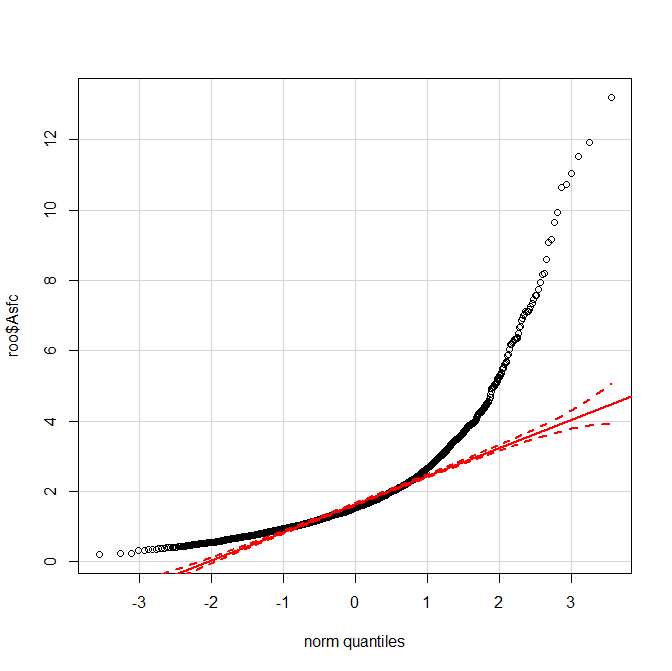
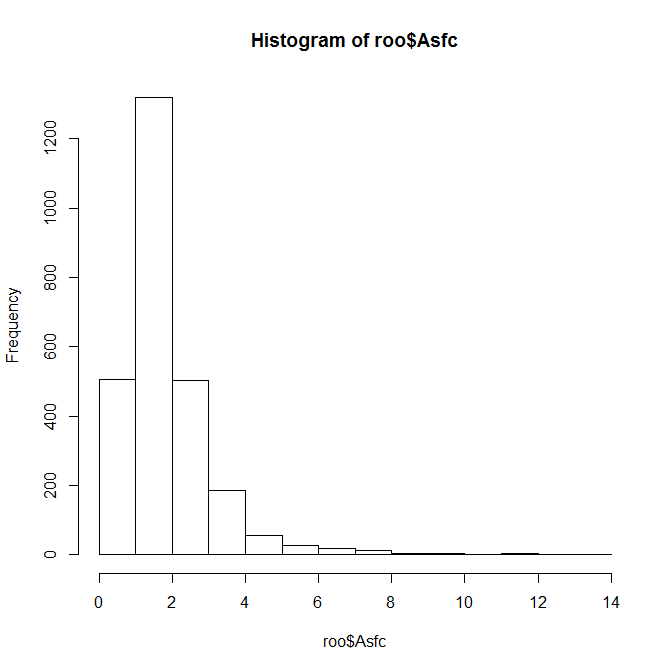
**Supplementary Information 6: Normality of datasets**

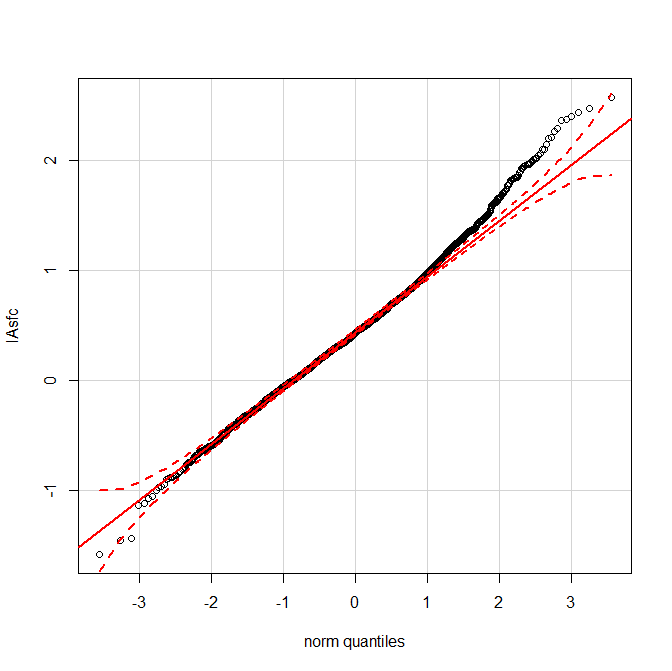
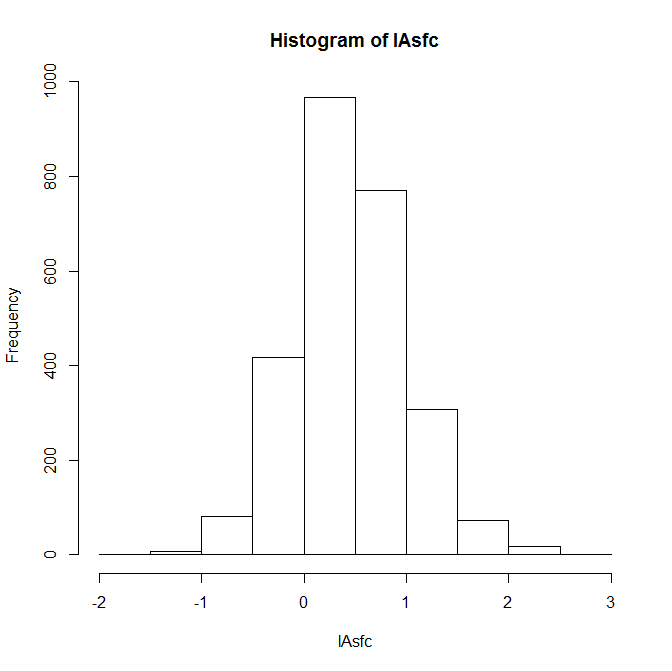
This document contains histograms and quantile-quantile plots for each dataset analysed in chapter five. For each dataset the raw data are shown first before the transformed data (where applicable). Normality was considered to have been achieved when a bell-shaped histogram and an approximately linear q-q plot was achieved. Where necessary boxcox log-likelihood plots have also been included to refine power transformations.

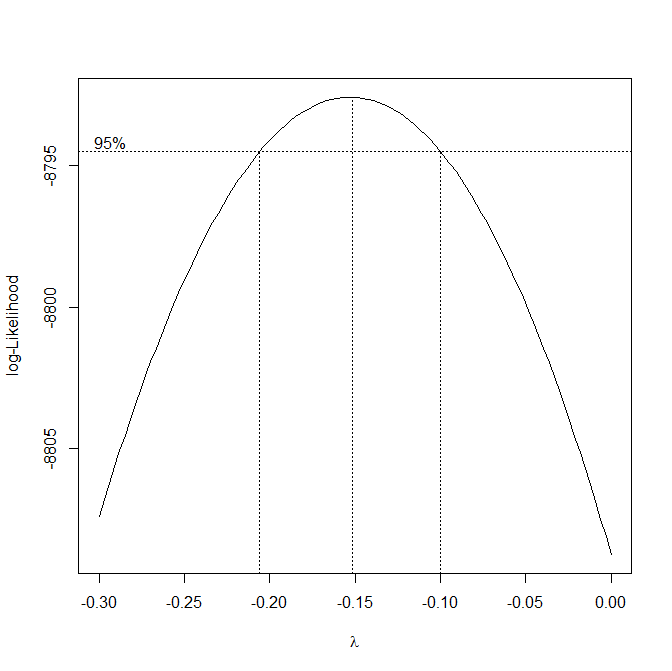
## ****Asfc****

Raw

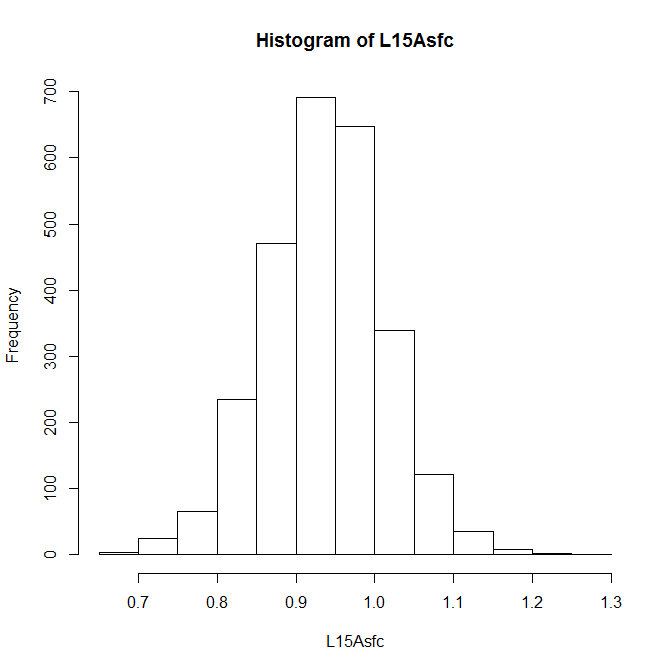
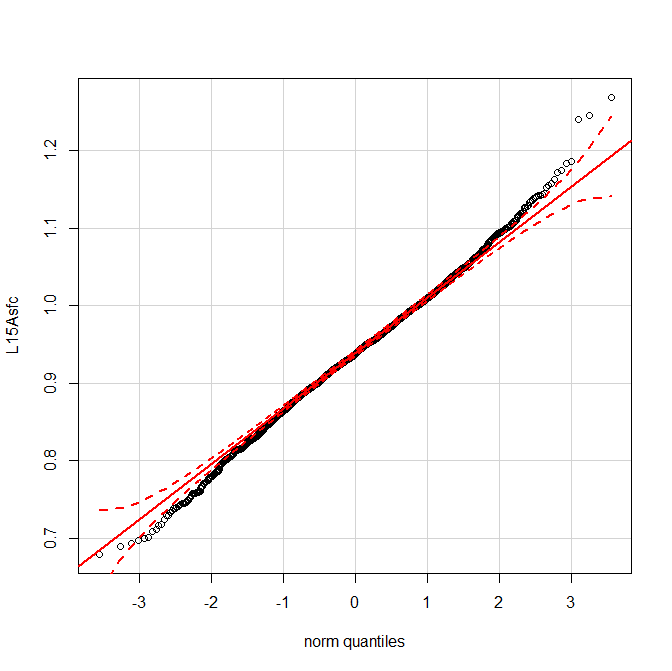


Natural logarithm transformed



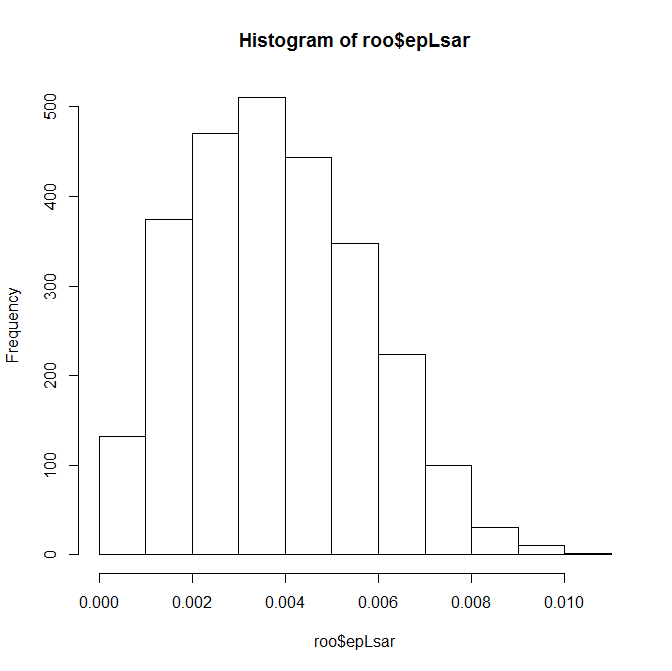
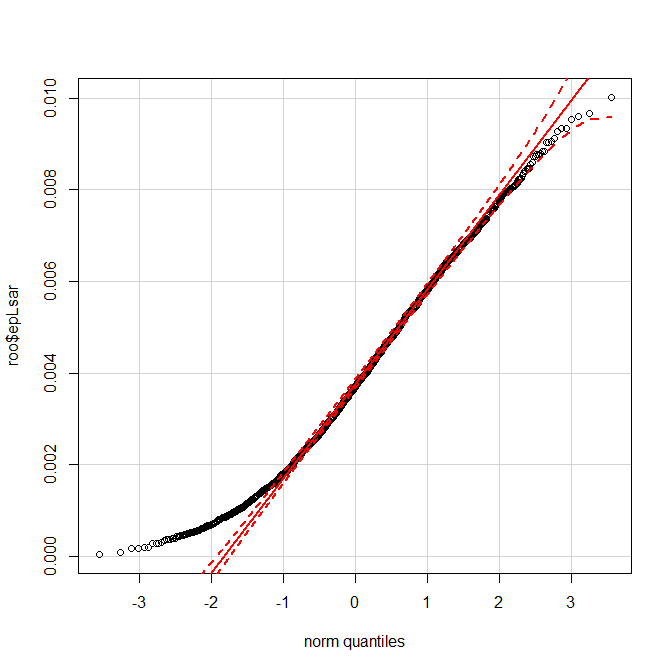
Boxcox log-likelihood 

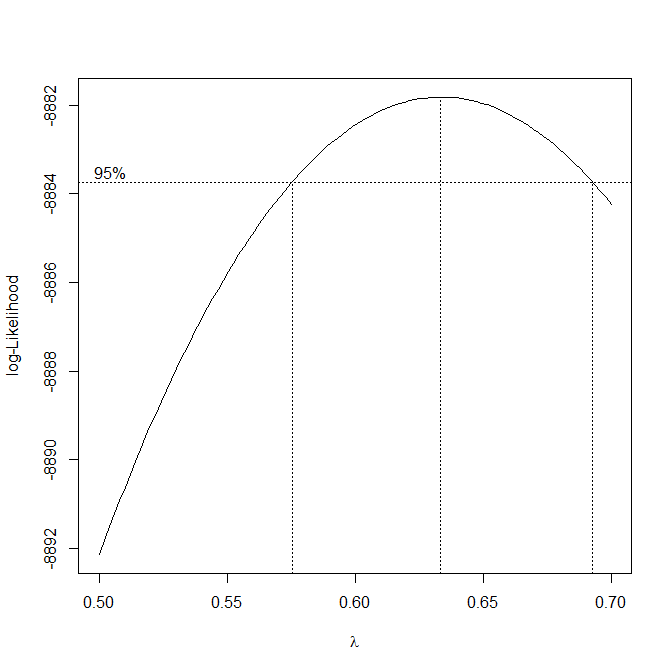
Asfc015<-(roo$Asfc)^-0.15

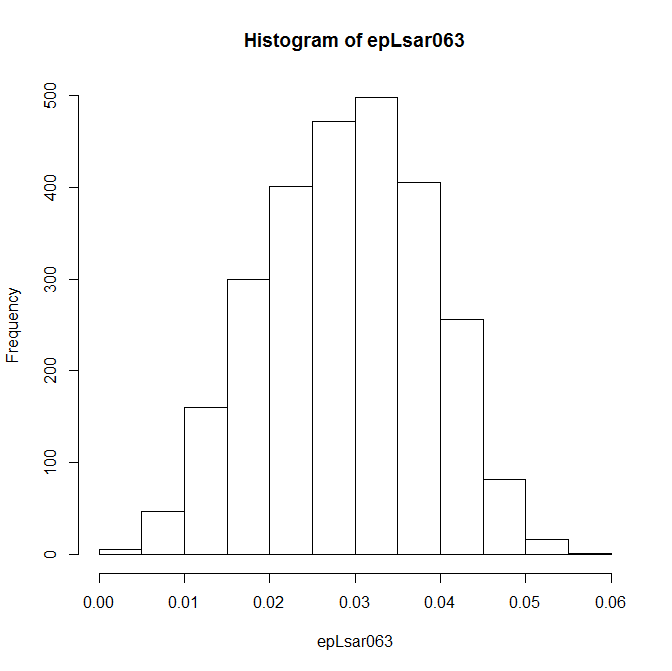
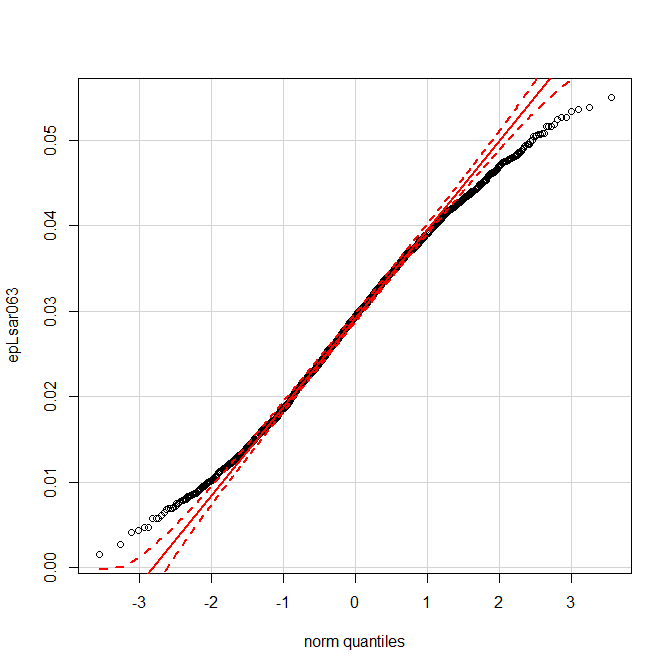
## epLsar

Raw

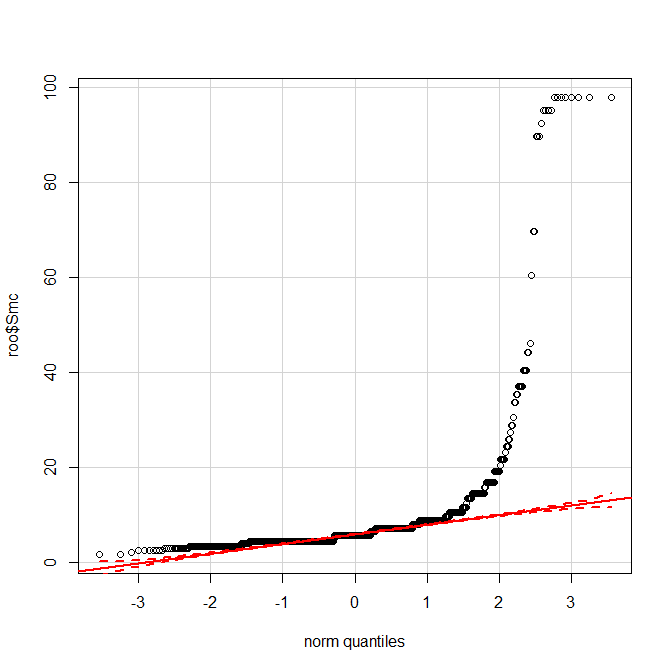
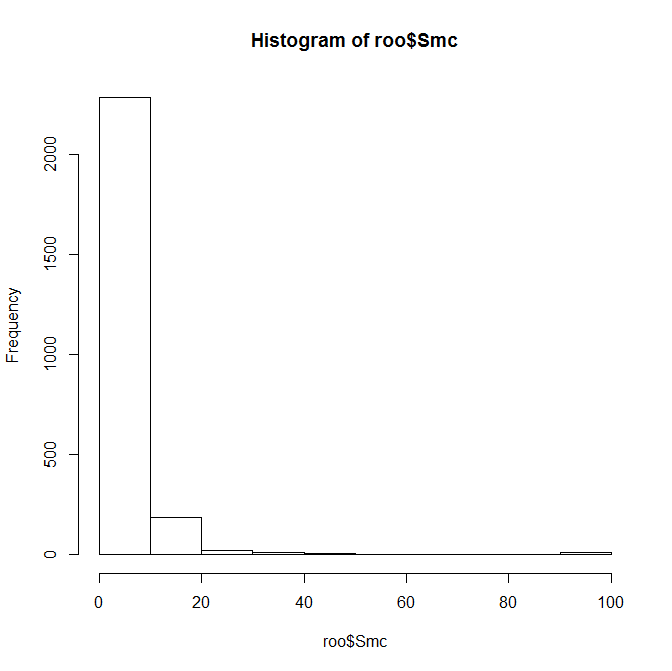
Boxcox log-likelihood

epLsar063<-(roo$epLsar)^0.63

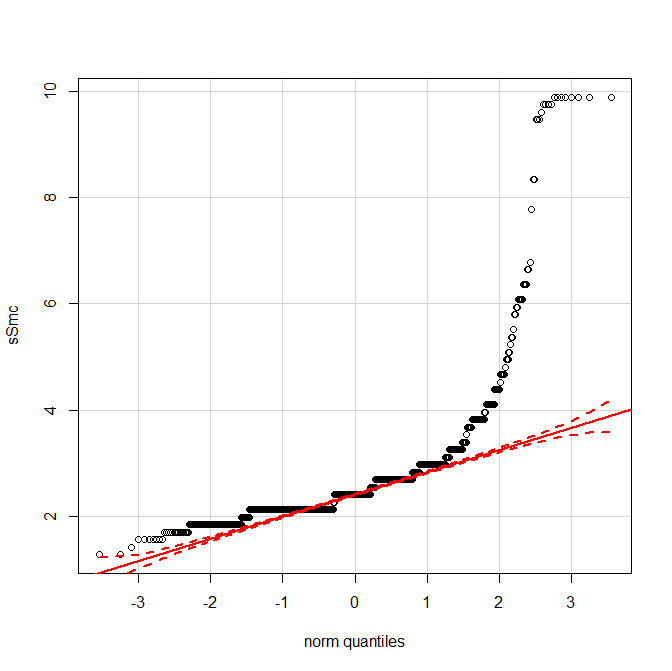
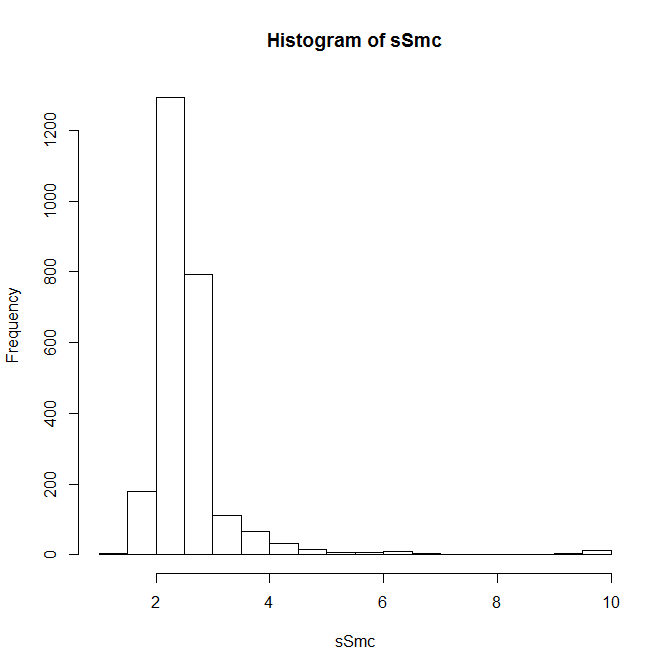
 

