

Dr Laurent Vial

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EDUCATION

- 2003 *PhD* in Organic Chemistry from the University of Geneva (Switzerland)
1999 *MSc* in Chemistry from the University of Lyon (France)

PROFESSIONAL EXPERIENCE

Research:

- 2006 – to date *CNRS Research Scientist*, currently at the University of Lyon (France). My research activities focus on the design, synthesis, and study of artificial receptors for biologically relevant molecules for use as biosensors and therapeutics
- 2004 – 2006 *Marie Curie Research Fellow* at the University of Cambridge (United Kingdom) under the supervision of Prof. Jeremy Sanders
- 1999 – 2004 *Graduate Research Assistant* at the University of Geneva (Switzerland) under the supervision of Prof. Jérôme Lacour

Edition:

- 2011 – 2016 *Assistant Editor* of New Journal of Chemistry (RSC Publishing), +800 manuscripts handled

Teaching:

- 2000 – to date *Teaching Associate* (courses/tutorials/laboratories) in Organic, Supramolecular, General, Inorganic or Physical Chemistry for undergraduate students at, successively, the University of Geneva, Cambridge, Grenoble, Montpellier, and Lyon (+600 hours)

PUBLICATIONS

Total number of citations: 2041, h-index: 16 (corresponding author(s) are identified by an asterisk)

31. "A Second-generation Dendrigrraft of Poly-L-lysine is a Promising Candidate for the Reversal of Heparin-based Anticoagulants in Clinical Settings"
J.-P. Francoia, B. Ourri, G. Monard,* J.-C. Gris,* J. Leclaire, L. Vial*
[In preparation.](#)
30. "Wetting the Lock and Key Enthalpically Favours Polyelectrolytes Binding"
E. Jeamet, J. Septavaux, A. Héloin, M. Donnier-Maréchal, M. Dumartin, B. Ourri, P. Mandal, I. Huc, E. Bignon, E. Dumont,* C. Morell, J.-P. Francoia, F. Perret, L. Vial,* J. Leclaire*
[2018, submitted.](#)
29. "Diastereoselective Synthesis of a Dyn[3]arene with Distinct Binding Behaviors toward Linear Biogenic Polyamines"
M. Donnier-Maréchal, J. Septavaux, E. Jeamet, F. Perret, A. Héloin, E. Dumont, J.-C. Rossi, F. Ziarelli, J. Leclaire,* L. Vial*
[Org. Lett. 2018, 20, 2420.](#)
28. "Everything You Always Wanted to Know about Poly-L-Lysine Dendrigrrafts (But Were Afraid to Ask)"
Francoia, J.-P.; Vial, L.*
[Chem. Eur. J. 2018, 24, 2806.](#)
27. "Digitizing Poly-L-Lysine Dendrigrrafts: from Experimental Data to Molecular Dynamics Simulations"
Francoia, J.-P.; Rossi, J.-C.; Monard, G.*; Vial, L.*
[J. Chem. Inf. Model. 2017, 57, 2173.](#)

26. "Chirality Sensing and Discrimination of Lysine Derivatives in Water with a Dyn[4]arene"
Vial, L.*; Dumartin, M.; Donnier-Maréchal, M.; Perret, F.; Francoia, J.-P.; Leclaire, J.*
[Chem. Commun. 2016, 52, 14219.](#)
25. "ChemBrows: An Open-Source Application Software to Keep Up to Date with the Current Literature"
Francoia, J.-P.; Vial, L.*
[J. Chem. Educ. 2016, 93, 1137.](#)
24. "On-demand Cyclophanes: Substituent-directed Self-assembling, Folding and Binding"
Skowron, P.T.; Dumartin, M.; Jeamet, E.; Perret, F.; Gourlaouen, C.; Baudouin, A.; Fenet, B.; Naubron, J.V.; Fotiadu, F.; Vial, L.; Leclaire, J.*
[J. Org. Chem. 2016, 81, 654.](#)
23. "A KISS (Keep It Simple, Sensor) Array for Glycosaminoglycans"
Francoia, J.-P.; Vial, L.*
[Chem. Commun. 2015, 51, 17544.](#)
22. "Monitoring Clinical Levels of Heparin in Human Blood Samples with an Indicator-Displacement Assay" Francoia, J.-P.; Pascal, R.; Vial, L.*
[Chem. Commun. 2015, 51, 1953.](#)
21. "Reduction with Tris(2-carboxyethyl)phosphine (TCEP) Enables the Use of S-sulphonate Protecting Group for Thiol-mediated Bioconjugation"
Maret, B.; Régnier, T.; Rossi, J.-C.; Garrelly, L.; Vial, L.; Pascal R.*
[RSC Advances 2014, 4, 7725.](#)
20. "Monitoring Surface Functionalization of Dendrigraft Poly-L-Lysines via Click Chemistry by Capillary Electrophoresis and Taylor Dispersion Analysis"
Liu, T.; Oukacine, F.; Collet, H.; Commeyras, A.; Vial, L.; Cottet, H.*
[J. Chromatogr. A. 2013, 1273, 111.](#)
19. "RNA Relics and Origin of Life"
Demongeot, J.*; Glade, N.; Moreira, A.; Vial, L.
[Int. J. Mol. Sci. 2009, 10, 3420.](#)
18. "Artificial Enzyme-based Biosensors"
Vial, L.; Dumy, P.*
[New. J. Chem. 2009, 33, 939.](#)
17. "Nanomolar Heparin Detection with an Artificial Enzyme"
Vial, L.; Dumy, P.*
[ChemBioChem 2008, 9, 2950.](#)
16. "Enantioselective [1,2]-Stevens Rearrangement of Quaternary Ammonium Salts. A Mechanistic Evaluation"
Gonçalves-Farbos, M.-H.; Vial, L.; Lacour, J.*
[Chem. Commun. 2008, 45, 829.](#)
15. "Fluorescent ADP Sensing in Physiological Conditions Based on Cooperative Inhibition of a Miniature Esterase"
Vial, L.; Dumy, P.*
[J. Am. Chem. Soc. 2007, 129, 4884.](#)
14. "Controlling the biological effects of spermine using a synthetic receptor"
Vial, L.; Ludlow R.F.; Leclaire, J.; Pérez-Fernández, R.; Otto, S.*
[J. Am. Chem. Soc. 2006, 128, 10253.](#)
13. "Dynamic Combinatorial Chemistry"
Corbett, P. T.; Leclaire, J.; Vial, L.; West, K.; Wietor, J.-L.; Sanders, J.K.M.*; Otto, S.*
[Chem. Rev. 2006, 106, 2052.](#)
12. "A Catalyst for an Acetal Hydrolysis Reaction from a Dynamic Combinatorial Library"
Vial, L.; Sanders, J.K.M.; Otto, S.*
[New J. Chem. 2005, 29, 1001.](#)
11. "Expanding Diversity in Dynamic Combinatorial Libraries: Simultaneous Exchange of Disulfide and Thioester Linkages"
Leclaire, J.; Vial, L.; Otto, S.*; Sanders, J.K.M.*
[Chem. Commun. 2005, 42, 1959.](#)

10. "Matched/Mismatched Interaction of a Cyclic Hexapeptide with Ion Pairs Containing Chiral Cations and Chiral Anions"
Heinrichs, G.; Kubik, S.*; Lacour, J.*; Vial, L.
[J. Org. Chem. 2005, 70, 4498.](#)
9. "Unusual Regio- and Enantioselective [1,2]-Stevens Rearrangement of a Spirobi[dibenzazepinium] Cation"
Vial, L.; Gonçalves, M.-A.; Morgantini, P.-Y., Weber, J.; Bernardinelli, G.; Lacour, J.*
[Synlett 2004, 1565.](#)
8. "¹H, ¹⁹F and ³¹P PGSE NMR Diffusion Studies on Chiral Organic Salts: Ion Pairing and the Dependence of a Diffusion Value on Diastereomeric Structure"
Martínez-Viviente, E.; Pregosin, P.S.*; Vial, L.; Herse, C.; Lacour, J.*
[Chem. Eur. J. 2004, 10, 2912.](#)
7. "Chloride-Promoted Synthesis of Cis Bis-Chelated Palladium(II) Complexes from Ortho-Mercurated Tricarbonyl(η^6 -arene)chromium Complexes"
Berger, A.; Djukic, J.-P.*; Pfeffer, M.*; Lacour, J.; Vial, L.; de Cian, A.; Kyritsakas-Gruber, N.
[Organometallics 2003, 22, 5243.](#)
6. "Enantioselective Recognition of a Chiral Quaternary Ammonium Ion by C₃ Symmetric Cyclic Hexapeptides"
Heinrichs, G.; Vial, L.; Lacour, J.; Kubik, S.*
[Chem. Commun. 2003, 40, 1252.](#)
5. "Novel Heteroleptic cis-(C[^]N)Pd(II) Chelates for the Preparation of Enantiopure Planar Chiral Cyclopalladated 2-[tricarbonyl(η^6 -phenyl)chromium]pyridine"
Berger, A.; Djukic, J.-P.*; Pfeffer, M.; de Cian, A.; Kyritsakas-Gruber, N.; Lacour, J.; Vial, L.
[Chem. Commun. 2003, 40, 658.](#)
4. "Conformational Preference and Configurational Control of Highly Symmetric Spirobi[dibenzazepinium] Cation"
Vial, L.; Lacour, J.*
[Org. Lett. 2002, 4, 3939.](#)
3. "One-Step Stereoselective Synthesis and NMR Chiral Shift Properties of a Novel Hexacoordinated Phosphorus Cation"
Lacour, J.*; Vial, L.; Bernardinelli, G.
[Org. Lett. 2002, 4, 2309.](#)
2. "Efficient NMR Enantiodifferentiation of Chiral Quats with BINPHAT Anion"
Lacour, J.*; Vial, L.; Herse, C.
[Org. Lett. 2002, 4, 1351.](#)
1. "Grignard Cross-coupling Catalyzed by Chiral Phosphino-quinorine and Phosphino-quinoridine Derivatives"
Pellet-Rostaing, S.; Saluzzo, C.; Halle, R.T.; Breuzard, J.; Vial, L.; Le Guyader, F.; Lemaire, M.*
[Tetrahedron: Asymmetry 2001, 12, 1983.](#)