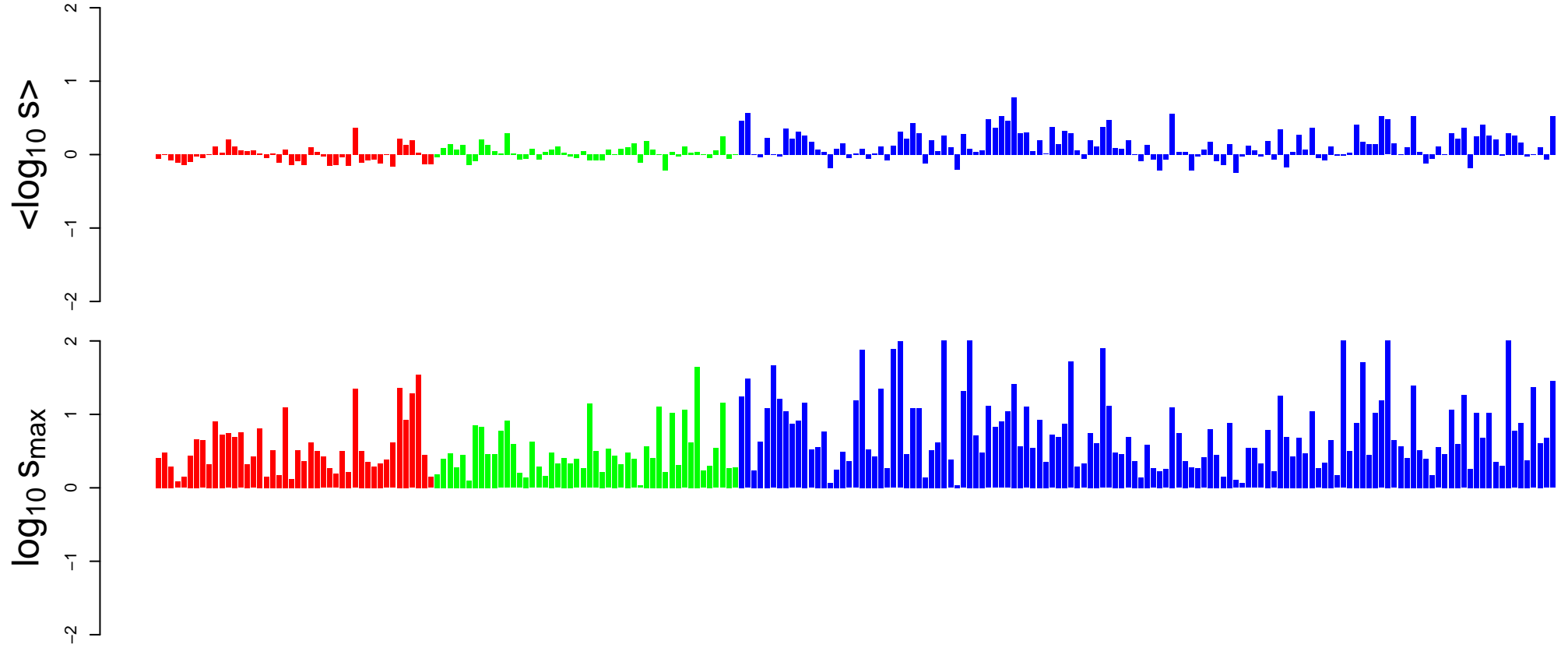
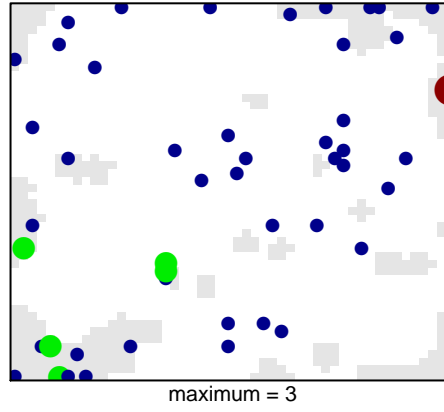
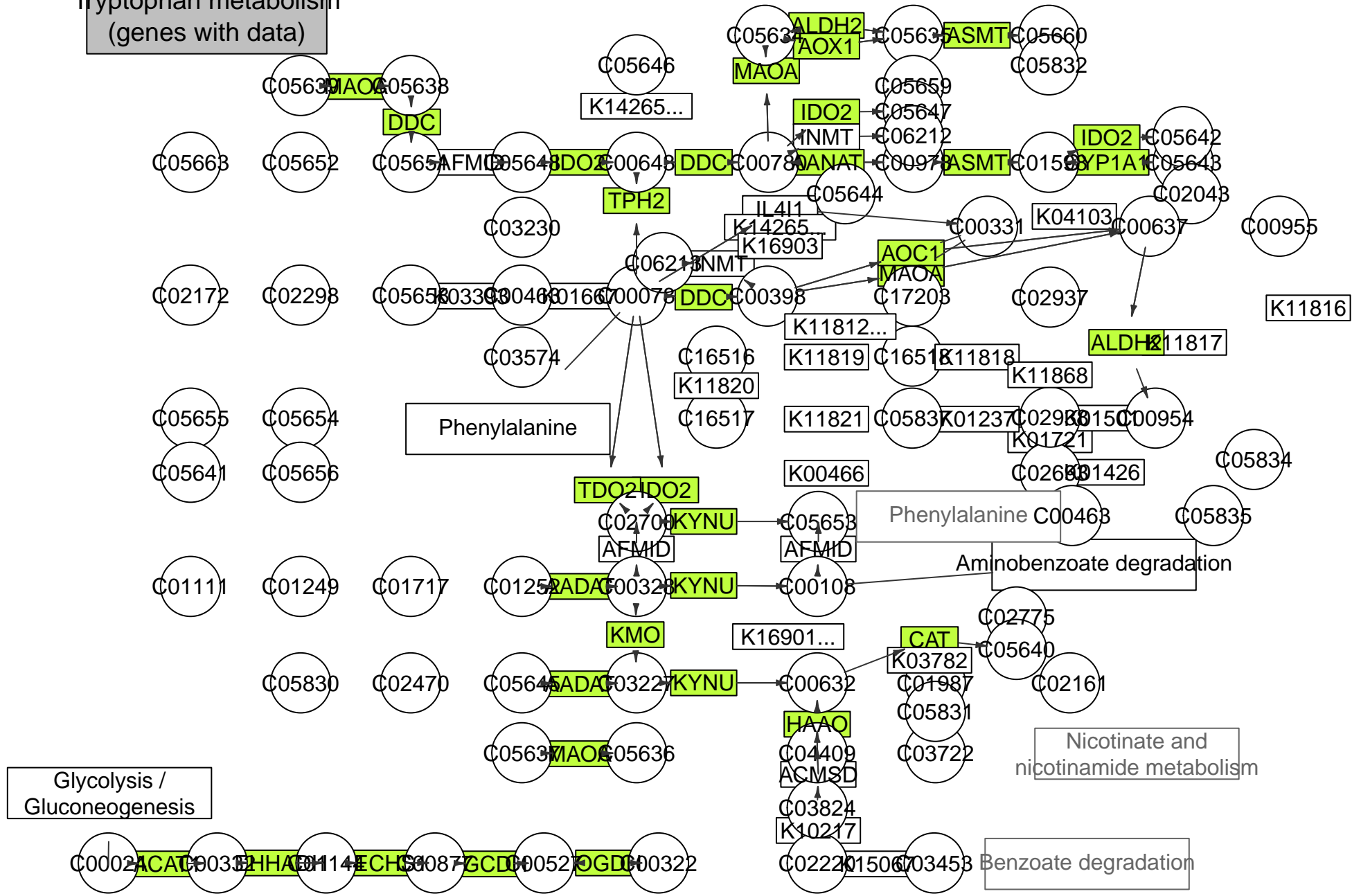


# Tryptophan metabolism

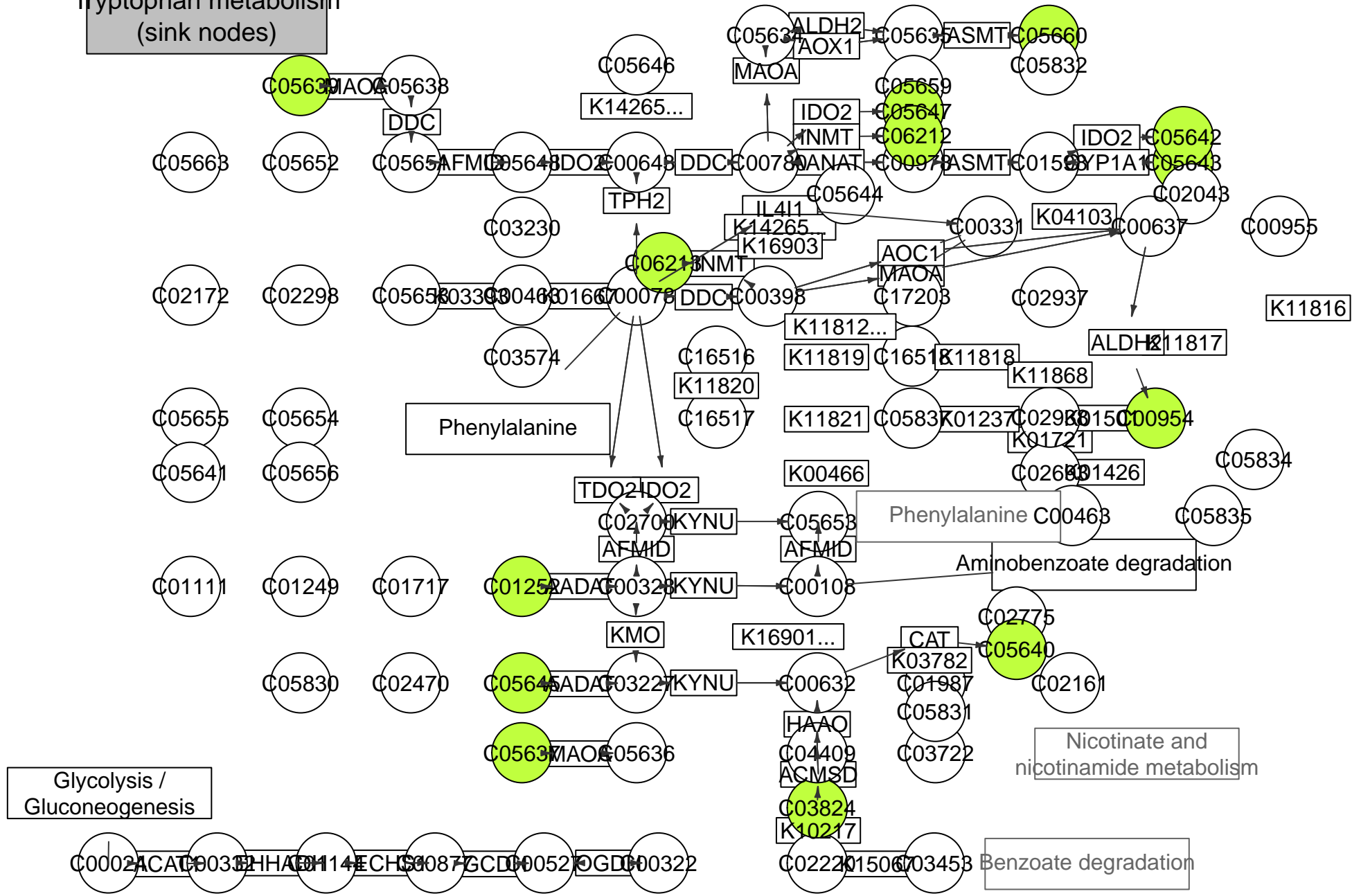
all genes



Tryptophan metabolism  
(genes with data)



Tryptophan metabolism  
(sink nodes)

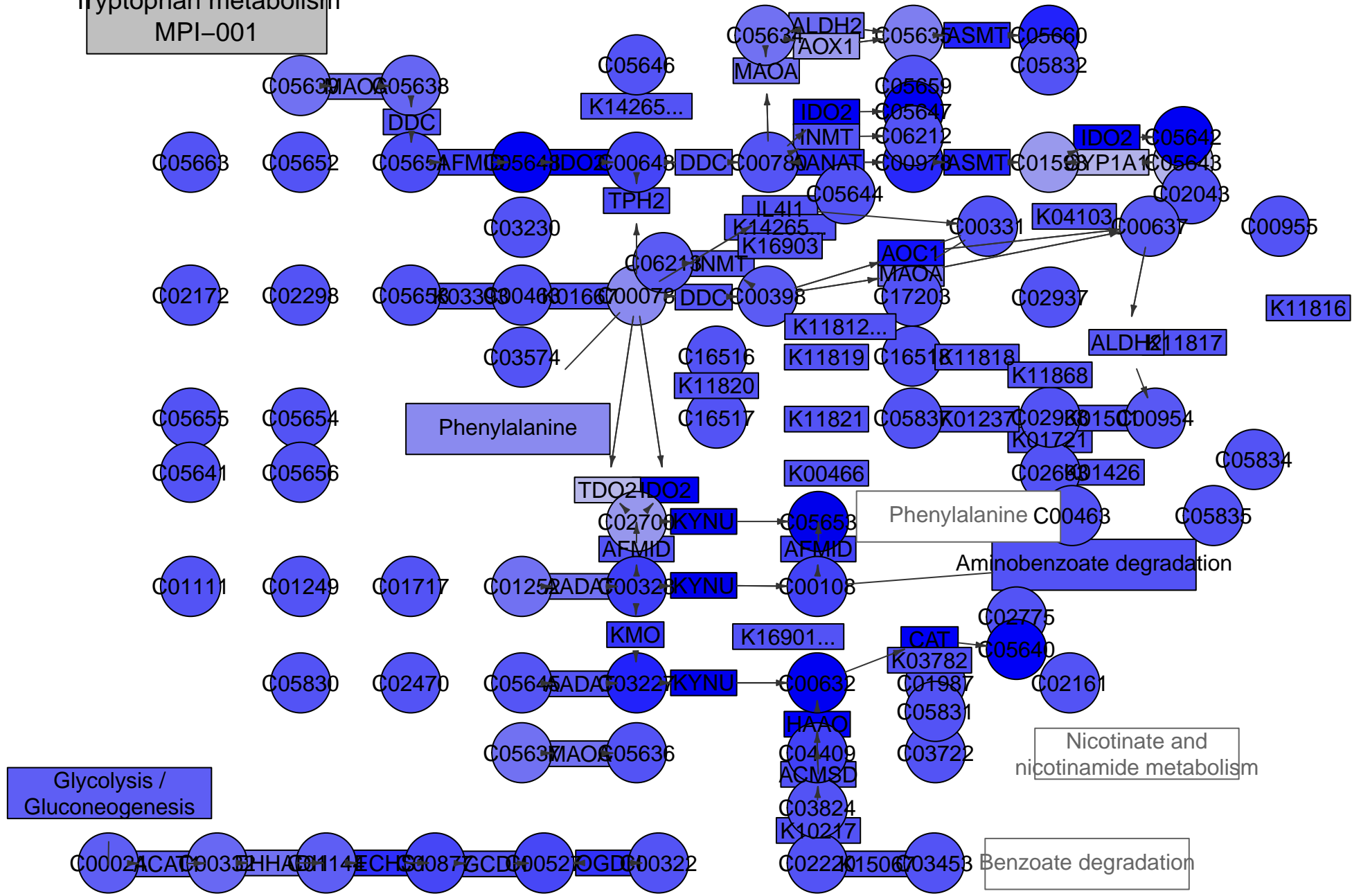


Glycolysis /  
Gluconeogenesis

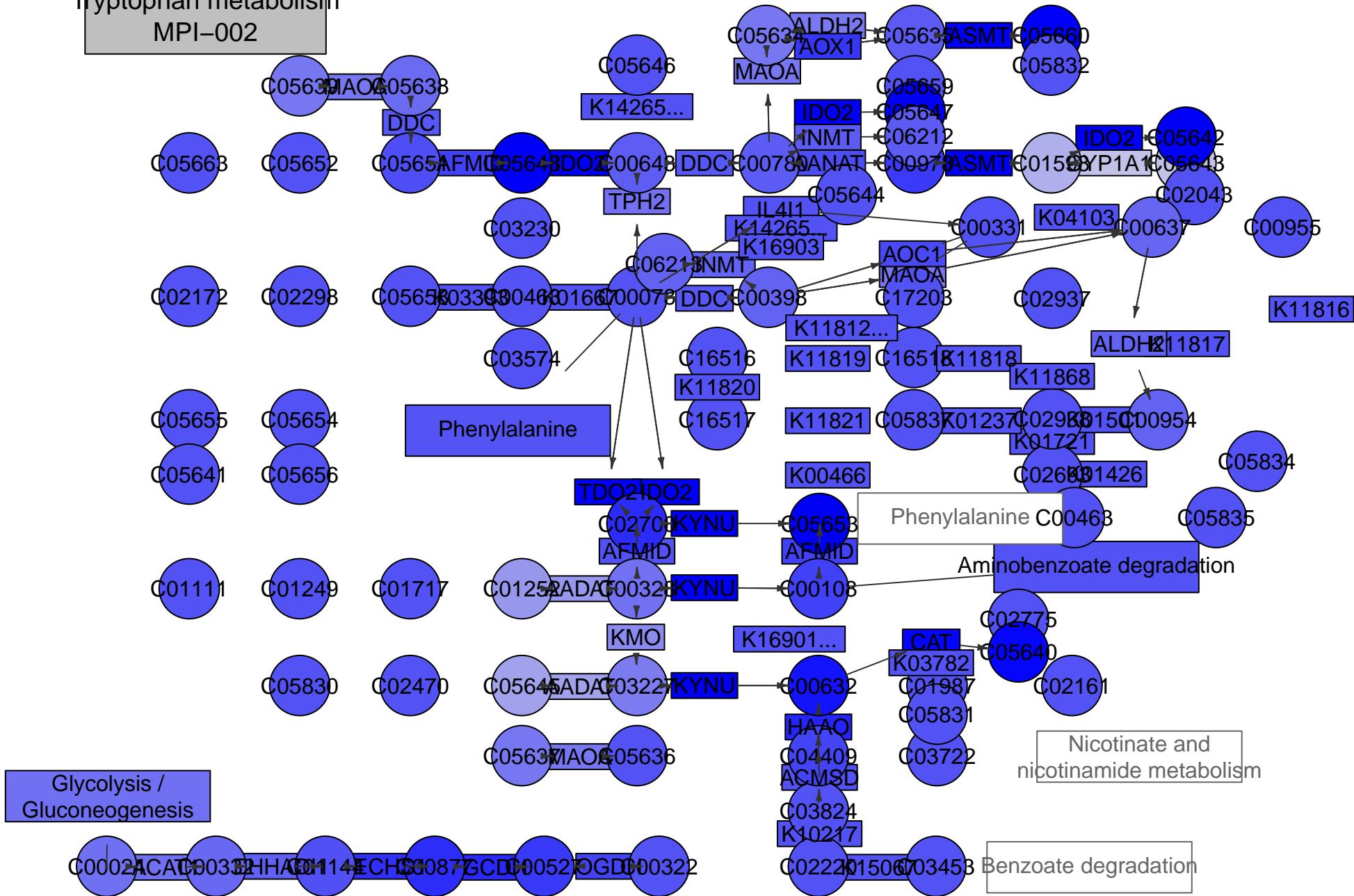
Nicotinate and  
nicotinamide metabolism

