PDAC gene expression analysis

Richard Moffitt

Setup

RNAseq dataset

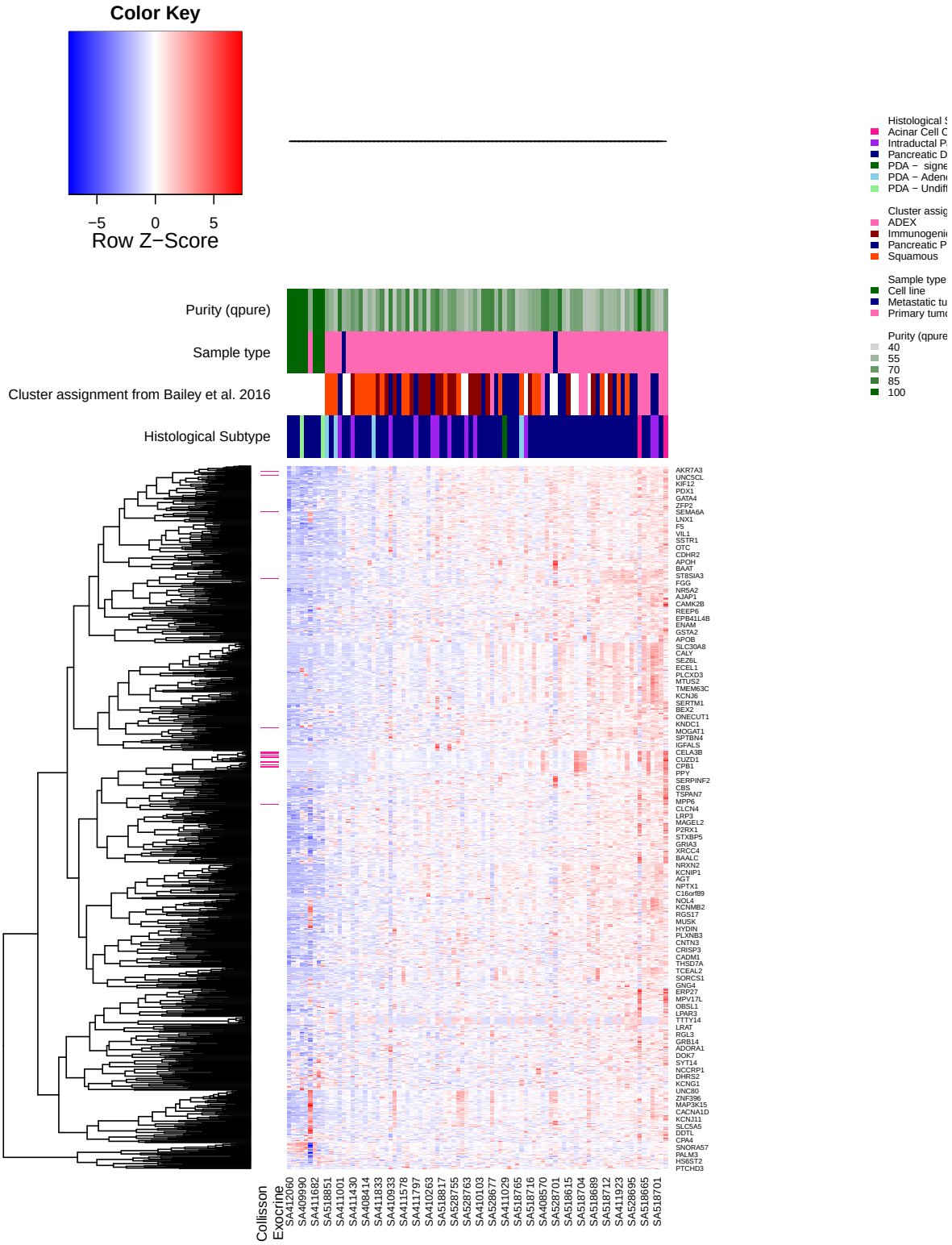
load required libraries

Run classifier for guidance

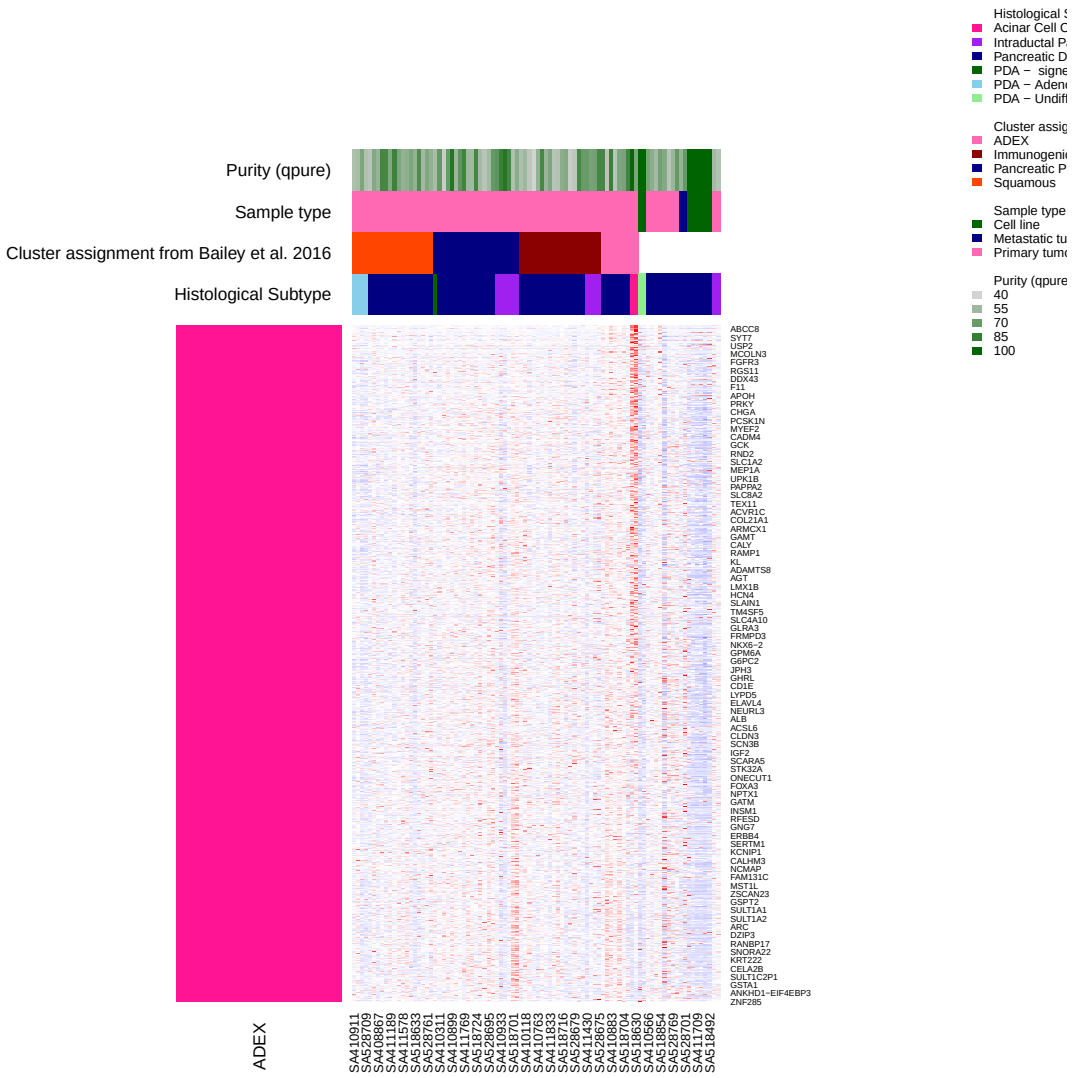
Append TSP scores to expression data frames

