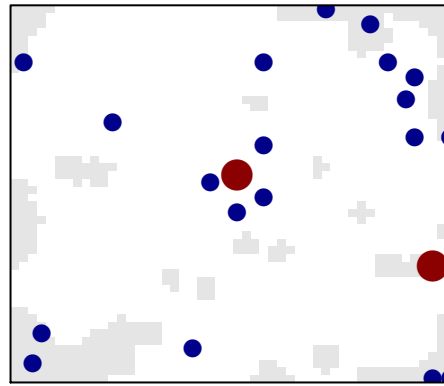
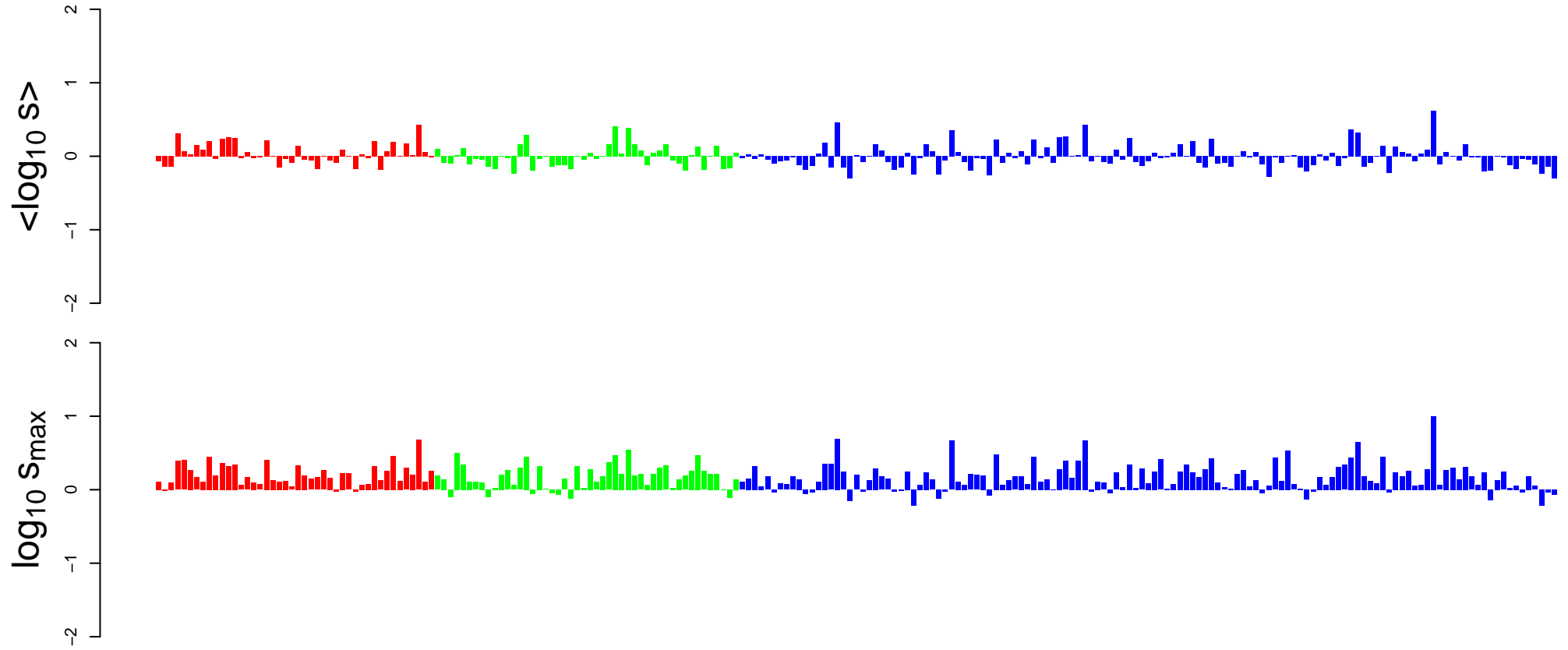


# Fatty acid biosynthesis

all genes



maximum = 2

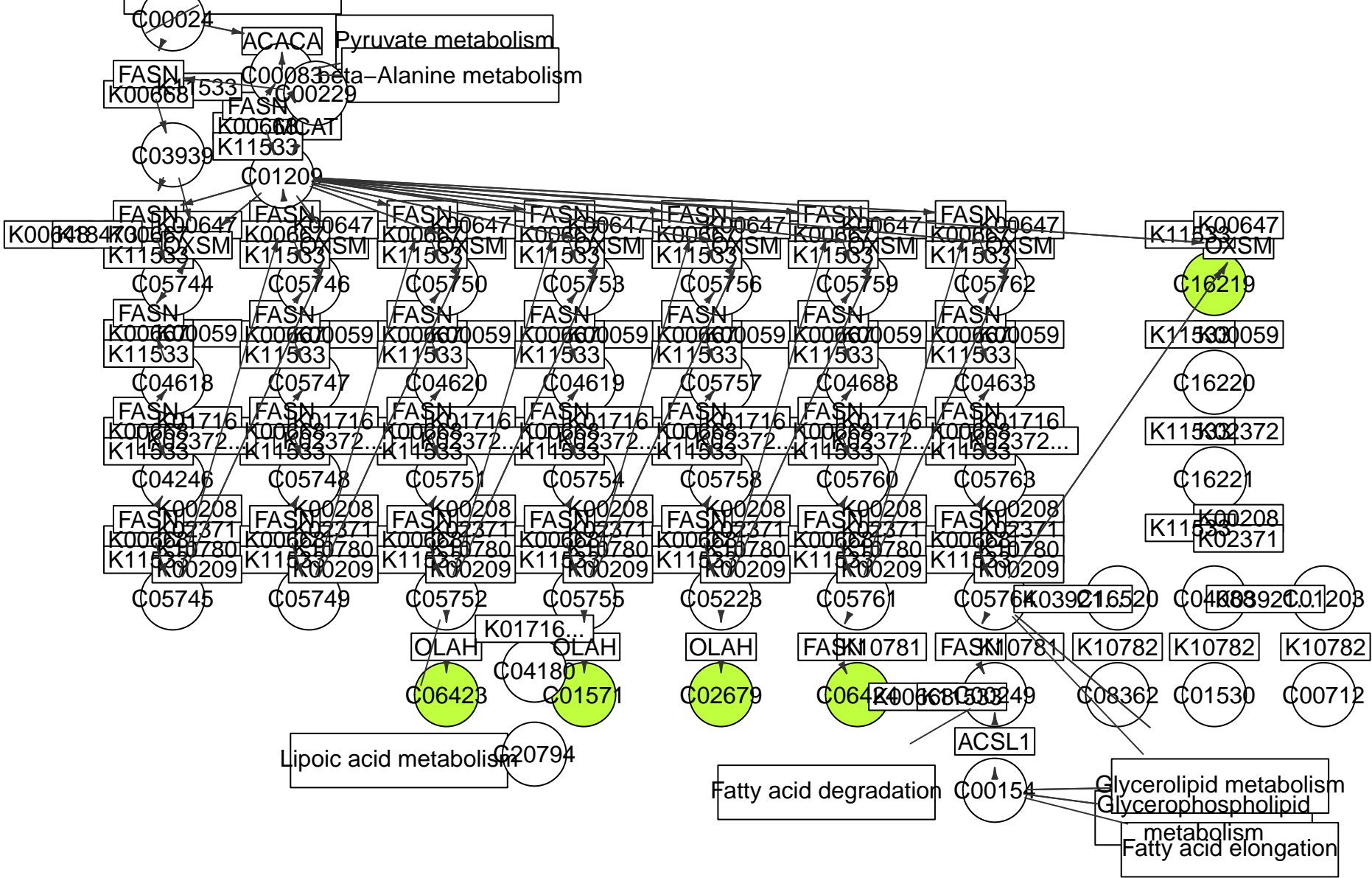




Fatty acid biosynthesis

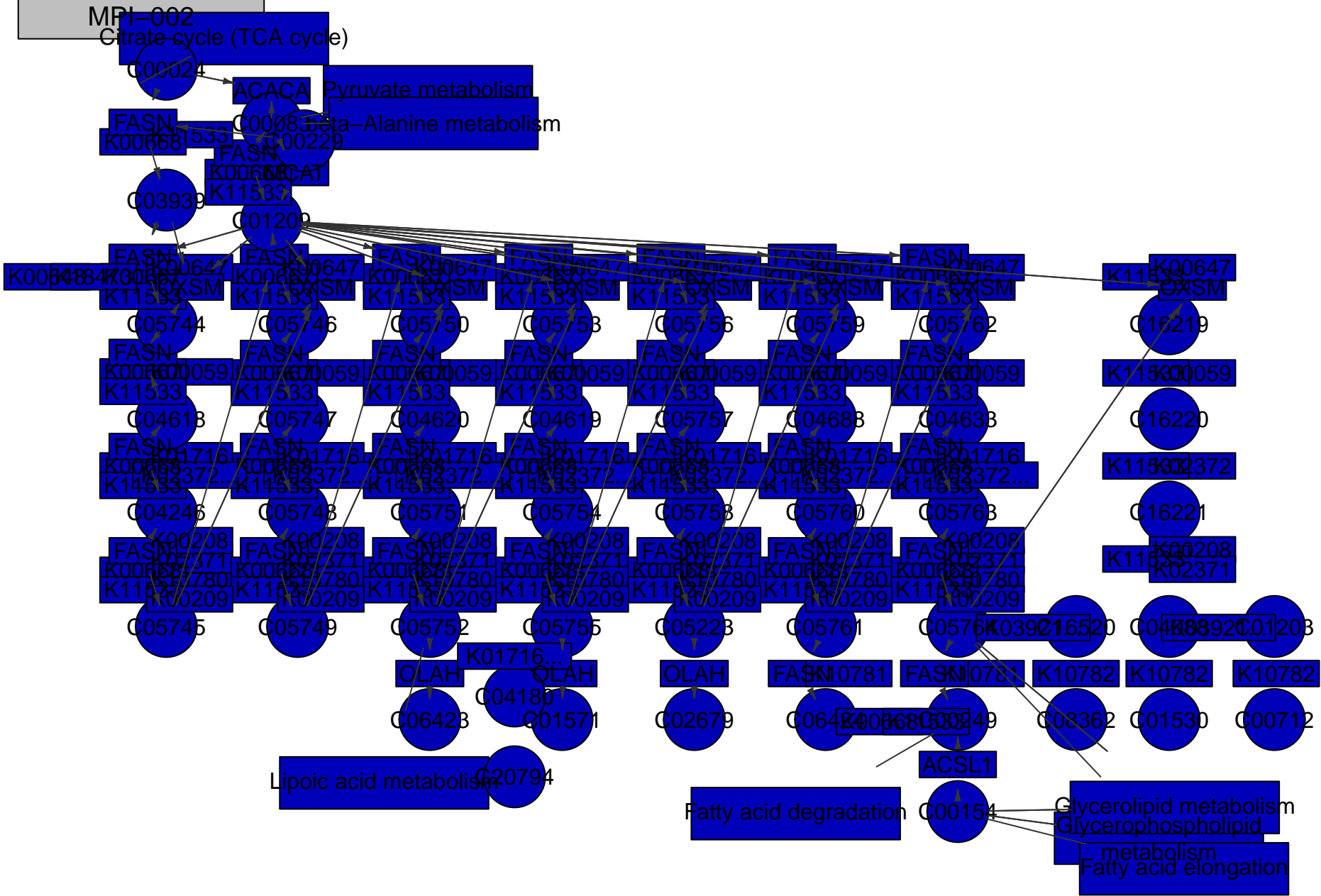
(sink nodes)

Citrate cycle (TCA cycle)



