This is one single example of simulation with all details plot describing the models

- **p=3000** (number of covariates)
- **n=200** (observations)
- **s=5** (number of non-zero coefficients among 3000 coefficients) is the size of the active set.

True Lasso model

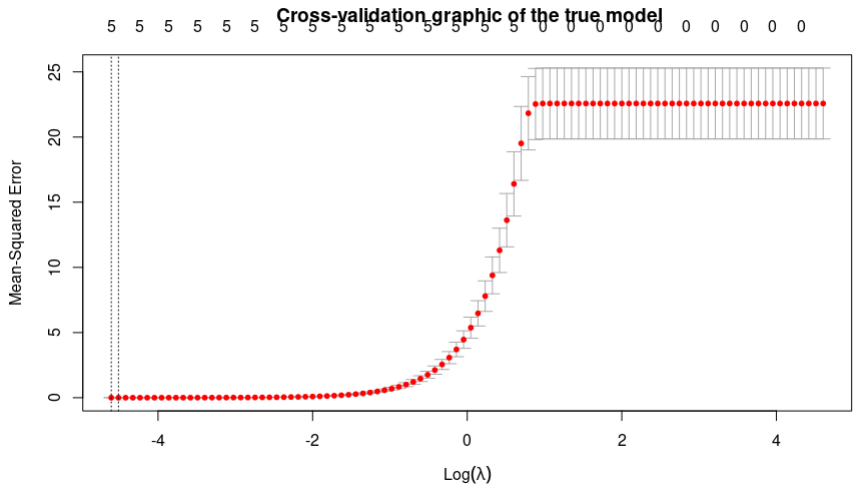

Figure 1: Cross validation of the true Lasso model

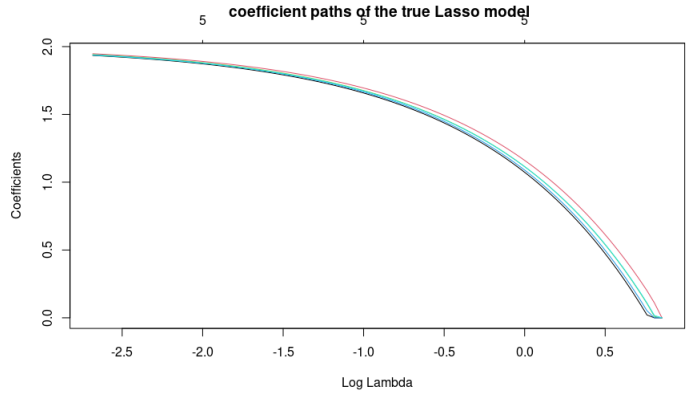

Figure 2: Coefficient paths of the true Lasso model

