Alexander G Stepanov

List of Publications by Year
in descending order

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185	5,804	71102	110387
papers	citations	41 h-index	64 g-index

190	190	190	4597
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Defibrillation of soft porous metal-organic frameworks with electric fields. Science, 2017, 358, 347-351.	12.6	352
2	Hybrid Polyoxotungstate/MIL-101 Materials: Synthesis, Characterization, and Catalysis of H₂O₂-Based Alkene Epoxidation. Inorganic Chemistry, 2010, 49, 2920-2930.	4.0	228
3	Oxidation of methane to methanol on the surface of FeZSM-5 zeolite. Journal of Catalysis, 2013, 300, 47-54.	6.2	160
4	Different Efficiency of Zn²⁺ and ZnO Species for Methane Activation on Zn-Modified Zeolite. ACS Catalysis, 2017, 7, 1818-1830.	11.2	151
5	Understanding Methane Aromatization on a Znâ€Modified Highâ€Silica Zeolite. Angewandte Chemie - International Edition, 2008, 47, 4559-4562.	13.8	143
6	Dynamics of Benzene Rings in MILâ€53(Cr) and MILâ€47(V) Frameworks Studied by ²Hâ€...NMR Spectroscopy. Angewandte Chemie - International Edition, 2010, 49, 4791-4794.	13.8	127
7	Strong acidity of silanol groups of zeolite beta: Evidence from the studies by IR spectroscopy of adsorbed CO and 1H MAS NMR. Microporous and Mesoporous Materials, 2010, 131, 210-216.	4.4	111
8	Porous Metalâ€“Organic Polyhedral Frameworks with Optimal Molecular Dynamics and Pore Geometry for Methane Storage. Journal of the American Chemical Society, 2017, 139, 13349-13360.	13.7	99
9	Probing the Dynamics of the Porous Zr Terephthalate UiO-66 Framework Using ²H NMR and Neutron Scattering. Journal of Physical Chemistry C, 2012, 116, 12131-12136.	3.1	97
10	Mobility of the 2-Methylimidazolate Linkers in ZIF-8 Probed by ²H NMR: Saloon Doors for the Guests. Journal of Physical Chemistry C, 2015, 119, 27512-27520.	3.1	97
11	Methane aromatization on Zn-modified zeolite in the presence of a co-reactant higher alkane: How does it occur?. Catalysis Today, 2009, 144, 265-272.	4.4	87
12	13C CP/MAS and2H NMR study of tert-butyl alcohol dehydration on H-ZSM-5 zeolite. Evidence for the formation of tert-butyl cation and tert-butyl silyl ether intermediates. Catalysis Letters, 1992, 13, 407-422.	2.6	78
13	Tailoring porosity and rotational dynamics in a series of octacarboxylate metal-organic frameworks. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3056-3061.	7.1	73
14	The â€œAlkylâ€•and â€œCarbeniumâ€•Pathways of Methane Activation on Ga-Modified Zeolite BEA: ¹³C Solid-State NMR and GC-MS Study of Methane Aromatization in the Presence of Higher Alkane. Journal of Physical Chemistry C, 2010, 114, 21555-21561.	3.1	72
15	Methane Activation and Transformation on Ag/H-ZSM-5 Zeolite Studied with Solid-State NMR. Journal of Physical Chemistry C, 2013, 117, 7690-7702.	3.1	72
16	The Nature, Structure, and Composition of Adsorbed Hydrocarbon Products of Ambient Temperature Oligomerization of Ethylene on Acidic Zeolite H-ZSM-5. Journal of Catalysis, 1998, 178, 466-477.	6.2	71
17	Significant Influence of Zn on Activation of the Câ€H Bonds of Small Alkanes by BrÃ¸nsted Acid Sites of Zeolite. ChemPhysChem, 2008, 9, 2559-2563.	2.1	70
18	NMR Observation of the Koch Reaction in Zeolite H-ZSM-5 under Mild Conditions. Journal of the American Chemical Society, 1995, 117, 3615-3616.	13.7	69

#	Article	IF	Citations
19	Direct Measurement of Zeolite BrÃ¸nsted Acidity by FTIR Spectroscopy: Solid-State ¹H MAS NMR Approach for Reliable Determination of the Integrated Molar Absorption Coefficients. Journal of Physical Chemistry C, 2018, 122, 25386-25395.	3.1	69
20	Methane Activation on Zn²⁺-Exchanged ZSM-5 Zeolites. The Effect of Molecular Oxygen Addition. Journal of Physical Chemistry C, 2015, 119, 24910-24918.	3.1	67
21	Zn-promoted hydrogen exchange for methane and ethane on Zn/H-BEA zeolite: In situ 1H MAS NMR kinetic study. Journal of Catalysis, 2008, 253, 11-21.	6.2	65
22	Superprotonic Conductivity in Metalâ€“Organic Framework via Solvent-Free Coordinative Urea Insertion. Journal of the American Chemical Society, 2020, 142, 6861-6865.	13.7	65
23	Propane Aromatization on Zn-Modified Zeolite BEA Studied by Solid-State NMR in Situ. Journal of Physical Chemistry C, 2010, 114, 12681-12688.	3.1	64
