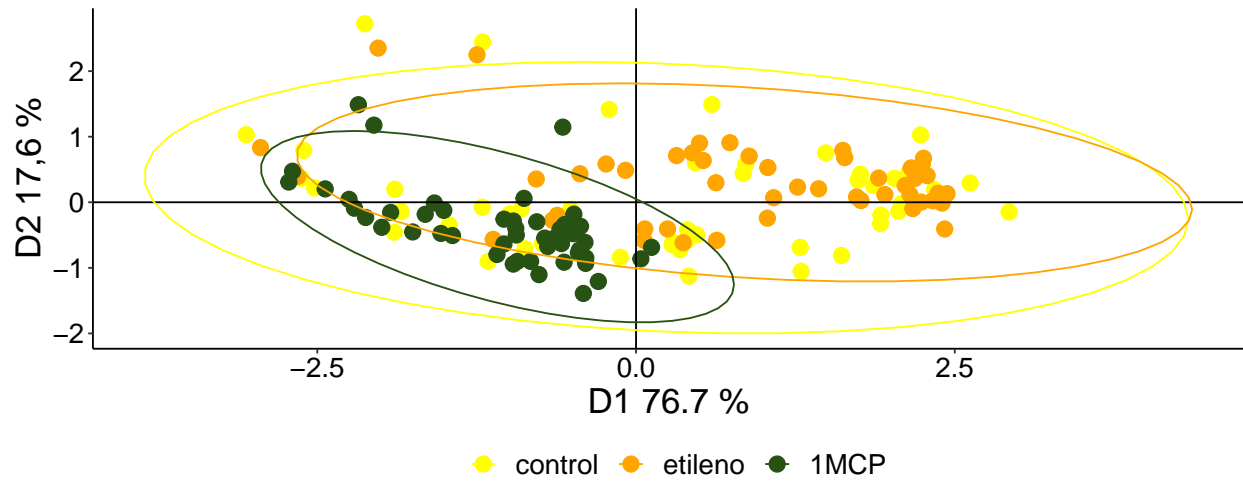


Colorimetric Analysis

Principal component analysis



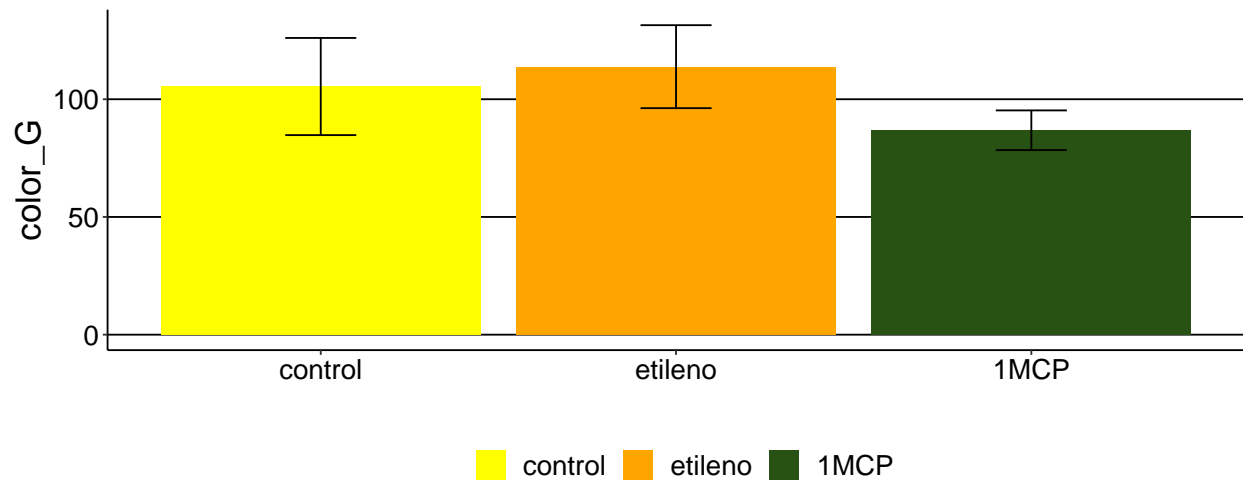
Univariate analysis for the color component Lab

Descriptive table for principal color component

treat	N	color_G	sd	se	ci
control	48	105.39773	20.633423	2.978178	5.991321
etileno	48	113.83946	17.623015	2.543663	5.117190
1MCP	48	86.82437	8.430171	1.216790	2.447866

