

ITEM OPPORTUNITY SYNOPSIS

Name of the item to be scouted: Gas Chromatograph with Triple Quadruple Mass Spectrometer

NAICS Code, if known:

Opportunities will be posted for 30 days unless another timeframe is given below.

Number of Days:

TECHNICAL INFORMATION

Describe the Item:

Please describe the item application/the end use of item. Complete GC-MSMS (Gas chromatograph with triple quadruple mass spectrometer) with factory configure PC, software and Uninterruptable Power Supply (UPS)/Power Conditioner.

Provide the item number if applicable: (N95 Mask vs Protective Mask).

Supplier Information:

Type of Supplier being sought (select from list below)

Manufacturer

Contract Manufacturer

Distributor

Other (please specify)

Reason for scouting submission (select from list below)

BABA

2nd Supplier

Price

Re-Shore

Past supplier no longer available

New Product Startup

Other (please specify)

Summary of Technical Specifications and Performance Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible)

Provide dimensions / size / tolerances / performance specifications of the item.

Specific specifications not available. See included brochure for additional details. Should fit on a 36in × 6ft standard lab bench top

List required materials needed to make the product, including materials of product components, if applicable.

Are there applicable certification requirements?

Yes

No

Please Explain:

Are there any applicable regulations that apply to the production of this item?

Yes

No

Please Explain:

Are there any other standards, requirements?

Yes

No

Please Explain:

Additional Comments:

Is there other information that would impact the item's performance or usefulness? Please explain.

Business Information

Volume and Pricing: One-Time Purchase

Estimated Potential Business Volume (i.e. #Units per day, month, year): \$265,000

Estimated Target Price / Unit Cost Information: (flexible and negotiable not accepted)

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc) 6 months

Describe packaging requirements (i.e., individually/ group packaging). Freight/Crate

Where will this item be shipped? Duluth

Additional Comments:

Is there other information you would like to include?

Full GC-MSMS system with enhanced Electrical Ionization (EI) and Chemical Ionization (CI) sourced.

Upload photos and/or diagrams of the item (helpful but not required).

Sales Quotation

Quote Number	Version	Quotation Date	Page
	1.00	July 17, 2023	1
Lead Time	Payment Terms	Freight Terms	Expiration Date
8-10 weeks	0.75% 20, net 30 days	DEST. PREPAID	October 15, 2023
Company Name		Customer Name	
U.S. EPA - Duluth			
* See end pages of quote for PO Submission details			

Thermo Electron North America LLC
5225 Verona Road
Madison WI 53711

1400 Northpoint Parkway
West Palm Beach FL 33407

This quotation contains time bound promotional offerings that require order placement by the expiration date shown above. These time bound promotional offerings may not be repeated or extended beyond the expiration date.

QUOTED UNDER THE AUSPICES OF GSA CONTRACT #47QSWA21D0055. ALL CONTRACT PRICING & DISCOUNTS HAVE BEEN APPLIED. ALL GSA ITEMS HAVE BEEN MARKED AS "GSA", BALANCE OF THE ITEMS ARE OPEN MARKET. VENDOR ACCEPTANCE OF A RESULTING PURCHASE ORDER IS CONTINGENT UPON CUSTOMER PROVIDING PROOF OF GSA ELIGIBILITY. IF CUSTOMER CANNOT PROVIDE PROOF OF GSA ELIGIBILITY, A NEW QUOTE WILL BE ISSUED AT COMMERCIAL PRICES SUBJECT TO COMMERCIAL TERMS.

Customer Info:

Customer Name:

Company Name:

Address:

Phone:

Email:

Sales Contact Info:

Item	Description	Unit Price	Qty	Discount	Total Price
1.1	TSQ9610-VPICI TSQ 9610 VPI EI CI ExtractaBrite GSA Contract Item The Thermo Scientific(TM) TSQ(TM) 9610 GC-MS/MS system is a triple quadrupole platform to revolutionize laboratory productivity and reduce cost-per-sample by delivering unprecedented levels of performance, ease-of-use, and instrument uptime. Unlike other systems, the TSQ 9610 GC-MS/MS system offers laboratories the opportunity to select best-in-class SRM performance, ultimate sensitivity and increased analytical robustness. Chemical ionization, including PCI, NCI, Thermo Scientific Pulsed Positive Ion Negative Ion Chemical Ionization (PPINICI), and EI/PCI/NCI Combination are included in this configuration. Electron Ionization (EI) source, with Full Scan, SRM, Full Scan/SRM, SIM, and Full Scan/SIM simultaneous within sample injection. Timed Acquisition (t-SRM) mode and AutoSRM are included as standard to facilitate method development and improve instrument productivity. AutoSRM optimizes SIM target ions or SRM transitions in a simple and efficient workflow. The patented Thermo Scientific(TM) NeverVent(TM) technology includes Vacuum Prove Interlock (VPI), ExtractaBrite(TM) EI source and the V-Lock source plug. NeverVent reduces maintenance operations such as source cleaning and installing the column by eliminating the need to vent the mass spectrometer. The wireless ExtractaBrite(TM) EI source is comprised of highly inert material for high sample path integrity. The source cartridge includes the repeller, source lenses, and RF lens, which protects the quadrupole from ion burning and programmable to 350degC. A	Country: SG \$214,800.00	1	\$90,216.00	\$124,584.00

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Item	Description	Unit Price	Qty
	dual-filament switchable via software is included for all ionization mode. Dual-stage mass filter with off-axis S-shaped ion guide for noise reduction and solid, homogeneous, non-coated quadrupole rods. Thermo Scientific(TM) XLXR(TM) detection system, with off-axis dynode, discrete dynode electron multiplier and electrometer, with an electronic dynamic range > 109. Mass Range 1.2 – 1100.0 u. Ability to acquire up to 800 SRM transitions/second and more than 97 scans/s in full-scan when scanning over a range of 125 u. Extended capacity (300 L/s) turbomolecular pump. Mechanical rotary vane oil pump. Optional oil-free scroll pump. Electron energy adjustable from 0 eV to 150 eV. Emission current up to 350 uA. Transfer line temperature up to 400degC. Field upgradable with optional Advanced EI source. A choice of TRACE GCs to match performance to the analytical needs of your lab. TRACE GCs are compatible with additional sample introduction techniques, such as headspace, thermal desorption, purge and trap, canisters, gas sampling valves, and solid phase microextraction (SPME).		
1.2	1R77010-1153 RSH SPME Arrow Fiber Cond Station	Country: CH \$6,030.00	1
1.3	1R77010-2001 TriPlus RSH SMART Standard liquid GSA Contract Item TriPlus RSH SMART Standard for Liquid injection with regular rail length. A cost-effective solution for multi-purpose GC systems, the TriPlus RSH SMART Standard is expandable to HS, SPME, SPME Arrow and ITEX-DHS and compatible with all the available tools/accessories for sample handling. It allows switching the injection tool with a quick and easy manual operation. Thanks to the SMART technology, consumables usage information is stored on the SMART chip of each syringe or SPME fiber and directly accessible from the chromatography data system. TriPlus RSH SMART Standard liquid includes one liquid syringe tool for 57 mm syringe needle, one tray holder, three 54-position vial trays for 2 mL vials, one Standard Wash Station with 5 solvent/waste vials and two 10 uL SMART liquid syringes and the TRACE 1300 Series GC Mounting Kit. Compatible with SMART syringes and fibers only. No change tool required. Note: NO vials, caps and seals are included	Country: CH \$21,300.00	1
1.4	MI-148000-0028 TRACE 1610 MAINFRAME MS 120V EU GSA Contract Item TRACE 1610 Mainframe 120V dedicated for MS (EU Model), includes: `1000-holes` fast GC oven with operating T range ambient +3 to 450degC; optional cooling to -100degC with LN2 or -50degC with CO2; Multiple-level temperature program with 32-ramp/33-plateaux with maximum heating rate of 90degC/min; Cooling down from 450degC to 50degC in less than 4 minutes; Six independent heated zones for individual control of injectors and detectors plus auxiliary zone; LAN interface; Simple start and stop buttons interface with status LED indicators TRACE 1610 GC features a multi-functional icon-based touch screen ideal for local instrument control and method development. It offers advanced functionalities for enhanced operability: 7" HD720p Color touch-screen interface with Instrument and consumable health tracking with alert notifications for preventive maintenance, Built-in	Country: IT \$13,000.00	1

