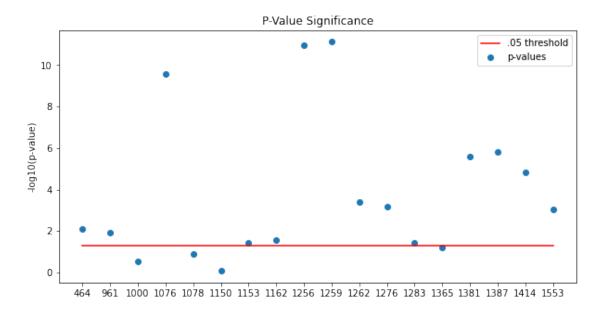
# report\_executed

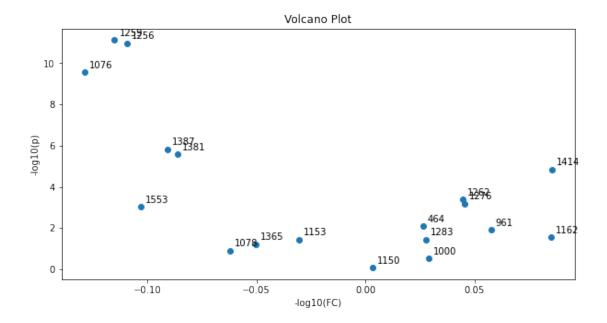
July 14, 2021

### 1 Statistics

T-test

3.8.8

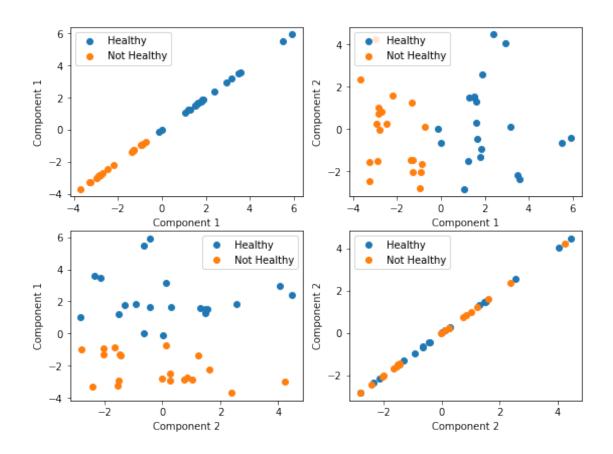




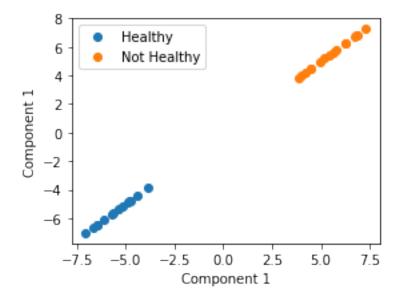
#### 2 Dimension-Reduction

PCA, LDA

PCA Projections
Projections of data into latent space.
Data is colored by response

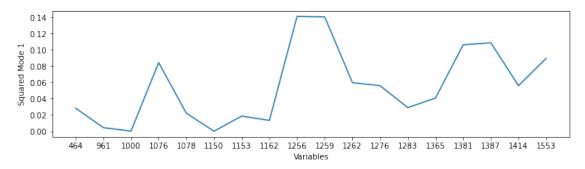


LDA Projections
Projections of data into latent space.
Data is colored by response

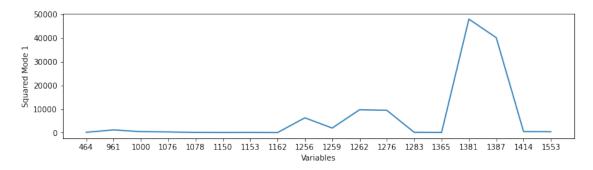


#### PCA Vectors

Plotting the squared loadings of the latent space transformation vectors A Larger magnitude indicates larger importance for corresponding feature



LDA Vectors
Plotting the squared loadings of the latent space transformation vectors
A Larger magnitude indicates larger importance for corresponding feature

