

从零入门科研数据可视化云平台

openbioX & Hiplot Team

2020-12-26

Hiplot Team



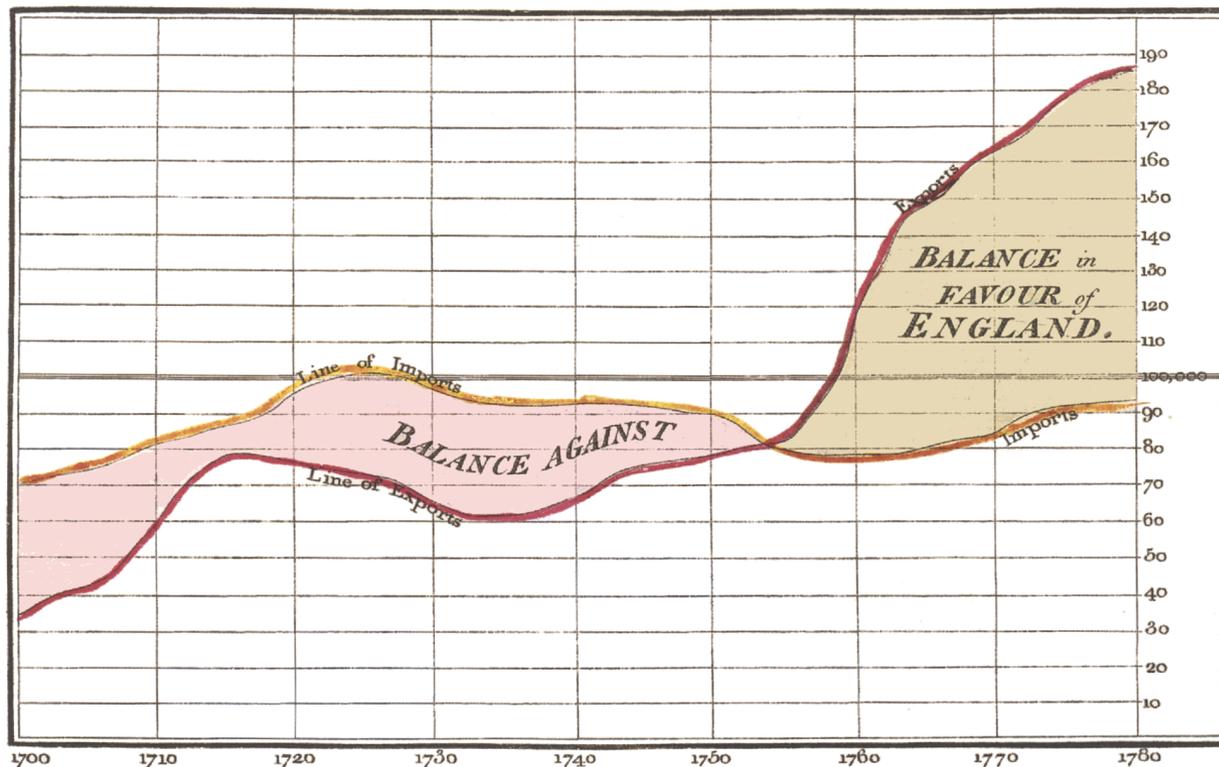
John Tukey
(1915-2000)

The greatest value of a picture is when it forces us to notice what we never expected to see.

图形的最大价值就是使我们注意到我们从来没有料到的信息

- **科研绘图实例**
- **Hiplot 可视化平台简介**
- **Hiplot 可视化平台操作演示**

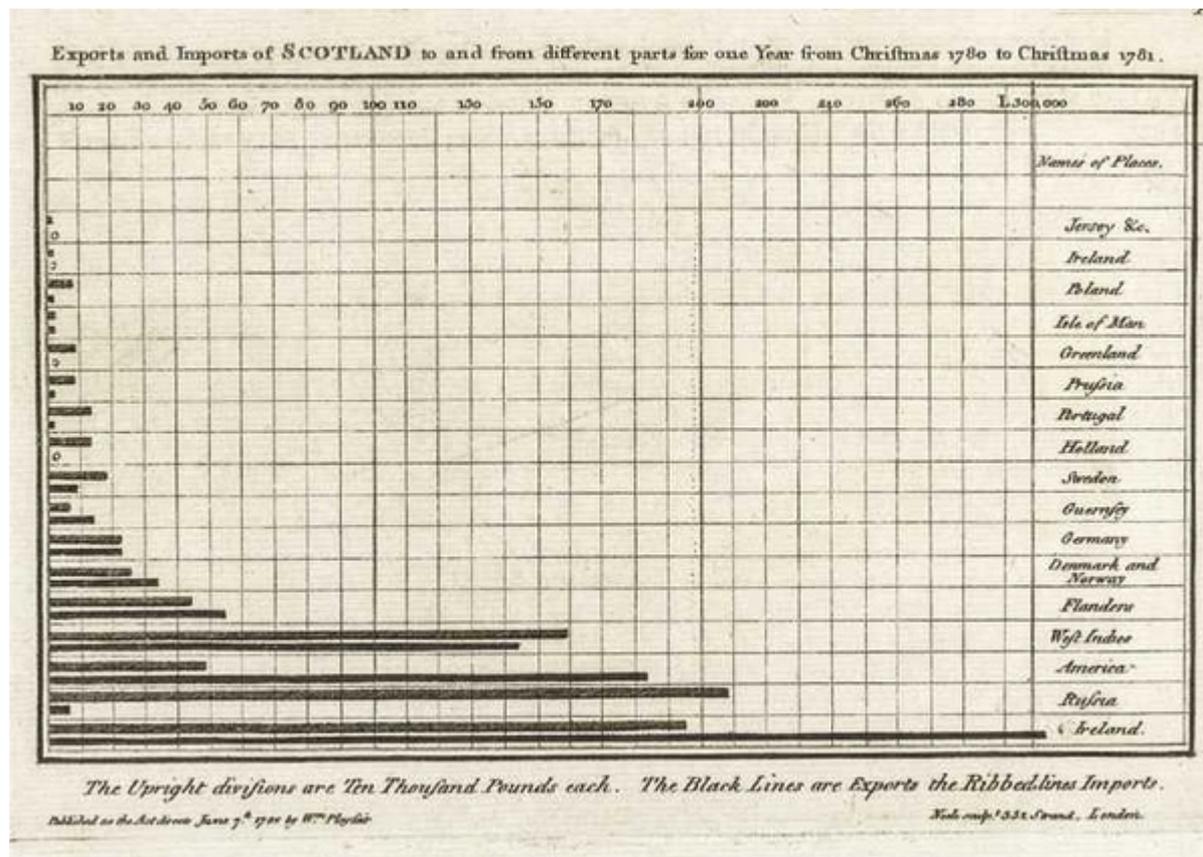
Exports and Imports to and from DENMARK & NORWAY from 1700 to 1780.



The Bottom line is divided into Years, the Right hand line into L10,000 each.
Published as the Act directs, 14th May 1786, by W^m Playfair *Neale sculpt 352, Strand, London.*

威廉·普莱费尔 (William Playfair , 1786) 绘制的线图

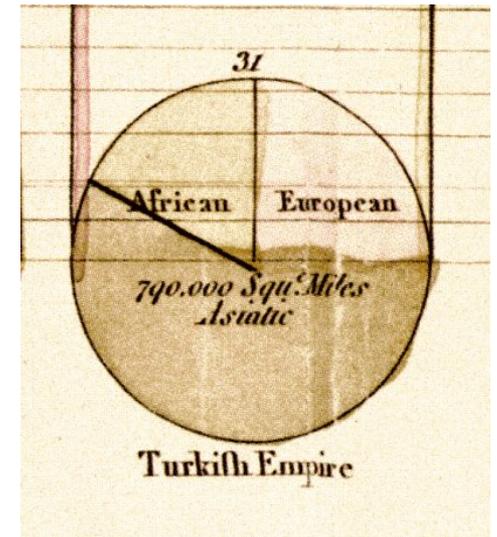
英格兰进出口时序数据



威廉·普莱费尔 (William Playfair , 1786) 绘制的条形图

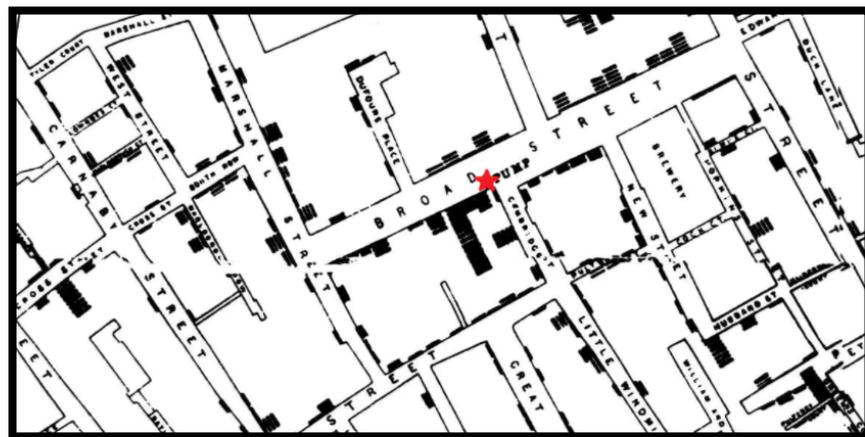
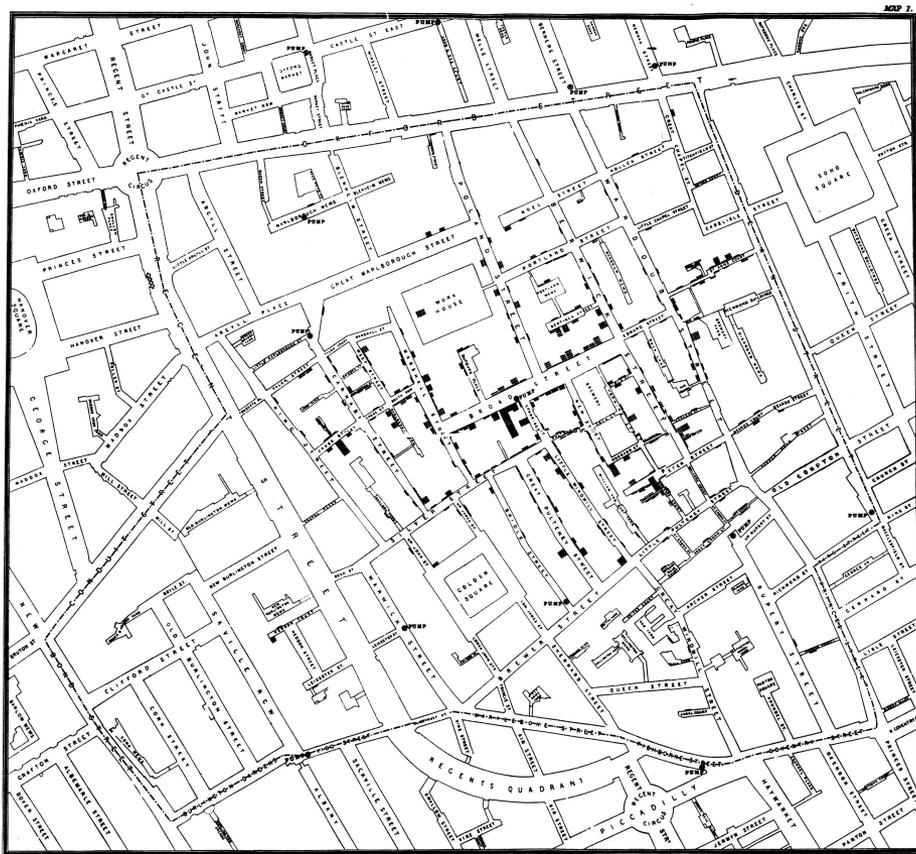
苏格兰的贸易伙伴

<https://hiplot.com.cn/books-static/msg-book/history.html#section>



威廉·普莱费尔 (William Playfair, 1801) 绘制的饼图

法国大革命前后一些欧洲国家的统计数据



1854 年英国 Broad 大街大规模爆发霍乱

约翰·斯诺 (John Snow) 绘制

<https://hiplot.com.cn/books-static/msg-book/history.html#section>

结构化与非结构化



结构化与非结构化



结构化数据

| | A | B | C | D | E | F | G |
|----|---------|-----------|---------------|--------------|----------------|-------------|--------|
| 1 | species | island | culmen_length | culmen_depth | flipper_length | body_mass_g | sex |
| 2 | Adelie | Torgersen | 39.1 | 18.7 | 181 | 3750 | MALE |
| 3 | Adelie | Torgersen | 39.5 | 17.4 | 186 | 3800 | FEMALE |
| 4 | Adelie | Torgersen | 40.3 | 18 | 195 | 3250 | FEMALE |
| 5 | Adelie | Torgersen | NA | NA | NA | NA | NA |
| 6 | Adelie | Torgersen | 36.7 | 19.3 | 193 | 3450 | FEMALE |
| 7 | Adelie | Torgersen | 39.3 | 20.6 | 190 | 3650 | MALE |
| 8 | Adelie | Torgersen | 38.9 | 17.8 | 181 | 3625 | FEMALE |
| 9 | Adelie | Torgersen | 39.2 | 19.6 | 195 | 4675 | MALE |
| 10 | Adelie | Torgersen | 34.1 | 18.1 | 193 | 3475 | NA |
| 11 | Adelie | Torgersen | 42 | 20.2 | 190 | 4250 | NA |
| 12 | Adelie | Torgersen | 37.8 | 17.1 | 186 | 3300 | NA |
| 13 | Adelie | Torgersen | 37.8 | 17.3 | 180 | 3700 | NA |
| 14 | Adelie | Torgersen | 41.1 | 17.6 | 182 | 3200 | FEMALE |
| 15 | Adelie | Torgersen | 38.6 | 21.2 | 191 | 3800 | MALE |
| 16 | Adelie | Torgersen | 34.6 | 21.1 | 198 | 4400 | MALE |
| 17 | Adelie | Torgersen | 36.6 | 17.8 | 185 | 3700 | FEMALE |

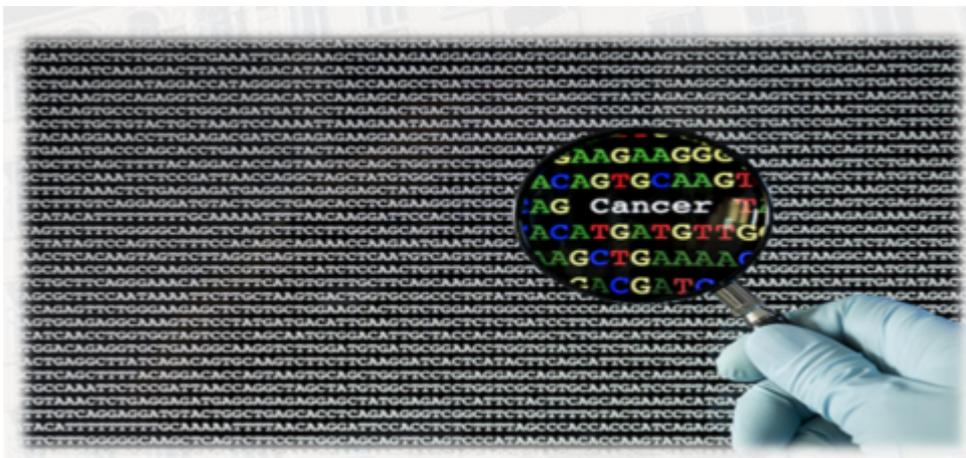
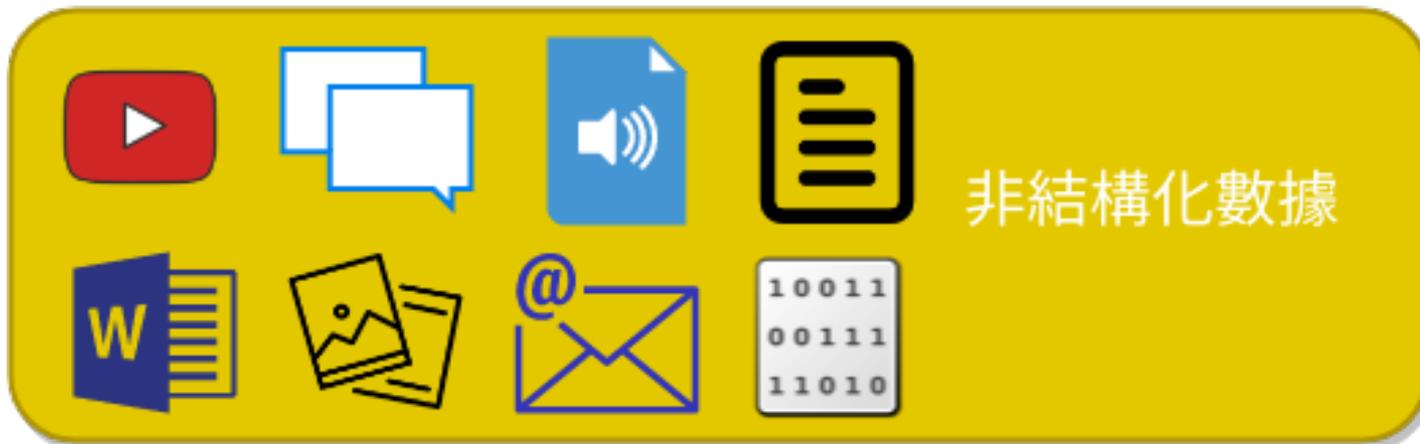
结构化与非结构化



