

Caroline Freissinet

List of Publications by Year in descending order

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Version: 2024-02-01

50
papers

6,525
citations

159585

30
h-index

189892

50
g-index

50
all docs

50
docs citations

50
times ranked

3707
citing authors

#	ARTICLE	IF	CITATIONS
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1242777.	12.6	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1243480.	12.6	508
3	The Sample Analysis at Mars Investigation and Instrument Suite. <i>Space Science Reviews</i> , 2012, 170, 401-478.	8.1	435
4	Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 495-514.	3.6	375
5	Mars methane detection and variability at Gale crater. <i>Science</i> , 2015, 347, 415-417.	12.6	373
6	Organic matter preserved in 3-billion-year-old mudstones at Gale crater, Mars. <i>Science</i> , 2018, 360, 1096-1101.	12.6	369
7	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. <i>Science</i> , 2013, 341, 1238937.	12.6	367
8	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. <i>Science</i> , 2013, 341, 1238932.	12.6	327
9	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1245267.	12.6	323
10	Evidence for perchlorates and the origin of chlorinated hydrocarbons detected by SAM at the Rocknest aeolian deposit in Gale Crater. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1955-1973.	3.6	306
11	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. <i>Science</i> , 2013, 341, 1239505.	12.6	280
12	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. <i>Science</i> , 2013, 341, 260-263.	12.6	241
13	Background levels of methane in Mars's atmosphere show strong seasonal variations. <i>Science</i> , 2018, 360, 1093-1096.	12.6	224
14	The Mars Organic Molecule Analyzer (MOMA) Instrument: Characterization of Organic Material in Martian Sediments. <i>Astrobiology</i> , 2017, 17, 655-685.	3.0	185
15	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the <i>Curiosity</i> rover investigations at Gale crater, Mars. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4245-4250.	7.1	172
16	Evolved gas analyses of sedimentary rocks and eolian sediment in Gale Crater, Mars: Results of the Curiosity rover's sample analysis at Mars instrument from Yellowknife Bay to the Namib Dune. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2574-2609.	3.6	168
17	Mineralogy and geochemistry of sedimentary rocks and eolian sediments in Gale crater, Mars: A review after six Earth years of exploration with Curiosity. <i>Chemie Der Erde</i> , 2020, 80, 125605.	2.0	137
18	The imprint of atmospheric evolution in the D/H of Hesperian clay minerals on Mars. <i>Science</i> , 2015, 347, 412-414.	12.6	113

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19	Initial SAM calibration gas experiments on Mars: Quadrupole mass spectrometer results and implications. <i>Planetary and Space Science</i> , 2017, 138, 44-54.	1.7	84
20	Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. <i>Planetary Science Journal</i> , 2021, 2, 130.	3.6	80
21	In situ measurement of atmospheric krypton and xenon on Mars with Mars Science Laboratory. <i>Earth and Planetary Science Letters</i> , 2016, 454, 1-9.	4.4	59
22	Large sulfur isotope fractionations in Martian sediments at Gale crater. <i>Nature Geoscience</i> , 2017, 10, 658-662.	12.9	53
23	MOMA: the challenge to search for organics and biosignatures on Mars. <i>International Journal of Astrobiology</i> , 2016, 15, 239-250.	1.6	52
24	First Detections of Dichlorobenzene Isomers and Trichloromethylpropane from Organic Matter Indigenous to Mars Mudstone in Gale Crater, Mars: Results from the Sample Analysis at Mars Instrument Onboard the Curiosity Rover. <i>Astrobiology</i> , 2020, 20, 292-306.	3.0	50
25	Search for evidence of life in space: Analysis of enantiomeric organic molecules by N,N-dimethylformamide dimethylacetal derivative dependant Gas Chromatography-Mass Spectrometry. <i>Journal of Chromatography A</i> , 2010, 1217, 731-740.	3.7	48
26	Indigenous and exogenous organics and surface-atmosphere cycling inferred from carbon and oxygen isotopes at Gale crater. <i>Nature Astronomy</i> , 2020, 4, 526-532.	10.1	41
27	Light and variable $^{37}\text{Cl}/^{35}\text{Cl}$ ratios in rocks from Gale Crater, Mars: Possible signature of perchlorate. <i>Earth and Planetary Science Letters</i> , 2016, 438, 14-24.	4.4	39
28	Development of a gas chromatography compatible Sample Processing System (SPS) for the in-situ analysis of refractory organic matter in martian soil: preliminary results. <i>Advances in Space Research</i> , 2009, 43, 143-151.	2.6	36
29	Potential precursor compounds for chlorohydrocarbons detected in Gale Crater, Mars, by the SAM instrument suite on the Curiosity Rover. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 296-308.	3.6	33
30	Recovery of Fatty Acids from Mineralogic Mars Analogs by TMAH Thermochemolysis for the Sample Analysis at Mars Wet Chemistry Experiment on the Curiosity Rover. <i>Astrobiology</i> , 2019, 19, 522-546.	3.0	33
31	Magnesium sulfate as a key mineral for the detection of organic molecules on Mars using pyrolysis. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 61-74.	3.6	31
32	Organic molecules revealed in Mars's Bagnold Dunes by Curiosity's derivatization experiment. <i>Nature Astronomy</i> , 2022, 6, 129-140.	10.1	29
33	In situ analysis of martian regolith with the SAM experiment during the first mars year of the MSL mission: Identification of organic molecules by gas chromatography from laboratory measurements. <i>Planetary and Space Science</i> , 2016, 129, 88-102.	1.7	27
34	Evaluation of the Tenax trap in the Sample Analysis at Mars instrument suite on the Curiosity rover as a potential hydrocarbon source for chlorinated organics detected in Gale Crater. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1446-1459.	3.6	23
35	Enantiomeric separation of volatile organics by gas chromatography for the in situ analysis of extraterrestrial materials: Kinetics and thermodynamics investigation of various chiral stationary phases. <i>Journal of Chromatography A</i> , 2013, 1306, 59-71.	3.7	22
36	Coordinated analyses of Antarctic sediments as Mars analog materials using reflectance spectroscopy and current flight-like instruments for CheMin, SAM and MOMA. <i>Icarus</i> , 2013, 224, 309-325.	2.5	21

