Everything but the kitchen sink: Understanding chemical complexity in our home

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Despite the fact that we spend 90% of our time indoors, the chemical composition of indoor air is poorly understood. With its array of sources, high surface area to volume ratios, and rapid timescales of air exchange, the indoor environment has the potential for an array of chemical transformations that impact human health. The rise of new instruments, including chemical ionization mass spectrometry, has enabled us to investigate indoor chemistry. Here, I will present results from the House Observations of Microbial and Environmental Chemistry (HOMEChem) project, including multiphase chlorine chemistry, aerosol lifetimes, and the potential health consequences of the vast array of organic compounds produced during cooking and cleaning.