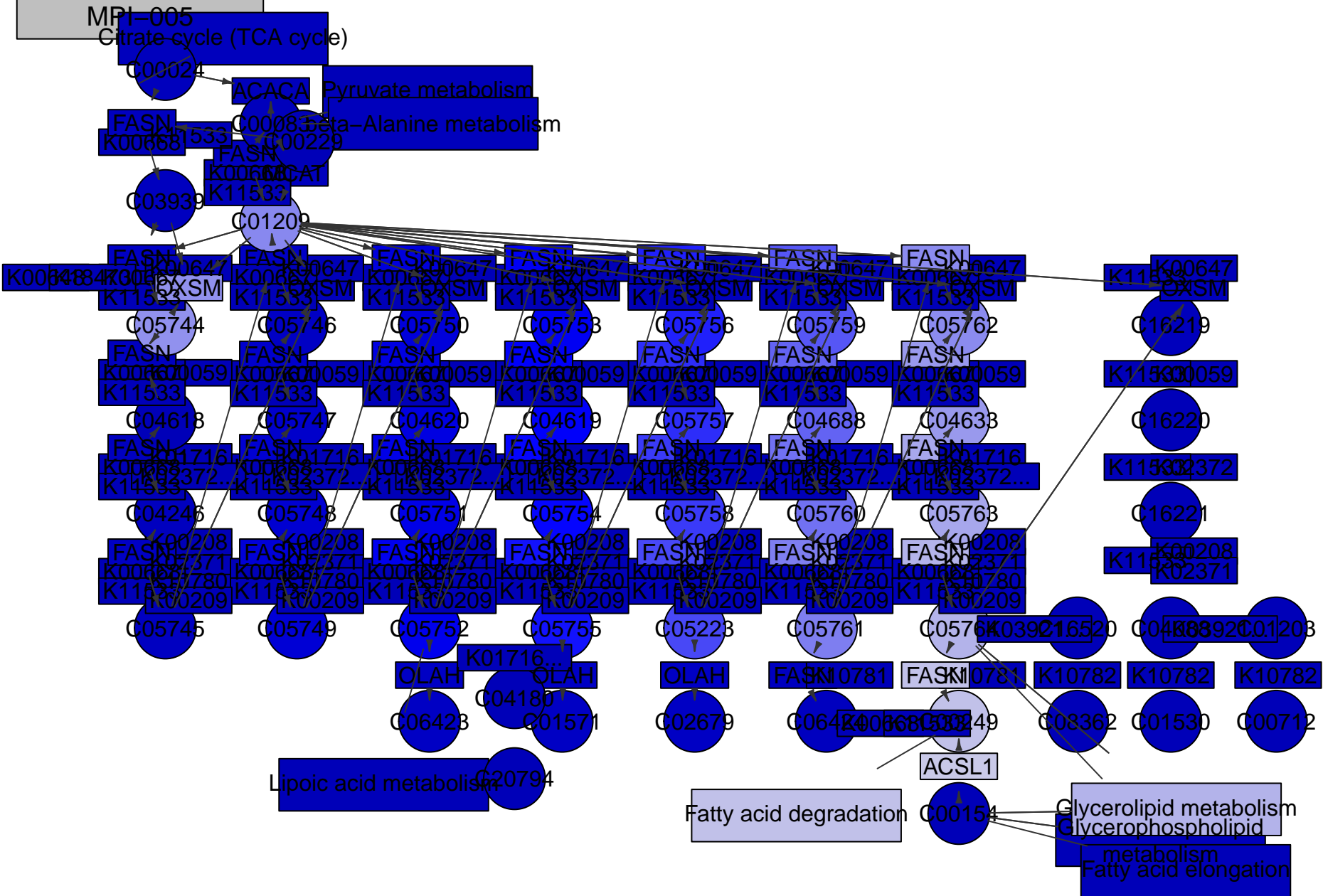


Fatty acid biosynthesis





Fatty acid biosynthesis

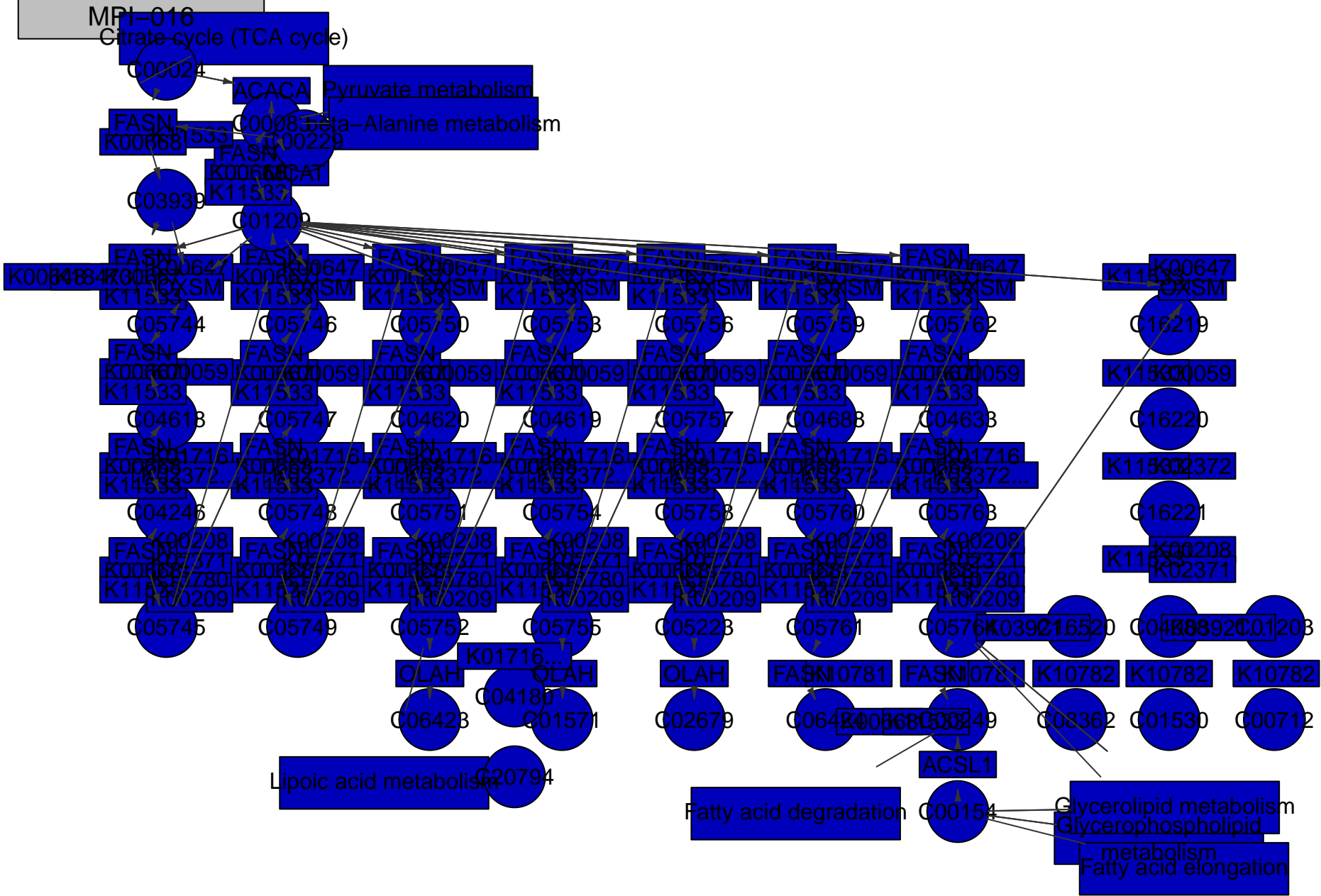




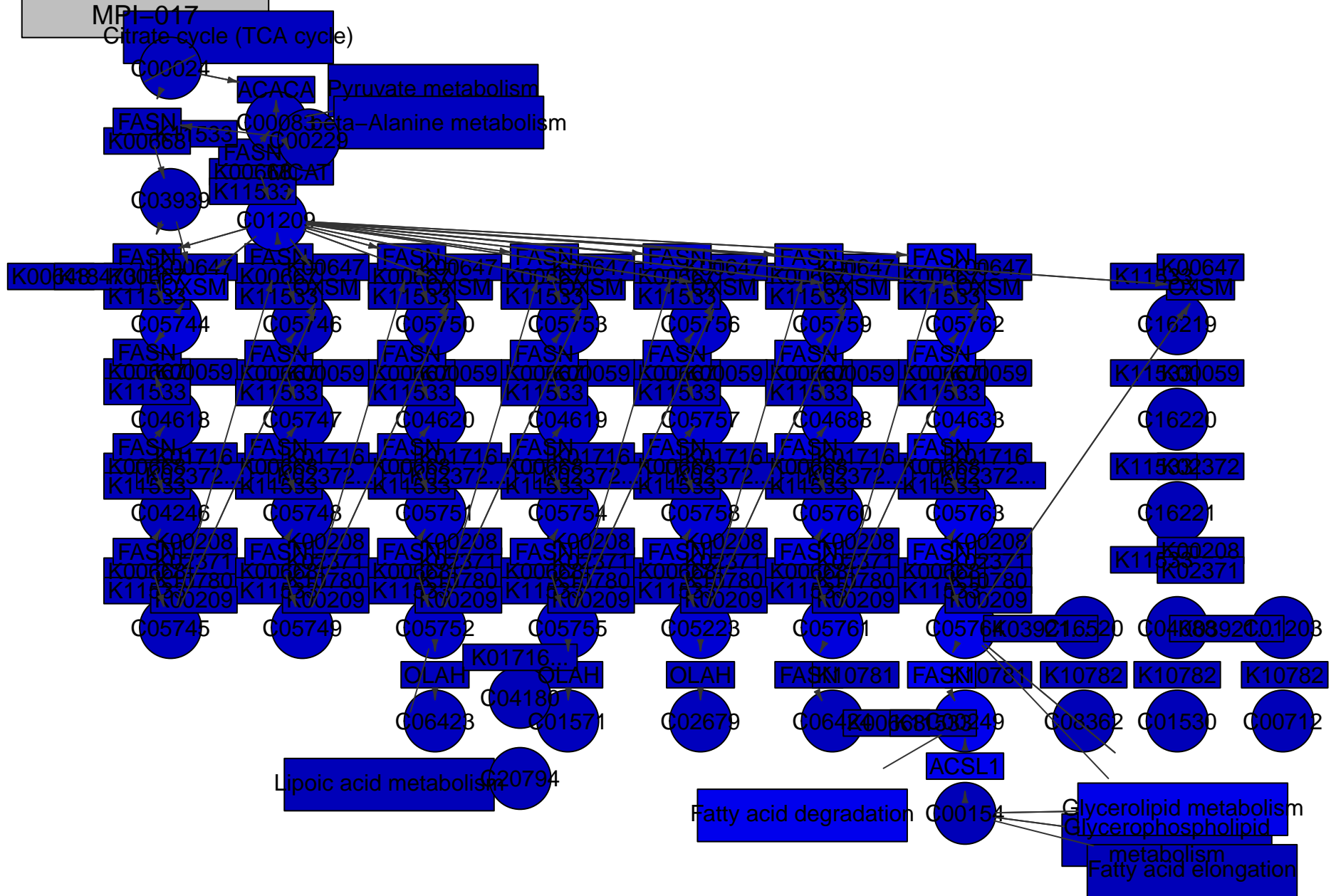




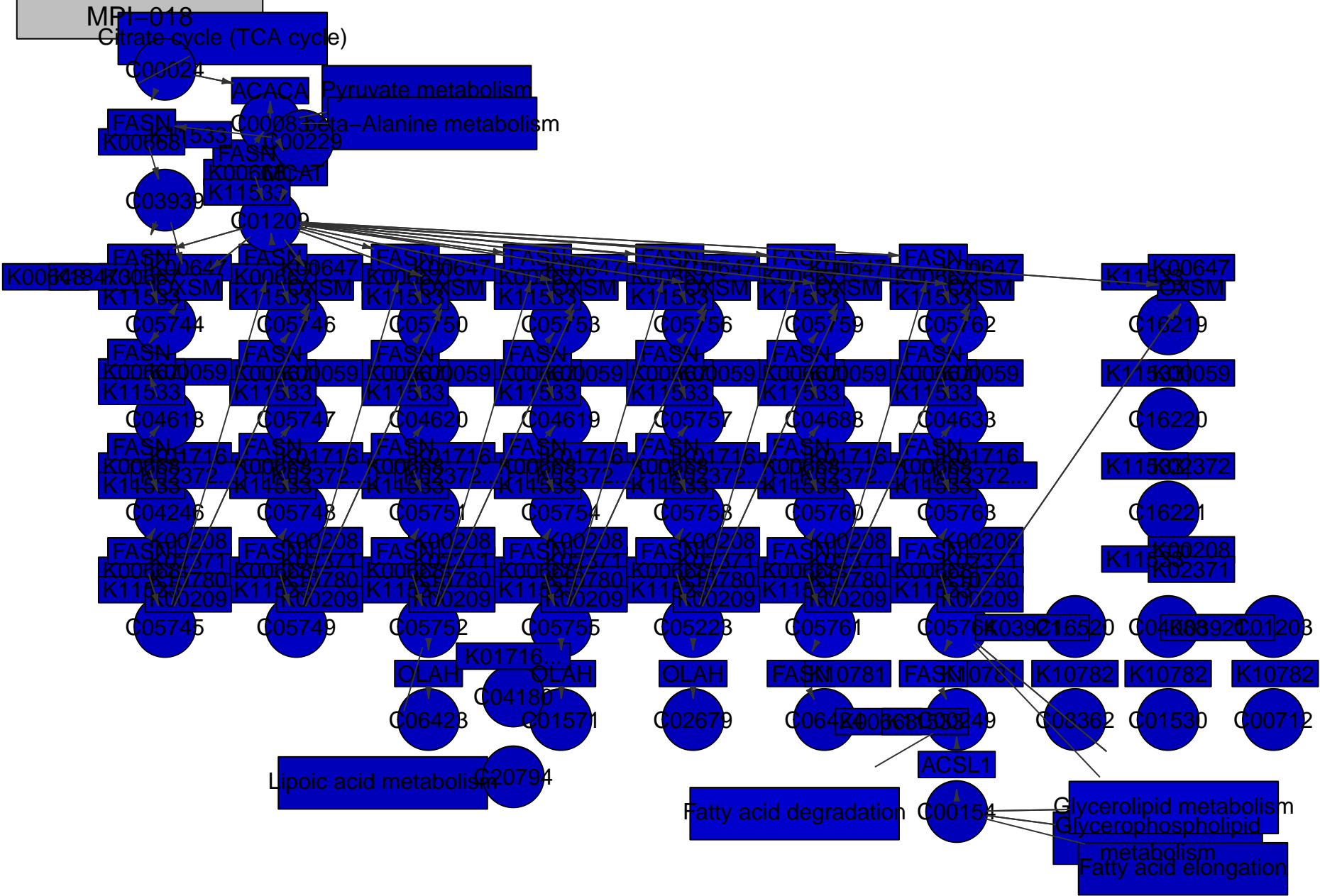
Fatty acid biosynthesis



Fatty acid biosynthesis



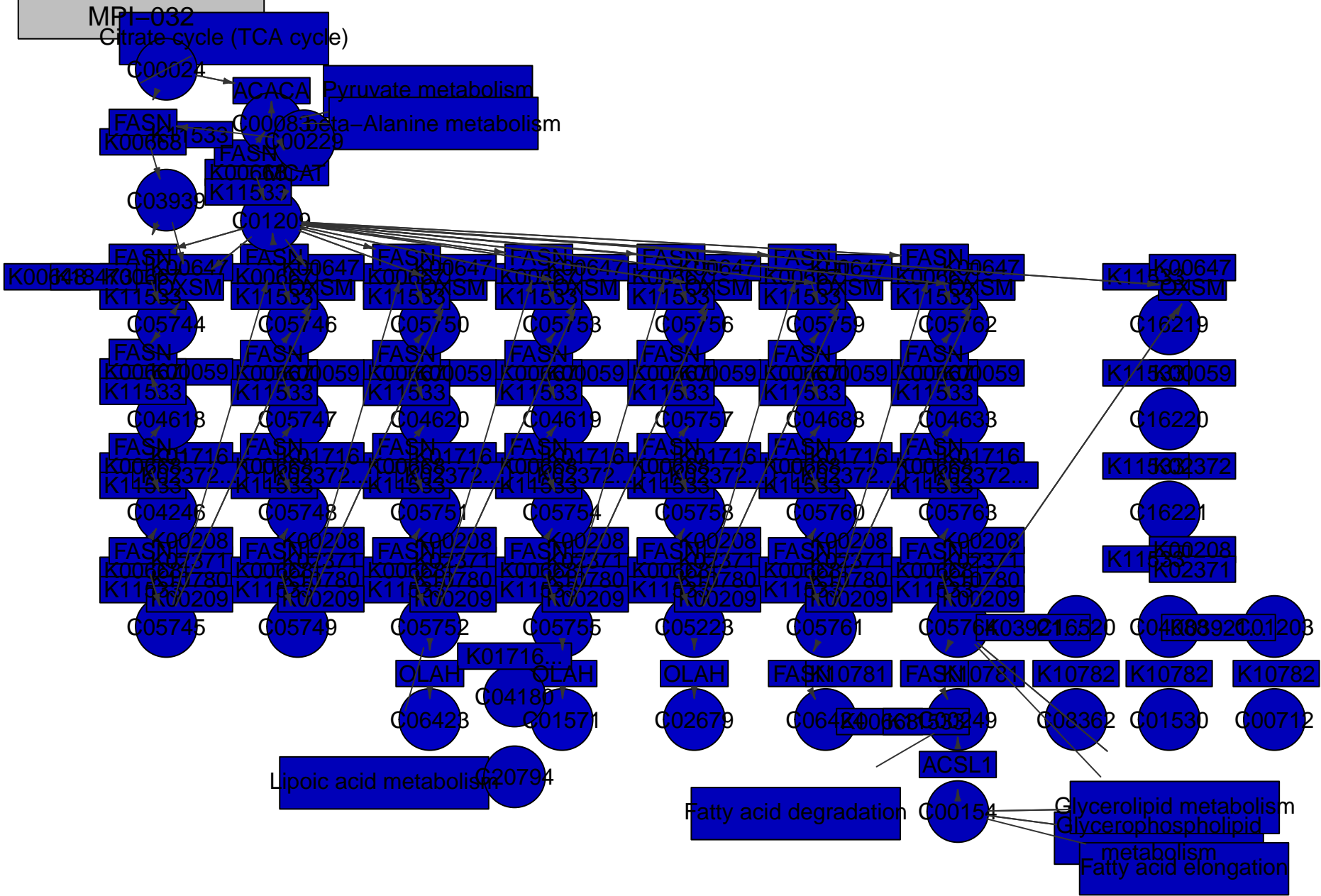
Fatty acid biosynthesis







Fatty acid biosynthesis

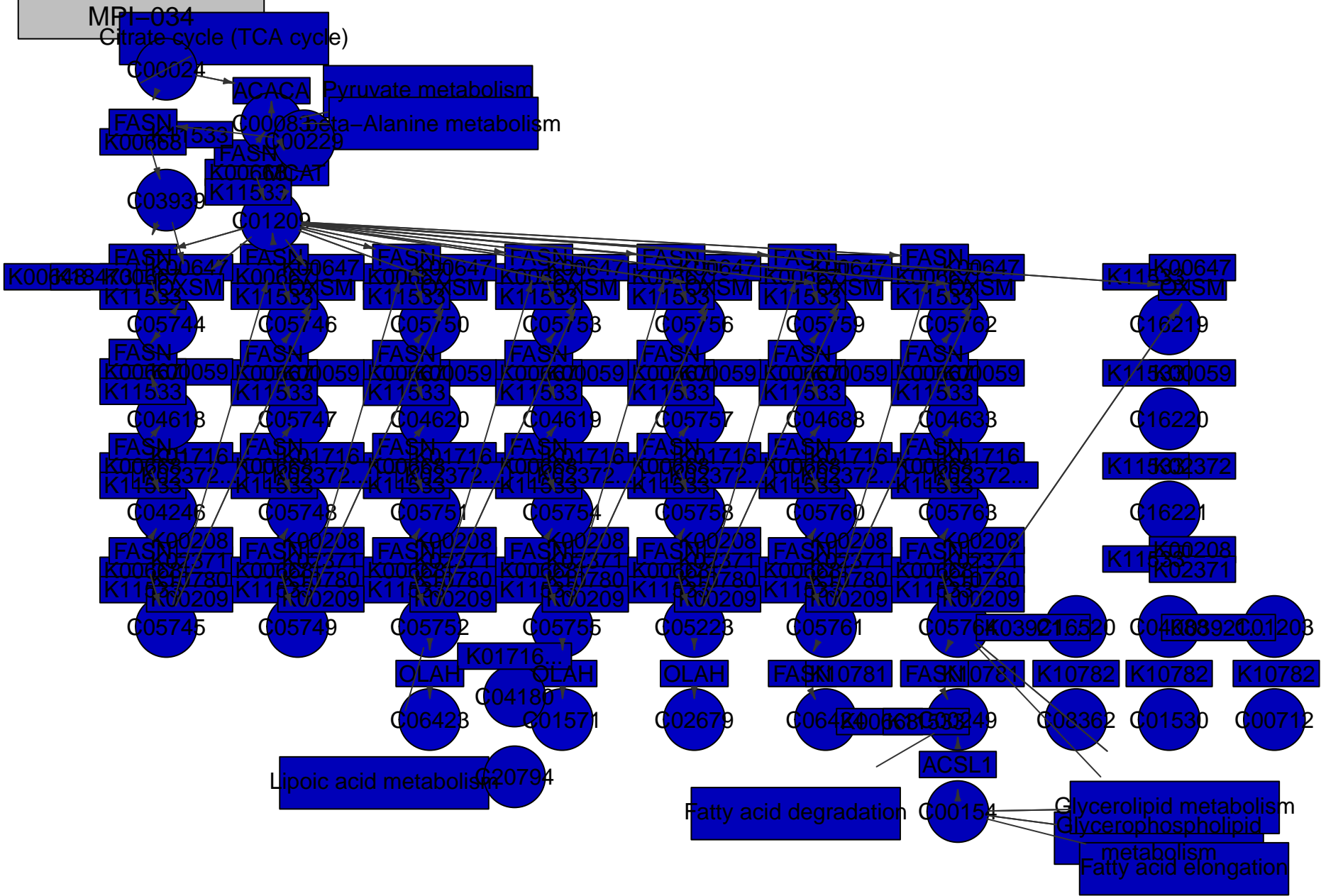








Fatty acid biosynthesis













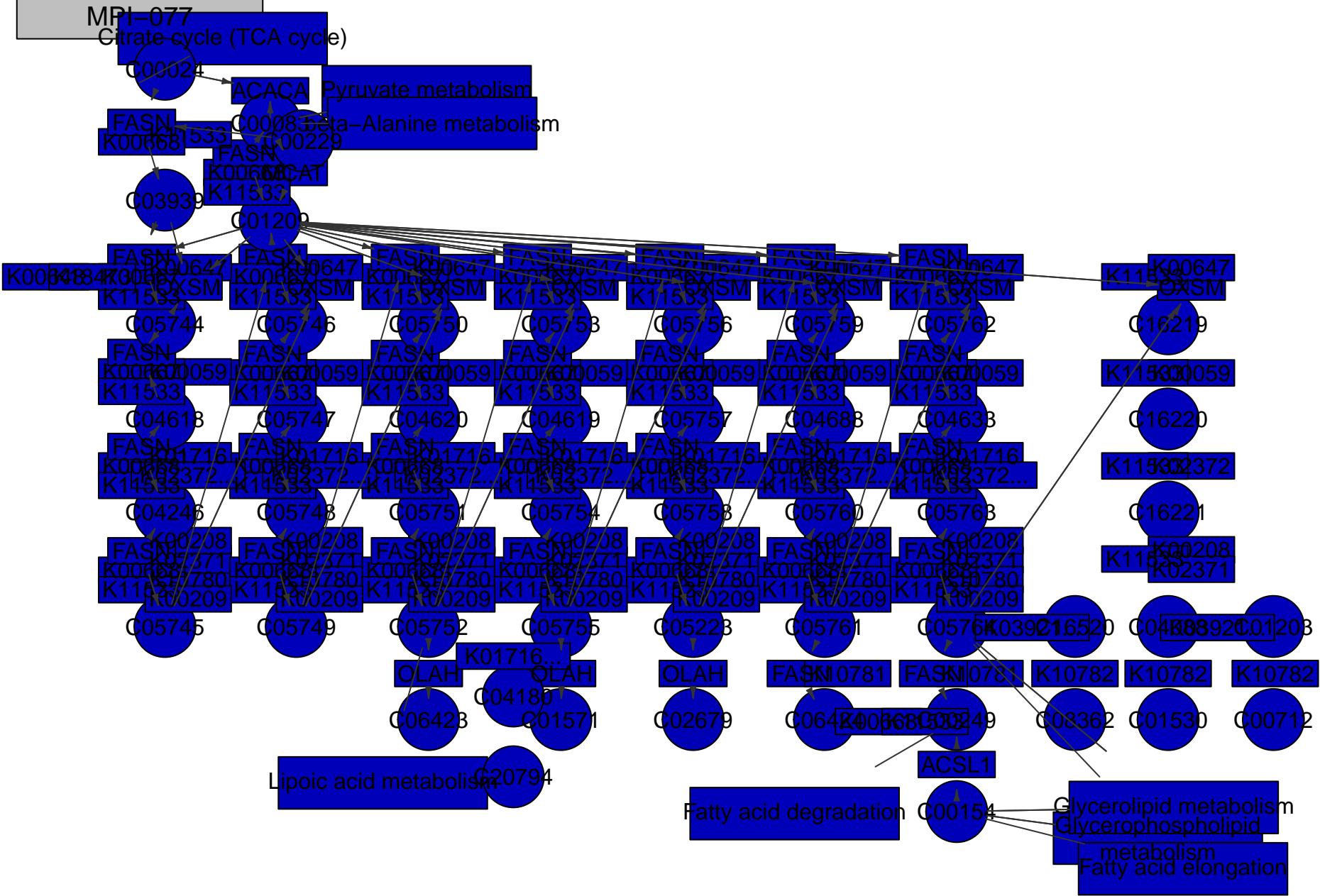






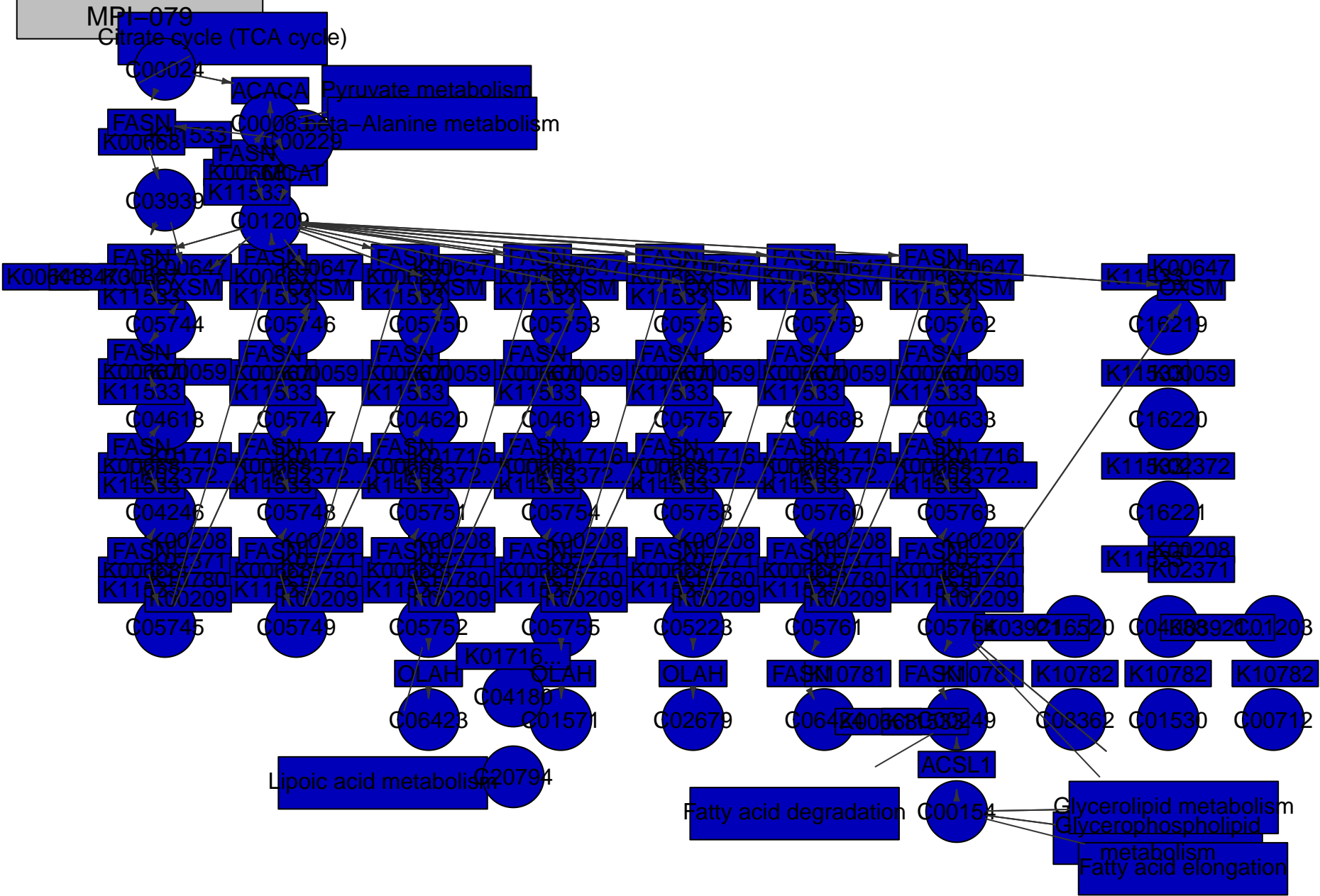


Fatty acid biosynthesis





Fatty acid biosynthesis









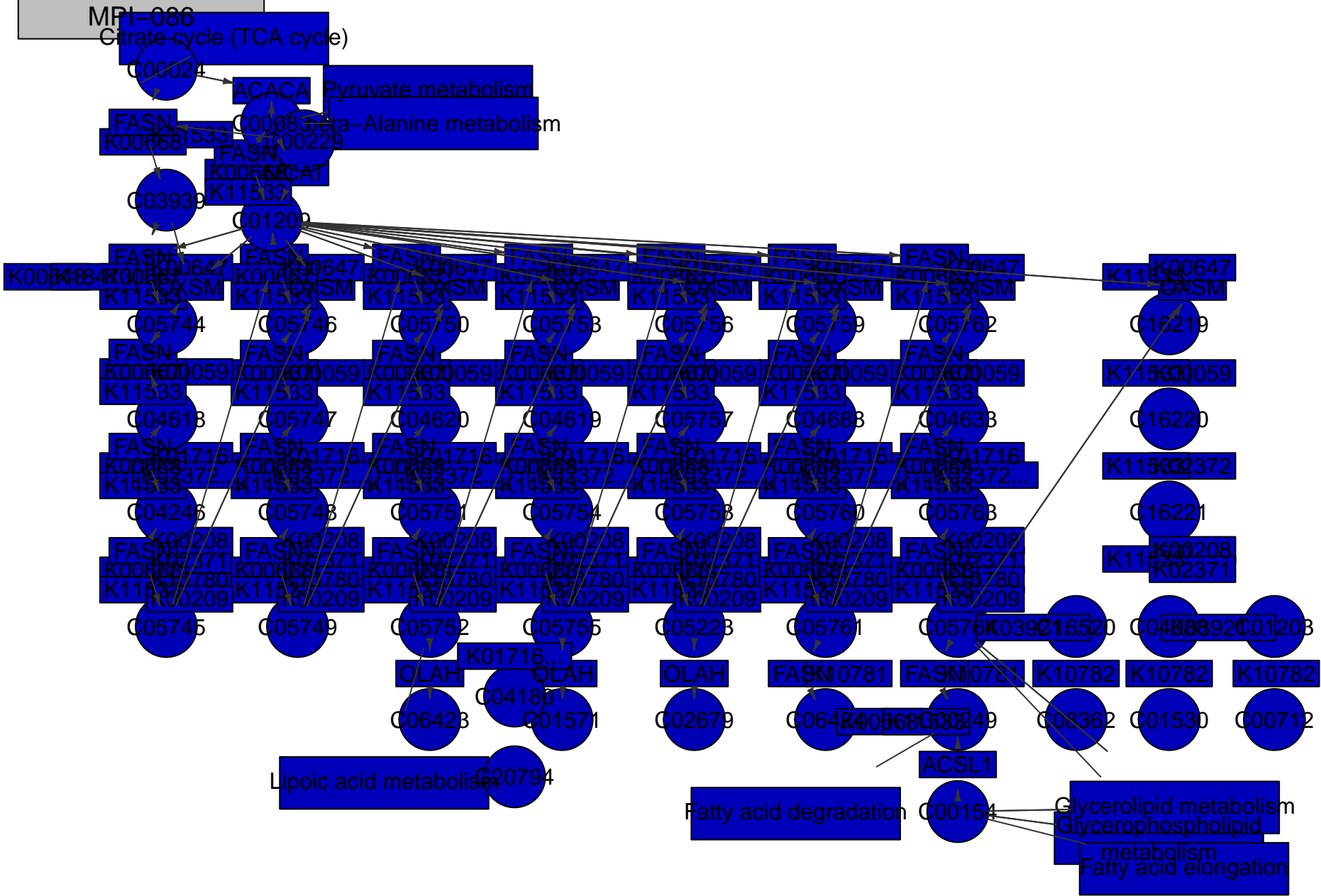






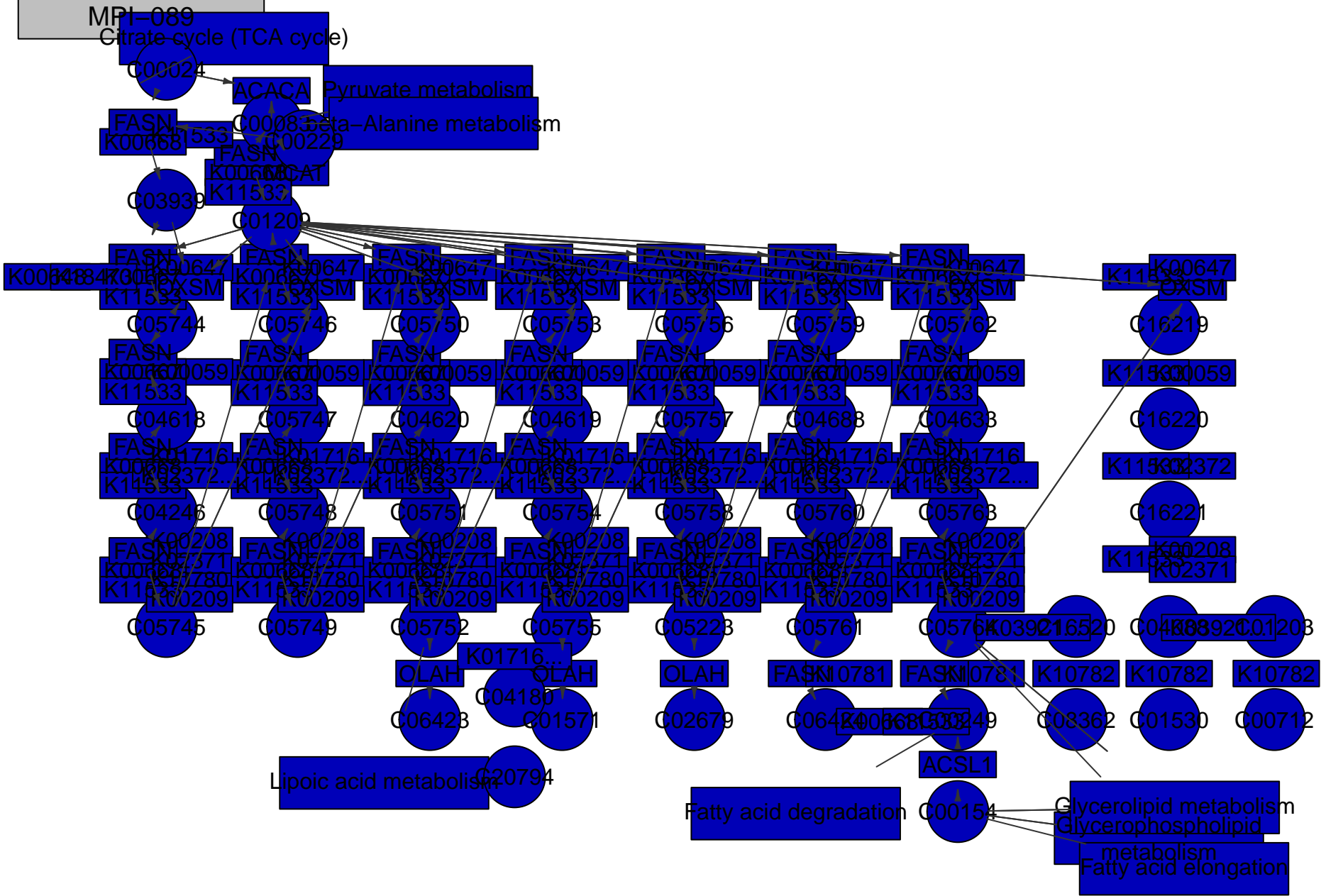


# Fatty acid biosynthesis

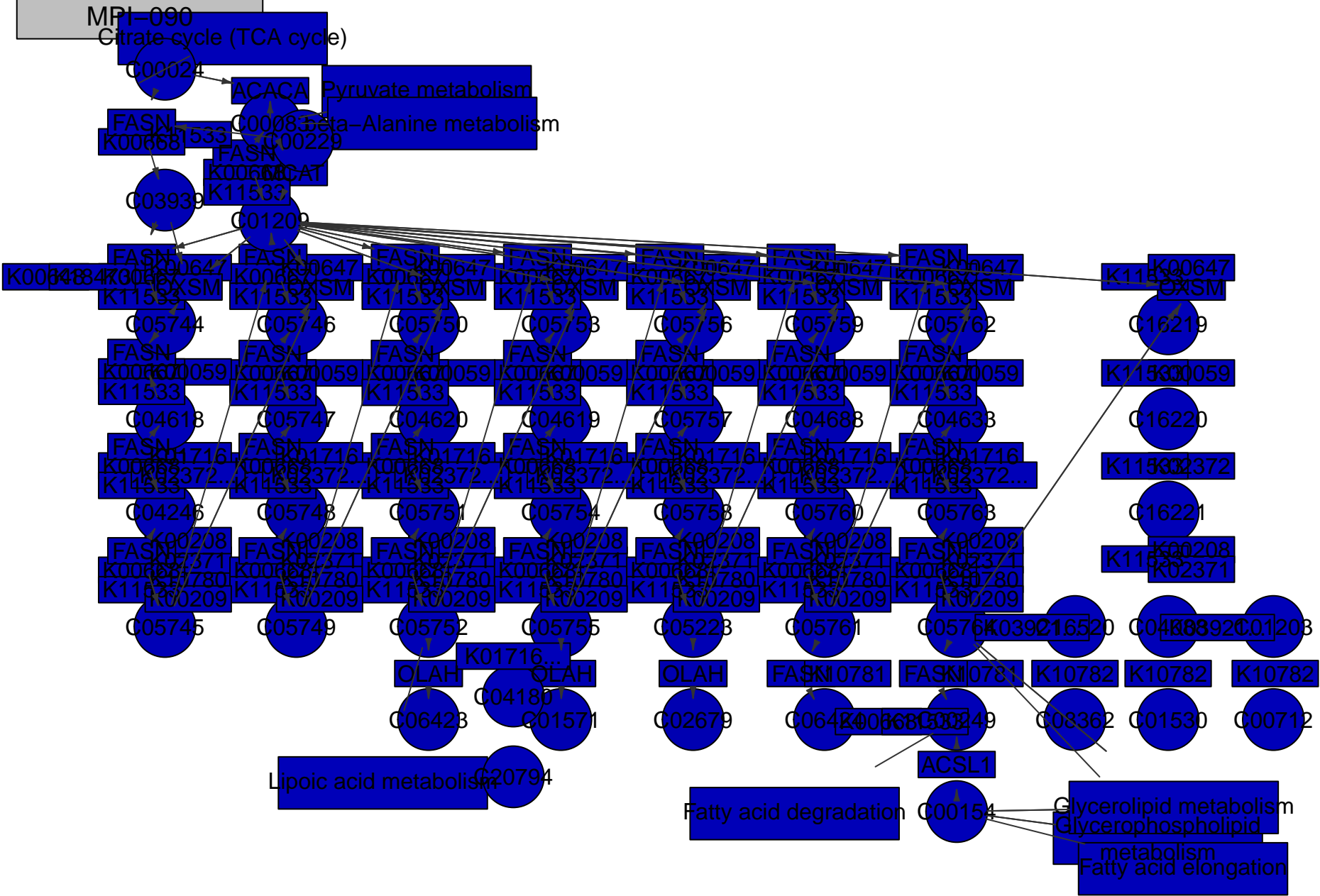




Fatty acid biosynthesis



Fatty acid biosynthesis





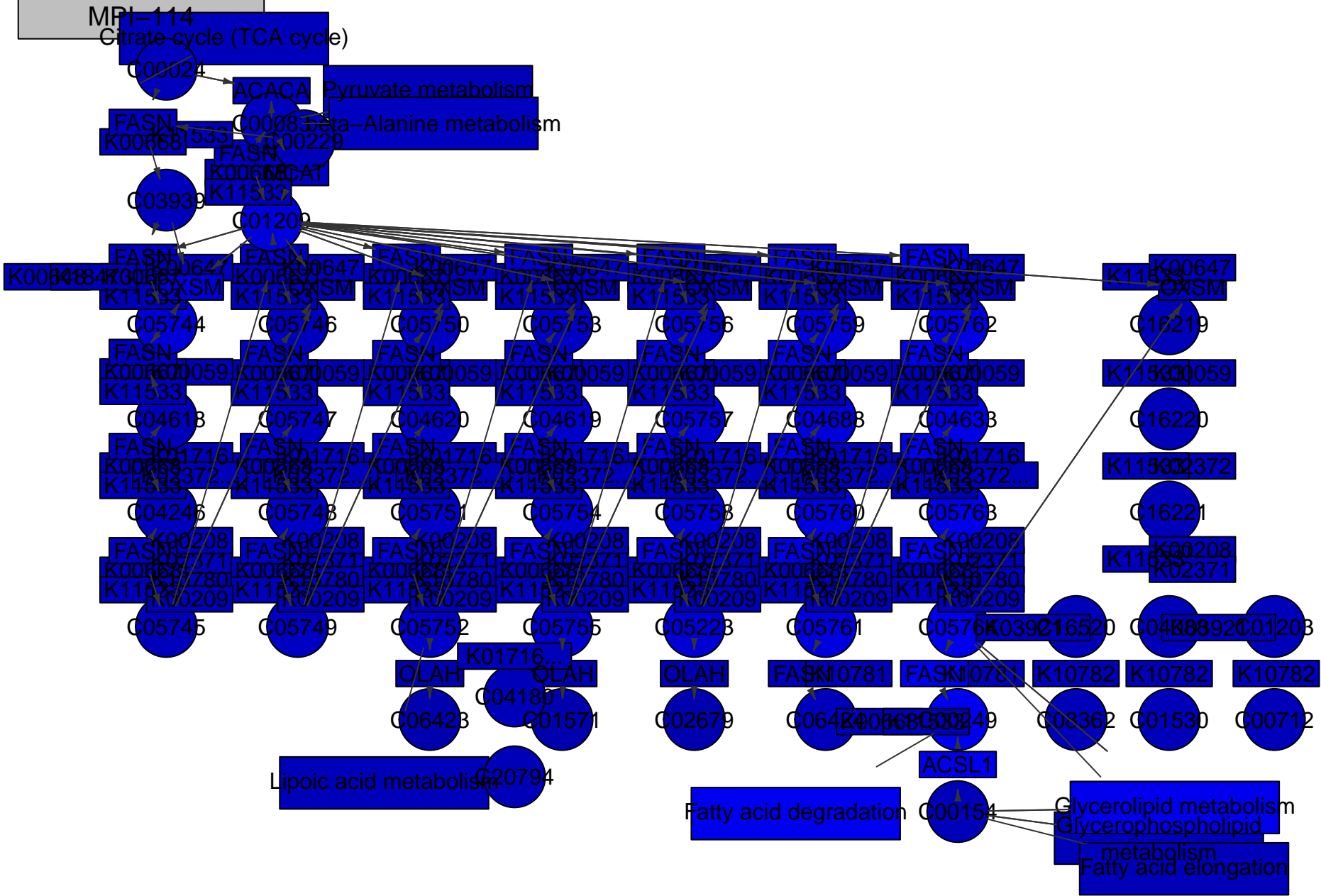




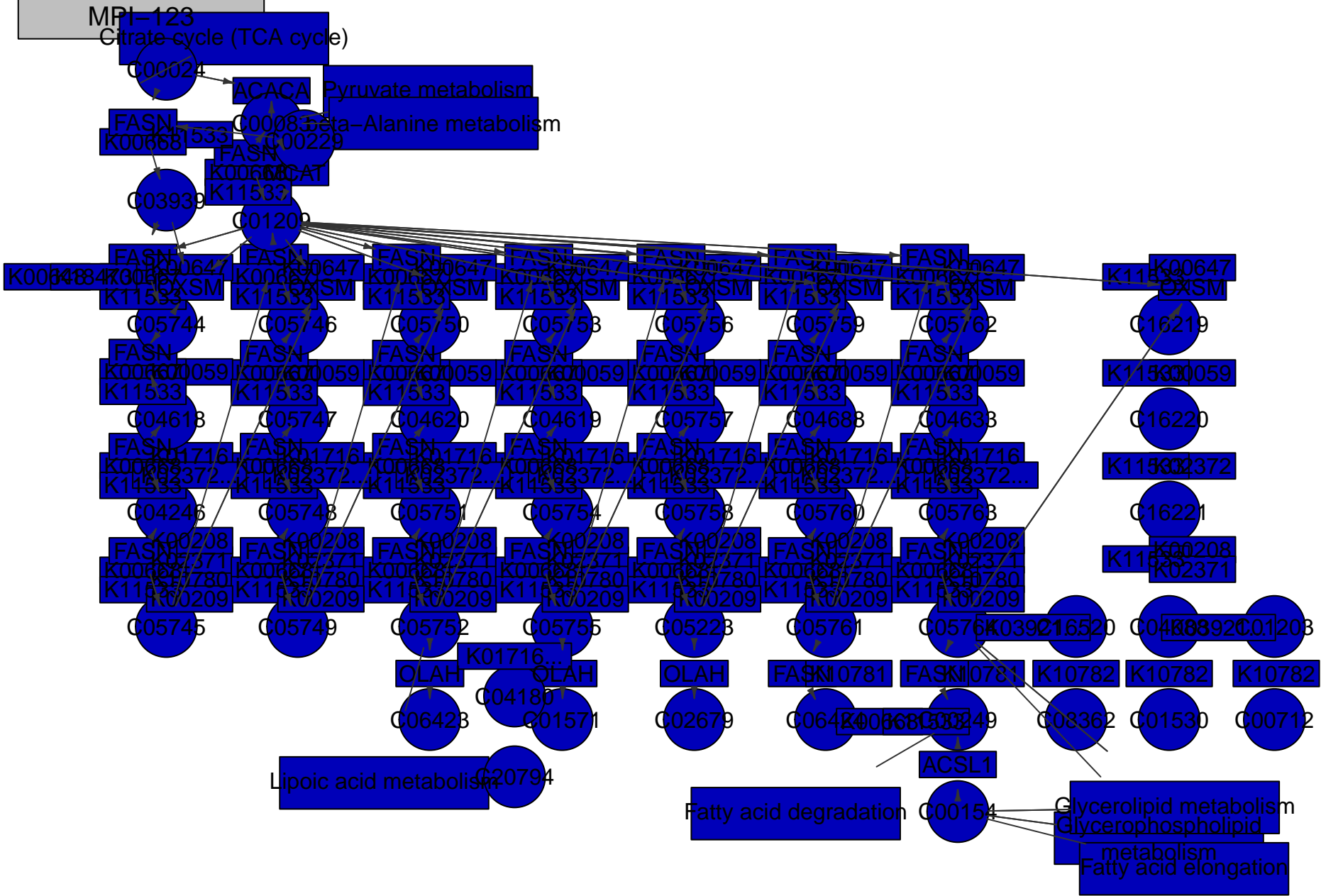




Fatty acid biosynthesis



Fatty acid biosynthesis



Fatty acid biosynthesis







Fatty acid biosynthesis

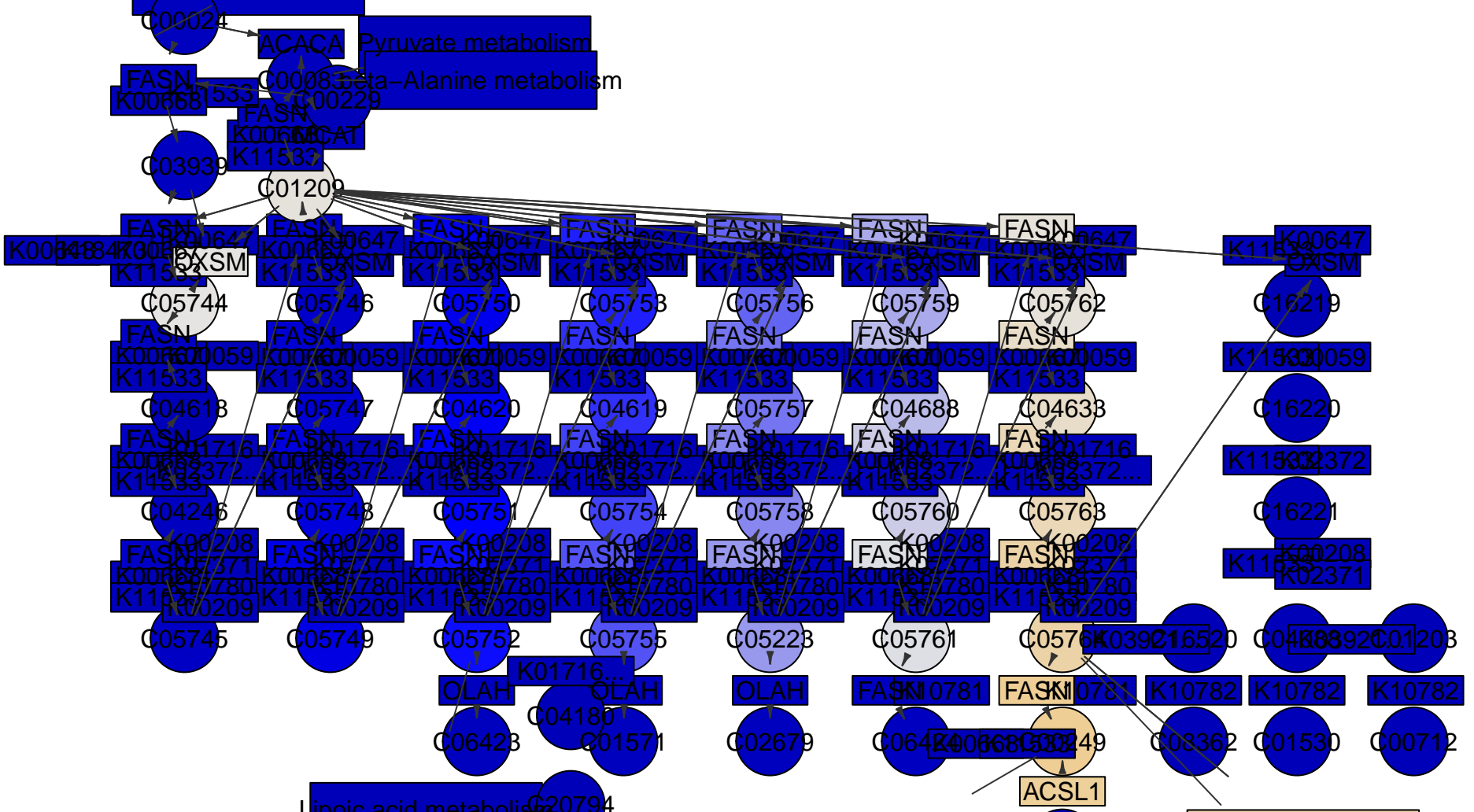
MPI-140

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT



Lipoic acid metabolism

Fatty acid degradation

Glycerolipid metabolism  
Glycerophospholipid

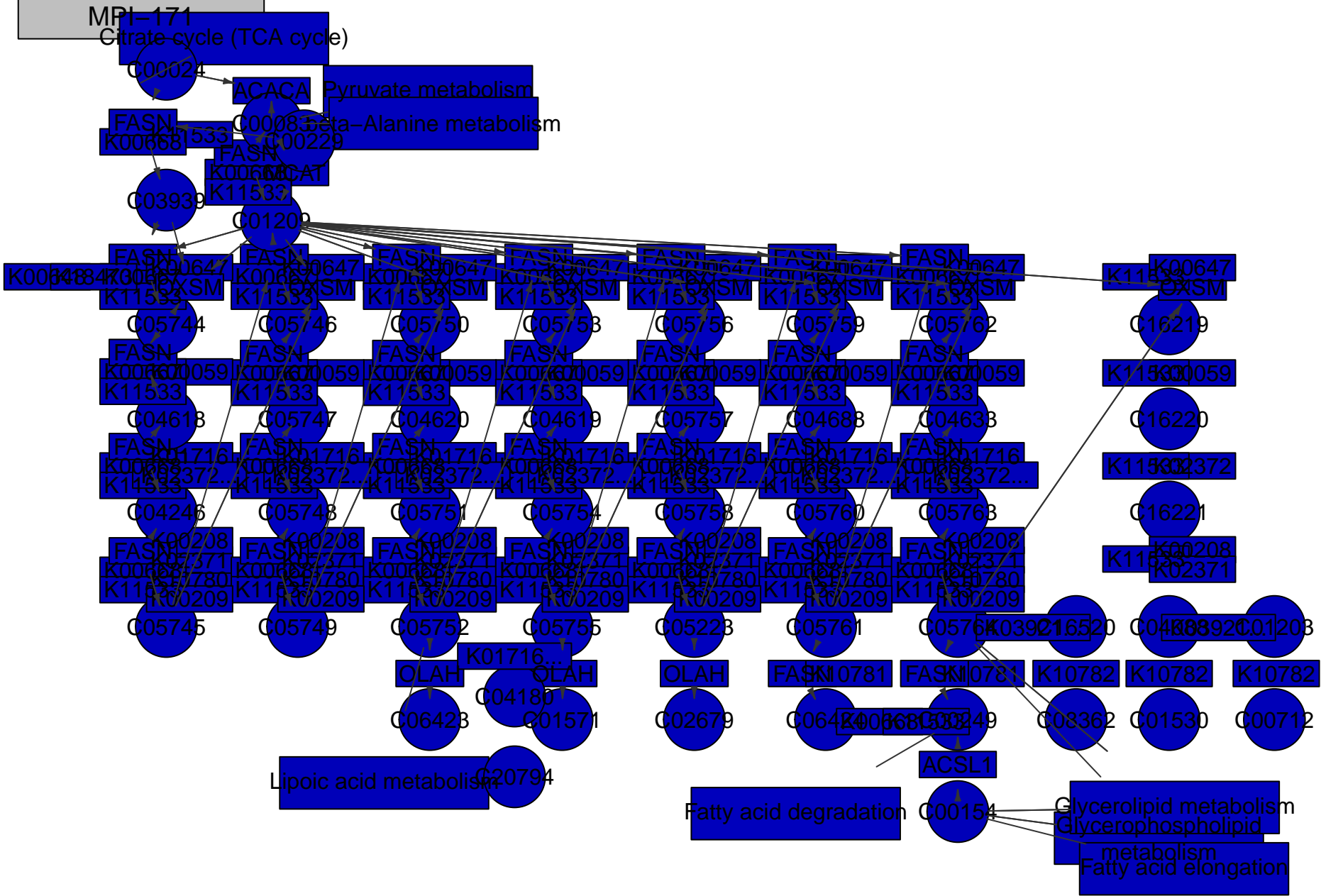
metabolism  
Fatty acid elongation

Fatty acid biosynthesis





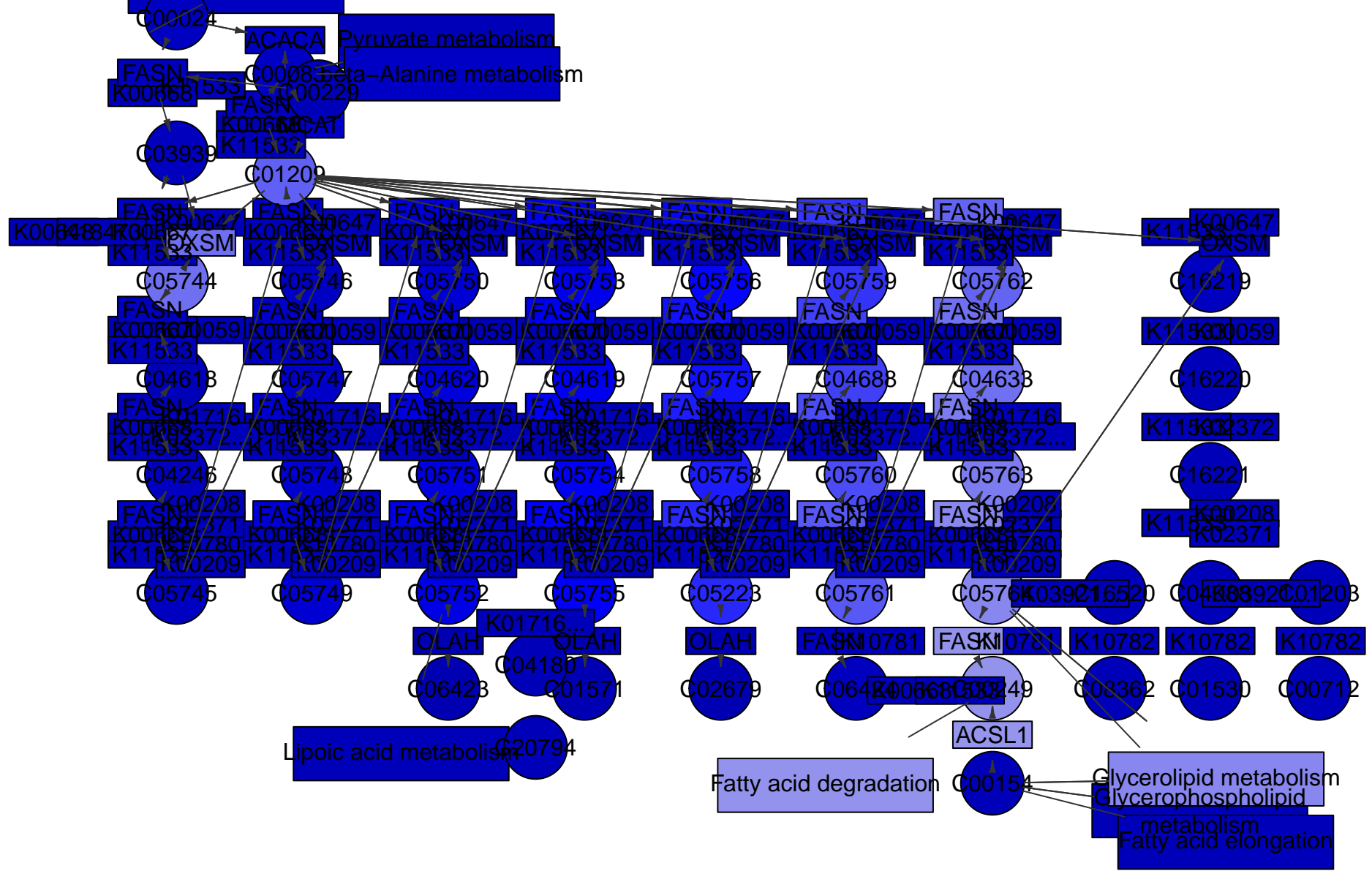
Fatty acid biosynthesis



Fatty acid biosynthesis

MPI-172

Citrate cycle (TCA cycle)

