

SOLVING NATURAL PRODUCTS CHALLENGES THROUGH NOVEL ANALYTICAL TECHNOLOGIES

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The study of natural products is a daunting task and sometimes intimidating for many scientists due to the complexity of the samples. From an analytical point of view, there are many technical challenges to conducting natural product studies. For example, complex samples require comprehensive sample clean-up such as extraction, pre-fractionation, and purification, as there is a need to have very high peak capacity and resolving power when it comes to separations. There are wide concentration ranges of analytes as well as requirement for a detector to have a wide dynamic range due to the diversity of the chemical space within natural product samples. As a result, having a good set of analytical tools that are fit for purpose and effective is vital for all natural products scientists. Currently, there is not “one size fits all” analytical solution available to address the entire spectrum of the natural products challenges.

In this presentation, various natural product studies will be described using various novel analytical technologies. From sample preparation, to chromatographic separation to mass spectrometry detection to informatics data analysis, the goal is to provide new techniques and methods to help scientists simplify their natural product concerns. Some technology that will be presented will include: supercritical fluid technology (SFX), nano-fluidic chromatography and ion mobility (IMS)-QTOF mass spectrometry.
