



Annex 5: Statistical data analysis

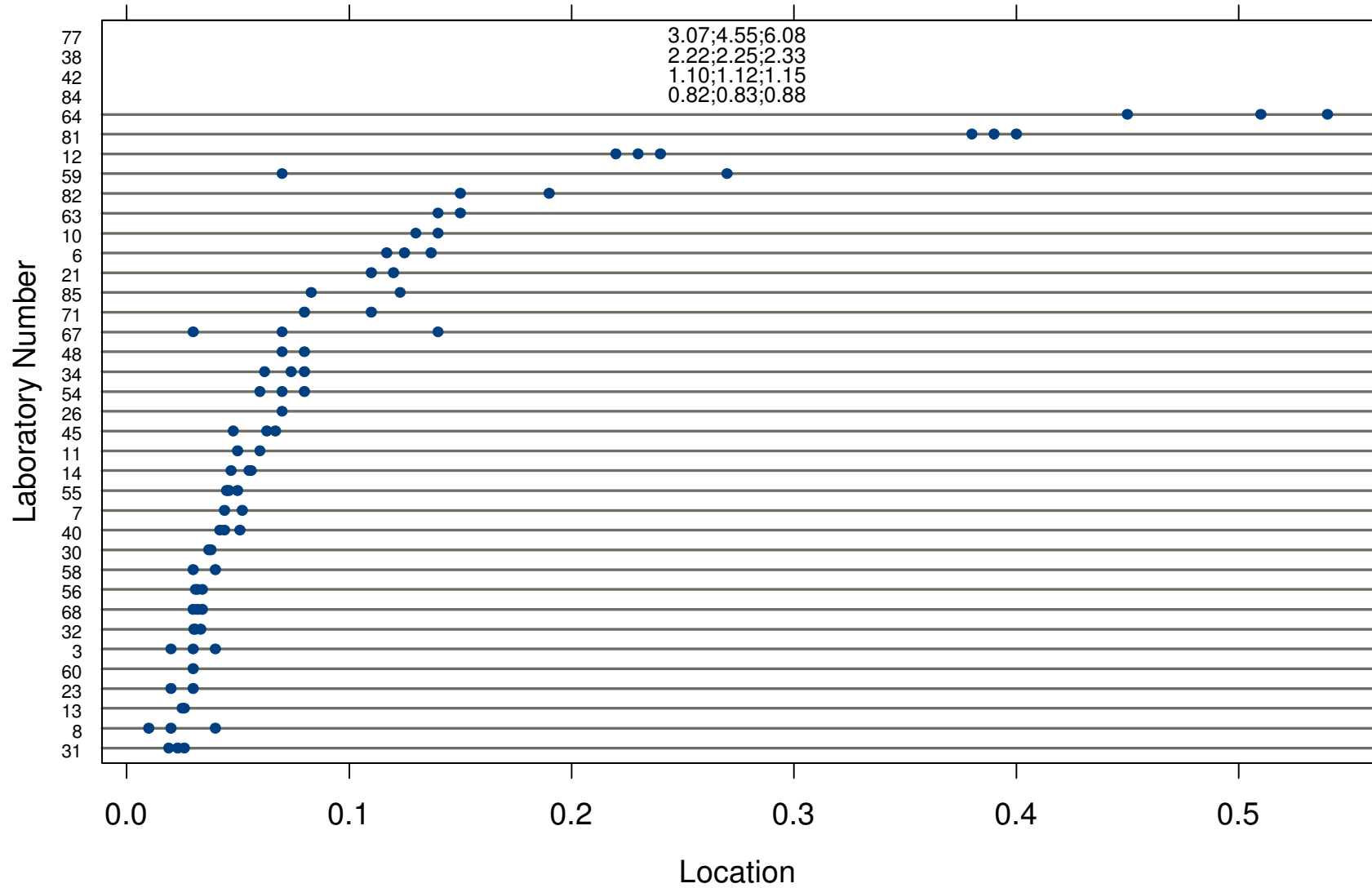
Exchangeable cations (SA10)

Basic cations

Exchangeable Ca

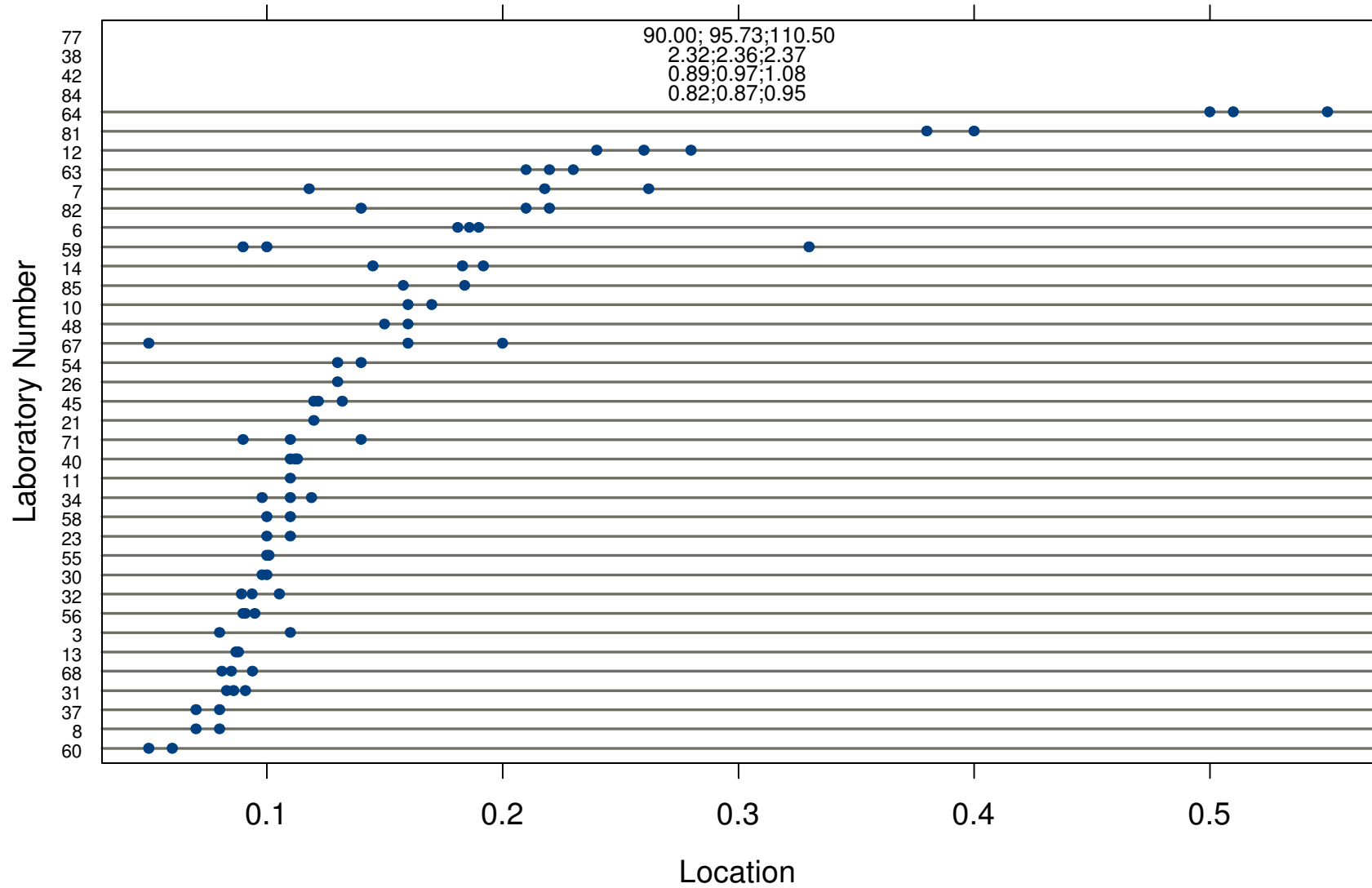
Dot plot sample A

6 - Exchangeable Ca - Sample A



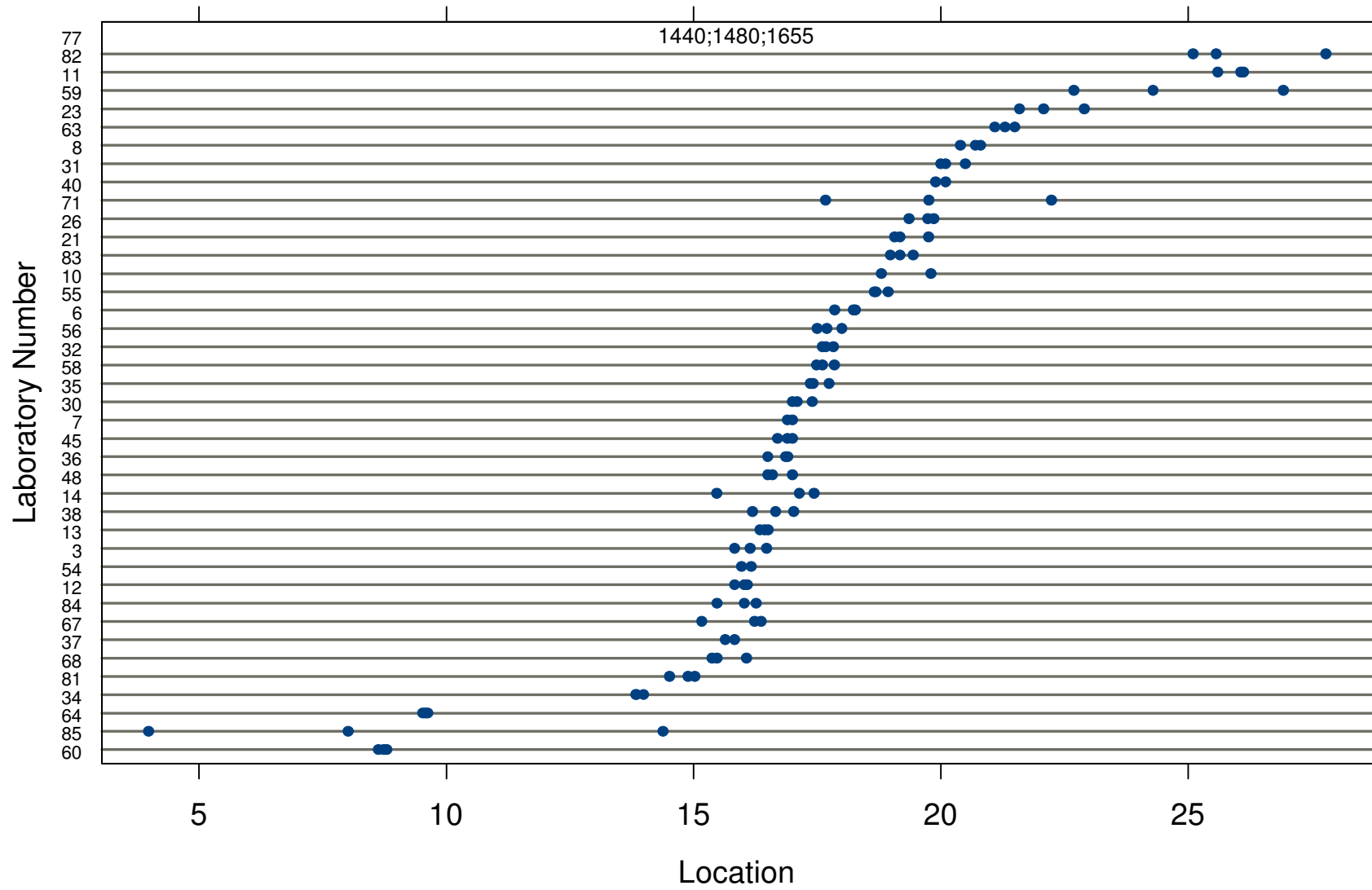
Dot plot sample B

6 - Exchangeable Ca - Sample B



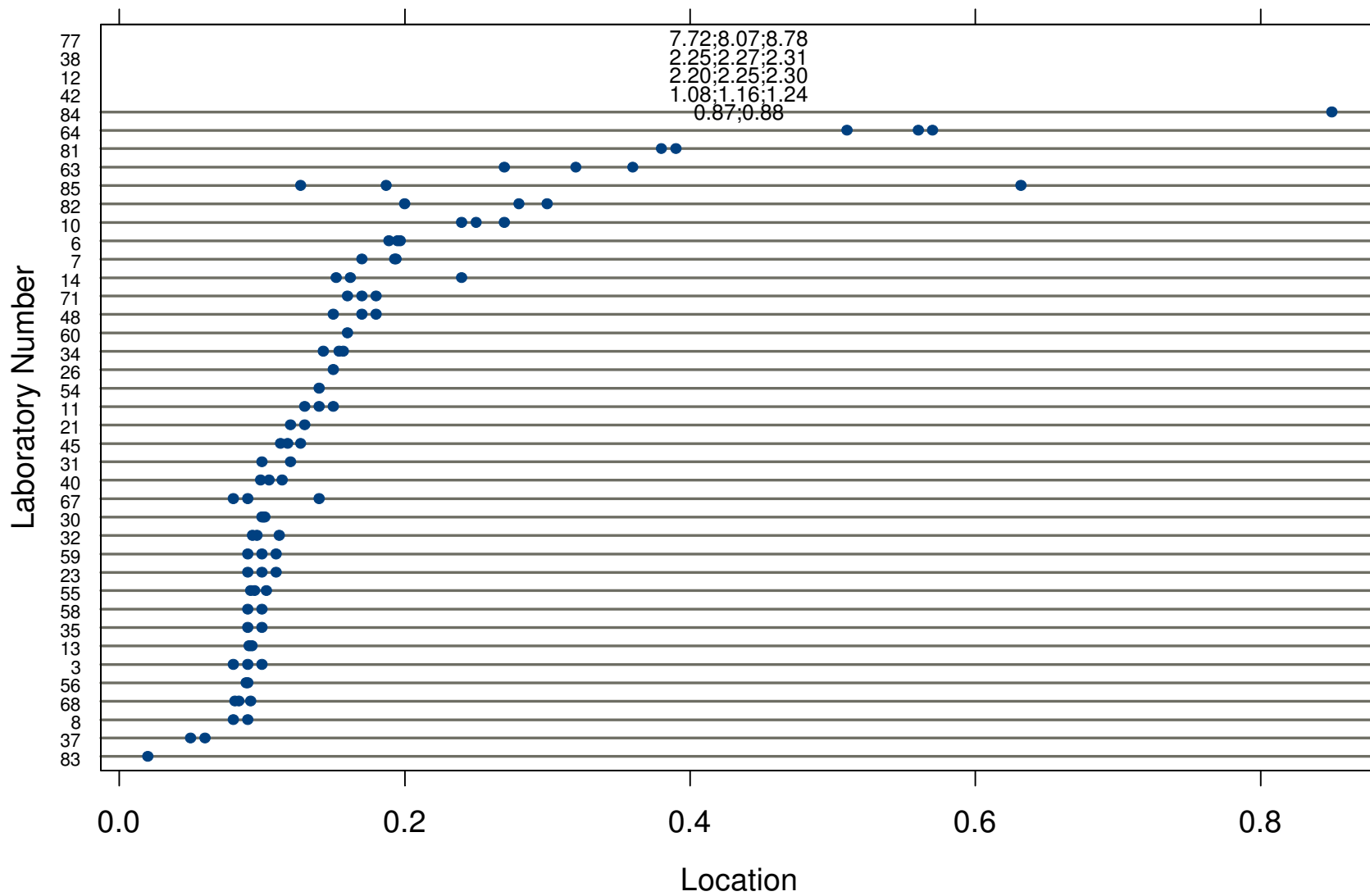
Dot plot sample C

6 - Exchangeable Ca - Sample C



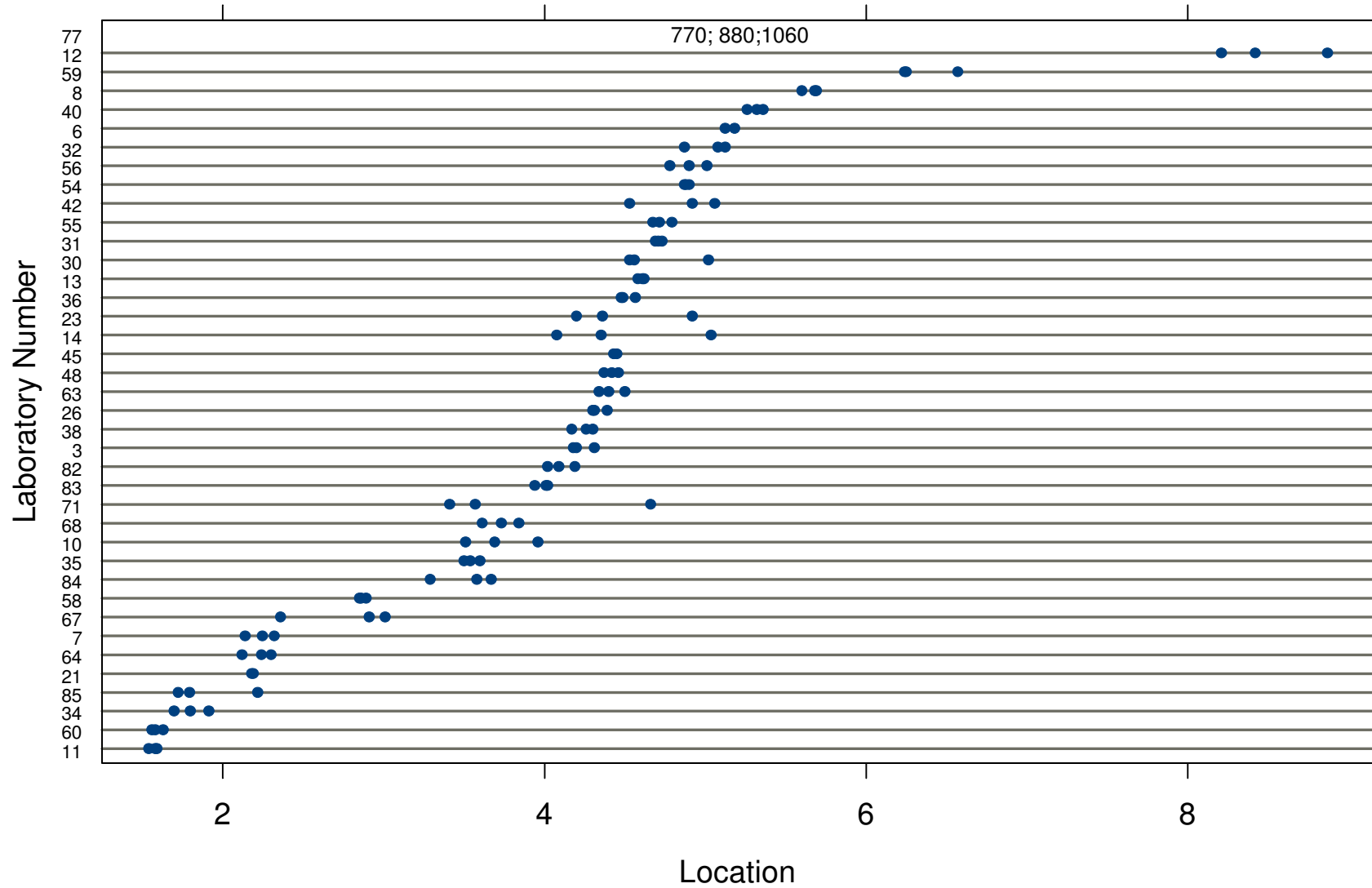
Dot plot sample D

6 - Exchangeable Ca - Sample D

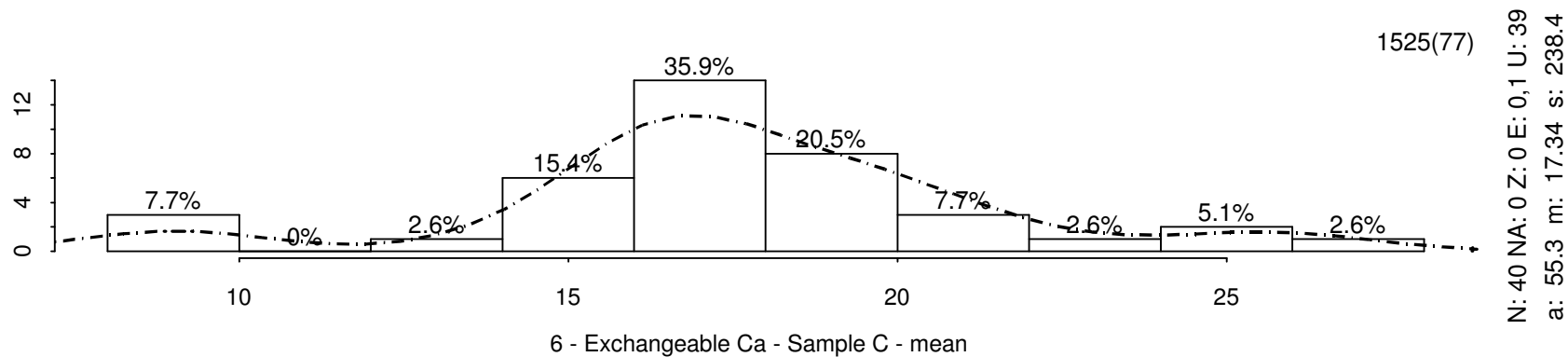
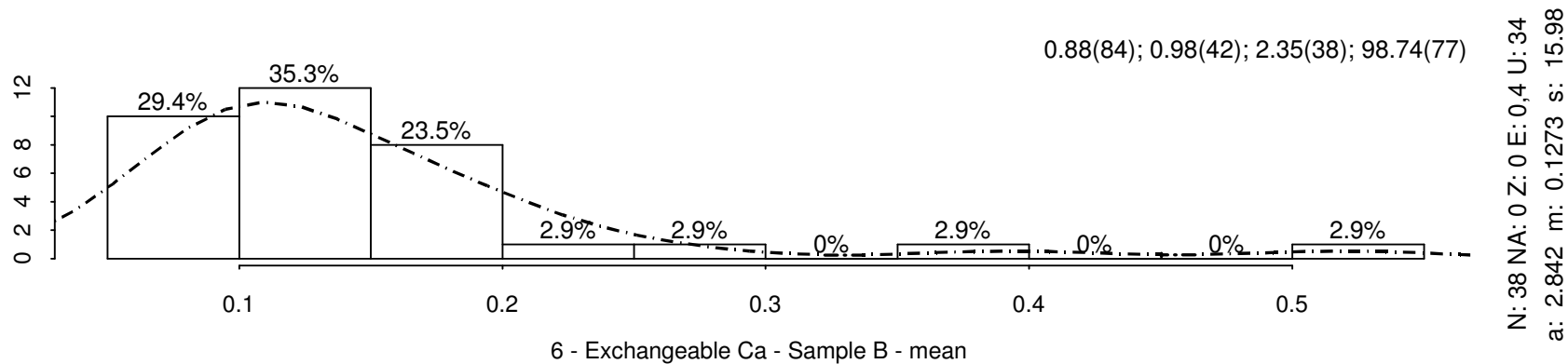
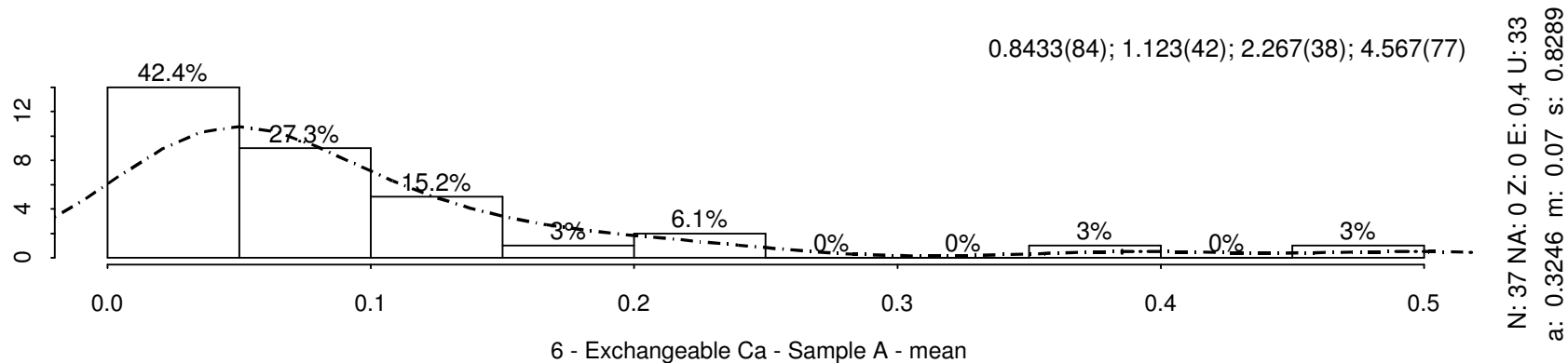


Dot plot sample E

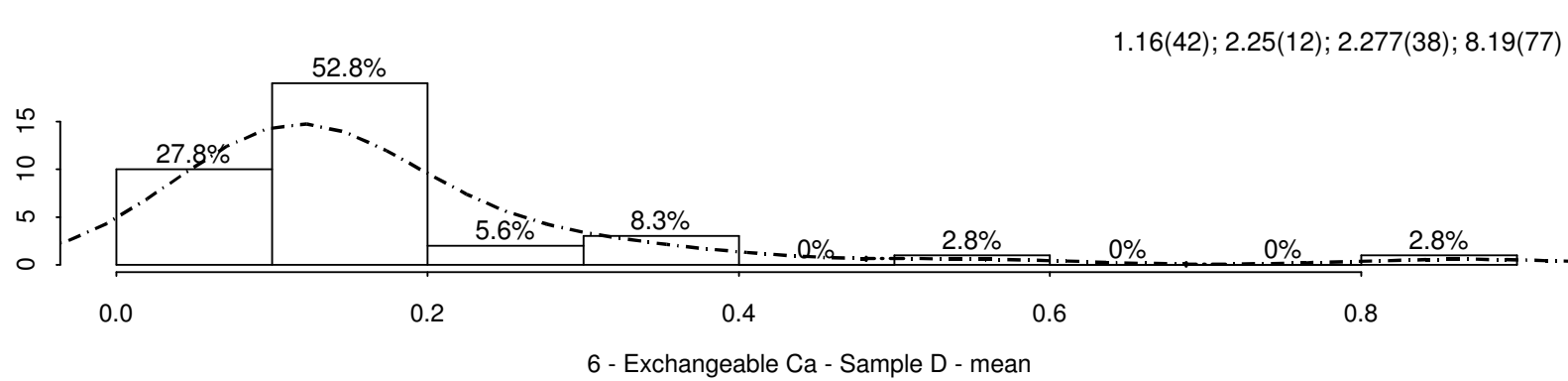
6 - Exchangeable Ca - Sample E



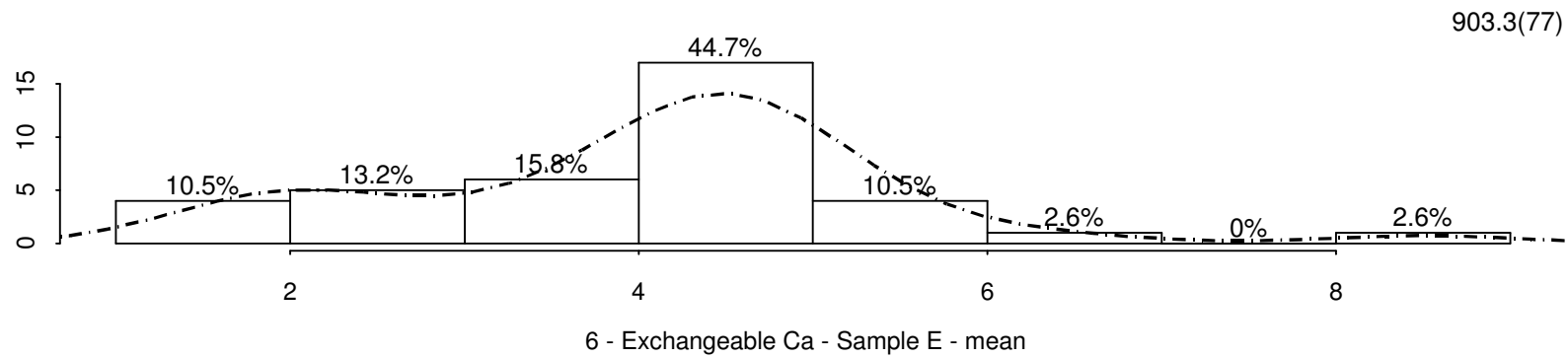
Histogram of the means of samples A, B and C



Histogram of the mans of samples D and E

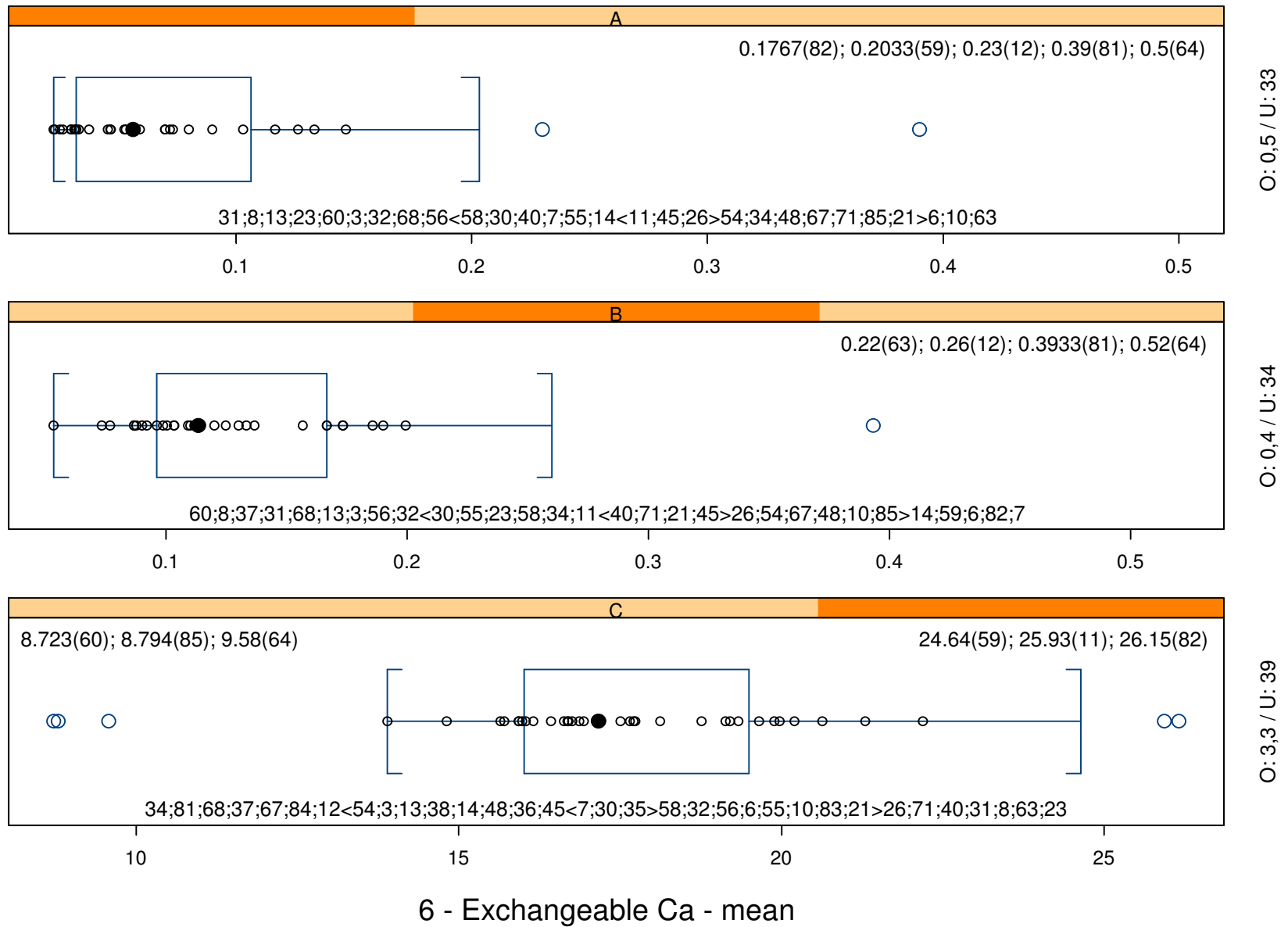


N: 40 NA: 0 Z: 0 E: 0.4 U: 36
a: 0.5057 m: 0.14 s: 1.344

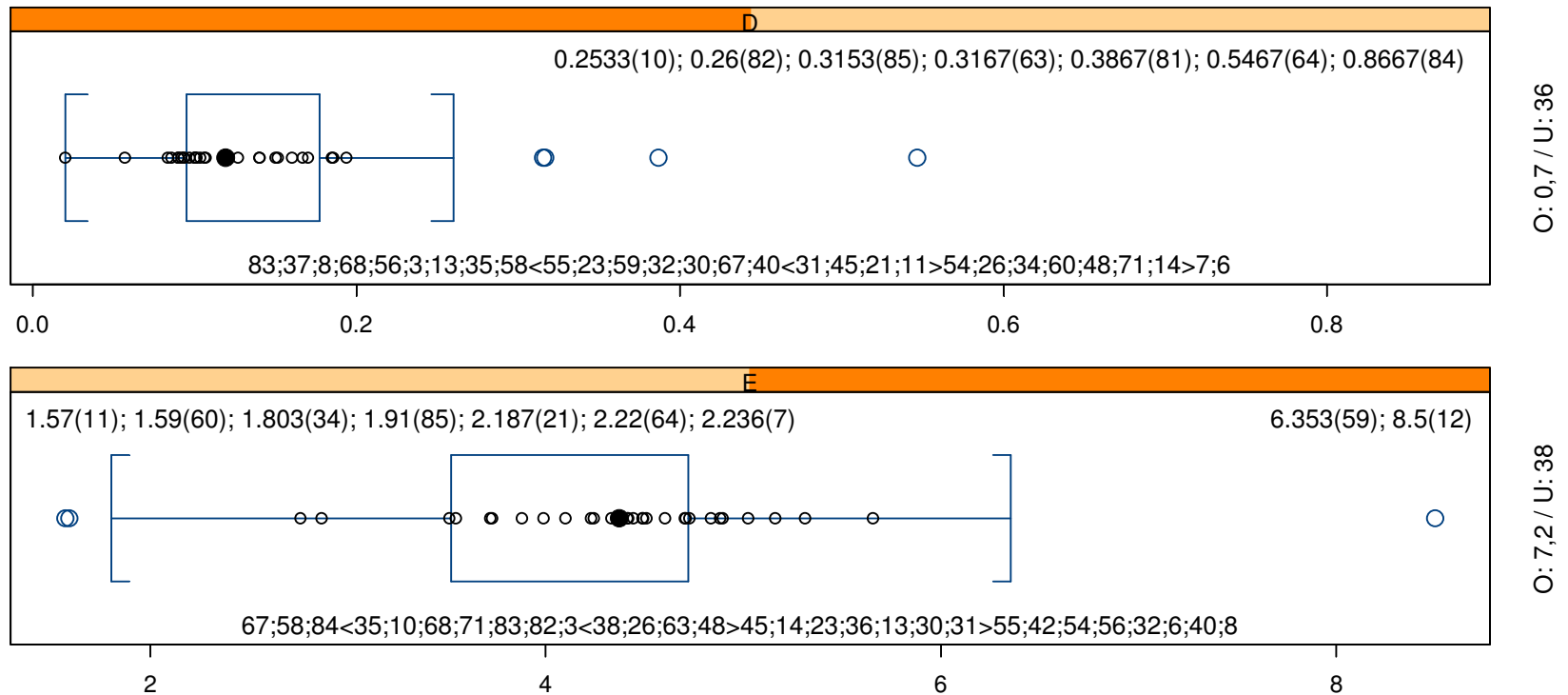


N: 39 NA: 0 Z: 0 E: 0.1 U: 38
a: 27.13 m: 4.413 s: 144

Box plot of the means of samples A, B and C

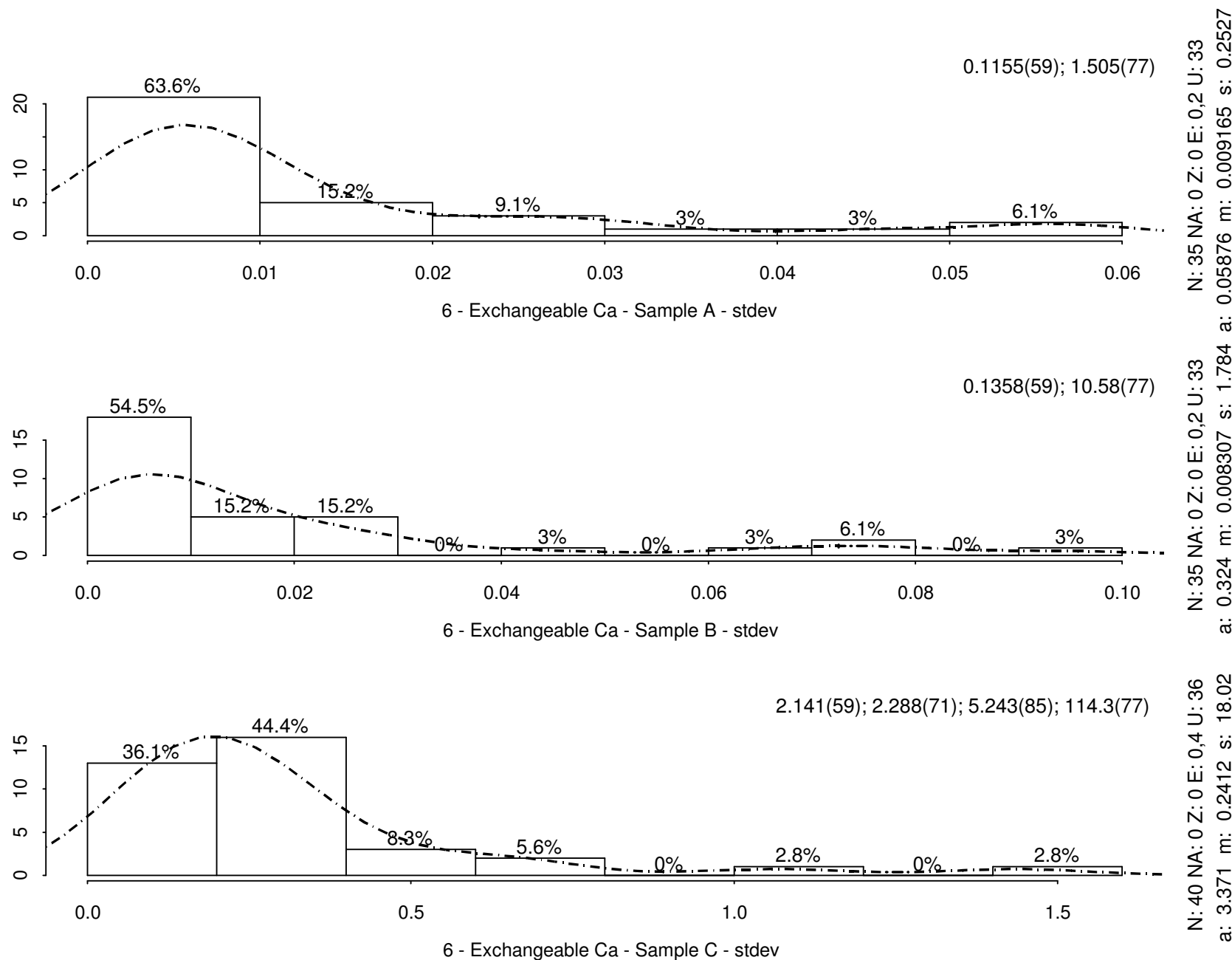


Box plot of the means of samples D and E

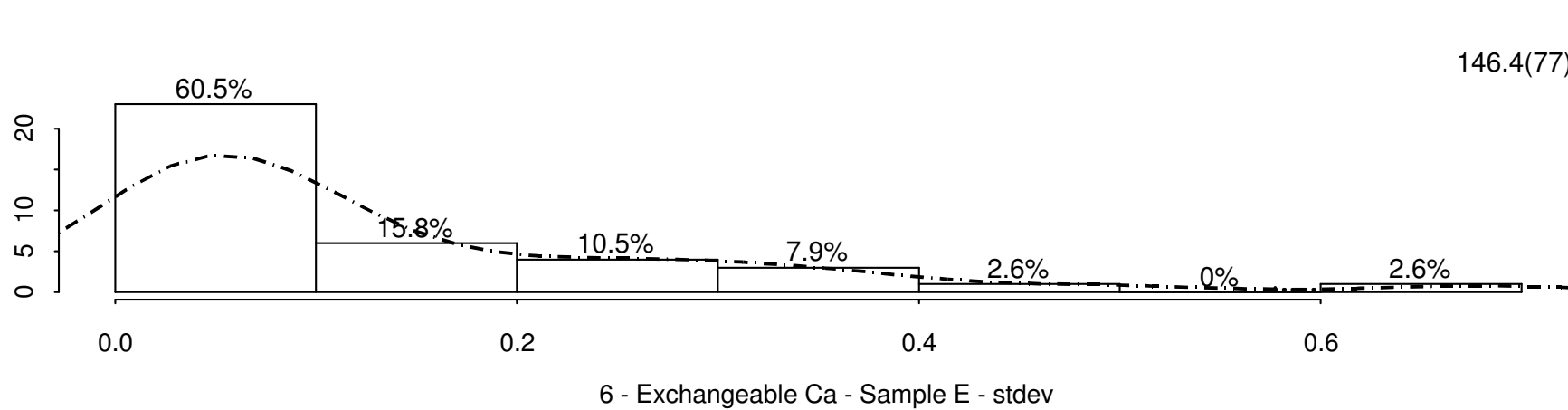
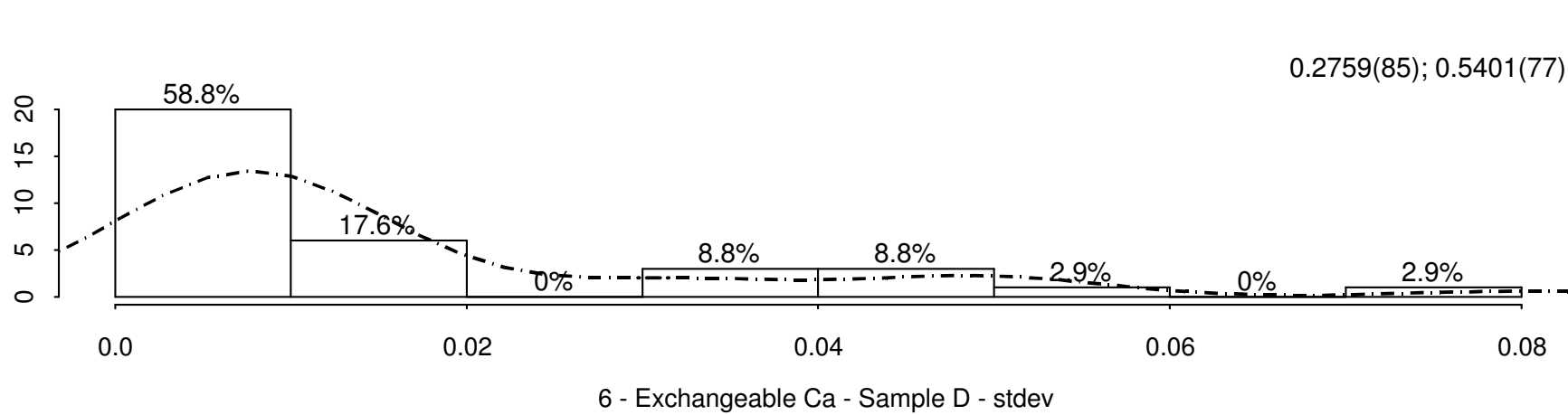


