

```
pdf("Results/PCA_plot.pdf")  
ggplot(pca_data, aes(PC1, PC2, color = Group)) +  
  geom_point(size = 3) +  
  theme_minimal() +  
  ggtitle("PCA After Normalization")  
dev.off()
```

```
pdf("Results/Boxplot_After_Normalization.pdf")  
boxplot(data.norm, main = "Boxplot After Normalization", las = 2, col = "lightblue")  
dev.off()
```