

## 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: 2043, *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\*  
[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 Dendrigrafts (But Were Afraid to Ask)"  
J.-P. Francoia, L. Vial\*  
[Chem. Eur. J. 2018, 24, 2806](#)
27. "Digitizing Poly-L-Lysine Dendrigrafts: 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 Dendrigraft 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](#)