

	<p style="text-align: center;">INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036</p> <p>Telephone : [044] 2257 8356/9760 FAX : [044] 22570545/8366 E-mail: arpp@iitm.ac.in</p>	
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Dr. Athi Narayanan N
Project Coordinator

Ref: BIO/NATH/023/2015
Dated: 31.12.2015

Limited Tender No: BIO/NATH/023/2015

Technical Bid Opening Meeting on 19.01.2016 at 4.00 pm Due Date: 14.01.2016, 4.00 pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**CD Spectrometer with Fluorescence, Polarization and Stopped-Flow Accessory**” conforming to the specifications given in (Annexure-I):

Instructions to the Bidder

- (i) **Preparation of Bids:** The Limited tenders should be submitted under two-bid system (i.e.) Technical bid and Financial bid.
- (ii) **Delivery of the Tender:** The tender shall be sent to the below-mentioned addresses either by post or by courier so as to reach the following address before the due date and time specified in our Schedule:

Dr. Athi Narayanan N
BT 101, Department of Biotechnology
Indian Institute of Technology Madras (IITM)
Chennai-600 036, India.
- (iii) **Opening of the Tender:** The offer/bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability of the bid as per our specifications and requirements. The bidders will be invited for opening of Technical bids. In respect of opening of financial bid, those bidders who are technically qualified only will be called for.
- (iv) **Prices:** The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to various Departments/Centres/Institutions. The offer/bid

should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated.

The price should be quoted without custom duty and excise duty, since I.I.T. Madras is exempt from payment of excise duty, and the custom duty will be paid at concessional rate against duty exemption certificate.

In case of import supply, the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- (v) **Agency Commission:** Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.
- (vi) **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.
- (vii) **Technical Bid Opening:** The technical bid will be opened on the 19th of January 2016 at 4.00 pm at BT 517 (Conference Room), Department of Biotechnology, IIT Madras, Chennai-600036 and the financial bids of those tenders who are technically qualified will be opened at a later date under intimation to them.
- (viii) IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,



(N. Athi Narayanan, Dept. of Biotechnology)

SCHEDULE

Important Conditions of the Tender

1. The due date for the submission of the tender is **14.01.2016, 4.00 pm.**
2. The offers / bids should be submitted in two bids systems (i.e.) Technical bid and Financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and Financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Limited Tender for supply of **“CD Spectrometer with Fluorescence, Polarization and Stopped-Flow Accessory”** should be written on the left side of the outer bigger cover and sealed.
3. **EMD: EMD should be at 2% (two percent) of the tender value quoted by the bidder.** The EMD should be included in the Financial bid which will not be opened for Technical evaluation. Enclosing the EMD in the Technical bid will automatically disqualify the tenderer. EMD should be in the form of DD in favor of “The Registrar, Indian Institute of Technology Madras” and payable at Chennai. The tender without EMD would be considered as UNRESPONSIVE and REJECTED. Photo/FAX copies of the Demand Draft/Banker’s pay orders will not be accepted. No interest will be paid for the EMD and the EMD (Bid Security) will be refunded to the successful bidder on receipt of Performance Security.
4. **Performance Security:** The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD, FD Receipt from the commercial bank, Bank Guarantee from any nationalized bank of India will be an acceptable.

Only after submission of Performance Security, Purchase Order/Work Order will be released / L.C will be opened.

Performance Security in the form of Bank Guarantee: In case the successful bidder wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee 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 from a Nationalized Bank of India.

The Bank Guarantee should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including the warranty obligations.

5. If an Indian agent is involved, the following documents must be enclosed:
Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
 - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
 - ✓ The enlistment of the Indian agent with Director General of Supplies & Disposals under the Compulsory Registration Scheme of Ministry of Finance.
6. The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
7. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid. No prices should ever be included in the Technical bid.
8. Documentary proof for the claimed position and repetition accuracies must be obtained from the principals and submitted along with the relevant pages of the standards.
9. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
10. **Validity:** Validity of Quotation not less than 90 days from the due date of tender.
11. **Delivery Schedule:** The tenderer should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.
12. **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.
13. **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).
14. **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.

15. **On-site Installation:** The equipment or machinery has to be installed or commissioned by the successful bidder within 15 to 20 days from the date of receipt of the item at site of IIT Madras.
16. **Warranty/Guarantee:** The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (for more details please refer our Technical Specifications).
17. **Late offer:** The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.
18. **Acceptance and Rejection:** I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.
19. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
20. **Disputes and Jurisdiction:** 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.
21. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

Acknowledgement: It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF TENDERER
ALONG WITH SEAL OF THE
COMPANY WITH DATE**

Technical Bid opening meeting on 19.01.2016 at 4.00 pm (please refer point No. vii)

Annexure-I

Technical Specifications

CD Spectrometer with Fluorescence, Polarization and Stopped-Flow Accessory

Light Source:	150W Air-cooled light source.
Calibration:	Calibration should be done at every wavelength using a non-chemical standard with absolute CD accuracy to within 1% allowing for a more accurate and reproducible spectral acquisition.
Standard wavelength range:	165 to 1150 nm (preferably in a single detector)
Detector type:	Avalanche Photodiode Solid State detector with preferably a triple detector capability for CD, LD and ORD measurements without any physical reconfiguration to the system.
Typical RMS-noise (for a 1nm bandwidth and 2 second integration time with NO SMOOTHING APPLIED):	0.04 m° at 175 nm 0.02 m° at 180 nm 0.01m° at 185 nm 0.02 m° at 200 nm 0.02 m° at 250 nm 0.02 m° at 500 nm 0.04 m° at 800 nm 0.05 m° at 1000 nm
Dual detection:	CD and accurate* absorbance spectra recordable simultaneously. *Absorbance derived from detector voltage is not accurate and hence is not accepted
Spectral high bandwidth:	User selectable to 0.1nm from: 0 to 2 nm at 160 nm 0 to 4 nm at 178 nm 0 to 7.5 nm at 200 nm 0 to 15 nm at 234nm
Stray light:	Less than 3ppm at 200 nm

