Enjoying the benefits of rapid resolution: Agilent 1200 Series RRLC system is fully controlled by Agilent EZChrom Elite

Supported modules and new features of EZChrom Elite 3.3

Technical Note

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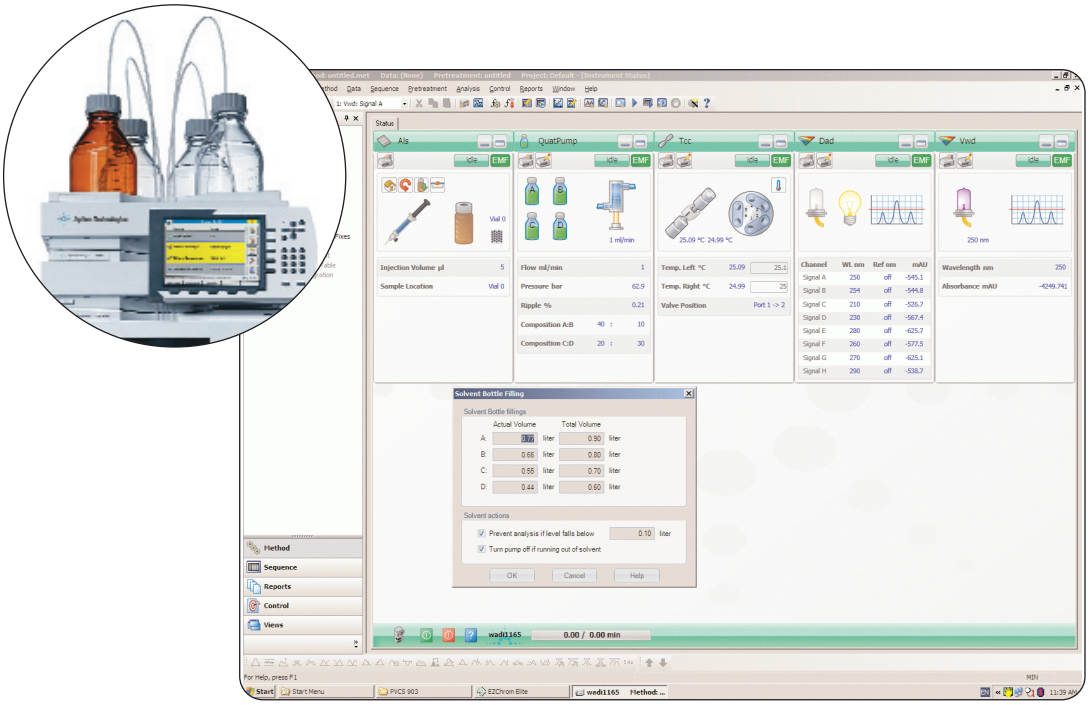

Abstract

EZChrom Elite version 3.3 features full control of the Agilent 1200 Series LC and Agilent 1200 Series SL LC systems. EZChrom Elite is the compliant, scalable, multivendor instrument control software from Agilent Technologies. Besides supporting all functions of the Agilent 1200 Series Rapid Resolution LC (RRLC) system, it provides an interactive instrument status view and a user interface to add samples to a worklist. EZChrom Elite is also available in Japanese and Chinese for local users.

Agilent Equipment

- Agilent 1200 Series RRLC system
- Agilent EZChrom Elite

Agilent Technologies

Introduction

EZChrom Elite is the scalable software solution from Agilent Technologies for compliance and multivendor support. Use of a single software package for as many applications as possible helps to reduce training costs of operators, diminishes the need for multiple upgrades, lowers IT efforts, and enables comparability of results.

This Technical Note describes which modules and functions of the Agilent 1200 Series RRLC systems are now controlled by EZChrom Elite 3.3 software, as well as additional new features that are available.

For example, EZChrom Elite provides an interactive instrument status view, where instrument setpoints can be changed quickly without updating the full method. A full-color view shows information such as the run state of each LC module. A walk-up sample entry screen facilitates adding samples to the run queue, which is especially useful for routine repetitive sample analyses.

Latest EZChrom Elite provides more control and status feedback

1. More functionality in instrument setup

The instrument setup dialog has a new layout and portrays many more functions than were previously available in EZChrom Elite. Table 1 lists all supported additional 1200 Series modules, including the advanced options.

