

# Publication List

Ulrich Pöschl

## 2024

Lelieveld, S., J. Lelieveld, A. Mishra, A. Daiber, A. Pozzer, U. Pöschl & T. Berkemeier: Endogenous Nitric Oxide Can Enhance Oxidative Stress Caused by Air Pollutants and Explain Higher Susceptibility of Individuals with Inflammatory Disorders. *Environ. Sci. Technol.*, 58, doi: 10.1021/acs.est.3c07010, 2024.

## 2023

Alarcon, P. C., Z. Kitanowski, M. Padervand, U. Pöschl, G. Lammel & C. Zetzsch: Atmospheric Hydroxyl Radical Reaction Rate Coefficient and Total Environmental Lifetime of  $\alpha$ -Endosulfan. *Environ. Sci. Technol.*, 57, 15999-16005, doi: 10.1021/acs.est.3c06009, 2023.

Berkemeier, T., M. Krüger, A. Feinberg, M. Müller, U. Pöschl & U. K. Krieger: Accelerating models for multiphase chemical kinetics through machine learning with polynomial chaos expansion and neural networks. *Geoscientific Model Development*, 16 (7), 2037-2054, doi: 10.5194/gmd-16-2037-2023, 2023.

Berkemeier, T. & U. Pöschl: Formation, Interconversion, and Buffering of Reactive Oxygen Species from Gaseous and Particulate Air Pollutants in Epithelial Lining Fluid, in: Valacchi, G., and Daiber, A. (Eds.). *Environmental Stressors and OxInflammatory Tissues Responses* (1st ed.), CRC Press, 2023.

Dovrou, E., S. Lelieveld, A. Mishra, U. Pöschl & T. Berkemeier: Influence of ambient and endogenous H<sub>2</sub>O<sub>2</sub> on reactive oxygen species concentrations and OH radical production in the respiratory tract. *Environmental Science: Atmospheres*, doi: /10.1039/D2EA00179A, 2023.

Fröhlich-Nowoisky, J., K. Lucas, T. Berkemeier, & U. Pöschl: Chemical Modification of Proteins by Reactive Oxygen and Nitrogen Species under Atmospheric and Physiological Conditions, in: Valacchi, G., and Daiber, A. (Eds.), *Environmental Stressors and OxInflammatory Tissues Responses* (1st ed.), CRC Press, 2023.

Holanda, B. A., M. Franco, D. Walter, P. Artaxo, S. Carbone, Y. Cheng, S. Chowdhury, F. Ditas, M. Gysel-Beer, T. Klimach, L. A. Krempner, O. O. Krüger, J. V. Lavric, J. Lelieveld, C. Ma, L. A. T. Machado, R. L. Modini, F. G. Morais, A. Pozzer, J. Saturno, S. Hang, M. Wendisch, S. Wolff, M. L. Pöhlker, M. O. Andreae, U. Pöschl & C. Pöhlker: African biomass burning affects aerosol cycling over the Amazon. *Communications Earth & Environment*, 4, doi: 10.1038/s43247-023-00795-5, 2023.

Kim, N., H. Su, N. Ma, U. Pöschl & Y. Cheng: A multiple-charging correction algorithm for a broad-supersaturation scanning cloud condensation nuclei (BS2-CCN) system. *Atmos. Meas. Tech.*, 16, doi: 10.5194/amt-16-2771-2023, 2023.

Kuntic, M., I. Kuntic, R. Krishnankutty, A. Gericke, M. Oelze, T. Junglas, M. T. B. Jimenez, P. Stamm, M. Nandudu, O. Hahad, K. Keppeler, S. Daub, K. Vujacic-Mirski, S. Rajlic, L. Strohm, H. Ubbens, Q. Tang, S. Jiang, Y. Ruan, K. G. Macleod, S. Steven, T. Berkemeier, U. Pöschl, J. Lelieveld, H. Kleinert, A. von Kriegsheim, A. Daiber & T. Münzel: Co-exposure to urban particulate matter and aircraft noise adversely impacts the cerebro-pulmonary-cardiovascular axis in mice. *Redox Biology*, 59, doi: 10.1016/j.redox.2022.102580, 2023.

Lei, T., H. Su, N. Ma, U. Pöschl, A. Wiedensohler & Y. Cheng: Size-dependent hygroscopicity of levoglucosan and D-glucose aerosol nanoparticles. *Atmos. Chem. Phys.*, 23, doi: 10.5194/acp-23-4763-2023, 2023.

Li, M., Y. Kan, H. Su, U. Pöschl, S. H. Parekh, M. Bonn & Y. Cheng: Spatial homogeneity of pH in aerosol microdroplets. *Chem*, 9, doi: 10.1016/j.chempr.2023.02.019, 2023.

Liu, Y., H. Su, S. Wang, C. Wei, W. Tao, M. L. Pöhlker, C. Pöhlker, B. A. Holanda, O. O. Krüger, T. Hoffmann, M. Wendisch, P. Artaxo, U. Pöschl, M. O. Andreae & Y. Cheng: Strong particle production and condensational growth in the upper troposphere sustained by biogenic VOCs from the canopy of the Amazon Basin. *Atmos. Chem. Phys.*, 23 (1), 251-272, doi: 10.5194/acp-23-251-2023, 2023.

Mishra, A., S. Lelieveld, U. Pöschl & T. Berkemeier: Multiphase Kinetic Modeling of Air Pollutant Effects on Protein Modification and Nitrotyrosine Formation in Epithelial Lining Fluid. *Environ. Sci. Technol.*, 57, 34, 12642–12653, doi: 10.1021/acs.est.3c03556, 2023.

Pöhlker, M. L., C. Pöhlker, O. O. Krüger, J. Förster, T. Berkemeier, W. Elbert, J. Fröhlich-Nowoisky, U. Pöschl, G. Bagheri, E. Bodenschatz, J. A. Huffman, S. Scheithauer & E. Mikhailov: Respiratory aerosols and droplets in the transmission of infectious diseases. *Reviews of Modern Physics*, 95, doi: <https://doi.org/10.1103/RevModPhys.95.04500>, 2023.

Pöhlker, M. L., C. Pöhlker, J. Quaas, J. Mülmenstädt, A. Pozzer, M. O. Andreae, P. Artaxo, K. Block, H. Coe, B. Ervens, P. Gallimore, C. J. Gaston, S. S. Gunthe, S. Henning, H. Herrmann, O. O. Krüger, G. Mc Figgans, L. Poulain, S. S. Raj, E. Reyes-Villegas, H. M. Royer, D. Walter, Y. Wang & U. Pöschl: Global organic and inorganic aerosol hygroscopicity and its effect on radiative forcing. *Nature Communications*, 14, doi: 10.1038/s41467-023-41695-8, 2023.

Reinmuth-Selzle, K., I. Bellinghausen, A. Leifke, A. T. Backes, N. Bothen, K. Ziegler, M. G. Weller, J. Saloga, D. Schuppan, K. Lucas, U. Pöschl & J. Fröhlich-Nowoisky: Chemical modification by peroxy nitrite enhances TLR4 activation of the grass pollen allergen Phl p 5. *Front. Allergy*, 4, doi: 10.3389/falgy.2023.1066392, 2023.

Royer, H. M., M. L. Pöhlker, O Krüger, E. Blades, P. Sealy, N. N. Lata, Z. Cheng, S. China, A. P. Ault, P. K. Quinn, P. Zuidema, C. Pöhlker, U. Pöschl, M. Andreae & C. J. Gaston: African smoke particles act as cloud condensation nuclei in the wintertime tropical North Atlantic boundary layer over Barbados. *Atmos. Chem. Phys.*, 23 (2), 981-998, doi: 10.5194/acp-23-981-2023, 2023.

Singh, A., S. S. Raj, U. Panda, S. M. Kommula, C. Jose, T. Liu, S. Huang, B. Swain, M. L. Pöhlker, E. Reyes-Villegas, N. Ojha, A. Vaishya, A. Bigi, R. Ravikrishna, Q. Zhu, L. Shi, J. Allen, S. T. Martin, G. McFiggans, M. O. Andreae, U. Pöschl, H. Coe, F. Bianchi, H. Su, V. P. Kanawade, P. Liu & S. S. Gunthe: Rapid growth and high cloud-forming potential of anthropogenic sulfate aerosol in a thermal power plant plume during COVID lockdown in India. *NPJ Climate and Atmospheric Science*, 6, doi: 10.1038/s41612-023-00430-2, 2023.

Wang, J., H. Su, C. Wei, G. Zheng, J. Wang, T. Su, C. Li, J. E. Pleim, Z. Li, A. Ding, M. O. Andreae, U. Pöschl & Y. Cheng: Black-carbon-induced regime transition of boundary layer development strongly amplifies severe haze. *One Earth*, 6 (6), doi: 10.1016/j.oneear.2023.05.010, 2023.

Zhang, Y., S. Hang, S. Kecorius, N. Ma, Z. Wang, Y. Sun, Q. Zhang, U. Pöschl, A. Wiedensohler, M. O. Andreae & Y. Cheng: Extremely low-volatility organic coating leads to underestimation of black carbon climate impact. *One Earth*, 6, doi: 10.1016/j.oneear.2023.01.009, 2023.

## 2022

Andrés Hernández, M. D., A. Hilboll, H. Ziereis, E. Förster, O. O. Krüger, K. Kaiser, J. Schneider, F. Barnaba, M. Vrekoussis, J. Schmidt, H. Huntrieser, A.-M. Blechschmidt, M. George, V. Nenakhov, T. Harlass, B. A. Holanda, J. Wolf, L. Eirenschmalz, M. Krebsbach, M. L. Pöhlker, A. B. Kalisz Hedegaard, L. Mei, K. Pfeilsticker, Y. Liu, R. Koppmann, H. Schlager, B. Bohn, U. Schumann, A. Richter, B. Schreiner, D. Sauer, R. Baumann, M. Mertens, P. Jöckel, M. Kilian, G. Stratmann, C. Pöhlker, M. Campanelli, M. Pandolfi, M. Sicard, J. L. Gómez-Amo, M. Pujadas, K. Bigge, F. Kluge, A. Schwarz, N. Daskalakis, D. Walter, A. Zahn, U. Pöschl, H. Bönisch, S. Borrmann, U. Platt, & J. P. Burrows: Overview: On the transport and transformation of pollutants in the outflow of major population centres – observational data from the EMERGe European intensive operational period in summer 2017, *Atmospheric Chemistry and Physics*, 22, 5877–5924, <https://doi.org/10.5194/acp-22-5877-2022>, 2022.

Artaxo, P., H-C. Hansson, M. O. Andreae, J. Bäck, E. G. Alves, H. M. J. Barbosa, F. Bender, E. Bourtsoukidis, S. Carbone, J. Chi, S. Decesari, V. R. Després, F. Ditas, E. Ezhova, S. Fuzzi, N. J. Hasselquist, J. Heintzenberg, B. A. Holanda, A. Guenther, H. Hakola, L. Heikkinen, V.-M. Kerminen, J. Kontkanen, R. Krejci, M. Kulmala, J. V. Lavric, G. de Leeuw, K. Lehtipalo, L. A. T. Machado, G. McFiggans, M. A. M. Franco, B. B. Meller, F. G. Morais, C. Mohr, W. Morgan, M. B. Nilsson, M. Peichl, T. Petäjä, M. Praß, C. Pöhlker, M. L. Pöhlker, U. Pöschl,

C. Von Randow, I. Riipinen, J. Rinne, L. V. Rizzo, D. Rosenfeld, M. A. F. Silva Dias, L. Sogacheva, P. Stier, E. Swietlicki, M. Sörgel, P. Tunved, A. Virkkula, J. Wang, B. Weber, A. M. Yáñez-Serrano, P. Zieger, E. Mikhailov, J. N. Smith & J. Kesselmeier: Tropical and Boreal Forest – Atmosphere Interactions: A Review. *Tellus B: Chemical and Physical Meteorology*, 74 (1), 24–163. doi: <http://doi.org/10.16993/tellusb.34>, 2022.

Bao, F., Y. Cheng, U. Kuhn, G. Li, W. Wang, A. Kratz, J. Weber, B. Weber, U. Pöschl & H. Su: Key Role of Equilibrium HONO Concentration over Soil in Quantifying Soil-Atmosphere HONO Fluxes. *Environmental Science & Technology*, 56(4), 2204–2212, 2022.

Baumann, K., M. Wietzorek, P. Shahpoury, A. Filippi, S. Hildmann, S. Lelieveld, T. Berkemeier, H. Tong, U. Pöschl & G. Lammel: Is the oxidative potential of components of fine particulate matter surface-mediated? *Environ. Sci. Pollut. Res.*, 30, 16749–16755, doi: 10.1007/s11356-022-24897-3, 2022.

Braga, R. C., D. Rosenfeld, M. O. Andreae, C. Pöhlker, U. Pöschl, C. Voigt, B. Weinzierl, M. Wendisch, M. L. Pöhlker & D. Harrison: Detrainment Dominates CCN Concentrations Around Non-Precipitating Convective Clouds Over the Amazon. *Geophysical Research Letters*, 49 (20), doi: 10.1029/2022GL100411, 2022.

Efraim, A., O. Lauer, D. Rosenfeld, R. C. Braga, M. A. Franco, L. A. Kremper, Y. Zhu, U. Pöschl, C. Pöhlker, M. O. Andreae, P. Artaxo, A. C. de Araujo & M. L. Pöhlker: Satellite-Based Detection of Secondary Droplet Activation in Convective Clouds. *JGR Atmospheres*, 127 (12), doi: 10.1029/2022JD036519, 2022.

Filippi, A., R. Sheu, T. Berkemeier, U. Pöschl, H. Tong & D. R. Gentner: Environmentally persistent free radicals in indoor particulate matter, dust, and on surfaces. *Environ. Sci. Atmos.*, 2 (2), 128-136, doi: 10.1039/d1ea00075f, 2022.

Franco, M. A., F. Ditas, L. A. Kremper, L. A. T. Machado, M. O. Andreae, A. Araújo, H. M. J. Barbosa, J. F. de Brito, S. Carbone, B. A. Holanda, F. G. Morais, J. P. Nascimento, M. L. Pöhlker, L. V. Rizzo, M. Sá, J. Saturno, D. Walter, S. Wolff, U. Pöschl, P. Artaxo & C. Pöhlker: Occurrence and growth of sub-50 nm aerosol particles in the Amazonian boundary layer. *Atmospheric Chemistry and Physics*, 22 (5), 3469-3492, doi: 10.5194/acp-22-3469-2022, 2022.

Helleis, F., T. Klimach & U. Pöschl: Vergleich verschiedener Lüftungsmethoden gegen die Aerosolübertragung von COVID-19 und für erhöhte Luftqualität in Klassenräumen: Fensterlüften, Abluftventilatoren, Raumluftechnik und Luftreiniger (2.0). *Zenodo*, doi: 10.5281/zenodo.6049289, 2022.

Harrison, A. D., D. O'Sullivan, M. P. Adams, G. C. E. Porter, E. Blades, C. Brathwaite, R. Chewitt-Lucas, Rebecca, C. Gaston, R. Hawker, O. O. Krüger, L. Neve, M. L. Pöhlker, C. Pöhlker, U. Pöschl, A. Sanchez-Marroquin, A. Sealy, P. Sealy, M. D. Tarn, S. Whitehall, J. B. McQuaid, K. S. Carslaw, J. M. Prospero & B. J. Murray: The ice-nucleating activity of

African mineral dust in the Caribbean boundary layer. *Atmospheric Chemistry and Physics*, 22 (14), 9663-9680, doi: 10.5194/acp-22-9663-2022, 2022.

Kratz, A. M., S. Maier, J. Weber, M. Kim, G. Mele, L. Gargiulo, A. Leifke, M. Prass, R. M. M. Abed, Y. Cheng, H. Su, U. Pöschl & B. Weber: Reactive Nitrogen Hotspots Related to Microscale Heterogeneity in Biological Soil Crusts. *Environmental Science & Technology*, 56, 16, 11865–11877, doi: 10.1021/acs.est.2c02207, 2022.

Krüger, O. O., B. A. Holanda, S. Chowdhury, A. Pozzer, D. Walter, C. Pöhlker, M. D. Andres Hernandez, J. P. Burrows, C. Voigt, J. Lelieveld, J. Quaas, U. Pöschl & M. L. Pöhlker: Black carbon aerosol reductions during COVID-19 confinement quantified by aircraft measurements over Europe. *Atmospheric Chemistry and Physics*, 22 (13), 8683-8699, doi: 10.5194/acp-22-8683-2022, 2022.

Li, G., H. Su, M. Li, U. Kuhn, G. Zheng, L. Han, F. Bao, U. Pöschl & Y. Cheng: Reactive uptake coefficients for multiphase reactions determined by a dynamic chamber system. *Atmos. Meas. Tech.*, 15 (21), doi: 10.5194/amt-15-6433-2022, 2022.

Li, M., J. Li, Y. Zhu, J. Chen, M. O. Andreae, U. Pöschl, H. Su, M. Kulmala, C. Chen, Y. Cheng & J. Zhao: Highly oxygenated organic molecules with high unsaturation formed upon photochemical aging of soot. *Chem*, 8 (10), doi: 10.1016/j.chempr.2022.06.011, 2022.

Li, M., H. Su, G. Zheng, U. Kuhn, N. Kim, G. Li, N. Ma, U. Pöschl & Y. Cheng: Aerosol pH and Ion Activities of HSO<sub>4</sub><sup>-</sup> and SO<sub>4</sub><sup>2-</sup> in Supersaturated Single Droplets. *Environ. Sci. & Technol.*, 56, 18, 12863–12872, doi: 10.1021/acs.est.2c01378, 2022.

Maier, S., A. M. Kratz, J. Weber, M. Prass, F. Liu, A. T. Clark, R. M. M. Abed, H. Su, Y. Cheng, T. Eickhorst, S. Fiedler, U. Pöschl & B. Weber: Water-driven microbial nitrogen transformations in biological soil crusts causing atmospheric nitrous acid and nitric oxide emissions. *ISME Journal*, 16, 1012–1024, doi: 10.1038/s41396-021-01127-1, 2022.

McLeod, R. S., C. J. Hopfe, E. Bodenschatz, H. Moriske, U. Pöschl, T. Salthammer, J. Curtius, F. Helleis, J. Niessner, C. Herr, T. Klimach, M. Seipp, T. Steffens, C. Witt & S. N. Willich: A multi-layered strategy for COVID-19 infection prophylaxis in schools: A review of the evidence for masks, distancing, and ventilation. *Indoor Air*, 32 (10), doi: 10.1111/ina.13142, 2022.

Reifenberg, S. F., A. Martin, M. Kohl, S. Bacer, Z. Hamryszczak, I. Tadic, L. Röder, D. J. Crowley, H. Fischer, K. Kaiser, J. Schneider, R. Dörich, J. N. Crowley, L. Tomsche, A. Marsing, C. Voigt, A. Zahn, C. Pöhlker, B. A. Holanda, O. Krüger, U. Pöschl, M. Pöhlker, P. Jöckel, M. Dorf, U. Schumann, J. Williams, B. Bohn, J. Curtius, H. Harder, H. Schlager, J. Lelieveld & A. Pozzer: Numerical simulation of the impact of COVID-19 lockdown on tropospheric composition and aerosol radiative forcing in Europe, *Atmospheric Chemistry and Physics*, 22, 10901–10917, <https://doi.org/10.5194/acp-22-10901-2022>, 2022.

Reinmuth-Selzle, K., T. Tchipilov, A. T. Backes, G. Tscheuschner, K. Tang, K. Ziegler, K. Lucas, U. Pöschl, J. Fröhlich-Nowoisky & M. G. Weller: Determination of the protein content of complex samples by aromatic amino acid analysis, liquid chromatography-UV absorbance, and colorimetry. *Analytical and Bioanalytical Chemistry*, 414 (15), 4457-4470, doi: 10.1007/s00216-022-03910-1, 2022.

Rodriguez-Caballero, E., T. Stanelle, S. Egerer, Y. Cheng, H. Su, Y. Canton, J. Belnap, M. O. Andreae, I. Tegen, C. H. Reick, U. Pöschl & B. Weber: Global cycling and climate effects of aeolian dust controlled by biological soil crusts. *Nature Geoscience*, 15 (6), doi: 10.1038/s41561-022-00942-1, 2022.