## Smc

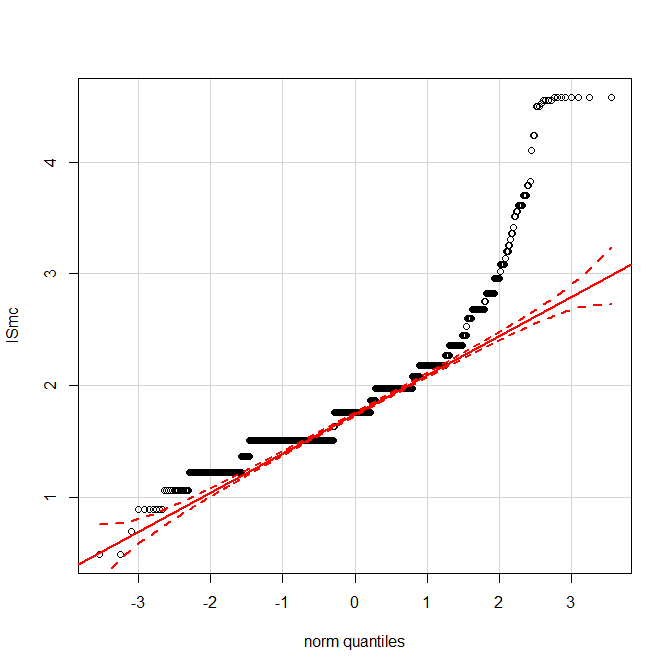
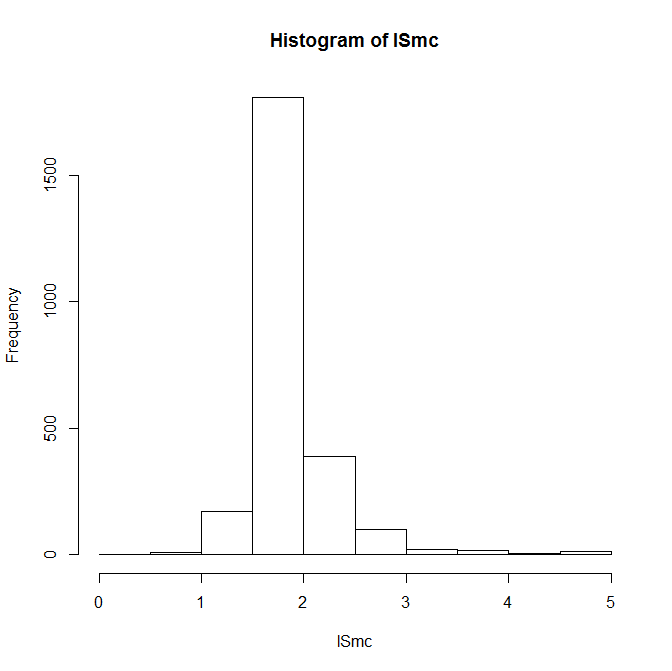
Raw



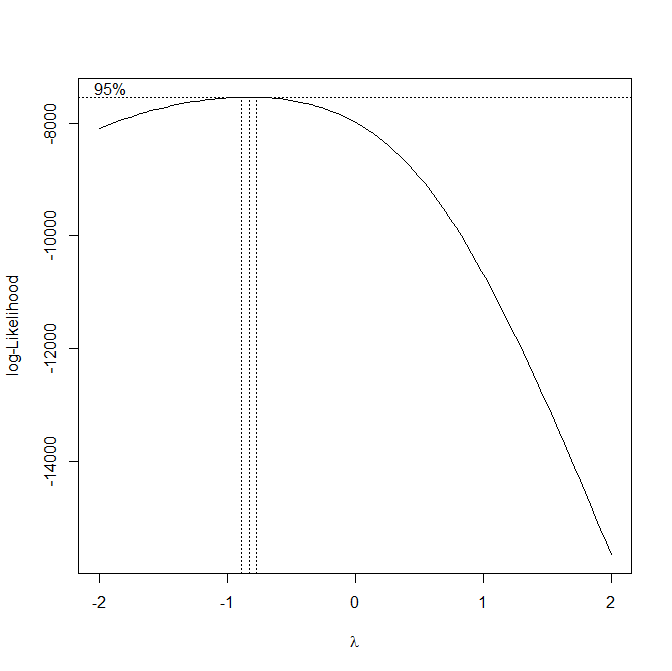
Square root transformed



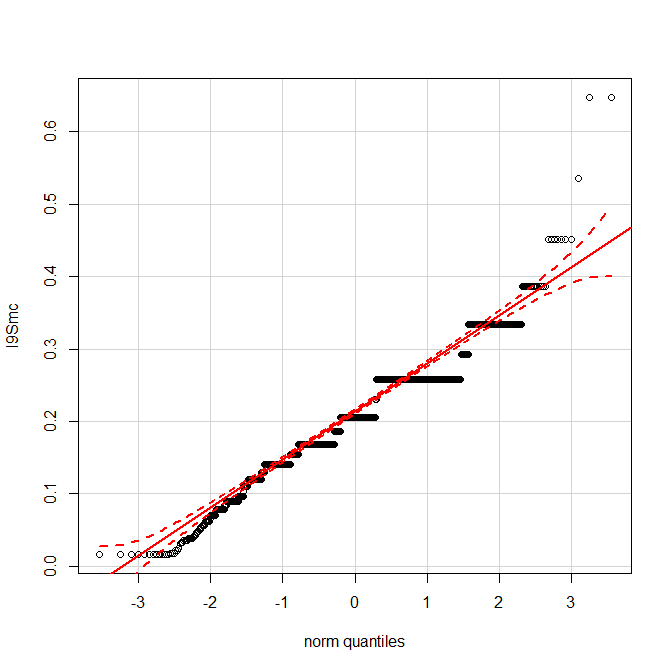
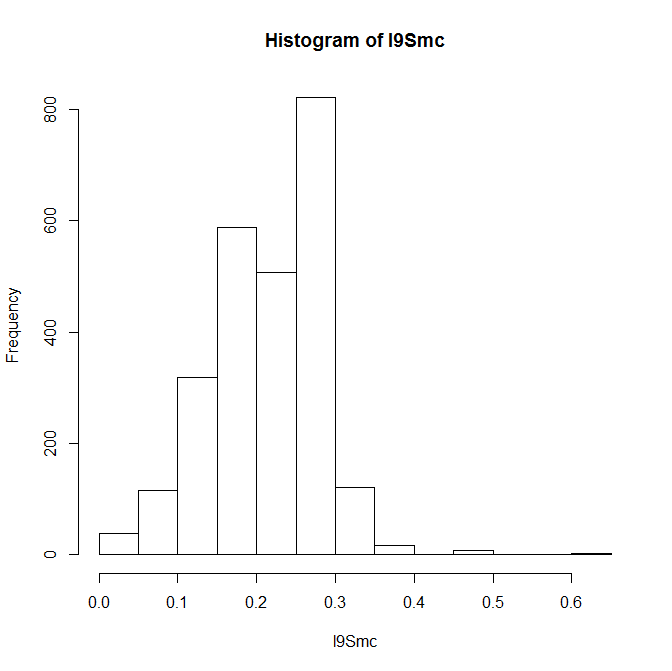
Natural logarithm transformed



Boxcox log-likelihood



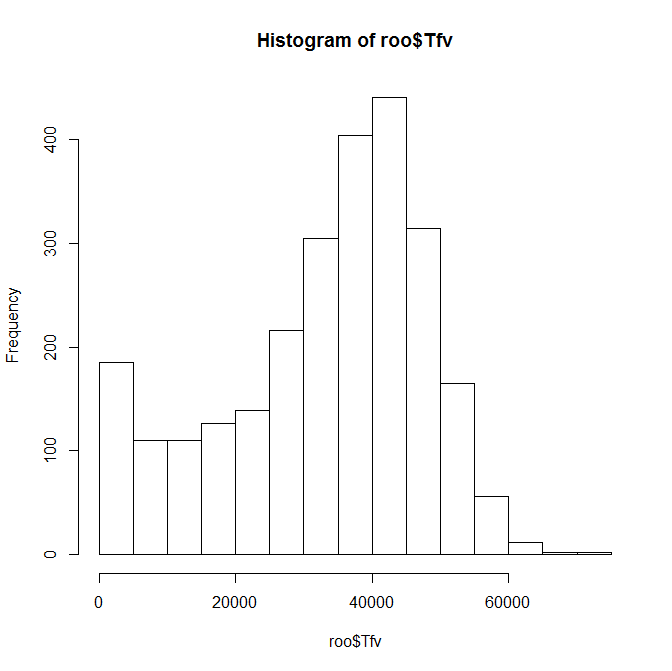
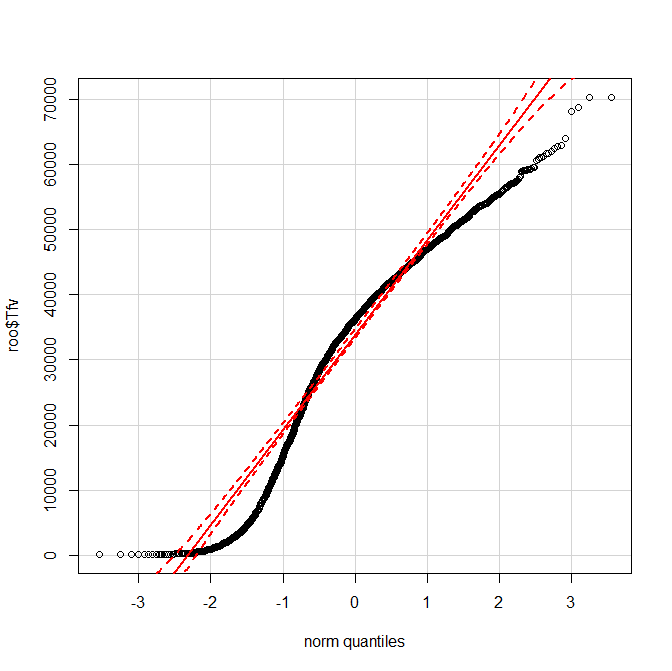
Smc^-0.9



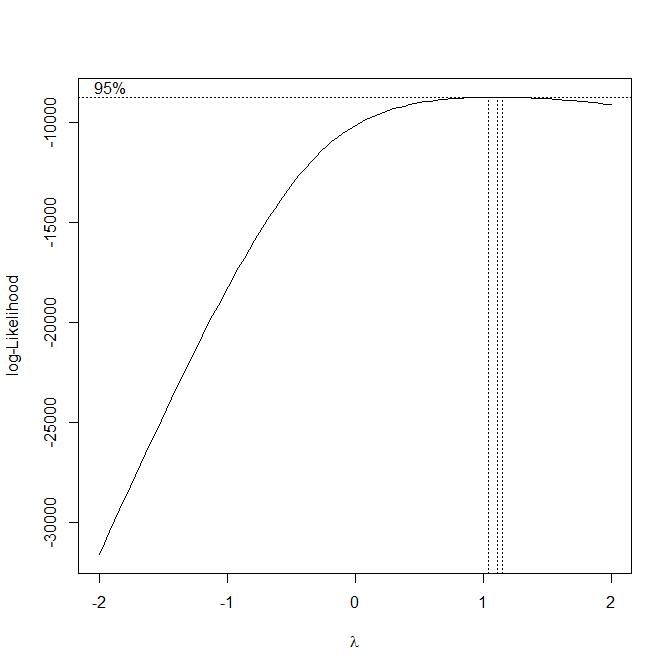
Unsuccessful. Rank transformation required.

## Tfv

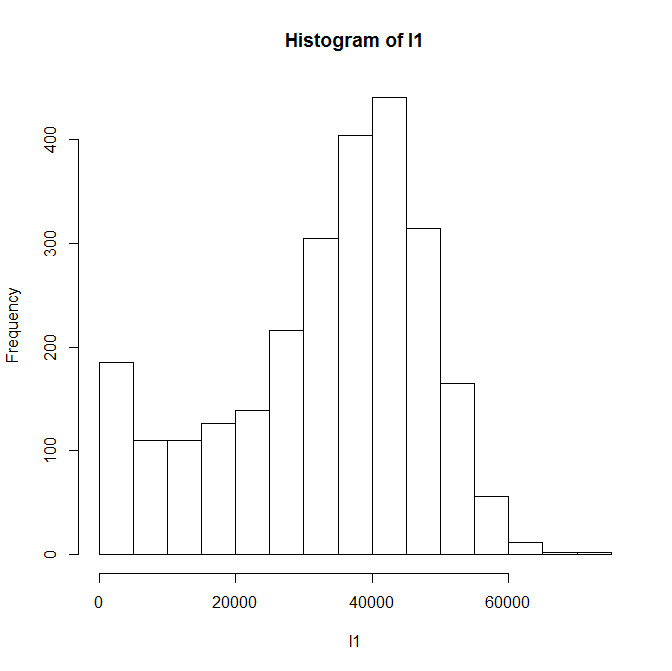
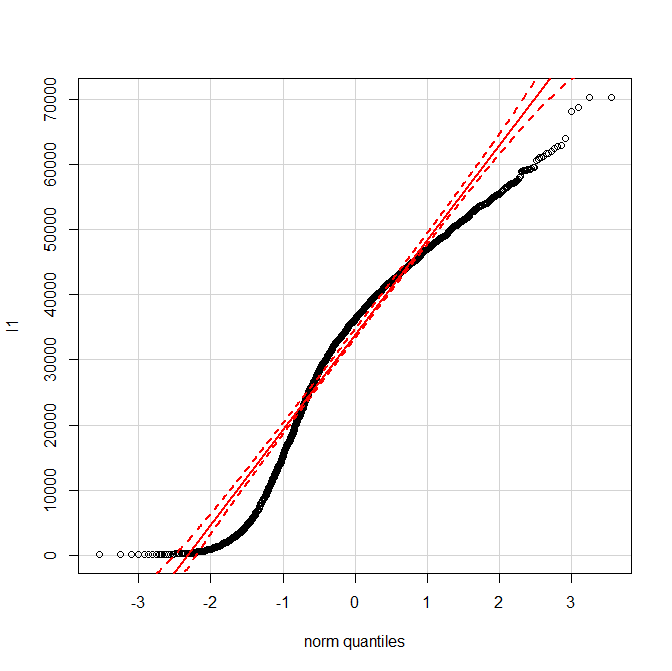
Raw

Boxcox log-likelihood



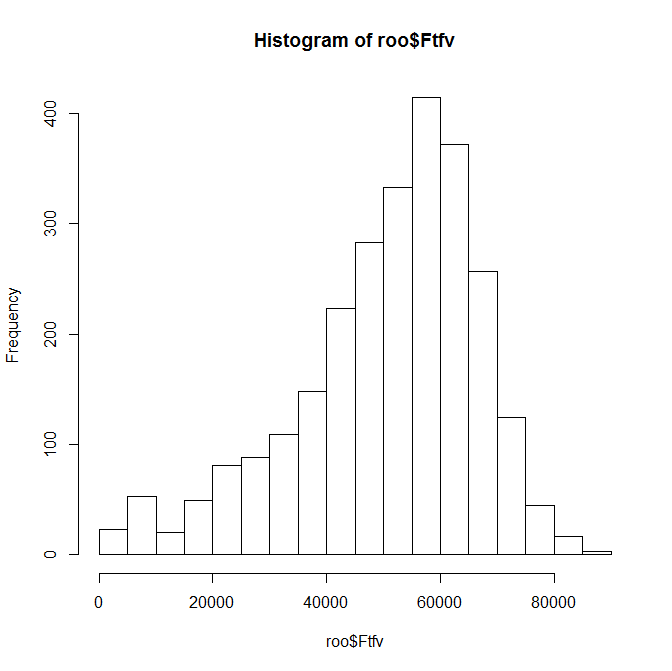
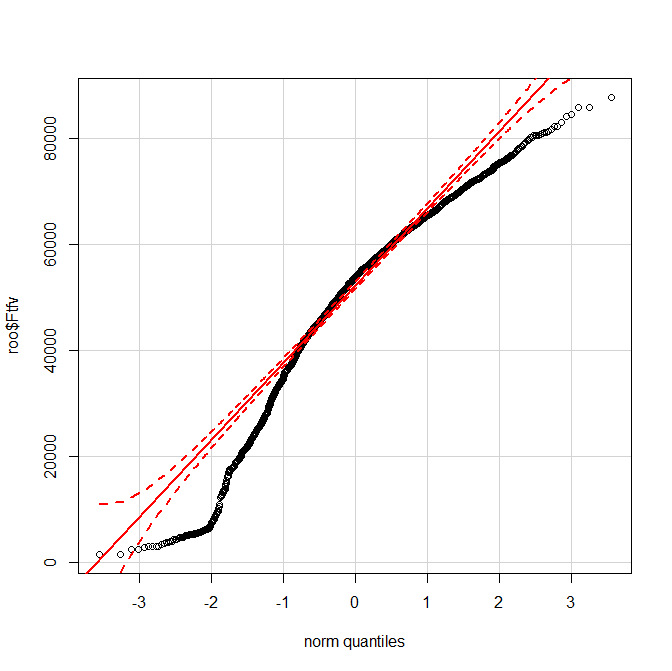
l1<-(roo$Tfv)^1

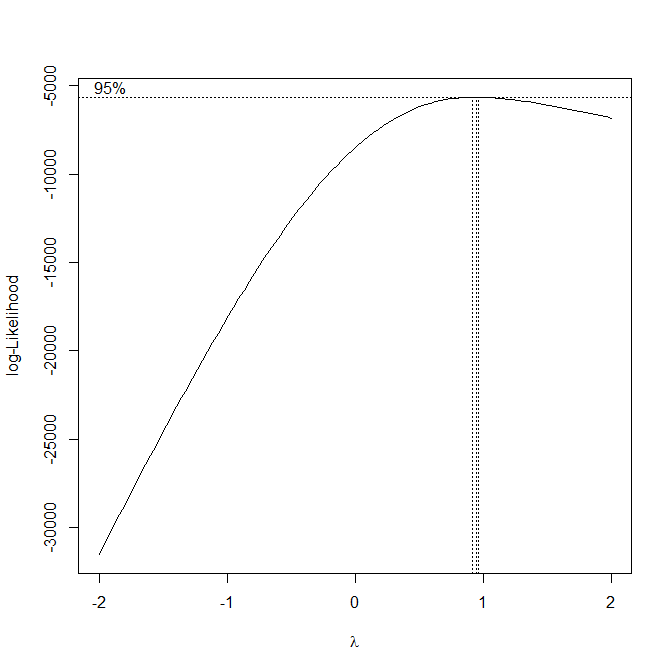
Unsuccessful. Rank transformation required.

## Ftfv

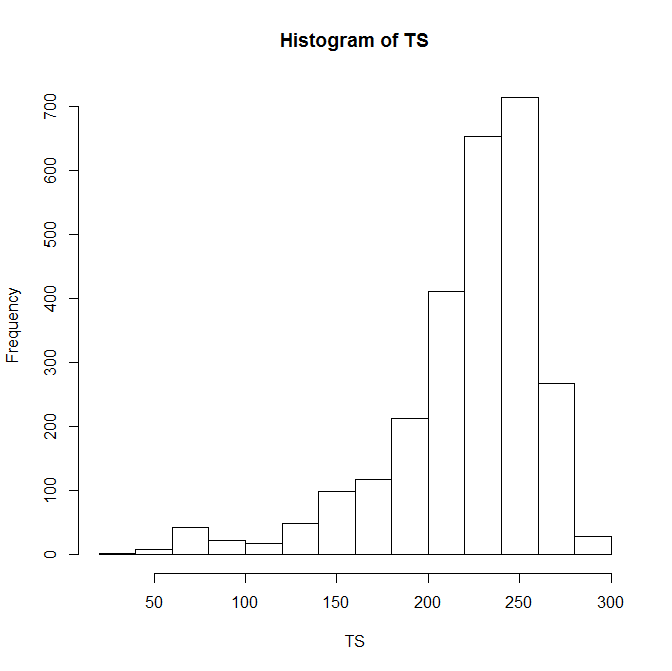
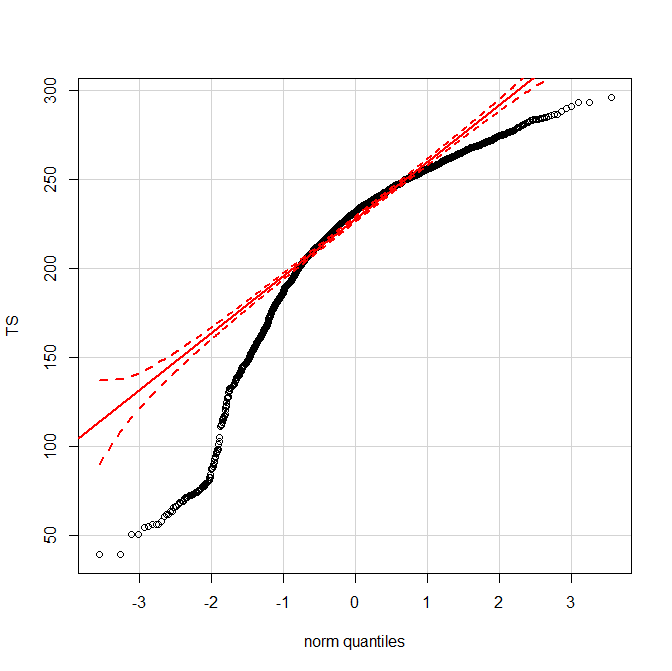
Raw

Boxcox log-likelihood



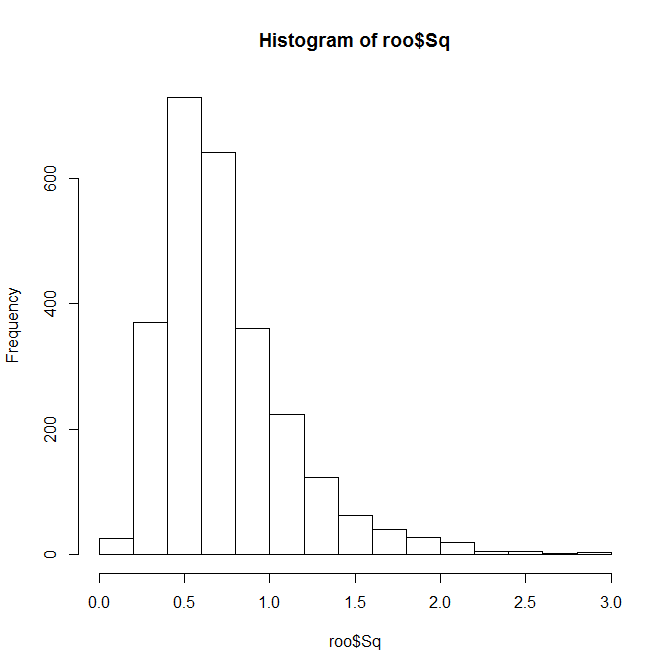
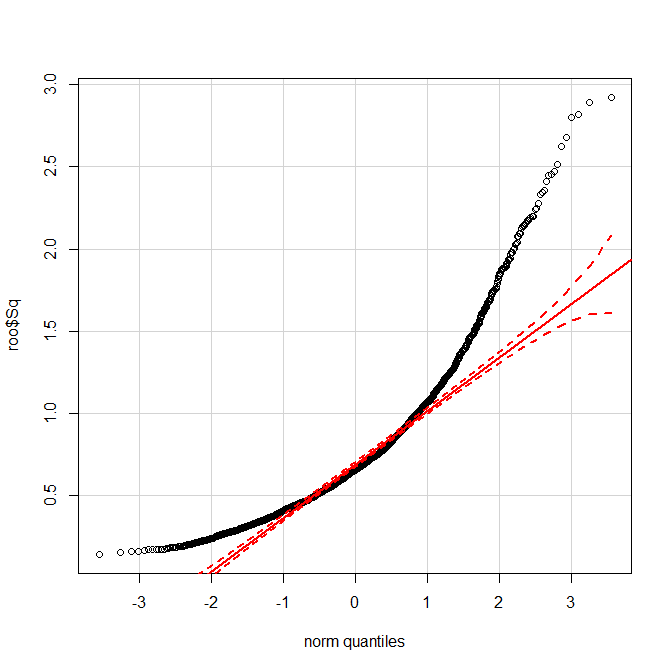
Square root transformed

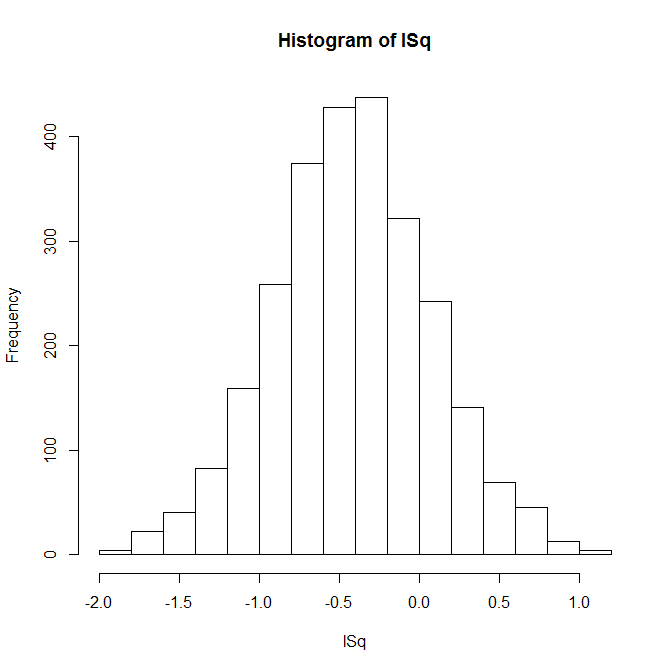
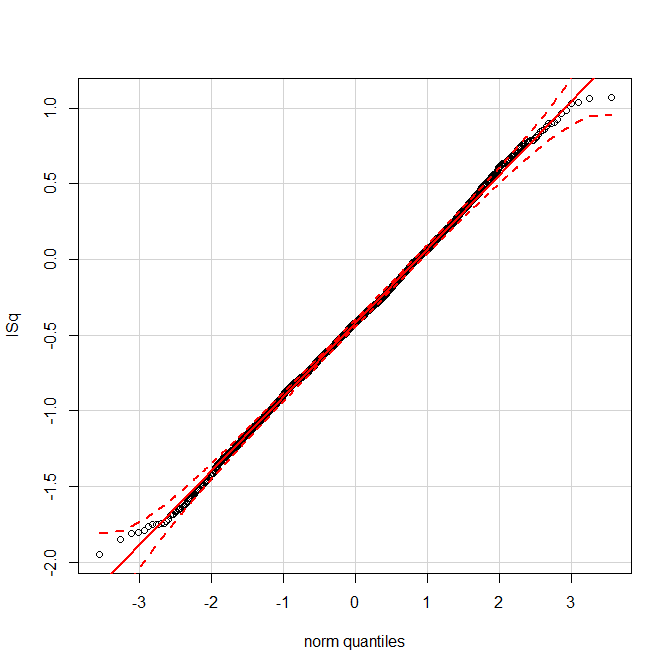
Unsuccessful. Rank transformation required.

