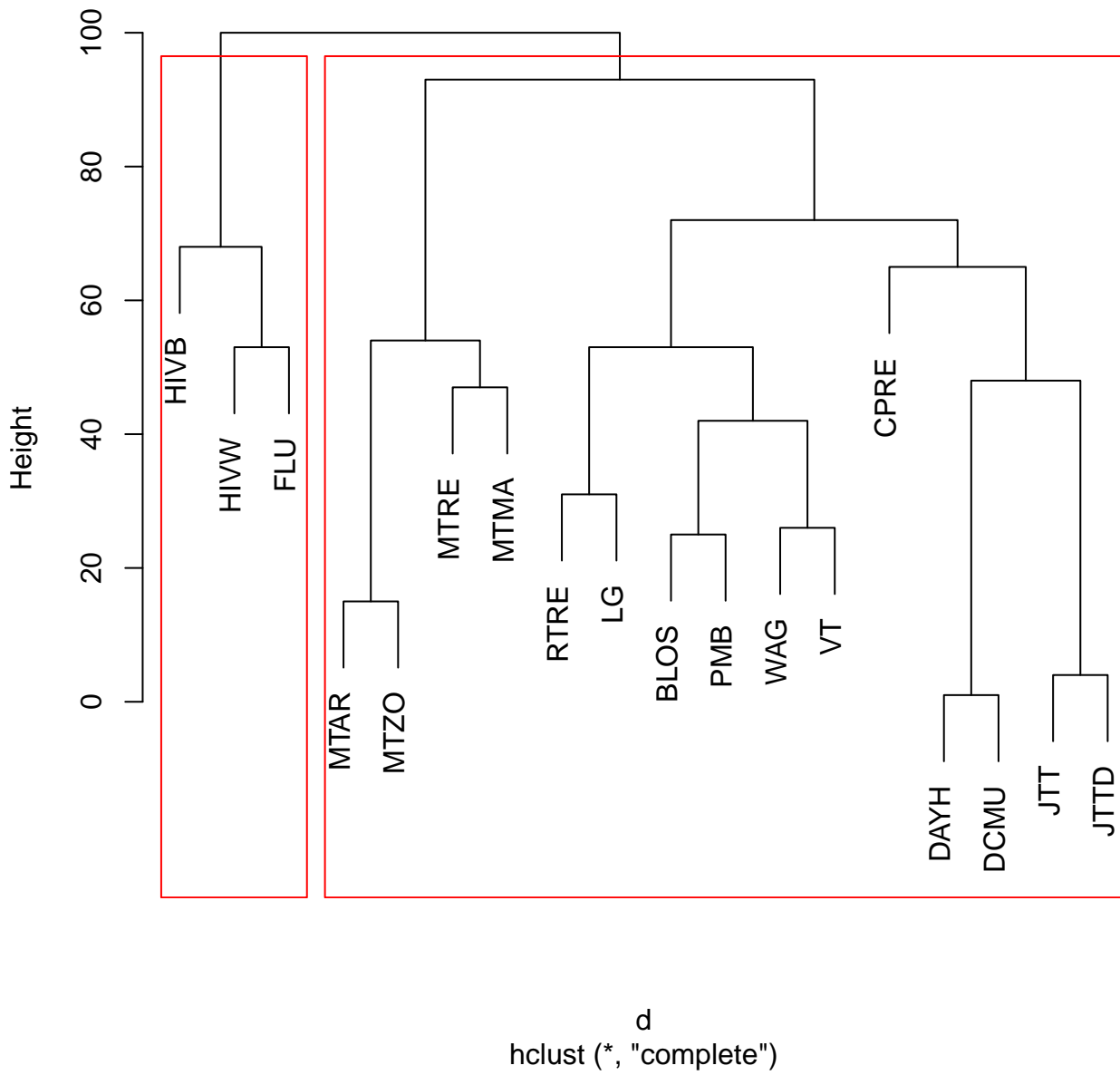


# Cluster Dendrogram (2 clusters)

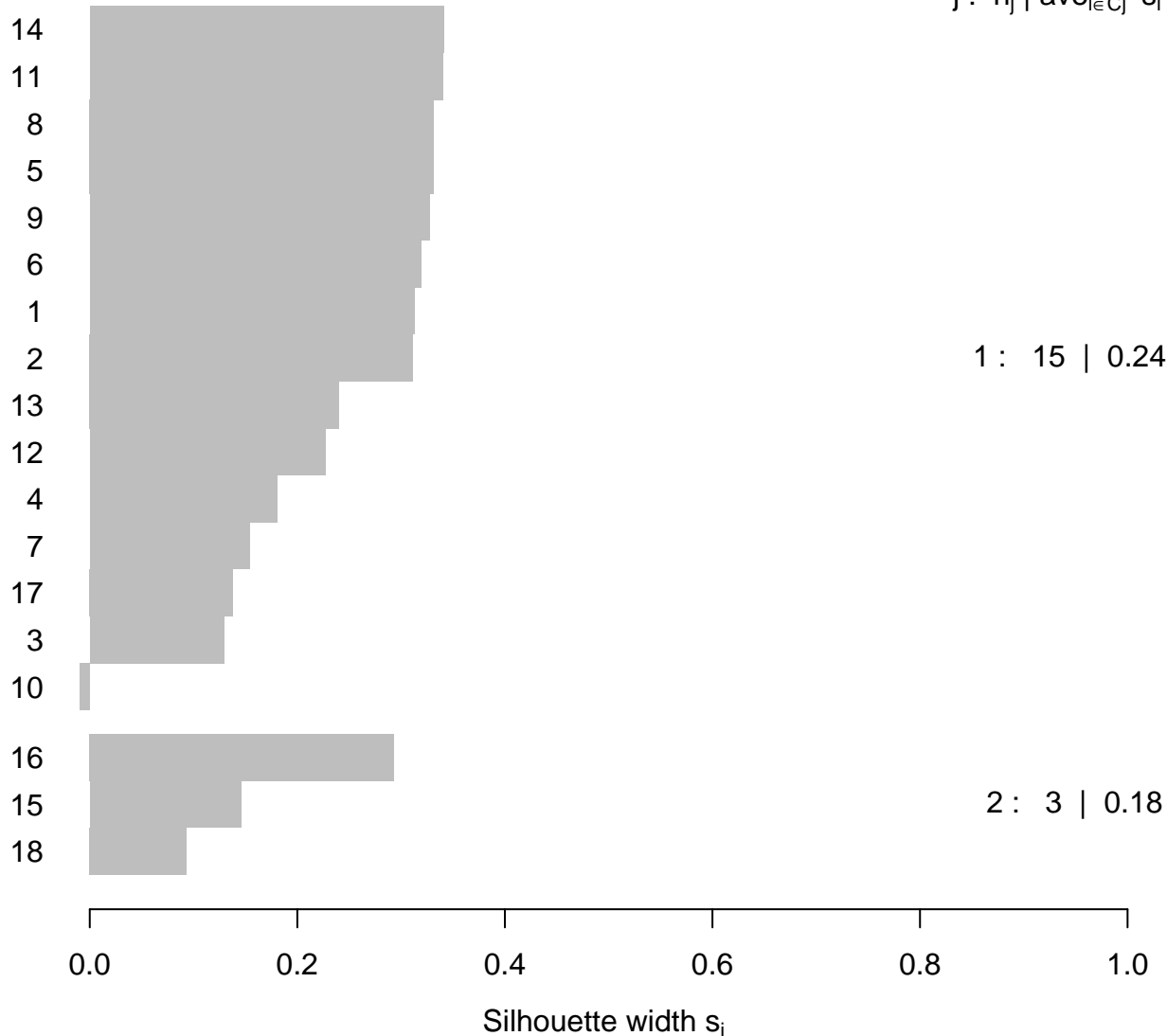


# Silhouette plot of 2 clusters

n = 18

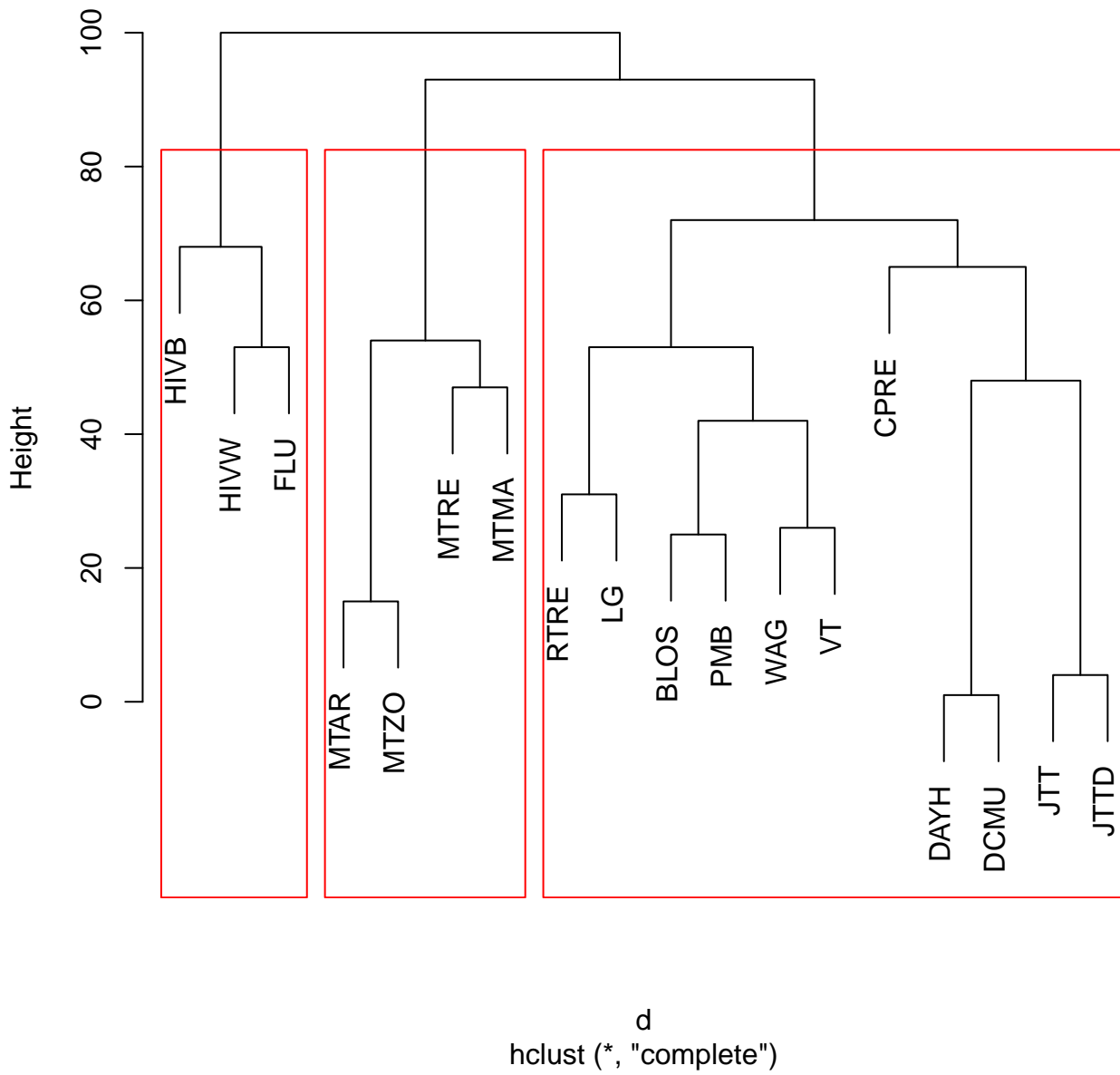
2 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.23

