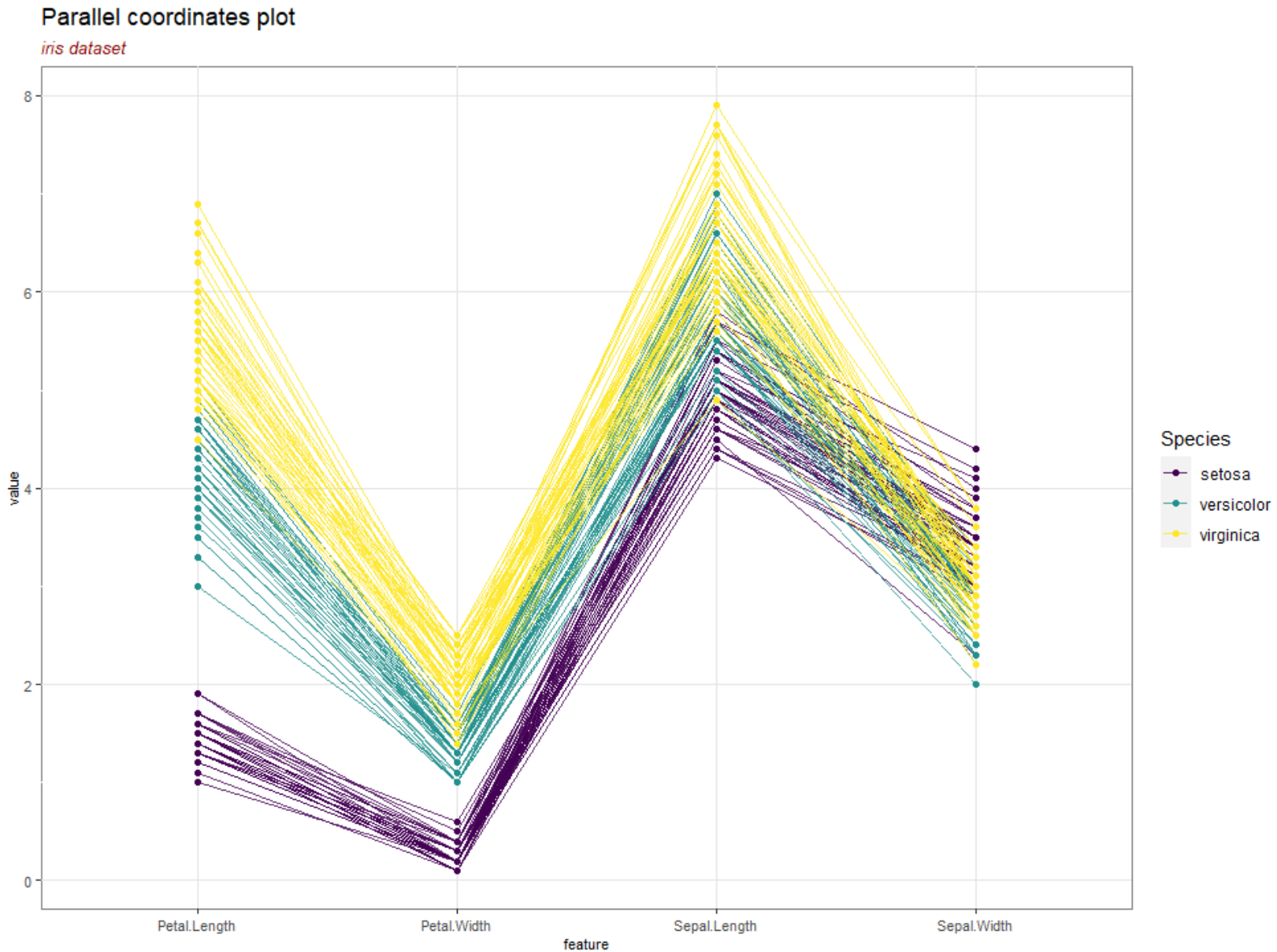
Parallel coordinates plot in R

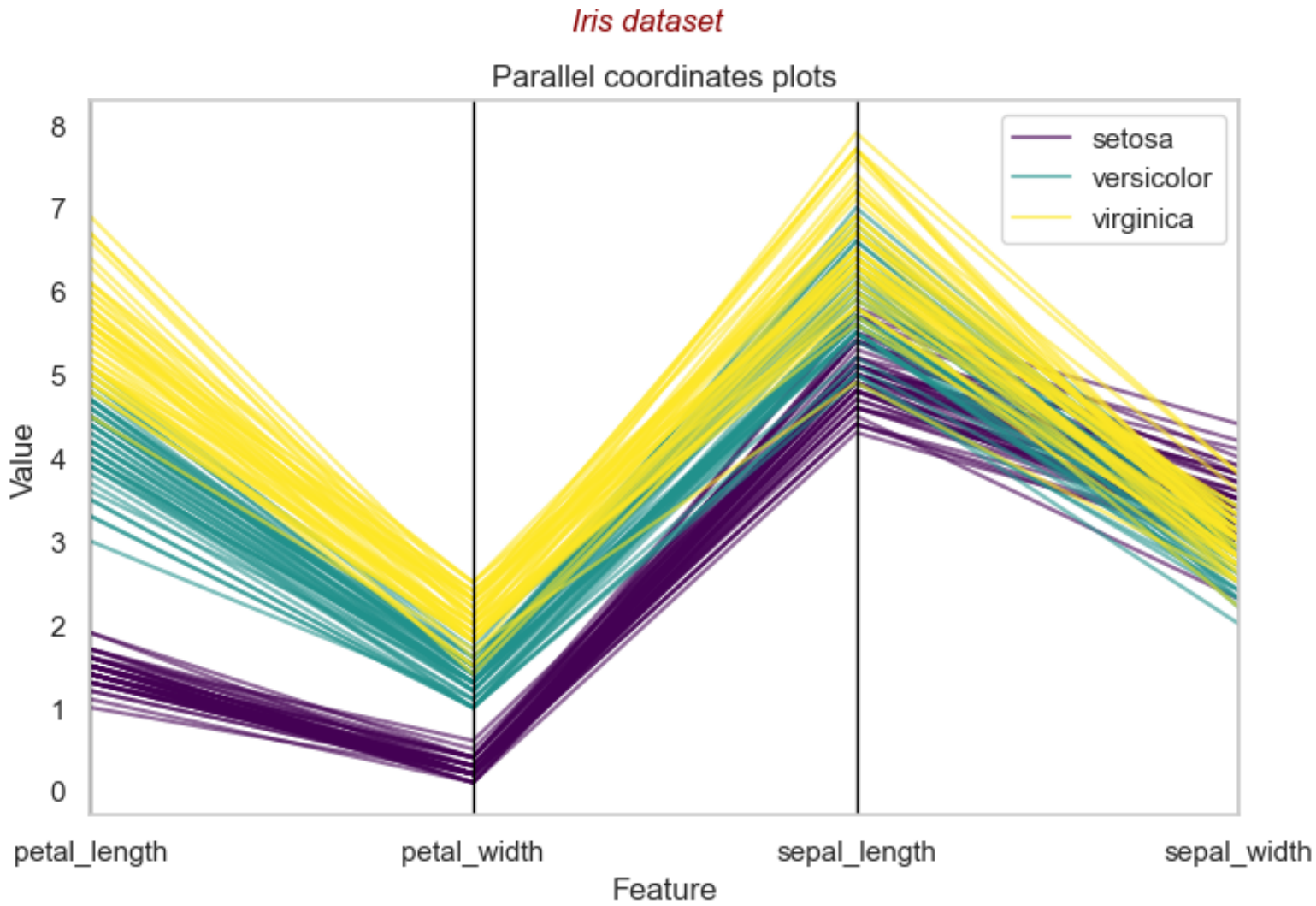


R code (original data)

```r
library(GGally)
library(viridis)
data(iris)

ggparcoord(iris, columns = 1:4, groupColumn = 5, order = "anyClass",
           showPoints = TRUE, alphaLines = 0.8, scale="globalminmax",
           title = "No scaling") +
  labs(title = 'Parallel coordinates plot',
       subtitle = 'iris dataset',
       y="value", x="feature") +
  scale_color_viridis(discrete=TRUE) +
  theme(axis.text=element_text(size=8),
        axis.title=element_text(size=8),
        plot.subtitle=element_text(size=10, face="italic", color="darkred"),
        panel.background = element_rect(fill = "white", colour = "grey50"),
        panel.grid.major = element_line(colour = "grey90"))
```