Results

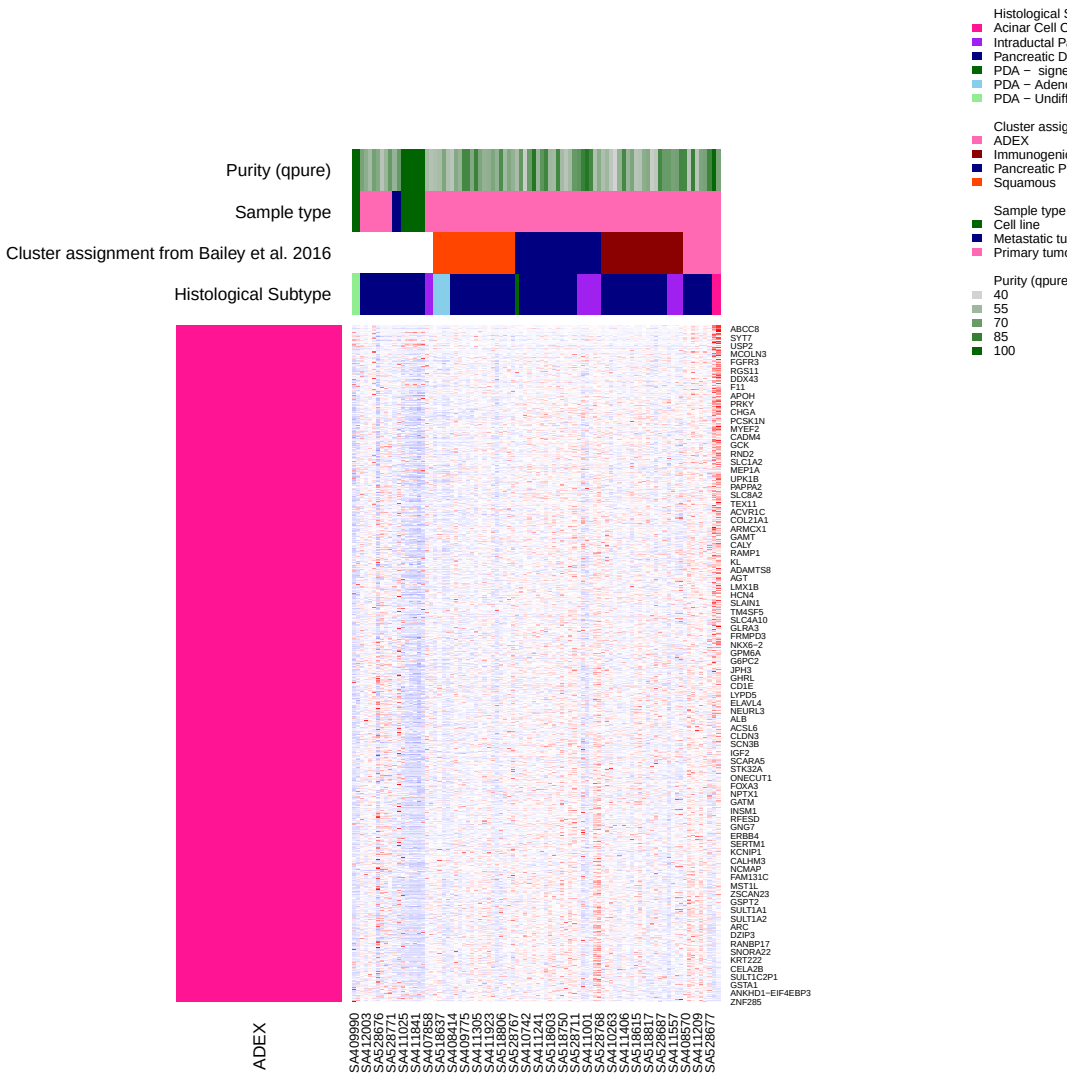
ADEX samples and ACC




```
## Error in plot(ddr, horiz = TRUE, axes = FALSE, yaxs = "i", leaflab = "none"): object 'ddr' not found
```

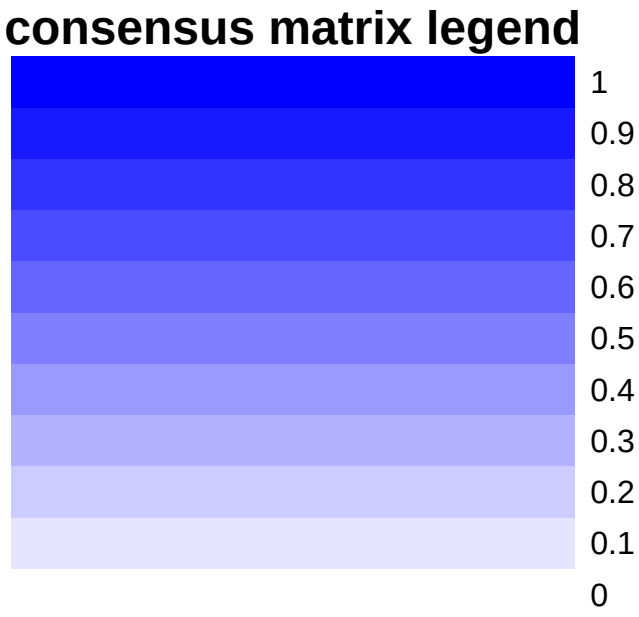



```
## Error in plot(ddr, horiz = TRUE, axes = FALSE, yaxs = "i", leaflab = "none"): object 'ddr' not found
```

