

NEW! TEEMmate™ for Trace Level Analysis of Explosives

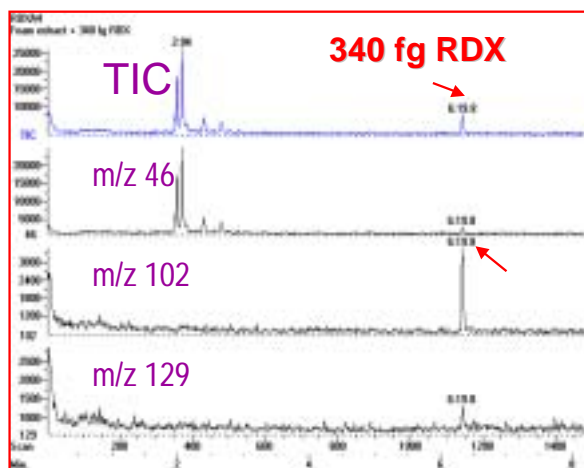


The new Tuneable-Energy Electron Monochromator (TEEM™) is a unique device that JEOL combines with the popular GCmate II mass spectrometer to produce the TEEMmate™. The TEEM produces an electron beam with an

electron energy that can be adjusted from 0-25 eV. This makes it possible to form negative ions directly without using a buffer gas. The TEEMmate demonstrates many advantages over conventional gas-moderated, electron-capture, negative-ion mass spectrometry (ECNIMS) for trace level analysis. It selectively ionizes the analyte — not the matrix. Use of the TEEMmate allows for isomer discrimination, produces better reproducibility, and avoids artifacts. The TEEMmate also has applications for electron ionization in positive-ion mode when it is important to control the ionizing electron energy.

The TEEMmate has been applied to a wide variety of analytical problems, including explosives detection, environmental contaminants, chemicals associated with chemical warfare agents, and bacterial spore detection. A recently published applications paper reports the detection of sub-ppb levels of explosives in a variety of complex matrices by using the TEEMmate coupled with gas chromatography.

Solvent (toluene) extraction of computer case packing foam polymer extract spiked with 0.34 ppb RDX.



For More Information

“Analysis of Explosives with the Tuneable Energy Electron Monochromator (TEEM™)”
<http://www.jeol.com/ms/docs/teemmate%20app.pdf>

“Applications of the JEOL Tuneable Energy Monochromator: Bacterial Spores, Environmental Pollutants, and Explosives”
http://www.jeol.com/ms/docs/gcmate_abstract.pdf

**See the latest in
 JEOL Analytical
 Instruments at
 PITTCON 2003
 March 10-14
 Orlando, Florida
 Booth #3257**

New Canadian Sales Manager

Jerry Windsor-Martin has joined the sales team at Soquelec, our Canadian distributor. As analytical product line specialist, Jerry will contribute valuable experience and knowledge in instrumentation for the scientific community. He holds a degree in Analytical Chemistry from the University of Wales. Jerry can be reached at 416-463-5207 or at jerry@soquelec.com.

Two AccuTOFs Demonstrated Live at Simultaneous Conferences in Europe

AccuTOF™ LC/MS systems were on display at two conferences held during the week of November 4-8, 2002 in Europe. Both systems were fully operational. One AccuTOF was exhibited at Het Instrument in Utrecht, The Netherlands, coincident with a meeting of the Dutch Mass Spectrometry Society. This AccuTOF was on loan courtesy of Professors Fokkens and Nibbering at the Mesa+ Institute at Twente University. The second AccuTOF was on exhibit at the 19th Montreux LC/MS Symposium held in Montreux, Switzerland.



Connections



New Mass Spec Applications Chemist Joins JEOL USA, Inc.

Customers who send samples to JEOL or visit for demonstrations will meet our new applications chemist, Zhanpin Wu, who came to us from the University of Texas' mass spec service lab. Zhanpin is now assisting Dr. Chip Cody with mass spec analysis and demonstrations of JEOL mass spectrometer systems. His earlier work included proteomics and isotope ratio measurements, forensics, and analytical toxicology. Of his assignments at JEOL, he says, "Here you have a variety of samples to analyze. You have many unfamiliar compounds and have to figure out how best to analyze them. We help develop methods for customers. It's very challenging and very interesting."

AccuTOF Applications Notes Online

Visit our website at www.jeol.com to view the latest applications notes on the AccuTOF time-of-flight mass spectrometer. We update our site frequently, and have recently added several papers, including:

- ◆ *Automated Exact Mass Measurements and Elemental Composition Determinations*
- ◆ *Introduction of Dual ESI and Corona ESI Ion Sources*
- ◆ *Determination/Confirmation of the Structure of Organic Compounds by Exact Mass Measurement*
- ◆ *Analysis of Scotch Whiskey and Tequila Samples by Solid-Phase Microextraction and High-Resolution GC/MS*
- ◆ *Orthogonal API Source: Stability when Phosphate Buffer Is Used*

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