Margaret A Tolbert

List of Publications by Year
in descending order

87 papers	3,767 citations	101543 36 h-index	144013 57 g-index
87 all docs	87 docs citations	87 times ranked	3370 citing authors

#	Article	IF	Citations
1	Trace H₂S Promotes Organic Aerosol Production and Organosulfur Compound Formation in Archean Analog Haze Photochemistry Experiments. Geophysical Research Letters, 2022, 49, .	4.0	4
2	Seeded Crystal Growth of Internally Mixed Organicâ€“Inorganic Aerosols: Impact of Organic Phase State. Journal of Physical Chemistry A, 2021, 125, 8668-8679.	2.5	12
3	Probing Heterogeneous Efflorescence of Mars-Relevant Salts with an Optical Levitator. ACS Earth and Space Chemistry, 2020, 4, 1947-1956.	2.7	1
4	Impact of Hydrogen Sulfide on Photochemical Haze Formation in Methane/Nitrogen Atmospheres. ACS Earth and Space Chemistry, 2020, 4, 897-904.	2.7	8
5	The Impact of Molecular Oxygen on Anion Composition in a Hazy Archean Earth Atmosphere. Astrobiology, 2020, 20, 658-669.	3.0	4
6	Brown Carbon Production by Aqueous-Phase Interactions of Glyoxal and SO₂. Environmental Science & Technology, 2020, 54, 4781-4789.	10.0	18
7	Changes in Soil Cohesion Due to Water Vapor Exchange: A Proposed Dryâ€Flow Trigger Mechanism for Recurring Slope Lineae on Mars. Geophysical Research Letters, 2020, 47, e2020GL087618.	4.0	22
8	The Influence of Gas-phase Chemistry on Organic Haze Formation. Astrophysical Journal Letters, 2019, 885, L6.	8.3	15
9	Chemical Composition of Gas-Phase Positive Ions during Laboratory Simulations of Titanâ€™s Haze Formation. ACS Earth and Space Chemistry, 2019, 3, 202-211.	2.7	11
10	Constraining the Potential Liquid Water Environment at Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1156-1167.	3.6	40
11	Immersion and Contact Efflorescence Induced by Mineral Dust Particles. Journal of Physical Chemistry A, 2018, 122, 1303-1311.	2.5	10
12	Laboratory investigations of Titan haze formation: In situ measurement of gas and particle composition. Icarus, 2018, 301, 136-151.	2.5	37
13	Compositional and Mineralogical Effects on Ice Nucleation Activity of Volcanic Ash. Atmosphere, 2018, 9, 238.	2.3	9
14	Exploring the Atmosphere of Neoproterozoic Earth: The Effect of O₂ on Haze Formation and Composition. Astrophysical Journal, 2018, 858, 119.	4.5	18
15	The Effect of Oxygen on Organic Haze Properties. Astrophysical Journal Letters, 2018, 859, L2.	8.3	10
16	The Effect of Marsâ€Relevant Soil Analogs on the Water Uptake of Magnesium Perchlorate and Implications for the Nearâ€Surface of Mars. Journal of Geophysical Research E: Planets, 2018, 123, 2076-2088.	3.6	18
17	Laboratory Investigations on the Survival of Bacillus subtilis Spores in Deliquescent Salt Mars Analog Environments. Astrobiology, 2017, 17, 997-1008.	3.0	20
18	Crystal nucleation initiated by transient ion-surface interactions at aerosol interfaces. Science Advances, 2017, 3, e1700425.	10.3	16