Benzoate degradation

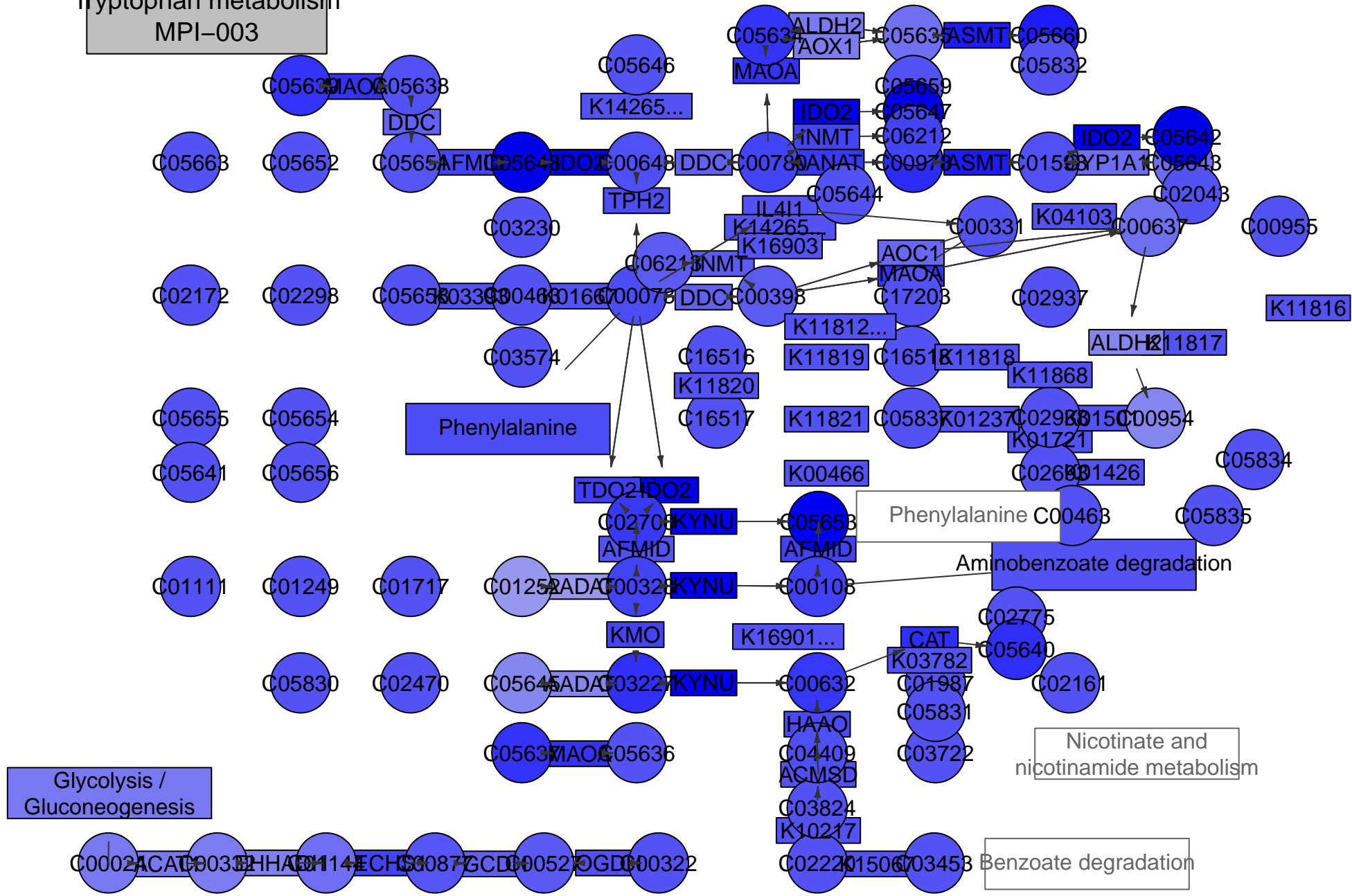
Tryptophan metabolism  
MPI-001



Tryptophan metabolism  
MPI-002



Tryptophan metabolism  
MPI-003



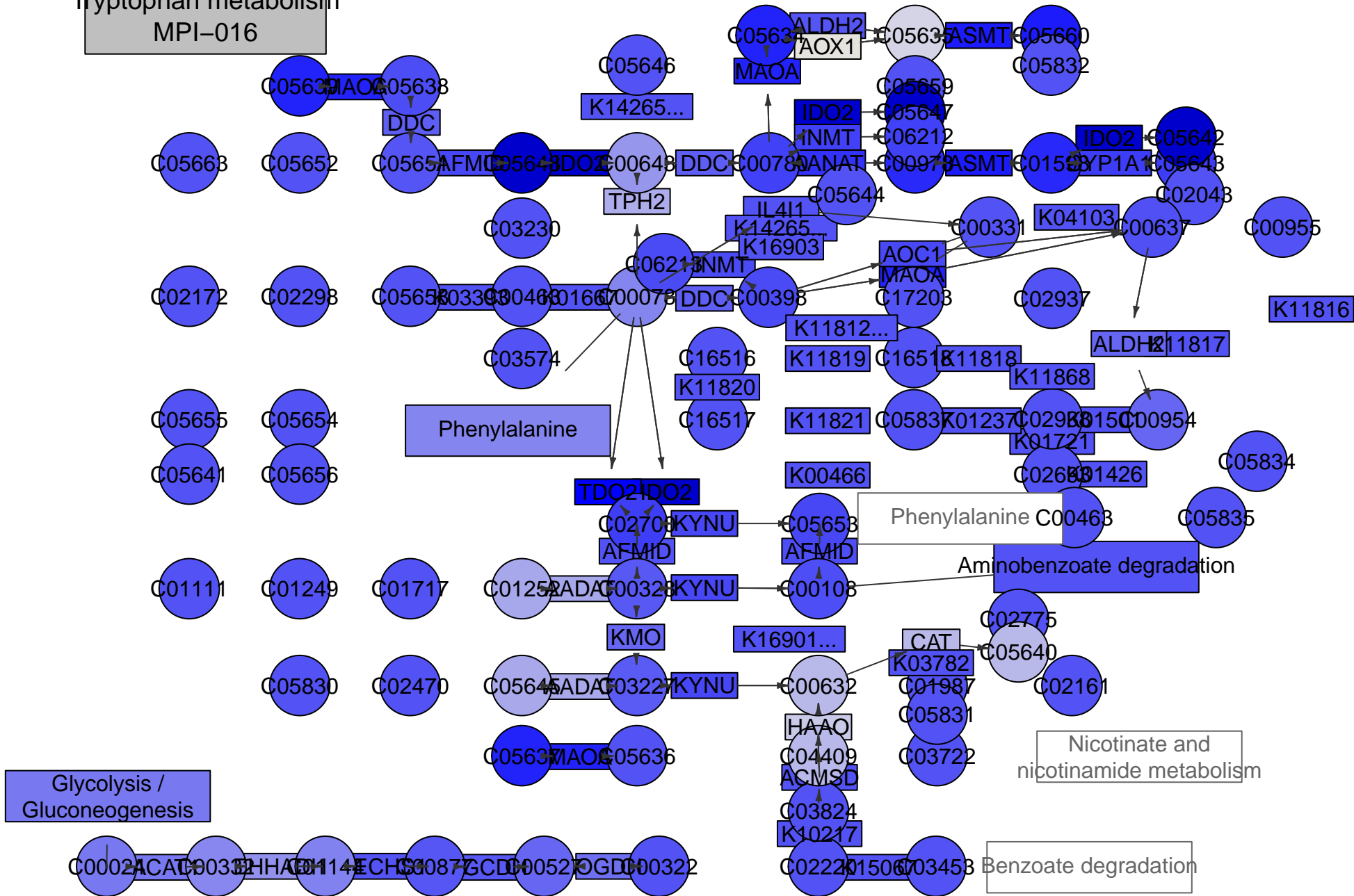




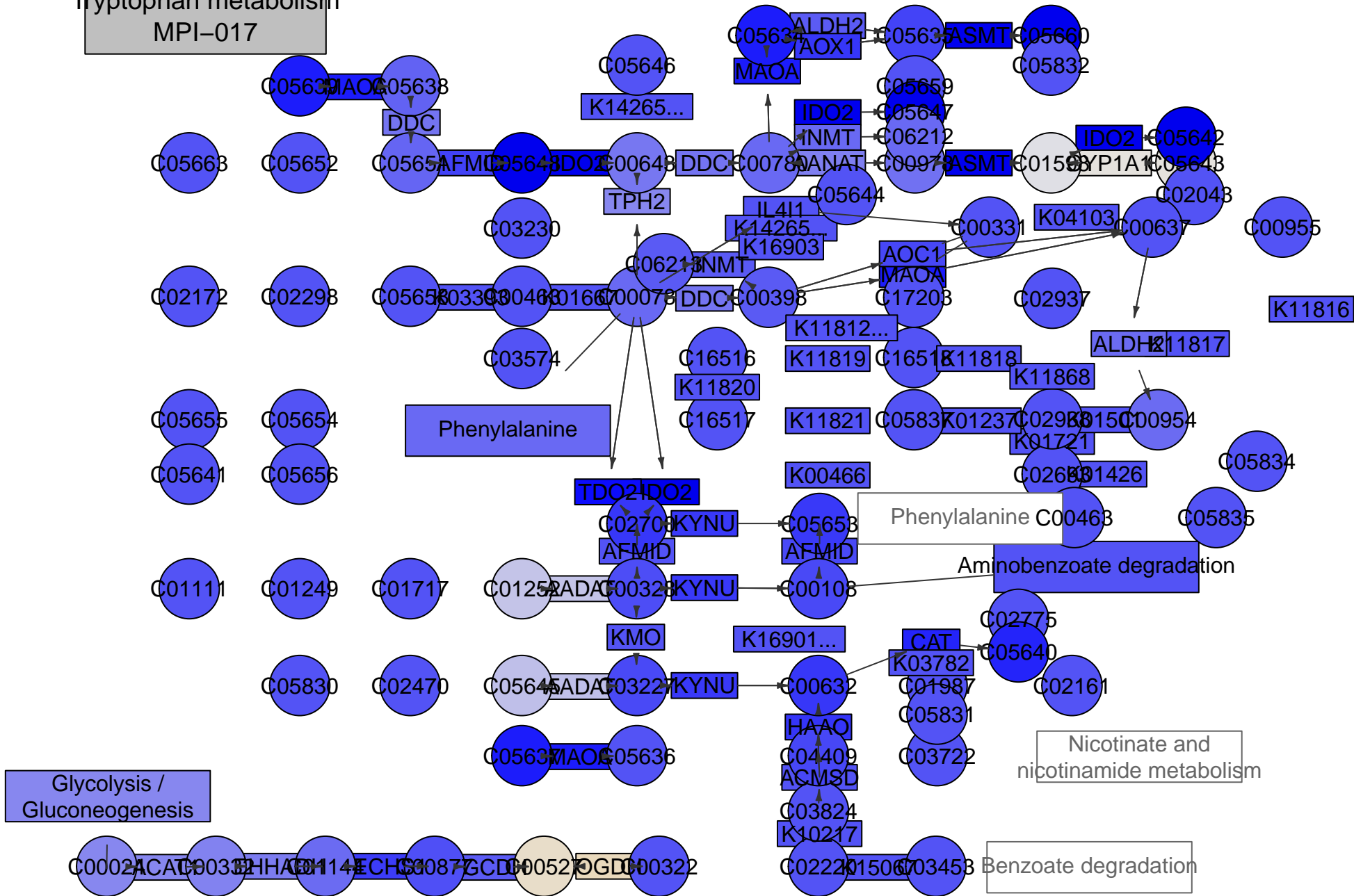




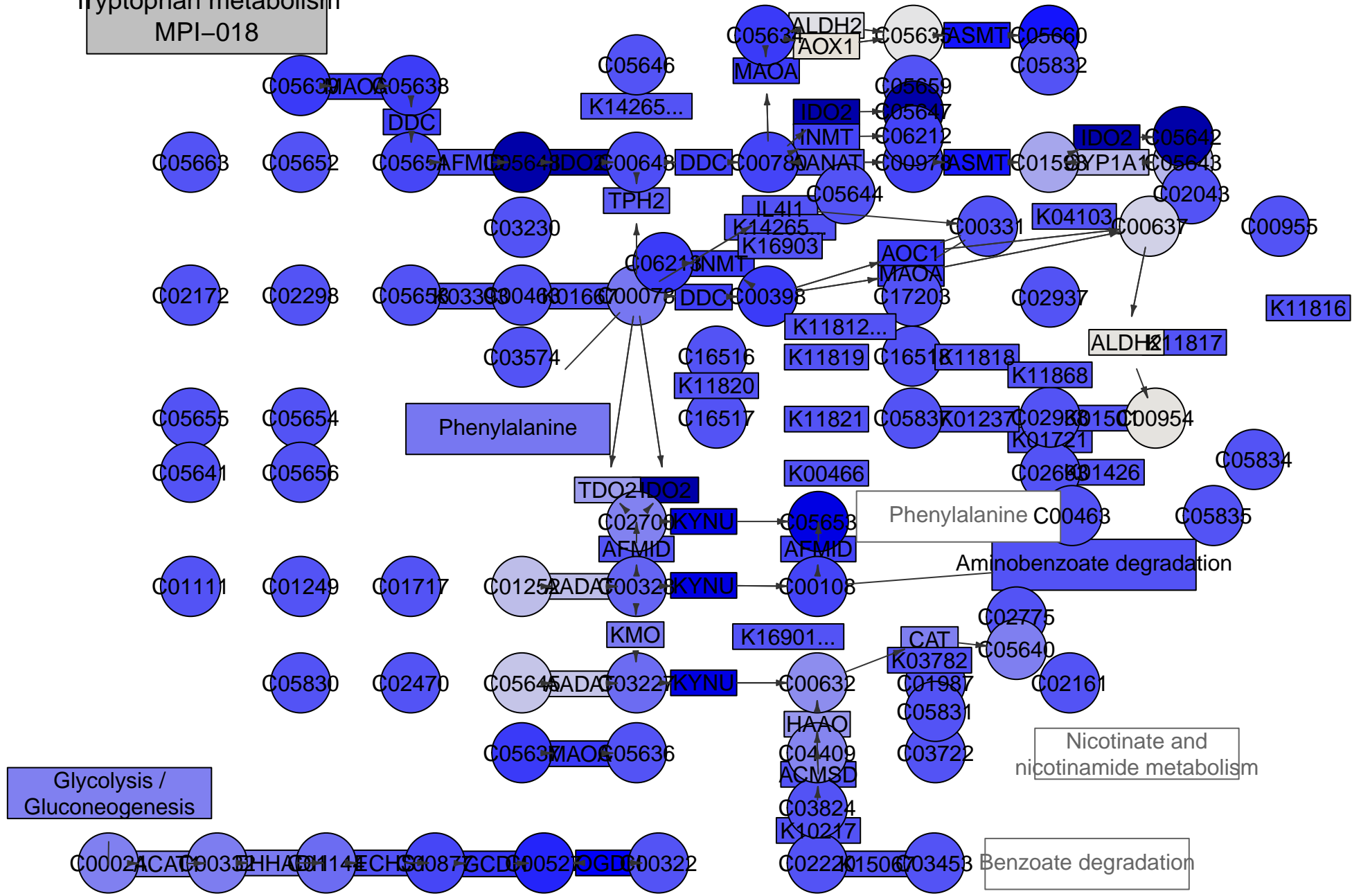
Tryptophan metabolism  
MPI-016



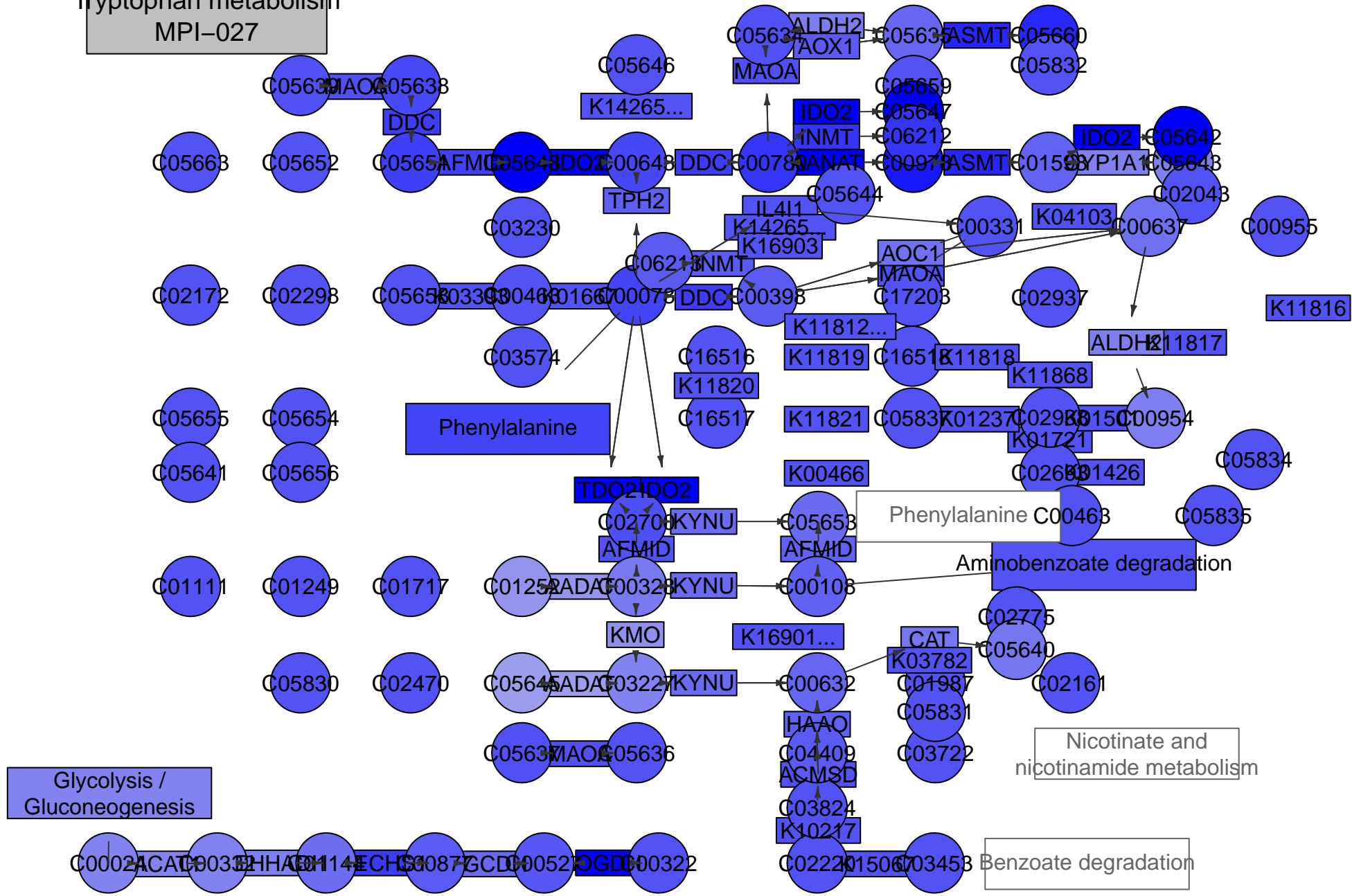
Tryptophan metabolism  
MPI-017



Tryptophan metabolism  
MPI-018



Tryptophan metabolism  
MPI-027



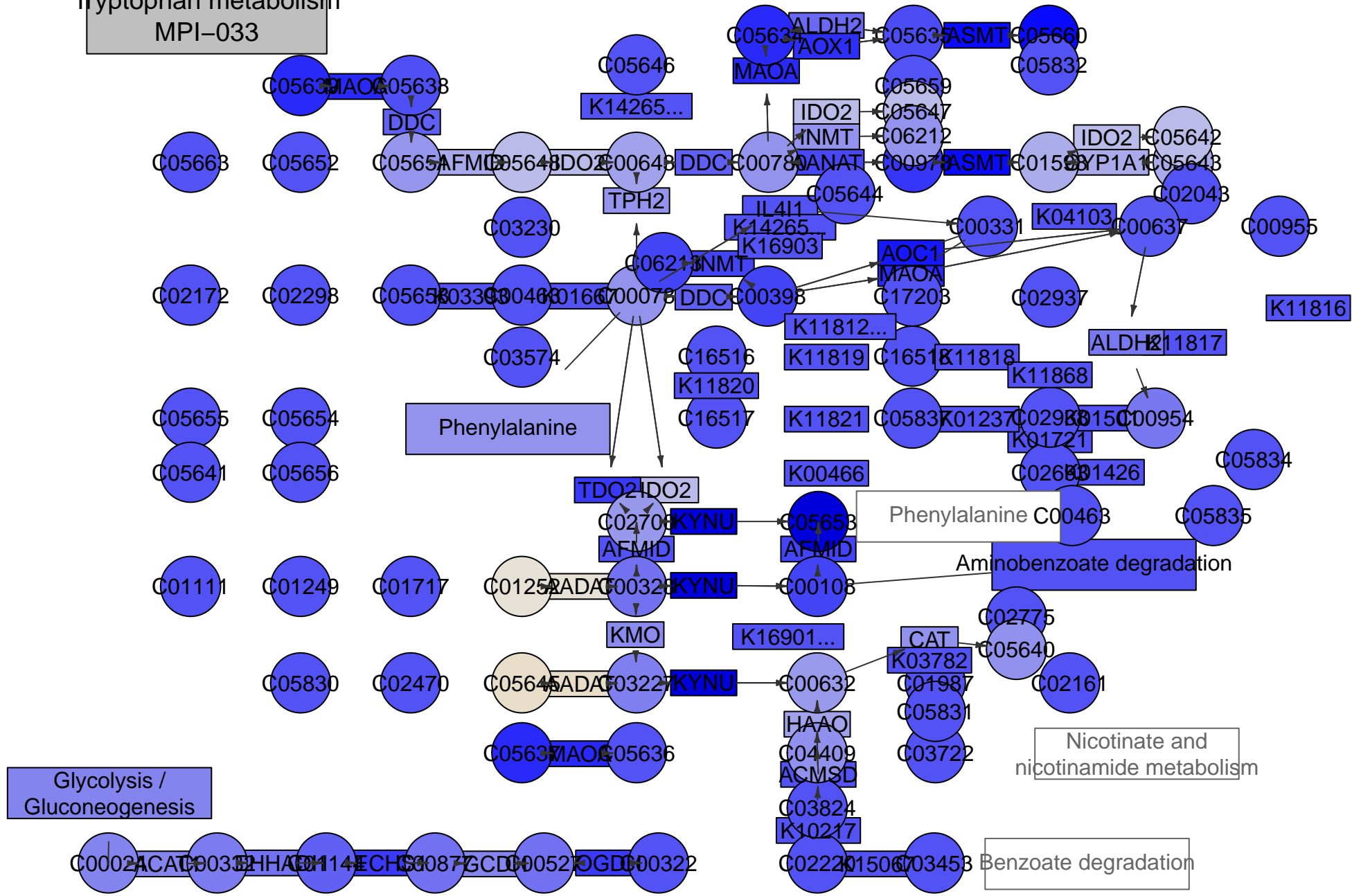




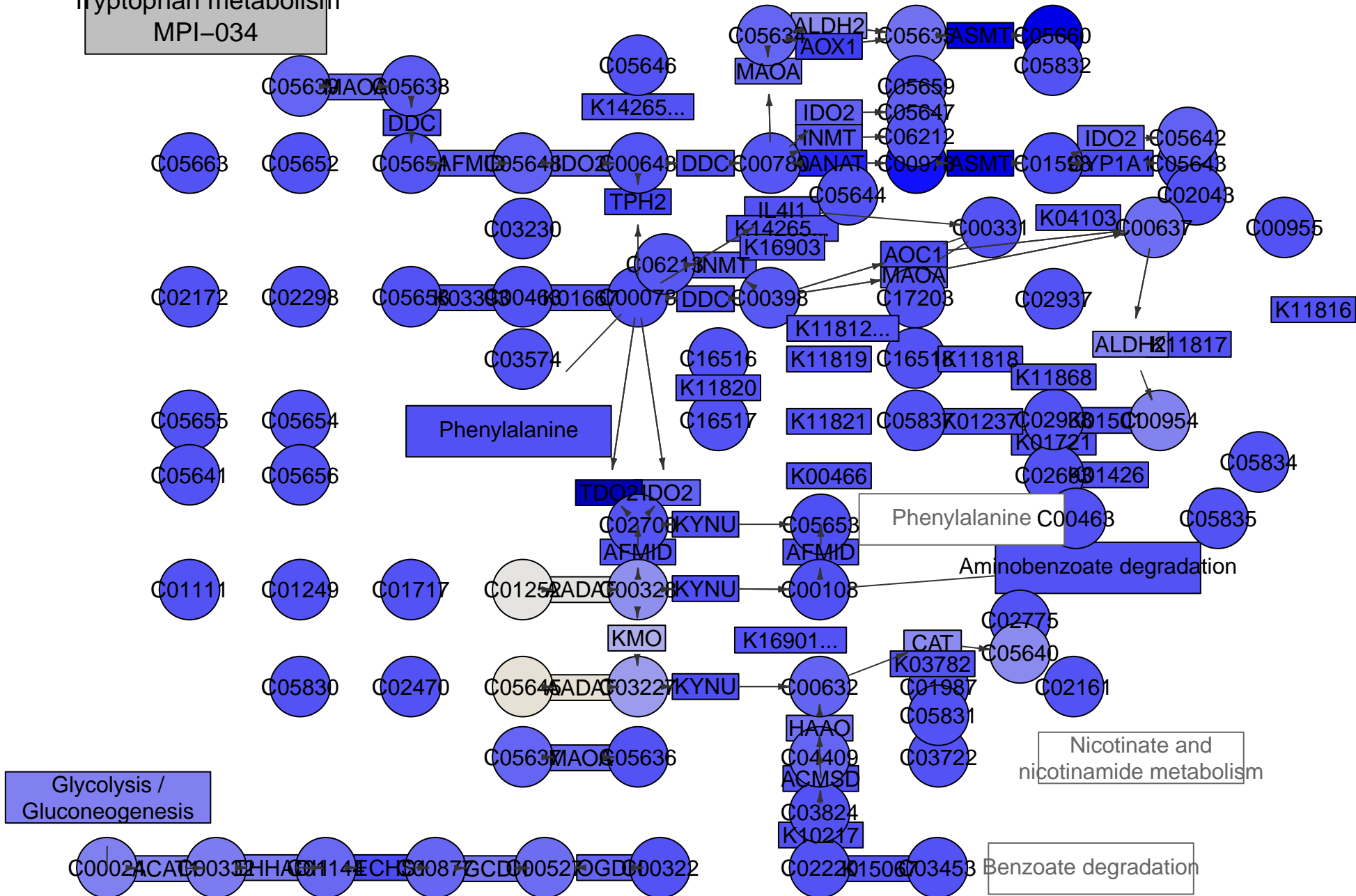




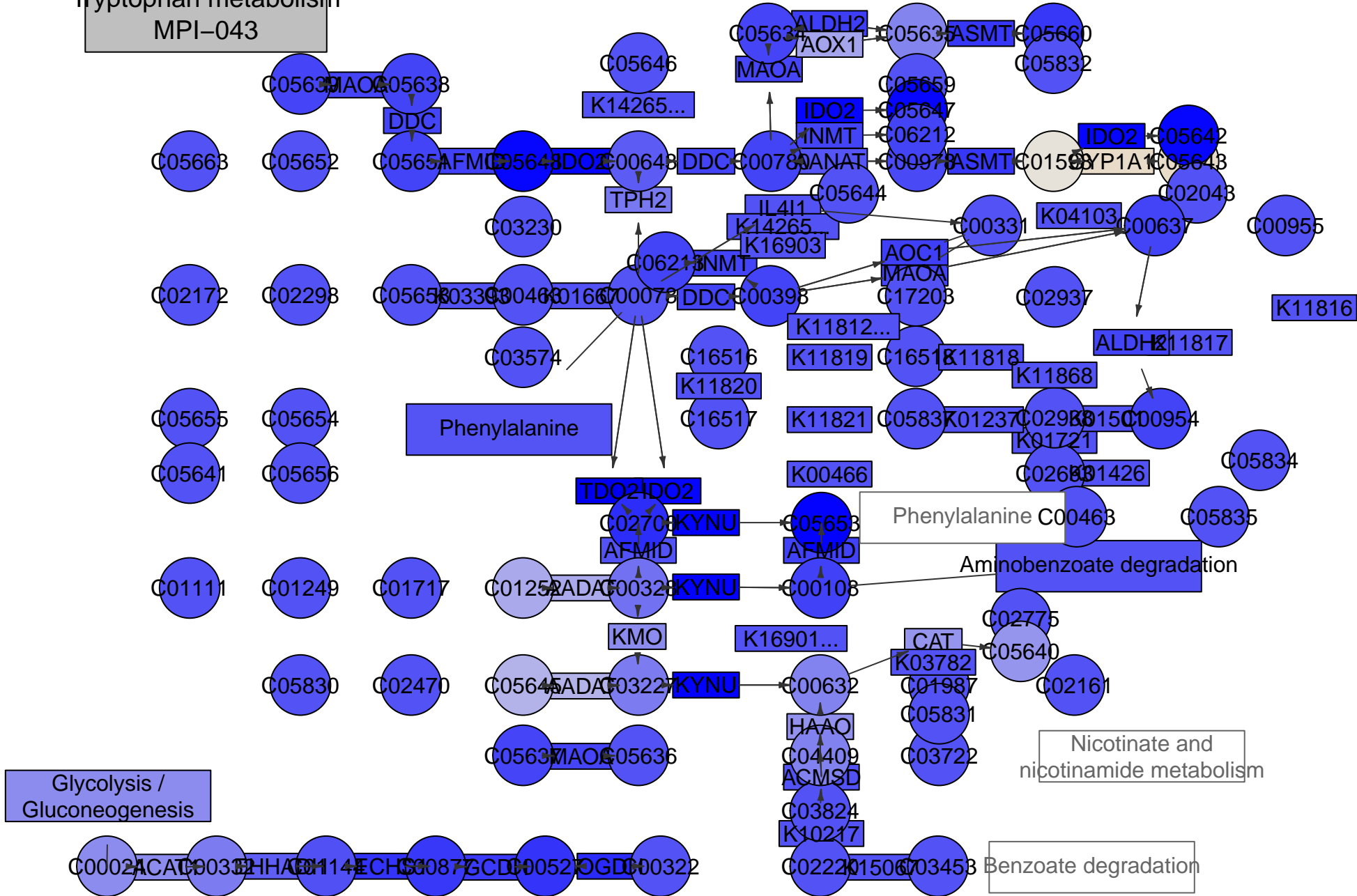
Tryptophan metabolism  
MPI-033



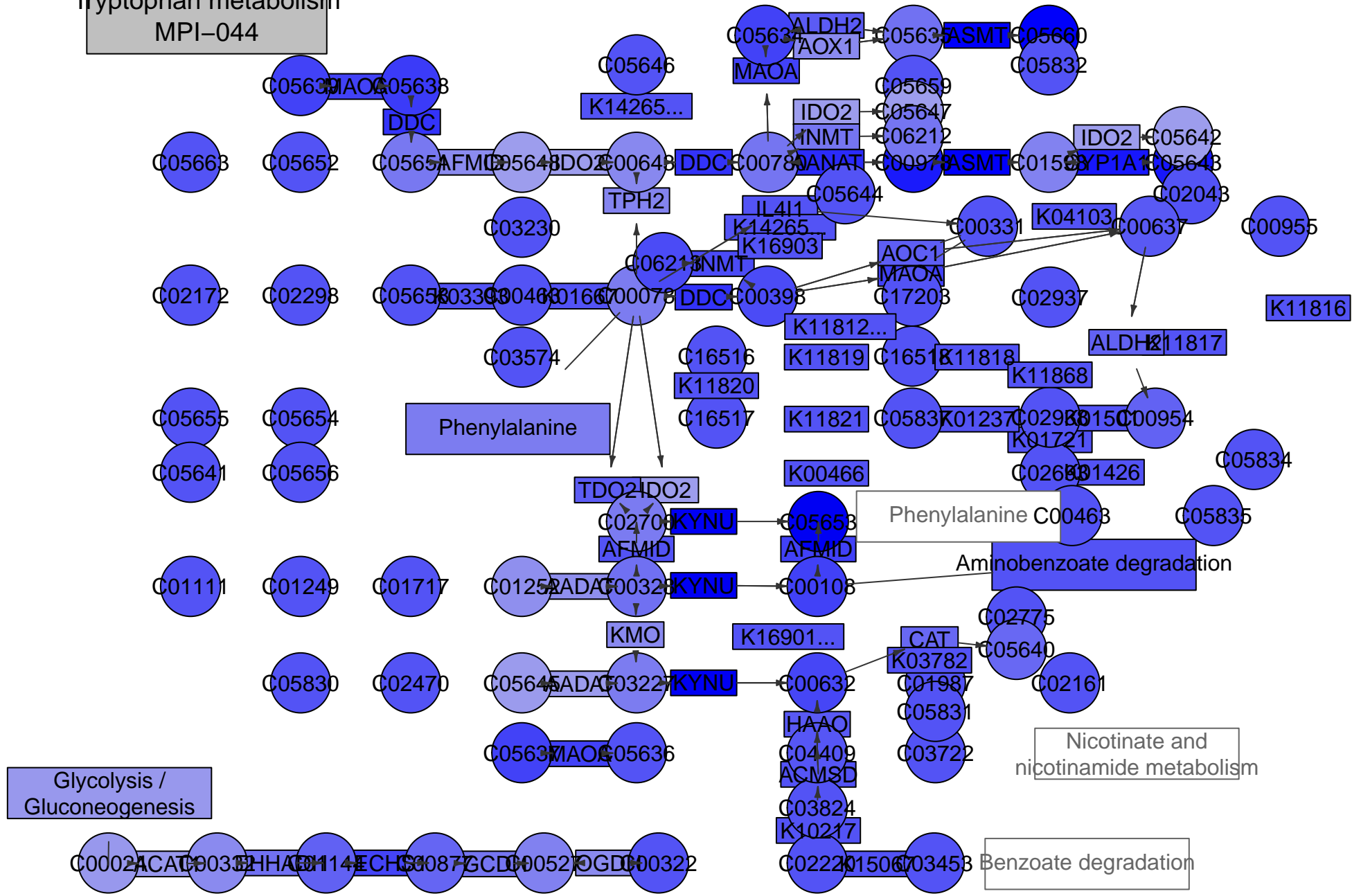
Tryptophan metabolism  
MPI-034



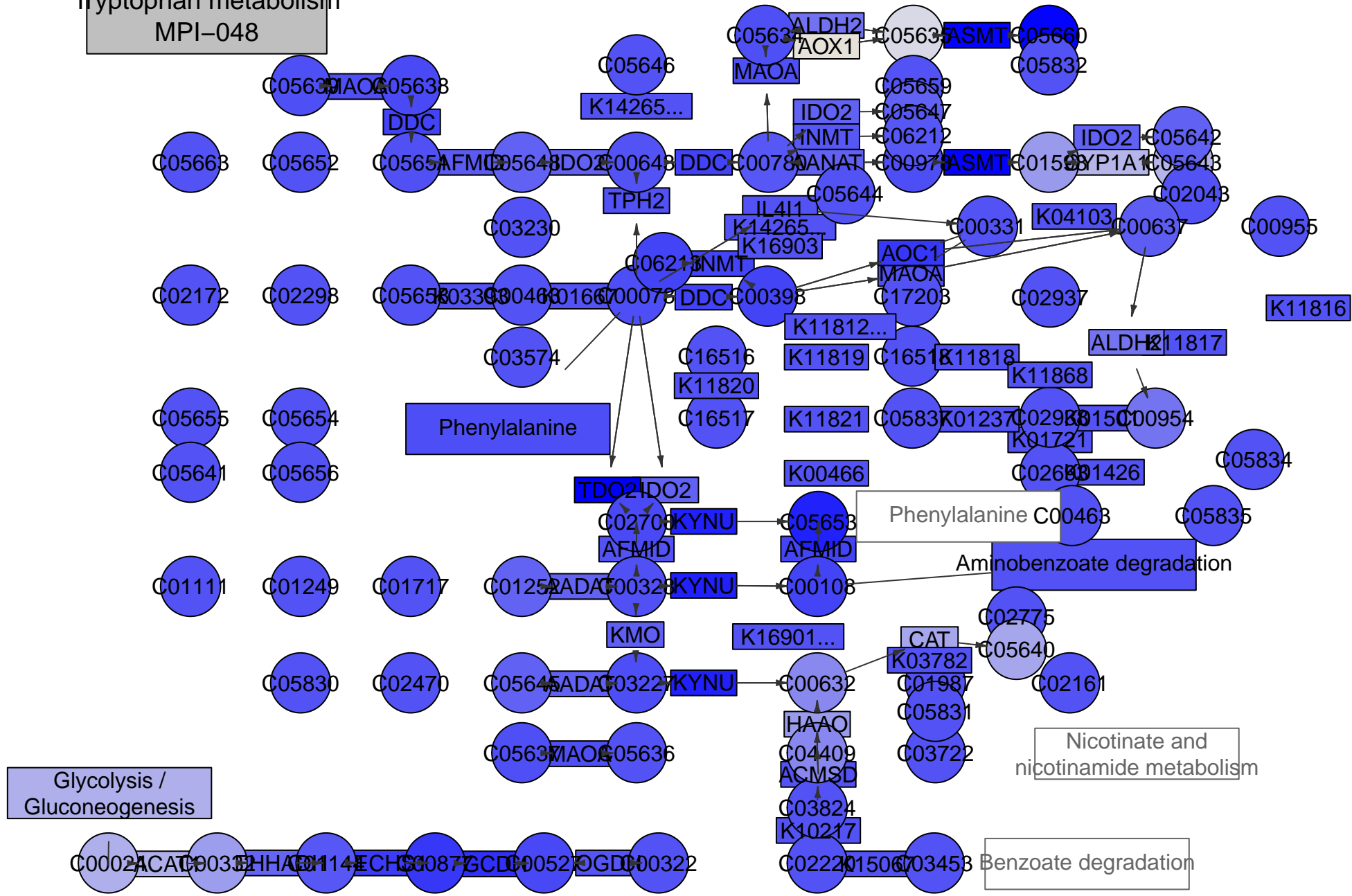
Tryptophan metabolism  
MPI-043



Tryptophan metabolism  
MPI-044

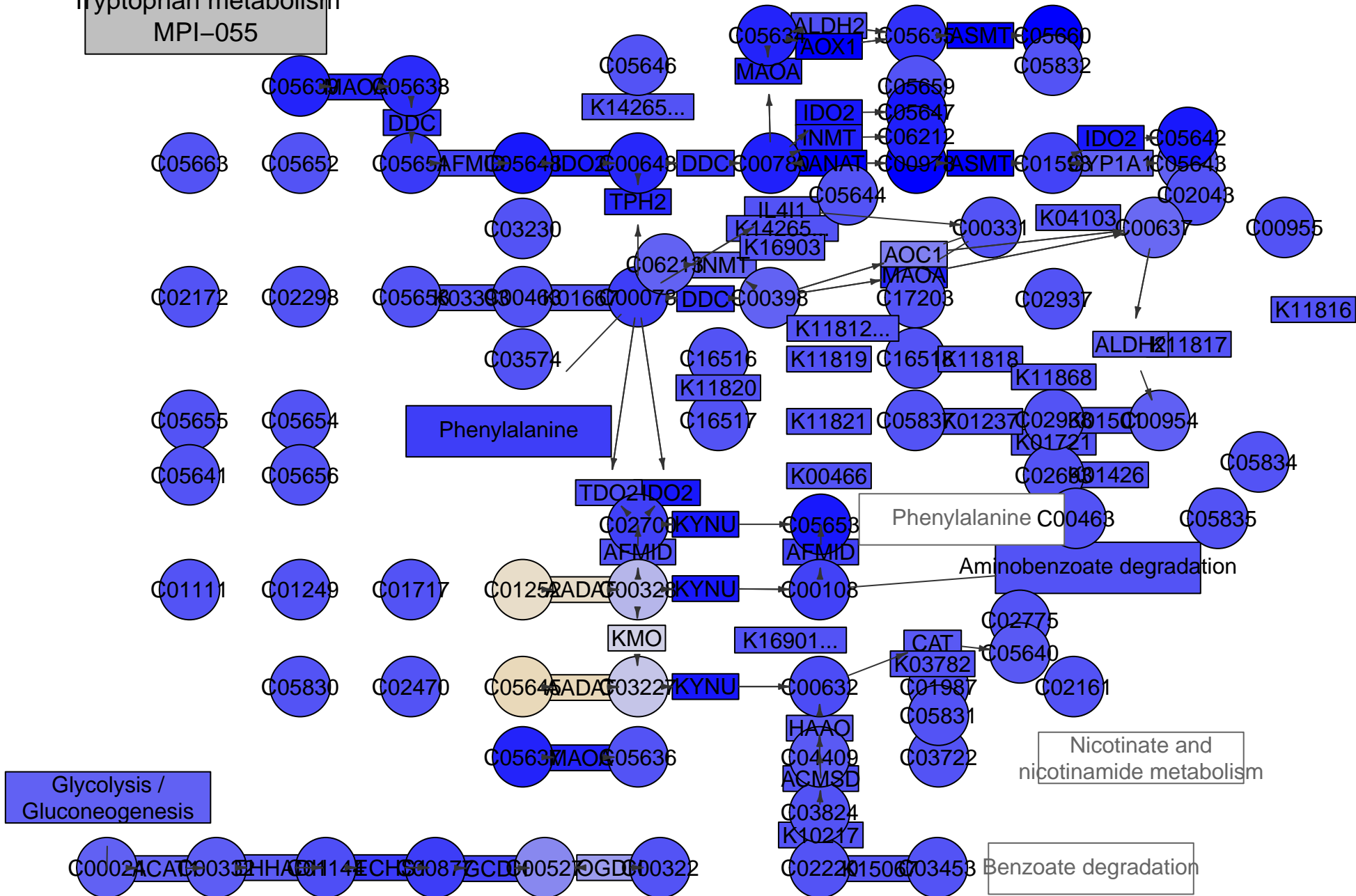


Tryptophan metabolism  
MPI-048



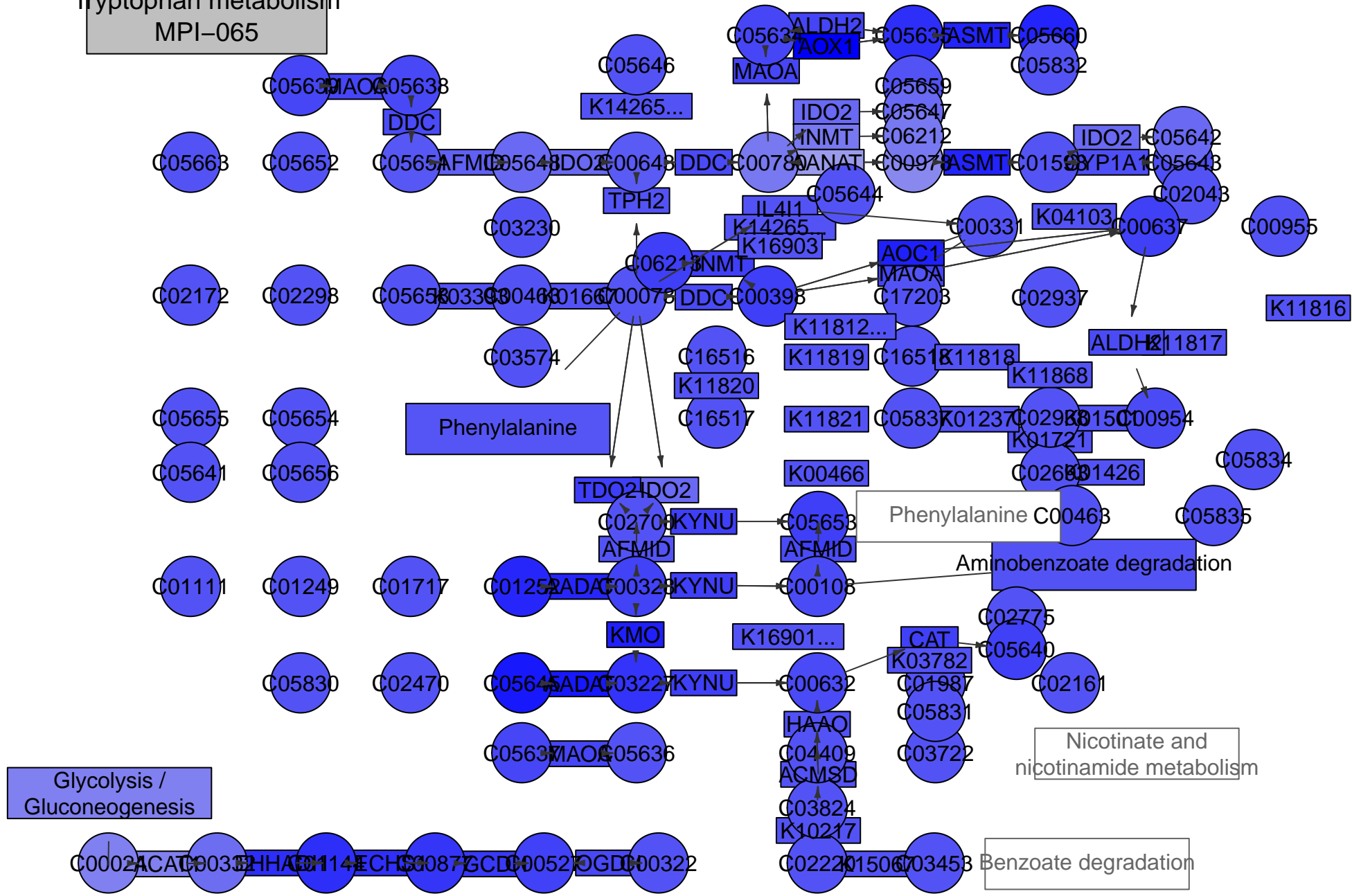


Tryptophan metabolism  
MPI-055



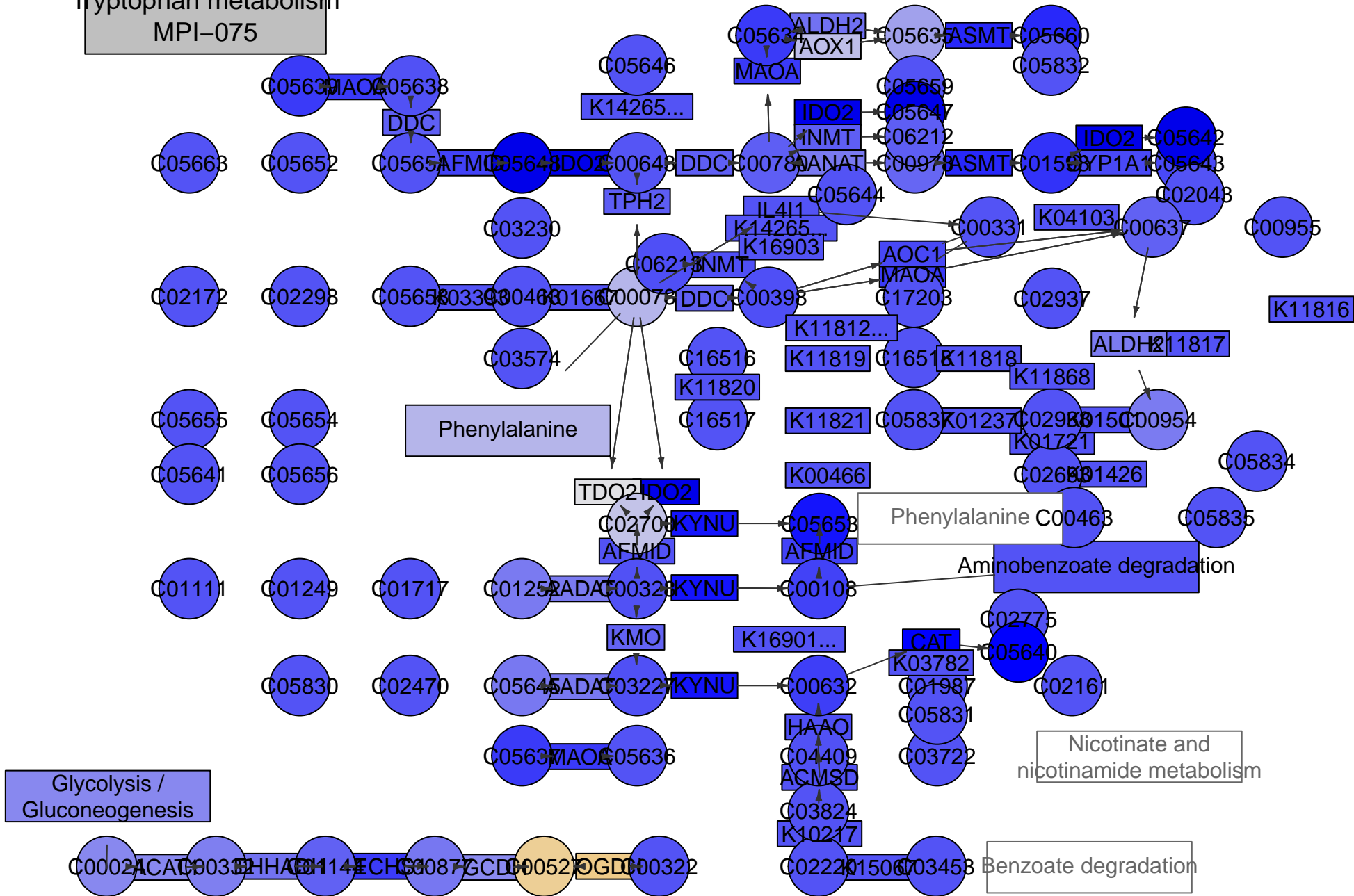


Tryptophan metabolism  
MPI-065





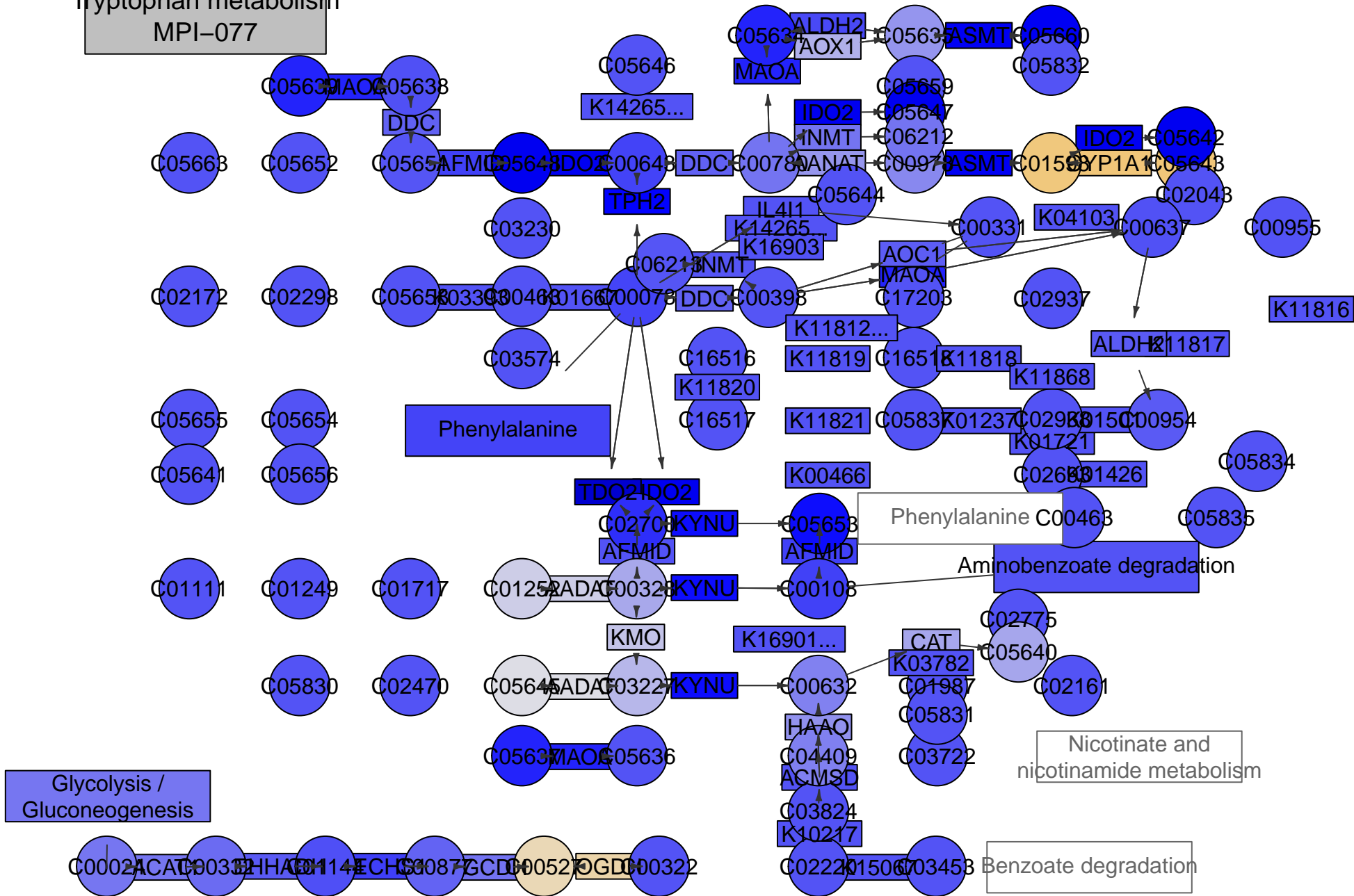
Tryptophan metabolism  
MPI-075



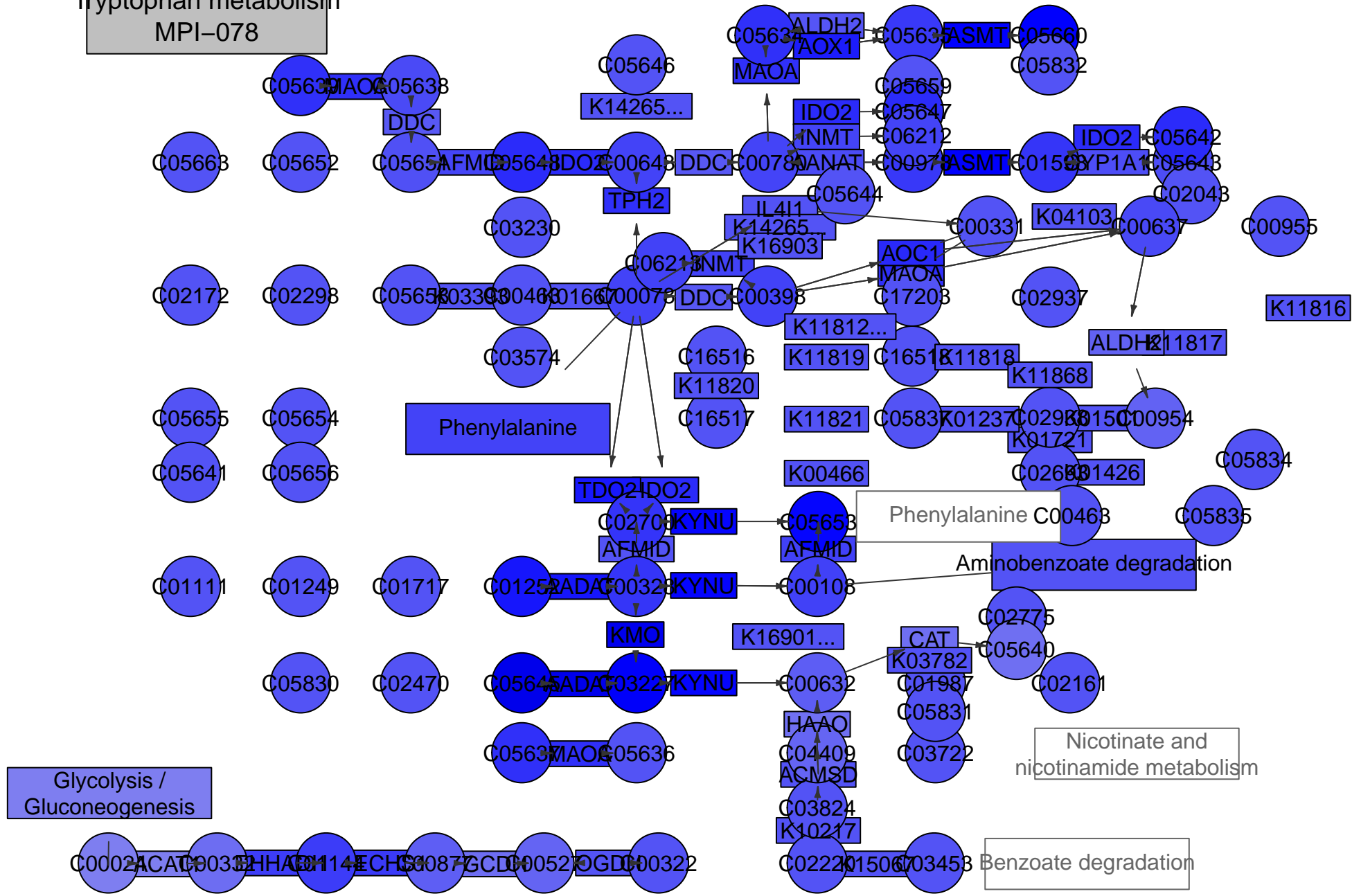
Glycolysis /  
Gluconeogenesis

Benzoate degradation

Tryptophan metabolism  
MPI-077



Tryptophan metabolism  
MPI-078



Phenylalanine

Phenylalanine

Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Glycolysis /  
Gluconeogenesis



Tryptophan metabolism  
MPI-079

Glycolysis /  
Gluconeogenesis

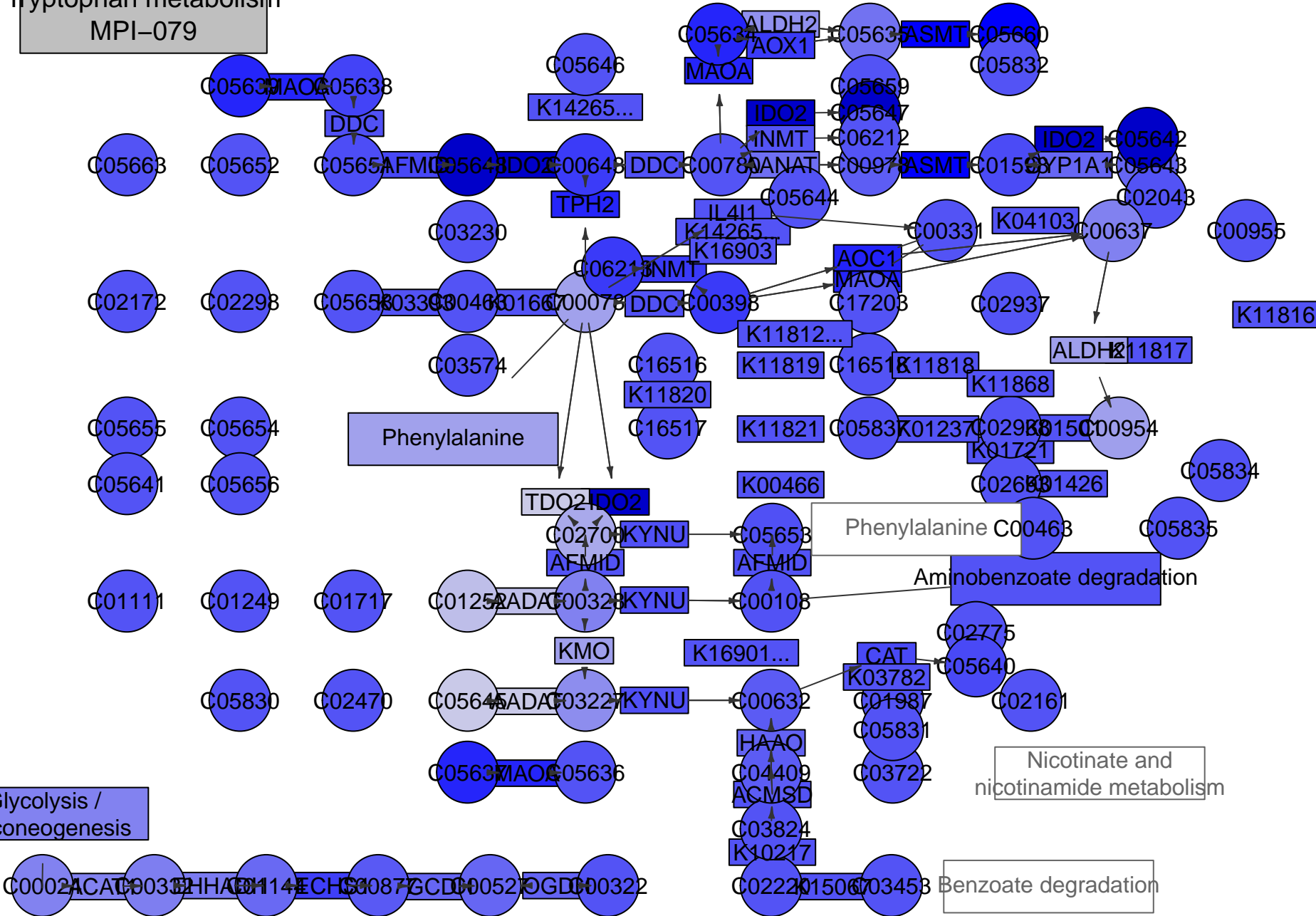
Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Phenylalanine

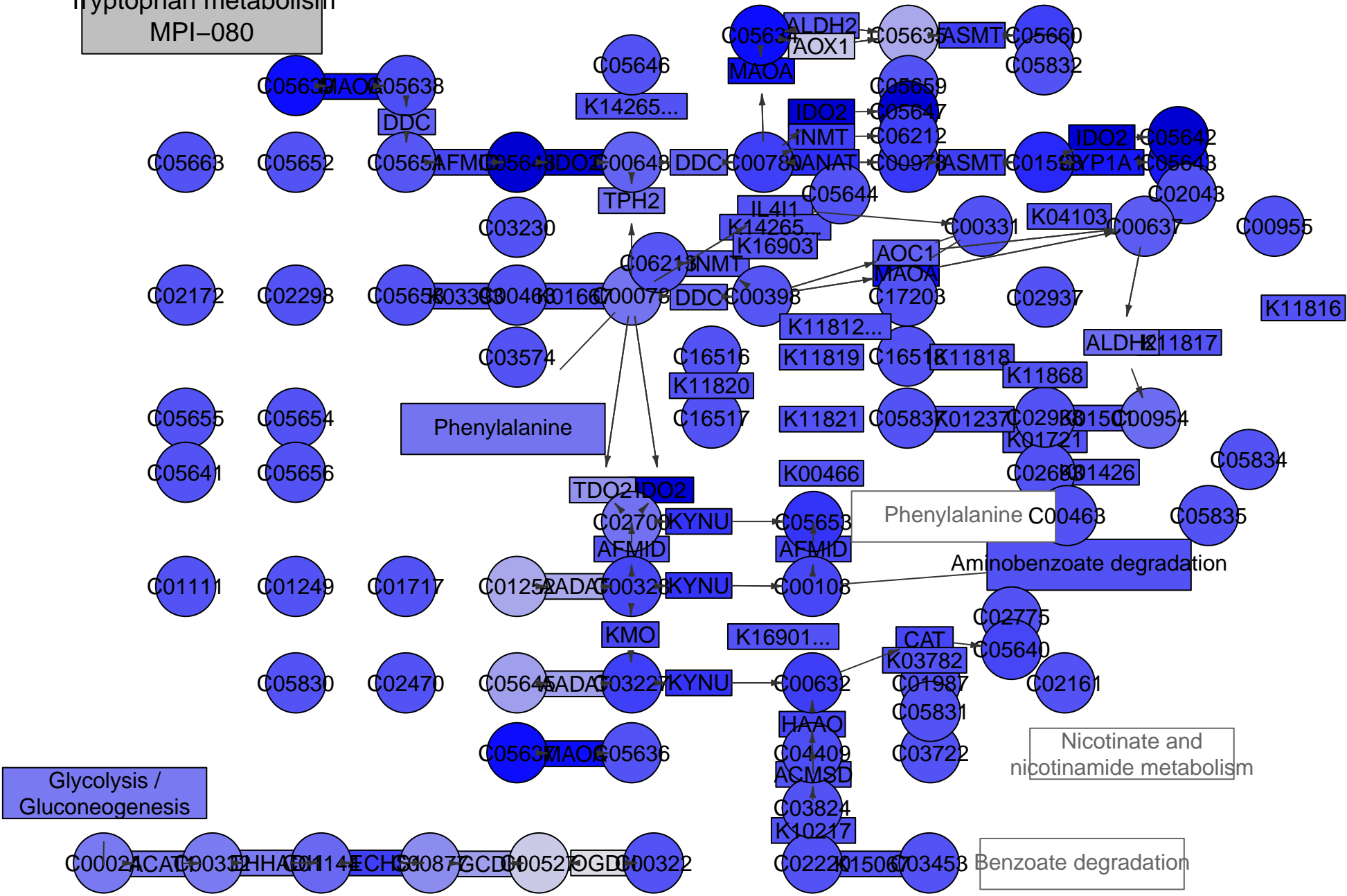
Phenylalanine

Aminobenzoate degradation

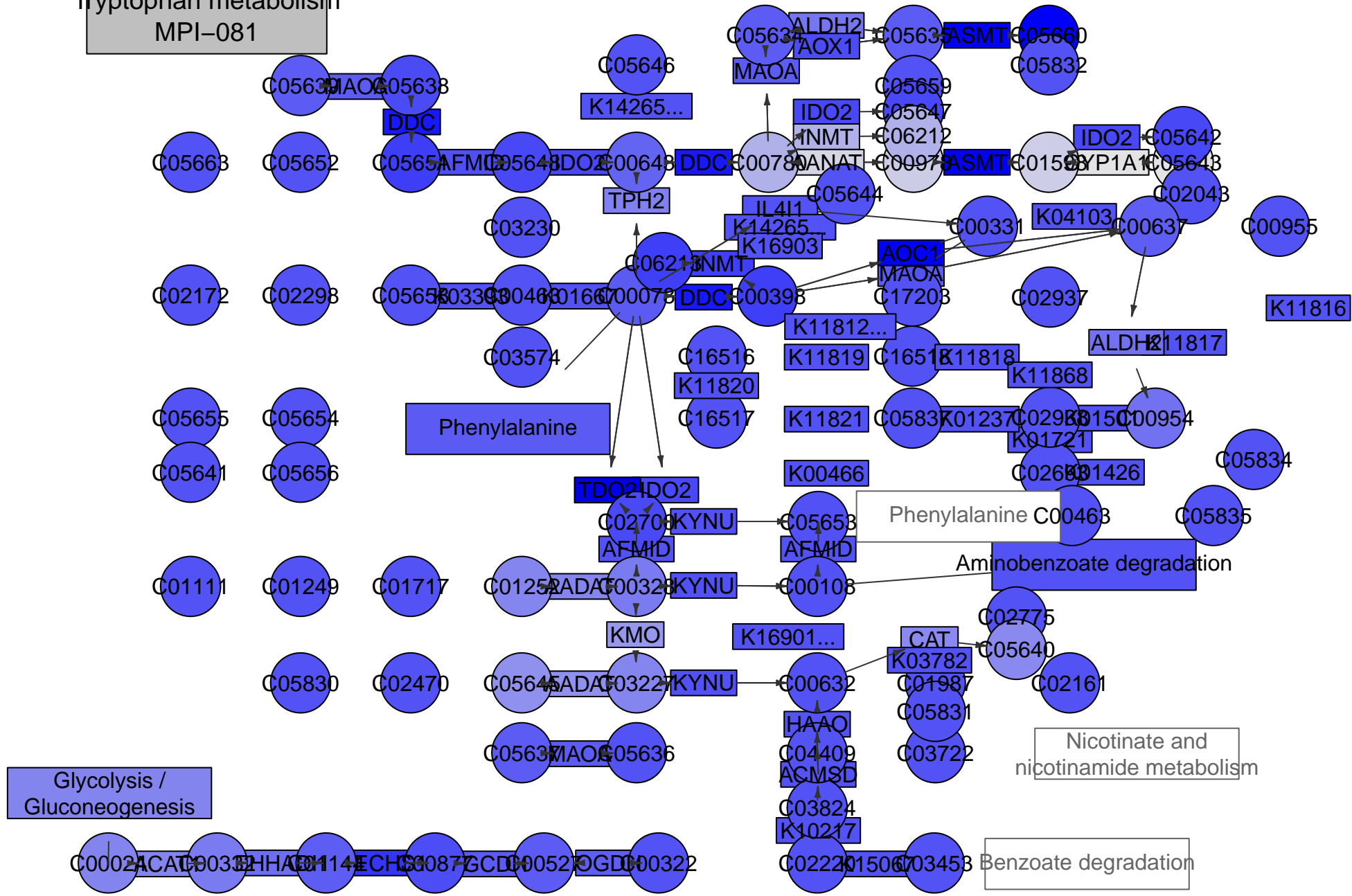




Tryptophan metabolism  
MPI-080

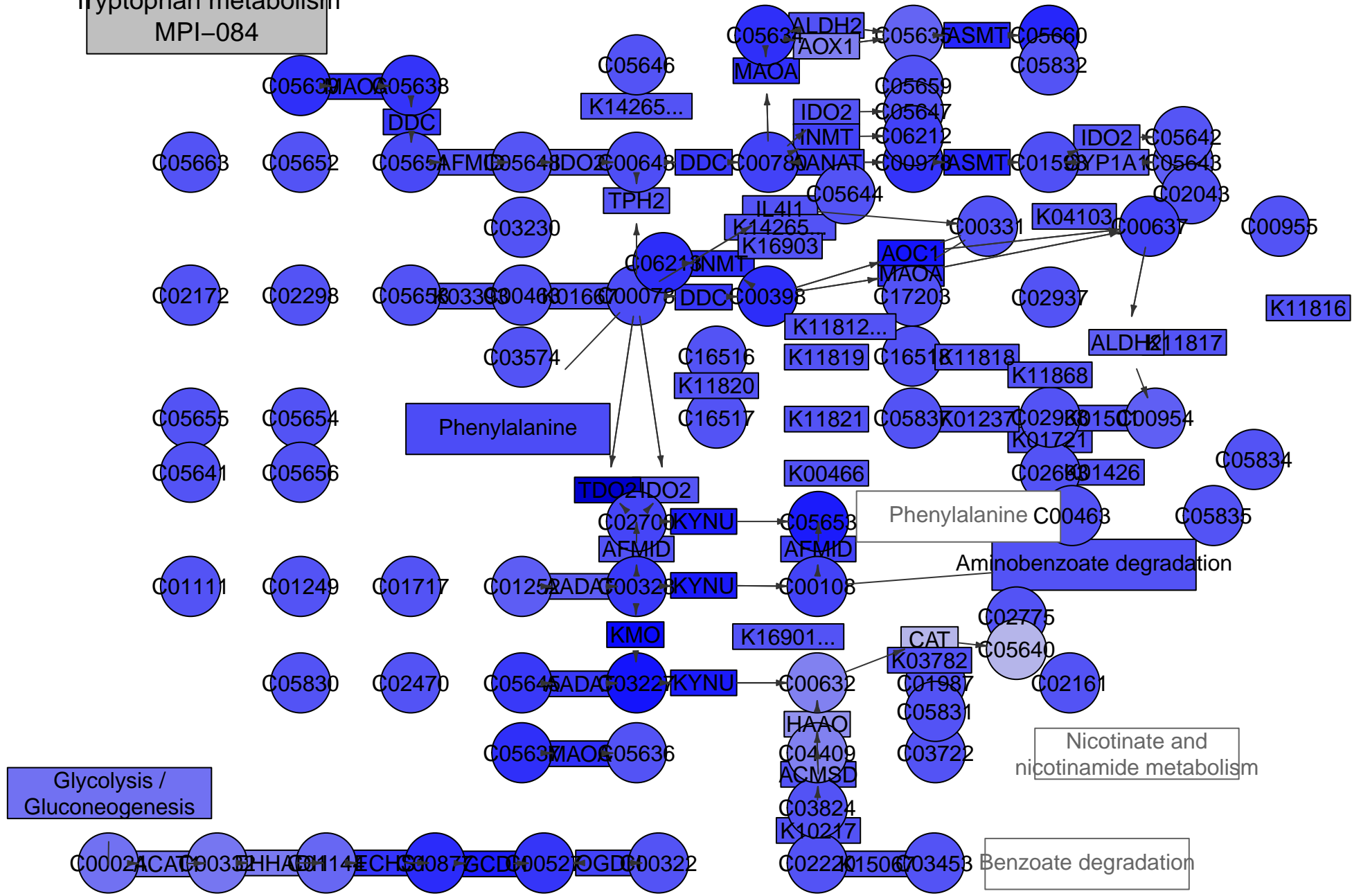


Tryptophan metabolism  
MPI-081

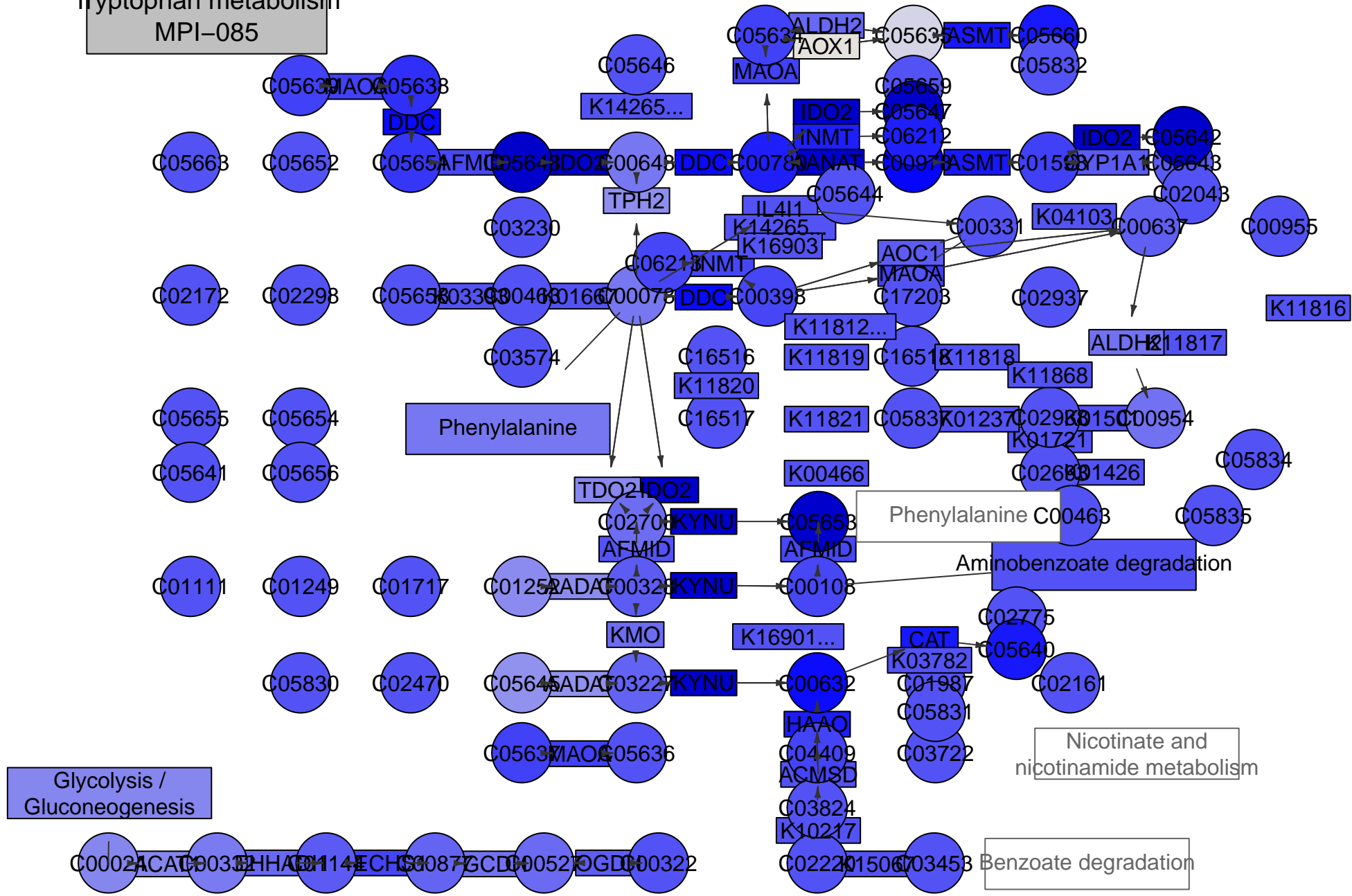




Tryptophan metabolism  
MPI-084



Tryptophan metabolism  
MPI-085





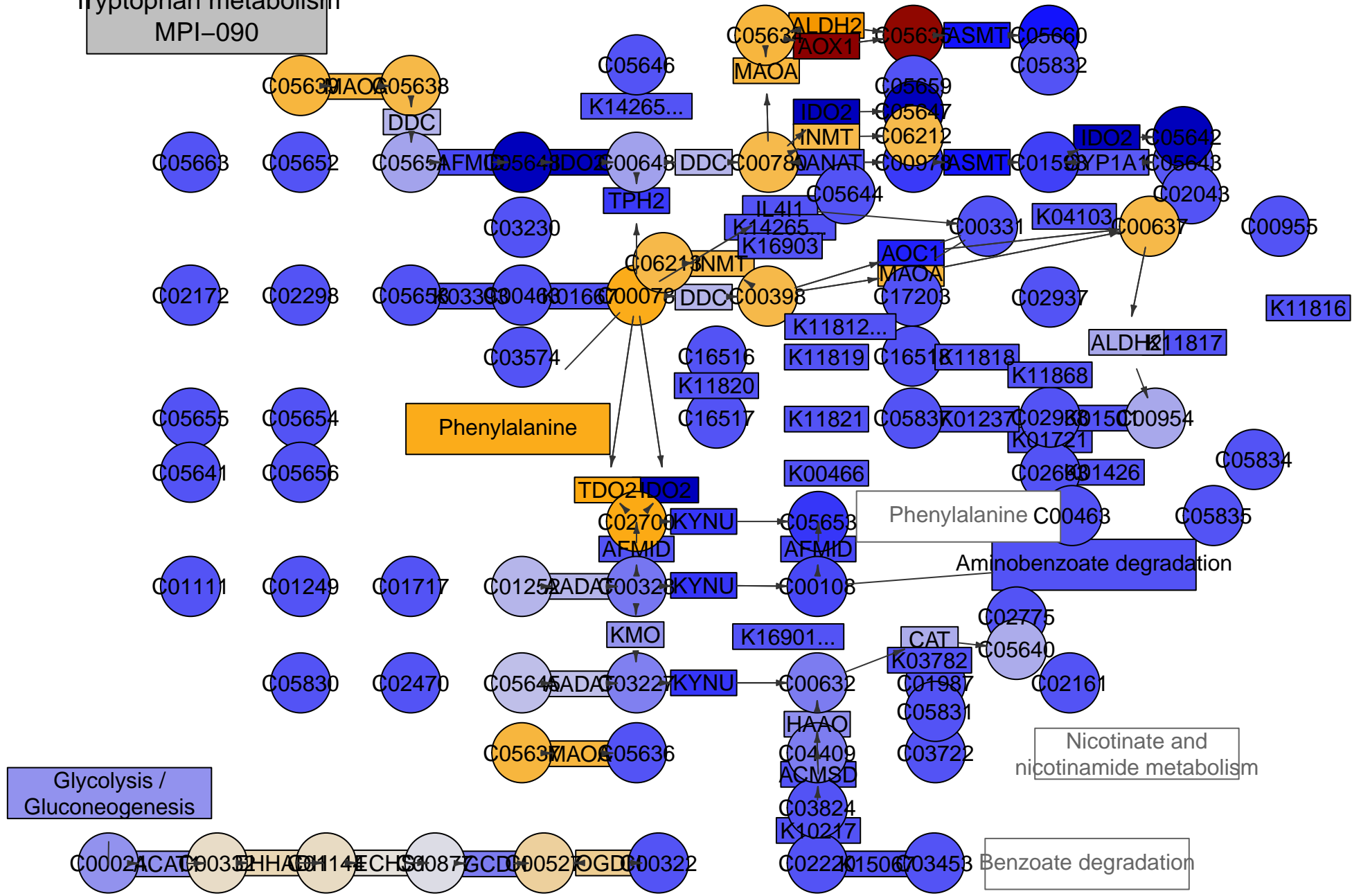








Tryptophan metabolism  
MPI-090



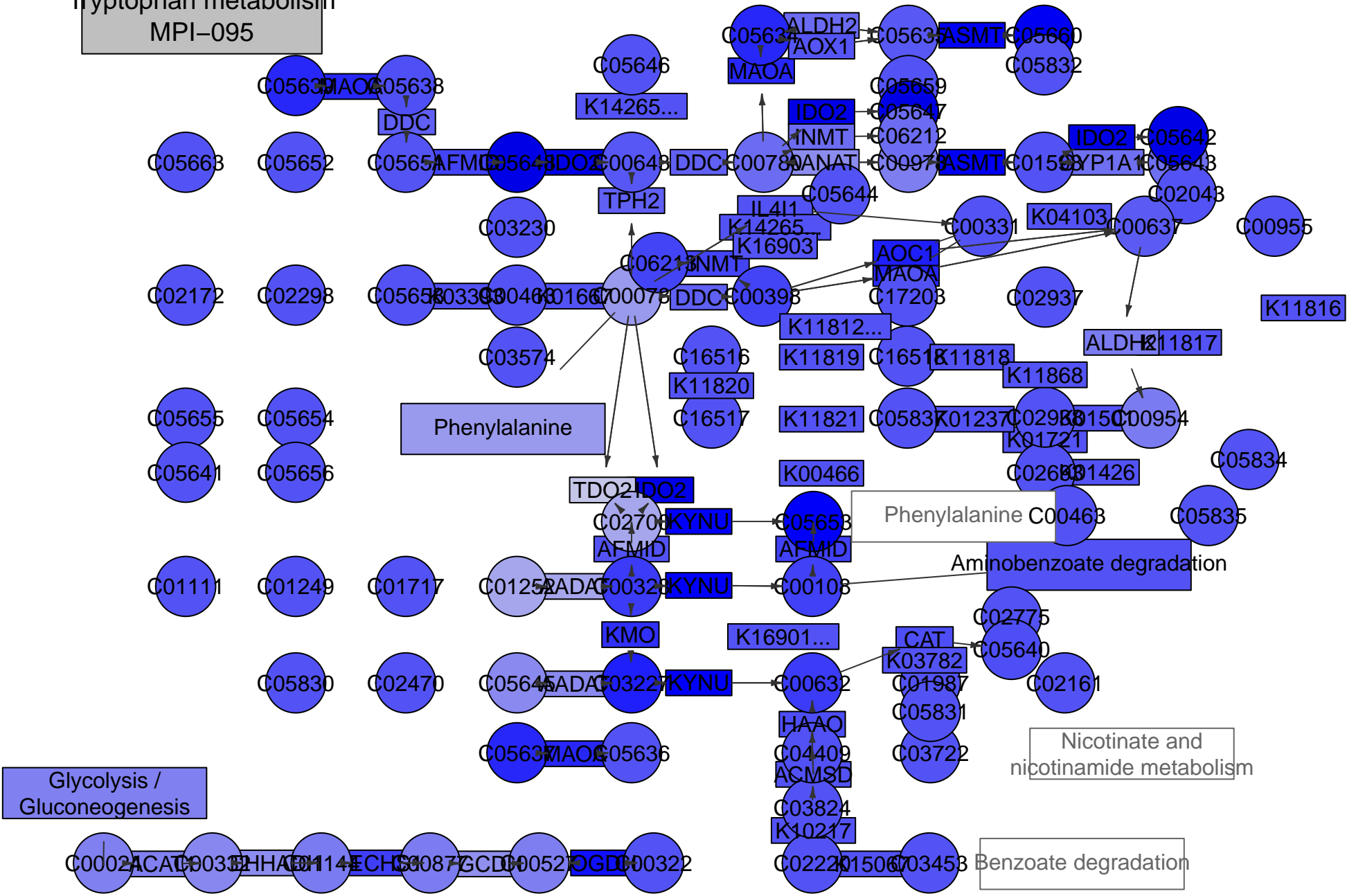
Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

