

# Igor V Koptug

## List of Publications by Year in descending order

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220  
papers

7,198  
citations

57758

44  
h-index

91884

69  
g-index

237  
all docs

237  
docs citations

237  
times ranked

3438  
citing authors

#	ARTICLE	IF	CITATIONS
1	NMR Imaging of Catalytic Hydrogenation in Microreactors with the Use of para-Hydrogen. <i>Science</i> , 2008, 319, 442-445.	12.6	213
2	Development of new methods in modern selective organic synthesis: preparation of functionalized molecules with atomic precision. <i>Russian Chemical Reviews</i> , 2014, 83, 885-985.	6.5	182
3	Hyperpolarized NMR Spectroscopy: $^{13}\text{C}$ -DNP, PHIP, and SABRE Techniques. <i>Chemistry - an Asian Journal</i> , 2018, 13, 1857-1871.	3.3	180
4	Observation of Parahydrogen-Induced Polarization in Heterogeneous Hydrogenation on Supported Metal Catalysts. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 1492-1495.	13.8	179
5	para-Hydrogen-Induced Polarization in Heterogeneous Hydrogenation Reactions. <i>Journal of the American Chemical Society</i> , 2007, 129, 5580-5586.	13.7	160
6	The Feasibility of Formation and Kinetics of NMR Signal Amplification by Reversible Exchange (SABRE) at High Magnetic Field (9.4 T). <i>Journal of the American Chemical Society</i> , 2014, 136, 3322-3325.	13.7	148
7	NMR Hyperpolarization Techniques of Gases. <i>Chemistry - A European Journal</i> , 2017, 23, 725-751.	3.3	140
8	Irreversible Catalyst Activation Enables Hyperpolarization and Water Solubility for NMR Signal Amplification by Reversible Exchange. <i>Journal of Physical Chemistry B</i> , 2014, 118, 13882-13889.	2.6	131
9	$^{13}\text{C}$ -H Activation on $\text{Co}_2\text{O}_3$ Sites: Isolated Surface Sites versus Molecular Analogs. <i>Journal of the American Chemical Society</i> , 2016, 138, 14987-14997.	13.7	117
10	A Steady-State and Picosecond Pump-Probe Investigation of the Photophysics of an Acyl and a Bis(acyl)phosphine Oxide. <i>Journal of the American Chemical Society</i> , 1997, 119, 11495-11501.	13.7	115
11	(2,4,6-Trimethylbenzoyl)diphenylphosphine Oxide Photochemistry. A Direct Time-Resolved Spectroscopic Study of Both Radical Fragments. <i>Journal of the American Chemical Society</i> , 1995, 117, 5148-5153.	13.7	111
12	Laser Flash Photolysis and Time-Resolved ESR Study of Phosphinoyl Radical—Structure and Reactivity. <i>Journal of the American Chemical Society</i> , 1996, 118, 7367-7372.	13.7	104
13	Magnetic resonance imaging methods for in situ studies in heterogeneous catalysis. <i>Chemical Society Reviews</i> , 2010, 39, 4585.	38.1	103
14	Parahydrogen-Induced Polarization in Heterogeneous Catalytic Processes. <i>Topics in Current Chemistry</i> , 2012, 338, 123-180.	4.0	100
15	Strong $^{31}\text{P}$ nuclear spin hyperpolarization produced via reversible chemical interaction with parahydrogen. <i>Chemical Communications</i> , 2015, 51, 2506-2509.	4.1	97
16	A simple analytical model for signal amplification by reversible exchange (SABRE) process. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 89-93.	2.8	90
17	Ultrafast multidimensional Laplace NMR for a rapid and sensitive chemical analysis. <i>Nature Communications</i> , 2015, 6, 8363.	12.8	87
18	Para-Hydrogen-Enhanced Hyperpolarized Gas-Phase Magnetic Resonance Imaging. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 4064-4068.	13.8	83

