



Thermo Scientific  
Nicolet iS50 FT-IR Spectrometer

**smarter FT-IR**  
definitive answers

**Thermo**  
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Nicolet iS50 FT-IR Spectrometer  
**materials analysis**



**POLYMERS and RUBBERS**

- run one-touch raw materials ID, blending, morphology, and kinetics
- multi-task in a single workstation – one setup, multiple answers



**FORENSICS**

- access two Class-A SWGDRUG methods in a small-footprint unit
- simplify GC-IR analysis of isomeric materials to one operation



**PHARMACEUTICALS**

- analyze formulations and polymorphs via an integrated system
- validate and deploy QA/QC methods for process or loading-dock use



**PIGMENTS, PAINTS and INKS**

- find inorganic fillers and additives in an organic base
- correlate visible colors with formulation



**FOOD, FLAVORS and OILS**

- identify isomeric fragrances and flavors
- analyze moisture, fat, proteins and extracted oils from seeds



**GENERAL LABORATORIES**

- bring one-touch consistency to complex analyses
- increase laboratory power with many techniques in a small footprint



**beyond imagination**

The Thermo Scientific Nicolet iS50 FT-IR spectrometer gives definitive answers in your analytical laboratory where fast, easy workflows are essential. No other FT-IR goes beyond your expectations to offer one-touch simplicity, flexibility and integration in such a small, cost-effective workstation. The Nicolet™ iS™50 is so advanced you won't think of it as simply an FT-IR.

*Go beyond FT-IR to answers.*



# beyond the ordinary

raise productivity while reducing manual operations

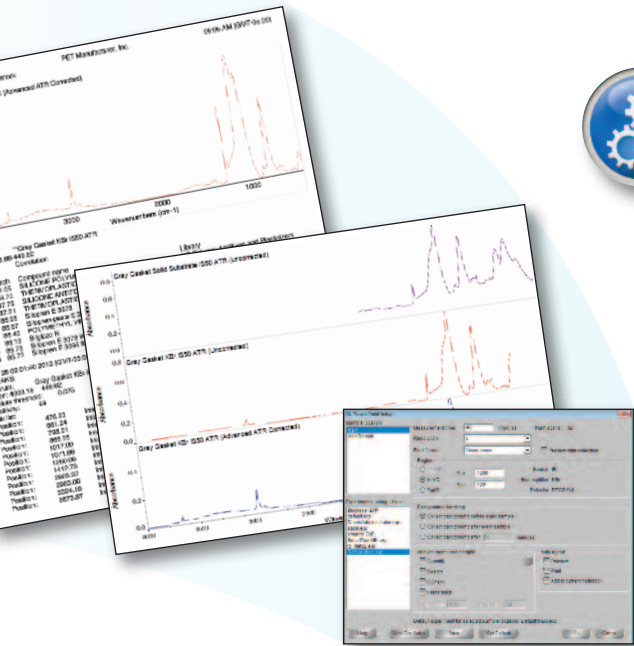


## Touch Points

### Collect, analyze and compile reports with one touch simplicity

As you add more capability, the Touch Points become more powerful, driving setup and checking performance so you don't need to.

- Select beam path, optical components and sampling module with one touch
- Create automated workflows with no programming
- Compile multiple spectra, analyses and images into one group file
- Track, organize and output information with auto-reporting



Touch Point operation: collect, analyze and report – you do science, not data processing!



## Built-in ATR

### Engage your most powerful sampling technique anytime with built-in ATR

ATR like it was meant to be. Rugged, fast and always ready to go. Powders, liquids, gels and pastes can be analyzed, with no setup, using the iS50 ATR. All reflective optics and proprietary detector allow you to analyze organic and inorganic materials with mid- and far-IR spectroscopy. The iS50 ATR leaves the main sample compartment free for other analyses, never requiring you to swap accessories or break system seals.

