cp decomposition Breast 73 train rank9

VIVI TANG

17/11/2021

1. Kmeans

```
## Warning: package 'lattice' was built under R version 3.6.2

## Warning: package 'survival' was built under R version 3.6.2

## Warning: package 'survminer' was built under R version 3.6.2

## Warning: package 'ggplot2' was built under R version 3.6.2

## Warning: package 'ggpubr' was built under R version 3.6.2
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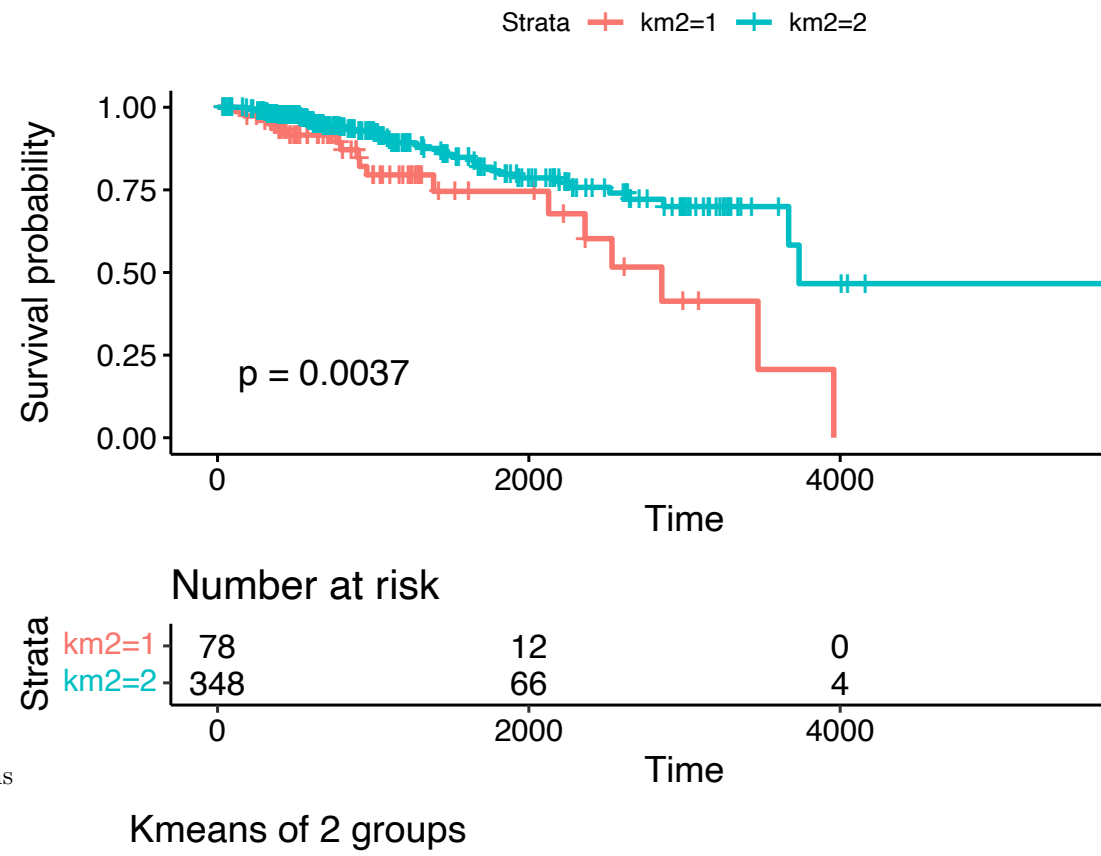
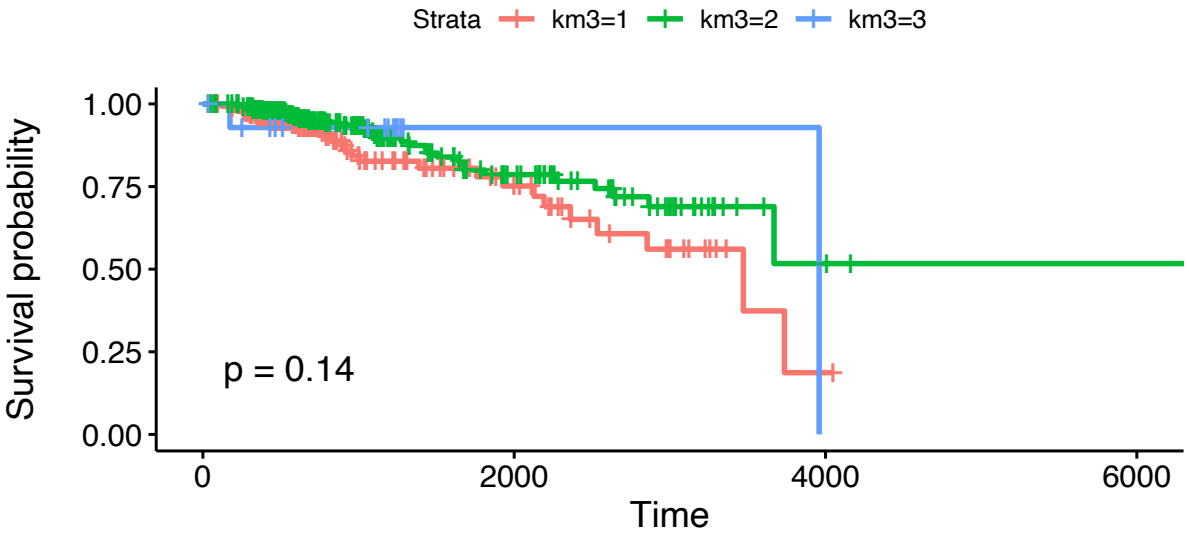
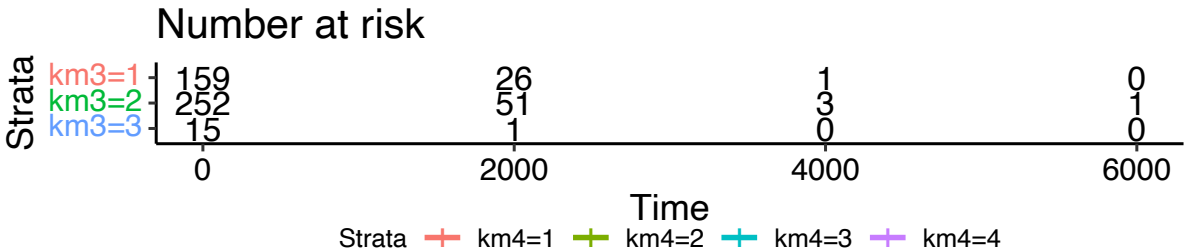
