

Jason E Hein

List of Publications by Year in descending order

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72
papers

4,925
citations

172207

29
h-index

91712

69
g-index

91
all docs

91
docs citations

91
times ranked

6652
citing authors

#	ARTICLE	IF	CITATIONS
1	Copper-catalyzed azide-alkyne cycloaddition (CuAAC) and beyond: new reactivity of copper(I) acetylides. <i>Chemical Society Reviews</i> , 2010, 39, 1302.	18.7	1,806
2	Copper(I)-Catalyzed Cycloaddition of Organic Azides and Iodoalkynes. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 8018-8021.	7.2	412
3	Self-driving laboratory for accelerated discovery of thin-film materials. <i>Science Advances</i> , 2020, 6, eaaz8867.	4.7	306
4	On the Origin of Single Chirality of Amino Acids and Sugars in Biogenesis. <i>Accounts of Chemical Research</i> , 2012, 45, 2045-2054.	7.6	163
5	Pasteur's Tweezers Revisited: On the Mechanism of Attrition-Enhanced Deracemization and Resolution of Chiral Conglomerate Solids. <i>Journal of the American Chemical Society</i> , 2012, 134, 12629-12636.	6.6	130
6	ChemOS: Orchestrating autonomous experimentation. <i>Science Robotics</i> , 2018, 3, .	9.9	113
7	A route to enantiopure RNA precursors from nearly racemic starting materials. <i>Nature Chemistry</i> , 2011, 3, 704-706.	6.6	97
8	Data-science driven autonomous process optimization. <i>Communications Chemistry</i> , 2021, 4, .	2.0	94
9	Halogen Exchange (Halex) Reaction of Iodo-1,2,3-triazoles: Synthesis and Applications of Fluorotriazoles. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 11791-11794.	7.2	87
10	ChemOS: An orchestration software to democratize autonomous discovery. <i>PLoS ONE</i> , 2020, 15, e0229862.	1.1	77
11	Efficient and Selective Iron-Complex-Catalyzed Hydroboration of Aldehydes. <i>ACS Catalysis</i> , 2018, 8, 1076-1081.	5.5	71
12	One-Pot 1,1-Dihydrofluoroalkylation of Amines Using Sulfuryl Fluoride. <i>Journal of the American Chemical Society</i> , 2018, 140, 16464-16468.	6.6	69
13	Application of Continuous Preferential Crystallization to Efficiently Access Enantiopure Chemicals. <i>Organic Process Research and Development</i> , 2015, 19, 1809-1819.	1.3	64
14	Measuring and Suppressing the Oxidative Damage to DNA During Cu(I)-Catalyzed Azide-alkyne Cycloaddition. <i>Bioconjugate Chemistry</i> , 2016, 27, 698-704.	1.8	62
15	Oxidative Esterification of Aldehydes Using Mesoionic 1,2,3-Triazolyl Carbene Organocatalysts. <i>Organic Letters</i> , 2014, 16, 3676-3679.	2.4	61
16	Real-time HPLC-MS reaction progress monitoring using an automated analytical platform. <i>Reaction Chemistry and Engineering</i> , 2017, 2, 309-314.	1.9	57
17	Enamine Carboxylates as Stereodetermining Intermediates in Prolinate Catalysis. <i>Organic Letters</i> , 2011, 13, 5644-5647.	2.4	53
18	Automated Experimentation Powers Data Science in Chemistry. <i>Accounts of Chemical Research</i> , 2021, 54, 546-555.	7.6	52

