

	INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036 Telephone: [044] 2257 9723/9798 E-mail: tender@iitmadras.ac.in	
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The Senior Manager (Project Purchase)

Ref: SAI/1617/027/UHPLC-QTOF-HRMS

Dated: 30.01.2020

Special Limited Tender No: SAI/1617/027/UHPLC-QTOF-HRMS

Due Date: 19.02.2020, 5:00pm

Pre-Bid meeting: - Not required.

Technical Bid opening meeting on Due Date: 20.02.2020, 3:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of **“Ultra High Performance Liquid Chromatograph - Quadrupole Time of Flight -High Resolution Mass Spectrometer (UHPLC- QTOF -HRMS)”** conforming to the specifications given in (Annexure-I).

Terms and Conditions of Limited Tender

1. **Preparation of Bids:** - The Special Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
2. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:
**The Senior Manager,
Project Purchase,
IC & SR Building, 2nd floor,
I.I.T. Madras,
Chennai – 600 036.**
3. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges.
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
4. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
5. **Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical bid

6. **Late offer:** - The offers received after the due date and time will not be considered
7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened on **20.02.2020, 3:00pm** at the Department of SAIF, IIT Madras and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them**.
13. **EMD:** - The **EMD (Should be in INR) in the form of Account Payee Demand Draft / Banker's Cheque for 2% of the quoted value of the item; drawn in favor of The Registrar-IIT Madras, payable at Chennai should be enclosed in the cover containing financial bid**. Any offer not accompanied with the EMD shall be rejected summarily as non-responsive.

The EMD of the unsuccessful bidders shall be returned within 30 days of the end of the bid validity period. The same shall be forfeited, if the tenderers withdraw their offer after the opening during the bid validity period. The Institute shall not be liable for payment of any interest on EMD. EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME).

When a foreign vendor does not have a local agent in India, he can submit a demand draft equal to 2% or wire transfer the amount to our account as detailed in the attachment (Annexure II) and enclose the proof with the financial bid

14. **Performance Security:** -The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
15. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
16. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
17. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

18. Unsolicited offers: “This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure.” The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is “ workflow@rt.iitm.ac.in “.

Yours sincerely,

The Senior Manager (Project Purchase)
IC&SR Building, I.I.T. Madras,
Chennai - 600 036.

Technical Specifications for the state- of- the- art "Ultra High Performance Liquid Chromatograph - Quadrupole Time of Flight -High Resolution Mass Spectrometer (UHPLC- QTOF -HRMS)

General Description:

- The instrument should be capable of performing high resolution MS and MS/MS experiments for a wide range of applications such as analysis of small molecules, organometallic compounds, nanoclusters, synthetic polymers, metabolites, protein and peptides.
- Should have Electro Spray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI) modes
- Should have high resolution Q-TOF mass analyzer
- All the components should be manufactured, supplied and installed by a single vendor to provide a seamless integration between the components

TECHNICAL SPECIFICATIONS

I. High resolution mass spectrometer, compatible with UHPLC/UPLC speed in both MS and MS/MS modes and having the following specifications	
Ion Source	<ul style="list-style-type: none"> • ESI and APCI with Static Probes, easily interchangeable without venting the vacuum • Both positive and negative modes of ionization • Fast polarity switching between positive and negative modes and should be under software control
Mass Analyser	Mass Resolution: $\geq 40,000$ (FWHM) at $\sim m/z$ 1000
	Mass Accuracy: ≤ 1 ppm in MS and MS/MS modes or better (internal calibration)
	Quadrupole isolation for MS/MS: m/z 3,000 or better
	QTOF Mass range: up to m/z 40,000 or better
	Mass Analyser should have Separate Collision Cell
	Spectral acquisition rate in both MS and MS/MS modes should be 30 spectra per second or better
	Linear dynamic Range: ≥ 4 orders or above
Mass Analyser should have Separate Collision Cell	Sensitivity: The sensitivity in full scan mode in both MS and MS/MS Modes should be $\geq 100:1$ for 1pg of reference standard on column or equivalent
Scan Modes	Full scan MS and full scan MS/MS modes with high-resolution accurate mass detection. <ul style="list-style-type: none"> • Simultaneous MS and MS/MS scanning • Data independent acquisition (DIA) for unbiased identification and quantitative analysis or equivalent • Selected Ion Monitoring (SIM) with high-resolution accurate-mass detection
Vacuum system	High efficiency vacuum system with suitable Turbomolecular pump and backup rotary pump
Nitrogen Generator	<ul style="list-style-type: none"> • Noise free Nitrogen gas generator (purity $> 99.999\%$) with inbuilt compressor and appropriate reservoir. • Other required gas cylinders (eg. Helium/Nitrogen) with branded pressure regulators, tubing and filters should be supplied.
Syringe Pump	A suitable syringe pump to introduce samples directly into the mass spectrometer.

