Package ‘affylmGUI’

March 22, 2024

Version 1.76.0
Date 2020-04-13
Title GUI for limma Package with Affymetrix Microarrays
Author James Wettenhall [cre,aut], Gordon Smyth [aut], Ken Simpson [aut], Keith Satterley [ctb]
Maintainer Gordon Smyth <smyth@wehi.edu.au>
Imports grDevices, graphics, stats, utils, tcltk, tkrplot, limma, affy, affyio, affyPLM, gcrma, BiocGenerics, AnnotationDbi, BiocManager, R2HTML, xtable
Description A Graphical User Interface (GUI) for analysis of Affymetrix microarray gene expression data using the affy and limma packages.
License GPL (&gt;=2)
URL http://bioinf.wehi.edu.au/affylmGUI/
bIOCViews GUI, GeneExpression, Transcription, DifferentialExpression, DataImport, Bayesian, Regression, TimeCourse, Microarray, mRNAMicroarray, OneChannel, ProprietaryPlatforms, BatchEffect, MultipleComparison, Normalization, Preprocessing, QualityControl
git_url https://git.bioconductor.org/packages/affylmGUI
git_branch RELEASE_3_18
git_last_commit d6a5c35
git_last_commit_date 2023-10-24
Repository Bioconductor 3.18
Date/Publication 2024-03-22

R topics documented:

affylmGUI-package .................................................. 2
affylmGUI ................................................................. 3
internal ................................................................. 4

Index 9
The affylmGUI Package: Graphical User Interface for limma analysis of Affymetrix microarrays

Description
The affylmGUI package provides a Graphical User Interface (GUI) for analysis of Affymetrix microarray data using the limma package (Linear Models for MicroArray data).

Details
The GUI is launched by typing `affylmGUI()` at the R prompt. For detailed help, including example sessions, see the affylmGUI home page at http://bioinf.wehi.edu.au/affylmGUI.

The limma package offers R users a command-line interface to state-of-the-art techniques for linear modelling of microarray data and for identifying differentially expressed genes (Ritchie et al, 2015). The affylmGUI package, while not as powerful as limma to the expert user, offers a simple point-and-click interface to many of the commonly-used limma and affy functions.

To use the affylmGUI package, you need to have R 1.8.1 or later, Tcl/Tk 8.3 or later (ActiveTcl for Windows/Linux or Fink Tcl/Tk for MacOSX (X11)) and the limma, affylmGUI and tkrplot R packages. At least one of the affy, gcrma or affyPLM Bioconductor packages are also required for normalization and probe-set summarization. The R2HTML (CRAN) and xtable (CRAN) packages are recommended. affylmGUI has been tested succesfully on Windows, Red Hat Linux, and on Mac OSX with X11.


Author(s)

References


See Also

The GUI is launched by `affylmGUI()`.
`showChangeLog()` shows the most recent lines from the affylmGUI package changeLog.
See [limma-package](http://bioinf.wehi.edu.au/limma-package) for help about the limma package.

Examples

```r
library(limma)
changeLog(package="affylmGUI")
```

---

### affylmGUI

**Graphical User Interface for the limma microarray package**

### Description

Graphical User Interface for limma package analysis of Affymetrix microarrays.

### Usage

```r
affylmGUI(BigfontsForaffylmGUIpresentation=FALSE)
```

### Arguments

- **BigfontsForaffylmGUIpresentation**
  - logical, if `TRUE` then larger fonts are used. However, some font sizes are not controlled by affylmGUI and so must be adjusted in the operating system, e.g., in the Control Panel in Windows under Display, Appearance.

### Details

The `affylmGUI` function launches a Graphical User Interface for the affy, gcrma, affyPLM and limma packages. The GUI uses Tk widgets (via the R TclTk interface by Peter Dalgaard) in order to provide a simple interface to limma functions for linear modelling of Affymetrix microarrays and identification of differentially expressed genes.

