



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**Request for
 Quotation**

RFQ NUMBER
DPS0926

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
**JOHN ABBOTT
 304-558-2544**

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE
 Thermo Electron North America LLC
 1400 Northpoint Pkwy, Ste 50
 West Palm Beach, FL 33407

SHIP TO

WEST VIRGINIA STATE POLICE
 4124 KANAWHA TURNPIKE
 SOUTH CHARLESTON, WV
 25309 304-746-2141

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/21/2009				
BID OPENING DATE: 02/04/2009		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		490-55	\$357,532.92	\$357,532.92
MASS SPECTROMETERS (LABORATORY) CONTRACT TO PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL A LIQUID CHROMATOGRAPHY TANDEM QUADRUPOLE MASS SPECTROMETER SYSTEM AT THE WV STATE POLICE FORENSIC LAB, SOUTH CHARLESTON, WV, PER THE SPECIFICATIONS. NOTICE A SIGNED BID MUST BE SUBMITTED TO: DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130 THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED: SEALED BID BUYER: JOHN ABBOTT RFQ. NO.: DPS0926						

RECEIVED

2009 FEB -4 A 10:31

PURCHASING DIVISION
 STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Valma Salgado* TELEPHONE: 800-532-4752 DATE: 2/3/09

TITLE: Order Entry Admin FEIN: 43-1992201 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

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WEST VIRGINIA STATE POLICE

4124 KANAWHA TURNPIKE
 SOUTH CHARLESTON, WV
 25309 304-746-2141

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
01/21/2009				
BID OPENING DATE: 02/04/2009		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
BID OPENING DATE:				2/4/2009-----		
BID OPENING TIME:				1:30 PM-----		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
				-----561-688-8731-----		
CONTACT PERSON (PLEASE PRINT CLEARLY):						
				-----Vilma Delgado-----		
***** THIS IS THE END OF RFQ DPS0926 ***** TOTAL:						\$357,532.92

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *Vilma Delgado* TELEPHONE: 800-532-4752 DATE: 2/3/09

TITLE: Order Entry Admin FEIN: 43-1992201 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

The West Virginia State Police is soliciting bids for a Liquid Chromatography tandem quadrupole mass spectrometer system for the Toxicology Section of the Forensic Laboratory.

All bids must include the following specifications.

- **Furnish and install all components of liquid chromatograph mass spectrometer**
- **Furnish and install corresponding data handling system including computer, cables, connections, software, operating software, hardware, and all components to make it fully operational**
- **All Freight costs**

System Specifications and Requirements

Solvent Delivery System Requirements:

1. **Flow Rate:** 0.010-2.0 ml/min, in 0.001 ml increments.
2. **Pressure Stability:** $\leq 0.5\%$ of system backpressure or 50 p.s.i at 10,000 p.s.i.
3. **Gradient Profiles:** Even pre-configured gradient profile shapes (linear, 2 step, 4 convex, 4 concave)
4. **Delay Volume:** $\geq 120 \mu\text{L}$, independent of system pressure (with standard mixer 50 μL)
5. **Solvent Selection:** Binary solvent delivery system, allowing the user to choose between two mobile phase for each of the two solvent channels for a total of four solvent choices.
6. **Compressibility Compensation:** Automatic and continuous compressibility compensation, requiring no user intervention.
7. **Degassing System:** Built in high efficiency, low volume, 6 chamber vacuum degassing system with a separate channel for each mobile phase solvent and 2 channels for Sample Manager wash solvents.
8. **Flow Precision:** $\leq 0.075\%$ RSD or ± 0.02 min SD, based on retention time with flow accuracy of $\pm 1\%$.
9. **Compositional accuracy:** $< 0.5\%$ and compositional precision is $< 0.15\%$ RSD or ± 0.04 min SD. The solvent delivery system must include an automated software assisted purge function for ease of solvent changing and system purging/priming
10. **UPLC Pressure Requirement:** The solvent delivery system must be able to operate at pressures up to 15000 psi up to 1 ml/min, 9000 psi up to 2 ml/min as required for UPLC analysis.
11. **Seal Wash:** Integral, active and programmable plunger seal wash system.
12. **Flow Characteristics:** The Solvent Delivery System must be able to run, at flow rates above 0.5 ml/min, newer, smaller particle size columns, such as those with sub-2.0um diameter particles. The system must not require any hardware modifications to be able to run these columns. The system must be also able to run HPLC columns with particle sizes of 3.0, 3.5, 5.0, 7.0 um without any modifications to the system hardware.
13. **Inlet Valves:** The Solvent Delivery System must be equipped with controlled Intake Valves to deliver faster system priming and startup times. More robust operation and highly repeatable system performance are achieved even with difficult-to-pump solvents because disturbances to solvent flow in inlet lines are minimized. The valves actuation is precisely controllable, and the algorithms responsible for its operation respond instantly to the fast, pressure-sensing capability of the Solvent Delivery System.

Sample Management System Requirements:

1. **Sample Configurations:** The Sample Management System must be able to accommodate the following sample configurations without the use of an external sample handling device:

- 2 x 96 well plates
 - 2 x 384 well plates
 - 2 racks of 2 ml vials (48 vials/rack)
 - 2 racks of 4 ml vials (24 vials/rack)
 - 2 racks of 0.65ml microcentrifuge tubes (48 tubes/rack)
 - 2 racks of 1.5 microcentrifuge tubes (24/rack)
2. **Injections:** 1 to 99 injections per sample, dependant on sample volume available and injection volume.
 3. **Injection Modes:** The Sample Manager must support up to THREE injections modes : full loop, partial loop and partial loop using needle overfill (PLNO)
 4. **Injection Volume:** Injection volume range of 0.5 – 50 ul in 0.1ul increments, partial or full loop mode.
 5. **Sample Size:** Minimum sample required is 5ul, using 2ml Maximum Recovery Vials.
 6. **Needle Wash:** Needle wash system must wash with up to two solvents to minimize carryover.
 7. **Wash Solvent:** Fresh solvent for the needle wash with each injection to prevent possibility of carryover.
 8. **Random Access:** Random access to any vial for multi-method operation.
 9. **Injection Precision:** Sample delivery precision of 0.3% RSD, with a full injector loop, 5-50 ul.
 10. **Injection Linearity:** >0.999 coefficient of deviation from 2-10 ul.
 11. **Carryover:** Better than 0.005% or 2.0 nL of the compound assayed, whichever is greater.
 12. **Sample Temperature:** Sample compartment controlled from 4 to 40 °C, programmable in 1 °C increments.
 13. **Parallel Injection Capability:** The Sample manager must be able to load the injector loop before completion of the last injection.
 14. **Injection Loop Isolation:** The injector loop must be removed from the system flow path during injection to minimize carryover and to decrease injection cycle time.

Column Heater Compartment Requirements:

1. **Column Temperature Range:** 5 deg C above ambient to 90 deg C.

Other System Requirements:

1. **Remote Control:** The system must not have a keypad, all instrument control functions are available through MassLynx or Empower build 1154/2154 software, through third part Control Software and through the Standalone Console software application, or equivalent.
2. **System Volume:** Total effective system volume less than 120µL, independent of system pressure. This includes a 10 µL injector loop.
3. **Diagnostics:** The System must have diagnostic capabilities: ability to store up to 16 diagnostic data channels, for a total of 96 hours, including piston pressures, system pressure, sample manager pressures, temperature, including ambient, lamp hours,

- lamp ignitions. The diagnostic data must be collected when the instrument is powered up, regardless of the number of runs or run time set.
4. **Diagnostic reporting:** The system must create a standard format .pdf file listing all the diagnostic parameters, including firmware version, usage, such as solvent pumped and number of injections as well as maximum system pressure, error, diagnostic user and informational messages will be documented.
 5. **Maintenance Information:** The system must provide full maintenance information such as counters for total lamp hour usage, number of ignitions, solvent usage, number of injections etc.
 6. **Export of Diagnostic Data:** The system must export diagnostic data, uni-directionally across the internet if enabled by the Connections INSIGHT Agent installed on the same PC that runs Third Party, Console Software, Empower or MassLynx software that controls the system. If a significant event condition is encountered, system performance parameters are passed to a Server via a secure Internet connection. Information is analyzed where an alert can be generated.
 7. **Graphical Diagnostics:** The system must allow the user to access all diagnostic functions through a graphical interface.
 8. **UPLC Integration:** The acquisition must apply effective filtering and integration algorithms that are optimized for ultra fast UPLC separations enabled by the detector's fast data rates.
 9. **Leak Detection:** The system must be equipped with Leak sensing for unattended operation. The sensors must alert the user from the software and graphically locate the location of a leak. The Leak sensors must be capable of resetting in less than 5 minutes. All or a subset of the leak sensors can be enabled or disabled.

Detector System Requirements:

The Detector must be a compact, benchtop, tandem quadrupole mass spectrometer designed for UPLC/MS/MS when configured. The Detector must provide a simple, robust platform for quantitative LC/MS/MS enabled by hi-speed MRM (Multiple Reaction Monitoring) and ESCi® multimode ionization. The system must also incorporate IntelliStart™ Technology for automated system optimization and status monitoring. This ensures high quality data is routinely available to all levels of operators. The system must be available on either MassLynx™ or Empower™ 2 Software.

IntelliStart Technology

1. **System Parameter Checking and Alerts:** System must be capable of checking all operating parameters and indicating visually and verbally whether or not conditions are acceptable to begin an analysis. Operator is alerted if any system parameter, either UPLC or MS/MS is out of specification.
2. **Integrated sample/calibrant delivery :** System must allow for direct injection of both calibrant and sample, including combining direct injection with UPLC flow for calibration and instrument tuning.
3. **Programmable divert valve:** Divert valve must be programmable to allow flow to be automatically diverted to waste when the system is idle.
4. **Automated Mass Calibration:** Instrument Setup must automate calibration and

- resolution optimization for varying scan speeds (up to 10,000 amu/s)
5. **Automated Sample Tuning:** Sample tune must allow the operator to input targeted analyte masses, select the fluidics port and scheme for method development, and set method flow rate.
 6. **Automated Methods Development:** System must automatically create an optimized set of MS/MS parameters for selected analytes, including cone voltages, optimum MRM parameters, SIR parameters, and confirmation masses.
 7. **Performance Check:** System must run a predetermined sample set and evaluate all parameters, including tune, calibration, and quantitative parameters and indicate a pass/fail status for subsequent analysis.

SYSTEM GENERAL SPECIFICATIONS

1. **ESCI combined source:**
 - a. Combined source for simultaneous electrospray/APCI operation
 - b. ZSpray™ dual-orthogonal source for robust sampling
 - c. Vacuum isolation valve
 - d. Tool-free sampling cone removal
 - e. Plug and play probes
 - f. De-clustering cone gas
 - g. Software control of all gas flows
2. **Ionization modes:**
 - a. Electrospray – included as standard
 - b. ESCi multimode ionization – included as standard
 - c. IonSABRE™ APCI – option
 - d. Dual APCI/APPI – option
3. **Ion Source Transfer Optics:**

High efficiency hexapole ion guide
4. **Mass analyzer:**

Two high resolution quadrupole analyzers (MS1/MS2), plus pre-filters to maximize resolution and transmission while preventing contamination of the main analyzers.
5. **Collision cell:**
 - a. T-Wave™ collision cell traveling wave device with beam focusing at ion entry and exit for optimum ion transfer and confinement, allowing fast MS/MS acquisition.
 - b. Software programmable gas flow.
6. **Detector**
 - a. Low noise, off axis, long life photomultiplier detector
 - b. Digital dynamic range up to 4×10^6
7. **Vacuum system**
 - a. Single, split flow air-cooled Pfeiffer Vacuum turbomolecular pump evacuating the source and analyzer
 - b. One Leybold Sogevac SV40BI rotary backing pump.

8. **Software**
 - a. Mass Lynx 4.1
 - b. MassLynx includes OpenLynx™ and QuanLynx™ Application Managers as standard.
9. **Dimensions**
 - a. Width: 35.6 cm (14.0 in.)
 - b. Height: 53.3 cm (21.0 in.)
 - c. Depth: 84.8 cm (33.5 in.)
10. **Regulatory approvals**
IVD, NRTL, and CE

PERFORMANCE SPECIFICATIONS

1. **Acquisition modes**
 - a. Full scan MS (MS1 or MS2)
 - b. Selected ion recording (SIR)
 - c. Product ion scan
 - d. Precursor ion scan
 - e. Constant neutral loss/gain
 - f. Multiple reaction monitoring (MRM)
2. **Mass range**
2 to 2000 m/z
3. **Scan speed**
Up to 10,000 Daltons/sec
4. **Mass stability**
<0.1 Daltons over 8 hr
5. **Linearity of response**
The linearity of response relative to sample concentration, for a specified compound, is five orders of magnitude from the limit of detection.
6. **Polarity switching**
<=20 ms switching time between positive and negative ion modes without significant degradation in data quality.
7. **MRM acquisition cycle time**
Minimum dwell time of 5 ms per channel. Minimum inter-channel and inter-scan delays of 5 ms. Functions can be configured in retention windows, including mixed mode and overlapping, to optimize cycle time for each analyte.
8. **Inter-channel cross talk**
The inter-channel cross talk between two MRM transitions, acquired using an MRM dwell time of 10 ms and an inter-channel delay time of 10 ms, will be fewer than

0.02%.

9. Mass resolution

Tunable manually or automatically (IntelliStart) to desired resolution. The valley between the 2034.63 Da and 2035.63 Da peaks is <12% of the average height of the two peaks.

10. RM sensitivity (ESI+)

For a direct loop injection of reserpine (5 pg) at a flow rate of 200 μ L/min the chromatographic signal to noise for the transition 609>195 m/z will be greater than 1000:1.

11. RM sensitivity (ESI-)

For a direct loop injection of chloramphenicol (5 pg) at a flow rate of 200 μ L/min, the chromatographic signal-to-noise ratio for the transition 321 > 152 m/z will be greater than 180:1.

