



Step into a steady stream

All day. Every day.

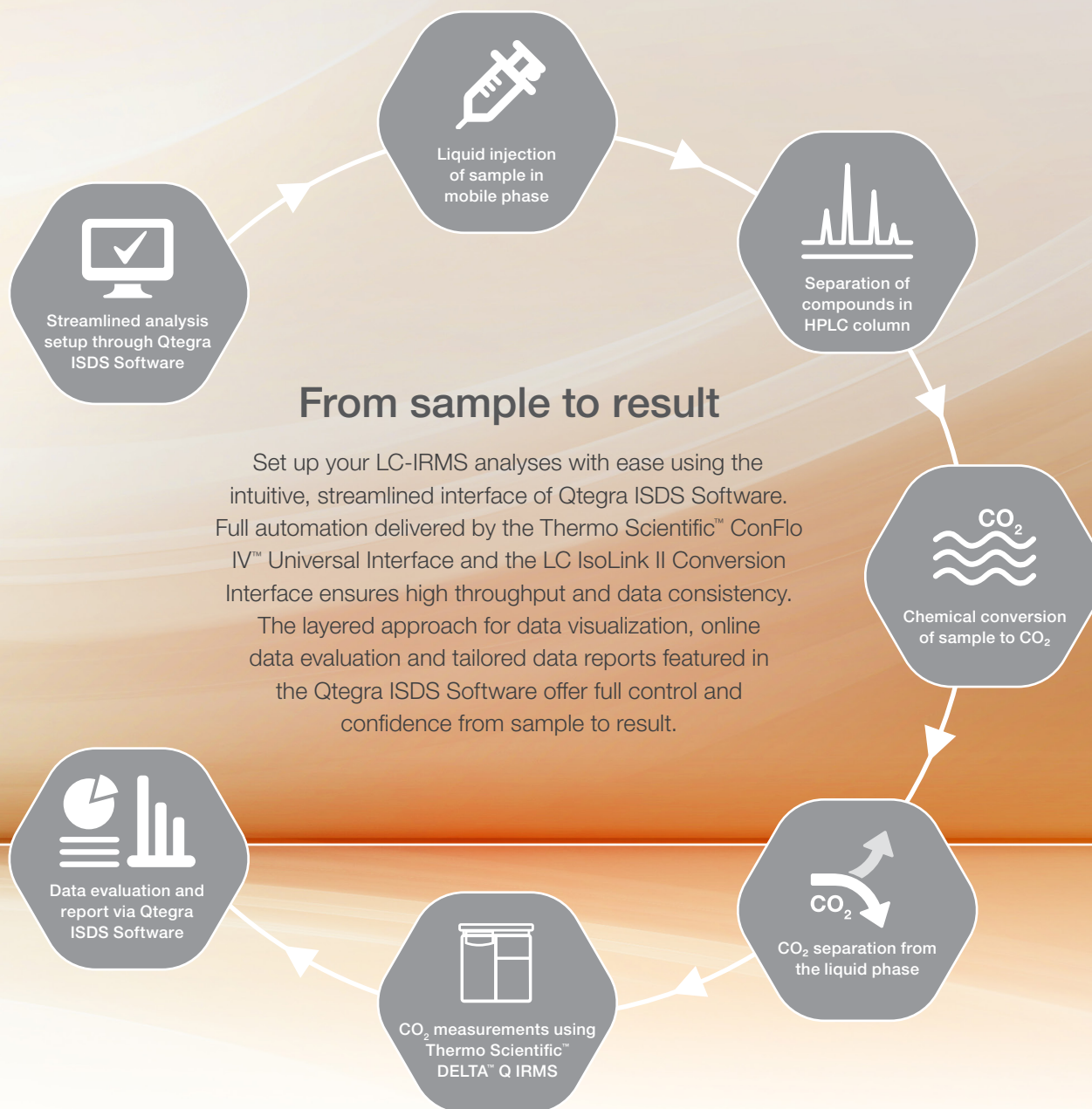
LC IsoLink II IRMS System



Streamline your workflow

The next generation LC-IRMS platform combines unmatched robustness, ease of use and superior analytical performance to achieve maximum efficiency in compound-specific isotope analysis of aqueous samples.