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19	Parahydrogen-Induced Polarization in Heterogeneous Hydrogenations Catalyzed by an Immobilized Au(III) Complex. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 1705-1708.	4.6	74
20	High-Resolution 3D Proton MRI of Hyperpolarized Gas Enabled by Parahydrogen and Rh/TiO <sub>2</sub> Heterogeneous Catalyst. <i>Chemistry - A European Journal</i> , 2014, 20, 11636-11639.	3.3	72
21	Propane- <i>d</i> <sub>6</sub> Heterogeneously Hyperpolarized by Parahydrogen. <i>Journal of Physical Chemistry C</i> , 2014, 118, 28234-28243.	3.1	71
22	Facile Removal of Homogeneous SABRE Catalysts for Purifying Hyperpolarized Metronidazole, a Potential Hypoxia Sensor. <i>Journal of Physical Chemistry C</i> , 2018, 122, 16848-16852.	3.1	69
23	Single-Atom Gold Catalysis in the Context of Developments in Parahydrogen-Induced Polarization. <i>Chemistry - A European Journal</i> , 2015, 21, 7012-7015.	3.3	68
24	Thermally Polarized 1H NMR Microimaging Studies of Liquid and Gas Flow in Monolithic Catalysts. <i>Journal of Magnetic Resonance</i> , 2000, 147, 36-42.	2.1	66
25	Role of Different Active Sites in Heterogeneous Alkene Hydrogenation on Platinum Catalysts Revealed by Means of Parahydrogen-Induced Polarization. <i>Journal of Physical Chemistry C</i> , 2011, 115, 13386-13391.	3.1	66
26	Noninvasive In Situ Visualization of Supported Catalyst Preparations Using Multinuclear Magnetic Resonance Imaging. <i>Journal of the American Chemical Society</i> , 2005, 127, 11916-11917.	13.7	65
27	Long-Lived Spin States for Low-Field Hyperpolarized Gas MRI. <i>Chemistry - A European Journal</i> , 2014, 20, 14629-14632.	3.3	65
28	Microfluidic Gas-Flow Imaging Utilizing Parahydrogen-Induced Polarization and Remote-Detection NMR. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 8363-8366.	13.8	60
29	MRI of mass transport in porous media: Drying and sorption processes. <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 2012, 65, 1-65.	7.5	59
30	In Situ and Ex Situ Low-Field NMR Spectroscopy and MRI Endowed by SABRE Hyperpolarization. <i>ChemPhysChem</i> , 2014, 15, 4100-4107.	2.1	58
31	Heterogeneous Microtesla SABRE Enhancement of <sup>15</sup> N NMR Signals. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 10433-10437.	13.8	58
32	Functional imaging and NMR spectroscopy of an operating gas-liquid-solid catalytic reactor. <i>Applied Catalysis A: General</i> , 2004, 267, 143-148.	4.3	57
33	Heterogeneous addition of H <sub>2</sub> to double and triple bonds over supported Pd catalysts: a parahydrogen-induced polarization technique study. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 11008.	2.8	56
34	NMR Imaging of the Distribution of the Liquid Phase in a Catalyst Pellet during $\hat{\pm}$ -Methylstyrene Evaporation Accompanied by Its Vapor-Phase Hydrogenation. <i>Journal of the American Chemical Society</i> , 2002, 124, 9684-9685.	13.7	54
35	Strong Metal-Support Interactions for Palladium Supported on TiO <sub>2</sub> Catalysts in the Heterogeneous Hydrogenation with Parahydrogen. <i>ChemCatChem</i> , 2015, 7, 2581-2584.	3.7	54
36	A quantitative NMR imaging study of mass transport in porous solids during drying. <i>Chemical Engineering Science</i> , 2000, 55, 1559-1571.	3.8	52