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Item	Description	Unit Price	Qty
	video maintenance walk-through guides, Real-time signal monitoring, Diagnostic functionalities, multiple language capabilities and USB port for touch screen update		
1.5	1R77010-1156 RSH Incubator + Heatex Stirrer kit	Country: CH \$9,520.00	1
1.6	1R77010-1159 RSH SPME Arrow tool kit for TRACE 13XXGC	Country: CH \$7,620.00	1
1.7	1R77010-1100 RSH SPME SYRINGE FIBER TOOL SPME syringe fiber tool for world wide distribution except USA. Includes and assortment of 4 fibers and fibers holder.	Country: CH \$8,400.00	1
1.8	1R96000-98071 PWR CORD C19 TYPE5-20 125V MAX	Country: TW \$74.60	2
1.9	1R120602-0001 AEI FACTORY OPTION KIT GSA Contract Item	Country: SG \$53,900.00	1
1.10	19070010 TRACE 1300/1600 SSL INJECTOR MODULE TRACE 1300 SSL INJECTOR MODULE Instantaneously Connected-Split/Splitless Injector module, includes: complete injector with integrated electronic gas control (IEC) featuring constant Flow and Pressure modes, programmable Flow and Pressure modes, Leak check and Column Evaluation; Max T = 400°C; split ratio up to 12500:1; Control of split flow in 1mL/min from 0 to 1250 mL/min; Purge flow from 0 to 50 ml/min (electronic control); Suitable for all capillary columns (50 #m to 530 #m id); Large Volume splitless injection up to 50 uL using specific liners and pre-column; Compatible with 1/8' and 1/16' packed column (using adapters); Supports P&T/TD../. by special adapter; Compatible with Merlin Microseal® septum	Country: CN \$4,040.00	1
1.11	1R120404-4100 Ion Source Cartridge (Low Activity) GSA Contract Item EI Ion Source Cartridge, complete assembly for ISQ and TSQ 8000.	Country: US \$3,850.00	1
1.12	1R96000-98072 PWR CORD C13 TYPE B 125V MAX	Country: HK \$0.01	3
1.13	1R120404-4500	Country: US \$3,160.00	1

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Item	Description	Unit Price	Qty	Discount
	CI Ion Volume Assembly (Low-Activity) GSA Contract Item			
	CI Ion Source Cartridge, complete assembly for ISQ and TSQ 8000			
1.14	19050720 Country: CN GC/GCMS Start-up Kit TRC1300/1600 Trace 1300/1310 Start-up Kit	\$1,370.00	1	
1.15	1R77010-1019 Country: CH RSH AUTOMATIC TOOL CHANGE STATION GSA Contract Item Automatic Tool Change Station for the storage and automatic change of up to three syringe tools. Tools are automatically recognized in the slots. Up to two ATC stations can be added to the TriPlus RSH	\$4,510.00	1	
1.16	1R77010-1038 Country: CH RSH HAND-HELD TERMINAL Handheld controller for TriPlus RSH. ~ It displays the status of the autosampler and facilitates instrument setup	\$3,110.00	1	
1.17	1R77010-1200 Country: CH TRIPLUS RSH SAMPLING WORKFLOW EDITOR SW	\$3,450.00	1	
1.18	1R77010-1006 Country: CH RSH TRACE 1300/1310 INJECTOR ADAPTER KIT Adapters for Trace 1300/1310 injectors: one adapter suitable for SSL or PTV injector	\$79.10	1	
1.19	00012-01-00039 Country: TW PWR SPLY,DSKTP,12V,1.5A,18W,2.1mmID,RoHS	\$95.30	1	
1.20	19070020 Country: CN TRACE 1300/1600 PTV INJECTOR MODULE Instantaneously Connected-Programmable Temperature Vaporizing Injector module, includes: complete injector with integrated electronic gas control (IEC) featuring constant Flow and Pressure modes, programmable Flow and Pressure modes, Leak check and Column Evaluation; Injector can operate in Constant or Programmed Temperature with a T ramp up to 870° C/min (up to 3 ramps); Max T = 450°C; Injector is equipped with air cooling fan able to cool down to few degrees above ambient Temperature; Capable of sub-ambient operations: down to -100°C with liquid N2	\$7,160.00	1	

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	(optional kit required) and -50°C with CO2 (optional kit required); Split ratio up to 12500:1; Control of split flow in 1mL/min from 0 to 1250 mL/min; Purge flow from 0 to 50 ml/min (electronic control); Suitable for all capillary columns (50 #m to 530 #m id); Supports Large Volume injection and On Column (TPOC) using special liner; compatible Merlin Microseal® septum.		
1.21	76715-0047-PROMO Country: US WILEY REGISTRY 12th/NIST 2020 MS LIBRARY	\$6,810.00	1
1.22	19070070 Country: CN TRACE 1300/1600 AUX TEMP MODULE TRACE 1300/1310 Auxiliary temperature module: valve control of the Oven cryo option; valve control of the front/back PTV cryo option; two heater controls for the DSQ II, ITQ or TSQ transfer line; 63 timed events to automatically drive up to 8 external on/off solenoid valves.	\$1,830.00	1
1.23	MI-190000-0022 Country: CN HeSaver/H2Safer injector upgrade option	\$2,750.00	1
1.24	19050754 Country: CN KIT CRYO PTV LN2 PTV Cryogenic option - Liquid N2	\$1,420.00	1
1.25	MI-190000-0028 Country: CN iConnect Column Lock Nut Kit	\$420.00	1
1.26	7000.0020 Country: DE SPECTRAL LICENSE (3D/MS) Enables 3D, GC-MS and LC-MS data acquisition • Add-on license that enables 3D Data Acquisition, GC-MS Data Acquisition and LS-MS Data Acquisition • Workstation installations only • Can be added to WE, SE, WSS and WSO license • Only one license per Workstation license package required	\$4,490.00	1
1.27	7100.0108 Country: US CHROMELEON SINGLE EDITION (SE) Provides one client and enables control of one Thermo Scientific instrument and: • includes Instrument Controller, Class 1 Instrument license, Data Client, Instrument Operation, Report Designer Pro and Fraction Collection • must be ordered with 7050.0104A or one of its variants • can only be used for Workstation installations	\$4,410.00	1

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Item	Description	Unit Price	Qty
1.28	7350.0104A Country: US CM LICENSE CODE: NEW Required for all new Chromeleon 7.3 or later installations and includes: • New license Code • Installation media • Chromeleon box	\$0.01	1
1.29	00825-01-00111 Country: CN Ethernet,HUB,5 PORT,1GBIT,RoHS	\$297.00	1
1.30	1R120540-PERF Country: US TSQ PERFORMANCE SPEC KIT	\$100.00	1
1.31	26096-1420PTV-BNDL Country: US GC/GCMS PTV ESSENTIALS KIT Injector essentials kit includes: • 1 each 26096-1420 TG-5SILMS GC Column 30m x0.25mmx0.25µm • 5 each 29001318 Liner Sealing Ring for PTV • 1 each 29013820 Silver Gasket 2pk • 1 each 290VA191 Vespel Ferrule 0.1-0.25 10pk • 1 each 29053488 Graphite Ferrule 0.35 ID, foruse with columns with 0.25 ID • 1 each 453T2845-UI LinerGold PTV Concentric baffle 2x2.75x120mm 5pk • 1 each 31303233-BP BTO Septa 11mm Diameter50pk (Blister Pack)	\$1,398.99	1
1.32	26096-1420SSL-BNDL Country: US GC/GCMS SSL ESSENTIALS KIT SSL Injector Essentials Kit includes: 1 each 26096-1420 TG-5SILMS GC Column 30m x0.25mmx0.25µm 1 each 290VA191 Vespel Ferrule for the TRACE 1300 Series GC; capillary column 0.1-0.25 mm ID; 10 pk 1 each 290GA092 Siltek Treated Inlet Seals for the TRACE 1300 Series GC; 0.8mm; 2 pk 1 each 29001320 Liner Sealing Ring for SSL / 5pk 1 each 31303233-BP BTO Septa 11mm Diameter50pk (Blister Pack) 1 each 453A1925-UI LinerGOLD Splitless Liner, Single Taper, Wool 4x6.5x78.5mm 5pk	\$1,324.87	1
1.33	1R76505-0036 Country: GB OIL MIST FILTER w/NW25 ADAPTER/CLAMP Oil Mist Filter with MW25 Adaptor/Clamp	\$224.83	1
1.34	701-060004 Country: US Basic Extended Warranty-TSQ 9610 TROY Basic Extended Warranty - TSQ 9610 (includes a GC) - TROY	\$10,288.00	1

