Daniel B Vigneron

List of Publications by Year in descending order

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121 papers 8,403 citations

57631 44 h-index 88 g-index

121 all docs

121 docs citations

times ranked

121

5073 citing authors

#	Article	IF	CITATIONS
1	Metabolic Imaging of Patients with Prostate Cancer Using Hyperpolarized [1- ¹³ C]Pyruvate. Science Translational Medicine, 2013, 5, 198ra108.	5.8	1,061
2	Analysis of Cancer Metabolism by Imaging Hyperpolarized Nuclei: Prospects for Translation to Clinical Research. Neoplasia, $2011,13,81$ -97.	2.3	623
3	Hyperpolarized 13C Lactate, Pyruvate, and Alanine: Noninvasive Biomarkers for Prostate Cancer Detection and Grading. Cancer Research, 2008, 68, 8607-8615.	0.4	527
4	Hyperpolarized 13C MRI: Path to Clinical Translation in Oncology. Neoplasia, 2019, 21, 1-16.	2.3	316
5	Methodological consensus on clinical proton MRS of the brain: Review and recommendations. Magnetic Resonance in Medicine, 2019, 82, 527-550.	1.9	280
6	13C-Pyruvate Imaging Reveals Alterations in Glycolysis that Precede c-Myc-Induced Tumor Formation and Regression. Cell Metabolism, 2011, 14, 131-142.	7.2	210
7	Hyperpolarized ¹³ C MRI: State of the Art and Future Directions. Radiology, 2019, 291, 273-284.	3.6	210
8	Improved water and lipid suppression for 3D PRESS CSI using rf band selective inversion with gradient dephasing (basing). Magnetic Resonance in Medicine, 1997, 38, 311-321.	1.9	195
9	Fast dynamic 3D MR spectroscopic imaging with compressed sensing and multiband excitation pulses for hyperpolarized ¹³ C studies. Magnetic Resonance in Medicine, 2011, 65, 610-619.	1.9	181
10	Hyperpolarized 13C magnetic resonance metabolic imaging: application to brain tumors. Neuro-Oncology, 2010, 12, 133-144.	0.6	166
11	Serial evaluation of patients with brain tumors using volume MRI and 3D1H MRSI. NMR in Biomedicine, 1999, 12, 123-138.	1.6	164
12	Kinetic modeling of hyperpolarized 13C1-pyruvate metabolism in normal rats and TRAMP mice. Journal of Magnetic Resonance, 2010, 202, 85-92.	1.2	160
13	Multi-compound polarization by DNP allows simultaneous assessment of multiple enzymatic activities in vivo. Journal of Magnetic Resonance, 2010, 205, 141-147.	1.2	154
14	Hyperpolarized ¹³ C dehydroascorbate as an endogenous redox sensor for in vivo metabolic imaging. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18606-18611.	3.3	143
15	An automated technique for the quantitative assessment of 3D-MRSI data from patients with glioma. Journal of Magnetic Resonance Imaging, 2001, 13, 167-177.	1.9	135
16	Development of methods and feasibility of using hyperpolarized carbonâ€13 imaging data for evaluating brain metabolism in patient studies. Magnetic Resonance in Medicine, 2018, 80, 864-873.	1.9	134
17	Hyperpolarized 1-[13 C]-Pyruvate Magnetic Resonance Imaging Detects an Early Metabolic Response to Androgen Ablation Therapy in Prostate Cancer. European Urology, 2017, 72, 1028-1029.	0.9	127
18	Phased array detectors and an automated intensity-correction algorithm for high-resolution MR imaging of the human brain. Magnetic Resonance in Medicine, 1995, 34, 433-439.	1.9	126