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37	Instrumentation for Hydrogenative Parahydrogen-Based Hyperpolarization Techniques. <i>Analytical Chemistry</i> , 2022, 94, 479-502.	6.5	52
38	Characterization of Microfluidic Gas Reactors Using Remote-Detection MRI and Parahydrogen-Induced Polarization. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 8054-8058.	13.8	51
39	X-H Bond Activation on Cr(III),O Sites (X = R, H): Key Steps in Dehydrogenation and Hydrogenation Processes. <i>Organometallics</i> , 2017, 36, 234-244.	2.3	51
40	Probing the Transport of Paramagnetic Complexes inside Catalyst Bodies in a Quantitative Manner by Magnetic Resonance Imaging. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 7224-7227.	13.8	50
41	Monitoring Transport Phenomena of Paramagnetic Metal-Ion Complexes Inside Catalyst Bodies with Magnetic Resonance Imaging. <i>Chemistry - A European Journal</i> , 2008, 14, 2363-2374.	3.3	50
42	Parahydrogen-induced polarization (PHIP) in heterogeneous hydrogenation over bulk metals and metal oxides. <i>Chemical Communications</i> , 2014, 50, 875-878.	4.1	50
43	Selective Single-Site Pd-In Hydrogenation Catalyst for Production of Enhanced Magnetic Resonance Signals using Parahydrogen. <i>Chemistry - A European Journal</i> , 2018, 24, 2547-2553.	3.3	50
44	Hyperpolarizing Concentrated Metronidazole <sup>15</sup> N<sub>2</sub> Group over Six Chemical Bonds with More than 15% Polarization and a 20-...Minute Lifetime. <i>Chemistry - A European Journal</i> , 2019, 25, 8829-8836.	3.3	48
45	NMR Signal Enhancement for Hyperpolarized Fluids Continuously Generated in Hydrogenation Reactions with Parahydrogen. <i>Journal of Physical Chemistry A</i> , 2015, 119, 996-1006.	2.5	47
46	New Perspectives for Parahydrogen-Induced Polarization in Liquid Phase Heterogeneous Hydrogenation: An Aqueous Phase and ALTADENA Study. <i>ChemPhysChem</i> , 2010, 11, 3086-3088.	2.1	43
47	Parahydrogen-Induced Polarization in Heterogeneous Hydrogenations over Silica-Immobilized Rh Complexes. <i>Applied Magnetic Resonance</i> , 2011, 41, 393-410.	1.2	43
48	Nuclear Spin Isomers of Ethylene: Enrichment by Chemical Synthesis and Application for NMR Signal Enhancement. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 13251-13255.	13.8	42
49	A Mechanistic Study of Thiophene Hydrodesulfurization by the Parahydrogen-Induced Polarization Technique. <i>ChemCatChem</i> , 2015, 7, 3508-3512.	3.7	42
50	Investigation of the Photolysis of Phosphites by Time-Resolved Electron Spin Resonance. <i>Journal of the American Chemical Society</i> , 1995, 117, 9486-9491.	13.7	41
51	Production of Catalyst-Free Hyperpolarised Ethanol Aqueous Solution via Heterogeneous Hydrogenation with Parahydrogen. <i>Scientific Reports</i> , 2015, 5, 13930.	3.3	41
52	Spatially Resolved NMR Thermometry of an Operating Fixed-Bed Catalytic Reactor. <i>Journal of the American Chemical Society</i> , 2008, 130, 10452-10453.	13.7	40
53	Aqueous, Heterogeneous <i>para</i> -Hydrogen-Induced <sup>15</sup> N Polarization. <i>Journal of Physical Chemistry C</i> , 2017, 121, 15304-15309.	3.1	40
54	Magnetic Resonance Imaging Studies on Catalyst Impregnation Processes: Discriminating Metal Ion Complexes within Millimeter-Sized <sup>13</sup> Al<sub>2</sub>O<sub>3</sub> Catalyst Bodies. <i>Journal of the American Chemical Society</i> , 2009, 131, 6525-6534.	13.7	39

