Boyd M Goodson

List of Publications by Year
in descending order

86 papers	4,964 citations	94269 37 h-index	91712 69 g-index
94 all docs	94 docs citations	94 times ranked	2399 citing authors

#	Article	IF	Citations
1	Orderâ€Unity ¹³C Nuclear Polarization of [1â€¹³C]Pyruvate in Seconds and the Interplay of Water and SABRE Enhancement. ChemPhysChem, 2022, 23, .	1.0	30
2	Pilot Quality-Assurance Study of a Third-Generation Batch-Mode Clinical-Scale Automated Xenon-129 Hyperpolarizer. Molecules, 2022, 27, 1327.	1.7	3
3	Automated Low-Cost In Situ IR and NMR Spectroscopy Characterization of Clinical-Scale 129Xe Spin-Exchange Optical Pumping. Analytical Chemistry, 2021, 93, 3883-3888.	3.2	3
4	Cobalt-Catalyzed Hyperpolarization of Structurally Intact Olefins. ACS Catalysis, 2021, 11, 2011-2020.	5.5	10
5	Bridging the Gap: From Homogeneous to Heterogeneous Parahydrogenâ€induced Hyperpolarization and Beyond. ChemPhysChem, 2021, 22, 710-715.	1.0	3
6	Enabling Clinical Technologies for Hyperpolarized ¹²⁹Xenon Magnetic Resonance Imaging and Spectroscopy. Angewandte Chemie, 2021, 133, 22298-22319.	1.6	3
7	Low-Cost High-Pressure Clinical-Scale 50% Parahydrogen Generator Using Liquid Nitrogen at 77 K. Analytical Chemistry, 2021, 93, 8476-8483.	3.2	20
8	Effects of a Tridentate Pincer Ligand on Parahydrogen Induced Polarization. ChemPhysChem, 2021, 22, 1518-1526.	1.0	4
9	Enabling Clinical Technologies for Hyperpolarized ¹²⁹Xenon Magnetic Resonance Imaging and Spectroscopy. Angewandte Chemie - International Edition, 2021, 60, 22126-22147.	7.2	26
10	â€œDirectâ€•¹³C Hyperpolarization of ¹³Câ€Acetate by MicroTesla NMR Signal Amplification by Reversible Exchange (SABRE). Angewandte Chemie - International Edition, 2020, 59, 418-423.	7.2	41
11	â€œDirectâ€•13 C Hyperpolarization of 13 Câ€Acetate by MicroTesla NMR Signal Amplification by Reversible Exchange (SABRE). Angewandte Chemie, 2020, 132, 426-431.	1.6	16
12	XeUS: A second-generation automated open-source batch-mode clinical-scale hyperpolarizer. Journal of Magnetic Resonance, 2020, 319, 106813.	1.2	16
13	Quantifying the effects of quadrupolar sinksvia¹⁵N relaxation dynamics in metronidazoles hyperpolarizedviaSABRE-SHEATH. Chemical Communications, 2020, 56, 9098-9101.	2.2	32
14	High-Pressure Clinical-Scale 87% Parahydrogen Generator. Analytical Chemistry, 2020, 92, 15280-15284.	3.2	16
15	Pilot multi-site quality assurance study of batch-mode clinical-scale automated xenon-129 hyperpolarizers. Journal of Magnetic Resonance, 2020, 316, 106755.	1.2	9
16	Batch-Mode Clinical-Scale Optical Hyperpolarization of Xenon-129 Using an Aluminum Jacket with Rapid Temperature Ramping. Analytical Chemistry, 2020, 92, 4309-4316.	3.2	19
17	High Xe density, high photon flux, stopped-flow spin-exchange optical pumping: Simulations versus experiments. Journal of Magnetic Resonance, 2020, 312, 106686.	1.2	12
18	Helium-rich mixtures for improved batch-mode clinical-scale spin-exchange optical pumping of Xenon-129. Journal of Magnetic Resonance, 2020, 315, 106739.	1.2	6

