Liquid Scintillation Counter - Applications Note

Quench curve installation

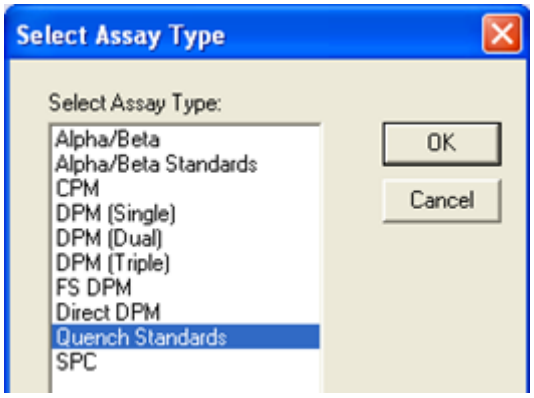
Introduction

This document describes how to install quench curves using QuantaSmart Software. The method should be applicable for all radionuclides; however it has been designed around ^{14}C and ^{3}H quench standard sets as these are the most common.

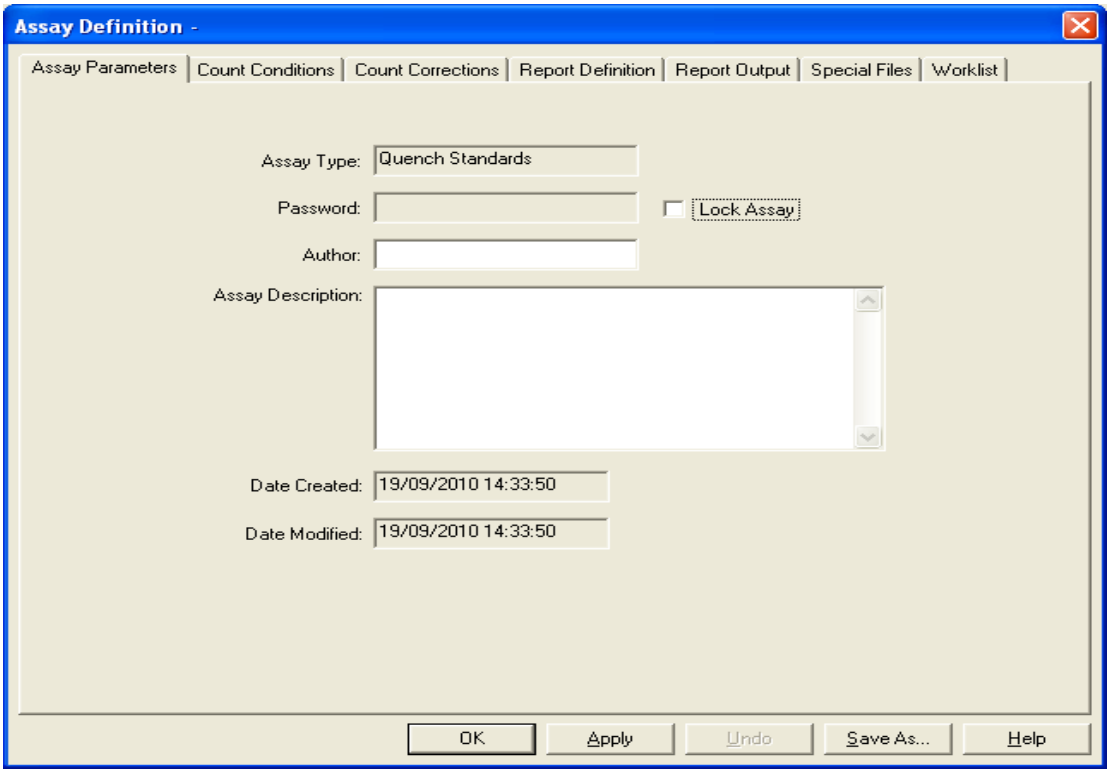
The HELP tab is a very useful resource whilst setting an assay up.

