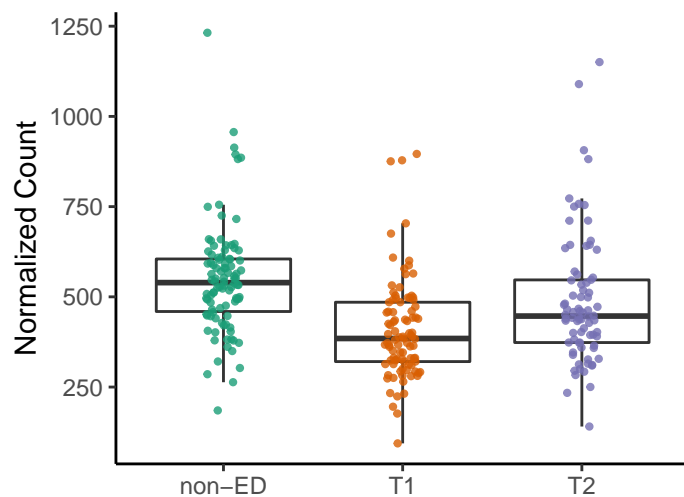


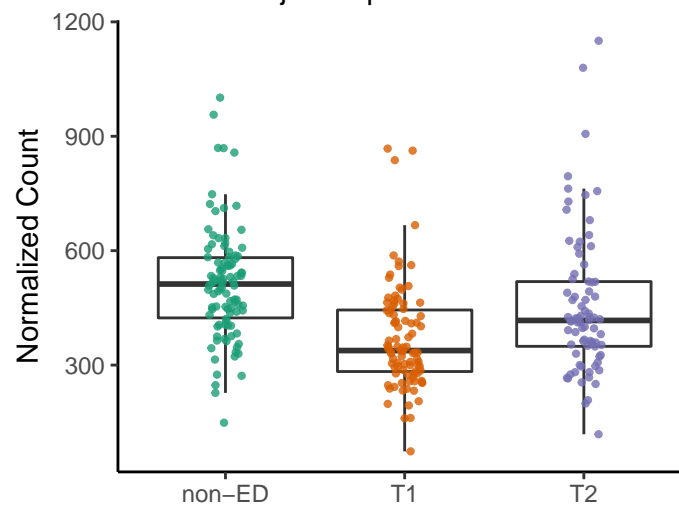
### BRANCHED-CHAIN-AA-SYN-PWY:

non-ED vs. T1 adjusted  $p = 9.2e-09$   
non-ED vs. T2 adjusted  $p = 0.075$   
T1 vs. T2 adjusted  $p = 0.0045$



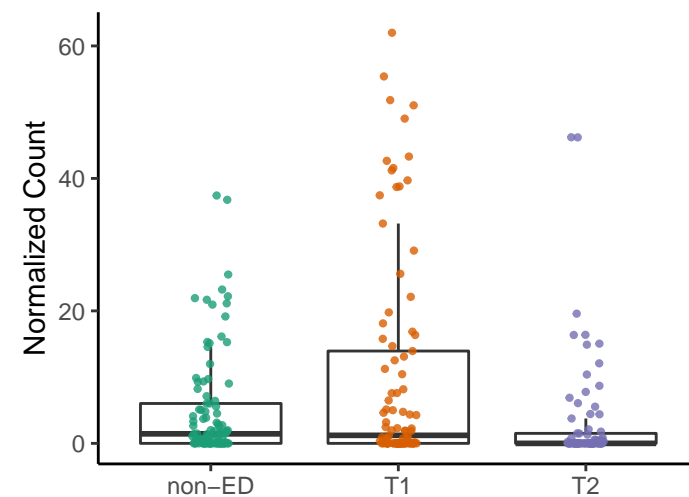
### PWY-5103: L-isoleucine biosynthesis

non-ED vs. T1 adjusted  $p = 5.5e-09$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.0045$



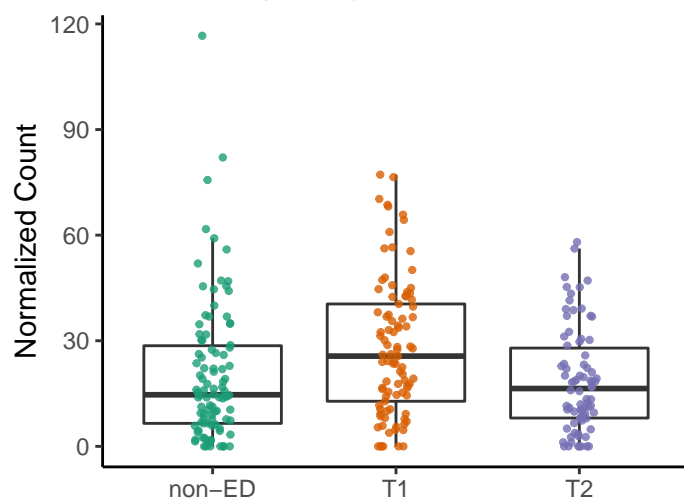
### PWY-5505: L-glutamate and L-glutamine biosynthesis

non-ED vs. T1 adjusted  $p = 0.023$   
non-ED vs. T2 adjusted  $p = 0.26$   
T1 vs. T2 adjusted  $p = 0.0045$



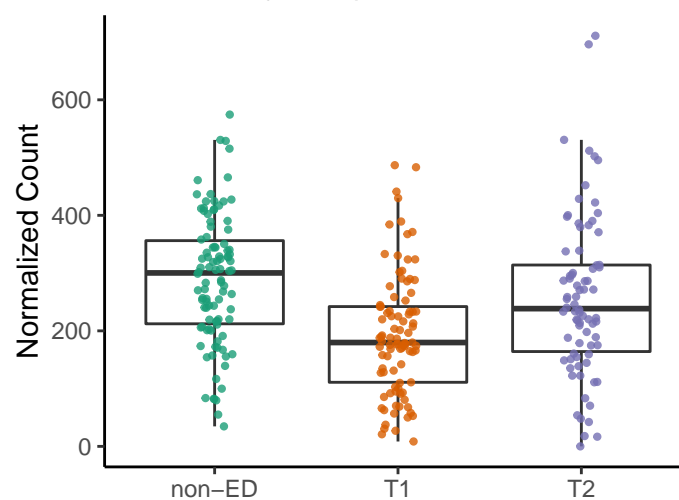
### PWY-5676: acetyl-CoA fermentation to ethanol

non-ED vs. T1 adjusted  $p = 0.028$   
non-ED vs. T2 adjusted  $p = 0.61$   
T1 vs. T2 adjusted  $p = 0.0045$



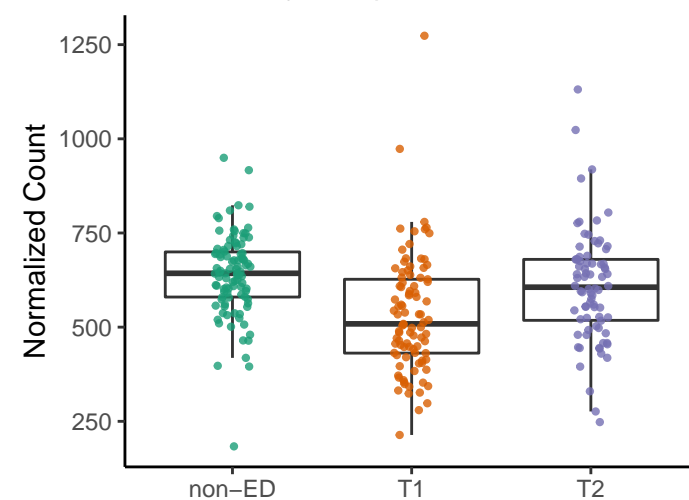
### SER-GLYSYN-PWY: superpathway of serine biosynthesis

non-ED vs. T1 adjusted  $p = 1.3e-07$   
non-ED vs. T2 adjusted  $p = 0.23$   
T1 vs. T2 adjusted  $p = 0.0045$



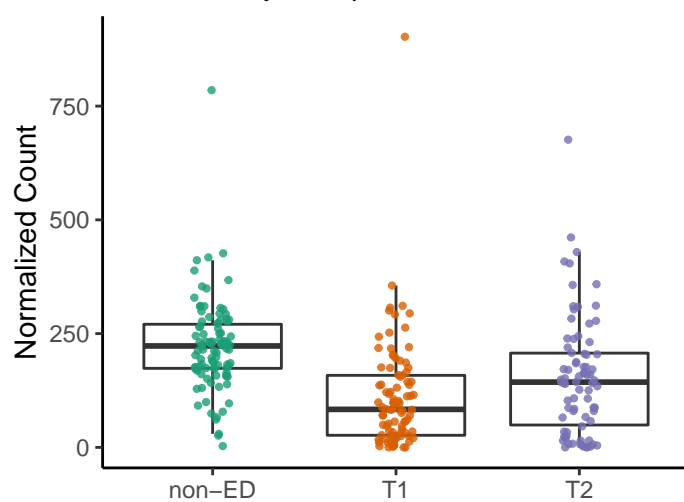
### ARO-PWY: chorismate biosynthesis I

non-ED vs. T1 adjusted  $p = 2.6e-06$   
non-ED vs. T2 adjusted  $p = 0.24$   
T1 vs. T2 adjusted  $p = 0.0058$



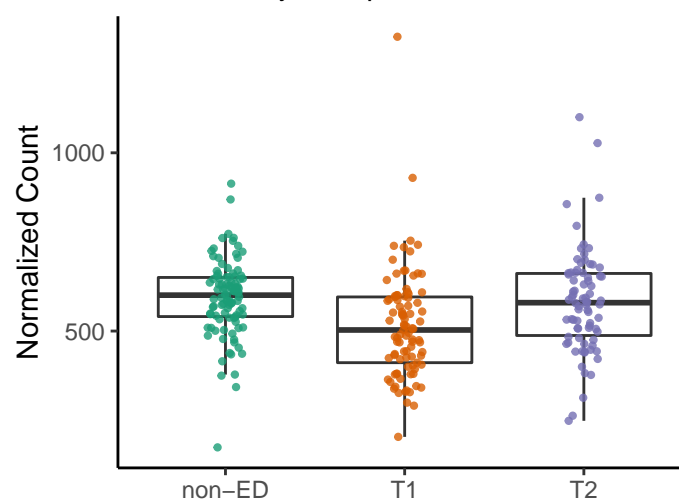
### COBALSYN-PWY: adenosylcobalamin biosynthesis

non-ED vs. T1 adjusted  $p = 4.3e-09$   
non-ED vs. T2 adjusted  $p = 0.0041$   
T1 vs. T2 adjusted  $p = 0.0069$



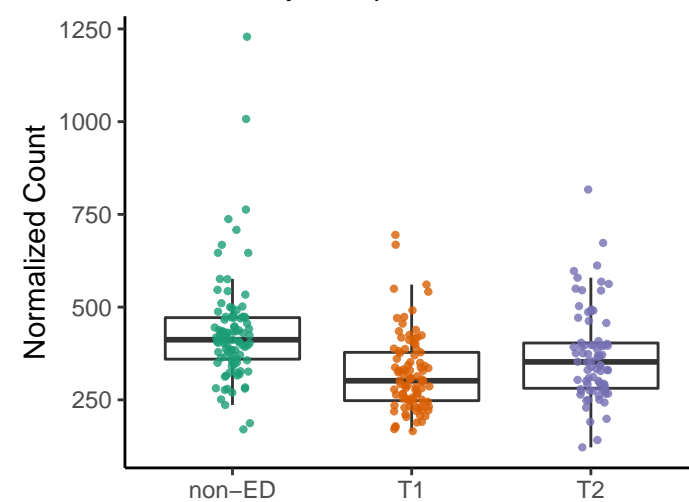
### COMPLETE-ARO-PWY: superpathway of aromatic amino acid biosynthesis

non-ED vs. T1 adjusted  $p = 0.00029$   
non-ED vs. T2 adjusted  $p = 0.64$   
T1 vs. T2 adjusted  $p = 0.0069$



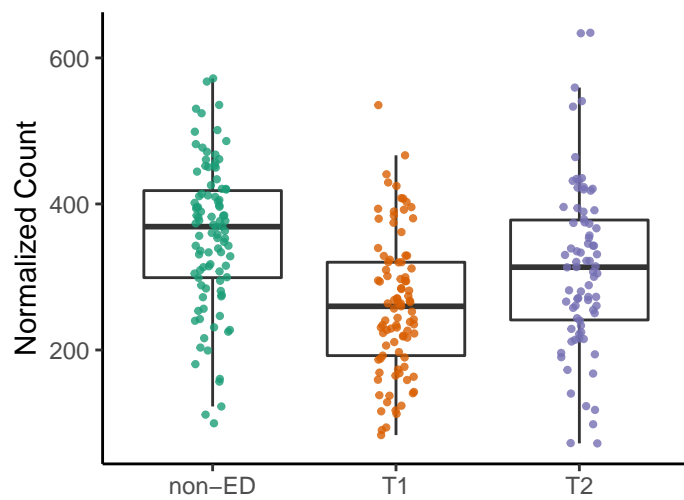
### PWY-3001: superpathway of L-isoleucine biosynthesis

non-ED vs. T1 adjusted  $p = 8.9e-08$   
non-ED vs. T2 adjusted  $p = 0.021$   
T1 vs. T2 adjusted  $p = 0.0069$



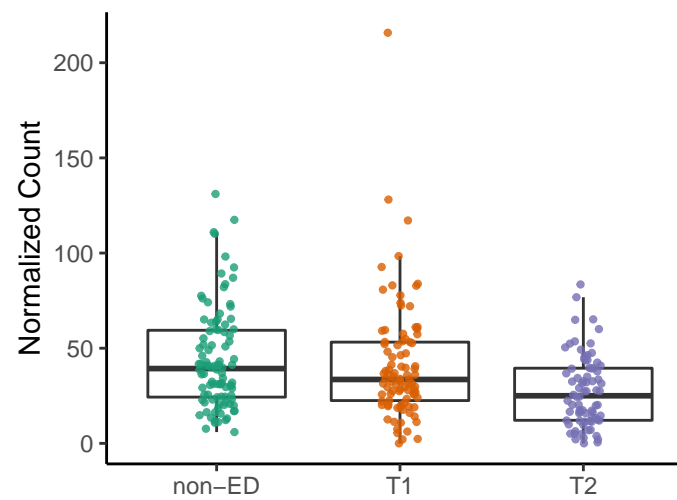
### PWY-6317: galactose degradation I (L

non-ED vs. T1 adjusted  $p = 6e-09$   
non-ED vs. T2 adjusted  $p = 0.048$   
T1 vs. T2 adjusted  $p = 0.0069$



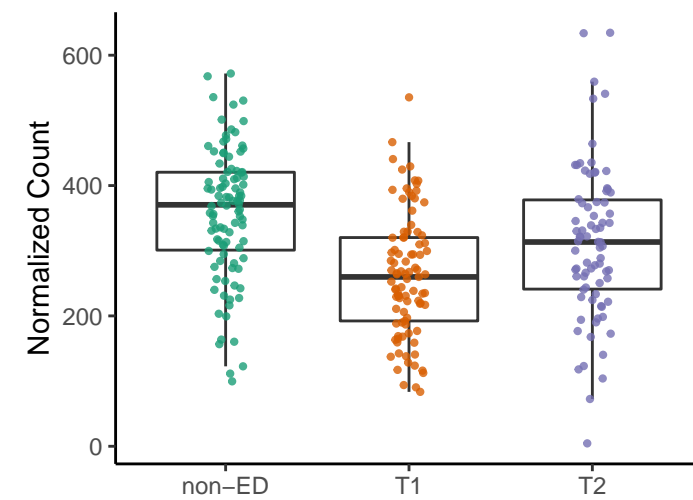
### TCA: TCA cycle I (prokaryotic)

non-ED vs. T1 adjusted  $p = 0.6$   
non-ED vs. T2 adjusted  $p = 0.00014$   
T1 vs. T2 adjusted  $p = 0.0069$



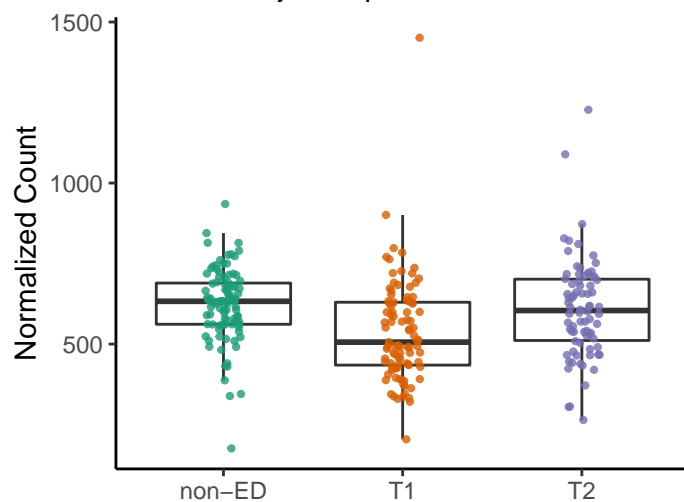
### PWY66-422: D-galactose degradation

non-ED vs. T1 adjusted  $p = 5.3e-09$   
non-ED vs. T2 adjusted  $p = 0.041$   
T1 vs. T2 adjusted  $p = 0.008$



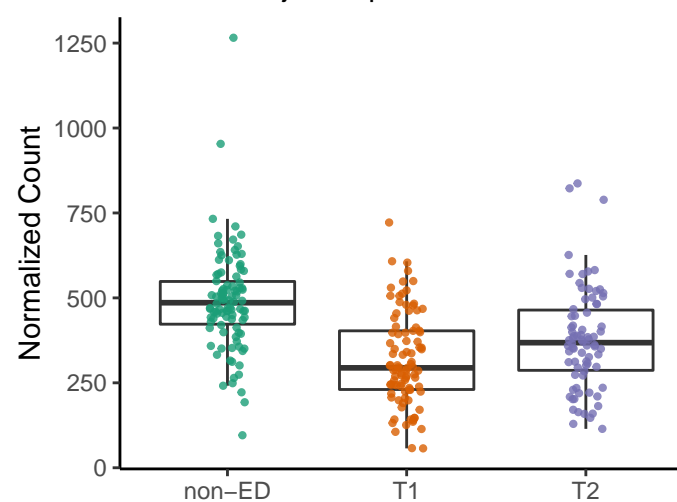
### PWY-6163: chorismate biosynthesis f

non-ED vs. T1 adjusted  $p = 0.00026$   
non-ED vs. T2 adjusted  $p = 0.6$   
T1 vs. T2 adjusted  $p = 0.0099$



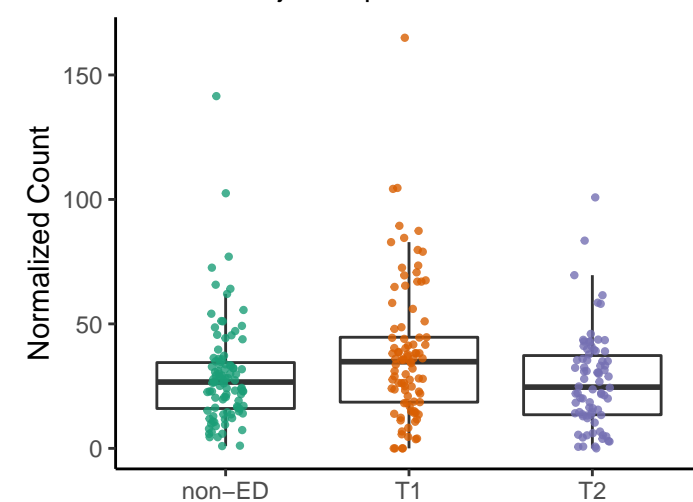
### DTDPRHAMSYN-PWY: dTDP-L-rha

non-ED vs. T1 adjusted  $p = 6.6e-12$   
non-ED vs. T2 adjusted  $p = 0.00014$   
T1 vs. T2 adjusted  $p = 0.011$



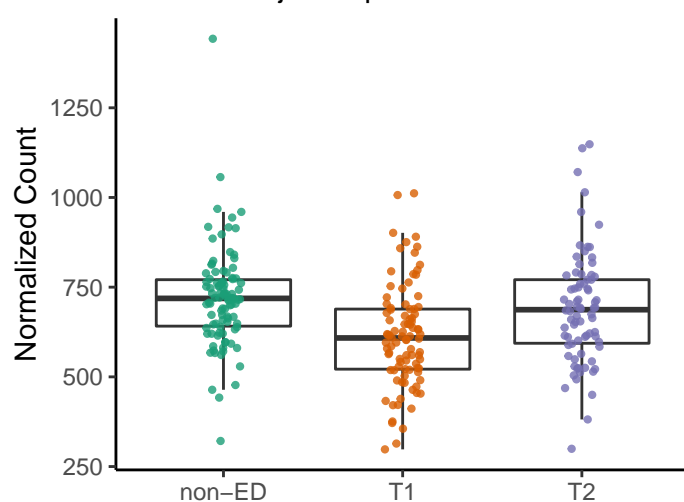
### P441-PWY: superpathway of N-acetyl

non-ED vs. T1 adjusted  $p = 0.046$   
non-ED vs. T2 adjusted  $p = 0.57$   
T1 vs. T2 adjusted  $p = 0.011$



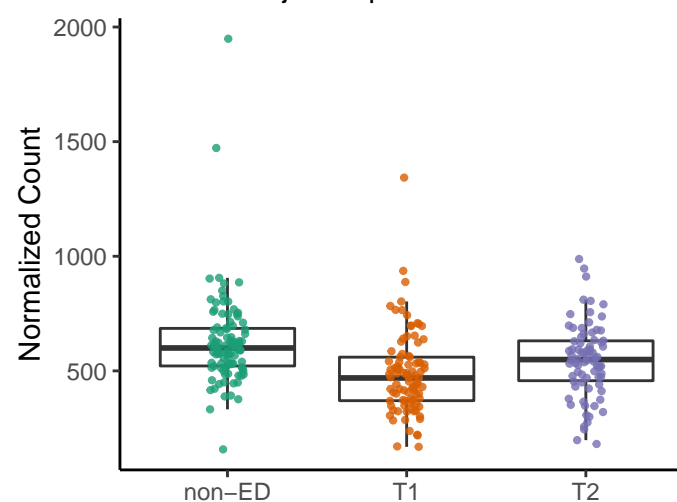
### PWY-5686: UMP biosynthesis

non-ED vs. T1 adjusted  $p = 4.7e-06$   
non-ED vs. T2 adjusted  $p = 0.31$   
T1 vs. T2 adjusted  $p = 0.011$



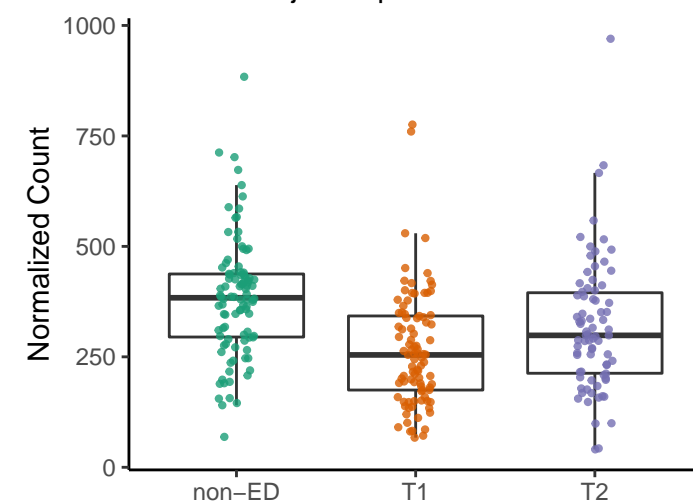
### PWY-6151: S-adenosyl-L-methionin

non-ED vs. T1 adjusted  $p = 1.5e-05$   
non-ED vs. T2 adjusted  $p = 0.033$   
T1 vs. T2 adjusted  $p = 0.011$



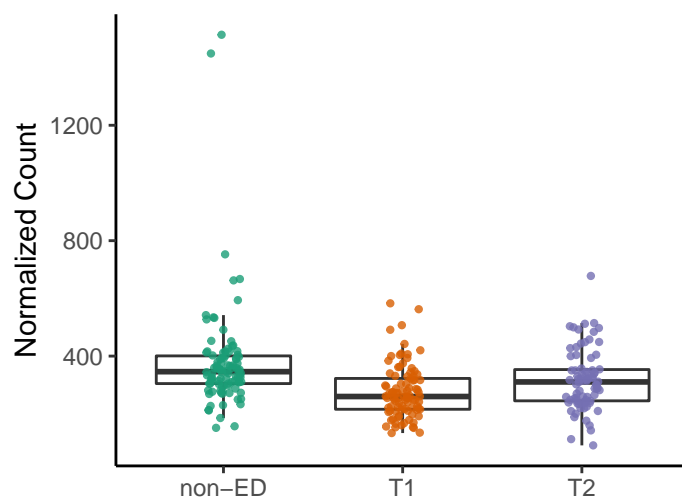
### PWY-7357: thiamin formation from py

non-ED vs. T1 adjusted  $p = 9.8e-08$   
non-ED vs. T2 adjusted  $p = 0.025$   
T1 vs. T2 adjusted  $p = 0.011$



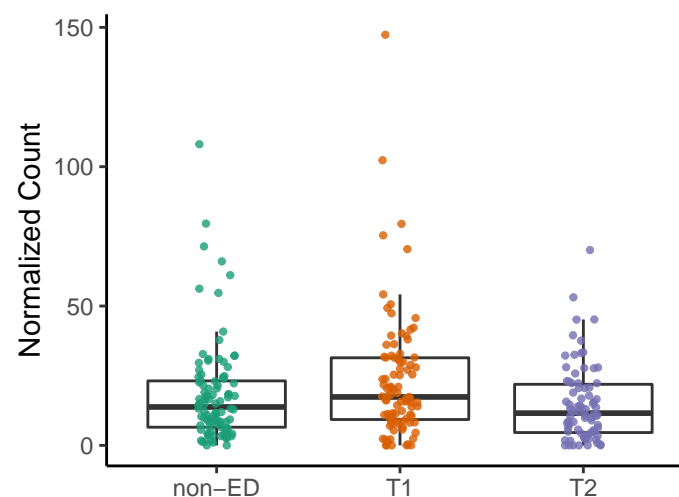
### THRESYN-PWY: superpathway of L-

non-ED vs. T1 adjusted  $p = 2.8e-05$   
 non-ED vs. T2 adjusted  $p = 0.041$   
 T1 vs. T2 adjusted  $p = 0.016$



