

Dr. Laurent Pouységu

Born on May 12, 1971, in Dax (Landes), France

Full Professor of Chemistry

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Laurent Pouységu studied chemistry at the University of Bordeaux, where he completed in 1997 his Doctorate in carbohydrate chemistry under the supervision of Prof. Bernard De Jésus. In the same year, he joined the group of Prof. Stéphane Quideau as a post-doctoral fellow at Texas Tech University, USA, where he worked on the chemistry of *ortho*-quinol acetates. In 1998, he moved back to the University of Bordeaux as Maître de Conférences in Organic Chemistry, still in the research team led by Prof. S. Quideau. He currently holds a Full Professor (PR1) position in the same university, and his main interests concern the development of new chiral organoiodanes for metal-free asymmetric transformations, including the dearomatization of arenols, and their application to the bioinspired total synthesis of natural products.

I. Professional Experience

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|-------------|---|
| 2019 – | First Class Professor of Chemistry, Univ. Bordeaux, Talence, France |
| 2016 – 2021 | Elected Representative of the Division “Organic Synthesis and Natural Products” at the Institut des Sciences Moléculaires (CNRS – UMR 5255), Univ. Bordeaux |
| 2014 – 2019 | Second Class Professor of Chemistry, Univ. Bordeaux, Talence, France |
| 2010 | Habilitation à Diriger des Recherches in Chemistry, Univ. Bordeaux 1, Talence |
| 1998 – 2014 | Assistant Prof. (Maître de Conférences) of Chemistry, Univ. Bordeaux 1, Talence |
| 1997 – 1998 | Post-Doctoral Associate, Texas Tech University, TX, USA (Advisor: Prof. S. Quideau – <i>ortho</i> -Quinone Monoketals and their Derivatives in Organic Synthesis) |
| 1994 – 1997 | Doctorate in Organic Chemistry, Univ. Bordeaux 1, Talence, France (Advisor: Prof. B. De Jésus – <i>Chemistry of Sugars and Structural Determination by NMR spectroscopy</i>) |

II. Current Research Interests

- Hypervalent iodine chemistry
- Phenol dearomatization in organic synthesis
- Total synthesis of natural products

III. Honors and Awards

2018 Distinguished Senior Member of the French Chemical Society

IV. Academic Production

- 75 publications, including 8 reviews and 5 book chapters
- 3 plenary or invited lectures, 35 oral communications and 46 poster presentations at conferences
- 4 invited seminars, 1 patent
- 14 doctoral thesis supervision (+ 5 in progress) – 1 post-doctoral fellow supervision
- **h-index = 29** (*Web Of Science, Dec. 2023*)

V. Current Funding Sources

- French National Agency of Research (ANR)
- French National Centre for Scientific Research (CNRS)
- Ministry of Higher Education and Research (French Government)

