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Separating Beyond Question: Acquity QDa

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When Albert Einstein forged the bedrock theory of modern physics 100 years ago, he had no computer, no internet and few homes had telephones. Yet it took one of the most sophisticated science tools ever built, at a cost of hundreds of millions of dollars, to prove an idea the scientist had crafted with little more than paper, a fountain pen, hard work and a mind sharper than most. Recently physicists announced they had detected gravitational waves, hitherto a key unproven element of Einstein's general theory of relativity.

It is not always the complicated process work better but simple tools and process are faster and accurate too. Waters also with same philosophy started searching for simple answers for complicated questions. One of the Complicated process in analytical industry was handling of Mass detection technologies. The research is still on, to find the most sensitive Mass spectrometer or detector. Waters thought differently and focussed on simplifying the usage of the Mass detector technology so that it reaches to masses and today we have world's smallest, sensitive enough , very robust, and highly user friendly Mass detector- Acquity QDa.

The product is a truly a industry changing technology. The idea was to empower and enable chromatographers with accessible mass data, without the training, without the complexity, without extensive compound-specific optimisation. This is realised through the Acquity QDa detector which is now revolutionising practices within laboratories in India and globally. Within India we have more than 20 companies using the technology in different areas of R&D, Quality Control, Drug Discovery etc.

The vision of the Acquity QDa was born through the unmet need of the analytical scientists. Today many prestigious scientists and multi-national companies are thrilled with its impact on quality of data. The QDa has been recognised throughout the industry both India and globally garnering very positive reviews and winning multiple awards for innovation. Acquity QDa was listed as one of the top 15 innovative products of the year.

Increased efficiency is coming from dramatic innovation. The result of over 30 patented Waters innovations, this the only mass detector that fits on top of your instrument stack. Using less bench space and less energy than a traditional mass spectrometer, it fits easily within your existing lab set up as part of your regular workflow. Even most cleaning and routine maintenance have been innovated away, maximizing your uptime. This is fundamentally different from any experience one would have had with MS.

In any analytical development we majorly rely on UV/PDA detector as detector of choice and live with the limitations of same. To have more confidence in data, to understand the development process better and to resolve the complex cases of mass balance we need to have orthogonal analytical detectors like Acquity® QDa in our development process. The usage of the detector ensures confidence in the data and hence "Right time- first time".

The challenges in UV/PDA based developments can be resolved using this orthogonal detector Acquity QDa Mass Detector, which have been purposefully designed to enable analysts to readily incorporate mass detection within a UV/PDA chromatographic workflow. The simplicity of this Single Quadrapole Mass detector is such that it can be handled easily by the chromatographers who have no MS trainings and are only UV/PDA users. Acquity QDa has the quickest start time, once switched on, the detector is ready to use in less than 25 minutes. Acquity QDa through Empower CDS software can enable scientists to do tasks like peak tracking, identify impurities/peaks, analyze non-chromophoric impurities, understand mass-balance related issues, perform MS finger printing, confirm peak purity data, etc.

With recent interest of many organizations in Biologics and Biopharmaceuticals, Acquity QDa has emerged to be quite useful in these areas as well. Acquity QDa enables greater selectivity, faster - high throughput methods, and mass confirmation for greater certainty and productivity in routine "Glycan monitoring".
Acquity QDa is being utilized by many organizations to monitor peptides over a wide molecular weight range. The addition of mass detection allowed scientists to monitor and quantify peptides with greater specificity. Acquity QDa expands the sensitivity currently available with optical only workflows. The addition of Acquity QDa to existing workflows allows scientists to selectively detect and monitor co elution species. And perhaps most importantly, Acquity QDa works with both TFA and FA based separations.

Recent publications like "HILIC-MS Determination of Genotoxic Impurity of 2-Chloro-N-(2-Chloroethyl)Ethanamine in the Vortioxetine Manufacturing Process" by Zentiva (Sanofi), "Implemenation of a single quad MS detector in high-throughput transdermal research of plant extracts" by University of Ghent and " A novel compact mass detection tool for the open access (OA) environment in drug discovery and early development" by Merck use Acquity QDa technology and hence exhibiting the potential of this simple and powerful tool.