

Frederic Mentink-Vigier

List of Publications by Year in descending order

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52
papers

2,399
citations

257450

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48
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58
all docs

58
docs citations

58
times ranked

2155
citing authors

#	ARTICLE	IF	CITATIONS
1	Imaging active site chemistry and protonation states: NMR crystallography of the tryptophan synthase β -aminoacrylate intermediate. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	18
2	Carbohydrate-aromatic interface and molecular architecture of lignocellulose. Nature Communications, 2022, 13, 538.	12.8	82
3	Dynamic nuclear polarization-enhanced, double-quantum filtered ^{13}C - ^{13}C dipolar correlation spectroscopy of natural ^{13}C abundant bone-tissue biomaterial. Journal of Magnetic Resonance, 2022, 335, 107144.	2.1	8
4	Highly Efficient Polarizing Agents for MAS-DNP of Proton-Dense Molecular Solids. Angewandte Chemie - International Edition, 2022, 61, .	13.8	30
5	Solid-State NMR Investigations of Extracellular Matrixes and Cell Walls of Algae, Bacteria, Fungi, and Plants. Chemical Reviews, 2022, 122, 10036-10086.	47.7	60
6	Structure of <i>In Vitro</i> -Synthesized Cellulose Fibrils Viewed by Cryo-Electron Tomography and ^{13}C Natural-Abundance Dynamic Nuclear Polarization Solid-State NMR. Biomacromolecules, 2022, 23, 2290-2301.	5.4	15
7	Spinning-Driven Dynamic Nuclear Polarization with Optical Pumping. Journal of Physical Chemistry A, 2022, 126, 2600-2608.	2.5	8
8	Solid-State NMR Analysis of Unlabeled Fungal Cell Walls from Aspergillus and Candida Species. Journal of Structural Biology: X, 2022, , 100070.	1.3	5
9	Current limitations of solid-state NMR in carbohydrate and cell wall research. Journal of Magnetic Resonance, 2022, 341, 107263.	2.1	8
10	Mechanistic Insights into the Structural Stability of Collagen-Containing Biomaterials Such as Bones and Cartilage. Journal of Physical Chemistry B, 2021, 125, 4757-4766.	2.6	10
11	Direct observation of hyperpolarization breaking through the spin diffusion barrier. Science Advances, 2021, 7, .	10.3	26
12	On the use of radio-frequency offsets for improving double-quantum homonuclear dipolar recoupling of half-integer spin quadrupolar nuclei. Magnetic Resonance in Chemistry, 2021, 59, 991-1008.	1.9	9
13	Cyclic polyacetylene. Nature Chemistry, 2021, 13, 792-799.	13.6	51
14	NMR Reveals Two Bicarbonate Environments in SBA15-Solid-Amine CO_2 Sorbents. Journal of Physical Chemistry C, 2021, 125, 16759-16765.	3.1	6
15	Labeling and Probing the Silica Surface Using Mechanochemistry and ^{17}O NMR Spectroscopy**. Chemistry - A European Journal, 2021, 27, 12574-12588.	3.3	10
16	The distance between g-tensors of nitroxide biradicals governs MAS-DNP performance: The case of the bTurea family. Journal of Magnetic Resonance, 2021, 329, 107026.	2.1	11
17	Solid-state NMR of unlabeled plant cell walls: high-resolution structural analysis without isotopic enrichment. Biotechnology for Biofuels, 2021, 14, 14.	6.2	32
18	Expanding the Analytical Window for Biochar Speciation: Molecular Comparison of Solvent Extraction and Water-Soluble Fractions of Biochar by FT-ICR Mass Spectrometry. Analytical Chemistry, 2021, 93, 15365-15372.	6.5	13