Almost all users will type `affylmGUI()`. The use of `affylmGUI(Bigfonts=TRUE)` is only intended for the preparation of a talk about the affylmGUI package.

### Author(s)


### See Also

`affylmGUI-package, internal`
Internal Functions

Description

Internal functions defined by the affylmGUI package.

Usage

AboutaffylmGUI()
affyHelp()
affylmGUIhelp()
affyPlotMA()
affyPlotMAcontrast()
ChooseCDF()
ChooseContrastParameterization()
chooseDir()
ChooseEbayesStatistic()
ComputeContrasts()
ComputeLinearModelFit()
CopyGraph(img)
DeleteContrastParameterization()
DensityPlot()
DensityPlotAll()
evalRcode()
ExportHTMLreport()
ExportNormalizedExpressionValues()
exportTopTable()
fixSeps(string)
generalPlotFunction(code="",WindowTitle="")
GetComponentsToExportInHTMLreport(contrastParameterizationIndex=NULL)
GetContrast(contrastParameterizationIndex)
GetContrastNamesForHeatDiagram(numContrasts=2,ContrastNames=c("Contrast 1","Contrast 2"))
GetContrastParameterizationName()
GetContrasts(NumContrasts=0)
GetDEcutoff()
GetGeneLabelsOptions()
GetJpegOrPngParams(graphFileType)
GetJpegOrPngX11Params(graphFileType)
GetlimmaDataSetName()
GetLogPLMDataChoice()
GetMultipleContrasts(contrastParameterizationIndex)
GetNormalizationMethod()
getPackageVersion(pkgName)
GetParameterizationName()
GetPlotLabels(plottitle="",xlabel="",ylabel="")
GetPlotSize()
SetWD()
showChangeLog()
showCitations()
showTopTable(..., export=FALSE)
SimplifyContrastsExpression(string)
strstr(haystack, needle)
tclArrayVar()
TclRequire(tclPkg)
Try(expr)
TryReadImgProcFile(expr)
UpDownOrBoth()
vennDiagramaaffylmGUI(object, include = "both", names, cex = 1.5, mar = rep(1, 4), ...)
VennDiagramPlot()
ViewContrastsMatrixAsPairs(contrastsMatrix, contrastsMatrixList, contrastParameterizationIndex = NULL)
ViewContrastsMatrixInTable(contrastsMatrixList, contrastParameterizationIndex = NULL)
ViewExistingContrastParameterization()
ViewRNATargets()

Arguments

... HTMLplotUsingFunction:arg14:and:showTopTable:arg1:and:vennDiagramaaffylmGUI:arg6
Align HTMLplotUsingFunction:arg8
all GetSlideNum:arg1
BG HTMLplotUsingFunction:arg12
Caption HTMLplotUsingFunction:arg1
code GetContrastNamesForHeatDiagram:arg2
export showTopTable:arg2
expr Try:arg1:and:TryReadImgProcFile:arg1
File HTMLplotUsingFunction:arg2
FileName OpenALimmaFile:arg1
GraphAbsoluteDirectory HTMLplotUsingFunction:arg4
GraphBorder HTMLplotUsingFunction:arg7
GraphFileName HTMLplotUsingFunction:arg5
graphFileType GetJpegOrPngParams:arg1:and:GetJpegOrPngX11Params:arg1
GraphRelativeDirectory HTMLplotUsingFunction:arg3
GraphSaveAs HTMLplotUsingFunction:arg6
haystack nstrstr:arg1:and:strstr:arg1
Height HTMLplotUsingFunction:arg11
These functions are called by `affylmGUI()` via the GUI and are not intended to be called directly by users.
Author(s)


