

BROGGI Julie

Born: June 6th 1982
in Cannes, Alpes Maritimes
Nationality: French

Current Position

Maître de Conférences (Lecturer) at the Organic Chemistry Department (Faculty of Pharmacy, AMU) Institut de Chimie Radicalaire (ICR) - UMR 7273, Equipe Pharmacochimie radicalaire (PCR), 27 Bd Jean Moulin, 13385 Marseille Cedex 5.

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Professional Experience

- 2010-2011 **ATER (teaching assistant)** - Laboratoire Chimie Provence (LCP), UMR 6264, Faculty of Pharmacy, Aix-Marseille II.
Title: Super Electron Donors as tools in the synthesis of new nucleosidic analogues.
- 2009 **Post-doctoral position – S. P. Nolan group** Research school of chemistry, St Andrews, United Kingdom.
Title: European project (EuMet): Development and application in catalysis of ruthenium complexes bearing an *N*-heterocyclic carbene.
- 2005-2008 **Ph.D.** - Institut de Chimie Organique et Analytique (ICOA), UMR 6005, Faculty of Science, Orléans.
Title: Contribution of *N*-heterocyclic carbene-containing catalysts in the nucleoside chemistry. (Advisor: Prof. L.A. Agrofoglio and Dr. S. Bertaina-Raboin)
- 2005 **Master training course** - Laboratoire de Chimie des Molécules BioActives et des Arômes (LCMBA), UMR 6001, Faculty of Science, Nice.
Title: Synthesis of a new AZT prodrug.

Research interests

JB is involved in the synthesis of novel organic reducers and their stable latent precursors. She also explores their reactivity in the reduction of uninvestigated species and for unprecedented applications including nucleoside or polymer chemistry. She is experienced in organic and medicinal compound synthesis, as well as coordination chemistry and organometallic catalysis. During her post-doctoral position in the group of Prof. Steven P. Nolan, she worked on the synthesis of free carbenes and their azolium precursors, common synthetic intermediates to the preparation of organic reducers. She is used to perform air- and moisture-sensitive experiments and handle unstable products.

Scientific Publications

19 publications in peer-review journals including 3 contributions to monographs, 3 oral communications and 18 poster presentations. (H index = 13)

1. Broggi,* Julie; Rollet, Marion; Clément, Jean Louis; Canard, Gabriel; Terme, Thierry; Gigmes, Didier; Vanelle,* Patrice **Polymerization Initiated by Organic Electron Donors** *Angew. Chem. Int. Ed.* **2016**, *55*, 5994-5999.
2. Rayala, Ramanjaneyulu; Giuglio-Tonolo, Alain; Broggi, Julie; Terme, Thierry; Vanelle, Patrice; Theard, Patricia; Médebielle, Maurice; Wnuk, Stanislaw F. **Studies toward the oxidative and reductive activation of C-S bonds in 2'-S-aryl-2'-thiouridine derivatives** *Tetrahedron*, **2016**, *72*, 1969-1977.
3. Primas, Nicolas; Suzanne, Peggy; Verhaeghe, Pierre; Hutter, Sébastien; Kieffer, Charline; Laget, Michèle; Cohen, Anita; Broggi, Julie; Lancelot, Jean-Charles; Lesnard, Aurélien; Dallemagne, Patrick; Rathelot, Pascal; Rault, Sylvain; Vanelle, Patrice; Azas, Nadine **Synthesis and in vitro evaluation of 4-trichloromethylpyrrolo[1,2-a]quinoxalines as new antiplasmodial agents**, *Eur. J. Med. Chem.* **2014**, *83*, 26-35.
4. Broggi,* Julie; Terme,* Thierry; Vanelle,* Patrice **Organic Electron Donors as Powerful Single-Electron Transfer Reducing Agents in Organic Synthesis**. *Angew. Chem., Int. Ed.* **2014**, *53*, 384-413.
5. Broggi, Julie; Jurčík, Václav; Songis Olivier; Poater, Albert; Cavallo, Luigi; Slawin, Alexandra M. Z.; Cazin, Catherine S. J. **The Isolation of [Pd{OC(O)H}(H)(NHC)(PR₃)] (NHC = N-Heterocyclic Carbene) and Its Role in Alkene and Alkyne Reductions Using Formic Acid**. *J. Am. Chem. Soc.* **2013**, *135*, 4588-4591.

