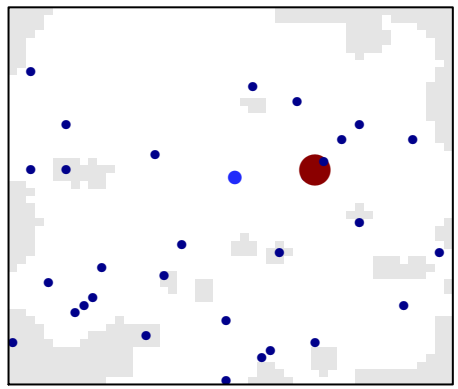
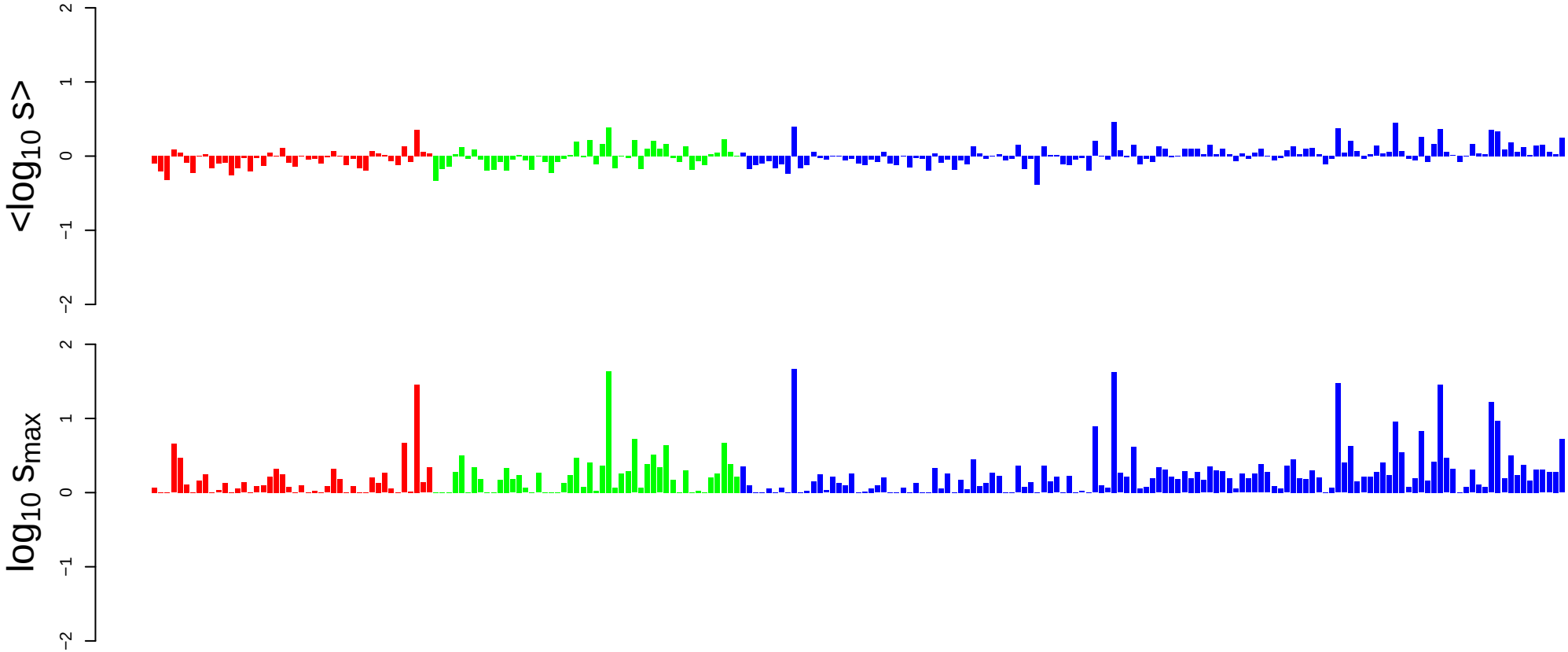
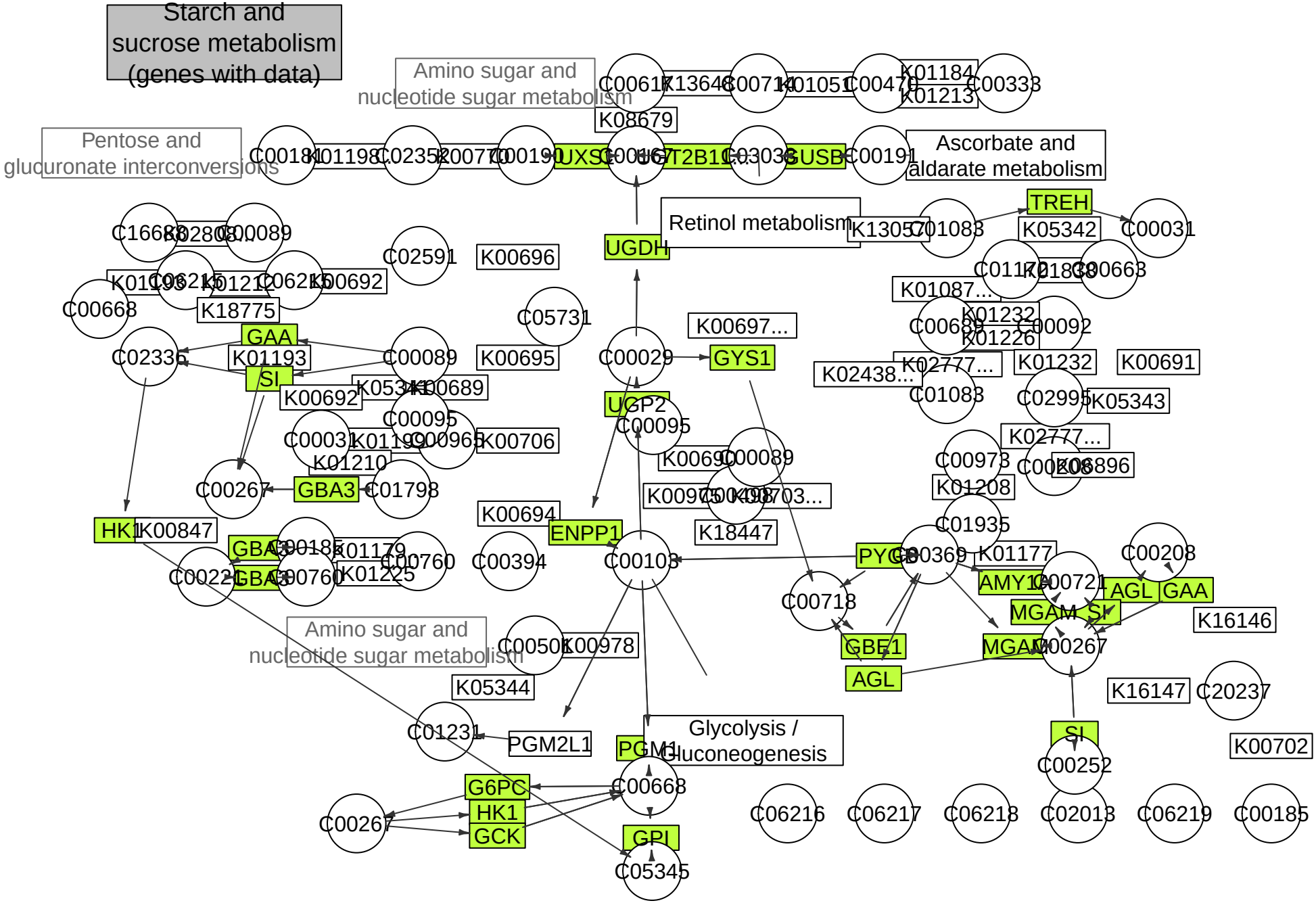
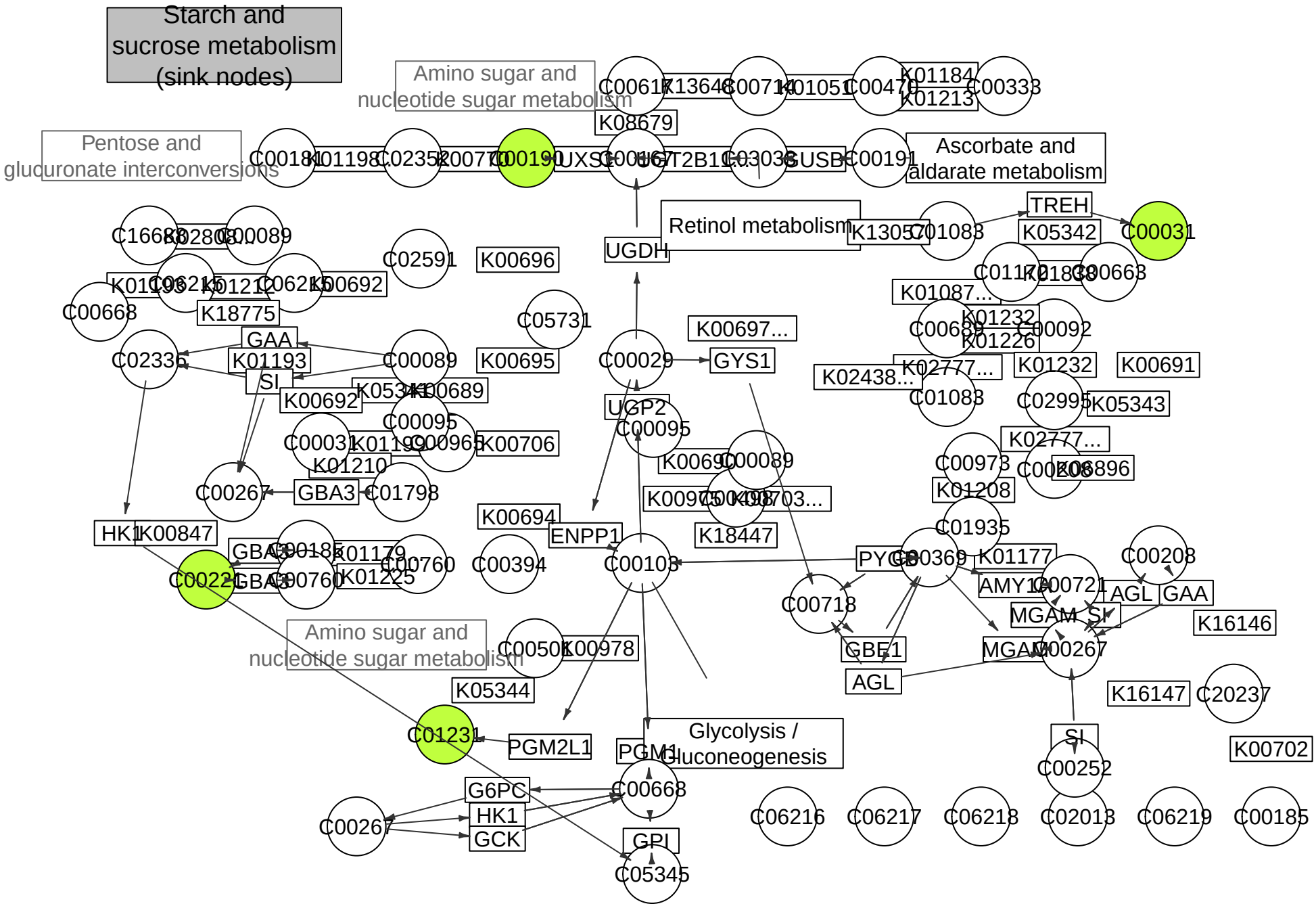
Starch and sucrose metabolism






Starch and sucrose metabolism (genes with data)
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
UXS
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
AMY1A
AGL
MGAM
GBE1
TREH
G6PC
GCK
GPI
PGM1
PGM2L1
C00668
C00029
C00095
C00089
C00103
C00267
C00718
C00252
C00031
C00092
C00208
C00185
C00702
C02591
C05731
C02336
C00394
C01231
C05345
C20237
C06216
C06217
C06218
C02013
C06219
K00696
K00695
K00692
K00689
K00706
K00694
K00978
K05344
K18775
K01193
K01210
K01179
K01225
K00847
K18447
K16146
K16147
K05342
K05343
K01232
K01226
K01208
K01177
K00691
K00702
K01087...
K02438...
K02777...
K00697...
K00703...
K01184
K01213
K01051
K08679


Starch and sucrose metabolism (sink nodes)
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00714
K01051
C00478
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C01083
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K00696
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K01193
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K00695
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K00692
K05341
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
K00847
C00221
C00760
C00394
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
C00668
HK1
GCK
GPI
C05345
C00267
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
SI
C00252
K00702
K01087...
K01232
K01226
K02438...
K02777...
K01232
K00691
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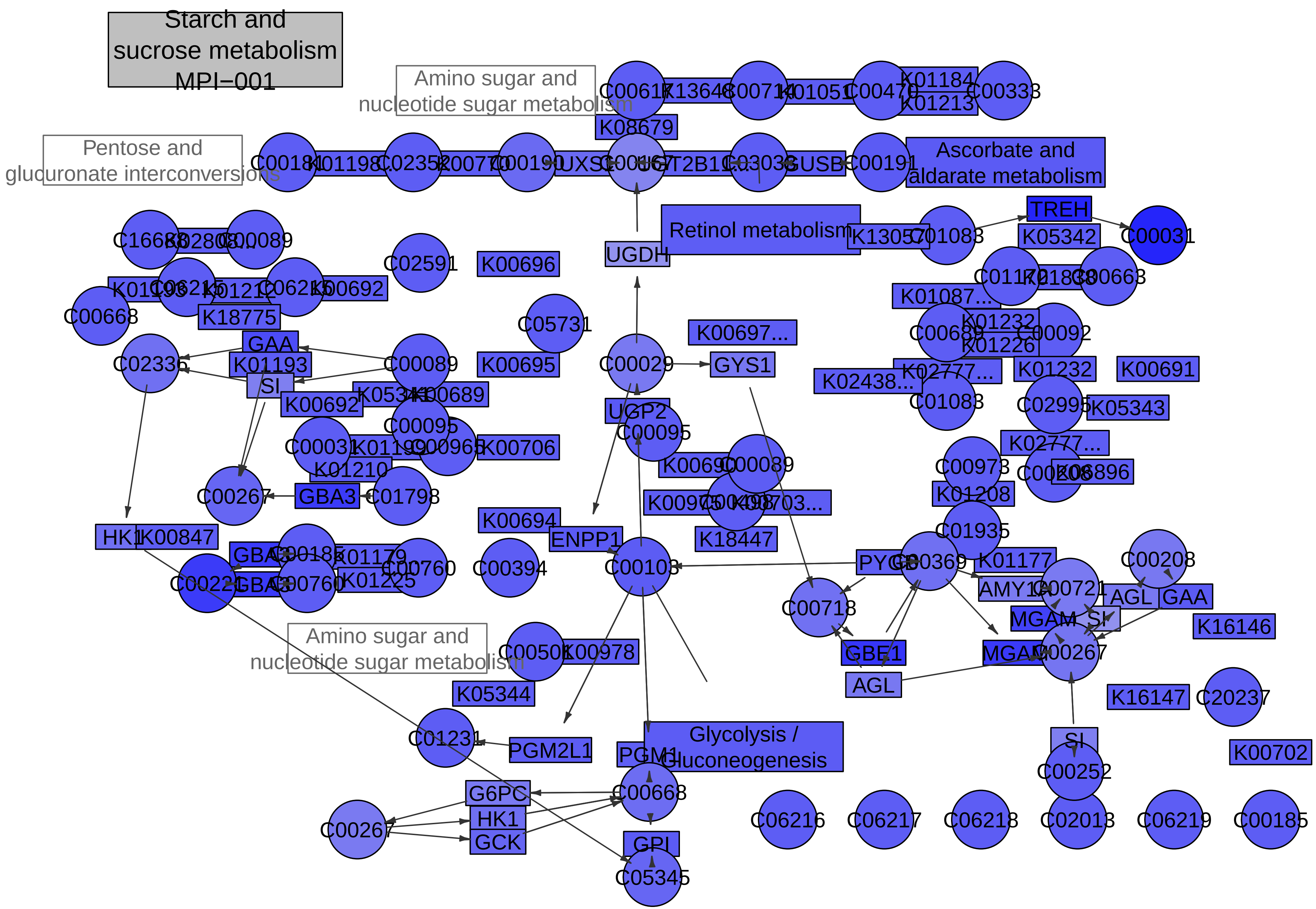
C00668
C00092



Starch and sucrose metabolism MPI−001
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
K08679
TREH
C00031
K05342
UGDH
C02591
K00696
C05731
K00697...
GYS1
C00029
K00695
K00691
K01232
K02438...
K05343
K02777...
UGP2
C00095
K00692
GAA
K01193
SI
C02336
C00089
K01210
C00267
GBA3
C01798
K00706
K00694
ENPP1
K18447
C00394
C00103
PYGB
C00718
GBE1
AGL
K01177
AMY1A
C00208
MGAM
K16146
C00978
K01208
C01935
C00973
C00050
K00978
K05344
C01231
PGM2L1
PGM1
C00668
G6PC
HK1
GCK
GPI
C05345
K00847
C00221
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C20237
K00702
C00252
C06216
C06217
C06218
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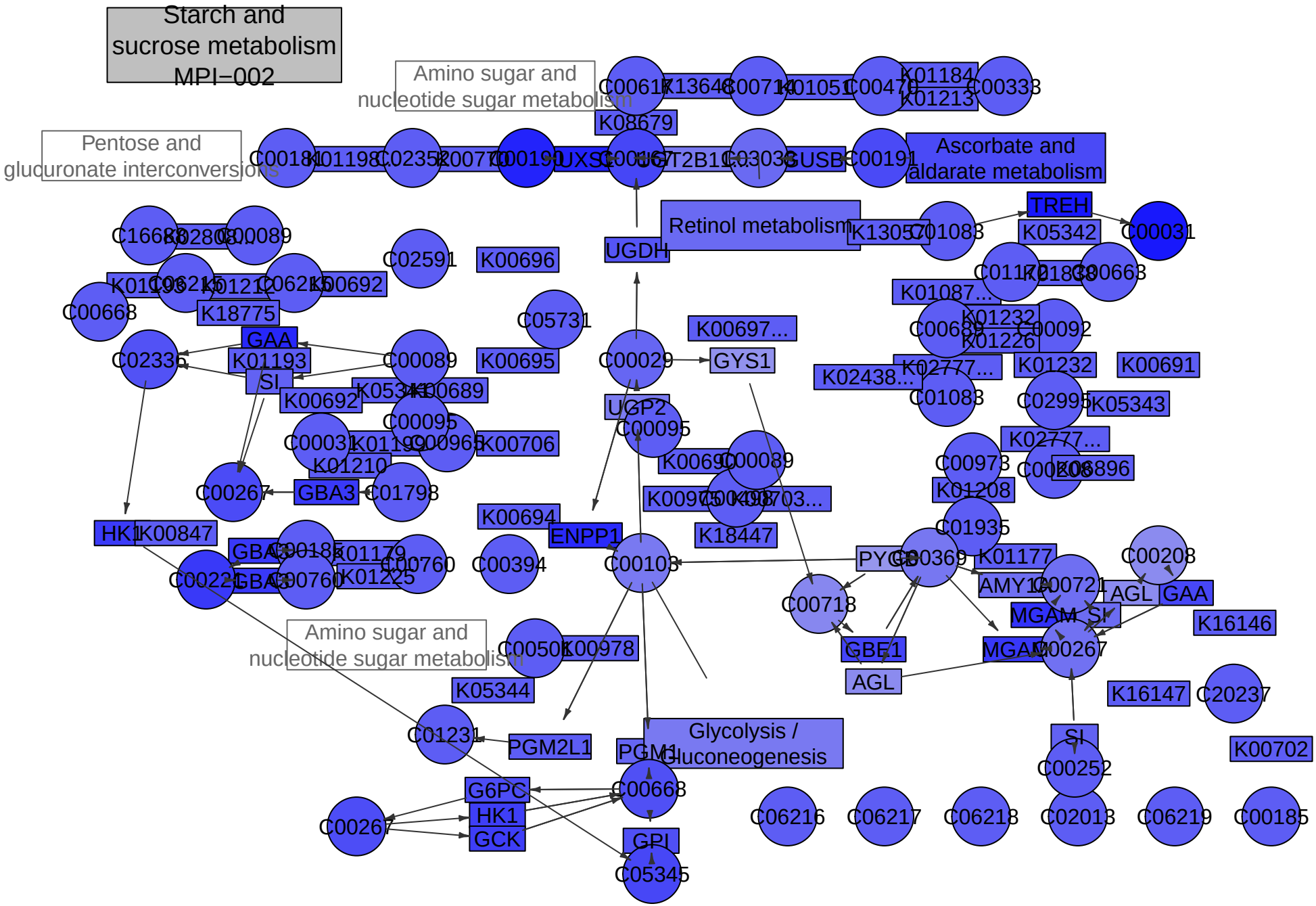
C06219
C00185


Starch and sucrose metabolism MPI−002
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00029
GYS1
K00697...
UGP2
C00095
K00695
K00696
C02591
C05731
K00692
K18775
GAA
K01193
SI
C02336
C00668
K00689
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
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ENPP1
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C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C05345
C00267
C06216
C06217
C06218
C02013
C06219
C00185
C20237
K16147
K00702
C00252
K16146
AGL
GAA
MGAM
SI
C00721
C00208
K01177
C01935
K01208
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C02995
K05343
K02777...
K01232
K00691
K01087...
K01226
C00092
C00668
K02438...
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K01184
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K01051
K13648
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C00197
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K01198
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K00770
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UXS
UGT2B11...
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K00694
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K05344
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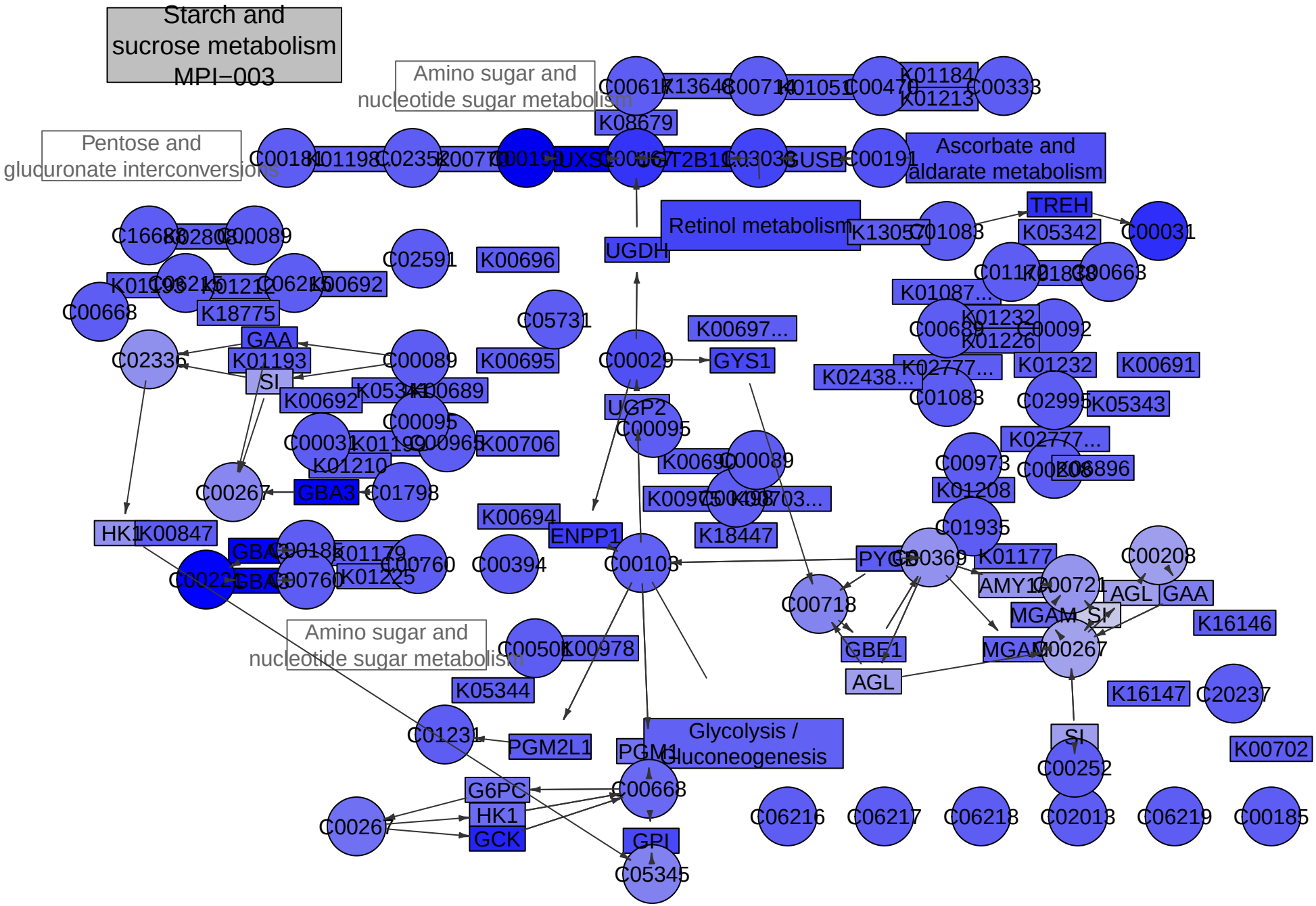
K00668
K05345
K00185
K00702


Starch and sucrose metabolism MPI−003
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GPI
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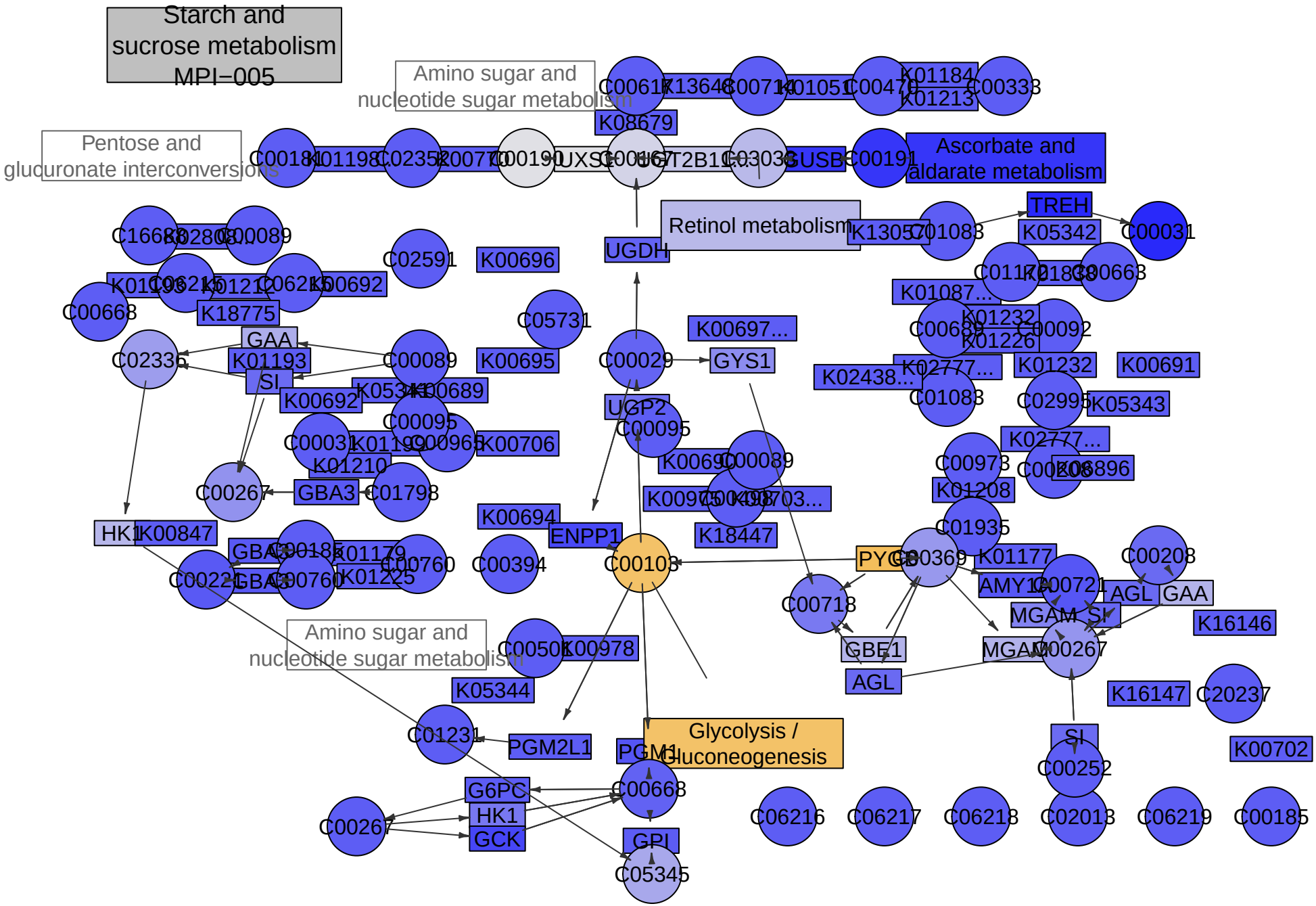
C00185


Starch and sucrose metabolism MPI−005
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS1
UGT2B11...
GUSB
C00191
TREH
K05342
C00031
UGDH
C02591
K00696
K18775
GAA
C02336
K01193
SI
K00692
K00695
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
K01179
K01225
C00760
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
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GPI
C05345
C06216
C06217
C06218
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C06219
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K02438...
K02777...
K01232
K00691
K05343
K02777...
K01208
K01087...
C00668
C00089
C05731
C00031
K01208
K01184
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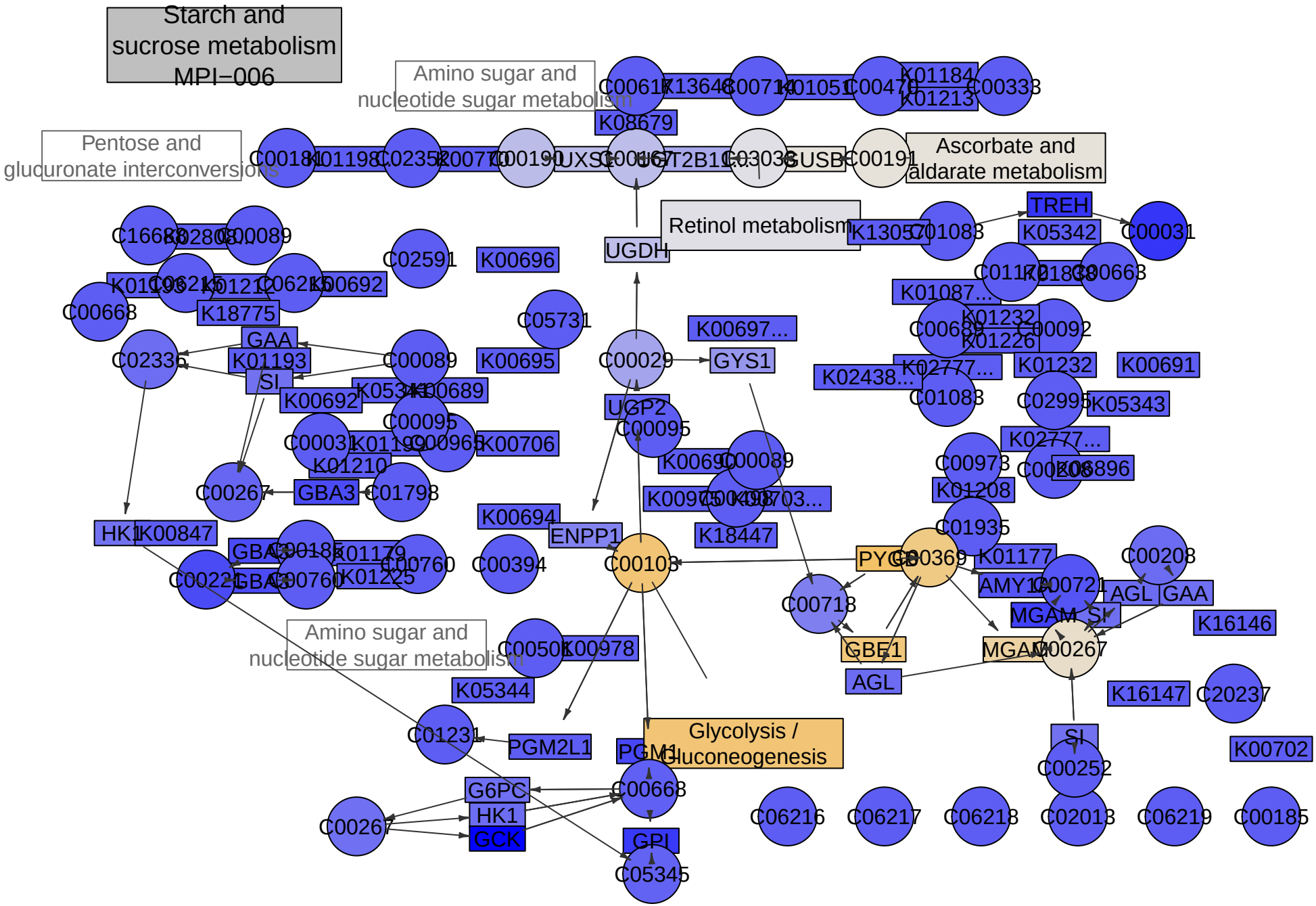
K00770
C00190


