extreme min missing rate report

The missing function is: remove minimum 20% or 40% samples based on y

For missing rate at 80%, for lasso,

```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1140941 0.000000e+00      3     0 3.15  1.85
## 0.5 * rho                 0.1140941 2.650180e-02      3     0 3.67  1.33
## 1 * rho                   0.1140941 5.300360e-02      3     0 4.14  0.86
## 2 * rho                   0.1136710 1.060072e-01      3     0 4.67  0.33
## Method2_complete          0.1862533 0.000000e+00      3     0 2.86  2.14
## 0.5 * rho                 0.1862533 4.240877e-02      3     0 3.73  1.27
## 1 * rho                   0.1862533 8.481753e-02      3     0 4.23  0.77
## 2 * rho                   0.1860472 1.696351e-01      3     0 4.75  0.25
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

For SCAD,

```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1124976 0.000000e+00      3     0 4.59  0.41
## 0.5 * rho                 0.1124976 2.662608e-02      3     0 4.67  0.33
## 1 * rho                   0.1124976 5.325216e-02      3     0 4.70  0.30
## 2 * rho                   0.1124976 1.065043e-01      3     0 4.84  0.16
## Method2_complete          0.1568271 0.000000e+00      3     0 4.44  0.56
## 0.5 * rho                 0.1568271 3.701137e-02      3     0 4.58  0.42
## 1 * rho                   0.1568271 7.402274e-02      3     0 4.65  0.35
## 2 * rho                   0.1566939 1.480455e-01      3     0 4.79  0.21
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

