

Virgile Ayzac, Ph.D.

Doctor-engineer in organic, supramolecular, polymer
and material chemistry
Born 15/02/1990

3 rue Louis Jasseron
69003 Lyon, France
+33(0)695066108
virgile.ayzac@gmail.com

Education

- 2013-2016 Ph.D. in supramolecular chemistry under the supervision of Dr. Laurent Bouteiller
Laboratoire de Chimie des polymères, Institut Parisien de Chimie Moléculaire (IPCM)
Université Pierre et Marie Curie, Paris, France
Engineering new urea-based supramolecular polymers for the characterization of weak interactions in solution : the supramolecular balance
- 2010-2013 *Diplôme d'ingénieur* (equiv. to a Master's Degree in Chemistry) with a specialization in organic chemistry
European School of Chemistry, Polymers and Material Science (ECPM), Strasbourg, France
- 2013 Master in molecular and supramolecular chemistry
Strasbourg University, France
- 2008-2010 Pre-engineering undergraduate studies in Chemistry, Physics and Maths
Lycée Claude Fauriel, St Etienne, France
Intensive classes in Maths, Physics, Chemistry
- 2008 Scientific Baccalaureate (equiv. to A-levels) in Physics and Chemistry received with distinction
Lycée René Descartes, St Genis Laval, France

Experience

- 2020-2021 Laboratoire de Catalyse, Polymérisation, Procédés et Matériaux (CP2M)
CNRS, Université Claude Bernard, CNRS, Lyon, France
12 months post-doctoral contract
CO₂ as reagent to functionalize polymers harnessing reactive extrusion
- 2018-2019 Temporary Physics and Chemistry Teacher,
Lycée Louis Aragon (high-school), Givors, France
- 2013-2016 Ph.D. in supramolecular chemistry (Defense on December 13, 2016)
Université Pierre et Marie Curie, Paris, France
- 2013-2014 DGRTT European Office (Work and Technology Transfer Bureau)
Université Pierre et Marie Curie, Paris, France
Dissemination of the TARDIS project (communication and organization of a workshop)
- Summer 2013 Laboratoire de Chimie Moléculaire Inorganique et Catalyse
Strasbourg University, France
6-month internship under the direction of Dr. Dominique Matt
Synthesis of new N-heterocyclic carbenes based on a resorcinarene/calixarene cavity
- Summer 2012 Polymer Therapeutics Laboratory
Centro de Investigacion Principe Felipe, Valence, Spain
4-month internship under the direction of Dr. Maria J. Vicent
Design and synthesis of polymer conjugates for breast cancer therapy
- April 2012 Laboratoire de Synthèse Organique et Molécules Bio-actives
European School of Chemistry, Polymers and Material Science (ECPM), Strasbourg, France
1-month internship under the direction of Dr. Philippe Compain
Synthesis of a precursor of an inhibitor of the β -glucocerebrosidase for the treatment of Gaucher's disease

Publications and oral communications

- “Structural control of bisurea-based supramolecular polymers: Influence of an ester moiety”
Dirany, M.; Ayzac, V.; Isare, B.; Raynal, M.; Bouteiller, L. *Langmuir* **2015**, 31, 11443
- “Thermo-thickening compounds for non-polar liquid”
Ayzac, V.; Bouteiller, L.; Raynal, M.; Isare, B. Patent PCT/EP2017/082431
- “Probing halogen-halogen interactions in solution”
Ayzac, V.; Raynal, M.; Isare, B.; Idé, J.; Brocorens, P.; Lazzaroni, R.; Etienne, T.; Monari, A.; Assfeld, X.; Bouteiller, L. *Phys. Chem. Chem Phys.* **2017**, 19, 32443-32450
- “Complexes featuring N-heterocyclic carbenes with bowl-shaped wingtips”
Almallah H.; Nos M. ; Ayzac V.; Brenner E.; Matt D.; Gourlaouen C.; Jahjah M.; Hijazi A. *C. R. Chim.* **2019**, 299-309
- “A competing hydrogen bonding pattern to yield a thermo-thickening supramolecular polymer”
Ayzac, V.; Sallembien, Q.; Raynal, M.; Isare, B.; Jestin, J. ; Bouteiller, L. *Angew. Chem. Int. Ed.* **2019**, 1433-7851
- “Energetics of competing chiral supramolecular polymers”
Ayzac, V.; Dirany, M.; Raynal, M.; Isare, B; Bouteiller, L. *Chem. Eur. J.* **2021**, 27, 9627-9633
- “Upcycling of waste polyolefins using hydrogen peroxide”
Ayzac, V.; Monteil V.; Raynaud J.
Manuscript in preparation
- “Reactive extrusion using carbon dioxide as a reagent”
Guerdener B. ; Ayzac, V.; Monteil V.; Raynaud J. ; Bounor-Legare V. ; Dufaud, V. ; Chalamet, Y.
Patent in preparation
- “A supramolecular tool to measure halogen-halogen bonding in solution”
7ème journée du GFP Ile de France, July 8, 2016, Thiais, France
- “A supramolecular tool to measure halogen-halogen bonding in solution”
2nd International Symposium on Halogen Bonding (ISXB2), June 5-10, 2016, Gothenburg, Sweden
- “Amplification of chirality in supramolecular polymers: characterization by calorimetry”
Journées André Collet de la Chiralité (JACC), October 5-7, 2015, Lyon, France

Skills

Technical/IT	Organic and organometallic synthesis, NMR, FTIR, UV, CD, GC, HPLC, MS, DSC, ITC, TGA, DMA, Rheology, Glove-box, Flash chromatography, SANS, SEC, scCO ₂ , High pressure, Reactive Extrusion Origin, Visual Basic, Chemdraw, SciFinder, MestReNova, TopSpin
Languages	Native French, fluent English and basic German
Management	Supervised 3 bachelor interns and 1 PhD student
Teaching	Gave practical lab classes and tutorials in organic, organometallic, analytical, polymer and general chemistry to chemistry, medicine, biology and engineering up to master level (~ 152 hrs)
Driving License, SST (Workplace FirstAid Certificate)	

Additional Interests

- Responsible for the English-speaking firms and therefore for the translation of paperwork of the 26th edition of the Forum Horizon Chimie (chemistry job fair).
- Play bass and drums (both at an intermediate level)
- Play tabletop RPG and advanced board games
- Ride Mountain bike and motorcycle
- Taste and collect single malt Scotch whisky

References

- Dr. Laurent Bouteiller, Group leader, CNRS-UPMC, laurent.bouteiller@upmc.fr
- Dr. Vincent Monteil, Group leader, CNRS-UCBL, vincent.monteil@univ-lyon1.fr