Shahpoury, P., Z. W. Zhang, A. Filippi, S. Hildmann, S. Lelieveld, B. Mashtakov, B. R. Patel, A. Traub, D. Umbrio, M. Wietzoreck, J. Wilson, T. Berkemeier, V. Celoz, E. Dabek-Zlotorzynska, G. Evans, T. Harner, K. Kerman, G. Lammel, M. Noroozifar, U. Pöschl & H. Tong: Inter-comparison of oxidative potential metrics for airborne particles identifies differences between acellular chemical assays. *Atmospheric Pollution Research*, 13 (12), doi: 10.1016/j.apr.2022.101596, 2022.

Sheu, R., T. Hass-Mitchell, A. Ringsdorf, T. Berkemeier, J. Machesky, A. Edtbauer, T. Klüpfel, A. Filippi, B. A. M. Bandowe, M. Wietzoreck, P. Kukucka, HJ. Tong, G. Lammel, U. Pöschl, J. Williams & D. R. Gentner: Emerging investigator series: deposited particles and human lung lining fluid are dynamic, chemically-complex reservoirs leading to thirdhand smoke emissions and exposure. *Environmental Science: Atmospheres*, doi: 10.1039/d1ea00107h, 2022.

Shrivastava, M., Q. Z. Rasool, B. Zhao, M. Octaviani, R. A. Zaveri, A. Zelenyuk, B. Gaudet, Y. Liu, J. E. Shilling, J. Schneider, C. Schulz, M. Zöger, S. T. Martin, JH. Ye, A. Guenther, R. F. Souza, M. Wendisch & U. Pöschl: Tight Coupling of Surface and In-Plant Biochemistry and Convection Governs Key Fine Particulate Components over the Amazon Rainforest. *ACS Earth and Space Chemistry*, 6 (2), 380-390, doi: 10.1021/acsearthspacechem.1c00356, 2022.

Tang, K., B. Sánchez-Parra, P. Yordanova, J. Wehking, A. T. Backes, D. A. Pickersgill, S. Maier, J. Sciare, U. Pöschl, B. Weber & J. Fröhlich-Nowoisky: Bioaerosols and atmospheric ice nuclei in a Mediterranean dryland: community changes related to rainfall. *Biogeosciences*, 19, 71–91, doi: 10.5194/bg-19-71-2022, 2022.

Voigt, C., J. Lelieveld, H. Schlager, J. Schneider, J. Curtius, R. Meerkötter, D. Sauer, L. Bugliaro, B. Bohn, J. N. Crowley, T. Erbertseder, S. Groß, V. Hahn, Q. Li, M. Mertens, M. L. Pöhlker, A. Pozzer, U. Schumann, L. Tomsche, J. Williams, A. Zahn, M. Andreae, S. Borrmann, T. Brüner, R. Dörich, A. Dörnbrack, A. Edtbauer, I. Ernle, H. Fischer, A. Giez, M. Granzin, V. Grewe, H. Harder, M. Heinritzi, B. A. Holanda, P. Jöckel, K. Kaiser, O. O. Krüger, J. Lucke, A. Marsing, A. Martin, S. Matthes, C. Pöhlker, U. Pöschl, S. Reifenberg, A. Ringsdorf, M. Scheibe, I. Tadic, M. Zauner-Wieczorek, R. Henke, & M. Rapp: Cleaner skies during the COVID-19 lockdown, *Bulletin of the American Meteorological Society*, 103 (8), E1796-E1827, doi: 10.1175/bams-d-21-0012.1, 2022.

Wang, H., C. Huang, W. Tao, Y. Gao, S. Wang, S. Jing, W. Wang, R. Yan, Q. Wang, J. An, J. Tian, Q. Hu, S. Lou, U. Pöschl & Y. Cheng & H. Su: Seasonality and reduced nitric oxide titration dominated ozone increase during COVID-19 lockdown in eastern China. *npj Climate and Atmospheric Science*, 5 (1), doi: 10.1038/s41612-022-00249-3, 2022.

Wietzoreck, M., M. Kyprianou, B. A. Musa Bandowe, S. Celik, J. N. Crowley, F. Drewnick, P. Eger, N. Friedrich, M. Lakovides, P. Kukucka, J. Kuta, B. Nezikova, P. Pokorna, P. Pribylova, R. Prokes, R. Rohloff, I. Tadic, S. Tauer, J. Wilson, H. Harder, J. Lelieveld, U. Pöschl, E. G. Stephanou & G. Lammel: Polycyclic aromatic hydrocarbons (PAHs) and their alkylated, nitrated and oxygenated derivatives in the atmosphere over the Mediterranean and Middle East seas. *Atmospheric Chemistry and Physics*, 22 (13), 8739-8766, doi: 10.5194/acp-22-8739-2022, 2022.

Yue, S., J. Zhu, S. Chen, Q. Xie, W. Li, L. Li, H. Ren, S. Su, P. Li, H. Ma, Y. Fan, B. Cheng, L. Wu, J. Deng, W. Hu, L. Ren, L. Wei, W. Zhao, Y. Tian, X. Pan, Y. Sun, Z. Wang, F. Wu, C.-Q. Liu, H. Su, J. E. Penner, U. Pöschl, M. O. Andreae, Y. Cheng & P. Fu: Brown carbon from biomass burning imposes strong circum-Arctic warming. *One Earth*, 5 (3), 293-304, doi: 10.1016/j.oneear.2022.02.006, 2022.

## 2021

Alarcón, P, B. Bohn, T. Berkemeier, G. Lammel, U. Pöschl & C. Zetzsch: Gas-Phase Reaction Kinetics of the Ortho and Ipso Adducts 1,2,4,5-Tetramethylbenzene–OH with O<sub>2</sub>. *ACS Earth and Space Chemistry*, 5, (9), 2243–2251, doi: 10.1021/acsearthspacechem.1c00230, 2021.

Backes, A. T., K. Reinmuth-Selzle, A. L. Leifke, K. Ziegler, C. S. Krevert, G. Tscheuschner, K. Lucas, M. G. Weller, T. Berkemeier, U. Pöschl & J. Fröhlich-Nowoisky: Oligomerization and Nitration of the Grass Pollen Allergen Phl p 5 by Ozone, Nitrogen Dioxide, and Peroxynitrite: Reaction Products, Kinetics, and Health Effects. *International Journal of molecular sciences*, 22 (14), doi: 10.3390/ijms22147616, 2021.

Berkemeier T., A. Mishra, C. Mattei, A. J. Huisman, U. K. Krieger & U. Poschl: Ozonolysis of Oleic Acid Aerosol Revisited: Multiphase Chemical Kinetics and Reaction Mechanisms. *ACS Earth and Space Chemistry*, 5(12), 3313-3323, doi: 10.1021/acsearthspacechem.1c00232, 2021.

Braga, R. C., D. Rosenfeld, O. O. Krüger, B. Ervens, B. A. Holanda, M. Wendisch, T. Krisna, U. Pöschl, M. O. Andreae, C. Voigt & M. L. Pöhlker: Linear relationship between effective radius and precipitation water content near the top of convective clouds: measurement results from ACRIDICON-CHUVA campaign. *Atmospheric Chemistry and Physics*, 21 (18), 14079-14088, doi: 10.5194/acp-21-14079-2021, 2021.

Cheng, Y., N. Ma, C. Witt, S. Rapp, P. Wild, M. O. Andreae, U. Pöschl & H. Su: Face masks effectively limit the probability of SARS-CoV-2 transmission. *Science*, doi: 10.1126/science.abg6296, 2021.

Cheng, Y., N. Ma, C. Witt, S. Rapp, P. Wild, M. O. Andreae, U. Pöschl, & H. Su: High efficacy of face masks explained by characteristic regimes of airborne SARS-CoV-2 virus abundance. *MedRxiv*, 2021.

Ding, K., X. Huang, A.J. Ding, M.H. Wang, H. Su, V.M. Kerminen, T. Petaja, Z. Tan, Z.L. Wang, D.R. Zhou, J.N. Sun, H. Liao, H.J. Wang, K. Carslaw, R. Wood, P. Zuidema, D. Rosenfeld, M. Kulmala, C.B. Fu, U. Pöschl, Y.F. Cheng & M. O. Andreae: Aerosol-boundary-layer-monsoon interactions amplify semi-direct effect of biomass smoke on low cloud formation in Southeast Asia. *Nature Communications*, 12 (1), doi: 10.1038/s41467-021-26728-4, 2021.

Gunthe, S. S., P. Liu, U. Panda, S. S. Raj, A. Sharma, E. Darbyshire, E. Reyes-Villegas, J. Allan, Y. Chen, X. Wang, S. Song, M. L. Pöhlker, L. Shi, Y. Wang, S. M. Kommula, T. Liu, R. Ravikrishna, G. McFiggans, L. J. Mickley, S. T. Martin, U. Pöschl, M. O. Andreae & H. Coe: Enhanced aerosol particle growth sustained by high continental chlorine emission in India. *Nature Geoscience*, 14, 77–84, doi: 10.1038/s41561-020-00677-x, 2021.

Kim, N., Y.F. Cheng, N. Ma, M.L. Pöhlker, T. Klimach, T. F. Mentel, O. O. Krüger, U. Pöschl & H. Su: 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. *Atmospheric Measurement Techniques*, 14 (11), 6991-7005, doi: 0.5194/amt-14-6991-2021, 2021.

Klimach, T., F. Helleis, R. S. McLeod, C. J. Hopfe & U. Pöschl: The Max Planck Institute for Chemistry mechanical extract ventilation (MPIC-MEV) system against aerosol transmission of COVID-19. *Zenodo*, doi: 10.5281/zenodo.5802049, 2021.

Lelieveld, S., J. Wilson, E. Drovrou, A. Mishra, P. S. J. Lakey, M. Shiraiwa, U. Pöschl & T. Berkemeier: Hydroxyl Radical Production by Air Pollutants in Epithelial Lining Fluid Governed by Interconversion and Scavenging of Reactive Oxygen Species. *Environmental Science & Technology*, 55, 14069-14079, doi:10.1021/acs.est.1c03875, 2021.

Li, G., H. Su, N. Ma, J. Tao, Y. Kuang, Q. Wnag, J. Hong, Y. Zhang, U. Kuhn, S. Zhang, X. Pan, N. Lu, M. Tang, G. Zheng, Z. Wang, Y. Gao, P. Cheng, W. Xu, G. Zhou, C. Zhao, B. Yuan, M. Shao, A. Ding, Q. Zhang, P. Fu, Y. Sun, U. Pöschl & Y. Cheng: Multiphase chemistry experiment in Fogs and Aerosols in the North China Plain (McFAN): integrated analysis and intensive winter campaign 2018. *Faraday Discussions*, 226, 207-222, 2021.

Lucas, K., M. Ackermann, A. L. Leifke, W. W. Li, U. Pöschl & J. Fröhlich-Nowoisky: Ceylon cinnamon and its major compound Cinnamaldehyde can limit overshooting inflammatory signaling and angiogenesis in vitro: implications for COVID-19 treatment. *bioRxiv*, doi: doi.org/10.1101/2021.06.16.448642, 2021.



Machado, L. A. T., M. A. Franco, L. A. Kremper, F. Ditas, M. O. Andreae, P. Artaxo, M. A. Cecchini, B. A. Holanda, M. L. Pöhlker, I. Saraiva, S. Wolff, U. Pöschl & C. Pöhlker: How weather events modify aerosol particle size distributions in the Amazon boundary layer. *Atmospheric Chemistry and Physics*, 21 (23), 18065-18086, doi: 10.5194/acp-21-18065-2021, 2021.

Maier, S., A. M. Kratz, J. Weber, M. Prass, F. Liu, A. T. Clark, R. M. M. Abed, H. Su, Y. Cheng, T. Eickhorst, S. Fiedler, U. Pöschl & B. Weber: Water-driven microbial nitrogen transformations in biological soil crusts causing atmospheric nitrous acid and nitric oxide emissions. *ISME Journal*, doi: 10.1038/s41396-021-01127-1, 2021.

Mikhailov, E. F., M. L. Pöhlker, K. Reinmuth-Selzle, S. S. Vlasenko, O. O. Krüger, J. Fröhlich-Nowoisky, C. Pöhlker, O. A. Ivanova, A. A. Kiselev, L. A. Kremper & U. Pöschl: Water uptake of subpollen aerosol particles: hygroscopic growth, cloud condensation nuclei activation, and liquid–liquid phase separation. *Atmospheric Chemistry and Physics*, 21 (9), doi: 10.5194/acp-21-6999-2021, 2021.

Pardo, L. H., L. A. T. Machado, H. Morrison, M. A. Cecchini, M. O. Andreae, C. Pöhlker, U. Pöschl, D. Rosenfeld, E. P. Vendrasco, C. Voigt, M. Wendisch & M. L. Pöhlker: Observed and Simulated Variability of Droplet Spectral Dispersion in Convective Clouds Over the Amazon. *JGR Atmospheres*, 126 (20), doi: 10.1029/2021JD035076, 2021.

Pöhlker, M. L., O. O. Krüger, J. Förster, W. Elbert, J. Fröhlich-Nowoisky, U. Pöschl, C. Pöhlker, G. Bagheri, E. Bodenschatz, J. A. Huffman, S. Scheithauer & E. Mikhailov: Respiratory aerosols and droplets in the transmission of infectious diseases. *Medial Physics*, arXiv:2103.01188, 2021.

Pöhlker, M. L., MH. Zhang, R. C. Braga, O. O. Krüger, U. Pöschl & B. Ervens: Aitken mode particles as CCN in aerosol- and updraft-sensitive regimes of cloud droplet formation. *Atmospheric Chemistry and Physics*, 21 (15), 11723-11740, doi: 10.5194/acp-21-11723-2021, 2021.

Quinn, P. K., E. J. Thompson, D. J. Coffman, S. Baidar, L. Bariteau, T. S. Bates, S. Bigorre, A. Brewer, G. de Boer, S. P. de Szoeko, K. Drushka, G. R. Foltz, J. Intrieri, S. Iyer, C. W. Fairall2, C. J. Gaston, F. Jansen, J. E. Johnson, O. O. Krüger, R. D. Marchbanks, K. P. Moran, D. Noone, S. Pezoa, R. Pincus, A. J. Plueddemann, M. L. Pöhlker, U. Pöschl, E. Quinones Melendez, H. M. Royer, M. Szczodrak, J. Thomson, L. M. Upchurch, C. Zhang, D. Zhang & P. Zuidema: Measurements from the RV Ronald H. Brown and related platforms as part of the Atlantic Tradewind Ocean-Atmosphere Mesoscale Interaction Campaign (ATOMIC). *Earth System Science Data*, 13 (4), 1759-1790, doi: 10.5194/essd-13-1759-2021, 2021.

Raj, S. S., O. O. Krüger, A. Sharma, U. Panda, C. Pöhlker, D. Walter, J.-D. Förster, R. P. Singh, S. Swetha, T. Klimach, E. Darbyshire, S. T. Martin, G. McFiggans, H. Coe, J. Allan, R. Ravikrishna, V. K. Soni, H. Su, M. O. Andreae, U. Pöschl, M. L. Pöhlker & S. S. Gunthe: Planetary Boundary Layer Height Modulates Aerosol-Water Vapor

Interactions During Winter in the Megacity of Delhi. *Journal of Geophysical Research – Atmospheres*, 126 (24), doi: 10.1029/2021JD035681, 2021.

Schwidetzky, R., M. Lukas, A. YazdanYar, A. T. Kunert, U. Pöschl, K. F. Domke, J. Fröhlich-Nowoisky, M. Bonn, T. Koop, Y. Nagata & K. Meister: Specific Ion–Protein Interactions Influence Bacterial Ice Nucleation. *Chemistry-A European Journal*, doi: 10.1002/chem.202004630, 2021.

Schwidetzky, R., P. Sudera, A. T. Backes, U. Pöschl, M. Bonn, J. Fröhlich-Nowoisky & K. Meister: Membranes Are Decisive for Maximum Freezing Efficiency of Bacterial Ice Nucleators. *Journal of Physical Chemistry Letters*, 12 (44), 10783-10787, doi: 10.1021/acs.jpcllett.1c03118, 2021.

Shiraiwa, M. and Pöschl, U.: Mass accommodation and gas–particle partitioning in secondary organic aerosols: dependence on diffusivity, volatility, particle-phase reactions, and penetration depth. *Atmospheric Chemistry and Physics*, 21, 1565–1580, <https://doi.org/10.5194/acp-21-1565-2021>, 2021.

Stevens, B. et al.: EUREC(4)A. *Earth Syst. Sci. Data*, 13, 4067–4119, doi: 10.5194/essd-13-4067-2021, 2021.

Tong, H., F. Liu, A. Filippi, J. Wilson, A. M. Arangio, Y. Zhang, S. Yue, S. Lelieveld, F. Shen, H. K. Keskinen, J. Li, H. Chen, T. Zhang, T. Hoffmann, P. Fu, W. H. Brune, T. Petäjä, M. Kulmala, M. Yao, T. Berkemeier, M. Shiraiwa & U. Pöschl: Aqueous-phase reactive species formed by fine particulate matter from remote forests and polluted urban air. *Atmospheric Chemistry and Physics*, 21 (13), 10439-10455, doi: 10.5194/acp-21-10439-2021, 2021.

Wilson, J., U. Pöschl, M. Shiraiwa & T. Berkemeier: Non-equilibrium interplay between gas-particle partitioning and multiphase chemical reactions of semi-volatile compounds: mechanistic insights and practical implications for atmospheric modeling of polycyclic aromatic hydrocarbons. *Atmospheric Chemistry and Physics*, 21 (8), 6175-6198, doi: 10.5194/acp-21-6175-2021.

Zhang, M., H. Su, G. Li, U. Kuhn, S. Li, T. Klimach, T. Hoffmann, P. Fu, U. Pöschl & Y. Cheng: High-Resolution Fluorescence Spectra of Airborne Biogenic Secondary Organic Aerosols: Comparisons to Primary Biological Aerosol Particles and Implications for Single-Particle Measurements. *Environmental Science & Technology*, 55(24), 16747–16756, doi: 10.1021/acs.est.1c02536, 2021.

## 2020

Förster, J., C. Gurk, M. Lamneck, H. Tong, F. Ditas, S. S. Steimer, P. A. Alpert, M. Ammann, J. Raabe, M. Weigand, B. Watts, U. Pöschl, M. O. Andreae & C. Pöhlker: MIMiX: a Multipurpose In situ Microreactor system for X-ray microspectroscopy to mimic atmospheric

aerosol processing. *Atmospheric Measurement Techniques* 13, 3717–3729, doi: 10.5194/amt-13-3717-2020, 2020.

Holanda, B. A., M.L. Pöhlker, D. Walter, J. Saturno, M. Sörgel, J. Ditas, F. Ditas, C. Schulz, M. A. Franco, Q. Wang, T. Donth, P. Artaxo, H. M. J. Barbosa, S. Borrmann, R. Braga, J. Brito, YF. Cheng, M. Dollner, J. W. Kaiser, T. Klimach, C. Knote, O. O. Krüger, D. Fuetterer, J. V. Lavric, N. Ma, L. A. T. Machado, J. Ming, F. G. Morais, H. Paulsen, D. Sauer, H. Schlager, J. Schneider, H. Su, B. Weinzierl, A. Walser, M. Wendisch, H. Ziereis, M. Zoeger, U. Pöschl, M. O. Andreae & C. Pöhlker: Influx of African biomass burning aerosol during the Amazonian dry season through layered transatlantic transport of black carbon-rich smoke. *Atmospheric Chemistry and Physics* 20 (8), 4757-4785, doi: 10.5194/acp-20-4757-2020, 2020.

Lei, T., N. Ma, J. T. Tuch, X. Wang, Z. B. Wang, M. Pöhlker, MF. Ge, WG. Wang, E. Mikhailov, T. Hoffmann, U. Pöschl, H. Su, A. Wiedensohler & YF. Cheng: Nano-hygroscopicity tandem differential mobility analyzer (nano-HTDMA) for investigating hygroscopic properties of sub-10nm aerosol nanoparticles. *Atmospheric Measurement Techniques* 13 (10), 5551-5567, doi: 10.5194/amt-13-5551-2020, 2020.

Lelieveld, J., A. Pozzer, U. Pöschl, M. Fnais, A. Haines & T. Münzel: Loss of life expectancy from air pollution compared to other risk factors: a worldwide perspective. *Cardiovascular Research* 116 (7), 1334, doi: 10.1093/cvr/cvaa073, 2020.

Lelieveld, J., F. Helleis, S. Borrmann, Y. Cheng, F. Drewnick, G. Haug, T. Klimach, J. Sciare, H. Su & U. Pöschl: Model Calculations of Aerosol Transmission and Infection Risk of COVID-19 in Indoor Environments. *International Journal of Environmental Research and Public Health* 17, 8114; doi: 10.3390/ijerph17218114, 2020.