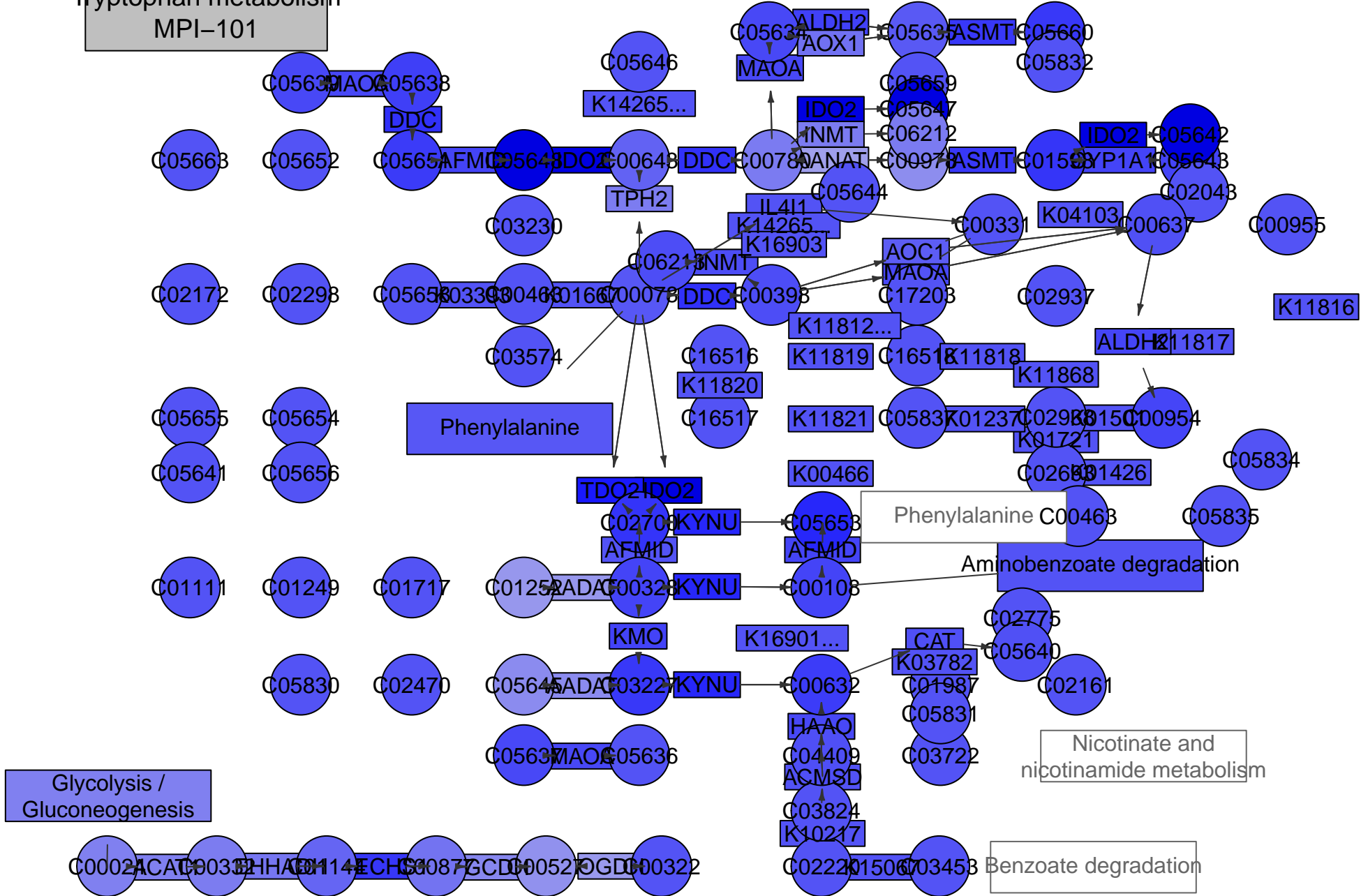


Tryptophan metabolism  
MPI-095

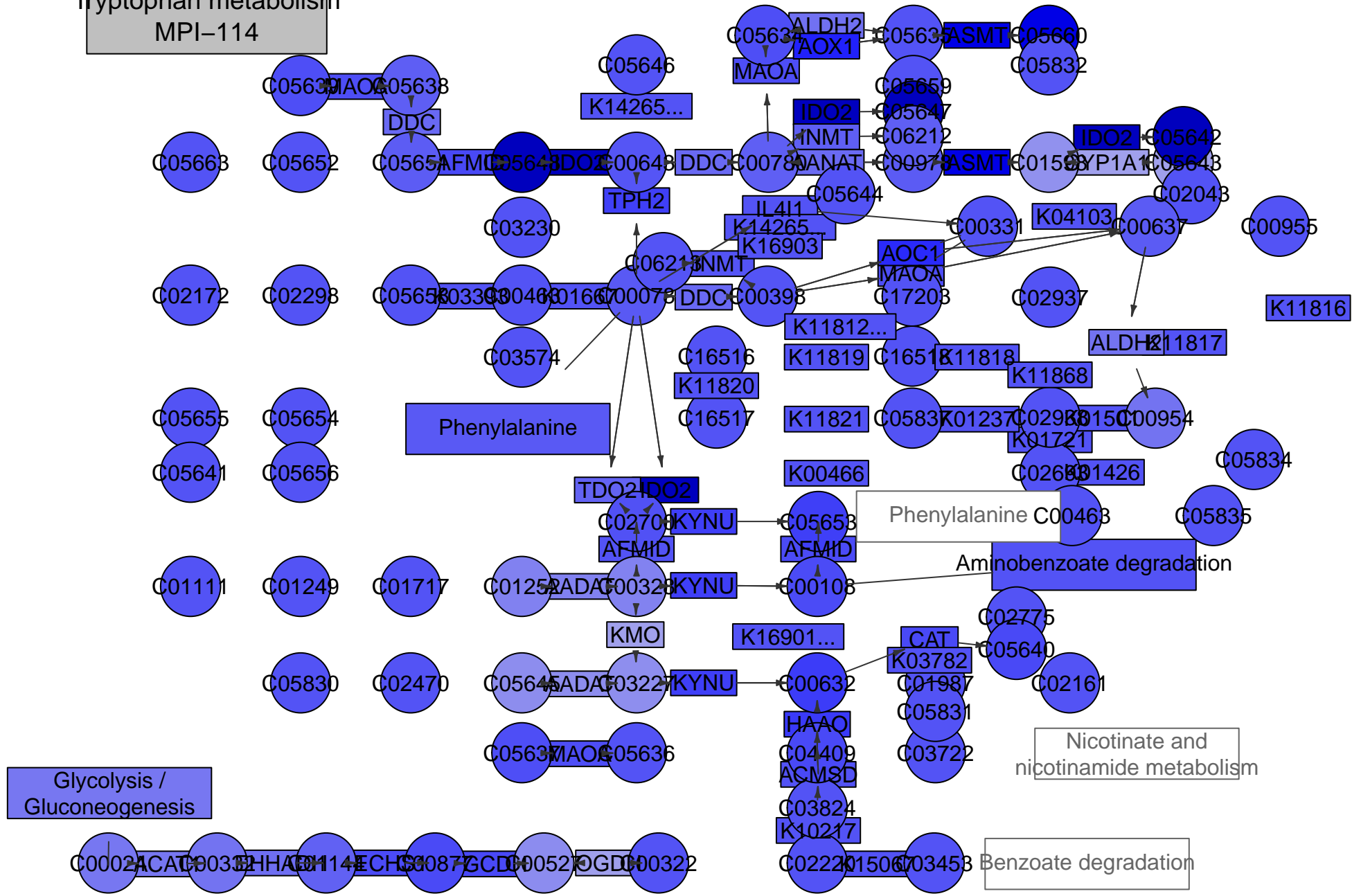




Tryptophan metabolism  
MPI-101



Tryptophan metabolism  
MPI-114





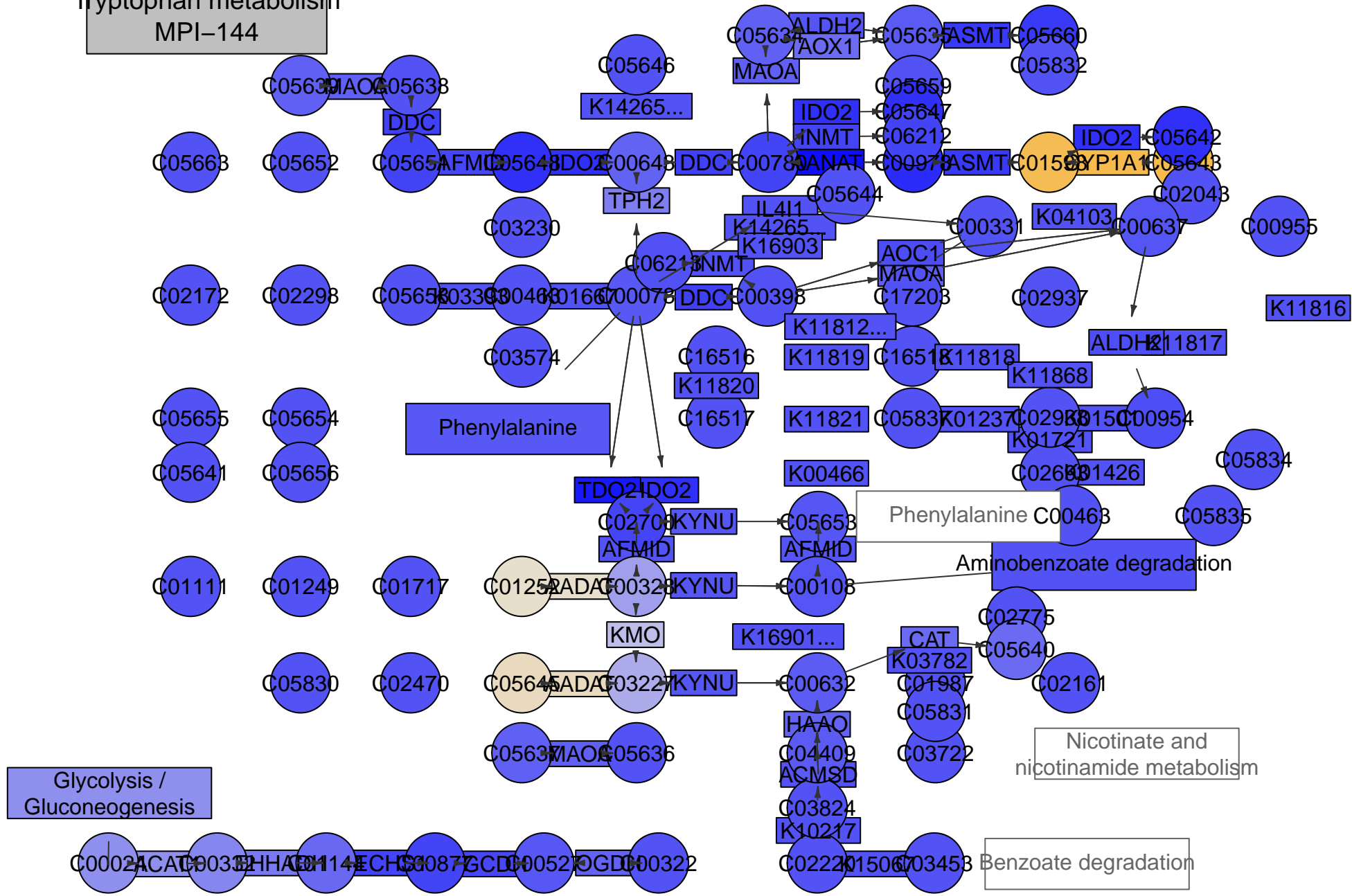




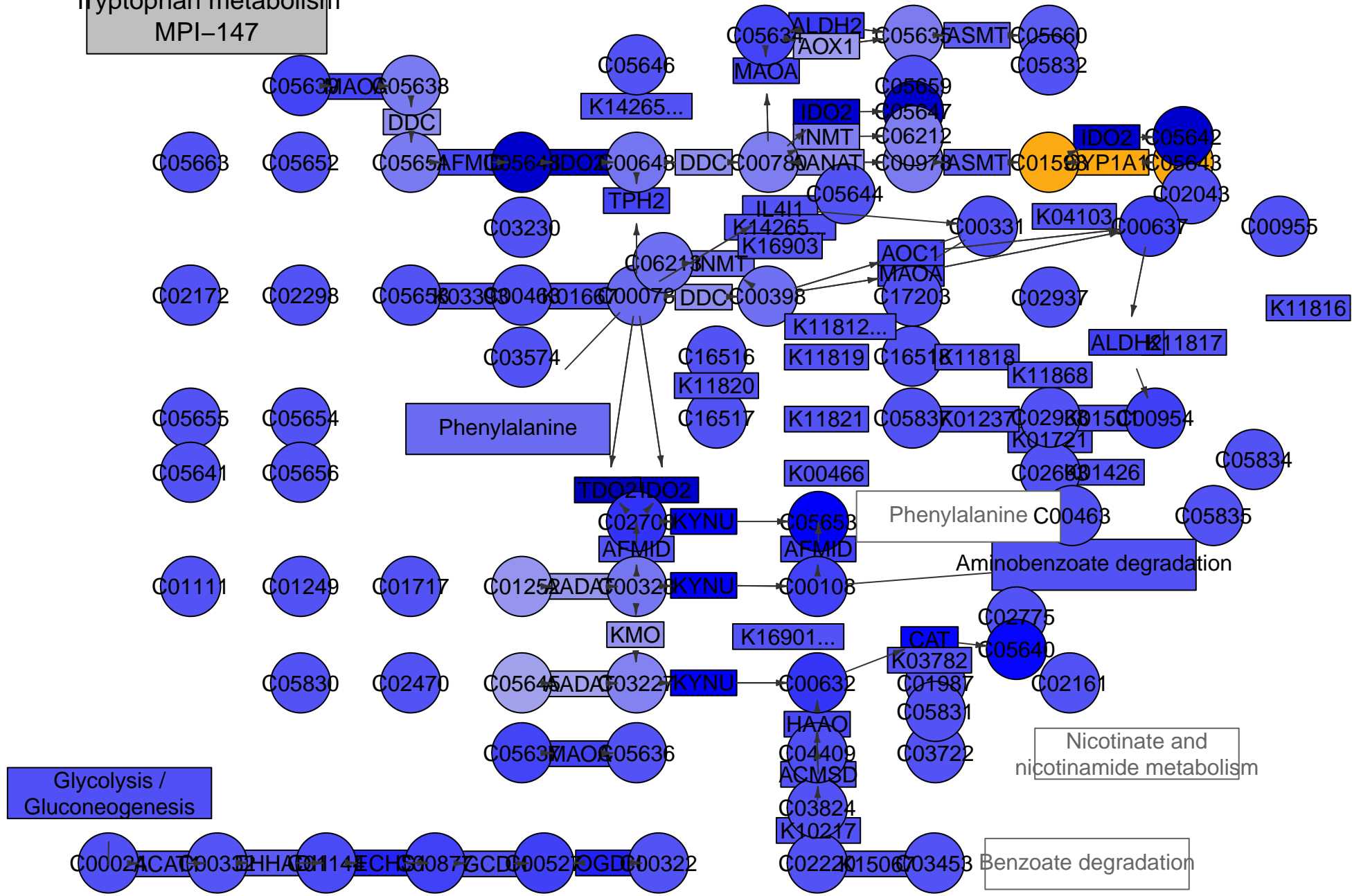




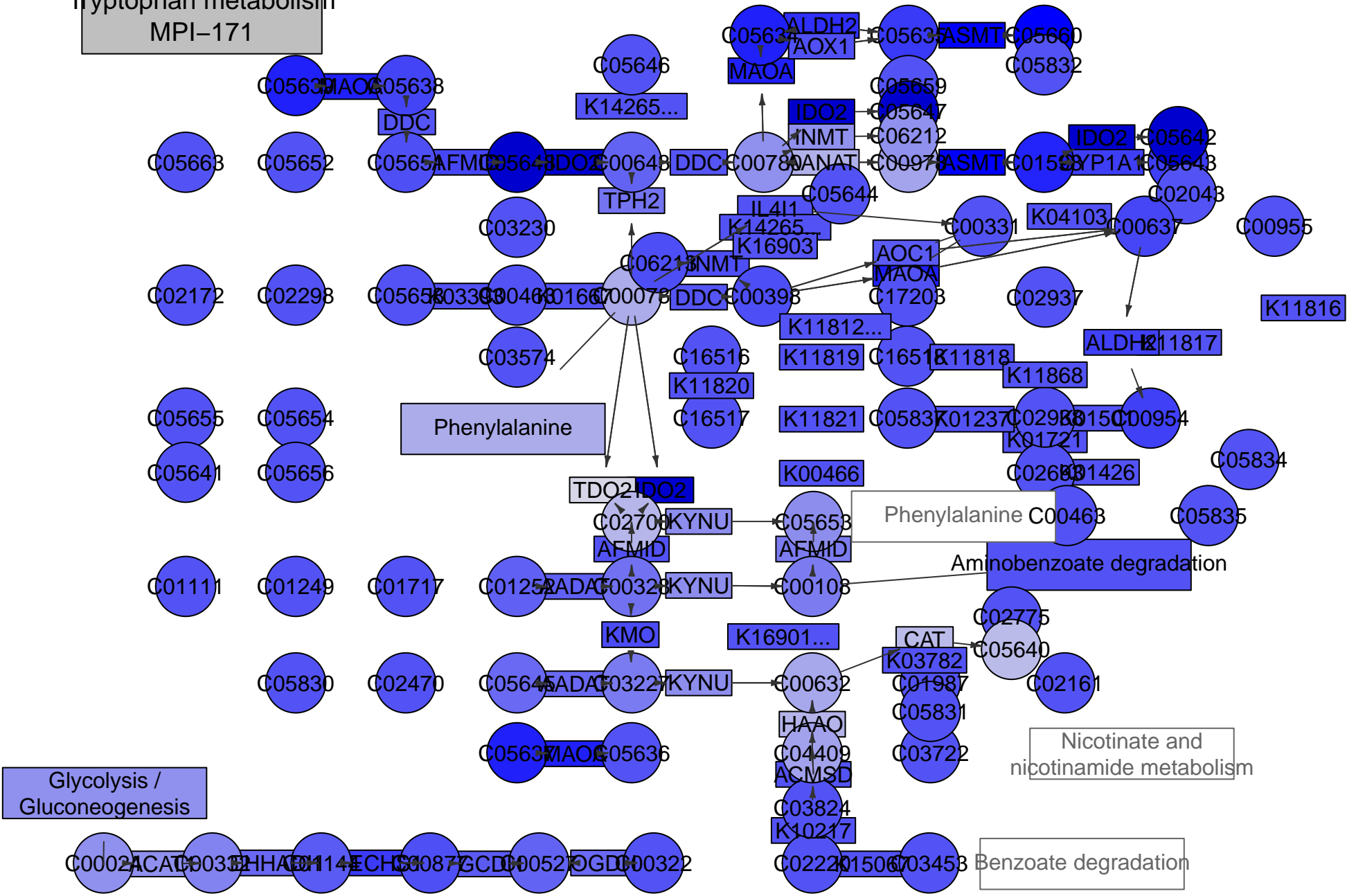
Tryptophan metabolism  
MPI-144



Tryptophan metabolism  
MPI-147



Tryptophan metabolism  
MPI-171



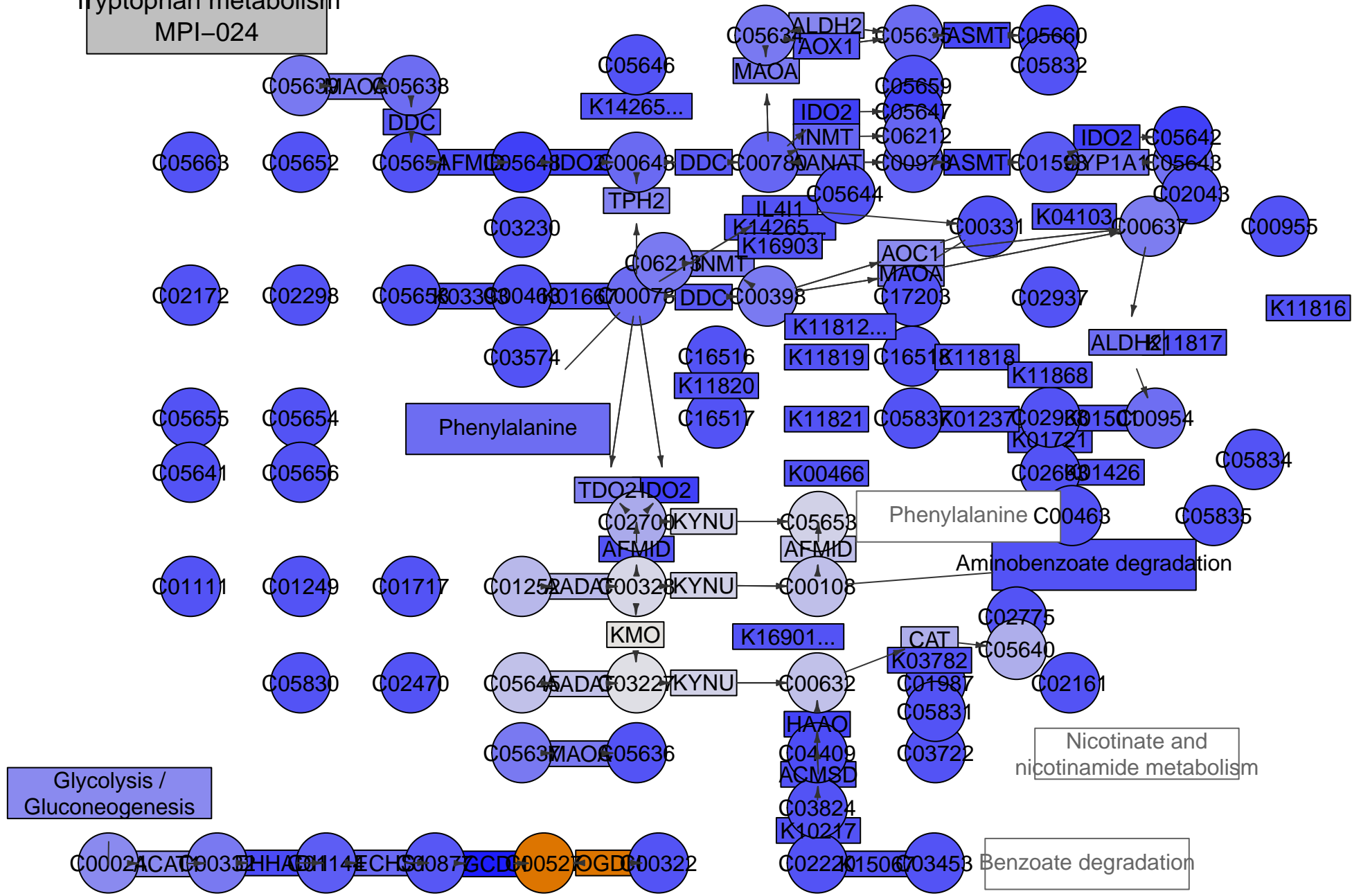








Tryptophan metabolism  
MPI-024



Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Phenylalanine

Phenylalanine  
Aminobenzoate degradation

TDO2 IDO2

AFMID

KMO

AFMID

MAOA

MAOB

DDC

TPH2

MAOA

MAOB

DDC

TPH2

DDC

DDC

DDC

DDC

DDC

DDC

DDC

DDC

DDC

DDC

DDC

MAOA

MAOB

DDC

TPH2

DDC

DDC

DDC

DDC

DDC

DDC

DDC

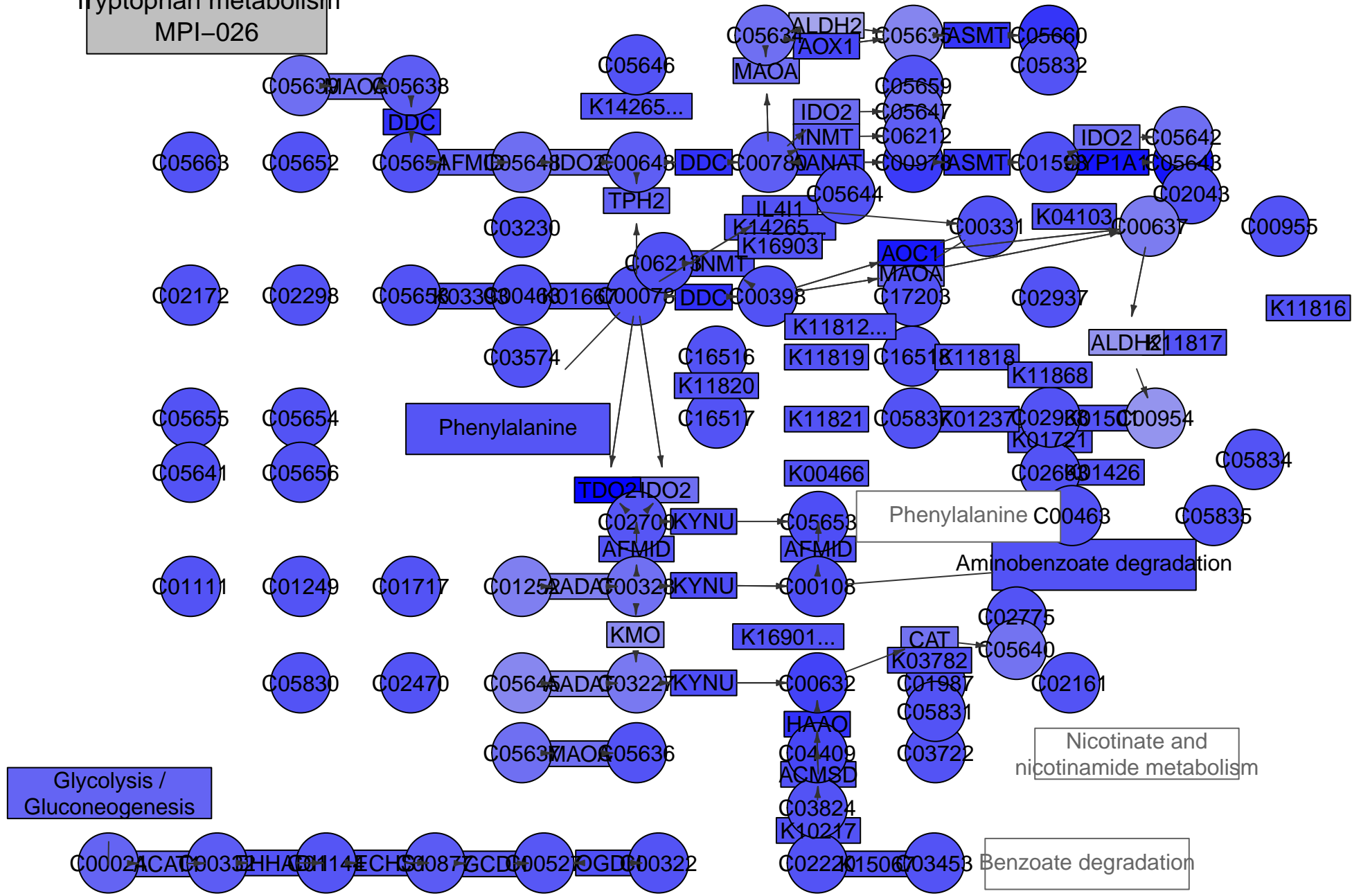
DDC

DDC

DDC

DDC

Tryptophan metabolism  
MPI-026

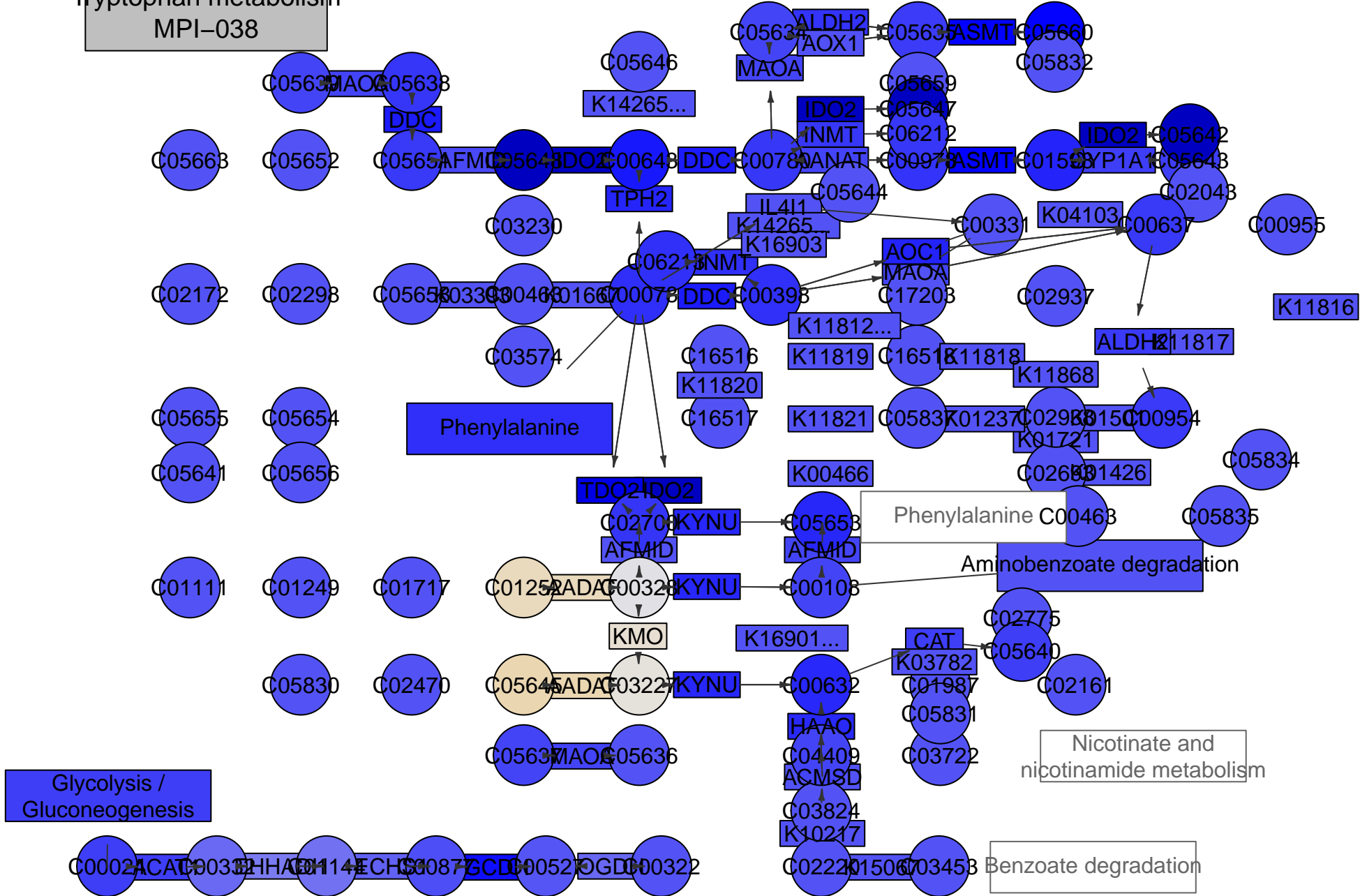




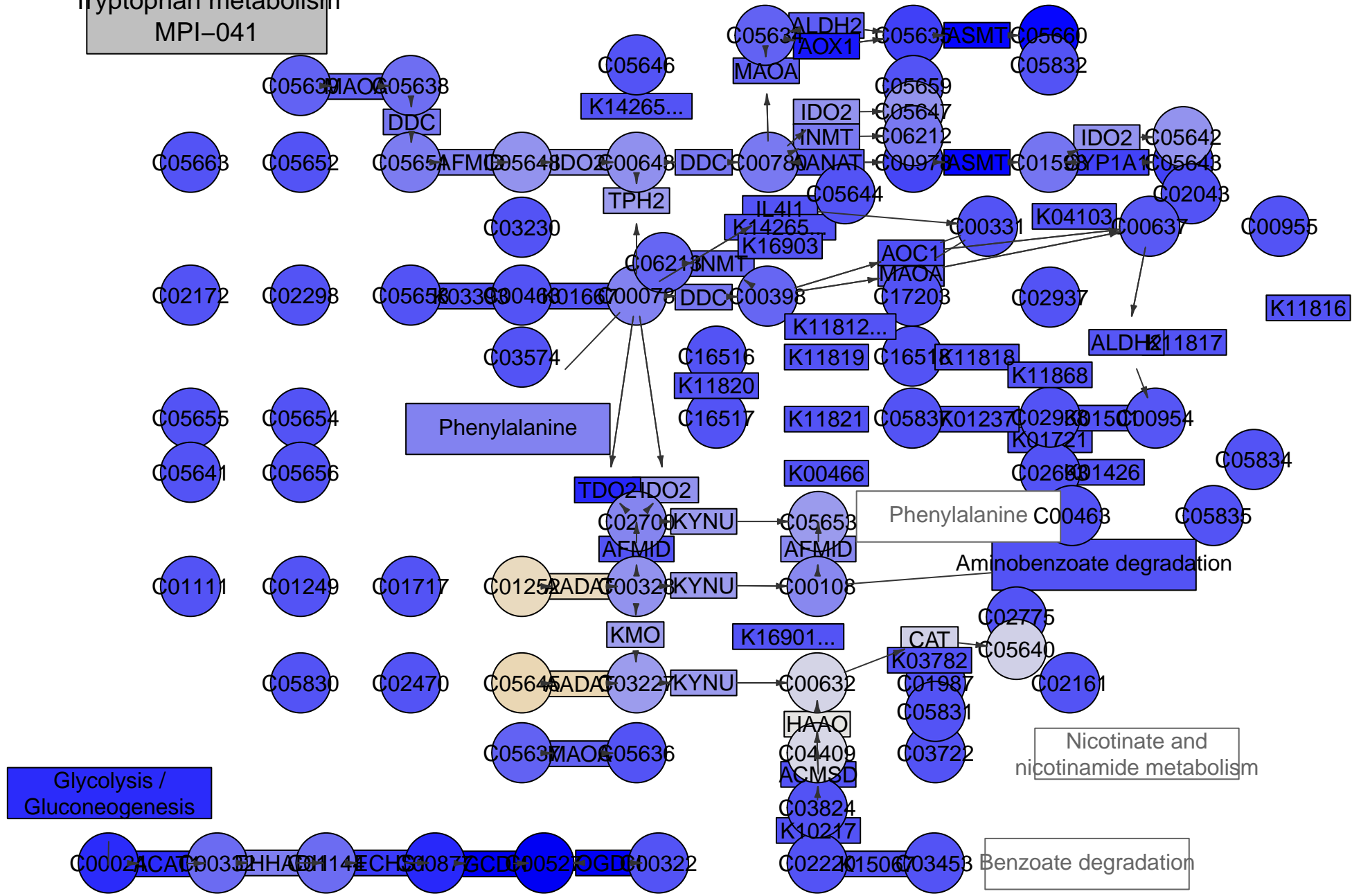




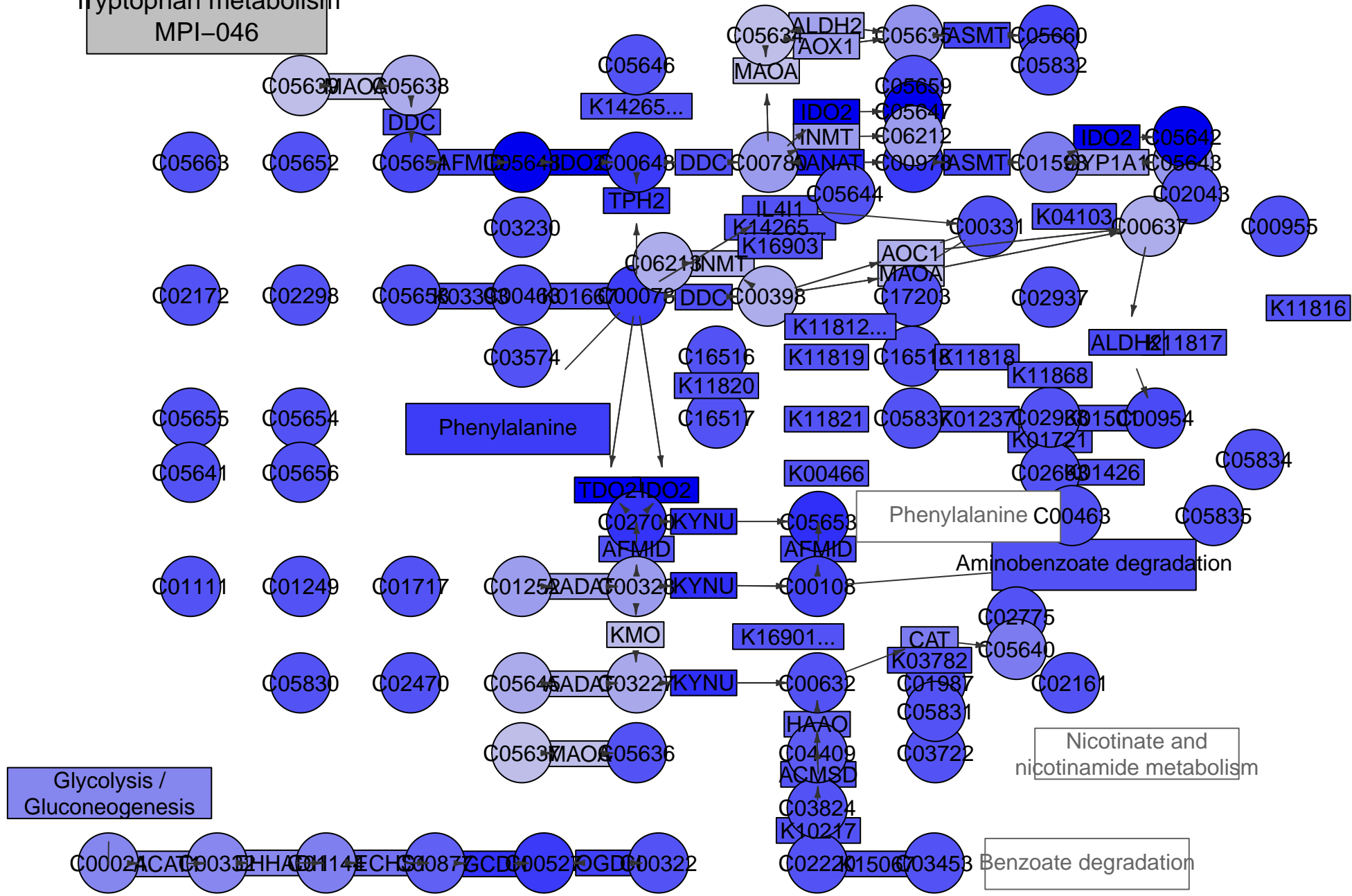
Tryptophan metabolism  
MPI-038



Tryptophan metabolism  
MPI-041



Tryptophan metabolism  
MPI-046



Phenylalanine

Phenylalanine

Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

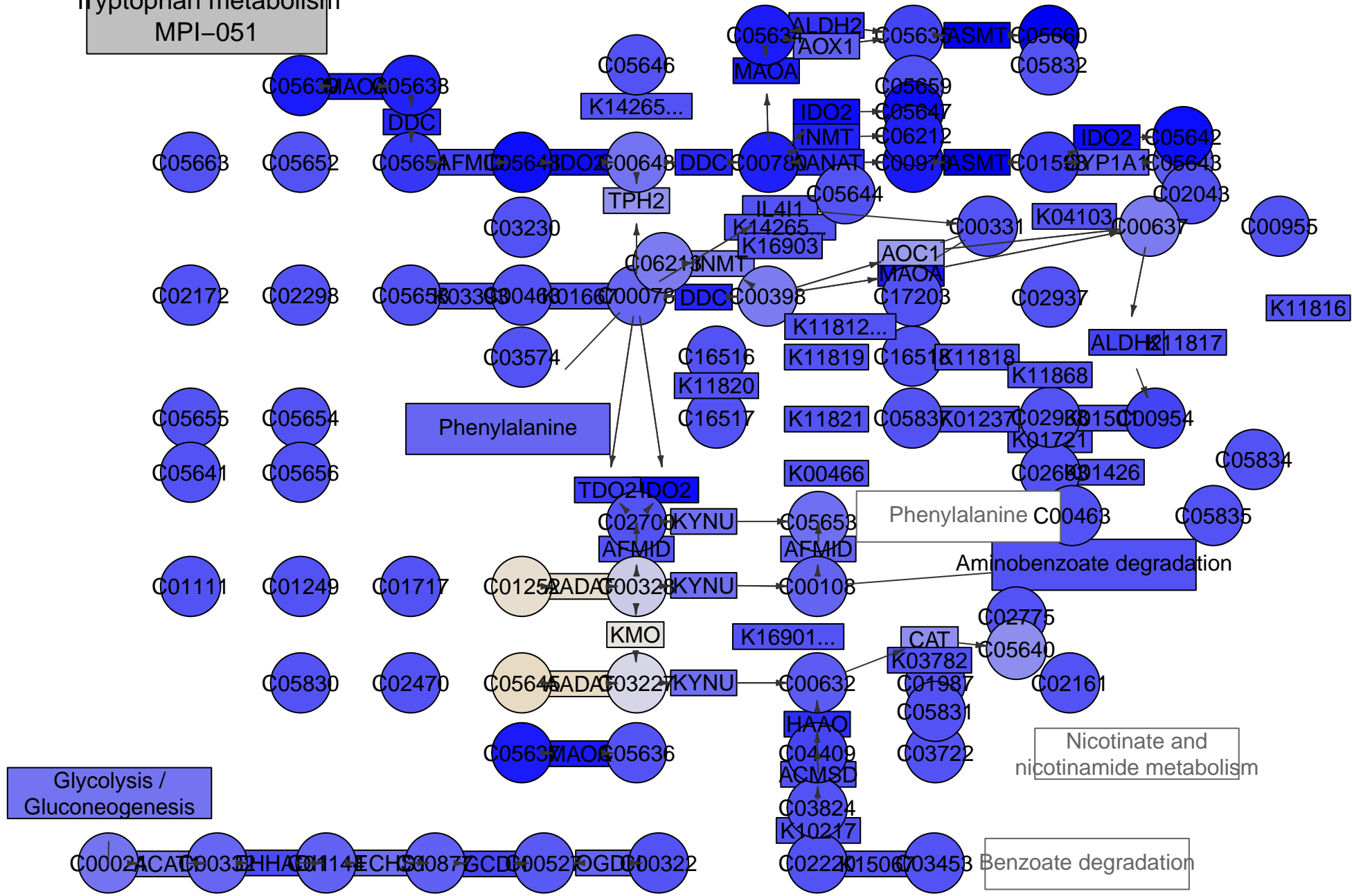
Benzoate degradation

Glycolysis /  
Gluconeogenesis

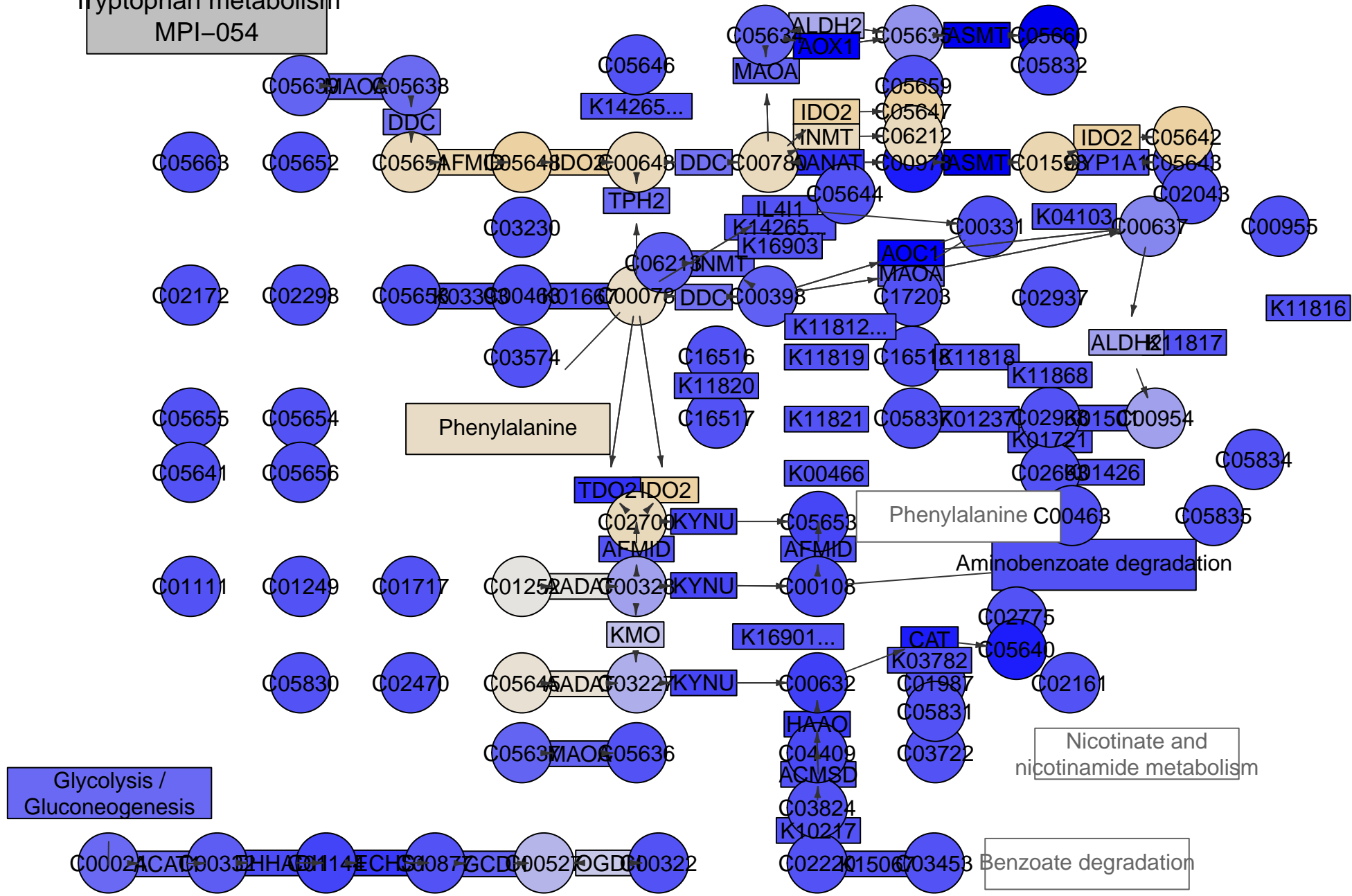




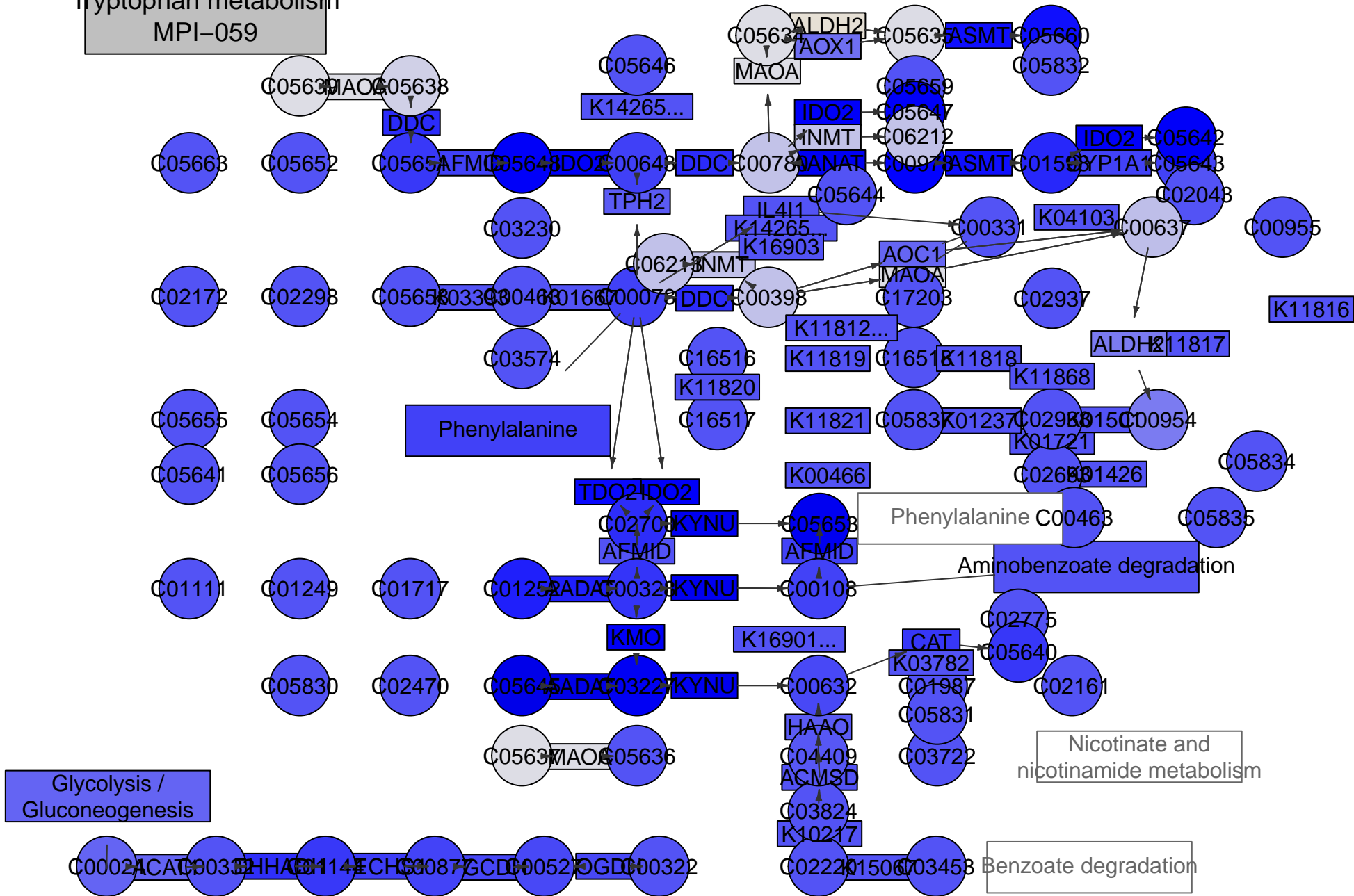
Tryptophan metabolism  
MPI-051



Tryptophan metabolism  
MPI-054



Tryptophan metabolism  
MPI-059

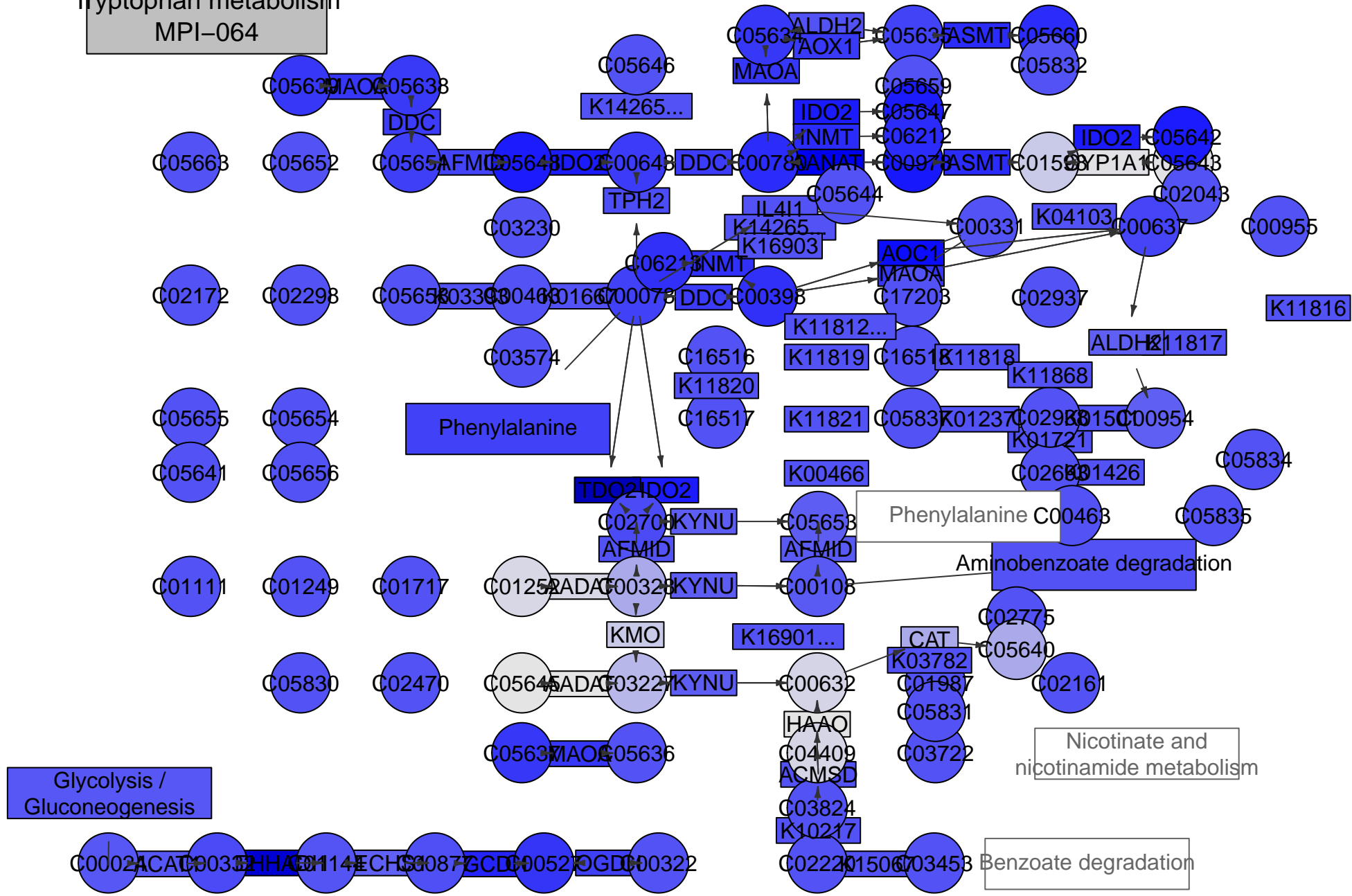






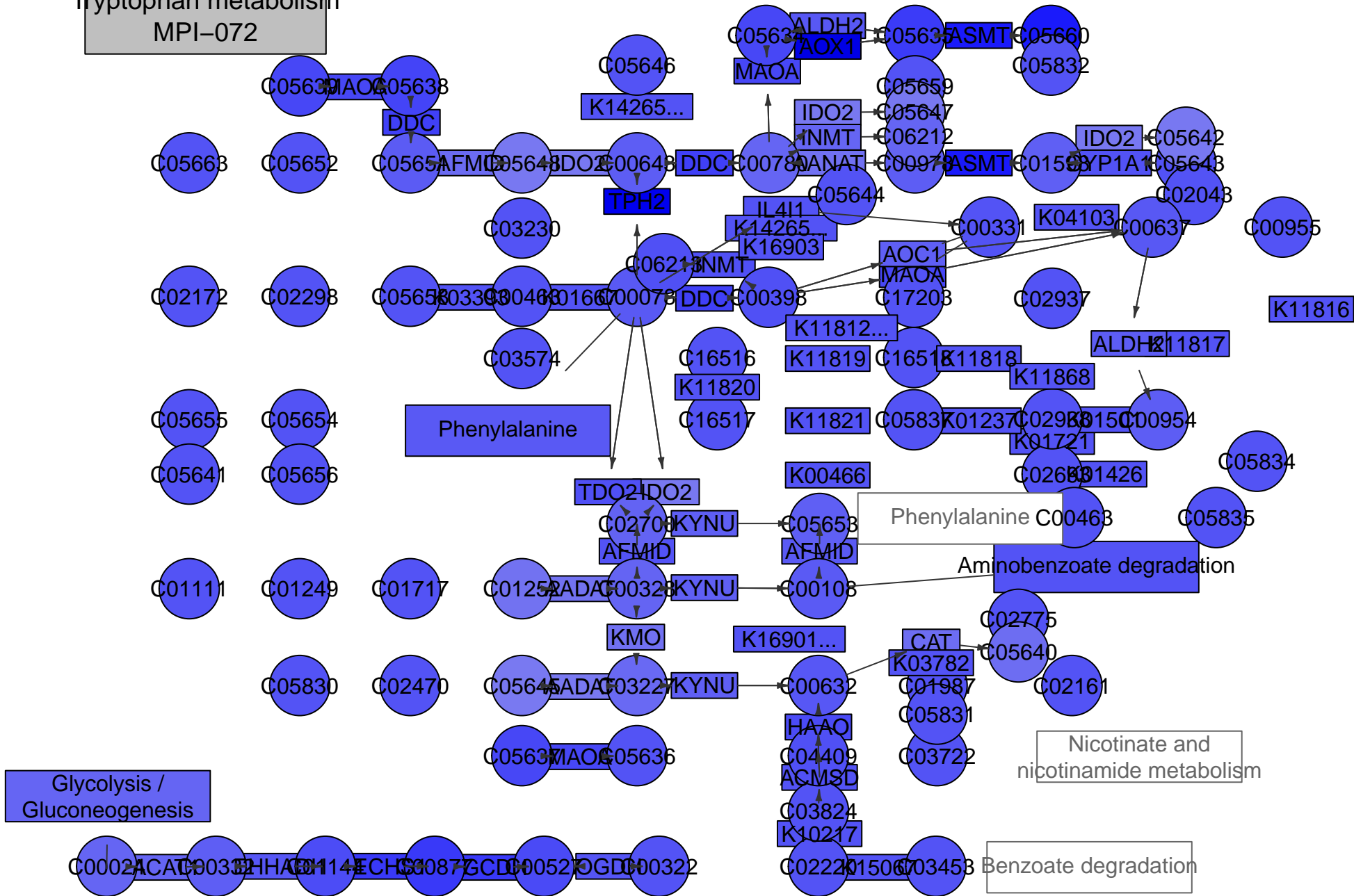


Tryptophan metabolism  
MPI-064

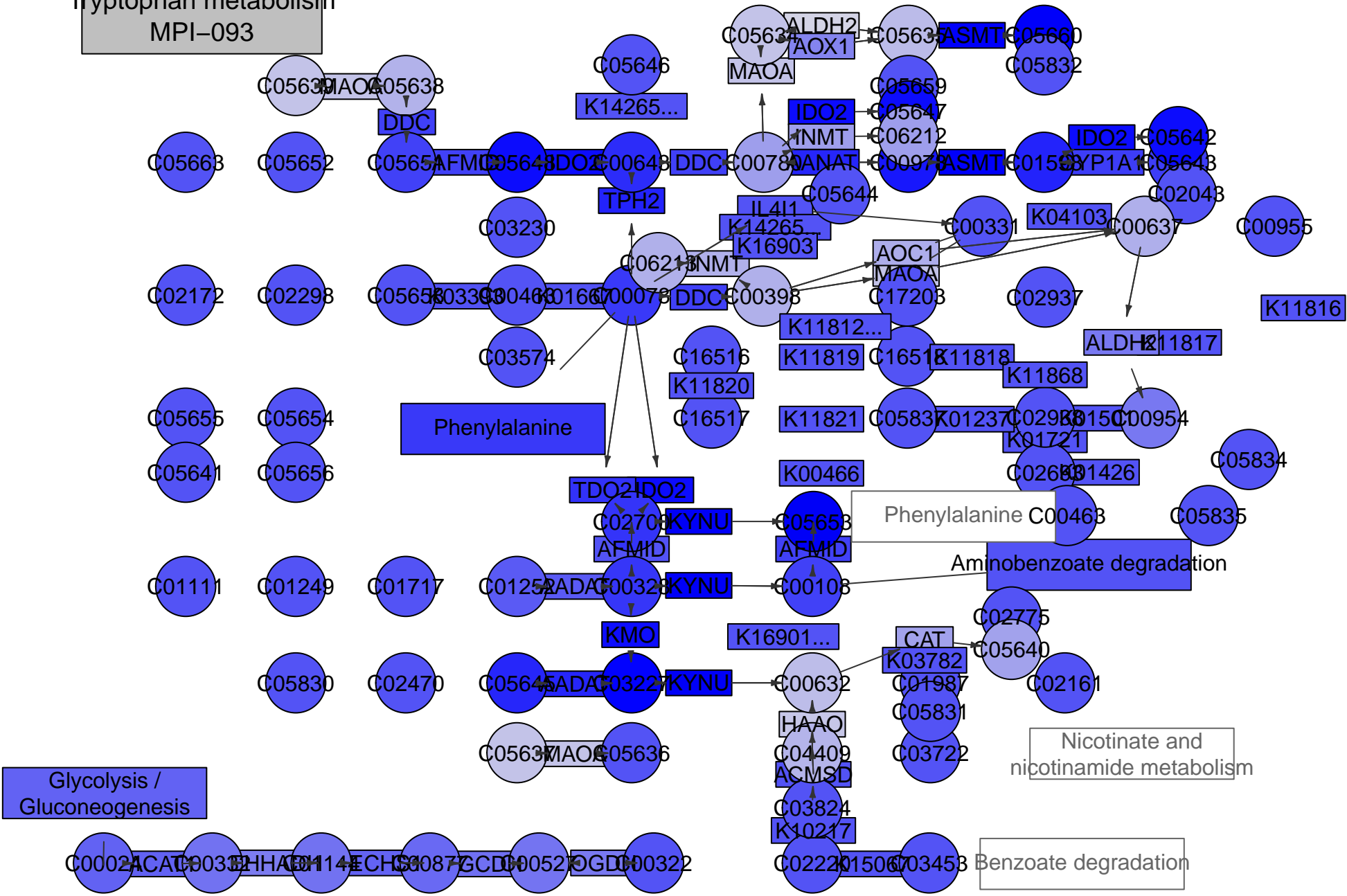




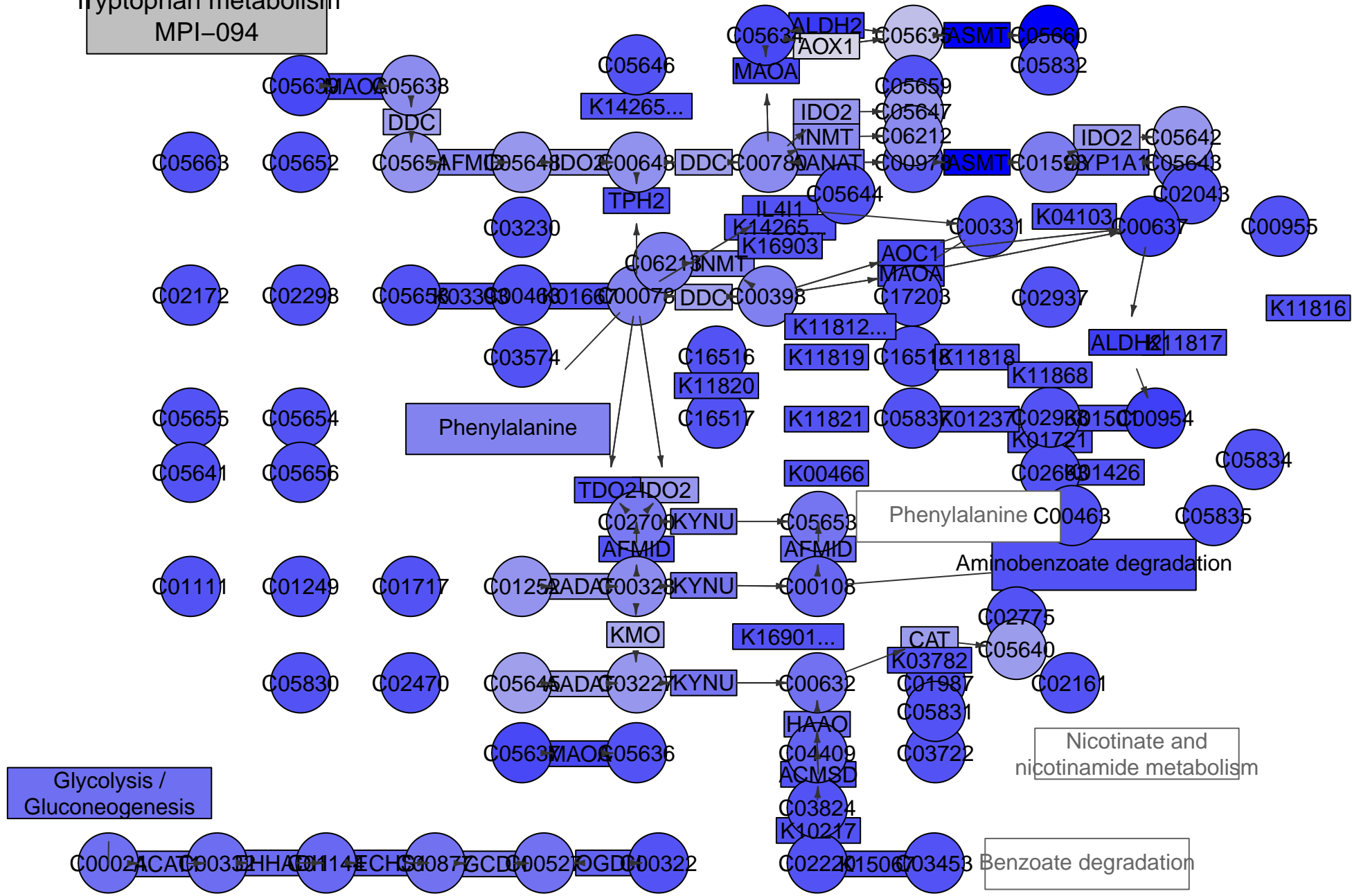
Tryptophan metabolism  
MPI-072



Tryptophan metabolism  
MPI-093

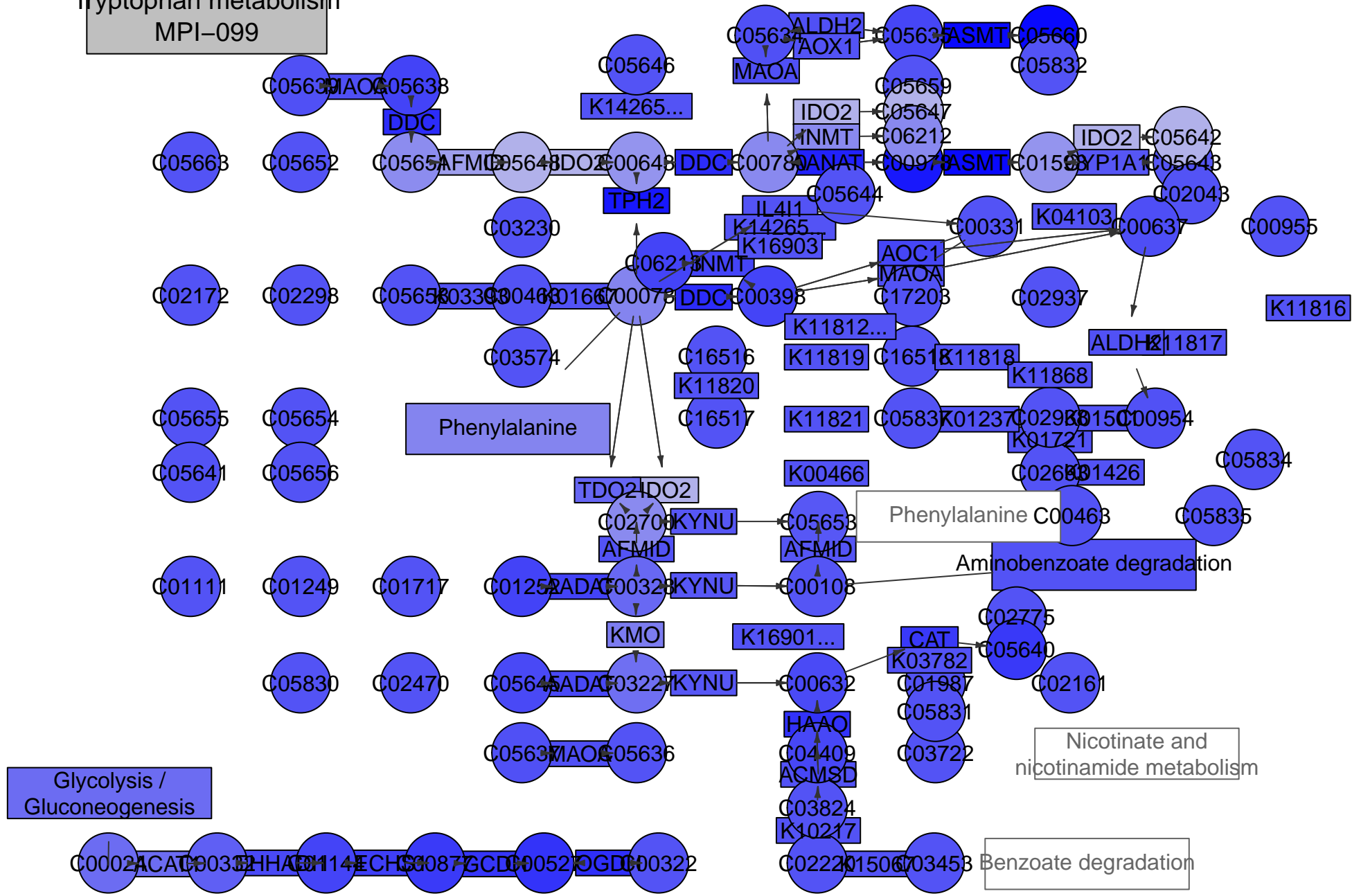


Tryptophan metabolism  
MPI-094

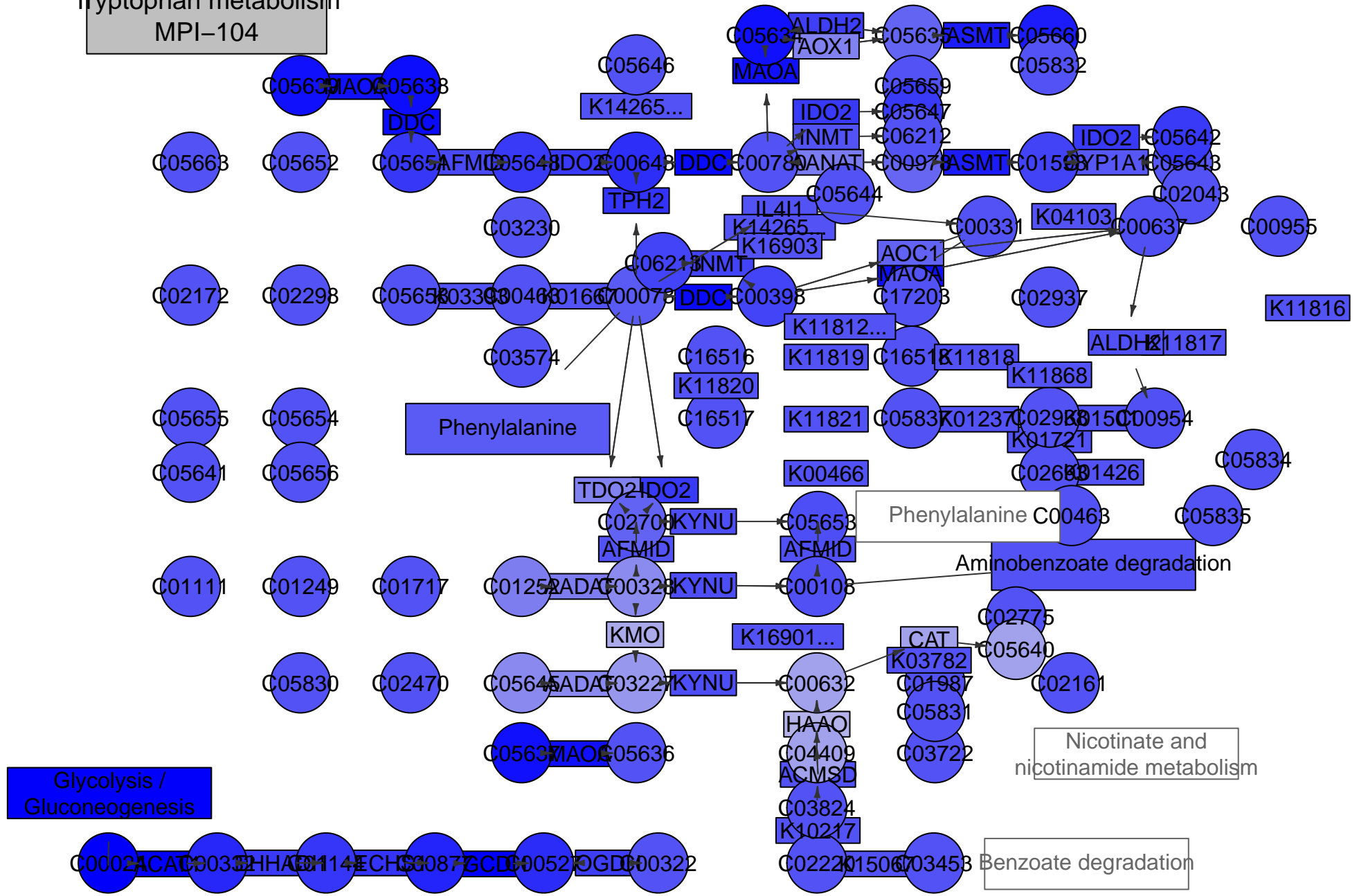




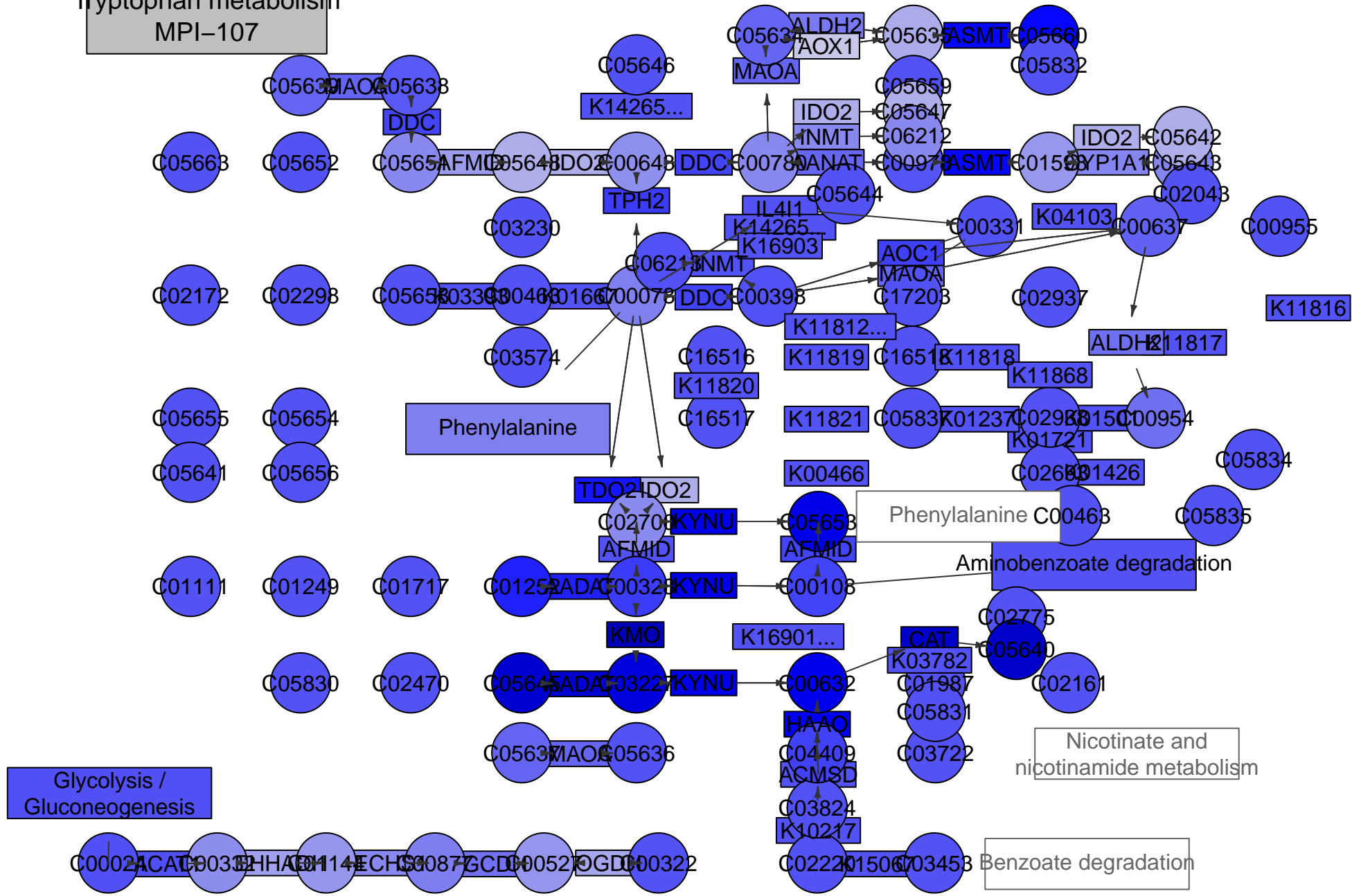
Tryptophan metabolism  
MPI-099



Tryptophan metabolism  
MPI-104



Tryptophan metabolism  
MPI-107

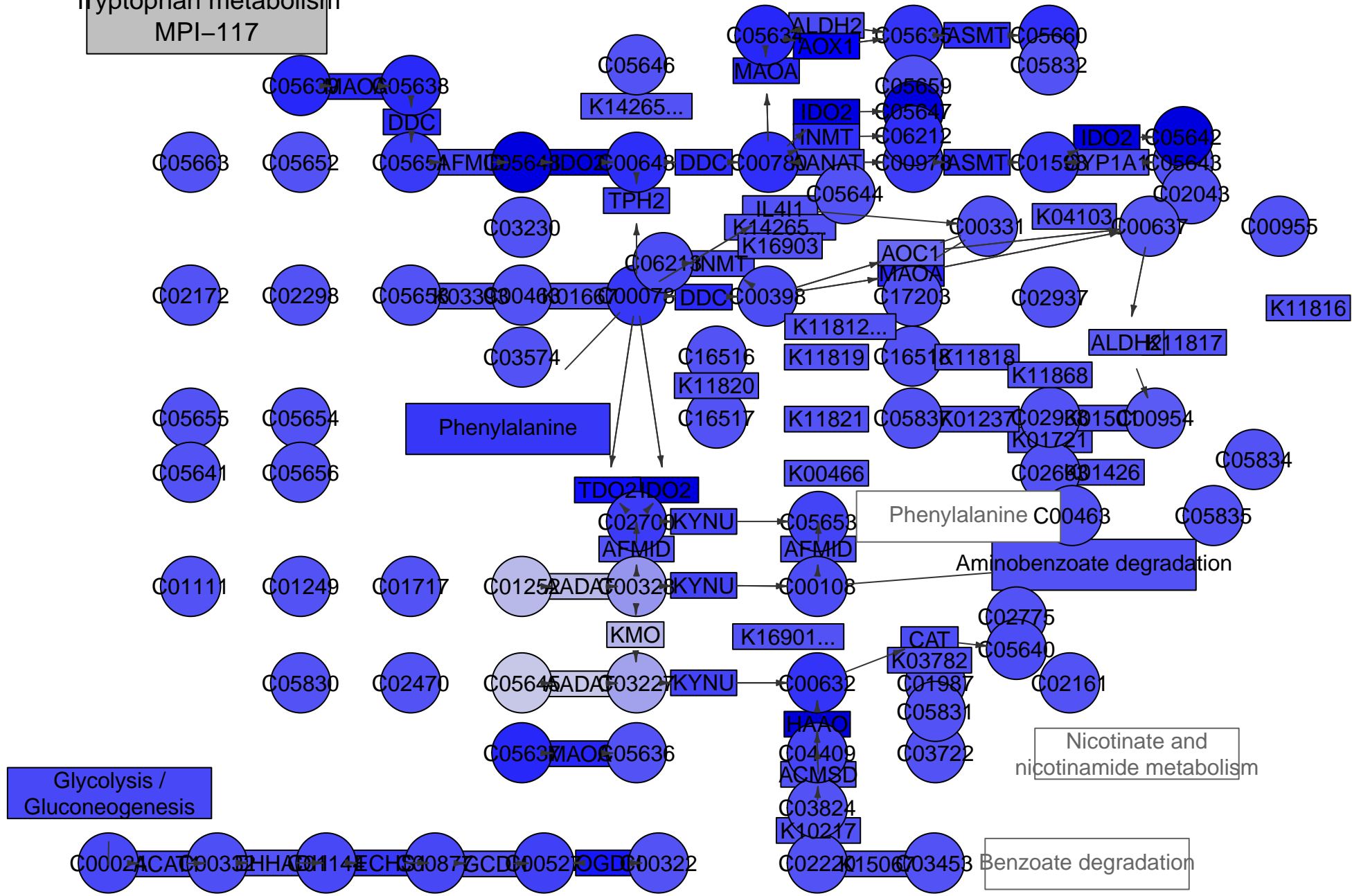




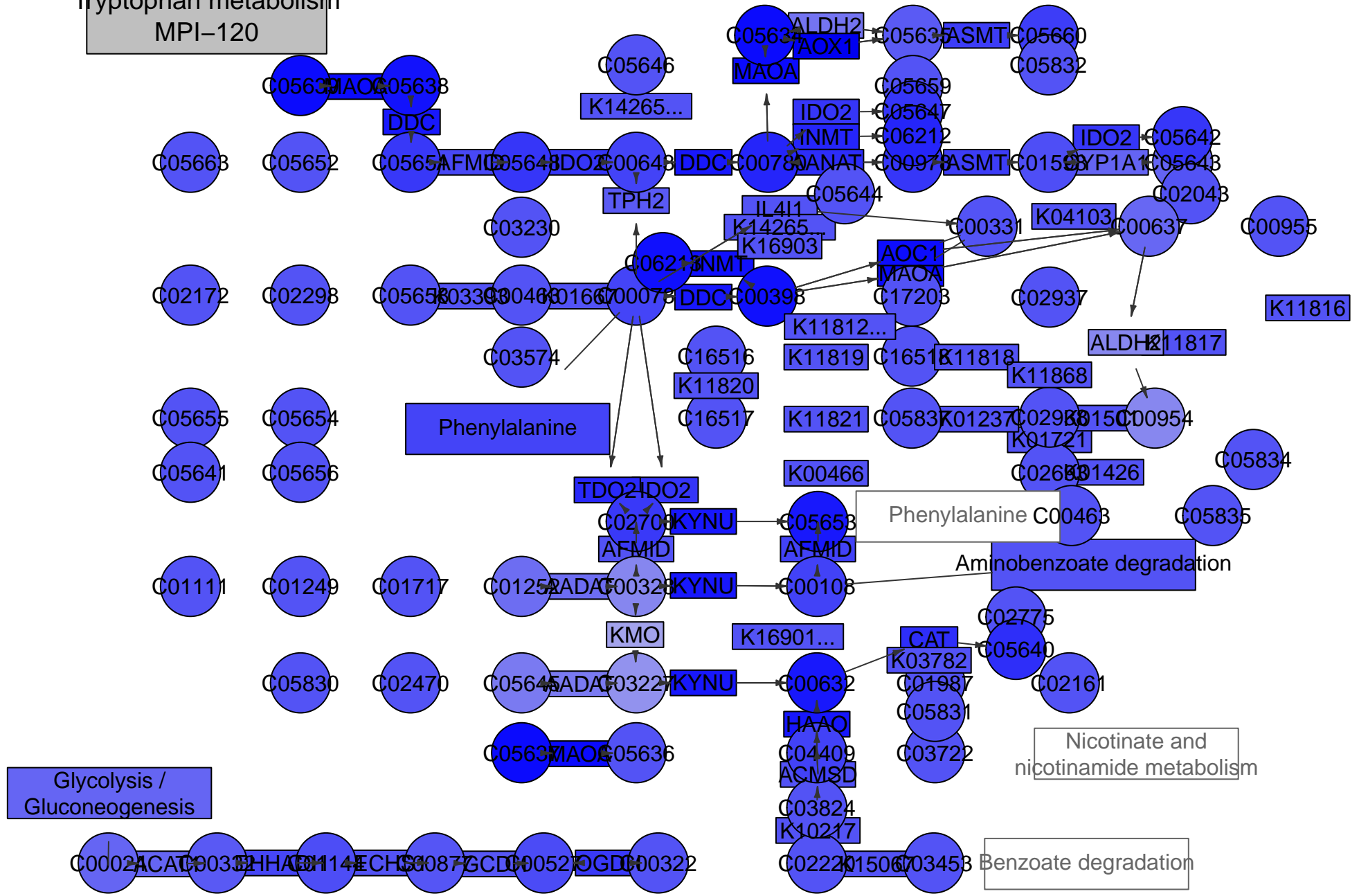




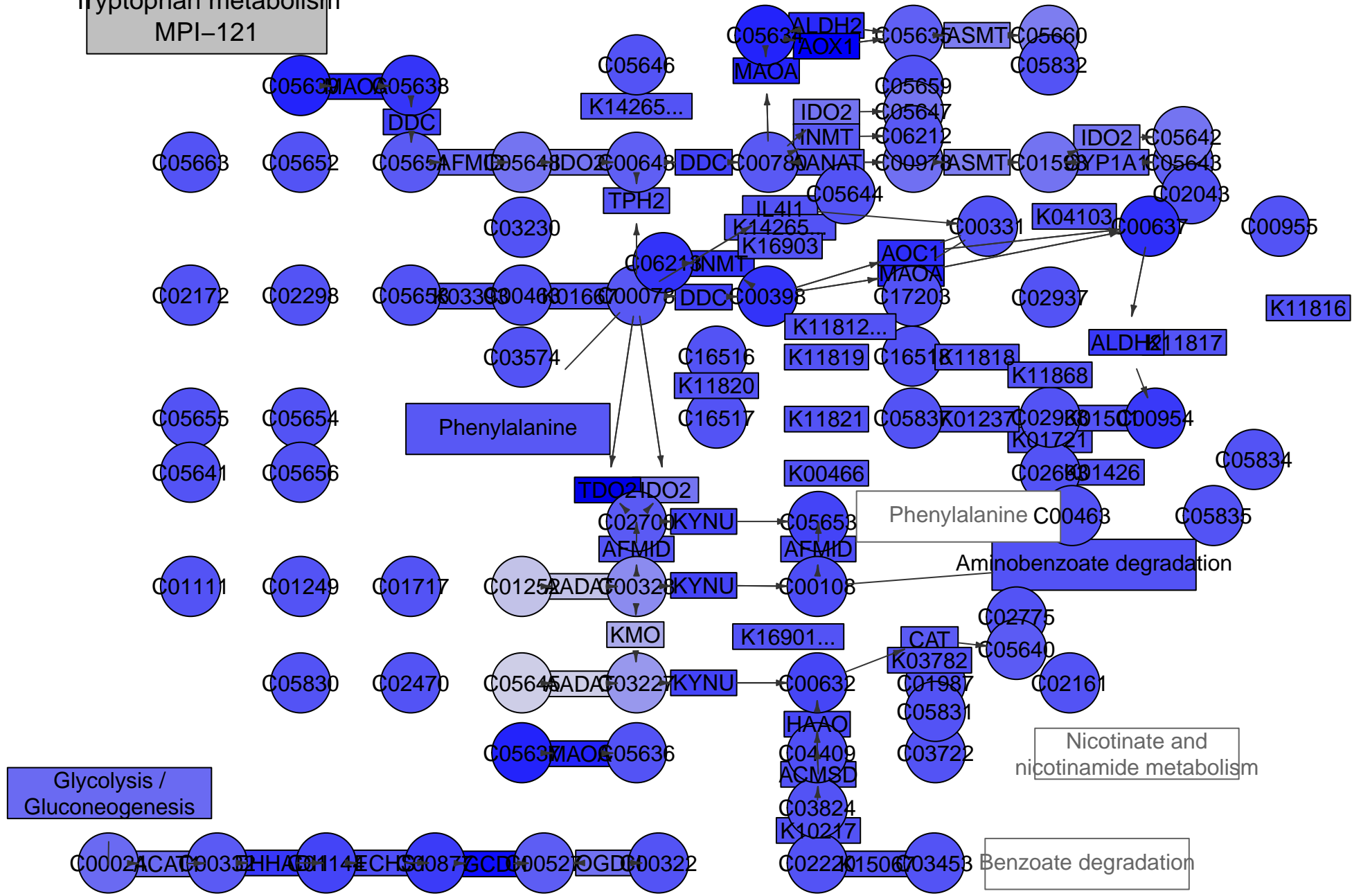
Tryptophan metabolism  
MPI-117



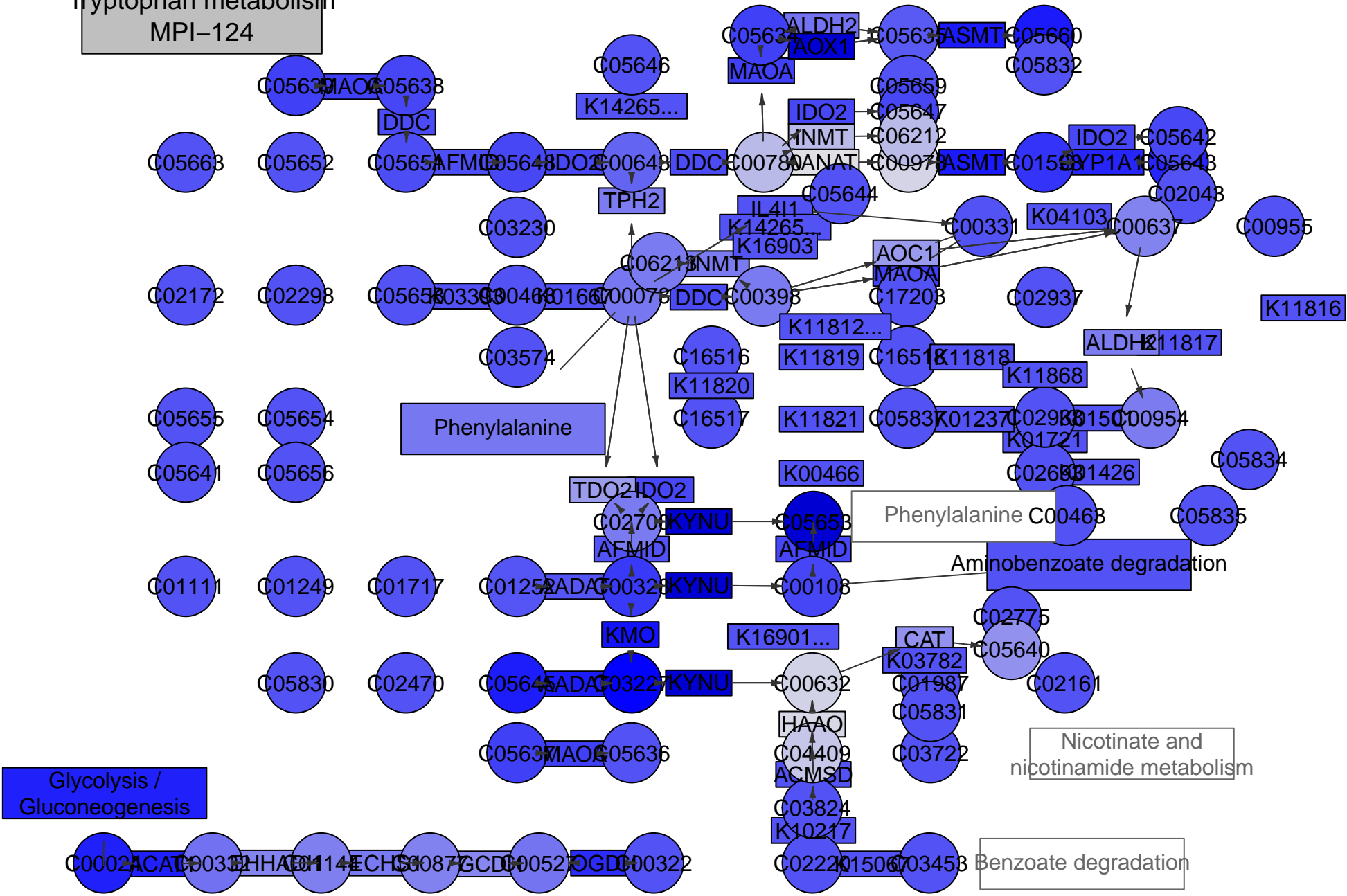
Tryptophan metabolism  
MPI-120



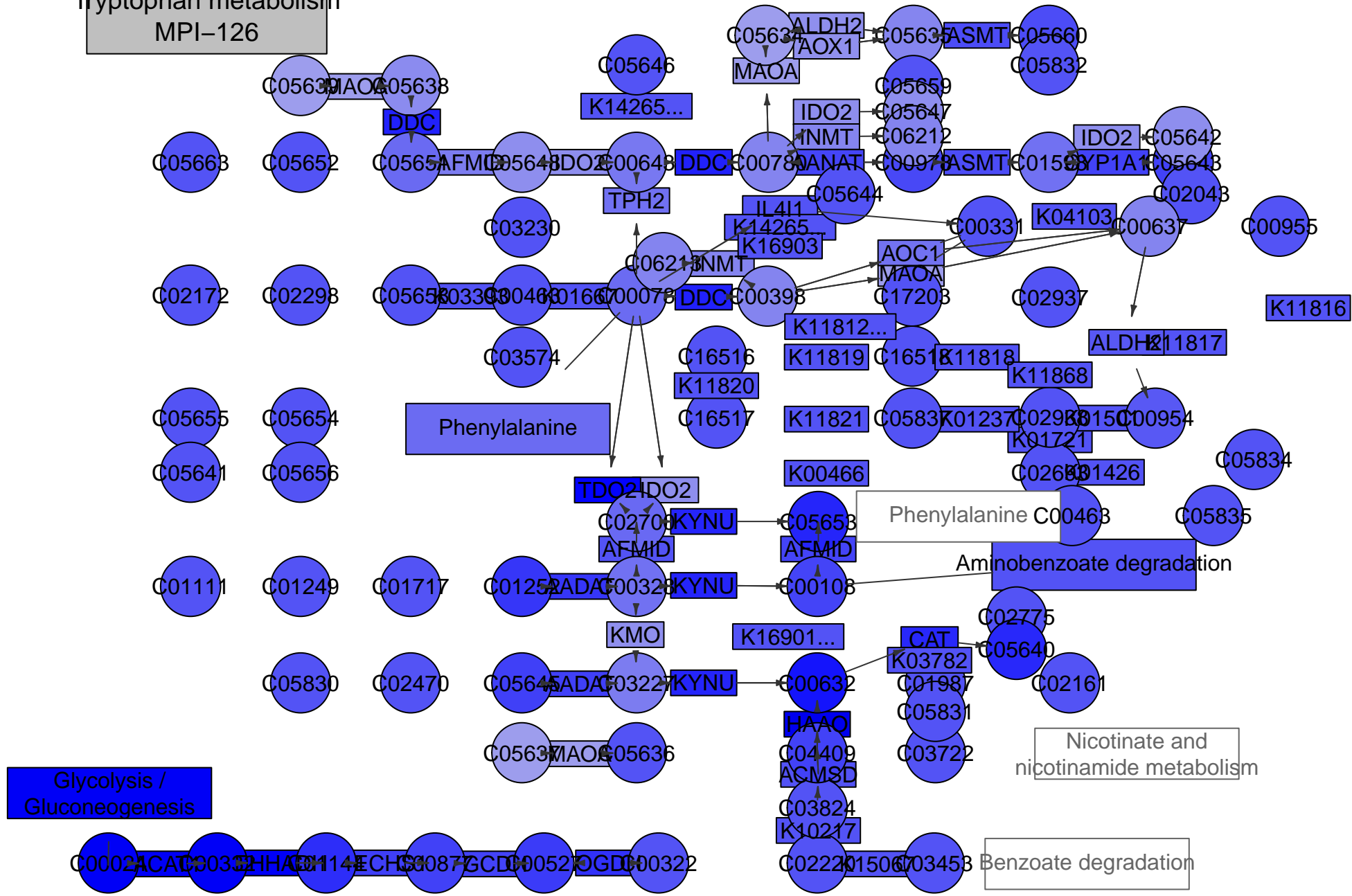
Tryptophan metabolism  
MPI-121



Tryptophan metabolism  
MPI-124



Tryptophan metabolism  
MPI-126



Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Phenylalanine

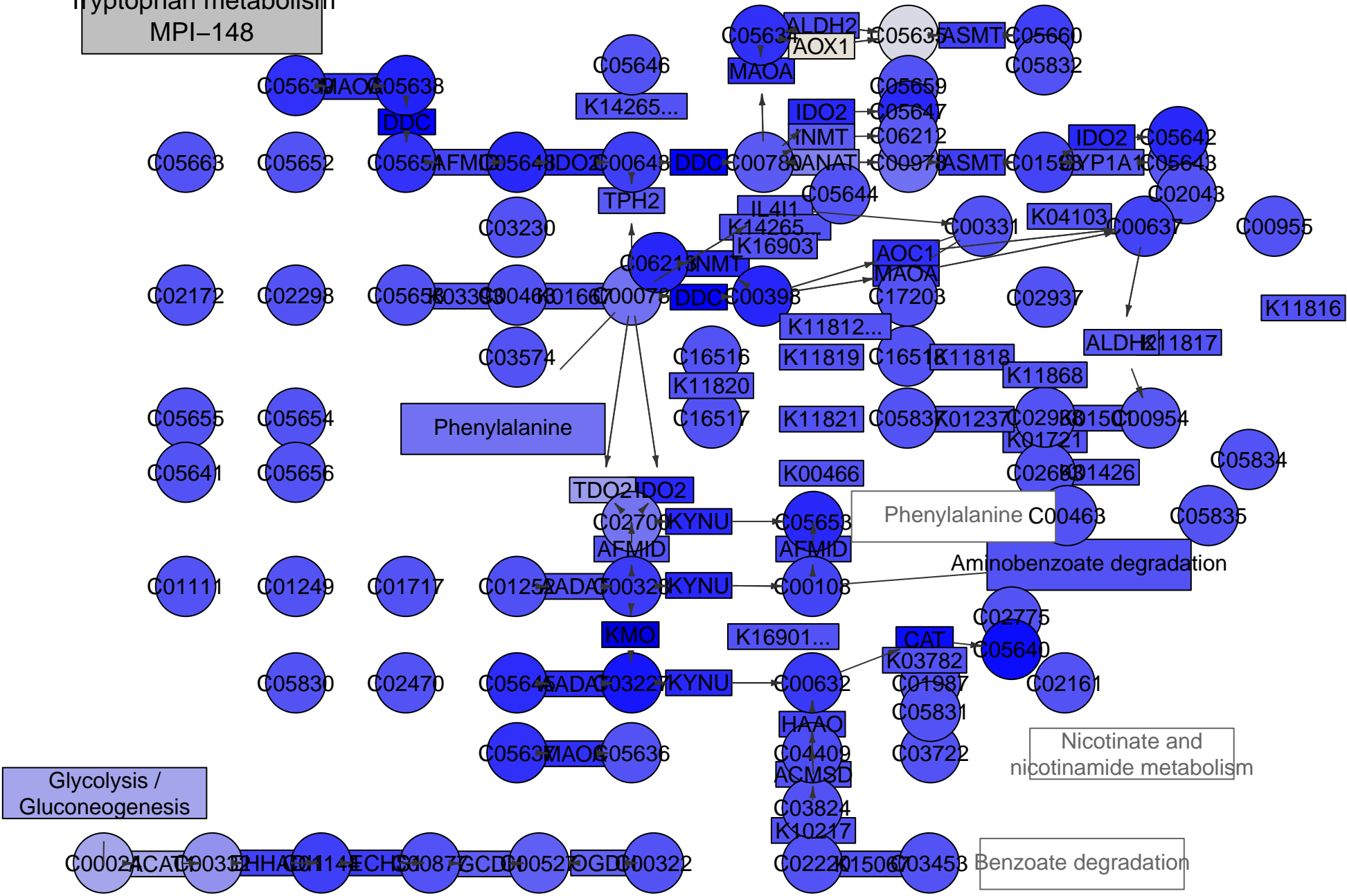
Phenylalanine  
Aminobenzoate degradation



