

Quick Guide MARS Data Analysis Software

Open the MARS Data Analysis Software

1. Manage Test Runs

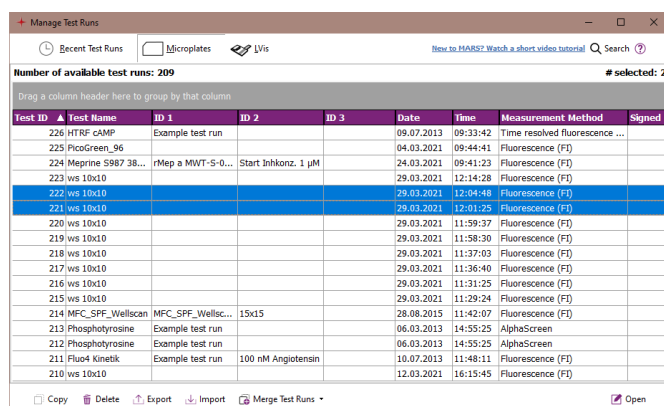
- Click **Open Last Test Run** button to open the last performed test run in MARS.
- Alternatively click the **MARS** button to start the MARS Data Analysis Software.

2. In the Open Test Runs Window:

- Click the test name and select the operation which shall be performed.

Note:

- The **Export** function will create a .RUC MARS file.
- The **Import** function can be applied only with .RUC files.



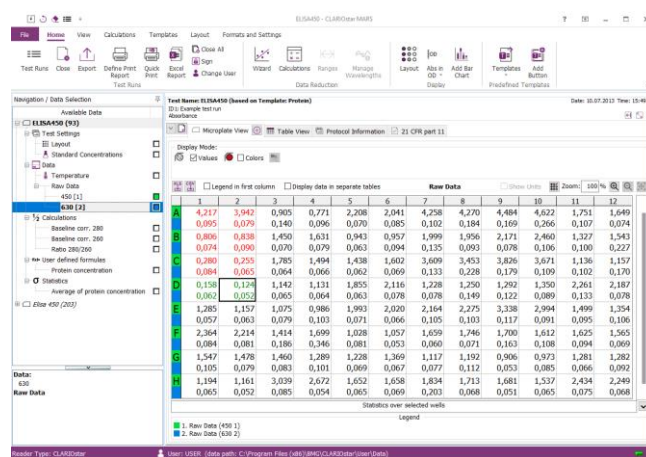
Test ID	Test Name	ID 1	ID 2	ID 3	Date	Time	Measurement Method	Signed
226	HTRF CAMP	Example test run			09.07.2013	09:33:42	Time resolved fluorescence ...	
225	PicoGreen_96				04.03.2021	09:44:41	Fluorescence (FI)	
224	Meprine S987 38...	rMep a MWT-S-0...	Start Inkhonz, 1 µM		24.03.2021	09:41:23	Fluorescence (FI)	
223	ws 10x10				29.03.2021	12:14:28	Fluorescence (FI)	
222	ws 10x10				29.03.2021	12:04:48	Fluorescence (FI)	
221	ws 10x10				29.03.2021	12:01:25	Fluorescence (FI)	
220	ws 10x10				29.03.2021	11:59:37	Fluorescence (FI)	
219	ws 10x10				29.03.2021	11:58:30	Fluorescence (FI)	
218	ws 10x10				29.03.2021	11:37:03	Fluorescence (FI)	
217	ws 10x10				29.03.2021	11:36:40	Fluorescence (FI)	
216	ws 10x10				29.03.2021	11:31:25	Fluorescence (FI)	
215	ws 10x10				29.03.2021	11:29:24	Fluorescence (FI)	
214	MFC_SPF_Wellscan	MFC_SPF_Wellsc...	15x15		28.08.2015	11:42:07	Fluorescence (FI)	
213	Phosphotyrosine	Example test run			06.03.2013	14:55:25	AlphaScreen	
212	Phosphotyrosine	Example test run			06.03.2013	14:55:25	AlphaScreen	
211	Fluo4 Kinetik	Example test run	100 nM Angiotensin		10.07.2013	11:40:11	Fluorescence (FI)	
210	ws 10x10				12.03.2021	16:15:45	Fluorescence (FI)	

2. Calculations

- Click the **Calculations** button.
- Data corrections e.g. **blank** or **negative control corrections** can be performed in the part of the **Calculations** menu.

Note: These corrections require pre-defined **Blanks**, **Negative** and/or **Positive Controls** in the plate layout!