Parallel coordinates plot in Python



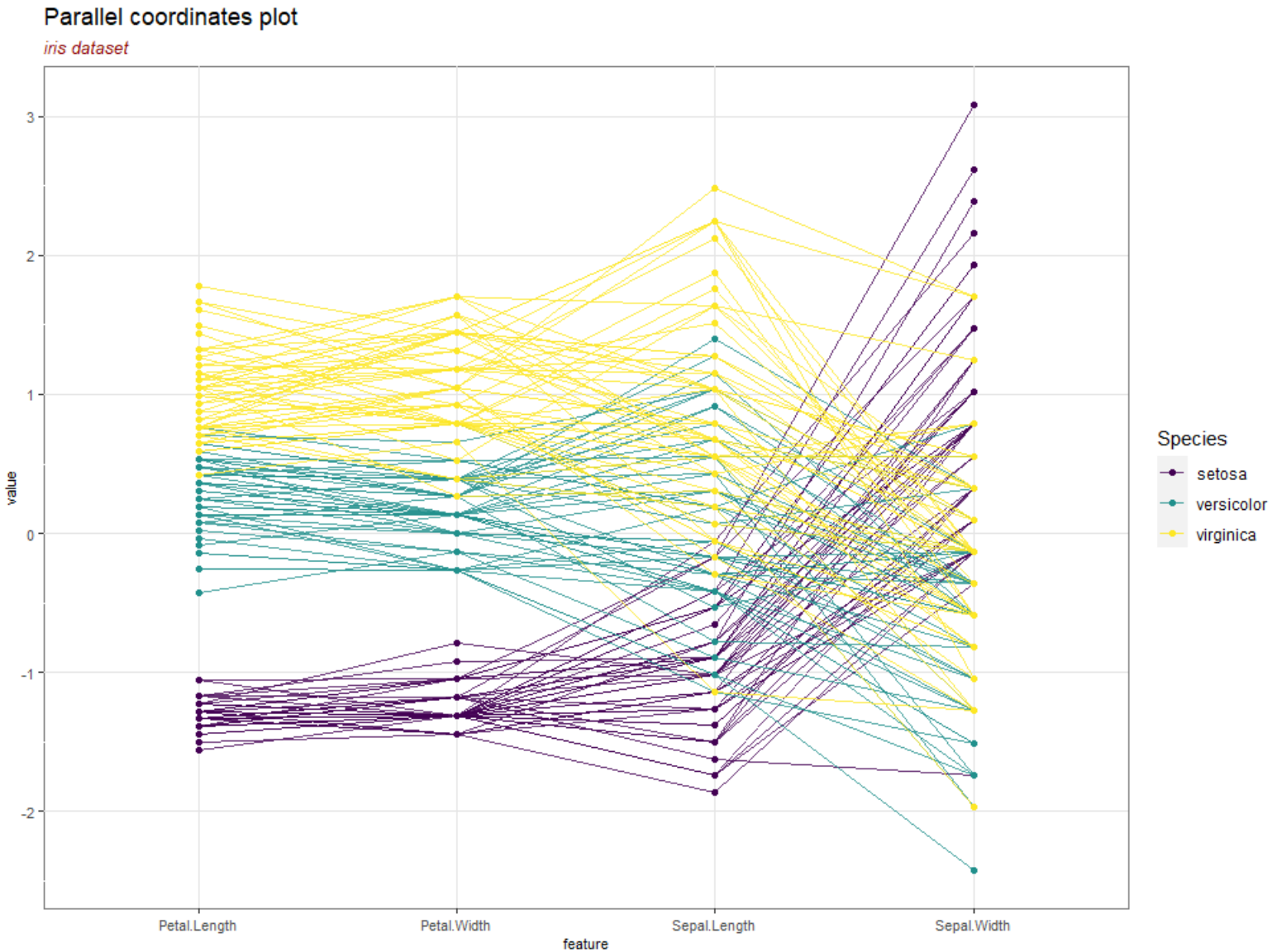
Python code (original data)

```python
import pandas as pd
import matplotlib.pyplot as plt
from pandas.plotting import parallel_coordinates

# Load the Iris dataset
iris = sns.load_dataset("iris")
iris = iris[['petal_length', 'petal_width', 'sepal_length', 'sepal_width', '
    species']]

# Create a parallel coordinates plot with line transparency
plt.figure(figsize=(8, 5))
parallel_coordinates(iris, "species", colormap='viridis', alpha=0.6)  # Adjust
    alpha here
plt.title("Parallel coordinates plots")
plt.suptitle("Iris dataset", fontsize=12, fontstyle='italic', color='darkred')
plt.xlabel("Feature")
plt.ylabel("Value")
plt.show()
```