Module		Options
Pumps		• Seal wash option
G1310A	(Isocratic)	• Contact closure board
G1311A	(Quaternary)	• >1 pump per configuration
G1312A/B	(Binary)	• Binary solvent selection valve
		• Solvent compressibility tables
Samplers		• Contact closure board
G1329A/B, G1313A	(Std ALS)	• Rinse valves
G1367A/B/C	(Well-plate ALS)	• Thermostats
G1377A	(Micro well-plate)	• Micro well-plate configuration
G1389A	(Micro ALS)	• Overlapped sample injection
Detectors		• Contact closure board
G1314A/B/C	(VWD)	
G1315A/B/C/D	(DAD)	
G1365A/B/C	(MWD)	
G1321A	(FLD except 3D)	
G1362A	(RID)	
Column Compartments		
G1316A/B		• Switching valves

Table 1
Supported Agilent 1200 Series RRLC modules with EZChrom Elite 3.3.

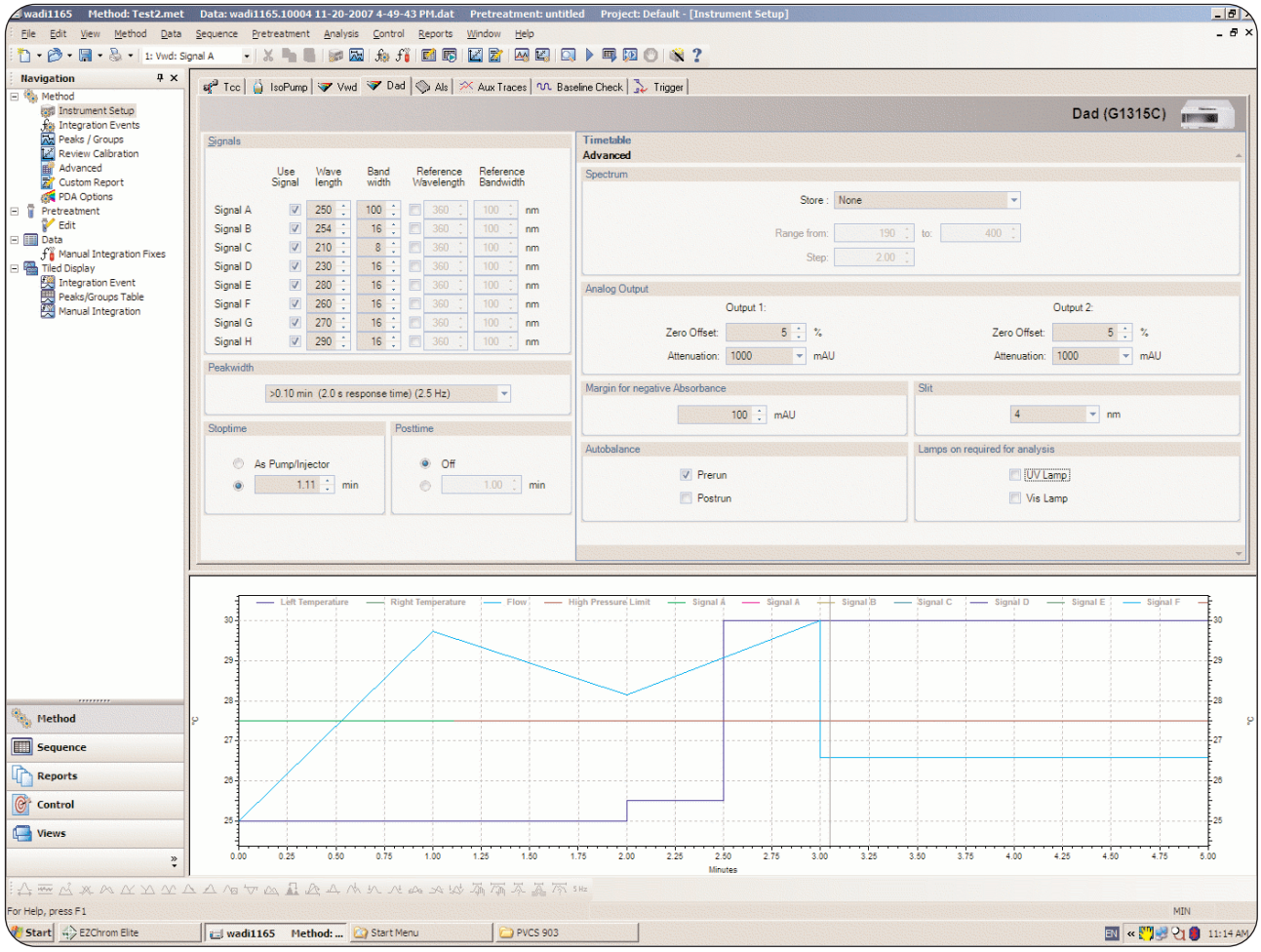

Figure 1
Instrument Setup maintains the same structure as previous EZChrom Elite versions, but enables entry of many additional module settings. For example, under *Peak Width* in the DAD tab, high sampling rates can be defined.

EZChrom Elite can now control more than one pump per system, and supports higher sampling rates of the Agilent 1200 Series diode-array detector (DAD). On the sampler, the overlap injection function is also available.

2. Advanced Instrument Status View for rapid change of setpoints

The Advanced Instrument Status View enables users to quickly assess the status of each LC module. It is smoothly integrated in the software in a scaled, resizable window. The user can choose between the *Basic View*, which displays basic parameters and colors for each module, and a *Detailed View*.

