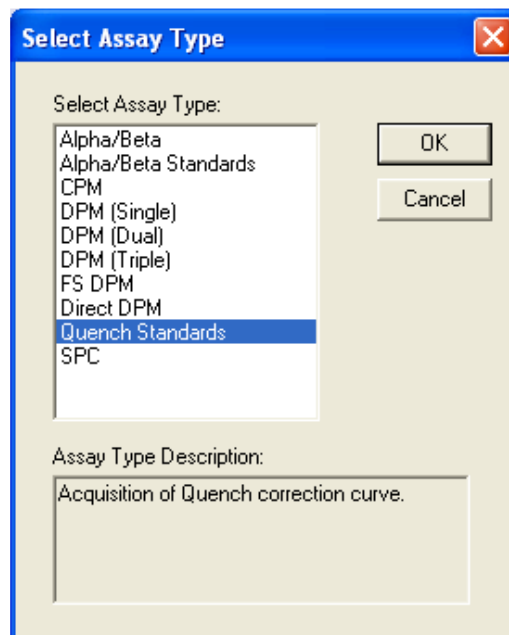# 19 steps to install quench correction curves using QuantaSmart™ software on Tri-Carb scintillation counters

Step 1   From the QuantaSmart™ desktop click on **File**

Step 2   Click on **New Assay**. This screen will appear

Step 3   Click on **Quench Standards**

www.dpmsolutions-web.co.uk

This screen will be displayed – **Assay Parameters**

(Note that the screen has folders at the top. Use the mouse to move between folders. If you use the Enter or OK key the assay will immediately move to the Save As situation and you will not be able to enter any more information.)

Step 4 & 5   Enter **Author** and **Description**
(usually your name and the date and what type of quench standards)

The description may be for example:-

Step 4   Author: Simon Temple
Step 5   Assay Description: 14C High Flash Point quench set used

The screen will then look like this:

Step 6   Click on the folder at the top **Count Conditions**
(note: if you click on the Count Conditions folder without adding an author or assay description you will not be able to return to the Assay Parameters folder until you save the assay)

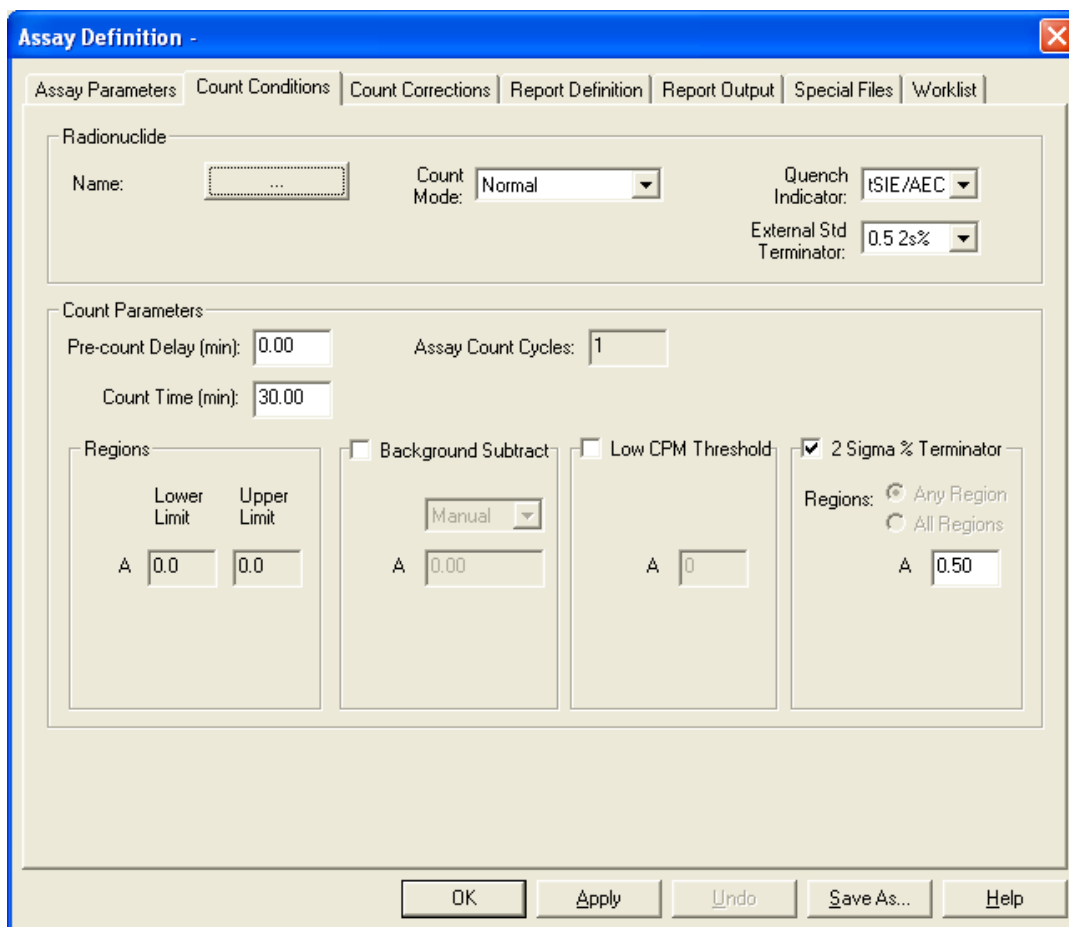The folder **Count Conditions** will be displayed