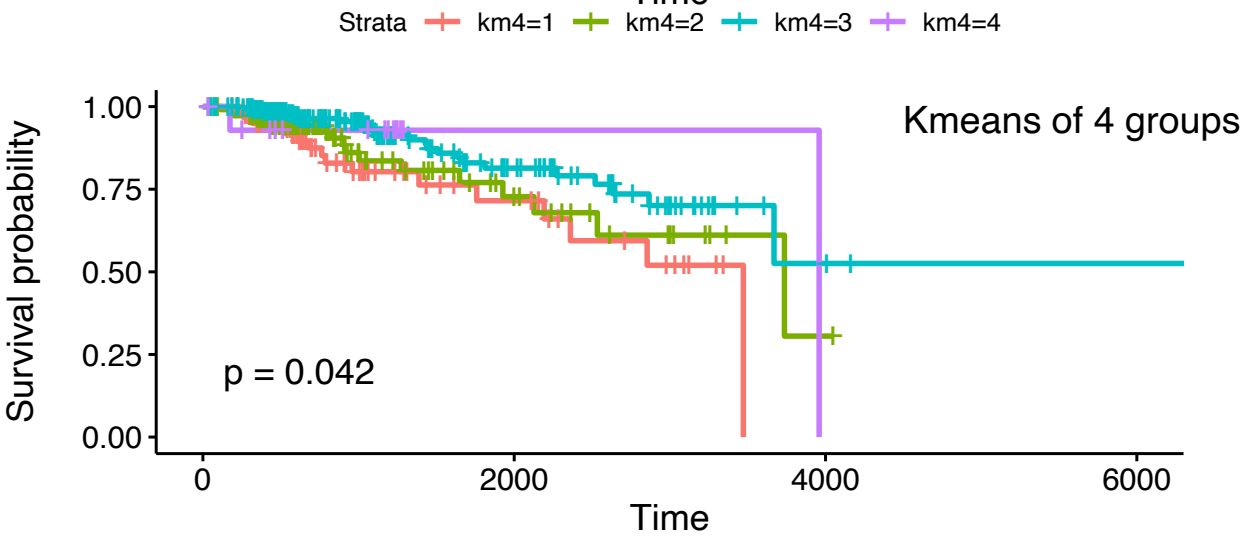


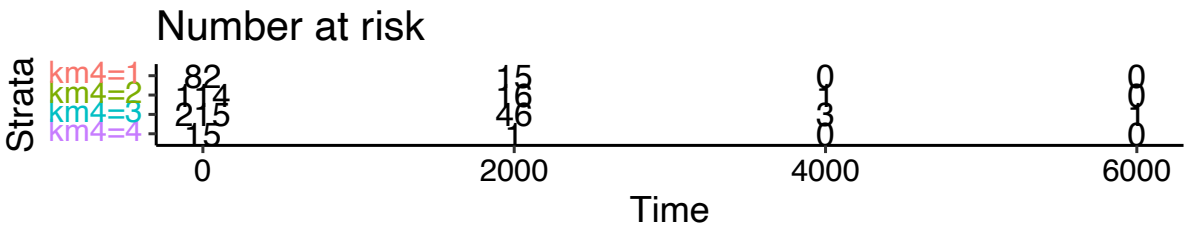
3. Fit the results of Kmeans

Kmeans of 2 groups









4. Hierarchical Clustering

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## Warning: package 'proxy' was built under R version 3.6.2