Li, G., H. Su, N. Ma, G.J. Zheng, U. Kuhn, M. Li, T. Klimach, U. Pöschl & YF. Cheng: Multifactor colorimetric analysis on pH-indicator papers: an optimized approach for direct determination of ambient aerosol pH. *Atmos. Meas. Techn.* 13 (11), 6053-6065, doi: 10.5194/amt-13-6053-2020, 2020.

Li, G., H. Su, N. Ma, J. Tao, Y. Kuang, Q. Wang, J. Hong, Y. Zhang, U. Kuhn, S. Zhang, X. Pan, N. Lu, M. Tang, G. Zheng, Z. Wang, Y. Gao, P. Cheng, W. Xu, G. Zhou, C. Zhao, B. Yuan, M. Shao, A. Ding, Q. Zhang, P. Fu, Y. Sun, U. Pöschl & Y. Cheng: Multiphase chemistry experiment in Fogs and Aerosols in the North China Plain (McFAN): integrated analysis and intensive winter campaign 2018. *Faraday Discussions*, doi: 10.1039/d0fd00099j, 2020.

Liu, LX., YF. Cheng, SW. Siwen, C. Wei, M. L. Pöhlker, C. Pöhlker, P. Artaxo, M. Shrivastava, M. O. Andreae, U. Pöschl & H. Su: Impact of biomass burning aerosols on radiation, clouds, and precipitation over the Amazon: relative importance of aerosol-cloud and aerosol-radiation interactions. *Atmospheric Chemistry and Physics* 20 (21), 13283-13301, doi: 10.5194/acp-20-13283-2020, 2020.

Löbs, N., C. G. G. Barbosa, S. Brill, D. Walter, F. Ditas, M. de Oliveira Sá, A. C. de Araújo, L. R. de Oliveira, R. H. M. Godoi, S. Wolff, M. Piepenbring, J. Kesselmeier, P. Artaxo, M. O. Andreae, U. Pöschl, C. Pöhlker & B. Weber: Aerosol measurement methods to quantify spore emissions from fungi and cryptogamic covers in the Amazon. *Atmospheric Measurement Techniques* 13, 153–164, doi: 10.5194/amt-13-153-2020, 2020.

Lukas, M., R. Schwidetzky, A. T. Kunert, U. Pöschl, J. Fröhlich-Nowoisky, M. Bonn & K. Meister: Electrostatic Interactions Control the Functionality of Bacterial Ice Nucleators. *Journal of the American Chemical Society* 142 (15), 6842-6846, doi: 10.1021/jacs.9b13069, 2020.

Mei, F., J. Wang, J. M. Comstock, R. Weigel, M. Krämer, C. Mahnke, J. E. Shilling, J. Schneider, C. Schulz, C. N. Long, M. Wendisch, L. A. T. Machado, B. Schmid, T. Krisna, M. Pekour, J. Hubbe, A. Giez, B. Weinzierl, M. Zoeger, M. L. Pöhlker, H. Schlager, M. A. Cecchini, M. O. Andreae, S. T. Martin, S. S. de Sá, J. Fan, J. Tomlinson, S. Springston, U. Pöschl, P. Artaxo, C. Pöhlker, T. Klimach, A. Minikin, A. Afchine & S. Borrmann: Comparison of aircraft measurements during GoAmazon2014/5 and ACRIDICON-CHUVA. *Atmospheric Measurement Techniques* 13, 661–684, doi: 10.5194/amt-13-661-2020, 2020.

Polonik P., C. Knote, T. Zinner, F. Ewald, T. Kölling, B. Mayer, M. O. Andreae, T. Jurkat-Witschas, T. Klimach, C. Mahnke, S. Molleker, C. Pöhlker, M. L. Pöhlker, U. Pöschl, D. Rosenfeld, C. Voigt, R. Weigel & M. Wendisch: The challenge of simulating the sensitivity of the Amazonian cloud microstructure to cloud condensation nuclei number concentrations. *Atmospheric Chemistry and Physics* 20, 1591–1605, doi: 10.5194/acp-20-1591-2020, 2020.

Pöschl, U.: Air Pollution, Oxidative Stress, and Public Health in the Anthropocene. *Health of People, Health of Planet and Our Responsibility*. Springer, Cham., Al-Delaimy W., Ramanathan V., Sánchez Sorondo M. (eds), doi: 10.1007/978-3-030-31125-4\_7, 2020.

Schwidetzky R., A. T. Kunert, M. Bonn, U. Pöschl, H. Ramløv, A. L. DeVries, J. Fröhlich-Nowoisky & K. Meister: Inhibition of Bacterial Ice Nucleators Is Not an Intrinsic Property of Antifreeze Proteins. *The Journal of Physical Chemistry B* 124, 4889–4895, doi: 10.1021/acs.jpcc.0c03001, 2020.

Su, H., YF. Cheng & U. Pöschl: New Multiphase Chemical Processes Influencing Atmospheric Aerosols, Air Quality, and Climate in the Anthropocene. *Accounts of Chemical Research*, doi: 10.1021/acs.accounts.0c00246, 2020.

Tao, W., H. Su, GJ. Zheng, JD. Wang, C. Wei, LX. Liu, N. Ma, M. Li, Q. Zhang, U. Pöschl & YF. Cheng: Aerosol pH and chemical regimes of sulfate formation in aerosol water during winter haze in the North China Plain. *Atmospheric Chemistry and Physics* 20 (20), 11729-11746, doi: 10.5194/acp-20-11729-2020, 2020.

Wang, S., S. Hang, C. Chen, W. Tao, D. G. Streets, Z. Lu, B. Zheng, G. R. Carmichael, J. Lelieveld, U. Pöschl & Y. Cheng: Natural gas shortages during the “coal-to-gas” transition in

China have caused a large redistribution of air pollution in winter 2017. *PNAS* 117 (49), 31018-31025, doi: 10.1073/pnas.2007513117, 2020.

Wilson J., M. Octaviani, B. A. M. Bandowe, M. Wietzoreck, C. Zetzsch, U. Pöschl, T. Berkemeier & G. Lammel: Modeling the Formation, Degradation, and Spatiotemporal Distribution of 2-Nitrofluoranthene and 2-Nitropyrene in the Global Atmosphere. *Environmental Science & Technology* 54 (22), doi: 10.1021/acs.est0c04319, 2020.

Zheng, G., H. Su, S. Wang, M. O. Andreae, U. Pöschl & YF. Cheng: Multiphase buffer theory explains contrasts in atmospheric aerosol acidity. *Science* 369 (6509), 1374-1377, doi: 10.1126/science.aba3719, 2020.

Ziegler, K., A. T. Kunert, K. Reinmuth-Selzle, A. Leifke, D. Widera, M. G. Weller, D. Schuppan, J. Fröhlich-Nowoisky, K. Lucas & U. Pöschl: Chemical modification of pro-inflammatory proteins by peroxyxynitrite increases activation of TLR4 and NF- $\kappa$ B: Implications for the health effects of air pollution and oxidative stress. *Redox Biology*, doi: 10.1016/j.redox.2020.101581, 2020.

## 2019

Filippi, A., F. Liu, J. Wilson, S. Lelieveld, K. Korschelt, T. Wang, Y. Wang, T. Reich, U. Pöschl, W. Tremel & H. Tong: Antioxidant activity of cerium dioxide nanoparticles and nanorods in scavenging hydroxyl radicals, *Royal Society of Chemistry* 9, 11077-11081, doi: 10.1039/c9ra00642g, 2019.

Kunert, A. T., M. L. Pöhlker, K. Tang., C. S. Krevort, C. Wieder, K. R. Speth, L. E. Hanson, C. E. Morris, D. G. Schmale III, U. Pöschl and J. Fröhlich-Nowoisky: Macromolecular fungal ice nuclei in *Fusarium*: effects of physical and chemical processing. *Biogeosciences* 16, 4647–4659, doi: 10.5194/bg-16-4647-2019, 2019.

Könemann T., N. Savage, T. Klimach, D. Walter, J. Fröhlich-Nowoisky, H. Su, U. Pöschl, J. A. Huffman & Christopher Pöhlker: Spectral Intensity Bioaerosol Sensor (SIBS): an instrument for spectrally resolved fluorescence detection of single particles in real time. *Atmospheric Measurement Techniques* 12, 1337–1363, doi: 10.5194/amt-12-1337-2019, 2019.

Lelieveld, J., K. Klingmüller, A. Pozzer, U. Pöschl, M. Fnais, A. Daiber & T. Münzel: Cardiovascular disease burden from ambient airpollution in Europe reassessed using novel hazard ratio functions. *European Heart Journal* 40, 1590–1596, doi: 10.1093/eurheartj/ehz135, 2019.

Li, G., Y. Cheng, U. Kuhn, R. Xu, Y. Yang, H. Meusel, Z. Wang, N. Ma, Y. Wu, M. Li, J. Williams, T. Hoffmann, M. Ammann, U. Pöschl, M. Shao & H. Su: Physicochemical uptake and release of volatile organic compounds by soil in coated-wall flow tube experiments with ambient air. *Atmospheric Chemistry and Physics* 19, 2209-2232, doi: 10.5194/acp-19-2209-2019, 2019.

Li, M., S. Hang, G. Li, N. Ma, U. Pöschl, & Y. Cheng: Relative importance of gas uptake on aerosol and ground surfaces characterized by equivalent uptake coefficients. *Atmospheric Chemistry and Physics* 19, 10981-11011, doi: 10.5194/acp-19-10981-2019, 2019.

Neumann, J., K. Ziegler, M. Gelléri, J. Fröhlich-Nowoisky, F. Liu, I. Bellinghausen, D. Schuppan, U. Birk, U. Pöschl, C. Cremer & K. Lucas: Nanoscale distribution of TLR4 on primary human macrophages stimulated with LPS and ATI. Royal Society of Chemistry, *Nanoscale* 11, 9769, doi: 10.1039/c9nr00943d, 2019.

Pöhlker, C. D. Walter, H. Paulsen, T. Könemann, E. Rodriguez-Caballero, D. Moran-Zuloaga, J. Brito, S. Carbone, C. Degrendele, V. R. Després, F. Ditas, B. A. Holanda, J. W. Kaiser, G. Lammel, J. V. Lavri, J. Ming, D. Pickersgill, M. L. Pöhlker, M. Praß, N. Löbs, J. Saturno, M. Sörgel, Q. Wang, B. Weber, S. Wolff, P. Artaxo, U. Pöschl & M. O. Andreae: Land cover and its transformation in the backward trajectory footprint region of the Amazon Tall Tower Observatory, *Atmospheric Chemistry and Physics* 19, 8425–8470, doi: doi.org/10.5194/acp-19-8425-2019, 2019.

Porada, P., A. Tamm, J. Raggio, Y. Cheng, A. Kleidon, U. Pöschl & B. Weber: Global NO and HONO emissions of biological soil crusts estimated by a process-based non-vascular vegetation model. *Biogeosciences* 16, 2003–2031, doi: 10.5194/bg-16-2003-2019, 2019.

Tong, H., Y. Zhang, A. Filippi, T. Wang, C. Li, F. Liu, D. Leppla, I. Kourtchev, K. Wang, H. Keskinen, J. T. Levula, A. M. Arangio, F. Shen, F. Ditas, S. T. Martin, P. Artaxo, R. H. M. Godoi, C. I. Yamamoto, R. A. F. de Souza, R. Huang, T. Berkemeier, Y. Wang, H. Su, Y. Cheng, F. D. Pope, P. Fu, M. Yao, C. Pöhlker, T. Petäjä, M. Kulmala, M. O. Andreae, M. Shiraiwa, U. Pöschl, T. Hoffmann & M. Kalberer: Radical Formation by Fine Particulate Matter Associated with HighlyOxygenated Molecules. *Environmental Science & Technology* 53, 12506-12518, doi: 10.1021/acs.est.9b05149, 2019.

Wang, X., K. Binder, C. Chen, T. Koop, U. Pöschl, H. Su & Y. Cheng: Second inflection point of water surface tension in the deeply supercooled regime revealed by entropy anomaly and surface structure using molecular dynamics simulations. *Physical Chemistry Chemical Physics* 21 (6), 3360-3369, doi: 10.1039/c8cp05997g, 2019.

Wu, D., M. A.Horn, T. Behrendt, S. Müller, J. Li, J. A. Cole, B. Xie, X. Ju, G. Li, M. Ermel, R. Oswald, J. Fröhlich-Nowoisky, P. Hoor, C. Hu, M. Liu, M. O. Andreae, U. Pöschl, Y. Cheng, H. Su, I. Trebs, B. Weber & M. Sörgel: Soil HONO emissions at high moisture content are driven by microbial nitrate reduction to nitrite: tackling the HONO puzzle. *ISME Journal* 13, 1688-1699, doi: 0.1038/s41396-019-0379-y, 2019.

Zhang, M., T. Klimach, N. Ma, T. Könemann, C. Pöhlker, Z. Wang, U. Kuhn, N. Scheck, U. Pöschl, H. Su & Y. Cheng: Size-Resolved Single-Particle Fluorescence Spectrometer for Real-Time Analysis of Bioaerosols: Laboratory Evaluation and Atmospheric Measurements. *Environmental Science & Technology* 53, 13257-13264, doi: 10.1021/acs.est.9b01862, 2019.

Ziegler, K., J. Neumann, F. Liu, J. Fröhlich-Nowoisky, C. Cremer, J. Saloga, K. Reinmuth-Selzle, U. Pöschl, D. Schuppan, I. Bellinghausen & K. Lucas: Nitration of Wheat Amylase Trypsin Inhibitors Increases Their Innate and Adaptive Immunostimulatory Potential in vitro. *Frontiers in Immunology* 9, 3174, doi: 10.3389/fimmu.2018.03174, 2019.

## 2018

Andreae, M. O., A. Afchine, R. Albrecht, B. A. Holanda, P. Artaxo, H. M. J. Barbosa, S. Borrmann, M. A. Ceccini, A. Costa, M. Dollner, D. Futterer, E. Jarvinen, T. Jurkat, T. Klimach, T. Könemann, C. Knote, M. Krämer, T. Krisna, L. A. T. Machado, S. Mertes, A. Minikin, C. Pöhlker, M. L. Pöhlker, U. Pöschl, D. Rosenfeld, D. Sauer, H. Schlager, M. Schnaiter, J. Schneider, C. Schulz, A. Spanu, V. B. Sperling, C. Voigt, A. Walser, J. Wang, B. Weinzierl, M. Wendisch & H. Ziereis: Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin. *Atmospheric Chemistry and Physics* 18 (2), 921-61, doi: 10.5194/acp-18-921-2018, 2018.

Fan, JW., D. Rosenfeld, YW. Zhang, S. E. Giangrande, ZQ Li, L. A. T. Machado, S. T. Scot, Y. Yang, J. Wang, P. Artaxo, H. M. J. Barbosa, R. C. Braga, J. M. Comstock, Z. Feng, WH. Gao, H. B. Gomes, F. Mei, C. Pöhlker, M. L. Pöhlker, U. Pöschl & R. A. F. de Souza: Substantial convection and precipitation enhancements by ultrafine aerosol particles. *Science* 359, 411+-, doi: 10.1126/science.aan8461, 2018.

Ditas, J., N. Ma, Y. Zhang, D. Assmann, M. Neumeier, H. Riede, E. Karu, J. Williams, D. Scharffe, Q. Wang, J. Saturno, J. P. Schwarz, J. M. Katich, G. R. McMeeking, A. Zahn, M. Hermann, C. A. M. Brenninkmeijer, M. O. Andreae, U. Pöschl, H. Su & YF. Cheng: Strong impact of wildfires on the abundance and aging of black carbon in the lowermost stratosphere. *PNAS* 115 (50), E11595-E11603, doi: 10.1073/pnas.1806868115, 2018.

Krisna, T. C., M. Wendisch, A. Ehrlich, E. Jeakel, W. A. Frank, R. Weigel, S. Borrmann, C. Mahnke, U. Pöschl, M. O. Andreae, C. Voigt & L. A. T. Machado: Comparing airborne and satellite retrievals of cloud optical thickness and particle effective radius using a spectral radiance ratio technique: two case studies for cirrus and deep convective clouds. *Atmospheric Chemistry and Physics* 18 (7), 4439-4426, doi: 10.5194/acp-18-4439-2018, 2018.

Kunert, A. T., M. Lamneck, F. Helleis, U. Pöschl, M. L. Pöhlker, J. Froehlich-Nowoisky: Twin-plate Ice Nucleation Assay (TINA) with infrared detection for high-throughput droplet freezing experiments with biological ice nuclei in laboratory and field samples. *Atmospheric Measurement Techniques* 11 (11), 6327-6337, doi: 10.5194/amt-11-6327-2018, 2018.

Lang-Yona, N., D. A. Pickersgill, I. Maurus, D. Teschner, J. Wehking, E. Thines, U. Pöschl, V. E. Despres, J. Fröhlich-Nowoisky: Species Richness, rRNA Gene Abundance, and Seasonal Dynamics of Airborne Plant-Pathogenic Oomycetes. *Frontiers in microbiology* 9, 2673, doi: 10.3389/fmicb.2018.02673, 2018.

Lang-Yong, N., A. T. Kunert, L. Vogel, C. J. Kampf, I. Bellinghausen, J. Saloga, A. Schink, K. Ziegler, K. Lucas, D. Schuppan, U. Pöschl, B. Weber & J. Fröhlich-Nowoisky: Fresh water, marine and terrestrial cyanobacteria display distinct allergen characteristics. *Science of the Total Environment* 612, 767-774, doi: 10.1016/j.scitotenv.2017.08.069, 2018.

Li, G., H. Su, U. Kuhn, H. Meusel, M. Ammann, M. Shao, U. Pöschl, YF. Cheng: Technical note: Influence of surface roughness and local turbulence on coated-wall flow tube experiments for gas uptake and kinetic studies. *Atmospheric Chemistry and Physics* 18 (4), 2669-2686, doi: 10.5194/acp-18-2669-2018, 2018.

Machado, L. A. T., A. J. P. Calheiros, T. Biscaro, S. Giangrande, M. A. F. S. Dias, M. A. Cecchini, R. Albrecht, M. O. Meinrat, W. F. Wagner, P. Artaxo, S. Borrmann, R. Braga, C. Burleyson, C. W. Eichholz, JW Fan, Z. Feng, G. F. Fisch, M. P. Jensen, S. T. Martin, U. Pöschl, C. Pöhlker, M. L. Pöhlker, JF. Ribaud, D. Rosenfeld, J. M. B. Saraiva, C. Schumacher, R. Thalmann, D. Walter & M. Wendisch: Overview: Precipitation characteristics and sensitivities to environmental conditions during GoAmazon2014/5 and ACRIDICON-CHUVA. *Atmospheric Chemistry and Physics* 18 (9), 6461-6482, doi: 10.5194/acp-18-6461-2018, 2018.

Meusel, H., A. Tamm, U. Kuhn, DM. Wu, AL Leifke, S. Fiedler, N. Ruckteschler, P. Yordanova, N. Lang-Yona, M. L. Pöhlker, J. Lelieveld, T. Hoffmann, U. Pöschl, H. Su, B. Weber & YF. Cheng: Emission of nitrous acid from soil and biological soil crusts represents an important source of HONO in the remote atmosphere in Cyprus. *Atmospheric Chemistry and Physics* 18 (2), 799-813, doi: 10.5194/acp-18-799-2018, 2018.

Moran-Zuloaga, D., F. Ditas, D. Walters, J. Saturno, J. Brito, S. Carbone, XG. Chi, I. Hrabec de Angelis, H. Baars, R. H. M. Godoi, B. Heese, B. A. Holanda, J. V. Lavric, S. T. Martin, J. Ming, M. L. Pöhlker, N. Ruckteschler, H. Su, YQ. Wang, QQ Wang, ZB. Wang, B. Weber, S. Wolff, P. Artaxo, U. Pöschl, M. O. Andreae & C. Pöhlker: Long-term study on coarse mode aerosols in the Amazon rain forest with the frequent intrusion of Saharan dust plumes. *Atmospheric Chemistry and Physics* 18 (13), 10055-88, doi: 10.5194/acp-18-10055-2018, 2018.

Mu, Q. , M. Shiraiwa, M. Octaviani, N. Ma, AJ. Ding, H. Su, G. Lammel, U. Pöschl & YF. Cheng: Temperature effect on phase state and reactivity controls atmospheric multiphase chemistry and transport of PAHs. *Sciences Advances* 4 (3), UNSPeap7314, doi: 10.1126/sciadv.aap7314,2018.

