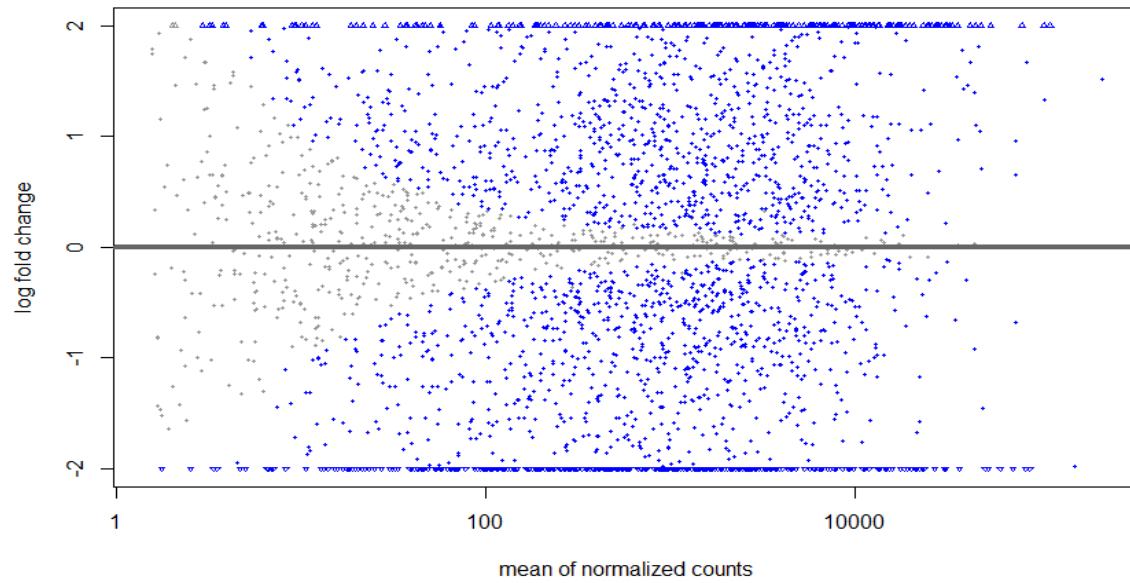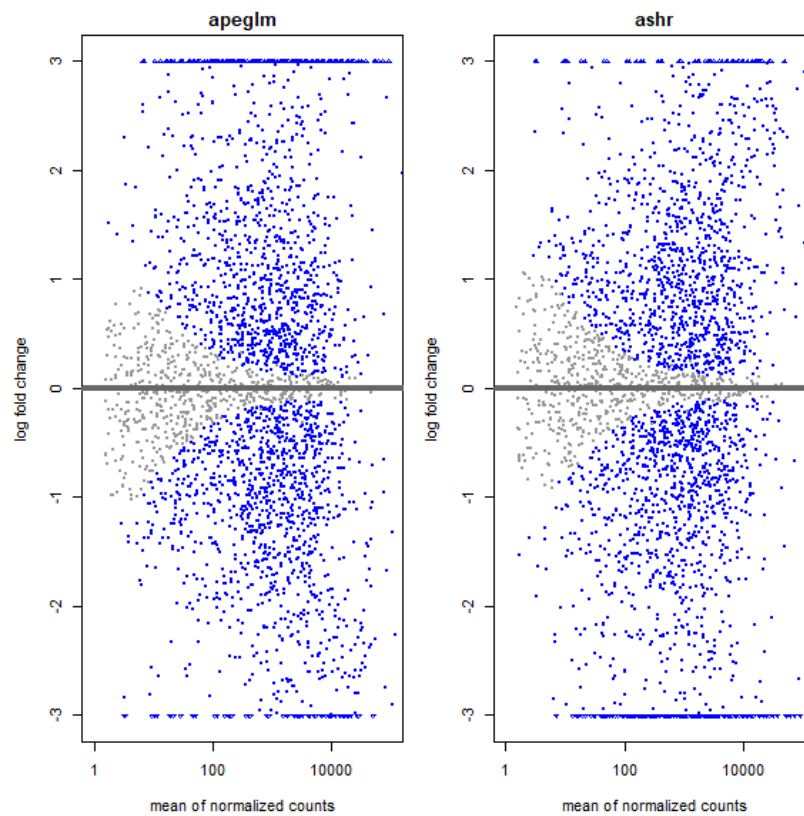# DESeq Results

MA graph
Figure 1:

Figure 2: Comparison MA graph of 2 conditions

DESeq Statistics:

```
> res
log2 fold change (MLE): condition treated vs reference
Wald test p-value: condition treated vs reference
DataFrame with 2910 rows and 6 columns
                 baseMean log2FoldChange      lfcSE        stat      pvalue        padj
                <numeric>      <numeric>  <numeric>   <numeric>   <numeric>   <numeric>
LBEDEJHI_00011   14.1443     -0.1949939  0.4876625  -0.3998542  6.89264e-01  7.23022e-01
LBEDEJHI_00012 1303.2647     -1.3736049  0.0771384 -17.8070149  6.23475e-71  2.92631e-70
LBEDEJHI_00013  112.8518      0.0097419  0.1848571   0.0526996  9.57971e-01  9.61938e-01
LBEDEJHI_00014   45.4266     -0.9864846  0.2813490  -3.5062669  4.54439e-04  6.70258e-04
LBEDEJHI_00015 3943.7577      1.2770629  0.0674774  18.9257896  6.99336e-80  3.57657e-79
...                  ...            ...        ...         ...         ...         ...
LBEDEJHI_03210  10.71460       0.436995   0.566346    0.771605    0.440349    0.485936