Higher values indicate more advanced stages of maturation

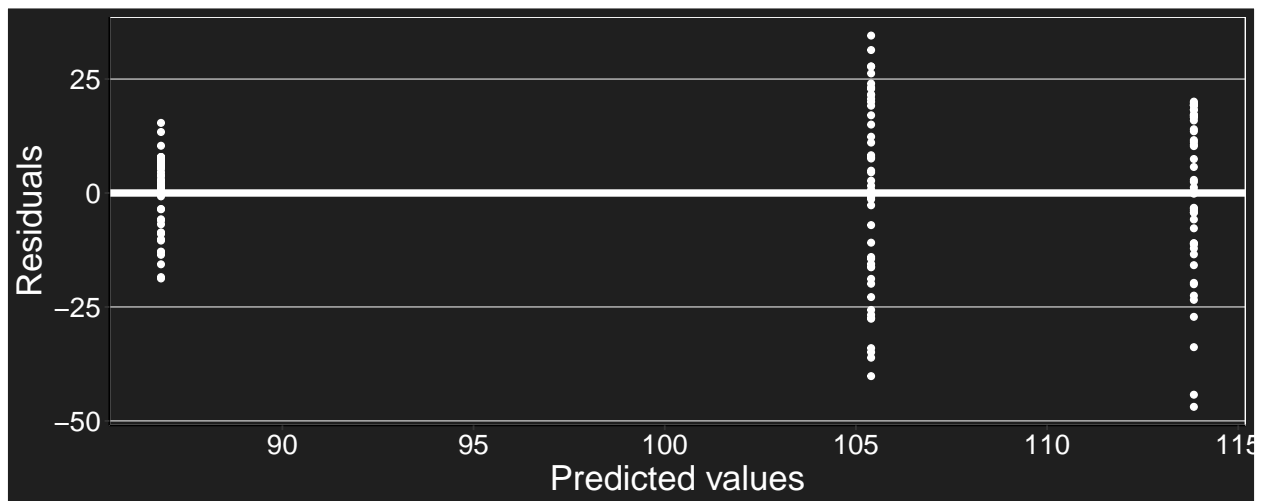
Descriptive graphic (sd)

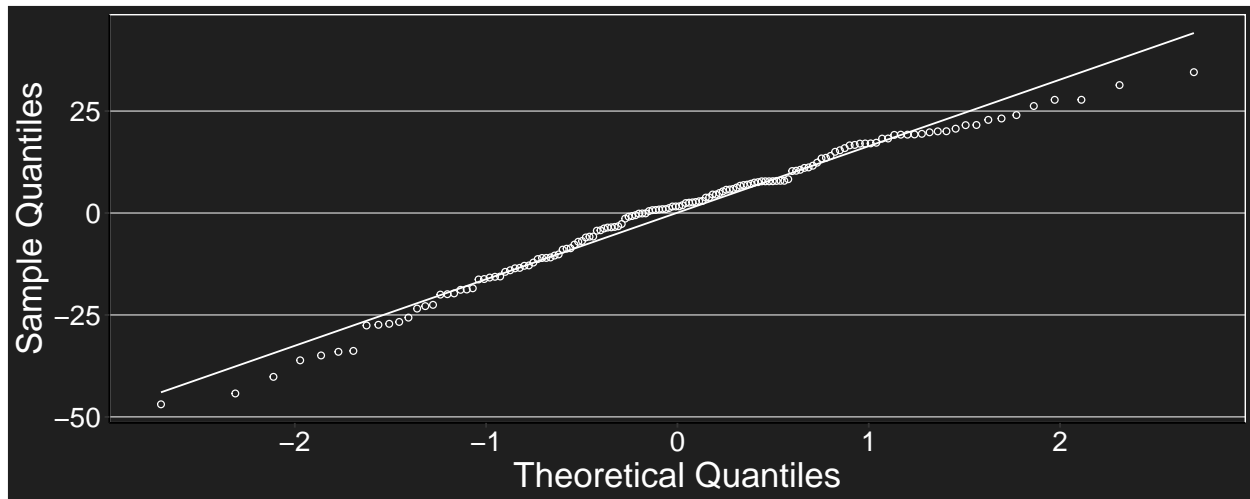


The model

```
## gls(model = (color_G) ~ treat, data = data_color_G, weights = varIdent(form = ~1 |  
##      treat))
```

Assumptions check





```
##
##  Shapiro-Wilk normality test
##
## data:  e
## W = 0.97861, p-value = 0.02362
```

Anova (comparison of means)

	numDF	F-value	p-value
(Intercept)	1	8236.96363	0
treat	2	54.99818	0

Dunnnett test

```
##
##  Dunnnett's test for comparing several treatments with a control :
##    95% family-wise confidence level
##
## $control
##           diff      lwr.ci   upr.ci    pval
## etileno-control  8.441727  0.9590189 15.92444 0.0242 *
## 1MCP-control    -18.573364 -26.0560721 -11.09066 2.8e-07 ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Tukey test

```
## $emmeans
## treat      emmean      SE    df  lower.CL  upper.CL
## control 105.39773 2.978179 46.91  99.40611 111.38936
## etileno 113.83946 2.543663 46.93 108.72208 118.95684
## 1MCP     86.82437 1.216790 47.00  84.37650  89.27224
```