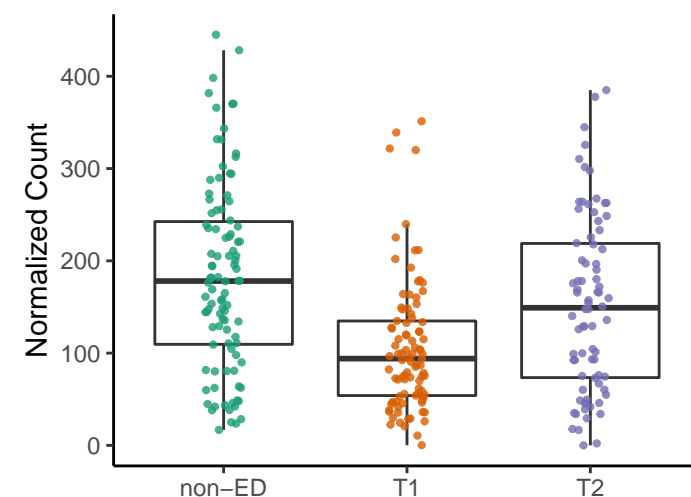
### GLYCOLYSIS-E-D: superpathway of g

non-ED vs. T1 adjusted  $p = 0.17$   
 non-ED vs. T2 adjusted  $p = 0.28$   
 T1 vs. T2 adjusted  $p = 0.016$



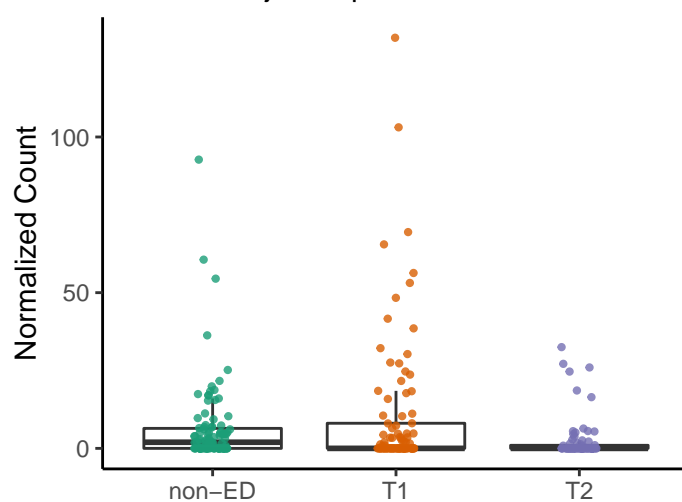
### GLYCOGENSYNTH-PWY: glycogen bi

non-ED vs. T1 adjusted  $p = 1.7e-07$   
 non-ED vs. T2 adjusted  $p = 0.12$   
 T1 vs. T2 adjusted  $p = 0.016$



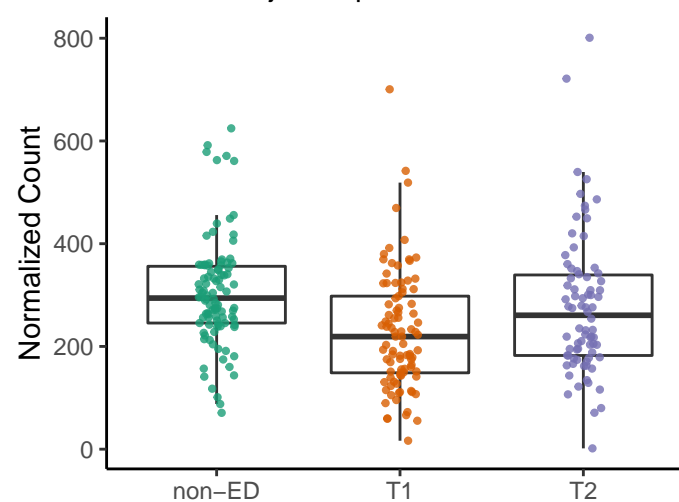
### PWY-5838: superpathway of menaquir

non-ED vs. T1 adjusted  $p = 0.23$   
 non-ED vs. T2 adjusted  $p = 0.054$   
 T1 vs. T2 adjusted  $p = 0.016$



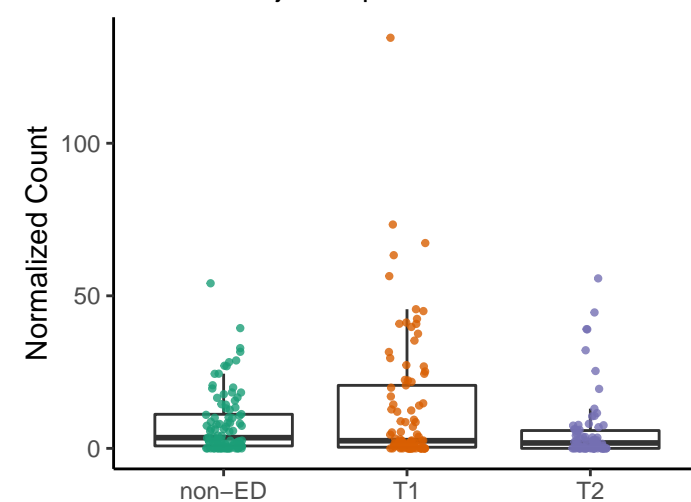
### PWY-6123: inosine-5'-phosphate bios

non-ED vs. T1 adjusted  $p = 4e-05$   
 non-ED vs. T2 adjusted  $p = 0.27$   
 T1 vs. T2 adjusted  $p = 0.017$



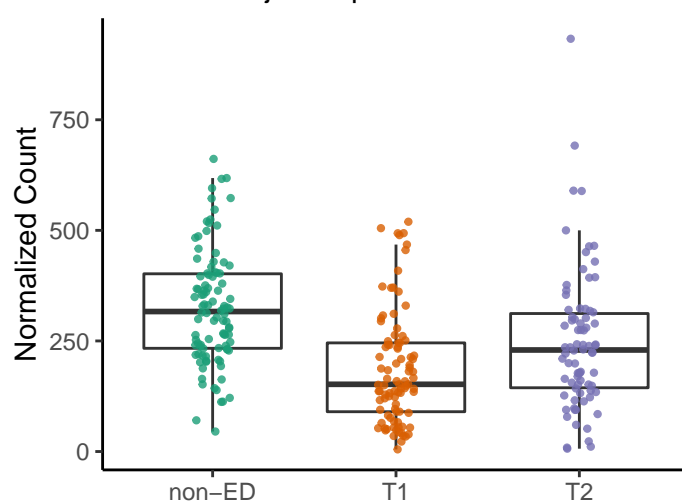
### P108-PWY: pyruvate fermentation to p

non-ED vs. T1 adjusted  $p = 0.07$   
 non-ED vs. T2 adjusted  $p = 0.24$   
 T1 vs. T2 adjusted  $p = 0.018$



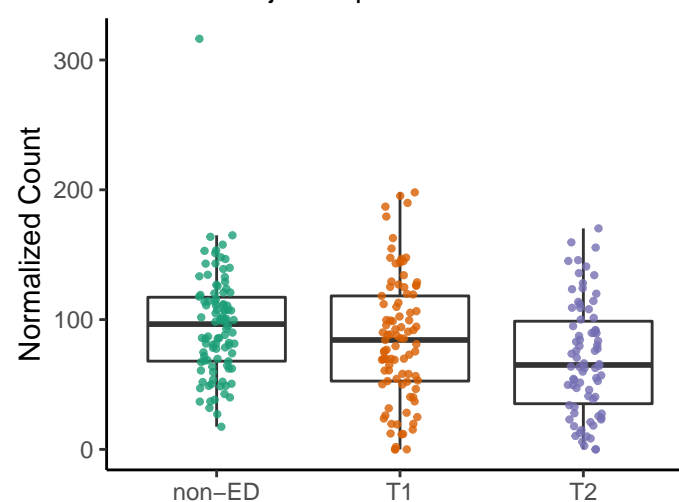
### PWY-621: sucrose degradation III (suc

non-ED vs. T1 adjusted  $p = 1.8e-10$   
 non-ED vs. T2 adjusted  $p = 0.0099$   
 T1 vs. T2 adjusted  $p = 0.018$



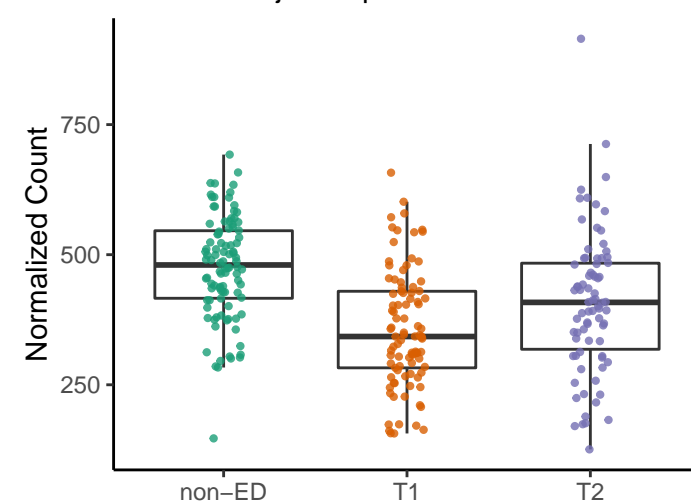
### PWY-7211: superpathway of pyrimidin

non-ED vs. T1 adjusted  $p = 0.17$   
 non-ED vs. T2 adjusted  $p = 0.0023$   
 T1 vs. T2 adjusted  $p = 0.018$



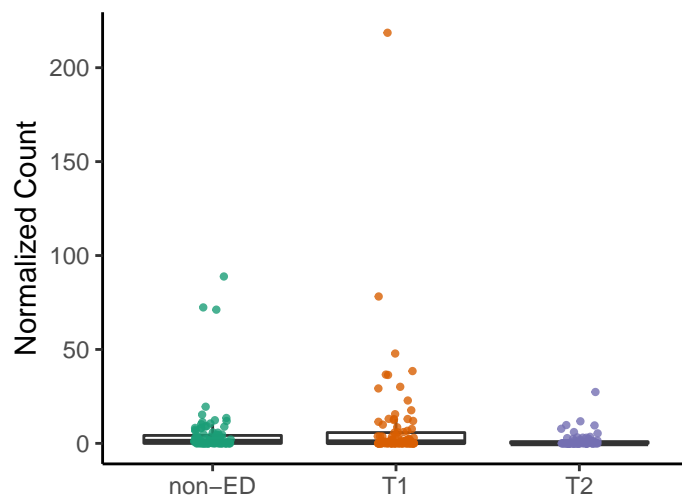
### CALVIN-PWY: Calvin-Benson-Bassha

non-ED vs. T1 adjusted  $p = 1.5e-10$   
 non-ED vs. T2 adjusted  $p = 0.0048$   
 T1 vs. T2 adjusted  $p = 0.018$



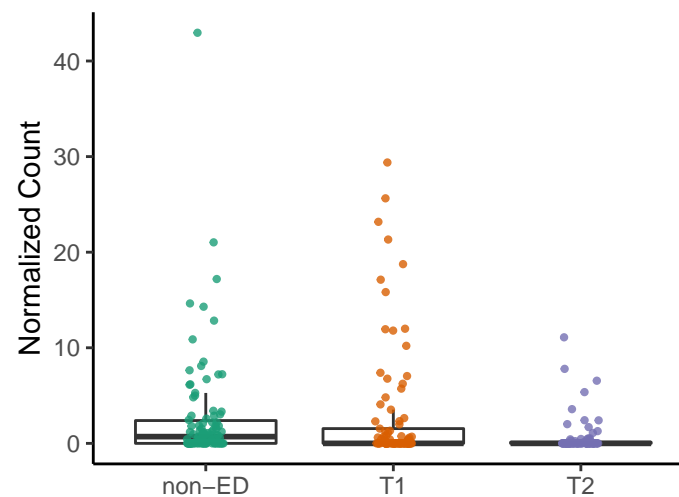
### GLYOXYLATE-BYPASS: glyoxylate cyc

non-ED vs. T1 adjusted  $p = 0.45$   
non-ED vs. T2 adjusted  $p = 0.056$   
T1 vs. T2 adjusted  $p = 0.018$



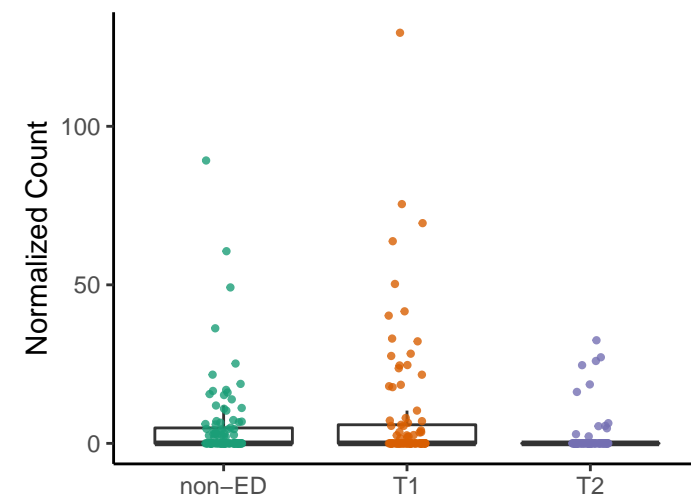
### KETOGLUCONMET-PWY: ketoglucona

non-ED vs. T1 adjusted  $p = 0.91$   
non-ED vs. T2 adjusted  $p = 0.011$   
T1 vs. T2 adjusted  $p = 0.018$



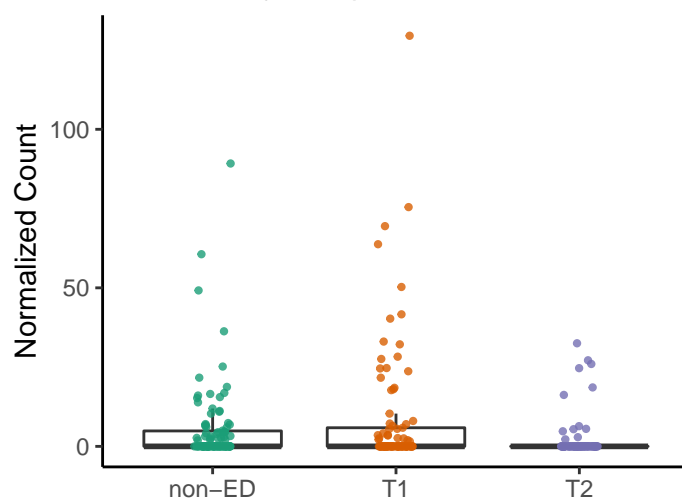
### PWY-5845: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.3$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.018$



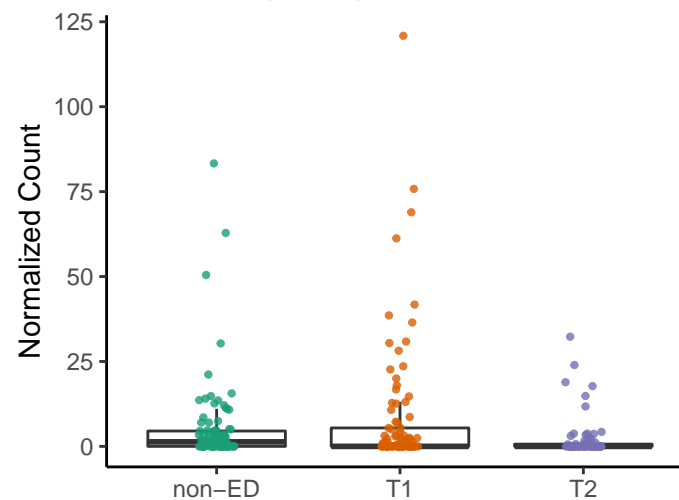
### PWY-5850: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.3$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.018$



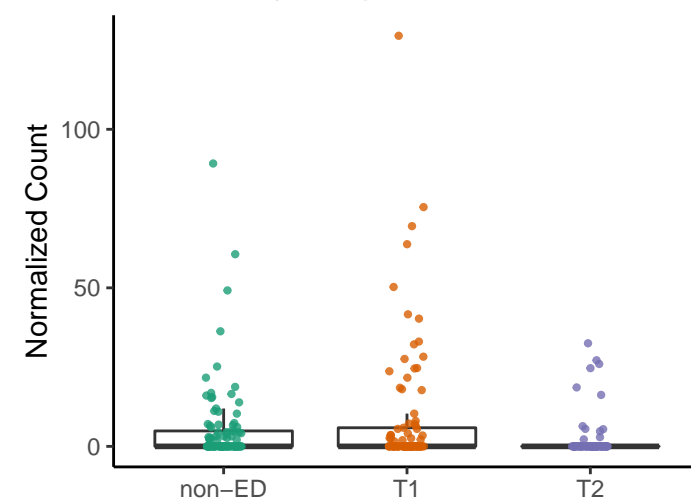
### PWY-5861: superpathway of demethyl

non-ED vs. T1 adjusted  $p = 0.29$   
non-ED vs. T2 adjusted  $p = 0.086$   
T1 vs. T2 adjusted  $p = 0.018$



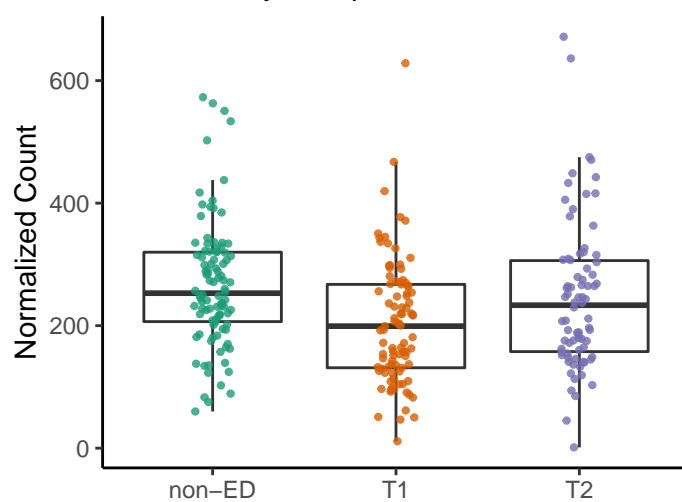
### PWY-5896: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.3$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.018$



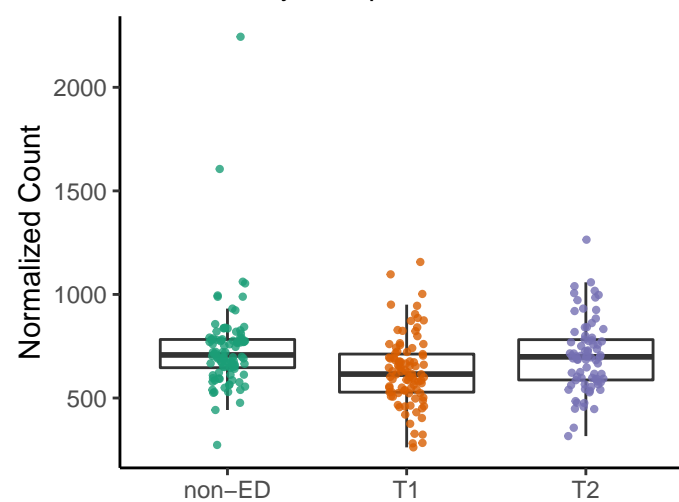
### PWY-6124: inosine-5'-phosphate bios

non-ED vs. T1 adjusted  $p = 0.00022$   
non-ED vs. T2 adjusted  $p = 0.34$   
T1 vs. T2 adjusted  $p = 0.018$



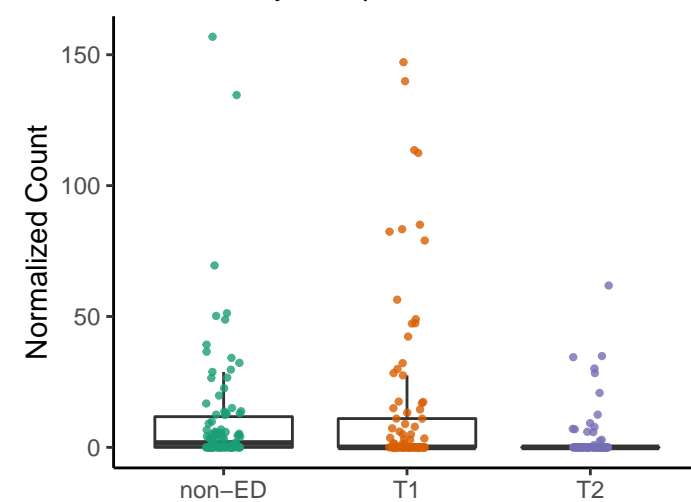
### PWY-6386: UDP-N-acetylmuramoyl-

non-ED vs. T1 adjusted  $p = 0.00091$   
non-ED vs. T2 adjusted  $p = 0.39$   
T1 vs. T2 adjusted  $p = 0.018$



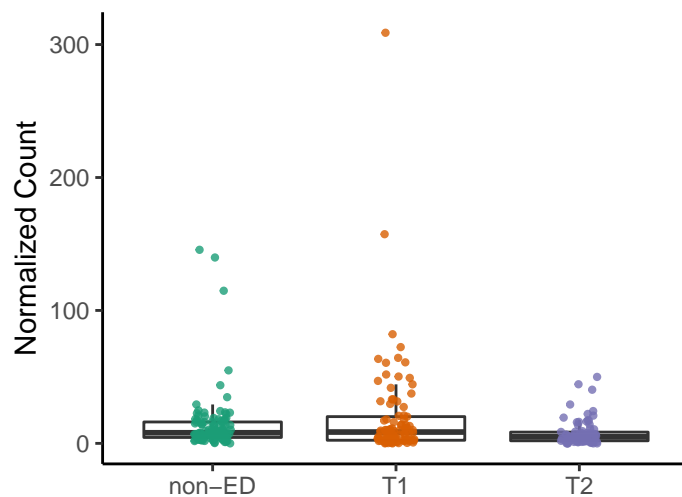
### PWY-6895: superpathway of thiamin d

non-ED vs. T1 adjusted  $p = 0.46$   
non-ED vs. T2 adjusted  $p = 0.041$   
T1 vs. T2 adjusted  $p = 0.018$



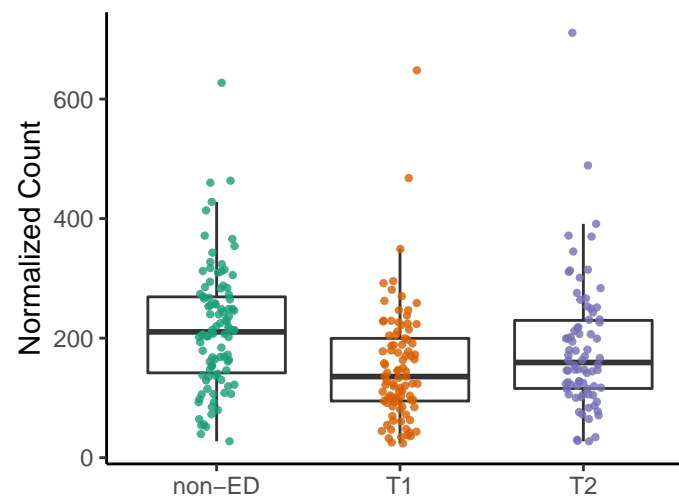
### PWY0-1061: superpathway of L-alanin

non-ED vs. T1 adjusted  $p = 0.4$   
 non-ED vs. T2 adjusted  $p = 0.049$   
 T1 vs. T2 adjusted  $p = 0.018$



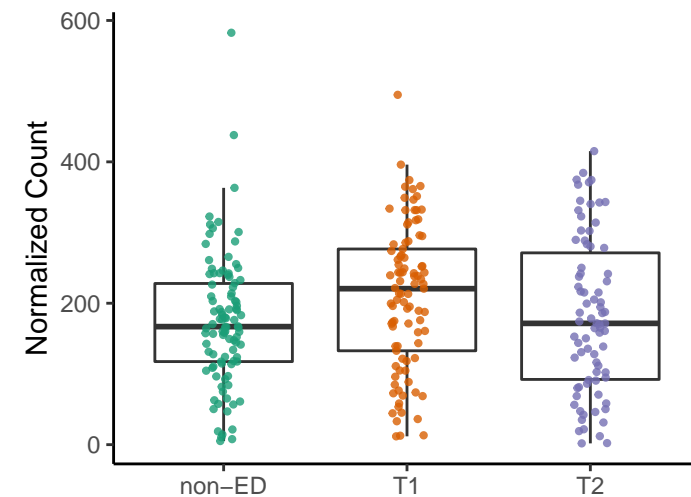
### THISYNARA-PWY: superpathway of th

non-ED vs. T1 adjusted  $p = 0.00011$   
 non-ED vs. T2 adjusted  $p = 0.13$   
 T1 vs. T2 adjusted  $p = 0.018$



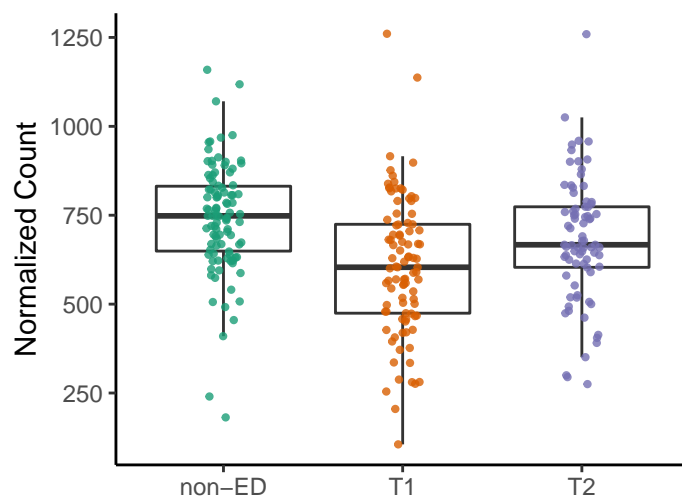
### PWY-5973: cis-vaccenate biosynthesis

non-ED vs. T1 adjusted  $p = 0.041$   
 non-ED vs. T2 adjusted  $p = 0.71$   
 T1 vs. T2 adjusted  $p = 0.019$



