

Mutant/Wild-Type Amino Acids

Metabolite	Phase 1	Phase 2	Phase 3	Phase 4
Arginine	Light Blue	White	White	White
Histidine	Light Red	White	Light Blue	Light Red
Threonine	Light Red	White	Light Red	Light Red
Glutamine	Light Red	Light Red	Light Red	White
Lysine	White	White	Light Blue	White
Valine	Light Red	Light Blue	Light Red	Light Red
Methionine	Light Red	Light Red	Light Red	Light Red
Isoleucine	Dark Red	White	Light Red	Light Red
Leucine	Light Red	Light Red	Light Red	Light Red
Phenylalanine	Light Red	Light Red	Dark Red	Light Red
Tryptophan	Light Red	Light Red	Light Red	Light Red
L-Tyrosine	Light Red	Light Red	Light Red	Light Red
Proline	Light Red	White	Light Blue	White
Serine	Light Red	White	Light Red	Light Red
Aspartic acid	Light Red	White	Light Red	Light Red
Glutamic acid	Light Red	Light Red	White	Light Red
Glycine	Light Red	Light Red	Light Red	Light Red
Asparagine	Light Red	Light Red	Light Red	Light Red
Alanine	Light Red	Light Blue	White	Light Red

Central Carbon Metabolism

PYR	White	Light Blue	White	Light Red
FUM	Dark Red	Light Red	Dark Red	Light Red
SUC	Light Red	White	White	Light Red
KGA	Light Red	Light Red	Light Red	Light Red
PEP	Light Red	Dark Red	Light Red	Light Blue
DHAP	Light Red	Light Red	Light Red	Dark Blue
3PG_2PG	Light Red	Dark Red	Light Blue	Light Blue
CIT	Light Red	Dark Red	Light Red	White
RL5P	White	Light Blue	Light Red	Light Blue
R5P	Light Red	Light Red	Light Blue	Light Red
G1P	Light Blue	Light Red	Light Red	Light Blue
G6P	Dark Red	Dark Red	Light Red	Light Red
F6P	Light Red	Light Red	Light Red	Light Blue
F16DP	Light Red	Dark Red	White	White
Glyox	White	Light Red	Light Red	White
Mal	Light Red	Light Red	Light Red	Light Red
GA3P	Light Red	Light Red	Light Red	Light Blue
GMP	Light Red	Light Red	Light Red	Light Blue
UDP	Dark Red	Dark Red	Light Red	Light Blue
ADP	Dark Red	Dark Red	Light Red	Light Blue
GDP	Light Red	Light Red	Light Red	Light Blue
ATP	Light Red	Dark Red	White	White
GTP	Light Blue	Light Red	Light Red	Dark Blue
CMP	Light Red	Light Red	Light Red	White
UMP	Light Red	Light Red	Light Red	White
AMP	Light Red	Light Red	Light Red	White
NADPH	Dark Blue	Dark Blue	Light Blue	Light Blue
cAMP	Light Red	Light Red	Light Red	Light Blue
UDPGA	Light Red	White	Light Red	Light Red
NAD	Light Red	White	Light Red	Light Blue
NADH	Light Red	Light Red	Light Red	White
NADP	Dark Red	Dark Red	Dark Blue	Light Red
UDPNAc	Light Red	Light Red	Light Red	Light Red
ACO	Dark Red	Light Red	Dark Red	Light Blue

Fatty Acid Methyl Esthers

C4:0	Light Red	White	Light Red	Light Red
C8:0	Light Red	White	Light Red	Light Red
C10:0	Light Red	White	Light Red	Light Red
C12:0	Light Red	Light Red	Light Red	Light Red
C14:0	Light Blue	Light Red	Light Red	Light Blue
C14:1	Light Red	White	Light Red	White
C15:0	Light Red	Light Red	Light Red	Light Red
C15:1	Light Blue	Light Red	Light Blue	Light Blue
C16:0	Light Blue	Light Red	White	Light Blue
C16:1	Light Red	Dark Red	Dark Red	Light Red
C17:0	Light Blue	Light Red	Dark Red	Light Blue
C17:1	Light Red	Light Red	Dark Red	Light Blue
C18:0	Dark Blue	Light Blue	Dark Blue	Dark Blue
C18:1	Dark Blue	Light Blue	Dark Blue	Dark Blue
C18:1	Light Blue	Dark Red	Light Red	White
C18:2	Light Red	Light Red	White	Light Blue
C18:2	White	Light Red	Light Red	White
C18:3	Light Red	Light Red	Light Red	Light Blue
C18:3	Light Red	Light Red	Light Red	Light Blue
C20:1	Light Red	Light Red	Light Red	Light Blue
C21:0	Light Red	Light Red	Light Red	White
C22:0	Dark Blue	Light Blue	Light Blue	Dark Blue
C23:0	Light Red	Light Red	Light Red	Light Red
C24:0	Dark Blue	Light Red	Light Red	Dark Blue



-3 -2 -1 0 1 2 3

Log 2 Scale