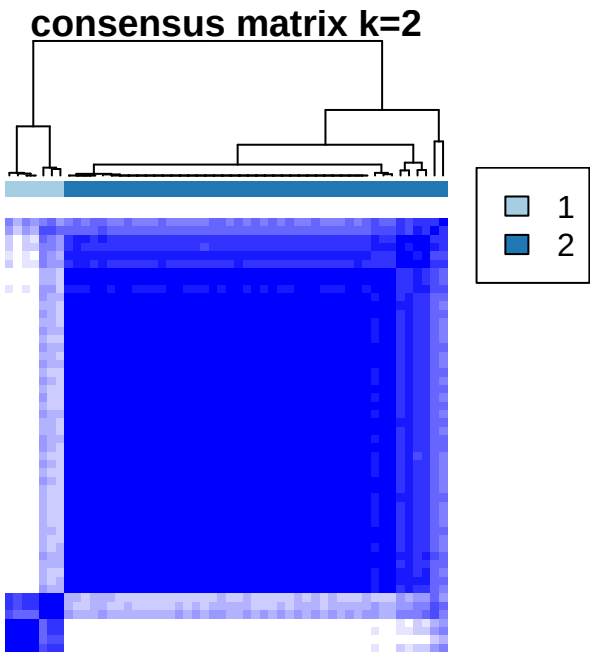


Consensus clustering

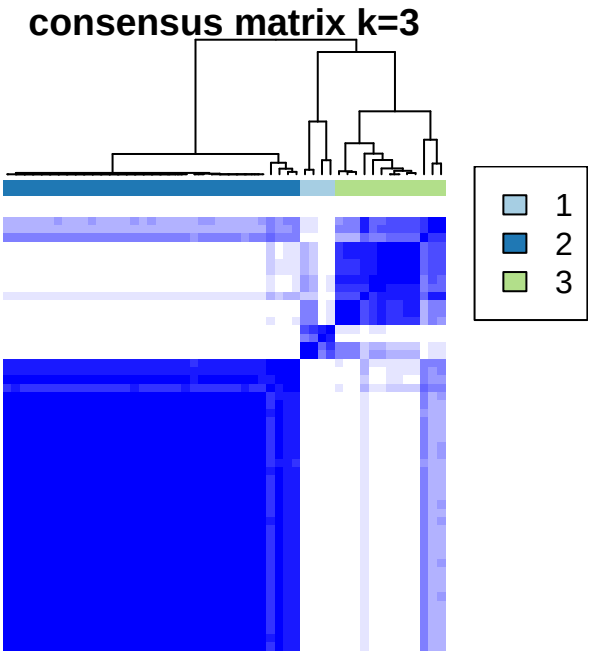
```
## Note: The km (kmeans) option only supports a euclidean distance metric when supplying a data matrix.

## end fraction

## clustered
```