VI. Selection of Publications

74. Wloch, M.; Valzer, E.; Pouységu, L.; Quideau, S. “*ortho*-Quinolins in (Bio)Synthesis of Natural Products”. *Eur. J. Org. Chem.* **2023**, 26, e202201224. (Review)
73. Gutiérrez, J. E.; Fernandez-Moreira, E.; Rodríguez, M. A.; Mijares, M. R.; De Sanctis, J. B.; Gurská, S.; Džubák, P.; Hajdúch, M.; Bruno-Colmenares, J.; Rojas, L.; Deffieux, D.; Pouységu, L.; Quideau, S.; Charris, J.; Ramírez, H. “Novel 7-Chloro-(4-thioalkylquinoline) Derivatives: Synthesis and Antiproliferative Activity through Inducing Apoptosis and DNA/RNA Damage”. *Pharmaceuticals* **2022**, 15, 1234.
71. Peixoto, P. A.; El Assal, M.; Chataigner, I.; Castet, F.; Cornu, A.; Coffinier, R.; Bosset, C.; Deffieux, D.; Pouységu, L.; Quideau, S. “Bispericyclic Diels–Alder Dimerization of *ortho*-Quinolins in Natural Product (Bio)synthesis: Bioinspired Chemical 6-Step Synthesis of (+)-Maytenone”. *Angew. Chem. Int. Ed.* **2021**, 60, 14967–14974. (Very Important Paper)
69. Rodríguez, M.; Gutiérrez, J.; Domínguez, J.; Peixoto, P. A.; Fernández, A.; Rodríguez, N.; Deffieux, D.; Rojas, L.; Quideau, S.; Pouységu, L.; Charris, J. “Synthesis and Leishmanicidal Evaluation of Novel Sulfanyl- and Sulfonyl-tethered Functionalized Benzoate Derivatives Featuring a Nitroimidazole Moiety”. *Arch. Pharm. Chem. Life Sci.* **2020**, 353, e2000002.
66. Chidley, T.; Jameel, I.; Rizwan, S.; Peixoto, P. A.; Pouységu, L.; Quideau, S.; Hopkins, W. S.; Murphy, G. K. “Blue LED Irradiation of Iodonium Ylides Gives Diradical Intermediates for Efficient Metal-free Cyclopropanation with Alkenes”. *Angew. Chem. Int. Ed.* **2019**, 58, 16959–16965.
58. El Assal, M.; Peixoto, P. A.; Coffinier, R.; Garnier, T.; Deffieux, D.; Miqueu, K.; Sotiropoulos, J.-M.; Pouységu, L.; Quideau, S. “Synthesis of Scyphostatin Analogues through Hypervalent Iodine-mediated Phenol Dearomatization”. *J. Org. Chem.* **2017**, 82, 11816–11828.
57. Richieu, A.; Peixoto, P. A.; Pouységu, L.; Deffieux, D.; Quideau, S. “Bioinspired Total Synthesis of (–)-Vescalin: A Nonahydroxytriphenoylated C-Glucosidic Ellagitannin”. *Angew. Chem. Int. Ed.* **2017**, 56, 13833–13837.
56. Companys, S.; Peixoto, P. A.; Bosset, C.; Chassaing, S.; Miqueu, K.; Sotiropoulos, J.-M.; Pouységu, L.; Quideau, S. “Asymmetric Alkynylation of β -Ketoesters and Naphthols Promoted by New Chiral Biphenylic Iodanes”. *Chem. Eur. J.* **2017**, 23, 13309–13313.
49. Coffinier, R.; El Assal, M.; Peixoto, P. A.; Bosset, C.; Miqueu, K.; Sotiropoulos, J.-M.; Pouységu, L.; Quideau, S. “Total Synthesis of (–)-Bacchopetiolone via an Asymmetric Hydroxylative Phenol Dearomatization/[4+2]-Dimerization Cascade Promoted by a Novel Salen-Type Chiral Iodane”. *Org. Lett.* **2016**, 18, 1120–1123.
47. Sylla, T.; Pouységu, L.; Da Costa, G.; Deffieux, D.; Monti, J.-P.; Quideau, S. “Gallotannins and Tannic Acid: First Chemical Syntheses and *In Vitro* Inhibitory Activity on Alzheimer’s Amyloid β -Peptide Aggregation”. *Angew. Chem. Int. Ed.* **2015**, 54, 8217–8221.
44. Bosset, C.; Coffinier, R.; Peixoto, P. A.; El Assal, M.; Miqueu, K.; Sotiropoulos, J.-M.; Pouységu, L.; Quideau, S. “Asymmetric Hydroxylative Phenol Dearomatization Promoted by Chiral Binaphthyl and Biphenylic Iodanes”. *Angew. Chem. Int. Ed.* **2014**, 53, 9860–9864.
38. Malik, G.; Natangelo, A.; Charris, J.; Pouységu, L.; Manfredini, S.; Cavagnat, D.; Buffeteau, T.; Deffieux, D.; Quideau, S. “Synthetic Studies toward C-Glucosidic Ellagitannins: A Biomimetic Total Synthesis of 5-*O*-Desgalloylepipunicacortein A”. *Chem. Eur. J.* **2012**, 18, 9063–9074.
32. Pouységu, L.; Deffieux, D.; Malik, G.; Natangelo, A.; Quideau, S. “Synthesis of Ellagitannin Natural Products”. *Nat. Prod. Rep.* **2011**, 28, 853–874. (Review)
30. Quideau, S.; Deffieux, D.; Douat-Casassus, C.; Pouységu, L. “Plant Polyphenols: Chemical Properties, Biological Activities, and Synthesis”. *Angew. Chem. Int. Ed.* **2011**, 50, 586–621. (Review)
26. Pouységu, L.; Deffieux, D.; Quideau, S. “Hypervalent Iodine-Mediated Phenol Dearomatization in Natural Product Synthesis”. *Tetrahedron* **2010**, 66, 2235–2261. (Report No. 906)
25. Pouységu, L.; Marguerit, M.; Gagnepain, J.; Lyvinec, G.; Eatherton, A. J.; Quideau, S. “Total Synthesis of Wasabidienones B₁ and B₀ via SIBX-Mediated Hydroxylative Phenol Dearomatization”. *Org. Lett.* **2008**, 10, 5211–5214.
24. Pouységu, L.; Chassaing, S.; Dejugnac, D.; Lamidey, A.-M.; Miqueu, K.; Sotiropoulos, J.-M.; Quideau, S. “Highly Diastereoselective Synthesis of Orthoquinone Monoketals through λ^3 -Iodane-Mediated Oxidative Dearomatization of Phenols”. *Angew. Chem. Int. Ed.* **2008**, 47, 3552–3555.