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19	Hyperpolarizing Concentrated Metronidazole ¹⁵NO₂ Group over Six Chemical Bonds with More than 15â€‰% Polarization and a 20â€…Minute Lifetime. Chemistry - A European Journal, 2019, 25, 8829-8836.	1.7	48
20	Relaxation Dynamics of Nuclear Long-Lived Spin States in Propane and Propane-d6 Hyperpolarized by Parahydrogen. Journal of Physical Chemistry C, 2019, 123, 11734-11744.	1.5	18
21	TiO2 nanoparticles in irrigation water mitigate impacts of aged Ag nanoparticles on soil microorganisms, Arabidopsis thaliana plants, and Eisenia fetida earthworms. Environmental Research, 2019, 172, 202-215.	3.7	43
22	Heterogeneous hydrogenation of phenylalkynes with parahydrogen: hyperpolarization, reaction selectivity, and kinetics. Physical Chemistry Chemical Physics, 2019, 21, 26477-26482.	1.3	12
23	A versatile synthetic route to the preparation of ¹⁵N heterocycles. Journal of Labelled Compounds and Radiopharmaceuticals, 2019, 62, 892-902.	0.5	7
24	Impact of wastewater effluent containing aged nanoparticles and other components on biological activities of the soil microbiome, Arabidopsis plants, and earthworms. Environmental Research, 2018, 164, 197-203.	3.7	28
25	Hyperpolarized NMR Spectroscopy: dâ€DNP, PHIP, and SABRE Techniques. Chemistry - an Asian Journal, 2018, 13, 1857-1871.	1.7	180
26	Facile Removal of Homogeneous SABRE Catalysts for Purifying Hyperpolarized Metronidazole, a Potential Hypoxia Sensor. Journal of Physical Chemistry C, 2018, 122, 16848-16852.	1.5	69
27	NMR Spectroscopy Techniques: Hyperpolarization for Sensitivity Enhancement. , 2018, , 168-168.		1
28	Toward Cleavable Metabolic/pH Sensing â€œDouble Agentsâ€•Hyperpolarized by NMR Signal Amplification by Reversible Exchange. Chemistry - A European Journal, 2018, 24, 10641-10645.	1.7	13
29	NMR Hyperpolarization Techniques of Gases. Chemistry - A European Journal, 2017, 23, 724-724.	1.7	1
30	Frontispiece: NMR Hyperpolarization Techniques of Gases. Chemistry - A European Journal, 2017, 23, .	1.7	2
31	The Absence of Quadrupolar Nuclei Facilitates Efficient ¹³C Hyperpolarization via Reversible Exchange with Parahydrogen. ChemPhysChem, 2017, 18, 1493-1498.	1.0	87
32	Heterogeneous Microtesla SABRE Enhancement of ¹⁵N NMR Signals. Angewandte Chemie - International Edition, 2017, 56, 10433-10437.	7.2	58
33	Toward Hyperpolarized ¹⁹F Molecular Imaging via Reversible Exchange with Parahydrogen. ChemPhysChem, 2017, 18, 1961-1965.	1.0	57
34	Robust Imidazoleâ€¹⁵N₂ Synthesis for Highâ€Resolution Lowâ€Field (0.05 T) ¹⁵NÂHyperpolarized NMR Spectroscopy. ChemistrySelect, 2017, 2, 4478-4483.	0.7	27
35	Imaging of Biomolecular NMR Signals Amplified by Reversible Exchange with Parahydrogen Inside an MRI Scanner. Journal of Physical Chemistry C, 2017, 121, 25994-25999.	1.5	25
36	Spin Relays Enable Efficient Long-Range Heteronuclear Signal Amplification by Reversible Exchange. Journal of Physical Chemistry C, 2017, 121, 28425-28434.	1.5	46

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37	Heterogeneous Microtesla SABRE Enhancement of ¹⁵N NMR Signals. Angewandte Chemie, 2017, 129, 10569-10573.	1.6	27
38	Aqueous, Heterogeneous para-Hydrogen-Induced ¹⁵N Polarization. Journal of Physical Chemistry C, 2017, 121, 15304-15309.	1.5	40
39	NMR Hyperpolarization Techniques of Gases. Chemistry - A European Journal, 2017, 23, 725-751.	1.7	140
40	¹⁵N Hyperpolarization of Imidazole-¹⁵N₂ for Magnetic Resonance pH Sensing via SABRE-SHEATH. ACS Sensors, 2016, 1, 640-644.	4.0	111
41	NMR Signal Amplification by Reversible Exchange of Sulfurâ€Heterocyclic Compounds Found In Petroleum. ChemistrySelect, 2016, 1, 2552-2555.	0.7	34
42	Over 20% ¹⁵N Hyperpolarization in Under One Minute for Metronidazole, an Antibiotic and Hypoxia Probe. Journal of the American Chemical Society, 2016, 138, 8080-8083.	6.6	123
43	Aqueous NMR Signal Enhancement by Reversible Exchange in a Single Step Using Water-Soluble Catalysts. Journal of Physical Chemistry C, 2016, 120, 12149-12156.	1.5	63
44	Microtesla SABRE Enables 10% Nitrogen-15 Nuclear Spin Polarization. Journal of the American Chemical Society, 2015, 137, 1404-1407.	6.6	275
45	NMR Hyperpolarization Techniques for Biomedicine. Chemistry - A European Journal, 2015, 21, 3156-3166.	1.7	247
46	Nanoscale Catalysts for NMR Signal Enhancement by Reversible Exchange. Journal of Physical Chemistry C, 2015, 119, 7525-7533.	1.5	61
47	Hyperpolarization of â€œNeatâ€•Liquids by NMR Signal Amplification by Reversible Exchange. Journal of Physical Chemistry Letters, 2015, 6, 1961-1967.	2.1	85
48	¹⁵N Hyperpolarization by Reversible Exchange Using SABRE-SHEATH. Journal of Physical Chemistry C, 2015, 119, 8786-8797.	1.5	192
49	Comparative study of in situ N2 rotational Raman spectroscopy methods for probing energy thermalisation processes during spin-exchange optical pumping. Applied Physics B: Lasers and Optics, 2014, 115, 167-172.	1.1	8
50	The Feasibility of Formation and Kinetics of NMR Signal Amplification by Reversible Exchange (SABRE) at High Magnetic Field (9.4 T). Journal of the American Chemical Society, 2014, 136, 3322-3325.	6.6	148
51	A 3D-Printed High Power Nuclear Spin Polarizer. Journal of the American Chemical Society, 2014, 136, 1636-1642.	6.6	72
52	Irreversible Catalyst Activation Enables Hyperpolarization and Water Solubility for NMR Signal Amplification by Reversible Exchange. Journal of Physical Chemistry B, 2014, 118, 13882-13889.	1.2	131
53	In Situ and Ex Situ Lowâ€Field NMR Spectroscopy and MRI Endowed by SABRE Hyperpolarization. ChemPhysChem, 2014, 15, 4100-4107.	1.0	58
54	Multidimensional Mapping of Spin-Exchange Optical Pumping in Clinical-Scale Batch-Mode 129Xe Hyperpolarizers. Journal of Physical Chemistry B, 2014, 118, 4809-4816.	1.2	32

