
AppliedPhotophysics
50
YEARS
EST 1971

CUSTOMER
SUPPORT

Our customer support team will install and test your instrument to guarantee the best performance. Once they have delivered user training, you can use your new system immediately. Maintaining optimal performance and receiving timely support when needed are critical for any high-performance analytical system. Routine maintenance through an Applied Photophysics Support Plan* not only continues to ensure optimal performance but also extends the lifetime of your equipment and will ultimately reduce the cost of ownership. At Applied Photophysics we understand how important it is to help you keep your systems running efficiently, including the eventuality of system relocation, where help is only a call/email away. For more complex regulatory environments, our support team is ready to assist with a range of dedicated plans to meet GxP requirements. **support@photophysics.com**

APPLICATIONS
SUPPORT

At Applied Photophysics we appreciate that investing in an instrument is just a small part of your journey, and to ensure all is well before and after that purchase, we employ a highly specialised applications team, offering sample analysis, demonstrations, system training, advanced training and consultancy. Our applications specialists are all highly qualified and ready to work with you on the challenges you face. To learn more visit or email us at **info@photophysics.com**.

*Not available in all territories.

CHIRASCAN VX

THE LABORATORY STANDARD CIRCULAR DICHROISM INSTRUMENT

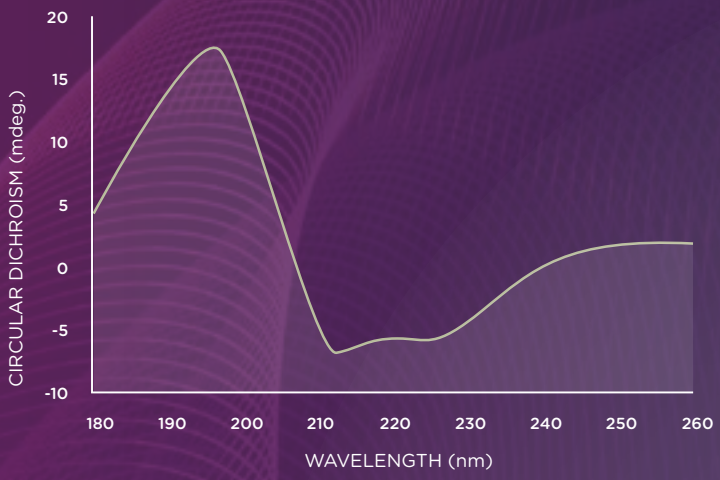
CORE FEATURES

+ Delivers outstanding results, using traditional photomultiplier tube detection technology.
+ Clear workflows promote best practice, and automated controls eliminate common errors.
+ The unique optical configuration produces unmatched light throughput for exceptional data quality.
+ Supported by a limited range of optional accessories for common applications.
+ Precise sample temperature control with thermal analysis.

APPLICATIONS

+ Protein and nucleic acid structure
+ Drug stability profiling
+ Analyse chiral luminophores in optoelectronics
+ Small molecule stereochemistry
+ Protein characterisation

FAR-UV OFFERS INSIGHTS INTO THE SECONDARY STRUCTURE



PREDICTION OF STABILITY

Anti-parallel beta-sheet change linked to instability, self-association and aggregation

a-helix	**34.9%**
β-sheet (antiparallel)	**7.1%**
β-sheet (parallel)	**8.3%**
β-turn	**16.4%**
random coil	**32%**

ACCESSORIES

CCD FLUORIMETER | 6-CELL TURRET | TITRATOR

(Further accessories available, information on request)

