



Viewing Multiple Interactive Plots with **plotly** And **trelliscopejs**

For [uRos2022](#) Conference  

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jauntyjjs.github.io/uRos2022   



Introduction to Lipids

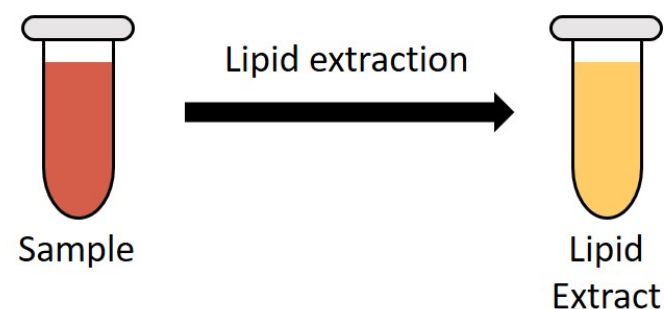
Lipids are organic compounds that are mostly insoluble in polar solvents like water.

The most common ones are cholesterol and triglycerides in blood lipid panel test.



Blood sample image from [brgfx](#)

How Lipids are measured (Targeted Lipidomics)



Lipid measurement

Transition_Name	Precursor_Ion	Product_Ion
Cer d18:1/12:0 (ISTD)	482.4	264.4

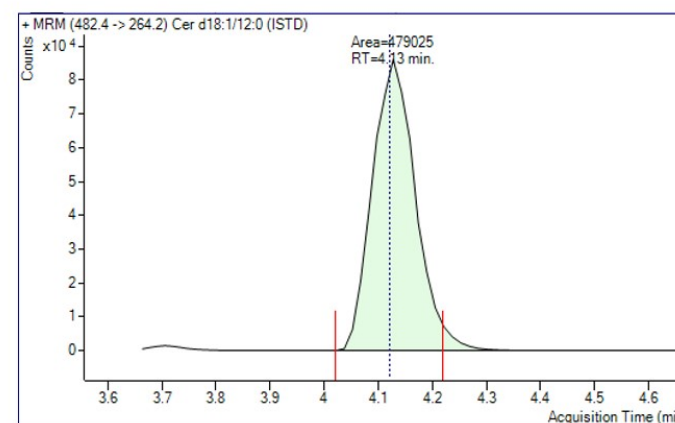


Liquid Chromatography/Mass Spectrometry

Sample_Name	Cer d18:1/12:0 (ISTD)
Sample 01	479025
Sample 02	570275
Sample 03	374854
Sample 04	319491
Sample 05	231691