Starch and sucrose metabolism MPI−006
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00077
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00668
C02336
C00089
C05731
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
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K18447
C01935
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HK1
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K01179
K01225
C00760
C00394
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
K05344
GBE1
AGL
MGAM
C00267
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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C06217
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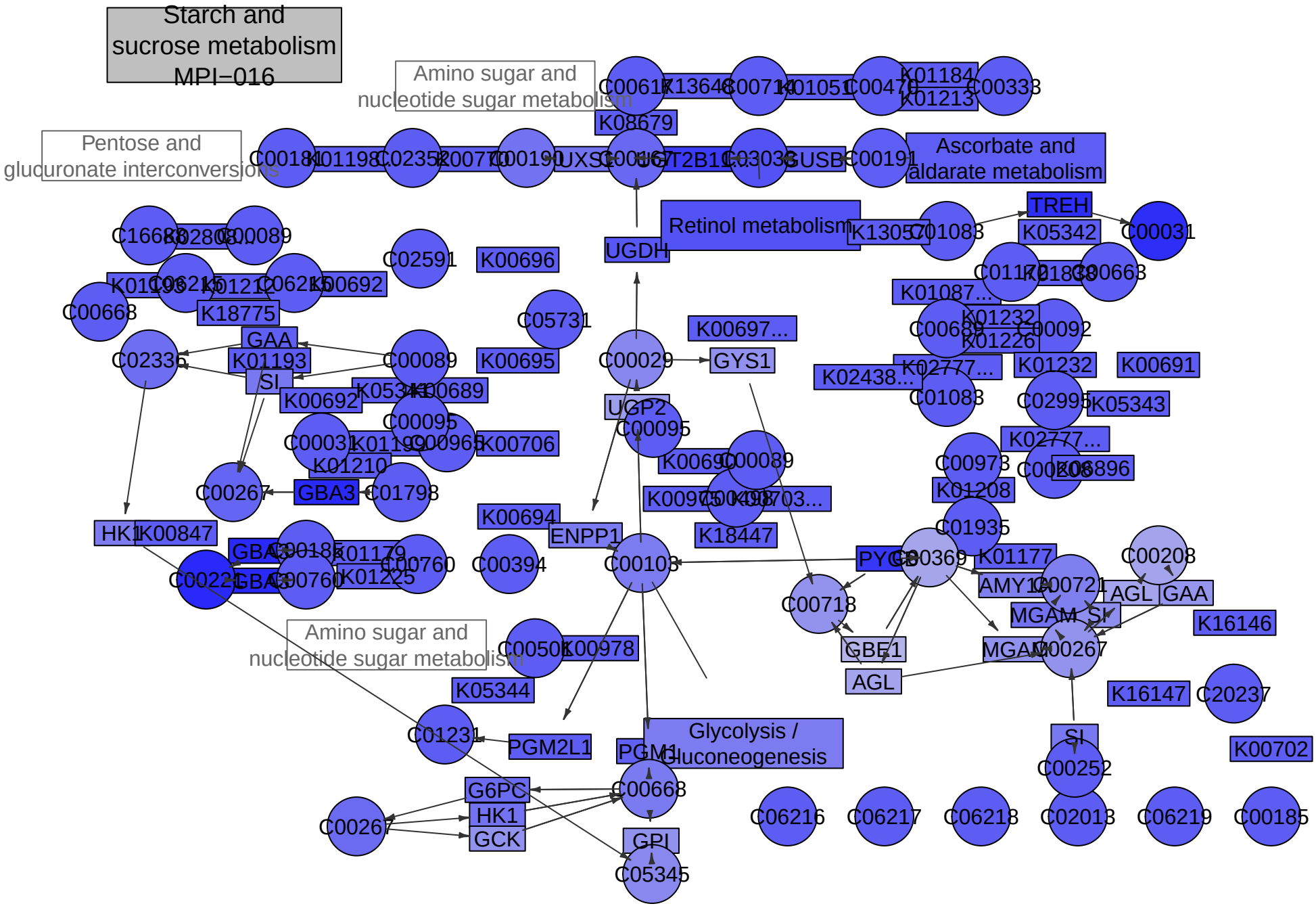
C06219
C00185


Starch and sucrose metabolism MPI−016
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
K00692
C05731
K00695
C00029
GYS1
K00697...
UGP2
C00095
K00706
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GBA3
C01798
HK1
K00847
K00694
ENPP1
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C00394
C00760
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K18447
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C06216
C06217
C06218
C02013
C06219
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K01232
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K02438...
K02777...
K05343
K02777...
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
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SI
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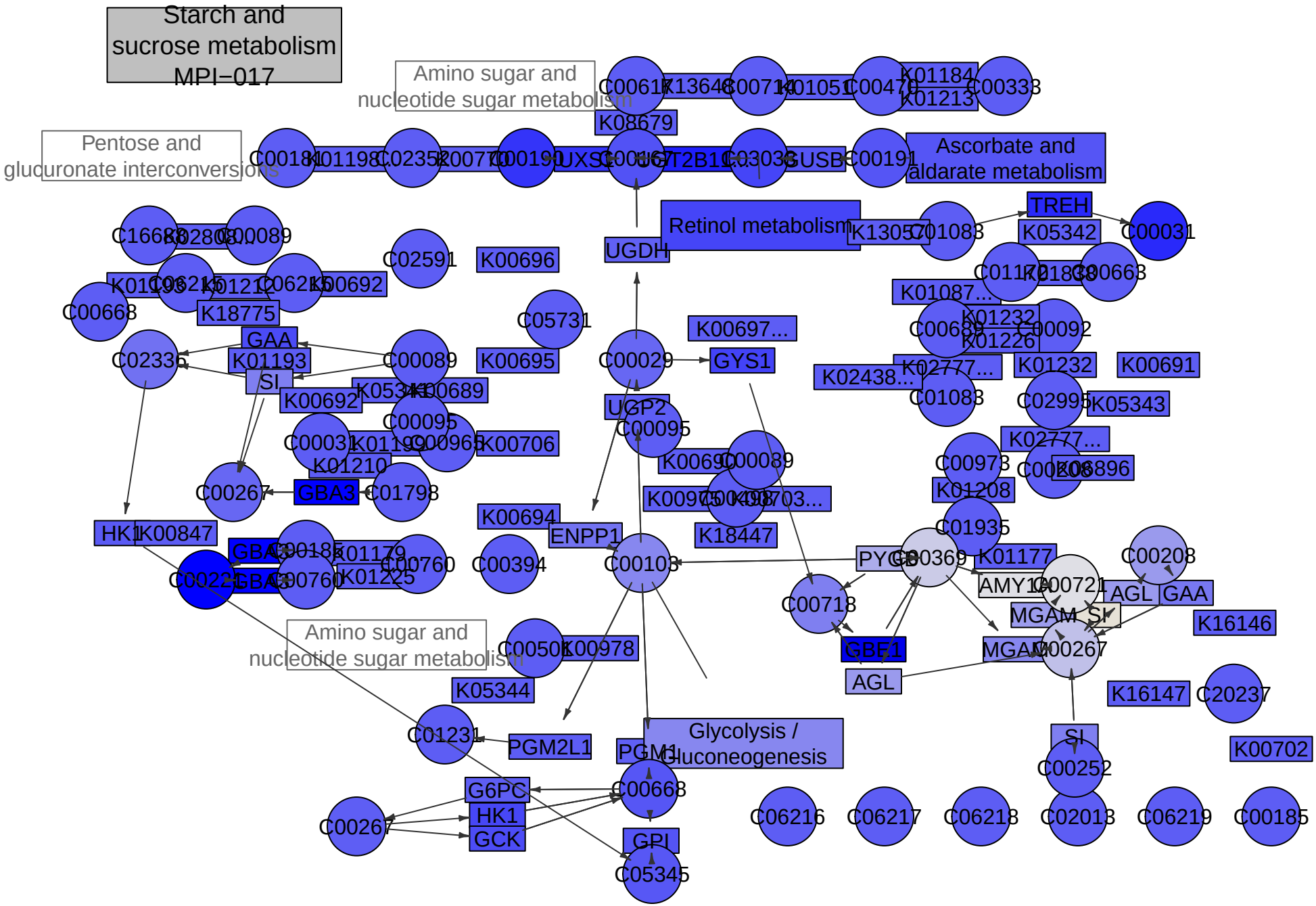
K00702


Starch and sucrose metabolism MPI−017
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
AMY1A
MGAM
GBE1
AGL
TREH
K05342
K01232
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K01087...
K02438...
K02777...
K05343
K06896
K01208
K01177
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K16147
K00702
K00706
K00694
K18447
K05344
K01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
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C00089
C00029
C00095
C00267
C00103
C00718
C00252
C06216
C06217
C06218
C02013
C06219
C00185
C20237
C00031
C00333
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C02336
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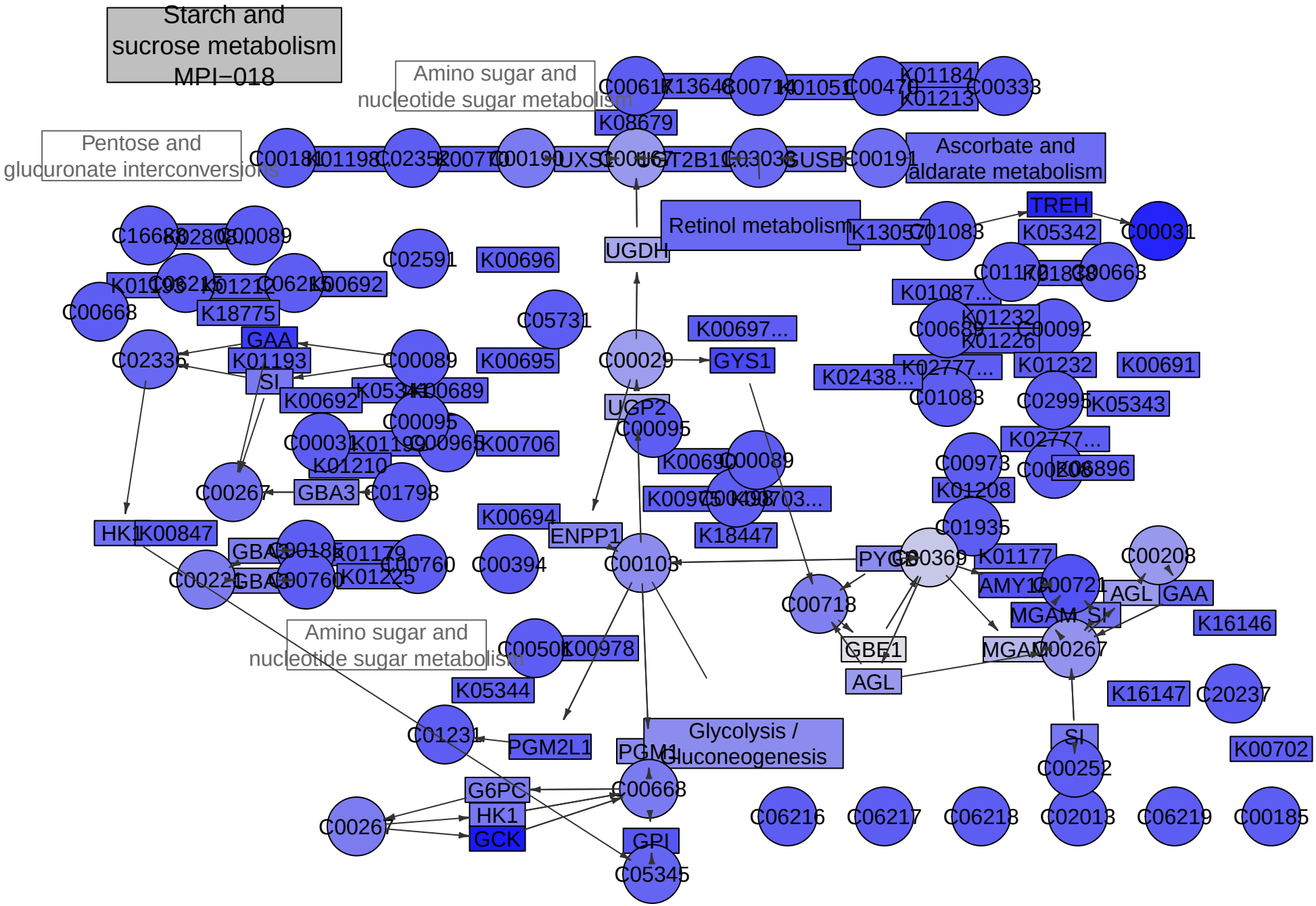
Starch and sucrose metabolism MPI−018
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00103
ENPP1
K00694
K18447
PYGB
C00369
C00718
GBE1
AGL
MGAM
SI
C00267
C00252
C06216
C06217
C06218
C02013
C06219
C00185
G6PC
HK1
GCK
C00668
GPI
C05345
PGM1
PGM2L1
C01231
K05344
C00501
K00978
C00236
GBA3
C01798
HK1
K00847
GAA
K01193
K18775
K00692
K00695
K00706
K01210
K01232
K01226
K02777...
K01087...
K01208
K01177
K16146
K16147
C20237
K00702
TREH
K05342
C00031
K05343
K01232
K00691
C02591
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C05731
C00668
C02336
C00089
C00092
C00973
C01935
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C00721
C01083
C02995
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C00191
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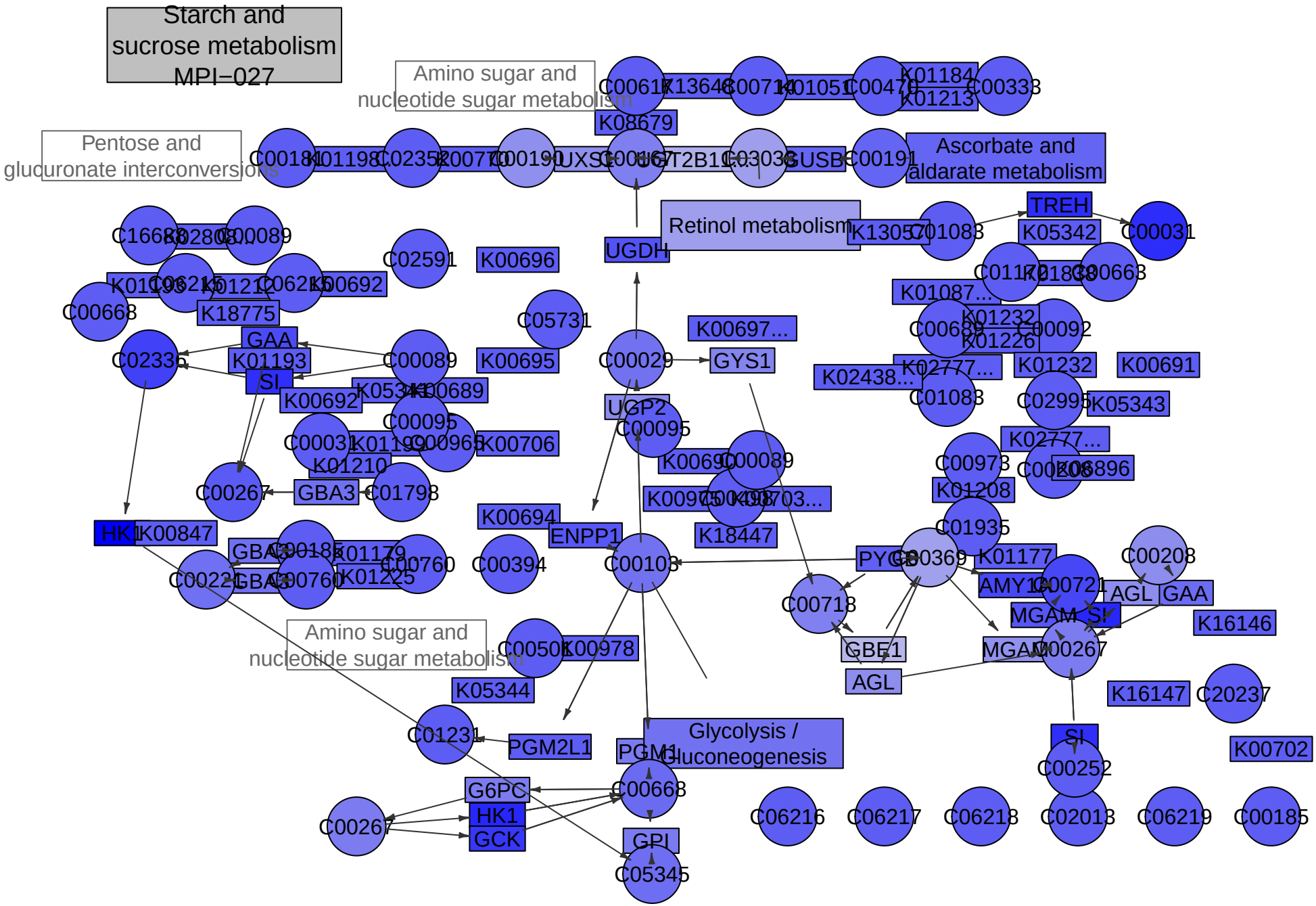
Starch and sucrose metabolism MPI−027
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C02336
SI
C00089
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K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
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K02777...
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C01083
C02995
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UGP2
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K00706
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GBA3
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C00760
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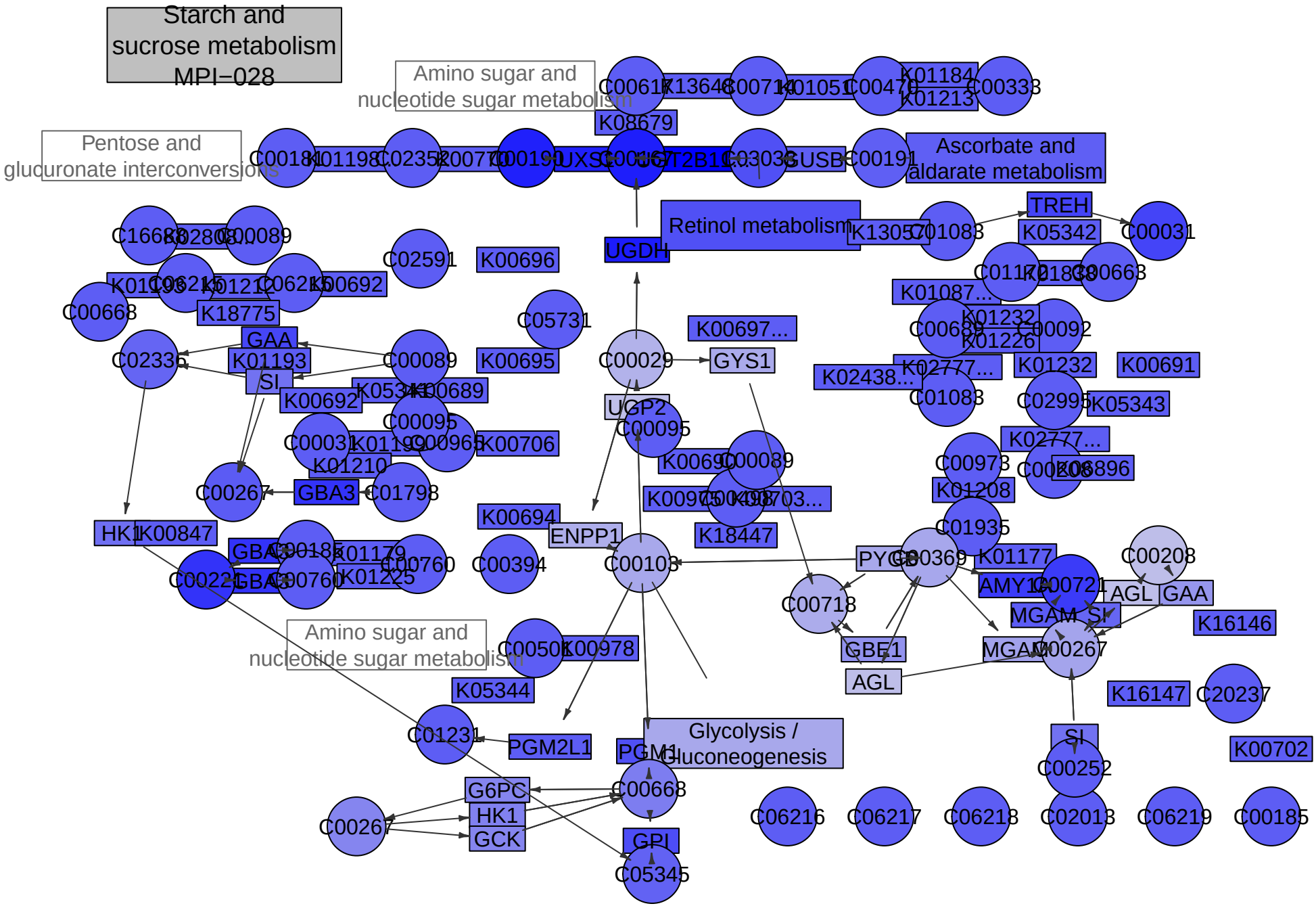
Starch and sucrose metabolism MPI−028
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
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UGP2
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GAA
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C02336
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K00706
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GBA3
C01798
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K00847
K00694
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K01225
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C00369
K01177
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GAA
MGAM
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GBE1
MGAM
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C20237
K05344
C01231
PGM2L1
PGM1
C00668
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
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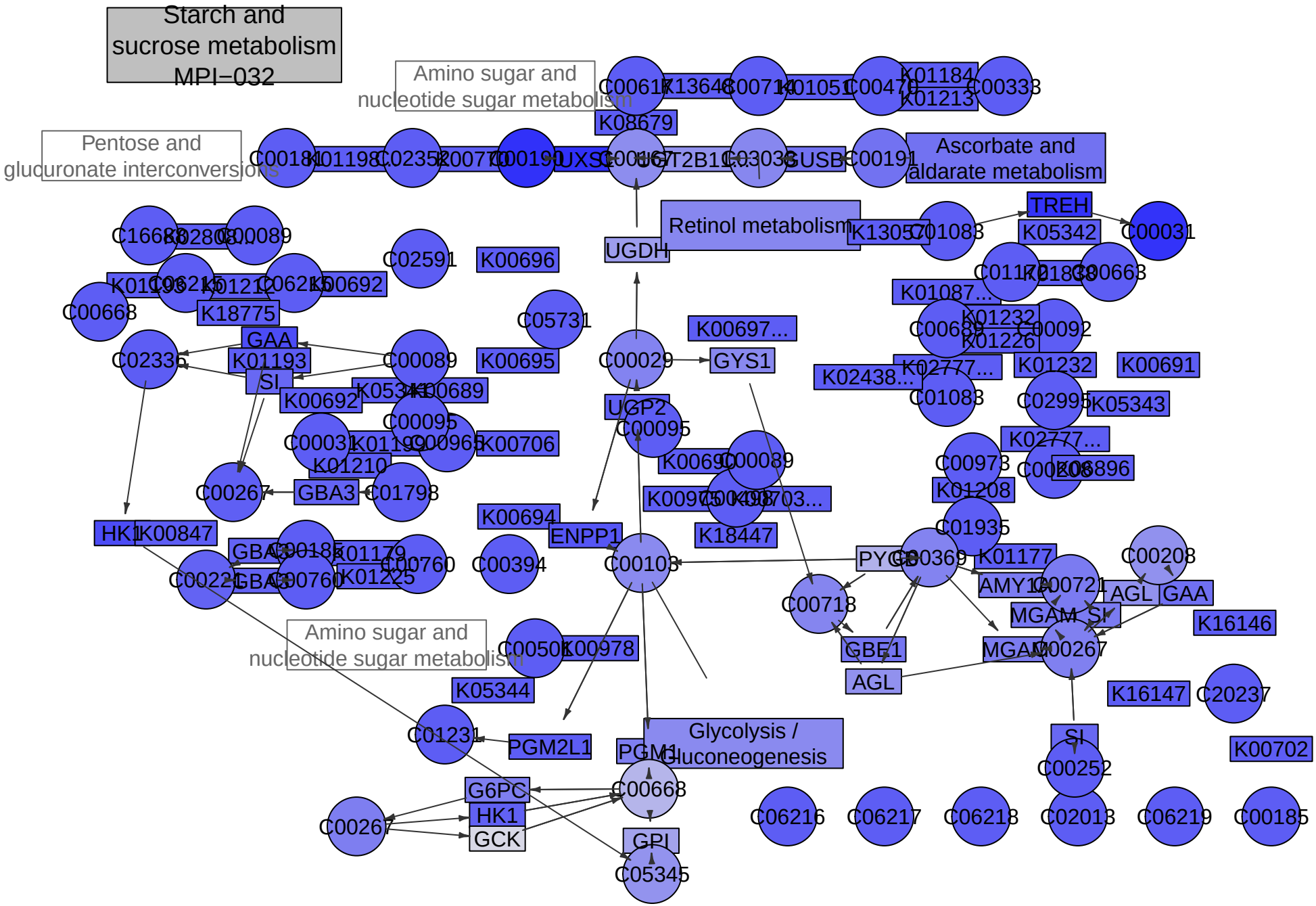
Starch and sucrose metabolism MPI−032
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
TREH
K05342
C00031
K00696
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C00668
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C02336
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C00267
GBA3
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HK1
K00847
K00694
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PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C06216
C06217
C06218
C02013
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MGAM
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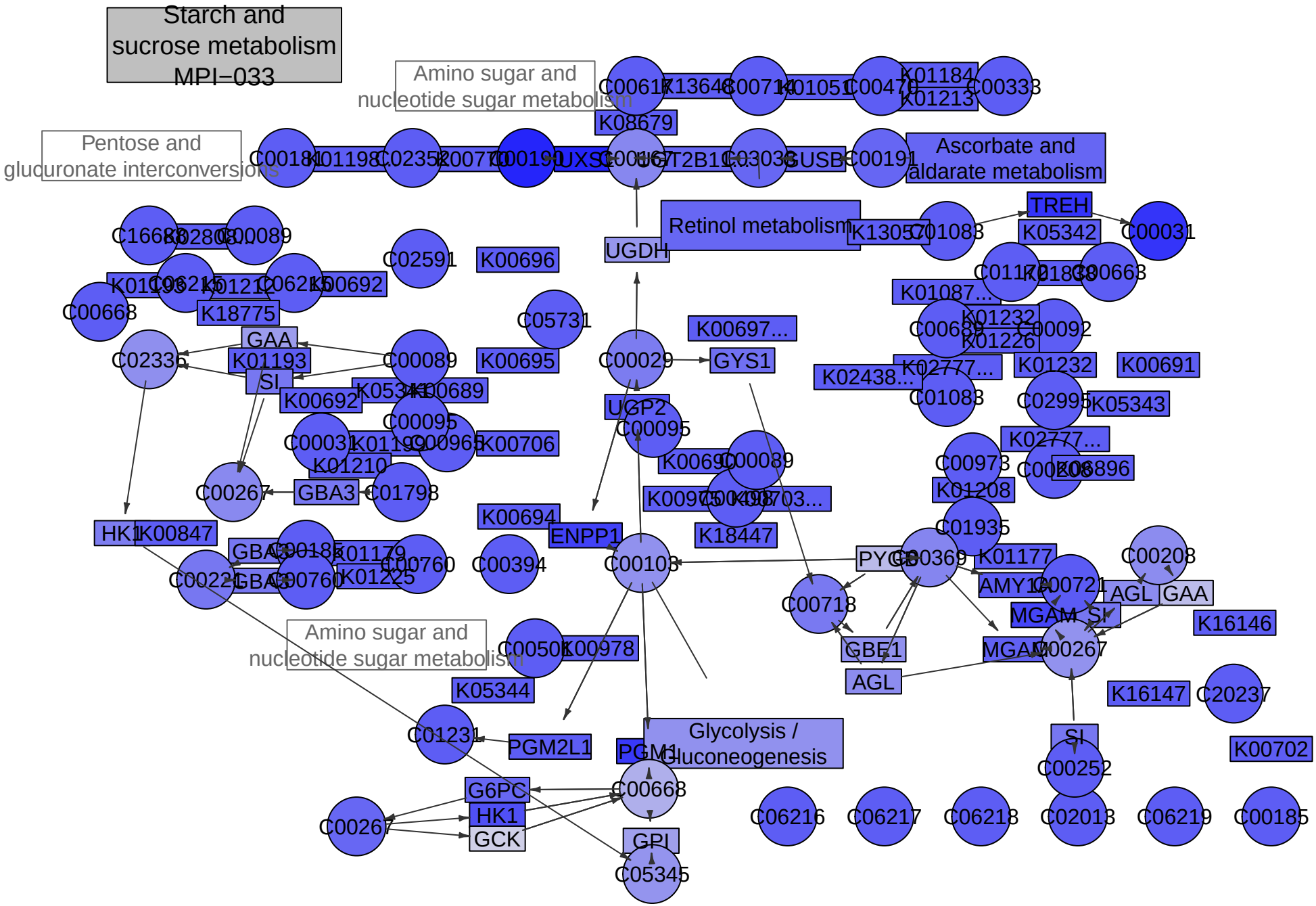
Starch and sucrose metabolism MPI−033
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
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K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
K00692
C05731
K00695
C00029
GYS1
K00697...
UGP2
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K00706
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GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
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K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
SI
C00267
K16146
K16147
C20237
C00252
K00702
C06216
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C06218
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C06219
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K01232
K01226
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K02777...
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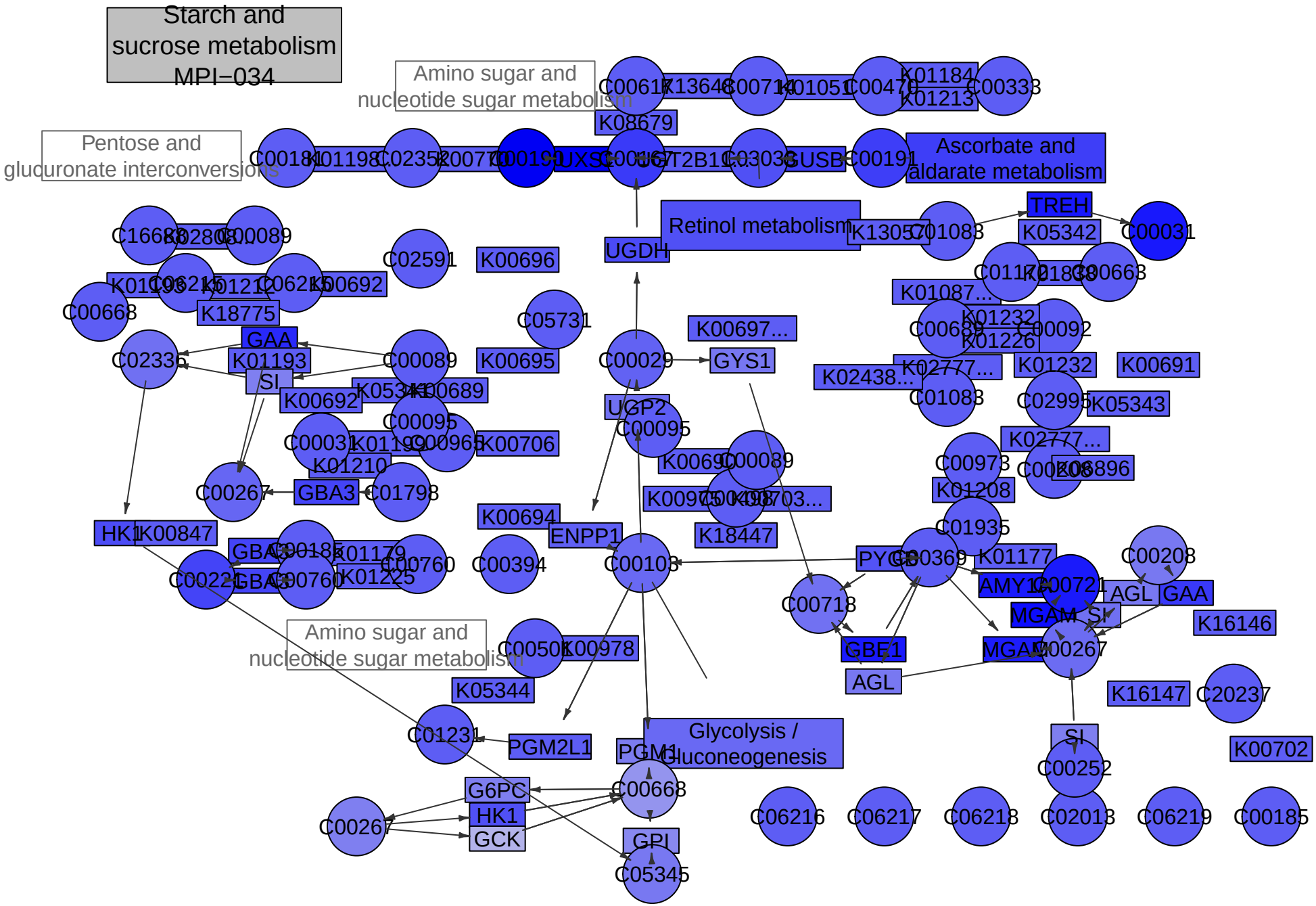
Starch and sucrose metabolism MPI−034
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
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C05731
GAA
K01193
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GYS1
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K02777...
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K01177
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GAA
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GBE1
MGAM
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AGL
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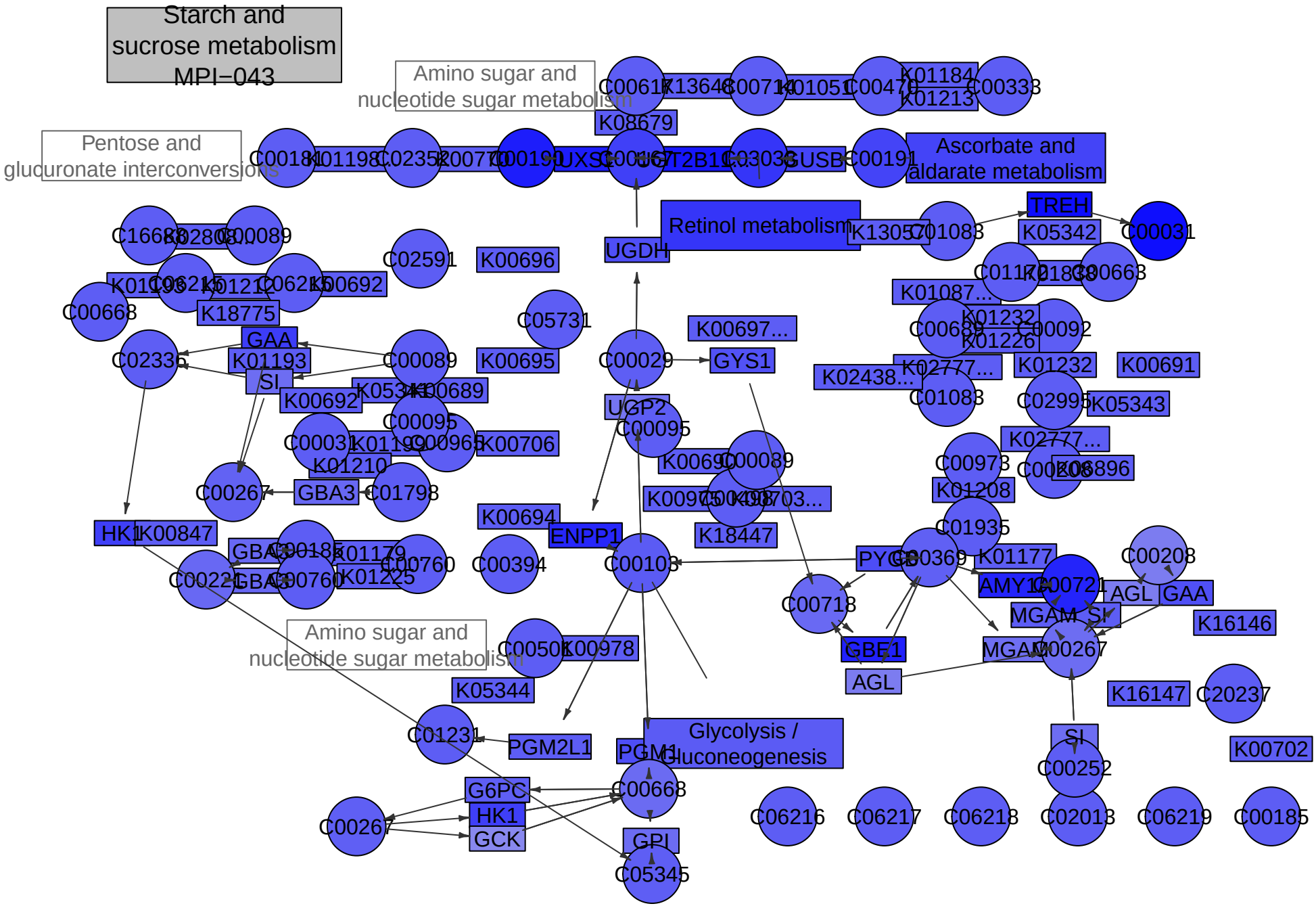
Starch and sucrose metabolism MPI−043
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
TREH
C00031
K05342
C01083
K13057
UGDH
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
C00031
K01210
K00706
K02777...
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GBA3
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GAA
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AGL
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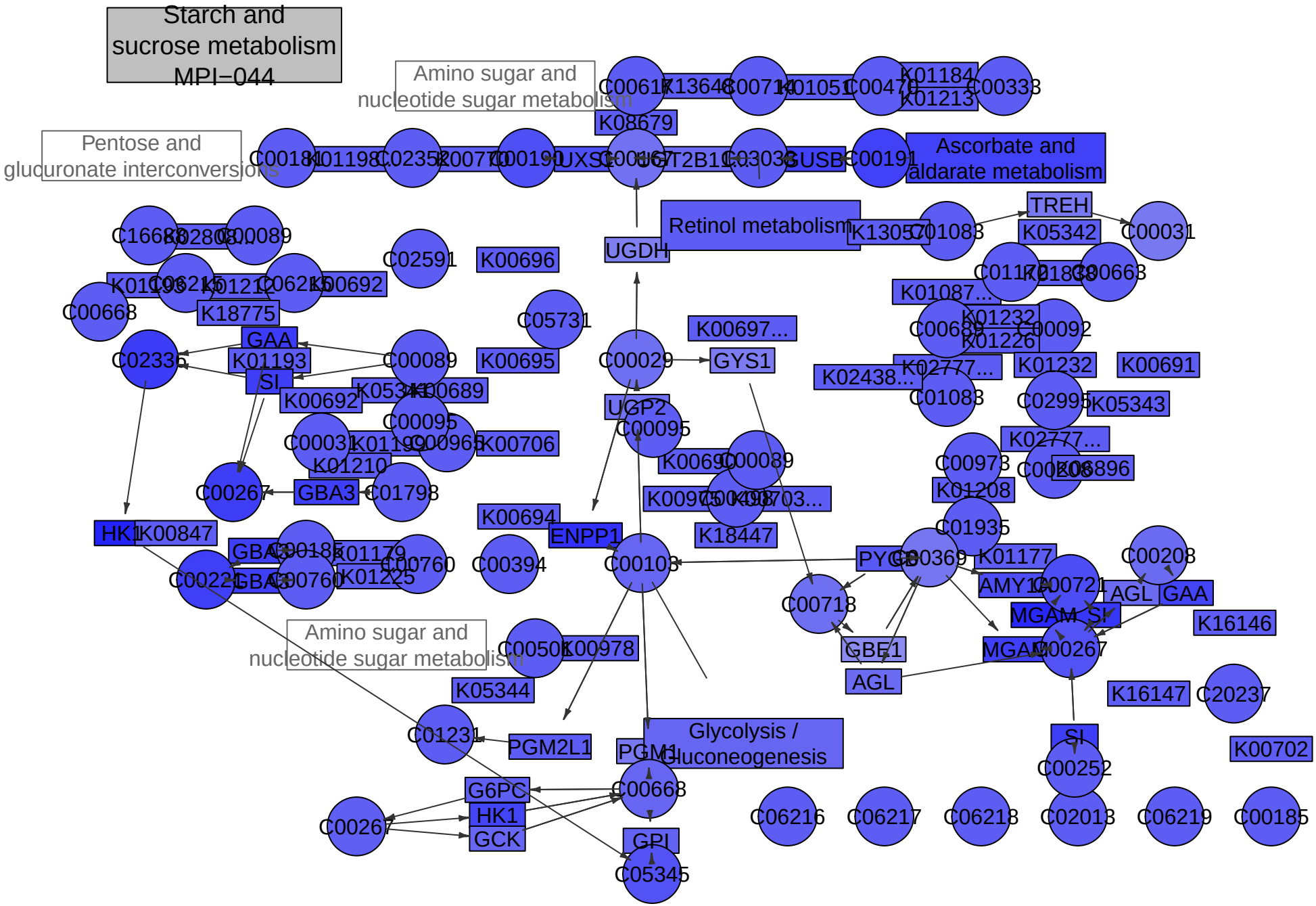
Starch and sucrose metabolism MPI−044
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
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K00695
C00029
GYS1
K02438...
K01232
K00691
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K00689
UGP2
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K00706
K01210
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GBA3
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K00694
ENPP1
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HK1
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AGL
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C01231
PGM2L1
PGM1
SI
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C00252
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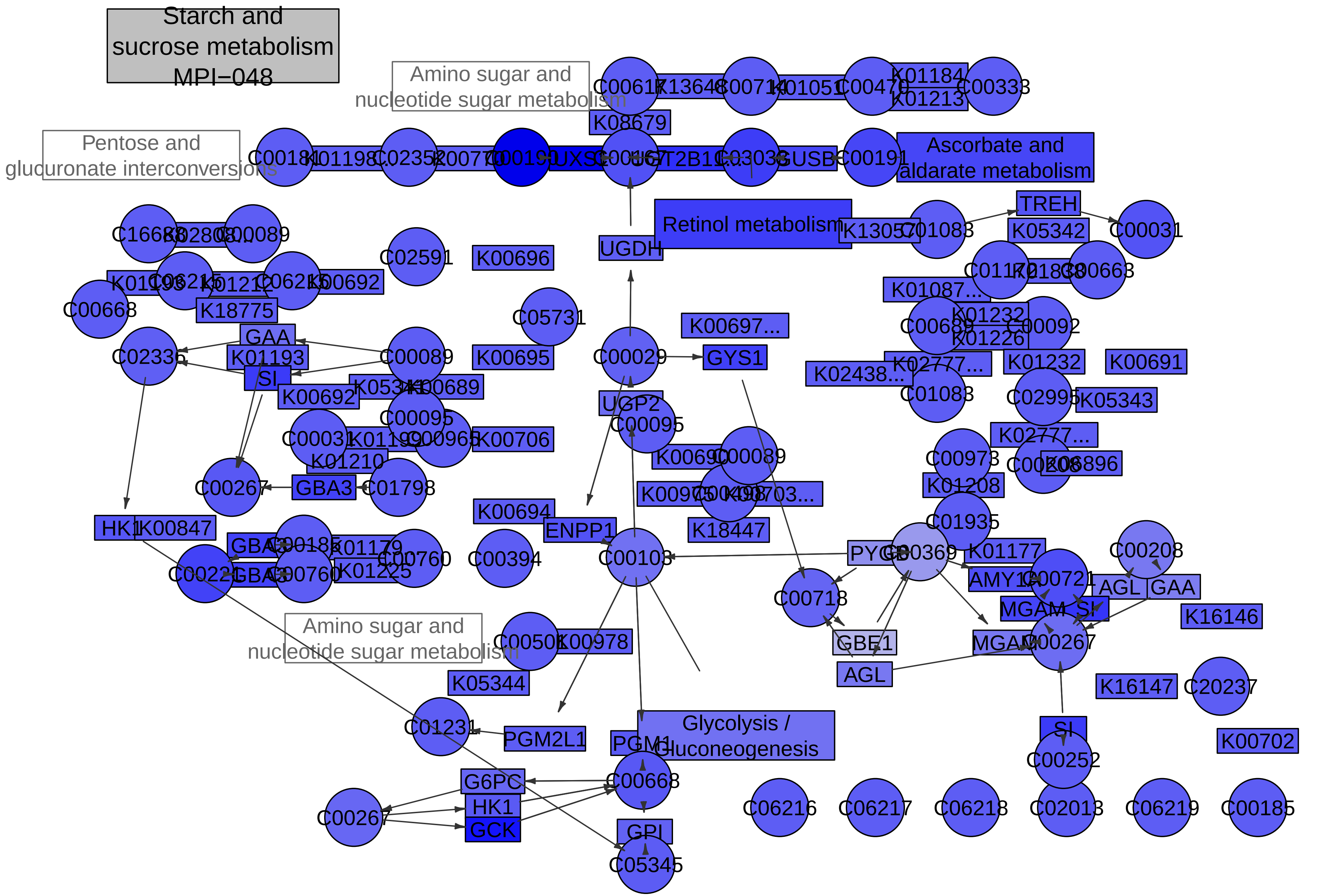