Pöhlker, M. L., F. Ditas, J. Saturno, T. Klimach, I. Hrabec de Angelis, A. C. Araujo, J. Brito, S. Carbone, YF Cheng, XG Chi, R. Ditz, S. S. Gunthe, B. A. Holanda, K. Kandler, J. Kesselmeier, T. Könemann, O. O. Krüger, J. V. Lavric, S. T. Martin, E. Mikhailov, D. Moran-Zuloaga, L. V. Rizzo, D. Rose, H. Su, R. Thalmann, D. Walter, J. Wang, S. Wolff, H. M. J. Barbosa, P. Artaxo, M. O. Andreae, U. Pöschl & C. Pöhlker: Long-term observations of cloud condensation nuclei over the Amazon rain forest - Part 2: Variability and characteristics of biomass burning, long-range transport, and pristine rain forest aerosols. *Atmospheric Chemistry & Physics* 18 (14), 10289-10331, doi: 10.5194/acp-18-10289-2018, 2018.



Rodriguez-Caballero, E., J. Belnap, B. Budel, P. J. Crutzen, M. O. Andreae, U. Pöschl, B. Weber: Dryland photoautotrophic soil surface communities endangered by global change. *Nature Geoscience* 11 (3), 185+, doi: 10.1038/s41561-018-0072-1, 2018.

Saturno, J., F. Ditas, M. Penning de Vries, B. A. Holanda, M. L. Pöhlker, S. Carbone, D. Walter, N. Bobrowski, J. Brito, XG. Chi, A. Gutmann, I. Hrabec de Angelis, L. A. T. Machado, D. Moran-Zuloaga, J. Rüdiger, J. Schneider, C. Schulz, QQ Wang, M. Wendisch, P. Artaxo, T. Wagner, U. Pöschl, M. O. Andreae & C. Pöhlker: African volcanic emissions influencing atmospheric aerosols over the Amazon rain forest. *Atmospheric Chemistry & Physics* 18 (14), 10391-10405, doi: 10.5194/acp-18-10391-2018, 2018.

Saturno, J., B. A. Holanda, C. Pöhlker, F. Ditas, QQ. Wang, D. Moran-Zuloaga, J. Brito, S. Carbone, YF. Cheng, XG. Chi, J. Ditas, T. Hoffmann, I. Hrabec de Angelis, T. Könemann, J. V. Lavric, N. Ma, J. Ming, H. Paulsen, M. L. Pöhlker, L. V. Rizzo, P. Schlag, H. Su, D. Walter, S. Wolff, YX. Zhang, P. Artaxo, U. Pöschl & M. O. Andreae: Black and brown carbon over central Amazonia: long-term aerosol measurements at the ATTO site. *Atmospheric Chemistry & Physics* 18 (17), 12817-12843, doi: 10.5194/acp-18-12817-2018, 2018.

Schink, A., K. Naumoska, Z. Kitanovski, C. J. Kampf, J. Froehlich-Nowoisky, E. Thines, U. Pöschl, D. Schuppan, K. Lucas: Anti-inflammatory effects of cinnamon extract and identification of active compounds influencing the TLR2 and TLR4 signaling pathways. *Food & Function* 9 (11), 5950-5964, doi: 10.1039/c8fo01286e, 2018.

Schink, A., J. Neumann, A. L. Leifke, K. Ziegler, J. Fröhlich-Nowoisky, C. Cremer, E. Thines, B. Weber, U. Pöschl, D. Schuppan, K. Lucas: Screening of herbal extracts for TLR2- and TLR4-dependent anti-inflammatory effects. *Plos One* 13 (10), e0203907, doi: 10.1371/journal.pone.0203907, 2018.

Schmale, J., S. Henning, S. Decesari, B. Henzing, H. Keskinen, K. Sellegri, J. Ovadnevaite, M. L. Pöhlker, J. Brito, A. Bougiatioti, A. Kristensson, N. Kalivitis, I. Stavroulas, S. Carbone, A. Jefferson, M. Park, P. Schlag, Y. Iwamoto, P. Aalto, M. Aijala, N. Bukowiecki, M. Ehn, G. Frank, R. Frohlich, A. Frumau, E. Herrmann, H. Herrmann, R. Holzinger, G. Kos, M. Kulmala, N. Mihalopoulos, A. Nenes, C. O'Dowd, T. Petaja, D. Picard, C. Pöhlker, U. Pöschl, L. Poulain, A. S. H. Prevot, E. Swietlicki, M. O. Andreae, P. Artaxo, A. Wiedensohler, J. Ogren, A. Matsuki, SS. Yum, F. Stratmann, U. Baltensperger, M. Gysel: Long-term cloud condensation nuclei number concentration, particle number size distribution and chemical composition measurements at regionally representative observatories. *Atmospheric Chemistry and Physics* 18 (4), 2853-2881, doi: 10.5194/acp-18-2853-2018, 2018.

Schulz C., J. Schneider, B. A. Holanda, O. Appel, A. Costa, S. S. de Saa, V. Dreiling, D. Fütterer, T. Jurkat-Witschas, T. Klimach, C. Knote, M. Krämer, S. T. Martin, S. Mertes, M. L. Pöhlker, D. Sauer, C. Voigt, A. Walser, B. Weinzierl, H. Ziereis, M. Zöger, M. O. Andreae, P. Artaxo, L. A. T. Machado, U. Pöschl, M. Wendisch, S. Borrmann: Aircraft-based observations of isoprene-epoxydiol-derived secondary organic aerosol (IEPOX-SOA) in the tropical upper

troposphere over the Amazon region. *Atmospheric Chemistry and Physics* 18 (20), 14979-15001, doi: 10.5194/acp-18-14979-2018, 2018.

Tong, H.J., P. S. J. Lakey, A. M. Arangio, J. Socorro, FX Shen, K. Lucas, W. H. Brune, U. Pöschl, M. Shiraiwa: Reactive Oxygen Species Formed by Secondary Organic Aerosols in Water and Surrogate Lung Fluid. *Environmental Science & Technology* 52 (20), 11642-11651, doi: 10.1021/acs.est.8b03695, 2018.

Wehking, J., D. A. Pickersgill, R. M. Bowers, D. Teschner, U. Pöschl, J. Fröhlich-Nowoisky & V. R. Despres: Community composition and seasonal changes of archaea in coarse and fine air particulate matter. *Biogeosciences* 15, 4205-4214, doi: 10.5194/bg-15-4205-2018, 2018.

Westmeier, D., A. Hahlbrock, C. Reinhardt, J. Fröhlich-Nowoisky, S. Wessler, C. Vallet, U. Pöschl, S. K. Knauer & R. H. Stauber: Nanomaterial-microbe cross-talk: physicochemical principles and (patho)biological consequences. *Chemical Society Reviews* 47 (14), doi: 10.1039/c6cs00691d, 2018.

Wang, X., C. Chen, K. Binder, U. Kuhn, U. Pöschl, H. Su & Y. Cheng: Molecular dynamics simulation of the surface tension of aqueous sodium chloride: from dilute to highly supersaturated solutions and molten salt. *Atmospheric Chemistry and Physics* 18, 17077-17086, doi: 10.5194/acp-18-17077-2018, 2018.

## 2017

Berkemeier, T., M. Ammann, U. K. Krieger, T. Peter, P. Spichtinger, U. Pöschl, M. Shiraiwa, A. J. Huisman: Technical note: Monte Carlo genetic algorithm (MCGA) for model analysis of multiphase chemical kinetics to determine transport and reaction rate coefficients using multiple experimental data sets. *Atmospheric Chemistry and Physics* 17 (12), 8021-8029, doi: 10.5194/acp-17-8021-2017, 2017.

Braga, R. C., D. Rosenfeld, R. weigel, T. Jurkat, M. O. Andreae, M. Wendisch, M. L. Pöhlker, T. Klimach, U. Pöschl, C. Pöhlker, C. Voigt, C. Mahnke, S. Borrmann, R. I. Albrecht, S. Molleker, D. A. Vila, L. A. T. Machado, P. Artaxo: Comparing parameterized versus measured microphysical properties of tropical convective cloud bases during the ACRIDICON-CHUVA campaign, *Atmospheric Chemistry and Physics* 17 (12), 7365-7386, doi: 10.5194/acp-17-7365-2017, 2017.

Braga, R. C., D. Rosenfeld, R. Weigel, T. Jurkat, M. O. Andreae, M. Wendisch, U. Pöschl, C. Voigt, C. Mahnke, S. Borrmann, R. I. Albrecht, S. Molleker, D. A. Vila, L. A. T. Machado & L. Grulich: Further evidence for CCN aerosol concentrations determining the height of warm rain and ice initiation in convective clouds over the Amazon basin. *Atmospheric Chemistry and Physics* 17 (23), 14433-14456, doi: 10.5194/acp-17-14433-2017, 2017.

Cecchini, M. A., L. A. T. Machado, M. O. Andreae, S. T. Martin, R. I. Albrecht, P. Artaxo, H. M. J. Barbosa, S. Borrmann, D. Futterer, T. Jurkat, C. Mahnke, A. Minikin, S. Molleker,

M. L. Pöhlker, U. Pöschl, D. Rosenfeld, C. Voigt, B. Weinzierl & M. Wendisch: Sensitivities of Amazonian clouds to aerosols and updraft speed. *Atmospheric Chemistry and Physics* 17 (16), 10037-50, doi: 10.5194/acp-17-10037-2017, 2017.

Cecchini, M. A.; L. A. T. Machado, M. Wendisch, A. Costa, M. Krämer, M. O. Andreae, A. Afchine, R. I. Albrecht, P. Artaxo, S. Borrmann, D. Fütterer, T. Klimach, C. Mahnke, S. T. Martin, A. Minikin, S. Molleker, L. H. Pardo, C. Pöhlker, M. L. Pöhlker, U. Pöschl, D. Rosenfeld & B. Weinzierl: Illustration of microphysical processes in Amazonian deep convective clouds in the Gamma phase space: Introduction and potential applications. *Atmospheric Chemistry and Physics*, 17 (23), 14727-14746, doi: 10.5194/acp-17-14727-2017, 2017.

Coluzza, I., J. Creamean, M. J. Rossi, H. Wex, P. A. Alpert, V. Bianco, Y. Boose, C. Dellago, L. Felgitsch, J. Fröhlich-Nowoisky, H. Herrmann, S. Jungblut, Z. A. Kanji, G. Menzl, B. Moffett, C. Moritz, A. Mutzel, U. Pöschl, M. Schauerperl, J. Scheel, E. Stopelli, F. Stratmann, H. Grothe & D. G. Schmale: Perspectives on the Future of Ice Nucleation Research: Research Needs and Unanswered Questions Identified from Two International Workshops. *Atmosphere* 8 (8), 138, doi: 10.3390/atmos8080138, 2017.

DeMott, P. J., T. C. J. Hill, M. D. Petters, A. K. Bertram, Y. Tobo, R. H. Mason, K. J. Suski, C. S. McCluskey, E. J. T. Ezra, Y. Boose, A. M. Rauker, A. J. Miller, J. Zaragoza, K. Rocci, N. E. Rothfuss, H. P. Taylor, J. D. Hader, C. Chou, J. A. Huffmann, U. Pöschl, A. J. Prenni & S. M. Kreidenweis: Comparative measurements of ambient atmospheric concentrations of ice nucleating particles using multiple immersion freezing methods and a continuous flow diffusion chamber. *Atmospheric Chemistry and Physics* 17 (18), 11227-11245, doi: 10.5194/acp-17-11227-2017, 2017.

Jaekel, E, M. Wendisch, T. C. Krisna, F. Ewald, T. Koelling, T. Jurkat, C. Voigt, M. A. Cecchini, L. A. T. Machado, A. Afchine, A. Costa, M. Kramer, M. O. Andreae, U. Pöschl, D. Rosenfeld & TL. Yuan: Vertical distribution of the particle phase in tropical deep convective clouds as derived from cloud-side reflected solar radiation measurements. *Atmospheric Chemistry and Physics* 16 (14), 9049-66, doi: 10.5194/acp-17-9049-2017, 2017.

Lang-Yona, N., A. T. Kunert, L. Vogel, C. J. Kampf, I. Bellinghausen, J. Saloga, A. Schink, K. Ziegler, K. Lucas, D. Schuppan, U. Pöschl, B. Weber & J. Fröhlich-Nowoisky: Fresh water, marine and terrestrial cyanobacteria display distinct allergen characteristics. *Science of the Total Environment* 2018, 612, 767-774, doi: 10.1016/j.scitotenv.2017.08.069, 2017.

Lelieveld, J. & U. Pöschl: Chemists can help to solve the air-pollution health crisis. *Nature* 551, 291-293, 2017.

Liu, F., K. Reinmuth-Selzle, SC. Lai, M. G. Weller, U. Pöschl & C. J. Kampf: Simultaneous determination of nitrated and oligomerized proteins by size exclusion high-performance liquid chromatography coupled to photodiode array detection. *Journal of Chromatography A* 1495, 76-82, doi: 10.1016/j.chroma.2017.03.015, 2017.

Liu, F., SC. Lai, HJ. Tong, P. S. J. Lakey, M. Shiraiwa, M. G. Weller, U. Pöschl & C. J. Kampf: Release of free amino acids upon oxidation of peptides and proteins by hydroxyl radicals. *Analytical and Bioanalytical Chemistry* 409 (9), 2411-2420, doi: 10.1007/s00216-017-0188-y, 2017.

Martin, S. T, P. Artaxo, L. Machado, A. O. Manzi, R. A. F. Souza, C. Schumacher, J. Wang, T. Biscaro, J. Brito, A. Calheiros, K. Jardine, A. Medeiros, B. Portela, S. S. de Sa, K. Adachi, A. C. Aiken, R. Albrecht, L. Alexander, M. O. Andreae, H. M. J. Barbosa, P. Buseck, D. Chand, J. M. Comstock, D. A. Day, M. Dubey, J. Fan, J. Fast, G. Fisch, E. Fortner, S. Giandrande, M. Gilles, A. H. Goldstein, A. Guenther, J. Hubbe, M. Jensen, J. L. Jimenez, F. N. Keutsch, S. Kim, C. Kuang, A. Laskin, K. McKinney, F. Mei, M. Miller, R. Nascimento, T. Pauliquevis, M. Pekour, J. Peres, T. Petaja, C. Pöhlker, U. Pöschl, L. Rizzo, B. Schmid, J. E. Shilling, M. A. S. Dias, J. N. Smith, J. M. Tomlinson, J. Tota & M. Wendisch: The Green Ocean Amazon Experiment (GOAMAZON2014/5) observes pollution affecting gases, aerosols, clouds, and rainfall over the rain forest. *Bulletin of the American Meteorological Society* 98, 981-997, doi: 10.1175/BAMS-D-15-00221.1, 2017.

Meusel, H., Y. Elshorbany, U. Kuhn, T. Bartels-Rausch, K. Reinmuth-Selzle, C. J. Kampf, G. Li, XX. Wang, J. Lelieveld, U. Pöschl, T. Hoffmann, H. Su, M. Ammann & YF. Cheng: Light-induced protein nitration and degradation with HONO emission. *Atmospheric Chemistry and Physics* 17 (19), 11819-11833, doi: 10.5194/acp-17-11819-2017, 2017.

Mikhailov, E. F.; S. Mironova, G. Mironov, S. Vlasenko, A. Panov, X. Chi, D. Walter, D. Carbone, P. Artaxo, U. Pöschl & M. O. Andreae: Long-term measurements (2010–2014) of carbonaceous aerosol and carbon monoxide at the Zotino Tall Tower Observatory (ZOTTO) in central Siberia. *Atmospheric Chemistry and Physics* 17 (23), 14365-14392, doi: 10.5194/acp-17-14365-2017, 2017.

Müller-Germann, I., D. A. Pickersgill, H. Paulsen, B. Alberternst, U. Pöschl, J. Fröhlich-Nowoisky & V. R. Després: Allergenic Asteraceae in air particulate matter: Quantitative DNA analysis of mugwort and ragweed. *Aerobiologia*, 1-14, doi:10.1007/s10453-017-9485-3, 2017.

Porada, P., U. Pöschl, A. Kleidon, C. Beer & B. Weber: Estimating global nitrous oxide emissions by lichens and bryophytes with a process-based productivity model. *Biogeosciences* 14 (6), 1593-1602, doi: 10.5194/bg-14-1593-2017, 2017.

Reinmuth-Selzle, K., C. J. Kampf, K. Lucas, N. Lang-Yona, J. Fröhlich-Nowoisky, M. Shiraiwa, P. S. J. Lakey, S. Lai, F. Liu, A. T. Kunert, K. Ziegler, F. Shen, R. Sagarbanti, B. Weber, I. Bellinghausen, J. Saloga, M. G. Weller, A. Duschl, D. Schuppan and U. Pöschl: Air Pollution and Climate Change Effects on Allergies in the Anthropocene: Abundance, Interaction, and Modification of Allergens and Adjuvants. *Environmental Science & Technology* 51 (8), 4119-4141, doi: 10.1021/acs.est.6b04908, 2017.

Reddington, C. L., K. S. Carslaw, P. Stier, N. Schutgens, H. Coe, D. Liu, J. Allan, J. Browse, K. J. Pringle, L. A. Lee, M. Yoshioka, J. S. Johnson, L. A. Regayre, D. V. Spracklen, G. W. Mann, A. Clarke, M. Hermann, S. Henning, H. Wex, T. B. Kristensen, W. R. Leitch, U.

Pöschl, D. Rose, M. O. Andreae, J. Schmale, Y. Kondo, N. Oshima, J. P. Schwarz, A. Nenes, B. Andersson, G. C. Roberts, J. R. Snider, C. Leck, P. K. Quinn, X. Chi, A. Ding, J. L. Jimenez & Q. Zhang: THE GLOBAL AEROSOL SYNTHESIS AND SCIENCE PROJECT (GASSP): Measurements and Modeling to Reduce Uncertainty. *Bulletin of the American Meteorological Society* 98 (9), 1857-77, doi: 10.1175/BAMS-D-15-00317.1, 2017.

Shiraiwa, M., Y. Li, A. P. Tsimpidi, T. Berkemeier, S. N. Pandis, J. Lelieveld, T. Koop and U. Pöschl: Global distribution of particle phase state in atmospheric secondary organic aerosols: *Nature Communication* 8, 15002, doi: 10.1038/ncomms15002, 2017.

Shiraiwa, M., K. Ueda, A. Pozzer, G. Lammel, C. J. Kampf, A. Fushimi, S. Enami, A. M. Arangio, J. Fröhlich-Nowoisky, Y. Fujitani, A. Furuyama, P. S. J. Lakey, J. Lelieveld, K. Lucas, Y. Morino, U. Pöschl, S. Takahama, A. Takami, H. Tong, B. Weber & A. Yoshino, K. Sato: Aerosol Health Effects from Molecular to Global Scales. *Environmental Science & Technology* 51, 13545-13567, doi:10.1021/acs.est.7b04417, 2017.

Slade, J. H., M. Shiraiwa, A. Arangio, H. Su, U. Pöschl, J. Wang and D. A. Knopf: Cloud droplet activation through oxidation of organic aerosol influenced by temperature and particle phase state. *Geophysical Research Letters* 44 (3), 1583-1591, doi: 10.1002/2016GL072424, 2017.

Socorro, J., P. S. J. Lakey, L. Han, T. Berkemeier, G. Lammel, C. Zetzsch, U. Pöschl & M. Shiraiwa: Heterogeneous OH oxidation, shielding effects and implications for the atmospheric fate of terbuthylazine and other pesticides. *Environmental Science & Technology* 51, 13749-13754, doi: 10.1021/acs.est.7b04307, 2017.

Thalman, R., S. S. de Sa, B. B. Palm, H. M. J. Barbosa, M. L. Pöhlker, M. L. Alexander, J. Brito, S. Carbone, P. Castillo, D. A. Day, C. G. Kuang, A. Manzi, N. L. Ng, A. J. Sedlacek, R. Souza, S. Springston, T. Watson, C. Pöhlker, U. Pöschl, M. O. Andreae, P. Artaxo, J. L. Jimenez, S. T. Martin & J. Wang: CCN activity and organic hygroscopicity of aerosols downwind of an urban region in central Amazonia: seasonal and diel variations and impact of anthropogenic emissions. *Atmospheric Chemistry and Physics* 17 (19), 11779-11801, doi: 10.5194/acp-17-11779-2017, 2017.