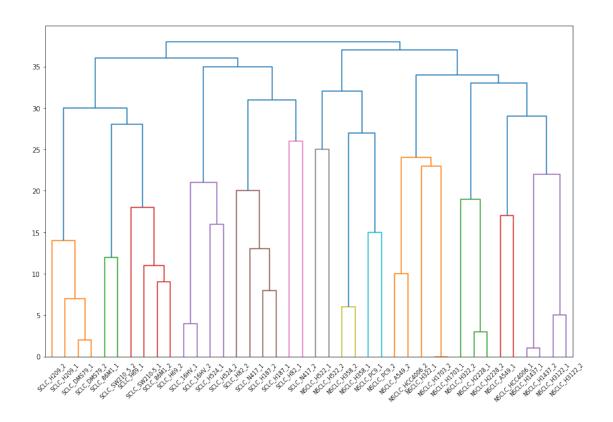


#### 3 Clustering

K-means, hierarchical,

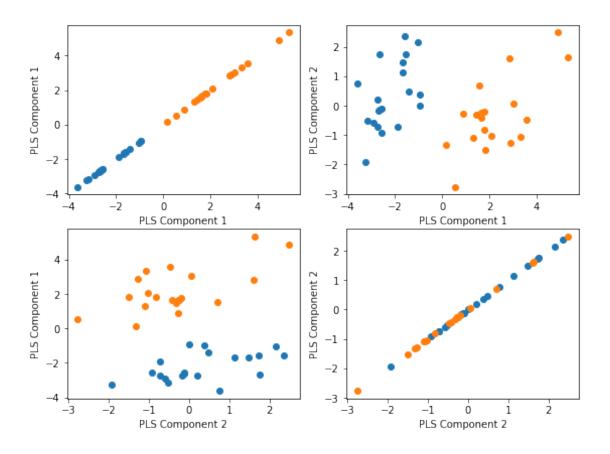
	Cluster 1	Cluster 2	Cluster 3
0	SCLC_86M1_2	NSCLC_A549_1	SCLC_16HV_1
1	SCLC_86M1_1	NSCLC_H1703_2	SCLC_16HV_2
2	SCLC_DMS79_1	NSCLC_H1703_1	SCLC_H187_2
3	SCLC_DMS79_2	NSCLC_A549_2	SCLC_H187_1
4	SCLC_H209_1	NSCLC_H1437_1	SCLC_H524_1
5	SCLC_H209_2	NSCLC_H2228_1	SCLC_H524_2
6	SCLC_H69_1	NSCLC_H2228_2	SCLC_H82_1
7	SCLC_H69_2	NSCLC_H1437_2	SCLC_H82_2
8	SCLC_SW210-5_1	NSCLC_H3122_1	SCLC_N417_2

9 10 11 12 13 14	NaN NaN NaN NaN NaN	NSCLC_H322_2 NSCLC_H322_1 NSCLC_H358_2 NSCLC_H3122_2 NSCLC_H522_1 NSCLC_H522_2	SCLC_N417_1 SCLC_SW210_5_2 NaN NaN NaN NaN
15	NaN	NSCLC_HCC4006_1	NaN
16	NaN	NSCLC_H358_1	NaN
17	NaN	NSCLC_PC9_1	NaN
18	NaN	NSCLC_PC9_2	NaN
19	NaN	NSCLC_HCC4006_2	NaN
•	Cluster 1	Cluster 2	Cluster 3
0	SCLC_86M1_2	NSCLC_A549_1	
1	SCLC_86M1_1	NSCLC_H1703_2	
2	SCLC_16HV_1	NSCLC_H1703_1	NSCLC_H522_2
3	SCLC_16HV_2	NSCLC_A549_2	NSCLC_H358_1
4	SCLC_DMS79_1	NSCLC_H1437_1	NSCLC_PC9_1
5	SCLC_DMS79_2	NSCLC_H2228_1	
6	SCLC_H187_2	NSCLC_H2228_2	NaN
7	SCLC_H187_1	NSCLC_H1437_2	NaN
8	SCLC_H209_1	NSCLC_H3122_1	NaN
9	SCLC_H524_1	NSCLC_H322_2	NaN
10	SCLC_H209_2	NSCLC_H322_1	NaN
11	SCLC_H524_2	NSCLC_H3122_2	NaN
12	SCLC_H69_1	NSCLC_HCC4006_1	NaN
13	SCLC_H82_1	NSCLC_HCC4006_2	NaN
14	SCLC_H82_2	NaN	NaN
15	SCLC_H69_2	NaN	NaN
16	SCLC_N417_2	NaN	NaN
17	SCLC_N417_1	NaN	NaN
18	SCLC_SW210-5_1	NaN	NaN
19	SCLC_SW210_5_2	NaN	NaN



### 4 Classification

PLS-DA, SVM, random forests, logstic regression



SVM Validated Parameters: {'kernel': 'linear', 'shrinking': True}

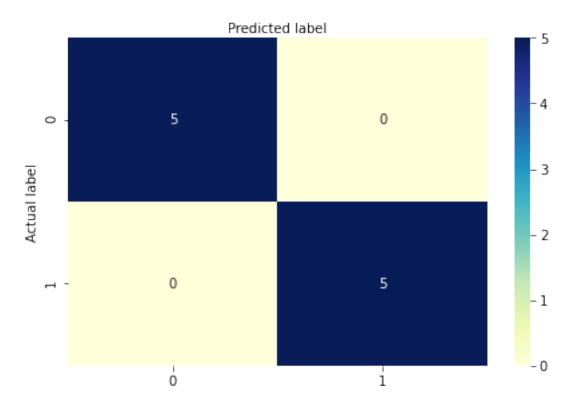
Random Forest Validated Parameters: {'criterion': 'gini', 'n\_estimators': 50}

SVM: R^2=1.0 Q^2=1.0 RF: R^2=1.0 Q^2=1.0

Accuracy: 1.0

 $\verb|\coloredge | classification.Classification | object | at | 0x7fb0a872f790> | classification | object | at | 0x7fb0a872f790> | classification | object | at | 0x7fb0a872f790> | classification | object | objec$ 

## Confusion matrix



# 5 Regression

Linear regression