- Eliminate manual set-up procedures and instrument conditioning time
- Keep the main sample compartment clear for other experiments, such as Raman
- Examine hard, acidic or volatile materials with minimal sample preparation
- Analyze bulk polymers and fillers simultaneously

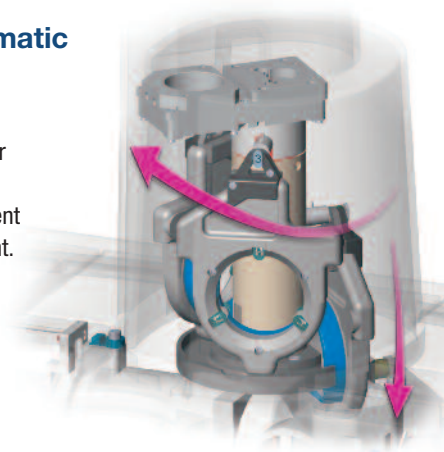


## Automated Multi-range

### Redefine analytical productivity with automatic beamsplitter changing

Automate your analysis with the iS50 ABX Automated Beamsplitter exchanger, which enables the Nicolet iS50 to set up the instrument with a single press of a Touch Point. Now, you can do the complete analysis including crystallinity, bulk analysis, and identification, using near-, mid- and far-IR by loading samples and letting the instrument do all the work.

- Measure multiple aspects of your sample automatically
- Enable setup changes without disturbing seals, desiccation or purge
- Eliminate manual handling of optical components



Across the full range of applications, the Nicolet iS50 provides you the flexibility to get your work done.

Visible

Near-IR

Mid-IR

Far-IR

## Smart Flexibility

### Target your analysis with the right accessory

Smart means getting the right tool for the job. It also means being able to use accessories you already have, with a spectrometer made to accept them.

- Get even more from your Smart Accessories through the Touch Points
- Use a full range of standard accessories
- Full-size sample compartment for large accessories



# beyond FT-IR

expand your analysis horizons

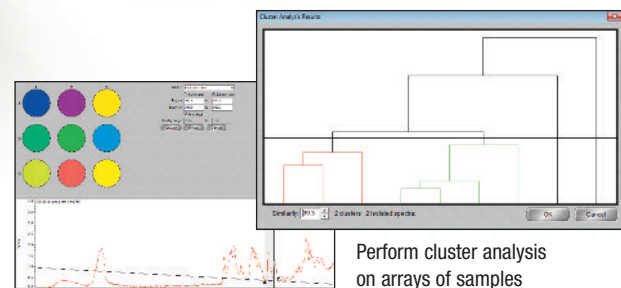


## Integrated Raman

### Add the power of Raman to complement your material characterization

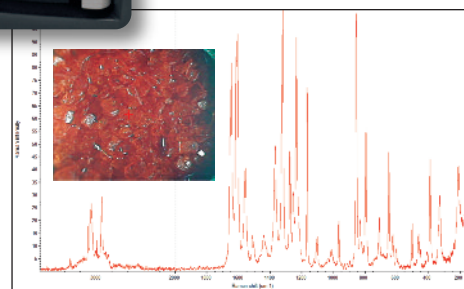
The iS50 Raman accessory provides capabilities, like mapping and well-plate screening in a sample compartment mounted module. Never before has laboratory Raman analysis been so versatile, cost effective and easy to use.

- Perform analysis of crystallinity and inorganics
- Complement your material identification with Raman
- Switch in seconds between the iS50 ATR and iS50 Raman
- Screen multiple samples for cluster analysis



Examine powders, tablets, films, fibers or particles

Capture video images to augment your reporting



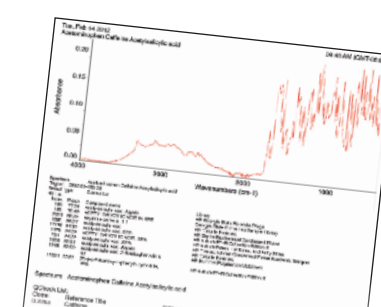
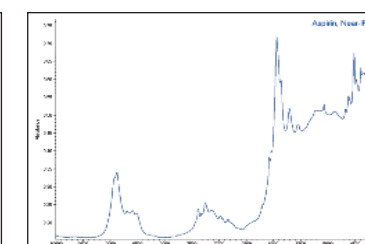
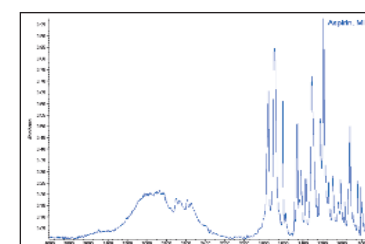
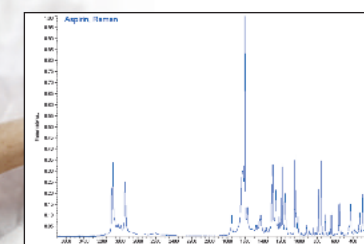
## Complete Analysis in One Step

The Nicolet iS50 lets you automate your entire process even when combining techniques. Collect and analyze Raman, mid-IR ATR, near-IR and more in one Macros\Basic driven process. Walk away and come back to a combined report.

