

Henderson J Cleaves

List of Publications by Year in descending order

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86
papers

4,267
citations

109311

35
h-index

114455

63
g-index

90
all docs

90
docs citations

90
times ranked

3721
citing authors

#	ARTICLE	IF	CITATIONS
1	Carbonaceous meteorites contain a wide range of extraterrestrial nucleobases. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13995-13998.	7.1	460
2	The Miller Volcanic Spark Discharge Experiment. Science, 2008, 322, 404-404.	12.6	298
3	A Reassessment of Prebiotic Organic Synthesis in Neutral Planetary Atmospheres. Origins of Life and Evolution of Biospheres, 2008, 38, 105-115.	1.9	235
4	Primordial synthesis of amines and amino acids in a 1958 Miller H ₂ S-rich spark discharge experiment. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 5526-5531.	7.1	232
5	Mineral-organic interfacial processes: potential roles in the origins of life. Chemical Society Reviews, 2012, 41, 5502.	38.1	205
6	The cold origin of life: B. Implications based on pyrimidines and purines produced from frozen ammonium cyanide solutions. Origins of Life and Evolution of Biospheres, 2002, 32, 209-218.	1.9	155
7	Prebiotic synthesis from CO atmospheres: Implications for the origins of life. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 14628-14631.	7.1	144
8	Sulfate minerals and organic compounds on Mars. Geology, 2006, 34, 357.	4.4	138
9	The cold origin of life: A. Implications based on the hydrolytic stabilities of hydrogen cyanide and formamide. Origins of Life and Evolution of Biospheres, 2002, 32, 195-208.	1.9	135
10	The prebiotic geochemistry of formaldehyde. Precambrian Research, 2008, 164, 111-118.	2.7	133
11	Oceanic protection of prebiotic organic compounds from UV radiation. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 7260-7263.	7.1	108
12	The origin of the biologically coded amino acids. Journal of Theoretical Biology, 2010, 263, 490-498.	1.7	85
13	Membraneless polyester microdroplets as primordial compartments at the origins of life. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15830-15835.	7.1	85
14	Attachment of L-Glutamate to Rutile (TiO ₂): A Potentiometric, Adsorption, and Surface Complexation Study. Langmuir, 2009, 25, 12127-12135.	3.5	72
15	An Investigation of Prebiotic Purine Synthesis from the Hydrolysis of HCN Polymers. Origins of Life and Evolution of Biospheres, 2005, 35, 79-90.	1.9	69
16	Astrobiology and the Possibility of Life on Earth and Elsewhere. Space Science Reviews, 2017, 209, 1-42.	8.1	66
17	Deciphering Biosignatures in Planetary Contexts. Astrobiology, 2019, 19, 1075-1102.	3.0	66
18	Adsorption of Nucleic Acid Components on Rutile (TiO ₂) Surfaces. Astrobiology, 2010, 10, 311-323.	3.0	64

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19	The adsorption of short single-stranded DNA oligomers to mineral surfaces. <i>Chemosphere</i> , 2011, 83, 1560-1567.	8.2	60
20	Prebiotic Synthesis of Methionine and Other Sulfur-Containing Organic Compounds on the Primitive Earth: A Contemporary Reassessment Based on an Unpublished 1958 Stanley Miller Experiment. <i>Origins of Life and Evolution of Biospheres</i> , 2011, 41, 201-212.	1.9	59
21	New Method for Estimating Bacterial Cell Abundances in Natural Samples by Use of Sublimation. <i>Applied and Environmental Microbiology</i> , 2004, 70, 5923-5928.	3.1	55
22	Extraordinarily Adaptive Properties of the Genetically Encoded Amino Acids. <i>Scientific Reports</i> , 2015, 5, 9414.	3.3	54
23	Adsorption of L-aspartate to rutile ($\hat{\pm}$ -TiO ₂): Experimental and theoretical surface complexation studies. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 2356-2367.	3.9	53
24	Catalytic peptide hydrolysis by mineral surface: Implications for prebiotic chemistry. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 5852-5861.	3.9	51
25	The Nicotinamide Biosynthetic Pathway Is a By-Product of the RNA World. <i>Journal of Molecular Evolution</i> , 2001, 52, 73-77.	1.8	47
26	The prebiotic synthesis of pyrimidines in frozen solution. <i>Die Naturwissenschaften</i> , 2006, 93, 228-231.	1.6	47
27	Prebiotic Chemistry: What We Know, What We Don't. <i>Evolution: Education and Outreach</i> , 2012, 5, 342-360.	0.8	47
28	Is formamide a geochemically plausible prebiotic solvent?. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 20085-20090.	2.8	46
29	Extremophiles May Be Irrelevant to the Origin of Life. <i>Astrobiology</i> , 2004, 4, 1-9.	3.0	44
30	The Abiotic Chemistry of Thiolated Acetate Derivatives and the Origin of Life. <i>Scientific Reports</i> , 2016, 6, 29883.	3.3	43
31	Estimating the capacity for production of formamide by radioactive minerals on the prebiotic Earth. <i>Scientific Reports</i> , 2018, 8, 265.	3.3	43
32	Beyond Terrestrial Biology: Charting the Chemical Universe of $\hat{\pm}$ -Amino Acid Structures. <i>Journal of Chemical Information and Modeling</i> , 2013, 53, 2851-2862.	5.4	40
33	Glutamate Surface Speciation on Amorphous Titanium Dioxide and Hydrated Ferric Oxide. <i>Environmental Science & Technology</i> , 2008, 42, 6034-6039.	10.0	39
34	Simple prebiotic synthesis of high diversity dynamic combinatorial polyester libraries. <i>Communications Chemistry</i> , 2018, 1, .	4.5	38
35	Prebiotic Chemistry: Geochemical Context and Reaction Screening. <i>Life</i> , 2013, 3, 331-345.	2.4	37
36	Application of the Mars Organic Analyzer to Nucleobase and Amine Biomarker Detection. <i>Astrobiology</i> , 2006, 6, 824-837.	3.0	34

