

**Supplementary Table 1** - List of studies, ordered by alphabetical first author surname, retrieved in our systematic review of the literature on 35-years of *in situ* aerosols-PBAPs research in Brazil (from 1986 until 31<sup>st</sup> December 2021).

| Study Number | Authors              | Journal                                | Year | Title  |
|--------------|----------------------|--|------|--|
| 1            | Adachi et al., 2020  | Atmospheric Chemistry and Physics      | 2020 | Mixing states of Amazon basin aerosol particles transported over long distances using transmission electron microscopy   |
| 2            | Ahlm et al., 2009    | Atmospheric Chemistry and Physics      | 2009 | Aerosol number fluxes over the Amazon rain forest during the wet season  |
| 3            | Ahlm et al., 2010a   | Atmospheric Chemistry and Physics      | 2010 | A comparison of dry and wet season aerosol number fluxes over the Amazon rain forest   |
| 4            | Ahlm et al., 2010b   | Atmospheric Chemistry and Physics      | 2010 | Emission and dry deposition of accumulation mode particles in the Amazon Basin   |
| 5            | Almeida et al., 2014 | Atmospheric Chemistry and Physics      | 2014 | Measured and modelled cloud condensation nuclei (CCN) concentration in São Paulo, Brazil: the importance of aerosol size-resolved chemical composition on CCN concentration prediction |
| 6            | Alves et al., 2011   | Ecotoxicology and Environmental Safety | 2011 | Genotoxicity and composition of particulate matter from biomass burning in the eastern Brazilian Amazon region   |
| 7            | Alves et al., 2014   | Environmental Research                 | 2014 | Genetic damage of organic matter in the Brazilian Amazon: a comparative study between intense and moderate biomass burning   |
| 8            | Alves et al., 2015   | Atmospheric Environment                | 2015 | Biomass burning in the Amazon region: aerosol source apportionment and a associated health risk assessment   |
| 9            | Alves et al., 2017   | Scientific Reports                     | 2017 | Biomass burning in the Amazon region causes DNA damage and cell death in human lung cells  |
| 10           | Alves et al., 2018   | Brazilian Journal of Botany            | 2018 | Airborne palynomorphs on Trindade Island, South Atlantic Ocean, Brazil   |
| 11           | Andreae et al., 1988 | Journal of Geophysical Research        | 1988 | Biomass-burning emissions and associated haze layers over Amazonia   |
| 12           | Andreae et al., 2001 | Geophysical Research Letters           | 2001 | Transport of biomass burning smoke to the upper troposphere by deep convection in the equatorial region  |
| 13           | Andreae et al., 2002 | Journal of Geophysical Research        | 2002 | Biogeochemical cycling of carbon, water, energy, trace gases, and aerosols in Amazonia: the LBA-EUSTACH experiments  |
| 14           | Andreae et al., 2004 | Science                                | 2004 | Smoking rain clouds over the Amazon  |

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| 15 | Andreae et al., 2012   | Atmospheric Chemistry and Physics                     | 2012 | Carbon monoxide and related trace gases and aerosols over the Amazon Basin during the wet and dry seasons                              |
| 16 | Andreae et al., 2018   | Atmospheric Chemistry and Physics                     | 2018 | Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin   |
| 17 | Arana & Artaxo, 2014   | Química Nova  | 2014 | Composição elementar do aerossol atmosférico na região central da Bacia Amazônica  |
| 18 | Arana et al., 2014     | X-Ray Spectrometry                                    | 2014 | Optimized energy dispersive X-ray fluorescence analysis of atmospheric aerosols collected at pristine and perturbed Amazon Basin sites |
| 19 | Araujo et al., 2019    | Scientific Reports                                    | 2019 | Survival and ice nucleation activity of <i>Pseudomonas syringae</i> strains exposed to simulated high-altitude atmospheric conditions  |
| 20 | Artaxo & Hansson, 1995 | Atmospheric Environment                               | 1995 | Size distribution of biogenic aerosol particles from the Amazon Basin  |
| 21 | Artaxo & Orsini, 1987  | Nuclear Instruments and Methods in Physics Research B | 1987 | PIXE and receptor models applied to remote aerosol source apportionment in Brazil  |
