Dumas, S. Colombel-Rouen, I. Curbet, G. Forcher, F. Tripteau, F. Caijo, P. Queval, M. Rouen, O. Baslé, M. Mauduit, *Catal. Sci. Technol.*, **2019**, *9*, 436-443.
39. "A tutorial review of stereoretentive olefin metathesis based on ruthenium dithiolate catalysts"
D. S. Müller, O. Baslé*, M. Mauduit*, *Beilstein J. Org. Chem.* **2018**, *14*, 2999-3010.
38. "Stereoretentive Olefin Metathesis Made Easy: In Situ Generation of Highly Selective Ruthenium Catalysts from Commercial Starting Materials"
D. S. Müller, I. Curbet, Y. Raoul, J. Le Notre, O. Baslé, M. Mauduit, *Org. Lett.* **2018**, *20*, 6822-6826.
37. "Directed Ortho C-H Borylation Catalyzed using Cp*Rh(III)-NHC Complexes."
J. Thongpaen, T.S. Schmid, L. Toupet, V. Dorcet, M. Mauduit, O. Baslé*, *Chem. Commun.* **2018**, *54*, 8202-8205.
36. "A Versatile and Highly Z-Selective Olefin Metathesis Ruthenium Catalyst Based on a Readily Accessible N-Heterocyclic Carbene."
A. Dumas, R. Tarrieu, T. Vives, T. Roisnel, V. Dorcet, O. Baslé*, M. Mauduit*, *ACS Catal.* **2018**, *8*, 3257-3262.
35. "Synthesis and Application of Stereoretentive Ruthenium Catalysts based on the M7 and Ru-benzylidene-oxazinone Design."
A. Dumas, D. Müller, I. Curbet, I. Toupet, M. Rouen, O. Baslé*, M. Mauduit*, *Organometallics* **2018**, *37*, 829-834.
34. "Bleaching Earths as Powerful Additives for Ru-Catalyzed Self-Metathesis of Non-Refined Methyl Oleate at Pilot Scale."
J. Allard, I. Curbet, G. Chollet, F. Tripteau, S. Sambou, F. Caijo, Y. Raoul, C. Crévisy, O. Baslé, M. Mauduit, *Chem. Eur. J.* **2017**, *23*, 12927-12934.
33. "Readily Accessible Unsymmetrical Unsaturated 2,6- Diisopropylphenyl-N-Heterocyclic Carbene Ligands. Applications in Enantioselective Catalysis."
R. Tarrieu, A. Dumas, J. Thongpaen, T. Vives, T. Roisnel, V. Dorcet, C. Crévisy*, O. Baslé*, M. Mauduit*, *J. Org. Chem.* **2017**, *82*, 1880-1887.
32. "Asymmetric Sequential Cu-Catalyzed 1,6/1,4-Conjugate Additions of Hard Nucleophiles to Cyclic Dienones: Determination of Absolute Configurations and Origins of Enantioselectivity."
C. Blons, M. S. T. Morin, T. Schmid, T. Vives, S. Colombel-Rouen, O. Baslé, T. Reynaldo, C. L. Covington, S. Halbert, S. N. Cuskelly, P. V. Bernardt, C. Williams, J. Crassous, P. L. Polvarapu, C. Crévisy, H. Gerard, M. Mauduit, *Chem. Eur. J.* **2017**, *23*, 7515-7525.
31. "From environmentally friendly reusable ionic-tagged Ru-based complexes to industrially relevant homogeneous catalysts: toward a sustainable olefin metathesis."
T. E. Schmid, A. Dumas, S. Rouen, C. Crévisy, O. Baslé, M. Mauduit, *Synlett* **2017**, *28*, 773-778.
30. "Selective Metathesis of α -Olefins from Bio-Sourced Fischer-Tropsch Feeds."