24	Post-synthetic modulation of the charge distribution in a metalâ€“organic framework for optimal binding of carbon dioxide and sulfur dioxide. Chemical Science, 2019, 10, 1472-1482.	7.4	62
25	Formation of Carboxylic Acids from Alcohols and Olefins in Zeolite H-ZSM-5 under Mild Conditions via Trapping of Alkyl Carbenium Ions with Carbon Monoxide: Anin Situ13C Solid State NMR Study. Journal of Catalysis, 1996, 164, 411-421.	6.2	59
26	Enhancement of Proton Conductivity in Nonporous Metalâ€“Organic Frameworks: The Role of Framework Proton Density and Humidity. Chemistry of Materials, 2018, 30, 7593-7602.	6.7	55
27	Interaction of Olefins with Carbon Monoxide on Zeolite H-ZSM-5. NMR Observation of the Friedelâ€“Crafts Acylation of Alkenes at Ambient Temperature. Journal of the American Chemical Society, 1996, 118, 10890-10891.	13.7	54
28	In situ monitoring of n-butene conversion on H-ferrierite by 1H, 2H, and 13C MAS NMR: kinetics of a double-bond-shift reaction, hydrogen exchange, and the 13C-label scrambling. Journal of Catalysis, 2005, 229, 243-251.	6.2	54
29	In Situ1H and13C MAS NMR Kinetic Study of the Mechanism of H/D Exchange for Propane on Zeolite Hâ€“ZSM-5. Journal of Physical Chemistry B, 2005, 109, 19748-19757.	2.6	50
30	Structural Dynamics in a â€œBreathingâ€•Metalâ€“Organic Framework Studied by Electron Paramagnetic Resonance of Nitroxide Spin Probes. Journal of Physical Chemistry Letters, 2014, 5, 20-24.	4.6	48
31	Carbenium ion properties of octene-1 adsorbed on zeolite H-ZSM-5. Catalysis Letters, 1994, 24, 271-284.	2.6	47
32	Formation of Carboxylic Acids from Small Alkanes in Zeolite H-ZSM-5. Chemistry - A European Journal, 2000, 6, 2368-2376.	3.3	47
33	-Butene Conversion on H-Ferrierite Studied by C MAS NMR. Journal of Catalysis, 2002, 211, 165-172.	6.2	47
34	Spectral modification of femtosecond laser pulses in the process of highly efficient generation of terahertz radiation via optical rectification. JETP Letters, 2007, 85, 227-230.	1.4	47
35	Methane Activation on In-Modified ZSM-5: The State of Indium in the Zeolite and Pathways of Methane Transformation to Surface Species. Journal of Physical Chemistry C, 2014, 118, 8034-8043.	3.1	47
36	In situ high temperature MAS NMR study of the mechanisms of catalysis. Ethane aromatization on Zn-modified zeolite BEA. Solid State Nuclear Magnetic Resonance, 2009, 35, 113-119.	2.3	46

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37	Title is missing!. Catalysis Letters, 1998, 54, 1-4.	2.6	45
38	In Situ ¹³C Solidâ€State NMR and Ex Situ GCâ€“MS Analysis of the Products of tertâ€Butyl Alcohol Dehydration on Hâ€ZSMâ€5 Zeolite Catalyst. Chemistry - A European Journal, 1996, 2, 157-167.	3.3	44
39	In situ H and C MAS NMR study of the mechanism of H/D exchange for deuterated propane adsorbed on H-ZSM-5. Journal of Catalysis, 2005, 235, 221-228.	6.2	44
40	Diffusion of Xylene Isomers in the MIL-47(V) MOF Material: A Synergic Combination of Computational and Experimental Tools. Journal of Physical Chemistry C, 2013, 117, 6293-6302.	3.1	44
41	13C solid state NMR evidence for the existence of isobutyl carbenium ion in the reaction of isobutyl alcohol dehydration in H-ZSM-5 zeolite. Catalysis Letters, 1993, 19, 153-158.	2.6	43
42	Guest Controlled Rotational Dynamics of Terephthalate Phenylenes in Metalâ€“Organic Framework MIL-53(Al): Effect of Different Xylene Loadings. Journal of Physical Chemistry C, 2014, 118, 15978-15984.	3.1	42
43	Hydrogen Bonding Between Ions of Like Charge in Ionic Liquids Characterized by NMR Deuteron Quadrupole Coupling Constantsâ€”Comparison with Salt Bridges and Molecular Systems. Angewandte Chemie - International Edition, 2019, 58, 17863-17871.	13.8	41
44	13C CP/MAS NMR study of isobutyl alcohol dehydration on H-ZSM-5 zeolite. Evidence for the formation of stable isobutyl silyl ether intermediate. Catalysis Letters, 1992, 13, 395-405.	2.6	40
45	Experimental and Simulation Evidence of a Corkscrew Motion for Benzene in the Metalâ€“Organic Framework MIL-47. Journal of Physical Chemistry C, 2012, 116, 15093-15098.	3.1	40
46	Rotational and Translational Motion of Benzene in ZIF-8 Studied by ²H NMR: Estimation of Microscopic Self-Diffusivity and Its Comparison with Macroscopic Measurements. Journal of Physical Chemistry C, 2014, 118, 12873-12879.	3.1	39