12. RM sensitivity (APCI+)

For a direct loop injection of 17- α -hydroxyprogesterone (100 pg) at a flow rate of 1 mL/min, the chromatographic signal-to-noise ratio for the transition 331 > 109 m/z will be greater than 150:1.

13. MRM Signal to noise definition

Signal is defined as the height of the chromatographic peak of interest and noise is defined as the RMS of a continuous section of the mass chromatogram.

UPLC-MS/MS Workstation and Software

1. General Software Specifications

- a. Software must accommodate simultaneous positive and negative ion data during a single UPLC/MS/MS chromatographic run
- b. Software must allow for switching of cone voltage and collision energy on a per function basis during a single UPLC/MS/MS chromatographic run
- c. Software must support automatic tuning for automated MS/MS setup
- d. Software must support automated MS/MS tuning for analytical components
- e. Software must support automated monitoring of instrument vacuum, gas flows, and voltages to warn the user of out of tolerance parameters

2. Target Compound Software, or equivalent

- a. System must include the **Target Lynx** software package, or equivalent for positive identification of targeted compounds, including the following confirmatory checks:

- Analytes above a Maximum Reporting Level (MRM)
- Analyte confirmatory ion ratios are outside specified limits
- One or more analyte signal-to-noise ratios are below a defined value
- An analyte retention time or relative retention time is outside limits
- An analyte concentration is below set LOD and LQD thresholds
- The standard deviation of response for QC standards exceeds a defined value
- The blank response is too high

-The coefficient of determination (r^2) of the calibration curve exceeds a defined Value

- b. System must include a library for Toxicology screening, and a project with all files necessary for the acquisition (tune page, UPLC method, MRM method) and processing for target compounds using Target Lynx software
- c. Automatic Adjustment of Ion Ratios: the software must be able to compensate for variation in ion ratios, typically due to changes in tuning conditions, for a specified compound. By including a reference standard in the sample sequence the expected ion ratios for the target compounds and succeeding samples must be automatically adjusted to match the ratios for the target compounds in the reference standard, so that manual adjustment of ion ratios is not required upon retuning of the instrument.
- d. Cross compound calibration curves: the software must allow calibration curves to be applied to additional compounds in an analysis mixture for which standards or curves do not exist.

3. Workstation Hardware

System must have an Intel Core 2 Duo E6400 processor or equivalent operating at 2.13 MHz or faster. Operating system: Windows XP Professional SP2. System Warranty: Three Years Onsite for PC hardware.

System Warranty:

1. **UPLC/MS/MS Warranty Coverage**
All UPLC and MS/MS components and hardware must be covered by a one year on-site repair service.
2. **Workstation Warranty**
Computer workstation and monitor must be covered by a three year on-site warranty service

Additional Requirements:

1. Delivery and installation of hardware and software must be within 90 days of the approved purchase order.
2. Software familiarization must be performed at installation to the West Virginia State Police staff.
3. Vendor must supply all available MS/MS libraries – toxicology, drug, and pesticide.
4. Training of West Virginia State Police personnel must include 2 days of custom on-site training to be provided within 4 weeks after installation of equipment at the expense of the vendor. Training will incorporate West Virginia State Police staff and will take place at the West Virginia State Police Toxicology laboratory located at 725 Jefferson Road, South Charleston, WV 25309.
5. Due to space constraints, LC and MS footprint must not exceed 30 inches.

Cost Sheet

Bidders shall provide a cost for the following:

Waters Product Name	Waters Item #	Quantity	Cost
TQD Tandem Quadrupole MS/MS	176001263	1	
Mass Lynx 4.1, M55 & XP TQD	176001255	1	
Cord Kit USA	205000414	1	
Acquity UPLC Column heater solvent manager sample manager	176015000	1	
Acquity BEH C18 column 3 pack	176000864	1	
Rotary Roughing Pump	186003887	1	
TargetLynx V4.1	176001086	1	
Acquity UPLC PDA Detector	176015026	1	
20" Flat Panel Monitor	668000273	1	

TOTAL \$357,532.92

"See attached quote # 20105270 for Thermo Fisher Scientific system configuration."

The award will be made to the vendor with the lowest overall total cost of the equipment which meets all requested specifications and requirements.

VENDOR PREFERENCE CERTIFICATE

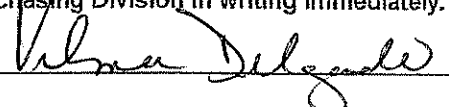
Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked:
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
- 2. Application is made for 2.5% resident vendor preference for the reason checked:
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 3. Application is made for 2.5% resident vendor preference for the reason checked:
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 4. Application is made for 5% resident vendor preference for the reason checked:
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
- 5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
- 6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Thermo Electron North America LLC Signed: 
Date: 2/3/09 Title: Order Entry Administrator

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

STATE OF WEST VIRGINIA
Purchasing Division
PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:

West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

ANTITRUST:

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: Thermo Electron North America LLC

Authorized Signature:  Date: 2/3/09

Thank you for your interest in Thermo Scientific instrumentation.

Attached is a quotation from your local sales representative. Please do not hesitate to contact us if you have any questions regarding this quotation.

Please note the following information to facilitate placing an order:

Vendor Name: Thermo Electron North America LLC
Phone: 800-532-4752

FEIN: 43-1992201
D&B: 13-838-8090
Cage Code: 3WXJ7

PO Address: 1400 Northpoint Parkway, Suite 50
West Palm Beach, FL 33407
Fax #561-688-8731

OR

5225 Verona Road
Madison, WI 53711
Fax #608-273-6882

Remittance Information:

Accounts Receivable phone: 561-688-8755

Lockbox/Check Payments

Electronic Payments

Thermo Electron North America LLC PO Box 712102 Cincinnati, OH 45271-2102	Thermo Electron North America LLC Bank of America New York, NY Account #4426395065 ABA Routing ACH #111000025 ABA Routing WIRE #026009593
	SWIFT BOFAUS3N

Please include the following with your PO:

Payment terms: Net 30 days

Freight terms: FOB Origin, charges ppd & added to invoice

Tax Status: Taxable or Tax Exempt

Your standard PO terms & conditions if applicable

Submitted to :
WEST VIRGINIA DEPT OF ADMIN.
PURCHASING DIVISION-BLDG 15
(FOR WV STATE POLICE-TOX LAB)
RFQ NO. DPS 0926
2019 WASHINGTON STREET EAST
CHARLESTON WV 25305

Quote Number: 20105270
Quote Date: 02/03/2009
Contact Name: JOHN ABBOTT
Telephone No: 304-558-2544
Fax No:
Validity From: 02/03/2009 To: 04/03/2009

Page	Shipment	F.O.B	Terms
1 / 5	60-90 Days ARO	DEST. PREPAID	NET 30 DAYS UPON INVOICE DATE (Payment Terms Subject to Credit Approval)

SALES REP: SHERRY GREGORY/vd

EMAIL: sherry.gregory@thermofisher.com

REF: RFQ NO. DPS0926

DUE DATE & TIME: 02/04/09 @ 1:30PM

Item	Quantity	Catalog Number/Description	Unit Price	Total Price
10	1EA	TSQATLX1TT TSQ Access TLX1 Thermo Transcend Bundl	373,399.00 EA	373,399.00
		Material		44,807.88-
		Net Value For Item		328,591.12
		TSQ Quantum Access TLX1 Transcend Thermo Bundle		
		TSQ Quantum Access System with Ion Max Source		
		ESI probe		
		APCI Probe		
		One year Warranty		
		Transcend TLX1 Thermo		
		4-day On-site training or (3) Institute Training Vouchers		
20	1EA	701-541800 ENHANCED WARRANTY Plan - TLX-1	7,070.00 EA	7,070.00
30	3EA	60057-60070 COLUMN,HYPERSIL GOLD 50X2.1mm,1.9um,C18	606.00 EA	1,818.00
40	1EA	CH-952920 4.5# Laboratory Table	3,000.00 EA	3,000.00

No. 20105270
Page 2 / 5

Continuation of Quotation

Item	Quantity	Catalog Number/Description	Unit Price	Total Price
50	1EA	FM101108 Maurer-Pfleger-Weber Lib, 2007 Edition Pfleger-Maurer-Weber library 2nd Edition of this specialist 4370 entry toxicology library. It is the reference library of mass spectra for toxicologists and pharmacologists. It is recognized as the most comprehensive and accurate specialist library for the toxicologist. It contains derivatised and native compounds. Includes; 3-volume book set of hardcopy spectra.	5,770.00 EA	5,770.00
60	1EA	FM101726 WILEY 8TH EDITION (INCLUDES NIST 2005)	9,475.00 EA	9,475.00
70	1EA	OPTON-21003 SWRE, MICROSOFT OFFICE 2007 PRO EDITION Office 2007 Pro Edition Retail Version	707.00 EA	707.00
80	1EA	FM101109 Pesticide Library	1,220.00 EA	1,220.00
90	1EA	OPTON-20753 TOXID 2.1.0 FOR XCALIBUR 2.0.7 This is a free item.		
95	1EA	92016 KEYSTONE HOT POCKET COLUMN HEATER	1,401.00 EA	1,401.00
100	1EA	QUOTATION DISCOUNT QUOTATION DISCOUNT	1,519.20- EA	1,519.20-
Final amount				USD 357,532.92

No. 20105270
Page 3 / 5

Continuation of Quotation

To place your order and expedite shipment, please fax your Purchase Order with all associated terms and conditions (and tax exemption certificate, if applicable) to FAX #561-688-8731, Attn: Sales Order Entry.

All purchase orders must show following Vendor information

**Thermo Electron North America LLC,
1400 North Pointe Parkway, Suite 50,
West Palm Beach FL 33407**

Please reference our quotation number on your purchase order and on any correspondence regarding the quotation.

Non-Thermo Electron North America LLC manufacturers may provide their own warranties to you.

SEE THE WARRANTY STATEMENT IN THE PRODUCT DOCUMENTATION FOR THE COMPLETE WARRANTY, AND THE WARRANTY AND EXCLUSIONS ON THE BACK OF THIS FORM.

Prices, warranty, installation and service on the items quoted herein are available only in the United States, and may not be otherwise assigned.

Buyer shall pay federal, state and local taxes in addition to the price stated on this order unless buyer gives Thermo Electron North America LLC a signed exemption certificate or direct pay permit. You may fax these documents to us. Your purchase order should also indicate the sales tax status of your order.

Buyer shall not export or re-export technical data or products supplied by Thermo Electron North America LLC in violation of applicable export regulations. Buyer who exports from the U.S. products purchased hereunder assumes all responsibility for obtaining any required export authorization and payment of applicable fees.



SIGNATURE

No. 20105270

Page 4 / 5

Continuation of Quotation

TERMS AND CONDITIONS OF SALE

UNLESS OTHERWISE EXPRESSLY AGREED IN WRITING, ALL SALES ARE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **GENERAL.** Thermo Electron North America LLC ("Seller") hereby offers for sale to the buyer named on the face hereof ("Buyer") the products listed on the face hereof (the "Products") on the express condition that Buyer agrees to accept and be bound by the terms and conditions set forth herein. Any provisions contained in any document issued by Buyer are expressly rejected and if the terms and conditions in this Agreement differ from the terms of Buyer's offer, this document shall be construed as a counter offer and shall not be effective as an acceptance of Buyer's document. Buyer's receipt of Products or Seller's commencement of the services provided hereunder will constitute Buyer's acceptance of this Agreement. This is the complete and exclusive statement of the contract between Seller and Buyer with respect to Buyer's purchase of the Products. No waiver, consent, modification, amendment or change of the terms contained herein shall be binding unless in writing and signed by Seller and Buyer. Seller's failure to object to terms contained in any subsequent communication from Buyer will not be a waiver or modification of the terms set forth herein. All orders are subject to acceptance in writing by an authorized representative of Seller.

2. **PRICE.** All prices published by Seller or quoted by Seller's representatives may be changed at any time without notice. All prices quoted by Seller or Seller's representatives are valid for thirty (30) days, unless otherwise stated in writing. All prices for the Products will be as specified by Seller or, if no price has been specified or quoted, will be Seller's price in effect at the time of shipment. All prices are subject to adjustment on account of specifications, quantities, raw materials, cost of production, shipment arrangements or other terms or conditions which are not part of Seller's original price quotation.

3. **TAXES AND OTHER CHARGES.** Prices for the Products exclude all sales, value added and other taxes and duties imposed with respect to the sale, delivery, or use of any Products covered hereby, all of which taxes and duties must be paid by Buyer. If Buyer claims any exemption, Buyer must provide a valid, signed certificate or letter of exemption for each respective jurisdiction.

4. **TERMS OF PAYMENT.** Seller may invoice Buyer upon shipment for the price and all other charges payable by Buyer in accordance with the terms on the face hereof. If no payment terms are stated on the face hereof, payment shall be net thirty (30) days from the date of invoice. If Buyer fails to pay any amounts when due, Buyer shall pay Seller interest thereon at a periodic rate of one and one-half percent (1.5%) per month (or, if lower, the highest rate permitted by law), together with all costs and expenses (including without limitation reasonable attorneys' fees and disbursements and court costs) incurred by Seller in collecting such overdue amounts or otherwise enforcing Seller's rights hereunder. Seller reserves the right to require from Buyer full or partial payment in advance, or other security that is satisfactory to Seller, at any time that Seller believes in good faith that Buyer's financial condition does not justify the terms of payment specified. All payments shall be made in U.S. Dollars.

