

# Patrick Berthault

## List of Publications by Year in descending order

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110  
papers

3,334  
citations

126907

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175258

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116  
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116  
docs citations

116  
times ranked

2364  
citing authors

#	ARTICLE	IF	CITATIONS
1	Study of <i>syn</i> and <i>anti</i> Xenon-Cryptophanes Complexes Decorated with Aromatic Amine Groups: Chemical Platforms for Accessing New Cryptophanes. <i>Journal of Organic Chemistry</i> , 2022, 87, 2912-2920.	3.2	7
2	Are the Physical Properties of Xe@Cryptophane Complexes Easily Predictable? The Case of <i>syn</i> - and <i>anti</i> -Tris-aza-Cryptophanes. <i>Journal of Organic Chemistry</i> , 2021, 86, 7648-7658.	3.2	11
3	$^{129}\text{Xe}$ ultra-fast Z spectroscopy enables micromolar detection of biosensors on a 1T benchtop spectrometer. <i>Magnetic Resonance</i> , 2021, 2, 409-420.	1.9	5
4	Solvent-free hydrosilylation of alkenes and alkynes using recyclable platinum on carbon nanotubes. <i>Green Chemistry</i> , 2021, 23, 815-820.	9.0	23
5	Selective Capture of Thallium and Cesium by a Cryptophane Soluble at Neutral pH. <i>Journal of Organic Chemistry</i> , 2020, 85, 9622-9630.	3.2	13
6	Pre-nucleation cluster formation upon ethyl acetate addition to an aqueous solution of an anionic hydrotrope. <i>Journal of Molecular Liquids</i> , 2020, 310, 113240.	4.9	6
7	Use of dissolved hyperpolarized species in NMR: Practical considerations. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 2020, 118-119, 74-90.	7.5	11
8	Synthesis of Cryptophane-223-Type Derivatives with Dual Functionalization. <i>Journal of Organic Chemistry</i> , 2019, 84, 9127-9137.	3.2	9
9	Cucurbit[5]uril derivatives as oxygen carriers. <i>Supramolecular Chemistry</i> , 2019, 31, 668-675.	1.2	5
10	Bimodal Detection of Proteins by $^{129}\text{Xe}$ NMR and Fluorescence Spectroscopy. <i>ChemBioChem</i> , 2019, 20, 1450-1457.	2.6	9
11	Enantiopure $[\text{Cs}^+/\text{Xe}^{\text{a}}, \text{Cryptophane}]^{\text{a}}, \text{Fe}^{\text{II}}_{\text{L}_4}$ Hierarchical Superstructures. <i>Journal of the American Chemical Society</i> , 2019, 141, 8339-8345.	13.7	83
12	Single-Scan Diffusion-Ordered NMR Spectroscopy of SABRE-Hyperpolarized Mixtures. <i>ChemPhysChem</i> , 2019, 20, 392-398.	2.1	14
13	Accurate pH Sensing using Hyperpolarized $^{129}\text{Xe}$ ...NMR Spectroscopy. <i>Chemistry - A European Journal</i> , 2018, 24, 6534-6537.	3.3	15
14	Unsaturated cryptophanes: Toward dual PHIP/hyperpolarised xenon sensors. <i>Magnetic Resonance in Chemistry</i> , 2018, 56, 672-678.	1.9	0
15	Synthesis of Cryptophane-B: Crystal Structure and Study of Its Complex with Xenon. <i>Journal of Organic Chemistry</i> , 2018, 83, 14465-14471.	3.2	17
16	Inductive Coupling and Flow for Increased NMR Sensitivity. <i>Analytical Chemistry</i> , 2018, 90, 11169-11173.	6.5	7
17	Enhancing NMR of Nonrelaxing Species Using a Controlled Flow Motion and a Miniaturized Circuit. <i>Analytical Chemistry</i> , 2017, 89, 2995-3000.	6.5	7
18	Role of the Methoxy Groups in Cryptophanes for Complexation of Xenon: Conformational Selection Evidence from $^{129}\text{Xe}$ - $^1\text{H}$ NMR SPINOE Experiments. <i>ChemPhysChem</i> , 2017, 18, 1561-1568.	2.1	8