Tie, XX., R. J. Huang, J. J. Cao, Q. Zhang, Y. F. Cheng, H. Su, D. Chang, U. Pöschl, T. Hoffmann, U. Dusek, G. H. Li, D. R. Worsnop & C. D. O'Dowd: Severe Pollution in China Amplified by Atmospheric Moisture. *Scientific Report* 7: 15760, doi: 10.1038/s41598-017-15909-1, 2017.

Tong, H. J., P. S. J. Lakey, A. M. Arangio, J. Socorro, C. J. Kampf, T. Berkemeier, W. H. Brune, U. Pöschl & M. Shiraiwa: Reactive oxygen species formed in aqueous mixtures of secondary organic aerosols and mineral dust influencing cloud chemistry and public health in the Anthropocene. *Faraday Discussions* 200, 251-70, doi: 10.1039/c7fd00023e, 2017.

Vlasenko, S., H. Su, U. Pöschl, M. O. Andreae & E. F. Mikhailov: Tandem configuration of differential mobility and centrifugal particle mass analysers for investigating aerosol

hygroscopic properties. *Atmospheric Measurement Techniques* 10 (3), 1269-1280, doi: 10.5194/amt-10-1269-2017, 2017.

## 2016

Arangio, A. M., HJ. Tong, J. Socorro, U. Pöschl and M. Shiraiwa: Quantification of environmentally persistent free radicals and reactive oxygen species in atmospheric aerosol particles, *Atmospheric Chemistry and Physics* 16 (20), 13105-13119. doi. 10.5194/acp-16-13105-2016, 2016.

Berkemeier, T., S. S. Steimer, U. K. Krieger, T. Peter, U. Pöschl, M. Ammann, and M. Shiraiwa: Ozone uptake on glassy, semi-solid and liquid organic matter and the role of reactive oxygen intermediates in atmospheric aerosol chemistry, *Physical Chemistry Chemical Physics* 18 (18), 12662-12674, doi: 10.1039/c6cp00634e, 2016.

Berkemeier, T., M. Ammann, T. F. Mentel, U. Pöschl and M. Shiraiwa: Organic Nitrate Contribution to New Particle Formation and Growth in Secondary Organic Aerosols from alpha-Pinene Ozonolysis, *Environmental Science & Technology* 50 (12), 6334-6342, doi: 10.1021/acs.est.6b00961, 2016.

Chen, Y., YF. Cheng, N. Ma, R. Wolke, S. Nordmann, S. Schuttauf, L. Ran, B. Wehner, W. Birmili, HACD von der Gon, Q. Mu, S. Barthel, G. Spindler, B. Stieger, K. Müller, GJ. Zheng, U. Pöschl, H. Su and A. Wiedensohler: Sea salt emission, transport and influence on size-segregated nitrate simulation: a case study in northwestern Europe by WRF-Chem. *Atmospheric Chemistry and Physics* 16 (18), 12081-12097, doi: 10.5194/acp-16-12081-2016, 2016.

Chen, Y., YF. Cheng, S. Nordmann, W. Birmili, H. A. C. Denier van der Gon, N. Ma, R. Wolke, B. Wehner, J. Sun, G. Spindler, Q. Mu, U. Pöschl, H. Su and A. Wiedensohler: Evaluation of the size segregation of elemental carbon (EC) emission in Europe: influence on the simulation of EC long-range transportation. *Atmospheric Chemistry and Physics* 16 (3), 1823-1835, doi: 10.5194/acp-16-1823-2016, 2016.

Cheng, YF., G. Zhen, C. Wie, Q. Mu, B. Zheng, ZB. Wang, M. Gao, Q. Zhang, K. He, G. Carmichael, U. Pöschl and H. Su: Reactive nitrogen chemistry in aerosol water as a source of sulfate during haze events in China, *Science Advances* 2 (12), e1601530, doi: 10.1126/sciadv.1601530, 2016.

Fröhlich-Nowoisky J., C. J. Kampf, B. Weber, J. A. Huffman, C. Pöhlker, M. O. Andreae, N. Lang-Yona, S. M. Burrows, S. S. Gunthe, W. Elbert, H. Su, P. Hoor, E. Thines, T. Hoffmann, V. R. Després and U. Pöschl: Bioaerosols in the Earth system: Climate, health, and ecosystem interactions, *Atmospheric Research* 182, 346-376, doi: 10.1016/j.atmosres.2016.07.018, 2016.

Georgoulas, A., G. Alexandri, K. A. Kourtidis, J. Lelieveld, P. Zanis, U. Pöschl, R. Levy, V. Amiridis, E. Marinou and A. Tsikerdekis: Spatiotemporal variability and contribution of

different aerosol types to the aerosol optical depth over the Eastern Mediterranean, *Atmospheric Chemistry and Physics* 16 (21), 13853-13884, doi: 10.5194/acp-16-13853-2016, 2016.

Gosselin, M. I., C. M. Rathnayake, I Crawford, C. Pöhlker, J. Fröhlich-Nowoisky, B. Schmer, V. R. Després, G. Engling, M. Gallagher, E. Stone, U. Pöschl and J. A. Huffman: Fluorescent bioaerosol particle, molecular tracer, and fungal spore concentrations during dry and rainy periods in a semi-arid forest, *Atmospheric Chemistry and Physics* 16 (23), 15165-15184, doi: 10.5194/acp-16-15165-2016, 2016.

Hosny, N. A., C. Fitzgerald, A. Vysniauskas, A. Athanasiadis, T. Berkemeier, N. Uygur, U. Pöschl, M. Shiraiwa, M. Kalberer, F. D. Pope and M. K. Kuimova: Direct imaging of changes in aerosol particle viscosity upon hydration and chemical aging, *Chemical Science* 7, 1357-1367, 2016.

Lakey, P. S. J., T. Berkemeier, M. Krapf, J. Dommen, S. S. Steimer, L. K. Whalley, T. Ingham, M. T. Baeza-Romero, U. Pöschl, M. Shiraiwa, M. Ammann and D. E. Heard: The effect of viscosity and diffusion on the HO<sub>2</sub> uptake by sucrose and secondary organic aerosol particles, *Atmospheric Chemistry and Physics* 16 (20), 13035-13047, doi: 10.5194/acp-16-13035-2016, 2016.

Lakey, P. S. J., T. Berkemeier, H. Tong, A. M. Arangio, K. Lucas, U. Pöschl and M. Shiraiwa: Chemical exposure-response relationship between air pollutants and reactive oxygen species in the human respiratory tract, *Scientific Reports* 6: 32916, doi: 10.1038/srep32916, 2016.

Li, G., H. Su, X. Li, U. Kuhn, H. Meusel, T. Hoffmann, M. Ammann, U. Pöschl, M. Shao and Y. Cheng: Uptake of gaseous formaldehyde by soil surfaces: a combination of absorption/desorption equilibrium and chemical reactions, *Atmospheric Chemistry and Physics* 16 (15), 10299-10311, doi: 10.5194/acp-16-10299-2016, 2016.

Li, Y.; U. Pöschl and M. Shiraiwa: Molecular corridors and parameterizations of volatility in the chemical evolution of organic aerosols, *Atmospheric Chemistry and Physics* 16 (5), 3327-3344, doi:10.5194/acp-16-3327-2016, 2016.

Liu, F., S. Lai, K. Reinmuth-Selzle, J. F. Scheel, J. Fröhlich-Nowoisky, V. R. Després, T. Hoffmann, U. Pöschl and C. J. Kampf: Metaproteomic analysis of atmospheric aerosol samples, *Analytical and Bioanalytical Chemistry* 408 (23), 6337-6348, doi: 10.1007/s00216-016-9747-x, 2016.

Martin, S. T., P. Artaxo, L. A. T. Machado, A. O. Manzi, R. A. F. Souza, C. Schumacher, J. Wang, M. O. Andreae, H. M. J. Barbosa, J. Fan, G. Fisch, A. H. Goldstein, A. Guenther, J. L. Jimenez, U. Pöschl, M. A. S. Dias, J. N. Smith and M. Wendisch: Introduction: Observations and Modeling of the Green Ocean Amazon (GoAmazon2014/5), *Atmospheric Chemistry and Physics* 16 (8), 4785-4797, doi: 10.5194/acp-16-4785-2016, 2016.

Meusel, H., U. Kuhn, A. Reiffs, C. Mallik, H. Harder, M. Martinez, J. Schuladen, B. Bohn, U. Parchatka, J. N. Crowley, H. Fischer, L. Tomsche, A. Novelli, T. Hoffmann, R. H. H. Janssen, O. Hartogensis, M. Pikridas, M. Vrekoussis, E. Bourtsoukidis, B. Weber, J. Lelieveld, J. Williams, U. Pöschl, YF. Cheng and H. Su: Daytime formation of nitrous acid at a coastal remote site in Cyprus indicating a common ground source of atmospheric HONO and NO, *Atmospheric Chemistry and Physics* 16 (22), 14475-14493, 2016.

Pandey, R., K. Usui, R. A. Ruth, S. A. Fischer, J. Pfaendtner, E. H. G. Backus, Y. Nagata, J. Fröhlich-Nowoisky, L. Schmuser, S. Mauri, J. F. Scheel, D. A. Knopf, U. Pöschl, M. Bonn, T. Weidner: Ice-nucleating bacteria control the order and dynamics of interfacial water, *Science advances* 2 (4), e1501630, doi: 10.1126/sciadv.1501630, 2016.

Pöhlker, M., C. Pöhlker, F. Ditas, T. Klimach, I. Hrabec de Angelis, A. Araújo, J. Brito, S. Carbone, Y. Cheng, X. Chi, R. Ditz, S. S. Gunthe, J. Kesselmeier, T. Könemann, J. V. Lavric, S. T. Martin, E. Mikhailov, D. Moran-Zuloaga, D. Rose, J. Saturno, H. Su, R. Thalman, D. Walter, J. Wang, S. Wolff, H. M. J. Barbosa, P. Artaxo, M. O. Andreae & U. Pöschl: Long-term observations of cloud condensation nuclei in the Amazon rain forest – Part 1: Aerosol size distribution, hygroscopicity, and new model parametrizations for CCN prediction, *Atmospheric Chemistry and Physics* 16, 15709-15740, doi: 10.5194/acp-16-15709-2016, 2016.

Porada, P., T. M. Lenton, A. Pohl, B. Weber, L. Mander, Y. Donnadieu, C. Beer, U. Pöschl, A. Kleidon: High potential for weathering and climate effects of non-vascular vegetation in the Late Ordovician, *Nature Communications* 7: 12113, doi: 10.1038/ncomms12113, 2016.

Rosenfeld, D; YT. Zheng, E. Hashimshoni, M. L. Pöhlker, A. Jefferson, C. Pöhlker, X. Yu, YN. Zhu, GH. Liu, ZG. Yue, B. Fischman, ZQ. Li, T. Giguzin, T. Goren, P. Artaxo, H. M. J. Barbosa, U. Pöschl and M. O. Andreae: Satellite retrieval of cloud condensation nuclei concentrations by using clouds as CCN chambers, *Proceedings of the National Academy of Sciences of the United States of America* 114 (21), 5828-5834, doi: 10.1073/pnas.1514044113, 2016.

Su, H., YF. Cheng, N. Ma, ZB. Wang, XX. Wang, M. L. Pöhlker, B. Nillius, A. Wiedensohler and U. Pöschl: A broad supersaturation scanning (BS2) approach for rapid measurement of aerosol particle hygroscopicity and cloud condensation nuclei activity, *Atmospheric Measurement Techniques* 9 (10), 5183-5192, doi: 10.5194/amt-9-5183-2016, 2016.

Tong, H., A. M. Arangio, P. S. J. Lakey, T. Berkemeier, F. Liu, C. J. Kampf, W. H. Brune, U. Pöschl and M. Shiraiwa: Hydroxyl radicals from secondary organic aerosol decomposition in water, *Atmospheric Chemistry and Physics* 16, 1761-1771, doi: 10.5194/acp-16-1761-2016, 2016.

Valsan, A. E., R. Ravikrishna, C. V. Biju, C. Pöhlker, V. R. Després, J. A. Huffmann, U. Pöschl and S. S. Gunthe: Fluorescent biological aerosol particle measurements at a tropical high-altitude site in southern India during the southwest monsoon season, *Atmospheric Chemistry and Physics* 16 (15), 9805-9830, doi: 10.5194/acp-16-9805-2016, 2016.



Vogler, A.L., J. Schneider, C. Mueller-Tautges, G.J. Philips, M. L. Pöhlker, D. Rose, C. Zuth, U. Makkonen, H. Hakola, J. N. Crowley, M. O. Andreae, U. Pöschl and T. Hoffmann: Aerosol Chemistry Resolved by Mass Spectrometry: Linking Field Measurements of Cloud Condensation Nuclei Activity to Organic Aerosol Composition, *Environmental Science & Technology* 50 (20), 10823-10832, doi: 10.1021/acs.est.6b01675, 2016.

West, J. J., A. Cohen, F. Dentener, B. Brunekreef, T. Zhu, B. Armstrong, M. L. Bell, M. Brauer, G. Carmichael, D. L. Costa, D. W. Dockery, M. Kleeman, M. Krzyzanowski, N. Kunzli, C. Liou, S.C.C. Lung, R. V. Martin, U. Pöschl, C. A. Pope, J. M. Roberts, A. G. Russell, C. Wiedinmyer: “What We Breathe Impacts Our Health: Improving Understanding of the Link between Air Pollution and Health”, *Environmental Science & Technology* 50 (10), 4895-4904, 2016.

Yu, X., ZB. Wang, MH. Zhang, U. Kuhn, Z. Xie, YF. Cheng, U. Pöschl & H. Su: Ambient measurement of fluorescent aerosol particles with a WIBS in the Yangtze River Delta of China: potential impacts of combustion-related aerosol particles, *Atmospheric Chemistry and Physics* 16 (17), 11337-11348, doi: 10.5194/acp-16-11337-2016, 2016.

## 2015

Andreae, M. O., O. C. Acevedo A. Araújo, P. Artaxo, C. G. G. Barbosa, H. M. J. Barbosa, J. Brito, S. Carbone, X. Chi, B. B. L. Cintra, N. F. da Silva, N. L. Dias, C. Q. Dias-Júnior, F. Ditas, R. Ditz, A. F. L. Godoi, R. H. M. Godoi, M. Heimann, T. Hoffmann, J. Kesselmeier, T. Könemann, M. L. Krüger, J. V. Lavric, A. O. Manzi, A. P. Lopes, D. L. Martins, E. F. Mikhailov, D. Moran-Zuloaga, B. W. Nelson, A. C. Nölscher, D. Santos Nogueira, M. T. F. Piedade, C. Pöhlker, U. Pöschl, C. A. Quesada, L. V. Rizzo, C.-U. Ro, N. Ruckteschler, L. D. A. Sá, M. de Oliveira Sá, C. B. Sales, R. M. N. dos Santos, J. Saturno, J. Schöngart, M. Sörgel, C. M. de Souza, R. A. F. de Souza, H. Su, N. Targhetta, J. Tóta, I. Trebs, S. Trumbore, A. van Eijck, D. Walter, Z. Wang, B. Weber, J. Williams, J. Winderlich, F. Wittmann, S. Wolff, and A. M. Yáñez-Serrano: The Amazon Tall Tower Observatory (ATTO): overview of pilot measurements on ecosystem ecology, meteorology, trace gases, and aerosols, *Atmospheric Chemistry and Physics* 15, 10723-10776, 2015.

Arangio, A. M., J. H. Slade, T. Berkemeier, U. Pöschl, D. A. Knopf and M. Shiraiwa: Multiphase Chemical Kinetics of OH Radical Uptake by Molecular Organic Markers of Biomass Burning Aerosols: Humidity and Temperature Dependence, Surface Reaction and Bulk Diffusion, *Journal of Physical Chemistry* 119, 4533-4544, 2015.

Chang, D., Y. Cheng, P. Reutter, J. Trentmann, S. Burrows, S. Nordmann, M. O. Andreae, U. Pöschl and H. Su: Comprehensive mapping and characteristic regimes of aerosol effects on the formation and evolution of pyro-convective clouds, *Atmospheric Chemistry and Physics* 15, 10325-10348, 2015.

Chen, Q., D. K. Farmer, L. V. Rizzo, T. Pauliquevis, M. Kuwata, T. G. Karl, A. Guenther, J. D. Allan, H. Coe, M. O. Andreae, U. Pöschl, J. L. Jimenez, P. Artaxo and S. T. Martin:

Submicron particle mass concentrations and sources in the Amazonian wet season (AMAZE-08), *Atmospheric Chemistry and Physics* 15, 3687-3701, 2015.

Cheng, Y., H. Su, T. Kopp, E. F. Mikhailov and U. Pöschl: Size dependence of phase transitions in aerosol nanoparticles, *Nature Communications* 6, 5923, 2015.

Fröhlich-Nowoisky, J., T. C. J. Hill, B. G. Pummer, P. Yordanova, G. D. Franc and U. Pöschl: Ice nucleation activity in the widespread soil fungus *Mortierella alpina*, *Biogeosciences* 12, 1057-1071, 2015.

Hummel, M., C. Hoose, M. Gallagher, D. A. Healy, J. A. Huffman, D. O'Connor, U. Pöschl, C. Pöhlker, N. H. Robinson, M. Schnaiter, J. R. Sodeau, E. Toprak and H. Vogel: Regional-scale simulations of fungal spore aerosols using an emission parameterization adapted to local measurements of fluorescent biological aerosol particles, *Atmospheric Chemistry and Physics* 15, 6127-6146, 2015.

Kampf, C. J., F. Liu, K. Reinmuth-Selzle, T. Berkemeier, H. Meusel, M. Shiraiwa and U. Pöschl: Protein Cross-Linking and Oligomerization through Dityrosine Formation upon Exposure to Ozone. *Environmental Science & Technology* 49, 10859–10866, 2015.

Knopf, D. A., U. Pöschl, M. Shiraiwa: Radial Diffusion and Penetration of Gas Molecules and Aerosol Particles through Laminar Flow Reactors, Denuders, and Sampling Tubes, *Analytical Chemistry* 87, 3746-3754, 2015.

Lenhart K., B. Weber, W. Elbert, J. Steinkamp, T. Clough, P. Crutzen, U. Pöschl and F. Keppler: Nitrous oxide and methane emissions from cryptogamic covers, *Global Change Biology* 21, 3889-3900, 2015.

Mikhailov, E. F., G. N. Mironov, C. Pöhlker, X. Chi, M. L. Krüger, M. Shiraiwa, J.-D. Förster, U. Pöschl, S. S. Vlasenko, T. I. Ryshkevich, M. Weigand, A. L. D. Kilcoyne and M. O. Andreae: Chemical composition, microstructure, and hygroscopic properties of aerosol particles at the Zotino Tall Tower Observatory (ZOTTO), Siberia, during a summer campaign. *Atmospheric Chemistry and Physics* 15, 88847-8869, 2015.

Müller-Germann, I., B. Vogel, H. Vogel, A. Pauling, J. Fröhlich-Nowoisky, U. Pöschl and V. R. Despres: Quantitative DNA Analyses for Airborne Birch Pollen, *Plos One* 10, e0140949, 2015.

Pöschl, U. and M. Shiraiwa: Multiphase Chemistry at the Atmosphere–Biosphere Interface Influencing Climate and Public Health in the Anthropocene, *Chemical Reviews* 115, 4440–4475, 2015.

Pummer, B. G., C. Budke, S. Augustin-Bauditz, D. Niedermeier, L. Felgitsch, C. J. Kampf, R. G. Huber, K. R. Liedl, T. Loerting, T. Moschen, M. Schauerl, M. Tollinger, C. E. Morris, H. Wex, H. Grothe, U. Pöschl, T. Koop and J. Fröhlich-Nowoisky: Ice nucleation by water-soluble macromolecules. *Atmospheric Chemistry and Physics* 15, 4077-4091, 2015.

Tang, M. J., M. Shiraiwa, U. Pöschl, R. A. Cox and M. Kalberer: Compilation and evaluation of gas-phase diffusion coefficients of reactive trace gases in the atmosphere: volume 2. Organic compounds and Knudsen numbers for gas uptake calculations, *Atmospheric Chemistry and Physics* 15, 5585-5598, doi: 10.5194/acp-15-5585-2015, 2015.

Wang, Z., H. Su, X. Wang, N. Ma, A. Wiedensohler, U. Pöschl and Y. Cheng: Scanning supersaturation condensation particle counter applied as a nano-CCN counter for size-resolved analysis of the hygroscopicity and chemical composition of nanoparticles, *Atmospheric Measurement Techniques* 8, 2161-2172, doi: 10.5194/amt-8-2161-2015, 2015.