5. **DELIVERY; CANCELLATION OR CHANGES BY BUYER.** The Products will be shipped to the destination specified by Buyer, F.O.B. Seller's shipping point. Seller will have the right, at its election, to make partial shipments of the Products and to invoice each shipment separately. Seller reserves the right to stop delivery of Products in transit and to withhold shipments in whole or in part if Buyer fails to make any payment to Seller when due or otherwise fails to perform its obligations hereunder. All shipping dates are approximate only, and Seller will not be liable for any loss or damage resulting from any delay in delivery or failure to deliver which is due to any cause beyond Seller's reasonable control. In the event of a delay due to any cause beyond Seller's reasonable control, Seller reserves the right to terminate the order or to reschedule the shipment within a reasonable period of time, and Buyer will not be entitled to refuse delivery or otherwise be relieved of any obligations as the result of such delay. Products as to which delivery is delayed due to any cause within Buyer's control may be placed in storage by Seller at Buyer's risk and expense and for Buyer's account. Orders in process may be canceled only with Seller's written consent and upon payment of Seller's cancellation charges. Orders in process may not be changed except with Seller's written consent and upon agreement by the parties as to an appropriate adjustment in the purchase price therefor. Credit will not be allowed for Products returned without the prior written consent of Seller.

6. **TITLE AND RISK OF LOSS.** Notwithstanding the trade terms indicated above and subject to Seller's right to stop delivery of Products in transit, title to and risk of loss of the Products will pass to Buyer upon delivery of possession of the Products by Seller to the carrier; provided, however, that title to any software incorporated within or forming a part of the Products shall at all times remain with Seller or the licensor(s) thereof, as the case may be.

7. **WARRANTY.** Seller warrants that the Products will operate or perform substantially in conformance with Seller's published specifications and be free from defects in material and workmanship, when subjected to normal, proper and intended usage by properly trained personnel, for the period of time set forth in the product documentation, published specifications or package inserts. If a period of time is not specified in Seller's product documentation, published specifications or package inserts, the warranty period shall be one (1) year from the date of shipment to Buyer for equipment and ninety (90) days for all other products (the "Warranty Period"). Seller agrees during the Warranty Period, to repair or replace, at Seller's option, defective Products so as to cause the same to operate in substantial conformance with said published specifications; provided that Buyer shall (a) promptly notify Seller in writing upon the discovery of any defect, which notice shall include the product model and serial number (if applicable) and details of the warranty claim; and (b) after Seller's review, Seller will provide Buyer with service data and/or a Return Material Authorization (#RMA#), which may include biohazard decontamination procedures and other product-specific handling instructions, then, if applicable, Buyer may return the defective Products to Seller with all costs prepaid by Buyer. Replacement parts may be new or refurbished, at the election of Seller. All replaced parts shall become the property of Seller. Shipment to Buyer of repaired or replacement Products shall be made in accordance with the Delivery provisions of the Seller's Terms and Conditions of Sale. Consumables are expressly excluded from this warranty. Notwithstanding the foregoing, Products supplied by Seller that are obtained by Seller from an original manufacturer or third party supplier are not warranted by Seller, but Seller agrees to assign to Buyer any warranty rights in such Product that Seller may have from the original manufacturer or third party supplier, to the extent such assignment is allowed by such original manufacturer or third party supplier.

In no event shall Seller have any obligation to make repairs, replacements or corrections required, in whole or in part, as the result of (i) normal wear and tear, (ii) accident, disaster or event of force majeure, (iii) misuse, fault or negligence of or by Buyer, (iv) use of the Products in a manner for which they were not designed, (v) causes external to the Products such as, but not limited to, power failure or electrical power surges, (vi) improper storage and handling of the Products or (vii) use of the Products in combination with equipment or software not supplied by Seller. If Seller determines that Products for which Buyer has requested warranty services are not covered by the warranty hereunder, Buyer shall pay or reimburse Seller for all costs of investigating and responding to such request at Seller's then prevailing time and materials rates. If Seller provides repair services or replacement parts that are not covered by this warranty, Buyer shall pay Seller therefor at Seller's then prevailing time and materials rates. ANY INSTALLATION, MAINTENANCE, REPAIR, SERVICE, RELOCATION OR ALTERATION TO OR OF, OR OTHER TAMPERING WITH, THE PRODUCTS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL, OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE AFFECTED PRODUCTS.

THE OBLIGATIONS CREATED BY THIS WARRANTY STATEMENT TO REPAIR OR REPLACE A DEFECTIVE PRODUCT SHALL BE THE SOLE REMEDY OF BUYER IN THE EVENT OF A DEFECTIVE PRODUCT. EXCEPT AS EXPRESSLY PROVIDED IN THIS WARRANTY STATEMENT, SELLER DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, WITH RESPECT TO THE PRODUCTS, INCLUDING WITHOUT LIMITATION ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE PRODUCTS ARE ERROR-FREE OR WILL ACCOMPLISH ANY PARTICULAR RESULT.

8. **INDEMNIFICATION.**

8.1 By Seller. Seller agrees to indemnify, defend and save Buyer, its officer, directors, and employees from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation reasonable attorneys' fees) (#Indemnified Items#) for (i) injury to or death of persons or damage to property to the extent caused by the negligence or willful misconduct of Seller, its employees, agents or representatives or contractors in connection with the performance of services at Buyer's premises under this Agreement and (ii) claims that a Product infringes any valid United States patent, copyright or trade secret; provided, however, Seller shall have no liability under this Section to the extent any such Indemnified Items are caused by either (i) the negligence or willful misconduct of Buyer, its employees, agents or representatives or contractors, (ii) by any third party, (iii) use of a Product in combination with equipment or software not supplied by Seller where the Product would not itself be infringing, (iv) compliance with Buyer's designs, specifications or instructions, (v) use of the Product in an application or environment for which it was not designed or (vi) modifications of the Product by anyone other than Seller without Seller's prior written approval. Buyer shall provide Seller prompt written notice of any third party claim covered by Seller's indemnification obligations hereunder. Seller shall have the right to assume exclusive control of the defense of such claim or, at the option of the Seller, to settle the same. Buyer agrees to cooperate reasonably with Seller in connection with the performance by Seller of its obligations in this Section.

Notwithstanding the above, Seller's infringement related indemnification obligations shall be extinguished and relieved if Seller, at its discretion and at its own expense (a) procures for Buyer the right, at no additional expense to Buyer, to continue using the Product; (b) replaces or modifies the Product so that it becomes non-infringing, provided the modification or replacement does not adversely affect the specifications of the Product; or (c) in the event (a) and (b) are not practical, refund to Buyer the amortized amounts paid by Buyer with respect thereto, based on a five (5) year amortization schedule. THE FOREGOING INDEMNIFICATION PROVISION STATES SELLER'S ENTIRE LIABILITY TO BUYER FOR THE CLAIMS DESCRIBED HEREIN.

No. 20105270

Page 5 / 5

Continuation of Quotation

8.2. By Buyer, Buyer shall indemnify, defend with competent and experienced counsel and hold harmless Seller, its parent, subsidiaries, affiliates and divisions, and their respective officers, directors, shareholders and employees, from and against any and all damages, liabilities, actions, causes of action, suits, claims, demands, losses, costs and expenses (including without limitation reasonable attorneys' fees and disbursements and court costs) to the extent arising from or in connection with (i) the negligence or willful misconduct of Buyer, its agents, employees, representatives or contractors; (ii) use of a Product in combination with equipment or software not supplied by Seller where the Product itself would not be infringing; (iii) Seller's compliance with designs, specifications or instructions supplied to Seller by Buyer; (iv) use of a Product in an application or environment for which it was not designed; or (v) modifications of a Product by anyone other than Seller without Seller's prior written approval.

9. SOFTWARE. With respect to any software products incorporated in or forming a part of the Products hereunder, Seller and Buyer intend and agree that such software products are being licensed and not sold, and that the words "purchase", "sell" or similar or derivative words are understood and agreed to mean "license", and that the word "Buyer" or similar or derivative words are understood and agreed to mean "licensee". Notwithstanding anything to the contrary contained herein, Seller or its licensor, as the case may be, retains all rights and interest in software products provided hereunder.

Seller hereby grants to Buyer a royalty-free, non-exclusive, nontransferable license, without power to sublicense, to use software provided hereunder solely for Buyer's own internal business purposes on the hardware products provided hereunder and to use the related documentation solely for Buyer's own internal business purposes. This license terminates when Buyer's lawful possession of the hardware products provided hereunder ceases, unless earlier terminated as provided herein. Buyer agrees to hold in confidence and not to sell, transfer, license, loan or otherwise make available in any form to third parties the software products and related documentation provided hereunder. Buyer may not disassemble, decompile or reverse engineer, copy, modify, enhance or otherwise change or supplement the software products provided hereunder without Seller's prior written consent. Seller will be entitled to terminate this license if Buyer fails to comply with any term or condition herein. Buyer agrees, upon termination of this license, immediately to return to Seller all software products and related documentation provided hereunder and all copies and portions thereof.

Certain of the software products provided by Seller may be owned by one or more third parties and licensed to Seller. Accordingly, Seller and Buyer agree that such third parties retain ownership of and title to such software products. The warranty and indemnification provisions set forth herein shall not apply to software products owned by third parties and provided hereunder.

10. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, THE LIABILITY OF SELLER UNDER THESE TERMS AND CONDITIONS (WHETHER BY REASON OF BREACH OF CONTRACT, TORT, INDEMNIFICATION, OR OTHERWISE, BUT EXCLUDING LIABILITY OF SELLER FOR BREACH OF WARRANTY (THE SOLE REMEDY FOR WHICH SHALL BE AS PROVIDED UNDER SECTION 7 ABOVE)) SHALL NOT EXCEED AN AMOUNT EQUAL TO THE LESSER OF (A) THE TOTAL PURCHASE PRICE THEREFORE PAID BY BUYER TO SELLER WITH RESPECT TO THE PRODUCT(S) GIVING RISE TO SUCH LIABILITY OR (B) ONE MILLION DOLLARS (\$1,000,000). NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING WITHOUT LIMITATION DAMAGES FOR LOSS OF USE OF FACILITIES OR EQUIPMENT, LOSS OF REVENUE, LOSS OF DATA, LOSS OF PROFITS OR LOSS OF GOODWILL), REGARDLESS OF WHETHER SELLER (a) HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES OR (b) IS NEGLIGENT.

11. EXPORT RESTRICTIONS. Buyer acknowledges that each Product and any related software and technology, including technical information supplied by Seller or contained in documents (collectively "Items"), is subject to export controls of the U.S. government. The export controls may include, but are not limited to, those of the Export Administration Regulations of the U.S. Department of Commerce (the "EAR"), which may restrict or require licenses for the export of Items from the United States and their re-export from other countries. Buyer shall comply with the EAR and all other applicable laws, regulations, laws, treaties, and agreements relating to the export, re-export, and import of any Item. Buyer shall not, without first obtaining the required license to do so from the appropriate U.S. government agency; (i) export or re-export any Item, or (ii) export, re-export, distribute or supply any Item to any restricted or embargoed country or to a person or entity whose privilege to participate in exports has been denied or restricted by the U.S. government. Buyer shall cooperate fully with Seller in any official or unofficial audit or inspection related to applicable export or import control laws or regulations, and shall indemnify and hold Seller harmless from, or in connection with, any violation of this Section by Buyer or its employees, consultants, agents, or customers.

12. MISCELLANEOUS. (a) Buyer may not delegate any duties nor assign any rights or claims hereunder without Seller's prior written consent, and any such attempted delegation or assignment shall be void. (b) The rights and obligations of the parties hereunder shall be governed by and construed in accordance with the laws of the State of Seller's manufacturing location, without reference to its choice of law provisions. Each party hereby irrevocably consents to the exclusive jurisdiction of the state and federal courts located in the county and state of Seller's manufacturing location, in any action arising out of or relating to this Agreement and waives any other venue to which it may be entitled by domicile or otherwise. (c) In the event of any legal proceeding between the Seller and Buyer relating to this Agreement, neither party may claim the right to a trial by jury, and both parties waive any right they may have under applicable law or otherwise to a right to a trial by jury. Any action arising under this Agreement must be brought within one (1) year from the date that the cause of action arose. (d) The application to this Agreement of the U.N. Convention on Contracts for the International Sale of Goods is hereby expressly excluded. (e) In the event that any one or more provisions contained herein shall be held by a court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein shall remain in full force and effect, unless the revision materially changes the bargain. (f) Seller's failure to enforce, or Seller's waiver of a breach of, any provision contained herein shall not constitute a waiver of any other breach or of such provision. (g) Unless otherwise expressed on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial use in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to humans or animals. (h) Buyer agrees that all pricing, discounts and technical information that Seller provides to Buyer are the confidential and proprietary information of Seller. Buyer agrees to (1) keep such disclose such information to any third party, and (2) use such information solely for Buyer's internal purposes and in connection with the Products supplied hereunder. Nothing herein shall restrict the use of information available to the general public. (i) Any notice or communication required or permitted hereunder shall be in writing and shall be deemed received when personally delivered or three (3) business days after being sent by certified mail, postage prepaid, to a party at the address specified herein or at such other address as either party may from time to time designate to the other.