Starch and sucrose metabolism MPI−048
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
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K13648
C00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198...
C02352
K00770
C00190
UXS1
C00167
UGT2B1...
C03033
GUSB
C00191
TREH
C00031
K05342
C01083
K13057
UGDH
C00089
C02591
K00696
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K18775
GAA
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C00689
K01232
K01226
C00092
C02336
K01193
SI
C00089
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C00029
GYS1
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K02777...
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UGP2
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GBA3
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C01935
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K18447
HK1
K00847
ENPP1
C00394
C00103
PYGB
C00369
K01177
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K01225
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C00718
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AGL
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MGAM
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C01231
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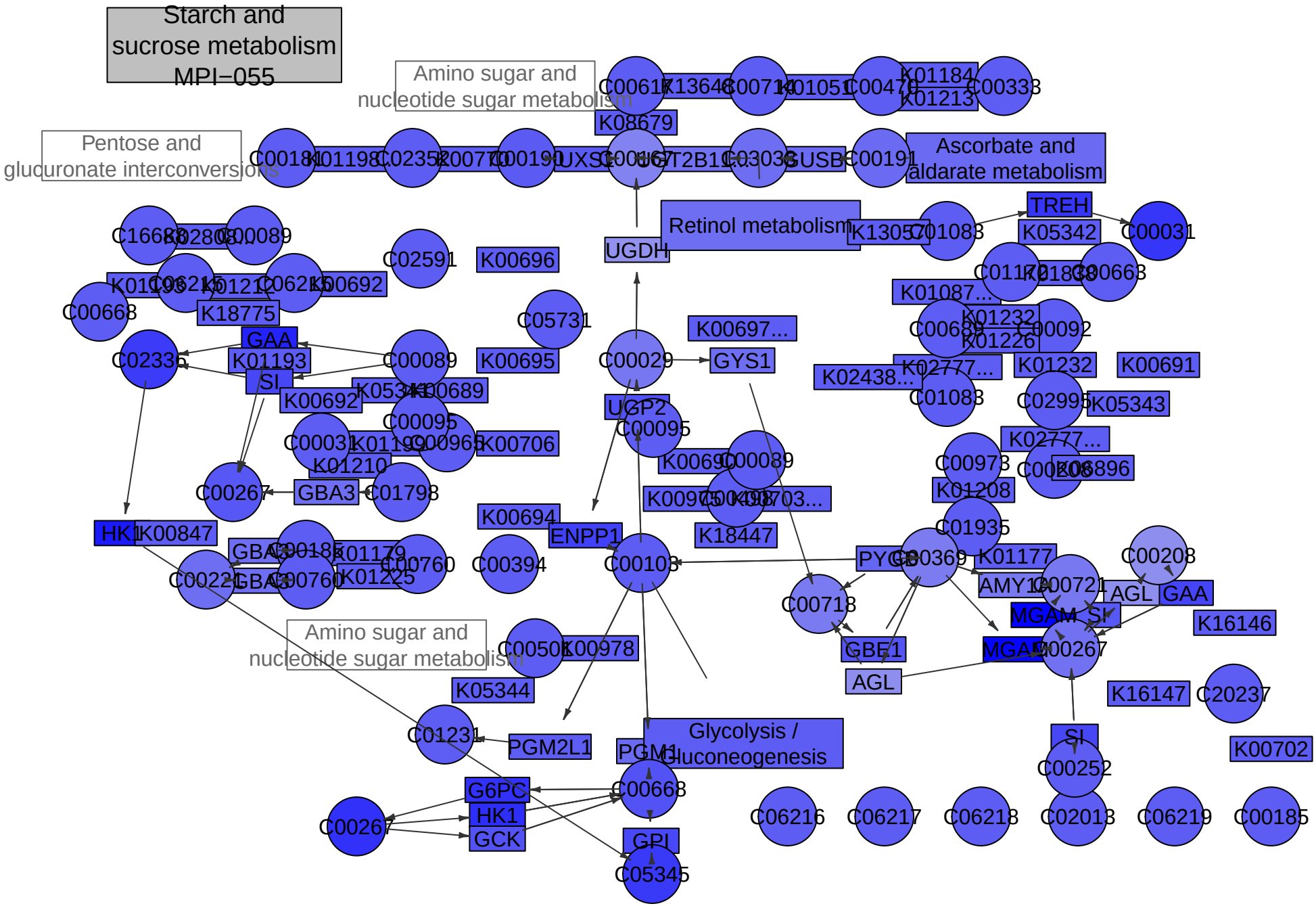
Starch and sucrose metabolism MPI−055
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00031
C02591
K00696
C05731
K00697...
GYS1
GAA
K01193
SI
K00692
K00695
UGP2
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K01210
GBA3
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K00694
ENPP1
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C00718
GBE1
AGL
MGAM
K16146
K05344
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PGM1
G6PC
HK1
GCK
GPI
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C06217
C06218
C02013
C06219
C00185
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C20237
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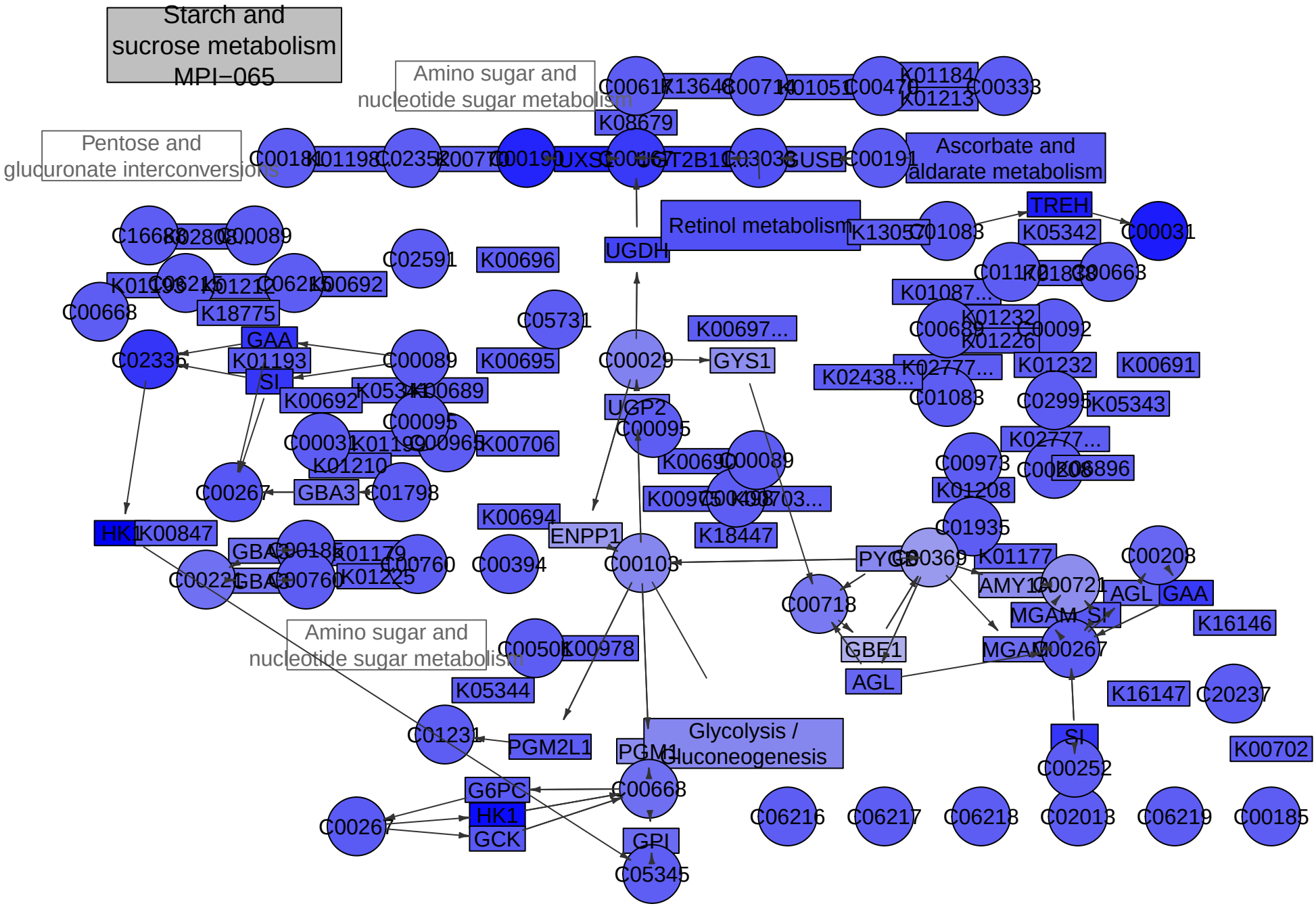
Starch and sucrose metabolism MPI−065
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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K00696
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C20237
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PGM1
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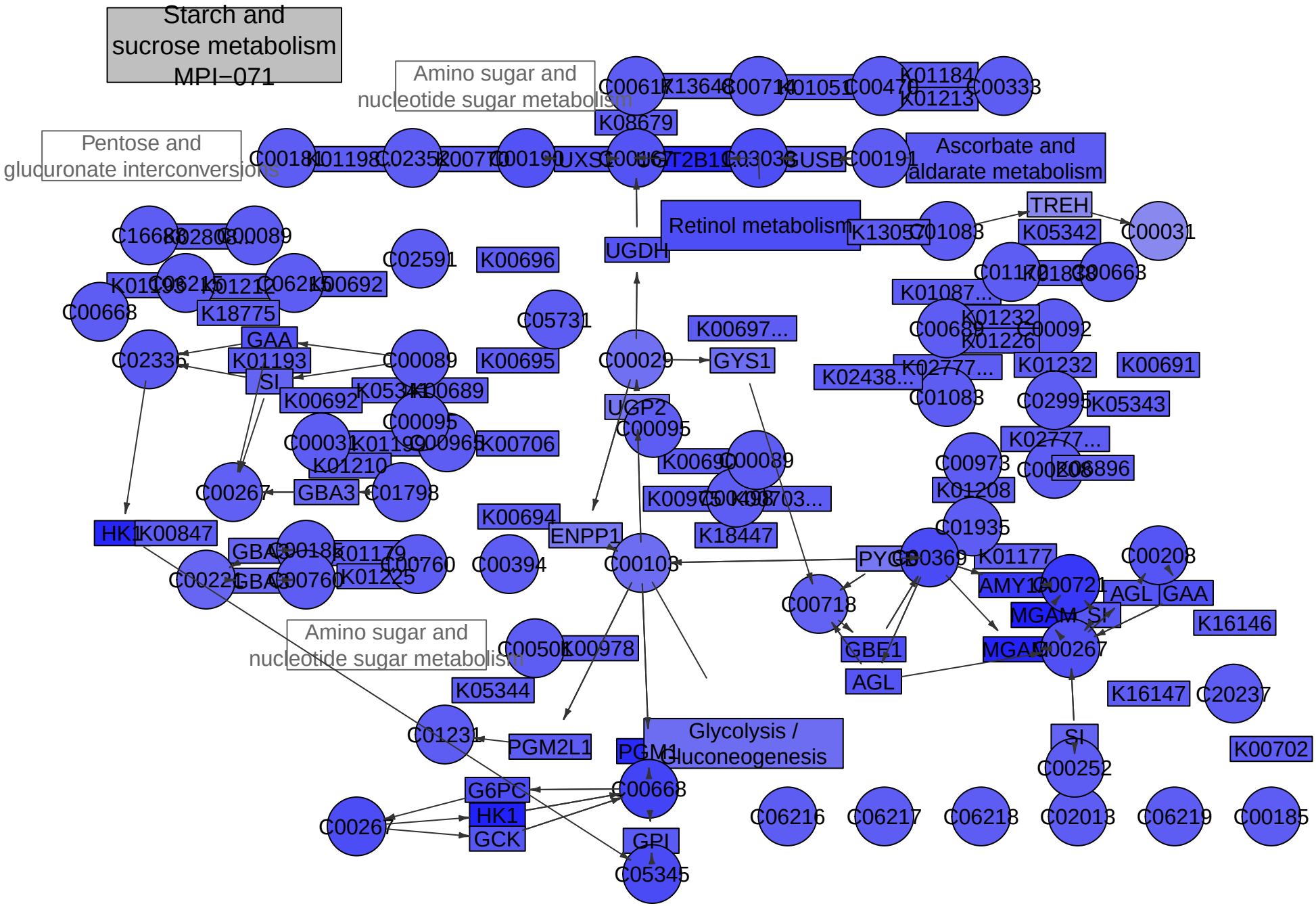
Starch and sucrose metabolism MPI−071
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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K00696
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C05731
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PGM1
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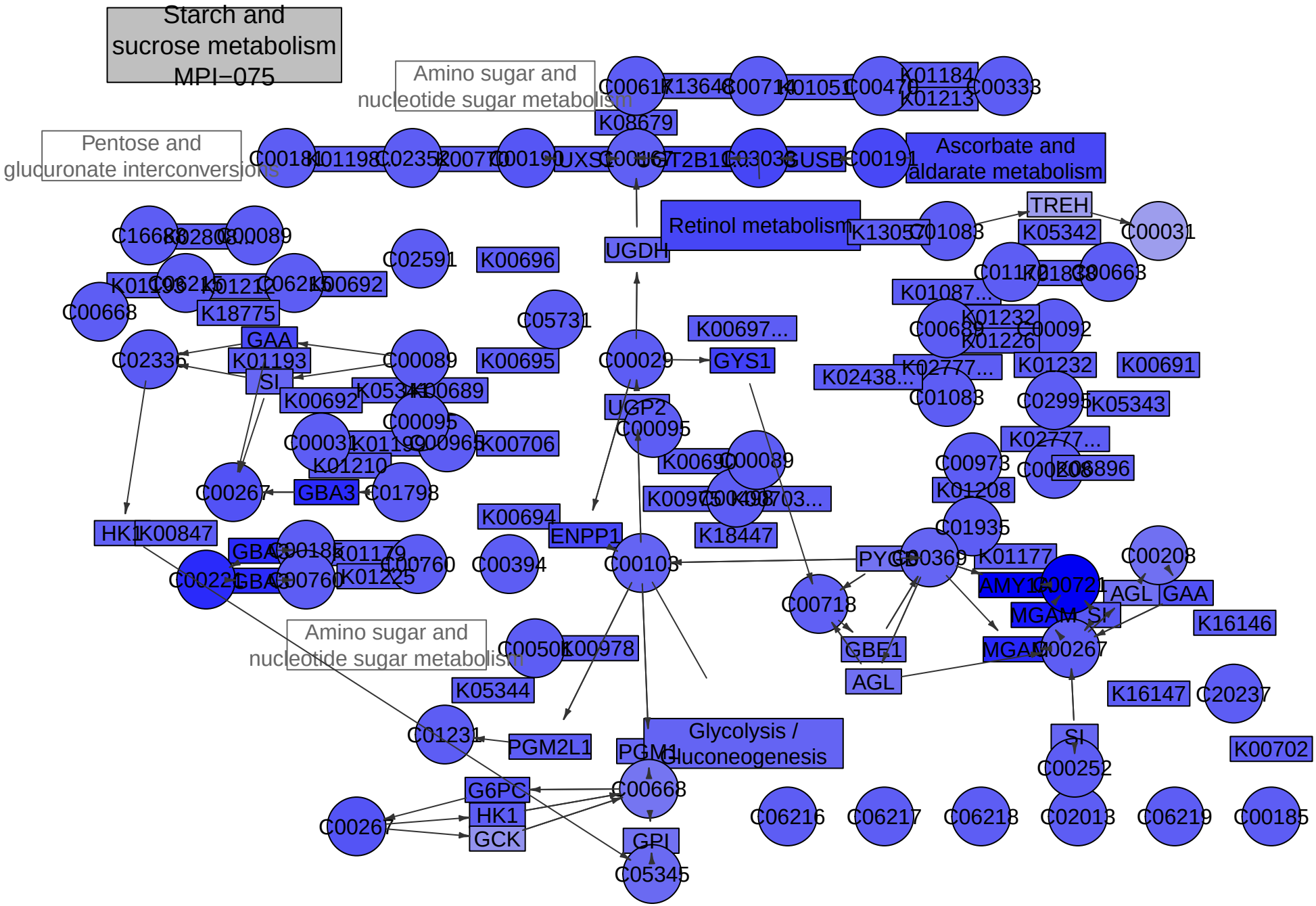
Starch and sucrose metabolism MPI−075
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
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C00029
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K01177
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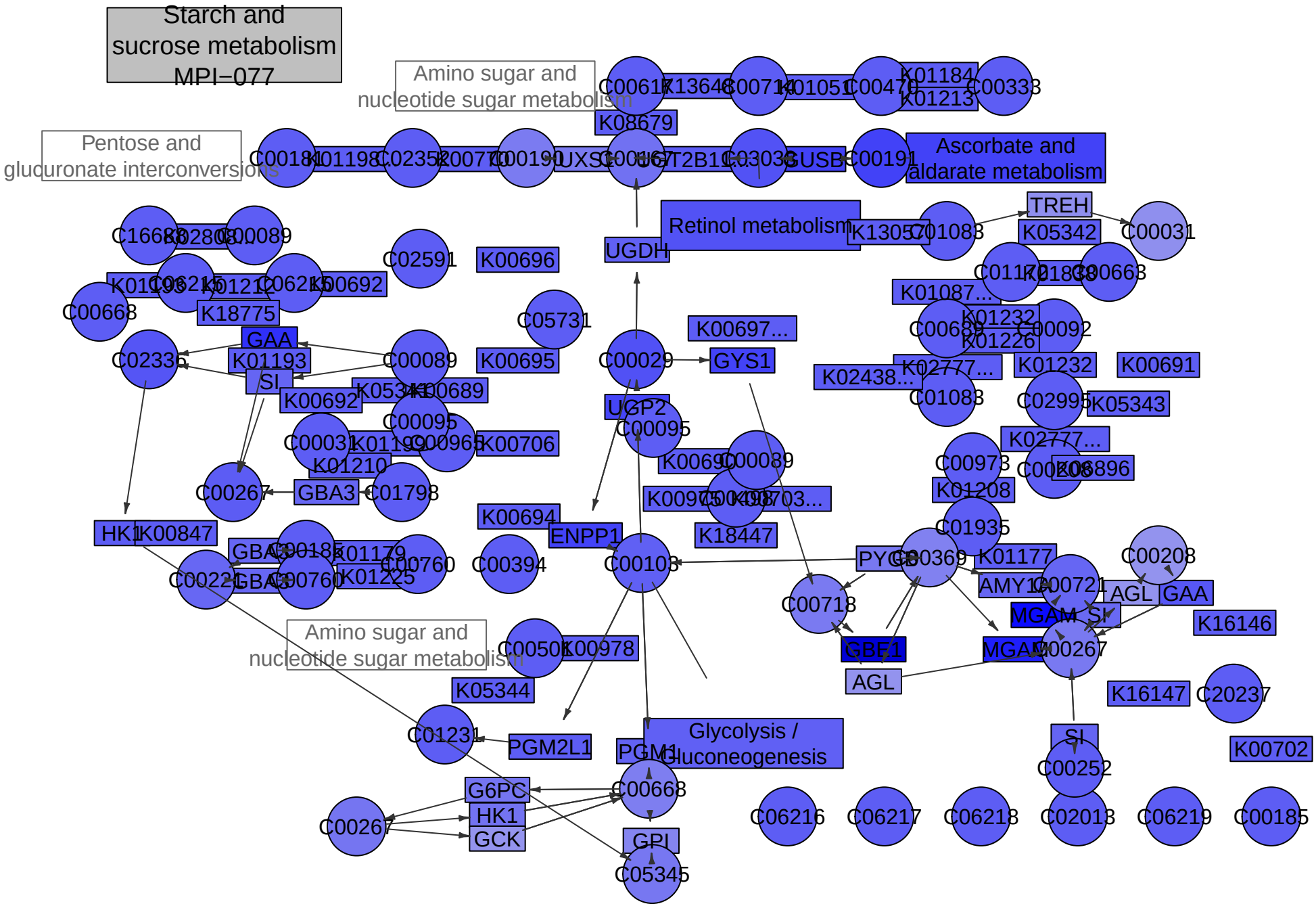
Starch and sucrose metabolism MPI−077
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00031
C02591
K00696
K18775
GAA
K01193
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C00668
C02336
C05731
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K02438...
K02777...
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PGM2L1
PGM1
G6PC
HK1
GCK
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GBE1
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MGAM
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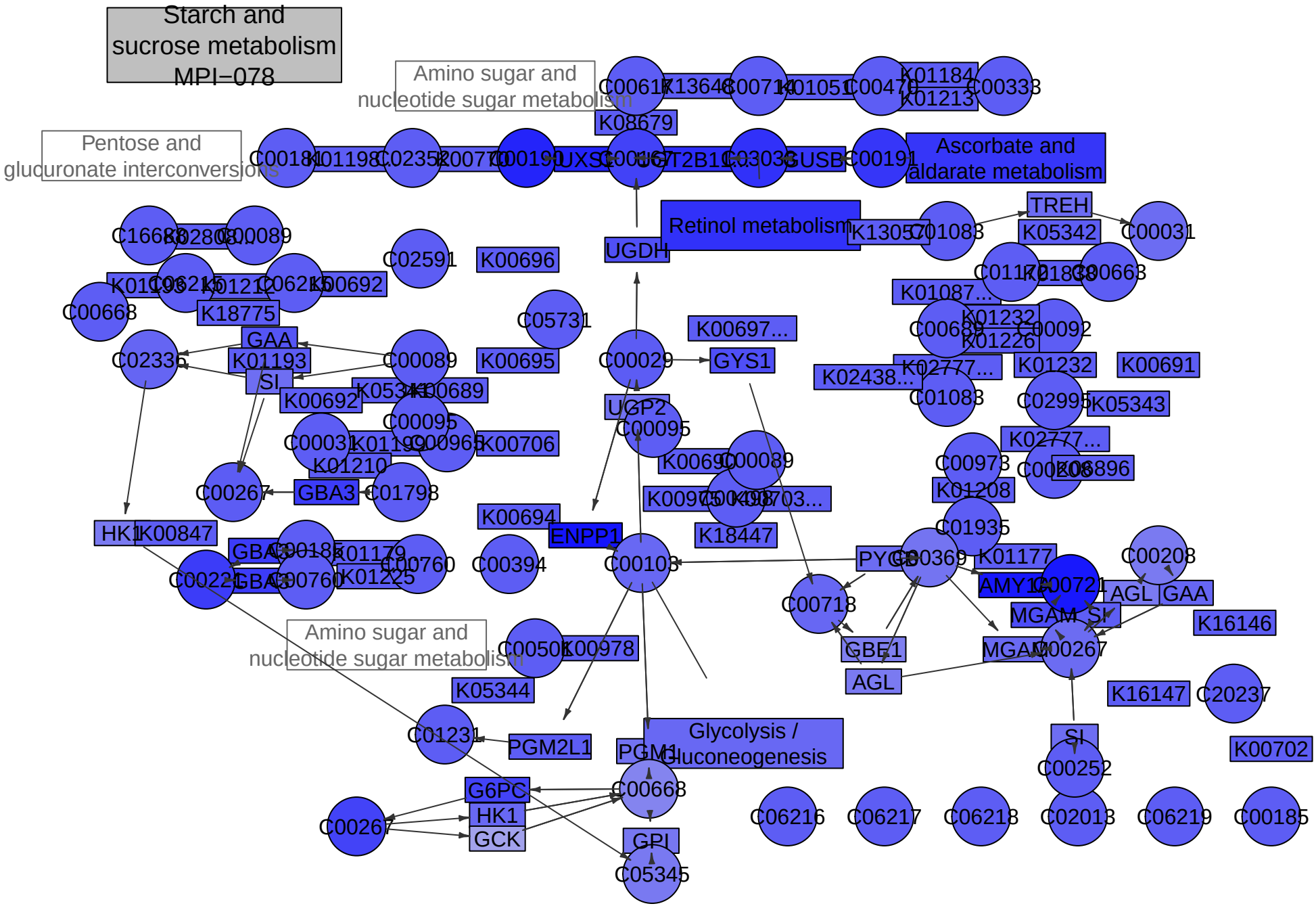
Starch and sucrose metabolism MPI−078
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
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C01083
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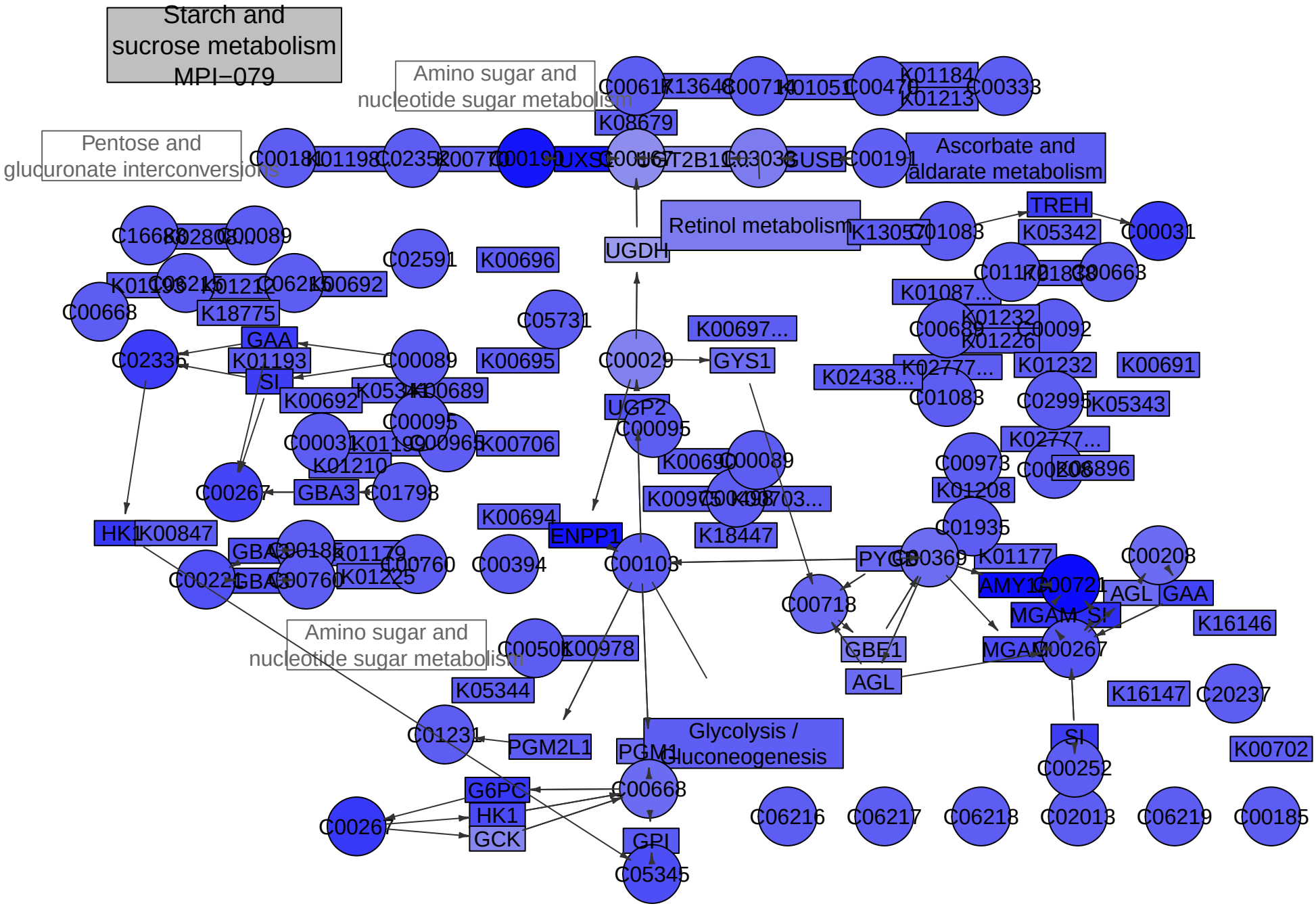
Starch and sucrose metabolism MPI−079
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00031
K00696
C02591
C00668
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GAA
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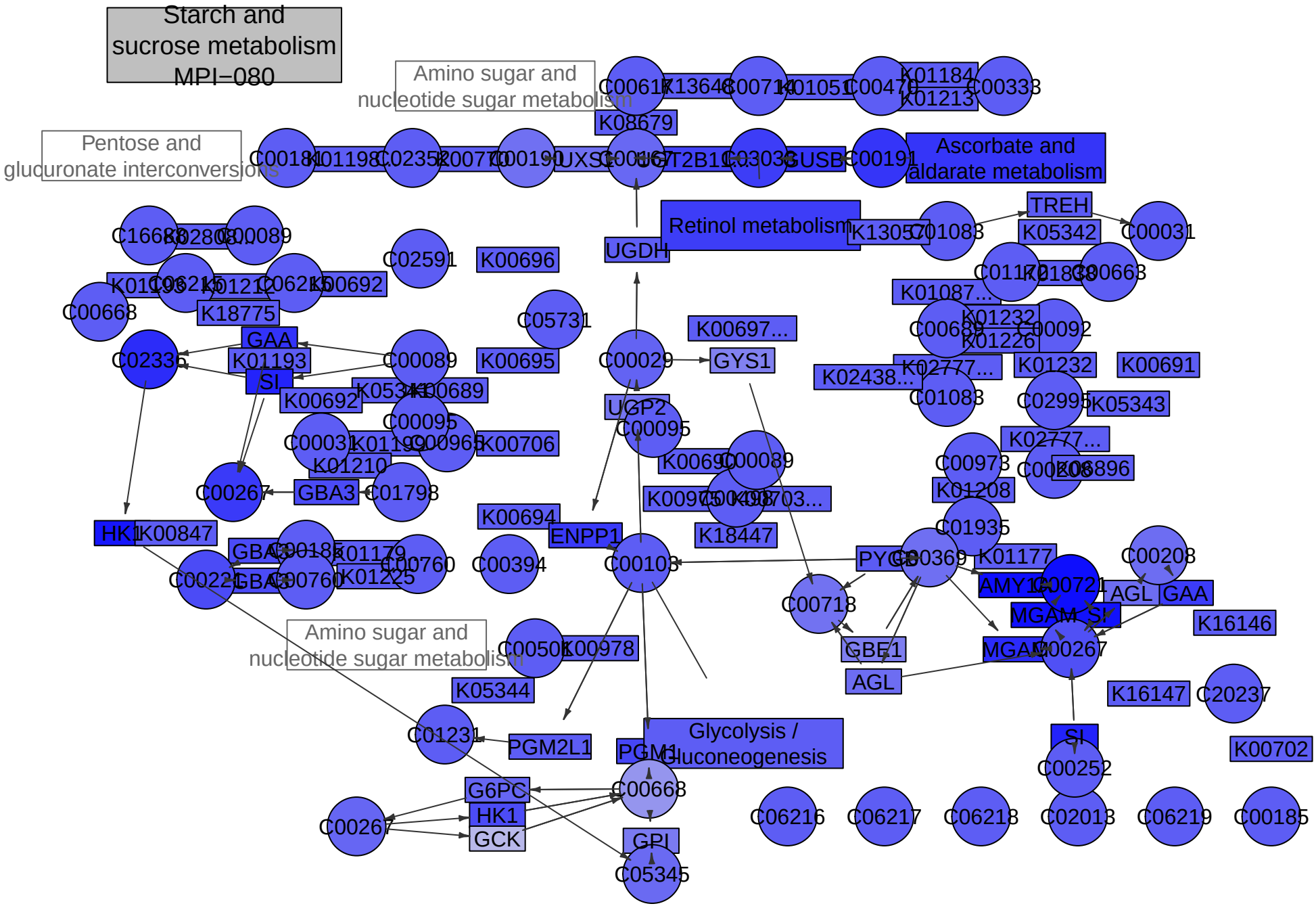
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
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C00089
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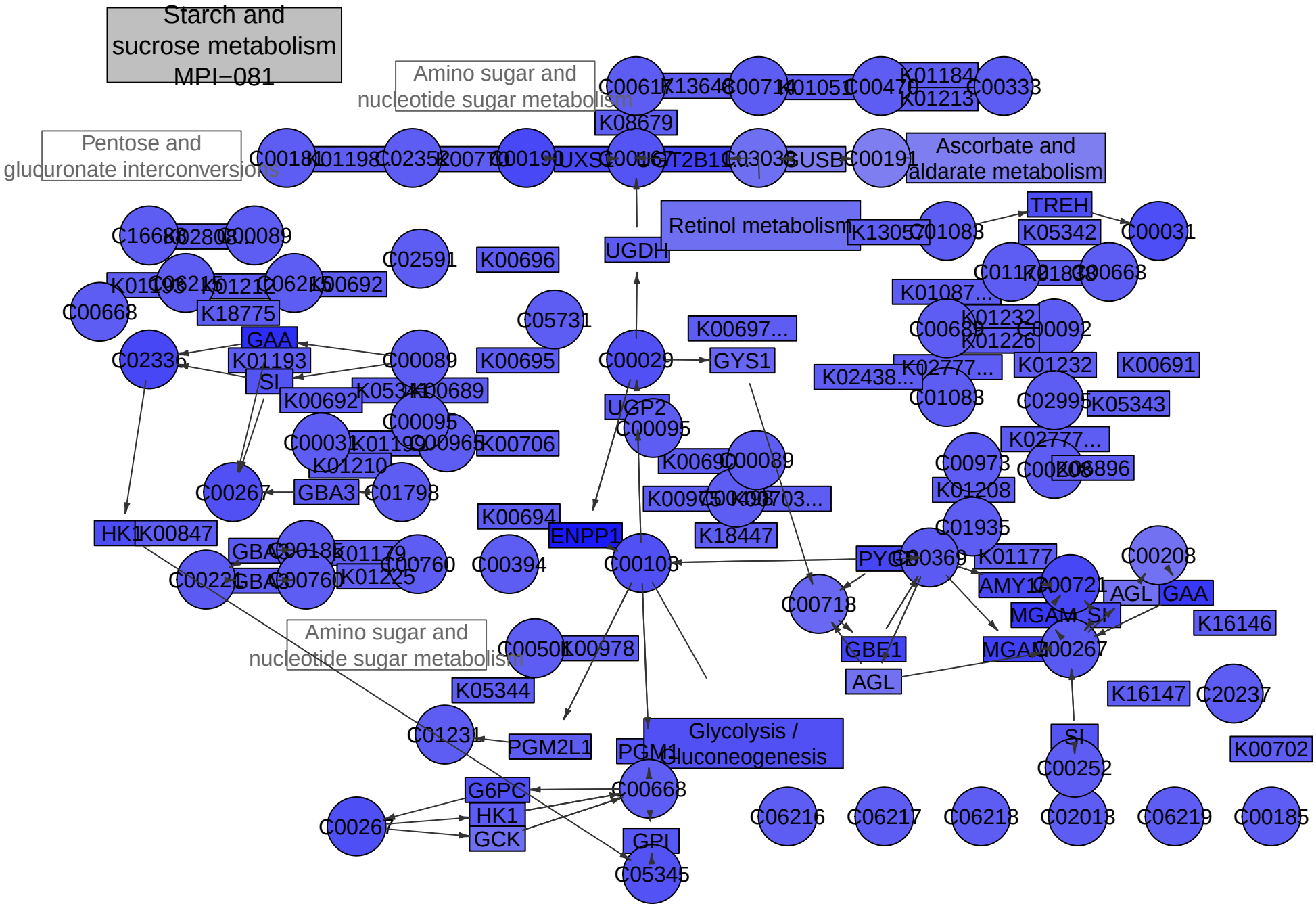
Starch and sucrose metabolism MPI−081
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
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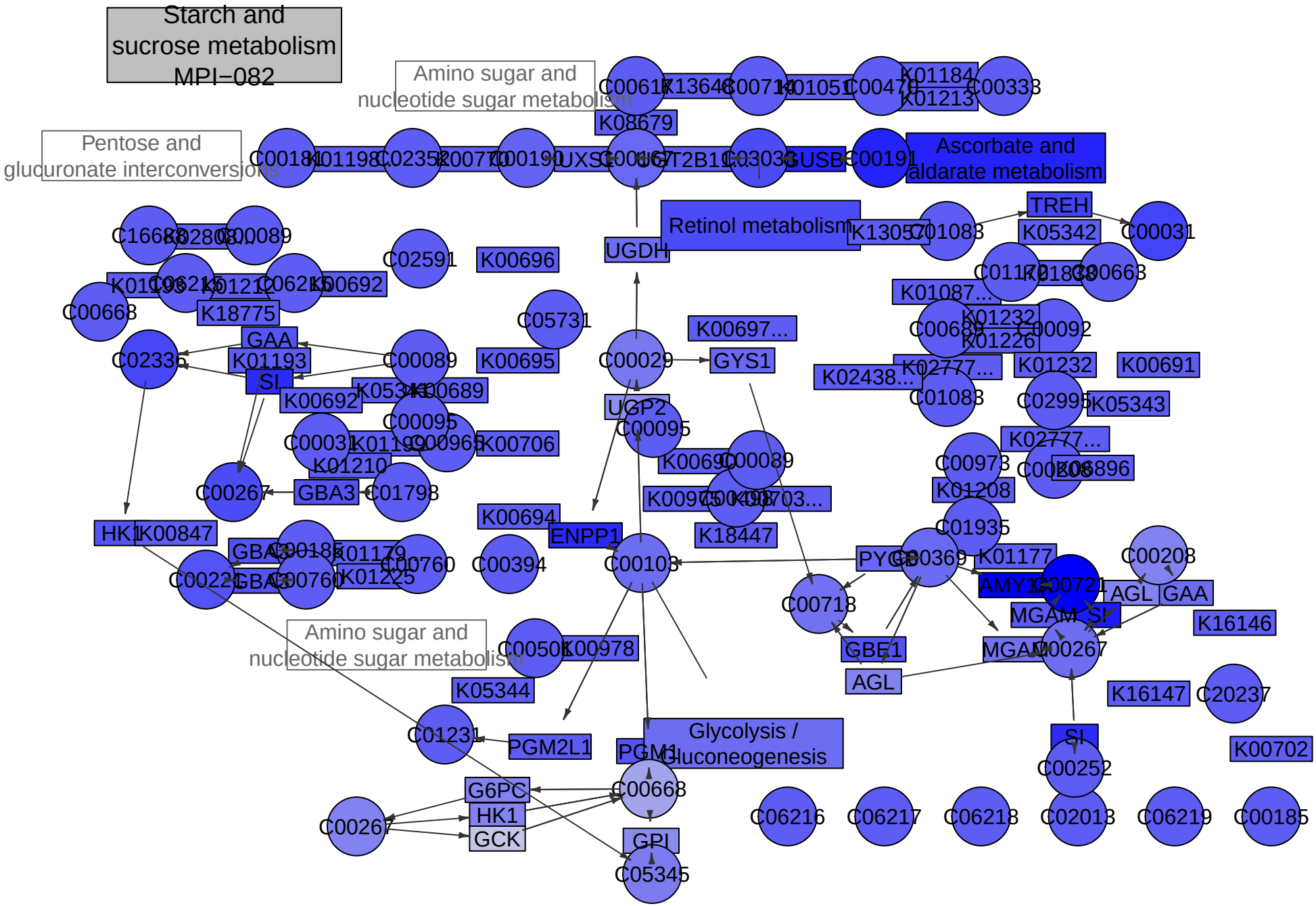
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
AMY1
MGAM
GBE1
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PGM2L1
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HK1
GCK
GPI
TREH
K05342
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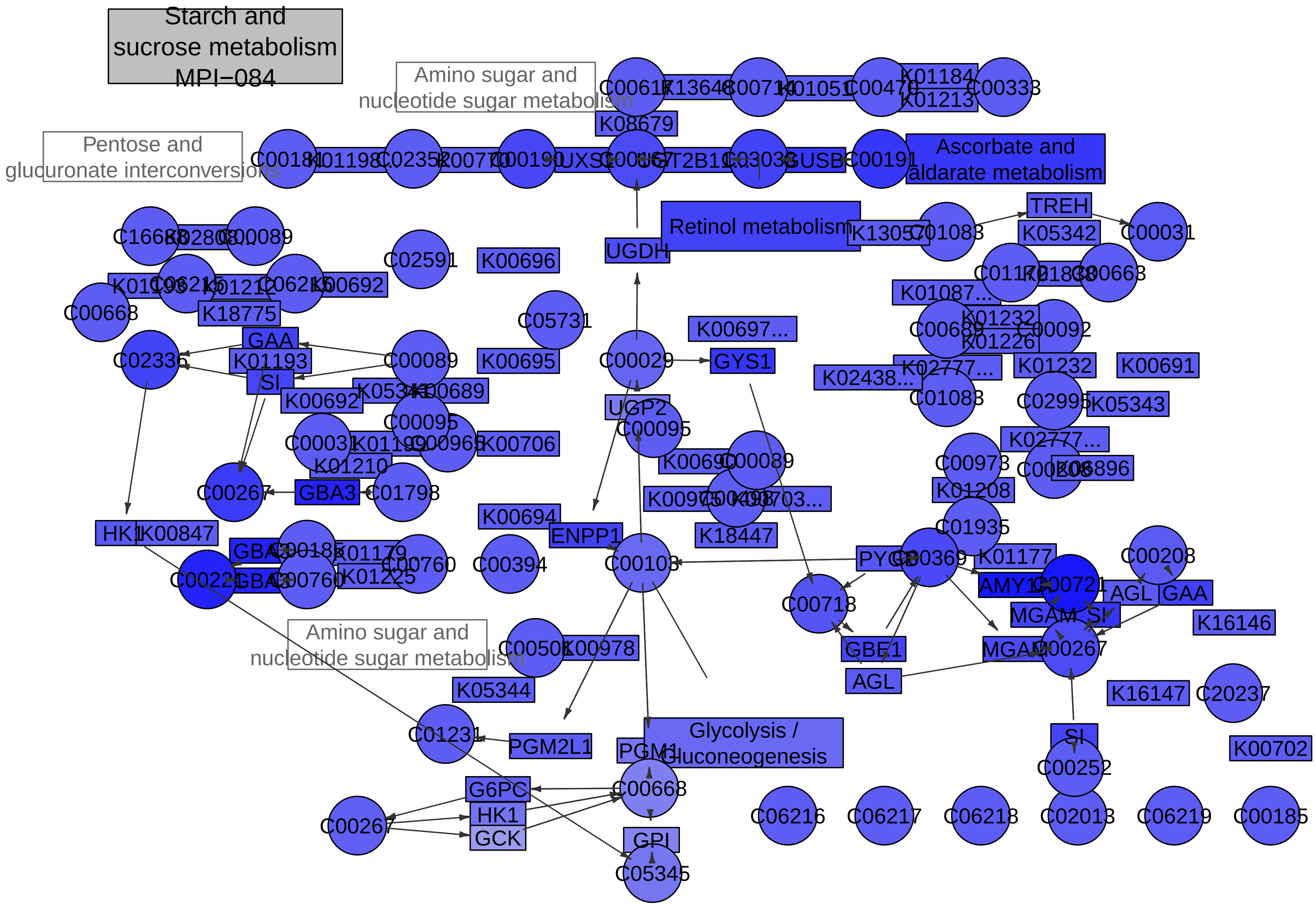

