

# Analyze IQ Predictor



Analyze IQ Predictor is an embedded software module for third-party software. This enables analytical models that have been built using Analyze IQ Lab to be deployed in third-party software products. Therefore, third-party products can benefit from Analyze IQ's fast and accurate results, and avoid the need for spectral subtraction or other manual interventions. This greatly facilitates the deployment of expert-level analysis capabilities to users who are not chemometricians.

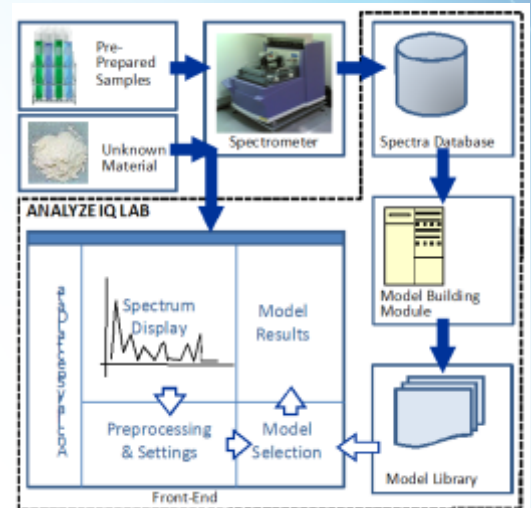
Because of Analyze IQ's innovative model-based approach, it has much lower CPU and storage requirements than standard solutions based on direct spectrum-matching. As a result, Analyze IQ Predictor is ideally suited for integration into portable systems for use in the field, or specialist lab-based systems.

## Analyze IQ Software Technology

The Analyze IQ software suite has been designed to address the need for accurate analysis of spectroscopic data from mixtures of materials.

Molecular spectroscopic techniques such as infra-red (IR), near infra-red (NIR), and Raman spectroscopy are widely used in analytical chemistry to characterize the molecular structure of materials, by measuring the radiant energy absorbed or scattered in response to excitation by an external light source.

In practical applications, a given target substance to be identified is often not in pure form, but mixed with other components that contribute peaks to the molecular spectrum collected. The peaks from the various components in a mixture may mask or overlap each other, and confound standard identification procedures that try to match the spectrum of a sample against a database of pure substances' spectra.



Analyze IQ introduces a new model-driven approach for spectral data analysis.

A range of mixtures of known composition are prepared and stored in a database. Then, proprietary analytical methods based on machine learning are used to construct analytical models that compactly summarize all of the spectral data. These models are embedded in the Analyze IQ Lab software package. When the spectrum of an unknown material is collected, its composition can be determined instantaneously and accurately using the analytical models that have been tuned to identify specific target materials.

Analyze IQ provides a wide range of analytical techniques, ranging from conventional statistical methods such as linear regression to innovative proprietary algorithms including Weighted Spectral Linear SVM and Spectral Attribute Voting.



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