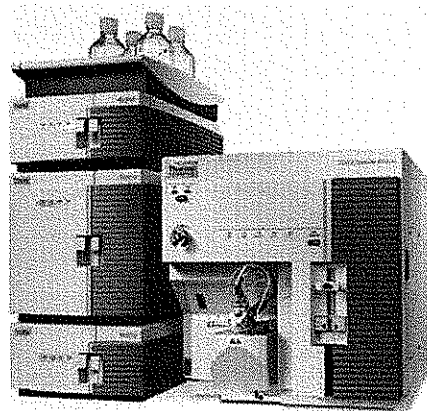
Thermo Scientific Transcend™ Instruments Specifications

Specification		Transcend Instruments (Thermo Flux based)				
		TX or TLX-1	TX or TLX-2	TX or TLX-4	LX-2	LX-4
Dimensions:	Width:		4.5'	4.5'		4.5'
	Height:		4.25'	5.25'		4.25'
	Depth:		2.5'	2.5'		2.5'
Electrical Utility:	Frequencies:	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	Operating Voltage:	120/240 V	120/240 V	120/240 V	120/240 V	120/240 V
	Fuse:	20 Amp	20 Amp	20 Amp	20 Amp	20 Amp
	Max. Consumption:	250 W	300 W	450 W	250 W	350 W
	w/Cooled Stack (s):	+50 W per	+50 W per	+50 W per	+50 W per	+50 W per
	w/Column Heater(s):	+25 W per	+25 W per	+25 W per	+25 W per	+25 W per
CPU Requirements:	Processor:	P4 3.2GHz	P4 3.2GHz	P4 3.2GHz	P4 3.2GHz	P4 3.2GHz
	CD-ROM:	24X	24X	24X	24X	24X
	Hard Drive:	80 GB	80 GB	80 GB	80 GB	80 GB
	Screen:	19" Flat Pnl	19" Flat Pnl	19" Flat Pnl	19" Flat Pnl	19" Flat Pnl
	RAM:	2 GB	2 GB	2 GB	2 GB	2 GB
	OS:	Windows XP	Windows XP	Windows XP	Windows XP	Windows XP
	Other:	3 – PCI slots 10/100LAN MS Office	3 – PCI slots 10/100LAN MS Office	3 – PCI slots 10/100LAN MS Office	3 – PCI slots 10/100LAN MS Office	3 – PCI slots 10/100LAN MS Office
Temperature:	5 – 40 °C	5 – 40 °C	5 – 40 °C	5 – 40 °C	5 – 40 °C	
Humidity:	20 – 80 %	20 – 80 %	20 – 80 %	20 – 80 %	20 – 80 %	
Weight:	350 lbs.	390 lbs.	475 lbs.	350 lbs.	390 lbs.	
Allowable Temperature Change:	5 °F (2.8 °C)/hr	5 °F (2.8 °C)/hr	5 °F (2.8 °C)/hr	5 °F (2.8 °C)/hr	5 °F (2.8 °C)/hr	
Available CTC Autosamplers: With or without cooling systems	HTS Pal or HTC Pal	HTS or Twin HTS	Twin HTS	HTS or Twin HTS	Twin HTS	
Injector options (ChemInert)	Standard	Standard or Serial	Standard or Serial	Standard	Standard	
Number of injectors	1 or 2	2 or 4	4 or 8	2	4	
Pumps: Thermo Quaternary	Quantity:	2	4	8	2	4
	Flow Accuracy:	+/- 3% absolute over range 50 – 800 bar, +/- 1% absolute at 500 bar				
	Gradient Accuracy:	+/- less than 3% absolute up to 1000 µl/min				
	Flow Range:	1.0 – 2000 µl/min (isocratic), 10 – 2000 µl/min (gradient);				
	Maximum Pressure:	1000 bar				
	Internal Delay Vol:	75 – 80 µl @ 0 – 1000 bar				
	Extra Column Vol:	108 µl @ 200 bar				
	Wetted Surfaces:	Titanium PEEK, Kel-F, Tefzel or Teflon AF, (Glass-filled PTFE, Teflon AF in Degasser)				
Mixing:	Low Pressure					

Power usage will vary based on the number of Cool Stacks and number of Column Heaters in use and the temperatures used. Dimensions of TX or TLX-1 and LX-2 instruments are dependent on the arrangement of the modules. All other Aria or Transcend instruments are recommended for use with the available mobile table.

The Thermo Scientific TSQ Quantum Access offers unsurpassed price-to-performance capability. It sets the benchmark for versatility and sensitivity in its class, incorporating the innovative QED-MS/MS structural quantitation technique.

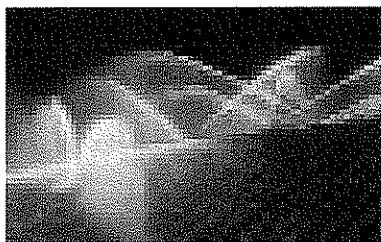
TSQ Quantum Access™
Unsurpassed Price-to-Performance



- Mass range m/z 10-3000
- Over 300 SRMs
- QED-MS/MS
- Compatible with Thermo Scientific FAIMS technology
- Fast positive/negative mode switching
- Enhanced resolution

The TSQ Quantum Access triple stage quadrupole mass spectrometer is designed to meet the quantitative and qualitative challenges of a broad range of applications, including: pharmaceutical, environmental, food safety, clinical research, and forensics. Based on the widely used TSQ Quantum system, it sets the benchmark for sensitivity in its class, and provides unmatched analytical specificity.

Capabilities such as Highly Selective Reaction Monitoring (H-SRM) and high-Field Asymmetric Waveform Ion Mobility Spectrometry (FAIMS) are available on the TSQ Quantum Access. Innovative technology such as QED-MS/MS (Quantitation-Enhanced Data-Dependent™ MS/MS) makes structural confirmation and quantitation easy, facilitating metabolite ID or multi-residue screens. Also standard is the new Reversed Energy Ramp scan, which ensures library-searchable, fragment-rich MS/MS spectra are produced routinely.



Standard Features

Thermo Scientific Ion Max™ API Source

- Enhanced sensitivity and ruggedness
- Sweep gas reduces chemical noise
- Optimal 60-degree spray angle for best sensitivity and ruggedness
- Interchangeable ESI and APCI ionization probes
- APPI/APCI combination probe
- Removable ion transfer tube provides vent-free maintenance
- High temperature, self-cleaning APCI heater employing state-of-the-art ceramic heater technology
- Automatic source recognition for ease of use and simplified data logging

Transfer Ion Optics

- Patented tube lens and noise reduction geometry
- Dual square quadrupole high efficiency transfer optics

Triple Quadrupole Mass Analyzer

- Mass range of 10–3000 daltons (Da)
- Patented Thermo Scientific HyperQuad™ mass analyzers provide superior and unique combination of resolution and sensitivity
- 90° high-efficiency square quadrupole collision cell
- CID gas pressure programmable through the software
- Variable peak width selection in all scan modes
- Scan rate of 5,000 Da per second

Scan Functions

- Full-scan MS in Q1 or Q3
- Selected Ion Monitoring (SIM) in Q1 or Q3
- Selected Reaction Monitoring (SRM)
- Product Ion Scanning
- Precursor Ion Scanning
- Neutral Loss Scanning

Advanced Scan Functions

- QED-MS/MS scanning
- Reversed Energy Ramp (RER) scanning
- Highly Selective Reaction Monitoring (H-SRM)

Acquisition

- Real-time high-speed digital signal processing eliminates high frequency noise
- Digital sampling rate up to 195,000 samples per second
- High-resolution centroiding

Detection System

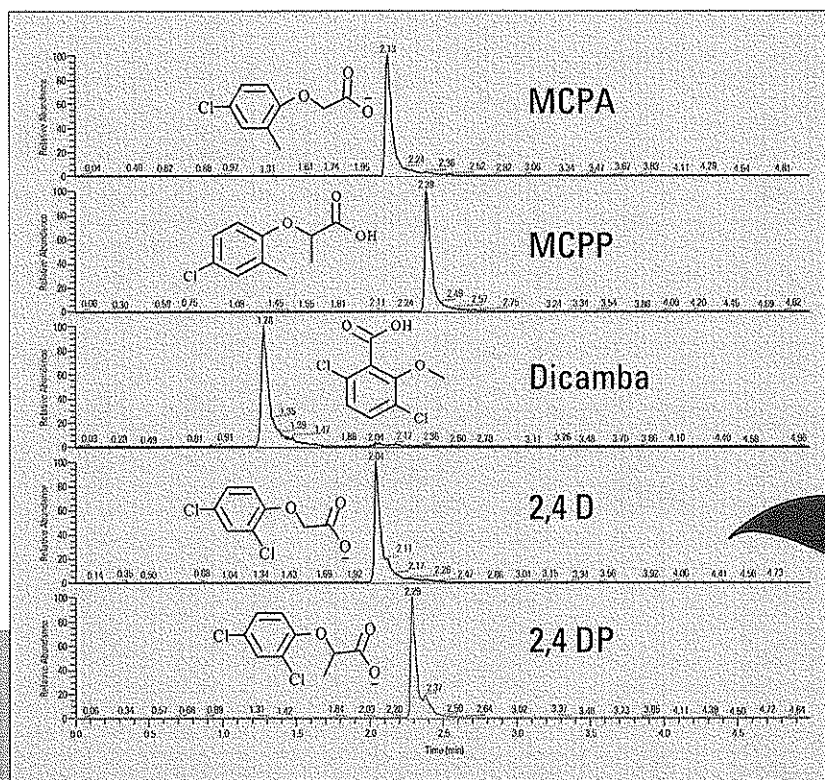
- Patented detection system uses a fast switching (>95 ms) post-acceleration conversion dynode with ± 15 kV applied voltage
- Off-axis continuous dynode electron multiplier with increased dynamic range
- System integrated electron multiplier eliminates field emission and micro-phononic noise

Vacuum System

- Unique close-coupled triple inlet turbo molecular pumping
- Four stages of pumping provides optimal vacuum throughout LC/MS/MS analyzer
- Single mechanical pump

Other Integrated Standard Features

- Automated valve for making manual loop injections or diverting LC flow stream to waste
- Automated infusion with syringe pump
- Automated loop injection from syringe pump for analyte optimization



SRM Quantitation (Scan Event 1)

QED-MS/MS of an Herbicide Mix
 QED-MS/MS provides simultaneous "Quan/Qual" for structural confirmation and quantitation in metabolite identification or multi-residue screens.

Data System

Instrument Control—Thermo Scientific Xcalibur™

- Xcalibur software controls all aspects of the integrated Thermo Scientific Accela™ LC and TSQ Quantum Access MS system
- Simple user interfaces for high-throughput instrument tuning and optimization
- Automated optimization of all instrument parameters including collision gas pressure and collision energy within an experiment
- Uses optimized parameters to automatically build the analytical method
- Import and export sequence lists from LIMS or external packages
- LCQUAN™ quantitation software supports 21 CFR Part 11 compliance

Instrument Diagnostics

- Graphical diagnostics for all power supplies, electronic circuits and pumping system
- Remote access allows Thermo Fisher Scientific engineers to troubleshoot via modem
- Electronic logbook of diagnostic results

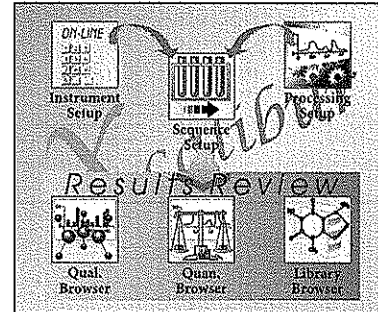
Reversed Energy Ramping (RER) provides library-searchable MS/MS spectra used in the QED-MS/MS scan for routine structure confirmation and quantitation.

Thermo Scientific Data System Options

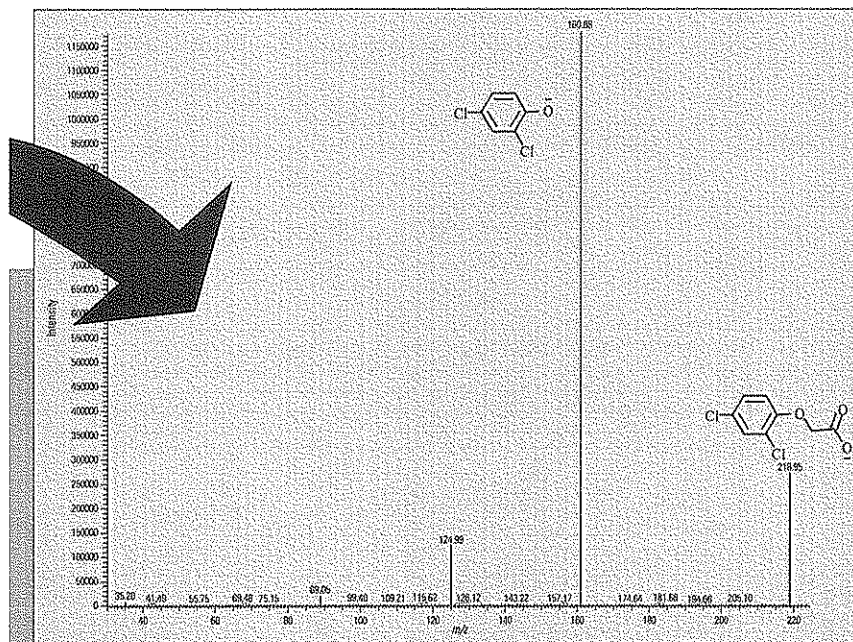
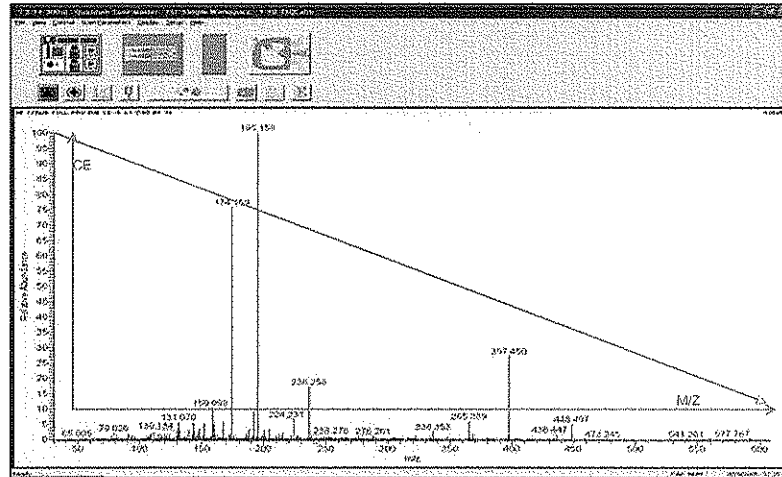
- QuickQuan™—high-throughput, automated quantitation software for early drug discovery
- Mass Frontier™—spectral interpretation and classification software for the identification of unknowns
- MetWorks™—automated metabolite identification, component detection and predicted fragmentation in one intuitive workplace
- Watson LIMS™—highly specialized protocol-driven Laboratory Information Management System designed to support DMPK/Bioanalytical studies in drug development
- Galileo LIMS™—fully integrated system for *in vitro* ADME experiments in a single client-server application

LC Connectivity

- Direct control of multiple vendor LC and autosampler configurations through Xcalibur
- Universal connectivity to LC systems or other devices by contact closure



The Xcalibur home page is organized by convenient task-related icons



MS/MS Confirmation (Scan Event 2)

Product Specifications

System Specifications

MS/MS Acceptance Test

(Specifications to be run at time of installation)

Electrospray (ESI) at Unit Resolution and H-SRM (0.4 FWHM)

A 5 µL loop injection of a 2 pg/µL (3.250 fmol/µL) reserpine solution at a flow rate of 400 µL/min 50/50 IPA/water will produce a minimum signal-to-noise ratio of 100:1 for the transition of the protonated molecular ion at m/z 609.3 to the fragment ion at m/z 195.1 when operated in selected reaction monitoring mode (SRM) with Q1 and Q3 resolution set to 0.7 Da FWHM. If required this specification can also be performed with Q1 resolution set to 0.4 FWHM.