For MCP,

```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1095296 0.000000e+00      3     0 4.37  0.63
## 0.5 * rho                 0.1095296 2.602109e-02      3     0 4.48  0.52
## 1 * rho                   0.1095296 5.204218e-02      3     0 4.56  0.44
## 2 * rho                   0.1095126 1.040844e-01      3     0 4.71  0.29
## Method2_complete          0.1501749 0.000000e+00      3     0 4.49  0.51
## 0.5 * rho                 0.1501749 3.589697e-02      3     0 4.60  0.40
## 1 * rho                   0.1501749 7.179395e-02      3     0 4.69  0.31
## 2 * rho                   0.1501563 1.435879e-01      3     0 4.81  0.19
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

For missing rate at 60%, for lasso,

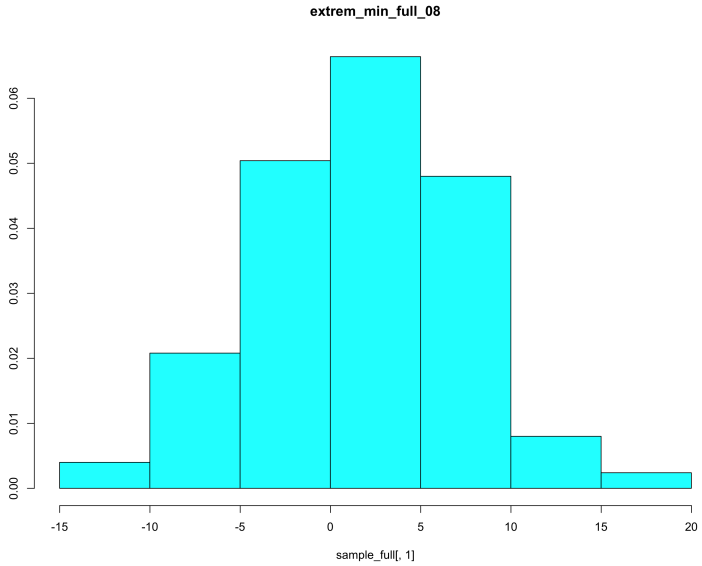
```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1253199 0.000000e+00      3     0 2.85  2.15
## 0.5 * rho                 0.1253199 3.046026e-02      3     0 3.60  1.40
## 1 * rho                   0.1253199 6.092051e-02      3     0 4.23  0.77
## 2 * rho                   0.1249102 1.218410e-01      3     0 4.67  0.33
## Method2_complete          0.2506021 0.000000e+00      3     0 2.51  2.49
## 0.5 * rho                 0.2506021 5.910338e-02      3     0 3.62  1.38
## 1 * rho                   0.2506021 1.182068e-01      3     0 4.31  0.69
## 2 * rho                   0.2503671 2.364135e-01      3     0 4.85  0.15
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