CHIRASCAN V100

THE HIGH-PERFORMANCE CIRCULAR DICHROISM INSTRUMENT

CORE FEATURES

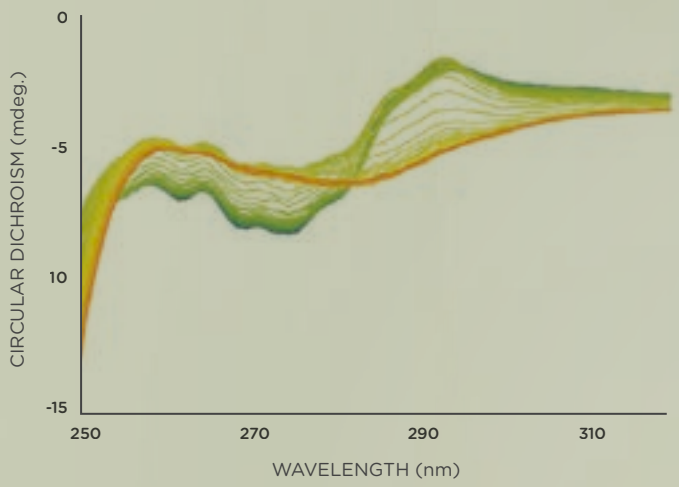
- All the core features of the Chirascan VX, plus superior hardware.
- Avalanche photodiode detector for enhanced sensitivity.
- Improved detection for low concentration samples in complex buffers.
- Greater data resolution and acquisition rate for kinetics and thermal analyses.
- Rapid measurement time reduces risk of UV degradation of sample.
- Enhanced near-IR detection, providing the broadest wavelength range without gaps.
- Supported by the complete range of accessories for diverse applications.
- 21 CFR part 11 package available.

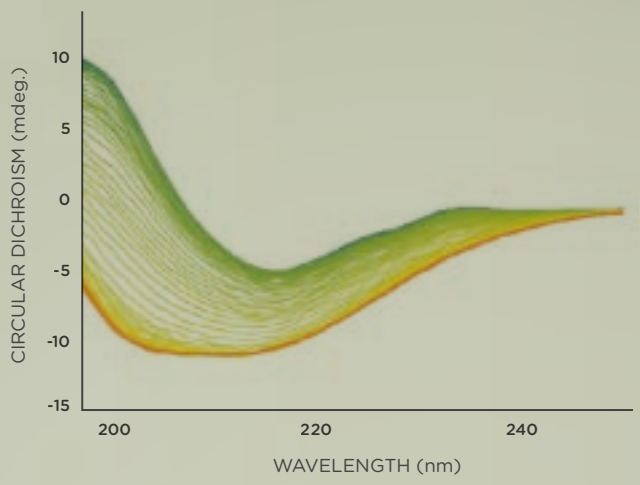
APPLICATIONS

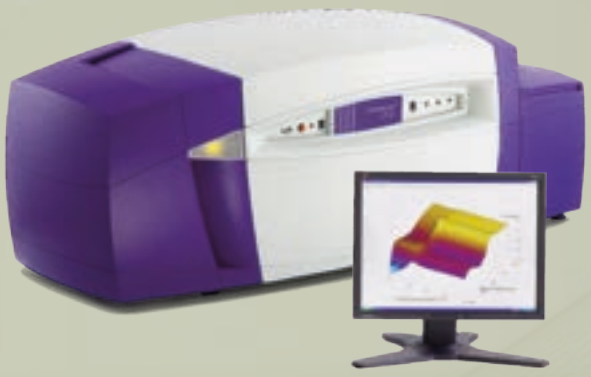
- Formulation studies
- Forced degradation and accelerated stress studies
- Low concentration studies or complex buffers
- Offers orthogonal thermal stability insight
- Protein characterisation

Accelerated stress or formulation studies and monitoring the effect on the protein can prove challenging. Proteins may present no change in the secondary structure, but the tertiary structure shows differences or vice-versa. Therefore, you should always monitor both.

