Torsten Gutmann

List of Publications by Year
in descending order

111	2,241	201674 27	302126 39
papers	citations	h-index	g-index

118	118	118	2327
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Regioselective and Stereospecific Deuteration of Bioactive Aza Compounds by the Use of Ruthenium Nanoparticles. Angewandte Chemie - International Edition, 2014, 53, 230-234.	13.8	122
2	Air-Stable Gold Nanoparticles Ligated by Secondary Phosphine Oxides as Catalyst for the Chemoselective Hydrogenation of Substituted Aldehydes: a Remarkable Ligand Effect. Journal of the American Chemical Society, 2015, 137, 7718-7727.	13.7	99
3	Multi-responsive cellulose nanocrystalâ€“rhodamine conjugates: an advanced structure study by solid-state dynamic nuclear polarization (DNP) NMR. Physical Chemistry Chemical Physics, 2014, 16, 26322-26329.	2.8	63
4	Secondary phosphineoxides as pre-ligands for nanoparticle stabilization. Catalysis Science and Technology, 2013, 3, 595-599.	4.1	60
5	Natural Abundance ¹⁵Nâ€…NMR by Dynamic Nuclear Polarization: Fast Analysis of Binding Sites of a Novel Amineâ€Carboxylâ€Linked Immobilized Dirhodium Catalyst. Chemistry - A European Journal, 2015, 21, 3798-3805.	3.3	59
6	Design of a Heterogeneous Catalyst Based on Cellulose Nanocrystals for Cyclopropanation: Synthesis and Solidâ€State NMR Characterization. Chemistry - A European Journal, 2015, 21, 12414-12420.	3.3	49
7	Solid-state NMR concepts for the investigation of supported transition metal catalysts and nanoparticles. Solid State Nuclear Magnetic Resonance, 2013, 55-56, 1-11.	2.3	45
8	Synthesis, Solidâ€State NMR Characterization, and Application for Hydrogenation Reactions of a Novel Wilkinsonâ€™sâ€Type Immobilized Catalyst. Chemistry - A European Journal, 2014, 20, 1159-1166.	3.3	45
9	Hydrido-Ruthenium Cluster Complexes as Models for Reactive Surface Hydrogen Species of Ruthenium Nanoparticles. Solid-State ²H NMR and Quantum Chemical Calculations. Journal of the American Chemical Society, 2010, 132, 11759-11767.	13.7	44
10	Selective Câ€“H Activation at a Molecular Rhodium Sigma-Alkane Complex by Solid/Gas Single-Crystal to Single-Crystal H/D Exchange. Journal of the American Chemical Society, 2016, 138, 13369-13378.	13.7	42
11	Mechanisms of Dipolar Ortho/Para-H₂O Conversion in Ice. Zeitschrift Fur Physikalische Chemie, 2008, 222, 1049-1063.	2.8	40
12	From Molecular Complexes to Complex Metallic Nanostructuresâ€”²H Solidâ€State NMR Studies of Rutheniumâ€Containing Hydrogenation Catalysts. ChemPhysChem, 2013, 14, 3026-3033.	2.1	37
13	Directly vs Indirectly Enhanced ¹³C in Dynamic Nuclear Polarization Magic Angle Spinning NMR Experiments of Nonionic Surfactant Systems. Journal of Physical Chemistry C, 2017, 121, 2418-2427.	3.1	37
14	Understanding the leaching properties of heterogenized catalysts: A combined solid-state and PHIP NMR study. Solid State Nuclear Magnetic Resonance, 2010, 38, 90-96.	2.3	36
15	Water and small organic molecules as probes for geometric confinement in well-ordered mesoporous carbon materials. Physical Chemistry Chemical Physics, 2014, 16, 9327-9336.	2.8	36
16	Novel Biradicals for Direct Excitation Highfield Dynamic Nuclear Polarization. Journal of Physical Chemistry C, 2018, 122, 11422-11432.	3.1	36
