

Jacob Schaefer

List of Publications by Year in descending order

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113
papers

7,022
citations

76196

40
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82
g-index

114
all docs

114
docs citations

114
times ranked

4585
citing authors

#	ARTICLE	IF	CITATIONS
1	Carbon-13 nuclear magnetic resonance of polymers spinning at the magic angle. <i>Journal of the American Chemical Society</i> , 1976, 98, 1031-1032.	6.6	1,144
2	Magic-Angle ¹³ C NMR Analysis of Motion in Solid Glassy Polymers. <i>Macromolecules</i> , 1977, 10, 384-405.	2.2	645
3	Rotational-echo double-resonance NMR. <i>Journal of Magnetic Resonance</i> , 1989, 81, 196-200.	0.5	440
4	Detection of Weak Heteronuclear Dipolar Coupling by Rotational-Echo Double-Resonance Nuclear Magnetic Resonance. <i>Advances in Magnetic and Optical Resonance</i> , 1989, , 57-83.	1.7	411
5	Lactate metabolism is associated with mammalian mitochondria. <i>Nature Chemical Biology</i> , 2016, 12, 937-943.	3.9	222
6	Rotational Echo Double Resonance Detection of Cross-links Formed in Mussel Byssus under High-Flow Stress. <i>Journal of Biological Chemistry</i> , 1999, 274, 20293-20295.	1.6	172
7	REDOR Dephasing by Multiple Spins in the Presence of Molecular Motion. <i>Journal of Magnetic Resonance</i> , 1997, 127, 147-154.	1.2	152
8	Shapes of Dendrimers from Rotational-Echo Double-Resonance NMR. <i>Journal of the American Chemical Society</i> , 1997, 119, 53-58.	6.6	139
9	Molecular motion in polycarbonates by dipolar rotational spin-echo carbon-13 NMR. <i>Macromolecules</i> , 1984, 17, 1479-1489.	2.2	134
10	Secondary Structure and Location of a Magainin Analogue in Synthetic Phospholipid Bilayers. <i>Biochemistry</i> , 1996, 35, 12733-12741.	1.2	129
11	Oritavancin Exhibits Dual Mode of Action to Inhibit Cell-Wall Biosynthesis in <i>Staphylococcus aureus</i> . <i>Journal of Molecular Biology</i> , 2008, 377, 281-293.	2.0	129
12	Exogenous Fatty Acids Are the Preferred Source of Membrane Lipids in Proliferating Fibroblasts. <i>Cell Chemical Biology</i> , 2016, 23, 483-493.	2.5	101
13	Selective observation of the interface of heterogeneous polycarbonate/polystyrene blends by dynamic nuclear polarization carbon-13 NMR spectroscopy. <i>Macromolecules</i> , 1992, 25, 4084-4091.	2.2	100
14	Solid-state NMR determination of intra- and intermolecular phosphorus-31-carbon-13 distances for shikimate 3-phosphate and [1- ¹³ C]glyphosate bound to enolpyruvylshikimate-3-phosphate synthase. <i>Biochemistry</i> , 1993, 32, 2868-2873.	1.2	100
15	Molecular mechanism of the ring-flip process in polycarbonate. <i>Macromolecules</i> , 1985, 18, 368-373.	2.2	90
16	Determination of an 8-ANG. interatomic distance in a helical peptide by solid-state NMR spectroscopy. <i>Journal of the American Chemical Society</i> , 1992, 114, 4830-4833.	6.6	87
17	Structures of <i>Staphylococcus aureus</i> Cell-Wall Complexes with Vancomycin, Eremomycin, and Chloroeremomycin Derivatives by ¹³ C{ ¹⁹ F} and ¹⁵ N{ ¹⁹ F} Rotational-Echo Double Resonance. <i>Biochemistry</i> , 2006, 45, 5235-5250.	1.2	85
18	Structural Constraints on the Ternary Complex of 5-Enolpyruvylshikimate-3-phosphate Synthase from Rotational-echo Double-resonance NMR. <i>Journal of Molecular Biology</i> , 1996, 256, 160-171.	2.0	84

