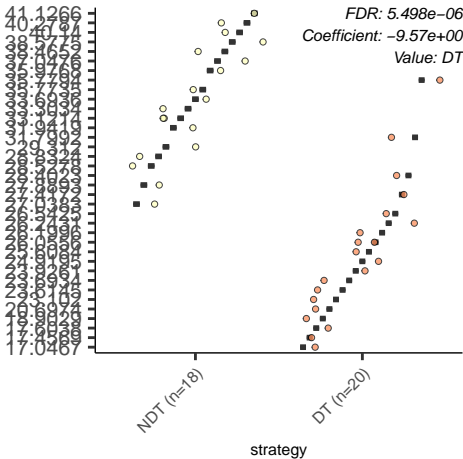
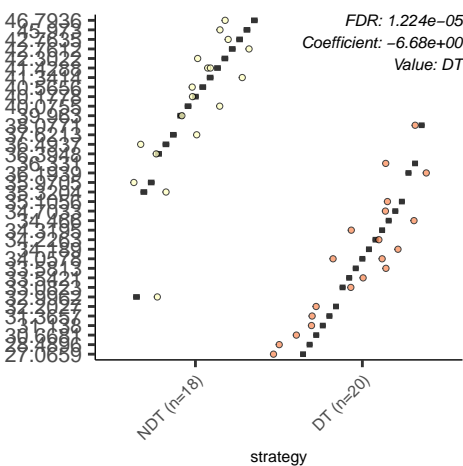




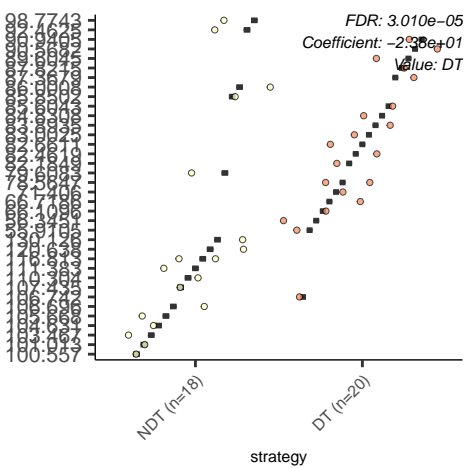
PWY.7254..TCA.cycle.VII..acetate.producers.



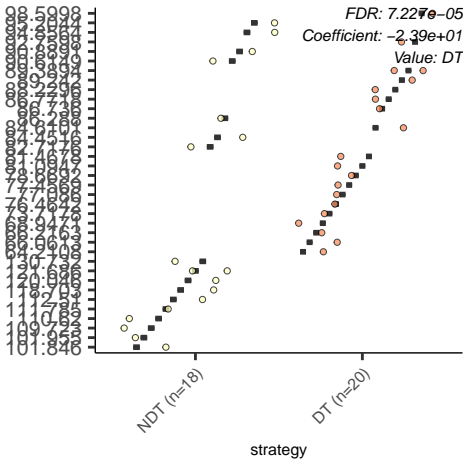
PWY0.1297..superpathway.of.purine.deoxyribonucleosides.de



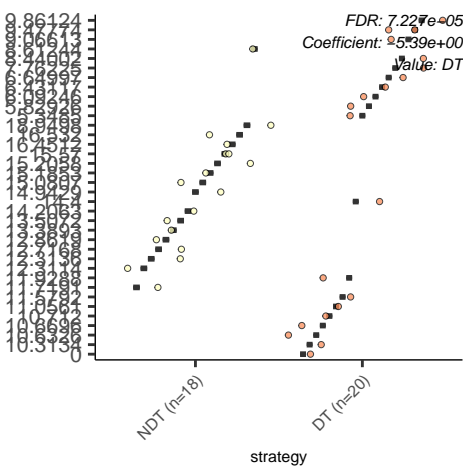
GLUCOSE1P METAB. PWY., glucose.and.glucose.1.phosphate.d



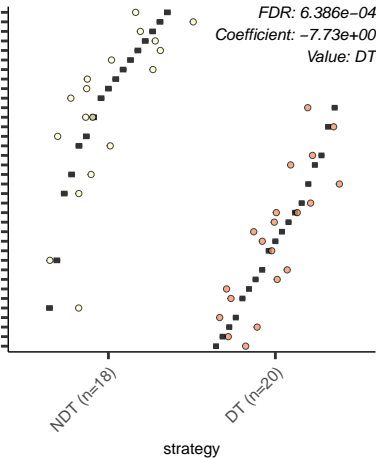
PWY.5941..glycogen.degradation.II



PWY.7345..superpathway.of.anaerobic.sucrose.degrada

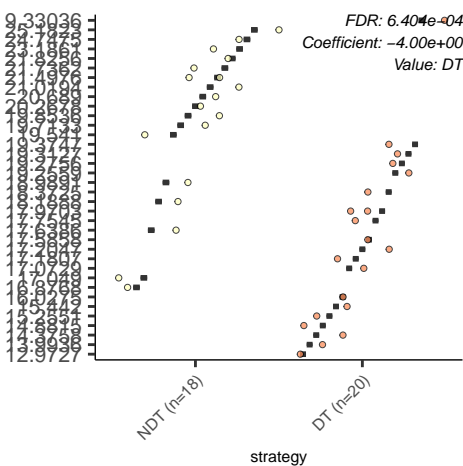




[illegible]



PWY.1269..CMP.3.deoxy.D.manno.octulosonate.biosynth



[illegible]

DT (n=20)

FDR: 6.699e-04  
Coefficient: -7.27e+00  
Value: DT

TCA..TCA.cycle.l..prokaryotic.

[illegible]

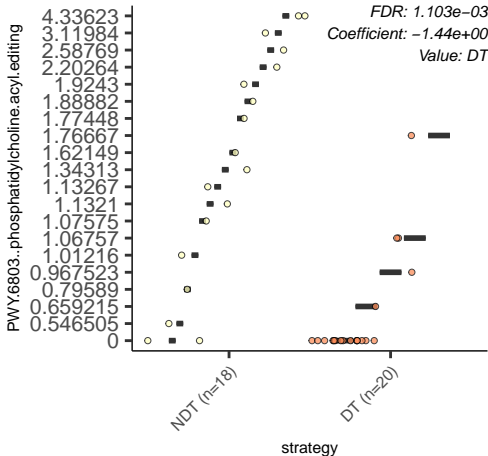
NDT (n=18)

DT (n=20)

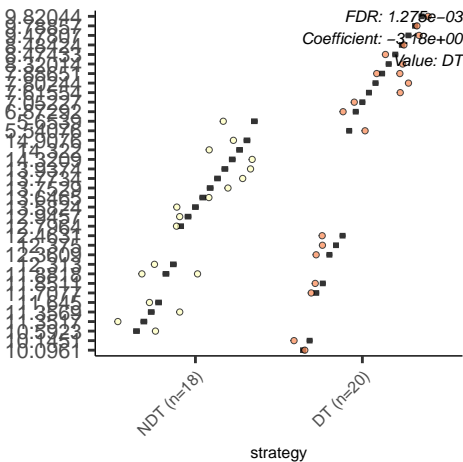
strategy

FDR: 6.699e-04  
Coefficient: -1.26e+01  
Value: DT  
■ ●



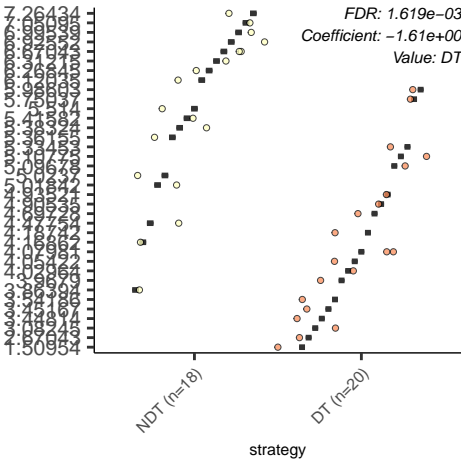


BIOTIN.BIOSYNTHESIS.PWY..biotin.biosynthesis.1

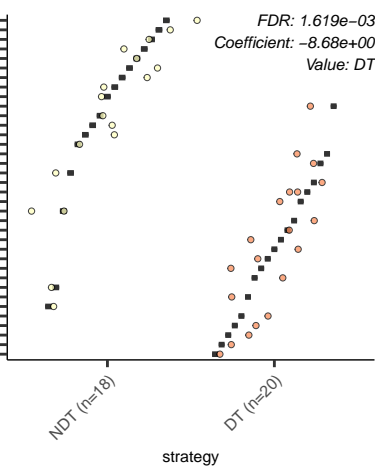


PWY.6992..1.5.anhydrofructose.degradation

FDR: 1.619e-03  
Coefficient: -1.61e+00  
Value: DT

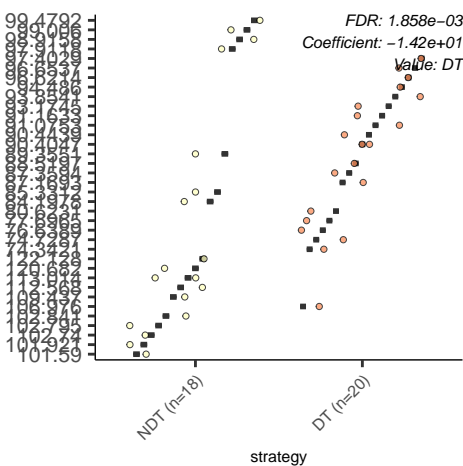


TCA.GLYOX.BYPASS..superpathway.of.glyoxylate.bypass.an

[illegible]

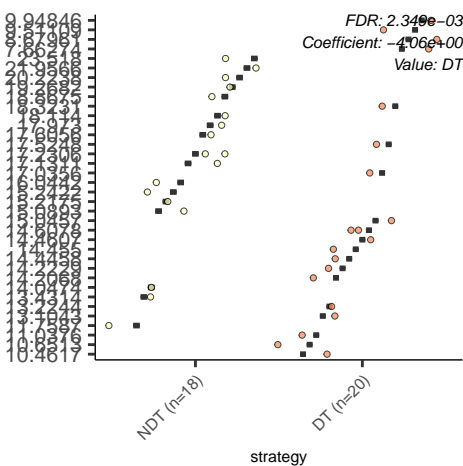


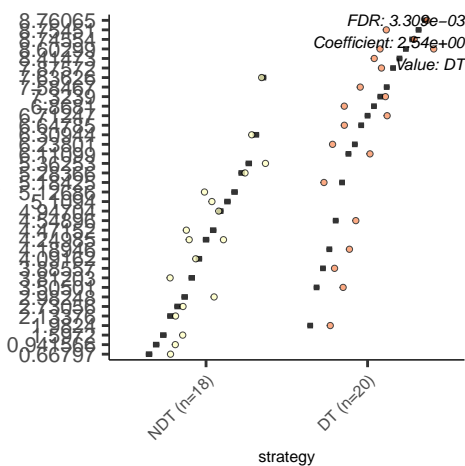
GLYCOGENSYNTH.PWY..glycogen.biosynthesis.l...from.ADP.D



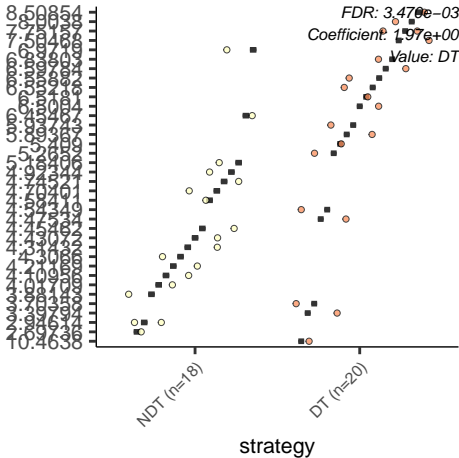


PWY0.1586...peptidoglycan.maturation...meso.diaminopimelate...