## Sq

Raw

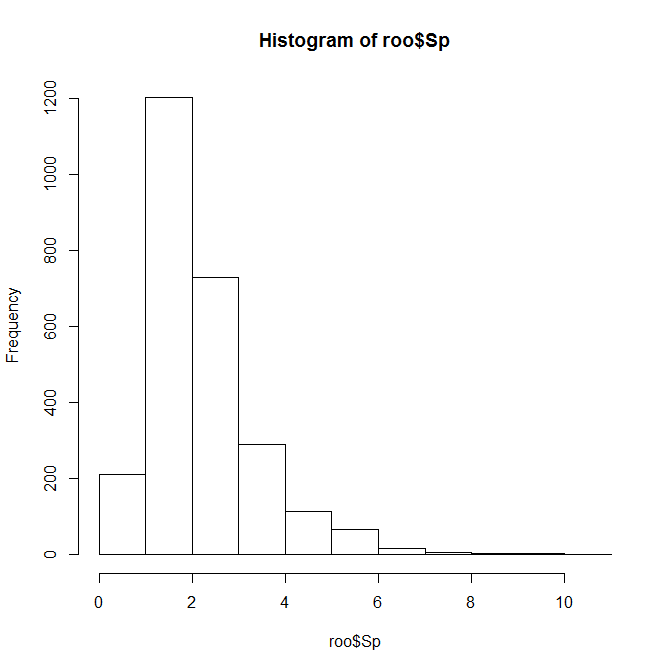
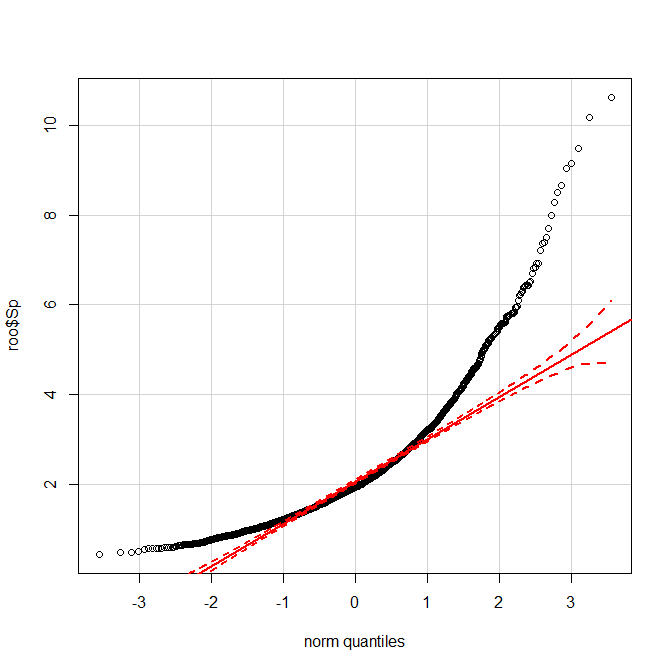
 

Natural logarithm transformed

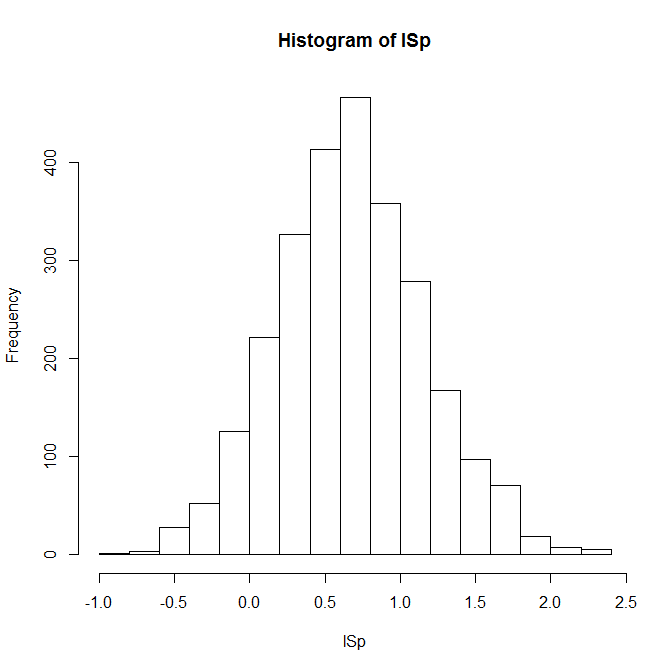
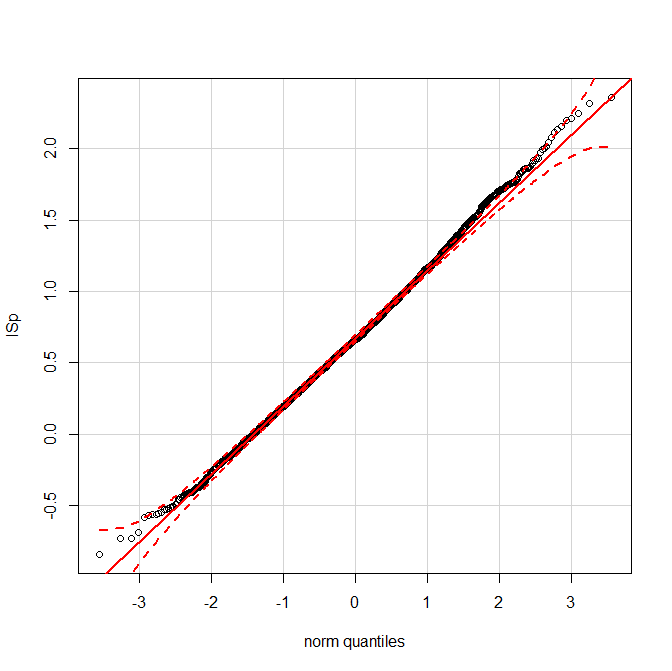
 

## Sp

Raw

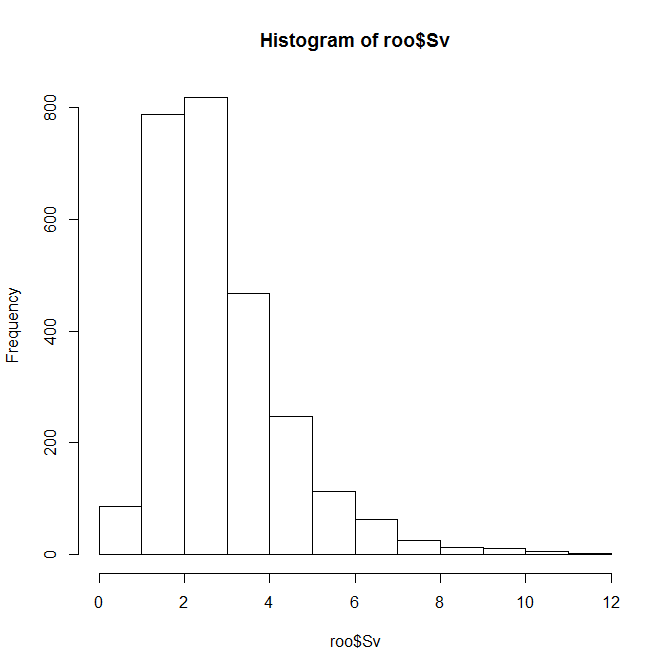
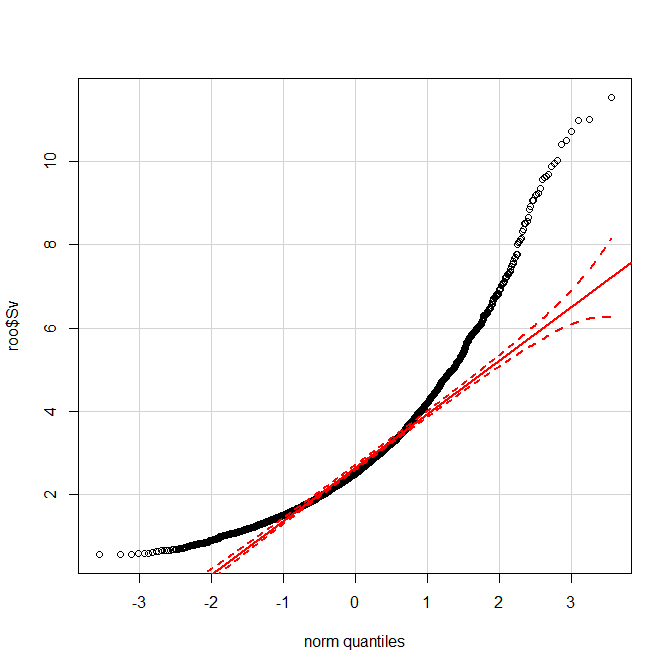
 

Natural logarithm transformed

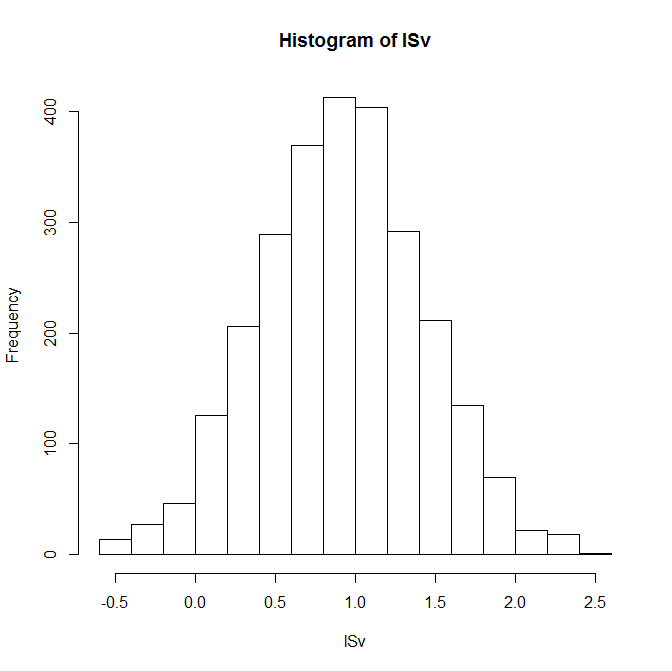
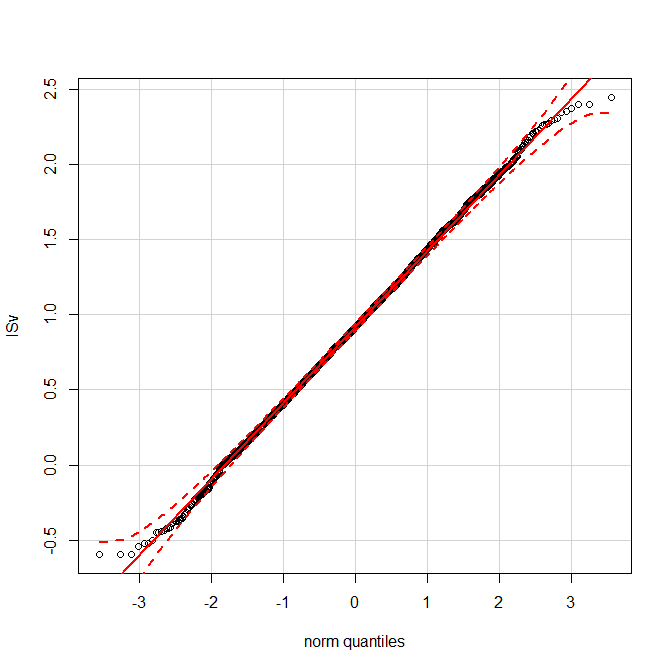
 

## Sv

Raw

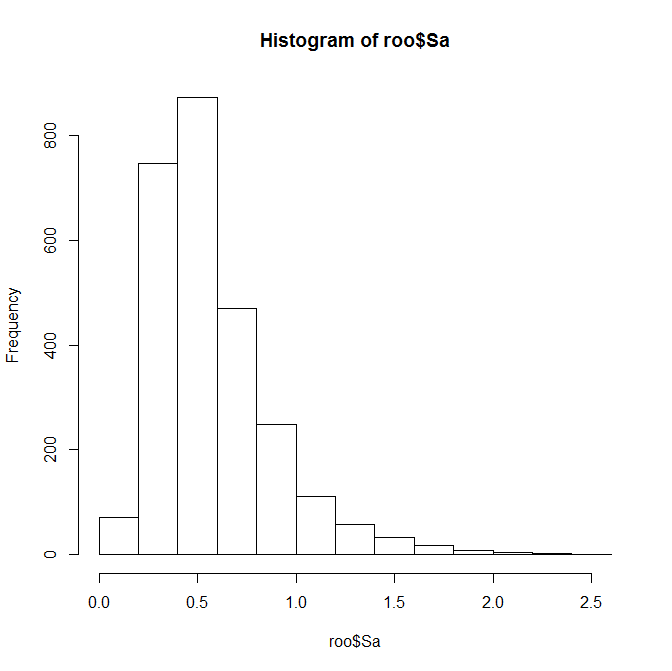
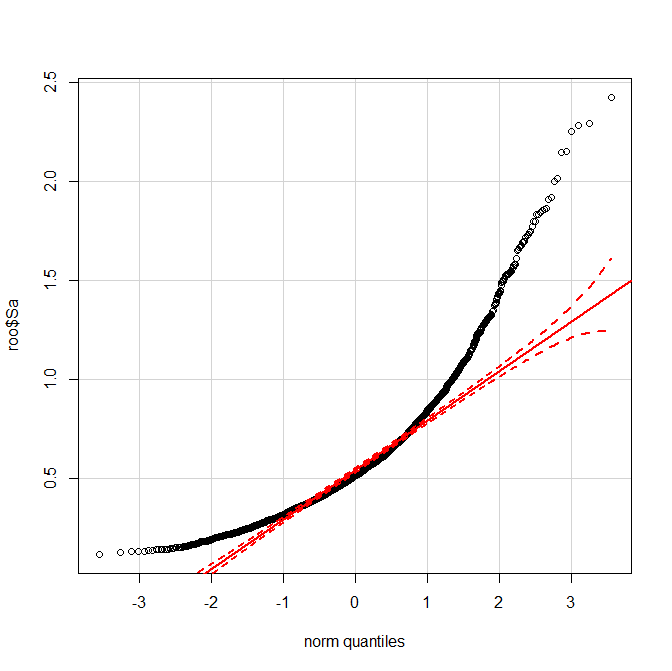
 

Natural logarithm transformed

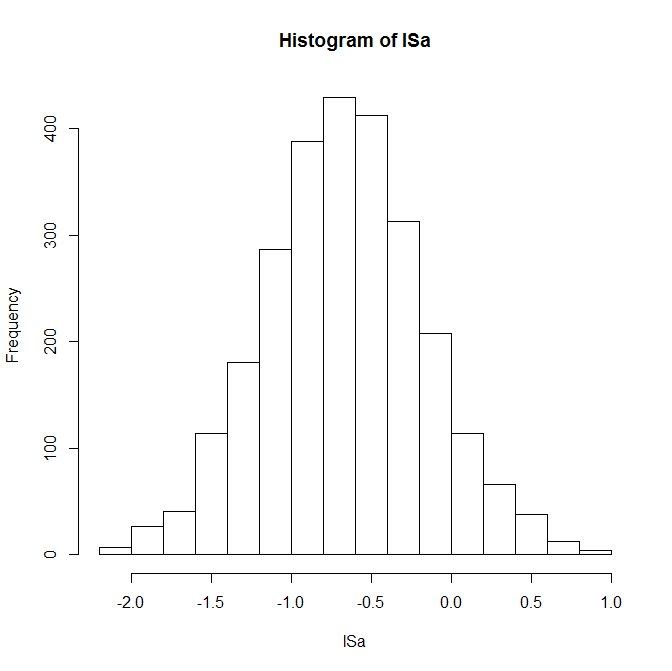
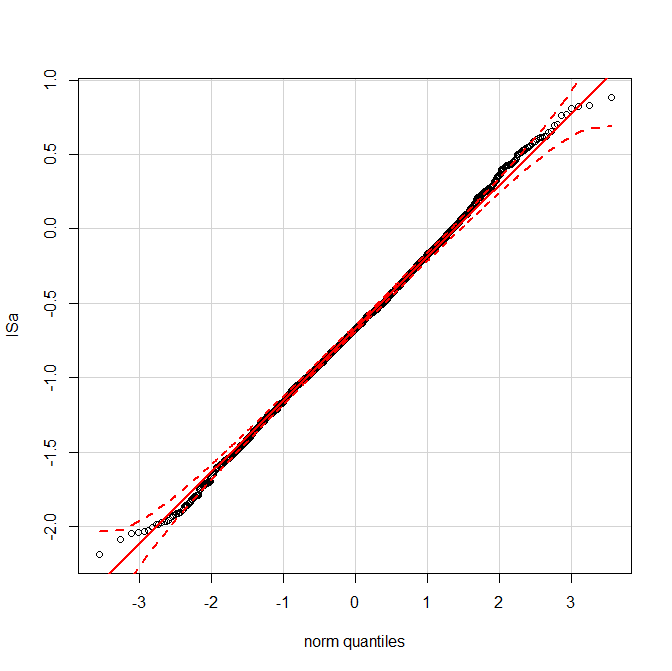
 

## Sa

Raw

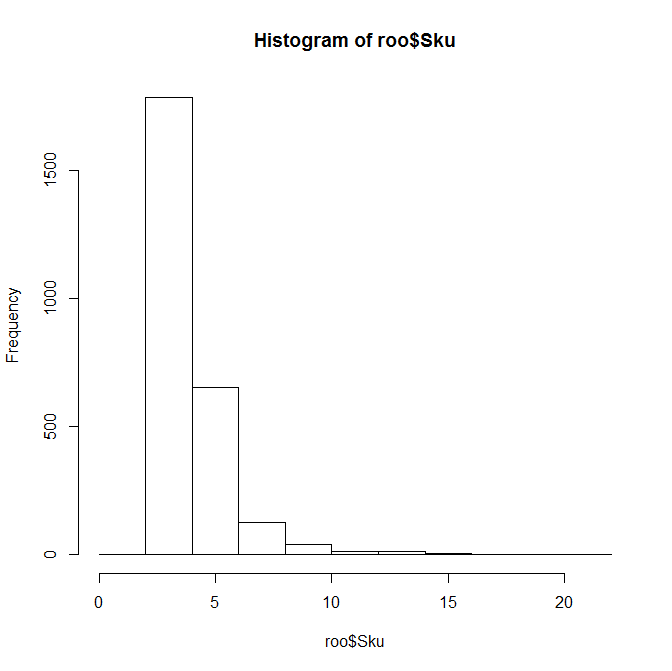
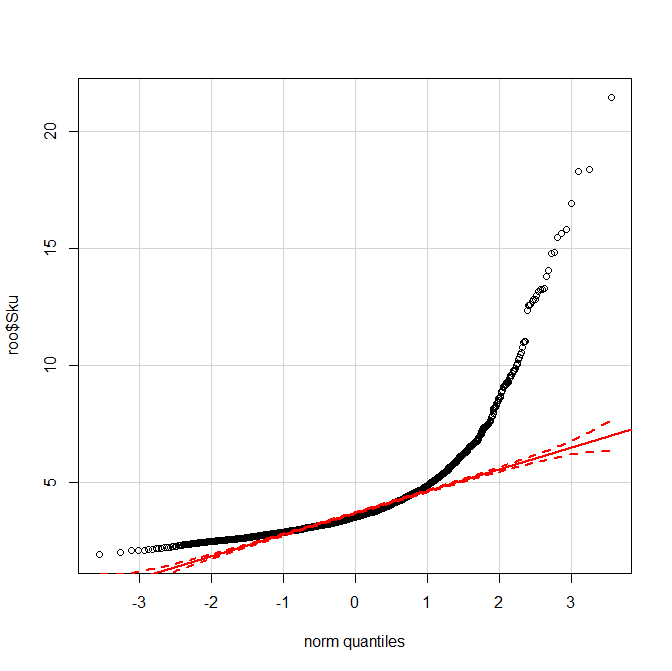
 