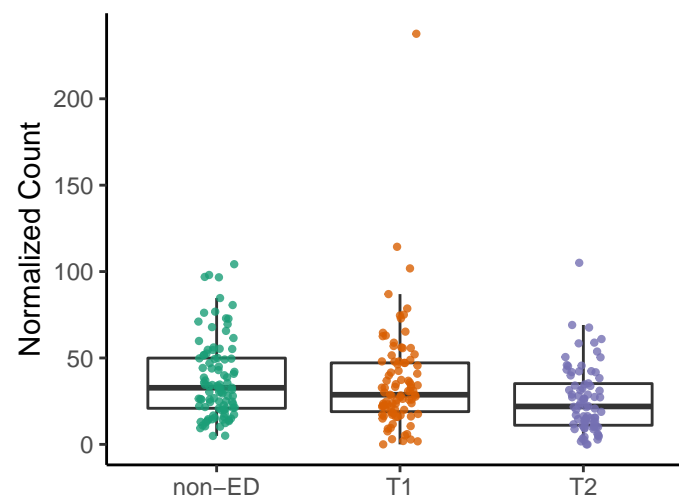
### PWY-6737: starch degradation V

non-ED vs. T1 adjusted  $p = 3.7e-06$   
 non-ED vs. T2 adjusted  $p = 0.073$   
 T1 vs. T2 adjusted  $p = 0.019$



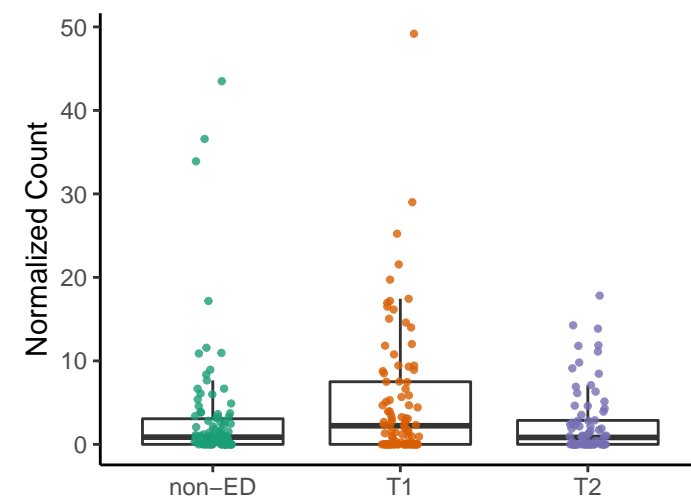
### PWY-6969: TCA cycle V (2-oxoglutarate)

non-ED vs. T1 adjusted  $p = 0.79$   
 non-ED vs. T2 adjusted  $p = 0.0041$   
 T1 vs. T2 adjusted  $p = 0.019$



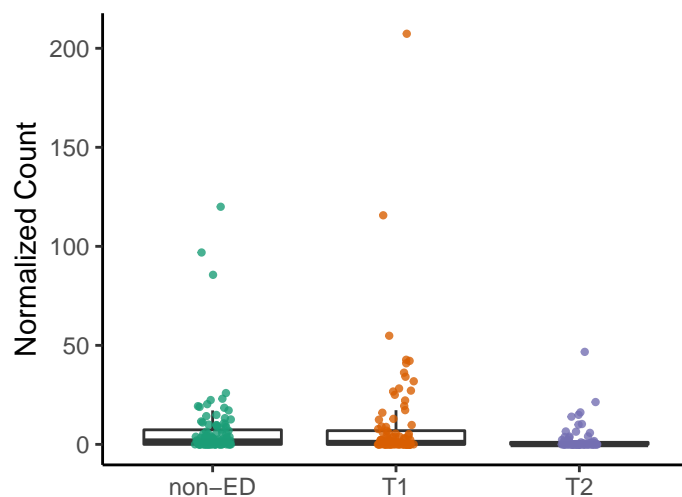
### PWY-7328: superpathway of UDP-glucose

non-ED vs. T1 adjusted  $p = 0.12$   
 non-ED vs. T2 adjusted  $p = 0.62$   
 T1 vs. T2 adjusted  $p = 0.019$



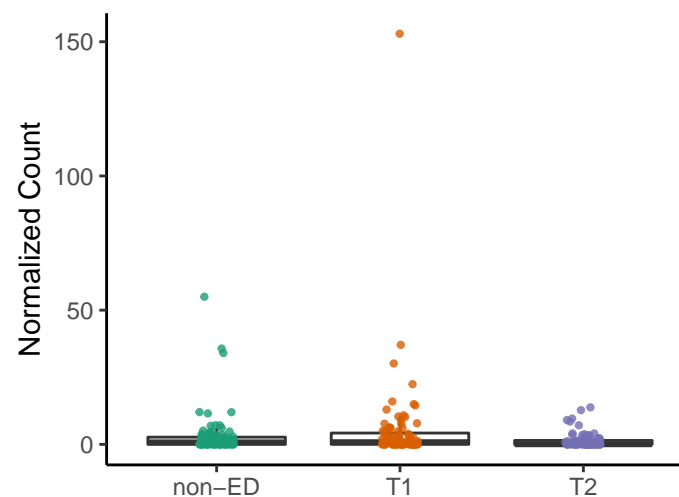
### GLYCOLYSIS-TCA-GLYOX-BYPASS:

non-ED vs. T1 adjusted  $p = 0.55$   
 non-ED vs. T2 adjusted  $p = 0.049$   
 T1 vs. T2 adjusted  $p = 0.019$



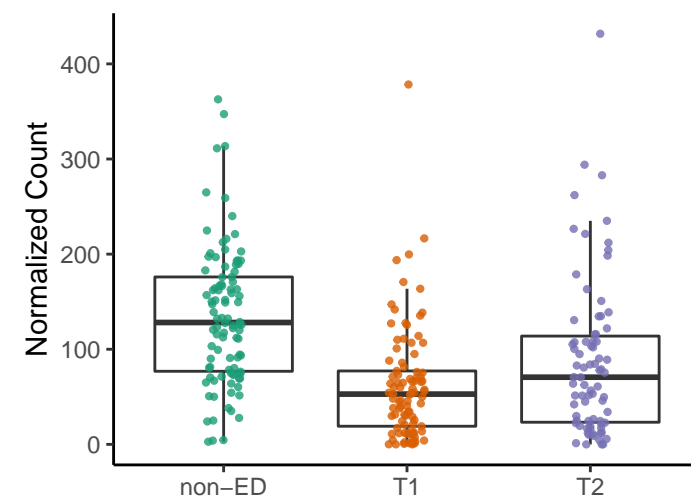
### POLYISOPRENSYN-PWY: polyisopren

non-ED vs. T1 adjusted  $p = 0.4$   
 non-ED vs. T2 adjusted  $p = 0.17$   
 T1 vs. T2 adjusted  $p = 0.019$



### PWY-5177: glutaryl-CoA degradation

non-ED vs. T1 adjusted  $p = 1.8e-10$   
 non-ED vs. T2 adjusted  $p = 0.0023$   
 T1 vs. T2 adjusted  $p = 0.019$

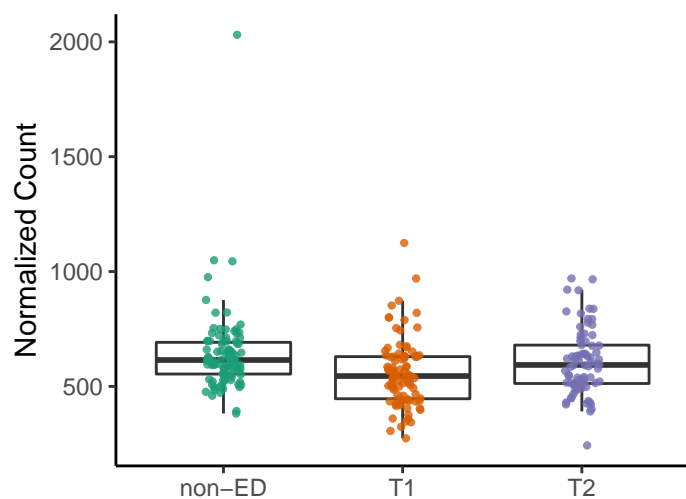


PWY-6121: 5-aminoimidazole ribonur

non-ED vs. T1 adjusted  $p = 0.0019$

non-ED vs. T2 adjusted  $p = 0.27$

T1 vs. T2 adjusted  $p = 0.019$

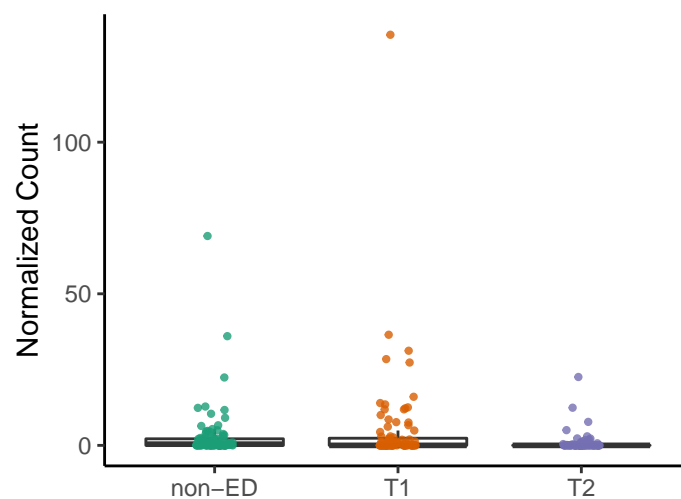


PWY-6803: phosphatidylcholine acyl e

non-ED vs. T1 adjusted  $p = 0.44$

non-ED vs. T2 adjusted  $p = 0.095$

T1 vs. T2 adjusted  $p = 0.019$

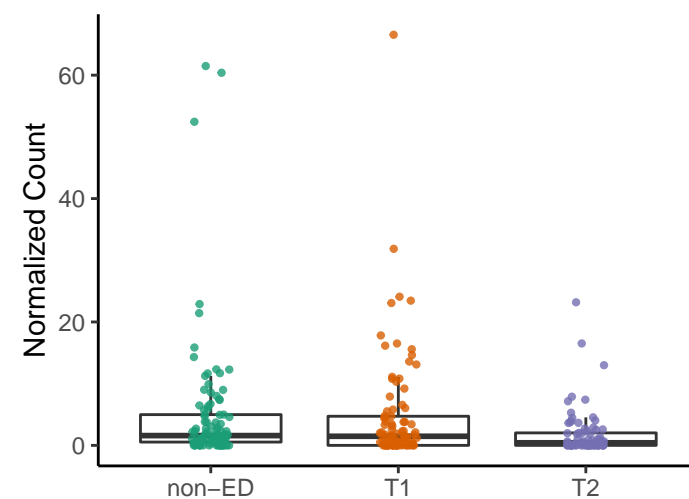


REDCITCYC: TCA cycle VIII (helicobact

non-ED vs. T1 adjusted  $p = 0.87$

non-ED vs. T2 adjusted  $p = 0.037$

T1 vs. T2 adjusted  $p = 0.019$

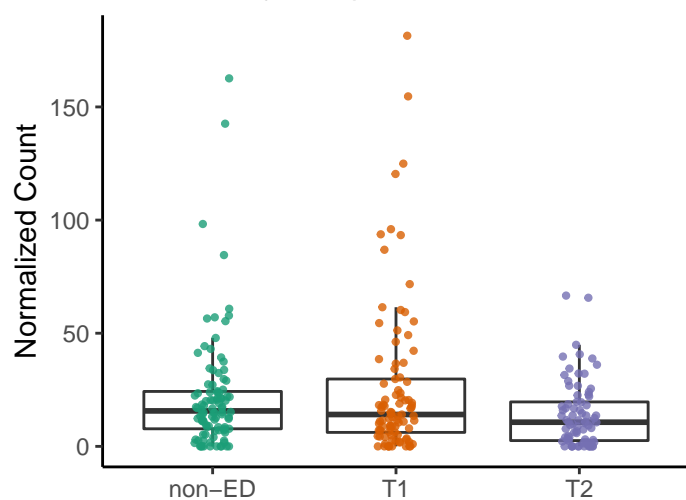


THISYN-PWY: superpathway of thiami

non-ED vs. T1 adjusted  $p = 0.5$

non-ED vs. T2 adjusted  $p = 0.052$

T1 vs. T2 adjusted  $p = 0.019$

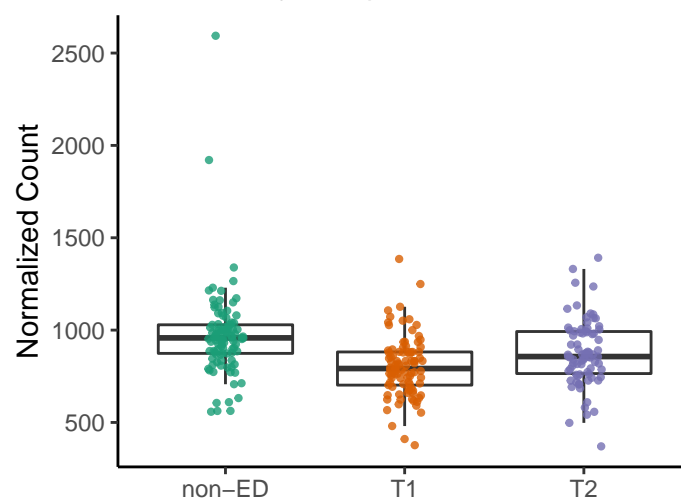


PWY-7219: adenosine ribonucleotide:

non-ED vs. T1 adjusted  $p = 1.1e-06$

non-ED vs. T2 adjusted  $p = 0.028$

T1 vs. T2 adjusted  $p = 0.02$

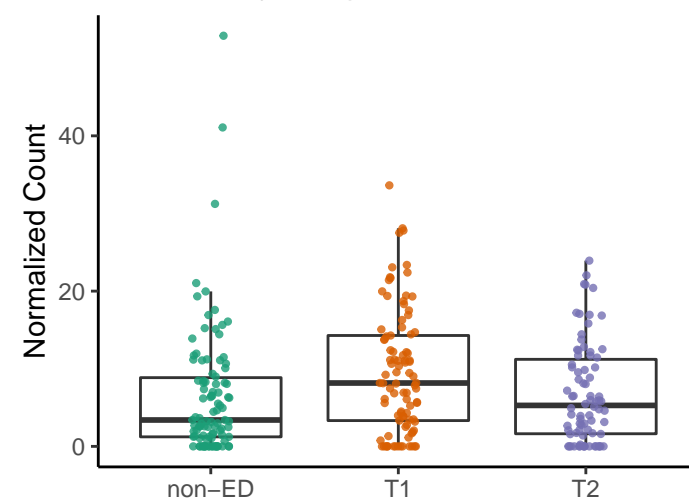


P162-PWY: L-glutamate degradation V

non-ED vs. T1 adjusted  $p = 0.032$

non-ED vs. T2 adjusted  $p = 0.9$

T1 vs. T2 adjusted  $p = 0.021$

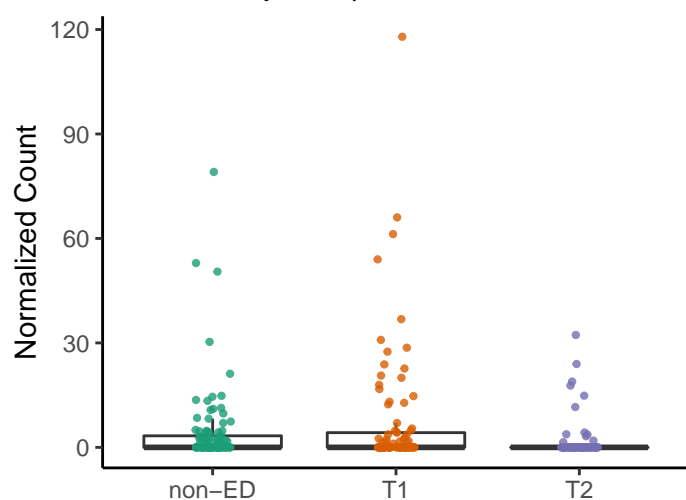


PWY-5860: superpathway of demethyl

non-ED vs. T1 adjusted  $p = 0.36$

non-ED vs. T2 adjusted  $p = 0.12$

T1 vs. T2 adjusted  $p = 0.021$

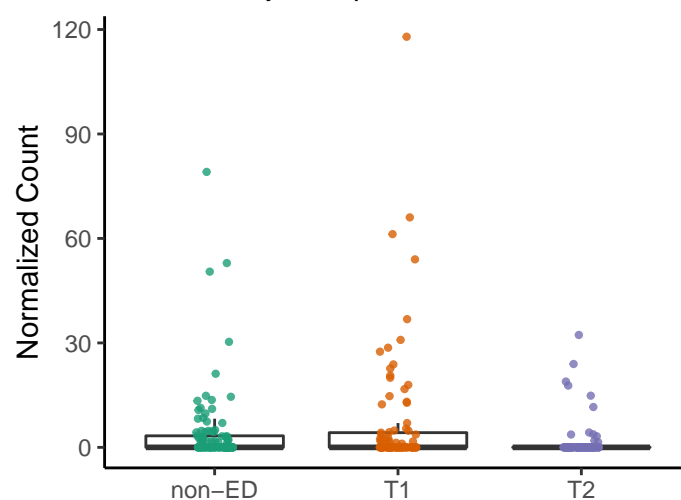


PWY-5862: superpathway of demethyl

non-ED vs. T1 adjusted  $p = 0.36$

non-ED vs. T2 adjusted  $p = 0.12$

T1 vs. T2 adjusted  $p = 0.021$

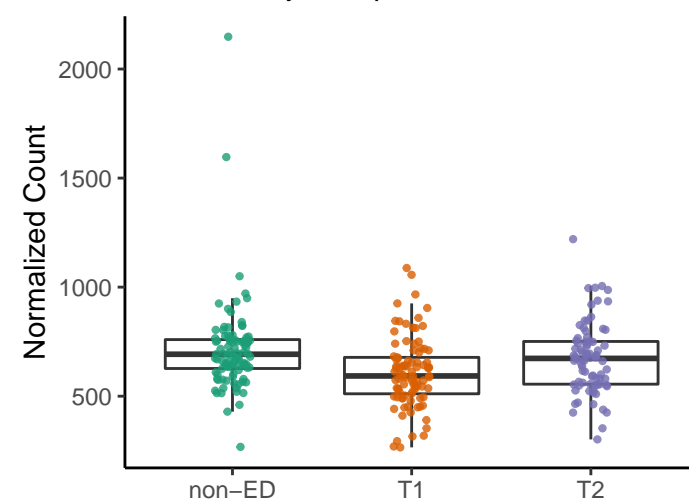


PWY-6387: UDP-N-acetylmuramoyl-

non-ED vs. T1 adjusted  $p = 0.00065$

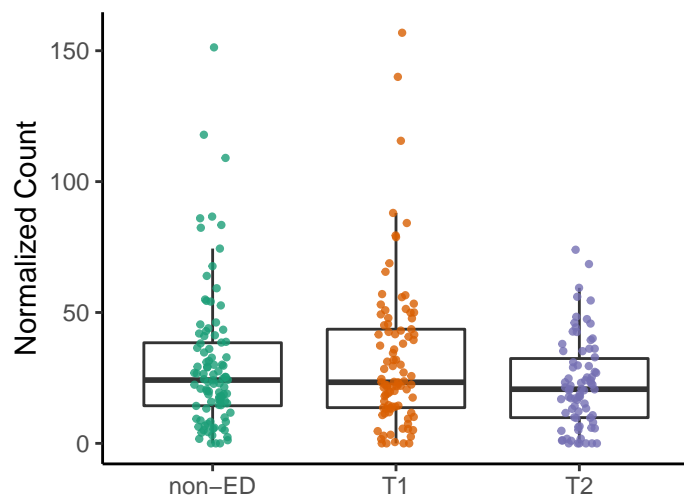
non-ED vs. T2 adjusted  $p = 0.28$

T1 vs. T2 adjusted  $p = 0.021$



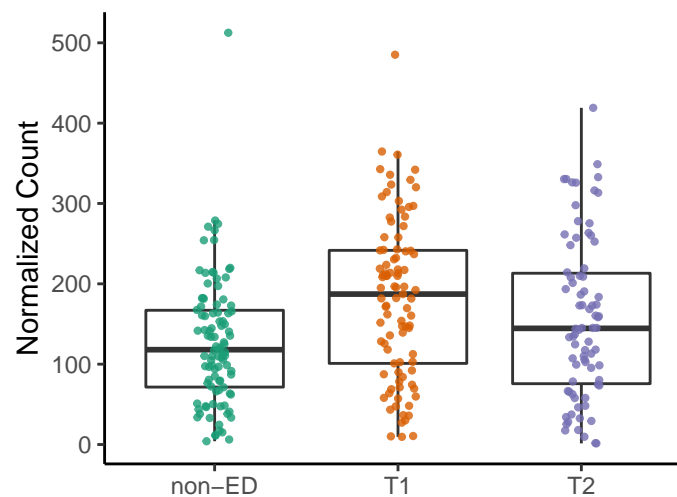
### PWY-6901: superpathway of glucose $\alpha$

non-ED vs. T1 adjusted p = 0.68  
non-ED vs. T2 adjusted p = 0.093  
T1 vs. T2 adjusted p = 0.021



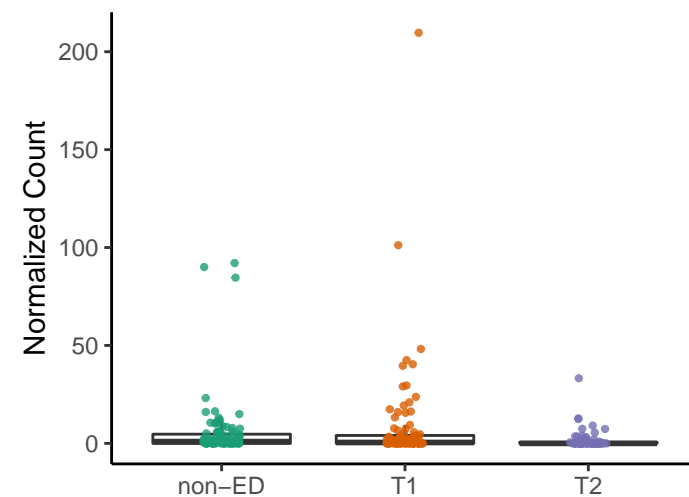
### PWY-7663: gondoate biosynthesis (an

non-ED vs. T1 adjusted p = 0.00022  
non-ED vs. T2 adjusted p = 0.096  
T1 vs. T2 adjusted p = 0.021



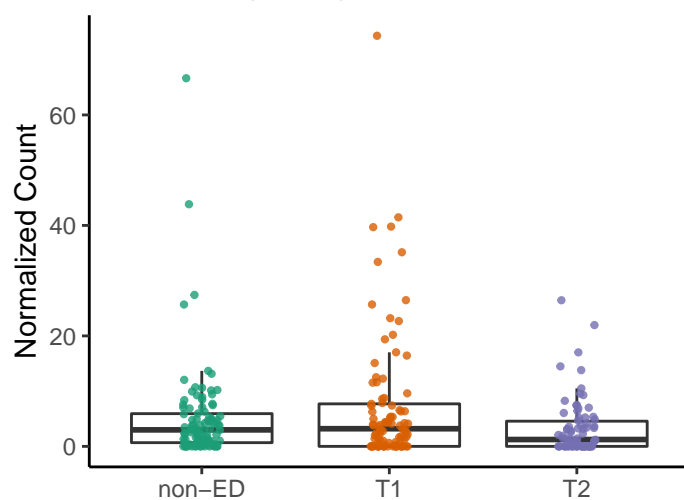
### TCA-GLYOX-BYPASS: superpathway

non-ED vs. T1 adjusted p = 0.5  
non-ED vs. T2 adjusted p = 0.06  
T1 vs. T2 adjusted p = 0.021



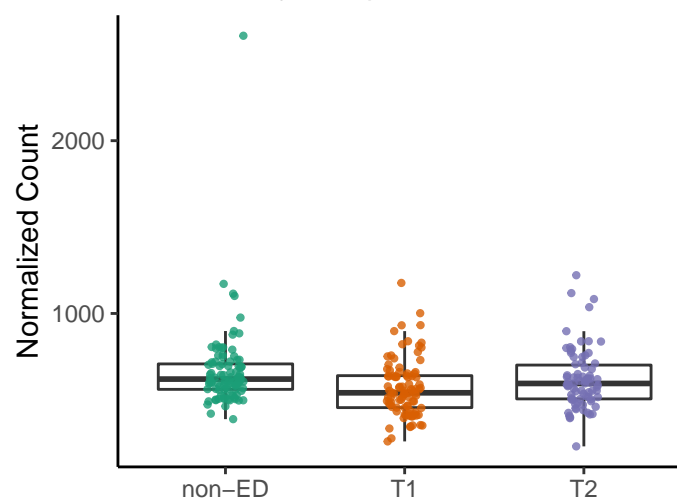
### NAGLIPASYN-PWY: lipid IVA biosynthe

non-ED vs. T1 adjusted p = 0.23  
non-ED vs. T2 adjusted p = 0.18  
T1 vs. T2 adjusted p = 0.021



