

GST酶活

Dependencies

```
library(ggplot2)
library(tidyverse)
```

Load data

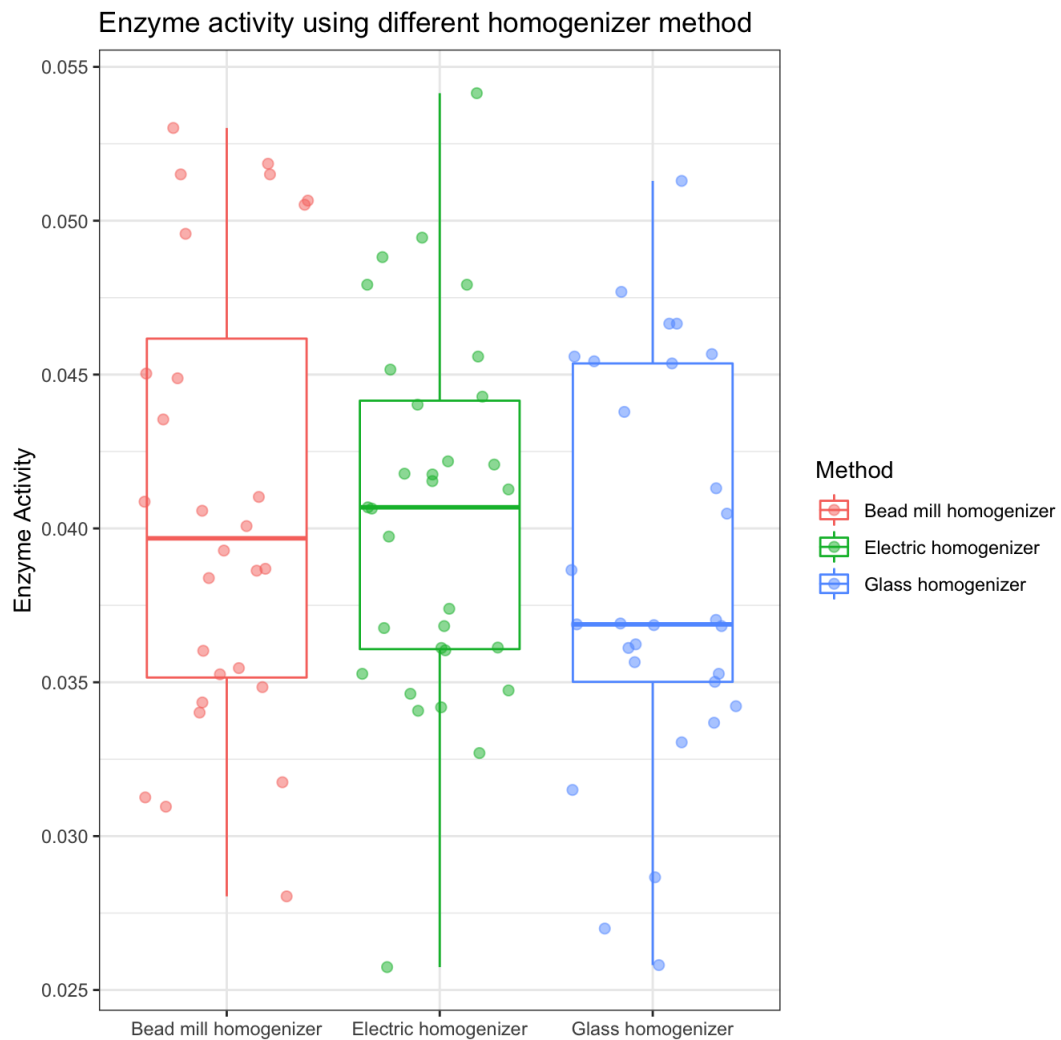
```
enzyme_activity_data <- read.csv("./result-Total.csv")
DT::datatable(enzyme_activity_data)
```

```
homogenizer <- enzyme_activity_data %>% filter(Method_Group == 0)
DT::datatable(homogenizer)
```

```
pH <- enzyme_activity_data %>% filter(Method_Group == 1)
DT::datatable(pH)
```