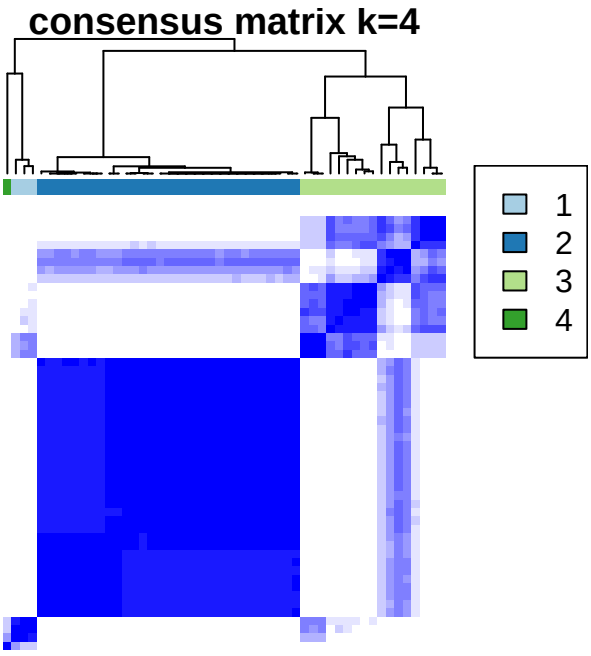

```
## clustered
```



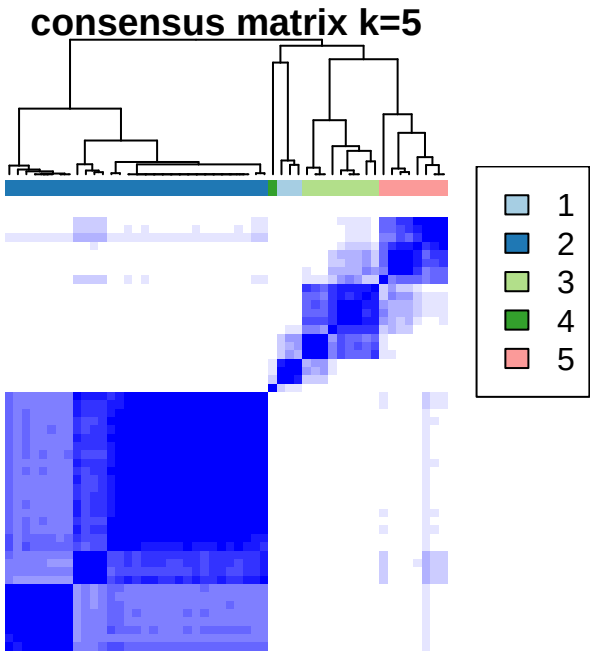

```
## clustered
```

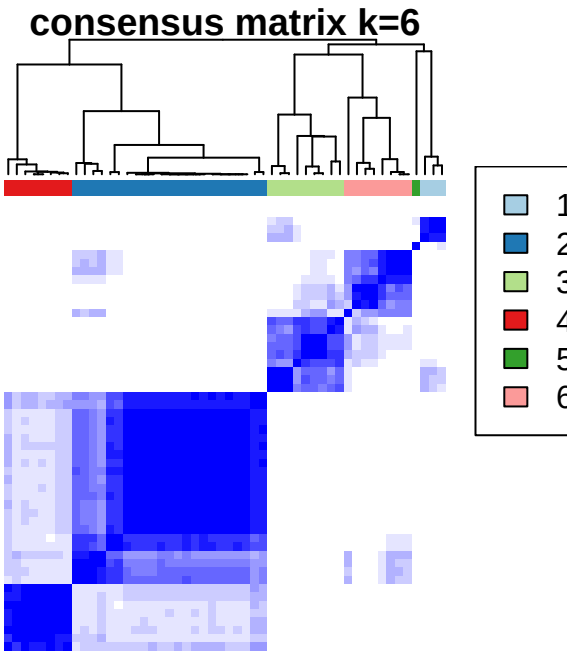


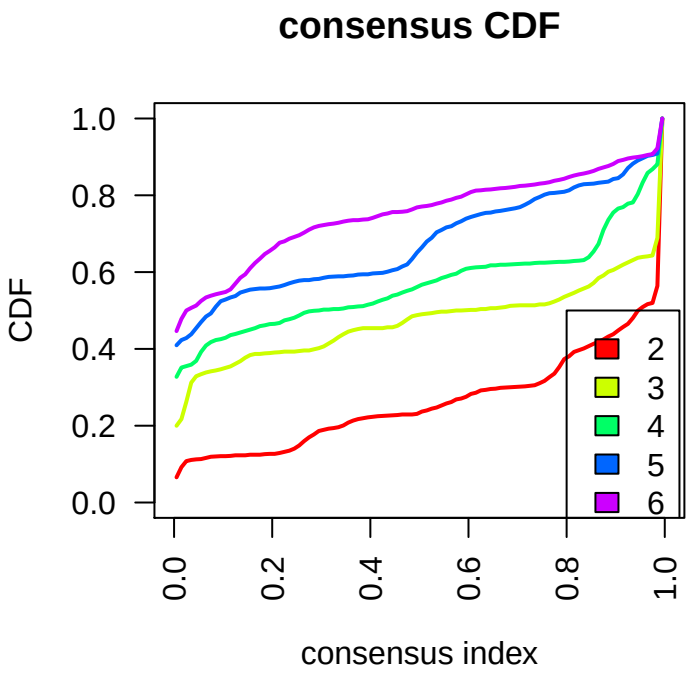

```
## clustered
```

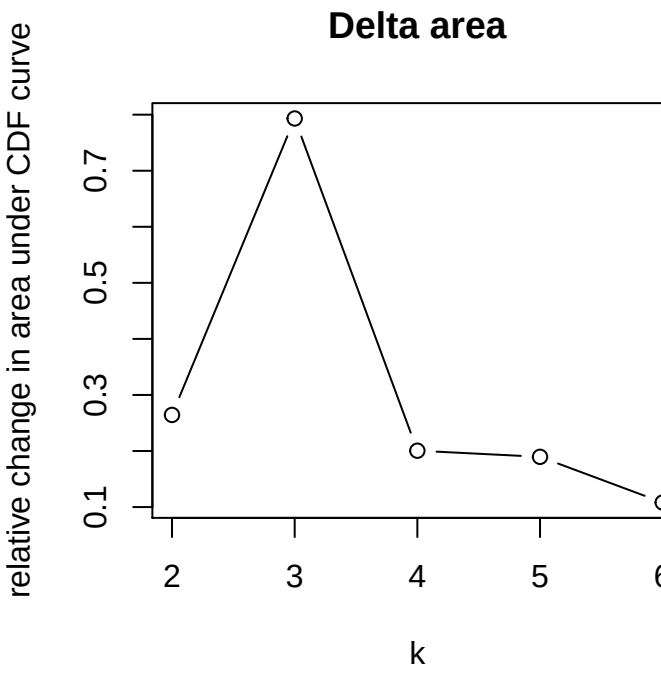


