

Welcome to Pittcon 2008

ThermoFisher
S C I E N T I F I C



The world leader in serving science

Redefining Industry Leadership

Marc N. Casper
Executive Vice President

Pittcon 2008 Press Conference
March 3, 2008

Welcome: Pittcon 2008 Press Conference

ThermoFisher S C I E N T I F I C

We are the leading provider of analytical instruments, equipment, reagents and consumables, software and services for research, analysis, discovery and diagnostics.

A Year Later...

Industry Leadership Redefined

- Unmatched capabilities
- Innovative technologies
- Convenient purchasing
- Complementary acquisitions
- New workflow solutions

***New prospects for growth,
new possibilities for customers***



The World Leader in Serving Science

Size and Scale

- \$10 billion in revenues
- 33,000 employees in 38 countries
- 350,000 customers
- 150 countries served
- Fortune 300 company

Unmatched Capabilities

- Complete portfolio
- World-class technologies
- Commercial and service strength

Leading Brands

- Two premier brands

Thermo
SCIENTIFIC

 **Fisher**
Scientific

Continuing our growth momentum

A Mission We Are Proud Of

Healthier



Cleaner



Safer



We enable our customers to make the world healthier, cleaner and safer

The Industry's Premier Brands at Pittcon

Thermo
SCIENTIFIC

Fisher
Scientific



Technology

- Best-in-class technology
- Continuous innovation
- Moving science forward



Convenience

- Premier customer channels
- New 2008-09 catalogs
- One source, infinite solutions

Thermo Scientific: Moving Science Forward

R&D Powerhouse

- Investing more than \$250 million in research and development during 2008
- Core strength in analytical technologies
 - Ease-of-use
 - From research to routine
- Range of applications
 - Proteomics, cell culture
 - Pharmaceutical and industrial QA/QC
 - Environmental testing
 - Consumer safety – food, toys



Service and Support

- Unmatched team and expertise
 - Thermo Scientific Resource Center
 - Applications support
 - Asset management
 - Multi-vendor

Committed to helping our customers simplify the process, so they can focus on the science

Thermo Scientific: Moving Science Forward

All-star lineup at Pittcon 2008



Elemental
Spectroscopy

Thermo

SCIENTIFIC



Chromatography



UV Vis
Spectroscopy

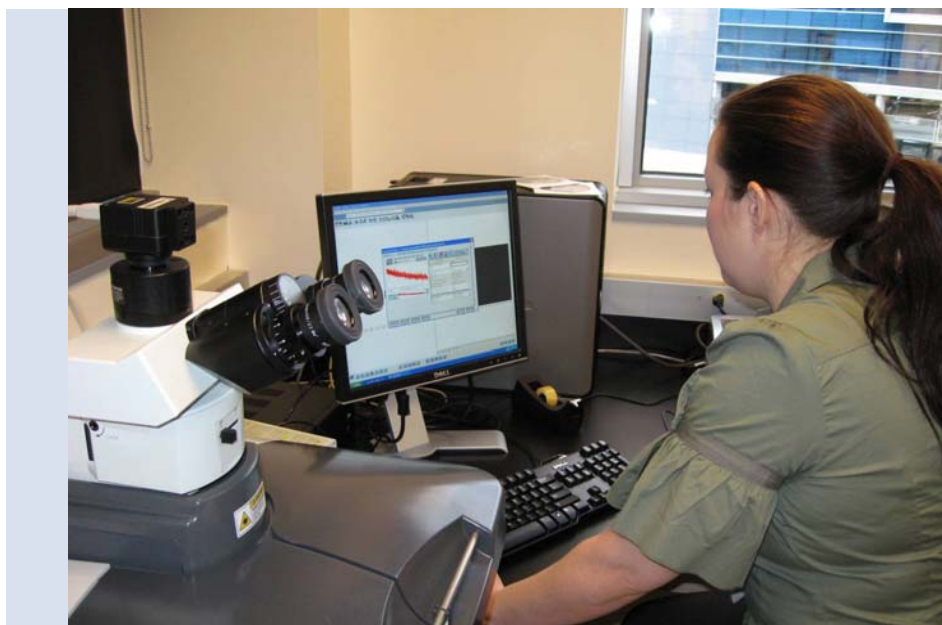


Molecular
Spectroscopy

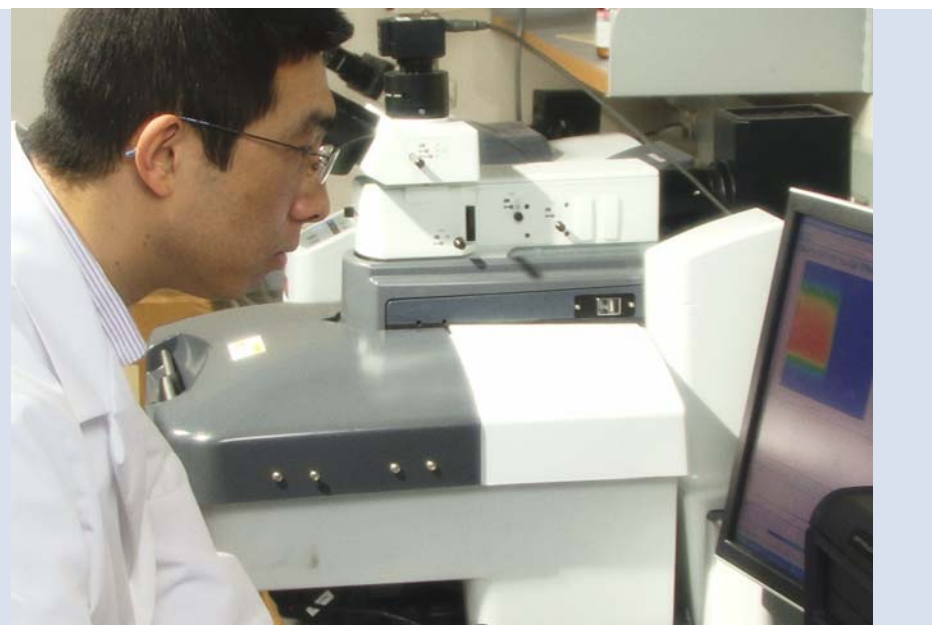


Mass
Spectrometry

Thermo Scientific: Moving Science Forward



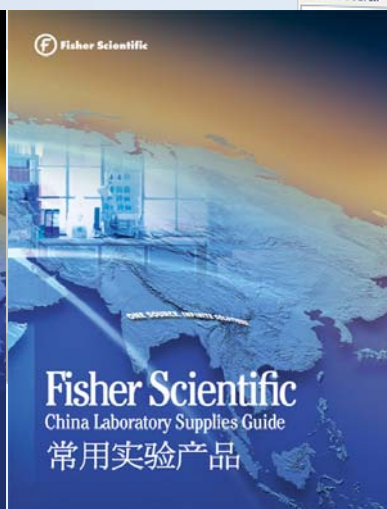
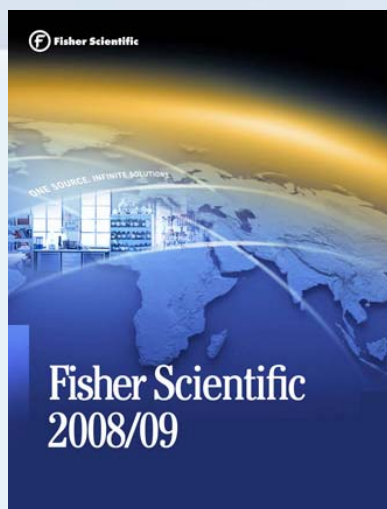
*State of Virginia
Forensics Lab*