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55	High-Resolution Low-Field Molecular Magnetic Resonance Imaging of Hyperpolarized Liquids. <i>Analytical Chemistry</i> , 2014, 86, 9042-9049.	6.5	39
56	Toward Continuous Production of Catalyst-Free Hyperpolarized Fluids Based on Biphasic and Heterogeneous Hydrogenations with Parahydrogen. <i>Journal of Physical Chemistry C</i> , 2013, 117, 22887-22893.	3.1	38
57	In Situ NMR Imaging Studies of the Drying Kinetics of Porous Catalyst Support Pellets. <i>Journal of Physical Chemistry B</i> , 1998, 102, 3090-3098.	2.6	36
58	Parahydrogen-induced polarization in alkyne hydrogenation catalyzed by Pd nanoparticles embedded in a supported ionic liquid phase. <i>Chemical Communications</i> , 2010, 46, 5764.	4.1	36
59	Selective Hydrogenation of 1,3-Butadiene and 1-Butyne over a Rh/Chitosan Catalyst Investigated by using Parahydrogen-Induced Polarization. <i>ChemCatChem</i> , 2012, 4, 2031-2035.	3.7	36
60	Tweezers for Parahydrogen: A Metal-Free Probe of Nonequilibrium Nuclear Spin States of $H_2$ Molecules. <i>Journal of the American Chemical Society</i> , 2014, 136, 598-601.	13.7	36
61	Evaluation of the Mechanism of Heterogeneous Hydrogenation of $\alpha,\beta$ -Unsaturated Carbonyl Compounds via Pairwise Hydrogen Addition. <i>ACS Catalysis</i> , 2014, 4, 2022-2028.	11.2	36
62	Production of Pure Aqueous $^{13}C$ -Hyperpolarized Acetate by Heterogeneous Parahydrogen-Induced Polarization. <i>Chemistry - A European Journal</i> , 2016, 22, 16446-16449.	3.3	36
63	NMR Spin-Lock Induced Crossing (SLIC) dispersion and long-lived spin states of gaseous propane at low magnetic field (0.05 T). <i>Journal of Magnetic Resonance</i> , 2017, 276, 78-85.	2.1	36
64	CIDEP Studies of Fullerene-Derived Radical Adducts. <i>Journal of Physical Chemistry A</i> , 2000, 104, 5726-5731.	2.5	34
65	Nuclear spin hyperpolarization with ansa-aminoboranes: a metal-free perspective for parahydrogen-induced polarization. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 27784-27795.	2.8	34
66	Acetylene Oligomerization over Pd Nanoparticles with Controlled Shape: A Parahydrogen-Induced Polarization Study. <i>Journal of Physical Chemistry C</i> , 2016, 120, 4945-4953.	3.1	34
67	Parahydrogen-Induced Polarization of Amino Acids. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 23496-23507.	13.8	34
68	Liquid and gas flow and related phenomena in monolithic catalysts studied by $^1H$ NMR microimaging. <i>Catalysis Today</i> , 2001, 69, 385-392.	4.4	33
69	Chemical Exchange Reaction Effect on Polarization Transfer Efficiency in SLIC-SABRE. <i>Journal of Physical Chemistry A</i> , 2018, 122, 9107-9114.	2.5	33
70	Synthesis of Unsaturated Precursors for Parahydrogen-Induced Polarization and Molecular Imaging of $^{13}C$ -Acetates and $^{13}C$ -Pyruvates via Side Arm Hydrogenation. <i>ACS Omega</i> , 2018, 3, 6673-6682.	3.5	33
71	$^{15}N$ MRI of SLIC-SABRE Hyperpolarized $^{15}N$ -Labelled Pyridine and Nicotinamide. <i>Chemistry - A European Journal</i> , 2019, 25, 8465-8470.	3.3	33
72	$^{15}N$ NMR Hyperpolarization of Radiosensitizing Antibiotic Nimorazole by Reversible Parahydrogen Exchange in Microtesla Magnetic Fields. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 2406-2413.	13.8	33

