Survival Analysis of OV with Taxol, Taxotere, Carboplatin and Cisplatin

This is for survival analysis of OV data from TCGA.

Date: 04/14/2015

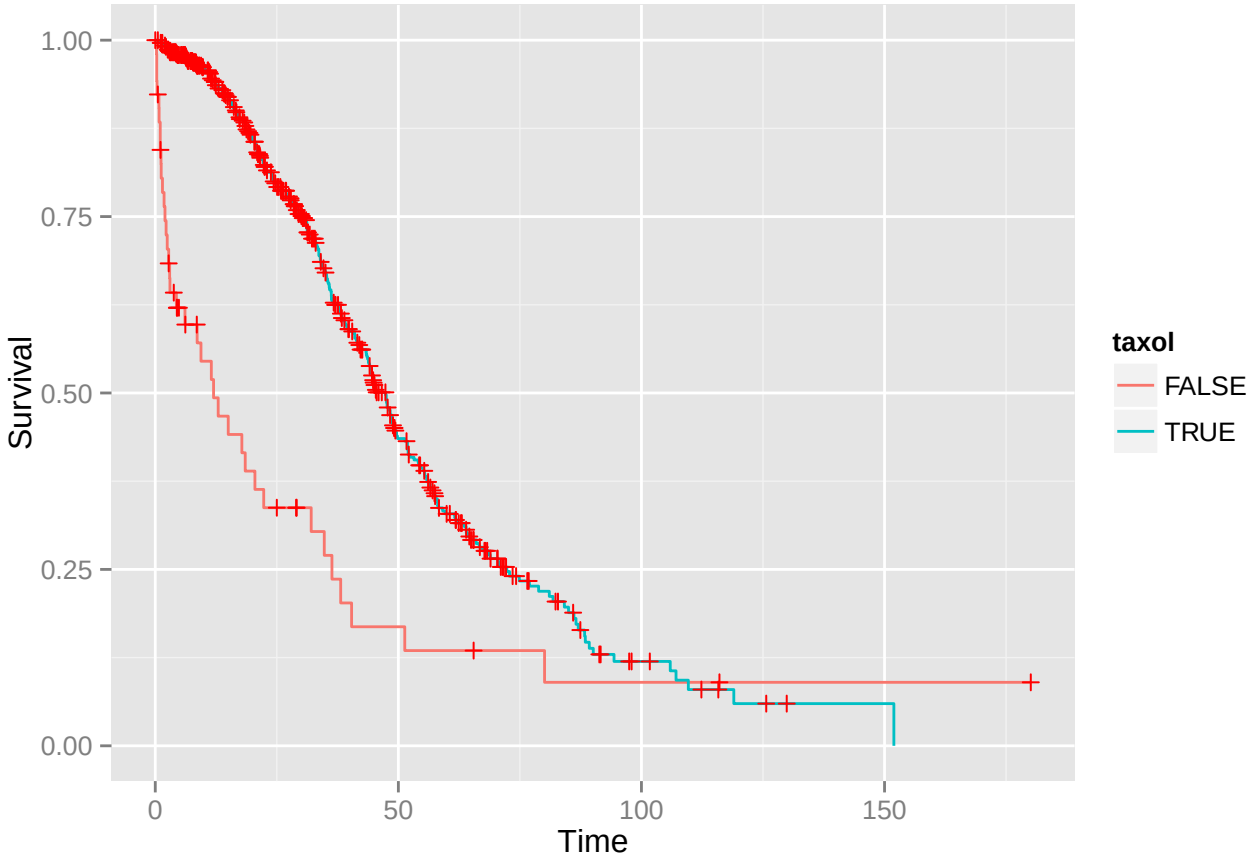
583 patients in total.

Time measured by month.