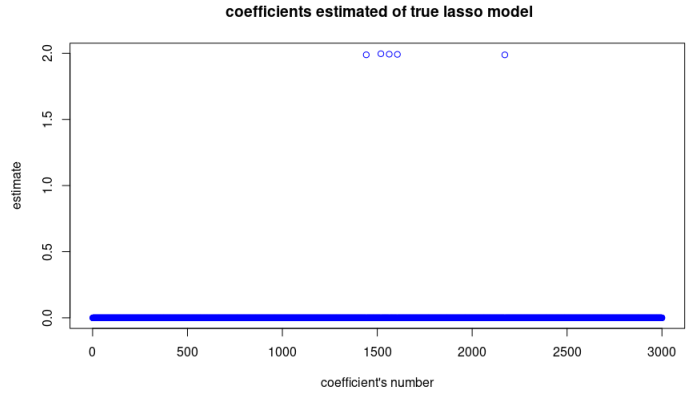

Figure 3: Coefficients estimated of the true Lasso model

Naive Lasso Model

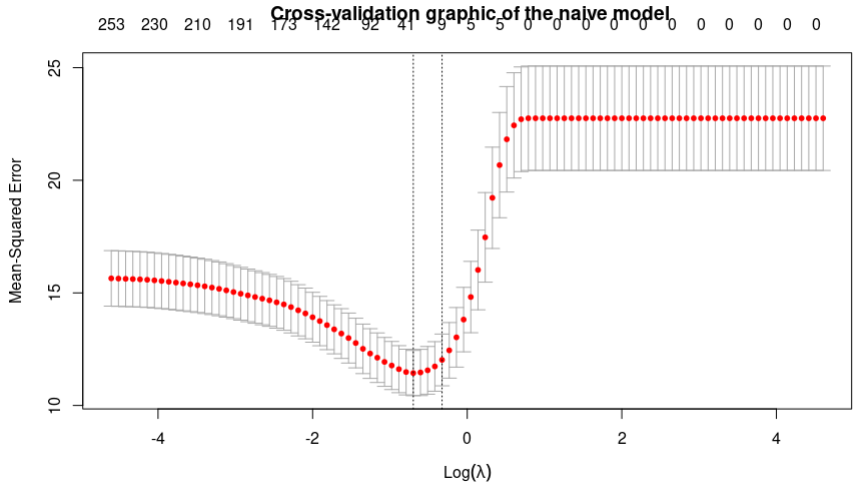

Figure 4: Cross validation of the Naive Lasso model

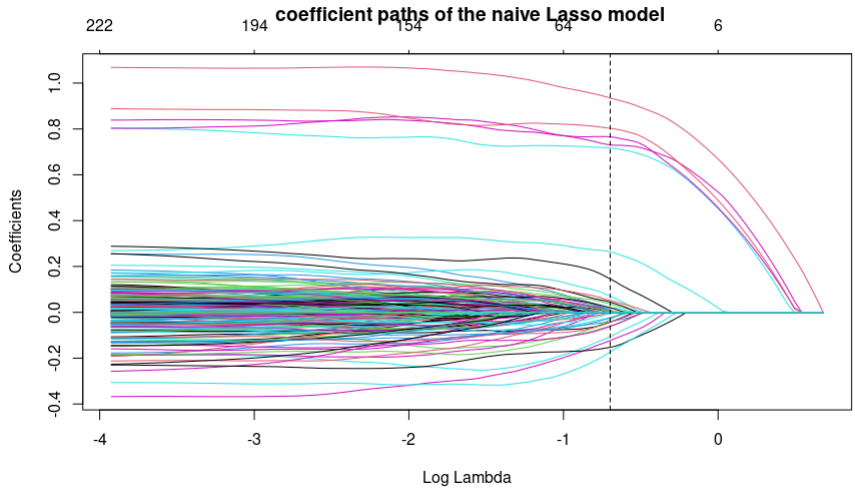

Figure 5: Coefficient paths of the Naive Lasso model

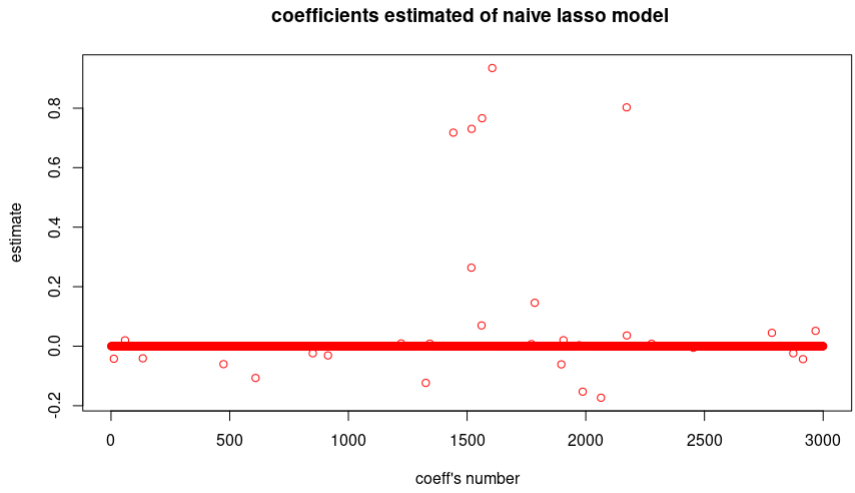

Figure 6: Coefficients estimated of the Naive Lasso model

Non Convex Lasso (NCL)

