

Peak Express™ Software

SEE MORE – Improved compound identification and reaction monitoring using the expression CMS

Advion

Introducing a new type of mass spectrum, available exclusively in the Advion Peak Express™ software suite: the Delta Spectrum (ΔS). The patented ΔS software is available with the expression compact mass spectrometer (CMS) to look beyond chemical noise and automatically detect even the smallest peaks without knowing the m/z in advance.

With the Peak Express™ software featuring ΔS , you can:

- Obtain clear detection of peaks without knowing their mass
- Find adducts, dimers, fragments, side-reactions and other unexpected compounds at the click of a button, in real-time or with post-processing
- Highlight minor components in complex mixtures and dirty matrices
- Control mass-directed purification without providing the compound mass
- Acquire XIC-quality data while scanning the entire mass range, allowing Peak Express to tell you the m/z

This new type of data processing for the expression CMS is particularly valuable for reaction monitoring, compound identification and purification in environments where high levels of contaminants, chemical noise and/or matrix are present.



The ΔS compares the ion intensity at each m/z interval across the mass spectrum to a base line level measured at the start of the analysis, then records the relative change in intensity. Monitoring of the ΔS provides the following:

ΔIC
Delta Ion
Chromatogram

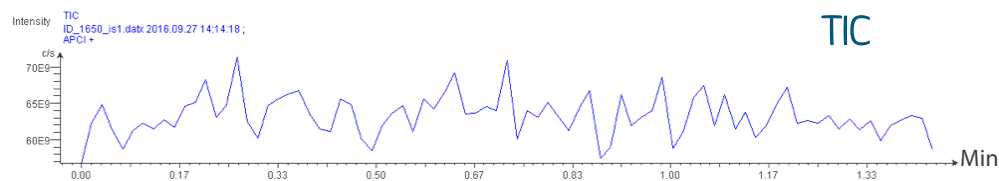
In place of a
Total Ion
Chromatogram
TIC

ΔXIC
Delta Extracted Ion
Chromatograms

In place of an
Extracted Ion
Chromatogram
XIC

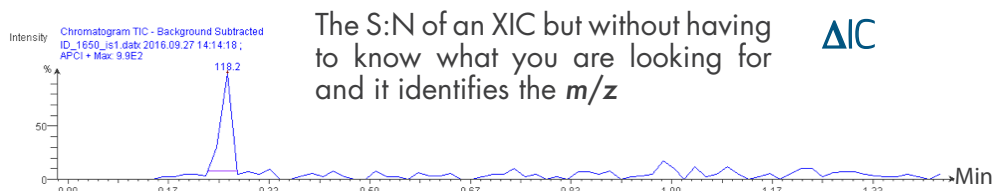
This ultra-sensitive technique is able to detect even the smallest peaks amongst much larger signals from contaminants and chemical noise. It detects change, not absolute intensity, and zooms in on tiny rapid movements in a field of much larger static, or more slowly moving signals.

This:

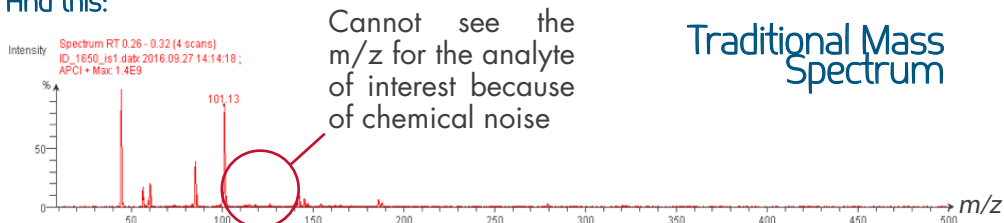


The TIC from a direct injection experiment shows no visible peak but Peak Express™ reveals the peak hidden in the noise and provides the m/z of the compound – 118.2.

Becomes this:



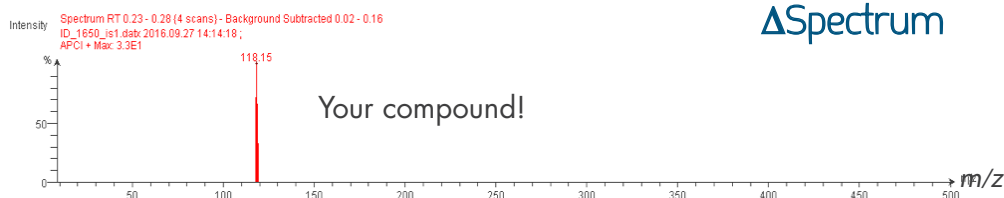
And this:



Cannot see the m/z for the analyte of interest because of chemical noise

The peak of interest cannot be seen in the traditional mass spectrum, as the chemical noise overwhelms it. Using Peak Express™, the ΔS clearly reveals the m/z of compound providing the peak.

Becomes this:



ΔS works with any technique that generates a peak, e.g. HPLC/MS, TLC/MS, Flash/MS, and FIA, both in real time and for data post processing. Detecting peaks without knowing their m/z in advance means you can detect and collect on peaks without changing methods, or having to populate sample lists. It does not matter if your compound ionizes unexpectedly with an adduct, or a dimer, or even fragments; Peak Express™ will automatically find it. Peak Express™ will also find and provide m/z for impurities and components you would not have predicted.

Peak Express™ gives you the expertise of a dedicated mass spectroscopist, digging deep in to the data to find small, unknown peaks that would otherwise have gone undetected.

Advion

www.expressioncms.com
info@advion.com

Advion is a leader in mass spectrometry & synthesis solutions. The expression CMS is a high performance, compact, affordable single quad mass spectrometer. Its compact size allows it to fit into space-limited labs for direct access and immediate results for chemists requiring mass confirmation, reaction monitoring, quality control and purity analysis.