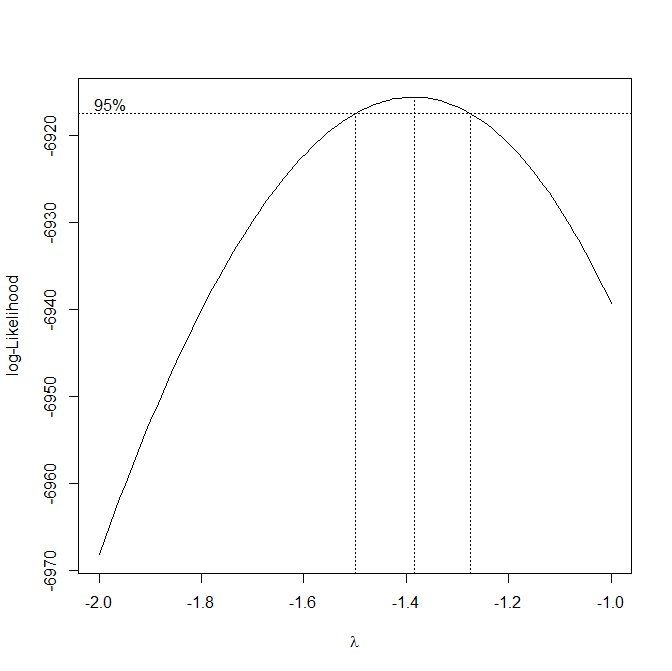
Natural logarithm transformed

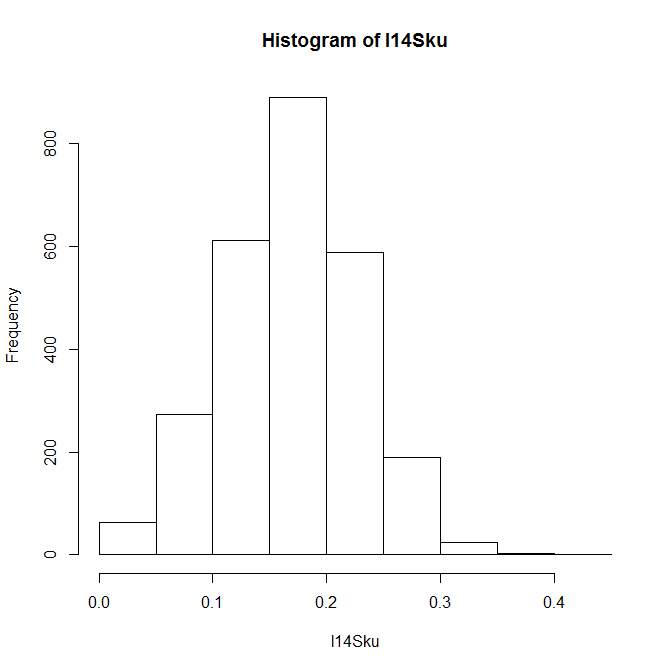
## Sku

Raw

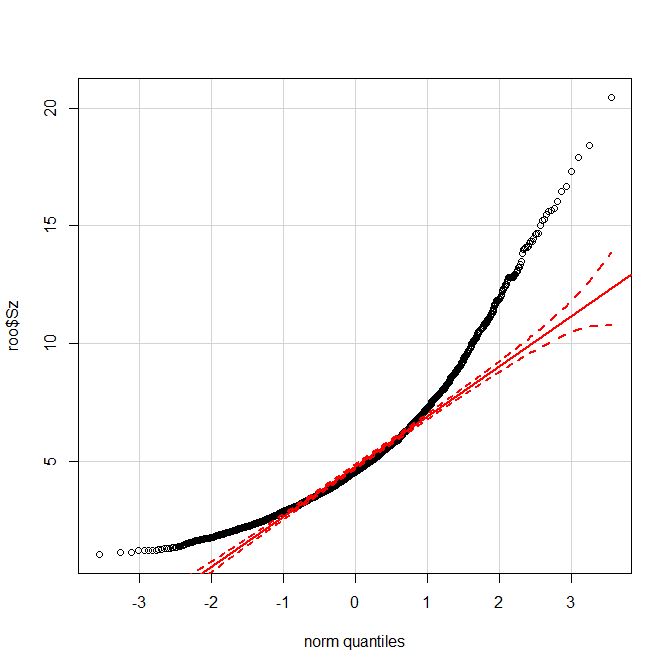
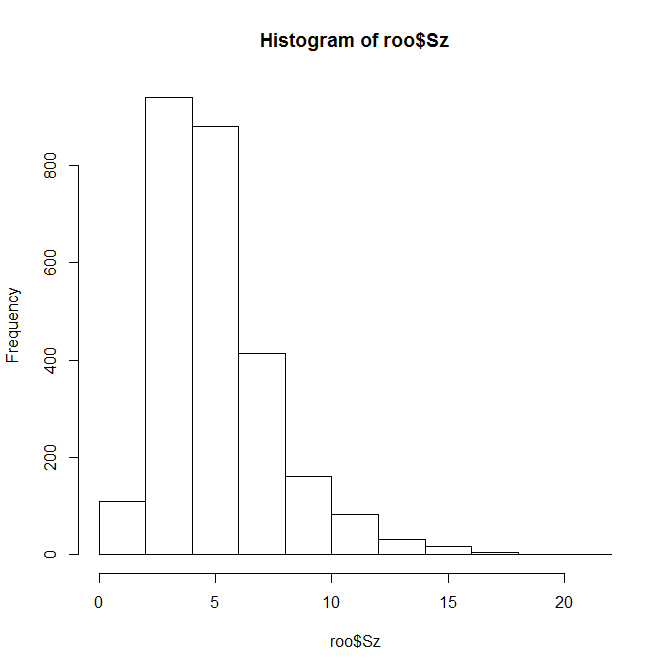
Boxcox log-likelihood

Sku14<-(roo$Sku)^-1.4

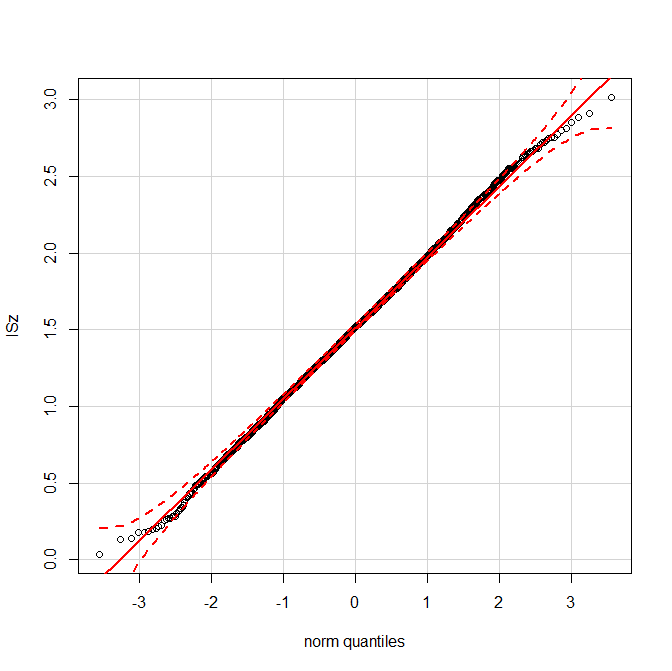
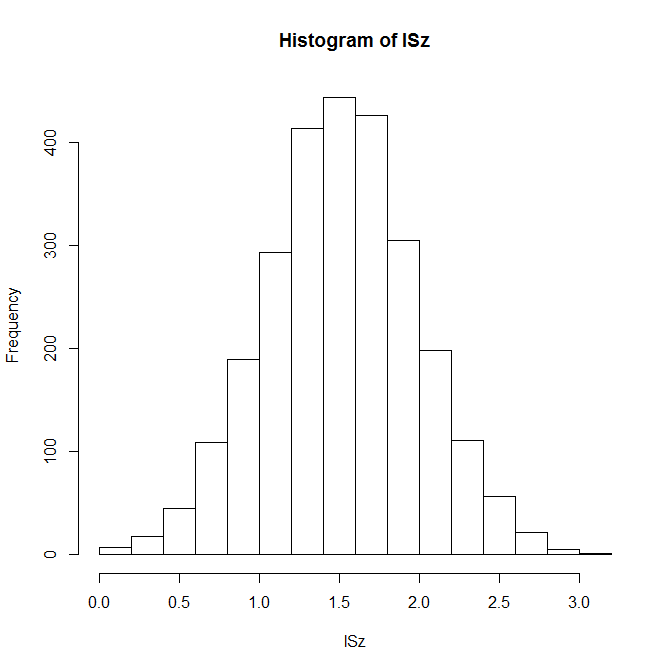


## Sz

Raw

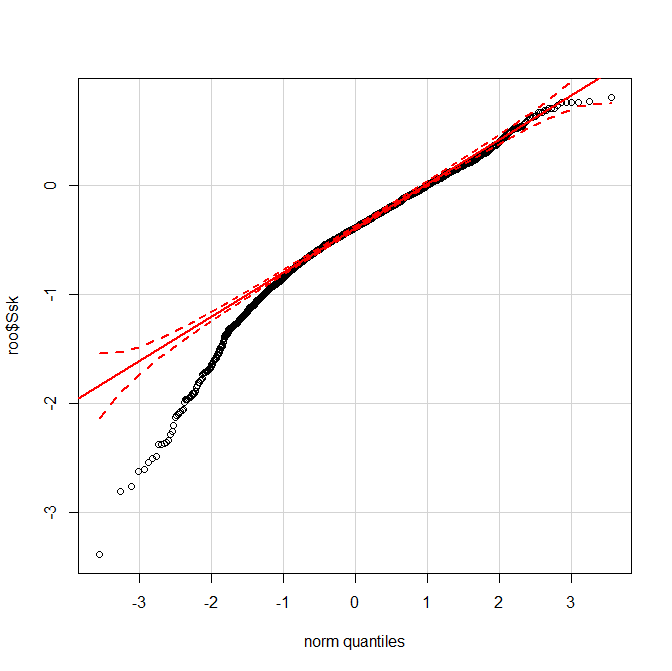
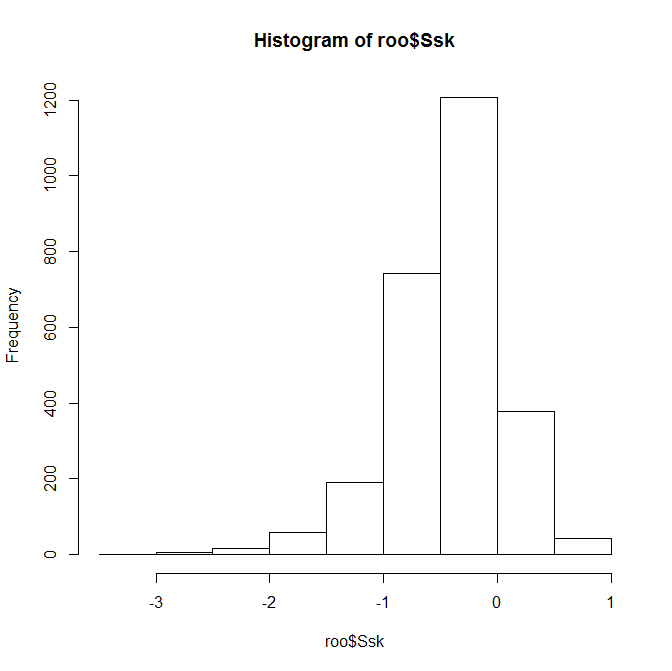


Natural logarithm transformed



## Ssk

Raw



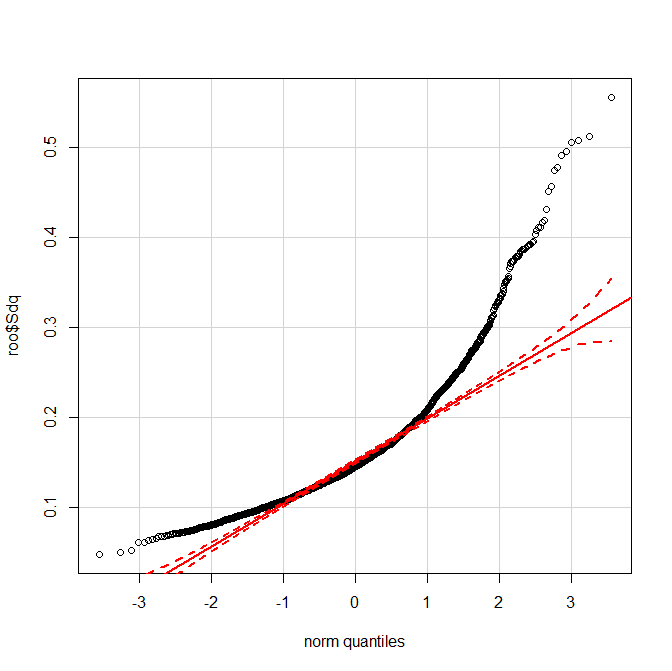
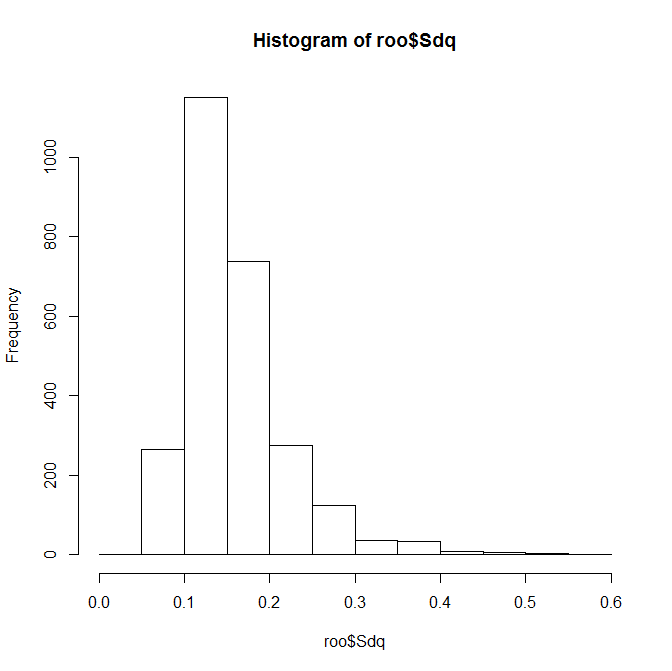
Square root transformed & natural log transform fail because of NaN’s.

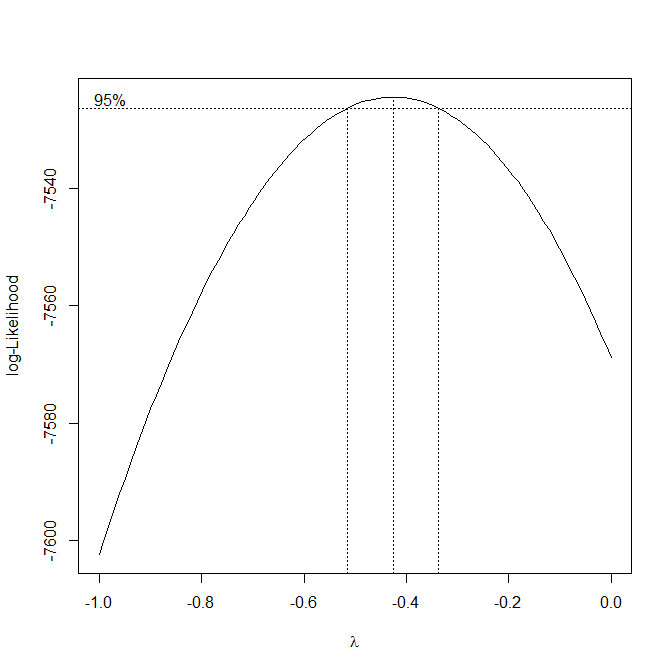
Boxcox response must be positive

Rank transformation required.

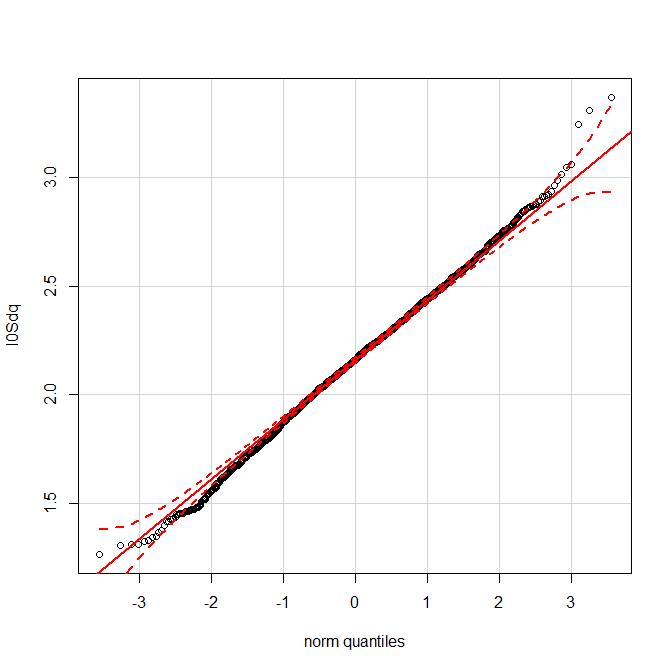
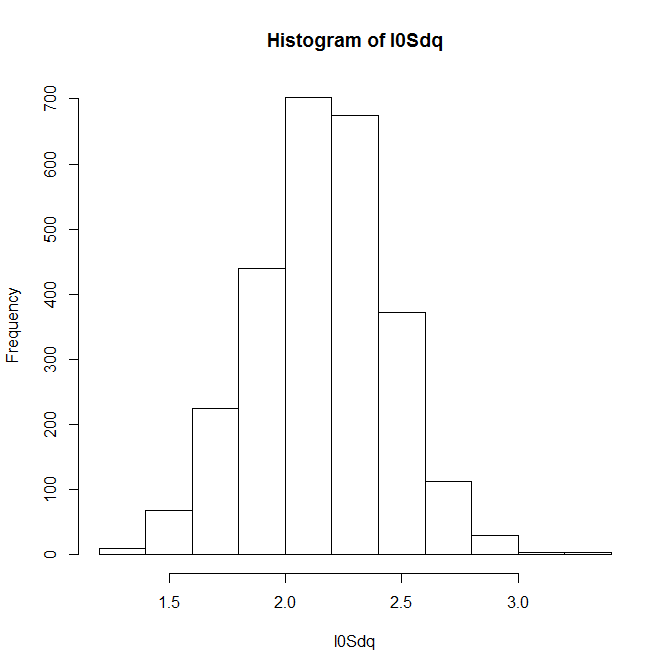
## Sdq

Raw



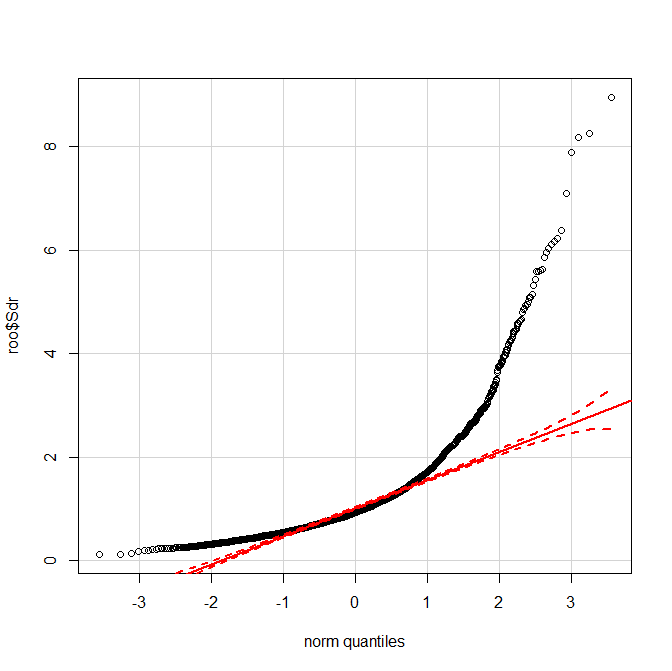
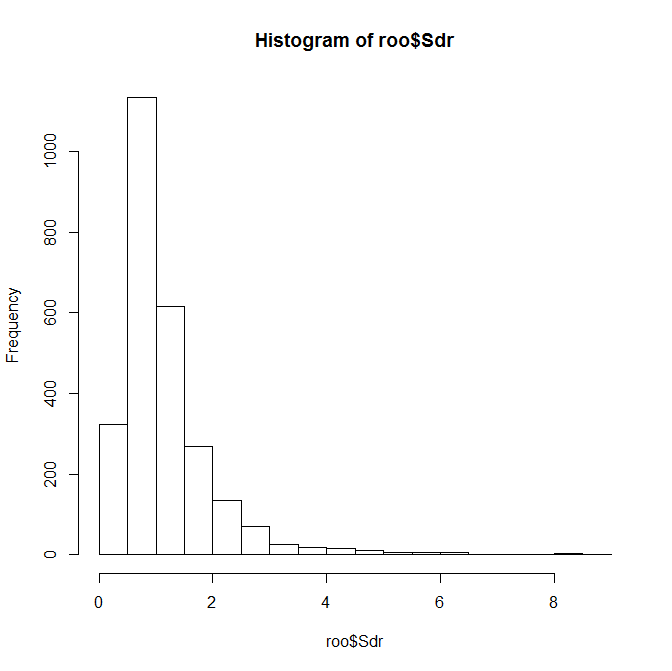
Boxcox log-likelihood

l0Sdq<-(roo$Sdq)^-0.4

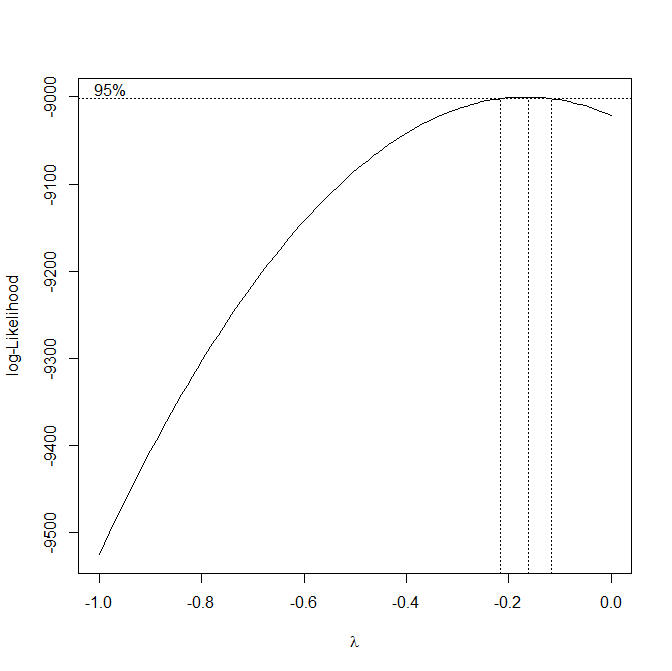


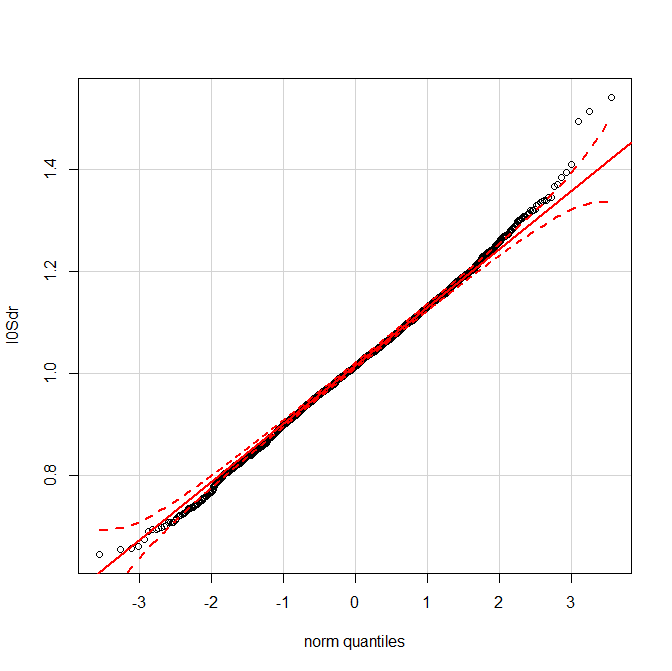
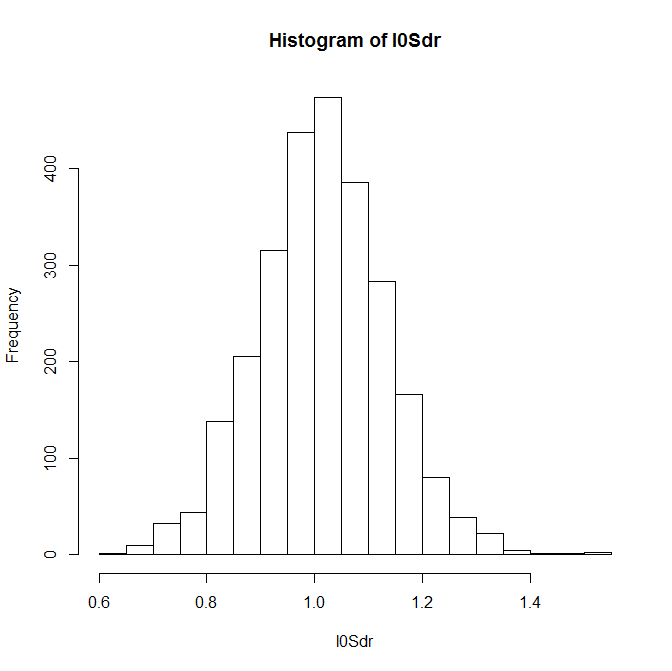
## Sdr