17	NMR Signal Enhancement by Effective SABRE Labeling of Oligopeptides. Chemistry - A European Journal, 2015, 21, 12616-12619.	3.3	35
18	Getting Insights into the Influence of Crystal Plane Effect of Shaped Ceria on Its Catalytic Performances. Journal of Physical Chemistry C, 2018, 122, 20402-20409.	3.1	35

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19	Parahydrogen induced polarization in face of ketoâ€“enol tautomerism: proof of concept with hyperpolarized ethanol. Physical Chemistry Chemical Physics, 2012, 14, 5601.	2.8	34
20	Effective PHIP Labeling of Bioactive Peptides Boosts the Intensity of the NMR Signal. Angewandte Chemie - International Edition, 2014, 53, 12941-12945.	13.8	34
21	²H Solid-State NMR of Ruthenium Complexes. Journal of the American Chemical Society, 2008, 130, 17502-17508.	13.7	33
22	Imidazole-Doped Cellulose as Membrane for Fuel Cells: Structural and Dynamic Insights from Solid-State NMR. Journal of Physical Chemistry C, 2016, 120, 19574-19585.	3.1	33
23	Insights into the role of zirconium in proline functionalized metal-organic frameworks attaining high enantio- and diastereoselectivity. Journal of Catalysis, 2019, 377, 41-50.	6.2	33
24	51V solid-state NMR investigations and DFT studies of model compounds for vanadium haloperoxidases. Solid State Nuclear Magnetic Resonance, 2008, 34, 52-67.	2.3	29
25	PHIP-label: parahydrogen-induced polarization in propargylglycine-containing synthetic oligopeptides. Chemical Communications, 2013, 49, 7839.	4.1	29
26	Investigation of the surface chemistry of phosphine-stabilized ruthenium nanoparticles â€“ an advanced solid-state NMR study. Physical Chemistry Chemical Physics, 2013, 15, 17383.	2.8	29
27	Insights into the reaction mechanism and particle size effects of CO oxidation over supported Pt nanoparticle catalysts. Journal of Catalysis, 2019, 377, 662-672.	6.2	29
28	Para-hydrogen induced polarization in homogeneous phaseâ€”an example of how ionic liquids affect homogenization and thus activation of catalysts. Physical Chemistry Chemical Physics, 2009, 11, 9170.	2.8	27
29	Recent Advances in Solid State NMR of Small Molecules in Confinement. Israel Journal of Chemistry, 2014, 54, 60-73.	2.3	27
30	Dynamic Nuclear Polarization Signal Amplification as a Sensitive Probe for Specific Functionalization of Complex Paper Substrates. Journal of Physical Chemistry C, 2017, 121, 3896-3903.	3.1	27
31	Unusual Local Molecular Motions in the Solid State Detected by Dynamic Nuclear Polarization Enhanced NMR Spectroscopy. Journal of Physical Chemistry C, 2017, 121, 22948-22957.	3.1	27
32	Synthesis and solid state NMR characterization of novel peptide/silica hybrid materials. Solid State Nuclear Magnetic Resonance, 2015, 72, 73-78.	2.3	26
33	DFT 2H quadrupolar coupling constants of ruthenium complexes: a good probe of the coordination of hydrides in conjuction with experiments. Physical Chemistry Chemical Physics, 2009, 11, 5657.	2.8	24
34	Time domain para hydrogen induced polarization. Solid State Nuclear Magnetic Resonance, 2012, 43-44, 14-21.	2.3	24
35	Tin-decorated ruthenium nanoparticles: a way to tune selectivity in hydrogenation reaction. Nanoscale, 2014, 6, 9806-9816.	5.6	24
36	Correlations between 51V solid-state NMR parameters and chemical structure of vanadium (V) complexes as models for related metalloproteins and catalysts. Solid State Nuclear Magnetic Resonance, 2009, 36, 192-201.	2.3	23

