

Thomas F Mentel

List of Publications by Year in descending order

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109
papers

14,833
citations

36303

51
h-index

25787

108
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159
all docs

159
docs citations

159
times ranked

7565
citing authors

#	ARTICLE	IF	CITATIONS
1	A Four Carbon Organonitrate as a Significant Product of Secondary Isoprene Chemistry. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	8
2	Gas-Particle Partitioning and SOA Yields of Organonitrate Products from NO ₃ -Initiated Oxidation of Isoprene under Varied Chemical Regimes. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 785-800.	2.7	15
3	Chemical characterisation of benzene oxidation products under high- and low-NO _x conditions using chemical ionisation mass spectrometry. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 3473-3490.	4.9	16
4	Highly oxygenated organic molecule (HOM) formation in the isoprene oxidation by NO ₃ radical. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 9681-9704.	4.9	30
5	Molecular composition and volatility of multi-generation products formed from isoprene oxidation by nitrate radical. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 10799-10824.	4.9	19
6	Zeppelin-led study on the onset of new particle formation in the planetary boundary layer. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 12649-12663.	4.9	9
7	Calibration and evaluation of a broad supersaturation scanning (BS2) cloud condensation nuclei counter for rapid measurement of particle hygroscopicity and cloud condensation nuclei (CCN) activity. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 6991-7005.	3.1	1
8	Highly Oxygenated Organic Nitrates Formed from NO ₃ Radical-Initiated Oxidation of β -Pinene. <i>Environmental Science & Technology</i> , 2021, 55, 15658-15671.	10.0	17
9	Multi-generation OH oxidation as a source for highly oxygenated organic molecules from aromatics. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 515-537.	4.9	78
10	Impact of NO _x on secondary organic aerosol (SOA) formation from β -pinene and β -pinene photooxidation: the role of highly oxygenated organic nitrates. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 10125-10147.	4.9	40
11	Carboxylic acids from limonene oxidation by ozone and hydroxyl radicals: insights into mechanisms derived using a FIGAERO-CIMS. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 13037-13052.	4.9	35
12	Secondary organic aerosol reduced by mixture of atmospheric vapours. <i>Nature</i> , 2019, 565, 587-593.	27.8	222
13	Measurements of hydroperoxy radicals (HO ₂) at atmospheric concentrations using bromide chemical ionisation mass spectrometry. <i>Atmospheric Measurement Techniques</i> , 2019, 12, 891-902.	3.1	18
14	Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals: A Key Contributor to Atmospheric Aerosol. <i>Chemical Reviews</i> , 2019, 119, 3472-3509.	47.7	460
15	Effect of NO _x on 1,3,5-trimethylbenzene (TMB) oxidation product distribution and particle formation. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 15073-15086.	4.9	36
16	Effects of NO _x and SO ₂ on the secondary organic aerosol formation from photooxidation of β -pinene and limonene. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 1611-1628.	4.9	110
17	Simulation of atmospheric organic aerosol using its volatility "oxygen-content distribution during the PEGASOS 2012 campaign. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 10759-10772.	4.9	3
18	Morphological transformation of soot: investigation of microphysical processes during the condensation of sulfuric acid and limonene ozonolysis product vapors. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 9845-9860.	4.9	27

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19	Cloud condensation nuclei activity of CaCO ₃ particles with oleic acid and malonic acid coatings. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 7345-7359.	4.9	5
20	Environmental conditions regulate the impact of plants on cloud formation. <i>Nature Communications</i> , 2017, 8, 14067.	12.8	62
21	Ambient and laboratory observations of organic ammonium salts in PM ₁ . <i>Faraday Discussions</i> , 2017, 200, 331-351.	3.2	14
22	Highly Oxygenated Molecules from Atmospheric Autoxidation of Hydrocarbons: A Prominent Challenge for Chemical Kinetics Studies. <i>International Journal of Chemical Kinetics</i> , 2017, 49, 821-831.	1.6	43
23	Enhanced Volatile Organic Compounds emissions and organic aerosol mass increase the oligomer content of atmospheric aerosols. <i>Scientific Reports</i> , 2016, 6, 35038.	3.3	80
24	Organic Nitrate Contribution to New Particle Formation and Growth in Secondary Organic Aerosols from α -Pinene Ozonolysis. <i>Environmental Science & Technology</i> , 2016, 50, 6334-6342.	10.0	47
25	A chamber study of the influence of boreal BVOC emissions and sulfuric acid on nanoparticle formation rates at ambient concentrations. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 1955-1970.	4.9	9
26	Vertical profiling of aerosol hygroscopic properties in the planetary boundary layer during the PEGASOS campaigns. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 7295-7315.	4.9	17
27	Cloud condensation nuclei activity, droplet growth kinetics, and hygroscopicity of biogenic and anthropogenic secondary organic aerosol (SOA). <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 1105-1121.	4.9	43
28	Impact of NO ₂ and OH on secondary organic aerosol formation from α -pinene photooxidation. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 11237-11248.	4.9	89
29	Urban stress-induced biogenic VOC emissions and SOA-forming potentials in Beijing. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 2901-2920.	4.9	74
30	Studying the vertical aerosol extinction coefficient by comparing in situ airborne data and elastic backscatter lidar. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 4539-4554.	4.9	33
31	Characterization of total ecosystem-scale biogenic VOC exchange at a Mediterranean oak "hornbeam forest. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 7171-7194.	4.9	24
32	Size-dependent hygroscopicity parameter (κ) and chemical composition of secondary organic cloud condensation nuclei. <i>Geophysical Research Letters</i> , 2015, 42, 10,920.	4.0	31
33	Formation of highly oxidized multifunctional compounds: autoxidation of peroxy radicals formed in the ozonolysis of alkenes – deduced from structure–product relationships. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 6745-6765.	4.9	162
34	Secondary organic aerosol formation from hydroxyl radical oxidation and ozonolysis of monoterpenes. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 991-1012.	4.9	67
35	Modelling the contribution of biogenic volatile organic compounds to new particle formation in the Jülich plant atmosphere chamber. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 10777-10798.	4.9	19
36	Evidence for an unidentified non-photochemical ground-level source of formaldehyde in the Po Valley with potential implications for ozone production. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 1289-1298.	4.9	36