1. KM Curve and Survial test by Taxol:

```
surv.data = with(surv, Surv(months,death) ~ taxol)
ggsurv(survfit(surv.data))
```

```
## Loading required package: scales
```



```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                N Observed Expected (O-E)^2/E (O-E)^2/V
## taxol=FALSE   53       37     14.9      32.8      35.4
## taxol=TRUE   530      265    287.1       1.7      35.4
##
##  Chisq= 35.4  on 1 degrees of freedom, p= 2.64e-09
```

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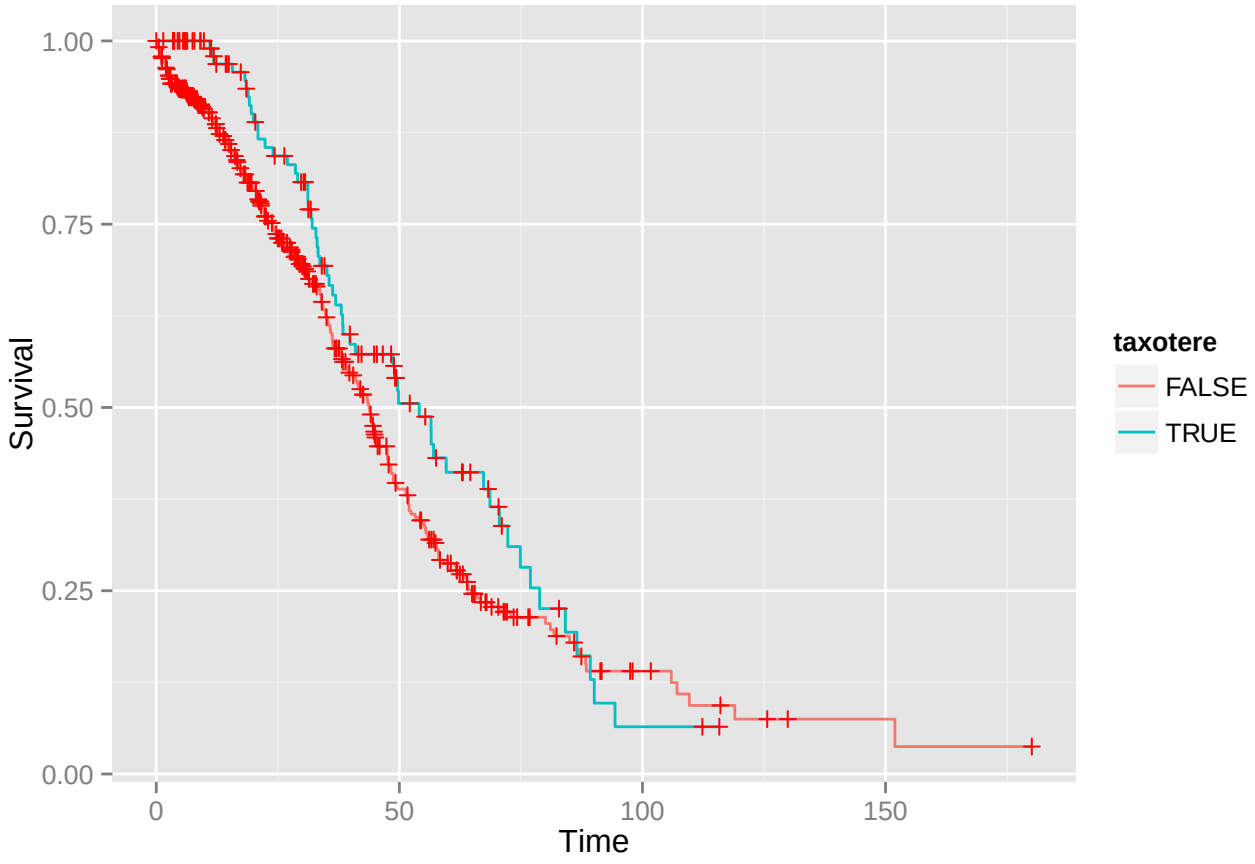
2. KM Curve and Survial test by Taxotere:

```
surv.data = with(surv, Surv(months,death) ~ taxotere)
ggsurv(survfit(surv.data))
```




```
survdiff(surv.data)
```

```
## Call:
```

```
## survdiff(formula = surv.data)
##
##                   N Observed Expected (O-E)^2/E (O-E)^2/V
## taxotere=FALSE 470      246    232.2     0.824      3.58
## taxotere=TRUE  113       56     69.8     2.738      3.58
##
##  Chisq= 3.6  on 1 degrees of freedom, p= 0.0584
```

