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New Application Note Confirms Cerno Bioscience's Award Winning MassWorks Software Extends the Limits of Mass Spectrometry

Danbury, CT. (August 15, 2006) – A new publication from Cerno Bioscience reveals that its award winning MassWorks™, an easy-to-use post acquisition software package that utilizes Cerno's patented MSIntegrity™ technology to dramatically improve mass spectral measurements, will determine elemental composition with an ion trap at unit mass resolution without the need for a high cost instrument or highly skilled operators.

The paper entitled 'Determination of Elemental Composition with an Ion Trap at Unit Mass Resolution', demonstrates that while high mass accuracy is important for elemental composition determination, proper peak shape calibration can allow isotope profile comparison with unparallel accuracy and lead to dramatically more accurate results.

The paper illustrates this using LC/MS of verapamil metabolites from rat microsomal incubation. Two major components of verapamil and its demethylated metabolite were observed using this analysis; the parent drug and its sodium adduct were found at m/z 455 and 477 respectively, while the demethylated metabolite found at 441 was also detected with its sodium adduct at m/z of 463. The external calibration created from the calibration mixture was then applied to the raw profile mode spectra for their accurate identification through elemental composition determination.

MassWorks MSIntegrity algorithm not only improves the mass accuracy, although this alone does not provide sufficient specificity to effectively determine an unknown molecule even at very high mass accuracy of 1 ppm; most importantly it corrects the profile mode spectra to a mathematically defined peak shape for highly accurate comparison with expected isotope profiles theoretically calculated for given elemental compositions.

This new approach delivers superior performance in elemental composition search, even when the mass error for unknown molecules is as much as 100 ppm, a level of mass accuracy unsuitable for elemental composition determination through conventional approaches.

Cerno has also demonstrated the ability to obtain even higher mass accuracy on quadrupole systems to further improve selectivity. This approach is an important discovery and will become a powerful tool in challenging areas such as proteomics, metabolomics, as well as environmental applications that require comprehensive analysis of complex mixtures.

Cerno will be showcasing MassWorks at the 17th International Mass Spectrometry Conference to be held in Prague from August 27th – September 1st 2006. You can visit the company at booth # 30.

MassWorks utilizes Cerno's DirectRead™ technology to read most instrument data formats directly, eliminating the need for importing or exporting MS data to the clipboard or utilizing intermediate exchange formats. This saves time, reduces transcription errors, simplifies file management, and saves substantial disk space. As DirectRead does not alter the original data, it assists compliance with common regulatory requirements such as GLP and 21 CFR Part 11.

To access the research paper please visit www.cernobioscience.com/resources
For more information on MassWorks, please contact Cerno Bioscience at info@cernobioscience.com, call +1 203-312-1150, or visit www.cernobioscience.com.

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About Cerno Bioscience LLC

Cerno is dedicated to the practical application of modern mathematical techniques to Mass Spectrometry for the purpose of improving the quality, accuracy and reliability of MS analysis. These techniques can be used to dramatically improve the amount of information obtainable from and reduce the amount of time required of many MS experiments. Cerno's technologies are proprietary and protected through numerous patents granted and submitted world-wide. The company was founded and is staffed by a team with over 80 years' experience in the fields of instrumentation, mathematical data processing, life science applications and biotech business development. Cerno is funded by a private investment group with an established track record of success in the Analytical Instrumentation market.