6 - Exchangeable Ca - mean

Histogram of the standard deviations of samples A, B and C



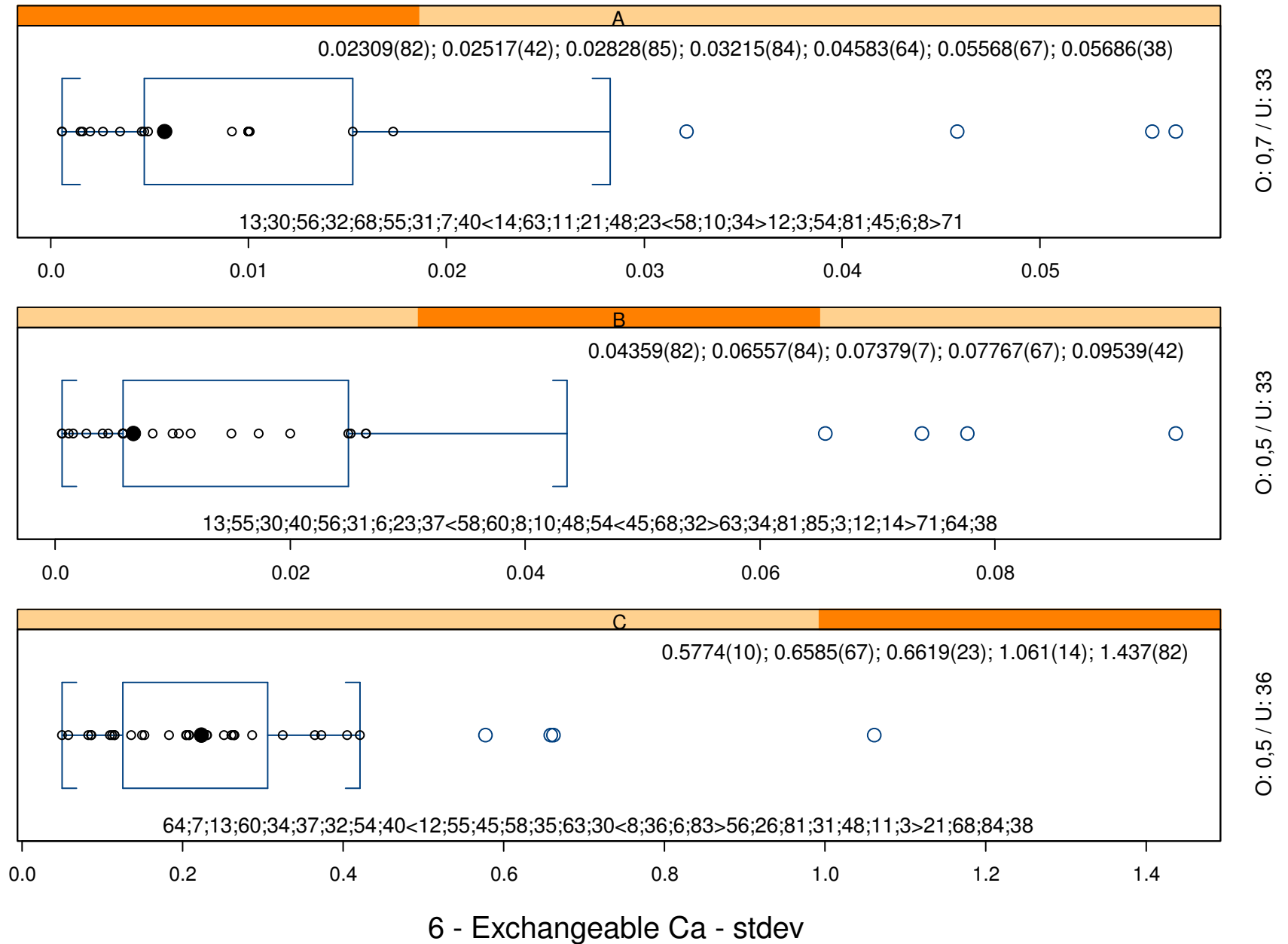
Histogram of the standard deviations of samples D and E



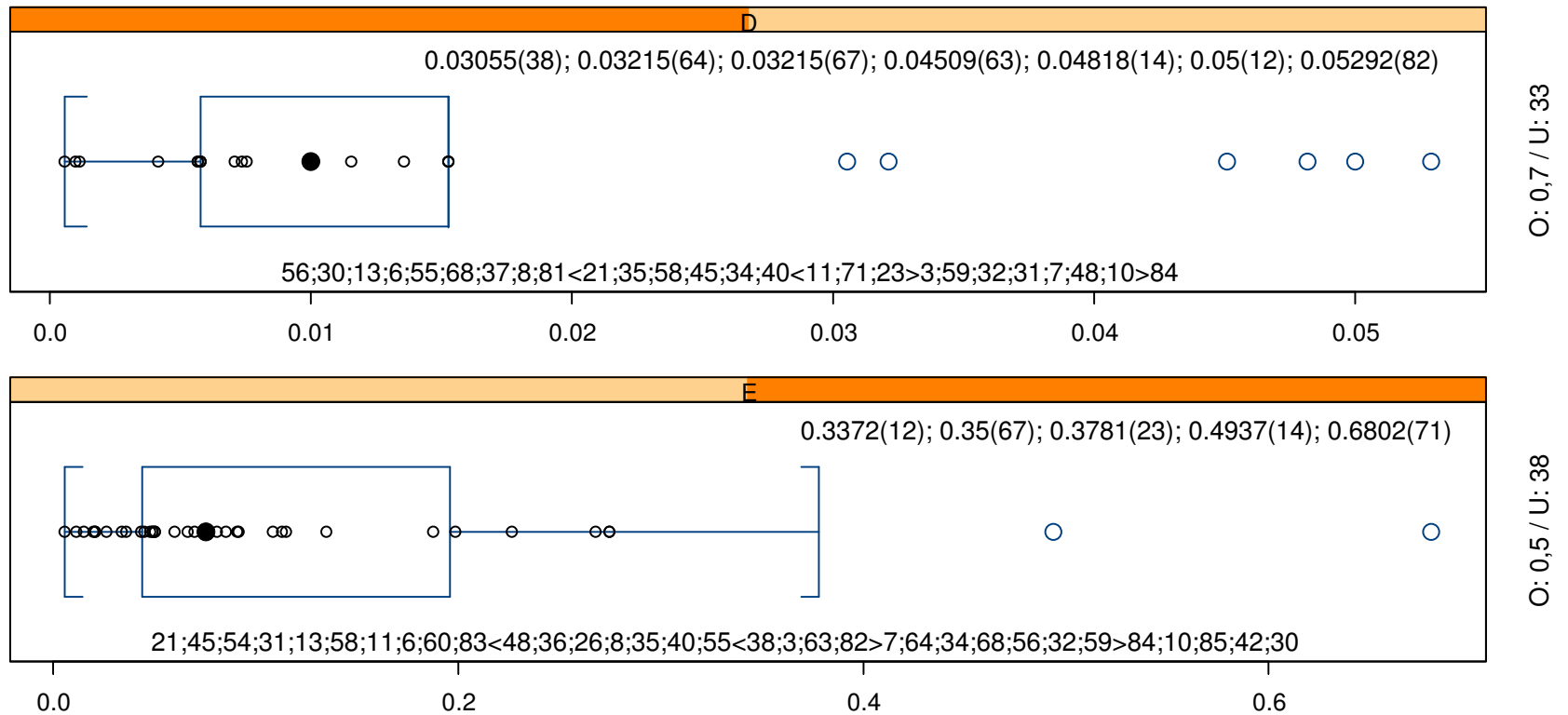
N: 36 NA: 0 Z: 0 E: 0.2 U: 34
a: 0.03869 m: 0.01 s: 0.09784

N: 39 NA: 0 Z: 0 E: 0.1 U: 38
a: 3.888 m: 0.08083 s: 23.42

Box plot of the standard deviations of samples A, B and C



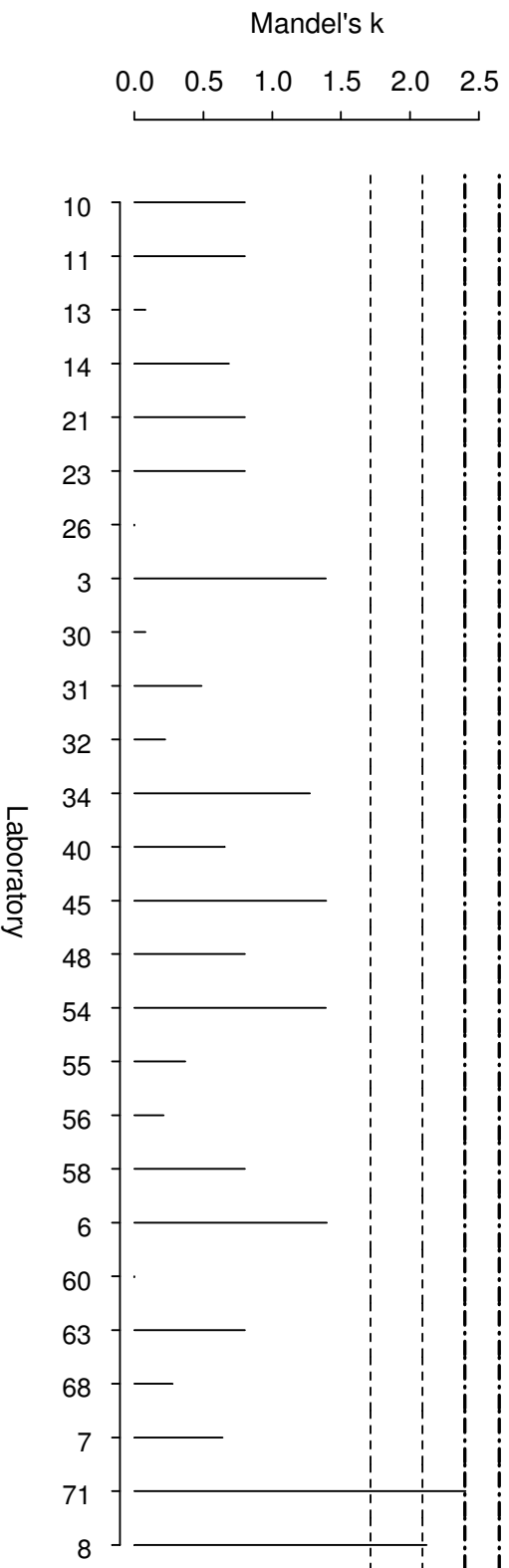
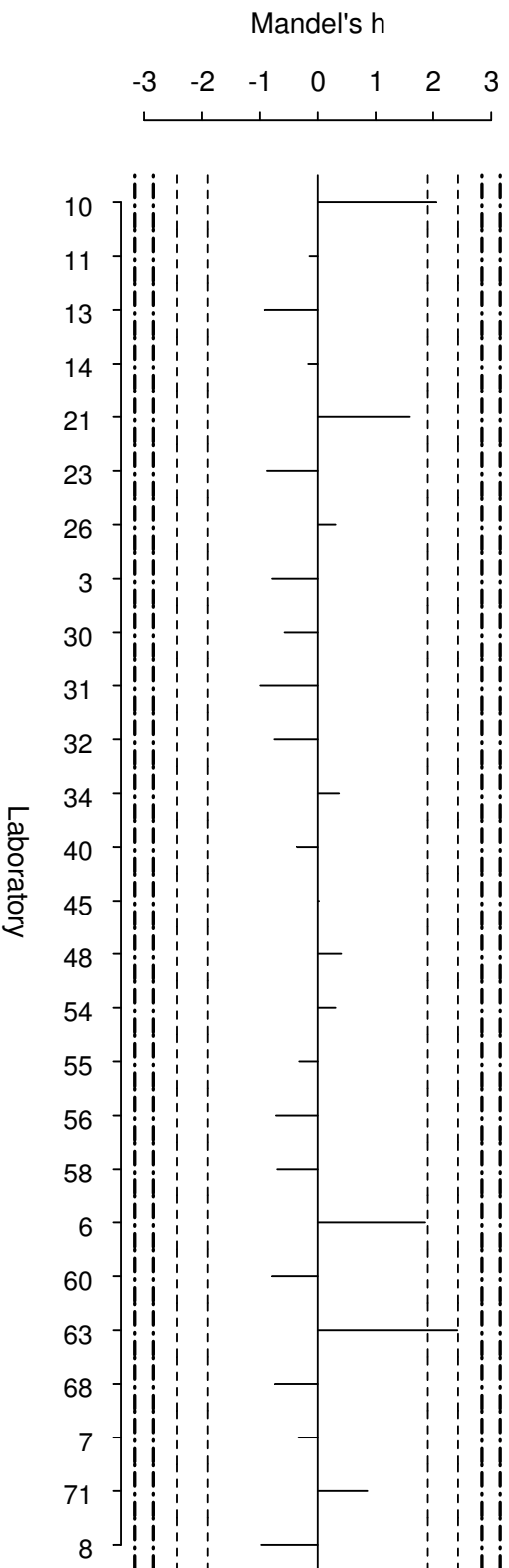
Box plot of the standard deviations of samples D and E



Mandel's h and k plots of sample A

6 - Exchangeable Ca - sample A

Step:7; Nlab:26; Mgen:0.05876; Fval:76.21; Pval:0; sRep:0.007204; sLab:0.03607; sRpr:0.03678; CV:62.59



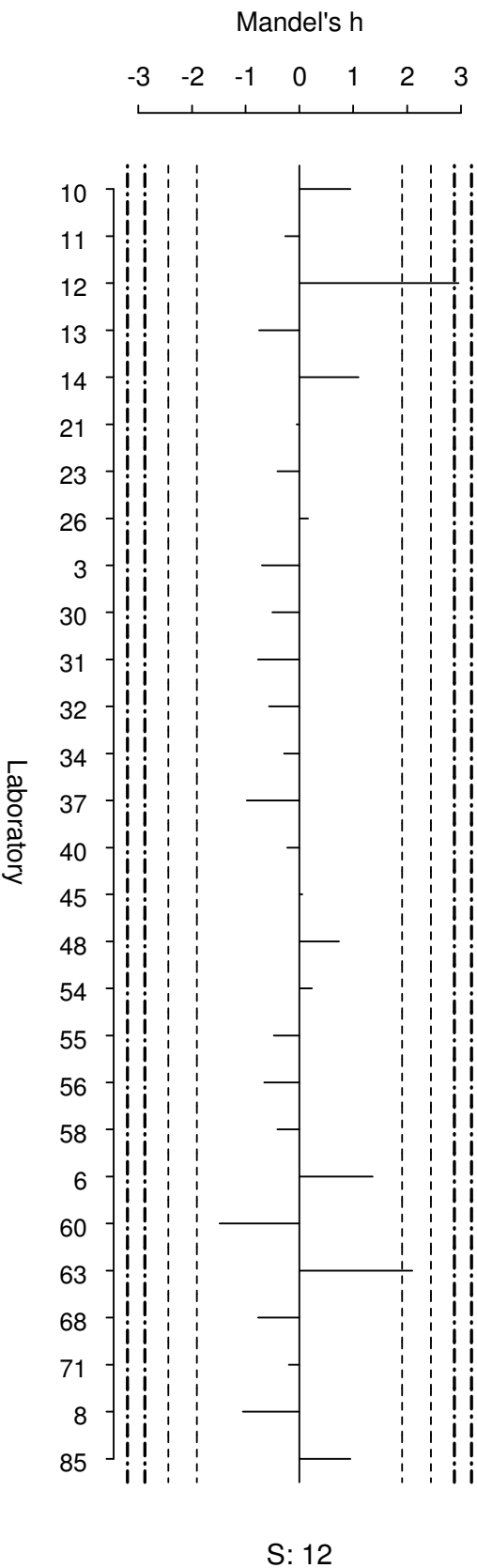
S: 71

E: hk77;hk38;k59h;hk42;hk64;k67;hk84;h81;k82;h12

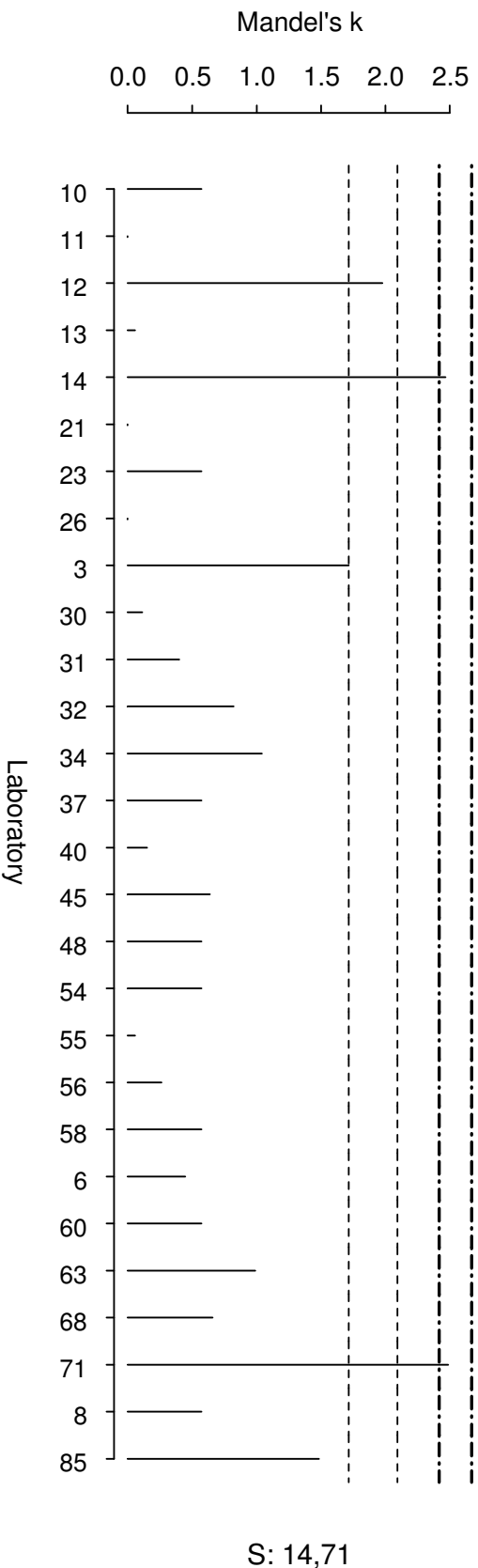
Mandel's h and k plots of sample B

6 - Exchangeable Ca - sample B

Step:6; Nlab:28; Mgen:0.1225; Fval:63.43; Pval:0; sRep:0.01011; sLab:0.04611; sRpr:0.04721; CV:38.55



S: 12



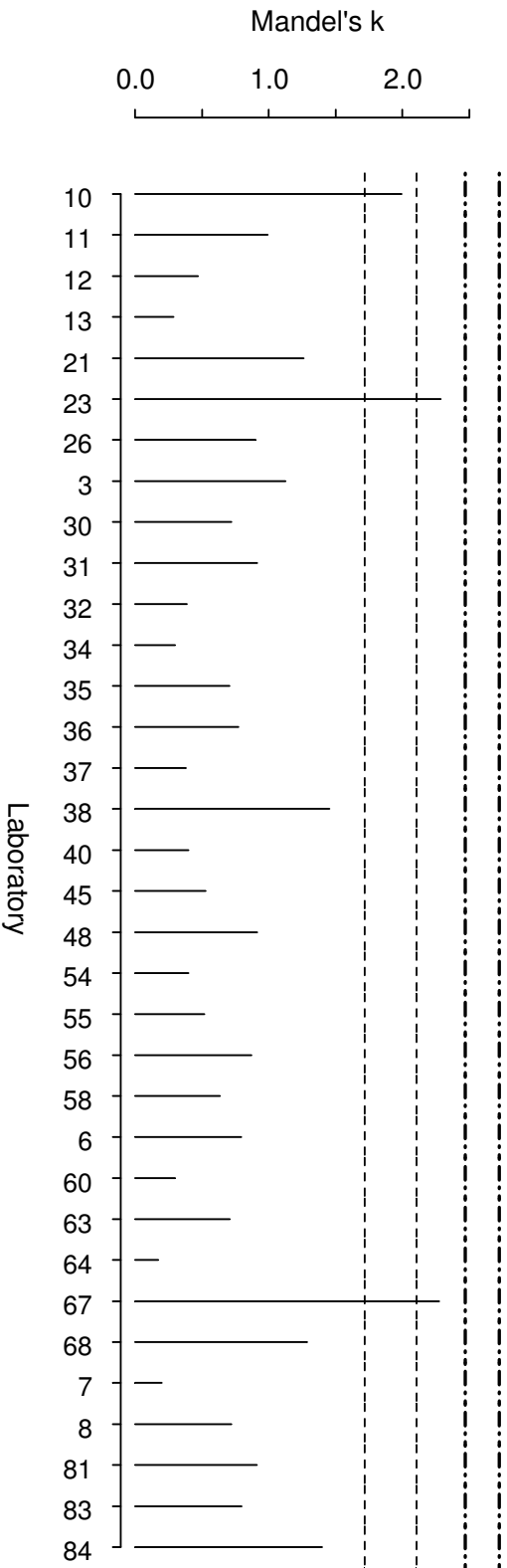
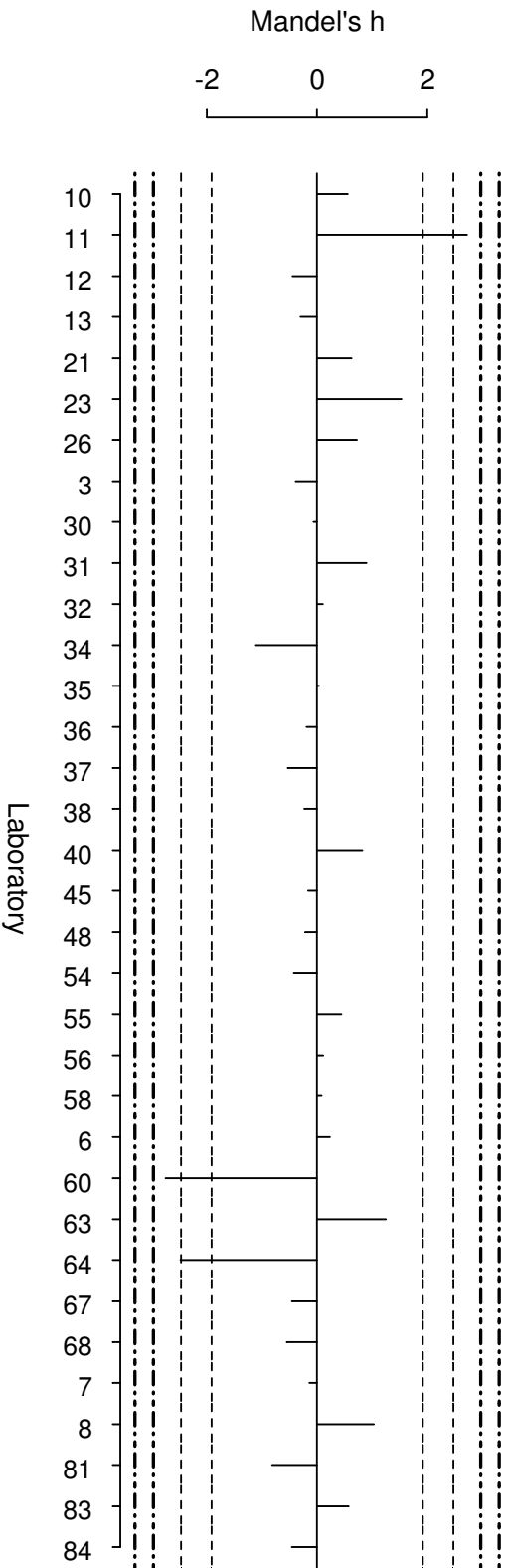
S: 14,71

E: hk77;h38;k59;hk42;hk84;h64;k67;k7;h81;k82

Mandel's h and k plots of sample C

6 - Exchangeable Ca - sample C

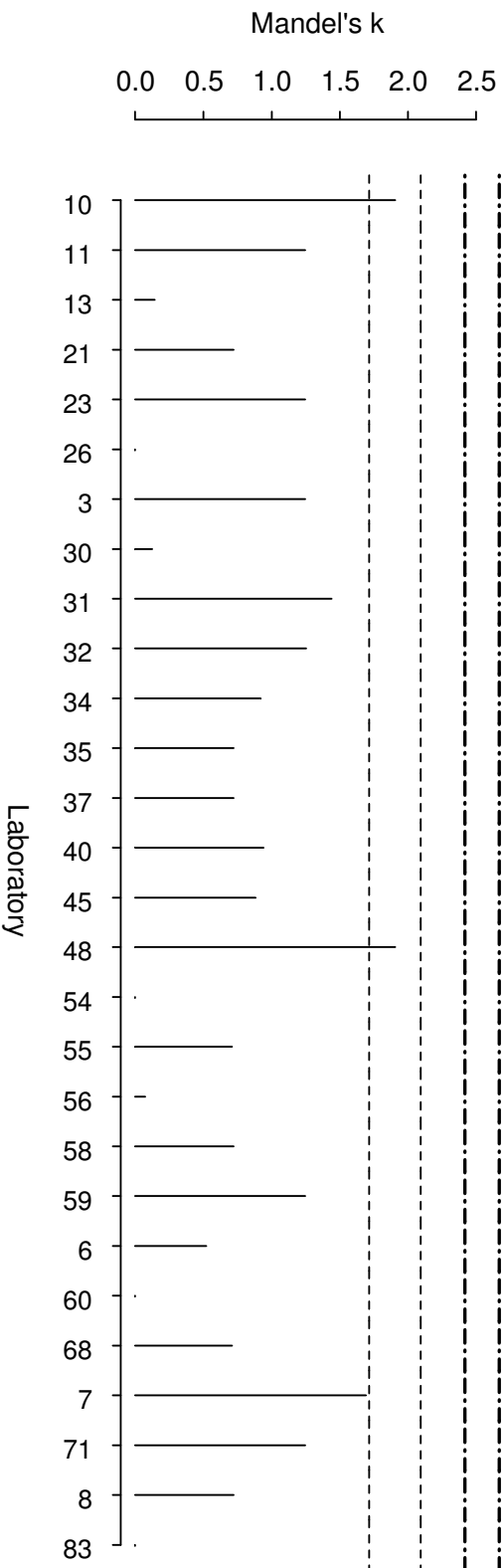
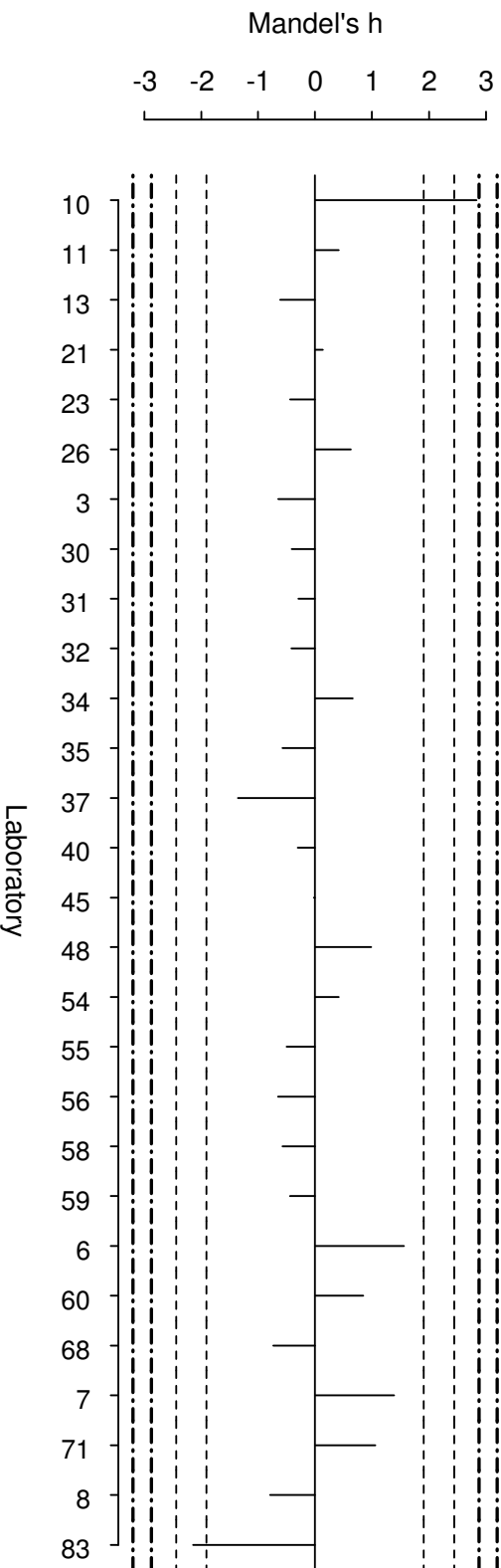
Step:6; Nlab:34; Mgen:17.38; Fval:355.2; Pval:0; sRep:0.2896; slab:3.146; sRpr:3.16; CV:18.18



Mandel's h and k plots of sample D

6 - Exchangeable Ca - sample D

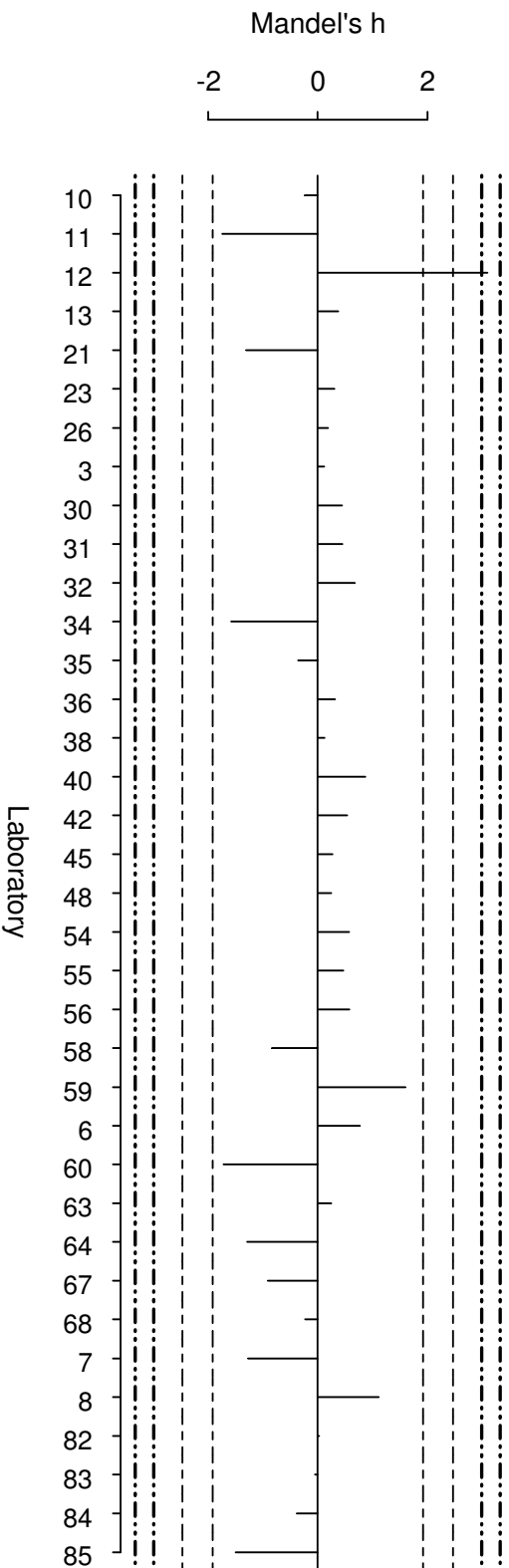
Step:6; Nlab:28; Mgen:0.1204; Fval:103; Pval:0; sRep:0.008014; sLab:0.04673; sRpr:0.04742; CV:39.38