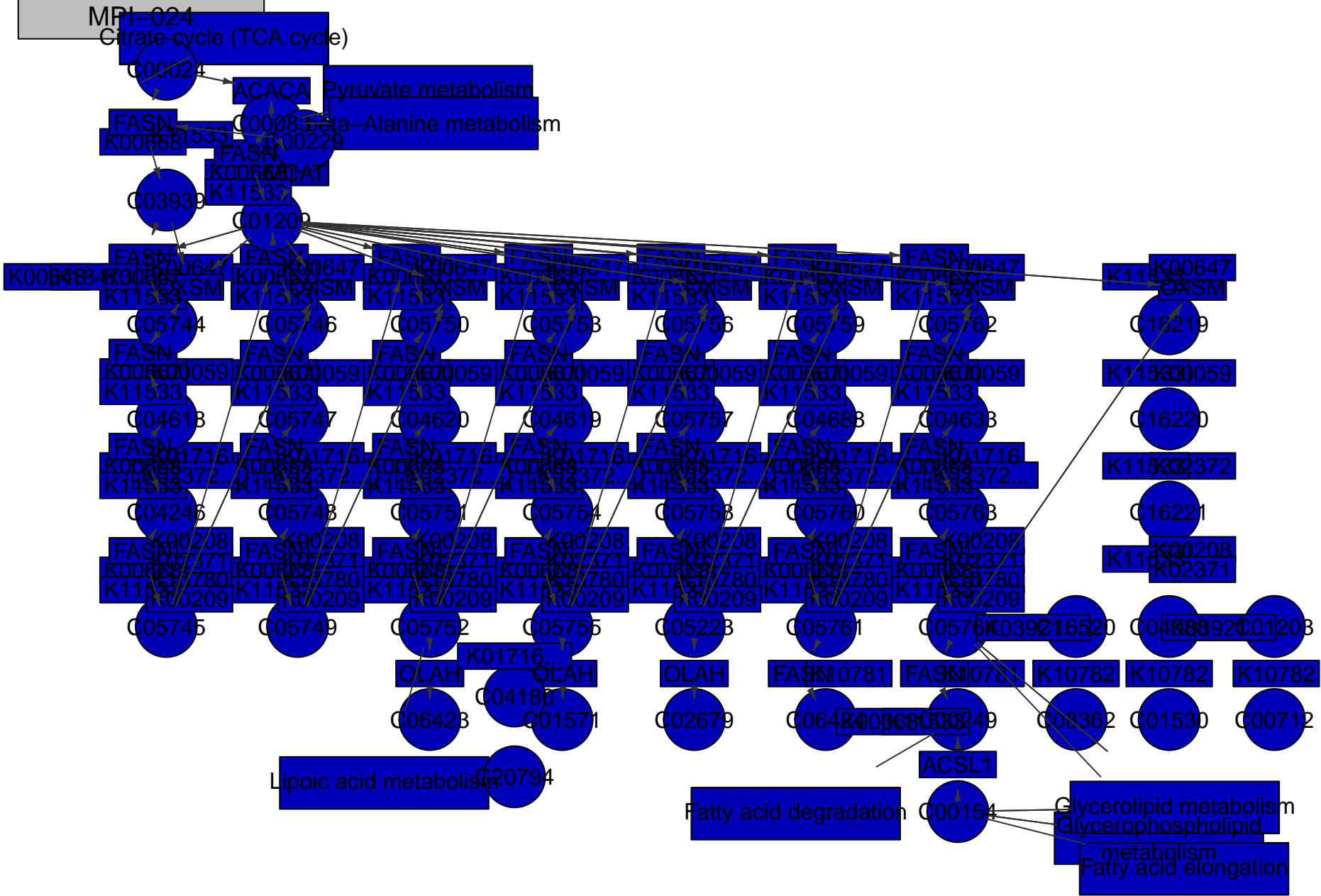




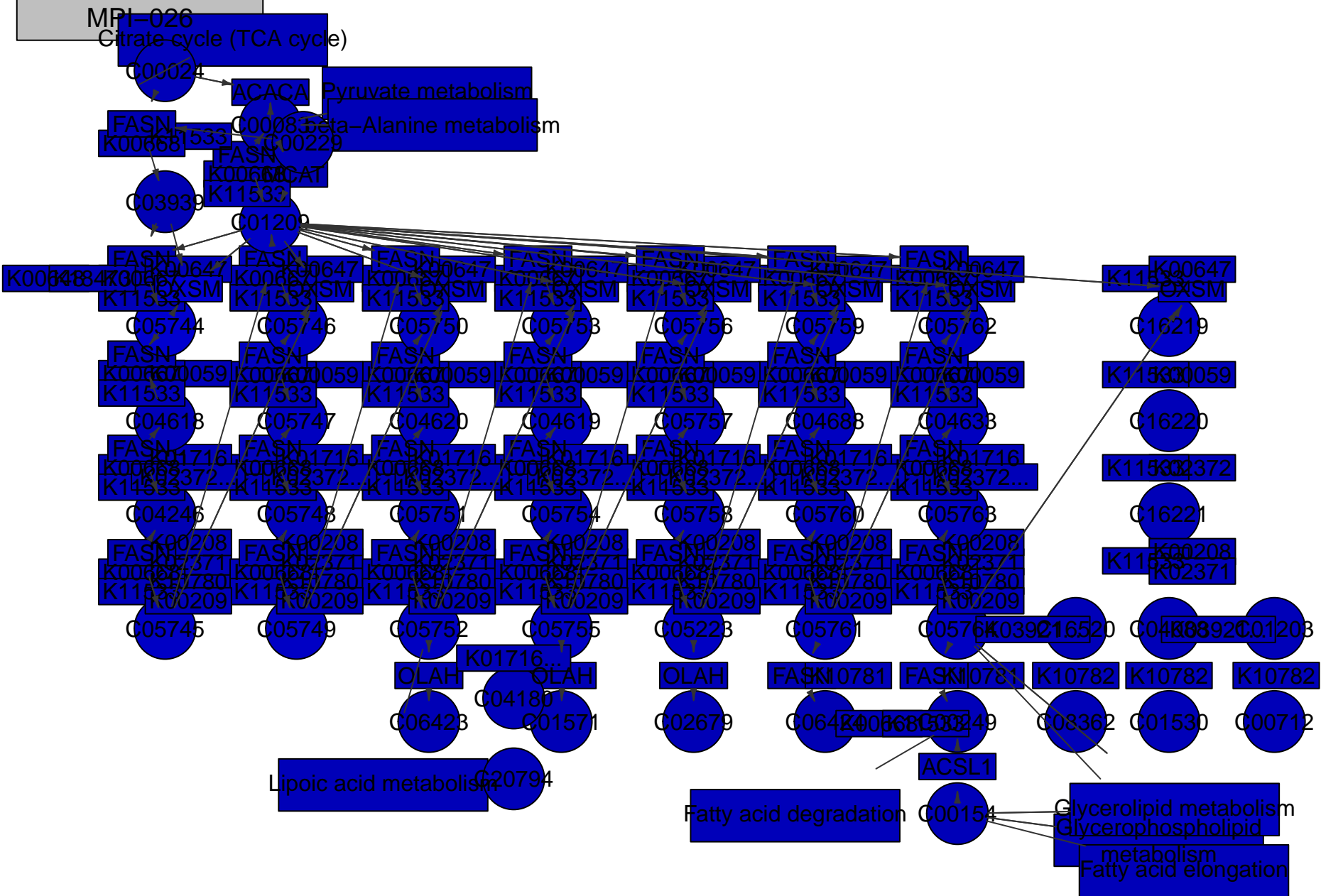




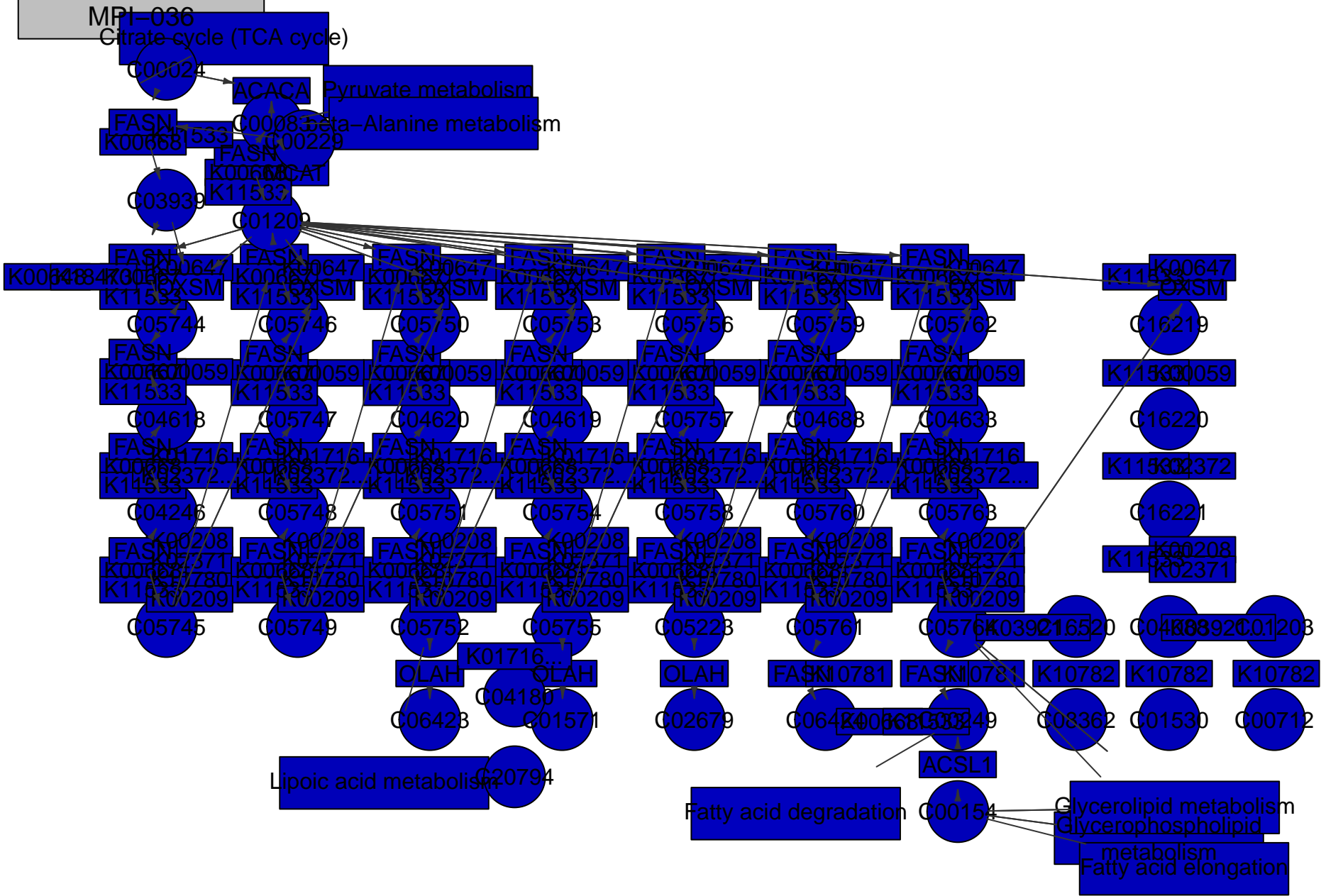
Fatty acid biosynthesis



Fatty acid biosynthesis



Fatty acid biosynthesis







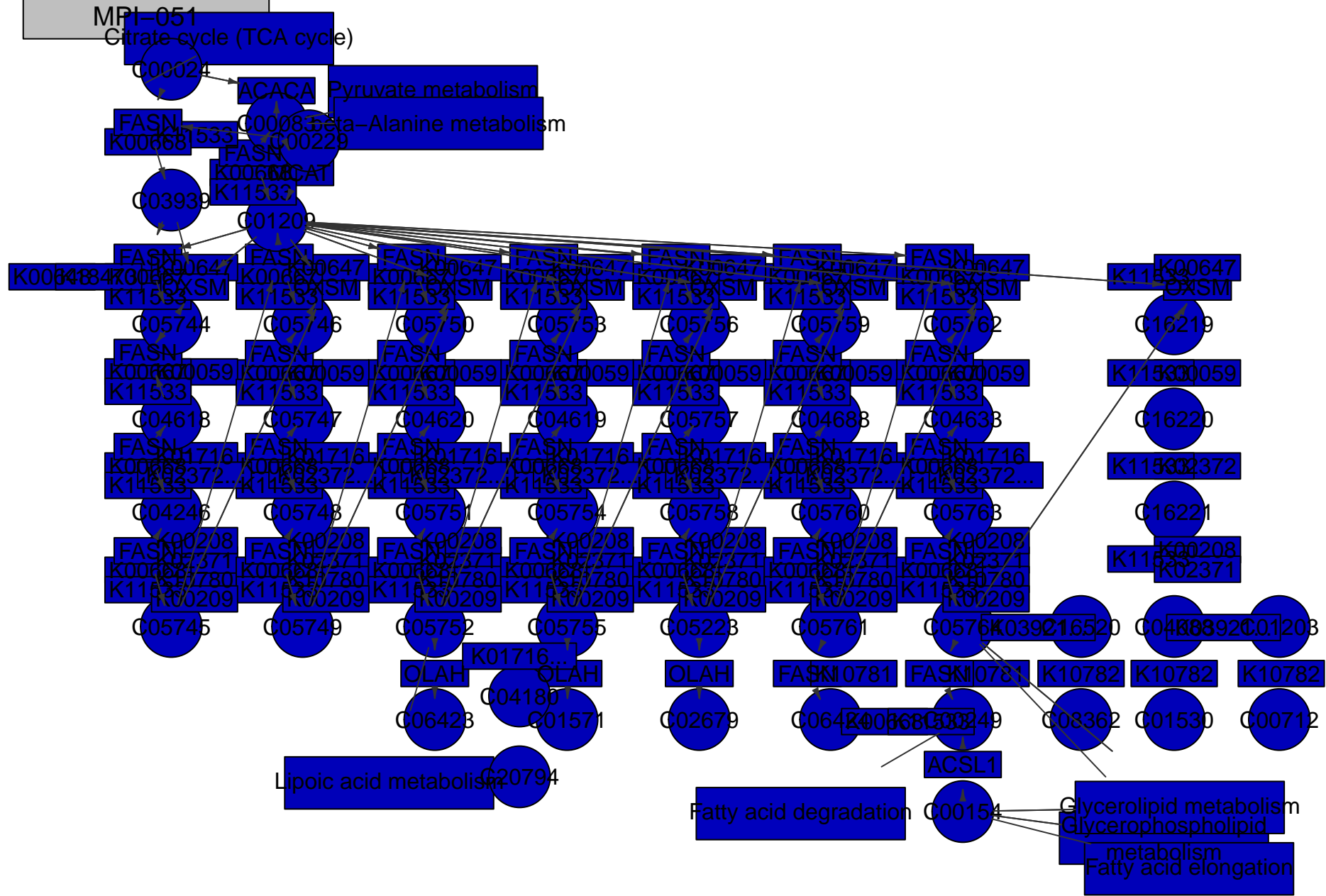






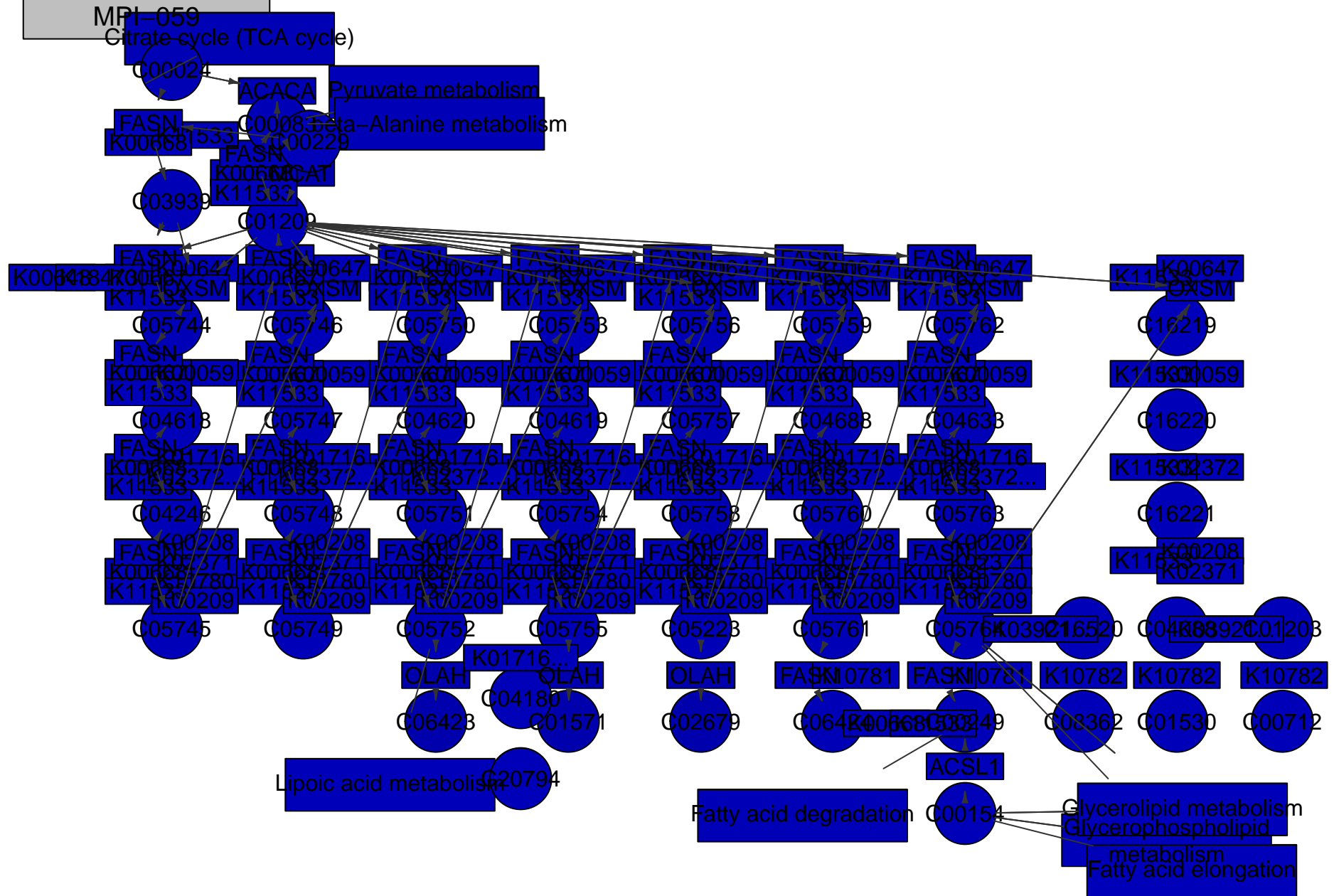


# Fatty acid biosynthesis





Fatty acid biosynthesis













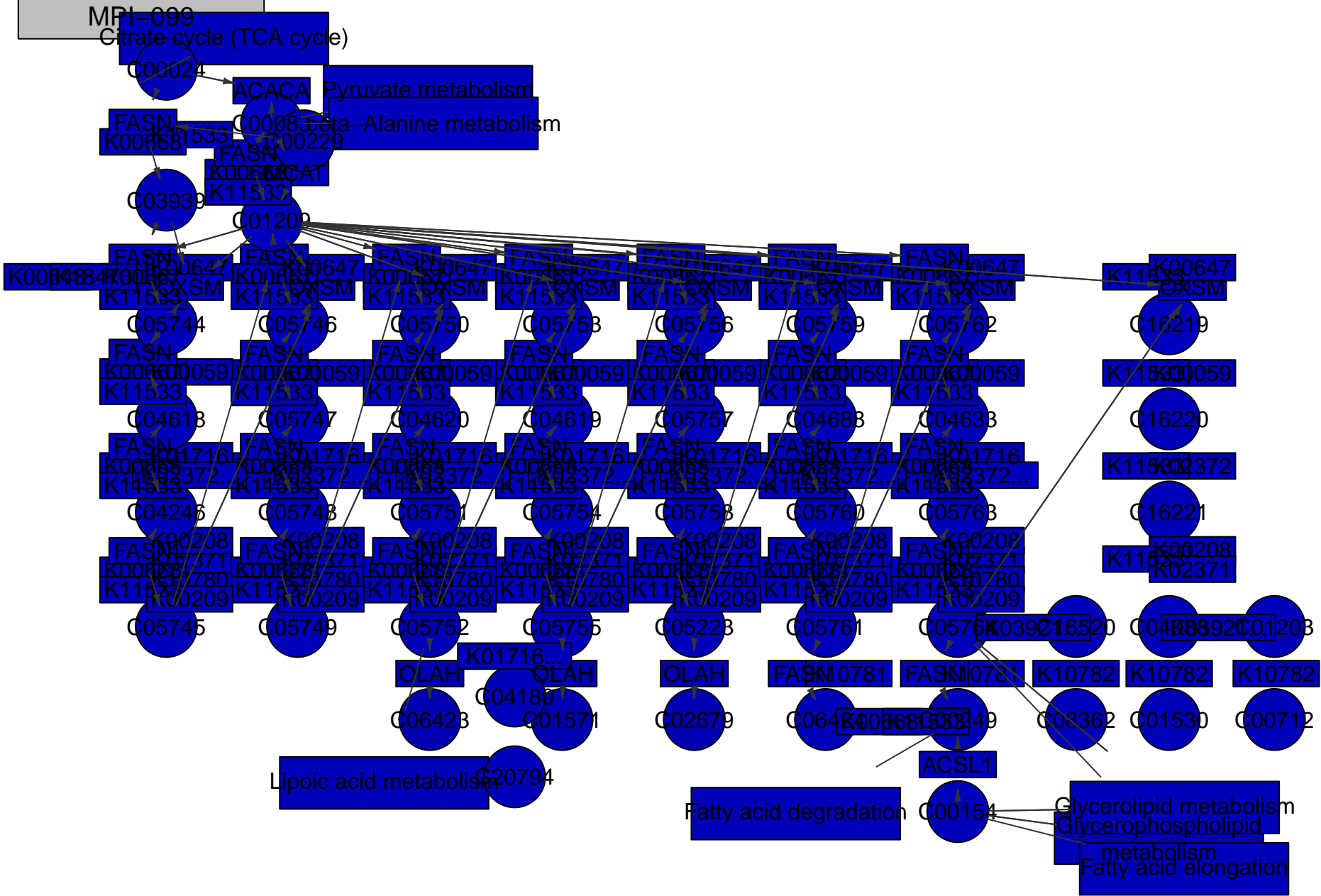








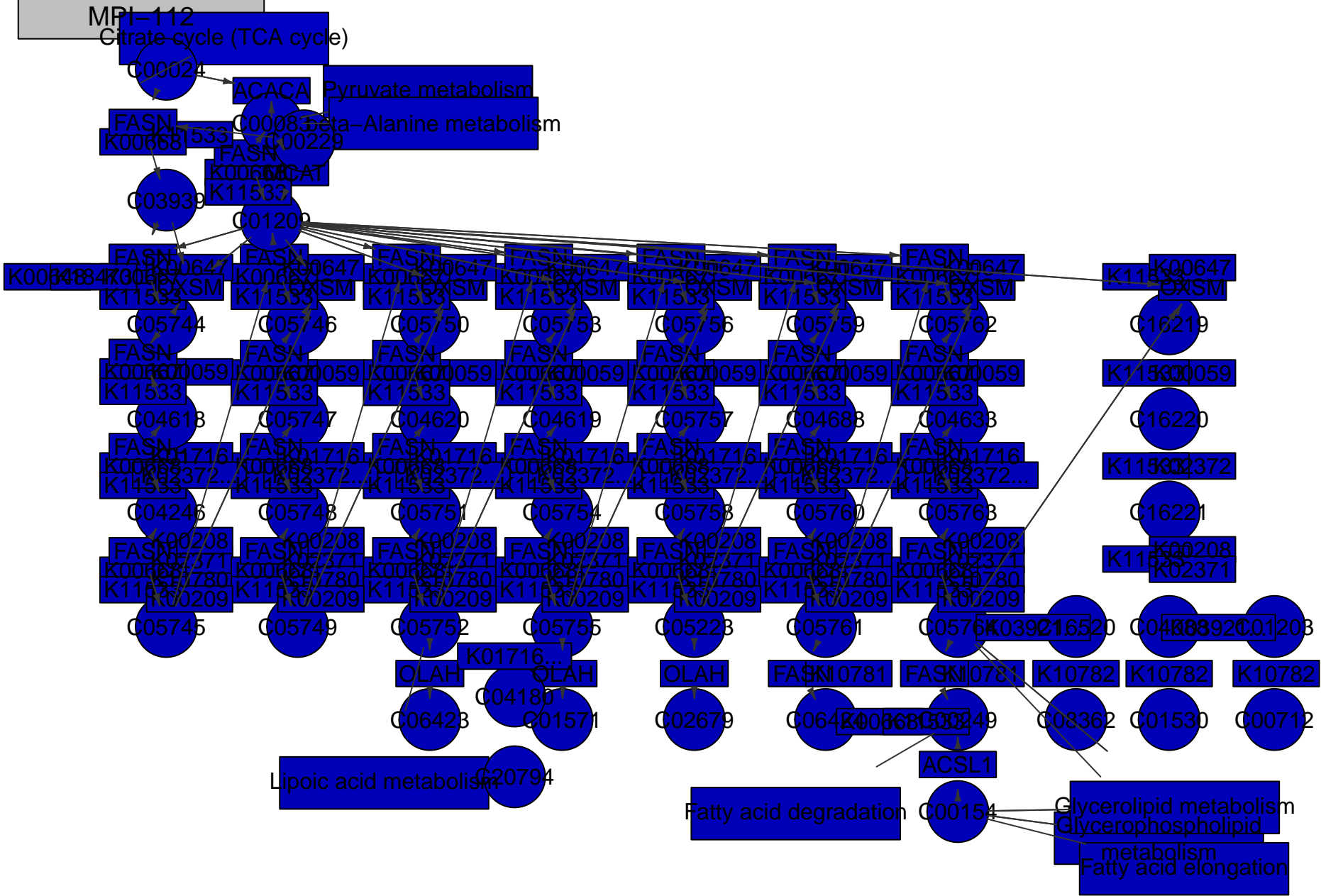
Fatty acid biosynthesis







Fatty acid biosynthesis



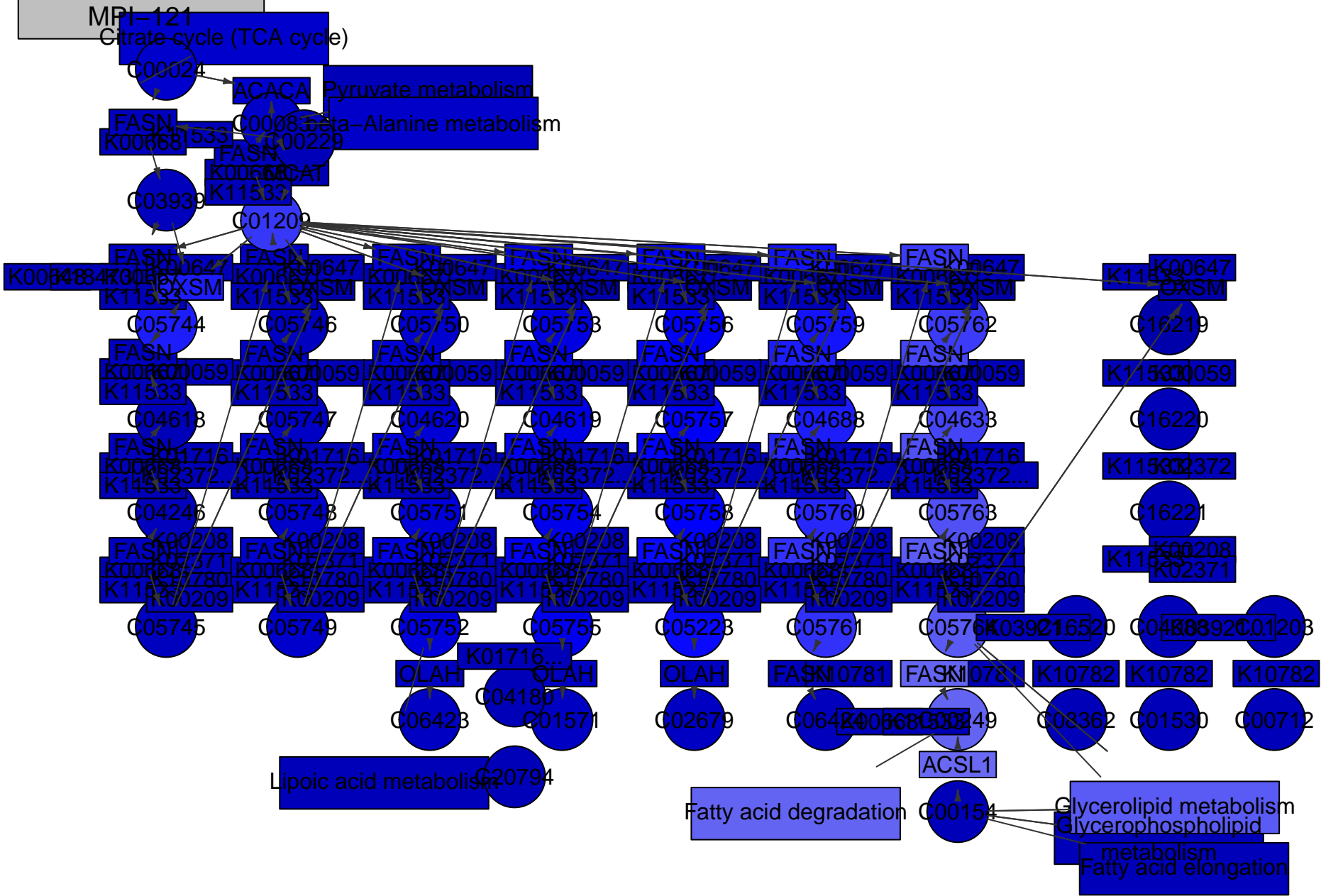








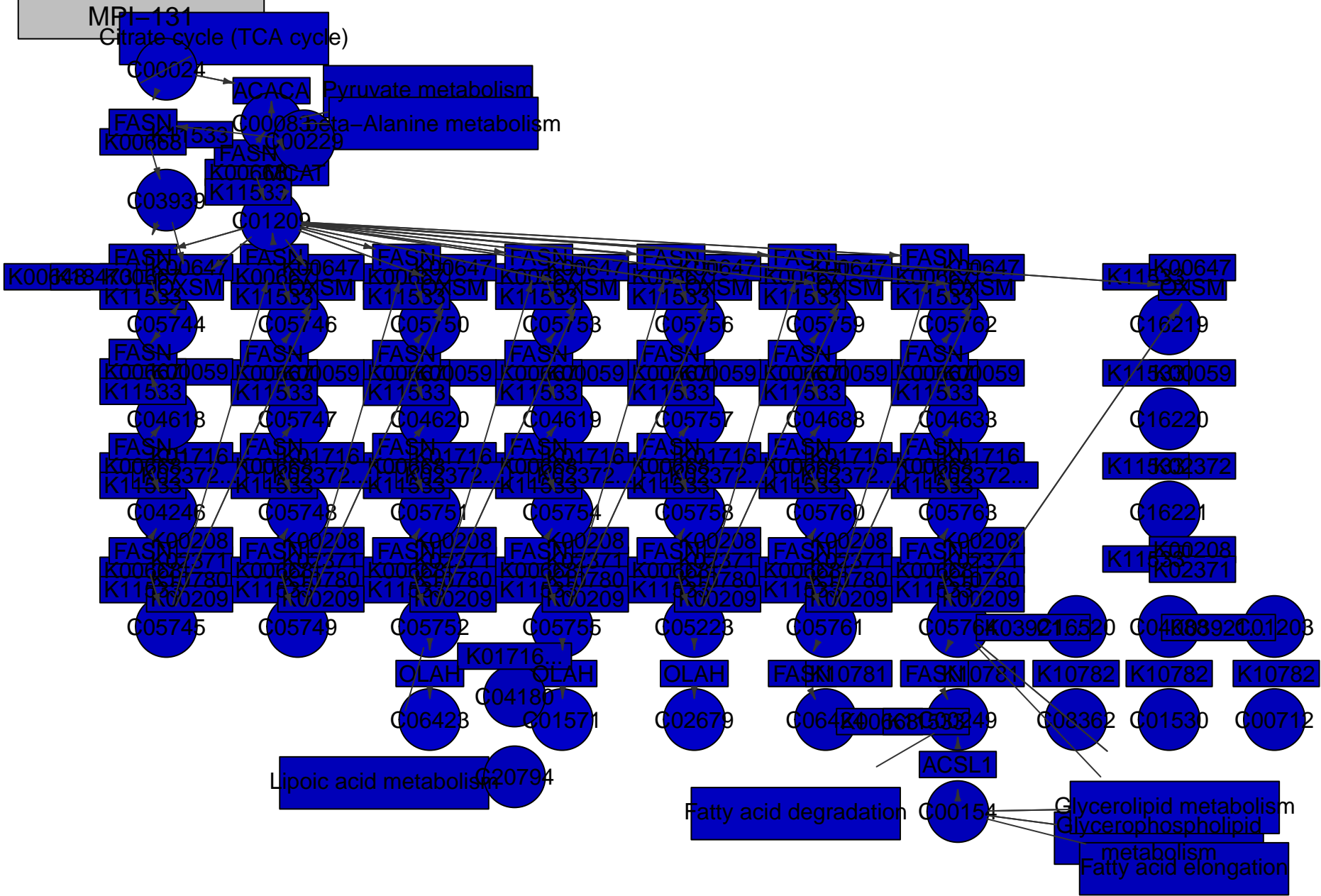
Fatty acid biosynthesis





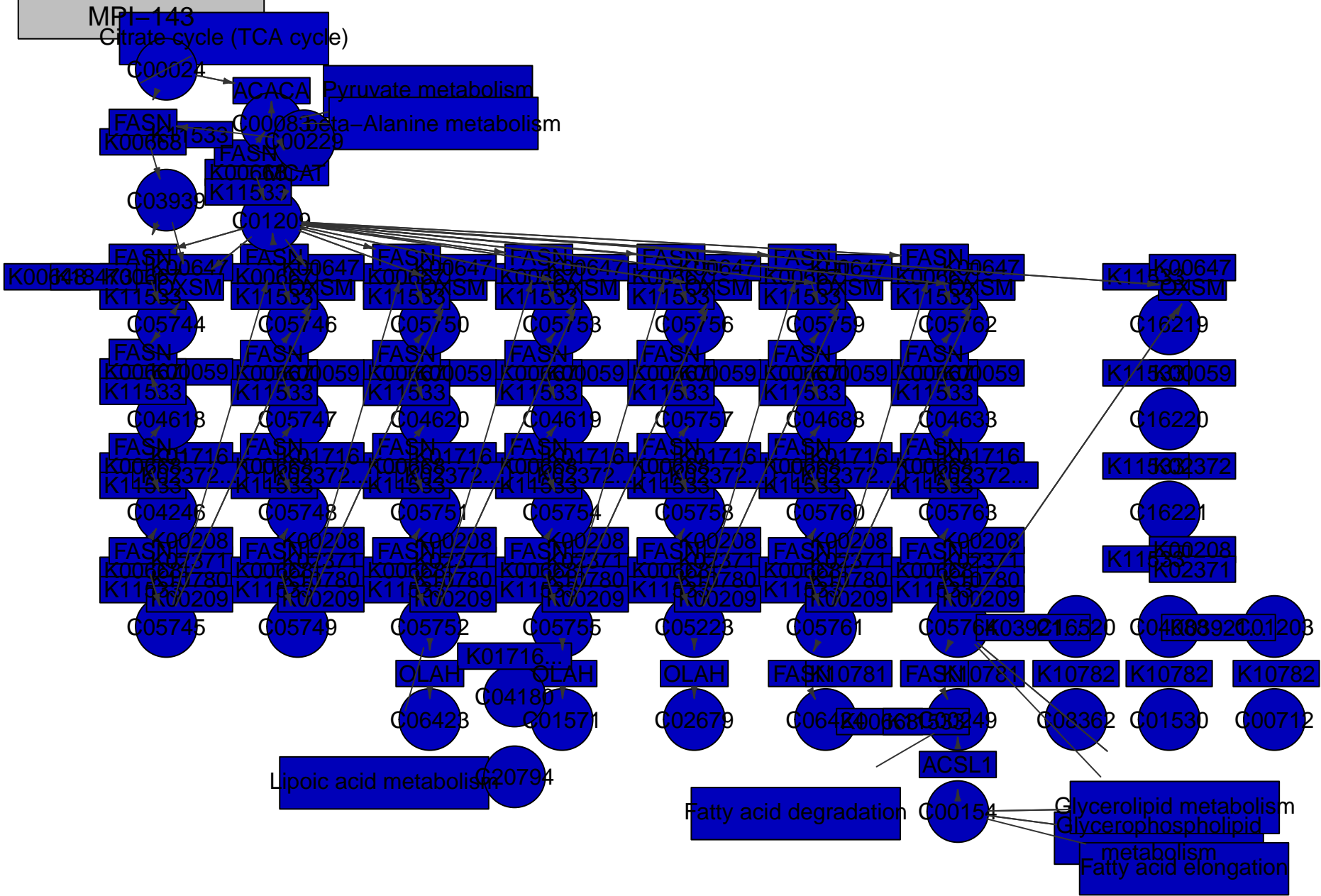


Fatty acid biosynthesis





Fatty acid biosynthesis



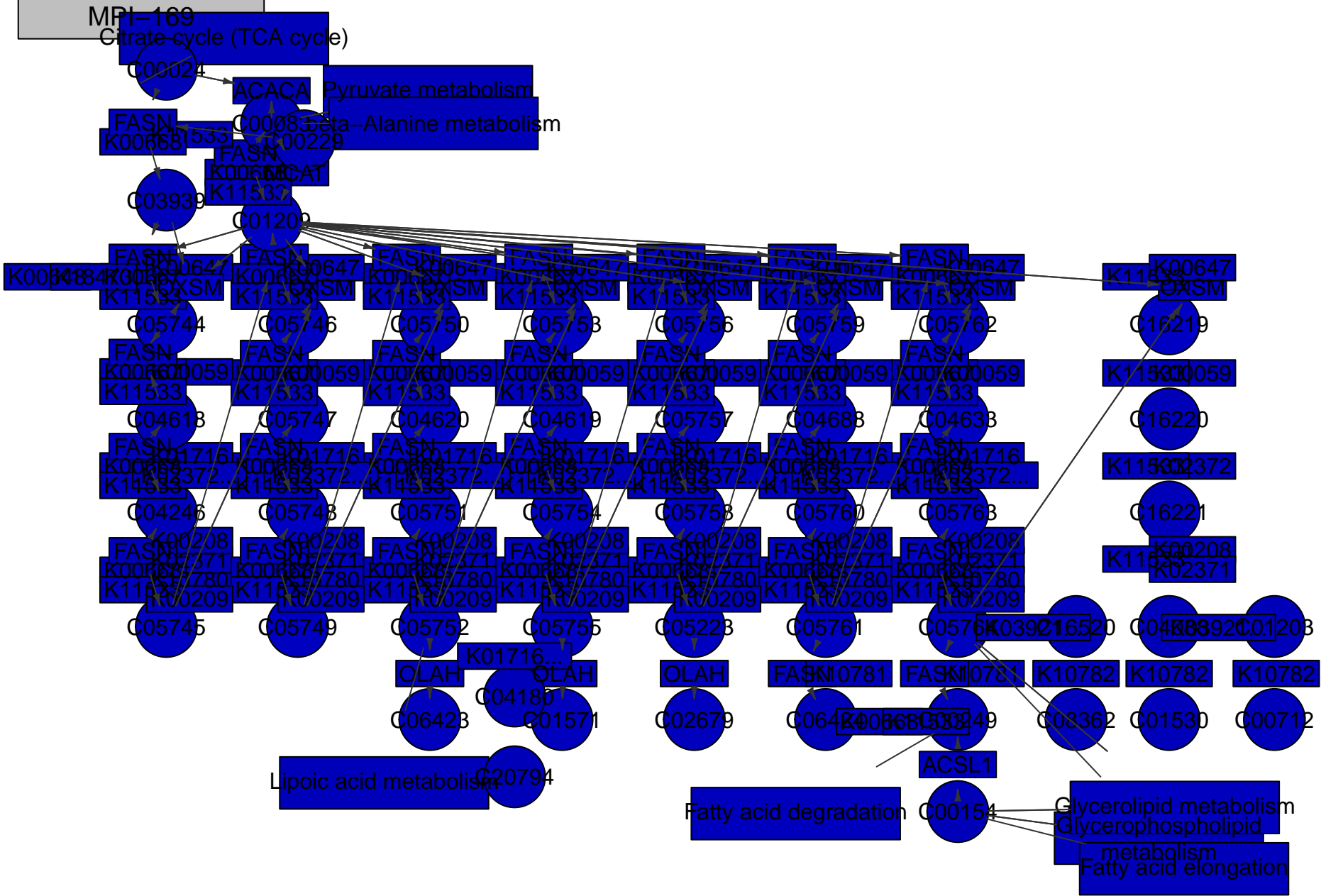






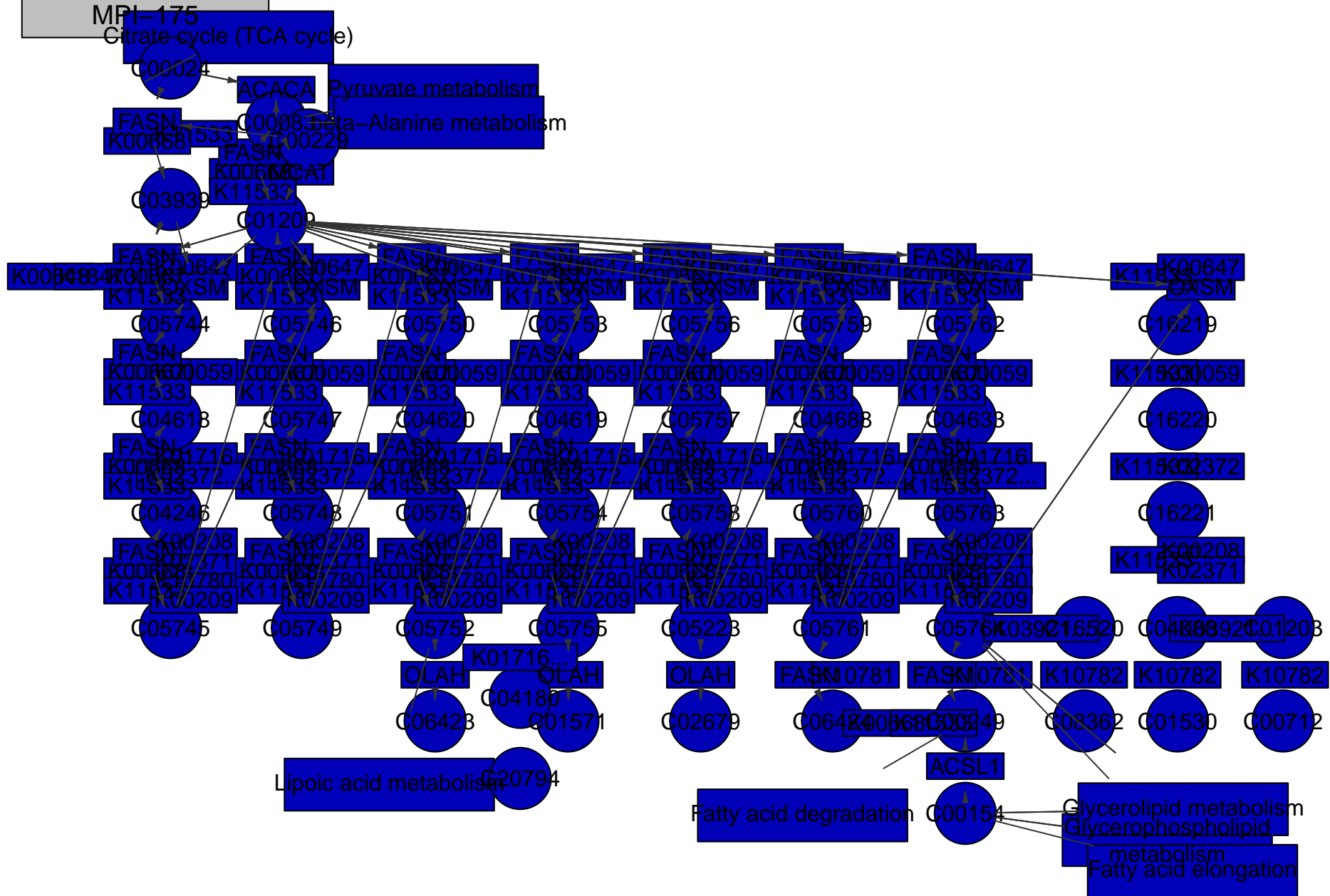


Fatty acid biosynthesis





Fatty acid biosynthesis







Fatty acid biosynthesis

MPI-216

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT

K11533

C01209

K00647

K11533

K11533

K11533

K11533

K11533

K11533

K11533

K11533

K11533

K11533

K11533

K11533

C05744

C05746

C05750

C05753

C05756

C05759

C05762

K00647

K11533

K11533

K11533

K11533

K11533

K11533

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K00647

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K11533

C04618

C05747

C04620

C04619

C05757

C04688

C04633

K00647

K11533

K11533

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Lipoic acid metabolism

C02094

Fatty acid degradation

C00154

Glycerolipid metabolism

Glycerophospholipid

metabolism

Fatty acid elongation



Fatty acid biosynthesis

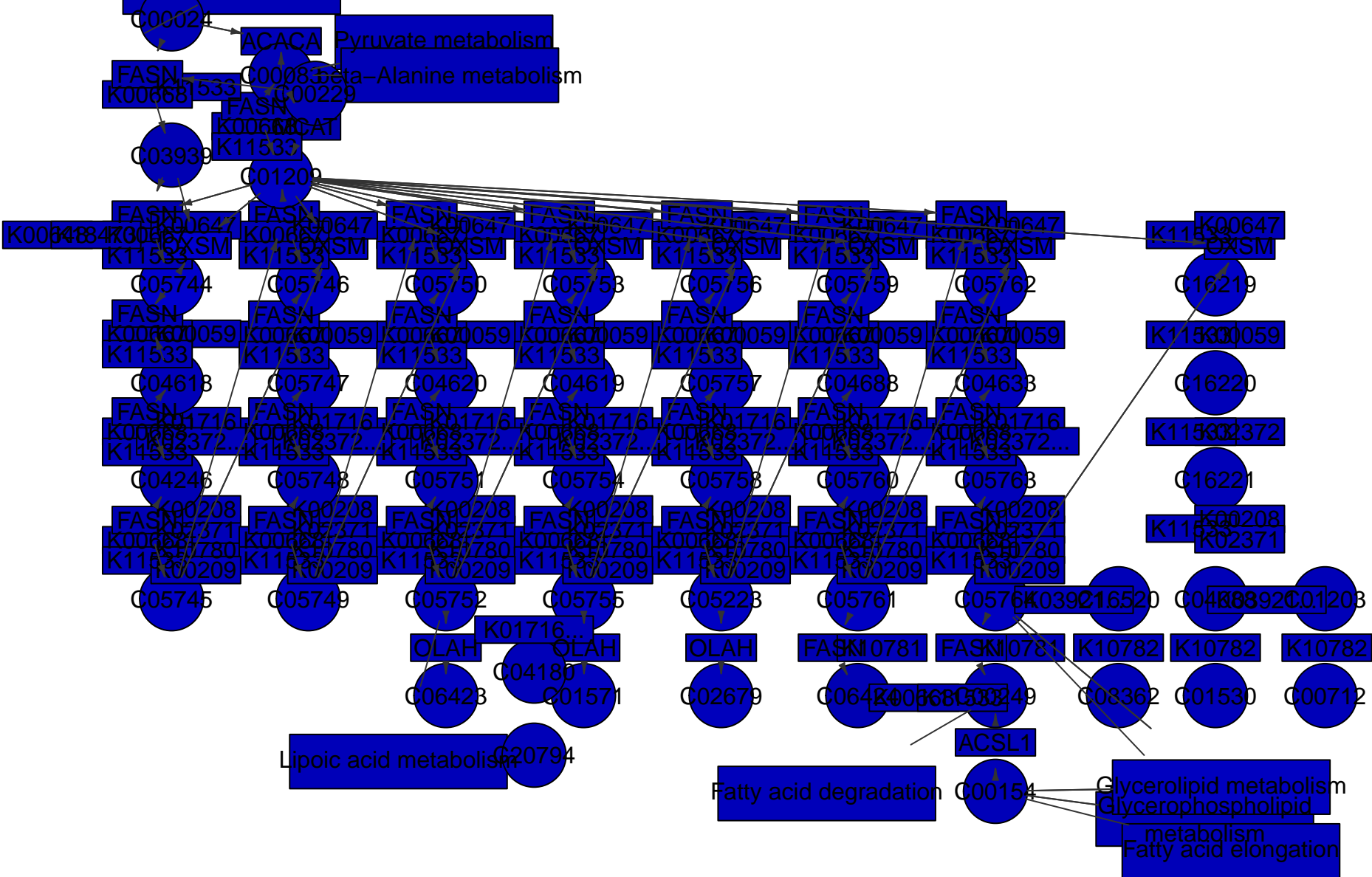
MPI-222

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT

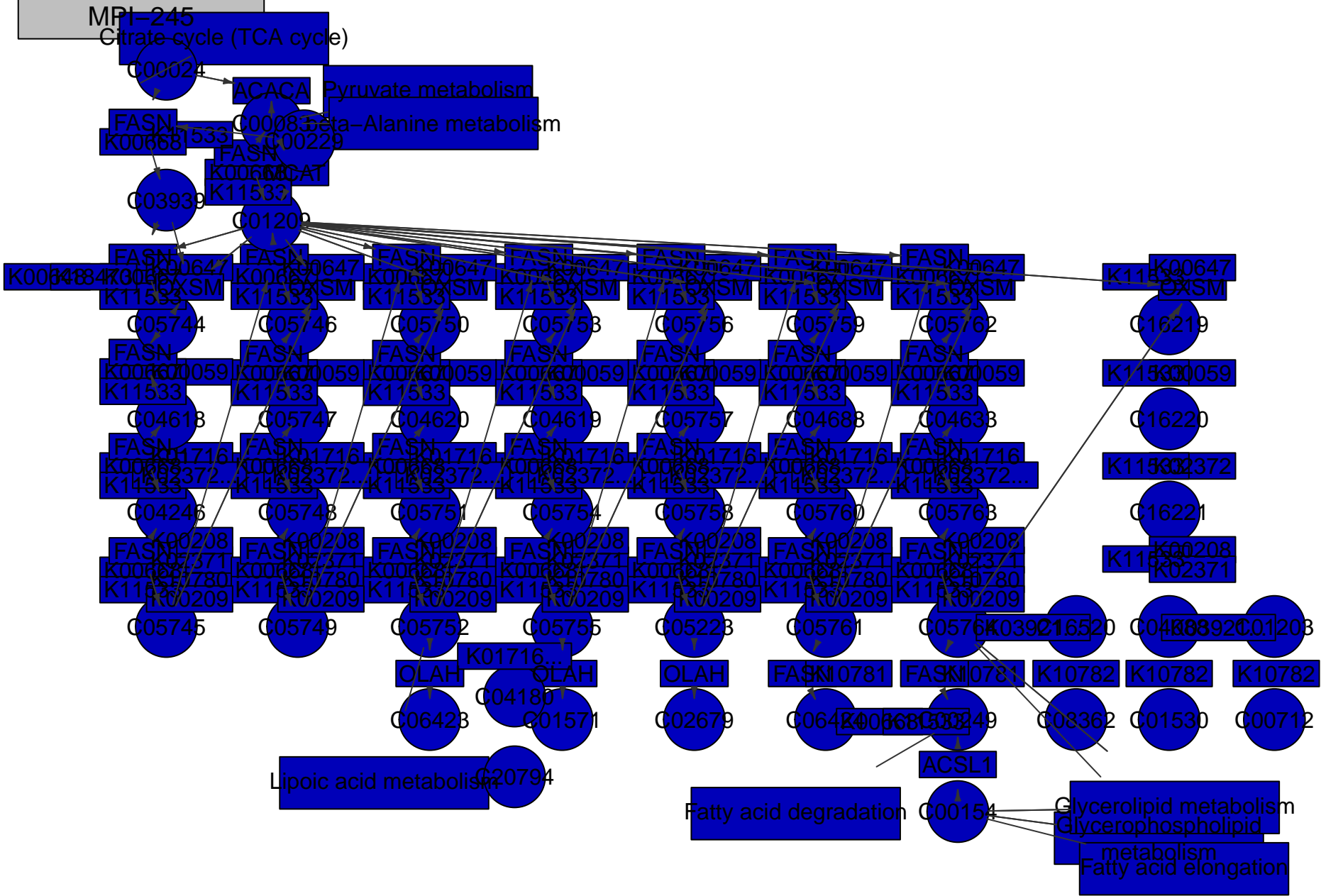








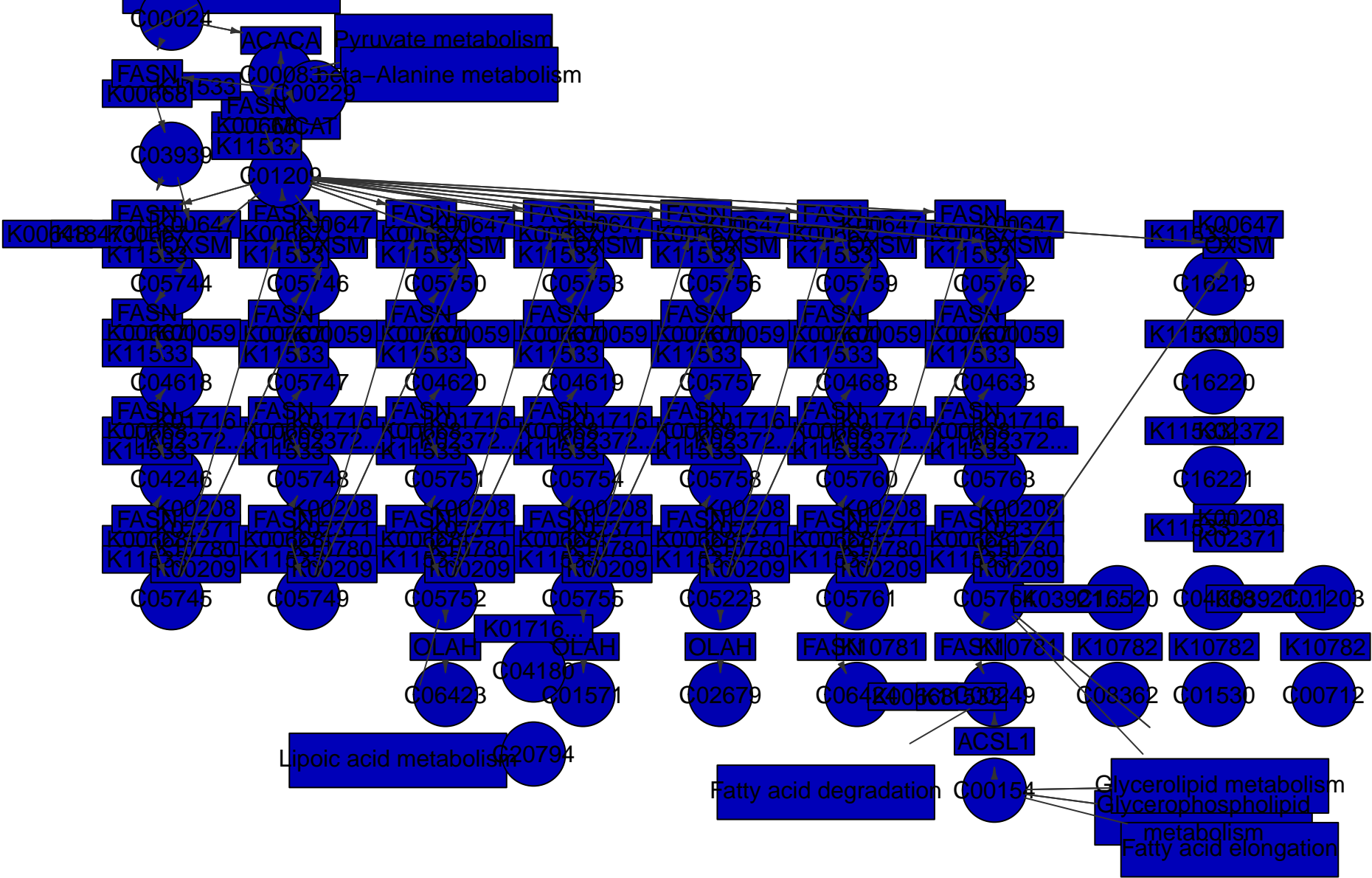
Fatty acid biosynthesis



Fatty acid biosynthesis

MPI-248