Software Instructions

1. From the **QuantaSmart™ desktop** click on **File**
2. Click on **New Assay**



3. Click on **Quench Standards**
4. This loads the **Assay Parameters** screen



Note: In the Assay Definition popup screen you will need to transfer between tabs at the top. To do this use the mouse and do not press Enter key as this moves directly to the Save As popup screen and you will not be able to enter more information

Isotech Services (authors: Clint Croft & Simon Temple)
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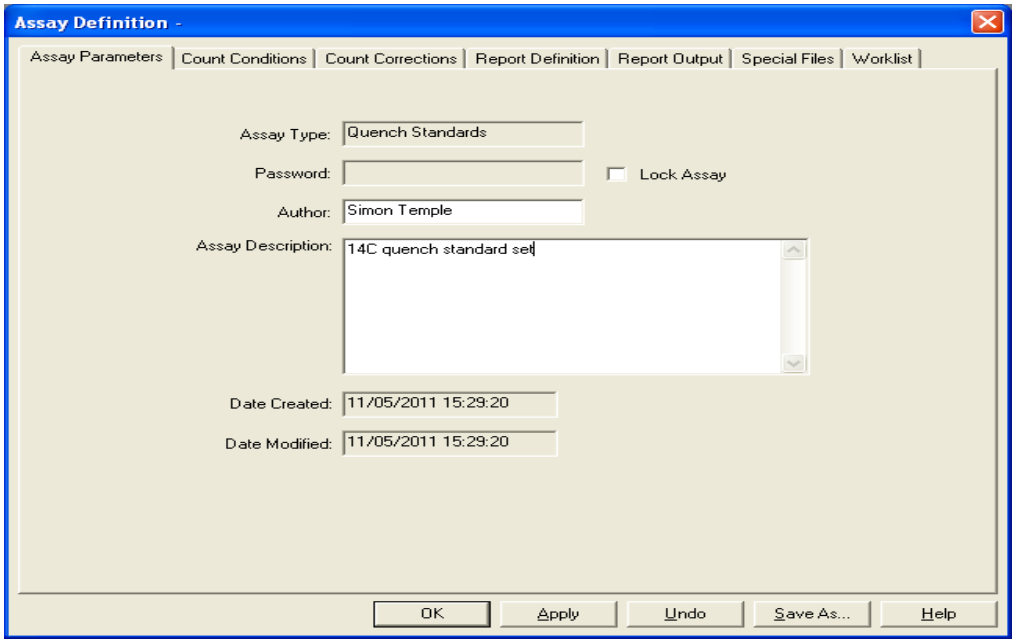
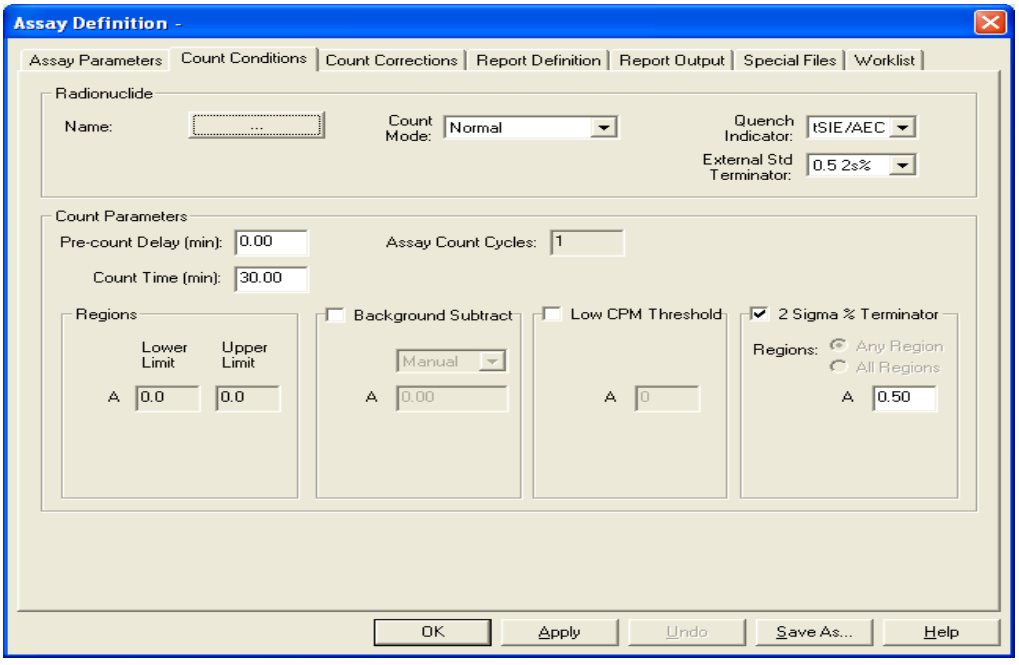
5. Enter **Author** and **Description** information (usually name, date and quenched standard type)