| 22 | Artaxo et al., 1988    | Journal of Geophysical Research                       | 1988 | Composition and Sources of Aerosols From the Amazon Basin  |
| 23 | Artaxo et al., 1990    | Journal of Geophysical Research                       | 1990 | Aerosol characteristics and sources for the Amazon Basin during the wet season   |
| 24 | Artaxo et al., 1992    | Nuclear Instruments and Methods in Physics Research B | 1992 | A new technique to measure trace elements in individual aerosol particles through scanning proton microprobe                           |
| 25 | Artaxo et al., 1993a   | Nuclear Instruments and Methods in Physics Research B | 1993 | Elemental composition of aerosol particles from two atmospheric monitoring stations in the Amazon Basin                                |
| 26 | Artaxo et al., 1993b   | Nuclear Instruments and Methods in Physics Research B | 1993 | Nuclear microprobe analysis and source apportionment of individual atmospheric aerosol particles                                       |
| 27 | Artaxo et al., 1994    | Journal of Geophysical Research                       | 1994 | Fine mode aerosol composition at three long-term atmospheric monitoring sites in the Amazon Basin                                      |
| 28 | Artaxo et al., 1998    | Journal of Geophysical Research                       | 1998 | Large-scale aerosol source apportionment in Amazonia   |
| 29 | Artaxo et al., 1999    | Nuclear Instruments and Methods in Physics Research B | 1999 | Analysis of atmospheric aerosols by PIXE: the importance of real time and complementary measurements                                   |
| 30 | Artaxo et al., 2000    | Atmospheric Environment                               | 2000 | Large scale mercury and trace element measurements in the Amazon basin   |
| 31 | Artaxo et al., 2002    | Journal of Geophysical Research                       | 2002 | Physical and chemical properties of aerosols in the wet and dry seasons in Rondônia, Amazonia  |

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| 32 | Artaxo et al., 2013         | Faraday Discussions                                  | 2013 | Atmospheric aerosols in Amazonia and land use change: from natural biogenic to biomass burning conditions   |
| 33 | Backman et al., 2012        | Atmospheric Chemistry and Physics                    | 2012 | On the diurnal cycle of urban aerosols, black carbon and the occurrence of new particle formation events in springtime São Paulo, Brazil          |
| 34 | Barreiros et al., 2015      | Mycoses  | 2015 | Effect of the implosion and demolition of a hospital building on the concentration of fungi in the air  |
| 35 | Bateman et al., 2015        | Nature Geoscience                                    | 2015 | Sub-micrometre particulate matter is primarily in liquid form over Amazon rainforest  |
| 36 | Bateman et al., 2017        | Atmospheric Chemistry and Physics                    | 2017 | Anthropogenic influences on the physical state of submicron particulate matter over a tropical forest   |
| 37 | Ben-Ami et al., 2010        | Atmospheric Chemistry and Physics                    | 2010 | Transport of North African dust from the Bodélé depression to the Amazon Basin: a case study  |
| 38 | Bernardi & Nascimento, 2005 | Arquivos do Instituto Biológico                      | 2005 | Airborne fungi at Laranjal Beach, Pelotas, Rio Grande do Sul, Brazil  |
| 39 | Bezerra et al., 2014        | Revista da Sociedade Brasileira de Medicina Tropical | 2014 | Diversity and dynamics of airborne fungi in São Luis, State of Maranhão, Brazil   |
| 40 | Blazsó et al., 2003         | Journal of Analytical and Applied Pyrolysis          | 2003 | Study of tropical organic aerosol by thermally assisted alkylation-gas chromatography mass spectrometry   |
| 41 | Braga et al., 2017a         | Atmospheric Chemistry and Physics                    | 2017 | Comparing parameterized versus measured microphysical properties of tropical convective cloud bases during the ACRIDICON-CHUVA campaign           |
| 42 | Braga et al., 2017b         | Atmospheric Chemistry and Physics                    | 2017 | Further evidence for CCN aerosol concentrations determining the height of warm rain and ice initiation in convective clouds over the Amazon basin |
| 43 | Brickus et al., 1998        | Indoor and Built Environment                         | 1998 | Occurrence of airborne bacteria and fungi in bayside offices in Rio de Janeiro, Brazil  |