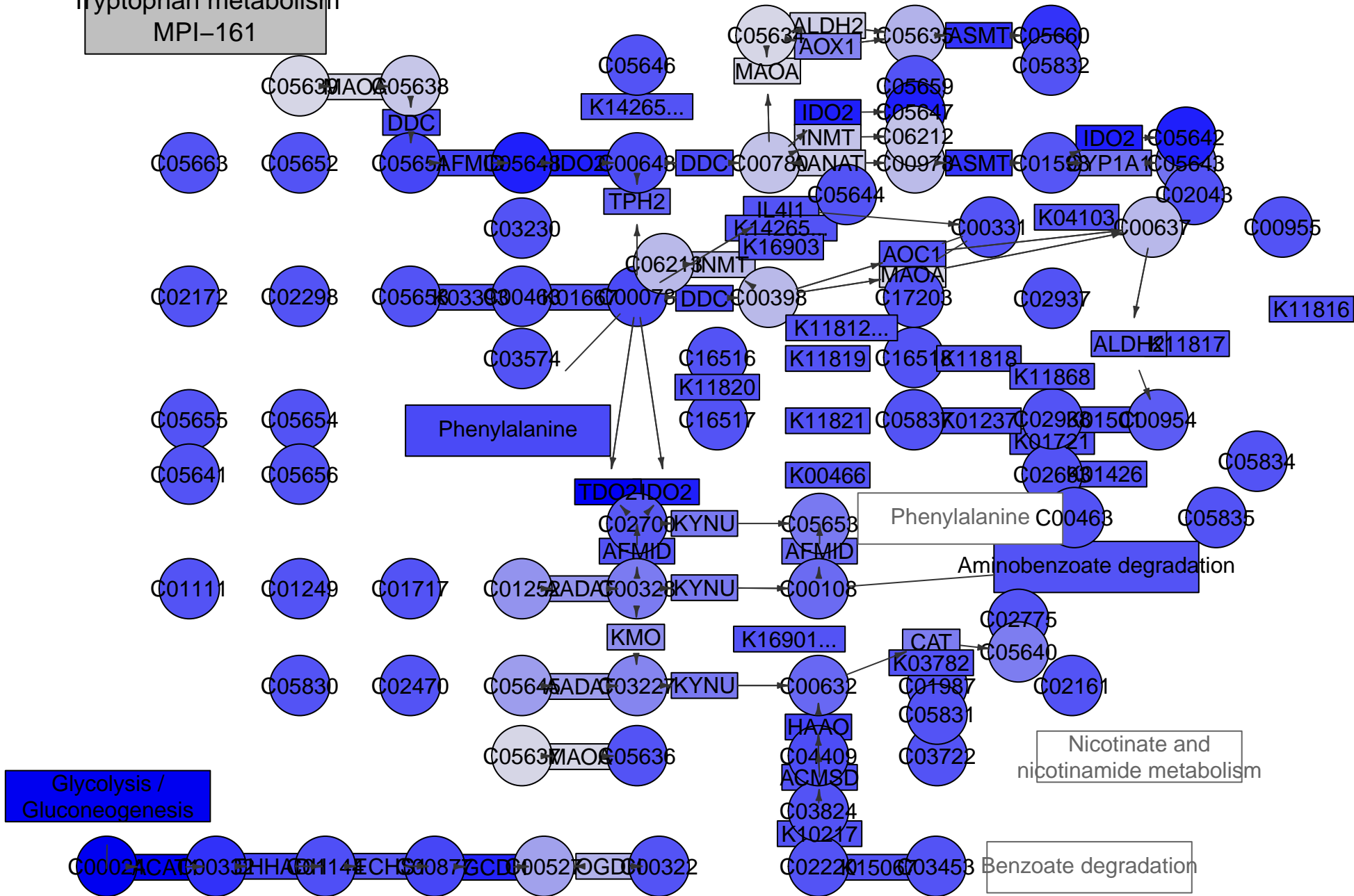




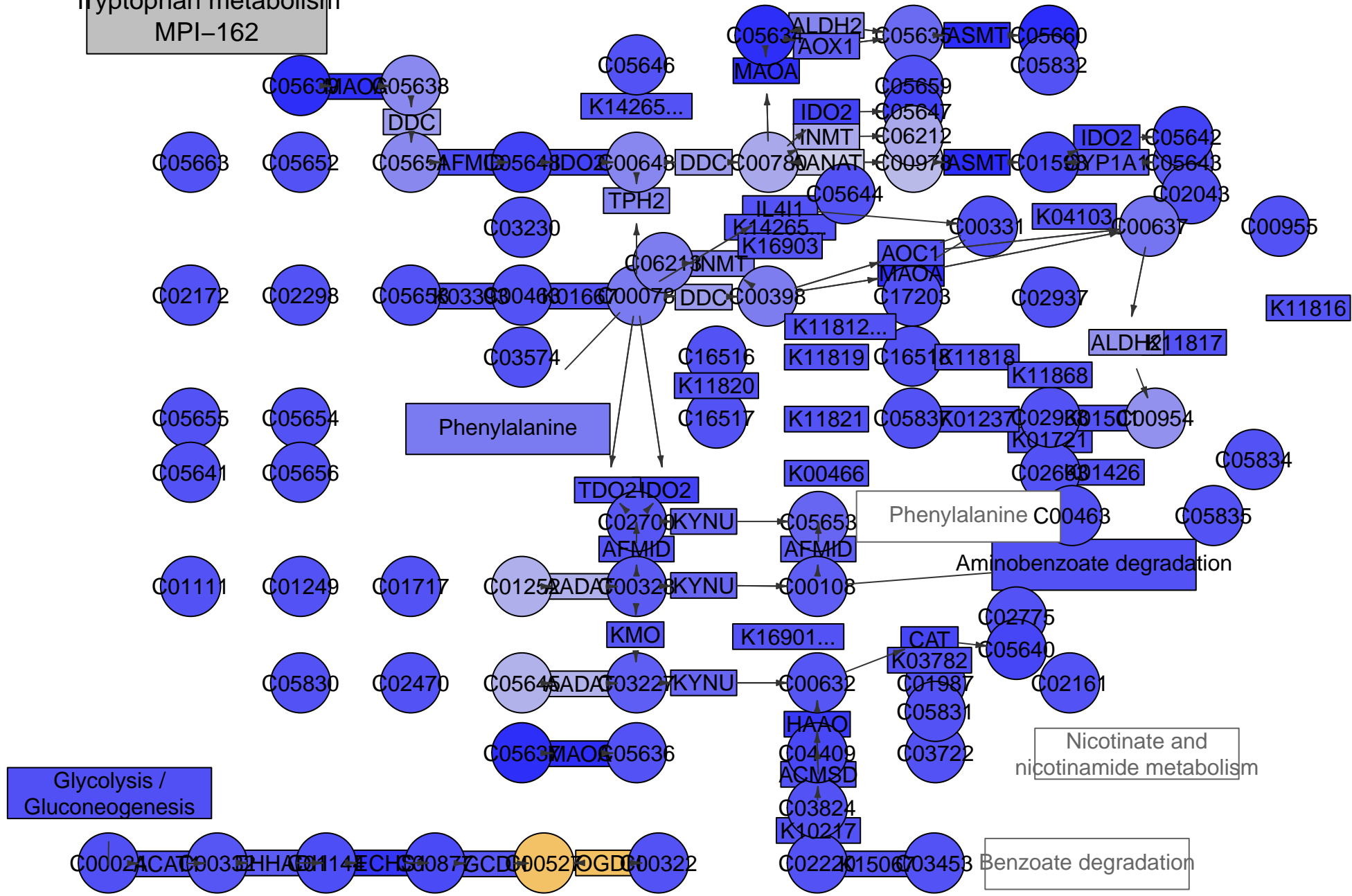
Tryptophan metabolism  
MPI-148



Tryptophan metabolism  
MPI-161

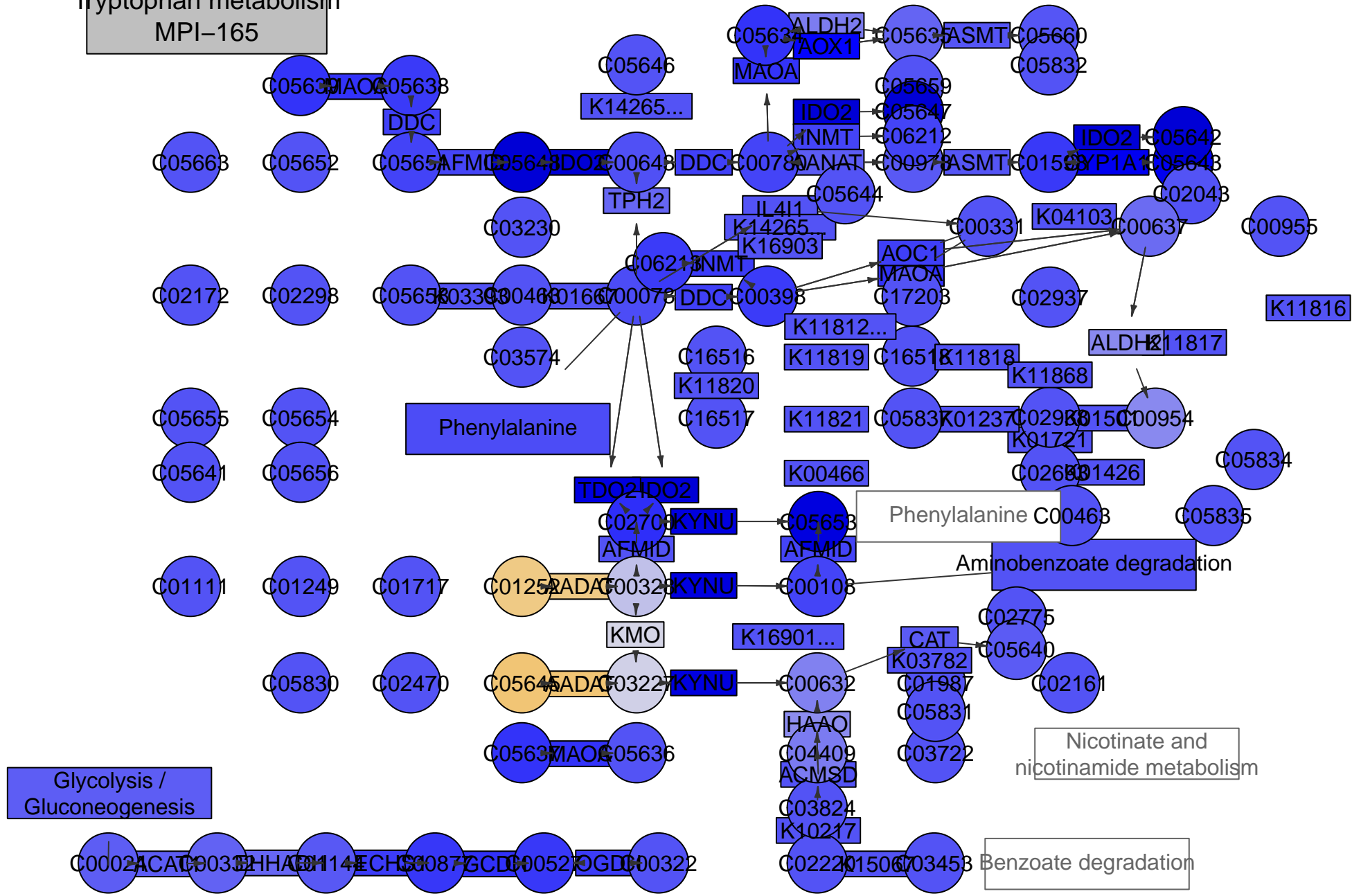


Tryptophan metabolism  
MPI-162

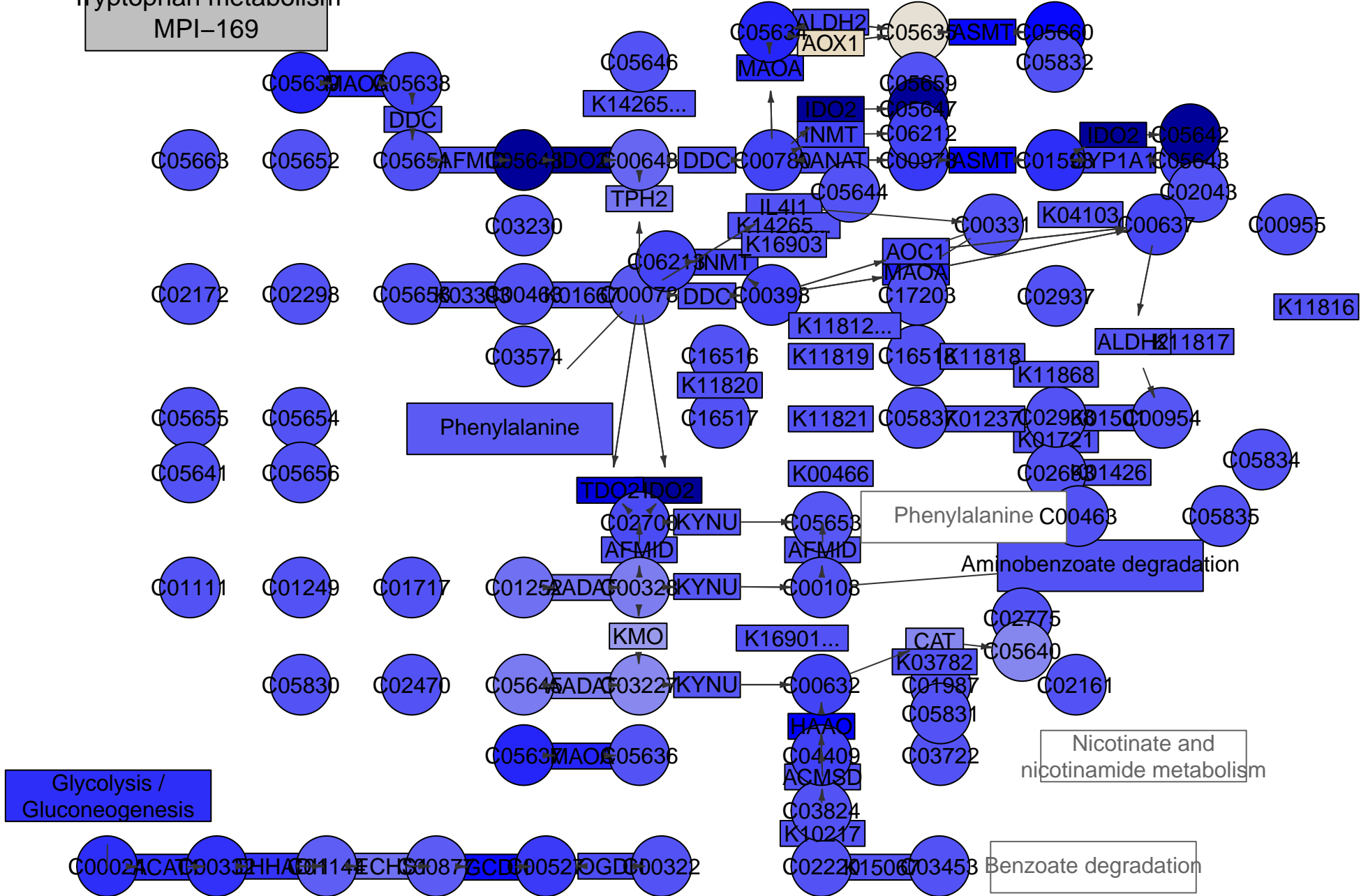




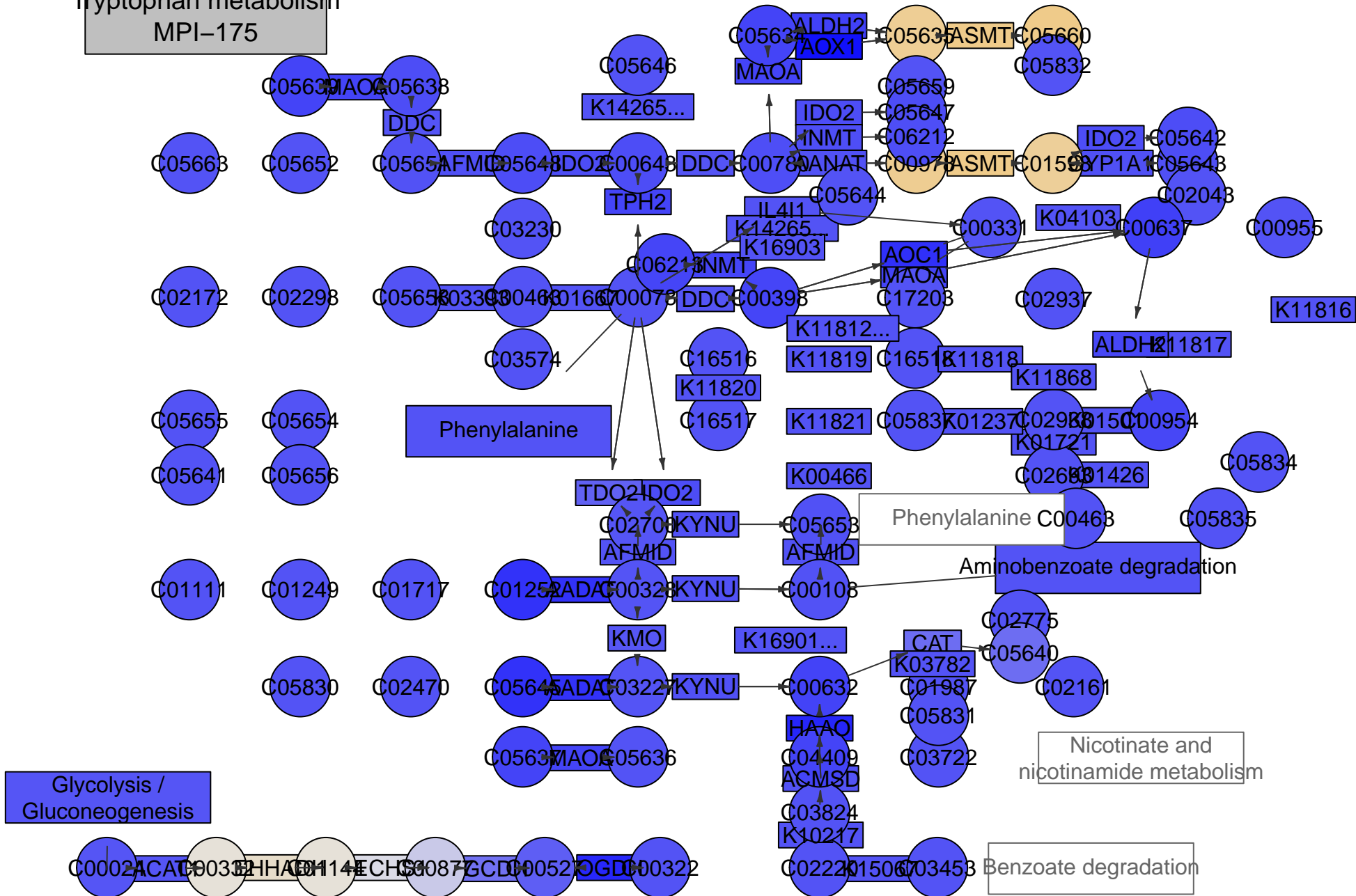
Tryptophan metabolism  
MPI-165



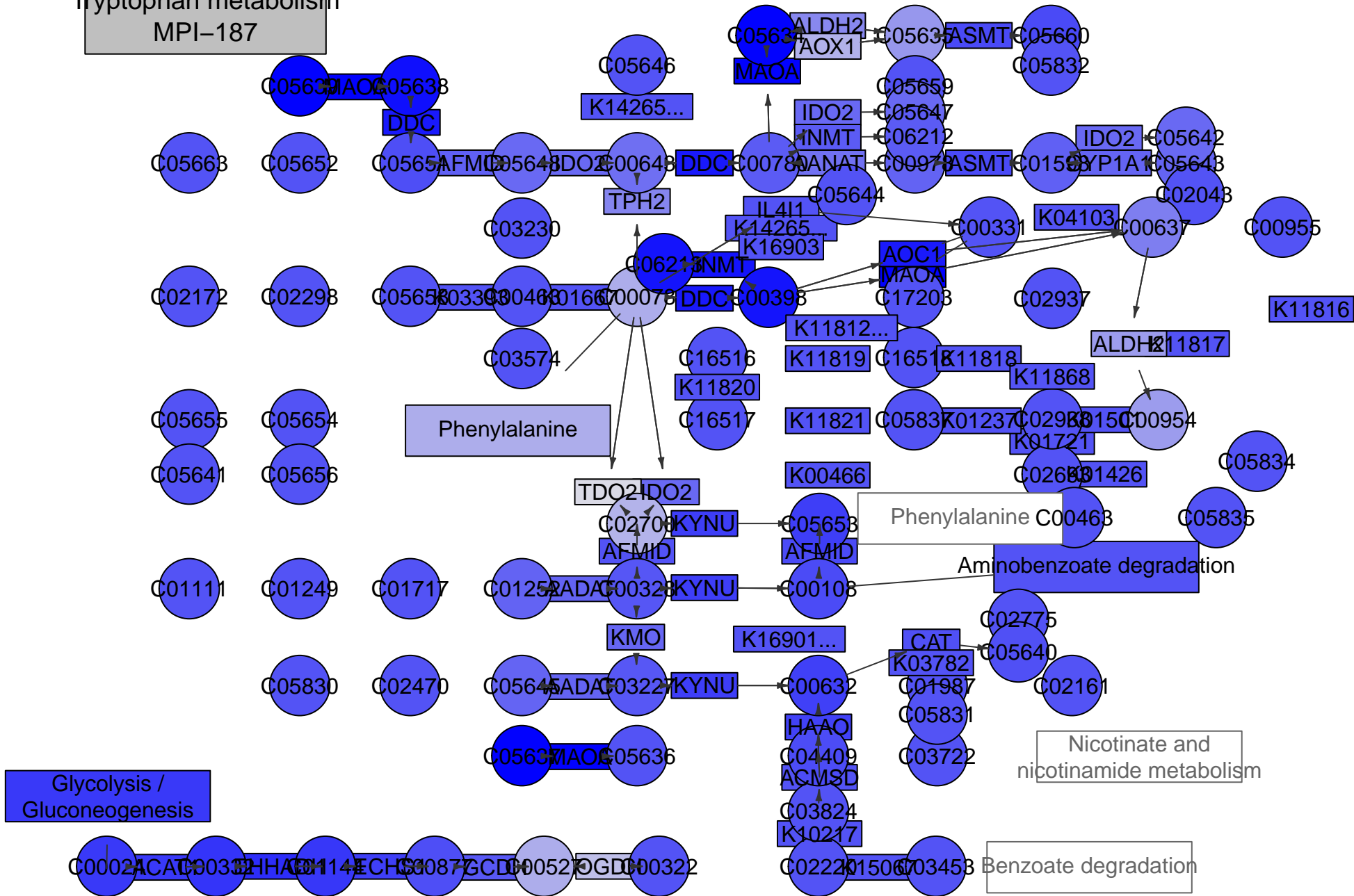
Tryptophan metabolism  
MPI-169



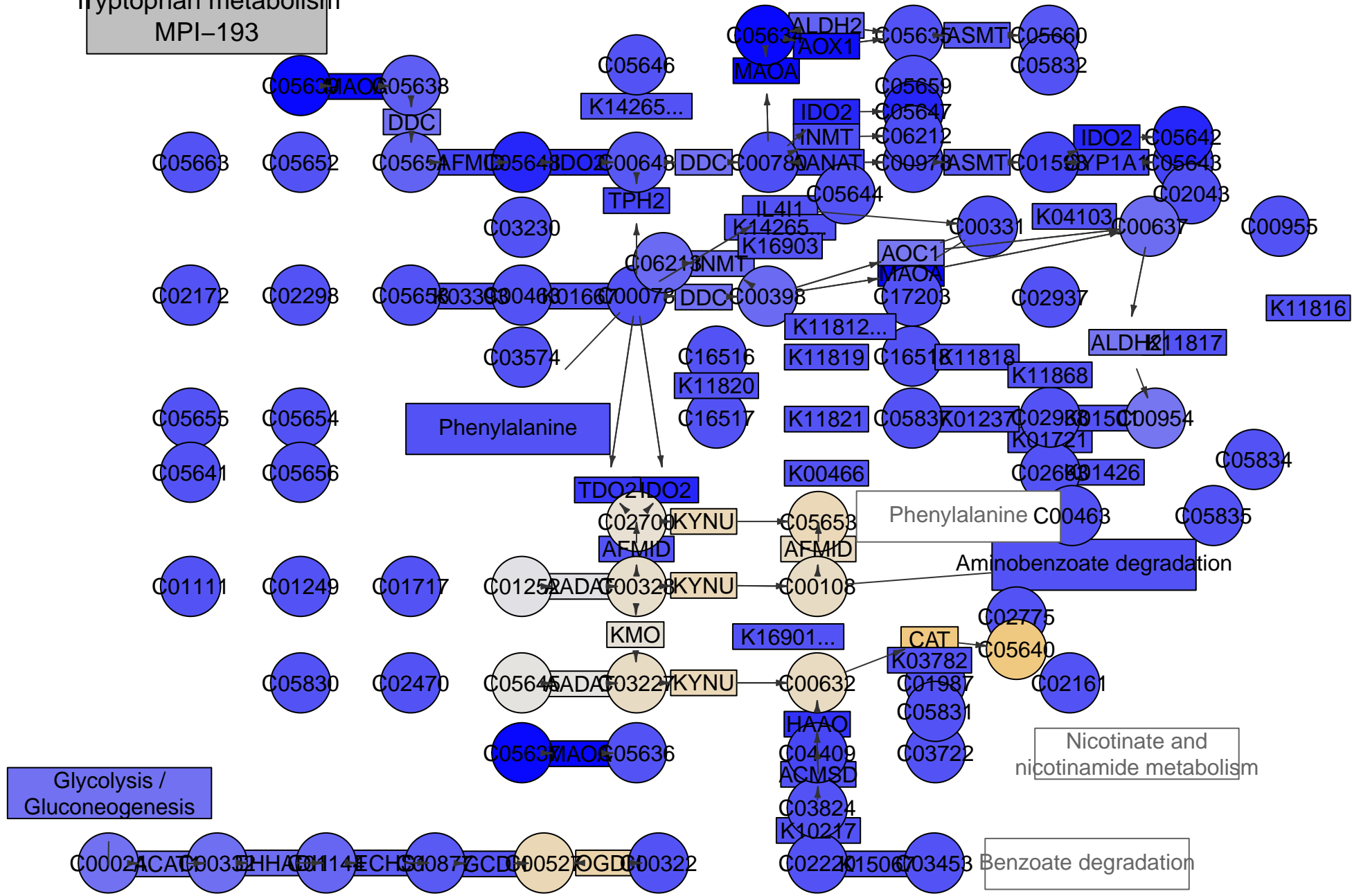
Tryptophan metabolism  
MPI-175



Tryptophan metabolism  
MPI-187



Tryptophan metabolism  
MPI-193



Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

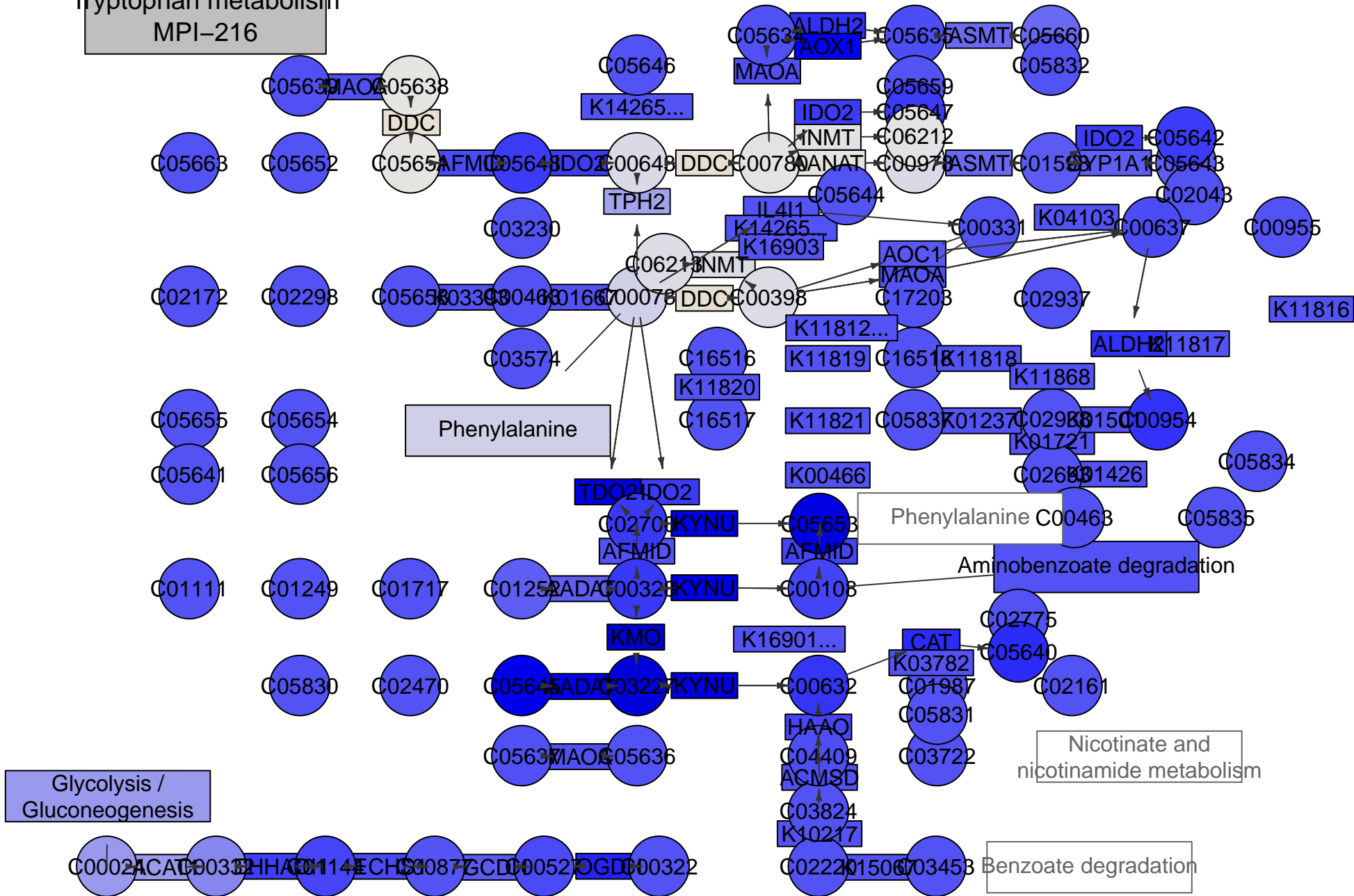
Benzoate degradation

Phenylalanine

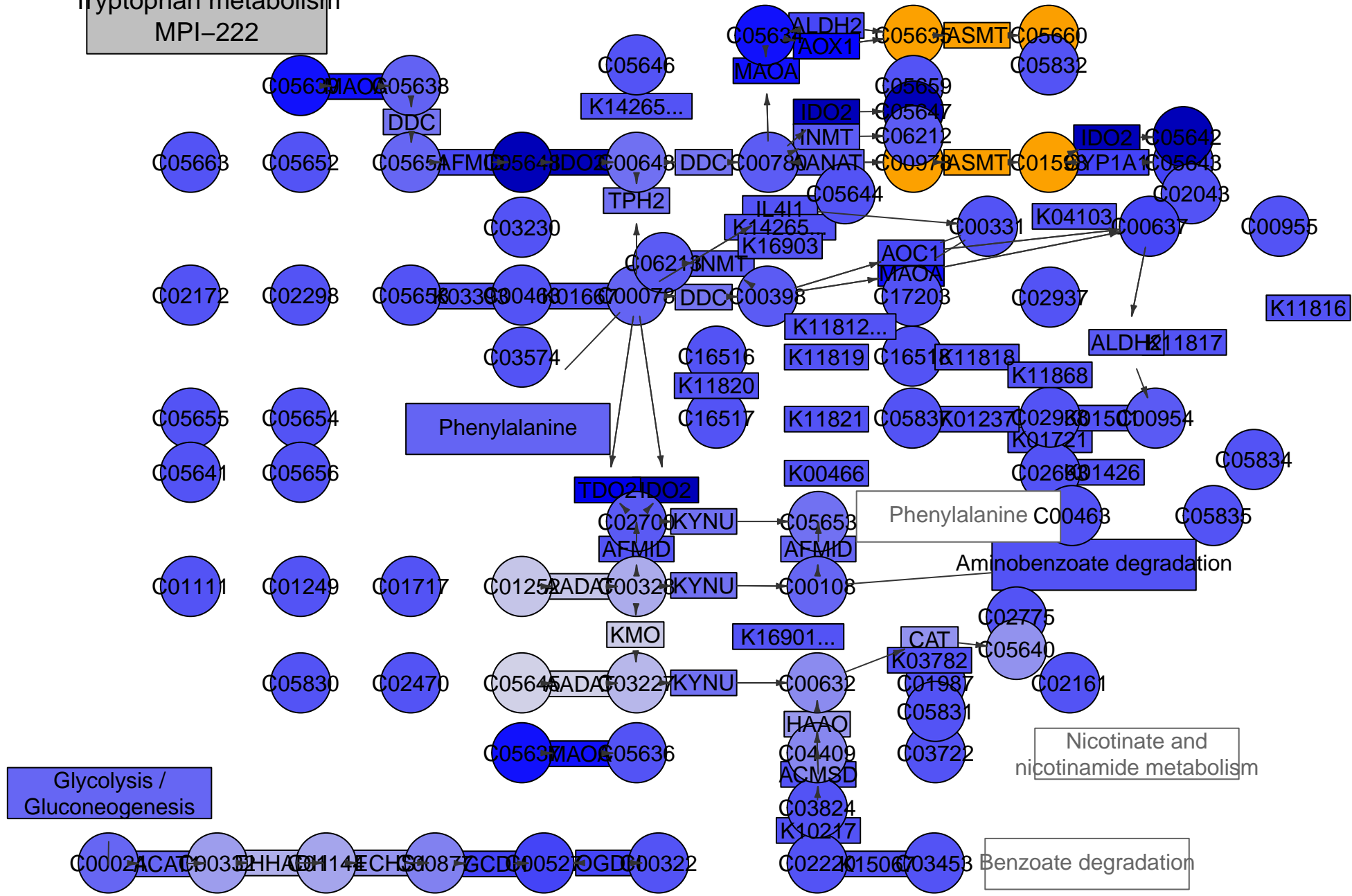
Phenylalanine  
Aminobenzoate degradation



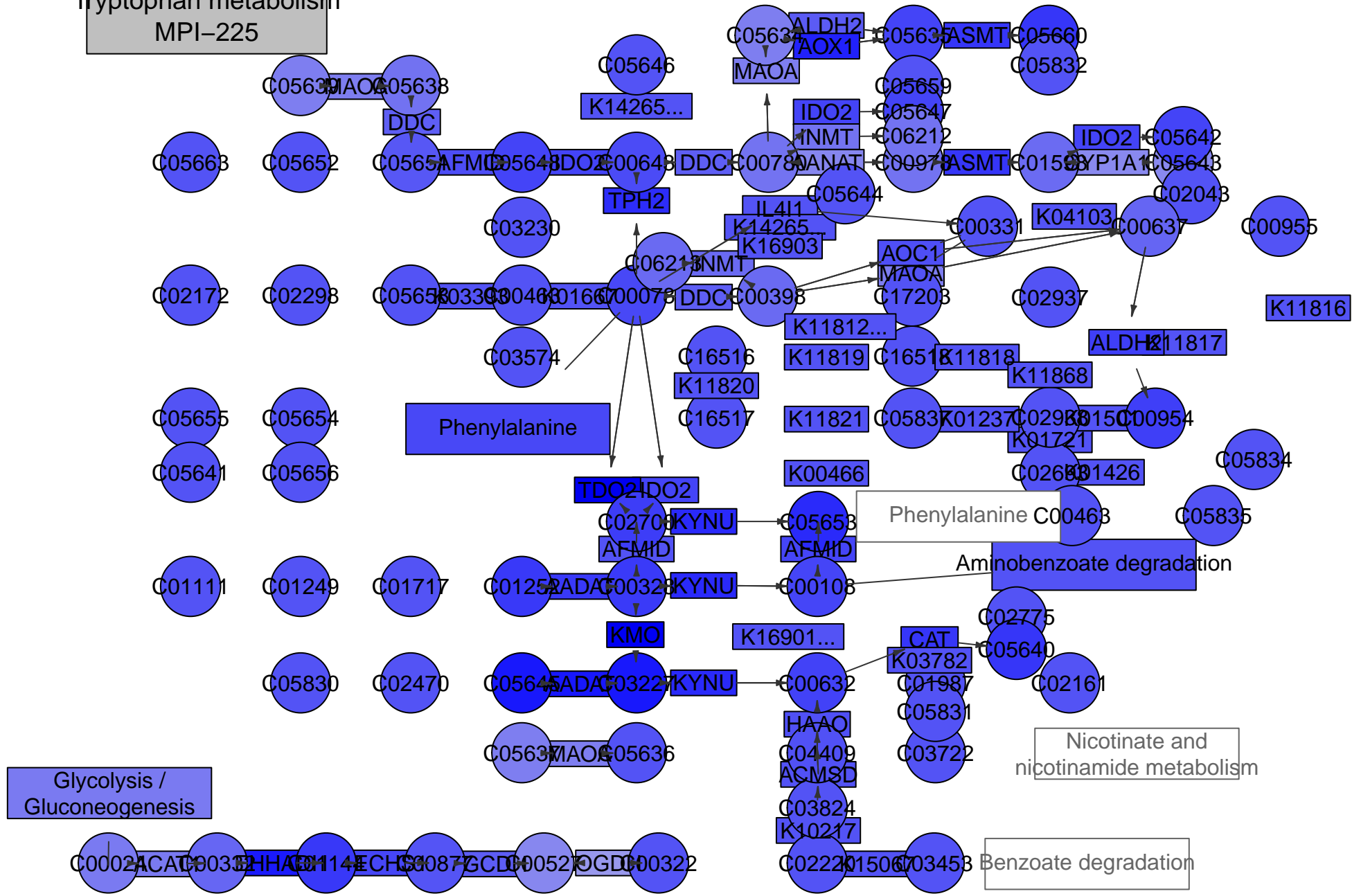
Tryptophan metabolism  
MPI-216



Tryptophan metabolism  
MPI-222



Tryptophan metabolism  
MPI-225



Glycolysis /  
Gluconeogenesis

Phenylalanine

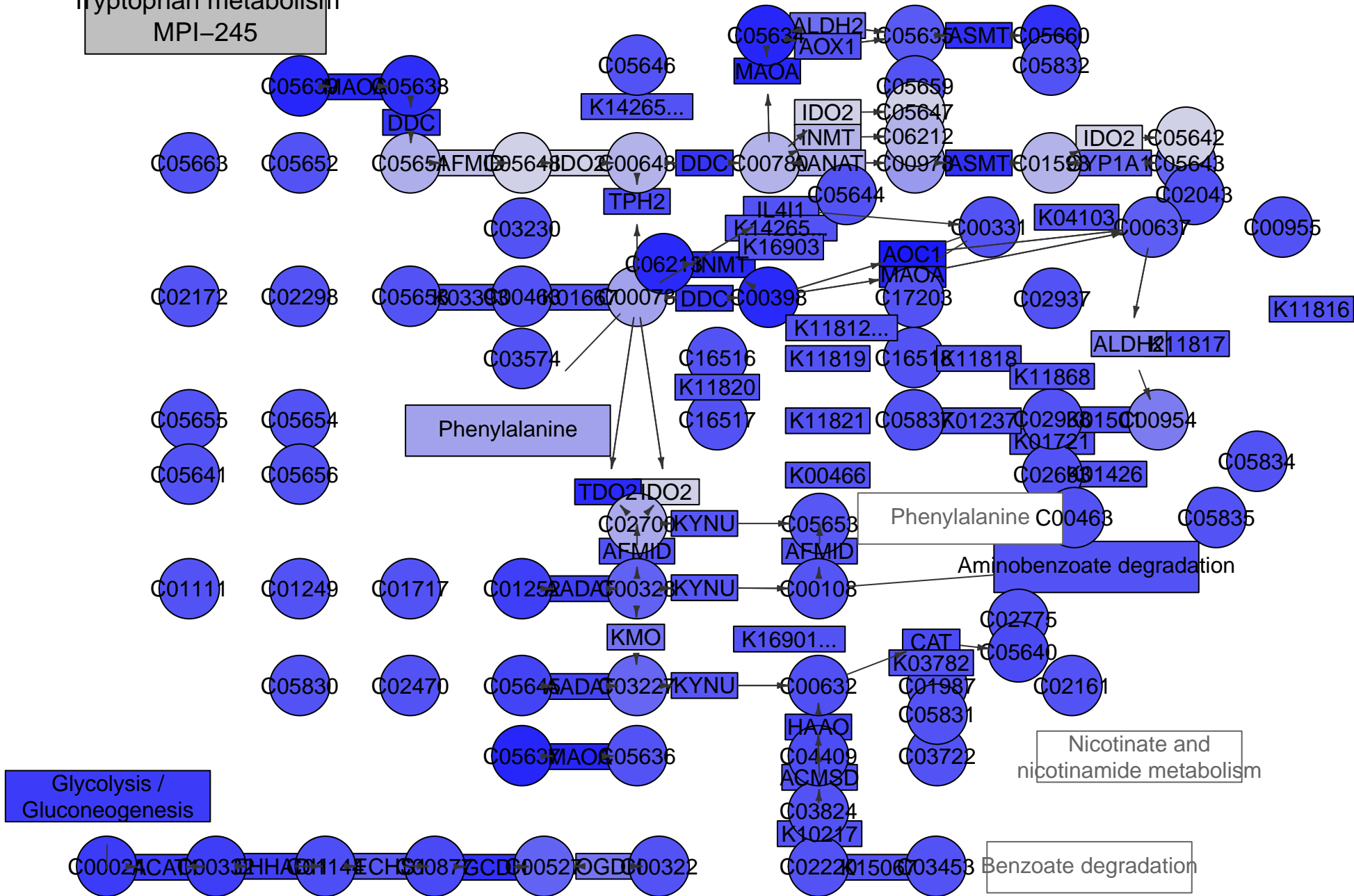
Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