Thermo Scientific™ LC IsoLink™ II Conversion Interface features new, patented technology and user-friendly design to ensure cost-efficient sample processing and high throughput. Driven by Thermo Scientific™ Qtegra™ ISDS Software, the LC IsoLink II IRMS system will enhance your workflows for high sensitivity on-line determination of $^{13}\text{C}/^{12}\text{C}$ isotope ratios.



All-in-one, integrated stack design

LC IsoLink II Conversion Interface is fully integrated in the innovative Thermo Scientific™ Vanquish™ platform. Space-saving design empowers lab personnel with simplified user maintenance and intuitive system operation.

- 1 Vanquish User Interface**
Displays the key parameters of the HPLC system such as flow and pressure and guides users in a step-by-step video tutorial through key maintenance tasks.
- 2 SmartInject Technology**
Enhanced column protection and superior precision and accuracy on retention time.
- 3 Proprietary injection and switching valves**
The valves used in the Vanquish Core HPLC system are designed to meet the reliability needs to enable robust routine HPLC runs.



4 LC IsoLink II Conversion Interface

Quantitative oxidation of all individual organic compounds eluting from the HPLC column, followed by fractionation-free separation of the resulting CO₂ gas from the liquid phase. The unique backflush function allows implementation of automated system cleaning protocols to maximize system uptime.

5 ConFlo IV Universal Interface

Continuous and unattended analysis with auto-determination of linearity and stability, and software-controlled reference gas intensities.

6 Column compartment

Ensures reliable matching of the eluent and column temperature for superior HPLC performance.

7 Pumps for mobile phase and reagents

Vanquish Core Dual Pump provides two independent ternary blending flow streams in one housing. The Dual Pump offers excellent flow accuracy and precision using ultra-precise piston drives and active flow control for mobile phase and reagents flow rates. Built-in eluent degassing offers enhanced flow stability.

8 DELTA Q IRMS

Proven performance with unprecedented robustness and ease of use with the DELTA Q IRMS. Experience the highest-in-class precision and sensitivity for isotope ratio analysis.

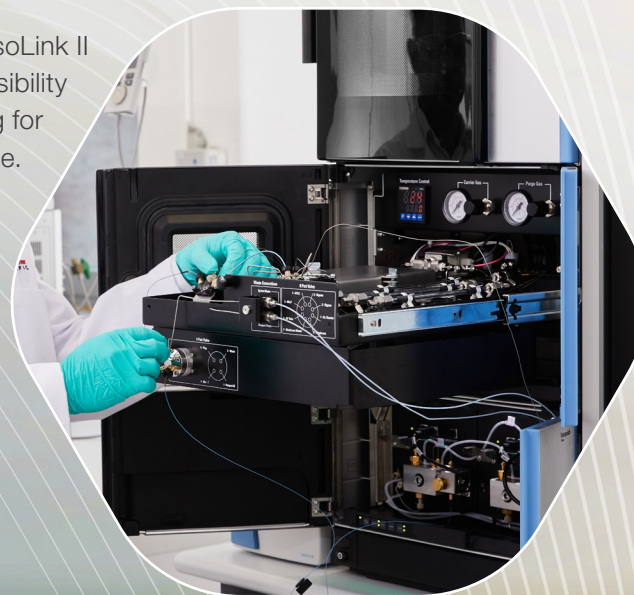
Driven by Qtegra ISDS Software

Automatic features, templates and guided workflows are built in to streamline your analysis, and the software offers a unique array of data evaluation and visualization tools designed to improve and standardize your reports.

