

MINUTES OF PRE-BID MEETING

Pre-bid meeting regarding the published tender no. 4/5(18)23-Pur for the procurement and supply of LCMS-MS System dated 24/01/2024 was attended by

Sciex

Waters India Pvt. Ltd.

Agilent Technologies India Pvt. Ltd.

Thermo Scientific

Deliberations:

Based on the recommendation and representation received from the firms participated in the pre-bid meeting, the following changes have been made in the specification to make them more generalized.

Specification number	Original tender specification		Revised specification
1e	Ionization Source	The system should have in built syringe pump for direct mass analysis.	The system should have in built syringe pump/ device for direct mass analysis.
2	Mass Analyzer	Mass Analyzer should be equipped with quadrupole analyser, collision cell and orthogonal mounted Time of flight mass analyser.	Mass Analyzer should be equipped with quadrupole analyser, collision cell and orthogonal mounted Time of flight/ Orbitrap mass analyser.
3	Sensitivity:	Full scan MS sensitivity for 100 fg on column injection of reserpine or equivalent should produce a signal to noise ratio of 200 or better.	Full scan MS/MS sensitivity for 200 fg on column injection of reserpine or equivalent should produce a signal to noise ratio of 100 or better.
4a	Mass range (TOF)	The Q-TOF mass range should be 20 to 40,000 m/z or better	This point is removed to generalize the specification.
4b	Mass range (Quad)	The Quad Mass Range 20 to 2200 m/z or better	Mass Range: Mass Range 40 to 2200 m/z or better.
4c	Mass accuracy	Mass accuracy in MS mode should be <2 ppm.	Mass accuracy with internal calibration should be <2 ppm or better.
4d	Spectral acquisition rate	For Q -ToF, Spectral acquisition rate should be 25 spectra/sec or better for MS and MS/MS mode.	For Q -ToF/ orbitrap, Spectral acquisition rate should be upto 22 spectra/sec or better for MS and MS/MS mode.
4e	Resolution	For QTOF, the resolution should be up to 40,000 FWHM or better.	For QTOF/Orbitrap, the resolution should be up to 80,000 FWHM or better.

4f	Linear dynamic range	five orders or better.	Upto five order or better
5d	Acquisition Modes	ToF-MRM mode for performing quantitation.	ToF-MRM/AIF/Tsim/Tddms2 mode for performing quantitation.
8d	Solvent Delivery system	Composition accuracy: ± 0.5 % absolute or better	Composition/ proportioning accuracy: ± 0.5 % absolute or better.
9b	Autosampler	Leak sensor and automatic rack and vial recognition	Leak sensor should be available.
9d	Autosampler	Carryover: 0.002% or better.	Carryover: 0.004% or better.
11e	PDA detector	Noise: $< 4.5 \times 10^{-6}$ AU or better	Noise: $\leq 0.7 \times 10^{-5}$ AU or better.
11f	PDA detector	Drift: $< 1.0 \times 10^{-3}$ AU/Hr or better	Drift: 1.0×10^{-3} AU/Hr or better.
12	Gas Generator	<p>A suitable branded nitrogen gas generator with a built-in compressor capable of providing the Purity ≥ 99.5 %, or better.</p> <p>All the required accessories such as arrangement for nitrogen gas supply through gas generator and other tools/supplies essentials for the operation of the instrument should be supplied along with the instrument. The compressor should be oil-free.</p> <p>If any gas cylinder is required for the installation/ working of the instrument, should be provided FOC with gas panel work.</p>	<p>A suitable branded nitrogen gas generator with a built-in compressor capable of providing the Purity upto 99.5 %, or better.</p> <p>All the required accessories such as arrangement for nitrogen gas supply through gas generator and other tools/supplies essentials for the operation of the instrument should be supplied along with the instrument. The compressor should be oil-free.</p> <p>If any gas cylinder is required for the installation/ working of the instrument, should be provided FOC with gas panel work.</p>

13	Computer Software and Hardware	<p>The workstation should be supplied with: Suitable computer workstations and all interfacing hardware. and software for instrument control, data acquisition, storage, and processing.</p> <p>Acquisition and processing workstation with the following configuration: Xeon/I7 Processor, 32 GB RAM, 10 TB hard disk or 2x2 TB Solid State Hard Drive in RAID 1 configuration, Monitor 27 inches or better</p> <p>Latest licensed version of Windows Professional OS to be supplied.</p> <p>The acquisition software should offer Autocalibration/tuning, accurate mass measurements, elemental composition determination. MSMS experiments and qualification/ quantification.</p>	<p>The workstation should be supplied with: Suitable computer workstations and all interfacing hardware and software for instrument control, data acquisition, storage, and processing.</p> <p>Acquisition and processing workstation with the following configuration: Xeon/I7 Processor or equivalent, 32 GB RAM, 2x2 TB Solid State Hard Drive in RAID 1 configuration, Monitor 27 inches or better</p> <p>Latest licensed version of Windows Professional OS to be supplied.</p> <p>The acquisition software should offer Autocalibration/tuning, accurate mass measurements, elemental composition determination. MSMS experiments and qualification/ quantification.</p>
15	Warranty	<p>A five-year warranty on the complete system including local items and one PM kit per year including nitrogen generator should be provided. PM kit should be compulsory changed every year during five years of warranty period. Spare parts availability for 10 years must be provided from the date of installation.</p>	<p>A five-year warranty on the complete system including local items and one PM kit per year including nitrogen generator should be provided. PM kit should be compulsory changed every year during five years of warranty period. Spare parts availability for 10 years must be provided from the date of installation.</p>