GLUDEG.I.PWY.:GABA.shunt





HISDEG.PWY..L..histidine.degradation.I

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PWY.6588..pyruvate.fermentation.to.acetone

[illegible]

NDT (n=18)

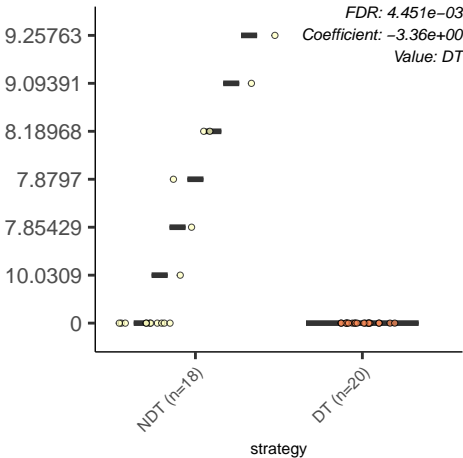
DT (n=20)

strategy

FDR: 4.426e-03  
Coefficient: -1.51e+00  
Value: DT



LIPASYN.PWY..phospholipases





PWY.6901..superpathway.of.glucose.and.xylose.degrad

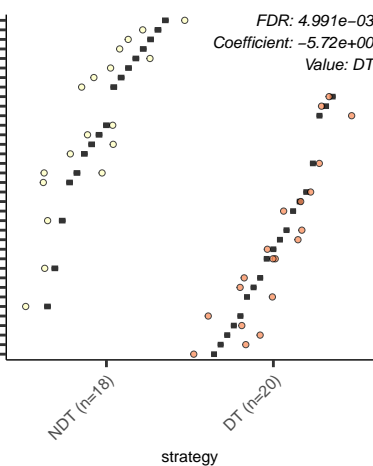
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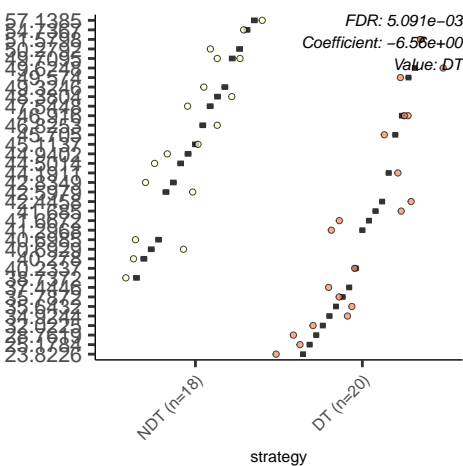
NDT (n=18)

DT (n=20)

strategy

FDR: 4.991e-03  
Coefficient: -5.72e+00  
Value: DT







PWY.5659., GDP., mannose.biosynthesis

0906070809101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899

NDT (n=18)

DT (n=20)

strategy

FDR: 0.776e-03

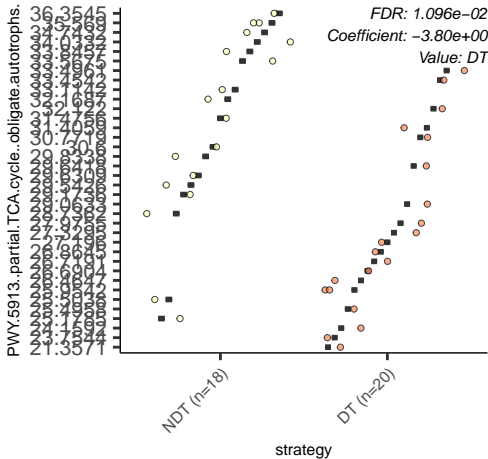
Coefficient: 2.21e+00

Value: DT

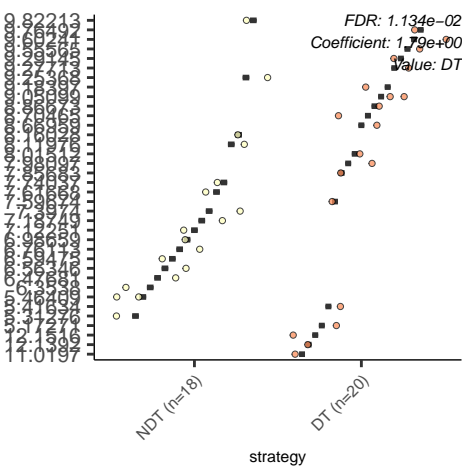




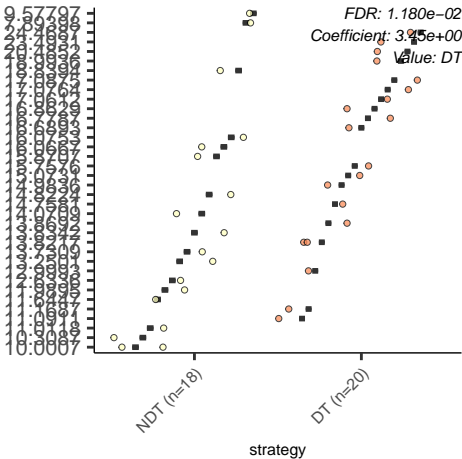




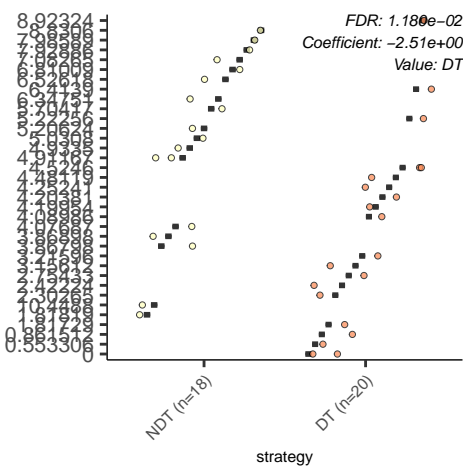
ORNDEG.PWY..superpathway.of.ornithine.degradation



FAO.PWY..fatty.acid..beta..oxidation..generic.

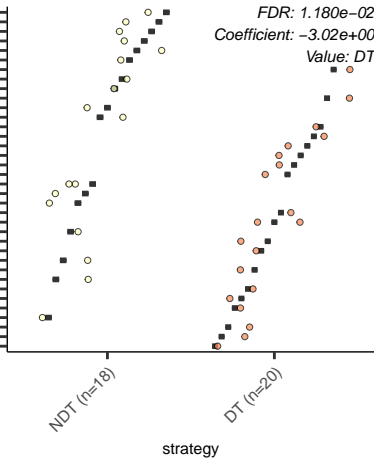


PWY.7210..pyrimidine.deoxyribonucleotides.biosynthesis.fro



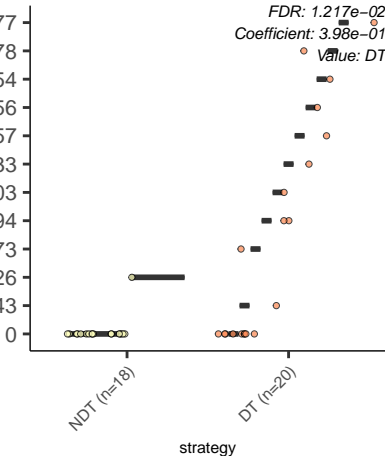
RED|TCYC..TCA.cycle.VI..Helicobacter.

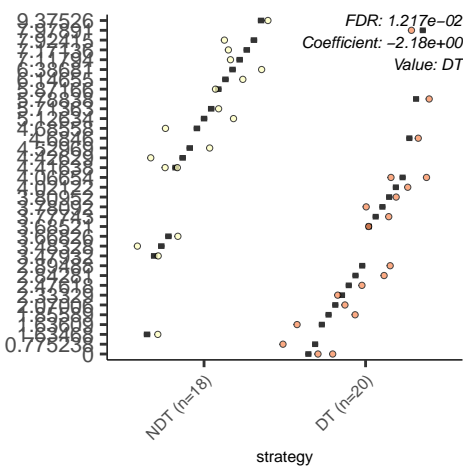
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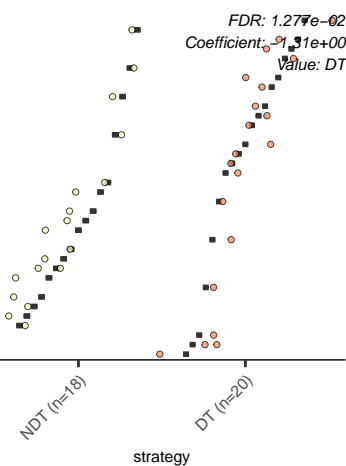
PWY.7084..nitrifier.denitrification

FDR: 1.217e-02  
Coefficient: 3.98e-01  
Value: DT

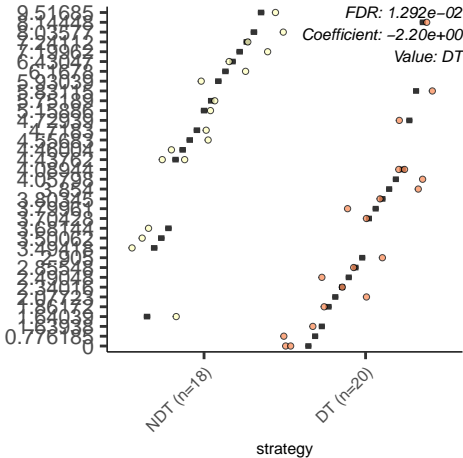




POLYISOPRENSYN.PWY..polyisoprenoid.biosynthesis..E







PWY0.1477..ethanolamine.utilization

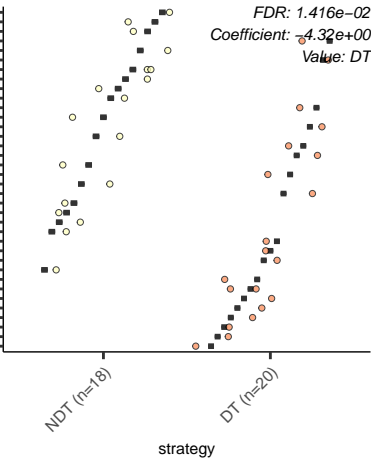
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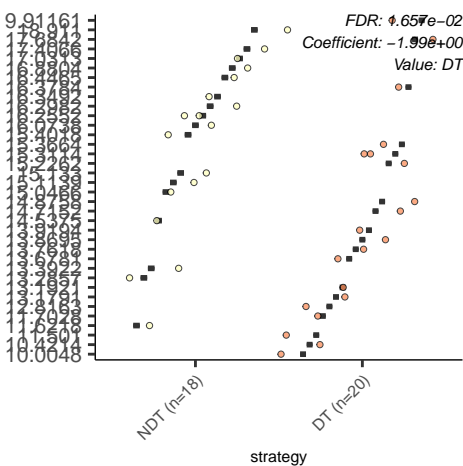
NDT (n=18)

DT (n=20)

strategy

FDR: 1.416e-02  
Coefficient: -4.32e+00  
Value: DT





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NDT (n=18)

DT (n=20)

## strategy

*FDR: 1.657e-02*

Coefficient:  $-8.63e-01$

Value: DT

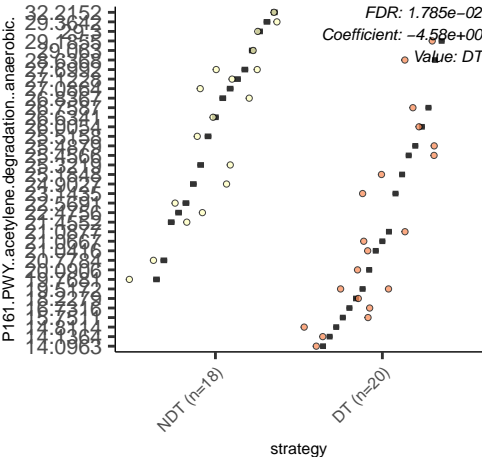
P161.PWY..acetylene.degradation...anaerobic.