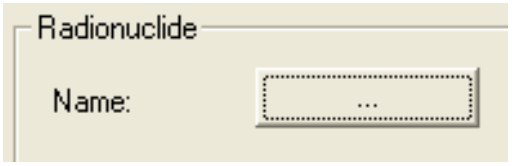
   Author: Simon Temple
   Assay Description: 14C High Flash Point quench set used



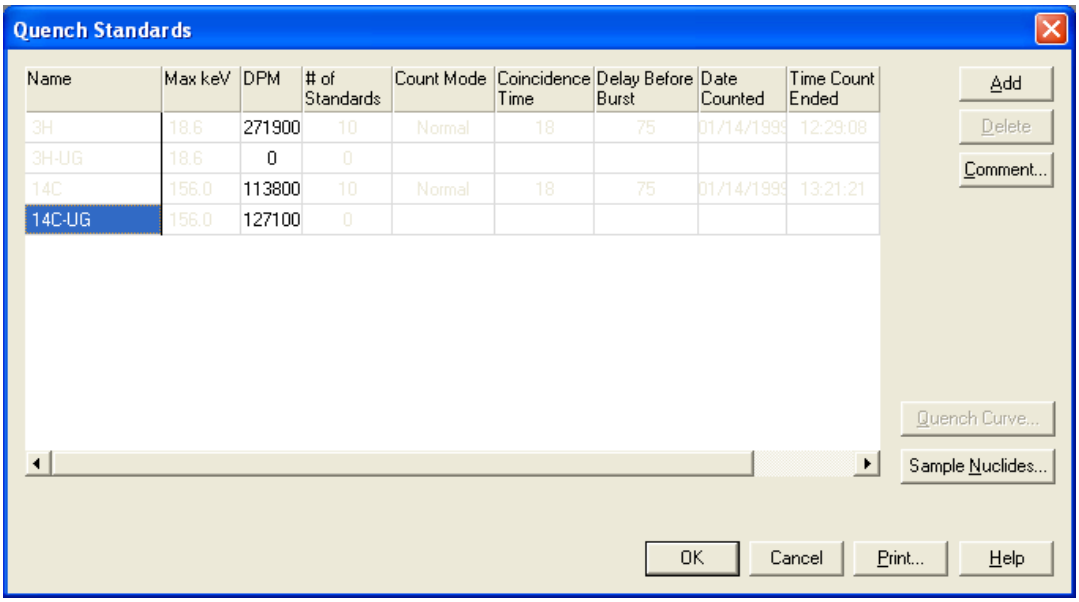
6. Click on the **Count Conditions** tab to display this tab



7. Click on the radionuclide button to select the radionuclide



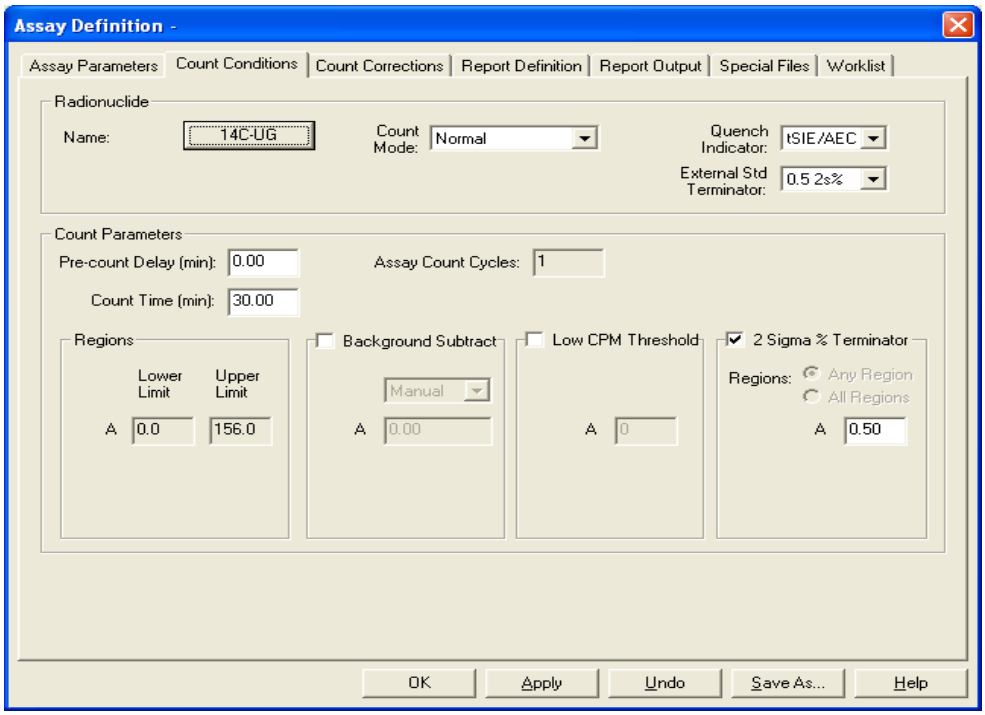
8. This will open the following popup screen