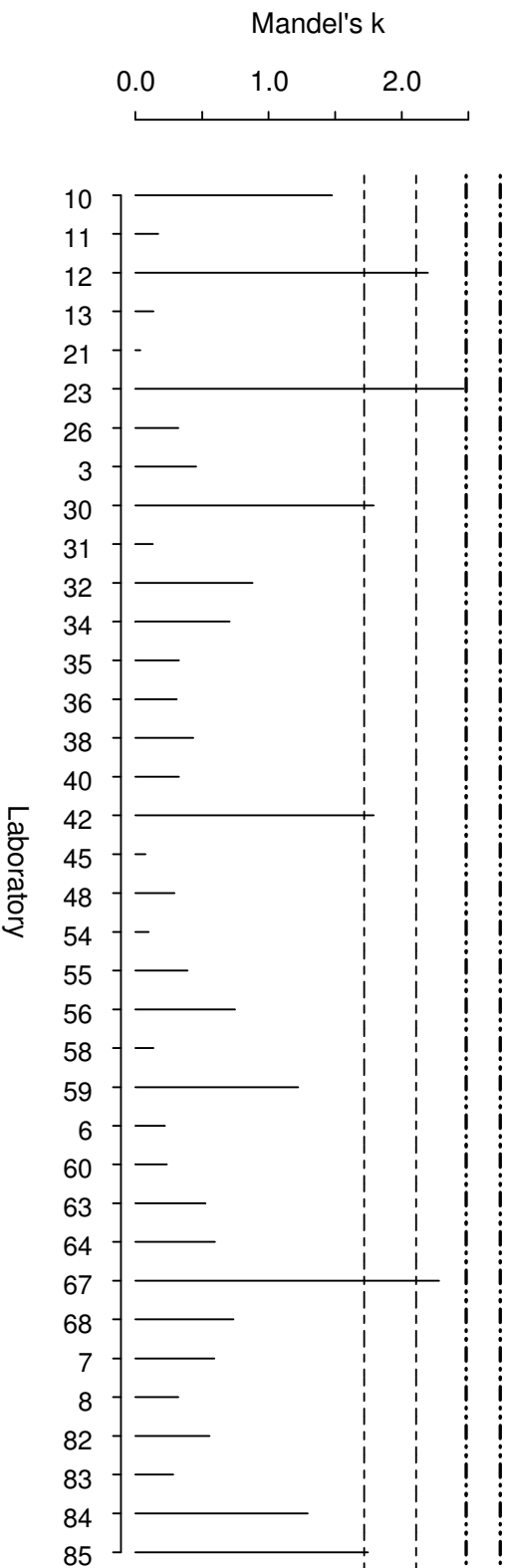
Mandel's h and k plots of sample E

6 - Exchangeable Ca - sample E

Step:4; Nlab:36; Mgen:4.061; Fval:261.5; Pval:0; sRep:0.1535; slab:1.43; sRpr:1.438; CV:35.42



S: 12

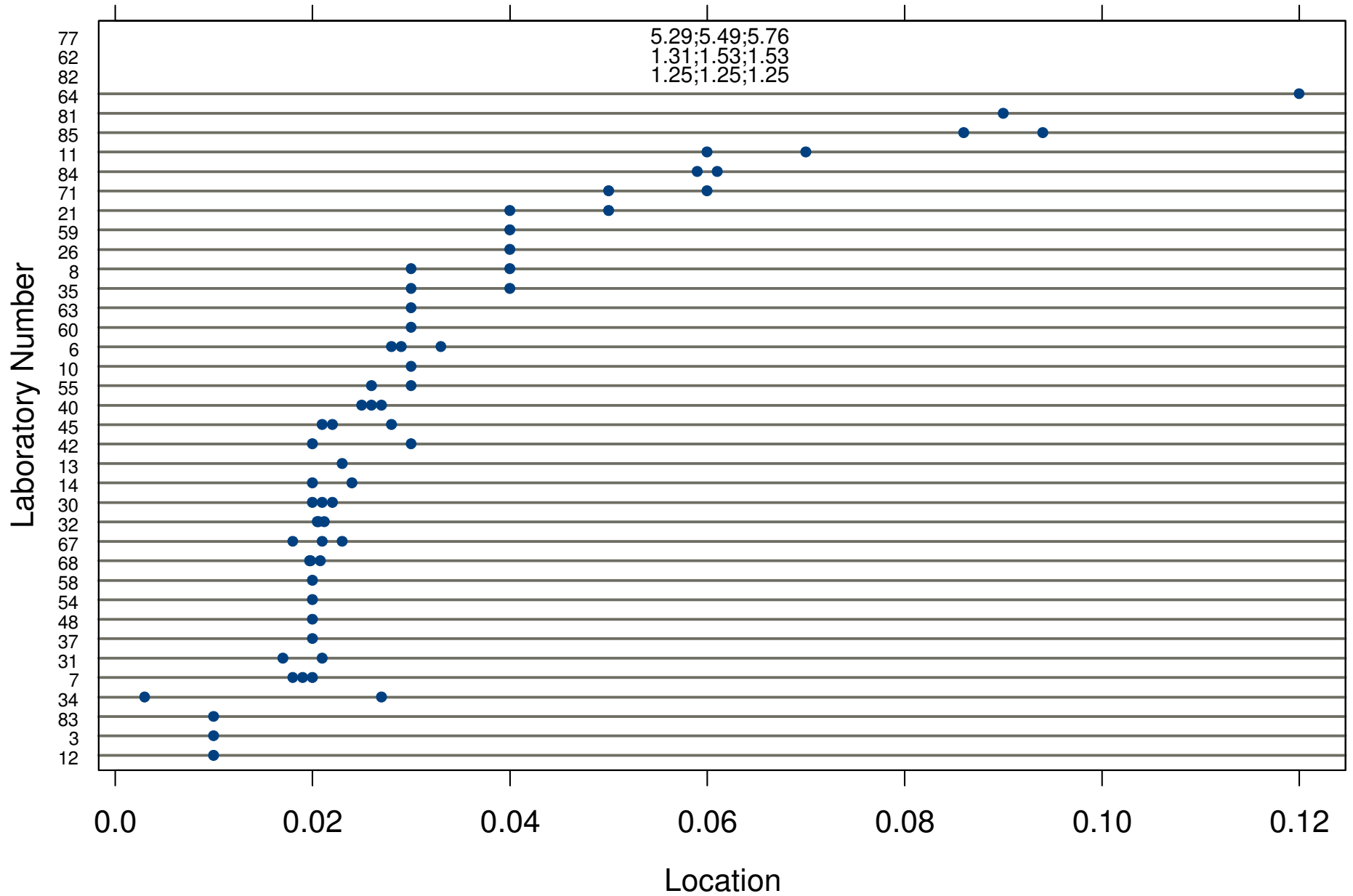


E: hk77;k71;k14

Exchangeable K

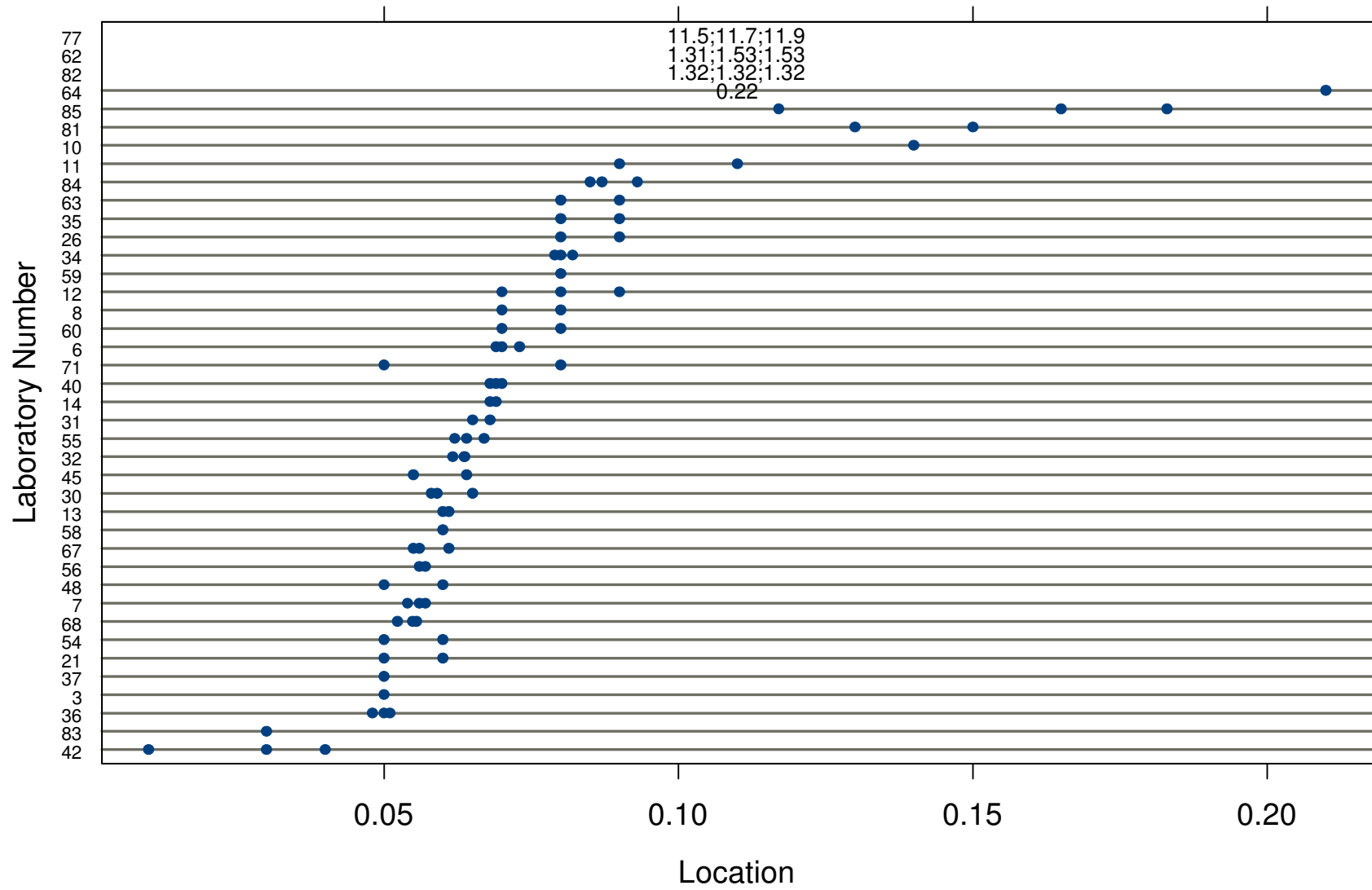
Dot plot of sample A

6 - Exchangeable K - Sample A



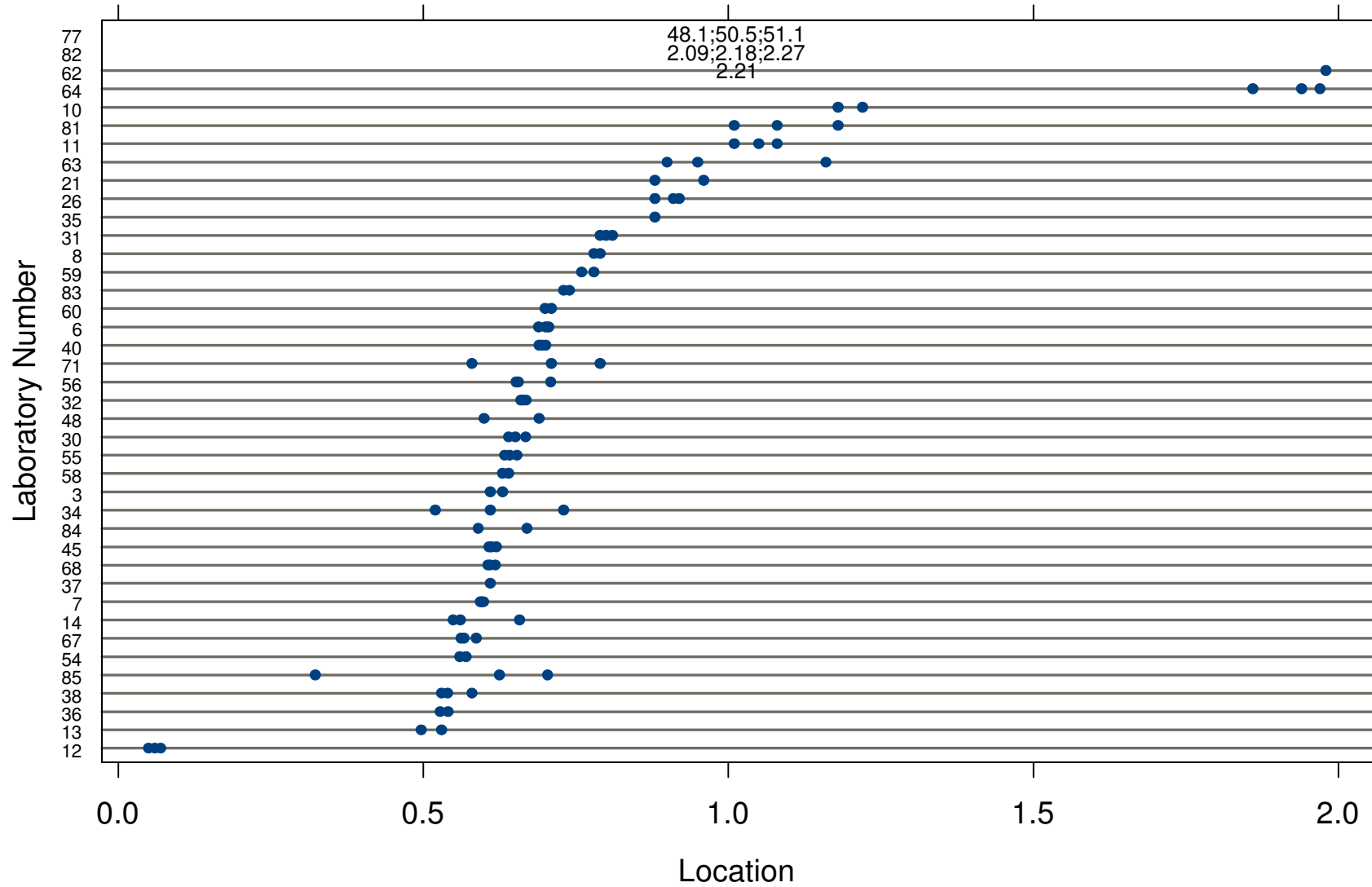
Dot plot of sample B

6 - Exchangeable K - Sample B



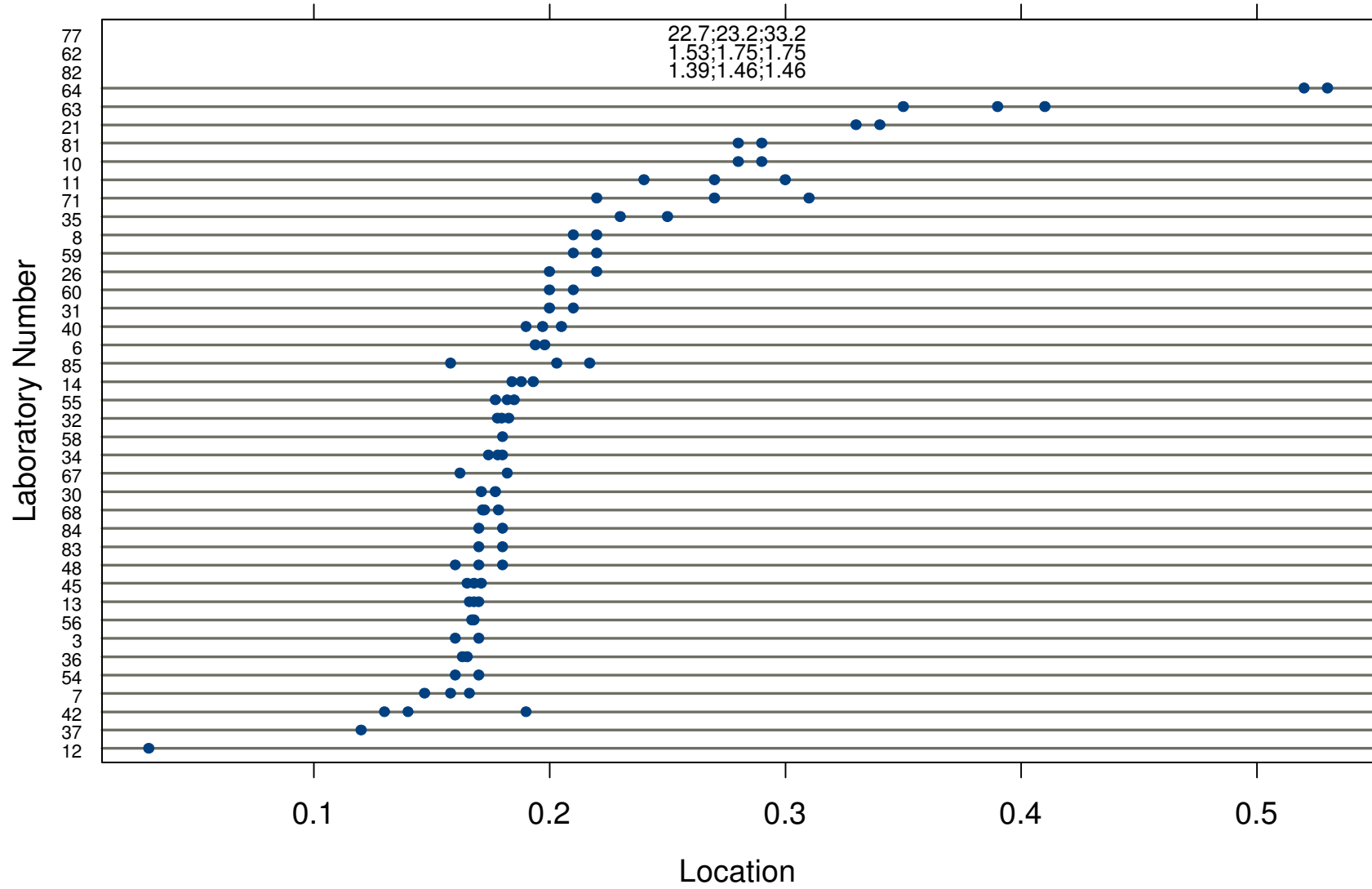
Dot plot of sample C

6 - Exchangeable K - Sample C



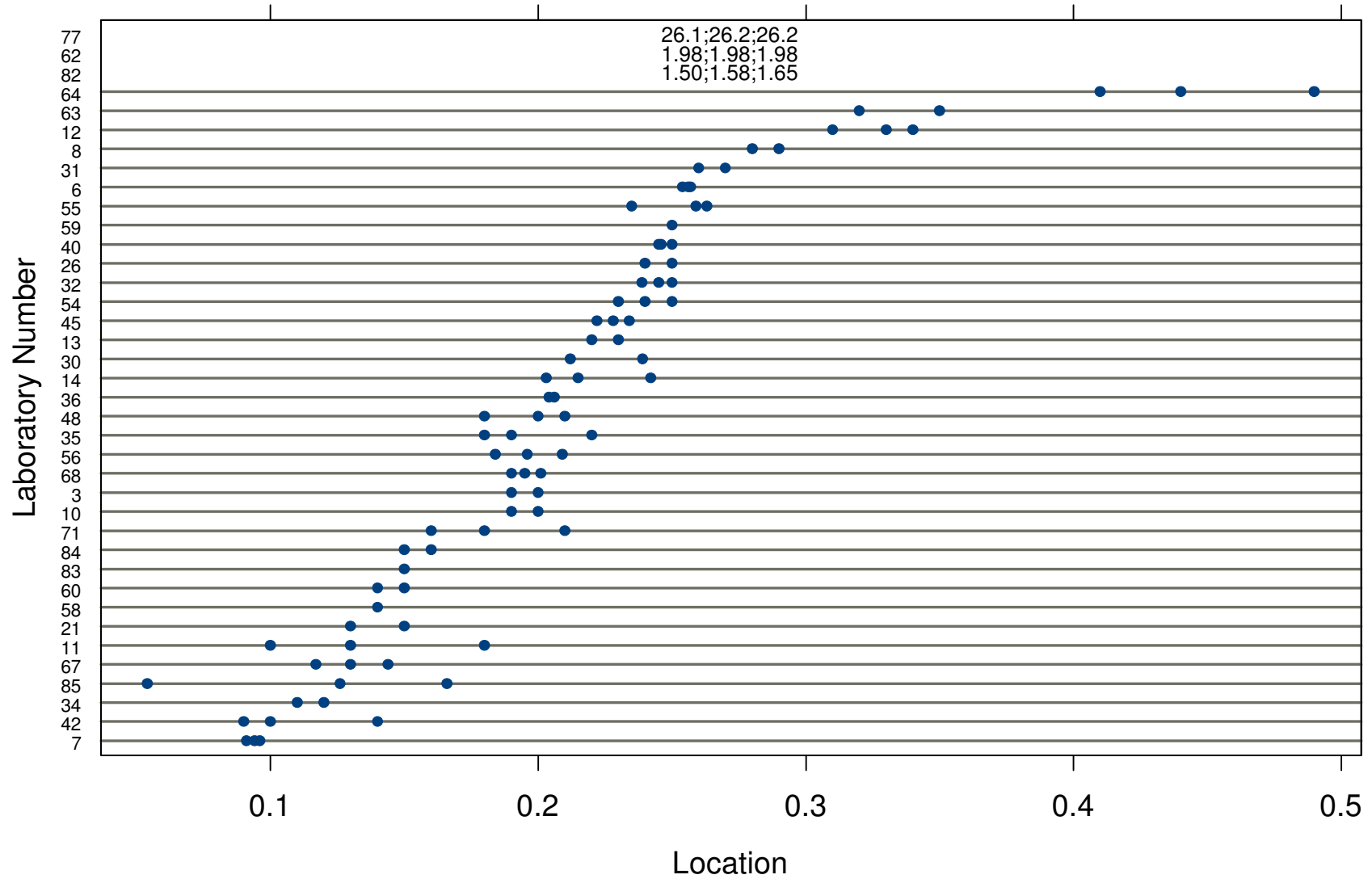
Dot plot of sample D

6 - Exchangeable K - Sample D

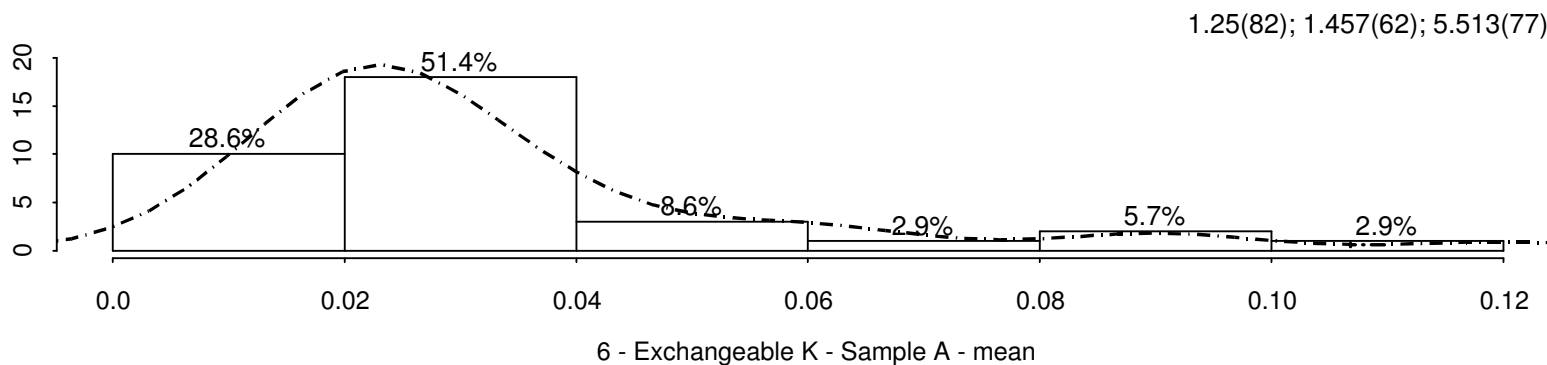


Dot plot of sample E

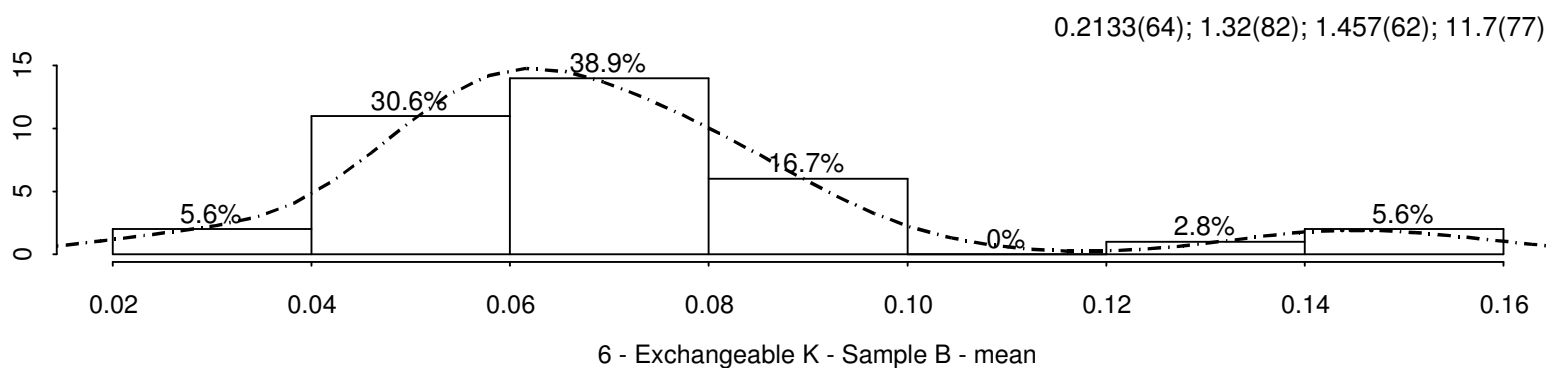
6 - Exchangeable K - Sample E



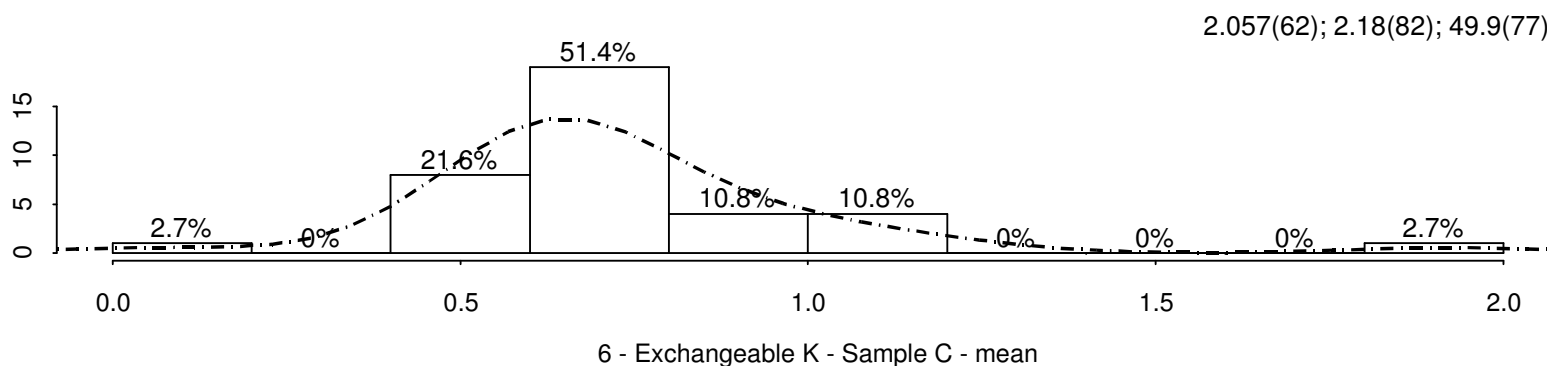
Histogram of the means of samples A, B and C



N: 38 NA: 0 Z: 0 E: 0,3 U: 35
a: 0.2475 m: 0.02667 s: 0.9273

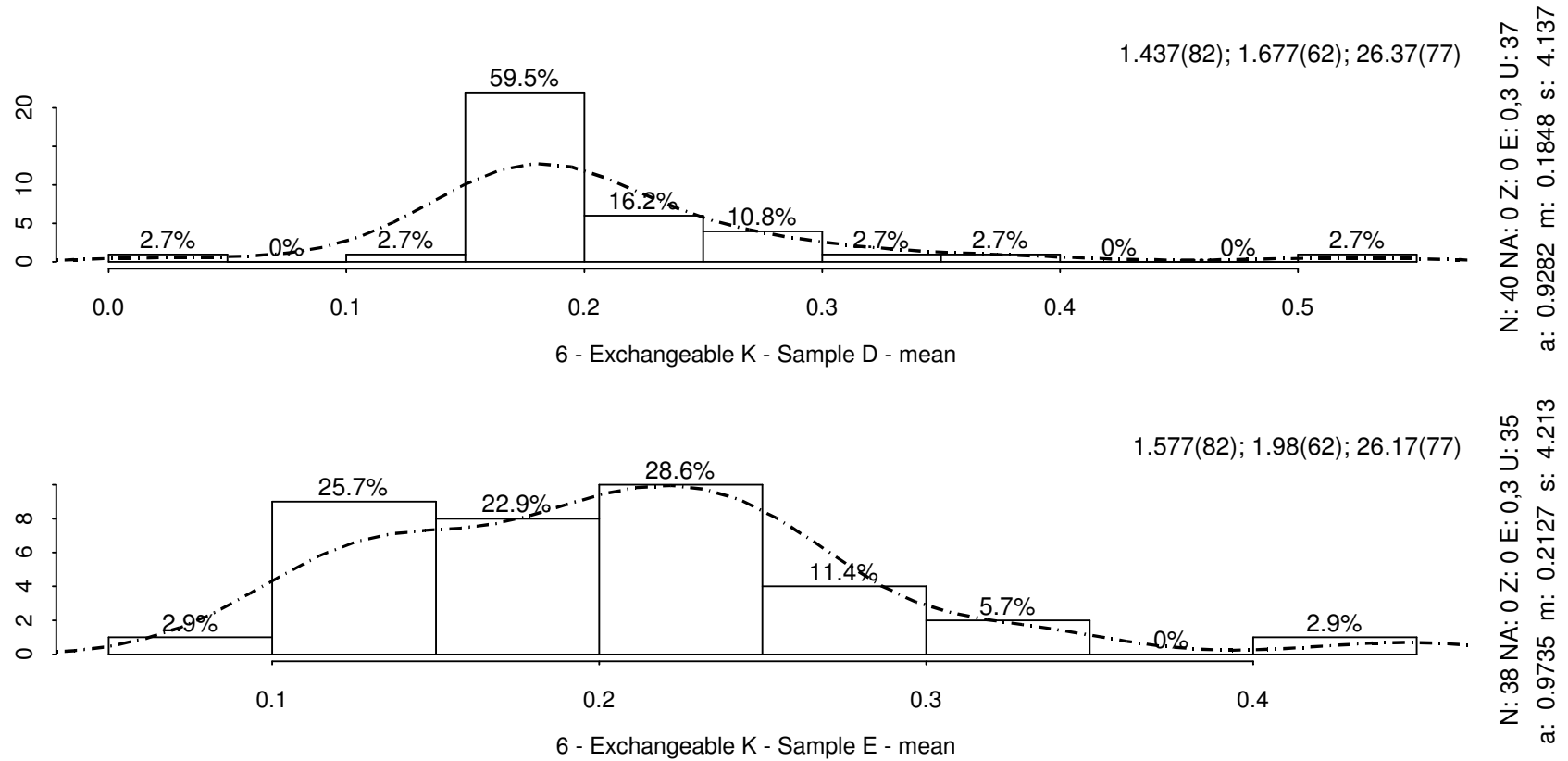


N: 40 NA: 0 Z: 0 E: 0,4 U: 36
a: 0.4315 m: 0.06867 s: 1.851

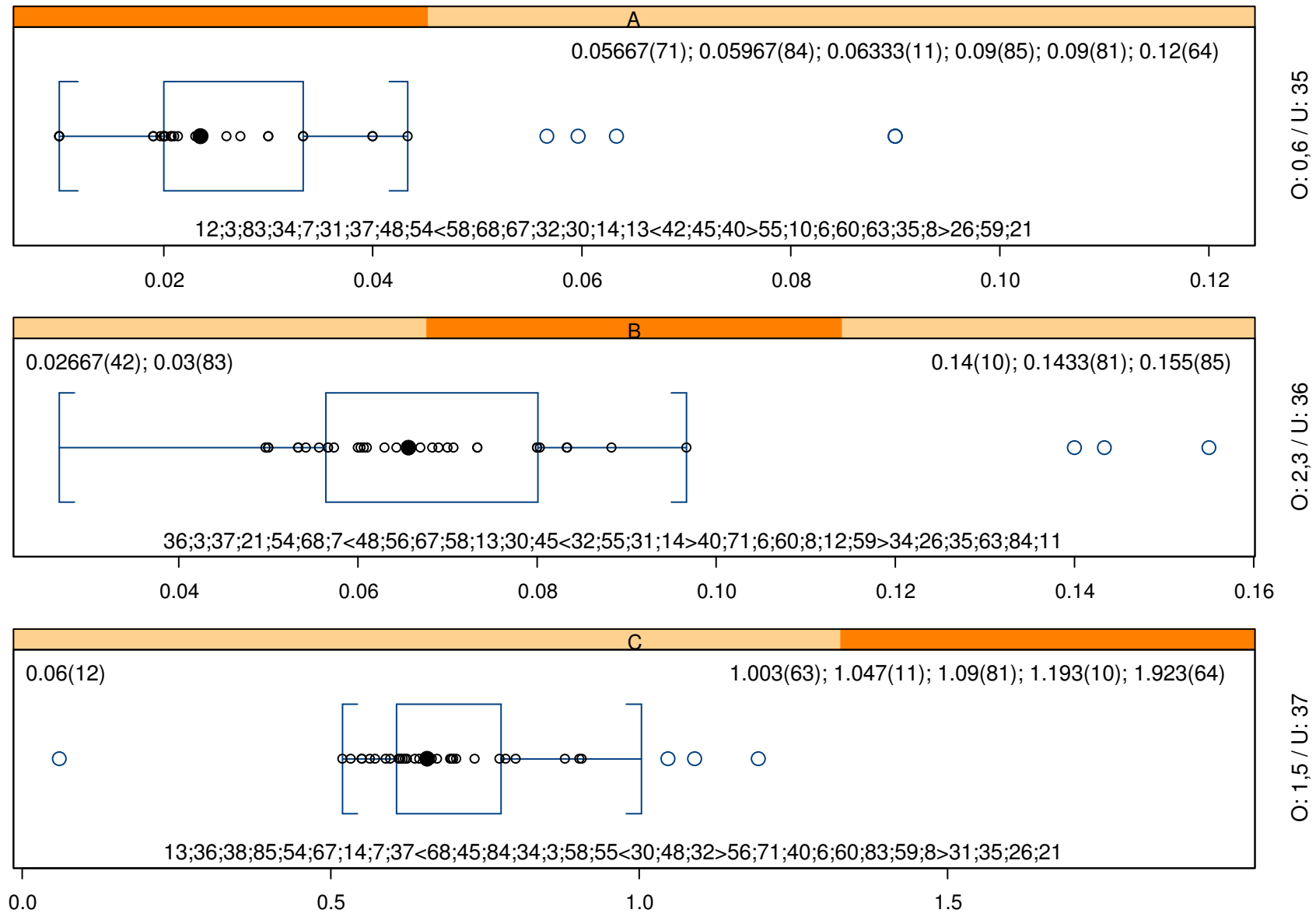


N: 40 NA: 0 Z: 0 E: 0,3 U: 37
a: 2.028 m: 0.6682 s: 7.774

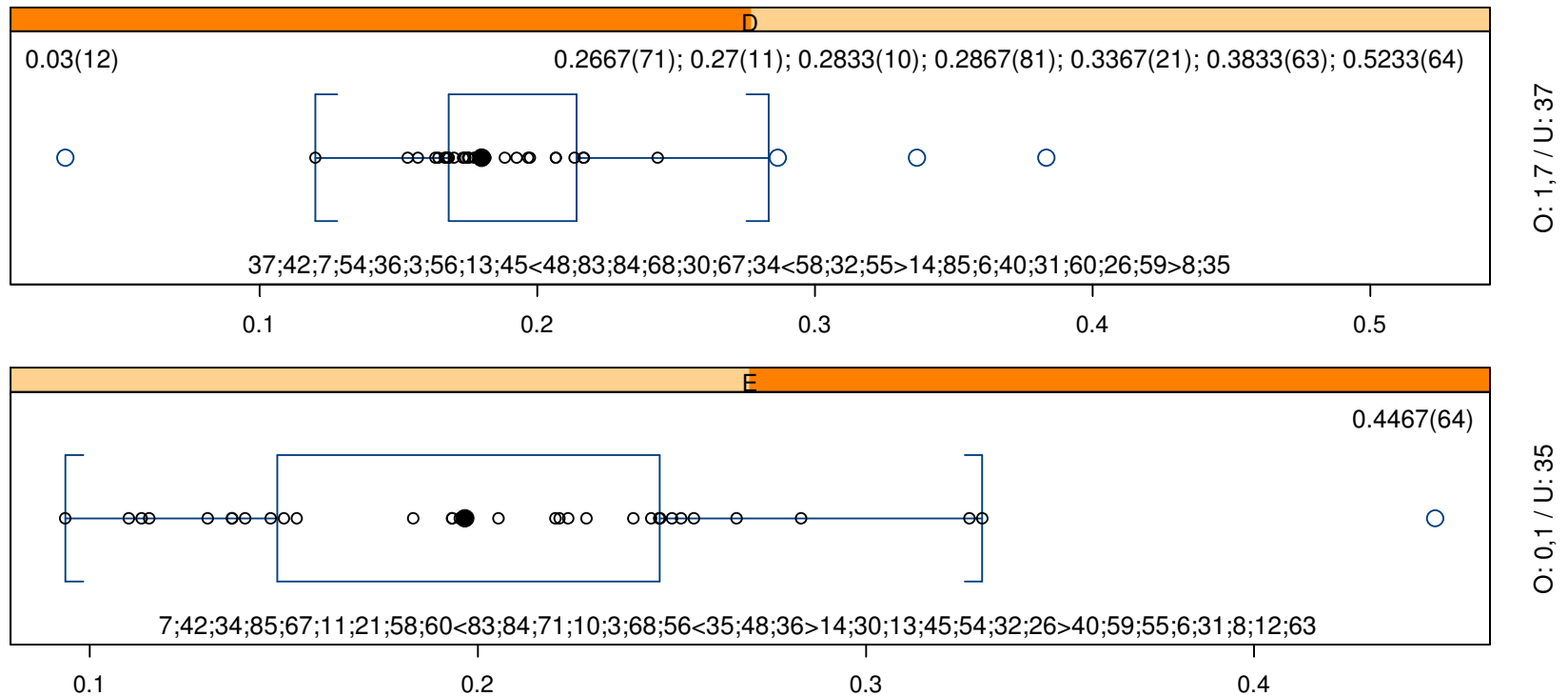
Histogram of the means of samples D and E