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Item	Description	Unit Price	Qty
	<ul style="list-style-type: none"> On-site corrective maintenance visits including required factory certified replacement parts, labor, and travel with a target of three (3) business day on-site response time Priority status for technical support telephone inquiries 10% discount on spare parts (not covered by corrective maintenance), accessories and consumables 		
1.35	701-059064 Country: US Bsc Ext War-TriPlus RSH SMART Std Lq Basic Extended Warranty - TriPlus RSH SMART Standard Liquid	\$1,509.00	1
	<ul style="list-style-type: none"> On-site corrective maintenance visits including required factory certified replacement parts, labor and travel with a target of three (3) business day on-site responsetime Priority status for technical support telephone inquires 10% Loyalty discount on parts, accessories, and consumables (may not be available in all regions) 		
1.36	701-060741 Country: US Basic Ext Warranty-Trace Injector Troy	\$393.00	2
	<ul style="list-style-type: none"> On-site corrective maintenance visits including required factory certified replacement parts, labor and travel with a target of three (3) business day on-site response time Priority status for technical support telephone inquires 10% Loyalty discount on parts, accessories, and consumables (may not be available in all regions) 		

Item	Description	Unit Price	Qty
2.0	C0012-01-00077 Country: CN Powervar UPS SPII 6.0kVA, RoHS	\$13,700.00	1
	6.0 kVA Security Plus II Powervar UPS (Uninterruptible Power Supply) can be used with various instruments and accessories. To accommodate the different plugs from the various instruments and accessories, a separate PDU (Power Distribution Unit) must also be ordered. The following LC MS systems can be used with 6.0 kVA UPS: All Exploris, ID-X, IQ-X, Fusion, Fortis, Quantis, Endura, Quantiva, Quantum, Altis, Fusion Lumos, Eclipse, LTQ XL, and Q Exactive series. All Plus versions of the instruments above can also be used with this UPS system. When adding a Peak Gas Generator to any instrument, at least an 8.0 kVA UPS is needed. Other instruments and accessories can also be added if one does not exceed the power requirements of the UPS and that one has the needed receptacles to plug these instruments and accessories into the UPS either directly or through a PDU. Specs: This UPS comes with a 6 foot power cord ending in a 6-50P. The UPS requires an input voltage of 208V connected to a 45A breaker. The back of the UPS has various receptacles that can be used to plug in other devices. The receptacles included in this model are:		

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Item	Description	Unit Price	Qty
	6x 5-15R, L14-30R, 6-20R, L6-30R. The L14-30R is the receptacle that is used to plug the PDU into the UPS Dims: 240mm x 718.4mm x 826mm		
3.0	C0202-99-00181 Country: US PV PDU 4x 6-20R, 4x 5-15R, NOT EU The PDU module for the Powervar UPS systems acts as a "powerstrip" with numerous plug receptacles. The L14-30R (receptacle on UPS) mates with the L14-30P (Plug on PDU) 10' long power cord. The unique thing about this plug/receptacle combination is that it contains two hot legs, a neutral and a ground, so it's a four conductor set up ("14"), allowing both 115 and 230 VAC to be distributed. The "30" stands for the current rating of the device. These receptacles allow the user to plug in all the power cords that belong to their LCMS system in one place and keep them protected from power surges and from short power failures "brown-outs" of the mains power to the building. The PDU can supply both 125V and 230V depending on the plugs being used. As a rule, any outlet that is a Nema 5-XX will provide 125 V output, while any Nema 6-XX will provide 230V output. Each PDU can be matched up with any of the LSMS Powervar Security Plus II UPS systems. The differences in the 3 PDUs that are offered relate to the different receptacles that each of our MS systems require. This PDU works in conjunction with any LSMS Powervar UPS system. It is designed for use with the Endura, Quantiva, Quantum, Fortis, Fortis Plus, Quantis, Quantis Plus, Altis, Altis Plus, ID-X, Fusion, Fusion Lumos, Eclipse, and LTQ-XL: • 4 x 5-15R rated at 15A (120V) • 4 x 6-20R rated at 20A (230V)	\$1,190.00	1

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Options / Recommendations

Item	Description	Unit Price	Qty	
1.37	120256-UPGR Country: US DRY PUMP KIT nXDS10i 100/240V WORLD MTR GSA Contract Item Dry Scroll Pump Upgrade Kit XDS5 Factory upgrade only from oil rotary vane pump. For field upgrades use p/n 120256-0001 instead.	\$5,870.00	1	\$1,878.40
1.38	1R120468-CONSUM Country: US Consumables Kit	\$3,650.00	1	
1.39	701-061186 Country: US Fac War PM - Trace 1600/1610 Injector • Annual standard Preventive Maintenance visit and a standard Preventive Maintenance Kit	\$180.00	2	
1.40	701-061182 Country: US Fac War PM - TriPlus RSH SMART Std Liq • Annual standard Preventive Maintenance visit and a standard Preventive Maintenance Kit	\$2,138.00	1	
1.41	701-061190 Country: US Fac War PM - TSQ 9610 • Annual standard Preventive Maintenance visit and a standard Preventive Maintenance Kit	\$6,800.00	1	



Mass Spectrometry

Stay ahead
with unstoppable confidence

Thermo Scientific TSQ 9610
Triple Quadrupole GC-MS/MS System

Unstoppable confidence for analytical testing

To confidently stay ahead, your GC-MS/MS system must deliver ultimate performance while consistently producing trusted quantitative results. That's the reason for the Thermo Scientific™ TSQ™ 9610 Triple Quadrupole GC-MS/MS System. User-centric Thermo Scientific™ NeverVent™ technology, extended-life detector, and intelligent software eliminate unnecessary downtime to maximize your sample throughput and return on investment (ROI). New extended linear dynamic range combined with proven high sensitivity ensures you keep ahead of the toughest regulatory methods and business demands.

Combine the TSQ 9610 Triple Quadrupole GC-MS/MS System with the Thermo Scientific™ TRACE™ 1600 Series Gas Chromatograph (GC) and Thermo Scientific™ AI/AS 1610 Liquid Autosampler to optimize the performance and productivity of your solution.

Increase instrument uptime

Eliminate unnecessary and unplanned instrument downtime to deliver high-confidence quantitative results, day after day. The TSQ 9610 Triple Quadrupole GC-MS/MS System combines unstoppable robustness with the ability to change the GC column and clean the ion source without interrupting analytical workflows.

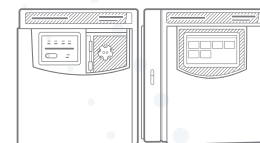
Maximize sample throughput

When high sample throughput is essential, the system delivers results on time and with ease. Automated workflows and simplified operation ensure every user produces consistent results, sample after sample. Extended linear range and rapid selected reaction monitoring (SRM) scanning enable method consolidation so you can analyze more compounds in a single run. When these capabilities are combined with best-in-class uptime and sensitivity, you stay ahead of any productivity demand.

Realize rapid return on investment

Ensuring your system delivers results as soon as it's installed is necessary to achieving rapid ROI. With built-in intelligence that simplifies instrument set up, analytical methods, and everyday operation, the TSQ 9610 Triple Quadrupole GC-MS/MS System is designed for accelerated deployment. Reduced needs for operator training and faster time to full productivity together with maximum sample throughput provide fast return on your instrument investment.

The TSQ 9610 Triple Quadrupole GC-MS/MS system coupled to the Thermo Scientific™ TRACE™ 1610 gas chromatograph and the TriPlus RSH SMART autosampler.



Environmental



Food safety



Petrochemical



Clinical and
toxicology



Pharmaceutical

Unstoppable confidence in uptime for full-time productivity

Unplanned or planned downtime can result in poor asset utilization and reduced sample throughput. TSQ 9610 Triple Quadrupole GC-MS/MS System features innovations that reduce downtime for routine maintenance, while instrument health monitoring assists you in determining when maintenance is needed to avoid unnecessary downtime. As a result, you maximize instrument utilization, sample throughput, and ultimately ROI.