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19	Rotational-Echo Double Resonance Characterization of Vancomycin Binding Sites in <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2002, 41, 6967-6977.	1.2	80
20	Environmentally-Responsive, Entirely Hydrophilic, Shell Cross-linked (SCK) Nanoparticles. <i>Nano Letters</i> , 2001, 1, 651-655.	4.5	76
21	Synthesis of Phosphine-Rhodium Complexes Attached to a Standard Peptide Synthesis Resin. <i>Organometallics</i> , 1996, 15, 4678-4680.	1.1	75
22	Vancomycin and Oritavancin Have Different Modes of Action in <i>Enterococcus faecium</i> . <i>Journal of Molecular Biology</i> , 2009, 392, 1178-1191.	2.0	74
23	Rotational-Echo Double Resonance Characterization of the Effects of Vancomycin on Cell Wall Synthesis in <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2002, 41, 13053-13058.	1.2	72
24	Ligand Geometry of the Ternary Complex of 5-Enolpyruvylshikimate-3-phosphate Synthase from <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 1996, 35, 5395-5403.	1.2	71
25	Vancomycin Derivative with Damaged α -Ala- β -Ala Binding Cleft Binds to Cross-linked Peptidoglycan in the Cell Wall of <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2008, 47, 3822-3831.	1.2	68
26	Mechanism of DNP-enhanced polarization transfer across the interface of polycarbonate/polystyrene heterogeneous blends. <i>Macromolecules</i> , 1992, 25, 4092-4096.	2.2	67
27	Structure and Dynamics of Pentaglycyl Bridges in the Cell Walls of <i>Staphylococcus aureus</i> by ^{13}C - ^{15}N REDOR NMR. <i>Biochemistry</i> , 1997, 36, 9859-9866.	1.2	61
28	NMR determination of photorespiration in intact leaves using in vivo ^{13}C labeling. <i>Journal of Magnetic Resonance</i> , 2006, 178, 1-10.	1.2	61
29	An Investigation of the Ligand-Binding Site of the Glutamine-Binding Protein of <i>Escherichia coli</i> Using Rotational-Echo Double-Resonance NMR. <i>Biochemistry</i> , 1994, 33, 8651-8661.	1.2	59
30	Two-dimensional rotational-echo double resonance of Val1-[^{13}C]Gly2-[^{15}N]Ala3-gramicidin A in multilamellar dimyristoylphosphatidylcholine dispersions. <i>Biochemistry</i> , 1993, 32, 7593-7604.	1.2	57
31	Structure of (KIAGKIA) $_3$ Aggregates in Phospholipid Bilayers by Solid-State NMR. <i>Biophysical Journal</i> , 2004, 87, 675-687.	0.2	56
32	Conformational and Quantitative Characterization of Oritavancin-Peptidoglycan Complexes in Whole Cells of <i>Staphylococcus aureus</i> by in Vivo ^{13}C and ^{15}N Labeling. <i>Journal of Molecular Biology</i> , 2006, 357, 1253-1262.	2.0	54
33	<i>Staphylococcus aureus</i> Peptidoglycan Tertiary Structure from Carbon-13 Spin Diffusion. <i>Journal of the American Chemical Society</i> , 2009, 131, 7023-7030.	6.6	53
34	Oriental Order of Locally Parallel Chain Segments in Glassy Polycarbonate from ^{13}C - ^{13}C Dipolar Couplings. <i>Macromolecules</i> , 1997, 30, 1734-1740.	2.2	48
35	Cross-polarization nmr of N-15 labeled soybeans. <i>Biochemical and Biophysical Research Communications</i> , 1979, 88, 274-280.	1.0	47
36	Development of REDOR rotational-echo double-resonance NMR by Terry Gullion and Jacob Schaefer [J. Magn. Reson. 81 (1989) 196-200]. <i>Journal of Magnetic Resonance</i> , 2011, 213, 421-422.	1.2	47