Box plot of the means of samples A, B and C

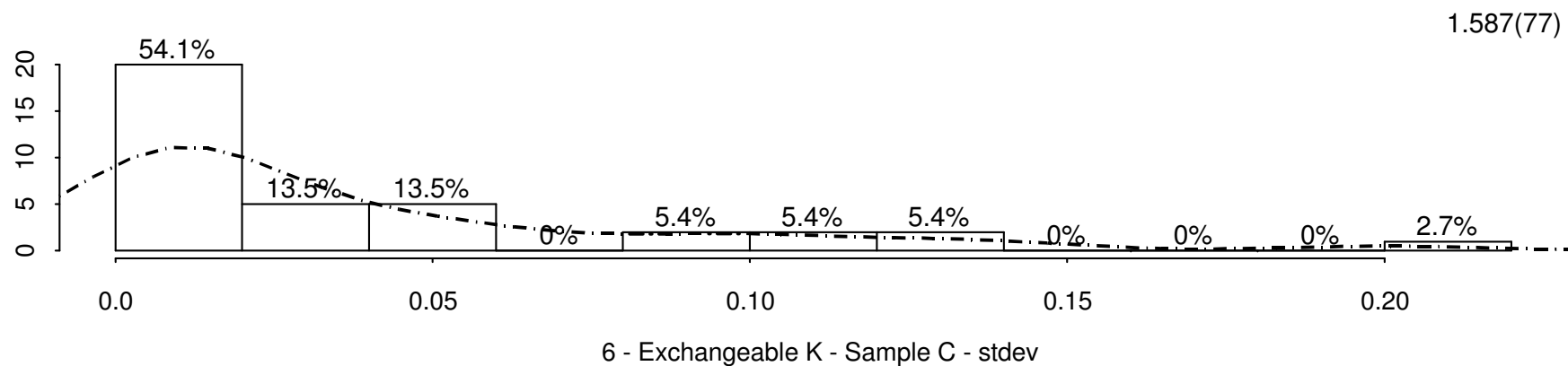
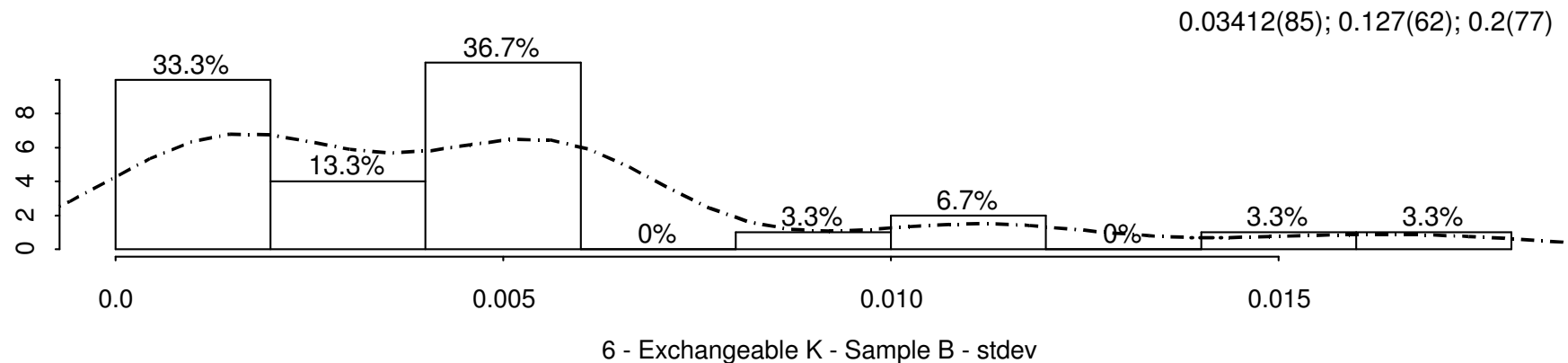
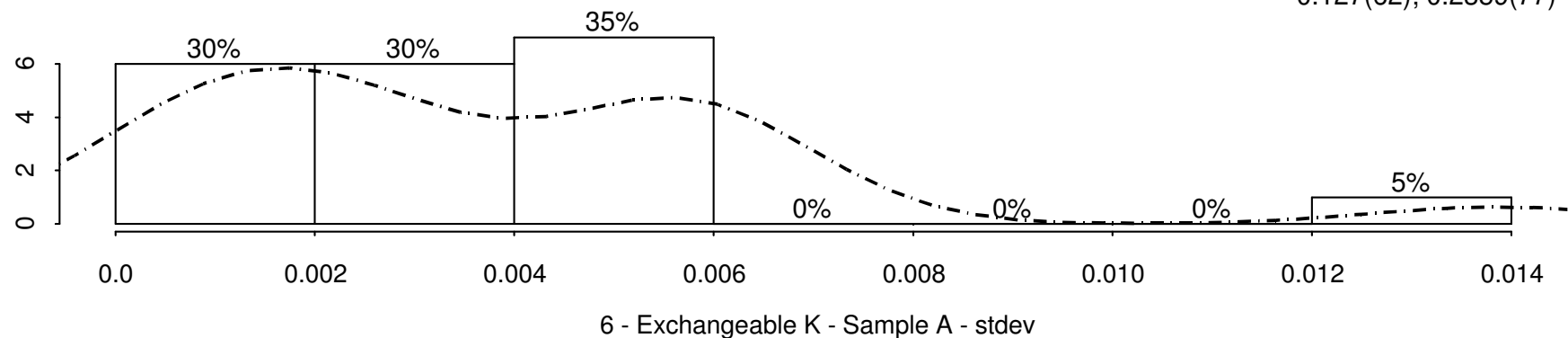


Box plot of the means of samples D and E



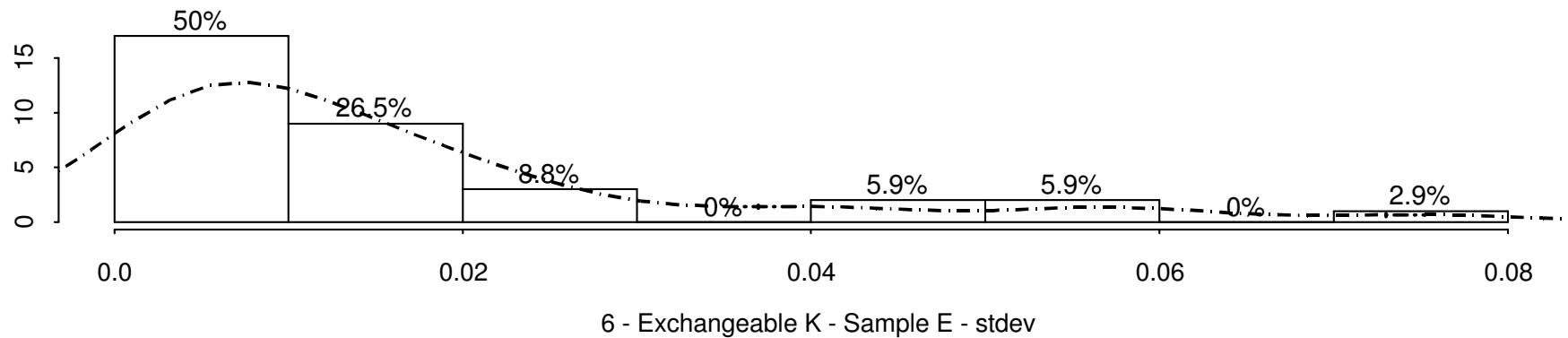
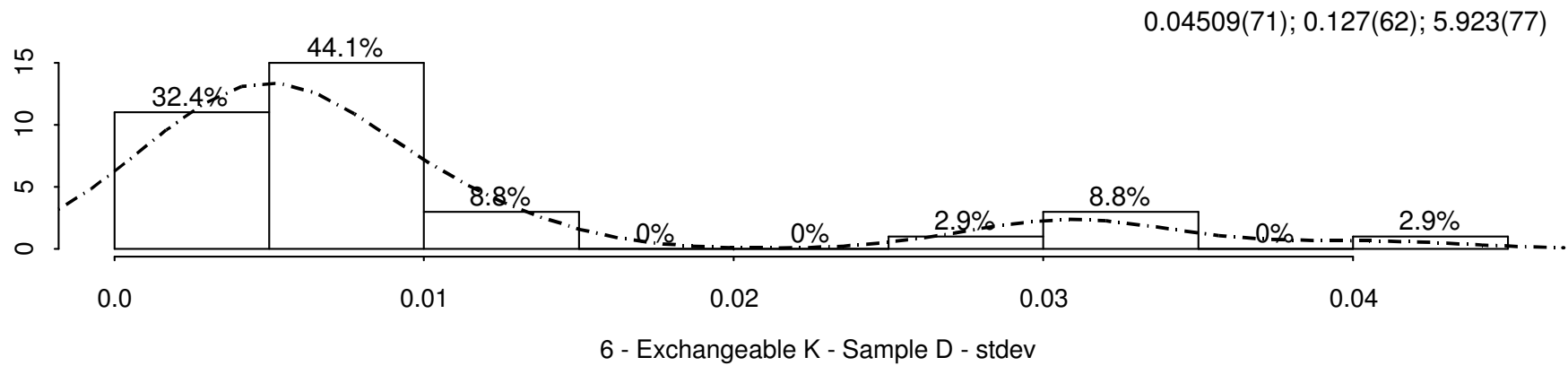
6 - Exchangeable K - mean

Histogram of the standard deviations of samples A, B and C



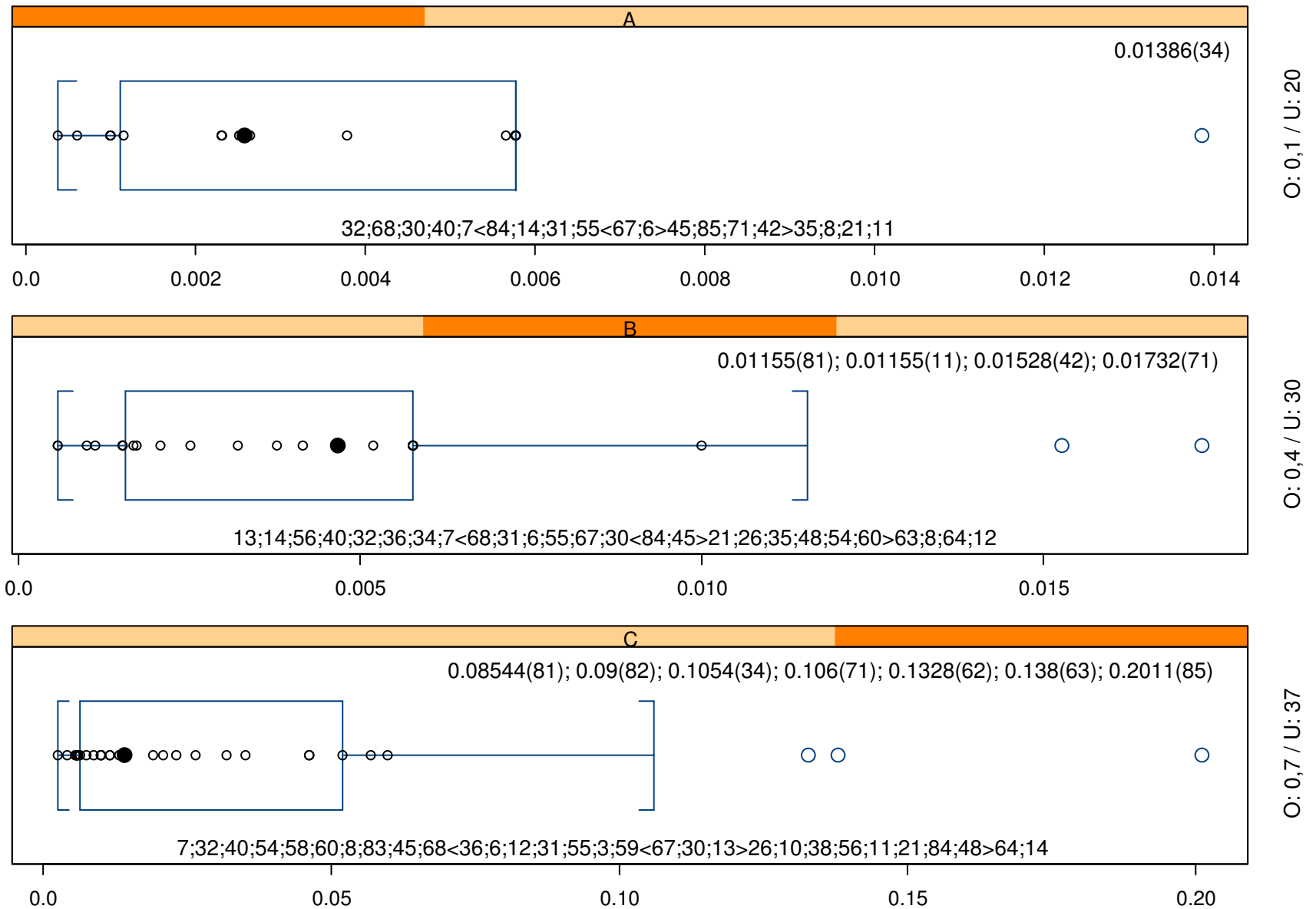
N: 22 NA: 0 Z: 0 E: 0.2 U: 20
N: 33 NA: 0 Z: 0 E: 0.3 U: 30
N: 38 NA: 0 Z: 0 E: 0.1 U: 37
a: 0.07931 m: 0.01658 s: 0.2555a: 0.005774 s: 0.03979a: 0.01991 m: 0.003216 s: 0.055

Histogram of the standard deviations of samples D and E



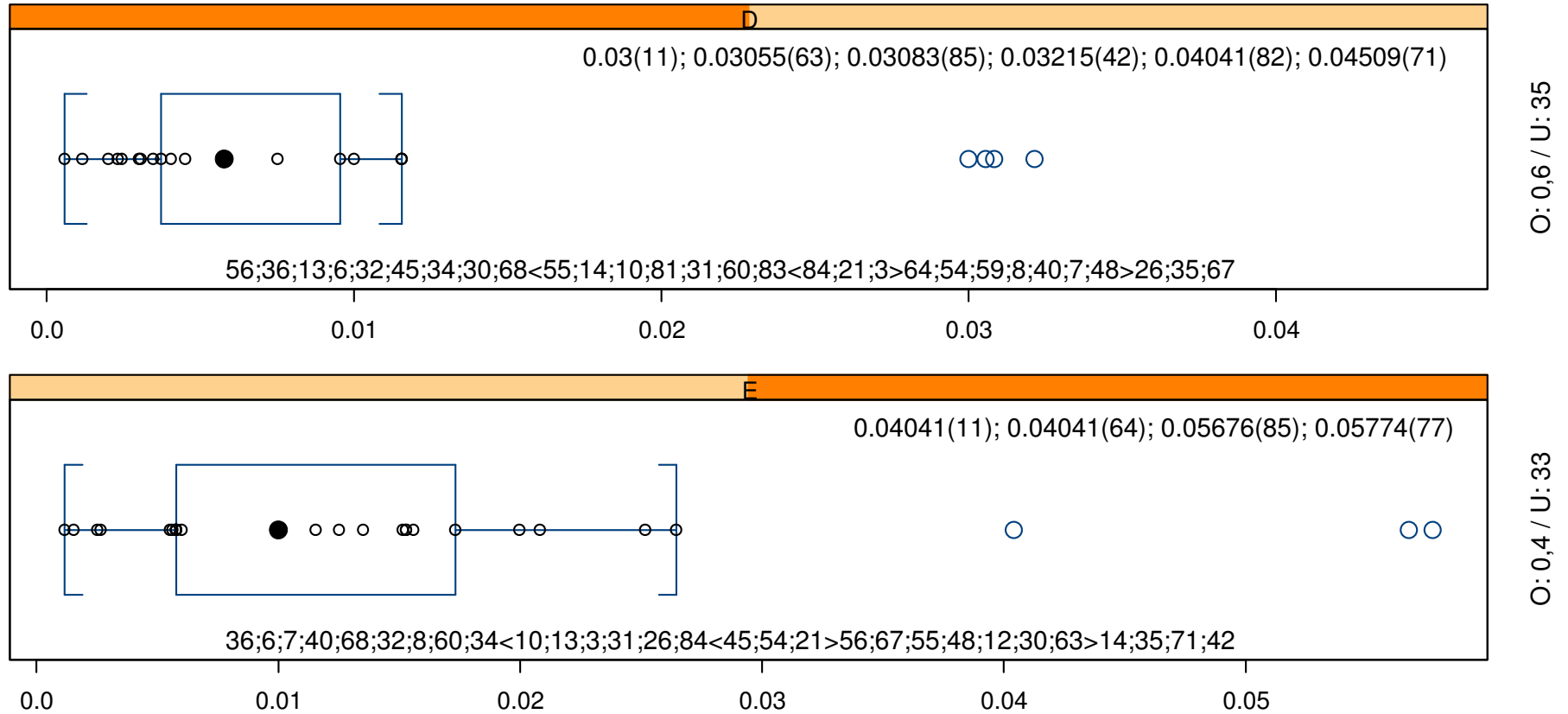
N: 37 NA: 0 Z: 0 E: 0.3 U: 34
a: 0.01664 m: 0.01077 s: 0.01778a: 0.1735 m: 0.005774 s: 0.9717

Box plot of the standard deviations of samples A, B and C



6 - Exchangeable K - stdev

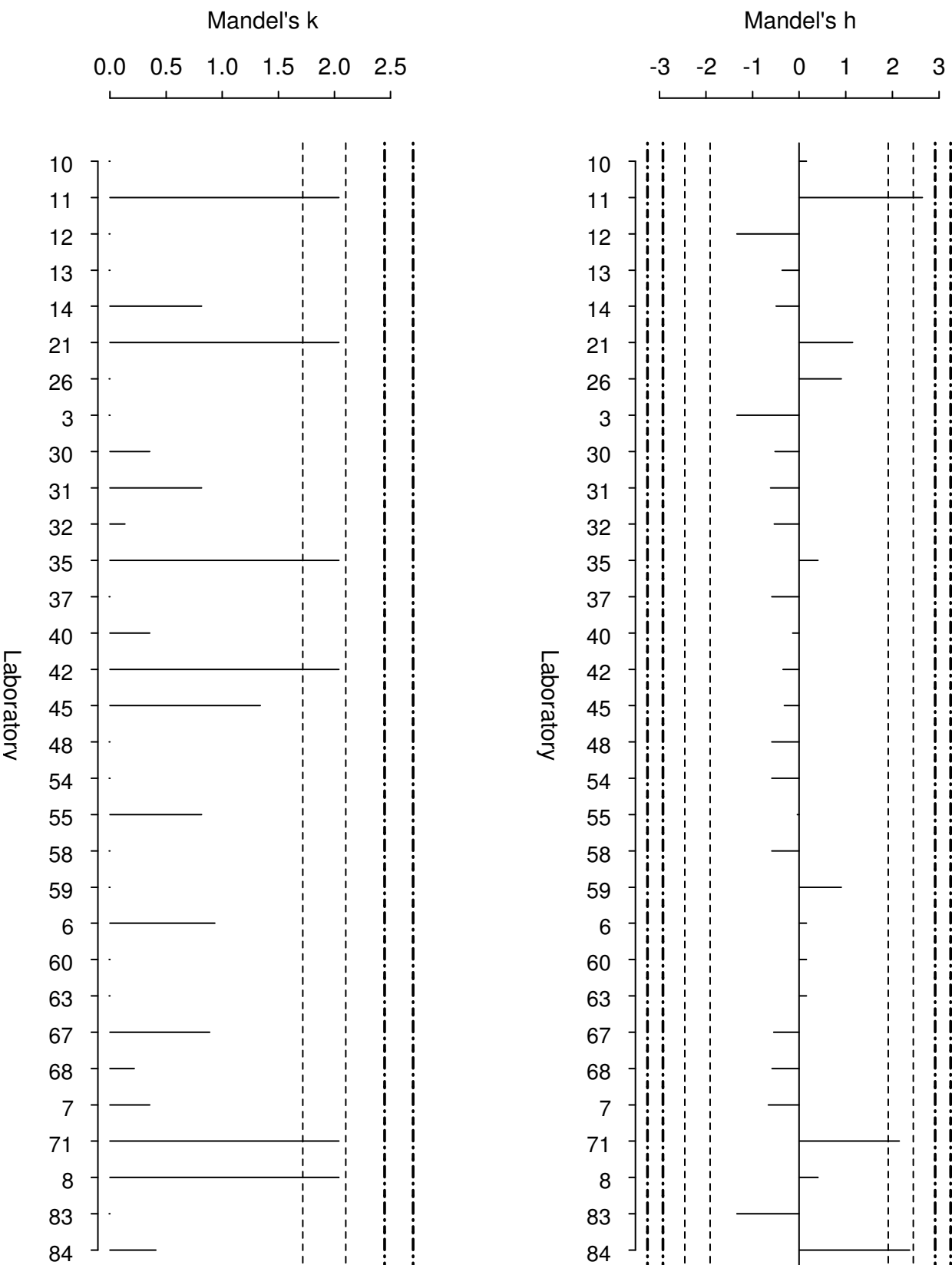
Box plot of the standard deviations of samples D and E



Mandel's h and k plots of sample A

6 - Exchangeable K - Sample A

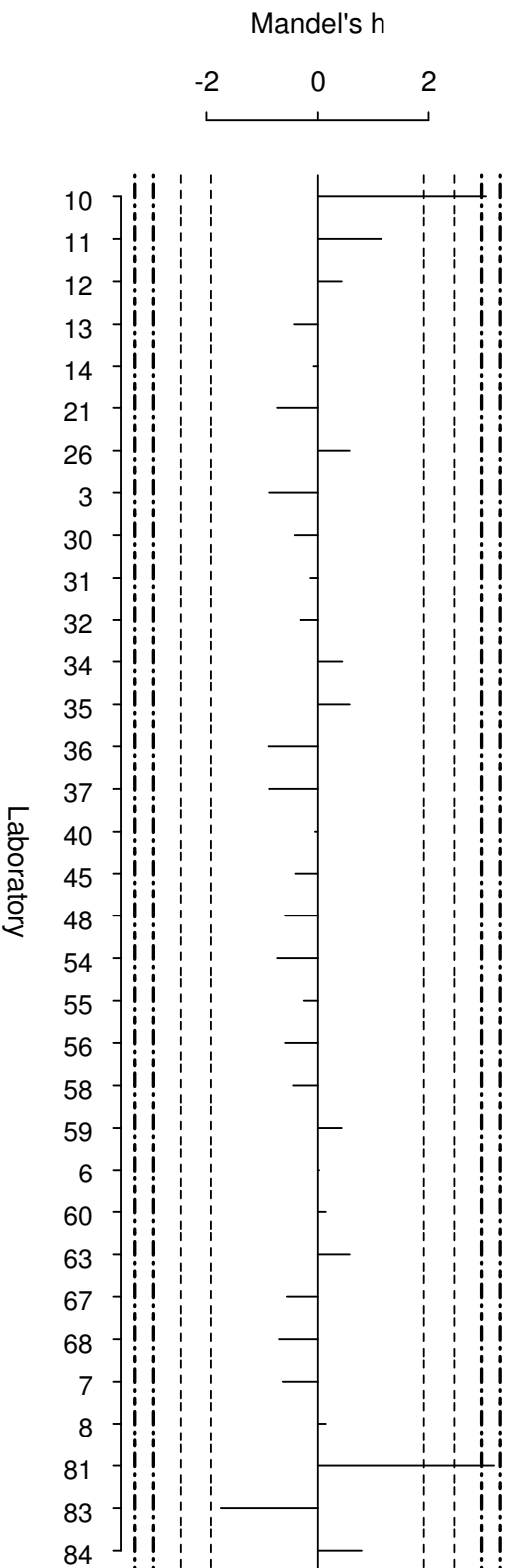
Step:5; Nlab:31; Mgen:0.02792; Fval:67.1; Pval:0; sRep:0.002831; sLab:0.01329; sRpr:0.01359; CV:48.67



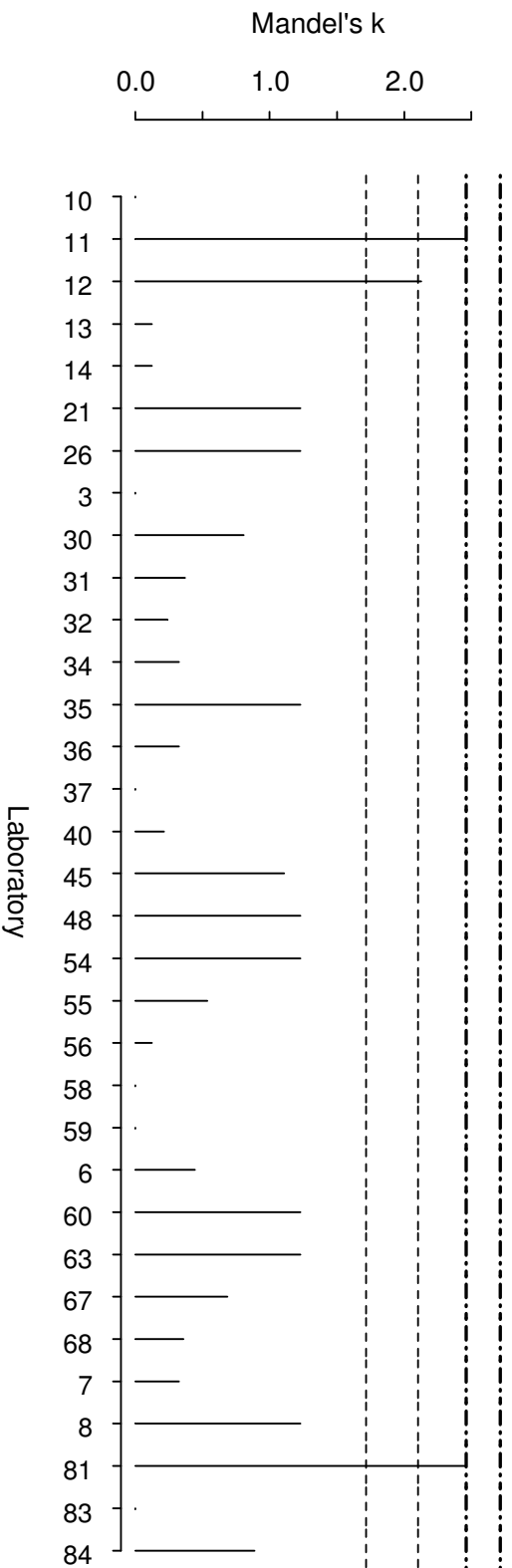
Mandel's h and k plots of sample B

6 - Exchangeable K - sample B

Step:5; Nlab:33; Mgen:0.0702; Fval:72.06; Pval:0; sRep:0.0047; sLab:0.02288; sRpr:0.02335; CV:33.27



S: 10,81

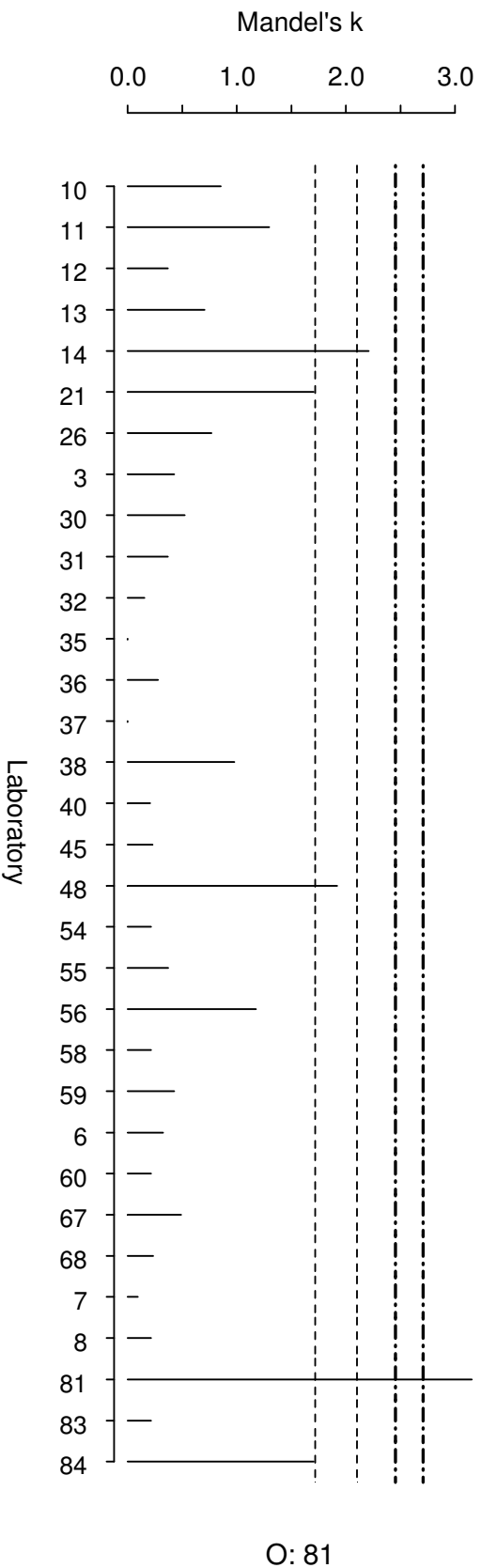
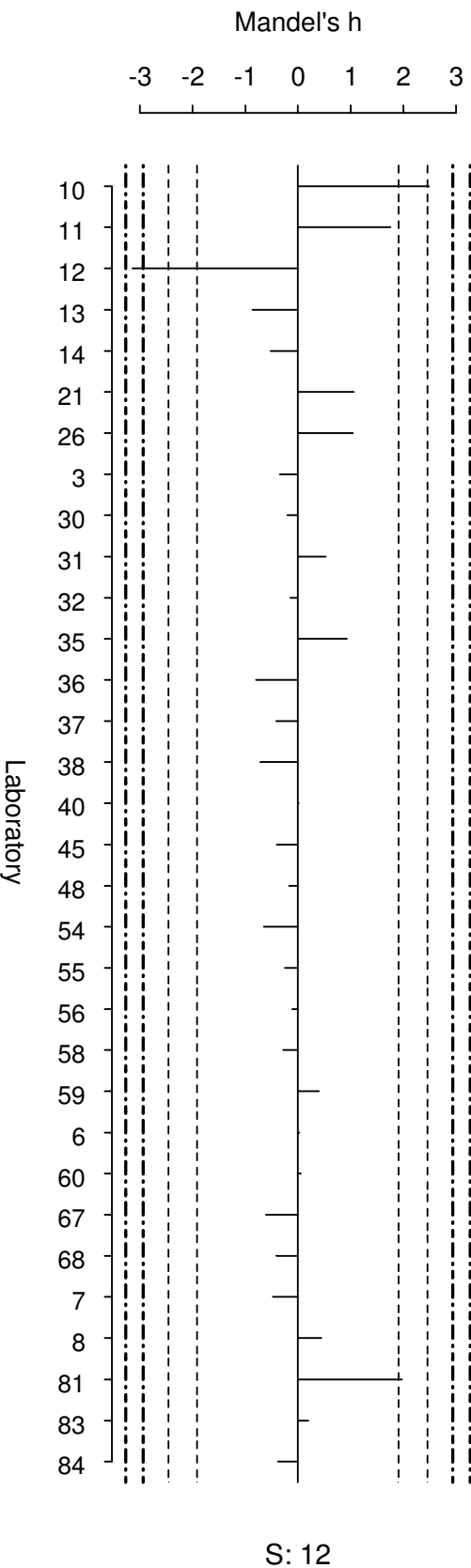


E: hk62;hk77;h82;k85h;h64;k71;k42

Mandel's h and k plots of sample C

6 - Exchangeable K - sample C

Step: 7; Nlab: 32; Mgen: 0.6936; Fval: 165.4; Pval: 0; sRep: 0.02709; sLab: 0.2006; sRpr: 0.2024; CV: 29.18

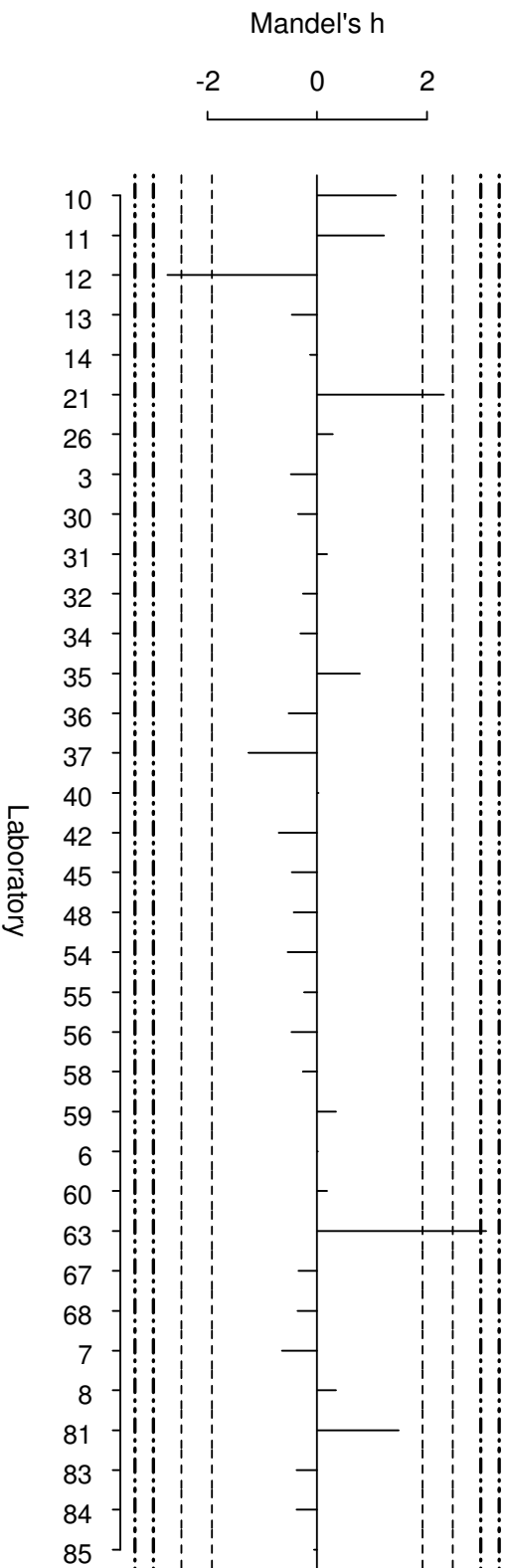


E: hk77;k85;k63;hk62;hk82;k34;h64;k71

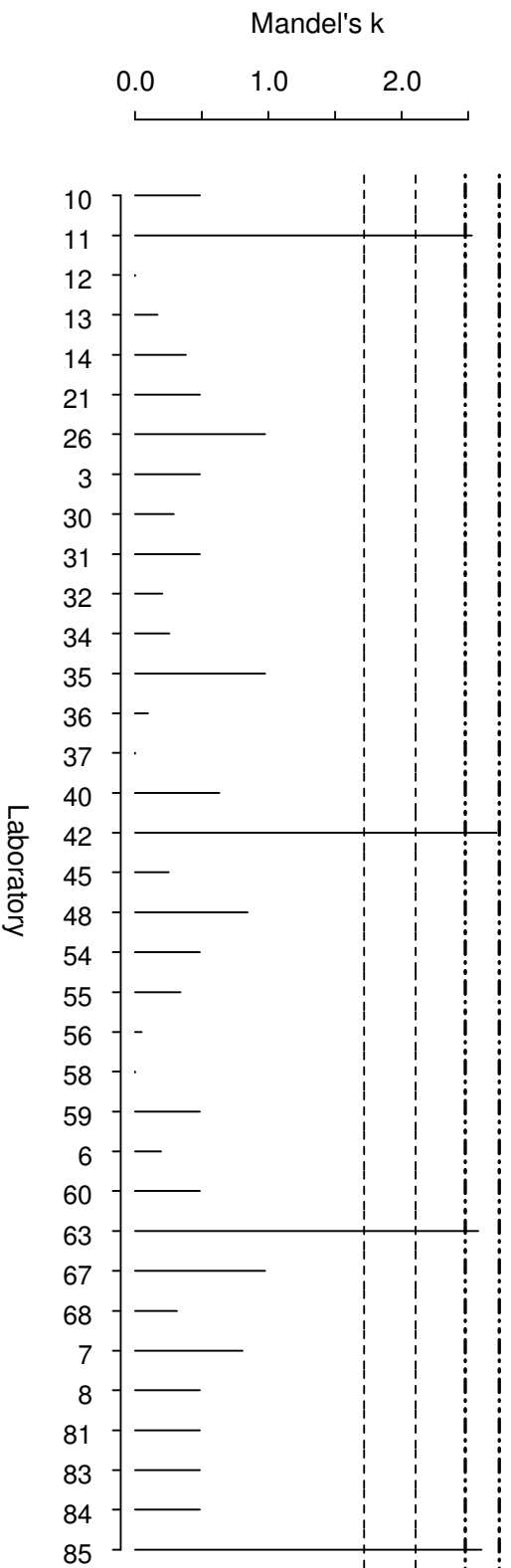
Mandel's h and k plots of sample D

6 - Exchangeable K - sample D

Step:4; Nlab:35; Mgen:0.1959; Fval:78.96; Pval:0; sRep:0.01187; sLab:0.06049; sRpr:0.06165; CV:31.47