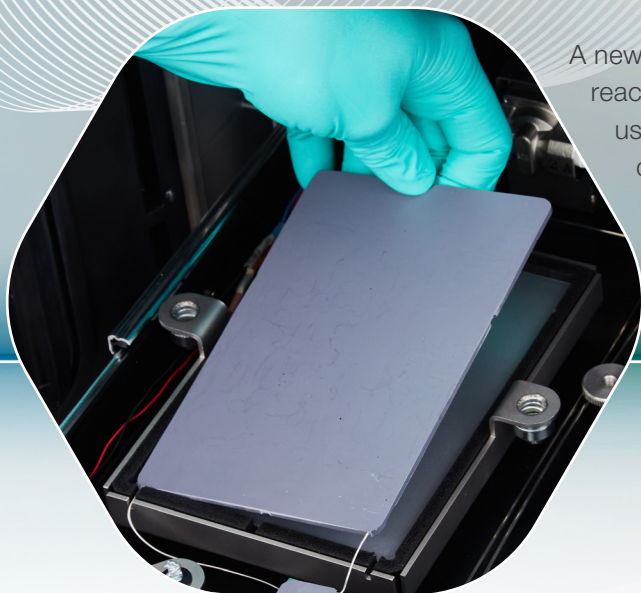
Step into maximum reliability

The next generation LC IsoLink II Conversion Interface is designed for exceptional instrument reliability and flexibility that suits a wide range of analytical demands.

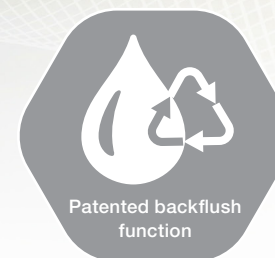
The modular pull-out design of LC IsoLink II Conversion Interface allows easy accessibility of all system parts without de-stacking for routine maintenance.



A new cartridge-based conversion reactor can be easily exchanged by users, offering cost-efficient and quick system maintenance.



A unique backflush function simplifies routine maintenance, minimizing flow path blockage and maximizing system uptime and productivity. It is fully controlled by the Qtegra ISDS software and ready to be implemented in your routine operation.



The Vanquish Core HPLC system brings ease of use to a new level, empowering every user to deliver exceptional results utilizing the novel intelligence features of the system.



The Vanquish Core HPLC system uses innovative long-life maintenance-free injection valves, reducing cost of ownership, minimizing unexpected downtime, and increasing overall confidence in your results.

Vanquish Core Dual Pump for mobile phase and reagents delivers outstanding durability for the highest system up-time with low total cost of ownership.



Experience operational simplicity using Thermo Scientific™ Viper™ finger-tight fittings for nearly zero dead-volume fluidic connections.

Step up to peak productivity

One-vendor, end-to-end solution ensures smooth start-up and seamless workflow integration that saves time and expense in user training, lowering the cost of service and support. Enhanced system automation provides maximum efficiency in your laboratory.

The interactive Vanquish User Interface allows operators to intuitively, immediately, and intelligently monitor the current system status:

- Status display of current instrument parameters, such as flow and pressure
- Glove-enabled and solvent resistant touch display
- Monitoring of column equilibration progress through graphical representation of pump pressure data
- Display of step-by-step maintenance videos
- Multi-language support



ConFlo IV Universal Interface allows automatic stability and linearity checks, easy gas transfer, automatic reference dilution and software-controlled switching between multiple preparation devices.



ConFlo IV Universal Interface

Step ahead with smart software

Qtegra ISDS Software features integration with Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) Software capabilities for full system operation. Single software platform setup simplifies workflows, saves time and minimizes errors.

- The Get Ready feature automatically performs the routine start-up procedures to ensure the instrument is ready to produce high quality data
- Advanced automation capabilities allow simple implementation of routine maintenance procedures such as the system backflush function