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19	A Straightforward Access to Cyclotrimertrylene Analogues with $C_1$ Symmetry: Toward the Synthesis of Monofunctionalizable Cryptophanes. <i>European Journal of Organic Chemistry</i> , 2017, 2017, 7091-7100.	2.4	5
20	Experimental and Theoretical Study of the Complexation of Cesium and Thallium Cations by a Water-Soluble Cryptophane. <i>ChemistrySelect</i> , 2017, 2, 5292-5300.	1.5	8
21	$^{129}\text{Xe}$ NMR-based sensors: biological applications and recent methods. <i>Analyst</i> , The, 2017, 142, 3298-3308.	3.5	21
22	Bimodal fluorescence/ $^{129}\text{Xe}$ NMR probe for molecular imaging and biological inhibition of EGFR in Non-Small Cell Lung Cancer. <i>Bioorganic and Medicinal Chemistry</i> , 2017, 25, 6653-6660.	3.0	12
23	Note: Spin-exchange optical pumping in a van. <i>Review of Scientific Instruments</i> , 2016, 87, 016105.	1.3	15
24	Single-Scan Multidimensional NMR Analysis of Mixtures at Submillimolar Concentrations by using SABRE Hyperpolarization. <i>ChemPhysChem</i> , 2015, 16, 3413-3417.	2.1	59
25	A doubly responsive probe for the detection of Cys4-tagged proteins. <i>Chemical Communications</i> , 2015, 51, 11482-11484.	4.1	32
26	Synthesis of Cryptophanes with Two Different Reaction Sites: Chemical Platforms for Xenon Biosensing. <i>Journal of Organic Chemistry</i> , 2015, 80, 6143-6151.	3.2	19
27	3D-printed system optimizing dissolution of hyperpolarized gaseous species for micro-sized NMR. <i>Lab on A Chip</i> , 2015, 15, 2049-2054.	6.0	29
28	Chapter 14. Biosensing and Study of Biological Cells using Hyperpolarized $^{129}\text{Xe}$ . <i>New Developments in NMR</i> , 2015, , 261-271.	0.1	2
29	Rim-functionalized cryptophane-111 derivatives via heterocapping, and their xenon complexes. <i>Chemical Communications</i> , 2014, 50, 15905-15908.	4.1	20
30	Understanding a Host-Guest Model System through $^{129}\text{Xe}$ NMR Spectroscopic Experiments and Theoretical Studies. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 9837-9840.	13.8	26
31	Smart Detection of Toxic Metal Ions, $\text{Pb}^{2+}$ and $\text{Cd}^{2+}$ , Using a $^{129}\text{Xe}$ NMR-Based Sensor. <i>Analytical Chemistry</i> , 2014, 86, 1783-1788.	6.5	65
32	Ultrafast Z-Spectroscopy for $^{129}\text{Xe}$ NMR-Based Sensors. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 4172-4176.	4.6	48
33	Synthesis of Cucurbit[6]uril Derivatives and Insights into Their Solubility in Water. <i>European Journal of Organic Chemistry</i> , 2013, 2013, 3857-3865.	2.4	27
34	Synthesis of a Functionalizable Water-Soluble Cryptophane-111. <i>Organic Letters</i> , 2013, 15, 2866-2868.	4.6	20
35	Influence of the Cavity Size of Water-Soluble Cryptophanes on Their Binding Properties for Cesium and Thallium Cations. <i>Journal of Physical Chemistry B</i> , 2013, 117, 12593-12601.	2.6	24
36	Hydrosoluble PEGylated Cryptophane as a Universal Platform for $^{129}\text{Xe}$ Magnetic Resonance Imaging Biosensors. <i>Chemistry - A European Journal</i> , 2013, 19, 6089-6093.	3.3	19