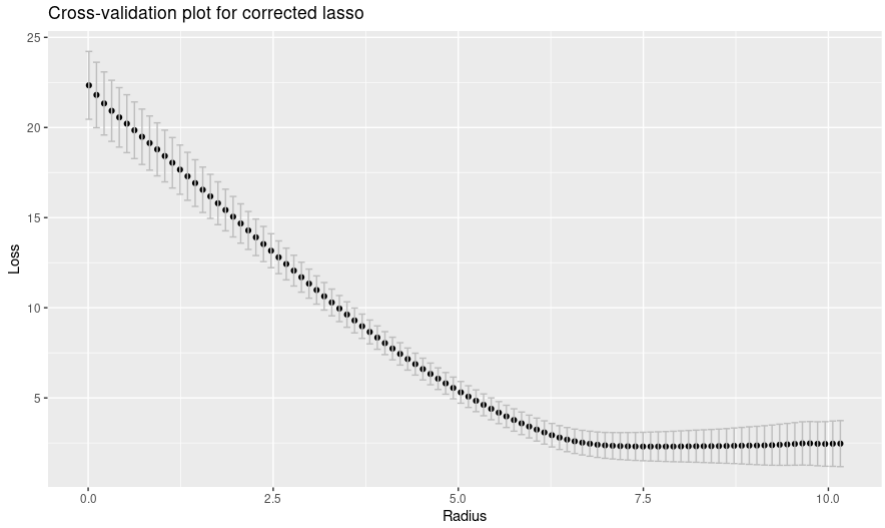

Figure 7: Cross validation of the NCL model

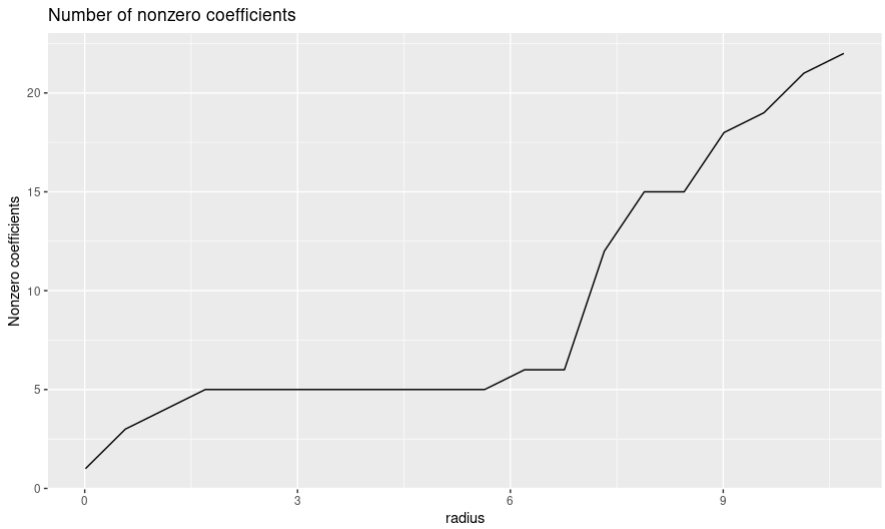

Figure 8: NCL: Evolution of Nonzero coefficients with respect to Radius (R)