S. No.	Revised LC-MS MS Technical specification	
1	Ionization Source:	a) Combined/multimode source having ESI and APCI modes. b) Source should be capable of handling flow rates up to 1 ml/min or better. c) Desolvation Temperature should be 450°C or higher in both ESI and APCI Mode. d) The system should have Mechanism to allow source and sampling capillary maintenance without venting the system. e) The system should have in built syringe pump/ device for direct mass analysis.
2	Mass Analyzer:	Mass Analyzer should be equipped with quadrupole analyser, collision cell and orthogonal mounted Time of flight/ Orbitrap mass analyser.
3	Sensitivity:	Full scan MS/MS sensitivity for 200 fg on column injection of reserpine or equivalent should produce a signal to noise ratio of 100 or better.
4	Mass range Mass accuracy Spectral acquisition rate Resolution Linear dynamic range	a) Mass Range 40 to 2200 m/z or better. b) Mass accuracy with internal calibration should be <2 ppm or better. c) For Q –ToF/ orbitrap, Spectral acquisition rate should be upto 22 spectra/sec or better for MS and MS/MS mode. d) For QTOF/Orbitrap, the resolution should be up to 80,000 FWHM or better. e) Upto five orders or better.
5	Acquisition Modes	a) MS Scanning. b) MS/MS product Ion Scanning. c) MS & MSMS scanning. The software should be capable of data acquisition whereby variable collision energy data is acquired in the same run to provide MS & MSMS data. d) ToF-MRM/AIF/Tsim/Tddms2 mode for performing quantitation. e) Data-dependent acquisition mode/ DDA scanning. f) Data-independent acquisition mode/ DIA Scanning.
6	System setup	a) The system should have Integrated sample and calibrant delivery mechanism. b) The system should be capable of automated mass calibration.

7	UPLC/ UHPLC	a) Binary pump equipped with vacuum degasser, autosampler, column oven, PDA detector. Single software should control the complete UPLC/ UHPLC and MS system.
8	Solvent Delivery system	a) Binary pump with integrated vacuum degasser. b) Operating Pressure: 18000 psi or better up to 1.0 mL/min with flow rate range of 0.001- 2.000 mL/min or better. c) Flow Rate precision: 0.075% or better d) Composition/ proportioning accuracy: ± 0.5 % absolute or better.
9	Autosampler	a) Sample handling capacity: 90 nos. or above of 1.5ml/2ml sample vial. b) Leak sensor should be available. c) Sample injection volume: 0.1 μ l to 10 μ l or better. d) Carryover: 0.004% or better. e) 4 to 40°C or better.
10	Column Heater	Column temperature range should be 10°c less than ambient to 90 °C or better
11	PDA Detector	a) Light source: Deuterium&/or Tungsten b) Wavelength Range: 190 – 700 nm or better c) Maximum sampling rate: 80 Hz.or better d) flow cell compatible with UHPLC should be provided. e) Noise: $\leq 0.7 \times 10^{-5}$ AU or better. f) Drift: 1.0×10^{-3} AU/Hr or better.
12	Gas Generator	A suitable branded nitrogen gas generator with a built-in compressor capable of providing the Purity upto 99.5 %, or better. All the required accessories such as arrangement for nitrogen gas supply through gas generator and other tools/supplies essentials for the operation of the instrument should be supplied along with the instrument. The compressor should be oil-free. If any gas cylinder is required for the installation/ working of the instrument, should be provided FOC with gas panel work.
13	Computer Software and Hardware	The workstation should be supplied with: Suitable computer workstations and all interfacing hardware and software for instrument control, data acquisition, storage, and processing.

		<p>Acquisition and processing workstation with the following configuration: Xeon/i7 Processor or equivalent, 32 GB RAM, 2x2 TB Solid State Hard Drive in RAID 1 configuration, Monitor 27 inches or better Latest licensed version of Windows Professional OS to be supplied. The acquisition software should offer Autocalibration/tuning, accurate mass measurements, elemental composition determination. MSMS experiments and qualification/ quantification.</p>
14	UPS	IGBT Based 10 KVA online UPS with isolation transformer with 60 minutes of backup on full load.
15	Warranty	A five-year warranty on the complete system including local items and one PM kit per year including nitrogen generator should be quoted. PM kit should be compulsorily changed every year during five years of warranty period. Spare parts availability for 10 years must be provided from the date of installation.
16	Installation	Onsite installation and demonstration should be done at CSIR-IHBT. All the accessories required for the smooth functioning of the instrument must be provided.
17	Published Brochure and Data sheet	All the specifications asked in the tender should be supported by the published literature from the principal manufacturer in the form of Brochure and Data sheet.