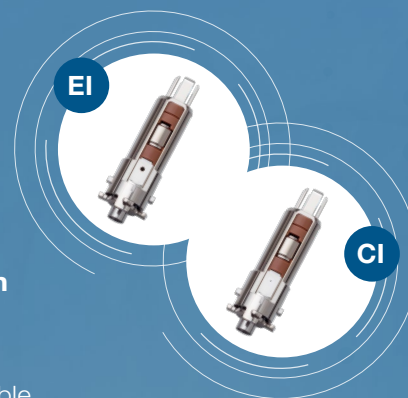
NeverVent technology

Using NeverVent technology with the Vacuum Probe Interlock (VPI) and V-Lock source plug, planned maintenance such as changing column and ion source cleaning can be performed without venting the mass spectrometer, increasing uptime. NeverVent technology is available on both the Thermo Scientific™ ExtractaBrite™ and the Thermo Scientific™ Advanced Electron Ionization (AEI) sources.

If the ExtractaBrite ion source is configured, the VPI can be used to avoid venting when changing between electron ionization (EI) and chemical ionization (CI) modes. If the AEI source is configured, the filament can also be changed without venting.

ExtractaBrite Ion Source

For over a generation, the ExtractaBrite ion source has provided trusted EI and CI results. The EI ExtractaBrite ion source offers proven robustness and sensitivity that meets regulatory requirements. To adapt to various applications, you can switch between EI and CI modes without breaking vacuum.



Advanced Electron Ionization (AEI) Source

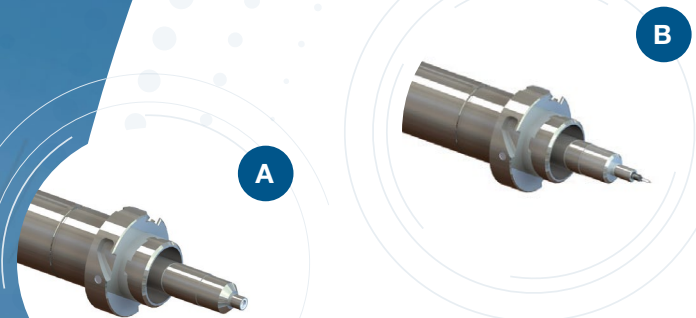
The AEI source offers the ultimate in robust EI sensitivity, for reproducible low-level quantitation of target compounds in the most challenging matrices.

XLXR™ Detector

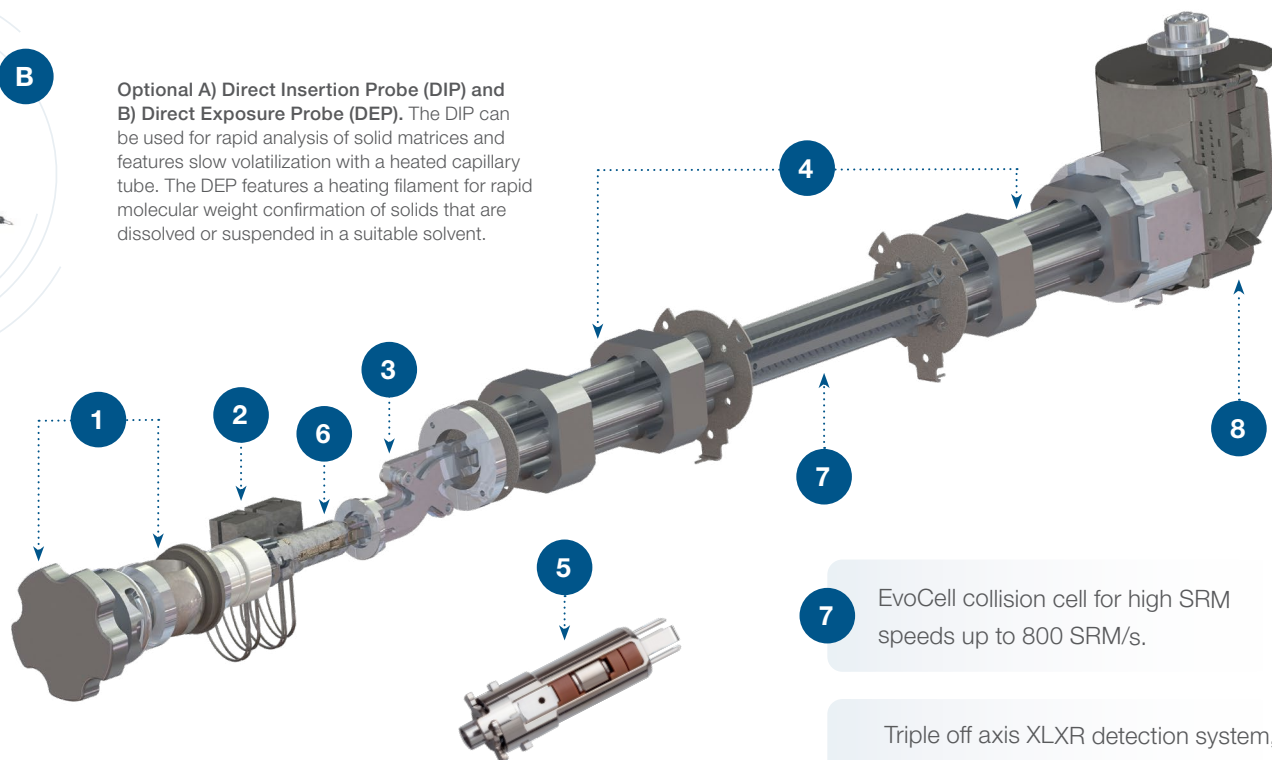
Standard on every TSQ 9610 Triple Quadrupole GC-MS/MS System, the XLXR detector lasts eight times longer than its predecessor. By extending time between replacement for preventative maintenance, running costs and obstacles to productivity are significantly reduced.

		Maintenance activity		
		Column change (hrs:mins)	Exchange ion source (hrs:mins)	Replace filaments (hrs:mins) (only available on NV-AEI)
Standard GC-MS	Requires vacuum system venting and pump down operations	4:35	4:00	4:00
NeverVent GC-MS	Venting and pump down not required	00:35	00:05	00:05
NeverVent time savings		87%	98%	98%

Compared to standard GC-MS technology, NeverVent technology offers substantial time savings when typical maintenance activities are performed.



Optional A) Direct Insertion Probe (DIP) and B) Direct Exposure Probe (DEP). The DIP can be used for rapid analysis of solid matrices and features slow volatilization with a heated capillary tube. The DEP features a heating filament for rapid molecular weight confirmation of solids that are dissolved or suspended in a suitable solvent.



1 Optional NeverVent AEI source, delivering ultimate sensitivity with interrupted workflows.

2 Dual source heaters ensuring maximum robustness in heavy matrix.

3 S-shaped ion guide for off-axis ion optics, eliminating neutral noise.

4 Solid, homogeneous non-coated, non-heated maintenance-free quadrupoles.

5 ExtractaBrite ion source, Available with VPI minimizing instrument downtime.

6 Highly sensitive AEI ion source, featuring a patented RF lens ensuring matrix robustness, that are removable without breaking instrument vacuum with the NeverVent option.

7 EvoCell collision cell for high SRM speeds up to 800 SRM/s.

8 Triple off axis XLXR detection system, with off-axis 10kV dynode, discrete dynode electron multiplier, and electrometer with extended linear dynamic range.

Instrument	Ion source	Vent-free source exchange	Vent-free column exchange	Vent-free filament exchange	Compatibility with direct probes	Extended dynamic range and lifetime detector
TSQ 9610 Medium turbo	EI ExtractaBrite source	x	x	x	x	✓
TSQ 9610 AEI	AEI source	x	x	x	x	✓
TSQ 9610 NeverVent AEI	AEI source	✓	✓	✓	x	✓
TSQ 9610 Vacuum probe interlock	EI ExtractaBrite source/CI ExtractaBrite source	✓	✓	x	✓	✓

To address different laboratory needs, the TSQ 9610 Triple Quadrupole GC-MS/MS System is available in four configurations.

Unstoppable confidence in sample throughput

Maximizing sample throughput is essential to producing results on time. The TSQ 9610 Triple Quadrupole GC-MS/MS System incorporates user-centric innovations that extend service intervals, reduce maintenance, and allow methods consolidation to boost sample throughput while maintaining certainty in quality of results.