*University of Wisconsin
School of Pharmacy*

Innovation that brings sophisticated analytical technologies to a range of applications

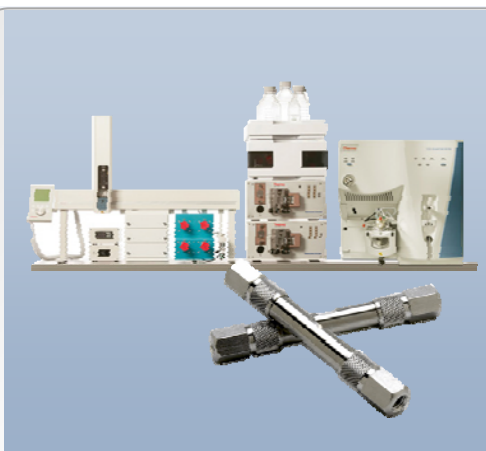
Fisher Scientific: One Source, Infinite Solutions



Providing customers with a growing portfolio of convenient sourcing options

Adding Value Through Bolt-on Acquisitions

Cohesive



- Advanced sample extraction and LC products
- In-line sample prep complements mass spec offerings

NanoDrop



- Leader in micro-volume UV-Vis
- Easier to work with small samples, no need for dilution boosts productivity

Qualigens



- India's largest lab chemicals producer and supplier
- Extends product offerings, access to Asian markets

Complementary technologies, commercial capabilities, global reach

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

- Reagents
- Laboratory equipment
- Chromatography
- Mass Spectrometry
- Microbiology
- LIMS



Complete analysis of pesticides and pathogens in food

Bringing it All Together in the Application Lab

Cell Culture Protein Quantitation Workflow (SILAC)

- Bioreagents
- Cell culture protein quantitation media
- Laboratory equipment
- Electrophoresis
- Mass Spectrometry
- Informatics



An integrated solution to accelerate protein research

An Unbeatable Combination

- Unmatched capabilities
- Innovative technologies
- Convenient purchasing
- Complementary acquisitions
- New workflow solutions

ThermoFisher
S C I E N T I F I C

The world leader in serving science



Visit us at booths 1721, 1735 ,1741

ThermoFisher
S C I E N T I F I C

The world leader in serving science

Moving Science Forward

Dr. Ian Jardine

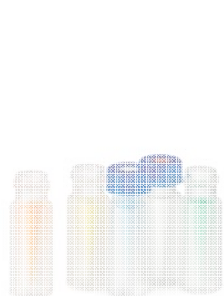
Vice President, Global R&D

Pittcon 2008 Press Conference

March 3, 2008

New Thermo Scientific Products at Pittcon 2008

Sample Preparation



Specialty Glassware



Finnpipette F2



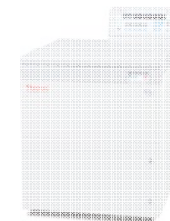
Finnpipette C1



Microflex Pump



Pierce Reagents

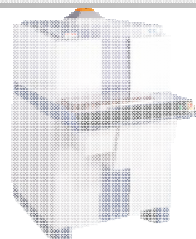


Sorvall RC3BP Plus

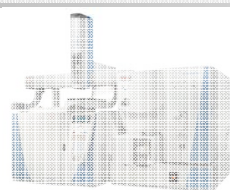
Sample Intro and Analysis



Niton XL3 Series



ARL 9900 XRF With XRD



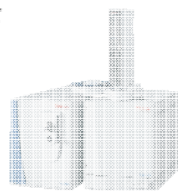
Quantum GCMS/MS



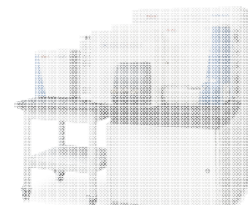
MALDI LTQ XL



NanoDrop Micro-UV



ITQ Ion Trap GCMS



MALDI and ETD on LTQ Orbitrap XL



DXR SmartRaman



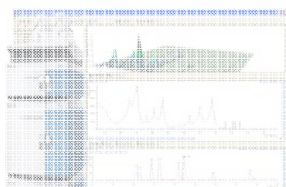
Raman: DXR Microscope



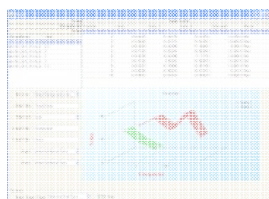
FT-IR: Nicolet iS10 and iN10 & iN10MX Microscopes



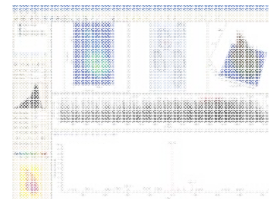
Data Interpretation & Storage



Accela LC with Atlas CDS



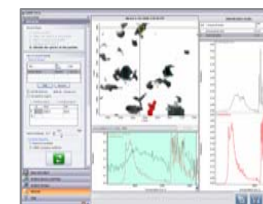
Darwin LIMS v3.0



MS ImageQuest



Omniscia Spectra



Omniscia Picta

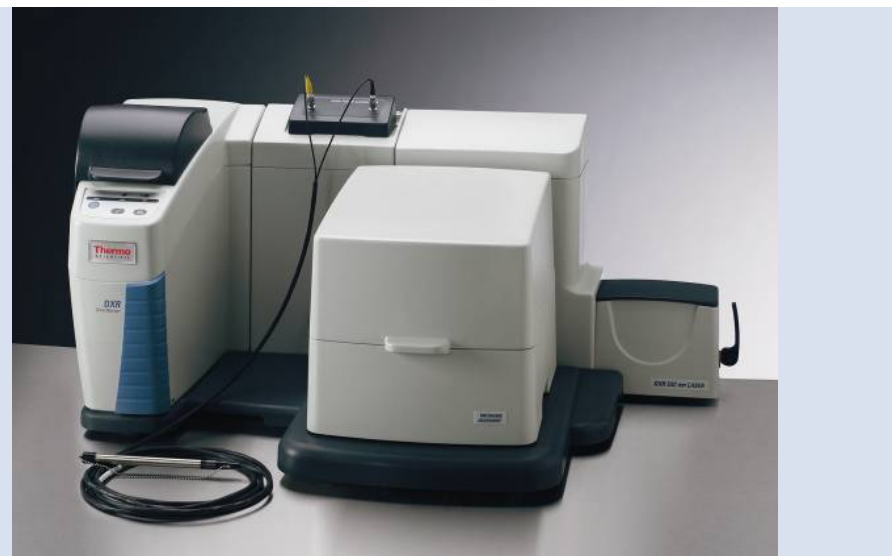
Complementary Techniques: Raman and FT-IR

FT-IR



- Strong IR absorbers = weak Raman emitters
- IR characterizes polar groups (C=O)

RAMAN



- Weak IR absorbers = strong Raman emitters
- Raman characterizes non-polar groups (C=C)

Having both molecular spectroscopy techniques prepares the analyst for any sample!

Advanced Molecular Spectroscopy – Simplified

?

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●

Spectroscopy Simplified.

Getting from question to answer
easier than ever before.

