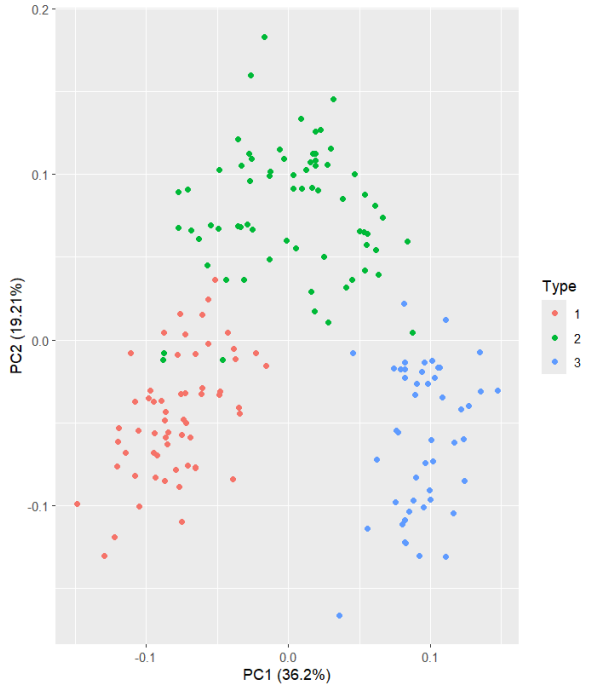
1st and 2nd PC plot:



All Variables:

	PC1	PC2
Alcohol	-0.144329395	-0.483651548
Malic acid	0.245187580	-0.224930935
Ash	0.002051061	-0.316068814
Alcalinity of ash	0.239320405	0.010590502
Magnesium	-0.141992042	-0.299634003
Total phenols	-0.394660845	-0.065039512
Flavanoids	-0.422934297	0.003359812
Nonflavanoid Phenols	0.298533103	-0.028779488
Proanthocyanins	-0.313429488	-0.039301722
Color Intensity	0.088616705	-0.529995672
Hue	-0.296714564	0.279235148
Od280/od315 of diluted wines	-0.376167411	0.164496193
Proline	-0.286752227	-0.364902832

Most significant PC1 variable: Flavanoids
Most significant PC2 variable: Color intensity

Tables:

```
> # Original variables model
> table(knn_pred, test_labels)
        test_labels
knn_pred  1  2  3
       1 19  2  1
       2  0 14  5
       3  1  6  6
> # PCA model
> table(knn_pca_pred, test_labels)
           test_labels
knn_pca_pred  1  2  3
          1 20  1  0
          2  0 21  0
          3  0  0 12
```

Metrics:

```
> # Original variables metrics
> metrics(knn_pred, test_labels)
  Precision    Recall        F1
1 0.8636364 0.9500000 0.9047619
2 0.7368421 0.6363636 0.6829268
3 0.4615385 0.5000000 0.4800000
> # PCA model metrics
> metrics(knn_pca_pred, test_labels)
  Precision    Recall        F1
1  0.952381 1.0000000 0.9756098
2  1.000000 0.9545455 0.9767442
3  1.000000 1.0000000 1.0000000
```