```
##
## Degrees-of-freedom method: satterthwaite
## Results are given on the ( (not the response) scale.
## Confidence level used: 0.95
##
## $contrasts
##      contrast      estimate      SE    df t.ratio p.value
## control - etileno -8.441727 3.916602 91.74  -2.155  0.0845
## control - 1MCP    18.573364 3.217162 62.16   5.773 <.0001
## etileno - 1MCP    27.015091 2.819716 67.34   9.581 <.0001
##
## Note: contrasts are still on the ( scale
## Degrees-of-freedom method: satterthwaite
## P value adjustment: tukey method for comparing a family of 3 estimates
```

Lab coordinates Correlations

a vs. *L*

```
## [1] 0.5010638
```

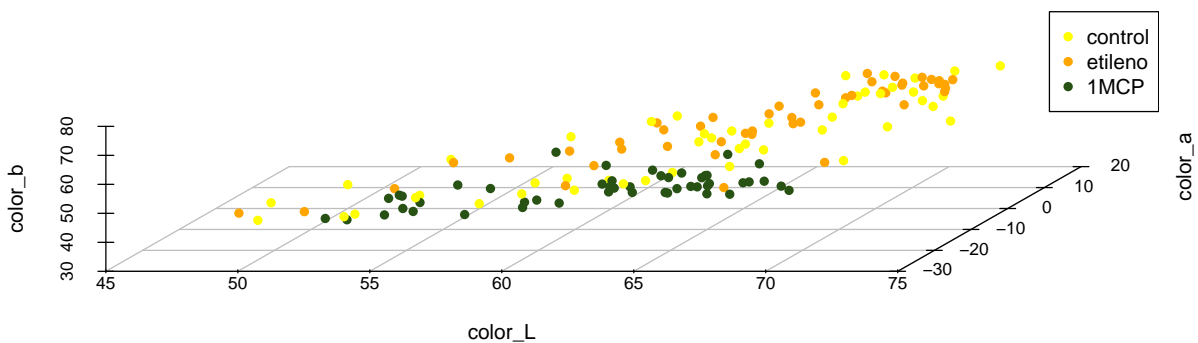
a vs. *b*

```
## [1] 0.6440063
```

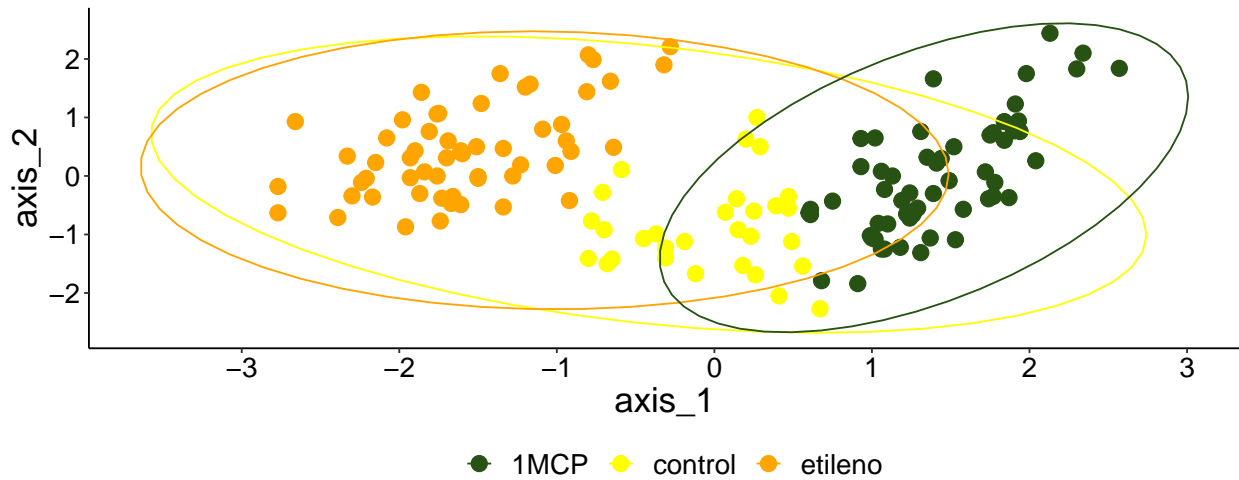
L vs. *b*

```
## [1] 0.8156287
```

Color correlation



Discriminant Analysis



Multiple Response Permutation Procedure (MRPP)

```
##
## Call:
## mrpp(dat = datos, grouping = grp, permutations = 999, distance = "bray",      weight.type = 1)
##
## Dissimilarity index: bray
## Weights for groups:  n
##
## Class means and counts:
##
##      1      2      3
## delta 0.1387 0.1047 0.08474
## n      48      48      48
##
## Chance corrected within-group agreement A: 0.1805
## Based on observed delta 0.1094 and expected delta 0.1335
##
## Significance of delta: 0.001
## Permutation: free
## Number of permutations: 999
```