# Cluster Dendrogram (3 clusters)

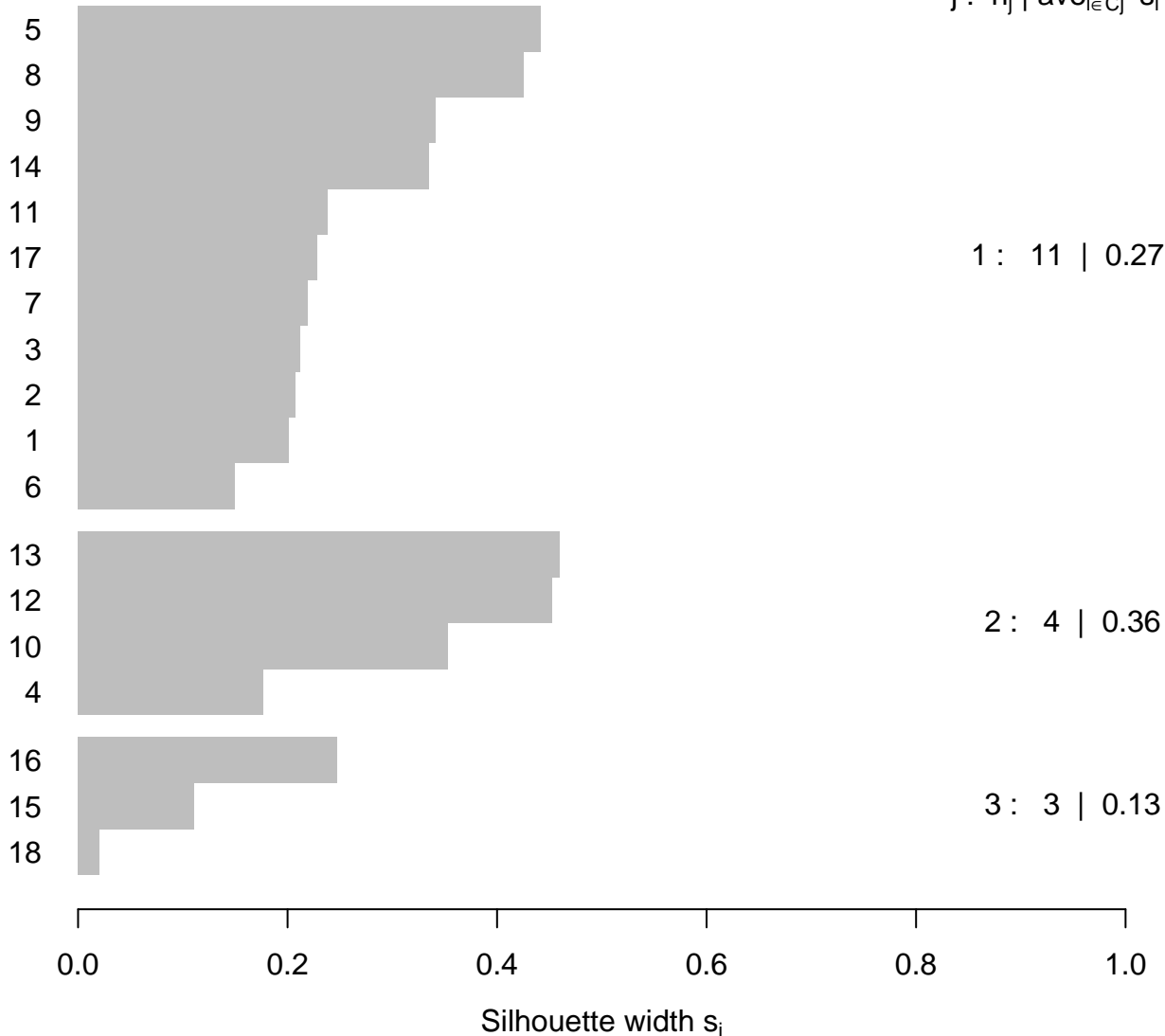


# Silhouette plot of 3 clusters

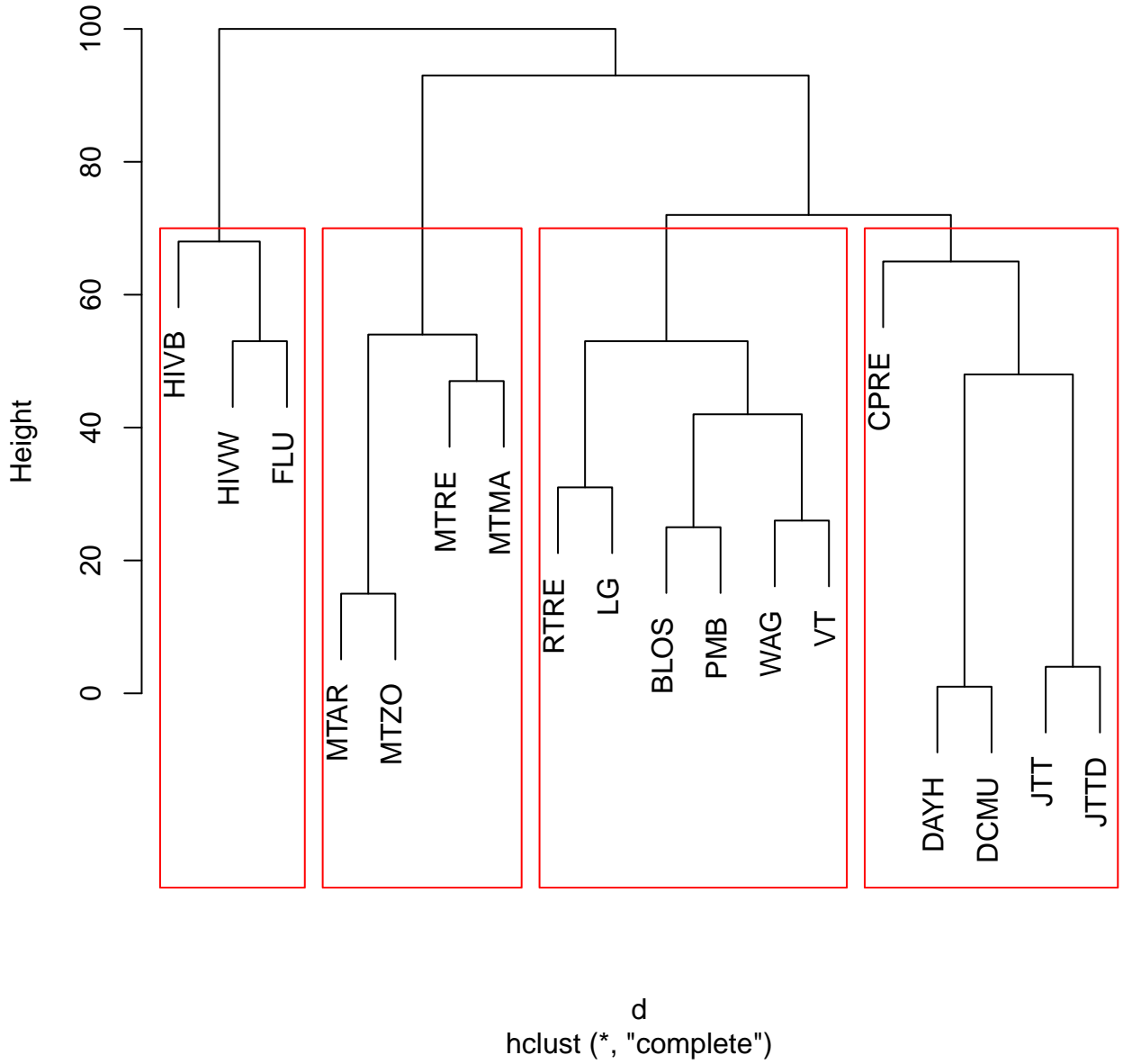
n = 18

3 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



## Cluster Dendrogram (4 clusters)

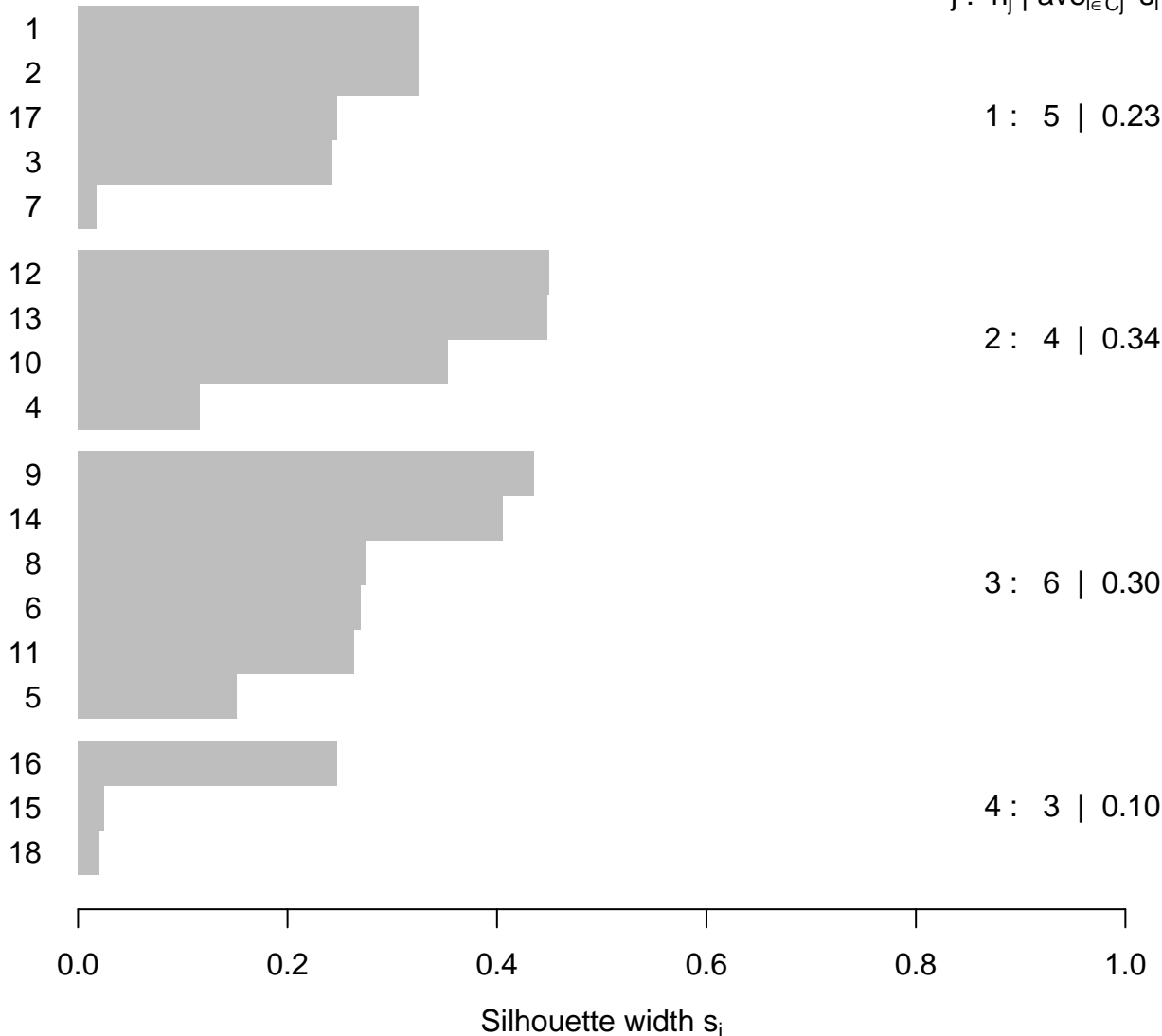


# Silhouette plot of 4 clusters

n = 18

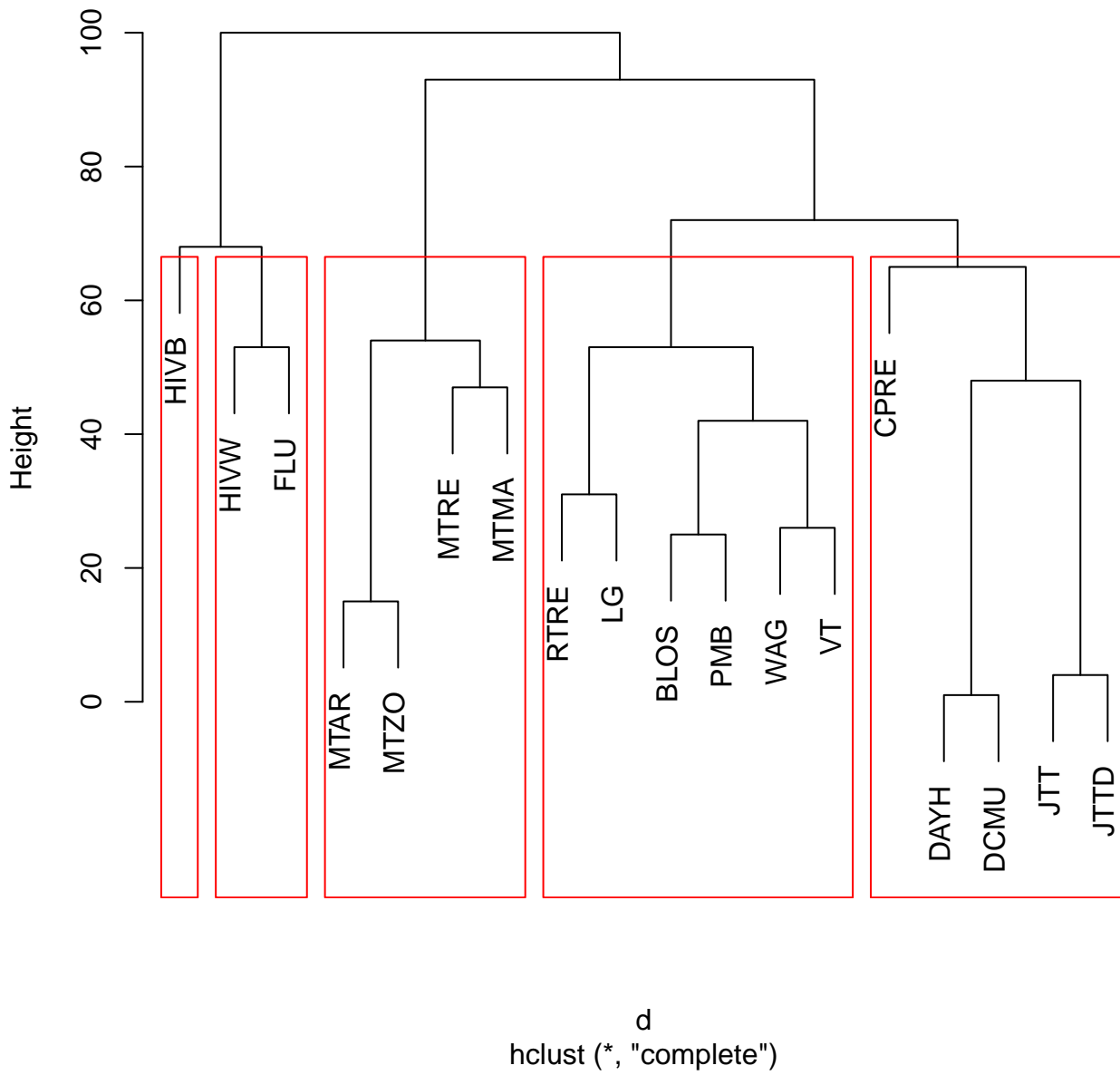
4 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.26

