Thomas Autrey

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

82 7,009 41 114 h-index g-index citations papers 8.7 125 7,523 5.73 L-index avg, IF ext. citations ext. papers

#	Paper	IF	Citations
114	Analysis of Intermediates and Products from the Dehydrogenation of Mg(BH) <i>Journal of Physical Chemistry A</i> , 2022 ,	2.8	1
113	First-Principles Elucidation of Initial Dehydrogenation Pathways in Mg(BH) <i>Journal of Physical Chemistry Letters</i> , 2022 , 1908-1913	6.4	O
112	A comparison of hydrogen release kinetics from 5- and 6-membered 1,2-BN-cycloalkanes <i>RSC Advances</i> , 2021 , 11, 34132-34136	3.7	1
111	Thermal Conversion of Unsolvated Mg(B3H8)2 to BH4lin the Presence of MgH2. <i>ACS Applied Energy Materials</i> , 2021 , 4, 3737-3747	6.1	7
110	Effects of Glymes on the Distribution of Mg(B10H10) and Mg(B12H12) from the Thermolysis of Mg(BH4)2. <i>Inorganics</i> , 2021 , 9, 41	2.9	2
109	Mg(BH4)2-Based Hybrid Metal©rganic Borohydride System Exhibiting Enhanced Chemical Stability in Melt. <i>ACS Applied Energy Materials</i> , 2021 , 4, 1704-1713	6.1	2
108	Development of an Autothermal Formate-Based Hydrogen Generator: From Optimization of Formate Dehydrogenation Conditions to Thermal Integration with Fuel Cells. <i>ACS Sustainable Chemistry and Engineering</i> , 2020 , 8, 9846-9856	8.3	14
107	Physi-Sorption of H2 on Pure and BoronDoped Graphene Monolayers: A DispersionCorrected DFT Study. <i>Journal of Carbon Research</i> , 2020 , 6, 15	3.3	8
106	Heterolytic Scission of Hydrogen Within a Crystalline Frustrated Lewis Pair. <i>Inorganic Chemistry</i> , 2020 , 59, 15295-15301	5.1	5
105	Nanoconfinement of Molecular Magnesium Borohydride Captured in a Bipyridine-Functionalized Metal-Organic Framework. <i>ACS Nano</i> , 2020 , 14, 10294-10304	16.7	20
104	Challenges and opportunities for using formate to store, transport, and use hydrogen. <i>Journal of Energy Chemistry</i> , 2020 , 41, 216-224	12	32
103	Solid-state hydrogen rich boron-nitrogen compounds for energy storage. <i>Chemical Society Reviews</i> , 2019 , 48, 5350-5380	58.5	55
102	Reversible Hydrogen Uptake/Release over a Sodium Phenoxide Lyclohexanolate Pair. <i>Angewandte Chemie</i> , 2019 , 131, 3134-3139	3.6	2
101	Immobilization of highly active bimetallic PdAu nanoparticles onto nanocarbons for dehydrogenation of formic acid. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 18835-18839	13	28
100	Structural and reorientational dynamics of tetrahydroborate (BH) and tetrahydrofuran (THF) in a Mg(BH)[BTHF adduct: neutron-scattering characterization. <i>Physical Chemistry Chemical Physics</i> , 2019 , 22, 368-378	3.6	3
99	Reversible Hydrogen Uptake/Release over a Sodium Phenoxide-Cyclohexanolate Pair. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 3102-3107	16.4	17
98	Complexation Chemistry in N,N-Dimethylformamide-Based Molecular Inks for Chalcogenide Semiconductors and Photovoltaic Devices. <i>Journal of the American Chemical Society</i> , 2019 , 141, 298-308	16.4	25

(2013-2018)