Atmospheric Pressure Chemical Ionization (APCI) and Atmospheric Pressure Photoionization (APPI) at Unit Resolution and H-SRM (0.4 FWHM)

A 5 µL loop injection of a 2 pg/µL (3.250 fmol/µL) reserpine solution at a flow rate of 1 mL/min 50/50 IPA/water will produce a minimum signal-to-noise ratio of 100:1 for the transition of the protonated molecular ion at m/z 609.3 to the fragment ion at m/z 195.1 when operated in selected reaction monitoring mode (SRM) with Q1 and Q3 resolution set to 0.7 Da FWHM. If required this specification can also be performed with Q1 resolution set to 0.4 FWHM.

Installation Requirements

Power

TSQ Quantum Access

- One 230 Vac \pm 10% at 15 amps, 50/60 Hz, single phase, with earth ground, dedicated to the instrument

Data System

- 120 Vac at 10 amps or 230 Vac at 5 amps, single phase, with earth ground

Liquid Chromatograph

- 120 Vac at 10 amps or 230 Vac at 5 amps, single phase, with earth ground

Gas

- One high-purity (99% pure) nitrogen gas supply for the API source. Required pressure is 690 ± 140 kPa (100 ± 20 psi). Maximum consumption of nitrogen gas is 20 L/min (56 SCFH).
- One ultra high-purity argon gas supply (99.995% pure). Required pressure is 135 ± 70 kPa (20 ± 10 psi).

Environment

- System averages 8000 Btu/h (2300 W) output when considering air conditioning needs. Operating environment must be 59–81°F (15–27°C) and relative humidity must be 40–80% with no condensation.
- Optimum operating temperature is 65–70°F (18–21°C)

Dimensions

- TSQ Quantum Access: 61 × 56 × 79 cm (h × w × d)
- Liquid chromatograph*: 73 × 36 × 50 cm (h × w × d)
- Minitower computer: 48 × 18 × 43 cm (h × w × d)
- Monitor: 41 × 41 × 43 cm (h × w × d)
- Forepump: 30 × 20 × 64 cm (h × w × d)
- Laser printer: 20 × 41 × 46 cm (h × w × d)

Weight

- TSQ Quantum Access: 118 kg
- Liquid chromatograph*: 62 kg
- Minitower computer: 14 kg
- Monitor: 5 kg
- Forepump: 34 kg
- Laser printer: 7 kg

*Values are for the Accela system. Other LC systems will vary.

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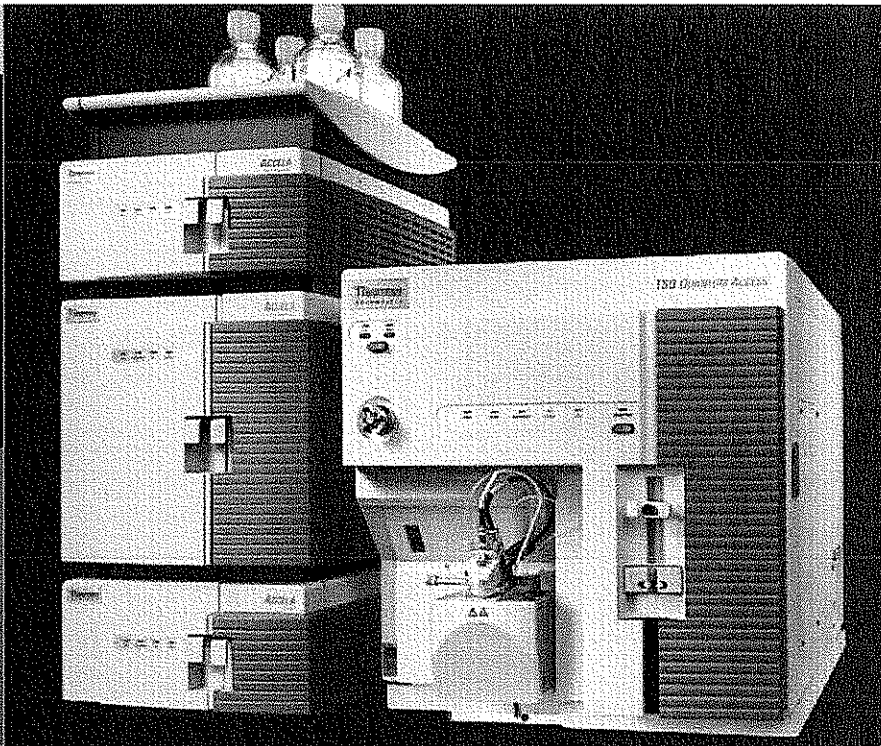


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TSQ Quantum Access™ with Accela™ High Speed LC System



Innovation, Simplicity, and Value



Drug Discovery

Environmental Analysis

Food Safety

Pharmacokinetics

UNSURPASSED PRICE TO PERFORMANCE

From the company renowned for innovation in mass spectrometry, the Thermo Scientific TSQ Quantum Access is the newest member of the successful TSQ Quantum product family.

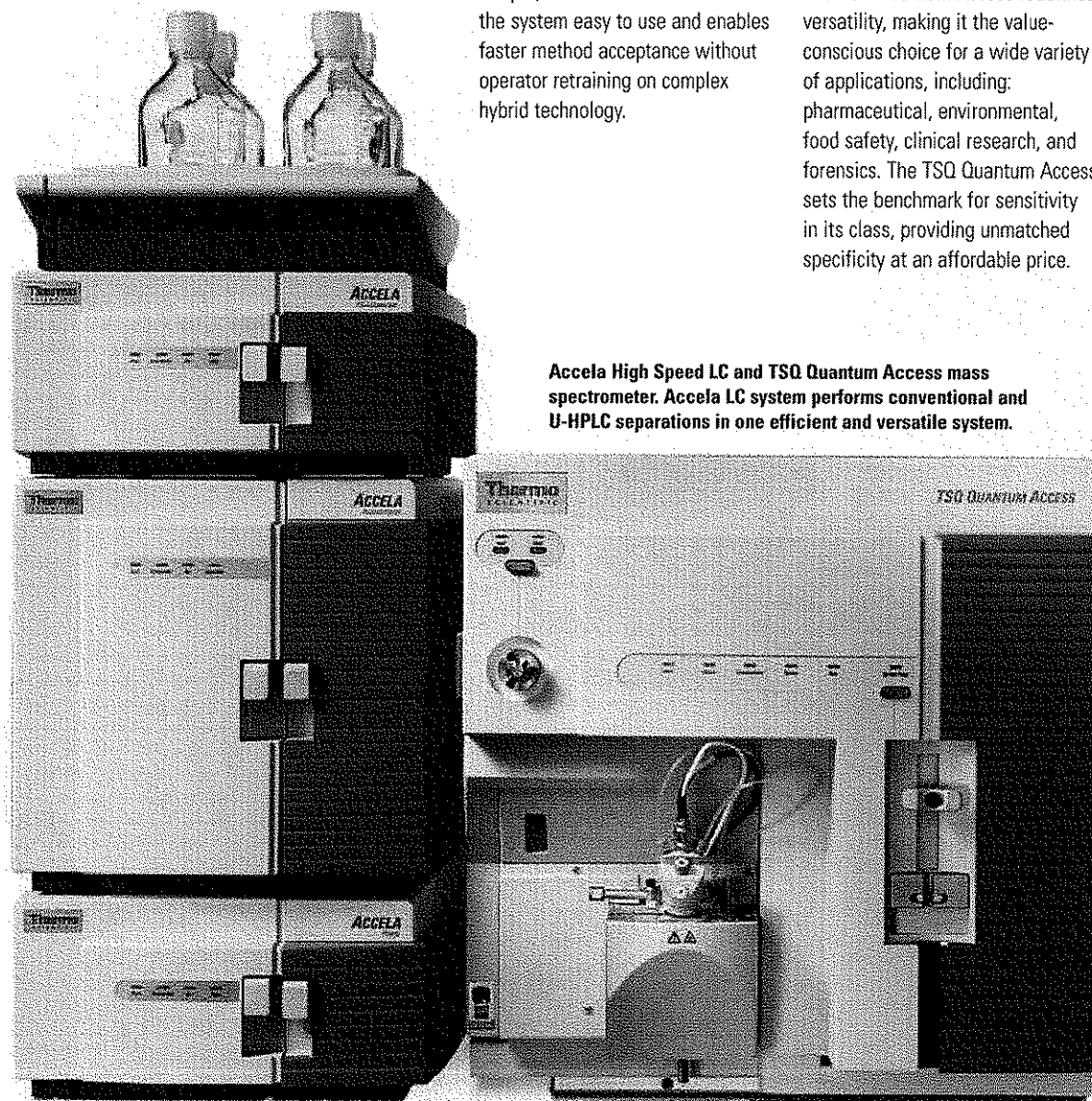
The TSQ Quantum Access offers several innovative features that provide real benefits:

- Superior detector response in negative ion mode for matrix intensive assays such as the analysis of the antibiotic Chloramphenicol and steroids such as beta-estradiol
- Mass range up to m/z 3000 supports a wide array of applications
- QED-MS/MS facilitates simultaneous quantitation and structural confirmation at the click of a button—perfect for multi-component screening experiments

Simple, intuitive software makes the system easy to use and enables faster method acceptance without operator retraining on complex hybrid technology.

The TSQ Quantum Access redefines versatility, making it the value-conscious choice for a wide variety of applications, including: pharmaceutical, environmental, food safety, clinical research, and forensics. The TSQ Quantum Access sets the benchmark for sensitivity in its class, providing unmatched specificity at an affordable price.

Accela High Speed LC and TSQ Quantum Access mass spectrometer. Accela LC system performs conventional and U-HPLC separations in one efficient and versatile system.



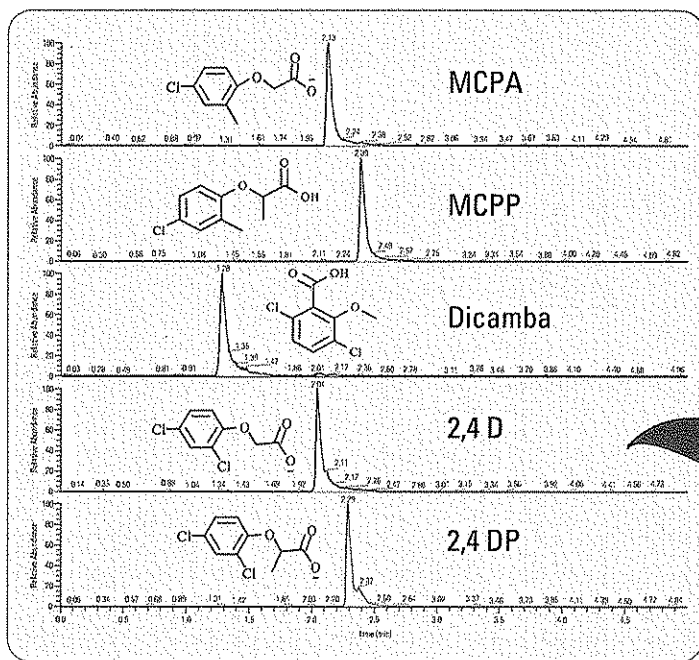
SIMULTANEOUS QUANTITATION AND STRUCTURAL CONFIRMATION

Quantitation-Enhanced Data-Dependent™ MS/MS (QED-MS/MS) provides significant benefits for multi-residue screening and quantitation experiments.

With the ability to perform Highly Selective Reaction Monitoring (H-SRM), the MS/MS data is cleaner and less complex, making it easily searchable against an internal library for added confirmation during screening assays.

A related innovation is the reversed energy ramp (RER) feature, which allows the user to create libraries that are searchable on TSO Quantums universally. The same

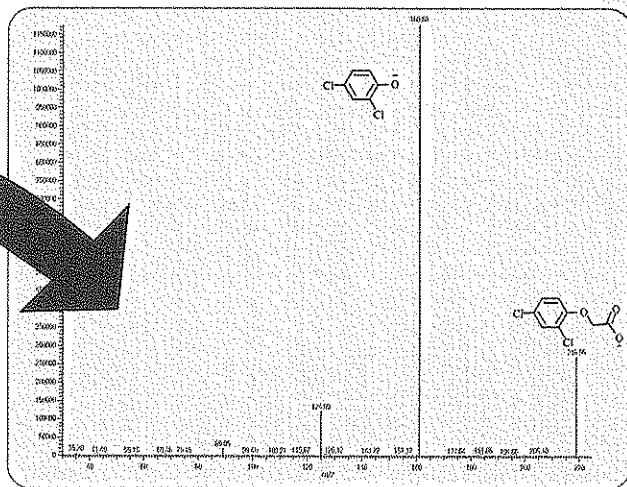
library can be used in a laboratory in Shanghai, China, and in Somerset, New Jersey—this is a first for triple stage quadrupole-based MS/MS structural identification.



