ATMA RAM SANATAN DHARMA COLLEGE

UNIVERSITY OF DELHI

INVITING TENDERS

Sealed tenders are invited from the reputed venders for the supply of following equipment as per given specification . The envelope should be sent to THE PRINCIPAL and marked “Instrument Purchase under STAR innovative project (Delhi University) SIP03”. You are kindly requested to quote your lowest rates and maximum discount for the above instrument with the relevant warranty and guarantee conditions within 10 days of posting this advertisement.

1.Specification of Cyclic Voltammetry(CV)

Specifications:
Compliance voltage: ± 20 V or better at ± 400 mA
Maximum Output Current: ± 9A or better at ± 20 V
Output Voltage Range: ± 10 V
Current Ranges: smallest current range: ± 10 nA to current range 100 mA in nine ranges
Current accuracy : ± 0.2% of current range
Applied current resolution: 0.015% of current range
Measured current resolution: 30 fA on 10 nA full scale range
Potentiostat Rise/fall Time: 300 ns or lower
Interface: USB interface for connection with PC
Input bias current: < 1 pA
Bandwidth of electrometer : > 4MHz
Input Impedance of electrometer: >1GΩ // 8 pF
iR-compensation resolution : 0.025% or better
A/D converter : 16-bit with gains of 1, 10, and 100
System should be upgradable with 10 A Booster in future with following specification,
_ *Maximum Current : + 10A,*
_ *Current resolution : 0.0003% (of current range),*
_ *Accuracy : + 0.5%*
_ *Maximum compliance voltage : + 20V,*
_ *Maximum Applied Voltage : + 10V*
System should be upgradable with Impedance Analyzer module in future with following specification,
_ *Hardware and software for EIS measurements in potentiostatic and galvanostatic control, over frequency range*
of 10 μHz to 1 MHz.
_ *It should be possible to perform EIS measurements over entirefrequency range from 10 μHz to 1 MHz upto 400*
mA currents
_ *Signal generator frequency range 10 μHz - 30 MHz (or higher), Frequency range in 10 μHz - 1 MHz combination with potentiostat galvanostat.*
_ *Frequency resolution 0.003%, Input range ± 10 V*

_ Data presentation: Nyquist, Bode, Admittance, Dielectric, Mott- Schottky, Data analysis: Fit and Simulation, Find
circle, Element subtraction

Electrochemical Software:

software package for the of control of Electro-chemical Workstation, Data Acquisition, storage and data analysis Auolab 101 with NOVA software can perform following measurements

Voltammetric analysis: Sampled DC, Normal pulse, Differential pulse, Differential normal pulse, Square wave Control of Hg drop electrode, Cyclic and linear sweep voltammetry, Staircase cyclic and linear sweep voltammetry,

Cyclic and linear sweep voltammetry: Staircase cyclic and linear sweep voltammetry, True linear scan cyclic voltammetry, High-speed linear scan cyclic voltammetry

Software should have facility to record additional signal viz EQCM, bi-potentiostat etc. Import/export ASCII. Ready-touse Vis & Generic interface for .Net applications should be included. It should have facility to display up to 4 plots simultaneously. The software should support following basic electrochemical measurements: Cyclic Voltammetry, Sampled DC Voltammetry. Taffel Plots, Differential Pulse Voltammetry, Square Wave Voltammetry. Electrochemical methods like Chrono-

Basic Electrochemical Cell Setup

Base plate with stand rod
Cell vessel lid with sleeve
Stoppers,
Working Electrode
Ag/AgCl Reference Electrode
Pt Wire Counter Electrode,
Polishing Set
Line by compliance should be provided (with authentic documents) along with the quote

2.ELECTROPHORESIS UNIT

Mini Vertical Electrophoresis Unit:

- Should include tank, lid with power cables, electrode assembly, casting stand for minimum 4 gels, five 10-well combs of 1.0mm thickness, and five sets of glass plates with fixed 1.0mm spacers Should be able to run 1-4 hand-cast mini gels (8.3 x 7.3cm)
- Should require not more than 700 ml buffer for 2 gels
- Should have casting stand with wing clamp assembly for simple and leak proof
- Should have the capability for up gradation from 2 gels to 4 gels in the same tank

Power Pack

Power Pack for Electrophoresis:

- Should have minimum voltage output =10-300 V,

- Should have minimum current put = 4- 400 mA
- Should have minimum power output = 1- 75W
- Should be able to run at constant voltage and constant current.
- Should have automatic recovery after power failure
- Should also have safety features like no-load detection, sudden load change detection, ground leak detection, overload/short circuit protection, over-voltage
- Should have an internal fan to keep the system cool and safe