FDR: 1.785e-02  
Coefficient: -4.58e+00  
Value: DT

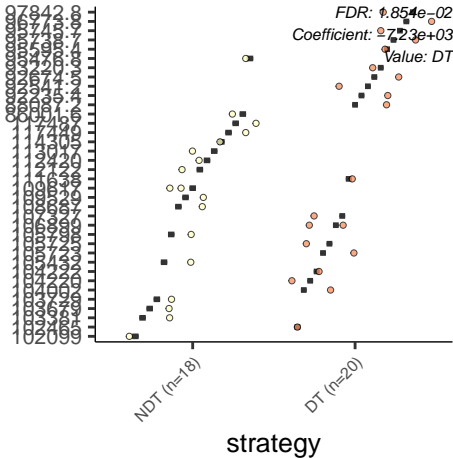
NDT (n=18)

DT (n=20)

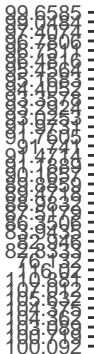
strategy



# UNINTEGRATED



NONOXIPENT.PWY..pentose.phosphate.pathway...non.oxidative



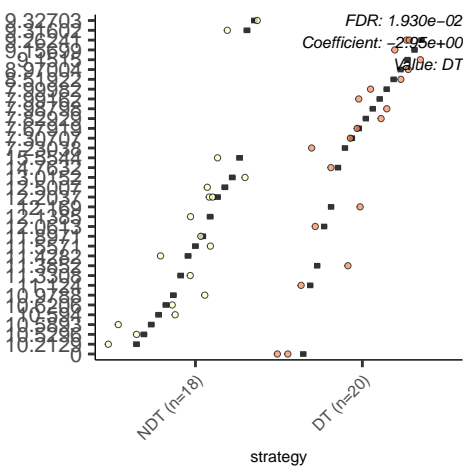
NDT (n=18)

DT (n=20)

strategy

FDR:  $1.854e-02$   
Coefficient:  $-7.70e+00$   
Value: DT

PWY.7237..myo...chiro...and.scyllo.inositol.degradation





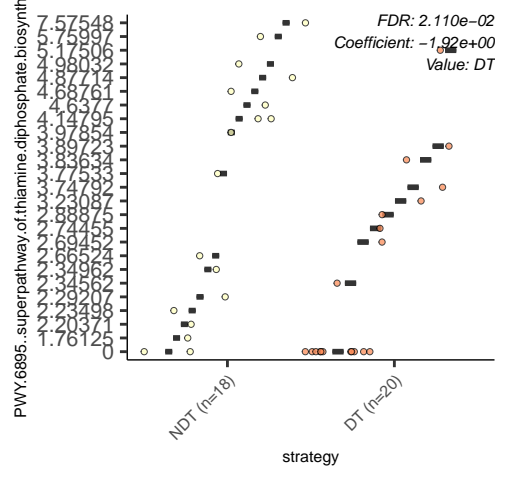
PWY.6895..superpathway.of.thiamine.diphosphate.biosynth

FDR: 2.110e-02  
Coefficient: -1.92e+00  
Value: DT

NDT (n=18)

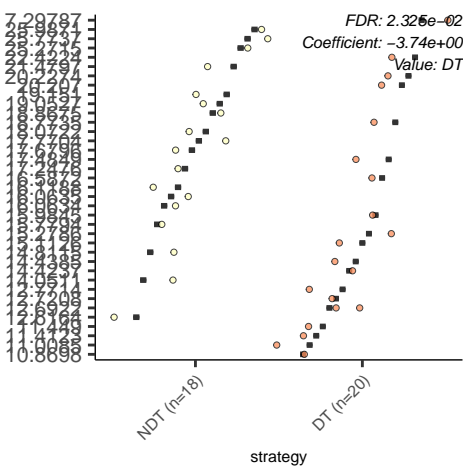
DT (n=20)

strategy



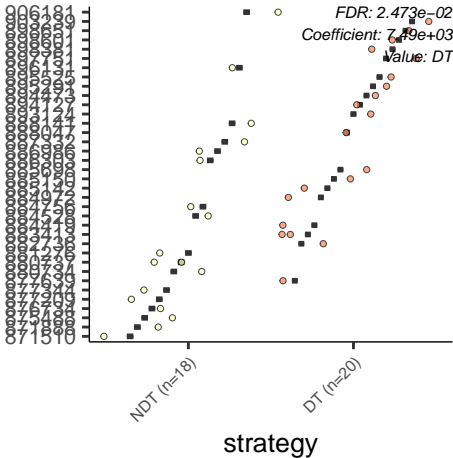


PWY0.1061..superpathway.of.L.alanine.biosynthesis

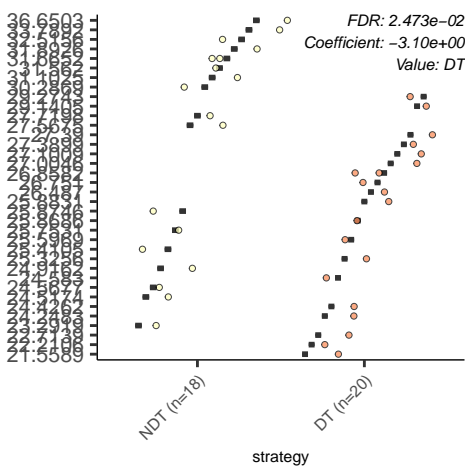




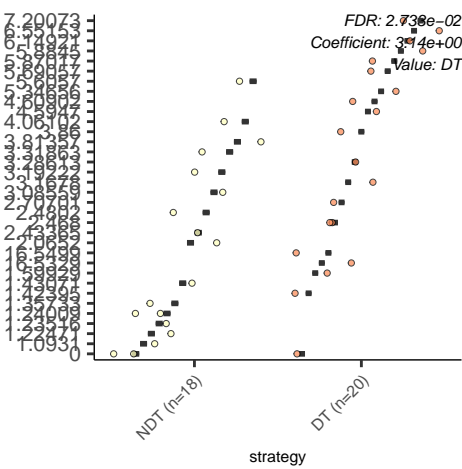
UNMAPPED



PWY.7199...pyrimidine.deoxyribonucleosides.salvage



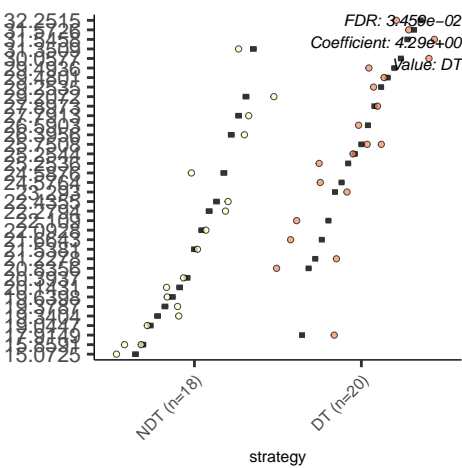
PWY.7159..3.8.divinyl.chlorophyllide.a.biosynthesis.III..aerobic..light



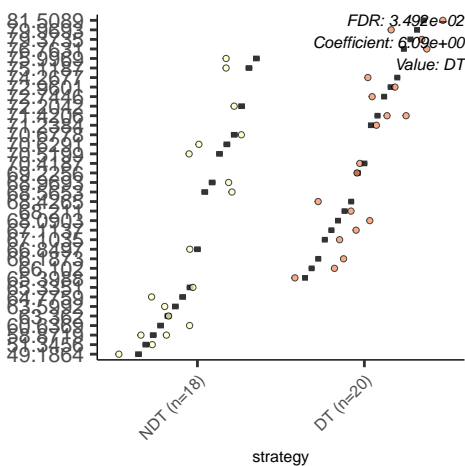


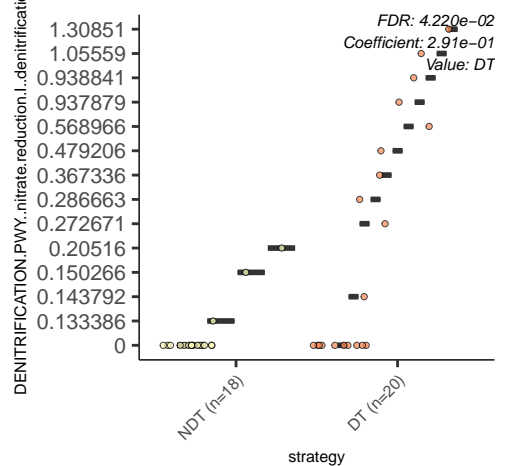


PWY.6292...superpathway of L-cysteine biosynthesis...mam



PWY.3001..superpathway.of.L.isoleucine.biosynthesis





PWY.6936..seleno.amino.acid.biosynthesis..plants.

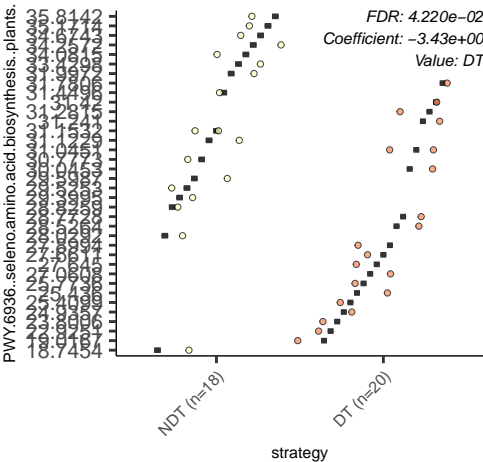
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NDT (n=18)

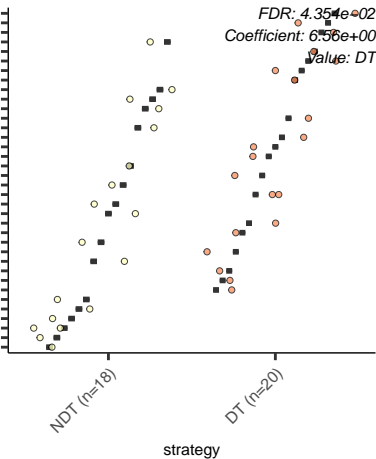
DT (n=20)

strategy

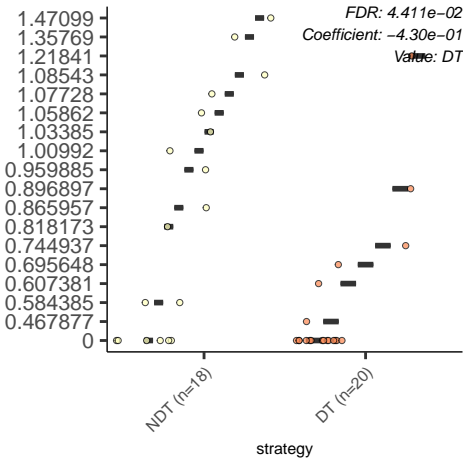
FDR: 4.220e-02  
Coefficient: -3.43e+00  
Value: DT