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19	3D compressed sensing for highly accelerated hyperpolarized ¹³ C MRSI with in vivo applications to transgenic mouse models of cancer. Magnetic Resonance in Medicine, 2010, 63, 312-321.	1.9	126
20	Time-dependent effects of hormone-deprivation therapy on prostate metabolism as detected by combined magnetic resonance imaging and 3D magnetic resonance spectroscopic imaging. Magnetic Resonance in Medicine, 2001, 46, 49-57.	1.9	120
21	Clinical application of BASING and spectral/spatial water and lipid suppression pulses for prostate cancer staging and localization by in vivo 3D1H magnetic resonance spectroscopic imaging. Magnetic Resonance in Medicine, 2000, 43, 17-22.	1.9	109
22	Detection of early response to temozolomide treatment in brain tumors using hyperpolarized ¹³ C MR metabolic imaging. Journal of Magnetic Resonance Imaging, 2011, 33, 1284-1290.	1.9	106
23	Imaging of blood flow using hyperpolarized [¹³ C]Urea in preclinical cancer models. Journal of Magnetic Resonance Imaging, 2011, 33, 692-697.	1.9	105
24	Dualband spectral-spatial RF pulses for prostate MR spectroscopic imaging. Magnetic Resonance in Medicine, 2001, 46, 1079-1087.	1.9	103
25	Metabolic Reprogramming and Validation of Hyperpolarized ¹³ C Lactate as a Prostate Cancer Biomarker Using a Human Prostate Tissue Slice Culture Bioreactor. Prostate, 2013, 73, 1171-1181.	1.2	93
26	Investigation of tumor hyperpolarized [1- ^{13} C]-pyruvate dynamics using time-resolved multiband RF excitation echo-planar MRSI. Magnetic Resonance in Medicine, 2010, 63, 582-591.	1.9	85
27	Proton spectroscopic imaging of the human brain using phased array detectors. Magnetic Resonance in Medicine, 1995, 34, 440-445.	1.9	84
28	High spatial resolution 1H-MRSI and segmented MRI of cortical gray matter and subcortical white matter in three regions of the human brain. Magnetic Resonance in Medicine, 1999, 41, 21-29.	1.9	82
29	Volume MRI and MRSI techniques for the quantitation of treatment response in brain tumors: Presentation of a detailed case study. Journal of Magnetic Resonance Imaging, 1997, 7, 1146-1152.	1.9	80
30	Proton-decoupled 31P chemical shift imaging of the human brain in normal volunteers. NMR in Biomedicine, 1993, 6, 173-180.	1.6	78
31	Notation="TeX">\$^{13}\$C MRI With Hyperpolarized Urea: In Vivo <formula formulatype="inline"><tex notation="TeX">\$T_{2}\$</tex></formula> Mapping and <formula formulatype="inline"> <tex Notation="TeX">\$^{15}\$<td>5.4</td><td>77</td></tex </formula>	5.4	77
32	Imaging, 2014, 33, 362-371. Investigation of analysis methods for hyperpolarized 13Câ€pyruvate metabolic MRI in prostate cancer patients. NMR in Biomedicine, 2018, 31, e3997.	1.6	77
33	Improved solvent suppression and increased spatial excitation bandwidths for three-dimensional press CSI using phase-compensating spectral/spatial spin-echo pulses. Journal of Magnetic Resonance Imaging, 1997, 7, 745-757.	1.9	71
34	Investigating tumor perfusion and metabolism using multiple hyperpolarized 13C compounds: HP001, pyruvate and urea. Magnetic Resonance Imaging, 2012, 30, 305-311.	1.0	69
35	Hyperpolarized 13C-pyruvate MRI detects real-time metabolic flux in prostate cancer metastases to bone and liver: a clinical feasibility study. Prostate Cancer and Prostatic Diseases, 2020, 23, 269-276.	2.0	68
36	Translation of Carbonâ€13 EPI for hyperpolarized MR molecular imaging of prostate and brain cancer patients. Magnetic Resonance in Medicine, 2019, 81, 2702-2709.	1.9	65