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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
C00333
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TREH
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K00689
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K00847
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K00694
ENPP1
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C00760
K01225
C00221
PYGB
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K01177
AMY1A
C00721
AGL
GAA
MGAM
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GBE1
AGL
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C01231
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PGM1
G6PC
HK1
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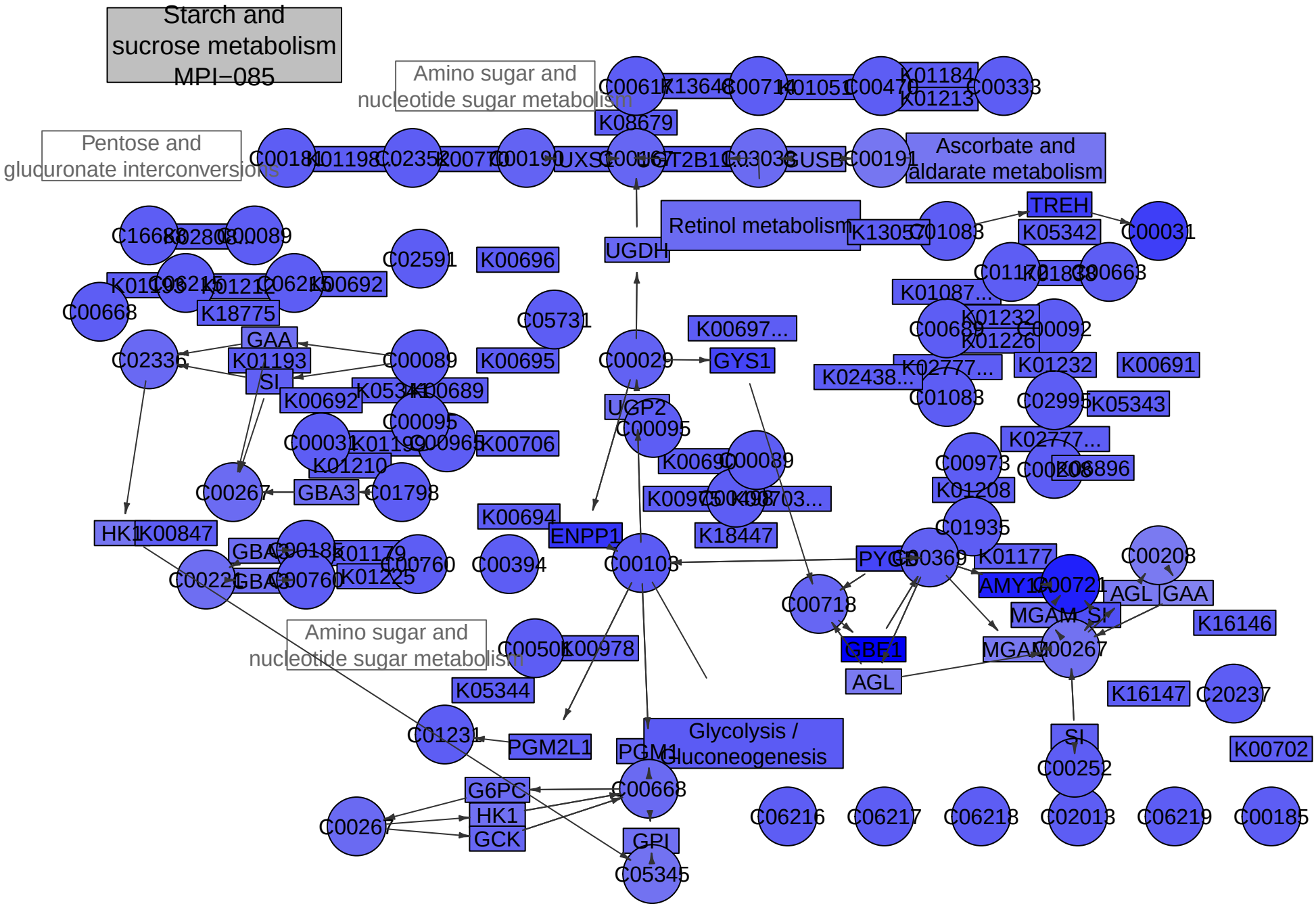
Starch and sucrose metabolism MPI−085
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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TREH
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C02591
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HK1
K00847
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C01935
PYGB
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AGL
GAA
MGAM
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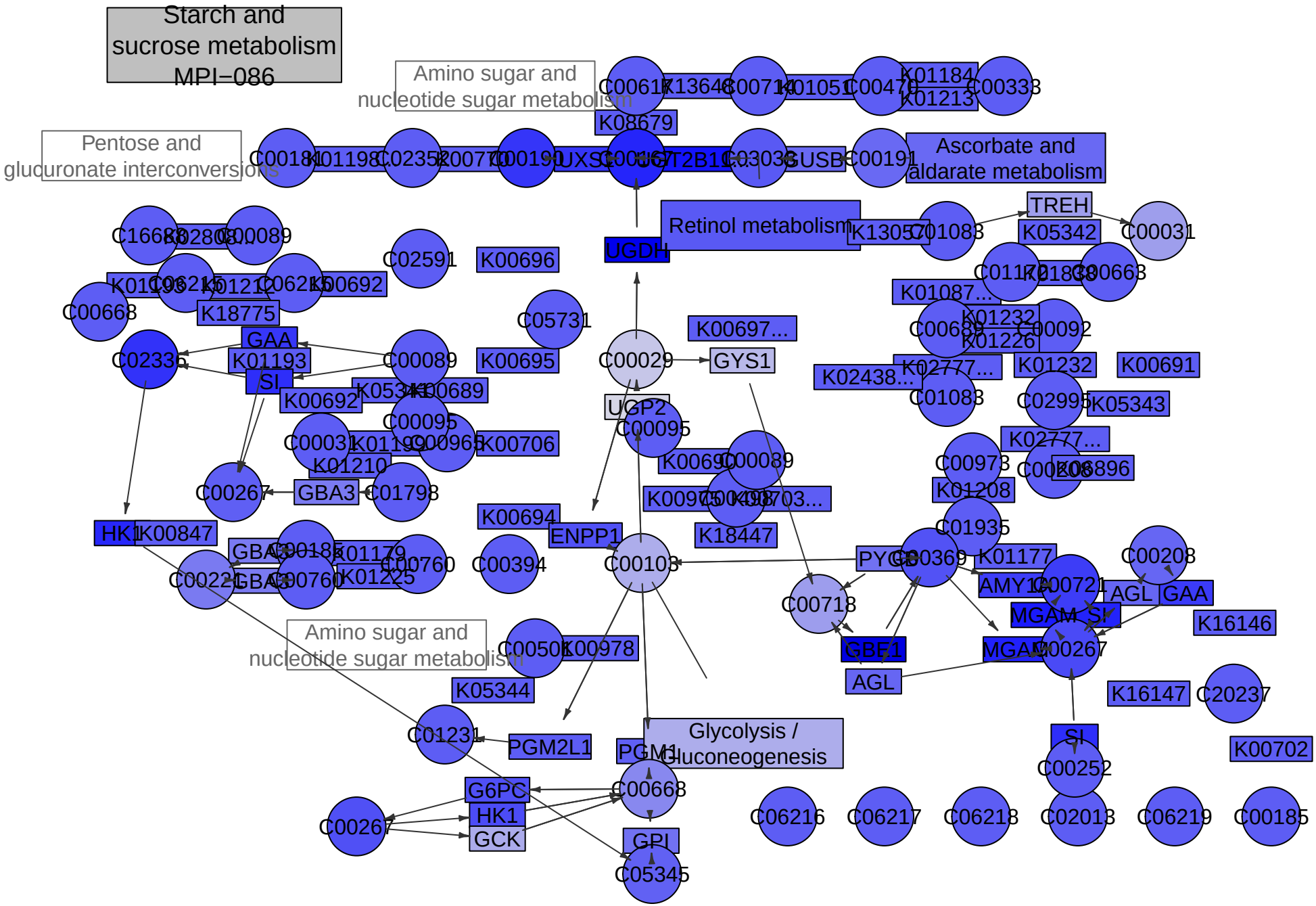
Starch and sucrose metabolism MPI−086
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
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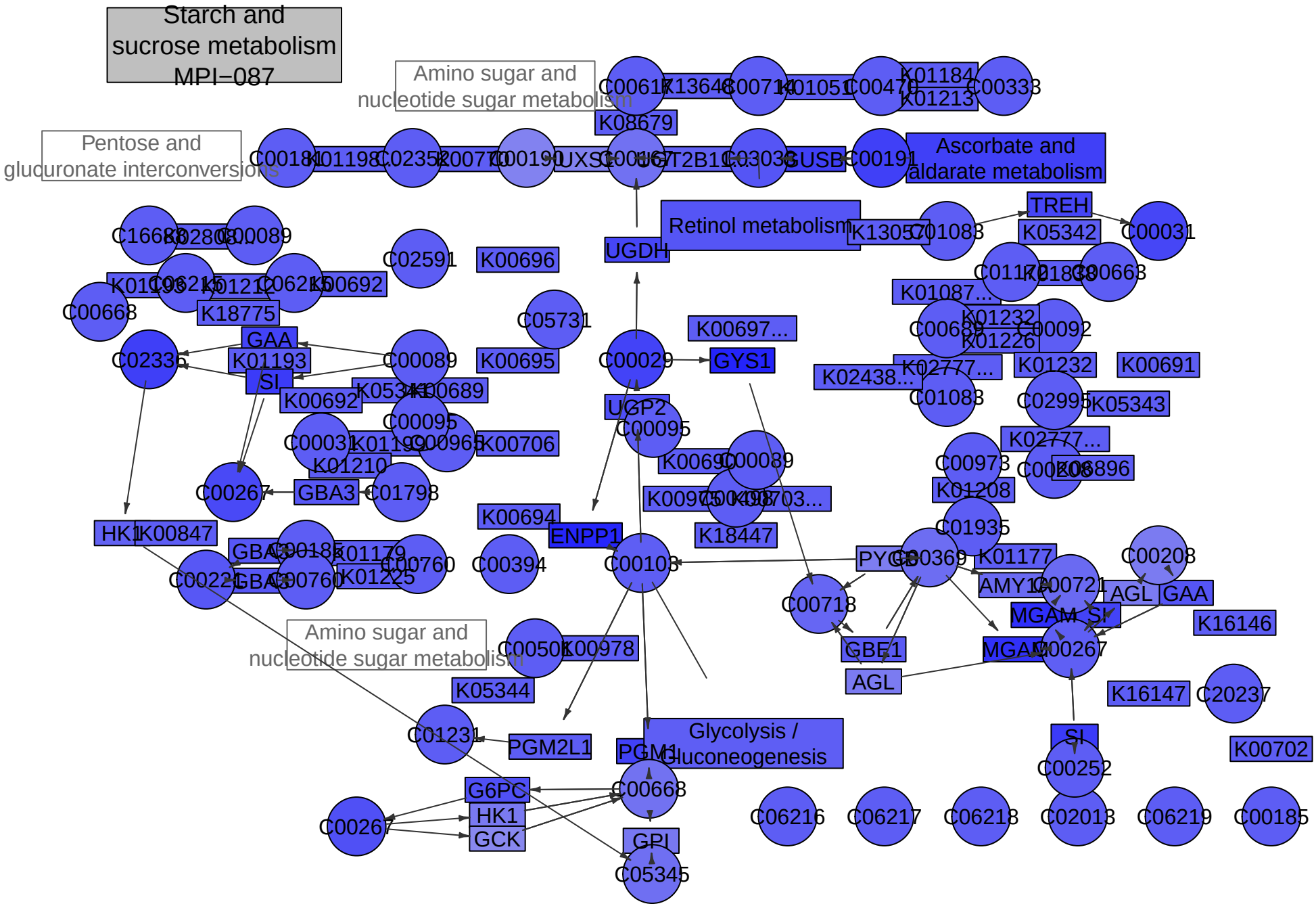
Starch and sucrose metabolism MPI−087
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
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K00770
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GUSB
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UGDH
TREH
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C06219
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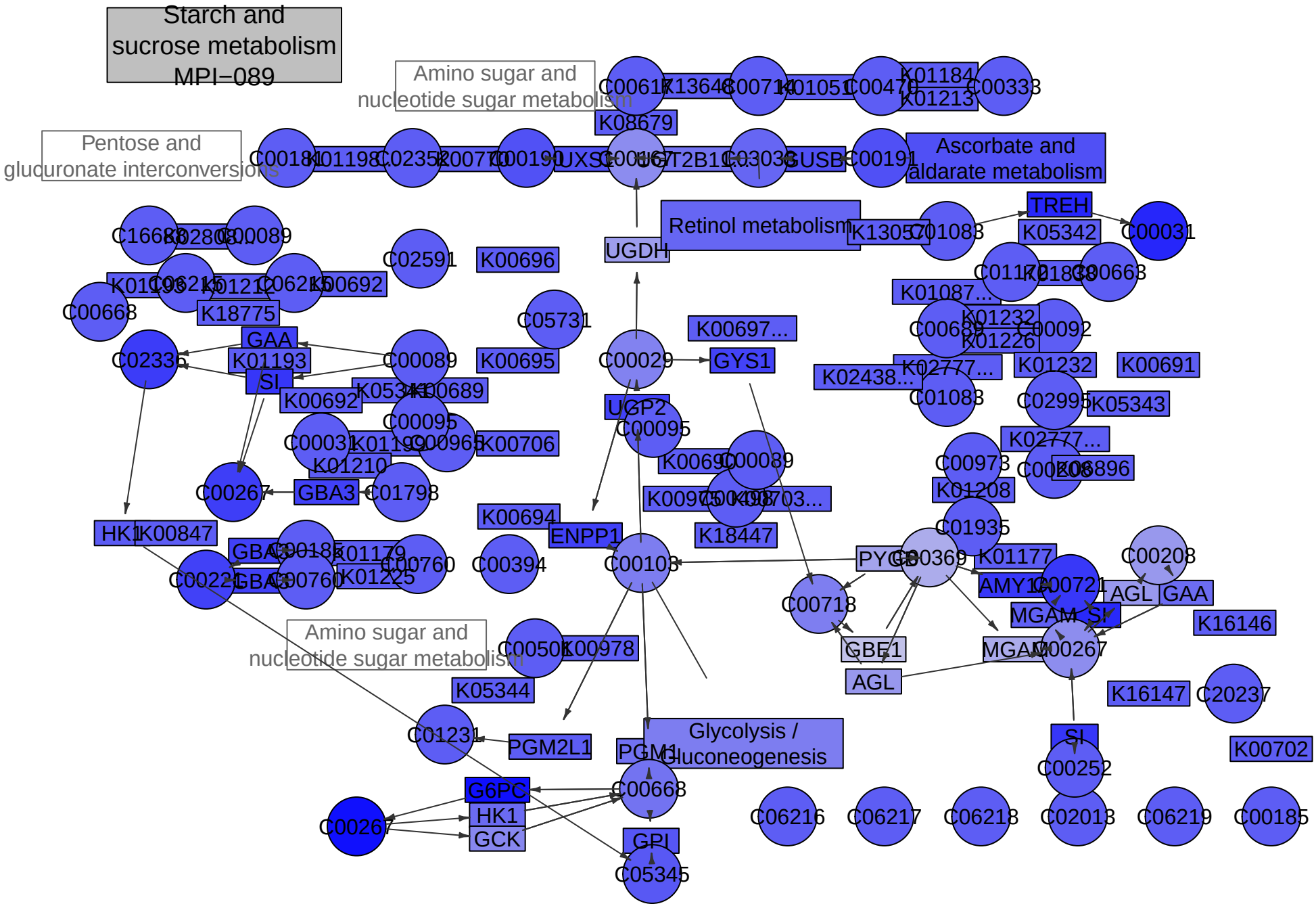
Starch and sucrose metabolism MPI−089
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
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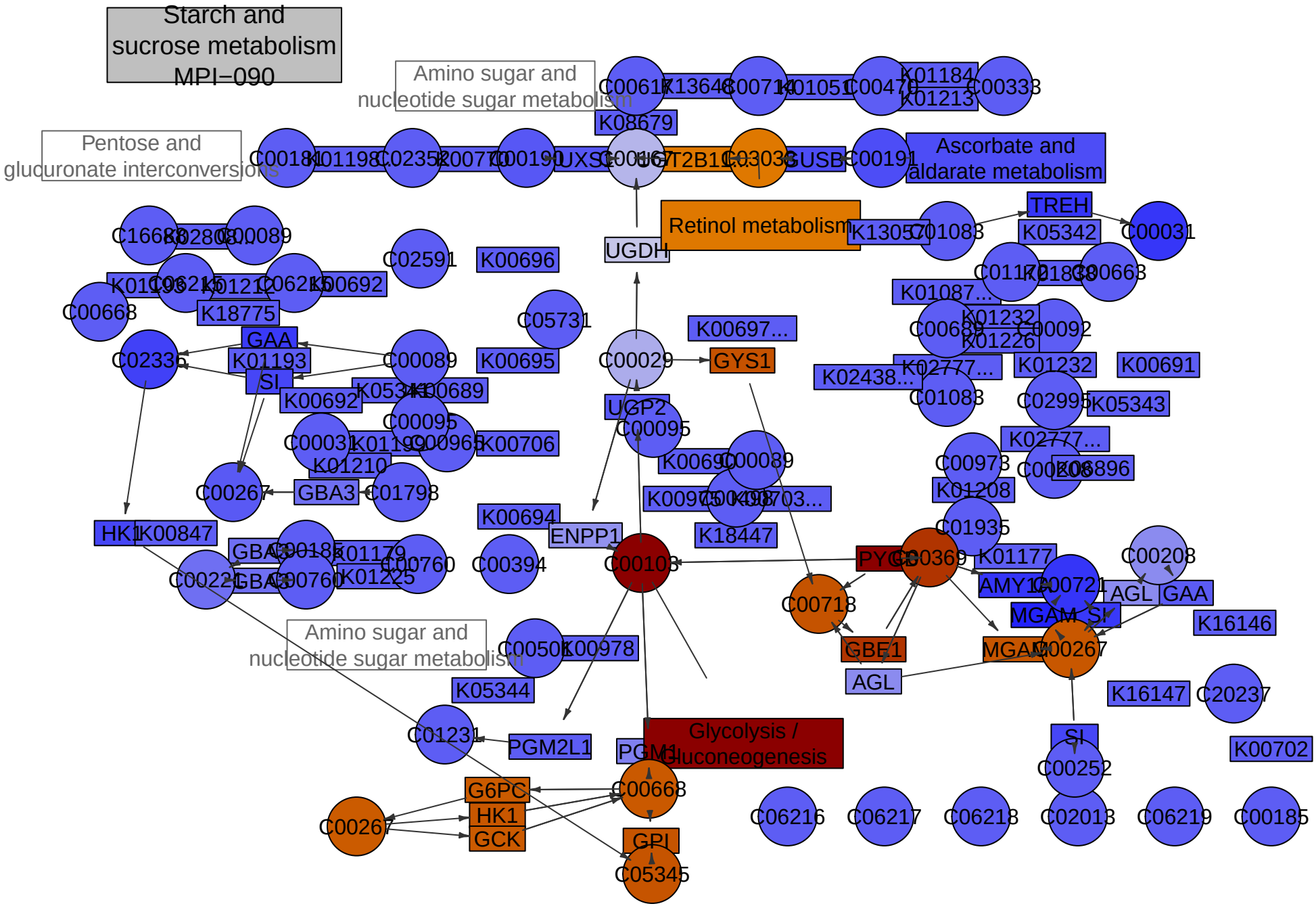
Starch and sucrose metabolism MPI−090
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
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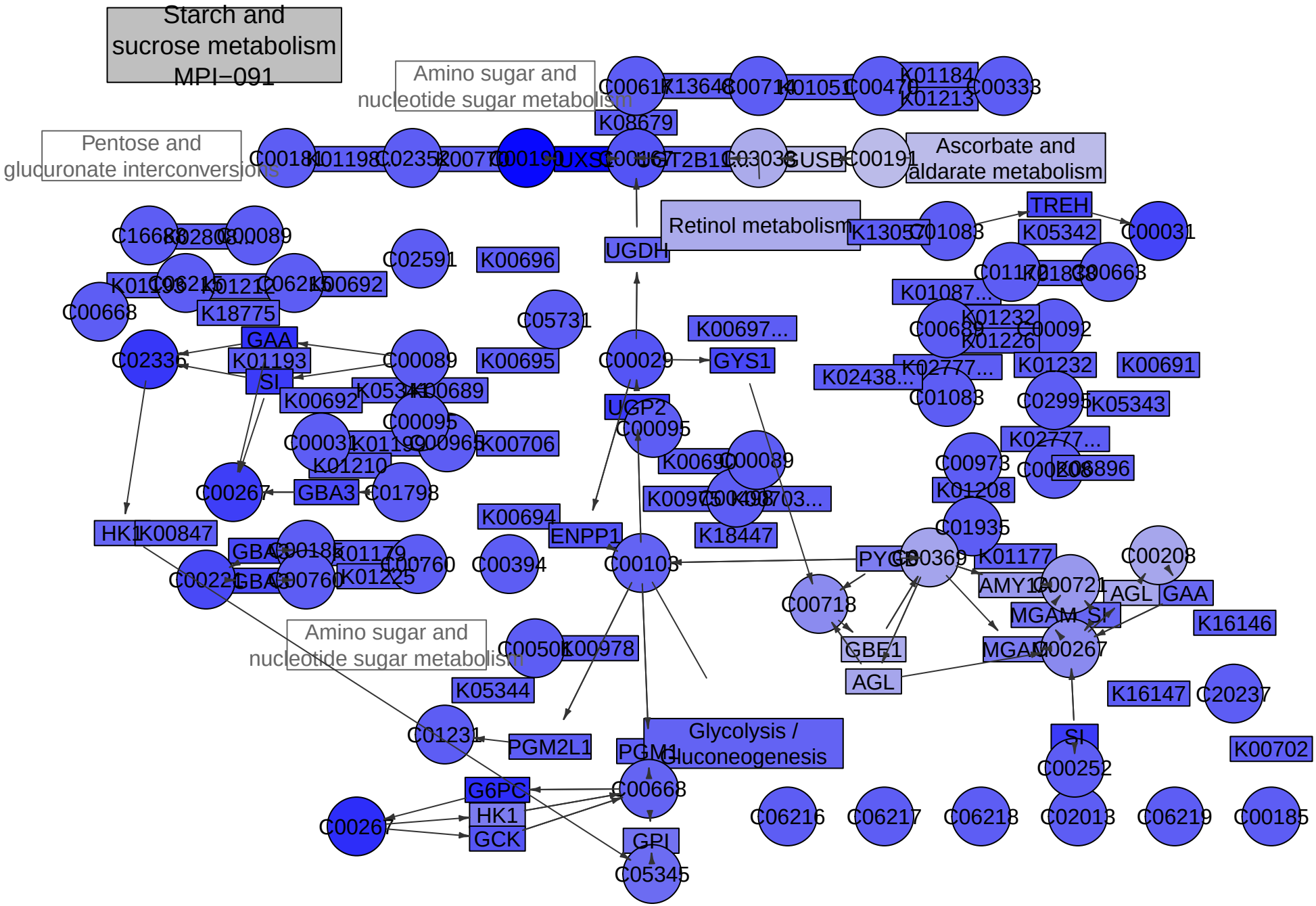
Starch and sucrose metabolism MPI−091
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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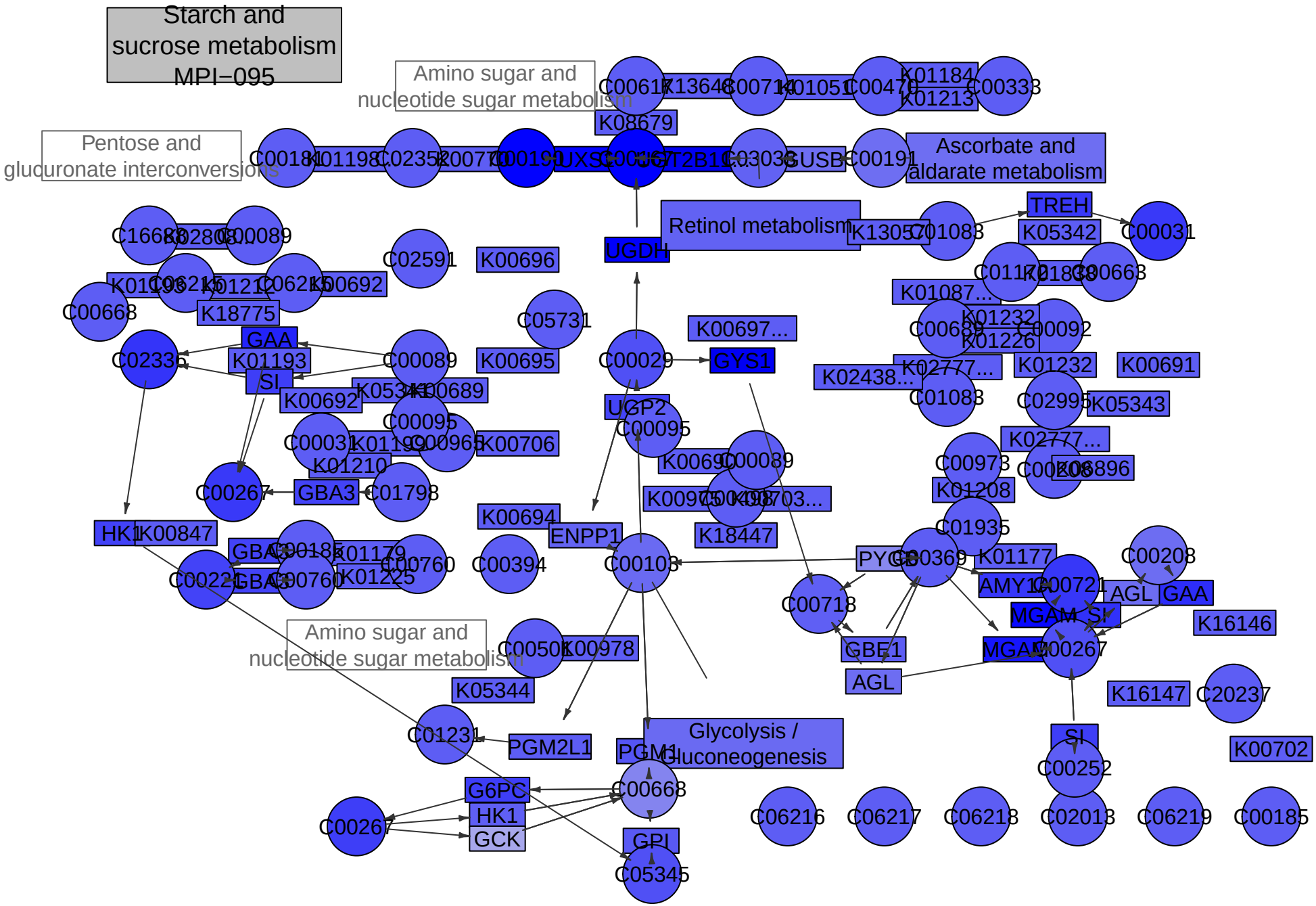
Starch and sucrose metabolism MPI−095
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K00692
K18775
C00668
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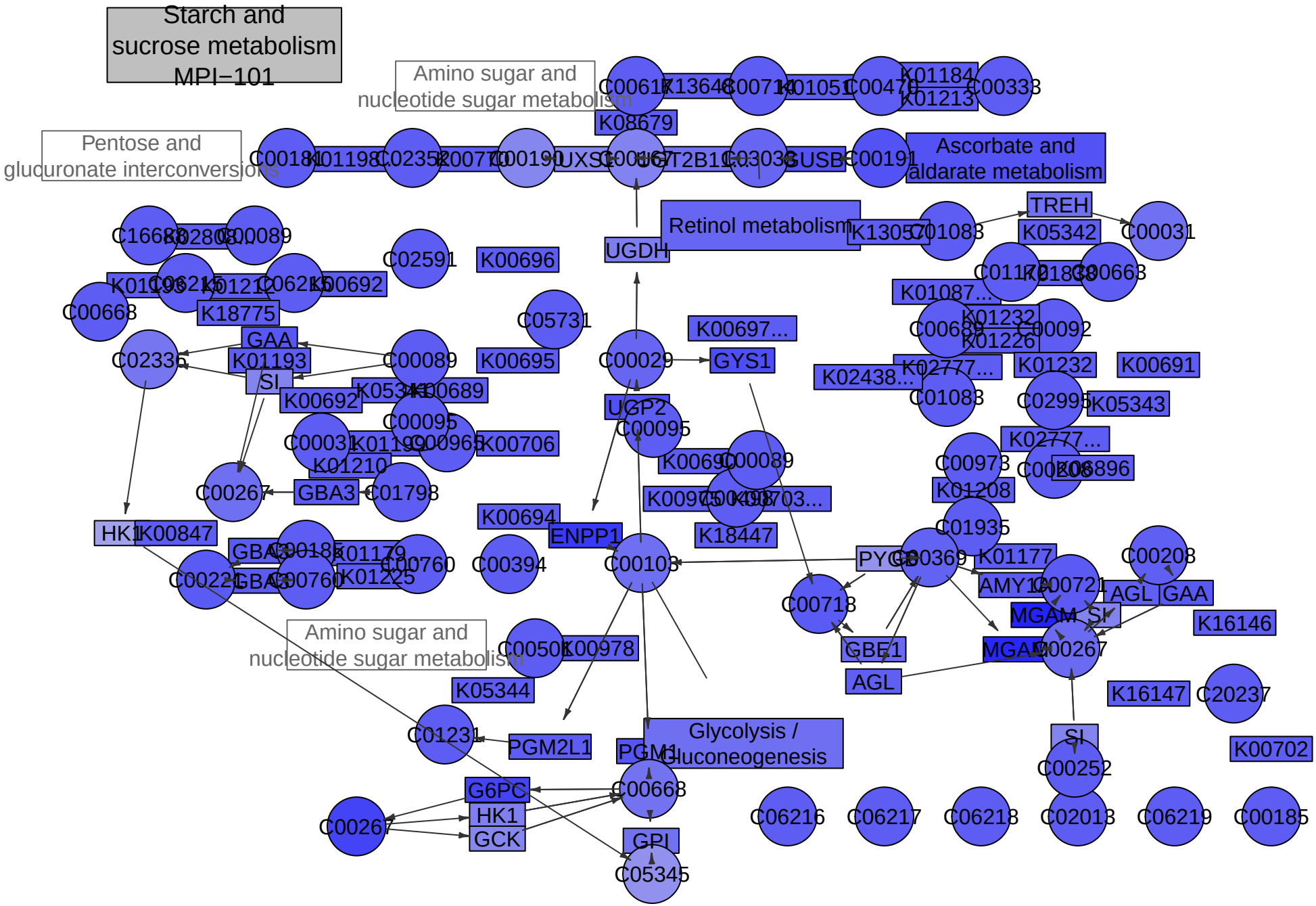
Starch and sucrose metabolism MPI−101
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
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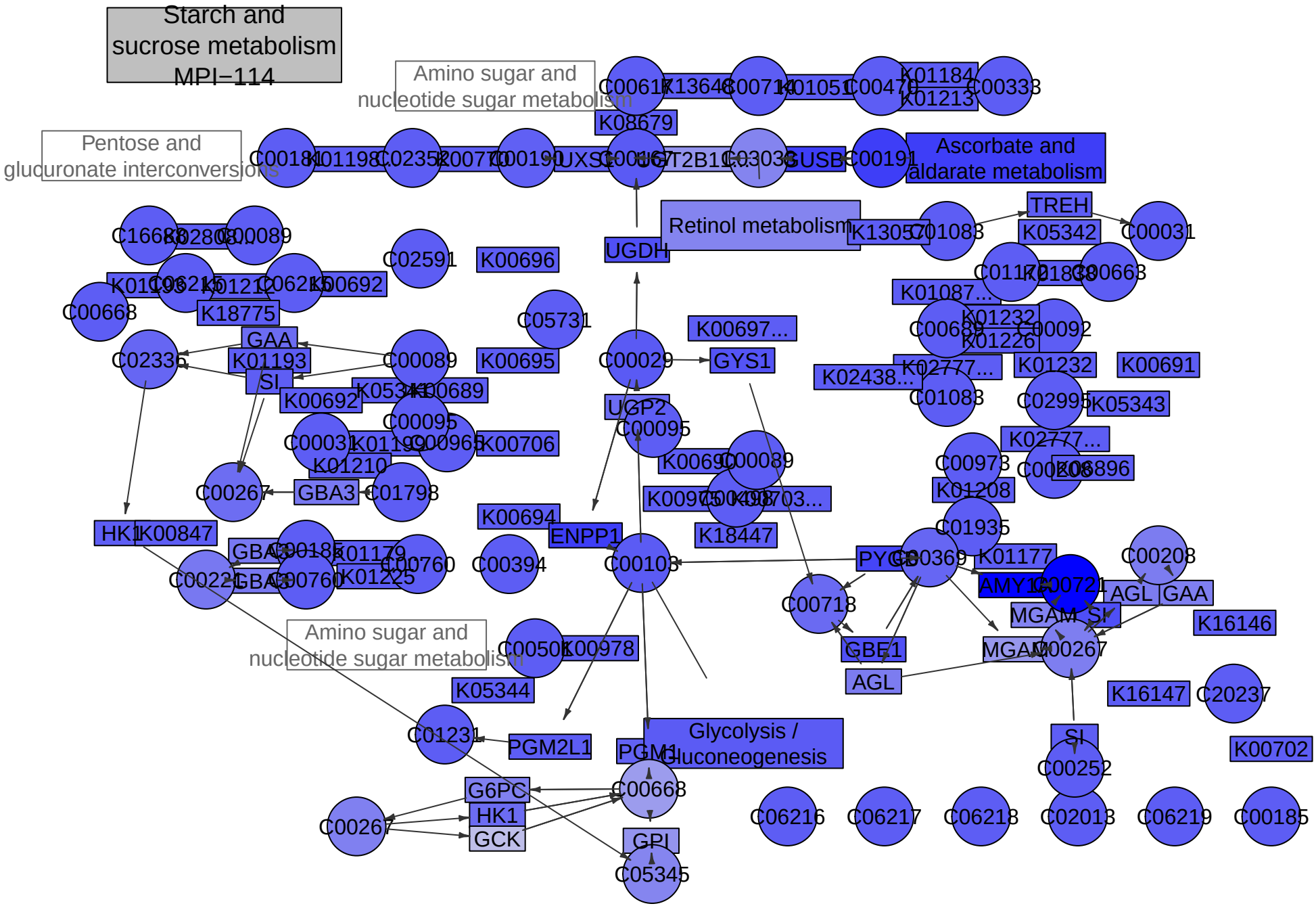
Starch and sucrose metabolism MPI−114
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
UGT2B11...
C03038
GUSB
C00191
TREH
K05342
C00031
C01083
K13057
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
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K00694
ENPP1
C00103
K18447
C01935
C00973
K01208
C00208
HK1
K00847
C00221
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K01225
C00760
C00394
PYGB
C00369
K01177
AMY1
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AGL
GAA
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SI
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GBE1
AGL
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C01231
PGM2L1
PGM1
SI
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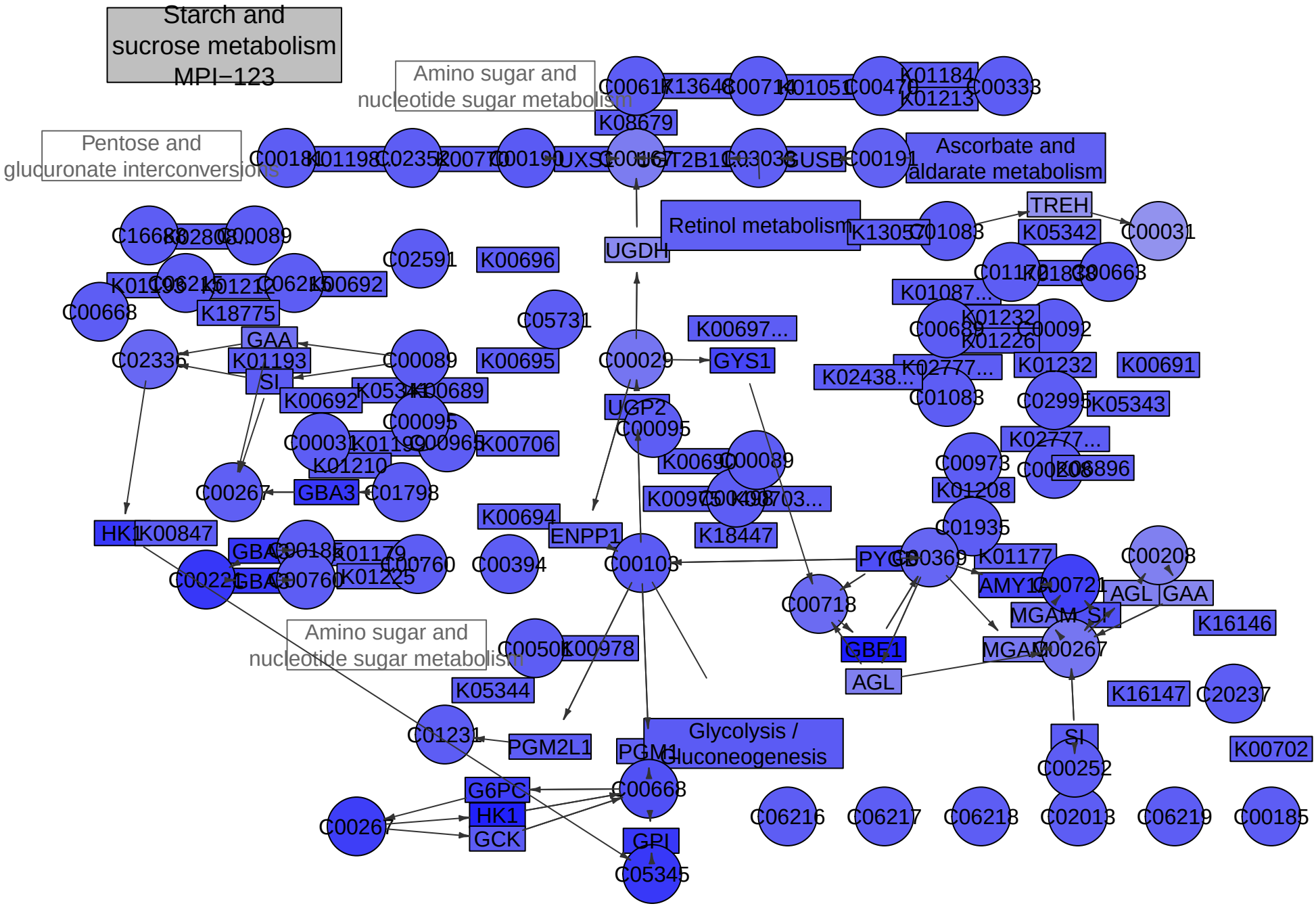
Starch and sucrose metabolism MPI−123
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
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SI
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K00695
C05731
C00029
GYS1
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K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01087...
K01232
K01226
K00691
K02438...
K02777...
K05343
K01208
K01935
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
C00267
K05344
K00978
C01231
PGM2L1
PGM1
K16147
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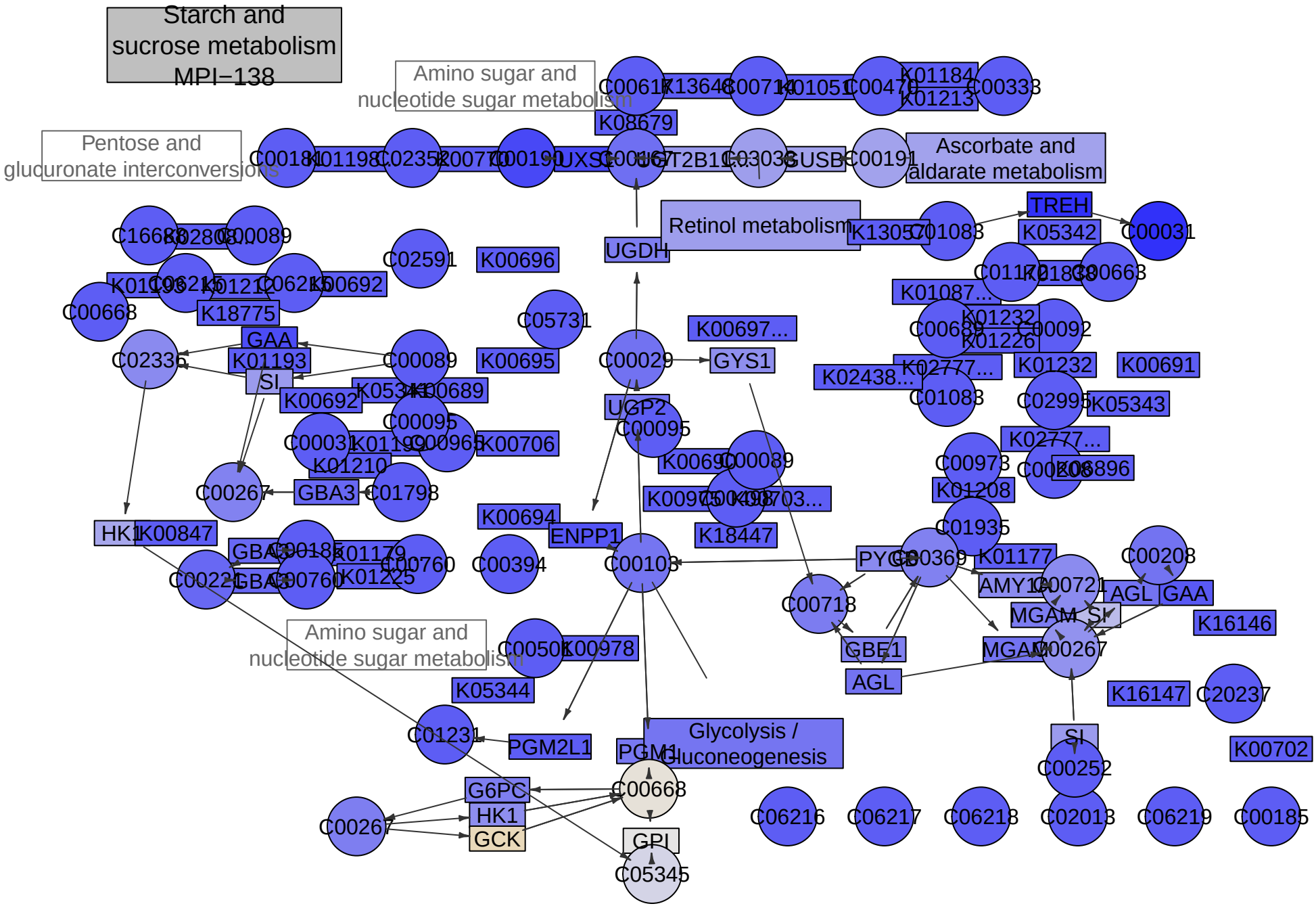
Starch and sucrose metabolism MPI−138
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS1
C00167
UGT2B11
C03038
GUSB
C00191
TREH
C00031
K05342
C01083
K13305
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K00696
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GAA
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C00029
GYS1
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K02777...
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UGP2
C00095
K00706
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GBA3
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K00694
ENPP1
C00108
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K01208
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HK1
K00847
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C00394
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PYGB
C00369
K01177
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C00721
AGL
GAA
MGAM
SI
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C00501
K00978
GBE1
MGAM
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AGL
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C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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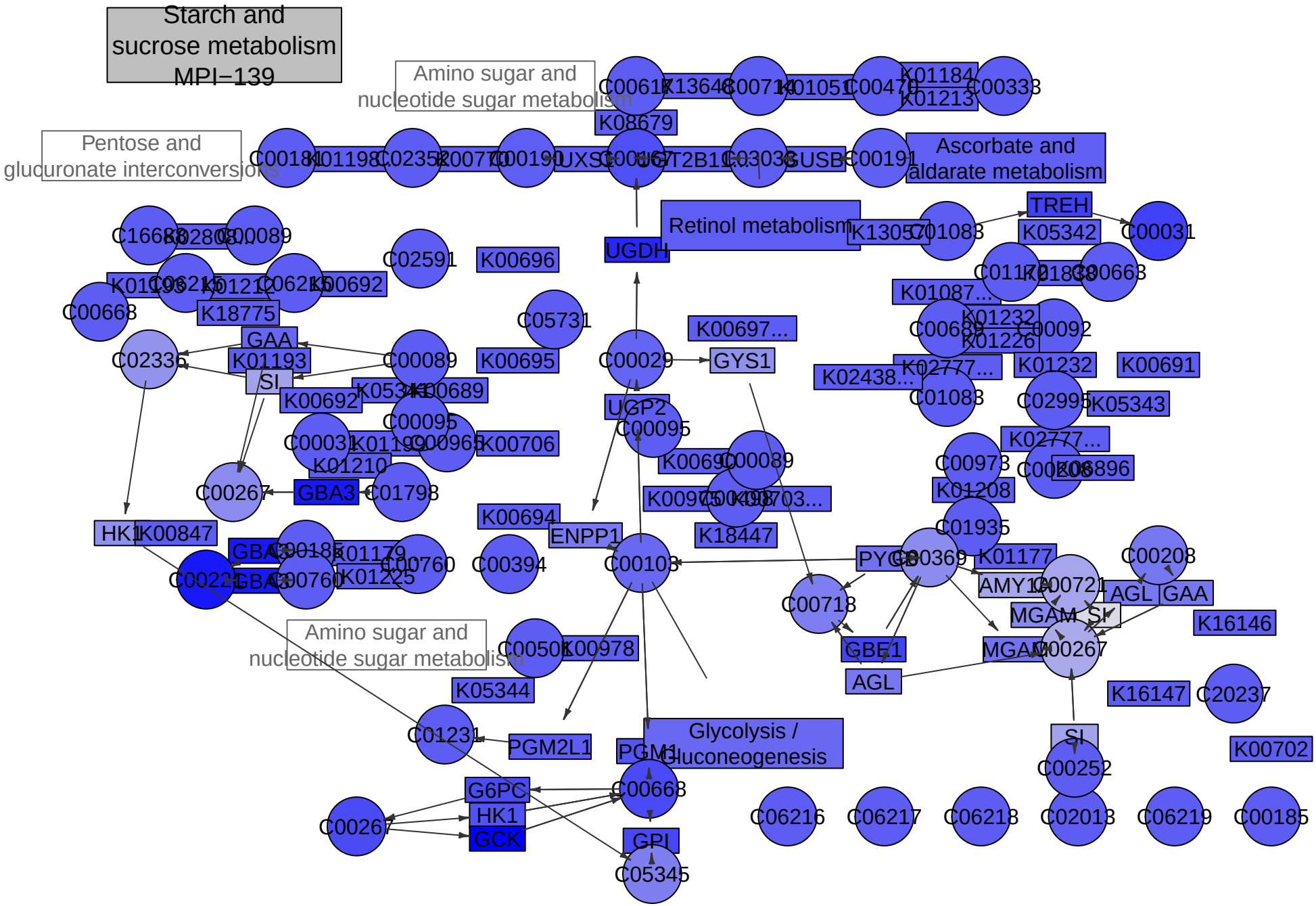
Starch and sucrose metabolism MPI−139
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
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GYS1
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K01177
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AGL
GAA
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SI
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GBE1
MGAM
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AGL
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PGM1
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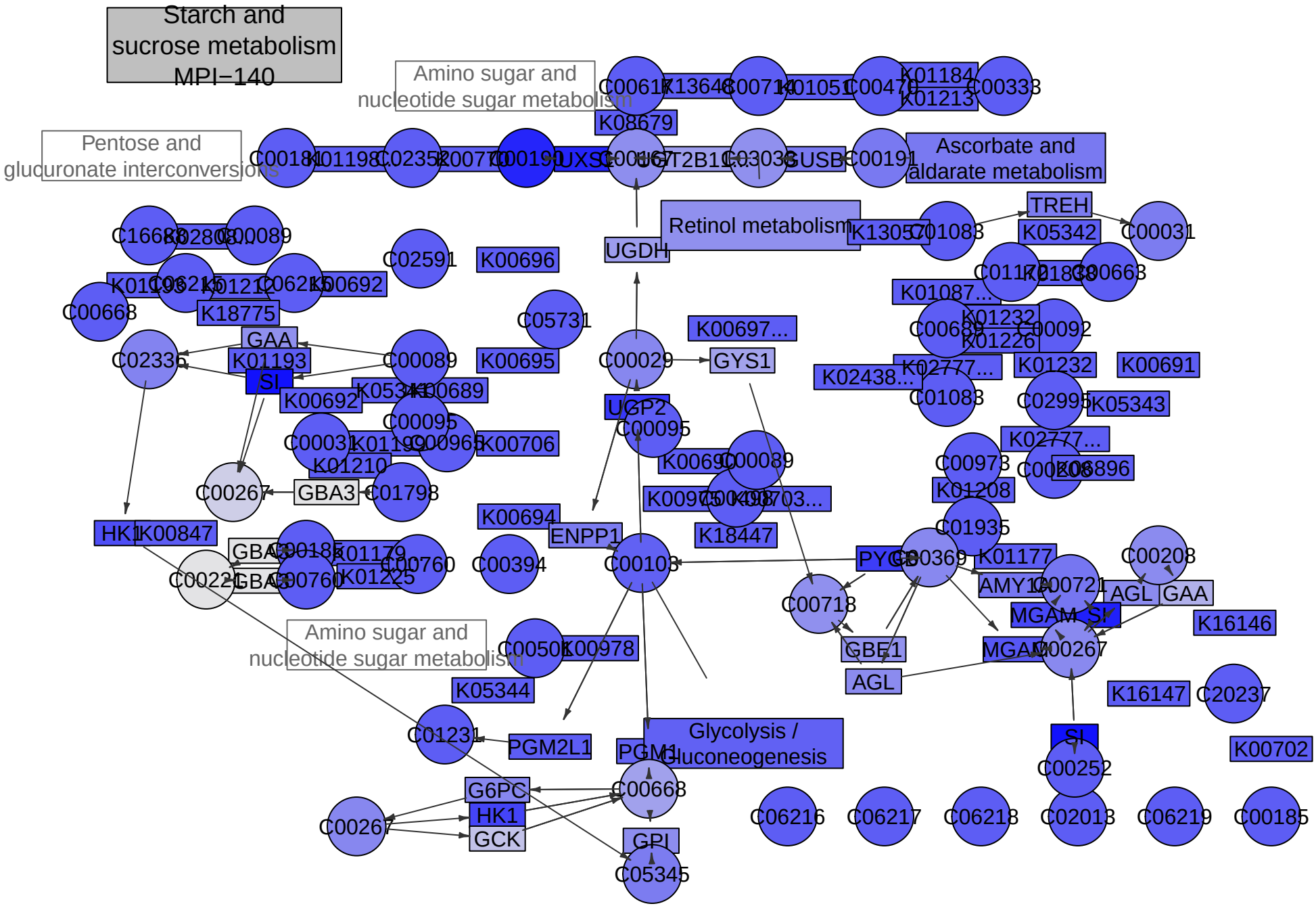
Starch and sucrose metabolism MPI−140
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
TREH
K05342
C00031
C02591
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K18775
GAA
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SI
C02336
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GYS1
K00697...
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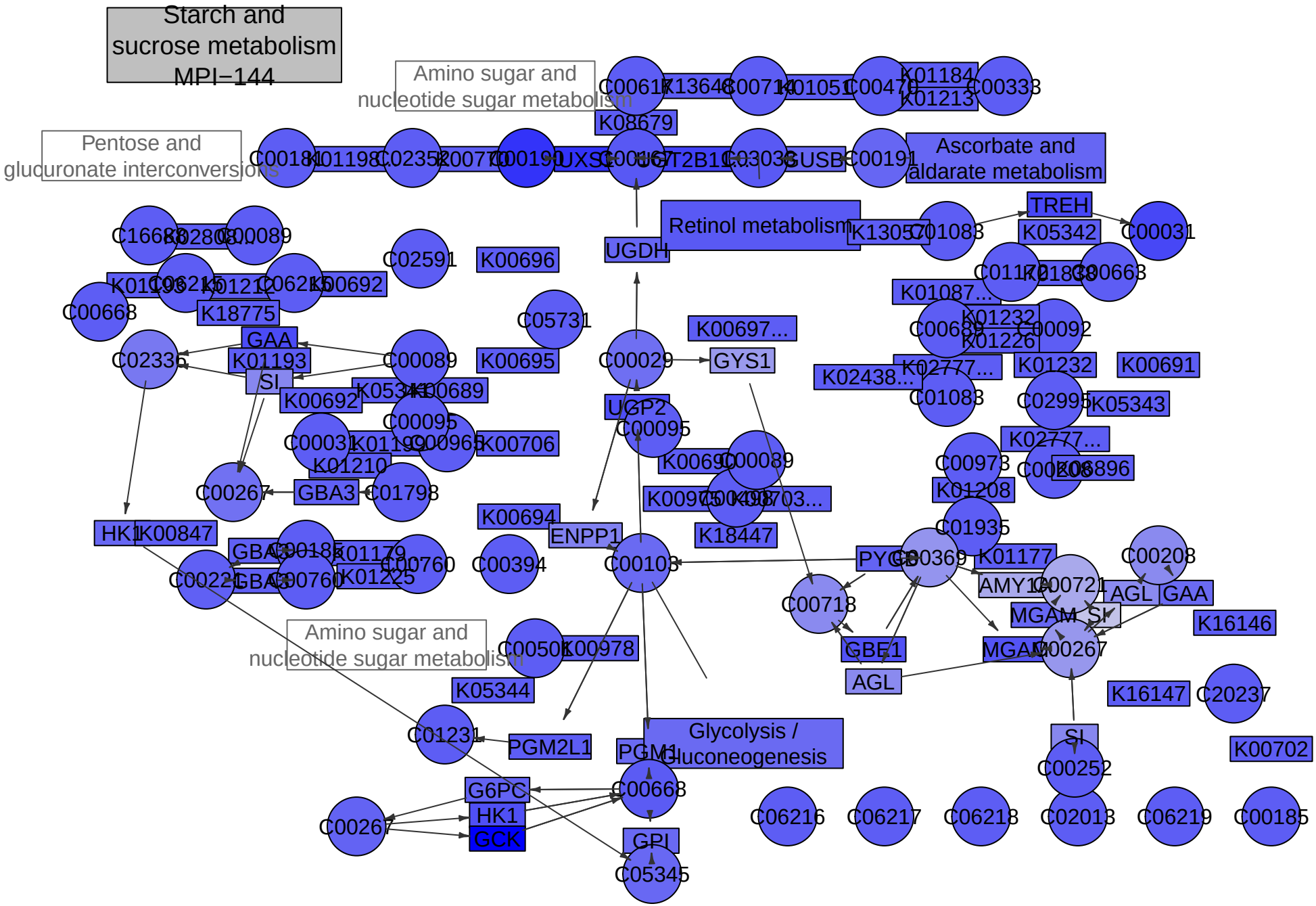
Starch and sucrose metabolism MPI−144
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
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C00394
C00760
K01225
K18447
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
C00252
K00702
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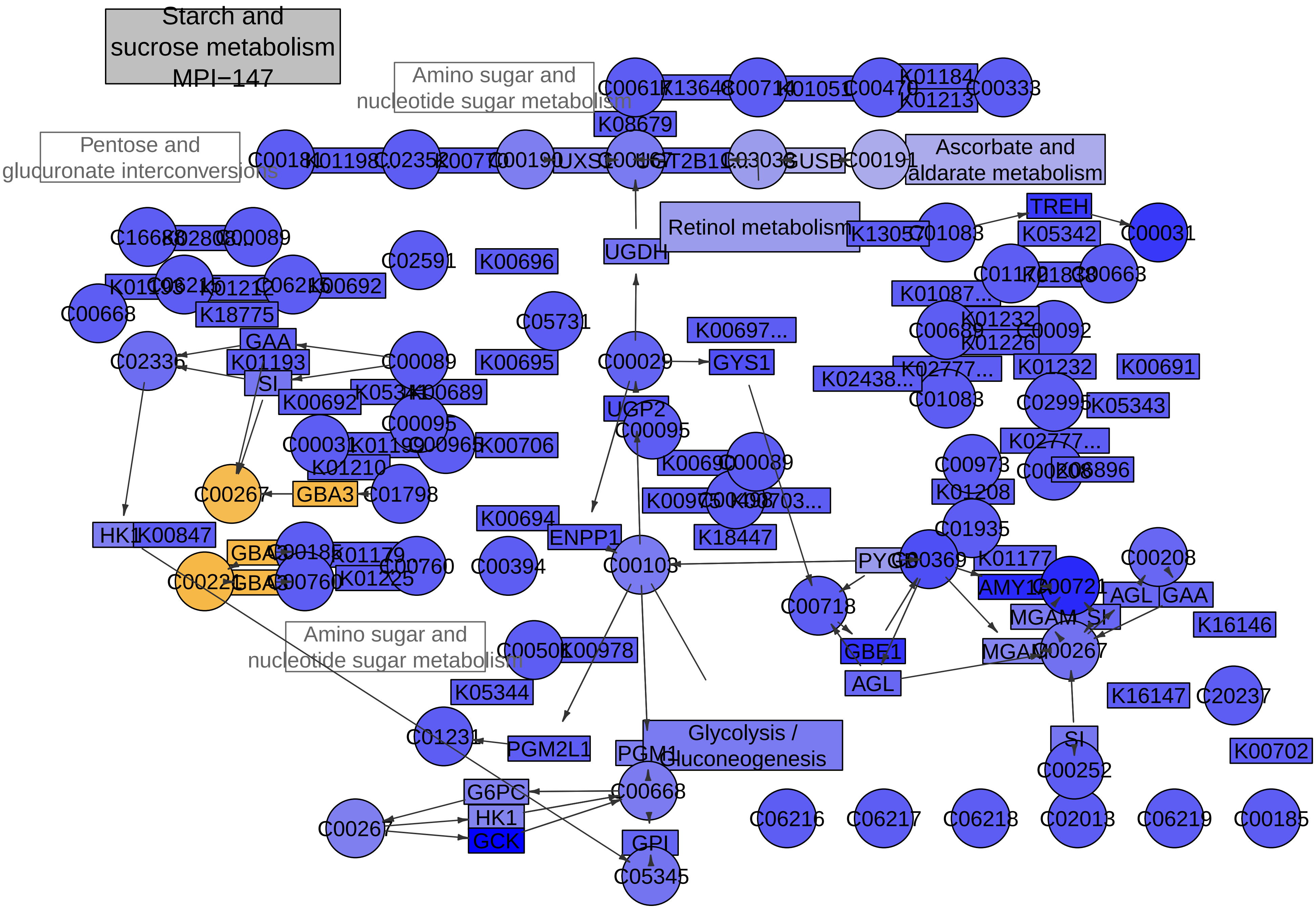
C00185