半结构化数据

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1  
2 {  
3   "MedlineCitation": {  
4     "Status": "MEDLINE",  
5     "Owner": "NLM",  
6     "PMID": {  
7       "Text": "30957634",  
8       "Version": "1"  
9     },  
10    "DateRevised": {  
11      "Year": "2020",  
12      "Month": "11",  
13      "Day": "24"  
14    },  
15    "Article": {  
16      "PubModel": "Print-Electronic",  
17      "Journal": {  
18        "ISSN": {  
19          "Text": "1554-8635",  
20          "IssnType": "Electronic"  
21        },  
22        "JournalIssue": {  
23          "CitedMedium": "Internet",  
24          "Volume": "16",  
25          "Issue": "1",  
26          "PubDate": {  
27            "Year": "2020",  
28            "Month": "01"  
29          }  
30        },  
31        "Title": "Autophagy",  
32        "ISOAbbreviation": "Autophagy"  
33      },  
34      "ArticleTitle": {  
35        "Text": "The gene is a negative regulator of autophagy and ULK1 protein stability.",  
36        "I": [  
37          "PARK10",  
38          "USP24"  
39        ]  
40      }  
41    }  
42  }  
43 }
```

结构化与非结构化



常见可视化图形

Distribution



Violin



Density



Histogram



Boxplot



Ridgeline

——> 数据的分布规律

Correlation



Scatter



Heatmap



Correlogram



Bubble



Connected scatter



Density 2d

——> 数据变量间的关联规律

Ranking



Barplot



Spider / Radar



Wordcloud



Parallel



Lollipop



Circular Barplot

——> 数据的数值高低

Part of a whole



Grouped and Stacked barplot



Treemap



Doughnut



Pie chart



Dendrogram



Circular packing

——> 数据的归类及其占比

常见可视化图形

Evolution



Line plot



Area



Stacked area



Streamchart



Time Series

——→ 数据（时间）演化规律

Map



Map



Choropleth



Hexbin map



Cartogram



Connection



Bubble map

——→ 数据的空间规律

Flow



Chord diagram



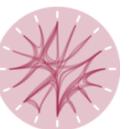
Network



Sankey



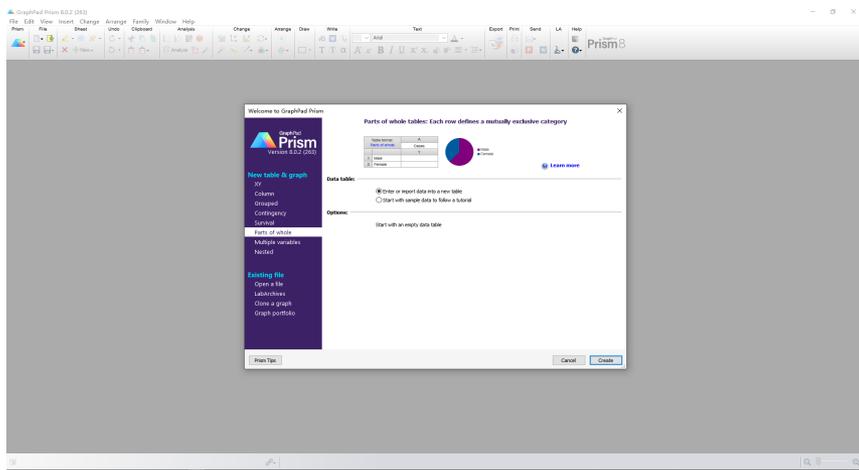
Arc diagram



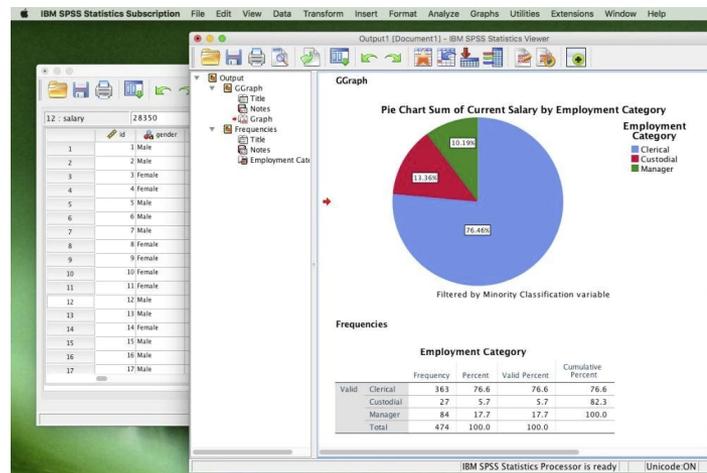
Edge bundling

——→ 数据的流动和网路

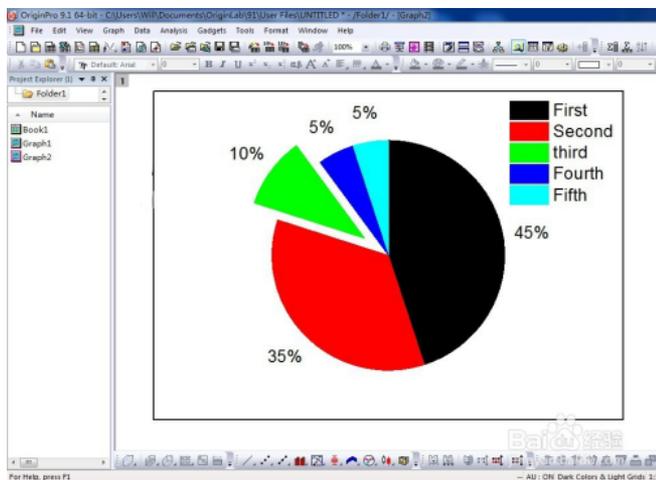
科研绘图实例 | 常用绘图工具



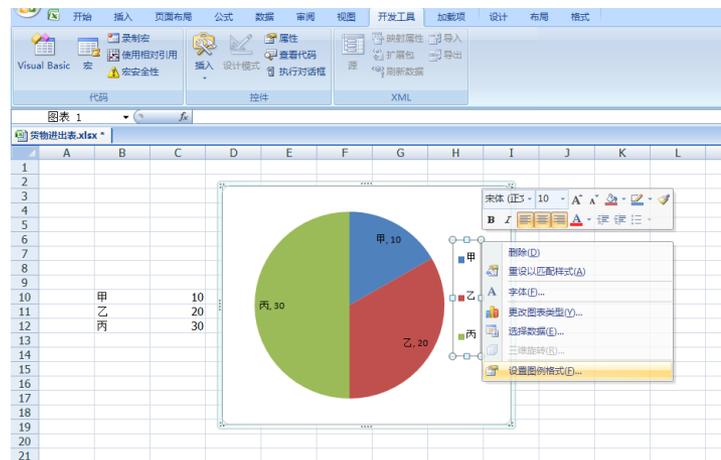
Graphpad



SPSS

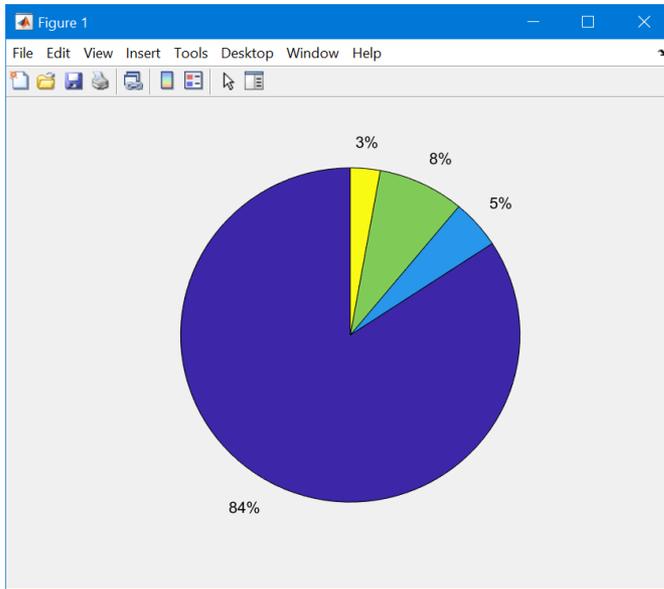


Origin

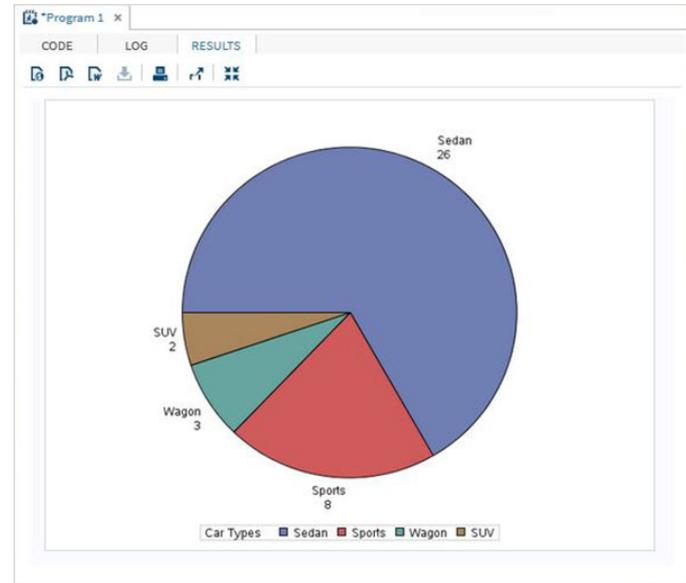


Excel

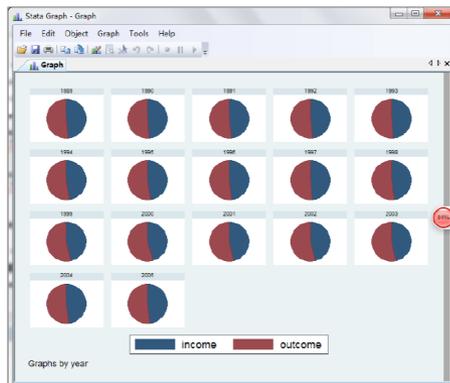
科研绘图实例 | 常用绘图工具



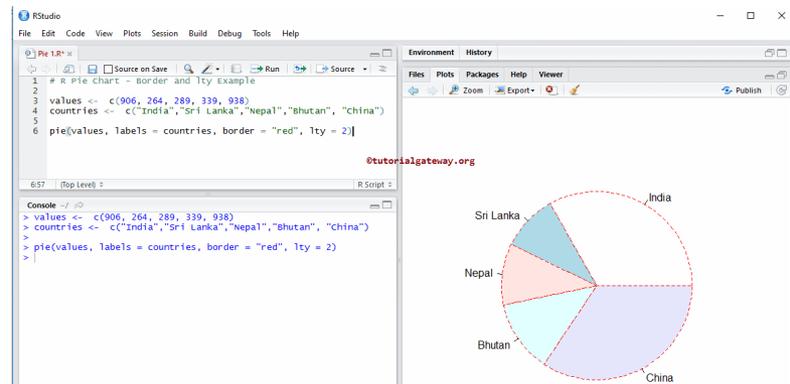
MATLAB



SAS

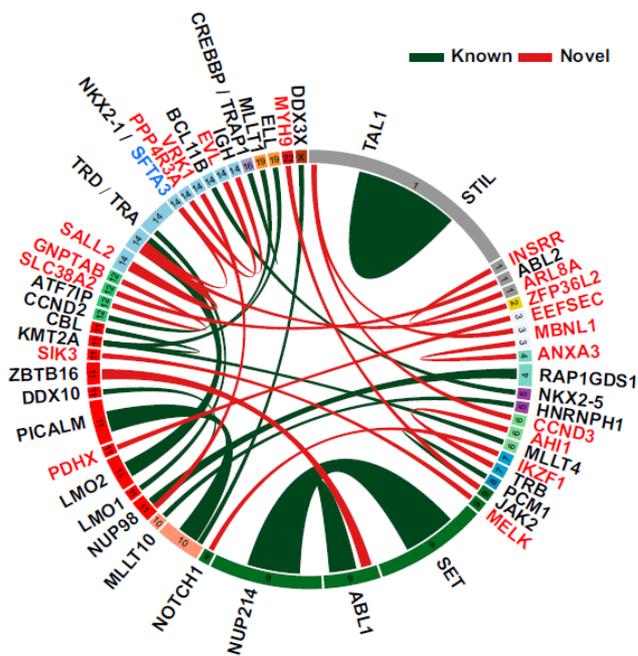


Stata



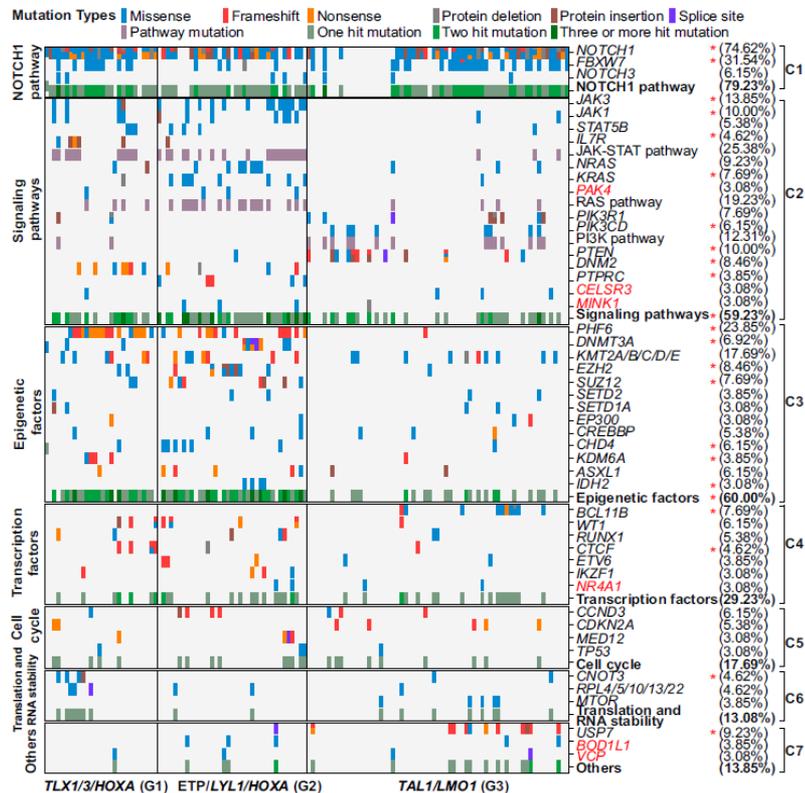
R

科研绘图实例 | 那些年画过的图

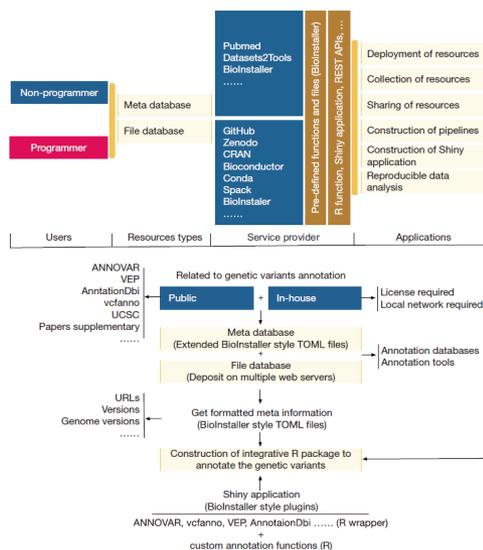
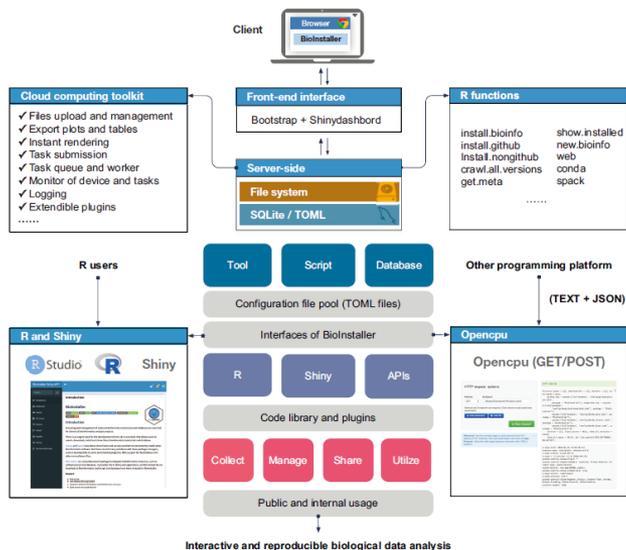
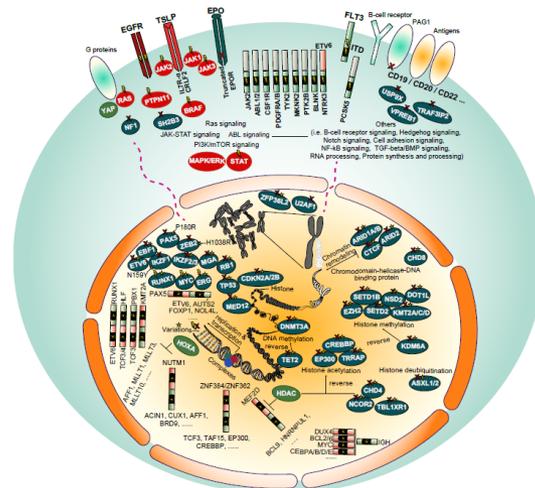
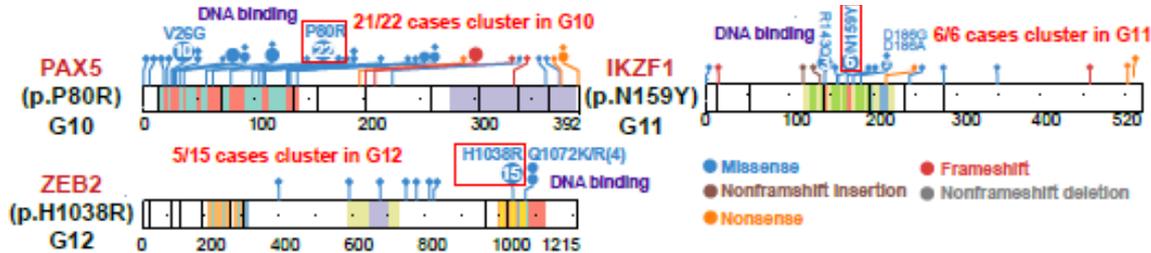


| Known Fusions | |
|----------------|----------------|
| STIL-TAL1 | DDX3X-MLLT10 |
| NUP214-ABL1 | HNRNPH1-MLLT10 |
| *SET-NUP214 | PICALM-MLLT10 |
| NUP98-DDX10 | NKX2-5-BCL11B |
| NUP98-RAP1GDS1 | PCM1-JAK2 |
| KMT2A-CBL | CREBBP-TRAP1 |
| KMT2A-ELL | LMO1-TRA |
| KMT2A-MLLT1 | LMO2-TRA |
| KMT2A-MLLT4 | CCND2-TRA |

| Novel Fusions | | | |
|----------------|--------------|-------|-------|
| Type1 | Type2 | Type3 | Type4 |
| *SLC38A2-ABL2 | *CCND3-STIL | | |
| *GNPTAB-ATF7IP | EVL-NKX2-1 | | |
| *ARL8A-INSRR | *EVL-SFTA3 | | |
| MELK-SIK3 | | | |
| MBNL1-TAL1 | *ZFP36L2-TRA | | |
| ZBTB16-ABL1 | TRB-AHI1 | | |
| MYH9-JAK2 | TRA-SALL2 | | |
| EEFSEC-PDHX | TRD-NKX2-1 | | |
| MBNL1-ANXA3 | | | |
| NUP98-VRK1 | | | |
| IKZF1-NOTCH1 | PPP4R3A-IGH | | |



科研绘图实例 | 那些年画过的图

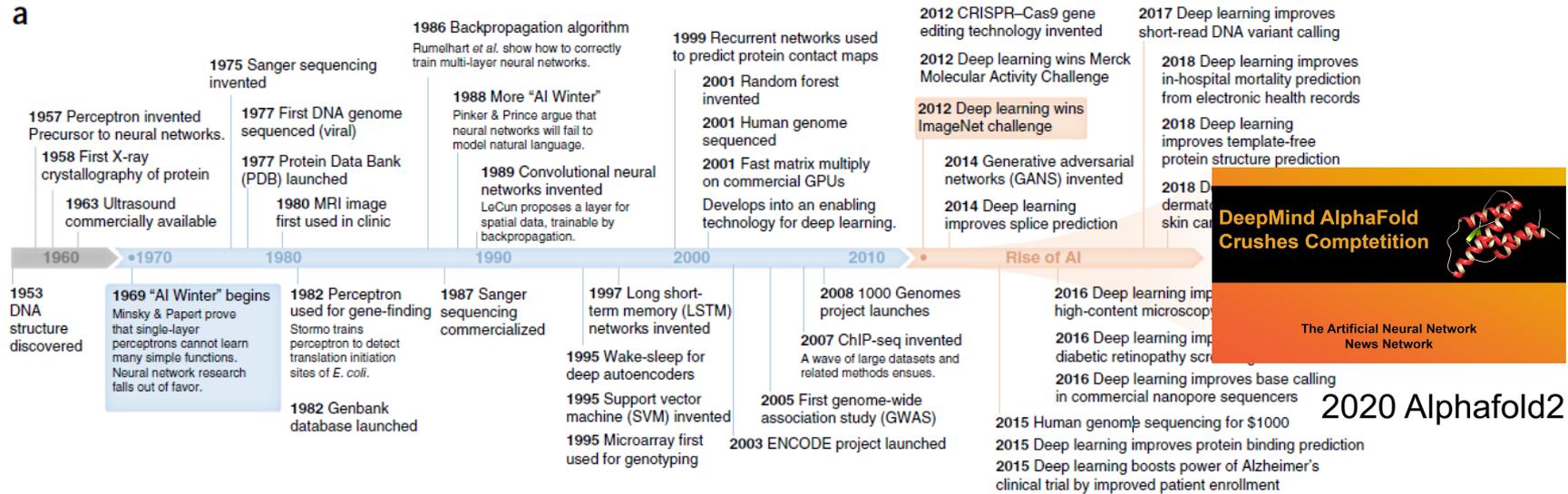


| Major points for reproducible NGS data analysis projects | | |
|--|---|---|
| Meta information | Regular directory structure and filenames | Unified pipelines/workflows |
| Analysis environment | Logging and History | Interactive results and document report |

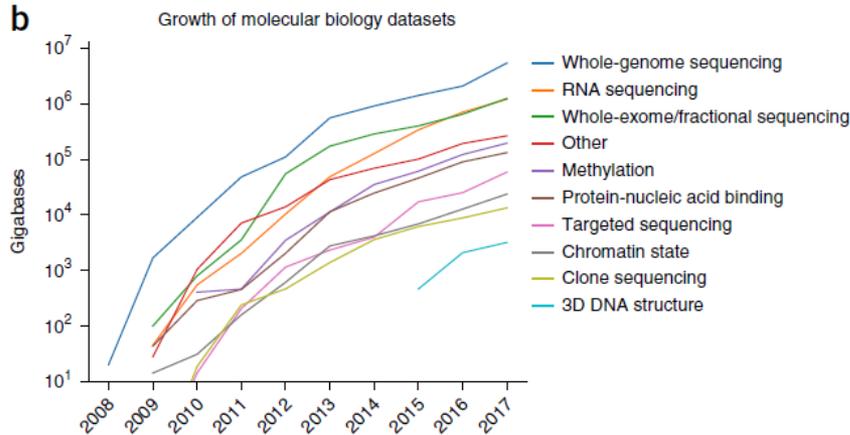
| | |
|--|---|
| <p>Meta information (For all involved resources and computations.)</p> <pre> /path/project/{...}/meta.{json yaml toml} [SQLite MongoDB PostgreSQL MySQL ...] [xlsx for communication with collaborator] </pre> | <p>Regular directory structure and filenames</p> <pre> doc/ data/ analysis/ test/ download/ {...} {...}[wgs wes maseq chipseq ataseq ...] (time stamp)_{taskid}_{sampleid}{...} </pre> |
| <p>Unified pipelines/workflows</p> <pre> [Snakemake WDL Nextflow Bpipe ...] </pre> <p>Using fixed software parameters in the same project based on configuration files or command line scripts.</p> <p>Using pipelines/workflows with code quality control and assessment of performance.</p> | <p>Analysis environment</p> |
| <p>Logging and history</p> <p>Recording the executed tasks, commands and scripts with the date, system status, user id, etc. (Log files with unique index)</p> <p>Using version control tools for codes and analysis. Keeping backup copies of result. (with data analysis environment)</p> | <p>Interactive results and document report</p> |

Hiplot 可视化平台简介 | 背景

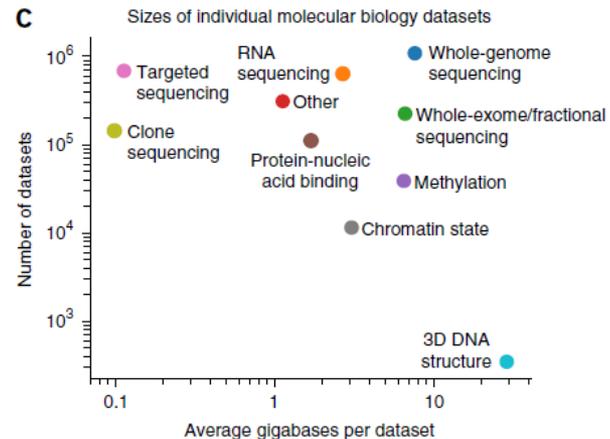
a



b

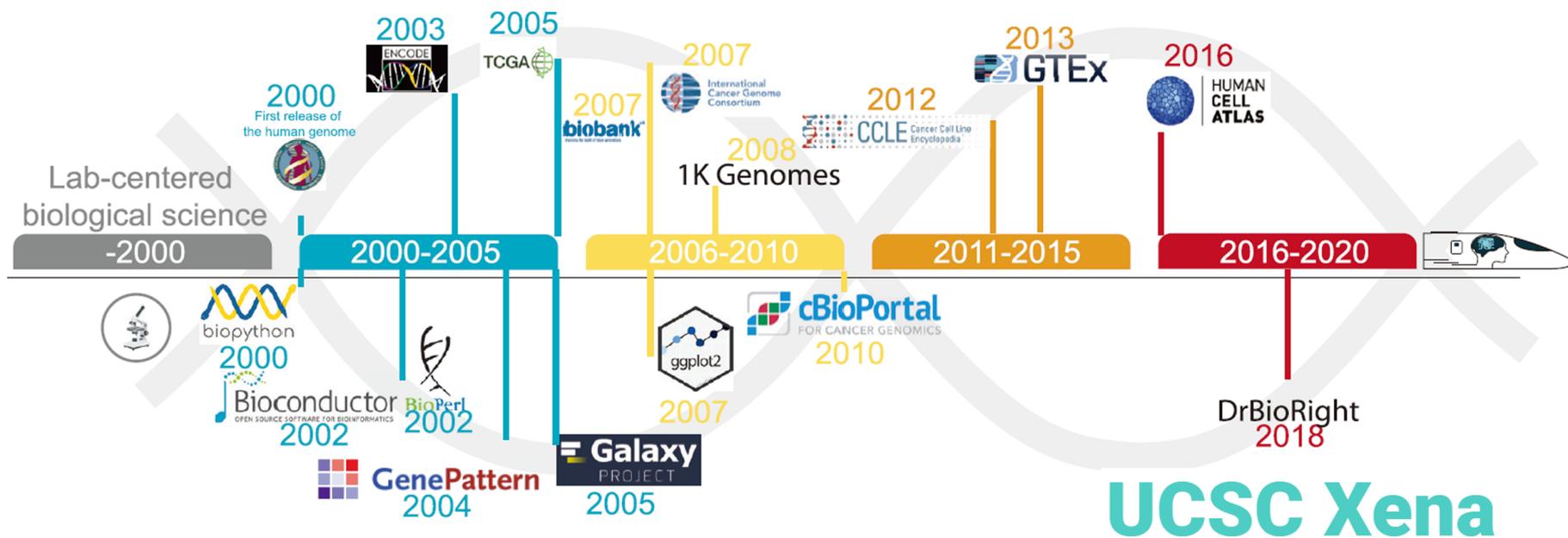


c



由技术和数据驱动的生物医学研究迎来发展黄金时期

Hiplot 可视化平台简介 | 背景



过去 20 年期间，组学数据相关的知名数据分析平台和工具

Hplot 可视化平台简介 | 背景



Pinned

tidyverse/ggplot2
An implementation of the Grammar of Graphics in R
● R ☆ 4.7k 🍴 1.7k

tidyverse/dplyr
dplyr: A grammar of data manipulation
● R ☆ 3.6k 🍴 1.3k

tidyverse/tidyverse
Easily install and load packages from the tidyverse
● R ☆ 977 🍴 207

r4ds
R for data science: a book
● R ☆ 2.7k 🍴 3.3k

r-lib/devtools
Tools to make an R developer's life easier
● R ☆ 2k 🍴 709

adv-r
Advanced R: a book
● TeX ☆ 1.8k 🍴 1.6k

4,446 contributions in the last year



2020
2019
2018
2017

Create Elegant Data Visualisations Using...
ggplot2.tidyverse.org

Access RStudio's ggplot2 in Pytho...
medium.com

3.3 A ggplot2 Tangent | R for Statistics I...
bookdown.org

Visualizing data with R/ggplot...
thenode.biologists.com

Combining Inset Plots with Facets using ...
blogig.com

RPubs - 2017 Workshop on Genomics Ex...
rpubs.com

The Complete ggplot2 Tutorial - Part 1 | Intro...
r-statistics.co

ggplot2 - Easy Way to M...
sthda.com

Create Legend in ggplot2 Plot ...
statisticsglobe.com

Create Elegant Data Visualisations Using the Gram...
ggplot2.tidyverse.org

Best Introduction to GGPlot2 - Datanovia
datanovia.com

Changing Glyph in legend in ggplot2 | ...
fvitfeldt.me

What is a good ggplot2 tuto...
quora.com

An Introduction to 'ggplot2' - UC Business Analyti...
uc-r.github.io

Plotting background data for groups with ggplot2
drsimonj.svbtle.com

ggplot2: Mapping vs Setting | ...
r-bloggers.com

How do I remove the '_printed_output warnings...'
stackoverflow.com

ggplot2: aes(group = ...) overrides default grouping ...
gh-li.com

Beautiful thematic maps with ...
timogrossenbacher.ch

Reordering and facetti...
juliasilge.com

2019-08-26用ggplot2画“美国”... 简书
jianshu.com

Hadley Wickham

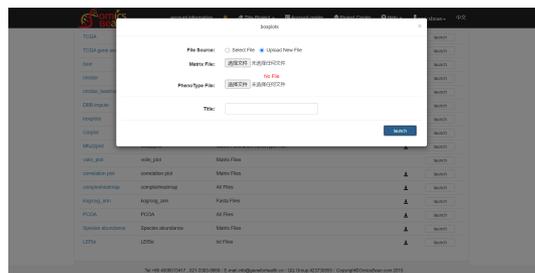
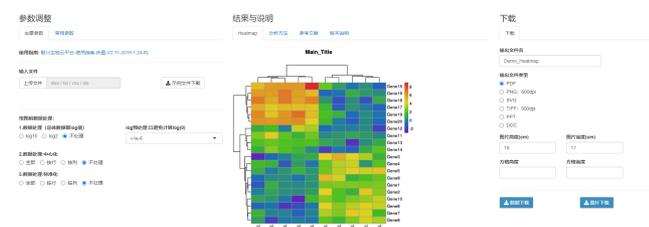
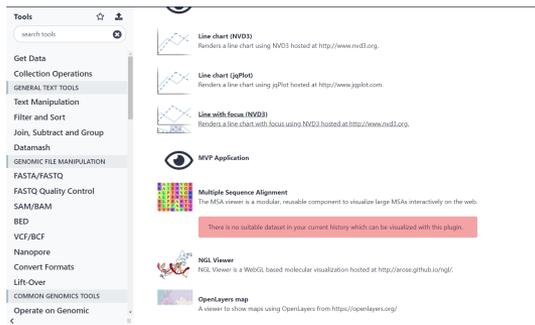




HI PLOT

Hiplot 可视化平台简介 | 背景

动机和目标



我们希望构建一个更优秀、更全面的工具

(重新定义科研数据可视化云工具)

界面简洁、上手简单、即开即用、无广告、不收费

功能丰富、易扩展

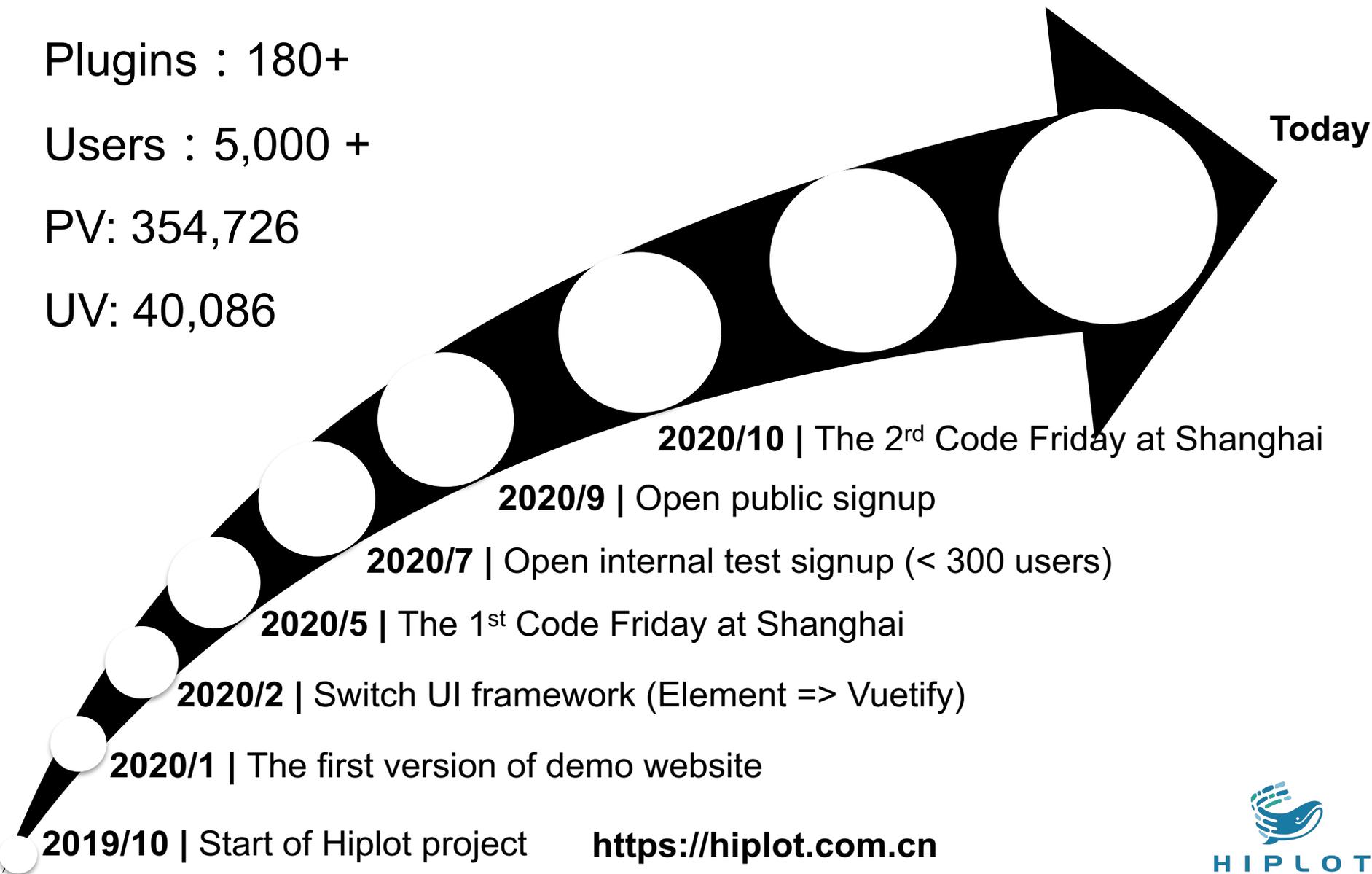
Hiplot 可视化平台简介 | 发展历程

Plugins : 180+

Users : 5,000 +

PV: 354,726

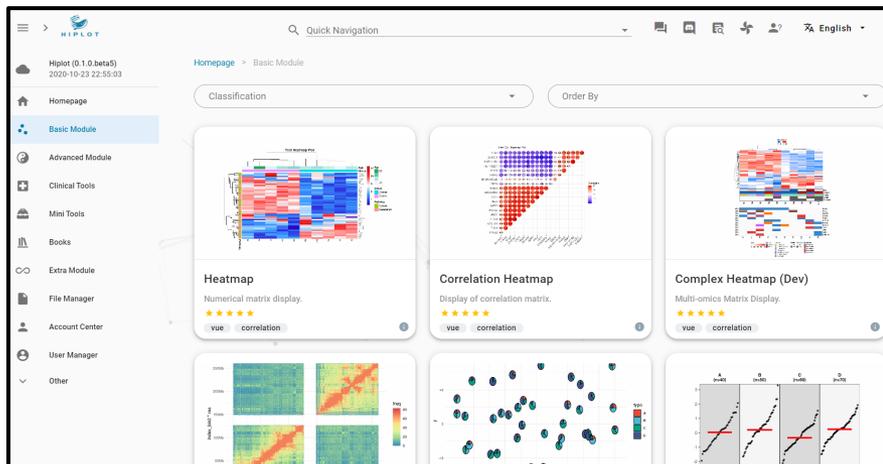
UV: 40,086



<https://hiplot.com.cn>

Hiplot 可视化平台简介 | 主要模块

Web Interface



CLI

