Brunn User Documentation

1 The main window in Bioclipse

First a few general words about how Bioclipse works.

1.1 Editors and Views

Bioclipse is made up of editors and views. Editors are for editing things. Items can be opened in an editor, edited and then saved and the editor closed. A view can listen to, and change appearence according to, what is selected. For example the properties view shows the properties of the item currently selected. Figure 1 shows an example of what are views and what are editors in a standard Brunn window.

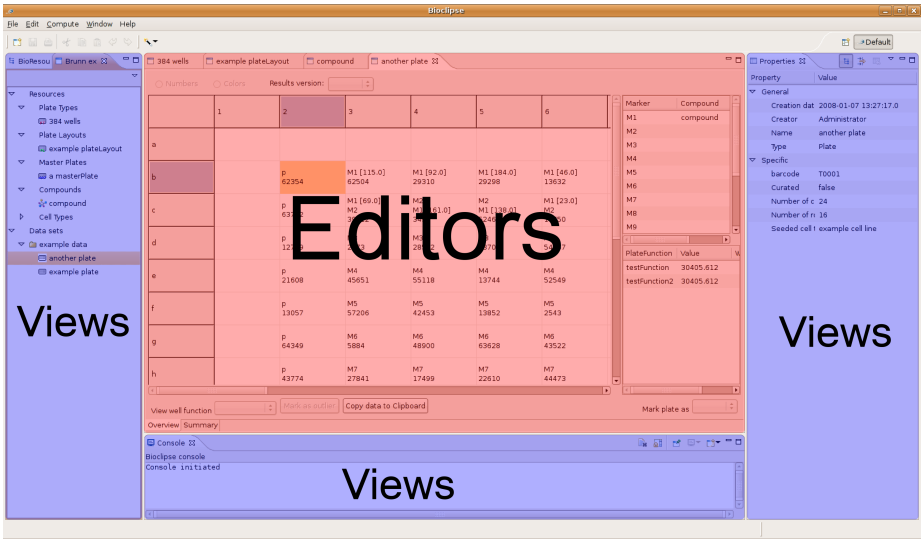

Figure 1: *The Bioclipse workspace consists of editors and views. The editors are stacked in the middle and the views can be moved around.*

1.2 Two "hidden" but important menus

There are two sort of menues in Bioclipse that can be hard to find. Figure 2 points them out. One contains operations coupled to a view and can be found (in a view that has it) when clicking a little triangle in the upper right corner of a view. The other switches between different tabs in a multipage editor. Not all editors have multiple pages.

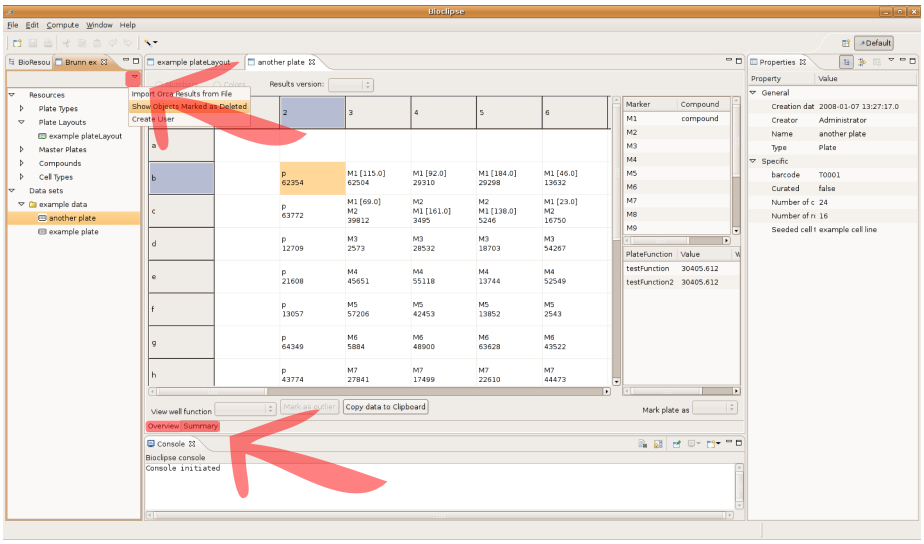

Figure 2: *A view can have a menu. They are very convenient but can be hard to spot the first time. They are just little triangles in the corner of the view. Editors can have multiple pages but also this feature can be hard to spot. The tabs at the bottom of the editor switch between pages.*

2 Brunn

A few general tips for the Brunn user:

- Double clicking an item opens it up for editing
- Right clicking often opens up a context menu with operations. If you wonder about how to do somehing, try right clicking.