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73	An $^1\text{H}$ NMR Microimaging Study of Water Vapor Sorption by Individual Porous Pellets. <i>Journal of Physical Chemistry B</i> , 2000, 104, 1695-1700.	2.6	32
74	Generating Parahydrogen-Induced Polarization Using Immobilized Iridium Complexes in the Gas-Phase Hydrogenation of Carbon–Carbon Double and Triple Bonds. <i>Applied Magnetic Resonance</i> , 2013, 44, 289-300.	1.2	32
75	Quantifying the effects of quadrupolar sinks via $^{15}\text{N}$ relaxation dynamics in metronidazoles hyperpolarized via SABRE-SHEATH. <i>Chemical Communications</i> , 2020, 56, 9098-9101.	4.1	32
76	2D Mapping of NMR Signal Enhancement and Relaxation for Heterogeneously Hyperpolarized Propane Gas. <i>Journal of Physical Chemistry C</i> , 2017, 121, 10038-10046.	3.1	31
77	Design of protein homocystamides with enhanced tumor uptake properties for $^{19}\text{F}$ magnetic resonance imaging. <i>Bioorganic and Medicinal Chemistry</i> , 2015, 23, 6943-6954.	3.0	30
78	Heterogeneous Catalysis and Parahydrogen-Induced Polarization. <i>ChemPhysChem</i> , 2021, 22, 1421-1440.	2.1	30
79	Inversion-Recovery of Nitroxide Spin Labels in Solution and Microheterogeneous Environments. <i>Journal of the American Chemical Society</i> , 1996, 118, 1435-1445.	13.7	29
80	Toward production of pure $^{13}\text{C}$ hyperpolarized metabolites using heterogeneous parahydrogen-induced polarization of ethyl[ $^{13}\text{C}$ ]acetate. <i>RSC Advances</i> , 2016, 6, 69728-69732.	3.6	28
81	Multifunctional human serum albumin-therapeutic nucleotide conjugate with redox and pH-sensitive drug release mechanism for cancer theranostics. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2017, 27, 3925-3930.	2.2	28
82	Pairwise hydrogen addition in the selective semihydrogenation of alkynes on silica-supported Cu catalysts. <i>Chemical Science</i> , 2017, 8, 2426-2430.	7.4	28
83	Parahydrogen-Induced Polarization of $^{13}\text{C}$ -Acetates and $^{13}\text{C}$ -Pyruvates Using Sidearm Hydrogenation of Vinyl, Allyl, and Propargyl Esters. <i>Journal of Physical Chemistry C</i> , 2019, 123, 12827-12840.	3.1	28
84	Pulse-Programmable Magnetic Field Sweeping of Parahydrogen-Induced Polarization by Side Arm Hydrogenation. <i>Analytical Chemistry</i> , 2020, 92, 1340-1345.	6.5	28
85	The influence of the singlet radical-pair decay rate on RYDMR and SNP spectra, and the mean RP lifetime. <i>Chemical Physics Letters</i> , 1990, 175, 467-471.	2.6	27
86	Proton magnetic resonance spectroscopy of brain metabolic shifts induced by acute administration of $^2\text{-deoxy-D-glucose}$ and lipopolysaccharides. <i>NMR in Biomedicine</i> , 2014, 27, 399-405.	2.8	27
87	Demonstration of Heterogeneous Parahydrogen Induced Polarization Using Hyperpolarized Agent Migration from Dissolved Rh(I) Complex to Gas Phase. <i>Analytical Chemistry</i> , 2014, 86, 6192-6196.	6.5	27
88	Robust Imidazole- $^{15}\text{N}$ - $^2$ Synthesis for High-Resolution Low-Field ( $0.05\text{ T}$ ) $^{15}\text{N}$ -Hyperpolarized NMR Spectroscopy. <i>ChemistrySelect</i> , 2017, 2, 4478-4483.	1.5	27
89	Heterogeneous Microtesla SABRE Enhancement of $^{15}\text{N}$ NMR Signals. <i>Angewandte Chemie</i> , 2017, 129, 10569-10573.	2.0	27
90	Single-Site Heterogeneous Catalysts: From Synthesis to NMR Signal Enhancement. <i>Chemistry - A European Journal</i> , 2019, 25, 1420-1431.	3.3	27