Consolidate methods

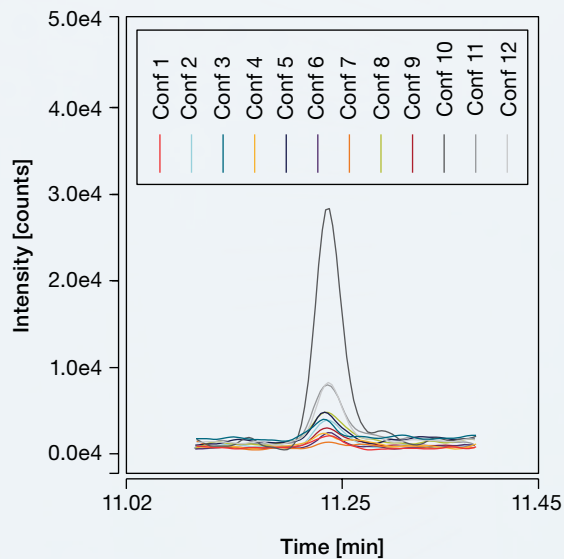
Running multiple calibration experiments for a single sample set adds extra time and effort to analytical workflows. The XLXR electron multiplier detector which extends dynamic range twofold compared to the previous design. Extended dynamic range capability enables labs to combine methods, including calibration curve development, allowing analysis of low- and high-concentration compounds in a single run.

Using several methods to analyze a single sample for several compound classes also reduces sample throughput. The instrument's unique EvoCell provides transition speeds of up to 800 SRMs/s without sacrificing sensitivity, allowing use of more SRM transitions and wider SRM acquisition windows. Now, even when analyzing complex matrices, you can consolidate methods and reduce peak losses in case of retention time shifts.

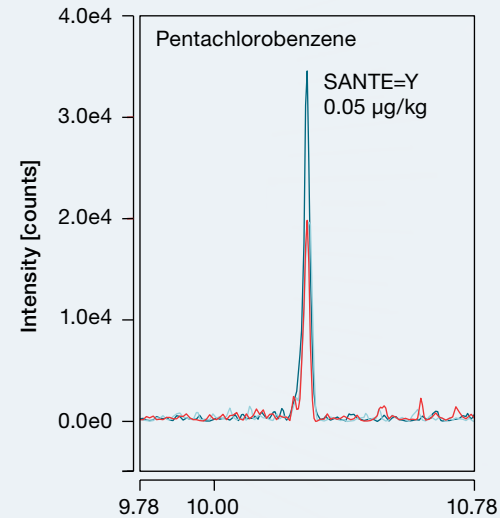
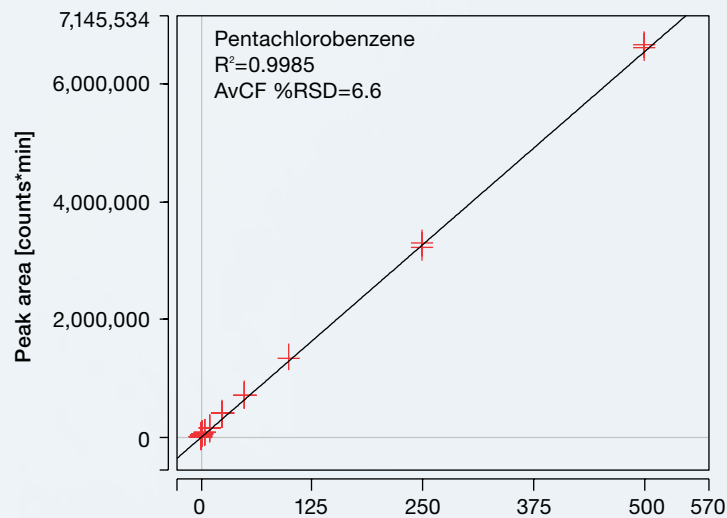
Intelligent instrument health monitoring

Knowing when to perform planned maintenance ensures sample analysis is not interrupted due to a drop in instrument performance. The TSQ 9610 Triple Quadrupole GC-MS/MS System's instrument health monitoring capability alerts users when to perform maintenance, avoiding unplanned downtime or performance issues requiring sample reanalysis. Instrument health monitoring also facilitates maintenance record keeping so you can manage spare parts effectively to save time and reduce costs.

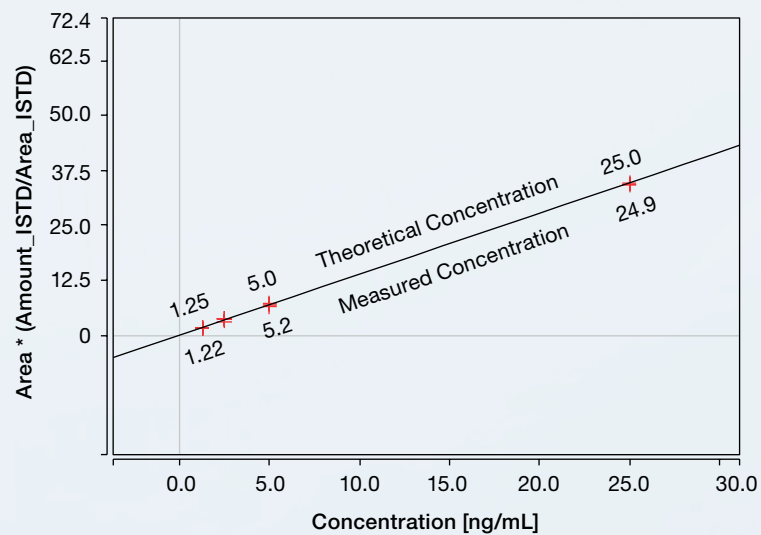
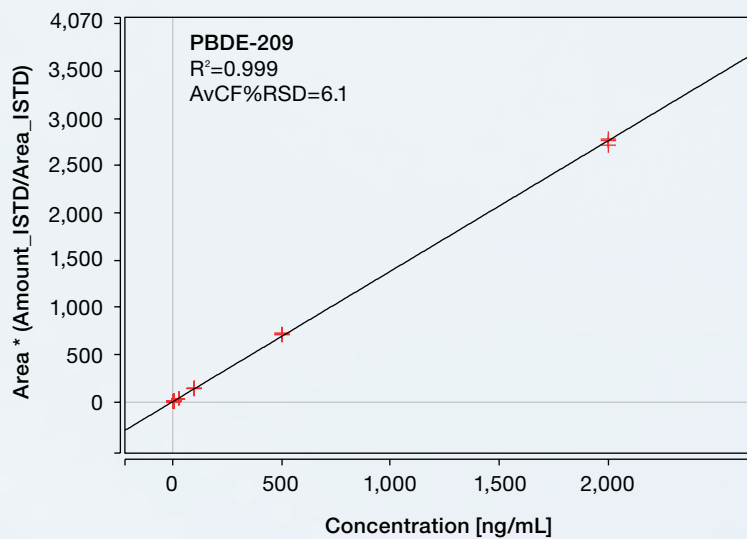




PBDE-209 at 0.5 ppb in environmental extract – 1 μ L nonane injected with 12 SRM transitions acquired



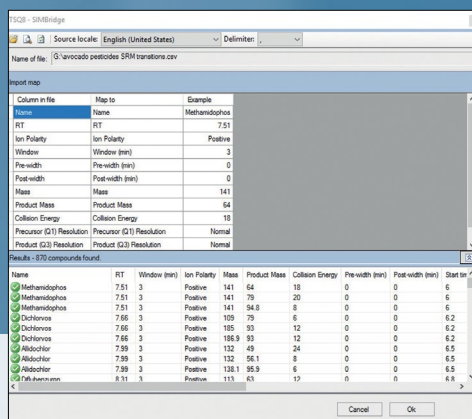
Calibration curve of pentachlorobenzene in baby food matrix between 0.05–500 μ g/kg with chromatogram showing the lowest calibration point



PBDE-209 calibration plot (full range: 1.25–2,000 ng/mL, zoomed detail: 1.25–25.0 ng/mL)

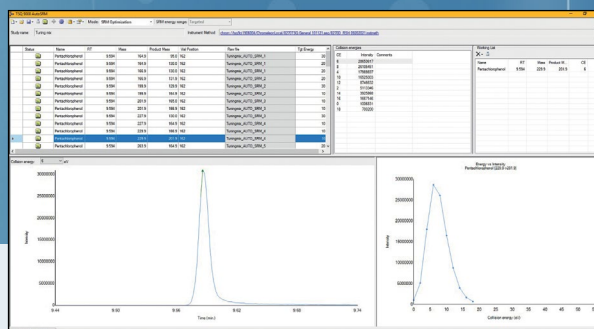
Unstoppable confidence in your investment

Rapid instrument deployment reduces time to results and revenue generation. That's why the TSQ 9610 Triple Quadrupole GC-MS/MS System includes a comprehensive set of automated tools to provide users with a seamless experience when transitioning from other platforms, developing methods, and analyzing samples. This built-in intelligence reduces operator training needs and time to full productivity for rapid ROI.