```
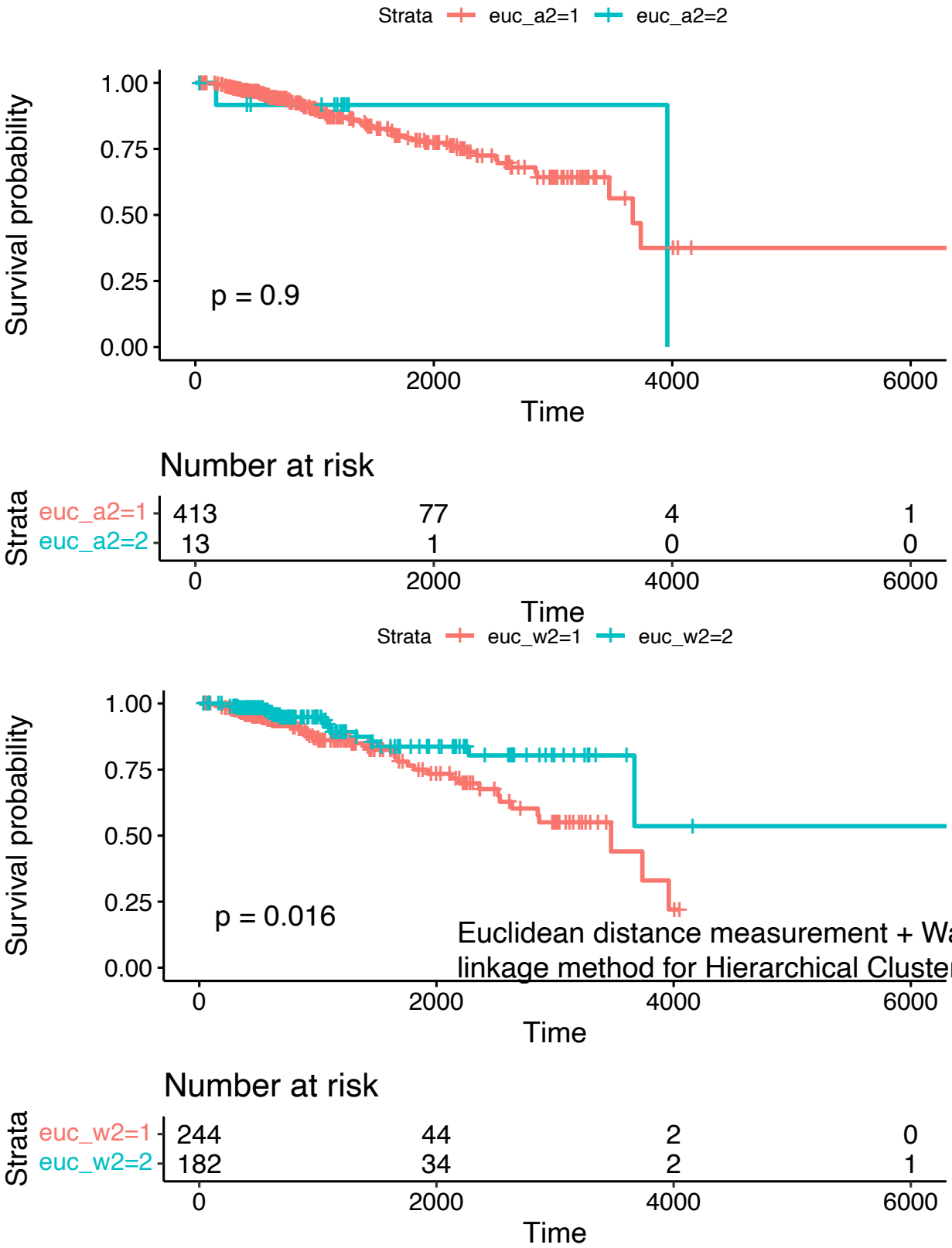
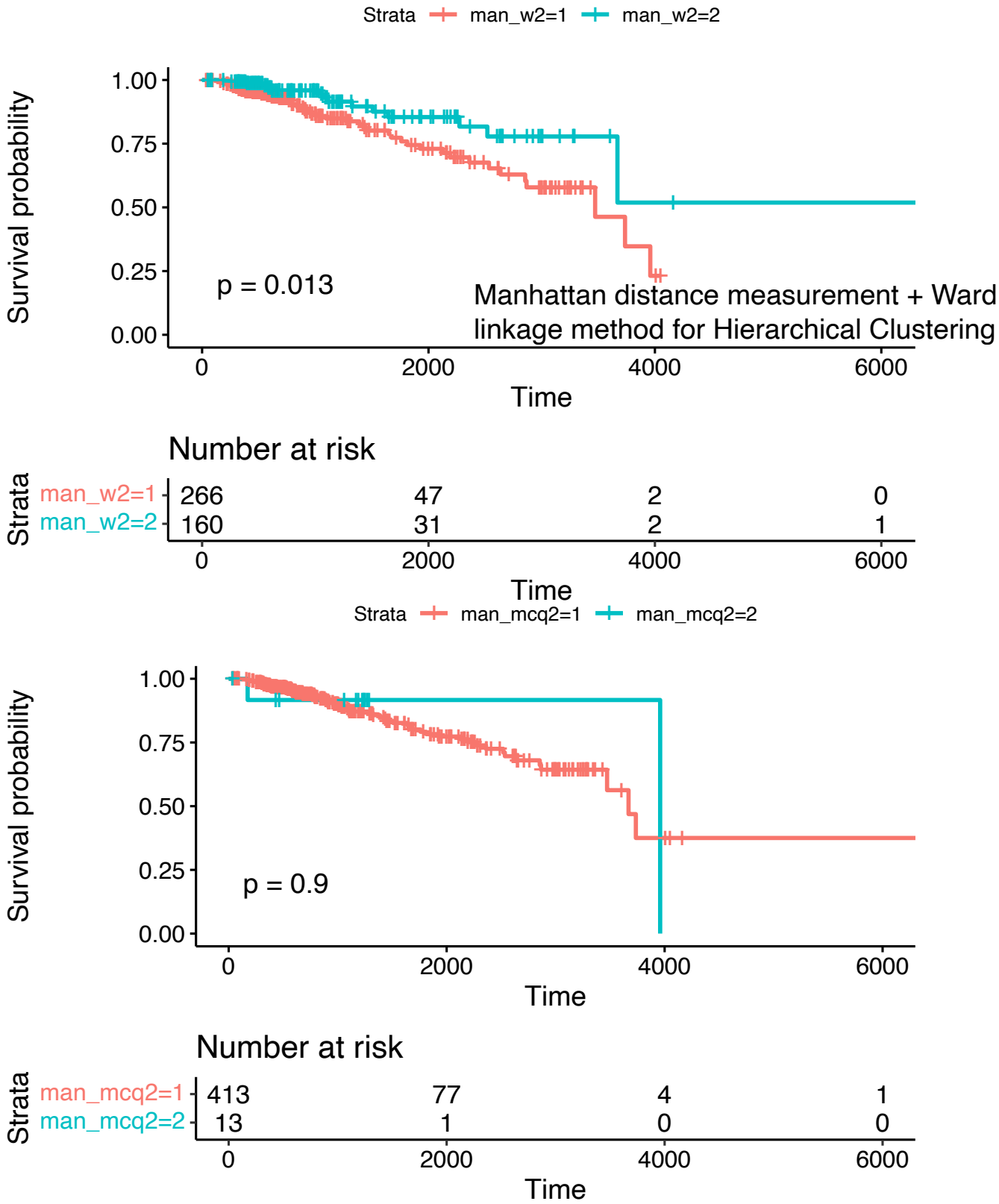
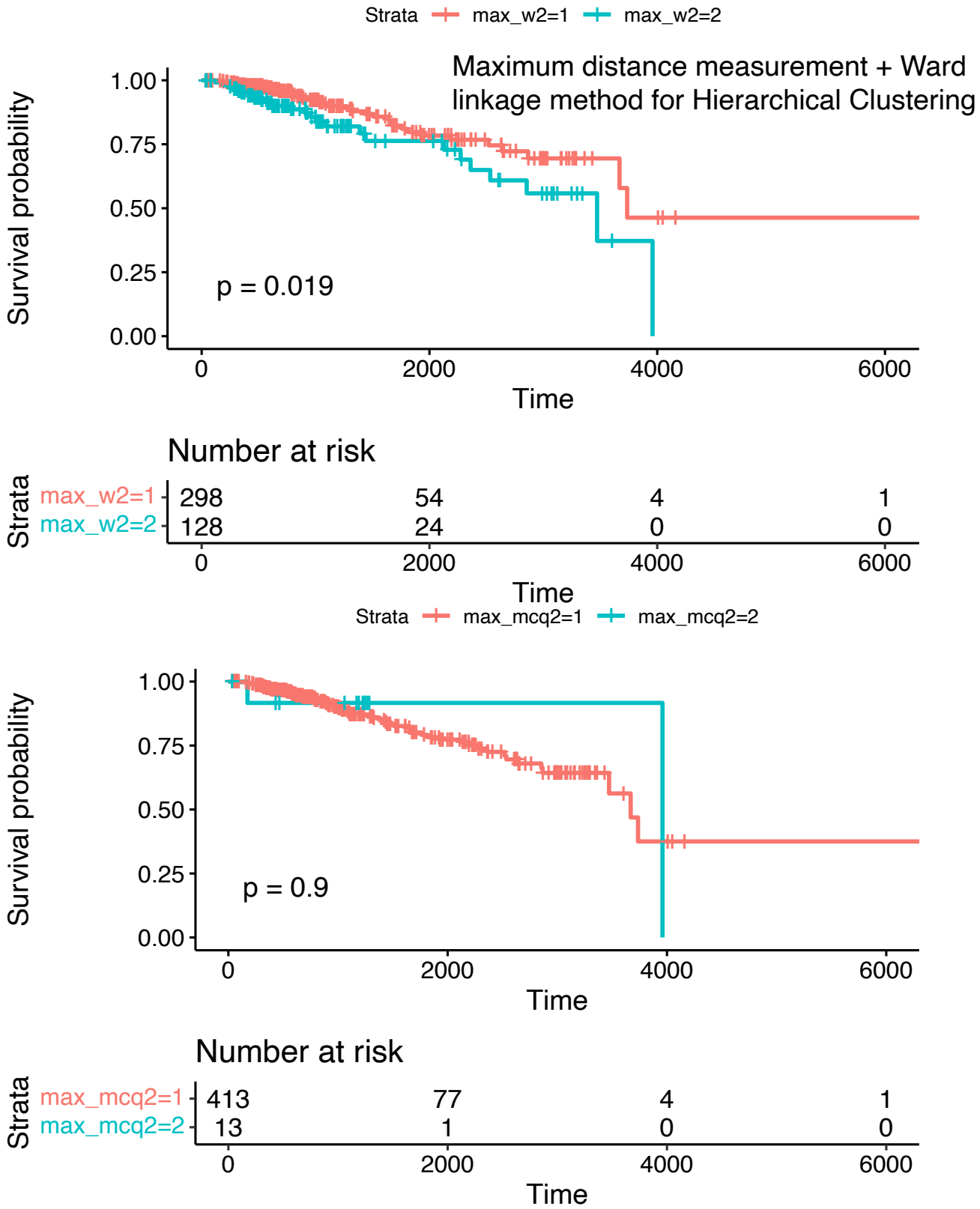
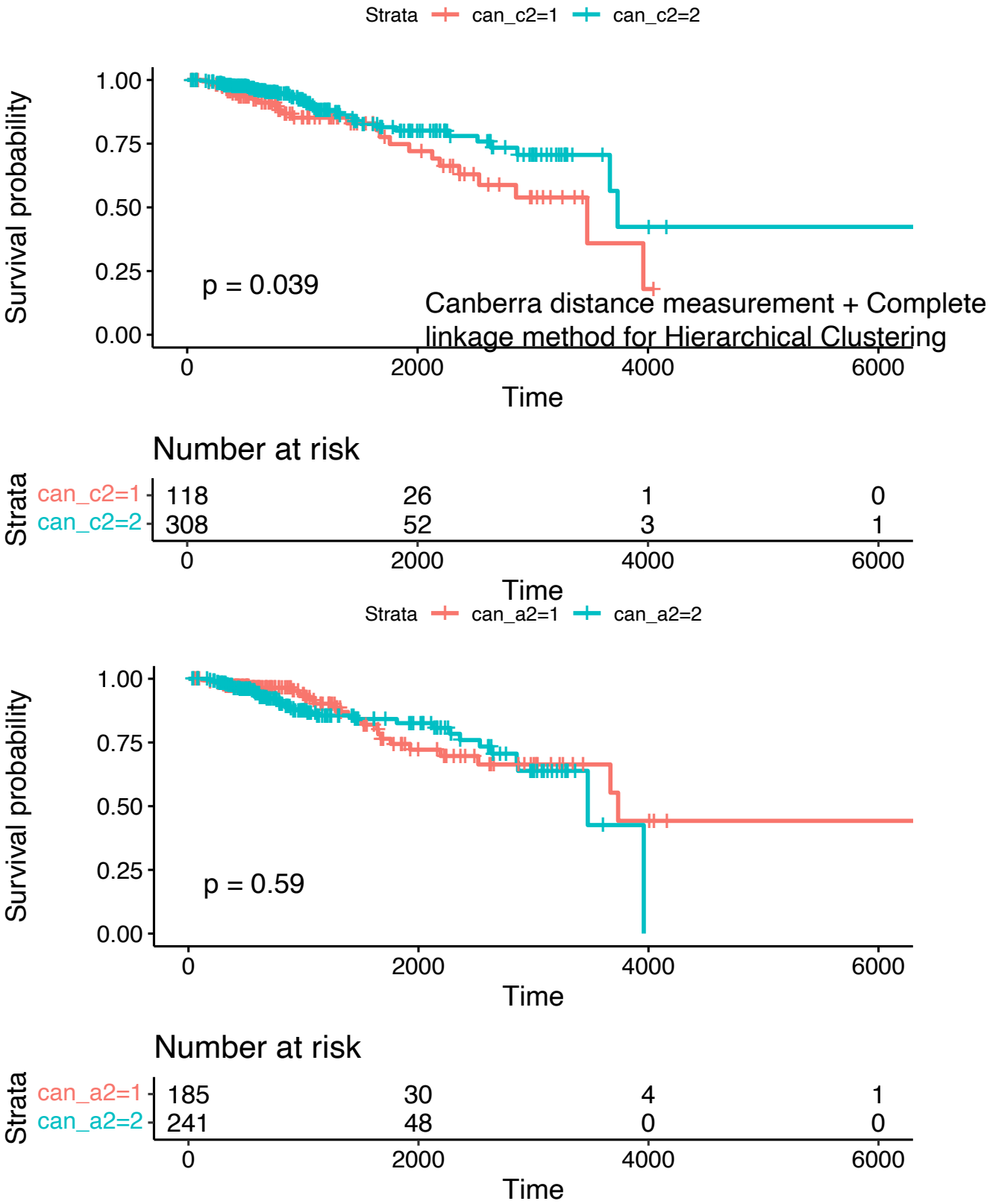
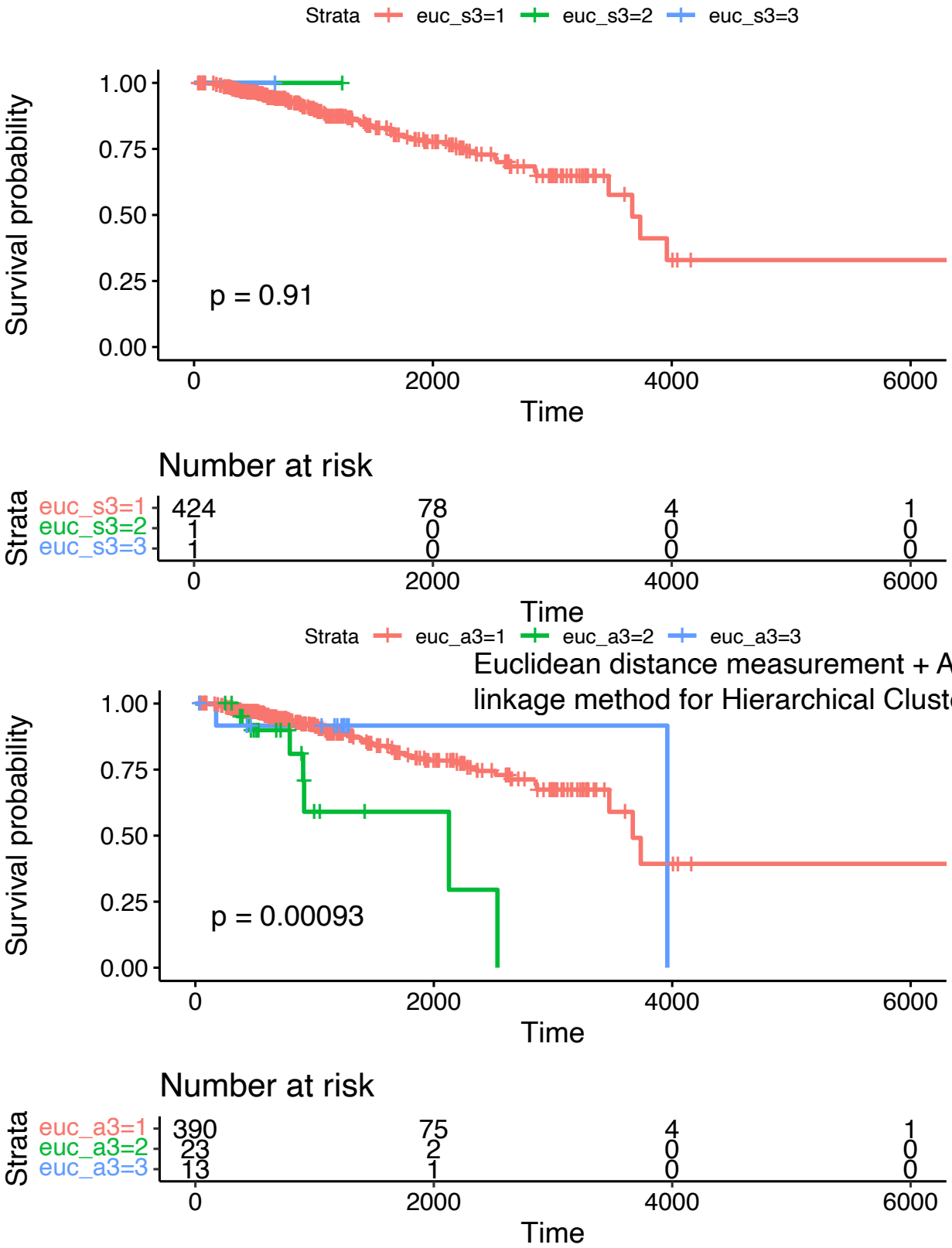
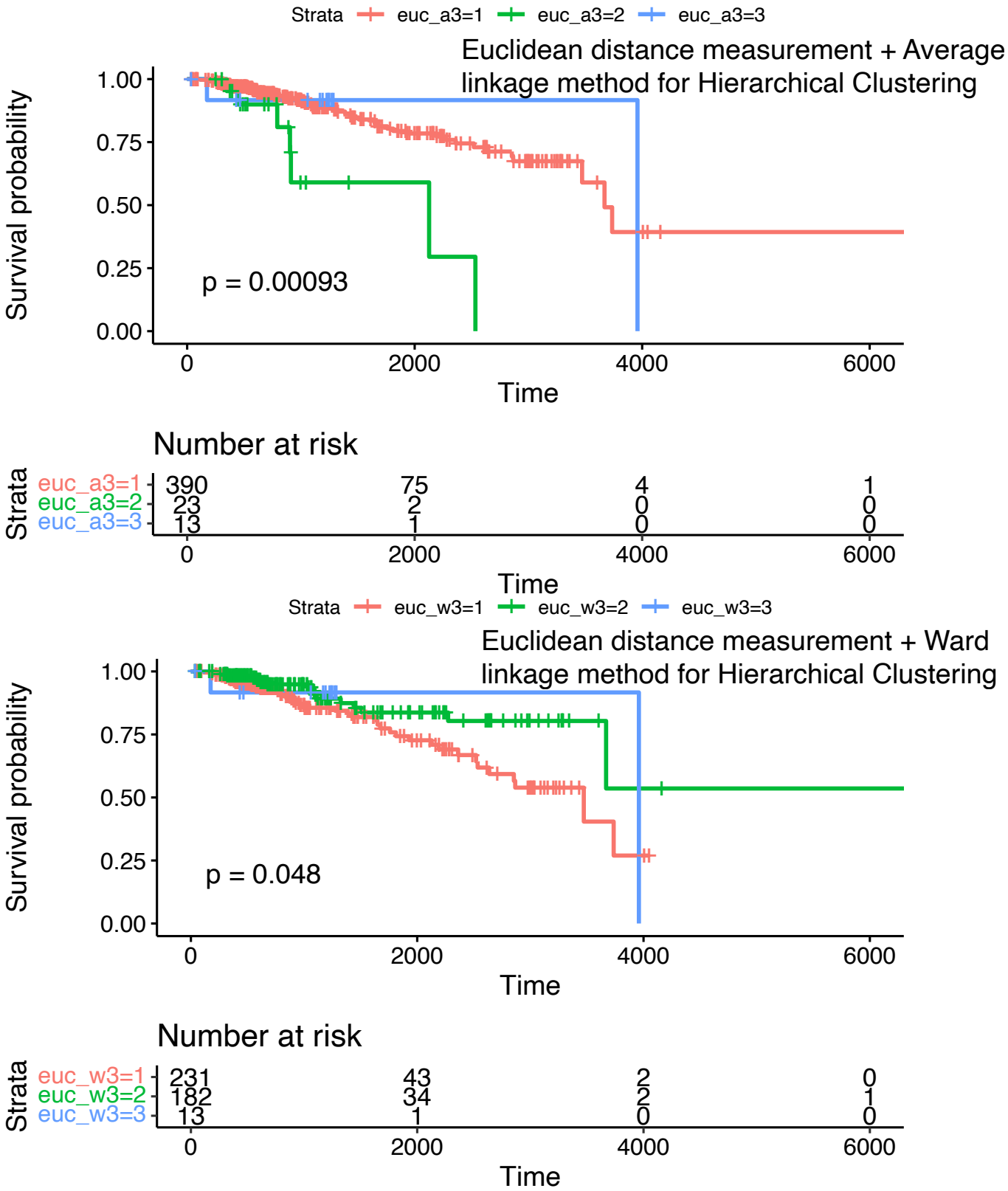