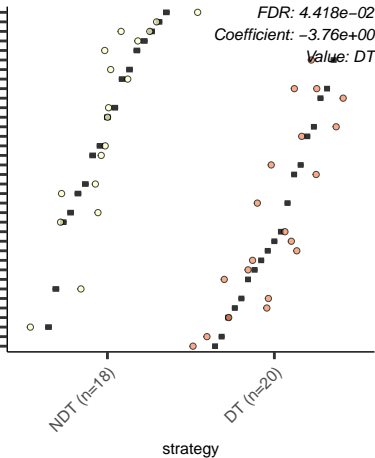
THRESYN.PWY..superpathway.of.L.threonine.biosynthesis



4-HYDROXYPHENYLACETATE.DEGRADATION.PWY..4.hydroxyphenyl



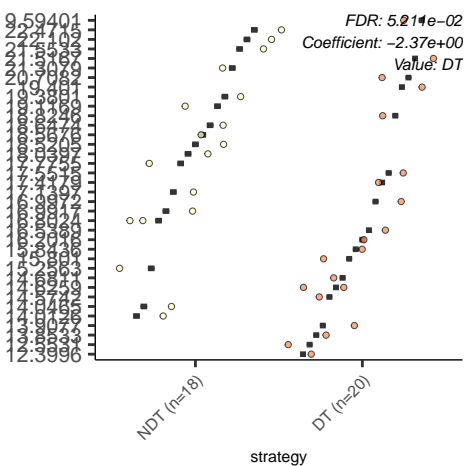
PWY0.1296..purine.ribonucleosides.degradation

[illegible]





PWY.7115..C4.photosynthetic.carbon.assimilation.cycle..NAD



PWY.7268..cytosolic.NADPH.production..yeast.

[illegible]

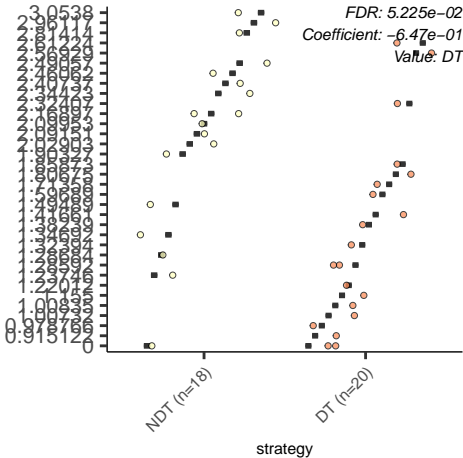
FDR: 5.225e-02  
Coefficient: -9.63e-01  
Value: DT

NDT (n=18)

DT (n=20)

strategy

PWY.7269..mitochondrial.NADPH.production..yeast.



P461.PWY...hexitol fermentation..to lactate..formate..ethanol..an

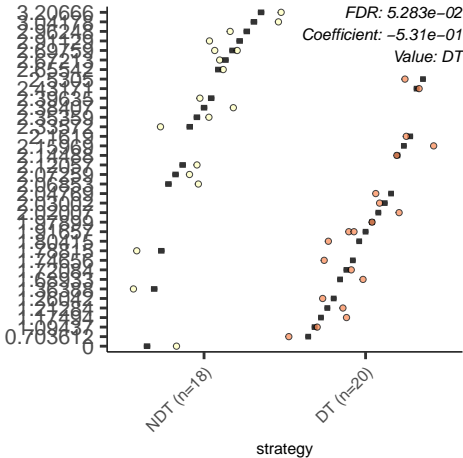
FDR: 5.240e-02  
Coefficient: -4.80e-01  
Value: DT



DT (n=20)

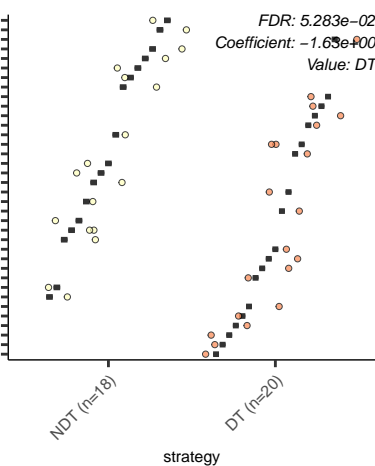
strategy

CRNFORCAT.PWY..creatinine.degradation.I



PWY.5384..sucrose.degradation.IV..sucrose.phosphoryla

FDR: 5.283e-02  
Coefficient: -1.63e+00  
Value: DT



RHAMCAT.PWY..L.rhamnose.degradation.I



NDT (n=18)

DT (n=20)

strategy

FDR:  $5.477 \times 10^{-2}$   
Coefficient:  $-3.87 \times 10^{-1}$   
Value: DT

PENTOSE.P.PWY..pentose.phosphate.pathway

[illegible]

NDT (n=18)

DT (n=20)

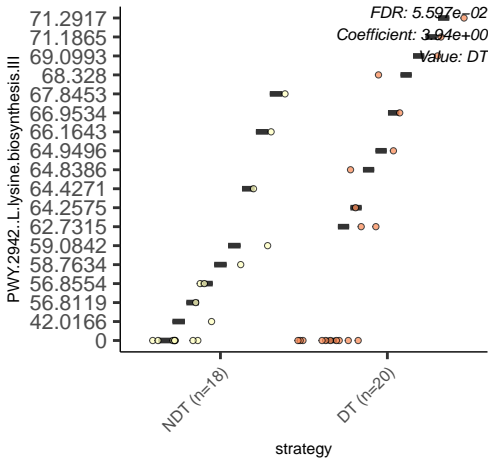
strategy

*FDR: 5.597e-02*

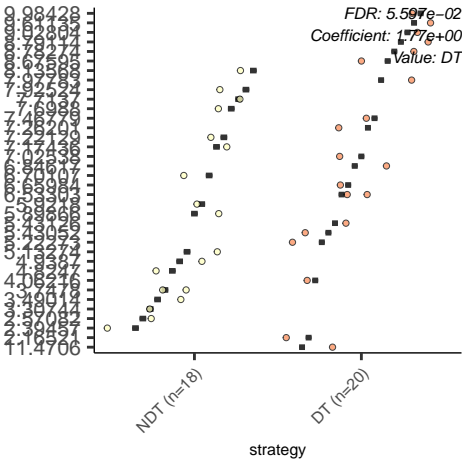
Coefficient:  $-4.51 \times 10^0$

Value: DT





PWY.5675..nitrate.reduction.V..assimilatory.

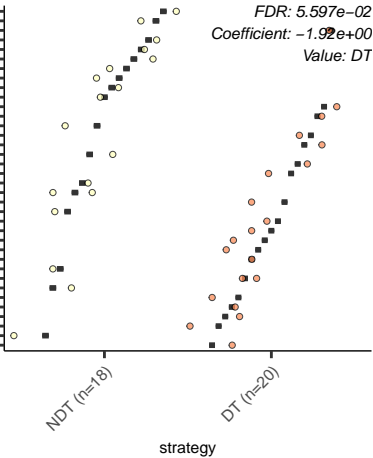


PWY.702..L.methionine.biosynthesis.II

FDR: 5.597e-02

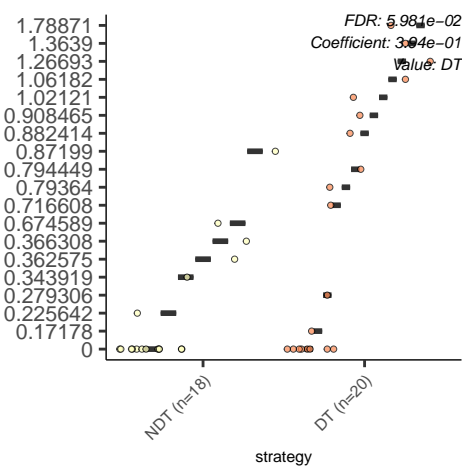
Coefficient:  $-1.92e+00$

Value: DT

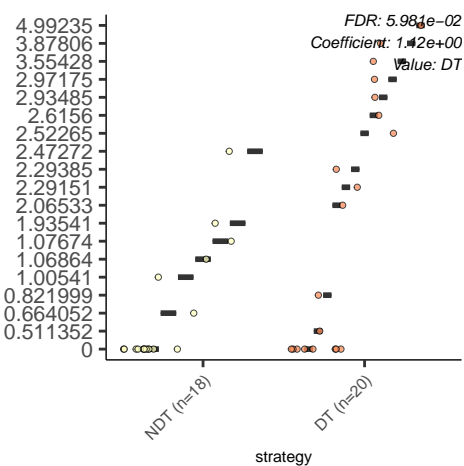




PWY.5837..2.carboxy.1.4.naphthoquinol.biosynthesis



PWY.5897..superpathway.of.menaquinol.11.biosynthesis



PWY.5898..superpathway.of.menaquinol.12.biosynthes

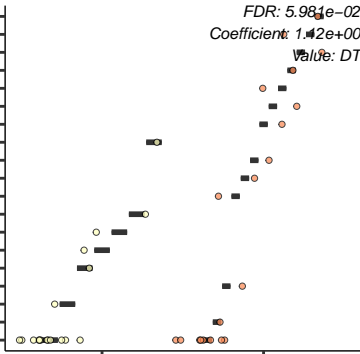
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2.52265  
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2.29385  
2.29151  
2.06533  
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1.00541  
0.821999  
0.664052  
0.511352  
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FDR: 5.981e-02  
Coefficient: 1.42e+00  
Value: DT

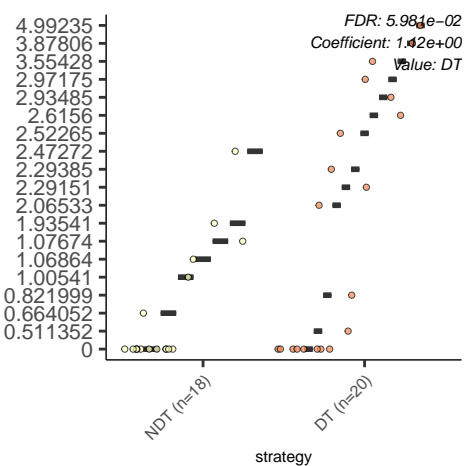
NDT (n=18)

DT (n=20)

strategy



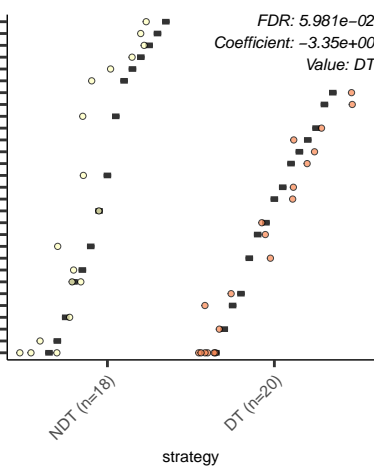
PWY.5899..superpathway.of.menaquinol.13.biosynthesis





