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Oxygenated Volatile Organic Compounds (OVOCs) and Biogenic Volatile Organic Compounds (BVOCs) in the Troposphere: Measurement, Characterization, and Source Apportionment

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Deadline for manuscript submissions:
closed (30 November 2022)

Message from the Guest Editors

Dear Colleagues,

Oxygenated volatile organic compounds (OVOCs) and biogenic volatile organic compounds (BVOCs) are precursors of the tropospheric ozone (O_3) and secondary organic aerosols (SOA) on a regional and global scale due to their high photochemical reactivity. OVOCs encompass compounds that are composed of carbonyl or hydroxyl functional groups, which play a dual role in the photochemical cycle. They undergo photolysis to generate hydroxyl radicals, which influence the oxidation capability of the atmosphere. It should be noted that OVOCs can be emitted from both primary anthropogenic sources and formed from secondary formation. Tracking their origins and contributions is, therefore, challenging in the source apportionment.

We invite authors to submit original and review articles that describe the experimental, field, and modeling studies related to detailed analyses of OVOCs and BVOCs. Any advancements in sampling techniques or the development of new instrumentation for the collection and analysis of OVOCs and BVOCs are welcome. Research should also focus on their source apportionment and the evaluation of potential health and ecological risks.

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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