Compliance

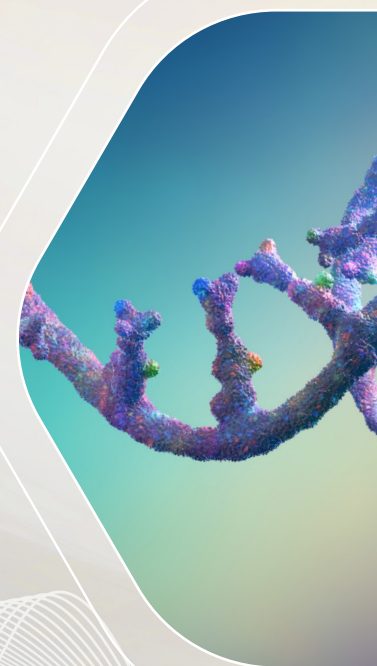
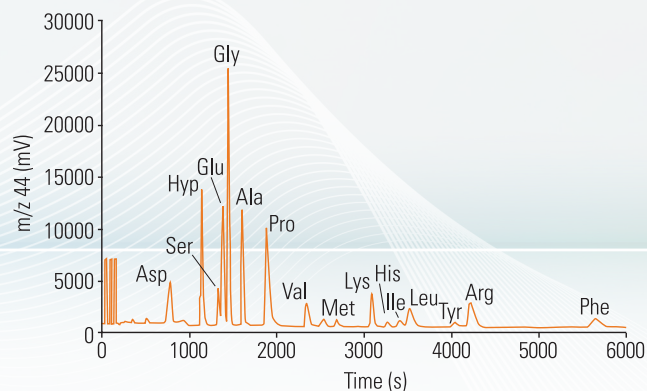


Qtegra ISDS Software creates a controlled environment to operate the system in compliance with GxP and 21 CFR Part 11 regulations. Utmost integrity and traceability for all your data is ensured through user-defined privileges, roles, and access groups. All data is relationally stored and automatically documented, saving you time during compliance audits.

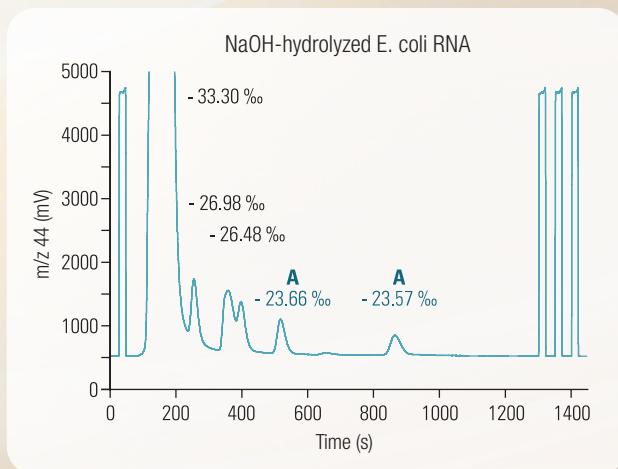
One platform, multiple applications

The LC IsoLink II System streamlines routine applications such as food integrity, but also offers the capability and flexibility needed for a wider range of analytical challenges, such as metabolism and physiology studies, drug origin verification, forensics, archaeology, doping control and biogeochemistry research.

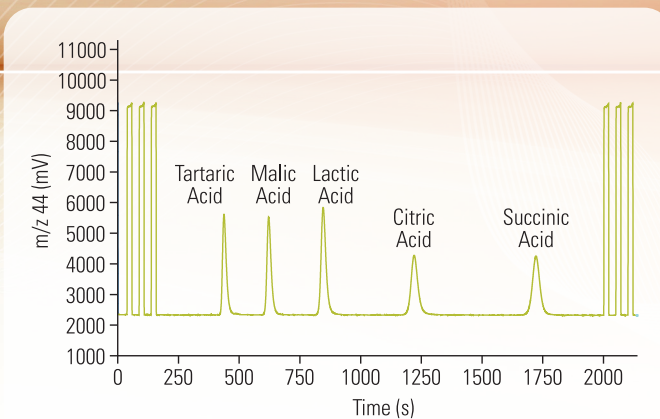
Amino acids and peptides are the building blocks of proteins. Their structure and metabolism are of major interest in metabolic, ecological and palaeodietary studies. Amino acids consistently show broad natural variations in their isotopic signatures. These naturally occurring isotope differences and labelling experiments can be used to give insight into amino acid metabolic pathways.



Carbon isotopic characterization of rRNA, either at the natural-abundance level or by addition of labeled compounds, can be used to determine trophic structure and carbon flow in microbial communities in a wide range of marine and terrestrial ecosystems.