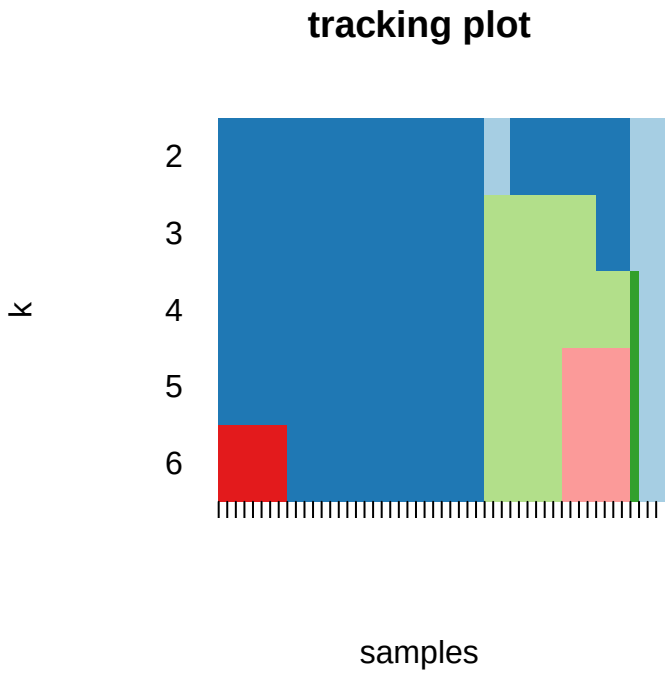

```
## clustered
```

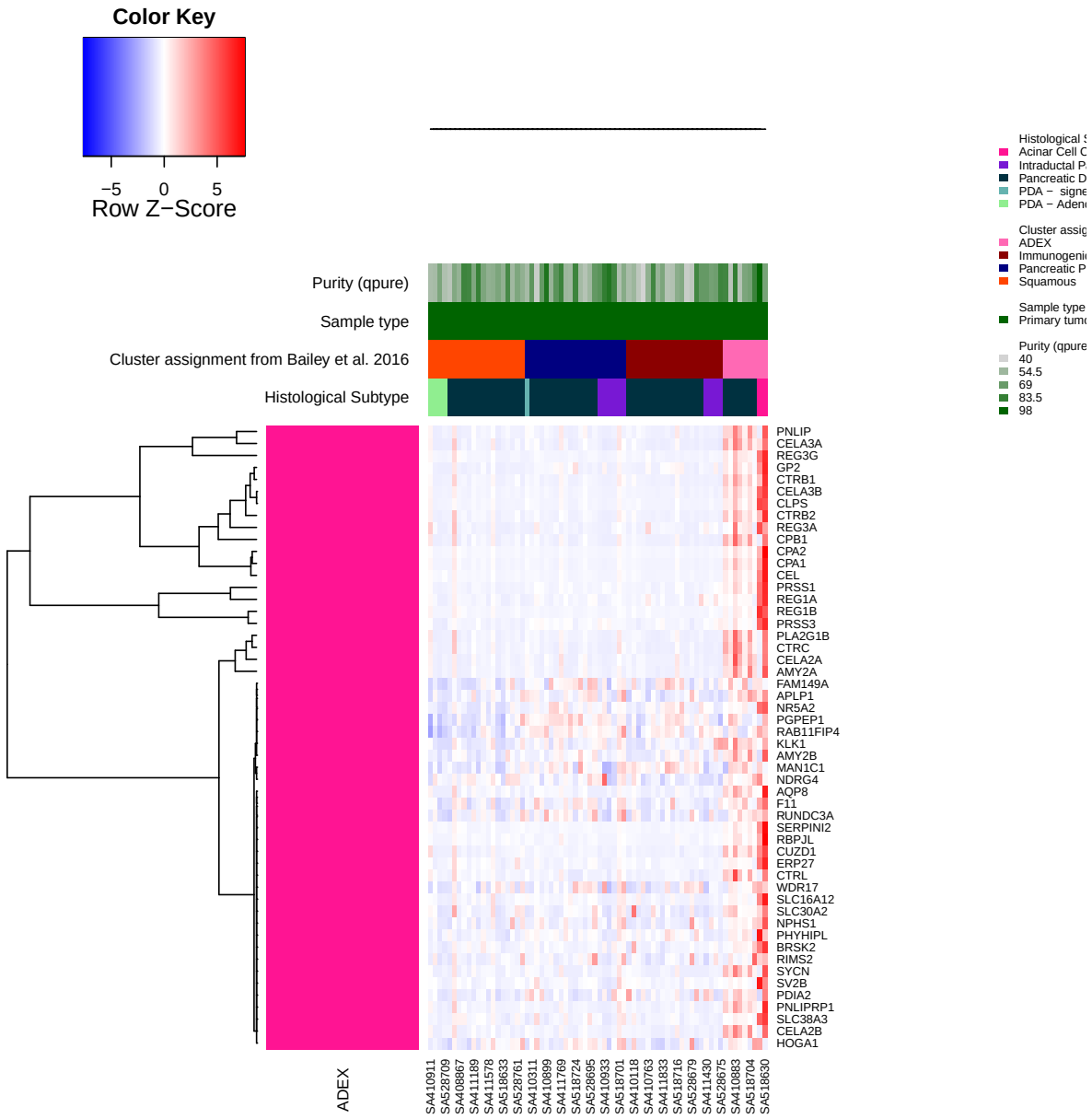

consensus matrix k=5
1
2
3
4
5


consensus matrix k=6
1
2
3
4
5
6

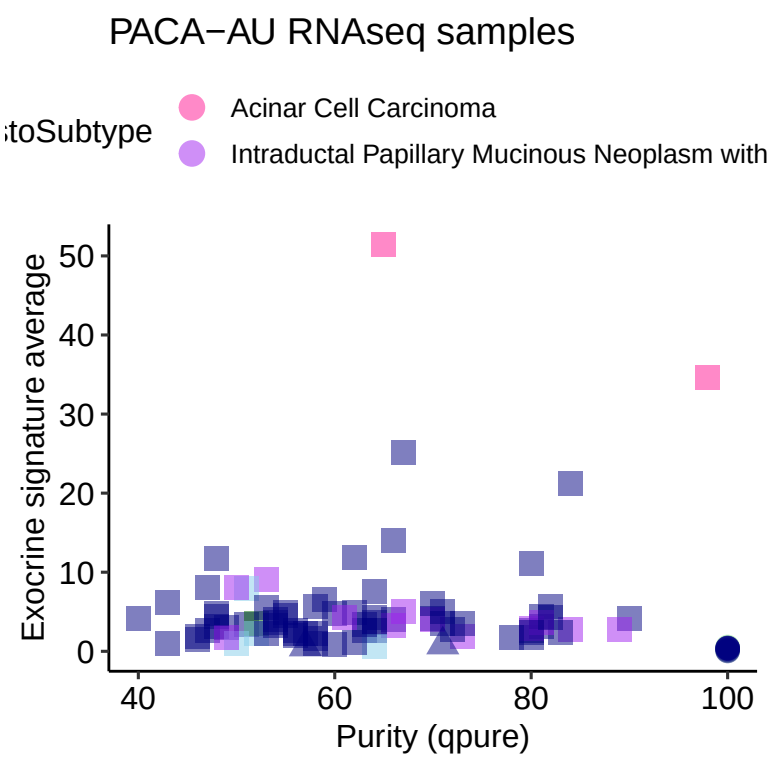

consensus CDF
CDF
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
consensus index
2
3
4
5
6