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37	Single-voxel oversampled J-resolved spectroscopy of in vivo human prostate tissue. Magnetic Resonance in Medicine, 2001, 45, 973-980.	1.9	64
38	First hyperpolarized [2-13C]pyruvate MR studies of human brain metabolism. Journal of Magnetic Resonance, 2019, 309, 106617.	1.2	63
39	Registration of images from sequential MR studies of the brain. Journal of Magnetic Resonance Imaging, 1994, 4, 877-883.	1.9	61
40	Assessing Prostate Cancer Aggressiveness with Hyperpolarized Dual-Agent 3D Dynamic Imaging of Metabolism and Perfusion. Cancer Research, 2017, 77, 3207-3216.	0.4	60
41	High spatial resolution and speed in MRSI. , 1997, 10, 411-422.		59
42	Ultrashort echo time and zero echo time MRI at 7T. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2016, 29, 359-370.	1.1	59
43	Development of a symmetric echo planar imaging framework for clinical translation of rapid dynamic hyperpolarized ¹³ C imaging. Magnetic Resonance in Medicine, 2017, 77, 826-832.	1.9	55
44	Magnetic resonance imaging compatible neonate incubator. Concepts in Magnetic Resonance, 2002, 15, 117-128.	1.3	52
45	Simultaneous multiagent hyperpolarized ¹³ C perfusion imaging. Magnetic Resonance in Medicine, 2014, 72, 1599-1609.	1.9	50
46	Technique development of 3D dynamic CSâ€EPSI for hyperpolarized ¹³ C pyruvate MR molecular imaging of human prostate cancer. Magnetic Resonance in Medicine, 2018, 80, 2062-2072.	1.9	47
47	Realâ€time measurement of hyperpolarized lactate production and efflux as a biomarker of tumor aggressiveness in an MR compatible 3D cell culture bioreactor. NMR in Biomedicine, 2015, 28, 1141-1149.	1.6	43
48	Characterization of serial hyperpolarized 13C metabolic imaging in patients with glioma. NeuroImage: Clinical, 2020, 27, 102323.	1.4	42
49	The Role of Lactate Metabolism in Prostate Cancer Progression and Metastases Revealed by Dual-Agent Hyperpolarized 13C MRSI. Cancers, 2019, 11, 257.	1.7	41
50	An eight-channel, nonoverlapping phased array coil with capacitive decoupling for parallel MRI at 3 T. Concepts in Magnetic Resonance Part B, 2007, 31B, 37-43.	0.3	40
51	Magnetic Resonance Spectroscopic Imaging of Human Brain Development. Neuroimaging Clinics of North America, 2006, 16, 75-85.	0.5	37
52	Zero-field nuclear magnetic resonance of chemically exchanging systems. Nature Communications, 2019, 10, 3002.	5.8	36
53	Detection of localized changes in the metabolism of hyperpolarized gluconeogenic precursors 13C-lactate and 13C-pyruvate in kidney and liver. Magnetic Resonance in Medicine, 2017, 77, 1429-1437.	1.9	35
54	3D hyperpolarized C-13 EPI with calibrationless parallel imaging. Journal of Magnetic Resonance, 2018, 289, 92-99.	1.2	32