9. Select the relevant quench standard type. For example a high flash point ^{14}C quench curve would use **14C-UG** quench standard name. Enter the DPM value stated on top of the standard vial/box in the corresponding DPM box (you can overwrite any information previously entered).

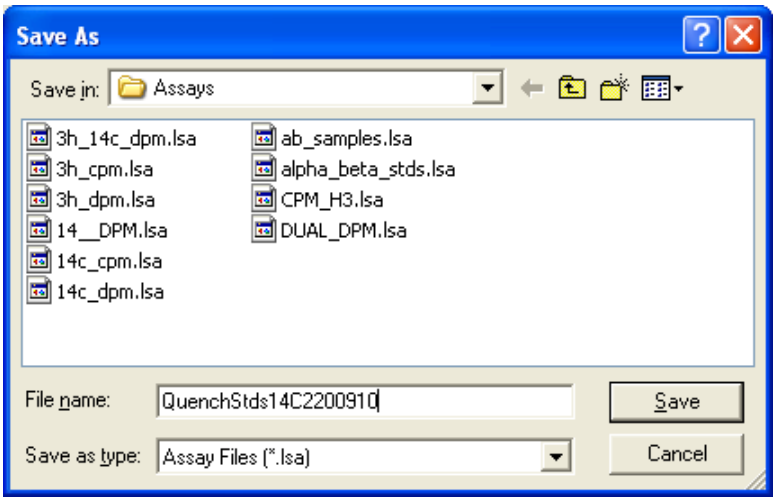
Note: Tritium quench curve require half-life correction (using QuantaSmart™ tool)

10. Click **OK** button as no other information is required in the popup box
11. This returned to the **Count Conditions** screen

