

Ejercicio

There are 62 data points (tracks),

11 tracks from Abba, Beatles,

10 tracks from Eels,

8 tracks from Beethoven

6 tracks from Mozart,

13 tracks from Vivaldi and

3 tracks from Enya.

The variables are:

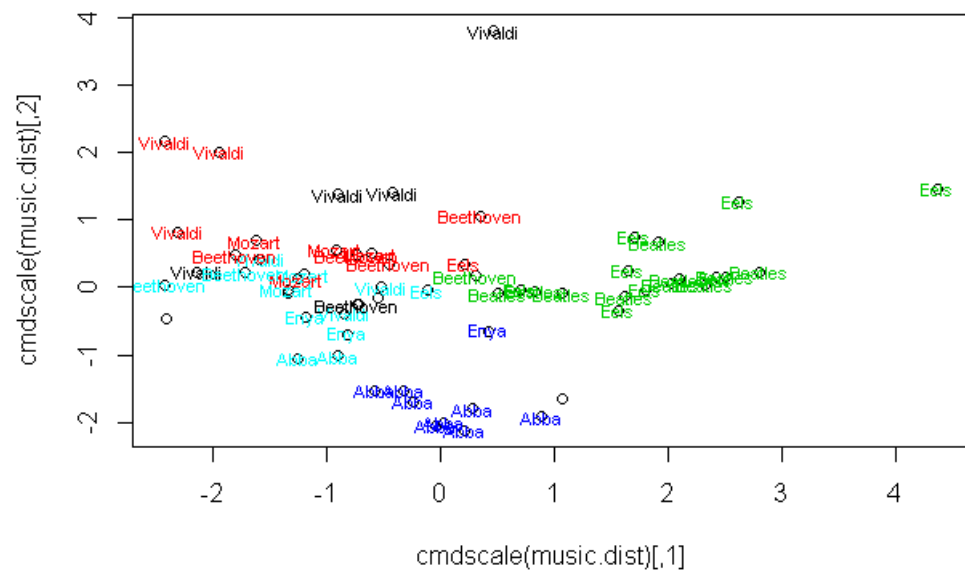
LVar, LAve, LMax the variance, average, maximum of the frequencies of the left channels

LFener an indicator of the amplitude or loudness of the sound.

