Cerno Demonstrates Breakthrough Software That Ends the Tradeoff Between Accuracy and Accessibility in Mass Spectrometry at ASMS 2025

New data presented showcases how Cerno enables precise identification of unknown compounds and trace ions, using widely available, cost-effective mass spectrometry systems

Las Vegas, NV, June 5, 2025 – Cerno, a technology company providing advanced software for mass spectrometry data analysis, presented new data today describing significant improvements in the accuracy of unknown compound and trace ion identification. The data were shared during two poster sessions at the American Society of Mass Spectrometry (ASMS) Annual Meeting, in Baltimore MD, on June 1-5, 2025.

These new findings are particularly impactful because they eliminate the longstanding tradeoff between speed, accuracy, and accessibility in mass spectrometry. By delivering high mass accuracy and spectral fidelity on widely available instruments—including unit-resolution systems—Cerno's software makes advanced unknown compound and trace ion identification practical without the need for specialized or high-cost equipment. This unlocks new capabilities for scientists across life sciences, environmental testing, consumer goods, and chemical and material sciences, enabling faster, more confident decision-making in areas ranging from drug development and diagnostics to environmental monitoring and quality control.

"Traditional mass spectrometry often forces a tradeoff between confidence and practicality," said Yongdong Wang, Ph.D., CEO and Founder of Cerno. "Our latest work shows that with the right software, labs can achieve both high mass accuracy and spectral fidelity—making precise, confident analysis possible on the systems they already use. This unlocks new capabilities without added complexity or cost."

Summaries of the poster presentations are provided below.

Combining High and Low-Resolution Data for Confident Unknown Identification

Cerno, in collaboration with the University of Connecticut, presented a new workflow that pairs high-resolution mass accuracy with low-resolution spectral accuracy in a single LC/MS run. Using MassWorks®, the team achieved unique elemental composition identification in all 26 test compounds—something not possible with high-resolution alone. By harnessing the strengths of both scan types, the approach reduces ambiguity and enables more definitive compound ID on standard mass spec systems, making highconfidence results more accessible and cost-effective.

Bringing High-Accuracy Trace Ion Analysis to Unit-Resolution IC-MS

In a joint study with Metrohm and Agilent, Cerno showed how its MassWorks® software dramatically improves quantification and trace ion identification on unit-resolution ion

chromatography–mass spectrometry systems. Researchers achieved <0.006 Da mass accuracy and >98.5% spectral accuracy, enabling clear separation of overlapping signals—even amid complex interferences. The result: more reliable detection of contaminants like perchlorate and enhanced precision in pharmaceutical and environmental testing, without requiring high-end instrumentation.

About Cerno

We are revealing new possibilities in mass spectrometry analysis through transformative software. Our vendor-neutral platform works seamlessly across all mass spec instruments, dramatically enhancing performance without disrupting existing workflows.

Patented technology extracts deeper insights from complex data, faster, with greater confidence, and unprecedented accuracy. Trusted by scientists worldwide with over 2,000 licenses issued, our solutions are used by leaders across life sciences, academic research, applied sciences, and environmental health and safety. From accelerating drug development to ensuring food safety and advancing cutting-edge research, we empower scientists to make critical decisions faster and economically with clarity and accuracy.