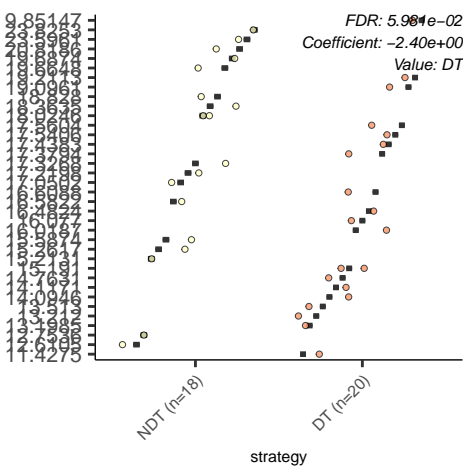
PWY.6629..superpathway.of.L.tryptophan.biosynthesis

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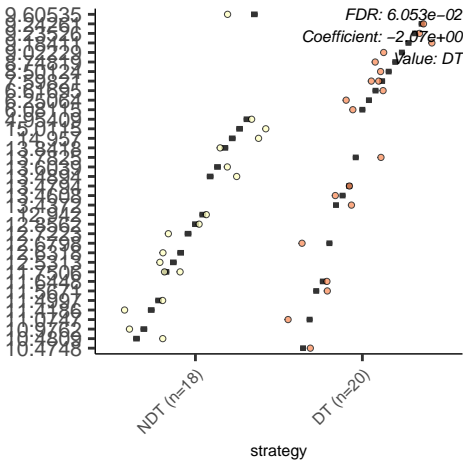




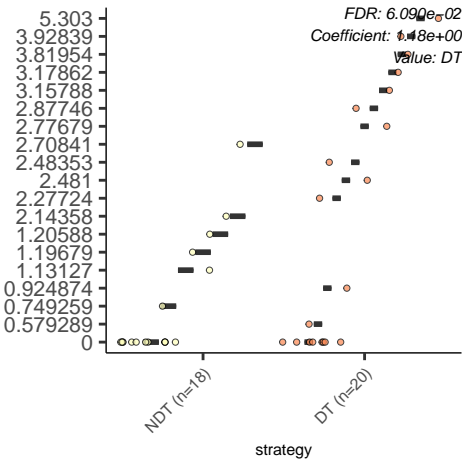
PWY.7992...superpathway.of.menaquinol.8.biosynthesis



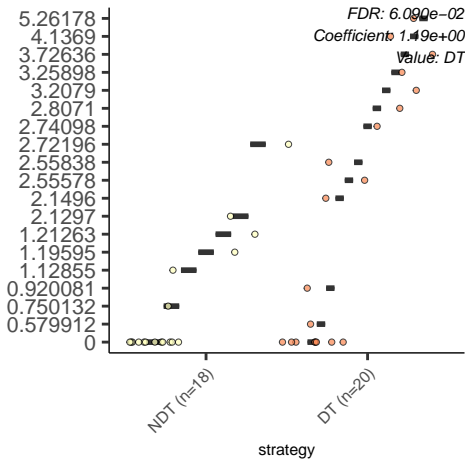
PWY.6519..8.amino.7.oxonanoate.biosynthesis.I

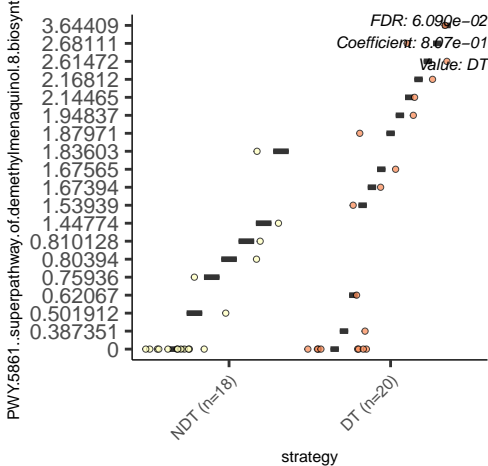


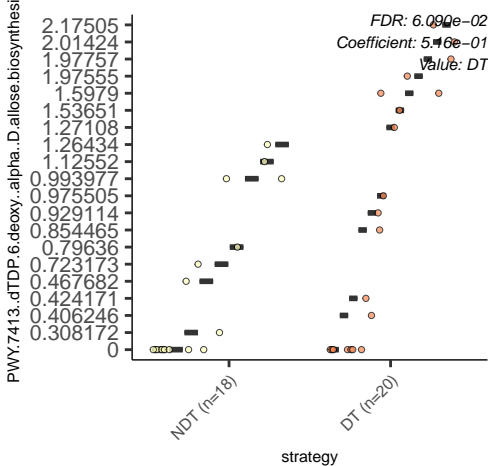
PWY.5838..superpathway.of.menaquinol.8.biosynthesis



PWY.5840..superpathway.of.menaquinol.7.biosynthesis









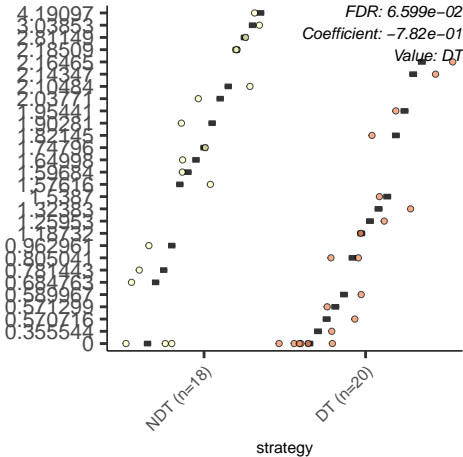


[illegible]

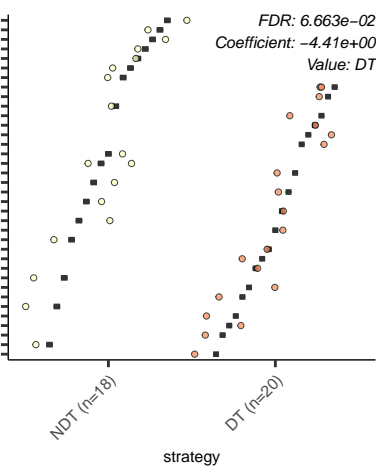
DT (n=20)

FDR: 6.512e-02  
Coefficient: -2.29e+00  
Value: DT

PWY.6583..pyruvate.fermentation.to.butanol.



PWY.5189..tetrapyrrole.biosynthesis.II..from.glycine.

[illegible]

FUCCAT.PWY..fucose.degradation

FDR:  $6.705e-02$   
Coefficient:  $-1.09e-01$   
Value: DT

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0.110982

0.353218

0.399465

0.408774

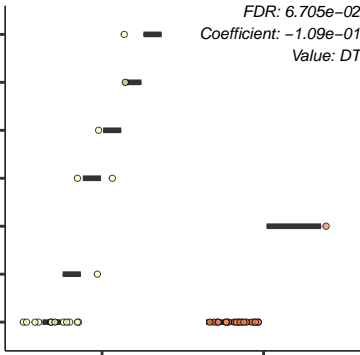
0.475937

0.482119

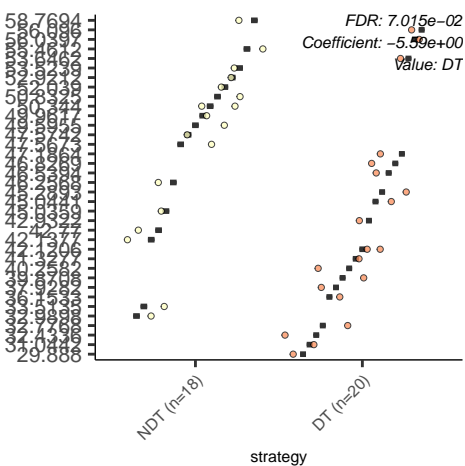
NDT (n=18)

DT (n=20)

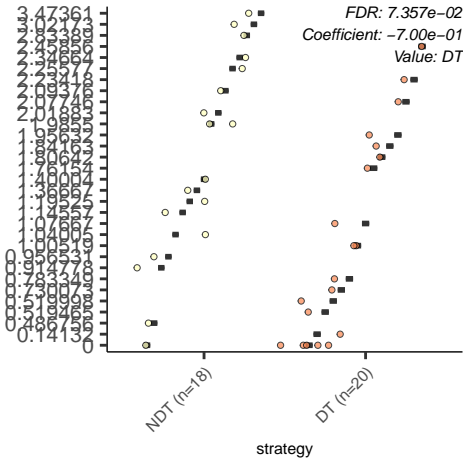
strategy



UDPNAGSYN.PWY..UDP.N.acetyl.D.glucosamine.biosynth



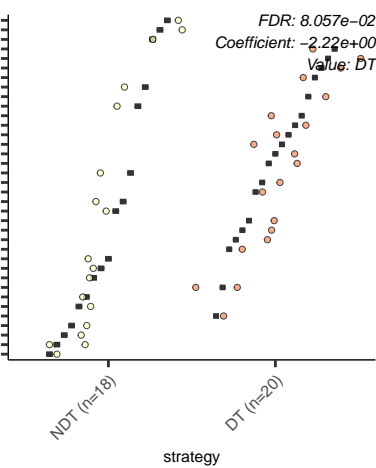
PWY.6902...chitin.degradation.II..Vibrio.



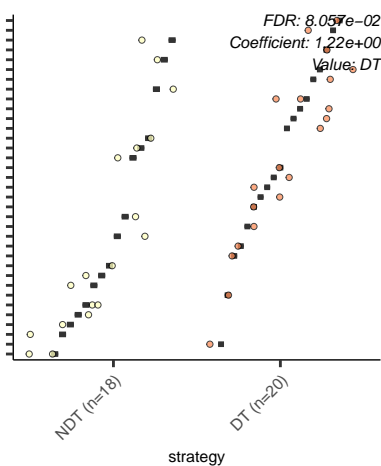




HEMESYN2.PWY...heme.b.biosynthesis.ll...oxygen.indeper



P185.PWY..formaldehyde.assimilation.III..dihydroxyacetone



P221.PWY..octane.oxidation

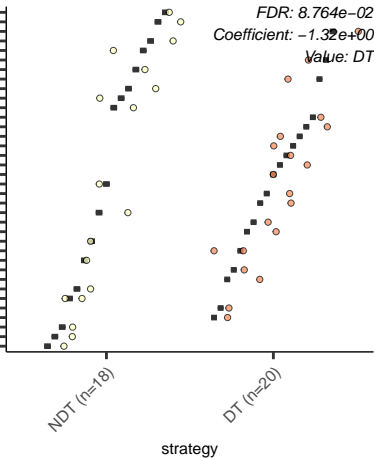
10.1371/journal.pone.0144444  
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NDT (n=18)

DT (n=20)

