Figure-5K.R

sokole

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```
# This Script Generates Figure 5K
# Script By: Eishani Kumar Sokolowski

# Empty the environment & suppress warnings
rm(list = ls())
options(warn=-1)

# Loading libraries
library(tidyverse)
```

```
## ── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──
## ✔ dplyr     1.1.4     ✔ readr     2.1.5
## ✔ forcats   1.0.0     ✔ stringr   1.5.1
## ✔ ggplot2   3.5.1     ✔ tibble    3.2.1
## ✔ lubridate 1.9.3     ✔ tidyr     1.3.1
## ✔ purrr     1.0.2
## ── Conflicts ────────────────────────────────────────── tidyverse_conflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts
to become errors
```

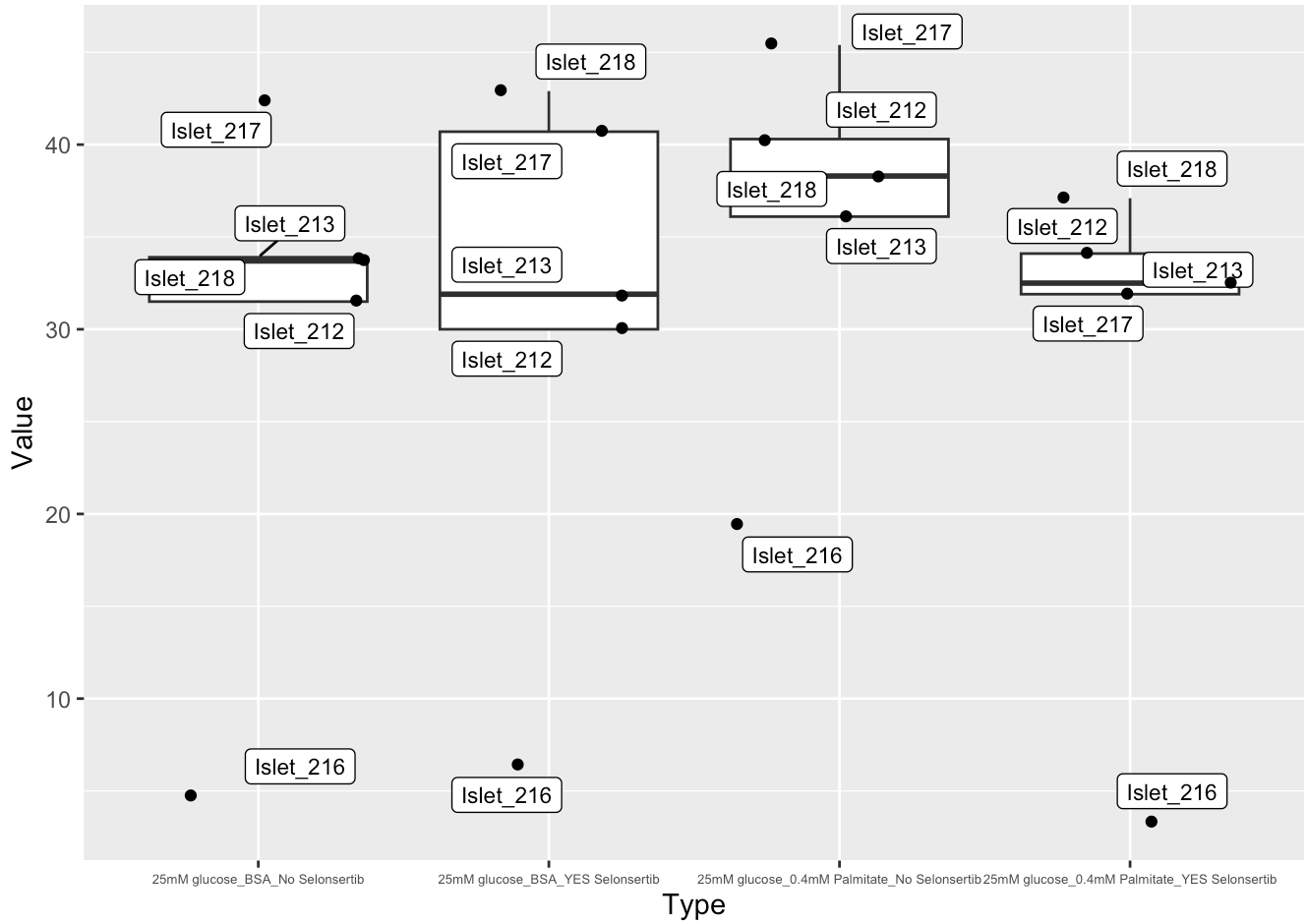
```
library(ggplot2)
library(ggrepel)
library(ggpubr)
library(data.table)
```

```
##
## Attaching package: 'data.table'
##
## The following objects are masked from 'package:lubridate':
##
##     hour, isoweek, mday, minute, month, quarter, second, wday, week,
##     yday, year
##
## The following objects are masked from 'package:dplyr':
##
##     between, first, last
##
## The following object is masked from 'package:purrr':
##
##     transpose
```

```
library(dplyr)
library(ggpubr)
library(rstatix)
```

```
##
## Attaching package: 'rstatix'
##
## The following object is masked from 'package:stats':
##
##     filter
```

```
# Loading file
df <- read.csv("./New_FACS_Data_3_June_2024.csv")
df <- as.data.frame(melt(df, id=c("Islet")))

# Editing text
df$variable <- gsub("X","",df$variable)
df$variable <- gsub("\\.","+",df$variable)
df$variable <- gsub("\\++","+",df$variable)
df$variable <- gsub("No\\+","No ",df$variable)
df$variable <- gsub("YES\\+","YES ",df$variable)
df$variable <- gsub("0\\+4mM\\+","0.4mM ",df$variable)
df$variable <- gsub("5\\+6mM\\+","5.6mM ",df$variable)
df$variable <- gsub("25mM\\+","25mM ",df$variable)
df$variable <- gsub("\\+","_",df$variable)

# As numeric
df$value <- as.numeric(df$value)

# Renaming
colnames(df) <- c("Islet","Type","Value")

# Factor levels
df$Type <- factor(df$Type, levels = c("25mM glucose_BSA_No Selonsertib",
                                      "25mM glucose_BSA_YES Selonsertib",
                                      "25mM glucose_0.4mM Palmitate_No Selonsertib",
                                      "25mM glucose_0.4mM Palmitate_YES Selonsertib"))

# Plotting dot-and-boxplot
ggplot(df, aes(x=Type, y=Value, label = Islet))+
  geom_boxplot(outlier.color=NA) +
  geom_label_repel(size=3) + geom_jitter() + theme(axis.text.x = element_text(angle = 0,
size = 5))
```


Islet_217
Islet_213
Islet_218
Islet_212
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Islet_217
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Islet_218
Islet_213
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Islet_213
Islet_217
Islet_216
40
30
20
10
Value
25mM glucose_BSA_No Selonsertib
25mM glucose_BSA_YES Selonsertib
25mM glucose_0.4mM Palmitate_No Selonsertib
25mM glucose_0.4mM Palmitate_YES Selonsertib
Type