Citrate cycle (TCA cycle)









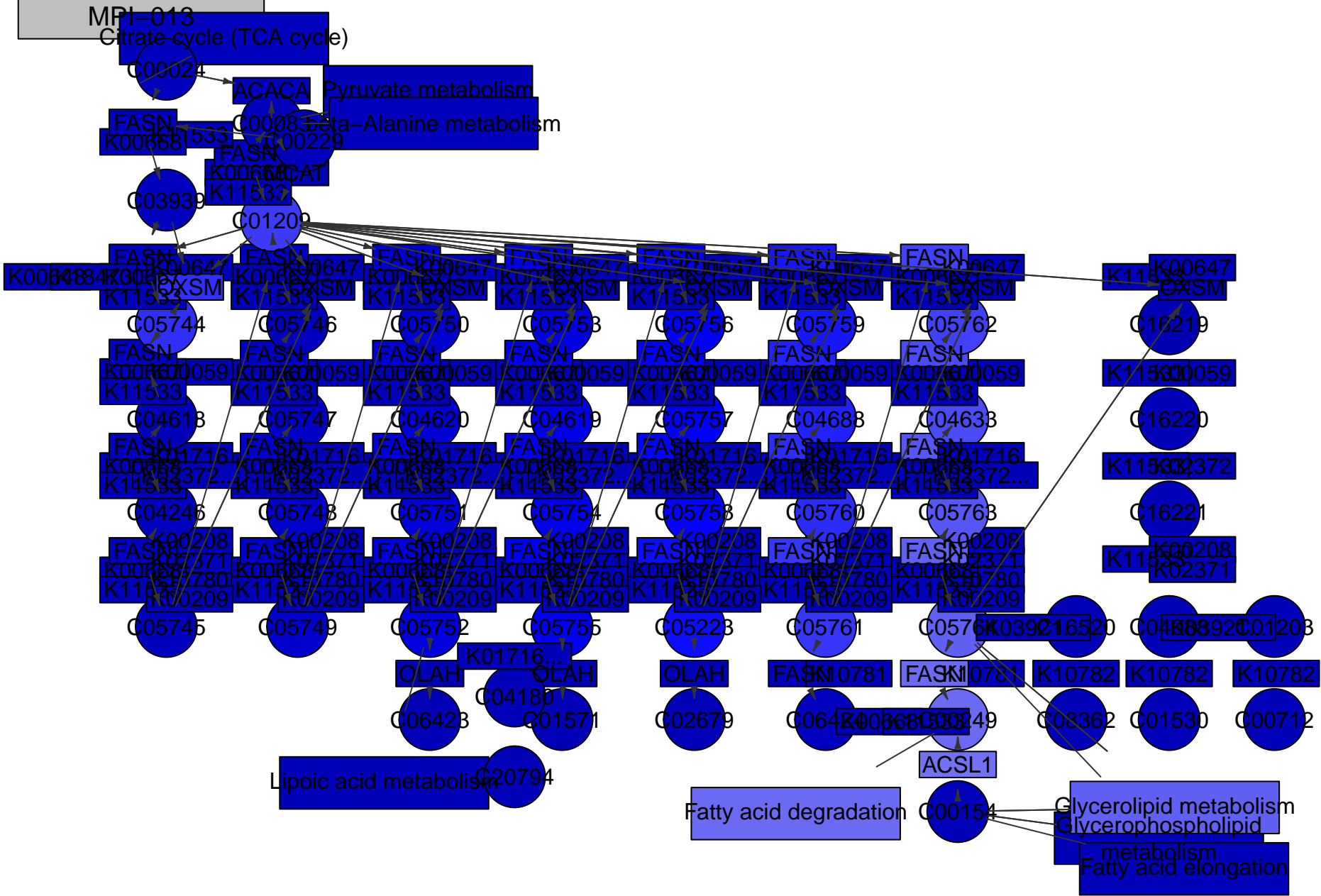






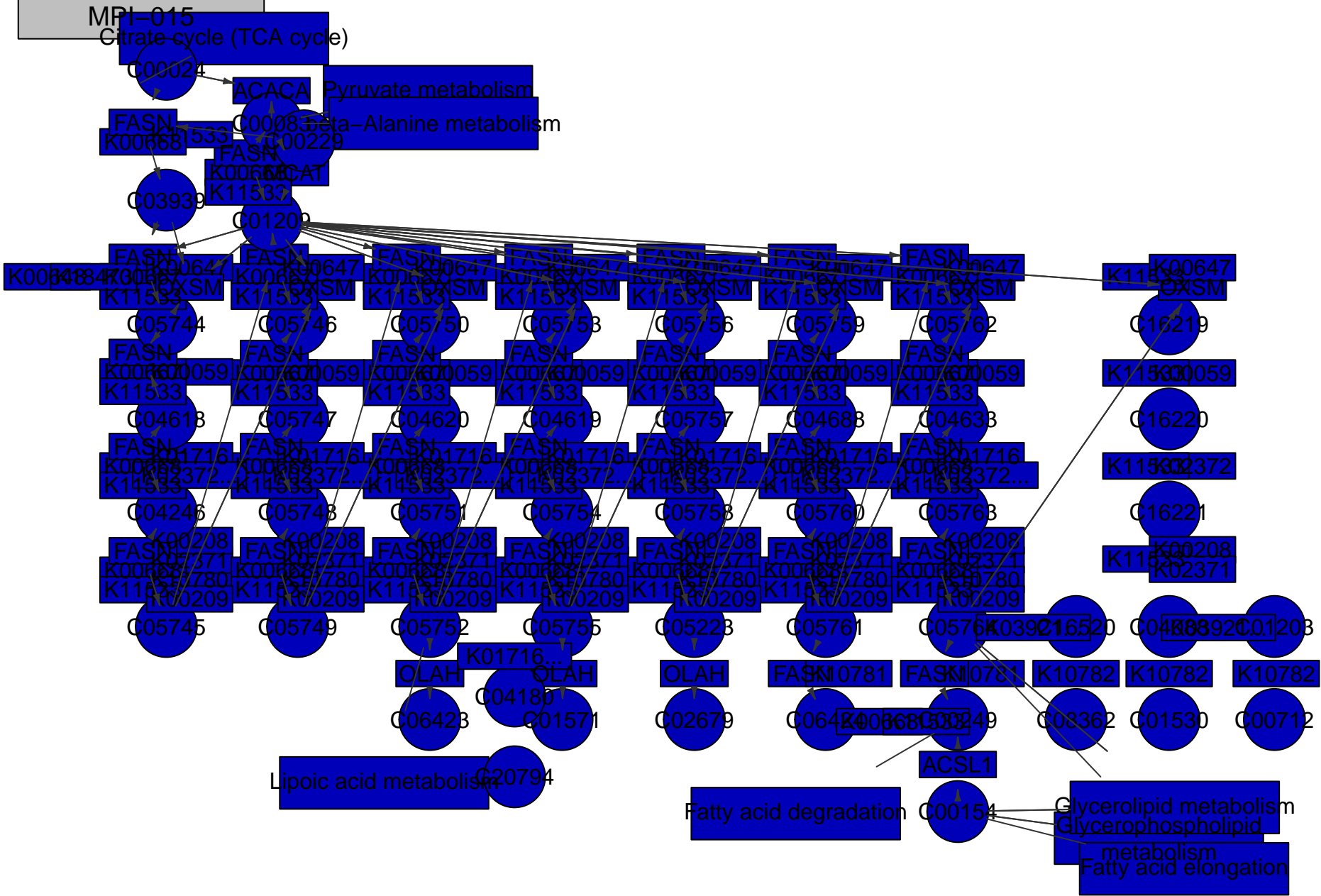


Fatty acid biosynthesis





# Fatty acid biosynthesis

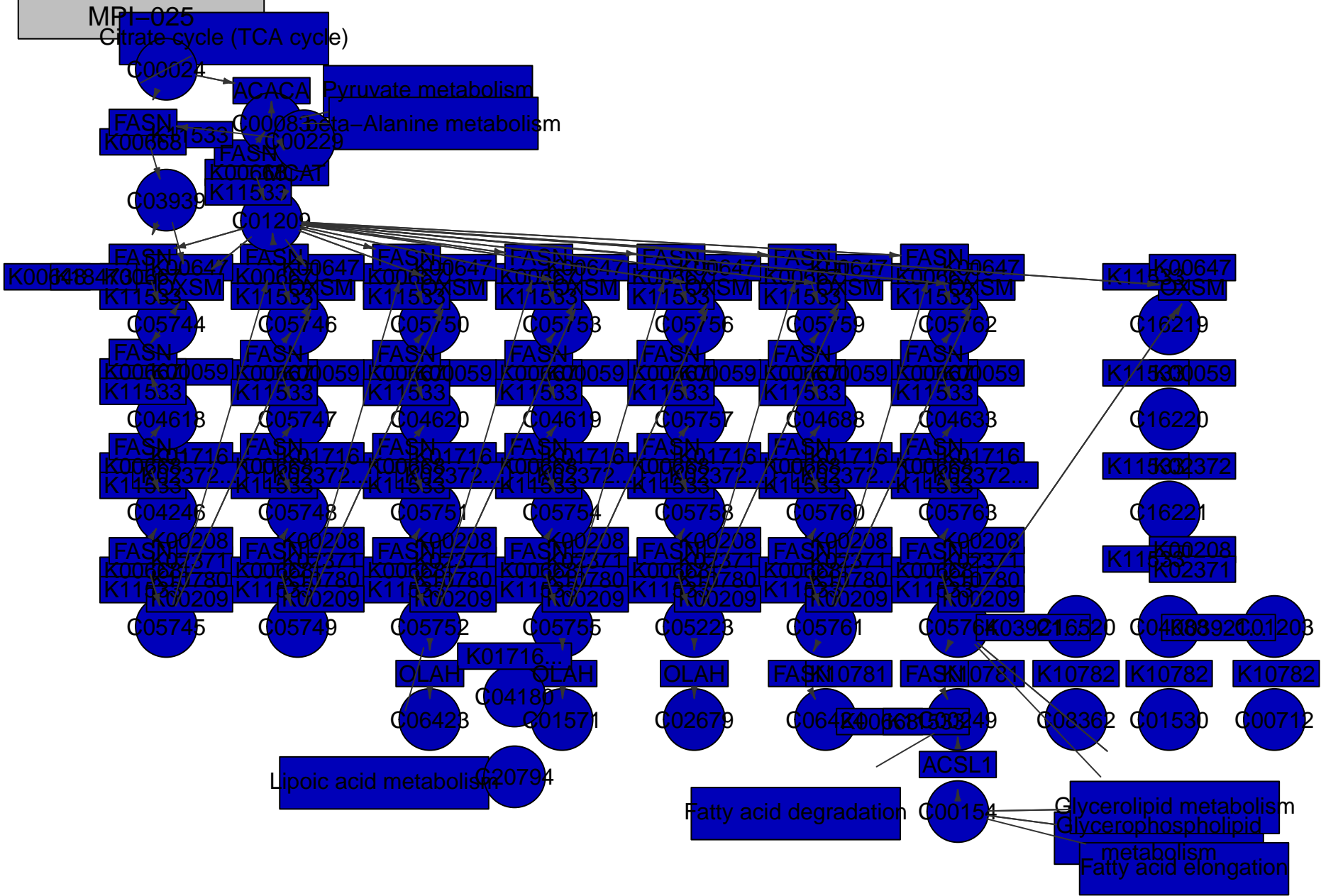








Fatty acid biosynthesis



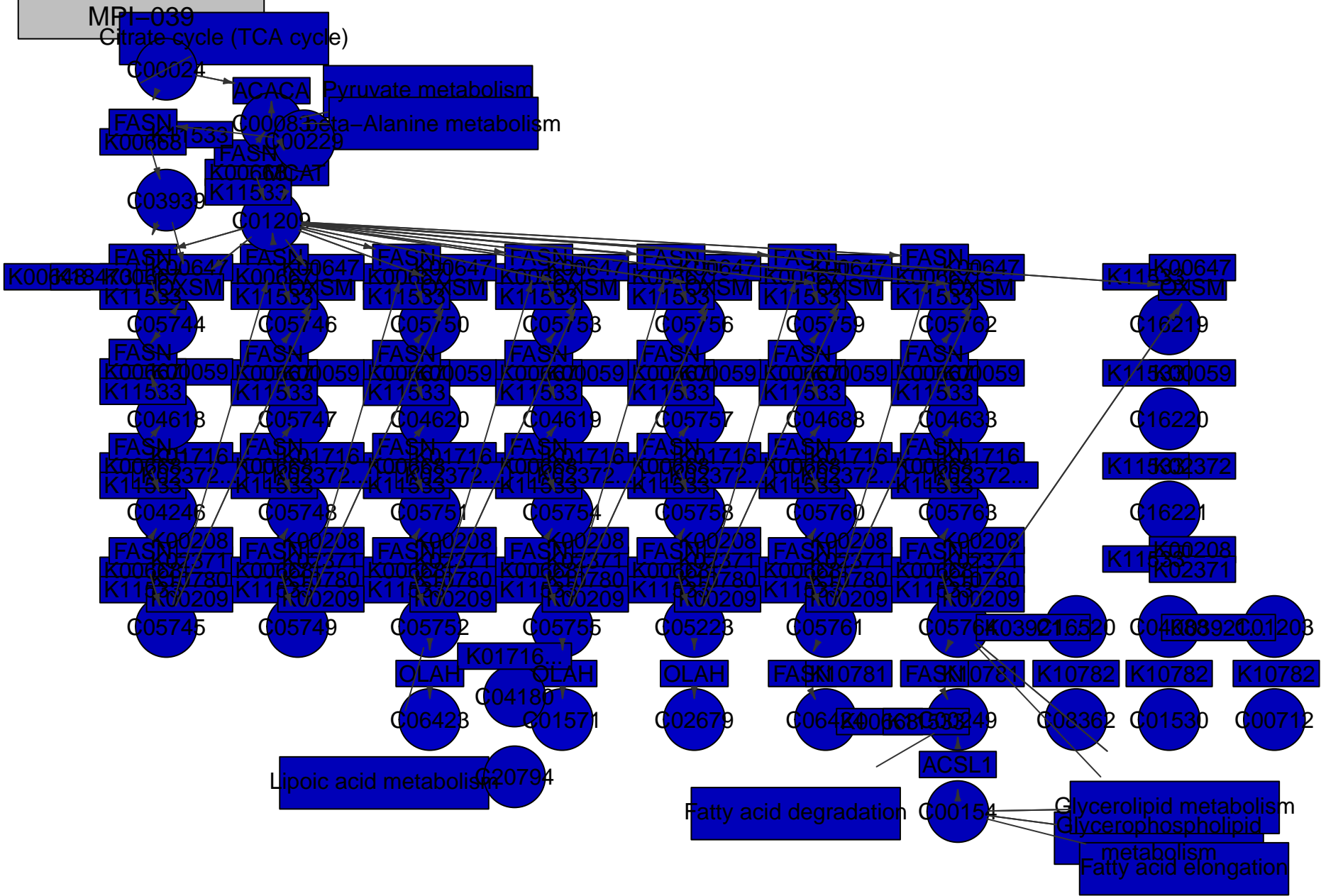








Fatty acid biosynthesis





Fatty acid biosynthesis

MPI-045

Citrate cycle (TCA cycle)

C00024  
ACACA

Pyruvate metabolism

FASN  
K00658

C00083  
K00658

beta-Alanine metabolism

FASN  
K00658

C00229  
K00658

C03939  
K11533

C01209  
K11533

FASN  
K00647

FASN  
K00647

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C05746

C05750

C05753

C05756

C05759

C05762

C05762

C05762

C16219

C16219

C16219

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K00647

FASN  
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C05747

C04620

C04619

C05757

C04688

C04633

C04633

C04633

C16220

C16220

C16220

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K00647

FASN  
K00647

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C04246

C05748

C05751

C05754

C05758

C05760

C05763

C05763

C05763

C16221

C16221

C16221

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K00647

FASN  
K00647

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K00647

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C05749

C05752

C05755

C05223

C05761

C05761

C05761

C05761

C03921

C03921

C03921

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K00647

FASN  
K00647

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FASN  
K00647

K01716  
OLAH

C06423

C01571

C02679

C06423

C08362

C00712

Lipoic acid metabolism

C20794

Fatty acid degradation

C00154

Glycerolipid metabolism

Glycerophospholipid metabolism

Fatty acid elongation

ACSL1

FASN  
K00647

FASN  
K00647

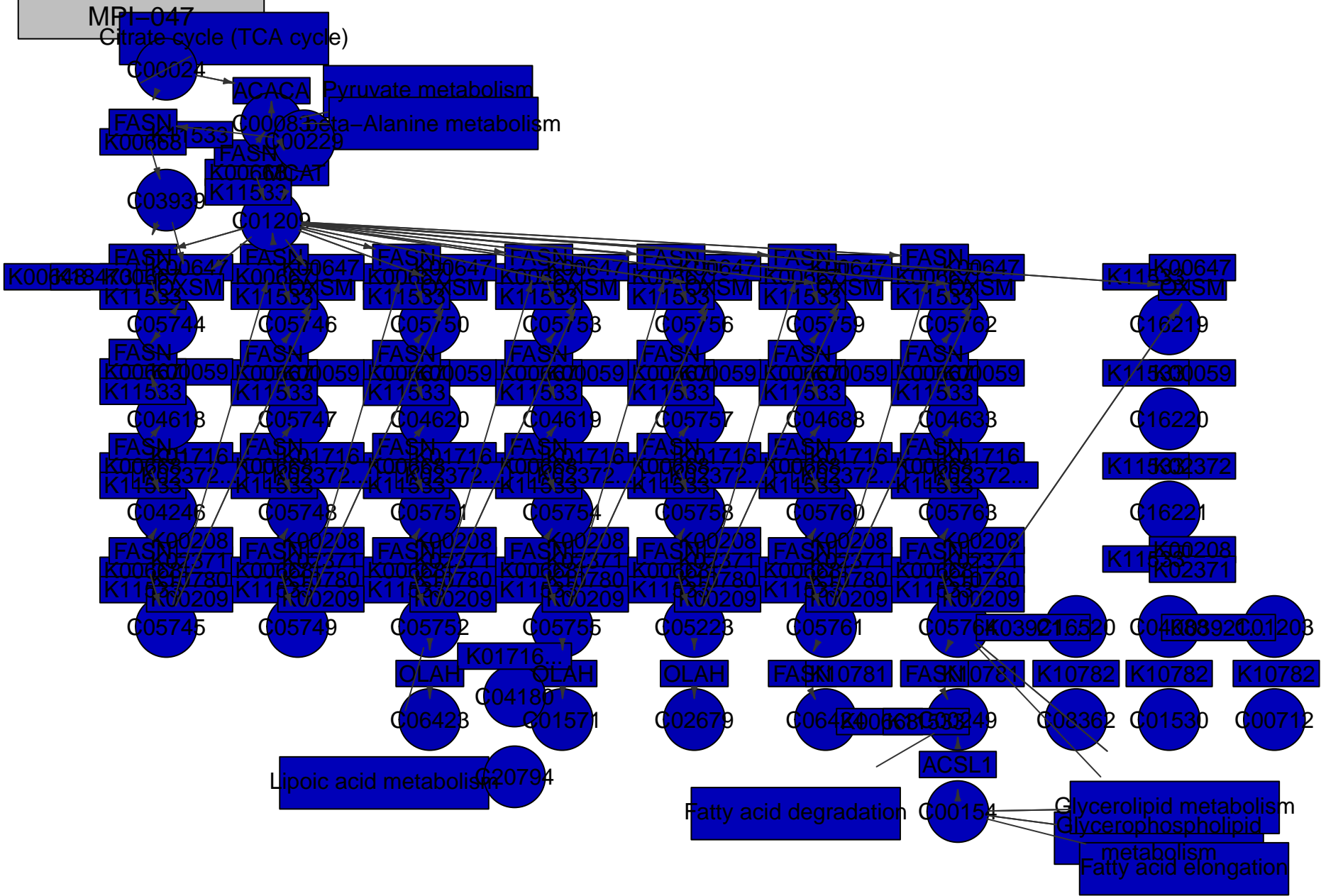
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K00647

