



Press Release

Bio-Rad Announces a New Release of its KnowItAll® Spectroscopy Software

Features Enhanced Technologies for Spectral Search Optimization, Quality Control, and Deformulation

HERCULES, CA – October 22, 2015 – Bio-Rad Laboratories, Inc. (NYSE: BIO and BIOb), a global provider of life science research and clinical diagnostic products, today announced a new release of its KnowItAll® spectroscopy software.

One of the key enhancements of the new release is “Optimized Corrections,” a breakthrough patent-pending technology that performs a computationally complex set of corrections on all query and reference spectra in a search to find the optimal match between the query and each reference spectrum. Multiple corrections are applied automatically to compensate for differences between spectra caused by the variability of different instruments and accessories and other factors including human error.

KnowItAll’s Optimized Corrections yield better matches to reference spectra than can be attained using rigid search algorithms alone or with manual methods to optimize spectra for searching. This feature is critical as the inflexible mathematical algorithms traditionally employed in spectral searching cannot compensate for errors in spectra that are flawed. Moreover, while manual corrections can be made by expert spectroscopists, those less experienced in spectroscopy are often unaware of how to perform the necessary corrections on their sample spectrum to achieve the best result.

“The addition of Bio-Rad’s patent-pending Optimized Corrections technology highlights Bio-Rad’s continued commitment to adding spectral intelligence to its software,” said Gregory M. Banik, PhD, Bio-Rad General Manager, Informatics. “The combination of intelligent software with a comprehensive collection of spectral data helps scientists make faster and more accurate analyses,” he said.

KnowItAll 2015 also features two new software applications as well as the addition of spectra to its collection of Bio-Rad spectral databases that include:

- **KnowItAll QC Expert™** – The KnowItAll QC Expert 21 CFR Part 11-compliant software performs a rapid quality check of a sample IR or Raman spectrum against a “gold standard” reference spectrum to verify that a material meets control

specifications. The software takes the validation a step further by also comparing the sample to a reference database to ensure that the sample not only matches the selected reference spectrum but also does not match anything else in the database. With applications in the pharmaceutical, food, consumer products, and chemical industries, KnowItAll QC Expert is a secure, yet simple solution for quality control.

- **KnowItAll Deformulation Expert™** – KnowItAll Deformulation Expert™ is a new technology that suggests the formulation of commercial products. KnowItAll Deformulation Expert has applications in reverse engineering of formulated products, competitive analysis, and patent infringement litigation.
- **New Spectral Data** – Bio-Rad added over 90,000 reference spectra to its data collections including ATR-IR, IR, Raman, HNMR, CNMR, XNMR, and mass spectra.

About KnowItAll® Solutions

Bio-Rad's award-winning KnowItAll software offers comprehensive solutions for spectral analysis, identification, search, data management, and reporting. It supports multiple instrument vendor file formats and techniques (IR, Raman, NIR, NMR, MS, UV-Vis). The software, combined with one of the world's largest spectral reference collections (over 1.5 million spectra), helps chemists extract even greater knowledge from their spectral data. Learn more at www.knowitall.com.

About Spectral Databases

Researchers use spectral search software along with spectral databases to identify unknown substances and verify the composition of synthesized materials in a number of applications and industries. First, precision instruments measure a substance and produce a spectrum, which is expressed as a graph showing a series of peaks that is specific to the sample material. That spectrum is then compared to a reference database of the measured spectra of known substances. If a matching spectrum is found, the material in question can be identified. Bio-Rad's KnowItAll solutions provide search software tools, as well as the world's most extensive collection of reference spectra used in this type of analysis.

About Bio-Rad

Bio-Rad Laboratories, Inc. (NYSE: BIO and BIOb) develops, manufactures, and markets a broad range of innovative products and solutions for the life science research and clinical diagnostic markets. The company is renowned for its commitment to quality and customer service among university and research institutions, hospitals, public health and commercial laboratories, as well as the biotechnology, pharmaceutical, and food safety industries. Founded in 1952, Bio-Rad is based in Hercules, California, and serves more

than 100,000 research and healthcare industry customers through its global network of operations. The company employs more than 7,600 people worldwide and had revenues exceeding \$2.1 billion in 2014. For more information, please visit www.bio-rad.com.

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