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37	Revealing the Position of the Substrate in Nickel Superoxide Dismutase: A Model Study. Angewandte Chemie - International Edition, 2011, 50, 2946-2950.	13.8	22
38	Solid-state NMR of nanocrystals. Annual Reports on NMR Spectroscopy, 2019, 97, 1-82.	1.5	22
39	Heterogeneous self-supported dirhodium(<scp>ii</scp>) catalysts with high catalytic efficiency in cyclopropanation â€“ a structural study. Catalysis Science and Technology, 2016, 6, 7830-7840.	4.1	21
40	Mixtures of Isobutyric Acid and Water Confined in Cylindrical Silica Nanopores Revisited: A Combined Solid-State NMR and Molecular Dynamics Simulation Study. Journal of Physical Chemistry C, 2015, 119, 28961-28969.	3.1	20
41	Revealing Structure Reactivity Relationships in Heterogenized Dirhodium Catalysts by Solid-State NMR Techniques. Journal of Physical Chemistry C, 2017, 121, 17409-17416.	3.1	20
42	Mixtures of Alcohols and Water confined in Mesoporous Silica: A Combined Solid-State NMR and Molecular Dynamics Simulation Study. Journal of Physical Chemistry C, 2018, 122, 19540-19550.	3.1	20
43	Efficient, Selfâ€Terminating Isolation of Cellulose Nanocrystals through Periodate Oxidation in Pickering Emulsions. ChemSusChem, 2018, 11, 3581-3585.	6.8	20
44	Direct Observation of Coordinatively Unsaturated Sites on the Surface of a Fluoride-Doped Alumina Catalyst. Journal of Physical Chemistry C, 2017, 121, 12206-12213.	3.1	19
45	Thermoreversible Selfâ€Assembly of Perfluorinated Coreâ€Coronas Celluloseâ€Nanoparticles in Dry State. Advanced Materials, 2017, 29, 1702473.	21.0	19
46	Unexpected selective alkaline periodate oxidation of chitin for the isolation of chitin nanocrystals. Green Chemistry, 2021, 23, 745-751.	9.0	19
47	DFT Calculations of ⁵¹V Solid-State NMR Parameters of Vanadium(V) Model Complexes. Zeitschrift Fur Physikalische Chemie, 2008, 222, 1389-1406.	2.8	18
48	Biofunctionalization of Nano Channels by Direct Inâ€Pore Solidâ€Phase Peptide Synthesis. Chemistry - A European Journal, 2018, 24, 17814-17822.	3.3	18
49	Magnetic Resonance Signal Amplification by Reversible Exchange of Selective PyFALGEA Oligopeptide Ligands Towards Epidermal Growth Factor Receptors. ChemBioChem, 2021, 22, 855-860.	2.6	18
50	Synthesis and Solidâ€State NMR Characterization of a Robust, Pyridylâ€Based Immobilized Wilkinson's Type Catalyst with High Catalytic Performance. ChemCatChem, 2016, 8, 3409-3416.	3.7	16
51	Chemically Modified Silica Materials as Model Systems for the Characterization of Water-Surface Interactions. Zeitschrift Fur Physikalische Chemie, 2018, 232, 1127-1146.	2.8	16
52	Gas phase ¹H NMR studies and kinetic modeling of dihydrogen isotope equilibration catalyzed by Ru-nanoparticles under normal conditions: dissociative vs. associative exchange. Physical Chemistry Chemical Physics, 2018, 20, 10697-10712.	2.8	16
53	The mechanochemical Friedelâ€Crafts polymerization as a solventâ€free crossâ€linking approach toward microporous polymers. Journal of Polymer Science, 2022, 60, 62-71.	3.8	16
54	2H NMR calculations on polynuclear transition metal complexes: on the influence of local symmetry and other factors. Physical Chemistry Chemical Physics, 2011, 13, 20199.	2.8	15