```
ljf@head1 ~$ hctl
Command-line client to draw plots of [Hiplot](https://hiplot.com.cn) website. More se

Usage:
hctl [flags]
hctl [command]

Available Commands:
config  Initializing a config.json file of hiplot application.
help    Help about any command
login   Login Hiplot Website.
plot    Plot functions of Hiplot Website.

Flags:
-h, --help                help for hctl
--log-dir string          log dir. (default "/cluster/home/ljf/_log")
-o, --out-dir string       output dir. (default "/cluster/home/ljf")
--save-log                Save log to file.
-k, --task-id string       task ID (default is random). (default "d4f728c2-1d33-4559-bb
--verbose int              verbose level (0:no output, 1: basic level, 2: with env info
-v, --version              version for hctl

Use "hctl [command] --help" for more information about a command.
```

Basic, Advanced,
Mini-tools, and Clinical-tools Modules

File Manager

Task Manager

User Manager

Setting

Extra Module

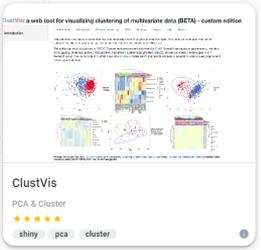
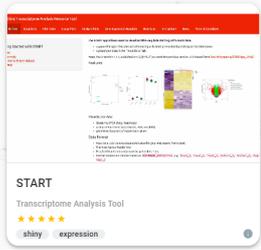
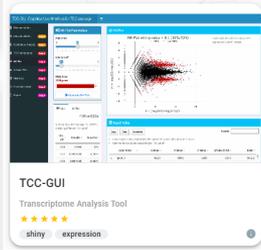
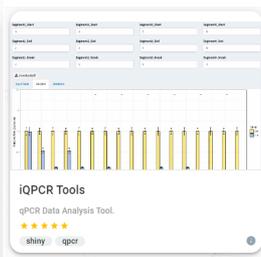
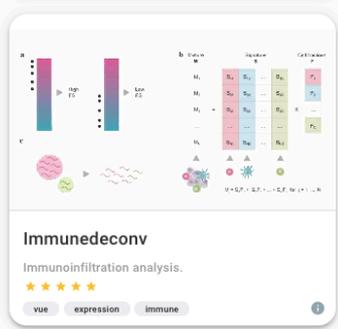
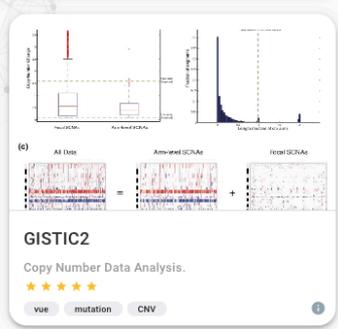
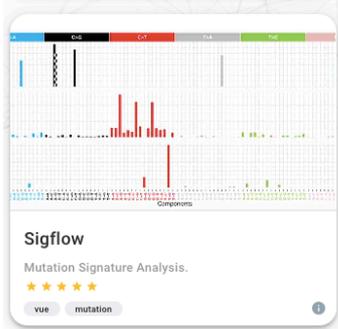
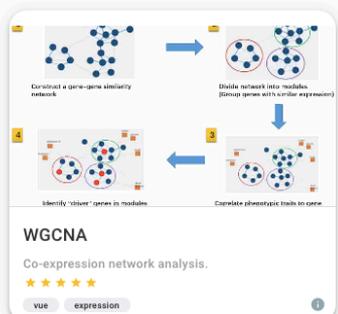
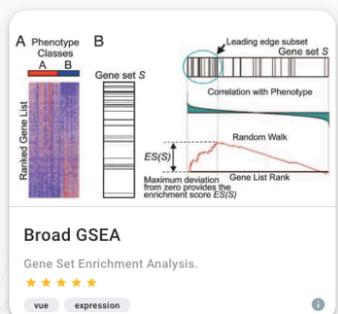
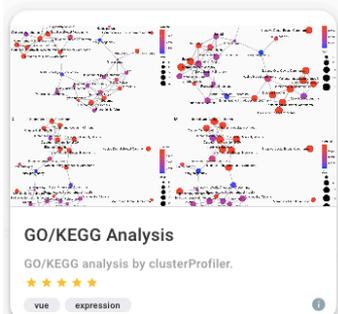
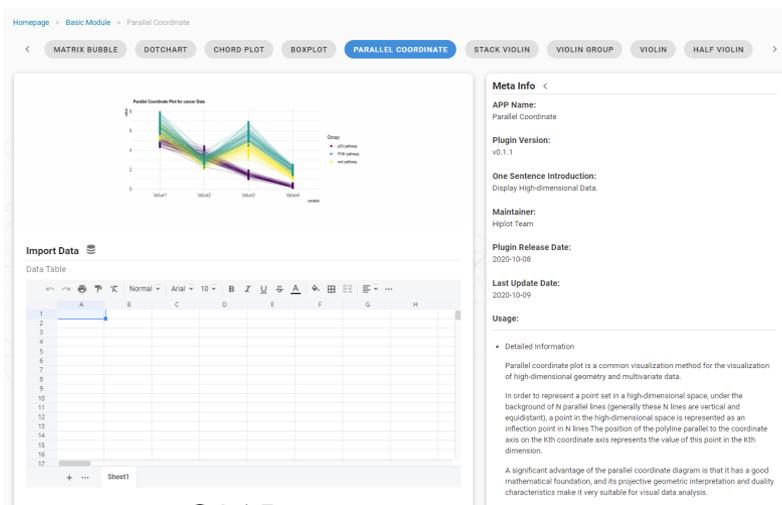
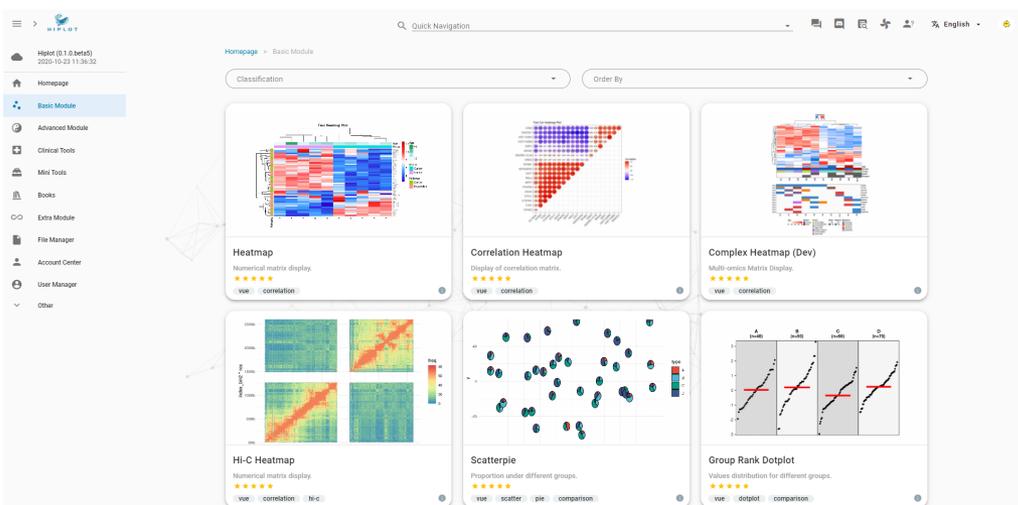
Q&A

Feedback

Mirrors

Components of Hiplot

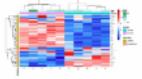
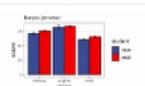
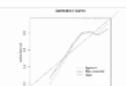
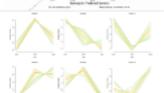
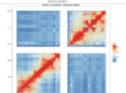
Hiplot 可视化平台简介 | 网页接口



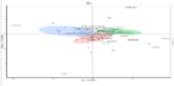
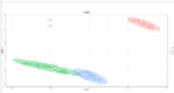
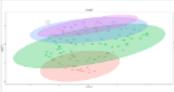
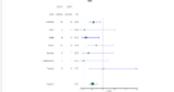
Screenshot of Hiplot



Hiplot 可视化平台简介 | 网页接口

| | A | B | C | D | E | F | G | H |
|----|--------------------|----------------------------|--------|---|--|---|---|---|
| 1 | Tool Name | Tags | Module | Description | Input | Output & Interpretation | App Address | Thumbnail |
| 2 | Heatmap | Correlation | Basic | An intuitive and visual method for analyzing the distribution of data | Numeric matrix (i.e. FPKM and TPM) | Represent the levels of input data (i.e. gene expression); conduct unsupervised clustering finding potential patterns | https://hiplot.com.cn/basic/heatmap |  |
| 3 | Matrix Bubble | Gene Expression | Basic | The color matrix bubble is used to visualize the expression matrix data of multiple genes (rows) in various cells (columns). | <1st-col>: (String) cell sample name as X axis, <2nd-col>: (String) gene name as the Y axis, <3rd-col>: (Numeric) Gene expression, [4th-col]: (String) groups. | Color matrix bubble diagram of genes expression level in multiple cells. | https://hiplot.com.cn/basic/matrix-bubble |  |
| 4 | Chord Plot | Interaction | Basic | The complex interaction is visualized in the form of chord graph. | Data frame or matrix of interaction of genes with pathways or gene ontologies. | Chord graph of genes with KEGG pathways or GO terms. | https://hiplot.com.cn/basic/chord |  |
| 5 | Violin Group | Comparison | Basic | Violin and box plot of grouped data with T-test. | Data frame. <1st-col>: (Numeric) value data, <2nd-col>: (String) 1st-rank groups, <3rd-col>: (String) 2nd-rank groups. | Visualizing all data that meets this need and structure. | https://hiplot.com.cn/basic/violin-group |  |
| 6 | Stack Violin | Gene Expression | Basic | The expression of key genes in each cluster in single-cell transcriptomic (Single Cell RNA-Seq) analysis. | Gene expression matrix. Gene expression matrix in all cells and groups in single cell transcriptome analysis (Single Cell RNA-Seq). | Stacked violin diagram of key genes (Y axis) and cell clusters (X axis). Genes expression value are presented by violins. | https://hiplot.com.cn/basic/stack-violin |  |
| 7 | Barplot (Errorbar) | Comparison | Basic | Bar plot with error-lines and groups. | Data frame. <1st-col>: (Numeric) values as Y-axis. <2nd-col>: (Numeric or String) classes as X-axis. <3rd-col>: (String) groups as colors and legend. | Bar plot with error-lines and groups. The color and width of error-lines can be regulated by web components. | https://hiplot.com.cn/basic/barplot-errorbar |  |
| 8 | Calibration Curve | Model | Basic | The calibration curve is used to evaluate the consistency / calibration, i.e. the difference between the predicted value and the real value | Data frame of multi columns data (Numeric allow NA). i.e the survival data (status with 0 and 1). | Calibration curve visualization of LM or COX model. | https://hiplot.com.cn/basic/calibration-curve |  |
| 9 | Gene Cluster Trend | Gene Expression Clustering | Basic | Visualization and soft clustering of time series gene expression data based on Mfuzz R package. | Gene expression matrix. A data frame of multi-column data with the first column contains unique gene IDs and the rest of the columns contains time series gene expression data. | Multi-line charts displaying different gene expression trends based on soft clustering. | https://hiplot.com.cn/basic/gene-trend |  |
| 10 | Gene Density | Density | Basic | The gene density plot is used to calculate gene density across every chromosome and visualize their distribution on the chromosome. | Two files containing the chromosome length and gene positions on the chromosome. Each file contains three columns, the first with the chromosome name, the second and third with the start and end position of every gene or chromosome. | Gene density distribution across every chromosome. | https://hiplot.com.cn/basic/gene-density |  |
| 11 | HiC Heatmap | Correlation | Basic | The HiC heatmap is used to display the interaction frequency matrix of HiC data with selected resolution. | Numeric matrix. A data frame containing three columns, the first with the bin1 index, the second with the bin2 index and the third with the frequency value. | Heatmap displaying the frequency intensity between two different bin sites across every chromosome. | https://hiplot.com.cn/basic/hic-heatmap |  |

Hiplot 可视化平台简介 | 网页接口

| | Tool Name | Tags | Module | Description | Input | Output & Interpretation | App Address | Thumbnail |
|----|-----------------------|---------------------|---------|---|--|--|---|---|
| 18 | Genome Circos | Genomics | Advance | The information contained in genome is displayed in the form of circle in the whole genome map. | Multiple files include chrome data as outermost ring, heatmap data, histogram data, scatter data, ribbon data, link data, etc. | Genome multiple circles ring from outermost to innermost ring to display genome information. | https://hiplot.com.cn/advance/genome-circos |  |
| 19 | Gene ID Convert | Gene | Advance | According to the information records of genes in a variety of databases, the ID of multiple genes is converted into the ID of one or more databases. | One column contains the gene ID. | A data frame contains multi-columns gene ids corresponding databases. | https://hiplot.com.cn/advance/genome-circos |  |
| 20 | miRNA Gene Prediction | MiRNA | Advance | Simultaneously search multiple miRNA databases to predict the target genes of miRNA. | The name of one or more miRNAs. File or input in area of text is supported. | A data frame contains miRNA and target genes with detail information from differential miRNA databases. | https://hiplot.com.cn/advance/mirna-prediction |  |
| 21 | Point Density | Combination | Advance | Integrate scatter plot and density plot together to visualize complex grouped data. | Data frame. <1st-col>: (Numeric) X-axis data. <2nd-col>: (Numeric) Y-axis data. <3rd-col>: (String) groups name. | A diagram of integrating scatter and density plots. | https://hiplot.com.cn/advance/point-density |  |
| 22 | RDA Visual | Dimension Reduction | Advance | Redundancy analysis (RDA) is a sort method combining regression analysis with principal component analysis, and it is also an extension of multiple response regression analysis. | Three tables needed. <1st-table>: (Data frame) species data. <2nd-table>: (Data frame) environment data. <3rd-table>: (Data frame) simple with group data. | Diagram. Dimension reduction thinking solves the problem of correlation between species and environmental factors and visualizes the results. | https://hiplot.com.cn/advance/rda-visual |  |
| 23 | Echarts | Animation | Advance | The data interface of echarts.js is integrated into R language and the data and visualization process are controlled by web components. | Data frame for different applications. | Diagrams of bar plot, line plot, scatter plot, etc. | https://hiplot.com.cn/advance/echarts |  |
| 24 | T-SNE Ellipse | Dimension Reduction | Advance | T-SNE: t-distributed Stochastic Neighbor Embedding. | Data frame. <1st-col>: (String) record id as point label. <mid-col>: (Numeric) middle cols with numeric value <end-col>: (String) groups name. | Diagram with points, arrows, 95%CI ellipses after t-SNE dimension reduction. | https://hiplot.com.cn/advance/tsne-ellipse |  |
| 25 | UMAP Ellipse | Dimension Reduction | Advance | Uniform Manifold Approximation and Projection for Dimension Reduction | Data frame. <1st-col>: (String) record id as point label. <mid-col>: (Numeric) middle cols with numeric value <end-col>: (String) groups name. | Diagram with points, arrows, 95%CI ellipses after UMAP dimension reduction. | https://hiplot.com.cn/advance/umap-ellipse |  |
| 26 | Forestplot | Survival Analysis | Advance | In addition to meta-analysis, forest mapping is also widely used in observational studies and clinical trials, such as risk analysis / survival analysis. | Two tables needed. <1st-table>: <1st-col>: (Numeric) mean data. <2nd-col>: (Numeric) lower data. <3rd-col>: (Numeric) upper data. <2nd-table>: (String or Numeric) text table. | Diagram of forest plot. | https://hiplot.com.cn/advance/forestplot |  |
| 27 | CM Plot | Genetic Variation | Advance | A high-quality drawing tool designed for Manhattan plot of genomic analysis. | Data frame. <1st-col>: (String) SNP ID. <2nd-col>: (Numeric) chromosome ID. <3rd-col>: (Numeric) position. <4th-col> ~ <nth-col>: (Numeric) | Diagrams with circular_manhattan, rectangular_manhattan, multitracks_manhattan, multitraits_manhattan, snp_density, qqplot, multitracks_qqplot and multitraits_qqplot. | https://hiplot.com.cn/advance/cmplot |  |

Hiptot 可视化平台简介 | 命令行程序

Command-line client to draw plots of [Hiptot](<https://hiplot.com.cn>) website. More see here <https://github.com/hiplot>.

Usage:

```
hctl [flags]
hctl [command]
```

Available Commands:

```
config    Initializing a config.json file of hiplot application.
help      Help about any command
login     Login Hiplot Website.
plot      Plot functions of Hiplot Website.
```

Flags:

```
-h, --help                help for hctl
--log-dir string         log dir. (default "/home/cfd/code-friday/part2/se07/_log")
-o, --out-dir string     output dir. (default "/home/cfd/code-friday/part2/se07")
--save-log              Save log to file.
-k, --task-id string     task ID (default is random). (default "001667f9-c2d2-43a9-8952-4f93e60b0cbc")
--verbose int           verbose level (0: no output, 1: basic level, 2: with env info) (default 1)
-v, --version           version for hctl
```

Use "hctl [command] --help" for more information about a command.

```
# https://hiplot.com.cn/docs/download/#hctl
```

```
hctl plot -c _demo/heatmap/config2.json -t heatmap -o /tmp/hiplot-pure-remote-data-
mode
```

```
hctl config basic/heatmap
```

这是我在世界范围内看到的最好的生信产品。

木烁 (知乎用户)

在我个人看来这个平台的意义不亚于 ggplot 的发布
(ggplot 也是大神的博士论文,基本上重新定义了 R
绘图的方式)。

Hplot 可视化平台简介 | 数据的导入和导出

Upload File

Upload File

| File Name | File Size | Progress | Speed | Status | Operation |
|---|-----------|----------|-------|--------|-----------|
| Rows per page: 5 | | | | | |

upload

🔍 📧 📁 📄 ▶ 🔄 ✕

Upload File

Upload File

| File Name | File Size | Progress | Speed | Status | Operation |
|-------------|-----------|--|----------|-----------|-----------|
| ng.3969.pdf | 588.83 KB | <div style="width: 21.73%; background-color: #00728f; height: 10px;"></div> 21.73% | 80.00 KB | Uploading | 🔄 ▶ ✕ |

upload

🔍 📧 📁 📄 ▶ 🔄 ✕

View File

| File/Directory Name | Modified Date | Detail |
|---------------------|------------------|-------------|
| ▶ 📁 data | 2020-10-06 04:06 | 152.23 MB ⓘ |
| ▶ 📁 public | 2020-09-29 22:07 | 21.54 GB ⓘ |
| ▶ 📁 tasks | 2020-11-15 22:07 | 210.34 MB ⓘ |
| ▶ 📁 upload | 2020-11-22 12:02 | 207.10 MB ⓘ |

📁 + + 📄 📄 🗑️

View file (cor-heatmap-df(Table-features))

View file (cor-heatmap-df(Table-features))

View file (prams.json)

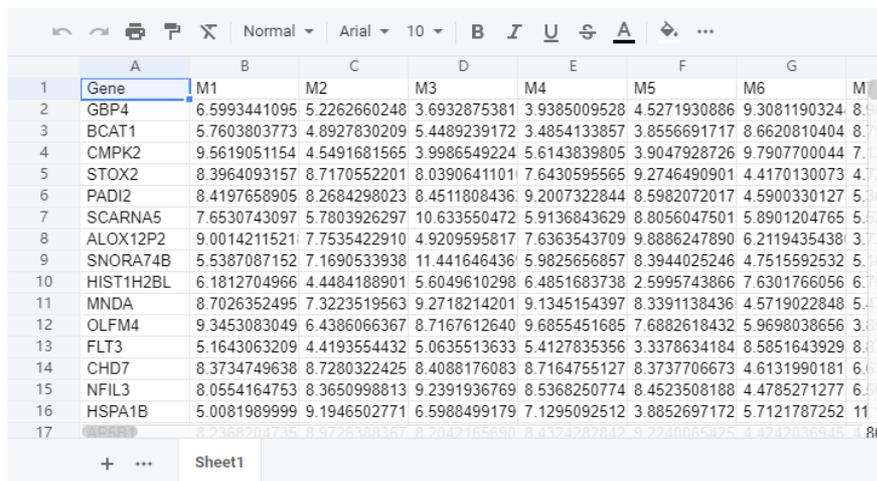
文件管理模块

HIPLLOT

Hiplot 可视化平台简介 | 数据的导入和导出

Import Data 

Counts



| | A | B | C | D | E | F | G | M |
|----|-----------|--------------|--------------|--------------|--------------|--------------|--------------|----|
| 1 | Gene | M1 | M2 | M3 | M4 | M5 | M6 | M |
| 2 | GBP4 | 6.5993441095 | 5.2262660248 | 3.6932875381 | 3.9385009528 | 4.5271930886 | 9.3081190324 | 8. |
| 3 | BCAT1 | 5.7603803773 | 4.8927830209 | 5.4489239172 | 3.4854133857 | 3.8556691717 | 8.6620810404 | 8. |
| 4 | CMPK2 | 9.5619051154 | 4.5491681565 | 3.9986549224 | 5.6143839805 | 3.9047928726 | 9.7907700044 | 7. |
| 5 | STOX2 | 8.3964093157 | 8.7170552201 | 8.0390641101 | 7.6430595565 | 9.2746490901 | 4.4170130073 | 4. |
| 6 | PADI2 | 8.4197658905 | 8.2684298023 | 8.4511808436 | 9.2007322844 | 8.5982072017 | 4.5900330127 | 5. |
| 7 | SCARNA5 | 7.6530743097 | 5.7803926297 | 10.633550472 | 5.9136843629 | 8.8056047501 | 5.8901204765 | 5. |
| 8 | ALOX12P2 | 9.0014211521 | 7.7535422910 | 4.9209595817 | 7.6363543709 | 9.8886247890 | 6.2119435438 | 3. |
| 9 | SNORA74B | 5.5387087152 | 7.1690533938 | 11.441646436 | 5.9825656857 | 8.3944025246 | 4.7515592532 | 5. |
| 10 | HIST1H2BL | 6.1812704966 | 4.4484188901 | 5.6049610298 | 6.4851683738 | 2.5995743866 | 7.6301766056 | 6. |
| 11 | MNDA | 8.7026352495 | 7.3223519563 | 9.2718214201 | 9.1345154397 | 8.3391138436 | 4.5719022848 | 5. |
| 12 | OLFM4 | 9.3453083049 | 6.4386066367 | 8.7167612640 | 9.6855451685 | 7.6882618432 | 5.9698038656 | 3. |
| 13 | FLT3 | 5.1643063209 | 4.4193554432 | 5.0635513633 | 5.4127835356 | 3.3378634184 | 8.5851643929 | 8. |
| 14 | CHD7 | 8.3734749638 | 8.7280322425 | 8.4088176083 | 8.7164755127 | 8.3737706673 | 4.6131990181 | 6. |
| 15 | NFIL3 | 8.0554164753 | 8.3650998813 | 9.2391936769 | 8.5368250774 | 8.4523508188 | 4.4785271277 | 6. |
| 16 | HSPA1B | 5.0081989999 | 9.1946502771 | 6.5988499179 | 7.1295092512 | 3.8852697172 | 5.7121787252 | 11 |
| 17 | | | | | | | | 8F |



表格模式

Import Data 



文件选择模式

在绘图插件内导入和导出数据

Hiplot 可视化平台简介

Set Parameters

General Parameters

Task Name 36 / 80

Color Theme

Image Export

Width 10

Height 6

Extra Parameters

X-axis Label

Y-axis Label

Draw Cluster Centre Line

clusterNum 6

Threshold 0.25

minStd 0

绘图参数的导入和导出

Hiplot 可视化平台简介

Import Data

Data Table

| | A | B | C | D | E | F | G | H |
|----|--------|--------------|--------------|--------------|---|---|---|---|
| 1 | Gene | Time1 | Time2 | Time3 | | | | |
| 2 | Gene1 | 0.177499257 | 1.656322608 | -1.152599476 | | | | |
| 3 | Gene2 | -0.503725421 | -0.520702419 | 0.464160706 | | | | |
| 4 | Gene3 | 0.105031041 | 0.607924643 | 0.728932466 | | | | |
| 5 | Gene4 | -1.179153671 | 0.434008479 | 0.410617452 | | | | |
| 6 | Gene5 | 0.836897519 | -0.704741404 | -1.461147201 | | | | |
| 7 | Gene6 | 0.261176197 | 0.1351524 | -0.018908087 | | | | |
| 8 | Gene7 | -0.980908166 | -1.816985462 | 1.693447821 | | | | |
| 9 | Gene8 | 2.232676289 | 0.167520631 | 0.00939061 | | | | |
| 10 | Gene9 | -0.585196644 | 0.270986389 | 0.496784993 | | | | |
| 11 | Gene10 | -0.90649207 | 0.566325965 | 0.166798808 | | | | |
| 12 | Gene11 | -0.896435942 | -0.491282333 | -0.236924039 | | | | |
| 13 | Gene12 | -0.528919528 | 0.494414799 | 0.444865788 | | | | |
| 14 | Gene13 | 0.259194244 | -1.870171587 | -1.254028069 | | | | |
| 15 | Gene14 | -0.220309225 | 1.263925046 | 0.033874233 | | | | |
| 16 | Gene15 | 1.540422524 | -0.66082959 | 0.011670427 | | | | |
| 17 | | | | | | | | |

Step 1

设置远程文件路径

Import Data

Data Table
public/demo/gene-trend/data.csv

TEMPORARY CACHE PREVIEW

Search

| Task Name | Temp Code | Task Status | Submit Date | Operation |
|--------------------------------------|-----------|-------------|------------------|-----------|
| 0d8ffd10-2c78-11eb-9079-e9f202c9a2a2 | ti2KMPw | Finished | 2020-11-22 12:06 | |

Rows per page: 5 1-1 of 1

Time limit: 3 hours for unregistered users, 12 hours for registered users

导入原始数据拷贝



Set Parameters

Step 2

General Parameters

Task Name: 46a77cf0-2c8b-11eb-9079-e9 36 / 80

Color Theme: Spectral

Image Export: png pdf

Width: 10 Height: 6

Extra Parameters

X-axis Label: Time

Y-axis Label: Expression changes

Draw Cluster Centre Line

clusterNum: 6 Threshold: 0.25

minStd: 0

SUBMIT RESET DEMO

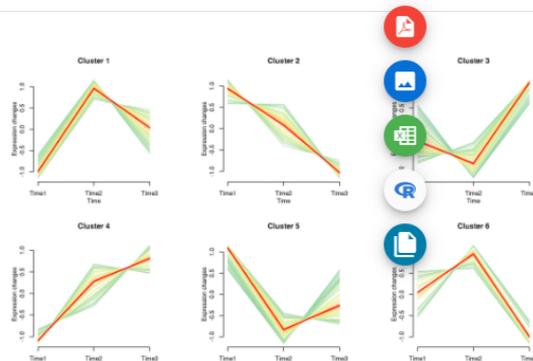
设置参数

提交绘图任务

即时查看任务状态

Step 3

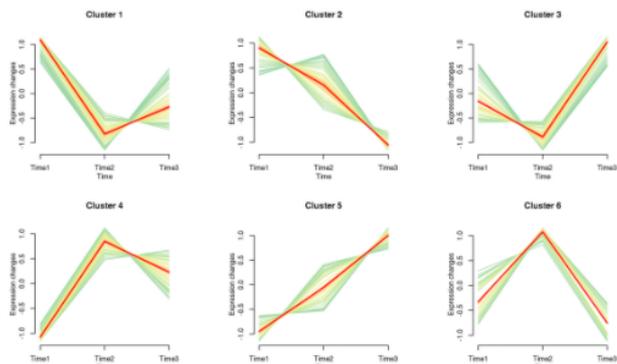
TEMPORARY CACHE PREVIEW



结果预览和下载

Hiplot 可视化平台简介

TEMPORARY CACHE PREVIEW



TEMPORARY CACHE PREVIEW

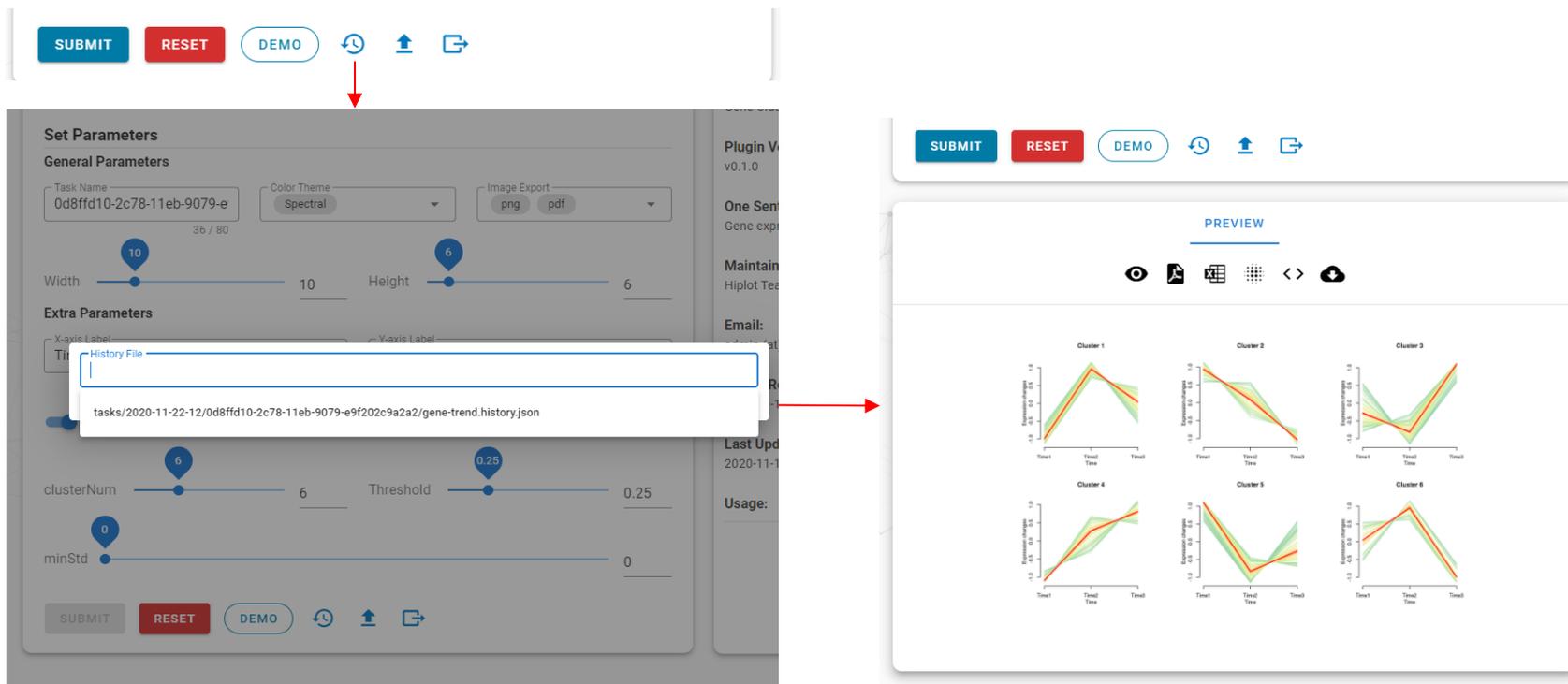


Success: tasks/2020-11-22-12/9c467eb0-2c7a-11eb-9079-e9f202c9a2a2

确定

同步任务至云端文件库

Hiplot 可视化平台简介



从云端加载绘图任务结果

Hiplot 可视化平台简介

NOTICE LOCAL TASKS REASOURCE USAGE

Search

| | | | | |
|--|---------|----------|------------------|---|
|  | ti2KMPw | Finished | 2020-11-22 12:06 | 🔍 |
|  | y8Phjj3 | Finished | 2020-11-22 11:50 | 🔍 |
|  | yxf6sAA | Finished | 2020-11-22 10:34 | 🔍 |
|  | mthN6ec | Finished | 2020-11-21 23:33 | 🔍 |
|  | JeGXhX2 | Finished | 2020-11-21 22:57 | 🔍 |
|  | ckSvwD | Finished | 2020-11-21 22:56 | 🔍 |



List of all local tasks