Spectroscopy Simplified

FT-IR

**Thermo Scientific
Nicolet iS10
Spectrometer**



FTIR with Complete Confidence

**Thermo Scientific
Nicolet iN10/iN10MX
Microscopes**



Innovative, Integrated, Intuitive

RAMAN

**Thermo Scientific
DXR SmartRaman
Spectrometer**



Raman for Routine Applications

**Thermo Scientific
DXR Raman
Microscope**

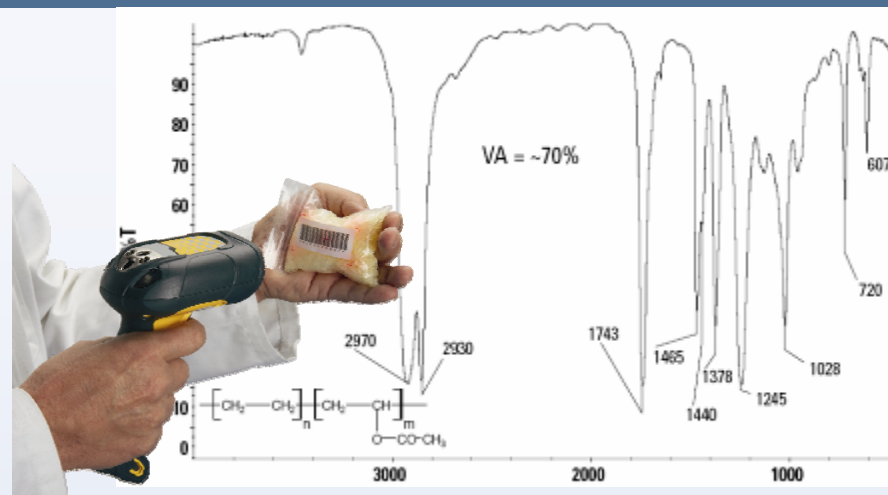


Revolutionizing Raman Spectroscopy

Revolutionary FT-IR and Raman platforms

FT-IR Spectroscopy: Nicolet iS10

- Performance, reliability and simplicity
- Complete confidence without long learning curve
- Automatic system suitability checks and sample recognition



iS10 ATR

iZ10 TGA

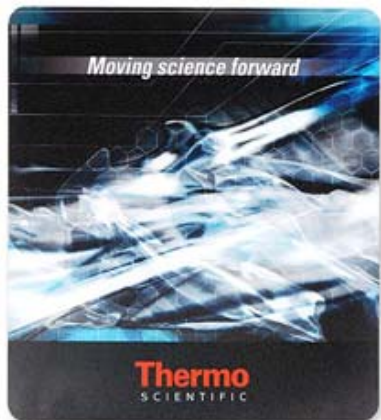


Multi-sampling flexibility – one spectrometer

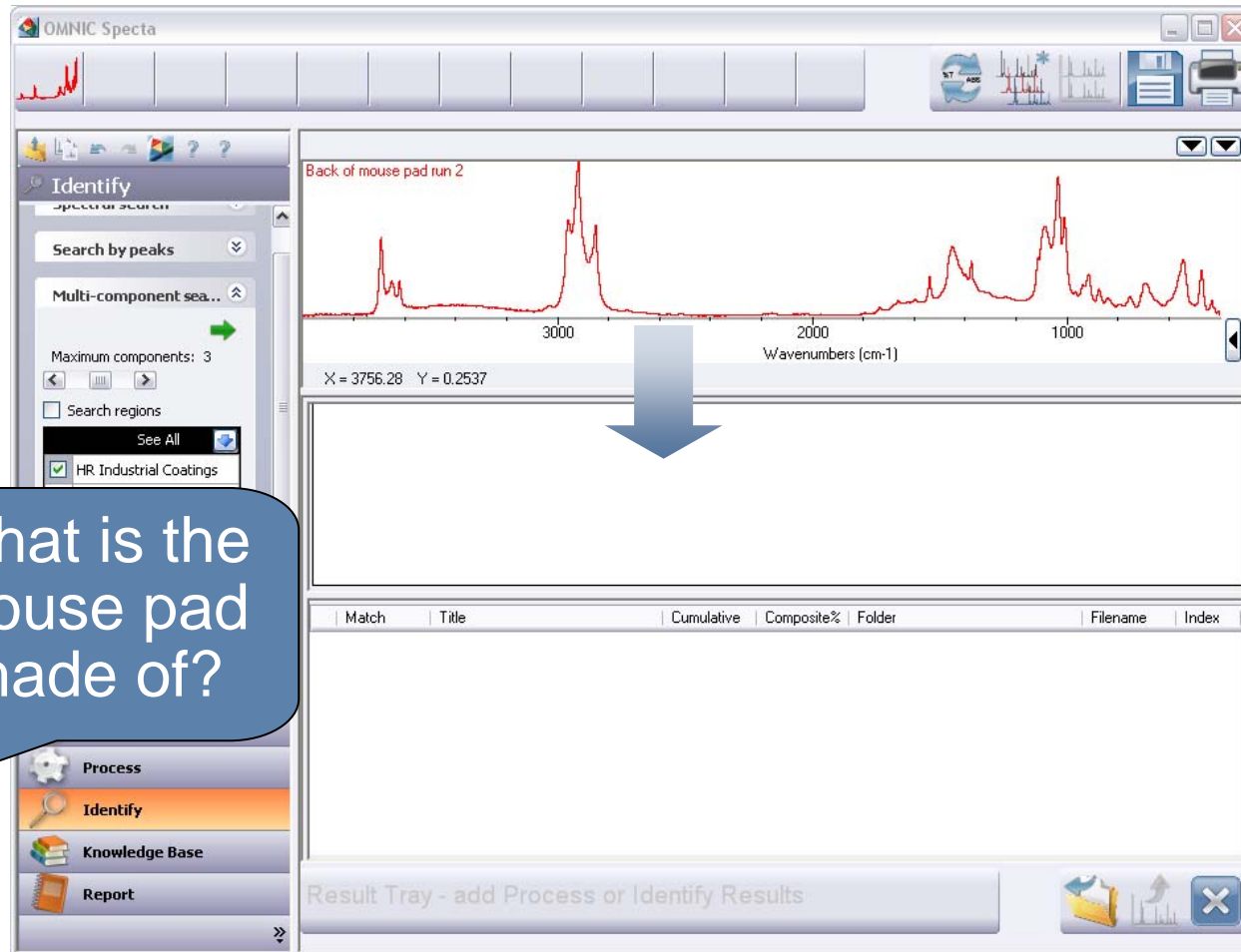
FT-IR Spectroscopy: Nicolet iS10 with Omnic Specta