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37	Cross-Link Formation and Peptidoglycan Lattice Assembly in the FemA Mutant of <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2014, 53, 1420-1427.	1.2	46
38	High-resolution ¹³ C nuclear magnetic resonance in solids. <i>Faraday Symposia of the Chemical Society</i> , 1978, 13, 56.	0.5	45
39	REDOR NMR Characterization of DNA Packaging in Bacteriophage T4. <i>Journal of Molecular Biology</i> , 2008, 382, 1031-1042.	2.0	45
40	<i>Staphylococcus aureus</i> Peptidoglycan Stem Packing by Rotational-Echo Double Resonance NMR Spectroscopy. <i>Biochemistry</i> , 2013, 52, 3651-3659.	1.2	44
41	Local packing in glassy polycarbonate by carbon-deuterium REDOR NMR. <i>Macromolecules</i> , 1993, 26, 1729-1733.	2.2	43
42	Intersubunit Communication in Tryptophan Synthase by Carbon-13 and Fluorine-19 REDOR NMR. <i>Biochemistry</i> , 1996, 35, 3328-3334.	1.2	42
43	Glycine Metabolism in Intact Leaves by in Vivo ¹³ C and ¹⁵ N Labeling. <i>Journal of Biological Chemistry</i> , 2005, 280, 39238-39245.	1.6	41
44	The Isotridecanyl Side Chain of Plusbacin-A ₃ Is Essential for the Transglycosylase Inhibition of Peptidoglycan Biosynthesis. <i>Biochemistry</i> , 2013, 52, 1973-1979.	1.2	38
45	Locations of the Hydrophobic Side Chains of Lipoglycopeptides Bound to the Peptidoglycan of <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2013, 52, 3405-3414.	1.2	37
46	Relative CSA Dipolar Orientation from REDOR Sidebands. <i>Journal of Magnetic Resonance</i> , 2002, 154, 46-52.	1.2	36
47	Plasticization of poly(butylal-covinyl alcohol). <i>Macromolecules</i> , 1987, 20, 1271-1278.	2.2	35
48	Local order in polycarbonate glasses by ¹³ C/ ¹⁹ F rotational-echo double-resonance NMR. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2006, 44, 2760-2775.	2.4	35
49	Packing in Amorphous Regions of Hydrofluoric-Acid-Doped Polyaniline Powder by ¹⁵ N/ ¹⁹ F REDOR NMR. <i>Macromolecules</i> , 1997, 30, 6307-6312.	2.2	33
50	Characterization of Peptidoglycan in Fem ⁻ Deletion Mutants of Methicillin-Resistant <i>Staphylococcus aureus</i> by Solid-State NMR. <i>Biochemistry</i> , 2009, 48, 3100-3108.	1.2	33
51	Characterization of the Peptidoglycan of Vancomycin-Susceptible <i>Enterococcus faecium</i> . <i>Biochemistry</i> , 2008, 47, 8378-8385.	1.2	32
52	Slowed Enzymatic Turnover Allows Characterization of Intermediates by Solid-State NMR. <i>Biochemistry</i> , 1997, 36, 15555-15560.	1.2	31
53	Location of Terminal Groups of Dendrimers in the Solid State by Rotational-Echo Double-Resonance NMR. <i>Macromolecules</i> , 2000, 33, 6214-6216.	2.2	31
54	Hydrophobic Side-Chain Length Determines Activity and Conformational Heterogeneity of a Vancomycin Derivative Bound to the Cell Wall of <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2008, 47, 10155-10161.	1.2	31

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55	REDOR Determination of the Composition of Shell Cross-Linked Amphiphilic Core-Shell Nanoparticles and the Partitioning of Sequestered Fluorinated Guests. <i>Macromolecules</i> , 2001, 34, 547-551.	2.2	30
56	Humidity-swing mechanism for CO ₂ capture from ambient air. <i>Chemical Communications</i> , 2018, 54, 4915-4918.	2.2	30
57	Location of the Antiplasticizer in Cross-Linked Epoxy Resins by ² H, ¹⁵ N, and ¹³ C REDOR NMR. <i>Macromolecules</i> , 1998, 31, 1214-1220.	2.2	29
58	Compensating for pulse imperfections in REDOR. <i>Journal of Magnetic Resonance</i> , 2003, 165, 230-236.	1.2	28
59	Structure of a Quinobenzoxazine-G-Quadruplex Complex by REDOR NMR. <i>Biochemistry</i> , 2004, 43, 11953-11958.	1.2	28
60	REDOR NMR Reveals Multiple Conformers for a Protein Kinase C Ligand in a Membrane Environment. <i>ACS Central Science</i> , 2018, 4, 89-96.	5.3	28
61	Magic-angle carbon-13 NMR study of wheat flours and doughs. <i>Journal of Agricultural and Food Chemistry</i> , 1991, 39, 877-880.	2.4	27
62	Carbon partitioning in soybean (<i>Glycine max</i>) leaves by combined ¹¹ C and ¹³ C labeling. <i>New Phytologist</i> , 2012, 196, 1109-1121.	3.5	27
63	Oritavancin Binds to Isolated Protoplast Membranes but not Intact Protoplasts of <i>Staphylococcus aureus</i> . <i>Journal of Molecular Biology</i> , 2009, 391, 414-425.	2.0	26
64	Location of Cholic Acid Sequestered by Core-Shell Nanoparticles Using REDOR NMR. <i>Macromolecules</i> , 2001, 34, 544-546.	2.2	25
65	¹⁵ N and ¹³ C NMR Determination of Methionine Metabolism in Developing Soybean Cotyledons. <i>Plant Physiology</i> , 1987, 83, 698-702.	2.3	24
66	Title is missing!. <i>Helvetica Chimica Acta</i> , 2002, 85, 2877-2917.	1.0	23
67	Rotational-echo double-resonance NMR-restrained model of the ternary complex of 5-enolpyruvylshikimate-3-phosphate synthase. <i>Journal of Biomolecular NMR</i> , 2004, 28, 11-29.	1.6	23
68	Mapping the locations of estradiol and potent neuroprotective analogues in phospholipid bilayers by REDOR. <i>Drug Development Research</i> , 2005, 66, 93-102.	1.4	22
69	Characterization of structural variations in the peptidoglycan of vancomycin-susceptible <i>Enterococcus faecium</i> : Understanding glycopeptide-antibiotic binding sites using mass spectrometry. <i>Journal of the American Society for Mass Spectrometry</i> , 2008, 19, 1467-1475.	1.2	22
70	Characterization of the tertiary structure of the peptidoglycan of <i>Enterococcus faecalis</i> . <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2017, 1859, 2171-2180.	1.4	21
71	Bundle Description of Packing and Dynamics in Polycarbonate Homopolymers, Copolymers, and Blends. <i>Macromolecules</i> , 1998, 31, 3016-3020.	2.2	20
72	Cross-Linked Structures of Nadic-End-Capped Polyimides at 371 Å°C. <i>Macromolecules</i> , 1997, 30, 6295-6301.	2.2	19