Peak Area Data

Peak integration

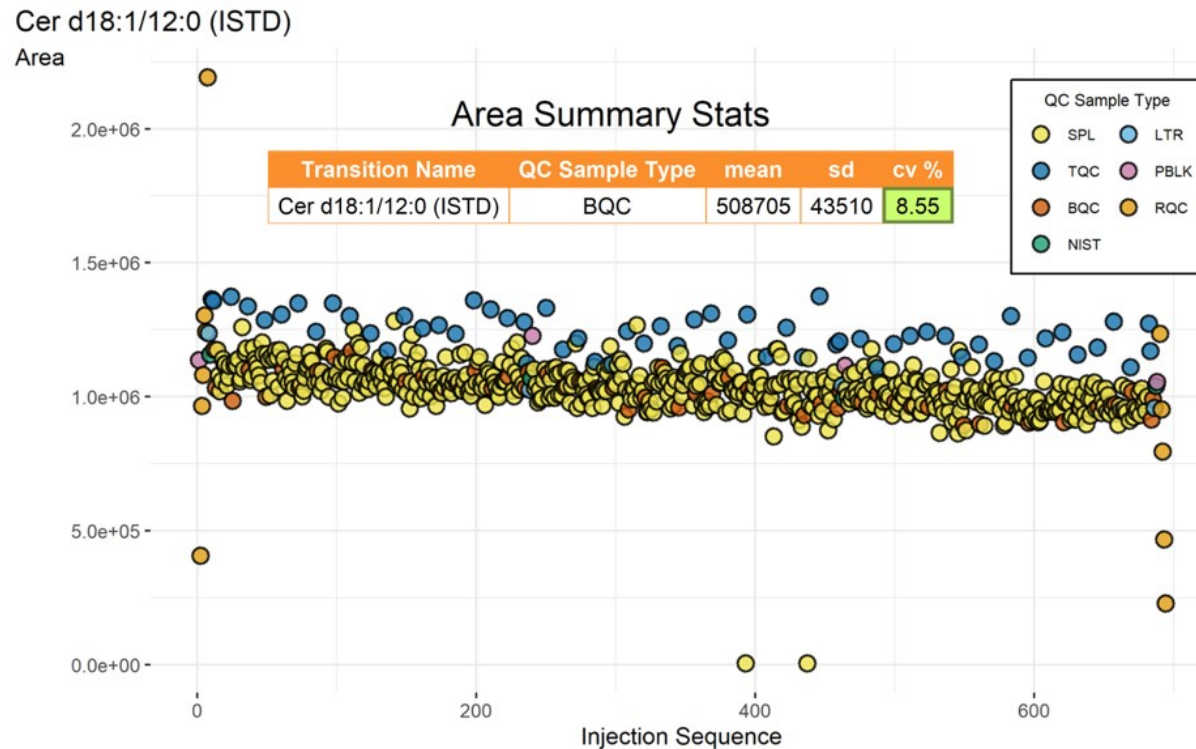


Quality Control (QC) Samples

QC samples helps to check the severity of variation from external sources such as contaminant ions.

We want to keep molecules that gives a low variation on the QC samples.

Plots are exported as pages in a pdf file.

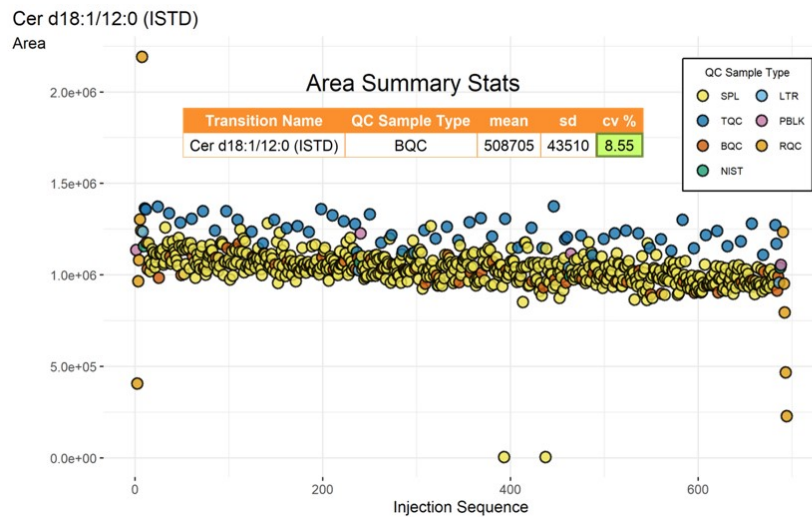


Motivation for using **plotly** and **trelliscopejs**

Today's targeted lipidomics workflow can measure up to a few hundred molecules.

This gives a pdf file of over 500 pages.

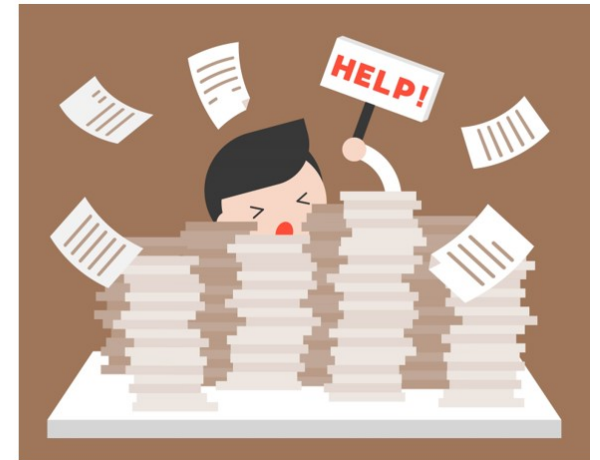
Looking at these static plot individually to gain insights is tedious.