Raw



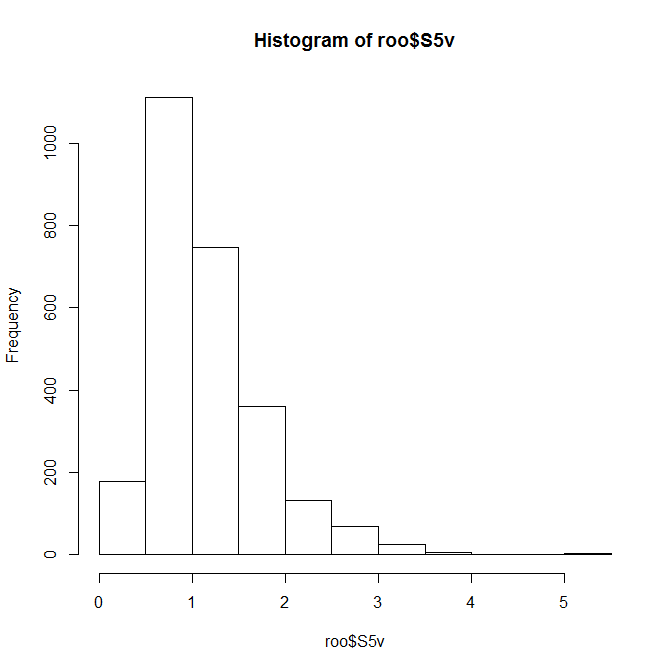
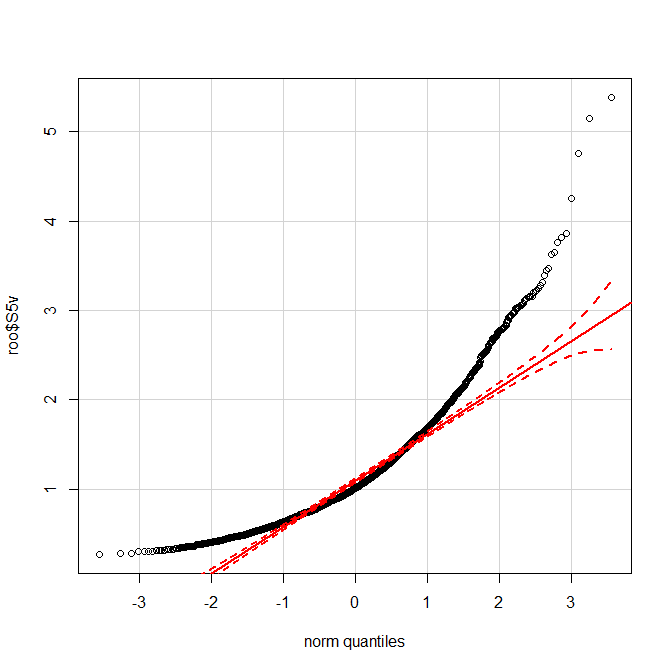
Boxcox log-likelihood

l0Sdr<-(roo$Sdr)^-0.2

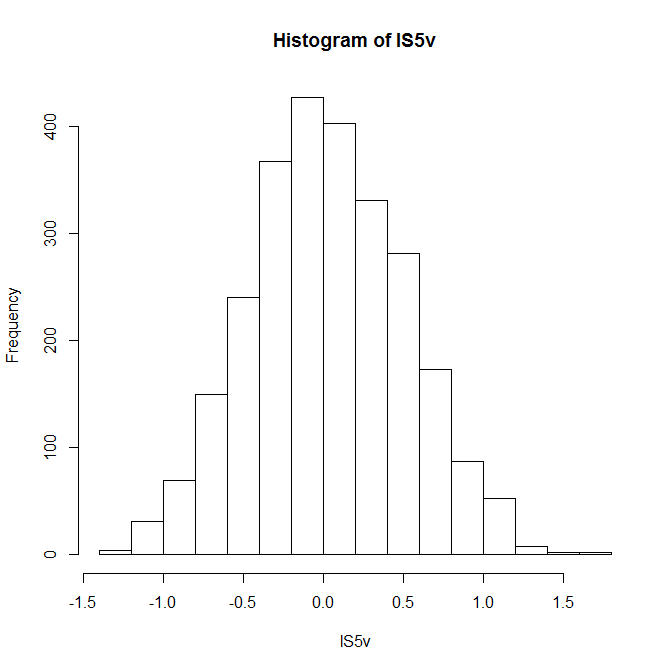
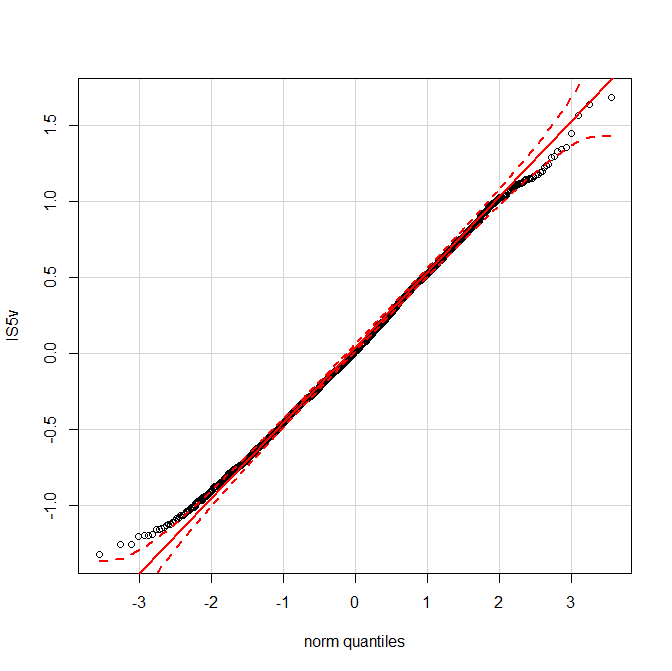


## S5v

Raw

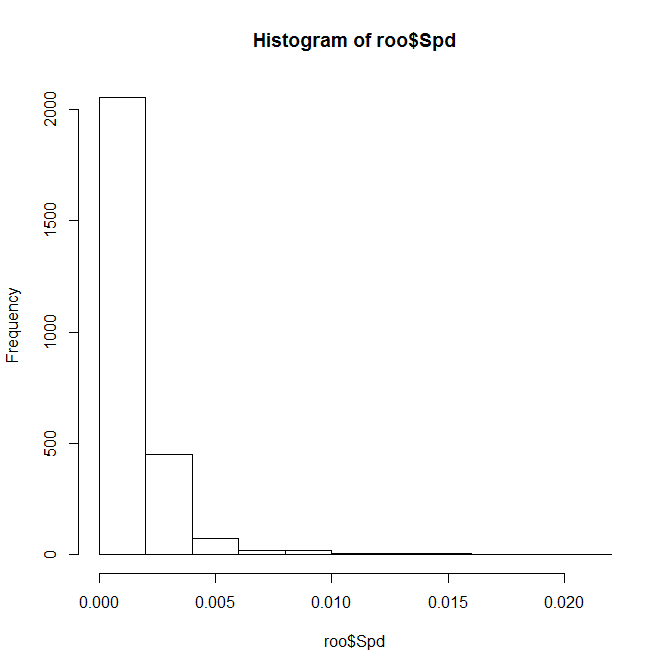
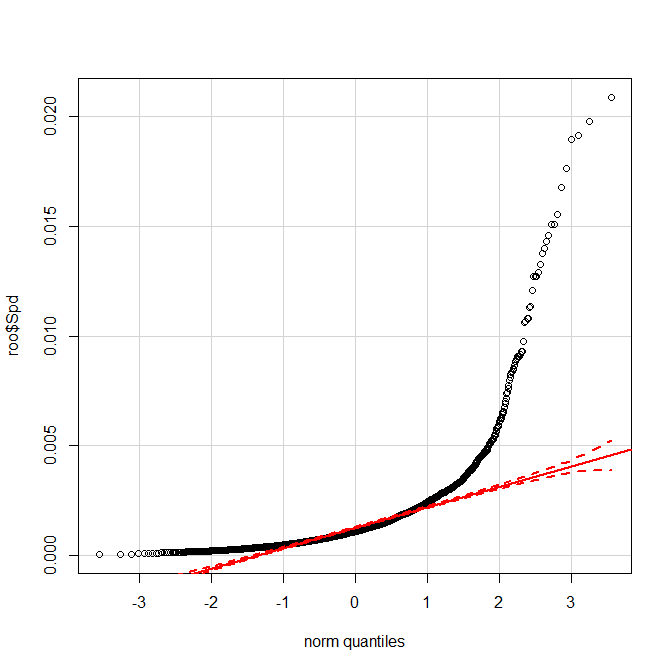
 

Natural logarithm transformed

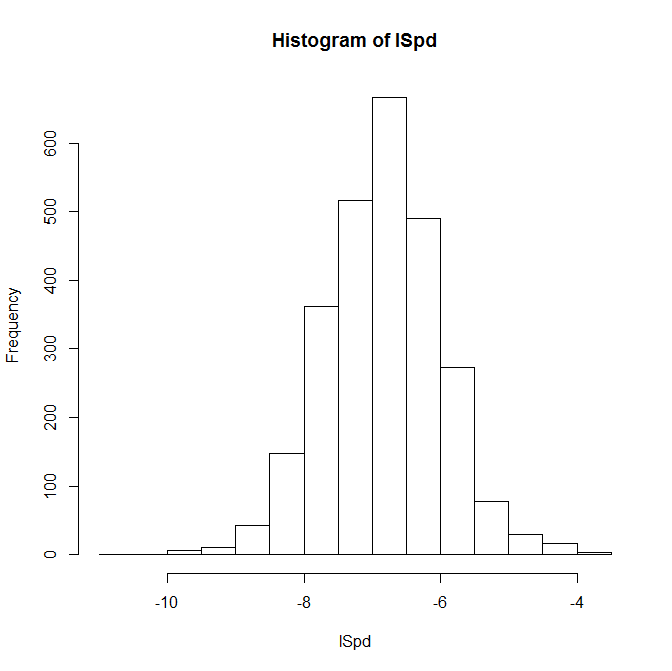
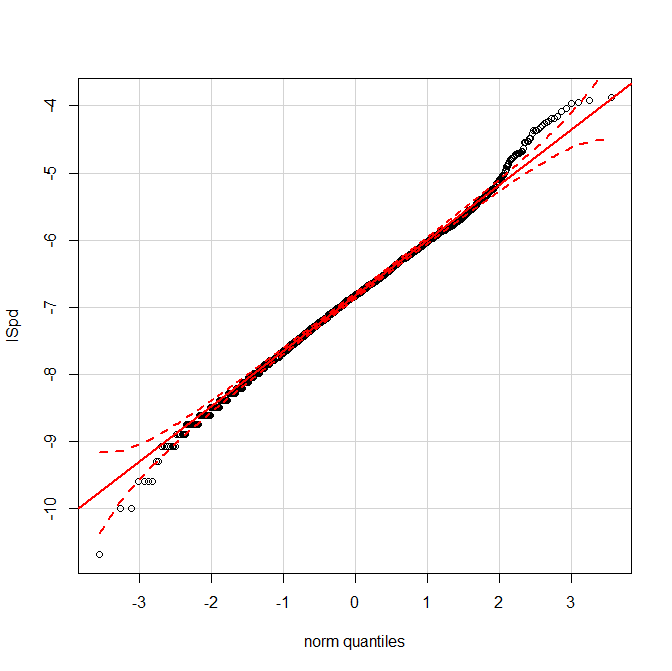
 

## Spd

Raw

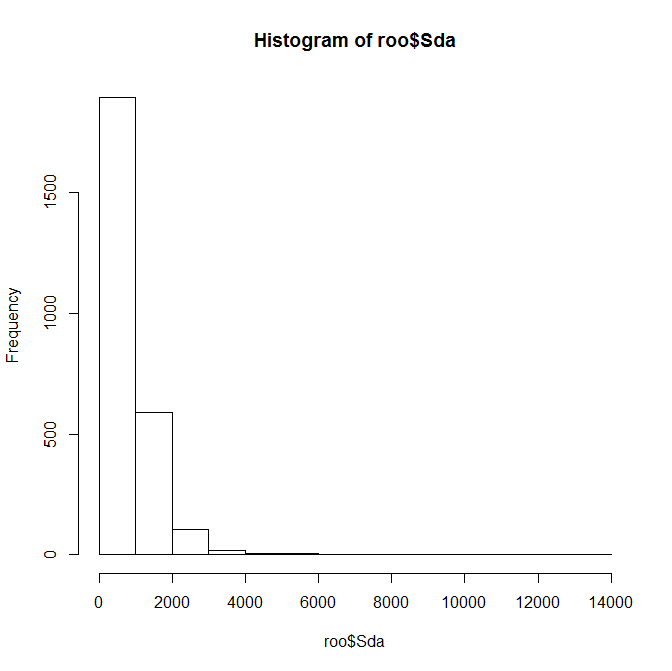
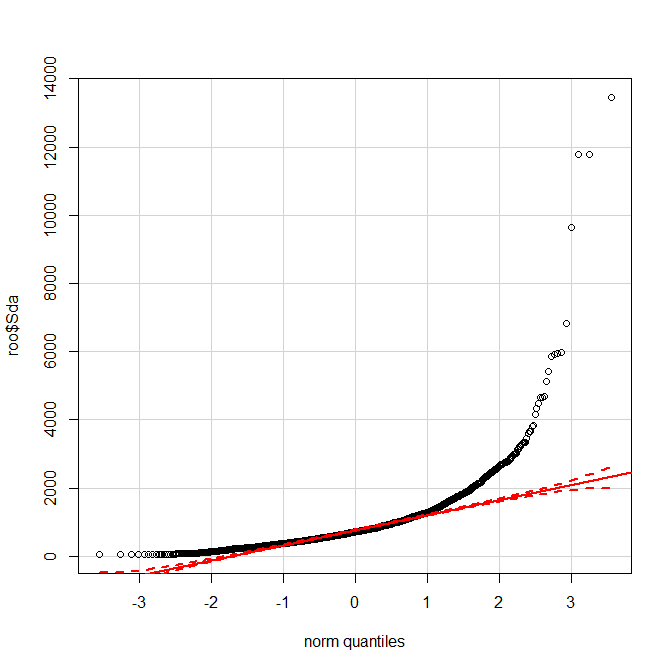
 

Natural logarithm transformed

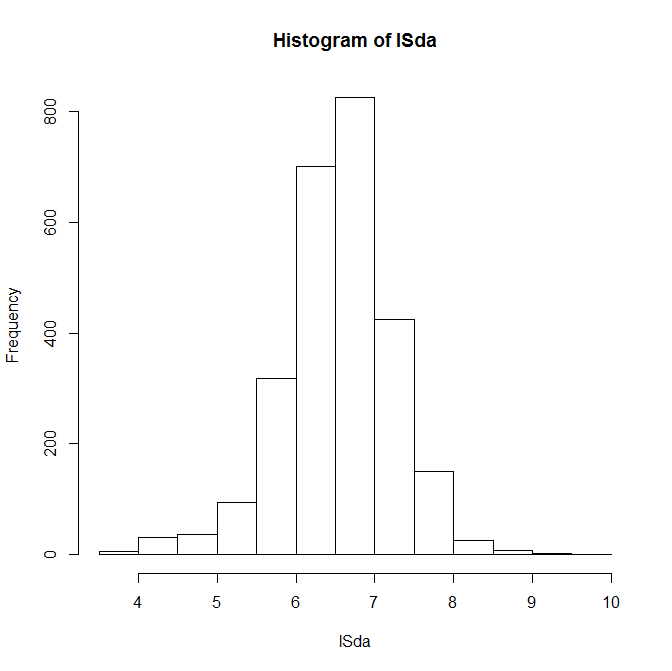
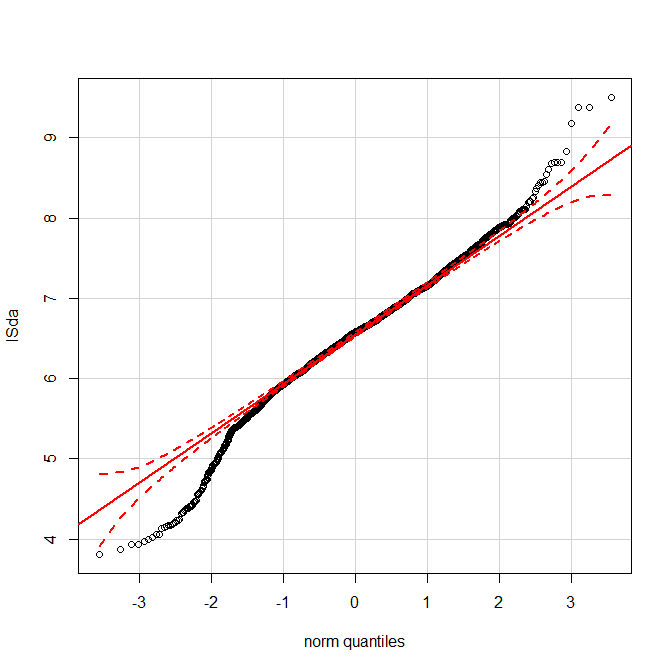
 

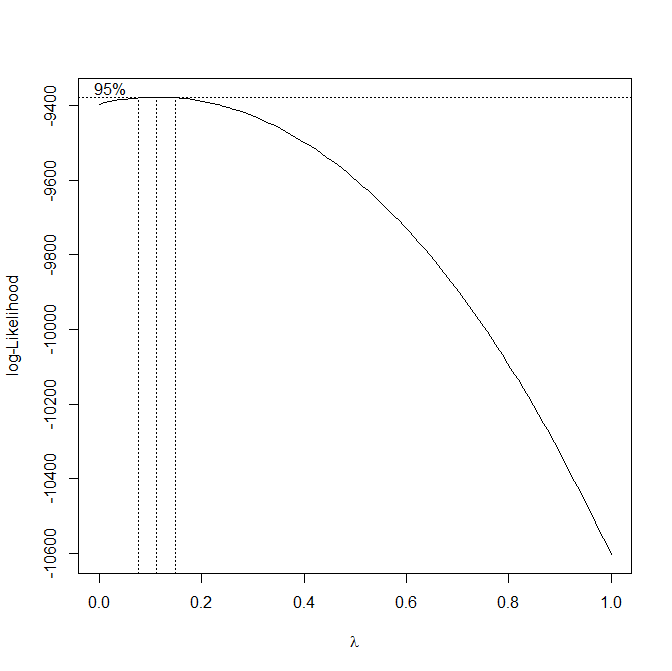
## Sda

Raw

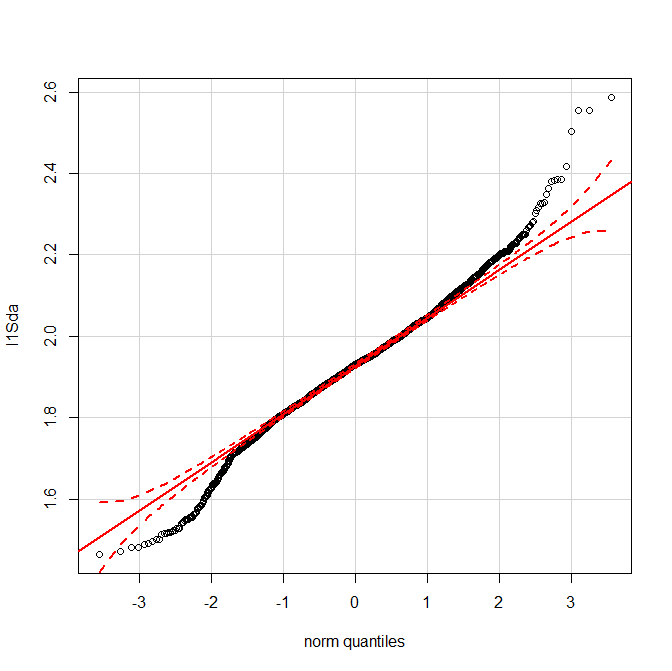
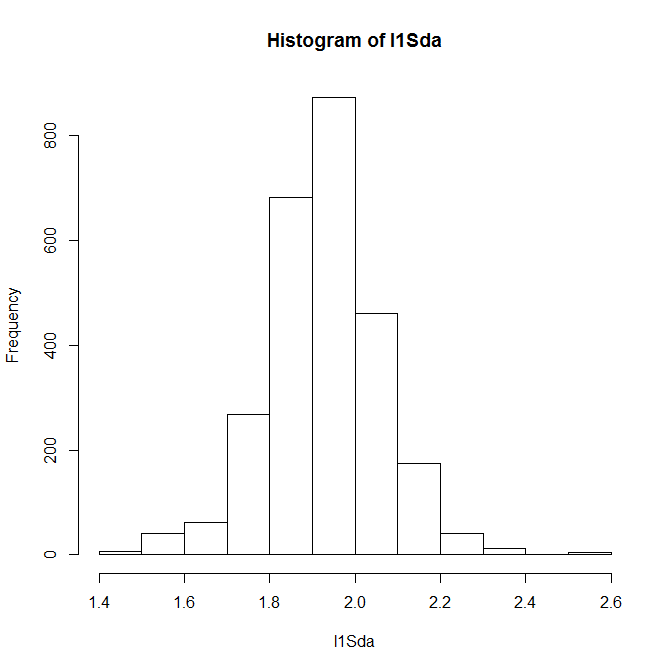
 