- M. Mathieu, P. Queval, E. Borre, L. Falivene, A. Proater, M. Berthod, F. Hugues, L. Cavallo, O. Baslé, H. Olivier-Bourbigou, M. Mauduit, *ACS Catal.* **2016**, 6, 7970-7976.
29. "Copper-Catalyzed Asymmetric Conjugate Addition of Dimethylzinc to Acyl-N-methylimidazole Michael Acceptors: Scope, Limitations and Iterative Reactions."
S. Drissi-Amraoui, T. E. Schmid, J. Lauberteaux, C. Crévisy, O. Baslé, R. Marcia de Figueiredo, S. Halbert, H. Gérard, M. Mauduit, J.-M. Campagne., *Adv. Synth. Catal.* **2016**, 358, 2519-2540.
28. "Electronic and chiroptical properties of chiral cycloiridiated complexes bearing helicenic NHC ligands."
N. Hellou, C. Jahier-Diallo, O. Baslé, M. Srebro-Hooper, L. Toupet, T. Roisnel, E. Caytan, C. Roussel, N. Vanthuyne, J. Autschbach, M. Mauduit, J. Crassous. *Chem. Commun.* **2016**, 52, 9243-9246.
27. "Copper-catalyzed asymmetric conjugate addition of organometallic reagents to extended Michael acceptors."
T. E. Schmid, S. Drissi-Amraoui, C. Crévisy, O. Baslé, M. Mauduit, *Belstein J.O.C.* **2015**, 11, 2418-2434.
26. "Copper-Catalyzed Asymmetric Conjugate Addition of Dimethylzinc to Acyl-N-methylimidazole Michael Acceptors: a Powerful Synthetic Platform."
S. Drissi-Amraoui, M. S. T. Morin, C. Crévisy, O. Baslé, R. Marcia de Figueiredo, M. Mauduit, J.-M. Campagne, *Angew. Chem. Int. Ed.* **2015**, 54, 11830-11834.
25. "Latent Ruthenium-Indenylidene Catalyst bearing a N-Heterocyclic Carbene and a Bidentate Picolate."
T. E. Schmid, F. Modicom, A. Dumas, E. Borré, L. Toupet, O. Baslé*, M. Mauduit*, *Belstein J.O.C.* **2015**, 11, 1541-1546.
24. "Efficiency of Industrially Relevant Atropisomeric Diphosphines in Copper-Catalyzed 1,4-Asymmetric Conjugate Addition of Dialkylzinc to Cyclic or Acyclic Enones or Dienones"
M. S. T. Morin, T. Vives, O. Baslé, C. Crévisy, V. Ratovelomanana-Vidal, M. Mauduit, *Synthesis* **2015**, 47, 2570-2577.
23. "Multicomponent Synthesis of Chiral Bidentate Unsymmetrical Unsaturated N- Heterocyclic Carbenes: Copper-Catalyzed Asymmetric C-C Bond Formation."
C. Jahier-Diallo, M. S. T. Morin, P. Queval, M. Rouen, I. Artur, P. Querard, L. Toupet, C. Crévisy, O. Baslé*, M. Mauduit*, *Chem. Eur. J.* **2015**, 21, 993-997. *Highlighted in *Synfacts* **2015**, 11, 159*
22. "Cationic Bis N-Heterocyclic Carbene Ruthenium Complex: Structure and Application as Latent Catalyst in Olefin Metathesis."
M. Rouen, P. Queval, L. Falivene, J. Allard, L. Toupet, C. Crévisy, F. Caijo, O. Baslé*, L. Cavallo*, M. Mauduit*, *Chem. Eur. J.* **2014**, 20, 13716-13721.
21. "Multicomponent Synthesis of (a)chiral Unsymmetrical Unsaturated N-Heterocyclic Carbene (U₂-NHC) Precursors; and Their Related Transition-Metal Complexes"
P. Queval, C. Jahier, M. Rouen, I. Artur, J.-C. Legeay, L. Falivene, L. Toupet, C. Crévisy, L. Cavallo, O. Baslé*, M. Mauduit*, *Angew. Chem. Int. Ed.* **2013**, 52, 14103-14107.
20. "Enantioselective Organocatalytic Multicomponent Synthesis of 2,6-Diazabicyclo[2.2.2]octanes (2,6-DABCOs)."
M. D. S. Duque, O. Baslé, Y. Genisson, J.-C. Plaquevent, X. Bugaut, T. Constantieux, J. Rodriguez, *Angew. Chem. Int. Ed.* **2013**, 52, 14143-14146. *Highlighted in *Synfacts* **2014**, 10, 0137*
19. "Enantioselective 1,6-Conjugate Addition of Dialkylzinc Reagents to Acyclic Dienones Catalyzed by Cu-DiPPAM Complex. Extension to asymmetric sequential 1,6/1,4 Conjugate Addition."
M. Magrez-Chiquet, M. S. T. Morin, J. Wencel-Delord, S. Drissi Amraoui, O. Baslé, A. Alexakis, C. Crévisy, M. Mauduit, *Chem. Eur. J.* **2013**, 19, 13663. * Highlighted in *Synfacts* **2014**, 10, 0042 *
18. "Cationic Ruthenium Complexes in Olefin Metathesis."
P. Queval, C. Jahier, O. Baslé, M. Mauduit, *Current Organic Chemistry* **2013**, 17, 2560-2574.
17. "Synergic Effects Between N-Heterocyclic Carbene and Chelating-Benzylidene-Ether Ligands Towards the Initiation Step of Hoveyda-Grubbs Type Ru-Complexes."
D. J. Nelson, P. Queval, M. Rouen, M. Magrez, F. Caijo, E. Borré, I. Laurent, C. Crévisy, O. Baslé, M. Mauduit, J. M. Percy, *ACS Catal.* **2013**, 3, 259-264.
16. "Screening of a Selection of Commercially Available Homogeneous Ru-Catalysts in Valuable Olefin Metathesis Transformations."
F. Caijo, F. Tripoteau, A. Bellec, C. Crévisy, O. Baslé, M. Mauduit, O. Briel, *Catal. Sci. Technol.* **2013**, 3, 429-435.
15. "Bidentate Hydroxyalkyl-NHC Ligands for Copper-Catalyzed Asymmetric Allylic Substitution of Allyl Phosphates with Grignard Reagents." *Highlighted in *Synfacts* **2013**, 9, 346*
- M. Magrez, Y. Le Guen, O. Baslé, C. Crévisy, M. Mauduit, *Chem. Eur. J.* **2013**, 19, 1199-1203.
14. "Cooperative Heterogeneous Organocatalysis and Homogeneous Metal Catalysis for the One-Pot Regioselective Synthesis of 2-Pyridones."
C. Allais, O. Baslé, J.M. Grassot, M. Fontaine, S. Anguille, J. Rodriguez, T. Constantieux. *Adv. Synth. Catal.* **2012**, 354, 11-12
13. "Activation of 1,2-Keto Esters with Takemoto's Catalyst toward Michael Addition to Nitroalkenes."
W. Raimondi, O. Baslé, T. Constantieux, D. Bonne, J. Rodriguez, *Adv. Synth. Catal.* **2012**, 354, 563-568.
12. "Phosphine-boronates: efficient bifunctional organocatalysts for Michael addition."
O. Baslé, S. Porcel, S. Ladeira, G. Bouhadir, D. Bourissou, *Chem. Commun.* **2012**, 48, 4495-4497.
11. "A Cooperative Participation of the Amido Group in the Organocatalytic Construction of All-Carbon Quaternary Stereocenters by Michael Addition with beta-Ketoamides."
M. D. S. Duque, O. Baslé, N. Isambert, A. Gaudel-Siri, Y. Genisson, J.C. Plaquevent, J. Rodriguez, T. Constantieux, *Org. Lett.* **2011**, 13, 3296-3299.