97	A solvent-switched in situ confinement approach for immobilizing highly-active ultrafine palladium nanoparticles: boosting catalytic hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 5544-55	49	42
96	Releasing Hydrogen at High Pressures from Liquid Carriers: Aspects for the H2 Delivery to Fueling Stations. <i>Energy & Delivery Fuels</i> , 2018 , 32, 10008-10015	4.1	17
95	An assessment of strategies for the development of solid-state adsorbents for vehicular hydrogen storage. <i>Energy and Environmental Science</i> , 2018 , 11, 2784-2812	35.4	97
94	Tandem Nitrogen Functionalization of Porous Carbon: Toward Immobilizing Highly Active Palladium Nanoclusters for Dehydrogenation of Formic Acid. <i>ACS Catalysis</i> , 2017 , 7, 2720-2724	13.1	121
93	Calorimetric Study of the Activation of Hydrogen by Tris(pentafluorophenyl)borane and Trimesitylphosphine. <i>Journal of Physical Chemistry A</i> , 2017 , 121, 8785-8790	2.8	15
92	Hydrogen Storage in Formic Acid: A Comparison of Process Options. <i>Energy & Description</i> 2017, 31, 1260	3 ₄ .1 ₁ 261	167
91	Lewis Base Complexes of Magnesium Borohydride: Enhanced Kinetics and Product Selectivity upon Hydrogen Release. <i>Inorganics</i> , 2017 , 5, 89	2.9	14
90	Blending materials composed of boron, nitrogen and carbon to transform approaches to liquid hydrogen stores. <i>Dalton Transactions</i> , 2016 , 45, 6196-203	4.3	6
89	Selective reversible hydrogenation of Mg(B3H8)2/MgH2 to Mg(BH4)2: pathway to reversible borane-based hydrogen storage?. <i>Inorganic Chemistry</i> , 2015 , 54, 4120-5	5.1	44
88	Capacity enhancement of aqueous borohydride fuels for hydrogen storage in liquids. <i>Journal of Alloys and Compounds</i> , 2015 , 645, S196-S199	5.7	13
87	Catalytic reduction of polar substrates without metals: A thermodynamic and kinetic study of heterolytic activation of hydrogen by vacancies in frustrated Lewis pairs. <i>Catalysis Today</i> , 2015 , 251, 28-	3 53 ³	33
86	Bis-BN cyclohexane: a remarkably kinetically stable chemical hydrogen storage material. <i>Journal of the American Chemical Society</i> , 2015 , 137, 134-7	16.4	56
85	Heterolysis of H2 Across a Classical Lewis Pair, 2,6-Lutidine?BCl3: Synthesis, Characterization, and Mechanism. <i>Chemistry - A European Journal</i> , 2015 , 21, 15713-9	4.8	4
84	Kinetic and Thermodynamic Study of the Reduction of 1,1-Diphenylethylene by a Thermally Frustrated Diethyl Ether-BCF Lewis Pair. <i>Israel Journal of Chemistry</i> , 2015 , 55, 196-201	3.4	8
83	Experimental and theoretical study of molecular response of amine bases in organic solvents. Journal of Physical Chemistry B, 2014 , 118, 4883-8	3.4	9
82	Methods to stabilize and destabilize ammonium borohydride. <i>Dalton Transactions</i> , 2013 , 42, 680-7	4.3	18
81	A thermodynamic and kinetic study of the heterolytic activation of hydrogen by frustrated borane-amine Lewis pairs. <i>Dalton Transactions</i> , 2013 , 42, 615-9	4.3	39
80	3-Methyl-1,2-BN-cyclopentane: a promising H2 storage material?. <i>Dalton Transactions</i> , 2013 , 42, 611-4	4.3	25