SRM Quantitation (Scan Event 1)

QED-MS/MS of an Herbicide Mix

QED-MS/MS provides simultaneous "Quan/Qual" for structural confirmation and quantitation in metabolite identification or multi-residue screens



MS/MS Confirmation (Scan Event 2)

innovation

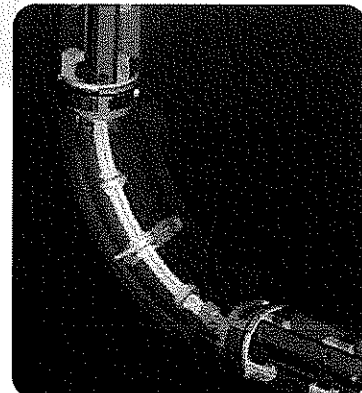
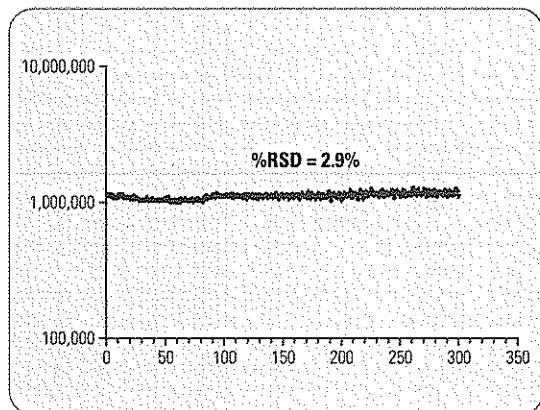


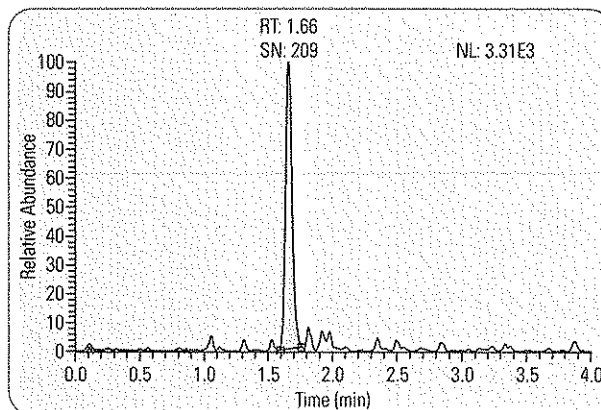
Figure 1: The unique 90° collision cell reduces chemical noise by removing "line-of-sight" between the ion source and the detector. The design reduces instrument footprint, creating a conveniently sized instrument.

ROBUST AND SENSITIVE IONIZATION SOURCES FOR ROUND-THE-CLOCK PRODUCTIVITY

The Thermo Scientific Ion Max™ source has a revolutionary design, imparting superior performance and sensitivity. An aviation-grade titanium metal skimmer and specially contoured ion transfer tube for high ion transmission make the Ion Max the most robust commercially available ion source.



ESI robustness study on the TSQ Quantum Access Ion Max. 300 injections of 2 pg Cabergoline in pig plasma 400 μ L/min, MeOH-Water (0.1% formic), Hypersil GOLD™ C-18, 50 \times 2.1 mm



ESI sensitivity study on the TSQ Quantum Access Ion Max showing a signal-to-noise in excess of 200:1 for 50 fg/uL of Alprazolam, in rat plasma 400 μ L/min, MeOH-Water (0.1% formic), Hypersil GOLD™ C-18, 50 \times 2.1 mm

Simplicity

ZERO CROSS-TALK COLLISION CELL AT 2 ms DWELL TIME

When performing LC-MS/MS analysis of multi-component mixtures by SRM, it is often necessary to use very short dwell times of 10-20 milliseconds (ms). In certain circumstances, for example in the environmental monitoring of pesticides, it is possible to get a large number of closely eluting compounds of the same chemical class, giving rise to the same product ions. In such assays, it is possible that storage of the product ions can take place in the collision cell, resulting in cross-talk, and therefore incorrect quantification. The innovative 90° collision cell (Figure 1) in the TSQ Quantum eliminates any cross-talk, as exemplified by the three closely eluting pesticides—triasulfuron, metasulfuron-methyl and chlorosulfuron—shown in Figure 2.

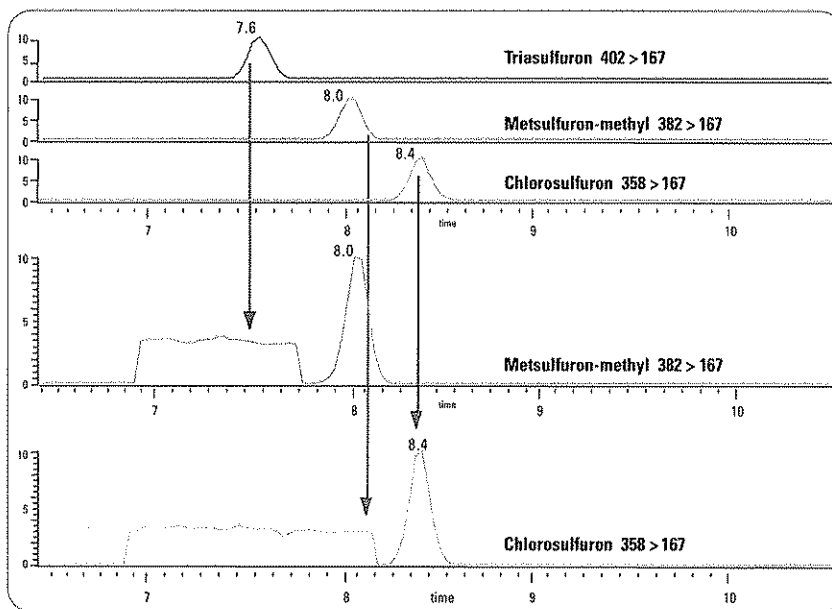


Figure 2: Characteristic of the three pesticides—triasulfuron, metasulfuron-methyl and chlorosulfuron—used to demonstrate zero cross-talk on the TSQ Quantum Access. Baseline magnified \times 6000 = 0.01%.



Innovation, simplicity,
革新、簡便、 and value
そして真の価値

Innovation, simplicité, et valeur

혁신 간편 가치

Innovación, simplicidad, y valor

Innovazione,
semplicità e valore

創新 精練 超值

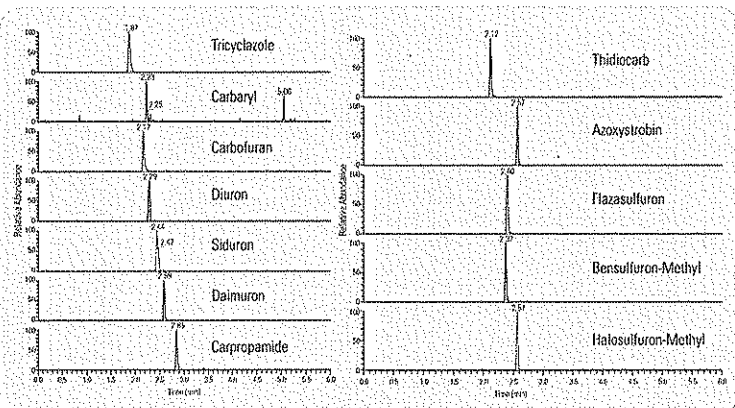
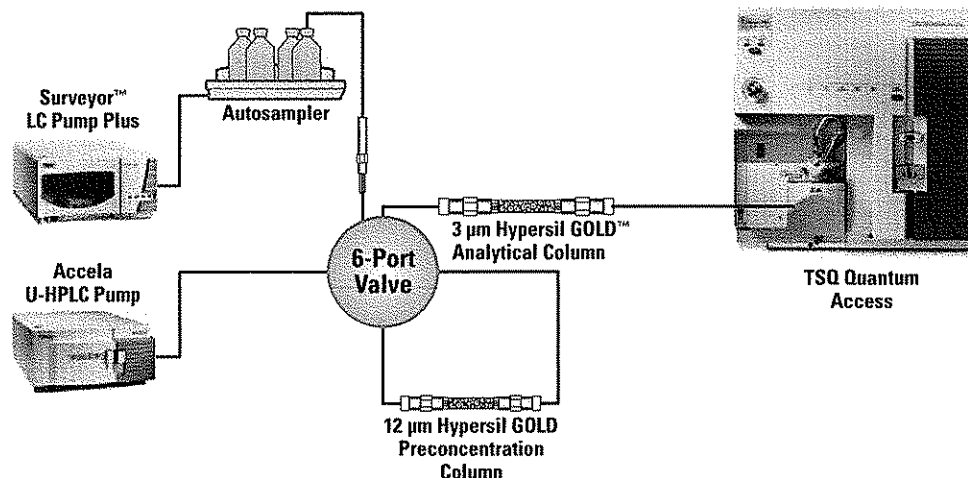
Innovation, Einfachheit
und Wert

SIGNATURE BENEFITS

- H-SRM dwell time of 2 ms—Quantitate hundreds of compounds in a single run for multi-residue screening
- Mass range m/z 30-3000—Small molecules to intact proteins
- QED-MS/MS and RER—Simultaneous quantitation and structural confirmation
- Zero Cross-Talk Collision Cell—Eliminate false positives
- 21 CFR Part 11 enabled software

EQUAN™ ENVIRONMENTAL QUANTITATION SYSTEM

EQuan is a turnkey system incorporating the TSO Quantum for the analysis of pesticides, herbicides, antimicrobials, antibiotics and other pharmaceuticals in environmental and drinking water samples. EQuan's unique on-line sample enrichment technique significantly reduces analysis time—from days to minutes—while still giving you the sensitivity and specificity required.



Multi-residue pesticide analysis (10 ppt) using the TSO Quantum Access and Accela High Speed LC System. All components eluted under 3 minutes (compared to 17 minutes using standard HPLC).

APPLICATION-SPECIFIC SOFTWARE

Xcalibur™ Data System

Xcalibur is the most powerful and flexible MS data handling system available for Microsoft® Windows®. The software provides fully automated control of the TSO Quantum series, Surveyor LC, and Accela, accelerating method development with intelligent optimization tools. The functional workspace-based instrument control view creates a simplified tune, calibrate, and compound optimization environment for analytical method development.

LCQUAN™—Quantitation Software for Regulated Laboratories

LCQUAN is a secure data system for quantitative analysis. LCQUAN provides the necessary resources for importing sequence information from external systems, developing methods, reviewing data, processing data, reporting data, and exporting results to external systems; all within a 21 CFR Part 11 compliant environment. LCQUAN provides multilevel security access, giving system administrators the ability to set user privileges from full system access to data review only. LCQUAN offers the ability to safely process data stored on network-based computing systems.

MetWorks™—Metabolite Identification Software

MetWorks streamlines the review of drug metabolism LC-MS/MS samples. It simplifies the process of generating reconstructed ion chromatograms, mass spectra, and summary reports from hundreds of MS/MS scans isolated in a typical metabolic run.

Mass Frontier™—Spectral Management Tools

Mass Frontier provides rational understanding of compound structures and a mechanistic understanding of fragmentation schemes using proprietary mass spectral interpretation algorithms. In addition, relationships within datasets can be explored using various types of classification.

In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

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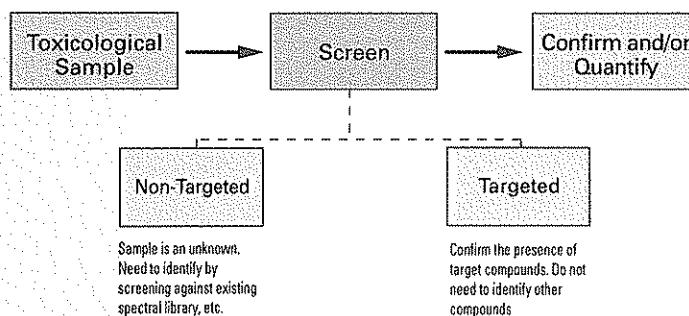
ToxID is simple and easy to use software that substantially simplifies LC-MS/MS toxicology screening workflows for clinical and forensic laboratories

Product Specifications

ToxID™ Software Automated Toxicology Screening Software



Typical Screening Workflow



- Automated workflow for routine analysis
- Supports five distinct screening applications based on different compound identification principles
- Range of workflows on different mass spectrometer platforms
- Implemented as post acquisition process or as stand alone software
- Flexible reporting with three formats

Thermo Scientific ToxID is versatile software for automated data processing and report generation in a variety of Liquid Chromatography-Mass Spectrometry (LC-MS) based general screening methods. LC-MS analyses provide the enhanced sensitivity and specificity required by today's toxicologists compared to LC-UV and immunoassays.

ToxID processes XCalibur® data files and automatically selects the correct screening application based on the scan information in the data file. ToxID then implements an application-relevant algorithm to identify the compounds of interest. ToxID also uses the sample retention time as an additional matching factor for all screening applications for maximum confidence. The widely accepted NIST spectra library software and its library search algorithm are used for compound identification based on MS/MS and/or MS³ spectra.

ToxID can be used for screening a sample containing unknown analytes against a large and diverse library of known analytes. Often there is no knowledge of what analytes are present in the sample. Samples are identified by comparing observed mass spectra and retention times against entries in a library.

ToxID can also be an excellent tool for screening samples against a small focused library to look for only certain analytes or classes of compounds, such as the determination of opiates. The goal of the analysis is to determine if certain compound classes are present and then screen many samples specifically for this class of compounds. Other compounds do not need to be identified.

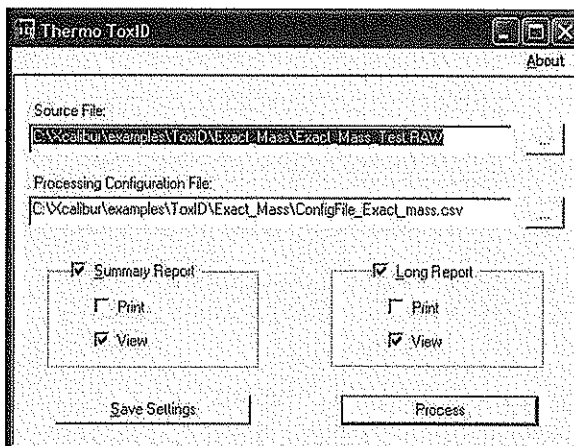
Two Simple Steps for Using ToxID Screening Software

ToxID was designed for the clinical and forensic markets where a premium is placed on simple, easy to use software for novice LC-MS users.