- Mixtures automatically deconvoluted
- Constituents identified in seconds



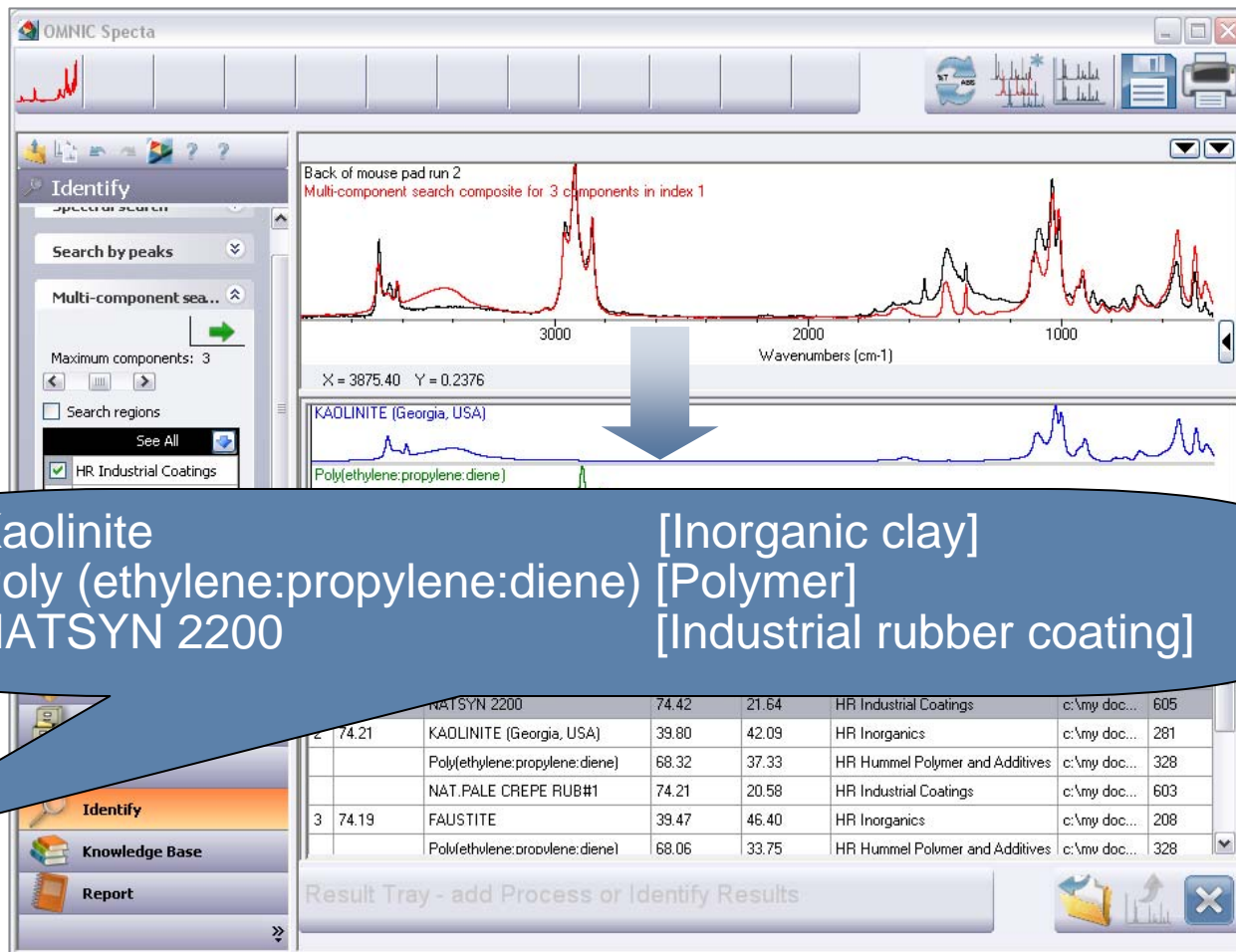
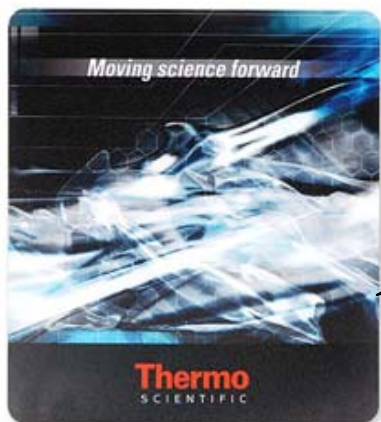
What is the mouse pad made of?



FT-IR Spectroscopy: Nicolet iS10 with Omnic Specta



- Mixtures automatically deconvoluted
- Constituents identified in seconds



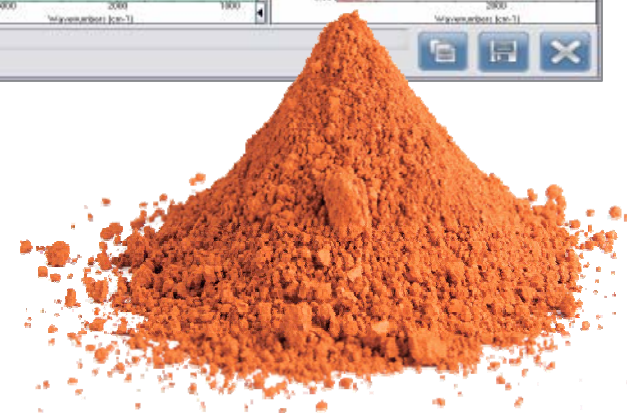
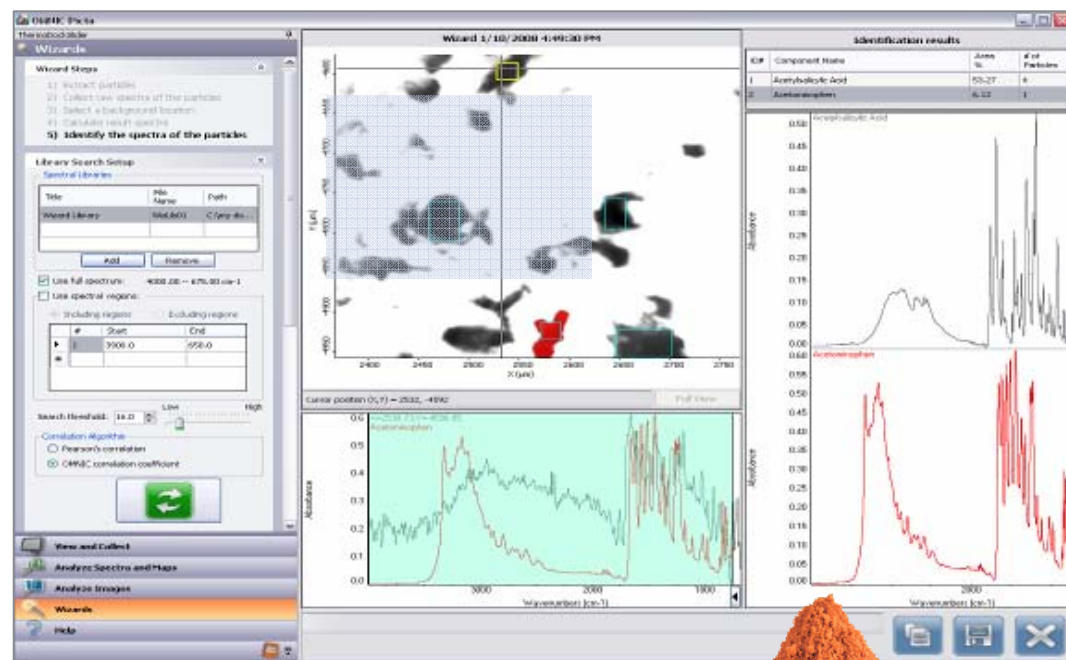
- Kaolinite [Inorganic clay]
- Poly (ethylene:propylene:diene) [Polymer]
- NATSYN 2200 [Industrial rubber coating]

Multi-component analysis simplified – hours to seconds

FT-IR Microscopy: Nicolet iN10 & iN10MX with Omnic Picta



- Integrated – higher sensitivity
- Highly automated, easy to use
- Speed/resolution options:
 - Room temp detector
 - Liquid N₂ detector
 - High Speed Imaging (iN10MX)