| 44 | Brito et al., 2014          | Atmospheric Chemistry and Physics                    | 2014 | Ground-based aerosol characterization during the South American Biomass Burning Analysis (SAMBBA) field experiment                                |
| 45 | Brito et al., 2018          | Scientific Reports                                   | 2018 | Disentangling vehicular emission impact on urban air pollution using ethanol as a tracer  |
| 46 | Browell et al., 1988        | Journal of Geophysical Research                      | 1988 | Tropospheric ozone and aerosol distributions across the Amazon Basin  |
| 47 | Cançado et al., 2006        | Environmental Health Perspectives                    | 2006 | The impact of sugar cane burning emissions on the respiratory system of children and elderly  |

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| 48 | Castanho et al., 2001  | Atmospheric Environment                        | 2001 | Wintertime and summertime São Paulo aerosol source apportionment study   |
| 49 | Cecchini et al., 2014  | Atmospheric Research                           | 2014 | Droplet size distributions as a function of rainy system type and cloud condensation nuclei concentrations   |
| 50 | Cecchini et al., 2016  | Atmospheric Chemistry and Physics              | 2016 | Impacts of the Manaus pollution plume on the microphysical properties of Amazonian warm-phase clouds in the wet season   |
| 51 | Cecchini et al., 2017a | Atmospheric Chemistry and Physics              | 2017 | Illustration of microphysical processes in Amazonian deep convective clouds in the gamma phase space: introduction and potential applications  |
| 52 | Cecchini et al., 2017b | Atmospheric Chemistry and Physics              | 2017 | Sensitivities of Amazonian clouds to aerosols and updraft speed  |
| 53 | Chand et al., 2006     | Atmospheric Chemistry and Physics              | 2006 | Optical and physical properties of aerosols in the boundary layer and free troposphere over the Amazon Basin during the biomass burning season   |
| 54 | Chen et al., 2009      | Geophysical Research Letters                   | 2009 | Mass spectral characterization of submicron biogenic organic particles in the Amazon Basin   |
| 55 | Chen et al., 2015      | Atmospheric Chemistry and Physics              | 2015 | Submicron particle mass concentrations and sources in the Amazonian wet season (AMAZE-08)  |
| 56 | China et al., 2016     | Environmental Science and Technology           | 2016 | Rupturing of biological spores as a source of secondary particles in Amazonia  |
| 57 | China et al., 2018     | Nature Communications                          | 2018 | Fungal spores as a source of sodium salt particles in the Amazon basin   |
| 58 | Cirino et al., 2018    | Atmospheric Environment                        | 2018 | Observations of Manaus urban plume evolution and interaction with biogenic emissions in GoAmazon 2014/5  |
| 59 | Claeys et al., 2004    | Science  | 2004 | Formation of secondary organic aerosols through photooxidation of isoprene   |
| 60 | Claeys et al., 2010    | Atmospheric Chemistry and Physics              | 2010 | Polar organic marker compounds in atmospheric aerosols during the LBA-SMOCC 2002 biomass burning experiment in Rondônia, Brazil: sources and source processes, time series, diel variations and size distributions |
| 61 | Croce et al., 2003     | Revista Brasileira de Alergia e Imunopatologia | 2003 | Study of fungi in the air of Botucatu, Brazil and their correlation with sensitization in patients with respiratory allergic diseases  |

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| 62 | Darbyshire et al., 2019 | Atmospheric Chemistry and Physics | 2019 | The vertical distribution of biomass burning pollution over tropical South America from aircraft in situ measurements during SAMBBA                                |
| 63 | Decesari et al., 2006   | Atmospheric Chemistry and Physics | 2006 | Characterization of the organic composition of aerosols from Rondônia, Brazil, during the LBA-SMOCC 2002 experiment and its representation through model compounds |
| 64 | Degobbi et al., 2011    | Atmospheric Environment           | 2011 | Correlation of fungi and endotoxin with PM <sub>2.5</sub> and meteorological parameters in atmosphere of São Paulo, Brazil   |