# Cluster Dendrogram (5 clusters)

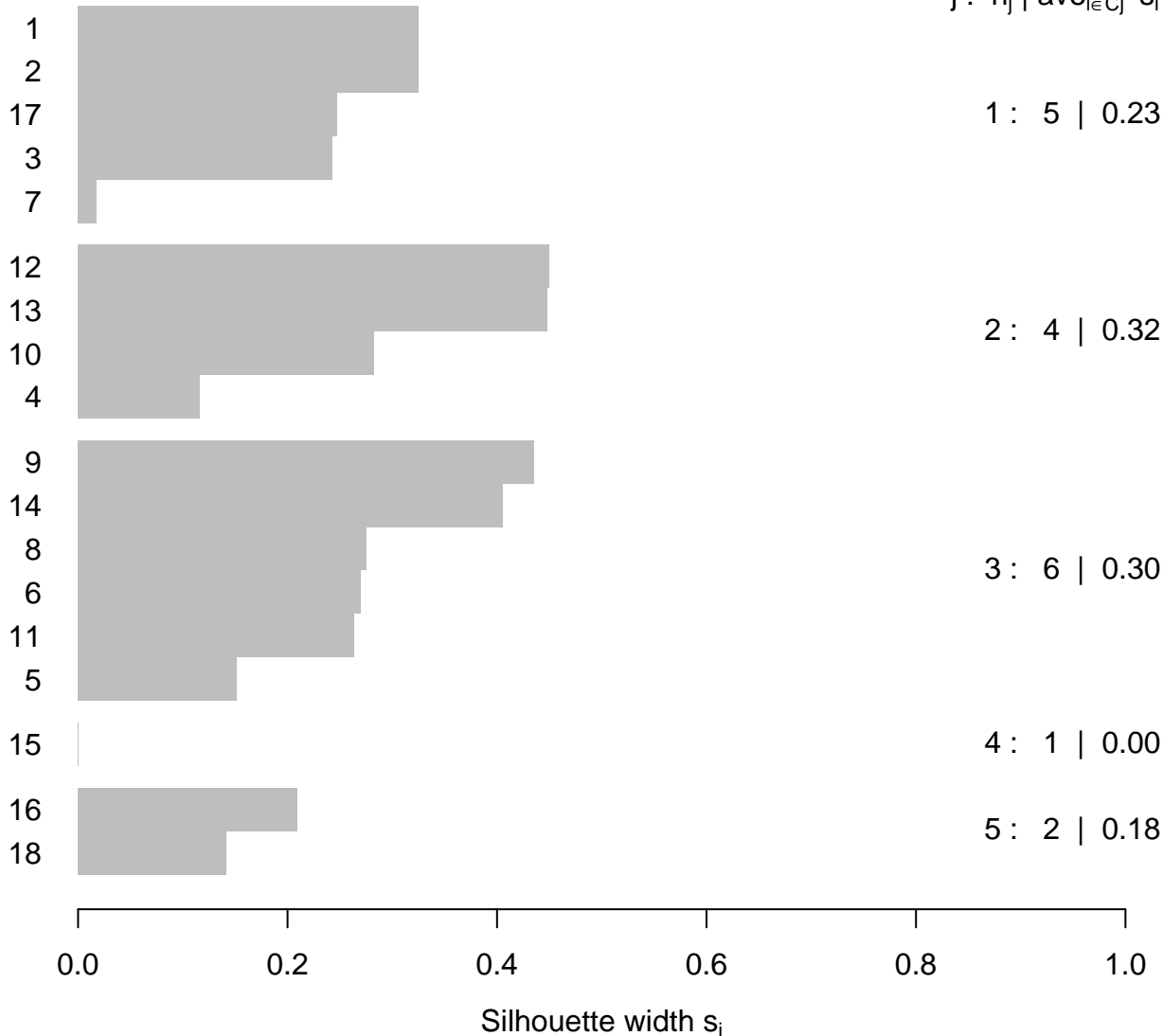


# Silhouette plot of 5 clusters

n = 18

5 clusters  $C_j$

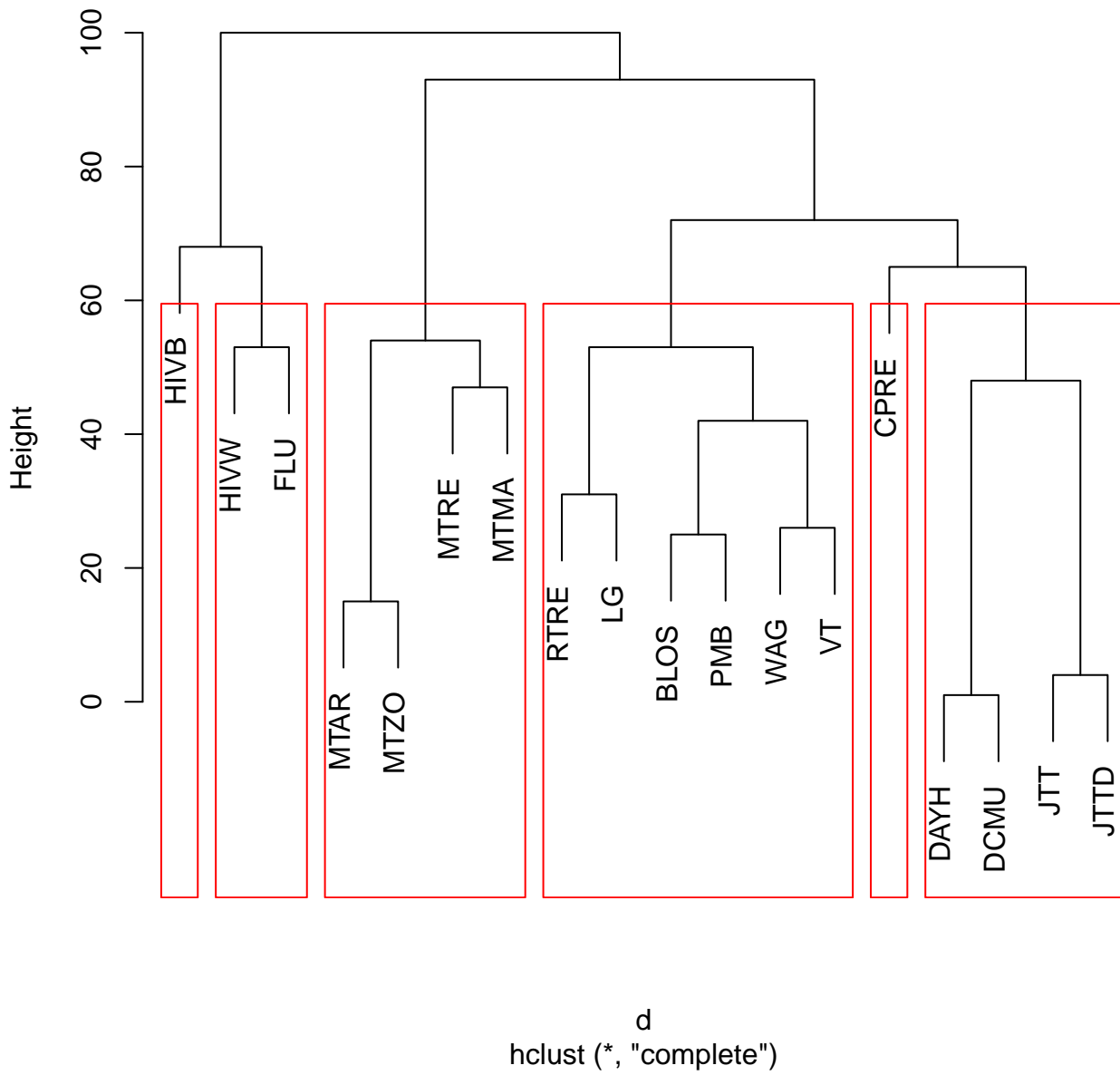
$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.26



**Cluster Dendrogram (6 clusters)**

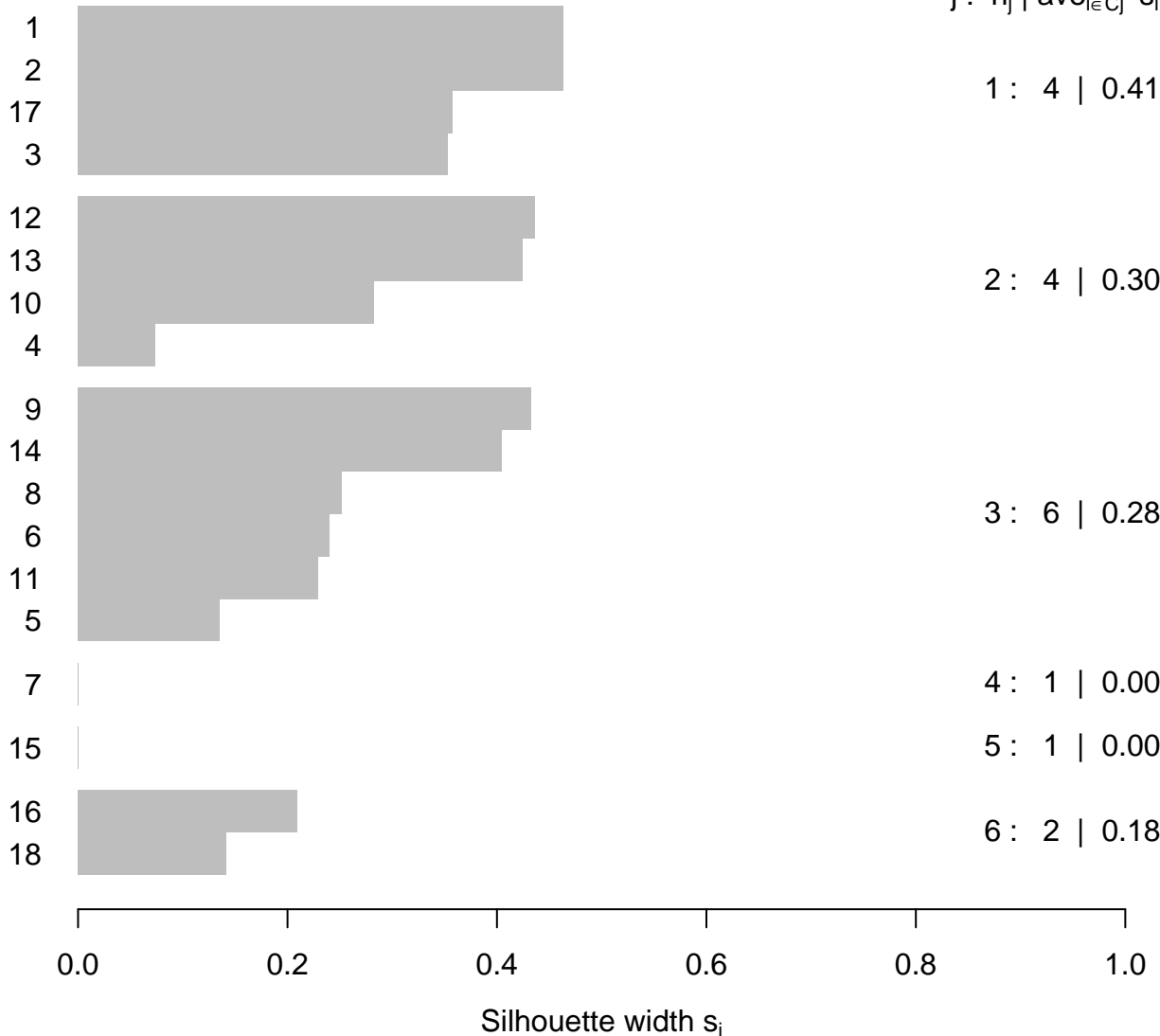


# Silhouette plot of 6 clusters

n = 18

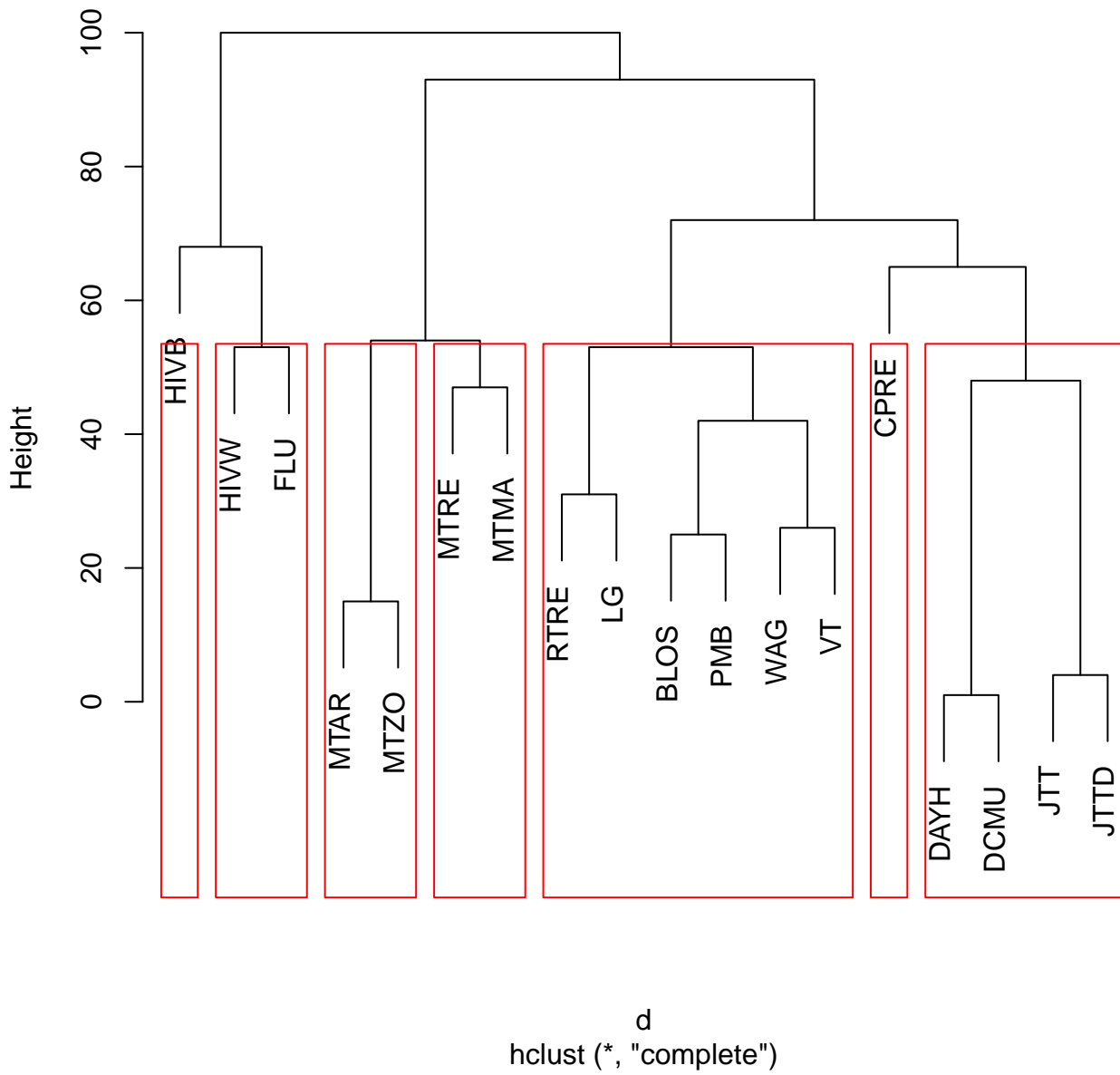
6 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.27