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37	Water-Soluble Molecular Capsule for the Complexation of Cesium and Thallium Cations. <i>Journal of Physical Chemistry B</i> , 2012, 116, 10905-10914.	2.6	34
38	A Sensitive Zinc-Activated <sup>129</sup> Xe MRI Probe. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 4100-4103.	13.8	75
39	The first metal-free water-soluble cryptophane-111. <i>Chemical Communications</i> , 2011, 47, 9702.	4.1	31
40	Design and Synthesis of New Cryptophanes with Intermediate Cavity Sizes. <i>Organic Letters</i> , 2011, 13, 2153-2155.	4.6	19
41	Hyperpolarized <sup>129</sup> Xe NMR signature of living biological cells. <i>NMR in Biomedicine</i> , 2011, 24, 1264-1269.	2.8	33
42	Interaction of Xenon with Cucurbit[5]uril in Water. <i>ChemPhysChem</i> , 2011, 12, 1053-1055.	2.1	37
43	Cell uptake of a biosensor detected by hyperpolarized <sup>129</sup> Xe NMR: The transferrin case. <i>Bioorganic and Medicinal Chemistry</i> , 2011, 19, 4135-4143.	3.0	82
44	Effect of pH and Counterions on the Encapsulation Properties of Xenon in Water-Soluble Cryptophanes. <i>Chemistry - A European Journal</i> , 2010, 16, 12941-12946.	3.3	53
45	Elucidation of the Self-Assembly Pathway of Lanreotide Octapeptide into $\beta$ -Sheet Nanotubes: Role of Two Stable Intermediates. <i>Journal of the American Chemical Society</i> , 2010, 132, 4230-4241.	13.7	75
46	Measurement of Long-Range Interatomic Distances by Solid-State Tritium-NMR Spectroscopy. <i>Journal of the American Chemical Society</i> , 2010, 132, 1734-1735.	13.7	11
47	A Water-Soluble Xe@cryptophane-111 Complex Exhibits Very High Thermodynamic Stability and a Peculiar <sup>129</sup> Xe NMR Chemical Shift. <i>Journal of the American Chemical Society</i> , 2010, 132, 15505-15507.	13.7	79
48	Scalable Synthesis of Cryptophane-1.1.1 and its Functionalization. <i>Organic Letters</i> , 2010, 12, 960-962.	4.6	39
49	Nuclear Spin-Noise Spectra of Hyperpolarized Systems. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 4341-4343.	13.8	24
50	Ripening of Catanionic Aggregates upon Dialysis. <i>Langmuir</i> , 2009, 25, 698-706.	3.5	27
51	Towards thrombosis-targeted zeolitenanoparticles for laser-polarized <sup>129</sup> Xe MRI. <i>Journal of Materials Chemistry</i> , 2009, 19, 379-386.	6.7	35
52	Biosensing using laser-polarized xenon NMR/MRI. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 2009, 55, 35-60.	7.5	105
53	Observation of Noise-Triggered Chaotic Emissions in an NMR-Maser. <i>ChemPhysChem</i> , 2008, 9, 1395-1401.	2.1	28
54	Effects on <sup>1</sup> H and <sup>129</sup> Xe NMR spectra of large magnetization created by dissolved laser-polarized xenon. <i>Comptes Rendus Chimie</i> , 2008, 11, 553-559.	0.5	3