S: 63



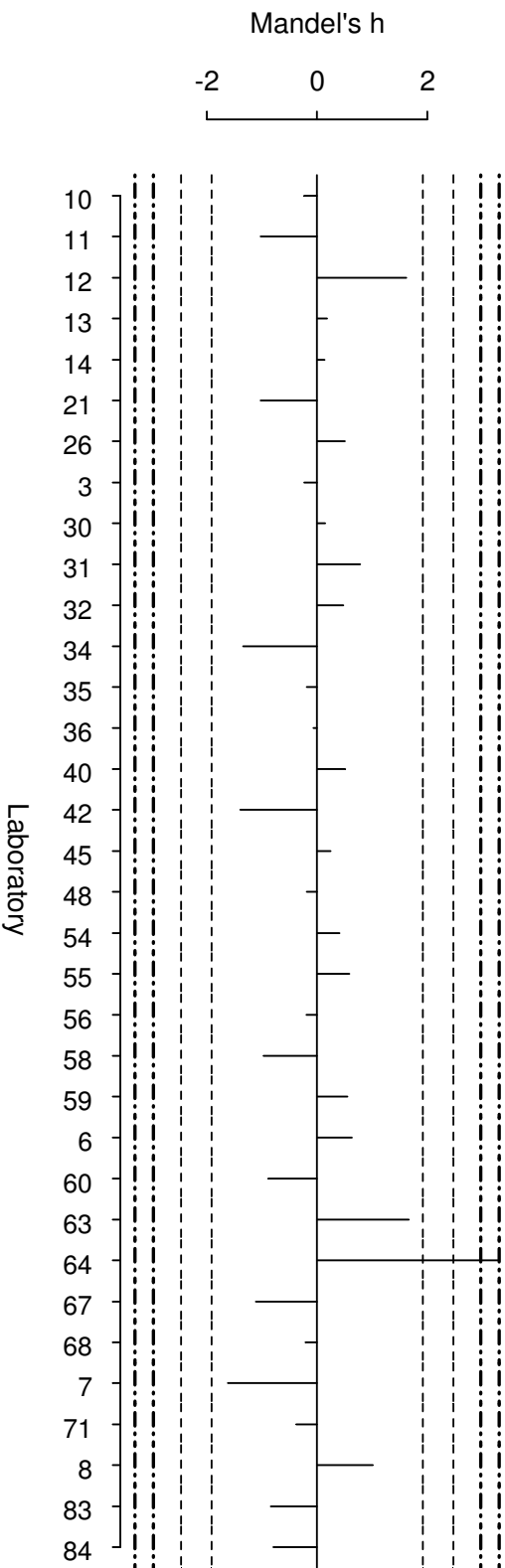
S: 11,42,63,85

E: hk77;hk62;hk82;h64;k71

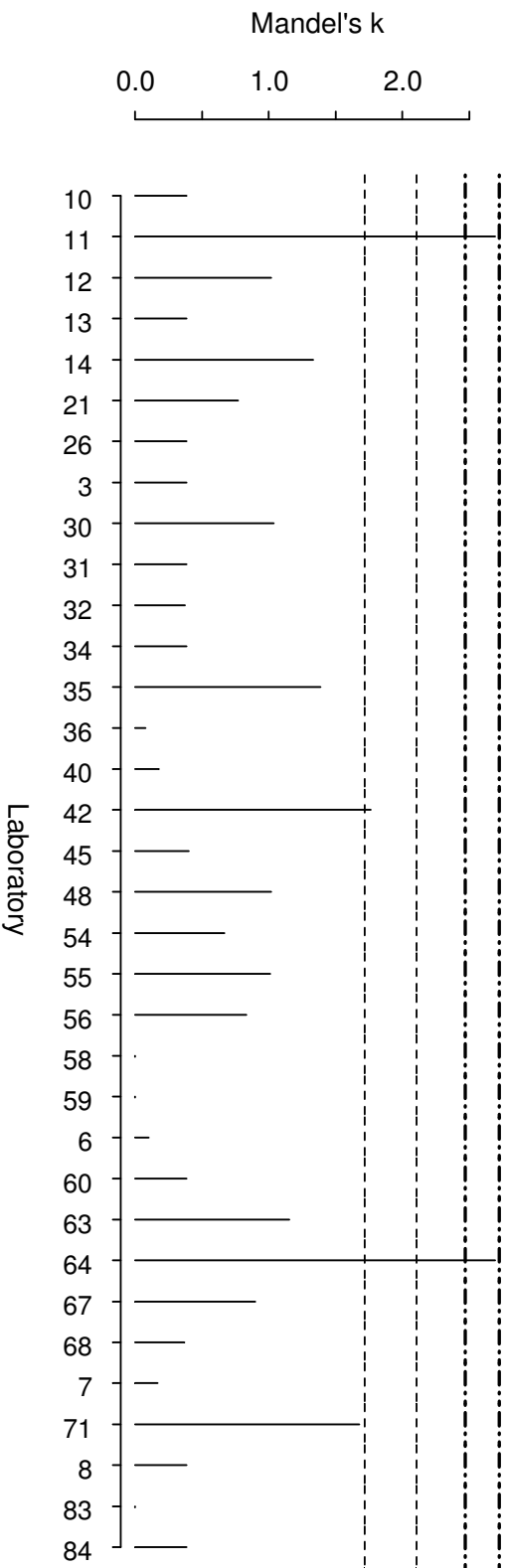
Mandel's h and k plots of sample E

6 - Exchangeable K - sample E

Step:3; Nlab:34; Mgen:0.2104; Fval:69.17; Pval:0; sRep:0.01501; sLab:0.07154; sRpr:0.0731; CV:34.74



S: 64



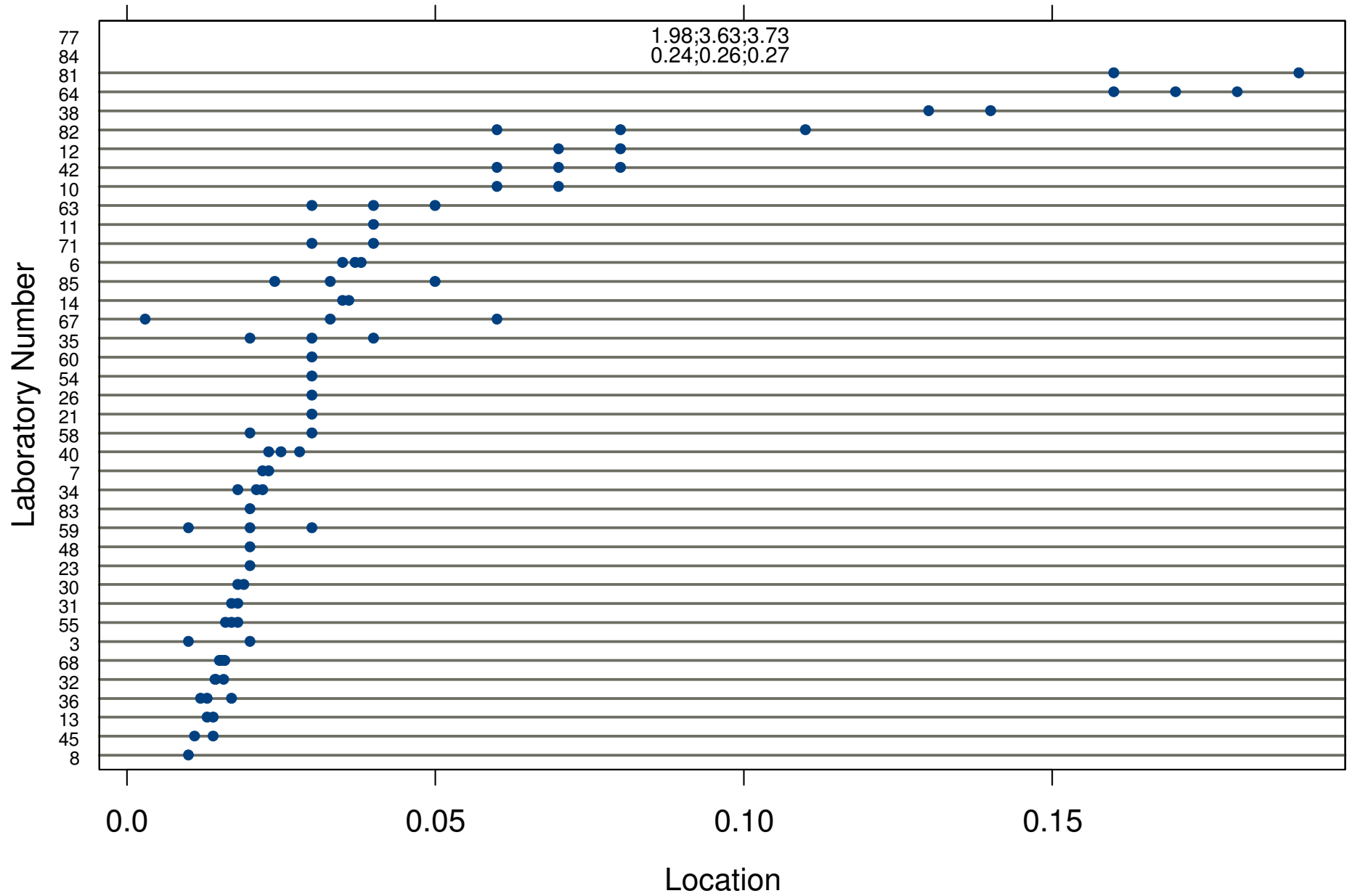
S: 11,64

E: hk77;hk82;h62;k85

Exchangeable Mg

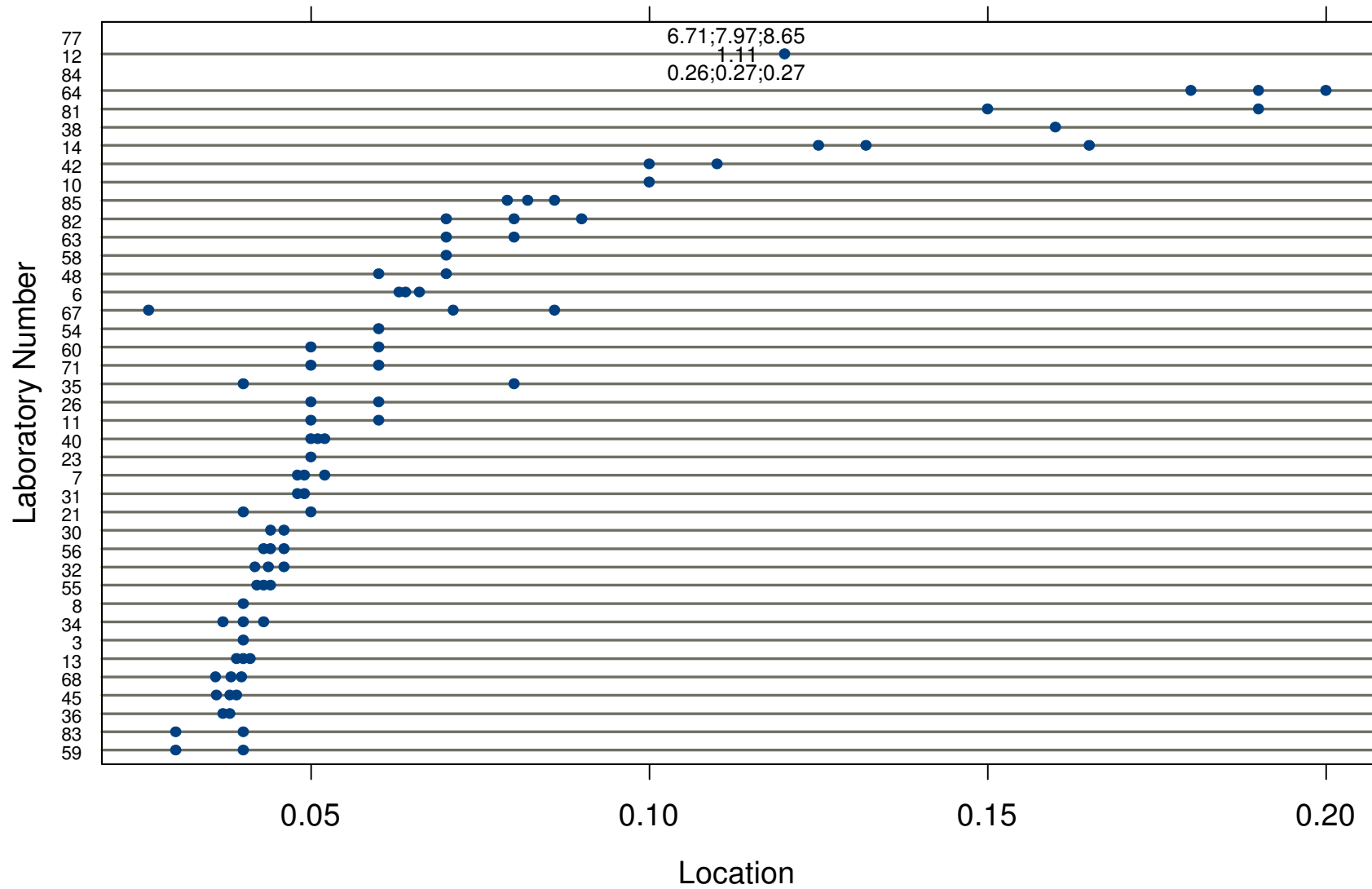
Dot plot of sample A

6 - Exchangeable Mg - Sample A



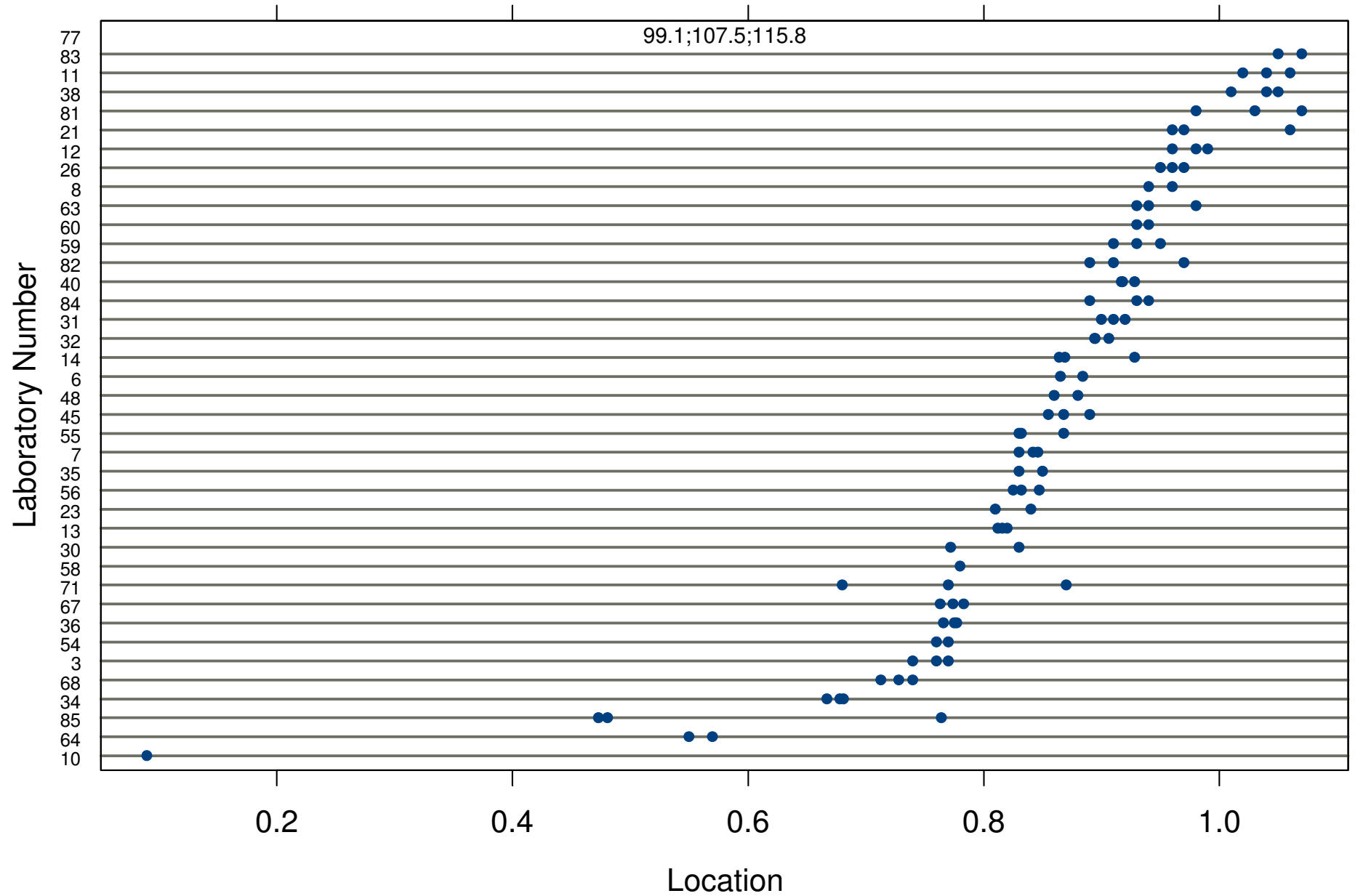
Dot plot of sample B

6 - Exchangeable Mg - Sample B



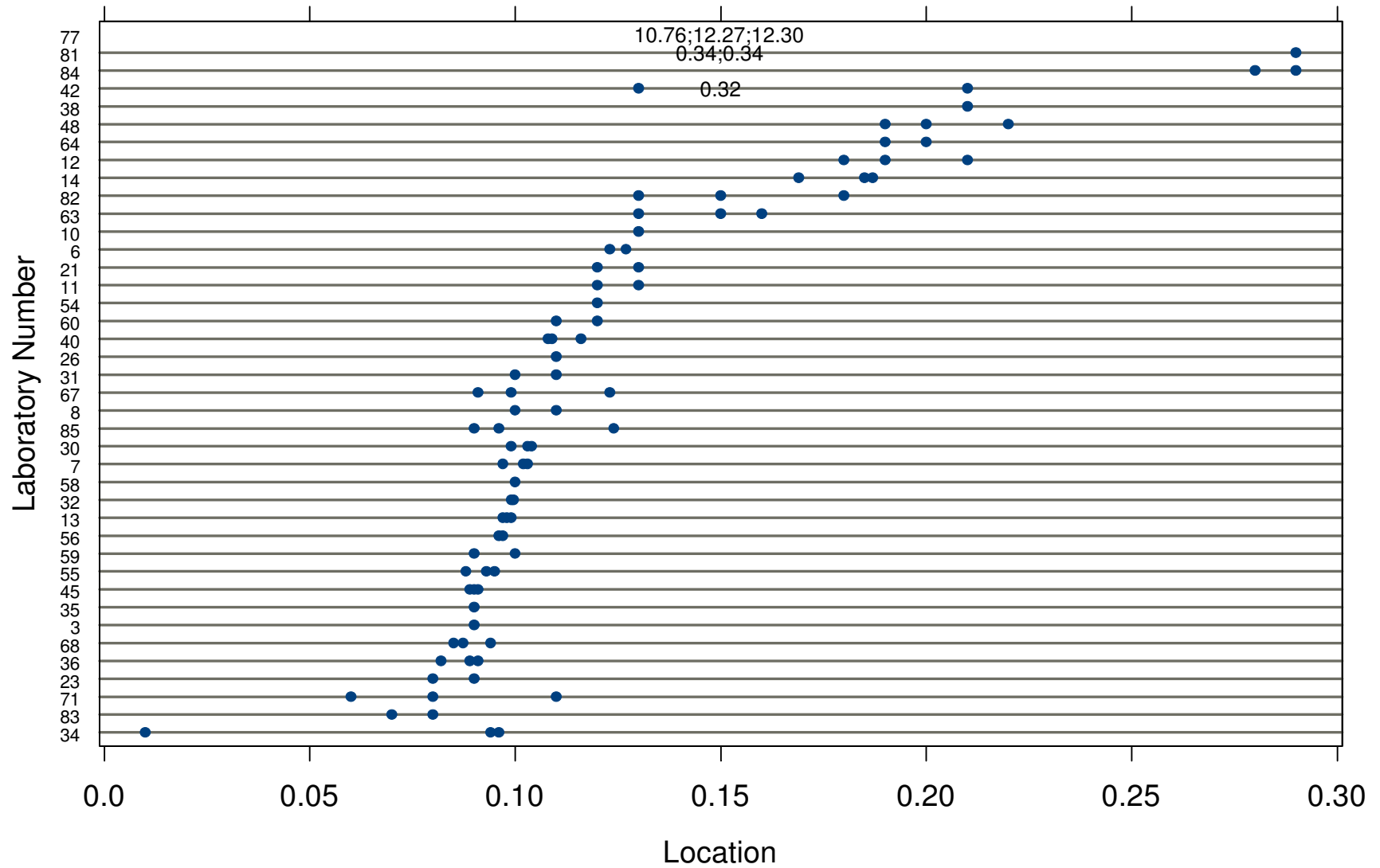
Dot plot of sample C

6 - Exchangeable Mg - Sample C



Dot plot of sample D

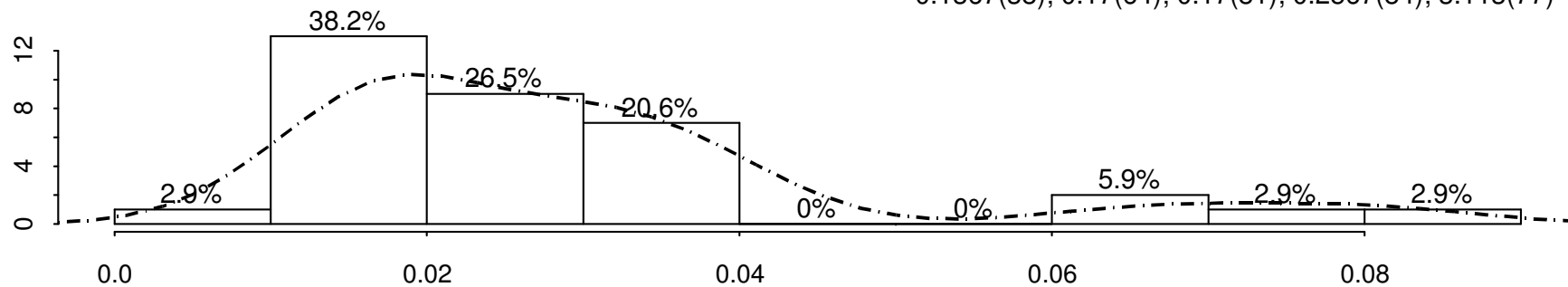
6 - Exchangeable Mg - Sample D



379.1;433.3;447.5

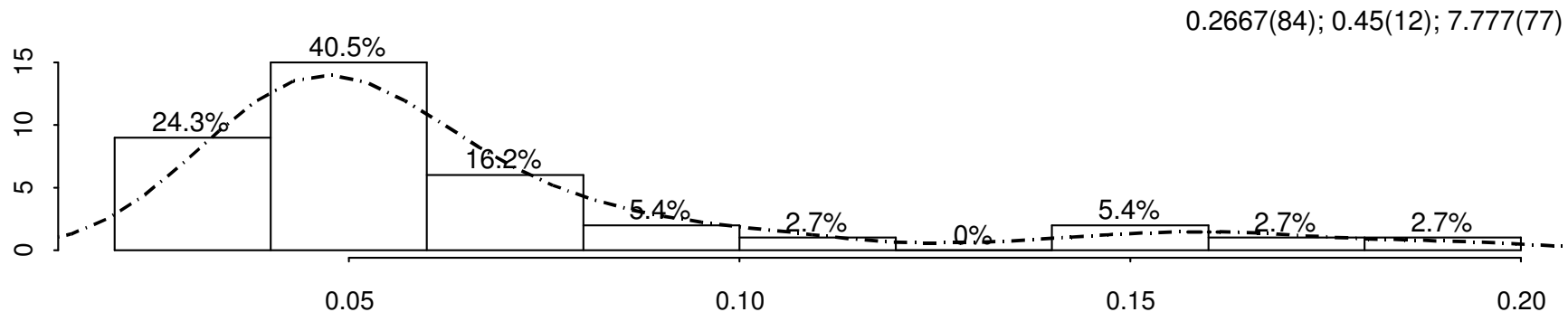
Histogram of the means of samples A, B and C

0.1367(38); 0.17(64); 0.17(81); 0.2567(84); 3.113(77)



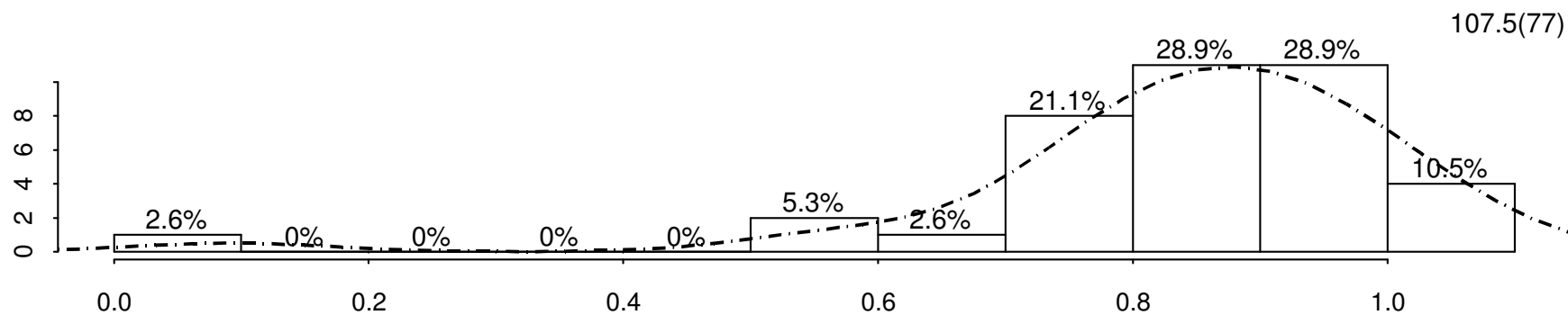
6 - Exchangeable Mg - Sample A - mean

N: 39 NA: 0 Z: 0 E: 0,5 U: 34
a: 0.1249 m: 0.03 s: 0.4939



6 - Exchangeable Mg - Sample B - mean

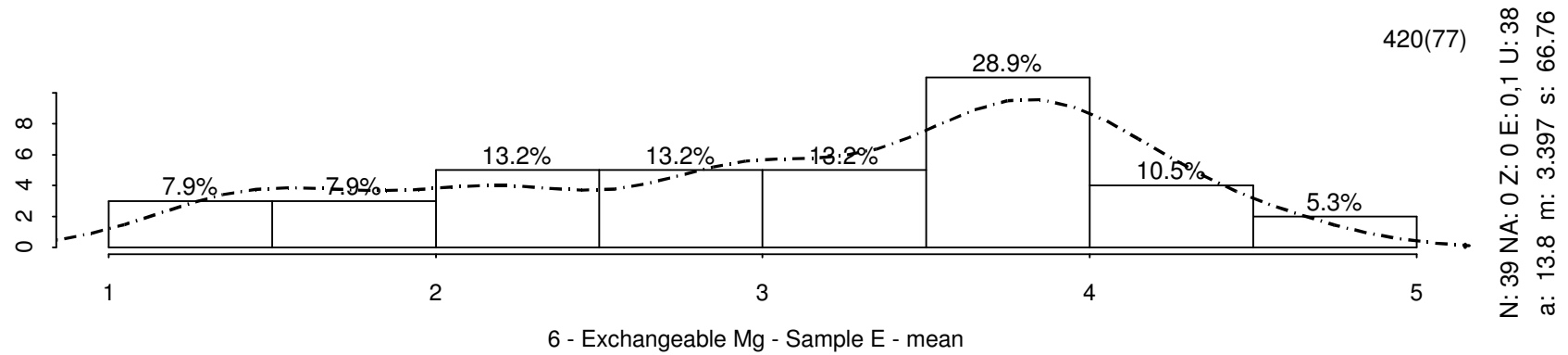
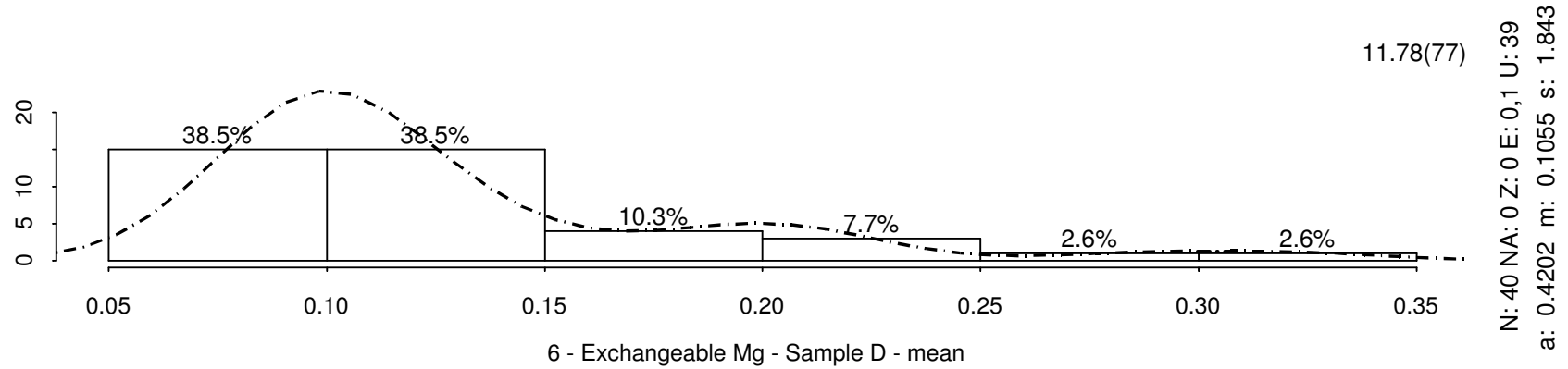
N: 40 NA: 0 Z: 0 E: 0,3 U: 37
a: 0.2737 m: 0.05333 s: 1.219



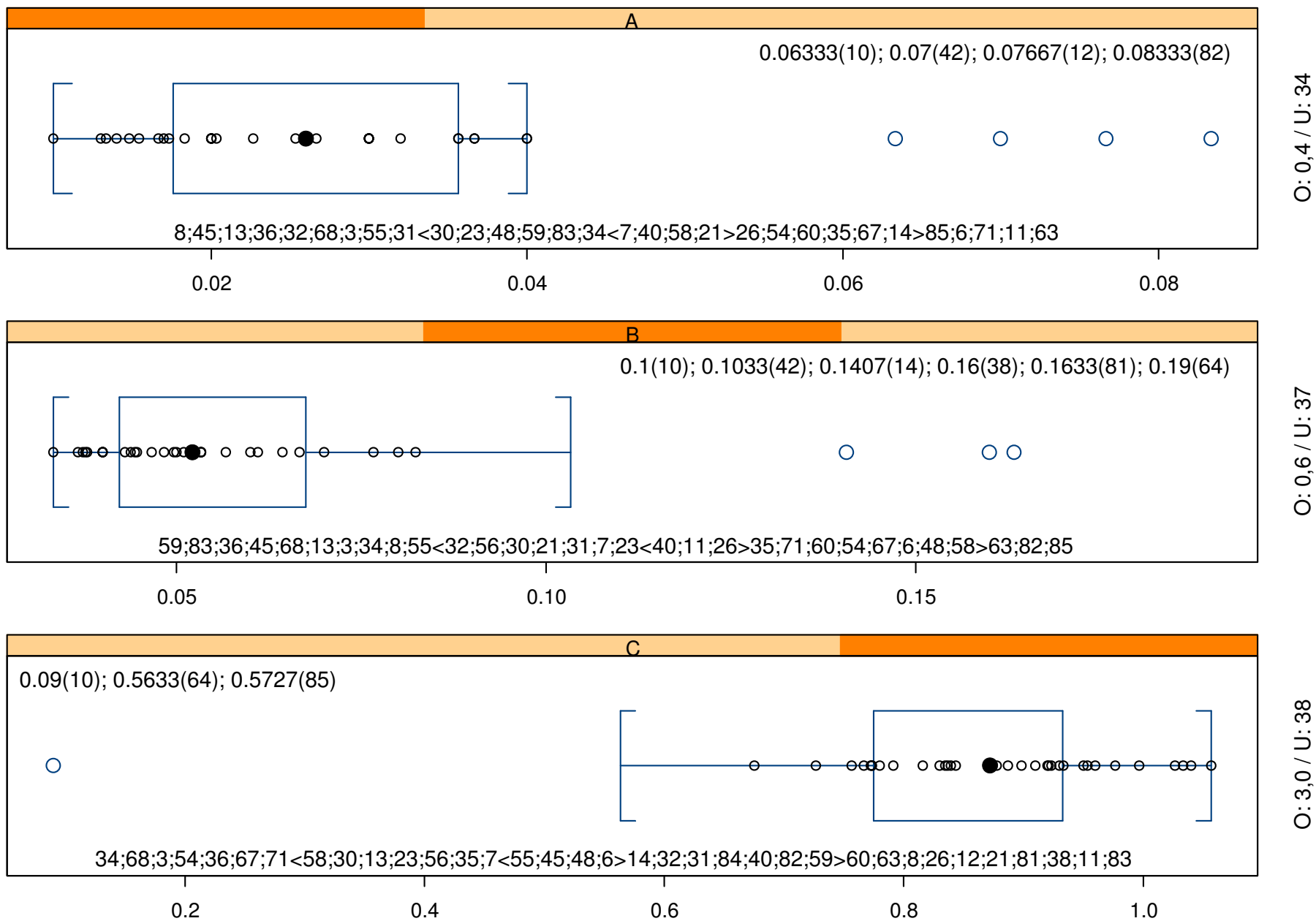
6 - Exchangeable Mg - Sample C - mean

N: 39 NA: 0 Z: 0 E: 0,1 U: 38
a: 3.576 m: 0.8733 s: 17.07

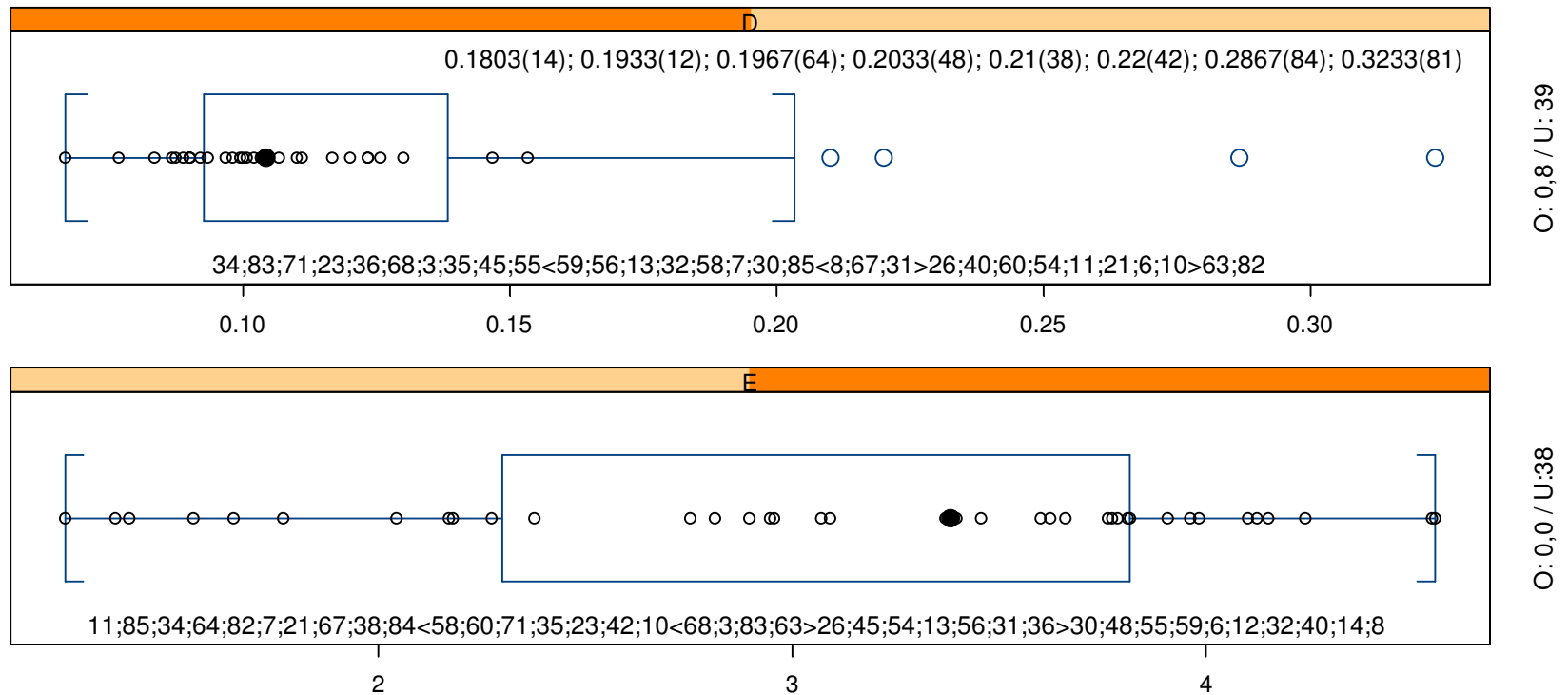
Histogram of the means of samples D and E