Plot and ANOVA

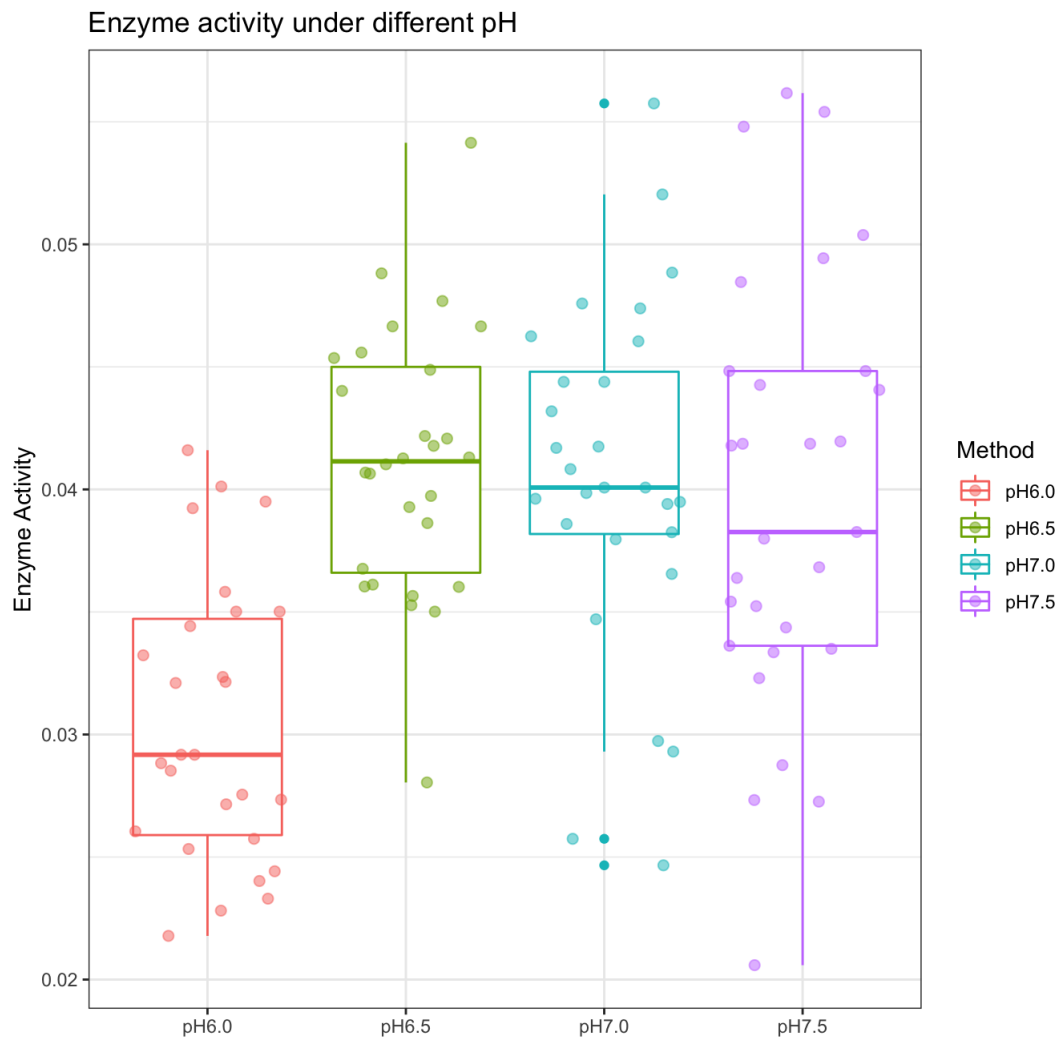
```
set.seed(1)
ggplot(homogenizer, aes(x = Method, y = Enzyme_Activity_avg, color = Method))
+
  geom_boxplot()
+
  geom_jitter(size = 2, alpha = 0.5)
+
  labs(x = "", y = "Enzyme Activity", title = "Enzyme activity using different homogenizer method")
+
  theme_bw()
+
  theme
(
  axis.title.x = element_text(angle = -25, vjust = 0.5)
)
)
```



```
summary(aov(Enzyme_Activity_avg ~ Method, data = homogenizer))
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Method	2	0.000086	4.321e-05	0.985	0.378
Residuals	85	0.003729	4.387e-05		

