UCal 4™ Software

CUSTOM CALIBRATION & DATABASE MANAGEMENT FOR SPECTRASTAR™ XT SERIES ANALYZERS

The Complete Calibration Software Package for Food, Agricultural, and Industrial Applications

INTUITIVE PROGRAMS FOR FAST CALIBRATION DEVELOPMENT

Designed for novices and experts alike, UCal 4 simplifies calibration customization, helping users distill complex data and results through numerous graphical displays. The process starts with population structuring routines to select samples for optimal calibration libraries, minimizing reference laboratory expense, and maximizing robustness.

Calibration regressions programs with customizable defaults simplify model creation, and validation routines monitor and maintain calibrations for verifiable results.
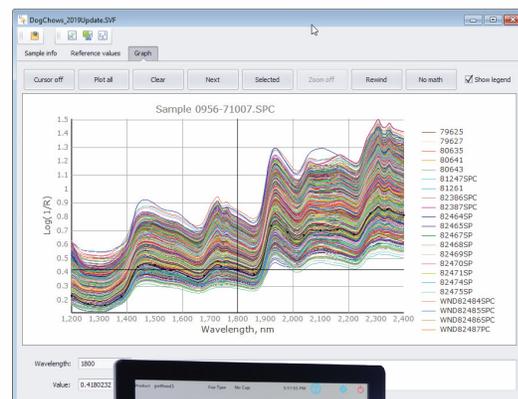
OUTSTANDING CALIBRATION PERFORMANCE

UCal 4 incorporates advanced chemometric tools for ultimate performance from your calibration data. A variety of multivariate regression algorithms, including PLS, variance scaled PLS and locally weighted regressions, ensures the most accurate custom quantitative calibrations for your product.

For conformity analysis and detection of bad products, UCal 4 includes a complete set of algorithms and tools to develop and validate qualitative models and optimize classifications. Both quantitative and qualitative models can be directly configured in the SpectraStar XT analyzers for immediate use in routine analysis.
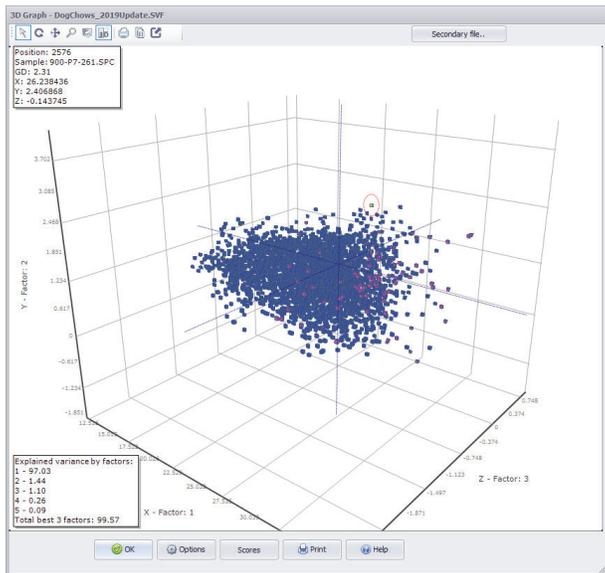
EASY SAMPLE MANAGEMENT

The heart of UCal 4 is a comprehensive sample management system based on a logical data file structure that allows for sets of data to be reviewed and combined with ease. A new project manager organizes and keeps all relevant files together for easy project management and calibration management. The UCal software also contains a powerful file conversion section that converts spectral data from multiple vendor instruments into the UCal format. Data can be imported to and exported from UCal using Unity (.svf format), Jcamp (.dx, .jdx), Grams (.spc), WinISI (.nir and .cal), and other formats. Advanced standardization routines to match a network of instruments or transfer calibrations from different instrument types to the SpectraStar™ XT for ready to use calibrations.