MONITOR BOTH SECONDARY AND TERTIARY STRUCTURE, AND SIDE CHAIN INFORMATION







ACCESSORIES

CCD FLUORIMETER | 6-CELL TURRET | TITRATOR | FLUORESCENCE POLARISATION | STOPPED-FLOW | NEAR IR EXTENSION | CIRCULARLY POLARISED LUMINESCENCE

(Further accessories available, information on request)

CHIRASCAN Q100

THE WALK-AWAY CIRCULAR DICHROISM INSTRUMENT FOR REGULATORY ENVIRONMENTS

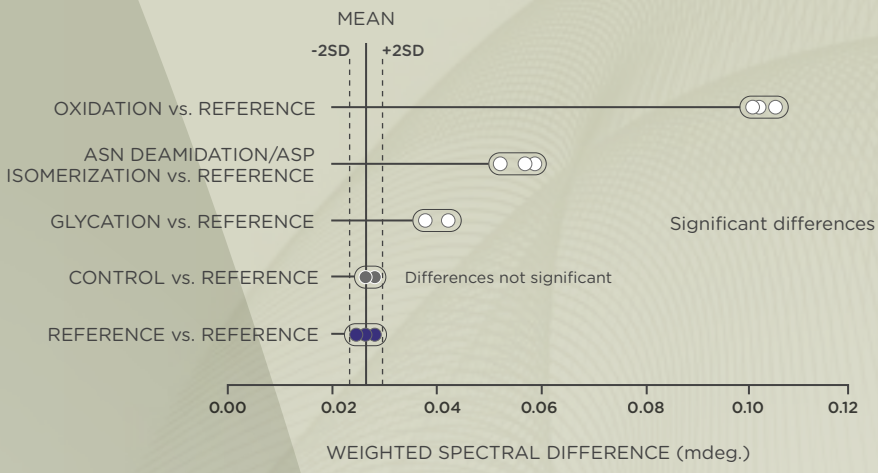
CORE FEATURES

- The core features of the Chirascan V100, plus automation.
- Increased productivity, reproducibility, and unattended operation.
- Facilitates repeat measurements for statistical rigor.
- Automated sample handling and cleaning eliminates preventable sample analysis variability.
- Simplifies cloning of methods and analyses for consistency across sites.

APPLICATIONS

- Structural equivalence of Biosimilars
- Structural information for quality control
- Forced degradation studies
- Highest quality data in support of FDA/EMA drug submissions
- Batch-to-batch comparison screens

GENERATING HIGHEST QUALITY DATA WITH STATISTICAL ANALYSIS



The Q100 not only offers the highest reproducibility it also allows easier statistical analysis, so even the smallest changes can be assessed. Statistical analysis can also significantly reduce data interpretation errors and quality concerns.