# Cluster Dendrogram (7 clusters)

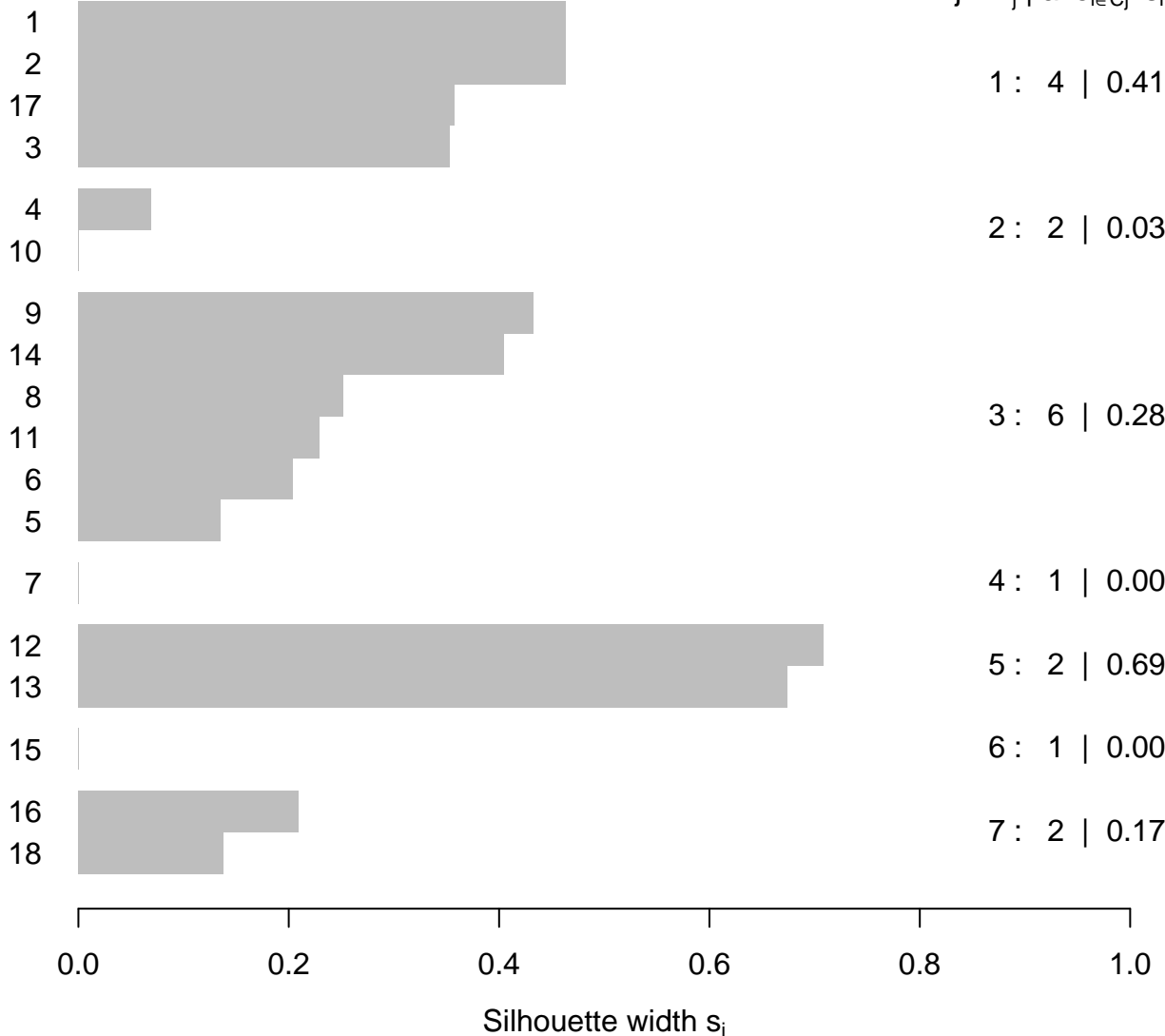


# Silhouette plot of 7 clusters

n = 18

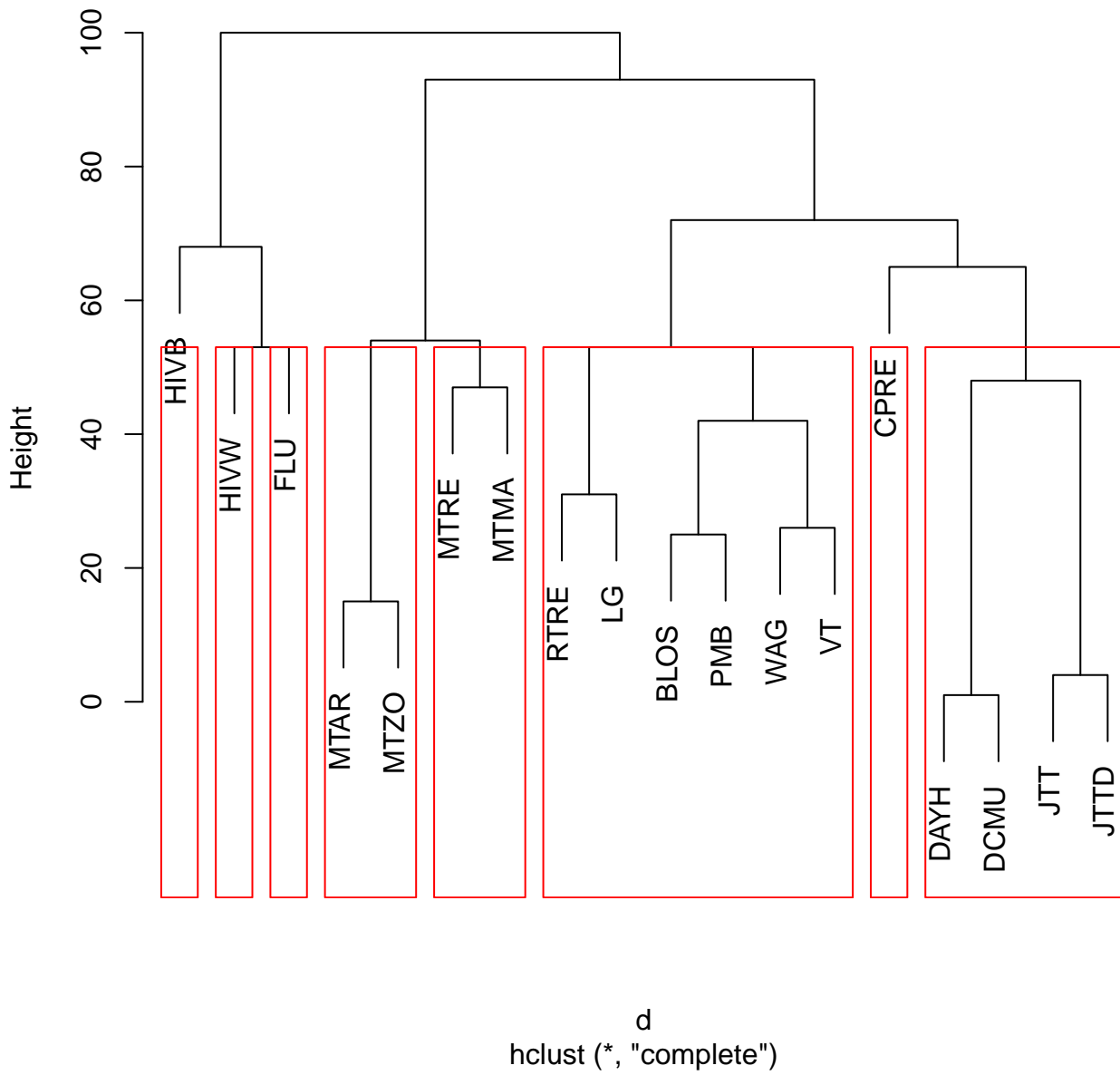
7 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.28

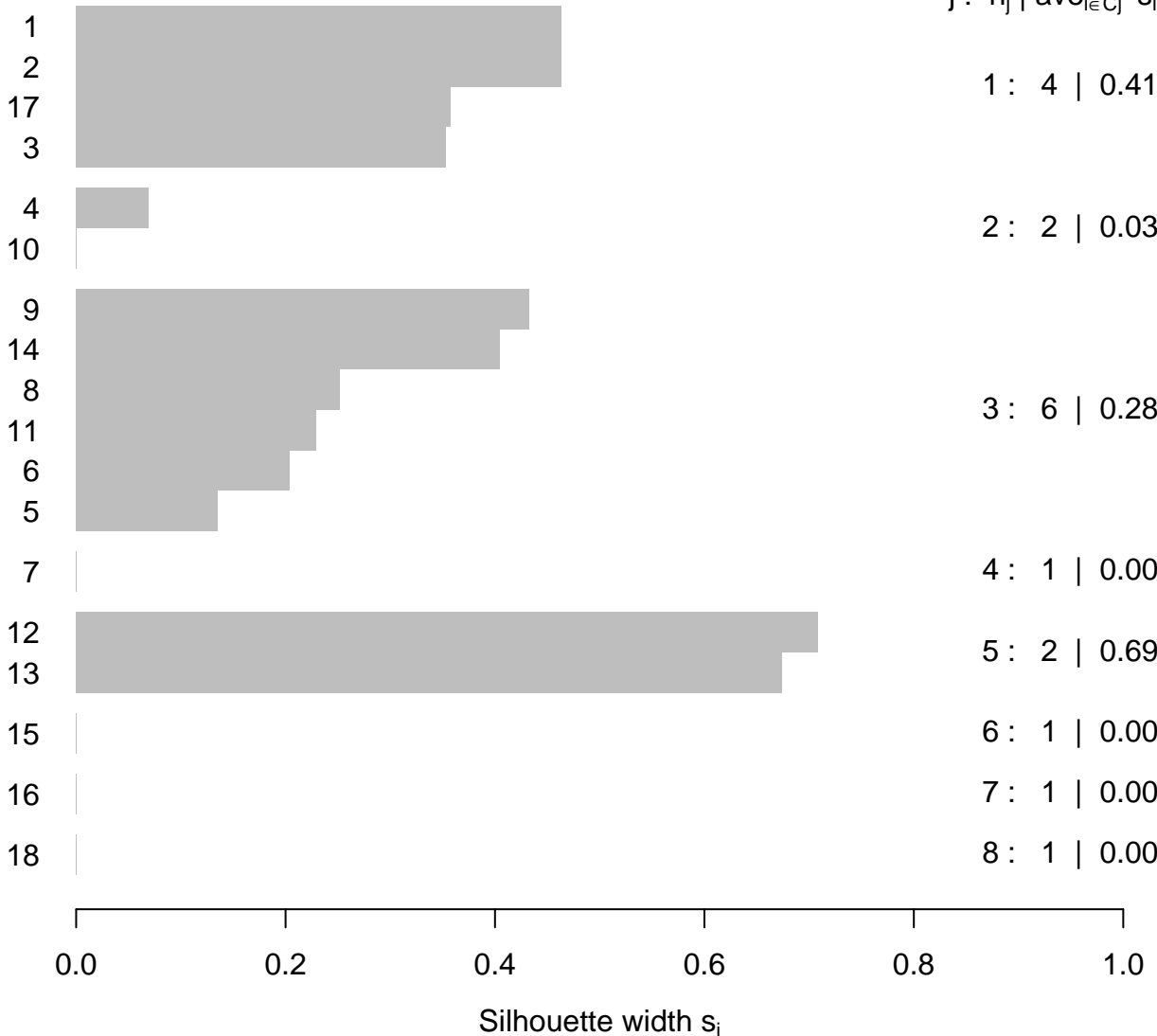
Cluster Dendrogram (8 clusters)