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19	Catalyst-Controlled Nitrene Transfer by Tuning Metal:Ligand Ratios: Insight into the Mechanisms of Chemoselectivity. <i>Organometallics</i> , 2017, 36, 1649-1661.	1.1	51
20	Automation isn't automatic. <i>Chemical Science</i> , 2021, 12, 15473-15490.	3.7	44
21	Synthesis of Benzodihydrofurans by Asymmetric C ^α -H Insertion Reactions of Donor/Donor Rhodium Carbenes. <i>Chemistry - A European Journal</i> , 2017, 23, 11843-11855.	1.7	43
22	A Revised Mechanism for the Kinugasa Reaction. <i>Journal of the American Chemical Society</i> , 2018, 140, 9167-9173.	6.6	43
23	Reaction Progress Kinetics Analysis of 1,3-Disiloxanediols as Hydrogen-Bonding Catalysts. <i>Journal of Organic Chemistry</i> , 2017, 82, 6738-6747.	1.7	40
24	Tandem Reaction Progress Analysis as a Means for Dissecting Catalytic Reactions: Application to the Aza-Piancatelli Rearrangement. <i>ACS Catalysis</i> , 2015, 5, 4579-4585.	5.5	38
25	Importance of Off-Cycle Species in the Acid-Catalyzed Aza-Piancatelli Rearrangement. <i>Journal of Organic Chemistry</i> , 2013, 78, 12784-12789.	1.7	36
26	Flexible automation accelerates materials discovery. <i>Nature Materials</i> , 2022, 21, 722-726.	13.3	33
27	Stereoselective Conjugate Radical Additions: Application of a Fluorous Oxazolidinone Chiral Auxiliary for Efficient Tin Removal. <i>Organic Letters</i> , 2005, 7, 2755-2758.	2.4	32
28	Kinetic Profiling of Prolinate-Catalyzed α -Amination of Aldehydes. <i>Organic Letters</i> , 2011, 13, 4300-4303.	2.4	32
29	Automated solubility screening platform using computer vision. <i>IScience</i> , 2021, 24, 102176.	1.9	31
30	Olympus: a benchmarking framework for noisy optimization and experiment planning. <i>Machine Learning: Science and Technology</i> , 2021, 2, 035021.	2.4	31
31	Cascade rearrangement of furylcarbinols with hydroxylamines: practical access to densely functionalized cyclopentane derivatives. <i>Organic and Biomolecular Chemistry</i> , 2015, 13, 8465-8469.	1.5	30
32	The More, The Better: Simultaneous In Situ Reaction Monitoring Provides Rapid Mechanistic and Kinetic Insight. <i>Topics in Catalysis</i> , 2017, 60, 594-608.	1.3	30
33	Reevaluating the Stability and Prevalence of Conglomerates: Implications for Preferential Crystallization. <i>Crystal Growth and Design</i> , 2016, 16, 6055-6059.	1.4	29
34	Development of an automated kinetic profiling system with online HPLC for reaction optimization. <i>Reaction Chemistry and Engineering</i> , 2019, 4, 1555-1558.	1.9	29
35	Catalyst Activation, Chemoselectivity, and Reaction Rate Controlled by the Counterion in the Cu(I)-Catalyzed Cycloaddition between Azide and Terminal or 1-Iodoalkynes. <i>ACS Catalysis</i> , 2018, 8, 7889-7897.	5.5	27
36	Using an Automated Monitoring Platform for Investigations of Biphasic Reactions. <i>ACS Catalysis</i> , 2019, 9, 11484-11491.	5.5	27

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37	Chemical and Physical Models for the Emergence of Biological Homochirality. <i>Topics in Current Chemistry</i> , 2012, 333, 83-108.	4.0	26
38	Halide-Accelerated Acyl Fluoride Formation Using Sulfuryl Fluoride. <i>Organic Letters</i> , 2020, 22, 6682-6686.	2.4	26
39	Quantum Dot/Liquid Crystal Nanocomposites in Photonic Devices. <i>Photonics</i> , 2015, 2, 855-864.	0.9	25
40	Practical Synthesis of Fluorous Oxazolidinone Chiral Auxiliaries from α -Amino Acids. <i>Journal of Organic Chemistry</i> , 2005, 70, 9940-9946.	1.7	24
41	Resolution of Omeprazole Using Coupled Preferential Crystallization: Efficient Separation of a Nonracemizable Conglomerate Salt under Near-Equilibrium Conditions. <i>Organic Process Research and Development</i> , 2013, 17, 946-950.	1.3	23
42	Automated reaction progress monitoring of heterogeneous reactions: crystallization-induced stereoselectivity in amine-catalyzed aldol reactions. <i>Reaction Chemistry and Engineering</i> , 2017, 2, 226-231.	1.9	23
43	Hands-On Data Analysis: Using 3D Printing To Visualize Reaction Progress Surfaces. <i>Journal of Chemical Education</i> , 2017, 94, 1367-1371.	1.1	22
44	Conversion of dilute CO ₂ to cyclic carbonates at sub-atmospheric pressures by a simple indium catalyst. <i>Catalysis Science and Technology</i> , 2021, 11, 2119-2129.	2.1	22
45	Copper-Catalyzed Hydrogen/Iodine Exchange in Terminal and 1-Iodoalkynes. <i>ACS Catalysis</i> , 2017, 7, 2505-2510.	5.5	21
46	Computational and experimental characterization of a pyrrolidinium-based ionic liquid for electrolyte applications. <i>Journal of Chemical Physics</i> , 2017, 147, 161731.	1.2	20
47	Recyclable supports for stereoselective 1,3-dipolar cycloadditions: application of a fluorous oxazolidinone chiral auxiliary. <i>Tetrahedron: Asymmetry</i> , 2005, 16, 2341-2347.	1.8	19
48	Synthesis of Esters by in Situ Formation and Trapping of Diazoalkanes. <i>Journal of Organic Chemistry</i> , 2016, 81, 5278-5284.	1.7	19
49	Mechanistic Investigation of Castagnoli-Cushman Multicomponent Reactions Leading to a Three-Component Synthesis of Dihydroisoquinolones. <i>Journal of Organic Chemistry</i> , 2021, 86, 11599-11607.	1.7	19
50	Determination of biocatalytic parameters of a copper radical oxidase using real-time reaction progress monitoring. <i>Organic and Biomolecular Chemistry</i> , 2020, 18, 2076-2084.	1.5	17
51	A survey of substrate specificity among Auxiliary Activity Family 5 copper radical oxidases. <i>Cellular and Molecular Life Sciences</i> , 2021, 78, 8187-8208.	2.4	15
52	The mechanism of the reaction between an aziridine and carbon dioxide with no added catalyst. <i>Journal of Physical Organic Chemistry</i> , 2018, 31, e3735.	0.9	14
53	Exploration of continuous-flow benchtop NMR acquisition parameters and considerations for reaction monitoring. <i>Magnetic Resonance in Chemistry</i> , 2020, 58, 1234-1248.	1.1	14
54	Mechanism of a No-Metal-Added Heterocycloisomerization of Alkynylcyclopropylhydrazones: Synthesis of Cycloheptane-Fused Aminopyrroles Facilitated by Copper Salts at Trace Loadings. <i>Journal of the American Chemical Society</i> , 2017, 139, 10569-10577.	6.6	13