It is possible to enter setpoints for the instrument directly in the view. These will be transmitted to the hardware, but will not change the method. This is useful when, for example, the flow must be changed quickly. Double-clicking a module parameter opens a dialog where all related parameters can be edited. For example, in a quaternary pump, clicking on the percent value of one

solvent will open the composition dialog for the four solvents, enabling direct editing in one user action.

It is also possible to access the instrument method dialog from this view. Clicking on the *pencil graphic* of a module lets users open the method dialog, where parameters are saved as part of the method.

3. Color coding of run states of the modules

Due to the sophisticated communication capabilities of Agilent hardware modules, the current status of each module is always shown in the EZChrom Elite software. The color denotes the status of each module.

Figure 3 shows an example of modules that are in different run states. The user can see which modules are available for measurement, as well as which modules are not yet ready (when, for example, the column compartment is still heating or the lamps are igniting). This online monitoring can even be done from a remote PC.

Green denotes the idle/ready state, yellow the not-ready state (for example, when lamps are still igniting), and red an error. Additionally, purple means that the module is in the pre- or post-run state, and blue indicates the sampler is injecting.

The *module status* is also spelled out in the box beside the Early Maintenance Feedback (EMF) button.

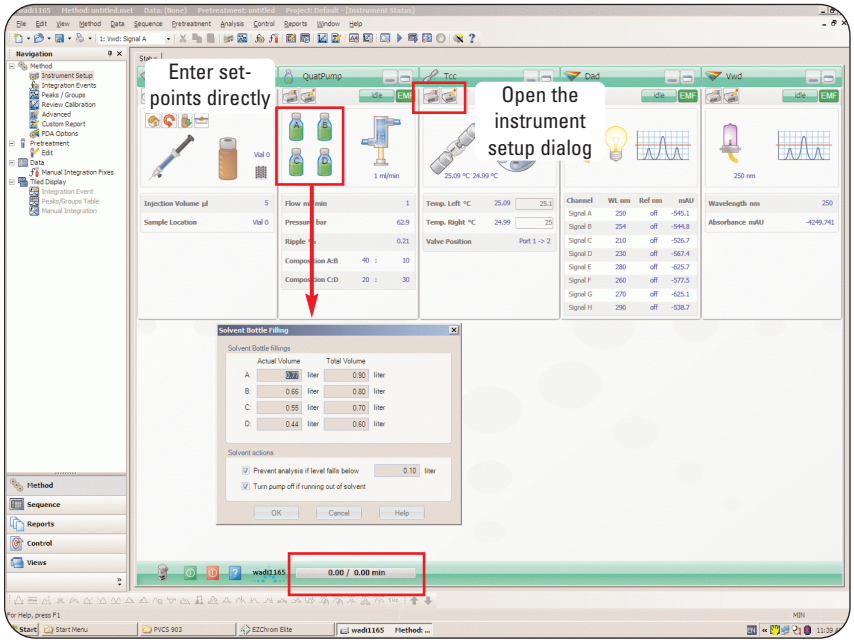

Figure 2
Advanced Instrument Status View of EZChrom Elite.