```
ggplot(pH, aes(x = Method, y = Enzyme_Activity_avg, color = Method))
+
  geom_boxplot()
+
  geom_jitter(size = 2, alpha = 0.5)
+
  labs(x = "", y = "Enzyme Activity", title = "Enzyme activity under different pH")
+
  theme_bw()
)
```



```
summary(aov(Enzyme_Activity_avg ~ Method, data = pH))
```

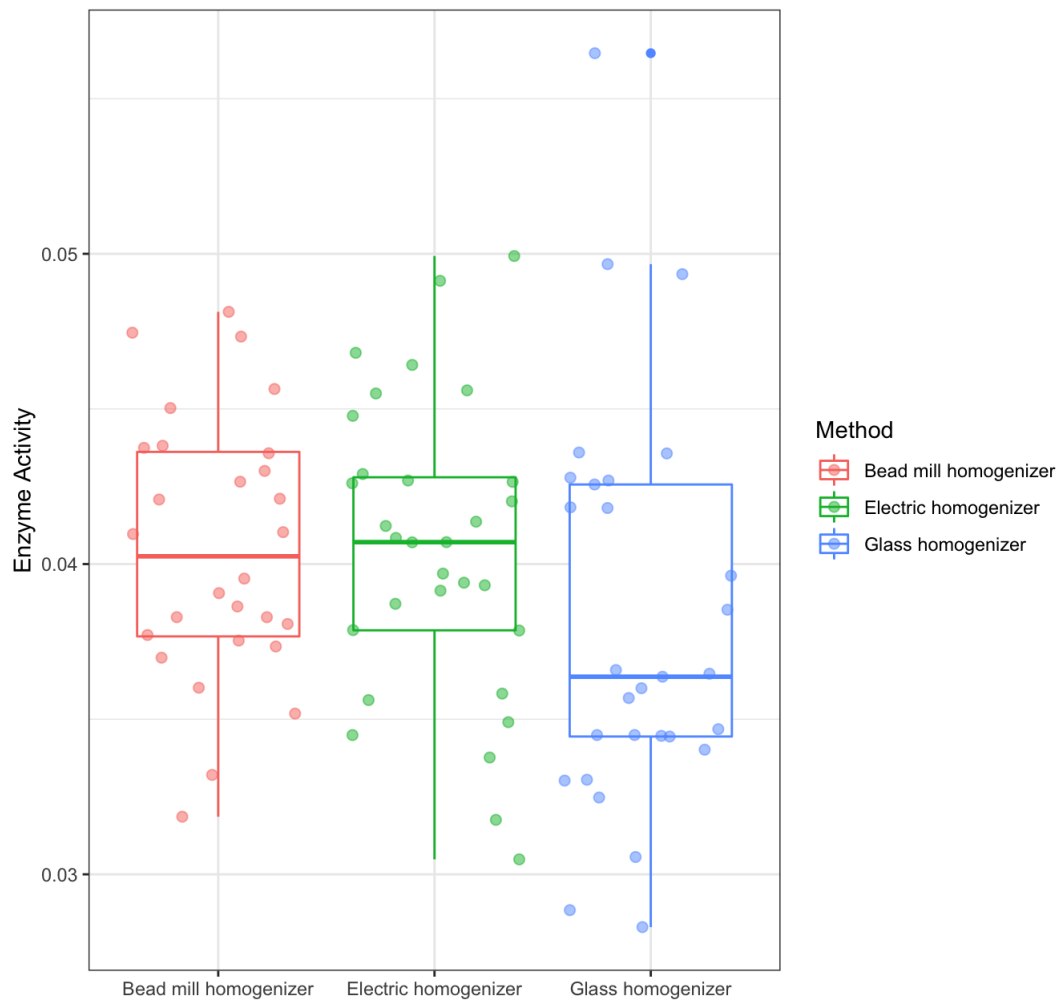
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Method	3	0.002077	0.0006923	14.28	6.69e-08 ***
Residuals	108	0.005238	0.0000485		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Using the normalized data

