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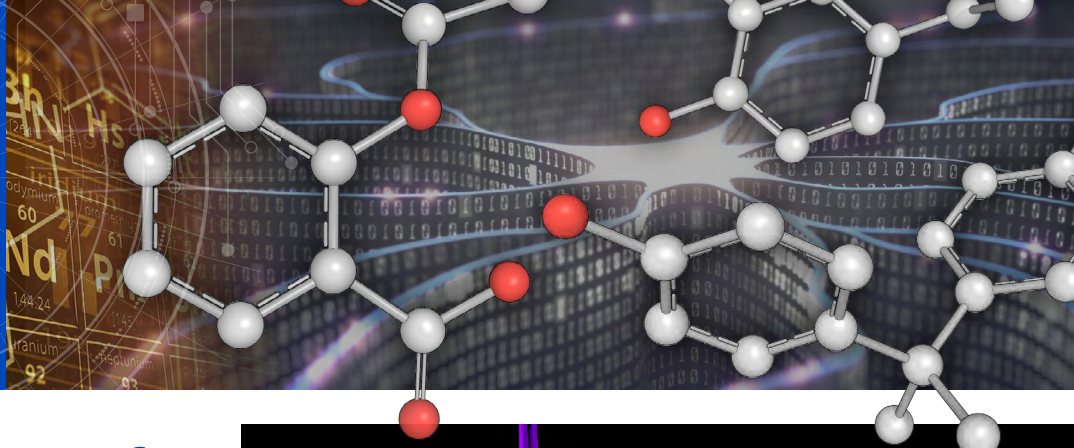
SOUTHWEST RESEARCH INSTITUTE

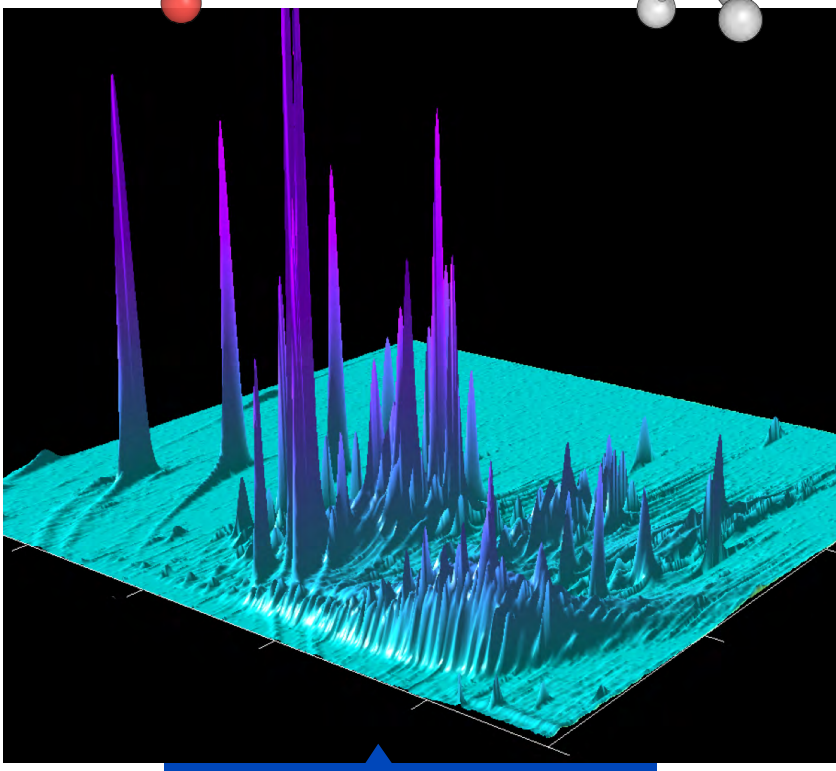


Artificial Intelligence for Signal Quality Review

Automated Spectra Review for High-Throughput Mass Spectrometry Workflows

Floodlight™ is a novel software tool developed at Southwest Research Institute® (SwRI®) to provide rapid discovery of known and unknown chemical compounds by automating the signal quality review process. These tools can support client workflows to improve chemical identification.

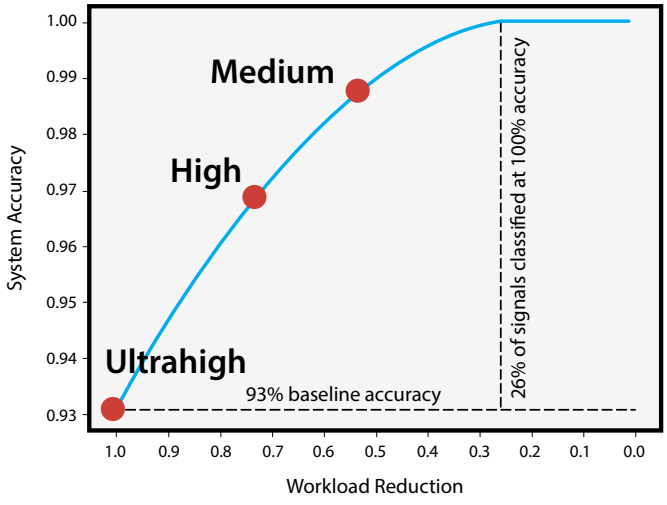
Floodlight is a cheminformatics machine learning tool that can integrate with existing analytical chemistry workflows to support deep analysis of large data sets, including comprehensive two-dimensional gas chromatography/mass spectrometry (GCxGC/MS). This high-throughput software package can drastically reduce the amount of time, effort and cost for signal quality interpretation.



A single sample can yield 100s to 1000s of signals, all potentially significant.

Floodlight™
Non-Targeted Analysis System

Floodlight is a product created by the Artificial Intelligence Mass Spectrometry (AIMS) team at SwRI. The AIMS team includes data scientists and analytical chemists with a mission to expand our understanding of the molecular world. Our expertise in mass spectrometry data analysis draws upon decades of experience in analytical chemistry and computer science to develop algorithms utilizing cheminformatics and machine learning. We provide simple and scalable artificial intelligence solutions for analysis of mass spectrometry data over a broad spectrum of industries.



The automated review process demonstrates accuracy equivalent to a human expert (93%) or higher.