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37	Impacts of soil moisture on de novo monoterpene emissions from European beech, Holm oak, Scots pine, and Norway spruce. <i>Biogeosciences</i> , 2015, 12, 177-191.	3.3	35
38	Phase partitioning and volatility of secondary organic aerosol components formed from α -pinene ozonolysis and OH oxidation: the importance of accretion products and other low volatility compounds. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 7765-7776.	4.9	126
39	Response to Comment on "Missing gas-phase source of HONO inferred from Zeppelin measurements in the troposphere". <i>Science</i> , 2015, 348, 1326-1326.	12.6	10
40	A novel method for online analysis of gas and particle composition: description and evaluation of a Filter Inlet for Gases and AEROsols (FIGAERO). <i>Atmospheric Measurement Techniques</i> , 2014, 7, 983-1001.	3.1	345
41	Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere. <i>Science</i> , 2014, 344, 292-296.	12.6	154
42	Parameterization of Thermal Properties of Aging Secondary Organic Aerosol Produced by Photo-Oxidation of Selected Terpene Mixtures. <i>Environmental Science & Technology</i> , 2014, 48, 6168-6176.	10.0	14
43	The Formation of Highly Oxidized Multifunctional Products in the Ozonolysis of Cyclohexene. <i>Journal of the American Chemical Society</i> , 2014, 136, 15596-15606.	13.7	236
44	A large source of low-volatility secondary organic aerosol. <i>Nature</i> , 2014, 506, 476-479.	27.8	1,448
45	Suppression of new particle formation from monoterpene oxidation by NO_x . <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 2789-2804.	4.9	63
46	Biotic stress: a significant contributor to organic aerosol in Europe?. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 13643-13660.	4.9	40
47	Evolution of the complex refractive index in the UV spectral region in ageing secondary organic aerosol. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 5793-5806.	4.9	60
48	Direct Observations of Atmospheric Aerosol Nucleation. <i>Science</i> , 2013, 339, 943-946.	12.6	876
49	Probing aerosol formation by comprehensive measurements of gas phase oxidation products. , 2013, , .		0
50	Updated aerosol module and its application to simulate secondary organic aerosols during IMPACT campaign May 2008. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 6289-6304.	4.9	25
51	Secondary aerosol formation from stress-induced biogenic emissions and possible climate feedbacks. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 8755-8770.	4.9	96
52	Formation of anthropogenic secondary organic aerosol (SOA) and its influence on biogenic SOA properties. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2837-2855.	4.9	73
53	Intercomparison of NO_3 radical detection instruments in the atmosphere simulation chamber SAPHIR. <i>Atmospheric Measurement Techniques</i> , 2013, 6, 1111-1140.	3.1	49
54	Comparison of N_2O_5 mixing ratios during NO ₃ Comp 2007 in SAPHIR. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 2763-2777.	3.1	21

