Mass Media

Mass Spectrometry News and Applications

JEOL USA, Inc. November 2011

DART in the NEWS

History Detectives: Drug Smuggling Civil War Doll

Bob Steiner, Principal Forensic Scientist at the Virginia Department of Forensic Science, was asked to analyze a Civil War era doll to determine if it had been used for smuggling morphine or other drugs. Watch the episode.

Chemists are Dying to Discover Historic Textiles' Secrets

Ruth Ann Armitage of Eastern Michigan University applied DART-MS to aid Detroit Institute of Arts in identifying dyes used in ancient textiles. Featured in Chemistry World.

DART Scores Direct Hit: Applying Ambient Mass Spectrometry to Forensic Drug Analysis

US forensic scientists have shown that combining thin layer chromatography (TLC) with a novel form of ambient mass spectrometry known as direct analysis in real time (DART) provides a particularly efficient and effective way to analyze unknown drug samples. Featured on separationsNOW.com

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Upcoming Events

Greater Boston Mass Spectrometry Discussion Group
Vendor Night
November 10
Cambridge, MA

Eastern Analytical Symposium
November 14-17
Booth #311
Somerset, NJ

2011 Anachem Award Winner

JEOL USA Mass Spectrometry Product Manager, Dr. Robert (Chip) Cody, has received the prestigious Anachem Award, given by the Association of Analytical Chemistry for his contributions to the development of organic mass spectrometry. The award was presented at the Federation of Analytical Chemical and Spectroscopy Societies (FACSS) meeting in Reno, Nevada, where Dr. Cody gave a plenary lecture entitled *Massive Changes: Not just your grandma's mass spectrometer any more*, an historical talk, on Monday, October 3. He was honored during a special session by five speakers who presented on mass spectrometry topics relevant to his work. more>>>>

Diverse DART Applications in JEOL Training Classes

A number of DART users have attended classes at JEOL USA this past summer and fall. Attendees' applications for the DART have ranged from analysis of historic textiles and ancient cave drawings (Ruth Ann Armitage of Eastern Michigan University, left) to contraband containing bear bile (Pam McClure of Fish & Wildlife, right; see related story below).

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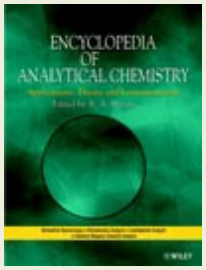
Mass Spec & NMR Reference Data



New Encyclopedia of Analytical Chemistry with chapter on DART by R. Cody and A. Dane

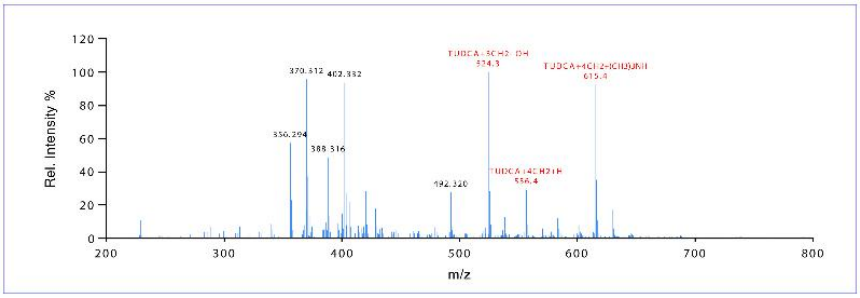
The next AccuTOF-DART training course course is scheduled for the week of Dec. 12-15 at the JEOL office in Peabody, MA. If you are planning to attend please contact Bisa Connors as soon as possible to reserve a space.

Identifying Bear Bile in Powders and Liquids

Can chemistry help save bears from an inhumane, unthinkable lifetime of torture, or from gruesome and wasteful poaching? Let's hope so, but for now, bears are the victims of lucrative trade in the bile that their gall bladders produce. Bear bile has been widely used in Traditional Chinese Medicine (TCM) for generations. It is harvested at farms in Asia where living bears are kept caged for years, while each day their gall bladders are tapped by a catheter to extract the bile.

The National Fish and Wildlife Forensics Laboratory in Ashland, Oregon is the only lab of its kind in the United States, and it has been called the "Scotland Yard for Crimes against Wildlife." Forensic scientists from the lab recently brought samples of bear bile (and with it the plight of the unfortunate bears) to JEOL's attention when they attended an AccuTOF-DART training course in our Peabody headquarters, learning to integrate Direct Analysis in Real Time mass spectrometry into the lab's already rigorous testing procedures for the number of difficult samples they receive each day. DART can be used as a rapid way to identify tauroursodeoxycholic acid (TUDCA), the active ingredient in bear bile.

Read the full story>>>>



Tauroursodeoxycholic acid (TUDCA) was detected in bear bile by in-situ permethylation by using the thermal hydrolysis and methylation (THM) reagent tetramethylammonium hydroxide. The TMAH was applied to the sampling tube together with the bear bile and placed in the heated gas stream from the DART. The characteristic peaks for the TUDCA are labeled in red.

SpiralTOF MALDI-TOF-TOF Applications Notes Online

Applications notes for the new SpiralTOF are growing in number and we add them to our website periodically as they become available. Small molecule analysis and polymer analysis are the two most recent topics explored with this exciting new mass spectrometer now here in our demo lab at JEOL USA.

Mass Spectrometers

SpiralTOF MALDI-TOF/TOF MS

AccuTOF-DART Direct Analysis in Real Time

AccuTOF-GCv Time of Flight MS

MStation Double-Focusing Magnet Sector MS

NMR Spectrometers

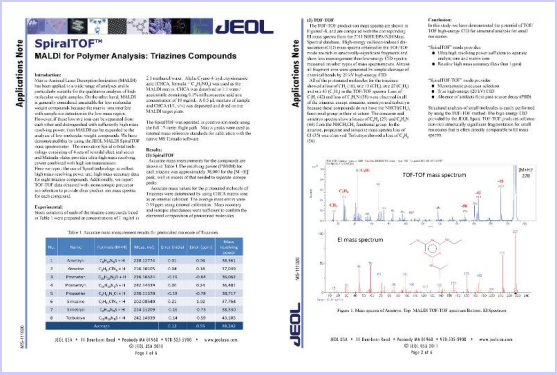
ECS-400 NMR Spectrometer

Our EC NMR Series

Delta Software

ESR Spectrometers

Electron Spin Resonance Spectrometers



Click here for more details about the SpiralTOF and to download the applications notes.

New ID-Cube for AccuTOF Mass Spec

The ID-Cube enhances the AccuTOF's performance with all the advantages of DART: no sample prep, no salt interference, and near-instantaneous detection of intact molecules. Just place a drop of sample on the target screen of an OpenSpot™ Sample Card and insert the card into the slot of the open air ion source for rapid identification.