Lab Report

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Introduction

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document.

We are using this document to practice a reproducible workflow that help documenting the data analysis process for sharing on GitHub, and eventually could be shared on open repositories like Zenodo.

Your first task: Replace the author name Ye Li with your name on the top section.

Now, we will plot a simple calibration curve to show how it works.
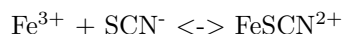
You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

Data source

First, let's import the data we can use to plot a calibration curve of the following chemical reaction.

Fe^{3+} + SCN^- <-> $FeSCN^{2+}$

The data is stored under the subfolder /data. The following R code chunk will import the data and give it to a dataframe variable named calibFeSCN.

(Thanks to Prof. Steve Wathen providing the dataset from a real chemistry lab.)

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code.

Plot calibration curve

Now, we will plot the imported data as a calibration curve

Calibration Curve
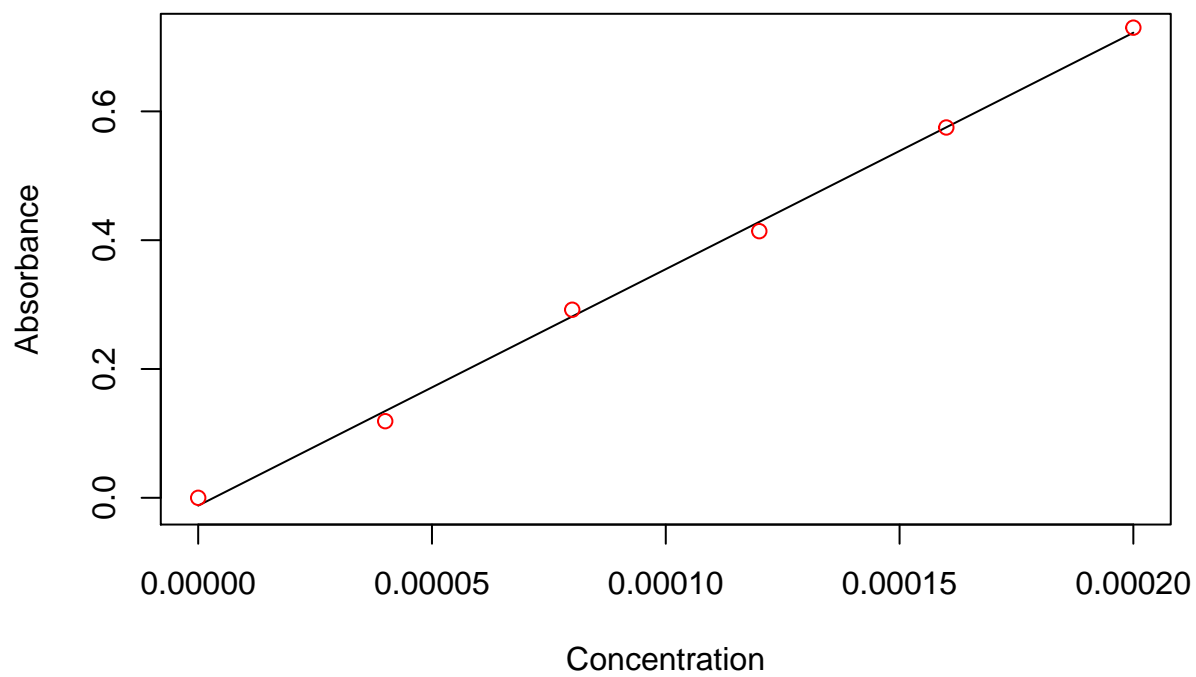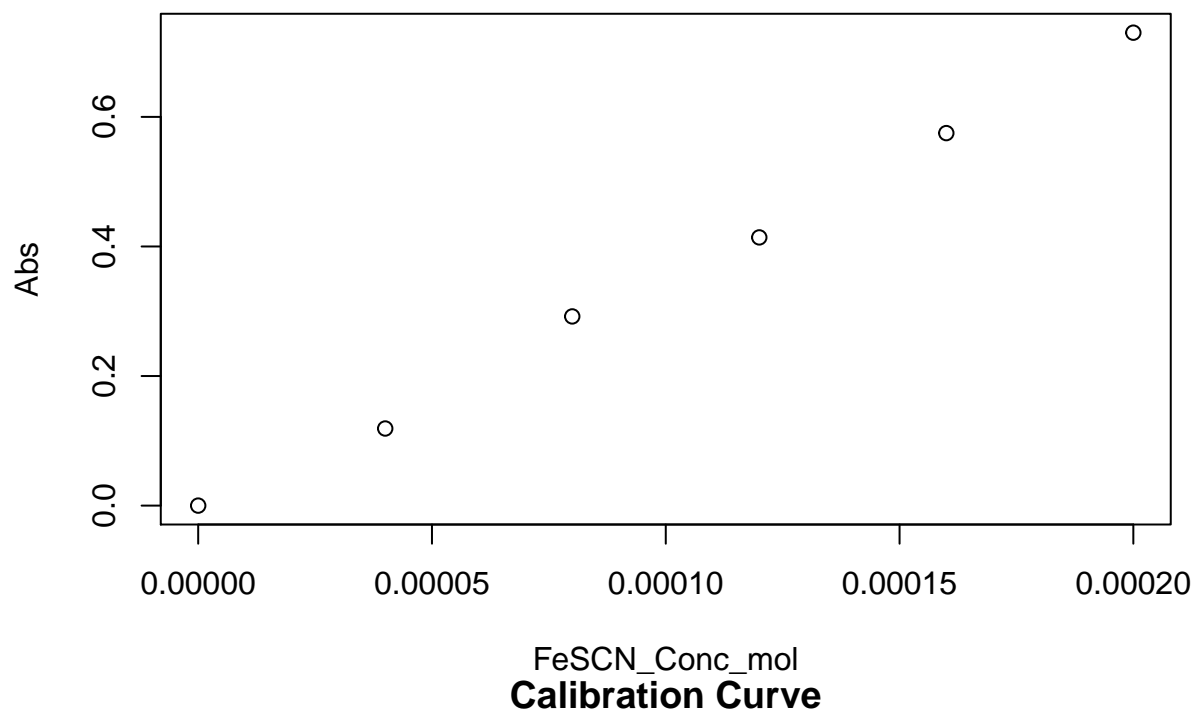
What if the raw data has error to fix?

``` 
```

Conclusion

We are not learning how to use R and RStudio within such a short time frame here. But hope walking through the process can help you see the potential of using these tools in your research workflow. Let's work towards open and reproducible research together!