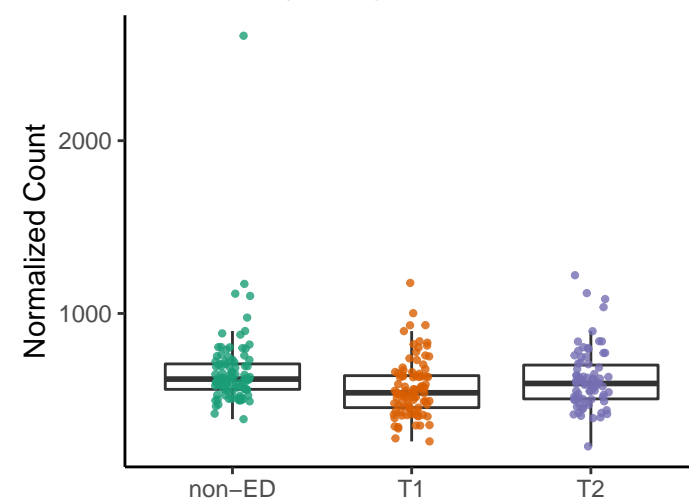
### PWY-6122: 5-aminoimidazole ribonur

non-ED vs. T1 adjusted p = 0.0055  
non-ED vs. T2 adjusted p = 0.26  
T1 vs. T2 adjusted p = 0.021



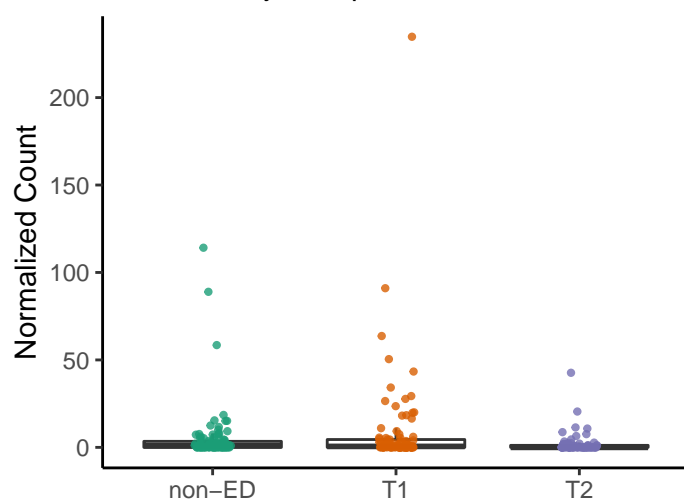
### PWY-6277: superpathway of 5-amino

non-ED vs. T1 adjusted p = 0.0055  
non-ED vs. T2 adjusted p = 0.26  
T1 vs. T2 adjusted p = 0.021



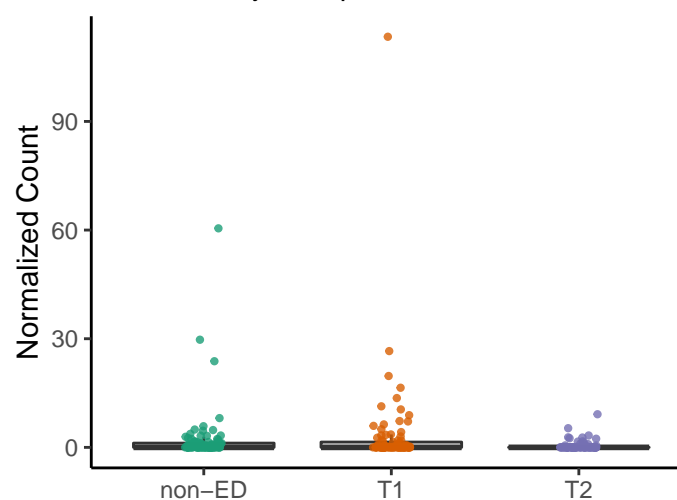
### PWY-5083: NAD/NADH phosphorylatic

non-ED vs. T1 adjusted p = 0.38  
non-ED vs. T2 adjusted p = 0.14  
T1 vs. T2 adjusted p = 0.021



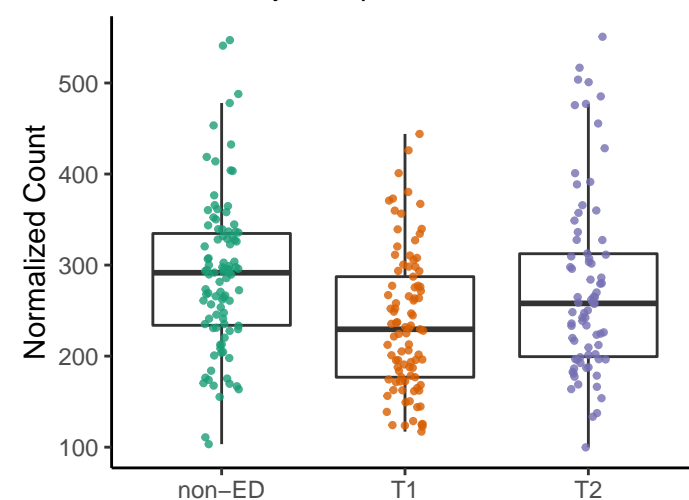
### UBISYN-PWY: superpathway of ubiquir

non-ED vs. T1 adjusted p = 0.55  
non-ED vs. T2 adjusted p = 0.12  
T1 vs. T2 adjusted p = 0.021



### PWY-6609: adenine and adenosine sa

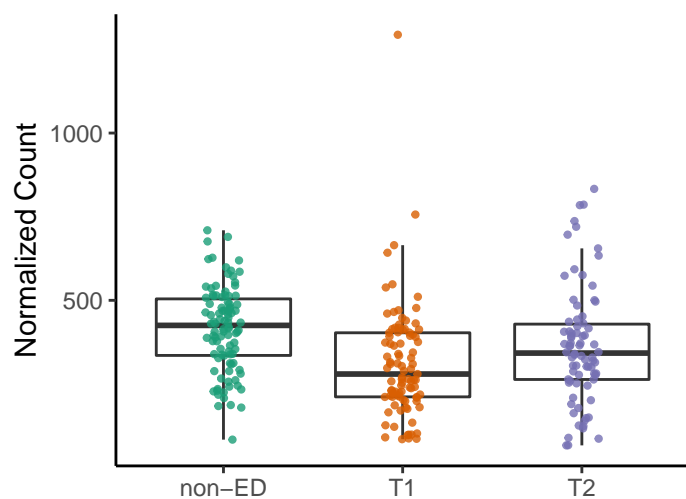
non-ED vs. T1 adjusted p = 8.6e-05  
non-ED vs. T2 adjusted p = 0.49  
T1 vs. T2 adjusted p = 0.022





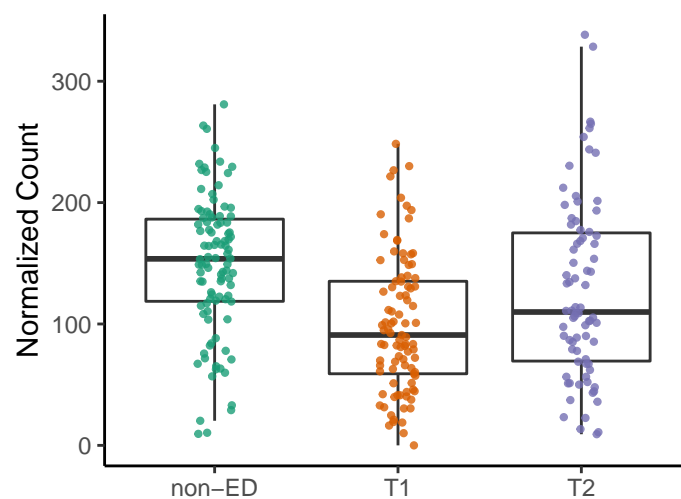
### NONOXIPENT-PWY: pentose phosph

non-ED vs. T1 adjusted  $p = 3.5e-05$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.022$



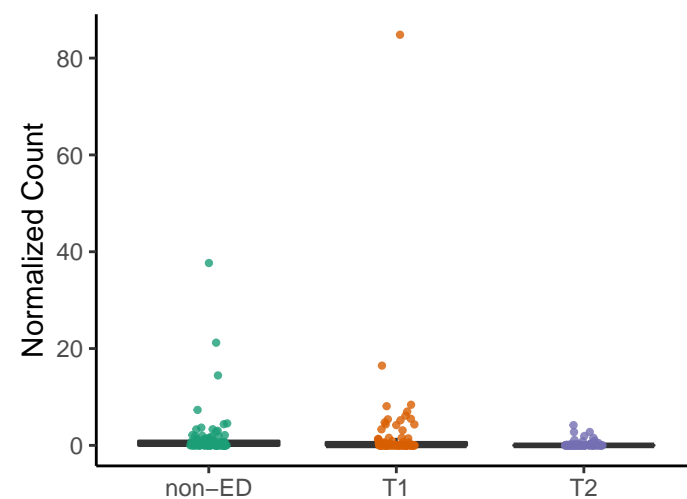
### PWY-7199: pyrimidine deoxyribonucle

non-ED vs. T1 adjusted  $p = 1.8e-07$   
non-ED vs. T2 adjusted  $p = 0.11$   
T1 vs. T2 adjusted  $p = 0.022$



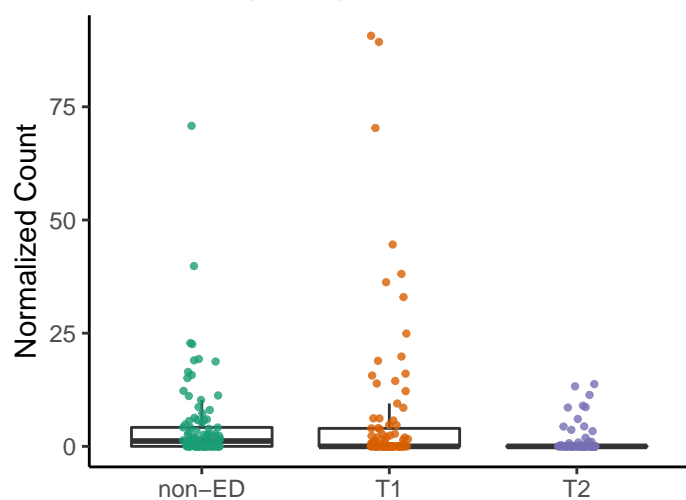
### PWY-5705: allantoin degradation to gly

non-ED vs. T1 adjusted  $p = 0.69$   
non-ED vs. T2 adjusted  $p = 0.057$   
T1 vs. T2 adjusted  $p = 0.023$



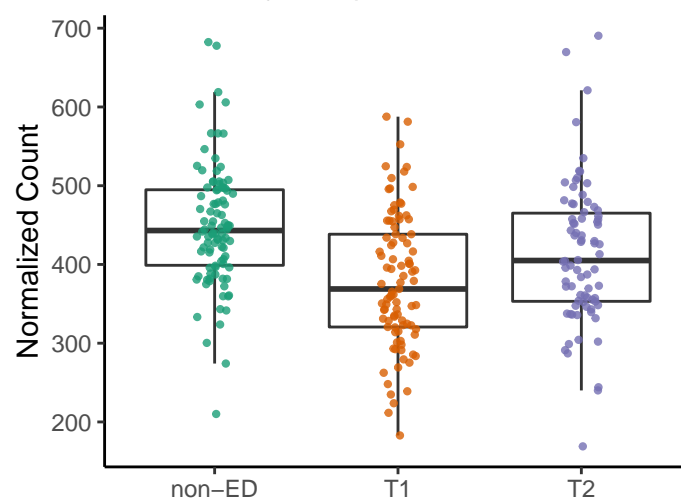
### PWY-7204: pyridoxal 5'-phosphate sal

non-ED vs. T1 adjusted  $p = 0.39$   
non-ED vs. T2 adjusted  $p = 0.019$   
T1 vs. T2 adjusted  $p = 0.023$



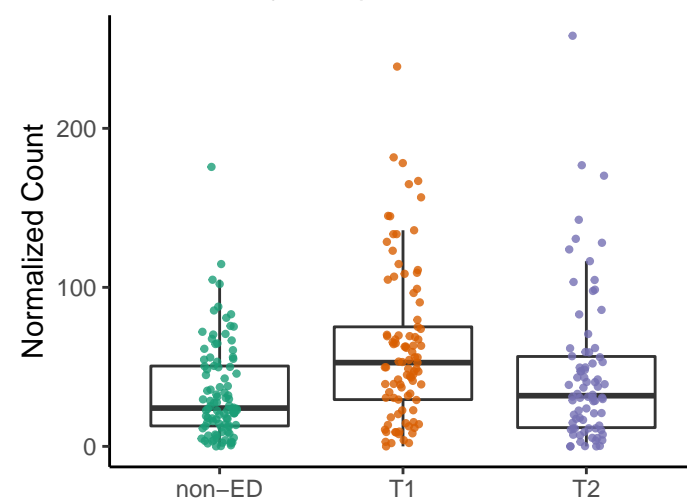
### PWY-724: superpathway of L-lysine, L

non-ED vs. T1 adjusted  $p = 2.6e-07$   
non-ED vs. T2 adjusted  $p = 0.041$   
T1 vs. T2 adjusted  $p = 0.024$



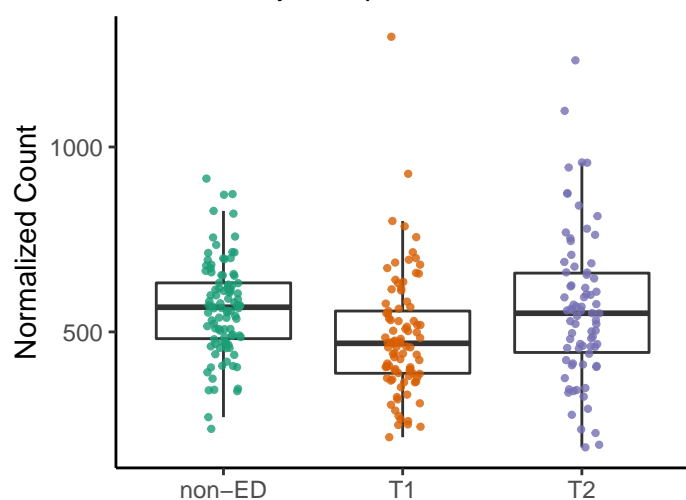
### PWY-1269: CMP-3-deoxy-D-manno

non-ED vs. T1 adjusted  $p = 4e-05$   
non-ED vs. T2 adjusted  $p = 0.14$   
T1 vs. T2 adjusted  $p = 0.025$



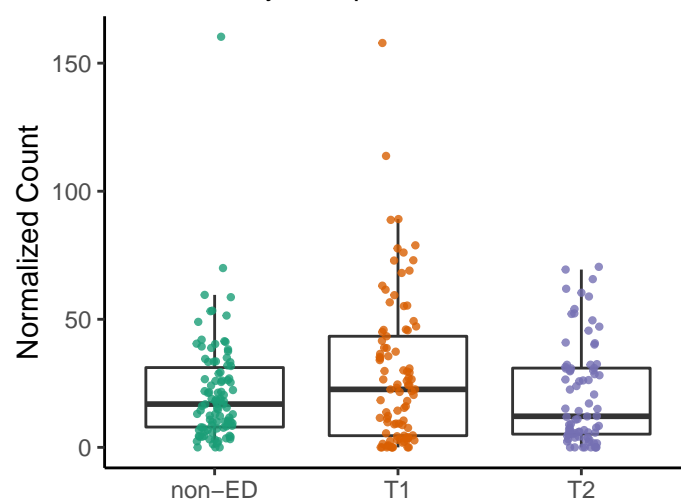
### PWY-1042: glycolysis IV (plant cytos

non-ED vs. T1 adjusted  $p = 0.0013$   
non-ED vs. T2 adjusted  $p = 0.96$   
T1 vs. T2 adjusted  $p = 0.027$



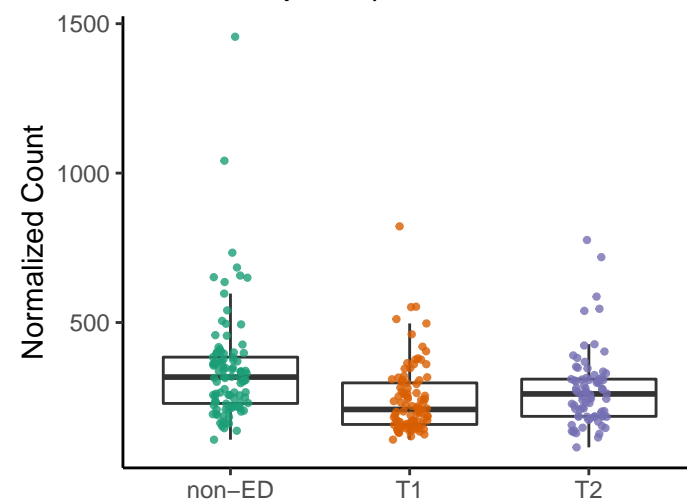
### GLUCONEO-PWY: gluconeogenesis I

non-ED vs. T1 adjusted  $p = 0.11$   
non-ED vs. T2 adjusted  $p = 0.82$   
T1 vs. T2 adjusted  $p = 0.027$



### HISTSYN-PWY: L-histidine biosynthe

non-ED vs. T1 adjusted  $p = 0.00011$   
non-ED vs. T2 adjusted  $p = 0.025$   
T1 vs. T2 adjusted  $p = 0.027$