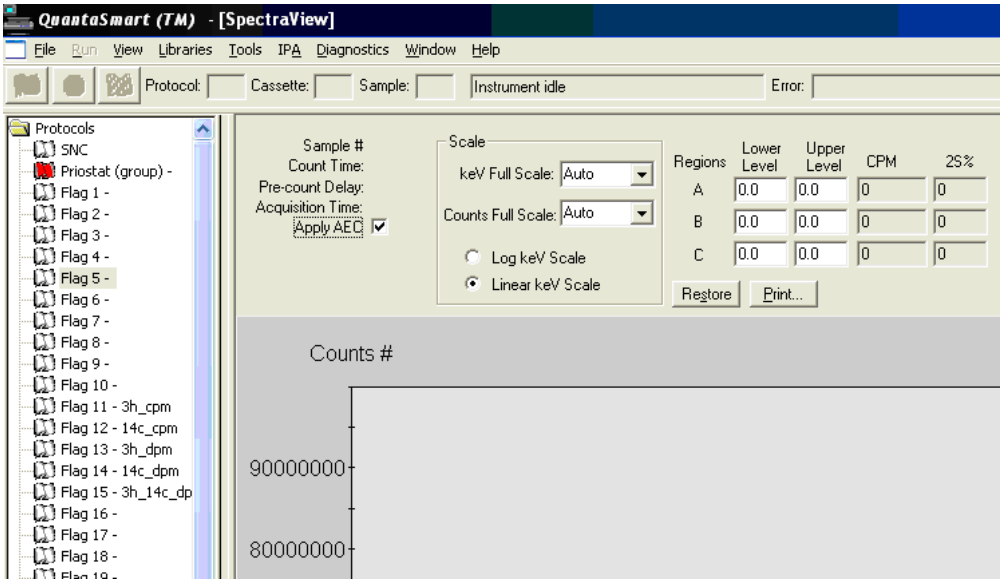


12. The remaining default settings on all tabs are suitable to leave; therefore click **OK**

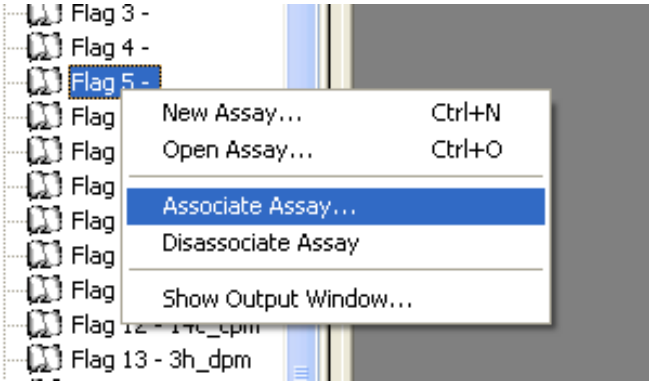
13. The **Save As** popup box is now displayed



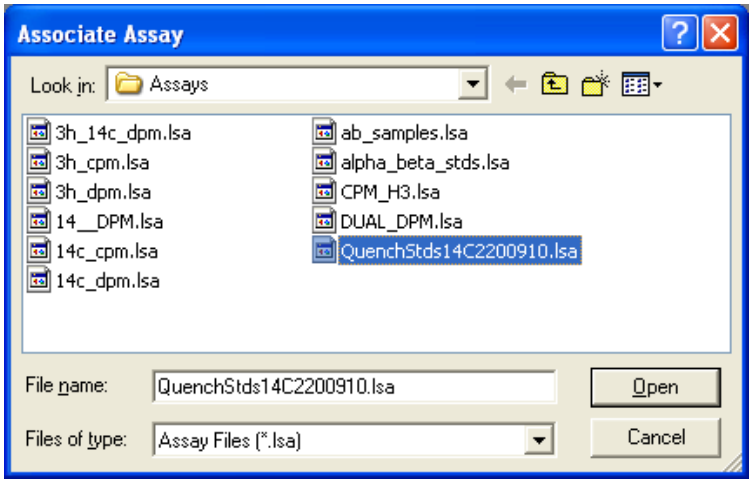
14. Enter the Assay name in **File name**: (Here QuenchStds14C220910 is used here)
15. Click **Save**, to complete the assay setup process and return to the status page
16. The next stage is to associate the assay to the protocol flag, to do this select the required protocol flag from the status page



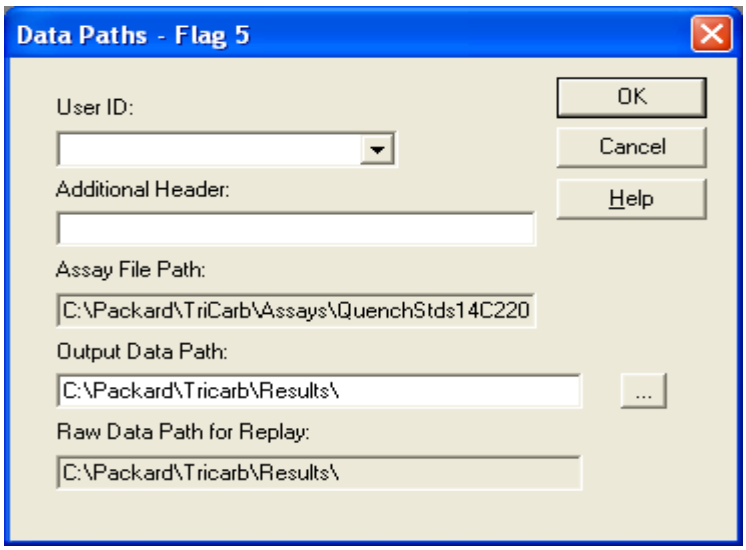
17. Right mouse click on the required protocol flag number



18. Click **Associate Assay**
19. The **Associate Assay** popup page now appears, select the assay you require



20. Click **Open**, the following screen now appears



21. Click on the arrow at the side of the box marked User ID: Chose **Default** as the User (choose a different User ID if required)
22. Click **OK**, this completes the required inputs in the software

Physical Instructions

1. Load the quench standard set into a suitable cassette (don't leave gaps). The order of the standards is not important as the software sorts them out after counting.
2. Install the required flag number
3. Load in the counter on the right hand side of the sample table
4. On the QuantaSmart desktop click the Green start Button

The LSC now counts the quench standards. The quench curve will be automatically installed and saved in the location stated in the assay setup and can be used with sample counting assays.