> 500



> 500 Pages

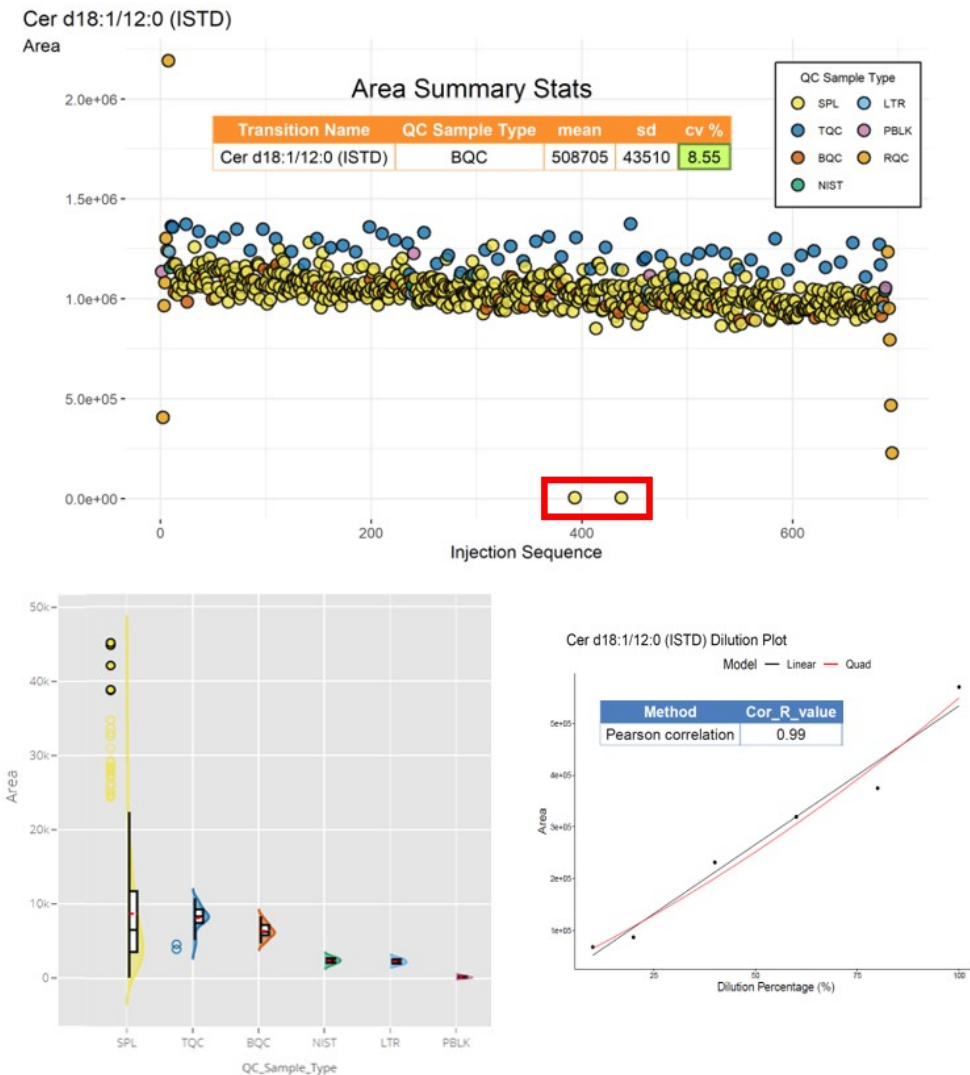


Images by [Amonrat Rungreangfangsai](#)

Motivation for using **plotly** and **trelliscopejs**

Out of > 500 molecules,

- Can I have more info about the outlying samples in the red box ?
- How many Ceramides have BQC CV over 20% ?
- Can you plot the same data as a Raincloud Plot ?



Motivation for using **plotly** and **trelliscopejs**

Shiny was considered but

- Lack expertises to maintain a secure web server to run **Shiny** applications.
- Cannot expect collaborators/managers to install/run R packages and code to rebuild the **Shiny** application just to view the results.

Use **plotly** to make plots interactive.