GEL Documentation system

Gel Doc EZ System Hardware-

1. System should have Image resolution >4 mega pixels for resolving closely spaced bands on a gel or blot.
2. System should have 4.6 x 4.6 µm pixel size & >3.0 orders of linear dynamic
3. System should be completely automatic & user does not have to zoom, focus,adjust aperture or select light source.
4. System should be modular with different sample trays & flexible to image a wide variety of applications, including nucleic acid, visible dyes, SYBR safe and Stain Free Gels.Stainfree tray should be quoted
5. System should have UV, White light, & optional Blue light.
6. System should have Stain-Free capability for stain-free gels and blots.
7. Sample trays should be customizable per user and recognized automatically.
8. System should require only one emission filter to accommodate a large portfolio of detection methods: ethidium bromide, SYBR® Green, SYBR® Safe, SYBR®Gold, GelGreen, GelRed, Fast Blast™, SYPRO Ruby, Flamingo™, Oriole™,CY3, rhodamine, green fluorescent protein, Hoechst, Krypton, silver stain, copper stain, zinc stain, Coomassie Brilliant Blue, Coomassie Fluor Orange, and other spectrally similar stains, labels, and dyes.
9. Should have lens flat-fielding calibration for each sample tray to deliver image data that are always optimized and reproducible without imaging artifacts,providing superior image uniformity and quantitation

Gel Doc EZ System Software

1. Software should have highest level of automation in hardware calibration, image optimization, capture, and analysis.
2. Should have automated workflow recorded in a protocol file from image capture to results thus eliminating need for training.
3. Should allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow.
4. Should have automated image capture driven by a selected gel or blot
5. Should have one-button acquisition from image capture to result.
6. Should generate the publication sready images (dpi, dimension and format) with
7. Should generate customizable reports.

8. Should have feature for Automatic print when only imaging and printing is required. Software should help with automated loading control normalization without using housekeeping proteins.
9. Software should have easy copy/paste functionality, crop, zoom, 3D and colors.

3. TECHNICAL SPECIFICATION OF UV-VIS SPECTROPHOTOMETER

- **Stand-alone model and compact foot print**
- **Powerful 32-bit Windows XP Professional based UV-Probe Spectroscopy Software supplied as standard.**
- **Complete compliance to USP, EP, BP, IP**
- **Spectral bandwidth of better than 1nm over the complete range of 190 to 1,100 nm** ensures compliance of Resolution standard test of 0.02% v/v Toluene.
- **Better Stray light than 0.02% T at 220 nm by NaI and 340nm by NaNO2 meets EP requirement of Absorbance much greater than 2 for 1.2% w/v of KCl solution**.
- Compliance of wavelength accuracy with 15% w/v Holmium Perchlorate solution in 10% Perchloric acid
- Compliance of Photometric accuracy with Potassium Dichromate solution
- Compliance to second order derivative test with 0.02% v/v solution of Toluene in Methanol.
- Security function in stand alone mode makes it possible to restrict functions according to the user level.
- Light source should be 20-W halogen lamp and deuterium lamp with built in light source auto position adjustment.
- Must have compulsory photometric range up to -4 to +4 Abs and Transmittance 0 to 400%
- Photometric repeatability must be less than +/- 0.001 Abs at 0.5 Abs; less than +/- 0.001 Abs at 1 Abs; less than +/- 0.003 Abs at 2 Abs.
- **Baseline flatness must be strictly less than ± 0.0006 Abs. over the entire range of 190 to 1,100nm one hour after light source turned ON.**
- **Scan speed: Variable options of 3000nm/min to 2nm/min**
- **Noise level less than 0.00005 Abs. at 700nm.**
- **Baseline stability should be less than 0.0003 Abs/Hour at 700nm one hour after light source turned ON.**
- **Multiwavelength Photometric Measurement mode as standard** Abs / %T measurement possible at 6 wavelengths simultaneously in Photometric mode against 1 – wavelength

- **Photometric, Multi-Wavelength Photometric, Spectrum, Quantitation, Kinetics and Multi-Component and Bio Method for DNA/Protein Quantitation measurement modes are provided as standard in stand-alone mode**.
    - **Photometric repeatability less than +/- 0.001 Abs at 1Abs.**
    - **Monochromator based on Czerny-Turner mounting.**
    - **Spectrophotometer with 5 USB ports for data communication with PC and Printer compatibility**.
    - **USB Pen drive compatibility for data storage and transfer**

Hardware Validation

- **Semi-automatic testing**

  Interactive display for simplified testing of test items, which require test, jigs.

- **Automatic Testing:** Automatic measurement and pass/fail evaluation and printing of results.
- **Detailed print-out of test results :** Test results printout with spectra and time course data after completion of the test items. Data can be read with commercial spreadsheet software.
- Lamp ON time is displayed and can be reset at the time of changing lamp.
- Compatible PC with original windows and antivirus software and b/w laser printer

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