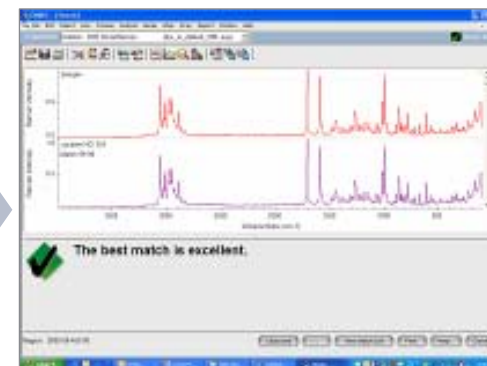


Microscopic analysis simplified

Raman Spectroscopy: DXR SmartRaman

- Auto-optimization
- Plug and play configurations
- Fully automated analysis

Analyze through packaging



**Measure directly
in bottles**



**Autosampler
option**

Video demonstration – material verification simplified

Raman Microscopy: DXR Raman Microscope

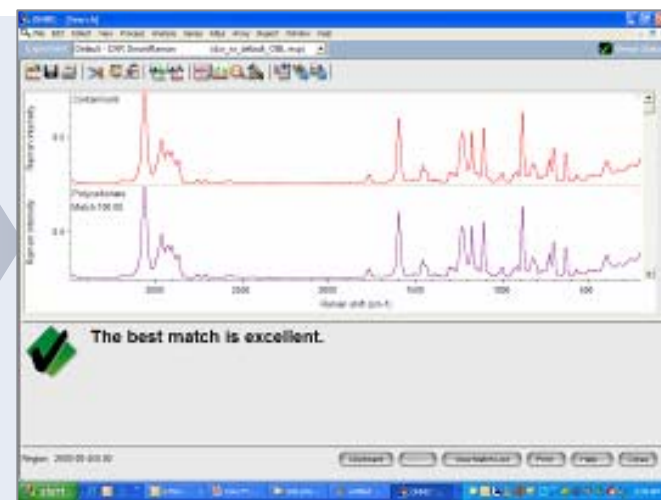
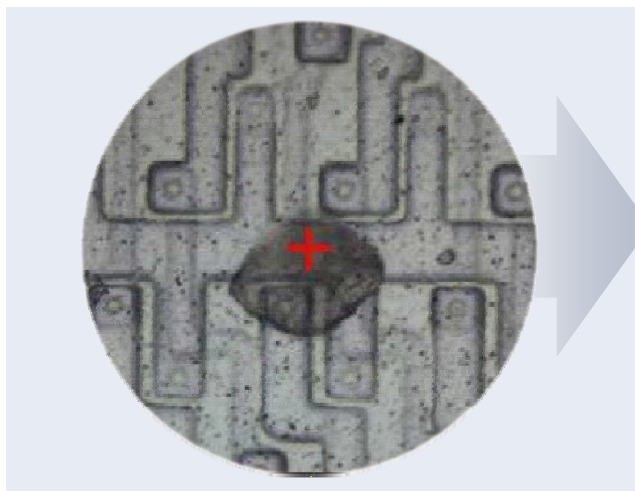
- Fully integrated and automated
- Interchangeable SMART components
- Complete system validation
- Sub-micron resolution
- Subsurface analysis simplified
- Largest Raman spectral libraries



Point

Shoot

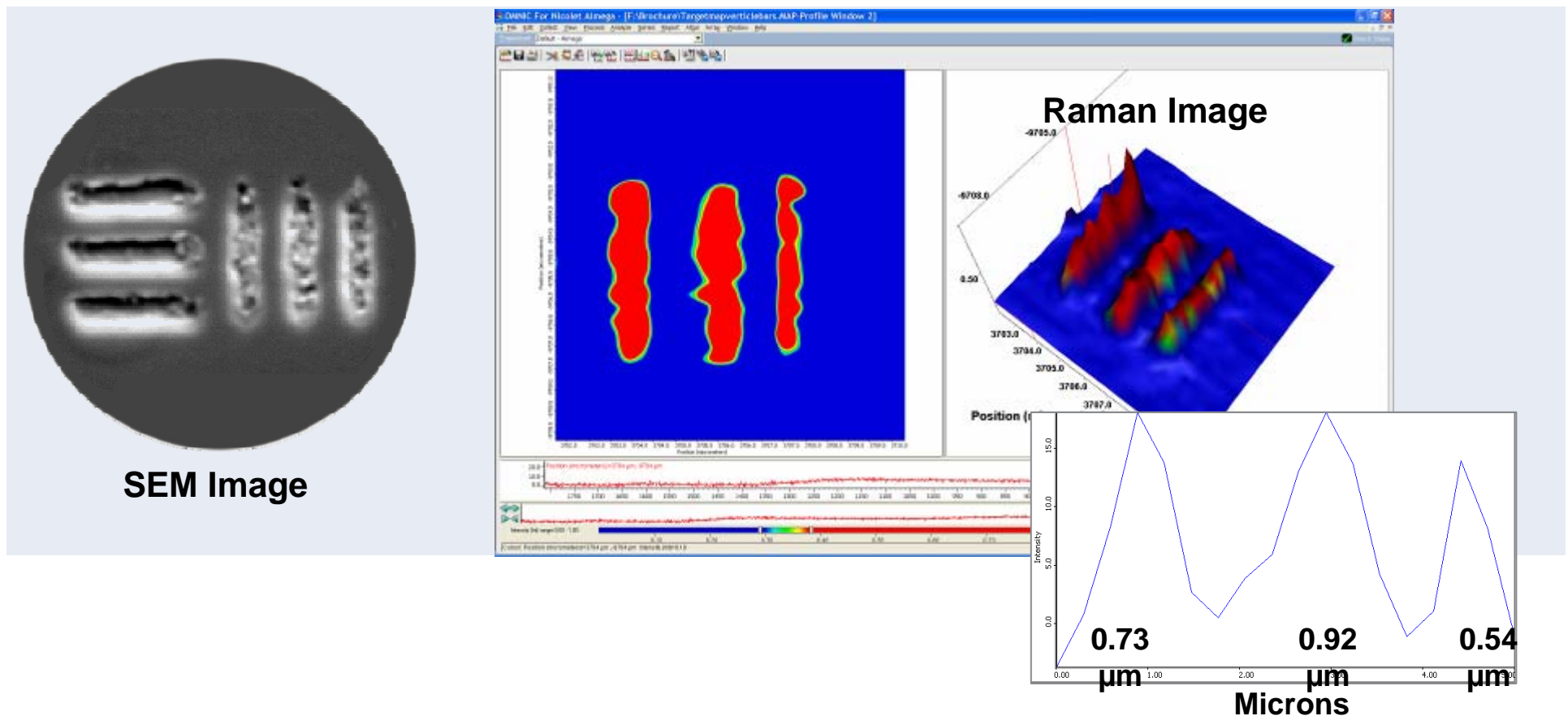
Answer



For the first time ever – point and shoot Raman!

Raman Microscopy: DXR Raman Microscope

Characterization of small features – Analysis under one micron



Maps with exceptionally high definition

Elemental Analysis: Handheld NITON XL3 Series

Advanced Screening

- User friendly pass/fail analysis
- Bull's eye and 20X smaller spot than other handheld analyzers
- Image capture along with test results
- Helium purge for light elements
- Viewing optimized with movable color screen

Applications

- Environmental
- Lead Screening
- Toxic Elements/RoHS
- Mining
- Metals and Metal Alloys
- Aerospace manufacturing
- Art & Archaeometry



Much faster measurement times!