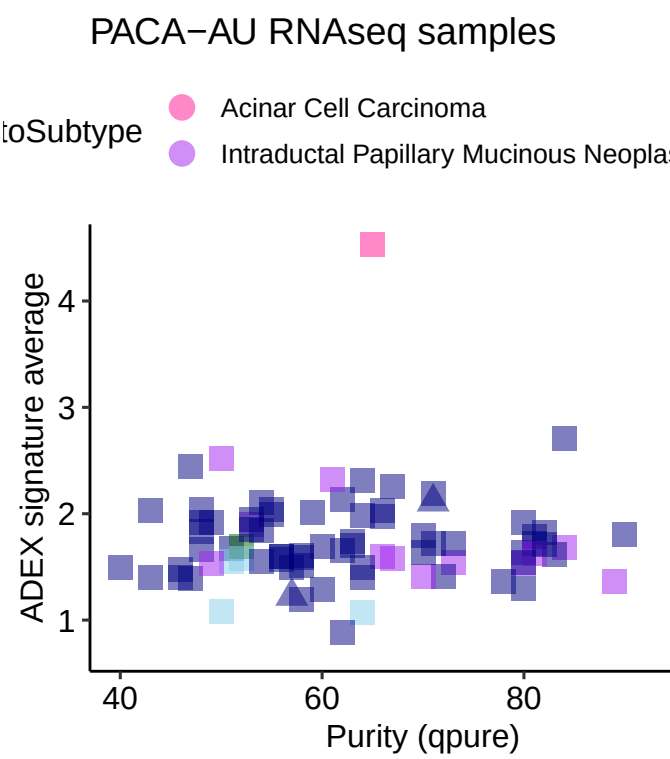

Delta area
relative change in area under CDF curve
0.7
0.5
0.3
0.1
2
3
4
5
k

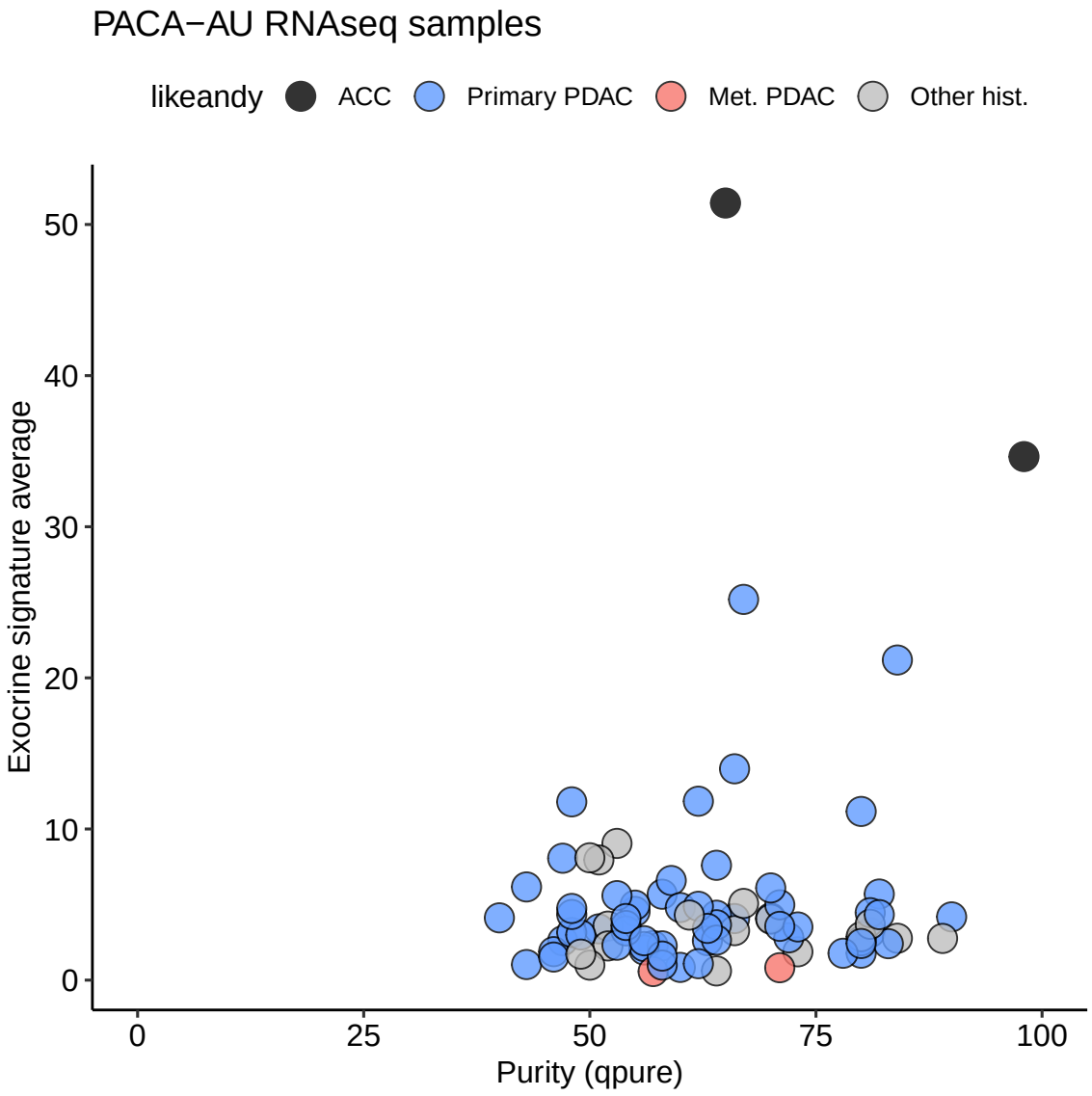

tracking plot
k
2
3
4
5
6
samples

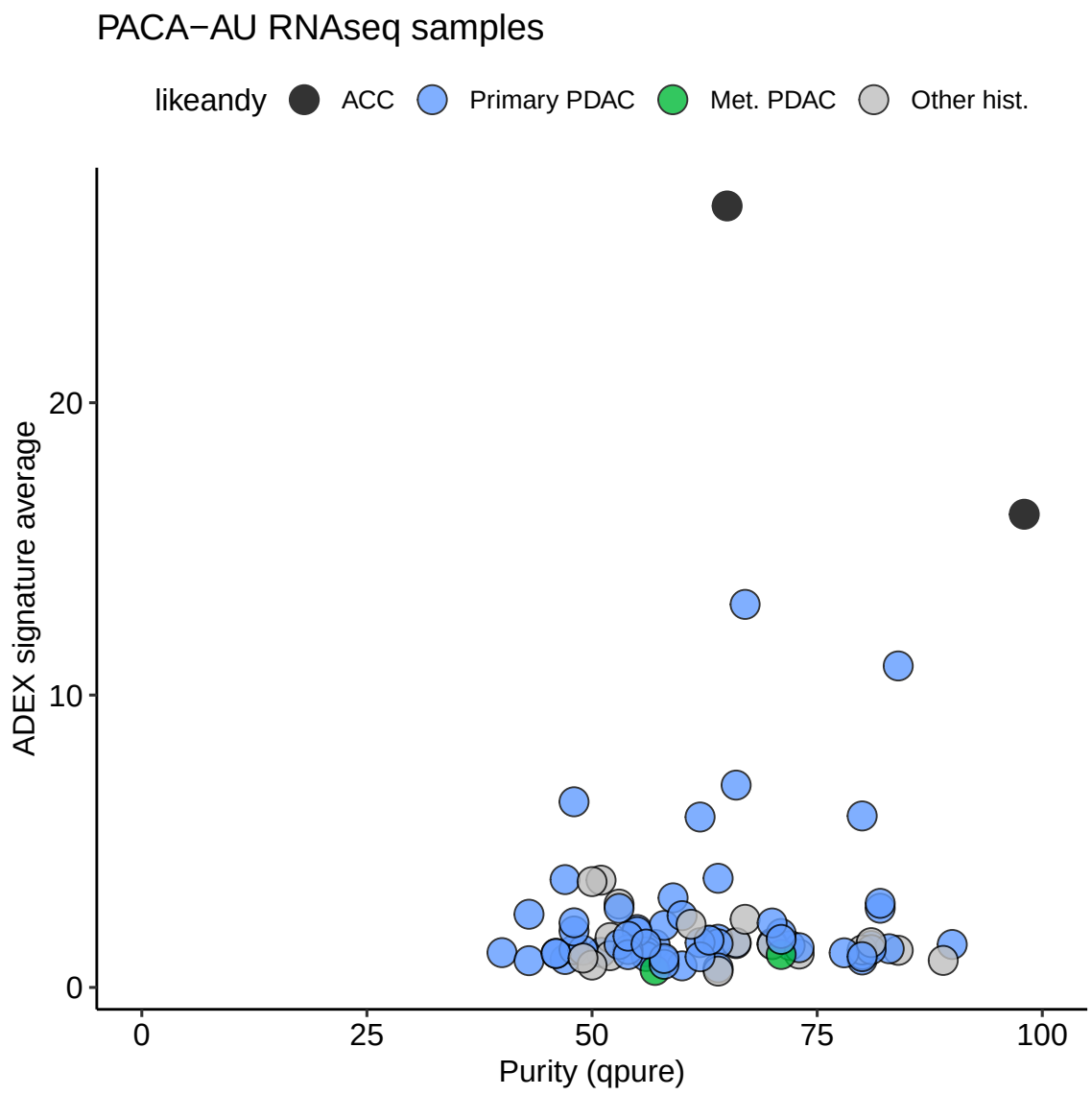

Color Key
−5
0
5
Row Z−Score
Purity (qpure)
Sample type
Cluster assignment from Bailey et al. 2016
Histological Subtype
PNLIP
CELA3A
REG3G
GP2
CTRB1
CELA3B
CLPS
CTRB2
REG3A
CPB1
CPA2
CPA1
CEL
PRSS1
REG1A
REG1B
PRSS3
PLA2G1B
CTRC
CELA2A
AMY2A
FAM149A
APLP1
NR5A2
PGPEP1
RAB11FIP4
KLK1
AMY2B
MAN1C1
NDRG4
AQP8
F11
RUNDC3A
SERPINI2
RBPJL
CUZD1
ERP27
CTRL
WDR17
SLC16A12
SLC30A2
NPHS1
PHYHIPL
BRSK2
RIMS2
SYCN
SV2B
PDIA2
PNLIPRP1
SLC38A3
CELA2B
HOGA1
ADEX
SA410911
SA528709
SA408867
SA411189
SA411578
SA518633
SA528761
SA410311
SA410899
SA411769
SA518724
SA528695
SA410933
SA518701
SA410118
SA410763
SA411833
SA518716
SA528679
SA411430
SA528675
SA410883
SA518704
SA518630
Histological S
Acinar Cell C
Intraductal P
Pancreatic D
PDA − signe
PDA − Adeno
Cluster assig
ADEX
Immunogenic
Pancreatic P
Squamous
Sample type
Primary tumo
Purity (qpure
40
54.5
69
83.5
98