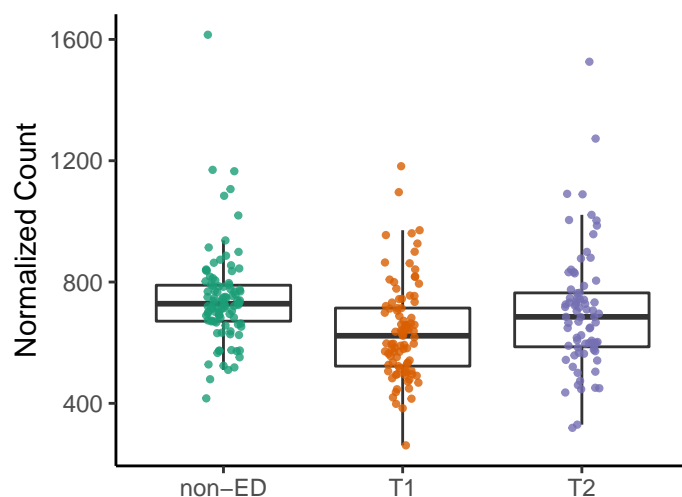


### ILEUSYN-PWY: L-isoleucine biosyntf

non-ED vs. T1 adjusted  $p = 3.4e-05$

non-ED vs. T2 adjusted  $p = 0.23$

T1 vs. T2 adjusted  $p = 0.027$

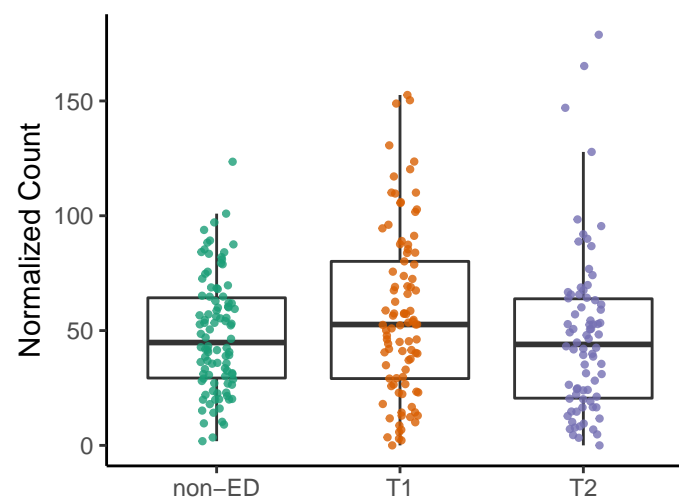


### P42-PWY: incomplete reductive TCA c

non-ED vs. T1 adjusted  $p = 0.12$

non-ED vs. T2 adjusted  $p = 0.93$

T1 vs. T2 adjusted  $p = 0.027$

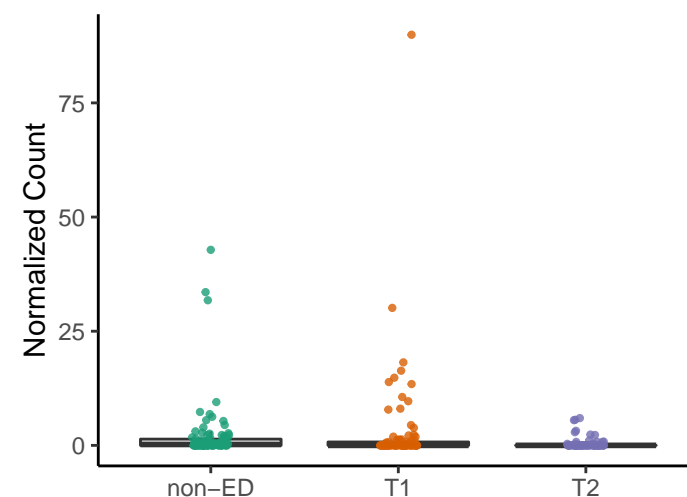


### PWY-2723: trehalose degradation V

non-ED vs. T1 adjusted  $p = 0.65$

non-ED vs. T2 adjusted  $p = 0.064$

T1 vs. T2 adjusted  $p = 0.027$

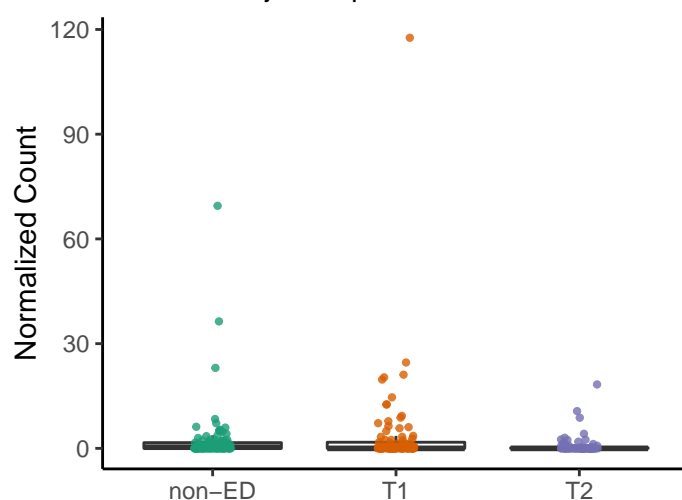


### PWY-5855: ubiquinol-7 biosynthesis (l

non-ED vs. T1 adjusted  $p = 0.55$

non-ED vs. T2 adjusted  $p = 0.17$

T1 vs. T2 adjusted  $p = 0.027$

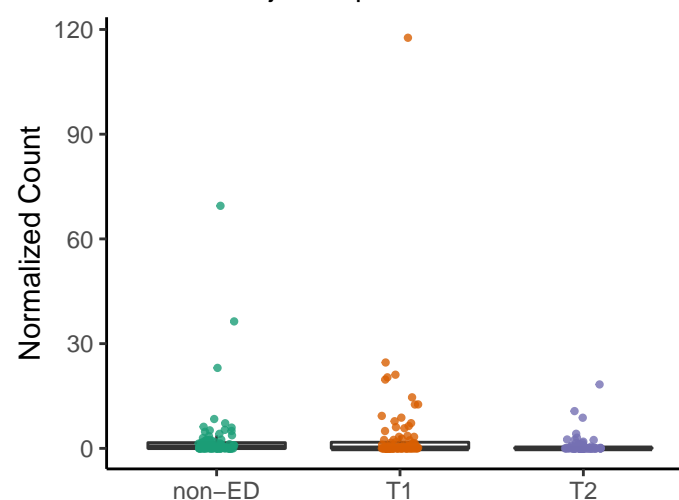


### PWY-5856: ubiquinol-9 biosynthesis (l

non-ED vs. T1 adjusted  $p = 0.55$

non-ED vs. T2 adjusted  $p = 0.17$

T1 vs. T2 adjusted  $p = 0.027$

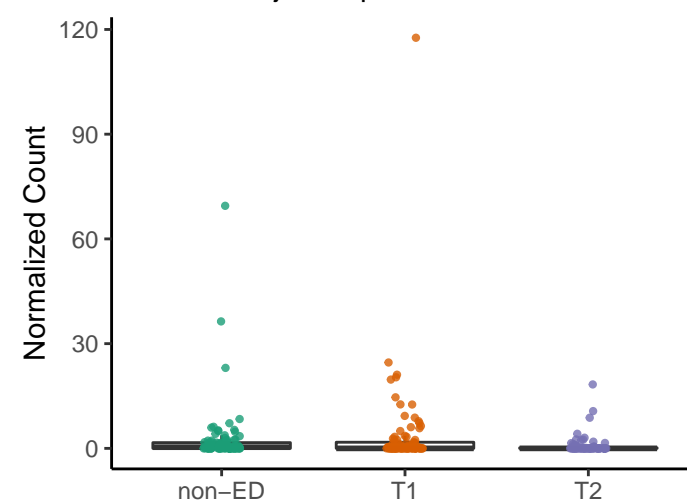


### PWY-5857: ubiquinol-10 biosynthesis

non-ED vs. T1 adjusted  $p = 0.55$

non-ED vs. T2 adjusted  $p = 0.17$

T1 vs. T2 adjusted  $p = 0.027$

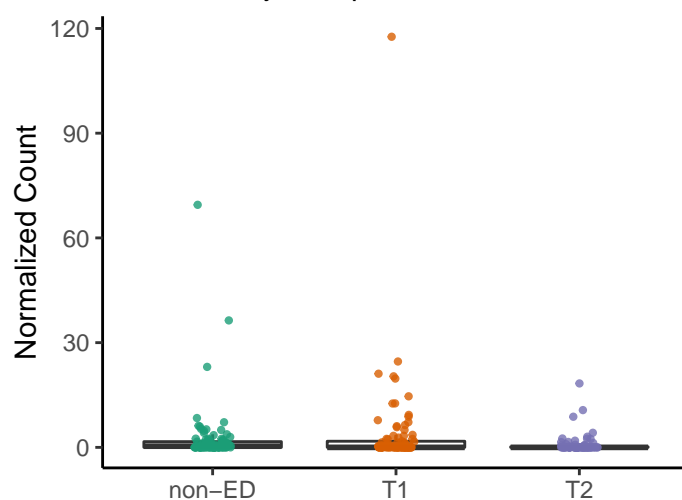


### PWY-6708: ubiquinol-8 biosynthesis (l

non-ED vs. T1 adjusted  $p = 0.55$

non-ED vs. T2 adjusted  $p = 0.17$

T1 vs. T2 adjusted  $p = 0.027$

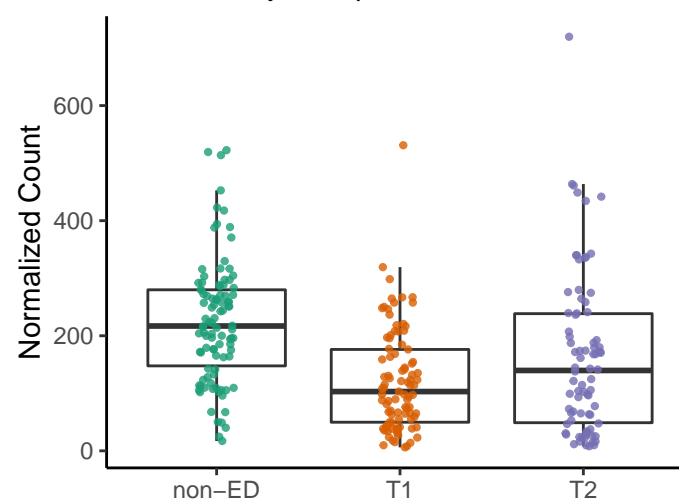


### PWY-7242: D-fructuronate degradatio

non-ED vs. T1 adjusted  $p = 9.7e-10$

non-ED vs. T2 adjusted  $p = 0.019$

T1 vs. T2 adjusted  $p = 0.027$

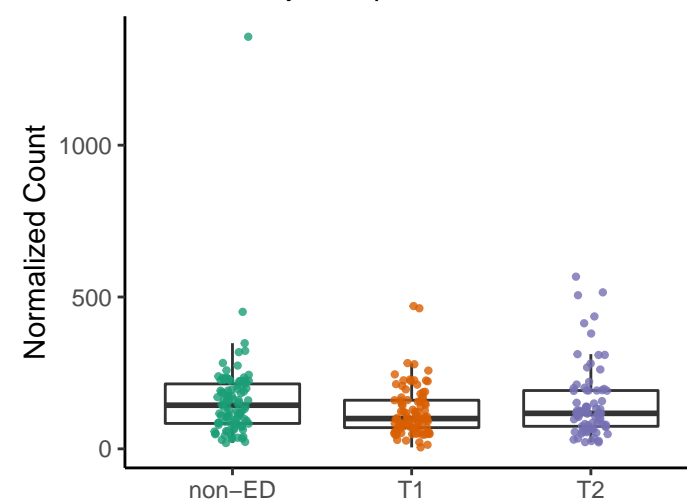


### PWY0-1586: peptidoglycan maturation

non-ED vs. T1 adjusted  $p = 0.069$

non-ED vs. T2 adjusted  $p = 0.7$

T1 vs. T2 adjusted  $p = 0.027$

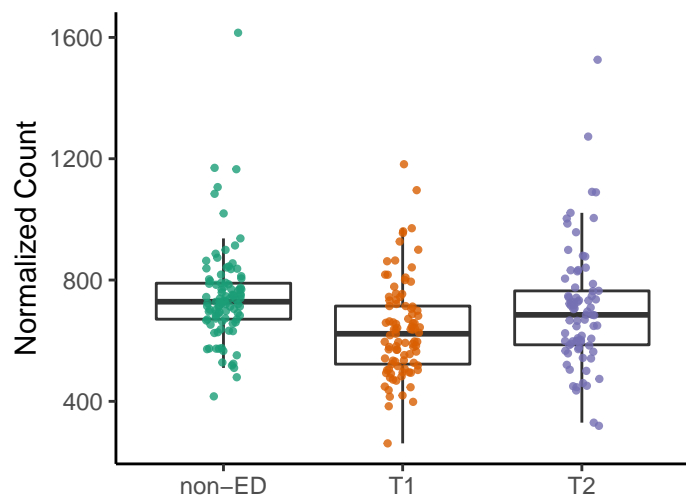


### VALSYN-PWY: L-valine biosynthesis

non-ED vs. T1 adjusted  $p = 3.4e-05$

non-ED vs. T2 adjusted  $p = 0.23$

T1 vs. T2 adjusted  $p = 0.027$

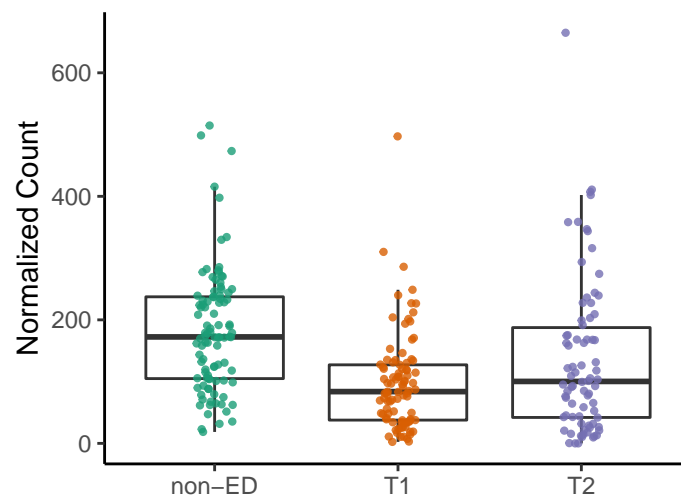


### GALACTUROCAT-PWY: D-galacturon

non-ED vs. T1 adjusted  $p = 1.9e-08$

non-ED vs. T2 adjusted  $p = 0.045$

T1 vs. T2 adjusted  $p = 0.029$

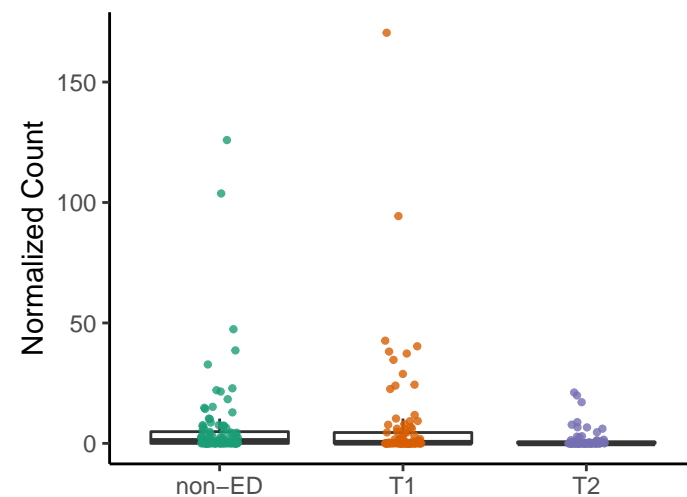


### GLUCOSE1PMETAB-PWY: glucose an

non-ED vs. T1 adjusted  $p = 0.86$

non-ED vs. T2 adjusted  $p = 0.041$

T1 vs. T2 adjusted  $p = 0.029$

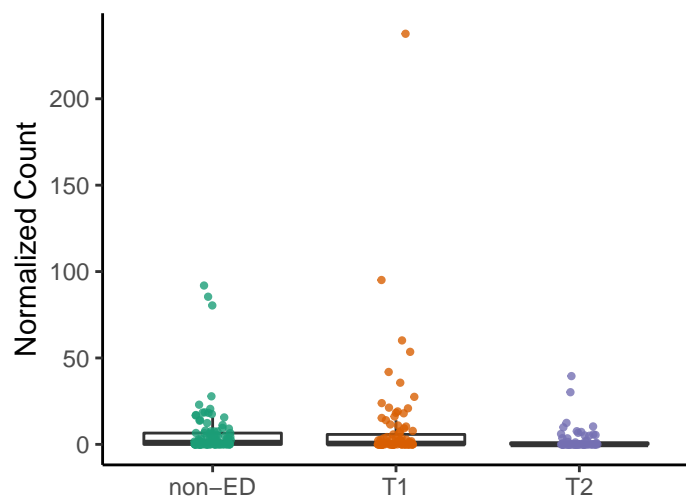


### P105-PWY: TCA cycle IV (2-oxoglutar

non-ED vs. T1 adjusted  $p = 0.58$

non-ED vs. T2 adjusted  $p = 0.047$

T1 vs. T2 adjusted  $p = 0.029$

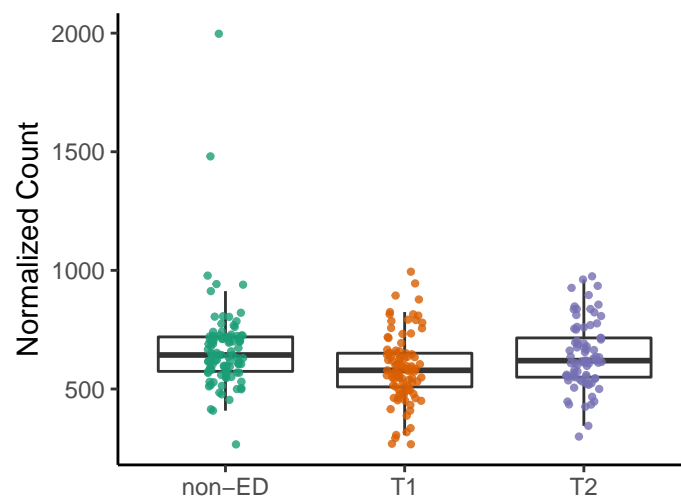


### PEPTIDOGLYCANSYN-PWY: peptido

non-ED vs. T1 adjusted  $p = 0.0067$

non-ED vs. T2 adjusted  $p = 0.43$

T1 vs. T2 adjusted  $p = 0.029$

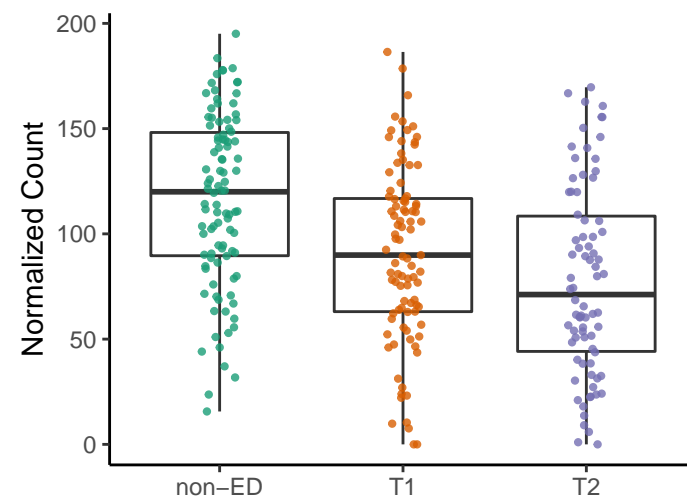


### PRPP-PWY: superpathway of histidine

non-ED vs. T1 adjusted  $p = 0.00022$

non-ED vs. T2 adjusted  $p = 3.9e-06$

T1 vs. T2 adjusted  $p = 0.029$

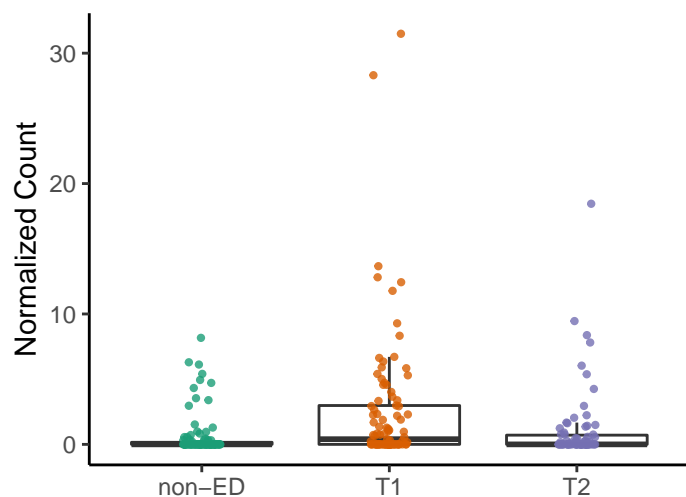


### 7ALPHADEHYDROX-PWY: cholate deg

non-ED vs. T1 adjusted  $p = 0.0021$

non-ED vs. T2 adjusted  $p = 0.33$

T1 vs. T2 adjusted  $p = 0.03$

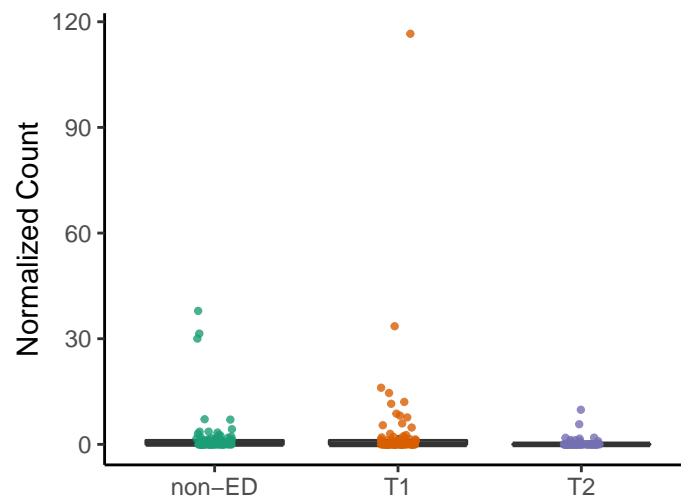


### GLYCOL-GLYOXDEG-PWY: superpat

non-ED vs. T1 adjusted  $p = 0.53$

non-ED vs. T2 adjusted  $p = 0.089$

T1 vs. T2 adjusted  $p = 0.03$

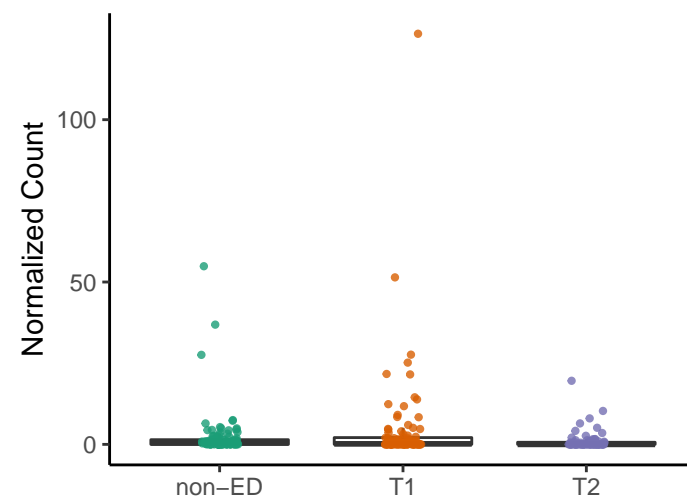


### PWY0-1241: ADP-L-glycero-&beta;-

non-ED vs. T1 adjusted  $p = 0.33$

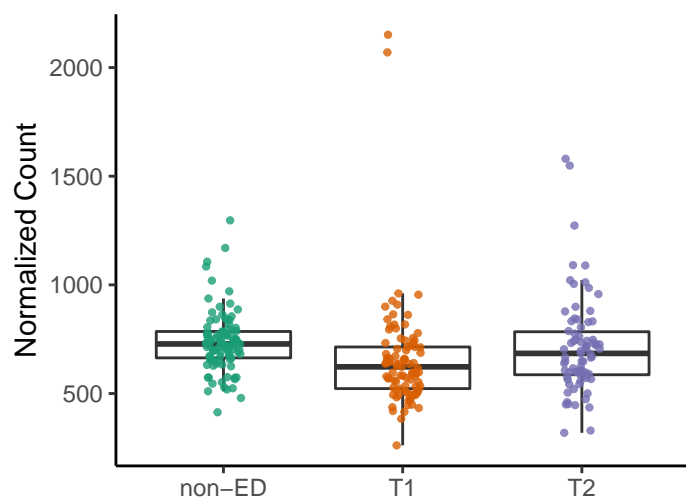
non-ED vs. T2 adjusted  $p = 0.18$

T1 vs. T2 adjusted  $p = 0.03$



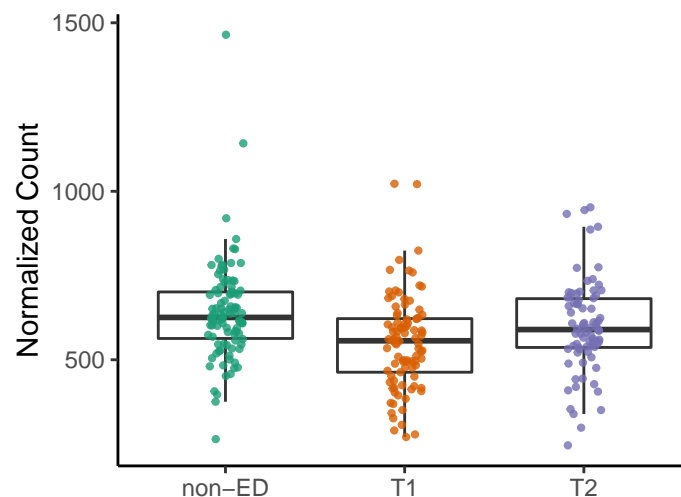
### PWY-7111: pyruvate fermentation to i

non-ED vs. T1 adjusted  $p = 0.028$   
 non-ED vs. T2 adjusted  $p = 0.58$   
 T1 vs. T2 adjusted  $p = 0.031$



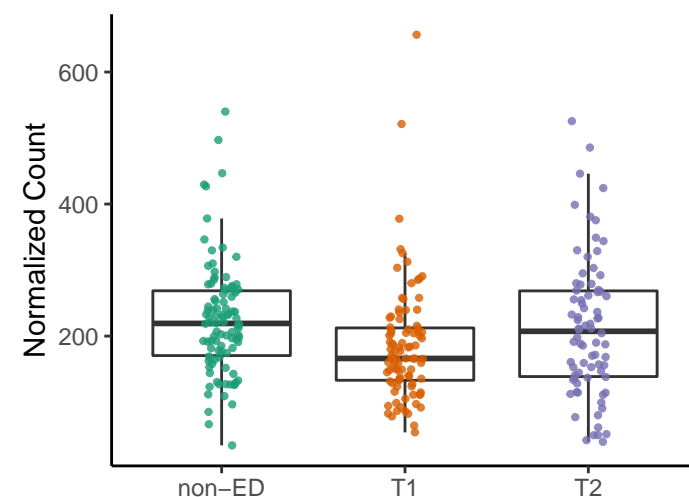
### COA-PWY-1: coenzyme A biosynthe

non-ED vs. T1 adjusted  $p = 0.00022$   
 non-ED vs. T2 adjusted  $p = 0.13$   
 T1 vs. T2 adjusted  $p = 0.033$



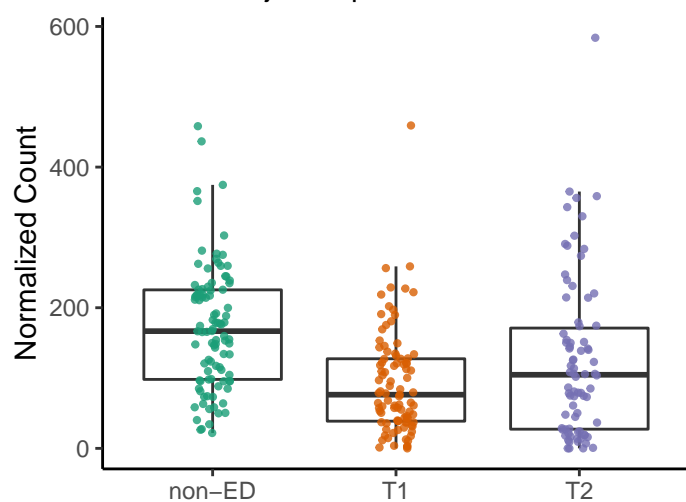
### COA-PWY: coenzyme A biosynthesis I

non-ED vs. T1 adjusted  $p = 0.0084$   
 non-ED vs. T2 adjusted  $p = 0.56$   
 T1 vs. T2 adjusted  $p = 0.033$



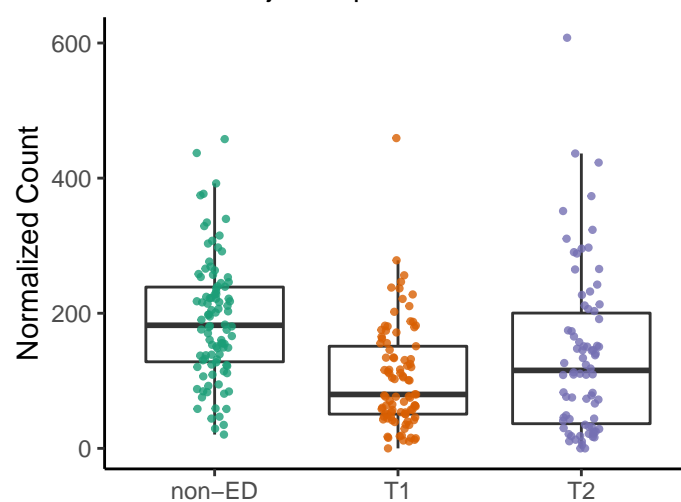
### GALACT-GLUCUROCAT-PWY: super

non-ED vs. T1 adjusted  $p = 9.2e-09$   
 non-ED vs. T2 adjusted  $p = 0.028$   
 T1 vs. T2 adjusted  $p = 0.033$



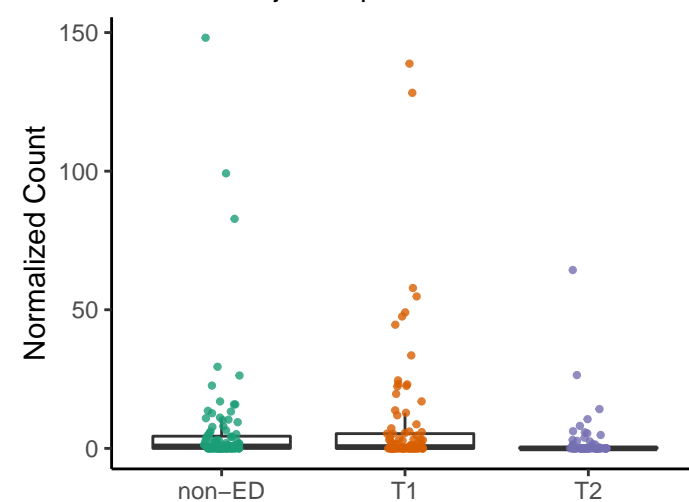
### GLUCUROCAT-PWY: superpathway o

non-ED vs. T1 adjusted  $p = 2.4e-09$   
 non-ED vs. T2 adjusted  $p = 0.021$   
 T1 vs. T2 adjusted  $p = 0.033$



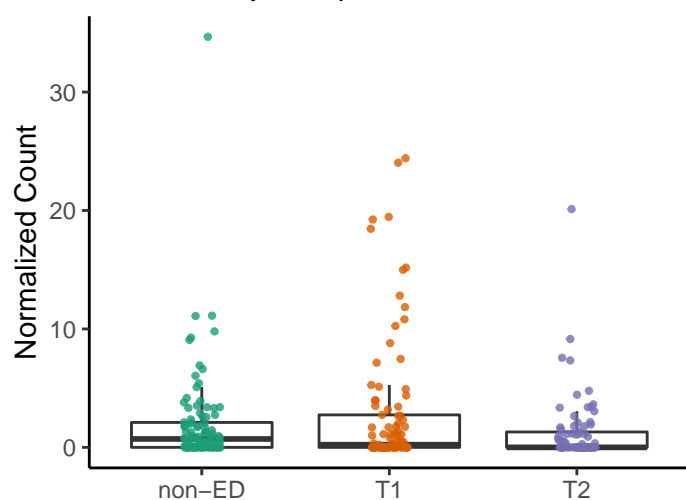
### PWY-5723: Rubisco shunt

non-ED vs. T1 adjusted  $p = 0.55$   
 non-ED vs. T2 adjusted  $p = 0.12$   
 T1 vs. T2 adjusted  $p = 0.033$



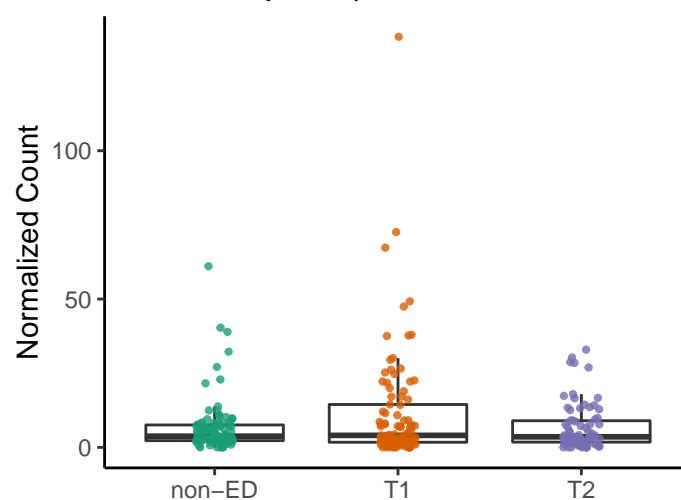
### PWY0-1415: superpathway of heme bic

non-ED vs. T1 adjusted  $p = 0.31$   
 non-ED vs. T2 adjusted  $p = 0.28$   
 T1 vs. T2 adjusted  $p = 0.033$