LBEDEJHI_03211   3.35920      -0.526057   0.974545   -0.539797    0.589337    0.628885
LBEDEJHI_03213  20.24168       0.616285   0.426638    1.444514    0.148594    0.178020
LBEDEJHI_03214  14.03588       0.755624   0.487199    1.550957    0.120912    0.146912
LBEDEJHI_03215   3.85548       0.740451   0.999949    0.740489    0.459003    0.504943


> resLFC
log2 fold change (MAP): condition treated vs reference
Wald test p-value: condition treated vs reference
DataFrame with 2910 rows and 5 columns
                 baseMean log2FoldChange      lfcSE       pvalue        padj
                <numeric>      <numeric>  <numeric>    <numeric>   <numeric>
LBEDEJHI_00011   14.1443     0.15984565  0.4414251  6.89264e-01  7.23022e-01
LBEDEJHI_00012 1303.2647     1.36970451  0.0771293  6.23475e-71  2.92631e-70
LBEDEJHI_00013  112.8518    -0.00921281  0.1818580  9.57971e-01  9.61938e-01
LBEDEJHI_00014   45.4266     0.93683038  0.2779961  4.54439e-04  6.70258e-04
LBEDEJHI_00015 3943.7577    -1.27287872  0.0674638  6.99336e-80  3.57657e-79
...                  ...            ...        ...          ...         ...