Strata euc_a2=1 euc_a2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.9
0
2000
4000
6000
Time
Number at risk
Strata
euc_a2=1
euc_a2=2
413
77
4
1
13
1
0
0
0
2000
4000
6000
Time
Strata euc_w2=1 euc_w2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.016
Euclidean distance measurement + Ward
linkage method for Hierarchical Clustering
0
2000
4000
6000
Time
Number at risk
Strata
euc_w2=1
euc_w2=2
244
44
2
0
182
34
2
1
0
2000
4000
6000
Time

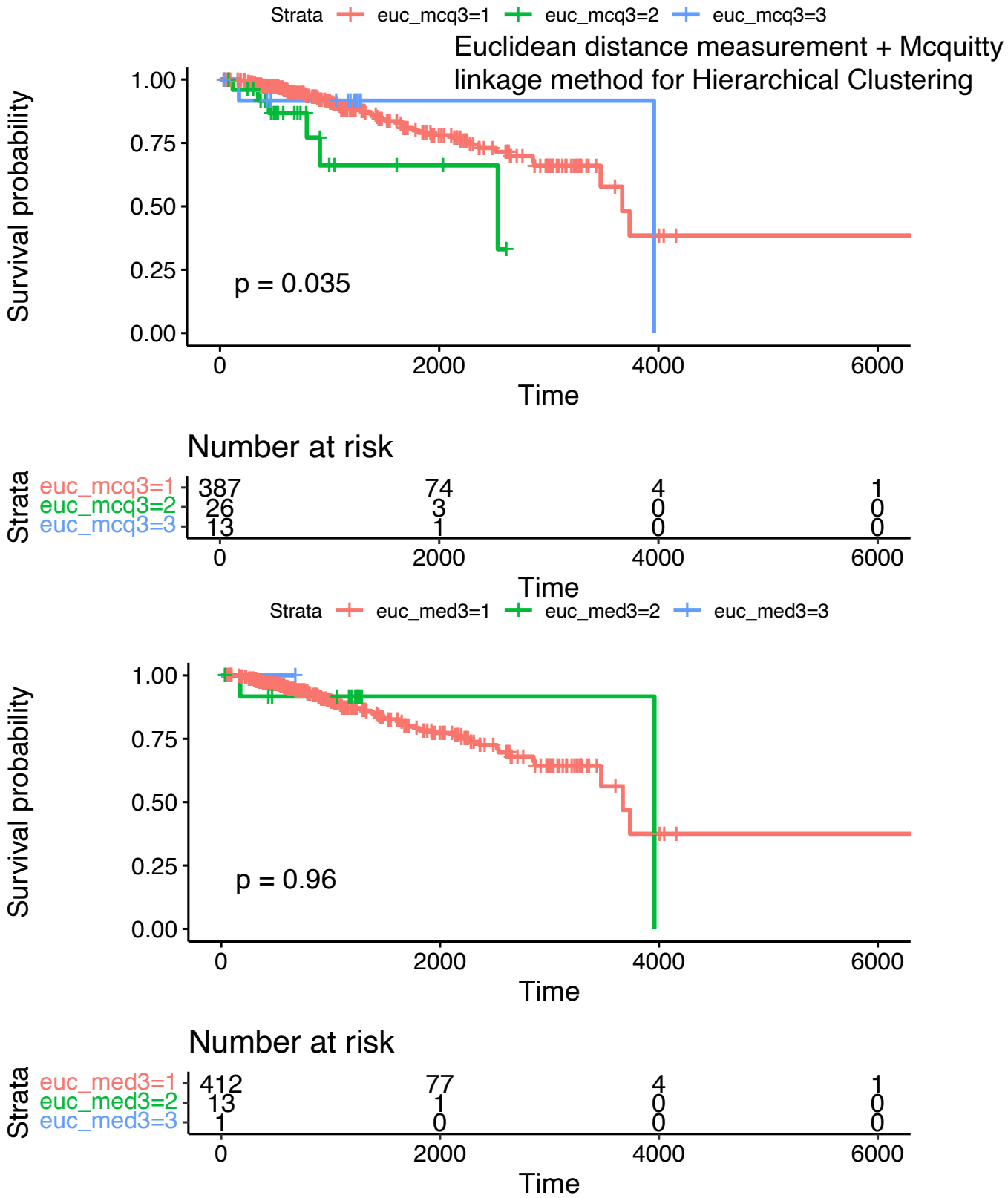

Strata man_w2=1 man_w2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.013
Manhattan distance measurement + Ward linkage method for Hierarchical Clustering
0
2000
4000
6000
Time
Number at risk
Strata
man_w2=1 266 47 2 0
man_w2=2 160 31 2 1
0
2000
4000
6000
Time
Strata man_mcq2=1 man_mcq2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.9
0
2000
4000
6000
Time
Number at risk
Strata
man_mcq2=1 413 77 4 1
man_mcq2=2 13 1 0 0
0
2000
4000
6000
Time

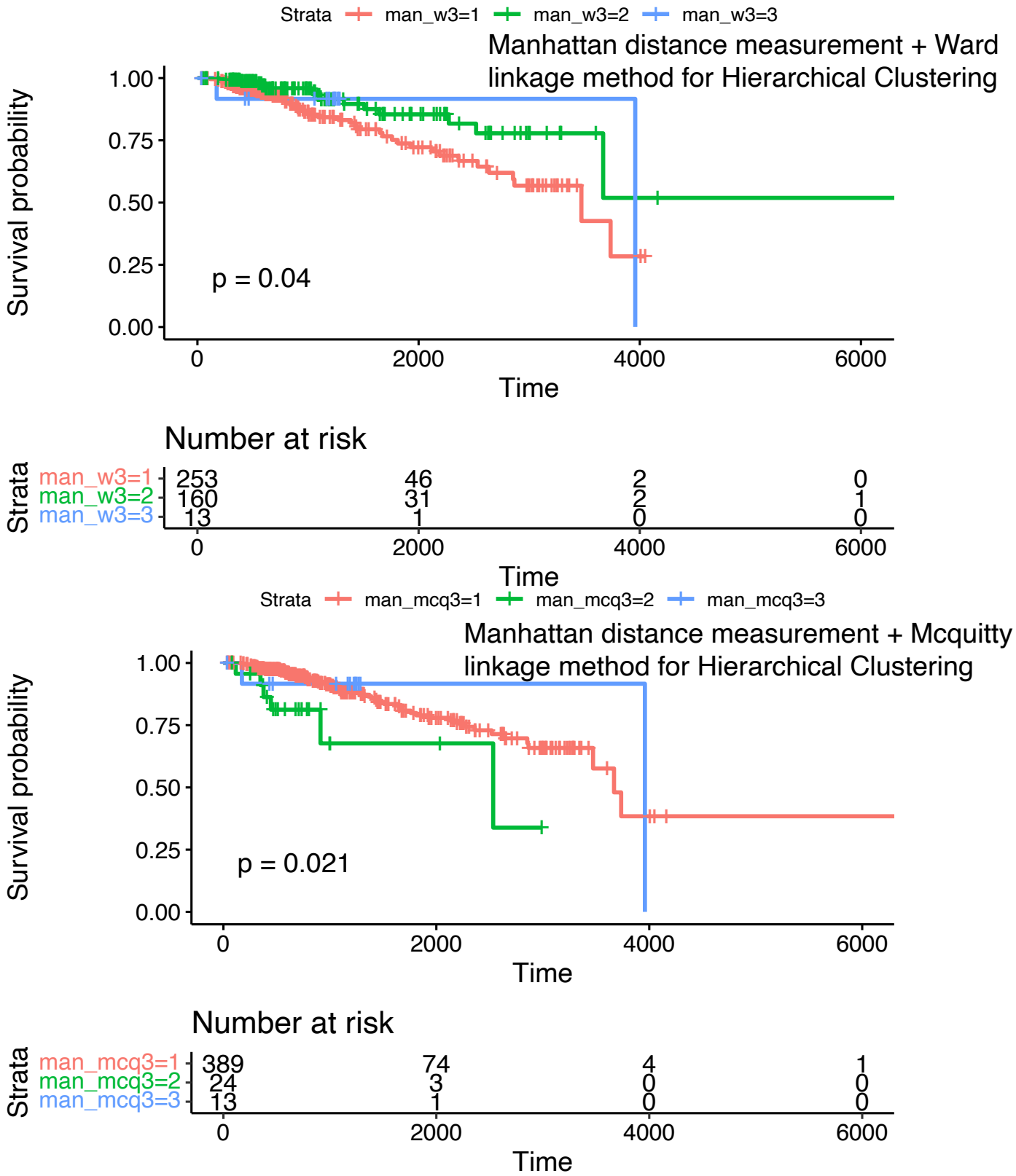

Strata max_w2=1 max_w2=2
Maximum distance measurement + Ward linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.019
0
2000
4000
6000
Time
Number at risk
Strata
max_w2=1 298 54 4 1
max_w2=2 128 24 0 0
0
2000
4000
6000
Time
Strata max_mcq2=1 max_mcq2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.9
0
2000
4000
6000
Time
Number at risk
Strata
max_mcq2=1 413 77 4 1
max_mcq2=2 13 1 0 0
0
2000
4000
6000
Time