1. Populate ToxID's Excel®-based configuration file with the names of each analyte, the parent masses, retention times and user defined search parameters.
2. Use ToxID to screen the compounds of interest and automatically or manually produce reports.

	Compound name	Parent ion m/z	Analyte Type	Expected RT	product ion	product ion intensity threshold	SI	RSI
19	Metazapine	266.2	parent drug	4.7	195.1		100	600
20	Promazine	285.2	parent drug	6.1	86.1		100	600
21	Brompheniramine	321.1	parent drug	5.4	276.1		100	600
22	Clozapine	327.2	parent drug	5.5	270.1		100	600
23	Thioridazine	371.2	parent drug	7.2	126.1		100	600
24	Trazodone	372.2	parent drug	5.2	176.1		100	600
25	Haloperidol	376.2	parent drug	6.2	165		100	600
26	Haloperidol-D4	380.4	internal stanc	6.2	169.1		100	600
27	Yerapamil	456.4	parent drug	6.4	303.2		100	600
28	Carbamazepine	237.1	parent drug	4.5	194.1		100	600
29	Proprityline	264.2	parent drug	6.1	233.1		100	600
30	N-Acetylprocainar	278.2	parent drug	3.2	205.2		100	600
31	Phenolphthalein	319.1	parent drug	4.9	225.1		100	600
32	Guetiapine	384.2	parent drug	5.4	253.2		100	600
33	Quindine	325.3	parent drug	4.9	253.1		100	600
34	Fluphenazine	438.3	parent drug	7	171.2		100	600
35	Pracepam-D5	330.2	internal stanc	5.6	276.2		100	600
36	Chlospromazine-D	322.2	internal stanc	6.8	274.1		10	600

Configuration file example: Enter compound name and analyte type, then set values for retention time, m/z windows, signal intensity threshold, SI (minimum search index value) and RSI (reverse search index value)



ToxID homepage: Choose data file and then specify the configuration file and report type

Customizable ToxID Libraries

ToxID's compound library is easily customizable and expandable to fit the specific needs of any laboratory. New analyte entries are made by simply adding the MS spectra and retention time of the compound to the library and then updating the instrument method and configuration file. Libraries are only used in MS/MS or MS³ screening workflows.

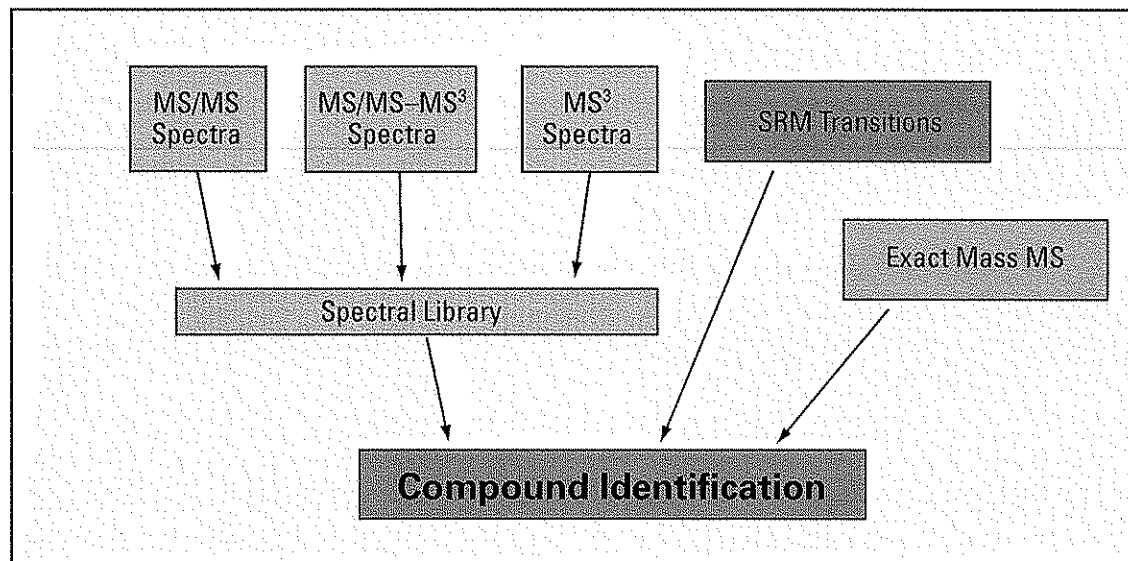
Product Specifications

Specifications

ToxID processes data files collected using data acquisition software such as Thermo Scientific Xcalibur data system software or LCQUAN™ quantitation software for seamless and integrated operation.

ToxID software is compatible with all Thermo Scientific ion trap mass spectrometers as well as the LTQ Orbitrap™ series of mass spectrometers for unprecedented qualitative power in compound identification for the toughest samples.

For quantitative and qualitative compound confirmation with ultimate sensitivity, ToxID software along with LCQUAN supports workflows on all Thermo Scientific triple quadrupole mass spectrometers.



Supported Screening Workflows

- Compounds are identified based on MS/MS spectrum and retention time
- Compounds are identified based on MS/MS spectra collected in QED (Quantitation Enhanced by Data Dependent™ MS/MS) experiment and retention time—update report with SRM chromatogram
- Compounds are identified based on MS/MS, MS³ spectra and retention time
- Compounds are identified based on MS³ spectra and retention time
- Compounds are identified based on parent ion mass and retention time
- Compounds are identified based on one, two or three SRM transitions, retention times and ion ratios

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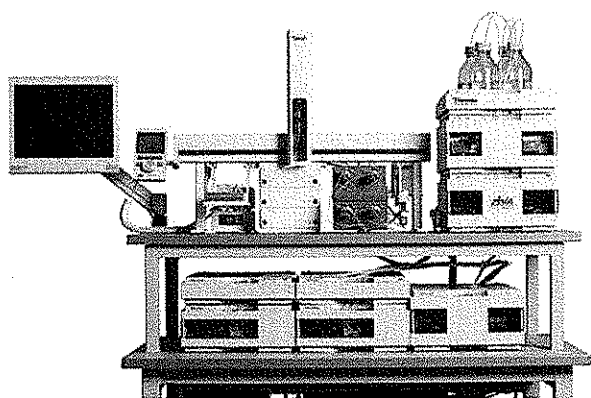
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Thermo Scientific TLX Series Systems

- Use TurboFlow® and HPLC methods on one system
- Eliminate SPE/LLE/PPT
- Directly inject biological fluids
- Minimize ion suppression
- Quadruple MS throughput

Speed and Versatility without Compromise

Thermo Scientific TLX Series Systems harness the power of patented Thermo Scientific TurboFlow technology, a major technological breakthrough that promotes turbulence in a packed column bed. The unique features of the TLX Systems provide you with the combined power of turbulent flow chromatography to eliminate solid phase extraction (SPE), liquid/liquid extraction (LLE) or protein precipitation (PPT), as well as the ability to run all of your existing HPLC methods all on one system, making it the most powerful and versatile system in the industry. The result is reliable sample analysis in a fraction of the time required by traditional methods. With the TLX Systems, you can save time and money by dramatically increasing productivity, enhancing efficiency, and boosting throughput without compromising data quality or sensitivity.



A state-of-the-art TLX-2 System allows you to run both TurboFlow methods and your existing methods all on one system, making it the most powerful and versatile LC system in the industry. Also, with online automation of TurboFlow methods, a TLX-2 System provides more rapid sample throughput and simpler method development.

Add More Flexibility Using TurboFlow and HPLC Methods on One System

With a TLX System, you can achieve greater flexibility in your lab with the ability to run both TurboFlow methods and your existing liquid chromatography (LC) methods, all on one system. By multiplexing your TLX System, you can dramatically increase throughput with more users and methods per mass spectrometer (MS), without any interruption to your current workflow. The result is greater sample throughput and lower costs.

Comparison of Sample Preparation Techniques

A TurboFlow Method Significantly Reduces Sample Handling Steps

Solid Phase Extraction (SPE)	Protein Precipitation (PPT)	Liquid-Liquid Extraction (LLE)	TurboFlow Technology -- 4 Steps
1 Aliquot of sample	1 Aliquot of sample	1 Aliquot of sample	1 Aliquot of sample
2 Spike with IS	2 Spike with IS	2 Spike with IS	2 Spike with IS
3 Add buffer	3 Add 0.1N HCL	3 Add acetonitrile	3 Centrifuge
4 Add MTBE	4 Condition sorbent	4 Centrifuge	4 Inject onto column
5 Shake 10 min	5 Add sample to sorbent	5 Remove supernatant	
6 Centrifuge	6 Wash	6 Reconstitute	
7 Remove organic	7 Evaporate	7 Transfer to plate	
8 Evaporate to dryness	8 Reconstitute	8 Inject onto column	
9 Reconstitute	9 Transfer		
10 Transfer to plate	10 Inject onto column		
11 Inject onto column			

Using TurboFlow methods on a TLX System allows you to remove most of the time-consuming steps in the sample preparation process, which speeds sample throughput while minimizing errors and variability.

Save Time by Eliminating Sample Preparation

TurboFlow technology, exclusively from Thermo Scientific, can save you time by eliminating the need for lengthy sample preparation steps, such as SPE, LLE, or PPT. With any TLX System, you can directly inject plasma, urine or other biological matrices onto the system. Simply centrifuge your plasma sample prior to column injection. The unique features of the TurboFlow columns allow the compounds of interest to be retained on the column while the plasma matrix quickly and completely elutes through.

SPE, PPT, and TurboFlow Technology Comparison

The TurboFlow Method Showed Reduced Ion Suppression

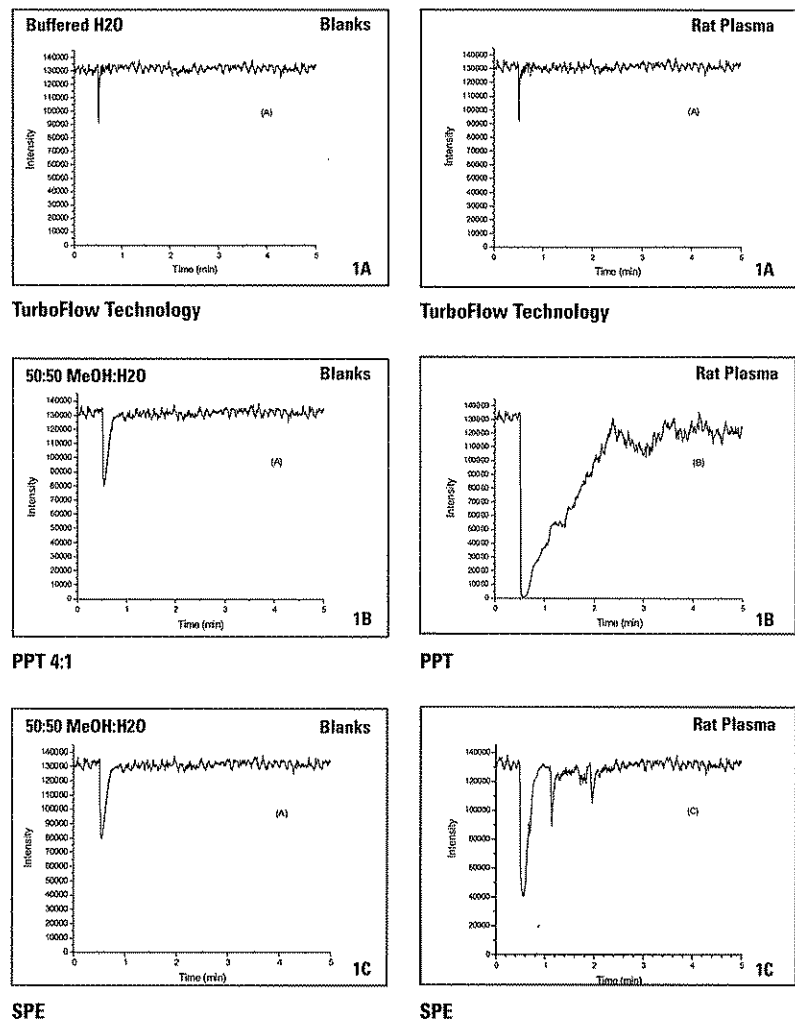


Figure 1. A TLX System and its TurboFlow columns offered superior sample extraction when compared to both PPT and SPE because of its dual properties — the combination of molecular weight separation and the chemistry selectivity of the patented TurboFlow columns.

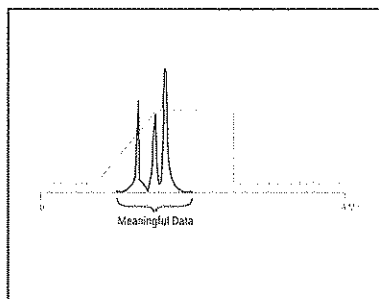
Reduce Ion Suppression for Cleaner Sample Extracts

TLX Systems are superior to PPT and SPE for reducing ion suppression. As a result, the systems are the preferred method for cleaning biological fluids. As shown in Figure 1A (opposite page), there is no distinguishable difference between the blank injection and the plasma injection using the TLX System. When PPT is used to crash out proteins from plasma, there are still many components remaining in solution. This can cause ion suppression during analysis, resulting in a loss in signal strength relative to the blank in example 1B shown in Figure 1 (opposite page). Some SPE methods can be efficient at removing matrix interferences but all too often, those methods will vary from compound to compound and will not remove all of the interferences, also resulting in ion suppression (1C).