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73	Differential Incorporation of Glucose into Biomass during Warburg Metabolism. <i>Biochemistry</i> , 2014, 53, 4755-4757.	1.2	19
74	REDOR with a relative full-echo reference. <i>Journal of Magnetic Resonance</i> , 2003, 163, 182-187.	1.2	18
75	Molecular motion of polycarbonate included in β -cyclodextrin. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2007, 45, 1271-1282.	2.4	18
76	Local Chain Dynamics in Poly(fluorocarbonate)s. <i>Macromolecules</i> , 2000, 33, 6849-6852.	2.2	17
77	Rotational-echo double resonance of uniformly labeled ^{13}C clusters. <i>Journal of Magnetic Resonance</i> , 2003, 163, 188-191.	1.2	17
78	Dual Mode of Action for Plusbacin A ₃ in <i>Staphylococcus aureus</i> . <i>Journal of Physical Chemistry B</i> , 2017, 121, 1499-1505.	1.2	17
79	On the Perturbation-Variation Calculation of Spin-Spin Coupling Constants. <i>Journal of Chemical Physics</i> , 1967, 46, 948-952.	1.2	16
80	Chain Packing and Dynamics in Polycarbonate Block Copolymers. <i>Macromolecules</i> , 1997, 30, 6302-6306.	2.2	16
81	Surface proteins and the formation of biofilms by <i>Staphylococcus aureus</i> . <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2018, 1860, 749-756.	1.4	16
82	Protein dynamics from chemical-shift and dipolar-rotational spin-echo nitrogen-15 NMR. <i>Biochemistry</i> , 1989, 28, 1362-1367.	1.2	14
83	Closed Form of Liganded Glutamine-Binding Protein by Rotational-Echo Double-Resonance NMR. <i>Biochemistry</i> , 1997, 36, 9405-9408.	1.2	14
84	Chain Packing in Glassy Polymers by Natural-Abundance ^{13}C Spin Diffusion Using 2D Centerband-Only Detection of Exchange. <i>Journal of the American Chemical Society</i> , 2011, 133, 2626-2631.	6.6	14
85	Uniformity of Glycyl Bridge Lengths in the Mature Cell Walls of Fem Mutants of Methicillin-Resistant <i>Staphylococcus aureus</i> . <i>Journal of Bacteriology</i> , 2013, 195, 1421-1427.	1.0	14
86	Chain Packing in Linear Phenol-Polycarbonate by $^{13}\text{C}\{^2\text{H}\}$ REDOR. <i>Macromolecules</i> , 2002, 35, 2608-2617.	2.2	13
87	Conformation of a Bound Inhibitor of Blood Coagulant Factor Xa. <i>Biochemistry</i> , 2003, 42, 7942-7949.	1.2	13
88	REDOR constraints on the peptidoglycan lattice architecture of <i>Staphylococcus aureus</i> and its FemA mutant. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2015, 1848, 363-368.	1.4	13
89	Synthesis of Submicron PEDOT Particles of High Electrical Conductivity via Continuous Aerosol Vapor Polymerization. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 47320-47329.	4.0	13
90	Desleucyl-Oritavancin with a Damaged Ala-Ala Binding Site Inhibits the Transpeptidation Step of Cell-Wall Biosynthesis in Whole Cells of <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2017, 56, 1529-1535.	1.2	12