See Also

affylmGUI
Index

AboutaffylmGUI (internal), 4
affyHelp (internal), 4
affylmGUI, 3, 8
affylmGUI-package, 2
affylmGUIhelp (internal), 4
affyPlotMA (internal), 4
affyPlotMAcontrast (internal), 4
ChooseCDF (internal), 4
ChooseContrastParameterization (internal), 4
chooseDir (internal), 4
ChooseEbayesStatistic (internal), 4
ComputeContrasts (internal), 4
ComputeLinearModelFit (internal), 4
CopyGraph (internal), 4
DeleteContrastParameterization (internal), 4
DensityPlot (internal), 4
DensityPlotAll (internal), 4
evalRcode (internal), 4
ExportHTMLreport (internal), 4
ExportNormalizedExpressionValues (internal), 4
ExportTopTable (internal), 4
fixSeps (internal), 4
generalPlotFunction (internal), 4
GetComponentsToExportInHTMLreport (internal), 4
GetContrast (internal), 4
GetContrastNamesForHeatDiagram (internal), 4
GetContrastParameterizationName (internal), 4
GetContrasts (internal), 4
GetDEcutoff (internal), 4
GetGeneLabelsOptions (internal), 4
GetJpegOrPngParams (internal), 4
GetJpegOrPngX11Params (internal), 4
GetlimmaDataSetName (internal), 4
GetLogPLMDataChoice (internal), 4
GetMultipleContrasts (internal), 4
GetNormalizationMethod (internal), 4
getPackageVersion (internal), 4
GetParameterizationName (internal), 4
GetPlotLabels (internal), 4
GetPlotSize (internal), 4
GetPlotTitle (internal), 4
GetPValueCutoff (internal), 4
GetResidualTypeChoice (internal), 4
GetRNATypesFrom.ContrastsFromDropDowns.String (internal), 4
GetSetNames (internal), 4
GetSlideNum (internal), 4
GetSlideNums (internal), 4
GetWhichProbes (internal), 4
GetWtAreaParams (internal), 4
GetWtFlagParams (internal), 4
HeatDiagramDialog (internal), 4
HeatDiagramPlot (internal), 4
HTMLplotUsingFunction (internal), 4
ImageArrayPlot (internal), 4
ImageQualityResidualPlot (internal), 4
ImageQualityWeightPlot (internal), 4
initGlobals (internal), 4
IntensityHistogram (internal), 4
IntensityHistogramAll (internal), 4
internal, 3, 4
limmaHelp (internal), 4
LogOddsPlot (internal), 4
NewLimmaFile (internal), 4
NormalizedIntensityBoxPlot (internal), 4
NormalizeNow (internal), 4
nstrstr (internal), 4
NUSEPlotAll (internal), 4
onDestroy (internal), 4
onExit (internal), 4
OpenALimmaFile (internal), 4
OpenCDFandTargetsfiles (internal), 4
OpenCDFFile (internal), 4
OpenLimmaFile (internal), 4
OpenTargetsFile (internal), 4
PlotOptions (internal), 4
QQTplot (internal), 4
RawIntensityBoxPlot (internal), 4
Require (internal), 4
Resize (internal), 4
RLEPlotAll (internal), 4
RNADegradationPlotAll (internal), 4
SaveAsLimmaFile (internal), 4
SaveGraphAsJpeg (internal), 4
SaveGraphAsPDF (internal), 4
SaveGraphAsPNG (internal), 4
SaveGraphAsPostscript (internal), 4
SaveLimmaFile (internal), 4
SetupPlotKeyBindings (internal), 4
SetupPlotMenus (internal), 4
SetWD (internal), 4
showChangeLog, 3
showChangeLog (internal), 4
showCitations (internal), 4
showTopTable (internal), 4
SimplifyContrastsExpression (internal), 4
strstr (internal), 4
tclArrayVar (internal), 4
TclRequire (internal), 4
Try (internal), 4
TryReadImgProcFile (internal), 4
UpDownOrBoth (internal), 4
vennDiagramaffylmGUI (internal), 4
VennDiagramPlot (internal), 4
ViewContrastsMatrixAsPairs (internal), 4
ViewContrastsMatrixInTable (internal), 4
ViewExistingContrastParameterization (internal), 4
ViewRNATargets (internal), 4