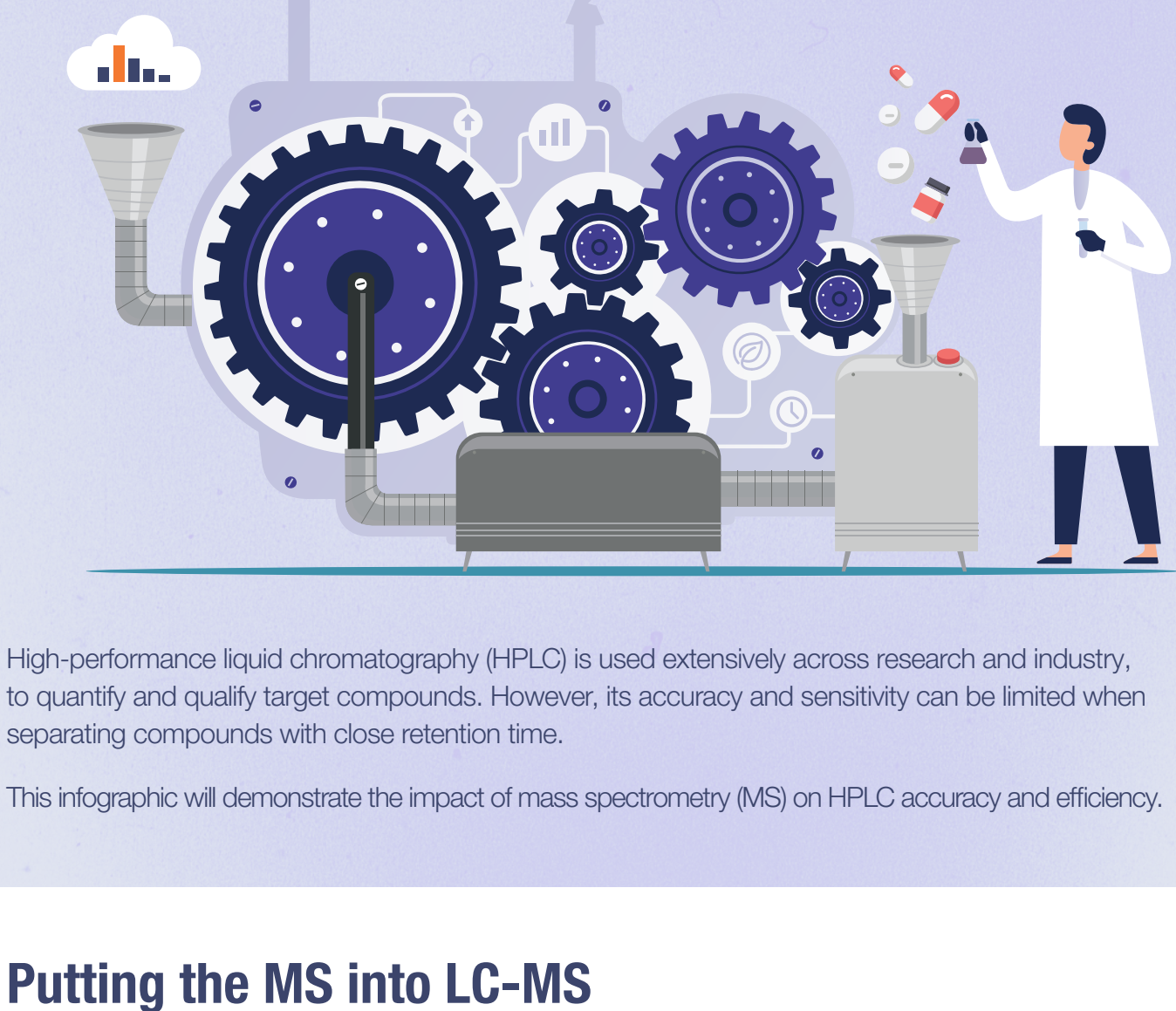


NOT JUST ANOTHER COG IN THE MACHINE

Improving Liquid Chromatography Workflows with Mass Spectrometry

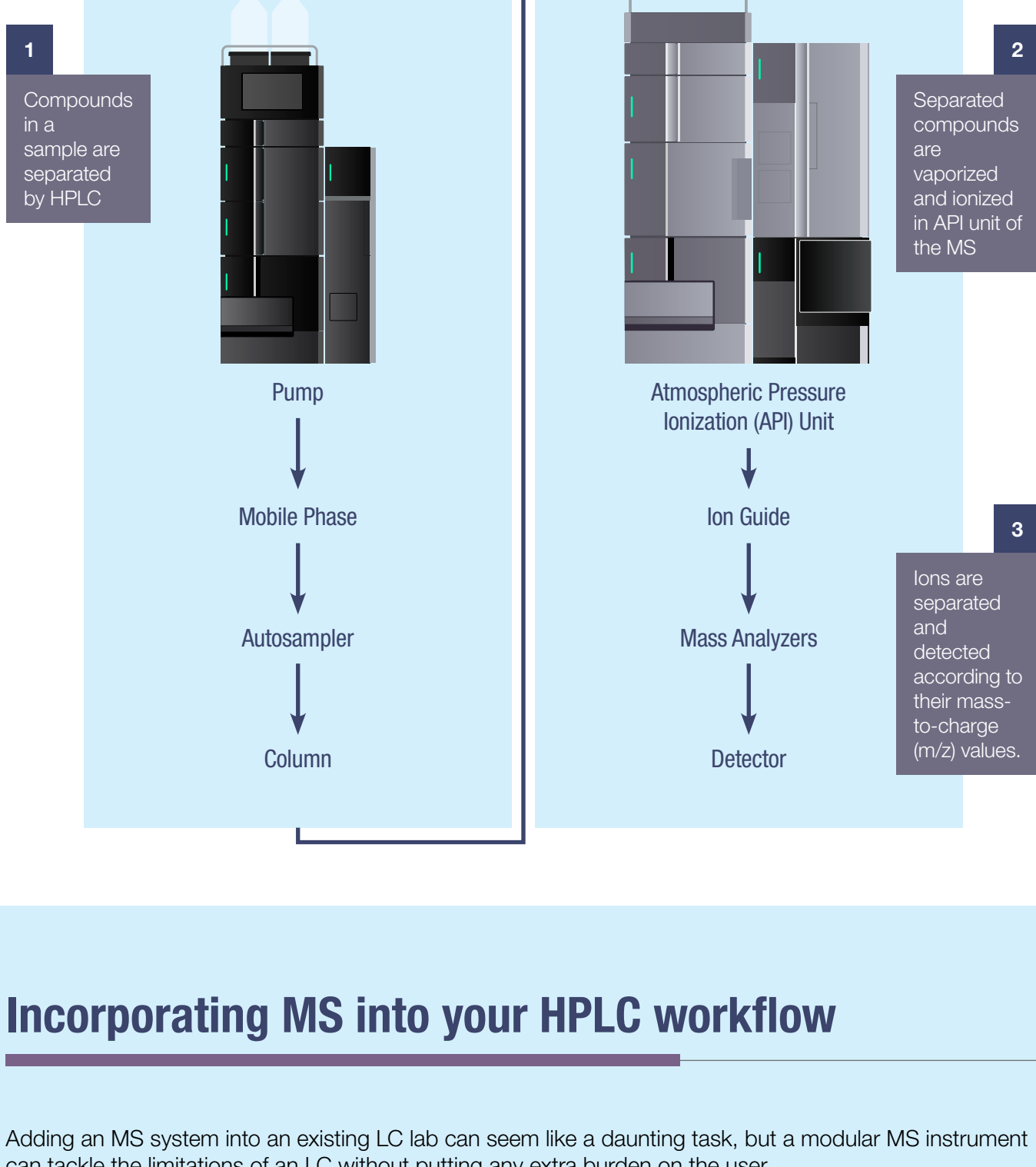


High-performance liquid chromatography (HPLC) is used extensively across research and industry, to quantify and qualify target compounds. However, its accuracy and sensitivity can be limited when separating compounds with close retention time.