The next step is to install the **Name** in the Radionuclide in use

Because this is the Quench Standards assay clicking the button will take you to the library of quench standards shown on the next screen shot

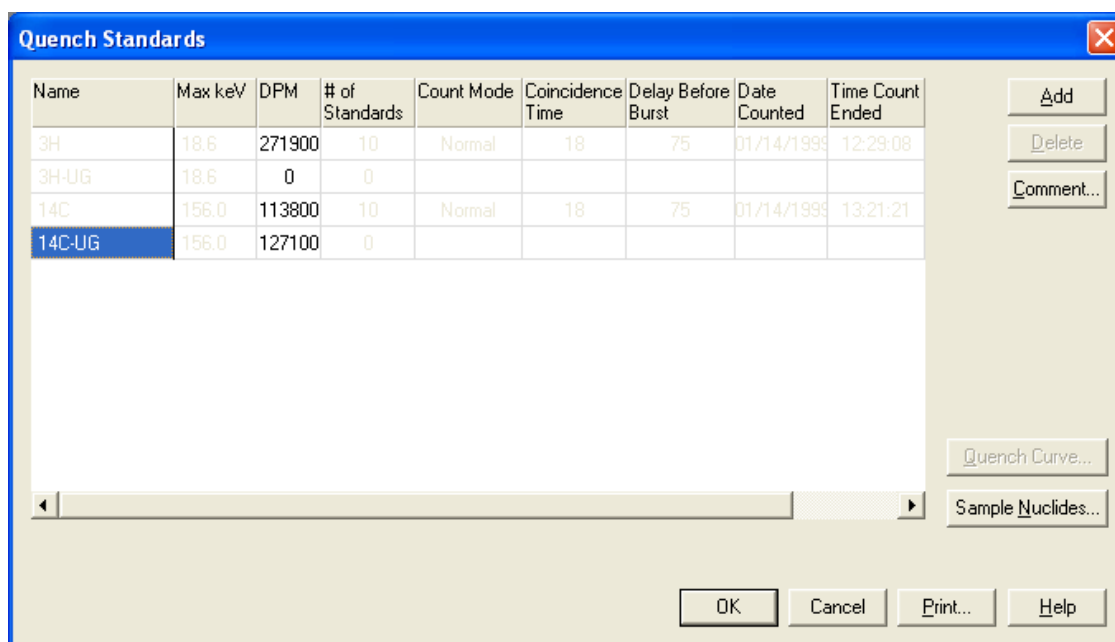**Step 7**   Click on the Button next to **Name**

Radionuclide
Name: [...   ]

This is the button

This screen will now be displayed - This is the Quench Standards page

Quench Standards									
Name	Max keV	DPM	# of Standards	Count Mode	Coincidence Time	Delay Before Burst	Date Counted	Time Count Ended	
3H	18.6	271900	10	Normal	18	75	01/14/1999	12:29:08	
3H-UG	18.6	0	0						
14C	156.0	113800	10	Normal	18	75	01/14/1999	13:21:21	
14C-UG	156.0	127100	0						

Buttons: Add, Delete, Comment..., Quench Curve..., Sample Nuclides..., OK, Cancel, Print..., Help

Step 8   As we are installing 14C quench standards you must click on **14C UG** Enter the value of the DPM (in this case 127100). The DPM value is usually shown on the side of the box containing quench standard set. If the set has been purchased from Perkin Elmer the DPM value will also be on the top of each standard vial.