Starch and sucrose metabolism MPI−147
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
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K08679
K01184
K01213
C00191
UXS1
USB
TREH
K05342
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C00089
C02591
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C00668
GAA
K01193
SI
C02336
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C05731
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C00029
GYS1
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K02777...
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UGP2
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GBA3
C01798
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K01208
C01935
K00694
ENPP1
K18447
HK1
K00847
C00221
C00760
K01179
K01225
C00394
C00103
PYGB
C00369
K01177
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AGL
MGAM
C00718
GBE1
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K16146
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K00978
K05344
C01231
PGM2L1
PGM1
G6PC
GCK
GPI
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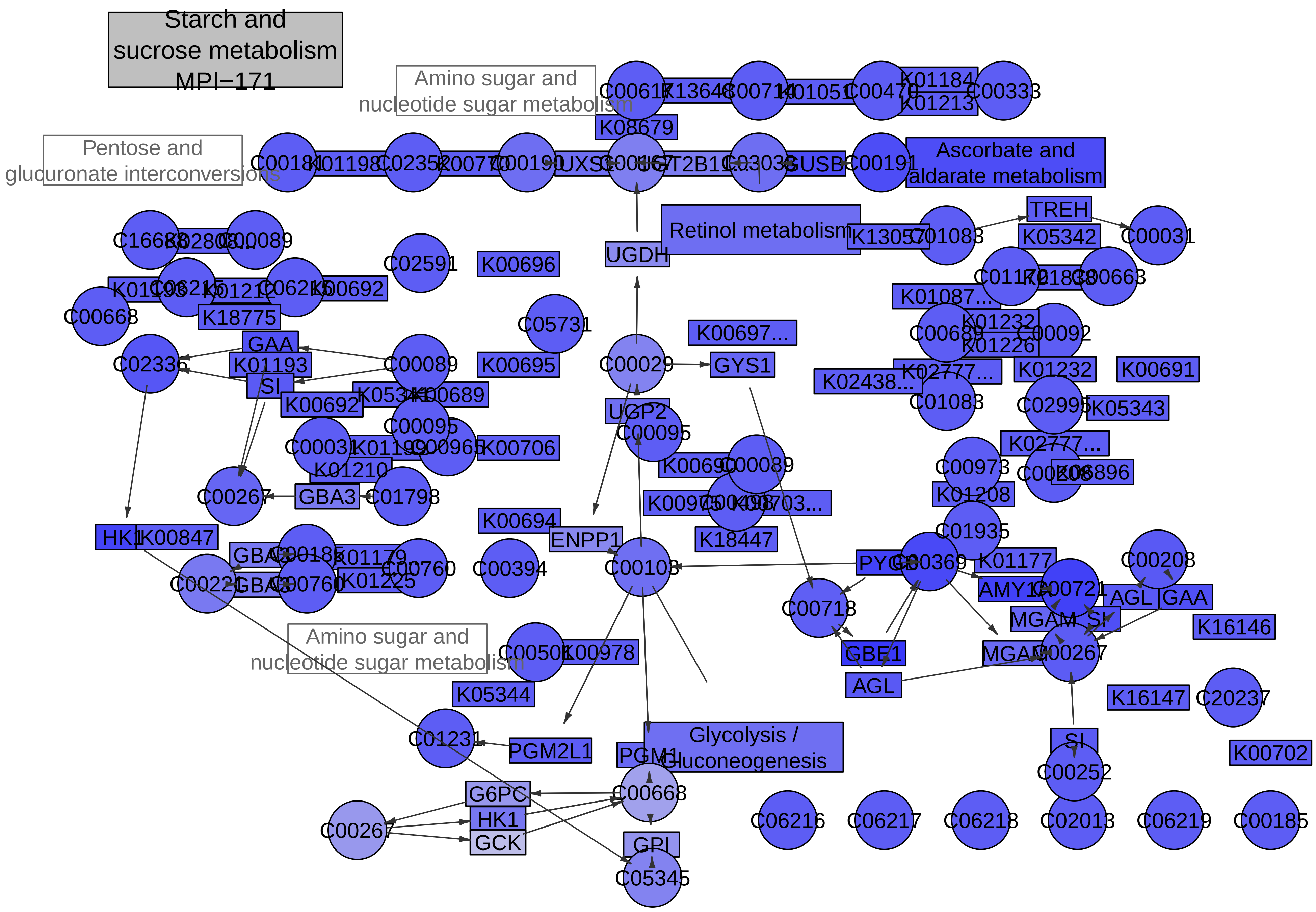
C06219
C00185