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19	Follow the Carbon: Isotopic Labeling Studies of Early Earth Aerosol. Astrobiology, 2016, 16, 822-830.	3.0	29
20	The aqueous stability of a Mars salt analog: Instant Mars. Journal of Geophysical Research E: Planets, 2015, 120, 588-598.	3.6	21
21	Deposition and immersion-mode nucleation of ice by three distinct samples of volcanic ash. Atmospheric Chemistry and Physics, 2015, 15, 7523-7536.	4.9	28
22	Contact efflorescence as a pathway for crystallization of atmospherically relevant particles. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15815-15820.	7.1	45
23	Long Working-Distance Optical Trap for in Situ Analysis of Contact-Induced Phase Transformations. Analytical Chemistry, 2015, 87, 6186-6194.	6.5	33
24	Sensitivity of Aerosol Refractive Index Retrievals Using Optical Spectroscopy. Aerosol Science and Technology, 2014, 48, 1133-1144.	3.1	58
25	THE EFFECT OF CARBON MONOXIDE ON PLANETARY HAZE FORMATION. Astrophysical Journal, 2014, 781, 53.	4.5	34
26	Optical growth of highly viscous organic/sulfate particles. Journal of Atmospheric Chemistry, 2014, 71, 145-156.	3.2	25
27	The role of benzene photolysis in Titan haze formation. Icarus, 2014, 233, 233-241.	2.5	40
28	IN SITU MEASUREMENTS OF THE SIZE AND DENSITY OF TITAN AEROSOL ANALOGS. Astrophysical Journal Letters, 2013, 770, L10.	8.3	52
29	THE INFLUENCE OF BENZENE AS A TRACE REACTANT IN TITAN AEROSOL ANALOGS. Astrophysical Journal Letters, 2013, 766, L4.	8.3	36
30	State transformations and ice nucleation in amorphous (semi-)solid organic aerosol. Atmospheric Chemistry and Physics, 2013, 13, 5615-5628.	4.9	82
31	Heterogeneous ice nucleation on phase-separated organic-sulfate particles: effect of liquid vs. glassy coatings. Atmospheric Chemistry and Physics, 2013, 13, 4681-4695.	4.9	73
32	Depositional ice nucleation onto crystalline hydrated NaCl particles: a new mechanism for ice formation in the troposphere. Atmospheric Chemistry and Physics, 2012, 12, 1121-1134.	4.9	107
33	Nitrogen Incorporation in CH₄-N₂ Photochemical Aerosol Produced by Far Ultraviolet Irradiation. Astrobiology, 2012, 12, 315-326.	3.0	54
34	Importance of aerosol composition, mixing state, and morphology for heterogeneous ice nucleation: A combined field and laboratory approach. Journal of Geophysical Research, 2012, 117, .	3.3	93
35	Potential Climatic Impact of Organic Haze on Early Earth. Astrobiology, 2011, 11, 135-149.	3.0	43
36	Depositional ice nucleation on solid ammonium sulfate and glutaric acid particles. Atmospheric Chemistry and Physics, 2010, 10, 2307-2317.	4.9	94

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37	Optical properties of Titan and early Earth haze laboratory analogs in the mid-visible. Icarus, 2010, 207, 903-913.	2.5	59
38	The Formation of Sulfate and Elemental Sulfur Aerosols under Varying Laboratory Conditions: Implications for Early Earth. Astrobiology, 2010, 10, 773-781.	3.0	29
39	Cooling Enhancement of Aerosol Particles Due to Surfactant Precipitation. Journal of Physical Chemistry A, 2010, 114, 7070-7076.	2.5	12
40	Reduction in Haze Formation Rate on Prebiotic Earth in the Presence of Hydrogen. Astrobiology, 2009, 9, 447-453.	3.0	52
41	Atmospheric condensedâ€phase reactions of glyoxal with methylamine. Geophysical Research Letters, 2009, 36, .	4.0	147
42	A laboratory investigation of the relative humidity dependence of light extinction by organic compounds from lignin combustion. Environmental Research Letters, 2008, 3, 045003.	5.2	29
43	Nitric acid condensation on ice: 2. Kinetic limitations, a possible â€œcloud clockâ€• for determining cloud parcel lifetime. Journal of Geophysical Research, 2007, 112, .	3.3	3
44	Parameterization for the relative humidity dependence of light extinction: Organicâ€ammonium sulfate aerosol. Journal of Geophysical Research, 2007, 112, .	3.3	61
45	Kinetics of acid-catalyzed aldol condensation reactions of aliphatic aldehydes. Atmospheric Environment, 2007, 41, 6212-6224.	4.1	102
46	Key factors influencing the relative humidity dependence of aerosol light scattering. Geophysical Research Letters, 2006, 33, .	4.0	53
47	Nitric acid condensation on ice: 1. Non-HNO3constituent of NOYcondensing cirrus particles on upper tropospheric. Journal of Geophysical Research, 2006, 111, .	3.3	3
48	Heterogeneous uptake of nitric acid on Na-montmorillonite clay as a function of relative humidity. Journal of Geophysical Research, 2006, 111, .	3.3	40
49	Depositional ice nucleation on crystalline organic and inorganic solids. Journal of Geophysical Research, 2006, 111, .	3.3	69
50	Measurements of the vapor pressure of cubic ice and their implications for atmospheric ice clouds. Geophysical Research Letters, 2006, 33, .	4.0	93
51	Ice nucleation in sulfuric acid/organic aerosols: implications for cirrus cloud formation. Atmospheric Chemistry and Physics, 2006, 6, 3231-3242.	4.9	21
52	Acid-catalyzed reactions of hexanal on sulfuric acid particles: Identification of reaction products. Atmospheric Environment, 2006, 40, 6863-6878.	4.1	56
53	Organic haze on Titan and the early Earth. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18035-18042.	7.1	205
54	Infrared characterization of water uptake by low-temperature Na-montmorillonite: Implications for Earth and Mars. Journal of Geophysical Research, 2005, 110, .	3.3	49