Remember to correct for half life in the case of Tritium (3H) when entering the DPM value, the number of standards counted is not shown until the standards have been counted so sometimes it will be blank. If you are overwriting a quench correction curve that is no longer valid the software will do this for you. There is no need to delete the quench set before overwriting it.

Quench standards that are in grey cannot be deleted but may be overwritten.

Step 9   Click **OK**

The screen will now look like this:

Leave everything as is set above.
(If you want to use the quench curve on the same day you may shorten the count time to 20 minutes but other than that no changes should be made.)
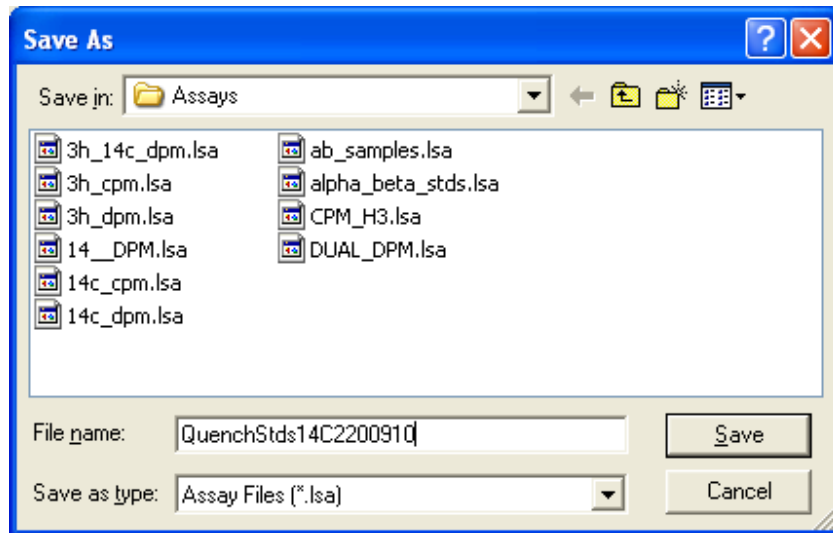
There are no other folders to change – everything else should be as default.

Step 10   Click **OK**

When you click **OK** you will go to the **Save As** page shown here

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Step 11   In **File name**: enter a name for the Assay
(Here the name used is QuenchStds14C220910)

Step 12   Click **Save**

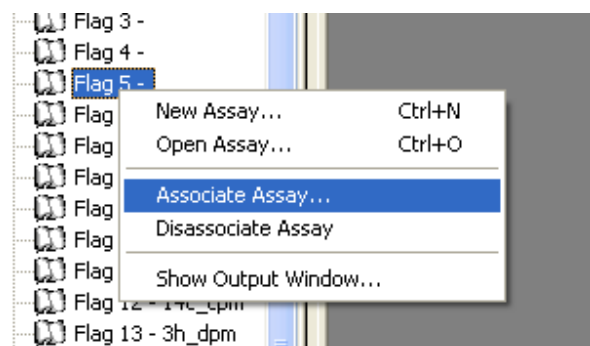The Assay to count the Quench Standard set has now been made.

This Assay must now be associated with a protocol flag so that the counter will know which assay to use when it encounters the standards/

The screen will go to the QuantaSmart™ desktop. Only a portion of the screens are shown here for clarity