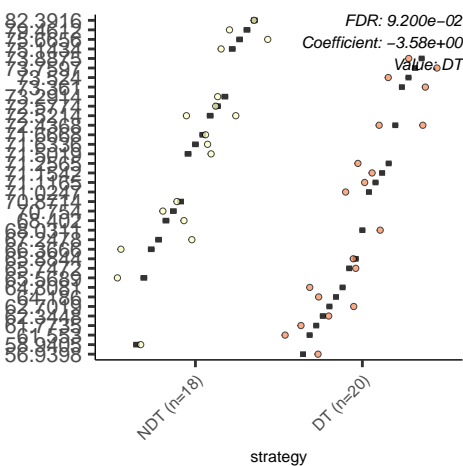
strategy

FDR:  $8.764e-02$   
Coefficient:  $-1.32e+00$   
Value: DT

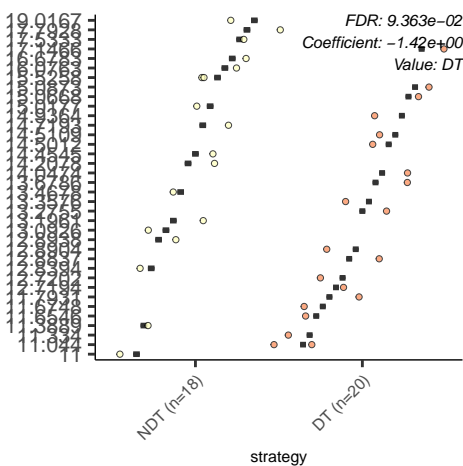


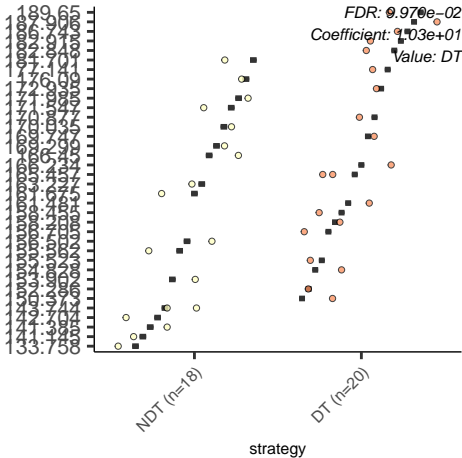


PWY.8178..pentose.phosphate.pathway..non.oxidative.branch



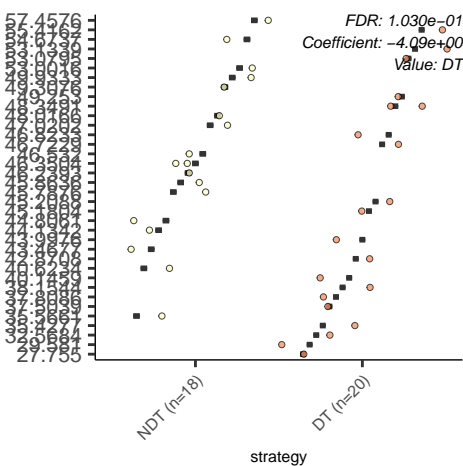
PWY0.1298..superpathway.of.pyrimidine.deoxyribonucleosides.c











X1CMET2.PWY..folate.transformations.III..E..coli.

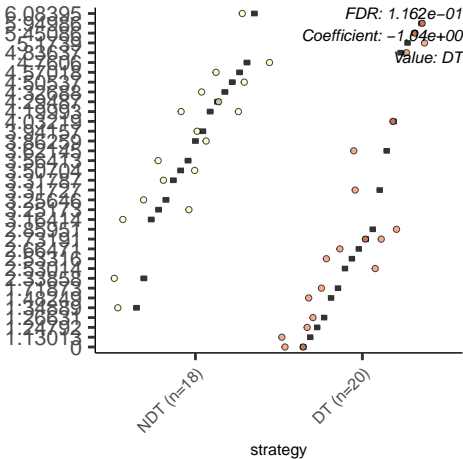
FDR:  $4.161 \times 10^{-1}$   
Coefficient:  $-3.25 \times 10^0$   
Value: DT

NDT (n=18)

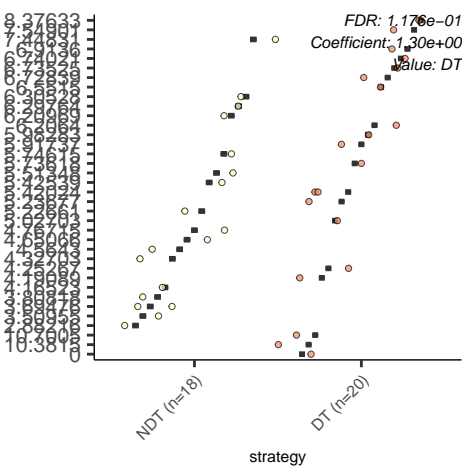
DT (n=20)

strategy

PWY.5392..reductive.TCA.cycle.II

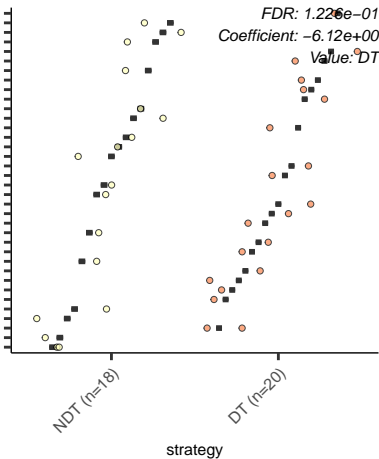


PWY.5138...fatty.acid..beta..oxidation.IV..unsaturated...even.n



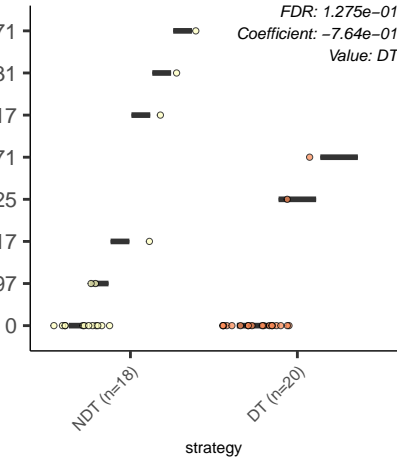


PWY.7197..pyrimidine.deoxyribonucleotide.phosphorylat



P122.PWY..heterolactic.fermentation

FDR: 1.275e-01  
Coefficient: -7.64e-01  
Value: DT



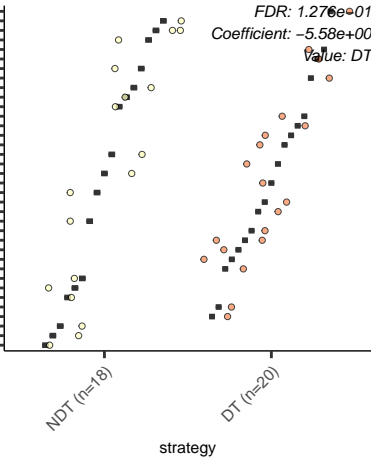
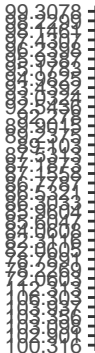
PWY.7663..gondolate.biosynthesis..anaerobic.

FDR:  $1.276e-01$   
Coefficient:  $-5.58e+00$   
Value: DT

NDT (n=18)

DT (n=20)

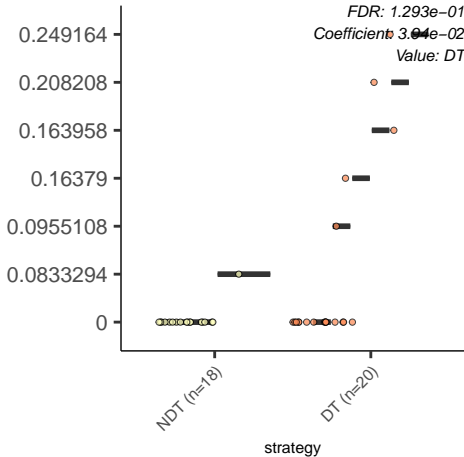
strategy





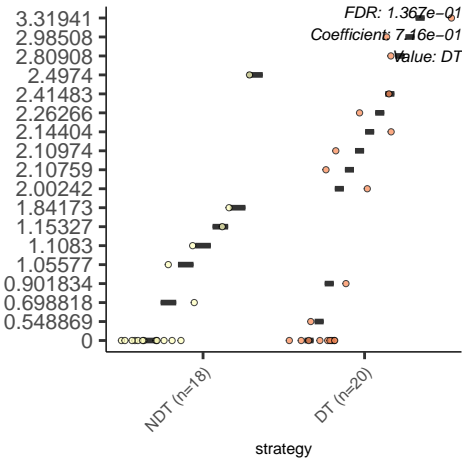
PWY.6748...nitrate.reduction.VII..denitrification.

FDR: 1.293e-01  
Coefficient: 3.94e-02  
Value: DT

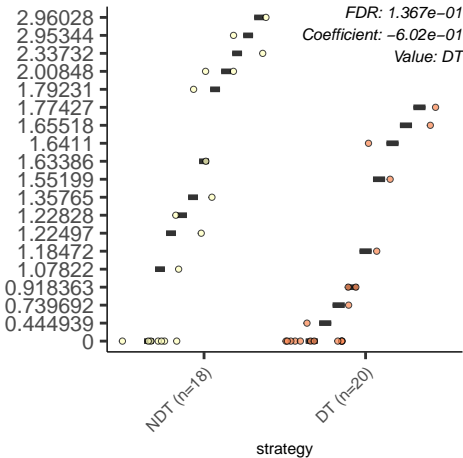




PWY.5845..superpathway.of.menaquinol.9.biosynthesis



PWY.7401..crotonate.fermentation..to.acetate.and.cyclohexane.c



PHOTOALL.PWY..oxygenic.photosynthesis

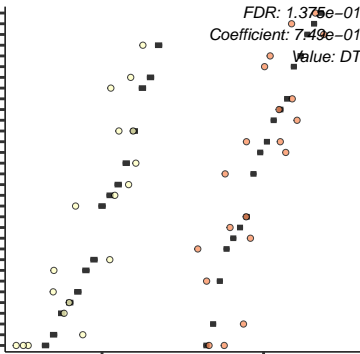
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NDT (n=18)

DT (n=20)

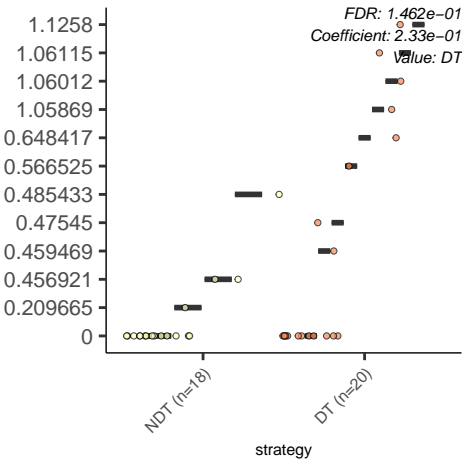
strategy

FDR: 1.375e-01  
Coefficient: 7.49e-01  
Value: DT

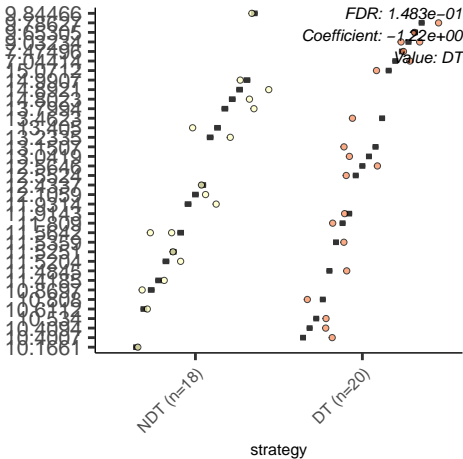




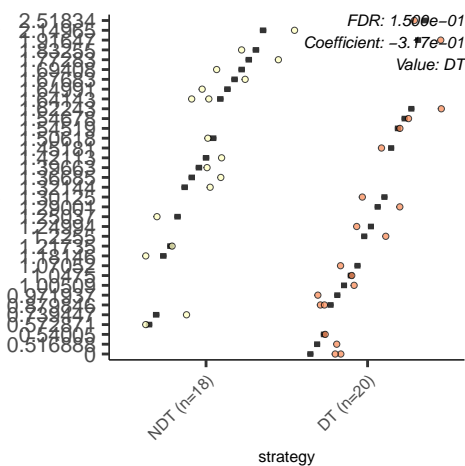
METHGLYT.PWY..superpathway.of.methylglyoxal.degrad