FASN  
K00647

FASN  
K00647

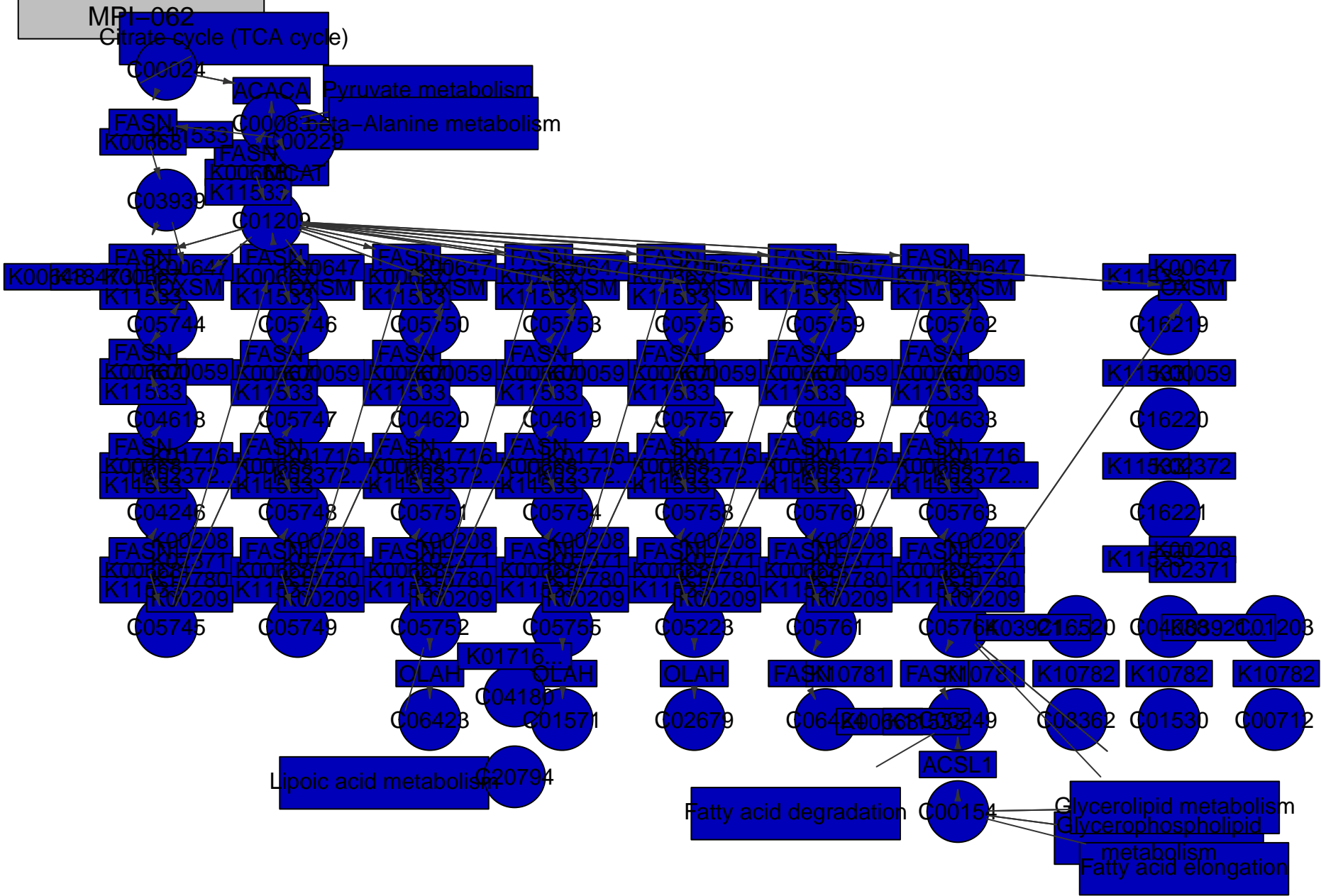
FASN  
K00647

Fatty acid biosynthesis





# Fatty acid biosynthesis

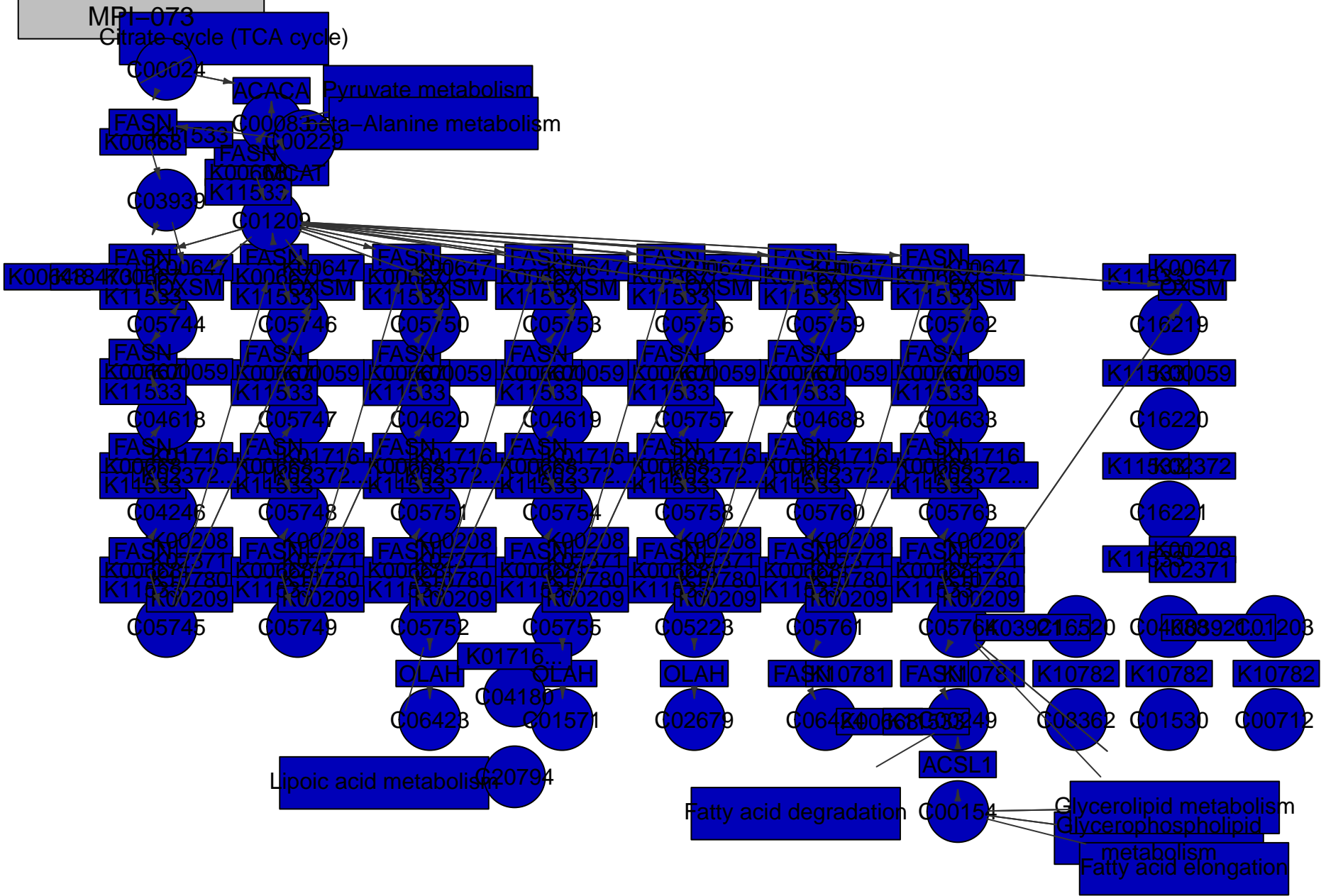




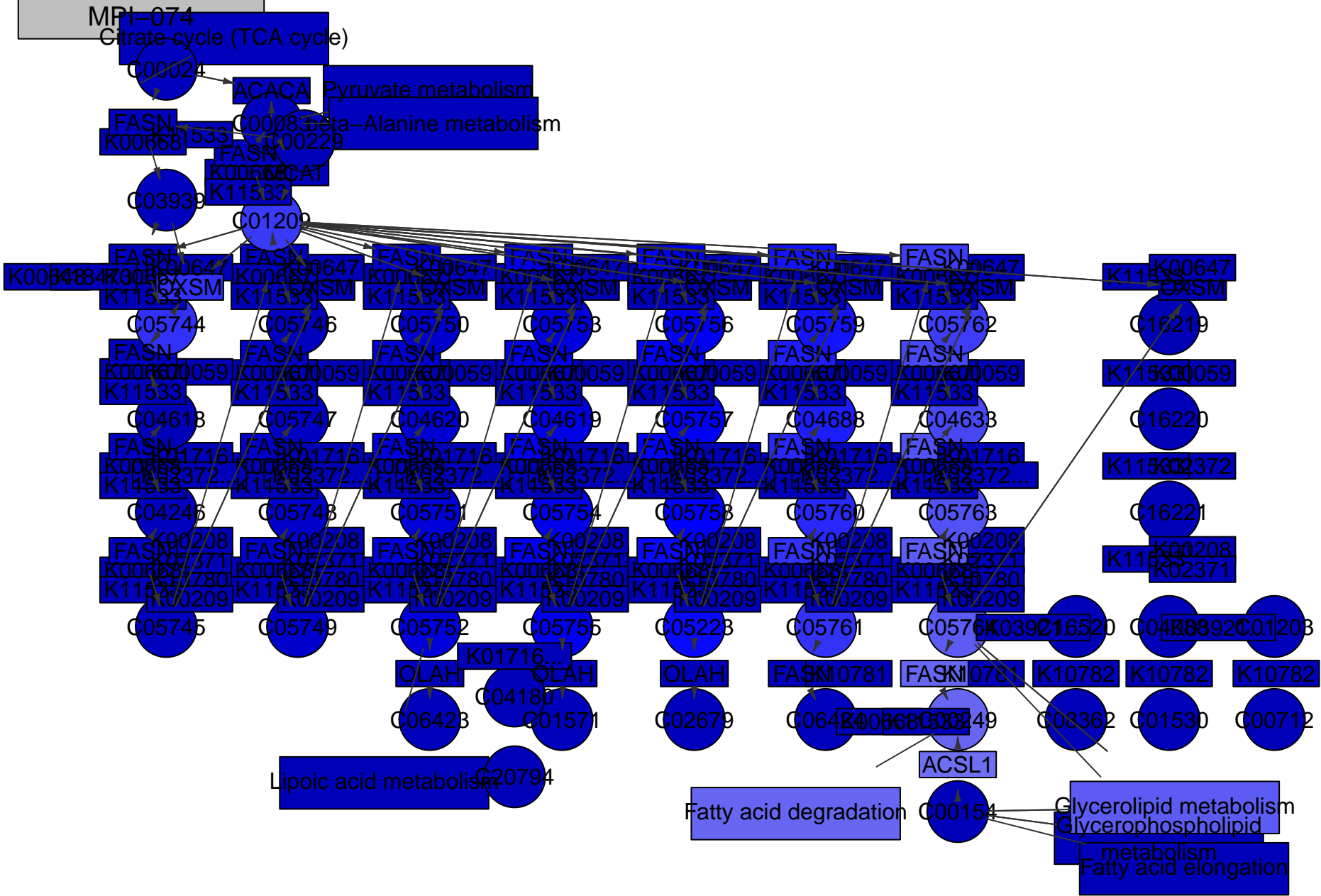




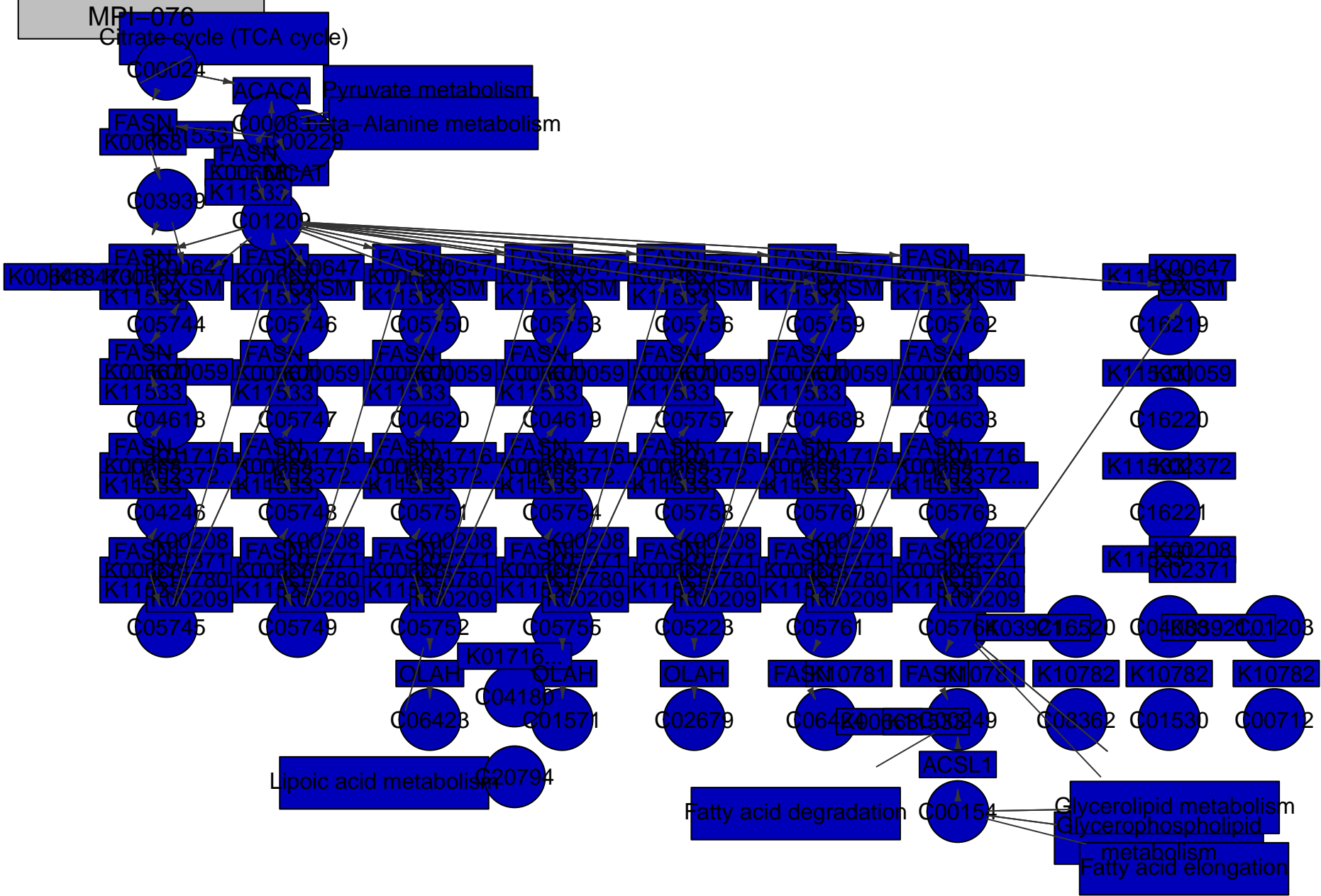
Fatty acid biosynthesis



Fatty acid biosynthesis



Fatty acid biosynthesis









Fatty acid biosynthesis

MPI-092

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MCAT

K11533

C01209

FASN K00647

K11533

C05744

FASN K00647

K11533

C04618

FASN K00647

K11533

C04246

FASN K00647

K11533

C05745

FASN K00647

K11533

C05749

FASN K00647

K11533

C05752

FASN K00647

K11533

C05755

FASN K00647

K11533

FASN K00647

K11533

C05750

FASN K00647

K11533

C05753

FASN K00647

K11533

C04619

FASN K00647

K11533

C04620

FASN K00647

K11533

C05751

FASN K00647

K11533

C05754

FASN K00647

K11533

C05758

FASN K00647

K11533

C05760

FASN K00647

K11533

C05761

FASN K00647

K11533

FASN K00647

K11533

C05756

FASN K00647

K11533

C05757

FASN K00647

K11533

C04688

FASN K00647

K11533

C04683

FASN K00647

K11533

C05753

FASN K00647

K11533

C05760

FASN K00647

K11533

C05763

FASN K00647

K11533

C05763

FASN K00647

K11533

C05763

FASN K00647

K11533

C05759

FASN K00647

K11533

C05762

FASN K00647

K11533

C05757

FASN K00647

K11533

C04688

FASN K00647

K11533

C05760

FASN K00647

K11533

C05763

FASN K00647

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C05763

FASN K00647

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C05759

FASN K00647

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C05762

FASN K00647

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C05757

FASN K00647

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C04688

FASN K00647

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C05760

FASN K00647

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C05763

FASN K00647

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C05763

FASN K00647

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C05759

FASN K00647

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C05762

FASN K00647

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C05757

FASN K00647

K11533

C04688

FASN K00647

K11533

C05760

FASN K00647

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C05763

FASN K00647

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C05763

FASN K00647

K11533

C05763

FASN K00647

K11533

C05763

K11533

C05744

FASN K00647

K11533

C05746

FASN K00647

K11533

C05750

FASN K00647

K11533

C04618

FASN K00647

K11533

C04246

FASN K00647

K11533

C05745

FASN K00647

K11533

C05749

FASN K00647

K11533

C05752

FASN K00647

K11533

C05755

FASN K00647

K11533

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C16219

FASN K00647

K11533

C16220

FASN K00647

K11533

C16221

FASN K00647

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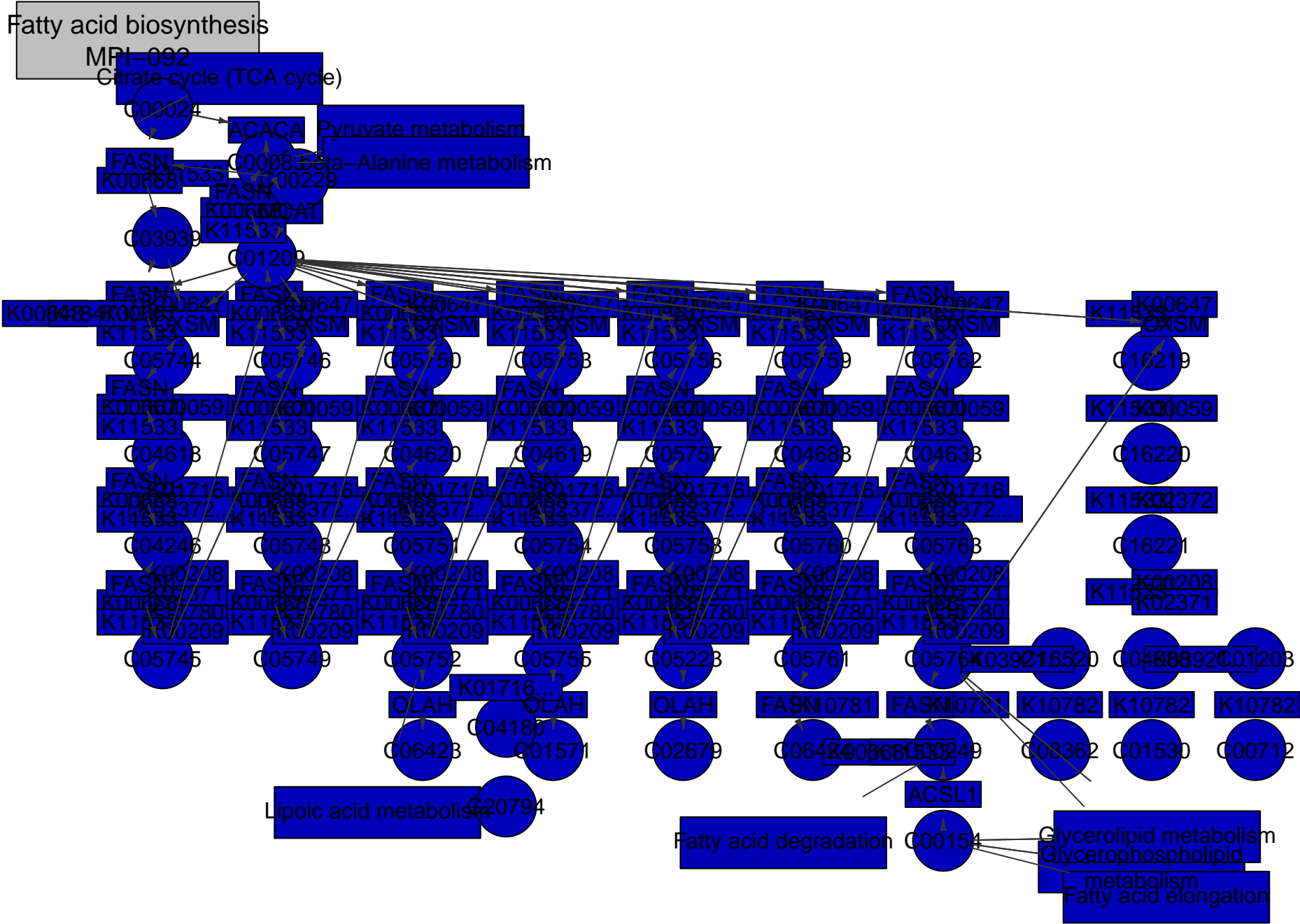
Lipoic acid metabolism

Fatty acid degradation

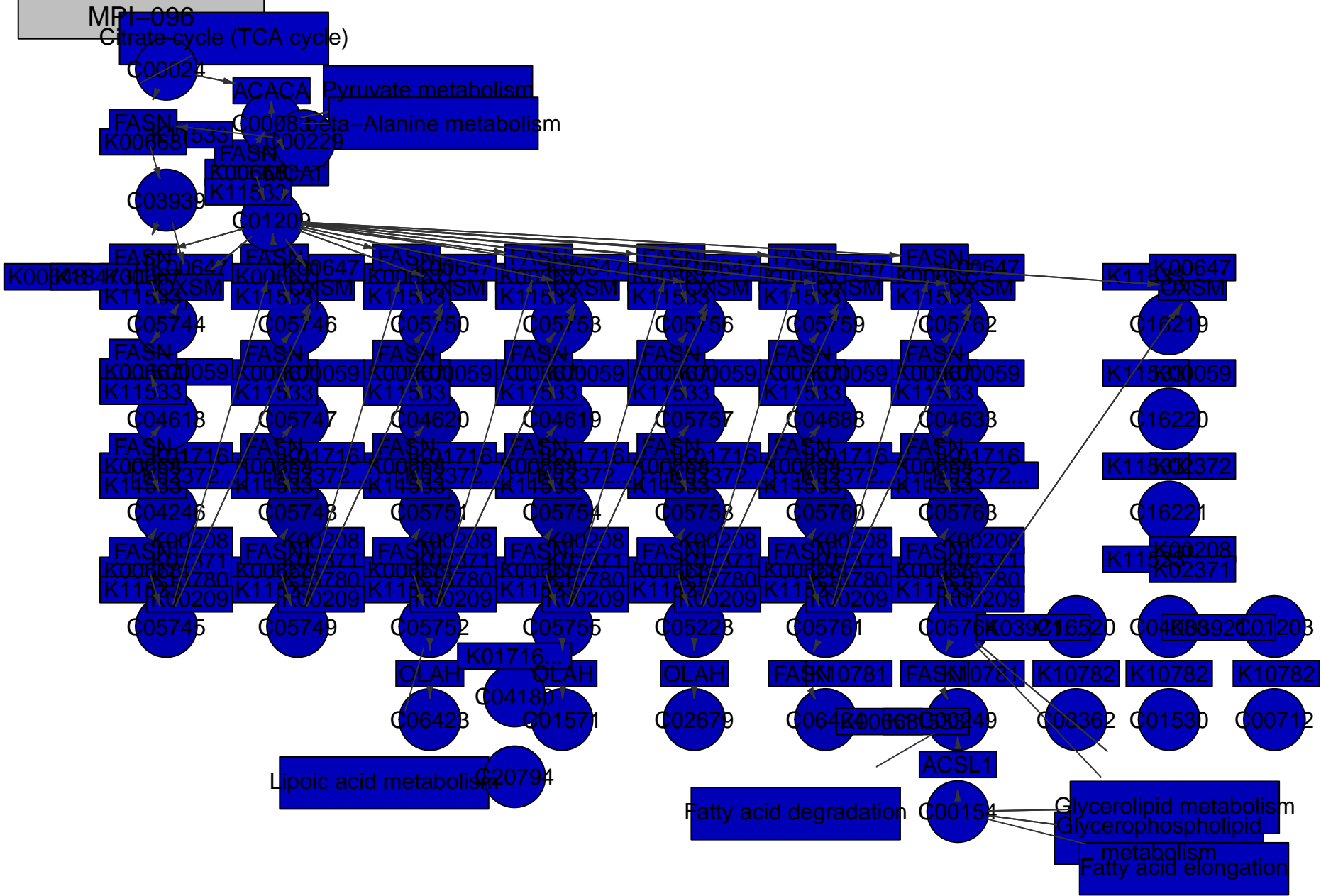
Glycerolipid metabolism

Glycerophospholipid metabolism

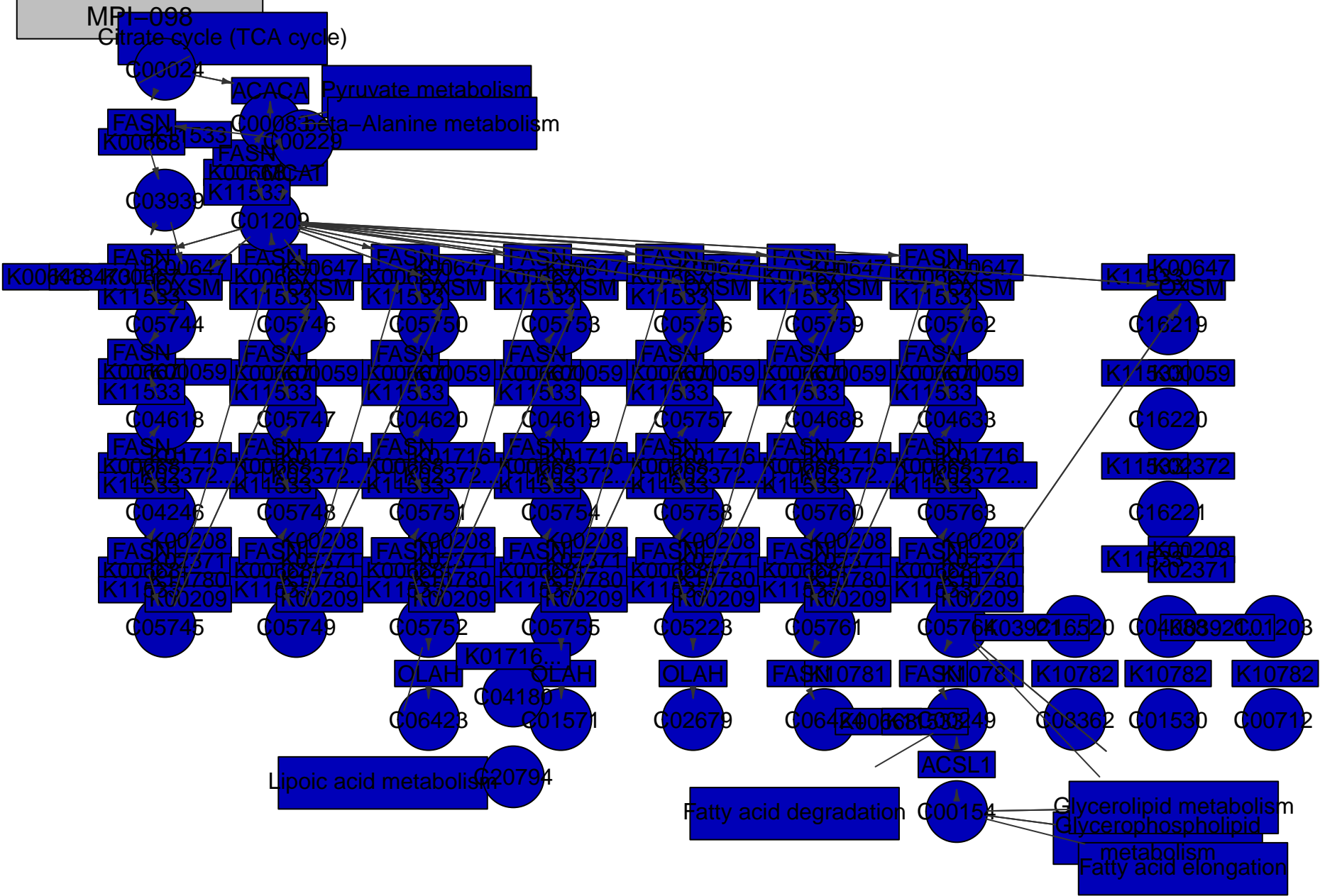
Fatty acid elongation



Fatty acid biosynthesis



Fatty acid biosynthesis















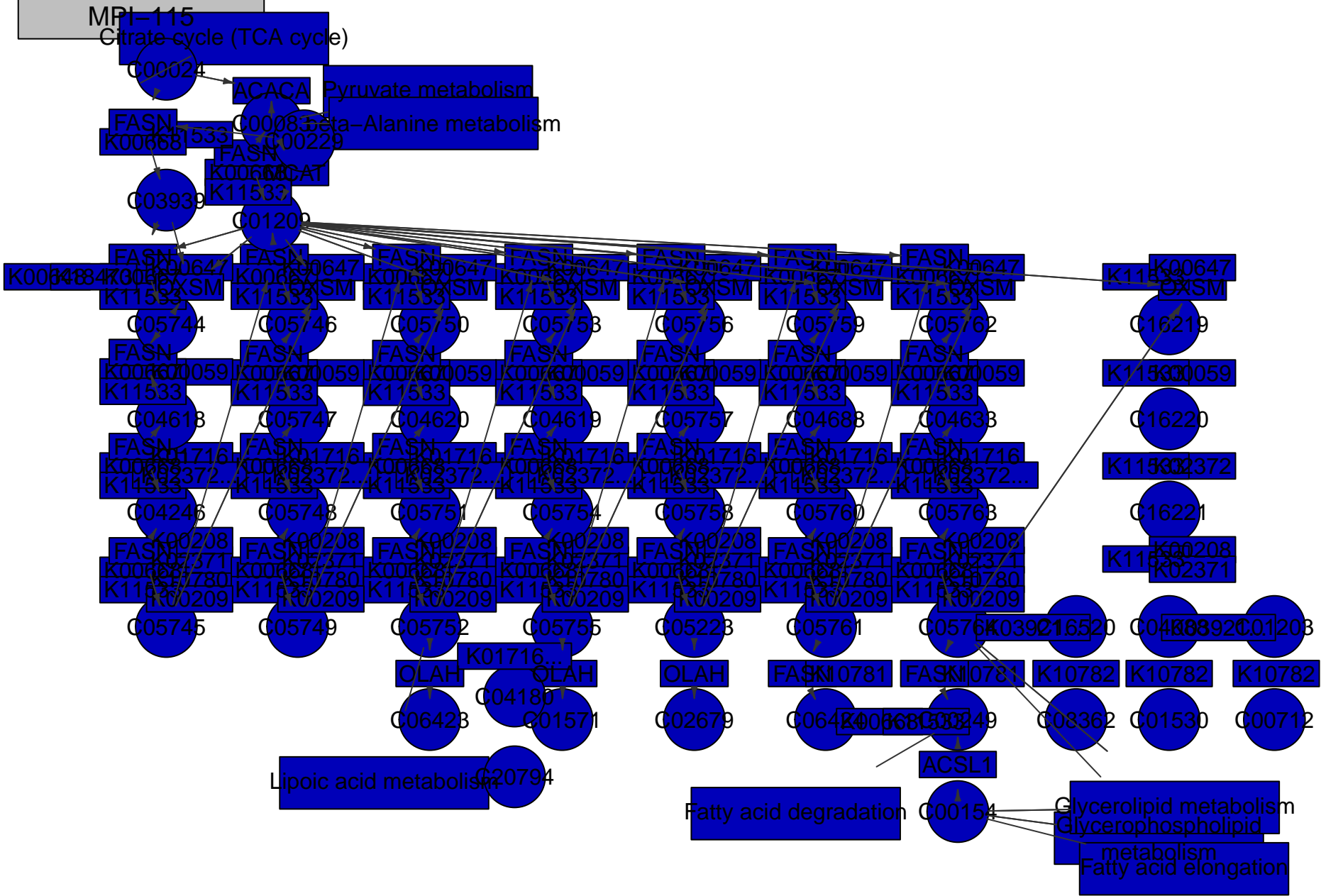








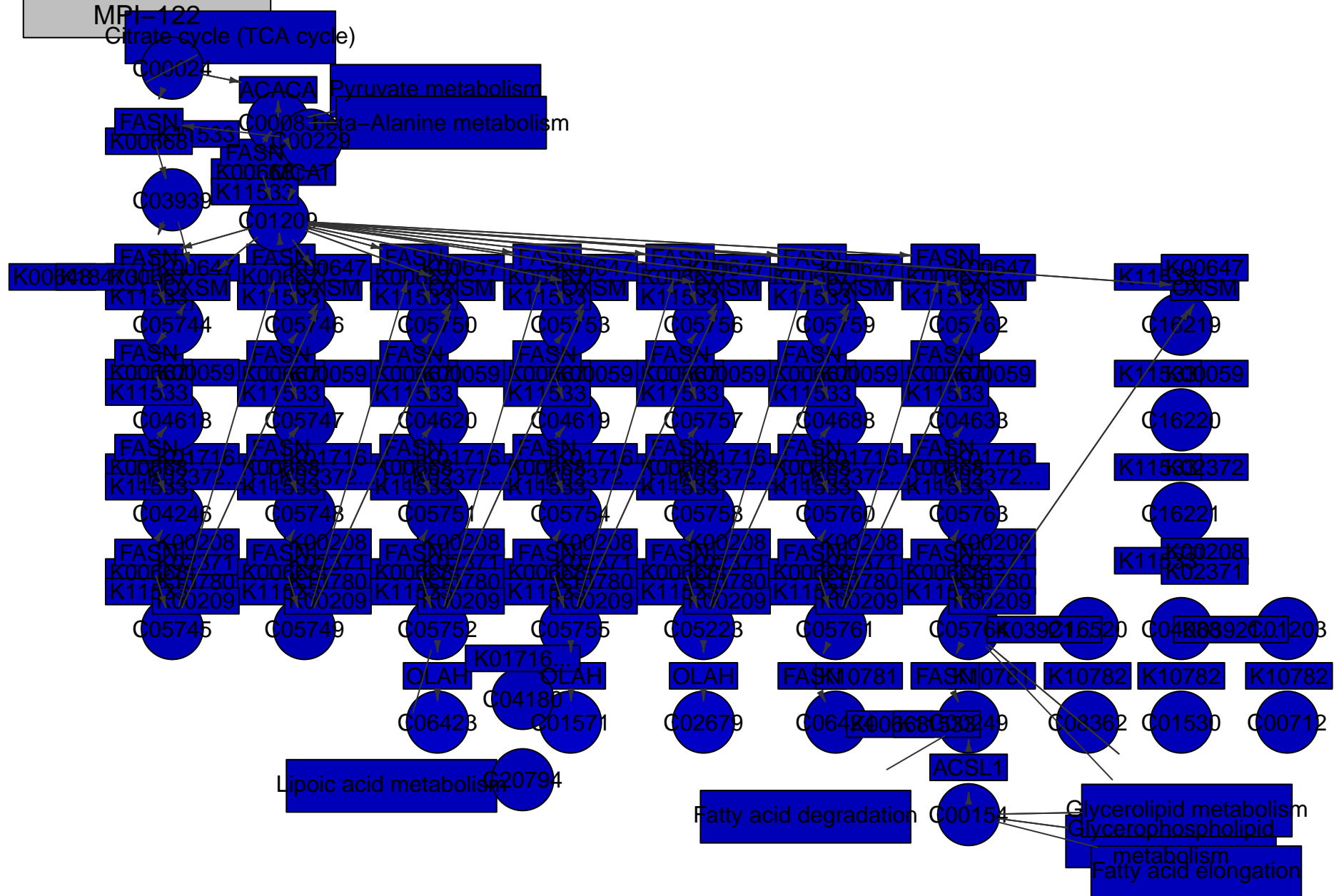
Fatty acid biosynthesis



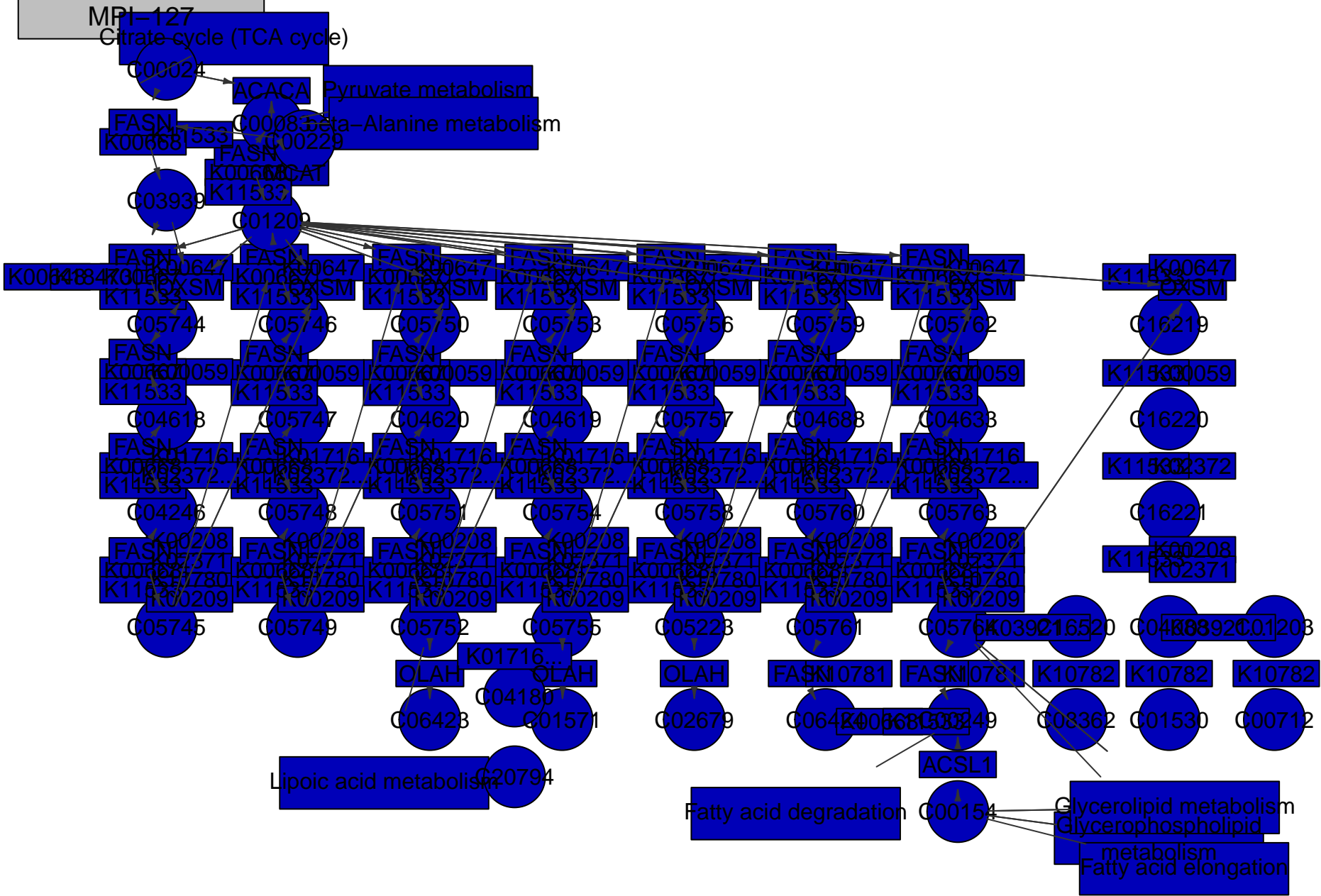




# Fatty acid biosynthesis



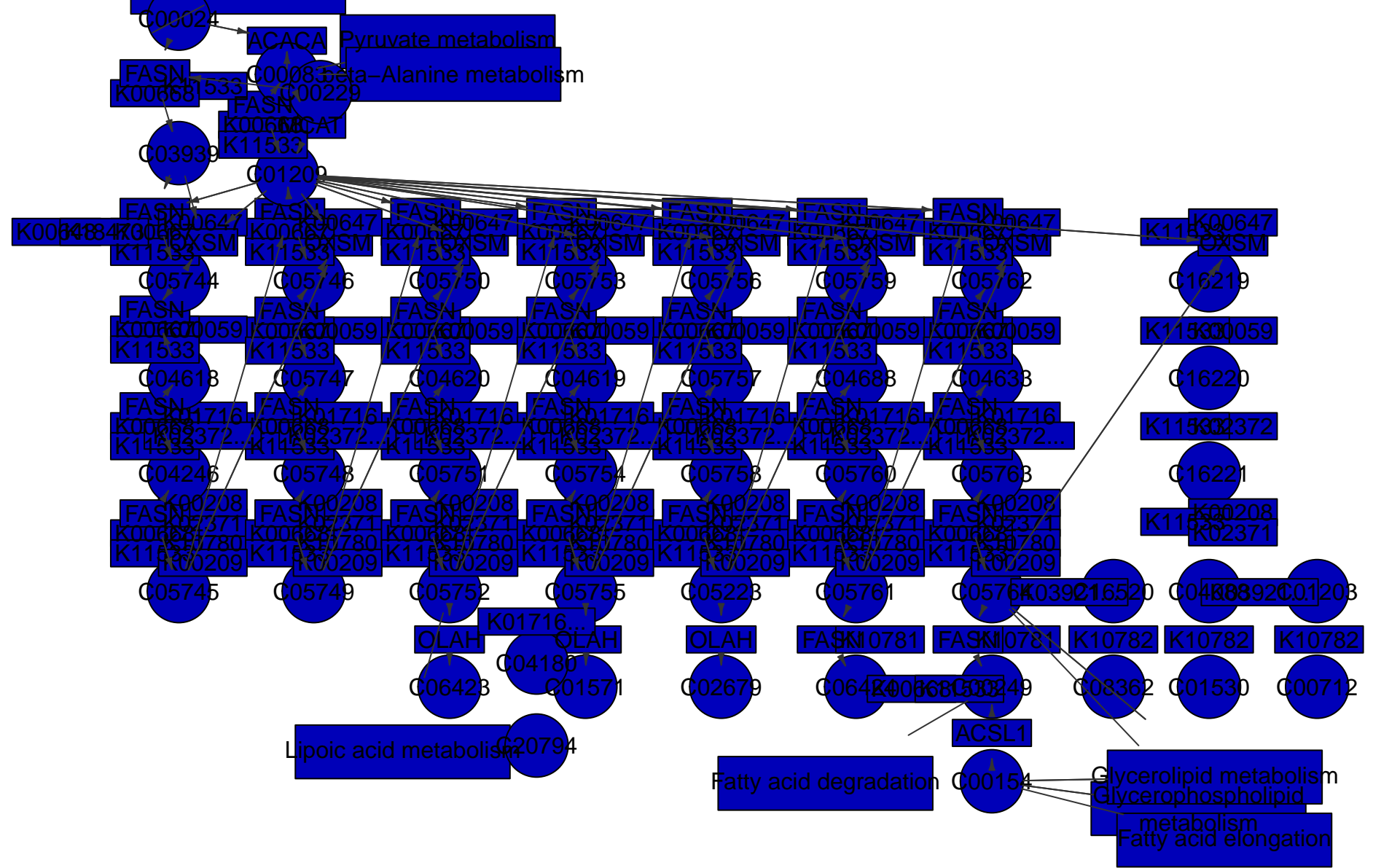
Fatty acid biosynthesis



Fatty acid biosynthesis

MPI-128

Citrate cycle (TCA cycle)







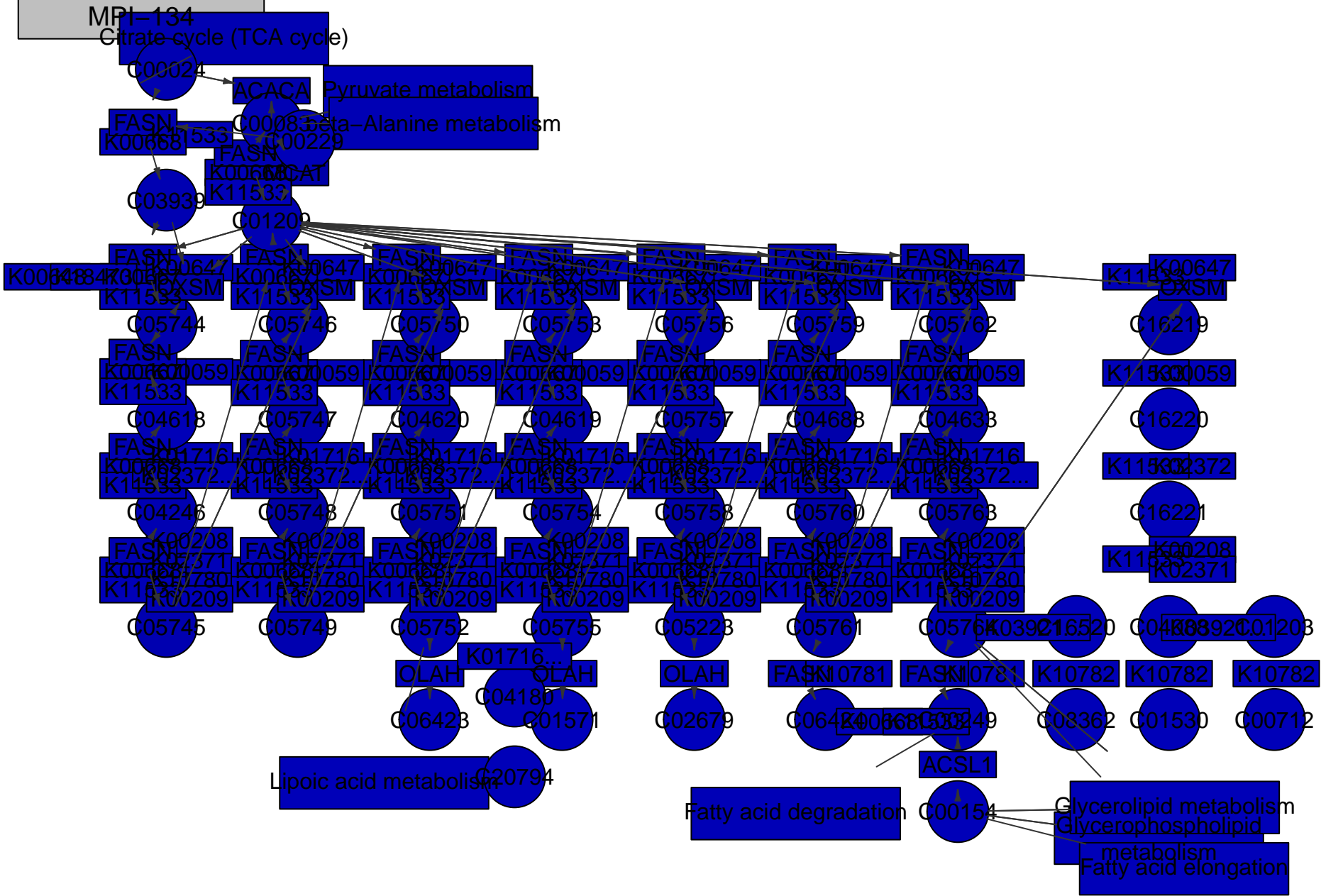




Fatty acid biosynthesis



# Fatty acid biosynthesis

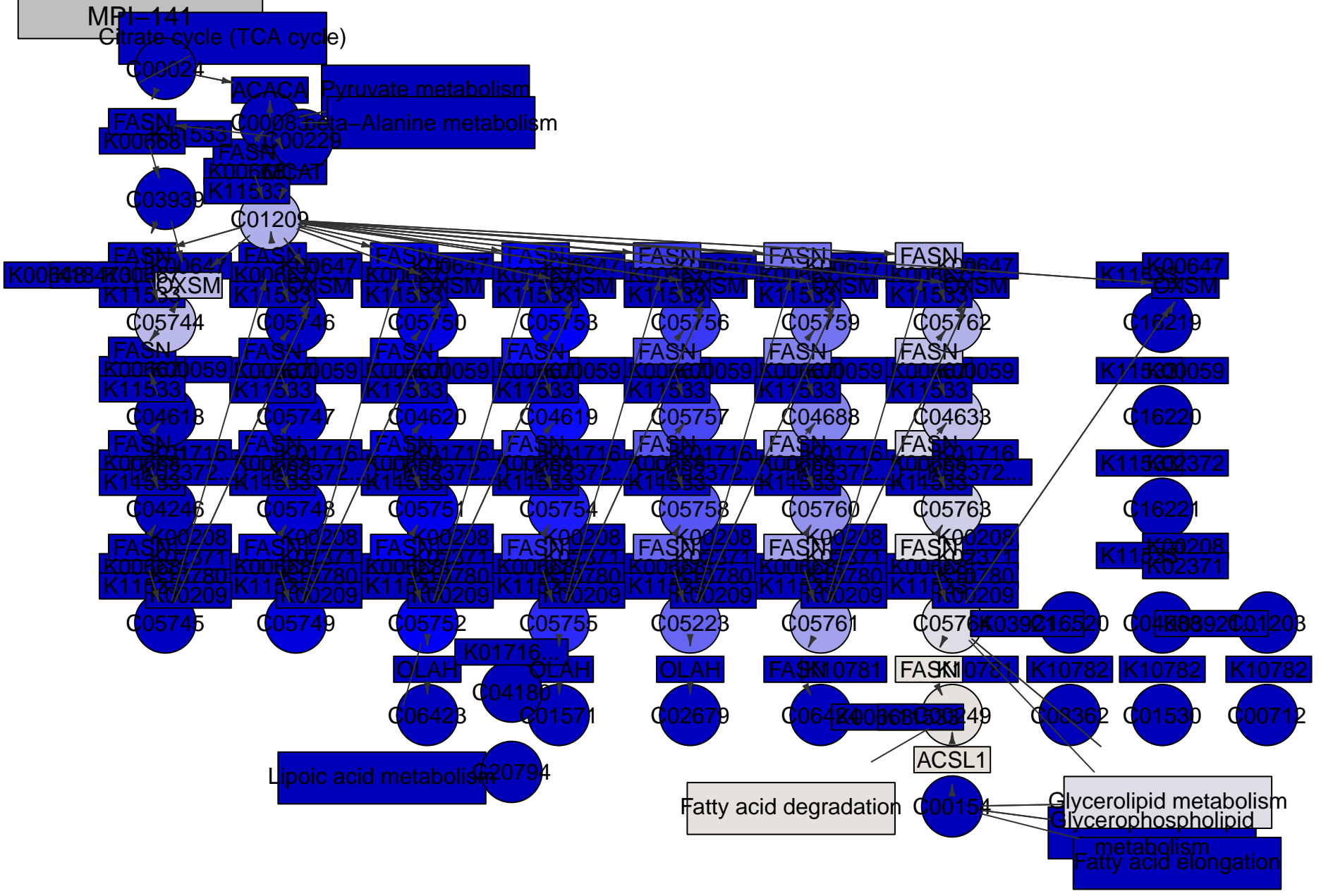








Fatty acid biosynthesis



### Fatty acid biosynthesis

MPI-142  
Citrate cycle (TCA cycle)