79	Understanding Vibrational Anharmonicity and Phonon Dispersion in Solid Ammonia Borane. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 5926-5931	3.8	10
78	Role of Solvents on the Thermodynamics and Kinetics of Forming Frustrated Lewis Pairs. <i>Journal of Physical Chemistry Letters</i> , 2012 , 3, 3312-3319	6.4	19
77	First-Principles Prediction of Intermediate Products in the Decomposition of Metal Amidoboranes. Journal of Physical Chemistry C, 2012 , 116, 26728-26734	3.8	7
76	Boronflitrogenflydrogen (BNH) compounds: recent developments in hydrogen storage, applications in hydrogenation and catalysis, and new syntheses. <i>Energy and Environmental Science</i> , 2012 , 5, 9257	35.4	208
75	Immobilizing highly catalytically active Pt nanoparticles inside the pores of metal-organic framework: a double solvents approach. <i>Journal of the American Chemical Society</i> , 2012 , 134, 13926-9	16.4	692
74	Mechanistic investigation on the formation and dehydrogenation of calcium amidoborane ammoniate. <i>ChemSusChem</i> , 2012 , 5, 927-31	8.3	10
73	Analysis of the activation and heterolytic dissociation of H2 by frustrated Lewis pairs: NH3/BX3 (X = H, F, and Cl). <i>Journal of Physical Chemistry A</i> , 2012 , 116, 7228-37	2.8	47
72	Control of hydrogen release and uptake in amine borane molecular complexes: thermodynamics of ammonia borane, ammonium borohydride, and the diammoniate of diborane. <i>Faraday Discussions</i> , 2011 , 151, 157-69; discussion 199-212	3.6	34
71	Characterization and mechanistic studies of the dehydrogenation of NHxBHx materials. <i>Current Opinion in Solid State and Materials Science</i> , 2011 , 15, 73-79	12	31
70	The tetragonal-to-orthorhombic phase transformation in ammonia borane and in its deuterium substituted compounds. <i>Journal of Alloys and Compounds</i> , 2011 , 509, S709-S713	5.7	4
69	Kinetic and thermodynamic investigation of hydrogen release from ethane 1,2-di-amineborane. <i>Energy and Environmental Science</i> , 2011 , 4, 4187	35.4	58
68	Reversible dehydrogenation of magnesium borohydride to magnesium triborane in the solid state under moderate conditions. <i>Chemical Communications</i> , 2011 , 47, 1330-2	5.8	136
67	Hydrogen isotope effects on the structural phase transition of NH3BH3. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 7927-7931	6.7	2
66	Synthesis, structure and dehydrogenation of magnesium amidoborane monoammoniate. <i>Chemical Communications</i> , 2010 , 46, 5752-4	5.8	59
65	Characterization of a new phase of ammonia borane. Energy and Environmental Science, 2010, 3, 796	35.4	47
64	Hydrogen release studies of alkali metal amidoboranes. <i>Inorganic Chemistry</i> , 2010 , 49, 3905-10	5.1	106
63	Thermal Stability of Ammonia Borane: A Case Study for Exothermic Hydrogen Storage Materials. <i>Energy & Energy &</i>	4.1	50
62	Theoretical investigations on the formation and dehydrogenation reaction pathways of H(NH2BH2)(n)H (n = 1-4) oligomers: importance of dihydrogen interactions. <i>Inorganic Chemistry</i> , 2010 , 49, 7710-20	5.1	36

(2009-2010)

61	The diammoniate of diborane: crystal structure and hydrogen release. <i>Chemical Communications</i> , 2010 , 46, 8564-6	5.8	44	
60	Decomposition Pathway of Ammonia Borane on the Surface of Nano-BN. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 13935-13941	3.8	36	
59	Interaction of ammonia borane with Li2NH and Li3N. Dalton Transactions, 2010, 39, 720-2	4.3	18	
58	High-capacity hydrogen storage in lithium and sodium amidoboranes 2010 , 276-279			
57	Decomposition of NH3BH3 at sub-ambient pressures: A combined thermogravimetry differential thermal analysis hass spectrometry study. <i>Journal of Power Sources</i> , 2010 , 195, 1615-1618	8.9	29	
56	High-pressure hydrogen interactions with polyaminoborane and polyiminoborane. <i>ChemPhysChem</i> , 2010 , 11, 93-6	3.2	17	
55	Growth of crystalline polyaminoborane through catalytic dehydrogenation of ammonia borane on FeB nanoalloy. <i>Chemistry - A European Journal</i> , 2010 , 16, 12814-7	4.8	39	
54	Pressure-induced complexation of NH(3)BH(3)-H(2). Journal of Chemical Physics, 2009, 131, 224515	3.9	34	
53	Experimental and computational studies on collective hydrogen dynamics in ammonia borane: incoherent inelastic neutron scattering. <i>Journal of Chemical Physics</i> , 2009 , 130, 024507	3.9	25	
52	Bonding in boranes and their interaction with molecular hydrogen at extreme conditions. <i>Journal of Chemical Physics</i> , 2009 , 131, 144508	3.9	16	
51	Hydrogen Dynamics and Characterization of the Tetragonal-to-Orthorhombic Phase Transformation in Ammonia Borane. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 5872-5878	3.8	34	
50	Absence of the Structural Phase Transition in Ammonia Borane Dispersed in Mesoporous Silica: Evidence of Novel Thermodynamic Properties. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 10319-10321	3.8	63	
49	Hyperpolarized 129Xe NMR Investigation of Ammonia Borane in Mesoporous Silica. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 6485-6490	3.8	36	
48	Thermodynamic and Structural Investigations of Ammonium Borohydride, a Solid with a Highest Content of Thermodynamically and Kinetically Accessible Hydrogen. <i>Chemistry of Materials</i> , 2009 , 21, 4356-4358	9.6	48	
47	Determination of structure and phase transition of light element nanocomposites in mesoporous silica: case study of NH3BH3 in MCM-41. <i>Journal of the American Chemical Society</i> , 2009 , 131, 13749-55	16.4	86	
46	Neutron powder diffraction and molecular simulation study of the structural evolution of ammonia borane from 15 to 340 K. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 5723-35	2.8	53	
45	Defining active catalyst structure and reaction pathways from ab initio molecular dynamics and operando XAFS: dehydrogenation of dimethylaminoborane by rhodium clusters. <i>Journal of the American Chemical Society</i> , 2009 , 131, 10516-24	16.4	63	
44	Promotion of Hydrogen Release from Ammonia Borane with Mechanically Activated Hexagonal Boron Nitride. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 1098-1103	3.8	87	