LBEDEJHI_03210  10.71460      -0.337256   0.504025     0.440349    0.485936
LBEDEJHI_03211   3.35920       0.280985   0.722948     0.589337    0.628885
LBEDEJHI_03213  20.24168      -0.533378   0.403621     0.148594    0.178020
LBEDEJHI_03214  14.03588      -0.633976   0.457187     0.120912    0.146912
LBEDEJHI_03215   3.85548      -0.390748   0.749017     0.459003    0.504943




> summary(res)

out of 2910 with nonzero total read count
adjusted p-value < 0.1
LFC > 0 (up)       : 1166, 40%
LFC < 0 (down)     : 1180, 41%
outliers [1]       : 0, 0%
low counts [2]     : 0, 0%
(mean count < 2)
[1] see 'cooksCutoff' argument of ?results
[2] see 'independentFiltering' argument of ?results

>
> sum(res$padj < 0.1, na.rm=TRUE)
[1] 2346
```

```
> summary(res05)

out of 2910 with nonzero total read count
adjusted p-value < 0.05
LFC > 0 (up)       : 1128, 39%
LFC < 0 (down)     : 1141, 39%
outliers [1]       : 0, 0%
low counts [2]     : 0, 0%
(mean count < 2)
[1] see 'cooksCutoff' argument of ?results
[2] see 'independentFiltering' argument of ?results


> resSig
log2 fold change (MLE): condition treated vs reference
Wald test p-value: condition treated vs reference
DataFrame with 2346 rows and 6 columns
                  baseMean log2FoldChange      lfcSE       stat    pvalue      padj
                 <numeric>      <numeric>  <numeric>  <numeric> <numeric> <numeric>
LBEDEJHI_00047    1402.31       -4.21063  0.1009782   -41.6984         0         0
LBEDEJHI_00065    3168.11        3.75347  0.0747260    50.2298         0         0
LBEDEJHI_00066    2529.63        4.21174  0.0803574    52.4126         0         0
LBEDEJHI_00067    1790.92        4.94596  0.1093582    45.2272         0         0
LBEDEJHI_00086    7955.15        2.64789  0.0632854    41.8404         0         0
...                   ...            ...        ...        ...       ...       ...
LBEDEJHI_02277  155.71581      -0.274382  0.1540733   -1.78086 0.0749361 0.0931102
LBEDEJHI_00247  150.42166       0.269075  0.1523711    1.76592 0.0774093 0.0961421
LBEDEJHI_02138    9.17169       1.104391  0.6260393    1.76409 0.0777163 0.0964823
LBEDEJHI_00733    8.19710      -1.107921  0.6286560   -1.76237 0.0780076 0.0968027
LBEDEJHI_02450 2661.00424      -0.107691  0.0611548   -1.76095 0.0782467 0.0970579


> head(assay(vsd), 3)
                      bh1        bh2        bh3     serum1     serum2     serum3
LBEDEJHI_00011   8.275147   8.332401   8.349101   8.260404   8.362654   8.390514
LBEDEJHI_00012  10.181017  10.243772  10.188164  11.280333  11.169068  11.166238
LBEDEJHI_00013   8.866370   9.030568   8.906162   8.938409   8.915819   8.948777




> results(dds, contrast=c("condition","reference","treated"))
log2 fold change (MLE): condition reference vs treated
Wald test p-value: condition reference vs treated
DataFrame with 2910 rows and 6 columns
                 baseMean log2FoldChange     lfcSE        stat     pvalue       padj
                <numeric>      <numeric> <numeric>   <numeric>  <numeric>  <numeric>
LBEDEJHI_00011   14.1443     0.19499478 0.4876625   0.3998560 6.89263e-01 7.23021e-01
LBEDEJHI_00012 1303.2647     1.37360493 0.0771384  17.8070157 6.23466e-71 2.92627e-70
LBEDEJHI_00013  112.8518    -0.00974167 0.1848571  -0.0526984 9.57972e-01 9.61939e-01
LBEDEJHI_00014   45.4266     0.98648499 0.2813490   3.5062684 4.54437e-04 6.70254e-04
LBEDEJHI_00015 3943.7577    -1.27706285 0.0674774 -18.9257888 6.99347e-80 3.57663e-79
...                  ...            ...       ...         ...        ...        ...