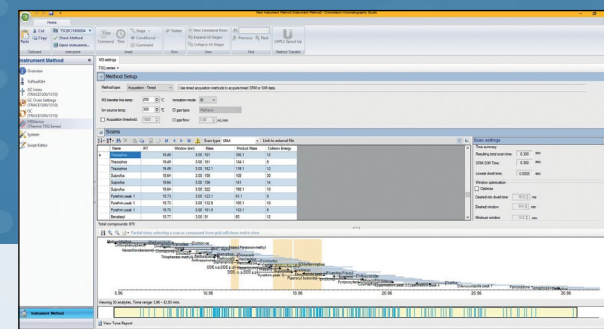
SIM Bridge

SIM Bridge automatically translates SIM methods exported from other instruments into TSQ 9610 Triple Quadrupole GC-MS/MS System SIM methods. The translated SIM method can be immediately run on the TSQ 9610 Triple Quadrupole GC-MS/MS System, or AutoSRM can be used to translate the SIM information into a powerful SRM method.



AutoSRM

AutoSRM makes SRM method development effortless and fast by walking users through the development of fully optimized SIM target ions or SRM transitions in a simple and efficient workflow. If you prefer to start from your current SIM method, SIM Bridge can import the existing method details.



Timed SRM (t-SRM)

As methods are consolidated and more compounds are added to a single analytical run, managing acquisition windows becomes increasingly complex. The TSQ 9610 Triple Quadrupole GC-MS/MS System eliminates this complexity by automatically optimizing targeting of a particular compound. The analyst simply enters the retention time and the time required to capture the peak, and t-SRM takes care of the rest. T-SRM optimizes compound detection for maximum sensitivity and allows addition of more compounds to a method without compromising performance.

Retention Time Alignment

Column information (read only)		Actual column void time and reference retention time	
Carrier gas	He	Void time determination method	Measured
Pressure units	kPa	Theoretical void time	1.021 min
Column length	30.000 m	Measured void time	1.250 [0.001...1000.000 min]
Column internal diameter	0.250 mm	Measured reference retention time (nC10)	9.000 [0.001...1000.000 min]
Film thickness	1.00 µm	Target reference retention time	
<input type="checkbox"/> Precolumn installed		Target reference retention time (nC10)	9.000 [0.001...1000.000 min]
Precolumn length	2.000 m	Calculated flow/pressure	
Precolumn internal diameter	0.530 mm	Calculated flow for method	1.800 ml/min
Method information (read only)		Calculated pressure (information only)	
Flow mode	Constant Flow	117.696 kPa	
Flow	1.800 ml/min		
Oven temperature	60 °C		
<input checked="" type="checkbox"/> Vacuum compensation			
		Align method Cancel Help	

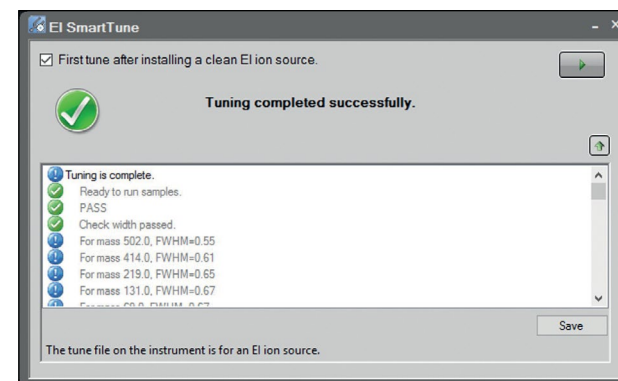
Retention time alignment

Retention-time shifts due to changing the analytical column or performing maintenance should not result in missed compounds. The RTA tool maintains retention times while running everyday high-throughput GC-MS methods. If the column is changed or trimmed, the user simply provides the new column length and internal diameter or corrected pressure and flow values. RTA then uses the column's measured void time and the retention time of a reference substance to quickly realign the retention times of all the peaks in the chromatograms.

SmartTune

SmartTune eliminates the complexity associated with tuning, ensuring Thermo Scientific™ TSQ™ instruments are performing at required levels prior to running samples. A simple, guided interface efficiently checks and tunes the system, and intelligently eliminates any unnecessary steps in the process, resulting in faster tuning. If a problem is detected, SmartTune recommends the appropriate corrective action. SmartTune also provides user-customizable targets to facilitate consistency in performance between analytical sequences.

In regulated environments, tuning methods must be included with the analysis for compliance. SmartTune can be operated in-sequence for compliance, method flexibility, and to allow several analyses during one sequence.

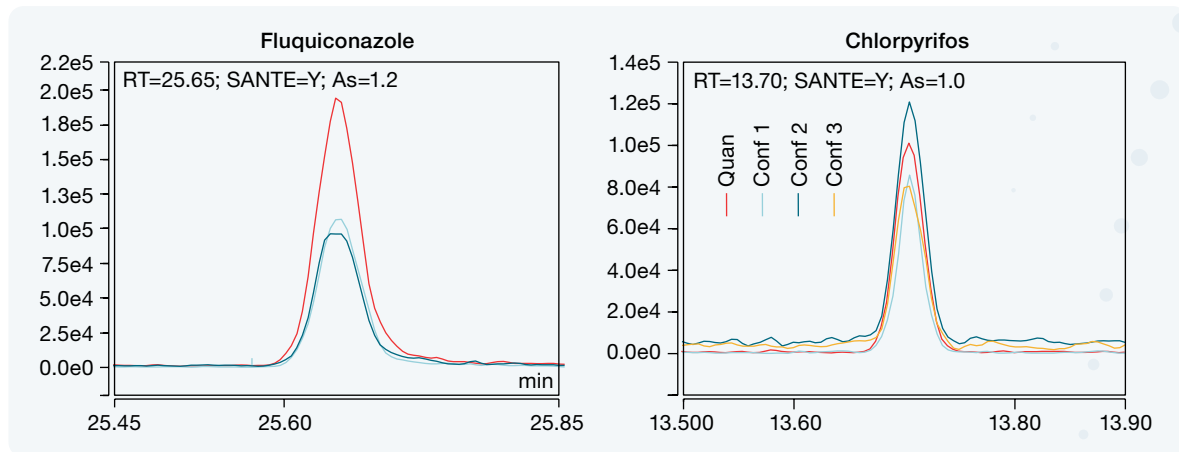


Unstoppable confidence in quantitative performance

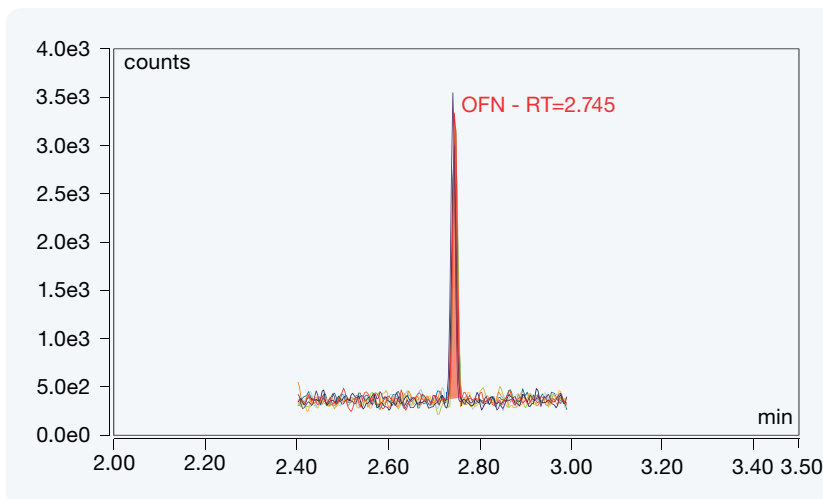
Confidence in quantitation is assured with best-in-class sensitivity, speed, and reproducibility, delivered consistently, day after day. The TSQ 9610 Triple Quadrupole GC-MS/MS System provides high-sensitivity analysis with design innovations such as the ExtractaBrite ion source, highest sensitivity AEI source, and EvoCell.