Step 13   Select a flag – say Flag 5
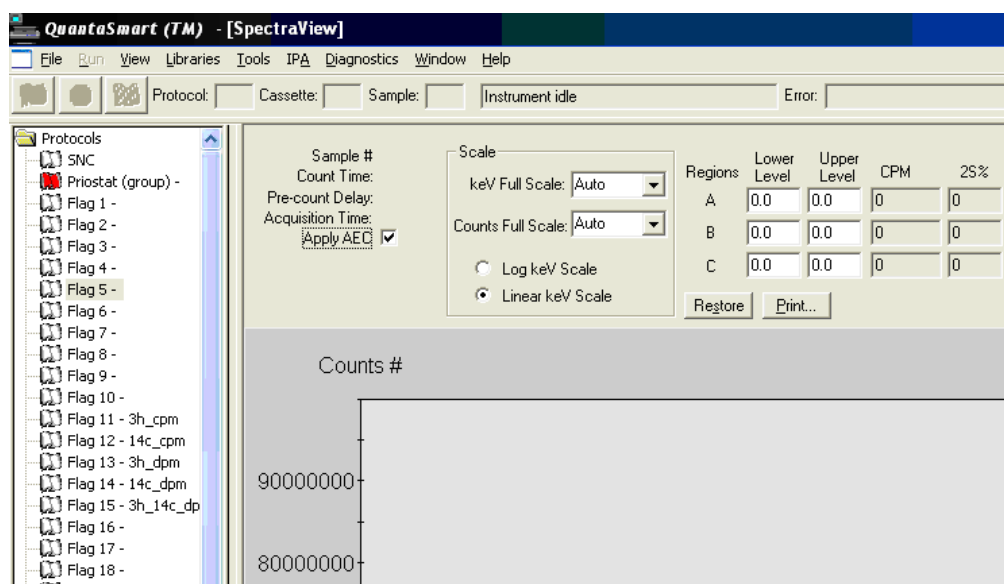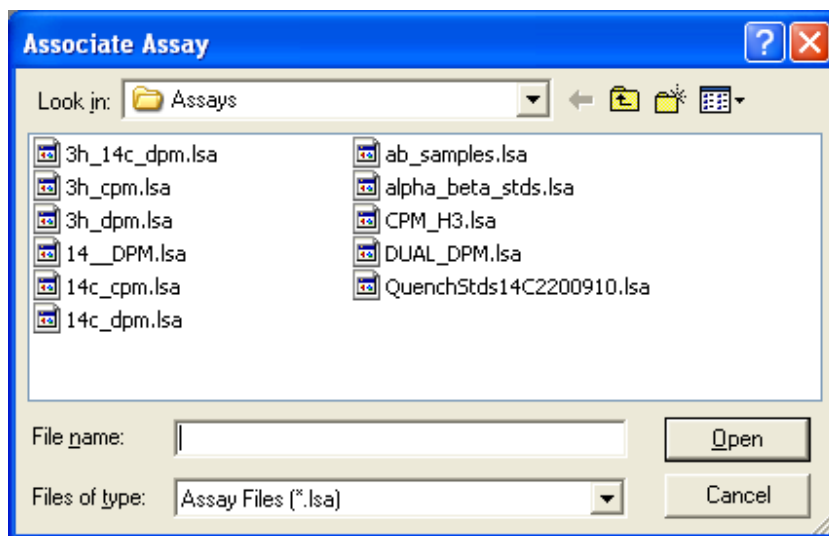

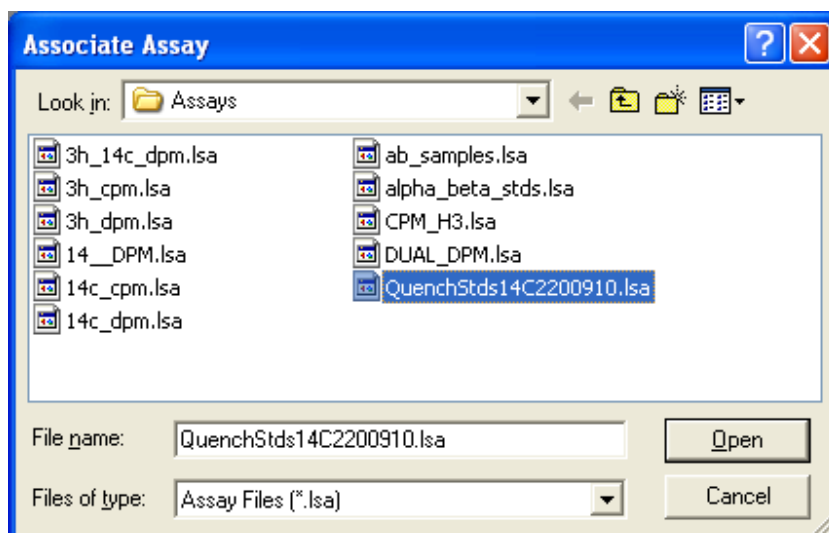**Step 14**   Right mouse click on **Flag 5**