Silhouette plot of 8 clusters

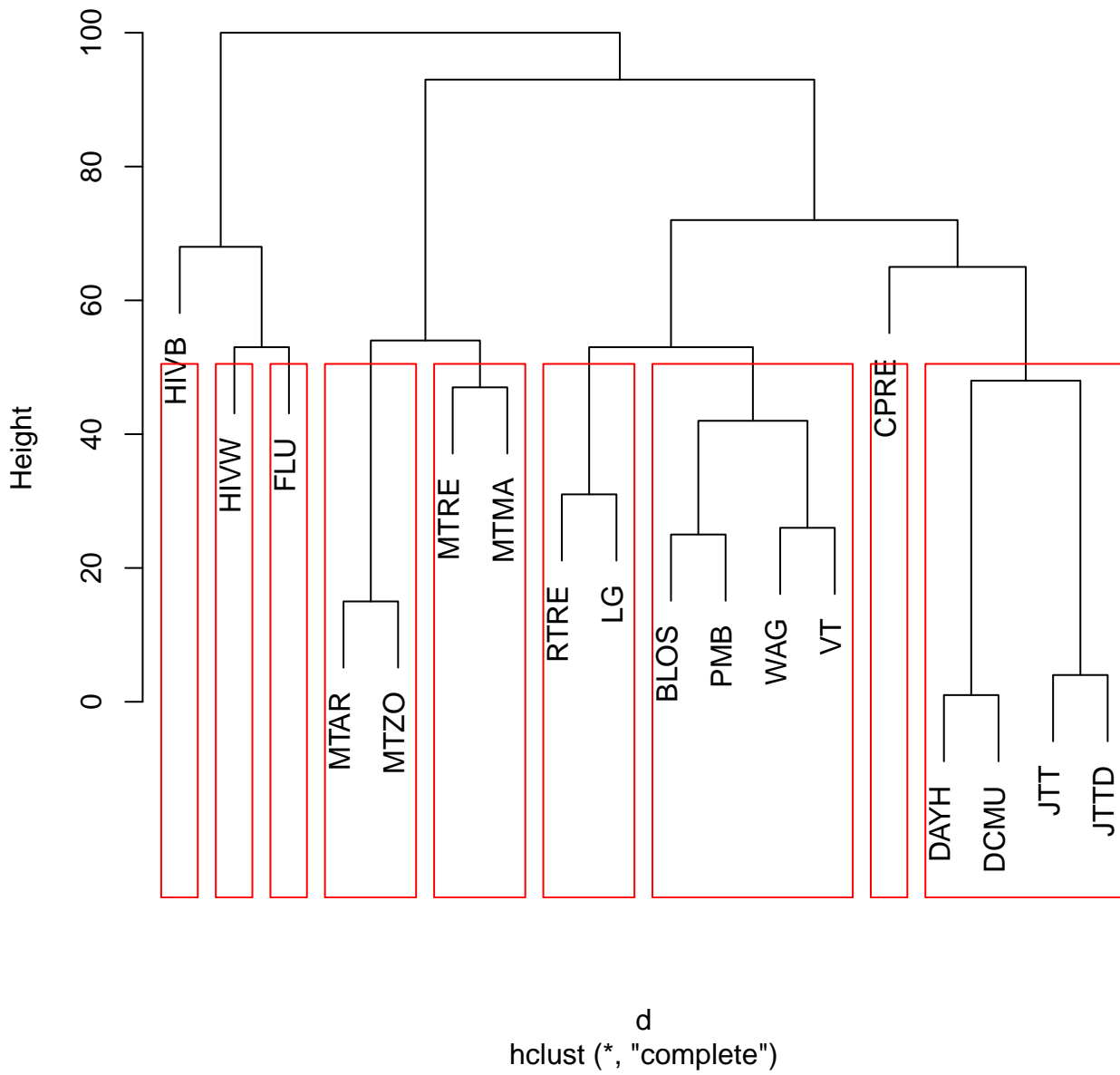
n = 18

8 clusters  $C_j$   
 $j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.26

**Cluster Dendrogram (9 clusters)**

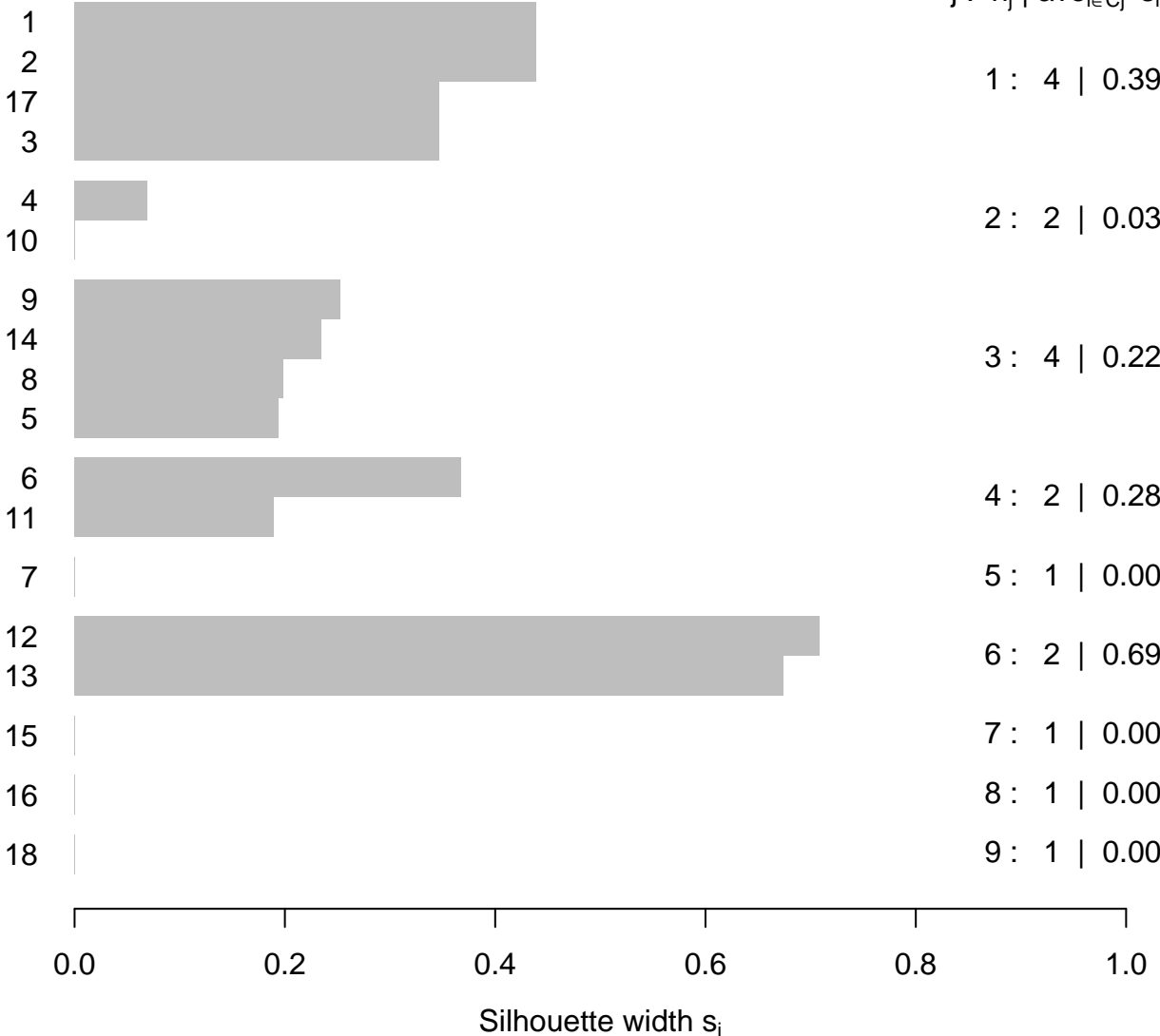


Silhouette plot of 9 clusters

n = 18

9 clusters  $C_j$

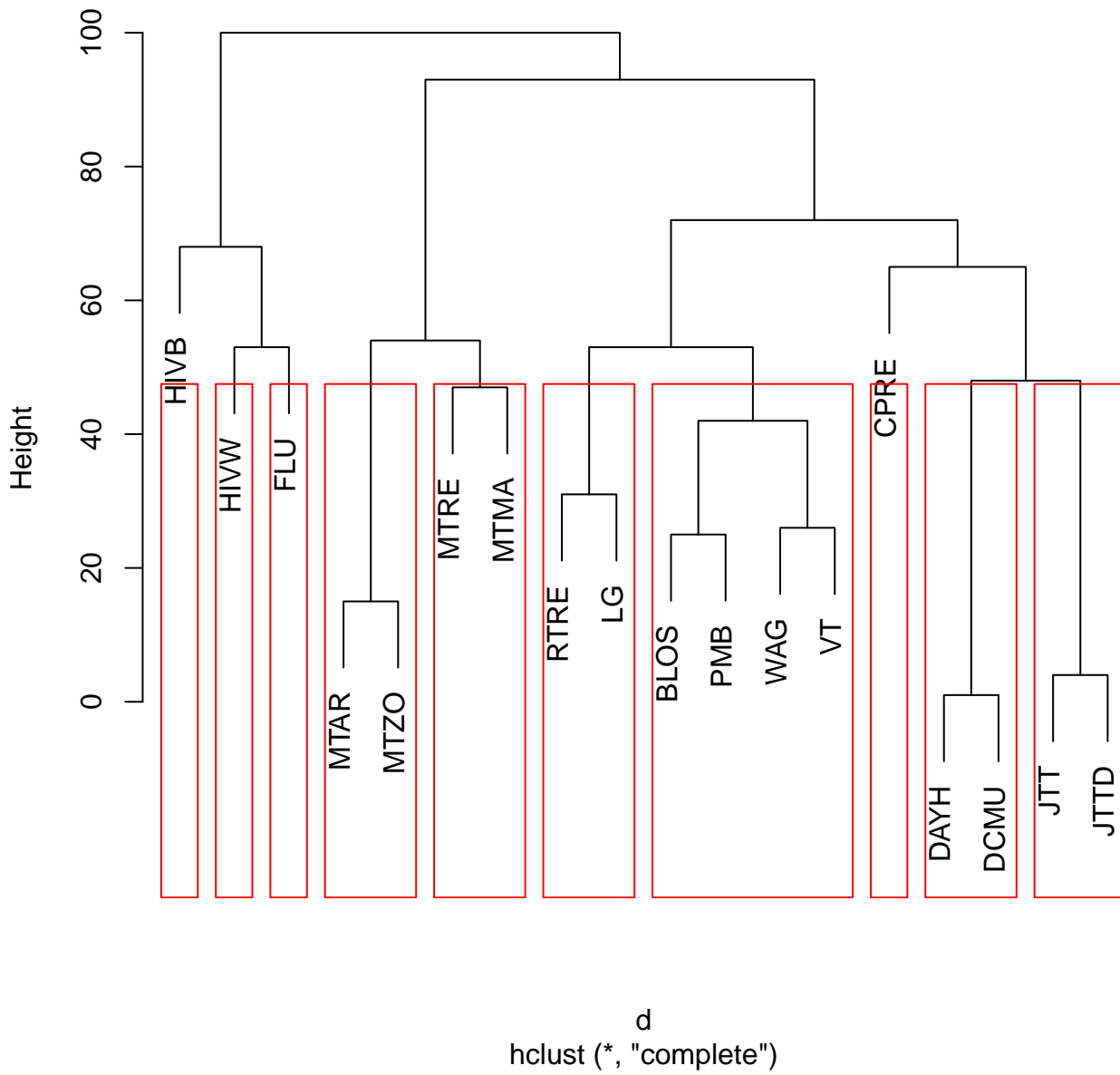
$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.25



