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Research interests

Synthetic methodology in organic chemistry : transition metal catalysis, fluorine and sulfur chemistry, hydrometallation reaction, heterocyclic synthesis, and asymmetric catalysis.

Academic position and education

Since Oct. 2016 **CNRS Researcher** – UHA – Unistra – CNRS, LIMA UMR 7042 (Team BSM: **Dr. N. Blanchard**)
Aug. 2014 – Jul. 2016 **Post-doctoral associate** – University of Geneva, Switzerland, **Pr. C. Mazet**
Feb. 2013 – Jul. 2014 **Post-doctoral associate** – RWTH Aachen, Germany, **Pr. C. Bolm** (*Humboldt Fellowship*)
Oct. 2009 – Dec. 2012 **PhD in Organic Chemistry** – INSA of Rouen, UMR CNRS 6014, **Dr. D. Cahard**.
(PhD defended on November 30th, 2012)

Major funding and awards

2021 Collaborative ANR funding - PRC (associate coordinator) – **SulFive**
2021 International collaborative ANR funding - PRCI (partner) – **GIANT**
2018 Young investigator ANR funding – JCJC (coordinator) – **HydroMet**
2013 Alexander von Humboldt Postdoctoral Fellowship co-funded by BASF

Bibliometrics (Dec 2021)

H-index: 20

Research and review articles: 30

Number of citations: > 1500

Book chapter: 2

Complete publication list

30) Synthesis and Physicochemical Properties of 2-SF₅-(Aza)Indoles, a New Family of SF₅ Heterocycles

Debrauwer, V.; Leito, I.; Lökov, M.; Tshepelevitsh, S.; Parmentier, M.; Blanchard, N.; * [Bizet, V.](#) *

ACS Org. Inorg. Au **2021**, *1*, 43-50.

29) Ligand-Controlled Regiodivergent Palladium-Catalyzed Hydrogermylation of Ynamides

Debrauwer, V.; Turlik, A.; Rummler, L.; Prescimone, A.; Blanchard, N.;* Houk, K. N.;* Bizet, V.*

J. Am. Chem. Soc. **2020**, *142*, 11153-11164.

Highlighted in: Actualités de l'INC CNRS, 9 octobre 2020 (link).

28) Pentafluorosulfanyl chloride

Burton, D. J.; Wang, Y.; Bizet, V.; Cahard, D. *e-EROS Encyclopedia of Reagents for Organic Synthesis*.

Wiley, **2020**, DOI:10.1002/047084289X.rn00413.pub2.

27) Optimized Synthesis of 7-Azaindazole by a Diels–Alder Cascade and Associated Process Safety

Brach, N.; Le Foulher, V.; Bizet, V.; Lanz, M.; Gallou, F.; Bailly, C.; Hoehn, P.; Parmentier, M.; Blanchard N.*

Org. Process Res. Dev. **2020**, *24*, 776-786.

26) Activating Pyrimidines by Pre-distortion for the General Synthesis of 7-Aza-indazoles from 2-Hydrazonypyrimidines via Intramolecular Diels–Alder Reactions

Le Foulher, V.; Chen, Y.; Gandon, V.; Bizet, V.; Salomé, C.; Fessard, T.; Liu, F.;* Houk, K. N.;* Blanchard N.*

J. Am. Chem. Soc. **2019**, *141*, 15901-15909.

25) Acid Fluorides in Transition-Metal Catalysis: A Good Balance between Stability and Reactivity

Blanchard N.; Bizet, V.* *Angew. Chem. Int. Ed.* **2019**, *58*, 6814-6817.

24) Diels–Alder and Formal Diels–Alder Cycloaddition Reactions of Ynamines and Ynamide

Duret, G.; Le Foulher, V.; Bisseret, P.; Bizet, V.; Blanchard N. *Eur. J. Org. Chem* **2017**, 6816-6830.

23) Mechanistic Investigation of the Pd-Catalyzed Intermolecular Carboetherification and Carboamination of 2,3-Dihydrofuran: Similarities, Differences and Evidence for Unusual Reaction Intermediates

Borrajo Calleja, G. M.; Bizet, V.; Besnard, C.; Mazet C.* *Organometallics* **2017**, *36*, 3553-3563.

22) Influence of the dissolution solvent on the cytotoxicity of octahedral cationic Ir(III) hydride complexes

Huang, H.; Humbert, N.; Bizet, V.; Patra, M.; Chao, H.;* Mazet, C.;* Gasser G.* *J. Organomet. Chem.* **2017**, *839*, 15-18.

21) Direct Access to Furoindolines by Palladium-Catalyzed Intermolecular Carboamination

Bizet, V.; Borrajo Calleja, G. M.; Besnard, C.; Mazet C.* *ACS Catal.* **2016**, *6*, 7183-7187.

Highlighted in: Synfacts **2016**, *12*, 1257 (link).

20) Palladium Catalyzed Enantioselective Intermolecular Carboetherification of Dihydrofurans

Borrajo Calleja, G. M.; Bizet, V.; Mazet C.* *J. Am. Chem. Soc.* **2016**, *138*, 4014-4017.

Highlighted in: Synfacts **2016**, *12*, 591 (link).

19) Access to Enantioenriched 2,3- and 2,5-Dihydrofurans With a Fully substituted C2 Stereocenter by Pd-Catalyzed Asymmetric Intermolecular Heck Reaction

Borrajo Calleja, G. M.; Bizet, V.; Bürgi, T.; Mazet C.* *Chem. Sci.* **2015**, *6*, 4807-4811.

Highlighted in: Synfacts **2015**, *10*, 1075 (link).