47	Selective Gas Uptake and Rotational Dynamics in a (3,24)-Connected Metalâ€“Organic Framework Material. Journal of the American Chemical Society, 2021, 143, 3348-3358.	13.7	39
48	Diffusion of Benzene in the Breathing Metalâ€“Organic Framework MIL-53(Cr): A Joint Experimentalâ€“Computational Investigation. Journal of Physical Chemistry C, 2015, 119, 8217-8225.	3.1	38
49	Nature of the Surface Intermediates Formed from Methane on Cu-ZSM-5 Zeolite: A Combined Solid-State Nuclear Magnetic Resonance and Density Functional Theory Study. Journal of Physical Chemistry C, 2020, 124, 6242-6252.	3.1	38
50	Metal-Cation-Independent Dynamics of Phenylene Ring in Microporous MOFs: A ²H Solid-State NMR Study. Journal of Physical Chemistry C, 2015, 119, 28038-28045.	3.1	36
51	Regioselective H/D exchange of propane on Zn/H-MFI zeolite. Catalysis Letters, 2007, 114, 85-90.	2.6	35
52	Reactivity of Methoxy Species toward CO on Keggin 12-H₃PW₁₂O₄₀: A Study with Solid State NMR. Journal of Physical Chemistry C, 2009, 113, 19639-19644.	3.1	35
53	Uncovering the Rotation and Translational Mobility of Benzene Confined in UiO-66 (Zr) Metalâ€“Organic Framework by the ²H NMRâ€“QENS Experimental Toolbox. Journal of Physical Chemistry C, 2017, 121, 2844-2857.	3.1	35
54	Characterization of Doubly Ionic Hydrogen Bonds in Protic Ionic Liquids by NMR Deuteron Quadrupole Coupling Constants: Differences to Hâ€bonds in Amides, Peptides, and Proteins. Angewandte Chemie - International Edition, 2017, 56, 14310-14314.	13.8	35

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55	METAL-ORGANIC FRAMEWORKS IN RUSSIA: FROM THE SYNTHESIS AND STRUCTURE TO FUNCTIONAL PROPERTIES AND MATERIALS. Journal of Structural Chemistry, 2022, 63, 671-843.	1.0	35
56	Mechanism Studies of the Conversion of13C-Labeledn-Butane on Zeolite H-ZSM-5 by Using13C Magic Angle Spinning NMR Spectroscopy and GCâ€“MS Analysis. Chemistry - A European Journal, 2006, 12, 457-465.	3.3	34
57	Hydrogen H/D Exchange and Activation of C₁â€“n-C₄ Alkanes on Ga-Modified Zeolite BEA Studied with ¹H Magic Angle Spinning Nuclear Magnetic Resonance in Situ. Journal of Physical Chemistry C, 2011, 115, 13877-13886.	3.1	34
58	Carbonylation of dimethyl ether on solid Rh-promoted Cs-salt of Keggin 12-H3PW12O40: A solid-state NMR study of the reaction mechanism. Journal of Catalysis, 2011, 277, 72-79.	6.2	33
59	Molecular Dynamics ofn-Octane Inside Zeolite ZSM-5 As Studied by Deuterium Solid-State NMR and Quasi-Elastic Neutron Scattering. Journal of Physical Chemistry B, 1998, 102, 10860-10870.	2.6	32
60	n-Butane conversion on sulfated zirconia: the mechanism of isomerization and 13C-label scrambling as studied by in situ 13C MAS NMR and ex situ GC-MS. Journal of Catalysis, 2003, 220, 233-239.	6.2	31
61	Comparison of the dynamics of MIL-53(Cr) and MIL-47(V) frameworks using neutron scattering and DFT methods. European Physical Journal: Special Topics, 2010, 189, 263-271.	2.6	31
62	Interaction of Acetonitrile with Olefins and Alcohols in Zeolite Hâ€ZSMâ€5: In situ Solidâ€state NMR Characterization of the Reaction Products. Chemistry - A European Journal, 1997, 3, 47-56.	3.3	30
63	Synthesis of aluminum oxides from the products of the rapid thermal decomposition of hydrargillite in a centrifugal flash reactor: II. Physicochemical properties of the products obtained by the centrifugal thermal activation of hydrargillite. Kinetics and Catalysis, 2007, 48, 153-161.	1.0	30
64	Solid-State NMR Characterization of the Structure of Intermediates Formed from Olefins on Metal Oxides (Al₂O₃ and Ga₂O₃). Journal of Physical Chemistry C, 2012, 116, 21430-21438.	3.1	30
65	Diffusion of CH₄ in ZIF-8 Studied by Quasi-Elastic Neutron Scattering. Journal of Physical Chemistry C, 2015, 119, 16115-16120.	3.1	30
66	Kinetics of H/D Exchange for n-Butane on Zeolite H-ZSM-5 Studied with 1H MAS NMR In Situ. Journal of Physical Chemistry C, 2008, 112, 11869-11874.	3.1	29
67	Propane Transformation on Zn-Modified Zeolite. Effect of the Nature of Zn Species on Alkane Aromatization and Hydrogenolysis. Journal of Physical Chemistry C, 2019, 123, 30473-30485.	3.1	29
68	Which Species, Zn²⁺ Cations or ZnO Clusters, Are More Efficient for Olefin Aromatization? ¹³C Solid-State NMR Investigation of n-But-1-ene Transformation on Zn-Modified Zeolite. ACS Catalysis, 2020, 10, 14224-14233.	11.2	29