Box plot of the means of samples A, B and C

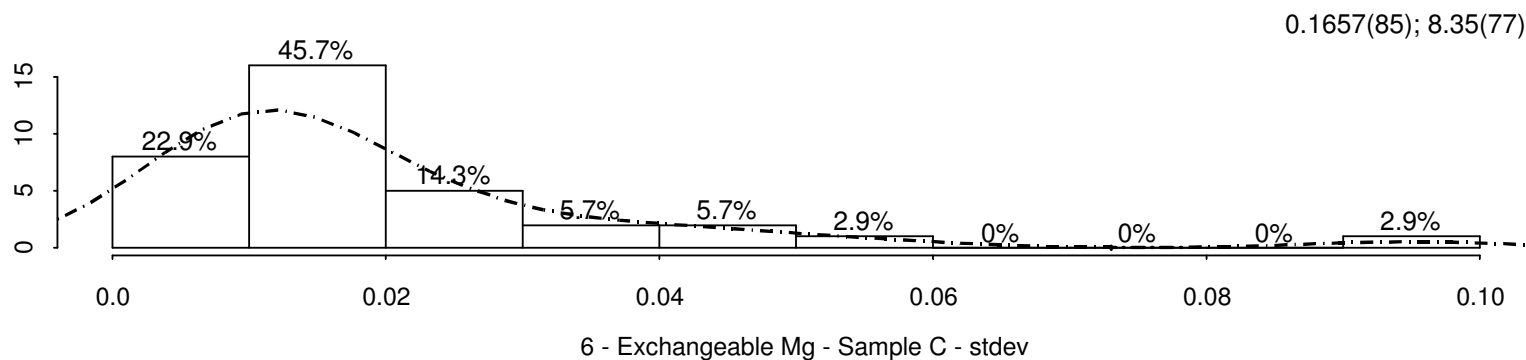
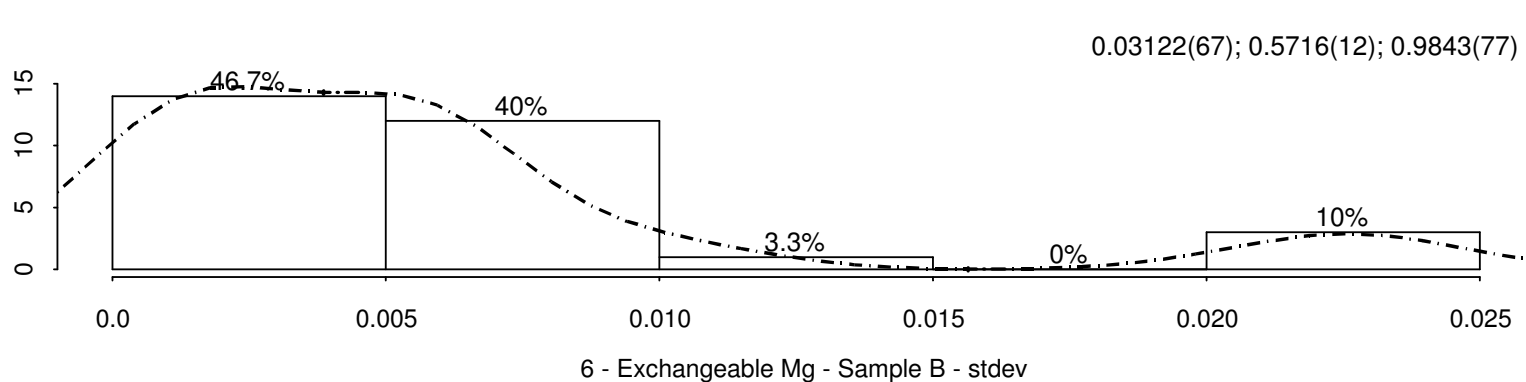
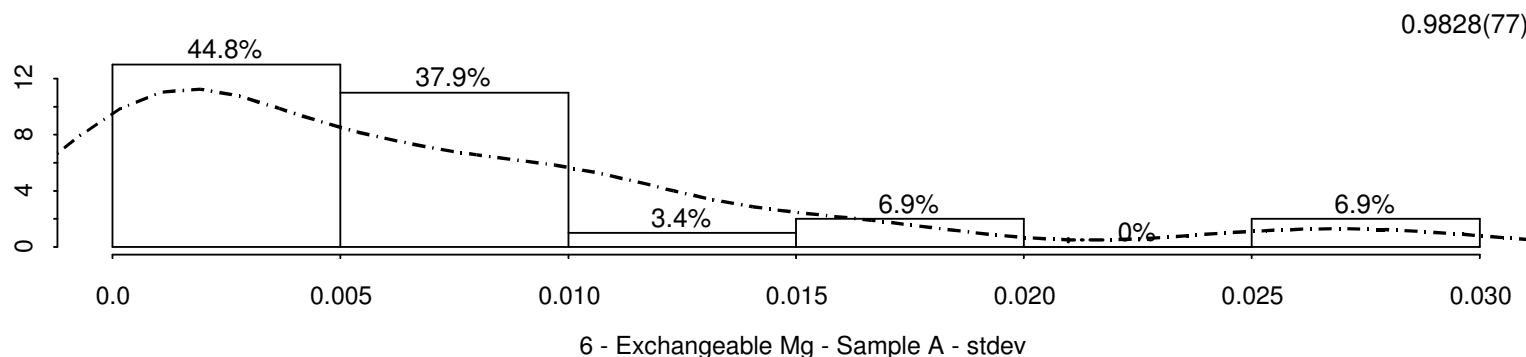


Box plot of the means of samples D and E



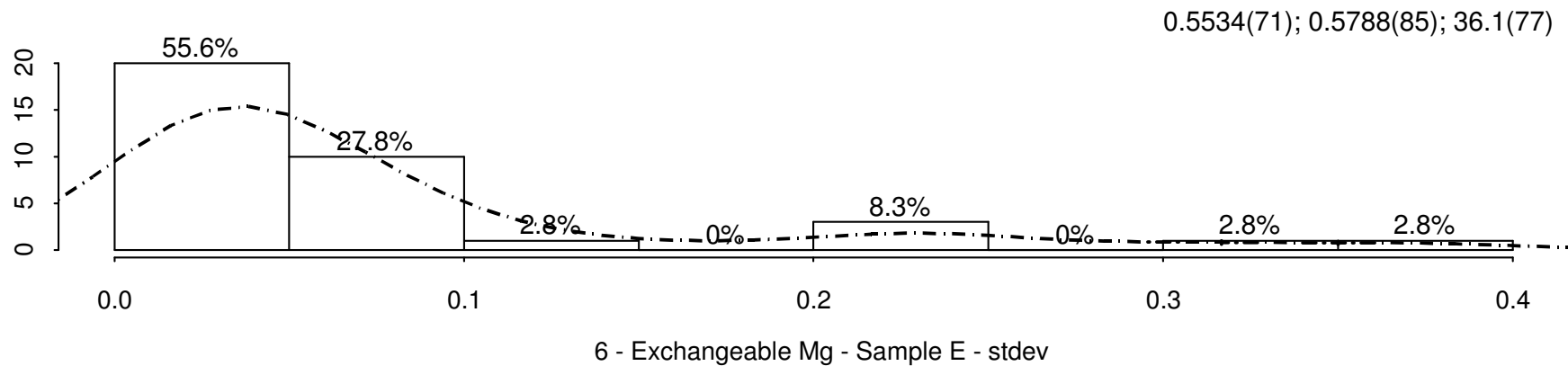
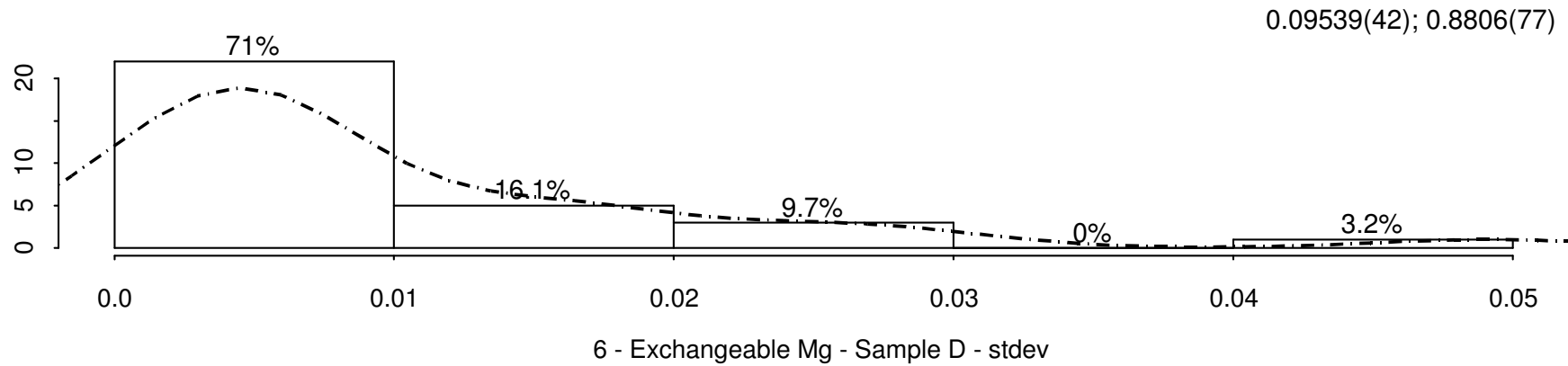
6 - Exchangeable Mg - mean

Histogram of the standard deviations of samples A, B and C



N: 30 NA: 0 Z: 0 E: 0.1 U: 29
 N: 33 NA: 0 Z: 0 E: 0.3 U: 30
 N: 37 NA: 0 Z: 0 E: 0.2 U: 35
 a: 0.2485 m: 0.01362 s: 1.369 a: 0.05336 m: 0.005774 s: 0.194a: 0.03942 m: 0.005774 s: 0.1783

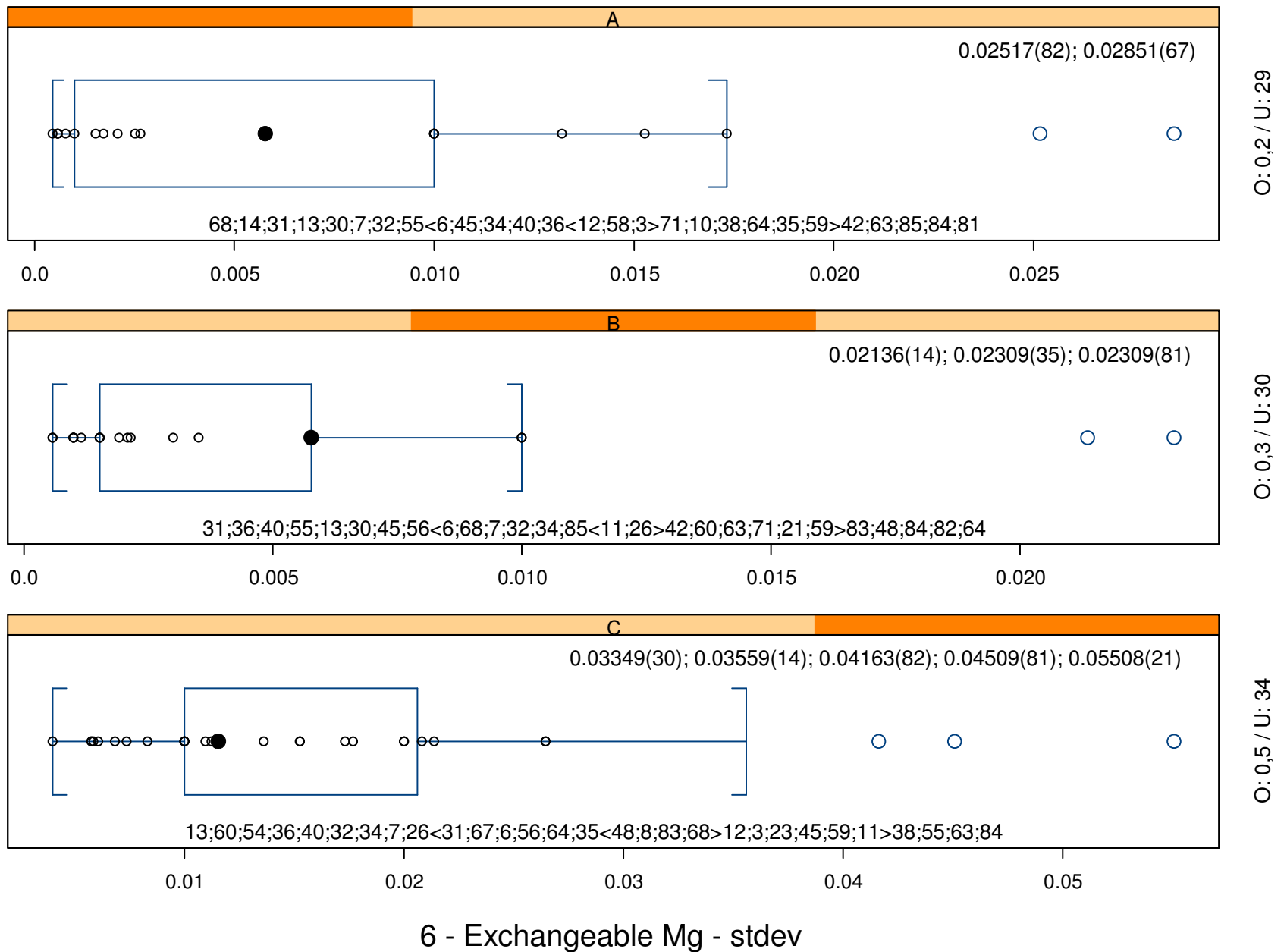
Histogram of the standard deviations of samples D and E



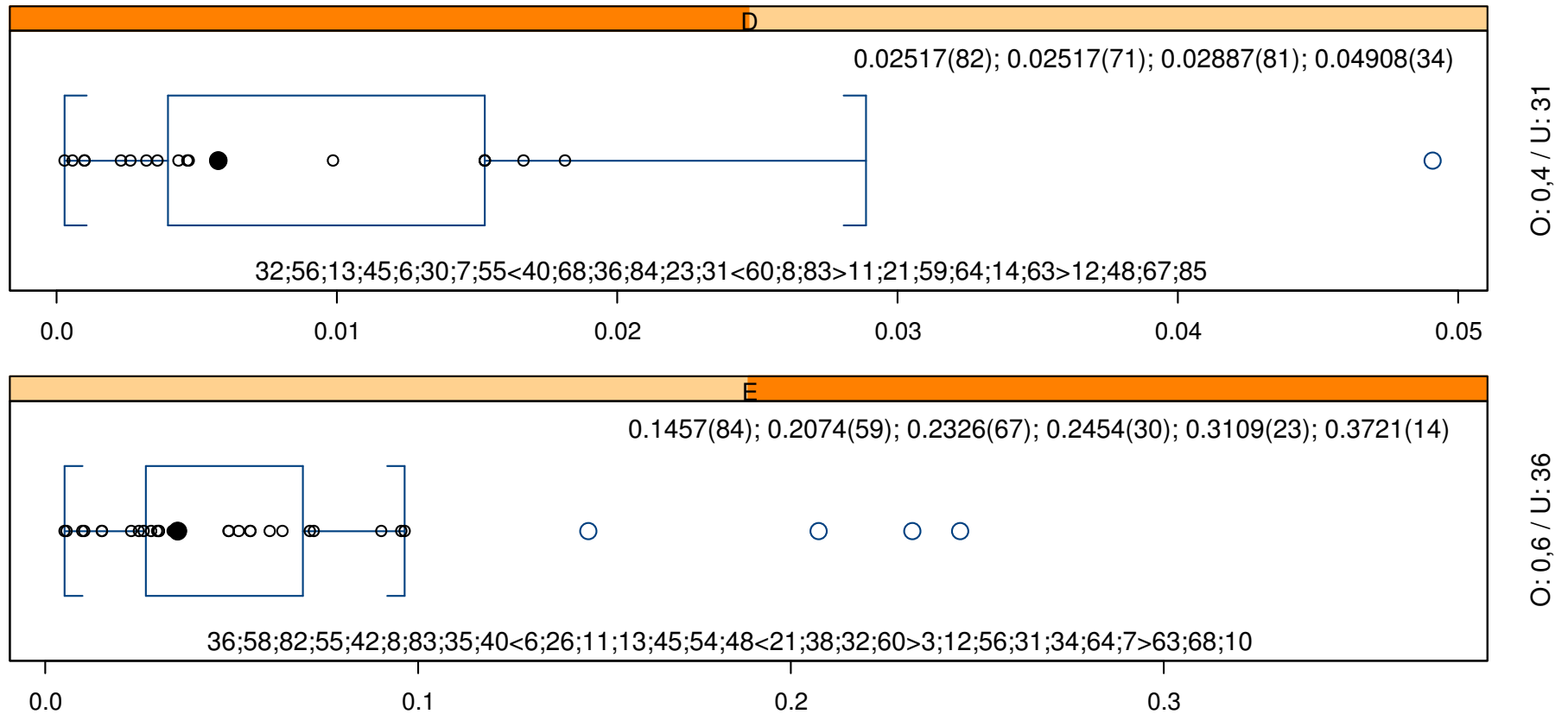
N: 33 NA: 0 Z: 0 E: 0,2 U: 31
a: 1.025 m: 0.03881 s: 0.005774 s: 0.1522

N: 39 NA: 0 Z: 0 E: 0,3 U: 36
a: 1.025 m: 0.04933 s: 5.765

Box plot of the standard deviations of samples A, B and C



Box plot of the standard deviations of samples D and E



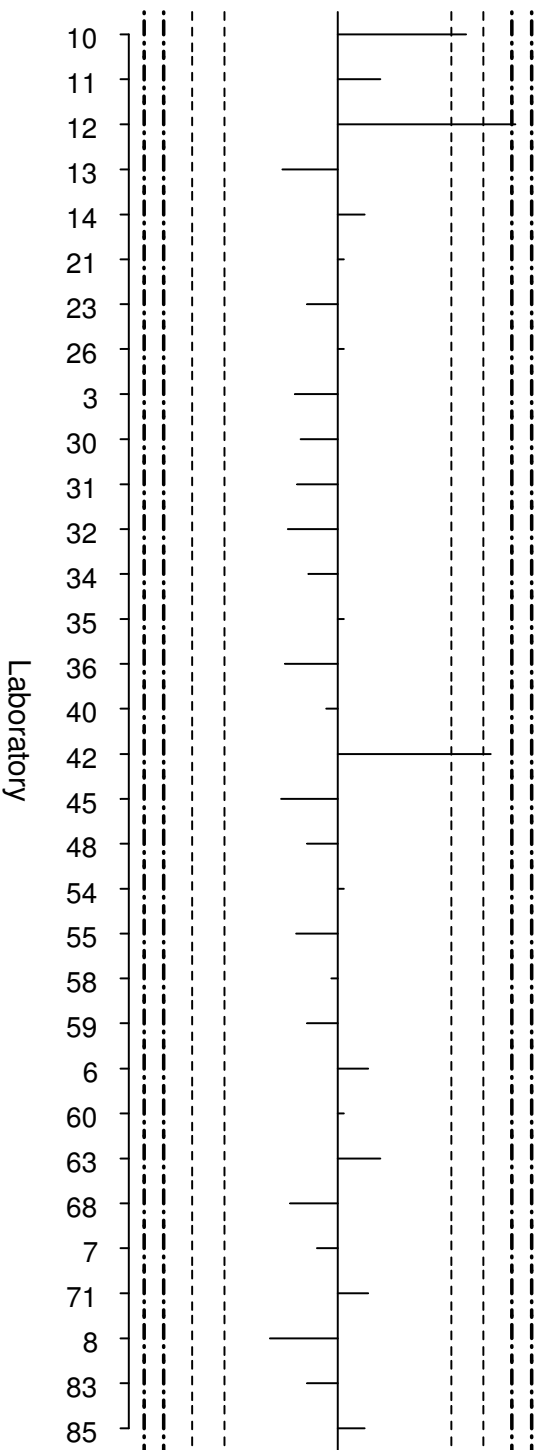
Mandel's h and k plots of sample A

6 - Exchangeable Mg - Sample A

Step:6; Nlab:32; Mgen:0.02842; Fval:32.49; Pval:0; sRep:0.004897; sLab:0.01587; sRpr:0.01661; CV:58.42

Mandel's h

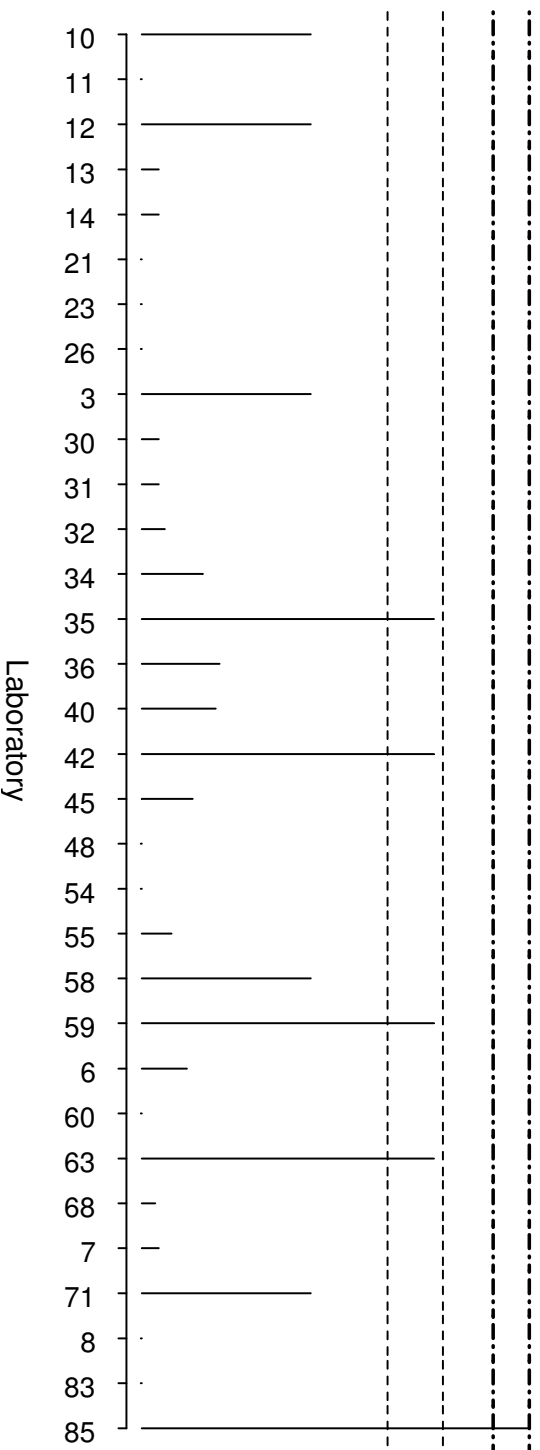
-3 -2 -1 0 1 2 3



S: 12

Mandel's k

0.0 1.0 2.0

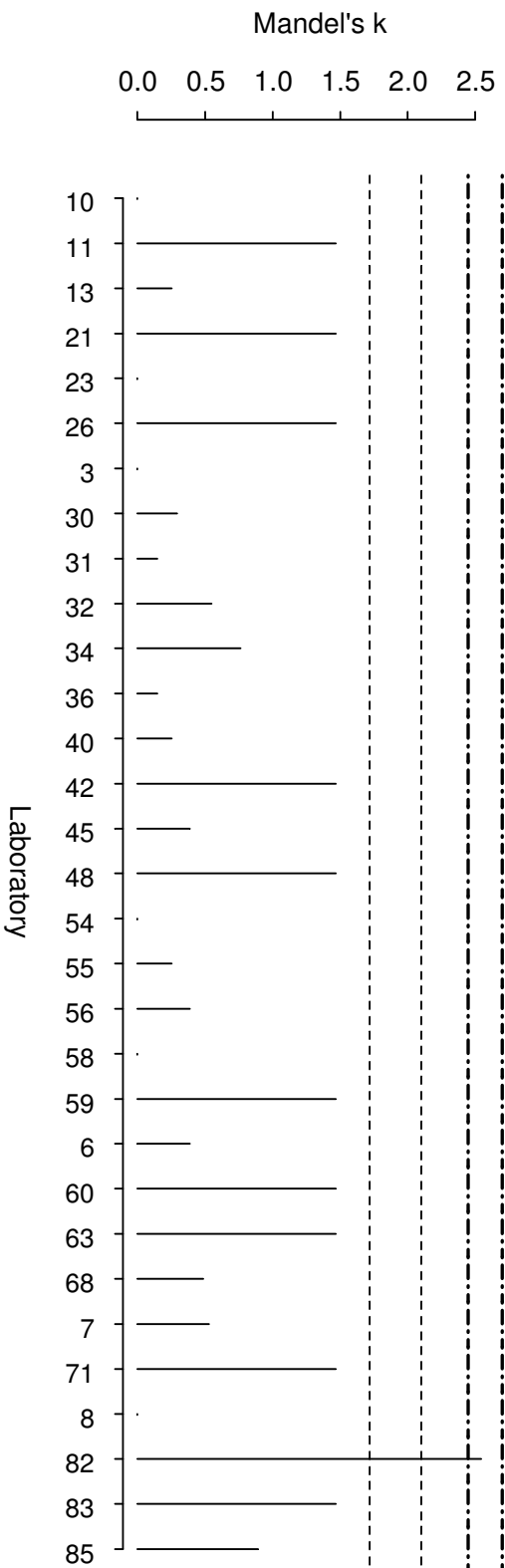
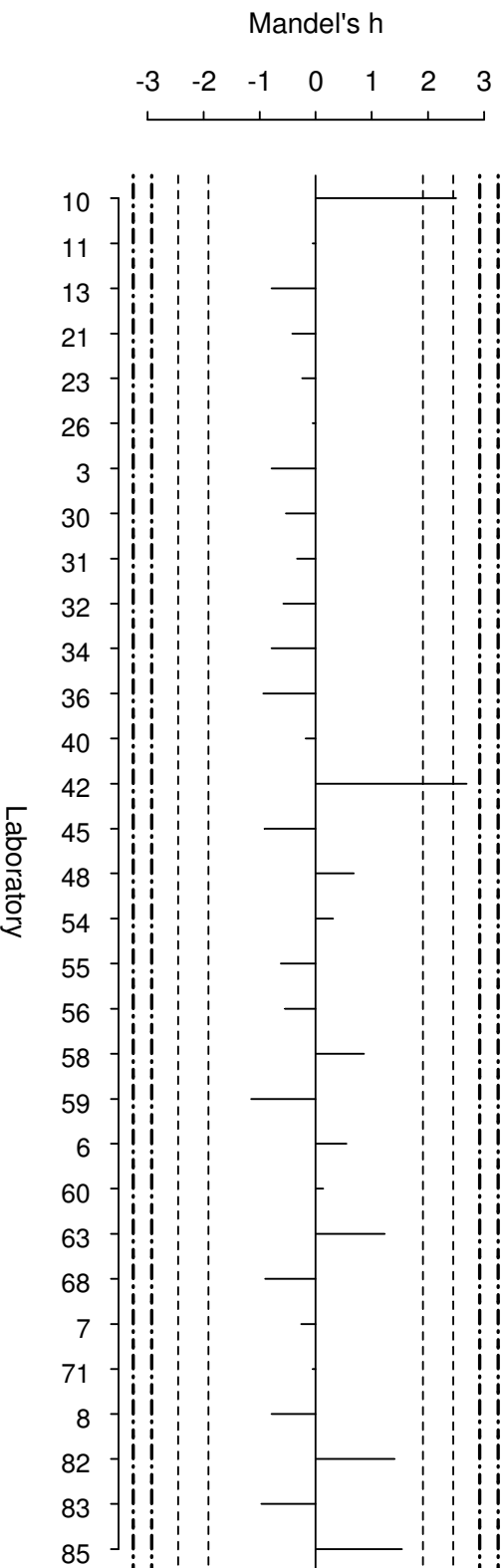


S: 85

Mandel's h and k plots of sample B

6 - Exchangeable Mg - sample B

Step:6; Nlab:31; Mgen:0.05434; Fval:64.39; Pval:0; sRep:0.003932; sLab:0.01808; sRpr:0.0185; CV:34.04



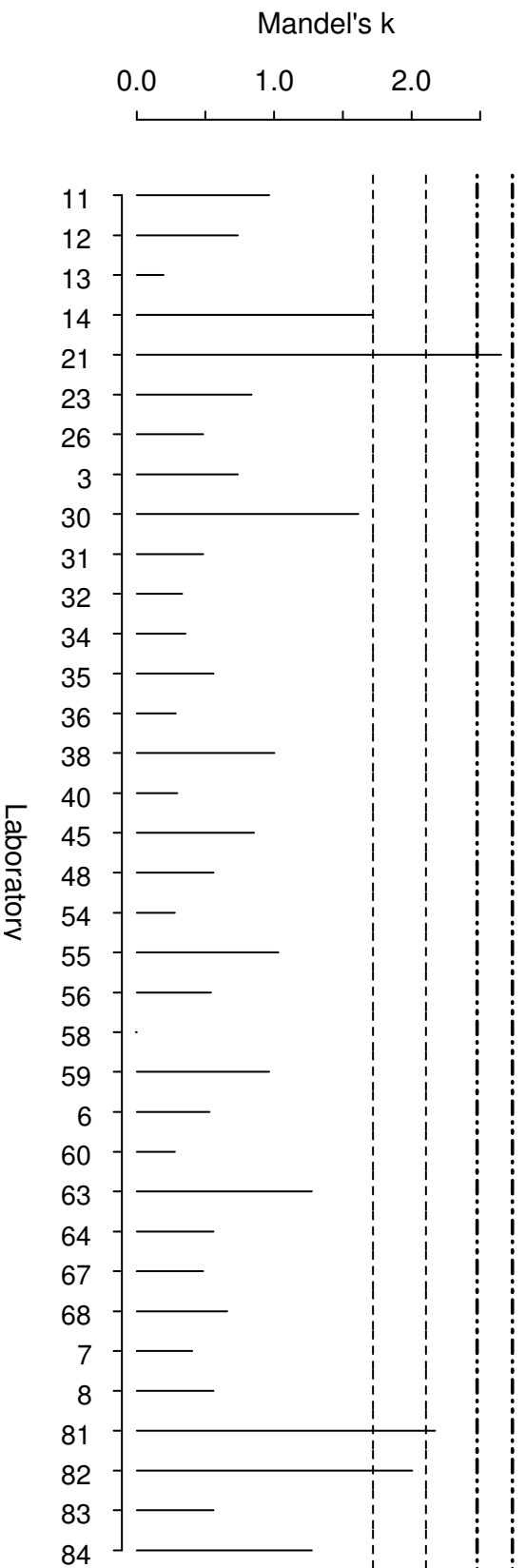
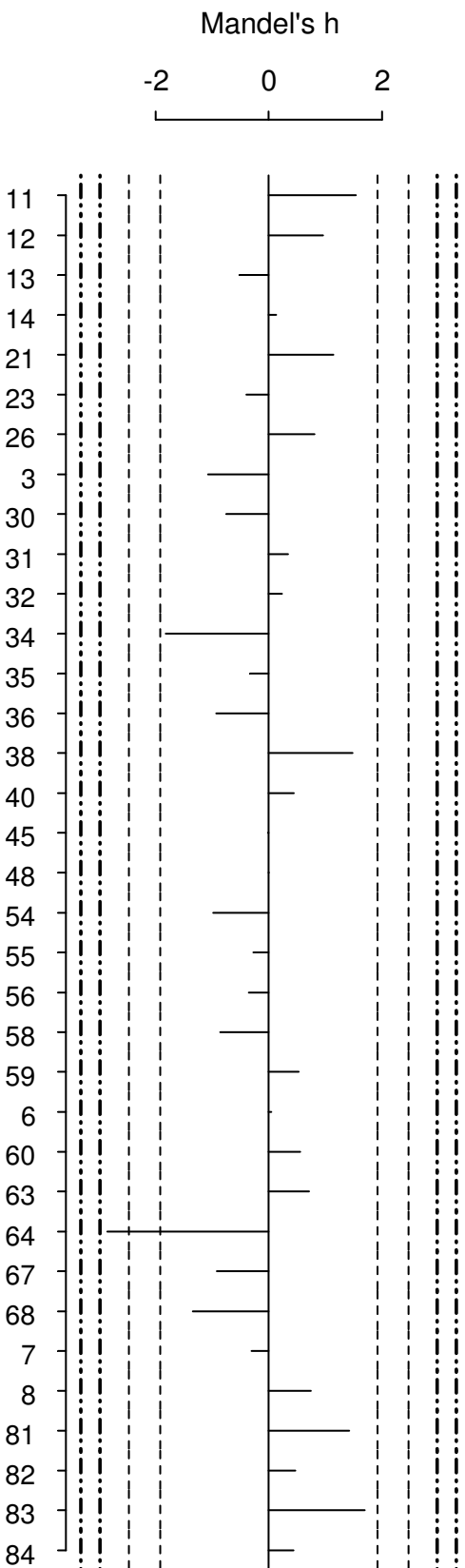
S: 82

E: hk12;hk77;k67;h84;hk14;k35;hk81;h64;h38

Mandel's h and k plots of sample C

6 - Exchangeable Mg - Sample C

Step:4; Nlab:35; Mgen:0.8727; Fval:81.8; Pval:0; sRrep:0.02076; slab:0.1077; sRpr:0.1097; CV:12.57



S: 21

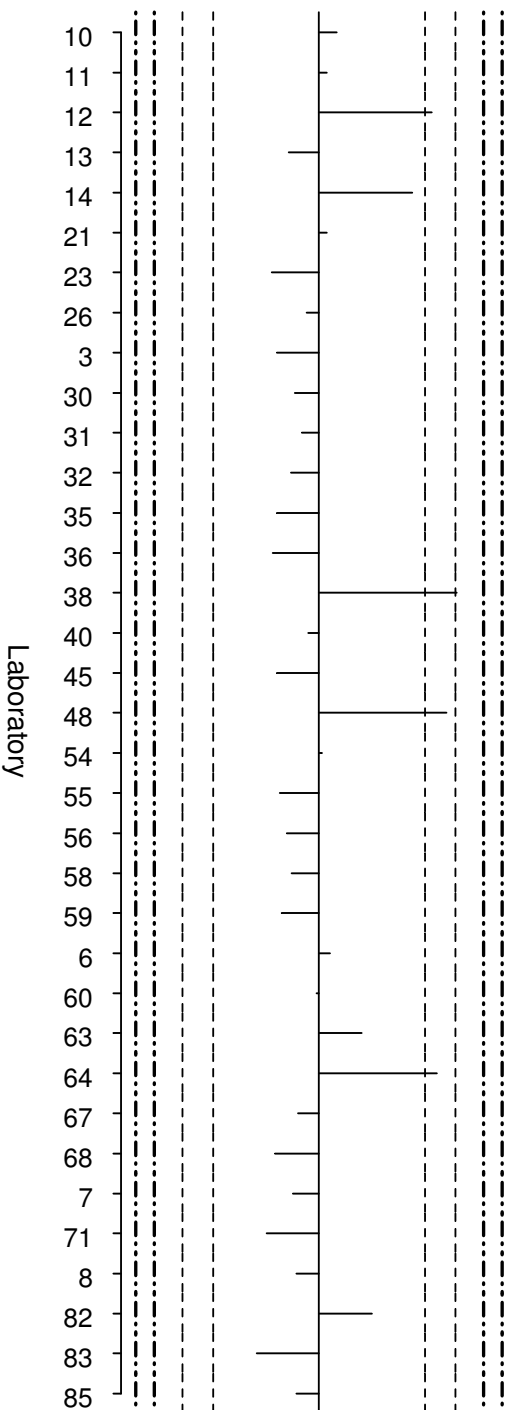
E: hk77;h10;k85;k71

Mandel's h and k plots of sample D

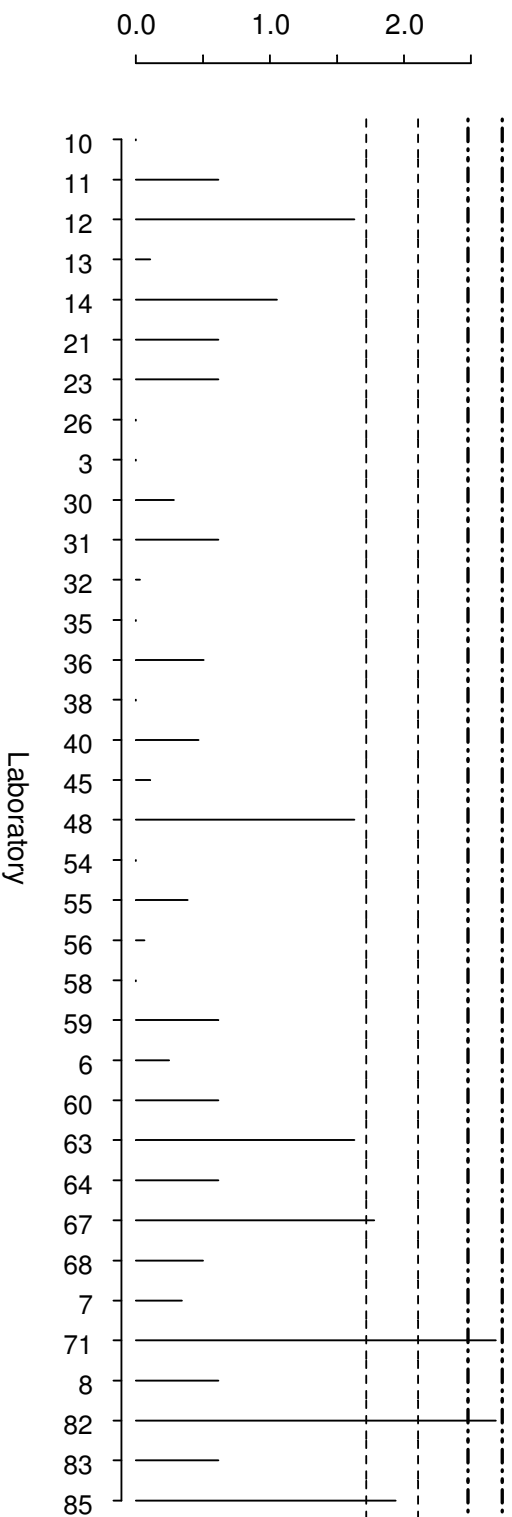
6 - Exchangeable Mg - sample D

Step:4; Nlab:35; Mgen:0.1182; Fval:46.34; Pval:0; sRep:0.009369; sLab:0.03642; sRpr:0.03761; CV:31.82