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91	Parahydrogen-Induced Hyperpolarization of Gases. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 17788-17797.	13.8	27
92	Temperature Changes Visualization during Chemical Wave Propagation. <i>Journal of Physical Chemistry A</i> , 2007, 111, 4122-4124.	2.5	26
93	Chemical Reaction Monitoring using Zero-Field Nuclear Magnetic Resonance Enables Study of Heterogeneous Samples in Metal Containers. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 17026-17032.	13.8	26
94	Calculation of stimulated nuclear polarization in short-lived biradicals and comparison with experiment. <i>Chemical Physics</i> , 1992, 162, 165-176.	1.9	25
95	An <sup>1</sup> H NMR Microimaging Visualization of Hexachloroplatinate Dianion Redistribution within a Porous <sup>13</sup> -Al <sub>2</sub> O <sub>3</sub> Pellet in the Course of Supported Catalyst Preparation. <i>Journal of Physical Chemistry B</i> , 2000, 104, 1966-1970.	2.6	25
96	Magnetic resonance imaging as an emerging tool for studying the preparation of supported catalysts. <i>Applied Catalysis A: General</i> , 2010, 374, 126-136.	4.3	25
97	Imaging of Biomolecular NMR Signals Amplified by Reversible Exchange with Parahydrogen Inside an MRI Scanner. <i>Journal of Physical Chemistry C</i> , 2017, 121, 25994-25999.	3.1	25
98	A nuclear magnetic resonance microscopy study of mass transport in porous materials. <i>Applied Magnetic Resonance</i> , 2000, 18, 13-28.	1.2	24
99	NMR imaging of mass transport and related phenomena in porous catalysts and sorbents. <i>Magnetic Resonance Imaging</i> , 2001, 19, 531-534.	1.8	24
100	Applications of NMR tomography to mass transfer studies. <i>Russian Chemical Reviews</i> , 2002, 71, 789-835.	6.5	24
101	Solid-state <sup>27</sup> Al MRI and NMR thermometry for catalytic applications with conventional (liquids) MRI instrumentation and techniques. <i>Journal of Magnetic Resonance</i> , 2005, 175, 21-29.	2.1	24
102	Catalysis and Nuclear Magnetic Resonance Signal Enhancement with Parahydrogen. <i>Topics in Catalysis</i> , 2016, 59, 1686-1699.	2.8	24
103	Time-resolved ESR examination of a simple supramolecular guest-host system. Electron spin exchange interaction in micellized spin-correlated radical pairs. <i>Journal of the American Chemical Society</i> , 1993, 115, 9583-9595.	13.7	23
104	<sup>19</sup> F Hyperpolarization of <sup>15</sup> N-3- <sup>19</sup> F-Pyridine via Signal Amplification by Reversible Exchange. <i>Journal of Physical Chemistry C</i> , 2018, 122, 23002-23010.	3.1	23
105	Quasi-Resonance Fluorine-19 Signal Amplification by Reversible Exchange. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 4229-4236.	4.6	23
106	Clinical-Scale Batch-Mode Production of Hyperpolarized Propane Gas for MRI. <i>Analytical Chemistry</i> , 2019, 91, 4741-4746.	6.5	23
107	Observation of <sup>13</sup> C SNP during the photolysis of cyclododecanone in solution. <i>Chemical Physics Letters</i> , 1989, 163, 503-508.	2.6	22
108	Critical Phenomena in Trickle-Bed Reactors. <i>Industrial &amp; Engineering Chemistry Research</i> , 2005, 44, 9727-9738.	3.7	22

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109	Non-traditional applications of NMR tomography. <i>Russian Chemical Reviews</i> , 2003, 72, 165-191.	6.5	21
110	In situ MRI of the structure and function of multiphase catalytic reactors. <i>Catalysis Today</i> , 2005, 105, 464-468.	4.4	21
111	Application of multinuclear MRI and solid state MRI in heterogeneous catalysis. <i>Catalysis Today</i> , 2007, 126, 37-43.	4.4	21
112	NMR SLIC Sensing of Hydrogenation Reactions Using Parahydrogen in Low Magnetic Fields. <i>Journal of Physical Chemistry C</i> , 2016, 120, 29098-29106.	3.1	21
113	Gas Phase UTE MRI of Propane and Propene. <i>Tomography</i> , 2016, 2, 49-55.	1.8	21
114	Nuclear magnetic resonance imaging of an operating gas-liquid-solid catalytic fixed bed reactor. <i>Chemical Engineering Journal</i> , 2007, 130, 101-109.	12.7	20
115	Remote detection NMR imaging of gas phase hydrogenation in microfluidic chips. <i>Lab on A Chip</i> , 2013, 13, 1554.	6.0	20
116	Hydrogenation of Unsaturated Six-Membered Cyclic Hydrocarbons Studied by the Parahydrogen-Induced Polarization Technique. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13541-13548.	3.1	20
117	The effect of oxidative and reductive treatments of titania-supported metal catalysts on the pairwise hydrogen addition to unsaturated hydrocarbons. <i>Catalysis Today</i> , 2017, 283, 82-88.	4.4	20
118	Mechanistic Insight into the Heterogeneous Hydrogenation of Furan Derivatives with the use of Parahydrogen. <i>ChemCatChem</i> , 2018, 10, 1178-1183.	3.7	20
119	Low-Cost High-Pressure Clinical-Scale 50% Parahydrogen Generator Using Liquid Nitrogen at 77 K. <i>Analytical Chemistry</i> , 2021, 93, 8476-8483.	6.5	20
120	Electron Spin Resonance of the Lowest Excited Triplet States of .alpha.-Oxo[1.n]paracyclophanes [Cyclophanobenzophenones]. Effect of Molecular Geometry on the Electronic Character of the Triplet State. <i>The Journal of Physical Chemistry</i> , 1994, 98, 7504-7512.	2.9	19
121	Magnetic Field Dependence of the <sup>31</sup> P CIDNP in the Photolysis of a Benzyl Phosphite. Evidence for a T-âˆ²S Mechanism. <i>The Journal of Physical Chemistry</i> , 1996, 100, 14581-14583.	2.9	19
122	Formation of textural and mechanical properties of extruded ceramic honeycomb monoliths: An <sup>1</sup> H NMR imaging study. <i>Catalysis Today</i> , 2005, 105, 507-515.	4.4	19
123	The generating functions formalism for the analysis of spin response to the periodic trains of RF pulses. Echo sequences with arbitrary refocusing angles and resonance offsets. <i>Journal of Magnetic Resonance</i> , 2009, 196, 164-169.	2.1	19
124	Synthesis and characterization of fluorinated homocysteine derivatives as potential molecular probes for <sup>19</sup> F magnetic resonance spectroscopy and imaging. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2011, 21, 4050-4053.	2.2	19
125	Spin hyperpolarization in NMR to address enzymatic processes in vivo. <i>Mendeleev Communications</i> , 2013, 23, 299-312.	1.6	19
126	Heterogeneous Parahydrogen Pairwise Addition to Cyclopropane. <i>ChemPhysChem</i> , 2018, 19, 2621-2626.	2.1	19