ACACA Pyruvate metabolism

FASN K00658 C00083 beta-Alanine metabolism  
K11533 FASN C00229

K00658 ACAT  
K11533

C03939

C01209

FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647  
K11533 PXS M K11533 PXS M K11533 PXS M K11533 PXS M K11533 PXS M K11533 PXS M K11533 PXS M K11533 PXS M

C05744 C05746 C05750 C05753 C05756 C05759 C05762 K11533 K00647 C16219

FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670  
K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533

C04618 C05747 C04620 C04619 C05757 C04688 C04633

FASN K00686 FASN K00686 FASN K00686 FASN K00686 FASN K00686 FASN K00686 FASN K00686  
K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533

C04246 C05748 C05751 C05754 C05758 C05760 C05763

FASN K00208 FASN K00208 FASN K00208 FASN K00208 FASN K00208 FASN K00208 FASN K00208  
K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533

C05745 C05749 C05752 C05755 C05223 C05761 C05764

K11533 K00209 K11533 K00209 K11533 K00209 K11533 K00209 K11533 K00209 K11533 K00209 K11533 K00209  
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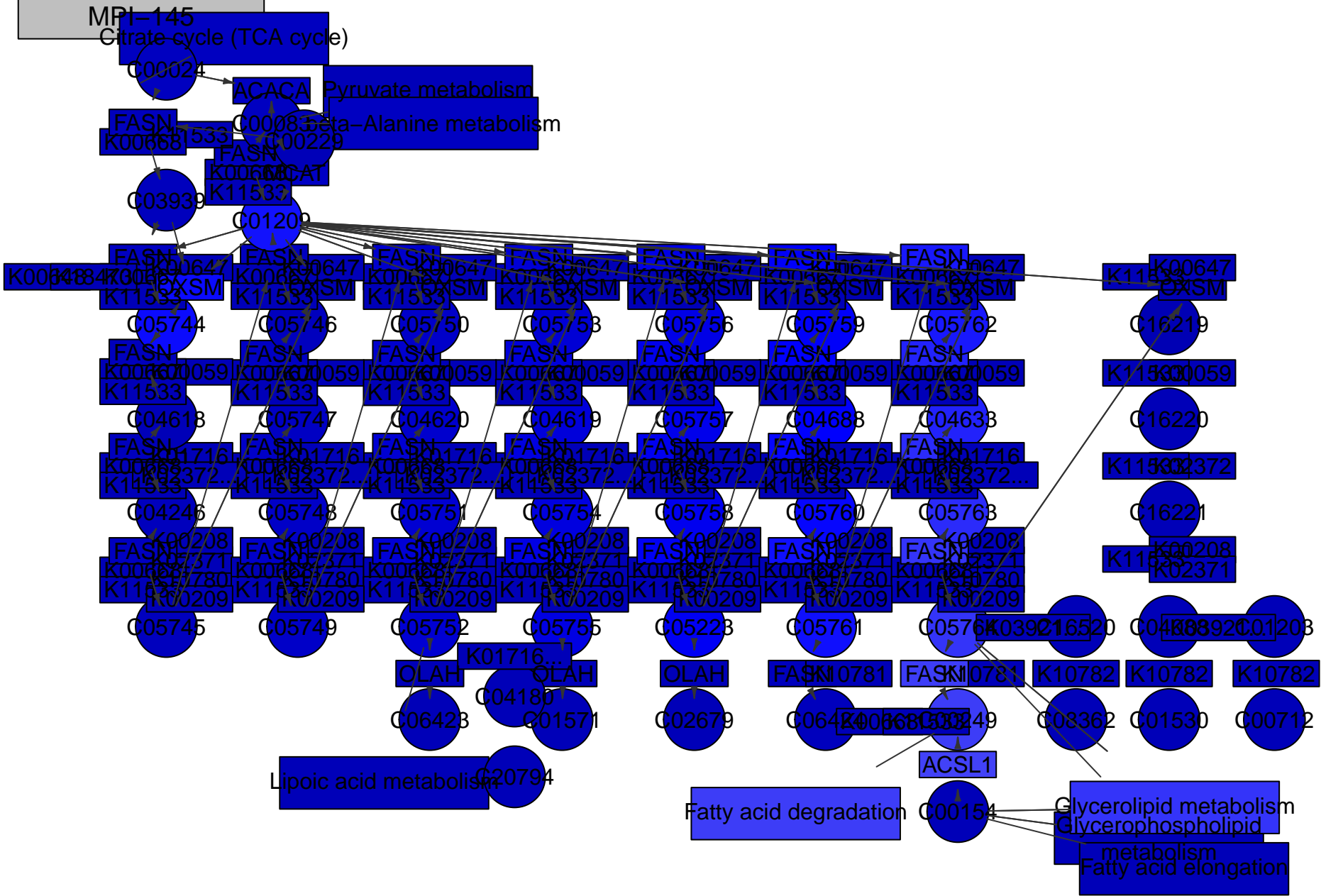
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Lipoic acid metabolism C20794

Fatty acid degradation C00154  
ACSL1  
Glycerolipid metabolism  
Glycerophospholipid metabolism  
Fatty acid elongation



# Fatty acid biosynthesis



Fatty acid biosynthesis

MPI-146

Citrate cycle (TCA cycle)

ACACA Pyruvate metabolism

FASN C00083 beta-Alanine metabolism

K00658 FASN C00229  
K00658 ACAT K11533

C03939

C01209

K00647 FASN C0647 K00647 FASN C0647 K00647 FASN C0647 K00647 FASN C0647 K00647 FASN C0647 K00647 FASN C0647 K11533 FASN C0647 K11533 FASN C0647 K11533 FASN C0647 K11533 FASN C0647 K11533 FASN C0647 K11533 FASN C0647 K11533 K11533 FASN C0647 K11533

C05744 C05746 C05750 C05753 C05756 C05759 C05762 C16219  
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C04618 C05747 C04620 C04619 C05757 C04688 C04633 C16220  
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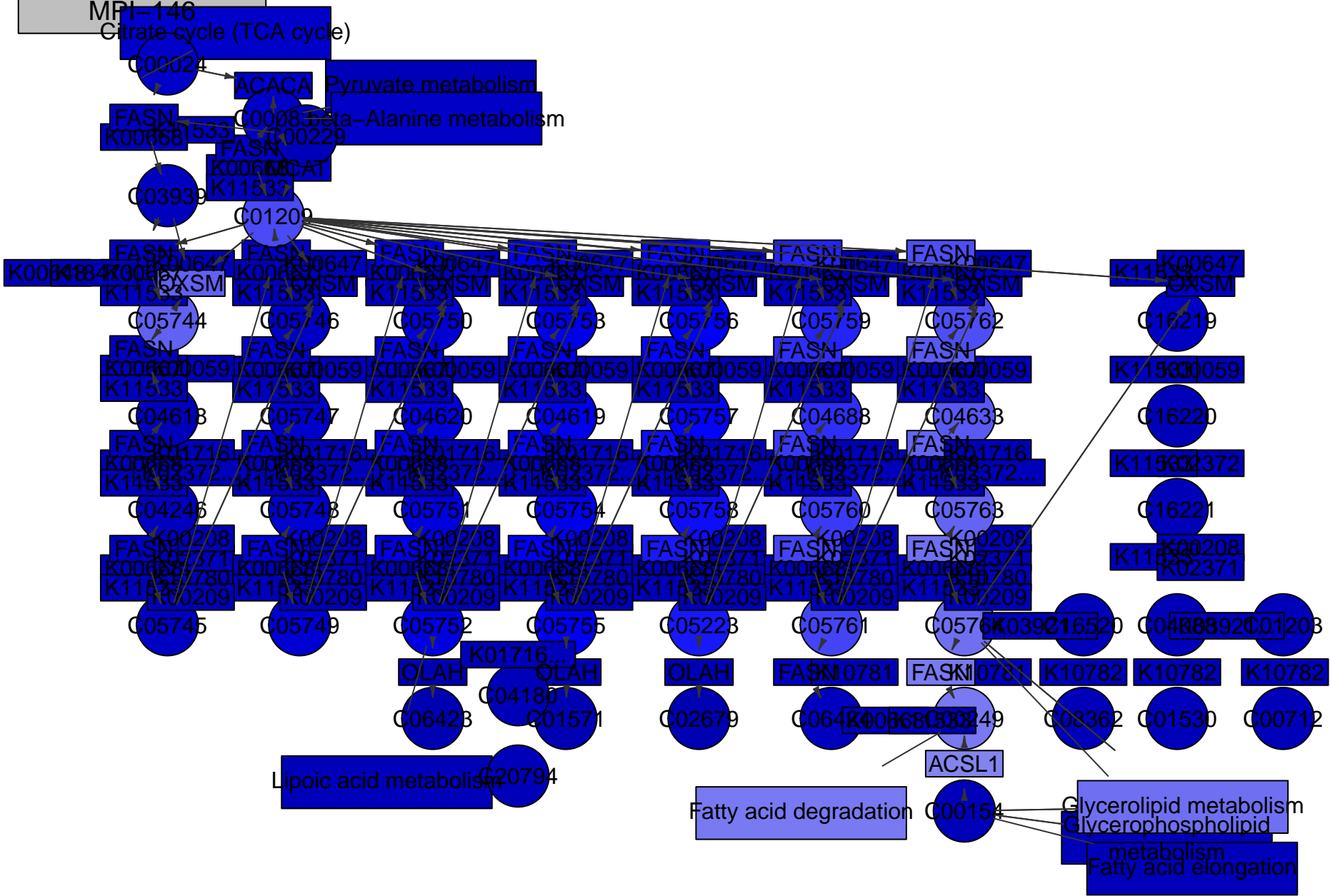
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K11533 FASN C06423 K11533 FASN C04180 K11533 FASN C01571 K11533 FASN C02679 K11533 FASN C06423 K11533 FASN C00368 K11533 FASN C00249 K11533 FASN C08362 K11533 FASN C01530 K11533 FASN C00712 K11533

Lipoic acid metabolism C20794

Fatty acid degradation C00154

Glycerolipid metabolism  
Glycerophospholipid metabolism

Fatty acid elongation









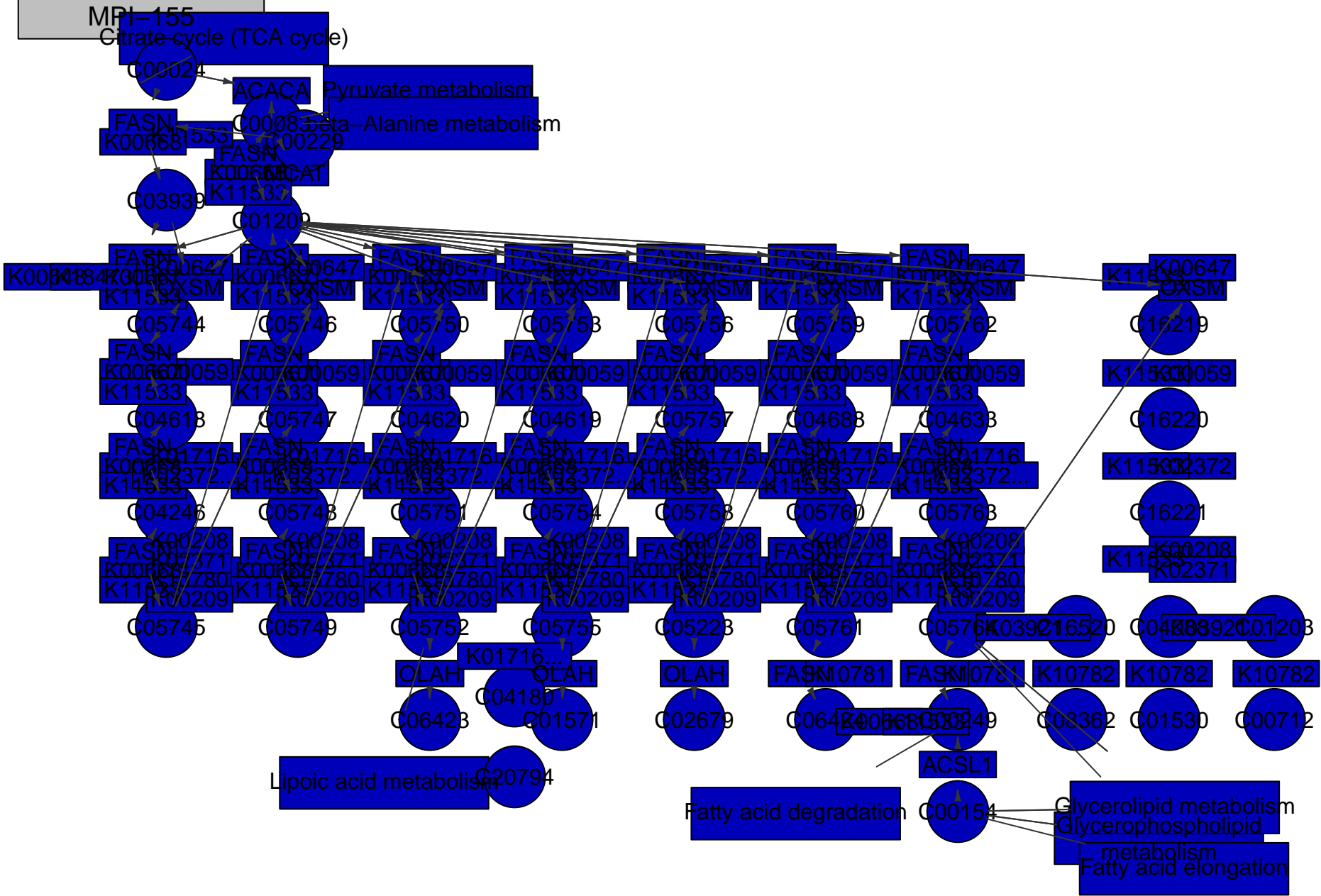








Fatty acid biosynthesis





Fatty acid biosynthesis

MPI-159

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT

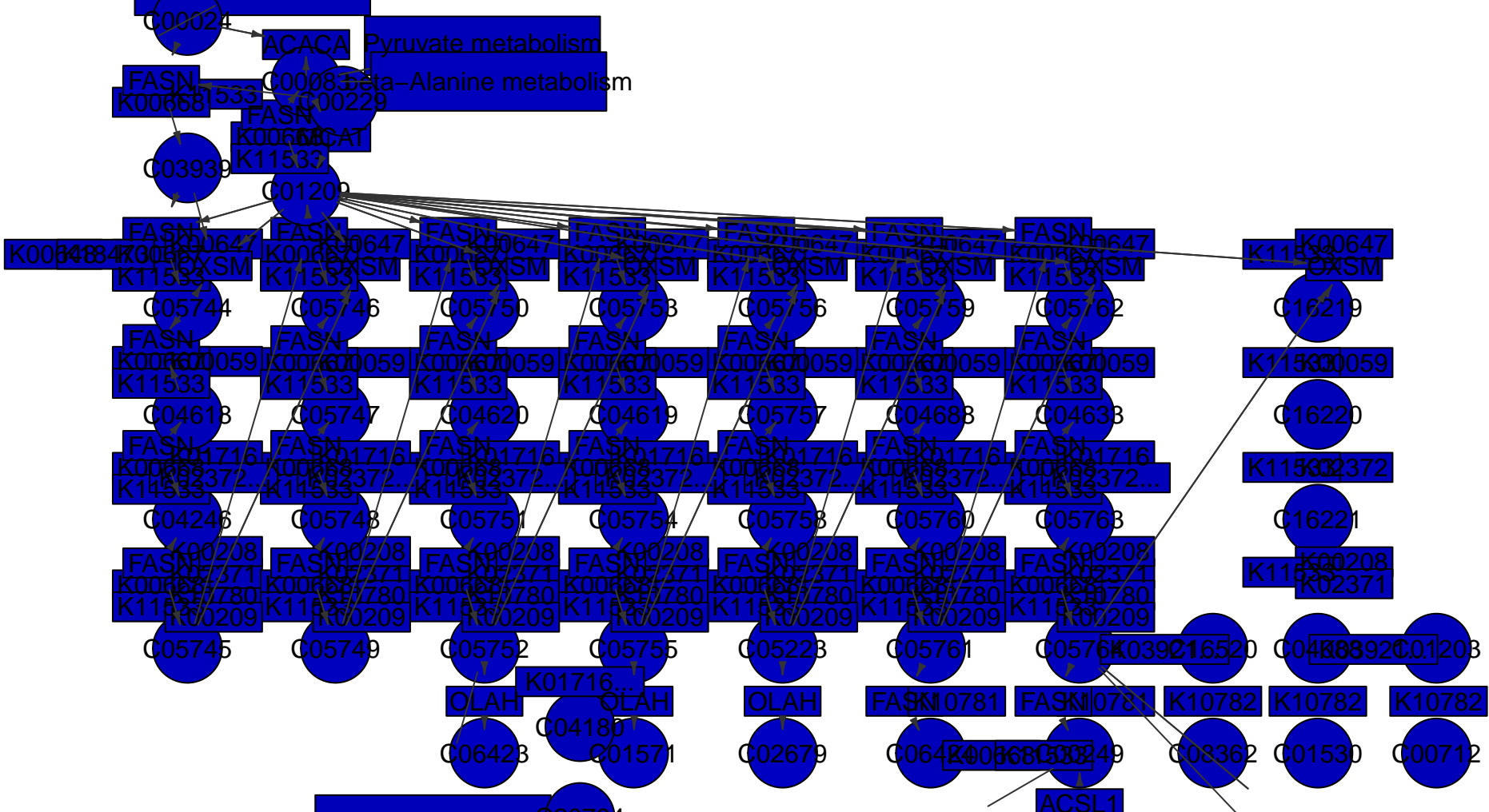
Lipoic acid metabolism

Fatty acid degradation

Glycerolipid metabolism

Glycerophospholipid metabolism

Fatty acid elongation



# Fatty acid biosynthesis

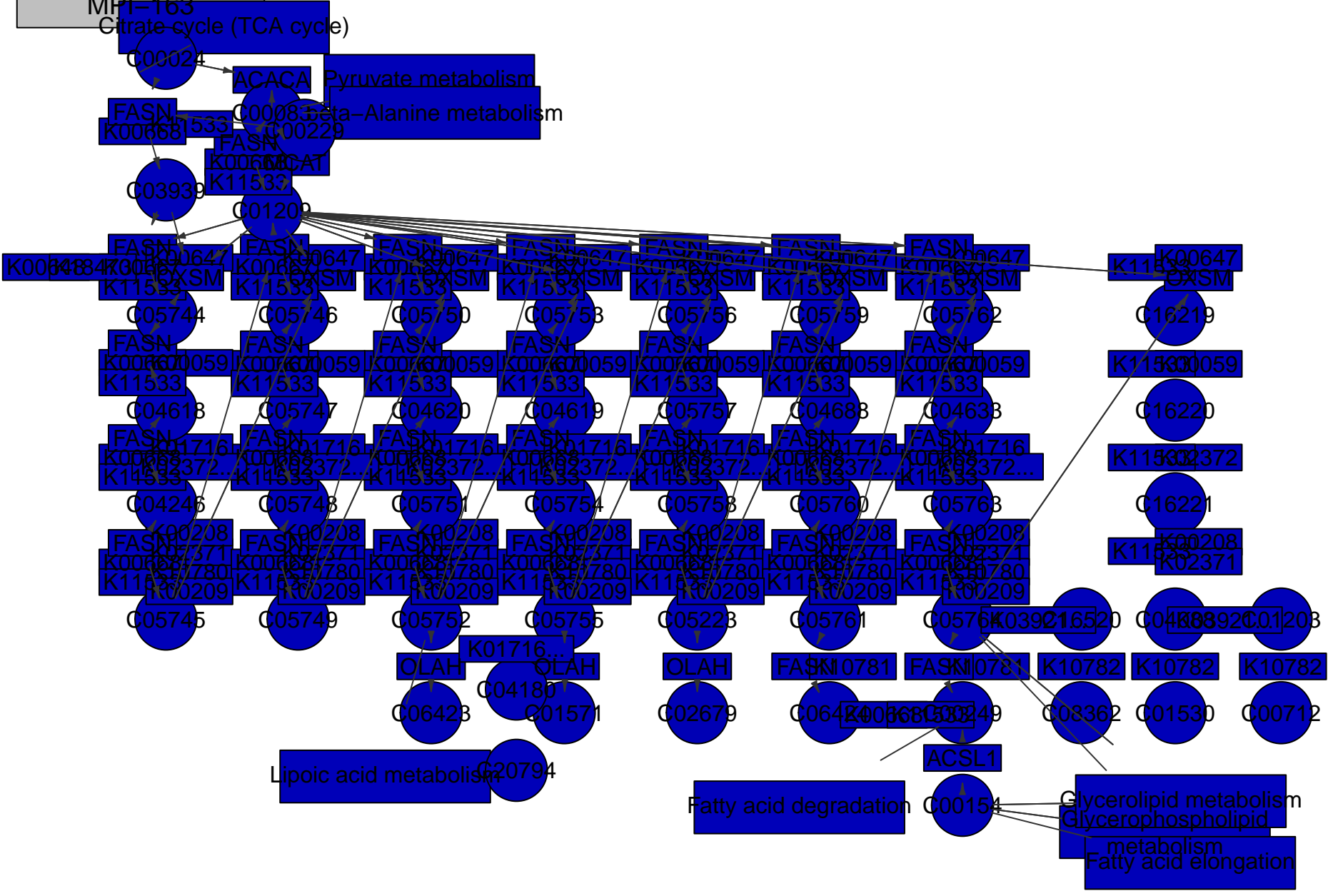
MPI-163

Citrate cycle (TCA cycle)