This infographic will demonstrate the impact of mass spectrometry (MS) on HPLC accuracy and efficiency.

Putting the MS into LC-MS

Traditionally, LC uses ultraviolet, fluorescent or refractive index detectors to identify and quantify compounds present in a sample. However, LC-MS workflows have emerged as a more selective, sensitive and universal option for detection.



Incorporating MS into your HPLC workflow

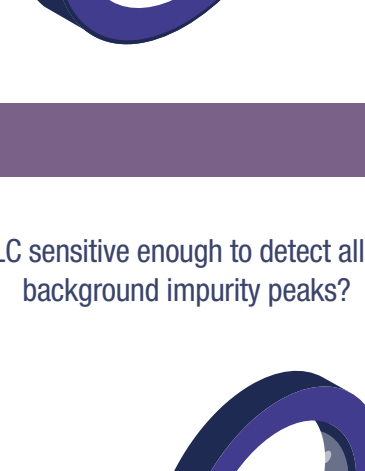
Adding an MS system into an existing LC lab can seem like a daunting task, but a modular MS instrument can tackle the limitations of an LC without putting any extra burden on the user.

PROBLEM

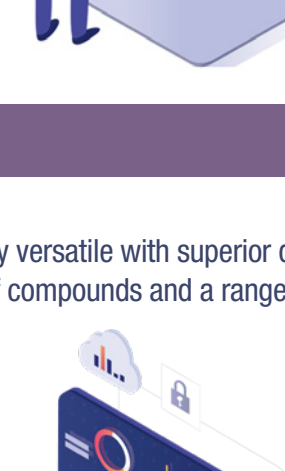
SOLUTION

ACCURACY

Can a chromatogram alone give highly accurate qualitative peaks for analytes?



MS adds mass data to chromatograms allowing for more accurate analysis.



SENSITIVITY

Is LC sensitive enough to detect all the background impurity peaks?



MS is highly versatile with superior detection for a variety of compounds and a range of masses.

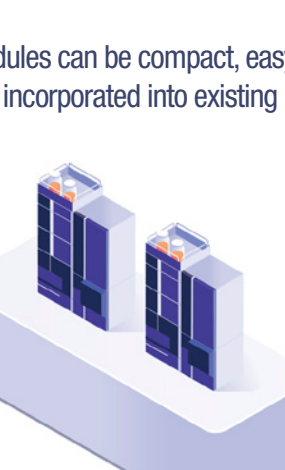


TIME EFFICIENCY

Can the analysis time be reduced, while still improving data quality?

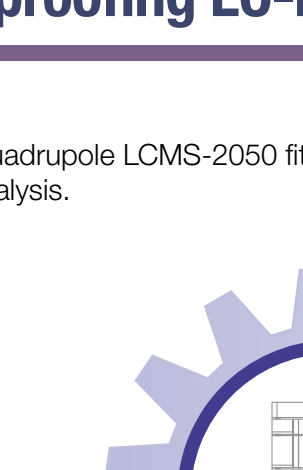


High-speed MS produces more in-depth data with minimal time cost and reduced labor.

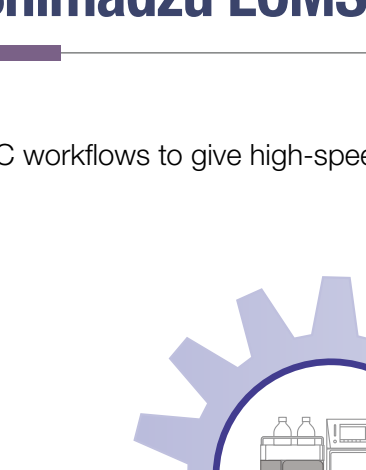


IMPLEMENTATION

Doesn't an LC-MS instrument require a lot of space and expertise?

