

Package ‘CormotifExample’

May 3, 2015

Type Package

Title Simulation result for the Correlation Motifs model

Version 1.0

Depends R (>= 2.12.0), Cormotif

Date 2015-05-03

Author Ye Zheng

Maintainer Ye Zheng <yezhen@stat.wisc.edu>

Description The CormotifExample package contains the simulation raw data and the simulation result. The user can have a quick look at the Correlation Motifs result or run the simulation themselves using the raw simulation data.

License GPL (>= 2)

R topics documented:

CormotifExample	1
Index	3

CormotifExample	<i>Simulation results for Correlation Motifs model</i>
-----------------	--

Description

This is the result for Correlation Motifs model using simulated data. The raw simulated data are also available in this demo package.

Usage

```
data(CormotifExample)
```

Details

More usage see the examples

Source

Wei, Yingying, Toyooki Tenzen, and Hongkai Ji. "Joint analysis of differential gene expression in multiple studies using correlation motifs." *Biostatistics* 16.1 (2015): 31-46.

Examples

```
library(Cormotif)

#1. Correlation Motifs model can be build from the raw simulated data
data(simulationData)
data(groupid)
data(compid)

exprs <- as.matrix(simulationData[,2:ncol(simulationData)])

#Correlation Motif simulation result
result <- cormotiffit(exprs, groupid, compid, K = 1:10, max.iter = 1000, BIC = TRUE)

#Optimal cluster number K is obtained by BIC
K <- which.min(result$bic[, 'bic'])

#The posterior probability for each gene in each study to bedifferential expressed.
posterior <- result$bestmotif$p.post
cutoff <- 0.5
diffExprs <- (posterior > cutoff)

#Rank the gene by the posterior probability
topgenelist <- generank(posterior)

#2. Correlation Motifs model result can be loaded directly
data(CormotifExample)

#3. Visual result

plotMotif(result)

head(diffExprs)

head(topgenelist)
```

Index

*Topic **datasets**

`CormotifExample`, [1](#)

`compid(CormotifExample)`, [1](#)

`CormotifExample`, [1](#)

`groupid(CormotifExample)`, [1](#)

`simulationData(CormotifExample)`,
[1](#)