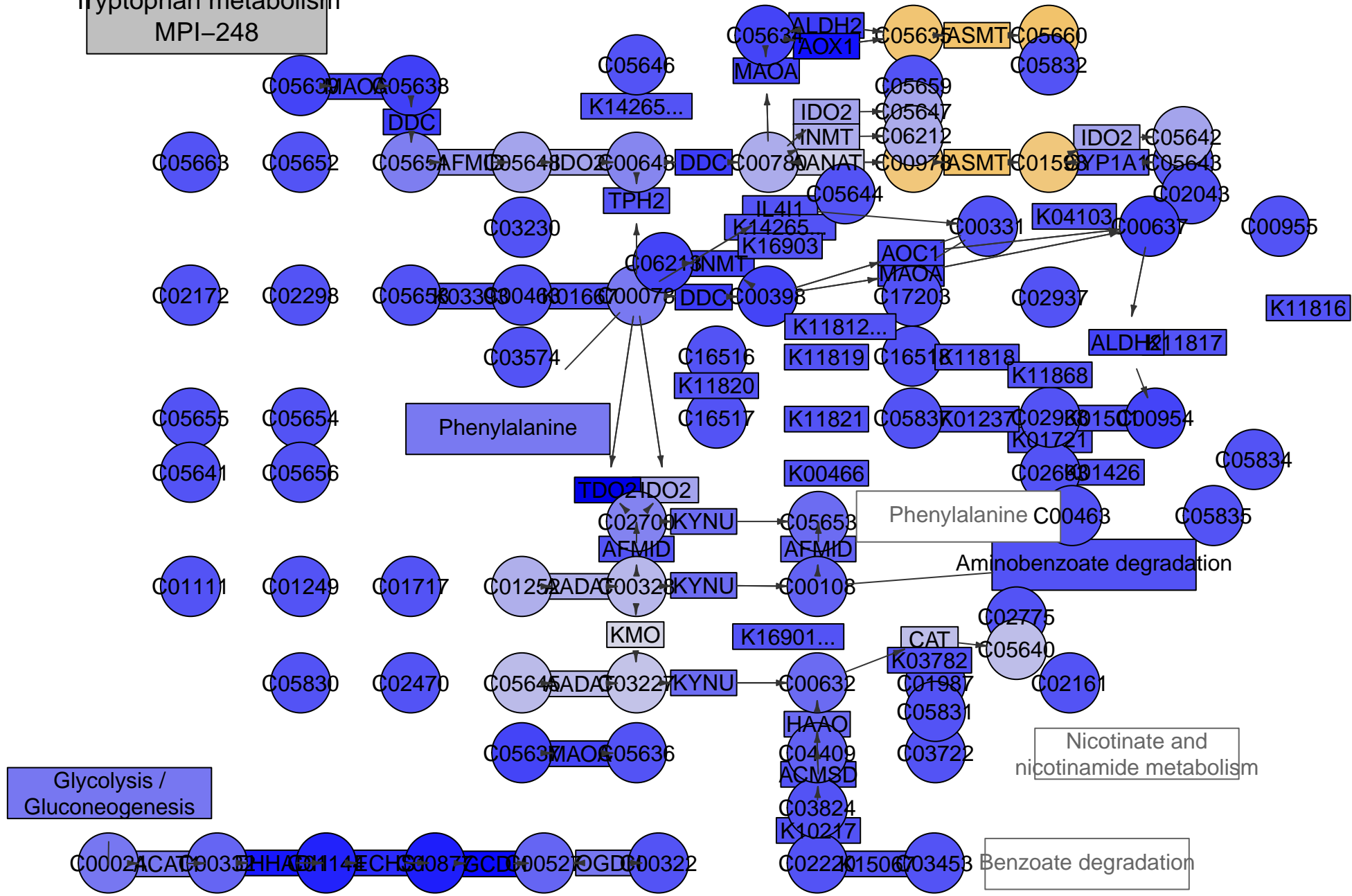


Tryptophan metabolism  
MPI-245





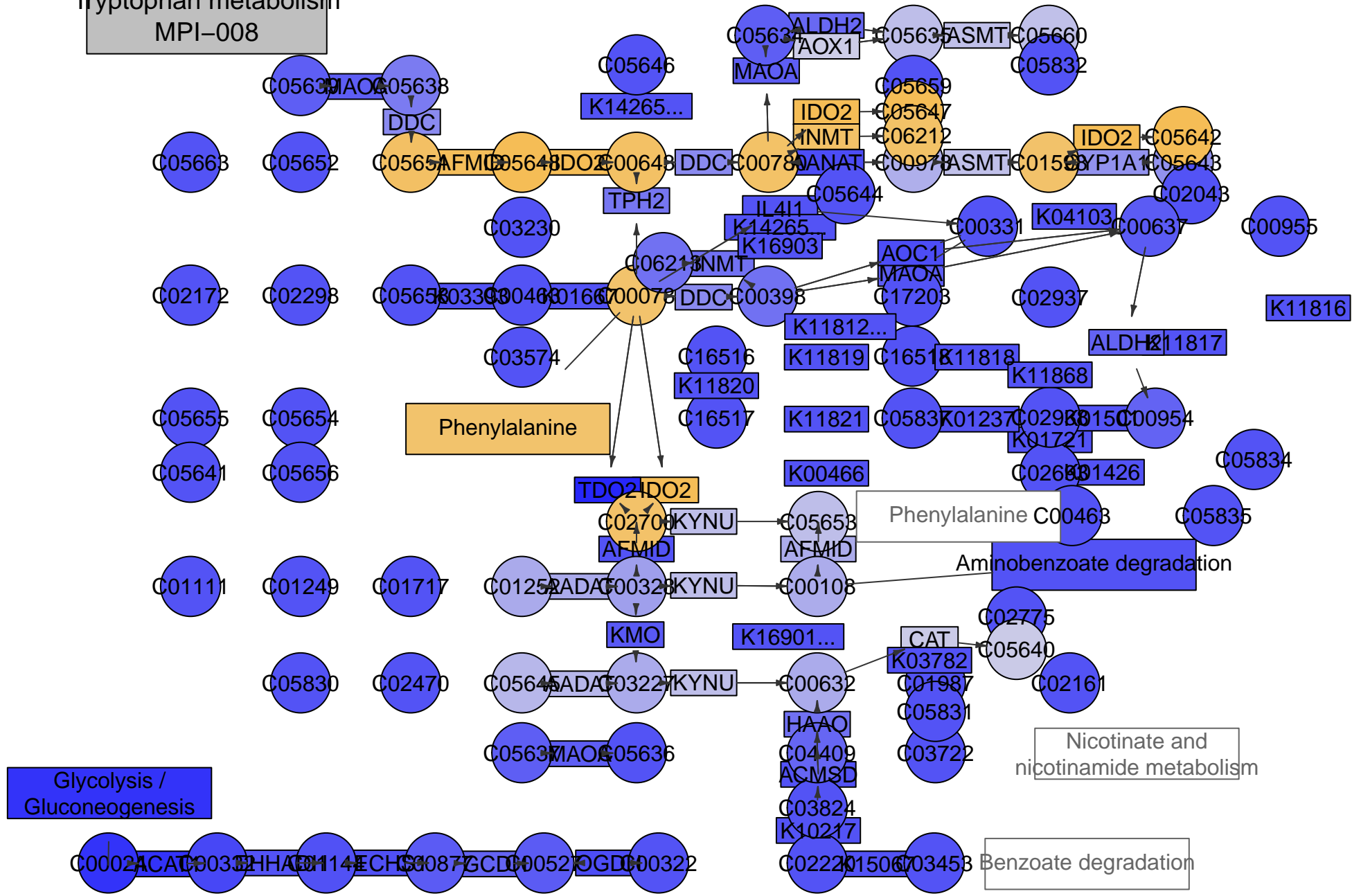
Tryptophan metabolism  
MPI-248







Tryptophan metabolism  
MPI-008











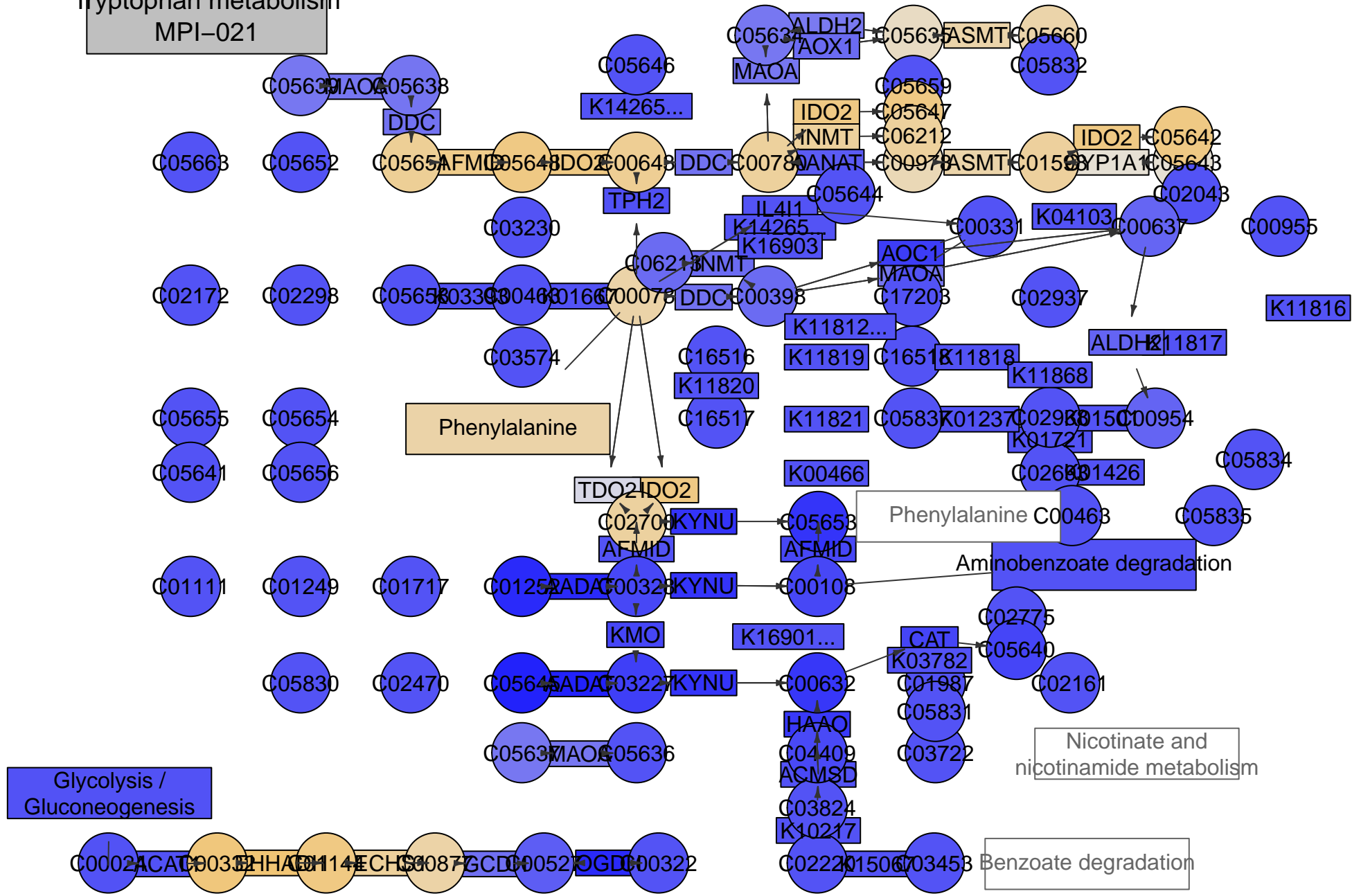








Tryptophan metabolism  
MPI-021



Glycolysis /  
Gluconeogenesis

Phenylalanine

Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

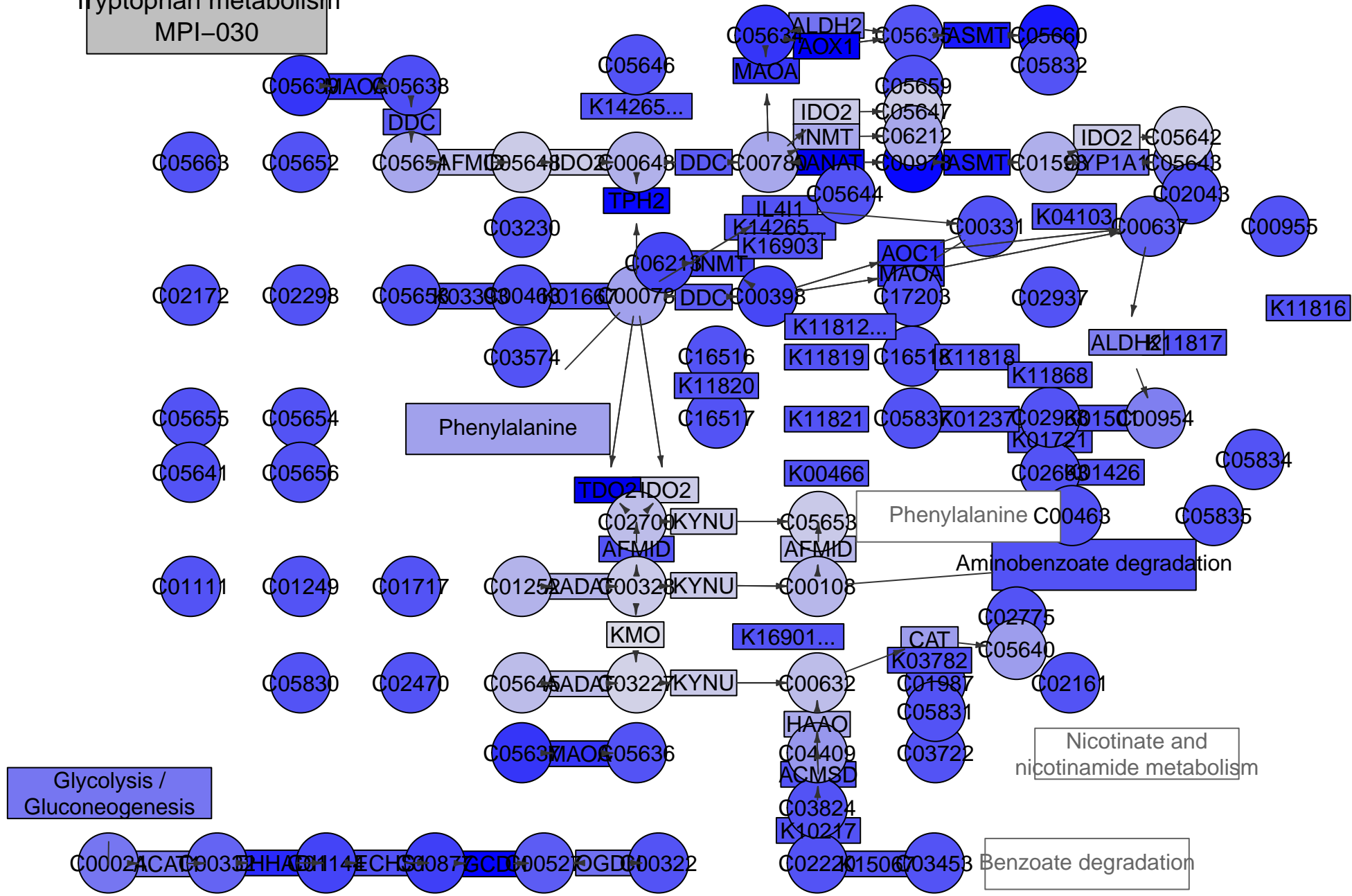
Benzoate degradation







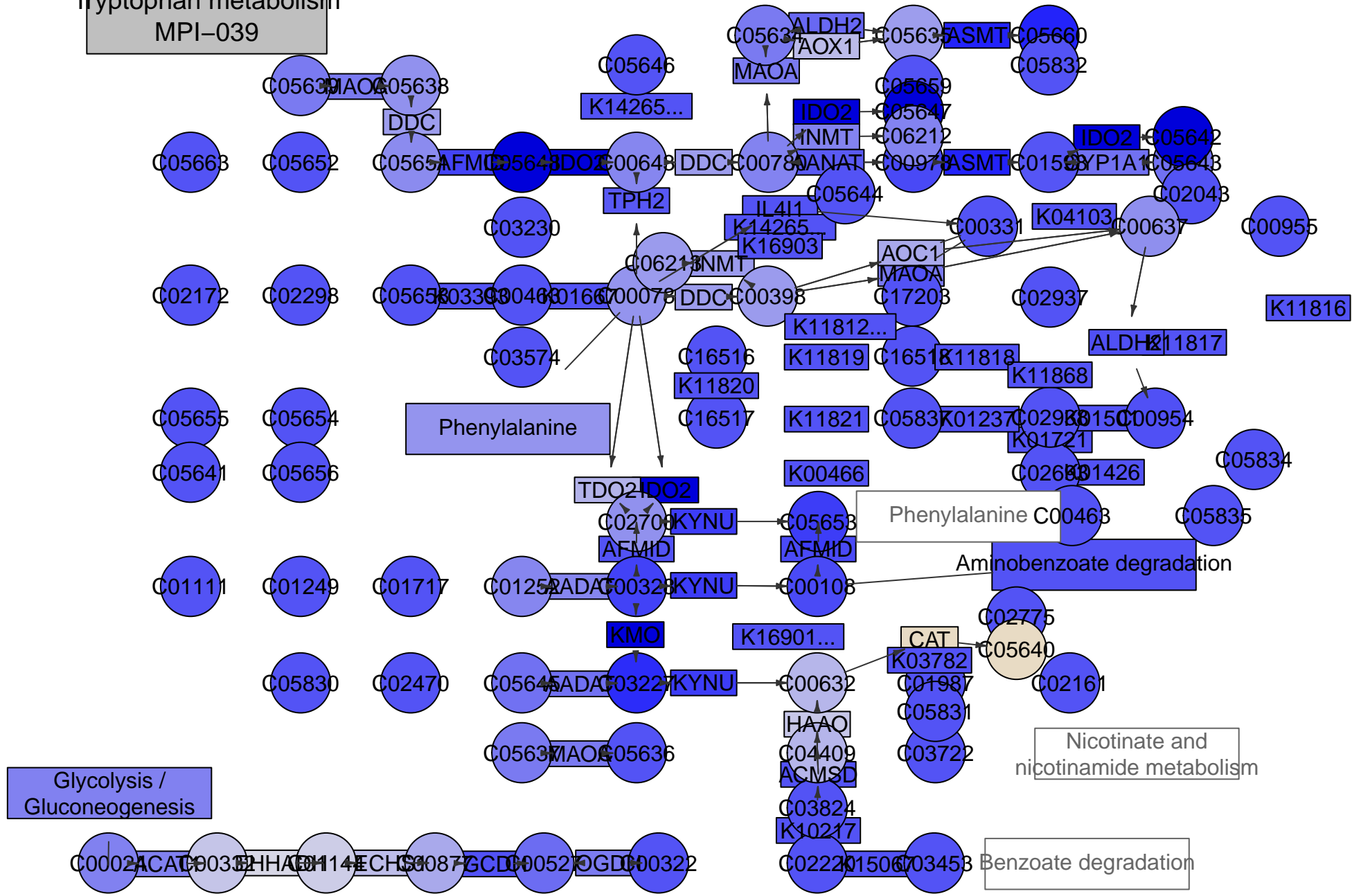
Tryptophan metabolism  
MPI-030



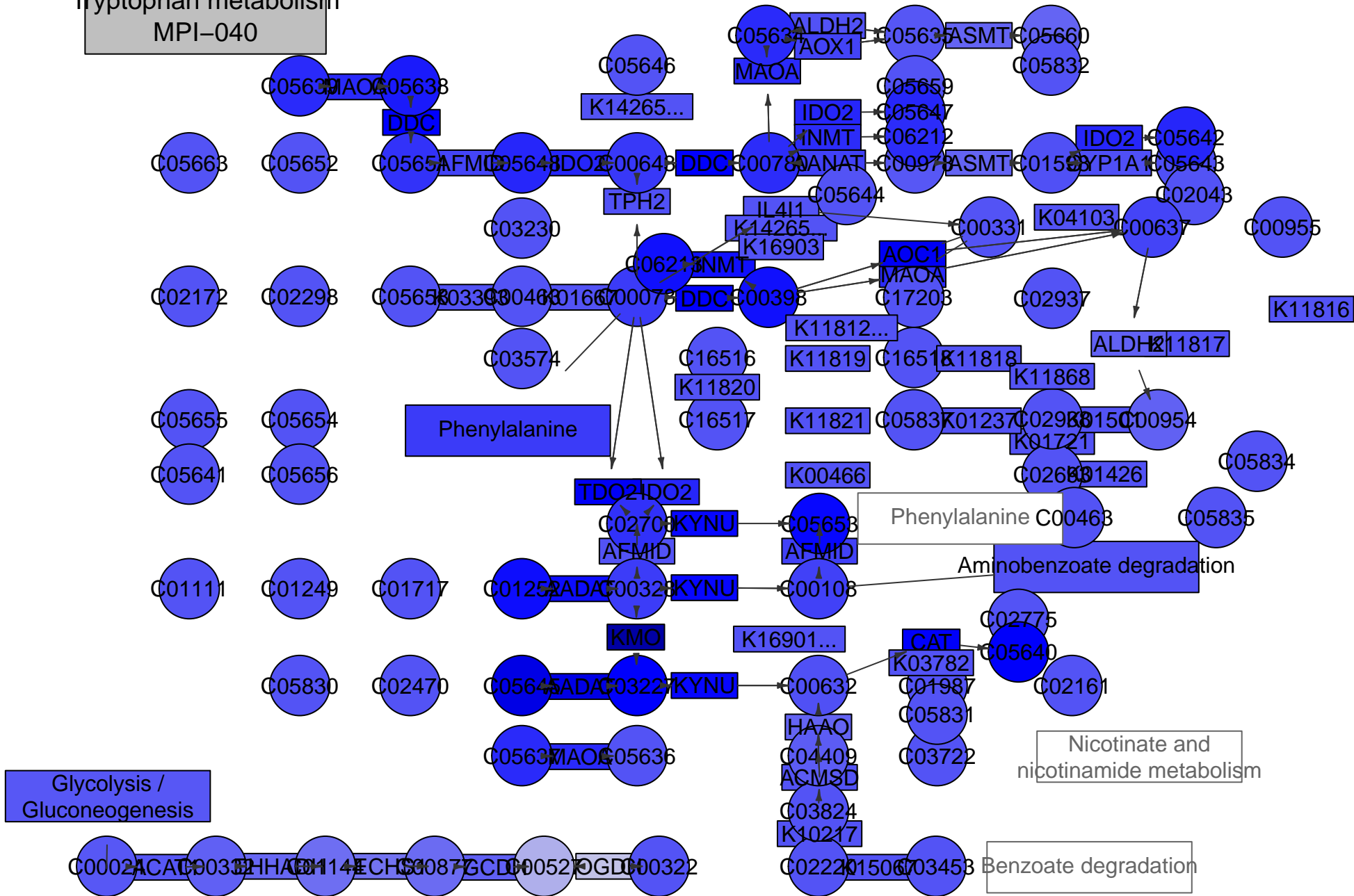




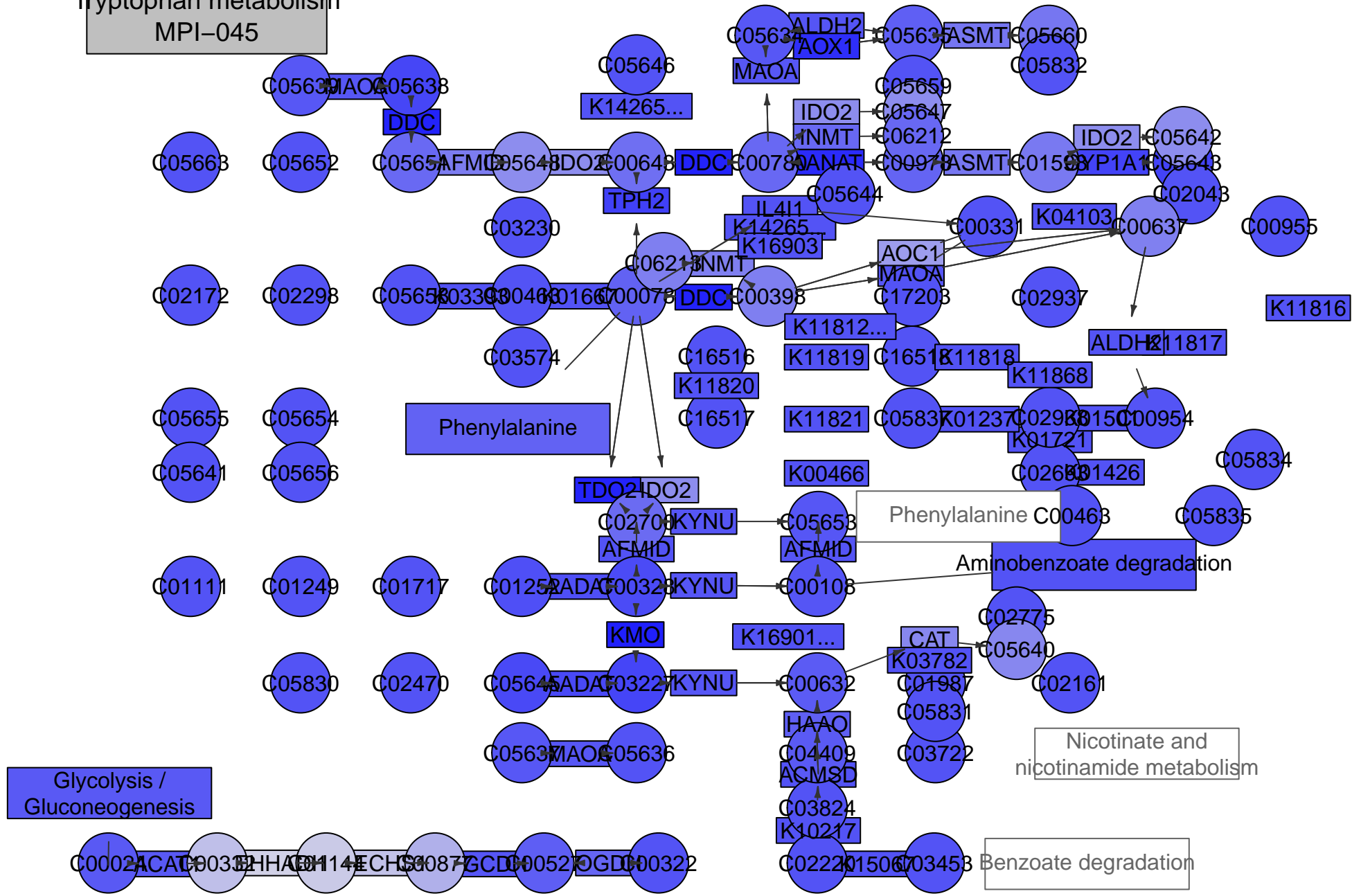
Tryptophan metabolism  
MPI-039



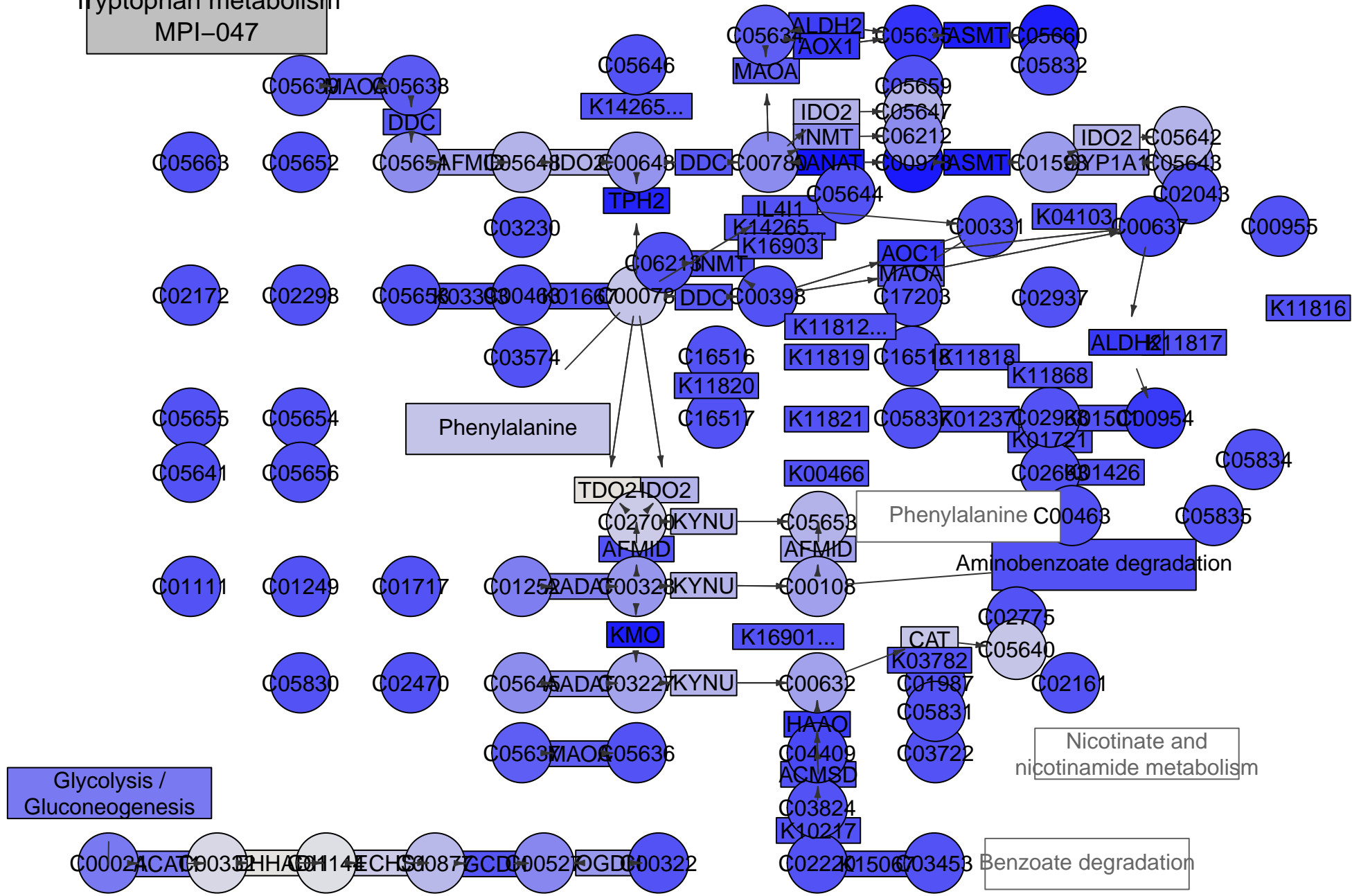
Tryptophan metabolism  
MPI-040



Tryptophan metabolism  
MPI-045



Tryptophan metabolism  
MPI-047



Phenylalanine

Aminobenzoate degradation

Benzoate degradation

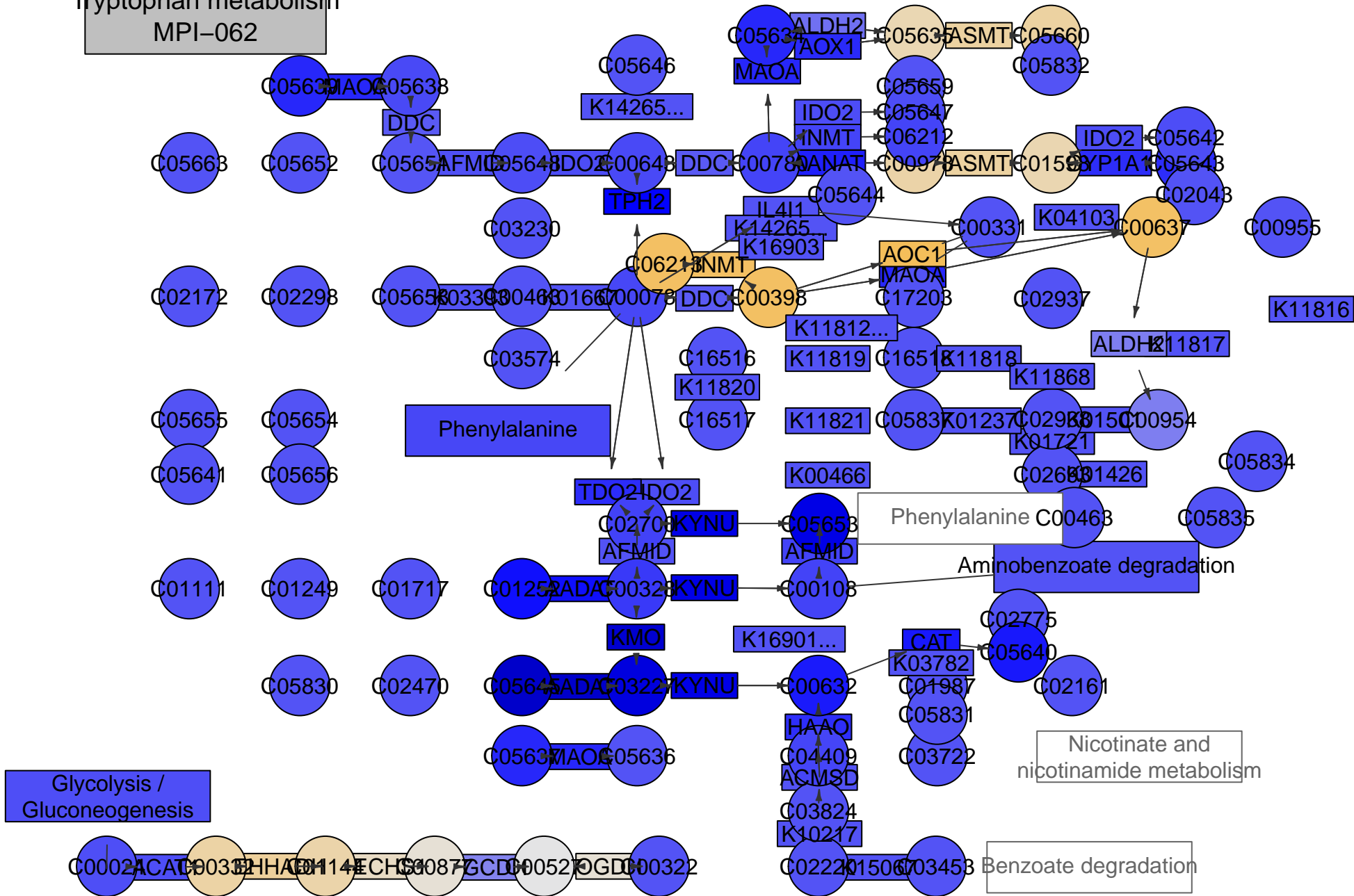
Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

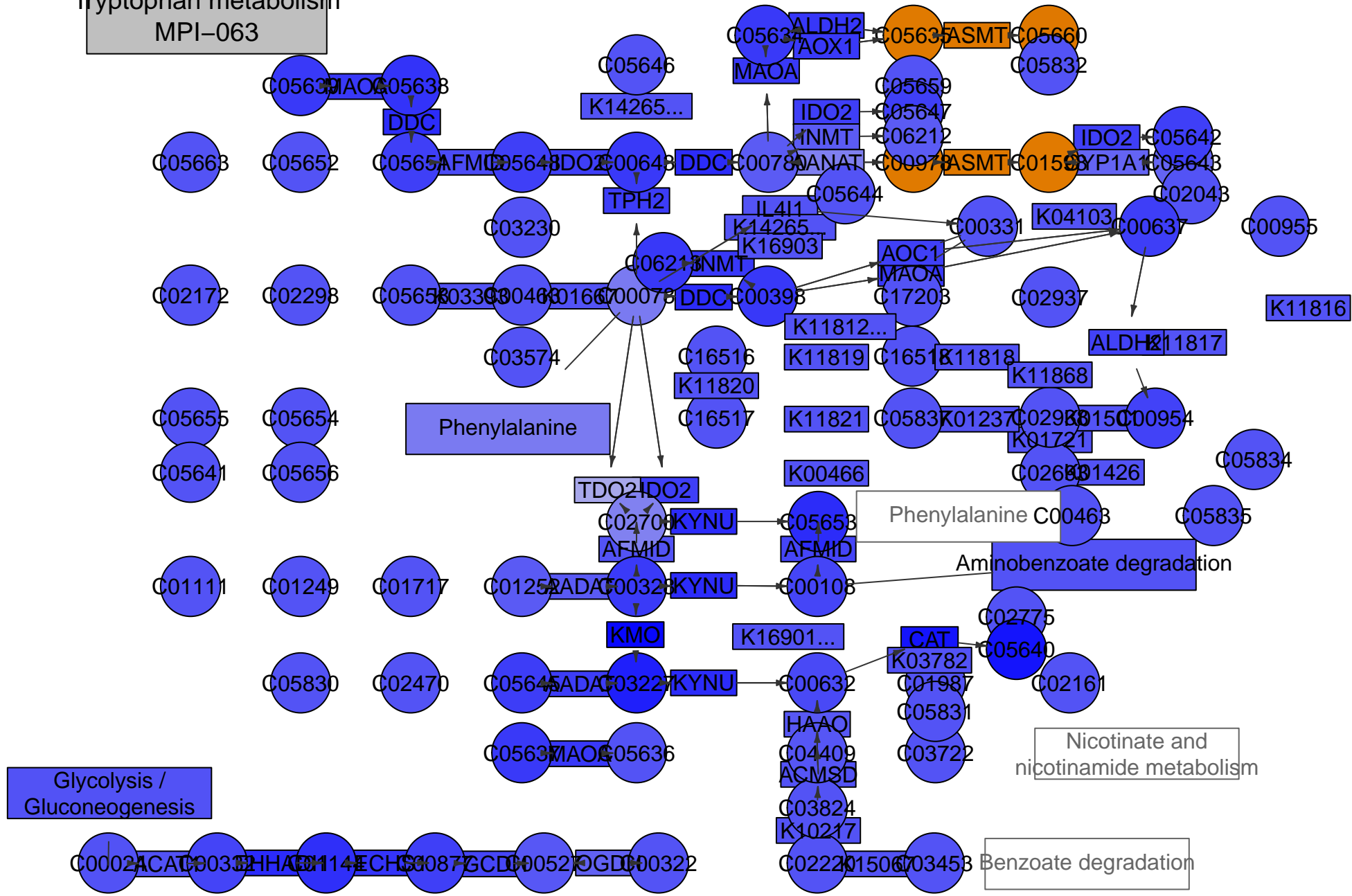




Tryptophan metabolism  
MPI-062



Tryptophan metabolism  
MPI-063



Glycolysis /  
Gluconeogenesis

Phenylalanine

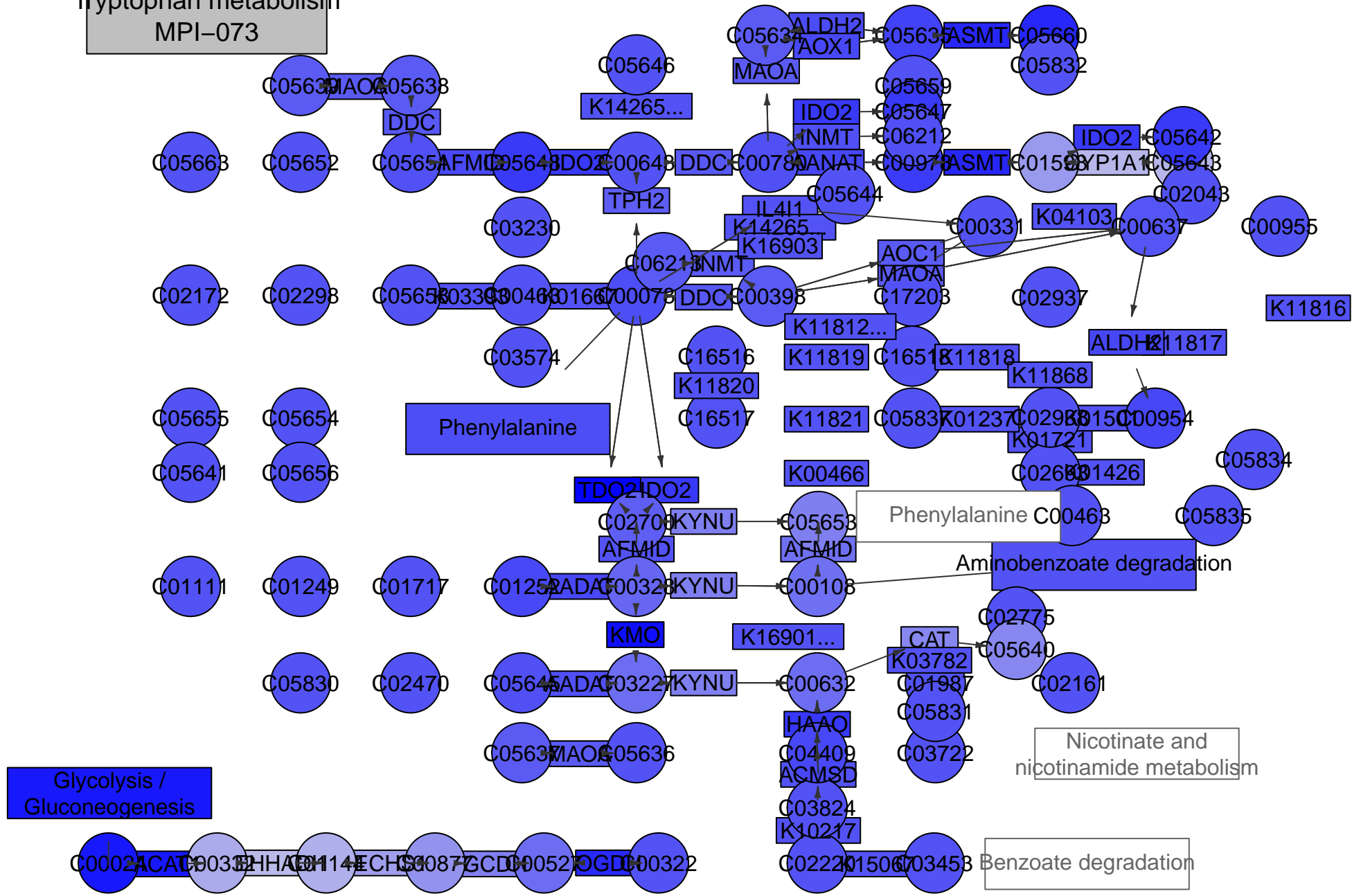
Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation



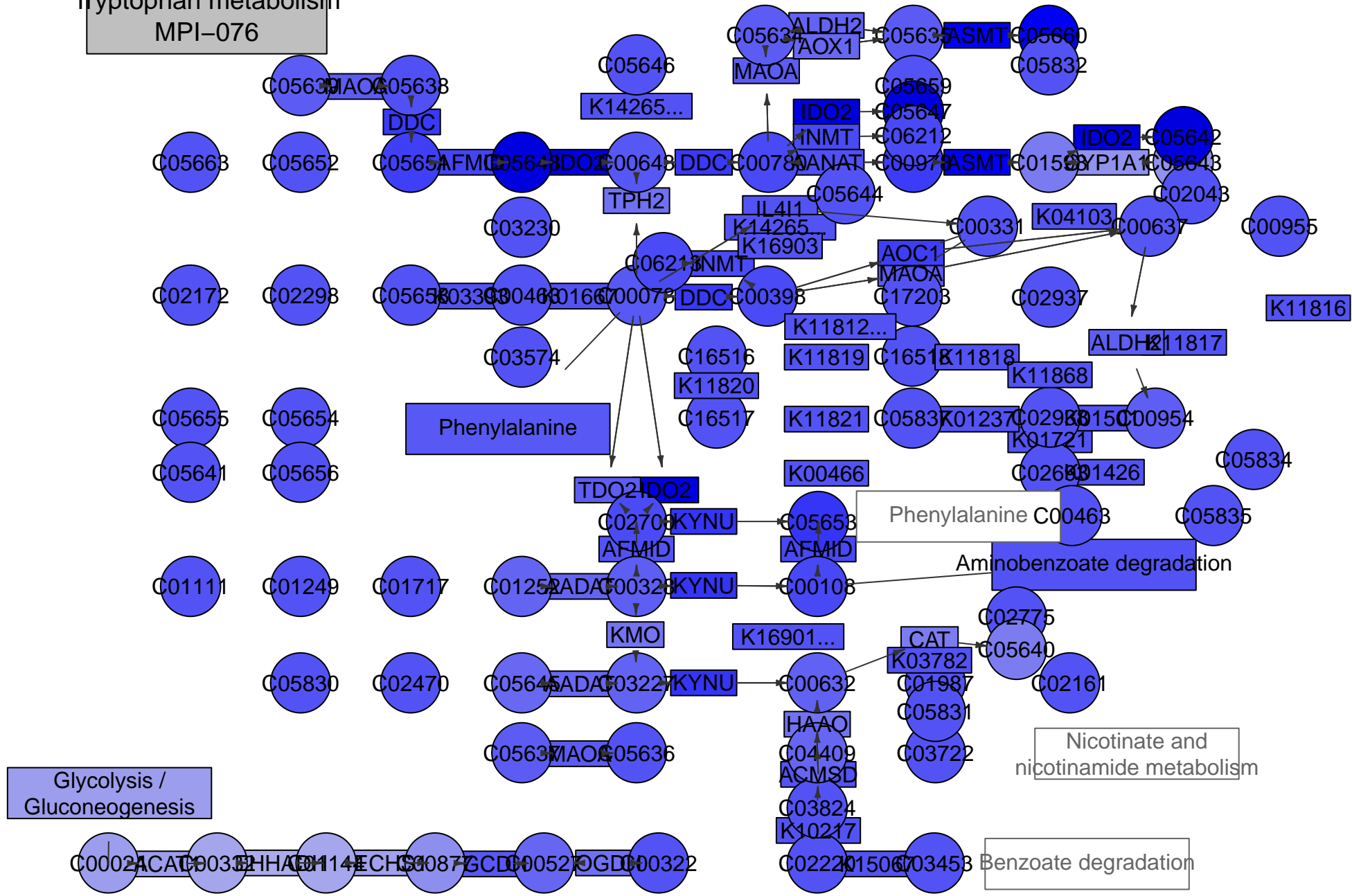
Tryptophan metabolism  
MPI-073



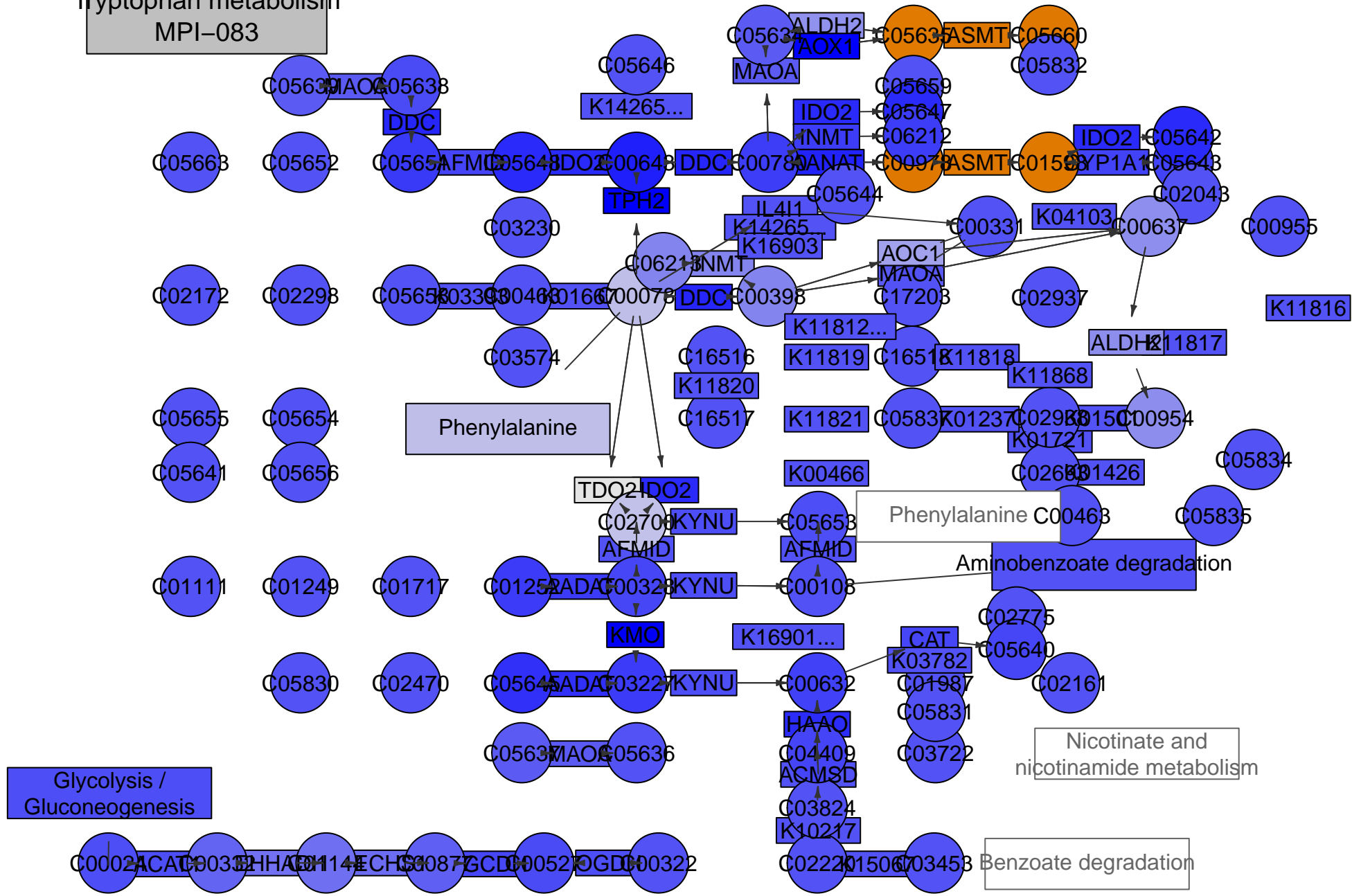




Tryptophan metabolism  
MPI-076



Tryptophan metabolism  
MPI-083



Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

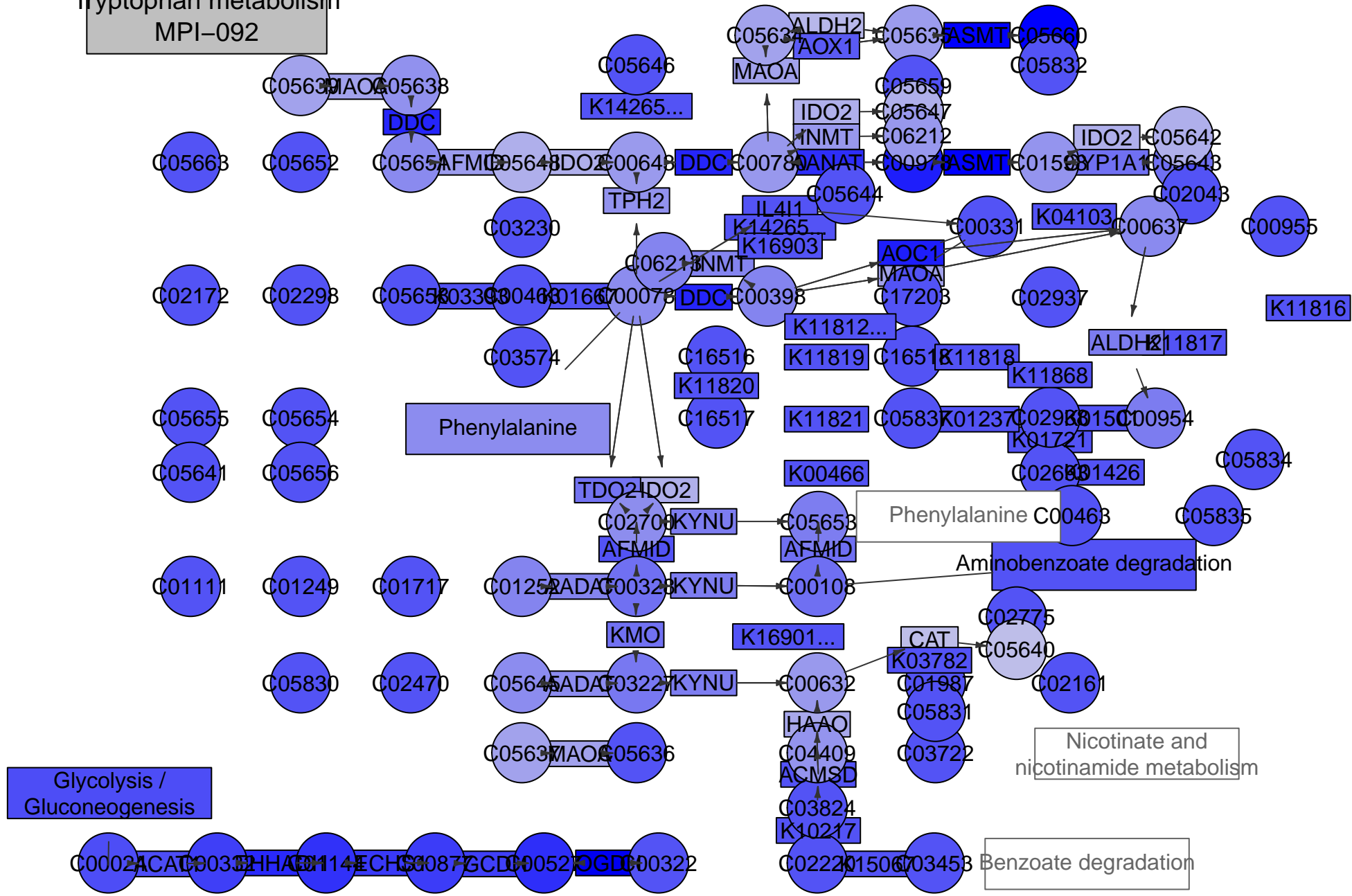
Phenylalanine

Phenylalanine

Aminobenzoate degradation



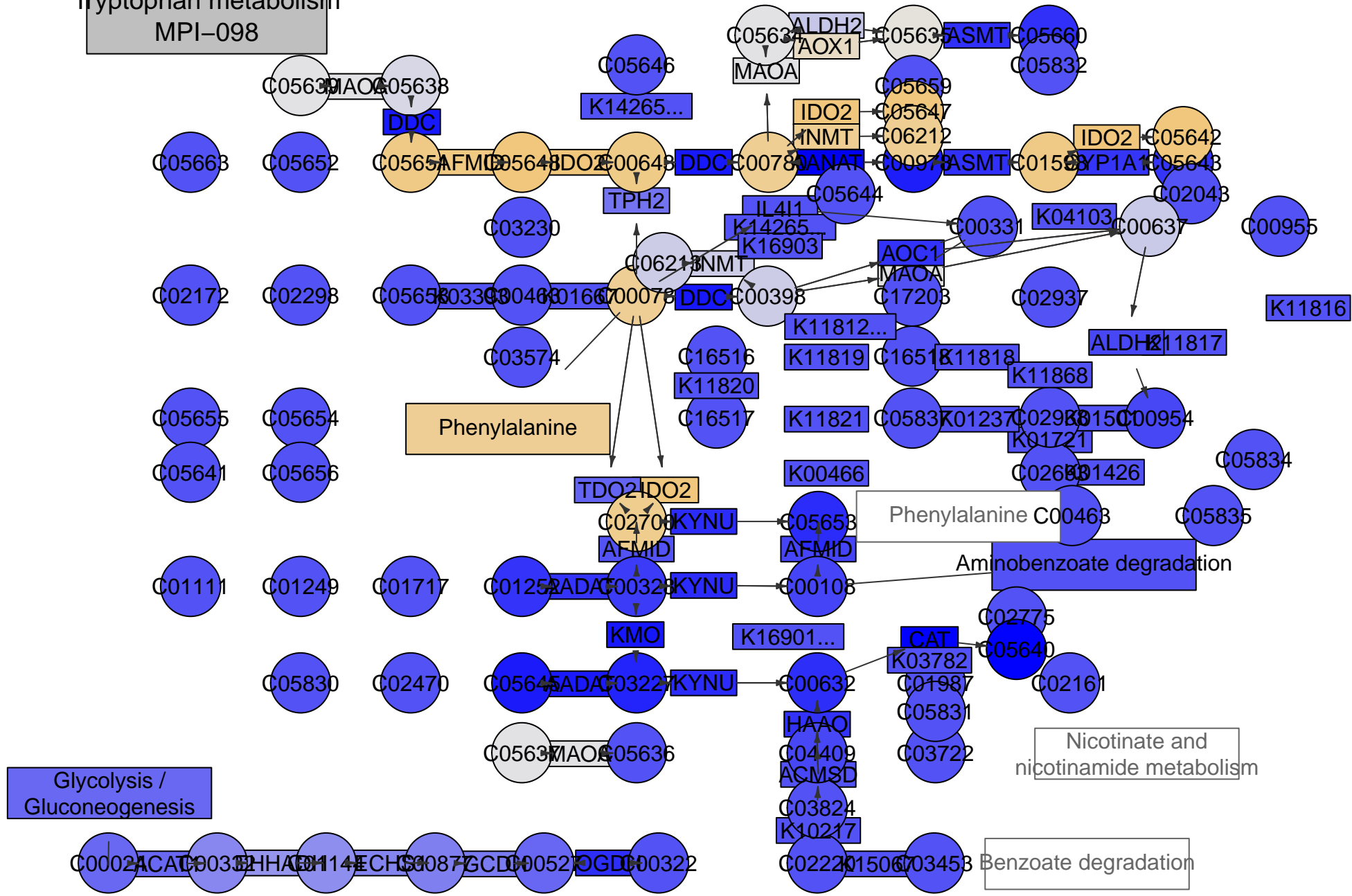
Tryptophan metabolism  
MPI-092



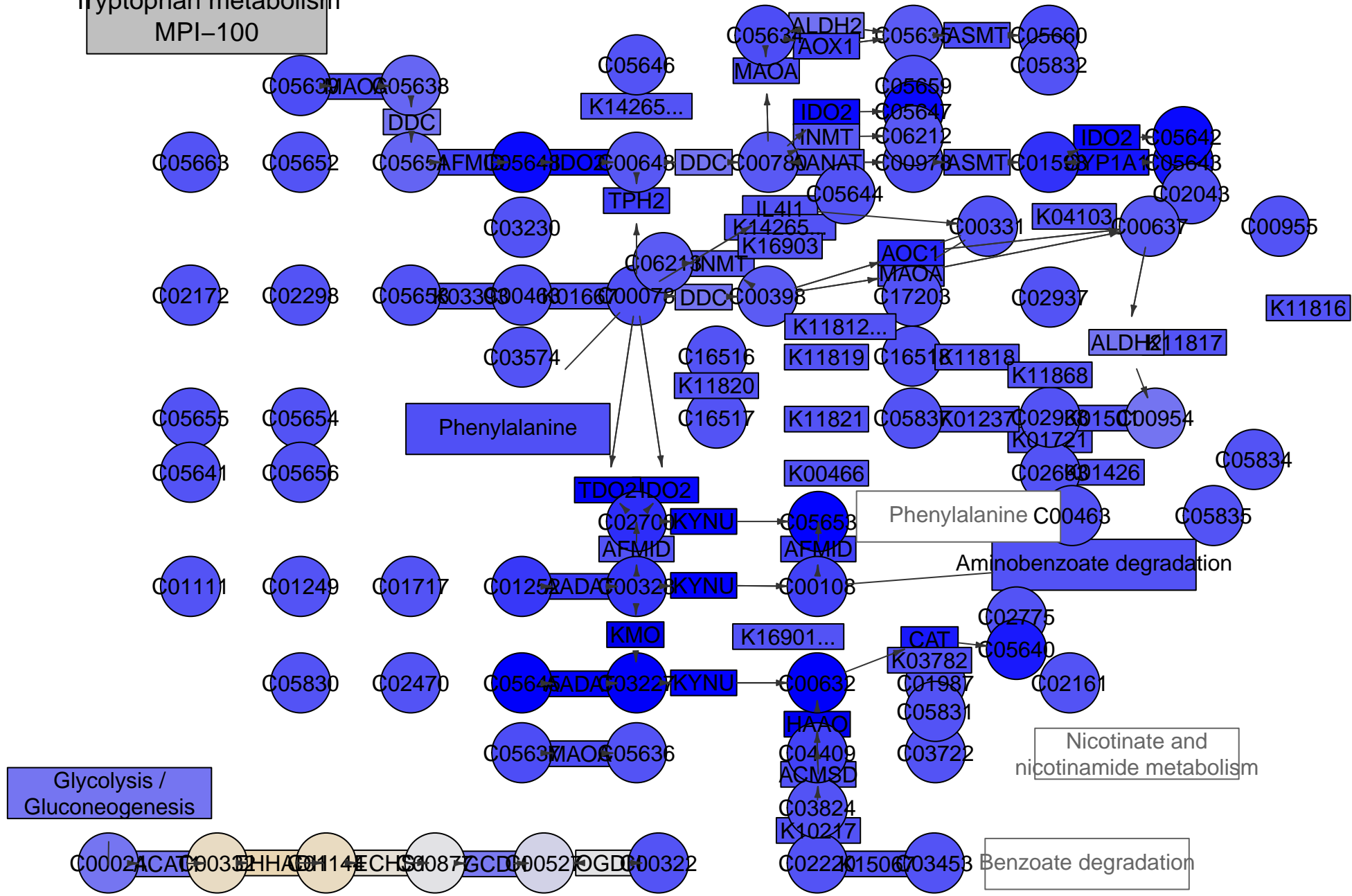




Tryptophan metabolism  
MPI-098

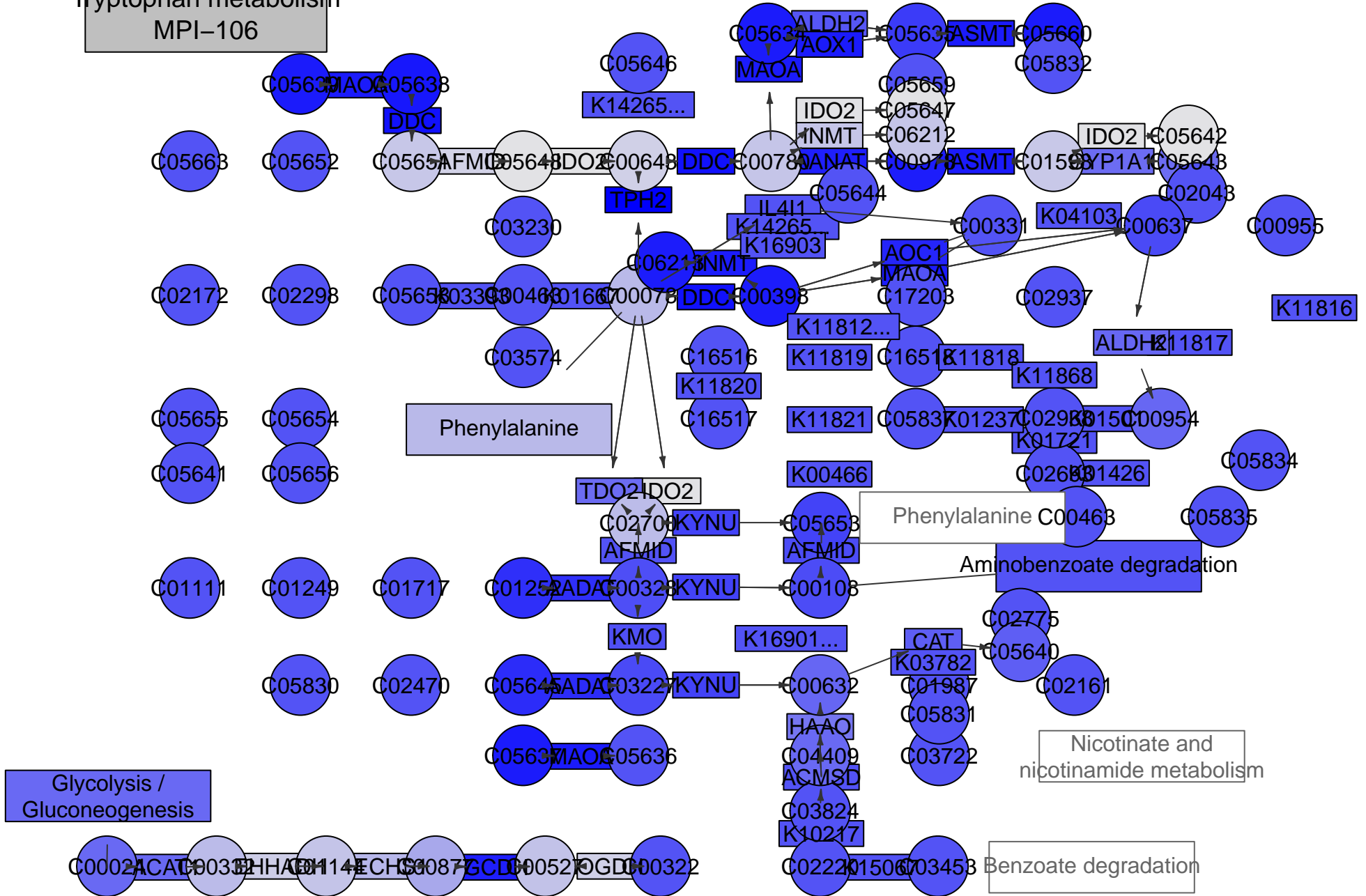


Tryptophan metabolism  
MPI-100





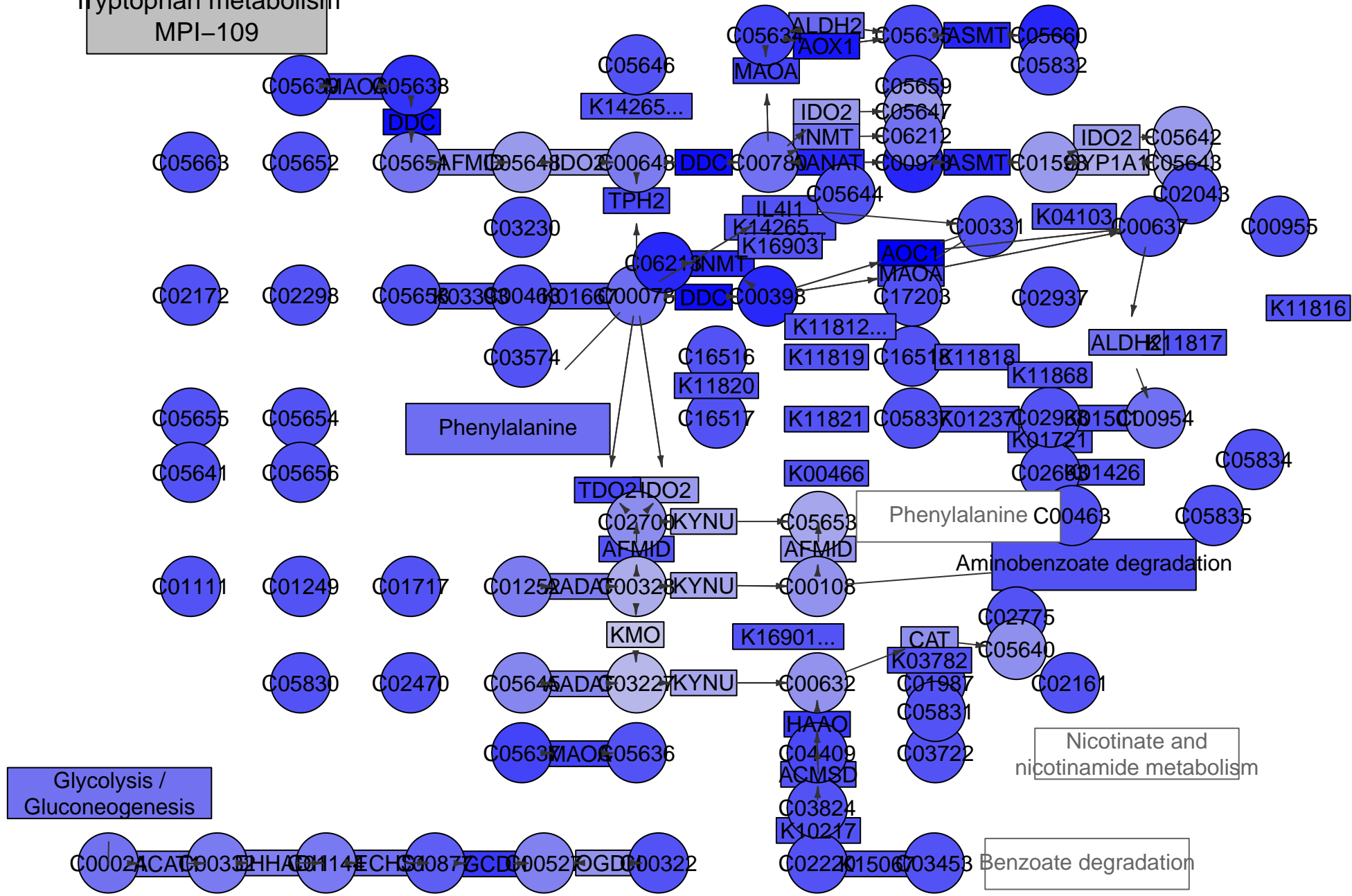
Tryptophan metabolism  
MPI-106



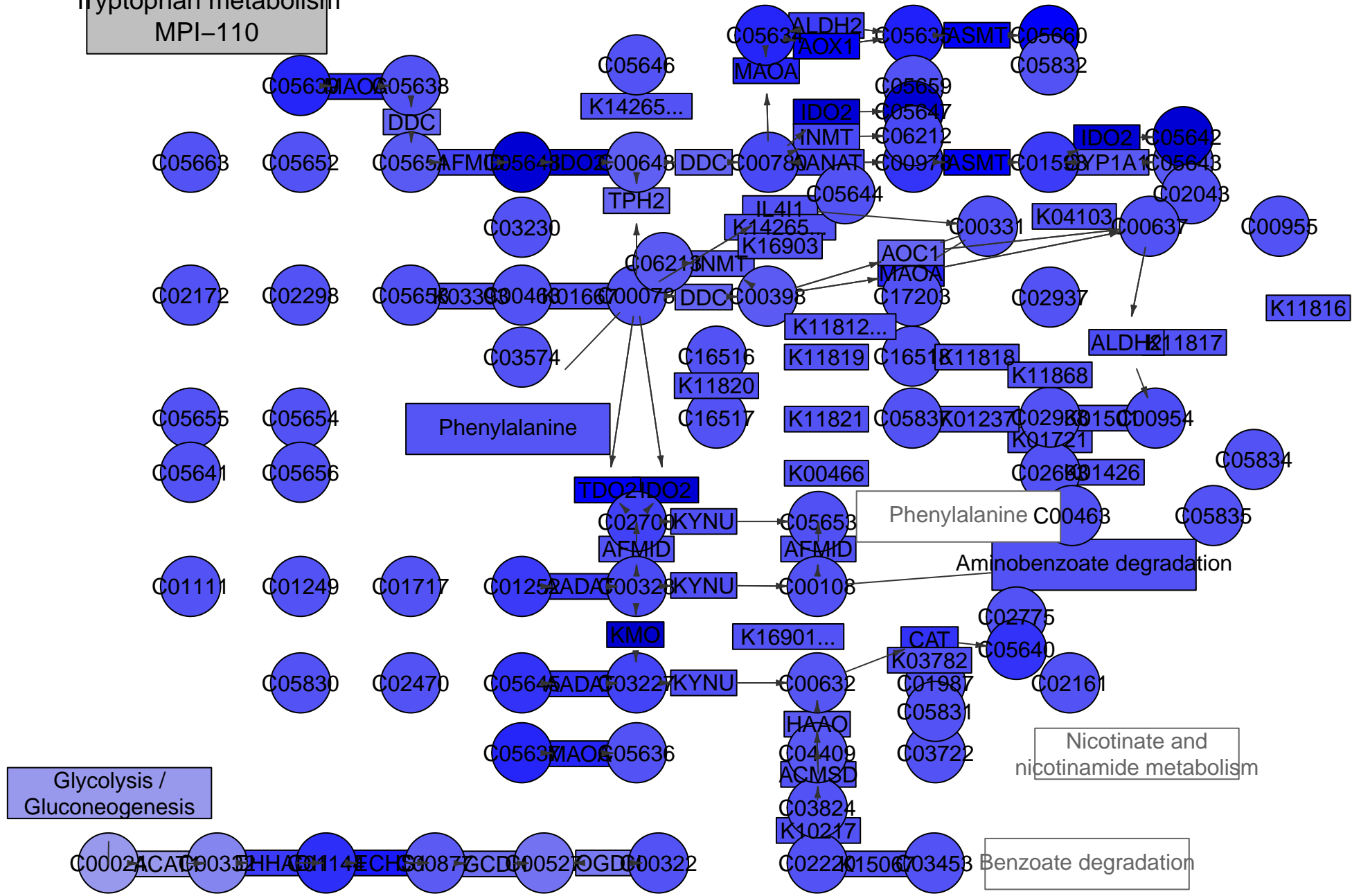




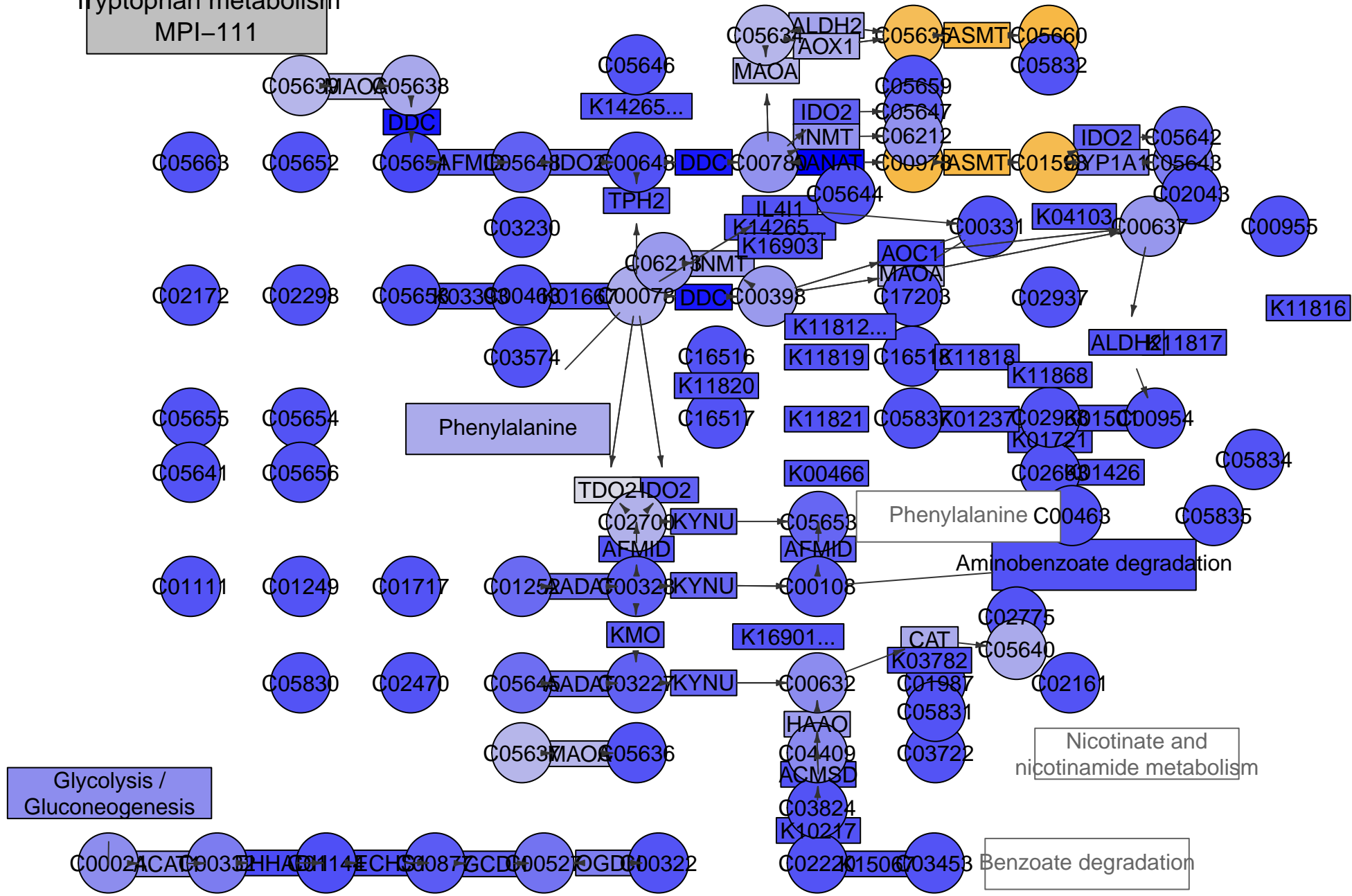
Tryptophan metabolism  
MPI-109



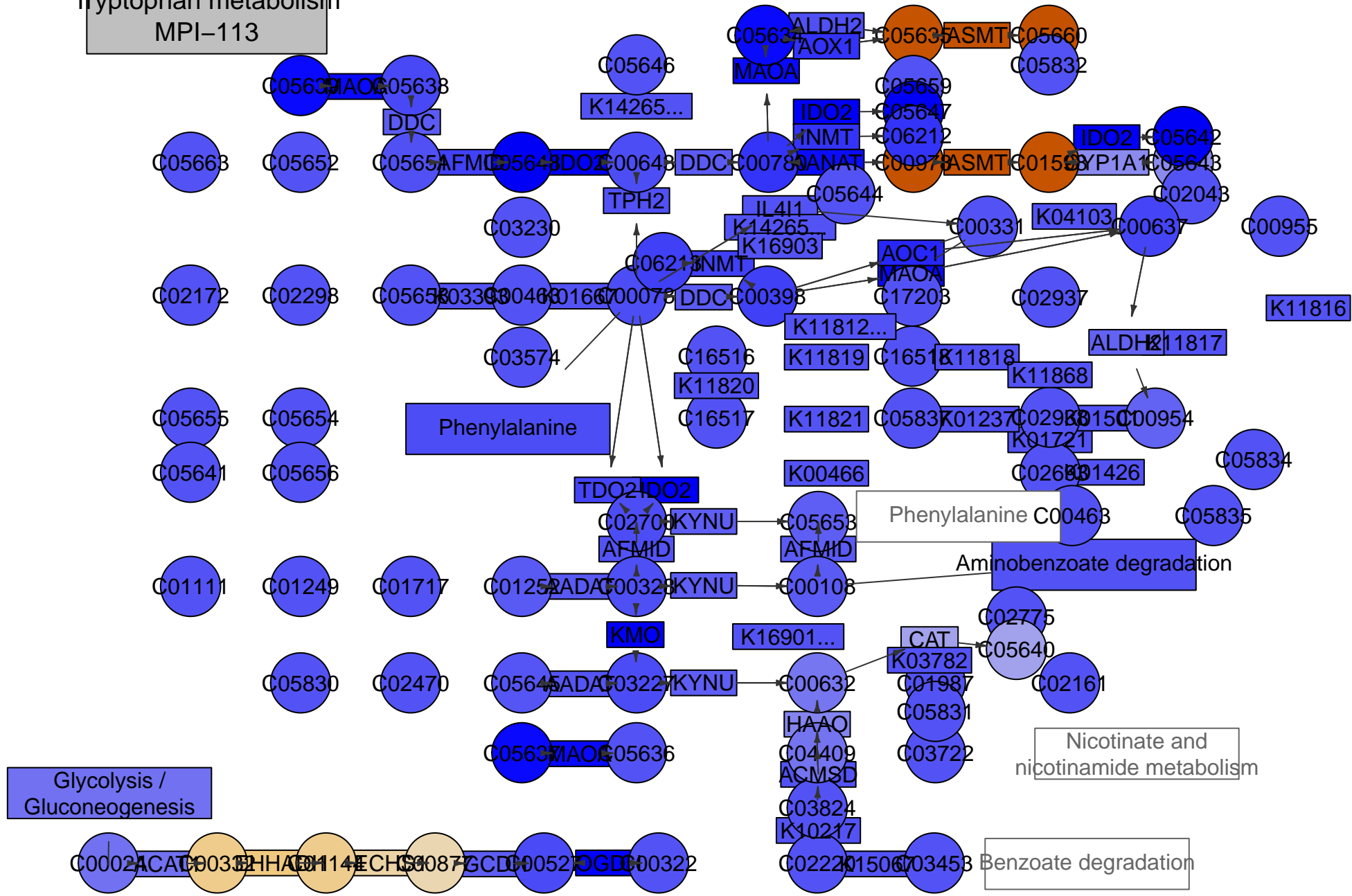
Tryptophan metabolism  
MPI-110



Tryptophan metabolism  
MPI-111

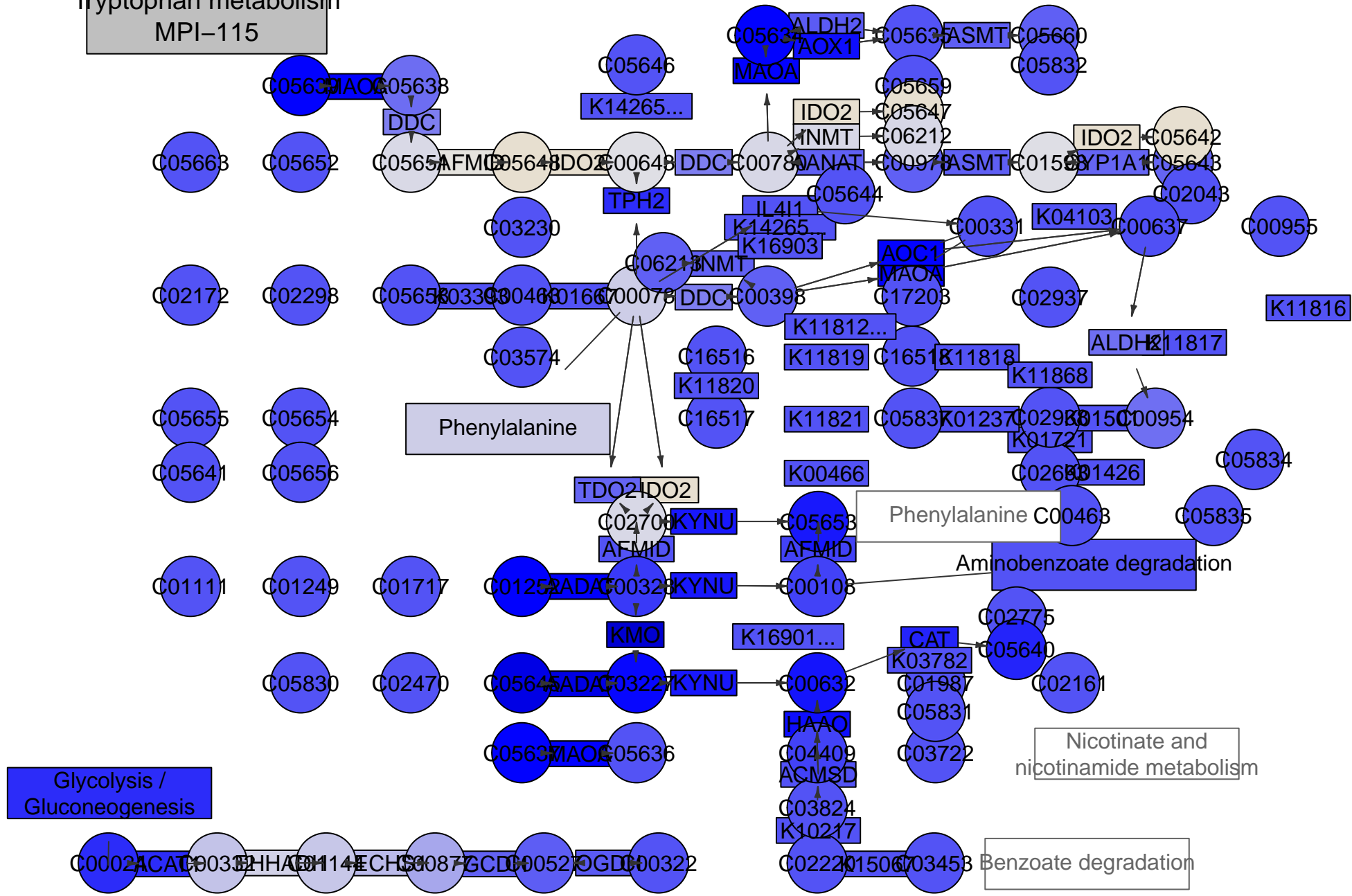


Tryptophan metabolism  
MPI-113

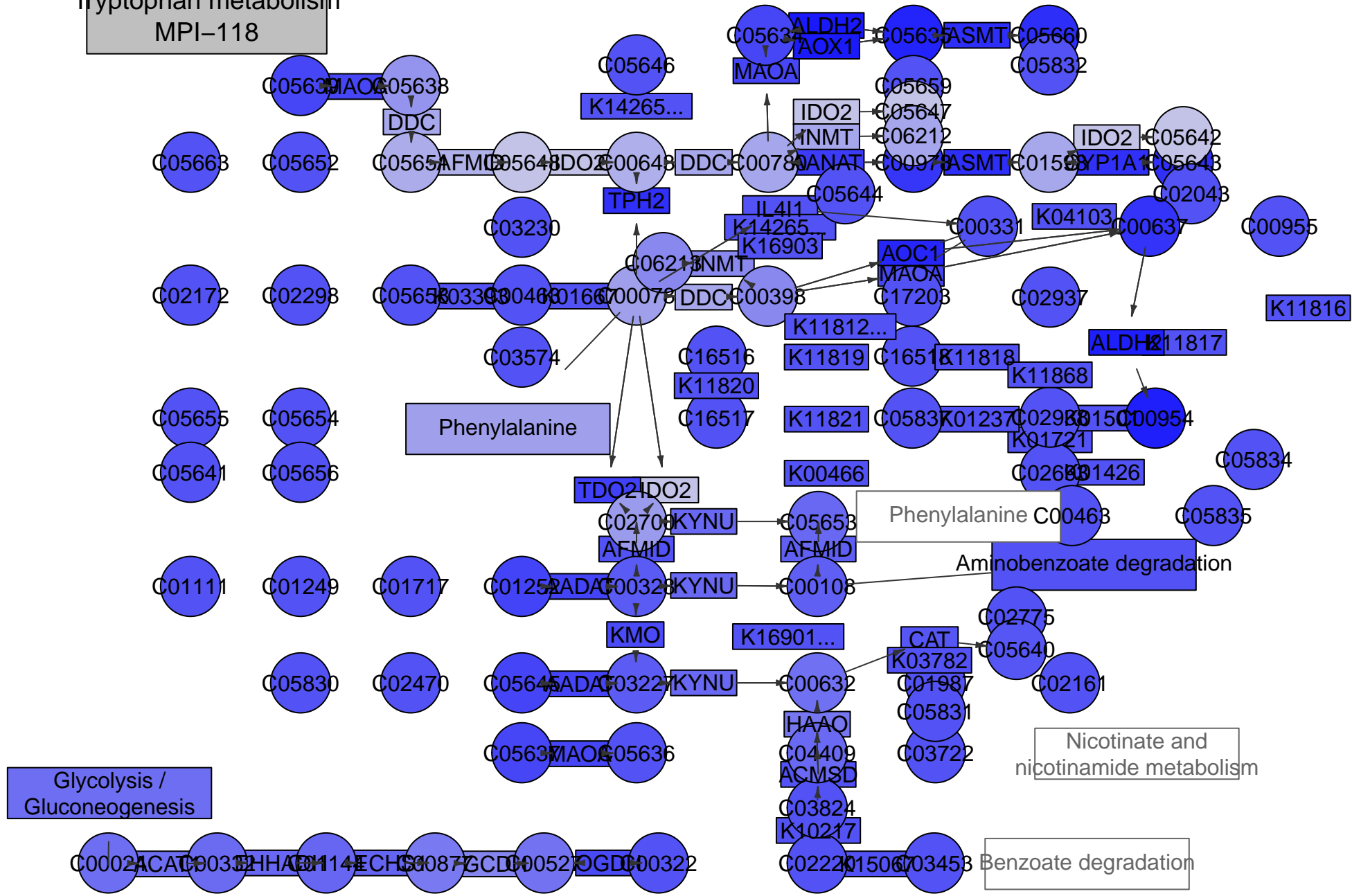




Tryptophan metabolism  
MPI-115



Tryptophan metabolism  
MPI-118



Glycolysis /  
Gluconeogenesis

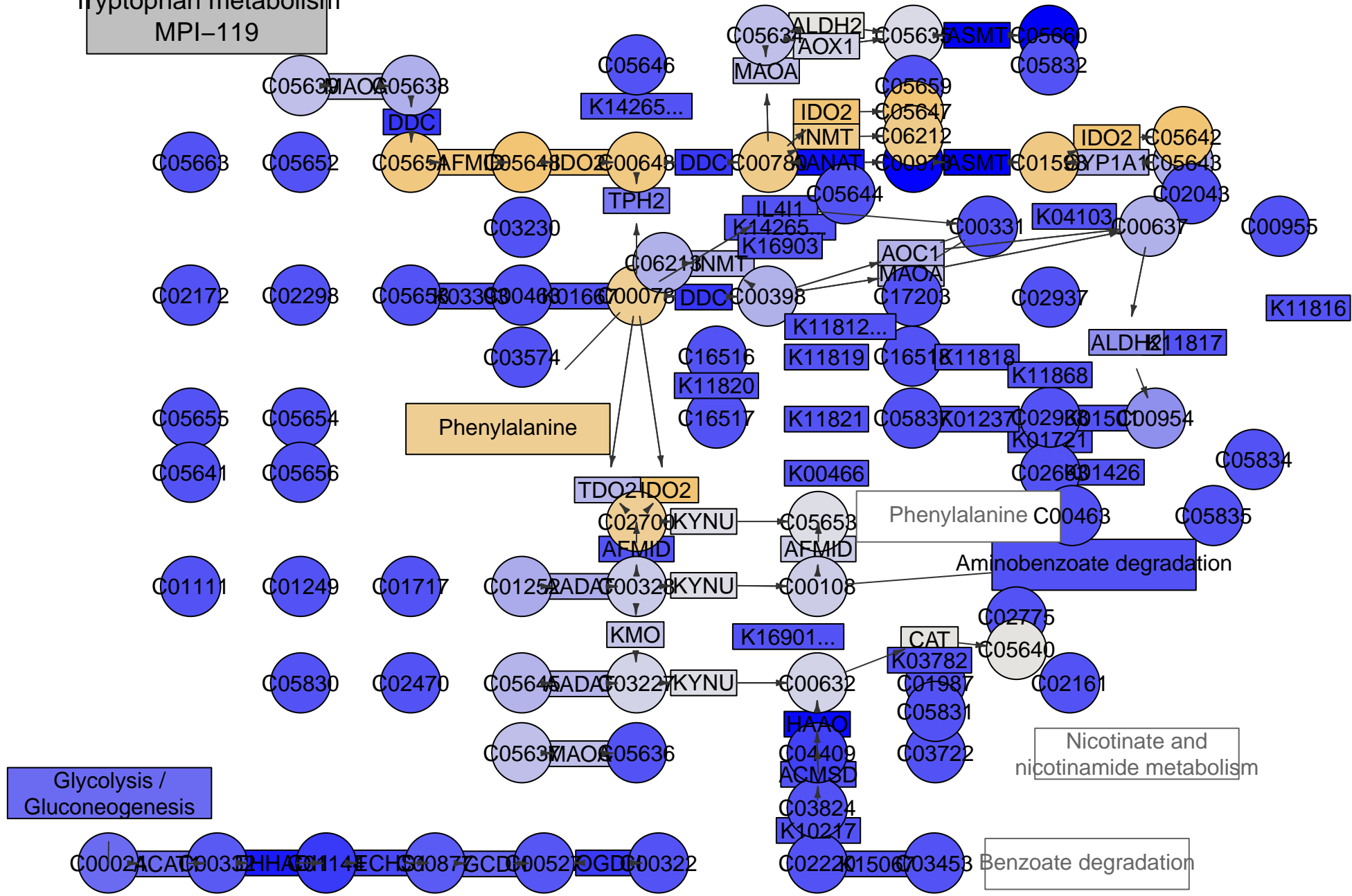
Phenylalanine

Phenylalanine  
Aminobenzoate degradation

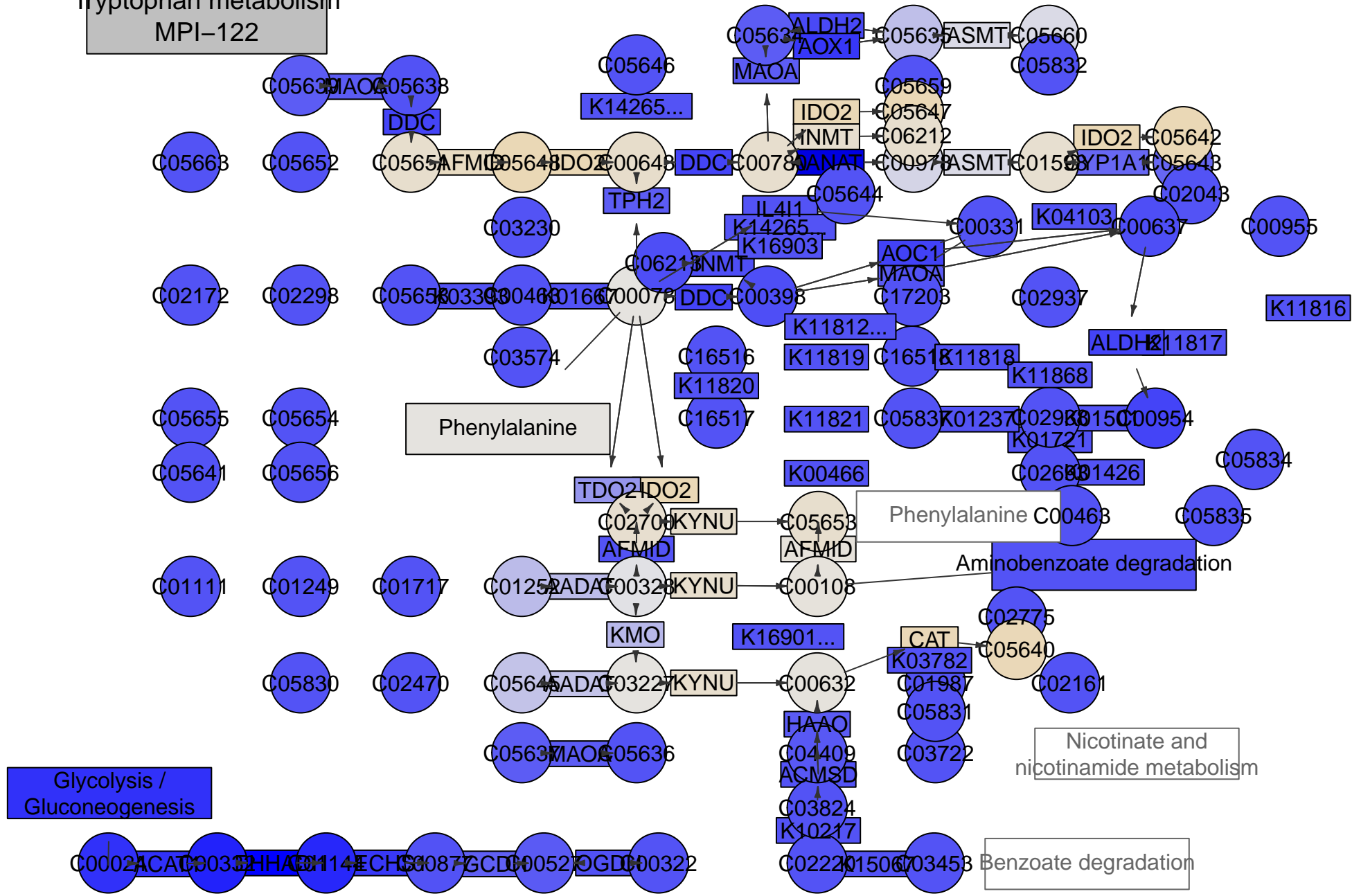
Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Tryptophan metabolism  
MPI-119



Tryptophan metabolism  
MPI-122





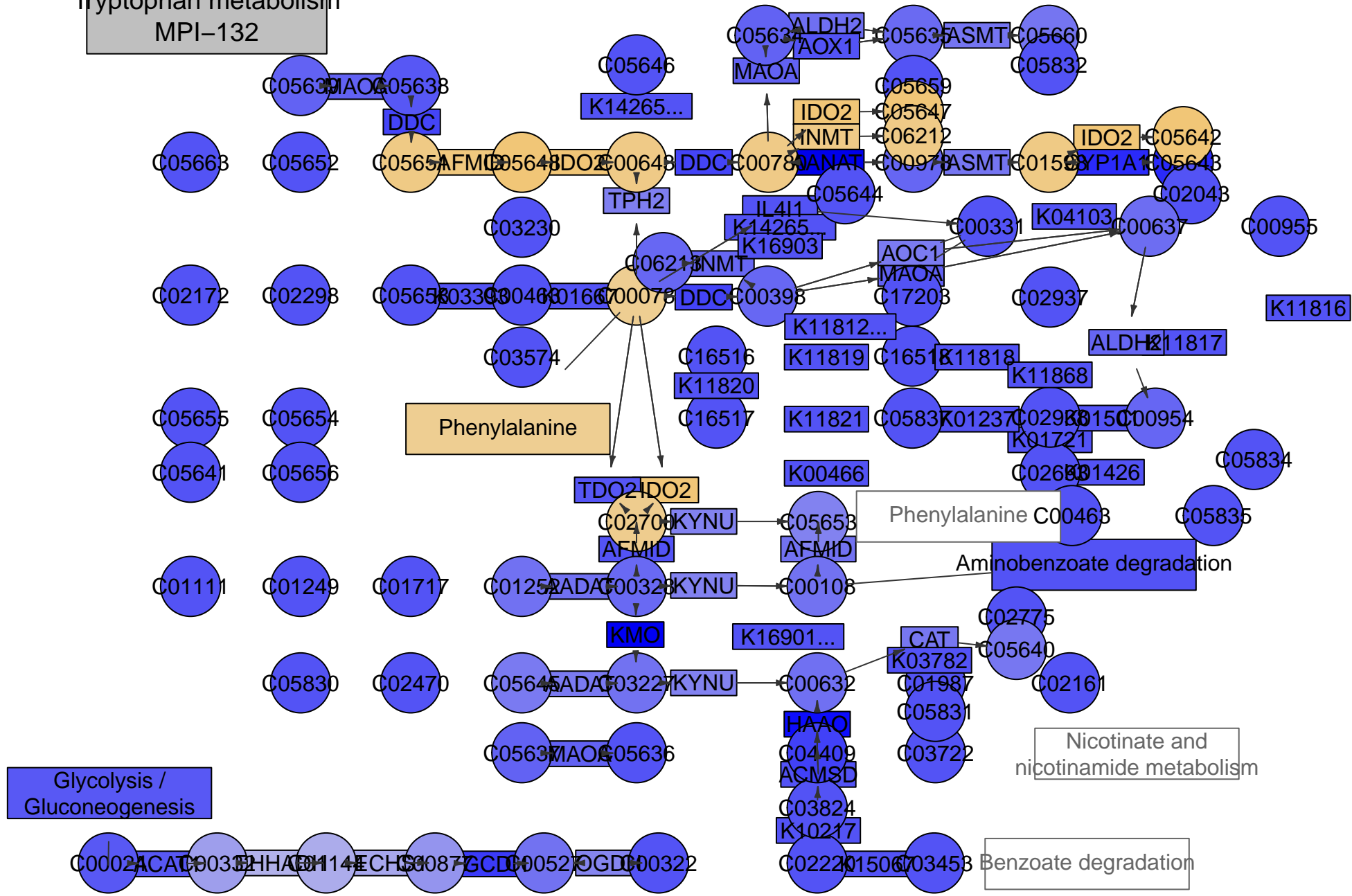








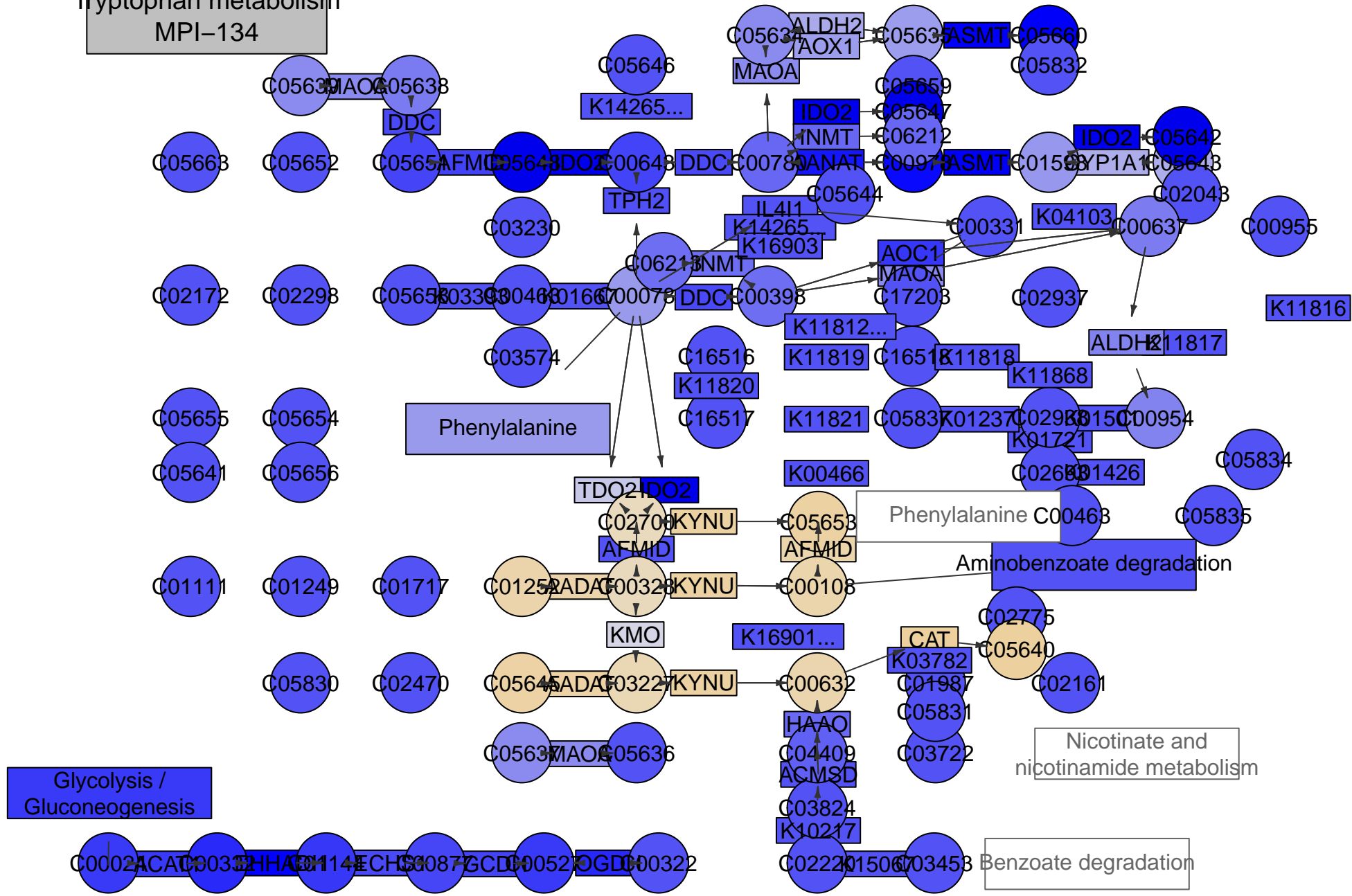
Tryptophan metabolism  
MPI-132



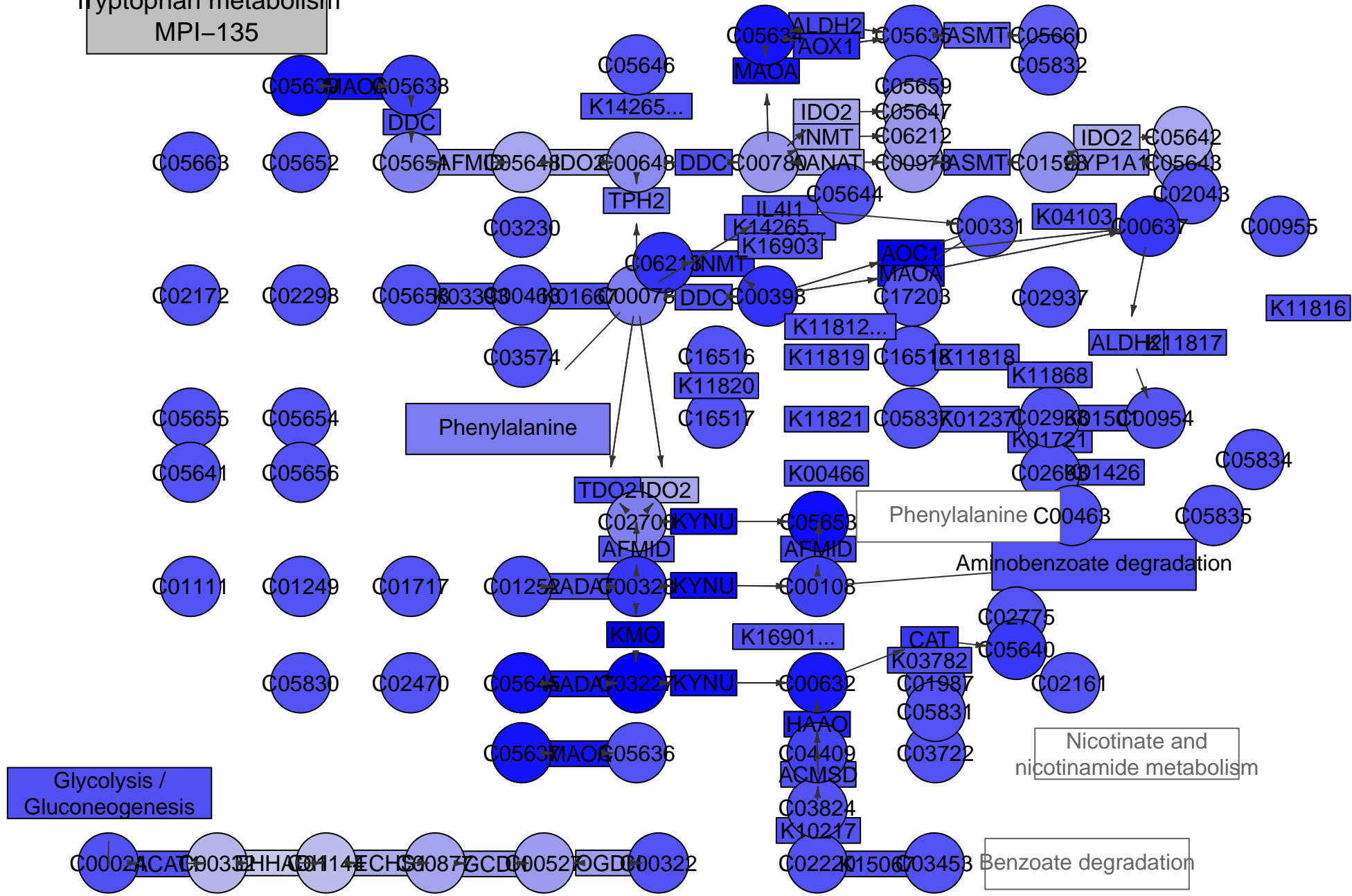




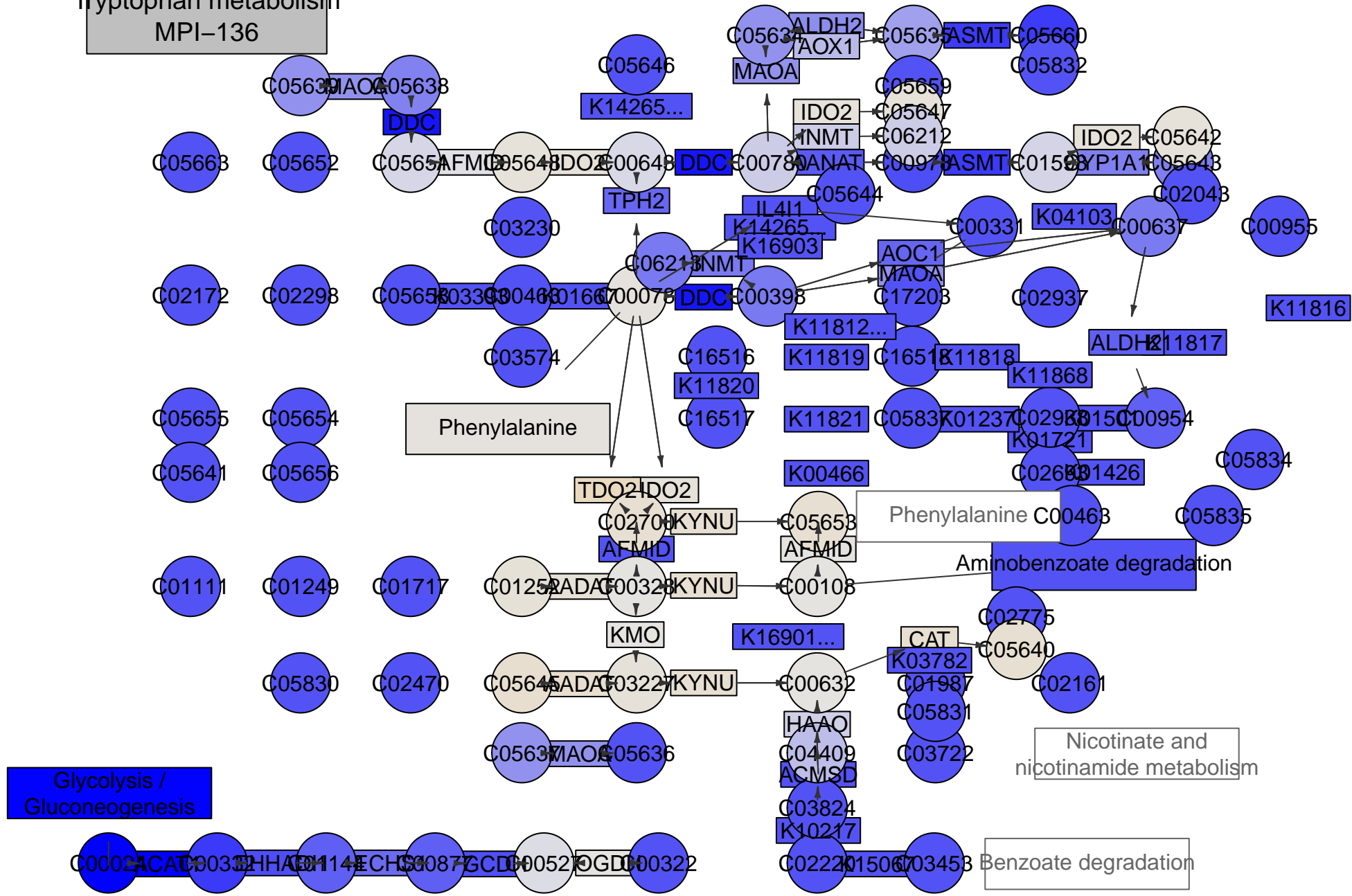
Tryptophan metabolism  
MPI-134



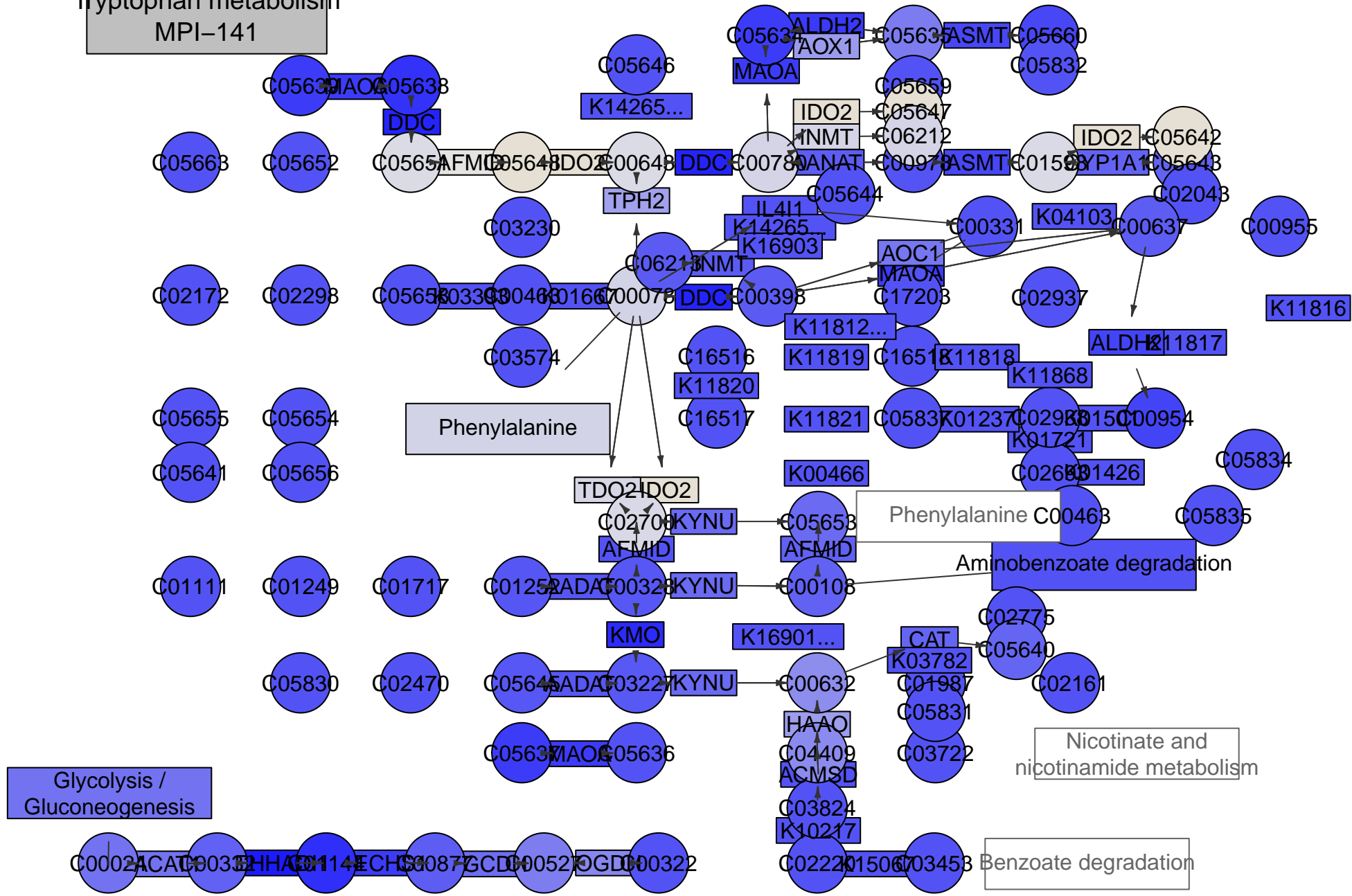
Tryptophan metabolism  
MPI-135



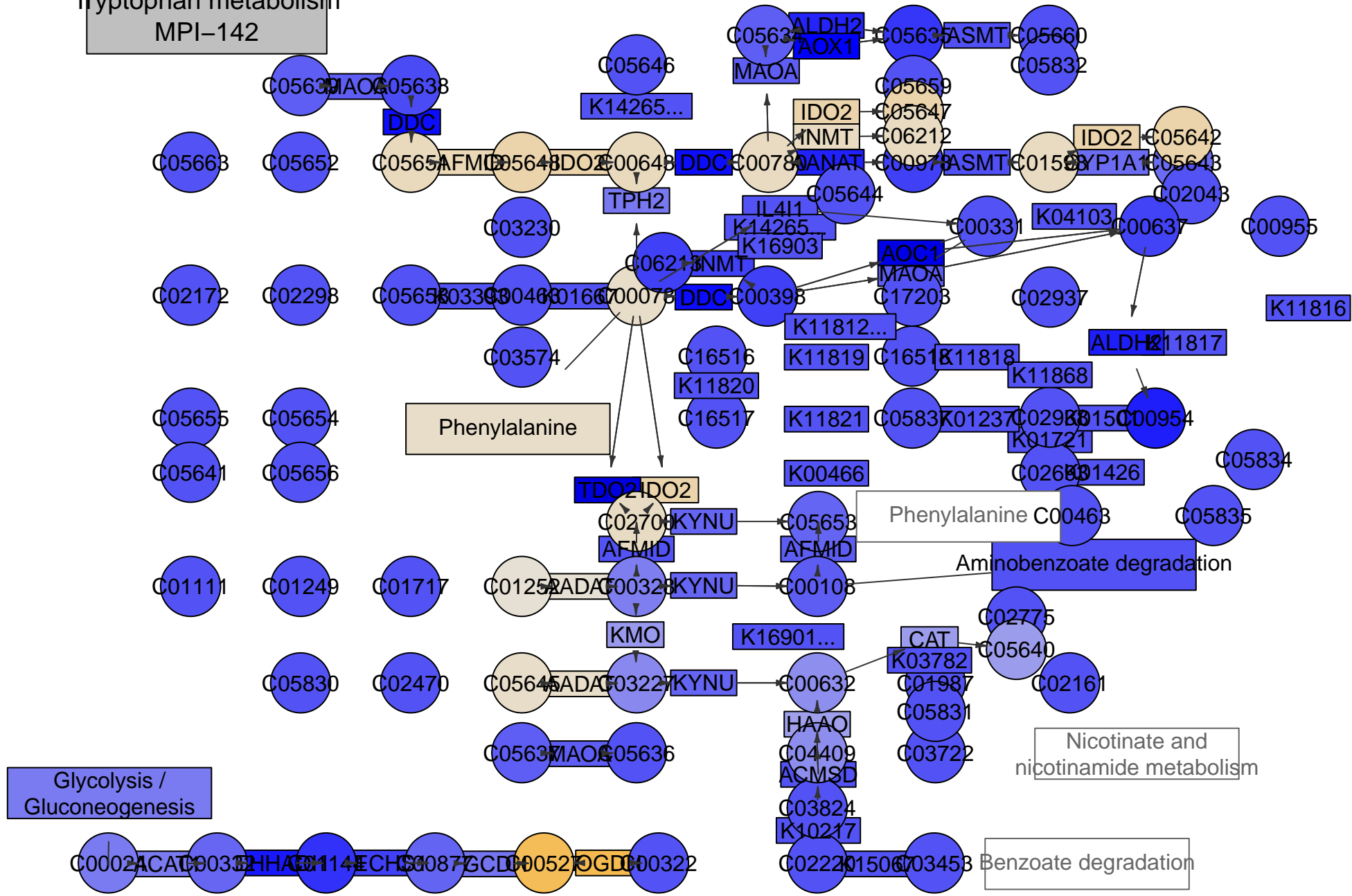
Tryptophan metabolism  
MPI-136



Tryptophan metabolism  
MPI-141

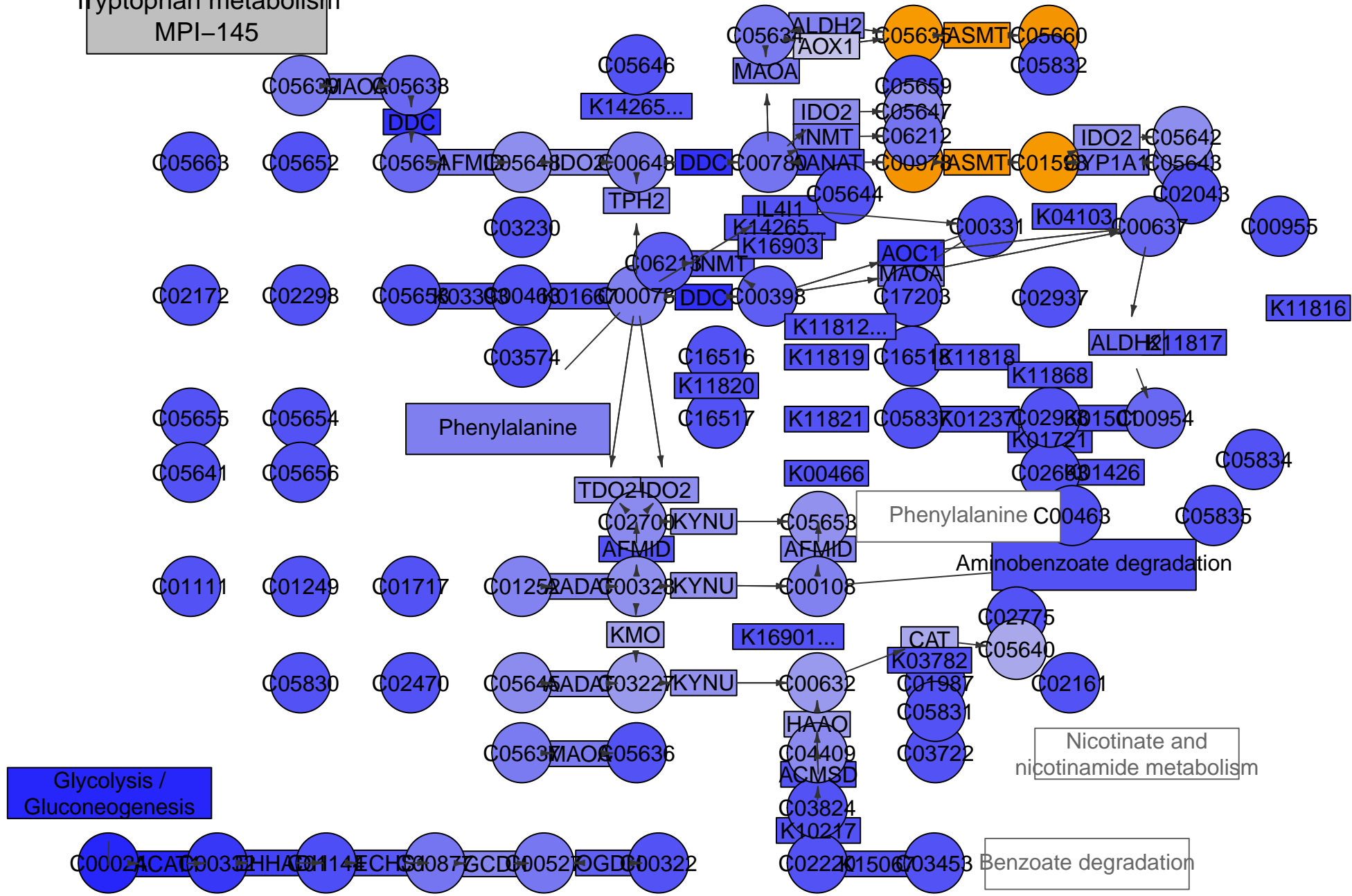


Tryptophan metabolism  
MPI-142





Tryptophan metabolism  
MPI-145



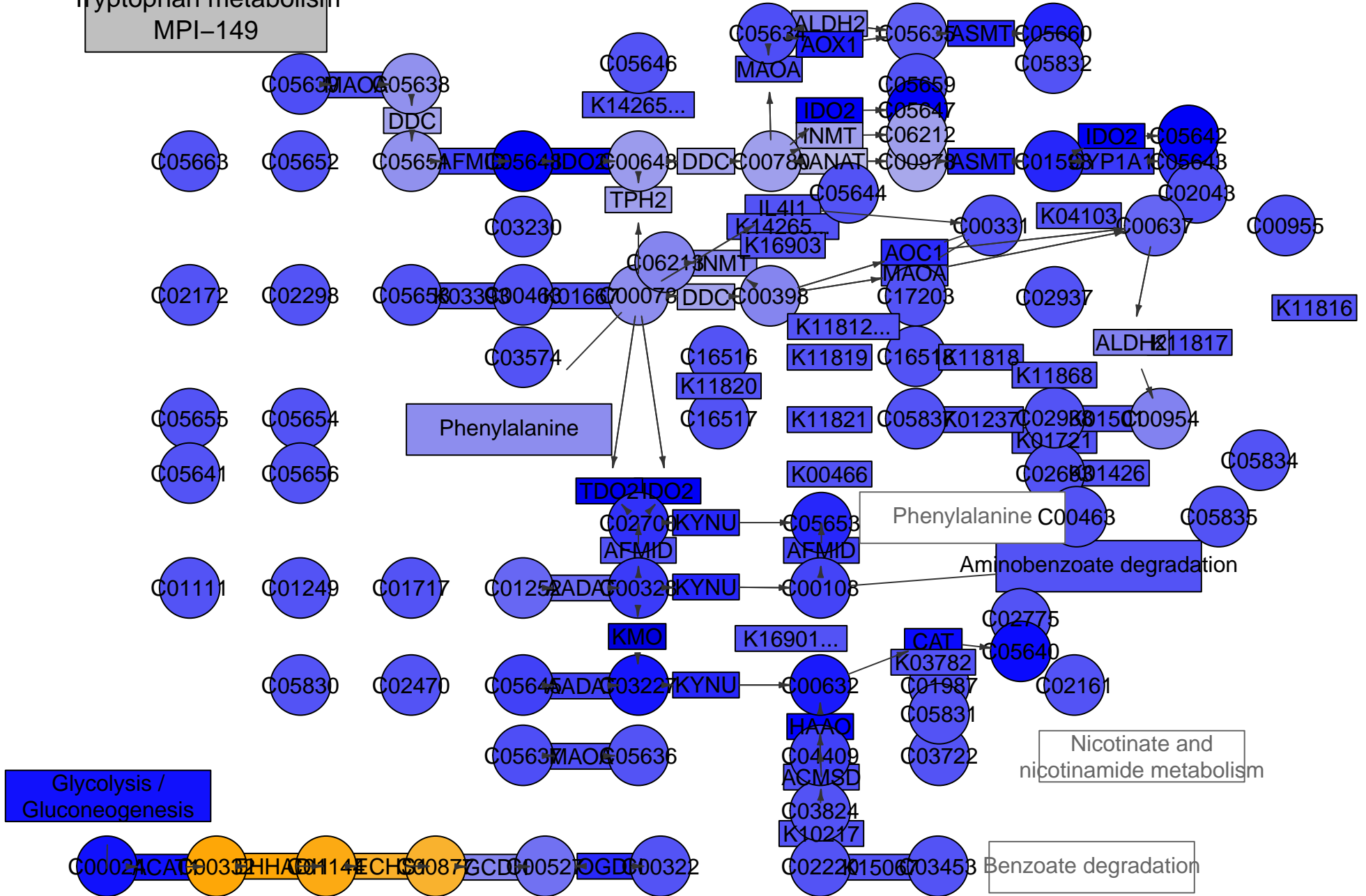
Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

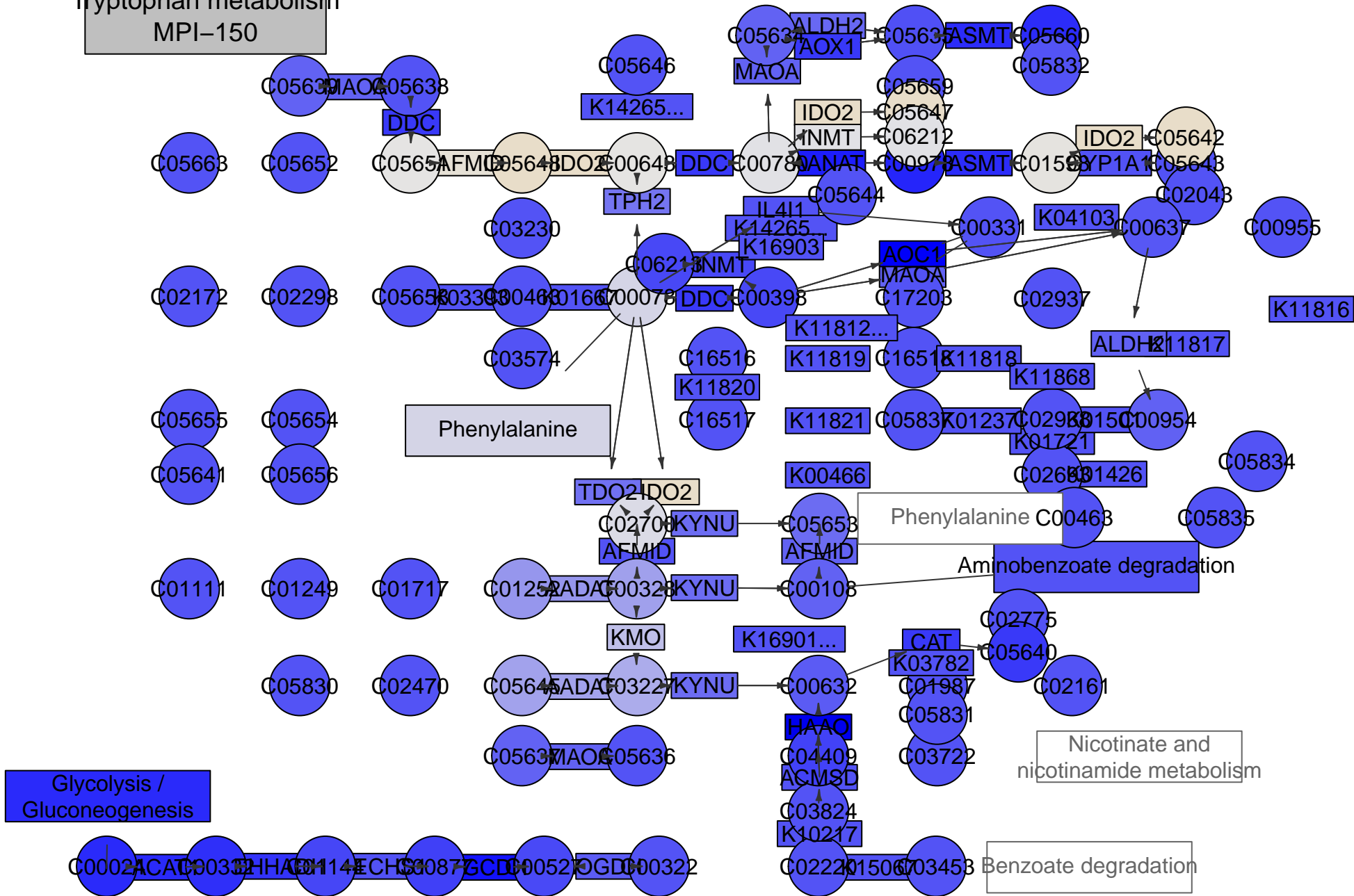
Benzoate degradation



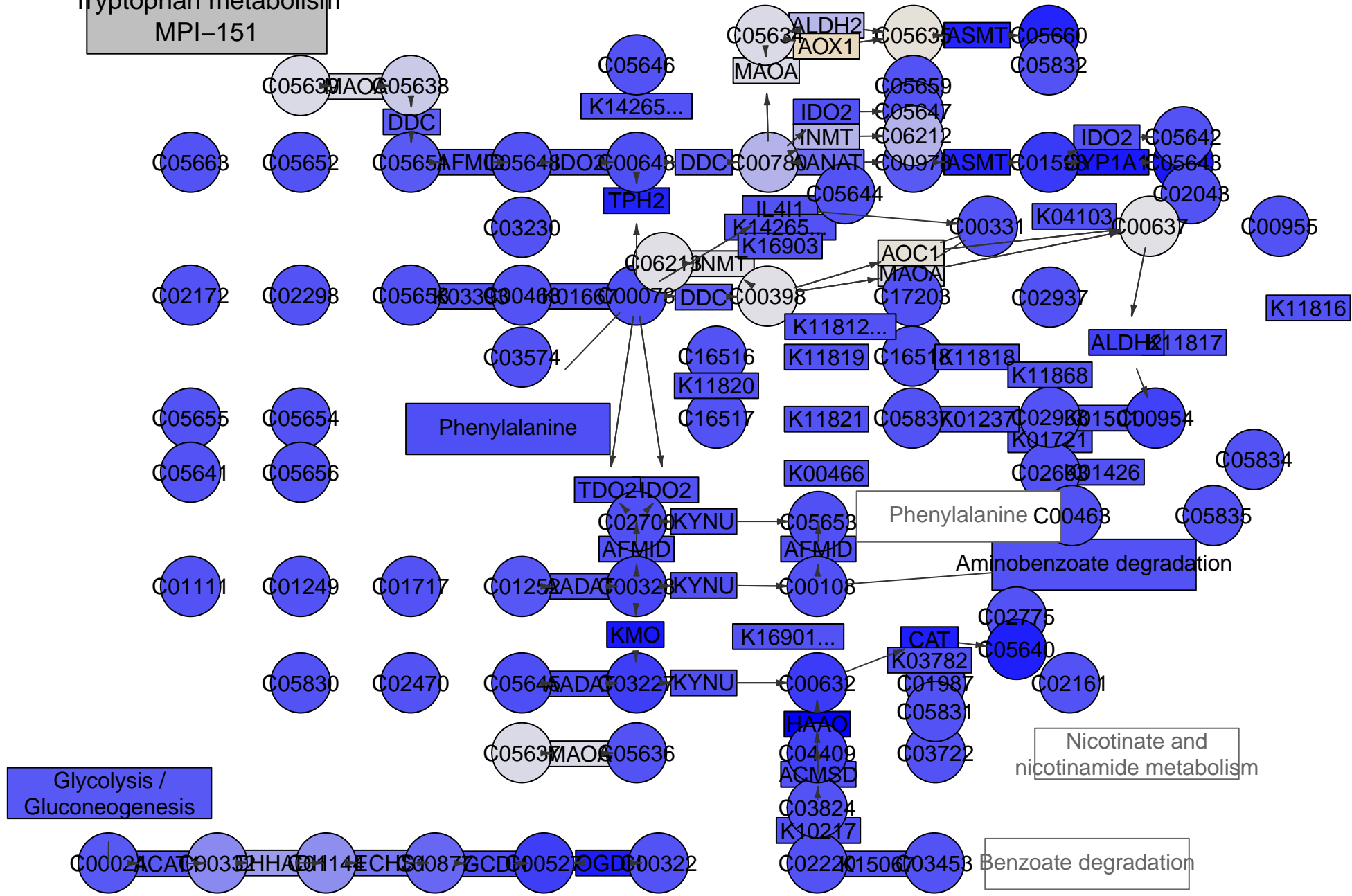
Tryptophan metabolism  
MPI-149



Tryptophan metabolism  
MPI-150



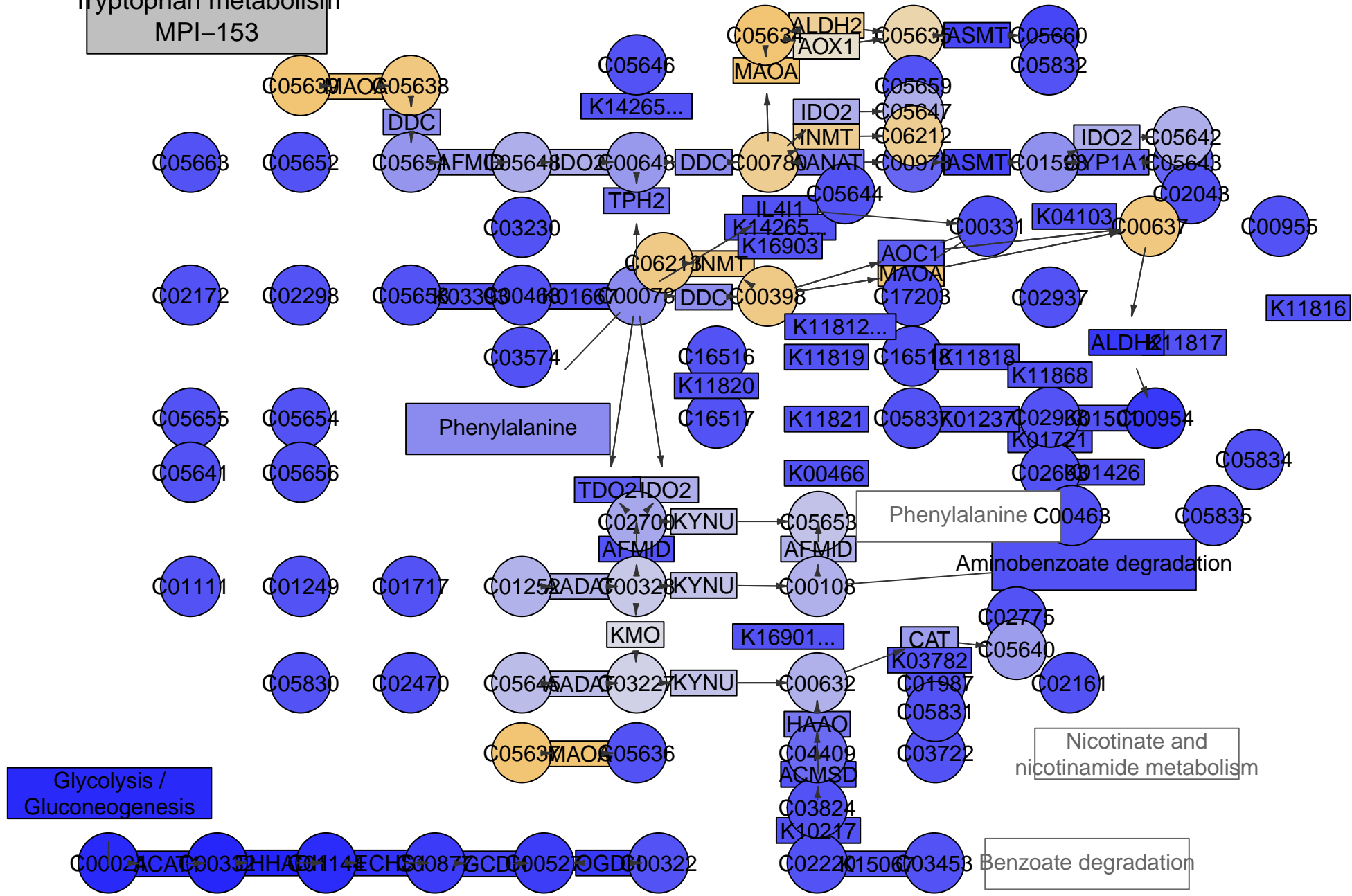
Tryptophan metabolism  
MPI-151







Tryptophan metabolism  
MPI-153



Glycolysis /  
Gluconeogenesis

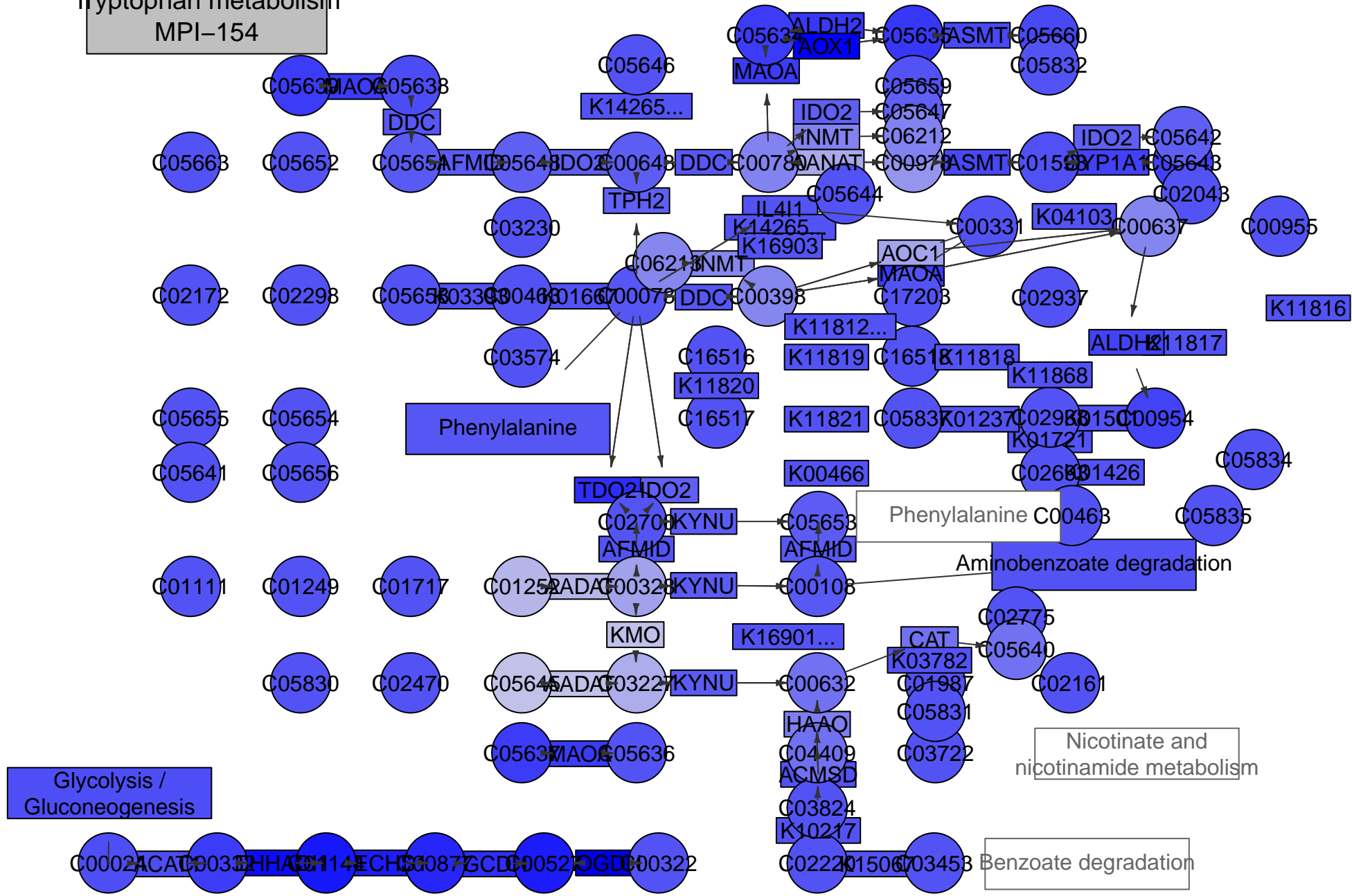
Phenylalanine

Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Tryptophan metabolism  
MPI-154