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37	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. <i>Astrobiology</i> , 2022, 22, 685-712.	3.0	21
38	Major Volatiles Evolved From Eolian Materials in Gale Crater. <i>Geophysical Research Letters</i> , 2018, 45, 10,240.	4.0	19
39	The search for organic compounds with TMAH thermochemolysis: From Earth analyses to space exploration experiments. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 127, 115896.	11.4	18
40	Comparison of Prototype and Laboratory Experiments on MOMA GCMS: Results from the AMASE11 Campaign. <i>Astrobiology</i> , 2014, 14, 780-797.	3.0	17
41	Application of TMAH thermochemolysis to the detection of nucleobases: Application to the MOMA and SAM space experiment. <i>Talanta</i> , 2019, 204, 802-811.	5.5	14
42	Integrity and Biological Activity of DNA after UV Exposure. <i>Astrobiology</i> , 2010, 10, 285-292.	3.0	13
43	Role of the Tenax® Adsorbent in the Interpretation of the EGA and GC-MS Analyses Performed With the Sample Analysis at Mars in Gale Crater. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 2819-2851.	3.6	13
44	Benzoic Acid as the Preferred Precursor for the Chlorobenzene Detected on Mars: Insights from the Unique Cumberland Analog Investigation. <i>Planetary Science Journal</i> , 2020, 1, 41.	3.6	12
45	Investigating the effects of gamma radiation on selected chemicals for use in biosignature detection instruments on the surface of Jupiter's moon Europa. <i>Planetary and Space Science</i> , 2019, 175, 1-12.	1.7	11
46	Influence of Calcium Perchlorate on the Search for Organics on Mars with Tetramethylammonium Hydroxide Thermochemolysis. <i>Astrobiology</i> , 2021, 21, 279-297.	3.0	10
47	Testing the capabilities of the Mars Organic Molecule Analyser (MOMA) chromatographic columns for the separation of organic compounds on Mars. <i>Planetary and Space Science</i> , 2020, 186, 104903.	1.7	9
48	European Molecular Indicators of Life Investigation (EMILI) for a Future Europa Lander Mission. <i>Frontiers in Space Technologies</i> , 2022, 2, .	1.4	7
49	Influence of Calcium Perchlorate on the Search for Martian Organic Compounds with MTBSTFA/DMF Derivatization. <i>Astrobiology</i> , 2021, 21, 1137-1156.	3.0	6
50	Evaluation of the robustness of chromatographic columns in a simulated highly radiative Jovian environment. <i>Planetary and Space Science</i> , 2016, 122, 38-45.	1.7	4