Exceed sensitivity requirements

Laboratories expect their instruments to deliver the sensitivity required to meet the toughest analyses and regulations, today and in the future. When equipped with the ExtractaBrite ion source, the TSQ 9610 Triple Quadrupole GC-MS/MS System can consistently perform low-level quantitative analyses. For ultra-trace quantitation, the AEI source can be chosen to reach attogram-level detection limits, allowing you to confidently exceed regulatory requirements.



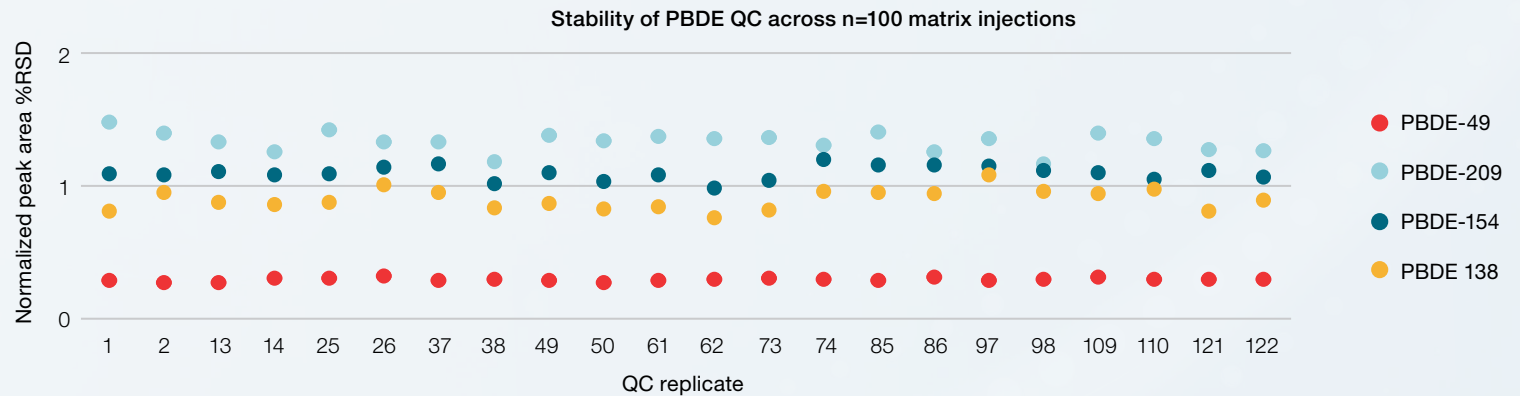
Analysis of fluquiconazole and chlorpyrifos in QuEChERS extracts at 1 ppb



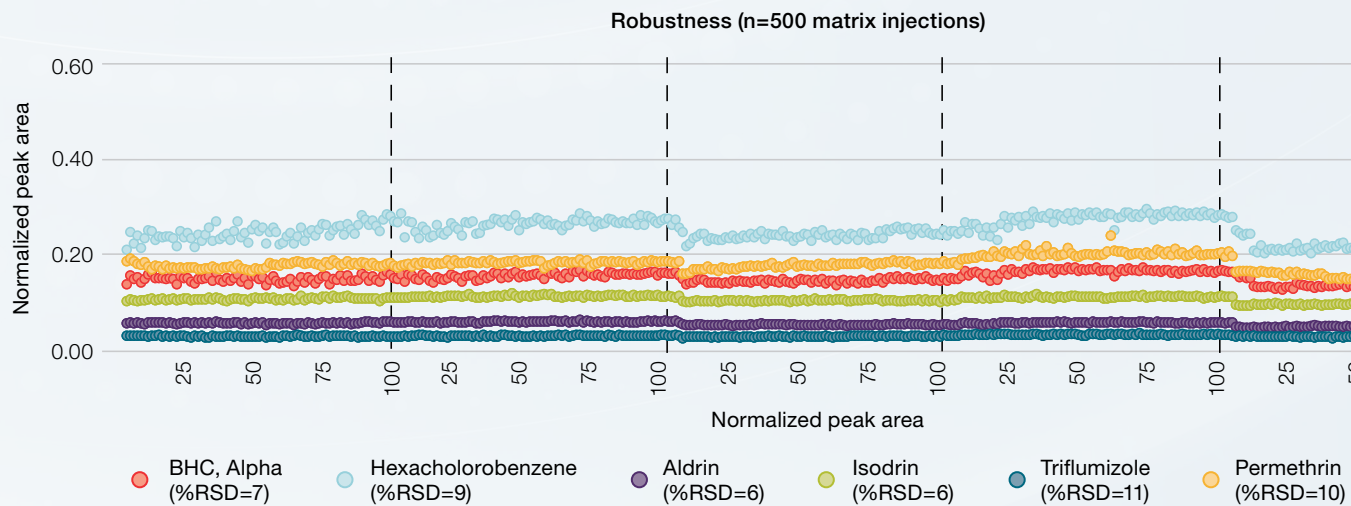
Overlay of 8 consecutive 1 fg on-column OFN injections with %RSD of 4.12% giving an IDL of 0.12 fg

Obtain consistent results

Being able to meet regulatory limits is not enough. An instrument must produce consistent results at these limits, day after day. In either ion source configuration, the TSQ 9610 Triple Quadrupole GC-MS/MS System produces robust, best-in-class results. Compared to other systems, the instrument can analyze substantially more samples before routine maintenance is needed.



PBDE QC (5–25 ng/mL) normalized peak area %RSD across a sequence of n=100 injections of various environmental and fish oil extracts



Analysis of 500 consecutive injections of baby food matrix samples spiked at the default MRL (10 µg/kg). Every 100 injections (blue dotted lines) the PTV liner and septum were replaced, approximately 6 cm of the head of the column were trimmed and the SmartTune feature was used to check the instrument status.

Unstoppable confidence in uptime with a GC always ready to run

Designed for a new level of usability and uptime, the Thermo Scientific™ TRACE™ 1600 Series Gas Chromatograph (GC) delivers measurably more productivity and lower cost of operation. With a unique modular design and plug-and-play injectors and detectors, you have full flexibility to perform maintenance offline and use different configurations on the same GC to make the most of your GC-MS system. When combined with the Thermo Scientific™ AI/AS 1610 Liquid Autosampler, the system provides easy and reliable automated sample injection to meet any sample-throughput demand.

Full range of self-installable injector and detector modules to minimize GC downtime.



High-resolution touchscreen to support daily operations with video instruction that walks through common procedures.



Simplify and speed up column installation with quick, easy, and safe tool-free column connectors with the ability to work comfortably in an illuminated oven.

Easily add robust, unattended sample injection to increase sample throughput, enabling simultaneous analysis into two channels with the Gemini configuration.

Instrument health icon is always visible on the GC touchscreen to alert users to maintenance needs.





Minimize downtime

Automated GC consumables tracking with alerts minimizes unexpected downtime and waste due to unnecessary replacement. Instrument health is on continuous display on the touchscreen. Tubing-free injectors design allows for easy and quick septum/liner replacement, simplifying routine maintenance operations.



Perform maintenance offline

Unique Thermo Scientific™ iConnect™ injector and detector modules can be kept as interchangeable spares, allowing analyses to continue while deeper maintenance is performed offline. Simple replacement of self-installable components facilitate as well troubleshooting operations, saving time and money.



Increase laboratory efficiency

Versatile modular configurability minimizes idle time, maximizing the productive use of your laboratory's GC systems. The suite of iConnect injectors and detectors can be shared among multiple GC systems in numerous configurations without installation costs.



Save time with robust unattended operation

The slide-in self-aligning AI/AS 1610 Liquid Autosampler provides reliable unattended sample analysis, saving valuable time and increasing productivity while improving data quality with high-precision injections.



Add robust headspace injection

For volatiles analyses, the Thermo Scientific™ TriPlus™ 500 Headspace (HS) Autosampler offers reliable and robust unattended operation in 12-, 120-, and 240-vial configurations. Valve-and-loop technology and direct column connection ensure highest performance to facilitate compliance in regulated environments. It can be mounted with the AI/AS 1610 Liquid Autosampler for an all-in-one configuration.