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91	Insect Cuticle Structure and Metabolism. ACS Symposium Series, 1988, , 160-185.	0.5	11
92	Variability in C ₃ -Plant Cell-Wall Biosynthesis in a High-CO ₂ Atmosphere by Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2010, 132, 6335-6341.	6.6	11
93	Random Matrix Theory and Nuclear Magnetic Resonance Spectral Distributions. Journal of Chemical Physics, 1969, 51, 4469-4474.	1.2	10
94	Double-quantum filtered rotational-echo double resonance. Journal of Magnetic Resonance, 2006, 183, 252-258.	1.2	8
95	Mechanistic Basis for ATP-Dependent Inhibition of Glutamine Synthetase by Tabtoxinine- β -lactam. Biochemistry, 2018, 57, 117-135.	1.2	8
96	Insect Cuticle Tanning. ACS Symposium Series, 1991, , 87-105.	0.5	7
97	Comparison of rotational-echo double-resonance and double-cross-polarization NMR for detection of weak heteronuclear dipolar coupling in solids. Magnetic Resonance in Chemistry, 1991, 29, 418-421.	1.1	7
98	Characterization of the Interface of Heterogeneous Blends of Polycarbonate and Polyfluorostyrene by ^{13}C - ^{19}F REDOR NMR. Macromolecules, 1997, 30, 7522-7528.	2.2	7
99	Crystallization of Poly(ϵ -caprolactone) under Nanoparticle Confinement. Helvetica Chimica Acta, 2002, 85, 3219-3224.	1.0	7
100	Slow motion in [<i>ring</i>]- ^{19}F polycarbonate by CODEX. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 1062-1066.	2.4	7
101	Whole-Cell Detection of $\text{C}=\text{P}$ Bonds in Bacteria. Biochemistry, 2017, 56, 5870-5873.	1.2	7
102	Effect of the Local Motions of Chemical Linkages on Segmental Mobility in Poly(ester carbonate) Block Copolymers. Macromolecules, 2001, 34, 2559-2568.	2.2	6
103	Solid-State NMR Investigations of the Unusual Effects Resulting from the Nanoconfinement of Water within Amphiphilic Crosslinked Polymer Networks. Advanced Functional Materials, 2009, 19, 3404-3410.	7.8	6
104	Chain packing in polycarbonate glasses. Journal of Chemical Physics, 2010, 132, 104901.	1.2	6
105	Oxygen-17 Appears Only in Protein in Water-Stressed Soybean Leaves Labeled by $^{17}\text{O}_2$. Journal of the American Chemical Society, 2010, 132, 10802-10807.	6.6	6
106	Multiple Active Site Histidine Protonation States in Acetobacter acetii N5-Carboxyaminoimidazole Ribonucleotide Mutase Detected by REDOR NMR. Biochemistry, 2007, 46, 9507-9512.	1.2	4
107	Dipolar double-quantum filtered rotational-echo double resonance. Magnetic Resonance in Chemistry, 2007, 45, S61-S64.	1.1	4
108	Analysis of Intractable Biological Samples by Solids NMR. ACS Symposium Series, 1998, , 14-33.	0.5	2

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109	Molecular basis of secondary relaxation in stiff-chain glassy polymers. Journal of Chemical Physics, 2022, 157, .	1.2	2
110	Comment on "Carbon-13 relaxation and molecular motion in glassy bisphenol-A polycarbonate". Journal of Chemical Physics, 1989, 91, 7307-7308.	1.2	1
111	Glycine metabolism in leaves of <i>Glycine max</i> in 200 and 600 ppm ^{13}C environments. New Phytologist, 2013, 198, 339-342.	3.5	0
112	The Stejskal Double-Bearing Rotor for Magic-Angle Spinning Nuclear Magnetic Resonance. ACS Symposium Series, 2020, , 93-109.	0.5	0
113	Quantitative rotational-echo double resonance for Carbon-13 spin clusters. Journal of Magnetic Resonance, 2021, 330, 107043.	1.2	0