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55	Aging of biogenic secondary organic aerosol via gas-phase OH radical reactions. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13503-13508.	7.1	251
56	Formation of 3-methyl-1,2,3-butanetricarboxylic acid via gas phase oxidation of pinonic acid – a mass spectrometric study of SOA aging. Atmospheric Chemistry and Physics, 2012, 12, 1483-1496.	4.9	200
57	Isoprene in poplar emissions: effects on new particle formation and OH concentrations. Atmospheric Chemistry and Physics, 2012, 12, 1021-1030.	4.9	47
58	Hygroscopic growth and droplet activation of soot particles: uncoated, succinic or sulfuric acid coated. Atmospheric Chemistry and Physics, 2012, 12, 4525-4537.	4.9	57
59	Aerosol chemical composition at Cabauw, The Netherlands as observed in two intensive periods in May 2008 and March 2009. Atmospheric Chemistry and Physics, 2012, 12, 4723-4742.	4.9	60
60	Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air. Atmospheric Chemistry and Physics, 2012, 12, 5113-5127.	4.9	222
61	Determination of the biogenic secondary organic aerosol fraction in the boreal forest by NMR spectroscopy. Atmospheric Chemistry and Physics, 2012, 12, 941-959.	4.9	51
62	Hygroscopic growth and CCN activity of HULIS from different environments. Journal of Geophysical Research, 2012, 117, .	3.3	32
63	Irreversible impacts of heat on the emissions of monoterpenes, sesquiterpenes, phenolic BVOC and green leaf volatiles from several tree species. Biogeosciences, 2012, 9, 5111-5123.	3.3	84
64	Aerosol mass spectrometric measurements of stable crystal hydrates of oxalates and inferred relative ionization efficiency of water. Journal of Aerosol Science, 2011, 42, 11-19.	3.8	24
65	Experimental study of the role of physicochemical surface processing on the IN ability of mineral dust particles. Atmospheric Chemistry and Physics, 2011, 11, 11131-11144.	4.9	70
66	General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) – integrating aerosol research from nano to global scales. Atmospheric Chemistry and Physics, 2011, 11, 13061-13143.	4.9	278
67	Volatility of secondary organic aerosol during OH radical induced ageing. Atmospheric Chemistry and Physics, 2011, 11, 11055-11067.	4.9	66
68	Surface modification of mineral dust particles by sulphuric acid processing: implications for ice nucleation abilities. Atmospheric Chemistry and Physics, 2011, 11, 7839-7858.	4.9	60
69	Influence of relative humidity and temperature on the production of pinonaldehyde and OH radicals from the ozonolysis of α -pinene. Atmospheric Chemistry and Physics, 2010, 10, 7057-7072.	4.9	61
70	The chemical and microphysical properties of secondary organic aerosols from Holm Oak emissions. Atmospheric Chemistry and Physics, 2010, 10, 7253-7265.	4.9	55
71	Novel method of generation of $\text{Ca}(\text{HCO}_3)_2$ and CaCO_3 aerosols and first determination of hygroscopic and cloud condensation nuclei activation properties. Atmospheric Chemistry and Physics, 2010, 10, 8601-8616.	4.9	22
72	Atmospheric nucleation: highlights of the EUCAARI project and future directions. Atmospheric Chemistry and Physics, 2010, 10, 10829-10848.	4.9	144

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73	Heterogeneous freezing of droplets with immersed mineral dust particles – measurements and parameterization. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 3601-3614.	4.9	138
74	Intercomparison of measurements of NO ₂ concentrations in the atmosphere simulation chamber SAPHIR during the NO ₃ Comp campaign. <i>Atmospheric Measurement Techniques</i> , 2010, 3, 21-37.	3.1	77
75	Intercomparison of cloud condensation nuclei and hygroscopic fraction measurements: Coated soot particles investigated during the LACIS Experiment in November (LExNo). <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	34
76	Soluble mass, hygroscopic growth, and droplet activation of coated soot particles during LACIS Experiment in November (LExNo). <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	40
77	Examination of laboratory-generated coated soot particles: An overview of the LACIS Experiment in November (LExNo) campaign. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	25
78	Morphological characterization of soot aerosol particles during LACIS Experiment in November (LExNo). <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	31
79	New particle formation in forests inhibited by isoprene emissions. <i>Nature</i> , 2009, 461, 381-384.	27.8	253
80	Aerosol Mass Spectrometric Features of Biogenic SOA: Observations from a Plant Chamber and in Rural Atmospheric Environments. <i>Environmental Science & Technology</i> , 2009, 43, 8166-8172.	10.0	75
81	Temperature dependence of the rate coefficient for the α -pinene reaction with ozone in the range between 243 K and 303 K. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 2323.	2.8	4
82	Relative importance of organic coatings for the heterogeneous hydrolysis of N ₂ O ₅ during summer in Europe. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	92
83	Temperature dependence of yields of secondary organic aerosols from the ozonolysis of α -pinene and limonene. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 1551-1577.	4.9	190
84	Isoprene oxidation by nitrate radical: alkyl nitrate and secondary organic aerosol yields. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 6685-6703.	4.9	208
85	The formation, properties and impact of secondary organic aerosol: current and emerging issues. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 5155-5236.	4.9	3,486
86	Photochemical production of aerosols from real plant emissions. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 4387-4406.	4.9	133
87	Reactive Uptake of N ₂ O ₅ by Aerosols Containing Dicarboxylic Acids. Effect of Particle Phase, Composition, and Nitrate Content. <i>Journal of Physical Chemistry A</i> , 2009, 113, 5082-5090.	2.5	71
88	Aging of Organic Aerosol: Bridging the Gap Between Laboratory and Field Studies. <i>Annual Review of Physical Chemistry</i> , 2007, 58, 321-352.	10.8	492
89	Hygroscopic growth of atmospheric and model humic-like substances. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	104
90	OH-initiated degradation of several hydrocarbons in the atmosphere simulation chamber SAPHIR. <i>Journal of Atmospheric Chemistry</i> , 2007, 57, 203-214.	3.2	18