69	Propane carbonylation on sulfated zirconia catalyst as studied by 13C MAS NMR and FTIR spectroscopy. Journal of Catalysis, 2004, 223, 290-295.	6.2	28
70	Methane Carbonylation with CO on Sulfated Zirconia:â€‰ Evidence from Solid-State NMR for the Selective Formation of Acetic Acid. Journal of Physical Chemistry C, 2007, 111, 10624-10629.	3.1	28
71	Competitive pathways of methane activation on Zn²⁺-modified ZSM-5 zeolite: H/D hydrogen exchange with BrÃ¸nsted acid sites versus dissociative adsorption to form Zn-methyl species. Catalysis Science and Technology, 2016, 6, 6381-6388.	4.1	28
72	In situ NMR identification of the intermediates and the reaction products in alcohols and hydrocarbons conversion on zeolites. Catalysis Today, 1995, 24, 341-348.	4.4	27

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73	n-Pentane Conversion on Sulfated Zirconia in the Absence and Presence of Carbon Monoxide. Journal of Catalysis, 2001, 203, 273-280.	6.2	27
74	Ultraslow Dynamics of a Framework Linker in MIL-53 (Al) as a Sensor for Different Isomers of Xylene. Journal of Physical Chemistry C, 2016, 120, 21704-21709.	3.1	27
75	Dynamics of Isobutane inside Zeolite ZSM-5. A Study with Deuterium Solid-State NMR. Journal of Physical Chemistry B, 2002, 106, 10114-10120.	2.6	25
76	Parahydrogen-Induced Polarization Detected with Continuous Flow Magic Angle Spinning NMR. Journal of Physical Chemistry C, 2013, 117, 2888-2892.	3.1	25
77	Characterization and Dynamics of the Different Protonic Species in Hydrated 12-Tungstophosphoric Acid Studied by ²H NMR. Journal of Physical Chemistry C, 2014, 118, 30023-30033.	3.1	25
78	Methane Activation on In-Modified ZSM-5 Zeolite. H/D Hydrogen Exchange of the Alkane with BrÃ¸nsted Acid Sites. Journal of Physical Chemistry C, 2014, 118, 14427-14432.	3.1	25
79	Methane Activation on H-ZSM-5 Zeolite with Low Copper Loading. The Nature of Active Sites and Intermediates Identified with the Combination of Spectroscopic Methods. Inorganic Chemistry, 2020, 59, 2037-2050.	4.0	25
80	Metal-alkyl species are formed on interaction of small alkanes with gallium oxide: Evidence from solid-state NMR. Chemical Physics Letters, 2010, 496, 148-151.	2.6	24
81	Mobility and Reactivity of 4-Substituted TEMPO Derivatives in Metalâ€“Organic Framework MIL-53(Al). Journal of Physical Chemistry C, 2016, 120, 10698-10704.	3.1	23
82	Alkane/alkene mixture diffusion in silicalite-1 studied by MAS PFG NMR. Microporous and Mesoporous Materials, 2018, 257, 128-134.	4.4	23
83	Propylene Transformation on Zn-Modified Zeolite: Is There Any Difference in the Effect of Zn²⁺ Cations or ZnO Species on the Reaction Occurrence?. Journal of Physical Chemistry C, 2019, 123, 27573-27583.	3.1	23
84	Propane activation on Zn-modified zeolite. The effect of the nature of Zn-species on the mechanism of H/D hydrogen exchange of the alkane with BrÃ¸nsted acid sites. Journal of Catalysis, 2019, 378, 341-352.	6.2	23
85	Mobility of Aromatic Guests and Isobutane in ZIF-8 Metalâ€“Organic Framework Studied by ²H Solid State NMR Spectroscopy. Journal of Physical Chemistry C, 2019, 123, 13765-13774.	3.1	23
86	²H Solidâ€State NMR Spectroscopy Reveals the Dynamics of a Pyridine Probe Interacting with Coordinatively Unsaturated Metal Sites of MILâ€100(Al) Metalâ€“Organic Frameworks. Chemistry - A European Journal, 2019, 25, 10808-10812.	3.3	22
87	NMR Study of the Host Structure and Guest Dynamics Investigated with Alkane/Alkene Mixtures in Metal Organic Frameworks ZIF-8. Journal of Physical Chemistry C, 2019, 123, 1904-1912.	3.1	22
88	Comparison of the dynamics of n-hexane in ZSM-5 and 5A zeolite structures. European Physical Journal E, 2003, 12, 57-61.	1.6	21
89	Dynamics ofn-Hexane Inside Silicalite, As Studied by2H NMR. Journal of Physical Chemistry B, 2003, 107, 7095-7101.	2.6	21
90	In situ NMR spectroscopy in heterogeneous catalysis: Kinetic study of hydrocarbon conversion mechanisms. Kinetics and Catalysis, 2007, 48, 521-534.	1.0	21

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91	Water Dynamics in Bulk and Dispersed in Silica CaCl₂ Hydrates Studied by ²H NMR. Journal of Physical Chemistry C, 2008, 112, 12853-12860.	3.1	21