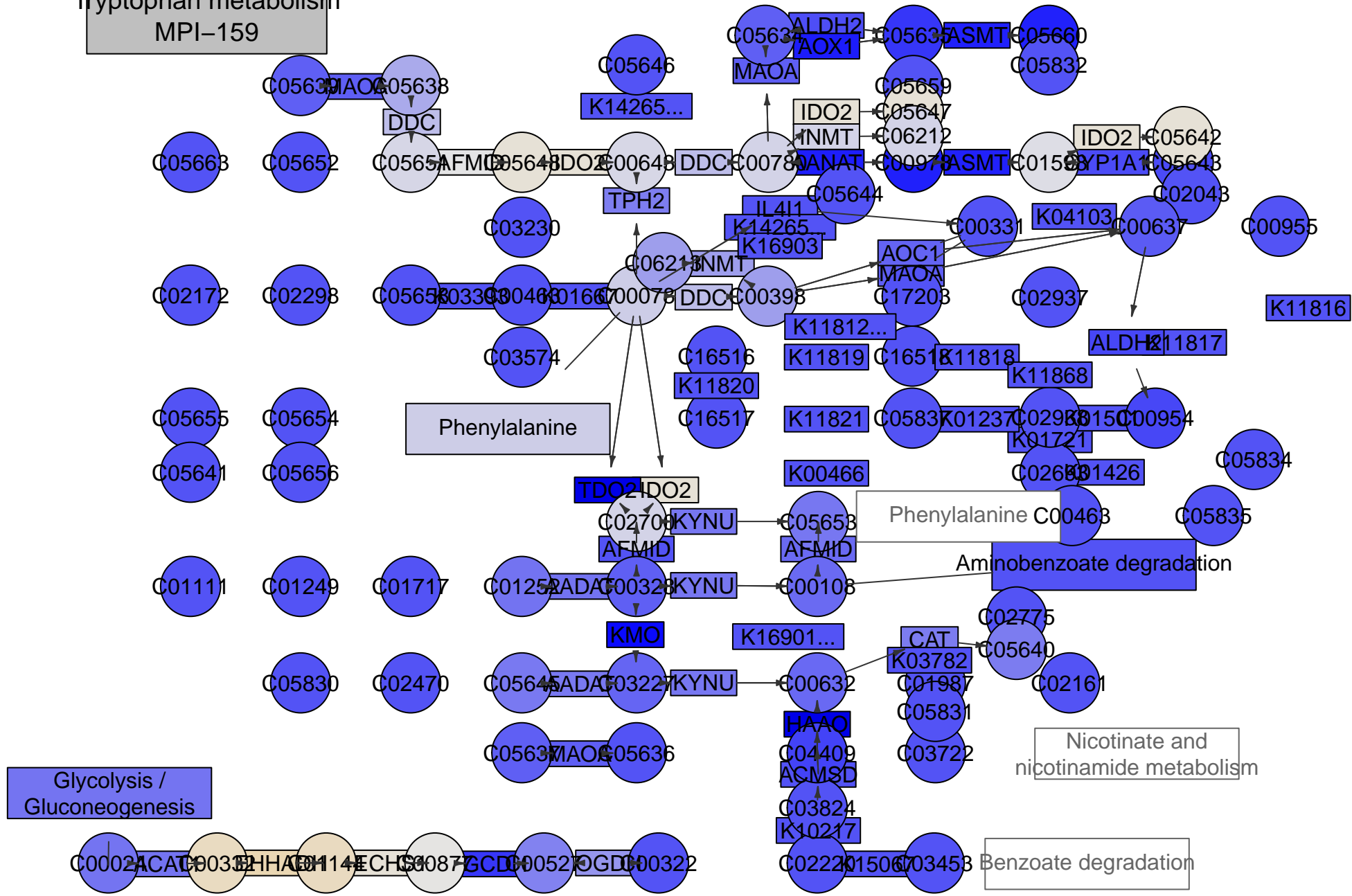
Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

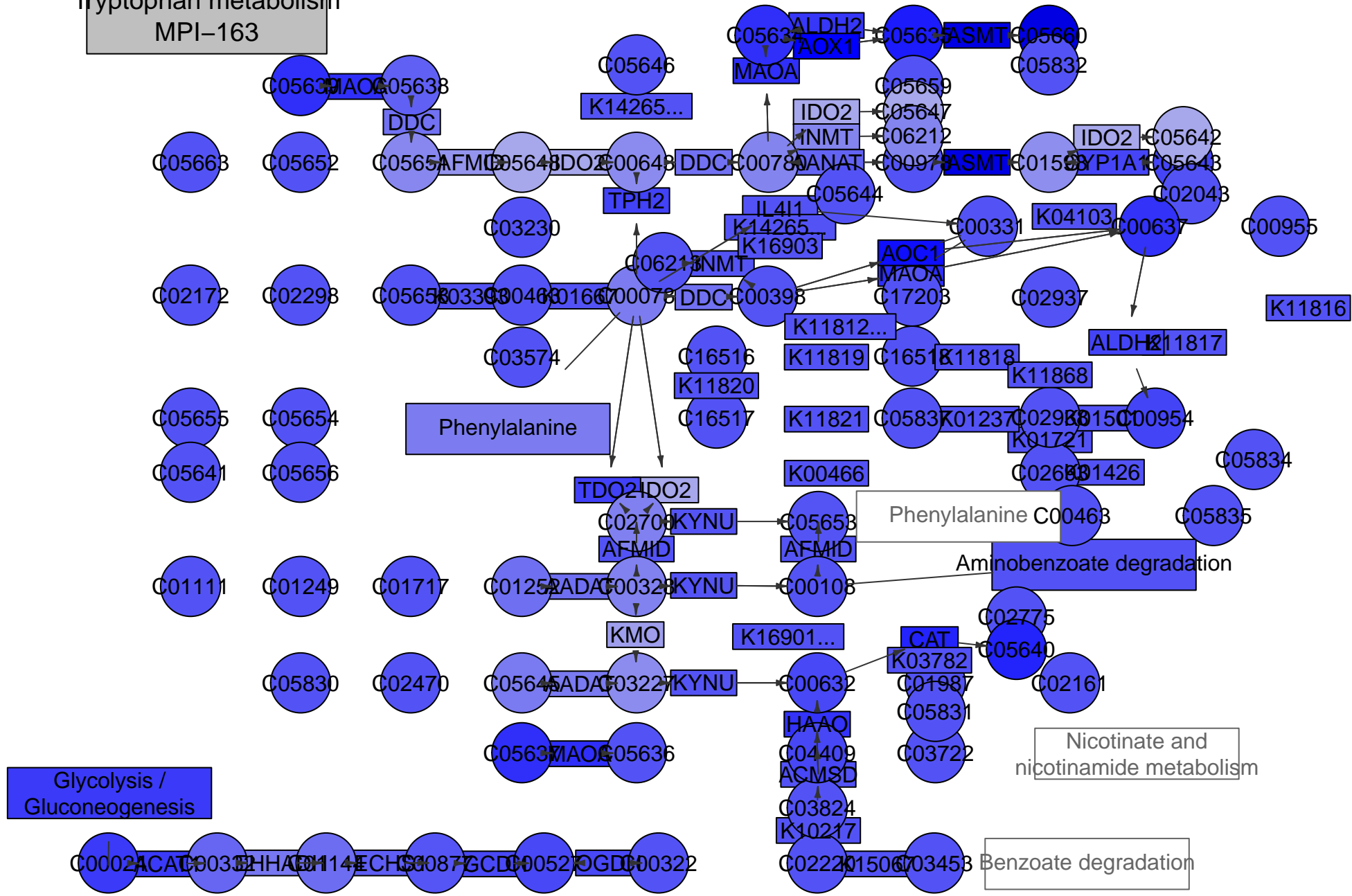


Tryptophan metabolism  
MPI-159



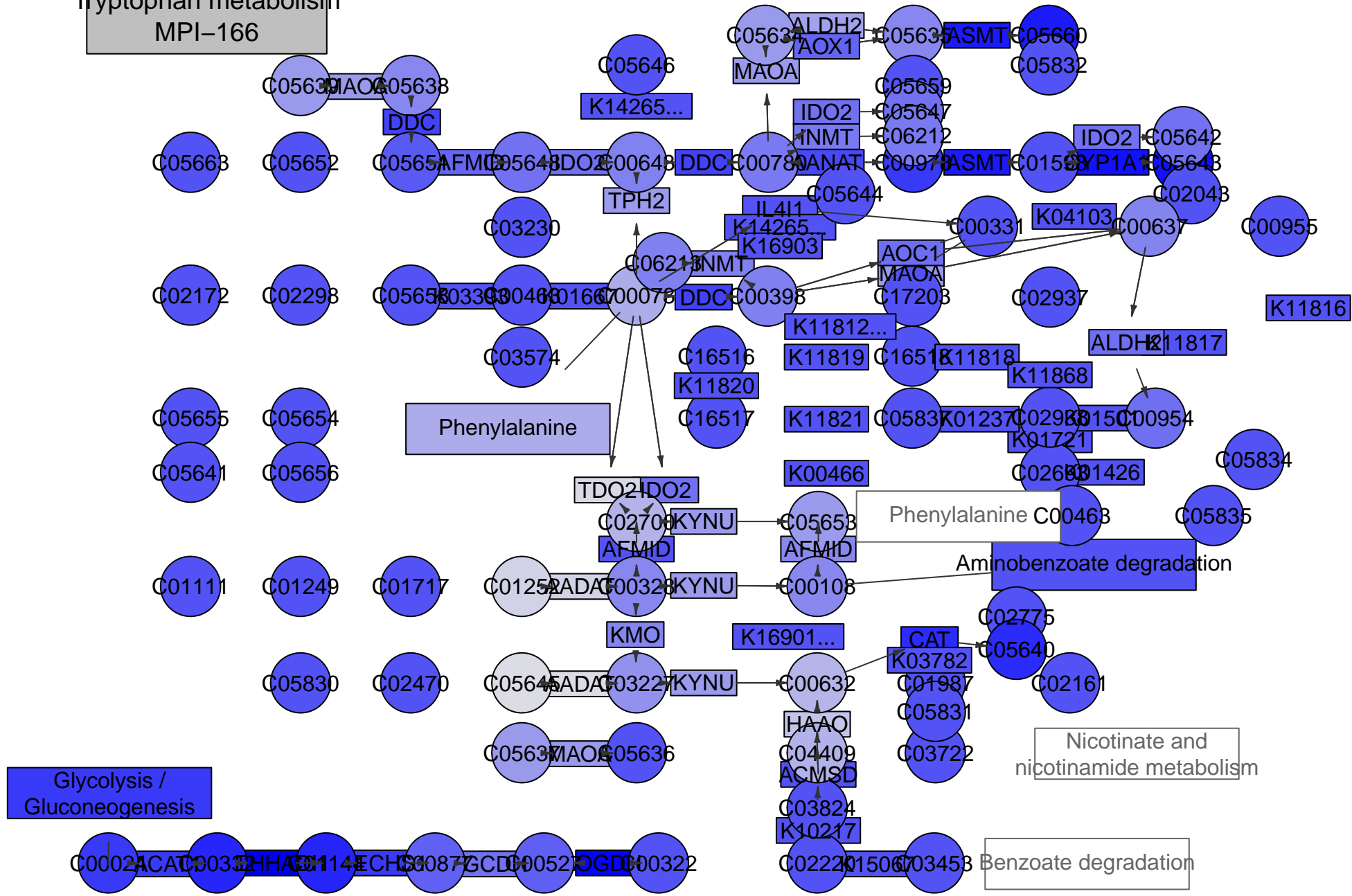


Tryptophan metabolism  
MPI-163





Tryptophan metabolism  
MPI-166



Tryptophan metabolism  
MPI-167

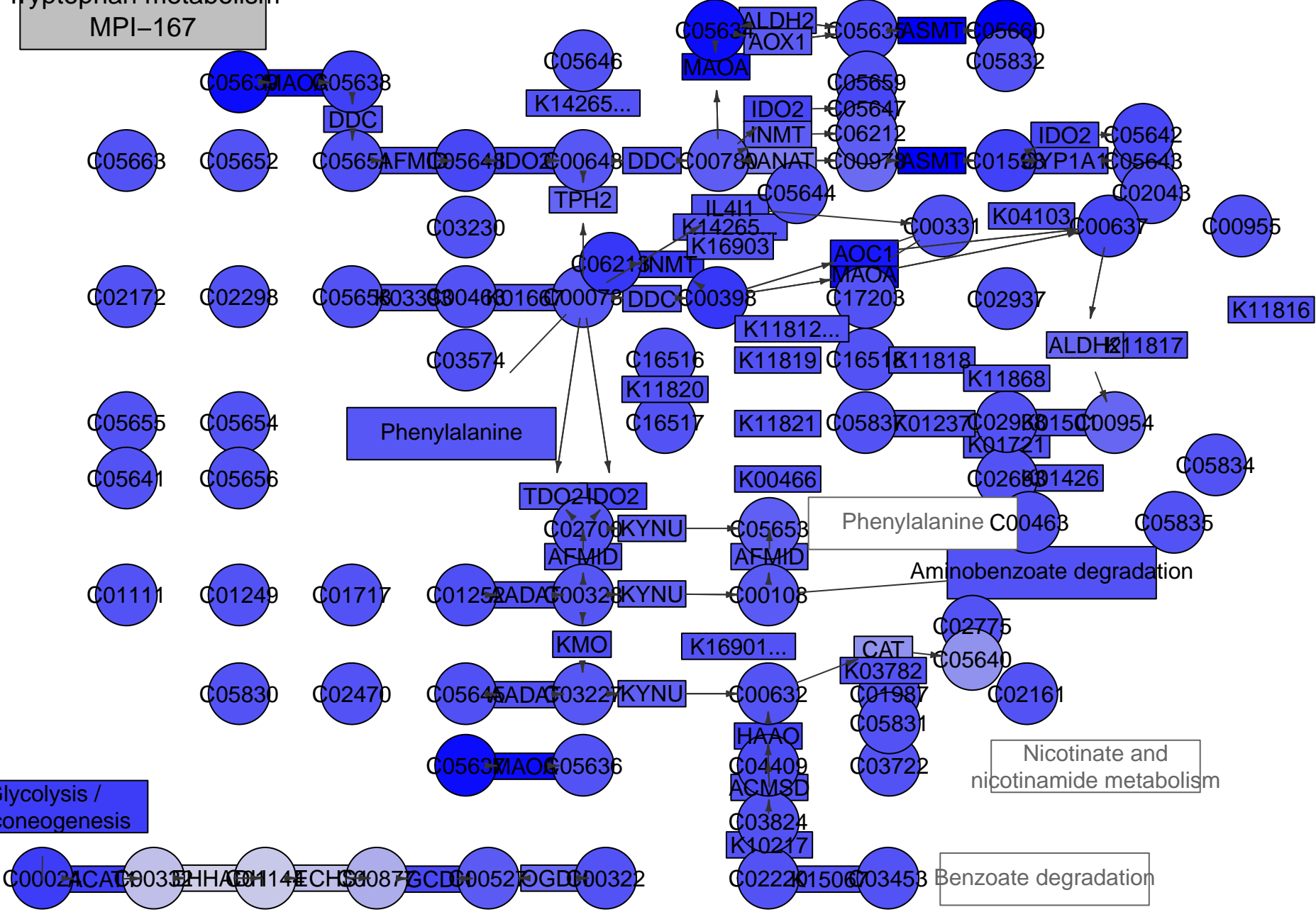
Glycolysis /  
Gluconeogenesis

Phenylalanine

Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation





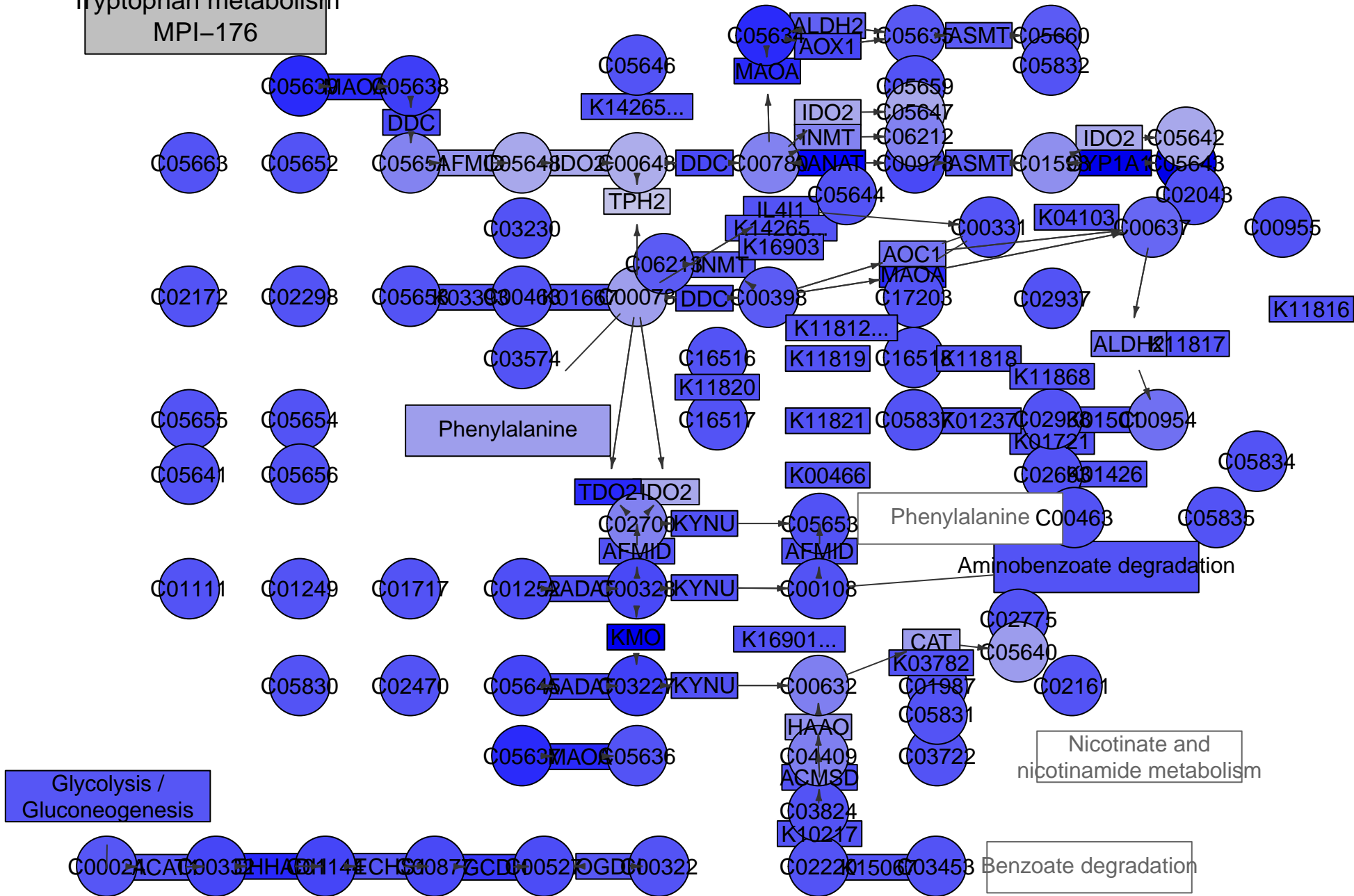




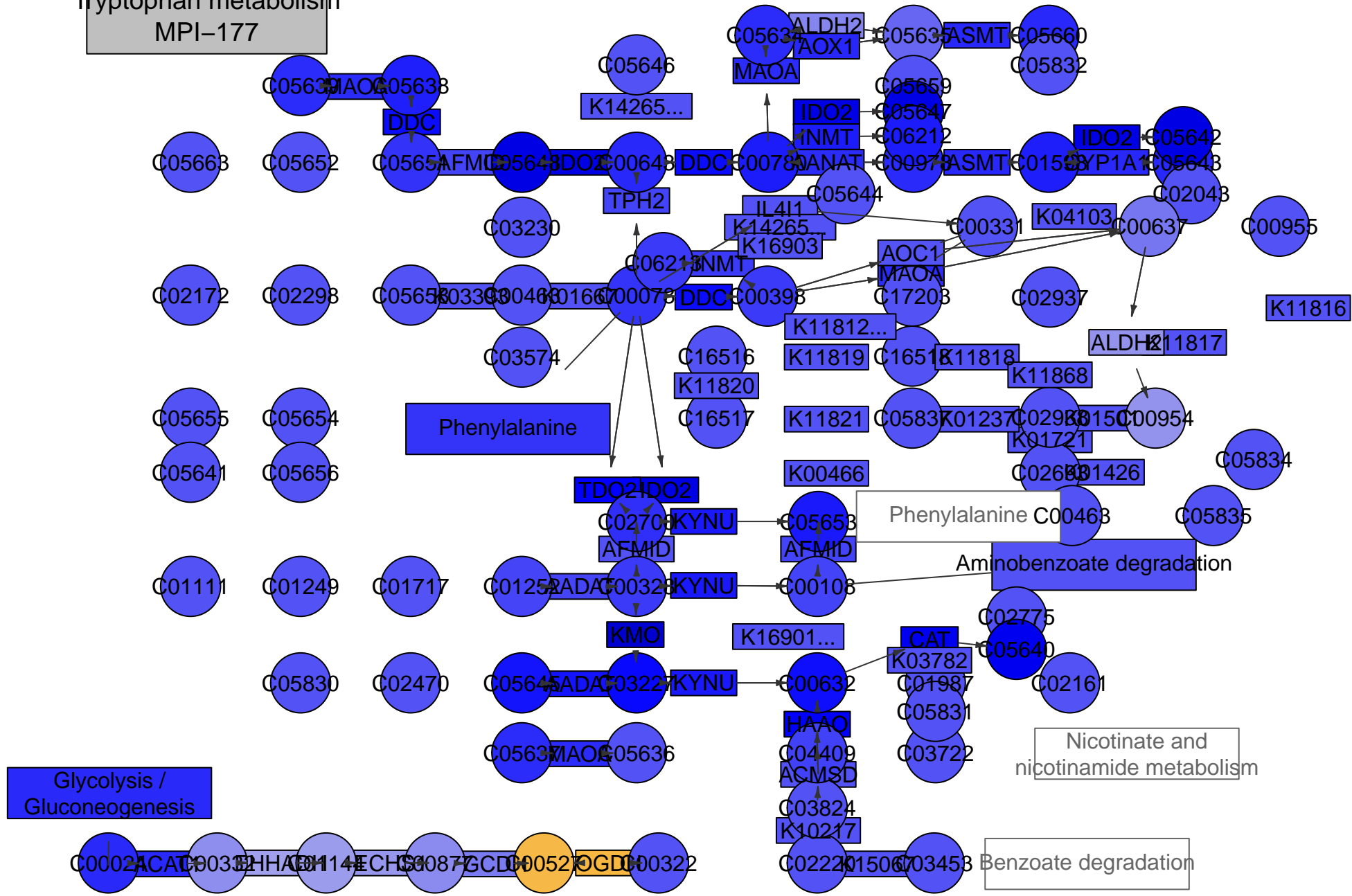




Tryptophan metabolism  
MPI-176



Tryptophan metabolism  
MPI-177

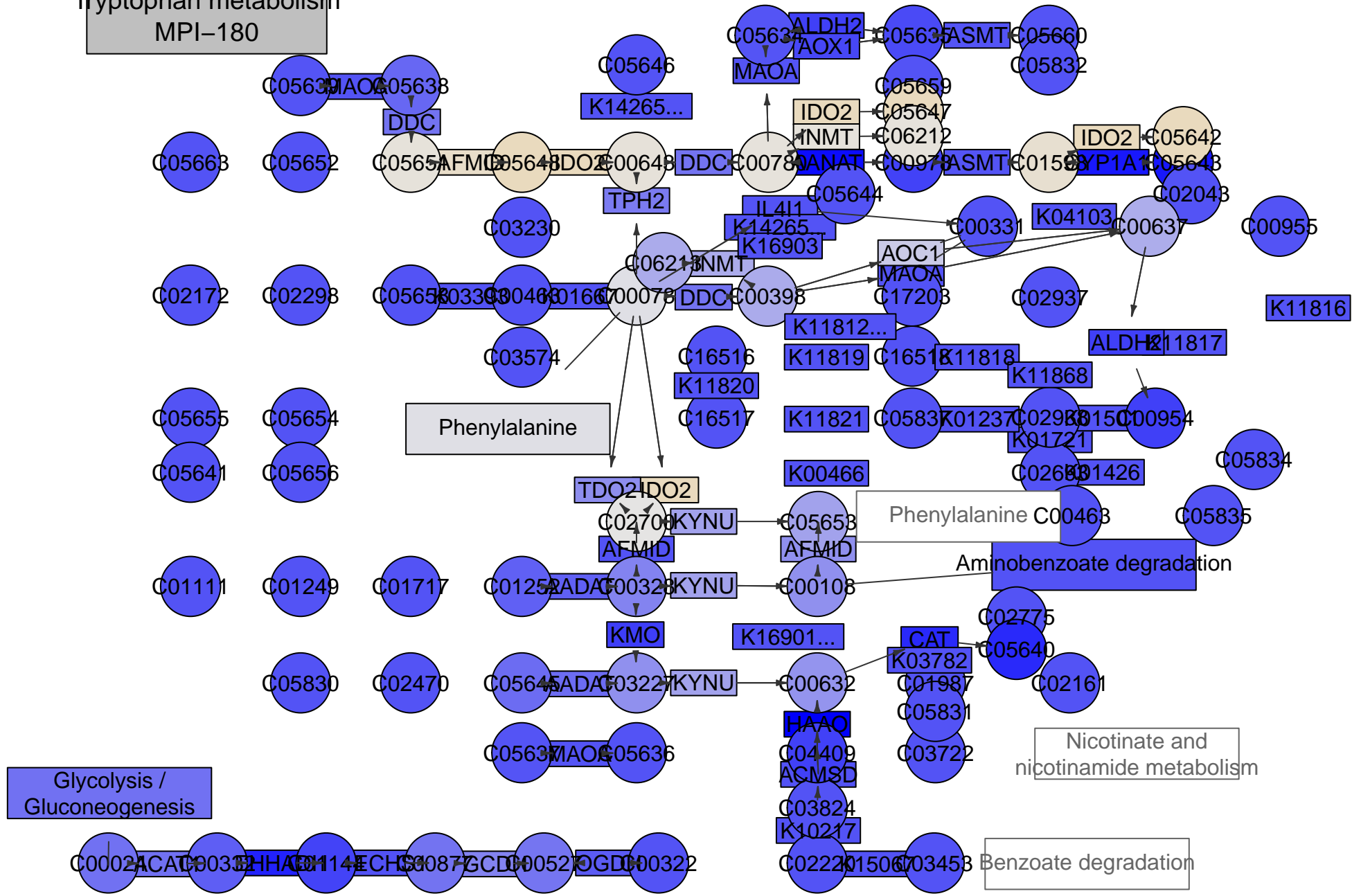








Tryptophan metabolism  
MPI-180



Glycolysis /  
Gluconeogenesis

Phenylalanine

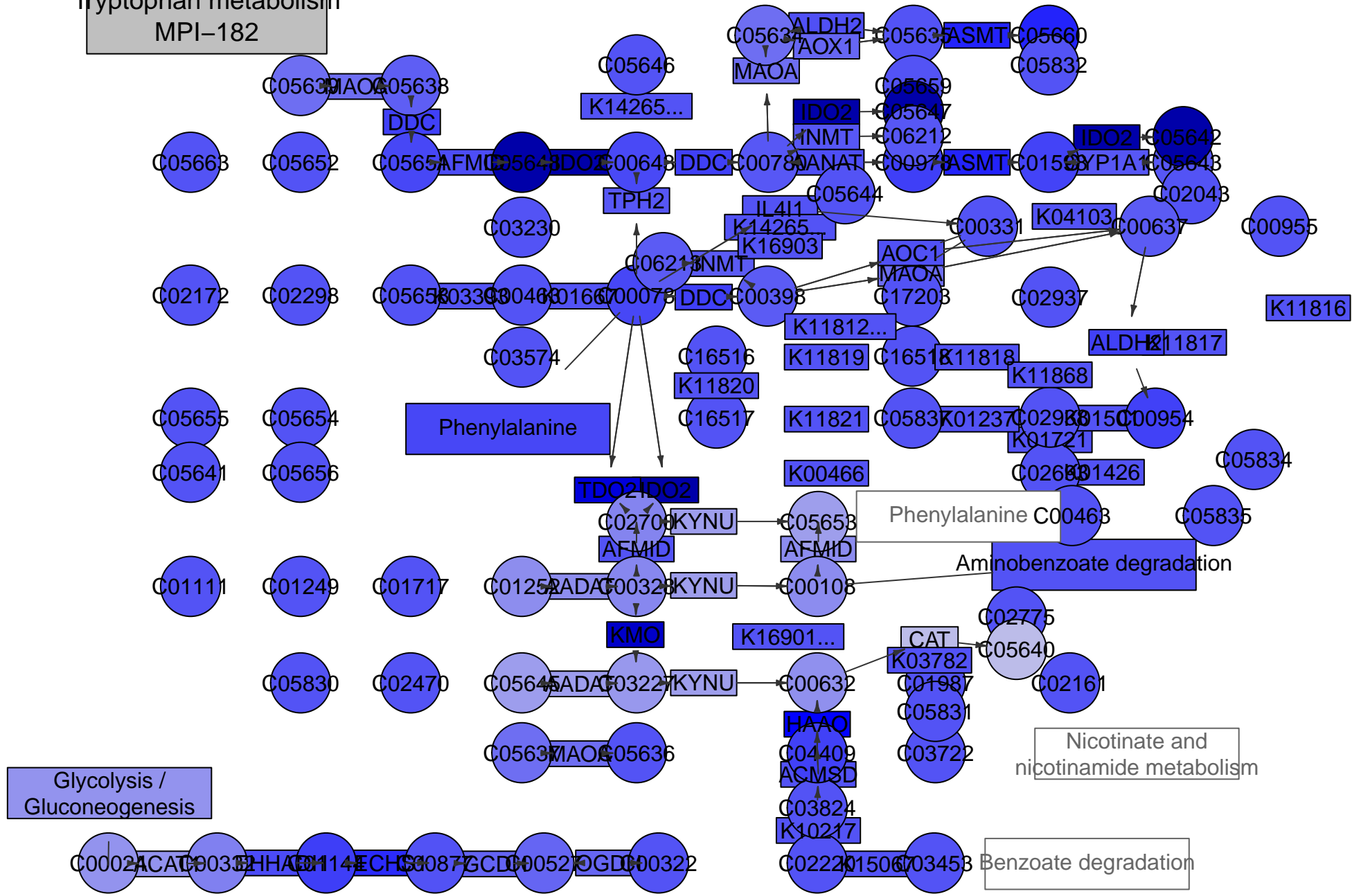
Phenylalanine

Aminobenzoate degradation

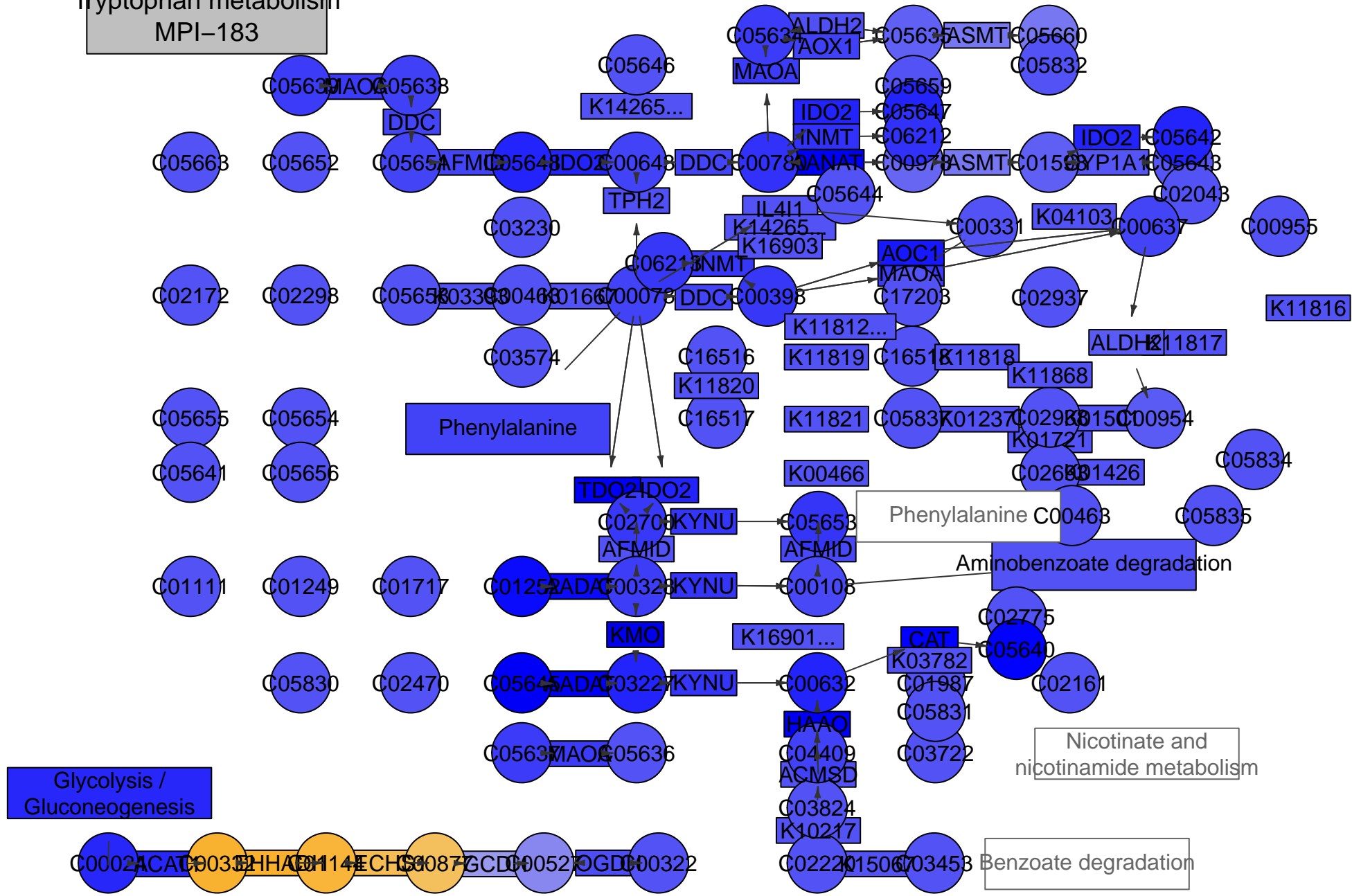
Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Tryptophan metabolism  
MPI-182

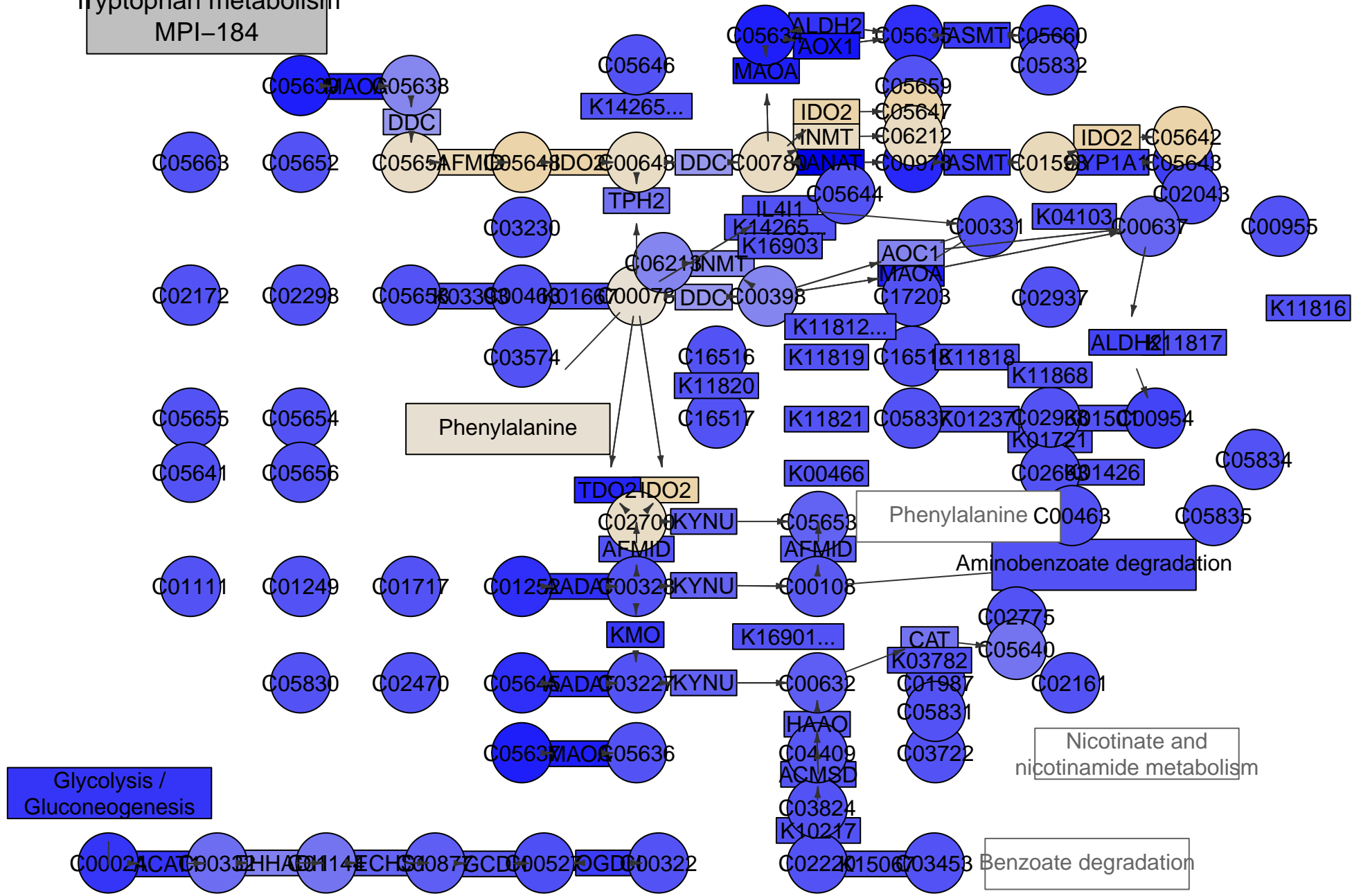


Tryptophan metabolism  
MPI-183



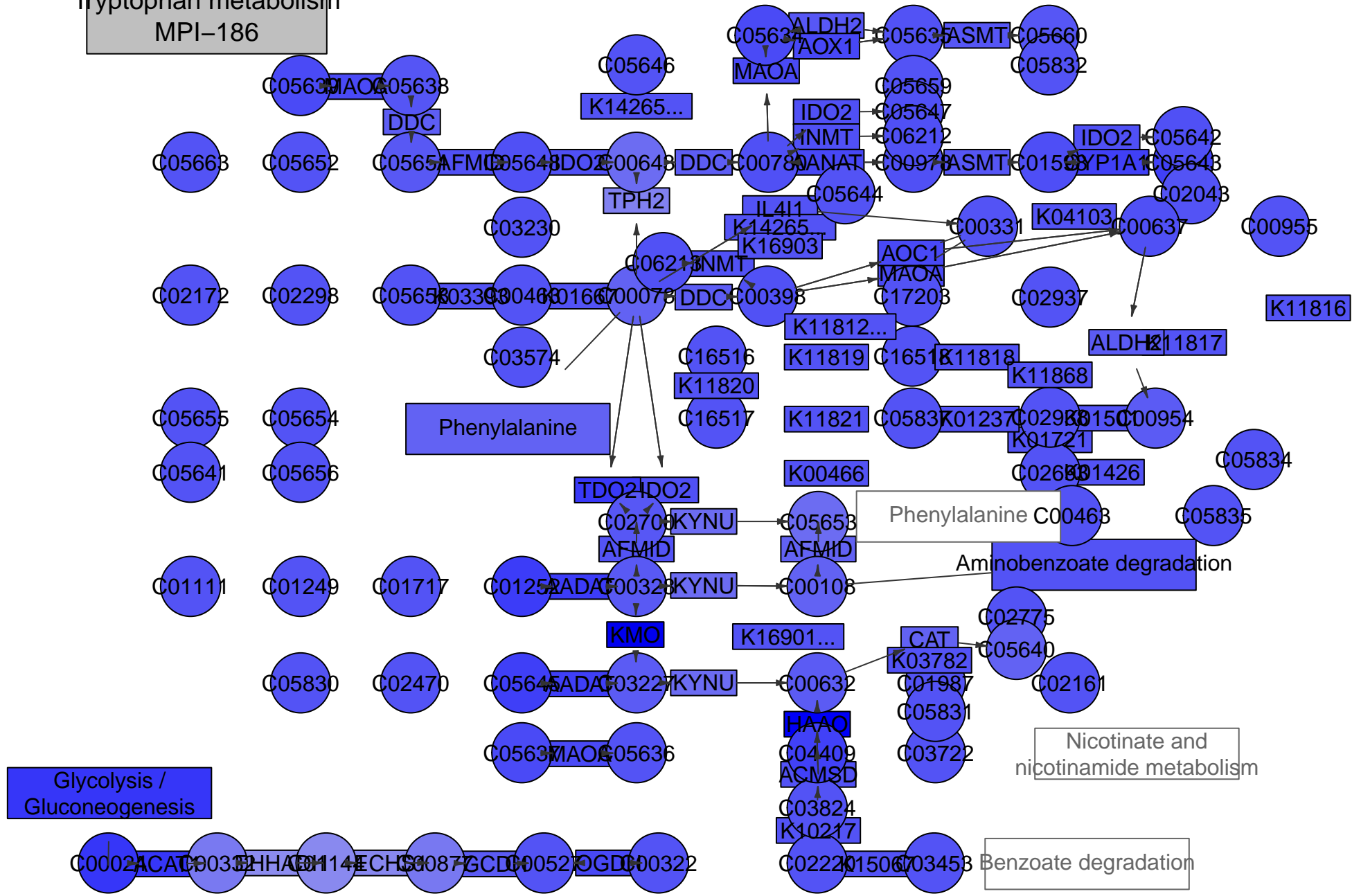


Tryptophan metabolism  
MPI-184





Tryptophan metabolism  
MPI-186



Glycolysis /  
Gluconeogenesis

Nicotinate and  
nicotinamide metabolism

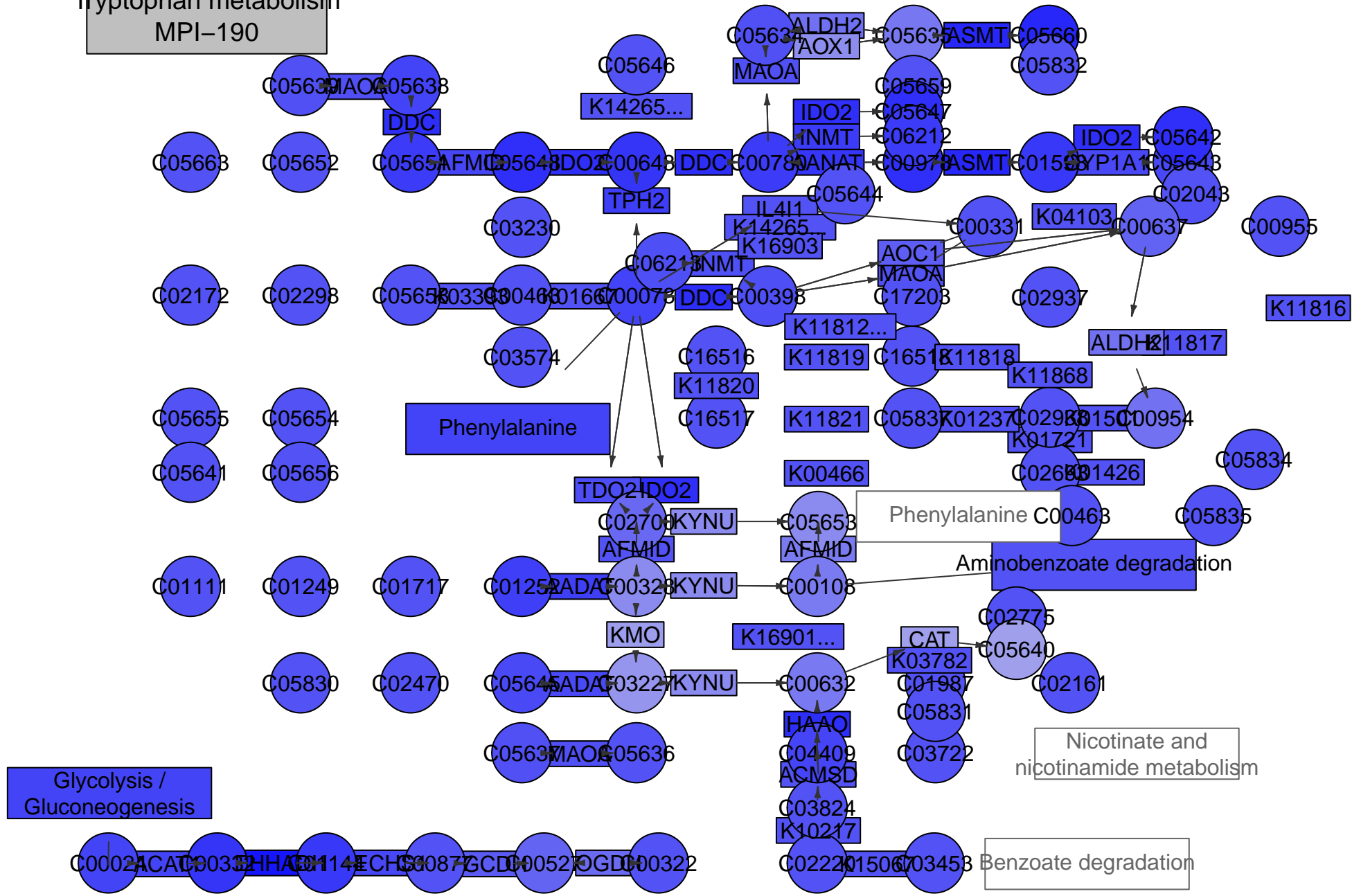
Benzoate degradation



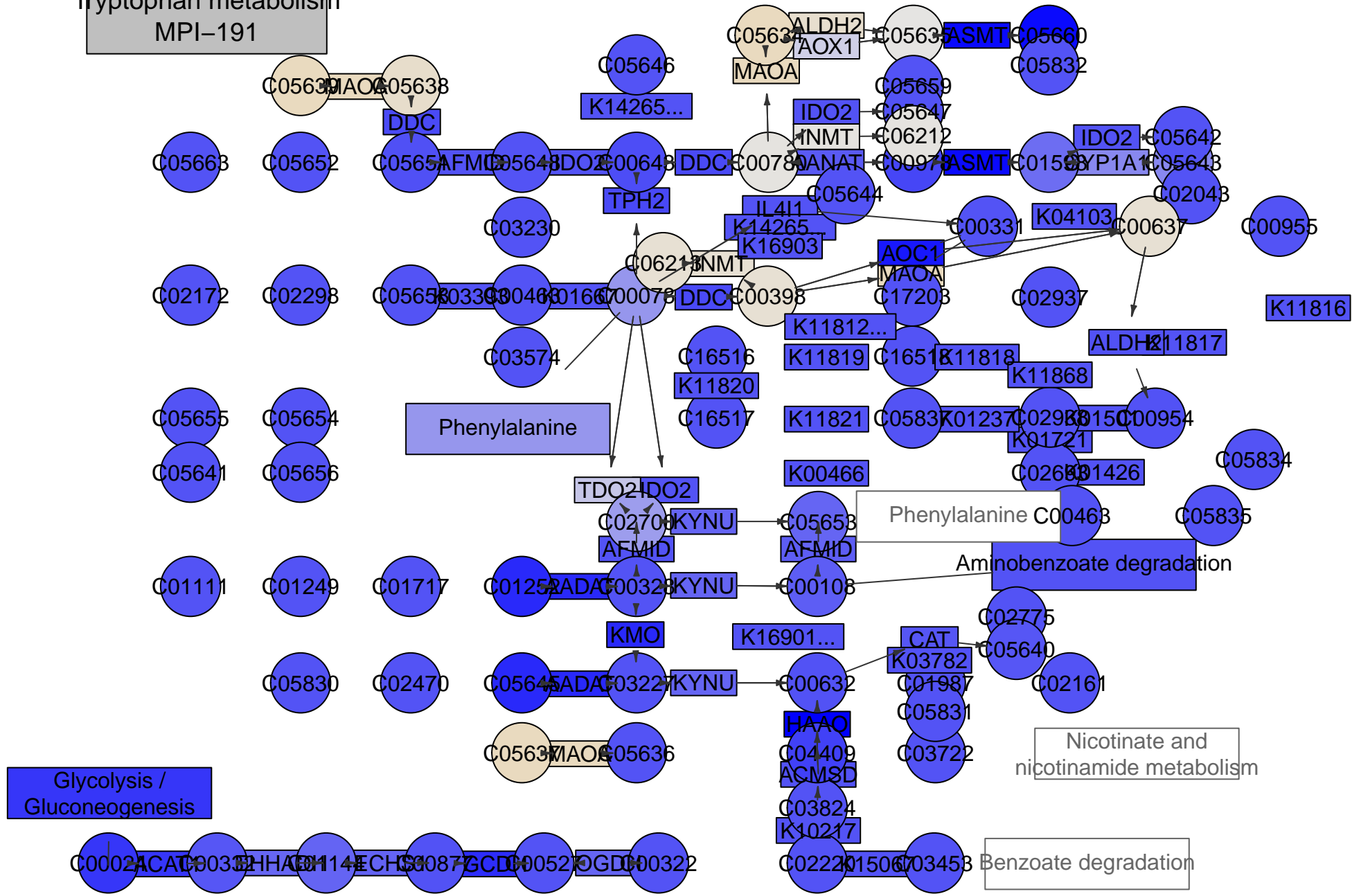




Tryptophan metabolism  
MPI-190



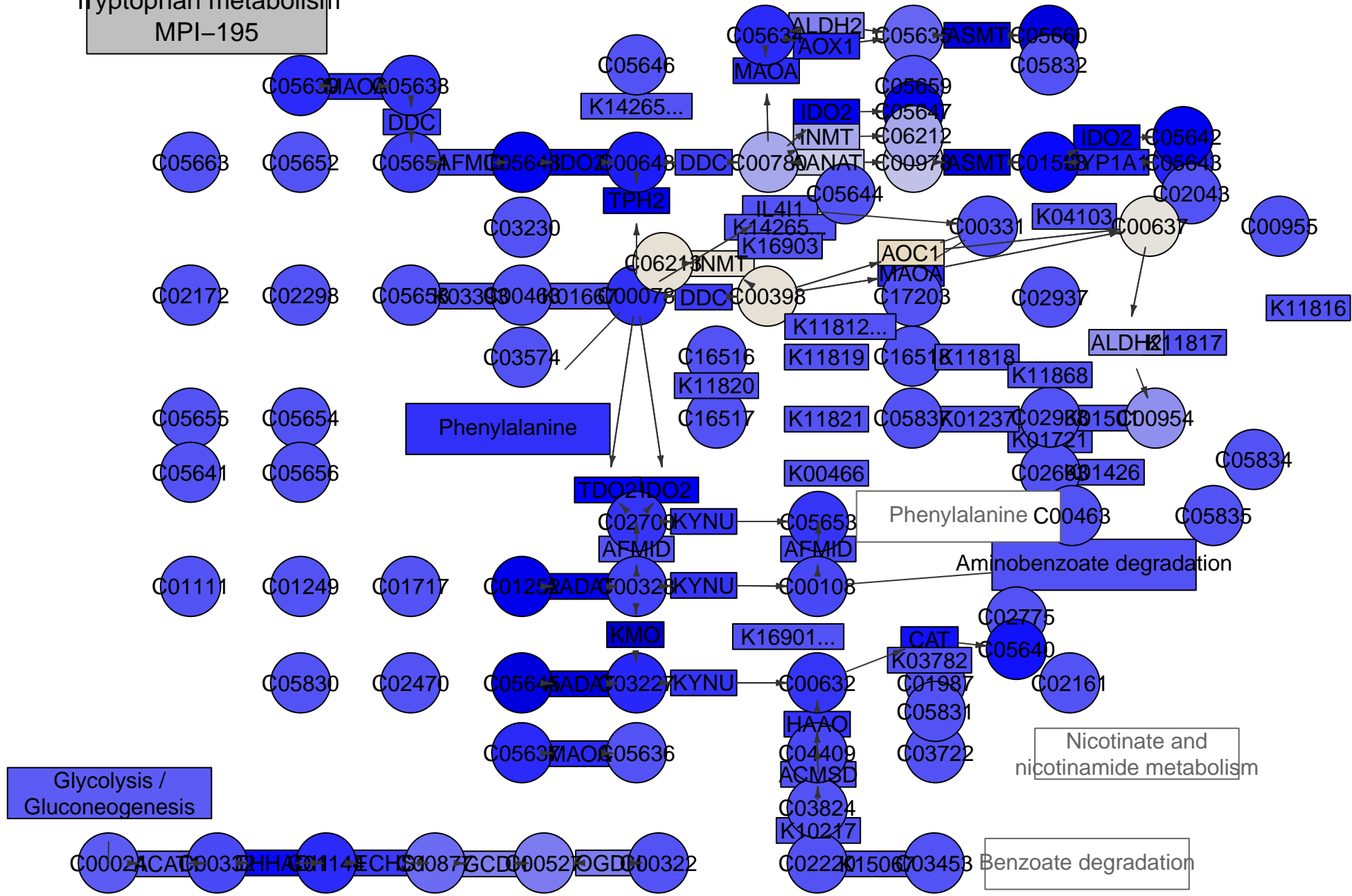
Tryptophan metabolism  
MPI-191





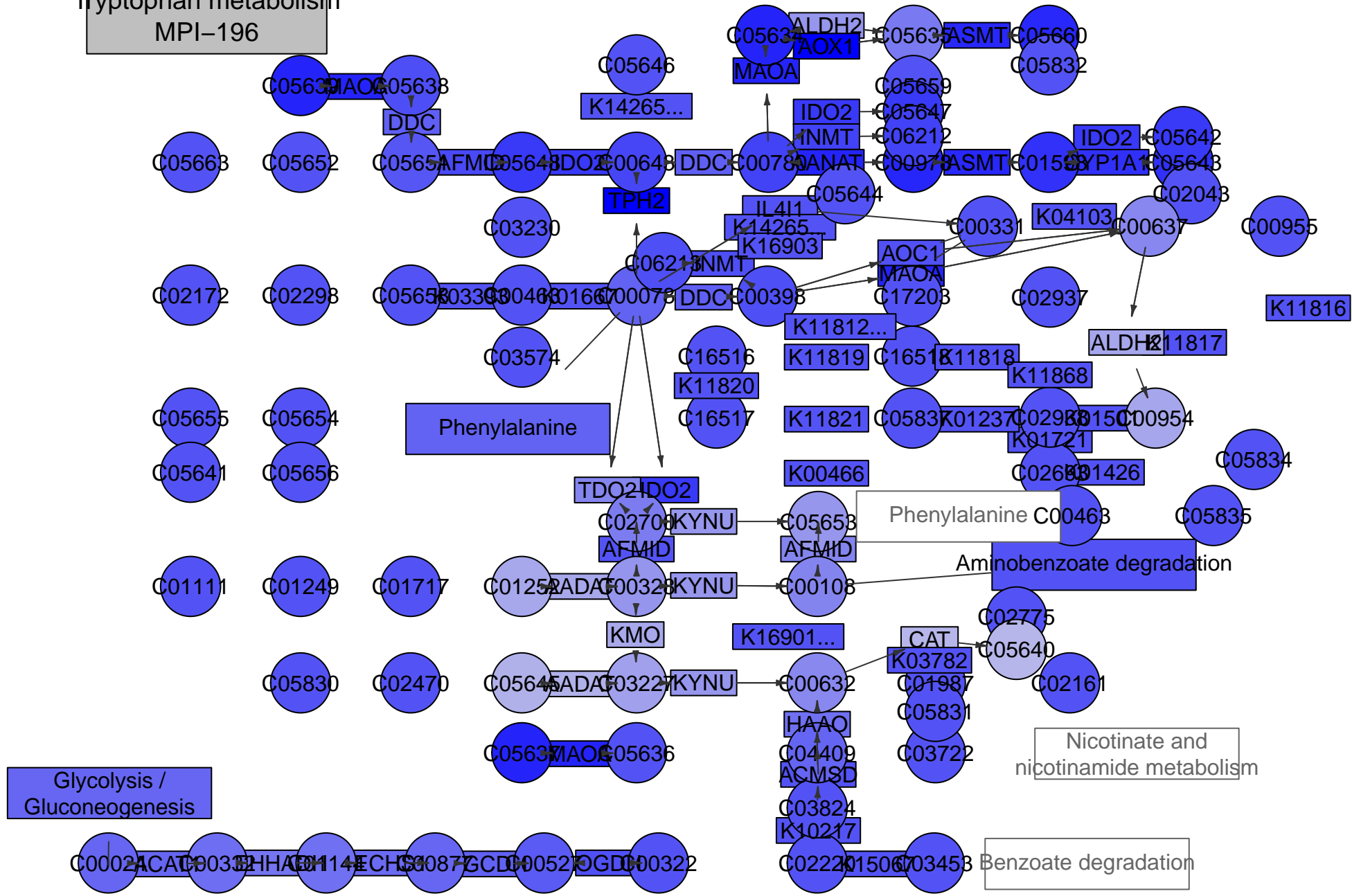


Tryptophan metabolism  
MPI-195





Tryptophan metabolism  
MPI-196





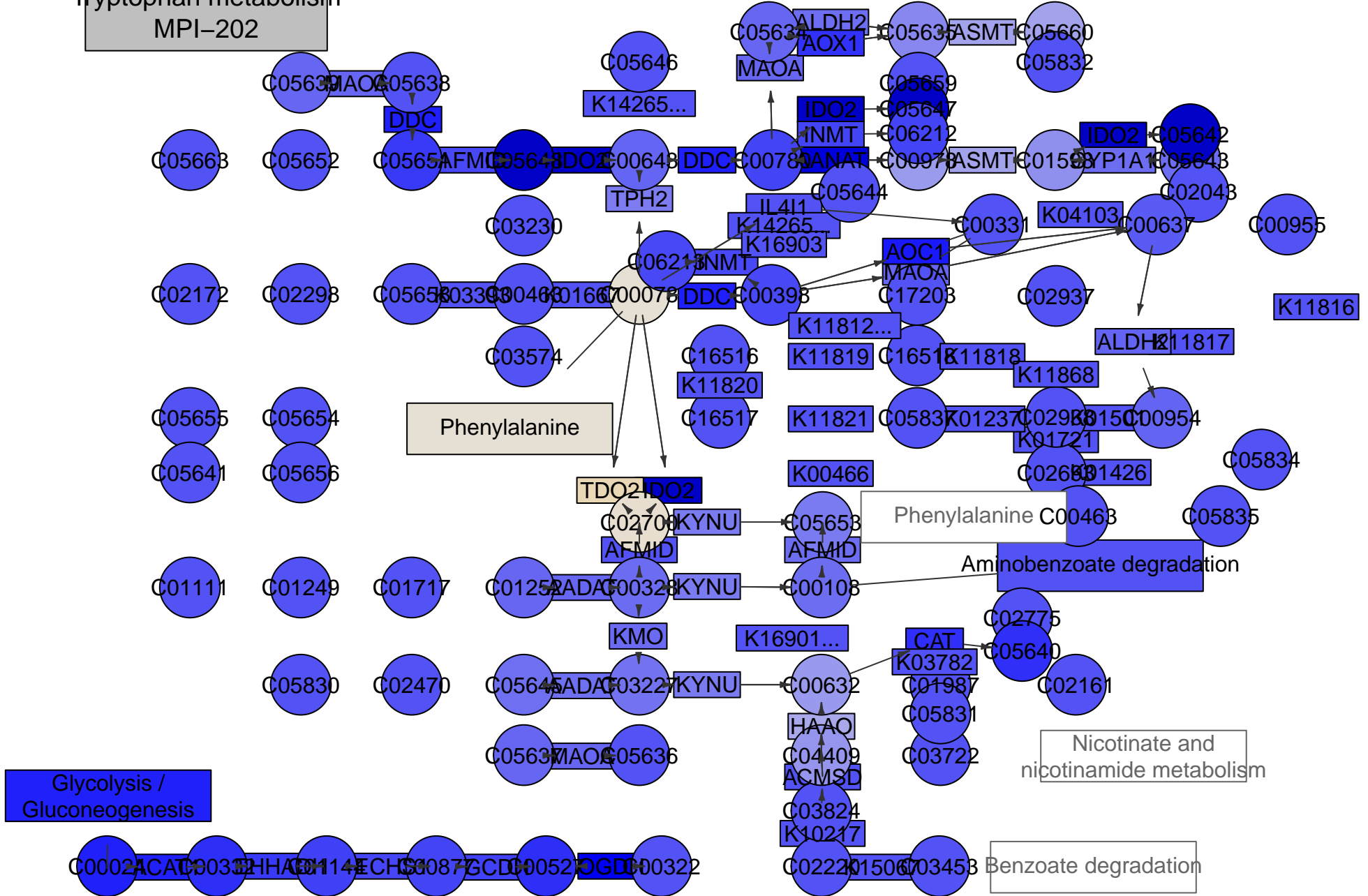




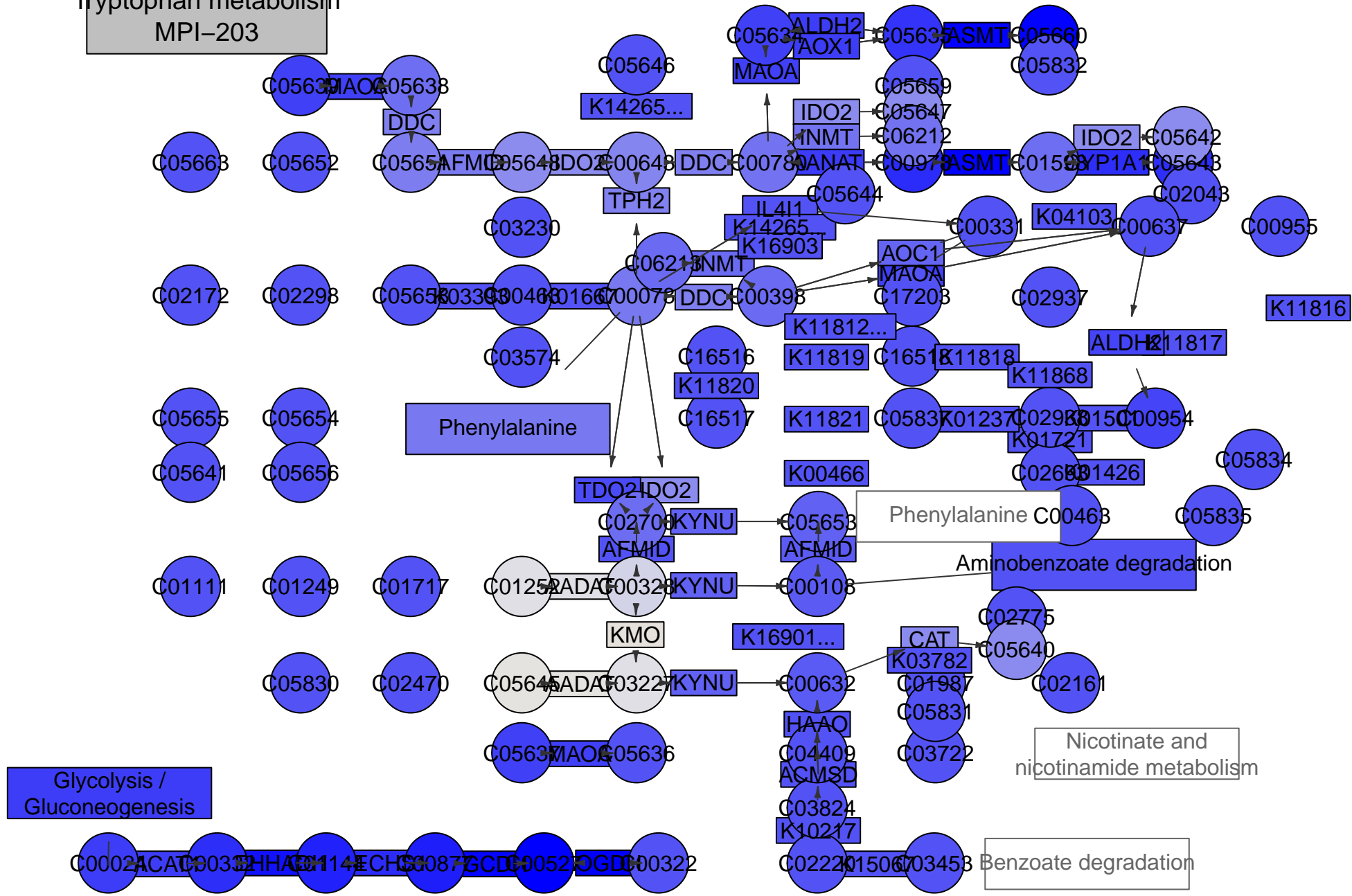




Tryptophan metabolism  
MPI-202



Tryptophan metabolism  
MPI-203

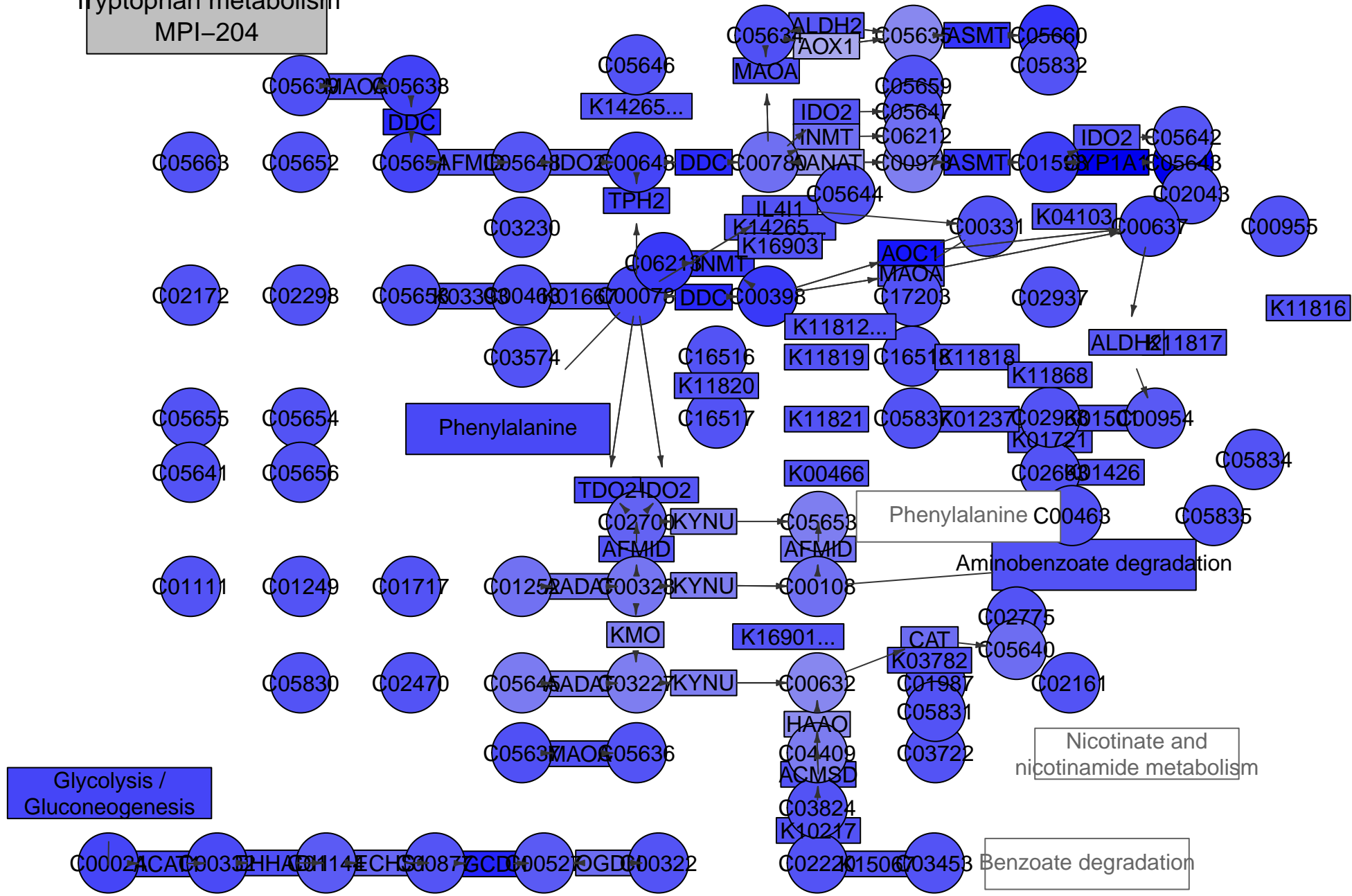


Glycolysis /  
Gluconeogenesis

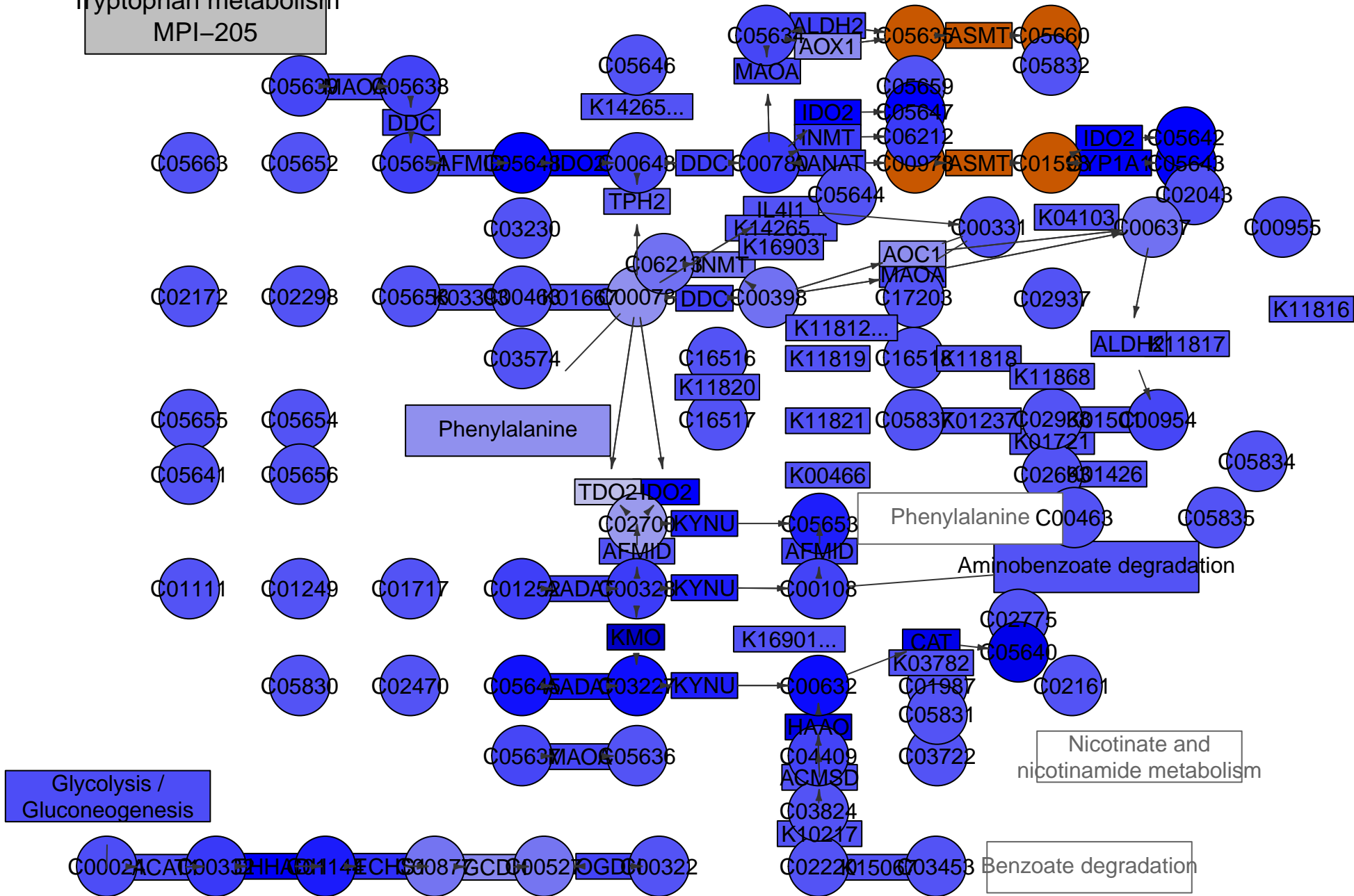
Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Tryptophan metabolism  
MPI-204



