PCA exercise

The figure plots the first two principal components of a time course experiment with sample groups 'Ctrl' and 'Sci' and the following timepoints: 0h, 2h, 8h, and 16h. There are 3 replicates of each.

1. What factors explain the variation represented by PC1 and PC2?

2. Do the sample groups separate well?

3. Do the replicates cluster together for each sample group?

4. Are there any outliers in the data?

5. Should we have any other concerns regarding the samples in the dataset?