UCAL 4 SOFTWARE FEATURES

- Quantitative and qualitative model development provide analytical and conformity results
- Enhanced graphical displays for quick and thorough evaluation of results
- New batch processing routine automates the evaluation of multiple calibration options
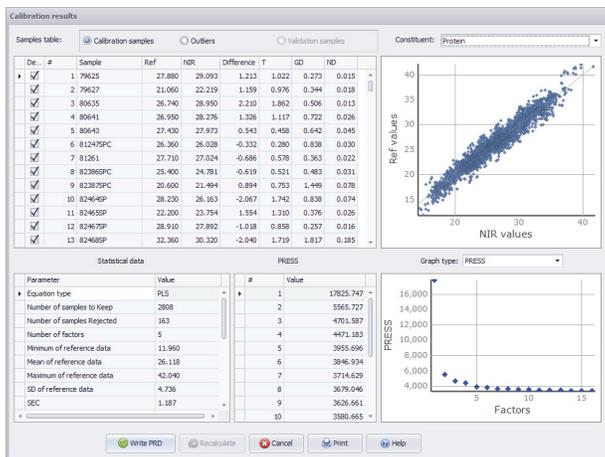- Multiple training options available

EFFICIENT CALIBRATION DEVELOPMENT

UCal 4 contains all of the tools needed for quick and easy calibration development. From sample selection to data management and model creation, simplified routines with logical presets and graphical displays guide the model development process and provide meaningful insight into complex data. Behind the scenes, advanced algorithms and math treatments are extracting useful information and minimizing unwanted variation to create reliable and robust calibration models.

COMPREHENSIVE VALIDATION AND MAINTENANCE TOOLS

A key part of any NIR calibration protocol is validation of the model's performance. UCal 4 includes a complete suite of routines for the evaluation and validation of calibration models including statistical summaries and outlier identification. Calibrations can be easily monitored for accuracy during the development process as well as for on-going update and validation protocols. For operations with multiple analyzers, UCal 4 can evaluate results across the NIR network for a complete evaluation of an NIR quality program.
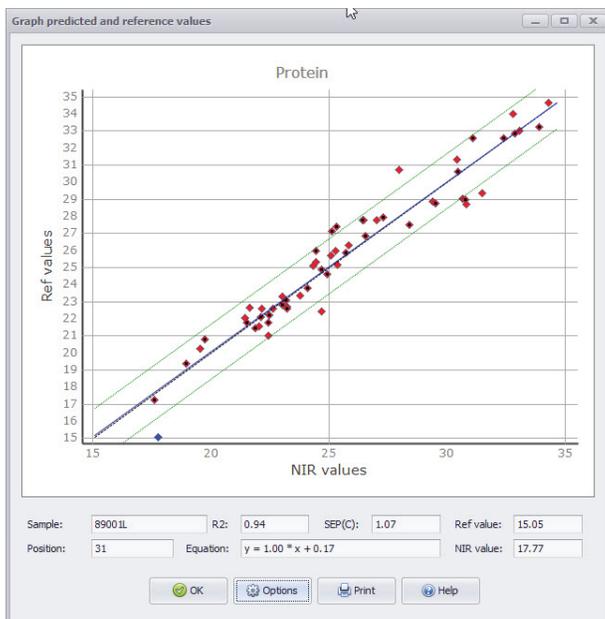
IN-PERSON UCAL 4 TRAINING

KPM offers in-person training for UCal 4 in our Westborough, MA, USA headquarters, less than one hour from Boston. The class covers all aspects of NIR calibration development with UCal 4 and is 2 1/2 days.

Custom on-site training is also available.
Contact us at service@kpmanalytics.com to learn more.

ON-DEMAND ONLINE TRAINING

Each copy of UCal 4 includes access to the KPM Academy UCal 4 online training course for one year. The course is on-demand and includes over 17 videos and 15 exercises for thorough, hands-on instruction. A live Q&A session is also included. Tuition for additional students and extensions are available.

KPM ACADEMY

Scan here to learn more about the UCal 4 KPM Academy Training Course.