```
{
  {
    "module": "basic",
    "tmpcode": "ti2KMPw",
    "taskname": "0d8ffd10-2c78-11eb-9079-e9f202c9a2a2",
    "status": "2",
    "submit_date": "2020-11-22T04:06:14.835Z",
    "finish_date": "2020-11-22T04:06:21.687Z",
    "tool": "gene-trend",
    "history": "/tmp/hiplot-tasks/0d8ffd10-2c78-11eb-9079-e9f202c9a2a2/ti2KMPw/gene-trend.history.json"
  },
  {
    "module": "mini-tools",
    "tmpcode": "y8Phjj3",
    "taskname": "d76e2dd0-2c75-11eb-9079-e9f202c9a2a2",
    "status": "2",
    "submit_date": "2020-11-22T03:50:22.584Z",
    "finish_date": "2020-11-22T03:50:28.349Z",
    "tool": "pdf-collage",
    "history": "/tmp/hiplot-tasks/d76e2dd0-2c75-11eb-9079-e9f202c9a2a2/y8Phjj3/pdf-collage.history.json"
  },
  {
    "module": "basic",
    "tmpcode": "yxf6sAA",
    "taskname": "3b842190-2c6b-11eb-b2cd-fd91424e3253",
    "status": "2",
    "submit_date": "2020-11-22T02:34:28.542Z",
    "finish_date": "2020-11-22T02:34:32.640Z",
    "tool": "barplot-errorbar",
    "history": "/tmp/hiplot-tasks/3b842190-2c6b-11eb-b2cd-fd91424e3253/yxf6sAA/barplot-errorbar.history.json"
  },
}
```

Exported tasks info

导出和导入临时任务记录



HI PLOT

实践是检验真理的唯一标准 - 毛泽东选集

Hplot 可视化平台操作演示 | 基础模块

Test Scatter Plot

Histogram
Display data distribution.
★★★★★
vue distribution

Pyramid Chart

Pyramid Chart
Display data values.
★★★★★
vue distribution

Barplot

Barplot
Display data values.
★★★★★
vue distribution

Violin Group

Violin Group
Display the data distribution.
★★★★★
vue distribution

Violin

Violin
Display the data distribution.
★★★★★
vue distribution

Half Violin

Half Violin
Display the data distribution.
★★★★★
vue distribution

Barplot (errorbar)

Barplot (errorbar)
Display data values.
★★★★★
vue distribution

Multiple Barplot&Line

Multiple Barplot&Line
Display data values.
★★★★★
vue distribution correlation

GO BarPlot

GO BarPlot
Display data values.
★★★★★
vue distribution

Ridge

Ridge
Display the data distribution.
★★★★★
vue distribution

Dist Plot

Dist Plot
Display the data distribution.
★★★★★
vue distribution

Density

Density
Display data distribution.
★★★★★
vue distribution

Bubble

Bubble
Display the variables.
★★★★★
vue correlation

Matrix Bubble

Matrix Bubble
Display matrix bubble.
★★★★★
vue correlation

Chord Plot

Chord Plot
Correlation Visualization.
★★★★★
vue correlation

Venn

Venn
Data sets cross-relationships.
★★★★★
vue part-of-a-whole

Eulerr Plot

Eulerr Plot
Display the data ratio.
★★★★★
vue part-of-a-whole

| Variable | N | Hazard ratio | P |
|----------------------|-----|-------------------|--------|
| Surv - ph.ecog + age | | | |
| ph.ecog | 227 | 1.56 (1.24, 1.96) | <0.001 |
| age | 227 | 1.01 (0.99, 1.03) | 0.226 |
| Surv - sex + age | | | |
| sex | 228 | 0.60 (0.43, 0.83) | 0.002 |
| age | 228 | 1.02 (1.00, 1.04) | 0.065 |

Cox Models Forest
Used for survival data analysis.
★★★★★
vue model survival

Boxplot

Boxplot
Display differences between groups.
★★★★★
vue distribution

Parallel Coordinate

Parallel Coordinate
Display High-dimensional Data.
★★★★★
vue distribution

Stack Violin

Stack Violin
Display the data distribution.
★★★★★
vue distribution

Survival Analysis

Survival Analysis
Used for survival data display.
★★★★★
vue model survival

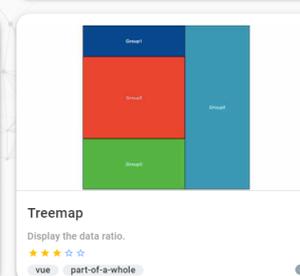
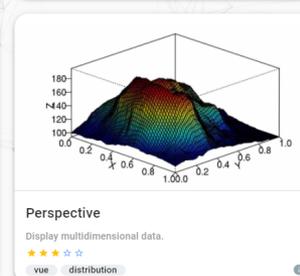
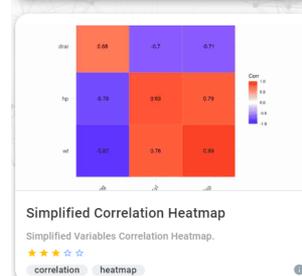
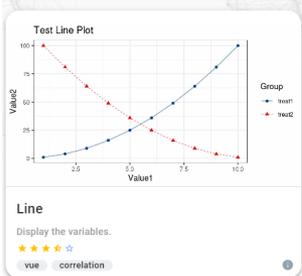
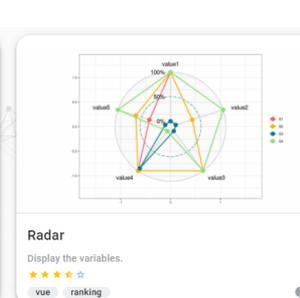
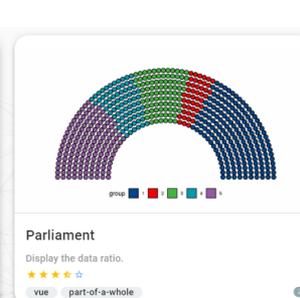
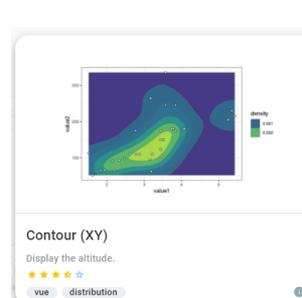
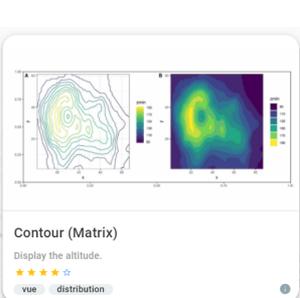
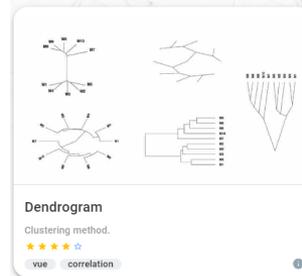
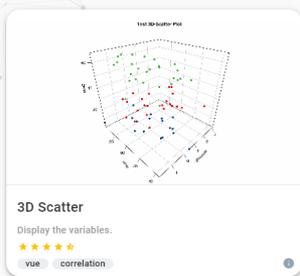
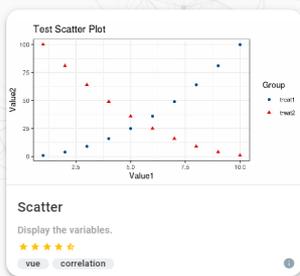
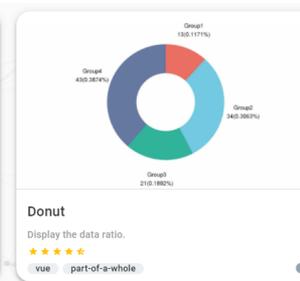
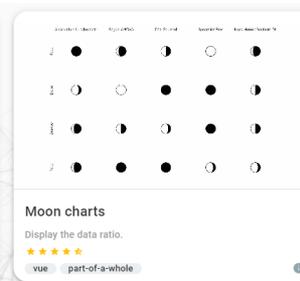
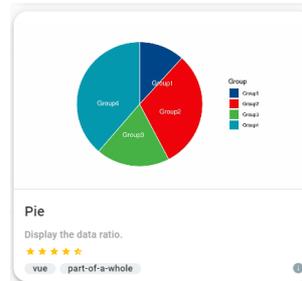
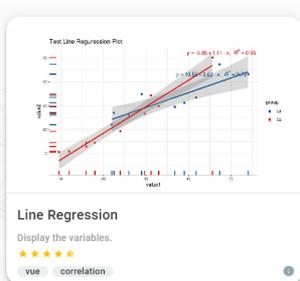
Risk Factor Analysis

Risk Factor Analysis
Survival Data Analysis.
★★★★★
vue survival model

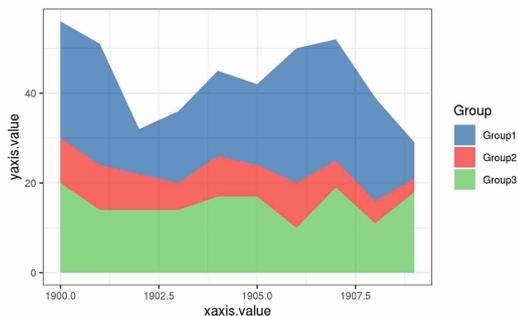
Treeheatr

Treeheatr
Decision tree visualizations.
★★★★★
vue model

Hplot 可视化平台操作演示 | 基础模块



Hiplot 可视化平台操作演示 | 基础模块



Import Data

Data Table

A screenshot of a data table interface. The table has three columns: 'group', 'xaxis.value', and 'yaxis.value'. The data is as follows:

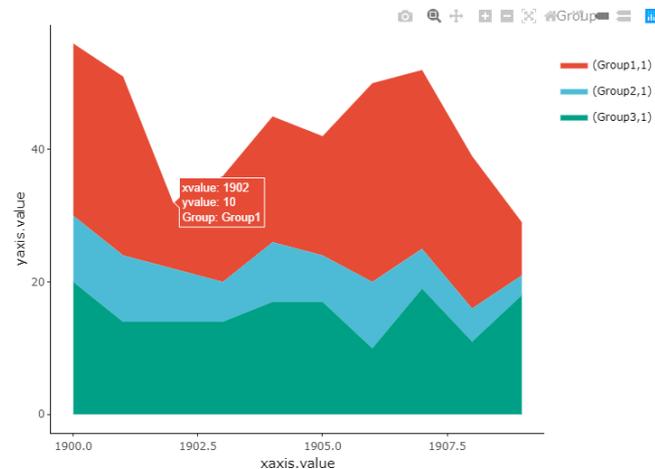
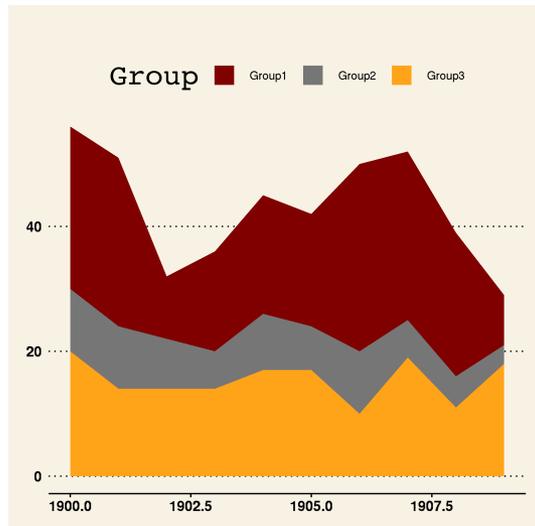
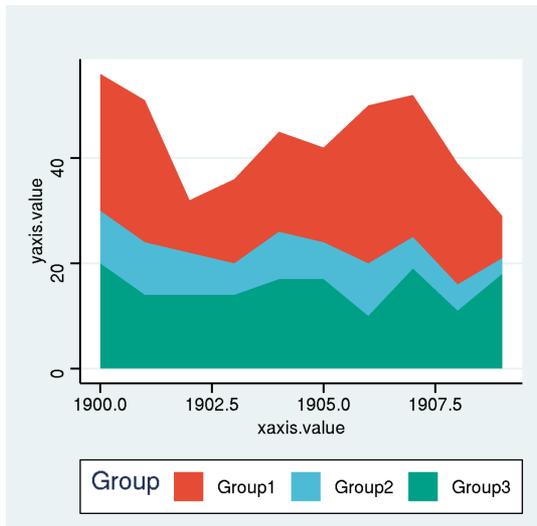
| | A | B | C | D | E | F | G | H |
|----|--------|-------------|-------------|---|---|---|---|---|
| 1 | group | xaxis.value | yaxis.value | | | | | |
| 2 | Group1 | 1900 | 26 | | | | | |
| 3 | Group1 | 1901 | 27 | | | | | |
| 4 | Group1 | 1902 | 10 | | | | | |
| 5 | Group1 | 1903 | 16 | | | | | |
| 6 | Group1 | 1904 | 19 | | | | | |
| 7 | Group1 | 1905 | 18 | | | | | |
| 8 | Group1 | 1906 | 30 | | | | | |
| 9 | Group1 | 1907 | 27 | | | | | |
| 10 | Group1 | 1908 | 23 | | | | | |
| 11 | Group1 | 1909 | 8 | | | | | |
| 12 | Group2 | 1900 | 10 | | | | | |
| 13 | Group2 | 1901 | 10 | | | | | |
| 14 | Group2 | 1902 | 8 | | | | | |
| 15 | Group2 | 1903 | 6 | | | | | |
| 16 | Group2 | 1904 | 9 | | | | | |
| 17 | | 1905 | 7 | | | | | |



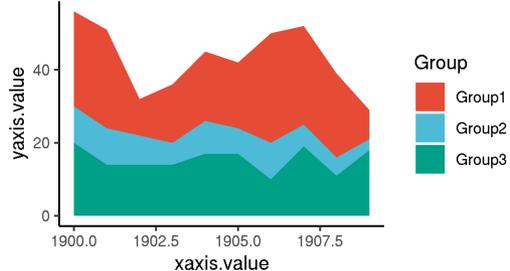
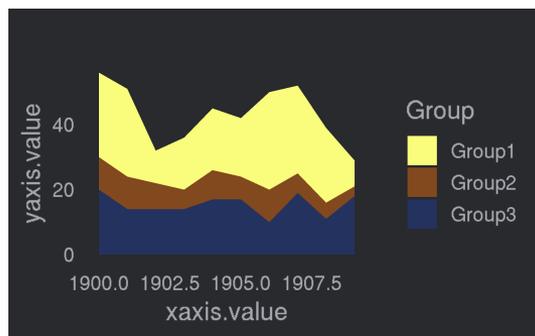
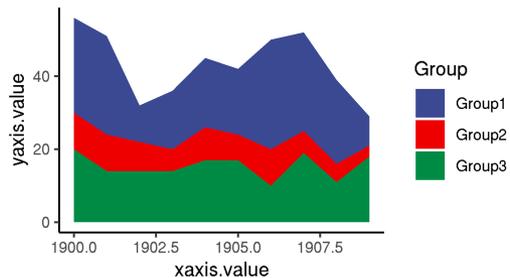
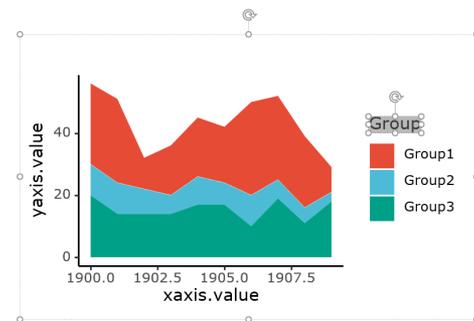
Area input and output

<https://hiplot.com.cn/basic/area>

Hiplot 可视化平台操作演示 | 基础模块



Plotly



ggplot2 Theme:

Imane Export:

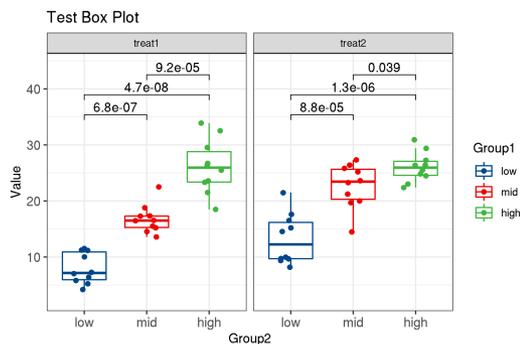
PPT edit



HIPLLOT

Area output style

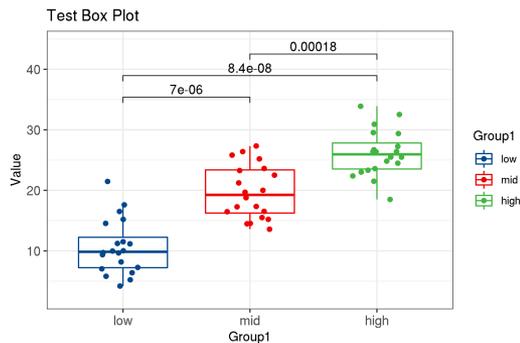
Hiplot 可视化平台操作演示 | 基础模块



Import Data

Data Table

| | A | B | C | D | E | F | G | H |
|----|-------|--------|--------|---|---|---|---|---|
| 1 | Value | Group1 | Group2 | | | | | |
| 2 | 4.2 | low | treat1 | | | | | |
| 3 | 11.5 | low | treat1 | | | | | |
| 4 | 7.3 | low | treat1 | | | | | |
| 5 | 5.8 | low | treat1 | | | | | |
| 6 | 6.4 | low | treat1 | | | | | |
| 7 | 10 | low | treat1 | | | | | |
| 8 | 11.2 | low | treat1 | | | | | |
| 9 | 11.2 | low | treat1 | | | | | |
| 10 | 5.2 | low | treat1 | | | | | |
| 11 | 7 | low | treat1 | | | | | |
| 12 | 16.5 | mid | treat1 | | | | | |
| 13 | 16.5 | mid | treat1 | | | | | |
| 14 | 15.2 | mid | treat1 | | | | | |
| 15 | 17.3 | mid | treat1 | | | | | |
| 16 | 22.5 | mid | treat1 | | | | | |
| 17 | | mid | treat1 | | | | | |



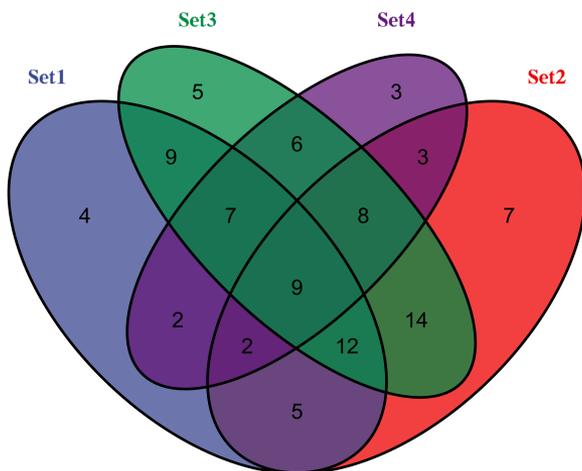
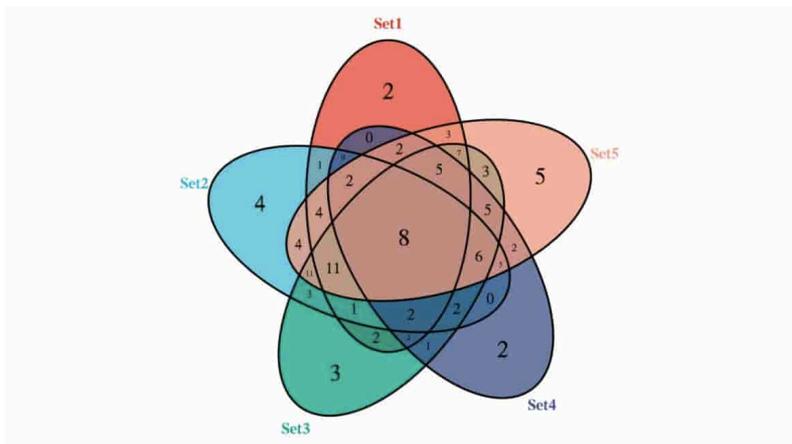
Import Data

Data Table

| | A | B | C | D | E | F | G | H |
|----|-------|--------|---|---|---|---|---|---|
| 1 | Value | Group1 | | | | | | |
| 2 | 4.2 | low | | | | | | |
| 3 | 11.5 | low | | | | | | |
| 4 | 7.3 | low | | | | | | |
| 5 | 5.8 | low | | | | | | |
| 6 | 6.4 | low | | | | | | |
| 7 | 10 | low | | | | | | |
| 8 | 11.2 | low | | | | | | |
| 9 | 11.2 | low | | | | | | |
| 10 | 5.2 | low | | | | | | |
| 11 | 7 | low | | | | | | |
| 12 | 16.5 | mid | | | | | | |
| 13 | 16.5 | mid | | | | | | |
| 14 | 15.2 | mid | | | | | | |
| 15 | 17.3 | mid | | | | | | |
| 16 | 22.5 | mid | | | | | | |
| 17 | | mid | | | | | | |



Hiplot 可视化平台操作演示 | 基础模块



Import Data ☰

Data Table

| | A | B | C | D | E | F | G | H |
|----|---------|-----------|-----------|-----------|----------|---|---|---|
| 1 | Set1 | Set2 | Set3 | Set4 | Set5 | | | |
| 2 | ISG15 | HES5 | DVL1 | MATP6P1 | FAM132A | | | |
| 3 | TTL10 | AURKAIP1 | ARHGEF16 | MIR551A | AGRN | | | |
| 4 | HES4 | LINC00982 | OR4F16 | C1orf222 | WBP1LP6 | | | |