# Cluster Dendrogram (10 clusters)

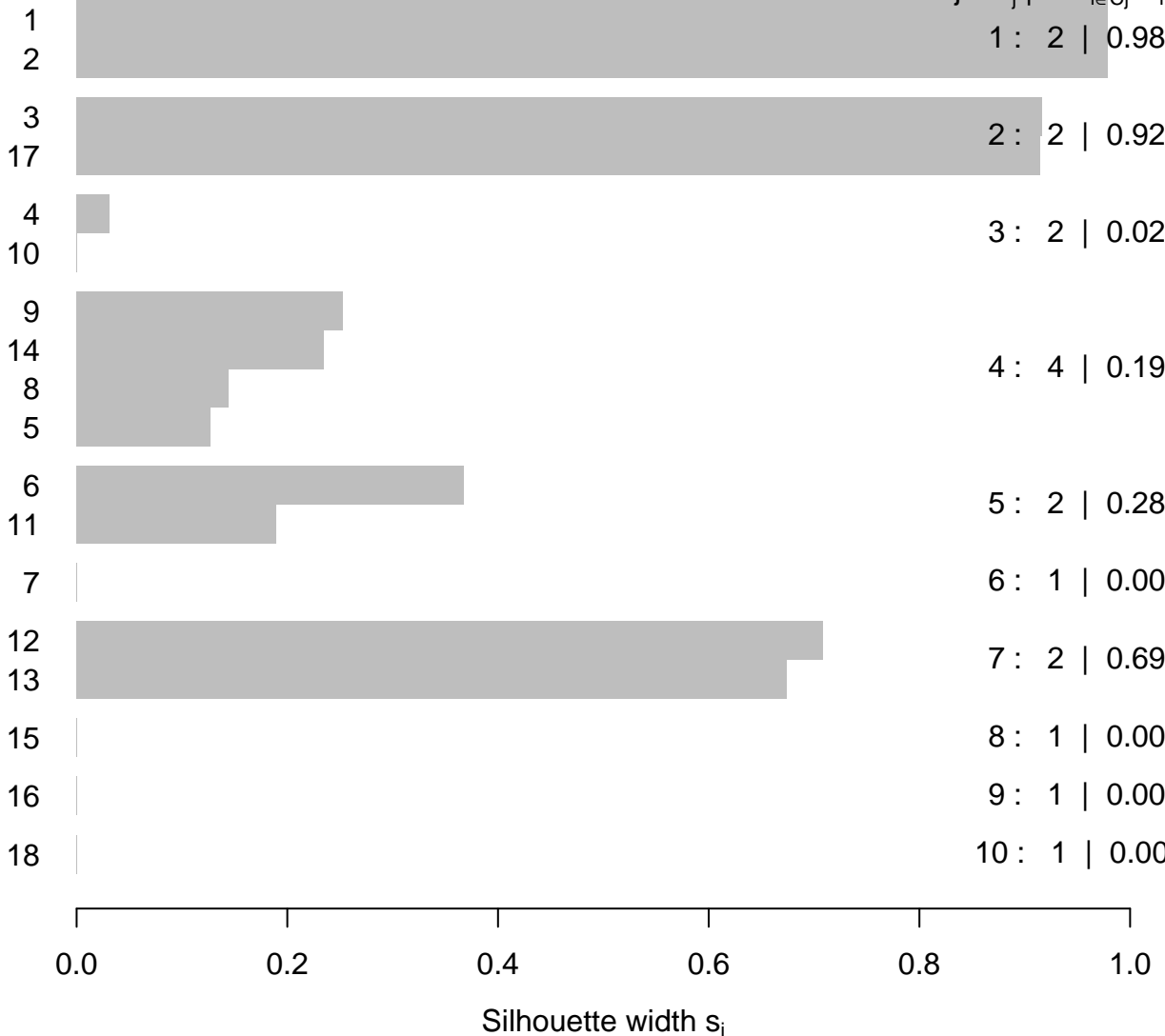


Silhouette plot of 10 clusters

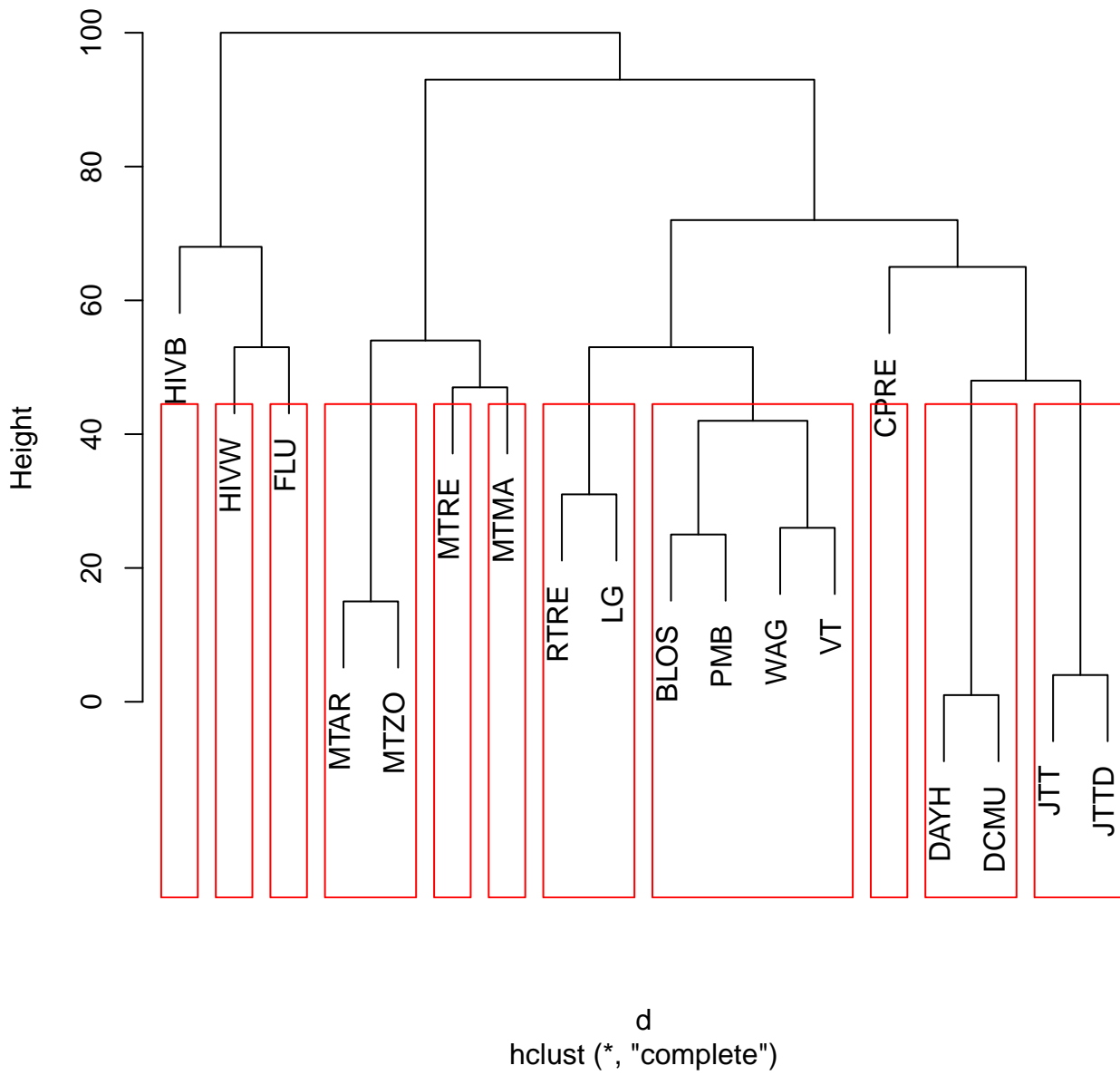
n = 18

10 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



# Cluster Dendrogram (11 clusters)

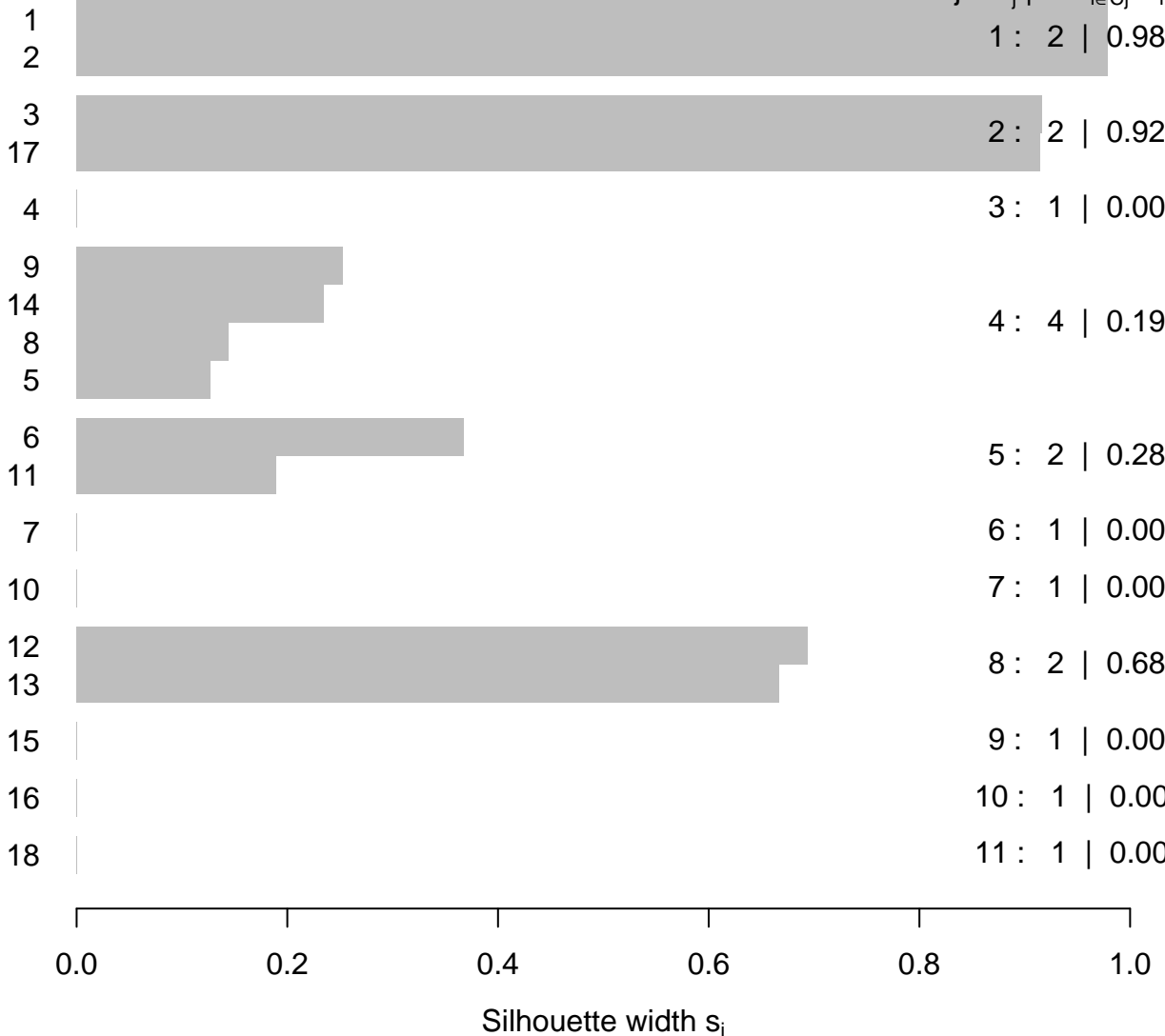


Silhouette plot of 11 clusters

n = 18

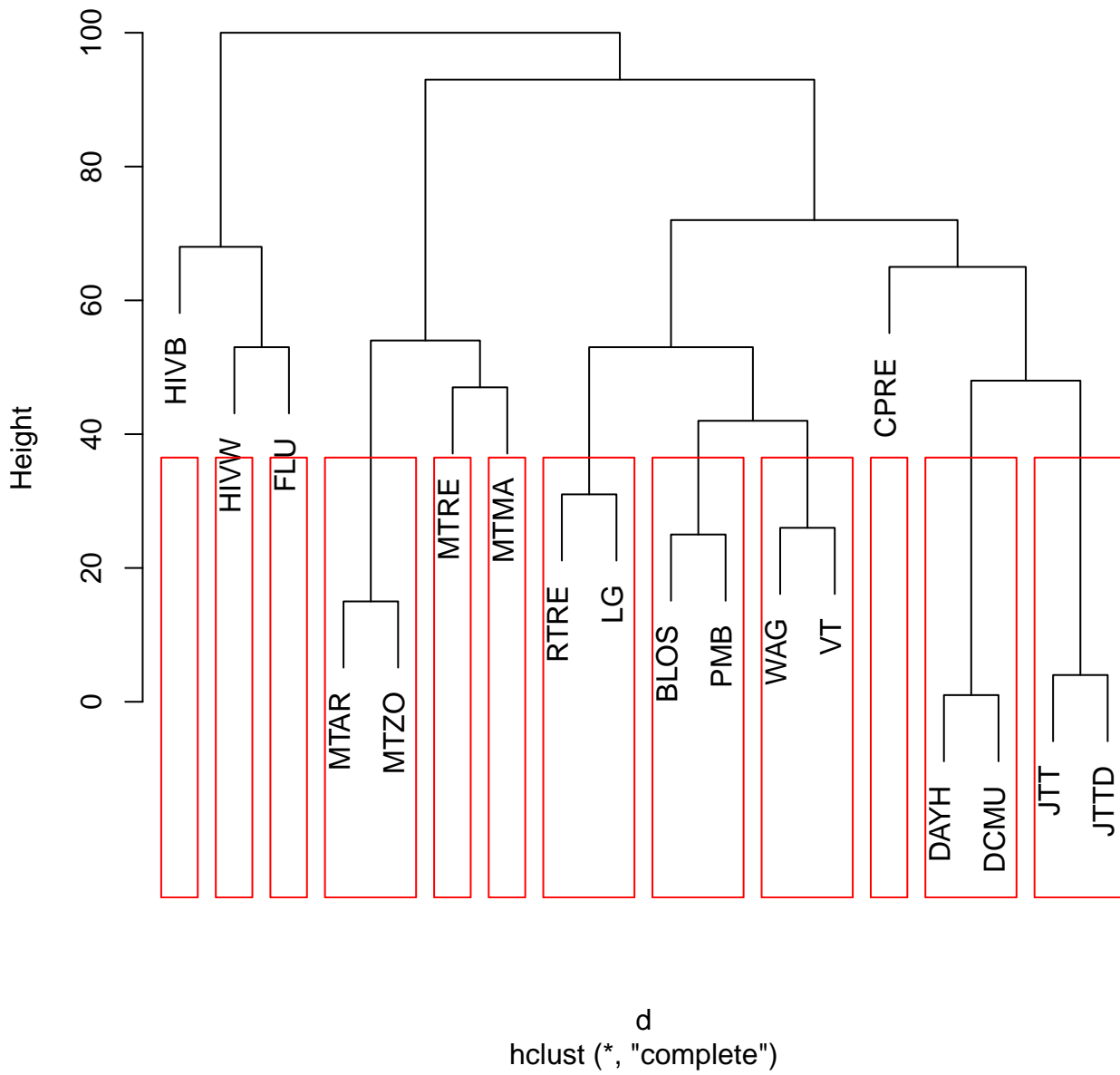
11 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.36

# Cluster Dendrogram (12 clusters)

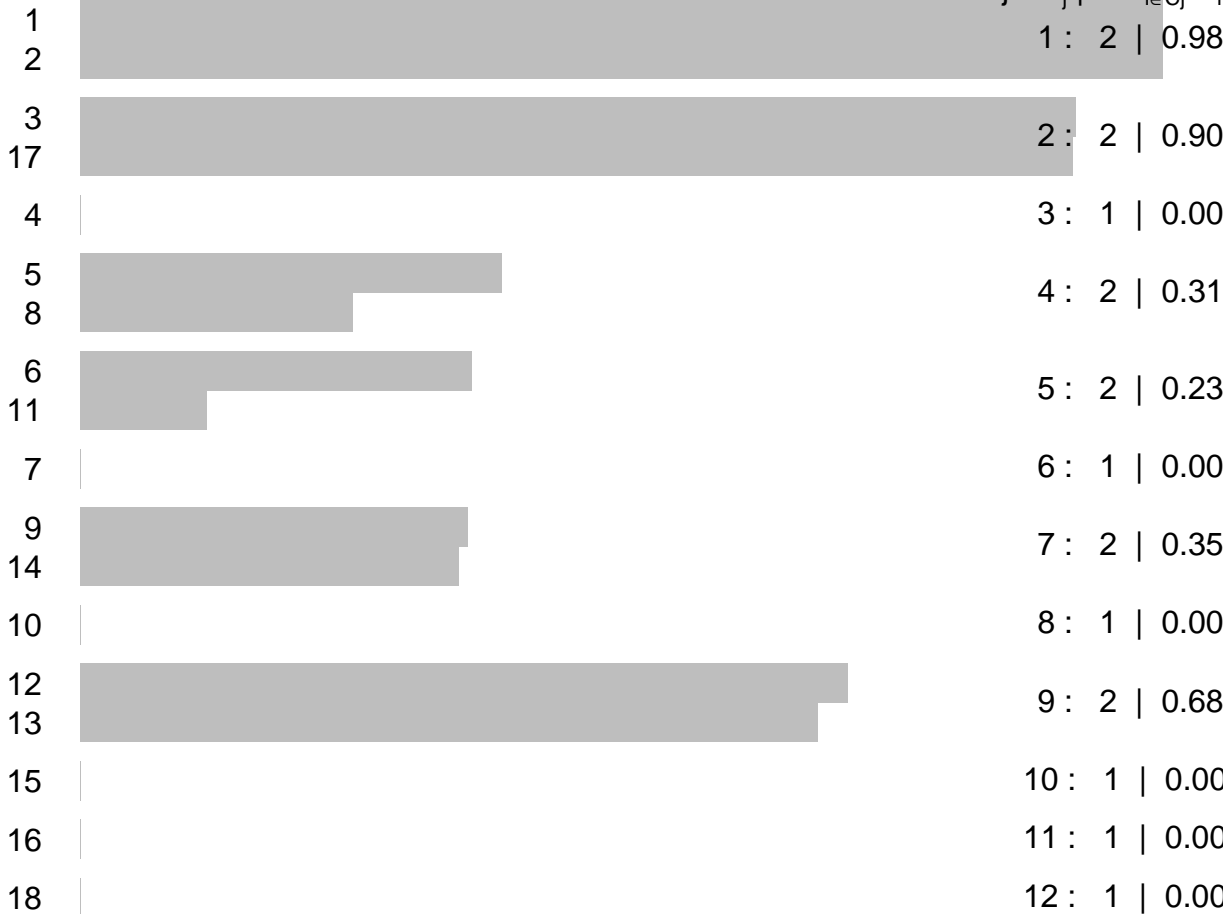


Silhouette plot of 12 clusters

n = 18

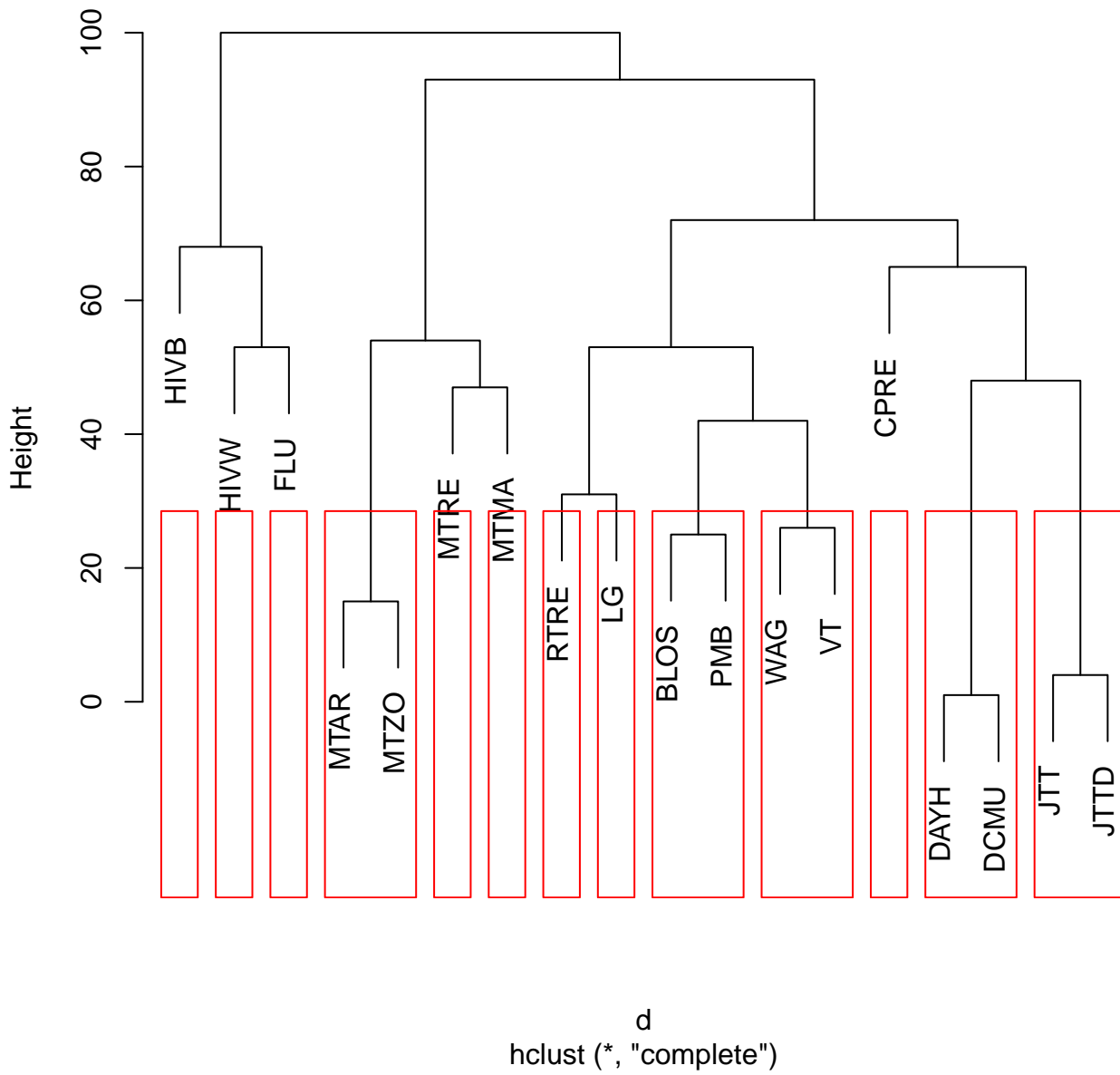
12 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.38

