Thomas M Mccollom

List of Publications by Year
in descending order

57	6,499	117453	168136
papers	citations	34 h-index	53 g-index

60	60	60	4529
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hydrogen generation from serpentinization of iron-rich olivine on Mars, icy moons, and other planetary bodies. Icarus, 2022, 372, 114754.	1.1	9
2	Geochemical data indicate highly similar sediment compositions for the Grasberg and Burns formations on Meridiani Planum, Mars. Earth and Planetary Science Letters, 2021, 557, 116729.	1.8	10
3	Microbial Communities in a Serpentinizing Aquifer Are Assembled through Strong Concurrent Dispersal Limitation and Selection. MSystems, 2021, 6, e0030021.	1.7	12
4	Hydrogen generation and iron partitioning during experimental serpentinization of an olivineâ€“pyroxene mixture. Geochimica Et Cosmochimica Acta, 2020, 282, 55-75.	1.6	30
5	Hydrogen and Abiotic Hydrocarbons: Molecules that Change the World. Elements, 2020, 16, 13-18.	0.5	34
6	The effect of pH on rates of reaction and hydrogen generation during serpentinization. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20180428.	1.6	20
7	Sulfur Cycling and Mass Balance at Meridiani, Mars. Geophysical Research Letters, 2019, 46, 11728-11737.	1.5	7
8	Experimental Constraints on Abiotic Formation of Tubules and Other Proposed Biological Structures in Subsurface Volcanic Glass. Astrobiology, 2019, 19, 53-63.	1.5	6
9	Geochemical Trends in the Burns Formation Layered Sulfate Deposits at Meridiani Planum, Mars, and Implications for Their Origin. Journal of Geophysical Research E: Planets, 2018, 123, 2393-2429.	1.5	14
10	Jarosite and Alunite in Ancient Terrestrial Sedimentary Rocks: Reinterpreting Martian Depositional and Diagenetic Environmental Conditions. Life, 2018, 8, 32.	1.1	9
11	Phosphorous Immobility During Formation of the Layered Sulfate Deposits of the Burns Formation at Meridiani Planum. Journal of Geophysical Research E: Planets, 2018, 123, 1230-1254.	1.5	5
12	Methane Dynamics in a Tropical Serpentinizing Environment: The Santa Elena Ophiolite, Costa Rica. Frontiers in Microbiology, 2017, 8, 916.	1.5	64
13	Generation of Hydrogen and Methane during Experimental Low-Temperature Reaction of Ultramafic Rocks with Water. Astrobiology, 2016, 16, 389-406.	1.5	39
14	Temperature trends for reaction rates, hydrogen generation, and partitioning of iron during experimental serpentinization of olivine. Geochimica Et Cosmochimica Acta, 2016, 181, 175-200.	1.6	143
15	Abiotic methane formation during experimental serpentinization of olivine. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13965-13970.	3.3	161
16	Thermodynamic constraints on the formation of condensed carbon from serpentinization fluids. Geochimica Et Cosmochimica Acta, 2016, 189, 391-403.	1.6	28
17	Investigation of extractable organic compounds in deep-sea hydrothermal vent fluids along the Mid-Atlantic Ridge. Geochimica Et Cosmochimica Acta, 2015, 156, 122-144.	1.6	51
18	Experimental constraints on fluid-rock reactions during incipient serpentinization of harzburgite. American Mineralogist, 2015, 100, 991-1002.	0.9	66

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19	Detection of iron substitution in natroalunite-natrojarosite solid solutions and potential implications for Mars. American Mineralogist, 2014, 99, 948-964.	0.9	32
20	The energetics of organic synthesis inside and outside the cell. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120255.	1.8	94
21	From serpentinization to carbonation: New insights from a CO2 injection experiment. Earth and Planetary Science Letters, 2013, 379, 137-145.	1.8	78
22	The influence of minerals on decomposition of the n-alkyl-Î±-amino acid norvaline under hydrothermal conditions. Geochimica Et Cosmochimica Acta, 2013, 104, 330-357.	1.6	47
23	Compositional controls on hydrogen generation during serpentinization of ultramafic rocks. Lithos, 2013, 178, 55-69.	0.6	202
24	Miller-Urey and Beyond: What Have We Learned About Prebiotic Organic Synthesis Reactions in the Past 60 Years?. Annual Review of Earth and Planetary Sciences, 2013, 41, 207-229.	4.6	98
25	Experimental study of acidâ€sulfate alteration of basalt and implications for sulfate deposits on Mars. Journal of Geophysical Research E: Planets, 2013, 118, 577-614.	1.5	32
26	Chemical and mineralogical trends during acidâ€sulfate alteration of pyroclastic basalt at Cerro Negro volcano and implications for early Mars. Journal of Geophysical Research E: Planets, 2013, 118, 1719-1751.	1.5	20
27	Assessment of environmental controls on acidâ€sulfate alteration at active volcanoes in Nicaragua: Applications to relic hydrothermal systems on Mars. Journal of Geophysical Research E: Planets, 2013, 118, 2083-2104.	1.5	35
28	15. Laboratory Simulations of Abiotic Hydrocarbon Formation in Earth's Deep Subsurface. , 2013, , 467-494.		9
29	Methane generation during experimental serpentinization of olivine. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3334-E3334.	3.3	4
30	Abiogenic methanogenesis during experimental komatiite serpentinization: Implications for the evolution of the early Precambrian atmosphere. Chemical Geology, 2012, 326-327, 102-112.	1.4	54
31	Catabolic and anabolic energy for chemolithoautotrophs in deep-sea hydrothermal systems hosted in different rock types. Geochimica Et Cosmochimica Acta, 2011, 75, 5736-5748.	1.6	199
32	What Can Carbon Isotopes Tell Us About Sources of Reduced Carbon in Rocks from the Early Earth?. , 2011, , 291-311.		3
33	The influence of carbon source on abiotic organic synthesis and carbon isotope fractionation under hydrothermal conditions. Geochimica Et Cosmochimica Acta, 2010, 74, 2717-2740.	1.6	150
34	Thermodynamic constraints on hydrogen generation during serpentinization of ultramafic rocks. Geochimica Et Cosmochimica Acta, 2009, 73, 856-875.	1.6	415
35	Geochemical Constraints on Sources of Metabolic Energy for Chemolithoautotrophy in Ultramafic-Hosted Deep-Sea Hydrothermal Systems. Astrobiology, 2007, 7, 933-950.	1.5	150
36	Abiotic Synthesis of Organic Compounds in Deep-Sea Hydrothermal Environments. Chemical Reviews, 2007, 107, 382-401.	23.0	460