Starch and sucrose metabolism MPI−171
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
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K13648
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K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198...
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K00770
C00190
UXS1
C00167
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GUSB
C00191
TREH
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C02591
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HK1
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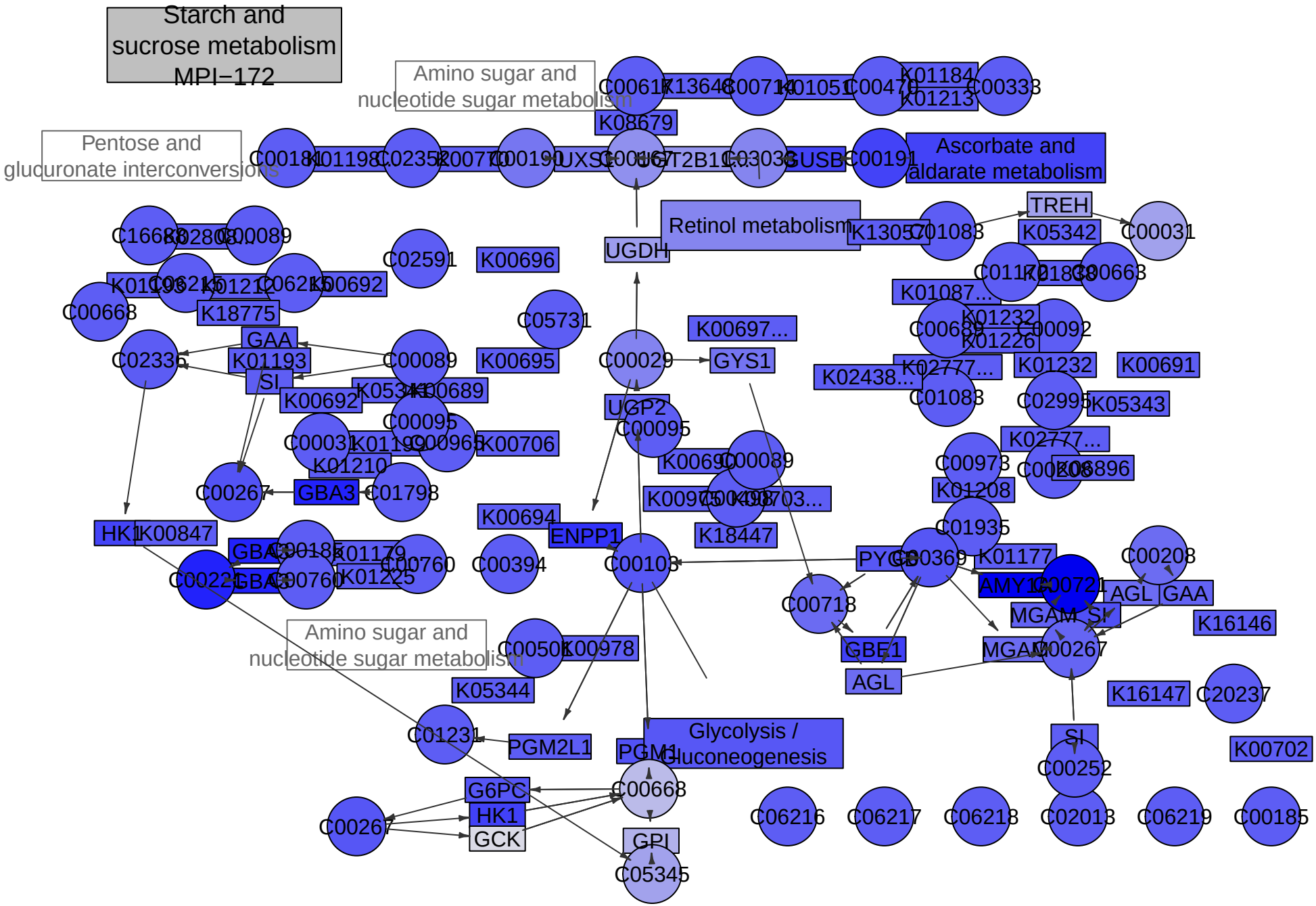
Starch and sucrose metabolism MPI−172
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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GAA
MGAM
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GBE1
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HK1
GCK
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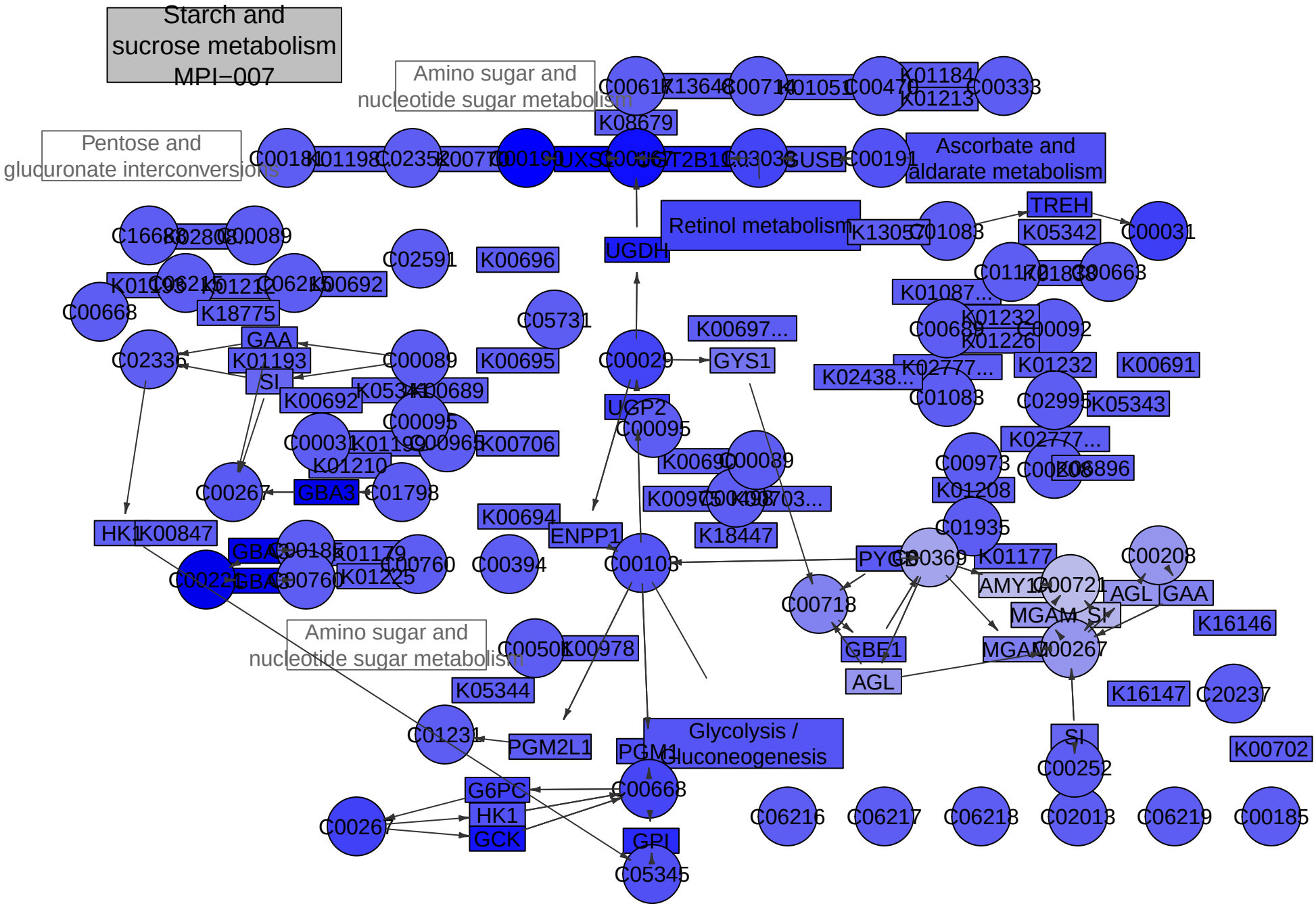
Starch and sucrose metabolism MPI−007
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K00692
K18775
GAA
K01193
SI
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C00208
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MGAM
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GBE1
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MGAM
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GPI
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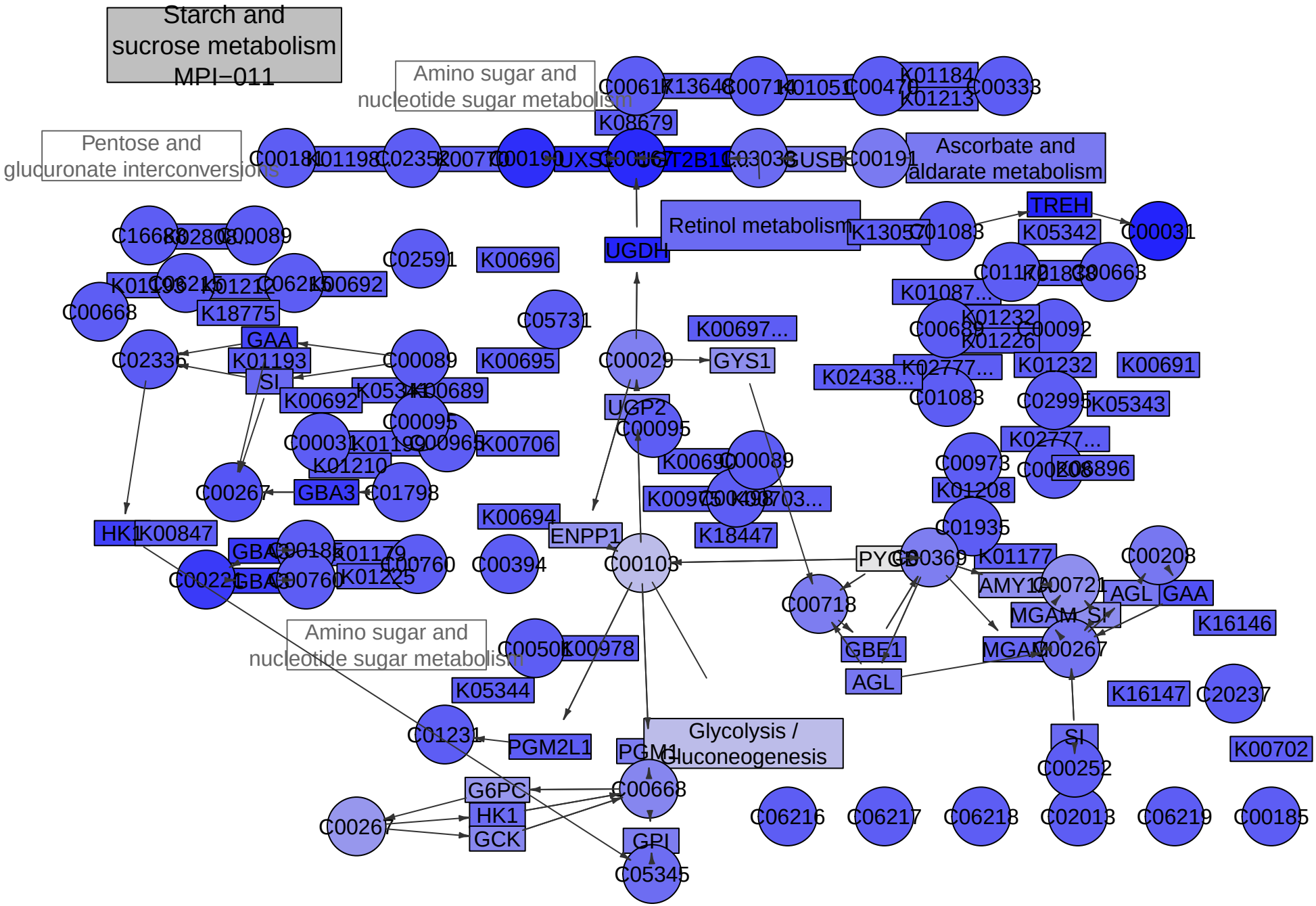
Starch and sucrose metabolism MPI−011
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00031
C02591
K00696
K00692
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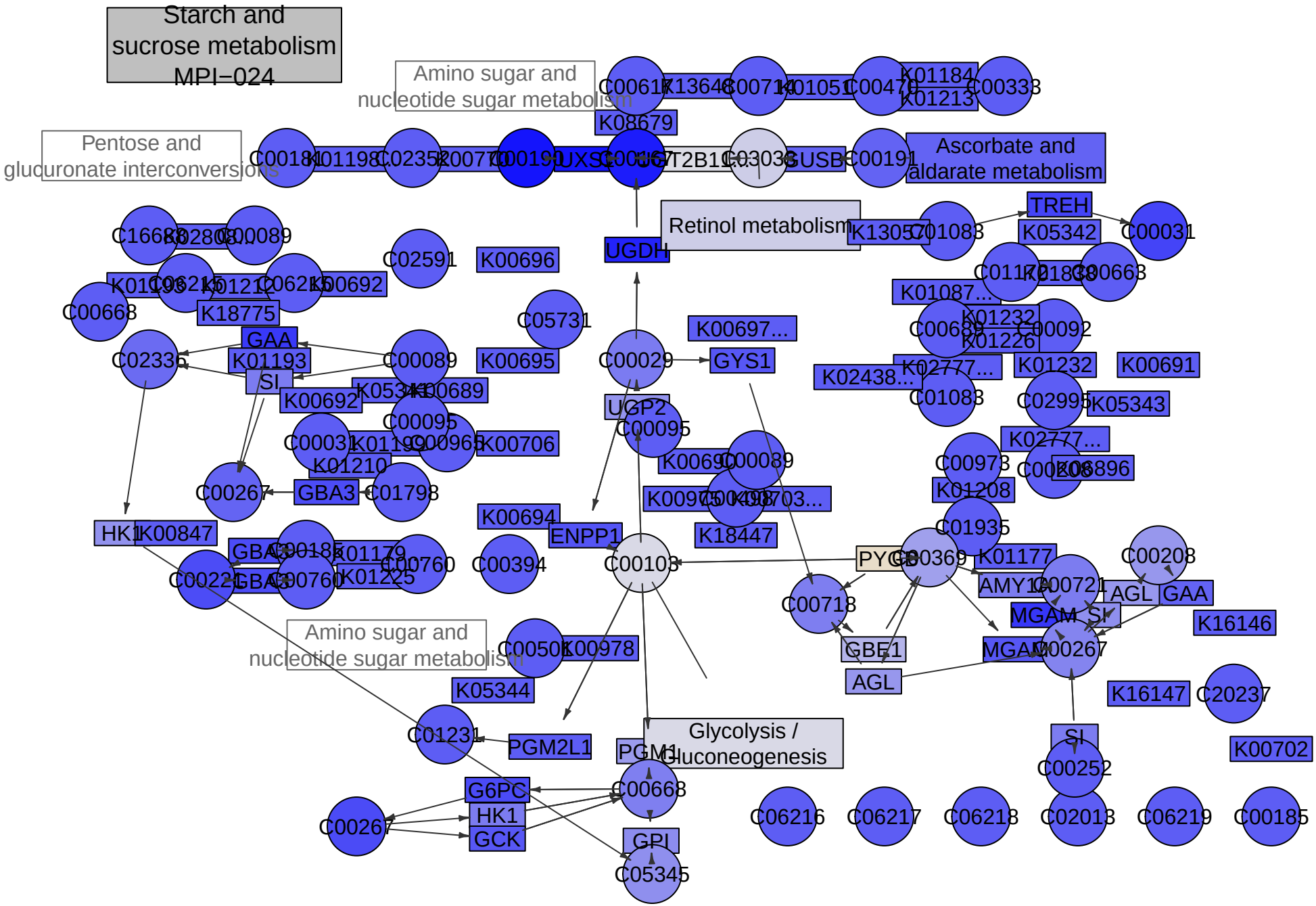
Starch and sucrose metabolism MPI−024
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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C00718
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MGAM
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GBE1
AGL
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C01231
PGM2L1
PGM1
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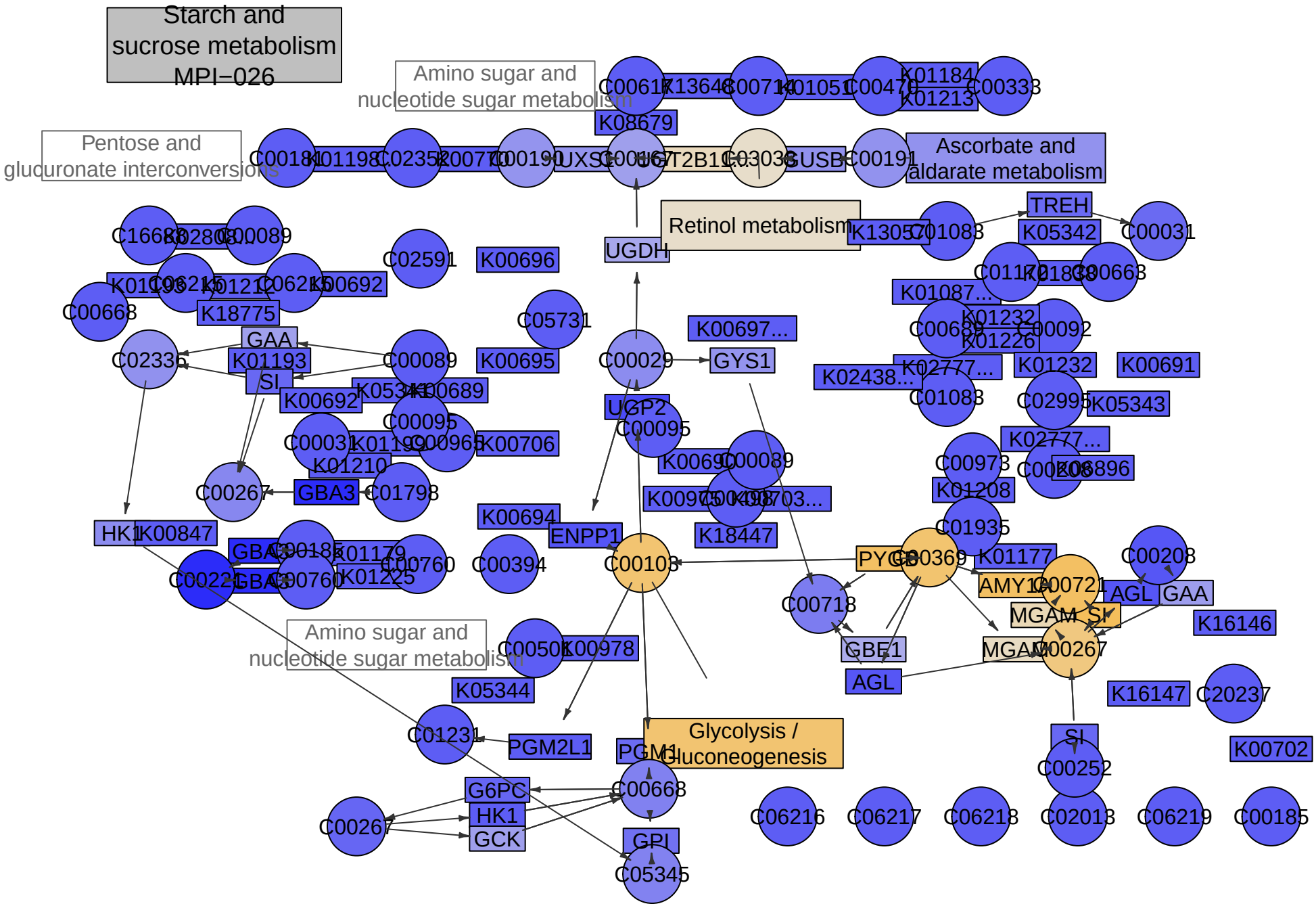
Starch and sucrose metabolism MPI−026
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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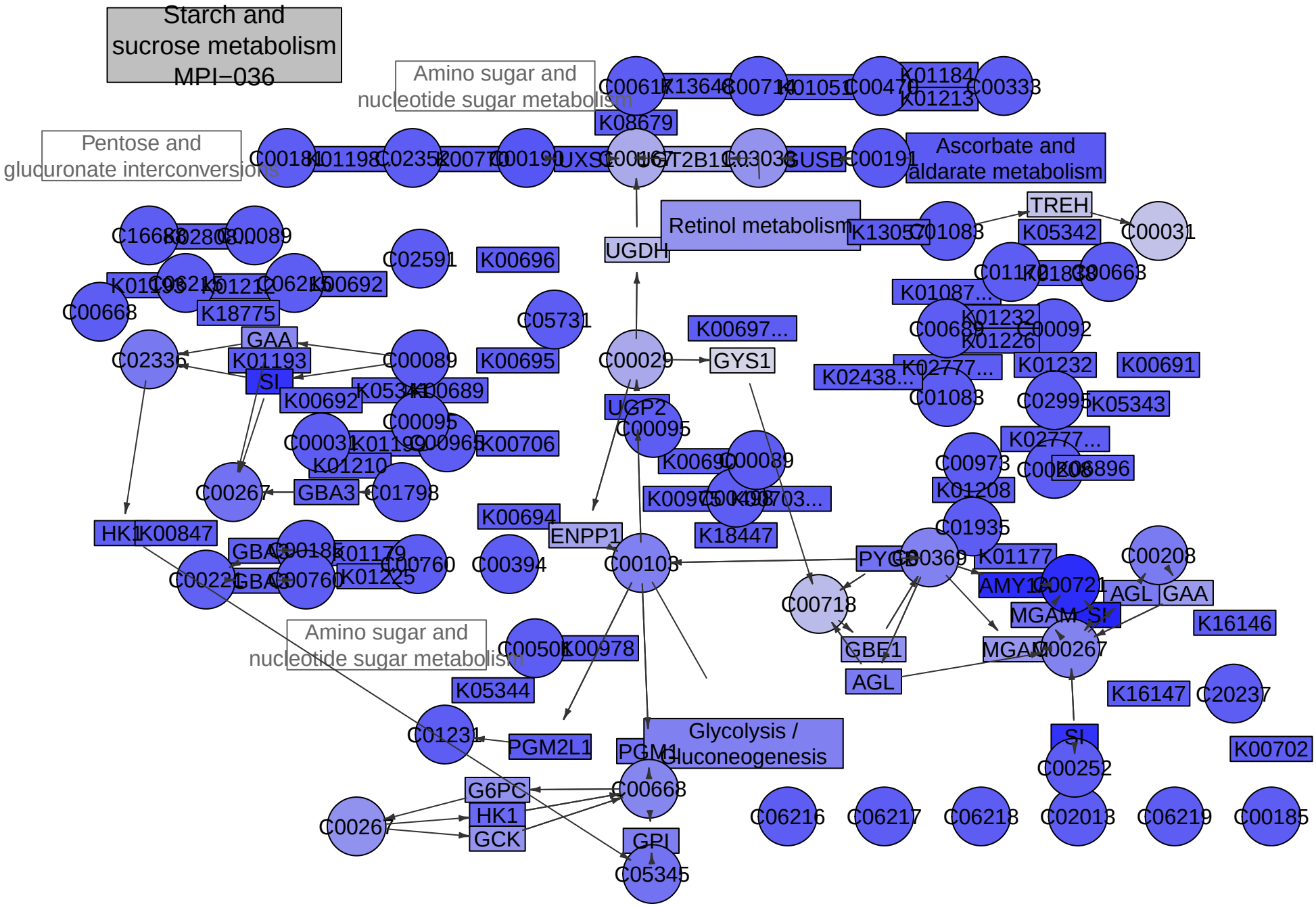
Starch and sucrose metabolism MPI−036
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
K01193
SI
C00089
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C00029
GYS1
K02438...
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K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00394
C00103
PYGB
C00369
K01177
C00208
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C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
MGAM
C00267
AGL
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K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
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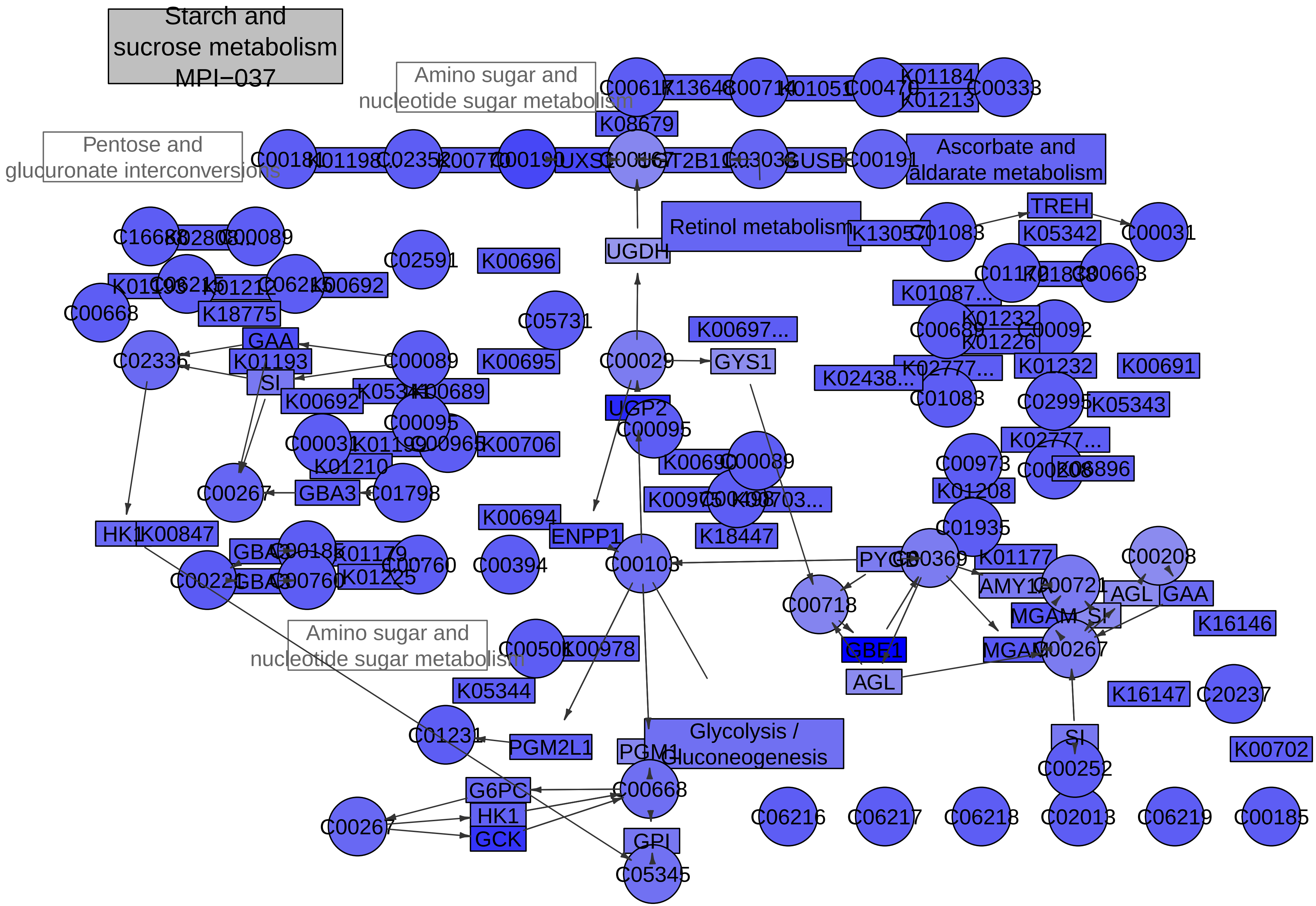

