Chromatography Workflows. Reimagined.

CHROMATICS

R&D Chromatography Data Processing Challenges

Separation technologies, including chromatography, serve as the workhorse for the analytical assessment and purification of biotherapeutics at biopharma companies worldwide. Their development groups now face significant challenges from the rapid growth of data generated from chromatography workflows. In addition, the use of diverse instrumentation makes it difficult to capture and process data, ensure consistency, assess results, and collaborate across teams. This leads to error-prone processes, poor scalability, incomparable data, and inefficient use of expertise, time, and money.

What is Genedata Chromatics?

Genedata Chromatics® is a central integrated software platform that streamlines biotherapeutic R&D data processing for chromatography workflows. It combines chromatography and molecule metadata for immediate result interpretation. By integrating with existing IT infrastructure, it ensures seamless data exchange and full traceability. This hardware-agnostic solution eliminates manual processes, automates and harmonizes data processing, and provides well-annotated data for data science and AI/ML initiatives, accelerating the development of biomolecules.
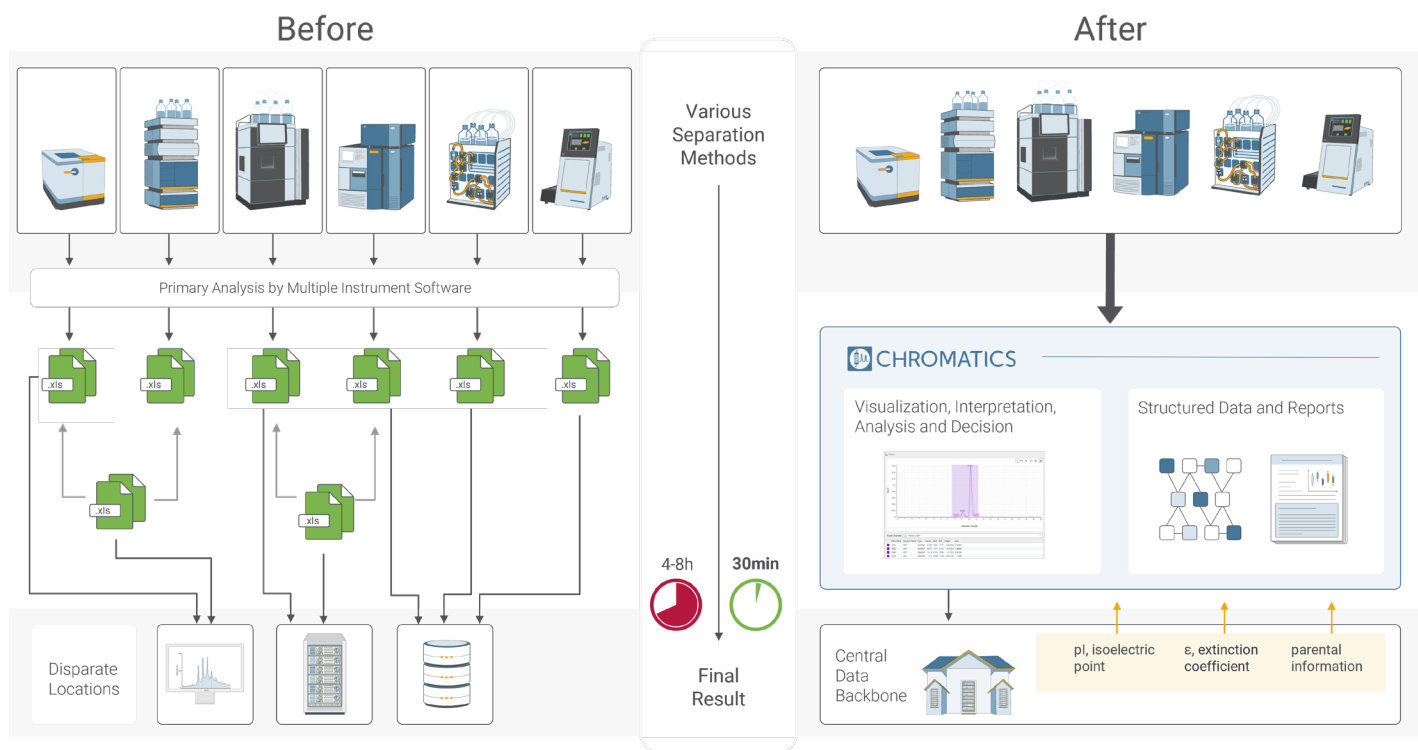

Figure 1. Before and After Chromatics: Genedata Chromatics centralizes all analysis in one system. With open APIs, the platform pulls metadata, which is needed for analysis — such as isoelectric point or extinction coefficient data — and automatically reports results alongside chromatograms to downstream systems. Results can be delivered in about 30 minutes, saving up to 8 hours of working time per week. This enables rapid analysis and interpretation of results.