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127	PHIP hyperpolarized [1-13C]pyruvate and [1-13C]acetate esters via PH-INEPT polarization transfer monitored by 13C NMR and MRI. <i>Scientific Reports</i> , 2021, 11, 5646.	3.3	19
128	Hyperpolarization of Frozen Hydrocarbon Gases by Dynamic Nuclear Polarization at 1.2 K. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 3235-3239.	4.6	18
129	Extending the Lifetime of Hyperpolarized Propane Gas through Reversible Dissolution. <i>Journal of Physical Chemistry C</i> , 2017, 121, 4481-4487.	3.1	18
130	15 N Hyperpolarization of Dalfampridine at Natural Abundance for Magnetic Resonance Imaging. <i>Chemistry - A European Journal</i> , 2019, 25, 12694-12697.	3.3	18
131	Relaxation Dynamics of Nuclear Long-Lived Spin States in Propane and Propane-d6 Hyperpolarized by Parahydrogen. <i>Journal of Physical Chemistry C</i> , 2019, 123, 11734-11744.	3.1	18
132	Deciphering the Nature of Ru Sites in Reductively Exsolved Oxides with Electronic and Geometric Metal-Support Interactions. <i>Journal of Physical Chemistry C</i> , 2020, 124, 25299-25307.	3.1	18
133	Mechanistic <i>in situ</i> investigation of heterogeneous hydrogenation over Rh/TiO <sub>2</sub> catalysts: selectivity, pairwise route and catalyst nature. <i>Faraday Discussions</i> , 2021, 229, 161-175.	3.2	18
134	Parahydrogen-Induced Polarization Relayed via Proton Exchange. <i>Journal of the American Chemical Society</i> , 2021, 143, 13694-13700.	13.7	18
135	A Comparative CW EPR and FT EPR Study of Spin Polarization Created by Doublet-Triplet Encounters. <i>Journal of Magnetic Resonance Series A</i> , 1994, 109, 121-123.	1.6	17
136	NMR studies of hydrocarbon gas flow and dispersion. <i>Applied Magnetic Resonance</i> , 2002, 22, 187.	1.2	17
137	Specific features of the crystal and phase structure of binary systems 5,6-(3,4-furazano)-1,2,3,4-tetrazine-1,3-dioxide-2,4-dinitro-2,4-diazapentane. <i>Russian Journal of Applied Chemistry</i> , 2011, 84, 248-255.	0.5	17
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