ECLT_app_help_notes

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https://drclongstaff.github.io/ECLT_CL/

A Shiny app for clot lysis and Euglobulin Clot Lysis Time (ECLT) curves

There are a number of apps available at https://drclongstaff.github.io/shiny-clots/ which have varying degrees of complexity for different applications such as analysis of clotting and or lysis curves.

This app is deliberately simplified for two main reasons

- The intention is to analyse noisy ECLT curves, so the only the time to 50% lysis is calculated. This calculation is performed on a spline curve that has been fitted to the data points. This should mean the operation is robust and the app is unlikely to crash. Nevertheless, results should be checked by eye as odd results can be obtained when unusually shaped curves are being analysed.
- The app is written to occupy only a single webpage, but detailed views of individual curves can be examined by clicking on the relevant small plot. There are also download buttons provided so the table of results and collection of plots can be saved to the user's computer.

The interface

Raw data

The app consists of one page, with widgets to load and manipulate data, and to generate results.

The app loads a stored set of data on opening and this can be explored.

User data are loaded as a csv or txt file (the only formats available in this particular app). As usual, data should be presented as a spreadsheet of one column of Time plus any number of columns of Absorbance data.

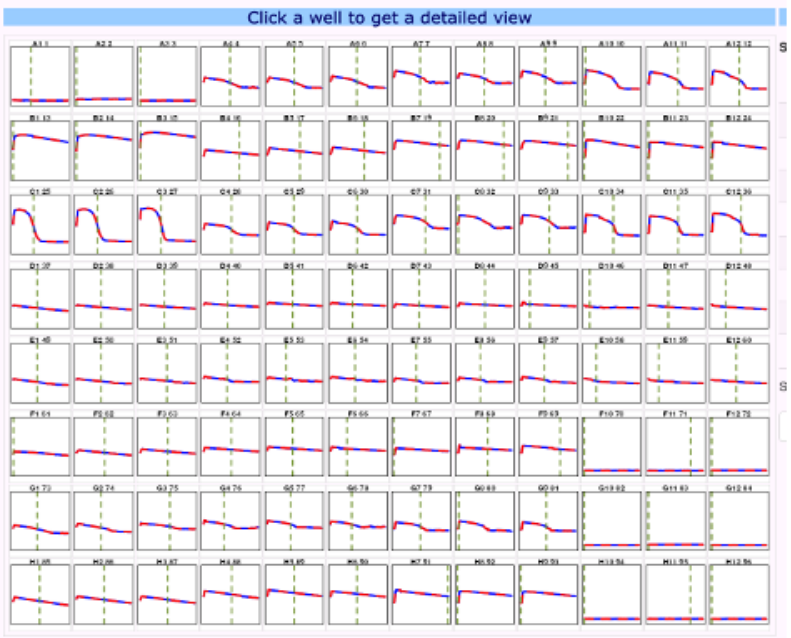
Data can be analysed as raw or zeroed, in which case a baseline is calculated using the lowest absorbance for each curve. The %clot numeric input box allows the user to select the % of clot absorbance to be used to calculate the lysis time. The default setting is 50%.

The adjust fit setting allows the user to optimse the fitted spline curve to the points. This should be done by trial and error to by increasing or decreasing the default value to obtain the best fit for all the data.

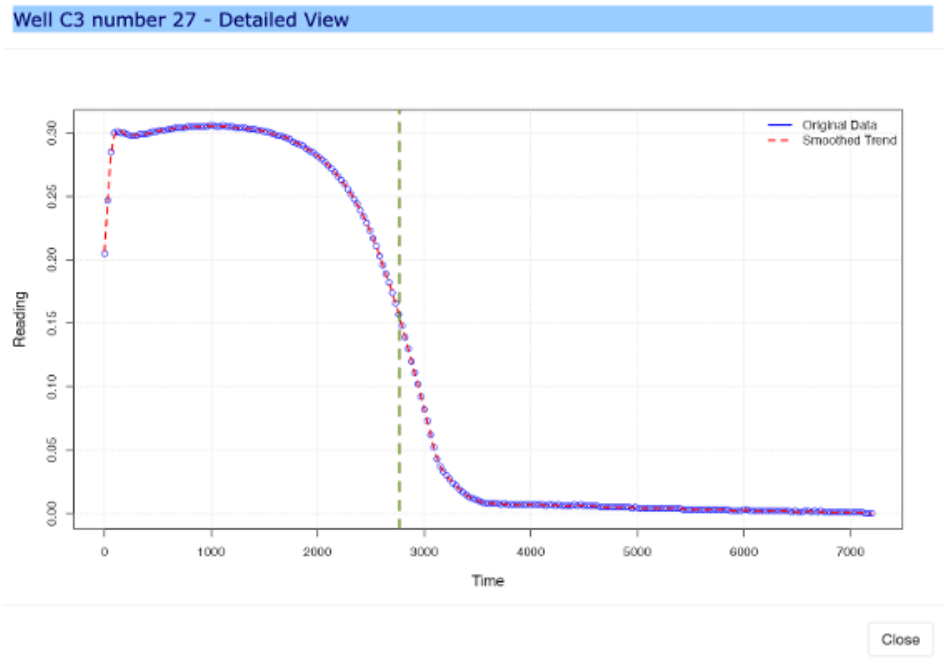
The plot n rows input box simply determines the number of rows in the plot display and table of results.

Analysed data

Plots will be displayed as a grid of curves either as raw data or zeroed data as specified in the settings.



An expanded version of any plot can be generated by clicking on a small plot of interest.



Results table

The table of results is displayed to the right of the plots and shows the times to 50% (or other selected value) lysis.

Results table

Show 10 entries Search:

V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
2395	0	0	3496	3540	3436	3436	3481	3183	104.1	3912	3645
0	0	0	4701	4359	4418	6040	6084	6203	0	0	0
2693	2782	2767	3689	3496	3466	4150	59.5	3719	3808	3942	3898
3169	3273	3154	3154	3392	2886	3317	3630	1145	684.3	2633	1889
3169	3258	3511	3079	2484	3228	2931	2975	3064	1577	1369	3243
29.75	3734	3630	3674	3392	2157	0	3972	5162	0	5623	0
3169	3258	3927	2707	3064	2782	3466	104.1	3317	0	0	0
3526	3645	3600	3719	3540	3451	7126	0	0	0	5564	0

Showing 1 to 8 of 8 entries Previous 1 Next

When the user is satified with the results, the download button below the table can be used to downlaod and store a csv table of results (including file name and settings). This may be stored with a png image of the grid of plots which is downloaded using the button below the plots.

Alernative apps

This app is the most basic app to measure lysis times of clots and is very robust with difficult data. As such it is espcially useful for euglobulin clot lysis experiments. However, other apps are available that allow more fine tuning of analysis of clot lysis curves, or clotting curves and thrombin generation.

More of my apps can be found here: https://drclongstaff.github.io/shiny-clots/

For questions or issues: drclongstaff@gmail.com