Natural logarithm transformed

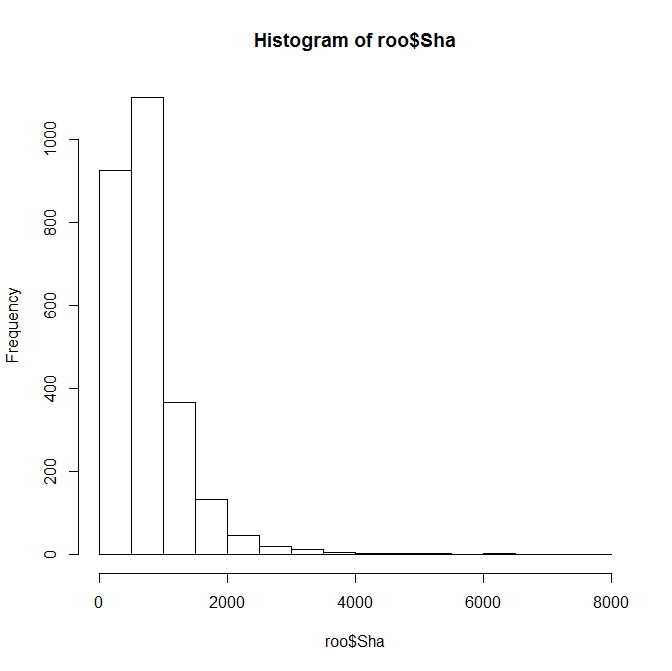
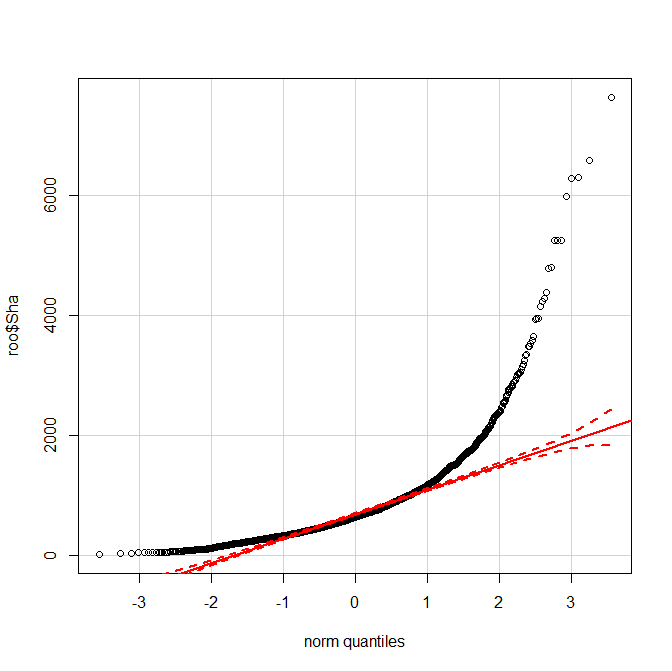
Boxcox log-likelihood

l1Sda<-(roo$Sda)^0.1

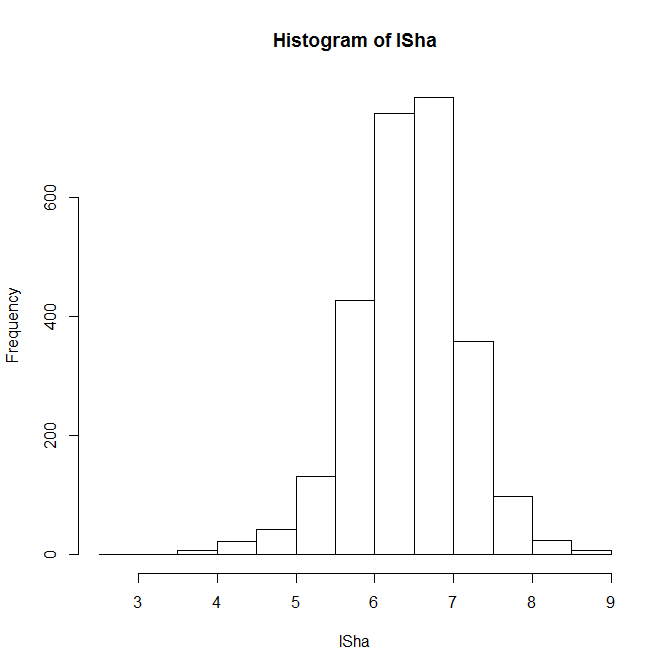
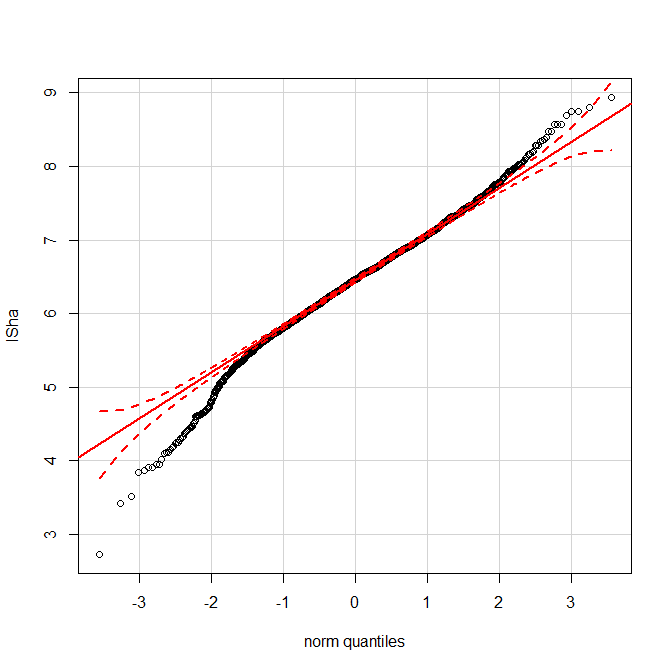


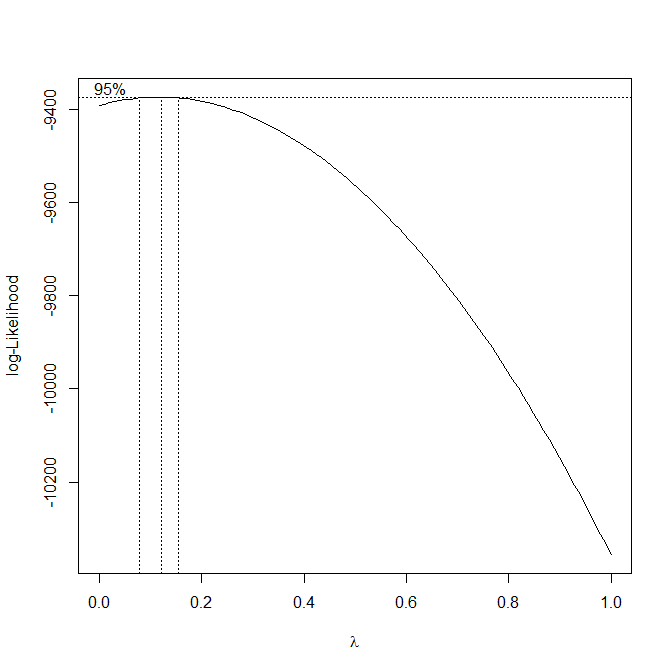
## Sha

Raw

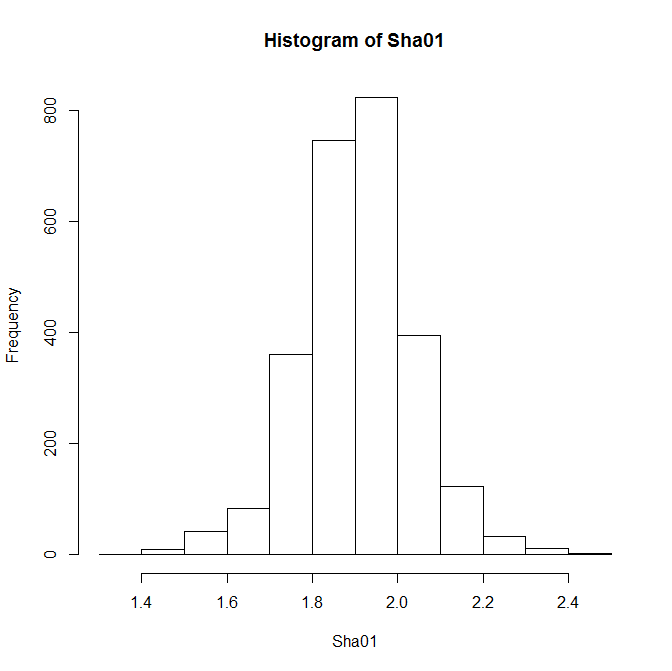
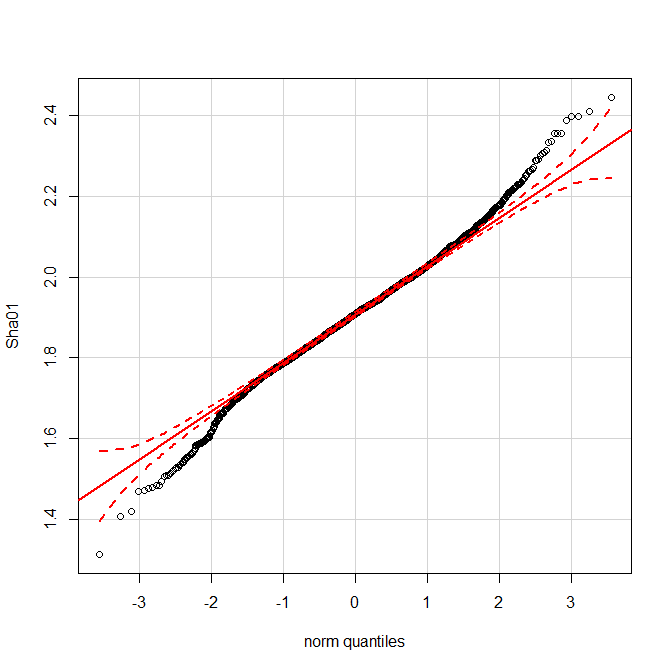
 

Natural logarithm transformed

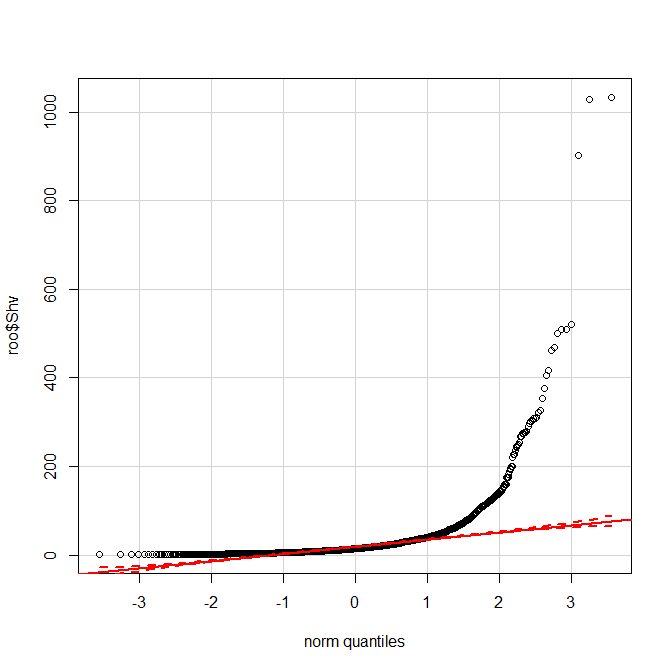
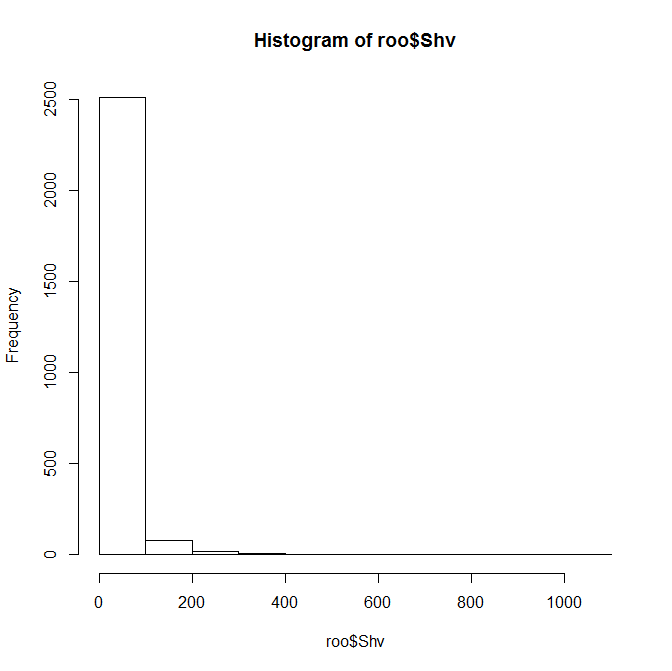
Boxcox log-likelihood

Sha01<-(roo$Sha)^0.1

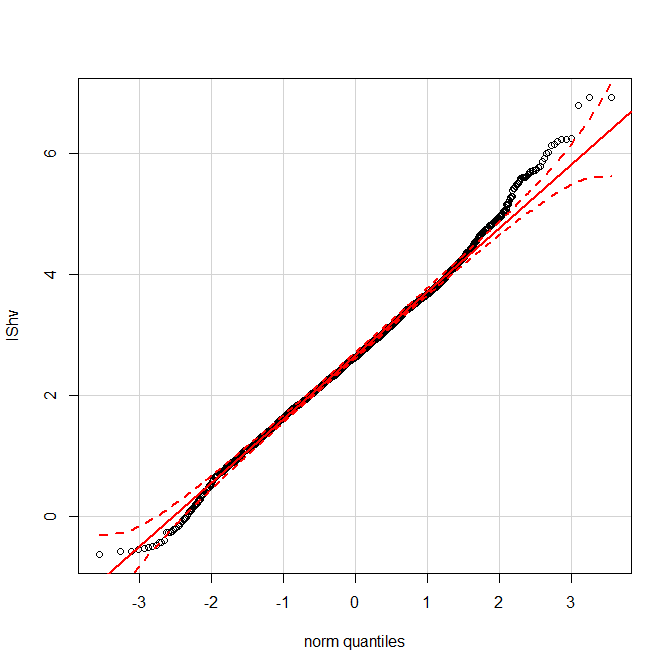
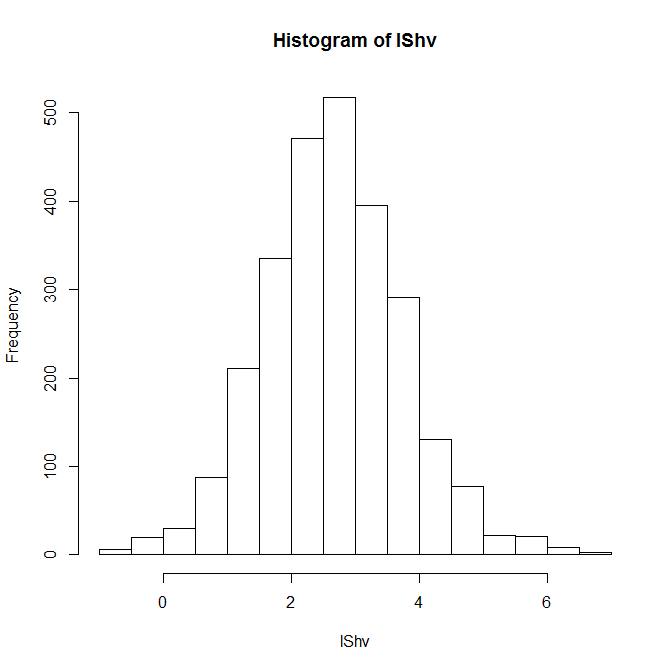
 

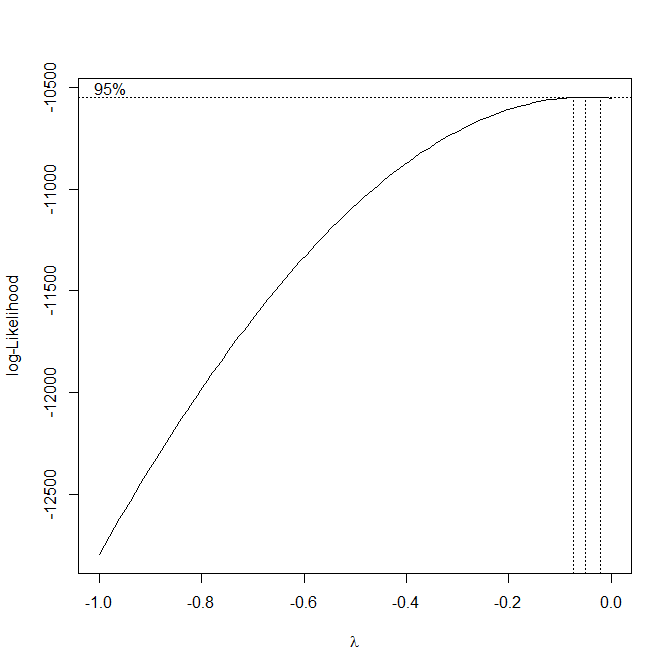
## Shv

Raw

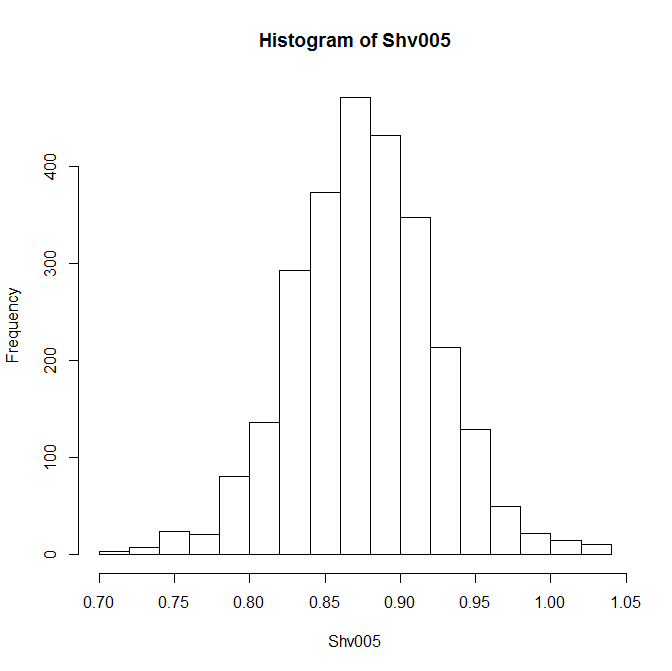
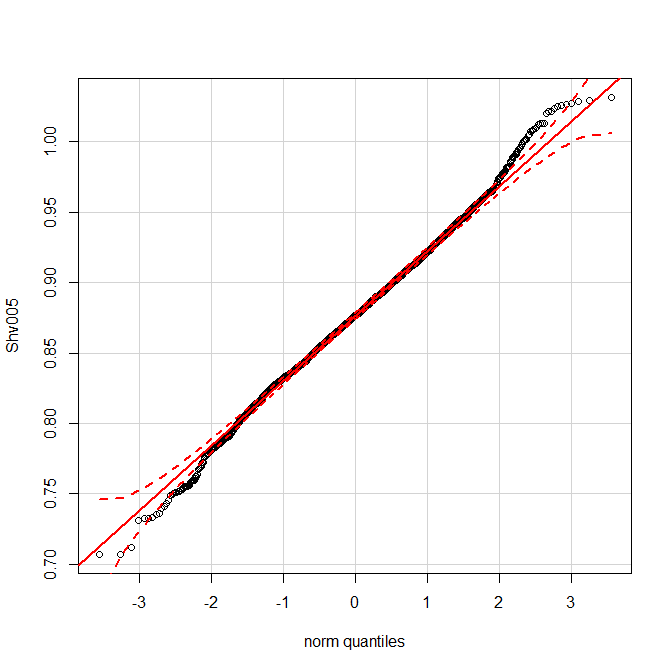


Natural logarithm transformed



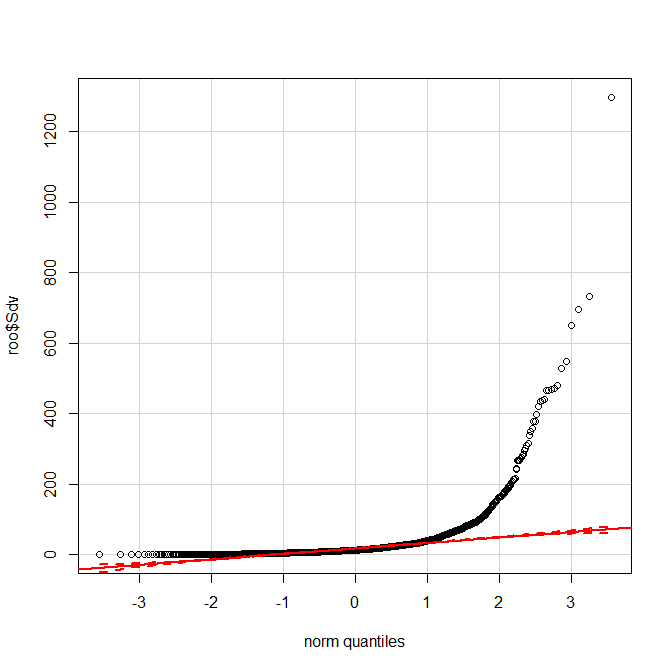
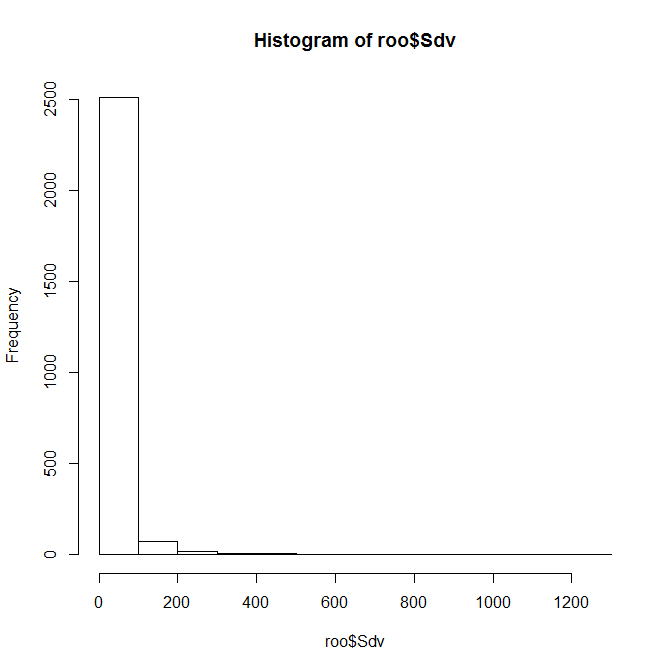
Boxcox log-likelihood