| 5 | OR4G4P | FAM87B | SKI | MIR200B | KLHL17 | | | |
| 6 | MND2P28 | SKI | WASH7P | LINC00115 | FAM41C | | | |
| 7 | FAM87B | GABRD | MEGF6 | ATAD3B | PANK4 | | | |
| 8 | MIR200B | OR4G11P | LINC00115 | PANK4 | CDK11A | | | |
| 9 | PLCH2 | CALML6 | MMP23B | MORN1 | AURKAIP1 | | | |
| 10 | MXRA8 | C1orf86 | ATAD3C | TPRG1L | SDF4 | | | |
| 11 | PEX10 | ATAD3B | PRDM16 | B3GALT6 | MND1P23 | | | |
| 12 | TNFRSF4 | HES4 | OR4F29 | LINC00982 | FAM213B | | | |
| 13 | CICP27 | ANKRD65 | TMEM52 | OR4F16 | SAMD11 | | | |
| 14 | CCDC27 | OR4F5 | VWA1 | C1orf86 | ATAD3B | | | |
| 15 | WBP1LP6 | CCNL2 | GNB1 | DDX11L1 | SSU72 | | | |
| 16 | SCNN1D | TNFRSF18 | FAM41C | AURKAIP1 | SKI | | | |
| 17 | | | | | | | | |



Import Data ☰

Data Table

| | A | B | C | D | E | F | G | H |
|----|---------|-----------|-----------|-----------|---|---|---|---|
| 1 | Set1 | Set2 | Set3 | Set4 | | | | |
| 2 | ISG15 | HES5 | DVL1 | MATP6P1 | | | | |
| 3 | TTL10 | AURKAIP1 | ARHGEF16 | MIR551A | | | | |
| 4 | HES4 | LINC00982 | OR4F16 | C1orf222 | | | | |
| 5 | OR4G4P | FAM87B | SKI | MIR200B | | | | |
| 6 | MND2P28 | SKI | WASH7P | LINC00115 | | | | |
| 7 | FAM87B | GABRD | MEGF6 | ATAD3B | | | | |
| 8 | MIR200B | OR4G11P | LINC00115 | PANK4 | | | | |
| 9 | PLCH2 | CALML6 | MMP23B | MORN1 | | | | |
| 10 | MXRA8 | C1orf86 | ATAD3C | TPRG1L | | | | |
| 11 | PEX10 | ATAD3B | PRDM16 | B3GALT6 | | | | |
| 12 | TNFRSF4 | HES4 | OR4F29 | LINC00982 | | | | |
| 13 | CICP27 | ANKRD65 | TMEM52 | OR4F16 | | | | |
| 14 | CCDC27 | OR4F5 | VWA1 | C1orf86 | | | | |
| 15 | WBP1LP6 | CCNL2 | GNB1 | DDX11L1 | | | | |
| 16 | SCNN1D | TNFRSF18 | FAM41C | AURKAIP1 | | | | |
| 17 | | | | | | | | |



Venn input and output (up to 5 sets)

<https://hiplot.com.cn/basic/venn>

Hplot 可视化平台操作演示 | 基础模块

Counts

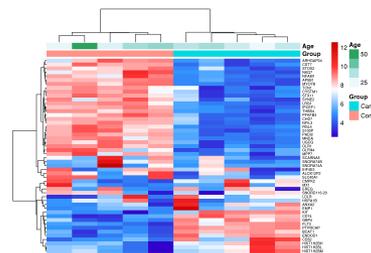
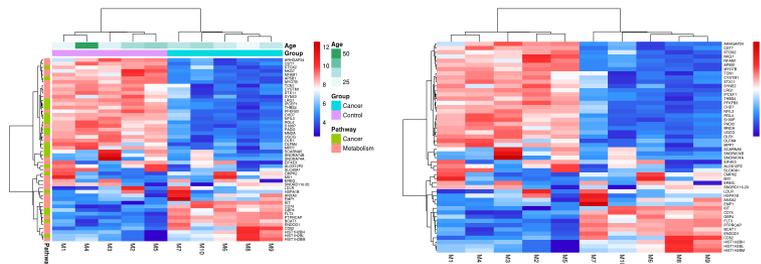
| | A | B | C | D | E | F | G | H |
|----|-----------|--------------|--------------|--------------|--------------|--------------|--------------|---------|
| 1 | Gene | M1 | M2 | M3 | M4 | M5 | M6 | M7 |
| 2 | GBP4 | 6.5993441095 | 5.2262660248 | 3.6932875381 | 3.9385009528 | 4.5271930886 | 9.3081190324 | 8.98781 |
| 3 | BCAT1 | 5.7603803773 | 4.8927830209 | 5.4489239172 | 3.4854133857 | 3.8556691717 | 8.6620810404 | 8.79331 |
| 4 | CMPK2 | 9.5619051154 | 4.5491681565 | 3.9986549224 | 5.6143839805 | 3.9047928726 | 9.7907700044 | 7.13311 |
| 5 | STOX2 | 8.3964093157 | 8.7170552201 | 8.0390641101 | 7.6430595565 | 9.2746490901 | 4.4170130073 | 4.72520 |
| 6 | PADI2 | 8.4197658905 | 8.2684298023 | 8.4511808436 | 9.2007322844 | 8.5982072017 | 4.5900330127 | 5.36820 |
| 7 | SCARNA5 | 7.6530743097 | 5.7803926297 | 10.633550472 | 5.9136843629 | 8.8056047501 | 5.8901204765 | 5.52794 |
| 8 | ALOX12P2 | 9.0014211521 | 7.7535422910 | 4.9209595817 | 7.6363543709 | 9.8886247890 | 6.2119435438 | 3.73201 |
| 9 | SNORA74B | 5.5387087152 | 7.1690533938 | 11.441646436 | 5.9825656857 | 8.3944025246 | 4.7515592532 | 5.18129 |
| 10 | HIST1H2BL | 6.1812704966 | 4.4484188901 | 5.6049610298 | 6.4851683738 | 2.5995743866 | 7.6301766056 | 6.75829 |
| 11 | MNDA | 8.7026352495 | 7.3223519563 | 9.2718214201 | 9.1345154397 | 8.3391138436 | 4.5719022848 | 5.47833 |
| 12 | OLFM4 | 9.3453083049 | 6.4386066367 | 8.7167612640 | 9.6855451685 | 7.6882618432 | 5.9698038656 | 3.85639 |
| 13 | FLT3 | 5.1643063209 | 4.4193554432 | 5.0635513633 | 5.4127835356 | 3.3378634184 | 8.5851643929 | 8.87631 |
| 14 | CHD7 | 8.3734749638 | 8.7280322425 | 8.4088176083 | 8.7164755127 | 8.3737706673 | 4.6131990181 | 6.63626 |
| 15 | NFIL3 | 8.0554164753 | 8.3650998813 | 9.2391936769 | 8.5368250774 | 8.4523508188 | 4.4785271277 | 6.50627 |
| 16 | HSPA1B | 5.0081989999 | 9.1946502771 | 6.5988499179 | 7.1295092512 | 3.8852697172 | 5.7121787252 | 11.1330 |
| 17 | | | | | | | | |

GeneInfo

| | A | B | C | D | E | F | G | H |
|----|-----------|---------|---|---|---|---|---|---|
| 1 | Gene | Pathway | | | | | | |
| 2 | GBP4 | Cancer | | | | | | |
| 3 | BCAT1 | Cancer | | | | | | |
| 4 | CMPK2 | Cancer | | | | | | |
| 5 | STOX2 | Cancer | | | | | | |
| 6 | PADI2 | Cancer | | | | | | |
| 7 | SCARNA5 | Cancer | | | | | | |
| 8 | ALOX12P2 | Cancer | | | | | | |
| 9 | SNORA74B | Cancer | | | | | | |
| 10 | HIST1H2BL | Cancer | | | | | | |
| 11 | MNDA | Cancer | | | | | | |
| 12 | OLFM4 | Cancer | | | | | | |
| 13 | FLT3 | Cancer | | | | | | |
| 14 | CHD7 | Cancer | | | | | | |
| 15 | NFIL3 | Cancer | | | | | | |
| 16 | HSPA1B | Cancer | | | | | | |
| 17 | | | | | | | | |

SampleInfo

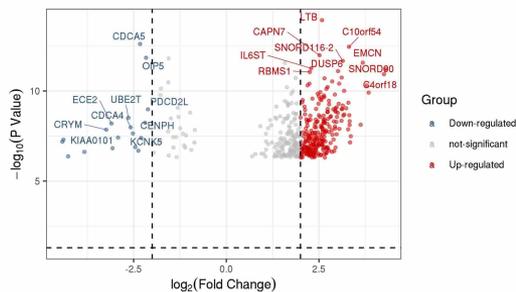
| | A | B | C | D | E | F | G | H |
|----|--------|---------|-----|---|---|---|---|---|
| 1 | Sample | Group | Age | | | | | |
| 2 | M1 | Control | 23 | | | | | |
| 3 | M2 | Control | 34 | | | | | |
| 4 | M3 | Control | 25 | | | | | |
| 5 | M4 | Control | 52 | | | | | |
| 6 | M5 | Control | 36 | | | | | |
| 7 | M6 | Cancer | 28 | | | | | |
| 8 | M7 | Cancer | 31 | | | | | |
| 9 | M8 | Cancer | 22 | | | | | |
| 10 | M9 | Cancer | 29 | | | | | |
| 11 | M10 | Cancer | 34 | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |



Heatmap input and output

<https://hiplot.com.cn/basic/heatmap>

Hiplot 可视化平台操作演示 | 基础模块



Import Data

Data Table

| | A | B | C | D | E | F | G | H |
|----|------------|--------------|----------|---|---|---|---|---|
| 1 | Symbol | logFC | P.Value | | | | | |
| 2 | LTB | 2.580830574 | 1.17E-14 | | | | | |
| 3 | CDCA5 | -2.326302376 | 2.46E-13 | | | | | |
| 4 | C10orf54 | 3.307901298 | 3.53E-13 | | | | | |
| 5 | CAPN7 | 2.514235402 | 1.04E-12 | | | | | |
| 6 | OIP5 | -2.16662036 | 1.43E-12 | | | | | |
| 7 | SNORD116-2 | 3.139661776 | 2.15E-12 | | | | | |
| 8 | PKIG | -1.560503944 | 1.58E-12 | | | | | |
| 9 | EMCN | 3.681695861 | 2.68E-12 | | | | | |
| 10 | B2M | 1.578095238 | 2.82E-12 | | | | | |
| 11 | IL6ST | 2.287862908 | 5.51E-12 | | | | | |
| 12 | SNORD90 | 4.285534102 | 6.12E-12 | | | | | |
| 13 | DUSP6 | 3.01388868 | 7.90E-12 | | | | | |
| 14 | RBMS1 | 2.251183421 | 8.82E-12 | | | | | |
| 15 | C4orf18 | 4.252879583 | 1.17E-11 | | | | | |
| 16 | SKAP1 | 3.112284552 | 1.80E-11 | | | | | |
| 17 | C10orf18 | 1.8647202 | 1.85E-11 | | | | | |



Symbol

Symbol

P.Value

P.Value

logFC

logFC

Volcano input data

<https://hiplot.com.cn/basic/volcano>

Hiplot 可视化平台操作演示 | 基础模块

Show Top Genes

Show Nums 10 Selected Genes

SUBMIT

RESET

DEMO

TEMPORARY CACHE PREVIEW



Show Nums 10

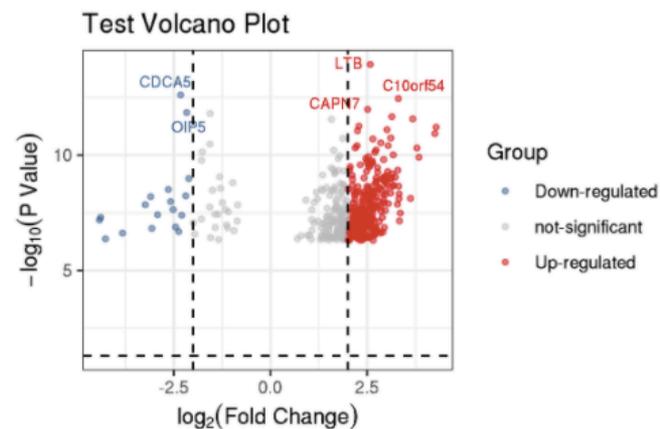
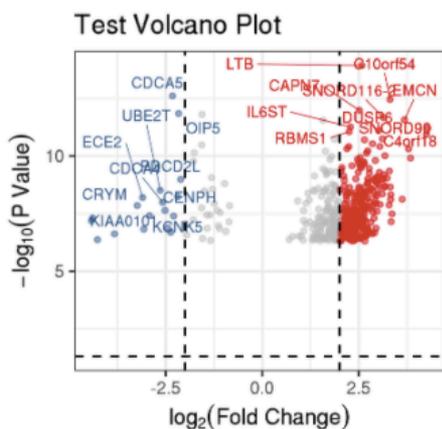
Selected Genes
LTB C10orf54 CDCA5 OIP5
CAPN7

SUBMIT

RESET

DEMO

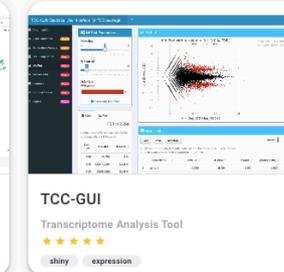
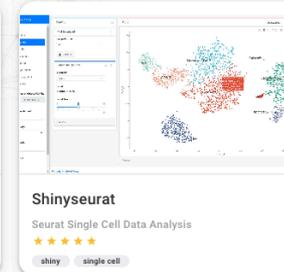
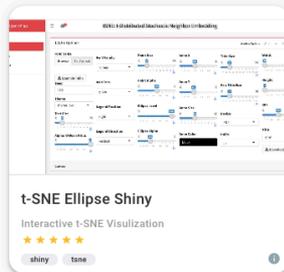
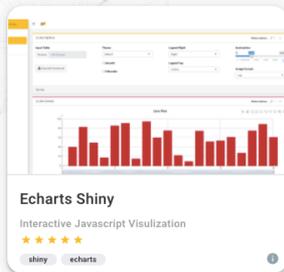
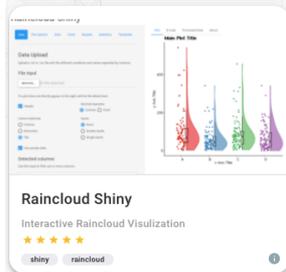
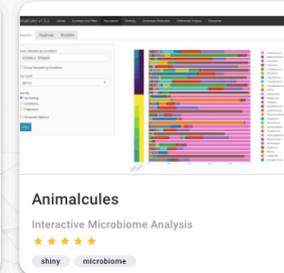
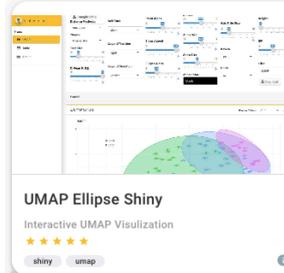
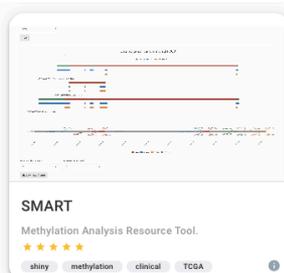
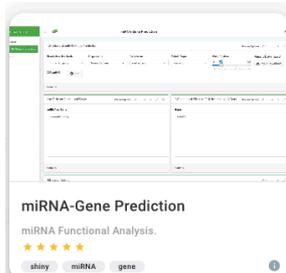
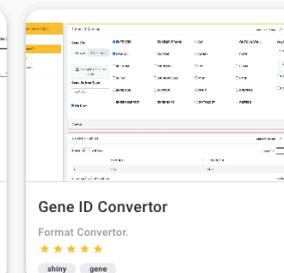
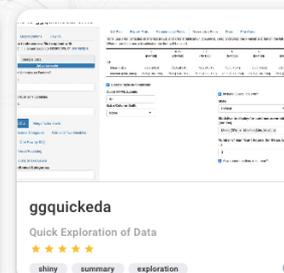
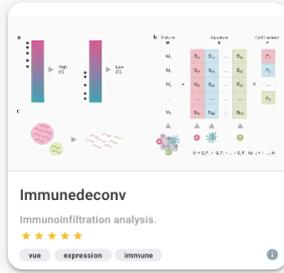
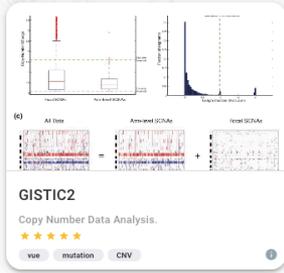
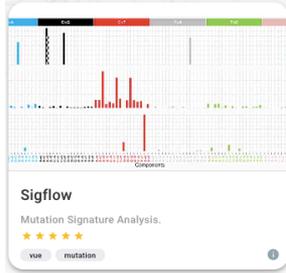
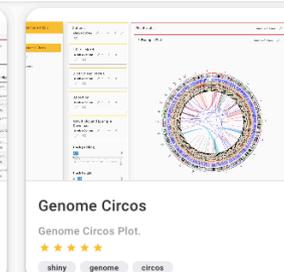
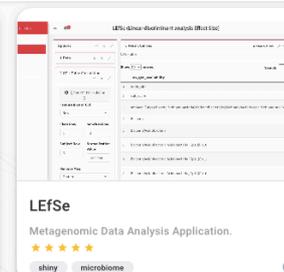
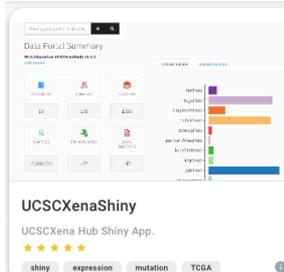
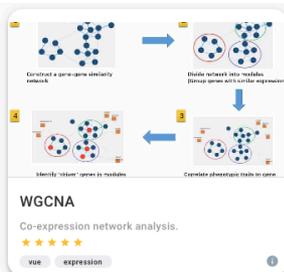
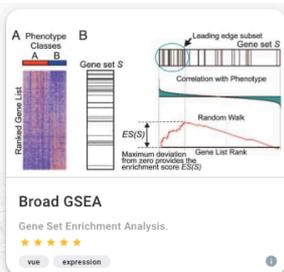
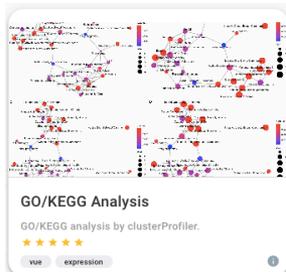
TEMPORARY CACHE PREVIEW



Assign the text label in volcano plot