Chromatography: Comprehensive Offering



Accela High Speed UHPLC



ITQ 700, 900, 1100 GCMSⁿ Ion Trap *From Routine to Research*

DSQ II GCMS



LCQ Fleet



- Darwin LIMS 3.0
- Atlas CDS control of Accela



TSQ Quantum GC



Broadest line of detection options

Life Sciences Mass Spectrometry: Ultimate Capability

LTQ XL
with ETD

2007
Silver
Award



Dramatically increased sequence coverage for proteins

LTQ Orbitrap XL
with ETD



ETD with the Ultimate in High Resolution and Mass Accuracy for MS, MS/MS and MSⁿ

LTQ XL
Linear Ion
Trap with
MALDI and
ImageQuest™



Advanced Tissue Imaging

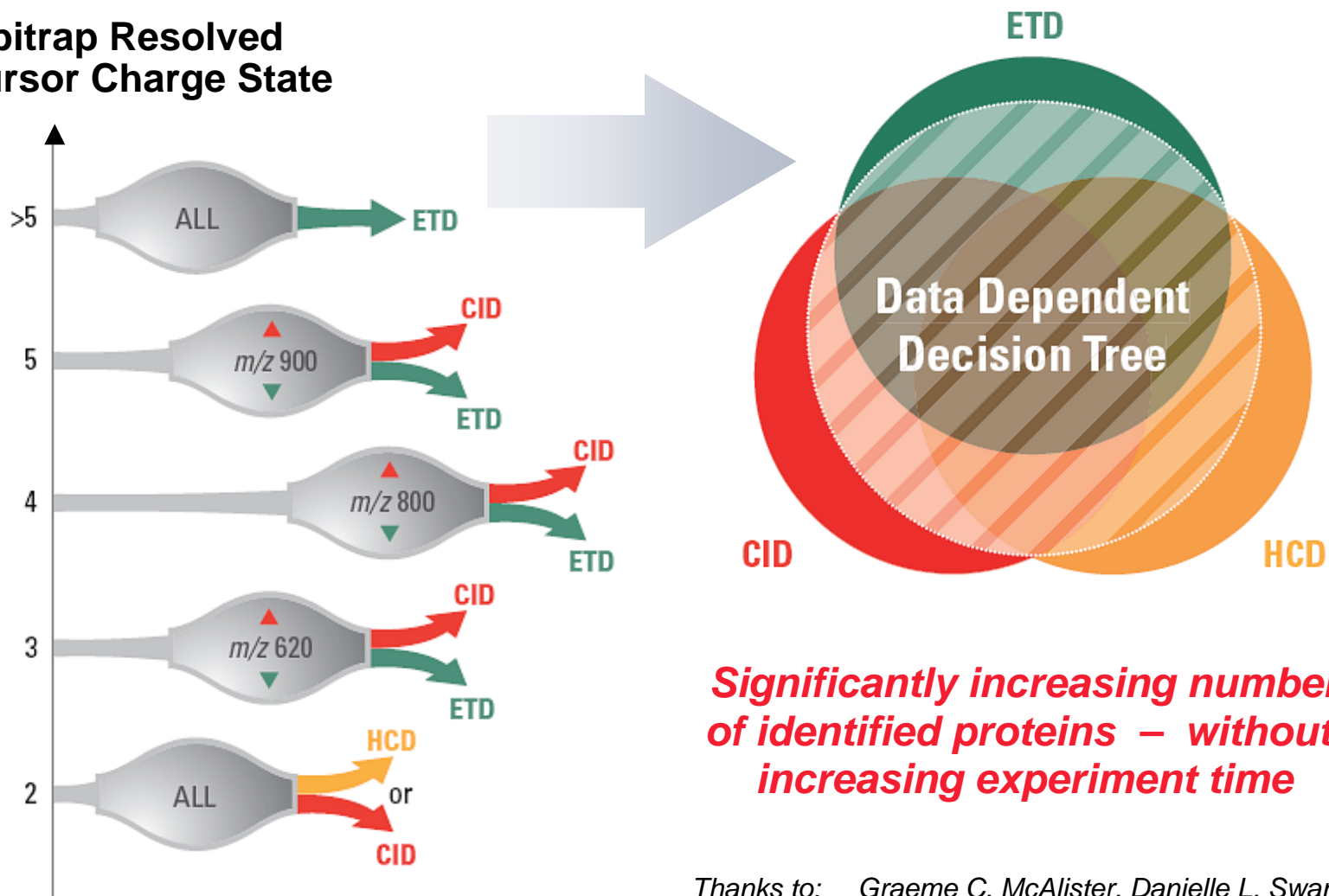
LTQ Orbitrap XL
with MALDI



MALDI with the Ultimate in High Resolution and Mass Accuracy for MS, MS/MS and MSⁿ

LTQ Orbitrap XL with ETD: Intelligent Peptide Sequencing

Orbitrap Resolved Precursor Charge State



Example of a Data Dependent Decision Tree.

Significantly increasing number of identified proteins – without increasing experiment time

Thanks to: Graeme C. McAlister, Danielle L. Swaney and Joshua J. Coon, Dept. Chemistry and Biomolecular Chemistry, University of Wisconsin,

MALDI LTQ XL Linear Ion Trap with ImageQuest™

Data Acquisition for Tissue Imaging

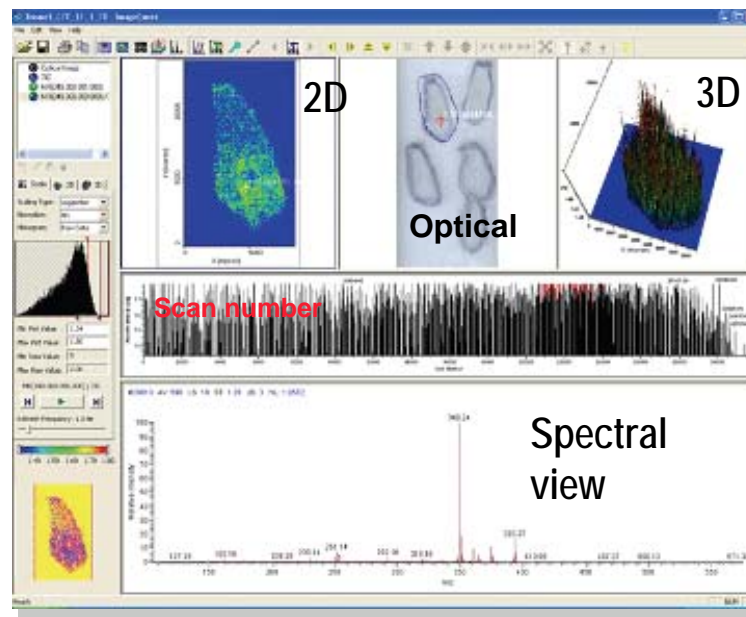
- Laser rastering flexibility
- Data dependent experiments
- Fast, high resolution optical scan



Visualization of Imaging Data

- Intuitive, interactive, easy to use
- Ability to overlay optical image with one or more ion distributions