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55	Kinetic Modeling of Hyperpolarized Carbon-13 Pyruvate Metabolism in the Human Brain. IEEE Transactions on Medical Imaging, 2020, 39, 320-327.	5.4	32
56	Imaging Renal Urea Handling in Rats at Millimeter Resolution Using Hyperpolarized Magnetic Resonance Relaxometry. Tomography, 2016, 2, 125-137.	0.8	31
57	Kinetic and perfusion modeling of hyperpolarized (13)C pyruvate and urea in cancer with arbitrary RF flip angles. Quantitative Imaging in Medicine and Surgery, 2014, 4, 24-32.	1.1	31
58	A regional bolus tracking and realâ€time B ₁ calibration method for hyperpolarized ¹³ C MRI. Magnetic Resonance in Medicine, 2019, 81, 839-851.	1.9	30
59	A variable resolution approach for improved acquisition of hyperpolarized ¹³ C metabolic MRI. Magnetic Resonance in Medicine, 2020, 84, 2943-2952.	1.9	30
60	Hyperpolarized ¹³ C MRI data acquisition and analysis in prostate and brain at University of California, San Francisco. NMR in Biomedicine, 2021, 34, e4280.	1.6	30
61	Monitoring acute metabolic changes in the liver and kidneys induced by fructose and glucose using hyperpolarized [2â€≺sup>13C]dihydroxyacetone. Magnetic Resonance in Medicine, 2017, 77, 65-73.	1.9	28
62	Comparison between 8―and 32â€channel phasedâ€array receive coils for in vivo hyperpolarized ¹³ C imaging of the human brain. Magnetic Resonance in Medicine, 2019, 82, 833-841.	1.9	28
63	Rapid in vivo apparent diffusion coefficient mapping of hyperpolarized ¹³ C metabolites. Magnetic Resonance in Medicine, 2015, 74, 622-633.	1.9	27
64	Coil combination methods for multi-channel hyperpolarized 13C imaging data from human studies. Journal of Magnetic Resonance, 2019, 301, 73-79.	1.2	27
65	Tensor image enhancement and optimal multichannel receiver combination analyses for human hyperpolarized ¹³ C MRSI. Magnetic Resonance in Medicine, 2020, 84, 3351-3365.	1.9	27
66	Metabolic imaging with hyperpolarized ¹³ C pyruvate magnetic resonance imaging in patients with renal tumorsâ€"Initial experience. Cancer, 2021, 127, 2693-2704.	2.0	27
67	Spectrally selective threeâ€dimensional dynamic balanced steadyâ€state free precession for hyperpolarized <scp>C</scp> â€13 metabolic imaging with spectrally selective radiofrequency pulses. Magnetic Resonance in Medicine, 2017, 78, 963-975.	1.9	26
68	Direct assessment of renal mitochondrial redox state using hyperpolarized ¹³ Câ€acetoacetate. Magnetic Resonance in Medicine, 2018, 79, 1862-1869.	1.9	25
69	Clinical translation of hyperpolarized < sup > 13 < /sup > C pyruvate and urea MRI for simultaneous metabolic and perfusion imaging. Magnetic Resonance in Medicine, 2022, 87, 138-149.	1.9	23
70	Accelerated high-bandwidth MR spectroscopic imaging using compressed sensing. Magnetic Resonance in Medicine, 2016, 76, 369-379.	1.9	22
71	Development of high resolution 3D hyperpolarized carbon-13 MR molecular imaging techniques. Magnetic Resonance Imaging, 2017, 38, 152-162.	1.0	20
72	Separation of extra- and intracellular metabolites using hyperpolarized 13C diffusion weighted MR. Journal of Magnetic Resonance, 2016, 270, 115-123.	1.2	19

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73	Quantitative Evaluation of Atlas-based Attenuation Correction for Brain PET in an Integrated Time-of-Flight PET/MR Imaging System. Radiology, 2017, 284, 169-179.	3.6	19
74	High spatiotemporal resolution bSSFP imaging of hyperpolarized [1â€< sup>13C]pyruvate and [1â€< sup>13C]lactate with spectral suppression of alanine and pyruvateâ€hydrate. Magnetic Resonance in Medicine, 2018, 80, 1048-1060.	1.9	19
75	<scp>Wholeâ€Abdomen</scp> Metabolic Imaging of Healthy Volunteers Using Hyperpolarized [<scp>1â€¹³C</scp>]pyruvate <scp>MRI</scp> . Journal of Magnetic Resonance Imaging, 2022, 56, 1792-1806.	1.9	19
76	Non-invasive detection of divergent metabolic signals in insulin deficiency vs. insulin resistance inÂvivo. Scientific Reports, 2018, 8, 2088.	1.6	18
77	Simultaneous Metabolic and Perfusion Imaging Using Hyperpolarized 13C MRI Can Evaluate Early and Dose-Dependent Response to Radiation Therapy in a Prostate Cancer Mouse Model. International Journal of Radiation Oncology Biology Physics, 2020, 107, 887-896.	0.4	18
78	Denoising of hyperpolarized ¹³ C MR images of the human brain using patchâ€based higherâ€order singular value decomposition. Magnetic Resonance in Medicine, 2021, 86, 2497-2511.	1.9	18
79	Pilot Study of Hyperpolarized ¹³ C Metabolic Imaging in Pediatric Patients with Diffuse Intrinsic Pontine Glioma and Other CNS Cancers. American Journal of Neuroradiology, 2021, 42, 178-184.	1.2	18
80	Handheld electromagnet carrier for transfer of hyperpolarized carbonâ€13 samples. Magnetic Resonance in Medicine, 2016, 75, 917-922.	1.9	17
81	Development and testing of hyperpolarized 13C MR calibrationless parallel imaging. Journal of Magnetic Resonance, 2016, 262, 1-7.	1.2	17
82	Hyperpolarized 1-[13C]-Pyruvate Magnetic Resonance Imaging Detects an Early Metabolic Response to Immune Checkpoint Inhibitor Therapy in Prostate Cancer. European Urology, 2022, 81, 219-221.	0.9	17
83	High resolution T2-weighted imaging of the human brain using surface coils and an analytical reception profile correction. Journal of Magnetic Resonance Imaging, 1997, 7, 512-517.	1.9	16
84	Multiband spectral-spatial RF excitation for hyperpolarized [2- $<$ sup>13C]dihydroxyacetone ¹³ C-MR metabolism studies. Magnetic Resonance in Medicine, 2017, 77, 1419-1428.	1.9	14
85	Elevated Tumor Lactate and Efflux in High-grade Prostate Cancer demonstrated by Hyperpolarized 13C Magnetic Resonance Spectroscopy of Prostate Tissue Slice Cultures. Cancers, 2020, 12, 537.	1.7	14
86	Combining hyperpolarized ¹³ C MRI with a liver-specific gadolinium contrast agent for selective assessment of hepatocyte metabolism. Magnetic Resonance in Medicine, 2017, 77, 2356-2363.	1.9	13
87	Cancer recurrence monitoring using hyperpolarized [1-13C]pyruvate metabolic imaging in murine breast cancer model. Magnetic Resonance Imaging, 2017, 43, 105-109.	1.0	13
88	Effects of excitation angle strategy on quantitative analysis of hyperpolarized pyruvate. Magnetic Resonance in Medicine, 2019, 81, 3754-3762.	1.9	13
89	Pulse sequence considerations for quantification of pyruvateâ€toâ€lactate conversion <i>k</i> _{PL} in hyperpolarized ¹³ C imaging. NMR in Biomedicine, 2019, 32, e4052.	1.6	13
90	A metaboliteâ€specific 3D stackâ€ofâ€spiral bSSFP sequence for improved lactate imaging in hyperpolarized [1â€ ¹³ C]pyruvate studies on a 3T clinical scanner. Magnetic Resonance in Medicine, 2020, 84, 1113-1125.	1.9	13

