Matti P Rissanen

List of Publications by Year
in descending order

89 papers	8,514 citations	71102 41 h-index	48315 88 g-index
133 all docs	133 docs citations	133 times ranked	4540 citing authors

#	Article	IF	Citations
1	Modelling the gasâ€“particle partitioning and water uptake of isoprene-derived secondary organic aerosol at high and low relative humidity. Atmospheric Chemistry and Physics, 2022, 22, 215-244.	4.9	8
2	Measurement report: Atmospheric new particle formation in a coastal agricultural site explained with binPMF analysis of nitrate CI-APi-TOF spectra. Atmospheric Chemistry and Physics, 2022, 22, 8097-8115.	4.9	8
3	Determination of the collision rate coefficient between charged iodic acid clusters and iodic acid using the appearance time method. Aerosol Science and Technology, 2021, 55, 231-242.	3.1	18
4	Efficient alkane oxidation under combustion engine and atmospheric conditions. Communications Chemistry, 2021, 4, .	4.5	33
5	Role of iodine oxoacids in atmospheric aerosol nucleation. Science, 2021, 371, 589-595.	12.6	94
6	Molecular mechanism for rapid autoxidation in Î±-pinene ozonolysis. Nature Communications, 2021, 12, 878.	12.8	47
7	Investigation of several proxies to estimate sulfuric acid concentration under volcanic plume conditions. Atmospheric Chemistry and Physics, 2021, 21, 4541-4560.	4.9	3
8	Gas-to-Particle Partitioning of Cyclohexene- and Î±-Pinene-Derived Highly Oxygenated Dimers Evaluated Using COSMO<i>therm</i>. Journal of Physical Chemistry A, 2021, 125, 3726-3738.	2.5	16
9	Measurement report: Effects of NO_{<i>x</i>} and seed aerosol on highly oxygenated organic molecules (HOMs) from cyclohexene ozonolysis. Atmospheric Chemistry and Physics, 2021, 21, 7357-7372.	4.9	5
10	Measurement of iodine species and sulfuric acid using bromide chemical ionization mass spectrometers. Atmospheric Measurement Techniques, 2021, 14, 4187-4202.	3.1	13
11	The driving factors of new particle formation and growth in the polluted boundary layer. Atmospheric Chemistry and Physics, 2021, 21, 14275-14291.	4.9	38
12	A modelling study of OH, NO₃ and H₂SO₄ in 2007â€“2018 at SMEAR II, Finland: analysis of long-term trends. Environmental Science Atmospheres, 2021, 1, 449-472.	2.4	1
13	Structures and reactivity of peroxy radicals and dimeric products revealed by online tandem mass spectrometry. Nature Communications, 2021, 12, 300.	12.8	28
14	Anthropogenic Volatile Organic Compound (AVOC) Autoxidation as a Source of Highly Oxygenated Organic Molecules (HOM). Journal of Physical Chemistry A, 2021, 125, 9027-9039.	2.5	8
15	Unprecedented Ambient Sulfur Trioxide (SO₃) Detection: Possible Formation Mechanism and Atmospheric Implications. Environmental Science and Technology Letters, 2020, 7, 809-818.	8.7	34
16	Rapid growth of new atmospheric particles by nitric acid and ammonia condensation. Nature, 2020, 581, 184-189.	27.8	169
17	Size-dependent influence of NO _x on the growth rates of organic aerosol particles. Science Advances, 2020, 6, eaay4945.	10.3	61
18	Photo-oxidation of Aromatic Hydrocarbons Produces Low-Volatility Organic Compounds. Environmental Science & Technology, 2020, 54, 7911-7921.	10.0	66