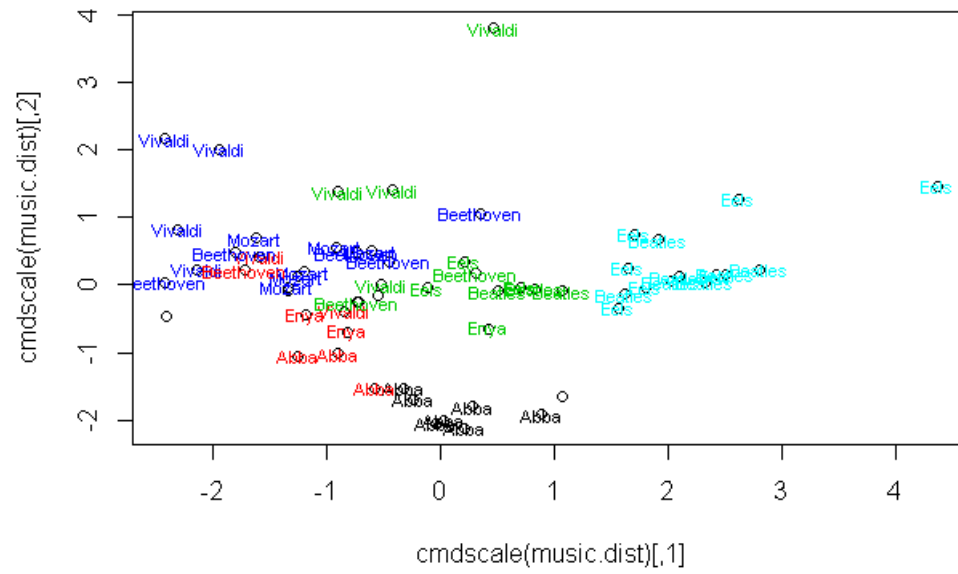
LFreq an average of the most common frequencies computed using the periodogram function.

```
> music[, 1:2]
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| | Artist | Type | | | |
|----------------------|---------|-----------|--------------------------|-----------|-----------|
| Dancing Queen | Abba | Rock | Girl | Eels | Rock |
| Knowing Me | Abba | Rock | Agony | Eels | Rock |
| Take a Chance | Abba | Rock | Rock Hard Times | Eels | Rock |
| Mamma Mia | Abba | Rock | Restraining | Eels | Rock |
| Lay All You | Abba | Rock | Lone Wolf | Eels | Rock |
| Super Trouper | Abba | Rock | Wrong About Bobby | Eels | Rock |
| I Have A Dream | Abba | Rock | Love Me Do | Beatles | Rock |
| The Winner | Abba | Rock | I Want to Hold Your Hand | Beatles | Rock |
| Money | Abba | Rock | Cant Buy Me Love | Beatles | Rock |
| SOS | Abba | Rock | I Feel Fine | Beatles | Rock |
| V1 | Vivaldi | Classical | Ticket to Ride | Beatles | Rock |
| V2 | Vivaldi | Classical | Help | Beatles | Rock |
| V3 | Vivaldi | Classical | Yesterday | Beatles | Rock |
| V4 | Vivaldi | Classical | Yellow Submarine | Beatles | Rock |
| V5 | Vivaldi | Classical | Eleanor Rigby | Beatles | Rock |