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91	Resistance to Androgen Deprivation Leads to Altered Metabolism in Human and Murine Prostate Cancer Cell and Tumor Models. Metabolites, 2021, 11, 139.	1.3	13
92	Background-free dual-mode optical and sup 13 / sup C magnetic resonance imaging in diamond particles. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	13
93	Measuring Tumor Metabolism in Pediatric Diffuse Intrinsic Pontine Glioma Using Hyperpolarized Carbon-13 MR Metabolic Imaging. Contrast Media and Molecular Imaging, 2018, 2018, 1-6.	0.4	12
94	Chemical shift separation with controlled aliasing for hyperpolarized ¹³ C metabolic imaging. Magnetic Resonance in Medicine, 2015, 74, 978-989.	1.9	11
95	Misâ€estimation and bias of hyperpolarized apparent diffusion coefficient measurements due to slice profile effects. Magnetic Resonance in Medicine, 2017, 78, 1087-1092.	1.9	11
96	Development of specialized magnetic resonance acquisition techniques for human hyperpolarized [¹³ <scp>C</scp> , ¹⁵ <scp>N₂</scp>]urea + [<scp>1â€</scp> ¹³ <scp>C</scp>]pyruvate simultaneous perfusion and metabolic imaging. Magnetic Resonance in Medicine, 2022, 88, 1039-1054.	1.9	11
97	Measurement of T1 relaxation times of cardiac phosphate metabolites using BIR-4 adiabatic RF pulses and a variable nutation method. Magnetic Resonance in Medicine, 1993, 29, 688-691.	1.9	10
98	Hyperpolarized [¹³ C]ketobutyrate, a molecular analog of pyruvate with modified specificity for LDH isoforms. Magnetic Resonance in Medicine, 2016, 75, 1894-1900.	1.9	10
99	Multiband RF pulses with improved performance via convex optimization. Journal of Magnetic Resonance, 2016, 262, 81-90.	1.2	10
100	Assessing highâ€intensity focused ultrasound treatment of prostate cancer with hyperpolarized ¹³ C dualâ€agent imaging of metabolism and perfusion. NMR in Biomedicine, 2019, 32, e3962.	1.6	10
101	Slice profile effects on quantitative analysis of hyperpolarized pyruvate. NMR in Biomedicine, 2020, 33, e4373.	1.6	10
102	Metabolic MRI with hyperpolarized [1- ¹³ C]pyruvate separates benign oligemia from infarcting penumbra in porcine stroke. Journal of Cerebral Blood Flow and Metabolism, 2021, 41, 2916-2927.	2.4	10
103	Current human brain applications and challenges of dynamic hyperpolarized carbon-13 labeled pyruvate MR metabolic imaging. European Journal of Nuclear Medicine and Molecular Imaging, 2021, 48, 4225-4235.	3.3	10
104	Dynamic UltraFast 2D EXchange SpectroscopY (UF-EXSY) of hyperpolarized substrates. Journal of Magnetic Resonance, 2015, 257, 102-109.	1.2	9
105	Sensitivity enhancement for detection of hyperpolarized ¹³ C MRI probes with ¹ H spin coupling introduced by enzymatic transformation in vivo. Magnetic Resonance in Medicine, 2018, 80, 36-41.	1.9	9
106	Tumor metabolism and neurocognition in CNS lymphoma. Neuro-Oncology, 2021, 23, 1668-1679.	0.6	9
107	A 2DRF pulse sequence for bolus tracking in hyperpolarized ¹³ <i>C</i> imaging. Magnetic Resonance in Medicine, 2015, 74, 506-512.	1.9	8
108	Using a local low rank plus sparse reconstruction to accelerate dynamic hyperpolarized 13 C imaging using the bSSFP sequence. Journal of Magnetic Resonance, 2018, 290, 46-59.	1.2	8