- Store images along with your data file
- Couple multiple data files and results for a project
- Build workflows for consistent results with any operator



Load



## Dedicated NIR

### Develop QC methods for bulk samples

The iS50 NIR module provides integrating sphere and fiber optic options in one compact unit.

- Initiate collection with one touch
- Run samples through containers without preparation
- Obtain consistent spectra from heterogeneous solids
- Sample solids and liquids in situ



Accessories optimize your near-IR sampling

# beyond results

bring simplicity and consistency to your operations

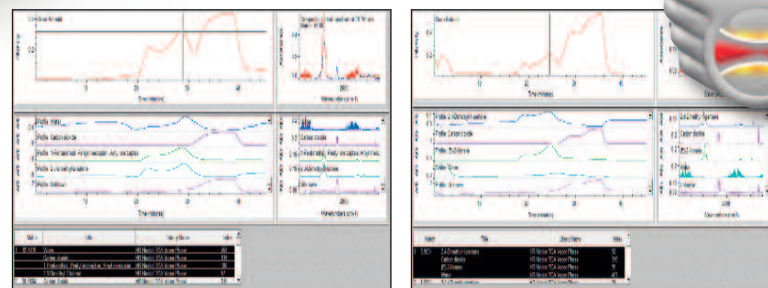
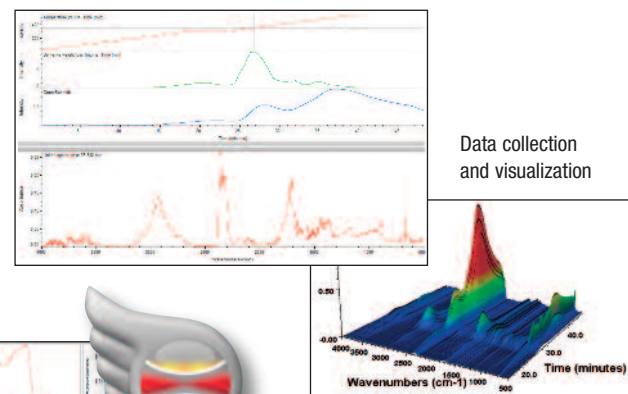


## Definitive TGA-IR

### Make deformation a routine procedure for your materials laboratory

Complex gas mixtures evolved from the TGA experiment are automatically resolved and identified by the Mercury TGA software.

- Extract “what” and “how much” information from your material
- Get fast, consistent results easily with Mercury TGA software
- Probe starting and residual material via ATR to complete the picture



Compare outputs: the differences tell the story for failure analysis or reverse engineering

Mercury TGA means TGA-IR is now a genuine analytical tool for any analyst in any laboratory. Put TGA-IR to work.

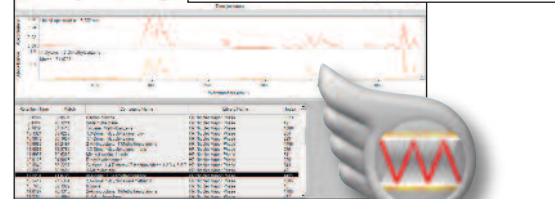
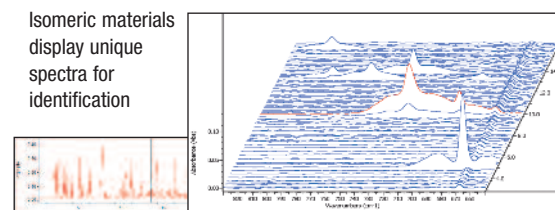


## Streamlined GC-IR

### Uniquely identify stereochemistry and trace chemicals

Get qualitative, isomer-specific analysis with no effort using the iS50 GC-IR modules and the Thermo Scientific OMNIC Mercury GC software. Your productivity can rise further using the industry standard Thermo Scientific Dionex Chromeleon chromatography data system software to drive autosamplers and simultaneous GC-FID and GC-IR detection. Add other features of the Nicolet iS50 to create the ultimate forensics laboratory workstation – Raman, ATR and GC – all integrated with the spectrometer.

- Analyze fuels, chemicals and drugs definitively
- Present data meaningfully using waterfall or 3-dimensional plots
- Extract peaks and identify them automatically using Mercury GC software



Mercury GC software finds your GC-IR peaks and analyzes them automatically

## Unlimited Potential

### Expand your horizons with the Nicolet iS50

As your needs grow, so can the capabilities of the Nicolet iS50 spectrometer. Whether you are studying microscopic structures, organic thin films, fast reactions or new light sources, the Nicolet iS50 spectrometer enables your research now and in the future.