43	An investigation of the structural phase transition of ammonia borane. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 521-522, 169-171	5.3	4
42	High-capacity hydrogen storage in lithium and sodium amidoboranes. <i>Nature Materials</i> , 2008 , 7, 138-41	27	556
41	Spectroscopic studies of the phase transition in ammonia borane: Raman spectroscopy of single crystal NH3BH3 as a function of temperature from 88 to 330 K. <i>Journal of Chemical Physics</i> , 2008 , 128, 034508	3.9	8o
40	Automated gas burette system for evolved hydrogen measurements. <i>Review of Scientific Instruments</i> , 2008 , 79, 084103	1.7	32
39	The Effects of Chemical Additives on the Induction Phase in Solid-State Thermal Decomposition of Ammonia Borane. <i>Chemistry of Materials</i> , 2008 , 20, 5332-5336	9.6	183
38	Materials for hydrogen storage: structure and dynamics of borane ammonia complex. <i>Dalton Transactions</i> , 2008 , 4514-22	4.3	41
37	Synthesis of ammonia borane for hydrogen storage applications. <i>Energy and Environmental Science</i> , 2008 , 1, 156	35.4	214
36	Interaction of lithium hydride and ammonia borane in THF. Chemical Communications, 2008, 5595-7	5.8	67
35	Iridium-catalyzed dehydrogenation of substituted amine boranes: kinetics, thermodynamics, and implications for hydrogen storage. <i>Inorganic Chemistry</i> , 2008 , 47, 8583-5	5.1	150
34	The thermal decomposition of ammonia borane: A potential hydrogen storage material. <i>Current Applied Physics</i> , 2008 , 8, 498-500	2.6	86
33	In situ multinuclear NMR spectroscopic studies of the thermal decomposition of ammonia borane in solution. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 7493-6	16.4	160
32	In Situ Multinuclear NMR Spectroscopic Studies of the Thermal Decomposition of Ammonia Borane in Solution. <i>Angewandte Chemie</i> , 2008 , 120, 7603-7606	3.6	41
31	Quasielastic neutron scattering of NH3 and BH3 rotational dynamics in orthorhombic ammonia borane. <i>Chemical Physics Letters</i> , 2008 , 459, 85-88	2.5	26
30	In situ solid state 11B MAS-NMR studies of the thermal decomposition of ammonia borane: mechanistic studies of the hydrogen release pathways from a solid state hydrogen storage material. <i>Physical Chemistry Chemical Physics</i> , 2007 , 9, 1831-6	3.6	337
29	When is a nanoparticle a cluster? An operando EXAFS study of amine borane dehydrocoupling by Rh(4-6) clusters. <i>Journal of the American Chemical Society</i> , 2007 , 129, 11936-49	16.4	134
28	Spectroscopic studies of dehydrogenation of ammonia borane in carbon cryogel. <i>Journal of Physical Chemistry B</i> , 2007 , 111, 14285-9	3.4	70
27	Coherent carbon cryogel-ammonia borane nanocomposites for H2 storage. <i>Journal of Physical Chemistry B</i> , 2007 , 111, 7469-72	3.4	159
26	Dynamics of ammonia borane using neutron scattering. <i>Physica B: Condensed Matter</i> , 2006 , 385-386, 266-268	2.8	23