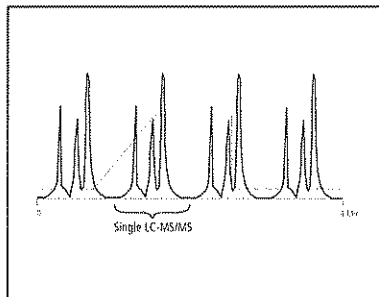
Quadruple Your MS Throughput

The Thermo Scientific multiplexed systems are the only truly independent, parallel, multichannel HPLC systems in the industry that increase the sample throughput of your MS. With the multiplexed systems, up to four parallel systems are synchronized to a single MS. Each system operates independently, permitting multiple methods to run simultaneously. This critical feature helps avoid costly downtime associated with traditional single-channel LC systems whose detectors are idle more than 75% of the time. With a sophisticated TLX-4 System, your MS remains idle for less than 4% of the time, thereby generating the throughput of four traditional LC-MS/MS systems while maximizing the productivity of one MS. The TLX-2 System offers the productivity of two separate LC systems.

Single LC-MS/MS System



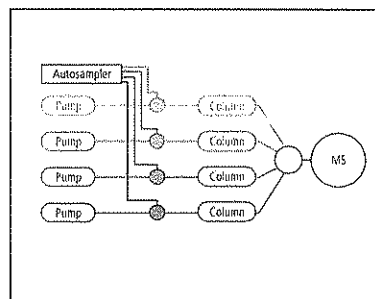
TLX-4 System



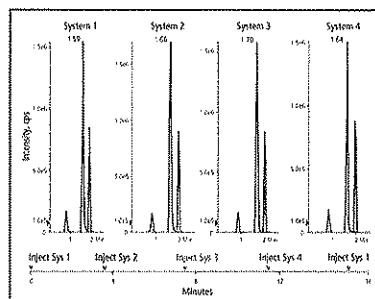
Increase Uptime and Reduce Cost Per Analysis

Because plasma sample cleanup is performed under turbulent flow conditions, the sample is cleaner than with many standard prep techniques, resulting in more uptime for your MS. Automated, direct injection of biofluid samples combined with fast turbulent flow chromatography results in a nearly three-fold cost savings (labor and materials) over SPE and LC-MS/MS. By multiplexing, lowering labor and consumable expense, and saving precious laboratory space, you can justify the purchase of a new, state-of-the-art MS to further improve your data quality. Customized return on investments are routinely provided to further demonstrate the significant overall impact on laboratory savings.

Four Independent, Parallel Channels



Multiplexed TLX-4 System 20uL Injections of CAH STD 50



Quadruple the number of injections per MS with a TLX-4 System with analysis time down from 4 minutes to 1 minute.

Product Specifications

TLX Series System Design

The TLX Systems are configured with patented TurboFlow columns, a CTC autosampler, pumps, valve interface module, Aria control software, and electronics and computer components. The systems are available to meet your precise needs, and can be easily upgraded for increased levels of productivity. The flexible design of these systems make multidimensional chromatography (MDLC) a routine option—giving you two modes of separation, which further enhances selectivity. This unique capability allows you to run multiple separations directly in front of your MS, all in one injection. To save time and ease method development, Thermo Scientific also offers integrated software and hardware tools specifically designed for automated multidimensional chromatography method development.

TLX System Options

Find the Right TLX System for Your Lab

TLX-1

Single channel system.
Ability to run TurboFlow or LC methods.

TLX-2

Two channel system.
Ability to run TurboFlow and LC methods simultaneously, in any combination.
Two times the throughput of a TLX-1.

TLX-4

Four channel system.
Ability to run TurboFlow and LC methods simultaneously, in any combination.
Four times the throughput of a TLX-1.

Thermo Scientific Aria® Software

Automated online operation is made possible with the Aria system software, which is specifically designed for optimal pump, valve, and autosampler operation to allow both TurboFlow methods and LC methods to run on a single system, injection to injection. In addition, acquisition system interface is carefully controlled to optimize performance. Our software manages all aspects of the process once the samples are loaded and will allow a single batch or as many as four sample batches to run simultaneously—each with a unique method. Commands are easy to understand and simple to program so procedures can be executed quickly and effortlessly. Aria software runs on multiple platforms, including the Thermo Scientific Excalibur, the Applied Biosystems Analyst, Waters Masslynx, and the Agilent Chemstation software to enhance your MS performance.

Broad Range of Column Chemistries

Our patented TurboFlow columns, used with the optimized TLX System, are the only columns available to perform turbulent flow chromatography. The columns are available in a wide range of packing chemistries for diverse applications. The broad range of chemistries provide you with separation flexibility to accommodate variations in the compounds' structure, polarity, and solubility. A wide range of analytical columns are also available for our TLX Systems.

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Thermo Scientific Transcend Systems combine the power of online sample extraction with the speed of ultra chromatography.

Product Specifications

Thermo Scientific Transcend™ Systems

Eliminate SPE, PPT, or LLE

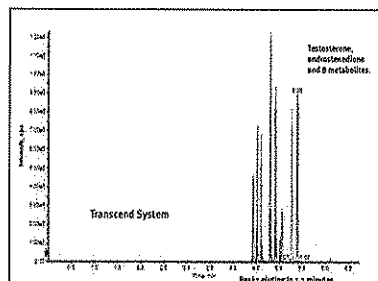
With Thermo Scientific Transcend Systems, online direct injection of plasma and other biological fluids is possible because of our patented TurboFlow® technology.

A Transcend System quickly eliminates biological fluids from the components of interest, eliminating time consuming sample preparation.

Process More Samples per Day

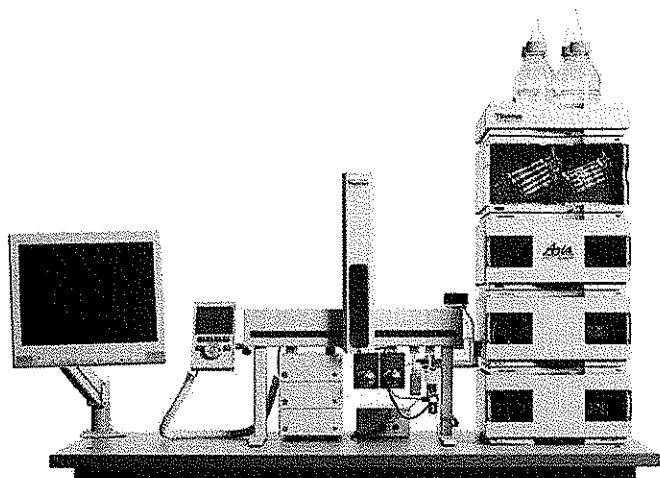
With the speed of ultra chromatography, you can process more samples per day with reduced sample preparation time and faster separations.

The following shows steroids and eight metabolites separated in one minute combined with automated sample extraction for a seven minute injection to injection method. The prior method duration was 32 minutes not including sample extraction.



Start	Sec	Flow	%A	%B	Action
.00	45	4	100	-	Loading sample into TFC column
.75	6	.2	100	-	Slow down flow
.85	60	.2	50	50	Transfer sample to LC column
1.85	240	1.0	50	50	Analytical run
5.85	20	1.0	50	50	Wash off column
6.18	60	1.0	50	50	Re-equilibrate for TFC next injections

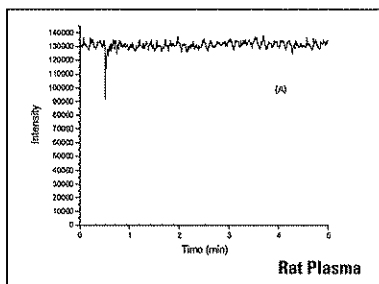
The speed of ultra chromatography means that you can run more assays in your laboratory. A seven minute separation on a Transcend System was originally a 32 minute method without sample prep.



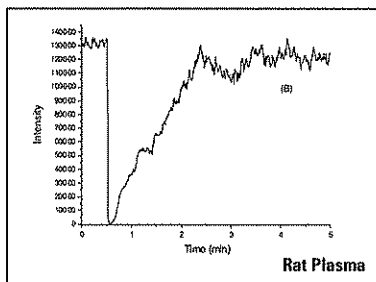
Product Specifications

Transcend TLX Systems Reduce Ion Suppression

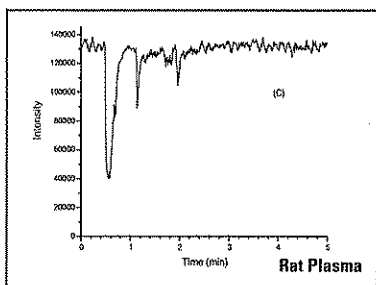
When samples are processed on a Transcend system, sample components that cause ion suppression are removed. When sample extraction procedures, such as precipitation, are used to crash out proteins from plasma, there are still many components remaining in solution. This can cause ion suppression during analysis, resulting in a loss of signal. TurboFlow technology reduces ion suppression for cleaner sample extracts.



TurboFlow Technology



PPT

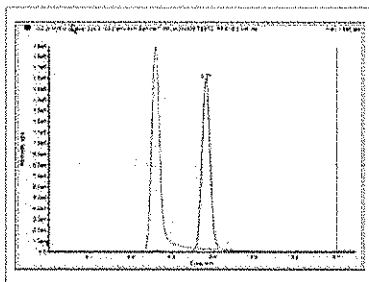


SPE

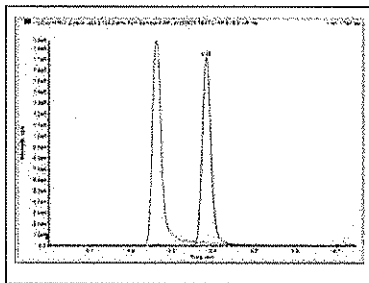
Courtesy of J. Herman Cephalon, Inc.

Double your Throughput

Transcend Systems can be multiplexed to double your sample analysis. Two independent systems, permitting multiple methods will double your throughput on one MS-MS system, saving cost and labor.



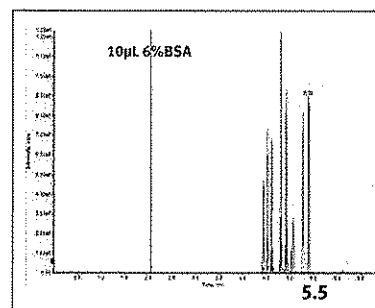
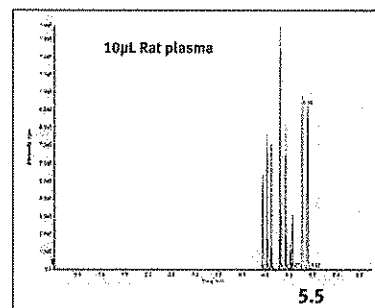
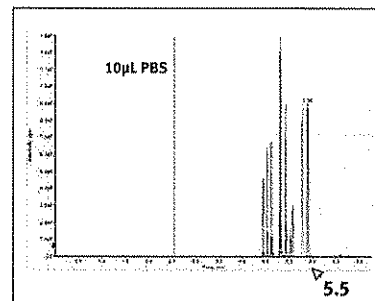
Androstenedione and testosterone 3.4 minute method, data collection for 45 seconds. SYSTEM 3.



Androstenedione and testosterone 3.4 minute method, data collection for 45 seconds. SYSTEM 1.

Run Multiple Matrices with One Method

Developing a TurboFlow method for your compound of interest can be transferred to different matrices, eliminating time consuming method development and maximizing sample throughput.



Save time with method development. TurboFlow method works for multiple matrices.

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April 22, 2005

Dear Colleague;

Thermo continues to reorganize around the way you, our customer, does business. Many customers buy combinations of our leading Thermo brand mass spectrometry, elemental analysis, molecular spectroscopy and chromatography offerings, and have asked for the ability to buy those products from a single entity.

We're working hard to deliver by combining two of our largest legal entities – this means that the many customers who interact with both entities today will more conveniently be able to deal with us as a single supplier.

On May 2, 2005, our spectroscopy, chromatography, mass spectrometry instrumentation and service businesses will effectively interact with you through one, new legal name: **Thermo Electron North America LLC.**

You can still find us as at the same email address and telephone number as before – but the supplier entities, remittance address, and Federal Tax ID you've used for purchasing will become one. Instead of:

- Thermo Finnigan LLC with Federal Tax ID 04-3535157, and
- Thermo Electron Scientific Instruments Corporation with Federal Tax ID 39-1085016

You'll use Thermo Electron North America LLC with Federal Tax ID 43-1992201 and send invoices to the address indicated in the gray box above.

Please take the time to update this key information about us in your supplier database, and ensure that your Finance department updates your purchasing and accounts payable systems.

We'll continue working on changes like this one to make it easier for you to do business with us, and apologize for any inconvenience. We remain dedicated to providing you with state-of-the-art scientific solutions and technological expertise. If you have any questions, please contact us at 1-800-532-4752. We'll be happy to work with you and your organization as need be to facilitate this change.

Sincerely,

Greg Herrema
President, Scientific Instruments

Thermo Finnigan LLC
and
Thermo Electron Scientific Instruments Corp.
will sell under a new, single legal entity of
Thermo Electron North America LLC
Effective May 2, 2005

- Direct contact information (person, email, phone, FAX) remain the same
- Remittance address for invoices dated May 2 or later changes to:
Thermo Electron North America LLC
PO Box 712102
Cincinnati, OH 45271-2102
- Federal Tax ID # (FEIN) changes to: 43-1992201

We'll continue to market products from these legal entities under our Thermo brand name



**Request for Taxpayer
Identification Number and Certification**

Give form to the
requester. Do not
send to the IRS.

Name (as shown on your income tax return)
Thermo Electron North America, LLC

Business name, if different from above

Check appropriate box: Individual/Sole proprietor Corporation Partnership
 Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) Exempt payee
 Other (see instructions) ▶ **D**

Address (number, street, and apt. or suite no.)
770 Northpointe Parkway, Suite 100

City, state, and ZIP code
West Palm Beach, FL 33407

List account number(s) here (optional)

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

or

Employer identification number
43-1992201

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ▶ *Susan Knapp* Date ▶ 8/6/2008

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,