18) Sulfur Imidations: Access to Sulfinimides and Sulfoximines

Bizet, V.; Hendrix, C. M. M.; Bolm, C.* *Chem. Soc. Rev.* **2015**, *44*, 3378-3390.

- 17) Direct Access to *N*-Alkyl Sulfoximines from Sulfides by a Sequential Imidation/Oxidation Procedure**
Dannenberg, C. A.; [Bizet, V.](#);* Bolm, C.* *Synthesis* **2015**, 47, 1951-1959.
- 16) Sulfur Imidations by Light-Induced Ruthenium-Catalyzed Nitrene Transfer Reactions**
[Bizet, V.](#); Bolm, C.* *Eur. J. Org. Chem.* **2015**, 2854-2860.
- 15) Transition-Metal-Free Oxidative Iodination of 1,3,4-Oxadiazoles**
Dannenberg, C. A.; [Bizet, V.](#); Zou, L. H.; Bolm, C. *Eur. J. Org. Chem.* **2015**, 77-80.
- 14) Methionine and Buthionine Sulfoximine: Syntheses under Mild and Safe Imidation/Oxidation Conditions**
Buglioni, L.; [Bizet, V.](#); Bolm, C.* *Adv. Synth. Catal.* **2014**, 356, 2209-2213.
- 13) Fluorine as a Control Element in Asymmetric Synthesis**
[Bizet, V.](#); Cahard, D.* *Chimia* **2014**, 68, 378-381.
- 12) Light-Induced Ruthenium-Catalyzed Nitrene Transfer Reactions: A Photochemical Approach towards *N*-Acyl Sulfinimides and Sulfoximines**
[Bizet, V.](#); Buglioni, L.; Bolm, C.* *Angew. Chem. Int. Ed.* **2014**, 53, 5639-5642.
- 11) Fluorinated sulfoximines : syntheses, properties and applications**
[Bizet, V.](#); Kowalczyk, R.; Bolm, C.* *Chem. Soc. Rev.* **2014**, 43, 2426-2438.
- 10) Recent progress in asymmetric fluorination and trifluoromethylation reactions**
[Bizet, V.](#); Besset, T.; Ma, J.-A.; Cahard, D.* *Curr. Top. Med. Chem.* **2014**, 14, 901-614.
- 9) The influence of fluorine in asymmetric catalysis**
[Bizet, V.](#); Cahard, D.* *Chem. Soc. Rev.* **2014**, 43, 135-147.
- 8) Iron (II) complexes are suitable catalysts for the isomerization of trifluoromethylated allylic alcohols. Synthesis of trifluoromethylated dihydrochalcones**
Cahard, D.;* [Bizet, V.](#); Dai, X.; Gaillard, S.; Renaud, J.-L.* *J. Fluorine Chem.* **2013**, 155, 78-82.
- 7) Isomérisation rédox : une réaction économe en atomes à fort potentiel d'innovation**
[Bizet, V.](#); Cahard, D.;* Gaillard, S.; Renaud, J.-L.* *Les Techniques de l'Ingénieur* **2013**, IN 159.
- 6) Ruthenium-catalyzed one-pot tandem isomerization–transfer hydrogenation reactions of γ -trifluoromethylated allylic alcohols and β -trifluoromethylated enones**
[Bizet, V.](#); Pannecoucke, X.; Renaud, J.-L.;* Cahard, D.* *Adv. Synth. Catal.* **2013**, 355, 1394-1402.
- 5) Synthesis of β -CF₃ ketones from trifluoromethylated allylic alcohols by ruthenium catalyzed isomerization**
[Bizet, V.](#); Pannecoucke, X.; Renaud, J.-L.; Cahard, D.* *J. Fluorine Chem.* **2013**, 152, 56-61.
- 4) *N*-Fluorobenzensulfonimide**
[Bizet, V.](#)* *Synlett* **2012**, 23, 2719-2720.
- 3) Ruthenium catalyzed redox isomerization of trifluoromethylated allylic alcohols: mechanistic evidence for an enantiospecific pathway**
[Bizet, V.](#); Pannecoucke, X.; Renaud, J.-L.;* Cahard, D.* *Angew. Chem. Int. Ed.* **2012**, 51, 6467-6470.
- Highlighted in: CNRS, en direct des laboratoires de l'institut de chimie (Link).*

2) Synthesis of α -CF₃-substituted carbonyl compounds with relative and absolute stereocontrol using electrophilic CF₃-transfer reagents

Matoušek, V.; Togni, A.;* Bizet, V.; Cahard, D.* *Org. Lett.* **2013**, *13*, 5762-5765.

1) Metal-Free SN2' Decarboxylative Rearrangement of β -Keto Esters

Bizet, V.; Lefebvre, V.; Baudoux, J.;* Lasne, M.-C.; Boulangé, A.; Leleu, S.;* Franck, X.; Rouden, J.* *Eur. J. Org. Chem.* **2011**, 4170-4175.

List of book chapters:

2) Oxetanes and Oxetenes: Fused-Ring Derivatives

Blanchard, N.;* Bizet, V.; Brach, N., Rummeler, L.; Kaliappan, K. P. in *Comprehensive Heterocyclic Chemistry IV*, Vol. 2 (Eds.: D. S. Black, J. Cossy, C. V. Stevens), Elsevier, Oxford, **2022**, pp. 257-286.

1) Asymmetric fluorination methods and their application for the stereoselective synthesis of fluorinated drugs

Bizet, V.; Cahard, D.* in *"Stereoselective Synthesis of Drugs and Natural Products"* (Chapter 44), Ed. Wiley-Blackwell. **2013**, ISBN: 978-1-1180-3217-6, pp. 1347-1376.