Tryptophan metabolism  
MPI-205

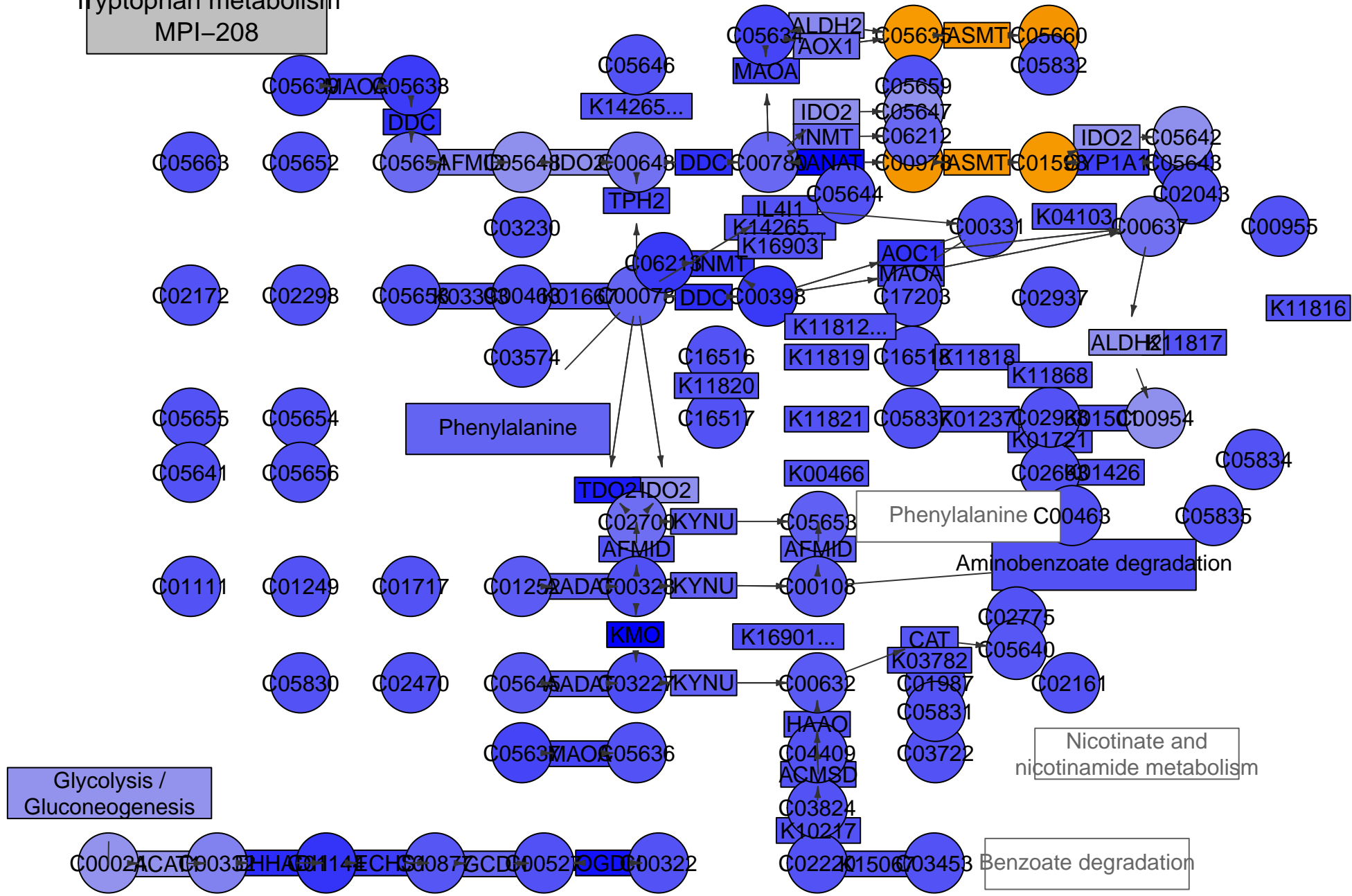








Tryptophan metabolism  
MPI-208



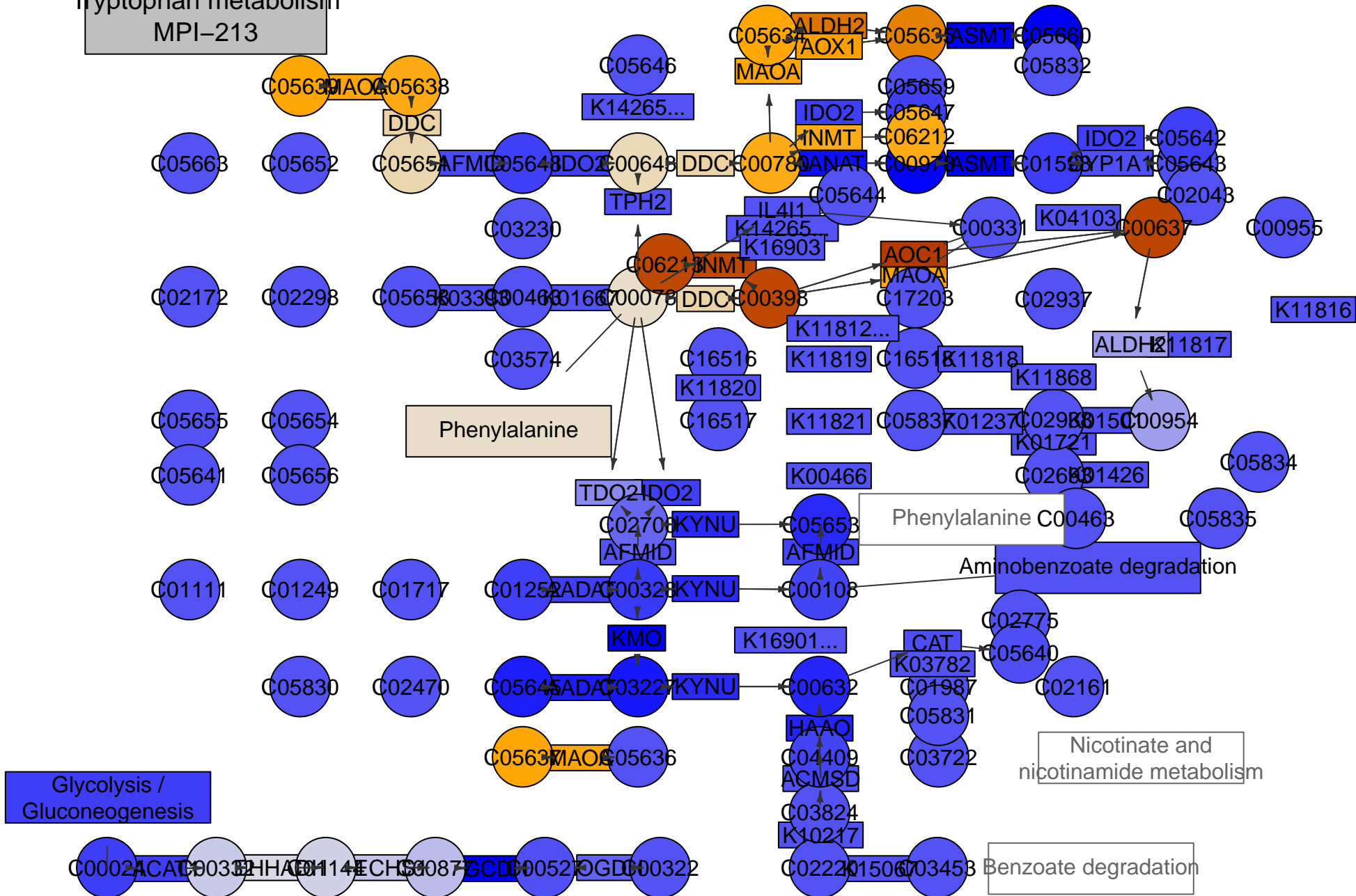




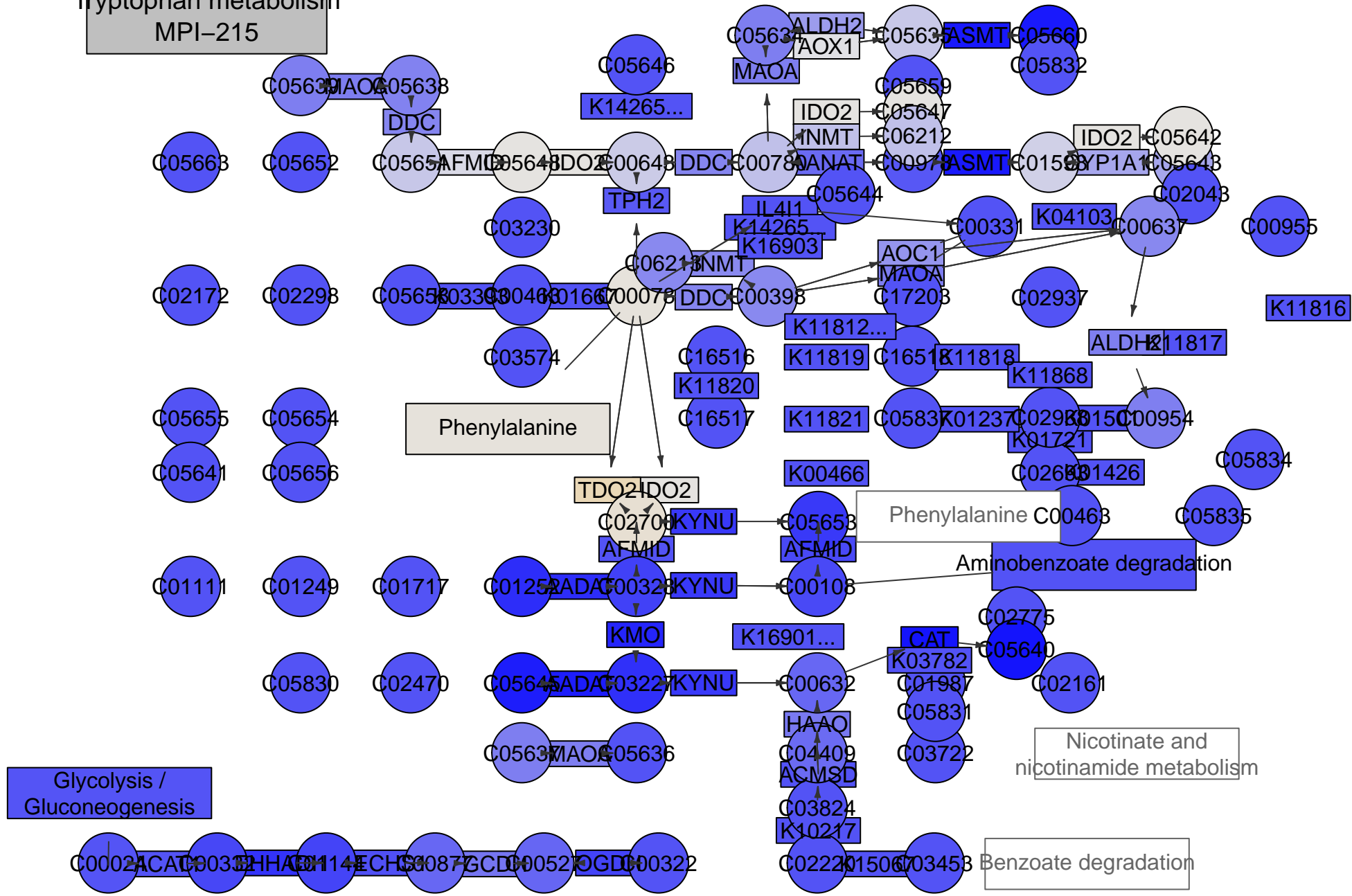




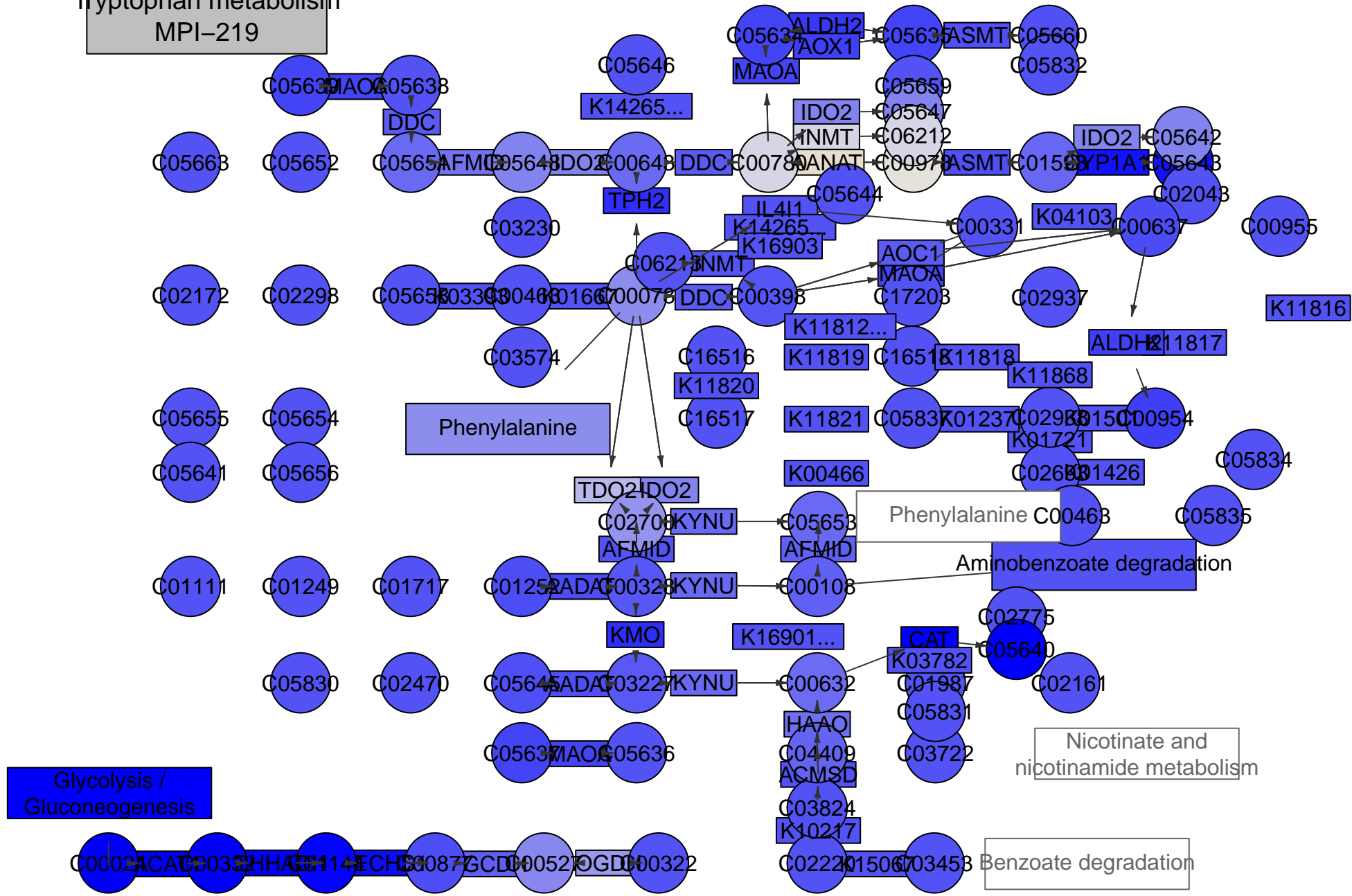
Tryptophan metabolism  
MPI-213



Tryptophan metabolism  
MPI-215



Tryptophan metabolism  
MPI-219



Glycolysis /  
Gluconeogenesis

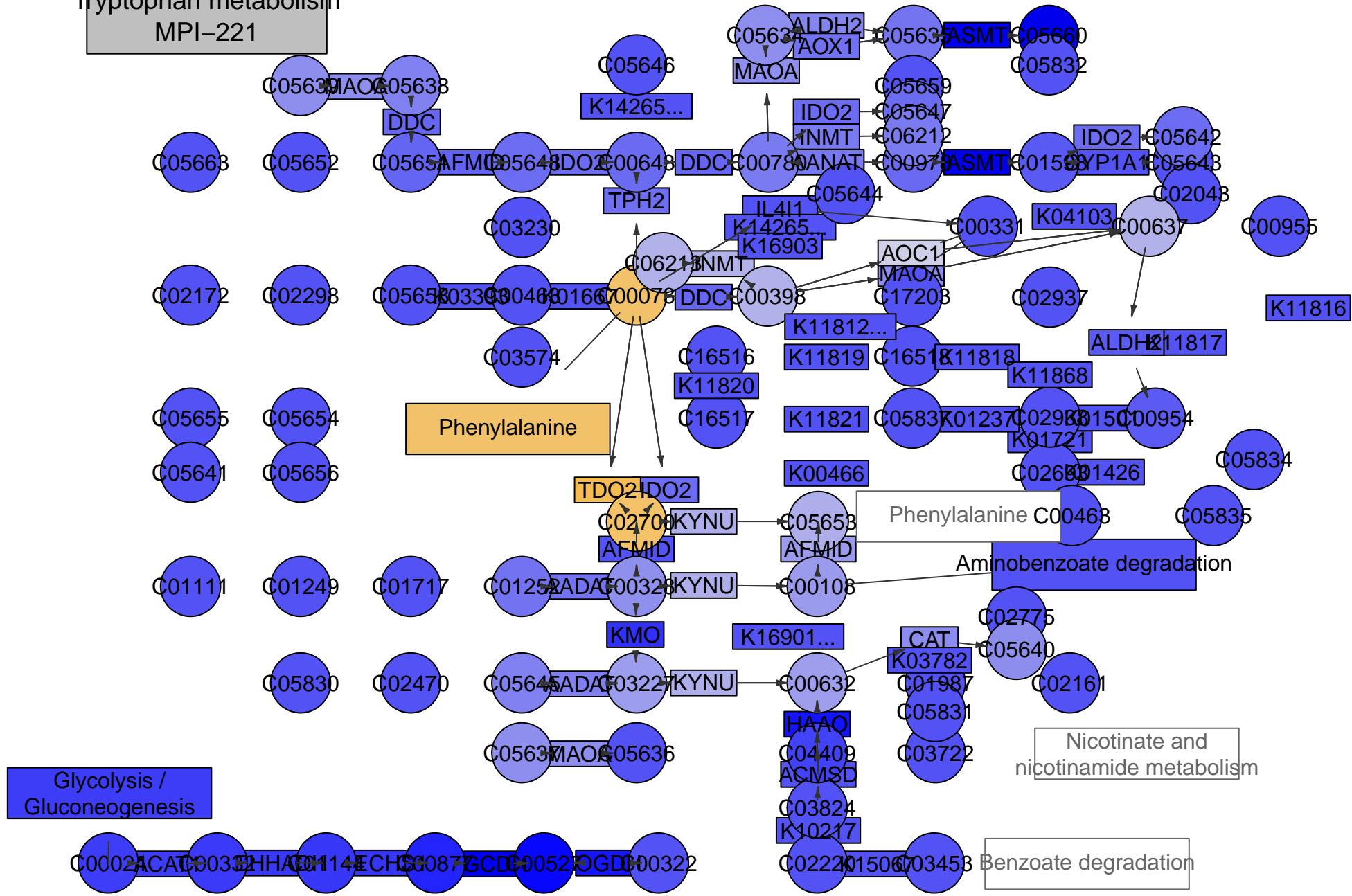
Phenylalanine

Phenylalanine  
Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Tryptophan metabolism  
MPI-221



Phenylalanine

TDO2 IDO2

Phenylalanine

Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Glycolysis /  
Gluconeogenesis

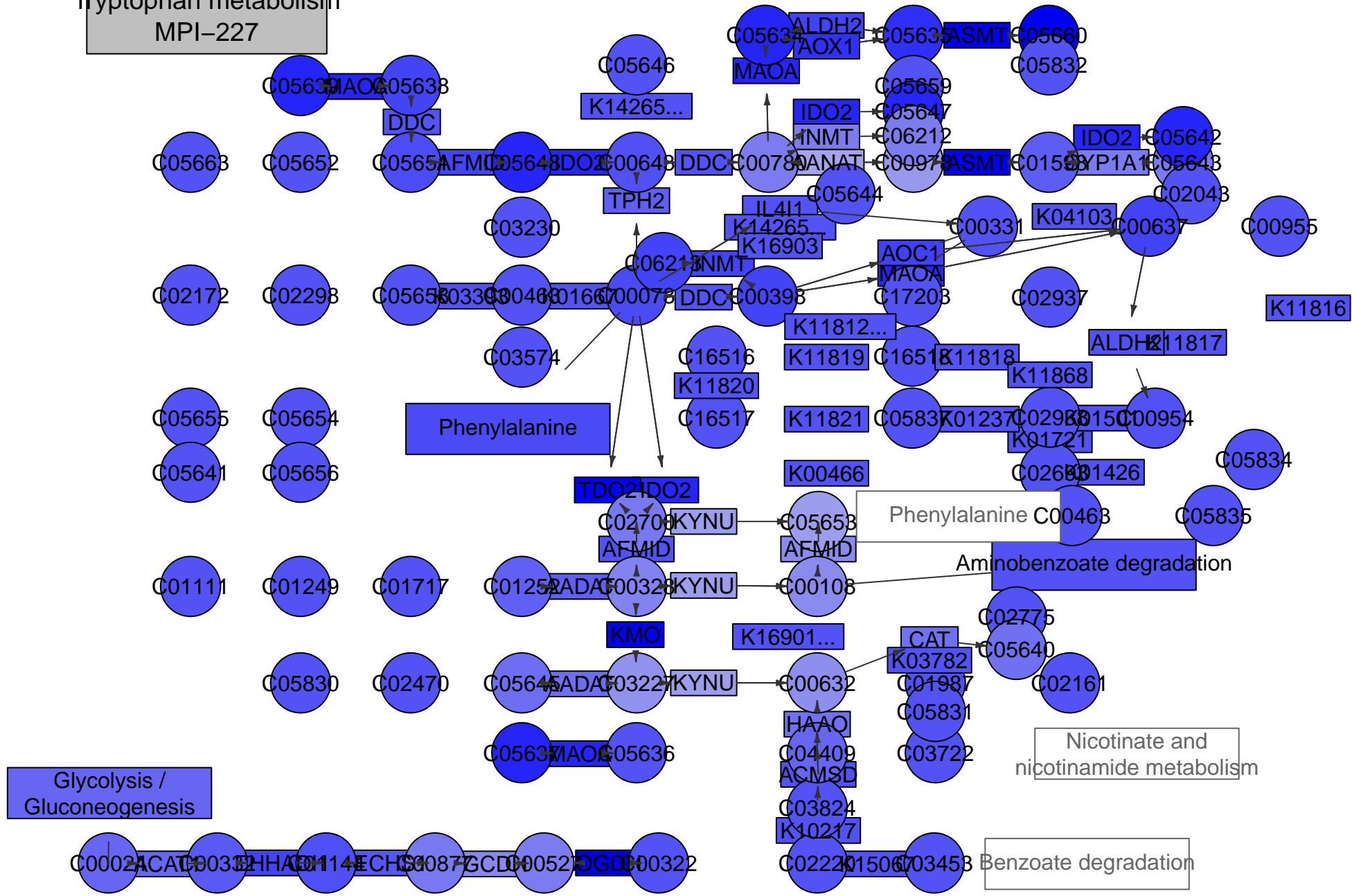




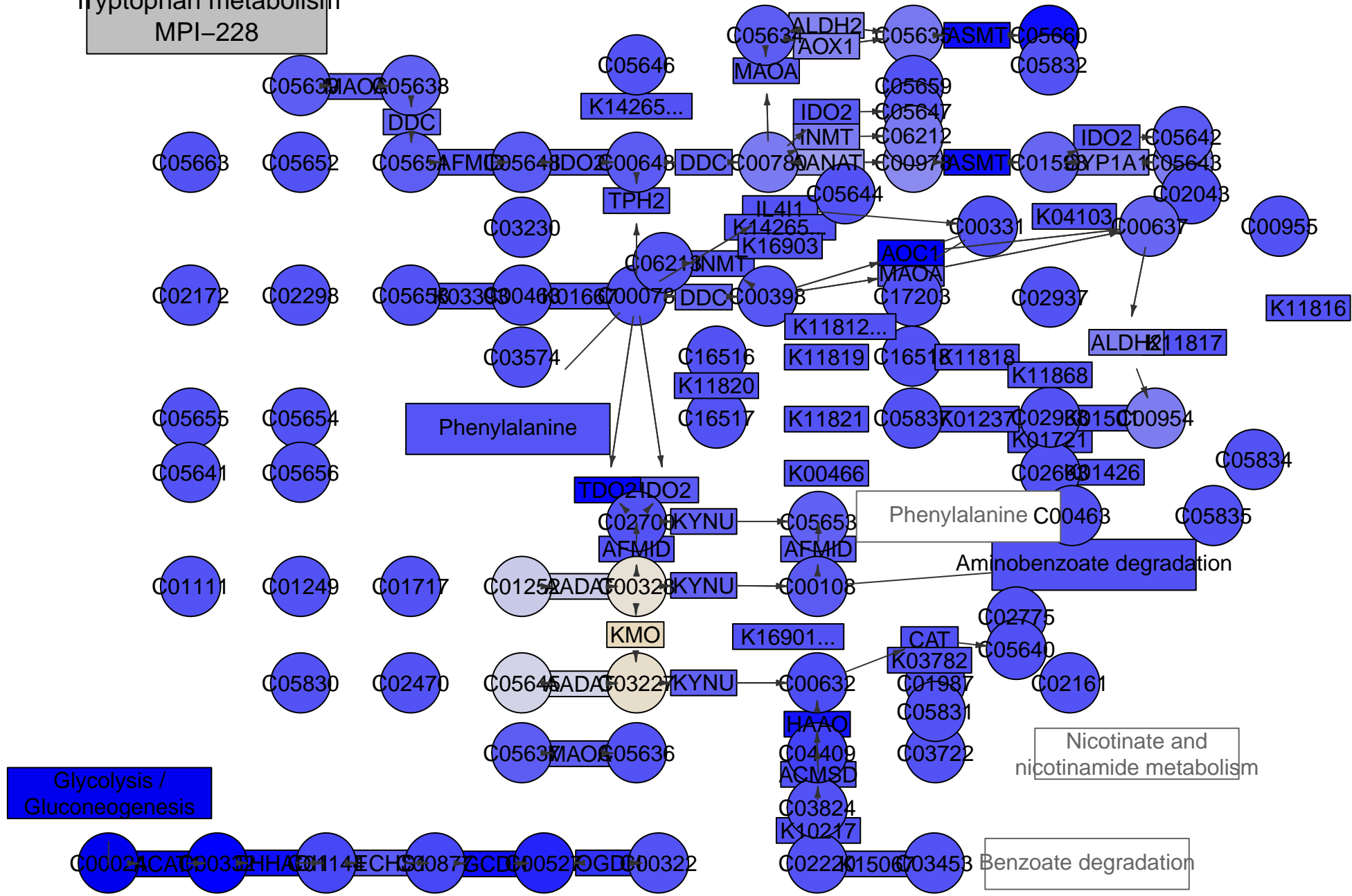




Tryptophan metabolism  
MPI-227



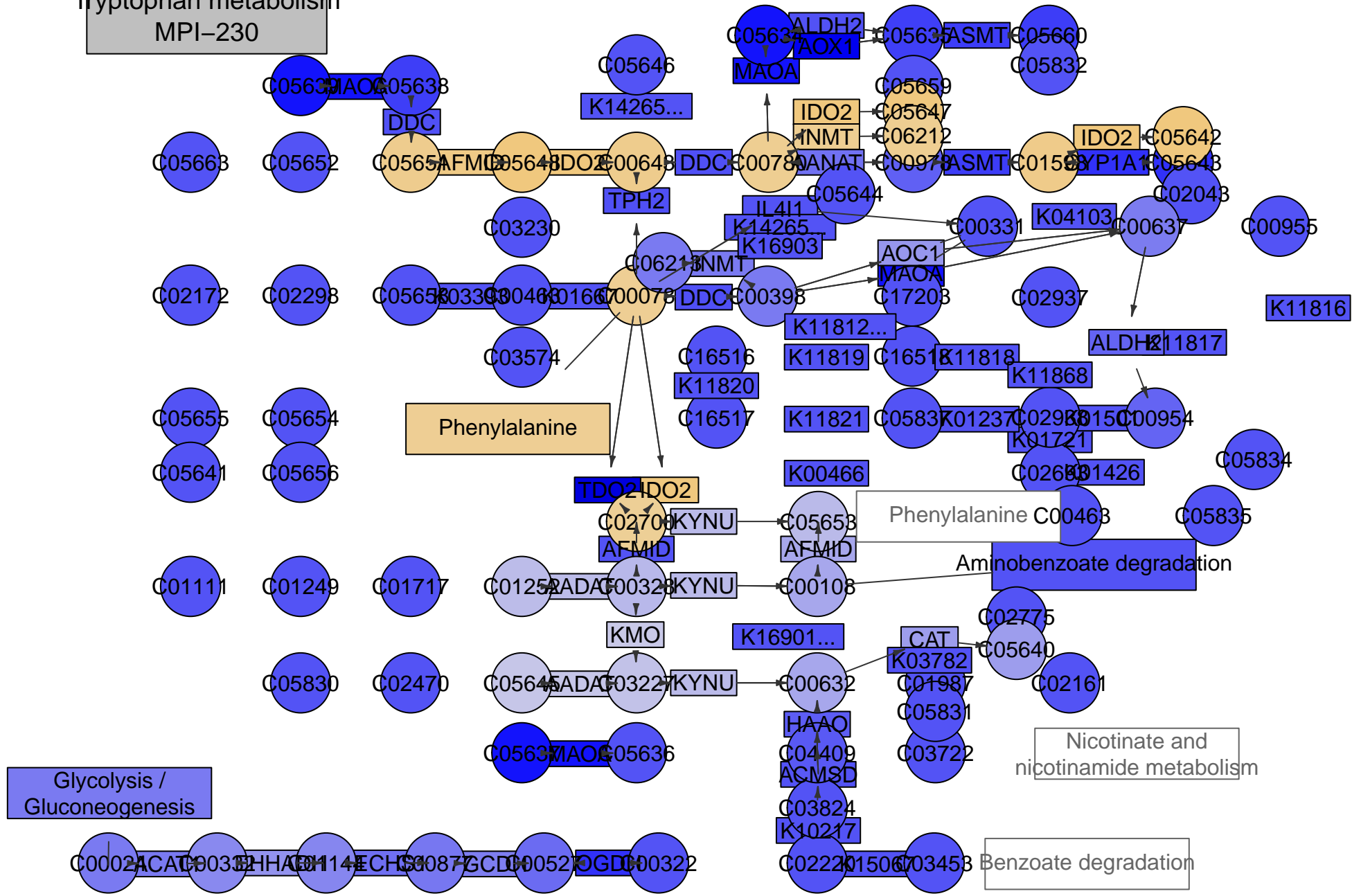
Tryptophan metabolism  
MPI-228







Tryptophan metabolism  
MPI-230

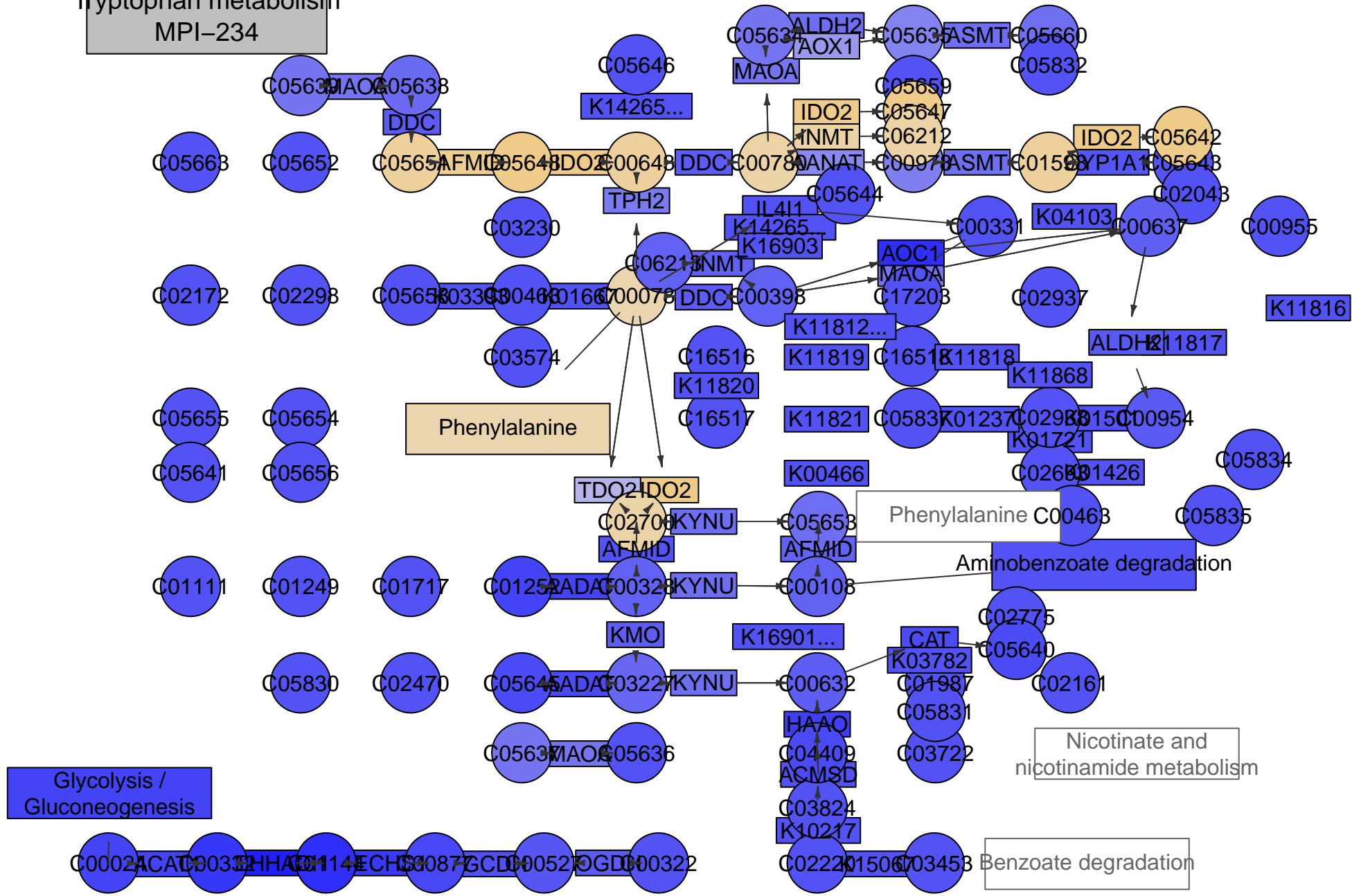






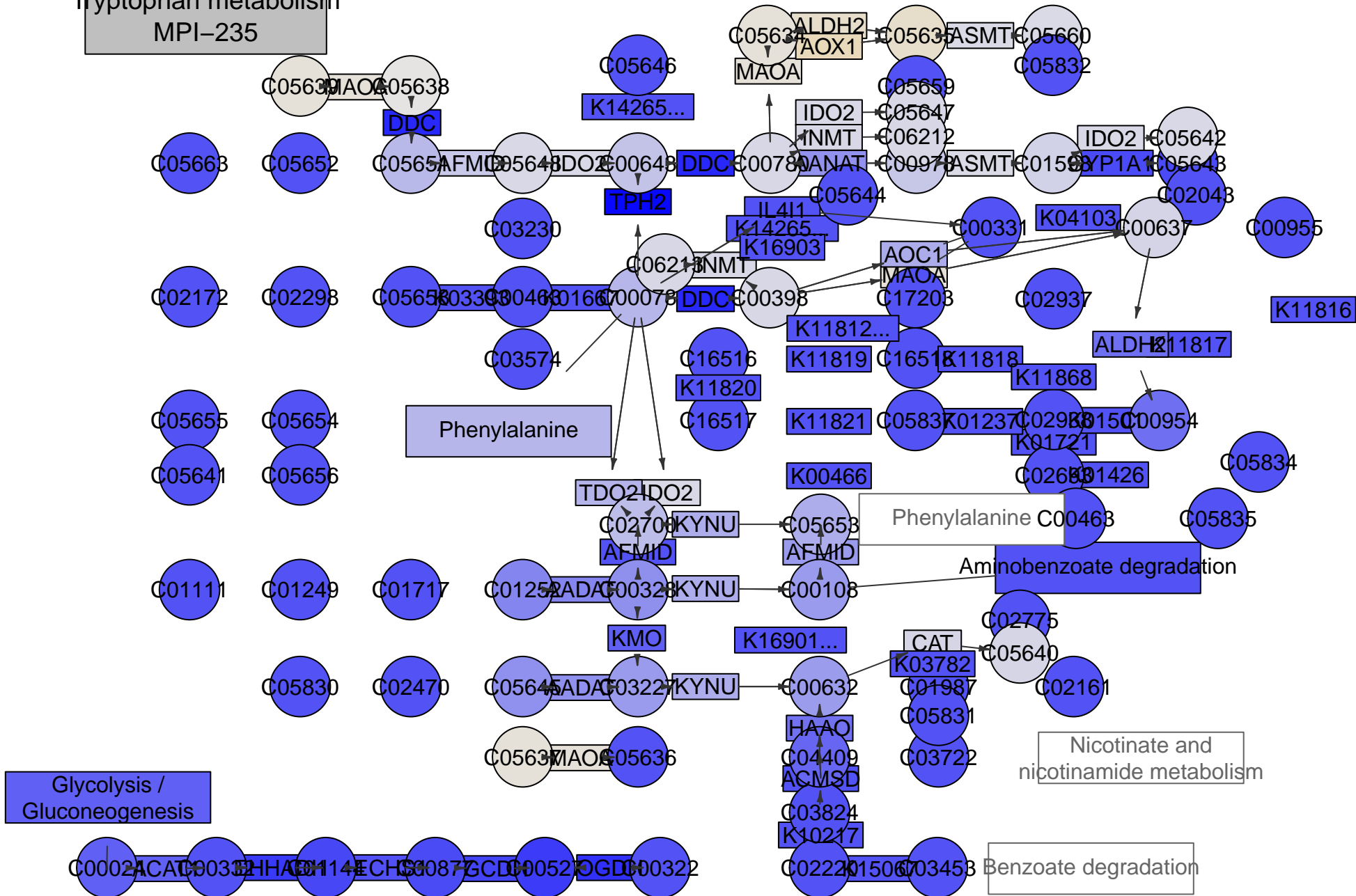


Tryptophan metabolism  
MPI-234

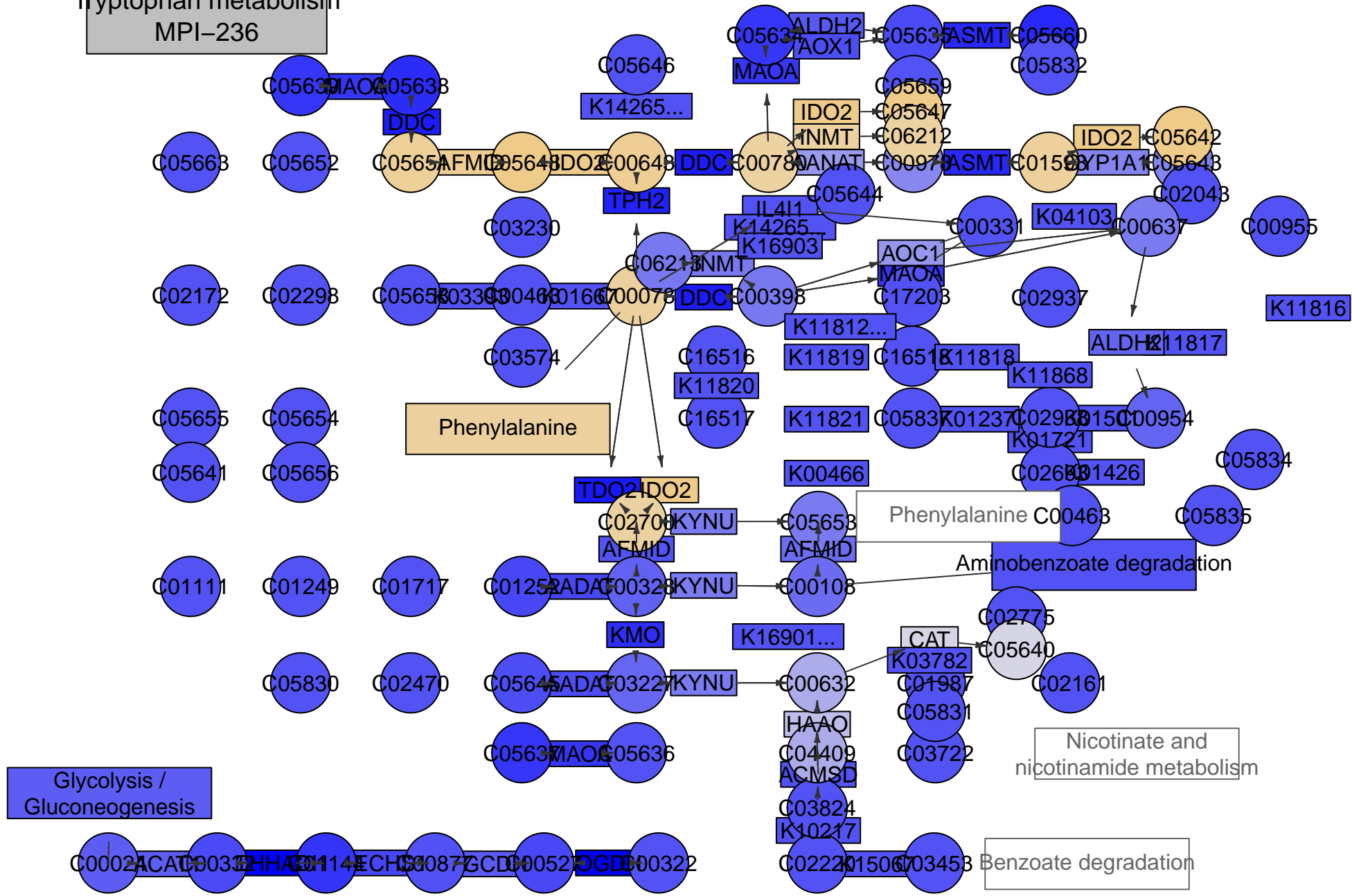




Tryptophan metabolism  
MPI-235



Tryptophan metabolism  
MPI-236



Phenylalanine

Phenylalanine

Aminobenzoate degradation

Benzoate degradation

Nicotinate and  
nicotinamide metabolism

Glycolysis /  
Gluconeogenesis

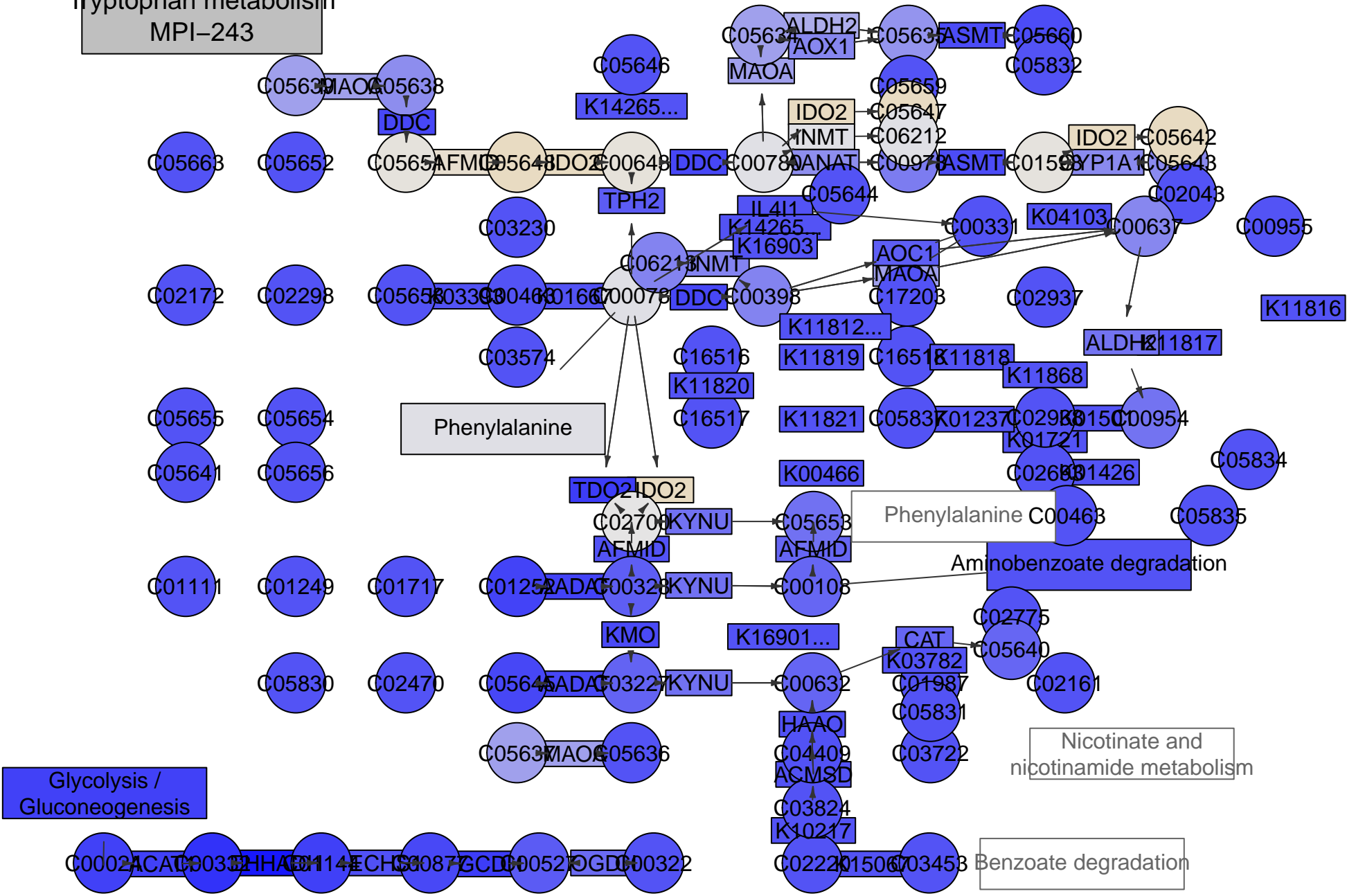








Tryptophan metabolism  
MPI-243



Phenylalanine

Phenylalanine

Aminobenzoate degradation

Nicotinate and  
nicotinamide metabolism

Benzoate degradation

Glycolysis /  
Gluconeogenesis

K11816

C05834

C05835

C02775

C05640

C02161

C05831

C03722

C03824

C0222

C01506

C03453

C00955

C00954

C01237

C02938

C01501

C00954

C02683

C01426

C05834

C05835

C00463

C05835

C00466

K00466

K11821

C05833

K11819

C16517

K11820

C16516

C16517

C00398

K11812...

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

C00398

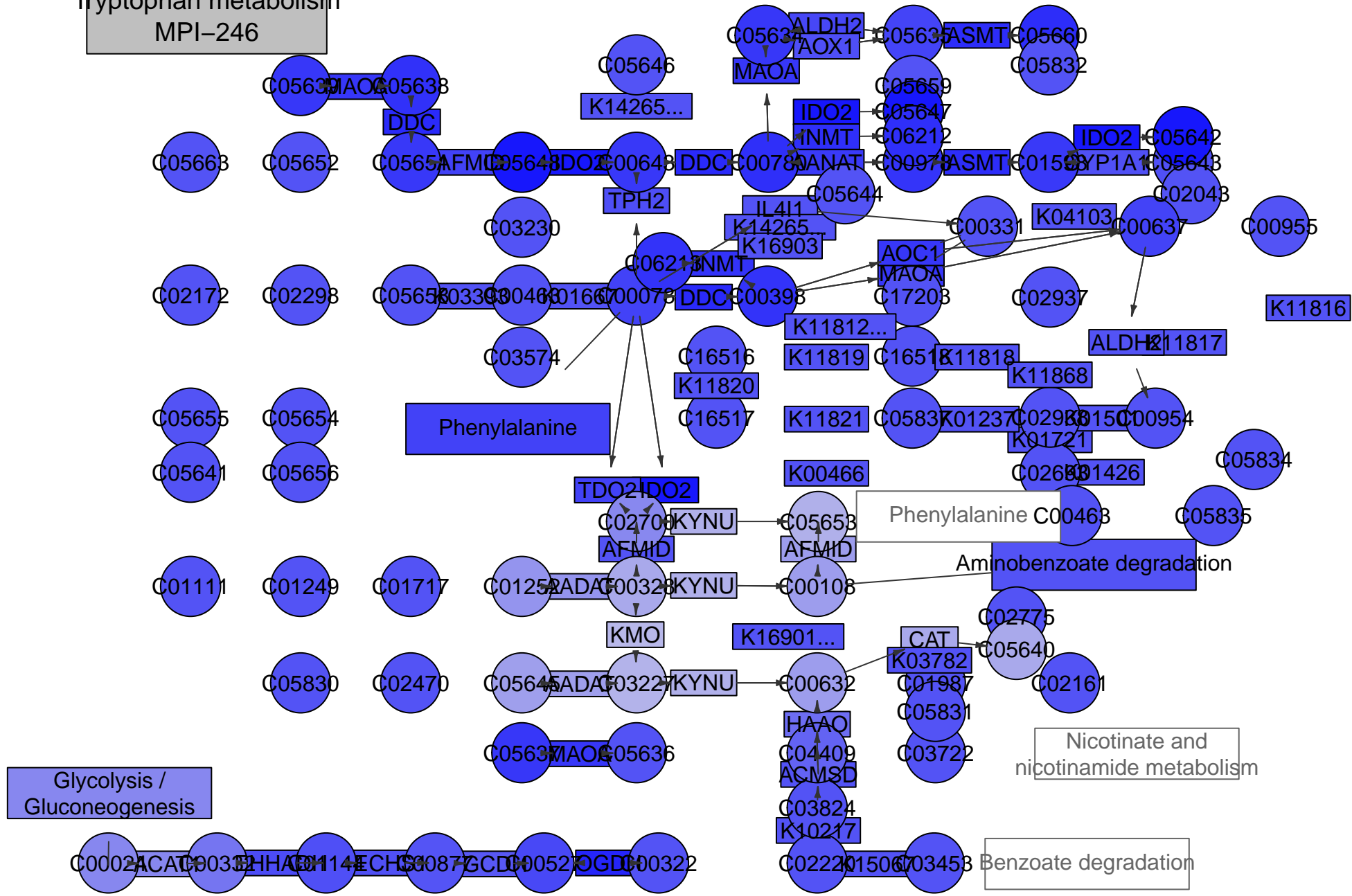
C00398

C00398

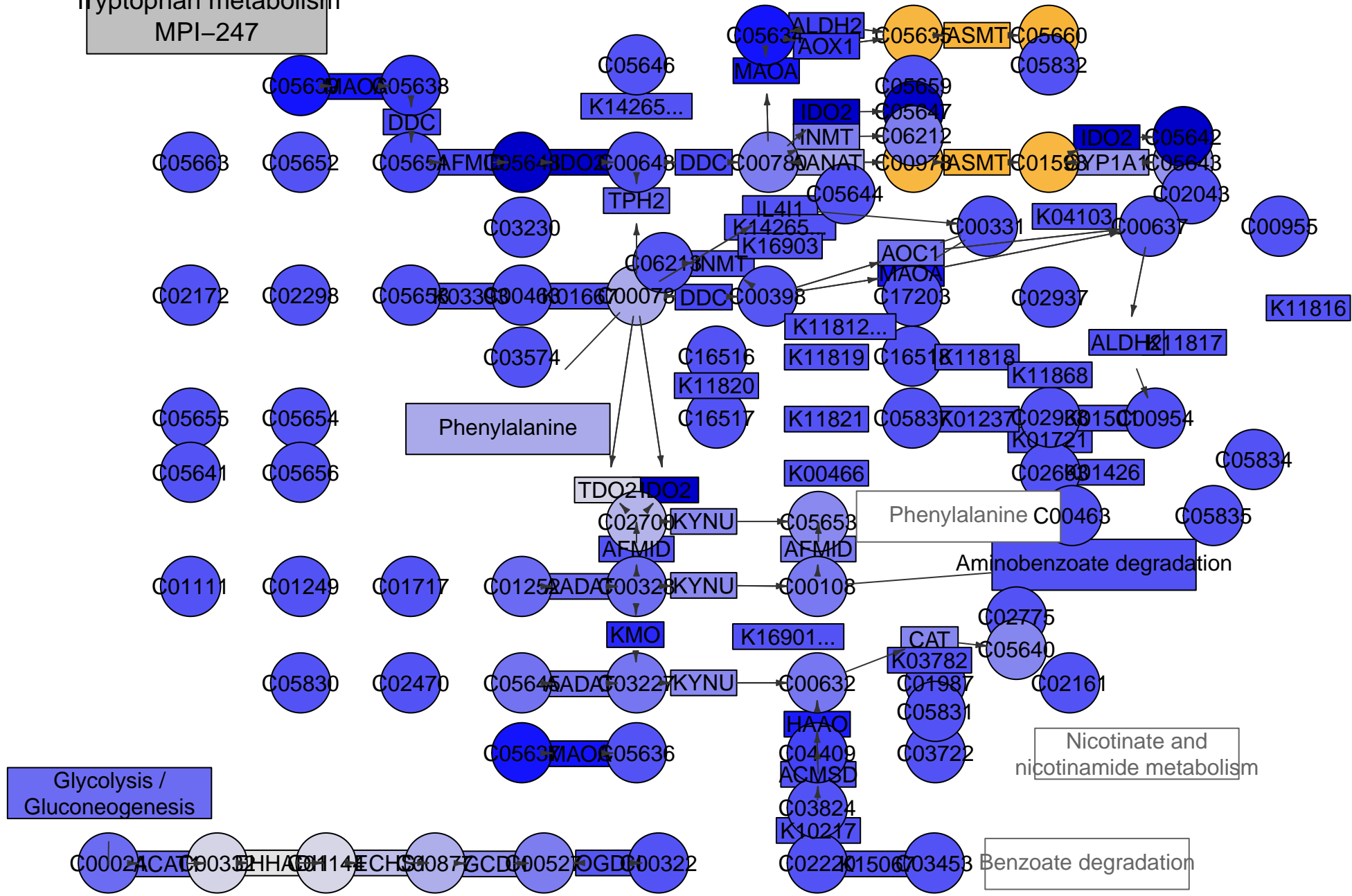
C00398



Tryptophan metabolism  
MPI-246



Tryptophan metabolism  
MPI-247



Glycolysis /  
Gluconeogenesis

Phenylalanine

Phenylalanine  
Aminobenzoate degradation

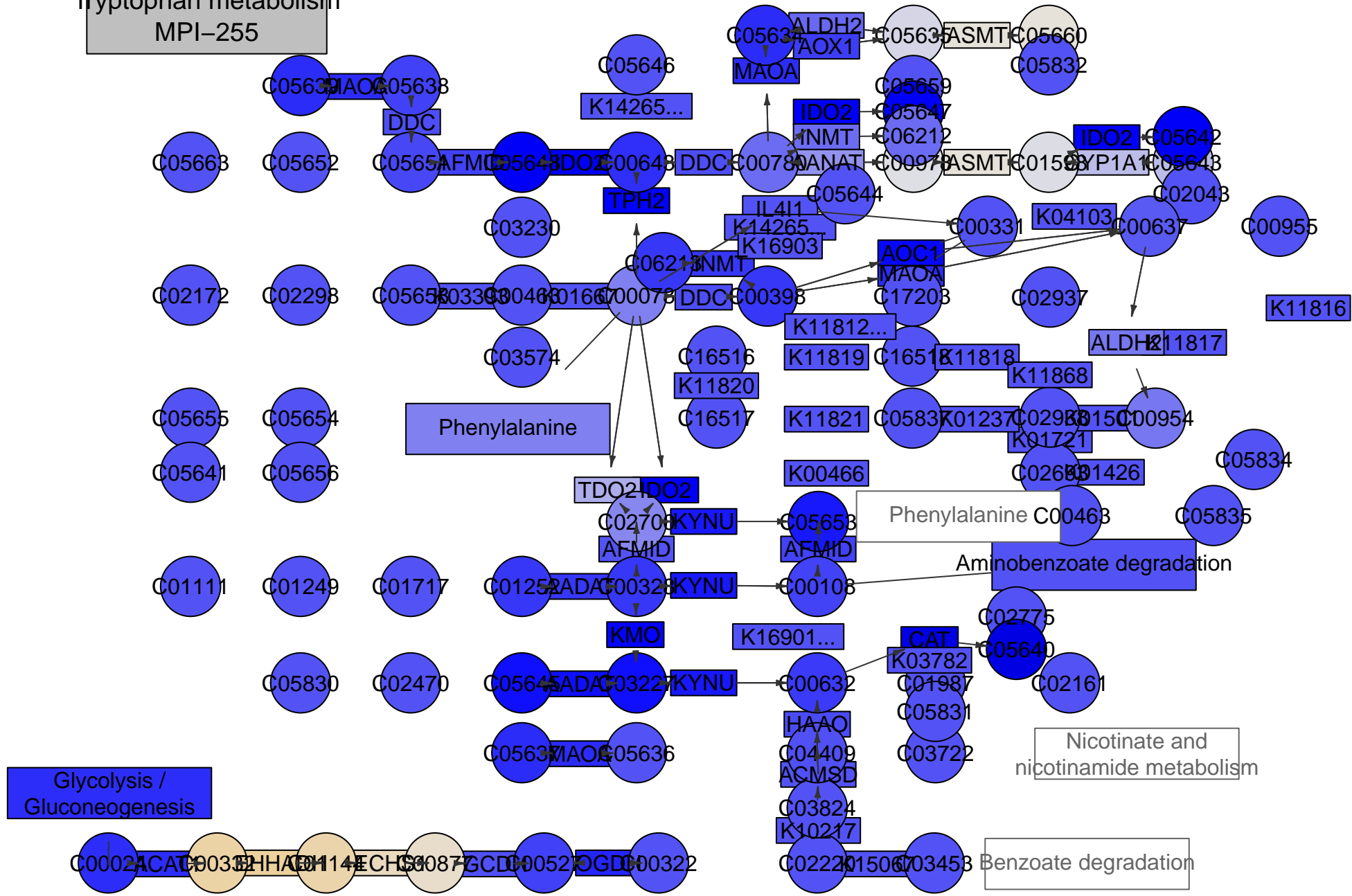
Nicotinate and  
nicotinamide metabolism

Benzoate degradation





Tryptophan metabolism  
MPI-255



Tryptophan metabolism  
MPI-223b