2.1 Installation and Set-Up

`TODO:` Write stuff here

2.2 The Brunn Explorer View

The first time Brunn is started the Brunn Explorer View (Figure 3) might not be visible. It can be made visible by clicking: `Window→Show View→Other...` and under Brunn choose Brunn Explorer.

Double clicking something in the explorer view opens that item in an editor. The explorer view is where new things are created. The various items of the tree have context menus that appear when right clicked. For example, folders can be created and dragged and dropped into and out of. Figure 4 explains how the different items in the tree fits in to what is done in the lab.

In Brunn almost nothing can be deleted. However, things can be marked as deleted, meaning that they won't show up unless the menu alternative `show objects marked as deleted` is choosen in the Brunn Explorer views menu. In this menu there is also a wizard for importing result data and a way to create

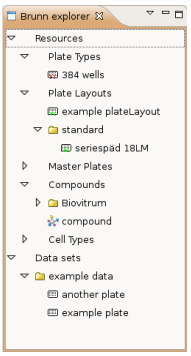

Figure 3: *The Brunn Explorer view is used to browse the system. The contents is sorted in fixed super folders for each type and can be further sorted into moveable sub folders*

a new user account. The alternatives to show objects marked as deleted and to create users are only there if the loggged in user has administrator level access.

2.3 Creating items

New items are created by right-clicking a folder that is either the top folder for the sort of item to be created or a subfolder of it, and then choosing a create operation. This opens a dialog where things special for that sort of item can be entered.

So for example to create a plate layout start by right clicking the `Plate Layouts` folder and choose `Create Plate Layout`. In the dialog that shows up, choose one plate type to base the platelayout on, and enter a name for your new plate layout. Then click Ok to create the plate layout.

2.4 Plate Type

A plate type defines the size of a plate. It simply holds number of rows and number of columns of a plate.

2.5 Plate Layout

A plate layout defines which wells on a plate should be used for compounds, controls or just be left empty. The plate layout is also where calculation functions are defined. For example, survival index or variation over the wells marked as positive control.

2.5.1 Adding markers to a plate layout

Markers are used for labeling wells for different use. There are 5 sorts of markers (see table 1).

Labeling a well with a marker is done by right clicking the well in the plate layout editor and choosing the marker to label with. Multiple wells can be labeled at once by first selecting a number of wells and then right clicking and