| 65 | Ebben et al., 2011      | Atmospheric Chemistry and Physics | 2011 | Contrasting organic aerosol particles from boreal and tropical forests during HUMPPA-COPEC-2010 and AMAZE-08 using coherent vibrational spectroscopy               |
| 66 | Ebben et al., 2012      | Journal of Physical Chemistry     | 2012 | Organic constituents on the surfaces of aerosol particles from Southern Finland, Amazonia, and California studied by vibrational sum frequency generation          |
| 67 | Echalarret al., 1995    | Geophysical Research Letters      | 1995 | Aerosol emissions by tropical forest and savanna biomass burning: characteristic trace elements and fluxes   |
| 68 | Echalarret al., 1998    | Geophysical Research Letters      | 1998 | Long-term monitoring of atmospheric aerosols in the Amazon Basin: source identification and apportionment  |
| 69 | Eck et al., 2003        | Geophysical Research Letters      | 2003 | High aerosol optical depth biomass burning events: a comparison of optical properties for different source regions   |
| 70 | Ekström et al., 2010    | Biogeosciences                    | 2010 | A possible role of ground-based microorganisms on cloud formation in the atmosphere  |
| 71 | Emygdio et al., 2018a   | Science of the Total Environment  | 2018 | Biomarkers as indicators of fungal biomass in the atmosphere of São Paulo, Brazil  |
| 72 | Emygdio et al., 2018b   | Journal of Aerosol Science        | 2018 | One year of temporal characterization of fungal spore concentration in São Paulo metropolitan area, Brazil   |
| 73 | Falkovich et al., 2005  | Atmospheric Chemistry and Physics | 2005 | Low molecular weight organic acids in aerosol particles from Rondônia, Brazil, during the biomass-burning, transition and wet periods                              |
| 74 | Fan et al., 2018        | Science                           | 2018 | Substantial convection and precipitation enhancements by ultrafine aerosol particles   |
| 75 | Farmer et al., 2013     | Aerosol Science and Technology    | 2013 | Chemically resolved particle fluxes over tropical and temperate forests  |
| 76 | Folloni et al., 2012    | Molecular Ecology Resources       | 2012 | Detection of airborne genetically modified maize pollen by real-time PCR   |

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| 77 | Formenti et al., 2001          | Journal of Geophysical Research                       | 2001 | Saharan dust in Brazil and Suriname during the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA) - Cooperative LBA Regional Experiment (CLAIRE) in March 1998                            |
| 78 | Fraund et al., 2017            | Atmosphere  | 2017 | Elemental mixing state of aerosol particles collected in Central Amazonia during GoAmazon2014/15   |
| 79 | Freud et al., 2008             | Atmospheric Chemistry and Physics                     | 2008 | Robust relations between CCN and the vertical evolution of cloud drop size distribution in deep convective clouds  |
| 80 | Fröhlich-Nowoisky et al., 2012 | Biogeosciences  | 2012 | Biogeography in the air: fungal diversity over land and oceans   |
| 81 | Fuzzi et al., 2007             | Journal of Geophysical Research                       | 2007 | Overview of the inorganic and organic composition of size-segregated aerosol in Rondônia, Brazil, from the biomass-burning period to the onset of the wet season                                     |
| 82 | Galvão et al., 2018            | Environmental Pollution                               | 2018 | Biomass burning particles in the Brazilian Amazon region: mutagenic effects of nitro and oxy-PAHs and assessment of health risks   |
| 83 | Gerab et al., 1998a            | Nuclear Instruments and Methods in Physics Research B | 1998 | PIXE, PIGE and ion chromatography of aerosol particles from northeast Amazon Basin   |
| 84 | Gerab et al., 1998b            | Nuclear Instruments and Methods in Physics Research B | 1998 | Scanning proton microprobe applied to analysis of individual aerosol particles from Amazon Basin   |
| 85 | Gilardoni et al., 2011         | Atmospheric Chemistry and Physics                     | 2011 | Sources of carbonaceous aerosol in the Amazon basin  |
| 86 | Glicker et al., 2019           | Atmospheric Chemistry and Physics                     | 2019 | Chemical composition of ultrafine aerosol particles in central Amazonia during the wet season  |
