Quick Guide MARS Data Analysis Software

Open the MARS Data Analysis Software

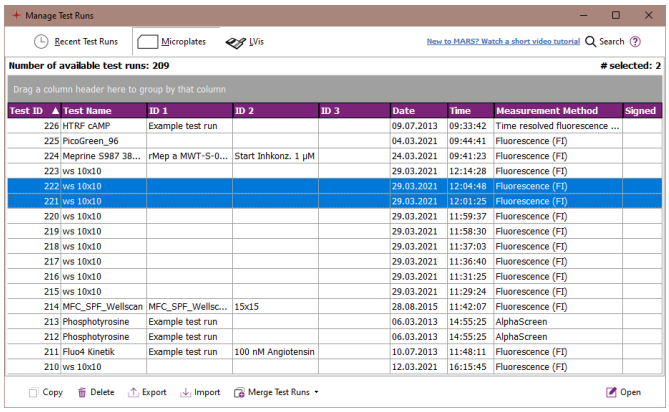
1. Manage Test Runs

- 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.



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.

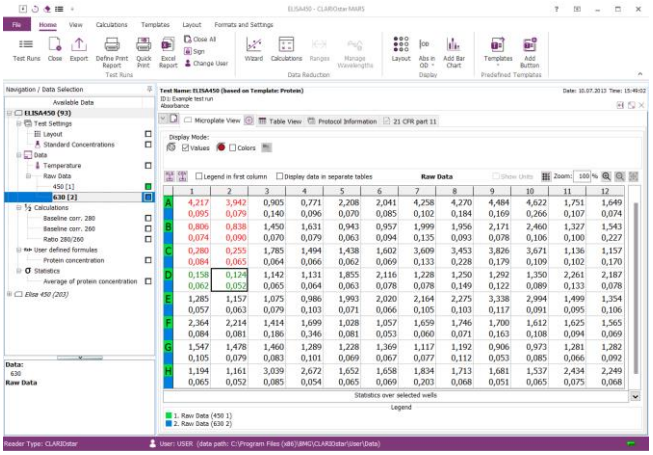
  Note: Only data activated (checked) in the navigation tree will be exported!
- Use the standard **Calculation Wizard** to perform curve fit calculations.

  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.

2. Calculations

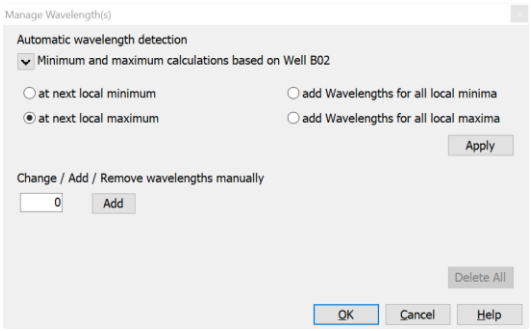
- Click the **Calculations** button.
- Data corrections e.g. **blank** or **negative control corrections** can be performed in the part of the **Calculations** menu.

  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 appropriative 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.



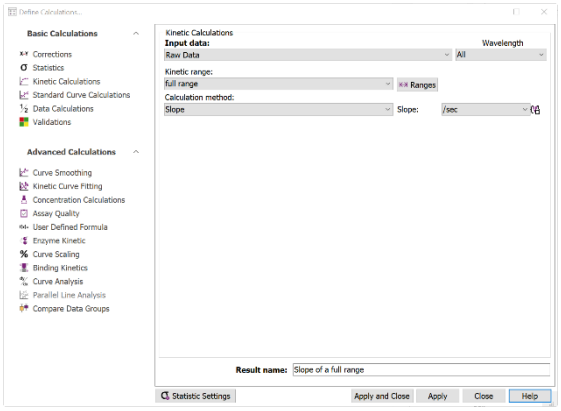
3. Manage Wavelengths

- 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.



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 klick 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.