92	H/D exchange of molecular hydrogen with BrÃ¸nsted acid sites of Zn- and Ga-modified zeolite BEA. Physical Chemistry Chemical Physics, 2010, 12, 5149.	2.8	21
93	Dynamical heterogeneities in ionic liquids as revealed from deuteron NMR. Chemical Communications, 2018, 54, 3098-3101.	4.1	21
94	Deuterium solid-state NMR study of the molecular mobility and dehydration oftert-butyl alcohol on zeolite H-ZSM-5. Magnetic Resonance in Chemistry, 1994, 32, 16-23.	1.9	20
95	Molecular Dynamics ofiso-Butyl Alcohol Inside Zeolite H-ZSM-5 as Studied by Deuterium Solid-State NMR Spectroscopy. Journal of Physical Chemistry B, 2000, 104, 7677-7685.	2.6	20
96	n-Butane conversion on sulfated zirconia: in situ 13C MAS NMR monitoring of the kinetics of the 13C-label scrambling and isomerization. Catalysis Letters, 2005, 101, 181-185.	2.6	20
97	Coaromatization of Methane with Propane on Mo-Containing Zeolite H-BEA: A Solid-State NMR and GC-MS Study. Journal of Physical Chemistry C, 2013, 117, 22867-22873.	3.1	20
98	Solid-state NMR study of the kinetics and mechanism of dimethyl ether carbonylation on cesium salt of 12-tungstophosphoric acid modified with Ag, Pt, and Rh. Journal of Catalysis, 2013, 308, 250-257.	6.2	20
99	Probing the Guest-Mediated Structural Mobility in the UiO-66(Zr) Framework by 2H NMR Spectroscopy. Journal of Physical Chemistry C, 2017, 121, 11593-11600.	3.1	20
100	Pulse EPR Study of Gas Adsorption in Cu2+-Doped Metalâ€“Organic Framework [Zn2(1,4-bdc)2(dabco)]. Applied Magnetic Resonance, 2018, 49, 255-264.	1.2	20
101	1H MAS NMR monitoring of the 13C-labeled carbon scrambling for propane in zeolite H-ZSM-5. Chemical Physics Letters, 2006, 420, 574-576.	2.6	19
102	Probing Gas Adsorption in Metalâ€“Organic Framework ZIF-8 by EPR of Embedded Nitroxides. Journal of Physical Chemistry C, 2017, 121, 19880-19886.	3.1	19
103	Characterization of Fast Restricted Librations of Terephthalate Linkers in MOF UiO-66(Zr) by ²H NMR Spinâ€“Lattice Relaxation Analysis. Journal of Physical Chemistry C, 2018, 122, 12956-12962.	3.1	19
104	Study of the mechanism of ethylene oxidation by palladium(II) complexes containing nitro and/or nitrato ligands in chloroform. Journal of Molecular Catalysis, 1989, 50, 167-179.	1.2	17
105	High-resolution solid-state NMR spectroscopy in studies of conversions of hydrocarbons and alcohols on zeolites. Russian Chemical Reviews, 1999, 68, 563-580.	6.5	17
106	Dynamics of Linear n-C6â^'n-C22 Alkanes Inside 5A Zeolite Studied by 2H NMR. Journal of Physical Chemistry C, 2007, 111, 4393-4403.	3.1	17
107	Mobility of n-Butane in ZSM-5 Zeolite Studied by ²H NMR. Journal of Physical Chemistry C, 2010, 114, 2958-2966.	3.1	17
108	Mobility of tert-Butyl Alcohol in MFI Framework Type Studied by Deuterium NMR. Journal of Physical Chemistry C, 2012, 116, 8956-8963.	3.1	17

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109	Monitoring the Diffusivity of Light Hydrocarbons in a Mixture by Magic Angle Spinning Pulsed Field Gradient NMR: Methane/Ethane/Ethene in ZIF-8. Journal of Physical Chemistry C, 2017, 121, 25372-25376.	3.1	17
110	Counting cations involved in cationic clusters of hydroxy-functionalized ionic liquids by means of infrared and solid-state NMR spectroscopy. Physical Chemistry Chemical Physics, 2020, 22, 6861-6867.	2.8	17
111	Isobutene Transformation to Aromatics on Zn-Modified Zeolite: Particular Effects of Zn²⁺ and ZnO Species on the Reaction Occurrence Revealed with Solid-State NMR and FTIR Spectroscopy. Journal of Physical Chemistry C, 2021, 125, 15343-15353.	3.1	17
112	Mobility of Solidtert-Butyl Alcohol Studied by Deuterium NMR. Journal of Physical Chemistry A, 2011, 115, 7428-7436.	2.5	16
113	Structure of Allylic Intermediate on Zinc Oxide, Ï€ or Ïƒ?. Journal of Physical Chemistry C, 2012, 116, 11096-11099.	3.1	16
114	Carbonylation of dimethyl ether on Rh/Cs2HPW12O40: Solid-state NMR study of the mechanism of reaction in the presence of a methyl iodide promoter. Journal of Catalysis, 2012, 291, 9-16.	6.2	16
115	Direct ²H NMR Observation of the Proton Mobility of the Acidic Sites of Anhydrous 12â€Tungstophosphoric Acid. ChemPhysChem, 2013, 14, 1783-1786.	2.1	16
116	Effect of Copper State in Cu/H-ZSM-5 on Methane Activation by BrÃ¸nsted Acid Sites, Studied by 1H MAS NMR In Situ Monitoring the H/D Hydrogen Exchange of the Alkane with BrÃ¸nsted Acid Sites. Journal of Physical Chemistry C, 2021, 125, 2182-2193.	3.1	16