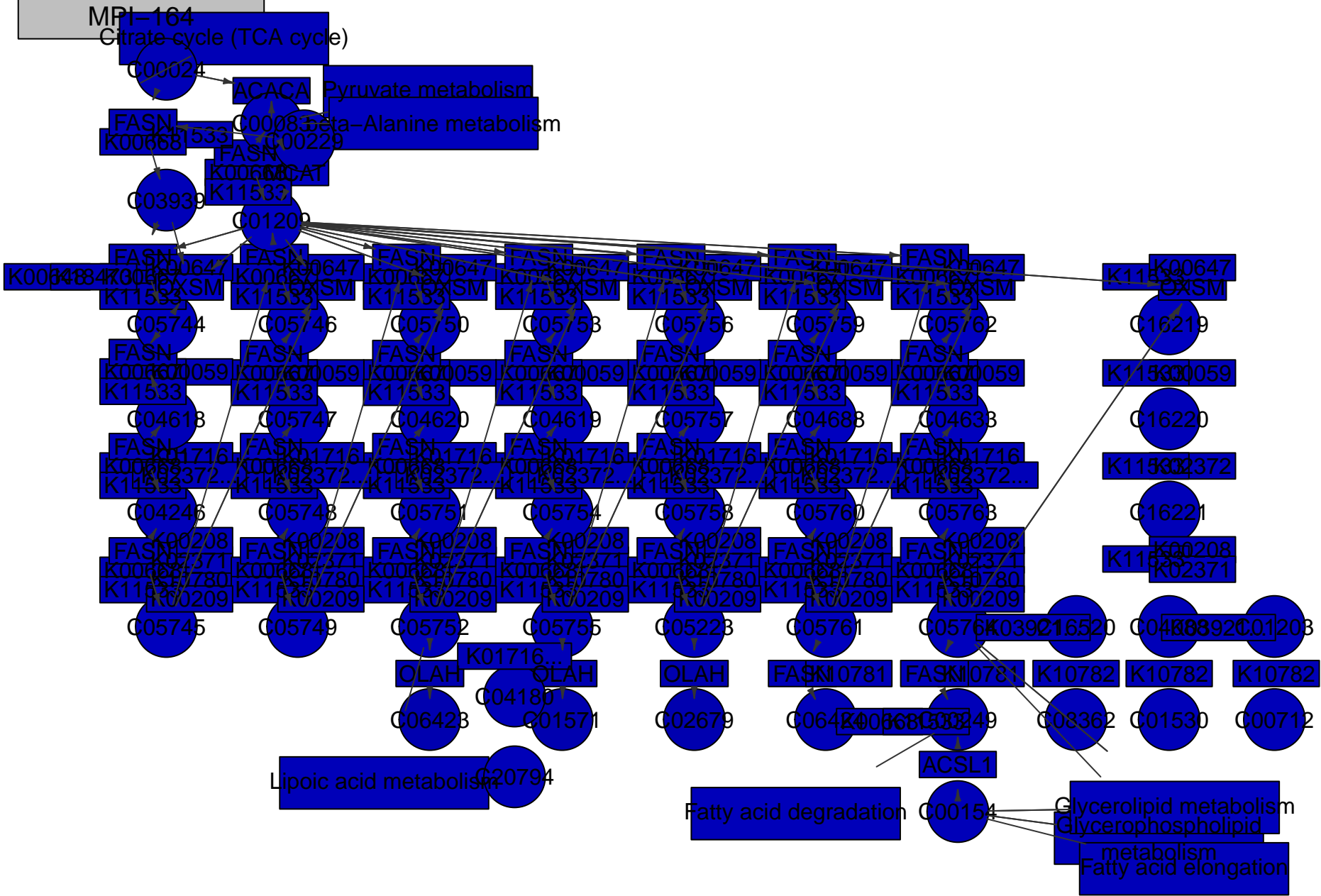
Pyruvate metabolism

beta-Alanine metabolism

MAT



Fatty acid biosynthesis





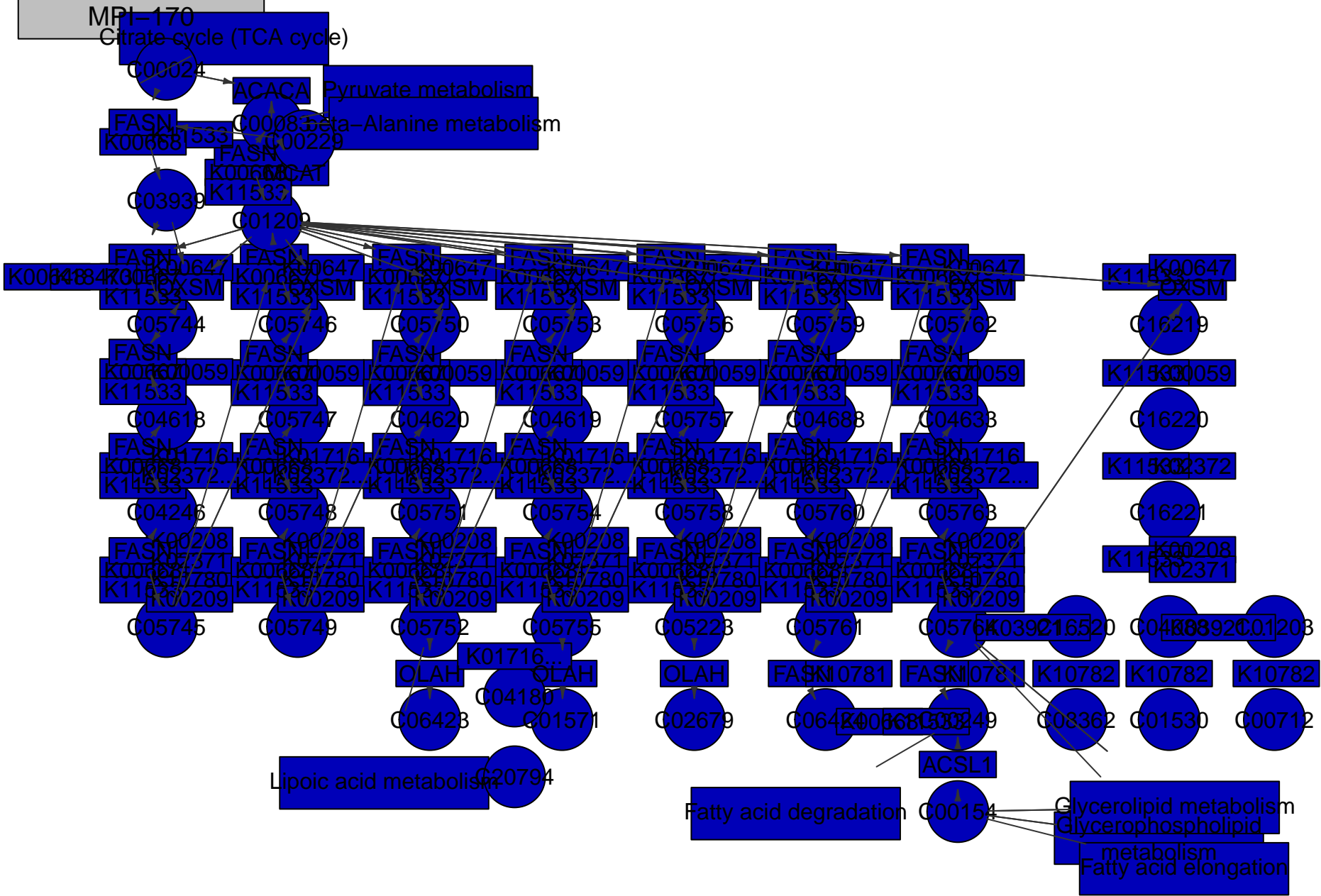
Fatty acid biosynthesis



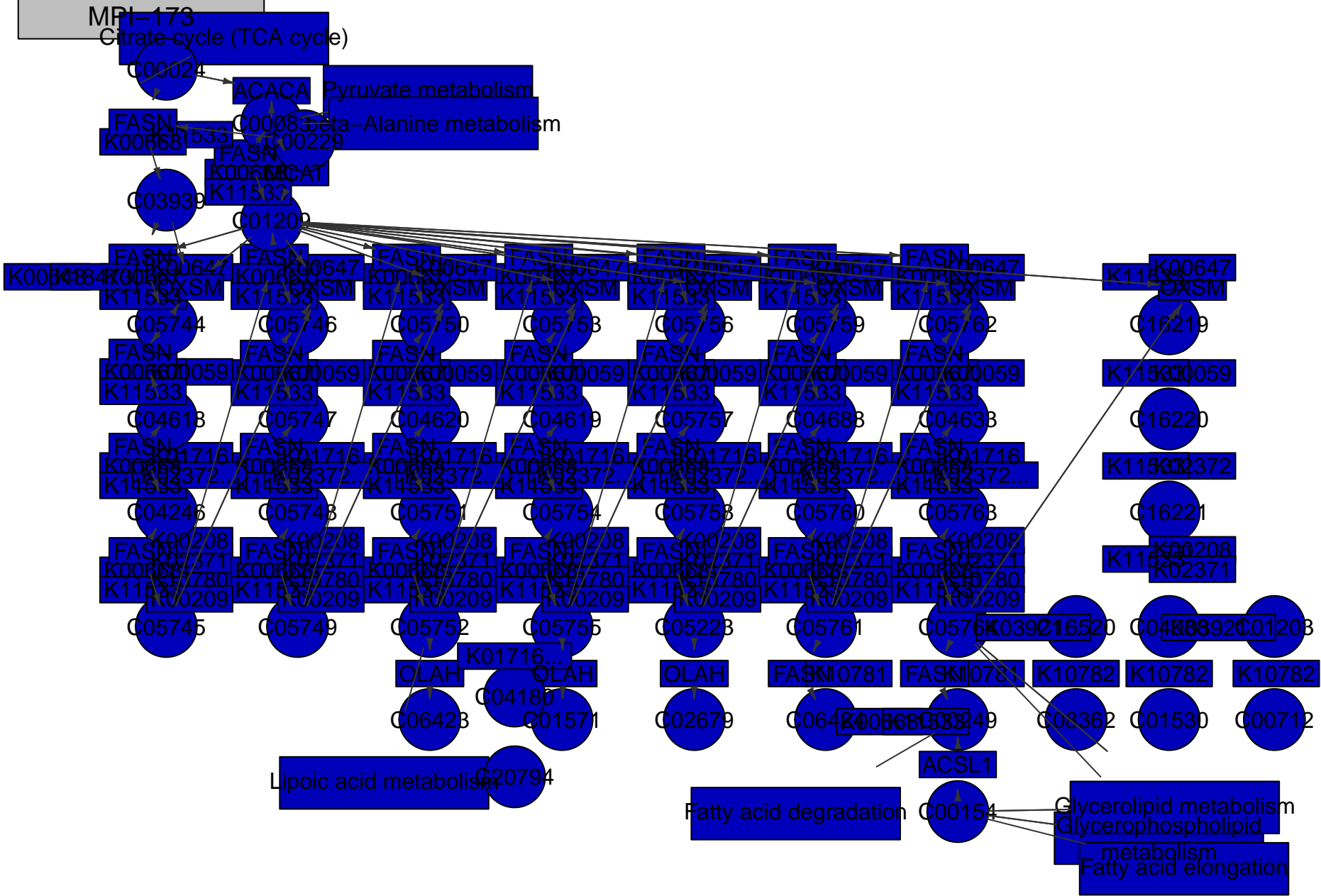




Fatty acid biosynthesis



Fatty acid biosynthesis













Fatty acid biosynthesis

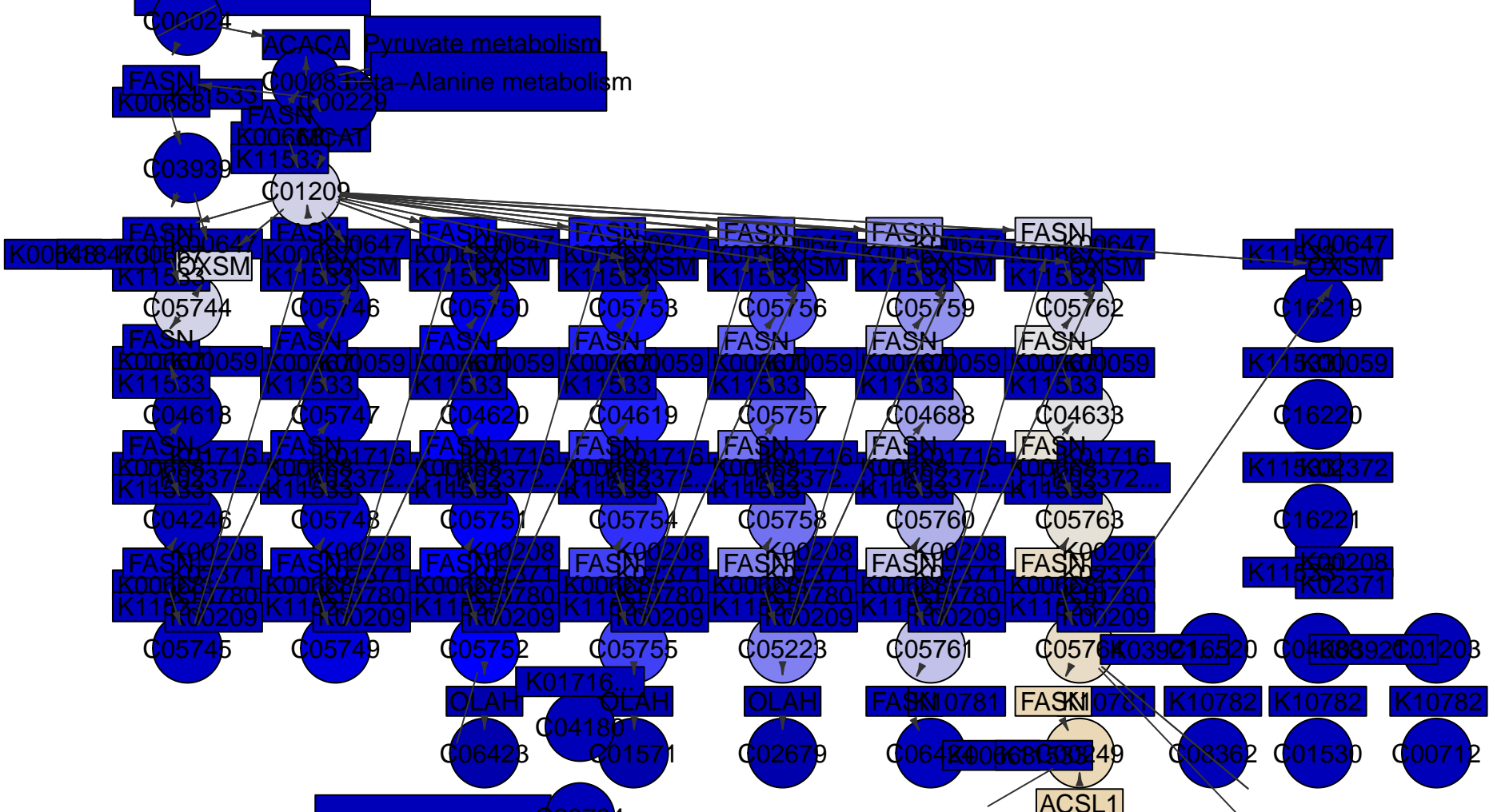
MPI-179

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT



Lipoic acid metabolism

Fatty acid degradation

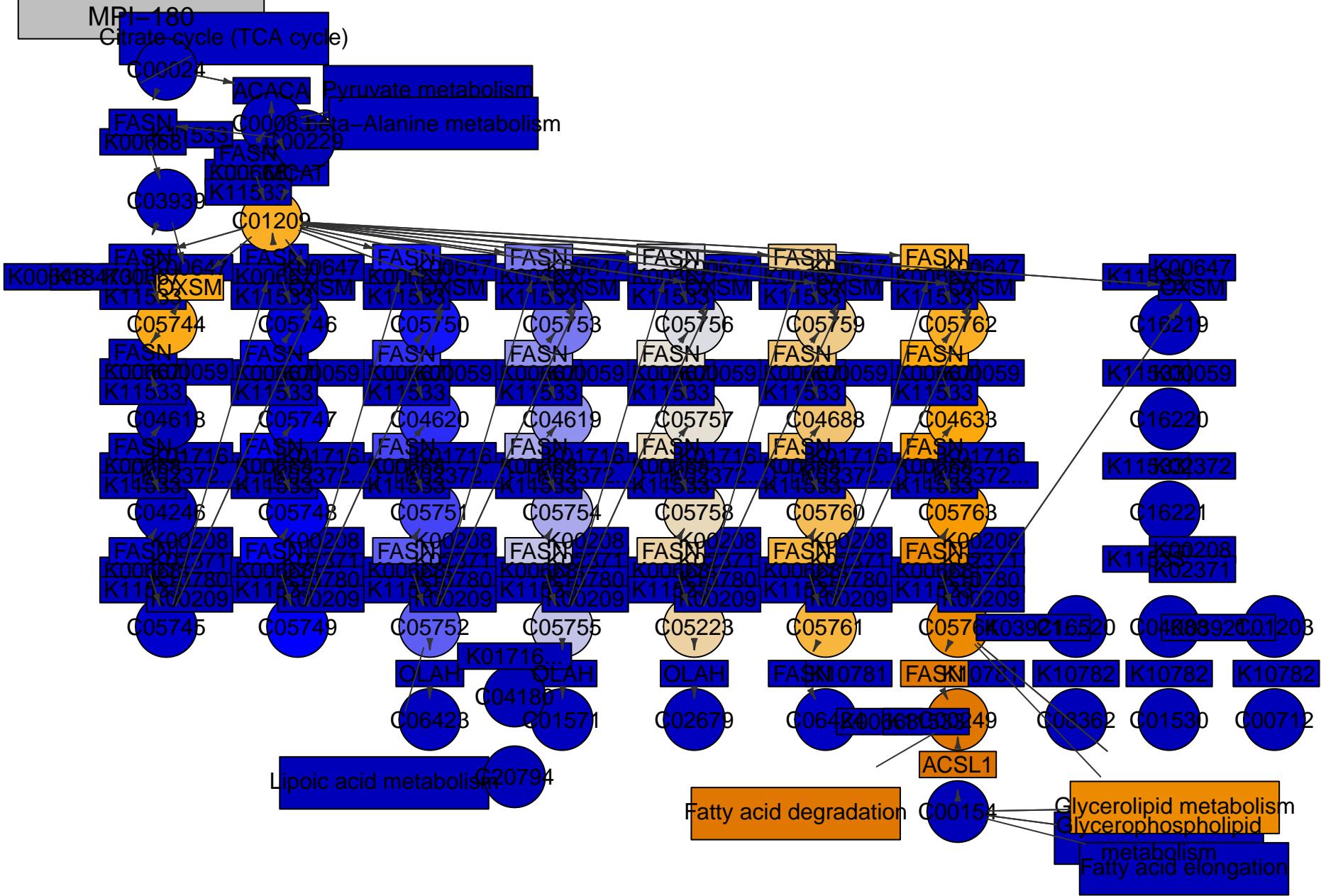
Glycerolipid metabolism

Glycerophospholipid

metabolism

Fatty acid elongation

Fatty acid biosynthesis





Fatty acid biosynthesis

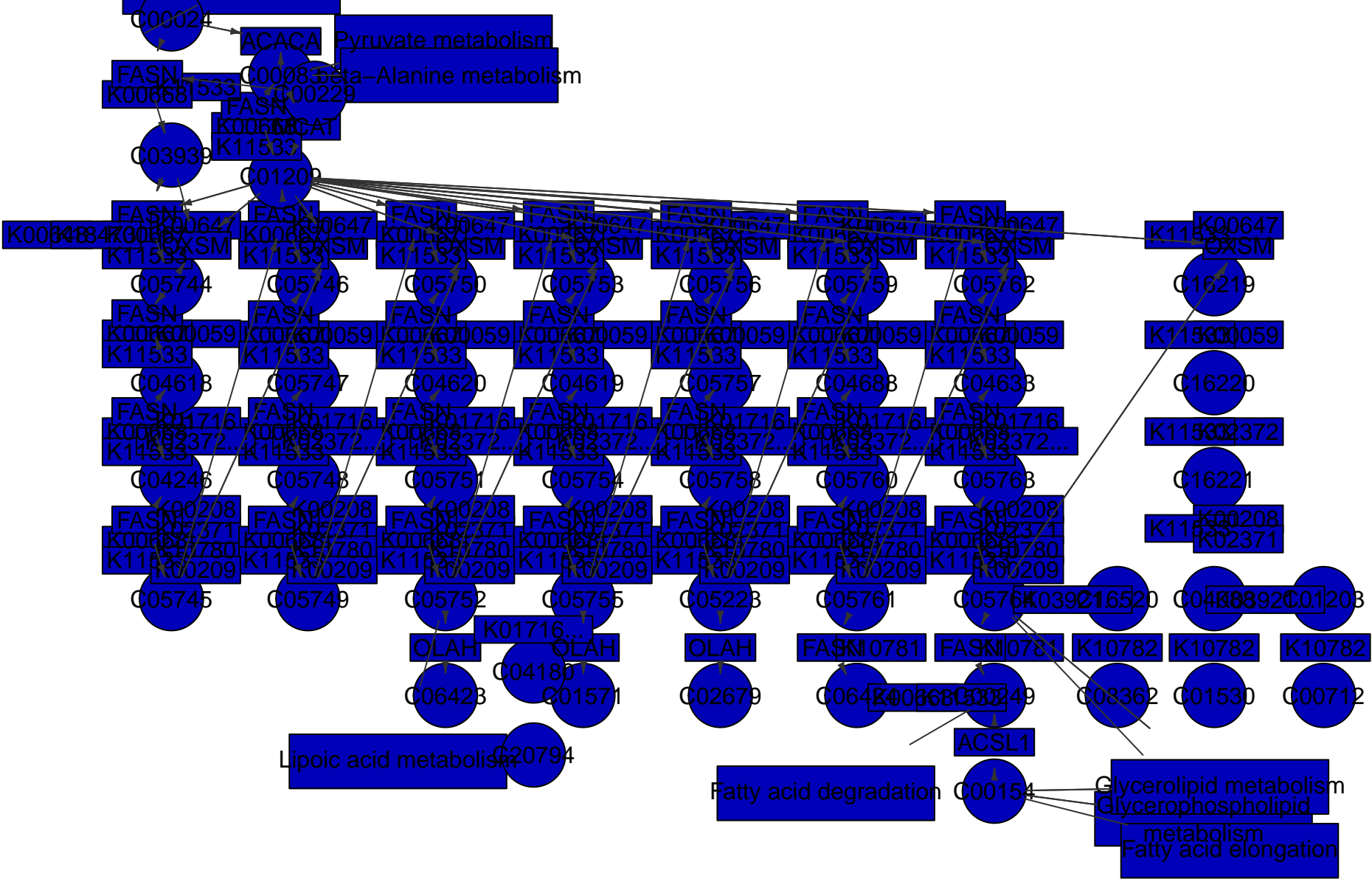
MPI-183

Citrate cycle (TCA cycle)

Pyruvate metabolism

beta-Alanine metabolism

MGAT



Lipoic acid metabolism

Fatty acid degradation

Glycerolipid metabolism

Glycerophospholipid

metabolism

Fatty acid elongation

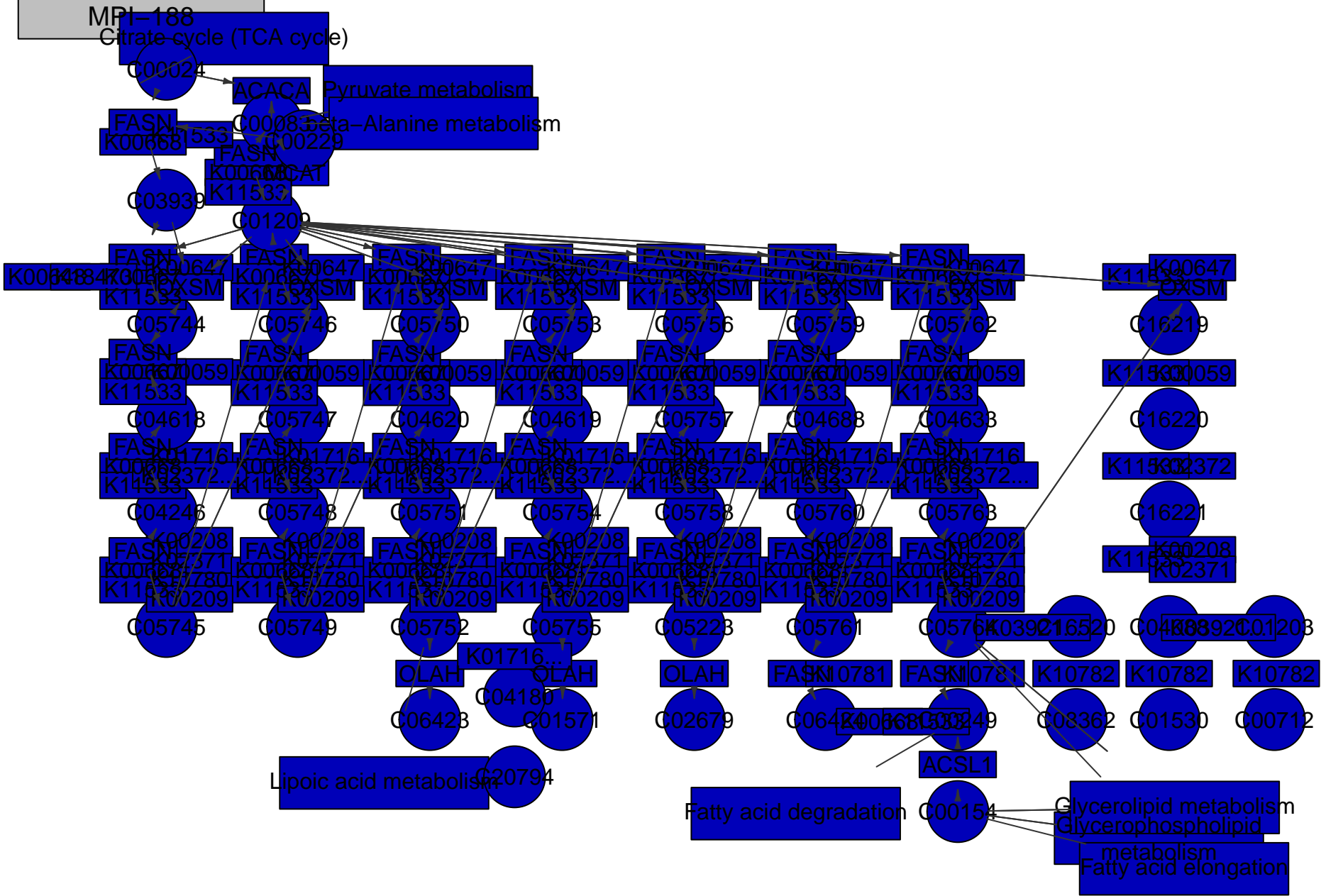








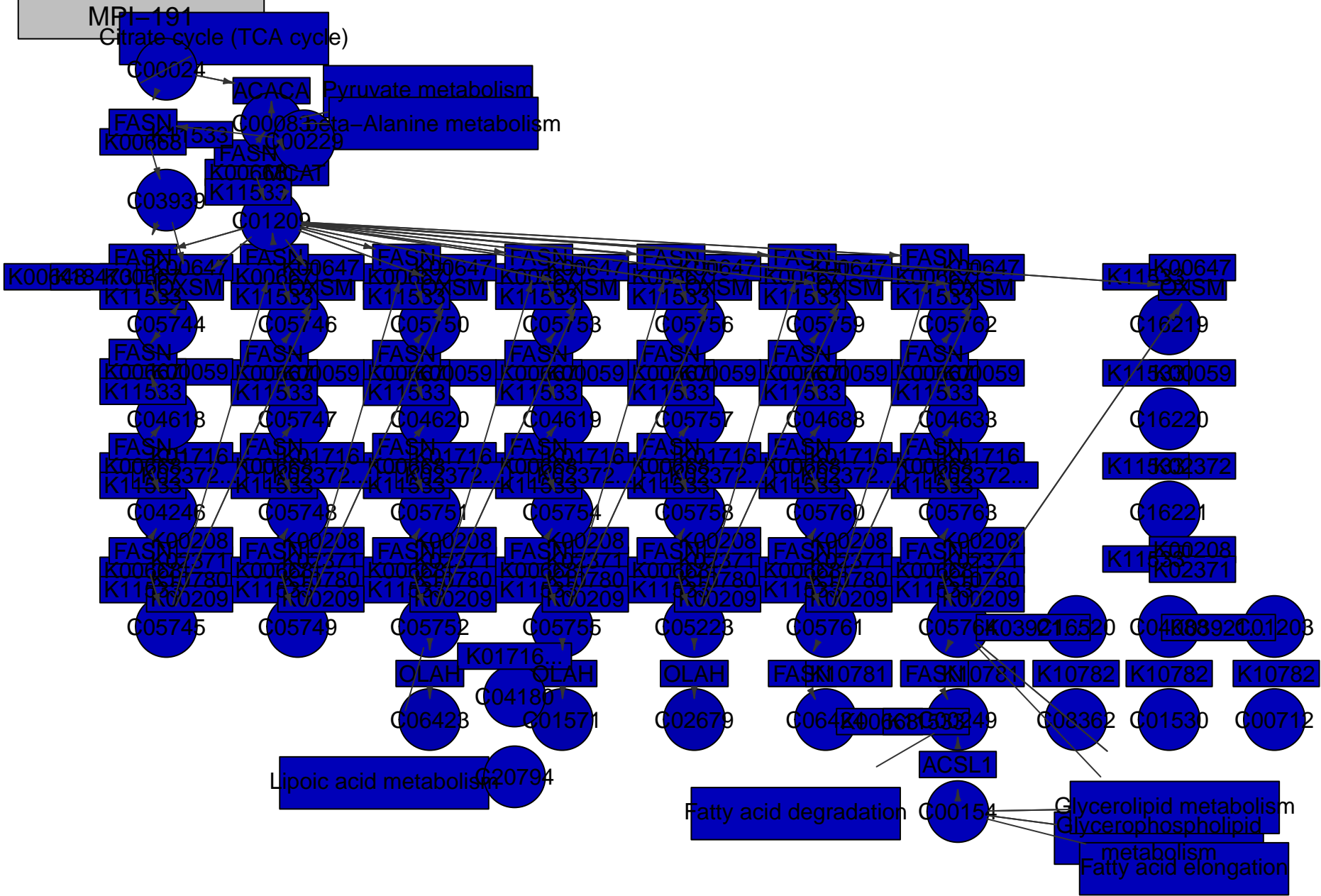
Fatty acid biosynthesis







Fatty acid biosynthesis







# Fatty acid biosynthesis

MPI-194

Citrate cycle (TCA cycle)

ACACA Pyruvate metabolism

FASN C00083 beta-Alanine metabolism  
 K00658 FASN C00229

FASN K00610 CAT  
 K11533

C03939 C01209

FASN K00647 K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647 FASN K00647  
 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K00647  
 XSM

C05744 C05746 C05750 C05753 C05756 C05759 C05762 C16219  
 FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670 FASN K00670  
 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533  
 C05744 C05746 C05750 C05753 C05756 C05759 C05762 C16219  
 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533

C04618 C05747 C04620 C04619 C05757 C04688 C04633 C16220  
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 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533  
 C04618 C05747 C04620 C04619 C05757 C04688 C04633 C16220  
 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533 K11533

C04246 C05748 C05751 C05754 C05758 C05760 C05763 C16221  
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 C04246 C05748 C05751 C05754 C05758 C05760 C05763 C16221  
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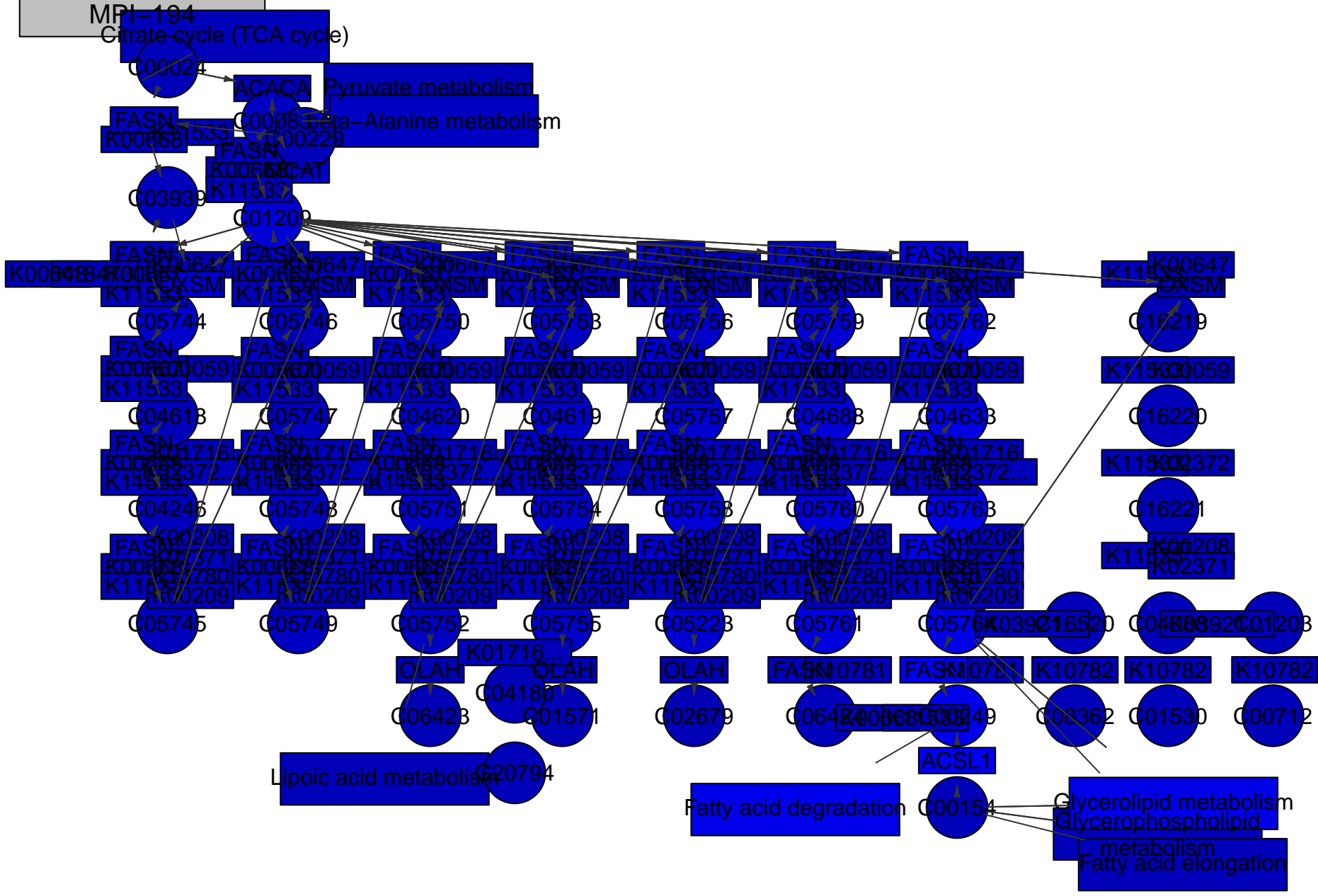
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 C05745 C05749 C05752 C05755 C05223 C05761 C05764 K0392 C16520 C04088 C91203  
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C01716 OLAH K01716 OLAH OLAH FASN K10781 FASN K10781 K10782 K10782 K10782  
 C06423 C04180 C01571 C02679 C06423 C00363 C00249 C08362 C01530 C00712

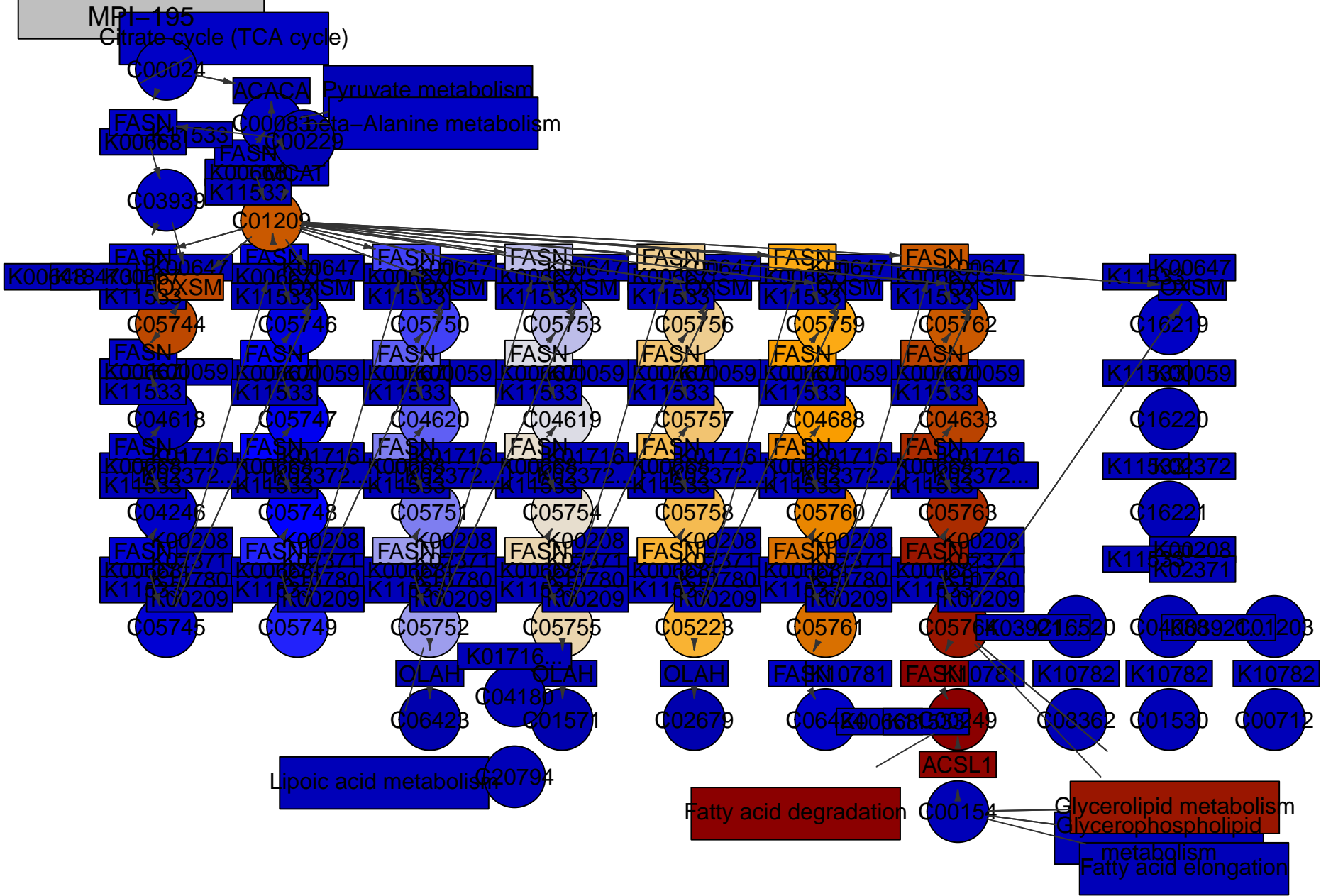
Lipoic acid metabolism C20794

Fatty acid degradation C00154

Glycerolipid metabolism  
 Glycerophospholipid metabolism  
 Fatty acid elongation



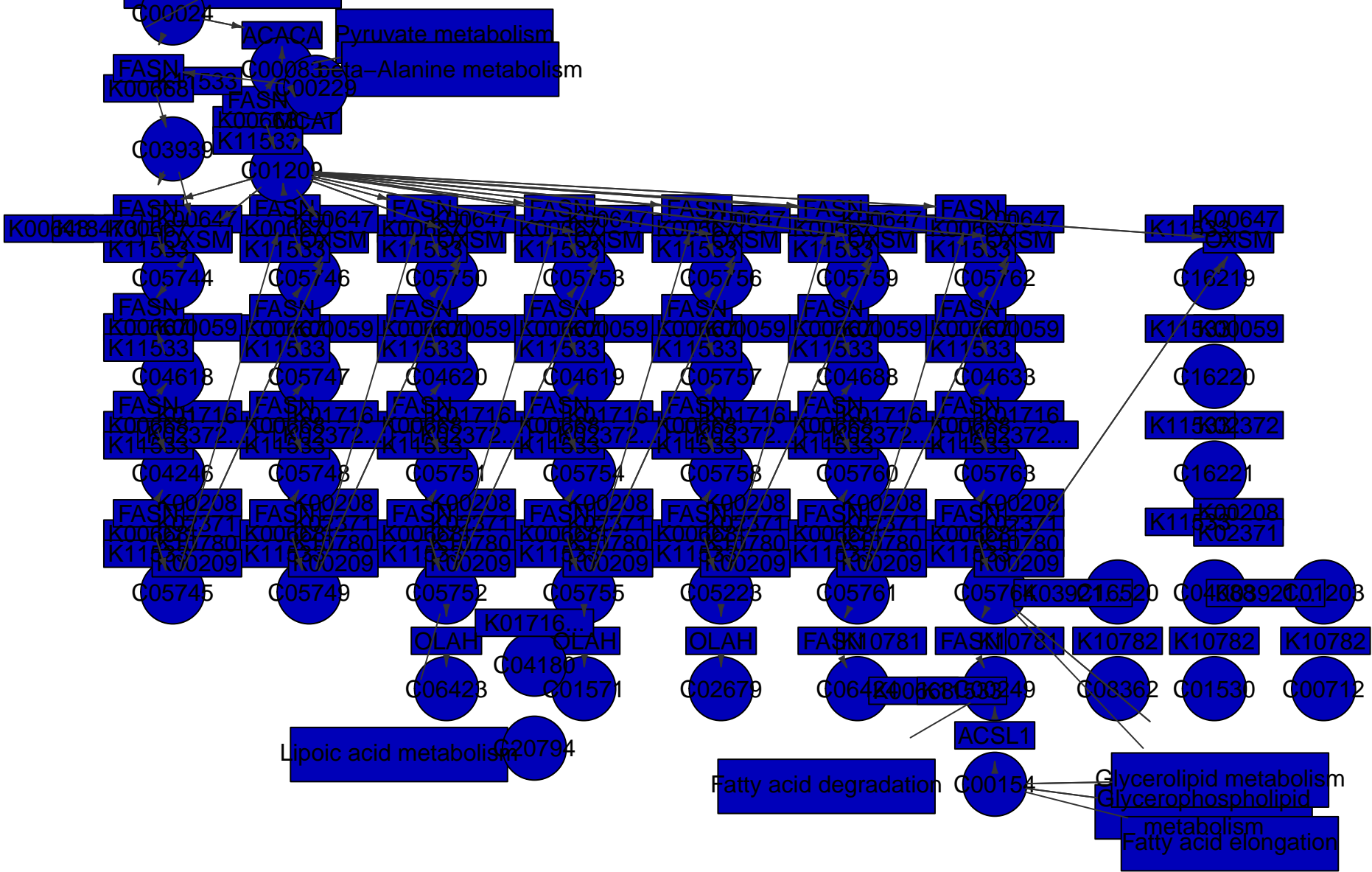
Fatty acid biosynthesis



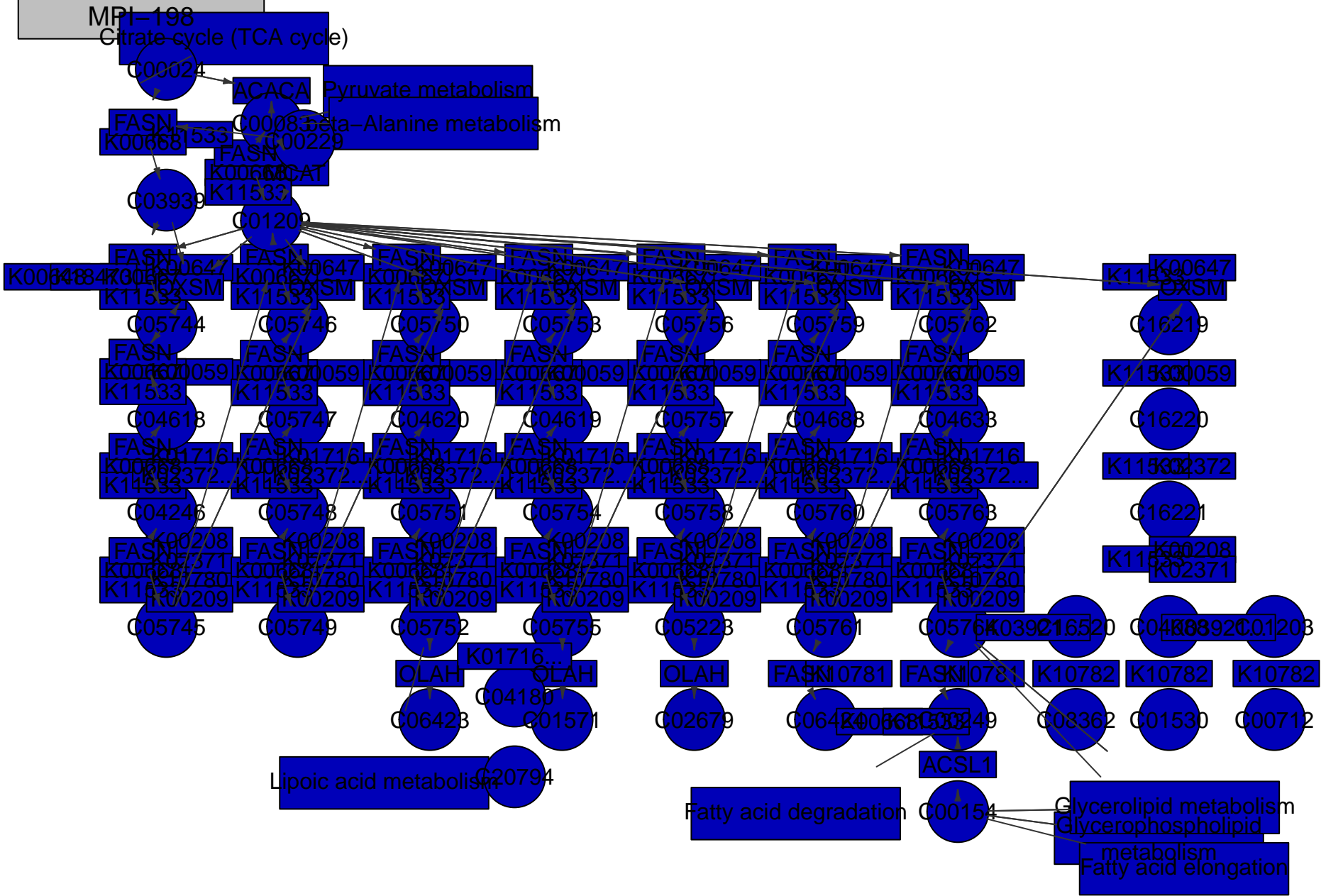
Fatty acid biosynthesis

MPI-196

Citrate cycle (TCA cycle)



Fatty acid biosynthesis





Fatty acid biosynthesis

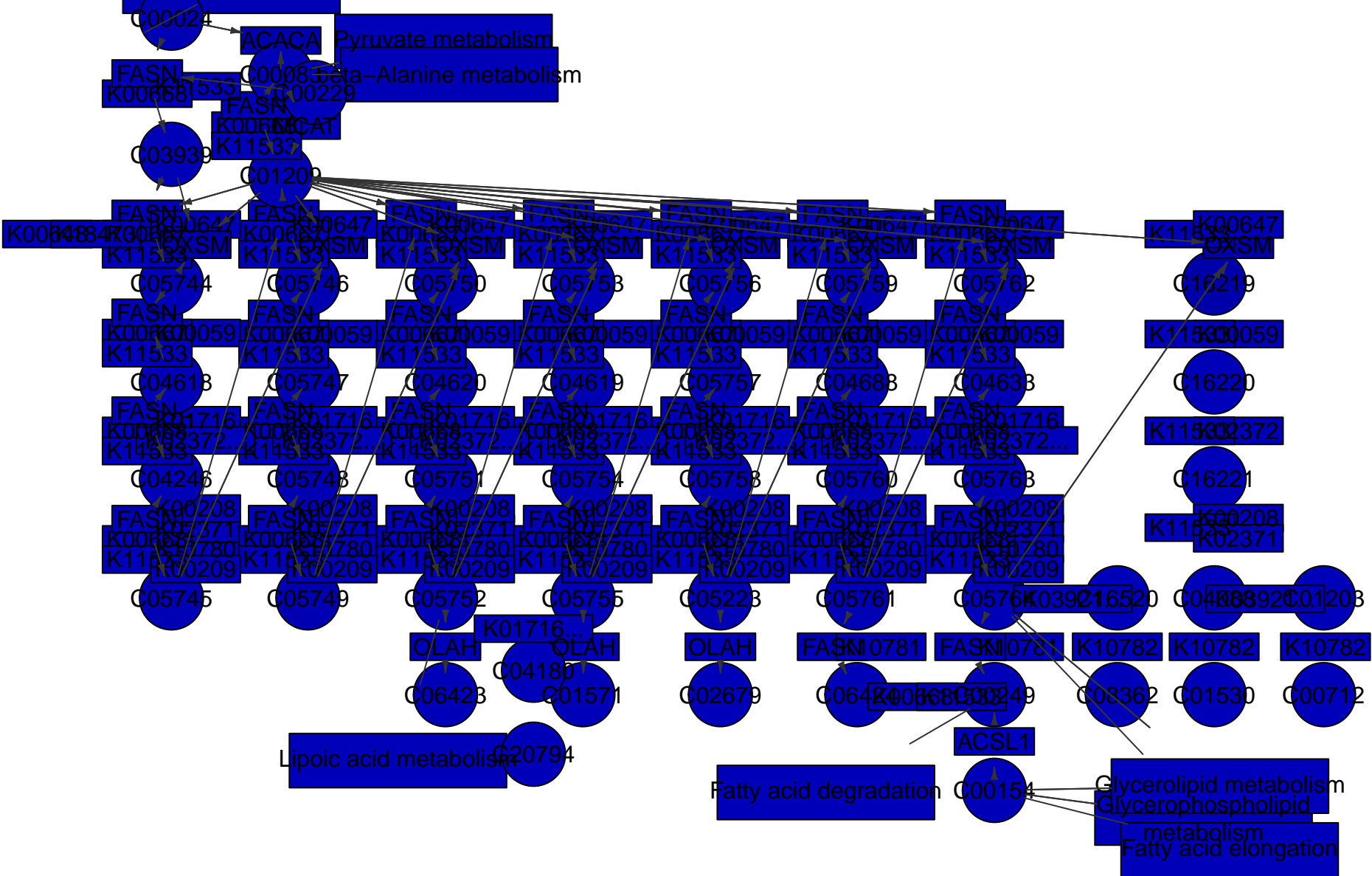
MPI-200

Citrate cycle (TCA cycle)

