BREATHING EASIER THROUGH SPECTROSCOPY: STUDYING FREE RADICAL REACTIONS IN AIR POLLUTION CHEMISTRY

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Air pollution arises from the oxidation of volatile organic compounds emitted into the atmosphere from both anthropogenic and biogenic sources. Free radicals dominate the gas phase chemistry leading to the formation of tropospheric ozone, oxygenated organic molecules and organic aerosols, but this chemistry is complex. In this presentation, advances in our understanding of the spectroscopy and chemistry of atmospheric free radicals will be described that have come from exploiting the sensitivity and specificity of methods such as Cavity Ringdown Spectroscopy, Multiplexed Photoionization Mass Spectrometry and Cavity-Enhanced Frequency Comb Spectroscopy.

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