Mandel's h



Mandel's k



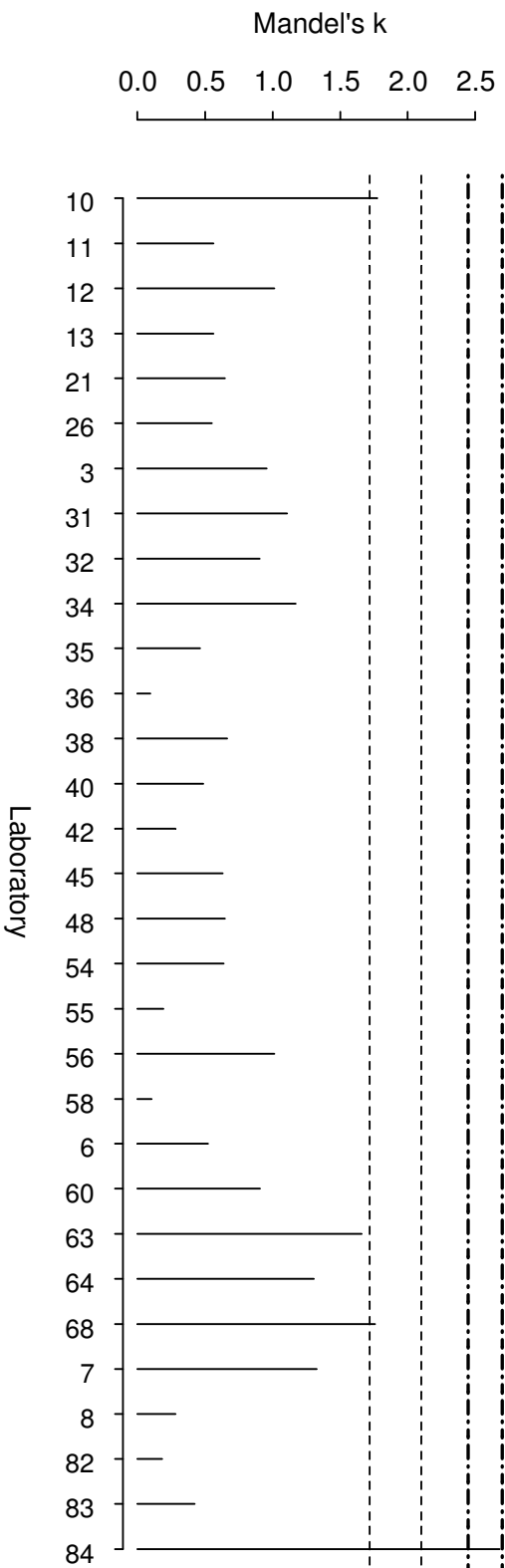
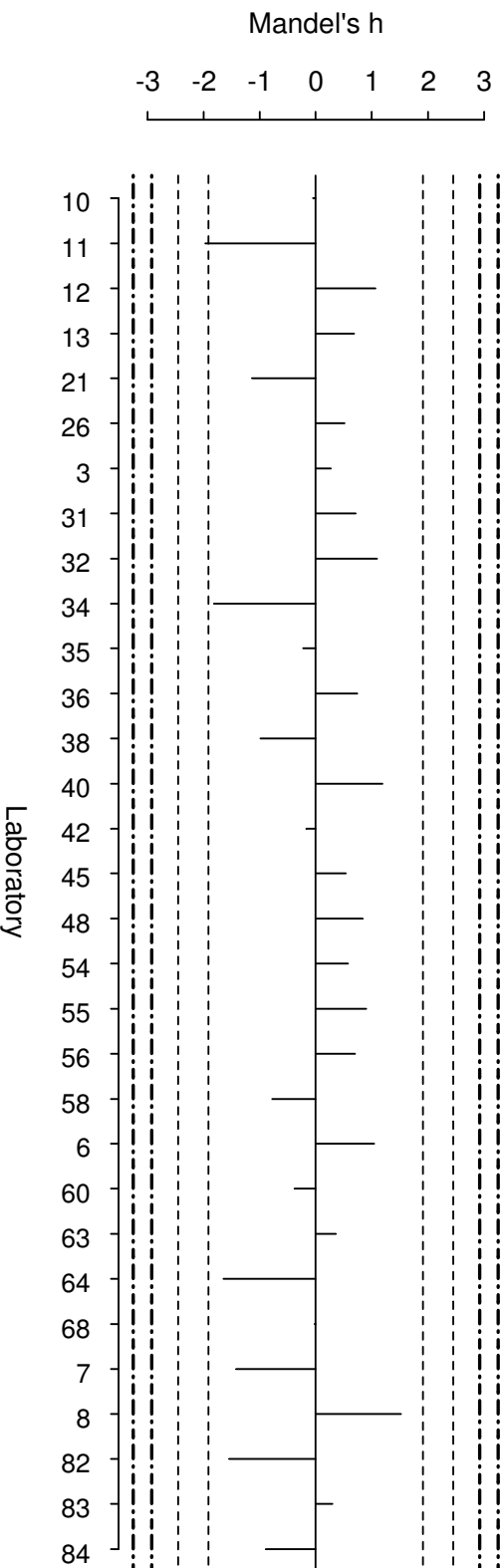
S: 71,82

E: hk77;k42;hk81;k34;h84

Mandel's h and k plots of sample E

6 - Exchangeable Mg - sample E

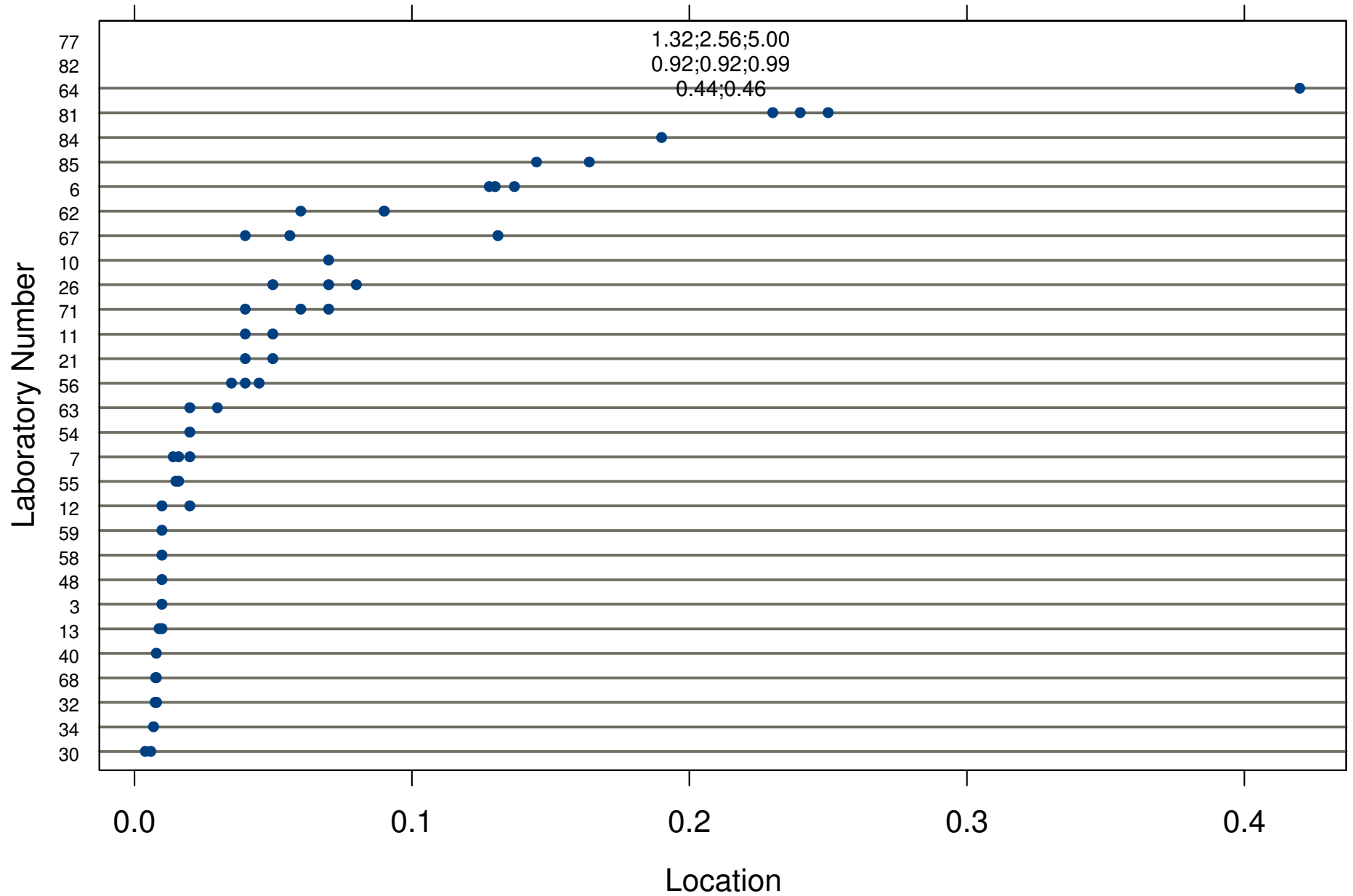
Step:7; Nlab:31; Mgen:3.114; Fval:910.1; Pval:0; sRep:0.05437; sLab:0.9465; sRpr:0.9481; CV:30.45



Exchangeable Na

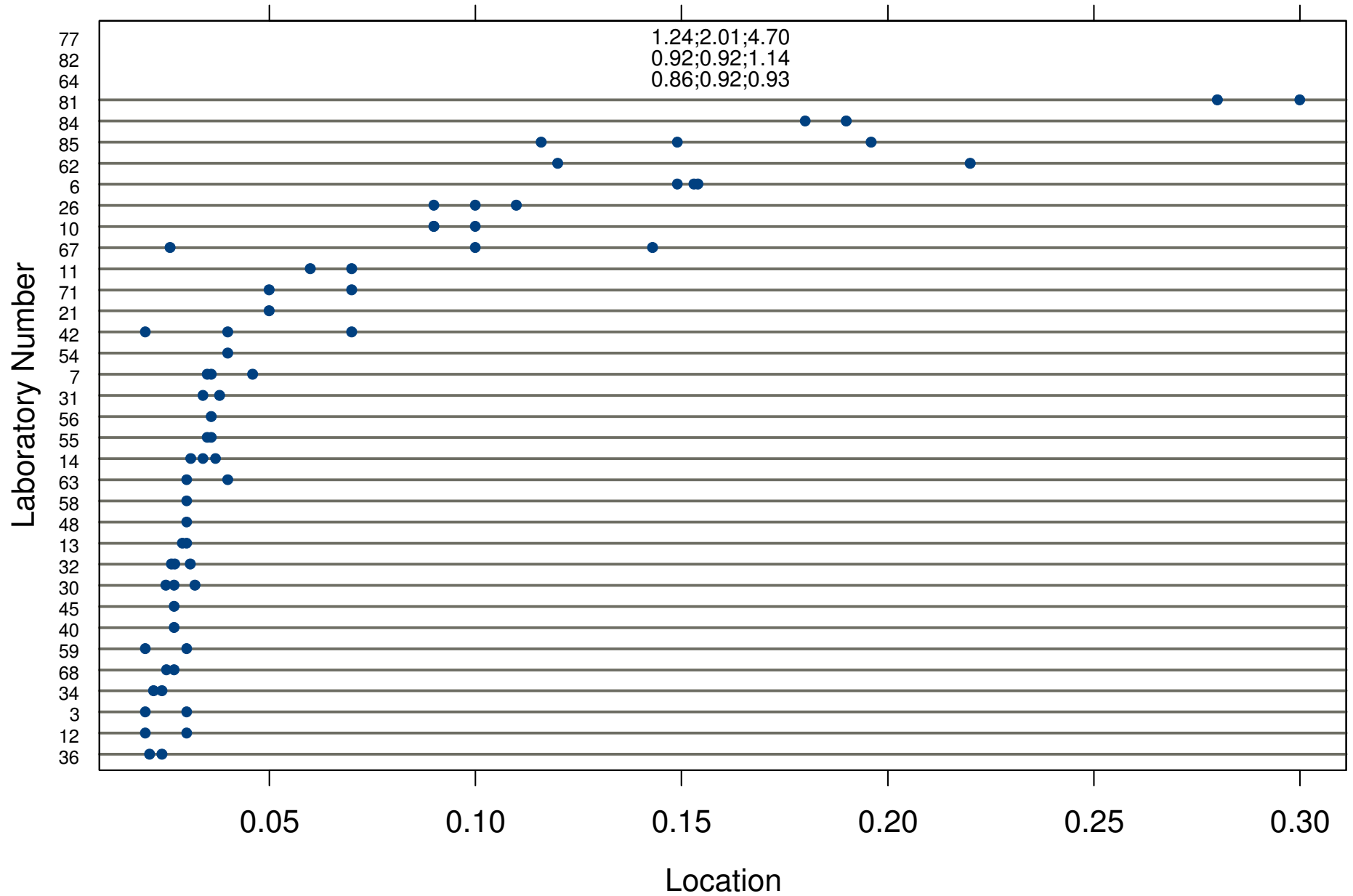
Dot plot of sample A

6 - Exchangeable Na - Sample A

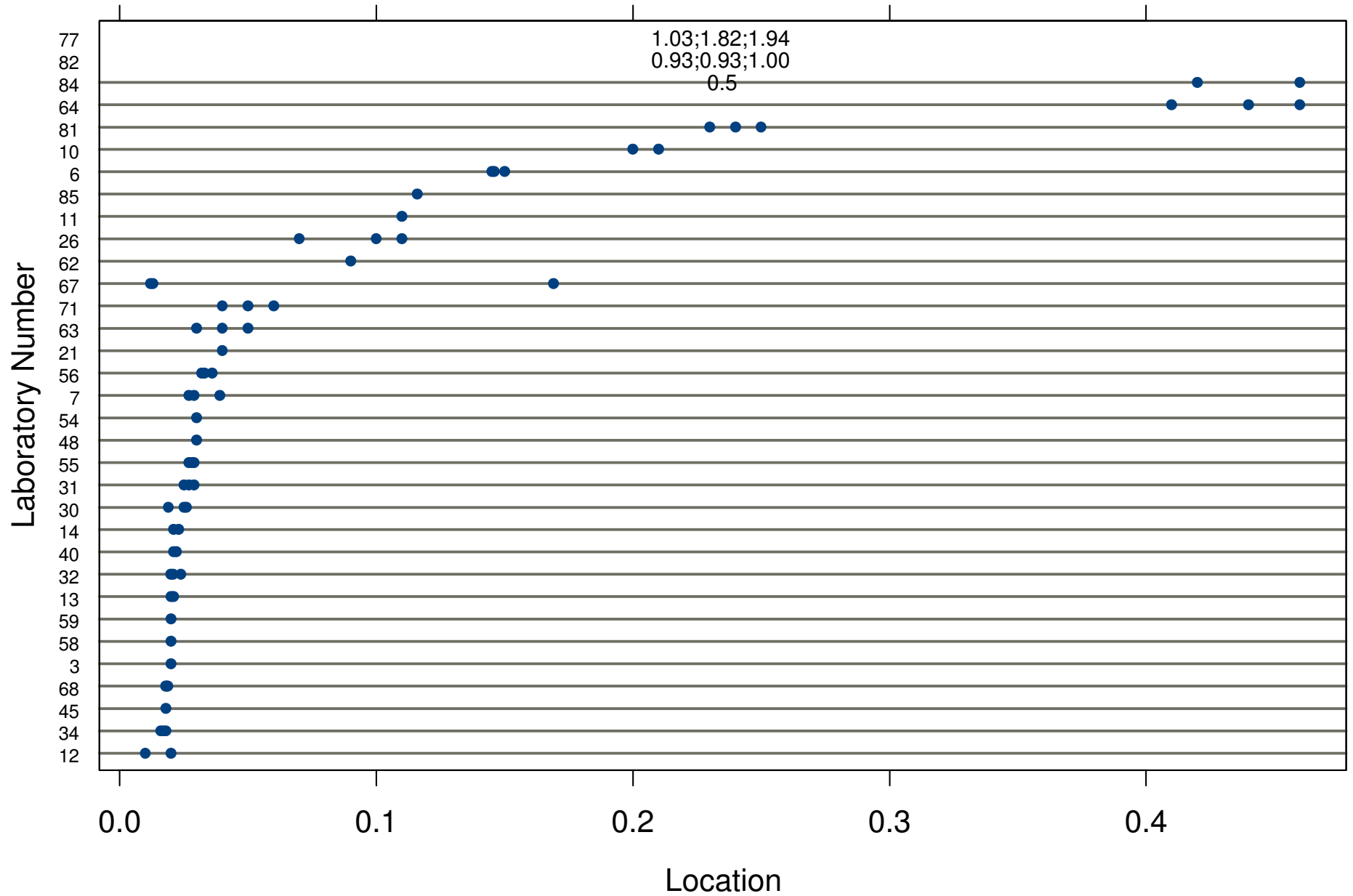


Dot plot of sample B

6 - Exchangeable Na - Sample B

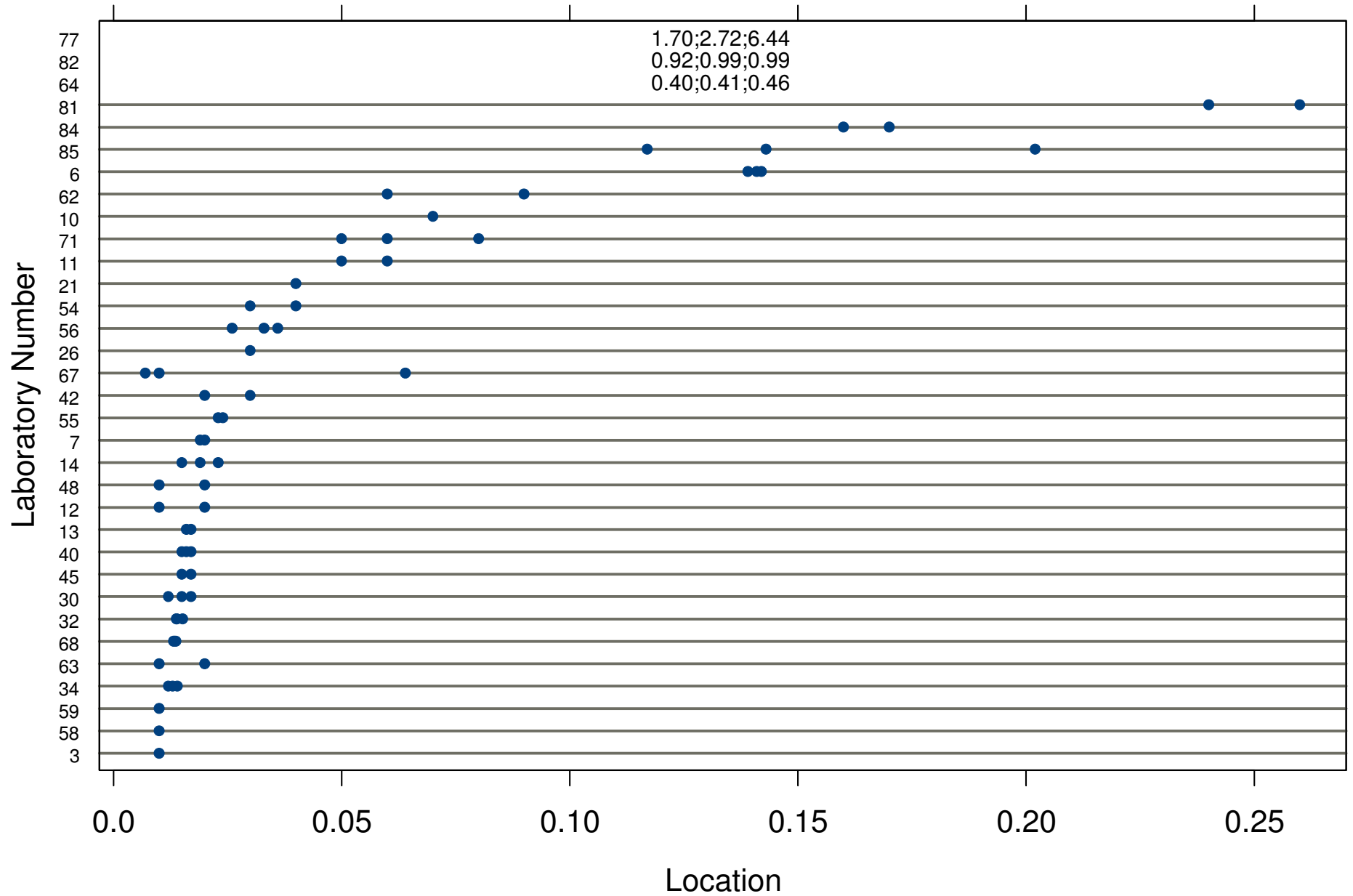


6 - Exchangeable Na - Sample C



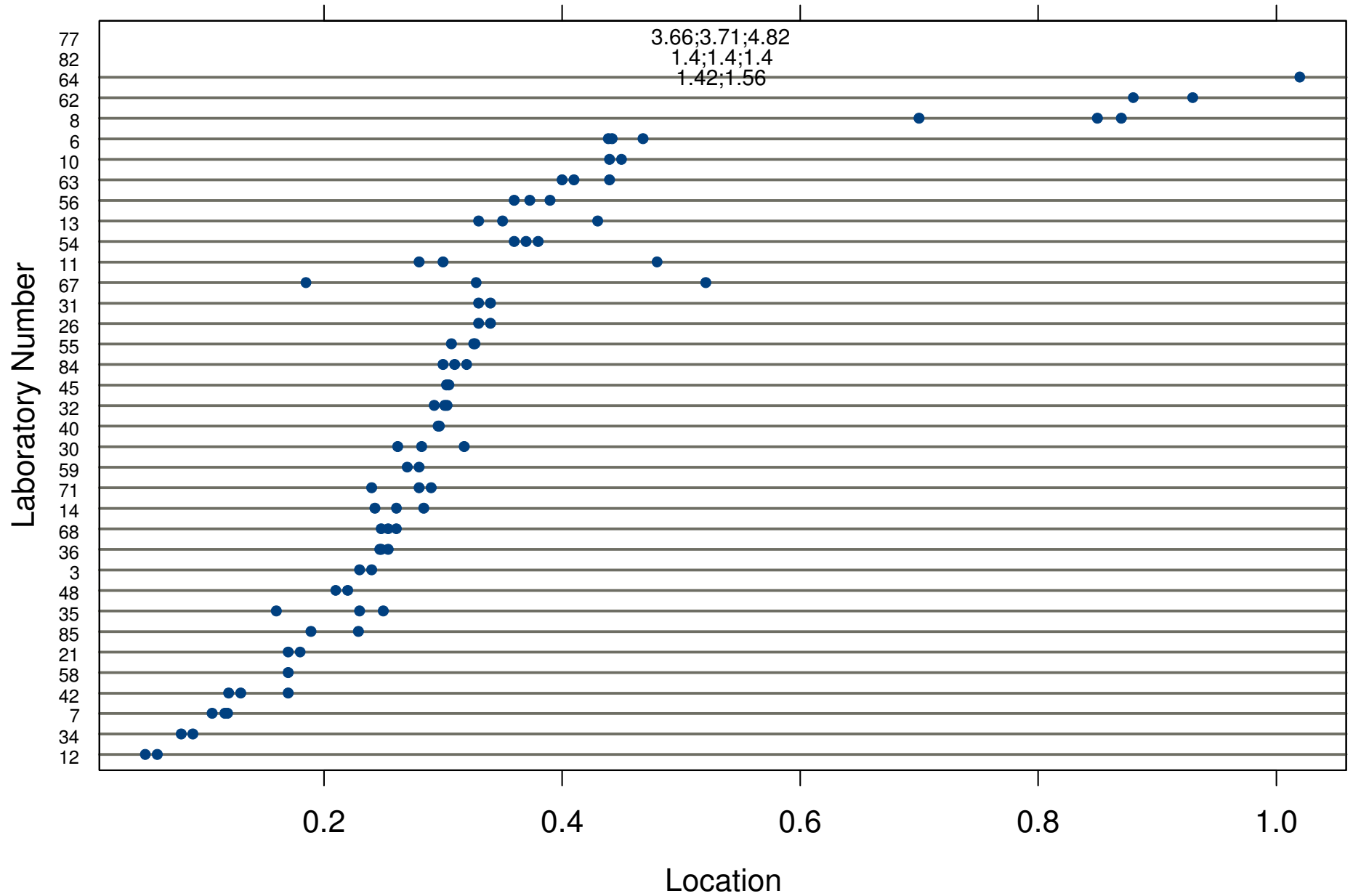
Dot plot of sample D

6 - Exchangeable Na - Sample D



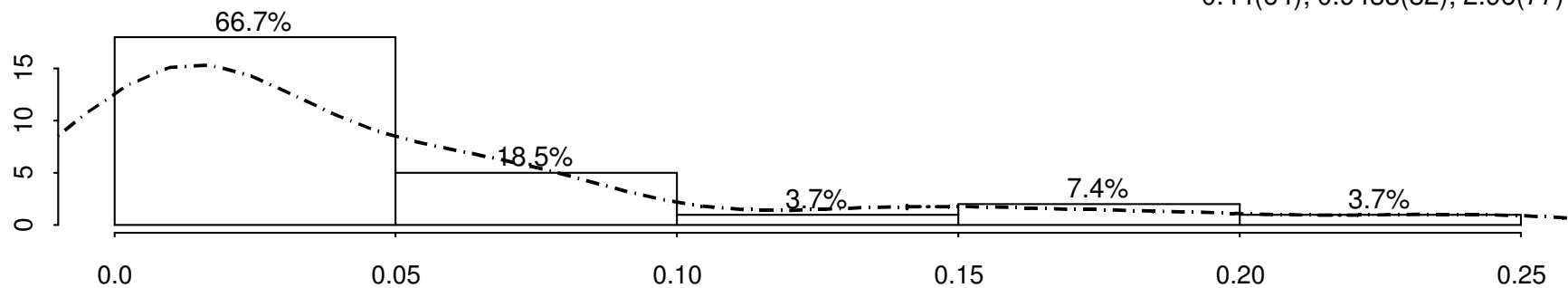
Dot plot of sample E

6 - Exchangeable Na - Sample E



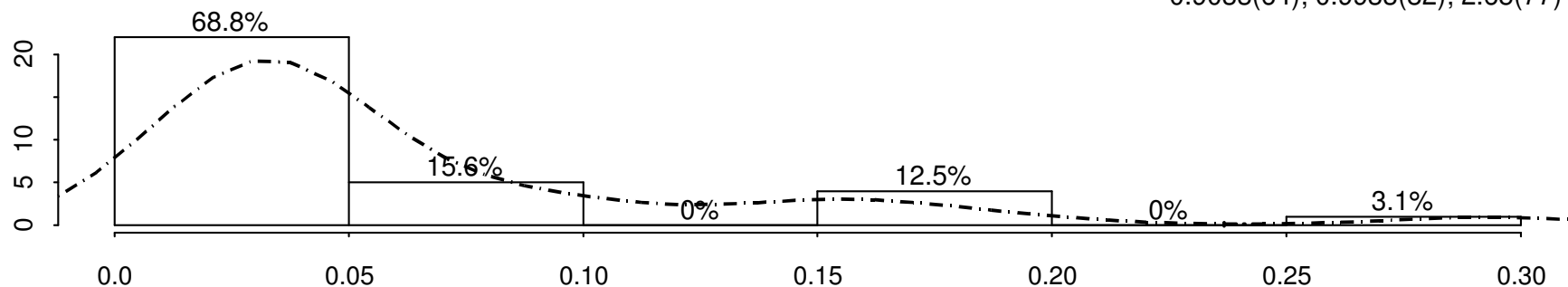
Histogram of the means of samples A, B and C

0.44(64); 0.9433(82); 2.96(77)



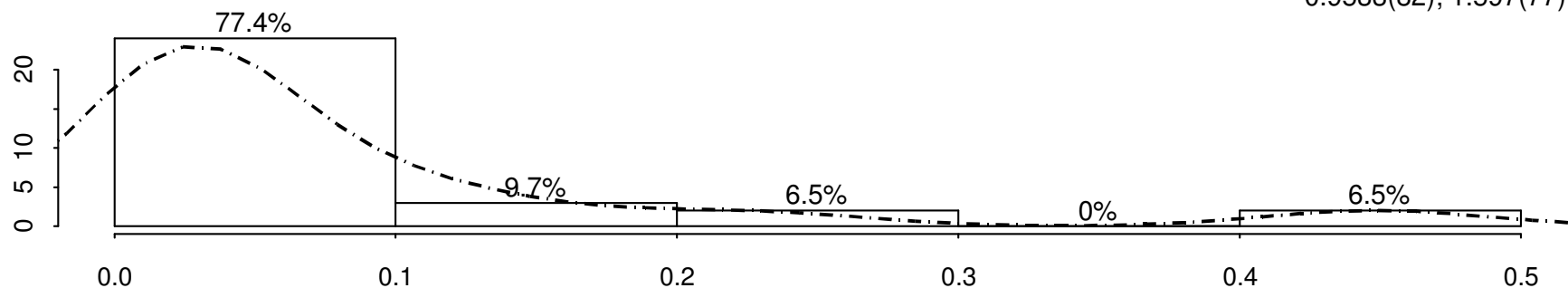
6 - Exchangeable Na - Sample A - mean

0.9033(64); 0.9933(82); 2.65(77)



6 - Exchangeable Na - Sample B - mean

0.9533(82); 1.597(77)



6 - Exchangeable Na - Sample C - mean

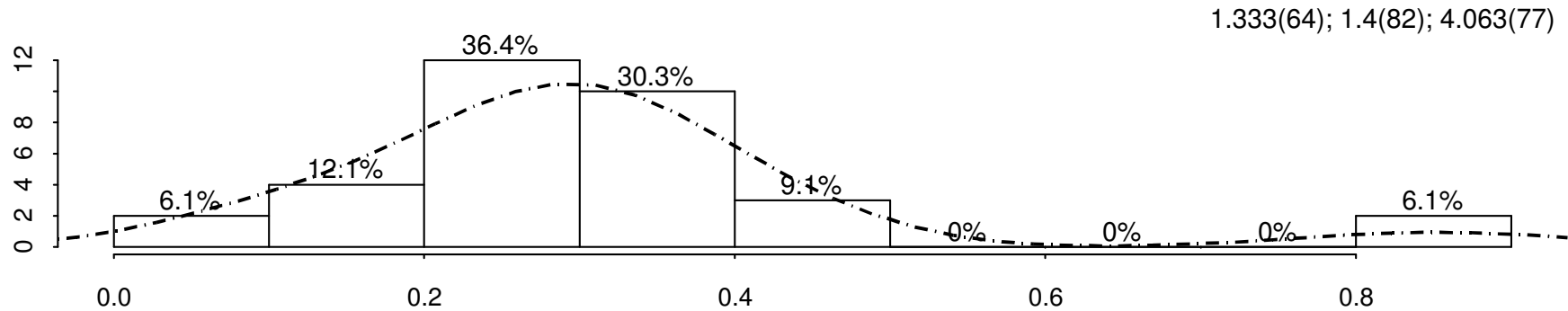
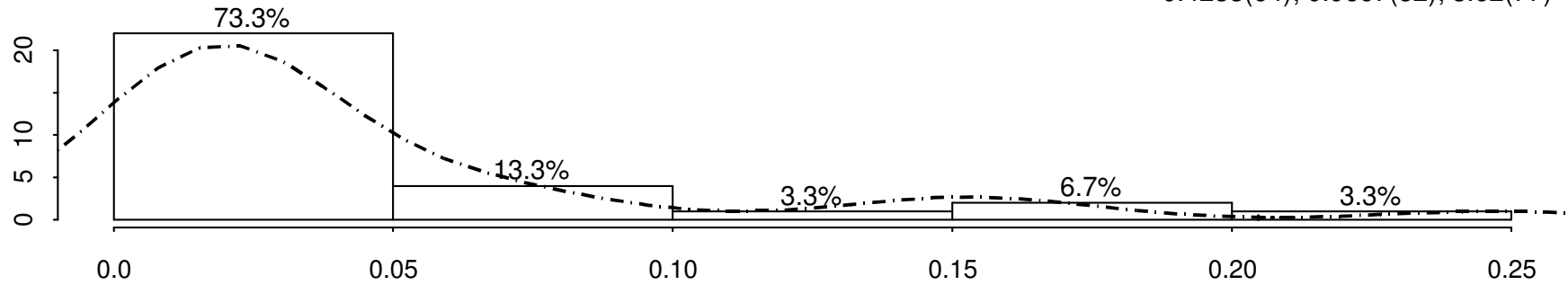
N: 30 NA: 0 Z: 0 E: 0,3 U: 27
a: 0.1904 m: 0.03167 s: 0.5548

N: 35 NA: 0 Z: 0 E: 0,3 U: 32
a: 0.1881 m: 0.03667 s: 0.48

N: 33 NA: 0 Z: 0 E: 0,2 U: 31
a: 0.1533 m: 0.03167 s: 0.3196

Histogram of the means of samples D and E

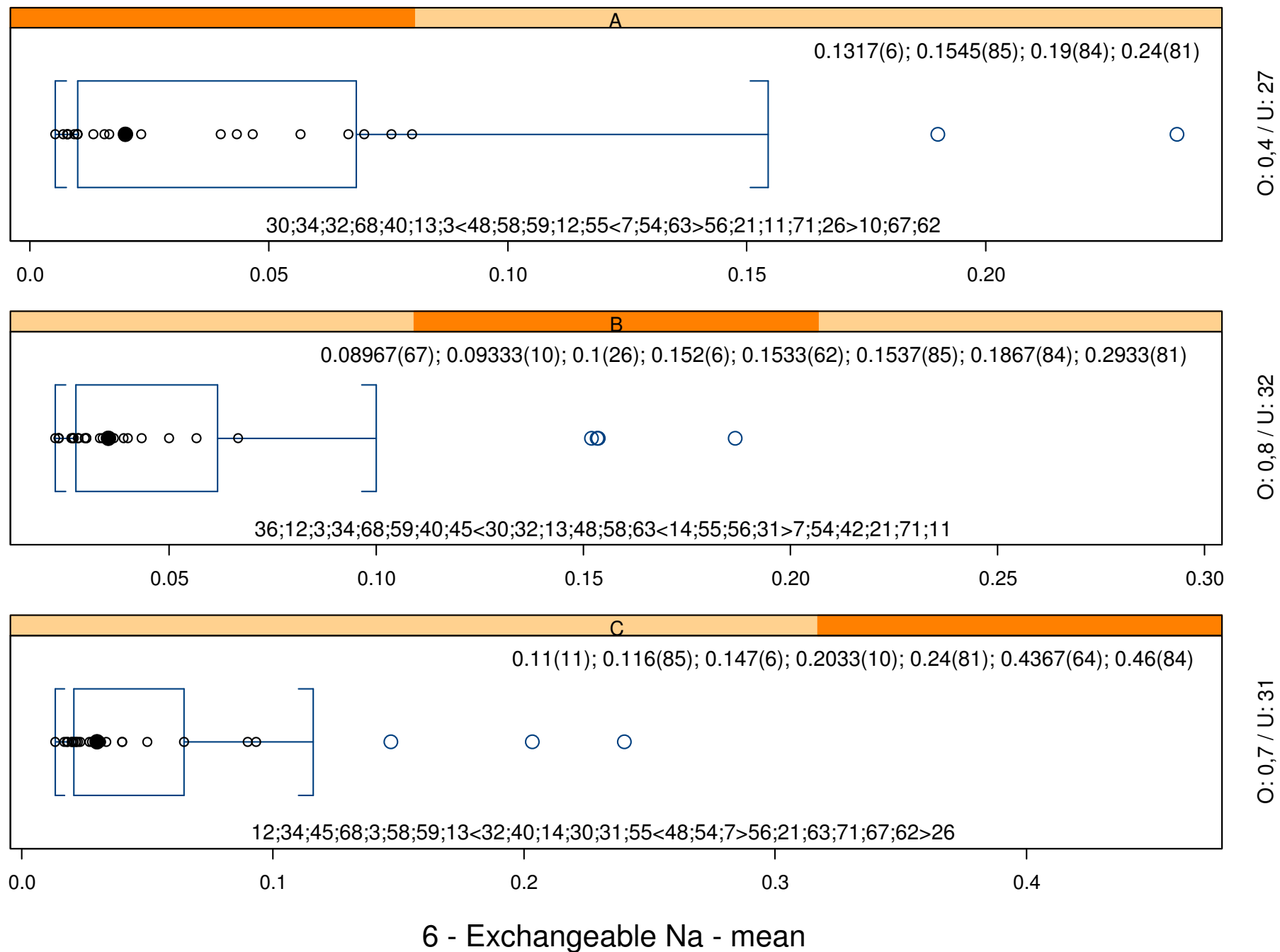
0.4233(64); 0.9667(82); 3.62(77)



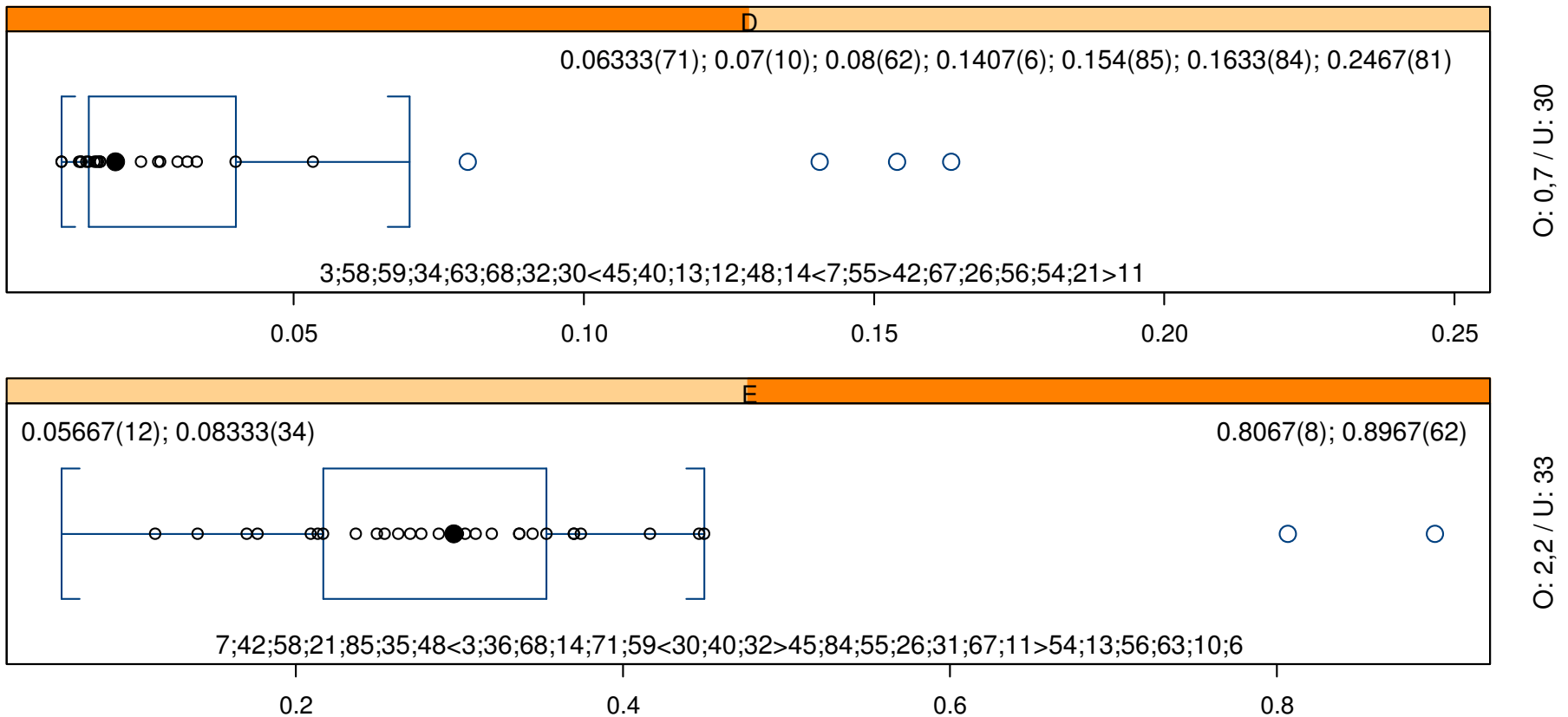
N: 33 NA: 0 Z: 0 E: 0,3 U: 30
a: 0.1943 m: 0.02667 s: 0.6406