ACCESSORIES

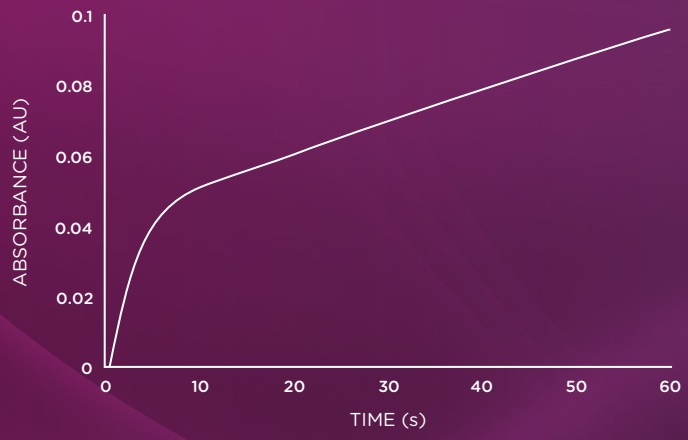
CCD FLUORIMETER

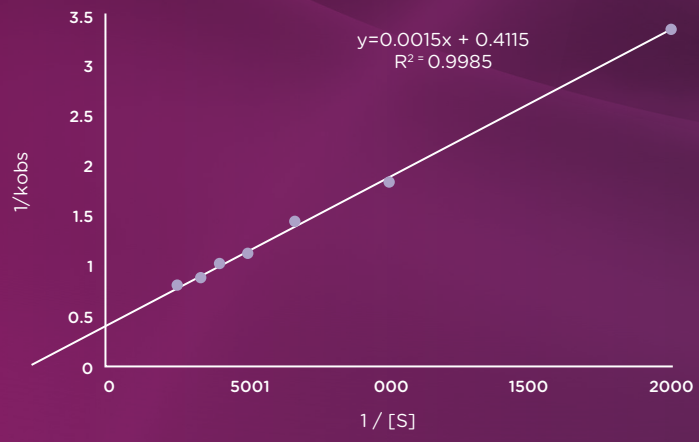
SX20

THE WORLD'S MOST CITED STOPPED-FLOW SPECTROMETER IN PEER REVIEWED PUBLICATIONS

CORE FEATURES

+ Wide choice of light sources: Ultra-stable xenon for a wide range and LED light sources for routine wavelengths.
+ Pneumatically driven with unique integrated mixer cell design, for minimal dead time.
+ Dedicated absorbance and fluorescence PMT detectors, optimised for each technique.
+ Dual detection channels that can be read simultaneously, for techniques such as FRET.
+ Automatic measurement of the dead-time and drive volume– no need for calibration.
+ Unique cell design optimised for sensitivity whilst reducing inner filtering.
+ Supported by an extensive range of accessories for diverse applications.





APPLICATIONS

+ Kinetic rates
+ Enzyme Kinetics
+ Folding and reversibility studies
+ Reagent degradation, active shelf life
+ Interaction studies

The SX20 can be used to quantify pre-steady-state kinetics. The first step of the hydrolysis of p-nitrophenyl acetate catalysed by α-chymotrypsin is a pre-equilibrium that occurs much faster than the subsequent two steps. This step can be observed by the SX20 at 400 nm (p-nitrophenolate). Rate constants at varying concentrations can be measured and subsequently used to derive the Michaelis-Menten constant. The advantage of using stopped-flow to make these measurements is the ability to obtain reproducible fast initial rates.

ACCESSORIES

PHOTODIODE ARRAY | LED LIGHT SOURCE | DUAL FLUORESCENCE | FLUORESCENCE POLARISATION | ANAEROBIC ACCESSORY

(Further accessories available, information on request)

SUPR-CM

CORE FEATURES

- Extremely fast, less than 2.5 min for a 384 well plate.
- Allows resolution of complex multi-domain unfolding events.
- Based on intrinsic fluorescence which offers broad compatibility with biological buffers.
- Very low protein requirement.
- Read directly from the plate samples are prepared in
- The SUPR-CM offers chemical melt profiling generating ΔG, and Cm analysis.
- Flexible methods ensure equilibrium conditions are reached.
- Unlimited analysis of data points for the highest resolution.

SUPR-DSF

NEXT GENERATION DIFFERENTIAL SCANNING FLUORIMETRY

CORE FEATURES

- Fast thermal ramping stability screening, 384-well plates scanned at 1°C per minute (for a full plate). Full plate acquisition in ~90 min (for ~20-100°C range).
- Obtain key thermodynamic parameters, ΔH, T_{Onset}, Tm, number of transitions.
- Very low protein and volume requirements.
- Based on intrinsic fluorescence which offers broad compatibility with biological buffers.
- Read directly from the plate samples are prepared in.
- Also offers orthogonal chemical melt profiling generating ΔG, and Cm analysis.

APPLICATIONS

- Formulation and buffer optimisation
- Protein characterisation and engineering
- Stability profiling and screening
- Variant selection
- Similarity assessment
- Accelerated stress and forced degradation studies
- Binding-induced conformational changes analysis

FIND OUT MORE: **www.proteinstable.com**
REQUEST A QUOTE: **sales@proteinstable.com**

APPLIED PHOTOPHYSICS

Applied Photophysics is a company with a prestigious legacy and has been supporting scientists for over 50 years. We attribute this success to the focus on our customers, delivering exceptional technology backed up by specialist applications and service. Enhancing research or drug discovery is at the heart of everything we do and with a wide install base and an impressive citation record we are proud to be the supplier of choice for the majority of labs across the world.

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