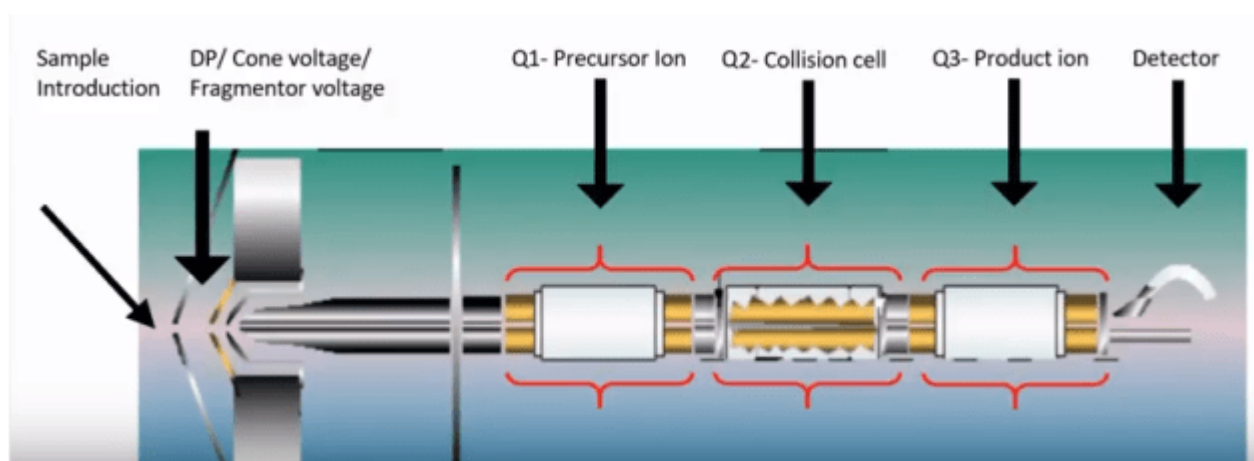


When visiting scientists in their labs, Field Applications Scientist, Danielle Moore, is frequently asked about tuning their analytes on a mass spectrometer. More specifically, why it is so important to tune your analytes.

In this tutorial, Danielle takes you through the process of tuning analytes on a mass spectrometer, specifically on a Triple Quad SCIEX 4500, starting with compound infusion, all the way to saving your data.

A Brief Overview of the Inside of a Mass Spectrometer:



Your sample starts its journey at sample introduction. Then, behind the curtain plate there is the cone voltage—or declustering potential (DP). This is the voltage applied to the opening where the ions enter that helps to prevent the ions from clustering together.

The analyte then travels to Q1 where the precursor ion is identified. The precursor ion travels to Q2, the collision cell, where it is bombarded by neutral ions and fragments. Those fragments move to Q3 where the product ions are identified. Then finally, they are sent to the last element of a mass spectrometer—the detector. The detector records either the charge induced or the current produced when an ion passes by or hits a surface.

In the tutorial, Danielle follows an easily ionized compound. The video provides detail on the structure, monoisotopic mass, ionization, functional groups, pH dependent microspecies, and the fragments starting at minute 1:02.

But Before You Begin Tuning...

First thing you're going to do when you go to tune your analyte(s) is disconnect your HPLC tubing from your mass spectrometer. This is the tubing coming out of the column oven.

On the Triple Quad SCIEX 4500 there is an integrated syringe pump. This will require you to open the door to the syringe pump and make sure to place the syringe flush with the SCIEX 4500, then tighten to make sure nothing wiggles. After, connect the tubing to the mass spectrometer.

It Is Now Time to Tune Your Analyte(s)!

Follow Danielle's step-by-step process, and if you have any questions please don't hesitate to reach out to our Technical Experts at www.phenomenex.com/chat.

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Summary



Article Name

Mass Spectrometry Tutorial: Tuning Analytes

Description

Field Applications Scientist, Danielle Moore, walks you through the process of tuning your analytes on a mass spectrometer.