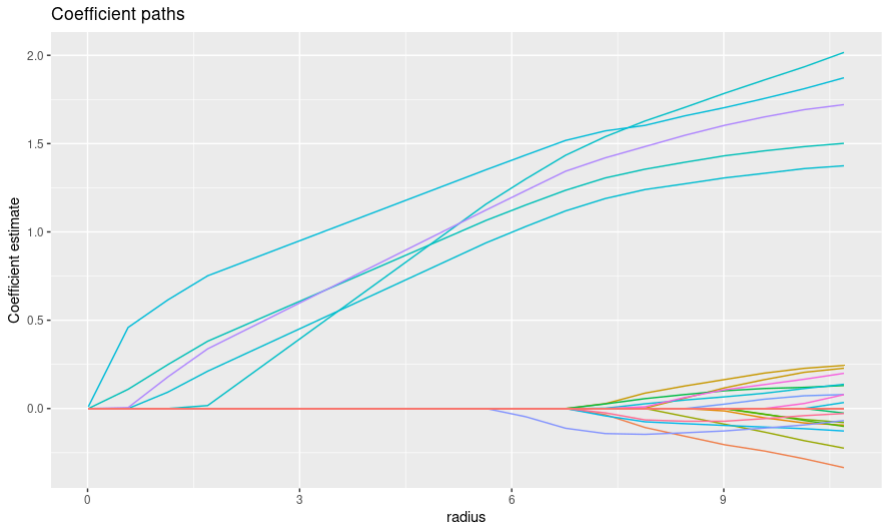

Figure 9: Coefficient paths of the NCL model

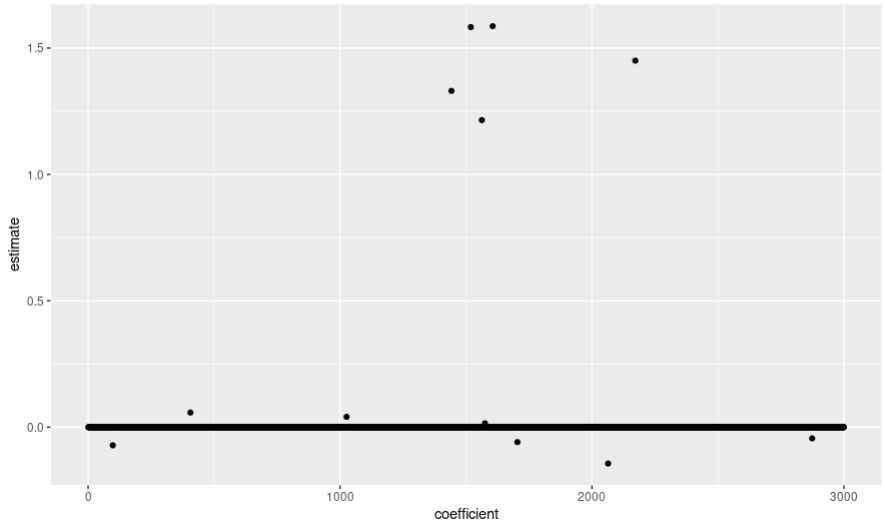

Figure 10: Coefficients estimated of the NCL model

Convex Conditional Lasso (CoCoLasso)