10. "Palladium-Catalyzed Oxidative sp^2 C-H Bond Acylation with Alcohols."
F. H. Xiao, Q. Shuai, F. Zhao, O. Baslé, G. J. Deng, C.-J. Li, *Org. Lett.* **2011**, 13, 1614-1617.
9. "Multicomponent reactions in ionic liquids: convenient and eco-compatible access to the 2,6-DABCO core."
Z. El Asri, Y. Genisson, F. Guillen, O. Baslé, N. Isambert, M. D. S. Duque, S. Ladeira, J. Rodriguez, T. Constantieux, J. C. Plaquevent, *Green Chemistry*, **2011**, 13, 2549-2552.
8. "Highly Diastereo- and Enantioselective Organocatalytic Michael Addition of α -Ketoamides to Nitroalkenes."
O. Baslé, W. Raimondi, M. D. S. Duque, D. Bonne, T. Constantieux, J. Rodriguez, *Org. Lett.* **2010**, 12, 5246-5249.
7. "Rhodium-Catalyzed Oxidative C-H Arylation of 2-Arylpyridine Derivatives via Decarbonylation of Aromatic Aldehydes."
Q. Shuai, L. Yang, X. Guo, O. Baslé, C.-J. Li, *J. Am. Chem. Soc.* **2010**, 132, 12212-12213.
6. "Palladium-Catalyzed Oxidative sp^2 C-H Bond Acylation with Aldehydes."
O. Baslé, J. Bidange, Q. Shuai, C.-J. Li, *Adv. Synth. Catal.* **2010**, 352, 1145-1149.
5. "Aerobic and Electrochemical Oxidative Cross-Dehydrogenative-Coupling (CDC) Reaction in an Imidazolium-Based Ionic Liquid."
O. Baslé, N. Borduas, P. Dubois, J.M. Chapuzet, T.H. Chan, J. Lessard, C.-J. Li, *Chem. Eur. J.*, **2010**, 27, 8162-8166.
4. "Site-specific C-functionalization of free-(NH) peptides and glycine derivatives via direct C-H bond functionalization."
L. Zhao, O. Baslé, C.-J. Li, *Proc. Natl. Acad. Sci. U.S.A.* **2009**, 106, 4106-4111.
3. "Copper-catalyzed aerobic phosphonation of sp^3 C-H bonds."
O. Baslé, C.-J. Li, *Chem. Commun.* **2009**, 4124-4126.
2. "Copper-catalyzed oxidative sp^3 C-H bond arylation with aryl boronic acids."
O. Baslé, C.-J. Li, *Org. Lett.* **2008**, 10, 3661-3663.
1. "Copper-catalyzed oxidative alkylation of sp^3 C-H bond adjacent to a nitrogen atom using molecular oxygen in water."
O. Baslé, C.-J. Li, *Green Chem.* **2007**, 9, 1047-1050.