| V6 | Vivaldi | Classical | Penny Lane | Beatles | Rock |
| V7 | Vivaldi | Classical | B1 | Beethoven | Classical |
| V8 | Vivaldi | Classical | B2 | Beethoven | Classical |
| V9 | Vivaldi | Classical | B3 | Beethoven | Classical |
| V10 | Vivaldi | Classical | B4 | Beethoven | Classical |
| M1 | Mozart | Classical | B5 | Beethoven | Classical |
| M2 | Mozart | Classical | B6 | Beethoven | Classical |
| M3 | Mozart | Classical | B7 | Beethoven | Classical |
| M4 | Mozart | Classical | B8 | Beethoven | Classical |
| M5 | Mozart | Classical | The Memory of Trees | Enya | New wave |
| M6 | Mozart | Classical | Anywhere Is | Enya | New wave |
| All in a Days Work | Eels | Rock | Pax Deorum | Enya | New wave |
| Saturday Morning | Eels | Rock | 1 | <NA> | <NA> |
| The Good Old Days | Eels | Rock | 2 | <NA> | <NA> |
| Love of the Loveless | Eels | Rock | 3 | <NA> | <NA> |
| | | | 4 | <NA> | <NA> |
| | | | 5 | <NA> | <NA> |

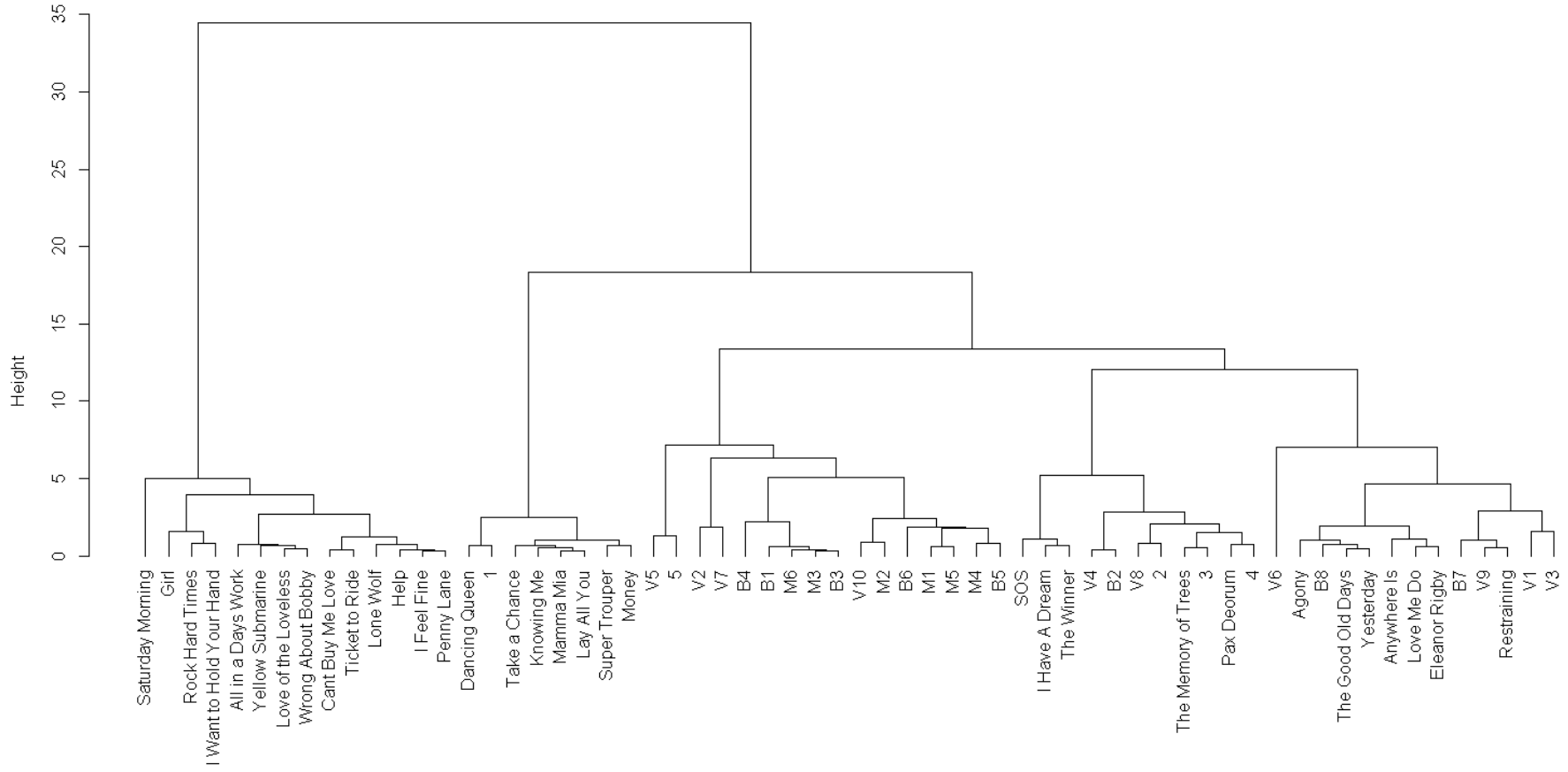


cluster con Kmeans



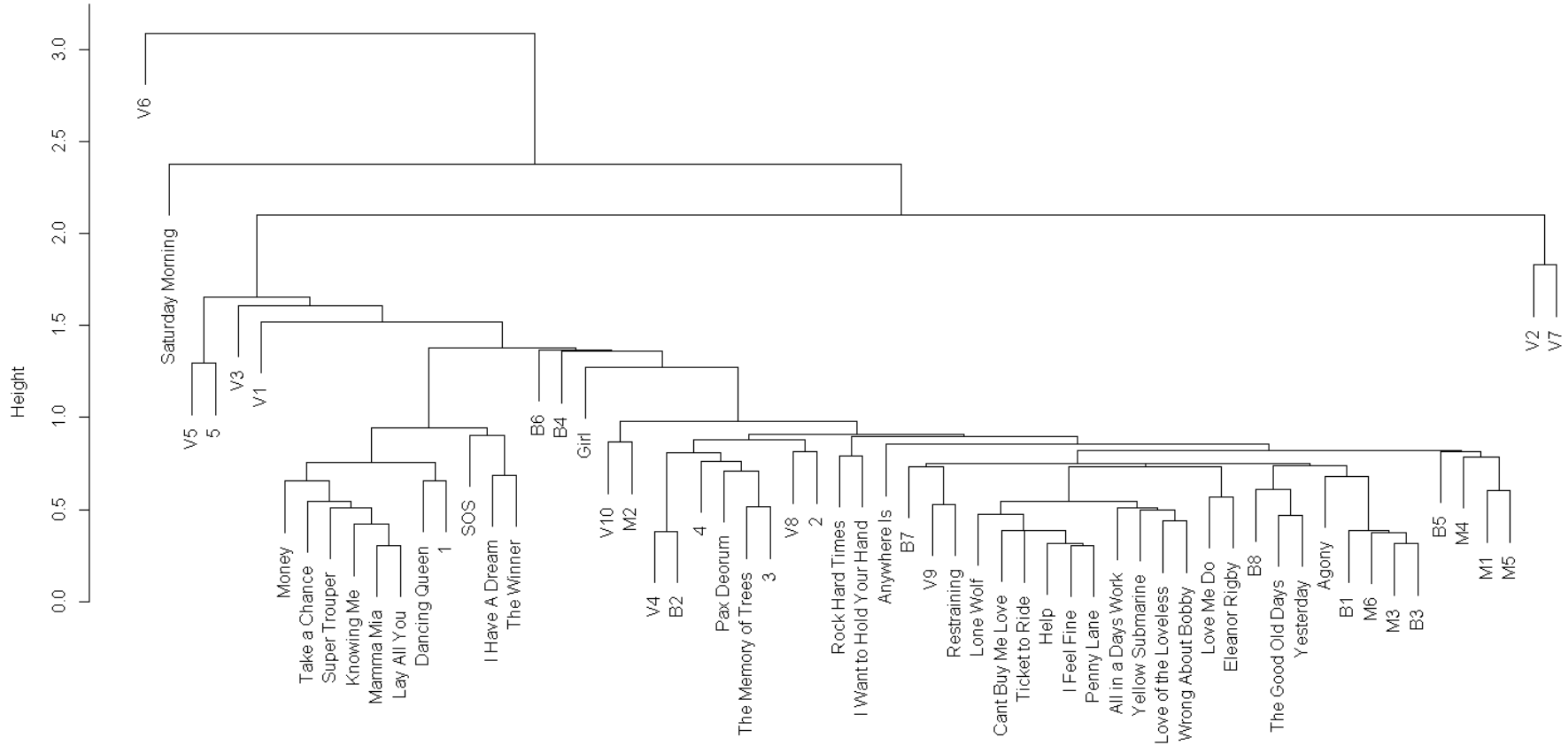
cluster jerarquico con liga Ward

Cluster Dendrogram



music.dist
hclust("ward")

Cluster Dendrogram



music.dist
hclust ("single")