| 87 | Godoy et al., 2005             | Atmospheric Environment                               | 2005 | Aerosol source apportionment around a large coal fired power plant - Thermoelectric Complex Jorge Lacerda, Santa Catarina, Brazil  |
| 88 | Godoy et al., 2009             | Atmospheric Environment                               | 2009 | Coarse and fine aerosol source apportionment in Rio de Janeiro, Brazil   |
| 89 | Gonçalves et al., 2010         | International Journal of Biometeorology               | 2010 | Indoor and outdoor atmospheric fungal spores in the São Paulo metropolitan area (Brazil): species and numeric concentrations   |
| 90 | Gonçalves et al., 2018         | Atmospheric Environment                               | 2018 | Development of non-linear models predicting daily fine particle concentrations using aerosol optical depth retrievals and ground-based measurements at a municipality in the Brazilian Amazon region |

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| 91  | González et al., 2014 | Environmental Science: Processes & Impacts | 2014 | Primary and secondary organics in the tropical Amazonian rainforest aerosols: chiral analysis of 2-methyltetraols  |
| 92  | Graham et al., 2002   | Journal of Geophysical Research            | 2002 | Water-soluble organic compounds in biomass burning aerosols over Amazonia - 1. Characterization by NMR and GC-MS   |
| 93  | Graham et al., 2003a  | Journal of Geophysical Research            | 2003 | Composition and diurnal variability of the natural Amazonian aerosol   |
| 94  | Graham et al., 2003b  | Journal of Geophysical Research            | 2003 | Organic compounds present in the natural Amazonian aerosol: characterization by gas chromatography–mass spectrometry   |
| 95  | Gunthe et al., 2009   | Atmospheric Chemistry and Physics          | 2009 | Cloud condensation nuclei in pristine tropical rainforest air of Amazonia: size-resolved measurements and modeling of atmospheric aerosol composition and CCN activity |
| 96  | Guyon et al., 2003a   | Atmospheric Chemistry and Physics          | 2003 | Physical properties and concentration of aerosol particles over the Amazon tropical forest during background and biomass burning conditions                            |
| 97  | Guyon et al., 2003b   | Journal of Aerosol Science                 | 2003 | Refractive index of aerosol particles over the Amazon tropical forest during LBA-EUSTACH 1999  |
| 98  | Guyon et al., 2004    | Atmospheric Environment                    | 2004 | Sources of optically active aerosol particles over the Amazon forest   |
| 99  | Guyon et al., 2005    | Atmospheric Chemistry and Physics          | 2005 | Airborne measurements of trace gas and aerosol particle emissions from biomass burning in Amazonia   |
| 100 | Hodgson et al., 2018  | Atmospheric Chemistry and Physics          | 2018 | Near-field emission profiling of tropical forest and Cerrado fires in Brazil during SAMBBA 2012  |
| 101 | Hoffer et al., 2006a  | Atmospheric Chemistry and Physics          | 2006 | Diel and seasonal variations in the chemical composition of biomass burning aerosol  |
| 102 | Hoffer et al., 2006b  | Atmospheric Chemistry and Physics          | 2006 | Optical properties of humic-like substances (HULIS) in biomass-burning aerosols  |
| 103 | Holanda et al., 2020  | Atmospheric Chemistry and Physics          | 2020 | Influx of African biomass burning aerosol during the Amazonian dry season through layered transatlantic transport of black carbon-rich smoke                           |
| 104 | Holben et al., 1996   | Journal of Geophysical Research            | 1996 | Effect of dry-season biomass burning on Amazon basin aerosol concentrations and optical properties, 1992–1994  |

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| 105 | Huffman et al., 2012           | Atmospheric Chemistry and Physics                     | 2012 | 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 |
| 106 | Isaacman-VanWertz et al., 2016 | Environmental Science and Technology                  | 2016 | Ambient gas-particle partitioning of tracers for biogenic oxidation  |
| 107 | Jacobson et al., 2012          | Environmental Research                                | 2012 | Association between fine particulate matter and the peak expiratory flow of school children in the Brazilian subequatorial Amazon: a panel study   |
| 108 | Jacobson et al., 2014          | PLoS ONE  | 2014 | Acute effects of particulate matter and black carbon from seasonal fires on peak expiratory flow of schoolchildren in the Brazilian Amazon   |