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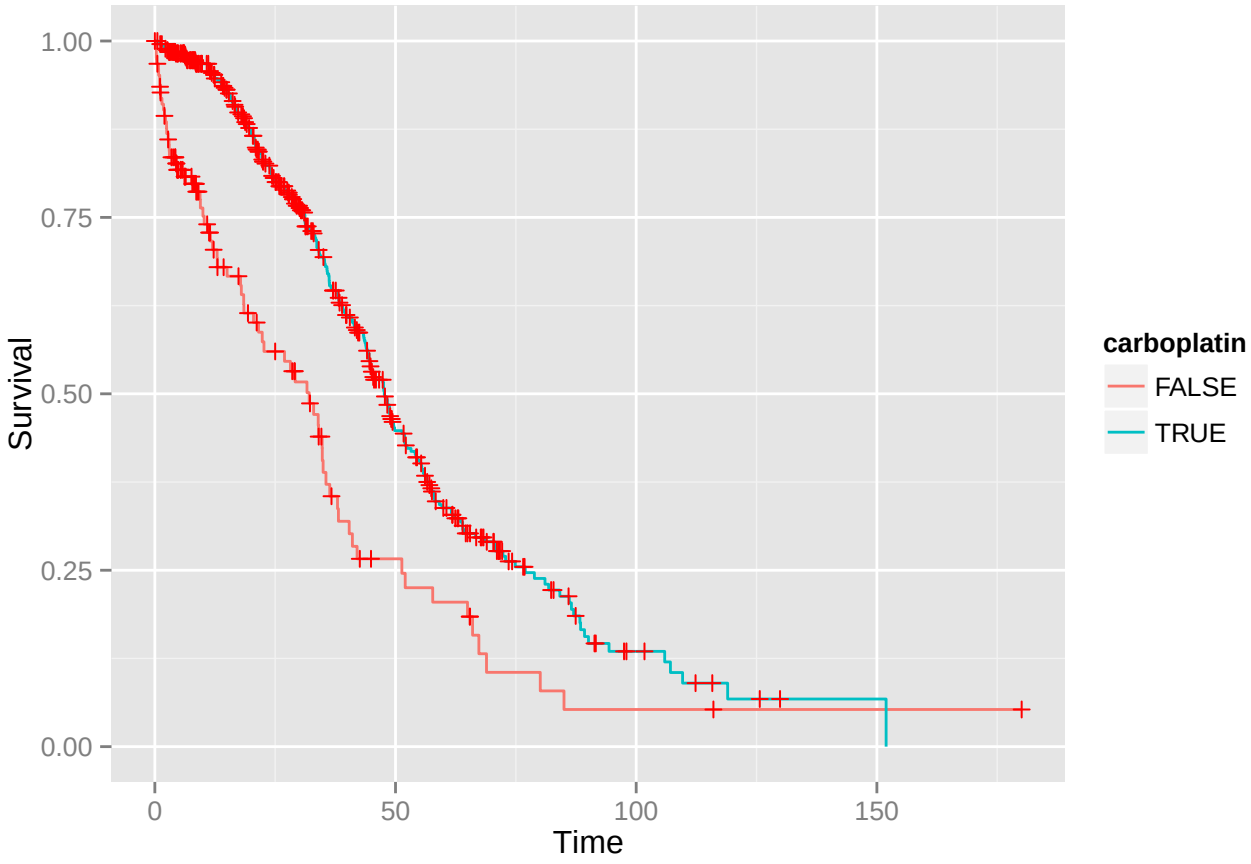
3. KM Curve and Survial test by Carboplatin:

```
surv.data = with(surv, Surv(months,death) ~ carboplatin)
ggsurv(survfit(surv.data))
```




```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                     N Observed Expected (O-E)^2/E (O-E)^2/V
## carboplatin=FALSE 125       70     38.2     26.58      30.9
```

```
## carboplatin=TRUE  458      232    263.8      3.84      30.9
##
##  Chisq= 30.9  on 1 degrees of freedom, p= 2.77e-08
```