Weber, B., D. Wu, A. Tamm, N. Ruckteschler, E. Rodriguez-Caballero, J. Steinkamp, H. Meusel, W. Elbert, T. Behrendt, M. Sörgel, Y. Cheng, P. J. Crutzen, H. Su and U. Pöschl: Biological soil crusts accelerate the nitrogen cycle through large NO and HONO emissions in drylands, *Proceedings of the National Academy of Sciences of the United States of America* 112, 15384-15389, 2015.

Zheng, G. J., F. K. Duan, H. Su, Y. L. Ma, Y. Cheng, B. Zheng, Q. Zhang, T. Huang, T. Kimoto, D. Chang, U. Pöschl, Y. F. Cheng and K. B. He: Exploring the severe winter haze in Beijing: the impact of synoptic weather, regional transport and heterogeneous reactions, *Atmospheric Chemistry and Physics* 15, 2696-2983, 2015.

## 2014

Berkemeier, T., Shiraiwa, M., Pöschl, U., and Koop, T.: Competition between water uptake and ice nucleation by glassy organic aerosol particles, *Atmospheric Chemistry and Physics*, 14, 12513–12531, <https://doi.org/10.5194/acp-14-12513-2014>, 2014.

Fröhlich-Nowoisky, J., C. Ruzene Nespoli, D. A. Pickersgill, P. E. Galand, I. Müller-Germann, T. Nunes, J. Gomes Cardoso, S. M. Almeida, C. Pio, M. O. Andreae, R. Conrad, U. Pöschl and V. R. Després: Diversity and seasonal dynamics of airborne archaea, *Biogeosciences* 11, 6067-6079, 2014.

Haga, D. I., S. M. Burrows, R. Iannone, M. J. Wheeler, R. H. Mason, J. Chen E. A. Polishchuk, U. Pöschl and A. K. Bertram: Ice nucleation by fungal spores from the classes Agaricomycetes, Ustilaginomycetes, and Eurotiomycetes, and the effect on the atmospheric transport of these spores, *Atmospheric Chemistry and Physics* 14, 8611-8630, 2014.

Healy, D. A., J. A. Huffman, D. J. O'Connor, C. Pöhlker, U. Pöschl and J. R. Sodeau: Ambient measurements of biological aerosol particles near Killarney, Ireland: a comparison between real-time fluorescence and microscopy techniques, *Atmospheric Chemistry and Physics* 14, 8055-8069, 2014.

Hochscheid, R., N. Schreiber, E. Kotte, P. Weber, W. Cassel, H. Yang, Y. Zhang, U. Pöschl and B. Müller: Nitration of protein without allergenic potential triggers modulation of antioxidant response in Type II Pneumocytes, *Journal of Toxicology and Environmental Health, Part A: Current Issues* 77, 12, 679-695, 2014.

Kanawade, V. P., S. Shika, C. Pöhlker, D. Rose, M. N. S. Suman, H. Gadhavi, A. Kumar, S. M. Shiva Nagendra, R. Ravikrishna, H. Yu, L. K. Sahu, A. Jayaraman, M. O. Andreae, U. Pöschl and S. S. Gunthe: Infrequent occurrence of new particle formation at a semi-rural location, Gadanki, in tropical Southern India, *Atmospheric Environment* 94, 264-273, 2014.

Krüger, M. L., S. Mertes, T. Klimach, Y. F. Cheng, H. Su, J. Schneider, M. O. Andreae, U. Pöschl and D. Rose: Assessment of cloud supersaturation by size-resolved aerosol particle and cloud condensation nuclei (CCN) measurements, *Atmospheric Measurement Techniques* 7, 2615-2629, 2014.

Morris, C. E., F. Conen, J. A. Huffman, V. Phillips, U. Pöschl and D. C. Sands: Bioprecipitation: a feedback cycle linking Earth history, ecosystem dynamics and land use through biological ice nucleators in the atmosphere, *Global Change Biology* 20, 341-351, 2014.

Porada, P., B. Weber, W. Elbert, U. Pöschl and A Kleidon: Estimating impacts of lichens and bryophytes on global biogeochemical cycles, *Global Biogeochemical Cycles* 28, 71-85, 2014.

Reinmuth-Selzle, K., C. Ackaert, C. J. Kampf, M. Samonig, M. Shiraiwa, S. Kofler, H. Yang, G. Gadermaier, H. Brandstetter, C. G. Huber, A. Duschl, G. J. Oostingh and U. Pöschl: Nitration of the birch pollen allergen bet v 1.0101: Efficiency and site-selectivity of liquid and gaseous nitrating agents, *Journal of Proteome Research* 13, 1570-1577, 2014.

Reutter, P., J. Trentmann, A. Seifert, P. Neis, H. Su, D. Chang, M. Herzog, H. Wernli, M. O. Andreae and U. Pöschl: 3-D model simulations of dynamical and microphysical interactions in pyroconvective clouds under idealized conditions, *Atmospheric Chemistry and Physics* 14, 7573-7583, 2014.

Shiraiwa, M., T. Berkemeier, K. A. Schilling-Fahnestock, J. H. Seinfeld, and U. Pöschl: Molecular corridors and kinetic regimes in the multiphase chemical evolution of secondary organic aerosol, *Atmospheric Chemistry and Physics* 14, 8323-8341, 2014.

Wu, D., C. J. Kampf, U. Pöschl, R. Oswald, J. Cui, M. Ermel, C. Hu, I. Trebs and M. Sörgel: Novel tracer method to measure isotopic labeled gas-phase nitrous acid ( $\text{HO}^{15}\text{NO}$ ) in biogeochemical studies, *Environmental Science & Technology* 48, 8021-8027, 2014.

## 2013

Berkemeier, T., A. J. Huisman, M. Ammann, M. Shiraiwa, T. Koop and U. Pöschl: Kinetic regimes and limiting cases of gas uptake and heterogeneous reactions in atmospheric aerosols and clouds: a general classification scheme, *Atmospheric Chemistry and Physics* 13, 6663-6686, 2013.

Burrows, S. M., C. Hoose, U. Pöschl and M. G. Lawrence: Ice nuclei in marine air: biogenic particles or dust? *Atmospheric Chemistry and Physics* 13, 245-267 (2013).

Cheng, Y. F., W. Cao, Q. Zhang, H. Su, D. G. Streets, A. Wiedensohler, U. Pöschl and G. R. Carmichael: Impacts of emission controls and perturbations on an intense convective precipitation event during the 2008 Beijing Olympic Games, AIP Conference Proceedings 1527, 782-785, 2013.

Cheng, Y. F., H. Su, D. Rose, S. S. Gunthe, M. Berghof, B. Wehner, P. Achtert, A. Nowak, N. Takegawa, Y. Kondo, M. Shiraiwa, Y. G. Gong, M. Shao, M. Hu, T. Zhu, Y. H. Zhang, A. Wiedensohler, M. O. Andreae and U. Pöschl: Size-resolved measurement of the mixing state of soot in the megacity Beijing, China: Diurnal cycle, aging and parameterization, AIP Conference Proceedings 1527, 524-526, 2013.

Fröhlich-Nowoisky, J. and U. Pöschl: Fungal diversity, biogeography, and new species of ice nucleating fungi in air, AIP Conference Proceedings 1527, 595-597, 2013.

Huffman, J. A., A. J. Prenni, P. J. DeMott, C. Pöhlker, R. H. Mason, N. H. Robinson, J. Fröhlich-Nowoisky, Y. Tobo, V. R. Després, E. Garcia, D. J. Gochis, E. Harris, I. Müller-Germann, C. Ruzene, B. Schmer, B. Sinha, D. A. Day, M. O. Andreae, J. L. Jimenez, M. Gallagher, S. M. Kreidenweis, A. K. Bertram and U. Pöschl: High concentrations of biological aerosol particles and ice nuclei during and after rain, Atmospheric Chemistry and Physics 13, 6151-6164, 2013.

Hyvärinen, A.-P., V. Vakkari, L. Laakso, R. K. Hooda, V. P. Sharma, T. S. Panwar, J. P. Beukes, P. G. van Zyt, M. Josipovic, R. M. Garland, M. O. Andreae, U. Pöschl and A. Petzold:

Correction for a measurement artifact of the Multi-Angle-Absorption Photometer (MAAP) at high black carbon mass concentration levels, Atmospheric Measurement Techniques 6, 81-90, 2013.

Julin, J., M. Shiraiwa, R. E. H. Miles, J. P. Reid, U. Pöschl and I. Riipinen: Mass accommodation of water: Bridging the gap between molecular dynamics and simulations and kinetic condensation models, The Journal of Physical Chemistry A 117, 410-420, 2013.

Mikhailov, E., S. Vlasenko, D. Rose and U. Pöschl: Mass-based hygroscopicity parameter interaction model and measurement of atmospheric aerosol water uptake, Atmospheric Chemistry and Physics 13, 717-740, 2013.

Oswald, R., T. Behrendt, M. Ermel, D. W. Wu, H. Su, Y. Cheng, C. Breuninger, A. Moravek, E. Mougín, C. Delon, B. Loubet, A. Pommerening-Röser, M. Sörgel, U. Pöschl, T. Hoffmann, M. O. Andreae, F. X. Meixner and I. Trebs: HONO emissions from soil bacteria as a major source of atmospheric reactive nitrogen, Nature 341, 1233-1235, 2013.

Pöhlker, C., J. A. Huffman, J.-D. Förster and U. Pöschl: Autofluorescence of atmospheric bioaerosols: spectral fingerprints and taxonomic trends of pollen, Atmospheric Measurement Techniques 6, 3369-3392, 2013.

Porada, P., B. Weber, W. Elbert, U. Pöschl and A. Kleidon: Estimating global carbon uptake by lichens and bryophytes with a process-based model, *Biogeosciences* 10, 6989-7033, 2013.

Prenni, A. J., Y. Tobo, E. Garcia, P. J. DeMott, J. A. Huffman, C. S. McCluskey, S. M. Kreidenweis, J. E. Prenni, C. Pöhlker and U. Pöschl: The impact of rain on ice nuclei populations at a forested site in Colorado, *Geophysical Research Letters* 40, 227-231, 2013.

Rennó, N. O., E. Williams, D. Rosenfeld, D. G. Fischer, J. Fischer, T. Kremic, A. Agrawal, M. O. Andreae, R. Bierbaum, R. Blakeslee, A. Boerner, N. Bowles, H. Christian, A. Cox, J. Dunion, A. Horvarth, X. Huang, A. Khain, S. Kinne, M. C. Lemos, J. E. Penner, U. Pöschl, J. Quaas, E. Seran, B. Stevens, T. Walati and T. Wagner.: CHASER: An innovative satellite mission concept to measure the effects of aerosols on clouds and climate, *Bulletin of the American Meteorological Society* May 2013, 685-694, 2013.

Schumacher, C. J., C. Pöhlker, P. Aalto, V. Hiltunen, T. Petäjä, M. Kulmala, U. Pöschl and J. A. Huffman: Seasonal cycles of fluorescent biological aerosol particles in boreal and semi-arid forests of Finland and Colorado, *Atmospheric Chemistry and Physics* 13, 11987-12001, 2013.

Selzle, K., C. Ackaert, C. J. Kampf, A. T. Kunert, A. Duschl, G. J. Oostingh and U. Pöschl: Determination of nitration degrees for the birch pollen allergen Bet v 1, *Analytical and Bioanalytical Chemistry* 405, 8945-8949, 2013.

Tobo, Y., A. J. Prenni, P. J. DeMott, J. A. Huffman, C. S. McCluskey, G. Tian, C. Pöhlker, U. Pöschl and S. M. Kreidenweis: Biological aerosol particles as a key determinant of ice nuclei populations in a forest ecosystem, *Journal of Geophysical Research* 118, 10.1002/jgrd.50801, 2013.

Zhou, S., M. Shiraiwa, R. D. McWhinney, U. Pöschl and J. Abbatt: Kinetic limitations in gas-particle reactions arising from slow diffusion in secondary organic aerosol, *Faraday Discussions* 165, 391-406, 2013.

## **2012**

Attard, E., H. Yang, A.-M. Delort, P. Amato, U. Pöschl, C. Glaux, T. Koop and C. E. Morris: Effects of atmospheric conditions on ice nucleation activity of *Pseudomonas*, *Atmospheric Chemistry and Physics* 12, 10667-10677, 2012.

Cheng, Y. F., H. Su, D. Rose, S. S. Gunthe, M. Berghof, B. Wehner, P. Achtert, A. Nowak, N. Takegawa, Y. Kondo, M. Shiraiwa, Y. G. Gong, M. Shao, M. Hu, T. Zhu, Y. H. Zhang, G. R. Carmichael, A. Wiedensohler, M. O. Andreae and U. Pöschl: Size-resolved measurement of the mixing state of soot in the megacity Beijing, China: diurnal cycle, aging and parameterization, *Atmospheric Chemistry and Physics* 12, 4477-4491, 2012.

Després, V. R., J. A. Huffman, S. M. Burrows, C. Hoose, A. S. Safatov, G. Buryak, J. Fröhlich-Nowoisky, W. Elbert, M. O. Andreae, U. Pöschl and R. Jaenicke: Primary biological aerosol particles in the atmosphere: a review, *Tellus B* 64, 10.3402/tellusb.v64i0.15598, 2012.

Donaldson, D. J., M. Ammann, T. Bartels-Rausch and U. Pöschl: Standard states and thermochemical kinetics in heterogeneous atmospheric chemistry, *The Journal of Physical Chemistry A* 116, 6312-6316, 2012.

Elbert, W., B. Weber, S. Burrows, J. Steinkamp, B. Büdel, M. O. Andreae and U. Pöschl: Contribution of cryptogamic covers to the global cycles of carbon and nitrogen, *Nature Geoscience* 5, 459-462, 2012.

Fröhlich-Nowoisky, J., S. M. Burrows, Z. Xie, G. Engling, P. A. Solomon, M. P. Fraser, O. L. Mayol-Bracero, P. Artaxo, D. Begerow, R. Conrad, M. O. Andreae, V. R. Després and U. Pöschl: Biogeography in the air: fungal diversity over land and oceans, *Biogeosciences* 9, 1125-1136, 2012.

Huffman, J. A., B. Sinha, R. M. Garland, A. Snee-Pollmann, S. S. Gunthe, P. Artaxo, S. T. Martin, M. O. Andreae and U. Pöschl: Size distributions and temporal variations of biological aerosol particles in the Amazon rainforest characterized by microscopy and real-time UV-APS fluorescence techniques during AMAZE-08, *Atmospheric Chemistry and Physics* 12, 11997-12019, 2012.

Pöhlker, C., J. A. Huffman and U. Pöschl: Autofluorescence of atmospheric bioaerosols – fluorescent biomolecules and potential interferences. *Atmospheric Measurement Techniques* 5, 37-71, 2012.

Pöhlker, C., K. T. Wiedemann, B. Sinha, M. Shiraiwa, S. S. Gunthe, M. Smith, H. Su, P. Artaxo, Q. Chen, Y. Cheng, W. Elbert, M. K. Gilles, A. L. D. Kilcoyne, R. C. Moffet, M. Weigand, S. T. Martin, U. Pöschl and M. O. Andreae: Biogenic potassium salt particles as seeds for secondary organic aerosol in the Amazon, *Science* 337, 1075-1078, 2012.

Pöschl, U.: Multi-stage open peer review: scientific evaluation integrating the strengths of traditional peer review with the virtues of transparency and self-regulation, *Frontiers in Computational Neuroscience* 6, 33, 10.3389/fncom.2012.00033, 2012.

Rosenfeld, D., E. Williams, M. O. Andreae, E. Freud, U. Pöschl and N. O. Rennó: The scientific basis for a satellite mission to retrieve CCN concentrations and their impacts on convective clouds, *Atmospheric Measurement Techniques* 5, 2039-2055, 2012.

Shiraiwa, M., U. Pöschl and D. A. Knopf: Multiphase chemical kinetics of NO<sub>3</sub> radicals reacting with organic aerosol components from biomass burning, *Environmental Science & Technology* 46, 6630-6636, 2012.

Shiraiwa, M., K. Selzle and U. Pöschl: Hazardous components and health effects of atmospheric aerosol particles: reactive oxygen species, soot, polycyclic aromatic compounds and allergenic proteins, *Free Radical Research* 46, No. 8, 927-939, 2012.

Shiraiwa, M., C. Pfrang, T. Koop and U. Pöschl: Kinetic multi-layer model of gas-particle interactions in aerosols and clouds (KM-GAP): linking condensation, evaporation and chemical reactions of organics, oxidants and water, *Atmospheric Chemistry and Physics* 12, 2777-2794, 2012.

Shiraiwa, M., K. Selzle, H. Yang, Y. Sosedova, M. Ammann and U. Pöschl: Multiphase chemical kinetics of the nitration of aerosolized protein by ozone and nitrogen dioxide, *Environmental Science & Technology* 46, 6672-6680, 2012.

## 2011

Gunthe, S. S., D. Rose, H. Su, R. M. Garland, P. Achtert, A. Nowak, A. Wiedensohler, M. Kuwata, N. Takegawa, Y. Kondo, M. Hu, M. Shao, T. Zhu, M. O. Andreae and U. Pöschl: Cloud condensation nuclei (CCN) from fresh and aged air pollution in the megacity region of Beijing. *Atmospheric Chemistry and Physics* 11, 11023-11039, 2011.

Koop, T., J. Bookhold, M. Shiraiwa and U. Pöschl: Glass transition and phase state of organic compounds: dependency on molecular properties and implications for secondary organic aerosols in the atmosphere. *Physical Chemistry, Chemical Physics* 13, 43, 19238-19255, 2011.

Kulmala, M., A. Asmi, H. K. Lappalainen, U. Baltensperger, J.-L. Brenguier, M. C. Facchini, H.-C. Hansson, Ø. Hov, C. D. O'Dowd, U. Pöschl, A. Wiedensohler, R. Boers, O. Boucher, G. de Leeuw, H. A. C. Denier van den Gon, J. Feichter, R. Krejci, P. Laj, H. Lihavainen, U. Lohmann, G. McFiggans, T. Mentel, C. Pilinis, I. Riipinen, M. Schulz, A. Stohl, E. Swietlicki, E. Vignati, C. Alves, M. Amann, M. Ammann, S. Arabas, P. Artaxo, H. Baars, D. C. S. Beddows, R. Bergström, J. P. Beukes, M. Bilde, J. F. Burkhardt, F. Canonaco, S. L. Clegg, H. Coe, S. Crumeyrolle, B. D'Anna, S. Decesari, S. Gilardoni, M. Fischer, A. M. Fjaeraa, C. Fountoukis, C. George, L. Gomes, P. Halloran, T. Hamburger, R. M. Harrison, H. Herrmann, T. Hoffmann, C. Hoose, M. Hu, A. Hyvärinen, U. Hörrak, Y. Iinuma, T. Iversen, M. Josipovic, M. Kanakidou, A. Kiendler-Scharr, A. Kirkevåg, G. Kiss, Z. Klimont, P. Kolmonen, M. Komppula, J.-E. Kristjánsson, L. Laakso, A. Laaksonen, L. Labonnote, V. A. Lanz, K. E. J. Lehtinen, R. Makkonen, H. E. Manninen, G. McMeeking, J. Merikanto, A. Minikin, S. Mirme, W. T. Morgan, E. Nemitz, D. O'Donnell, T. S. Panwar, H. Pawlowska, A. Petzold, J. J. Pienaar, C. Pio, C. Plass-Duelmer, A. S. H. Prévôt, S. Pryor, C. L. Reddington, G. Roberts, D. Rosenfeld, J. Schwarz, Ø. Seland, K. Sellegri, X. J. Shen, M. Shiraiwa, H. Siebert, B. Sierau, D. Simpson, J. Y. Sun, D. Topping, P. Tunved, P. Vaattovaara, V. Vakkari, J. P. Veefkind, A. Visschedijk, H. Vuollekoski, R. Vuolo, B. Wehner, J. Wildt, S. Woodward, D. R. Worsnop, G.-J. van Zadelhoff, A. A. Zardini, K. Zhang, P. G. van Zyl, V.-M. Kerminen, K. S. Carslaw and S. N. Pandis: 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* 11, 13061-13143, 2011.



Mikhailov, E. F., V. V. Merkulov, S. S. Vlasenko, T. I. Ryshkevich and U. J. Pöschl: Filter-based differential hygroscopicity analyzer of aerosol particles. *Izvestiya, Atmospheric and Oceanic Physics* 47, No. 6, 747-759, 2011.