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Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
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GUSB
C00191
Ascorbate and aldarate metabolism
Retinol metabolism
TREH
K05342
C00031
UGDH
C02591
K00696
C05731
K00697...
GYS1
C00029
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K01226
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K02438...
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K00691
C01083
C02995
K05343
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C00668
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SI
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UGP2
C00095
K00706
K01210
GBA3
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HK1
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K00694
ENPP1
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K18447
C00394
C00760
K01225
C00221
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C00369
K01177
C00208
AGL
GAA
K16146
MGAM
SI
C00718
GBE1
AGL
K16147
C20237
SI
C00252
K00702
K05344
PGM2L1
C01231
Glycolysis / Gluconeogenesis
G6PC
HK1
GCK
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GPI
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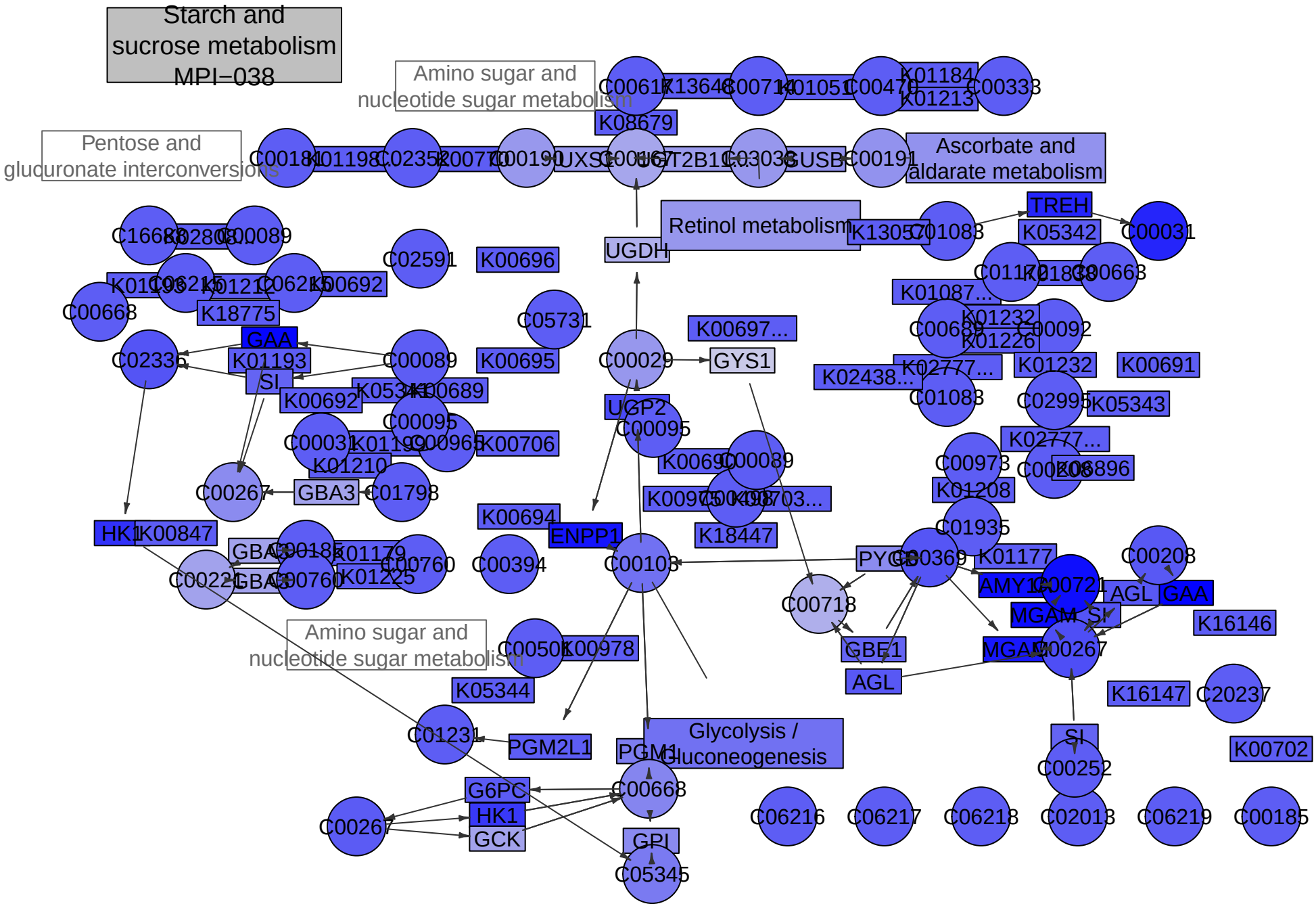
Starch and sucrose metabolism MPI−038
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
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K18775
GAA
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C00089
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C00029
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GBA3
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MGAM
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GBE1
AGL
MGAM
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K05344
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C20237
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PGM2L1
PGM1
SI
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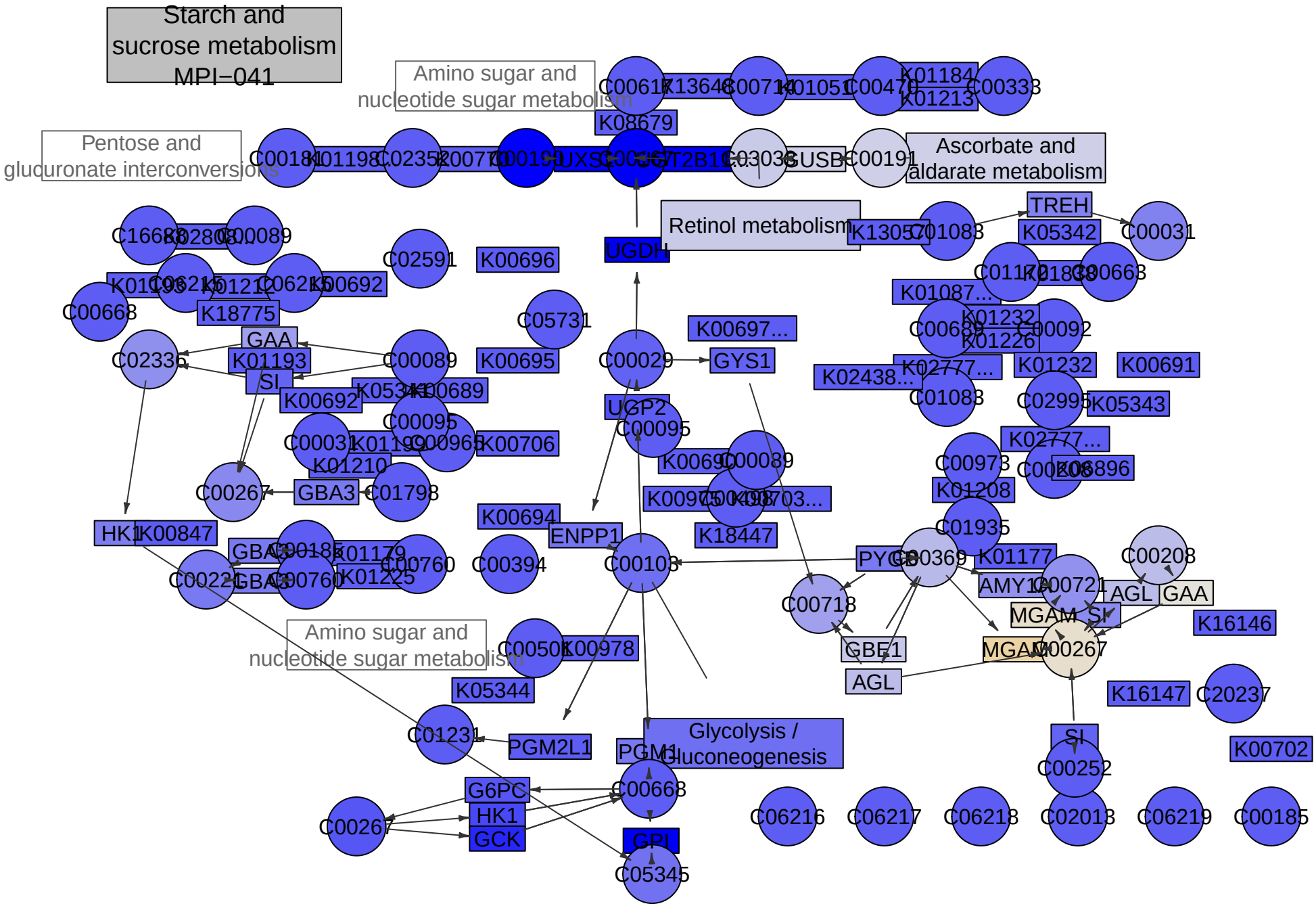
Starch and sucrose metabolism MPI−041
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
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GCK
GPI
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K00702
C00031
C00668
C00089
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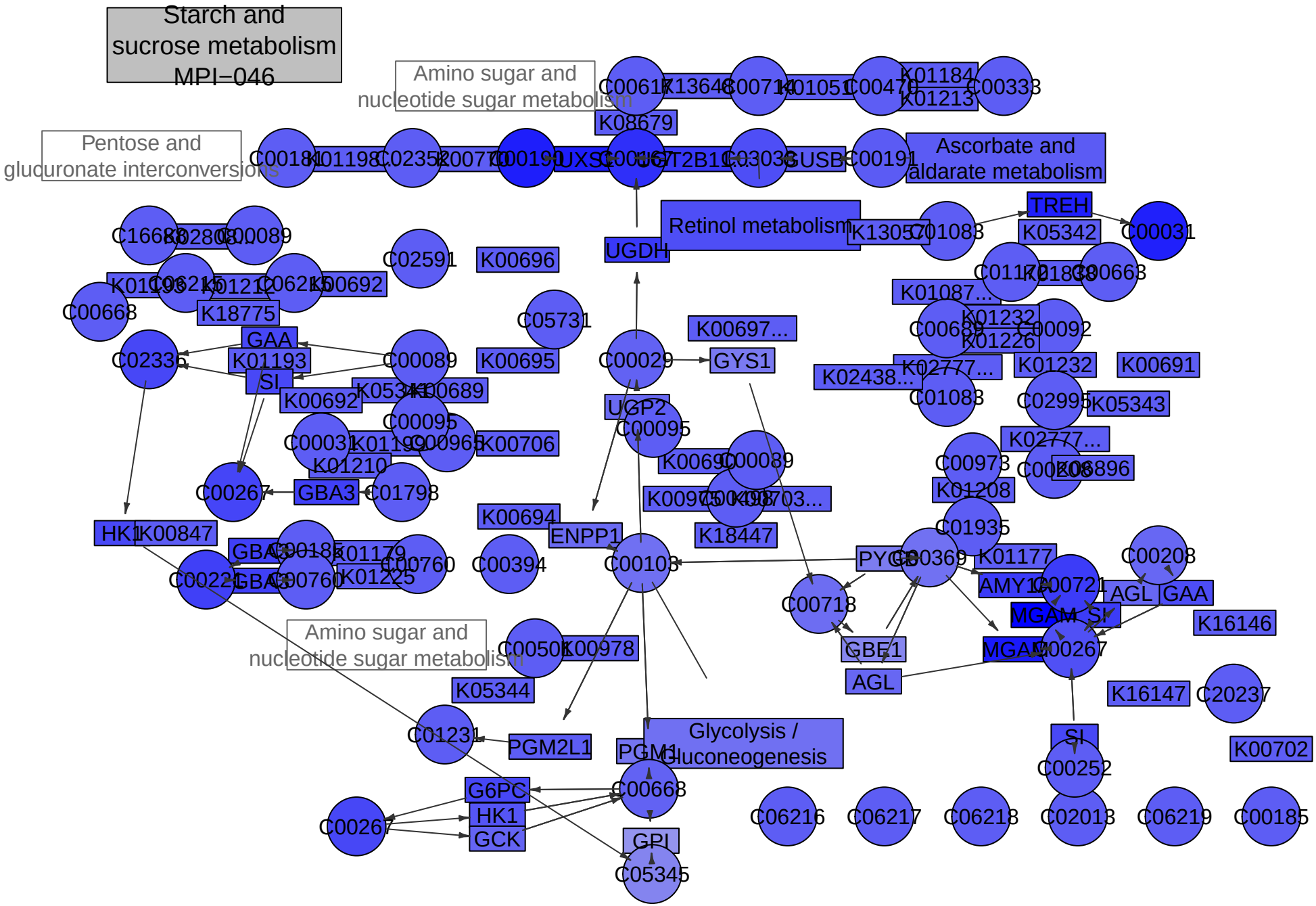
Starch and sucrose metabolism MPI−046
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
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SI
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AGL
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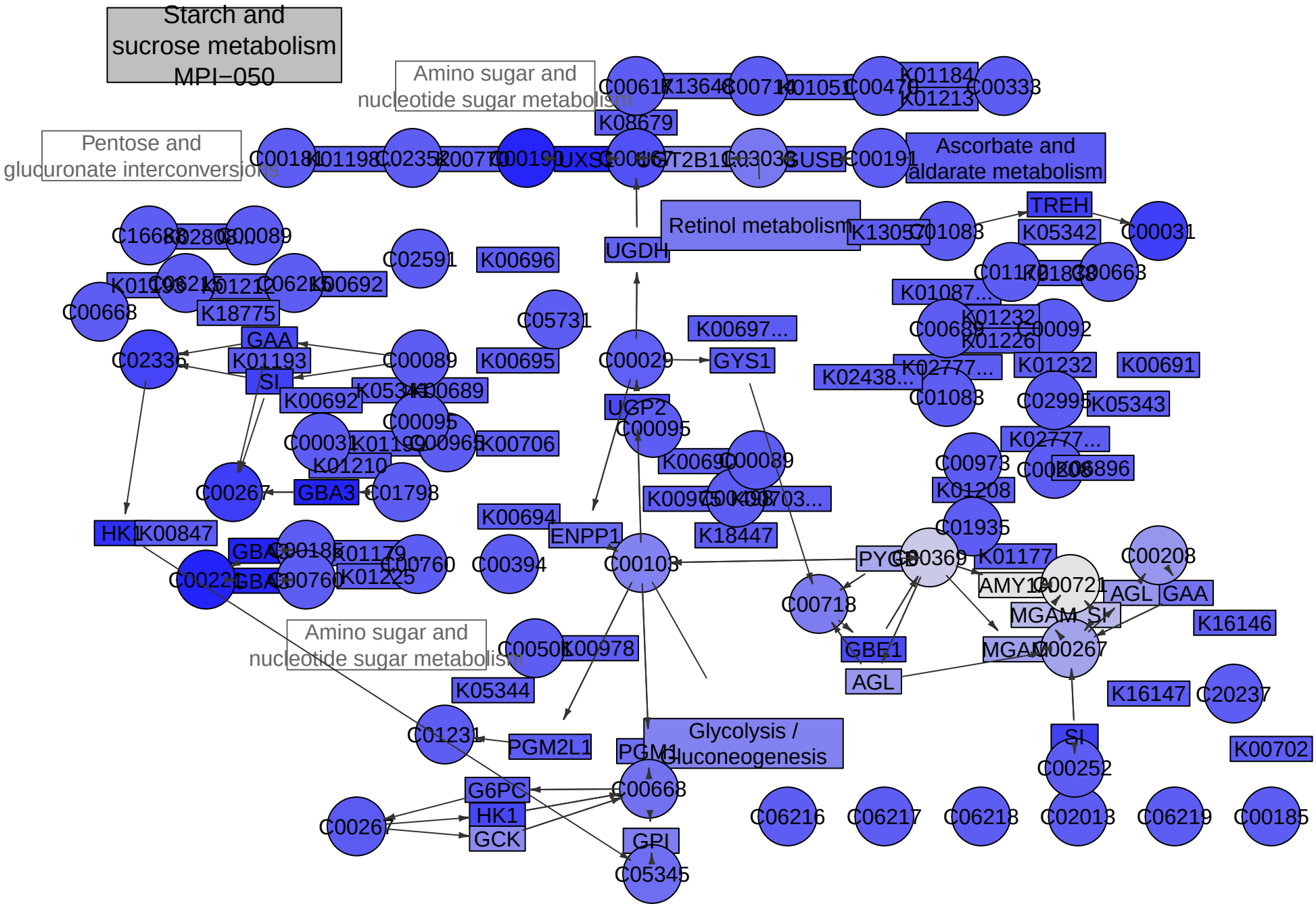
Starch and sucrose metabolism MPI−050
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C02591
K00696
K00692
K18775
GAA
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GYS1
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K01087...
K02777...
K01232
K00691
K02438...
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PGM1
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GCK
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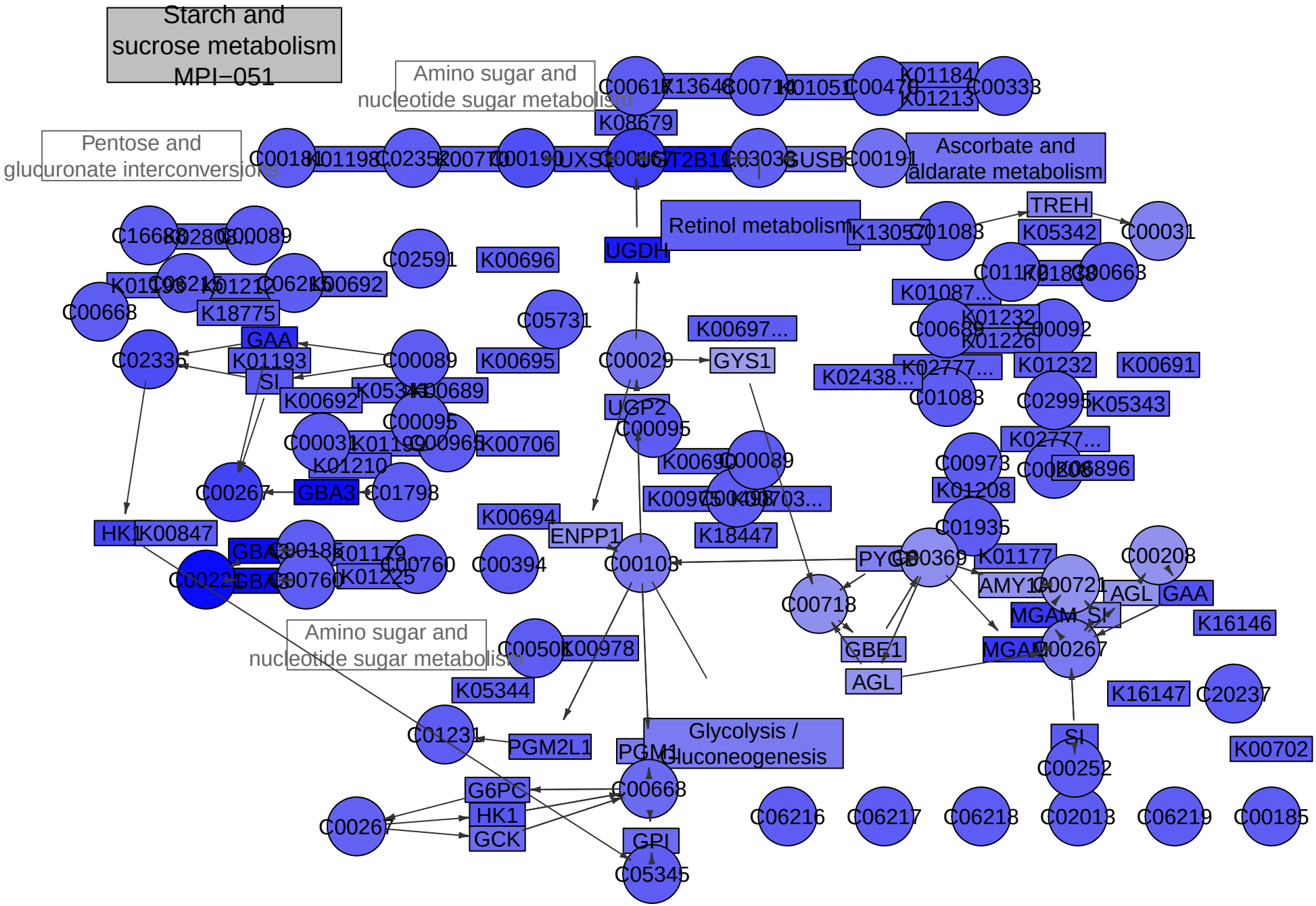
Starch and sucrose metabolism MPI−051
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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K00692
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K00692
UGP2
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GBA3
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ENPP1
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PGM1
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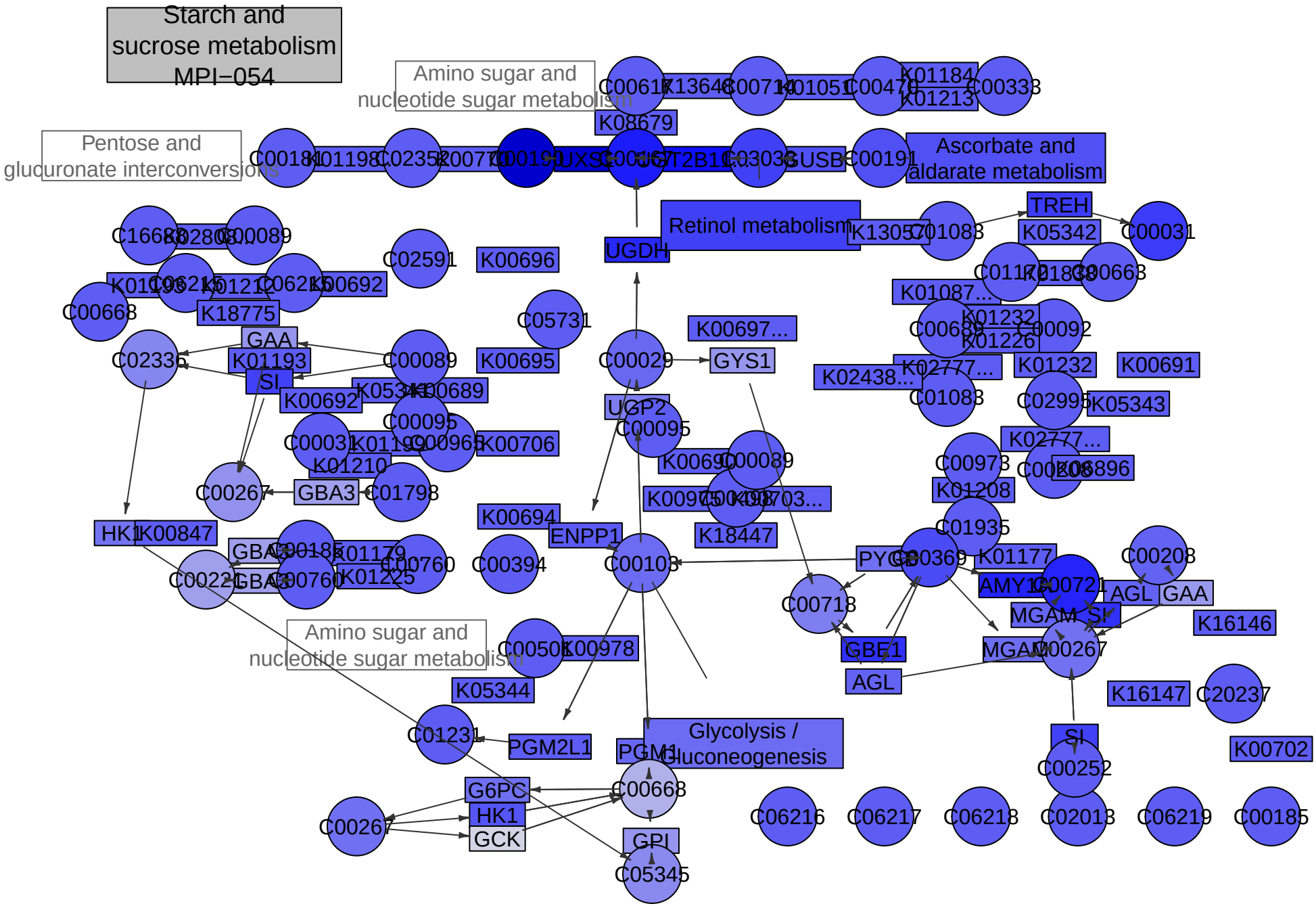
Starch and sucrose metabolism MPI−054
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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K18775
GAA
C02336
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K00692
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K00695
C00029
GYS1
K00697...
K02438...
K01232
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GBA3
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AGL
GAA
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GBE1
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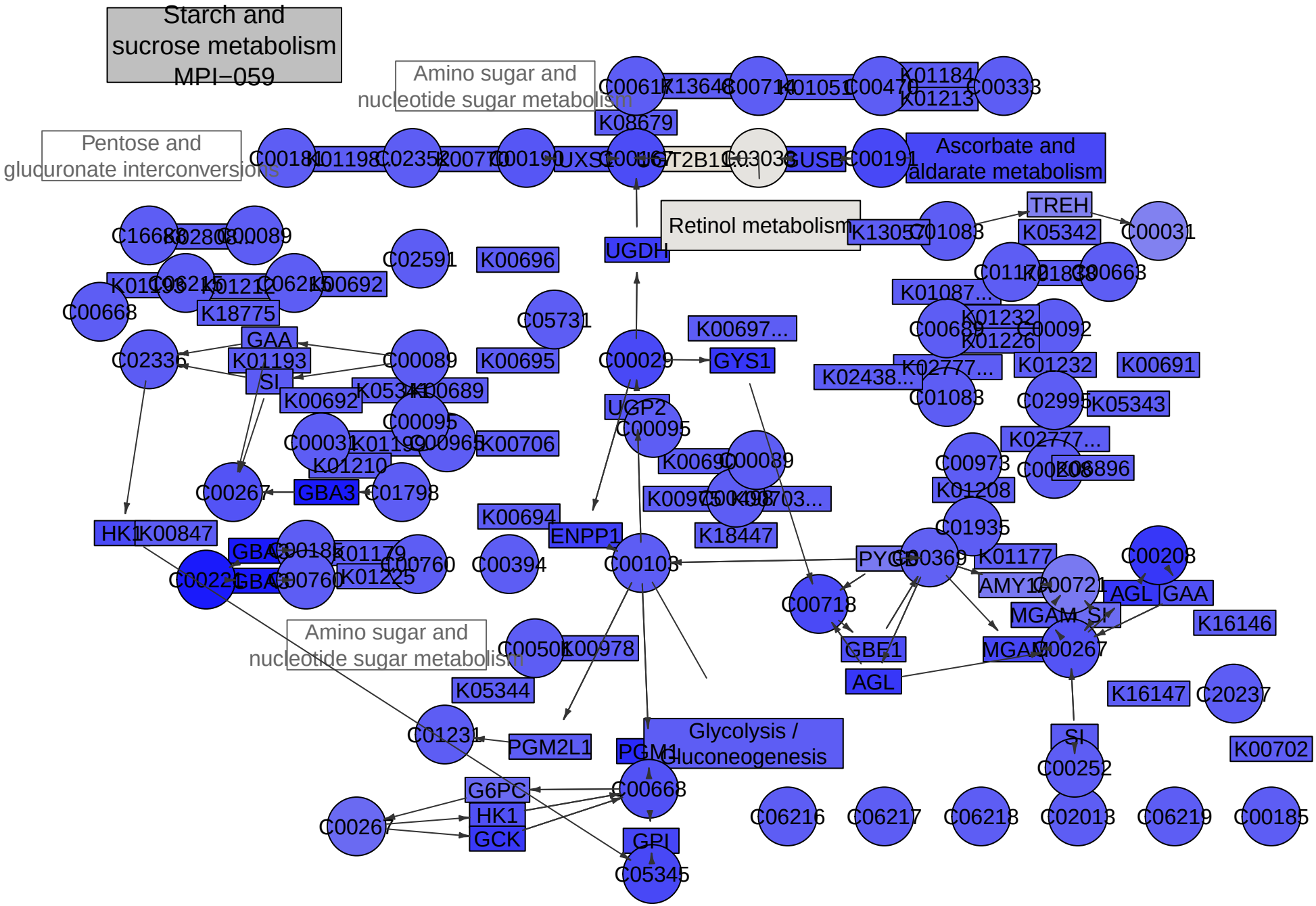
Starch and sucrose metabolism MPI−059
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
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UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