117	Two-dimensional J-resolved 13C solid-state NMR analysis of the products of ethylene conversion on zeolite H-ZSM-5. Solid State Nuclear Magnetic Resonance, 1993, 2, 89-93.	2.3	15
118	Methane Interaction with Zn²⁺-Exchanged Zeolite H-ZSM-5: Study of Adsorption and Mobility by One- and Two-Dimensional Variable-Temperature ¹H Solid-State NMR. Journal of Physical Chemistry C, 2015, 119, 14255-14261.	3.1	15
119	Mechanism of H/D Hydrogen Exchange of n-Butane with BrÃ¸nsted Acid Sites on Zn-Modified Zeolite: The Effect of Different Zn Species (Zn²⁺ and ZnO) on the Activation of Alkane Câ€“H Bonds. Journal of Physical Chemistry C, 2020, 124, 20270-20279.	3.1	15
120	Dynamics of propene and propane in ZIF-8 probed by solid-state 2H NMR. Physical Chemistry Chemical Physics, 2020, 22, 5976-5984.	2.8	15
121	Dynamics of xylene isomers in MIL-53 (Al) MOF probed by solid state 2H NMR. Microporous and Mesoporous Materials, 2020, 300, 110155.	4.4	15
122	UiO-66 (Zr) MOF as a Promising Material for Butane Isomers Separation: Evidence Based on the Analysis of the Adsorbed Alkanes Mobility by ²H NMR and Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2021, 125, 13391-13400.	3.1	15
123	The Ritter reaction in zeolite H-ZSM-5. NMR observation of the intermediate N-alkylnitrilium cation formed on interaction between ButOH and MeCN. Mendeleev Communications, 1996, 6, 238-239.	1.6	14
124	Deuterium Solid-State NMR Study of the Dynamic Behavior of Deuterons and Water Molecules in Solid D3PW12O40. Journal of Physical Chemistry B, 2003, 107, 12438-12443.	2.6	14
125	Effect of intense chirped pulses on the coherent phonon generation in Te. Applied Physics Letters, 2007, 90, 071901.	3.3	14
126	The effect of amorphization on the molecular motion of the 2-methylimidazolate linkers in ZIF-8. Chemical Communications, 2019, 55, 5906-5909.	4.1	14

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127	Results of NMR spectroscopic studies of hydrocarbon conversions on solid acid catalysts in the last 25 years. Kinetics and Catalysis, 2010, 51, 854-872.	1.0	13
128	Study on the mechanism of ethylene oxidation by a nitrite complex of palladium in chloroform medium. Journal of Molecular Catalysis, 1986, 37, 177-188.	1.2	12
129	1H NMR signal broadening in spectra of alkane molecules adsorbed on MFI-type zeolites. Solid State Nuclear Magnetic Resonance, 2008, 33, 65-71.	2.3	12
130	Mobility of Stable Ï€-Complexes of Ethylene with Ag⁺ Cations in Ag/H-ZSM-5 Zeolite: A ²H Solid-State NMR Study. Journal of Physical Chemistry C, 2016, 120, 4993-5000.	3.1	12
131	Does the Zn²⁺ Species Introduced into Hâ€ZSMâ€5 Zeolite Affect the Strength of BrÃ¸nsted Acid Sites?. ChemCatChem, 2020, 12, 478-487.	3.7	12
132	n-Butane transformation on Zn/H-BEA. The effect of different Zn species (Zn2+ and ZnO) on the reaction performance. Journal of Catalysis, 2020, 391, 69-79.	6.2	12
133	Methane Mobility in Ag/H-ZSM-5 Zeolite in the Presence of Ethene: A View Based on PFG ¹H MAS NMR Analysis of Methane Diffusivity. Journal of Physical Chemistry C, 2015, 119, 18481-18486.	3.1	11
134	The accuracy challenge of the DFT-based molecular assignment of 13C MAS NMR characterization of surface intermediates in zeolite catalysis. Physical Chemistry Chemical Physics, 2020, 22, 24004-24013.	2.8	11
135	Transformation of a proton insulator to a conductor via reversible amorphous to crystalline structure transformation of MOFs. Chemical Communications, 2020, 56, 4468-4471.	4.1	11
136	Nitro and nitrato palladium complexes in oxidation processes: The mechanism of the formation of 1,1- and 1,2-addition products during ethylene oxidation in chloroformâ€"acetic acid solution. Journal of Molecular Catalysis, 1992, 73, 115-146.	1.2	10
137	Dynamics of hydration water in CaCl2 complexes. Chemical Physics Letters, 2006, 419, 111-114.	2.6	10
138	Freezing the Motion in Hydroxy-Functionalized Ionic Liquidsâ€"Temperature Dependent NMR Deuteron Quadrupole Coupling Constants for Two Types of Hydrogen Bonds Far below the Glass Transition. Journal of Physical Chemistry Letters, 2020, 11, 6000-6006.	4.6	10