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55	Temperature-Ramped ¹²⁹Xe Spin-Exchange Optical Pumping. Analytical Chemistry, 2014, 86, 8206-8212.	3.2	37
56	High-Resolution Low-Field Molecular Magnetic Resonance Imaging of Hyperpolarized Liquids. Analytical Chemistry, 2014, 86, 9042-9049.	3.2	39
57	Heterogeneous Solution NMR Signal Amplification by Reversible Exchange. Angewandte Chemie - International Edition, 2014, 53, 7495-7498.	7.2	90
58	XeNA: An automated â€˜open-sourceâ€™ 129Xe hyperpolarizer for clinical use. Magnetic Resonance Imaging, 2014, 32, 541-550.	1.0	57
59	pH-Sensitive MR Responses Induced by Dendron-Functionalized SPIONs. Journal of Physical Chemistry C, 2013, 117, 1893-1903.	1.5	11
60	Near-unity nuclear polarization with an open-source ¹²⁹ Xe hyperpolarizer for NMR and MRI. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14150-14155.	3.3	193
61	Using frequency-narrowed, tunable laser diode arrays with integrated volume holographic gratings for spin-exchange optical pumping at high resonant fluxes and xenon densities. Applied Physics B: Lasers and Optics, 2012, 106, 775-788.	1.1	30
62	Interdependence of in-cell xenon density and temperature during Rb/129Xe spin-exchange optical pumping using VHG-narrowed laser diode arrays. Journal of Magnetic Resonance, 2011, 208, 298-304.	1.2	29
63	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Xe</mml:mi><mml:mprescripts /><mml:none		

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73	Inclusion Complexes Oriented in Thermotropic Liquid-Crystalline Solvents Studied with Carbon-13 NMR. Journal of Physical Chemistry B, 2003, 107, 12558-12561.	1.2	15
74	Ultrafast Electron Diffraction and Structural Dynamics:Â Transient Intermediates in the Elimination Reaction of C2F4I2. Journal of Physical Chemistry A, 2002, 106, 4087-4103.	1.1	58
75	Nuclear Magnetic Resonance of Laser-Polarized Noble Gases in Molecules, Materials, and Organisms. Journal of Magnetic Resonance, 2002, 155, 157-216.	1.2	412
76	Ultrafast Diffraction of Transient Molecular Structures in Radiationless Transitions. Journal of Physical Chemistry A, 2001, 105, 11159-11164.	1.1	51
77	Direct Imaging of Transient Molecular Structures with Ultrafast Diffraction. Science, 2001, 291, 458-462.	6.0	486
78	Driving wave packet recurrences with optimally modulated laser pulses. Journal of Chemical Physics, 2000, 112, 5081-5090.	1.2	6
79	Reduction of Spin Polarization near Landau Filling FactorÎ½=3in GaAs/AlGaAs Quantum Wells. Physical Review Letters, 1999, 82, 2768-2771.	2.9	17
80	Using injectable carriers of laser-polarized noble gases for enhancing NMR and MRI. , 1999, 11, 203-223.		27
81	Study of Xenon Binding in Cryptophane-A Using Laser-Induced NMR Polarization Enhancement. Journal of the American Chemical Society, 1999, 121, 3502-3512.	6.6	89
82	Using injectable carriers of laser-polarized noble gases for enhancing NMR and MRI. , 1999, 11, 203.		2
83	NMR of supercritical laser-polarized xenon. Chemical Physics Letters, 1998, 292, 686-690.	1.2	26
84	Effects of diffusion on magnetic resonance imaging of laser-polarized xenon gas. Journal of Chemical Physics, 1998, 108, 6233-6239.	1.2	35
85	Selective Enhancement of NMR Signals forÎ±-Cyclodextrin with Laser-Polarized Xenon. Angewandte Chemie International Edition in English, 1997, 36, 2368-2370.	4.4	67
86	Selektive NMRâ€SignalverstÃrkung bei Î±â€Cyclodextrin durch laserpolarisiertes Xenon. Angewandte Chemie, 1997, 109, 2464-2466.	1.6	9