

Circular Dichroism Spectroscopy



Overview

An embedded real time system is designed based on National Instruments Single-Board reconfigurable input-output (NI sb-RIO) platform for ultraviolet (UV) and visible (VIS) spectroscopic needs. The system interface is designed by using a third-party hardware Tec5.

Features

- Wide spectral range from vacuum UV to Near-IR
- Standard built-in mercury lamp and optional NIST traceable standard sample for system validation
- High-efficiency purge capability enabling to enhanced vacuum UV measurement
- Extremely low stray light and high S/V ratio providing wide dynamic range
- High speed scanning
- Simultaneous multi-probe measurements (SMP) with acquisition of up to 4 data channels
- Flexible design allowing field upgrades for different measurement modes
- Software suite for data acquisition, analysis and presentation including several methods of secondary structure calculation

Software and Hardware

- Windows 2000, XP, Vista and 7
- Fully compatible with LabVIEW
- Available preamplifier boards:
 1. DZA-S3901-4
 2. DZA-S3901-4 1M/0x
 3. DZA-S3901-4 1M/DOx
 4. DZA-MMS 1M
- Multiplexer MUX-4P
- NI sbRIO-9633
- Hamamatsu S3903-1024Q NMOS

Application for various tasks

- Coagulation studies
- Protein conformational studies
- DNA/RNA interactions
- Enzyme Kinetics
- Determination of optically active substance purity
- Quantitative analysis of pharmaceutical preparations
- Chemistry of natural processes
- Chemistry and Biochemistry of Macromolecules