P124.PWY..Bifidobacterium.shunt





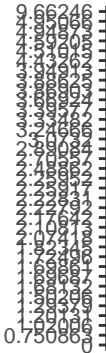






PWY.2941..L-lysine.biosynthesis.11

0.7



NDT (n=18)

DT (n=20)

strategy

FDR:  $1.591 \times 10^{-1}$   
Coefficient:  $1.08 \times 10^0$   
Value: DT





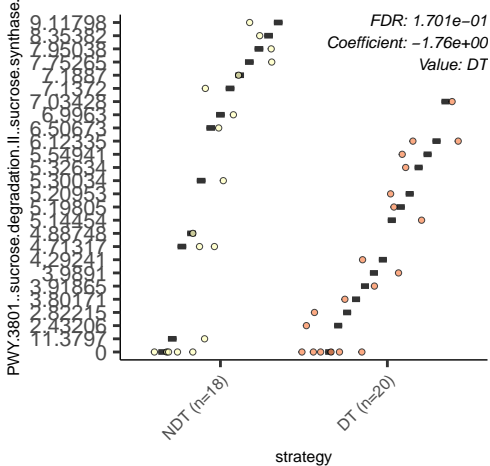
PWY.3801...sucrose.degradation.II...sucrose.synthase

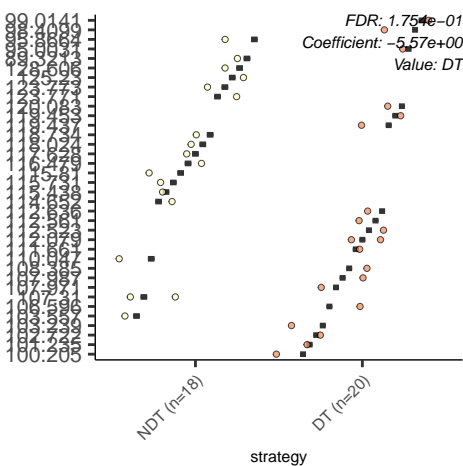
FDR: 1.701e-01  
Coefficient: -1.76e+00  
Value: DT

NDT (n=18)

DT (n=20)

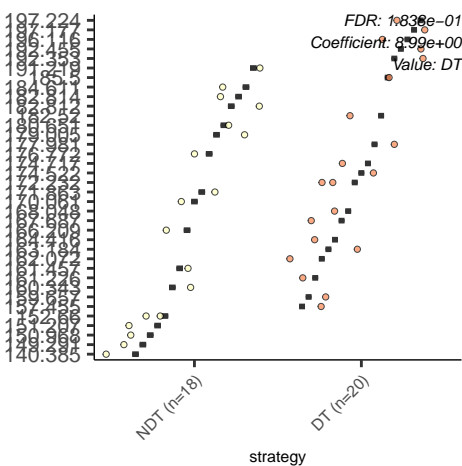
strategy







ILEUSYN.PWY.,L.isoleucine.biosynthesis.l..from.threon



TRNA.CHARGING.PWY..tRNA.charging

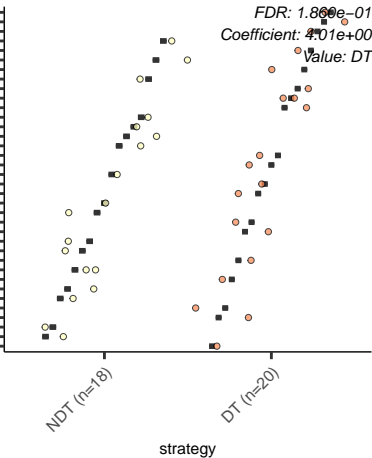
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NDT (n=18)

DT (n=20)

strategy

FDR:  $1.86e-01$   
Coefficient:  $4.01e+00$   
Value: DT



PWY.7124..ethene.biosynthesis.V..engineered.

FDR: 1.887e-01  
Coefficient: 1.39e-01  
Value: DT

1.15233

0.86265

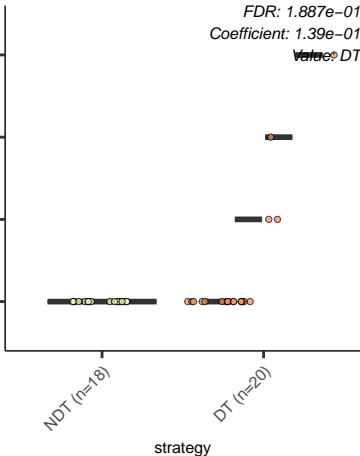
0.379407

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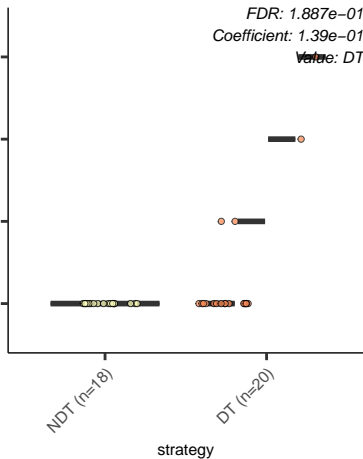
NDT (n=18)

DT (n=20)

strategy



PWY.7218..photosynthetic.3.hydroxybutanoate.biosynthesis..er



PWY.5652..2.amino.3.carboxymuconate.semialdehyde.degradation.

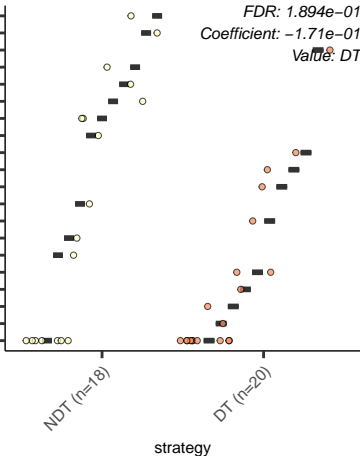
0.927844  
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0.667011  
0.658672  
0.622272  
0.583948  
0.567602  
0.54744  
0.532088  
0.515152  
0.511789  
0.432415  
0.41098  
0.394166  
0.346277  
0.262369  
0.2621  
0.117677  
0

FDR: 1.894e-01  
Coefficient: -1.71e-01  
Value: DT

NDT (n=18)

DT (n=20)

strategy



PWY.6609..adenine.and.adenosine.salvage.III

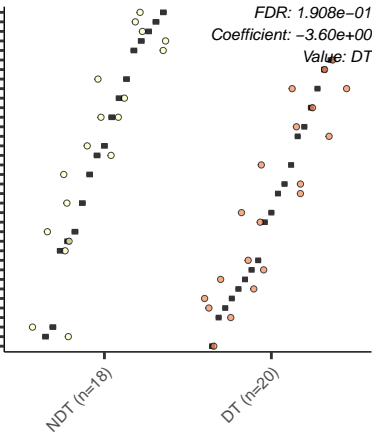
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NDT (n=18)

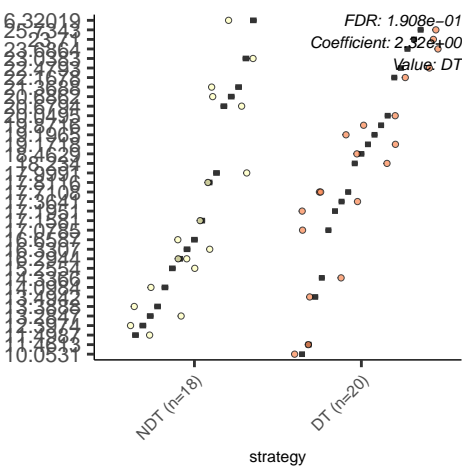
DT (n=20)

strategy

FDR: 1.908e-01  
Coefficient: -3.60e+00  
Value: DT



WY.821..superpathway.of.sulfur.amino.acid.biosynthesis...Saccharon

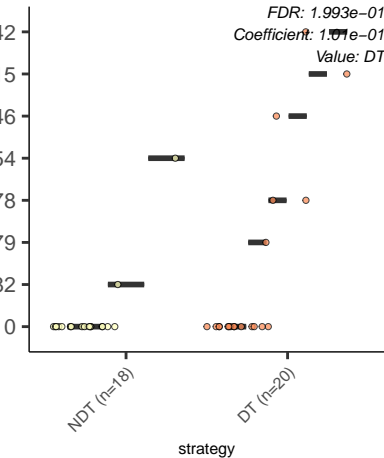


RUMP.PWY..formaldehyde.oxidation.I

FDR: 1.993e-01

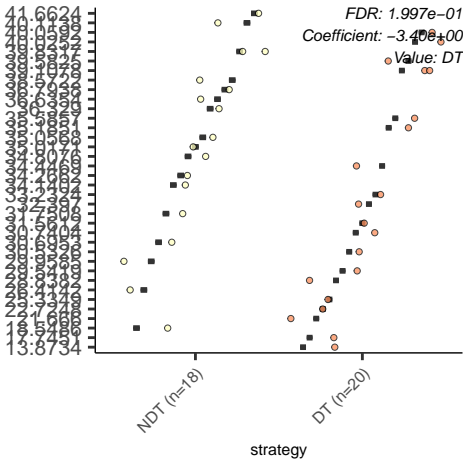
Coefficient: 1.01e-01

Value: DT

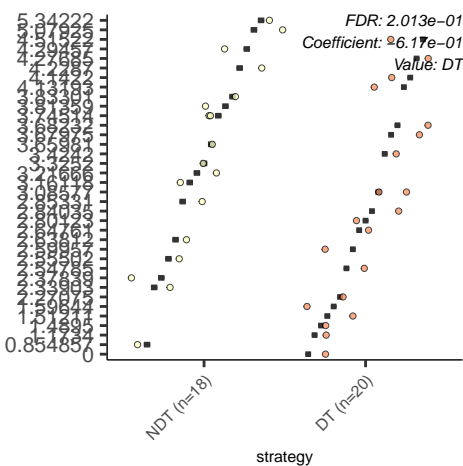




PWY.6270..isoprene.biosynthesis.I



PWY.6948..sitosterol.degradation.to.androstenedione



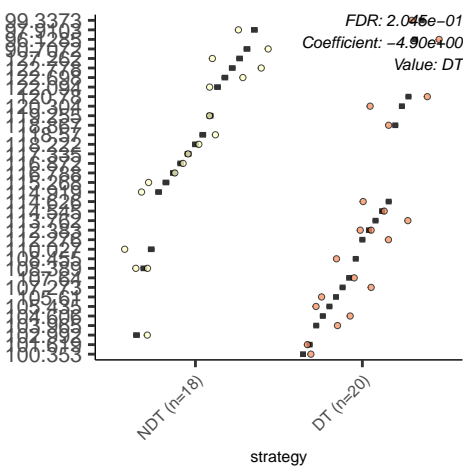
PWY.5130..2.oxobutanoate.degradation.I

FDR: 2.045e-01  
Coefficient: 2.20e+00  
Value: DT

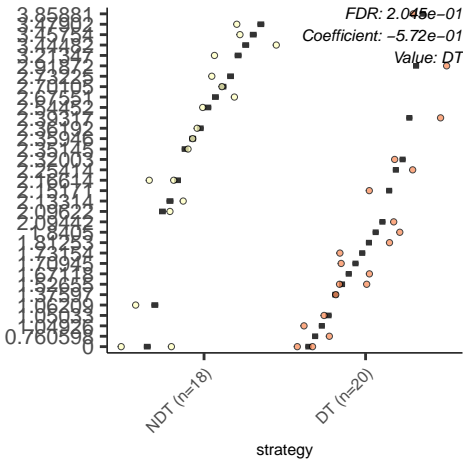
NDT (n=18)