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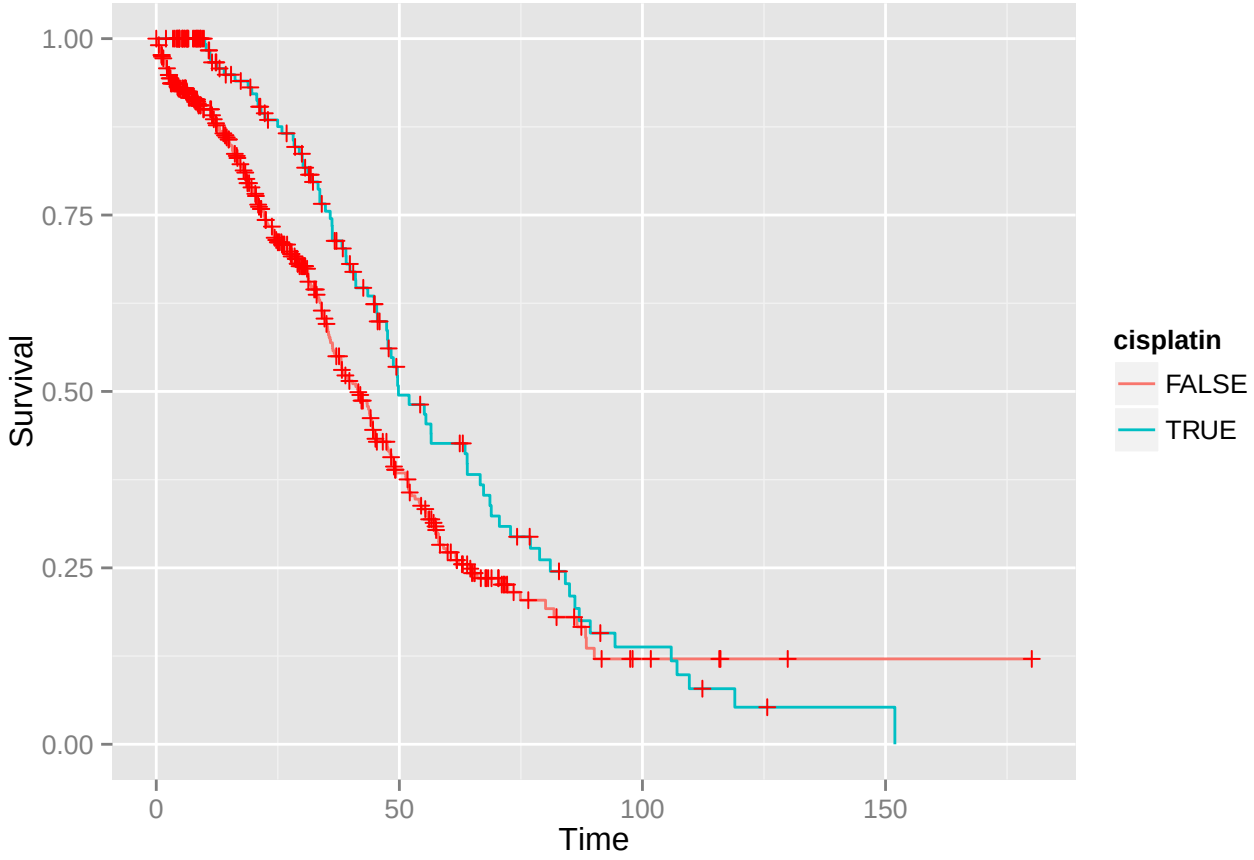
4. KM Curve and Survial test by Cisplatin:

```
surv.data = with(surv, Surv(months,death) ~ cisplatin)
ggsurv(survfit(surv.data))
```




```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                    N Observed Expected (O-E)^2/E (O-E)^2/V
## cisplatin=FALSE 432      226      205      2.16      6.86
## cisplatin=TRUE  151       76       97      4.56      6.86
##
##  Chisq= 6.9  on 1 degrees of freedom, p= 0.0088
```

