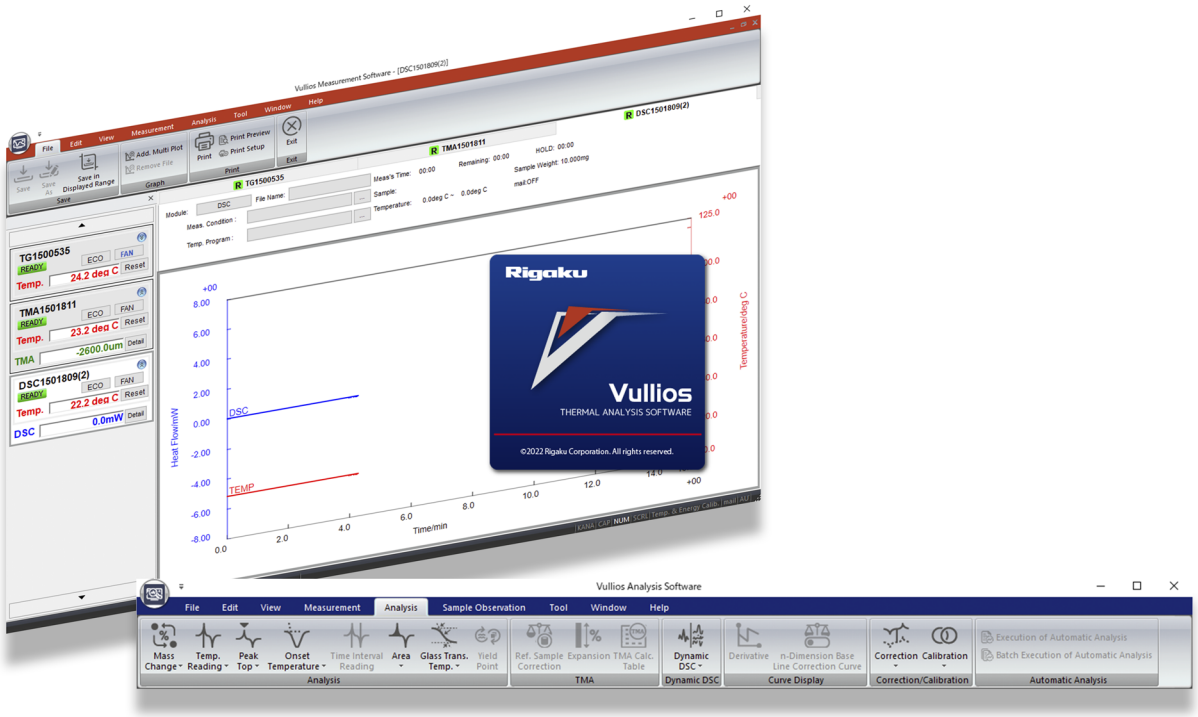
Updated Software Wrapped in a Newly Designed Interface-Thermal Analysis Measurement and Analysis Software

—Vullios—



1. Introduction

Measurement and analysis software is the crucial interface between the user and an analyzer. Its ease of operation affects how efficiently users achieve their goals. In pursuit of better usability and improved functionality, Rigaku has developed a new measurement and analysis program called "Vullios."

2. Design

2.1. Launcher management

Vullios Launcher displays the software required for thermal analysis on a list screen, allowing users to launch software without having to search for shortcut icons scattered across the desktop.

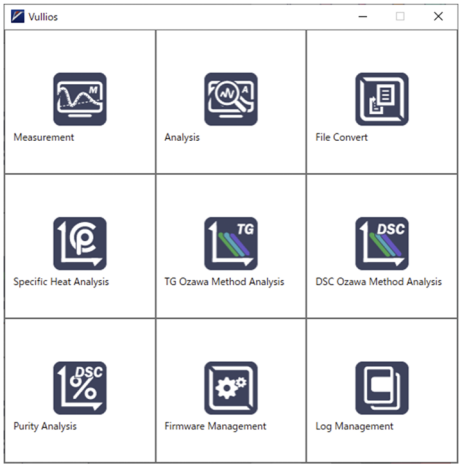


Fig. 1. Vullios Launcher.

2.2. Selection using ribbon menu

Vullios adopts a new ribbon menu, such as the one used in Microsoft Office®, a product of Microsoft Corporation. Using this familiar interface makes

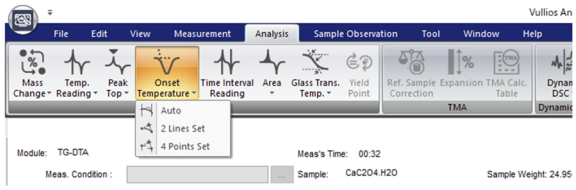


Fig. 2. Ribbon menu

operating the software easy even for first-time users.