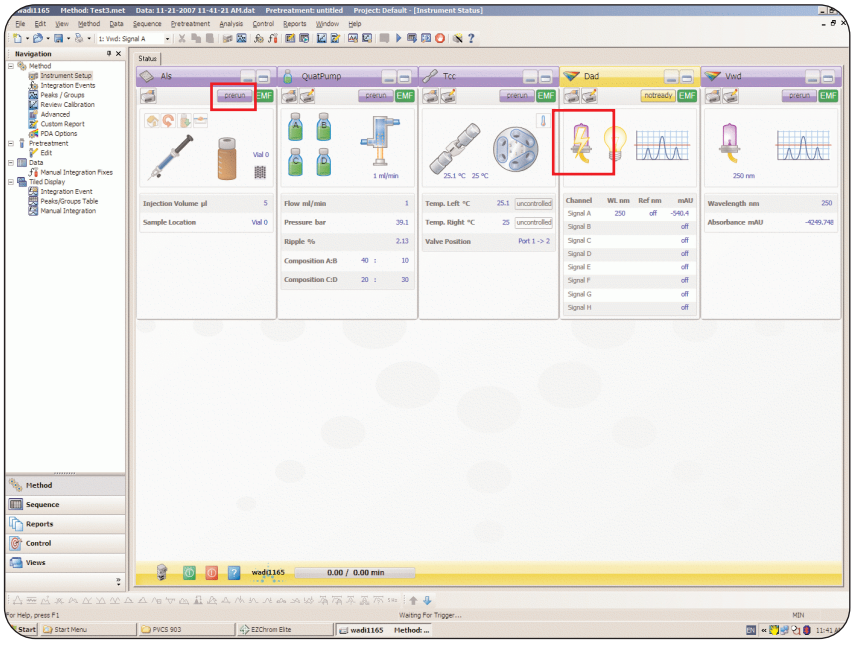

Figure 3
In the instrument view, the DAD UV lamp is igniting, whereas the other modules are in pre-run state.

4. Sophisticated diagnostic functions
Should an error occur within a module, EZChrom Elite can directly display information on the cause of the error and can help with troubleshooting.

The user can move the mouse over the Early Maintenance Feedback (EMF) button of the respective module. In the hover box, the error message is displayed.

When used in combination with the Agilent Lab Monitor & Diagnostic (LMD) software, the user can click the EMF button and the respective LMD message will appear. In the example in figure 4, a warning states that the lifetime of the UV lamp is exceeded. Furthermore, when using the advanced version of LMD, the software can suggest how to repair the instrument and how to eliminate such malfunctions in the future.

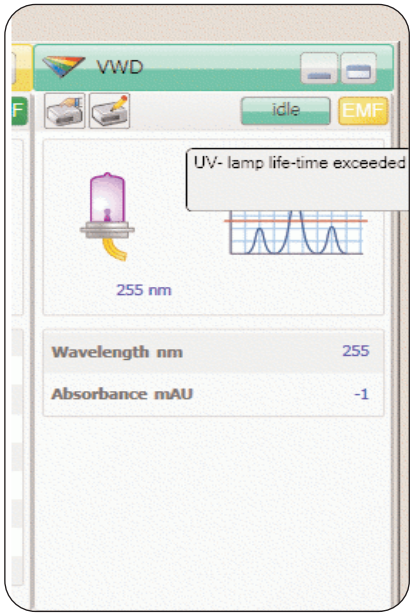

Figure 4
The EMF button displays warnings when preset limits in the LMD software are exceeded. In this case, it is the lifetime of the UV lamp.