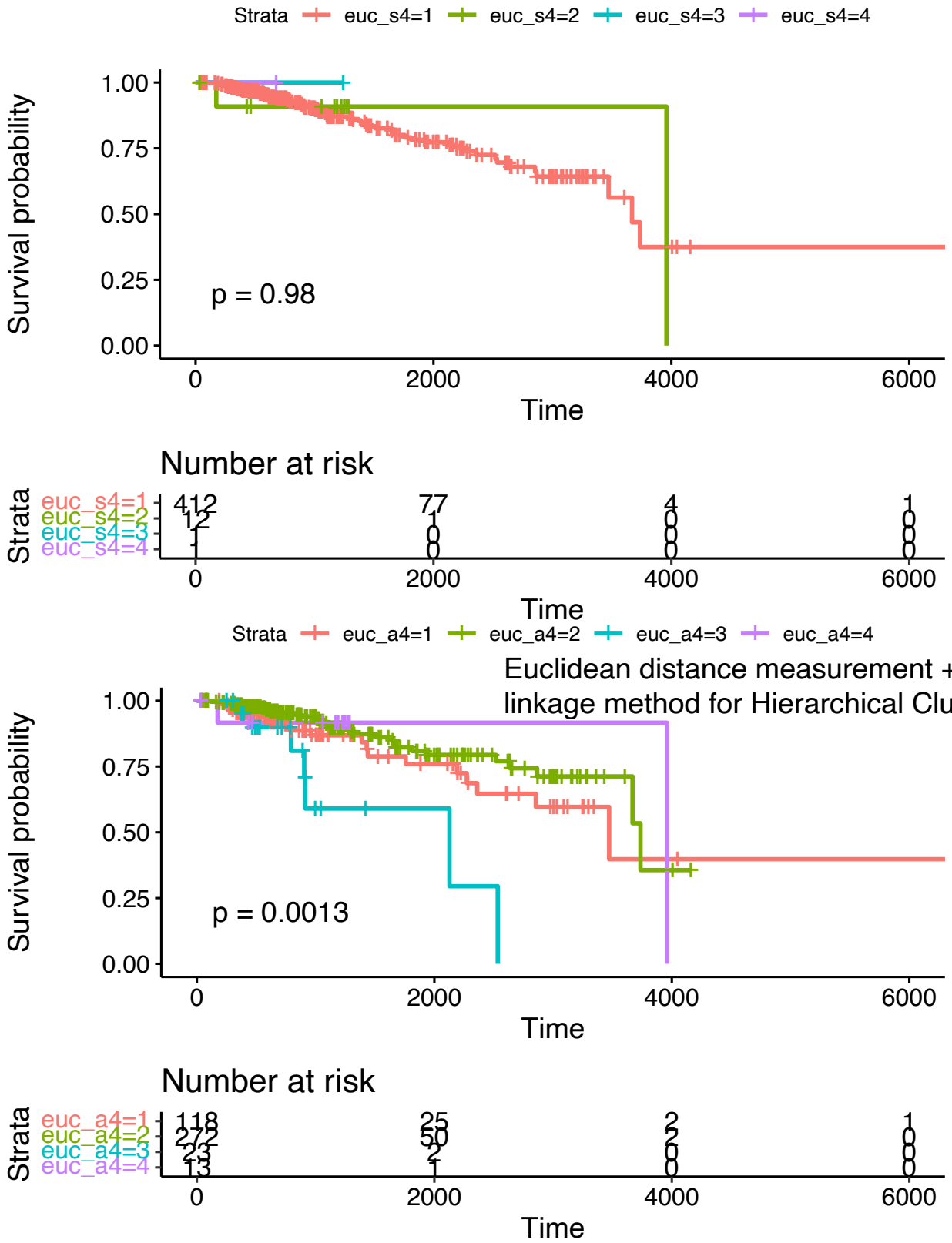

Strata can_c2=1 can_c2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.039
Canberra distance measurement + Complete linkage method for Hierarchical Clustering
0
2000
4000
6000
Time
Number at risk
Strata
can_c2=1
can_c2=2
118
26
1
0
308
52
3
1
0
2000
4000
6000
Time
Strata can_a2=1 can_a2=2
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.59
0
2000
4000
6000
Time
Number at risk
Strata
can_a2=1
can_a2=2
185
30
4
1
241
48
0
0
0
2000
4000
6000
Time

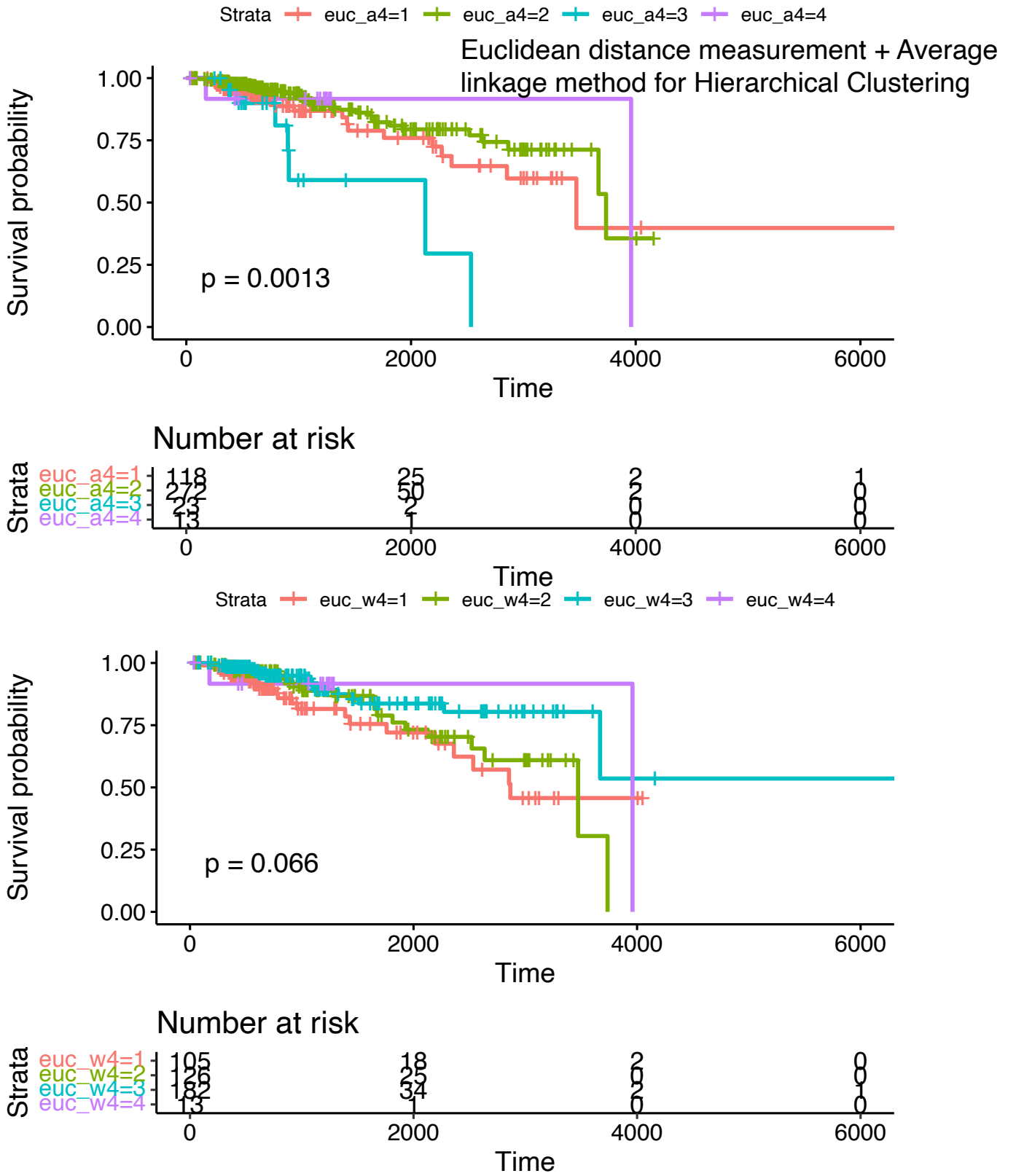

Strata euc_s3=1 euc_s3=2 euc_s3=3
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.91
0
2000
4000
6000
Time
Number at risk
Strata
euc_s3=1 424 78 4 1
euc_s3=2 1 0 0 0
euc_s3=3 1 0 0 0
0
2000
4000
6000
Time
Strata euc_a3=1 euc_a3=2 euc_a3=3
Euclidean distance measurement + Average linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.00093
0
2000
4000
6000
Time
Number at risk
Strata
euc_a3=1 390 75 4 1
euc_a3=2 23 2 0 0
euc_a3=3 13 1 0 0
0
2000
4000
6000
Time