LBEDEJHI_03210  10.71460      -0.436994  0.566346   -0.771603   0.440350   0.485938
LBEDEJHI_03211   3.35920       0.526058  0.974545    0.539799   0.589336   0.628884
LBEDEJHI_03213  20.24168      -0.616285  0.426638   -1.444512   0.148595   0.178020
LBEDEJHI_03214  14.03588      -0.755623  0.487199   -1.550955   0.120912   0.146912
LBEDEJHI_03215   3.85548      -0.740450  0.999949   -0.740487   0.459004   0.504942
```

```
> res
log2 fold change (MLE): condition reference vs treated
LRT p-value: '~ condition' vs '~ 1'
DataFrame with 2910 rows and 6 columns
                  baseMean log2FoldChange      lfcSE          stat       pvalue         padj
                 <numeric>      <numeric>  <numeric>     <numeric>    <numeric>    <numeric>
LBEDEJHI_00011    14.1443     0.19499478  0.4876625  1.59981e-01  6.89174e-01  7.22940e-01
LBEDEJHI_00012  1303.2647     1.37360493  0.0771384  3.12900e+02  5.09893e-70  2.30760e-69
LBEDEJHI_00013   112.8518    -0.00974167  0.1848571  2.89737e-03  9.57073e-01  9.61036e-01
LBEDEJHI_00014    45.4266     0.98648499  0.2813490  1.23737e+01  4.35421e-04  6.41557e-04