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55	Cryptophane-Xenon Complexes in Organic Solvents Observed through NMR Spectroscopy. <i>Journal of Physical Chemistry A</i> , 2008, 112, 11363-11372.	2.5	57
56	Sensitivity and Multiplexing Capabilities of MRI Based on Polarized <sup>129</sup> Xe Biosensors. <i>Journal of the American Chemical Society</i> , 2008, 130, 16456-16457.	13.7	47
57	A Cryptophane Core Optimized for Xenon Encapsulation. <i>Journal of the American Chemical Society</i> , 2007, 129, 10332-10333.	13.7	110
58	A Cryptophane Biosensor for the Detection of Specific Nucleotide Targets through Xenon NMR Spectroscopy. <i>ChemPhysChem</i> , 2007, 8, 2082-2085.	2.1	77
59	Water Soluble Cryptophanes Showing Unprecedented Affinity for Xenon: Candidates as NMR-Based Biosensors. <i>Journal of the American Chemical Society</i> , 2006, 128, 6239-6246.	13.7	139
60	Novel Zwitterionic Reverse Micelles for Encapsulation of Proteins in Low-Viscosity Media. <i>Chemistry - A European Journal</i> , 2006, 12, 4170-4175.	3.3	17
61	Study of the Hydrophobic Cavity of $\hat{I}^2$ -Cryptogein through Laser-Polarized Xenon NMR Spectroscopy. <i>ChemBioChem</i> , 2006, 7, 59-64.	2.6	6
62	Dissolution of laser-polarized xenon in benzene. <i>Magnetic Resonance Imaging</i> , 2005, 23, 315-316.	1.8	0
63	An Isosparteine Derivative for Stereochemical Assignment of Stereogenic (Chiral) Methyl Groups Using Tritium NMR: Theory and Experiment. <i>Journal of the American Chemical Society</i> , 2005, 127, 412-420.	13.7	25
64	Dynamics of Xenon Binding Inside the Hydrophobic Cavity of Pseudo-Wild-type Bacteriophage T4 Lysozyme Explored through Xenon-Based NMR Spectroscopy. <i>Journal of the American Chemical Society</i> , 2005, 127, 11676-11683.	13.7	30
65	Comparison of the solution structures of a DNA dodecamer using NOE and residual dipolar coupling data. <i>Comptes Rendus Chimie</i> , 2004, 7, 259-263.	0.5	3
66	Dynamics of Xenon inside Hydrophobic Cavities As Probed by NMR Relaxation of Dissolved Laser-Polarized Xenon. <i>Journal of Physical Chemistry B</i> , 2004, 108, 767-773.	2.6	18
67	Probing the Hydrophobic Cavity of Lipid Transfer Protein from <i>Nicotianatabacum</i> through Xenon-Based NMR Spectroscopy. <i>Journal of the American Chemical Society</i> , 2004, 126, 15738-15746.	13.7	45
68	NMR Study of Optically Active Monosubstituted Cryptophanes and Their Interaction with Xenon. <i>Journal of Physical Chemistry A</i> , 2004, 108, 9608-9615.	2.5	35
69	Magnetization Transfer from Laser-Polarized Xenon to Protons with Spin-Diffusion Quenching. <i>ChemPhysChem</i> , 2003, 4, 384-387.	2.1	22
70	A Tunable One-Step N,N <sup>ε</sup> -Disubstitution of 1,4,8,11-Tetraazacyclotetradecane with Acrylamide. <i>European Journal of Organic Chemistry</i> , 2003, 2003, 3985-3990.	2.4	9
71	Dilute liquid crystals used to enhance residual dipolar couplings may alter conformational equilibrium in oligosaccharides. <i>Carbohydrate Research</i> , 2003, 338, 1771-1785.	2.3	19
72	Silicas of Unimodal and Bimodal Porosities Probed by <sup>129</sup> Xe NMR Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2003, 107, 14388-14393.	2.6	12

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73	Complexation and Sensing Behavior of Dansyl-appended Cyclodextrins and Cyclodextrin Dimers with Bile Salts. <i>Supramolecular Chemistry</i> , 2002, 14, 143-151.	1.2	11
74	The Shortest Route to Chiral Ditosylmethylamine. <i>Angewandte Chemie - International Edition</i> , 2002, 41, 497-498.	13.8	5
75	First Use of a Mineral Liquid Crystal for Measurement of Residual Dipolar Couplings of a Nonlabeled Biomolecule. <i>Angewandte Chemie - International Edition</i> , 2001, 40, 373-376.	13.8	30
76	Magnetization transfer from laser-polarized xenon to protons located in the hydrophobic cavity of the wheat nonspecific lipid transfer protein. <i>Protein Science</i> , 2001, 10, 762-770.	7.6	64
77	First Use of a Mineral Liquid Crystal for Measurement of Residual Dipolar Couplings of a Nonlabeled Biomolecule We would like to thank Dr. Patrick Davidson for helpful discussions, Stéphane Grolleau for TGA (thermogravimetric analysis) measurements, and Prof. Pierre Sinaÿ and Dr. Yongmin Zhang for the gift of the pentasaccharide. Financial support from the CNRS, the Ministry of Education (PhD) Tj ETQq1 1 0.784314 rgBT 7 Overlo	13.8	30
78	Successive Inclusion of Water, [H <sub>3</sub> NCH <sub>2</sub> CH <sub>2</sub> NH <sub>3</sub> ] <sup>2+</sup> and [H <sub>3</sub> NCH <sub>2</sub> CH <sub>2</sub> NH <sub>2</sub> ] <sup>+</sup> in the Aromatic Cavity of (p-Sulfonato)calix[4]arene. <i>European Journal of Organic Chemistry</i> , 2000, 2000, 133-139.	2.4	32
79	Synthesis and NMR study of a heptasaccharide, epitope of the stage-specific embryonic antigen-1 (SSEA-1). <i>Carbohydrate Research</i> , 2000, 324, 231-241.	2.3	8
80	Folding of a $\beta$ -cyclodextrin monosubstituted at its secondary face, revealed by NMR studies of local structural variations. <i>Tetrahedron: Asymmetry</i> , 2000, 11, 2463-2469.	1.8	7
81	Direct evidence of a magnetization transfer between laser-polarized xenon and protons of a cage-molecule in water. <i>European Physical Journal D</i> , 2000, 12, 289-296.	1.3	45
82	Fast mixing device inside a nuclear magnetic resonance magnet: A tool for observing early steps in protein folding. <i>Review of Scientific Instruments</i> , 2000, 71, 2180-2183.	1.3	6
83	Study of dynamic processes in liquids using off-resonance rf irradiation. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 1999, 35, 295-340.	7.5	64
84	NMR study of a LewisX pentasaccharide derivative: solution structure and interaction with cations. <i>Carbohydrate Research</i> , 1999, 315, 48-62.	2.3	49
85	A simple way to properly invert intense nuclear magnetization: application to laser-polarized xenon. <i>Chemical Physics Letters</i> , 1999, 314, 52-56.	2.6	20
86	Direct determination of the heteronuclear T <sub>1</sub> /T <sub>2</sub> ratio by off-resonance steady-state magnetization measurement: Investigation of the possible application to fast exchange characterization of <sup>15</sup> N-labeled proteins. <i>Journal of Biomolecular NMR</i> , 1999, 15, 295-307.	2.8	2
87	High resolution <sup>1</sup> H-NMR study on self-complexation phenomena in cyclodextrin dimers. <i>Tetrahedron</i> , 1998, 54, 3513-3522.	1.9	14
88	Caesium Control of the Coordination Chemistry of Bu-calix[6]arene towards Uranyl. <i>European Journal of Inorganic Chemistry</i> , 1998, 1998, 1859-1862.	2.0	20
89	Synthesis, Conformation, and Binding Properties of Cyclodextrin Homo- and Heterodimers Connected through Their Secondary Sides. <i>Chemistry - A European Journal</i> , 1998, 4, 2237-2250.	3.3	84
90	Self-Assembly of a Molecular Capsule Driven by Electrostatic Interaction in Aqueous Solution. <i>Journal of the American Chemical Society</i> , 1998, 120, 8438-8447.	13.7	42

