Stellar 1.1 Release Notes

These release notes list the new features of the Thermo Scientific™ Stellar™ 1.1 Instrument Control Software, the minimum hardware and software system requirements, provides details of resolved issues, and details of the known issues that exist in the software.

The instrument control software is used to collect high-quality mass spectrometry data and consists of the Tune and Method Editor application packages that enable control of the instrument.

- The Tune application continuously displays acquired mass spectra and sequentially reports observed values of various instrument parameters, indicating instrument status. It is used not only for viewing spectra but also for tuning and calibrating the instrument for maximum performance across various scan types, scan modes, ion polarities, scan rates, and resolution settings. Additionally, the application offers a range of diagnostics functions for troubleshooting, along with features for managing USB-connected devices, such as the external divert valve and syringe pump. It also supports report generation, allowing you to document the results of diagnostics, calibrations, and optimizations.

- In the Method Editor application, you can set up experiments using a full range of scan types, advanced filters, and conditional logic to design customized scan sequences for complex sample analysis. For example, a method might include a full scan followed by one or more filters and a data-dependent MS^n-level scan on a refined mass list. You can also choose your preferred fragmentation technique for MS^n scans. Additionally, the Method Editor application allows you to integrate peripheral device controls into your experiments. Methods created in the Method Editor application can be executed in high-level applications such as the Thermo Xcalibur™ data system.

For additional details, refer to the topics below:

- Features
- System Requirements
- Resolved Issues
- Known Issues

thermo scientific

Features

The Stellar 1.1 Instrument Control Software incorporates the following new and improved features:

- MS^2 compound optimization
- Chromeleon support and enhancements
- Automated Skyline importing
- Help file and manual installation improvements
- FAIMS validations and enhancements
- Instrument memory usage status
- Support for Chemyx Fusion100-X syringe pump
- Method visualization
- Multiple precursor ion fragmentation
- Multistage activation-neutral loss - tMS^n advanced
- Targeted mass trigger

System Requirements

The following table outlines the minimum hardware and software requirements.

> **NOTE**:
> - Local administrator privileges are required to install Thermo Scientific software.
> - Software testing was limited to the scope of the provided configuration.
> - The Chromeleon™ software compatibility matrix outlines verified compatibility between instrument control software versions, Chromeleon software versions, and instrument models.
>   For more information or to access the compatibility matrix, go to support.thermoinformatics.com/downloads/default.aspx, and select **Chromeleon → Chromeleon → Related Drivers → Driver Compatibility Matrix**.

Table 1   System requirements

System	Requirements
Computer	3.1 GHz Intel™ Quad-Core processor 16 GB RAM (32 GB recommended) 1 TB hard drive - Two Ethernet gigabit network ports - DVD-ROM drive - Monitor display resolution of 1920 × 1080
Software	- Microsoft™ Windows™ 10 Enterprise LTSC 2021 - Thermo Scientific™ software: - Foundation 3.1 SP10 - Xcalibur™ 4.7 SP1 - FreeStyle™ 1.8 SP2 QF1

Resolved Issues

The following table lists defects that were resolved in the instrument control software. Each entry includes an Item ID (an internal reference number) and a brief abstract description of the issue. These issues were addressed by engineering fixes and subsequently verified through follow-up testing by the product evaluation team.

NOTE: The information excludes Help-related issues and cosmetic fixes. In some cases, the abstract descriptions have been modified or expanded from the original reports to more accurately reflect the reported issues.

Table 2   Resolved issues

Item ID	Description
292845	Default AGC target range out of recommended range.
467524	Precursor Mass Range tooltip combines scenario of single entry and range entry.
443306	Instrument Setup low on memory error due to virtual memory of application limit of 2GB.
459959	Acquisition Server fail with multiple Dynamic Exclusion in branched series or parallel.
593273	Rtbin file with CV = 0 import will turn FAIMS off.
610218	Uninstallation failure due to .NET 8.0.
611531	Scheduled calibration will run 11:59 a.m. previous day if scheduled for 12 a.m. on first of month.
639996	Rtbin file too small to be used as for alignment.
647331	Adaptive RT failed to connect to glutamate.
779897	Stepped CE allows to get around hardware lower bounds on injection time.

Known Issues

Discrepancies in the software documentation are reported as known issues. The following items are not included in the list of known issues:

- Issues lacking sufficient information to reliably reproduce the reported problem.
- Software feature requests, regardless of their significance or severity. These requests are evaluated by the product management team for consideration in future releases.

NOTE: Follow these general recommended recovery guidelines, as applicable:
- Reinstalling the instrument control software or operating system should not be used as a general troubleshooting method.
- Restart the instrument control software to address general connectivity issues.
- Restart the data system computer to resolve issues encountered during data acquisition.
    – Devices showing an error state may also require a power cycle to restore normal operation.
- Contact Thermo Fisher Scientific Technical support for assistance, if needed.

The following table describes the terminology used to define the severity levels of known issues.

Table 3 Severity levels

Severity	Description
Critical	A critical issue that renders the system unusable, either due to the complete failure of a function with no available workaround or because continued use compromises data integrity or leads to data loss. Critical issues also encompass significant, non-obvious quantitative errors as well as any concerns related to human or instrument safety.
High	A serious issue that does not compromise data integrity—such as data loss, corruption, or incorrect results—but impacts the user's ability to use the product as intended. It may stem from a functional failure, design flaw, or a documentation error or omission. A workaround may not be available.
Medium	A minor issue or less-than-ideal behavior in a product feature, typically with an available workaround.
Low	An issue with minimal impact on use of the product; including defects so subtle that users may never notice them, as well as ease-of-use concerns or other items that do not affect performance.

The following table lists the known issues in the instrument control software. Each entry includes an Item ID (an internal reference number), severity level, and a brief abstract description of the issue. Some issues include a remedy, if applicable.

Table 4 Known issues

Item ID	Severity	Description
632770	Low	Stellar instrument manual link in Xcalibur does not work. **Remedy:** Open the Stellar manuals from the Thermo Instruments location.
633821	Medium	Unable to start Auto-Ready when NanoSpray Flex and FAIMS Duo is connected. **Remedy:** Reboot MS electronics.
394760	Medium	Importing CSV columns do not match warning due to Windows auto-save as ANSI. **Remedy:** Save CSV as text or non ANSI CSV.
493678	Medium	If Calibration or Check procedure is shorter than 10 minutes, the syringe will not automatically stop flowing. **Remedy:** Manually turn off the syringe.
639287	Medium	Auto-Ready status is missing from readbacks on a clean installation. **Remedy:** Reboot PC.
805140	Medium	Method Editor: Estimated Cycle Time experiment visualization does not account for FAIMS changes. **Remedy:** None.
824693	Medium	Method Editor: Copy/Paste of nodes from method to method shall not be allowed. **Remedy:** None.

Item ID	Severity	Description
825446	Medium	Targeted Mass Trigger: When RT window is greater than experiment time, method saves as invalid and runs experiment. **Remedy:** Match RT windows and experiment times.
825450	Medium	Method Editor: tMS^3 with Neutral Loss spectra has unexpected high intensity peaks - user needs to be informed. **Remedy:** Do not run tMS^3 scans method with multiple precursors in Stage 1 and neutral loss.