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55	Novel dirhodium coordination polymers: the impact of side chains on cyclopropanation. Catalysis Science and Technology, 2018, 8, 5190-5200.	4.1	15
56	Surprising Differences of Alkane Câ€H Activation Catalyzed by Ruthenium Nanoparticles: Complex Surfaceâ€Substrate Recognition?. ChemCatChem, 2018, 10, 4243-4247.	3.7	15
57	Trityl-Aryl-Nitroxide-Based Genuinely g-Engineered Biradicals, As Studied by Dynamic Nuclear Polarization, Multifrequency ESR/ENDOR, Arbitrary Wave Generator Pulse Microwave Waveform Spectroscopy, and Quantum Chemical Calculations. Journal of Physical Chemistry A, 2019, 123, 7507-7517.	2.5	15
58	Structural Insights into Peptides Bound to the Surface of Silica Nanopores. Chemistry - A European Journal, 2019, 25, 5214-5221.	3.3	15
59	Efficient analysis of 51V solid-state MAS NMR spectra using genetic algorithms. Solid State Nuclear Magnetic Resonance, 2009, 35, 37-48.	2.3	14
60	Densities, Viscosities, and Self-Diffusion Coefficients of Ethylene Glycol Oligomers. Journal of Chemical & Engineering Data, 2021, 66, 2480-2500.	1.9	14
61	Effektive Markierung von bioaktiven Peptiden mit PHIPâ€Markern zur Steigerung der Empfindlichkeit von NMRâ€Signalen. Angewandte Chemie, 2014, 126, 13155-13159.	2.0	13
62	Structural characterization of vanadium environments in MCM-41 molecular sieve catalysts by solid state ⁵¹V NMR. Catalysis Science and Technology, 2019, 9, 6180-6190.	4.1	13
63	N-Hydroxysuccinimide-activated esters as a functionalization agent for amino cellulose: synthesis and solid-state NMR characterization. Cellulose, 2020, 27, 1239-1254.	4.9	13
64	Fluid Flow Programming in Paper-Derived Silicaâ€“Polymer Hybrids. Langmuir, 2017, 33, 332-339.	3.5	12
65	Characterization of Vâ€“Moâ€“W Mixed Oxide Catalyst Surface Species by ⁵¹V Solid-State Dynamic Nuclear Polarization NMR. Journal of Physical Chemistry C, 2017, 121, 20857-20864.	3.1	12
66	Preceramic core-shell particles for the preparation of hybrid colloidal crystal films by melt-shear organization and conversion into porous ceramics. Materials and Design, 2018, 160, 926-935.	7.0	12
67	Room temperature CO oxidation catalysed by supported Pt nanoparticles revealed by solid-state NMR and DNP spectroscopy. Catalysis Science and Technology, 2019, 9, 3743-3752.	4.1	12
68	Quasi-Equilibria and Polarization Transfer Between Adjacent and Remote Spins: ¹Hâ€“¹³C CP MAS Kinetics in Glycine. Journal of Physical Chemistry A, 2018, 122, 8938-8947.	2.5	11
69	Reactions of D 2 with 1,4â€Bis(diphenylphosphino) butaneâ€Stabilized Metal Nanoparticlesâ€A Combined Gasâ€phase NMR, GCâ€MS and Solidâ€state NMR Study. ChemCatChem, 2019, 11, 1465-1471.	3.7	11
70	A comprehensive approach for the characterization of porous polymers using 13C and 15N dynamic nuclear polarization NMR spectroscopy. Physical Chemistry Chemical Physics, 2020, 22, 23307-23314.	2.8	11
71	A Mousetrap for Carbenium Ions: NMR Detectives at Work. Angewandte Chemie - International Edition, 2015, 54, 9450-9451.	13.8	10
72	³¹P-Solid-State NMR Characterization and Catalytic Hydrogenation Tests of Novel heterogenized Iridium-Catalysts. Zeitschrift Fur Physikalische Chemie, 2017, 231, 653-669.	2.8	9

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73	Efficient Building Blocks for Solidâ€Phase Peptide Synthesis of Spin Labeled Peptides for Electron Paramagnetic Resonance and Dynamic Nuclear Polarization Applications. ChemPhysChem, 2019, 20, 1475-1487.	2.1	9