# Cluster Dendrogram (13 clusters)

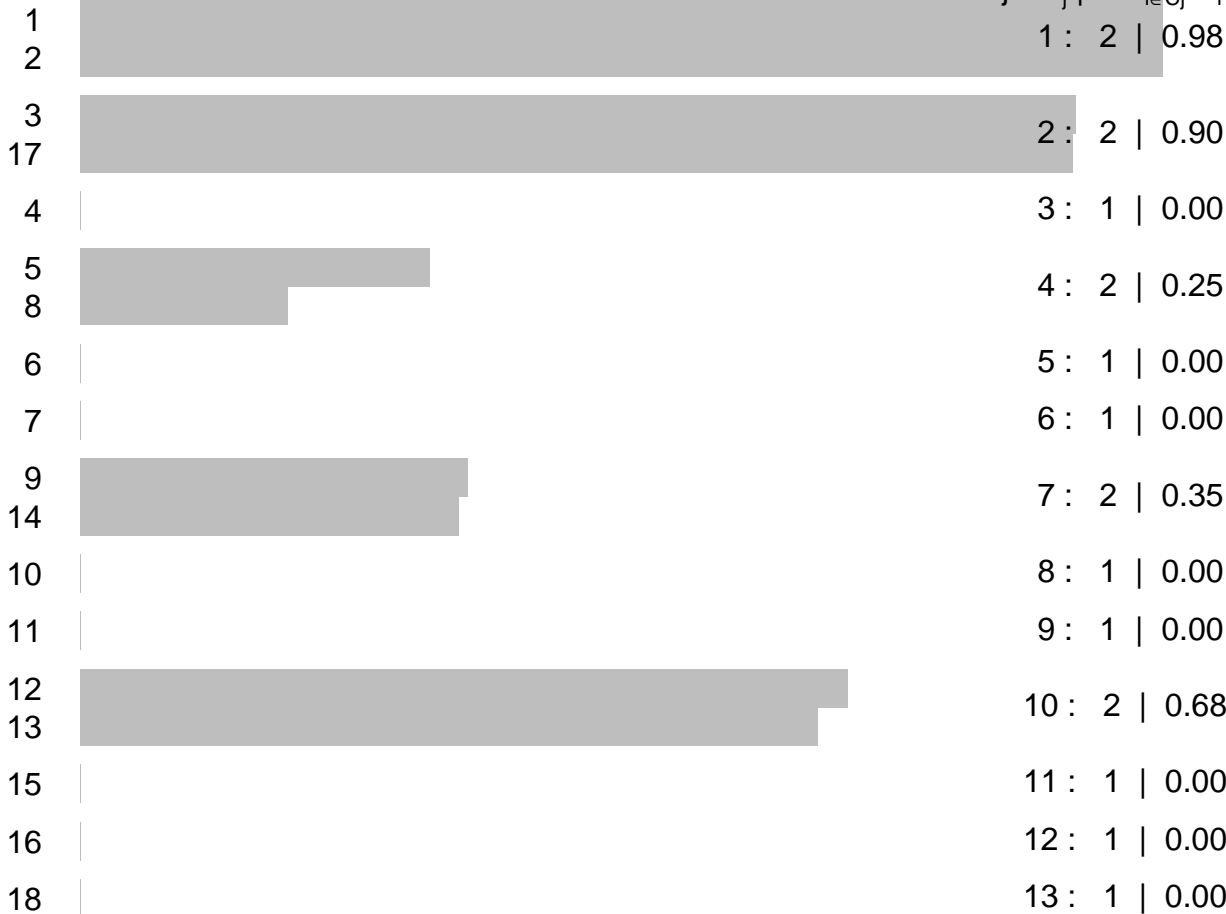


Silhouette plot of 13 clusters

n = 18

13 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$

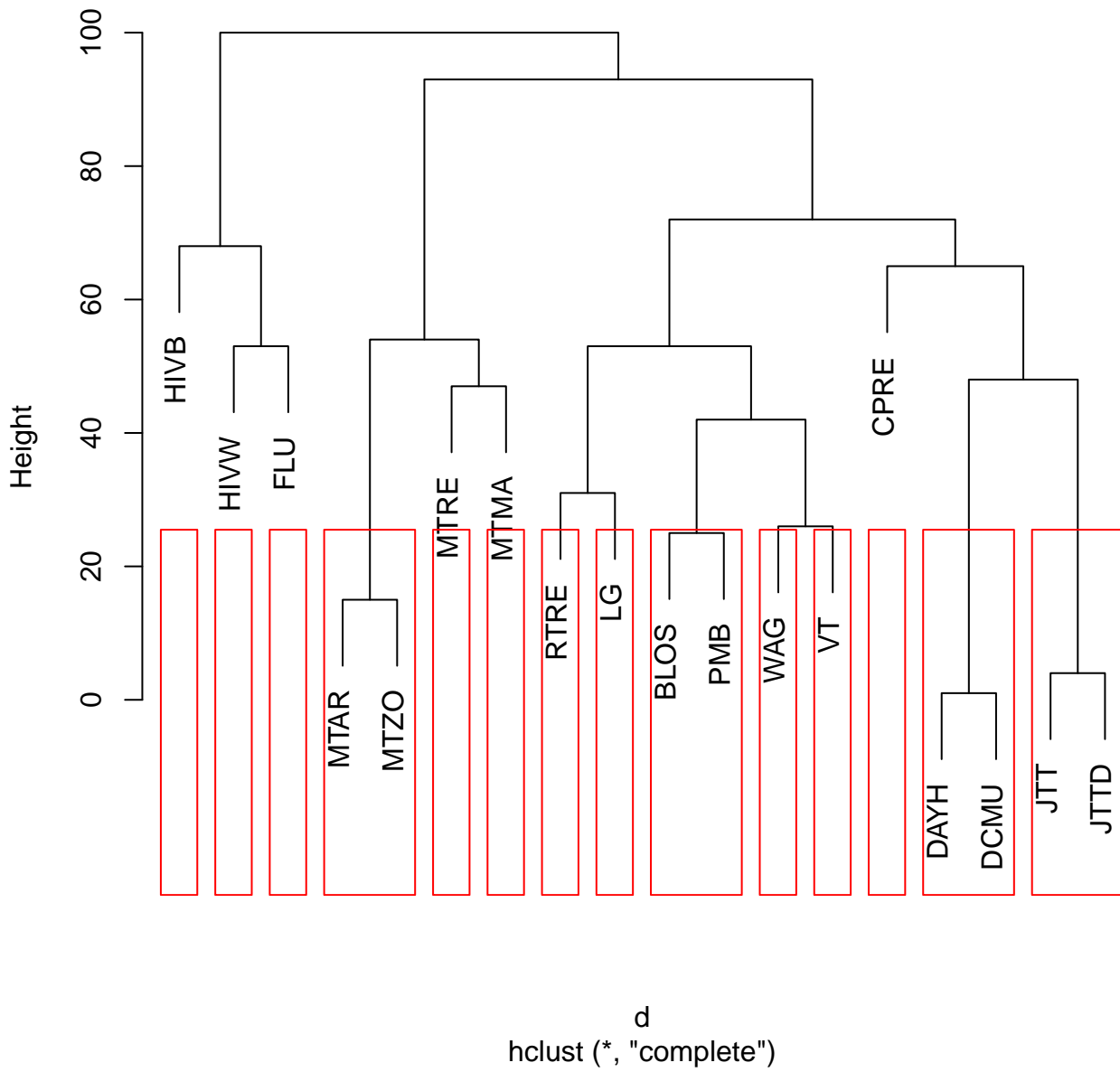


Silhouette width  $s_i$

Average silhouette width : 0.35



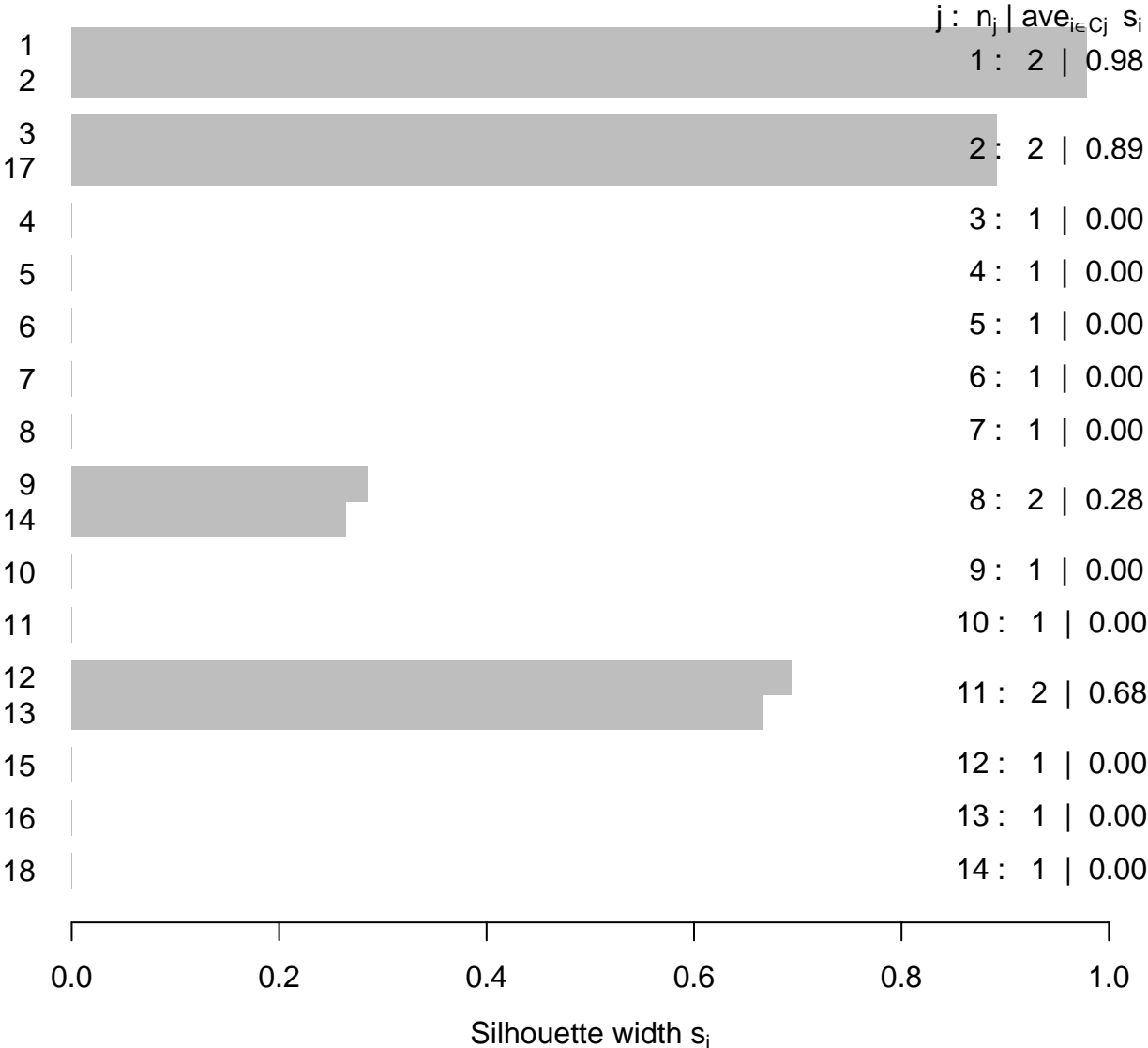
# Cluster Dendrogram (14 clusters)