Pyruvate metabolism

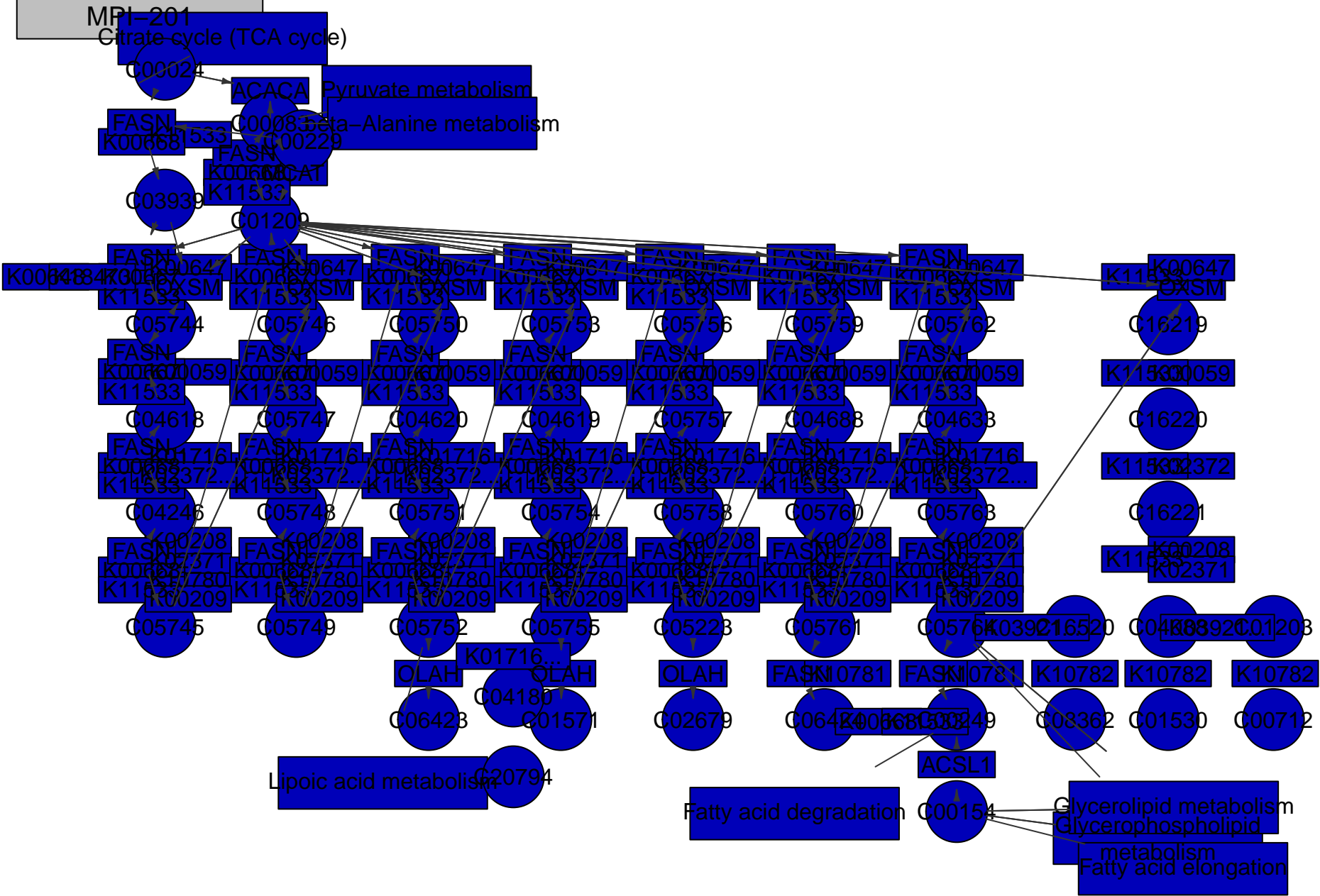
beta-Alanine metabolism

MGAT



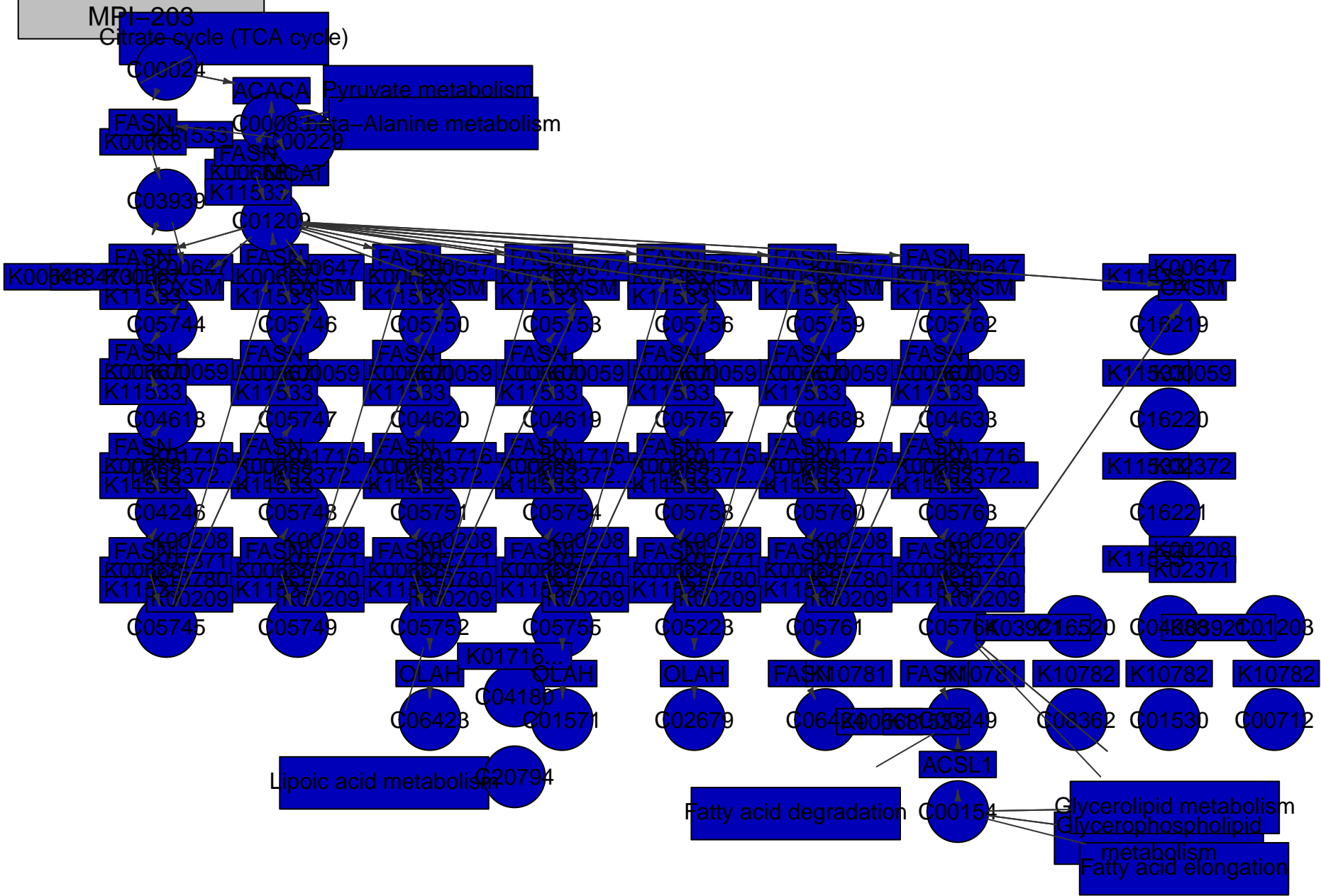


Fatty acid biosynthesis





Fatty acid biosynthesis









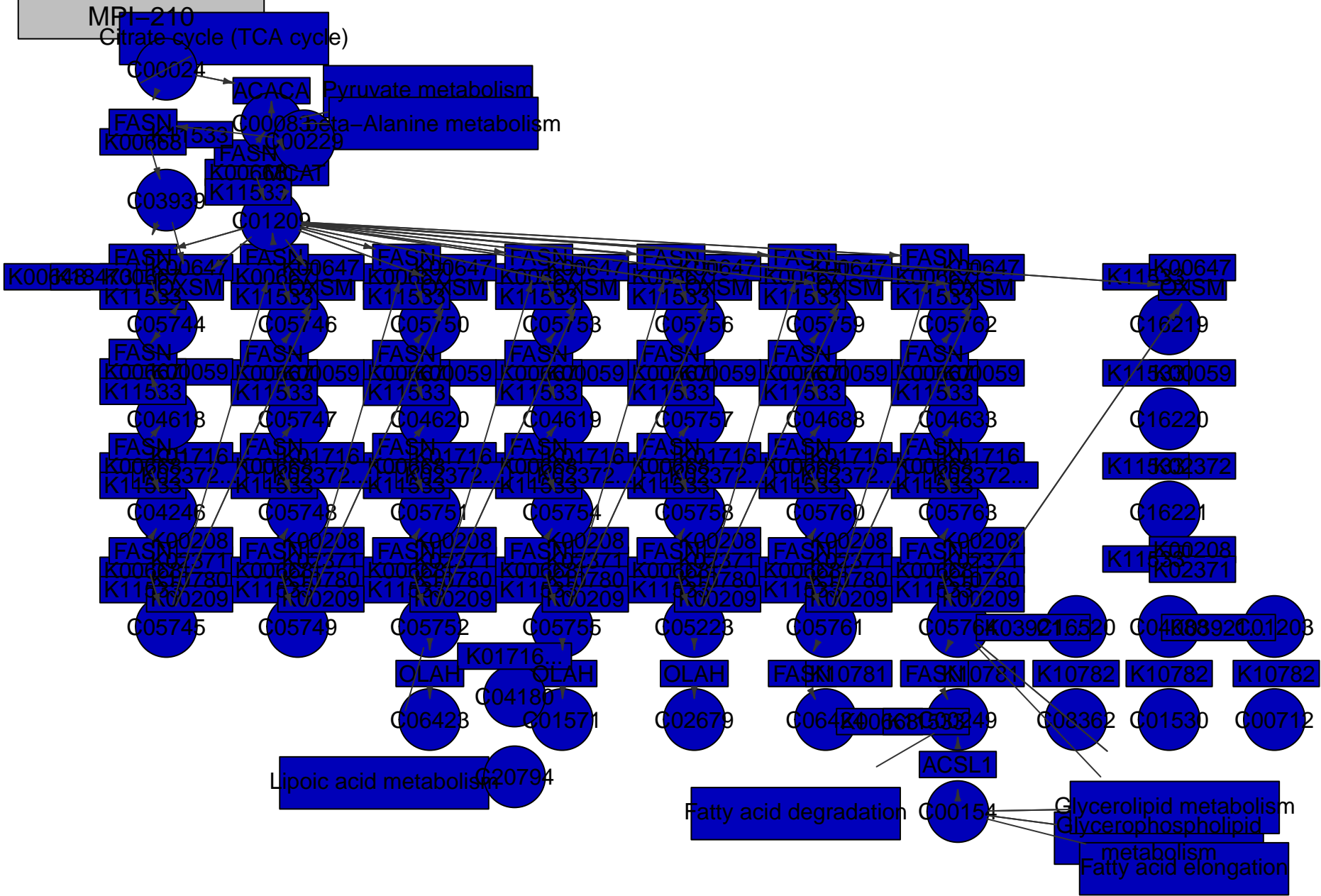




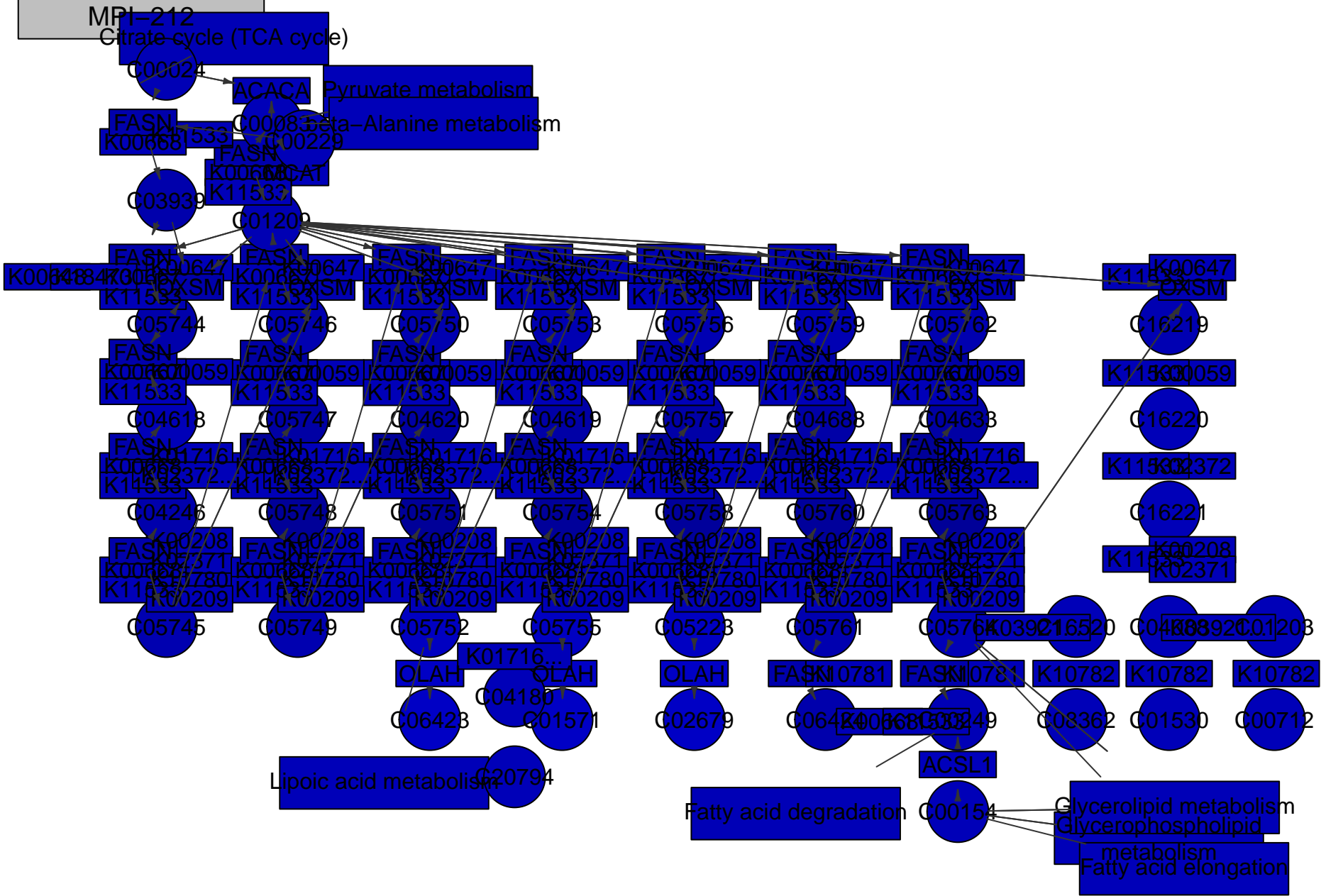




Fatty acid biosynthesis



Fatty acid biosynthesis

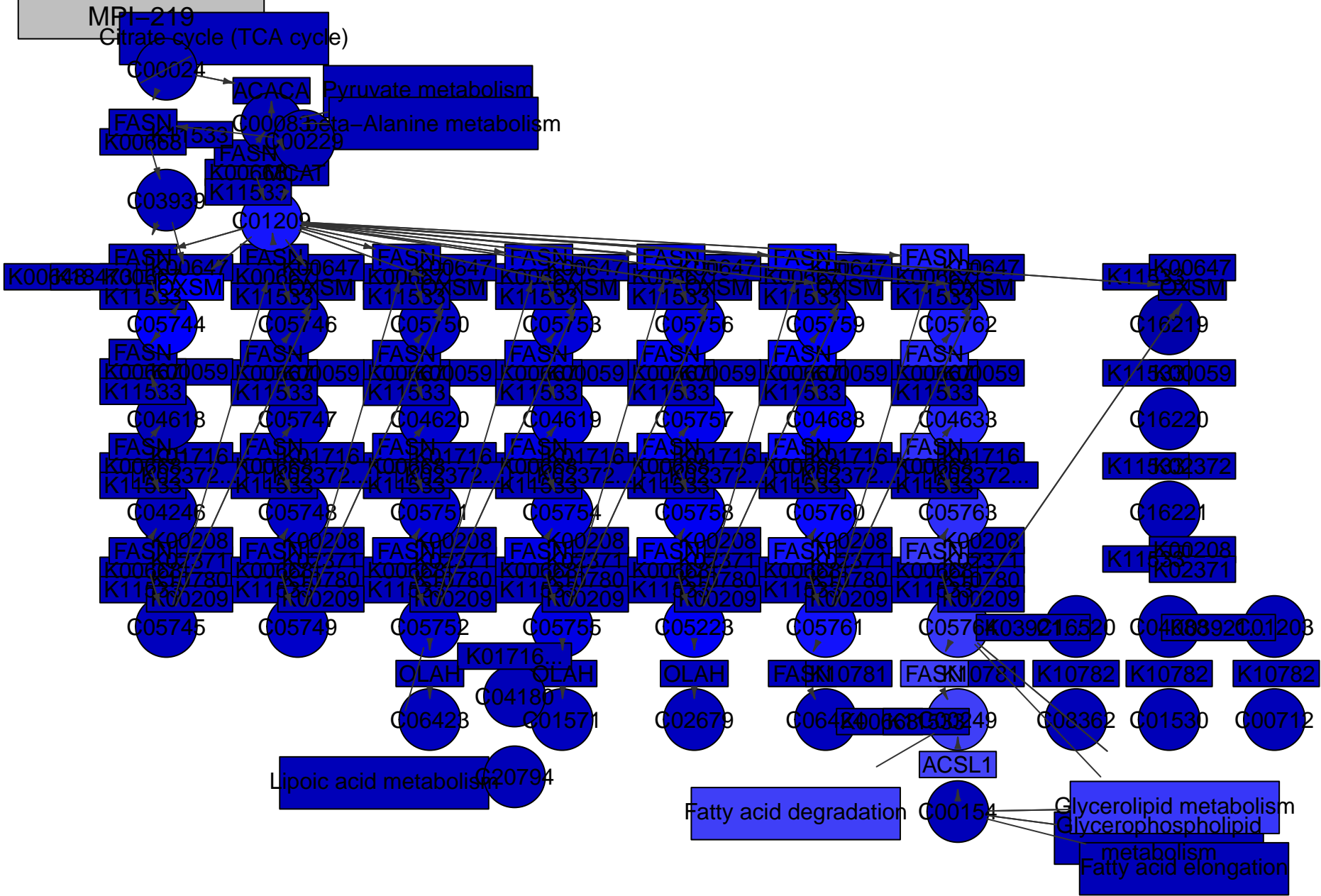








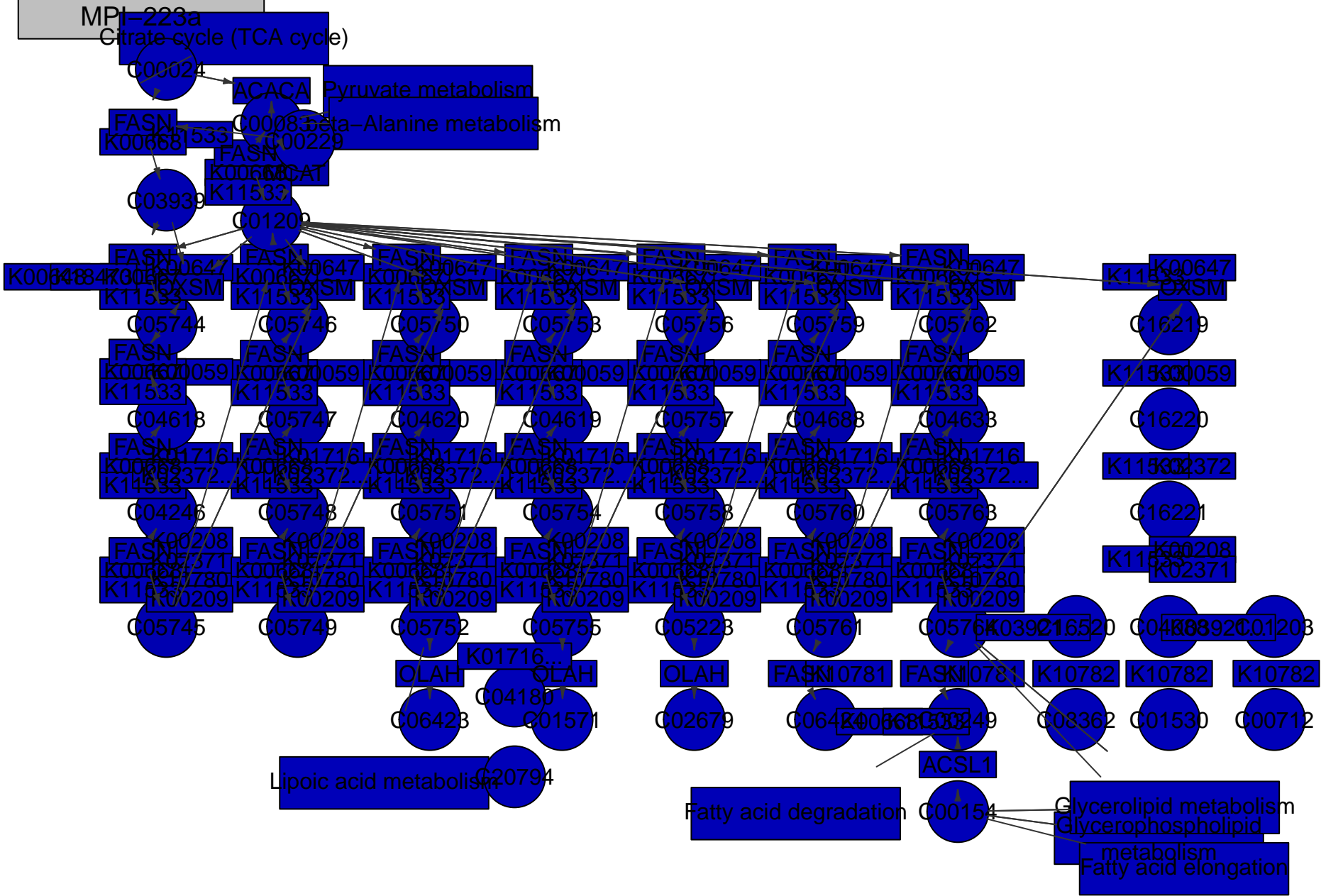
Fatty acid biosynthesis



Fatty acid biosynthesis



Fatty acid biosynthesis









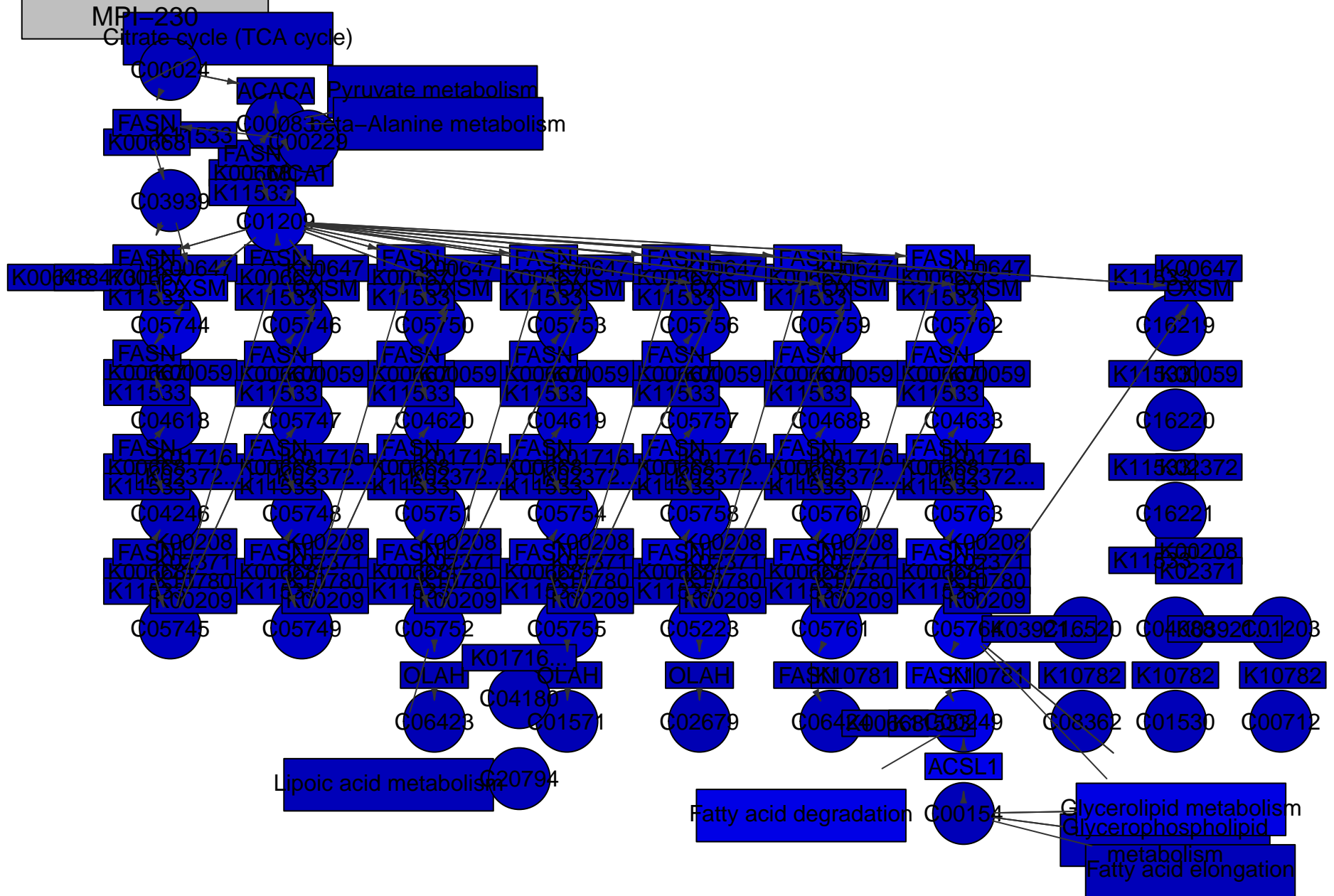




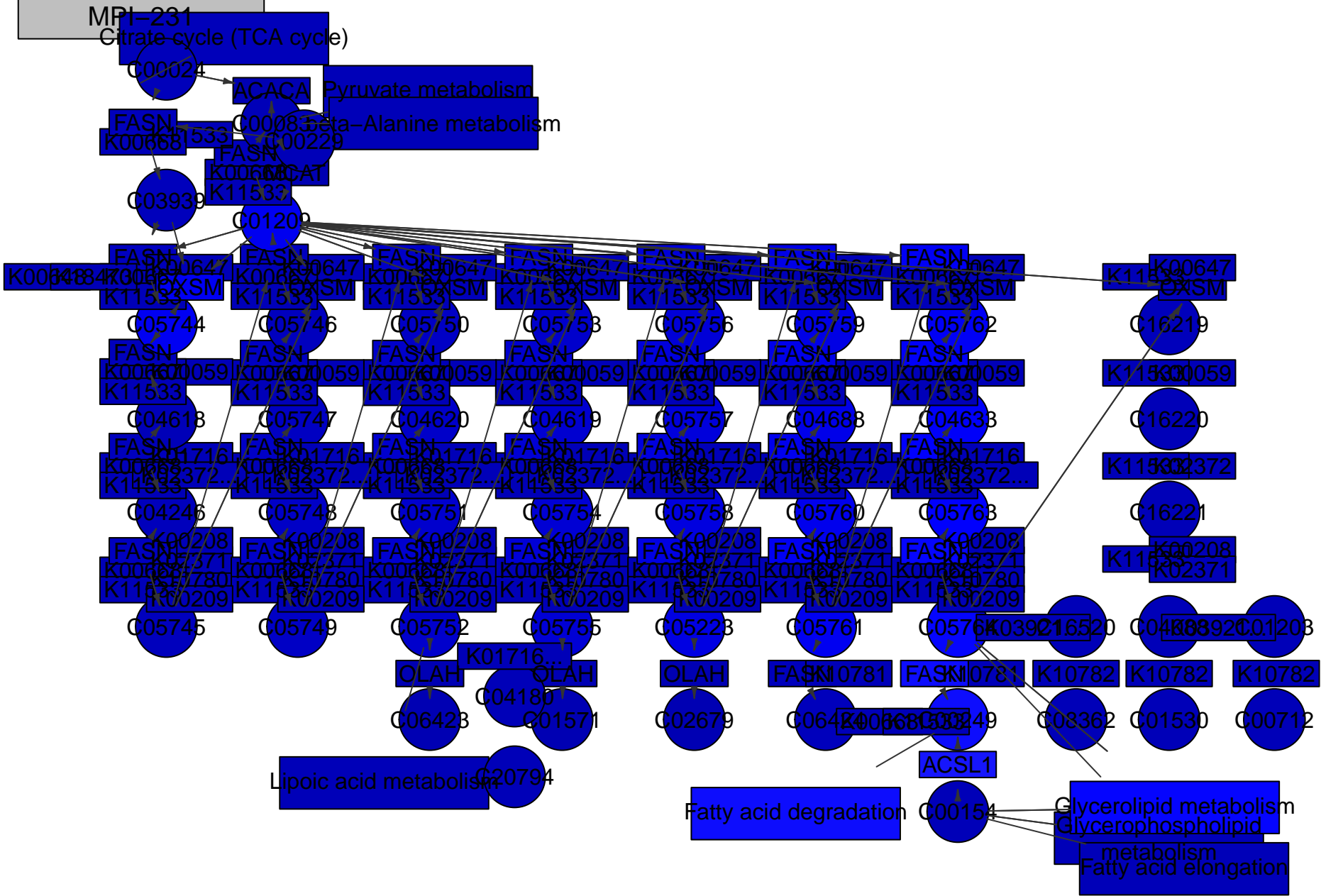
Fatty acid biosynthesis



Fatty acid biosynthesis



Fatty acid biosynthesis





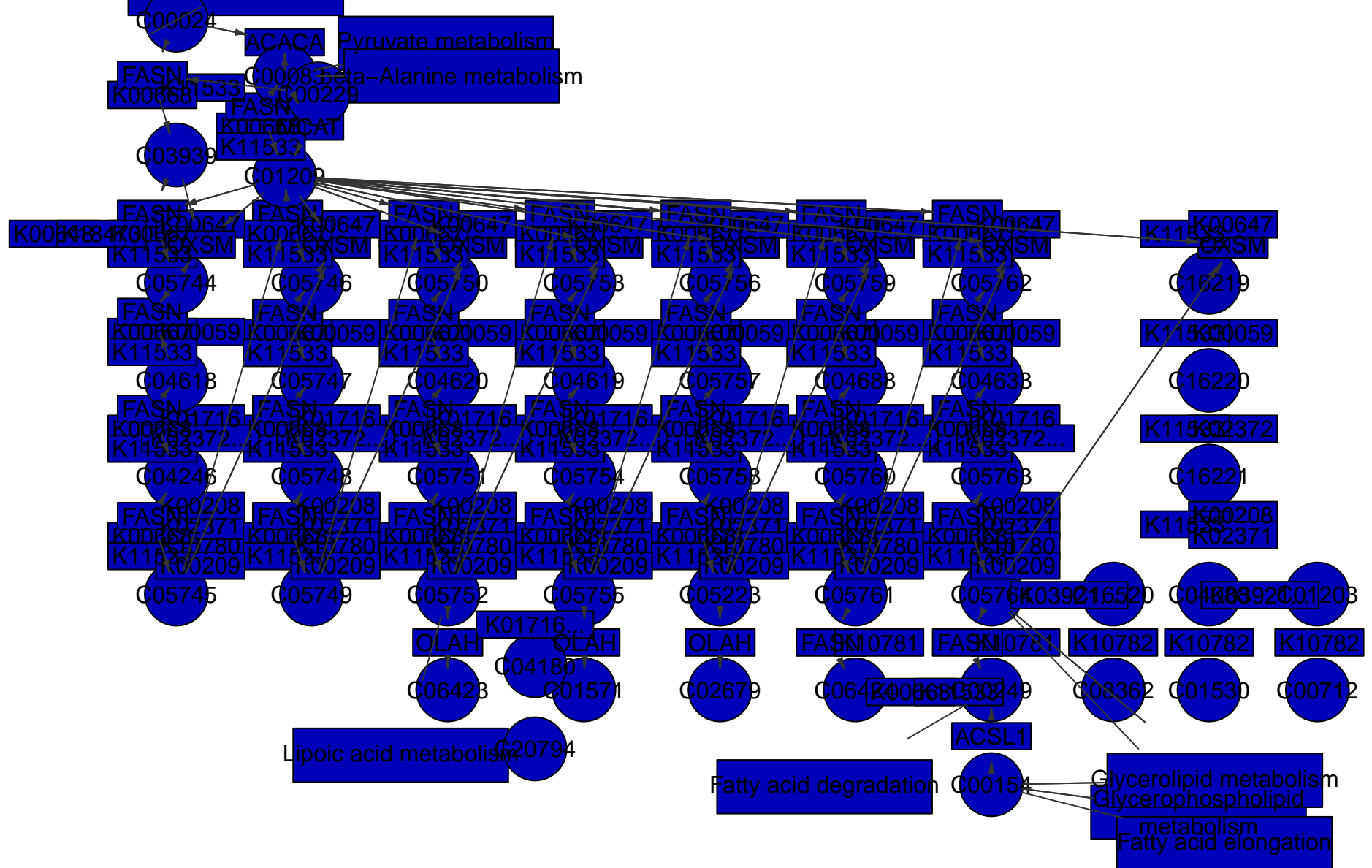




Fatty acid biosynthesis

MPI-234

Citrate-cycle (TCA cycle)

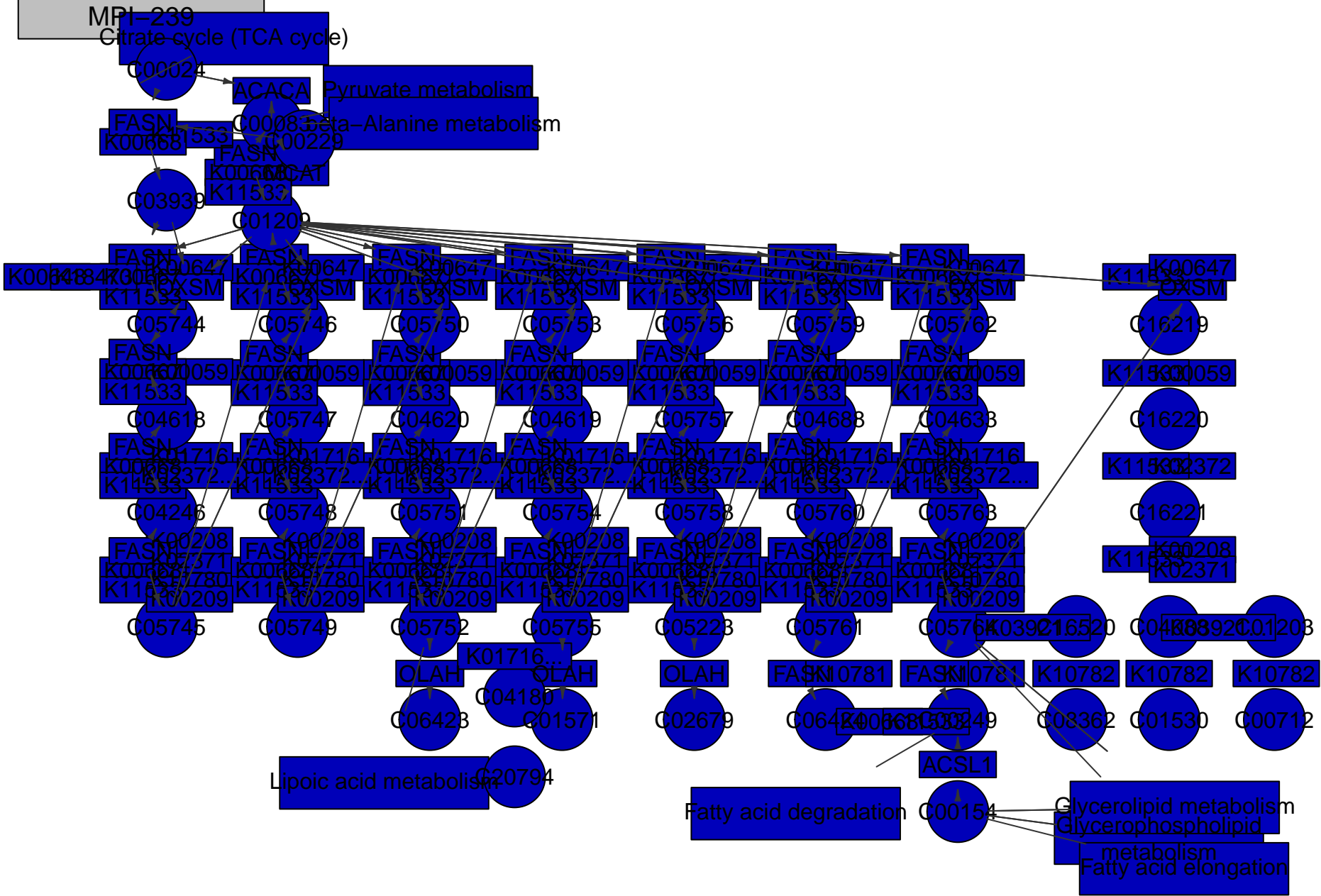






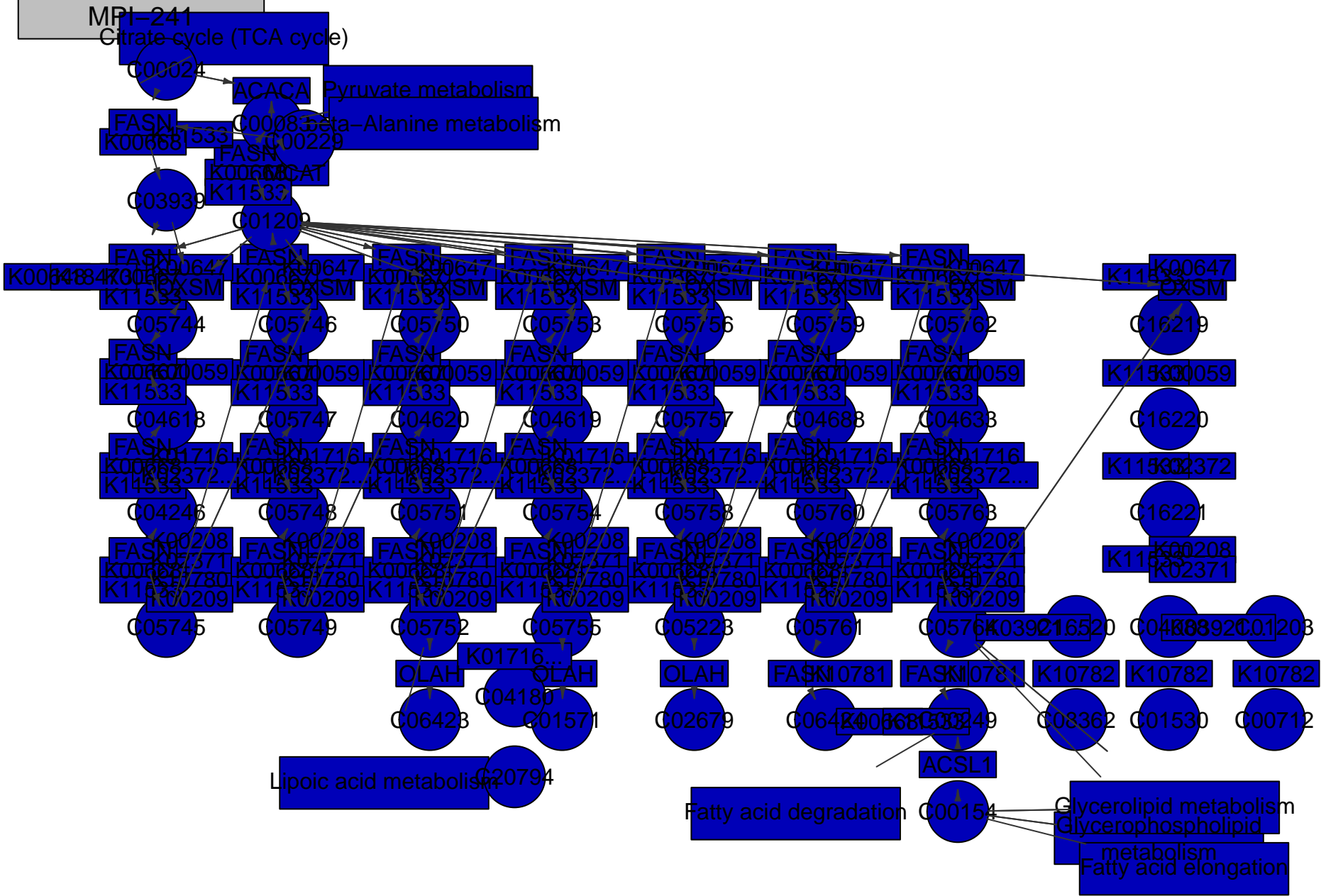


Fatty acid biosynthesis



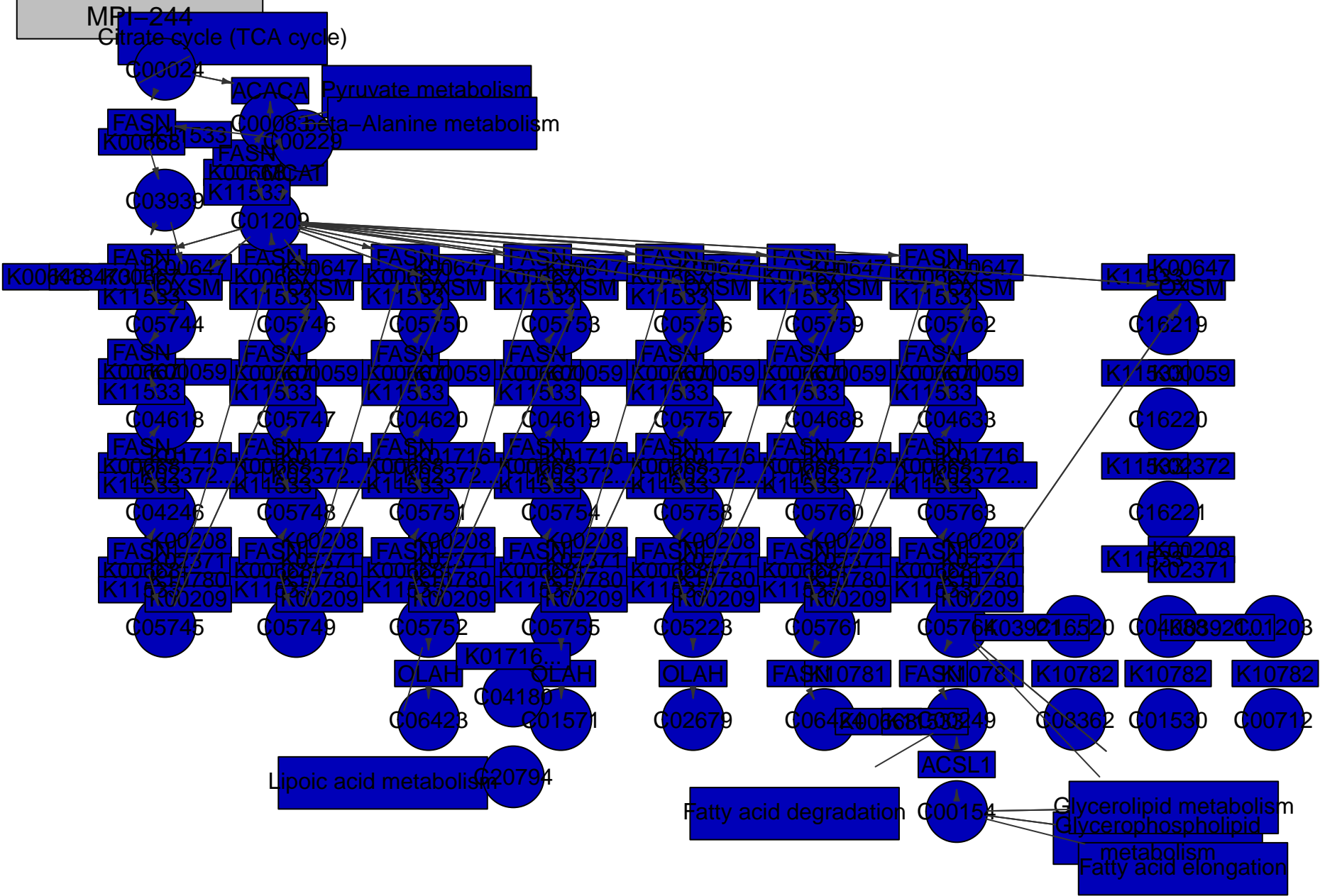


Fatty acid biosynthesis





Fatty acid biosynthesis







Fatty acid biosynthesis