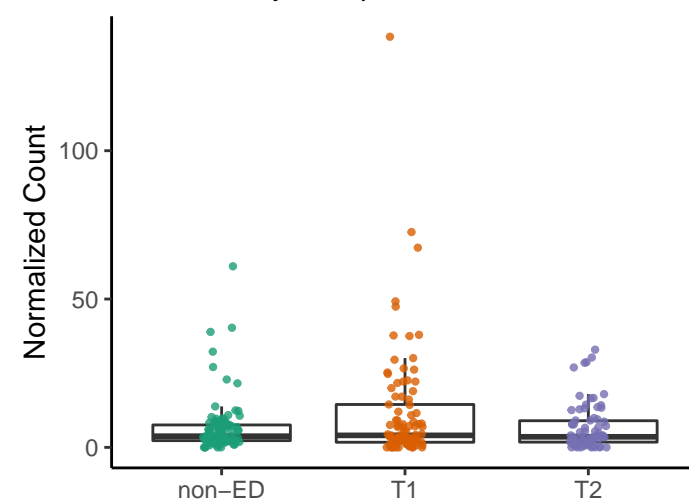
### PWY-5791: 1,4-dihydroxy-2-naphtho

non-ED vs. T1 adjusted  $p = 0.055$   
 non-ED vs. T2 adjusted  $p = 0.97$   
 T1 vs. T2 adjusted  $p = 0.037$



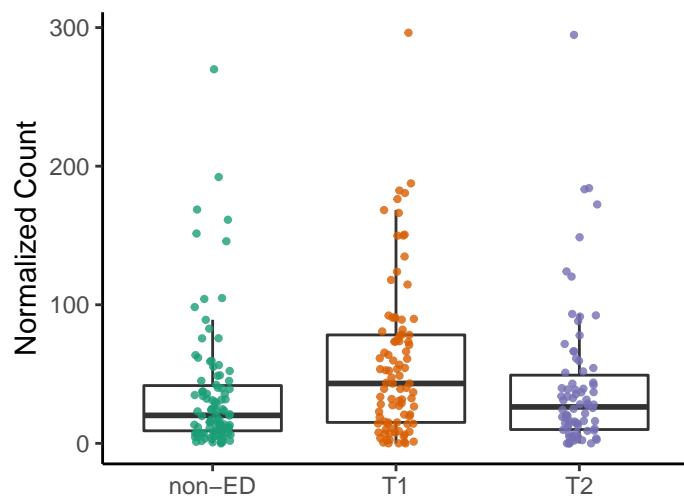
### PWY-5837: 1,4-dihydroxy-2-naphtho

non-ED vs. T1 adjusted  $p = 0.055$   
 non-ED vs. T2 adjusted  $p = 0.97$   
 T1 vs. T2 adjusted  $p = 0.037$



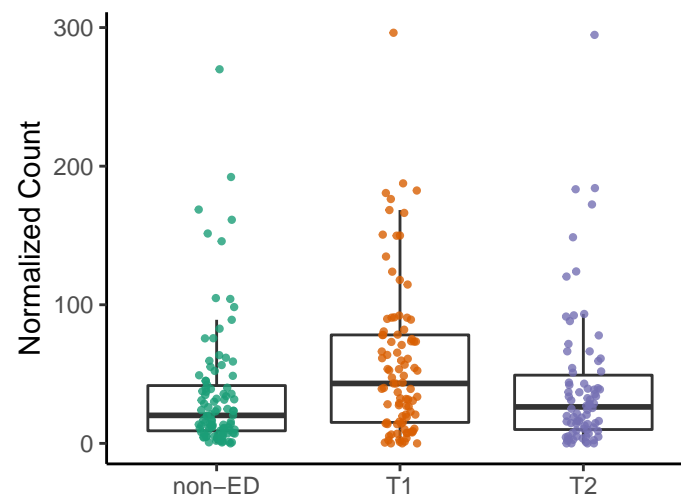
### PWY4FS-7: phosphatidylglycerol biosy

non-ED vs. T1 adjusted  $p = 0.012$   
 non-ED vs. T2 adjusted  $p = 0.58$   
 T1 vs. T2 adjusted  $p = 0.039$



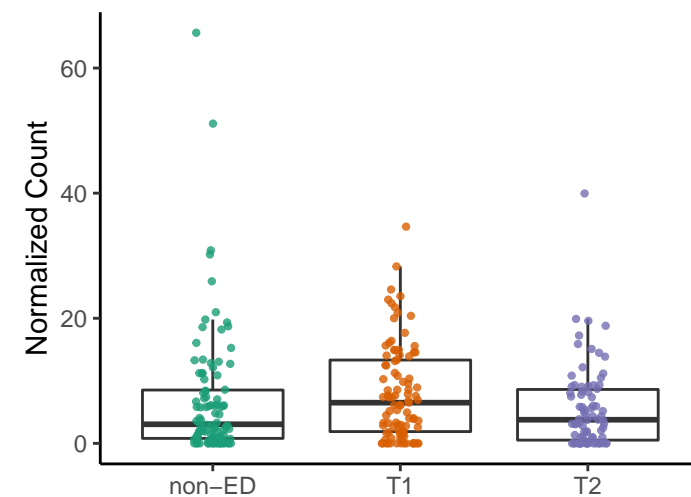
### PWY4FS-8: phosphatidylglycerol biosy

non-ED vs. T1 adjusted  $p = 0.012$   
 non-ED vs. T2 adjusted  $p = 0.58$   
 T1 vs. T2 adjusted  $p = 0.039$



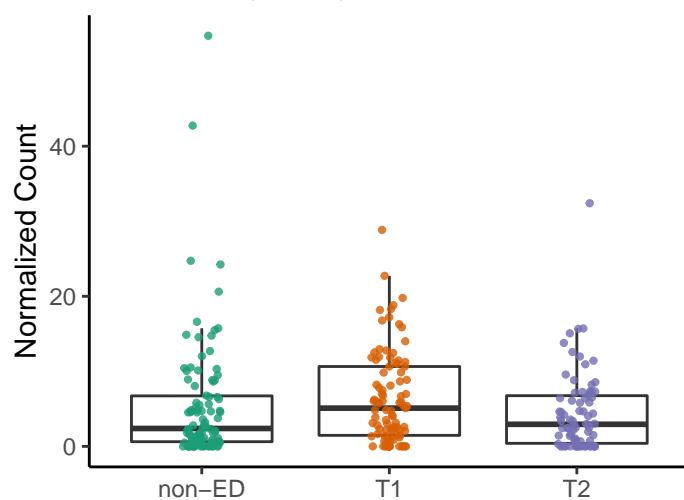
### PWY-6590: superpathway of Clostridium

non-ED vs. T1 adjusted  $p = 0.48$   
 non-ED vs. T2 adjusted  $p = 0.43$   
 T1 vs. T2 adjusted  $p = 0.041$



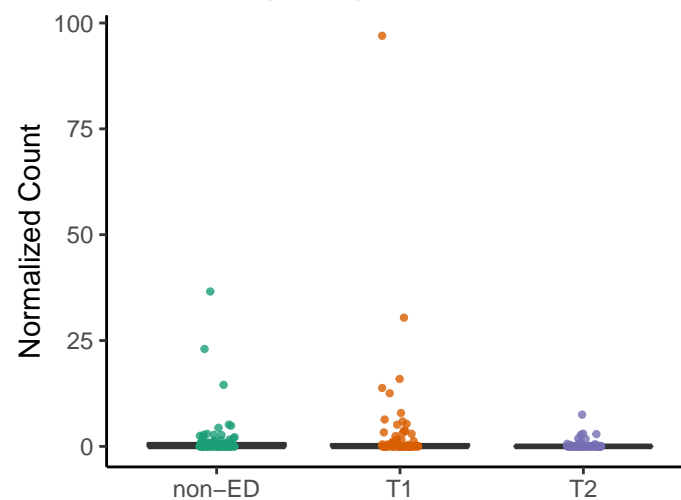
### CENTFERM-PWY: pyruvate fermentatic

non-ED vs. T1 adjusted  $p = 0.5$   
 non-ED vs. T2 adjusted  $p = 0.43$   
 T1 vs. T2 adjusted  $p = 0.041$



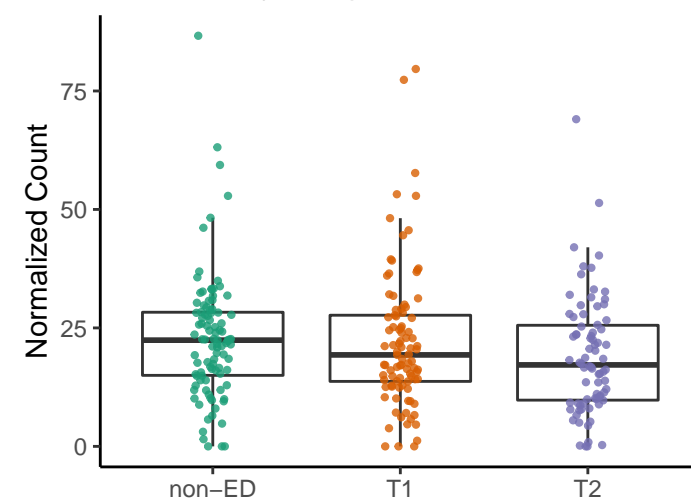
### KDO-NAGLIPASYN-PWY: superpathw

non-ED vs. T1 adjusted  $p = 0.47$   
 non-ED vs. T2 adjusted  $p = 0.11$   
 T1 vs. T2 adjusted  $p = 0.041$



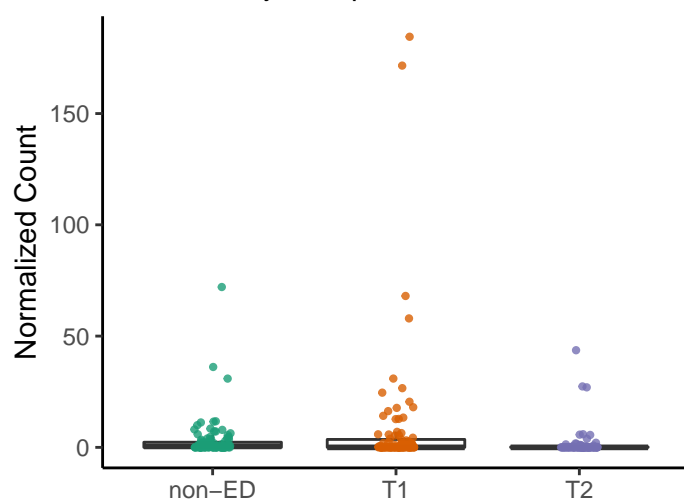
### P164-PWY: purine nucleobases degrad

non-ED vs. T1 adjusted  $p = 0.79$   
 non-ED vs. T2 adjusted  $p = 0.12$   
 T1 vs. T2 adjusted  $p = 0.041$



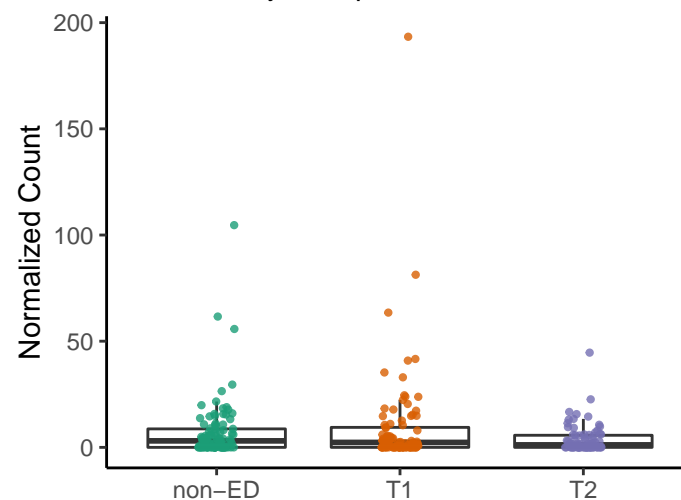
### PWY-4041: &gamma;-glutamyl cycle

non-ED vs. T1 adjusted  $p = 0.17$   
 non-ED vs. T2 adjusted  $p = 0.35$   
 T1 vs. T2 adjusted  $p = 0.041$



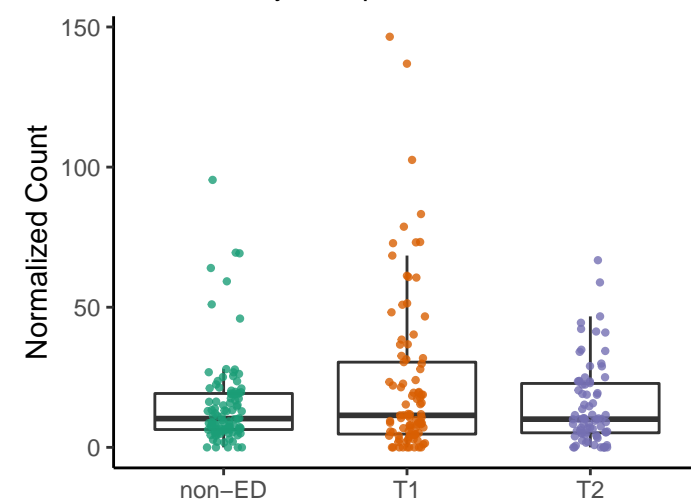
### FUC-RHAMCAT-PWY: superpathway

non-ED vs. T1 adjusted  $p = 0.55$   
 non-ED vs. T2 adjusted  $p = 0.096$   
 T1 vs. T2 adjusted  $p = 0.042$



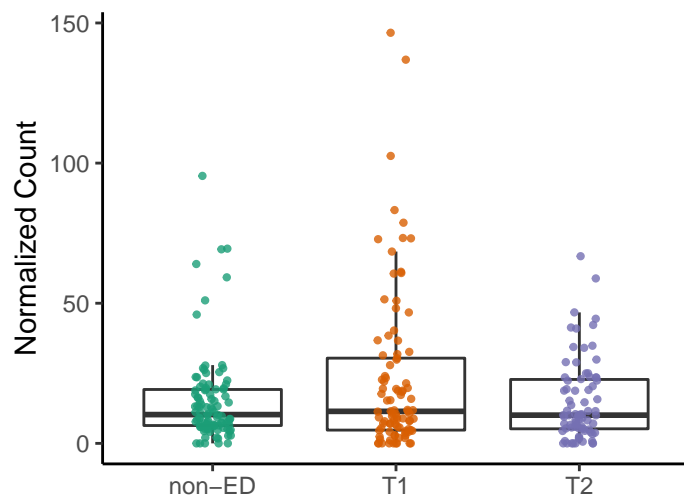
### PWY-5897: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.056$   
 non-ED vs. T2 adjusted  $p = 0.93$   
 T1 vs. T2 adjusted  $p = 0.042$



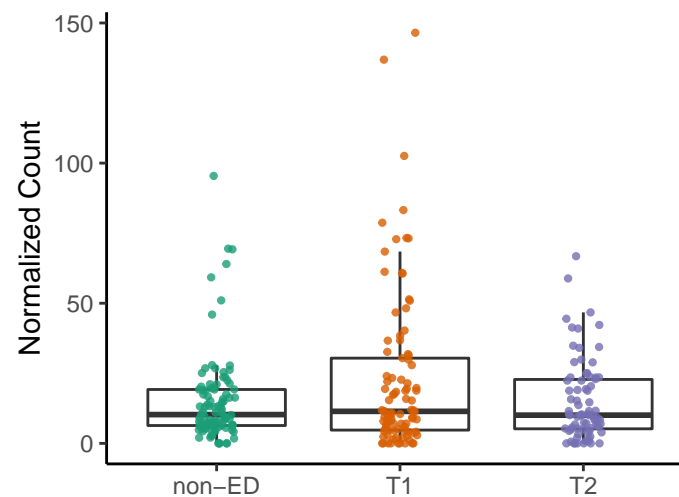
### PWY-5898: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.056$   
 non-ED vs. T2 adjusted  $p = 0.93$   
 T1 vs. T2 adjusted  $p = 0.042$



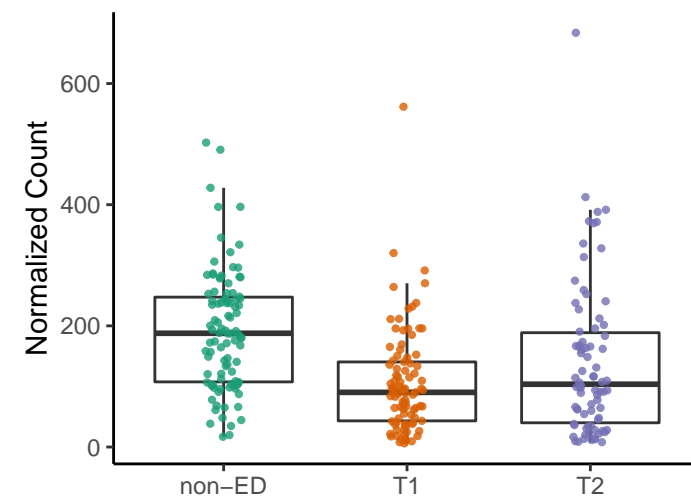
### PWY-5899: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.056$   
 non-ED vs. T2 adjusted  $p = 0.93$   
 T1 vs. T2 adjusted  $p = 0.042$



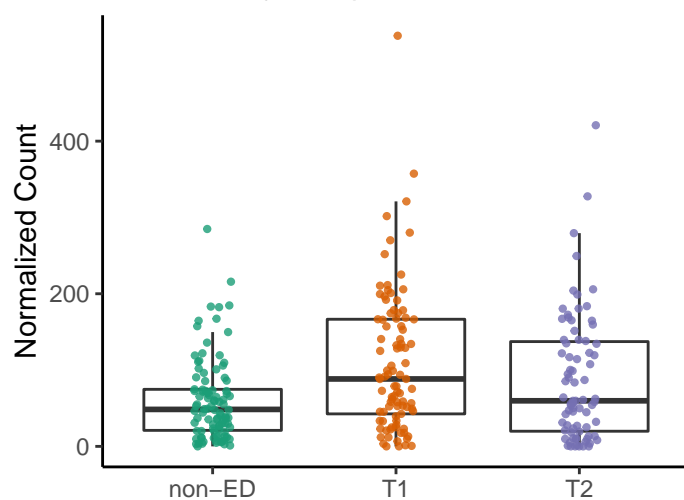
### PWY-6507: 4-deoxy-L-threo-hex-4-

non-ED vs. T1 adjusted  $p = 1.8e-08$   
 non-ED vs. T2 adjusted  $p = 0.024$   
 T1 vs. T2 adjusted  $p = 0.042$



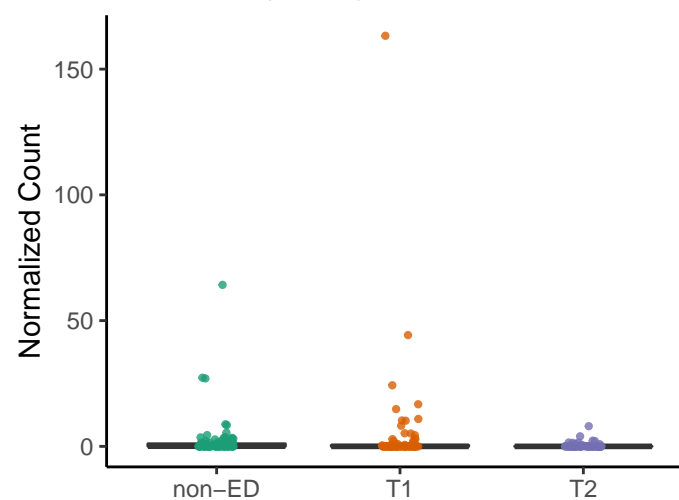
### PYRIDOXSYN-PWY: pyridoxal 5'-phos

non-ED vs. T1 adjusted  $p = 0.00011$   
 non-ED vs. T2 adjusted  $p = 0.067$   
 T1 vs. T2 adjusted  $p = 0.042$



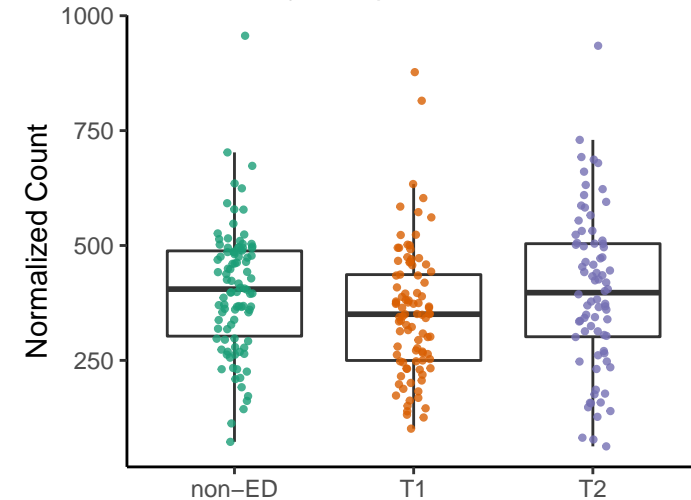
### PWY-7409: phospholipid remodeling (r

non-ED vs. T1 adjusted  $p = 0.53$   
 non-ED vs. T2 adjusted  $p = 0.093$   
 T1 vs. T2 adjusted  $p = 0.044$



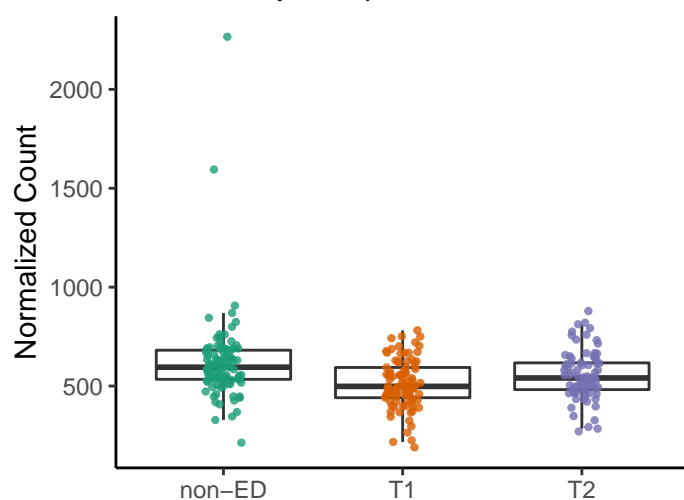
### PWY-6385: peptidoglycan biosynthesi

non-ED vs. T1 adjusted  $p = 0.042$   
 non-ED vs. T2 adjusted  $p = 0.95$   
 T1 vs. T2 adjusted  $p = 0.045$



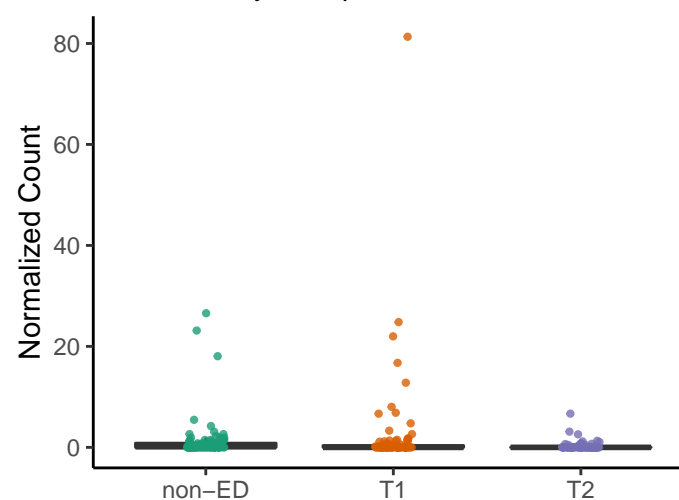
### NONMEVIPP-PWY: methylerythritol p

non-ED vs. T1 adjusted  $p = 0.00025$   
 non-ED vs. T2 adjusted  $p = 0.065$   
 T1 vs. T2 adjusted  $p = 0.047$



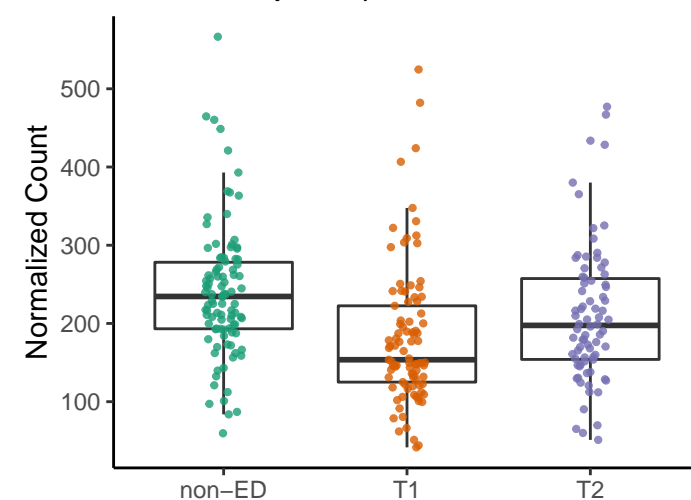
### METHGLYUT-PWY: superpathway of m

non-ED vs. T1 adjusted  $p = 0.47$   
 non-ED vs. T2 adjusted  $p = 0.079$   
 T1 vs. T2 adjusted  $p = 0.05$



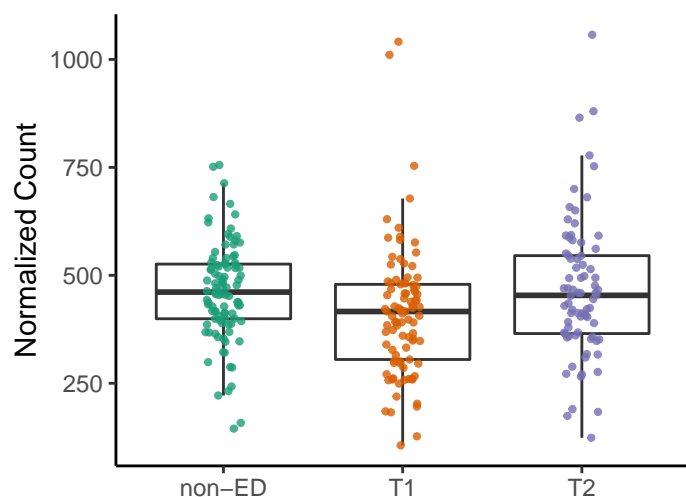
### PWY-5100: pyruvate fermentation to ac

non-ED vs. T1 adjusted  $p = 4.7e-05$   
 non-ED vs. T2 adjusted  $p = 0.093$   
 T1 vs. T2 adjusted  $p = 0.05$



