



INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
GT ROAD, KALYANPUR, KANPUR – 208016
UTTAR PRADESH, INDIA

TENDER REFERENCE NO.: IITK/CHM/Head/2019/05

BID SUBMISSION END DATE: 20.01.2020

TENDER DOCUMENTS

FOR

**“PURCHASE OF HIGH-RESOLUTION ELECTROSPRAY IONISATION MASS
SPECTROMETER (QUADRUPOLE TIME OF FLIGHT)”**

BID DOCUMENT

Online bids (Technical & Financial) from eligible bidders which are valid for a period of 120 days from the date of Technical Bid opening (i.e. 21.01.2020) are invited for and on behalf of the Assistant Registrar, IIT Kanpur for “**PURCHASE OF HIGH-RESOLUTION ELECTROSPRAY IONISATION MASS SPECTROMETER (QUADRUPOLE TIME OF FLIGHT)**”.

Name of Work	Purchase of High-Resolution Electrospray Ionisation Mass Spectrometer (Quadrupole Time Of Flight)
Date of Publishing	30.12.2019 (16:00 hrs)
Clarification Start Date and Time	30.12.2019 (16:00 hrs)
Clarification End Date and Time	20.01.2020 (16:00 hrs)
Queries (if any)	No queries will be entertained after clarification end date and time
Bid Submission Start Date	30.12.2019 (16:00 hrs)
Last Date and time of uploading of Bids	20.01.2020 (16:00 hrs)
Last Date and time of submitting , EMD and other documents at IIT Kanpur (if any)	NA
Date and time of opening of Technical Bids	21.01.2020 (16:00 hrs)
Date and time of opening of Financial Bids	Will be separately notified for Technically shortlisted/qualified bidders

Interested parties may view and download the tender document containing the detailed terms & conditions from the website <http://eprocure.gov.in/eprocure/app>

(The bids have to be submitted online in electronic form on www.eprocure.gov.in only. No physical bids will be accepted.)

INSTRUCTION FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the Central Public Procurement (CPP) Portal ie <http://eprocure.gov.in/eprocure/app> , using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

REGISTRATION

- (i)** Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:<https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online Bidder Enrolment” option available on the home page. **Enrolment on the CPP Portal is free of charge.**
- (ii)** During enrolment/ registration, the bidders should provide the correct/ true information including valid email-id & mobile no. All the correspondence shall be made directly with the contractors/ bidders through email-id provided.
- (iii)** As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iv)** For e-tendering possession of valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) is mandatory which can be obtained from SIFY /nCode/eMudra or any Certifying Authority recognized by CCA India on eToken/ SmartCard.
- (v)** Upon enrolment on CPP Portal for e-tendering, the bidders shall register their valid Digital Signature Certificate with their profile.
- (vi)** Only one valid DSC should be registered by a bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.
- (vii)** Bidders can then log into the site through the secured login by entering their userID/ password and the password of the DSC/ eToken.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords, etc., to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- (i)** For preparation of bid Bidders shall search the tender from published tender list available on site and download the complete tender document and should take into account corrigendum if any published before submitting their bids.
After selecting the tender document same shall be moved to the 'My favourite' folder of bidders account from where bidder can view all the details of the tender document.
- (ii)** Bidder shall go through the tender document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- (iii)** Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.
- (iv)** Bidders should get ready in advance the bid documents in the required format (PDF/xls/rar/dwf/jpg formats) to be submitted as indicated in the tender document/schedule.
Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- (v)** Bidders can update well in advance, the documents such as experience certificates, annual report, PAN, EPF & other details etc., under "My Space/ Other Important Document" option, which can be submitted as per tender requirements. This will facilitate the bid submission process faster by reducing upload time of bids.

SUBMISSION OF BIDS:

- (i)** Bidder should log into the site well in advance for bid submission so that he/ she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay.
- (ii)** Bidder should prepare the EMD as per the instructions specified in the NIT/ tender document. The details of the DD/BC/BG/ others physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- (iii)** While submitting the bids online, the bidder shall read the terms & conditions (of CPP portal) and accepts the same in order to proceed further to submit their bid.
- (iv)** Bidders shall select the payment option as offline to pay the EMD and enter details of the DD/BC/BG/others.
- (v)** Bidder shall digitally sign and upload the required bid documents one by one as indicated in the tender document.
- (vi)** Bidders shall note that the very act of using DSC for downloading the tender document and uploading their offers is deemed to be a confirmation that they have read all sections and pages of the tender document without any exception and have understood the complete tender document and are clear about the requirements of the tender document.
- (vii)** Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document. For the file size of less than 1 MB, the transaction

uploading time will be very fast.