Pfrang, C., M. Shiraiwa and U. Pöschl: Chemical ageing and transformation of diffusivity in semi-solid multi-component organic aerosol particles. *Atmospheric Chemistry and Physics* 11, 7343-7354, 2011.

Pöschl, U.: Gas-particle interactions of tropospheric aerosols: Kinetic and thermodynamic perspectives of multiphase chemical reactions, amorphous organic substances, and the activation of cloud condensation nuclei. *Atmospheric Research* 101, 562-573, 2011.

Rose, D., S. S. Gunthe, H. Su, R. M. Garland, H. Yang, M. Berghof, Y. F. Cheng, B. Wehner, P. Achtert, A. Nowak, A. Wiedensohler, N. Takegawa, Y. Kondo, M. Hu, Y. Zhang, M. O. Andreae and U. Pöschl: Cloud condensation nuclei in polluted air and biomass burning smoke near the mega-city Guangzhou, China – Part 2: Size-resolved aerosol chemical composition, diurnal cycles, and externally mixed weakly CCN-active soot particles. *Atmospheric Chemistry and Physics* 11, 2817-2836, 2011.

Shiraiwa, M., M. Ammann, T. Koop and U. Pöschl: Gas uptake and chemical aging of semisolid organic aerosol particles. *Proceedings of the National Academy of Sciences* 108, No. 27, 11003-11008, 2011.

Shiraiwa, M., Y. Sosedova, A. Rouvière, H. Yang, Y. Zhang, J. P. D. Abbatt, M. Ammann and U. Pöschl: The role of long-lived reactive oxygen intermediates in the reaction of ozone with aerosol particles. *Nature Chemistry* 3, 291-295, 2011.

Spracklen, D. V., K. S. Carslaw, U. Pöschl, A. Rap and P. M. Forster: Global cloud condensation nuclei influenced by carbonaceous combustion aerosol. *Atmospheric Chemistry and Physics* 11, 9067-9087, 2011.

Su, H., Y. Cheng, R. Oswald, T. Behrendt, I. Trebs, F. X. Meixner, M. O. Andreae, P. Cheng, Y. Zhang and U. Pöschl: Soil nitrite as a source of atmospheric HONO and OH radicals. *Science* 333, 1616-1618, 2011.

Zhang, Y., H. Yang and U. Pöschl: Analysis of nitrated proteins and tryptic peptides by HPLC-chip-MS/MS: site-specific quantification, nitration degree, and reactivity of tyrosine residues. *Analytical and Bioanalytical Chemistry* 399, 459-471, 2011.

## 2010

Dusek, U., G. P. Frank, J. Curtius, F. Drewnick, J. Schneider, A. Kürten, D. Rose, M. O. Andreae, S. Borrmann and U. Pöschl: Enhanced organic mass fraction and decreased hygroscopicity of cloud condensation nuclei (CCN) during new particle formation events. *Geophysical Research Letters* 37, 10.1029/2009GL040930, 2010.

Henning, S., H. Wex, T. Hennig, A. Kiselev, J. R. Snider, D. Rose, U. Dusek, G. P. Frank, U. Pöschl, A. Kristensson, M. Bilde, R. Tillmann, A. Kienderl-Scharr, T. F. Mentel, S. Walter, J. Schneider, C. Wennrich and F. Stratmann: Soluble mass, hygroscopic growth, and droplet activation of coated soot particles during LACIS Experiment in November (LEXNo). *Journal of Geophysical Research* 115, 10.1029/2009JD012626, 2010.

Huffman, J. A., B. Treutlein and U. Pöschl: Fluorescent biological aerosol particle concentrations and size distributions measured with an Ultraviolet Aerodynamic Particle Sizer (UV-APS) in Central Europe. *Atmospheric Chemistry and Physics* 10, 3215-3233, 2010.

Janhäll, S., M. O. Andreae and U. Pöschl: Biomass burning aerosol emissions from vegetation fires: particle number and mass emission factors and size distributions. *Atmospheric Chemistry and Physics* 10, 1427-1439, 2010.

Kerminen, V.-M., T. Petäjä, H. E. Manninen, P. Paasonen, T. Nieminen, M. Sipilä, H. Junninen, M. Ehn, S. Gagné, L. Laakso, I. Riipinen, H. Vehkamäki, T. Kurten, I. K. Ortega, M. Dal Maso, D. Brus, A. Hyvärinen, H. Lihavainen, J. Leppä, K. E. J. Lehtinen, A. Mirme, S. Mirme, U. Hörrak, T. Berndt, F. Stratmann, W. Birmili, A. Wiedensohler, A. Metzger, J. Dommen, U. Baltensperger, A. Kiendler-Scharr, T. F. Mentel, J. Wildt, P. M. Winkler, P. E. Wagner, A. Petzold, A. Minikin, C. Plass-Dülmer, U. Pöschl, A. Laaksonen and M. Kulmala: Atmospheric nucleation: highlights of the EUCAARI project and future directions. *Atmospheric Chemistry and Physics* 10, 10829-10848, 2010.

King, S. M., T. Rosenoern, J. E. Schilling, Q. Chen, Z. Wang, G. Biskos, K. A. McKinney, U. Pöschl and S. T. Martin: Cloud droplet activation of mixed organic-sulfate particles produced by the photooxidation of isoprenen. *Atmospheric Chemistry and Physics* 10, 3953-3964, 2010.

Kolb, C. E., R. A. Cox, J. P. D. Abbatt, M. Ammann, E. J. Davis, D. J. Donaldson, B. C. Garrett, C. George, P. T. Griffiths, D. R. Hanson, M. Kulmala, G. McFiggans, U. Pöschl, I. Riipinen, M. J. Rossi, Y. Rudich, P. E. Wagner, P. M. Winkler, D. R. Worsnop and C. D. O'Dowd: An overview of current issues in the uptake of atmospheric trace gases by aerosols and clouds. *Atmospheric Chemistry and Physics* 10, 10561-10605, 2010.

Martin, S. T., M. O. Andreae, P. Artaxo, D. Baumgardner, Q. Chen, A. H. Goldstein, A. Guenther, C. L. Heald, O. L. Mayol-Bracero, P. H. McMurry, T. Pauliquevis, U. Pöschl, K. A. Prather, G. C. Roberts, S. R. Saleska, M. A. Silva Dias, D. V. Spracklen, E. Swietlicki and I. Trebs: Sources and properties of amazonian aerosol particles. *Reviews of Geophysics* 48, 10.1029/2008RG000280, 2010.

Martin, S. T., M. O. Andreae, D. Althausen, P. Artaxo, H. Baars, S. Borrmann, Q. Chen, D. K. Farmer, A. Guenther, S. S. Gunthe, J. L. Jimenez, T. Karl, K. Longo, A. Manzi, T. Müller, T. Pauliquevis, M. D. Petters, A. J. Prenni, U. Pöschl, L. V. Rizzo, J. Schneider, J. N. Smith, E. Swietlicki, J. Tota, J. Wang, A. Wiedensohler and S. R. Zorn: An Overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08). *Atmospheric Chemistry and Physics* 10, 11415-11438, 2010.

Matsui, H., M. Koike, Y. Kondo, N. Takegawa, J. D. Fast, U. Pöschl, R. M. Garland, M. O. Andreae, A. Wiedensohler, N. Sugimoto and T. Zhu: Spatial and temporal variations of aerosols around Beijing in summer 2006: 2. Local and column aerosol optical properties. *Journal of Geophysical Research* 115, 10.1029/2010JD013895, 2010.

Pfrang, C., M. Shiraiwa and U. Pöschl: Coupling aerosol surface and bulk chemistry with a kinetic double layer model (K2-SUB): oxidation of oleic acid by ozone. *Atmospheric Chemistry and Physics* 10, 4537-4557, 2010.

Pöschl, U., S. T. Martin, B. Sinha, Q. Chen, S. S. Gunthe, J. A. Huffman, S. Borrmann, D. K. Farmer, R. M. Garland, G. Helas, J. L. Jimenez, S. M. King, A. Manzi, E. Mikhailov, T. Pauliquevis, M. D. Petters, A. J. Prenni, P. Roldin, D. Rose, J. Schneider, H. Su, S. R. Zorn, P. Artaxo and M. O. Andreae: Rainforest aerosols as biogenic nuclei of clouds and precipitation in the Amazon. *Science* 329, 1513-1516, 2010.

Pringle, K. J., H. Tost, A. Pozzer, U. Pöschl and J. Lelieveld: Global distribution of the effective aerosol hygroscopicity parameter for CCN activation. *Atmospheric Chemistry and Physics* 10, 5241-5255, 2010.

Röckmann, T., C.X. Gómez Álvarez, S. Walter, C. van der Veen, A. G. Wollny, S. S. Gunthe, G. Helas, U. Pöschl, F. Keppler, M. Greule and W. A. Brand: Isotopic composition of H<sub>2</sub> from wood burning: Dependency on combustion efficiency, moisture content, and  $\delta D$  of local precipitation. *Journal of Geophysical Research* 115, 10.1029/2009JD013188, 2010.

Rose, D., A. Nowak, P. Achtert, A. Wiedensohler, M. Hu, M. Shao, Y. Zhang, M. O. Andreae and U. Pöschl: Cloud condensation nuclei in polluted air and biomass burning smoke near the mega-city Guangzhou, China – Part 1: Size-resolved measurements and implications for the modeling of aerosol particle hygroscopicity and CCN activity. *Atmospheric Chemistry and Physics* 10, 3365-3383, 2010.

Shiraiwa, M., C. Pfrang and U. Pöschl: Kinetic multi-layer model of aerosol surface and bulk chemistry (KM-SUB): the influence of interfacial transport and bulk diffusion on the oxidation of oleic acid by ozone. *Atmospheric Chemistry and Physics* 10, 3673-3691, 2010.

Snider, J. R., H. Wex, D. Rose, A. Kristensson, F. Stratmann, T. Hennig, S. Henning, A. Kiselev, M. Bilde, M. Burkhardt, U. Dusek, G. P. Frank, A. Kiendler-Scharr, T. F. Mentel, M. D. Petters and U. Pöschl: Intercomparison of cloud condensation nuclei and hygroscopic fraction measurements: Coated soot particles investigated during the LACIS Experiment in November (LEXNo). *Journal of Geophysical Research* 115, 10.1029/2009JD012618, 2010.

Stratmann, F., M. Bilde, U. Dusek, G. P. Frank, T. Hennig, S. Henning, A. Kiendler-Scharr, A. Kiselev, A. Kristensson, I. Lieberwirth, T. F. Mentel, U. Pöschl, D. Rose, J. Schneider, J. R. Snider, R. Tillmann, S. Walter and H. Wex: Examination of laboratory-generated coated soot particles: An overview of the LACIS Experiment in November (LEXNo) campaign. *Journal of Geophysical Research* 115, 10.1029/2009JD012628, 2010.

Su, H., D. Rose, Y. F. Cheng, S. S. Gunthe, A. Massling, M. Stock, A. Wiedensohler, M. O. Andreae and U. Pöschl: Hygroscopicity distribution concept for measurement data analysis and modeling of aerosol particle mixing state with regard to hygroscopic growth and CCN activation. *Atmospheric Chemistry and Physics* 10, 7489-7503, 2010.

Untersmayr, E., S. C. Diesner, G. J. Oostingh, K. Selzle, T. Pfaller, C. Schultz, Y. Zhang, D. Krishnamurthy, P. Starkl, R. Knittelfelder, E. Förster-Waldi, A. Pollak, O. Scheiner, U. Pöschl, E. Jensen-Jarolim and A. Duschl: Nitration of the egg-allergen ovalbumin enhances protein allergenicity but reduces the risk for oral sensitization in a murine model of food allergy. *PLoS ONE* 5, 12, e14210, 2010.

Virtanen, A., J. Joutsensaari, T. Koop, J. Kannosto, P. Yli-Pirilä, J. Leskinen, J. M. Mäkelä, J. K. Holopainen, U. Pöschl, M. Kulmala, D. R. Worsnop and A. Laaksonen: An amorphous solid state of biogenic secondary organic aerosol particles. *Nature* 467, 824-827, 2010.

Wang, Z., S. M. King, E. Freney, T. Rosenoern, M. L. Smith, Q. Chen, M. Kuwata, E. R. Lewis, U. Pöschl, W. Wang, P. R. Buseck and S. T. Martin: The dynamic shape factor of sodium chloride nanoparticles as regulated by drying rate. *Aerosol Science and Technology* 44, 939-953, 2010.

Yang, H., Y. Zhang and U. Pöschl: Quantification of nitrotyrosine in nitrated proteins. *Analytical and Bioanalytical Chemistry* 397, 879-886, 2010.

Zhang, Y. Y., L. Müller, R. Winterhalter, G. K. Moortgat, T. Hoffmann and U. Pöschl: Seasonal cycle and temperature dependence of pinene oxidation products, dicarboxylic acids and nitrophenols in fine and coarse air particulate matter. *Atmospheric Chemistry and Physics* 10, 7859-7873, 2010.

## 2009

Anderson, T. L., R. A. Ackerman, D. L. Harmann, G. A. Isaac, S. Kinne, H. Masunaga., J. R. Norris, U. Pöschl, K. S. Schmidt, A. Slingo and Y. N. Takayabu: Temporal and Spatial Variability of Clouds and Related Aerosols. In: *Clouds in the Perturbed Climate System: Their Relationship to Energy Balance, Atmospheric Dynamics, and Precipitation*. J. Heintzenberg & R. J. Charlson (Eds.). MIT Press, Cambridge 2009, pp. 127-147 p. 597 (ISBN 978-0-262-01287-4), 2009.

Burrows, S. M., W. Elbert, M. G. Lawrence and U. Pöschl: Bacteria in the global atmosphere – Part 1: Review and synthesis of literature data for different ecosystems. *Atmospheric Chemistry and Physics* 9, 9263-9280, 2009.

Burrows, S. M., T. Butler, P. Jöckel, H. Tost, A. Kerckweg, U. Pöschl and M. G. Lawrence: Bacteria in the global atmosphere – Part 2: Modeling of emissions and transport between different ecosystems. *Atmospheric Chemistry and Physics* 9, 9281-9297, 2009.

Chen, Q., D. K. Farmer, J. Schneider, S. R. Zorn, C. L. Heald, T. G. Karl, A. Guenther, J. D. Allan, N. Robinson, H. Coe, J. R. Kimmel, T. Pauliquevis, S. Borrmann, U. Pöschl, M. O. Andreae, P. Artaxo, J. L. Jimenez and S. T. Martin: Mass spectral characterization of submicron biogenic organic particles in the Amazon Basin. *Geophysical Research Letters* 36, 10.1029/2009GL039880, 2009.

Cheng, Y. F., M. Berghof, R. M. Garland, A. Wiedensohler, B. Wehner, T. Müller, H. Su, Y. H. Zhang, P. Achtert, A. Nowak, U. Pöschl, T. Zhu, M. Hu and L. M. Zeng: Influence of soot mixing state on aerosol light absorption and single scattering albedo during air mass aging at a polluted regional site in northeastern China. *Journal of Geophysical Research* 114, 10.1029/2008JD010883, 2009.

Fröhlich-Nowoisky, J., D. A. Pickersgill, V. R. Després and U. Pöschl: High diversity of fungi in air particulate matter. *Proceedings of the National Academy of Sciences* 106, No. 31, 12814-12819, 2009.

Garland, R. M., O. Schmid, A. Nowak, P. Achtert, A. Wiedensohler, S. S. Gunthe, N. Takegawa, K. Kita, Y. Kondo, M. Hu, M. Shao, L. M. Zeng, T. Zhu, M. O. Andreae and U. Pöschl: Aerosol optical properties observed during Campaign of Air Quality Research in Beijing 2006 (CAREBeijing-2006): Characteristic differences between the inflow and outflow of Beijing city air. *Journal of Geophysical Research* 114, 10.1029/2008JD010780, 2009.

Gunthe, S., S. M. King, D. Rose, Q. Chen, P. Roldin, D. K. Famer, J. L. Jimenez, P. Artaxo, M. O. Andreae, S. T. Martin and U. Pöschl: Cloud condensation nuclei in pristine tropical rainforest air of Amazonia: size-resolved measurements and modeling of atmospheric aerosol composition and CCN activity. *Atmospheric Chemistry and Physics* 9, 7551-7575, 2009.

von Hessberg, C., P. von Hessberg, U. Pöschl, M. Bilde, O. J. Nielsen and G. K. Moortgat: Temperature and humidity dependence of secondary organic aerosol yield from the ozonolysis of  $\beta$ -pinene. *Atmospheric Chemistry and Physics* 9, 3583-3599, 2009.

Kulmala, M., A. Asmi, H. K. Lappalainen, K. S. Carslaw, U. Pöschl, U. Baltensperger, Ø. Hov, J.-L. Brenquier, S. N. Pandis, M. C. Facchini, H.-C. Hansson, A. Wiedensohler and C. O'Dowd: Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) – integrating aerosol research from nano to global scales. *Atmospheric Chemistry and Physics* 9, 2825-2841, 2009.

Mikhailov, E., S. Vlasenko, S. T. Martin, T. Koop and U. Pöschl: Amorphous and crystalline aerosol particles interacting with water vapor: conceptual framework and experimental evidence for restructuring, phase transitions and kinetic limitations. *Atmospheric Chemistry and Physics* 9, 9491-9522, 2009.

Monks, P. S., C. Granier, S. Fuzzi, A. Stohl, M. L. Williams, H. Akimoto, M. Amann, A. Baklano, U. Baltensperger, I. Bey, N. Blake, R. S. Blake, K. Carslaw, O. R. Cooper, F. Dentener, D. Fowler, E. Fragkou, G. J. Frost, S. Generoso, P. Ginoux, V. Grewe, A. Guenther, H. C. Hansson, S. Henne, J. Hijorth, A. Hofzumahaus, H. Huntrieser, I. S. A. Isaksen, M. E. Jenkin, J. Kaiser, M. Kanakidou, Z. Klimont, M. Kulmala, P. Laj, M. G. Lawrence, J. D. Lee, C. Liou, M. Maione, G. McFiggans, A. Metzger, A. Mieville, N. Moussiopoulos, J. J. Orlando, C. D. O'Dowd, P. I. Palmer, D. D. Parrish, A. Petzold, U. Platt, U. Pöschl, A. S. H. Prévôt, C. E. Reeves, S. Reimann, Y. Rudich, K. Sellegri, R. Steinbrecher, D. Simpson, H. ten Brink, J. Theloke, G. R. van der Werf, R. Vautard, V. Vestreng, C. Vlachokostas and R. von Glasow: Atmospheric composition change – global and regional air quality. *Atmospheric Environment* 43, 5268-5350, 2009.

Pöschl, U., D. Rose and M. O. Andreae: Climatologies of Cloud-related Aerosols. Part 2: Particle Hygroscopicity and Cloud Condensation Nucleus Activity. In: *Clouds in the Perturbed Climate System: Their Relationship to Energy Balance, Atmospheric Dynamics, and Precipitation*. J. Heintzenberg & R. J. Charlson (Eds.). MIT Press, Cambridge 2009, pp. 58-72, p. 597 (ISBN 978-0-262-01287-4), 2009.

Prezzi, A. J., M. D. Petters, S. M. Kreidenweis, C. L. Heald, S. T. Martin, P. Artaxo, R. M. Garland, A. G. Wollny and U. Pöschl: Relative roles of biogenic emissions and Saharan dust as ice nuclei in the Amazon basin. *Nature Geoscience* 2, 402-404, 2009.

Reutter, P., H. Su, J. Trentmann, M. Simmel, D. Rose, S. S. Gunthe, H. Wernli, M. O. Andreae and U. Pöschl: Aerosol- and updraft-limited regimes of cloud droplet formation: influence of particle number, size and hygroscopicity on the activation of cloud condensation nuclei (CCN). *Atmospheric Chemistry and Physics* 9, 7067-7080, 2009.

Shiraiwa, M., R. M. Garland and U. Pöschl: Kinetic double-layer model of aerosol surface chemistry and gas-particle interactions (K2-SURF): Degradation of polycyclic aromatic hydrocarbons exposed to O<sub>3</sub>, NO<sub>2</sub>, H<sub>2</sub>O, OH and NO<sub>3</sub>. *Atmospheric Chemistry and Physics* 9, 9571-9586, 2009.

Wehner, B., M. Berghof, Y. F. Cheng, P. Achtert, W. Birmili, A. Nowak, A. Wiedensohler, R. M. Garland, U. Pöschl, M. Hu and T. Zhu: Mixing state of non-volatile aerosol particle fractions and comparison with light absorption in the polluted Beijing region. *Journal of Geophysical Research* 114, 10.1029/2008JD010923, 2009.