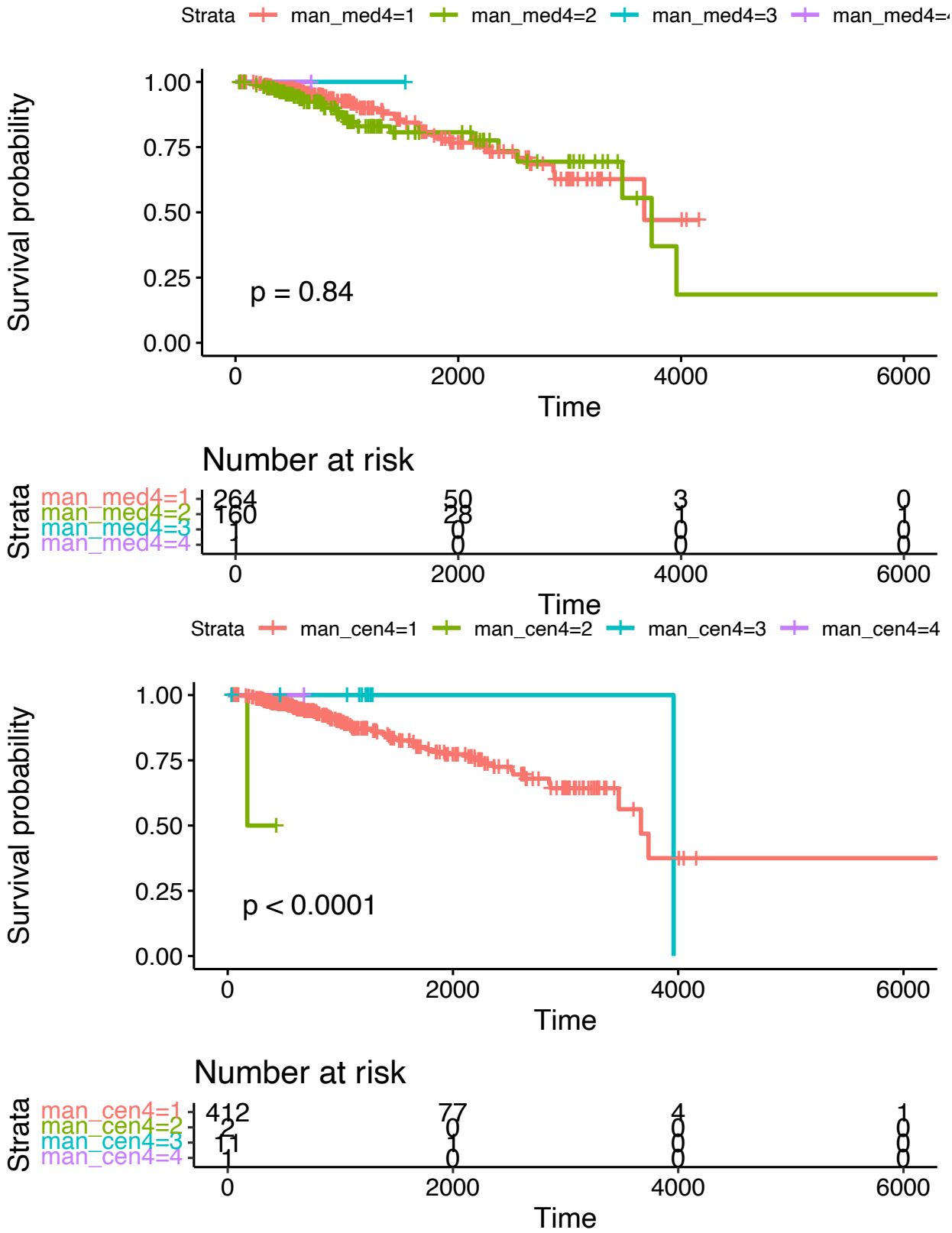

Strata euc_a3=1 euc_a3=2 euc_a3=3
Euclidean distance measurement + Average linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.00093
0
2000
4000
6000
Time
Number at risk
Strata
euc_a3=1 390 75 4 1
euc_a3=2 23 2 0 0
euc_a3=3 13 1 0 0
0
2000
4000
6000
Time
Strata euc_w3=1 euc_w3=2 euc_w3=3
Euclidean distance measurement + Ward linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.048
0
2000
4000
6000
Time
Number at risk
Strata
euc_w3=1 231 43 2 0
euc_w3=2 182 34 2 1
euc_w3=3 13 1 0 0
0
2000
4000
6000
Time


Strata euc_mcq3=1 euc_mcq3=2 euc_mcq3=3
Euclidean distance measurement + Mcquitty linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.035
0
2000
4000
6000
Time
Number at risk
Strata
euc_mcq3=1 387 74 4 1
euc_mcq3=2 26 3 0 0
euc_mcq3=3 13 1 0 0
0
2000
4000
6000
Time
Strata euc_med3=1 euc_med3=2 euc_med3=3
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.96
0
2000
4000
6000
Time
Number at risk
Strata
euc_med3=1 412 77 4 1
euc_med3=2 13 1 0 0
euc_med3=3 1 0 0 0
0
2000
4000
6000
Time

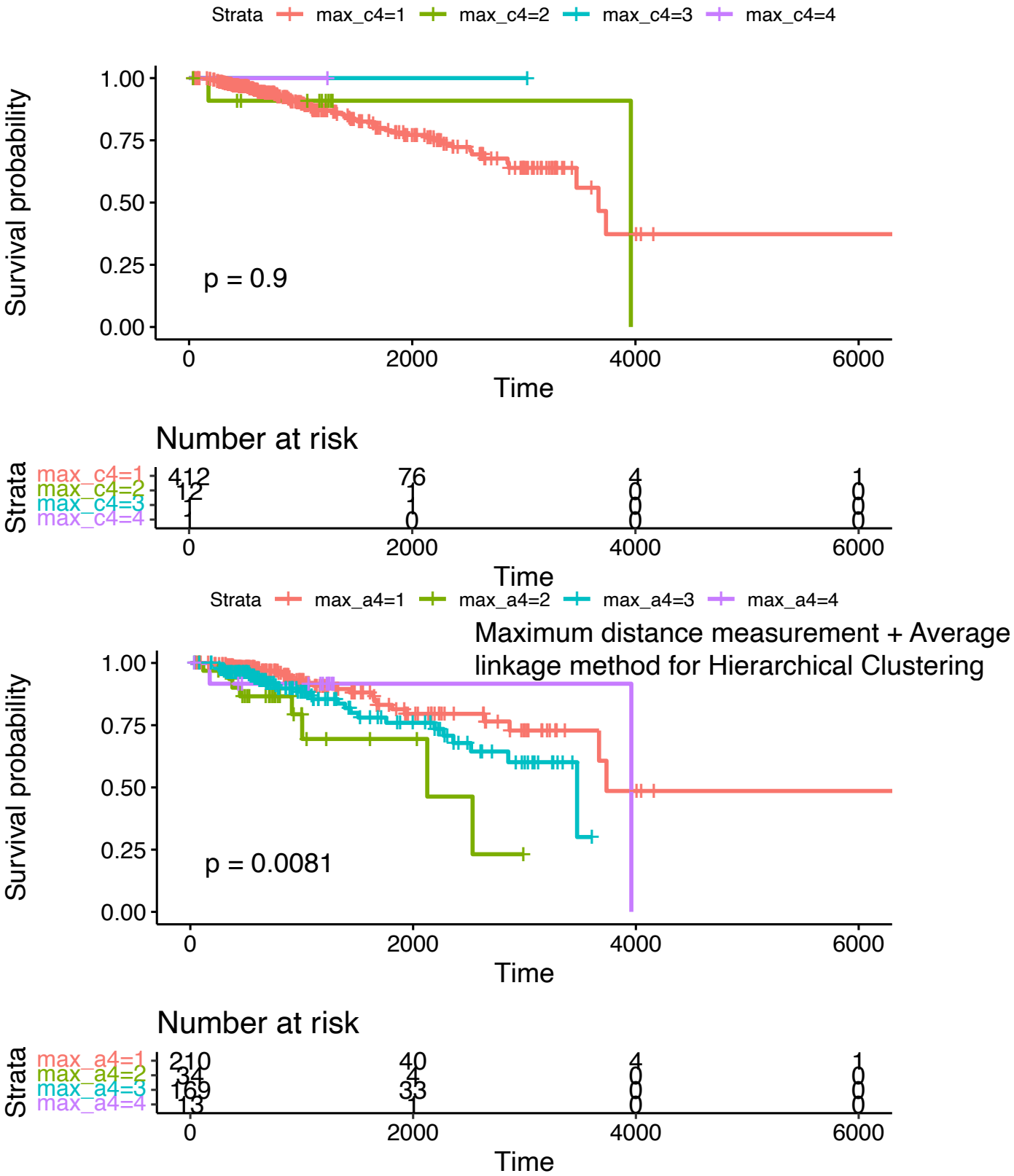

Strata man_w3=1 man_w3=2 man_w3=3
Manhattan distance measurement + Ward linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.04
0
2000
4000
6000
Time
Number at risk
Strata
man_w3=1 253 46 2 0
man_w3=2 160 31 2 1
man_w3=3 13 1 0 0
0
2000
4000
6000
Time
Strata man_mcq3=1 man_mcq3=2 man_mcq3=3
Manhattan distance measurement + Mcquitty linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.021
0
2000
4000
6000
Time
Number at risk
Strata
man_mcq3=1 389 74 4 1
man_mcq3=2 24 3 0 0
man_mcq3=3 13 1 0 0
0
2000
4000
6000
Time