Organic acids play an important role in various anabolic and catabolic processes of metabolic pathways in plants. Changes in the isotopic signature of organic acids can be important to understand the development of plant metabolism and to estimate the impact of environmental factors.



Beeline to your food integrity analysis

LC-IRMS is routinely applied in food authenticity investigations, of which honey authenticity control remains an important part. Honey is considered a value-added food of natural origin, yet its simply structured composition makes it prone to economically motivated adulteration by the addition of low-price invert sugar syrup. The next generation LC IsoLink II IRMS System provides a highly robust platform to address honey fraud using a globally recognized analytical technique that provides the unique carbon isotope fingerprints and the sugar profile of a honey sample within a single HPLC run.



Time saving

Simple sample preparation by dilution and filtration of honey.



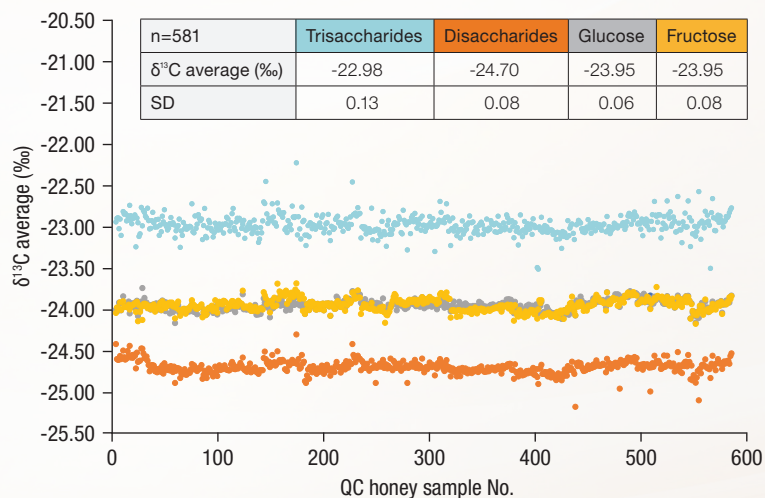
Cost-cutting

Robust system self-cleaning protocols for low maintenance.