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37	Quantitation of α -hydroxy acids in complex prebiotic mixtures via liquid chromatography/tandem mass spectrometry. <i>Rapid Communications in Mass Spectrometry</i> , 2016, 30, 2043-2051.	1.5	34
38	Chemical Ecosystem Selection on Mineral Surfaces Reveals Long-Term Dynamics Consistent with the Spontaneous Emergence of Mutual Catalysis. <i>Life</i> , 2019, 9, 80.	2.4	34
39	Polyesters as a Model System for Building Primitive Biologies from Non-Biological Prebiotic Chemistry. <i>Life</i> , 2020, 10, 6.	2.4	31
40	Debating Evidence for the Origin of Life on Earth. <i>Science</i> , 2007, 315, 937c-939c.	12.6	29
41	Amino acids generated from hydrated Titan tholins: Comparison with Miller's Urey electric discharge products. <i>Icarus</i> , 2014, 237, 182-189.	2.5	28
42	Earth Without Life: A Systems Model of a Global Abiotic Nitrogen Cycle. <i>Astrobiology</i> , 2018, 18, 897-914.	3.0	28
43	A continuous reaction network that produces RNA precursors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 13267-13274.	7.1	27
44	Sublimation extraction coupled with gas chromatography-mass spectrometry: A new technique for future in situ analyses of purines and pyrimidines on Mars. <i>Planetary and Space Science</i> , 2006, 54, 1584-1591.	1.7	25
45	One Among Millions: The Chemical Space of Nucleic Acid-Like Molecules. <i>Journal of Chemical Information and Modeling</i> , 2019, 59, 4266-4277.	5.4	25
46	Geological and hydrological histories of the Argyre province, Mars. <i>Icarus</i> , 2015, 253, 66-98.	2.5	24
47	Adaptive Properties of the Genetically Encoded Amino Acid Alphabet Are Inherited from Its Subsets. <i>Scientific Reports</i> , 2019, 9, 12468.	3.3	24
48	Come together to study life's origins. <i>Nature</i> , 2016, 529, 25-25.	27.8	21
49	Exploring astrobiology using in silico molecular structure generation. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160344.	3.4	21
50	Prebiotic oligomerization and self-assembly of structurally diverse xenobiological monomers. <i>Scientific Reports</i> , 2020, 10, 17560.	3.3	21
51	Desorption Electrospray Ionization Imaging Mass Spectrometry as a Tool for Investigating Model Prebiotic Reactions on Mineral Surfaces. <i>Analytical Chemistry</i> , 2013, 85, 1276-1279.	6.5	19
52	Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: a Workshop Report. <i>Origins of Life and Evolution of Biospheres</i> , 2019, 49, 111-145.	1.9	19
53	Enhanced Synthesis of Alkyl Amino Acids in Miller's 1958 H ₂ S Experiment. <i>Origins of Life and Evolution of Biospheres</i> , 2011, 41, 569-574.	1.9	18
54	The Reactions of Nitrogen Heterocycles with Acrolein: Scope and Prebiotic Significance. <i>Astrobiology</i> , 2002, 2, 403-415.	3.0	17