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37	Carbon isotope composition of organic compounds produced by abiotic synthesis under hydrothermal conditions. Earth and Planetary Science Letters, 2006, 243, 74-84.	1.8	358
38	Experimental investigation of single carbon compounds under hydrothermal conditions. Geochimica Et Cosmochimica Acta, 2006, 70, 446-460.	1.6	228
39	Bedrock formation at Meridiani Planum (Reply). Nature, 2006, 443, E2-E2.	13.7	10
40	Biosignatures and abiotic constraints on early life. Nature, 2006, 444, E18-E18.	13.7	26
41	Serpentinization and Its Implications for Life on the Early Earth and Mars. Astrobiology, 2006, 6, 364-376.	1.5	264
42	The Habitability of Mars: Past and Present. , 2006, , 159-175.		2
43	A volcanic environment for bedrock diagenesis at Meridiani Planum on Mars. Nature, 2005, 438, 1129-1131.	13.7	142
44	From The Cover: Hydrogen and bioenergetics in the Yellowstone geothermal ecosystem. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 2555-2560.	3.3	358
45	Neutrophilic Iron-Oxidizing Bacteria in the Ocean: Their Habitats, Diversity, and Roles in Mineral Deposition, Rock Alteration, and Biomass Production in the Deep-Sea. Geomicrobiology Journal, 2004, 21, 393-404.	1.0	159
46	Formation of meteorite hydrocarbons from thermal decomposition of siderite (FeCO3). Geochimica Et Cosmochimica Acta, 2003, 67, 311-317.	1.6	141
47	Experimental study of the hydrothermal reactivity of organic acids and acid anions: II. Acetic acid, acetate, and valeric acid. Geochimica Et Cosmochimica Acta, 2003, 67, 3645-3664.	1.6	96
48	Experimental constraints on the hydrothermal reactivity of organic acids and acid anions: I. Formic acid and formate. Geochimica Et Cosmochimica Acta, 2003, 67, 3625-3644.	1.6	203
49	A reassessment of the potential for reduction of dissolved CO 2 to hydrocarbons during serpentinization of olivine. Geochimica Et Cosmochimica Acta, 2001, 65, 3769-3778.	1.6	371
50	Geochemical constraints on primary productivity in submarine hydrothermal vent plumes. Deep-Sea Research Part I: Oceanographic Research Papers, 2000, 47, 85-101.	0.6	143
51	Methanogenesis as a potential source of chemical energy for primary biomass production by autotrophic organisms in hydrothermal systems on Europa. Journal of Geophysical Research, 1999, 104, 30729-30742.	3.3	166
52	Abiotic formation of hydrocarbons and oxygenated compounds during thermal decomposition of iron oxalate. , 1999, 29, 167-186.		48
53	Lipid synthesis under hydrothermal conditions by Fischer-Tropsch-type reactions. Origins of Life and Evolution of Biospheres, 1999, 29, 153-166.	0.8	397
54	Hydrous Pyrolysis of Polycyclic Aromatic Hydrocarbons and Implications for the Origin of PAH in Hydrothermal Petroleum. Energy & Fuels, 1999, 13, 401-410.	2.5	44

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55	Fluid-rock interactions in the lower oceanic crust: Thermodynamic models of hydrothermal alteration. Journal of Geophysical Research, 1998, 103, 547-575.	3.3	104
56	Geochemical constraints on chemolithoautotrophic metabolism by microorganisms in seafloor hydrothermal systems. Geochimica Et Cosmochimica Acta, 1997, 61, 4375-4391.	1.6	426
57	Observational, Experimental, and Theoretical Constraints on Carbon Cycling in Mid-Ocean Ridge Hydrothermal Systems. Geophysical Monograph Series, 0, , 193-213.	0.1	20