This document explains modifications to MClust 3.5 (A.D. Redish, University of Minnesota) by B. Hangya (Kepecs Lab, Cold Spring Harbor Laboratory; [balazs.cshl@gmail.com](mailto:balazs.cshl@gmail.com)).

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**MClustCutterRedrawAxes.m**

A faster plotting routine has been added to improve speed for long recordings. Briefly, if data points occupy the same pixel on the screen, only one point is plotted. Also, feature data are stored in a global variable; this way it does not have to be reloaded from disc for each plotting.

The zoom is reimplemented as a ButtonDownFunction, as data have to be redrawn each time the axis ranges change. Later Matlab versions will feature parametrization of the built-in zoom function, which will enable using the figure zoom with the fast plotting as callback. For now, figure zoom button should not be used. The new zoom (ButtonDownFcn) works the exact same way as the original one.

The code retains the original version for debugging purposes, currently disabled by the 'usefastplot' switch variable.

**CalculateFeatures.m**

Modified to store feature data in a global variable to avoid reloading from disc when plotting.

**DrawConvexHull**

Modified to show convex hull edges while drawing.

**MClustCutterCallbacks.m**

A bug resulting in recoloring clusters after deleting a cluster from a position other than the last was fixed.

(Developed and tested under MATLAB R2010a; additional tests were performed in MATLAB R2008b; not tested in other versions.)

DISCALIMER: As other parts of the MClust software package, these additions also come with no warranties or responsibilities for maintaining the code or fixing bugs. However, if the new plotting algorithm results in an error, please send a bug report to [balazs.cshl@gmail.com](mailto:balazs.cshl@gmail.com).