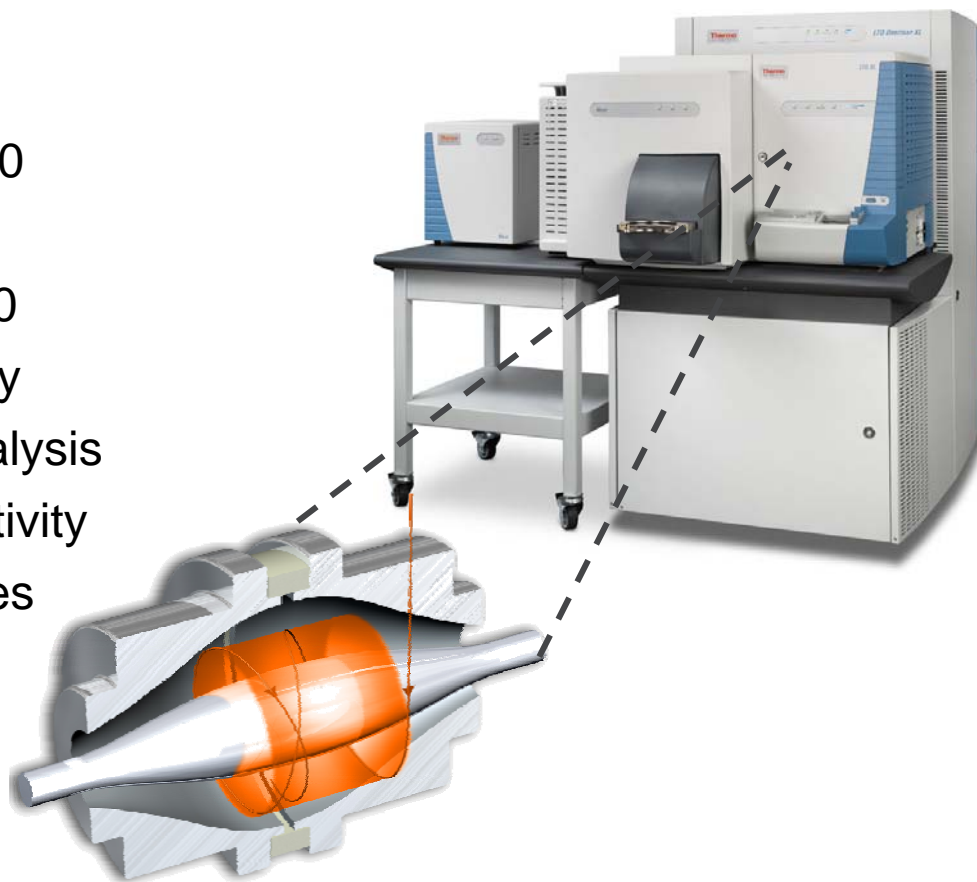
Bringing the power of MALDI imaging to routine applications



LTQ Orbitrap XL with MALDI

Key System Features

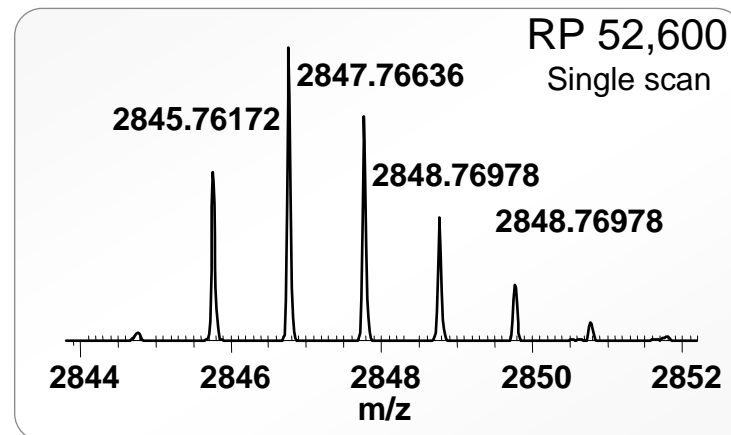
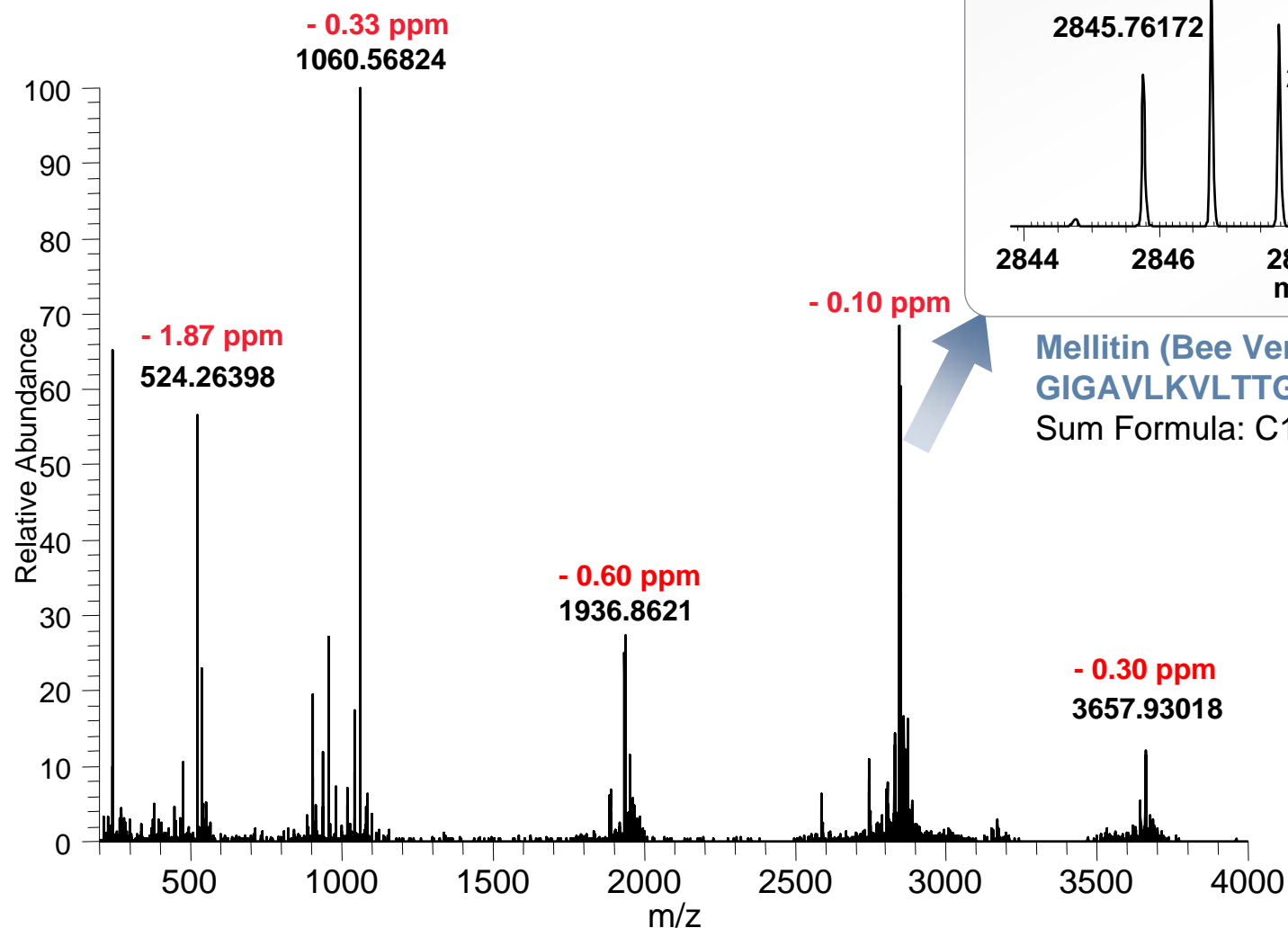
- Mass Range m/z 50-4000
- Mass Accuracy <2ppm
- Mass Resolution >50,000
- Sub-femtomole sensitivity
- Parallel MS and MS^n analysis
- High precursor ion selectivity
- New fragmentation modes (CID, PQD, HCD)