Silhouette plot of 14 clusters

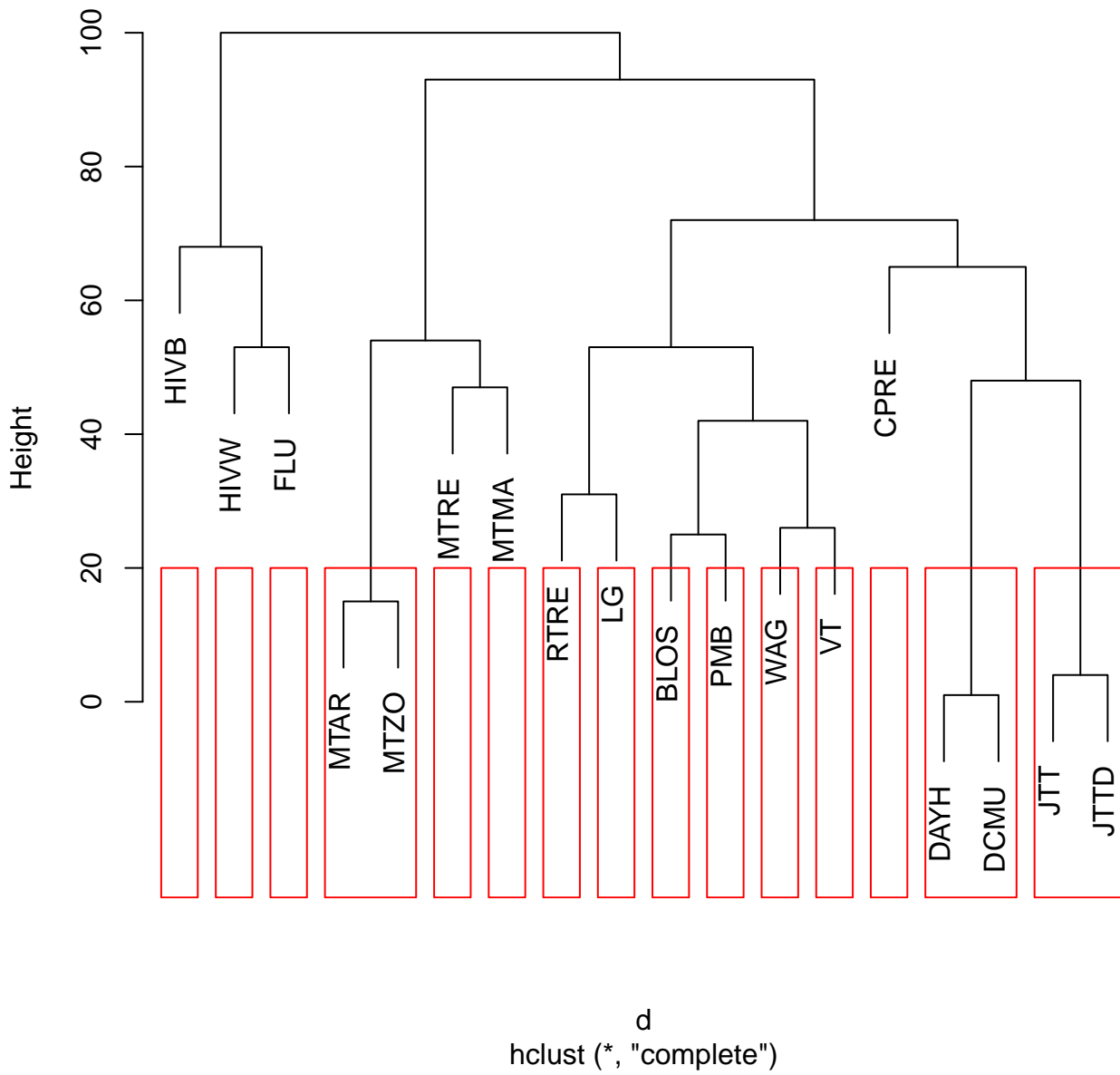
n = 18

14 clusters  $C_j$



Average silhouette width : 0.31

# Cluster Dendrogram (15 clusters)

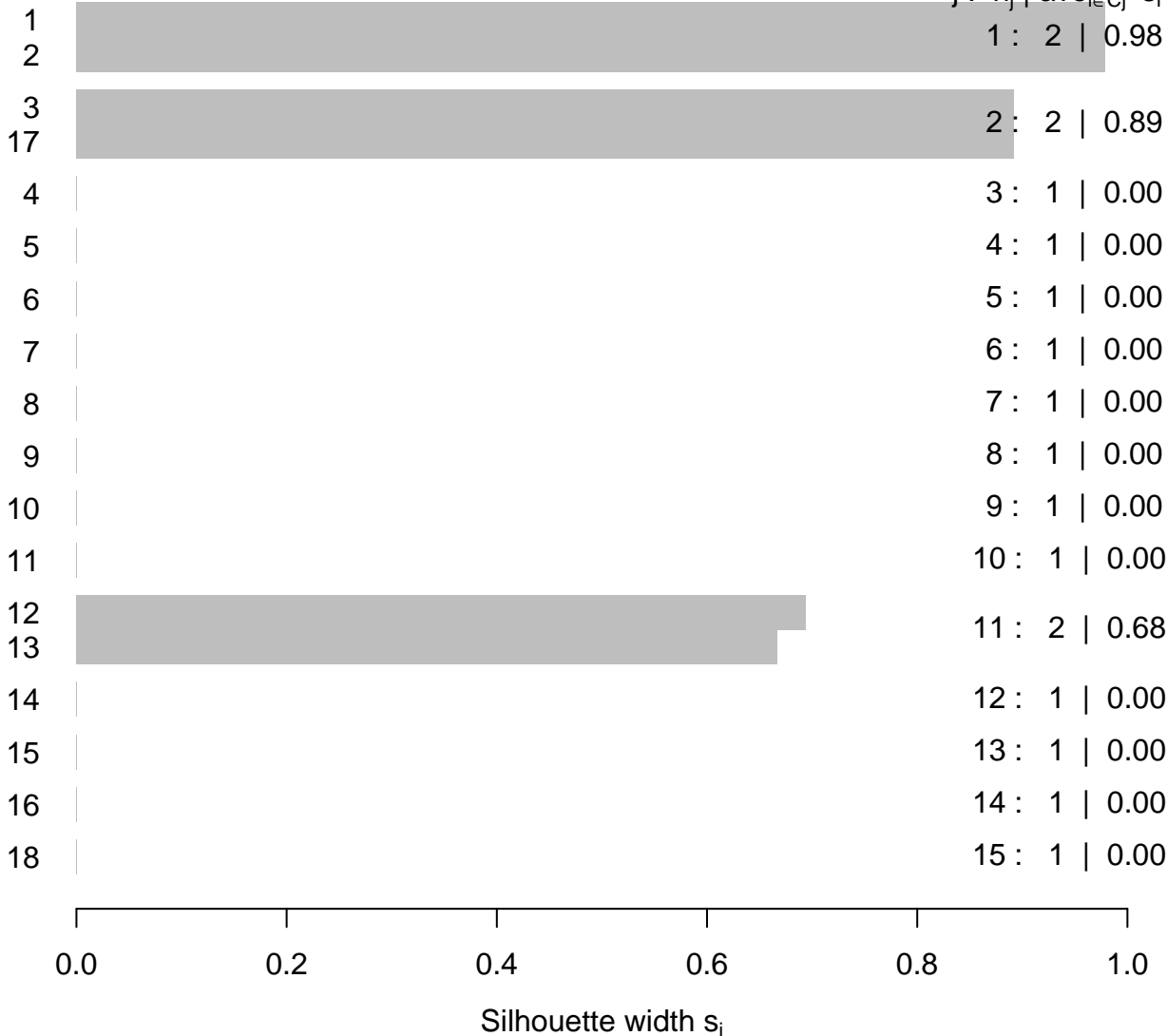


Silhouette plot of 15 clusters

n = 18

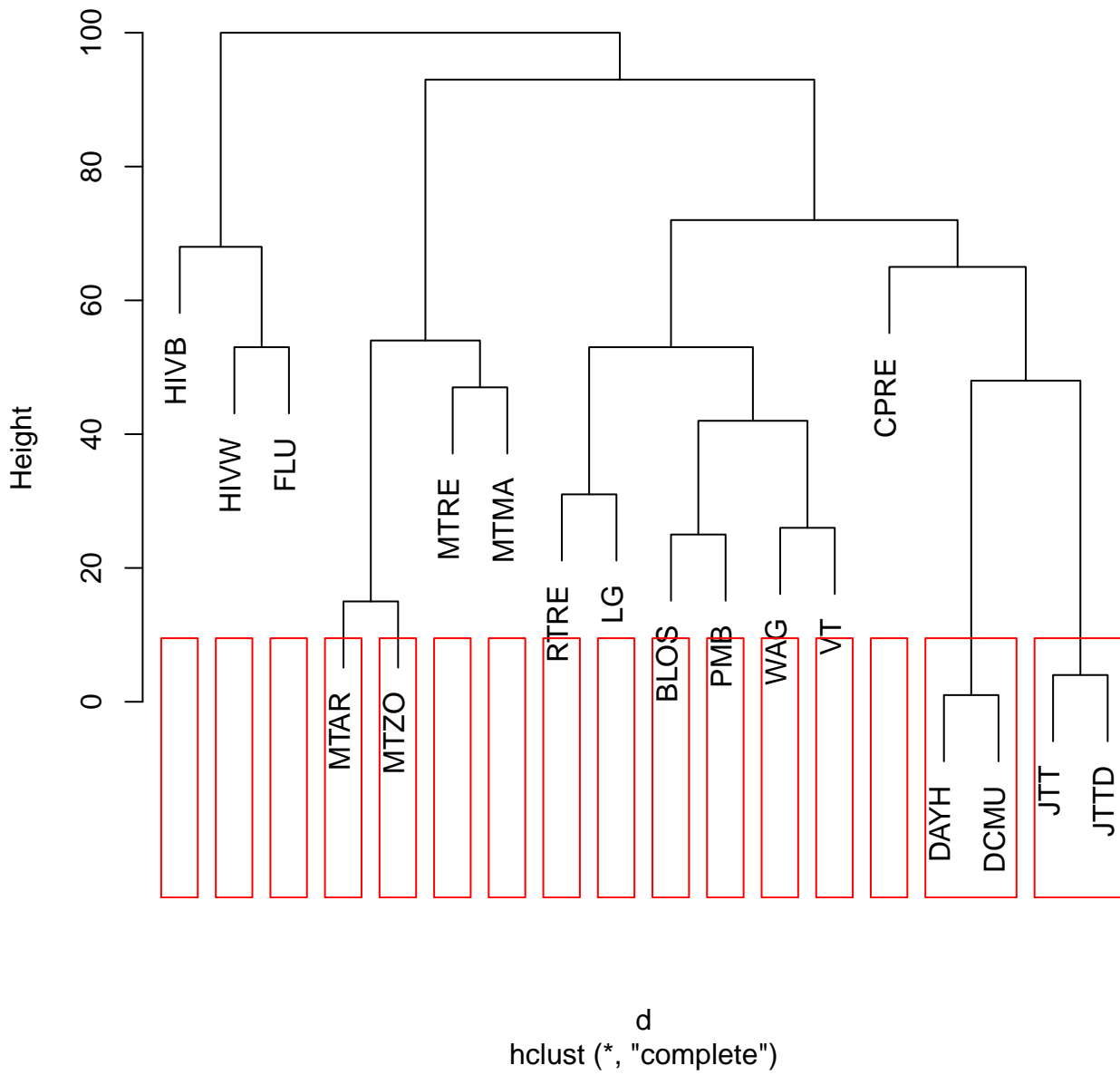
15 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$



Average silhouette width : 0.28

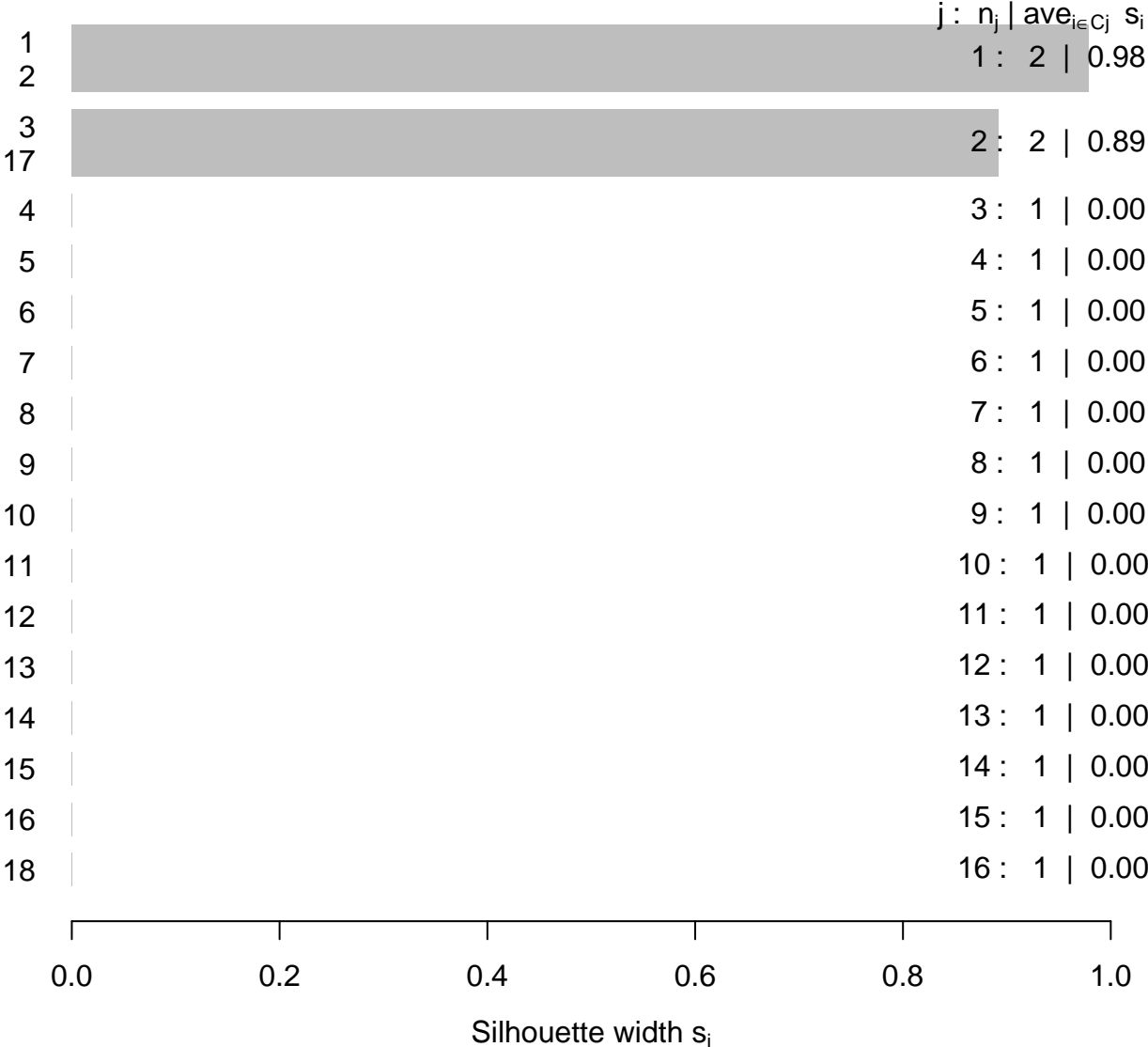
Cluster Dendrogram (16 clusters)



Silhouette plot of 16 clusters

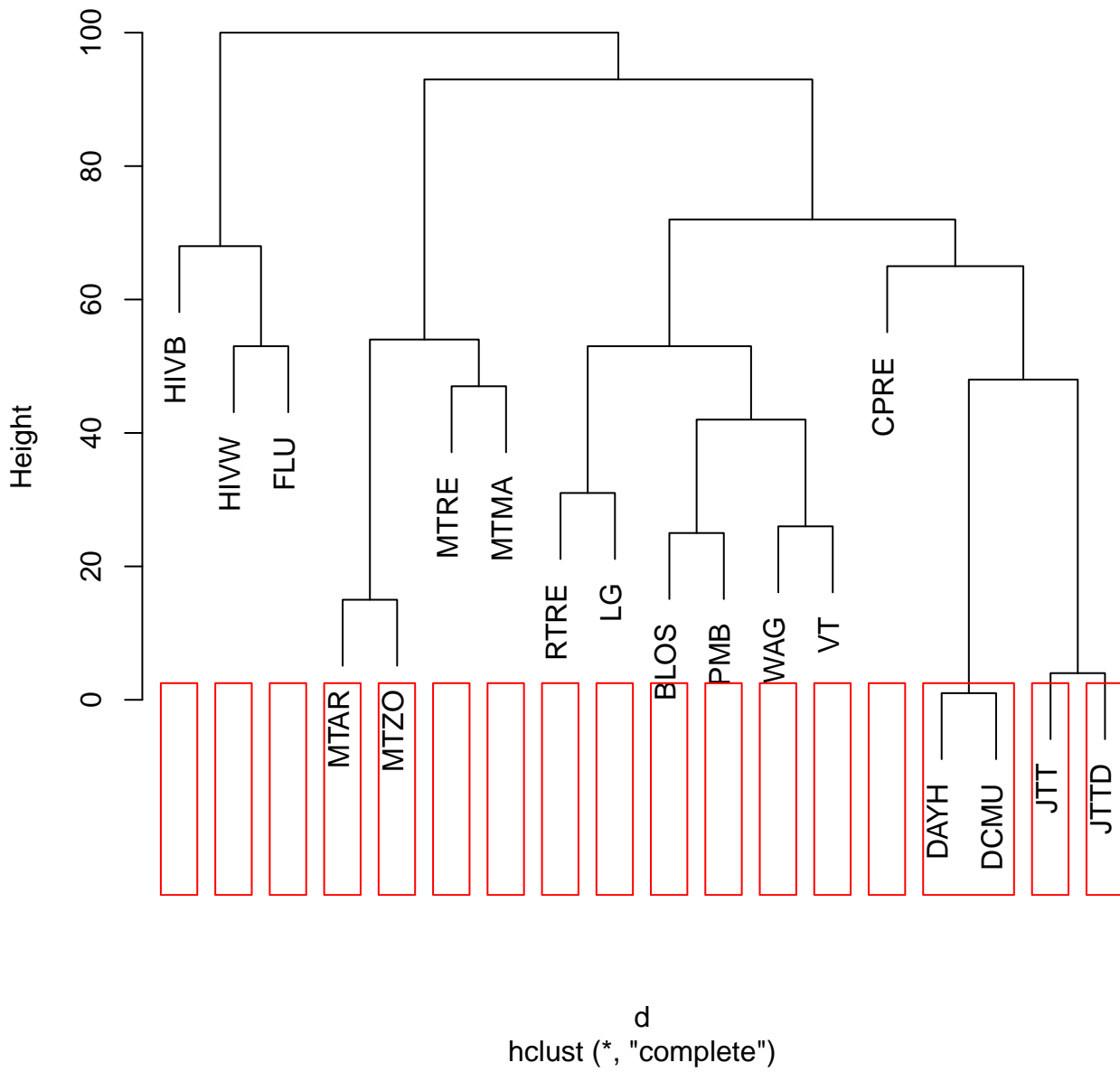
n = 18

16 clusters  $C_j$



Average silhouette width : 0.21

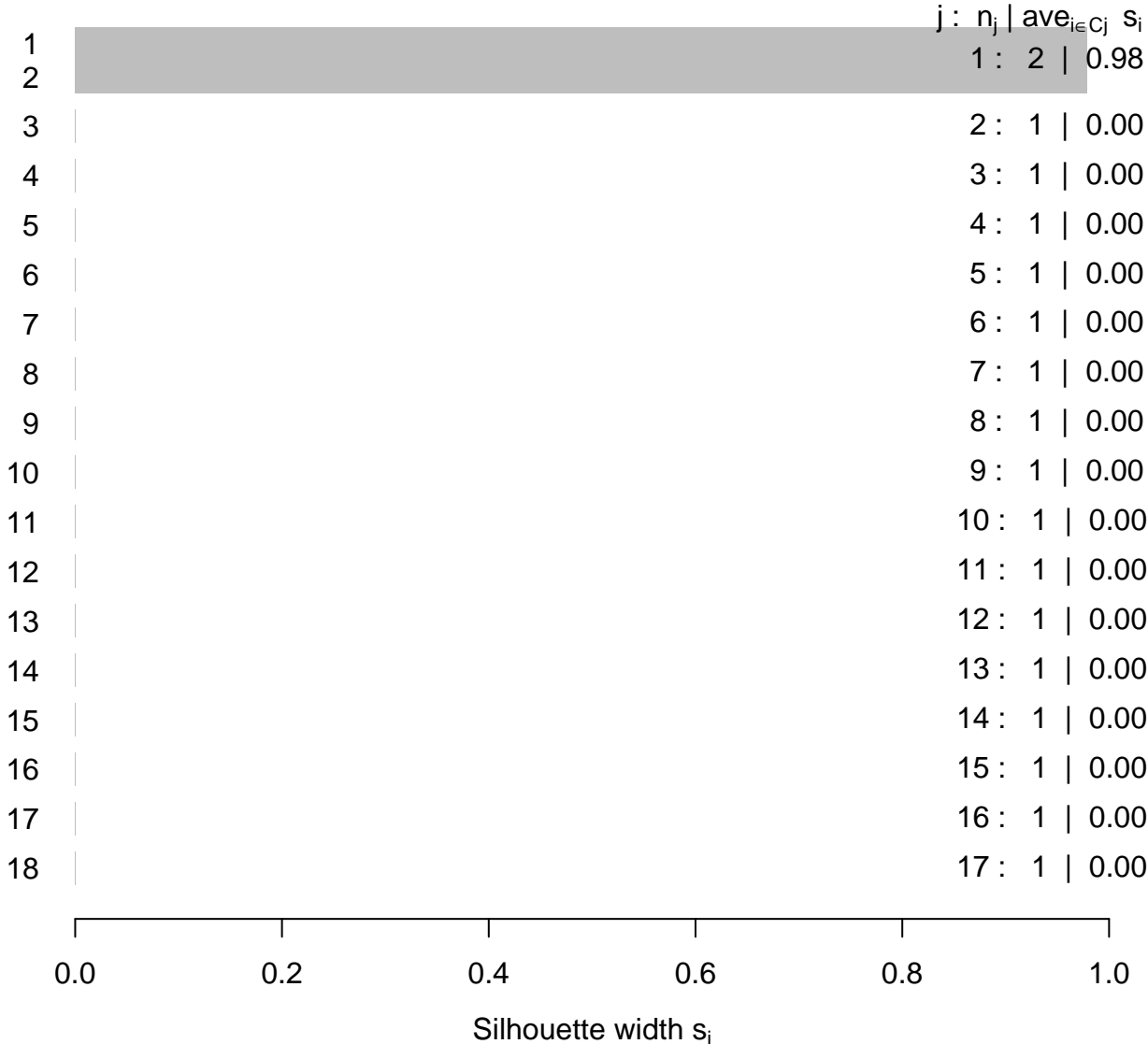
# Cluster Dendrogram (17 clusters)



Silhouette plot of 17 clusters

n = 18

17 clusters  $C_j$



Average silhouette width : 0.11