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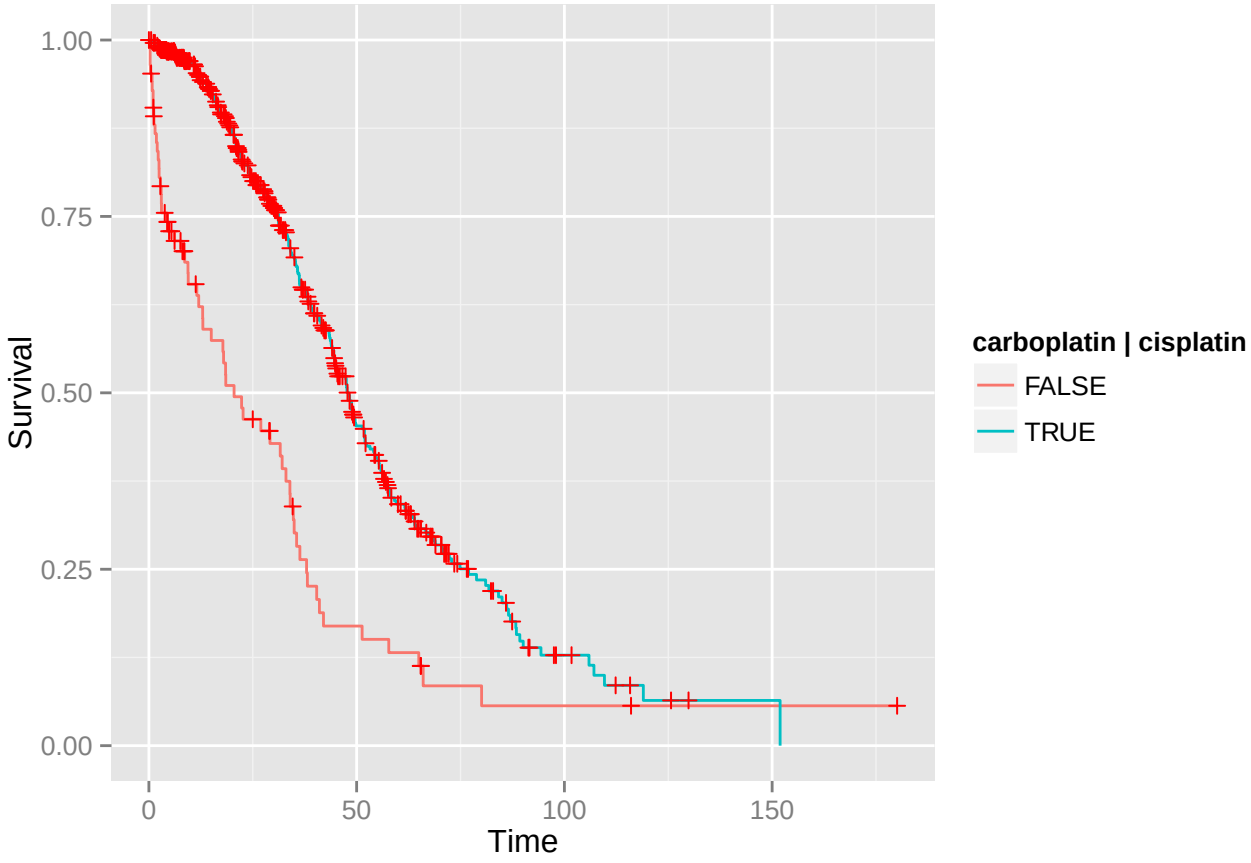
5. KM Curve and Survial test by Carboplatin or Cisplatin:

```
surv.data = with(surv, Surv(months,death) ~ (carboplatin|cisplatin))
ggsurv(survfit(surv.data))
```



