

Special Issue

The Critical Role of Synthetic Chemistry in Elucidating Mechanisms, Product Identification, and Quantitation in Atmospheric Gas-Phase and Multiphase Chemistry of Volatile Organic Emissions

Message from the Guest Editors

A key factor in understanding SOA formation, composition, and behavior has been the availability of authentic standards serving as intermediates for verification of putative SOA formation pathways, structural verification of products, quantitation of SOA components, and assessment of both the analytical methodology and physicochemical properties of SOAs. The following, but by no means comprehensive list of topics includes reconciling low-volatility isoprene SOA with high concentrations of semi-volatile marker compounds as determined by widely applied analytical procedures; the extent of oligomeric species in terms of aerosol composition; the importance of hydroperoxides in initial accretion reactions and subsequent generation of ROS and other radical species in particles; the dependence of the quantitation of potentially labile aerosol components on analytical methodology; We invite contributions on synthetic efforts and the application of newly synthesized compounds to advancing our understanding of atmospheric processes affecting SOA.

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Deadline for manuscript submissions

closed (15 June 2022)



Atmosphere

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Impact Factor 2.3
CiteScore 4.9



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About the Journal

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!

Editor-in-Chief

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