Add the productivity of robotic sample handling

The Thermo Scientific™ TriPlus™ RSH SMART autosampler offers advanced robotic sample handling to extend automation beyond liquid, headspace, and solid phase microextraction (SPME). Your results will benefit from maximized precision and reproducibility, while your laboratory will increase productivity with flexible sample handling and automated sample preparation procedures, such as dilution, internal standard addition, and derivatization workflows.

- Flexible liquid sample handling with optimized injection modes and customizable syringe-filling techniques
- Static headspace and ITEX dynamic headspace through high temperature gas-tight syringe with injection volume flexibility
- SPME/SPME Arrow for solvent-free extraction of volatile and semivolatile compounds
- SMART technology for syringes and SPME/SPME Arrow fibers usage tracking

TriPlus 500 HS Autosampler available in 12-, 120- and 240-vial configurations



The TriPlus RSH SMART Autosampler delivers exceptional precision, flexibility, and productivity with robotic sample handling.



The right choice for any workflow

The TSQ 9610 Triple Quadrupole GC-MS/MS System can be seamlessly implemented into any laboratory workflow to rapidly produce trusted results. Navigate your most difficult analytical challenges and obtain results on—or even ahead of—time with automated workflows and simplified operation.

Preserve a clean and safe environment

Analysis of air, water, and soils for the presence of volatile and semivolatile organic contaminants is essential to preserving a clean and safe environment. The sensitivity and robustness of the TSQ 9610 Triple Quadrupole GC-MS/MS System provide high-confidence results with increased uptime and sample throughput. The Trace 1600 Series GC can be coupled with sampling solutions like purge and trap (P&T), thermal desorption (TD), and pyrolysis for the analysis of a variety of environmental samples.

Ensure food safety

New challenges in food safety analysis emerge every day. The TSQ 9610 Triple Quadrupole GC-MS/MS System offers robust ultra-low-level quantitation of hundreds of contaminants per run. Outstanding reproducibility, ultimate sensitivity, and remarkable speed provide highest confidence in results.



Food safety



Environmental



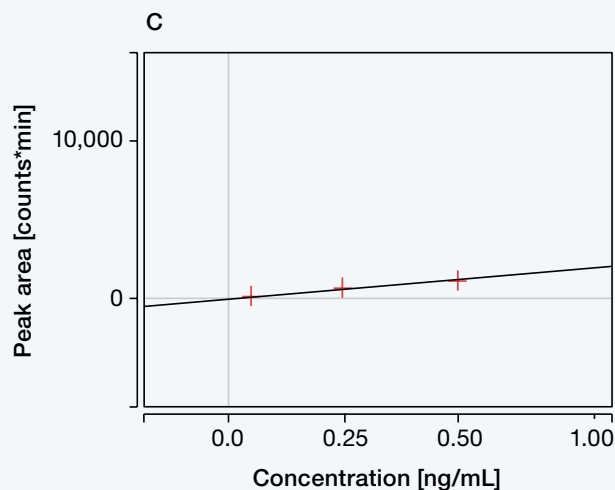
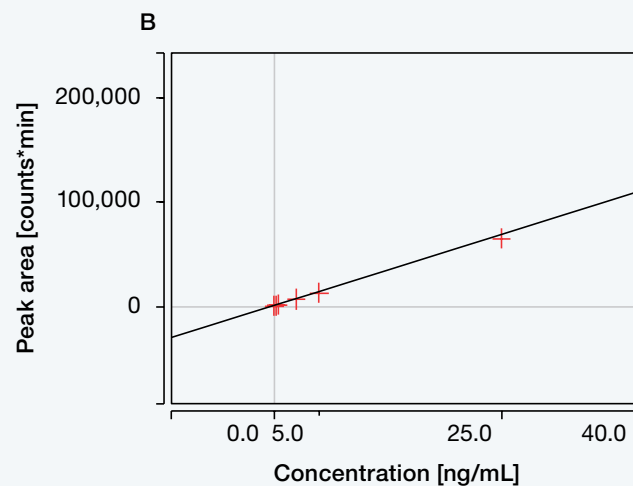
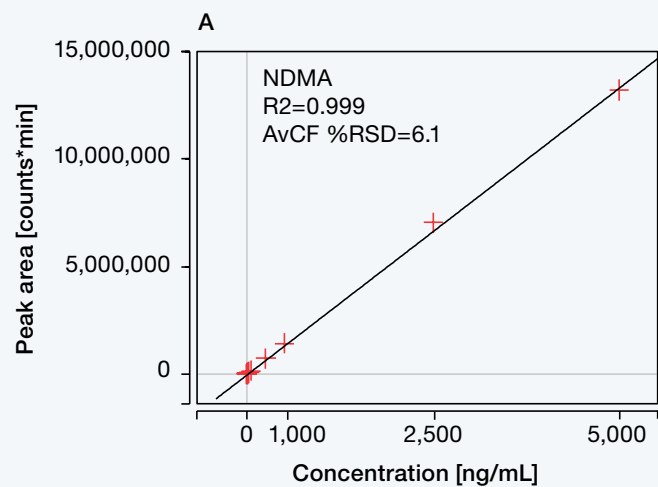
Petrochemical



Clinical and
toxicology

Detect pharmaceutical product impurities

Undetected impurities in pharmaceutical products can adversely affect their safety and efficacy, and ultimately damage a company's brand reputation. The TSQ 9610 Triple Quadrupole GC-MS/MS System offers ultra-low sensitivity for the detection of targeted impurities such as nitrosamines, making it easier to guarantee products are safe and effective.



NDMA linear response between 0.05 and 5,000 ng/mL (A), zoomed in calibration plots (B: 0.05–25 ng/mL and C: 0.05–0.5 ng/mL)

Companion software for the TSQ 9610 Triple Quadrupole GC-MS/MS System

Integrated workflow-driven software, application library, and support streamline your applications and everyday tasks including:

- Instrument optimization and troubleshooting
- Method development and implementation
- Reporting results



Thermo Scientific™ Chromeleon™ software

Enterprise-level instrument control, data processing, and the ability to address any regulatory requirement.



Thermo Scientific™ TraceFinder™ software

Comprehensive quantitative workflows for all applications—from method development to report generation.



AppsLab method library

A comprehensive repository for application-specific methods, data sets, and application notes.



Service and support

Our global Centers of Excellence, in-your-lab training using your methods, and AppsLab Library of Analytical Applications ensure your success.

Unstoppable GC-MS technology

Thermo Scientific offers a portfolio of GC-MS systems to address your applications needs. Combined with productivity-enhancing software, these advanced systems enable you to meet or exceed the most stringent requirements for performance, reliability, and value.

ISQ 7610 Single Quadrupole GC-MS system

For targeted analysis and spectral library matching the Thermo Scientific™ ISQ 7610™ Single Quadrupole GC-MS System. Provides high speed full scan analysis and selected ion monitoring (SIM) for the analysis of compounds in food, environmental and clinical samples.



Orbitrap Exploris GC mass spectrometers

For targeted or unknown compound identification in complex sample matrices, Thermo Scientific™ Orbitrap™ Exploris™ GC mass spectrometers provide high-resolution accurate-mass (HRAM) data with sub-ppm mass accuracy. Acquire full-scan data for targeted and untargeted screening, confirmation, unknown identification, quantitation, and retrospective analysis.



Everything you need at your fingertips

Easy, reliable, and innovative application-focused GC columns and consumables

Whether you are performing analysis in pharmaceutical, forensics/toxicology, environmental, food, petrochemical, or general analytical industries, we offer a wide range of vials, syringes, septa, liners, columns, gas filters and accessories designed to complement our GC and GC-MS systems and autosamplers in application-focused solutions.

Because time is valuable, the consumables you need for everyday workflows are available for easy online ordering and reordering, with pricing and stocking information, fast shipping, and status tracking.

- Low-bleed, high-reproducibility Thermo Scientific™ TraceGOLD™ columns
- Consumables tested and certified on TRACE 1600 Series Gas Chromatograph systems
- Vials and syringes guaranteed for use with Thermo Scientific autosamplers
- Thermo Scientific™ GFM Pro Gas Flowmeter and Thermo Scientific™ GLD Pro Gas Leak Detector for system installation and maintenance
- Derivatization reagents and derivatization-grade solvents

Order at thermofisher.com/chromatographyconsumables

Find out more at thermofisher.com/TSQ9610

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