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109	Using bidirectional chemical exchange for improved hyperpolarized [¹³ C]bicarbonate pH imaging. Magnetic Resonance in Medicine, 2019, 82, 959-972.	1.9	8
110	Initial Experience on Hyperpolarized [1-13C]Pyruvate MRI Multicenter Reproducibility—Are Multicenter Trials Feasible?. Tomography, 2022, 8, 585-595.	0.8	8
111	Investigating tumor perfusion by hyperpolarized 13 C MRI with comparison to conventional gadolinium contrastâ€enhanced MRI and pathology in orthotopic human GBM xenografts. Magnetic Resonance in Medicine, 2017, 77, 841-847.	1.9	7
112	In vivo hyperpolarization transfer in a clinical MRI scanner. Magnetic Resonance in Medicine, 2018, 80, 480-487.	1.9	7
113	Specialized computational methods for denoising, B 1 correction, and kinetic modeling in hyperpolarized 13 C MR EPSI studies of liver tumors. Magnetic Resonance in Medicine, 2021, 86, 2402-2411.	1.9	6
114	Simultaneous T1 and T2 mapping of hyperpolarized 13C compounds using the bSSFP sequence. Journal of Magnetic Resonance, 2020, 312, 106691.	1.2	5
115	Kinetic analysis of multiâ€resolution hyperpolarized ¹³ C human brain MRI to study cerebral metabolism. Magnetic Resonance in Medicine, 2022, 88, 2190-2197.	1.9	5
116	Evaluation of common RF coil setups for MR imaging at ultrahigh magnetic field., 2011, 2011, .		4
117	Diffusionâ€weighted imaging of hyperpolarized [¹³ C]urea in mouse liver. Journal of Magnetic Resonance Imaging, 2018, 47, 141-151.	1.9	4
118	55 Mnâ€based fiducial markers for rapid and automated RF coil localization for hyperpolarized 13 C MRI. Magnetic Resonance in Medicine, 2021, 85, 518-530.	1.9	3
119	Quadrature transmit array design using single-feed circularly polarized patch antenna for parallel transmission in MR imaging. Quantitative Imaging in Medicine and Surgery, 2014, 4, 11-8.	1.1	3
120	Directly detected 55Mn MRI: Application to phantoms for human hyperpolarized 13C MRI development. Magnetic Resonance Imaging, 2014, 32, 1165-1170.	1.0	1
121	Hyperpolarized [¹³ C]ketobutyrate, a molecular analog of pyruvate with modified specificity for LDH isoforms. Magnetic Resonance in Medicine, 2016, 75, spcone-spcone.	1.9	O