

**School of Biological Sciences**  
**Indian Institute of Technology Delhi**

29-10-2012

Sealed quotations are invited from reputed companies or their authorized representatives for supply of one unit of **Electro spray ionization Mass spectrometer (ESI-MS-MS)**, conforming to the mentioned technical specifications (or superior than specified) and terms and conditions as prescribed under. Interested parties are requested to submit their sealed quotations in an envelope containing the financial and technical bids in separate sealed envelopes inside. The NIQ should be marked as “Quotation for Electro spray ionization (ESI) Mass spectrometer” and addressed to The Coordinator School of Biological Sciences, Attn. to Dr. Tapan K. Chaudhuri, and submitted in the reception, School of Biological Sciences, Formerly IBM Building, Block -1A, Indian Institute of technology Delhi, Hauz Khas, New Delhi – 110016, latest by 4pm on November 26, 2012.

**Technical specification for the Electro spray ionization Mass spectrometer (ESI-MS-MS)**

System should be a bench top ESI- MS/MS with the following minimum or better specification

Ionization Source	Electro Spray Ionization (ESI) source with flow rate upto 1ml/min or better and nanoESI with gentle mass independent ion focusing and high ion transmission efficiency. Nano-ESI source should have capability of fine adjustment of the ESI needle using advance technology
Mass analyzer	Advanced mass analyzer should be either high capacity Ion trap (IT) or quadrupole time of flight (Q-TOF) for fast, high-sensitivity scanning with high resolution. System must scan both in +ve and -ve ion detection modes.
Nebulizer flow	Nebulizer flow rates up to 1 ml/min., with SW control of flow and heating counter current N2 drying gas.
Polarity Switching	Positive / negative ion operation with fast Polarity switching for obtaining data of both ion species in a single LC/MS run
Modes of Operation	Selected Reaction Monitoring (SRM) and Multiple Reaction Monitoring (MRM) for quantitation in complex matrices and neutral loss scan as well MS3 or better
Sample injection and LC coupling	System should be compatible with nano scale and analytical scale applications as nanoLC, HPLC and U-HPLC coupling. Instrument should come with infusion pump for direct injection.
Mass isolation range	Monoisotopic isolation capability across the broad mass range.
Scan range	System should scan over broad mass range with high scan speed and high resolution.
Mass range	Mass range 50-1250AMU, and preferably up to 4000AMU or better for high molecular weight compounds.
Mass Accuracy	System Should have 0.01% over the entire mass range or +/- 0.15 AMU within the calibrated standard mass range at fastest Scan resolution in full scan mode with proper calibration in IT or 2ppm in QTOF or better.
Scan Speed	System should have highest scan speed 20,000 u/sec or better across broad mass range or 30Hz in MS and MS/MS or better
Resolution	Resolution should be minimum 0.3 FWHM (u) or 20,000 FWHM or better
Sensitivity	Full scan sensitivity in MS Mode with Reserpine 10 pg/1L

	at S/N>10:1; and MS/MS Mode : Reserpine 150 fg/1L @ S/N>500:1 or preferably better
Softwares	All softwares for Protein identification, characterization, deNovo sequencing, protein/peptide quantitation (labeled & label free), Glycomics, lipids analysis and other proteomics application must be supplied or provide free license for all the softwares mentioned before.
Computers	Instrument must come with suitable work station I for data acquisition, and work station II for data processing and storage.
Accessories	Instrument should come with suitable N <sub>2</sub> generator, if needed, and required no. of gas cylinders, if needed, along with the regulators for the cylinder, and tubings.
UPS system	Suitable online stabilizer with 1 hour back up time must be supplied with the instrument to prevent venting of the instrument, and maintain data acquisition, to prevent data loss incase general power goes while the instrument is in the data collecting mode.
Misc accessories	Instrument must be equipped with inbuilt power failure shut down components. The solid probe for direct sample injection in the ESI instrument must be supplied.
Warranty	The instrument must come with 3 years comprehensive warranty after installation and 2 years free AMC thereafter.
Training	Suitable onsite hardware and application training must be provided by the supplier

Nano LC may be quoted as optional item:

Nano-LC system: Should be a complete Nano HPLC system/MDLC for 1D and 2D Nano flow chromatographic separation. Complete system should have the following components.	
(1)	Pump flow range: 50 nL/min to 1 µL/min or better
(2)	Retention time reproducibility: ≤0.9% RSD or better

(3)	Should have typically <0.05 carryover or better
(4)	High pressure split-free gradient mixing
(5)	Pressure range upto 5000 psi with retention time reproducibility from $\leq 0.5\%$ RSD or better
(6)	Autosampler capacity: 1 x 96- or 384-well microtiter plate
(7)	Autosampler temperature: Sample cooling at least 20 °C below ambient temperature

### **Necessary Terms and Conditions:**

1. IIT Delhi is exempted from paying custom duty under notification No.51/96 (partially or fully) and necessary “Custom Duty Exemption Certificate” can be issued after providing following information.

a) Shipping details i.e. Master Airway Bill No. and House Airway No. (if exists)

b) Forwarder details i.e. Name, Contact No., etc. Custom Duty Exemption Certificate will be issued to the shipment in the name of the Institute and Bills of Entry should be submitted to IIT Delhi later on.

2. Either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

3. IIT Delhi is exempted from paying Excise Duty and necessary Excise Duty Exemption Certificate will be provided for which following information are required.

a) Quotation with details of Basic Price, Rate & Amount on which ED is applicable.

4. Imported items should be quoted on FOB basis (Freight on Board) and FOB price be provided.

5. Three years comprehensive warranty after installation must be provided and 2 years free service must be provided after completion of warranty.
6. Indian agent should be enlisted with the Department of expenditure, Ministry of Finance, Govt. of India.
7. Letter from manufacturer specifically to quote for this tender is to be attached for authenticity of dealership/agency and dealer should be authorized service provider.
8. Vendor should get a fresh certificate from their principal's clearly mentioning about on site comprehensive warranty for three years after installation of the system, and 2 years free service after the warranty period.
9. Special discount/rebate wherever admissible keeping in view of that the supplies is being made for Educational purpose in respect of public institution of national importance may please be indicated.
10. Vendor should attach the relevant product brochure/leaflet for the model quoted and the offered technical specification must be supported by the printed brochure.
11. Validity of the quotation should be atleast 3 months.
12. Vendor will do the installation, demonstration and onsite training for the machine without any extra cost at IIT Delhi premises.
13. Taxes, terms and conditions should be clearly mentioned.
14. Proprietary certificate must be included for the item, if applicable.
15. Valid agency certificate must be included, if applicable.
16. Institute reserves the right to accept or reject any quotation without showing reasons.

**Payment Options:**

- Letter of Credit: 90% payment against shipping documents & balance 10% after satisfactory installation. For large purchase i.e. costing over Rs. 1 crore, 100% payment be made through LC.

Dr. Tapan K. Chaudhuri