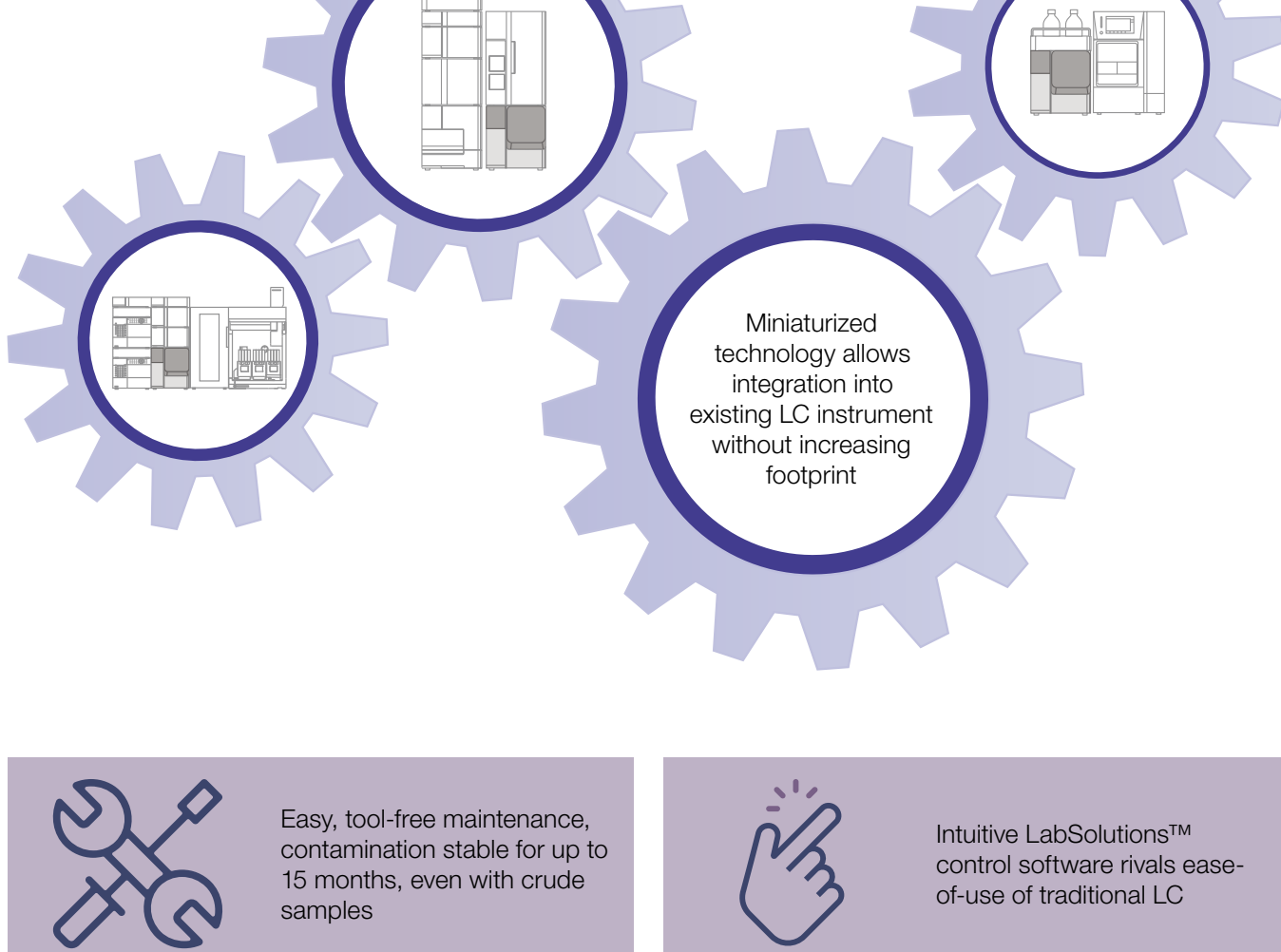


LC-MS modules can be compact, easy to use and seamlessly incorporated into existing LC systems.