- (viii) **If price quotes are required in XLS format, utmost care shall be taken for uploading Schedule of quantities & Prices and any change/ modification of the price schedule shall render it unfit for bidding.**

Bidders shall download the Schedule of Quantities & Prices i.e. Schedule-A, in XLS format and save it without changing the name of the file. Bidder shall quote their rate in figures in the appropriate cells, thereafter save and upload the file in financial bid cover (Price bid) only.

If the template of Schedule of Quantities & Prices file is found to be modified/corrupted in the eventuality by the bidder, the bid will be rejected and further dealt as per provision of clause no 23.0 of ITB including forfeiture of EMD.

The bidders are cautioned that uploading of financial bid elsewhere i.e. other than in cover 2 will result in rejection of the tender.

- (ix) Bidders shall submit their bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). **The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.**
- (x) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the bidders shall **take print out of system generated acknowledgement** number and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.
- (xi) Bidders should follow the server time being displayed on bidder’s dashboard at the top of the tender site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system.
- (xii) All the documents being submitted by the bidders would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.

ASSISTANCE TO BIDDERS:

- (i) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender. The contact number for the helpdesk is 0512-259-6786 (raja@iitk.ac.in) between 10:30 hrs to 17:00 hrs.
- (ii) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24X7 CPP Portal Helpdesk. The 24 x 7 Help Desk Number 0120-4200462, 0120-4001002 and 0120-4001005. The helpdesk email id is support-eproc@nic.in

INSTRUCTION FOR e-PROCUREMENT

1. PREPARATION AND SUBMISSION OF BIDS :

- a. The detailed tender documents may be downloaded from <http://eprocure.gov.in/eprocure/app> till the last date of submission of tender. The Tender may be submitted online through CPP Portal <http://eprocure.gov.in/eprocure/app>
- b. The bidder should submit the bid online in two parts viz. Technical Bid and Financial Bid. Technical Bid should be upload online in cover 1 and Financial Bid in “.Xls” should be upload online in cover-2

2. SUBMISSION OF THE BID : All interested eligible bidders are requested to submit their bids online on CPP Portal: <http://eprocure.gov.in/eprocure/app> as per the criteria given in this document:

- a. Technical Bid should be upload online in cover-1.
- b. Financial Bid should be upload online in cover-2

Both Technical and Financial Bid covers should be placed online on the CPP Portal (<http://eprocure.gov.in/eprocure/app>).

3. TECHNICAL BID: Signed and Scanned copies of the Technical bid documents as under must be submitted online on CPP Portal: <http://eprocure.gov.in/eprocure/app> .

- a) **List of Documents to be scanned and uploaded (Under Cover-1) within the period of bid submission:-**
 - i. Scanned copy of Bank details. (Bank details of principal supplier in case of Import shipments)
 - ii. Scanned copy of work experience.
 - iii. Scanned copy of certificate of GST. (GSTIN of Indian Agent in case of Import Shipments)
 - iv. Scan copy of tender acceptance letter.
 - v. Scanned copy of specifications or brochures (if any).
 - vi. Scanned copy of other document mentioned in tender document (if any)

b) For Import Shipments – Shipping Terms Ex-Works/FOB are preferred.

NOTE - no indication of the rates/amounts be made in any of the documents submitted with the TC-BID.

4. **Financial Bid**

- a. The currency of all quoted rates shall be Indian Rupees. All payment shall be made in Indian Rupees.
- b. In preparing the financial bids, bidders are expected to take into account the requirements and conditions laid down in this Tender document. The financial bids

should be uploaded online as per the specified “.Xls” format i.e. Price Bid Excel sheet attached as ‘.Xls’ with the tender and based on the scope of work, service conditions and other terms of the Tender document. It should include all costs associated with the Terms of Reference/Scope of Work of the assignment.

- c. The Financial Proposal should be inclusive of all applicable taxes, duties, fees, levies, and other charges imposed under the applicable laws. The rates quoted in the Tender are inclusive of all applicable taxes, duties etc. **except service tax**. The service tax component shall be re-immersible by the department after receipt of paid challans etc. if applicable.

5. Last Date for Submission of Tender:

- a. Online bids complete in all respects, must be submitted on or before the last date and time specified in the schedule of events.
- b. The IIT, Kanpur may, at its own discretion, alter/extend the last date for submission of tenders.

6. Bid Validity

- a. All the Bids must be valid for a period of 120 days from the last date of submission of the tender for execution of Contract. However, the quoted rates should be valid for the initial/ extended period of the Contract from the effective date of the Contract. No request will be considered for price revision during the original Contract period.
- b. A bid valid for a shorter period shall be declared as non-responsive.
- c. In exceptional circumstances, prior to expiry of the original time limit, the IIT may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 120 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing for such extensions will be allowed to withdraw their bids without forfeiture of their Bid Security.