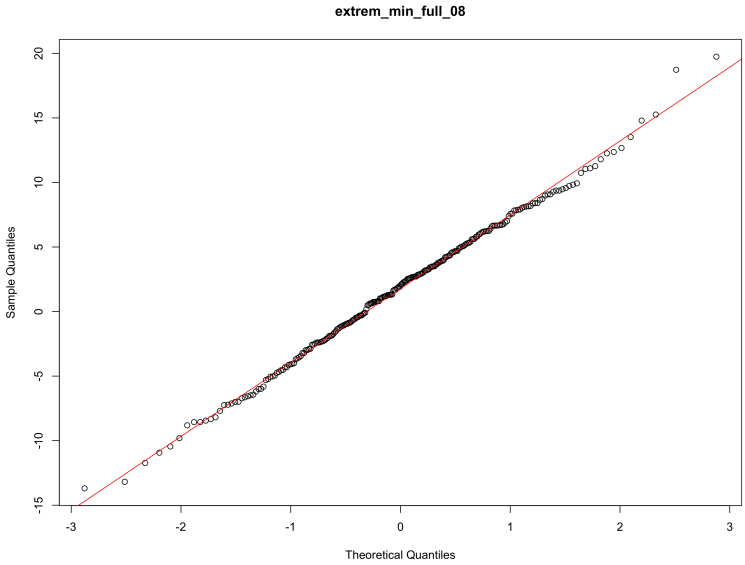
For SCAD,

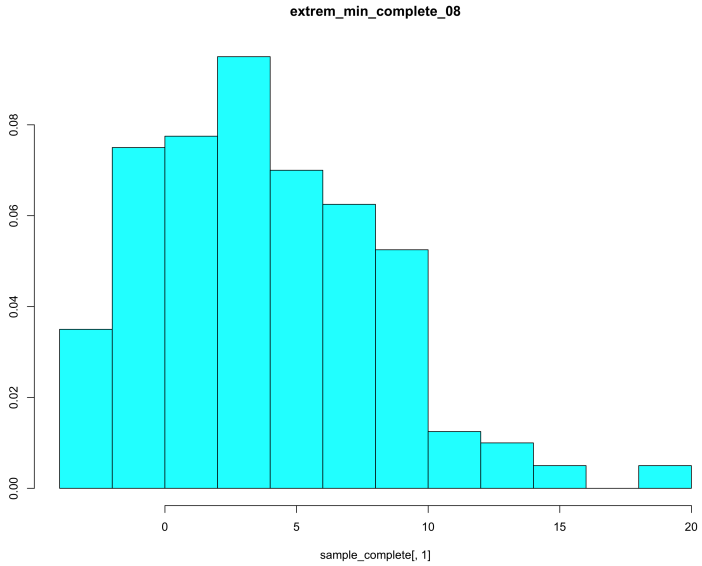
```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1063614 0.000000e+00      3     0 4.40  0.60
## 0.5 * rho                 0.1063614 2.610867e-02      3     0 4.55  0.45
## 1 * rho                   0.1063614 5.221734e-02      3     0 4.60  0.40
## 2 * rho                   0.1063614 1.044347e-01      3     0 4.68  0.32
## Method2_complete          0.2181744 0.000000e+00      3     0 4.37  0.63
## 0.5 * rho                 0.2181744 5.228688e-02      3     0 4.53  0.47
## 1 * rho                   0.2181744 1.045738e-01      3     0 4.69  0.31
## 2 * rho                   0.2173782 2.091475e-01      3     0 4.84  0.16
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

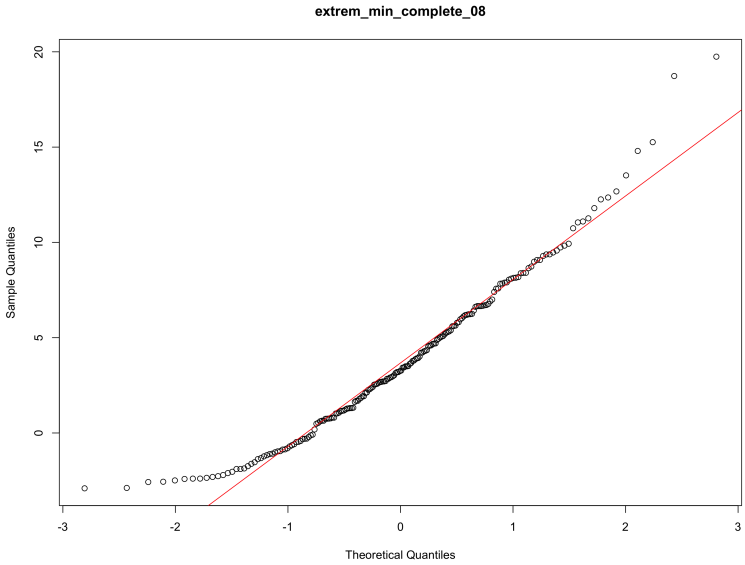
For MCP,

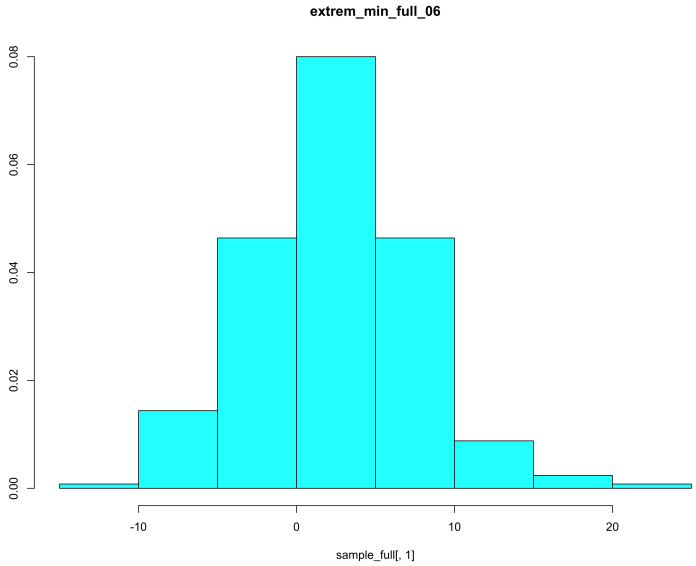
```
##                          L_inf_norm          rho tn0en0 tn0e0 t0e0 t0en0
## Method1_full              0.1058200 0.000000e+00      3     0 4.46  0.54
## 0.5 * rho                 0.1058200 2.463768e-02      3     0 4.52  0.48
## 1 * rho                   0.1058200 4.927536e-02      3     0 4.63  0.37
## 2 * rho                   0.1057367 9.855072e-02      3     0 4.75  0.25
## Method2_complete          