Futureproofing LC-MS: meet the Shimadzu LCMS-2050

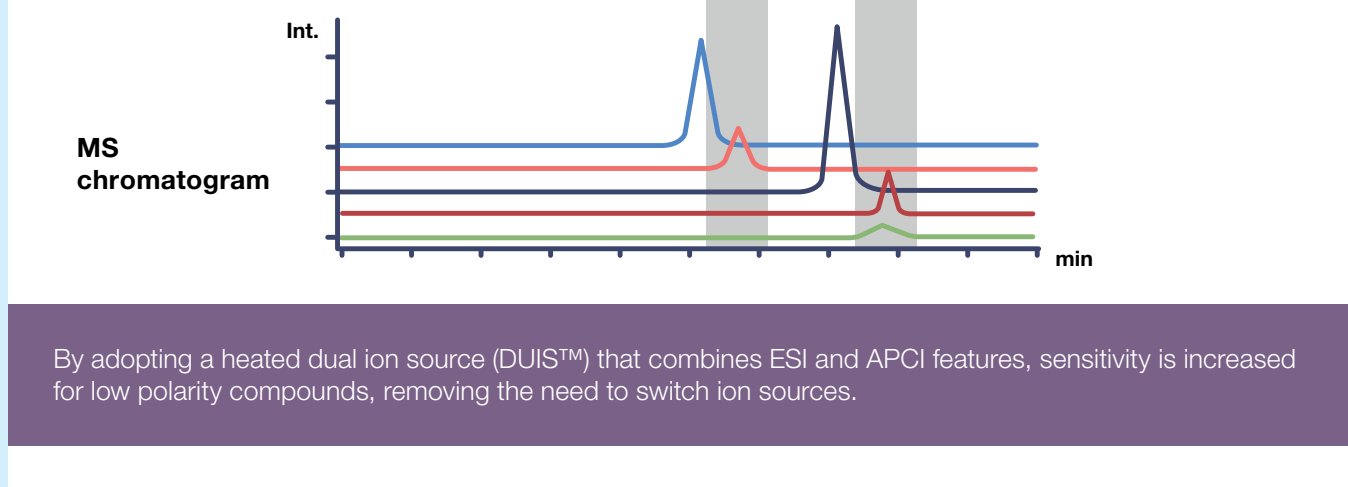
The single quadrupole LCMS-2050 fits seamlessly into existing LC workflows to give high-speed and high-sensitivity analysis.



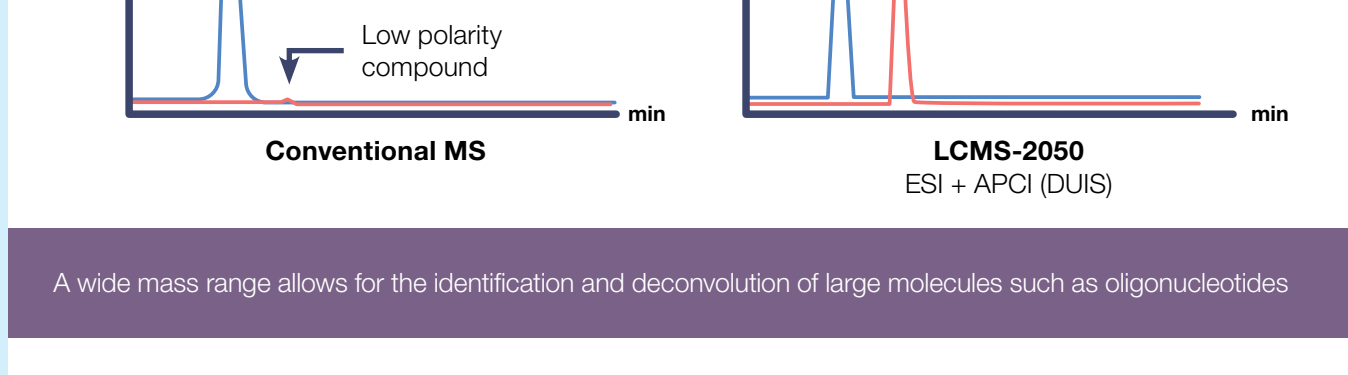
- Easy, tool-free maintenance, contamination stable for up to 15 months, even with crude samples
- Intuitive LabSolutions™ control software rivals ease-of-use of traditional LC
- In unison analysis, start-ups and shut-downs with LC save time
- Performance Concierge automatically calibrates and runs systems checks for increased accuracy and reliability
- Easy parameter settings for seamless operation
- Energy efficient ecology mode reduces power consumption by approximately 43%