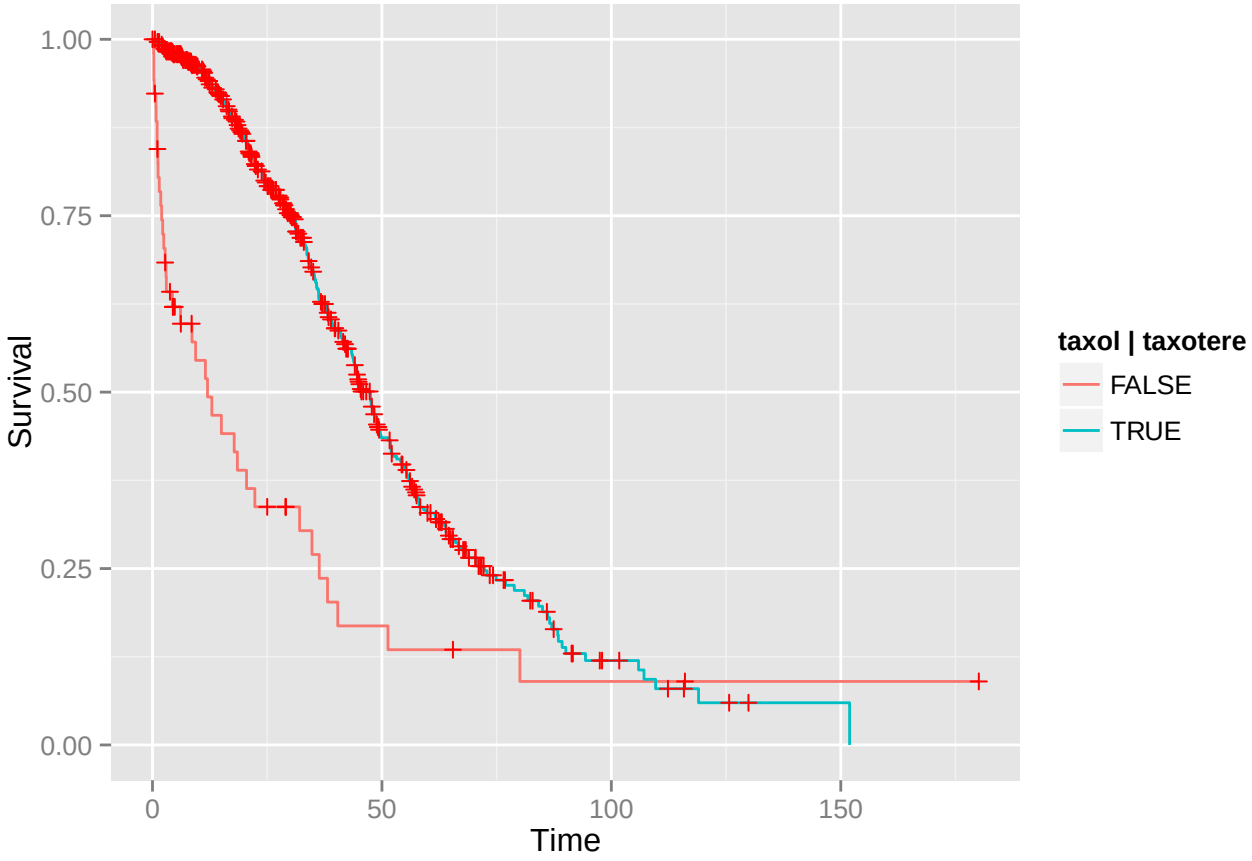

```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                                 N Observed Expected (O-E)^2/E (O-E)^2/V
## carboplatin | cisplatin=FALSE  85       60     26.6     41.96      46.7
## carboplatin | cisplatin=TRUE  498      242    275.4      4.05      46.7
##
##  Chisq= 46.7  on 1 degrees of freedom, p= 8.25e-12
```

---

6. KM Curve and Survial test by Taxol or Taxotere:

```
surv.data = with(surv, Surv(months,death) ~ (taxol|taxotere))
ggsurv(survfit(surv.data))
```




```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                           N Observed Expected (O-E)^2/E (O-E)^2/V
## taxol | taxotere=FALSE  53       37     14.9      32.8      35.4
## taxol | taxotere=TRUE  530      265    287.1       1.7      35.4
##
##  Chisq= 35.4  on 1 degrees of freedom, p= 2.64e-09
```