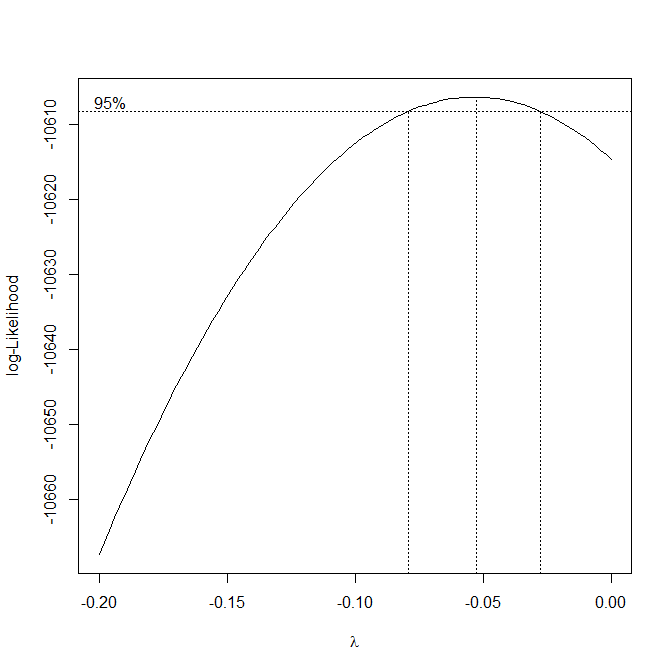
l1Shv<-(roo$Shv)^-0.05

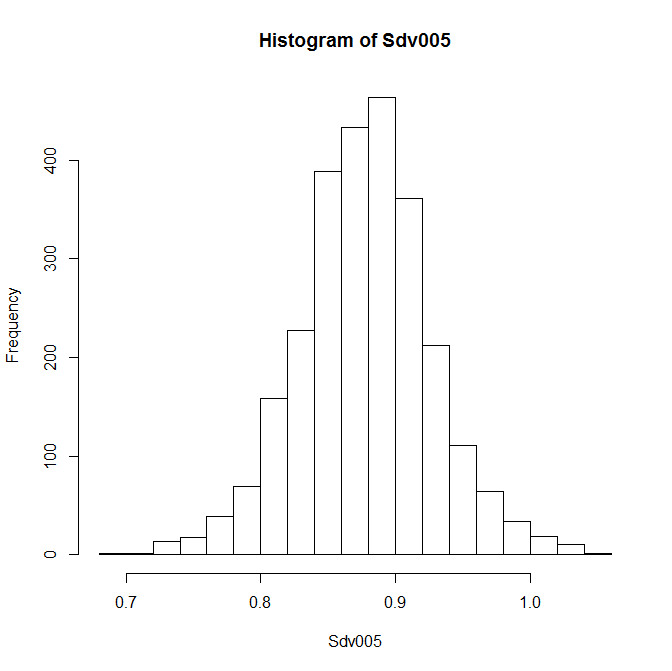
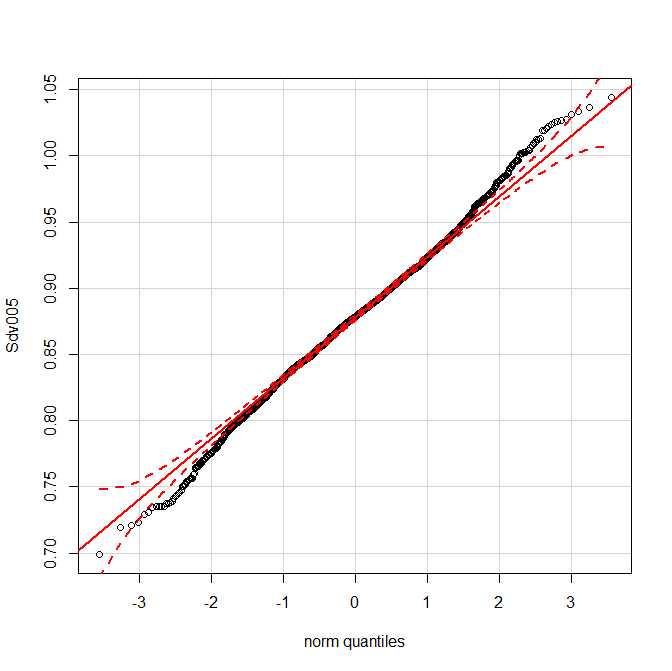
## Sdv

raw



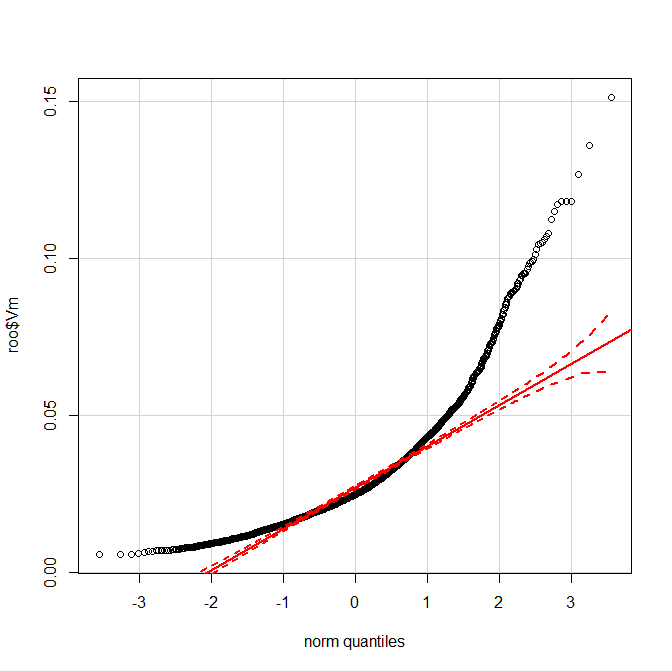
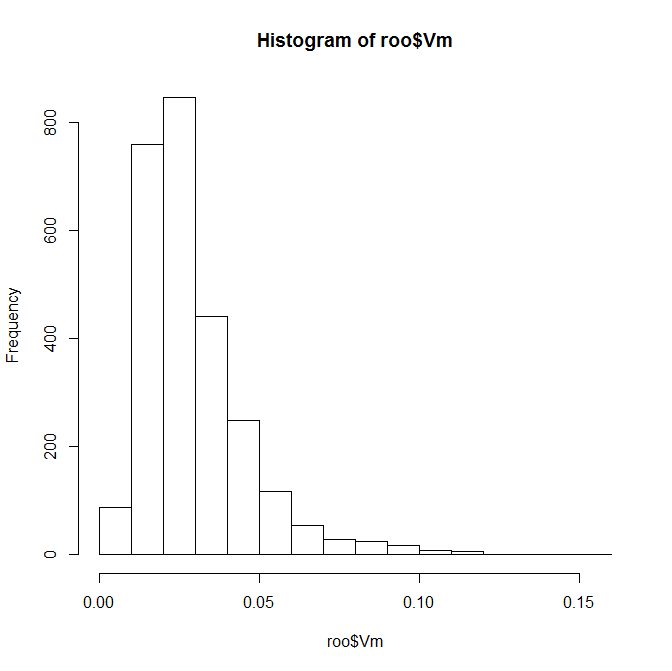
Boxcox log-likelihood

Sdv005<-(roo$Sdv)^-0.05

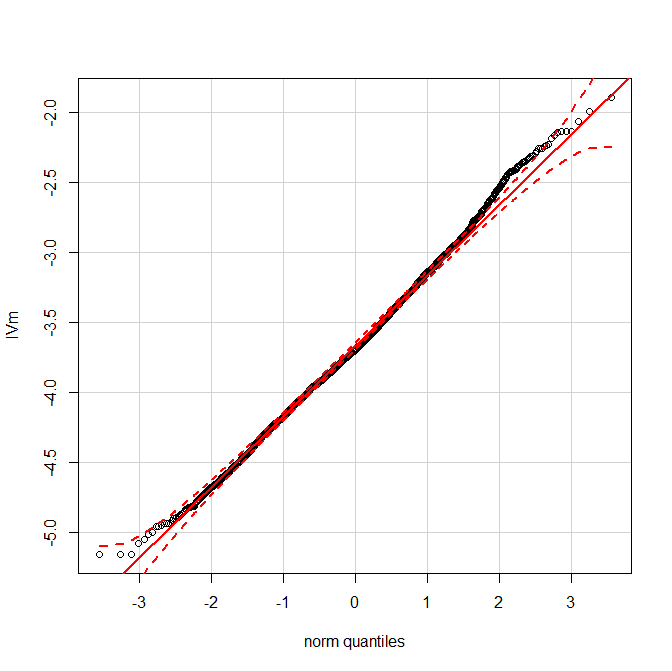
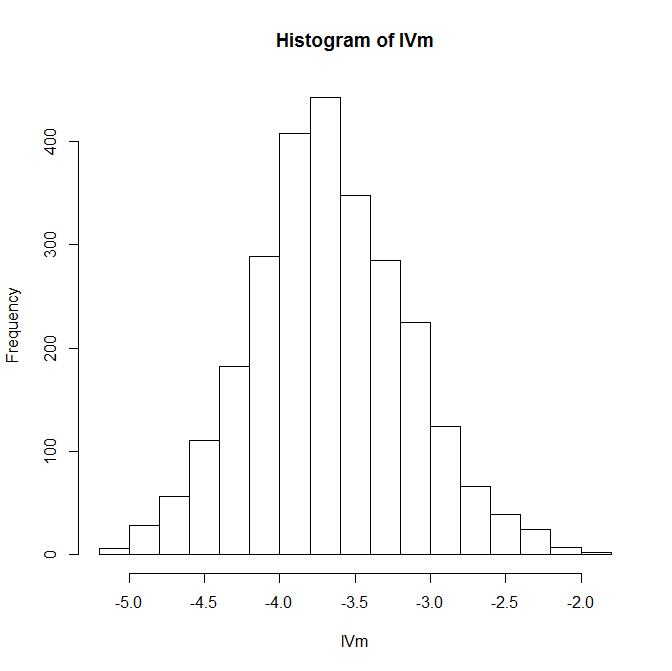
 

## Vm

Raw

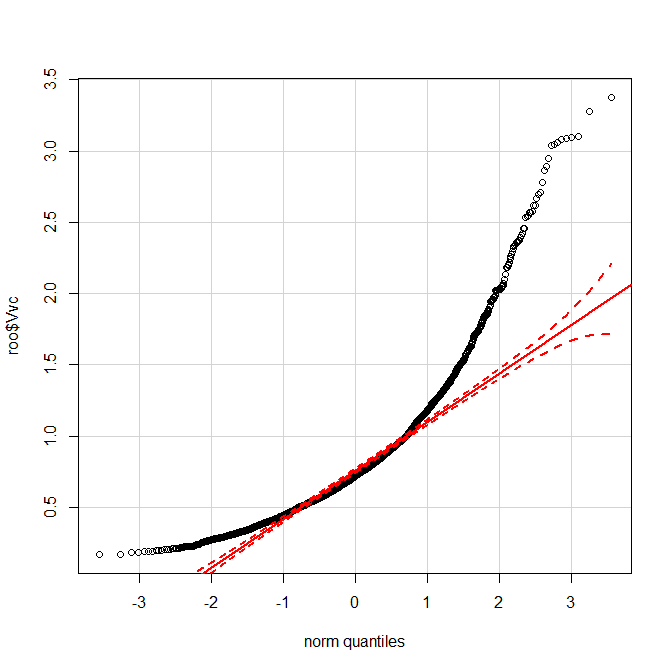
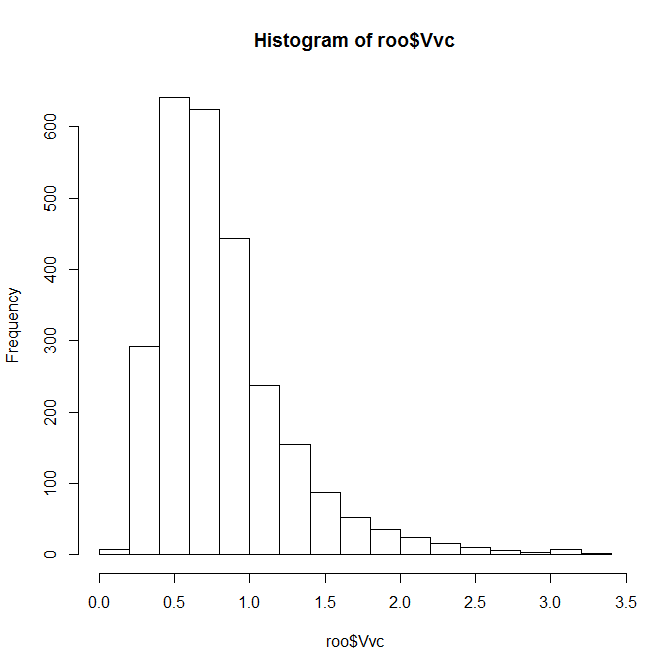


Natural logarithm transformed

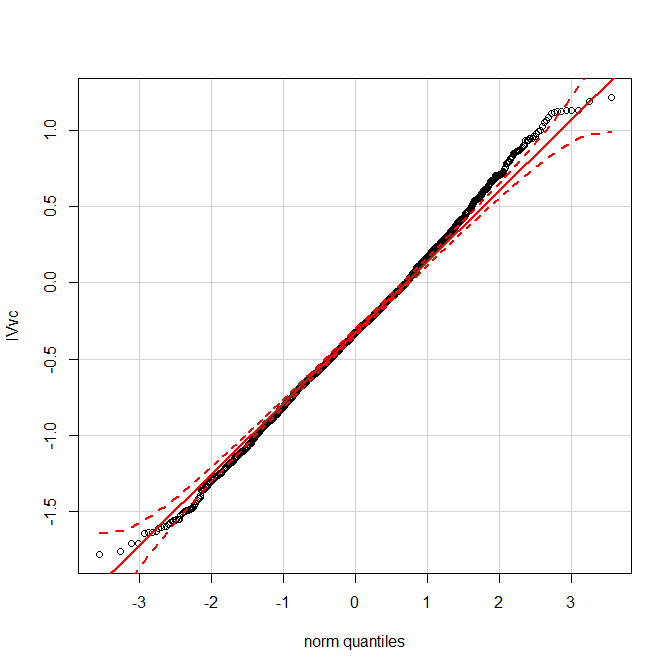
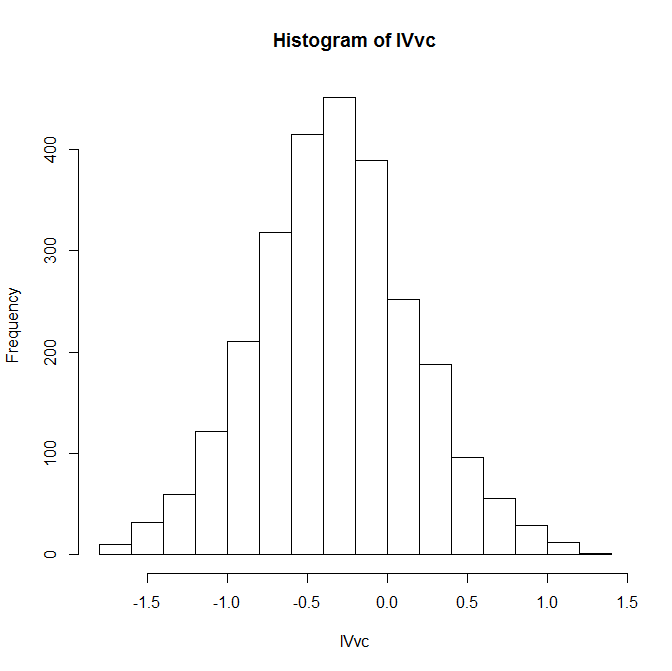


## Vvc

Raw

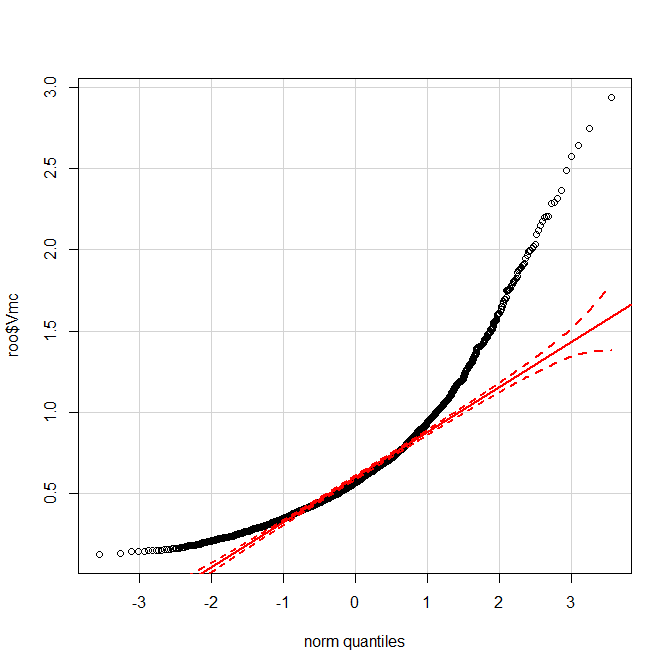
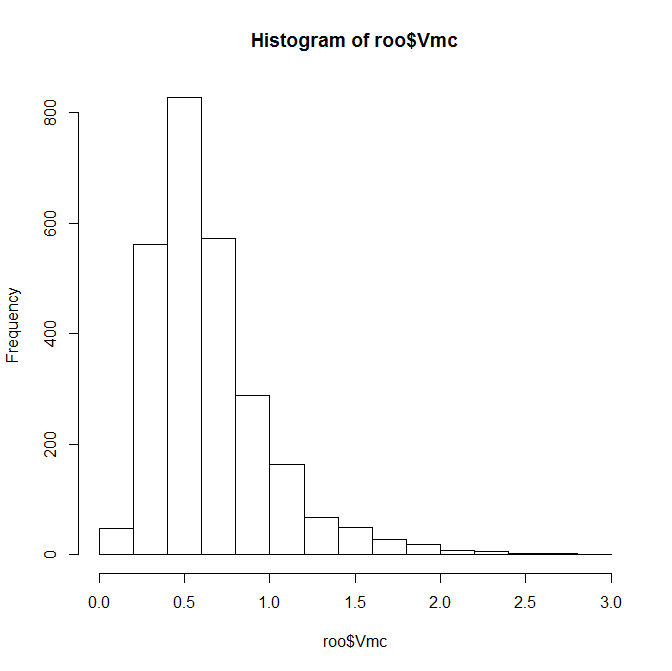


Natural logarithm transformed

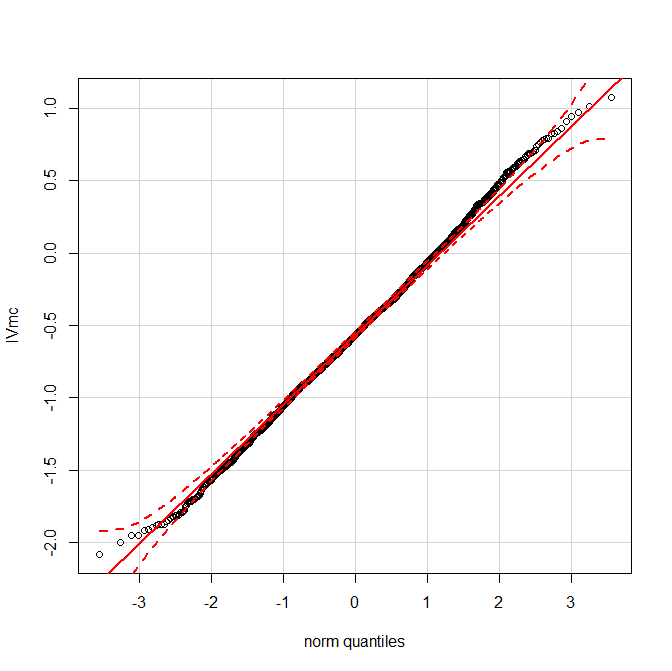
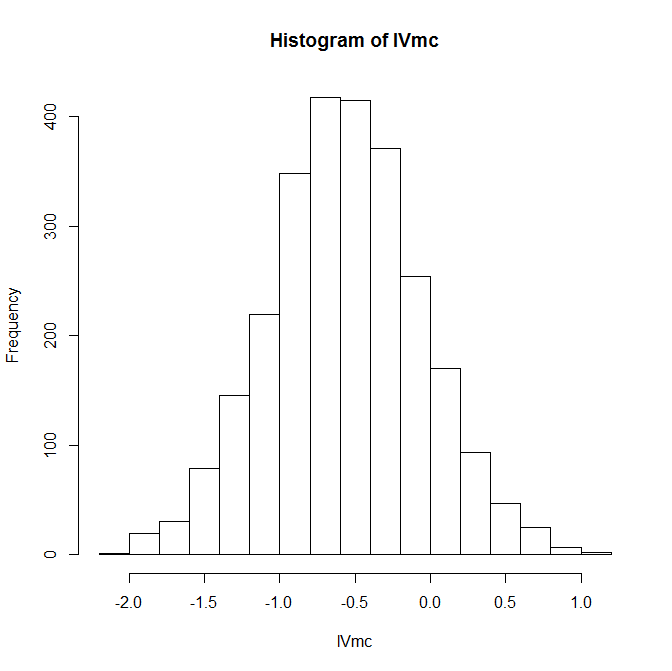


## Vmc

Raw

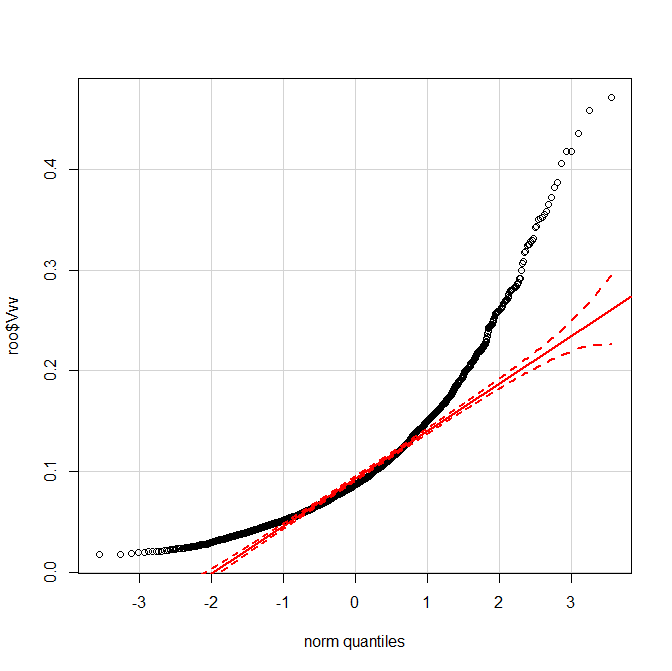
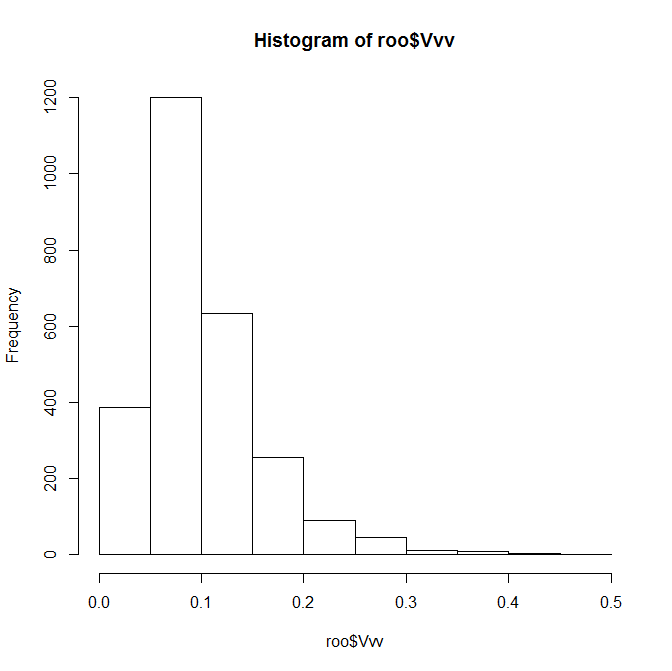


Natural logarithm transformed

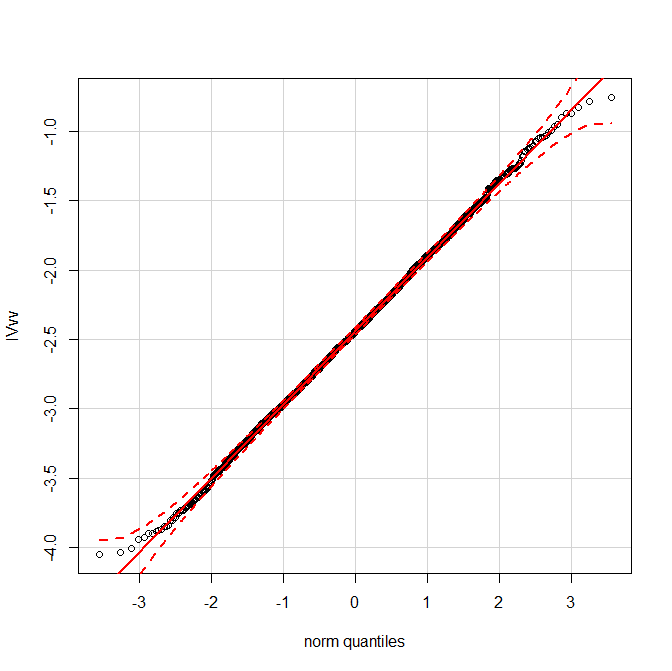
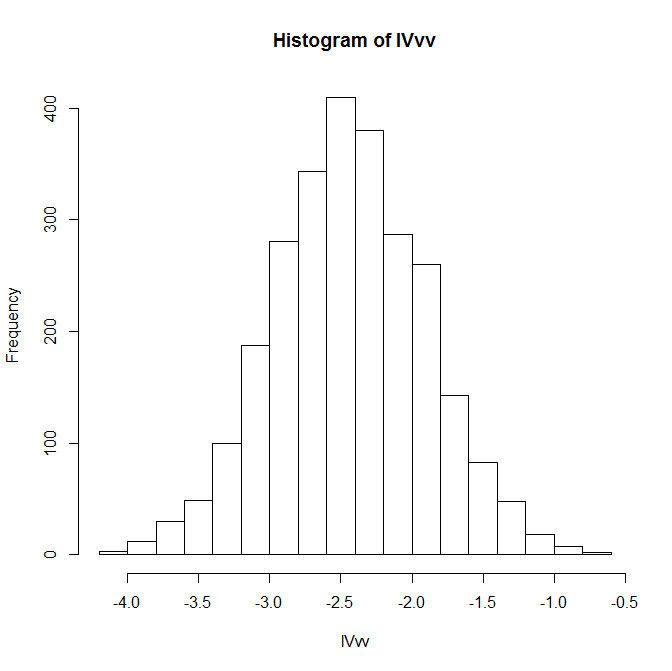