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19	Numerical recipes for faster MAS-DNP simulations. <i>Journal of Magnetic Resonance</i> , 2021, 333, 107106.	2.1	6
20	Magnetic resonance electrical property mapping at 21.1 T: a study of conductivity and permittivity in phantoms, <i>ex vivo</i> tissue and <i>in vivo</i> ischemia. <i>Physics in Medicine and Biology</i> , 2020, 65, 055007.	3.0	15
21	Mapping the oxygen structure of $\hat{\text{I}}^3\text{-Al}_2\text{O}_3$ by high-field solid-state NMR spectroscopy. <i>Nature Communications</i> , 2020, 11, 3620.	12.8	42
22	Dynamic Nuclear Polarization of Biomembrane Assemblies. <i>Biomolecules</i> , 2020, 10, 1246.	4.0	16
23	Direct ^{17}O Isotopic Labeling of Oxides Using Mechanochemistry. <i>Inorganic Chemistry</i> , 2020, 59, 13050-13066.	4.0	24
24	Optimizing nitroxide biradicals for cross-effect MAS-DNP: the role of <i>g</i> -tensors' distance. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 3643-3652.	2.8	32
25	Biomolecular complex viewed by dynamic nuclear polarization solid-state NMR spectroscopy. <i>Biochemical Society Transactions</i> , 2020, 48, 1089-1099.	3.4	15
26	Lignin-polysaccharide interactions in plant secondary cell walls revealed by solid-state NMR. <i>Nature Communications</i> , 2019, 10, 347.	12.8	320
27	<i>De novo</i> prediction of cross-effect efficiency for magic angle spinning dynamic nuclear polarization. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 2166-2176.	2.8	32
28	Arabinosyl Deacetylase Modulates the Arabinoxylan Acetylation Profile and Secondary Wall Formation. <i>Plant Cell</i> , 2019, 31, 1113-1126.	6.6	60
29	Atomic-Scale Structure of Mesoporous Silica-Encapsulated Pt and PtSn Nanoparticles Revealed by Dynamic Nuclear Polarization-Enhanced ^{29}Si MAS NMR Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 7299-7307.	3.1	9
30	Direct dynamic nuclear polarization of ^{15}N and ^{13}C spins at 14.1 T using a trityl radical and magic angle spinning. <i>Solid State Nuclear Magnetic Resonance</i> , 2019, 100, 85-91.	2.3	9
31	Preparation of Fungal and Plant Materials for Structural Elucidation Using Dynamic Nuclear Polarization Solid-State NMR. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	9
32	Atomic resolution of cotton cellulose structure enabled by dynamic nuclear polarization solid-state NMR. <i>Cellulose</i> , 2019, 26, 329-339.	4.9	44
33	A quasi-optical and corrugated waveguide microwave transmission system for simultaneous dynamic nuclear polarization NMR on two separate 14.1 T spectrometers. <i>Journal of Magnetic Resonance</i> , 2018, 289, 35-44.	2.1	49
34	Overhauser effects in non-conducting solids at 1.2 K. <i>Journal of Magnetic Resonance</i> , 2018, 286, 138-142.	2.1	22
35	Exploring Applications of Covalent Organic Frameworks: Homogeneous Reticulation of Radicals for Dynamic Nuclear Polarization. <i>Journal of the American Chemical Society</i> , 2018, 140, 6969-6977.	13.7	62
36	The CO_2 -Bicarbonate in CO_2 Chemisorption Reactions on Solid Amine Sorbents. <i>Journal of the American Chemical Society</i> , 2018, 140, 8648-8651.	13.7	64

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37	Molecular architecture of fungal cell walls revealed by solid-state NMR. Nature Communications, 2018, 9, 2747.	12.8	204
38	Computationally Assisted Design of Polarizing Agents for Dynamic Nuclear Polarization Enhanced NMR: The AsymPol Family. Journal of the American Chemical Society, 2018, 140, 11013-11019.	13.7	92
39	Fast and accurate MAS-DNP simulations of large spin ensembles. Physical Chemistry Chemical Physics, 2017, 19, 3506-3522.	2.8	76
40	Persistent Radicals of Self-Assembled Benzophenone bis-Urea Macrocycles: Characterization and Application as a Polarizing Agent for Solid-state DNP MAS Spectroscopy. Chemistry - A European Journal, 2017, 23, 8315-8319.	3.3	11
41	Efficient cross-effect dynamic nuclear polarization without depolarization in high-resolution MAS NMR. Chemical Science, 2017, 8, 8150-8163.	7.4	76
42	Pushing NMR sensitivity limits using dynamic nuclear polarization with closed-loop cryogenic helium sample spinning. Chemical Science, 2015, 6, 6806-6812.	7.4	72
43	Nuclear depolarization and absolute sensitivity in magic-angle spinning cross effect dynamic nuclear polarization. Physical Chemistry Chemical Physics, 2015, 17, 21824-21836.	2.8	144
44	Theoretical aspects of Magic Angle Spinning - Dynamic Nuclear Polarization. Journal of Magnetic Resonance, 2015, 258, 102-120.	2.1	101
45	Overhauser effects in insulating solids. Journal of Chemical Physics, 2014, 141, 064202.	3.0	152
46	The ¹³ C solid DNP mechanisms with perchlorotriphenylmethyl radicals – the role of ^{35,37} Cl. Physical Chemistry Chemical Physics, 2014, 16, 19218-19228.	2.8	9
47	Increasing sensitivity of pulse EPR experiments using echo train detection schemes. Journal of Magnetic Resonance, 2013, 236, 117-125.	2.1	63
48	Origin of the decoherence of the extended electron spin state in Ti-doped ² Ga ₂ O ₃ . Journal of Physics Condensed Matter, 2013, 25, 316002.	1.8	6
49	Fast passage dynamic nuclear polarization on rotating solids. Journal of Magnetic Resonance, 2012, 224, 13-21.	2.1	140
50	Strong isotopic effect in the electron-mediated nuclear-nuclear interaction in solids. Physical Review B, 2011, 83, .	3.2	3
51	Giant titanium electron wave function in gallium oxide: A potential electron-nuclear spin system for quantum information processing. Physical Review B, 2010, 82, .	3.2	9
52	Highly Efficient Polarizing Agents for MAS-DNP of Proton-Dense Molecular Solids. Angewandte Chemie, 0, , .	2.0	1