Baseline stability:	≤ 0.01 mdeg/ $^{\circ}\text{C}$ (170nm to 650nm)
Nitrogen consumption:	2 litres/min above 200 nm (or less) 5 litres/min at 175nm It should be possible to automatically start-up and shut down the lamp at pre-set times
Temperature control:	Peltier controlled cell holder for scanning measurement with which interchangeable cell carriages. Should be suitable for use over the range -20 $^{\circ}\text{C}$ to +105 $^{\circ}\text{C}$ with a standard water circulator. Suitable water circulator should be included.
Temperature measurement:	External temperature probe for insertion into sample cell
Temperature Ramping:	Should be able to acquire CD vs. temperature curves at more than one wavelength in a single continuous-temperature-ramping experiment. Including ability to collect CD spectra as a function of temperature in a single continuous-temperature-ramping experiment (with the sample temperature recorded for each discrete measurement)
Adjustable detector Position:	In normal operation (using Peltier temperature controlled cell holder) the CD detector should be easily adjustable along the optical axis and able to be positioned very close to the sample cell in order to maximise signal collection when studying high scattering samples.
Automated shutter:	Preferably before the monochromator so that optics (and sample) are only exposed to light during data acquisition (thus extending the lifetime of the optical components)
CD resolution:	Should be better than 0.001m $^{\circ}$ in 8000m $^{\circ}$ (with a full scale of $\pm 8000\text{m}^{\circ}$ - automatic scaling)
Scanning:	CD spectra should be acquired using digital acquisition in stepped-scan mode with no risk of distortion (over smoothing) of the spectra
Advanced scanning:	Variable wavelength intervals within a scan. Timed intervals between repeat scans (e.g. to monitor slow transient changes in the spectrum). Adaptive sampling (variable integration times within a scan)
Fluorescence detected CD:	Should be included.

Data acquisition:	Preferably 5 simultaneous channels: CD, Absorbance, HT, Temperature and signal Voltage with each measurement. Optional simultaneous Fluorescence measurements (6 simultaneous channels) should be possible with suitable optional accessory.
Kinetic acquisition:	Linear-, split- and logarithmic-time base modes should be available. Minimum time between data points of 10 micro seconds, oversampling
Control software:	Should include multiple data display and presentation tools, analysis tools including kinetic analysis, temperature curve fitting, maths tools, post-acquisition smoothing tools, secondary structure analysis. Drag-and-drop file converter for straightforward export to other file formats e.g. spread sheet
Software licensing:	Unlimited license to install the data display software on other PC's to allow data inspection, analysis and presentation at the desktop. Unlimited license to install the instrument control software on other PC's to allow users to gain familiarity with the instrument operation (running in data emulation mode) at their desktop
Analysis software package:	A global analysis software for global thermodynamic analysis of multi-wavelength CD vs. Temperature datasets; to calculate the best-fit mid-point temperatures and van't Hoff enthalpies of each thermal transition as well as the CD spectrum of each transition state and its concentration vs. time profile.
Fluorescence:	Should be able to perform variable wavelength fluorescence emission acquisition upon excitation at user-defined wavelengths (with emission monochromator and detector). Should be possible to couple the fluorescence scanning with the thermal ramping supported by the Peltier.
Polarization Accessory:	A single detector for fluorescence polarisation should be included which can be used with both the CD and stopped-flow accessory.
Stopped-flow:	A fully automated stopped-flow unit mountable on the bench top. The cell has to have variable pathlengths (say 10mm or 2mm for absorbance and CD detection) and a short pathlength of 1.5mm for low inner filtering in fluorescence detection mode. The dead time should be better than 1.2 milliseconds for 1:1 mixing and also it should be pneumatically driven from efficient ratio mixing.

The stopped-flow accessory should be compatible with a wide range of LED light sources for different wavelengths which provides better sensitivity and life expectancy than conventional systems using Xe lamps.

The temperature range for measuring kinetics should be preferably between +60°C to -20°C for both the cell and the syringe.

Dedicated stopped-flow measurements:

It should be possible to use this stopped-flow setup as a standalone instrument as well as combined with the CD instrument as and when required for reasons of flexibility. Please include suitable light sources, additional computer, water circulator etc. to enable this.

Warranty:

24 months (parts, labour and on-site repair). In case of instrument breakdown during the warranty period, the effective downtime of the instrument will be taken into consideration and the warranty period should be accordingly extended.

Installation & training:

On-site hardware and software should be Included

Future Upgrade options:

Upgrade options should include: titration unit, multiple-cell holders, ORD detection, CCD fluorescence spectrofluorimeter, magnetic CD detection, extended NIR detection (to 1700nm), low temperature (cryostat) operation, a fully automated CD spectrometer with integrated sample handling robot for up to 384 samples (4 x microplates).