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55	227 Views of RNA: Is RNA Unique in Its Chemical Isomer Space?. <i>Astrobiology</i> , 2015, 15, 538-558.	3.0	17
56	Metabolomics as an Emerging Tool in the Search for Astrobiologically Relevant Biomarkers. <i>Astrobiology</i> , 2020, 20, 1251-1261.	3.0	16
57	Incorporation of Basic α -Hydroxy Acid Residues into Primitive Polyester Microdroplets for RNA Segregation. <i>Biomacromolecules</i> , 2021, 22, 1484-1493.	5.4	14
58	Computational exploration of the chemical structure space of possible reverse tricarboxylic acid cycle constituents. <i>Scientific Reports</i> , 2017, 7, 17540.	3.3	12
59	Classification of the Biogenicity of Complex Organic Mixtures for the Detection of Extraterrestrial Life. <i>Life</i> , 2021, 11, 234.	2.4	12
60	Herrera's 'Plasmogenia' and Other Collected Works. , 2014, , .		11
61	Open questions in understanding life's origins. <i>Communications Chemistry</i> , 2021, 4, .	4.5	10
62	The Prebiotic Kitchen: A Guide to Composing Prebiotic Soup Recipes to Test Origins of Life Hypotheses. <i>Life</i> , 2021, 11, 1221.	2.4	9
63	Ab initio simulations and the Miller prebiotic synthesis experiment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E342.	7.1	8
64	An open source computational workflow for the discovery of autocatalytic networks in abiotic reactions. <i>Chemical Science</i> , 2022, 13, 4838-4853.	7.4	8
65	A Simple Synthesis of Photolabile α -Methyl Nitrobenzyl Compounds. <i>Synthetic Communications</i> , 2004, 34, 2379-2386.	2.1	7
66	The Prebiotic Chemistry of Alternative Nucleic Acids. <i>Cellular Origin and Life in Extreme Habitats</i> , 2012, , 3-33.	0.3	7
67	Radiolysis of solid-state nitrogen heterocycles provides clues to their abundance in the early solar system. <i>International Journal of Astrobiology</i> , 2019, 18, 289-295.	1.6	7
68	Automated Exploration of Prebiotic Chemical Reaction Space: Progress and Perspectives. <i>Life</i> , 2021, 11, 1140.	2.4	6
69	The Origin of Biomolecules. <i>ACS Symposium Series</i> , 2010, , 17-43.	0.5	5
70	Subsumed complexity: abiogenesis as a by-product of complex energy transduction. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160348.	3.4	5
71	Fitting Cometary Sampling and Composition Mass Spectral Results Using Non-negative Least Squares: Reducing Detection Ambiguity for <i>In Situ</i> Solar System Organic Compound Measurements. <i>ACS Earth and Space Chemistry</i> , 2018, 2, 1256-1261.	2.7	5
72	The Argyre Region as a Prime Target for <i>in situ</i> Astrobiological Exploration of Mars. <i>Astrobiology</i> , 2016, 16, 143-158.	3.0	4

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73	Visualization and identification of single meteoritic organic molecules by atomic force microscopy. <i>Meteoritics and Planetary Science</i> , 2022, 57, 644-656.	1.6	4
74	Size-Dependent Affinity of Glycine and Its Short Oligomers to Pyrite Surface: A Model for Prebiotic Accumulation of Amino Acid Oligomers on a Mineral Surface. <i>International Journal of Molecular Sciences</i> , 2018, 19, 365.	4.1	3
75	The Origin of Earth's Mantle Nitrogen: Primordial or Early Biogeochemical Cycling?. <i>Geochemistry, Geophysics, Geosystems</i> , 2022, 23, .	2.5	3
76	A Hypothesis for a Unified Mechanism of Formation and Enantioenrichment of Polyols and Aldaric, Aldonic, Amino, Hydroxy and Sugar Acids in Carbonaceous Chondrites. , 2011, , 37-55.		2
77	Nucleobases on the Primitive Earth: Their Sources and Stabilities. <i>Nucleic Acids and Molecular Biology</i> , 2018, , 1-19.	0.2	2
78	Unbinding events of amino acids and peptides from water-pyrite interfaces: A case study of life's origin on mineral surfaces. <i>Biophysical Chemistry</i> , 2020, 260, 106338.	2.8	2
79	The Post-COVID-19 Era: Interdisciplinary Demands of Contagion Surveillance Mass Spectrometry for Future Pandemics. <i>Sustainability</i> , 2021, 13, 7614.	3.2	2
80	Adaptive Properties of the Amino Acid Alphabet and its Subsets. , 2018, , .		1
81	Formose Reaction. , 2015, , 877-884.		1
82	A Simple Synthesis of Photolabile β -Methyl Nitrobenzyl Compounds.. <i>ChemInform</i> , 2004, 35, no.	0.0	0
83	Introduction to the Special Collection of Communications from ELSI 2014. <i>Origins of Life and Evolution of Biospheres</i> , 2015, 45, 307-307.	1.9	0
84	Alfonso Luis Herrera and the Beginnings of Evolutionism and Studies in the Origin of Life in Mexico. <i>Journal of Molecular Evolution</i> , 2016, 83, 193-203.	1.8	0
85	Formose Reaction. , 2014, , 1-8.		0
86	Applications of omics in life detection beyond Earth. , 2022, , 193-219.		0