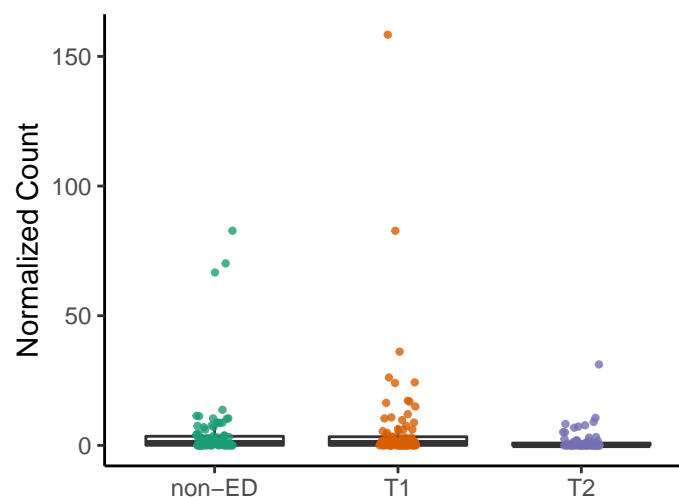
### PWY0-1296: purine ribonucleosides d

non-ED vs. T1 adjusted  $p = 0.032$   
 non-ED vs. T2 adjusted  $p = 0.91$   
 T1 vs. T2 adjusted  $p = 0.05$



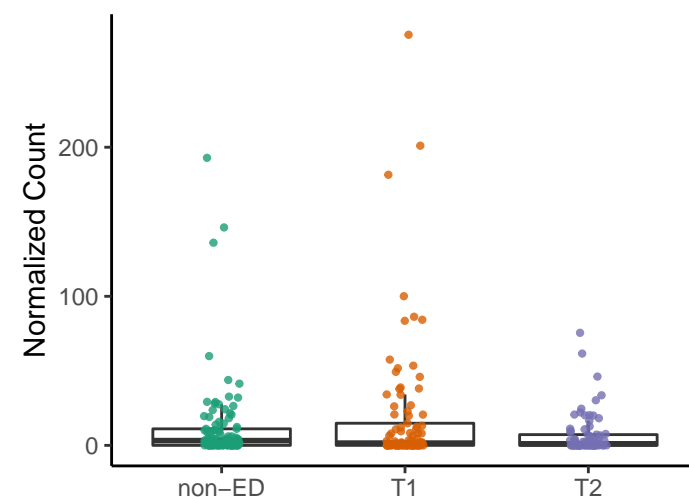
### PWY-7254: TCA cycle VII (acetate-pr

non-ED vs. T1 adjusted  $p = 0.6$   
 non-ED vs. T2 adjusted  $p = 0.096$   
 T1 vs. T2 adjusted  $p = 0.05$



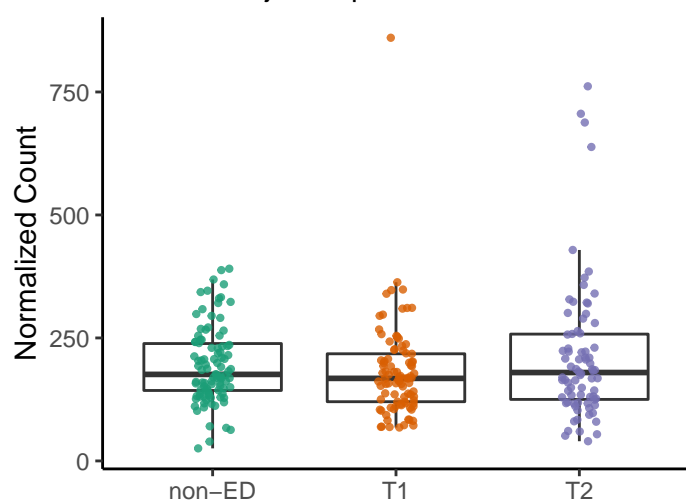
### PWY-6630: superpathway of L-tyrosin

non-ED vs. T1 adjusted  $p = 0.37$   
 non-ED vs. T2 adjusted  $p = 0.19$   
 T1 vs. T2 adjusted  $p = 0.051$



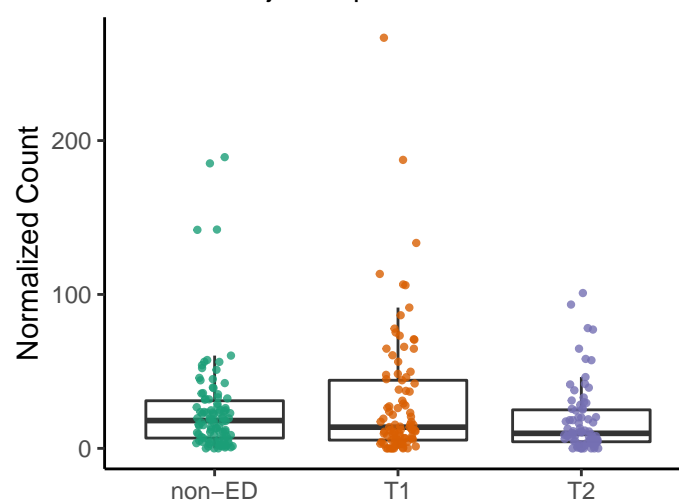
### PWY-5188: tetrapyrrole biosynthesis I

non-ED vs. T1 adjusted  $p = 0.47$   
 non-ED vs. T2 adjusted  $p = 0.43$   
 T1 vs. T2 adjusted  $p = 0.052$



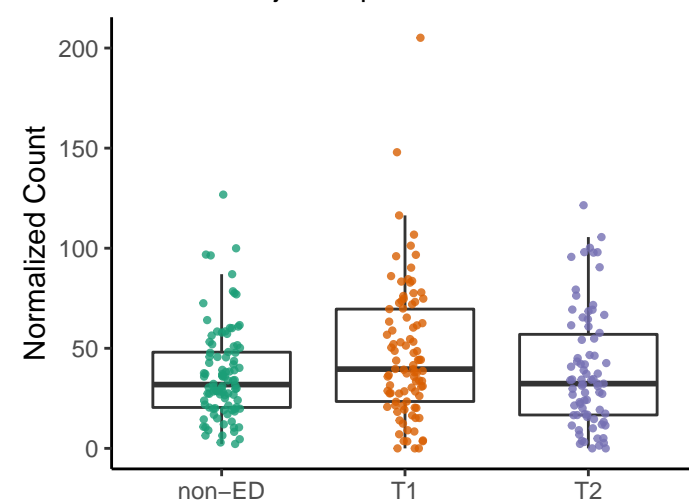
### PWY-6628: superpathway of L-phenyl

non-ED vs. T1 adjusted  $p = 0.47$   
 non-ED vs. T2 adjusted  $p = 0.19$   
 T1 vs. T2 adjusted  $p = 0.052$



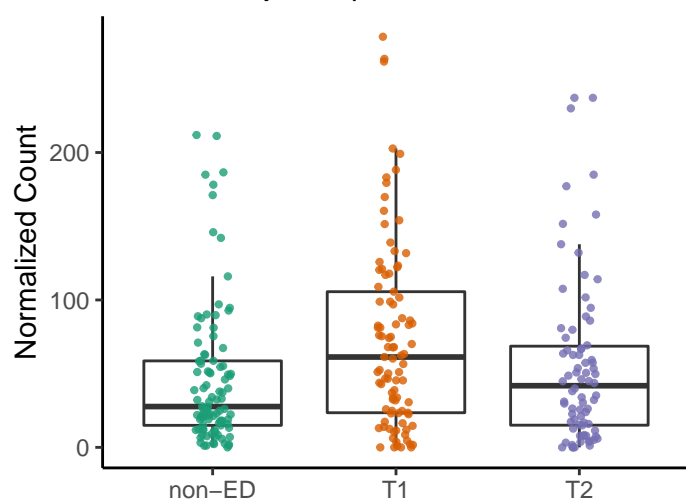
### HEXITOLDEGSUPER-PWY: superpath

non-ED vs. T1 adjusted  $p = 0.045$   
 non-ED vs. T2 adjusted  $p = 0.77$   
 T1 vs. T2 adjusted  $p = 0.056$



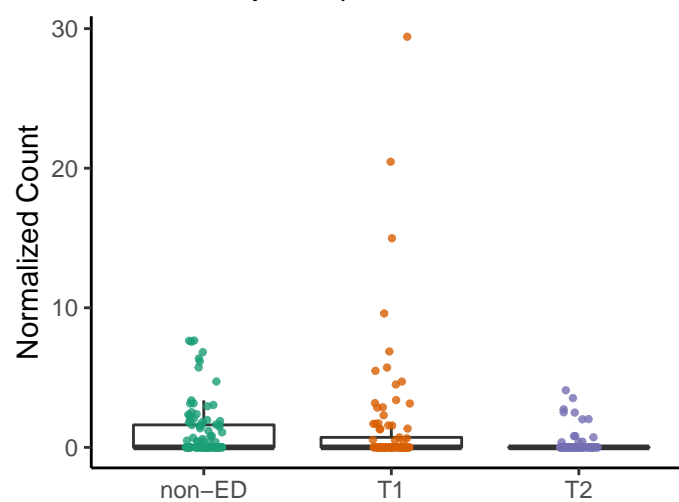
### PHOSLIPSYN-PWY: superpathway of

non-ED vs. T1 adjusted  $p = 0.0043$   
 non-ED vs. T2 adjusted  $p = 0.39$   
 T1 vs. T2 adjusted  $p = 0.056$



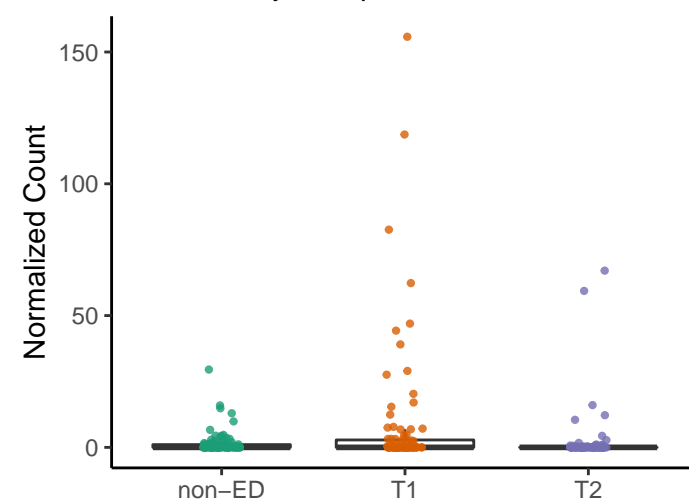
### PWY-6263: superpathway of menaquin

non-ED vs. T1 adjusted  $p = 0.57$   
 non-ED vs. T2 adjusted  $p = 0.0041$   
 T1 vs. T2 adjusted  $p = 0.056$



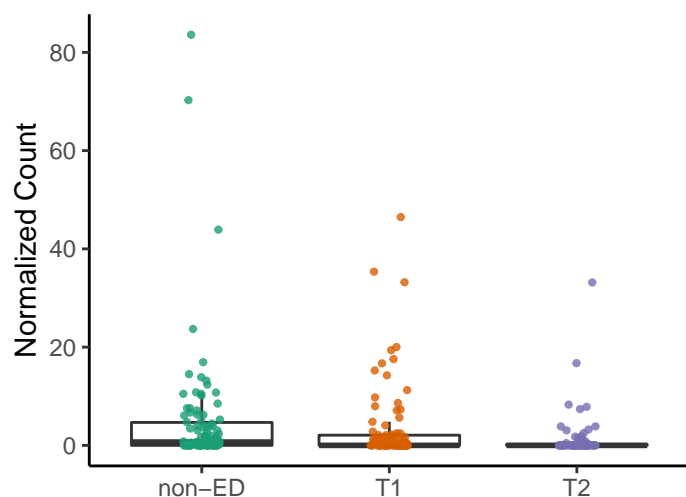
### PWY-7013: L-1,2-propanediol degrad

non-ED vs. T1 adjusted  $p = 0.03$   
 non-ED vs. T2 adjusted  $p = 0.63$   
 T1 vs. T2 adjusted  $p = 0.056$



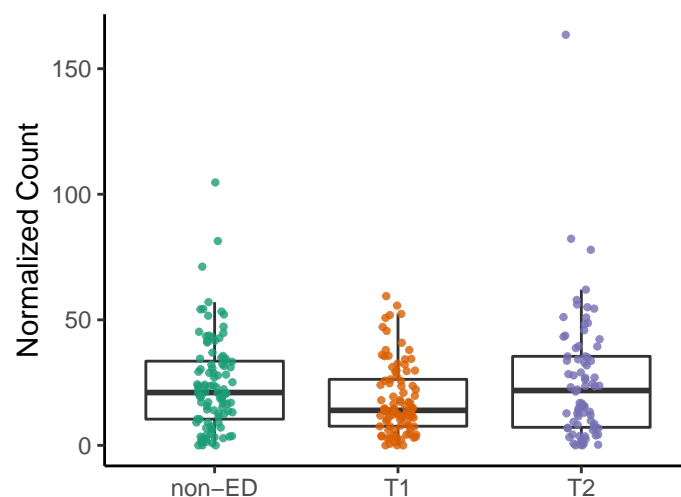
### PWY-561: superpathway of glyoxylate c

non-ED vs. T1 adjusted p = 0.47  
non-ED vs. T2 adjusted p = 0.043  
T1 vs. T2 adjusted p = 0.058



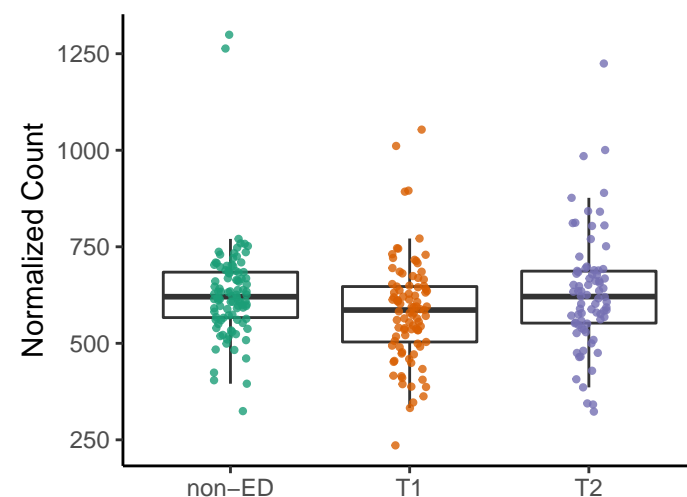
### PWY-6595: superpathway of guanosin

non-ED vs. T1 adjusted p = 0.039  
non-ED vs. T2 adjusted p = 0.78  
T1 vs. T2 adjusted p = 0.058



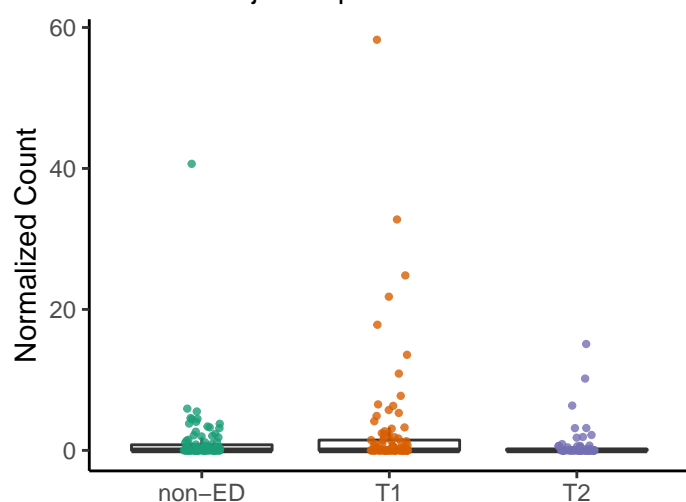
### PWY-7221: guanosine ribonucleotides

non-ED vs. T1 adjusted p = 0.039  
non-ED vs. T2 adjusted p = 0.97  
T1 vs. T2 adjusted p = 0.059



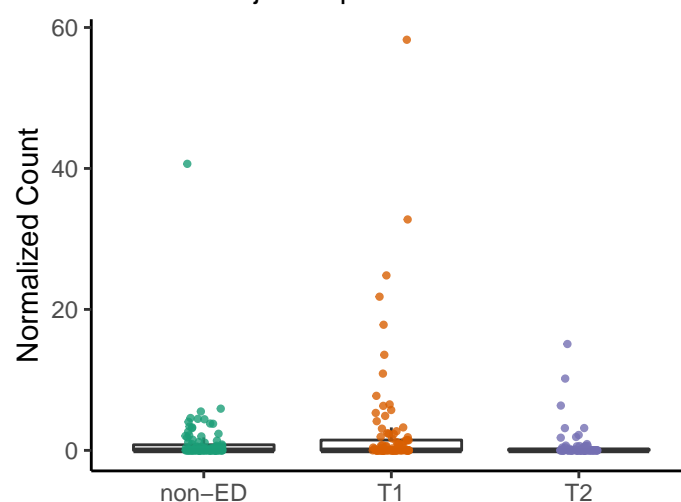
### GALACTARDEG-PWY: D-galactarate d

non-ED vs. T1 adjusted p = 0.17  
non-ED vs. T2 adjusted p = 0.42  
T1 vs. T2 adjusted p = 0.06



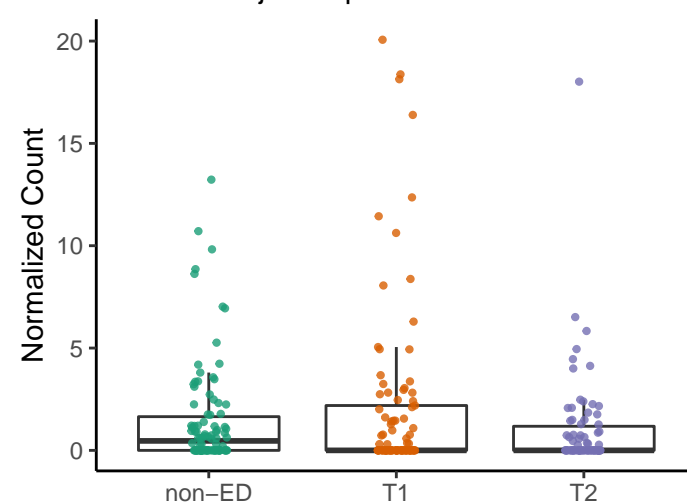
### GLUCARGALACTSUPER-PWY: super

non-ED vs. T1 adjusted p = 0.17  
non-ED vs. T2 adjusted p = 0.42  
T1 vs. T2 adjusted p = 0.06



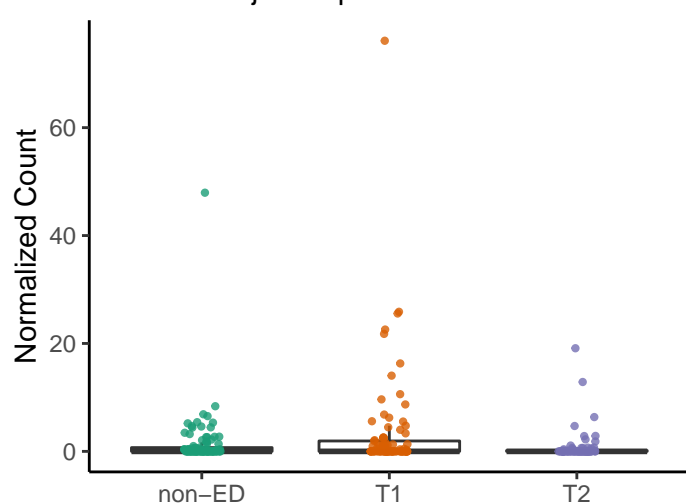
### PWY-5920: superpathway of heme bios

non-ED vs. T1 adjusted p = 0.33  
non-ED vs. T2 adjusted p = 0.37  
T1 vs. T2 adjusted p = 0.063



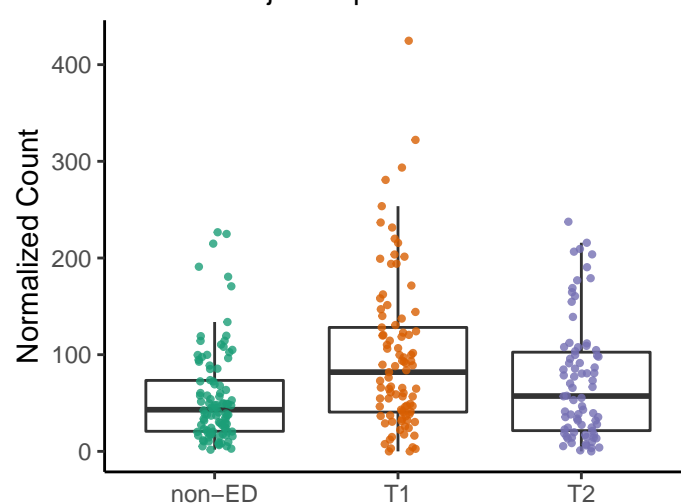
### GLUCARDEG-PWY: D-glucarate degra

non-ED vs. T1 adjusted p = 0.19  
non-ED vs. T2 adjusted p = 0.39  
T1 vs. T2 adjusted p = 0.063



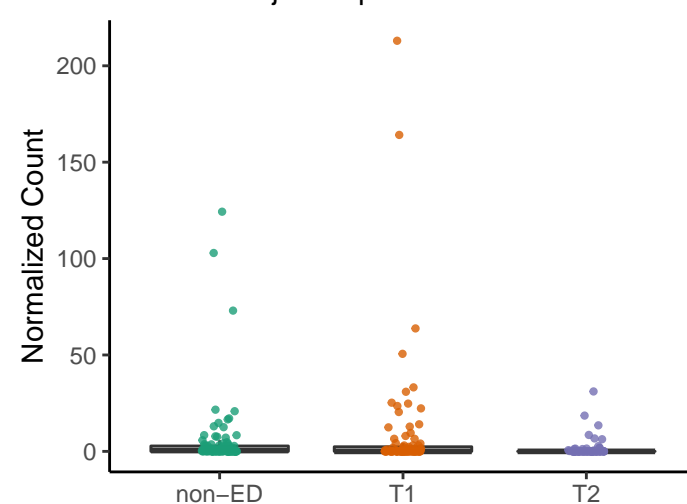
### PWY-5484: glycolysis II (from fructose

non-ED vs. T1 adjusted p = 0.00023  
non-ED vs. T2 adjusted p = 0.15  
T1 vs. T2 adjusted p = 0.063



### PWY-6891: thiazole biosynthesis II (Ba

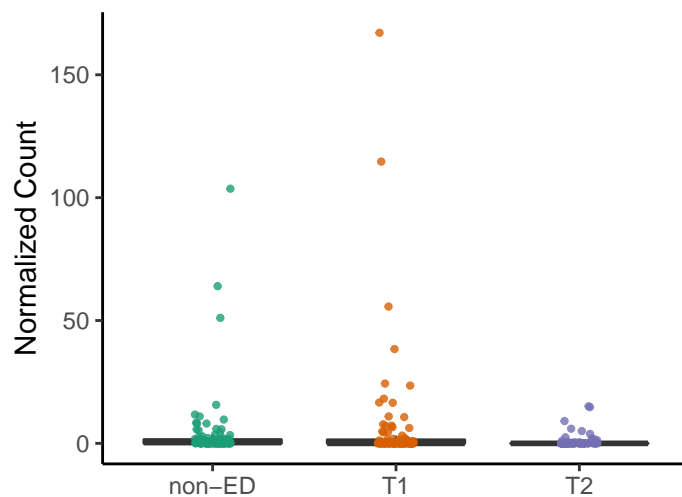
non-ED vs. T1 adjusted p = 0.51  
non-ED vs. T2 adjusted p = 0.096  
T1 vs. T2 adjusted p = 0.063





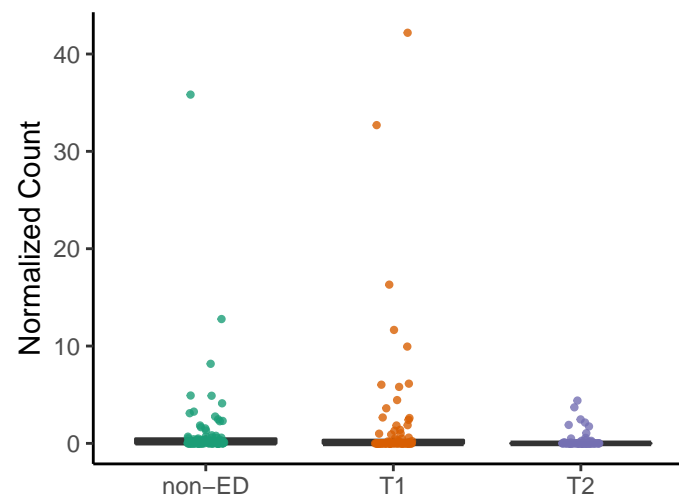
### PWY-7269: NAD/NADP-NADH/NADP

non-ED vs. T1 adjusted  $p = 0.5$   
non-ED vs. T2 adjusted  $p = 0.11$   
T1 vs. T2 adjusted  $p = 0.063$



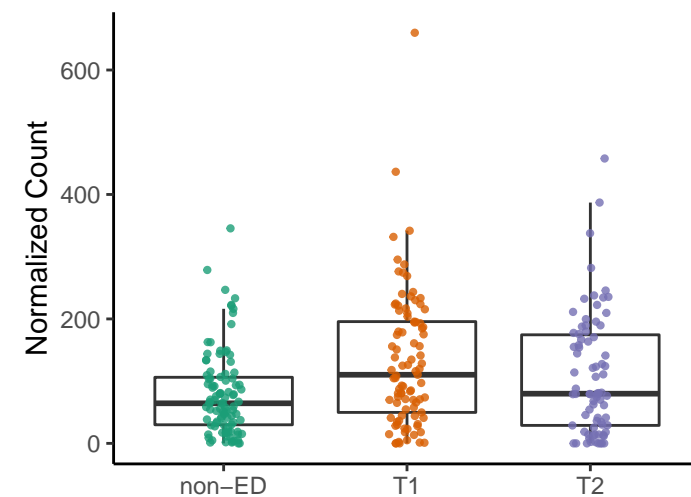
### PWY0-1338: polymyxin resistance

non-ED vs. T1 adjusted  $p = 0.51$   
non-ED vs. T2 adjusted  $p = 0.13$   
T1 vs. T2 adjusted  $p = 0.063$