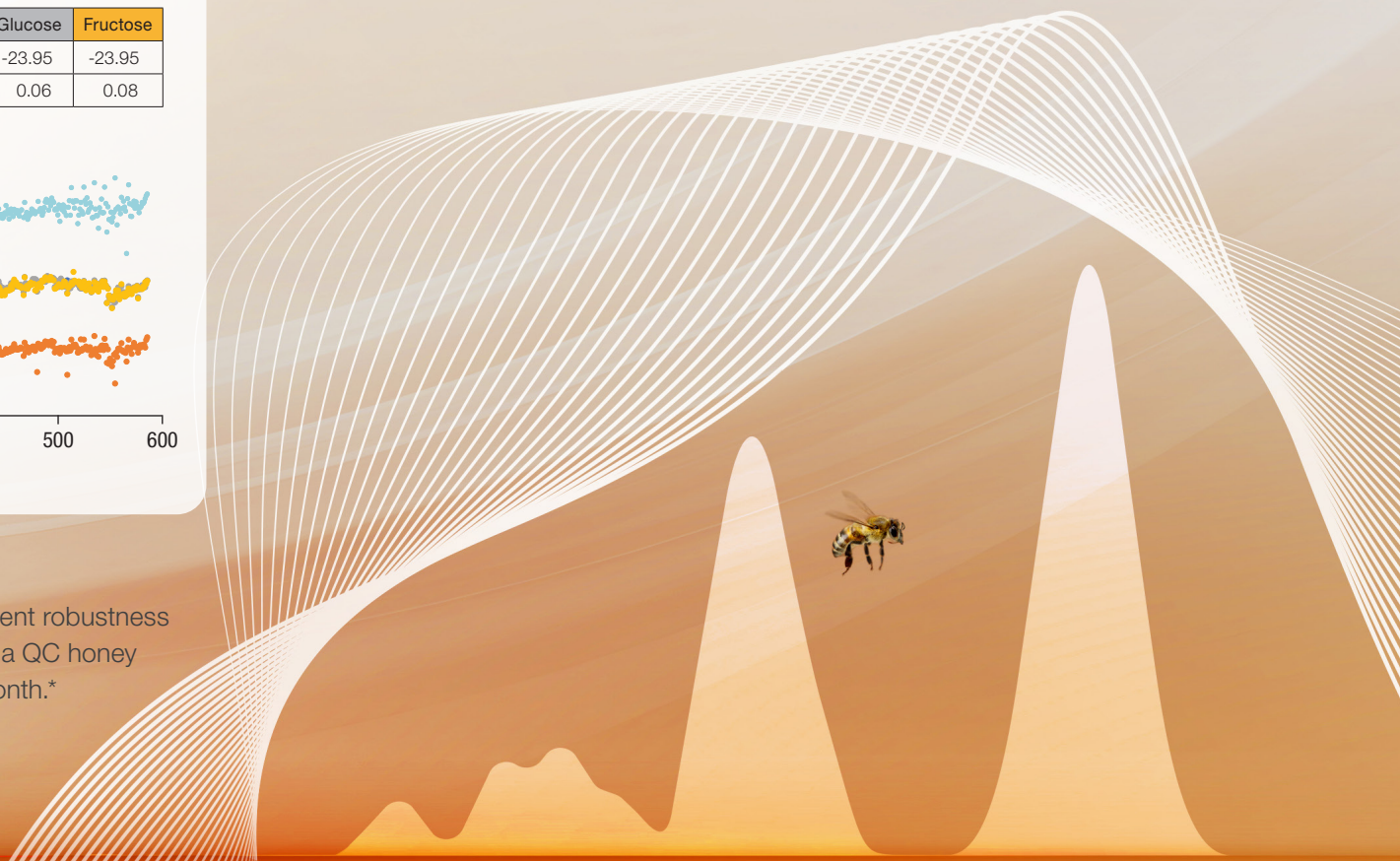
High efficiency

Software automation and templates for a quick start and 24/7 operation.



Long-term robustness and reproducibility

The LC IsoLink II IRMS System demonstrates excellent robustness and reproducibility of carbon isotope fingerprints of a QC honey laboratory standard repeatedly measured over 1 month.*



All day. Every day.

The patented backflush functionality, the new reactor design and the system automation driven by Qtegra ISDS Software provide exceptional efficiency and data quality for high-throughput analytical laboratories running honey fraud analysis. Integration with the Vanquish Core HPLC system simplifies system operation, providing a streamlined honey workflow for your laboratory.

Connectivity for origin and authenticity

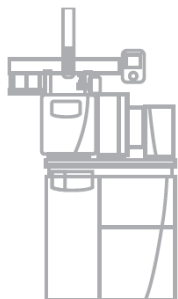
High throughput, unattended operation, and flexibility for demanding analysis is brought to laboratories through the Thermo Scientific™ DELTA™ Q IRMS and the connecting peripherals that are fully controlled by the Thermo Scientific™ Qtegra™ ISDS Software.



The Thermo Scientific™ EA IsoLink™ IRMS System is an automated, easy-to-use solution for isotopic analysis of carbon, hydrogen, nitrogen, sulfur and oxygen of bulk samples powered by chromatography driven technology with high sensitivity on small samples.



The Thermo Scientific™ LC IsoLink™ II IRMS System connects HPLC with IRMS, allowing sensitive, precise determination of $^{13}\text{C}/^{12}\text{C}$ ratios of polar compounds and bulk samples.



The Thermo Scientific™ GC IsoLink™ II IRMS System provides seamless solutions combining the separation power of capillary GC with IRMS with high sensitivity for the analysis of GC amenable compounds.



The Thermo Scientific™ GasBench Plus System facilitates automated preparation and analyses of headspace samples, including water equilibration, carbonates, and atmospheric gases.

 Learn more at thermofisher.com/lc-isolink

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