BOOK CHAPTERS

5. "Catalytic Systems Featuring Ionically Tagged N-Heterocyclic Carbene Ligands."
M. Mauduit, O. Baslé, C. Crévisy, T. Schmid in «N-Heterocyclic Carbenes in Catalytic Organic Synthesis Vol. 2» (Eds S. P. Nolan, C. S. J. Cazin), **2016**, pp 351-365.
4. "CDC Reaction with Molecular Oxygen as Terminal Oxidant."
O. Baslé in « From C-H bond to C-C Bonds: Cross-Dehydrogenative-Coupling » (Eds C.-J. Li) **2014**, pp 197-218.
3. "Metathesis in unusual solvents and under new conditions."
M. Rouen, P. Queval, A.-C. Gaumont, I. Dez, O. Baslé, M. Mauduit in « Olefin Metathesis—Theory and Practice », (Eds K. Grela), **2014**, pp 547-558.
2. "Metal Catalyzed Asymmetric Nucleophilic Addition to Electron Deficient Alkenes."
A. Denicourt, O. Baslé, H. Clavier, C. Crévisy, M. Mauduit in «Comprehensive Organic Synthesis 2nd Edition – P. Knochel & G. A. Molander» Volume 4, Eds S.-M. Ma, J. Zhang, **2014**, pp 189-341.
1. "Asymmetric Allylic Alkylation."
A. Denicourt, O. Baslé, C. Crévisy, M. Mauduit in «Copper-Catalyzed Asymmetric Synthesis» Chapter 4, Eds A. Alexakis, N. Krause, S. Woodward, **2014**, pp 85-126.

PATENTS

3. "Method for olefin metathesis by means of an acid-activated catalyst"
M. Mauduit, A. Dumas, O. Baslé, F. Caijo, M. Rouen, P. Queval, F. Tripoteau – FR demande **2017**.
2. "Metal alkylidene complexes comprising an unsymmetrical unsaturated NHC ligand"
M. Mauduit, P. Queval, C. Jahier, A. Artur, O. Baslé - *Eur. Pat. Appl.* (**2015**)
1. "Preparation of unsymmetrical imidazolium salts by heterocyclization of anilines with amine compounds, glyoxal and formaldehyde in the presence of acetic acid"
M. Mauduit, O. Baslé, M. Rouen - *PCT Int. Appl.* (**2014**).

CONFERENCES

13. "Design of NHC-TM Complexes for Highly Selective Homogeneous Catalysis"
Paris-Est university, ICMPE, Thiais (10/2019)
12. "NHC Ligand Design for Highly Selective Catalysis"
Mahidol university, Bangkok, Thaïlande (04/2019)
11. "NHC Ligand Design for Highly Selective Catalysis"
Laboratoire de Chimie de Coordination, Toulouse (10/2017)

10. "NHC Ligand Design for Highly Selective Catalysis"
Paris-Sud university, Orsay (06/2017)
9. "NHC Ligand Design for Highly Selective Catalysis"
ENSI-Caen, LCMT (04/2017)
8. "Ligand Design for Selective Catalysis"
Groupe d'étude de chimie organique-GECO57, Ascaïn (08/2016)
7. "Ligand Design for Selective Catalysis"
9^{eme} Rencontres de Chimie Organique de Marseille, RCOM9 (06/2016)
6. "U₂-NHC Ligands and Selectivity"
Groupe d'étude de chimie organique-GECO56, Nant (09/2015)
5. "Unsymmetrical Unsaturated N-Heterocyclic Carbenes and Their Application in Olefin Metathesis"
International Symposium of Olefin Metathesis-ISOM, Graz, Autriche (07/2015)*
4. "Unsymmetrical Unsaturated N-Heterocyclic Carbenes and Their Application in Catalysis"
Journée de Printemps de la DCO, Paris (03/2015)
3. "Unsymmetrical Unsaturated N-Heterocyclic Carbenes and Their Application in Catalysis"
Groupe d'étude de chimie organique-GECO55, Samatan (08/2014)
2. "U₂-NHC and Their Application in Catalysis"
Indo-French Conference - CEFIPRA, Pondicherry, Inde (10/2014) *
1. "Unsymmetrical Unsaturated N-Heterocyclic Carbenes and Their Application in Catalysis"
University of Calcutta, Calcutta, Inde (10/2014)

* Invited lectures in international congress