74	Direct and Indirect Dynamic Nuclear Polarization Transfer Observed in Mesoporous Materials Impregnated with Nonionic Surfactant Solutions of Polar Polarizing Agents. Journal of Physical Chemistry C, 2020, 124, 5145-5156.	3.1	9
75	A Novel Wilkinsonâ€™s Type Silica Supported Polymer Catalyst: Insights from Solid-State NMR and Hyperpolarization Techniques. Journal of Physical Chemistry C, 2021, 125, 7178-7187.	3.1	9
76	SiCN Ceramics as Electrode Materials for Sodium/Sodium Ion Cells â€“ Insights from ²³Na Inâ€Situ Solidâ€State NMR. Batteries and Supercaps, 2022, 5, .	4.7	9
77	Densities, Viscosities, and Self-Diffusion Coefficients of Several Polyethylene Glycols. Journal of Chemical & Engineering Data, 2022, 67, 88-103.	1.9	9
78	Comparative Study of the Magnetic Field Dependent Signal Enhancement in Solid-State Dynamic Nuclear Polarization Experiments. Journal of Physical Chemistry C, 2017, 121, 27089-27097.	3.1	8
79	Free-Standing and Self-Crosslinkable Hybrid Films by Coreâ€“Shell Particle Design and Processing. Nanomaterials, 2017, 7, 390.	4.1	8
80	Surface Enhanced DNP Assisted Solid-State NMR of Functionalized SiO₂ Coated Polycarbonate Membranes. Zeitschrift Fur Physikalische Chemie, 2018, 232, 1173-1186.	2.8	8
81	Efficient Referencing of FSLG CPMAS HETCOR Spectra Using 2D 1Hâ€“1H MAS FSLG. Applied Magnetic Resonance, 2019, 50, 1399-1407.	1.2	8
82	¹⁹F MAS DNP for Probing Molecules in Nanomolar Concentrations: Direct Polarization as Key for Solid-State NMR Spectra without Solvent and Matrix Signals. Journal of Physical Chemistry C, 2021, 125, 7287-7296.	3.1	8
83	Solvent-free dynamic nuclear polarization enhancements in organically modified mesoporous silica. Physical Chemistry Chemical Physics, 2021, 23, 12559-12568.	2.8	8
84	New investigations of technical rhodium and iridium catalysts in homogeneous phase employing para-hydrogen induced polarization. Solid State Nuclear Magnetic Resonance, 2011, 40, 88-90.	2.3	7
85	Immobilization and Characterization of RuCl2(PPh3)3Mesoporous Silica SBA-3. Zeitschrift Fur Physikalische Chemie, 2013, 227, 901-915.	2.8	7
86	Substituent Influences on the NMR Signal Amplification of Ir Complexes with Heterocyclic Carbene Ligands. Applied Magnetic Resonance, 2019, 50, 895-902.	1.2	7
87	Selective DNP Signal Amplification To Probe Structures of Coreâ€“Shell Polymer Hybrid Nanoparticles. Journal of Physical Chemistry C, 2019, 123, 644-652.	3.1	7
88	Dirhodium Coordination Polymers for Asymmetric Cyclopropanation of Diazooxindoles with Olefins: Synthesis and Spectroscopic Analysis. ChemPlusChem, 2020, 85, 1737-1746.	2.8	7
89	Breakdown of the Stokesâ€“Einstein Equation for Solutions of Water in Oil Reverse Micelles. Journal of Physical Chemistry B, 2020, 124, 9115-9125.	2.6	7
90	Combining Freezing Point Depression and Self-Diffusion Data for Characterizing Aggregation. Journal of Physical Chemistry B, 2018, 122, 4913-4921.	2.6	6

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91	Design and characterization of novel dirhodium coordination polymers â€“ the impact of ligand size on selectivity in asymmetric cyclopropanation. Catalysis Science and Technology, 2021, 11, 3481-3492.	4.1	6