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55	An Adaptive Auto-Synthesizer using Online PAT Feedback to Flexibly Perform a Multistep Reaction. <i>Chemistry Methods</i> , 2022, 2, .	1.8	13
56	Two Fusarium copper radical oxidases with high activity on aryl alcohols. <i>Biotechnology for Biofuels</i> , 2021, 14, 138.	6.2	12
57	Covalent, sequence-specific attachment of long DNA molecules to a surface using DNA-templated click chemistry. <i>Chemical Communications</i> , 2014, 50, 8131-8133.	2.2	11
58	Real-Time Monitoring of Solid-Liquid Slurries: Optimized Synthesis of Tetrabenazine. <i>Journal of Organic Chemistry</i> , 2021, 86, 14069-14078.	1.7	11
59	Ring walking as a regioselectivity control element in Pd-catalyzed C-N cross-coupling. <i>Nature Communications</i> , 2022, 13, .	5.8	11
60	Automated solubility and crystallization analysis of non-UV active compounds: integration of evaporative light scattering detection (ELSD) and robotic sampling. <i>Reaction Chemistry and Engineering</i> , 2019, 4, 1674-1681.	1.9	10
61	Online High-Performance Liquid Chromatography Analysis of Buchwald-Hartwig Aminations from within an Inert Environment. <i>ACS Catalysis</i> , 2020, 10, 13236-13244.	5.5	10
62	Quantitative and convenient real-time reaction monitoring using stopped-flow benchtop NMR. <i>Reaction Chemistry and Engineering</i> , 2022, 7, 1061-1072.	1.9	10
63	A robust new tool for online solution-phase sampling of crystallizations. <i>Reaction Chemistry and Engineering</i> , 0, , .	1.9	7
64	Synthesis of β -Ketosulfonamides Derived from Amino Acids and Their Conversion to β -Keto- α,β -difluorosulfonamides via Electrophilic Fluorination. <i>Journal of Organic Chemistry</i> , 2017, 82, 11157-11165.	1.7	5
65	Dinitrogen functionalization at a ditantalum center. Balancing N_2 displacement and N_2 functionalization in the reaction of coordinated N_2 with CS_2 . <i>Dalton Transactions</i> , 2018, 47, 7983-7991.	1.6	5
66	Augmented Titration Setup for Future Teaching Laboratories. <i>Journal of Chemical Education</i> , 2021, 98, 876-881.	1.1	5
67	Crystal structure of (S)-5,7-diphenyl-4,7-dihydro-1H-tetrazolo[1,5-a]pyrimidine. <i>Acta Crystallographica Section E: Crystallographic Communications</i> , 2015, 71, o220-o221.	0.2	3
68	Development of a telescoped synthesis of 4-(1H)-cyanoimidazole core accelerated by orthogonal reaction monitoring. <i>Reaction Chemistry and Engineering</i> , 2020, 5, 1421-1428.	1.9	2
69	Ligand-Accelerated Catalysis in Scandium(III)-Catalyzed Asymmetric Spiroannulation Reactions. <i>ACS Catalysis</i> , 2022, 12, 3524-3533.	5.5	1
70	Asymmetric Aldol Reactions Using a Fluorous Oxazolidinone Chiral Auxiliary.. <i>ChemInform</i> , 2003, 34, no.	0.1	0
71	Asymmetric Aldol Reactions Using a Fluorous Oxazolidinone Chiral Auxiliary. <i>Synlett</i> , 2003, 2003, 0635-0638.	1.0	0
72	Crystal structure of 5,7-diphenyl-4,7-dihydro-1H-tetrazolo[1,5-a]pyrimidine. <i>Acta Crystallographica Section E: Crystallographic Communications</i> , 2015, 71, o192-o192.	0.2	0