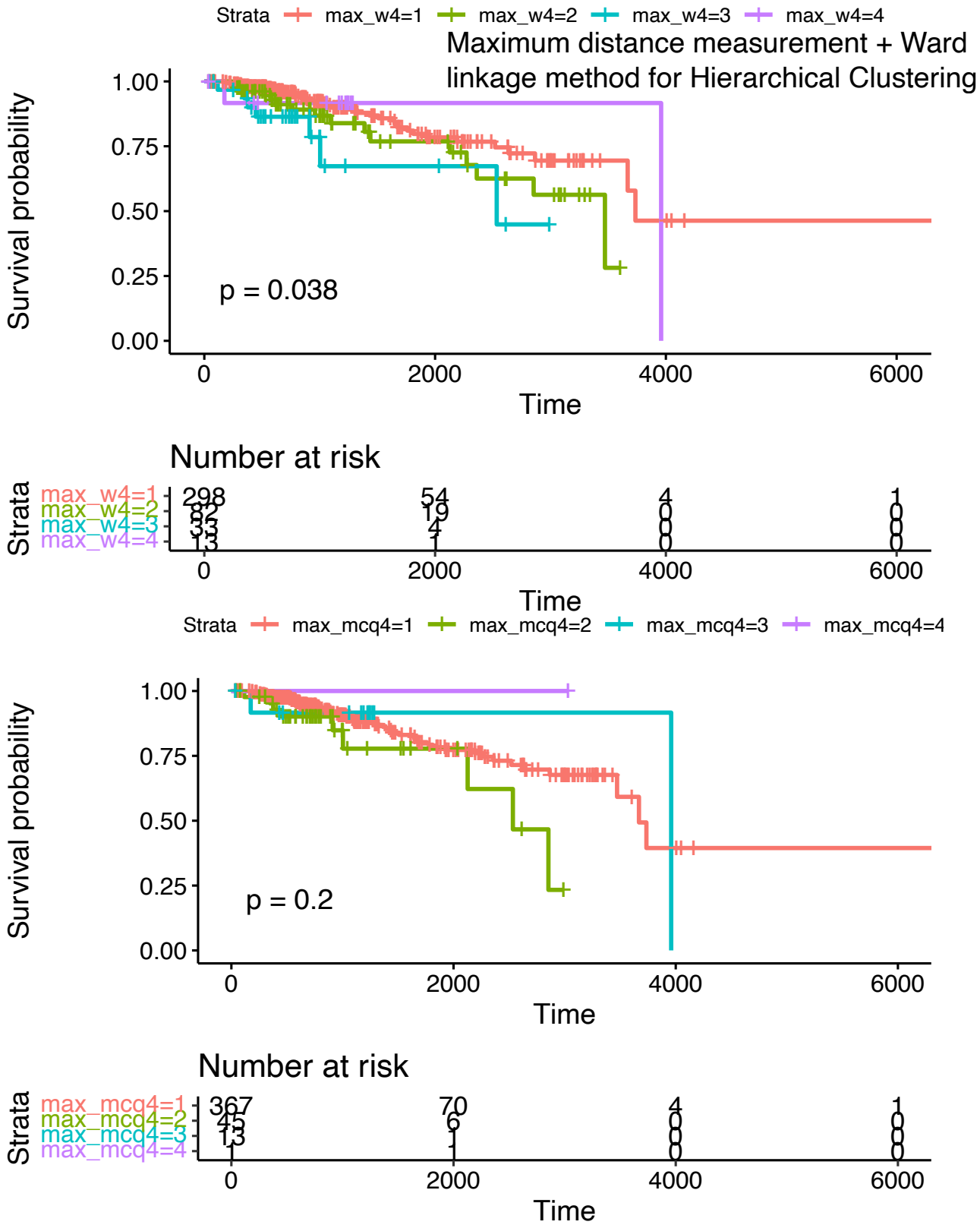

Strata euc_s4=1 euc_s4=2 euc_s4=3 euc_s4=4
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.98
0
2000
4000
6000
Time
Number at risk
Strata
euc_s4=1
euc_s4=2
euc_s4=3
euc_s4=4
412
77
4
1
12
1
0
0
1
0
0
0
0
2000
4000
6000
Time
Strata euc_a4=1 euc_a4=2 euc_a4=3 euc_a4=4
Euclidean distance measurement + Average linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.0013
0
2000
4000
6000
Time
Number at risk
Strata
euc_a4=1
euc_a4=2
euc_a4=3
euc_a4=4
118
25
2
1
272
50
2
0
23
2
0
0
13
1
0
0
0
2000
4000
6000
Time

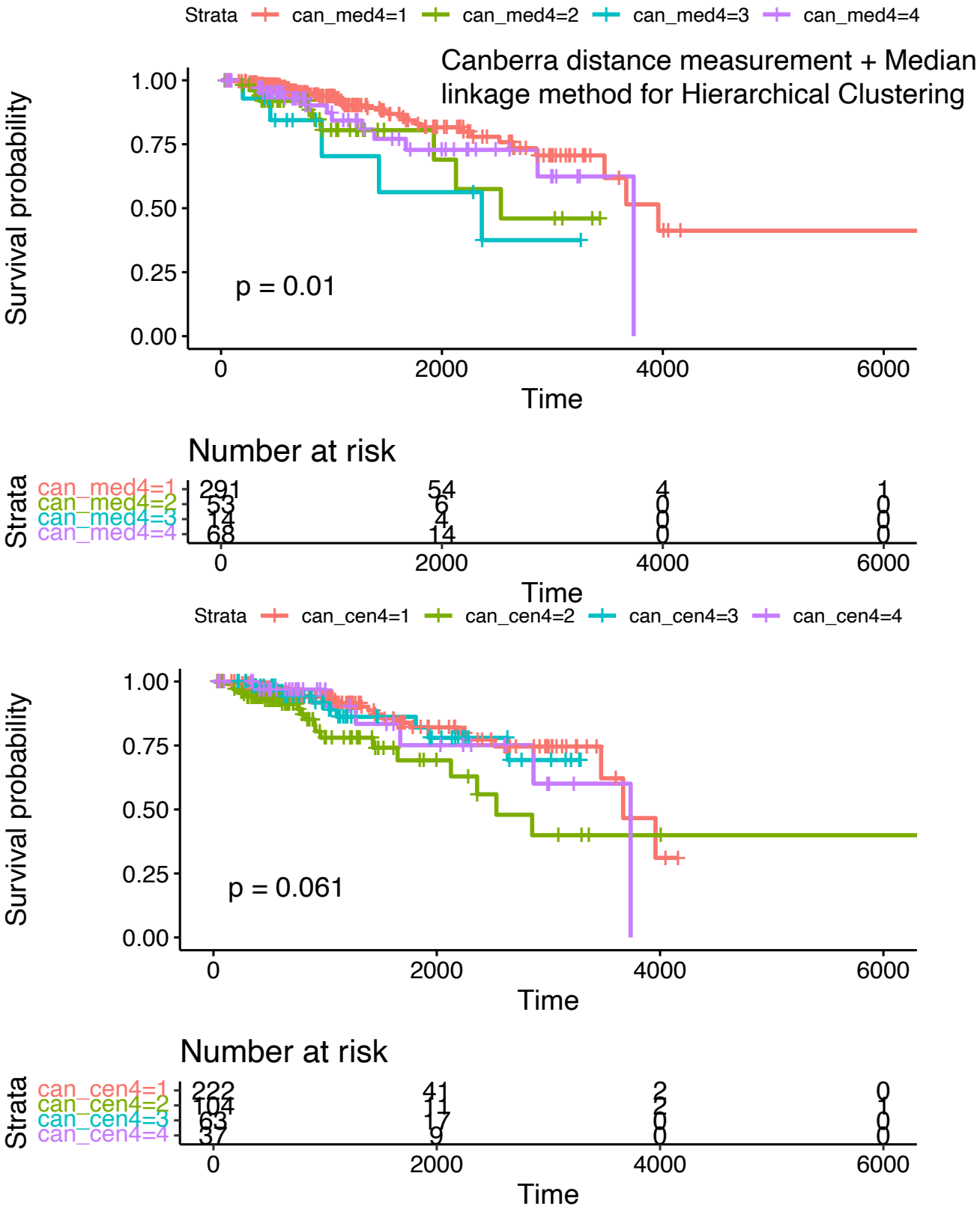

Strata euc_a4=1 euc_a4=2 euc_a4=3 euc_a4=4
Euclidean distance measurement + Average linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.0013
0
2000
4000
6000
Time
Number at risk
Strata
euc_a4=1
euc_a4=2
euc_a4=3
euc_a4=4
118
272
23
13
25
50
2
1
2
2
0
0
1
0
0
0
0
2000
4000
6000
Time
Strata euc_w4=1 euc_w4=2 euc_w4=3 euc_w4=4
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.066
0
2000
4000
6000
Time
Number at risk
Strata
euc_w4=1
euc_w4=2
euc_w4=3
euc_w4=4
105
126
182
13
18
25
34
1
2
0
2
0
0
1
1
0
0
2000
4000
6000
Time



Manhattan distance measurement + Centroid linkage method for Hierarchical Clustering


Strata max_c4=1 max_c4=2 max_c4=3 max_c4=4
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.9
0
2000
4000
6000
Time
Number at risk
Strata
max_c4=1
max_c4=2
max_c4=3
max_c4=4
412
12
1
1
76
1
1
0
4
0
0
0
1
0
0
0
0
2000
4000
6000
Time
Strata max_a4=1 max_a4=2 max_a4=3 max_a4=4
Maximum distance measurement + Average linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.0081
0
2000
4000
6000
Time
Number at risk
Strata
max_a4=1
max_a4=2
max_a4=3
max_a4=4
210
34
169
13
40
4
33
1
4
0
0
0
1
0
0
0
0
2000
4000
6000
Time


Strata max_w4=1 max_w4=2 max_w4=3 max_w4=4
Maximum distance measurement + Ward linkage method for Hierarchical Clustering
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.038
0
2000
4000
6000
Time
Number at risk
Strata
max_w4=1 298 54 4 1
max_w4=2 82 19 0 0
max_w4=3 33 4 0 0
max_w4=4 13 1 0 0
0
2000
4000
6000
Time
Strata max_mcq4=1 max_mcq4=2 max_mcq4=3 max_mcq4=4
Survival probability
1.00
0.75
0.50
0.25
0.00
p = 0.2
0
2000
4000
6000
Time
Number at risk
Strata
max_mcq4=1 367 70 4 1
max_mcq4=2 45 6 0 0
max_mcq4=3 13 1 0 0
max_mcq4=4 1 0 0 0
0
2000
4000
6000
Time



3. DBSCAN

```
## Warning: package 'dbscan' was built under R version 3.6.2
```