## Vvv

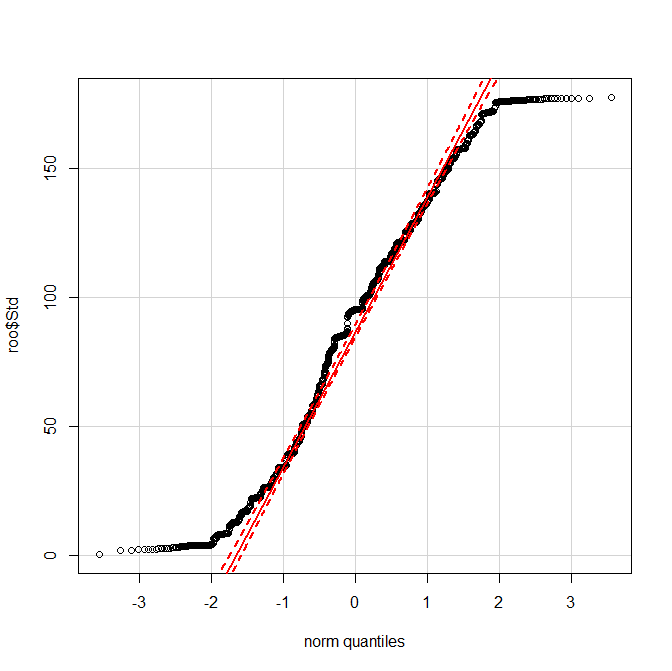
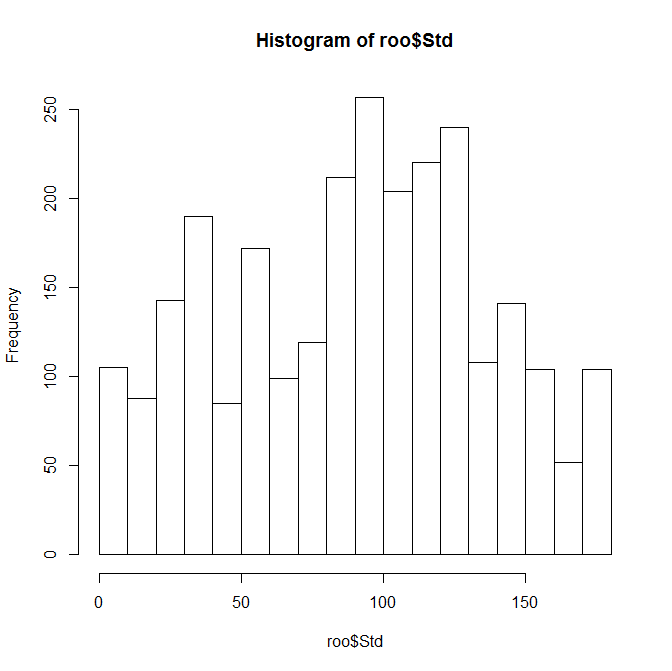
Raw

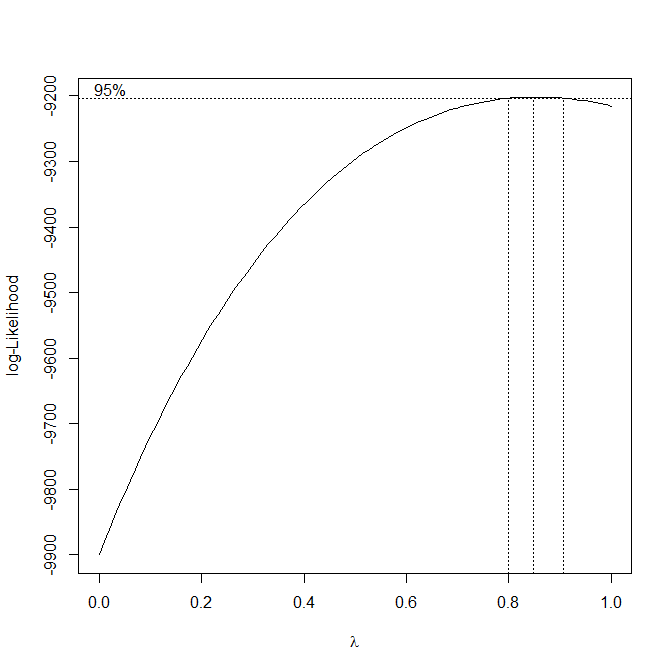


Natural logarithm transformed

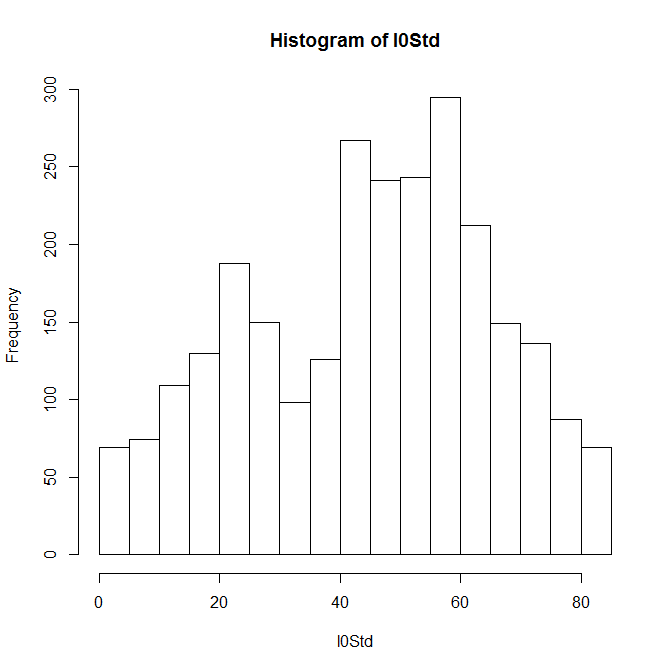
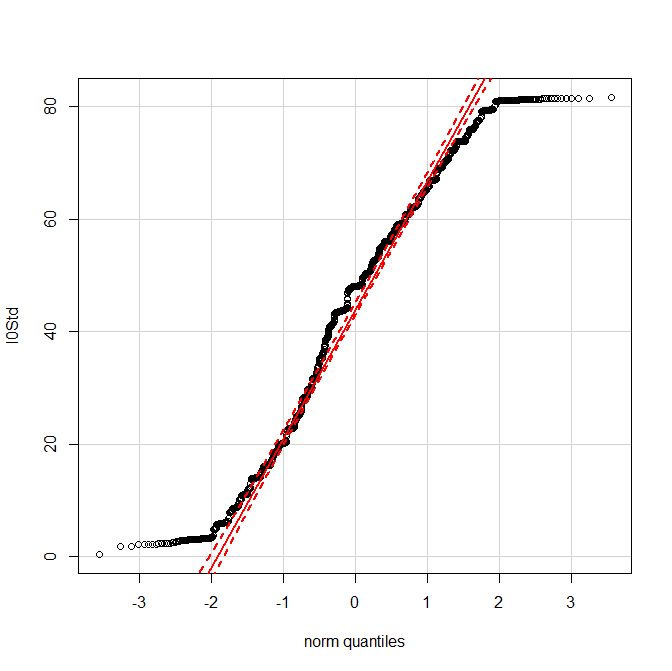


## Std



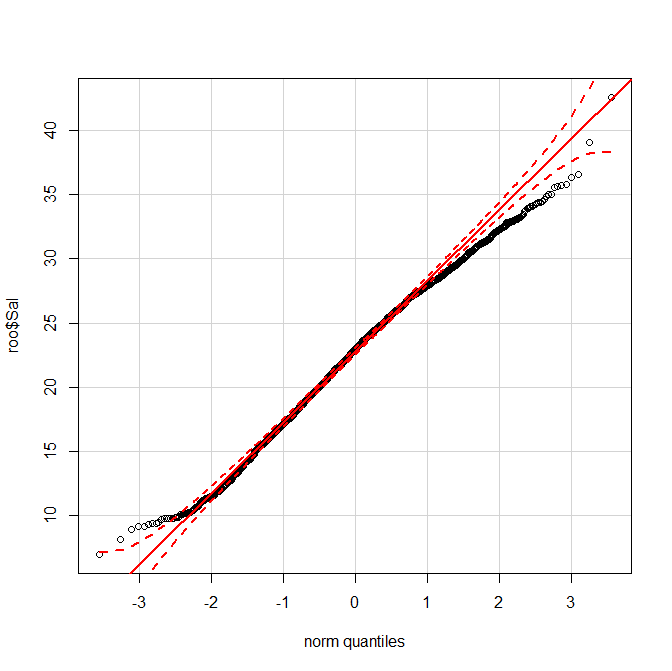
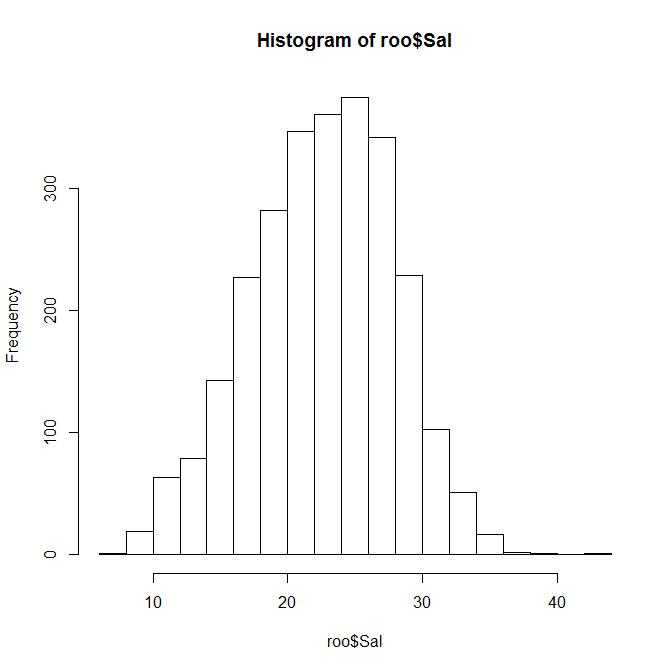
Boxcox log-likelihood

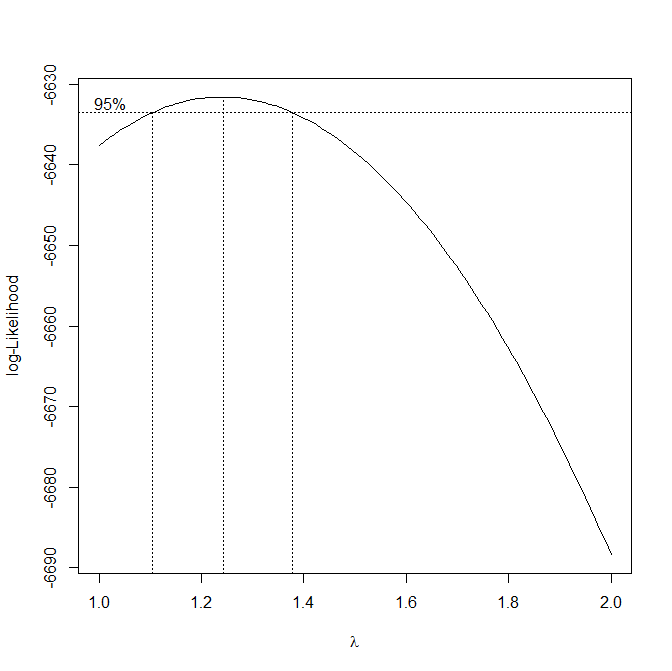
l0Std<-(roo$Std)^0.85

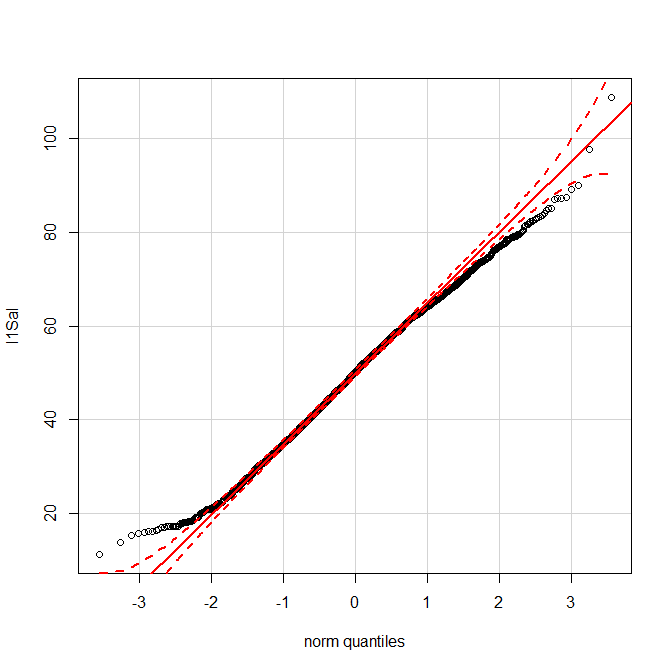
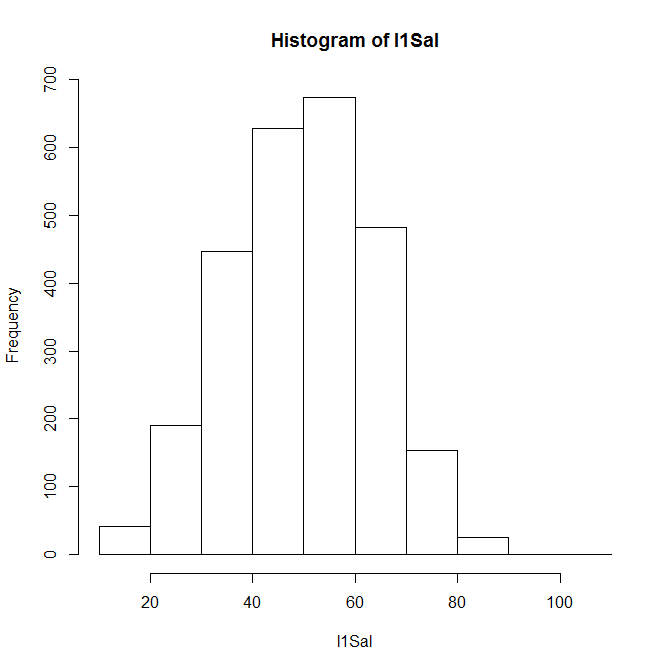
Unsuccessful. Rank transformation required.

## Sal



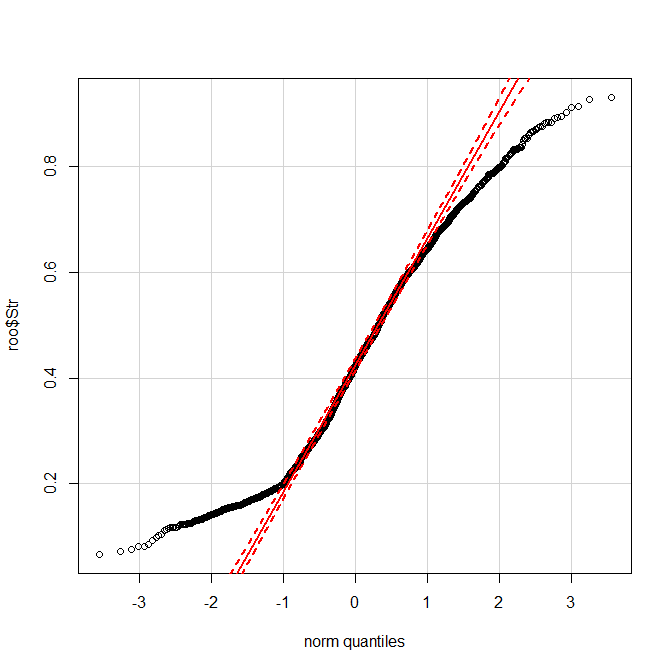
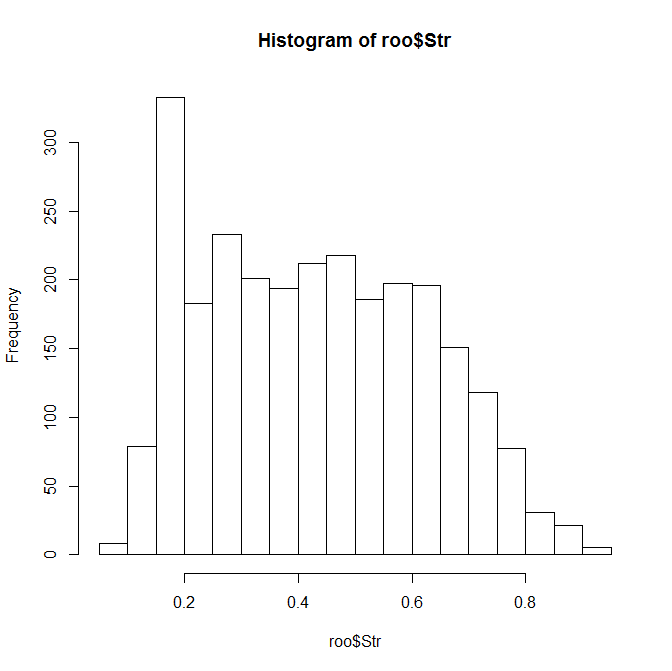
Boxcox log-likelihood

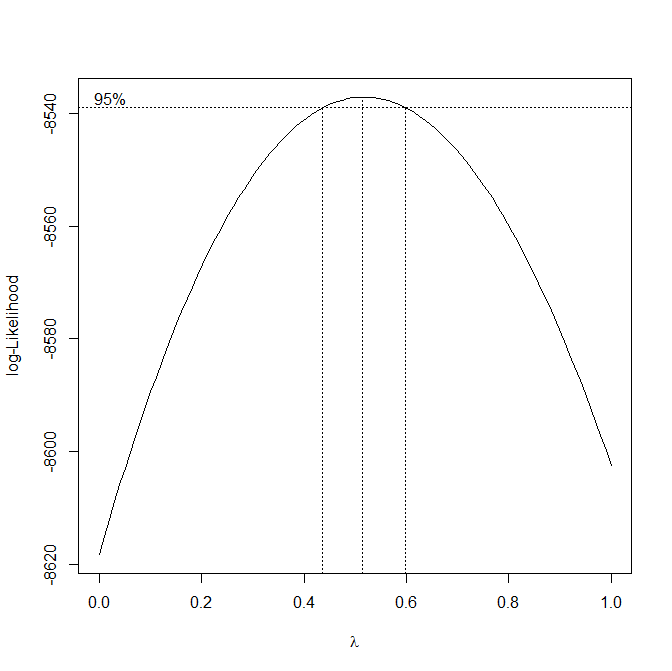
Sal125<-(roo$Sal)^1.25



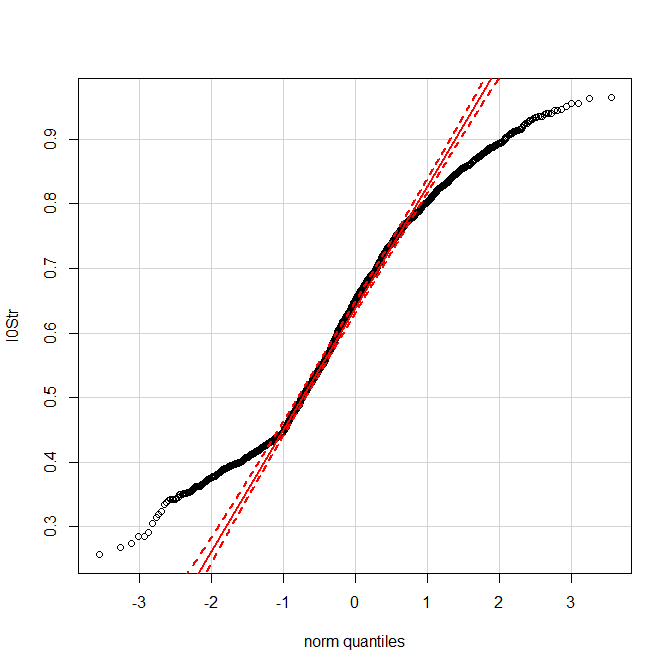
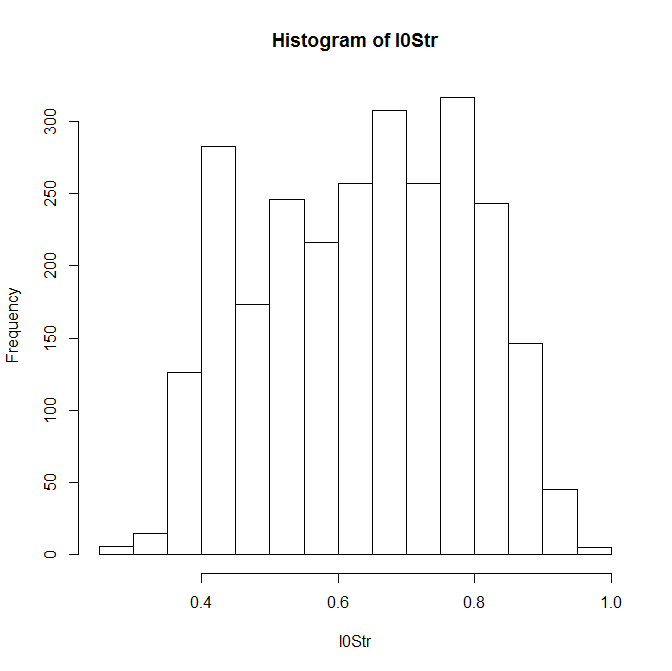
## Str

Raw



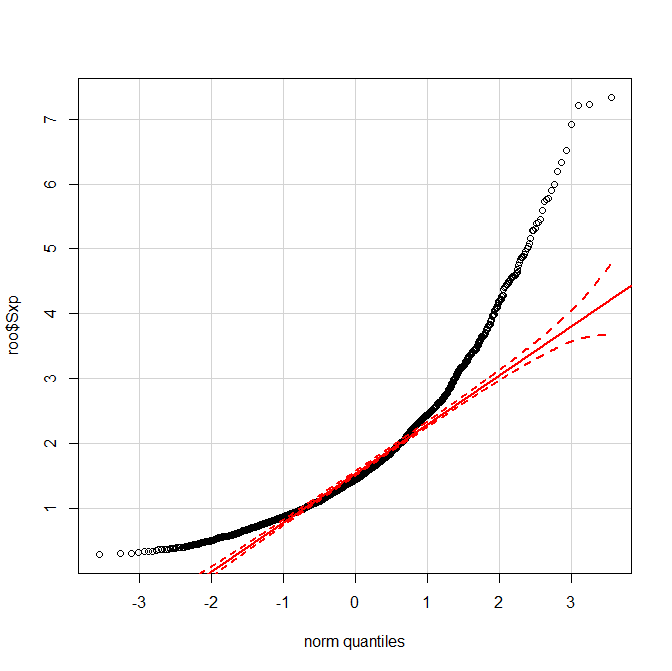
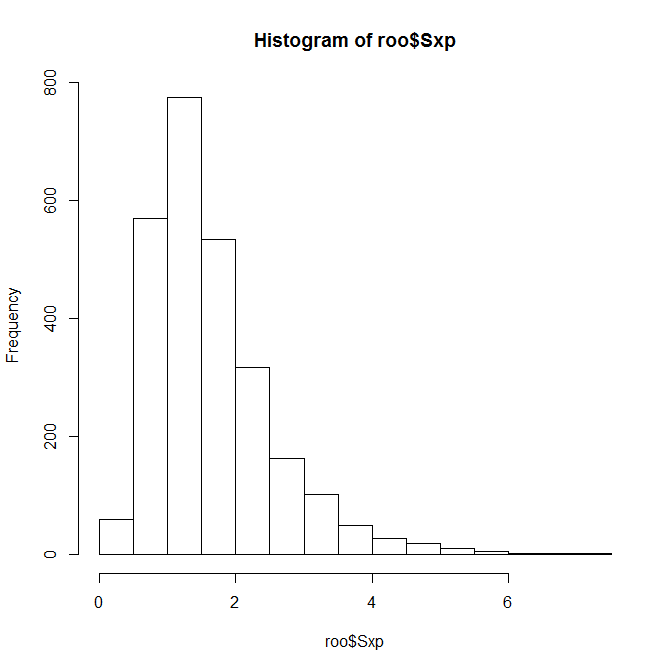
Boxcox log-likelihood

l0Str<-(roo$Str)^0.5

Unsuccessful. Rank transformation required.

## Sxp

Raw



Natural logarithm transformed