<https://hiplot.com.cn/basic/volcano>

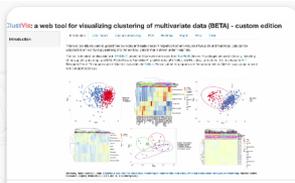
Hiplot 可视化平台操作演示 | 进阶模块



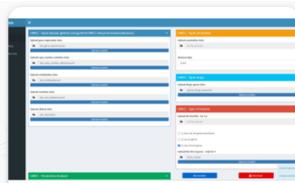
Hiplot 可视化平台操作演示 | 进阶模块



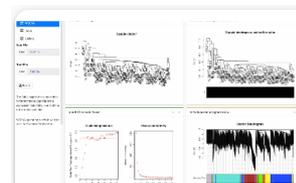
START
Transcriptome Analysis Tool
★★★★★
shiny expression



ClustVis
PCA & Cluster
★★★★★
shiny pca cluster



Gmiec Shiny
Integrate Multi-omics Data
★★★★★
shiny multi-omics drug



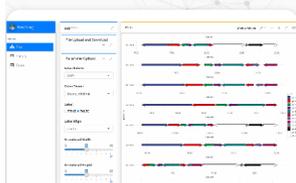
WGCNA Shiny
Co-expression network analysis.
★★★★★
shiny expression



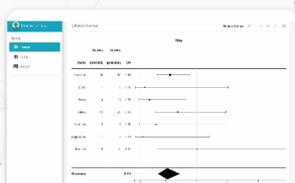
Manhattan Shiny
Manhattan Plots.
★★★★★
shiny genome gwas



Propensity Score Matching Shiny
Propensity Score Matching (Matchit and cabaliti).
★★★★★
shiny statistics



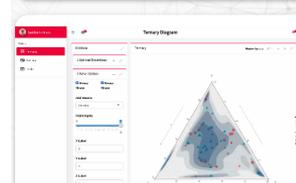
gggenes
Gene Visualization
★★★★★
shiny genome



Forestplot
Forest Visualization
★★★★★
shiny forest



CMplot
GWAS Visualization
★★★★★
shiny genome



Ternary Diagram
Describe the Three Variables.
★★★★★
shiny ternary correlation



MSA Shiny
Multiple sequence alignment.
★★★★★
shiny seq



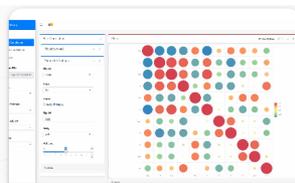
OTU-Tree Shiny
Amplicon/Metagenome OTU abundance.
★★★★★
shiny metagenome



Chromosome Shiny
Chromosome Visualization.
★★★★★
shiny genome



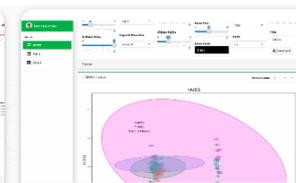
Community Shiny
Community Network Analysis.
★★★★★
shiny expression



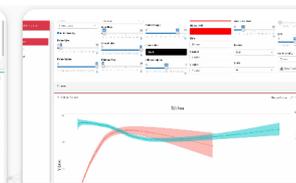
Shiny ggcplot2
Correlation Heatmap Shiny.
★★★★★
shiny correlation



Standardized Mean Differences
Visualization of Statistical Parameters
★★★★★
shiny statistics



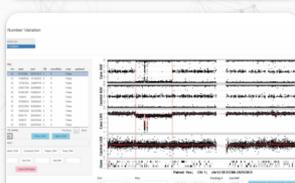
NMDS Ellipse
Non-metric Multidimensional Scaling Visualization
★★★★★
shiny general



Multi Ribbon
Multi-ribbon Shiny
★★★★★
shiny general



Network Shiny
Network Plot.
★★★★★
shiny expression



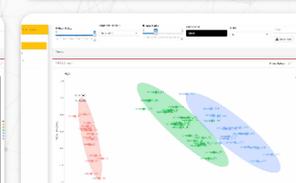
Shiny CNV
Visualization of CNV
★★★★★
shiny mutation



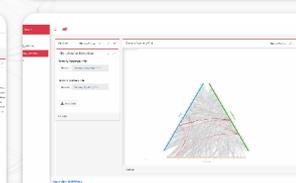
Anatogram Shiny
Anatogram.
★★★★★
shiny medicine



PCoA Ellipse Shiny
Interactive PCA analysis.
★★★★★
shiny general

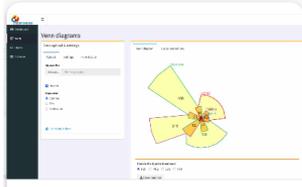


PCA Ellipse Shiny
Interactive PCA analysis.
★★★★★
shiny general

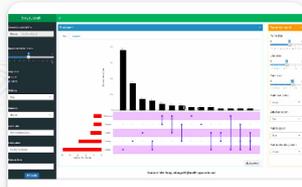


Synteny Viewer
Ternary Synteny Plot.
★★★★★
shiny general

Hiplot 可视化平台操作演示 | 进阶模块



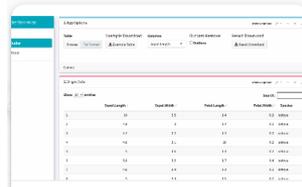
Shiny Intervene
Data sets cross-relationships.
★★★★★
shiny general



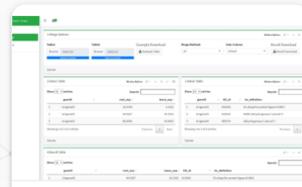
Shiny UpSetR
Data sets cross-relationships.
★★★★★
shiny general



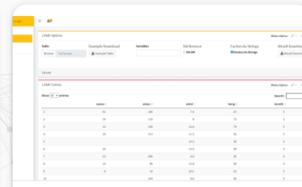
V-SVA Shiny
Visual Surrogate Variable Analysis.
★★★★★
shiny qc



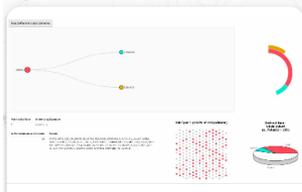
Outlier Process
Table Operation
★★★★★
shiny table



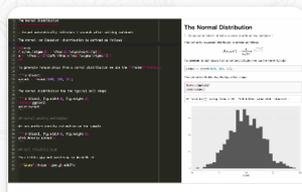
Merge Table
Table Operation
★★★★★
shiny table



Melt Table
Table Operation
★★★★★
shiny table



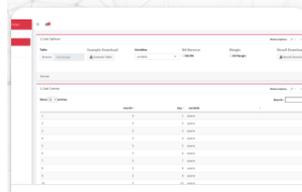
Collector Shiny
Selection of Cancer Cell Line.
★★★★★
shiny cell-line



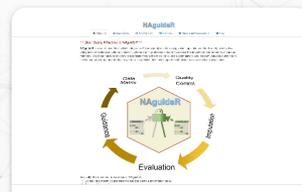
Rmarkdown Preview
Real time preview the R markdown.
★★★★★
shiny general



Drawio Flow
Open source drawio.
★★★★★
js flow



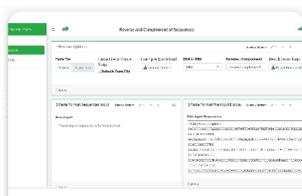
Cast Table
Table Operation
★★★★★
shiny table



NAguideR
Table Operation
★★★★★
shiny table



Table NA Process
Table Operation
★★★★★
shiny table



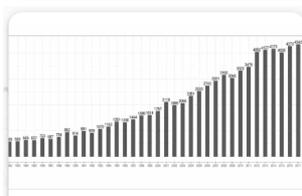
Reverse & Complement
Sequence Operation
★★★★★
shiny seq



Pairwise Alignment
Sequence Operation
★★★★★
shiny seq



Eatomics
Proteomics Data Visualization
★★★★★
shiny protein proteomics



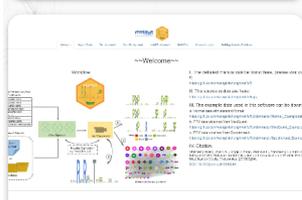
Tinyscholar
Google Scholar Author Citations
★★★★★
vue google



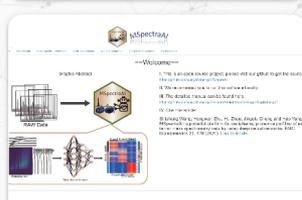
Robvis Shiny
Risk-of-bias assessment.
★★★★★
shiny qc



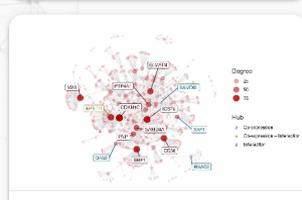
TCGA t-SNE/UMAP Survival Analysis
TCGA Survival Data Analysis.
★★★★★
shiny TCGA expression



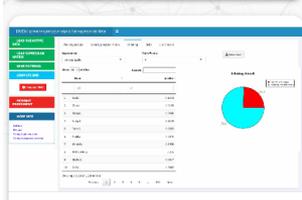
Motifer Shiny
Protein Post-Translational Modification
★★★★★
shiny protein



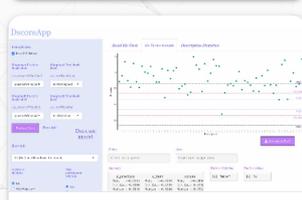
MSpectraAI Shiny
Proteomics Data Visualization
★★★★★
shiny protein



CEMitool
Co-expression modules analysis.
★★★★★
vue expression geneset



BMDx Shiny
Dose response analysis (expression).
★★★★★
shiny expression



DscoreApp
Computation of the Implicit Association Test.
★★★★★
shiny statistics



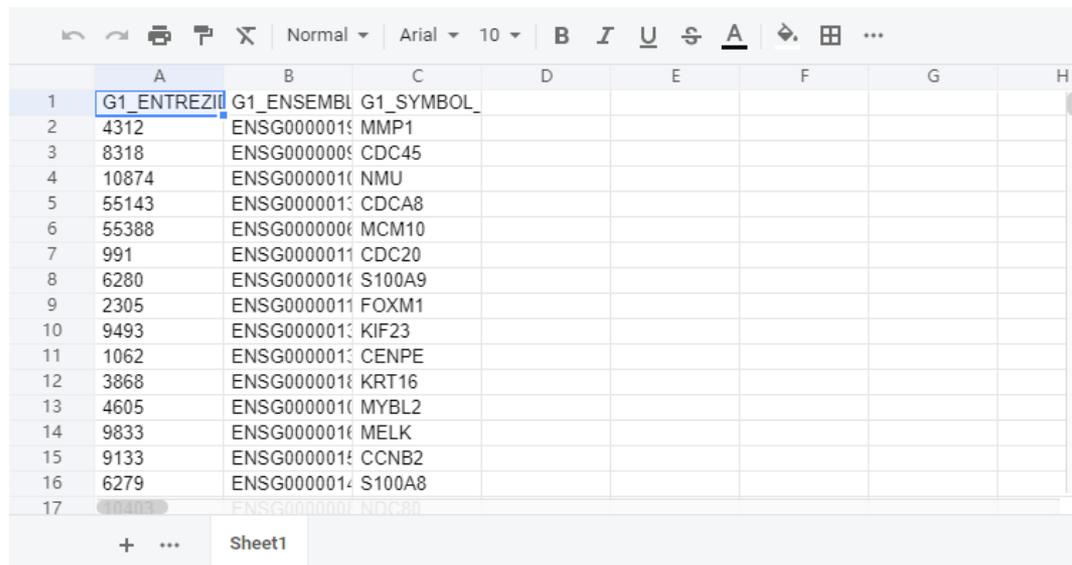
Cluster Shiny
Interactive cluster analysis.
★★★★★
shiny expression

Hiplot 可视化平台操作演示 | 进阶模块

All columns will be included in the analysis

Import Data 

Data Table



| | A | B | C | D | E | F | G | H |
|----|-------------|-----------------|------------|---|---|---|---|---|
| 1 | G1_ENTREZID | G1_ENSEMBL | G1_SYMBOL_ | | | | | |
| 2 | 4312 | ENSG00000010000 | MMP1 | | | | | |
| 3 | 8318 | ENSG00000000000 | CDC45 | | | | | |
| 4 | 10874 | ENSG00000010000 | NMU | | | | | |
| 5 | 55143 | ENSG00000010000 | CDC48 | | | | | |
| 6 | 55388 | ENSG00000000000 | MCM10 | | | | | |
| 7 | 991 | ENSG00000010000 | CDC20 | | | | | |
| 8 | 6280 | ENSG00000010000 | S100A9 | | | | | |
| 9 | 2305 | ENSG00000010000 | FOXM1 | | | | | |
| 10 | 9493 | ENSG00000010000 | KIF23 | | | | | |
| 11 | 1062 | ENSG00000010000 | CENPE | | | | | |
| 12 | 3868 | ENSG00000010000 | KRT16 | | | | | |
| 13 | 4605 | ENSG00000010000 | MYBL2 | | | | | |
| 14 | 9833 | ENSG00000010000 | MELK | | | | | |
| 15 | 9133 | ENSG00000010000 | CCNB2 | | | | | |
| 16 | 6279 | ENSG00000010000 | S100A8 | | | | | |
| 17 | 10403 | ENSG00000000000 | NDC80 | | | | | |



KEGG DB
public/db/kegg/hsa_kegg_20200822.rds    

Org DB
org.Hs.eg.db 

Extra Parameters

Mode: BP MF CC KEGG P Adjust Method: BH

Min Gene Size: 10 Max Gene Size: 500

P Cutoff: 0.01 Q Cutoff: 0.05

Show Number of Items: 7

Use DOSE Background List Draw Barplot Draw Enrichment Map

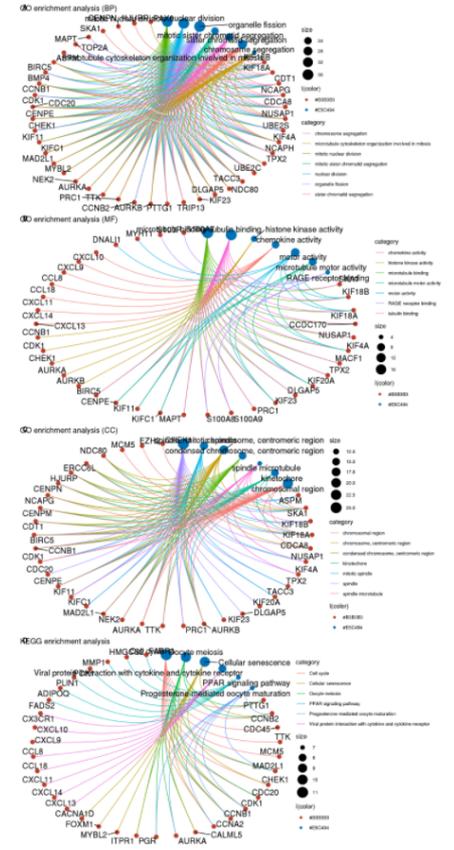
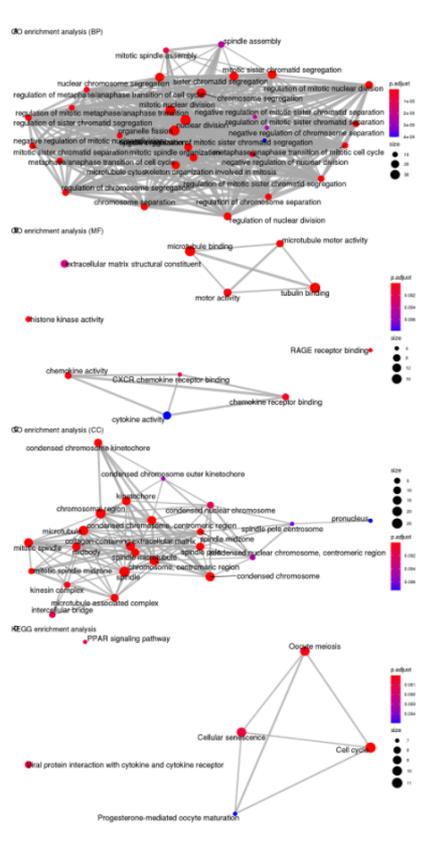
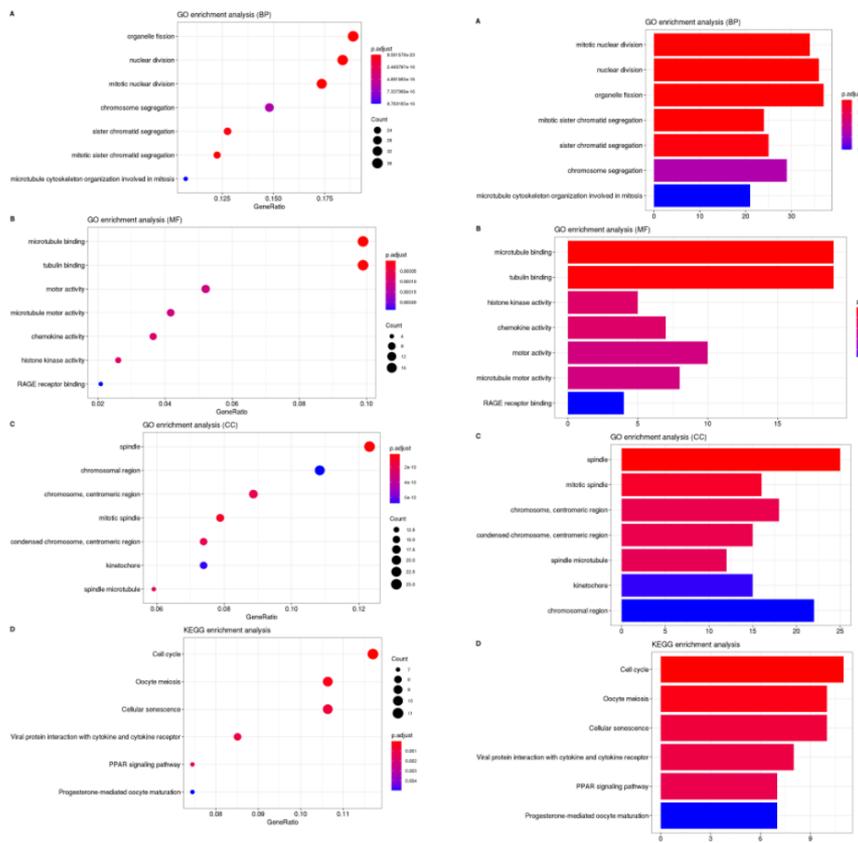
Draw Gene-Concept Network

GO/KEGG Analysis Input

<https://hiplot.com.cn/advance/clusterprofiler-go-kegg>



Hplot 可视化平台操作演示 | 进阶模块



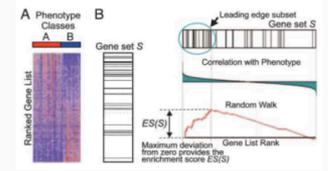
GO/KEGG Analysis Output

<https://hiplot.com.cn/advance/clusterprofiler-go-kegg>



Hiplot 可视化平台操作演示 | 进阶模块

GO/KEGG ANALYSIS **BROAD GSEA** WGCNA SIGFLOW GISTIC2 CEMITool IMMUNECONV FUSION



Meta Info <

APP Name:
Broad GSEA

Plugin Version:
v0.1.0

One Sentence Introduction:
Gene Set Enrichment Analysis.

Maintainer:
Aravind Subramanian & Hplot Team | Jianfeng

Citation:
Subramanian A, Tamayo P, Mootha V K, et al. Gene set enrichment analysis: a knowledge-based approach for interpreting genome-wide expression profiles[J]. Proceedings of the National Academy of Sciences, 2005, 102(43): 15545-15550.

Plugin Release Date:
2020-10-29

Last Update Date:
2020-10-29

Import Data

Data Table
public/demo/gsea/PS3.txt

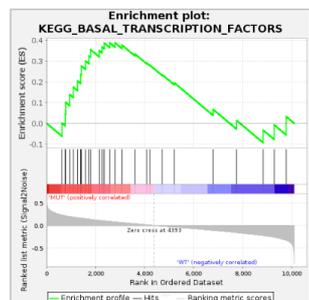
Sample Groups
public/demo/gsea/PS3.cls

Pathways File
public/db/msigdb/v7.2/c2.cp.kegg.v7.2.symbols.gmt

You can choose multiple gene sets

MUT_vs_WT....5280926641

- butterfly_plot.png
- edb
- enplot_KEGG...TION_48.png
- enplot_KEGG...SE_105.png
- enplot_KEGG...NCE_15.png
- enplot_KEGG...WAY_45.png
- enplot_KEGG...ORS_24.png**
- enplot_KEGG..._24.png alias
- enplot_KEGG...CER_57.png
- enplot_KEGG...WAY_63.png
- enplot_KEGG...AMS_75.png
- enplot_KEGG...YCLE_54.png
- enplot_KEGG...TION_87.png
- enplot_KEGG...CER_21.png
- enplot_KEGG...LISM_93.png
- enplot_KEGG...ION_117.png