Save Time and Increase Efficiency

By automating data processing, Genedata Chromatics allows scientists to focus on critical tasks instead of data handling. The platform streamlines workflows and integrates metadata, which reduces manual operations, accelerates data analysis, and enhances overall productivity and efficiency in the lab.

Improve Data Quality and Consistency

Genedata Chromatics ensures high-quality, decision-ready data by automating peak detection and quantification. The platform minimizes manual errors, provides consistent data handling, and supports robust data analysis — improving data quality and reliability to support informed decision-making.

Automate Processes

By integrating key processes into a single system, Genedata Chromatics speeds up development cycles. Comprehensive automation reduces the time and effort required for data analysis, facilitating faster project completion and enabling quicker advancements in research and development. The platform easily integrates with existing IT infrastructures, ensuring seamless adoption and operation.

## Designed for Biopharma Scientists

Tailored to meet the unique needs of biopharma scientists, Genedata Chromatics offers an intuitive interface and customizable options. The platform simplifies complex workflows, making it easier for scientists to navigate and effectively utilize all features. It ensures data availability, traceability, and adherence to data governance, making chromatography data FAIR (Findable, Accessible, Interoperable, and Reusable).

—

Figure 2. CE-SDS: Gel images side-by-side with electropherograms for both reduced and non-reduced conditions enable rapid result interpretation.
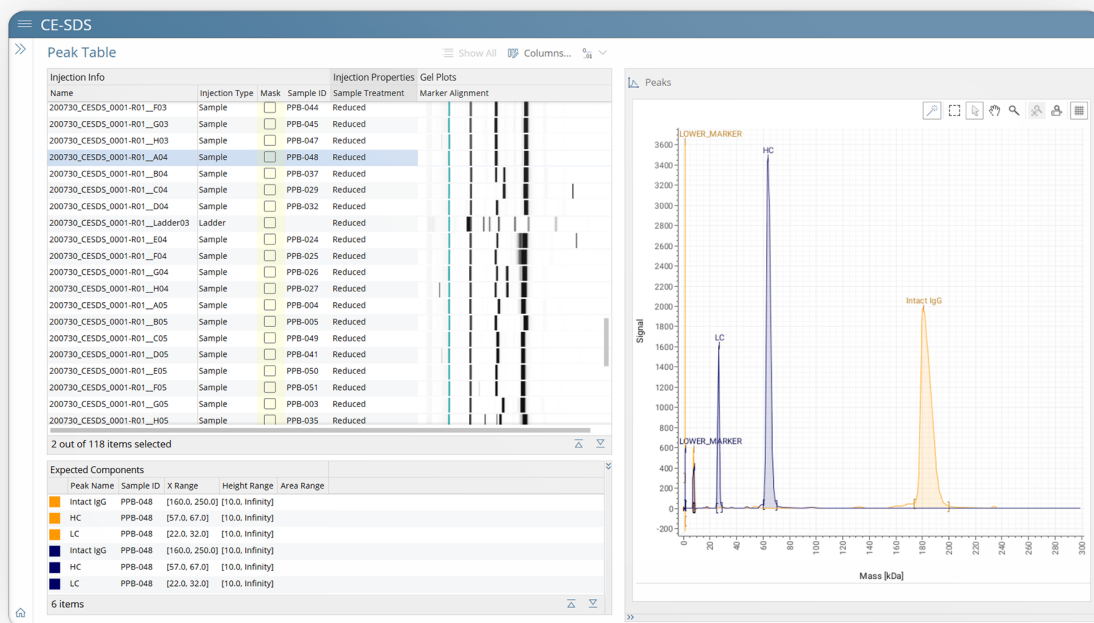
Why Genedata Chromatics?

Genedata Chromatics is a cutting-edge solution tailored to streamline chromatography workflows and deliver high-quality results. Key technical features include:
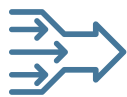
Advanced Data Integration

Genedata Chromatics integrates diverse separation technologies and systematically manages data. Retrieval of external sample metadata systems ensures smooth workflows and immediate result interpretation, eliminating the need for macros and preventing data duplication.

Instrument-Agnostic and Automated Data Analysis

Genedata Chromatics ensures consistent data handling across various technologies by standardizing the input from multiple instruments. The platform automates peak detection, quantification, quality control, and result calculation, thereby minimizing manual errors. Advanced features such as peak identification templates, reannotation capabilities, and peak window adjustments ensure robust and reliable data analysis, delivering consistently analyzed, FAIR data to support informed decision-making.

Customizable Open System

Designed for biopharma scientists, Genedata Chromatics offers an intuitive interface with essential features. As an open system, it seamlessly integrates into an organization's digital ecosystem, providing APIs for tailored workflows and a framework for novel algorithms and ML-based quality assessment.

Accelerated Development Processes

By integrating peak detection, quality control, and standardized result generation across instruments into a single system, Genedata Chromatics delivers decisive information on time. With comprehensive automation that reduces the time and effort required for data analysis, it ensures the immediate availability of integrated results, thereby accelerating development.