92	Trifunctional Silyl Groups as Anchoring Units in the Preparation of Luminescent Phospholeâ€“Silica Hybrids. Inorganic Chemistry, 2021, 60, 14263-14274.	4.0	6
93	Deuterium NMR Studies of the Solidâ€“Liquid Phase Transition of Octanol-d₁₇ Confined in SBA-15. Journal of Physical Chemistry C, 2021, 125, 25155-25164.	3.1	6
94	Efficient design of multituned transmission line NMR probes: The electrical engineering approach. Solid State Nuclear Magnetic Resonance, 2011, 39, 72-80.	2.3	5
95	Dipolar induced Para-Hydrogen-Induced Polarization. Solid State Nuclear Magnetic Resonance, 2014, 63-64, 20-29.	2.3	5
96	Direct Observation of Carbonate Formation in Partly Hydrated Tricalcium Silicate by Dynamic Nuclear Polarization Enhanced NMR Spectroscopy. Journal of Physical Chemistry C, 2021, 125, 7321-7328.	3.1	5
97	Immobilization of a chiral dirhodium catalyst on SBA-15 via click-chemistry: Application in the asymmetric cyclopropanation of 3-diazooxindole with aryl alkenes. Journal of CO2 Utilization, 2021, 52, 101682.	6.8	5
98	Parahydrogenâ€induced polarization of carboxylic acids: a pilot study of valproic acid and related structures. NMR in Biomedicine, 2014, 27, 810-816.	2.8	4
99	Modification of Bacterial Cellulose Membrane with 1,4-Bis(triethoxysilyl)benzene: A Thorough Physicalâ€“Chemical Characterization Study. Journal of Physical Chemistry C, 2021, 125, 4498-4508.	3.1	4
100	A novel strategy for site selective spin-labeling to investigate bioactive entities by DNP and EPR spectroscopy. Scientific Reports, 2021, 11, 13714.	3.3	4
101	Solid-state NMR studies of non-ionic surfactants confined in mesoporous silica. Zeitschrift Fur Physikalische Chemie, 2022, 236, 939-960.	2.8	4
102	Surface reactions of ammonia on ruthenium nanoparticles revealed by¹⁵N and¹³C solid-state NMR. Catalysis Science and Technology, 2021, 11, 4509-4520.	4.1	3
103	Mechanism of Heterogenization of Dirhodium Catalysts: Insights from DFT Calculations. Inorganic Chemistry, 2021, 60, 6239-6248.	4.0	3
104	Light Amplification Materials Based on Biopolymers Doped with Dye Moleculesâ€”Structural Insights from 15N and 13C Solid-State Dynamic Nuclear Polarization. Journal of Physical Chemistry C, 0, , .	3.1	3
105	Solid-State Nuclear Magnetic Resonance as a Versatile Tool To Identify the Main Chemical Components of Epoxy-Based Thermosets. ACS Omega, 2020, 5, 5412-5420.	3.5	2
106	Characterization of Functional Groups in Estuarine Dissolved Organic Matter by DNPâ€enhanced ¹⁵N and ¹³C Solidâ€State NMR. ChemPhysChem, 2021, 22, 1907-1913.	2.1	2
107	Dirhodium complex immobilization on modified cellulose for highly selective heterogeneous cyclopropanation reactions. Cellulose, 2022, 29, 6283-6299.	4.9	2
108	Solid-state NMR Studies of Supported Transition Metal Catalysts and Nanoparticles. , 2017, , 1-21.		1

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109	Effects of Spiro-Cyclohexane Substitution of Nitroxyl Biradicals on Dynamic Nuclear Polarization. Molecules, 2022, 27, 3252.	3.8	1
110	Correction to â€œDirectly vs Indirectly Enhanced 13C in Dynamic Nuclear Polarization Magic Angle Spinning NMR Experiments of Nonionic Surfactant Systemsâ€• Journal of Physical Chemistry C, 2017, 121, 23847-23847.	3.1	0
111	Solid-State NMR Studies of Supported Transition Metal Catalysts and Nanoparticles. , 2018, , 683-703.		0