Setting up protocols with the VICTOR:

Contents:

Please see the sections of your User manual dealing with Protocol editing. You can also get the same information from Help - Help Topics - Protocol Editing. If you need to order a User manual, it is part number 1420-922.

Protocol for Absorbance

To set up a protocol, first determine what filters you need and confirm you have them in the hardware and software. Then, create a label that uses that filters. Create a protocol that uses that label. Details follow...

To see if you have the filter you need, open the manager and go to Tools-Filters. Look in the excitation wheel for the filters you need. If you don't have one, you can order it and install it.

Please see the sections of your User manual dealing with Filters, especially "CW-Lamp Filters" "Filter Slides."

Create a label under Tool-Labels. Make a copy of an existing Photometry label, give it a new name and edit it. Here you will select the filter to use, as well as properties of the measuring, such as aperture and count time. (If the filter you need does not appear in the drop-down choices, go back to Tools-Filters and make sure your filter is prepared correctly in the software and the box is checked to make it available for photometry.)

Photometry

A reference measurement is made before the plate is moved to the measurement position. This enables the absorbance to be calculated.

The parameters that can be set for photometry are the following:

Protocol name

This is the name by which the protocol is identified. A password can be associated with it to prevent parameters being changed by an unauthorized person.

Absorbance mode

Select whether you want visible light or ultraviolet absorbance.

Flash Lamp Filter

These option buttons are only enabled if UV absorbance mode is selected. Select the wavelength of the filter you want. The filter will ensure that only UV light of the selected wavelength is used for the absorbance measurement. The UV photometry filters P280 and P260 have their transmittance peaks at 280 nm and 260 nm respectively.

CW-Lamp filters

You can select the CW-lamp filter from the drop-down list of available filters. See the topic on Filters for more information about how to define filters.

Factory pre-set CW-lamp filter names begin with a letter indicating the technology for which they are to be used:

P is for photometry. After the letter comes the wavelength.

Excitation aperture (Wallac 1420-040/041 only)

There are three sizes of excitation aperture controlling the size of the incident light beam. You can select with the option buttons Small, Normal or Large. Normal is the default.

Reading time

This parameter determines how long the sample is read to determine the absorbance.

Second measurement

In the case where you want to make measurements with two filters, you can click this check box and then set the parameter CW-Lamp filter - It has the same options as the parameter with the same name above. When you select this, two measurements are made, the first with the normal settings and the second with this new setting. The change is automatic.

To edit a protocol, make a copy of an existing factory-made Photometry protocol and paste it into the User folder. You can give it a new name and edit it from there. Here you will tell the software what label to use, what wells to read, whether to shake and other directions for the assay.

Protocol for Fluorescence

To create a protocol for fluorescence, you need to first determine what filters you need and confirm you have them in the hardware and software. Then you create a label that uses those filters. Then create a protocol that uses that label.

To see if you have the filter you need, open the manager and go to Tools-Filters. Emission Filters tab lists the emission filters available to choose for your label. Click the CW-Lamp Filters tab. These are the excitation filters available to choose for your label. Click the Click the Filter Slides tab to see what filters have been installed.

If you don't have a filter you need, you can order it and install it. Please see the sections of your User manual dealing with Filters, especially "CW-Lamp Filters" "Filter Slides."

Create a label under Tool-Labels-Fluorometry. Either make a "Copy" of an existing label, give it a new name and edit it or create a completely new one by clicking "Add.". There you will tell the software which filters to use for that label. Here you will select other properties of the measuring, such as aperture and counter position.

Labels

Note: In the enhanced security mode this tool is enabled only for users who belong to the Editor user group.

In this window there are tabs corresponding to the measurement technologies (labels) installed in the instrument. Each tab includes the names of the currently defined labels. Names of user defined labels can be freely defined by the user but names of factory preset labels cannot be changed. See the sections below for details.

There are four buttons at the bottom of the labels window:

Add - add a new item to the list. Give the name and edit the properties.

Copy - (select an item to activate this). Make a copy of an item. It will appear with a new icon showing it is different from a default item, and the name will be preceded by the words "Copy of". You can give it a different name and edit other parameters by selecting Properties.

Remove - (select a user created item to activate this). Remove the selected item from the list. Preset items and labels used in protocols cannot be removed. This command requires confirmation because you cannot undo Remove.

Properties - (select an item to activate this). View the properties of the selected item. If the item is user defined then you can edit the properties, but if it is a factory pre-set, you cannot edit them.

To create or edit a protocol, go to Explorer and select a Wallac protocol that is close to what you want. These have a lock on them and can't be edited.

Make a copy of this existing factory-made Fluorometry protocol by right-click "Copy" and paste it into a User folder. You can give it a new name and edit it from there. Here you will tell the software what label to use, what wells to read, whether to shake and other directions for the assay.

Protocol for Luminescence

To create a protocol for luminescence, you need to first determine what filters you need and confirm you have them in the hardware and software. Then you create a label that uses those filters. Then create a protocol that uses that label.

To see if you have the filter you need, open the manager and go to Tools-Filters. CW-lamp filters are for excitation and are not needed in luminescence. Emission Filters tab lists the emission filters available to choose for your label. Click the Click the Filter Slides tab to see what filters have been installed.

If you don't have a filter you need, you can order it and install it. Please see the sections of your User manual dealing with Filters, especially "Filter Slides."

Create a label under Tool-Labels-Luminescence. Make a copy of an existing label, give it a new name and edit it. There you will tell the software which filters to use for that label. Here you will select other properties of the measuring.

Luminescence in the sample is detected.

The parameters that can be set for luminometry are show in the picture and described below.

Protocol name

This is the name by which the protocol is identified. A password can be associated with it to prevent parameters being changed by an unauthorized person.

Emission filters

You can select the emission filter from the drop-down list of available filters. See the topic on Filters for more information about how to define filters.

Factory preset emission filter names begin with a letter indicating the technology for which they are to be used:

L is for luminescence. After the letter comes the wavelength.

Emission aperture

In front of the photomultiplier tube there is a 4-position aperture slide, which has three different apertures and a shutter position.

The normal aperture is circular with a diameter of about 4 mm and it is used for factory set labels.

The small aperture is circular but only 1 mm in diameter. This allows you to shift the dynamic range of the emission signal for a particular user selected label which may otherwise exceed the linear range of the instrument. This aperture is used for the top fluorometry factory-set labels.

There is also a large circular aperture 5 mm in diameter.

The shutter is used at all times when no measurement is occurring to prevent stray light getting to the photomultiplier tube.

Counting time

This parameter determines how long the luminescence is counted for.

Second Measurement

In the case where you want to make measurements with two filters, you can click the Second measurement check box and then set this emission filter. It has the same options as the normal emission filter. When you select this, two measurements are made, the first with the normal settings and the second with this new setting. The change is automatic.

To edit a protocol, make a copy of an existing factory-made Luminescence protocol and paste it into the User folder. You can give it a new name and edit it from there. Here you will tell the software what label to use, what wells to read, whether to shake and other directions for the assay.