DT (n=20)

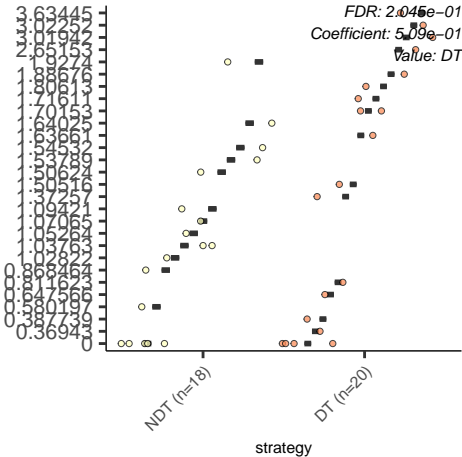
strategy



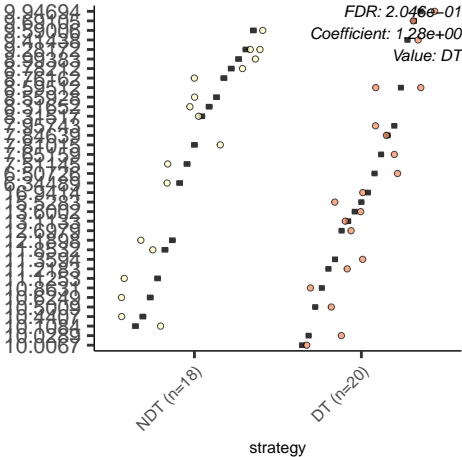
PWY6478..GDP.D.glycero..alpha..D.manno.heptose.biosyn



PYRIDNUCSAL.PWY..NAD.salvage.pathway.I..PNC.VI.c

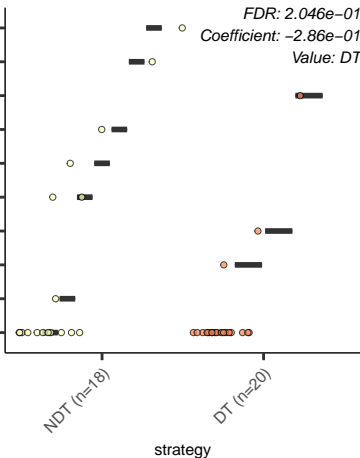


PWY.5505..L.glutamate.and.L.glutamine.biosynthesis



PWY1F.823...leucopelargonidin.and.leucocyanidin.biosynt

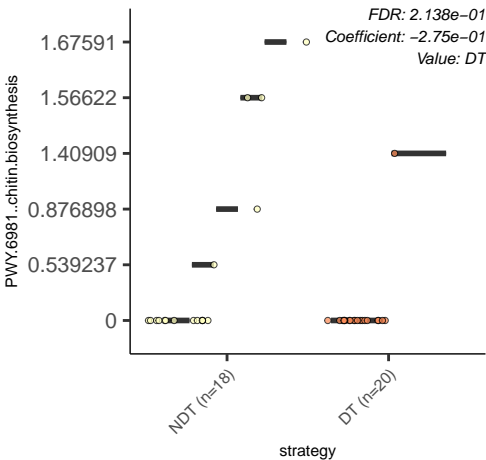
FDR: 2.046e-01  
Coefficient: -2.86e-01  
Value: DT



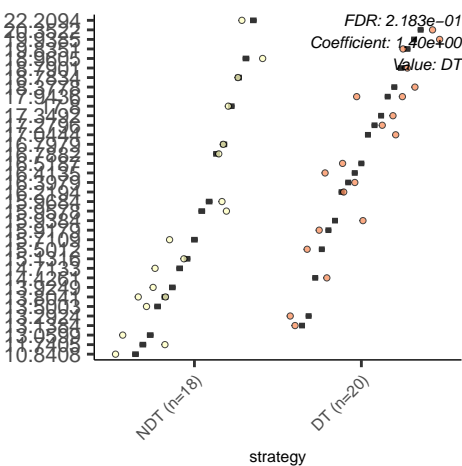




PWY.6981..chitin.biosynthesis

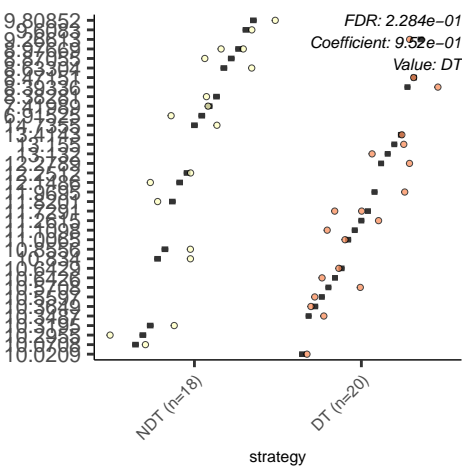


PWY.6293..superpathway.of.L.cysteine.biosynthesis..fur

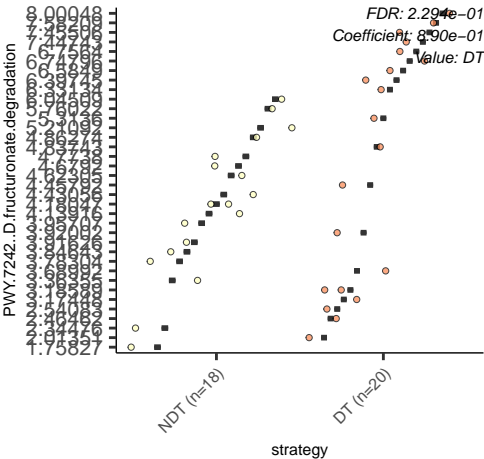


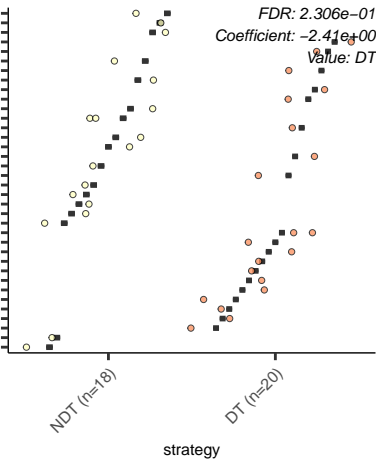


PWY.801..homocysteine.and.cysteine.interconversion

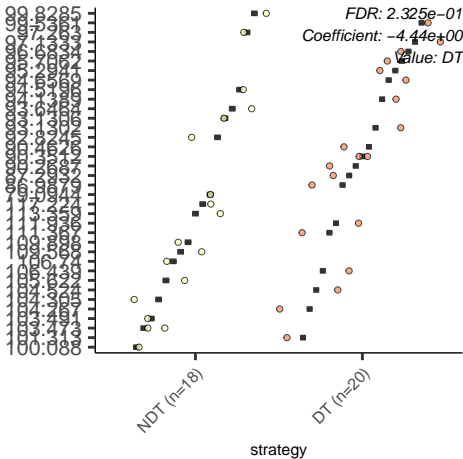


PWY.7242...D.fructuronate.degradation



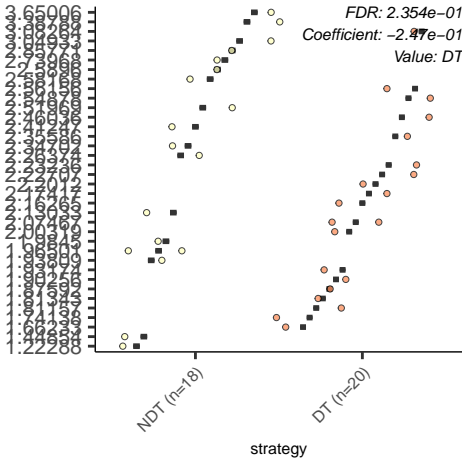
[illegible]

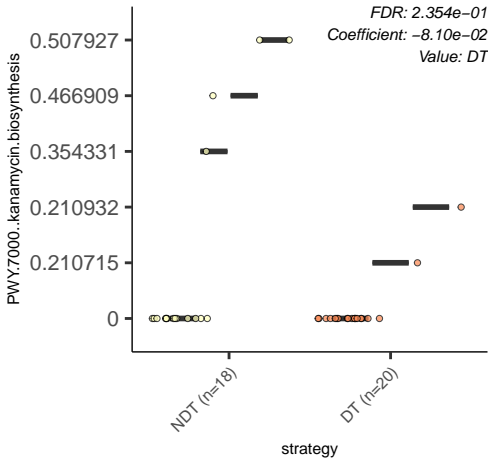
PWY.5973..cis.vaccenate.biosynthesis





PWY.6834...spermidine.biosynthesis.III





PWY.7560..methylethritol.phosphate.pathway.II

[illegible]

NDT (n=18)

DT (n=20)

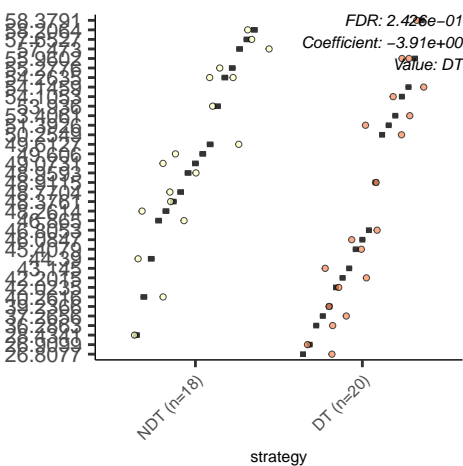
strategy

FDR: 2.408e-01

Coefficient: -2.70e+00

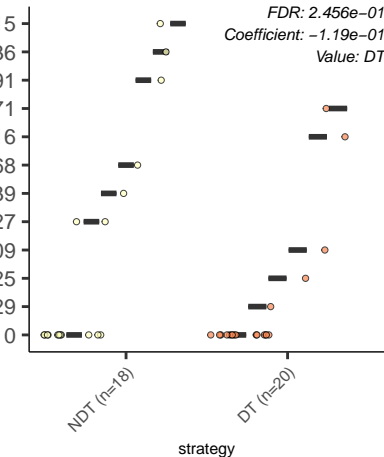
Value: DT

NONMEVIPP.PWY..methylerythritol.phosphate.pathway



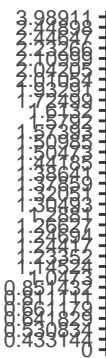
P562.PWY.,myo.inositol.degradation.I

FDR: 2.456e-01  
Coefficient: -1.19e-01  
Value: DT





PWY.7761..NAD.salvage.pathway.II..PNC.IV.cycle.



NDT (n=18)

DT (n=20)

strategy

FDR:  $2.485 \times 10^{-1}$   
Coefficient:  $4.00 \times 10^{-1}$   
Value: DT

PWY.7383..anaerobic.energy.metabolism..invertebrates..cy