Technical advantages of the LCMS-2050 for molecular identification

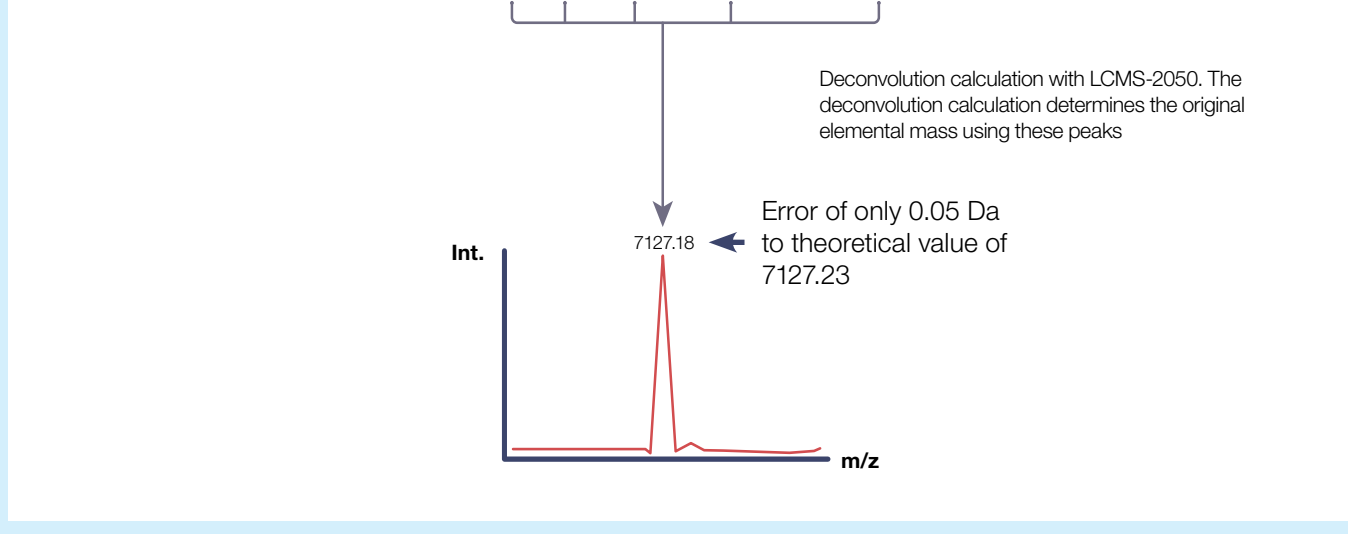
Mass-It™ uses MS data to identify hidden components and co-elutions for highly reliable results compared to LC chromatograms alone



By adopting a heated dual ion source (DUIS™) that combines ESI and APCI features, sensitivity is increased for low polarity compounds, removing the need to switch ion sources.



A wide mass range allows for the identification and deconvolution of large molecules such as oligonucleotides



An effective tool for a wide range of applications

LCMS-2050 shows increased performance in various fields of research and industry that have traditionally used LC alone for analysis.

PHARMACEUTICALS	FOOD ANALYSIS	CHEMISTRY
<ul style="list-style-type: none"> Quantitative analysis of drug formulation Impurity analysis Examining pharmacokinetics and pharmacodynamics Suitable for large molecules such as oligonucleotides, peptides and proteins 	<ul style="list-style-type: none"> Food safety – ingredient quantification and contaminant detection Guarantee authenticity and prevent fraud Analysis of compounds that cannot be detected with HPLC, e.g. sugars 	<ul style="list-style-type: none"> Identification of unknown samples Impurity analysis in chemical compounds Assessing contamination in environmental samples

Elevate your HPLC workflow with MS today.