6. Lamberti, Marina; Fortman, George C.; Poater, Albert; Broggi, Julie; Slawin, Alexandra M.Z.; Cavallo, Luigi; Nolan, Steven P. **Coordinatively Unsaturated Ruthenium Complexes As Efficient Alkyne–Azide Cycloaddition Catalysts.** *Organometallics*, **2012**, *31*, 756-767.
7. Topalis, Dimitri; Pradère, Ugo; Roy, Vincent; Caillat, Christophe; Azzouzi, Ahmed; Broggi, Julie; Snoeck, Robert; Andrei, Graciela; Lin, Jay; Eriksson, Staffan; Alexandre, Julie A.C.; El-Amri, Chahrazade; Deville-Bonne, Dominique; Meyer, Philippe; Balzarini, Jan; Agrofoglio, Luigi A. **Novel Antiviral C5-Substituted Pyrimidine Acyclic Nucleoside Phosphonates Selected as Human Thymidylate Kinase Substrates.** *J. Med. Chem.* **2011**, *54*, 222-232.
8. Broggi, Julie; Urbina-Blanco, César A.; Clavier, Hervé; Leitgeb, Anita; Slugovc, Christian; Slawin, Alexandra M.Z.; Nolan, Steven P. **The Influence of Phosphane Ligands on the Versatility of Ruthenium-Indenylidene Complexes in Metathesis.** *Chem. Eur. J.* **2010**, *16*, 9215-9225.
9. Clavier, Hervé; Broggi, Julie; Nolan, Steven P. **Ring-rearrangement metathesis (RRM) mediated by ruthenium-indenylidene complexes.** *Eur. J. Org. Chem.*, **2010**, 937-943.
10. Broggi, Julie; Kumamoto, Hiroki; Berteina-Raboin, Sabine; Nolan, Steven P.; Agrofoglio, Luigi A. **Click Azide-Alkyne Cycloaddition for the Synthesis of D-(-)-1,4-disubstituted-triazolo-carbanucleosides.** *Eur. J. Org. Chem.* **2009**, 1880-1888.
11. Broggi, Julie; Joubert, Nicolas; Díez-González, Silvia; Berteina-Raboin, Sabine; Zevaco, Thomas; Nolan, Steven P.; Agrofoglio, Luigi A. **Synthesis of (±)-1,2,3-triazolo-3'-deoxy-4'-hydroxymethyl carbanucleosides via 'click' cycloaddition.** *Tetrahedron* **2009**, *65*, 1162-1170.
12. Broggi, Julie; Clavier, Hervé; Nolan, Steven P. **N-Heterocyclic Carbenes (NHCs) Containing N-C-Palladacycle Complexes: Synthesis and Reactivity in Aryl Amination Reactions.** *Organometallics* **2008**, *27*, 5525-5531.
13. Broggi, Julie; Díez-González, Silvia; Petersen, Jeffrey L.; Berteina-Raboin, Sabine; Nolan, Steven P.; Agrofoglio, Luigi A. **Study of copper(I) catalysts for the synthesis of carbanucleosides via azide-alkyne 1,3-dipolar cycloaddition.** *Synthesis*, **2008**, 141-148.
14. Kumamoto, Hiroki; Topalis, Dimitri; Broggi, Julie; Pradère, Ugo; Roy, Vincent; Berteina-Raboin, Sabine; Nolan, Steven P.; Deville-Bonne, Dominique; Andrei, Graciela; Snoeck, Robert; Garin, Daniel; Crance, Jean-Marc; Agrofoglio, Luigi A. **Preparation of acyclo nucleoside phosphonate analogues based on cross-metathesis.** *Tetrahedron* **2008**, *64*, 3517-3526.
15. Broggi, Julie; Joubert, Nicolas; Aucagne, Vincent; Zevaco, Thomas; Berteina-Raboin, Sabine; Nolan, Steven P.; Agrofoglio, Luigi A. **Study of Different Copper (I) Catalysts for the Click Chemistry Approach to Carbanucleosides.** *Nucleosides, Nucleotides & Nucleic Acids*, **2007**, *26*, 779-783.
16. Broggi, Julie; Joubert, Nicolas; Aucagne, Vincent; Berteina-Raboin, Sabine; Díez-González, Silvia; Nolan, Steven; Topalis, Dimitri; Deville-Bonne, Dominique; Balzarini, Jan; Neyts, Johan; Andrei, Graciela; Snoeck, Robert; Agrofoglio, Luigi A. **Alkyne-Azide Click Chemistry Mediated Carbanucleosides Synthesis.** *Nucleosides, Nucleotides & Nucleic Acids*, **2007**, *26*, 1391-1394.

Monographs

1. "Ring-Closing Metathesis" Broggi, Julie; Clavier, Hervé, *Science of Synthesis: N-Heterocyclic Carbenes in Catalytic Organic Synthesis*, **2016** *2*, 11.
2. Bantreil, Xavier; Broggi, Julie; Nolan, Steven P. **N-Heterocyclic carbene containing complexes in homogenous catalysis.** *Annu. Rep. Prog. Chem., Sect. B: Org. Chem.* **2009**, *105*, 232-263.
3. Agrofoglio, Luigi A.; Amblard, Frank; Broggi, Julie; Garnier, Ethel "Recent insight into the synthesis of the 'non-classical' O- or N-heterocyclic bases of nucleosides" in *Modern Approaches to the Synthesis of O- and N-Heterocycles*. Ed.: Kaufman, T.S. and Larghi, E.L. Research SignPost, Trivandrum, India, **2007**.

Invited Oral Communications

- Workshop "Electron Transfer, Radical Ions and Radical Chemistry" ETRADEM – Lyon, France – 23-24 March 2017. "New horizons for Organic Electron Donors"
- ICR Scientific days - Marseille, France - 10 July 2015
"Organic Electron Donors: Recent developments and applications"