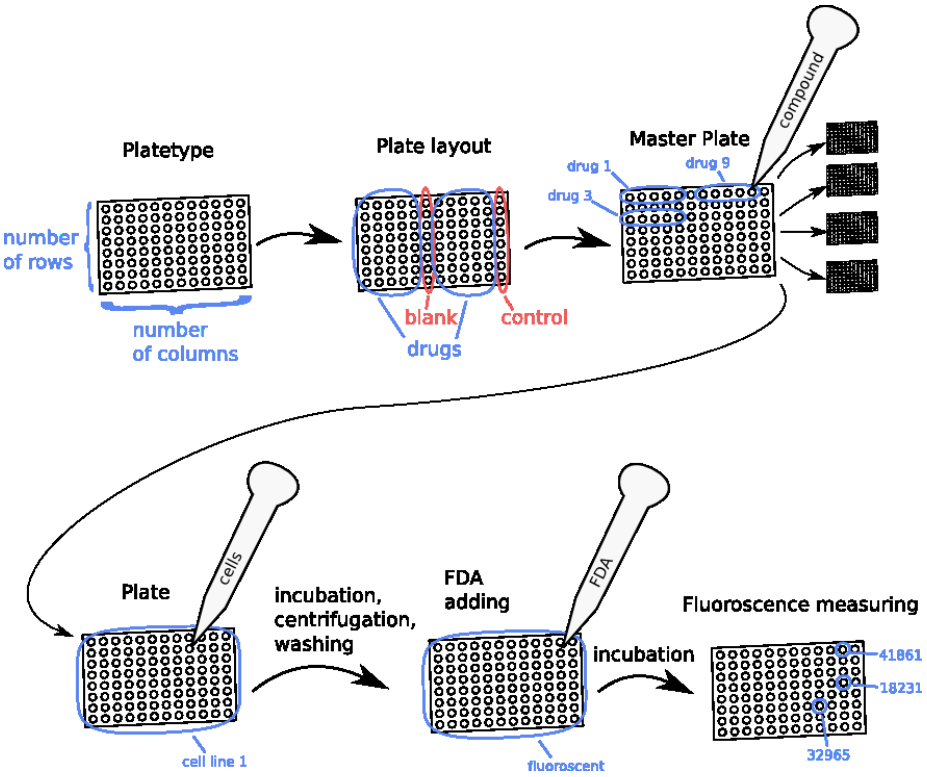

Figure 4: *A description of how the items of Brunn fits into the work performed in the lab. In the system a plate type defines the size, number of columns and rows, of a plate. A plate layout defines where on the plate the controls and the compounds are to be placed. Based upon this plate layout a number of equal plates are made, conforming to a so-called "master plate" that defines which drugs are placed in which wells. Each one of this plates correspond to a real life plate with a barcode number.*

Marker	Description
b	Blank.
c	Control.
p	Positive control
s	Solvent
M1 . . . MN	Substance marker.
	Each number corresponds to one substance.

Table 1: The different well markers used in Brunn

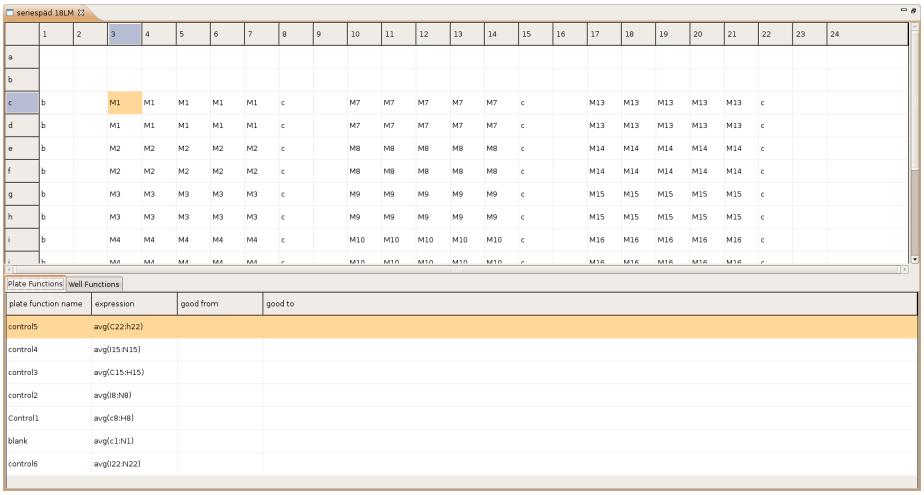

Figure 5: *The platelayouteditor*

Function	Description
sum	Sums the given values
avg	Calculates the average of the given values
stddev	Calculates the standard deviation of the given values

Table 2: Listing of predefined functions that can be used for calculations

choosing a marker. Unlabeling is similar. When right clicking a well with a marker an option to remove marker will occur in the right click menu.

2.5.2 Defining calculation functions on a plate layout

The plate layout editor is also the place to define calculations. For example the expression for survival index (SI):

$$SI = \text{?TODO: write expression} \tag{1}$$

is added here. Brunn works with two groups of functions for calculations. Plate functions are couple to a plate and should be used for things like average values of controls or variations for blanks. Well functions are coupled to a well and should be used for things like SI (equation 1).

The bottom part of the editor consists of a listing of added functions. To add a new one simply right click and choose add function. There are a few mathematical functions (Table 2) defined that can be used.

Well functions can be added by first switching to the well functions tab and then selecting a couple of wells that should be given well functions and then clicking add function just as with the plate functions. Here a little trick can be used. The variable `well` will be translated to the name of the current well.

`TODO: Add example using SI as example`

2.6 Master Plate

A master plate defines which compound marker correspond to which compound and with what concentration.

2.6.1 Defining compound for a compound marker

The masterplate editor is used for connecting substance markers with substances. It has functionality for creating dilution series. Conecting a substance to a marker is done by dragging the substance from the Brunn Explorer and into the list of markers at the bottom part of the editor. A dialog will pop up asking for information of how to perform dilution.

`TODO: add illustration of dialog`

2.7 Plate

`TODO:` Write stuff here