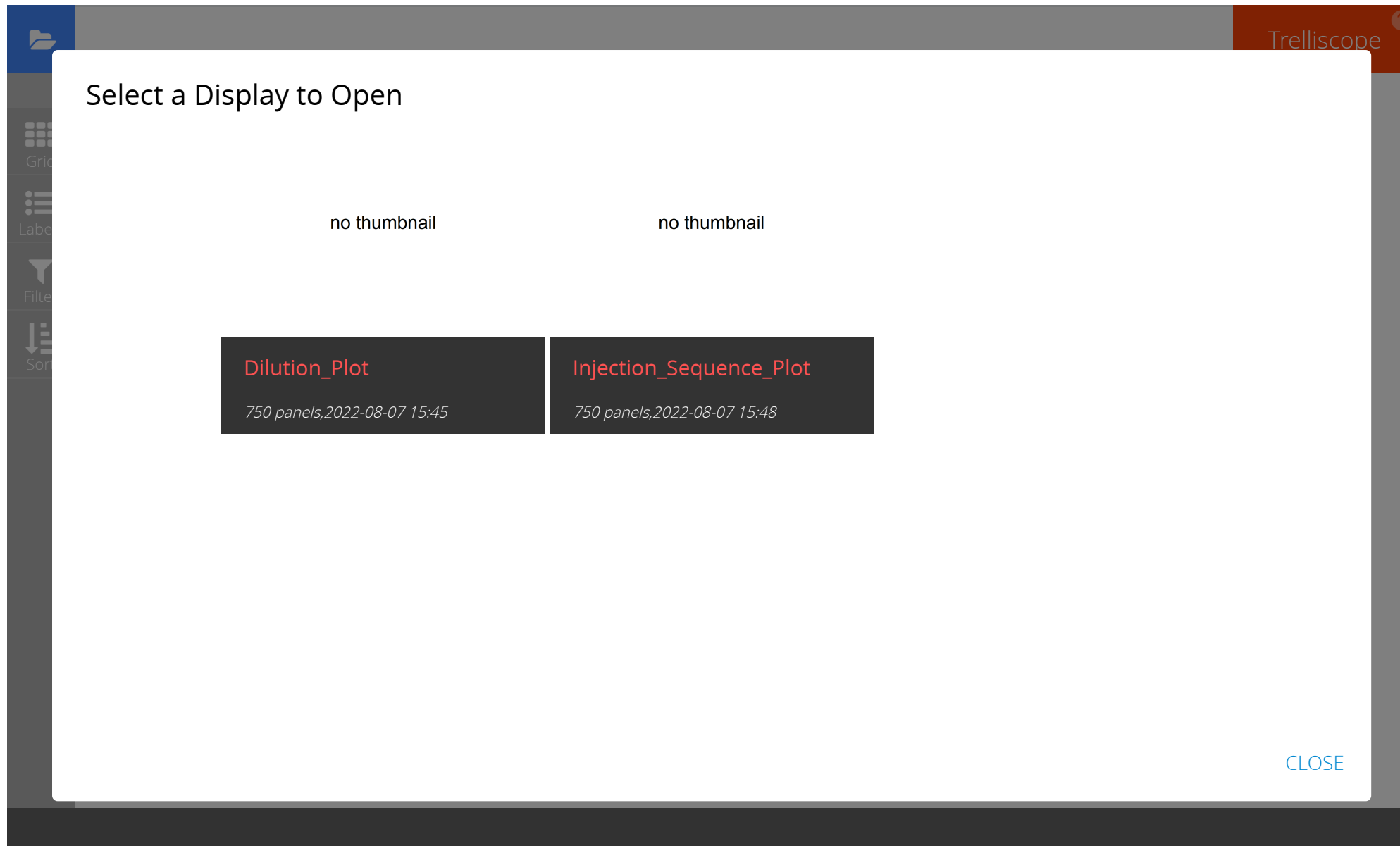
Use **trelliscopejs** to explore interactive plots in an effective way and results distribution.



Data (D:) > Trelliscopejs_In_Quarto_Example > Dilution_Plot_Folder				Search Dilutic
Name	Date modified	Type	Size	
appfiles	1/8/2022 7:27 PM	File folder		
lib	2/8/2022 5:01 PM	File folder		
index.html	2/8/2022 5:01 PM	Chrome HTML Do...	1 KB	



Dilution_Plot_Folder.zip	3/8/2022 5:48 PM	Compressed (zipp...	3,405 KB
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Embedded trelliscopejs results in [🔗](#) [🐙](#)

jauntyjjs.github.io/uRos2022 [🔗](#) [🐙](#) [📄](#)

Guidelines

A walk through example using Quarto is created on the below [GitHub page](#).