II. Ultra High Performance Liquid Chromatograph (UHPLC/UPLC) or equivalent capable of handling both small and large molecules and the system should provide an integrated configuration for solvent and sample management with the following specifications	
Pump & Solvent System	<ul style="list-style-type: none"> • Quaternary / binary pump designed for UHPLC/UPLC with vacuum degassing capability of solvents • Operating pressure: 15,000 psi or higher • Flow rate: 0.010 - 2.00 ml/min or better • Flow precision : ≥ 0.075 % RSD or better • Flow accuracy: $\pm 0.01.0\%$ of the set value or better • Injection volume: 0.1 μl to 10 μl or higher • Effective system delay volume: < 700 μl or better (independent of back pressure) • Composition range: 0.01 -100 % in 0.1 % increment • Mobile phase Accessories, inline filters, plus dampers, mixers and filters
Column Thermostat	Column Temperature Control should be 10°C to 80 °C, with 0.1 °C increments or better
Detector	Should quote suitable PDA /DAD detector Wavelength range 190-700 nm or better
UHPLC/UPLC Columns	C18 (5 Nos), C8 (3 Nos), Silica (2 Nos) and Amino (2 Nos) columns with particle size $\leq 2\mu$ m
Autosampler	<ul style="list-style-type: none"> • Capable of holding 96 vials or more of 1ml and above capacity • Sample Temperature: 4- 40° C, programmable in 0.1°C increments • Sample delivery precision should be <0.5% RSD • Sample Carry over < 0.005% or less • Injection needle wash should be Programmable • Injection volume precision ≤ 0.3 RSD • The vendor should provide the 1000 number of sample vials
Other Specifications	
Workstation & Application Software	<ul style="list-style-type: none"> • Latest PC with Windows OS, 16 GB RAM, 2TB hard disk, 24" flat screen monitor, colour laser printer • User friendly software for instrument control, data acquisition and data processing. • Provision for automated mass calibration, auto tuning, resolution and sensitivity check • The data processing software must incorporate an elemental composition calculator as standard. • Software tools to address screening, component identification and structure elucidation tools. • The software should be capable of providing true isotropic patterns and fragment ions. • Deconvolution software for the determination of molecular weights of high molecular weight compounds

Additional Workstation	Additional workstation for data processing should be provided
Warranty	Full Comprehensive warranty for service and all the spare parts for the first 3 years
Training & installation	<ul style="list-style-type: none"> • Installation must be done at user site with no extra cost. • Onsite Application/maintenance training for staff members during installation should be provided. • Training for two staff members for the operation and maintenance at vendor's authorized technical centre. The cost related to travel, boarding and lodging should be provided by the vendor. • The vendor should also organize training-cum- workshops for 5 days per year, for the first 2 years
Standards	Necessary standards and reagents for installation should be provided
Spares and Consumables	Essential spares for routine maintenance and additional consumables required should be quoted separately
Optional Items	<ul style="list-style-type: none"> • Online 10 KVA UPS with 1 hour back up should be quoted separately • Additional warranty (CMC) for next 2 years must be quoted separately • Software packages for Proteomics and Metabolomics should be quoted separately
Other requirements	<ul style="list-style-type: none"> • The Service visit should be made within 48 hours after report of the problem and the instrument should be up and running within reasonable time. Any additional delay will be added to the warranty. • The vendor should issue an undertaking that the availability of spare parts for at least 10 years from the date of successful installation. • The quoted system should be compatible with free software upgrade. • List of similar equipment supplied in India for the last 5 years should be provided. • The vendor should provide vibration free bench for the bench top mass spectrometer, if required.