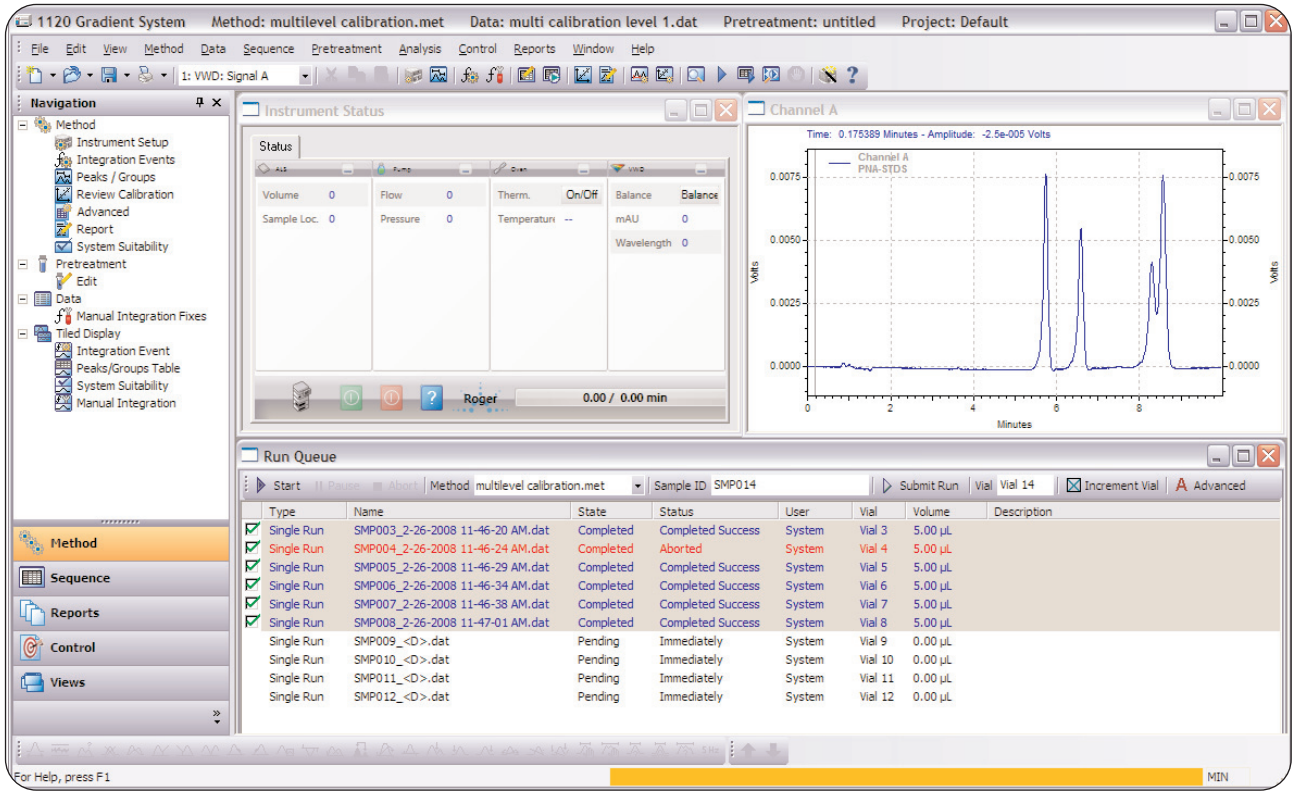

Figure 5
This Worklist View enables users to submit samples in a worklist, and gives online information on status and method.

5. The Worklist View for submission of high-priority samples

The *Worklist View* enables users to submit samples in a worklist, which gives the user greater flexibility. New samples can be added to or deleted from the worklist, and the order of samples can be changed. When an urgent sample is submitted, the priority can be easily changed to give this sample highest priority. At the same time, the *Worklist View* shows all relevant information on the loaded method with each run, who submitted the sample, and when the run will be finished.

Summary

The Agilent 1200 Series RRLC system is fully controlled by EZChrom Elite version 3.3, the scalable software solution from Agilent Technologies for compliance and multivendor support.

Additionally, EZChrom Elite provides an interactive instrument status view, where instrument setpoints can be changed quickly without updating the full method. A full-color view shows information about the status and availability of each module. In the *Data Analysis View*, an additional interface facilitates adding samples to a worklist. This is especially useful for emergency samples.

All this makes EZChrom Elite the choice for customers working in a multivendor environment who need full control of the Agilent 1200 Series RRLC system.

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