139	A new general method for the preparation of bis(acetylacetonato)dihalogenotin(IV) by action of molecular oxygen on tin(II) halides in acetylacetone. Journal of Organometallic Chemistry, 1989, 361, 157-159.	1.8	9
140	Formation of 2,6-dimethylaniline from 2,6-dimethylphenol with catalysts obtained via anchoring colloidal palladium compounds on carbon supports. Journal of Molecular Catalysis, 1989, 55, 415-428.	1.2	9
141	Carbonylation of Dimethyl Ether with CO on Solid 12-Tungstophosphoric Acid: In Situ Magic Angle Spinning NMR Monitoring of the Reaction Kinetics. Journal of Physical Chemistry C, 2013, 117, 11168-11175.	3.1	9
142	Solid-State NMR Characterization of BrÃ¸nsted Acid Sites of Cesium Salt of 12-Tungstophosphoric Acid. Journal of Physical Chemistry C, 2014, 118, 21042-21048.	3.1	9
143	Which Activation Energy Do We Measure? Analysis of the Kinetics of Propene-3-¹³C Double-Bond-Shift Reaction on Silicalite-1 by ¹H MAS NMR In Situ. Journal of Physical Chemistry C, 2018, 122, 23432-23440.	3.1	9
144	Dissecting the effects of water guest adsorption and framework breathing on the AlO₄(OH)₂ centres of metalâ€"organic framework MIL-53 (Al) by solid state NMR and structural analysis. Physical Chemistry Chemical Physics, 2021, 23, 18925-18929.	2.8	9

#	Article	IF	Citations
145	Guests Like Gear Levers: Donor Binding to Coordinatively Unsaturated Metal Sites in MILâ€101 Controls the Linkerâ€²s Rotation. Chemistry - A European Journal, 2019, 25, 5163-5168.	3.3	8
146	Simultaneous determination of deuteron quadrupole coupling constants and rotational correlation times: the model case of hydrogen bonded ionic liquids. Physical Chemistry Chemical Physics, 2019, 21, 25597-25605.	2.8	8
147	Dynamics of isobutane is a sensitive probe for framework breathing in MIL-53 (Al) MOF. Physical Chemistry Chemical Physics, 2020, 22, 18695-18702.	2.8	8
148	Structure, hydrogen bond dynamics and phase transition in a model ionic liquid electrolyte. Physical Chemistry Chemical Physics, 2022, 24, 6064-6071.	2.8	8
149	Selective Dimerization of Ethene to 2-Butene on Zn²⁺-Modified ZSM-5 Zeolite. Journal of Physical Chemistry C, 2022, 126, 6570-6577.	3.1	8
150	Spin delocalization from paramagnetic metal complexes [Cr(acac)3 and Fe(acac)3] to saturated hydrocarbons in CHCl3 and CCl4 solutions. Magnetic Resonance in Chemistry, 1986, 24, 705-708.	1.9	7
151	Femtosecond Two-Photon Laser Photoelectron Microscopy. Journal of Physical Chemistry A, 1998, 102, 4148-4153.	2.5	7
152	Hydrogen Bonding Between Ions of Like Charge in Ionic Liquids Characterized by NMR Deuteron Quadrupole Coupling Constantsâ€”Comparison with Salt Bridges and Molecular Systems. Angewandte Chemie, 2019, 131, 18027-18035.	2.0	7
153	Heterogeneous epoxidation of menadione with hydrogen peroxide over the zeolite imidazolate framework ZIF-8. Dalton Transactions, 2020, 49, 12546-12549.	3.3	7
154	Molecular Insight into the Slow Dynamics of C₄ Hydrocarbons in the Zeoliticâ€“Imidazole Framework (ZIF-8). ACS Applied Materials & Interfaces, 2021, 13, 33685-33692.	8.0	7
155	Achromatic reconstruction of the wave front of femtosecond laser pulses. JETP Letters, 1997, 65, 402-404.	1.4	6
156	Unraveling the Mechanism of Methane Activation on Znâ€Modified Zeolites by Solidâ€State NMR. Chemistry Methods, 2021, 1, 224-230.	3.8	6
157	Charakterisierung von WasserstoffbrÃ¼cken zwischen Ionen in protischen ionischen FlÃ¼ssigkeiten mittels NMRâ€Deuteronâ€Quadrupolâ€Kopplungskonstanten â€“ Unterschiede zu Hâ€BrÃ¼cken in Amiden, Peptiden und Proteinen. Angewandte Chemie, 2017, 129, 14500-14505.	2.0	5
158	Diffusion in Nanoporous Materials: from Paradigm Shift by Zhdanov Zeolites Till Recent Insight. Petroleum Chemistry, 2019, 59, 275-296.	1.4	5
159	Dynamics in nanoporous materials probed by 2HÂsolid state NMR: estimation of self-diffusion coefficients. Adsorption, 2021, 27, 841-855.	3.0	5
160	Isobutane Transformation to Aromatics on Znâ€Modified Zeolites: Intermediates and the Effect of Zn 2+ and ZnO Species on the Reaction Occurrence Revealed by 13 C MAS NMR. ChemPhysChem, 2021, , .	2.1	5
161	Propertyâ€“activity relations of multifunctional reactive ensembles in cation-exchanged zeolites: a case study of methane activation on Zn²⁺-modified zeolite BEA. Physical Chemistry Chemical Physics, 2022, 24, 6492-6504.	2.8	5