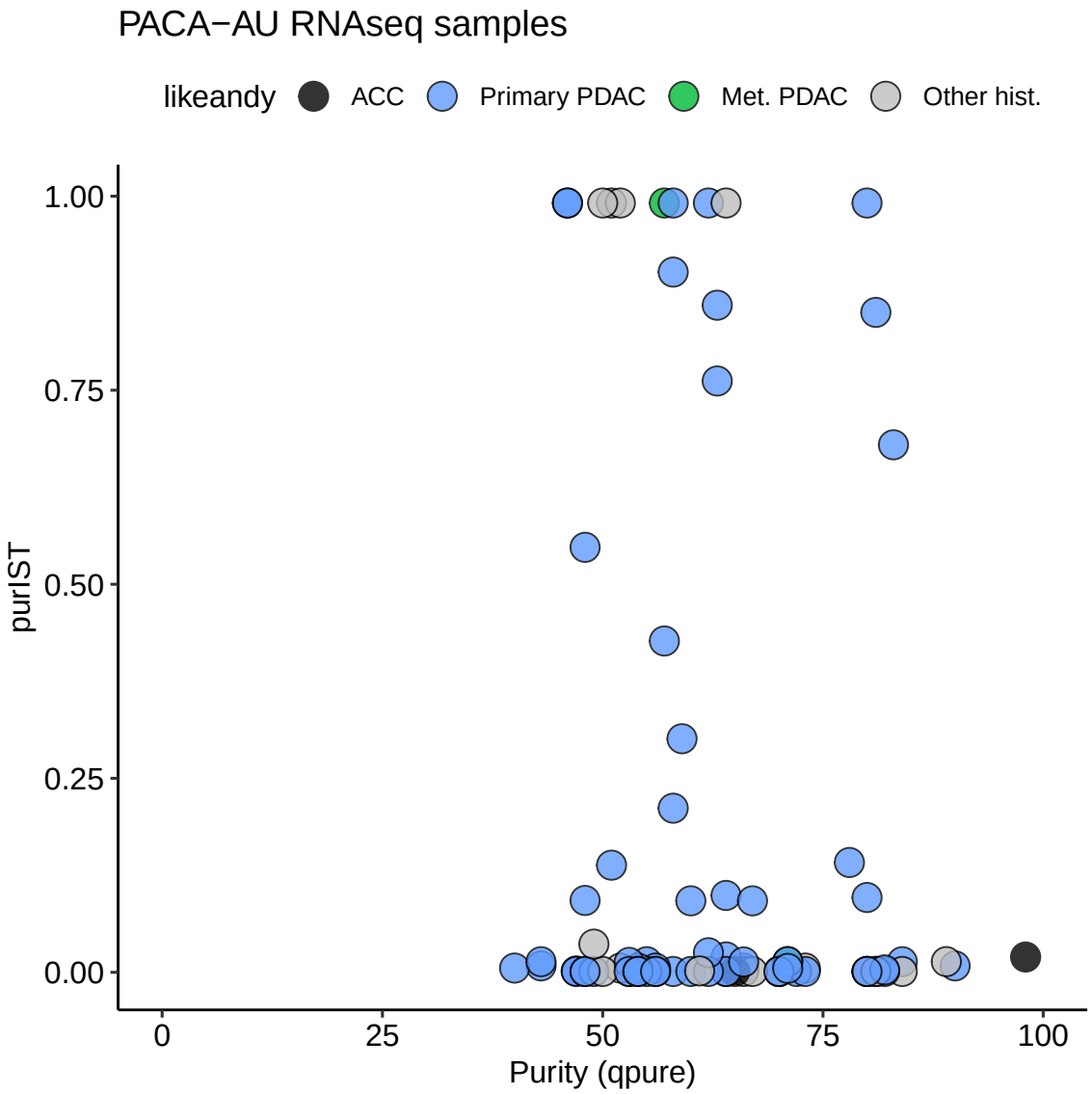
Exocrine and ADEX in PACA_AU_seq

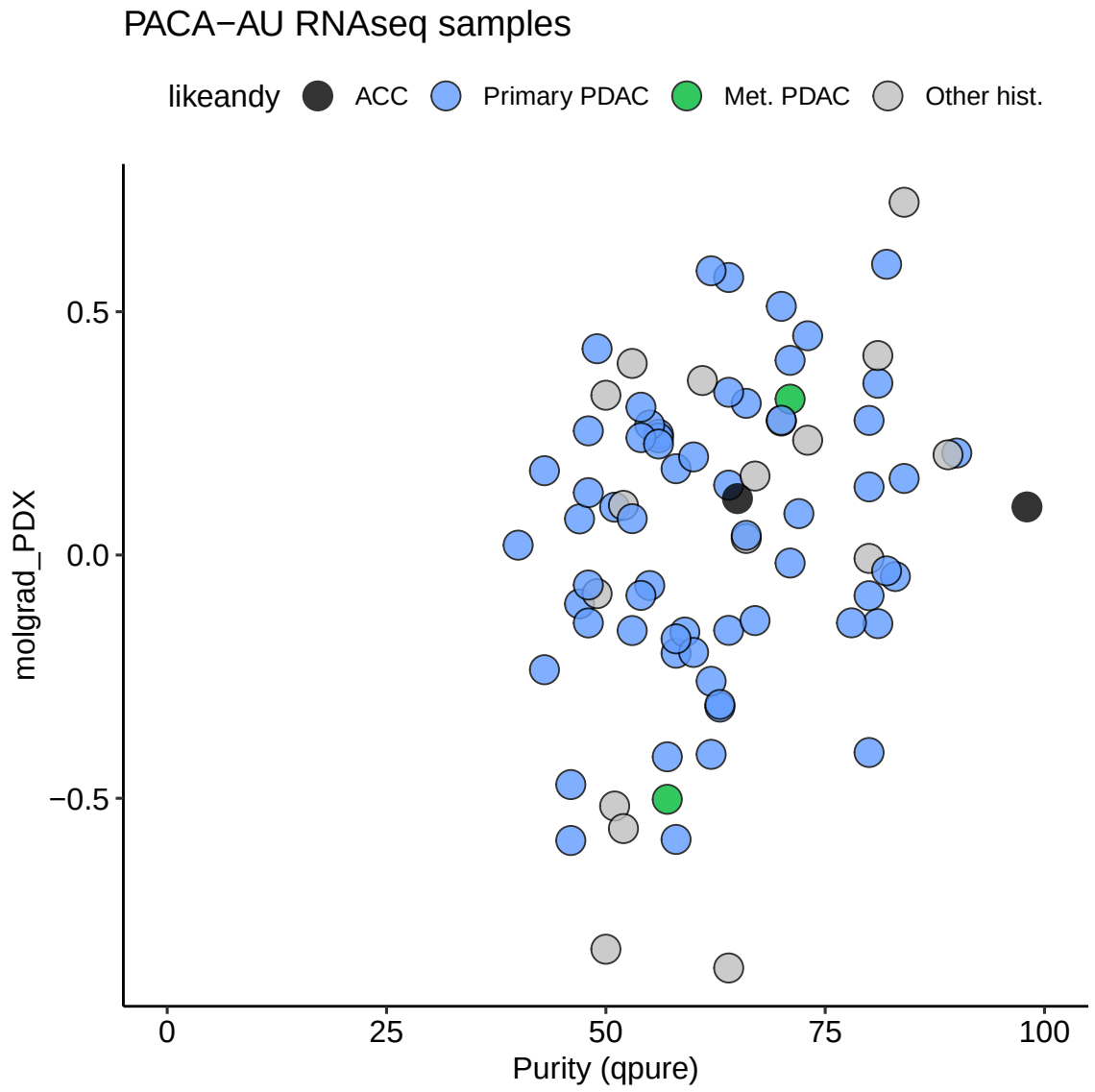





PACA−AU RNAseq samples
likeandy
ACC
Primary PDAC
Met. PDAC
Other hist.
Exocrine signature average
0
10
20
30
40
50
0
25
50
75
100
Purity (qpure)


PACA−AU RNAseq samples
likeandy
ACC
Primary PDAC
Met. PDAC
Other hist.
ADEX signature average
20
10
0
0
25
50
75
100
Purity (qpure)


PACA−AU RNAseq samples
likeandy
ACC
Primary PDAC
Met. PDAC
Other hist.
purIST
1.00
0.75
0.50
0.25
0.00
0
25
50
75
100
Purity (qpure)


PACA−AU RNAseq samples
likeandy
ACC
Primary PDAC
Met. PDAC
Other hist.
molgrad_PDX
0.5
0.0
−0.5
0
25
50
75
100
Purity (qpure)