7. Modification / Substitution/ Withdrawal of bids:

- a. No Bid shall be modified, substituted or withdrawn by the Bidder after the Bid's due Date.
- b. Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid's due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

8. Rejection of the Bid: The bid submitted shall become invalid and tender fee shall not be refunded if:-

- a. The bidder is found ineligible.
- b. The bidder does not upload all the documents as stipulated in the bid document.

Tender document

Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur (UP) 208016 India

Enquiry date: December 30, 2019

Enquiry No: IITK/CHM/Head/2019/05

Online quotations are invited for **PURCHASE OF HIGH-RESOLUTION ELECTROSPRAY IONISATION MASS SPECTROMETER (QUADRUPOLE TIME OF FLIGHT)**. The detailed specification is described below.

Head

Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur 208 016, India

Technical Specifications For a “High Performance Liquid Chromatography-High Resolution Quadrupole Time Of Flight Mass Spectrometer System with accessories and consumables”

Name of machine / equipment /item: High-resolution Mass spectrometry workstation (LCMS/MS) for small molecules studies with a Quadrupole time of flight/High resolution mass spectrometer workstation for exact mass and true isotopic measurements with the following capabilities and features. Installation certificate will be issued only after satisfactory working of the instrument (Demo of all the modules) & onsite training at IIT Kanpur, Staff and Students.

S.No.	Parameter	Description
HPLC with Quadrupole Time of Flight Mass Spectrometer - (Q-ToF) System:		
	Solvent Delivery system:	<ul style="list-style-type: none">❖ HPLC system should have Quaternary pump with the capability to handle the maximum back pressure up to 5000 psi❖ Flow Range: 0.01 to 10.0ml/min with 0.001 mL/min increment.❖ Flow Rate precision: 0.075% RSD❖ Flow accuracy: $\pm 1\%$

	Auto-sampler:	<ul style="list-style-type: none"> ❖ Sample Capacity should be more than 100 vials of 2 ml at a time or higher capacity. ❖ Injection Volume Range 0.1 – 100 µL, in 0.1 uL increments, partial or full loop mode. ❖ Carryover should be < 0.004%
1	Ion Source	<p>Mass Analyzer should be equipped with quadrupole analyzer and collision cell followed by high resolution Time of flight mass analyzer system with the below mentioned capabilities:</p> <ul style="list-style-type: none"> ❖ The instrument must be equipped with a dedicated electrospray ionization. ❖ Positive and negative ionization capabilities must be included as standard on the instrument. ❖ An isolation valve must be fitted to the source to allow the source elements to be removed and cleaned without breaking instrument vacuum, maximizing instrument uptime. ❖ System should have capability to handle the minimum ESI flow rate range: 1 ul/min to 2ml/min or more.
2	Mass Analyzer	<p>The instrument should be capable of operating in following modes: Quadrupole Mass Range / Quadrupole Isolation Range: 4000m/z or better TOF Mass Range: The mass range of the analyzer must be 100-10,000 m/z or better.</p>
3	Vacuum System	Suitable Vacuum system to operate the instrument.
4	Acquisition Rate	Minimum 30 Spectra/second in MS mode and 30 Spectra/second in MS/MS mode.
5	Resolution in MS mode	Quoted system should be capable of providing the resolution up to 60000 FWHM or better.
6	Mass Accuracy	Minimum 1 ppm in MS mode and 2 ppm in MS/MS mode on 10 consecutive repeat measurements using suitable lock mass.
7	Sensitivity	<ul style="list-style-type: none"> • System should have minimum MS sensitivity of 500:1 S/N ratio or better on injecting 1pg/µl of reserpine on column. Minimum MS-MS sensitivity of 1500:1 S/N ratio or better on injecting 1pg/µl of reserpine on column or better.
8	Reference Mass Introduction.	The instrument should be capable of internal reference mass correction for MS and MS/MS operation without losing sensitivity.
9	Interface	<p>a) The design of the instrument should be to maximize the intake of ions that are generated during to ionization stage in to the mass analyzer, by following it up with a design to reject the excessive neutrals that are taken into the system along with the ions.</p>

10	Acquisition Modes	<p>Following acquisition modes must be available:</p> <ol style="list-style-type: none"> 1. MS Scanning 2. MS/MS product Ion Scanning 3. Simultaneous MS & MS/MS scanning. The software should be capable of data acquisitions whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.
11	Computer	A suitable computer(s) with heavy duty printer to operate the system.
12	Operating Software	<p>The software should be user friendly & have capabilities to perform the following functions: Software tools for addressing Screening, Component Identification & Structural Elucidation workflows.</p> <p>The below are required s/w from the mass spec vendor and not from open access</p> <ul style="list-style-type: none"> - Automated tuning and calibration. - Software for accurate mass measurement and determination. - Software for accurate molecular formula determination along with structural determination.
13	Gas Generator	A suitable and efficient/ high quality imported nitrogen gas generator with built-in compressor capable of providing all the gases at the required purity (99.99%), pressure and flow rate for the QTOF Mass Spectrometer must be quoted. The compressor should be noise-free.
15	Standards and Accessories	<ul style="list-style-type: none"> - All other accessories required for the efficient functioning of the system should be provided by the vendor. - UPS 15 KVA with built and of capable to take load for 30 mints to be supplied

