

School of Biological Sciences

Indian Institute of Technology Delhi

16-01-2013

Sealed quotations are invited from reputed companies or their authorized representatives for supply of one unit of **Dynamic Light Scattering** instrument, 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 Biolayer interferometry instrument” 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 February 11, 2013.

Technical specification for Dynamic light scattering system

1. The system should be Dynamic Light Scattering (DLS) with capabilities of measuring static light scattering (SLS).
2. The system should be compatible with any commercially available HPLC(SEC/GPC) and FPLC(Fast Protein Liquid Chromatography systems).
3. The system should be capable of measuring absolute molecular weights, molecular sizes under both on-line and batch modes.
4. The system should be an integrated DLS/SLS in the single platform:
5. **The DLS module should have the following specifications:**
 - Should be fully integrated with the SLS System for both online and off-line measurements of the molecular size information as a simultaneous measurement system (SLS+DLS) under the same software control.

- **Size Range** 1 nm to 300 nm or better in flow mode; Upto 1000 nm or better in Batch Mode with capability to determine the size distributions.
- **Detector** Photon-counting avalanche photodiode (APD) or better detector at any of the angular positions between 90 to 110 Degrees or better of the SLS, equipped with an optical fibre that should integrate with the read head of the Multi Angle Static Light Scattering system.
- **Correlator** Built-in, multi-channel channel (500 or more) autocorrelator with multi-tau distribution for better sensitivity.

6. The SLS module should have the following specifications:

- **Light Source** Suitable laser for determination of protein-protein interaction in the WL range of 650 - 680 nm with an energy of 100-120 mW for good sensitivity.
- **Detectors** 2 to 8 angles or better. Angular position of the detection can be between 20 – 160 degrees with simultaneous measurement capability. There shall be a 90 Degree Static Light scattering diode included in this system as one of the angles. The detectors shall have dedicated *In-situ* cleaning system based on Radio Frequency Ultrasonic Generator to minimize particulate adhesion to the flow cell windows and through-bore. One of the angles should be allocated for DLS measurements.
- **Detector Resolution** 24 bit or better.
- **Scattering Volume** 0.07 microlitres or better
- **Operating Temperatures** Ambient
- **Mass Range** 10^3 to 10^7 Daltons or better
- **Molecular Size Range** 10 – 250 nm or better
- **Measurement Options** Online–Mode (Chromatography) and Batch Mode (with volumes from 10 microlitres– 2ml). Separate assemblies (cuvettes/vials) should be provided to measure small volumes such as 10 microlitres.
- **Temperature Control** Peltier-driven regulation for the read head that permits control of the cell in the temperature range -5 Deg C to +150 Deg C or better.
- **Computer and printer** Should come with suitable computer and printer for running the instrument, data acquisition and analysis and printing.
- **Software** Should be capable of operating the instrument, data acquisition, data analysis. It should have the option of doing regularization analysis of unfractionated DLS data to retrieve underlying hydrodynamic radius distributions. The Software

should also support cumulant mode of data fitting routine besides regularization. Export facility for sending results to ASCII files for processing in spreadsheet formats should be provided.

It should report number, weight, Z-average molecular weights and root mean square sizes and their distribution.

- **Measurement Options** Online – Mode (Chromatography) using the same Flow cell used for SLS and Batch Mode (with volumes from 10 microlitres to 2 ml). Separate assemblies (cuvettes/vials) should be provided to measure small volumes such as 10 microlitres.

- **UPS** Should come with suitable online UPS for running the instrument and computer & printer.

- **Consumables** Necessary consumables and spare parts, atleast one set or pack as extra, (including flow cells, micro cuvette, and macro cuvettes, syringe pumps, filter kits, operation and maintenance manual, cleaning kits and other necessary things) should come with the instrument.

- **Warranty** Three years warranty after installation and two years AMC after the expiry of warranty.

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 AMC must be provided after completion of warranty period.
6. Indian agent should be enlisted with the Department of expenditure, Ministry of Finance, Govt. of India.

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.