- Statistics operations e.g. Standard Deviation, %CV, Average, etc. can be performed in the part of the **Calculations** menu. The appropriate input data can be selected in the **Input Data** field.
- Basic arithmetic operations e.g. subtraction or division of data can be performed in the **Data Calculation** part of the **Calculations** menu.



Data Analysis and Calculation

1. Basic Operations

- Select the data to be displayed in the working area from the **navigation tree** on the left side of the main window.
- Use the **Excel Report** button for the export of data to Microsoft® Excel.

Note: Only data activated (checked) in the navigation tree will be exported!

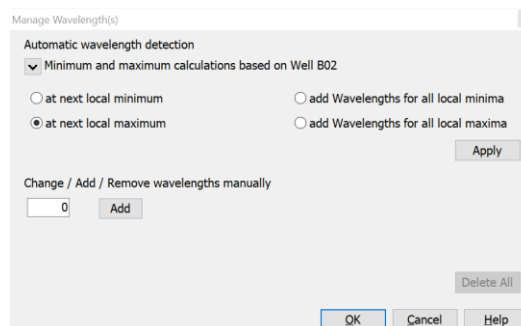
- Use the standard **Calculation Wizard** to perform curve fit calculations.

Note: Standard curve calculations require pre-defined standard wells and standard concentrations in the plate layout!

- The plot of the standard curve is displayed in the **Standard Curve** tab menu.
- The back calculated **concentrations** are displayed in the **Microplate View** and the **Table View** tab menus.
- Use the **Layout** button for editing of the plate layout and standard concentrations.

3. Manage Wavelengths

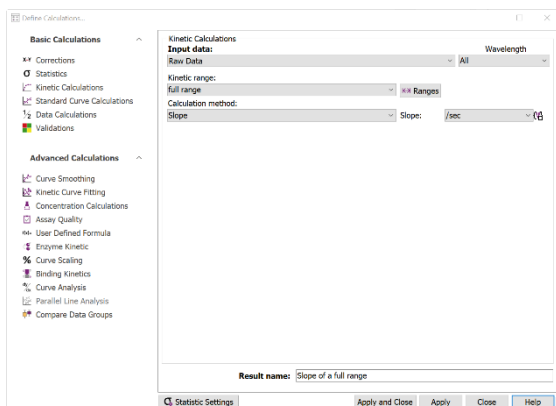
- For the displaying of spectral curves in absorbance or fluorescence scans, **double-click on the well** of interest in the **Microplate View** tab menu. The respective **spectral curve** will be opened in the **Spectrum** tab menu.
- Click the **Manage Wavelengths** button for the automatic identification of **minima / maxima** in the curve or **manual selection** of single wavelengths.
- The **fluorescence** and/or **absorbance spectra** can also be used as input data for the **Data Calculations** dialogue described in the section 2.



The 'Manage Wavelength(s)' dialog box is shown. It has a title bar 'Manage Wavelength(s)' and a subtitle 'Automatic wavelength detection'. The main content area has a checkbox 'Minimum and maximum calculations based on Well B02' which is checked. Below this are two radio buttons: 'at next local minimum' and 'at next local maximum'. To the right of these are two checkboxes: 'add Wavelengths for all local minima' and 'add Wavelengths for all local maxima'. There is an 'Apply' button to the right of the checkboxes. Below the radio buttons is a section 'Change / Add / Remove wavelengths manually' with a text input field containing '0' and an 'Add' button. At the bottom right are 'OK', 'Cancel', and 'Help' buttons.

4. Kinetic Calculations

- Check the **Values** and / or **Kinetic Curves** boxes in the **Microplate** tab menu. Kinetic data will be displayed as **single values** for a selected time point, as a **signal curve** over the entire kinetic interval, or both.
- Select wells of interest by clicking on them and go to the **Signal Curve** tab menu. The signal curves with defined kinetic ranges of selected wells will be displayed here.
- For performing kinetic calculations click the **Kinetic Calculation** button in the **Calculations** menu.
- Select **Input Data** and the kinetic range which shall be used for the calculation in the **Kinetic range** drop down menu.
- Adapt an existing kinetic range or create a new one in the menu.
- Select the **operation** which shall be applied with the kinetic data within the selected range in the **Calculation method** drop down menu.



HELP Function

- The MARS software offers a content-sensitive Help function. Click the **F1 button**. Depending on the **active dialogue or menu** the respective part of the **Help Manual** will be displayed.