| 109 | Johnson et al., 2016           | Atmospheric Chemistry and Physics                     | 2016 | Evaluation of biomass burning aerosols in the HadGEM3 climate model with observations from the SAMBBA field campaign   |
| 110 | Kubátová et al., 2000          | Atmospheric Environment                               | 2000 | Carbonaceous aerosol characterization in the Amazon basin, Brazil: novel dicarboxylic acids and related compounds  |
| 111 | Kuhn et al., 2010              | Atmospheric Chemistry and Physics                     | 2010 | Impact of Manaus City on the Amazon Green Ocean atmosphere: ozone production, precursor sensitivity and aerosol load   |
| 112 | Lara et al., 2005              | Atmospheric Environment                               | 2005 | Properties of aerosols from sugar-cane burning emissions in Southeastern Brazil  |
| 113 | Löbs et al., 2020              | Atmospheric Measurement Techniques                    | 2020 | Aerosol measurement methods to quantify spore emissions from fungi and cryptogamic covers in the Amazon  |
| 114 | Longo et al., 1999             | Journal of Geophysical Research                       | 1999 | Correlation between smoke and tropospheric ozone concentration in Cuiabá´ during Smoke, Clouds, and Radiation-Brazil (SCAR-B)  |
| 115 | Macchione et al., 1999         | Environmental Health Perspectives                     | 1999 | Acute effects of inhalable particles on the frog palate mucociliary epithelium   |
| 116 | Mace et al., 2003              | Journal of Geophysical Research                       | 2003 | Water-soluble organic nitrogen in Amazon Basin aerosols during the dry (biomass burning) and wet seasons   |
| 117 | Maenhaut et al., 2002          | Nuclear Instruments and Methods in Physics Research B | 2002 | Two-year study of atmospheric aerosols in Alta Floresta, Brazil: Multielemental composition and source apportionment   |

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|-----|----------------------------|--|------|--|
| 118 | Mahowald et al., 2005      | Global Biogeochemical Cycles                           | 2005 | Impacts of biomass burning emissions and land use change on Amazonian atmospheric phosphorus cycling and deposition  |
| 119 | Martin et al., 2010        | Atmospheric Chemistry and Physics                      | 2010 | An overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08)   |
| 120 | Martinelli et al., 2002    | Atmospheric Environment                                | 2002 | Stable carbon and nitrogen isotopic composition of bulk aerosol particles in a C4 plant landscape of southeast Brazil  |
| 121 | Martins et al., 2009       | Geophysical Research Letters                           | 2009 | Spectral absorption properties of aerosol particles from 350–2500nm  |
| 122 | Mayol-Bracero et al., 2002 | Journal of Geophysical Research                        | 2002 | Water-soluble organic compounds in biomass burning aerosols over Amazonia 2. Apportionment of the chemical composition and importance of the polyacidic fraction   |
| 123 | Mei et al., 2020           | Atmospheric Measurement Techniques                     | 2020 | Comparison of aircraft measurements during GoAmazon2014/5 and ACRIDICON-CHUVA  |
| 124 | Menezes et al., 2004a      | Jornal Brasileiro de Patologia e Medicina Laboratorial | 2004 | Airborne fungi causing respiratory allergy in patients from Fortaleza, Ceará, Brazil   |
| 125 | Menezes et al., 2004b      | Revista do Instituto de Medicina Tropical de São Paulo | 2004 | Airborne fungi isolated from Fortaleza city, State of Ceará, Brazil  |
| 126 | Mezzari et al., 2002       | Revista do Instituto de Medicina Tropical de São Paulo | 2002 | Airborne fungi in the city of Porto Alegre, Rio Grande do Sul, Brazil  |
| 127 | Miranda et al., 2017       | Environmental Monitoring and Assessment                | 2017 | The relationship between aerosol particles chemical composition and optical properties to identify the biomass burning contribution to fine particles concentration: a case study for São Paulo city, Brazil |
| 128 | Mircea et al., 2005        | Atmospheric Chemistry and Physics                      | 2005 | Importance of the organic aerosol fraction for modeling aerosol hygroscopic growth and activation: a case study in the Amazon Basin  |