0.2079739 0.000000e+00      3     0 4.39  0.61
## 0.5 * rho                 0.2079739 4.742546e-02      3     0 4.54  0.46
## 1 * rho                   0.2079739 9.485092e-02      3     0 4.69  0.31
## 2 * rho                   0.2075916 1.897018e-01      3     0 4.87  0.13
## Method3_logistics_our  1002.0000000 0.000000e+00      3     0 0.00  5.00
## 0.5 * rho              1002.0000000 3.335000e+02      3     0 0.00  5.00
## 1 * rho                1002.0000000 6.670000e+02      3     0 0.00  5.00
## 2 * rho                1002.0000000 1.334000e+03      3     0 5.00  0.00
```

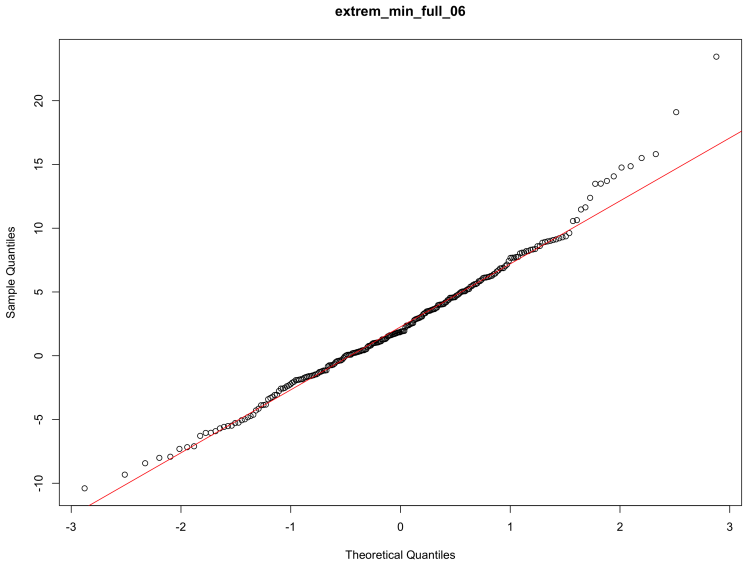

extrem_min_full_08
0.00
0.01
0.02
0.03
0.04
0.05
0.06
-15
-10
-5
0
5
10
15
20
sample_full[, 1]

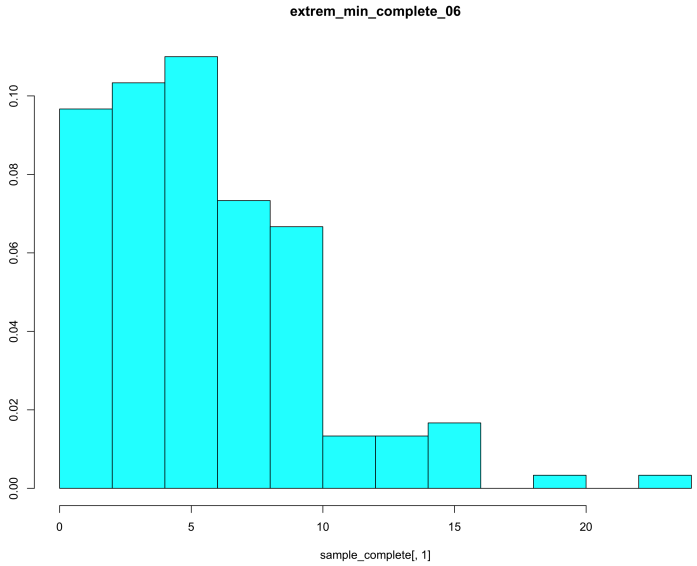

extrem_min_full_08
Sample Quantiles
-15
-10
-5
0
5
10
15
20
-3
-2
-1
0
1
2
3
Theoretical Quantiles

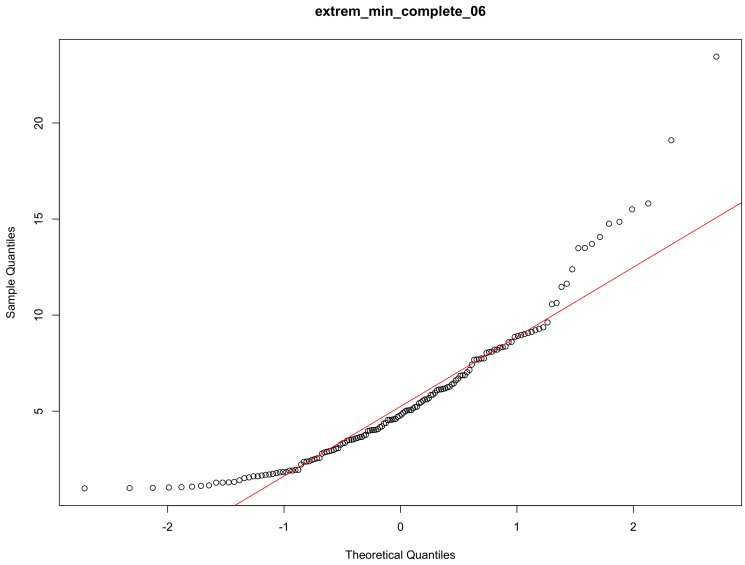

extrem_min_complete_08
0.00
0.02
0.04
0.06
0.08
0
5
10
15
20
sample_complete[, 1]


extrem_min_complete_08
Sample Quantiles
0
5
10
15
20
-3
-2
-1
0
1
2
3
Theoretical Quantiles


extrem_min_full_06
0.00
0.02
0.04
0.06
0.08
-10
0
10
20
sample_full[, 1]


extrem_min_full_06
Sample Quantiles
-10
-5
0
5
10
15
20
-3
-2
-1
0
1
2
3
Theoretical Quantiles


extrem_min_complete_06
0.00
0.02
0.04
0.06
0.08
0.10
0
5
10
15
20
sample_complete[, 1]


extrem_min_complete_06
Sample Quantiles
5
10
15
20
-2
-1
0
1
2
Theoretical Quantiles