Wiedensohler, A., Y. F. Cheng, A. Nowak, B. Wehner, P. Achtert, M. Berghof, W. Birmili, Z. J. Wu, M. Hu, T. Zhu, N. Takegawa, K. Kita, Y. Kondo, S. R. Lou, A. Hofzumahaus, F. Holland, A. Wahner, S. S. Gunthe, D. Rose and U. Pöschl: Rapid aerosol particle growth and increase of cloud condensation nucleus activity by secondary aerosol formation and condensation: A case study for regional air pollution in northeastern China. *Journal of Geophysical Research* 114, 10.1029/2008JD010884, 2009.

**2008**

Adelhelm, C., R. Niessner, U. Pöschl and T. Letzel: Analysis of large oxygenated and nitrated polycyclic aromatic hydrocarbons formed under simulated diesel engine exhaust conditions (by compound fingerprints with SPE/LC-API-MS). *Analytical and Bioanalytical Chemistry* 391, 2599-2608, 2008.

Deguillaume, L., M. Leriche, P. Amato, P. A. Ariya, A.-M. Delort, U. Pöschl, N. Chaumerliac, H. Bauer, A. I. Flossmann and C. E. Morris: Microbiology and atmospheric processes: chemical interactions of primary biological aerosols. *Biogeosciences* 5, 1073-1084, 2008.

Garland, R. M., H. Yang, O. Schmid, D. Rose, A. Nowak, P. Achtert, A. Wiedensohler, N. Takegawa, K. Kita, Y. Miyazaki, Y. Kondo, M. Hu, M. Shao, L. M. Zeng, Y. H. Zhang, M. O. Andreae and U. Pöschl: Aerosol optical properties in a rural environment near the mega-city Guangzhou, China: implications for regional air pollution, radiative forcing and remote sensing. *Atmospheric Chemistry and Physics* 8, 5161-5186, 2008.

Held, A., A. Zerrath, U. McKeon, T. Fehrenbach, R. Niessner, C. Plass-Dülmer, U. Kaminski, H. Berresheim and U. Pöschl: Aerosol size distributions measured in urban, rural and high-alpine air with an electrical low pressure impactor (ELPI). *Atmospheric Environment* 42, 8502-8512, 2008.

Hock, N., J. Schneider, S. Borrmann, A. Römpf, G. Moortgat, T. Franze, C. Schauer, U. Pöschl, C. Plass-Dülmer and H. Berresheim: Rural continental aerosol properties and processes observed during the Hohenpreissenberg Aerosol Characterization Experiment (HAZE2002). *Atmospheric Chemistry and Physics* 8, 603-623, 2008.

Rose, D., S. S. Gunthe, E. Mikhailov, G. P. Frank, U. Dusek, M. O. Andreae and U. Pöschl: Calibration and measurement uncertainties of a continuous-flow cloud condensation nuclei counter (DMT-CCNC): CCN activation of ammonium sulfate and sodium chloride aerosol particles in theory and experiment. *Atmospheric Chemistry and Physics* 8, 1153-1179, 2008.

Xie, Z.-Q., R. Sander, U. Pöschl and F. Slemr: Simulation of atmospheric mercury depletion events (AMDEs) during polar springtime using the MECCA box model. *Atmospheric Chemistry and Physics* 8, 7165-7180, 2008.

Xu, Z.-Q., X. Wang, U. Pöschl, S. Feng, D. Wu, L. Yang, S. Li, W. Song, G. Sheng and J. Fu: Genotoxicity of total and fractionated extractable organic matter in fine aerosol particles from urban Guangzhou: Comparison between haze and non-haze episodes. *Environmental Toxicology and Chemistry* 27, 206-212, 2008.

**2007**

Ammann, M. and U. Pöschl: Kinetic model framework for aerosol and cloud surface chemistry and gas-particle interactions – Part 2: Exemplary practical applications and numerical simulations. *Atmospheric Chemistry and Physics* 7, 6025-6045, 2007.

Després, V. R., J. F. Nowoisky, M. Klose, R. Conrad, M. O. Andreae and U. Pöschl: Characterization of primary biogenic aerosol particles in urban, rural, and high-alpine air by DNA sequence and restriction fragment analysis of ribosomal RNA genes. *Biogeosciences* 4, 1127-1141, 2007.

Ding, X., X.-M. Wang, Z.-Q. Xie, C.-H. Xiang, B.-X. Mai, L.-G. Sun, M. Zheng, G.-Y. Sheng, J.-M. Fu and U. Pöschl: Atmospheric polycyclic aromatic hydrocarbons observed over the North Pacific Ocean and the Arctic area: Spatial distribution and source identification. *Atmospheric Environment* 41, 2061-2072, 2007.

Elbert, W., P. E. Taylor, M. O. Andreae and U. Pöschl: Contribution of fungi to primary biogenic aerosols in the atmosphere: wet and dry discharged spores, carbohydrates, and inorganic ions. *Atmospheric Chemistry and Physics* 7, 4569-4588, 2007.

Ivleva, N. P., U. McKeon, R. Niessner and U. Pöschl: Raman microspectroscopic analysis of size-resolved atmospheric aerosol particle samples collected with and ELPI: Soot, humic-like substances, and inorganic compounds. *Aerosol Science and Technology* 41, 655-671, 2007.

Ivleva, N. P., A. Messerer, X. Yang, R. Niessner and U. Pöschl: Raman microspectroscopic analysis of changes in the chemical structure and reactivity of soot in a diesel exhaust aftertreatment model system. *Environmental Science & Technology* 41, 3702-3707, 2007.

Kuhn, U., M. O. Andreae, C. Ammann, A. C. Araújo, E. Brancaleoni, P. Ciccioli, T. Dindorf, M. Frattoni, L. V. Gatti, L. Ganzeveld, B. Kruijt, J. Lelieveld, J. Lloyd, F. X. Meixner, A. D. Nobre, U. Pöschl, C. Spirig, P. Stefani, A. Thielmann, R. Valentini and J. Kesselmeier: Isoprene and monoterpene fluxes from Central Amazonian rainforest inferred from tower-based and airborne measurements, and implications on the atmospheric chemistry and the local carbon budget. *Atmospheric Chemistry and Physics* 7, 2855-2879, 2007.

Messerer, A., V. Schmatloch, U. Pöschl and R. Niessner: Combined particle emission reduction and heat recovery from combustion exhaust – A novel approach for small wood-fired appliances. *Biomass and Bioenergy* 31, 512-521, 2007.

Pöschl, U., Y. Rudich and M. Ammann: Kinetic model framework for aerosol and cloud surface chemistry and gas-particle interactions – Part 1: General equations, parameters, and terminology. *Atmospheric Chemistry and Physics* 7, 5989-6023, 2007.

## 2006

Fuzzi, S., M. O. Andreae, B. J. Huebert, M. Kulmala, T. C. Bond, M. Boy, S. J. Doherty, A. Guenther, M. Kanakidou, K. Kawamura, V.-M. Kerminen, U. Lohmann, L. M. Russell and U.



Pöschl: Critical assessment of the current state of scientific knowledge, terminology, and research needs concerning the role of organic aerosols in the atmosphere, climate, and global change. *Atmospheric Chemistry and Physics* 6, 2017-2038, 2006.

Gruijthuisen, Y. K., I. Grieshuber, A. Stöcklinger, U. Tischler, T. Fehrenbach, M. G. Weller, L. Vogel, S. Vieths, U. Pöschl and A. Duschl: Nitration enhances the allergenic potential of proteins. *International Archives of Allergy and Immunology* 141, No. 3, 265-275, 2006.

Messerer, A., R. Niessner and U. Pöschl: Comprehensive kinetic characterisation of the oxidation and gasification of model and real diesel soot by nitrogen oxides and oxygen under engine exhaust conditions: Measurement, Langmuir-Hinshelwood, and Arrhenius parameters. *Carbon* 44, 307-324, 2006.

Messerer, A., U. Pöschl, R. Niessner and D. Rothe: Soot particle deposition efficiency of diesel PM catalyst structures – The influence of structure geometry and transient temperature inhomogeneities. *SAE Technical Papers* 2006-01-3288, 2006.

## **2005**

Franze, T., M. G. Weller, R. Niessner and U. Pöschl: Protein nitration by polluted air. *Environmental Science & Technology* 39, 1673-1678, 2005.

Messerer, A., D. Rothe, R. Niessner and U. Pöschl: Kinetische Betrachtungen und Modellrechnungen zur kontinuierlichen Regeneration von NFZ-Dieselsaßpartikelabscheidesystemen. *Chemie Ingenieur Technik* 77, No. 7, 881-886, 2005.

Pöschl, U.: Atmospheric aerosols: Composition, transformation, climate and health effects. *Angewandte Chemie International Edition* 44, No. 46, 7520-7540, 2005.

Pöschl, U.: Atmosphärische Aerosole: Zusammensetzung, Transformation, Klima- und Gesundheitseffekte. *Angewandte Chemie* 117, No. 46, 7690-7712, 2005.

Sadezky, A., H. Muckenhuber, H. Grothe, R. Niessner and U. Pöschl: Raman microspectroscopy of soot and related carbonaceous materials: spectral analysis and structural information. *Carbon* 43, 1731-1742, 2005.

## **2004**

Franze, T., M. G. Weller, R. Niessner and U. Pöschl: Comparison of nitrotyrosine antibodies and development of immunoassays for the detection of nitrated proteins. *Analyst* 129, 589-596, 2004.

von Kuhlmann, R., M. G. Lawrence, U. Pöschl and P. J. Crutzen: Sensitivities in global scale modeling of isoprene. *Atmospheric Chemistry and Physics* 4, 1-17, 2004.

Messerer, A. K., R. Niessner and U. Pöschl: Miniature pipe bundle heat exchanger for thermophoretic deposition of ultrafine soot aerosol particles at high flow velocities. *Aerosol Science and Technology* 38, 456-466, 2004.

Messerer, A., D. Rothe, U. Pöschl and R. Niessner: Advances in the development of filterless soot deposition systems for the continuous removal of diesel particulate matter. *Topics in Catalysis* 30/31, 247-250, 2004.

Messerer, A., H.-J. Schmid, C. Knab, U. Pöschl and R. Niessner: Erhöhung der Abscheidung ultrafeiner Dieselrußpartikeln durch Mikrokugelbeschichtung auf metallträgerbasierten Katalysatorstrukturen. *Chemie Ingenieur Technik* 76, 1092-1096, 2004.

Mikhailov, E., S. Vlasenko, R. Niessner and U. Pöschl: Interaction of aerosol particles composed of protein and inorganic salts with water vapor: microstructural rearrangement and hygroscopic growth. *Atmospheric Chemistry and Physics* 4, 323-350, 2004.

Rothe, D., F. I. Zuther, E. Jacob, A. Messerer, U. Pöschl, R. Niessner, C. Knab, M. Mangold and C. Mangold: New strategies for soot emission reduction of HD vehicles. *SAE Technical Papers* 2004-01-3024, 2004.

Su, D. S., R. Jentoft, J.-O. Müller, D. Rothe, E. Jacob, C. D. Simpson, K. Müllen, A. Messerer, U. Pöschl, R. Niessner and R. Schlögl: Microstructure and oxidation behaviour of Euro IV diesel engine soot: a comparative study with synthetic model soot substances. *Catalysis Today* 90, 127-132, 2004.

Schauer, C., R. Niessner and U. Pöschl: Analysis of nitrated polycyclic aromatic hydrocarbons by liquid chromatography with fluorescence and mass spectrometry detection: air particulate matter, soot, and reaction product studies. *Analytical and Bioanalytical Chemistry* 378, 725-736, 2004.

## **2003**

Ammann, M., U. Pöschl and Y. Rudich: Effects of reversible adsorption and Langmuir-Hinshelwood surface reactions on gas uptake by atmospheric particles. *Physical Chemistry Chemical Physics* 5, 351-356, 2003.

Bömmel, H., M. Haake, P. Luft, J. Horejs-Hoeck, H. Hein, J. Bartels, C. Schauer, U. Pöschl, M. Kracht and A. Duschl: The diesel exhaust component pyrene induces expression of IL-8 but not of eotaxin. *International Immunopharmacology* 3, 1371-1379, 2003.

Franze, T., M. G. Weller, R. Niessner and U. Pöschl: Enzyme immunoassays for the investigation of protein nitration by air pollutants. *Analyst* 128, 824-831, 2003.

Letzel, T., C. Schauer, R. Niessner and U. Pöschl: Flow tube with mobile sampling orifice: a compact reaction system for toxic and corrosive gases and aerosols. *Chemical Engineering and Technology* 26, 1051-1054, 2003.

Messerer, A. K., R. Niessner and U. Pöschl: Thermophoretic deposition of soot aerosol particles under experimental conditions relevant for modern diesel engine exhaust gas systems. *Journal of Aerosol Science* 34, 1009-1021, 2003.

Pöschl, U.: Aerosol particle analysis: challenges and progress. *Analytical and Bioanalytical Chemistry* 375, 30-32, 2003.

Saathoff, H., K.-H. Naumann, M. Schnaiter, W. Schöck, E. Weingartner, U. Baltensperger, L. Krämer, Z. Bozoki, U. Pöschl, R. Niessner and U. Schurath: Carbon mass determinations during the AIDA soot aerosol campaign 1999. *Journal of Aerosol Science* 34, 1399-1420, 2003.

Schauer, C., R. Niessner and U. Pöschl: Polycyclic aromatic hydrocarbons in urban air particulate matter: decadal and seasonal trends, chemical degradation, and sampling artifacts. *Environmental Science and Technology* 37, 2861-2868, 2003.

Walcher, W., T. Franze, M. G. Weller, U. Pöschl, C. G. Huber: Liquid- and gas-phase nitration of bovine serum albumin studied by LC-MS and LC-MS-MS using monolithic columns. *Journal of Proteome Research* 2, 534-542, 2003.

## **2002**

Letzel, T., C. Schauer, U. Pöschl and R. Niessner: Strömungsrohr mit mobilem Probenahmekopf: Kompaktes Reaktionssystem für toxische und korrosive Gase und Aerosole. *Chemie Ingenieur Technik* 74, 1148-1151, 2002.

Pöschl, U.: Formation and decomposition of hazardous chemical components contained in atmospheric aerosol particles. *Journal of Aerosol Medicine* 15, 203-212, 2002.

## **2001**

Letzel, T., U. Pöschl, R. Wissiack, E. Rosenberg, M. Grasserbauer and R. Niessner: Phenyl-modified reversed phase liquid chromatography coupled to atmospheric pressure chemical ionization mass spectrometry: a universal method for the analysis of partially oxidized aromatic hydrocarbons. *Analytical Chemistry* 73, 1634-1645, 2001.

Pöschl, U., T. Letzel, C. Schauer and R. Niessner: Interaction of ozone and water vapor with spark discharge soot aerosol particles coated with benzo[a]pyrene: O<sub>3</sub> and H<sub>2</sub>O adsorption, benzo[a]pyrene degradation and atmospheric implications. *Journal of Physical Chemistry A* 105, 4029-4041, 2001.

Pöschl, U., J. Williams, P. Hoor, H. Fischer, P.J. Crutzen, C. Warneke, R. Holzinger, A. Hansel, A. Jordan, W. Lindinger, B. Scheeren, W. Peters and J. Lelieveld: High acetone concentrations throughout the 0-12 km altitude range over the tropical rainforest in Surinam. *Journal of Atmospheric Chemistry* 38, 115-132, 2001.

Warneke, C., R. Holzinger, A. Hansel, A. Jordan, W. Lindinger, U. Pöschl, J. Williams, P. Hoor, H. Fischer, P. Crutzen, H.A. Scheeren and J. Lelieveld: Isoprene and its oxidation products methyl vinyl ketone, methacrolein, and isoprene related peroxides measured online over the tropical rain forest of Surinam in March 1998. *Journal of Atmospheric Chemistry* 38, 167-185, 2001.

Williams, J., H. Fischer, P. Hoor, U. Pöschl, P. J. Crutzen, M. O. Andreae and J. Lelieveld: The influence of the tropical rain forest on Atmospheric CO and CO<sub>2</sub> as measured by aircraft over Surinam, South America. *Chemosphere - Global Change Science* 3, 157-170, 2001.

Williams, J., U. Pöschl, P.J. Crutzen, A. Hansel, R. Holzinger, C. Warneke, W. Lindinger and J. Lelieveld: An atmospheric chemistry interpretation of mass scans obtained from a proton transfer mass spectrometer flown over the tropical rainforest of Surinam. *Journal of Atmospheric Chemistry* 38, 133-166, 2001.

## 2000

Brühl, C., U. Pöschl, P. J. Crutzen and B. Steil: Acetone and PAN in the upper troposphere: impact on ozone production from aircraft emissions. *Atmospheric Environment* 34, 3931-3938, 2000.

Crutzen, P. J., J. Williams, U. Pöschl, A. Hansel, R. Holzinger, C. Warneke, W. Lindinger and J. Lelieveld: High spatial and temporal resolution measurements of primary organics and their oxidation products over the tropical forests of Surinam. *Atmospheric Environment* 34, 1161-1165, 2000.

Krämer, L., U. Pöschl and R. Niessner: Microstructural rearrangement of sodium chloride condensation aerosol particles on interaction with water vapor. *Journal of Aerosol Science* 31, 673-685, 2000.

Pöschl, U., N. Poisson, R. von Kuhlmann and P. J. Crutzen: Development and intercomparison of condensed isoprene oxidation mechanisms for global atmospheric modeling. *Journal of Atmospheric Chemistry* 37, 29-52, 2000.

Pöschl, U., M. G. Lawrence, R. von Kuhlmann and P. J. Crutzen: Comment on 'Methane photooxidation in the atmosphere: Contrast between two methods of analysis'. *Journal of Geophysical Research* 105 (D1), 1431-1433, 2000.

## 1999

Crutzen, P. J., M. G. Lawrence and U. Pöschl: On the background photochemistry of tropospheric ozone. *Tellus* 51A-B, 123-146, 1999.

Letzel, T., U. Pöschl, E. Rosenberg, M. Grasserbauer and R. Niessner: In-source fragmentation of partially oxidized mono- and polycyclic aromatic hydrocarbons in atmospheric pressure chemical ionization mass spectrometry coupled to liquid chromatography. *Rapid Communications in Mass Spectrometry* 13, 2456-2468, 1999.

Waibel, A. E., T. Peter, K. S. Carslaw, H. Oelhaf, G. Wetzel, P.J. Crutzen, U. Pöschl, A. Tsias, E. Reimer and H. Fischer: Arctic ozone loss due to denitrification. *Science* 283, 2064-2069, 1999.

## 1998

Pöschl, U., M. Canagaratna, J. T. Jayne, L. T. Molina, D. R. Worsnop, C. E. Kolb and M. J. Molina: Mass accommodation coefficient of H<sub>2</sub>SO<sub>4</sub> vapor on aqueous sulfuric acid surfaces and gaseous diffusion coefficient of H<sub>2</sub>SO<sub>4</sub> in N<sub>2</sub>/H<sub>2</sub>O. *Journal of Physical Chemistry A* 102, 10082-10089, 1998.

## 1997

Jayne, J. T., U. Pöschl, Y. Chen, D. Dai, L. T. Molina, D. R. Worsnop, C. E. Kolb and M. J. Molina: Pressure and Temperature Dependence of the Gas-Phase Reaction of SO<sub>3</sub> with H<sub>2</sub>O and the Heterogeneous Reaction of SO<sub>3</sub> with H<sub>2</sub>O/H<sub>2</sub>SO<sub>4</sub> Surfaces. *Journal of Physical Chemistry A* 101, 10000-10011, 1997.

## 1996

Pöschl, U. and K. Hassler: Synthesis and spectroscopy of halogenated cyclopentasilanes. *Organometallics* 15, 3238-3240, 1996.

Pöschl, U., H. Siegl and K. Hassler: Synthesis, spectroscopy and structure of phenylated cyclopentasilanes. *Journal of Organometallic Chemistry* 506, 93-100, 1996.

## 1995

Pöschl, U. and K. Hassler: Synthesis and isomerism of monofunctional arylated cyclotetrasilanes. *Organometallics* 14, 4948-4952, 1995.

**1991**

Mischitz, M., U. Pöschl and K. Faber: Limitations of enzymatic acylation using oxime esters: co-substrate inhibition and the reversibility of the reaction. *Biotechnology Letters* 13, 653-656, 1991.