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19	Enhanced growth rate of atmospheric particles from sulfuric acid. Atmospheric Chemistry and Physics, 2020, 20, 7359-7372.	4.9	58
20	Multi-generation OH oxidation as a source for highly oxygenated organic molecules from aromatics. Atmospheric Chemistry and Physics, 2020, 20, 515-537.	4.9	78
21	Molecular understanding of the suppression of new-particle formation by isoprene. Atmospheric Chemistry and Physics, 2020, 20, 11809-11821.	4.9	49
22	Molecular understanding of new-particle formation from <i>Î±</i>-pinene between âˆ’50 and +25â€‰Â°C. Atmospheric Chemistry and Physics, 2020, 20, 9183-9207.	4.9	68
23	The role of highly oxygenated organic molecules in the Boreal aerosol-cloud-climate system. Nature Communications, 2019, 10, 4370.	12.8	91
24	Molecular Composition and Volatility of Nucleated Particles from Î±-Pinene Oxidation between âˆ’50 Â°C and +25 Â°C. Environmental Science & Technology, 2019, 53, 12357-12365.	10.0	32
25	How well can we predict cluster fragmentation inside a mass spectrometer?. Chemical Communications, 2019, 55, 5946-5949.	4.1	43
26	Reaction between Peroxy and Alkoxy Radicals Can Form Stable Adducts. Journal of Physical Chemistry Letters, 2019, 10, 2051-2057.	4.6	11
27	Highly Oxygenated Organic Molecules (HOM) from Gas-Phase Autoxidation Involving Peroxy Radicals: A Key Contributor to Atmospheric Aerosol. Chemical Reviews, 2019, 119, 3472-3509.	47.7	460
28	Chemical transformations in monoterpene-derived organic aerosol enhanced by inorganic composition. Npj Climate and Atmospheric Science, 2019, 2, .	6.8	36
29	Multi-scheme chemical ionization inlet (MION) for fast switching of reagent ion chemistry in atmospheric pressure chemical ionization mass spectrometry (CIMS) applications. Atmospheric Measurement Techniques, 2019, 12, 6635-6646.	3.1	24
30	Observations of ozone depletion events in a Finnish boreal forest. Atmospheric Chemistry and Physics, 2018, 18, 49-63.	4.9	9
31	Evidence for Diverse Biogeochemical Drivers of Boreal Forest New Particle Formation. Geophysical Research Letters, 2018, 45, 2038-2046.	4.0	31
32	Theoretical kinetic study of the formic acid catalyzed Criegee intermediate isomerization: multistructural anharmonicity and atmospheric implications. Physical Chemistry Chemical Physics, 2018, 20, 10806-10814.	2.8	21
33	Computational Comparison of Different Reagent Ions in the Chemical Ionization of Oxidized Multifunctional Compounds. Journal of Physical Chemistry A, 2018, 122, 269-279.	2.5	43
34	Measurementâ€“model comparison of stabilized Criegee intermediateÂand highly oxygenated molecule productionÂinÂtheÂCLOUDÂchamber. Atmospheric Chemistry and Physics, 2018, 18, 2363-2380.	4.9	21
35	New particle formation in the sulfuric acidâ€“dimethylamineâ€“water system: reevaluation of CLOUD chamber measurements and comparison to an aerosol nucleation and growth model. Atmospheric Chemistry and Physics, 2018, 18, 845-863.	4.9	92
36	Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. Atmospheric Chemistry and Physics, 2018, 18, 65-79.	4.9	56

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37	Computational Investigation of RO₂ + HO₂ and RO₂ + RO₂ Reactions of Monoterpene Derived First-Generation Peroxy Radicals Leading to Radical Recycling. Journal of Physical Chemistry A, 2018, 122, 9542-9552.	2.5	19
38	Multicomponent new particle formation from sulfuric acid, ammonia, and biogenic vapors. Science Advances, 2018, 4, eaau5363.	10.3	164
39	NO₂ Suppression of Autoxidationâ€“Inhibition of Gas-Phase Highly Oxidized Dimer Product Formation. ACS Earth and Space Chemistry, 2018, 2, 1211-1219.	2.7	35
40	Modelling studies of HOMs and their contributions to new particle formation and growth: comparison of boreal forest in Finland and a polluted environment in China. Atmospheric Chemistry and Physics, 2018, 18, 11779-11791.	4.9	29
41	Rapid growth of organic aerosol nanoparticles over a wide tropospheric temperature range. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9122-9127.	7.1	118
42	Computational Comparison of Acetate and Nitrate Chemical Ionization of Highly Oxidized Cyclohexene Ozonolysis Intermediates and Products. Journal of Physical Chemistry A, 2017, 121, 2172-2179.	2.5	25
43	Ambient observations of dimers from terpene oxidation in the gas phase: Implications for new particle formation and growth. Geophysical Research Letters, 2017, 44, 2958-2966.	4.0	71
44	Causes and importance of new particle formation in the presentâ€day and preindustrial atmospheres. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8739-8760.	3.3	198
45	Computational and Experimental Investigation of the Detection of HO₂ Radical and the Products of Its Reaction with Cyclohexene Ozonolysis Derived RO₂ Radicals by an Iodide-Based Chemical Ionization Mass Spectrometer. Journal of Physical Chemistry A, 2017, 121, 6778-6789.	2.5	31
46	The role of highly oxygenated moleculesÂ(HOMs) in determining the composition of ambient ions in the boreal forest. Atmospheric Chemistry and Physics, 2017, 17, 13819-13831.	4.9	66
47	The role of ions in new particle formation in the CLOUD chamber. Atmospheric Chemistry and Physics, 2017, 17, 15181-15197.	4.9	50
48	Boreal forest BVOC exchange: emissions versus in-canopy sinks. Atmospheric Chemistry and Physics, 2017, 17, 14309-14332.	4.9	18
49	Modeling the role of highly oxidized multifunctional organicÂmolecules for the growth of new particles overÂtheÂborealÂforestÂregion. Atmospheric Chemistry and Physics, 2017, 17, 8887-8901.	4.9	29
50	Effect of dimethylamine on the gas phase sulfuric acid concentration measured by Chemical Ionization Mass Spectrometry. Journal of Geophysical Research D: Atmospheres, 2016, 121, 3036-3049.	3.3	17
51	Experimental particle formation rates spanning tropospheric sulfuric acid and ammonia abundances, ion production rates, and temperatures. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,377.	3.3	71
52	The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531.	27.8	540
53	Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526.	27.8	528
54	Î±-Pinene Autoxidation Products May Not Have Extremely Low Saturation Vapor Pressures Despite High O:C Ratios. Journal of Physical Chemistry A, 2016, 120, 2569-2582.	2.5	95

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55	Unimolecular HO₂ Loss from Peroxy Radicals Formed in Autoxidation Is Unlikely under Atmospheric Conditions. Journal of Physical Chemistry A, 2016, 120, 3588-3595.	2.5	21
56	An Experimental Study of the Kinetics of the Reactions of Isopropyl,<i>sec</i>-Butyl, and<i>tert</i>-Butyl Radicals with Molecular Chlorine at Low Pressures (0.5-7.0 Torr) in the Temperature Range 190-480 K. International Journal of Chemical Kinetics, 2016, 48, 796-805.	1.6	2
57	Reduced anthropogenic aerosol radiative forcing caused by biogenic new particle formation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12053-12058.	7.1	107
58	Molecular-scale evidence of aerosol particle formation via sequential addition of HIO3. Nature, 2016, 537, 532-534.	27.8	237
59	Modeling the thermodynamics and kinetics of sulfuric acid-dimethylamine-water nanoparticle growth in the CLOUD chamber. Aerosol Science and Technology, 2016, 50, 1017-1032.	3.1	13
60	Global atmospheric particle formation from CERN CLOUD measurements. Science, 2016, 354, 1119-1124.	12.6	289
61	The effect of acidâ€“base clustering and ions on the growth of atmospheric nano-particles. Nature Communications, 2016, 7, 11594.	12.8	116
62	Unexpectedly acidic nanoparticles formed in dimethylamineâ€“ammoniaâ€“sulfuric-acid nucleation experiments at CLOUD. Atmospheric Chemistry and Physics, 2016, 16, 13601-13618.	4.9	24
63	Source characterization of highly oxidized multifunctional compounds in a boreal forest environment using positive matrix factorization. Atmospheric Chemistry and Physics, 2016, 16, 12715-12731.	4.9	118
64	Hygroscopicity of nanoparticles produced from homogeneous nucleation in the CLOUD experiments. Atmospheric Chemistry and Physics, 2016, 16, 293-304.	4.9	29
65	Formation of highly oxidized multifunctional compounds: autoxidation of peroxy radicals formed in the ozonolysis of alkenes â€“ deduced from structureâ€“product relationships. Atmospheric Chemistry and Physics, 2015, 15, 6745-6765.	4.9	162
66	Elemental composition and clustering behaviour of Î±-pinene oxidation products for different oxidation conditions. Atmospheric Chemistry and Physics, 2015, 15, 4145-4159.	4.9	17
67	Bisulfate â€“ cluster based atmospheric pressure chemical ionization mass spectrometer for high-sensitivity (< 100 ppqV) detection of atmospheric dimethyl amine: proof-of-concept and first ambient data from boreal forest. Atmospheric Measurement Techniques, 2015, 8, 4001-4011.	3.1	30
68	Kinetics of Several Oxygen-Containing Carbon-Centered Free Radical Reactions with Nitric Oxide. Journal of Physical Chemistry A, 2015, 119, 7734-7741.	2.5	5
69	Computational Study of Hydrogen Shifts and Ring-Opening Mechanisms in Î±-Pinene Ozonolysis Products. Journal of Physical Chemistry A, 2015, 119, 11366-11375.	2.5	89
70	Effects of Chemical Complexity on the Autoxidation Mechanisms of Endocyclic Alkene Ozonolysis Products: From Methylcyclohexenes toward Understanding Î±-Pinene. Journal of Physical Chemistry A, 2015, 119, 4633-4650.	2.5	101
71	Experimental and Modeling Study of the Temperature and Pressure Dependence of the Reaction C₂H₅ + O₂ (+ M) â†’ C₂H₅O₂ (+) TjETQq1 1 0.784314	2.5	12
72	Modeling the Charging of Highly Oxidized Cyclohexene Ozonolysis Products Using Nitrate-Based Chemical Ionization. Journal of Physical Chemistry A, 2015, 119, 6339-6345.	2.5	99

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73	Sub-3 nm particle size and composition dependent response of a nano-CPC battery. Atmospheric Measurement Techniques, 2014, 7, 689-700.	3.1	73
74	Insight into Acidâ€“Base Nucleation Experiments by Comparison of the Chemical Composition of Positive, Negative, and Neutral Clusters. Environmental Science & Technology, 2014, 48, 13675-13684.	10.0	51
75	Neutral molecular cluster formation of sulfuric acidâ€“dimethylamine observed in real time under atmospheric conditions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15019-15024.	7.1	208
76	CH₂NH₂ + O₂ and CH₃CHNH₂ + O₂ Reaction Kinetics: Photoionization Mass Spectrometry Experiments and Master Equation Calculations. Journal of Physical Chemistry A, 2014, 118, 2176-2186.	2.5	52
77	The Formation of Highly Oxidized Multifunctional Products in the Ozonolysis of Cyclohexene. Journal of the American Chemical Society, 2014, 136, 15596-15606.	13.7	236
78	A large source of low-volatility secondary organic aerosol. Nature, 2014, 506, 476-479.	27.8	1,448
79	Reactivity of stabilized Criegee intermediates (sCIs) from isoprene and monoterpene ozonolysis toward SO₂ and organic acids. Atmospheric Chemistry and Physics, 2014, 14, 12143-12153.	4.9	94
80	Gas Phase Kinetics and Equilibrium of Allyl Radical Reactions with NO and NO₂. Journal of Physical Chemistry A, 2013, 117, 793-805.	2.5	7
81	Molecular understanding of sulphuric acidâ€“amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363.	27.8	774
82	Kinetics of Several Oxygenated Carbon-Centered Free Radical Reactions with NO₂. Journal of Physical Chemistry A, 2013, 117, 3902-3908.	2.5	8
83	Kinetics of resonance stabilized CH3CCCH2 radical reactions with NO and NO2. Chemical Physics Letters, 2012, 543, 28-33.	2.6	1
84	Kinetic (T = 201â€“298 K) and Equilibrium (T = 320â€“420 K) Measurements of the C3H5 + O2 â‡† C3H5O2 Reaction. Journal of Physical Chemistry A, 2012, 116, 3969-3978.	2.5	19
85	Kinetics of the brominated alkyl radical (CHBr₂, CH₃CHBr) reactions with NO₂ in the temperature range 250â€“480 K. International Journal of Chemical Kinetics, 2012, 44, 767-777.	1.6	5
86	Kinetics of the R + NO2 Reactions (R = i-C3H7, n-C3H7, s-C4H9, and t-C4H9) in the Temperature Range 201â^'489 K. Journal of Physical Chemistry A, 2010, 114, 4811-4817.	2.5	15
87	Kinetics of the Reactions of CH₂Cl, CH₃CHCl, and CH₃CCl₂ Radicals with Cl₂ in the Temperature Range 191â^'363 K. Journal of Physical Chemistry A, 2010, 114, 4805-4810.	2.5	6
88	Kinetics of the Reactions of CH3CH2, CH3CHCl, and CH3CCl2 Radicals with NO2 in the Temperature Range 221â^'363 K. Journal of Physical Chemistry A, 2009, 113, 1753-1759.	2.5	10
89	Kinetics of the Reactions of Chlorinated Methyl Radicals (CH2Cl, CHCl2, and CCl3) with NO2in the Temperature Range 220â^'360 K. Journal of Physical Chemistry A, 2005, 109, 5376-5381.	2.5	21