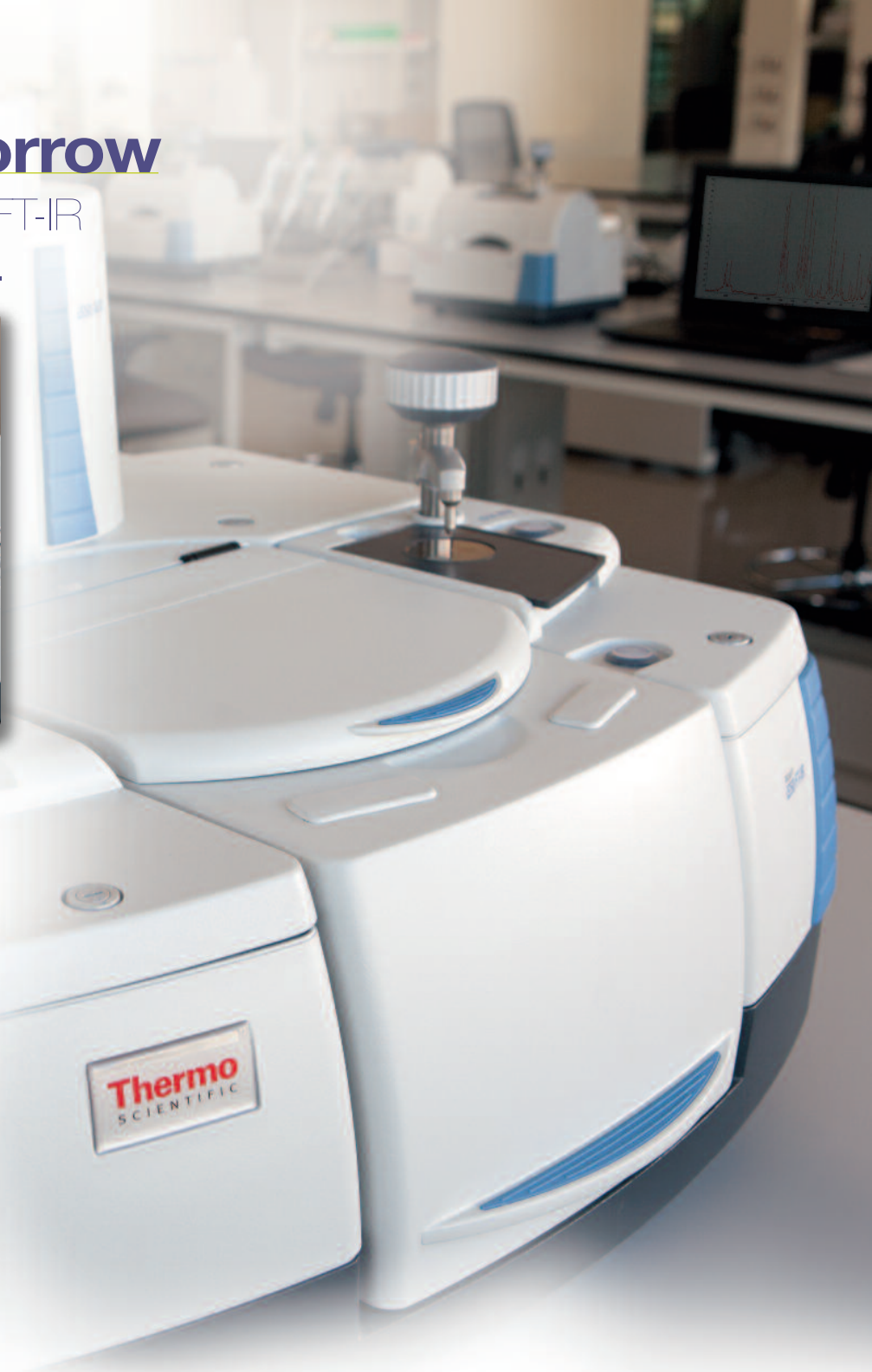
# beyond tomorrow

the most trusted FT-IR  
in the industry is...



backed by world-class service  
and applications expertise.  
Equipped with tools to facilitate  
regulatory compliance. Field  
upgradable to ensure best  
fit to your future needs.

Our commitment to you  
ensures your ability to provide  
definitive answers...today,  
tomorrow and beyond.



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