- enplot_KEGG...ION_120.png
- enplot_KEGG...LISM_99.png
- enplot_KEGG...NG_111.png
- enplot_KEGG...HESIS_3.png
- enplot_KEGG...TION_78.png
- enplot_KEGG...WAY_33.png
- enplot_KEGG...PAIR_27.png
- enplot_KEGG...TION_66.png
- enplot_KEGG...OSIS_30.png
- enplot_KEGG...WAY_69.png



**enplot_KEGG_BASAL_TRANS
CRPTION_FACTORS_24.png**
PNG image - 31 KB

Tags Add Tags...

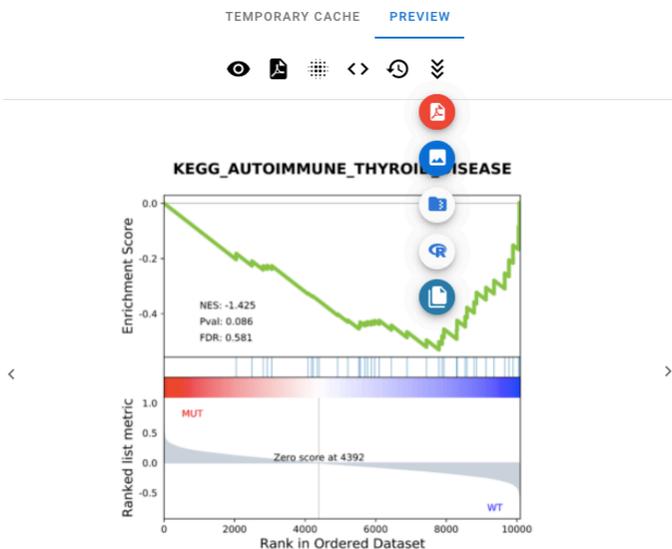
Created Yesterday, 11:22 PM

Modified Yesterday, 11:22 PM

Content created 2020/11/13

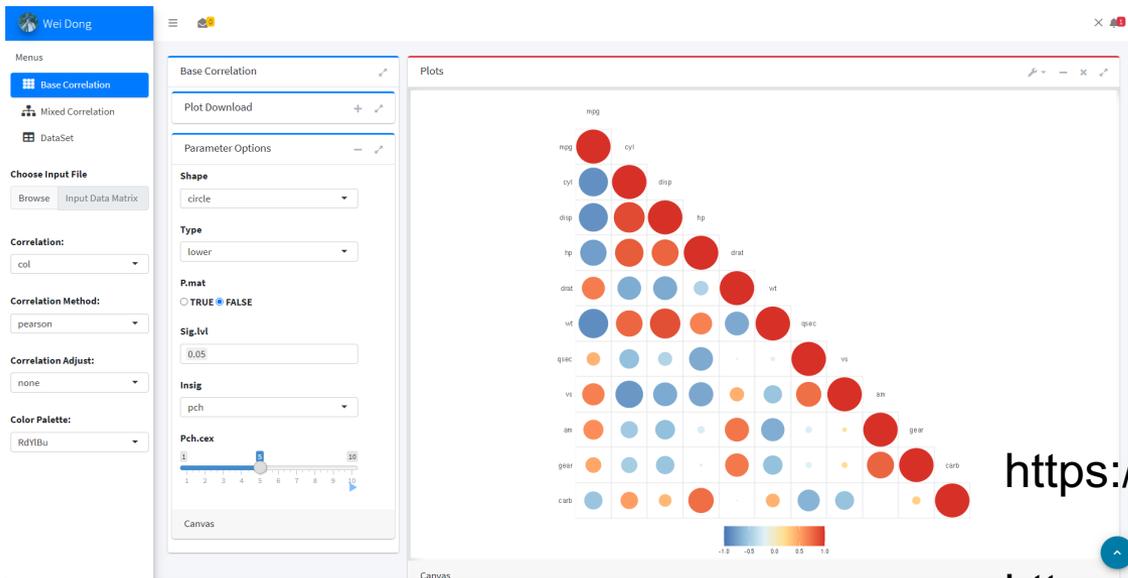
Dimensions 500x500

Color space RGB



GSEA analysis output
<https://hiplot.com.cn/advance/gsea>

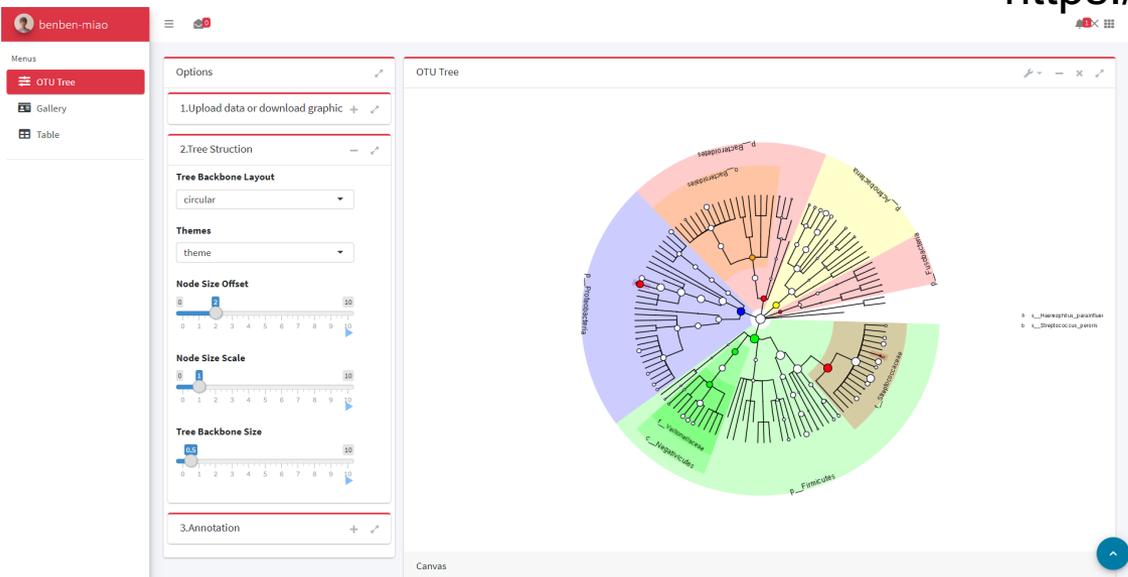
Hiplot 可视化平台操作演示 | 进阶模块



| | mpg | cyl | disp | hp | drat |
|-------------------|------|-----|-------|-----|------|
| Mazda RX4 | 21 | 6 | 160 | 110 | 3.9 |
| Mazda RX4 Wag | 21 | 6 | 160 | 110 | 3.9 |
| Datsun 710 | 22.8 | 4 | 108 | 93 | 3.85 |
| Hornet 4 Drive | 21.4 | 6 | 258 | 110 | 3.08 |
| Hornet Sportabout | 18.7 | 8 | 360 | 175 | 3.15 |
| Valiant | 18.1 | 6 | 225 | 105 | 2.76 |
| Duster 360 | 14.3 | 8 | 360 | 245 | 3.21 |
| Merc 240D | 24.4 | 4 | 146.7 | 62 | 3.69 |
| Merc 230 | 22.8 | 4 | 140.8 | 95 | 3.92 |
| Merc 280 | 19.2 | 6 | 167.6 | 123 | 3.92 |

<https://hiplot.com.cn/advance/ggcorrplot2>

<https://hiplot.com.cn/advance/otu-tree>



1. OTU Table

Show 10 entries

| ID | BM_SR5013506 | BM_SR5013574 | BM_SR5015646 | BM_54 |
|---|--------------|--------------|--------------|-------|
| 1 k__Bacteria | 100 | 100 | 100 | |
| 2 k__Bacteriopl__Actinobacteria | 1.33909 | 2.90435 | 0.45117 | |
| 3 k__Bacteriopl__Actinobacteri__Actinobacteria | 1.23809 | 2.00435 | 0.45117 | |
| 4 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales | 1.33215 | 2.90435 | 0.44821 | |
| 5 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Actinomycetales | 0.11797 | 0.56928 | 0.01312 | |
| 6 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Actinomycetales__Actinomycetes | 0.11797 | 0.56928 | 0.01312 | |
| 7 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Actinomycetales__Actinomycetes__odontolyticus | 0.0161 | 0.00063 | 0.00078 | |
| 8 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Actinomycetales__Actinomycetes__Actinomycetes__oris | 0.04402 | 0.21493 | 0.00029 | |
| 9 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Actinomycetales__Actinomycetes__viscosus | 0.05785 | 0.35372 | 0.00305 | |
| 10 k__Bacteriopl__Actinobacteri__Actinobacteri__Actinomycetales__Corynebacteriaceae | 0.00702 | 0.08409 | 0.00343 | |

Showing 1 to 10 of 285 entries

2. Node Table

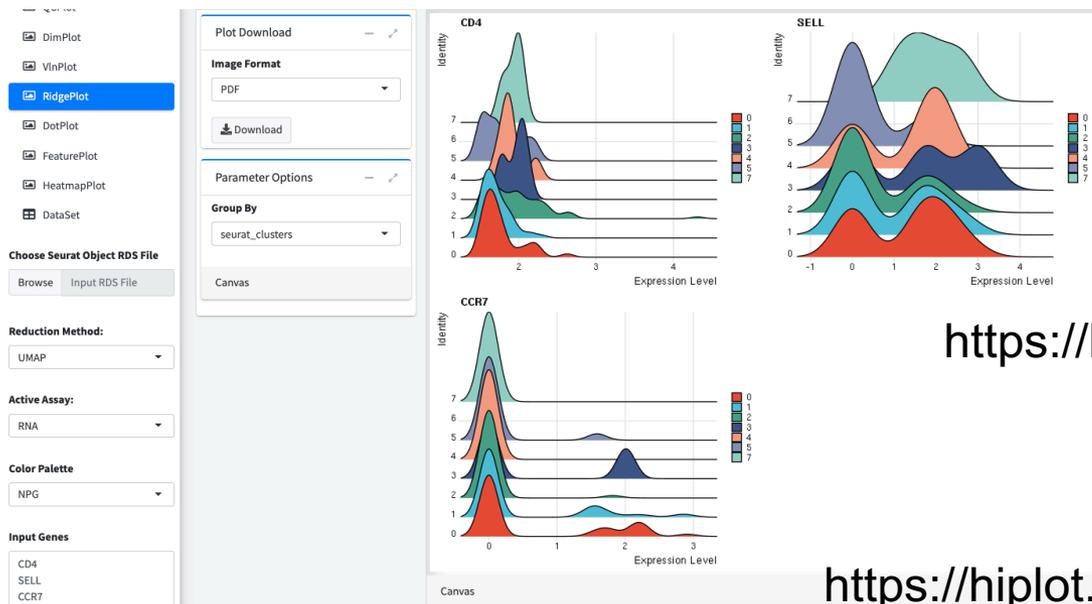
Show 10 entries

| node | color |
|----------------------------------|-------|
| 1 s__Haemophilus_paranifluenzeae | red |
| 2 p__Proteobacteria | blue |
| 3 f__Verrucomicrobiales | green |
| 4 s__Streptococcus_pemoris | red |
| 5 c__Negativicutes | green |

Interactive Shiny Applications



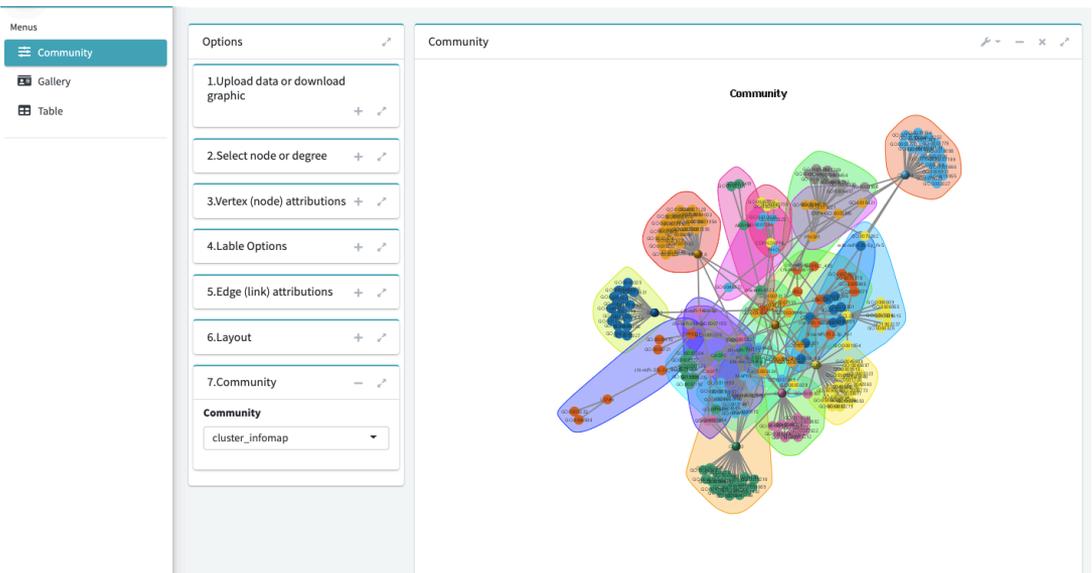
Hiplot 可视化平台操作演示 | 进阶模块



Input RDS object of Seurat

<https://hiplot.com.cn/advance/shinyseurat>

<https://hiplot.com.cn/advance/community-shiny>



Show 10 entries

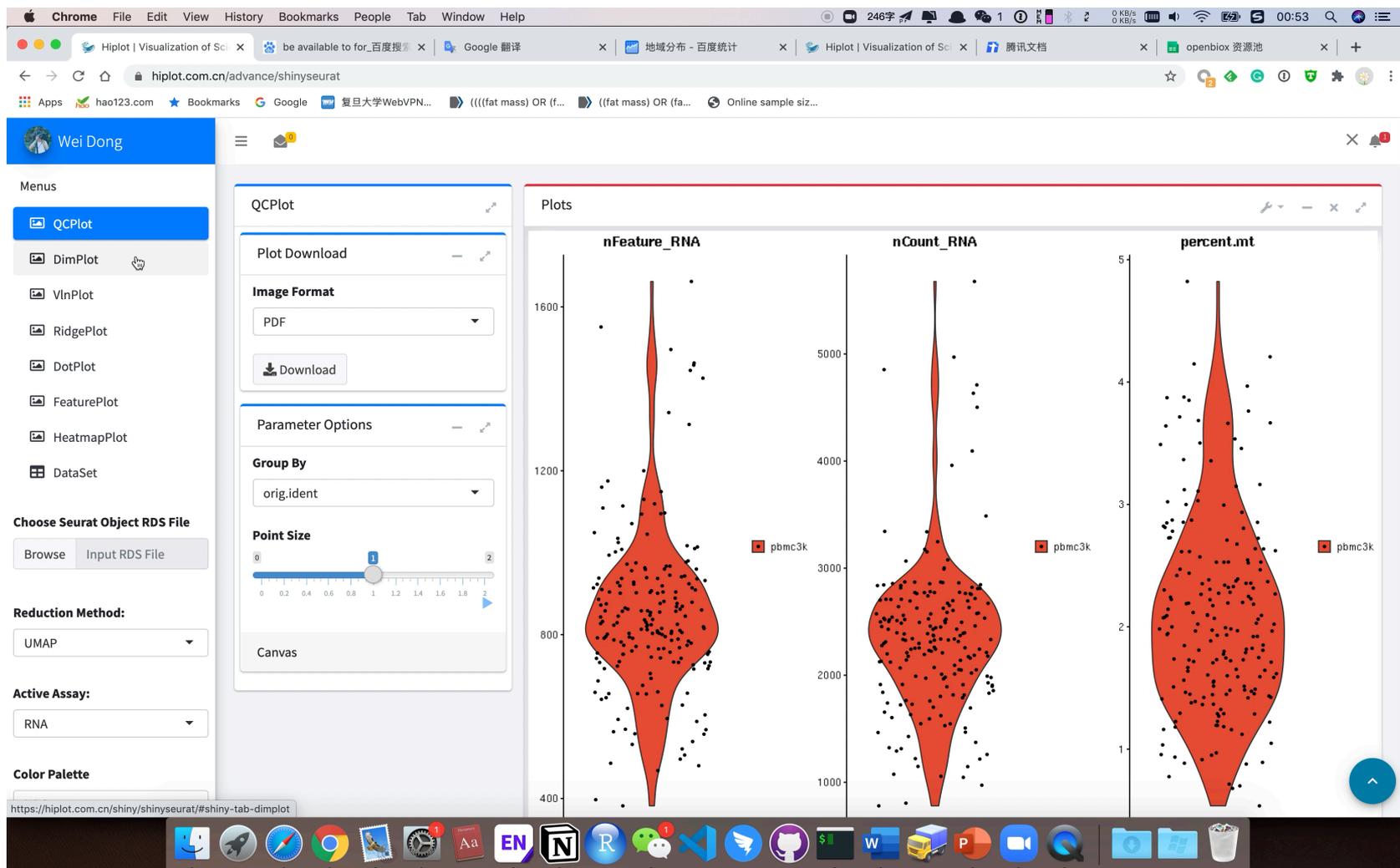
| | node1 | node2 |
|----|-------|-------------------------|
| 1 | ABL2 | PC-3p-5622_465 |
| 2 | ABL2 | PC-5p-33384_55 |
| 3 | ABL2 | chi-miR-107-3p |
| 4 | ABL2 | chi-miR-15b-5p |
| 5 | CASP2 | PC-3p-10204_250 |
| 6 | CASP2 | bta-miR-6123 |
| 7 | CASP2 | bta-mir-2284f-p3_1ss6CA |
| 8 | CASP2 | chi-miR-326-3p_1ss21CT |
| 9 | CASP2 | PC-5p-33384_55 |
| 10 | CASP3 | bta-miR-30d_R-4 |

Showing 1 to 10 of 284 entries

Interactive Shiny
Applications



Hiplot 可视化平台操作演示 | 进阶模块



Shinyseurat Application

Hiplot 可视化平台操作演示 | 小工具箱

Import Data 

Image Files



/public/demo/pdf-collage/bubble.pdf 

/public/demo/pdf-collage/go-bar.pdf 



/public/demo/pdf-collage/barplot.pdf 

/public/demo/pdf-collage/diverging-scale.pdf 



Preview PDF-Collage input files

<https://hiplot.com.cn/mini-tools/pdf-collage>

Hiplot 可视化平台操作演示 | 小工具箱

Import Data



Set Parameters

General Parameters

Task Name: 9a3c27c0-257f-11eb-be8c-9f0dc625fb96

Image Export: png pdf

Extra Parameters

Mode: combine-grid

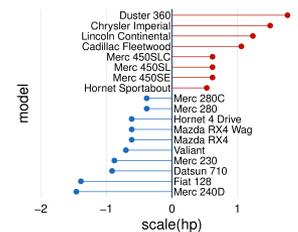
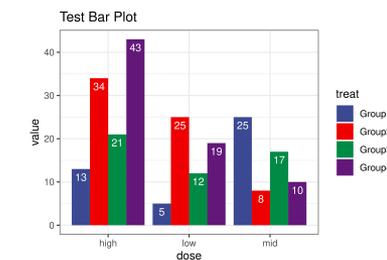
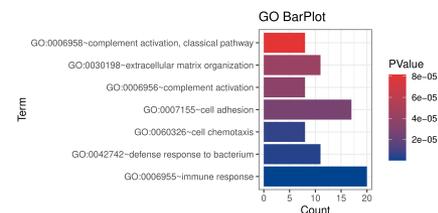
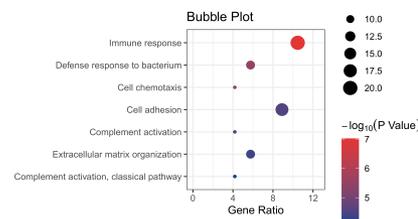
Page Size: custom

Figures Per Page: 4

Dimensions Width (cm): 29.7

Dimensions Height (cm): 21

SUBMIT RESET DEMO



Merge Images (Grid Mode)

<https://hiplot.com.cn/mini-tools/pdf-collage>

Hiplot 可视化平台操作演示 | 小工具箱

Import Data

Image Files

- /public/demo/pdf-collage/bubble.pdf
- /public/demo/pdf-collage/go-bar.pdf
- /public/demo/pdf-collage/barplot.pdf
- /public/demo/pdf-collage/diverging-scale.pdf

Set Parameters

General Parameters

Task Name: 9a3c27c0-257f-11eb-be8c-9f0dc625fb96

Image Export: png pdf

Extra Parameters

Mode: combine-arrange

Page Size: custom

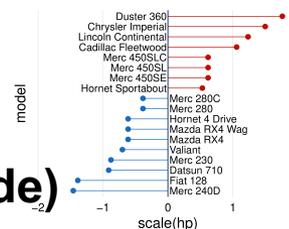
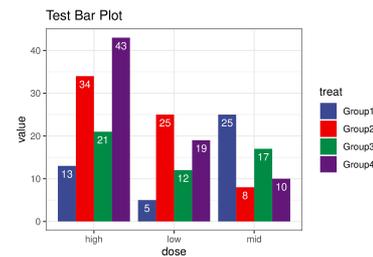
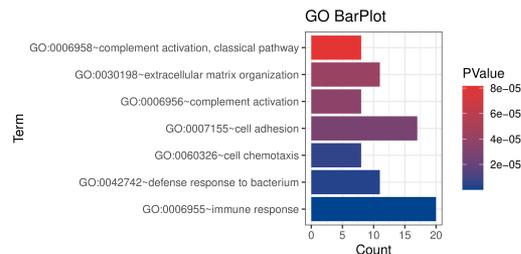
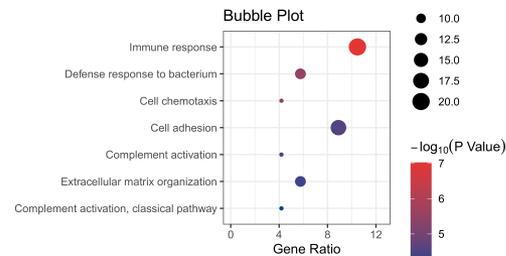
Nrow: 4

Ncol: 1

Dimensions Width (cm): 29.7

Dimensions Height (cm): 21

SUBMIT RESET DEMO



Merge Images (Arrange Mode)

<https://hiplot.com.cn/mini-tools/pdf-collage>

Hiplot 可视化平台操作演示 | 小工具箱

Import Data

Files ✕ 🗨 👁 📄 ⬇

Set Parameters

General Parameters

Task Name

Image Export png pdf ▼

36 / 80

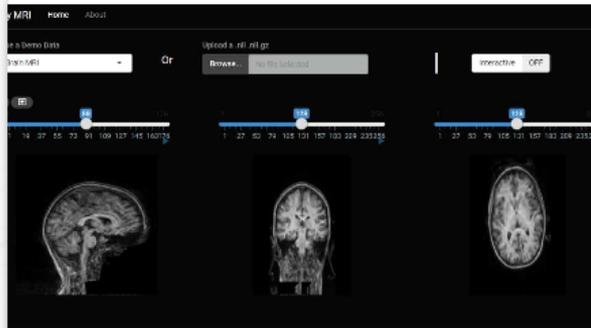
SUBMIT RESET DEMO 🕒 📄 🔗

TEMPORARY CACHE PREVIEW



<https://hiplot.com.cn/mini-tools/svg-convertor>

Hiplot 可视化平台操作演示 | 临床工具



ShinyMRI

Visualize 3D/4D Medical Imaging Data.



shiny clinical mri



The CHA2DS2-VASc score

Estimating the risk of stroke in patients.



shiny clinical

late Body Mass Index (BMI)

calculates the BMI by using fomular:

$$\frac{\text{mass}_{\text{kg}}}{\text{height}_{\text{m}}^2} = \frac{\text{mass}_{\text{lb}}}{\text{height}_{\text{in}}^2} \times 703$$

body weight (kg)

body height (cm)

According to your input, the BMI is:

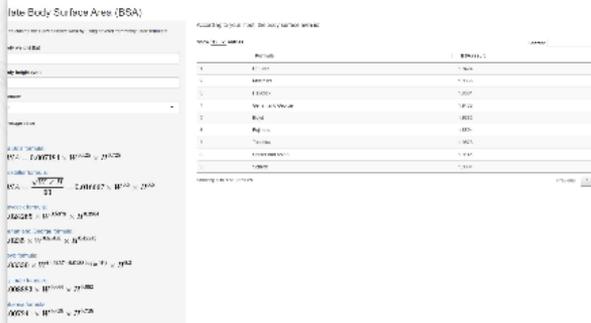
23.1481 kg/m²

Body Mass Index (BMI)

Clinical Calculations Project.



shiny clinical

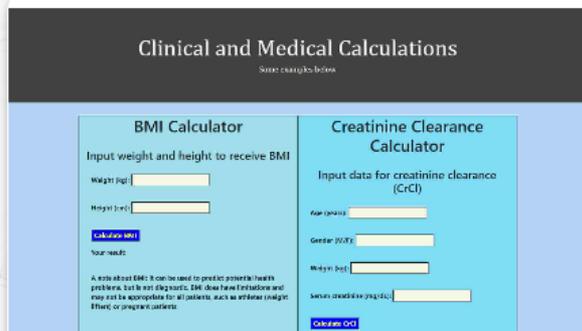


Body Surface Area (BSA)

Clinical Calculations Project.



shiny clinical



BMI & CrCl

Clinical Calculations Project.



clinical

HCCP Scoring Tool

| | Points applicable | Points scored |
|---|-------------------|---------------|
| Respiratory - use highest score (max 4) | | |
| Frequent or increasing lower respiratory infections | 1 | |
| PICU admission for lower respiratory infection | 2 | |
| Requirement for long term oxygen or non-invasive ventilation at home | 3 | |
| Tracheostomy and/or 24 hour ventilation | 4 | |
| Feeding - use highest score (Max 4) | | |
| Gastrostomy/long term NG feeding (>6 months) | 1 | |
| Jejunostomy or severe uncontrolled reflux despite maximum treatment | 2 | |
| Losing weight or unable to administer essential medication due to feeding difficulties | 3 | |
| Pain/distress associated with feeding, causing progressive feed reduction or requirement for total parenteral nutrition | 4 | |

HCCP Score

The Health Complexity in Community Paediatrics.



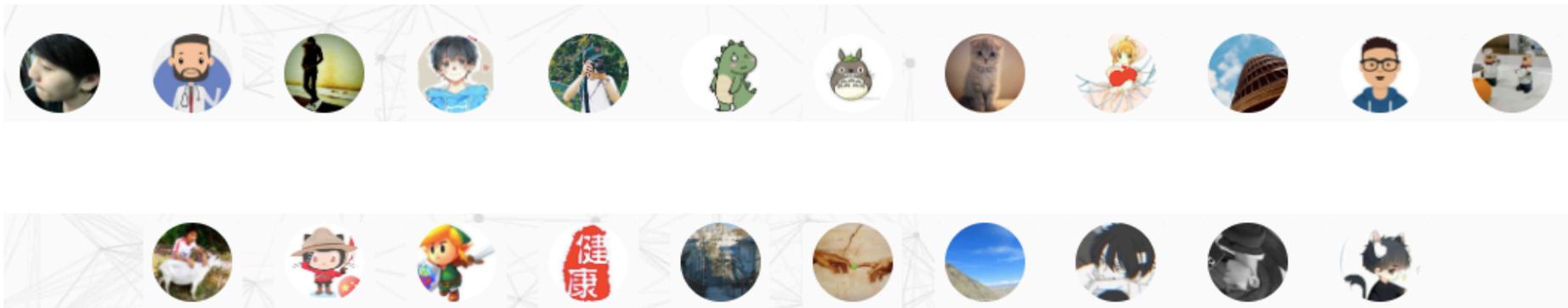
clinical

Under development

致谢



- Cancer Researchers & clinicians
- Postgraduates
- Bioinformatics Community
- Scientific We Media



用户交流社群



Hiplot可视化平台用户群-3



该二维码7天内(12月28日前)有效，重新进入将更新

从零入门科研数据可视化云平台

openbioX & Hiplot Team

2020-12-26

Hiplot Team