N: 36 NA: 0 Z: 0 E: 0,3 U: 33
a: 0.4735 m: 0.3014 s: 0.6821

Box plot of the means of samples A, B and C

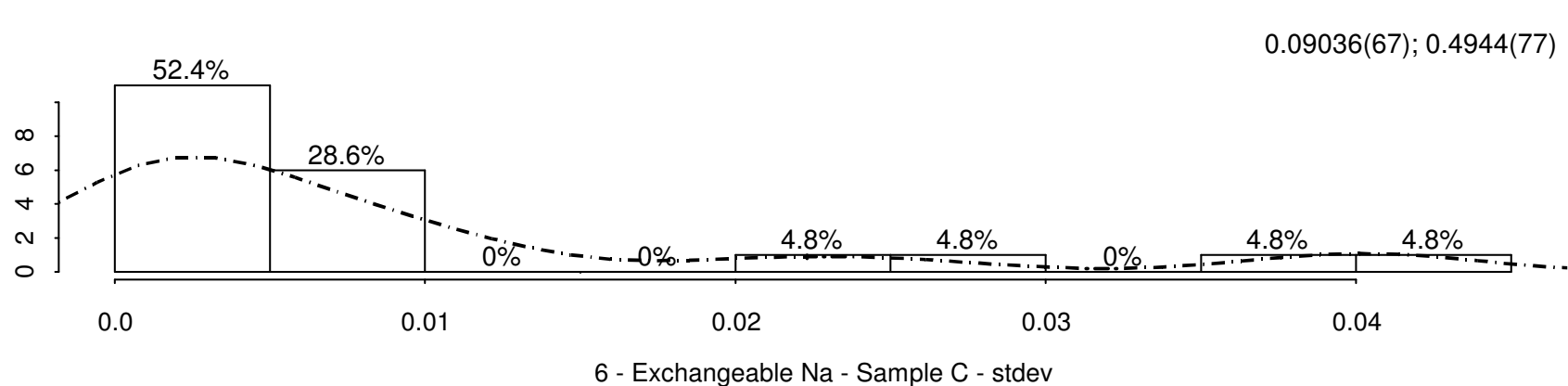
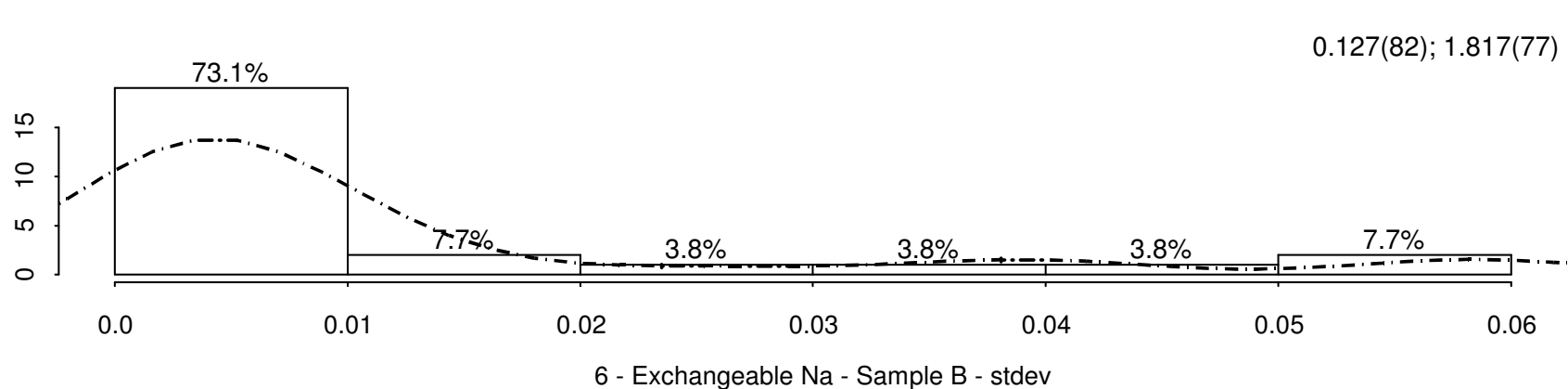
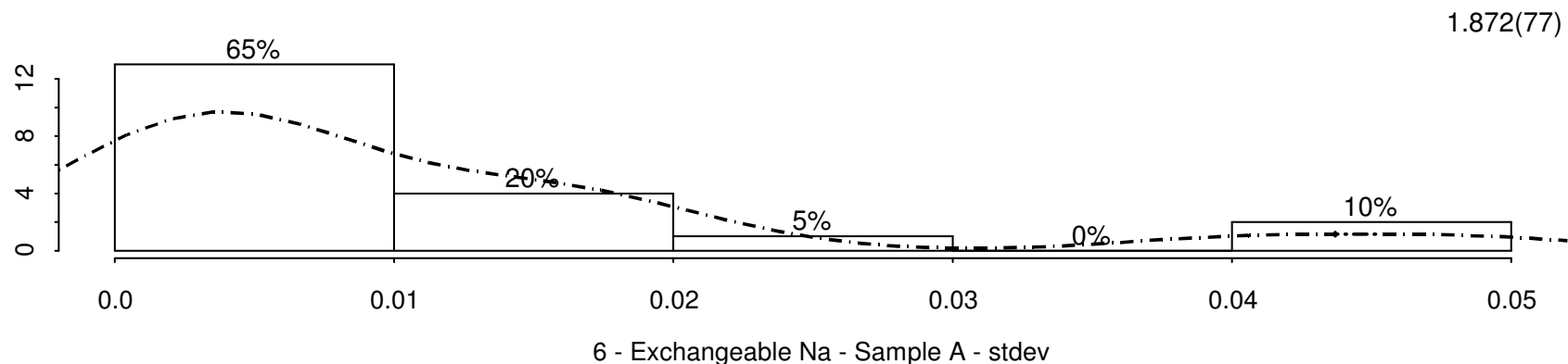


Box plot of the means of samples D and E



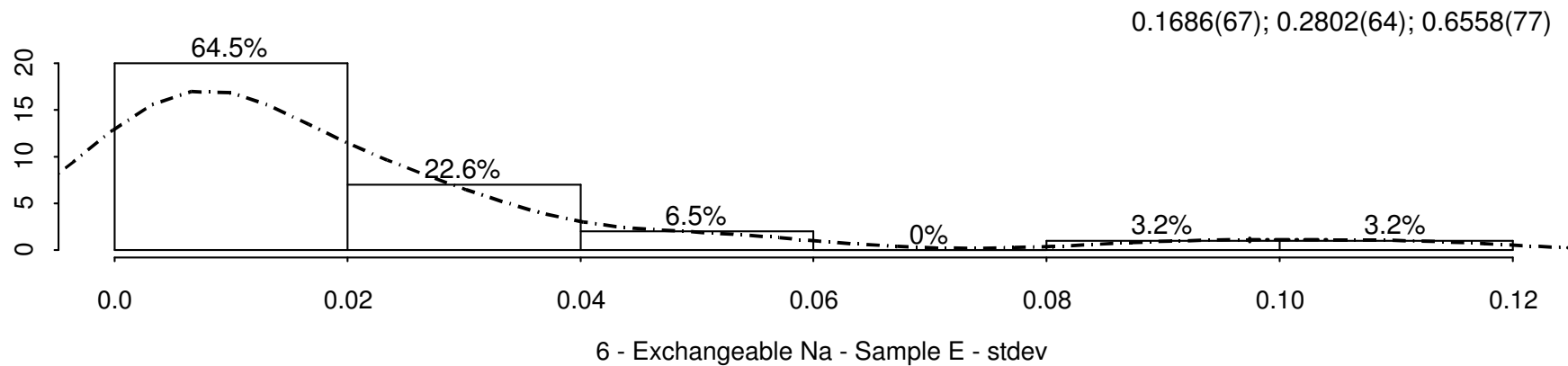
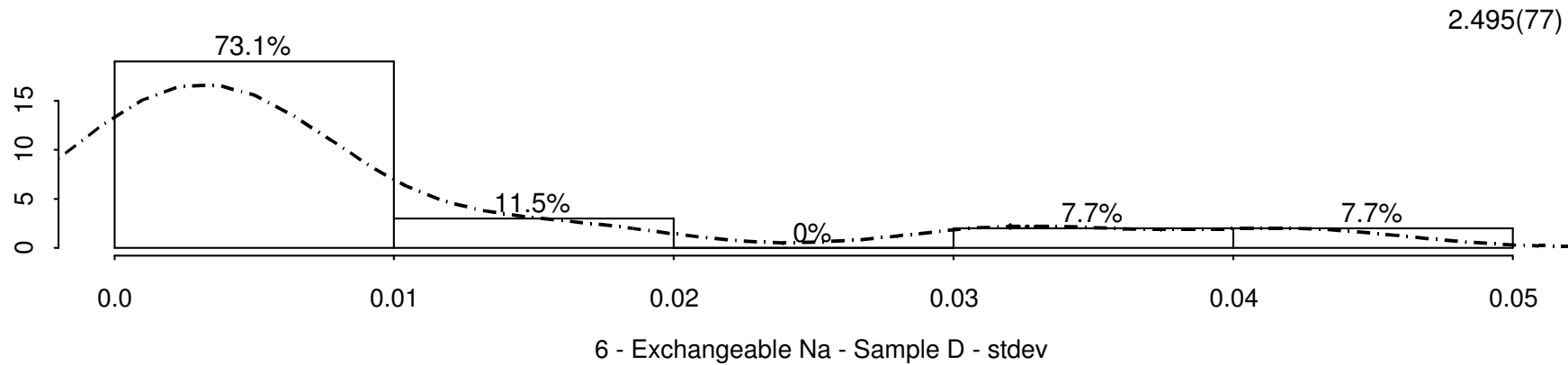
6 - Exchangeable Na - mean

Histogram of the standard deviations of samples A, B and C



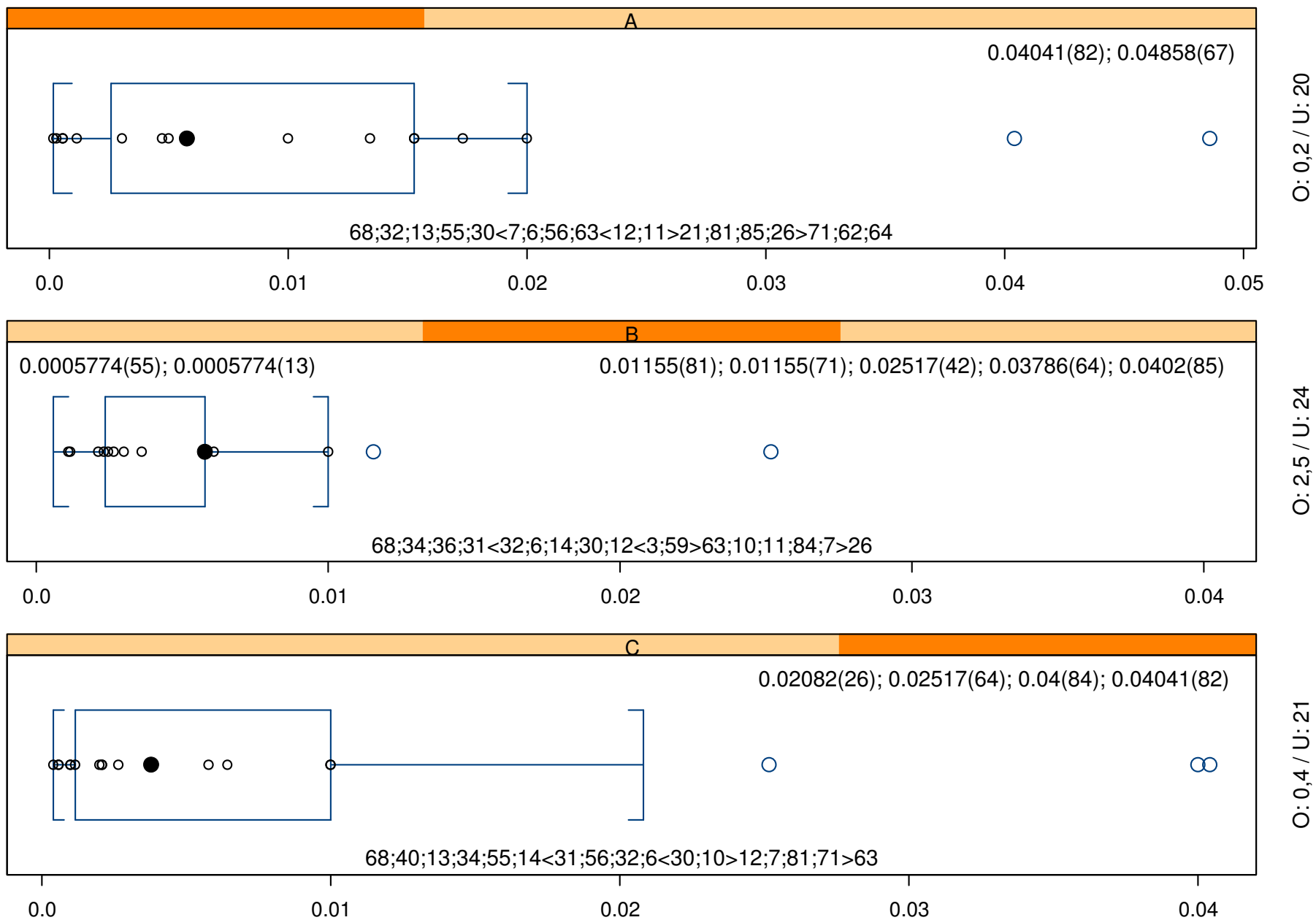
N: 21 NA: 0 Z: 0 E: 0,1 U: 20
N: 28 NA: 0 Z: 0 E: 0,2 U: 26
N: 23 NA: 0 Z: 0 E: 0,2 U: 21
i: 0.03376 m: 0.005774 s: 0.1025a: 0.08082 m: 0.005774 s: 0.3413a: 0.09959 m: 0.005774 s: 0.4064

Histogram of the standard deviations of samples D and E



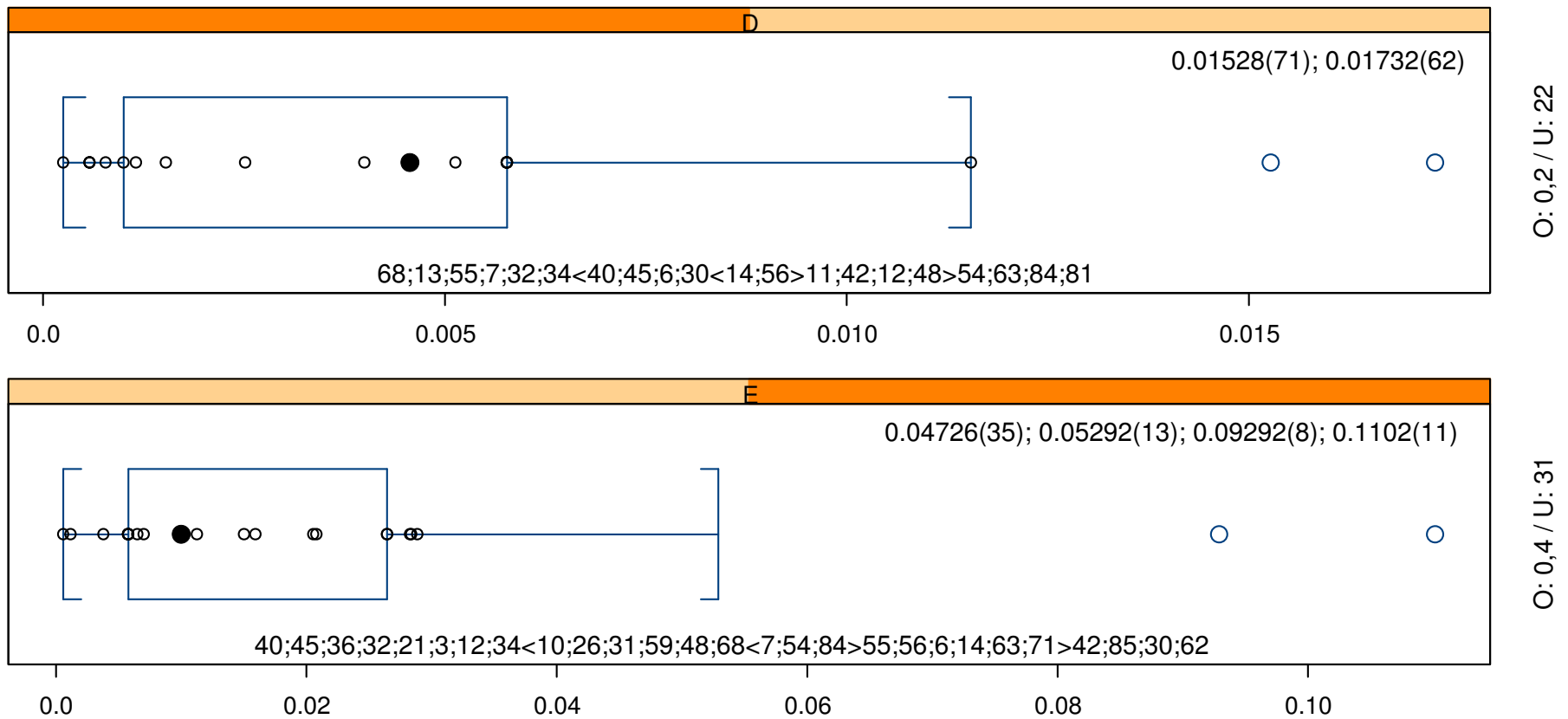
N: 27 NA: 0 Z: 0 E: 0,1 U: 26
a: 0.05079 m: 0.01063 s: 0.1207
N: 34 NA: 0 Z: 0 E: 0,3 U: 31
a: 0.05079 m: 0.01063 s: 0.1207

Box plot of the standard deviations of samples A, B and C



6 - Exchangeable Na - stdev

Box plot of the standard deviations of samples D and E

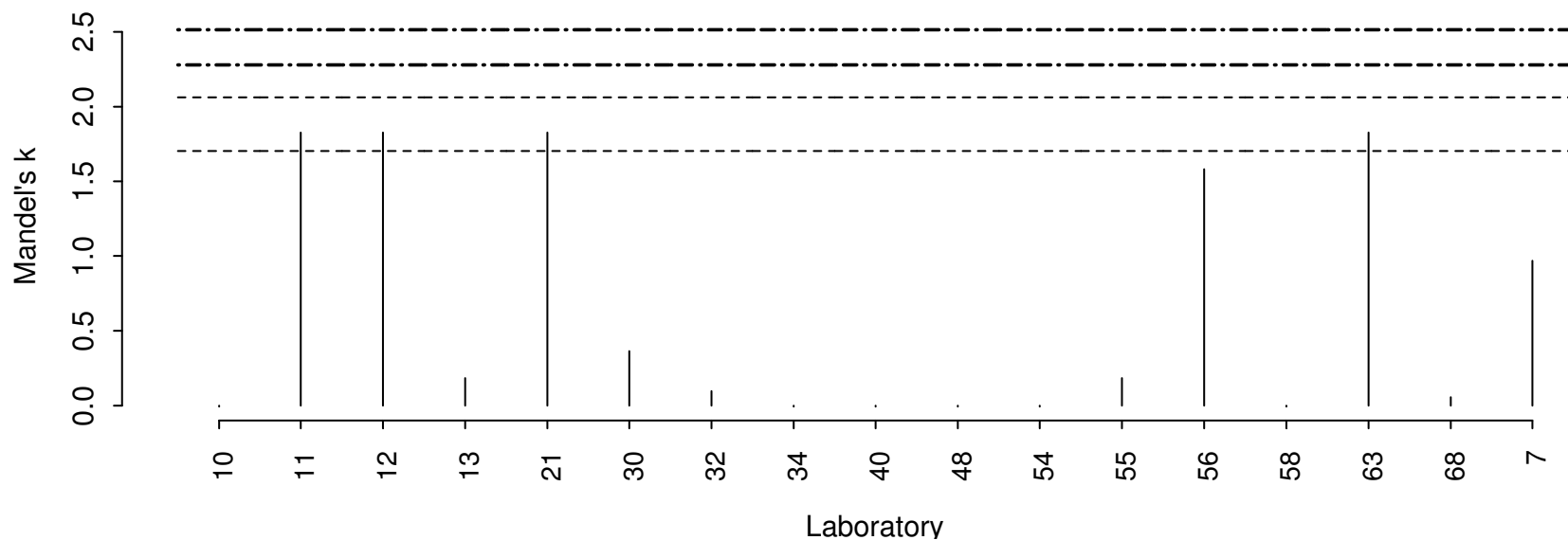
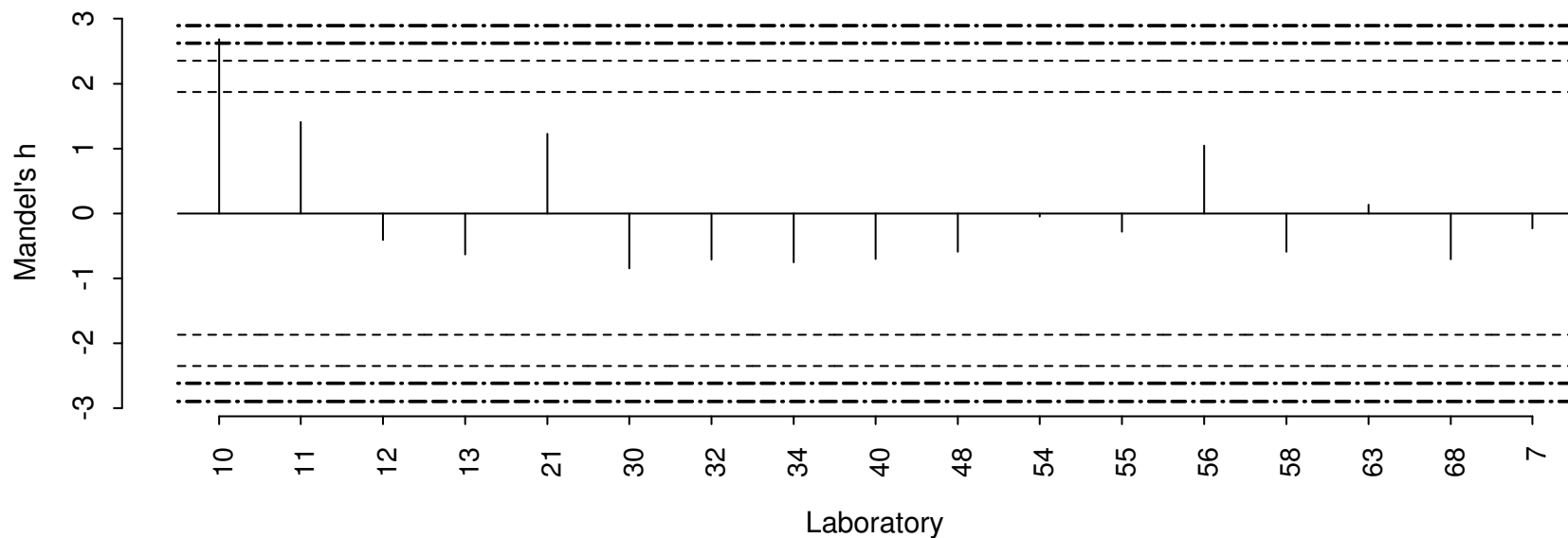


6 - Exchangeable Na - stdev

Mandel's h and k plots of sample A

6 - Exchangeable Na - Sample A

Step:7; Nlab:17; Mgen:0.02085; Fval:100.7; Pval:0; sRep:0.00316; sLab:0.01822; sRpr:0.01849; CV:88.71



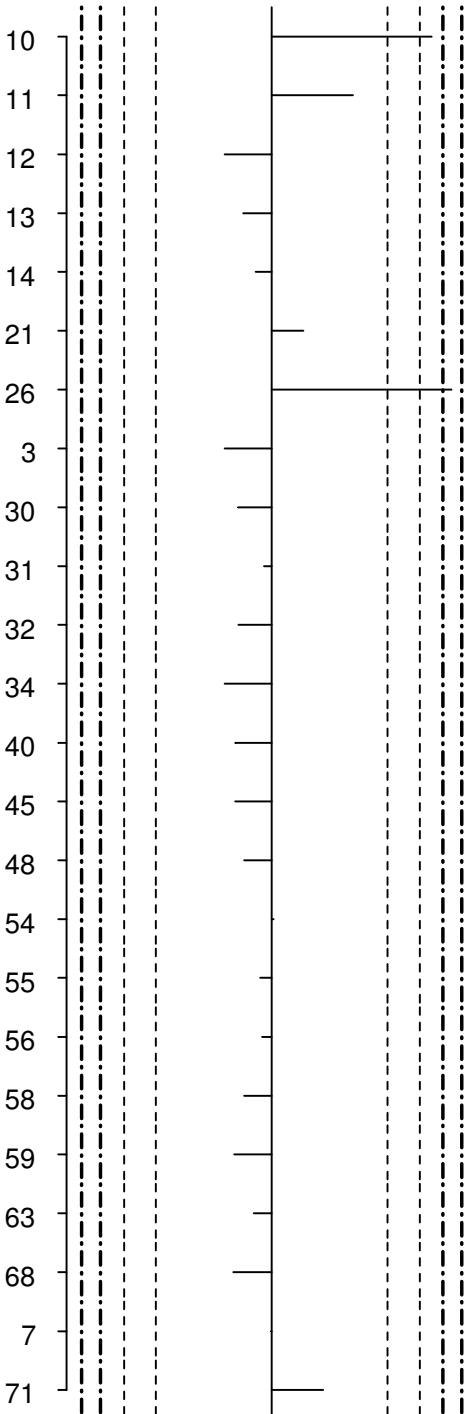
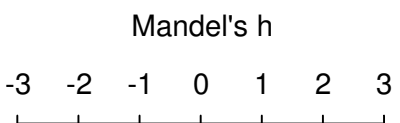
S: 10

E: hk77;k67;hk82;hk64;h81k;k62;h84;k26;h6;k71

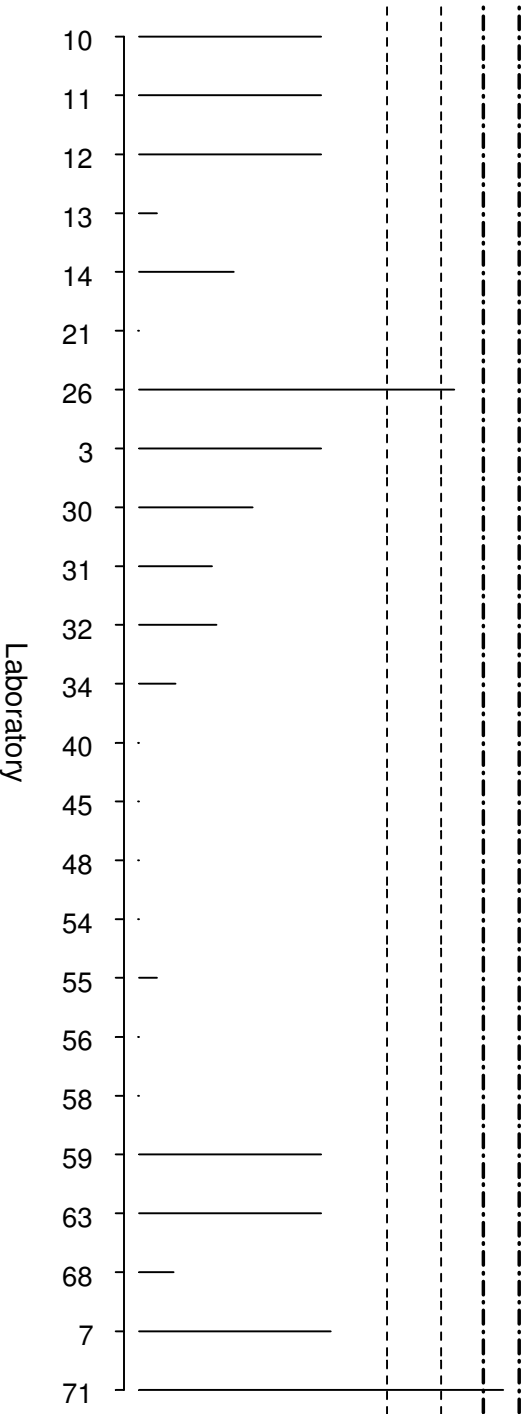
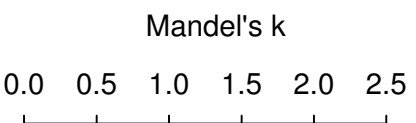
Mandel's h and k plots of sample B

6 - Exchangeable Na - Sample B

Step:7; Nlab:24; Mgen:0.03933; Fval:60.4; Pval:0; sRep:0.004596; sLab:0.02045; sRpr:0.02096; CV:53.3



S: 26



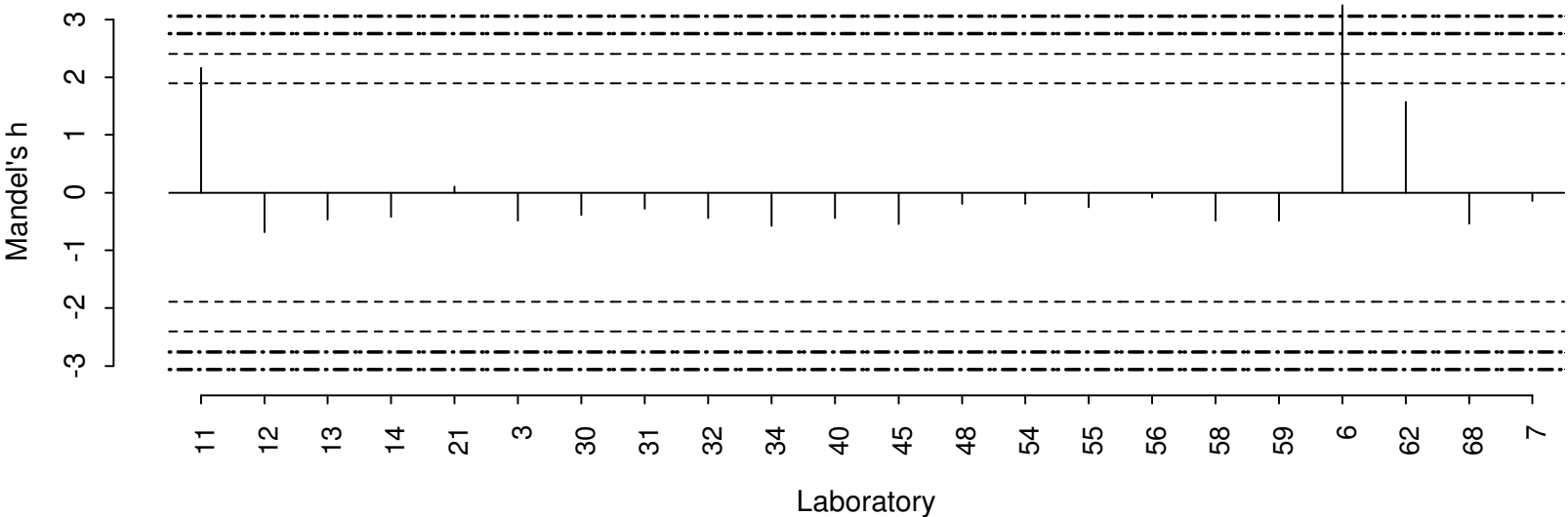
S: 71

E: hk77;hk64;hk82;hk62;k67;h81;hk85;k42;h84;h6

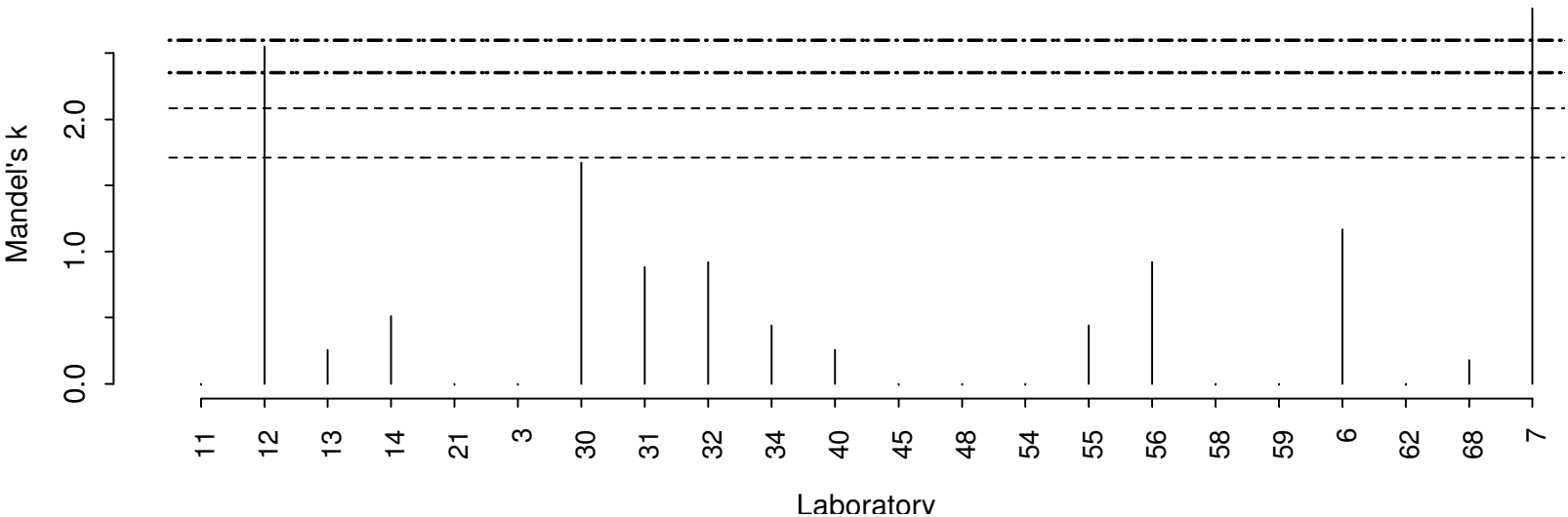
Mandel's h and k plots of sample C

6 - Exchangeable Na - Sample C

Step:7; Nlab:22; Mgen:0.03652; Fval:675.2; Pval:0; sRep:0.002265; sLab:0.03395; sRpr:0.03403; CV:93.16



O: 6



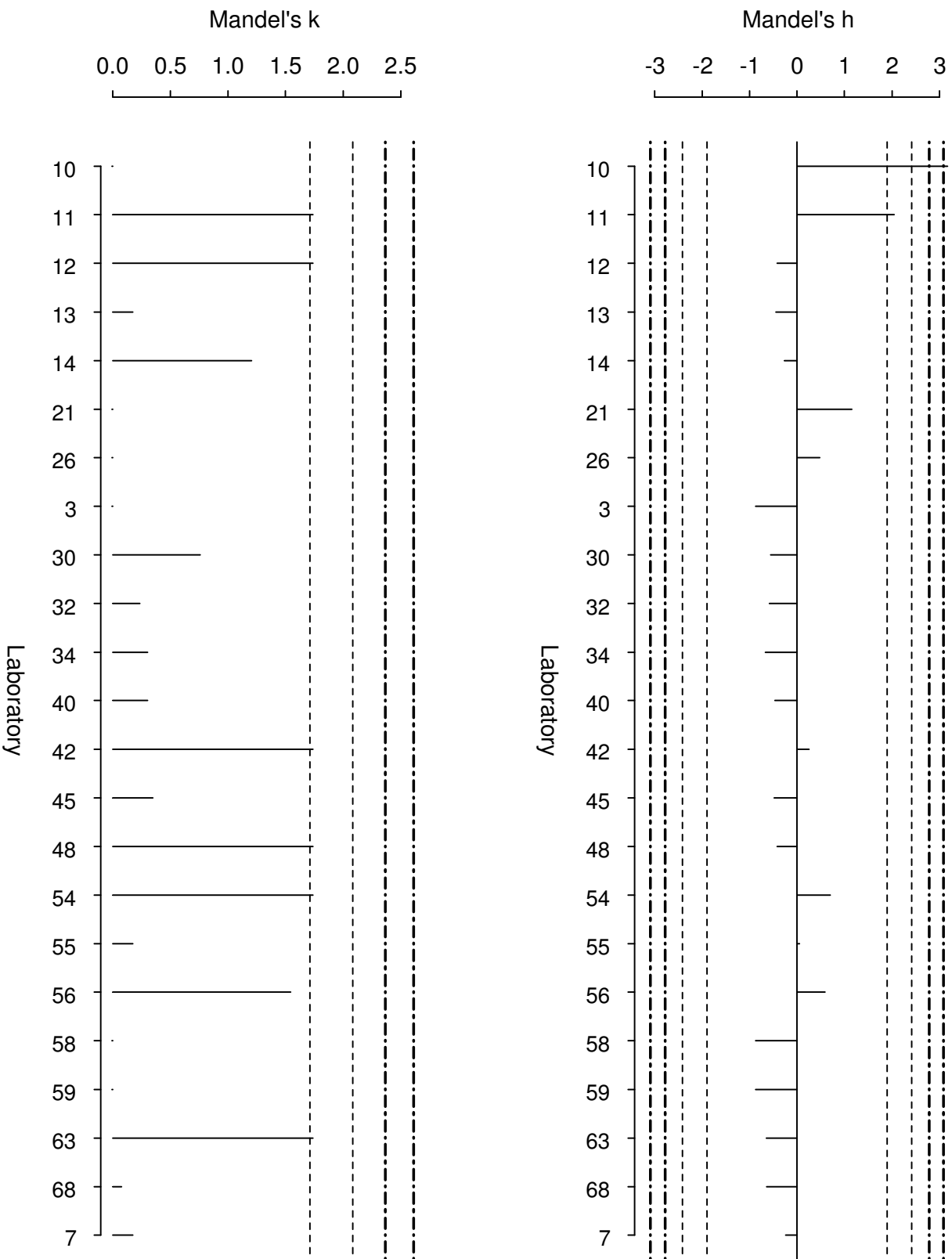
O: 7 - S: 12

E: hk77;k67;hk82;hk84;k26;hk64;hk81;h10;k63;k71

Mandel's h and k plots of sample D

6 - Exchangeable Na - Sample D

Step:7; Nlab:23; Mgen:0.02292; Fval:60.05; Pval:0; sRep:0.003321; sLab:0.01473; sRpr:0.0151; CV:65.91



O: 10

E: hk77;hk82;hk85;hk64;k67;k62h;hk81;k71;h84;h6

Mandel's h and k plots of sample E

6 - Exchangeable Na - Sample E

Step:7; Nlab:26; Mgen:0.2713; Fval:193.2; Pval:0; sRep:0.01287; sLab:0.103; sRpr:0.1038; CV:38.27