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91	Conformation of the Oligosaccharide Chain of GM1 Ganglioside in a Carbohydrate-Enriched Surface. <i>Biophysical Journal</i> , 1998, 74, 309-318.	0.5	74
92	Evidence of Conformational Heterogeneity for Carbohydrate Mimetics. NMR Study of Methyl $\beta$ -C-Lactoside in Aqueous Solution. <i>Journal of Physical Chemistry A</i> , 1997, 101, 2536-2540.	2.5	30
93	Off-resonance rf fields in heteronuclear NMR: Application to the study of slow motions. <i>Journal of Biomolecular NMR</i> , 1997, 10, 363-372.	2.8	92
94	Solution structure of a LewisX analogue by off-resonance $^1\text{H}$ NMR spectroscopy without use of an internal distance reference. <i>Journal of Biomolecular NMR</i> , 1996, 8, 23-35.	2.8	33
95	Apports des champs rf hors r�sonance aux �tudes structurales et dynamiques en solution par RMN. <i>Journal De Chimie Physique Et De Physico-Chimie Biologique</i> , 1996, 93, 403-426.	0.2	4
96	Improved Versions of Off-Resonance ROESY. <i>Journal of Magnetic Resonance Series A</i> , 1995, 113, 47-52.	1.6	99
97	A self-included cyclomaltoheptaose derivative studied by NMR spectroscopy and molecular modelling. <i>Carbohydrate Research</i> , 1995, 276, 267-287.	2.3	12
98	Dipolar spectral densities from off-resonance $^1\text{H}$ NMR relaxation measurements. <i>Chemical Physics Letters</i> , 1995, 233, 545-549.	2.6	25
99	Study of slow molecular motions in solution using off-resonance irradiation in homonuclear NMR. <i>Molecular Physics</i> , 1995, 86, 1049-1058.	1.7	8
100	Study of slow molecular motions in solution using off-resonance irradiation in homonuclear NMR. <i>Molecular Physics</i> , 1995, 86, 1059-1073.	1.7	46
101	Off-Resonance ROESY for the Study of Dynamic Processes. <i>Journal of Magnetic Resonance Series A</i> , 1994, 108, 219-229.	1.6	85
102	Investigation of inclusion phenomena in cyclodextrin derivatives by ultra-high resolution NMR. <i>Supramolecular Chemistry</i> , 1993, 2, 225-231.	1.2	4
103	$^1\text{H}$ NMR Study of the solution structure of sarafotoxin-S6b. <i>Neurochemistry International</i> , 1991, 18, 471-475.	3.8	22
104	Determination of the structure of $[\text{Nle}^7]$ endothelin by $^1\text{H}$ NMR. <i>International Journal of Peptide and Protein Research</i> , 1991, 37, 315-324.	0.1	36
105	202 MHz 31P NMR performances Part VI. The case of the unsymmetrical cyclophosphazenic BINO structure, $\text{N}_3\text{P}_3\text{Cl}_5[\text{HN}-(\text{CH}_2)_3-\text{N}(\text{CH}_3)]\text{Cl}_5\text{P}_3\text{N}_3$ . <i>Journal of Molecular Structure</i> , 1988, 176, 285-294.	3.6	6
106	202 MHz 31P NMR performances. <i>Journal of Molecular Structure</i> , 1988, 172, 345-353.	3.6	4
107	Is there a unique sequence in heparin for interaction with heparin cofactor II? Structural and biological studies of heparin-derived oligosaccharides. <i>Journal of Biological Chemistry</i> , 1988, 263, 8685-90.	3.4	28
108	202 MHz 31P NMR performances. <i>Journal of Molecular Structure</i> , 1987, 162, 97-100.	3.6	8

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109	New tools for proton nmr analysis: One-dimensional multiple relay magnetization transfers. Application to oligosaccharides. Tetrahedron Letters, 1987, 28, 3331-3334.	1.4	8
110	202 MHz 31P NMR performances. Journal of Molecular Structure, 1987, 162, 87-95.	3.6	15