High resolution and mass accuracy never before available for MALDI

LTQ Orbitrap XL with MALDI: MS Resolution/Mass Accuracy

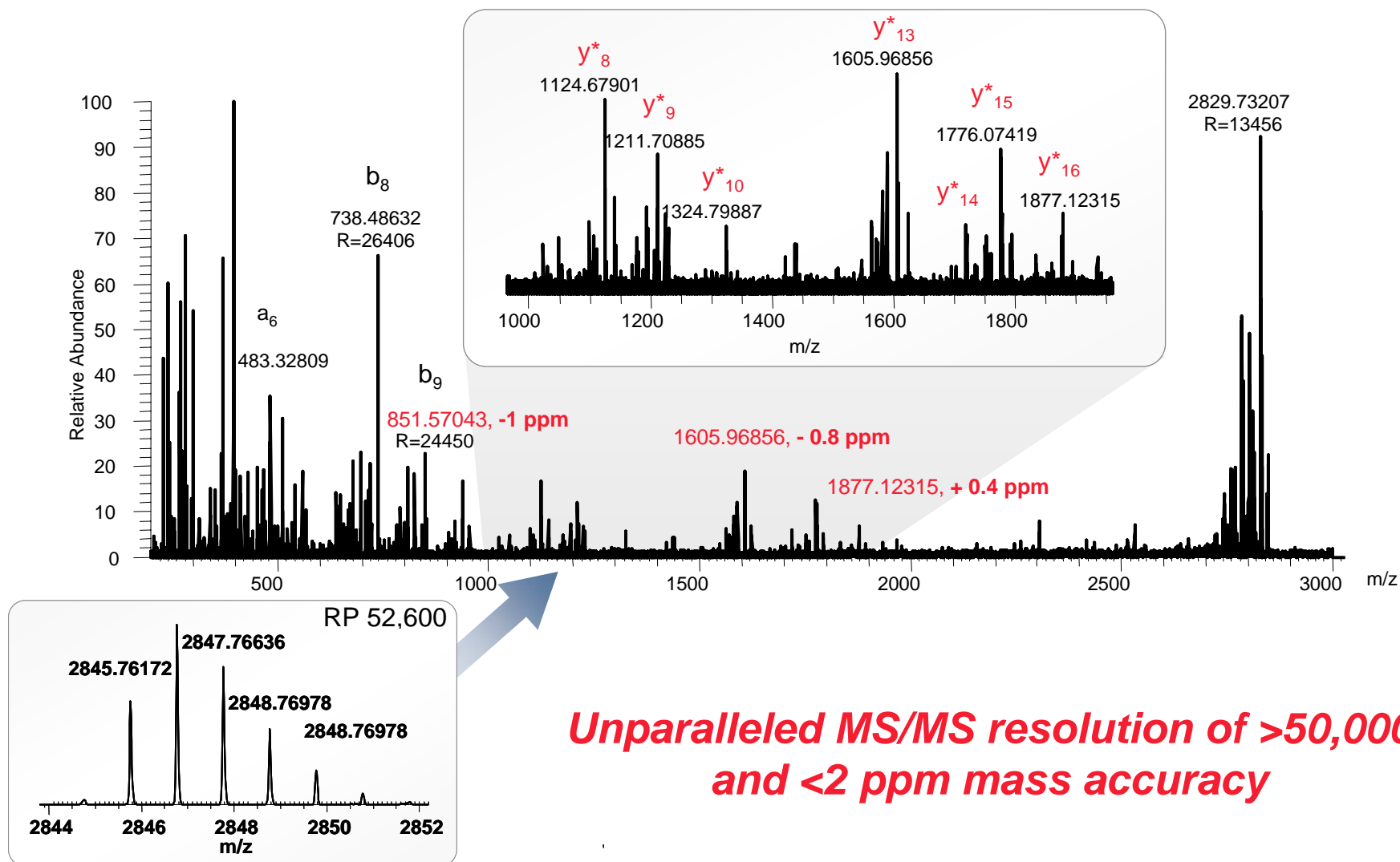
MALDI Analysis of mixture of large peptides



Mellitin (Bee Venom)
GIGAVLKVLTTGLPALISWIKRKRQQ
Sum Formula: C₁₃₁ H₂₃₀ N₃₉ O₃₁

LTQ Orbitrap XL with MALDI: MS/MS Resolution/Mass Accuracy

FTMS + p MALDI Full ms2 2848.00@hcd44.00 [200.00-3000.00]



**Unparalleled MS/MS resolution of >50,000
and <2 ppm mass accuracy**

Exceeding Customer Needs: Mass Spec Excellence

Category	2005	2006	2007
Instrument Specs	Thermo SCIENTIFIC	Thermo SCIENTIFIC	Thermo SCIENTIFIC
Technical Support Service	Thermo SCIENTIFIC	Thermo SCIENTIFIC	Thermo SCIENTIFIC
Instrument Data & Software	Waters	Thermo SCIENTIFIC	Thermo SCIENTIFIC
Instrument Reliability	Thermo SCIENTIFIC	Thermo SCIENTIFIC	Thermo SCIENTIFIC
Price / Value	Thermo SCIENTIFIC	Agilent	Thermo SCIENTIFIC
Ease of Operation	Thermo SCIENTIFIC	Thermo SCIENTIFIC	Thermo SCIENTIFIC

Redefining Industry Leadership

Source: ASMS '05, '06, '07 Surveys

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

- Reagents
- Laboratory equipment
- Chromatography
- Mass Spectrometry
- Microbiology
- LIMS



Complete analysis of pesticides and pathogens in food

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

■ Reagents

- ACS Certified Petroleum ether
- ACS Certified Trichloroethylene
- LC/MS Methanol
- LC/MS Water



Complete analysis of pesticides and pathogens in food

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

- **Laboratory equipment**

- Concept™ Fume Hood
- Regency Wood Lab Casework
- Max Carts



Complete analysis of pesticides and pathogens in food

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

- **Chromatography and mass spectrometry**
 - C18 and C4 SPE columns
 - HyPurity C4 LC columns
 - GOLD KAPPA capillary columns
 - Accela U-HPLC
 - Trace GC Ultra GC
 - ITQ
 - Quantum

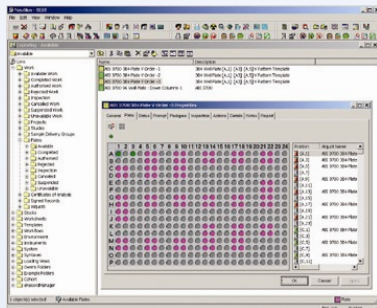


Complete analysis of pesticides and pathogens in food

Bringing it All Together in the Application Lab

Food Safety Workflow Solution

- **LIMS (Laboratory Information Management System)**
 - Nautilus



Complete analysis of pesticides and pathogens in food

Visit Us on the Exhibition Floor



Question and Answer Session

ThermoFisher
S C I E N T I F I C