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55	Haze Aerosols in the Atmosphere of Early Earth: Manna from Heaven. Astrobiology, 2004, 4, 409-419.	3.0	61
56	Uptake of Acetic Acid on Thin Ammonium Nitrate Films as a Function of Temperature and Relative Humidity. Journal of Physical Chemistry A, 2004, 108, 11314-11320.	2.5	10
57	Heterogeneous Reaction of Gaseous Nitric Acid on Î³-Phase Iron(III) Oxide. Journal of Physical Chemistry A, 2004, 108, 1560-1566.	2.5	31
58	Polar stratospheric clouds during SOLVE/THESEO: Comparison of lidar observations with in situ measurements. Journal of Geophysical Research, 2004, 109, .	3.3	11
59	Ice nucleation in internally mixed ammonium sulfate/dicarboxylic acid particles. Journal of Geophysical Research, 2004, 109, .	3.3	22
60	Chemical composition of Titan's haze: Are PAHs present?. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	30
61	Uptake of reactive nitrogen on cirrus cloud particles in the upper troposphere and lowermost stratosphere. Geophysical Research Letters, 2003, 30, .	4.0	32
62	Phase changes in internally mixed maleic acid/ammonium sulfate aerosols. Journal of Geophysical Research, 2003, 108, .	3.3	66
63	Measurements of large stratospheric particles in the Arctic polar vortex. Journal of Geophysical Research, 2003, 108, .	3.3	15
64	Solubility and freezing effects of Fe2+and Mg2+in H2SO4solutions representative of upper tropospheric and lower stratospheric sulfate particles. Journal of Geophysical Research, 2003, 108, .	3.3	16
65	Hygroscopic growth of ammonium sulfate/dicarboxylic acids. Journal of Geophysical Research, 2003, 108, .	3.3	130
66	Infrared spectroscopic study of the low-temperature phase behavior of ammonium sulfate. Journal of Geophysical Research, 2002, 107, AAC 4-1-AAC 4-9.	3.3	19
67	An analysis of large HNO3-containing particles sampled in the Arctic stratosphere during the winter of 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 41-1.	3.3	55
68	Deliquescence behavior of organic/ammonium sulfate aerosol. Geophysical Research Letters, 2002, 29, 23-1-23-4.	4.0	152
69	The Interaction of Methanol, Acetone, and Acetaldehyde with Ice and Nitric Acid-Doped Ice:Â Implications for Cirrus Clouds. Journal of Physical Chemistry A, 2002, 106, 2882-2888.	2.5	66
70	Studies of Polar Stratospheric Cloud Formation. Accounts of Chemical Research, 2001, 34, 545-553.	15.6	20
71	Laboratory studies of ice nucleation in sulfate particles: Implications for cirrus clouds. AIP Conference Proceedings, 2000, , .	0.4	0
72	Phase changes in internally mixed organic/sulfate aerosols. AIP Conference Proceedings, 2000, , .	0.4	0

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73	CHEMISTRY ANDMICROPHYSICS OFPOLARSTRATOSPHERICCLOUDS ANDCIRRUSCLOUDS. Annual Review of Physical Chemistry, 2000, 51, 473-499.	10.8	109
74	Variation of the infrared spectra of nitric acid hydrates with formation conditions: Impact on PSC identification. Geophysical Research Letters, 1999, 26, 707-710.	4.0	26
75	Impact of nitric acid on ice evaporation rates. Geophysical Research Letters, 1999, 26, 823-826.	4.0	15
76	Interaction of HCl with Ice:Â Investigation of the Predicted Trihydrate, Hexahydrate, and Monolayer Regimes. Journal of Physical Chemistry A, 1997, 101, 4979-4986.	2.5	67
77	Surface Sensitive Studies of the Reactive Uptake of Chlorine Nitrate on Ice. Journal of Physical Chemistry A, 1997, 101, 9954-9963.	2.5	31
78	Heterogeneous interaction of formaldehyde with cold sulfuric acid: Implications for the upper troposphere and lower stratosphere. Journal of Geophysical Research, 1997, 102, 16099-16107.	3.3	76
79	Uptake of HNO3on ice under upper tropospheric conditions. Geophysical Research Letters, 1997, 24, 1391-1394.	4.0	99
80	Evaporation studies of model polar stratospheric cloud films. Geophysical Research Letters, 1996, 23, 2145-2148.	4.0	27
81	UV absorption spectra of H2O/HNO3films. Geophysical Research Letters, 1996, 23, 2757-2760.	4.0	10
82	Polar Clouds and Sulfate Aerosols. Science, 1996, 272, 1597-0.	12.6	35
83	Spectroscopic evidence against nitric acid trihydrate in polar stratospheric clouds. Nature, 1995, 375, 218-221.	27.8	89
84	FTIR studies of low temperature sulfuric acid aerosols. Geophysical Research Letters, 1995, 22, 1105-1108.	4.0	70
85	Heterogeneous Reactions of Chlorine Nitrate and Dinitrogen Pentoxide on Sulfuric Acid Surfaces Representative of Global Stratospheric Aerosol Particles. Israel Journal of Chemistry, 1994, 34, 355-363.	2.3	7
86	Growth of nitric acid hydrates on thin sulfuric acid films. Geophysical Research Letters, 1994, 21, 867-870.	4.0	39
87	Formation of model polar stratospheric cloud films. Geophysical Research Letters, 1992, 19, 2417-2420.	4.0	28