| 129 | Moraes et al., 2010        | Jornal de Pediatria                                    | 2010 | Wheezing in children and adolescents living next to a petrochemical plant in Rio Grande do Norte, Brazil   |
| 130 | Moran-Zuloaga et al., 2018 | Atmospheric Chemistry and Physics                      | 2018 | Long-term study on coarse mode aerosols in the Amazon rain forest with the frequent intrusion of Saharan dust plumes   |
| 131 | Morgan et al., 2020        | Atmospheric Chemistry and Physics                      | 2020 | Transformation and ageing of biomass burning carbonaceous aerosol over tropical South America from aircraft in situ measurements during SAMBBA   |

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|-----|--------------------------|-------------------------------------|------|---|
| 132 | Oliveira et al., 1993    | Revista de Microbiologia            | 1993 | Airborne fungi isolated from Natal, State of Rio Grande do Norte-Brazil   |
| 133 | Oliveira et al., 2007    | Tellus                              | 2007 | The effects of biomass burning aerosols and clouds on the CO <sub>2</sub> flux in Amazonia  |
| 134 | Oliveira et al., 2012    | Environmental Health                | 2012 | Risk assessment of PM <sub>2.5</sub> to child residents in Brazilian Amazon region with biofuel production  |
| 135 | Oliveira et al., 2018    | Journal of Environmental Protection | 2018 | Environmental exposure associated with oxidative stress biomarkers in children and adolescents residents in Brazilian Western Amazon  |
| 136 | Orsini et al., 1986      | Atmospheric Environment             | 1986 | Characteristics of fine and coarse particles of natural and urban aerosols of Brazil  |
| 137 | Palm et al., 2018        | Atmospheric Chemistry and Physics   | 2018 | Secondary organic aerosol formation from ambient air in an oxidation flow reactor in central Amazonia   |
| 138 | Pauliquevis et al., 2012 | Atmospheric Chemistry and Physics   | 2012 | Aerosol and precipitation chemistry measurements in a remote site in Central Amazonia: the role of biogenic contribution  |
| 139 | Pereira et al., 1996     | Journal of Geophysical Research     | 1996 | Airborne measurements of aerosols from burning biomass in Brazil related to the TRACE A experiment  |
| 140 | Pereira et al., 2013     | Revista Eletrônica de Biologia      | 2013 | Anemophilus fungi isolated in the city of Belém, State of Pará - Brazil   |
| 141 | Pöhlker et al., 2012     | Science                             | 2012 | Biogenic potassium salt particles as seeds for secondary organic aerosol in the Amazon  |
| 142 | Pöhlker et al., 2014     | Geophysical Research Letters        | 2014 | Efflorescence upon humidification? X-ray microspectroscopic in situ observation of changes in aerosol microstructure and phase state upon hydration   |
| 143 | Pöhlker et al., 2016a    | Atmospheric Chemistry and Physics   | 2016 | 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                  |
| 144 | Pöhlker et al., 2016b    | Atmospheric Chemistry and Physics   | 2016 | 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 |
| 145 | Pöschl et al., 2010      | Science                             | 2010 | Rainforest aerosols as biogenic nuclei of clouds and precipitation in the Amazon  |

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| 146 | Prass et al., 2021      | Biogeosciences                    | 2021 | Bioaerosols in the Amazon rain forest: Temporal variations and vertical profiles of Eukarya, Bacteria and Archaea   |
| 147 | Prenni et al., 2009     | Nature Geoscience                 | 2009 | Relative roles of biogenic emissions and Saharan dust as ice nuclei in the Amazon basin   |
| 148 | Reddington et al., 2015 | Nature Geoscience                 | 2015 | Air quality and human health improvements from reductions in deforestation-related fire in Brazil   |
| 149 | Reddington et al., 2016 | Atmospheric Chemistry and Physics | 2016 | Analysis of particulate emissions from tropical biomass burning using a global aerosol model and long-term surface observations   |
| 150 | Reid et al., 1998       | Journal of Geophysical Research   | 1998 | Physical, chemical, and optical properties of regional hazes dominated by smoke in Brazil   |
| 151 | Rissler et al., 2004    | Atmospheric Chemistry and Physics | 2004 | Physical properties of the sub-micrometer aerosol over the Amazon rain forest during the wet-to-dry season transition – comparison of modeled and measured CCN concentrations |