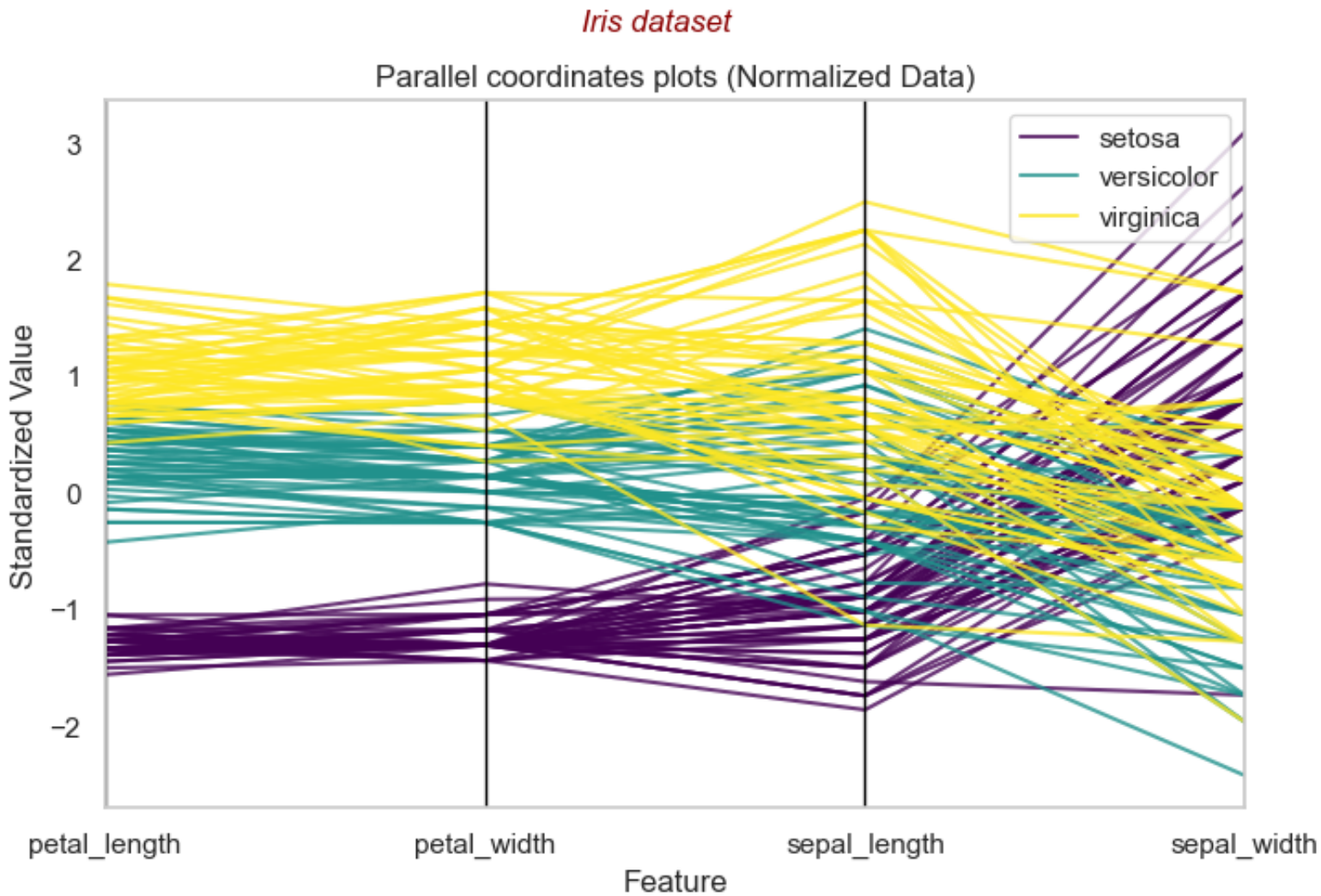
Parallel coordinates plot in R



R code (normalized data)

```r
ggparcoord(iris, columns = 1:4, groupColumn = 5, order = "anyClass",
           showPoints = TRUE, alphaLines = 0.8) +
  labs(title = 'Parallel coordinates plot',
       subtitle = 'iris dataset',
       y="value", x="feature") +
  scale_color_viridis(discrete=TRUE) +
  theme(axis.text=element_text(size=8),
        axis.title=element_text(size=8),
        plot.subtitle=element_text(size=10, face="italic", color="darkred"),
        panel.background = element_rect(fill = "white", colour = "grey50"),
        panel.grid.major = element_line(colour = "grey90"))
```

Parallel coordinates plot in Python



Python code (normalized data)

```
1 import pandas as pd
2 import matplotlib.pyplot as plt
3 from pandas.plotting import parallel_coordinates
4 from sklearn.preprocessing import StandardScaler
5
6 # Normalize the numerical columns (petal length, petal width, sepal length,
      sepal width)
7 scaler = StandardScaler()
8 iris[['petal_length', 'petal_width', 'sepal_length', 'sepal_width']] = scaler.
      fit_transform(iris[['petal_length', 'petal_width', 'sepal_length', '
      sepal_width']])
9
10 # Create a parallel coordinates plot with line transparency
11 plt.figure(figsize=(8, 5))
12 parallel_coordinates(iris, "species", colormap='viridis', alpha=0.8)
13 plt.title("Parallel coordinates plots (Normalized Data)")
14 plt.suptitle("Iris dataset", fontsize=12, fontstyle='italic', color='darkred')
15 plt.xlabel("Feature")
16 plt.ylabel("Standardized Value")  # Adjust the ylabel to reflect normalization
17 plt.show()
```