

Reaction monitoring by mass spectrometry

Reaction monitoring by electrospray ionization mass spectrometry (ESI-MS) is a popular method for investigation of reaction mechanisms. A coupling between a capillary flow reactor and ESI-MS allows us to intercept highly reactive intermediates. I will show how we use flow chemistry to study the reactivity of reactive intermediates in solution with mass spectrometry detection. Mass spectrometry offers also a possibility to test the reactivity of the detected reactive intermediates in the gas phase. In addition, we can correlate this reactivity with the structure of the ions determined by ion spectroscopy. Altogether, mass spectrometry provides a unique set of tools that helps us to understand the nature of reactive species that are nearly impossible to be studied otherwise. In the lecture, I will focus on the properties of reactive intermediates in the field of biomimetic metal complexes.