```
ggplot(homogenizer, aes(x = Method, y = Enzyme_Activity_avg_norm, color = Method))
+
  geom_boxplot()
+
  geom_jitter(size = 2, alpha = 0.5)
+
  labs(x = "", y = "Enzyme Activity", title = "Enzyme activity using different homogenizer normalize")
+
  theme_bw()
+
  theme
(
  axis.title.x = element_text(angle = -25, vjust = 0.5)
)
)
```

Enzyme activity using different homogenizer normalized

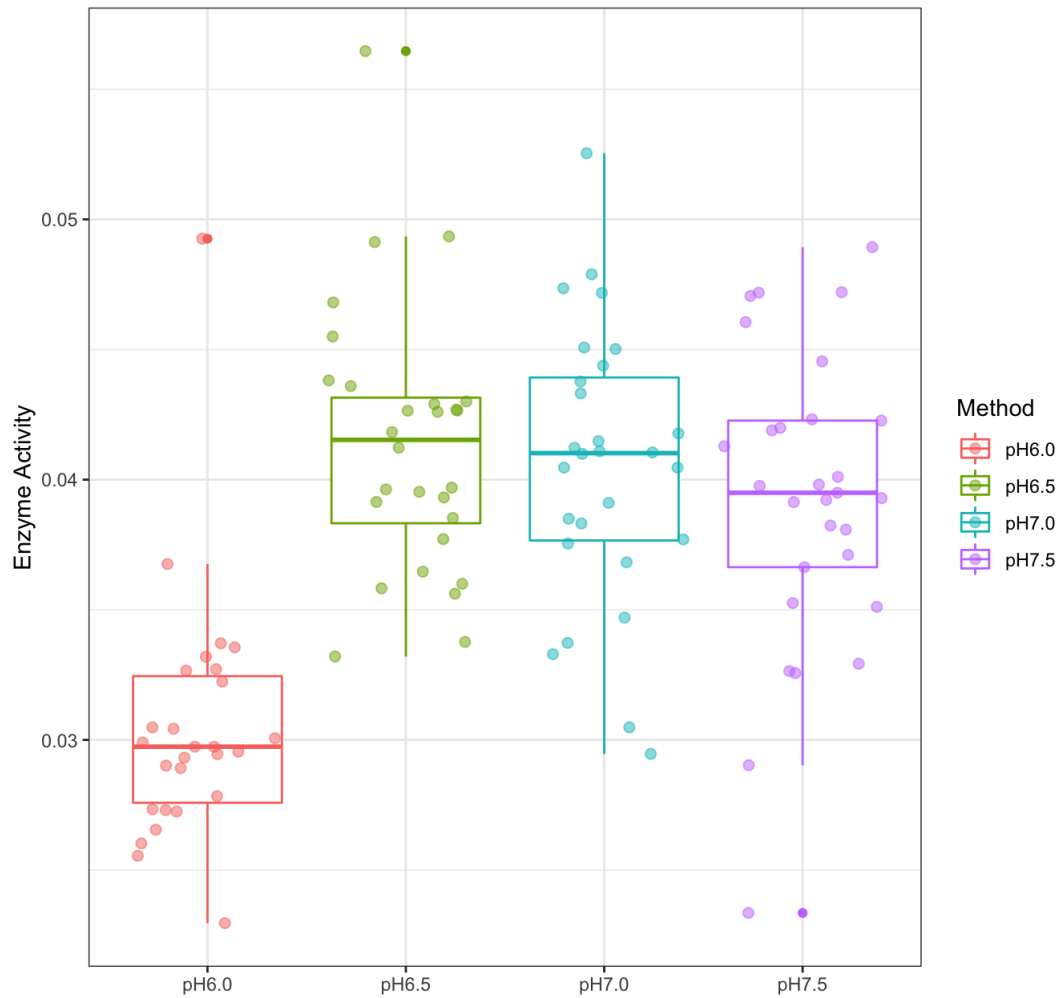


```
summary(aov(Enzyme_Activity_avg_norm ~ Method, data = homogenizer))
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Method	2	0.0001064	5.321e-05	1.929	0.152
Residuals	85	0.0023449	2.759e-05		

```
ggplot(pH, aes(x = Method, y = Enzyme_Activity_avg_norm, color = Method))
+
  geom_boxplot()
+
  geom_jitter(size = 2, alpha = 0.5)
+
  labs(x = "", y = "Enzyme Activity", title = "Enzyme activity under different pH")
+
  theme_bw()
)
```

Enzyme activity under different pH



```
summary(aov(Enzyme_Activity_avg_norm ~ Method, data = pH))
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Method	3	0.002093	0.0006978	25.22	1.92e-12 ***
Residuals	108	0.002988	0.0000277		

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