16	Warranty:	<ul style="list-style-type: none"> - Extended warranty for total 5 years is a must on complete system including third party items such as Nitrogen generator and UPS and same must be specifically mentioned in the quotation by the vendor or principal. - One Vendor Solution : Both the Liquid Chromatograph and Q-ToF mass spectrometer must be manufactured, supplied and installed by a single vendor to provide a seamless integration between the LC and Q-ToF - Service and Support: Both the Liquid Chromatograph and Q-ToF Mass Spectrometer must be fully supported by the supplier to provide a seamless instrument diagnostics between the LC and Q-ToF. <p>Responsibility of on-site maintenance by the manufacturer for 24x7 operations.</p> <ul style="list-style-type: none"> - The full capabilities of the system need to be demonstrated to the complete satisfaction and specify the pre-installation requirement. <p>Company should have dedicated application specialist with a proven track record to provide onsite training.</p> <p>Operation and maintenance training (service label) should be provided on-site to our staff/students/scientists. Hands-on training course for the users by experts for using the instrument after the installation process is to be completed on a set of dates given to IIT Kanpur.</p>
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There should be a Time of Flight mass analyzer that is capable of analyzing non-polar compounds
This ToF should have the following specifications:

Ion Source:

- The instrument must be equipped with an atmospheric pressure ionization GC-APCI interface that includes the source and spraying elements.
 - Cleaning of source elements should be done without breaking instrument vacuum, maximizing instrument uptime.
- Sample introduction & separation should be done by GC coupled with APCI interface and TOF mass analyzer.

Mass Analyzer:

Mass Analyzer should be equipped with high resolution mass analyzer/Time of flight mass analyzer system with the below mentioned capabilities:

Orthogonal time of flight Mass Analyzer/High resolution mass analyzer:

TOF analyzer/High resolution mass analyzer with orthogonal mounted ion source and ion reflectron with increased mass resolution & accuracy. It should have positive and negative ion modes.

Sensitivity:

- For full scan MS sensitivity for 1pg on column injection of reserpine should produce signal to noise ratio > 10:1 or higher.

TOF Mass Analyzer:

- The TOF mass range should be 100 – 20,000 m/z or better.
- Mass accuracy should be < 2 ppm or better.
- Spectral acquisition rate should be 30 spectra/sec.
- Quoted system should be capable of providing the resolution up to 22000 FWHM or better.

Computer Software and Hardware:

The workstation should be supplied with:

- Suitable computer workstations and all interfacing hardware and software for instrument control, data acquisition, data storage and data processing.
- Software suite(s) for data acquisition and control of Mass spectrometry.
- The software must have the ability to control both the MS and Gas Chromatography devices.

Multitasking suite of analytical applications and instrument management software operating in Microsoft Windows environment, featuring graphical user interface with multiple windows includes:

- a) Mass Spectrometer Control Software
- b) Spectrum Review and Processing
- c) Chromatogram Review and Processing

Pre requisite for the Mass Spectrometer:

Warranty for 1 year on complete system should be quoted by the vendor for efficient performance of the system.

Optional CMC for five years after the warranty period should be mentioned with the quote separately

CONSUMABLES: below consumables must be supplied with the system

Canted coil spring		4
Big Universal Trap, 1/4i fttgs, Nitrogen		3
Big Universal Trap, 1/8i fttgs, Nitrogen		3
Nebulizer(needle replacement) kit		3
Rotor seal (Vespel, 400 bar, 3 grooves)		3
Agilent Vacuum Fluid 45 Gold, 1 Liter		6
Oil Mist Filter		3
Oil Element for Outlet Mist Filter		3
LC/MS PM Kit		3
Seal Cap Assembly		4
Capillary, FS, 0.6MM		8
1/16in x..005in x 5 ft Tubing, PEEK, Red		4
Fitting-Fingertight PEEK for 1/16in		4
PTFE Frits 5PK		4
Glass filter, solvent inlet		4
ESI-L Low Concentration Tuning Mix 100ml		4
Vial, VL, screw, clear, 2ml, 10000pk		3
Auto Sampler Syringe		5
Filters for 30, 000 samples		

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: - _____

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

_____ as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)