162	Water dynamics in bulk and dispersed in silica CaCl2 hydrates studied by neutron scattering methods. Microporous and Mesoporous Materials, 2009, 125, 46-50.	4.4	4

#	Article	IF	Citations
163	Solid-state NMR monitoring of a double bond isomerization in propene on ZnO. Chemical Physics Letters, 2014, 607, 21-24.	2.6	4
164	Butane isomers mobility and framework dynamics in UiO-66 (Zr) MOF: Impact of the hydroxyl groups in zirconia cluster. Solid State Nuclear Magnetic Resonance, 2022, 118, 101784.	2.3	4
165	Ligand exchange between bis-acetylacetonato cobalt (II) and organotin compounds SnR2Cl2 (R=Ph, Et), I. NMR identification of exchange products in the Co(AA)2â˜SnPh2Cl2 system. Reaction Kinetics and Catalysis Letters, 1984, 24, 351-355.	0.6	3
166	NMR study of the structure of the outer-sphere complex between chloroform and bis-(N-phenyl-salicylaldiminato)copper(II). Journal of Magnetic Resonance, 1986, 68, 30-39.	0.5	3
167	Preparation of dihalo-bis(acetylacetonato)tin(IV) complexes by the action of molecular oxygen on stannous halides in acetylacetone. Bulletin of the Academy of Sciences of the USSR Division of Chemical Science, 1987, 36, 2403-2404.	0.0	3
168	n-Pentane carbonylation with CO on sulfated zirconia: an in situ solid-state 13C NMR study. Mendeleev Communications, 2001, 11, 23-25.	1.6	3
169	Molecular Mobility of Tertâ€butyl Alcohol Confined in a Breathing MILâ€53 (Al) Metalâ€Organic Framework. ChemPhysChem, 2020, 21, 1951-1956.	2.1	3
170	Ligand exchange between bis-acetylacetonato cobalt(II) and organotin compounds SnR2Cl2 (R=Ph, Et), II. Mechanism of ligand exchange between acetylacetonate complexes of Co(II). Reaction Kinetics and Catalysis Letters, 1984, 24, 357-360.	0.6	2
171	Title is missing!. Catalysis Letters, 2002, 78, 153-156.	2.6	2
172	Effect of phase modulation of a laser pulse on the generation of a coherent totally symmetric phonon in a tellurium single crystal. Physics of the Solid State, 2007, 49, 2171-2176.	0.6	2
173	Efficient generation of terahertz radiation by the method of optical rectification of terawatt laser pulses. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2009, 107, 529-533.	0.6	2
174	Propene disproportionation on ZnO. Chemical Physics Letters, 2012, 552, 88-91.	2.6	2
175	NMR studies of the interaction between tris-acetylacetonates of Fe(III), Cr(III) and diethyldichloride of Sn (IV). Reaction Kinetics and Catalysis Letters, 1984, 24, 361-363.	0.6	1
176	1H,13C and17O NMR studies of cumene hydroperoxide coordination to Cr(AA)3. Reaction Kinetics and Catalysis Letters, 1985, 28, 145-152.	0.6	1
177	Unusual coordination of the superoxide ion O2 ? with molecules of halogenated hydrocarbons. Journal of Structural Chemistry, 1989, 30, 48-54.	1.0	1
178	Transfer of spin density in molecular complexes of paramagnetic metalloporphyrins. Bulletin of the Academy of Sciences of the USSR Division of Chemical Science, 1990, 39, 900-905.	0.0	1
179	Ultrahigh-spatial-resolution photoelectron projection microscopy using femtosecond lasers. Journal of Experimental and Theoretical Physics, 1999, 88, 921-925.	0.9	1
180	1H MAS NMR In Situ Reaction Monitoring Reveals the Particular Effects of Zn2+ and ZnO Species on the Kinetics of Isobutane Transformation on Zn-Modified Zeolites. Journal of Physical Chemistry C, 0, , .	3.1	1

#	Article	IF	Citations
181	Highâ€Temperature Quantum Tunneling and Hydrogen Bonding Rearrangements Characterize the Solidâ€Solid Phase Transitions in a Phosphoniumâ€Based Protic Ionic Liquid. Chemistry - A European Journal, 2022, , .	3.3	1
182	Features of spin density transfer from Cr(acac)3 and Fe(acac)3 to molecules of chloroform in solution. Bulletin of the Academy of Sciences of the USSR Division of Chemical Science, 1987, 36, 1160-1163.	0.0	0
183	NMR and magnetic-relaxation study of the structure of the products of the reaction of aluminum tris(acetylacetonate) with aluminum chloride in a chloroform solution. Journal of Structural Chemistry, 1990, 31, 50-55.	1.0	0
184	NMR relaxation, spectra, and structure of paramagnetic complexes of 1,3-diaryl-5-quinoxalylformazans in solution. Journal of Structural Chemistry, 1990, 31, 231-238.	1.0	0
185	Spectral modifications of femtosecond laser pulses induced by phase-matched optical rectification in LiNbO<inf>3</inf>. , 2007, , .		0