| 152 | Rissler et al., 2006    | Atmospheric Chemistry and Physics | 2006 | Size distribution and hygroscopic properties of aerosol particles from dry-season biomass burning in Amazonia   |
| 153 | Rizzo et al., 2010      | Atmospheric Environment           | 2010 | Aerosol properties, in-canopy gradients, turbulent fluxes and VOC concentrations at a pristine forest site in Amazonia  |
| 154 | Rizzo et al., 2011      | Atmospheric Chemistry and Physics | 2011 | Spectral dependence of aerosol light absorption over the Amazon Basin   |
| 155 | Rizzo et al., 2013      | Atmospheric Chemistry and Physics | 2013 | Long term measurements of aerosol optical properties at a primary forest site in Amazonia   |
| 156 | Rizzo et al., 2018      | Atmospheric Chemistry and Physics | 2018 | Multi-year statistical and modeling analysis of submicrometer aerosol number size distributions at a rain forest site in Amazonia   |
| 157 | Rizzolo et al., 2017    | Atmospheric Chemistry and Physics | 2017 | Soluble iron nutrients in Saharan dust over the central Amazon rainforest   |
| 158 | Roberts et al., 2001    | Journal of Geophysical Research   | 2001 | Cloud condensation nuclei in the Amazon Basin: "Marine" conditions over a continent?  |
| 159 | Roberts et al., 2002    | Journal of Geophysical Research   | 2002 | Sensitivity of CCN spectra on chemical and physical properties of aerosol: a case study from the Amazon Basin   |
| 160 | Sá et al., 2017         | Atmospheric Chemistry and Physics | 2017 | Influence of urban pollution on the production of organic particulate matter from isoprene epoxydiols in central Amazonia   |
| 161 | Sá et al., 2018         | Atmospheric Chemistry and Physics | 2018 | Urban influence on the concentration and composition of submicron particulate matter in central Amazonia  |

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| 162 | Sá et al., 2019        | Atmospheric Chemistry and Physics    | 2019 | Contributions of biomass-burning, urban, and biogenic emissions to the concentrations and light-absorbing properties of particulate matter in central Amazonia during the dry season |
| 163 | Salvo et al., 2017     | Nature Communications                | 2017 | Reduced ultrafine particle levels in São Paulo's atmosphere during shifts from gasoline to ethanol use   |
| 164 | Santos et al., 2016    | Atmospheric Environment              | 2016 | Ambient concentrations and insights on organic and elemental carbon dynamics in São Paulo, Brazil  |
| 165 | Santos et al., 2021    | Atmospheric Chemistry and Physics    | 2021 | Physical and chemical properties of urban aerosols in São Paulo, Brazil: Links between composition and size distribution of submicron particles                                      |
| 166 | Saturno et al., 2017   | Atmospheric Measurement Techniques   | 2017 | Comparison of different Aethalometer correction schemes and a reference multi-wavelength absorption technique for ambient aerosol data   |
| 167 | Saturno et al., 2018   | Atmospheric Chemistry and Physics    | 2018 | Black and brown carbon over central Amazonia: long-term aerosol measurements at the ATTO site  |
| 168 | Schafer et al., 2002a  | Journal of Geophysical Research      | 2002 | Atmospheric effects on insolation in the Brazilian Amazon: observed modification of solar radiation by clouds and smoke and derived single scattering albedo of fire aerosols        |
| 169 | Schafer et al., 2002b  | Geophysical Research Letters         | 2002 | Observed reductions of total solar irradiance by biomass-burning aerosols in the Brazilian Amazon and Zambian Savanna  |
| 170 | Schafer et al., 2008   | Journal of Geophysical Research      | 2008 | Characterization of the optical properties of atmospheric aerosols in Amazônia from long-term AERONET monitoring (1993–1995 and 1999–2006)   |
| 171 | Schkolnik et al., 2005 | Environmental Science and Technology | 2005 | New analytical method for the determination of levoglucosan polyhydroxy compounds, and 2-methylerythritol and its application to smoke and rainwater samples                         |
| 172 | Schmale et al., 2018   | Atmospheric Chemistry and Physics    | 2018 | Long-term cloud condensation nuclei number concentration, particle number size distribution and chemical composition measurements at regionally representative observatories         |
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