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91	Size dependent partitioning of organic material: evidence for the formation of organic coatings on aqueous aerosols. <i>Journal of Atmospheric Chemistry</i> , 2007, 57, 215-237.	3.2	38
92	On the Reactive Uptake of Gaseous Compounds by Organic-Coated Aqueous Aerosols: A Theoretical Analysis and Application to the Heterogeneous Hydrolysis of N ₂ O ₅ . <i>Journal of Physical Chemistry A</i> , 2006, 110, 10435-10443.	2.5	168
93	The effect of physical and chemical aerosol properties on warm cloud droplet activation. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 2593-2649.	4.9	690
94	Cloud Condensation Nuclei properties of model and atmospheric HULIS. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 2465-2482.	4.9	202
95	The density of humic acids and humic like substances (HULIS) from fresh and aged wood burning and pollution aerosol particles. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 5213-5224.	4.9	147
96	Influence of an organic coating on the reactivity of aqueous aerosols probed by the heterogeneous hydrolysis of N ₂ O ₅ . <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	130
97	Nitrate effect in the heterogeneous hydrolysis of dinitrogen pentoxide on aqueous aerosols. <i>Physical Chemistry Chemical Physics</i> , 1999, 1, 5451-5457.	2.8	137
98	Heterogeneous reaction of N ₂ O ₅ on sodium nitrate aerosol. <i>Journal of Geophysical Research</i> , 1998, 103, 31103-31112.	3.3	109
99	Gas-phase reaction of N ₂ O ₅ with water vapor: Importance of heterogeneous hydrolysis of N ₂ O ₅ and surface desorption of HNO ₃ in a large Teflon chamber. <i>Geophysical Research Letters</i> , 1998, 25, 2169-2172.	4.0	83
100	A study of nighttime nitrogen oxide oxidation in a large reaction chamber – the fate of NO ₂ , N ₂ O ₅ , HNO ₃ , and O ₃ at different humidities. <i>Atmospheric Environment</i> , 1996, 30, 4007-4020.	4.1	109
101	Sub-Doppler infrared spectroscopy of HCCN – BF ₃ (v ₁) and HCN – BF ₃ (v ₁ and 2v ₁). <i>Journal of Chemical Physics</i> , 1994, 101, 2762-2771.	3.0	18
102	The Rotationally Resolved 3-1/4 M Spectrum and the Structure of the ICCH Dimer. <i>Journal of Molecular Spectroscopy</i> , 1993, 162, 342-352.	1.2	5
103	Pressure dependence of hydroxyl stretching vibrations. 2. Complexes of perfluoro-tert-butyl alcohol with aromatic acceptors. <i>The Journal of Physical Chemistry</i> , 1991, 95, 68-74.	2.9	16
104	Pressure dependence of hydroxyl stretching vibrations. 1. Fluoroalkyl alcohols in nonpolar solvents. <i>The Journal of Physical Chemistry</i> , 1990, 94, 1059-1065.	2.9	11
105	Monitoring intermolecular forces by high pressure infrared spectroscopy?. <i>Journal of Molecular Liquids</i> , 1990, 46, 239-254.	4.9	1
106	High-pressure and density dependence of H-bond complexes in solutions. A spectroscopic study of intermolecular interactions. <i>Journal of Molecular Structure</i> , 1990, 237, 233-247.	3.6	4
107	The pressure dependence of the OH anharmonicity constant of perfluoro-tertbutanol in non solar solvents.. <i>Journal of Molecular Structure</i> , 1990, 218, 333-338.	3.6	4
108	O – H frequency shifts of fluorinated alcohols in nonpolar solvents for high pressures and low temperatures. <i>Journal of Molecular Structure</i> , 1986, 143, 321-324.	3.6	9

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109	Infrared spectroscopic structure investigations of 1-hexanol: dependence on high pressure. Journal of Molecular Structure, 1985, 129, 237-247.	3.6	8