25	Mechanistic Studies of Hydrogen Release from Solid Amine Borane Materials. <i>Materials Research Society Symposia Proceedings</i> , 2006 , 927, 1		4
24	In situ XAFS and NMR study of rhodium-catalyzed dehydrogenation of dimethylamine borane. <i>Journal of the American Chemical Society</i> , 2005 , 127, 3254-5	16.4	201
23	Nanoscaffold mediates hydrogen release and the reactivity of ammonia borane. <i>Angewandte Chemie - International Edition</i> , 2005 , 44, 3578-82	16.4	711
22	Nanoscaffold Mediates Hydrogen Release and the Reactivity of Ammonia Borane. <i>Angewandte Chemie</i> , 2005 , 117, 3644-3648	3.6	93
21	Thermochemistry of aqueous hydroxyl radical from advances in photoacoustic calorimetry and ab initio continuum solvation theory. <i>Journal of the American Chemical Society</i> , 2004 , 126, 3680-1	16.4	29
20	Spectroscopic Studies of Tributylstannyl Radical. Rates of Formation, Termination, and Abstraction Determined by Transient Absorption Spectroscopy. <i>Organometallics</i> , 2004 , 23, 2080-2086	3.8	9
19	Absolute rate constants for reactions of tributylstannyl radicals with bromoalkanes, episulfides, and alpha-halomethyl-episulfides, -cyclopropanes, and -oxiranes: new rate expressions for sulfur and bromine atom abstraction. <i>Journal of Organic Chemistry</i> , 2004 , 69, 1020-7	4.2	9
18	Counting particles by means of optoacoustics: Potential limits in real solutions. <i>Review of Scientific Instruments</i> , 2003 , 74, 628-631	1.7	10
17	Matrix isolation, time-resolved IR, and computational study of the photochemistry of benzoyl azide. <i>Physical Chemistry Chemical Physics</i> , 2003 , 5, 1010-1018	3.6	89
16	Model compound studies of the beta-O-4 linkage in lignin: absolute rate expressions for beta-scission of phenoxyl radical from 1-phenyl-2-phenoxyethanol-1-yl radical. <i>Journal of Organic Chemistry</i> , 2002 , 67, 7937-45	4.2	37
15	Detection of trace levels of water in oil by photoacoustic spectroscopy. <i>Sensors and Actuators B: Chemical</i> , 2001 , 77, 620-624	8.5	46
14	Tunable ultraviolet visible photoacoustic detection. <i>Analytica Chimica Acta</i> , 2001 , 434, 217-222	6.6	6
13	Comparison of Diffusion Coefficients of Aryl Carbonyls and Aryl Alcohols in Hydroxylic Solvents. Evidence that the Diffusion of Ketyl Radicals in Hydrogen-Bonding Solvents Is Not Anomalous?. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 5948-5953	2.8	27
12	Measurement of select radical processes in hydrocarbon pyrolysis. <i>Journal of Analytical and Applied Pyrolysis</i> , 2000 , 54, 37-64	6	12
11	Listening to Colloidal Silica Samples: Simultaneous Measurement of Absorbed and Scattered Light Using Pulsed-Laser Photoacoustics. <i>Applied Spectroscopy</i> , 2000 , 54, 1142-1150	3.1	13
10	Nanojoules, nanoliters and nanosecond calorimetry. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 1999 , 125, 13-19	4.7	8
9	HeSFAssisted Scission of Strong Bonds in Phenoxydiphenylmethanes. Competition between Hydrogen Atom Transfer and Free Radical Rearrangement Pathways. <i>Energy & Description</i> 27, 127-127.	933	5
8	A new angle into time-resolved photoacoustic spectroscopy: A layered prism cell increases experimental flexibility. <i>Review of Scientific Instruments</i> , 1998 , 69, 2246-2258	1.7	26

7	Mechanistic investigations of iron/sulfur-catalyzed bond scission in aromatic hydrocarbons. A catalytic hydrogen atom transfer step involving a late transition state. <i>Catalysis Today</i> , 1996 , 31, 105-11	1 5·3	14
6	Solvent Cage Recombination of 4-Benzoylphenylthiyl Radicals: Fast Intersystem Crossing of Triplet Sulfur-Centered Radical Pairs. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 869-871		18
5	Solvent-Induced Scission of Diarylmethanes in Dihydroarene Donor Solvents: An Experimental and Mechanistic Modeling Study of Hydrogen-Transfer Pathways. <i>Energy & Energy & En</i>	4.1	21
4	Role of aromatic structure in pathways of hydrogen transfer and bond cleavage in coal liquefaction: Theoretical studies <i>Coal Science and Technology</i> , 1995 , 24, 1411-1414		1
3	The photochemistry of 3-nitrobenzoyl and 4-nitrobenzoyl azides: possible reagents for photoaffinity labeling. <i>Photochemistry and Photobiology</i> , 1988 , 47, 497-501	3.6	14
2	Aroylnitrenes with singlet ground states: photochemistry of acetyl-substituted aroyl and aryloxycarbonyl azides. <i>Journal of the American Chemical Society</i> , 1988 , 110, 4297-4305	16.4	52
1	Are aroylnitrenes ground-state singlets? Photochemistry of .betanaphthoyl azide. <i>Journal of the American Chemical Society</i> , 1987 , 109, 5814-5820	16.4	40