

Press Release

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Introducing the new Shimadzu LCMS-8050

Extraordinary sensitivity in the world's fastest triple quadrupole mass spectrometer

**World premiere at TIAFT conference, Portugal /
Flagship product with best-in-class sensitivity /
Lower cost of ownership**

Shimadzu, one of the world leaders in analytical instrumentation, will release the LCMS-8050, a triple quadrupole LCMS/MS. This new system incorporates proprietary ultrafast technologies as well as a newly developed ion source and collision cell technology. As the flagship model of Shimadzu's UFMS (Ultra-Fast Mass Spectrometry) product line, the LCMS-8050 features high sensitivity, high data quality and the world's fastest data acquisition rates.

The LCMS-8050 meets the growing demand for trace-level quantitation in clinical research and other markets. Its world premiere will be at the TIAFT (The International Association of Forensic Toxicologists) conference in Portugal on September 2 - 6, 2013.

Smaller inlet leads to lower cost-of-ownership

Delivering attogram-level (10^{-18} grams) sensitivity and possessing unsurpassed ruggedness, the LCMS-8050 achieves its improved sensitivity through two important technologies:

1. Newly designed Heated ESI source improves desolvation and enhances ionization efficiency with the addition of a heated gas used in combination with the nebulizer gas
2. UFsweeper®III collision cell enhances CID efficiency by optimizing the collision cell pressure.

One common design approach to increase sensitivity in mass spectrometers has been to incorporate a larger inlet to increase the number of ions introduced into the instrument. This approach necessitates the inclusion of a more powerful and more costly vacuum system. However, replacing vacuum pumps is inevitable and expensive, and a larger inlet leads to increased levels of instrument contamination. For these reasons, Shimadzu has maintained a smaller inlet in the LCMS-8050. When combined with the new heated ESI source and UFsweeper III, system performance improves and cost-of-ownership is reduced.

The world's fastest data acquisition rates

The newly engineered high voltage power supply enables a maximum scan rate of 30,000 u/sec and a 5 msec polarity switching time, making the LCMS-8050 combined with Nexera UHPLC the ideal platform for laboratory productivity. It is now possible to include 1,000 events with up to 32 channels per event for a maximum of 32,000 MRMs per analysis.

User-friendly Operation and Easy Maintenance

- The new ion source enables easy changing from ESI to APCI or to dual ionization mode (DUIS). The source housing is cable-free and tubeless, integrating the gas and electrical connections for convenience and simplicity
- Seamless integration of HPLC and MS control software: LabSolutions LCMS Version 5.60 provides easy-to-use operation. It fully integrates operation of Shimadzu's LC product lines (Nexera and *prominence*). An automated MRM optimization rou-

tine allows unattended optimization of multiple compounds. Key MS voltages, critical to high-sensitivity analysis, are automatically adjusted and evaluated for each compound without user intervention.

- Reduced instrument downtime and easy maintenance procedures: The desolvation capillary, which functions as the inlet to the mass spectrometer, can be replaced quickly without breaking vacuum, saving the user hours of recovery time. Probe maintenance is quick and easy, with readily accessible consumable components. Even more advanced maintenance is made simple; ion guides can be removed without tools and cleaned without extensive disassembly.



Figure 1: The LCMS-8050 as the new flagship of Shimadzu's UFMS series provides world's fastest data acquisition rates, best-in-class sensitivity and lower cost-of-ownership

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