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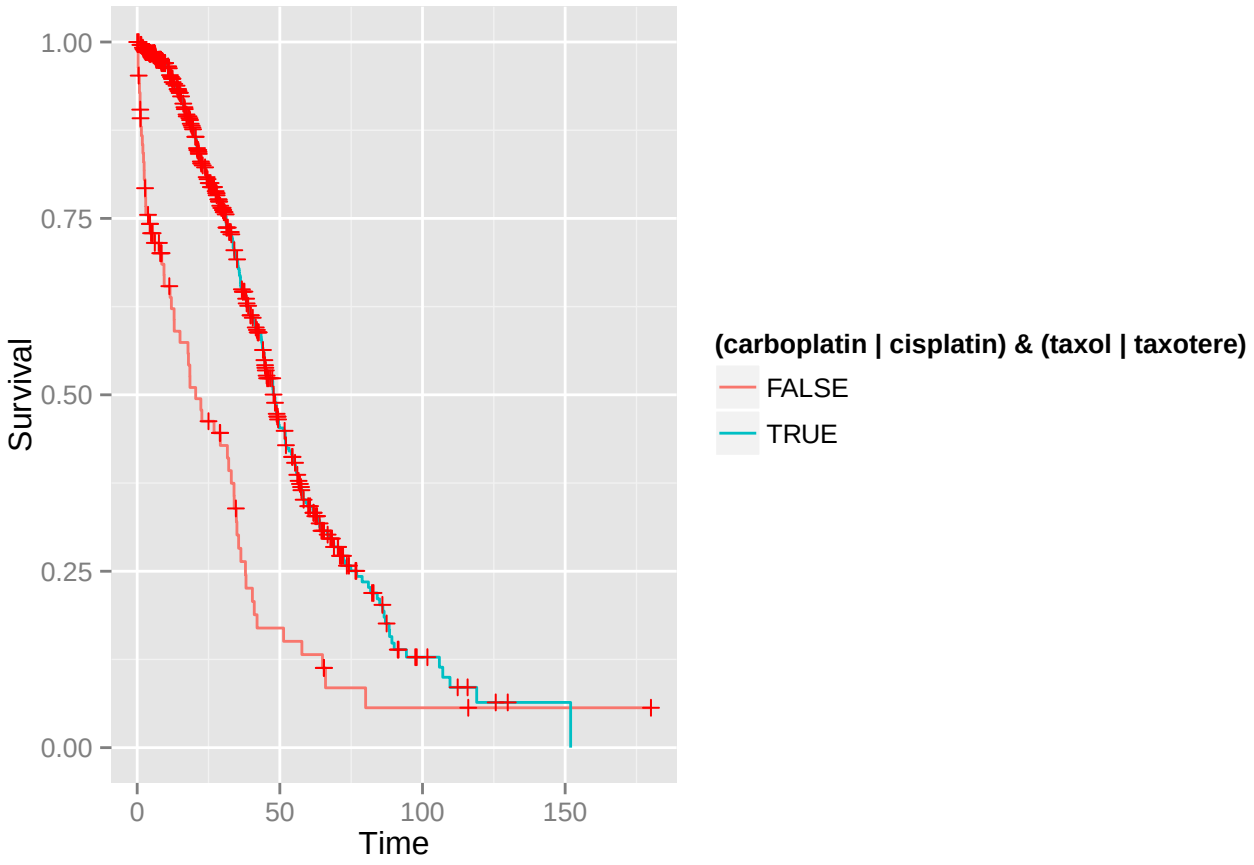
7. KM Curve and Survial test by at least one “Tax” and one “Platin”:

```
surv.data = with(surv, Surv(months,death) ~ ((carboplatin|cisplatin) & (taxol|taxotere)))
ggsurv(survfit(surv.data))
```




```
survdiff(surv.data)
```

```
## Call:
## survdiff(formula = surv.data)
##
##                                                          N Observed Expected
## (carboplatin | cisplatin) & (taxol | taxotere)=FALSE  85       60     26.6
## (carboplatin | cisplatin) & (taxol | taxotere)=TRUE  498      242    275.4
##                                                         (O-E)^2/E (O-E)^2/V
## (carboplatin | cisplatin) & (taxol | taxotere)=FALSE     41.96      46.7
## (carboplatin | cisplatin) & (taxol | taxotere)=TRUE       4.05      46.7
##
##  Chisq= 46.7  on 1 degrees of freedom, p= 8.25e-12
```