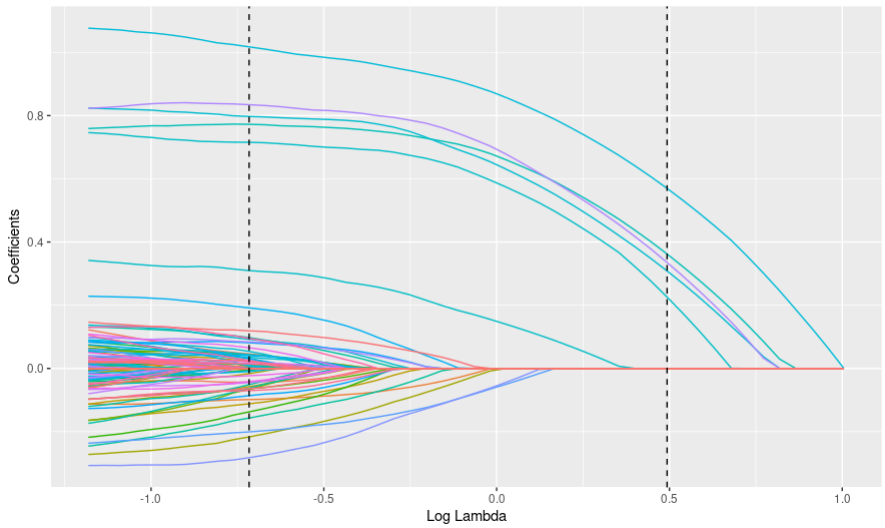

Figure 11: Coefficients paths of the CoCoLasso model

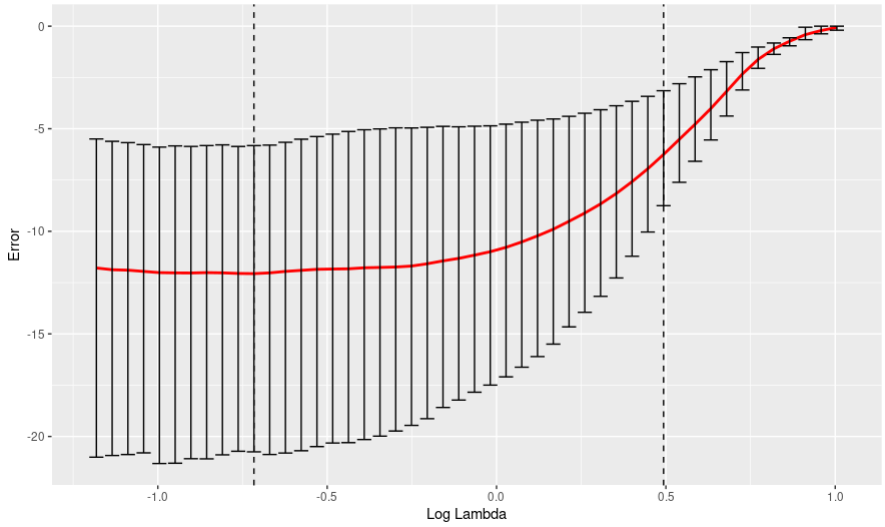

Figure 12: Cross-Validation of the CoCoLasso model

0.0.1 Matrix Uncertainty selector (MUS)

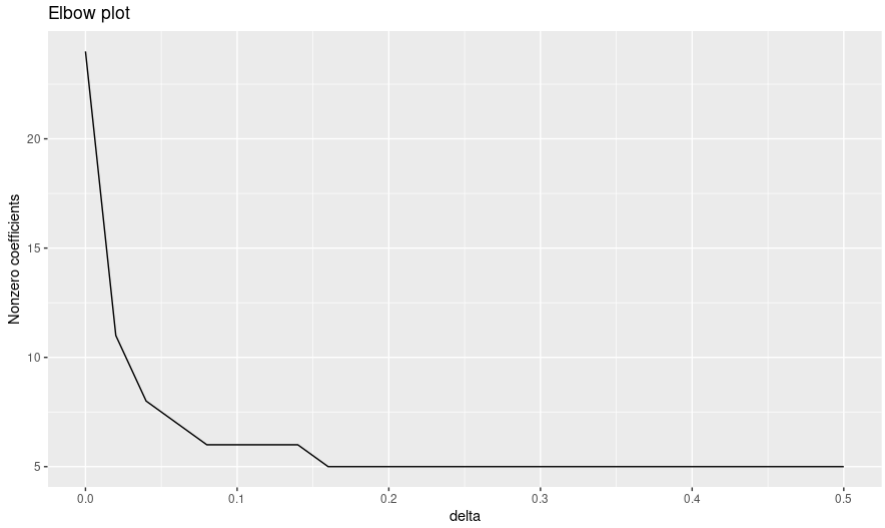

Figure 13: Graphic (MUS) :path of Nonzero coefficients along the grid of "δ" (to apply the Elbow rule)

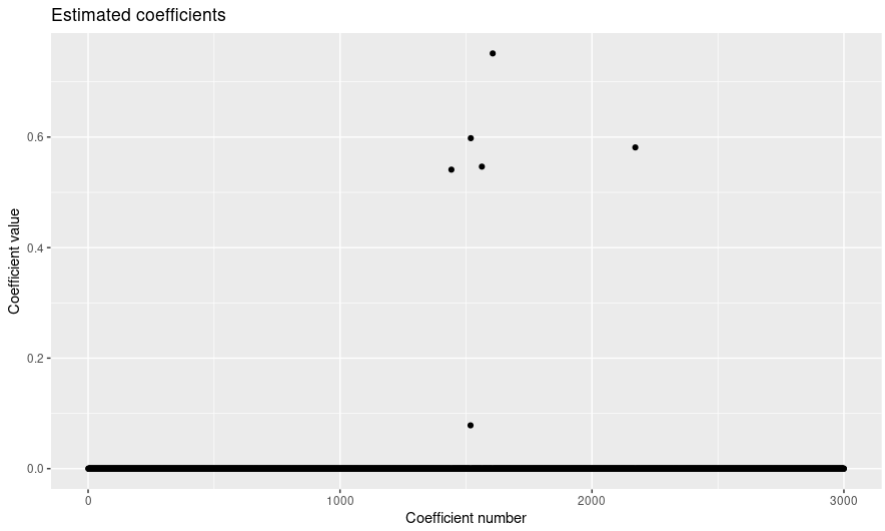

Figure 14: Graphic(MUS) : Coefficients estimated of the MUS model