LBEDEJHI_00015  3943.7577    -1.27706285  0.0674774  3.50253e+02  3.73286e-78  1.84739e-77
...                   ...            ...        ...           ...          ...          ...
LBEDEJHI_03210   10.71460      -0.436994   0.566346      0.596053     0.440088     0.485649
LBEDEJHI_03211    3.35920       0.526058   0.974545      0.292022     0.588928     0.628449
LBEDEJHI_03213   20.24168      -0.616285   0.426638      2.091720     0.148099     0.177426
LBEDEJHI_03214   14.03588      -0.755623   0.487199      2.433570     0.118762     0.144240
LBEDEJHI_03215    3.85548      -0.740450   0.999949      0.552833     0.457162     0.502965
```
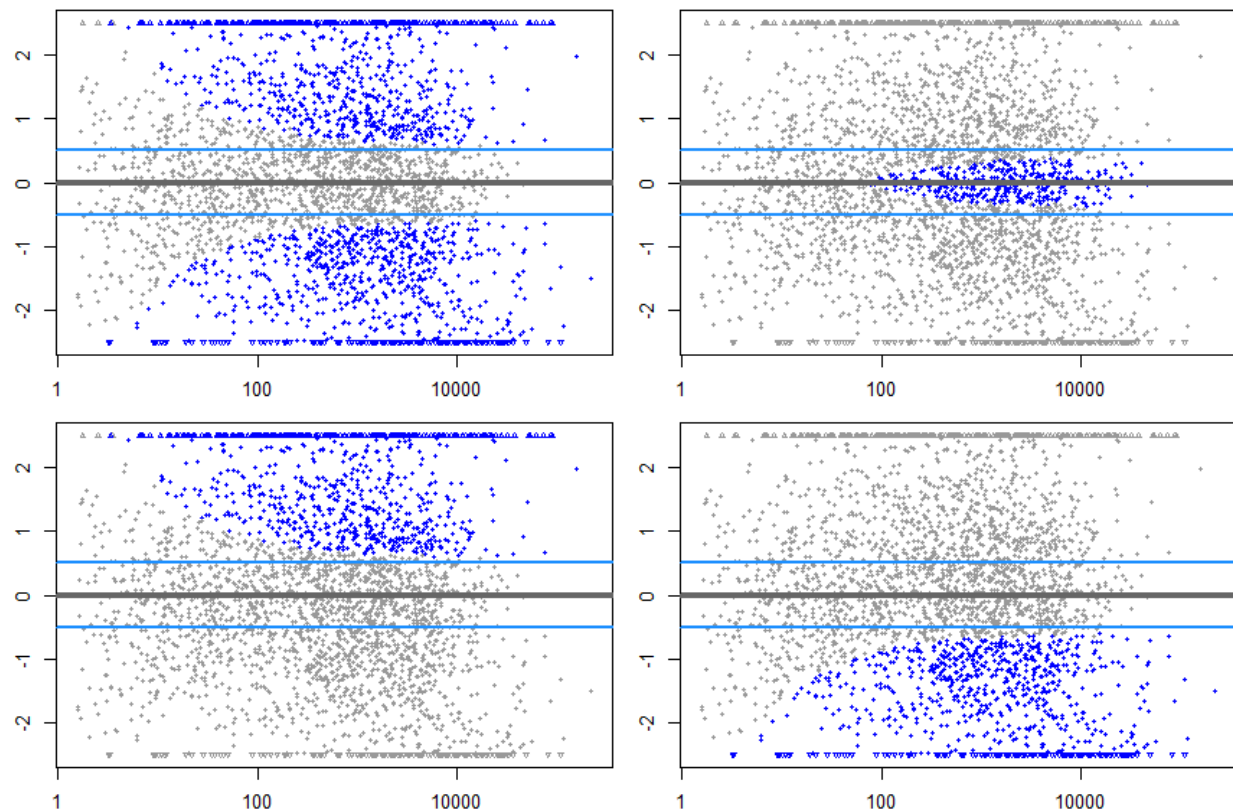
Figure 3: MA graph: Test of log2
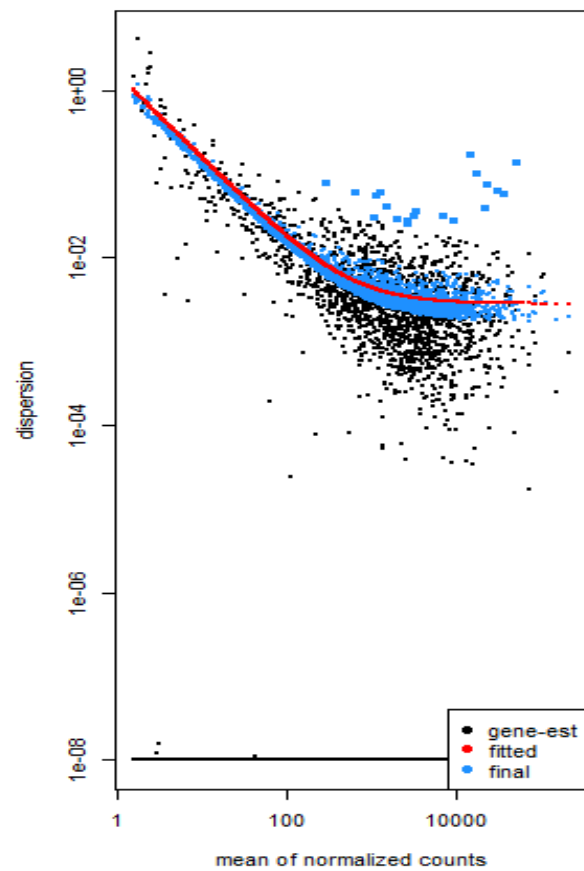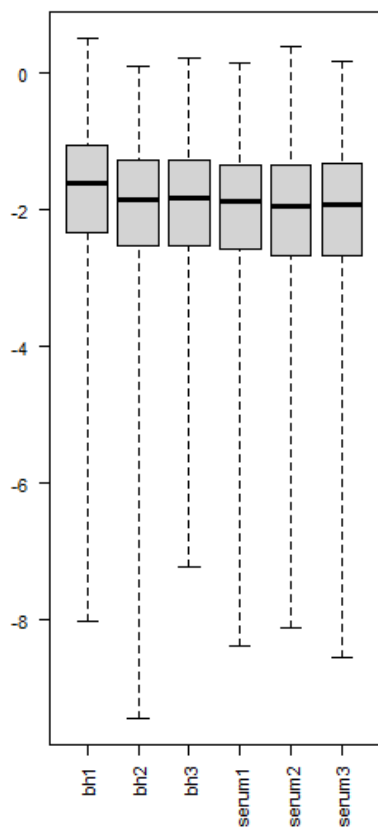

Figure 4: Dispersion Estimation
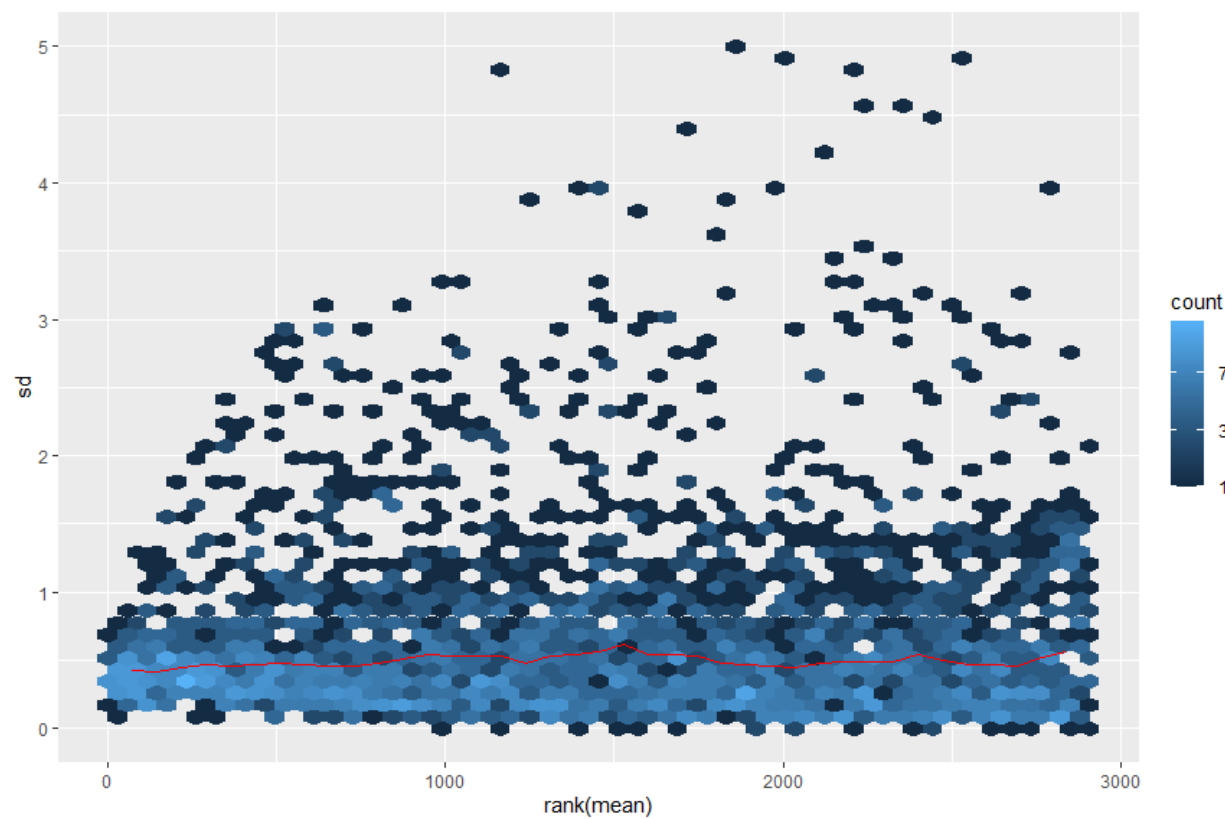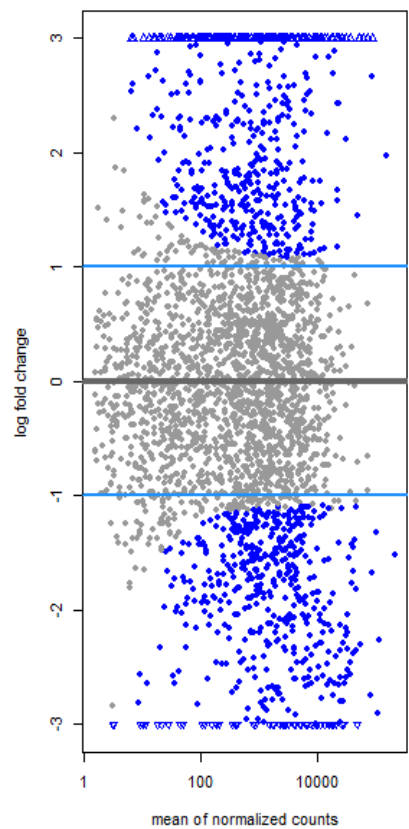
Figure 5: Count of outliers

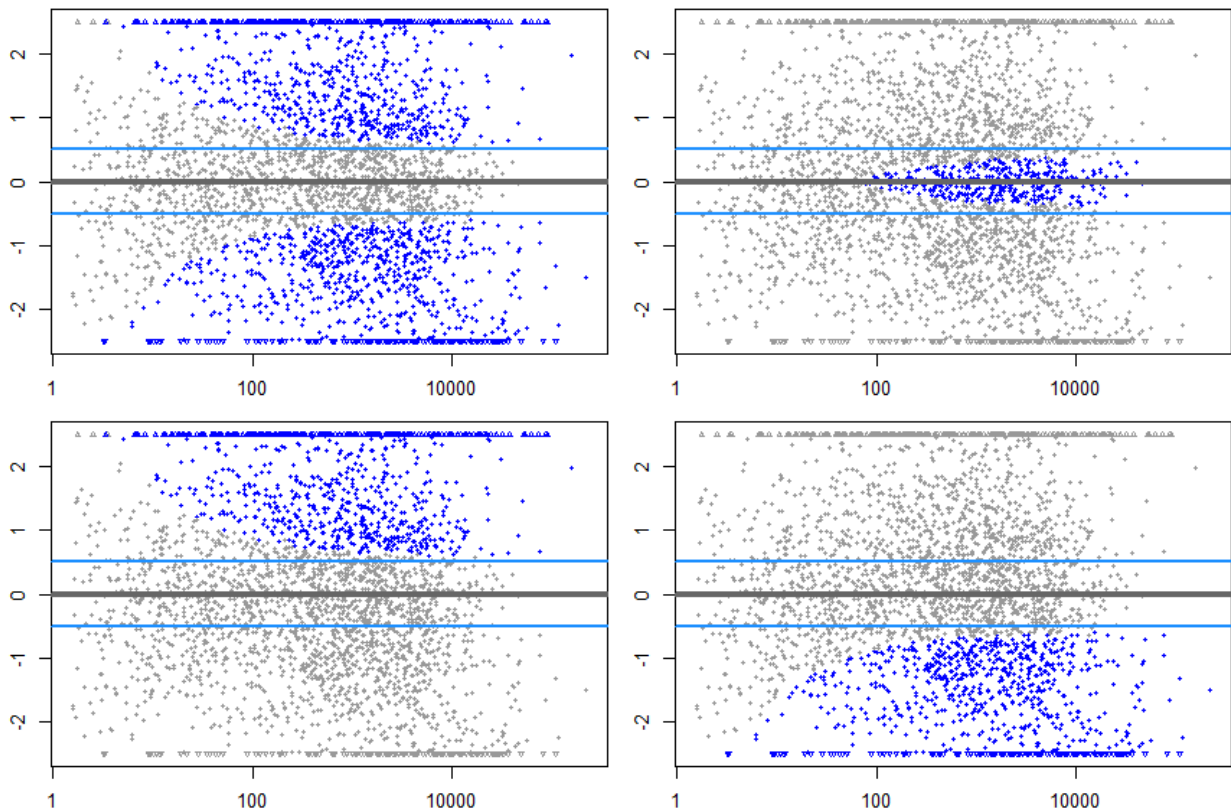*Figure 6:*

Figure 7: Shrinkage Estimation

Figure 8: Test of log2

Figure 9: