

## 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)

### PROFESSIONNAL 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

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\*  
[Chem. Sci. 2018, in press](#)
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 Dendrigrafts (But Were Afraid to Ask)"  
J.-P. Francoia, L. Vial\*  
[Chem. Eur. J. 2018, 24, 2806](#)

27. "Digitizing Poly-L-Lysine Dendrigrfts: from Experimental Data to Molecular Dynamics Simulations"  
J.-P. Francoia, J.-C. Rossi, G. Monard,\* L. Vial\*  
[J. Chem. Inf. Model. 2017, 57, 2173](#)
26. "Chirality Sensing and Discrimination of Lysine Derivatives in Water with a Dyn[4]arene"  
L. Vial,\* M. Dumartin, M. Donnier-Maréchal, F. Perret, J.-P. Francoia, J. Leclaire\*  
[Chem. Commun. 2016, 52, 14219](#)
25. "ChemBrows: An Open-Source Application Software to Keep Up to Date with the Current Literature"  
J.-P. Francoia, L. Vial\*  
[J. Chem. Educ. 2016, 93, 1137](#)
24. "On-demand Cyclophanes: Substituent-directed Self-assembling, Folding and Binding"  
P.-T. Skowron, M. Dumartin, E. Jeamet, F. Perret, C. Gourlaouen, A. Baudouin, B. Fenet, J.V. Naubron, F. Fotiadu, L. Vial, J. Leclaire\*  
[J. Org. Chem. 2016, 81, 654](#)
23. "A KISS (Keep It Simple, Sensor) Array for Glycosaminoglycans"  
J.-P. Francoia, L. Vial\*  
[Chem. Commun. 2015, 51, 17544](#)
22. "Monitoring Clinical Levels of Heparin in Human Blood Samples with an Indicator-Displacement Assay"  
J.-P. Francoia, R. Pascal, L. Vial\*  
[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"  
B. Maret, T. Régnier, J.-C. Rossi, L. Garrelly, L. Vial, R. Pascal\*  
[RSC Advances 2014, 4, 7725](#)
20. "Monitoring Surface Functionalization of Dendrigrft Poly-L-Lysines via Click Chemistry by Capillary Electrophoresis and Taylor Dispersion Analysis"  
T. Liu, F. Oukacine, H. Collet, A. Commeyras, L. Vial, H. Cottet\*  
[J. Chromatogr. A. 2013, 1273, 111](#)
19. "RNA Relics and Origin of Life"  
J. Demongeot,\* N. Glade, A. Moreira, L. Vial  
[Int. J. Mol. Sci. 2009, 10, 3420](#)
18. "Artificial Enzyme-based Biosensors"  
L. Vial, P. Dumy\*  
[New. J. Chem. 2009, 33, 939](#)
17. "Nanomolar Heparin Detection with an Artificial Enzyme"  
L. Vial, P. Dumy\*  
[ChemBioChem 2008, 9, 2950](#)
16. "Enantioselective [1,2]-Stevens Rearrangement of Quaternary Ammonium Salts. A Mechanistic Evaluation"  
M.-H. Gonçalves-Farbos, L. Vial, J. Lacour\*  
[Chem. Commun. 2008, 45, 829](#)
15. "Fluorescent ADP Sensing in Physiological Conditions Based on Cooperative Inhibition of a Miniature Esterase"  
L. Vial, P. Dumy\*  
[J. Am. Chem. Soc. 2007, 129, 4884](#)
14. "Controlling the Biological Effects of Spermine using a Synthetic Receptor"  
L. Vial, R. F. Ludlow, J. Leclaire, R. Pérez-Fernández, S. Otto\*  
[J. Am. Chem. Soc. 2006, 128, 10253](#)

13. "Dynamic Combinatorial Chemistry"  
P. T. Corbett, J. Leclaire, L. Vial, K. West, J.-L. Wietor, J. K. M. Sanders,\* S. Otto\*  
[Chem. Rev. 2006, 106, 2052](#)
12. "A Catalyst for an Acetal Hydrolysis Reaction from a Dynamic Combinatorial Library"  
L. Vial, J. K. M. Sanders, S. Otto\*  
[New J. Chem. 2005, 29, 1001](#)
11. "Expanding Diversity in Dynamic Combinatorial Libraries: Simultaneous Exchange of Disulfide and Thioester Linkages"  
J. Leclaire, L. Vial, S. Otto,\* J. K. M. Sanders\*  
[Chem. Commun. 2005, 42, 1959](#)
10. "Matched/Mismatched Interaction of a Cyclic Hexapeptide with Ion Pairs Containing Chiral Cations and Chiral Anions"  
G. Heinrichs, S. Kubik,\* J. Lacour, \* L. Vial  
[J. Org. Chem. 2005, 70, 4498](#)
9. "Unusual Regio- and Enantioselective [1,2]-Stevens Rearrangement of a Spirobi[dibenzazepinium] Cation"  
L. Vial, M.-A. Gonçalves, P.-Y. Morgantini, J. Weber, G. Bernardinelli, J. Lacour\*  
[Synlett 2004, 1565](#)
8. "<sup>1</sup>H, <sup>19</sup>F and <sup>31</sup>P PGSE NMR Diffusion Studies on Chiral Organic Salts: Ion Pairing and the Dependence of a Diffusion Value on Diastereomeric Structure"  
E. Martínez-Viviente, P. S. Pregosin,\* L. Vial, C. Herse, J. Lacour\*  
[Chem. Eur. J. 2004, 10, 2912](#)
7. "Chloride-Promoted Synthesis of Cis Bis-Chelated Palladium(II) Complexes from Ortho-Mercurated Tricarbonyl( $\eta^6$ -arene)chromium Complexes"  
A. Berger, J.-P. Djukic,\* M. Pfeffer,\* J. Lacour, L. Vial, A. de Cian, N. Kyritsakas-Gruber  
[Organometallics 2003, 22, 5243](#)
6. "Enantioselective Recognition of a Chiral Quaternary Ammonium Ion by C<sub>3</sub> Symmetric Cyclic Hexapeptides"  
G. Heinrichs, L. Vial, J. Lacour, S. Kubik\*  
[Chem. Commun. 2003, 40, 1252](#)
5. "Novel Heteroleptic cis-(C<sup>^</sup>N<sub>2</sub>)Pd(II) Chelates for the Preparation of Enantiopure Planar Chiral Cyclopalladated 2-[tricarbonyl( $\eta^6$ -phenyl)chromium]pyridine"  
A. Berger, J.-P. Djukic,\* M. Pfeffer, A. de Cian, N. Kyritsakas-Gruber, J. Lacour, L. Vial  
[Chem. Commun. 2003, 40, 658](#)
4. "Conformational Preference and Configurational Control of Highly Symmetric Spirobi[dibenzazepinium] Cation"  
L. Vial, J. Lacour\*  
[Org. Lett. 2002, 4, 3939](#)
3. "One-Step Stereoselective Synthesis and NMR Chiral Shift Properties of a Novel Hexacoordinated Phosphorus Cation"  
J. Lacour,\* L. Vial, G. Bernardinelli  
[Org. Lett. 2002, 4, 2309](#)
2. "Efficient NMR Enantiodifferentiation of Chiral Quats with BINPHAT Anion"  
J. Lacour,\* L. Vial, C. Herse  
[Org. Lett. 2002, 4, 1351](#)
1. "Grignard Cross-coupling Catalyzed by Chiral Phosphino-quincorine and Phosphino-quincoridine Derivatives"  
S. Pellet-Rostaing, C. Saluzzo, R. T. Halle, J. Breuzard, L. Vial, F. Le Guyader, M. Lemaire\*  
[Tetrahedron: Asymmetry 2001, 12, 1983](#)