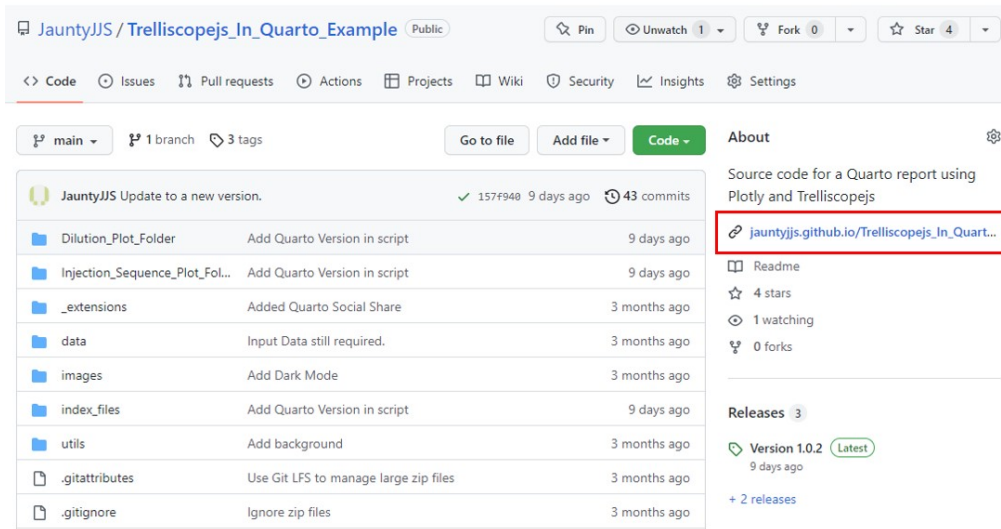


Table of contents

- Introduction
- R Packages Used
- Input Data
- Nested Data
- Annotate Transition Names
- Calculate Transition Statistics
- Plotting Palette
- Plot Dilution Curves
- Plot Injection Sequence
- Cognosics
- Create Trellis Plot
- Package References
- References

Quarto Report Example With Plotly and Trelliscopejs

AUTHOR

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</> Code

Show All Code

Hide All Code

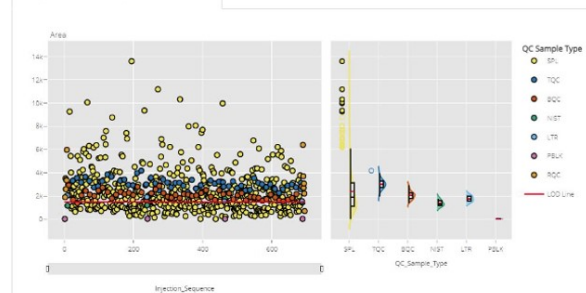
View Source

Introduction

Here is a report showing how to create injection sequence plot and dilution plot using [plotly](#) for each transition.

Injection Sequence Plot

Dilution Plot



Injection Sequence Plot

Walk through page in [🔗](#) [📄](#)

[jauntyjjs.github.io/uRos2022](#) [🔗](#) [📄](#) [📄](#)

Examples

Exported examples are found under the [Releases](#) section in the below [GitHub page](#).

The screenshot shows the GitHub repository page for `JauntyJJS / Trelliscopejs_In_Quarto_Example`. The repository is public and has 4 stars. The main branch is `main`. The repository contains 157,940 commits and 43 commits. The repository is described as "Source code for a Quarto report using Plotly and Trelliscopejs".

The repository contains the following files:

- `Dilution_Plot_Folder`: Add Quarto Version in script (9 days ago)
- `Injection_Sequence_Plot_Fol...`: Add Quarto Version in script (9 days ago)
- `_extensions`: Added Quarto Social Share (3 months ago)
- `data`: Input Data still required. (3 months ago)
- `images`: Add Dark Mode (3 months ago)
- `index_files`: Add Quarto Version in script (9 days ago)
- `utils`: Add background (3 months ago)
- `.gitattributes`: Use Git LFS to manage large zip files (3 months ago)
- `.gitignore`: Ignore zip files (3 months ago)

The **Releases** section shows 3 releases. The latest release is **Version 1.0.2**, released 9 days ago. A red box highlights the **Releases** section, and a red arrow points from it to the **Assets** section.

The **Assets** section lists 7 assets:

Asset	Size	Released
<code>data.zip</code>	4.46 MB	9 days ago
<code>Dilution_Plot_Folder.zip</code>	3.33 MB	9 days ago
<code>docs.zip</code>	52.4 MB	9 days ago
<code>Injection_Sequence_Plot_Folder.zip</code>	50.7 MB	9 days ago
<code>Quarto_Example.zip</code>	58.7 MB	9 days ago
<code>Source code (zip)</code>		9 days ago
<code>Source code (tar.gz)</code>		9 days ago

Walk through GitHub page in

References

trelliscopejs Examples

- [Pokemon and TrelliscopeJS](#)
- [The Mountain Goats with trelliscopejs](#)

trelliscopejs Presentation

- [rstudio::conf 2017](#)
 - [Slides](#)
- [useR! 2022](#)
 - See talk at around 54.55
 - [Slides](#)

Thank you and enjoy the conference...



Images by [Amonrat Rungreangfangsai](#)