Step 15   Click **Associate Assay**

This screen will now be shown

Step 16   Select the Assay you have just made. In this case it would be QuenchStds14C220910
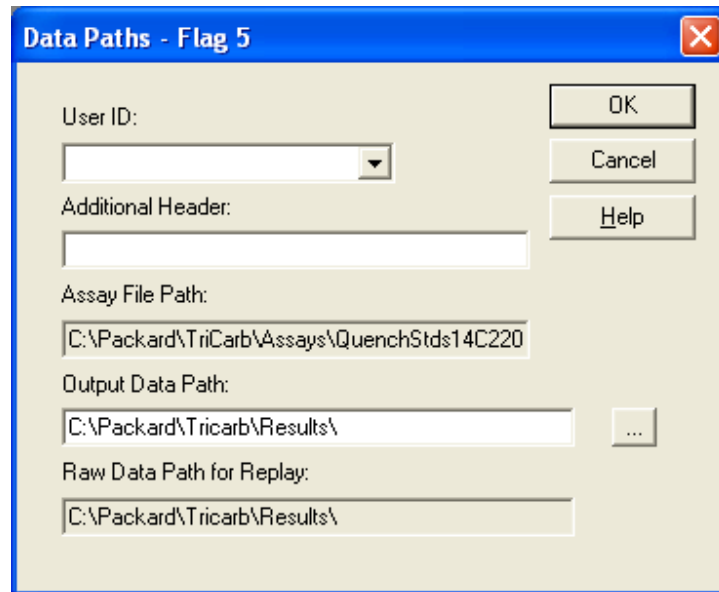

The screen will now look like this.

Step 17   Click **Open**

The screen will go to this one:
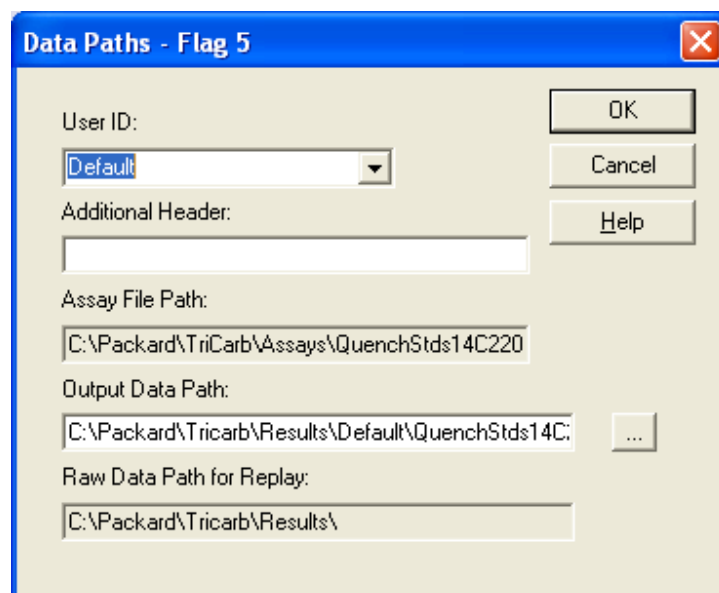
Step 18   Click on the arrow at the side of the box marked User ID: Chose **Default** as the User.
(If you have a different User ID that you prefer to use then click on the drop arrow and select the one you want)

Step 19   Click **OK**.

The interaction with the software is now finished. What remains is to put the standards into the cassette (rack) and then start the scintillation counter.

Physical Actions:

- Take a cassette (rack) and load the vials from the Quench Standard set. Take care to load them with no gaps. The order of the standards is not important as the software sorts them out after counting. However, to ensure you have the correct number it is best to put them in number order (or letter order with older sets) starting with 1 and loading up to 10. If the quench standard set is not a factory manufactured one them load as they are marked on the vial cap.

- Install the chosen Flag (5 in this case)

- Load in the counter on the right hand side of the deck.

- On the QuantaSmart desktop click the Green Button

The counter will start and the quench standards will be counted. This may take some time depending on the time of counting and the DPM of the standards you are using. The quench curve will be automatically installed.