The arrangement and order of the components in the ribbon menu are the same as in the previous program, Thermo Plus EVO2. This allows Thermo Plus EVO2 users to easily find the necessary menu items.

3. Measurement Screen

3.1. Measurement method

Measurement conditions, temperature programs, and sample observation conditions can now be managed as a single measurement method file. When the same measurement conditions are used repeatedly for a series of sample measurements—for example, in quality control—invoking the same method file allows users to perform the same measurements.

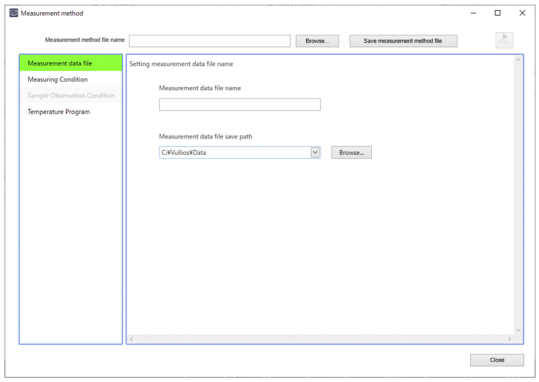


Fig. 3. Measurement method screen.

3.2. Automatic sample changer setting screen

The automatic sample changer settings in Vullios allow users to freely select the order in which the samples placed on the tray are measured. The tray no longer needs to be organized in the order of measurement. Users can simply place samples in empty tray positions and specify the order of measurement on the setting screen. For example, the setting screen in Fig. 4 is configured to measure samples in the following order of tray numbers: 1→3→8→1→5. The same sample can be reheated by specifying the same tray number a second time, and the reheating measurement can be performed using a different temperature program than the initial one. In addition, when the number of samples to be measured is large, measurements can be performed continuously up to 1000 times by replacing already measured samples with new ones.

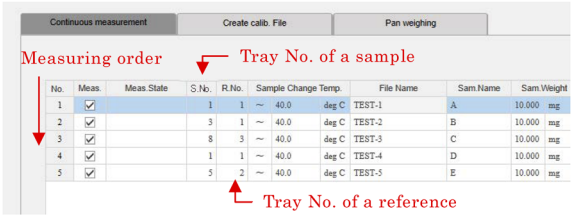


Fig. 4. Automatic sample changer setting screen.

4. Analysis Screen

4.1. Zooming in/out by mouse scrolling

Clicking on an axis or curve enables users to zoom a graph in/out using the mouse scroll wheel. The cursor is the center of the zoomed view. Depending on the cursor position, it is possible to change only the selected axis of the curve or both the vertical and horizontal axes.

4.2. Automatic analysis

Automatic analysis of measured data is possible by creating an automatic analysis condition file (Fig. 5) that specifies analysis items and analysis range. The following three methods are available for automatic analysis:

(1) Setting an automatic analysis condition file in the measurement method and performing automatic analysis after the end of the measurement.
(2) Performing automatic analysis of the measured data on the analysis screen.
(3) Performing automatic analysis of multiple selected measured data at once.

The results of the automatic analysis can be printed out or output to Excel®. If the analysis parameters and temperature range for the analysis of measurement results are predetermined, automatic analysis can significantly improve work efficiency.

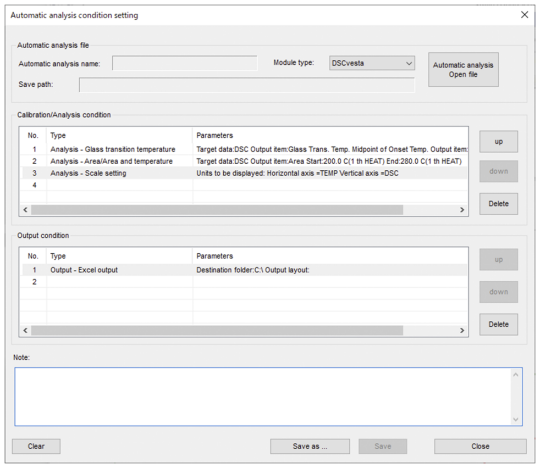


Fig. 5. Automatic analysis conditions setting screen.

5. Summary

Vullios offers a revamped design with a new user interface for more intuitive measurement and analysis. The layout of the operation buttons and other elements

implements the layout of the menu bar of Thermo Plus EVO2, so it is intuitively easy to use for past Thermo Plus EVO2 users.

As for functionality, we have improved the functions of the automatic sample changer, added a new function for zooming graphs in and out by scrolling the mouse wheel, and implemented an automatic analysis function, among other functions requested by our many users. We plan to add even more functions in the future.

Users of the Thermo Plus EVO2 series thermal analyzers (with control PCs running on Windows 10) can take advantage of the refurbished usability and new functions by purchasing Vullios only.