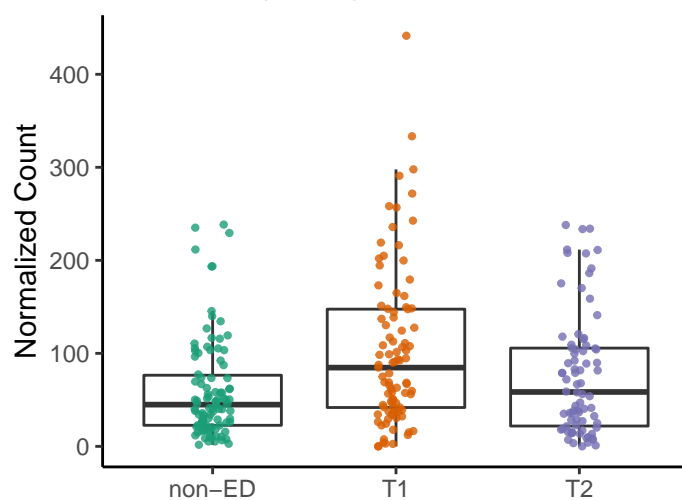
### PWY0-845: superpathway of pyridoxal

non-ED vs. T1 adjusted  $p = 0.00046$   
non-ED vs. T2 adjusted  $p = 0.09$   
T1 vs. T2 adjusted  $p = 0.063$



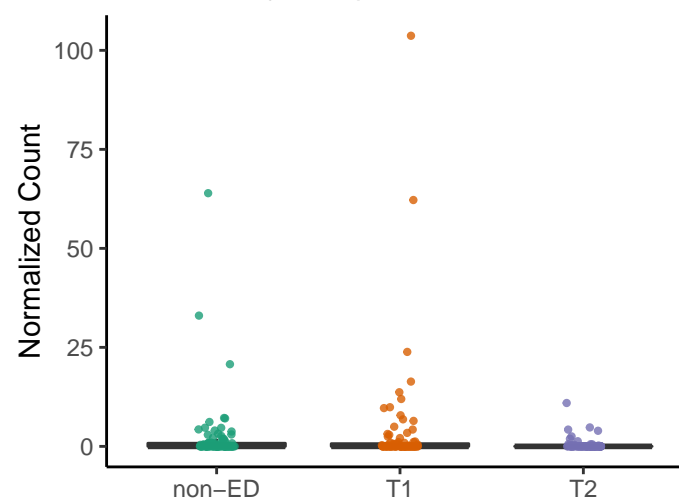
### GLYCOLYSIS: glycolysis I (from glucos

non-ED vs. T1 adjusted  $p = 0.00026$   
non-ED vs. T2 adjusted  $p = 0.17$   
T1 vs. T2 adjusted  $p = 0.064$



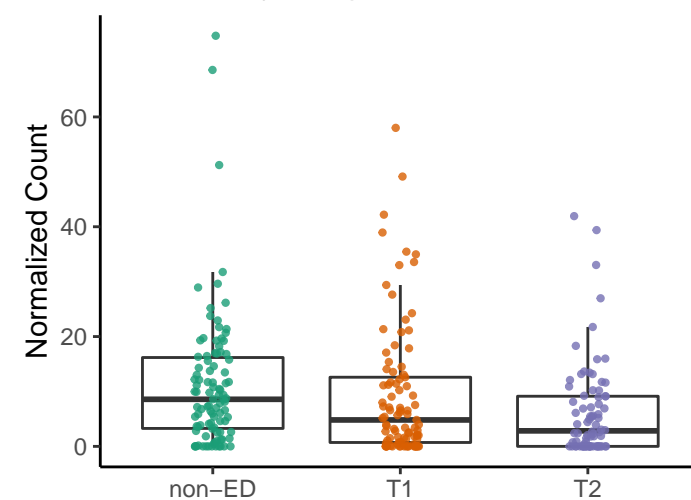
### ECASYN-PWY: enterobacterial comm

non-ED vs. T1 adjusted  $p = 0.51$   
non-ED vs. T2 adjusted  $p = 0.13$   
T1 vs. T2 adjusted  $p = 0.065$



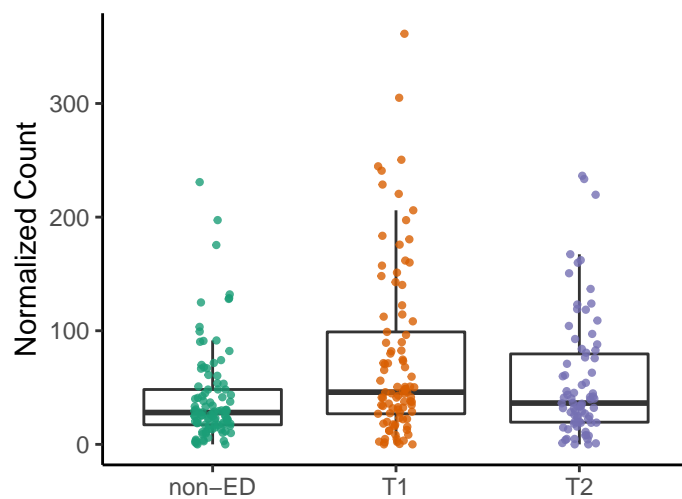
### FAO-PWY: fatty acid &beta;-oxidation I

non-ED vs. T1 adjusted  $p = 0.42$   
non-ED vs. T2 adjusted  $p = 0.021$   
T1 vs. T2 adjusted  $p = 0.065$



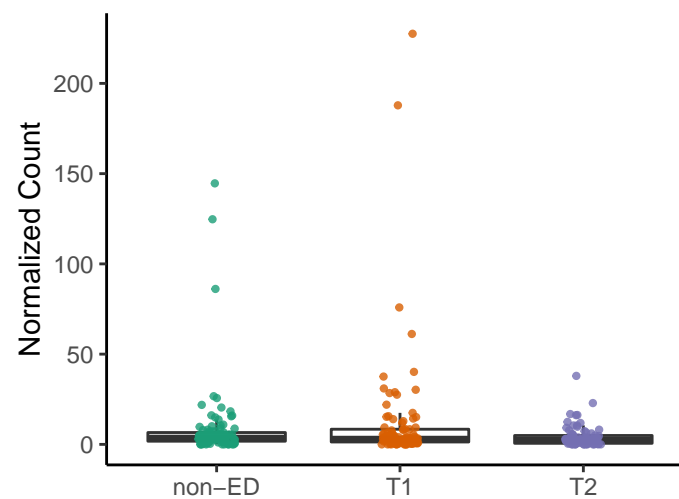
### PWY66-400: glycolysis VI (metazoan)

non-ED vs. T1 adjusted  $p = 0.00082$   
non-ED vs. T2 adjusted  $p = 0.12$   
T1 vs. T2 adjusted  $p = 0.065$



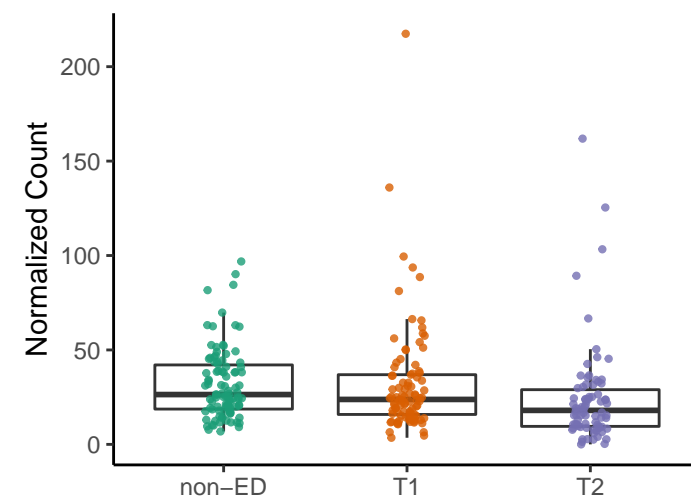
### PWY-6892: thiazole biosynthesis I (E.

non-ED vs. T1 adjusted  $p = 0.51$   
non-ED vs. T2 adjusted  $p = 0.12$   
T1 vs. T2 adjusted  $p = 0.068$



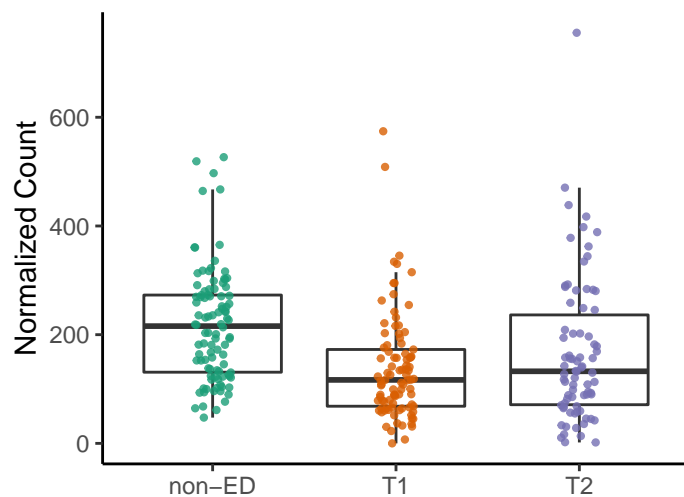
### PWY-5690: TCA cycle II (plants and fu

non-ED vs. T1 adjusted  $p = 0.94$   
non-ED vs. T2 adjusted  $p = 0.1$   
T1 vs. T2 adjusted  $p = 0.071$



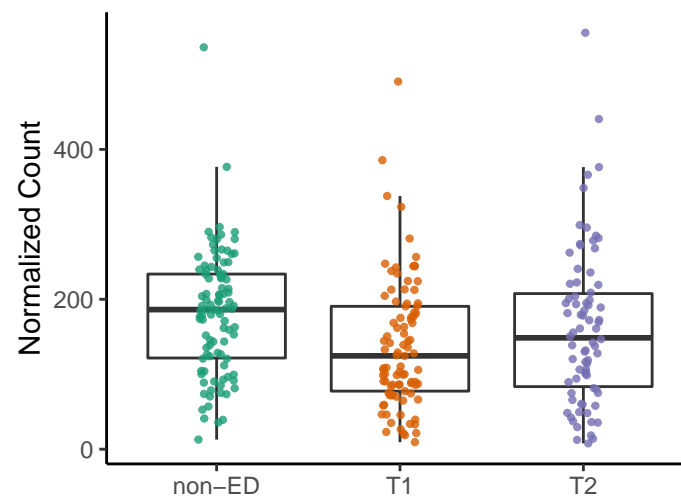
### GLCMANNANAUT–PWY: superpathwa

non-ED vs. T1 adjusted  $p = 2.8e-06$   
non-ED vs. T2 adjusted  $p = 0.041$   
T1 vs. T2 adjusted  $p = 0.071$



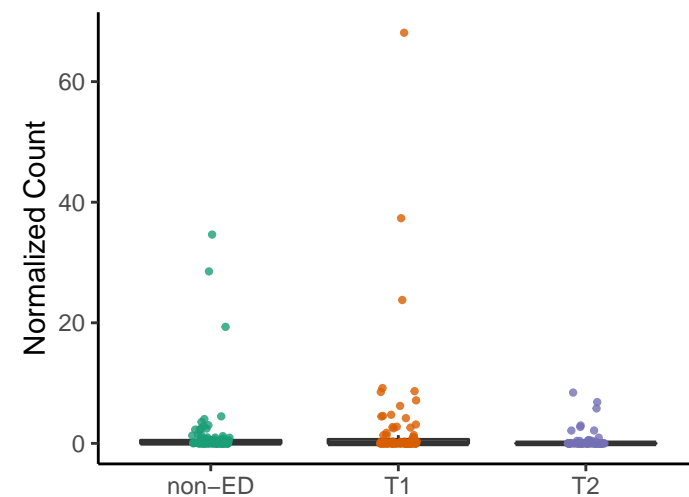
### ASPASN–PWY: superpathway of L-asparagin

non-ED vs. T1 adjusted  $p = 0.0021$   
non-ED vs. T2 adjusted  $p = 0.28$   
T1 vs. T2 adjusted  $p = 0.074$



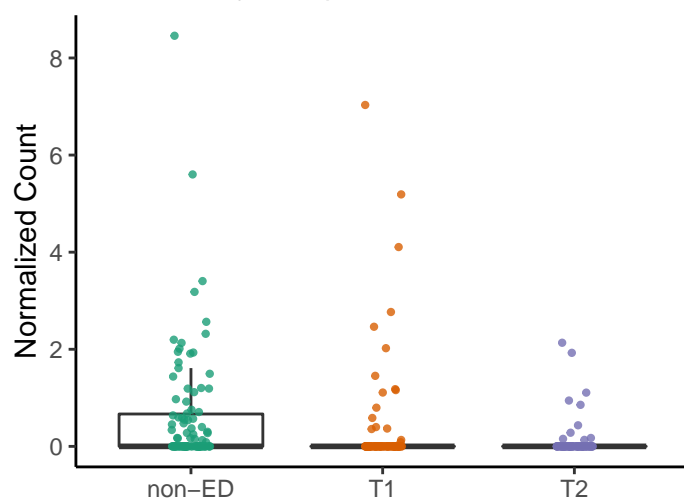
### AST–PWY: L-arginine degradation II (A

non-ED vs. T1 adjusted  $p = 0.47$   
non-ED vs. T2 adjusted  $p = 0.19$   
T1 vs. T2 adjusted  $p = 0.074$



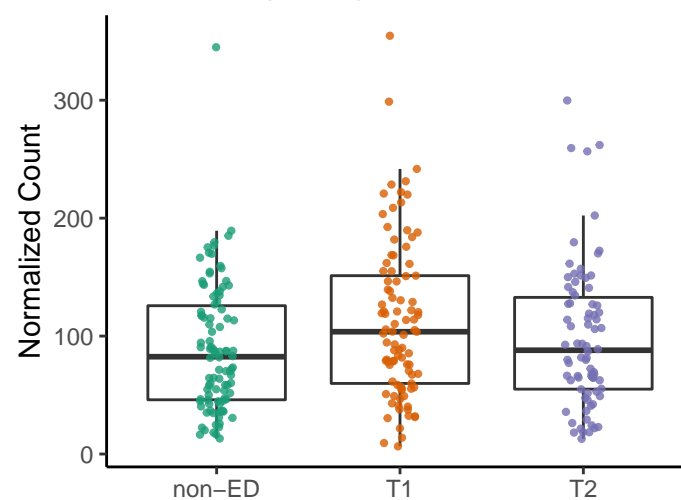
### PWY–5692: allantoin degradation to glyo

non-ED vs. T1 adjusted  $p = 0.18$   
non-ED vs. T2 adjusted  $p = 0.0032$   
T1 vs. T2 adjusted  $p = 0.074$



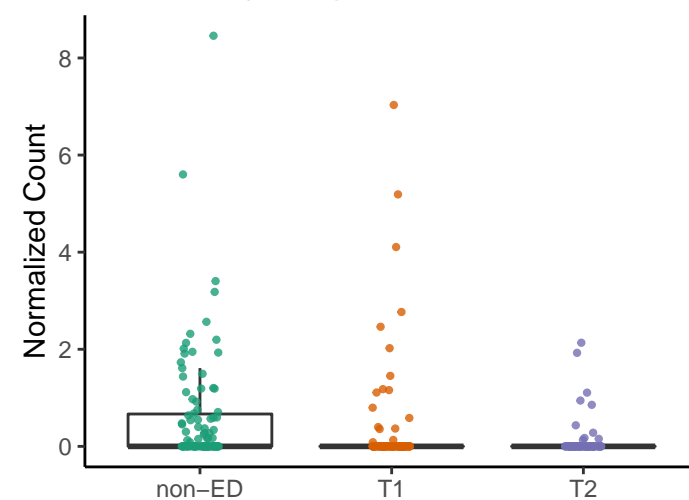
### PWY66–409: superpathway of purine n

non-ED vs. T1 adjusted  $p = 0.026$   
non-ED vs. T2 adjusted  $p = 0.42$   
T1 vs. T2 adjusted  $p = 0.074$



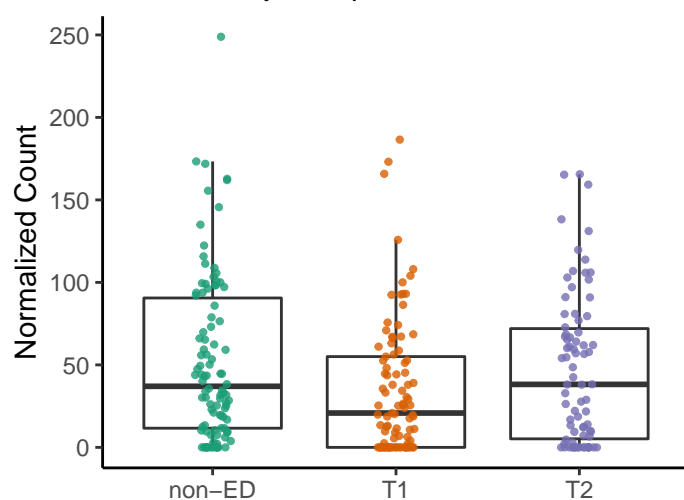
### URDEGR–PWY: superpathway of allanto

non-ED vs. T1 adjusted  $p = 0.18$   
non-ED vs. T2 adjusted  $p = 0.0032$   
T1 vs. T2 adjusted  $p = 0.074$



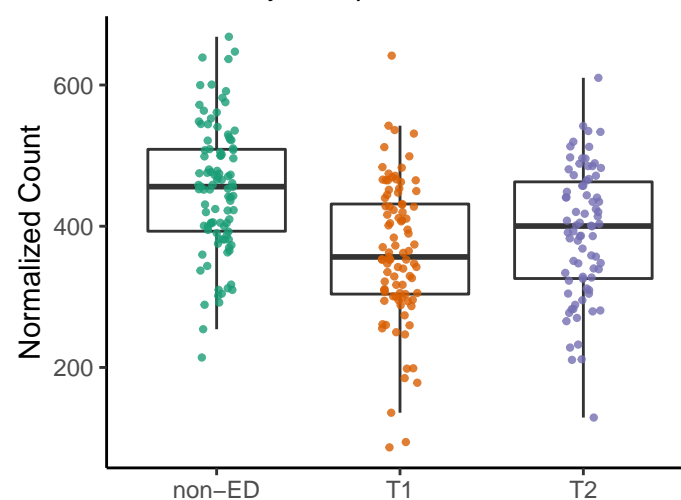
### PWY–7456: mannan degradation

non-ED vs. T1 adjusted  $p = 0.029$   
non-ED vs. T2 adjusted  $p = 0.59$   
T1 vs. T2 adjusted  $p = 0.078$



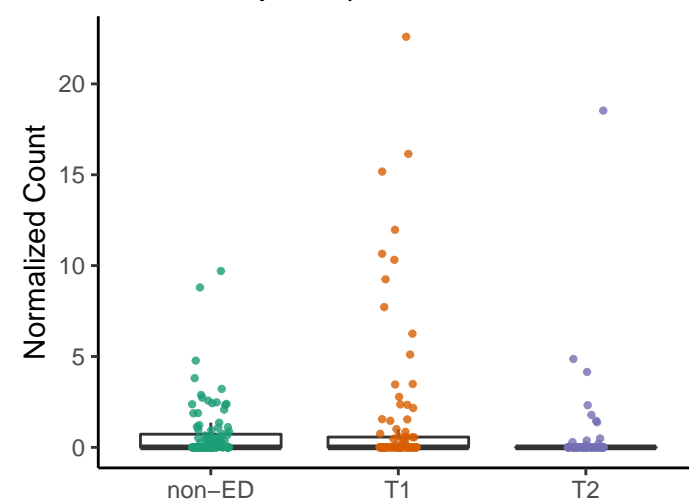
### TRNA–CHARGING–PWY: tRNA chargi

non-ED vs. T1 adjusted  $p = 1.9e-08$   
non-ED vs. T2 adjusted  $p = 0.00067$   
T1 vs. T2 adjusted  $p = 0.078$



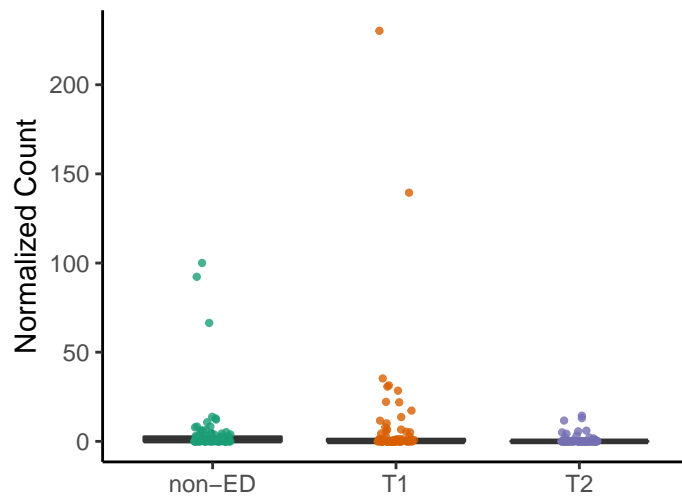
### PWY–7399: methylphosphonate degrad

non-ED vs. T1 adjusted  $p = 0.14$   
non-ED vs. T2 adjusted  $p = 0.46$   
T1 vs. T2 adjusted  $p = 0.078$



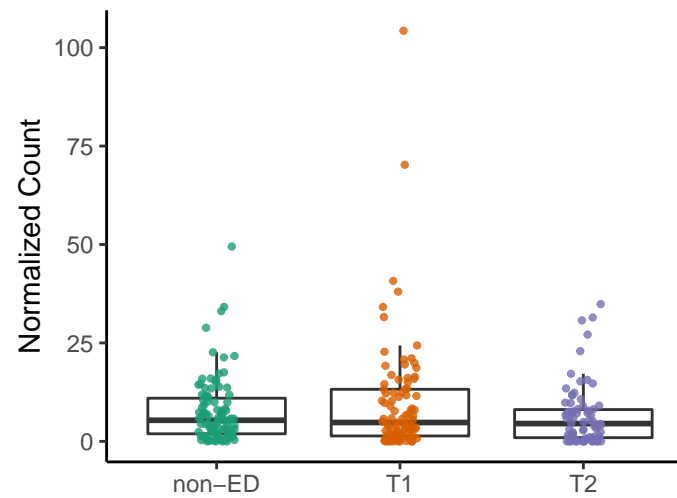
### PWY-7315: dTDP-N-acetylthomosam

non-ED vs. T1 adjusted  $p = 0.54$   
non-ED vs. T2 adjusted  $p = 0.093$   
T1 vs. T2 adjusted  $p = 0.08$



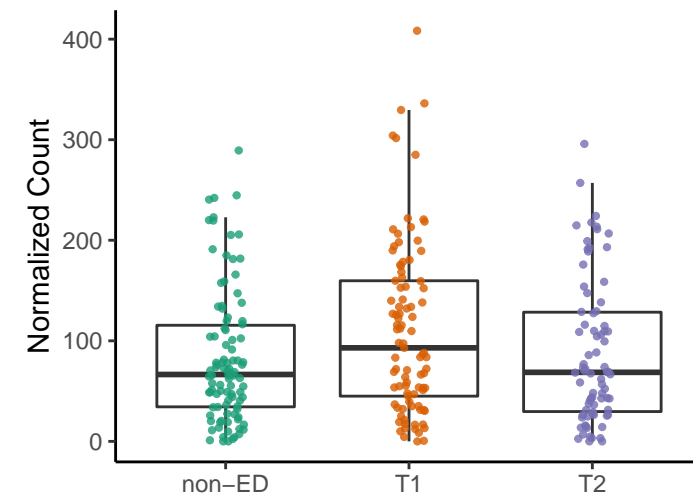
### GLUDEG-I-PWY: GABA shunt

non-ED vs. T1 adjusted  $p = 0.33$   
non-ED vs. T2 adjusted  $p = 0.43$   
T1 vs. T2 adjusted  $p = 0.095$



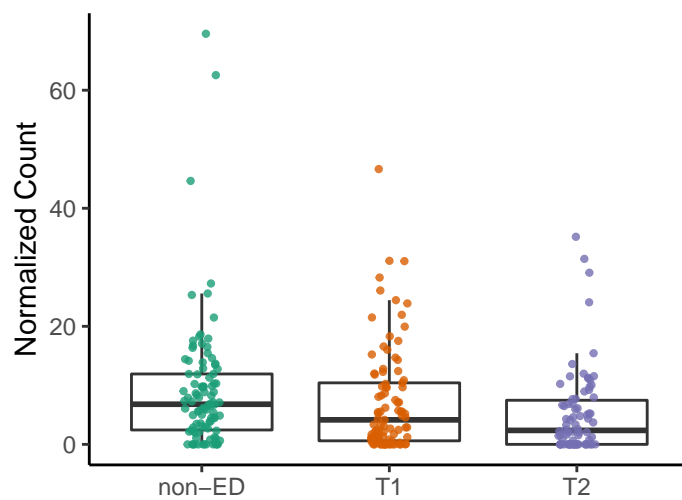
### PWY-7560: methylerythritol phosphate

non-ED vs. T1 adjusted  $p = 0.038$   
non-ED vs. T2 adjusted  $p = 0.76$   
T1 vs. T2 adjusted  $p = 0.096$



### PWY-5136: fatty acid & beta;-oxidation

non-ED vs. T1 adjusted  $p = 0.29$   
non-ED vs. T2 adjusted  $p = 0.027$   
T1 vs. T2 adjusted  $p = 0.096$



### ANAGLYCOLYSIS-PWY: glycolysis III (from glucose)

non-ED vs. T1 adjusted  $p = 0.14$   
non-ED vs. T2 adjusted  $p = 0.88$   
T1 vs. T2 adjusted  $p = 0.097$