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GCK
GPI
TREH
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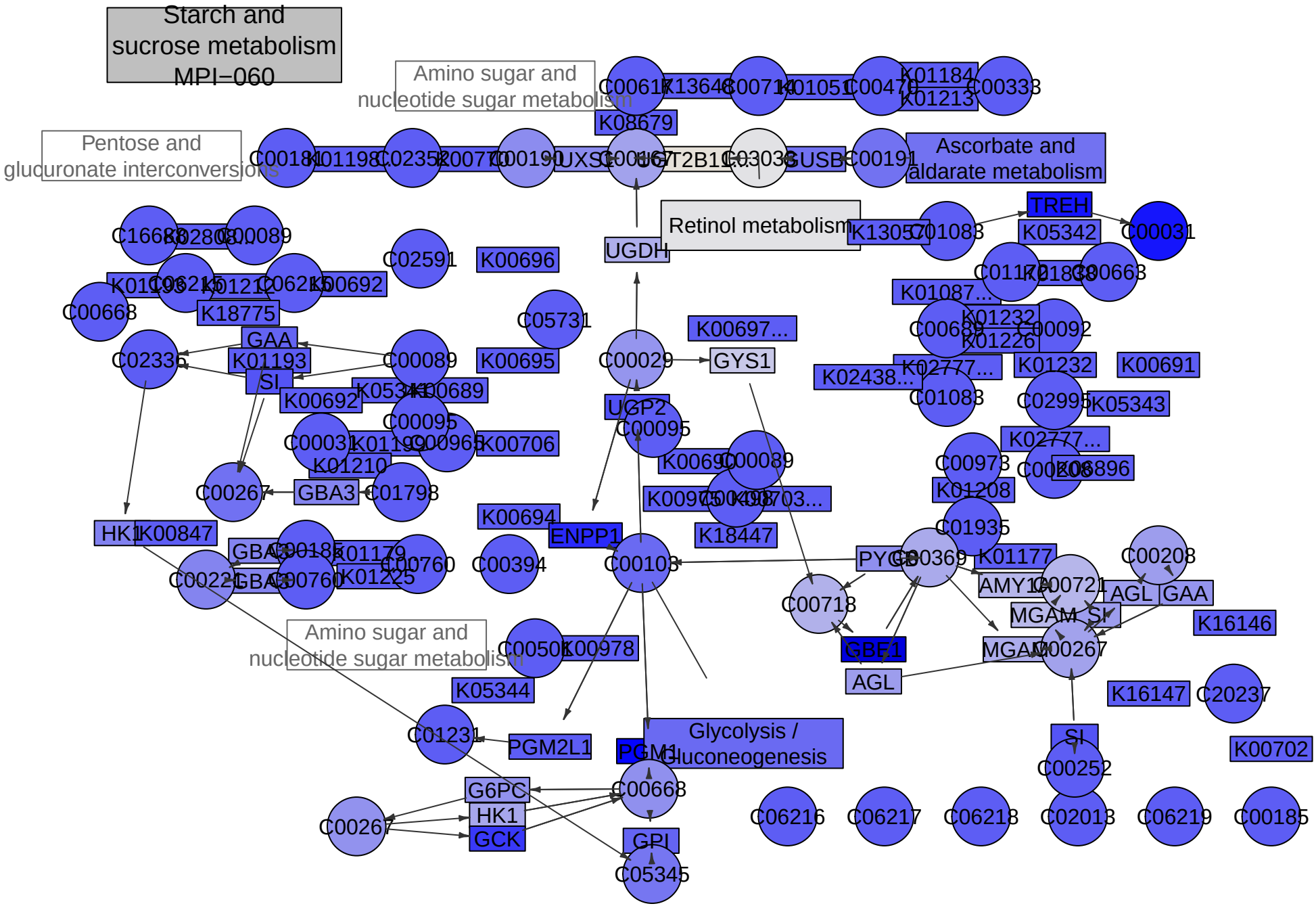
Starch and sucrose metabolism MPI−060
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
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K16147
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C00668
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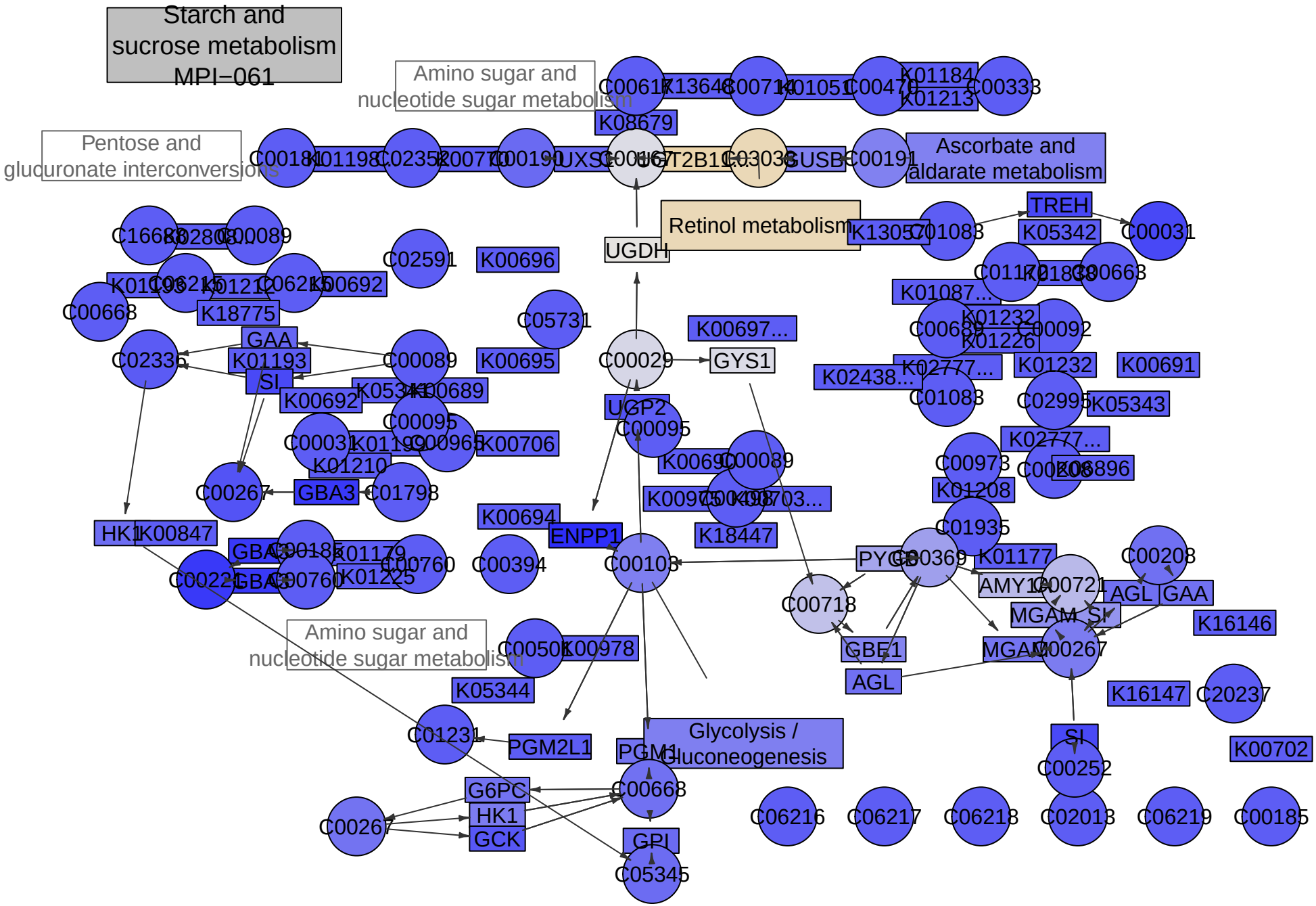
Starch and sucrose metabolism MPI−061
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
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GBA3
ENPP1
PYGB
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PGM2L1
PGM1
G6PC
HK1
GCK
GPI
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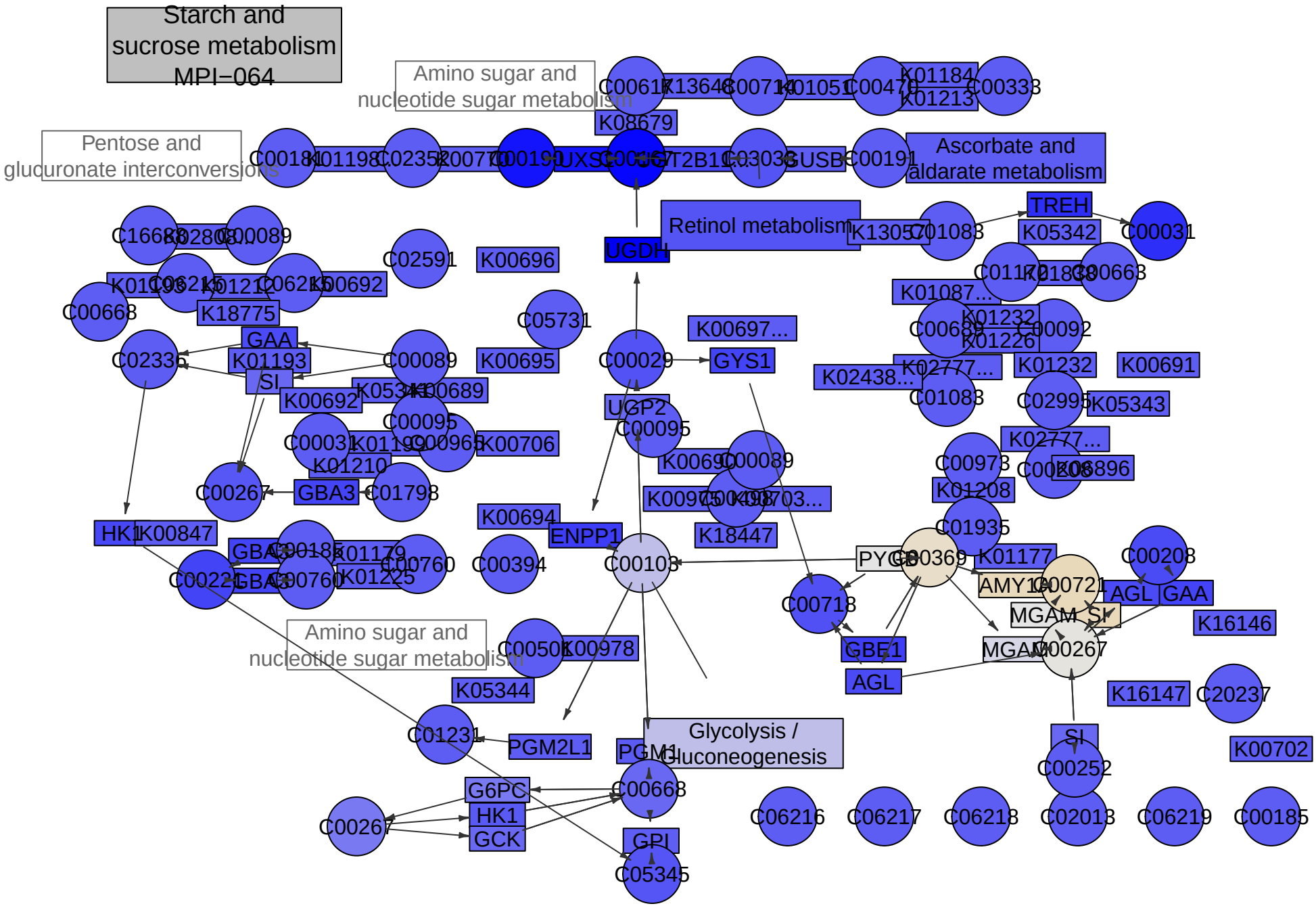
Starch and sucrose metabolism MPI−064
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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K16147
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C00394
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C00760
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PGM1
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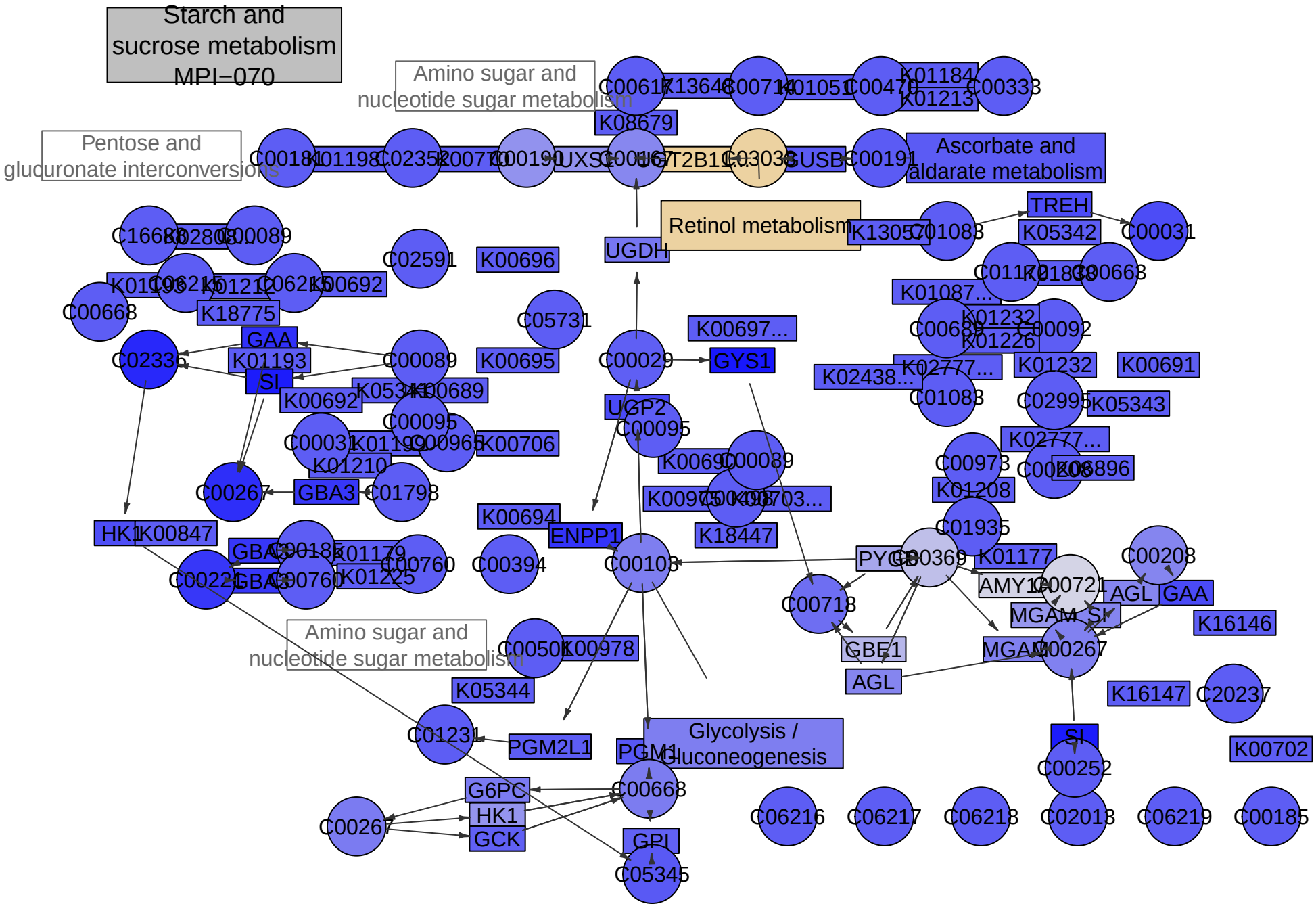
Starch and sucrose metabolism MPI−070
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03036
USB
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TREH
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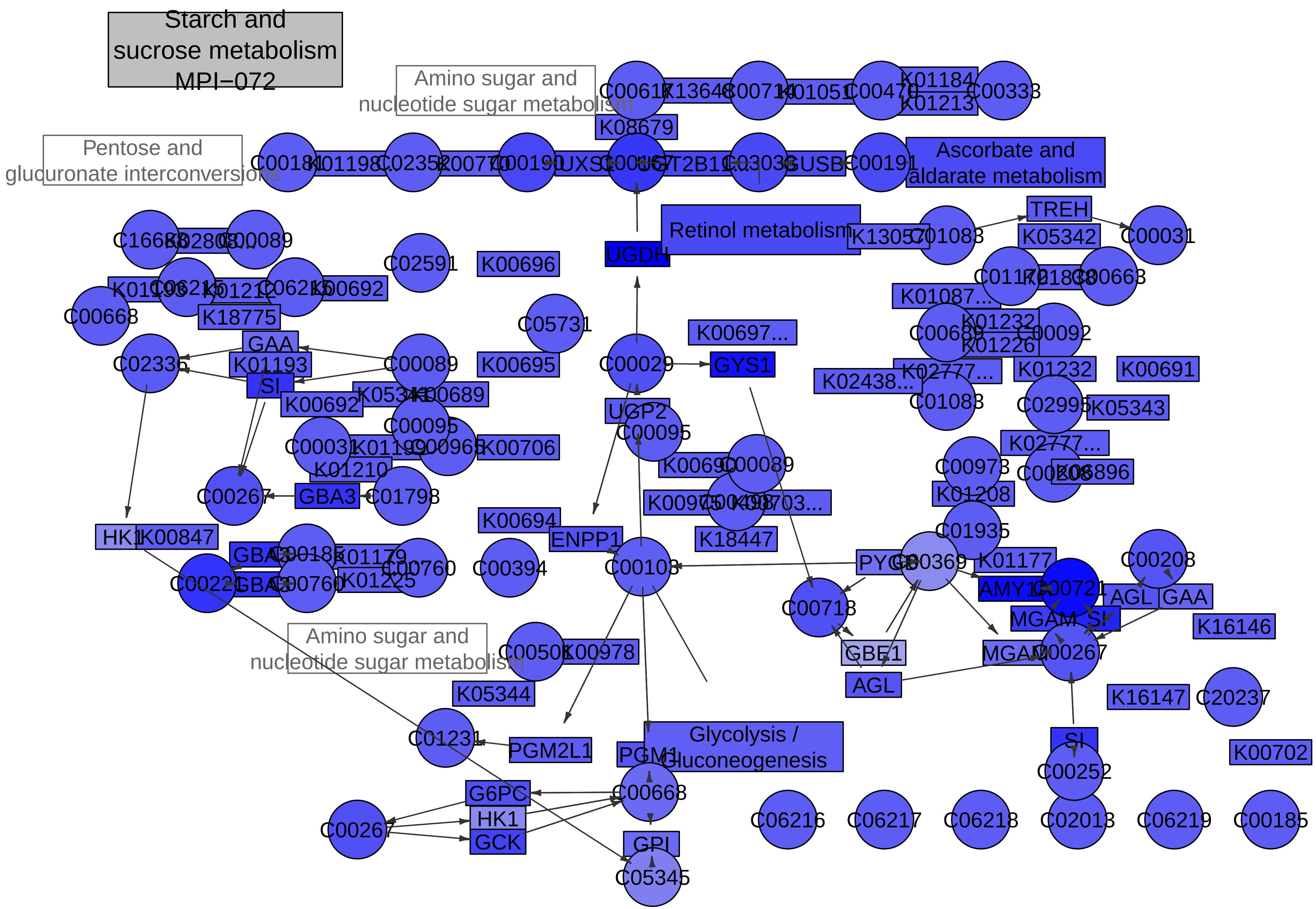
Starch and sucrose metabolism MPI−072
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
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GAA
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SI
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C00095
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K01210
K00706
C00267
GBA3
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UGP2
C00095
C00089
K18447
K00694
ENPP1
C00103
HK1
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PYGB
C00369
K01177
C00208
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C00721
AGL
GAA
MGAM
SI
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GBE1
AGL
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K00978
K05344
C01231
PGM2L1
PGM1
SI
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K00702
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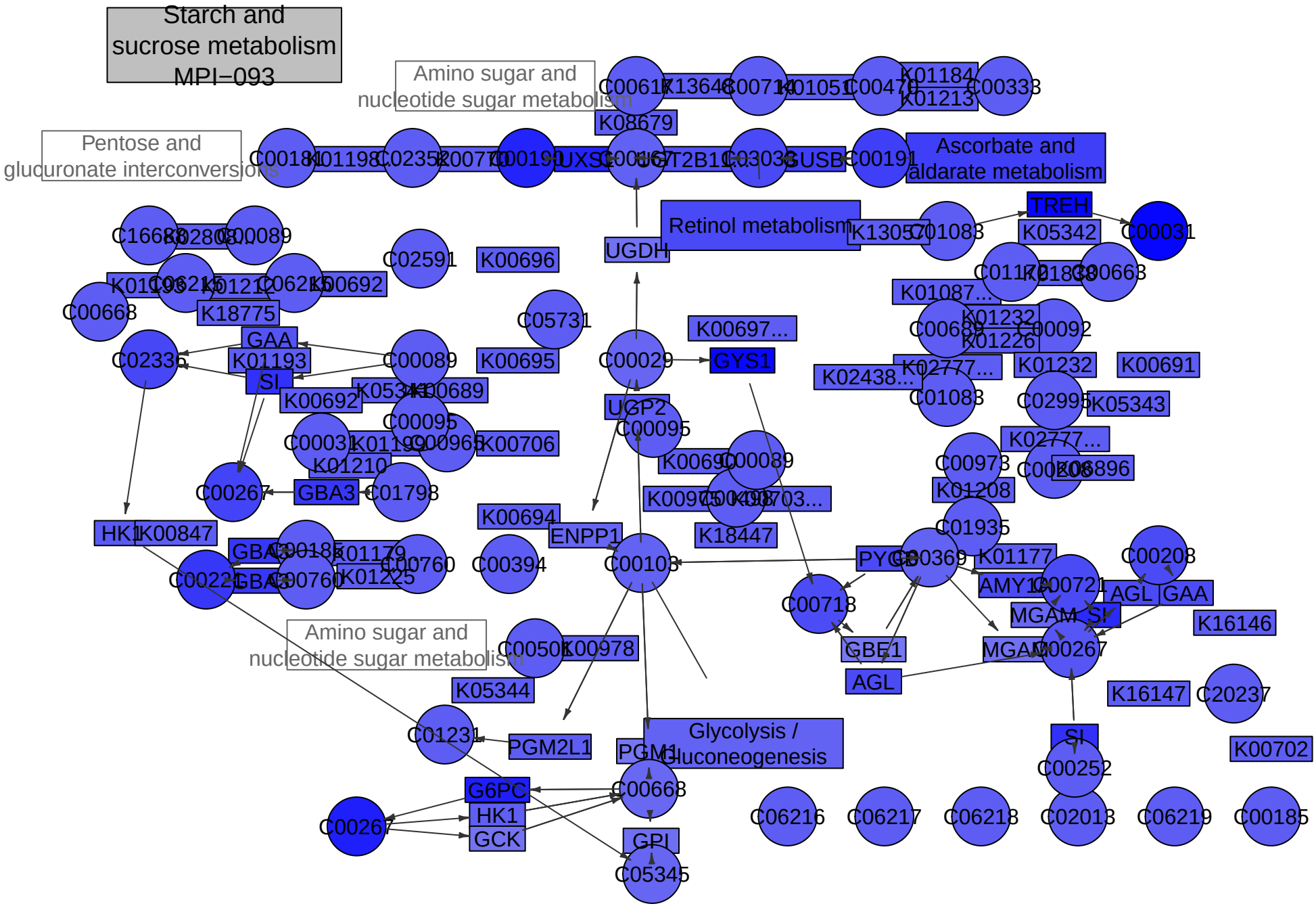
Starch and sucrose metabolism MPI−093
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00089
K00695
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K00692
UGP2
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K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
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C00394
C00760
K01225
K18447
K01179
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
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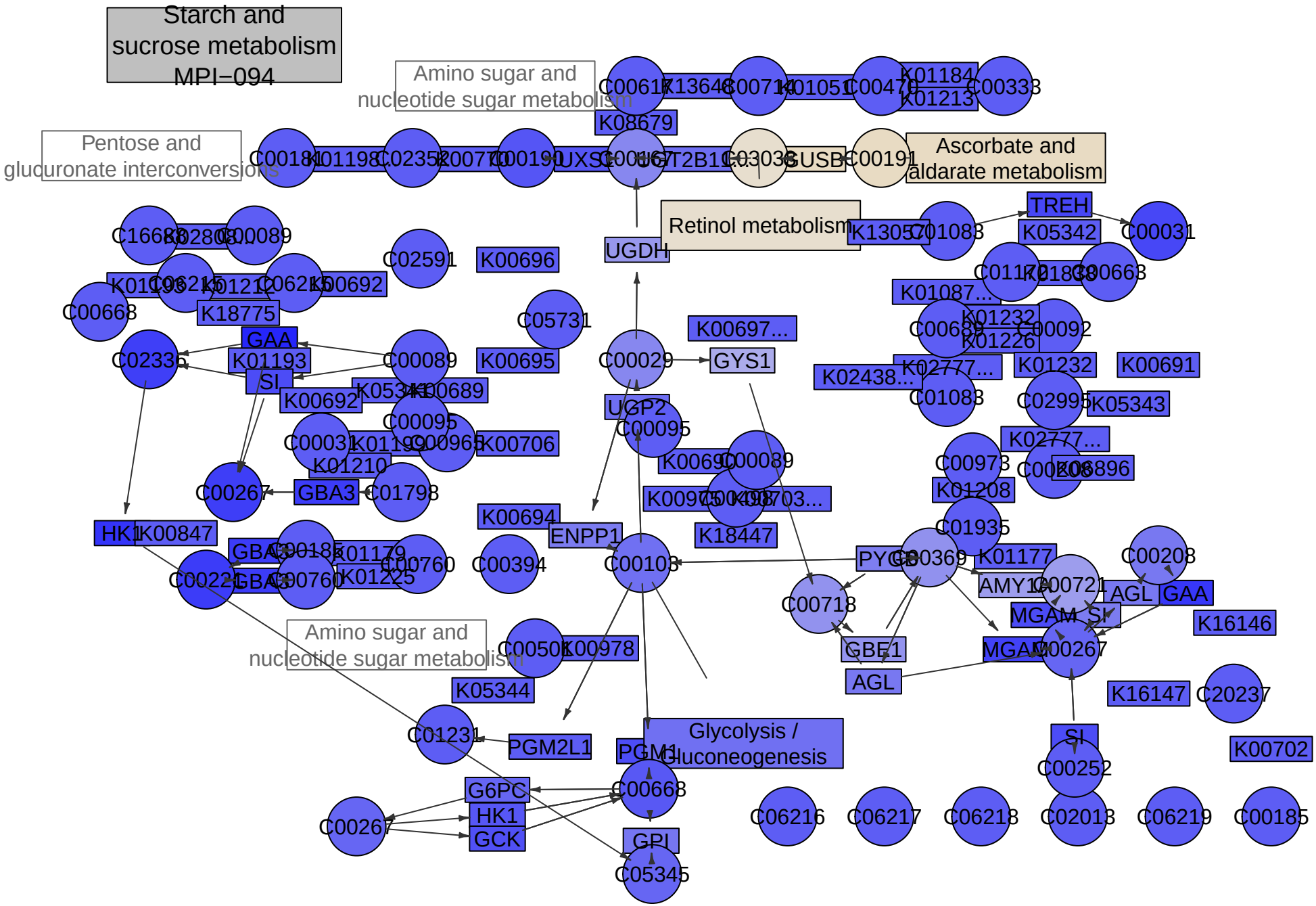
Starch and sucrose metabolism MPI−094
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00103
ENPP1
K00694
K18447
K00706
K00695
K00696
C02591
C05731
K18775
GAA
K01193
SI
K00692
K00689
C00089
C02335
C00668
C00267
GBA3
C01798
HK1
K00847
K01210
K01179
K01225
C00760
C00394
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
C00208
K16146
K16147
C20237
K05343
K02995
K01232
K01226
K01087...
K02438...
K02777...
K05342
TREH
C00031
K00691
K00702
C00252
C06216
C06217
C06218
C02013
C06219
C00185
C05345
GPI
GCK
HK1
G6PC
C00668
PGM1
PGM2L1
C01231
K05344
K00978
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C00333
C00191
C03038
C00197
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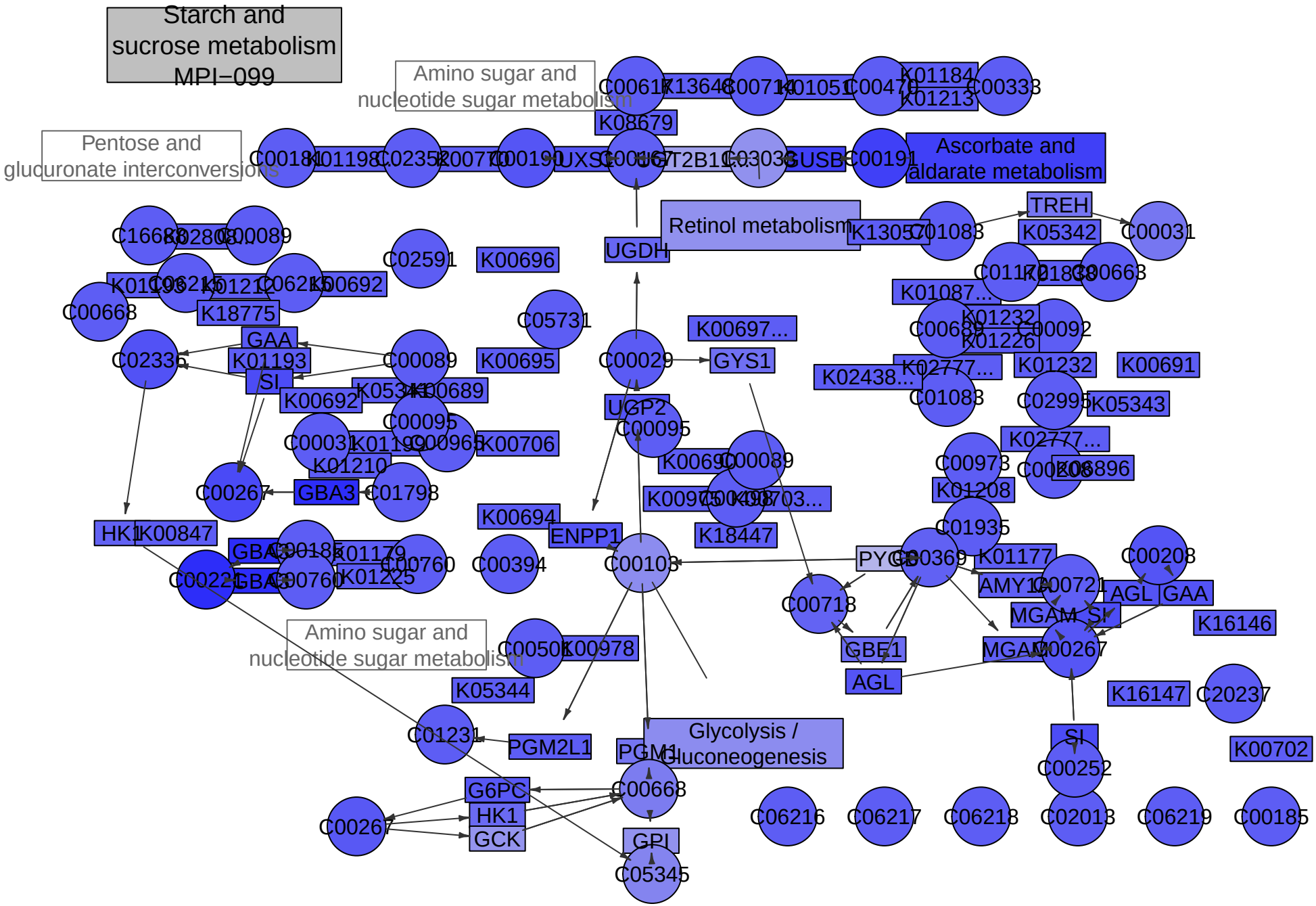
UXS1
UGT2B11
GUSB


Starch and sucrose metabolism MPI−099
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00692
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GYS1
C00029
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01087...
K01232
K01226
K01232
K00691
K02777...
K02438...
C01083
C02995
K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
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GCK
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GPI
C05345
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C06217
C06218
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C06219
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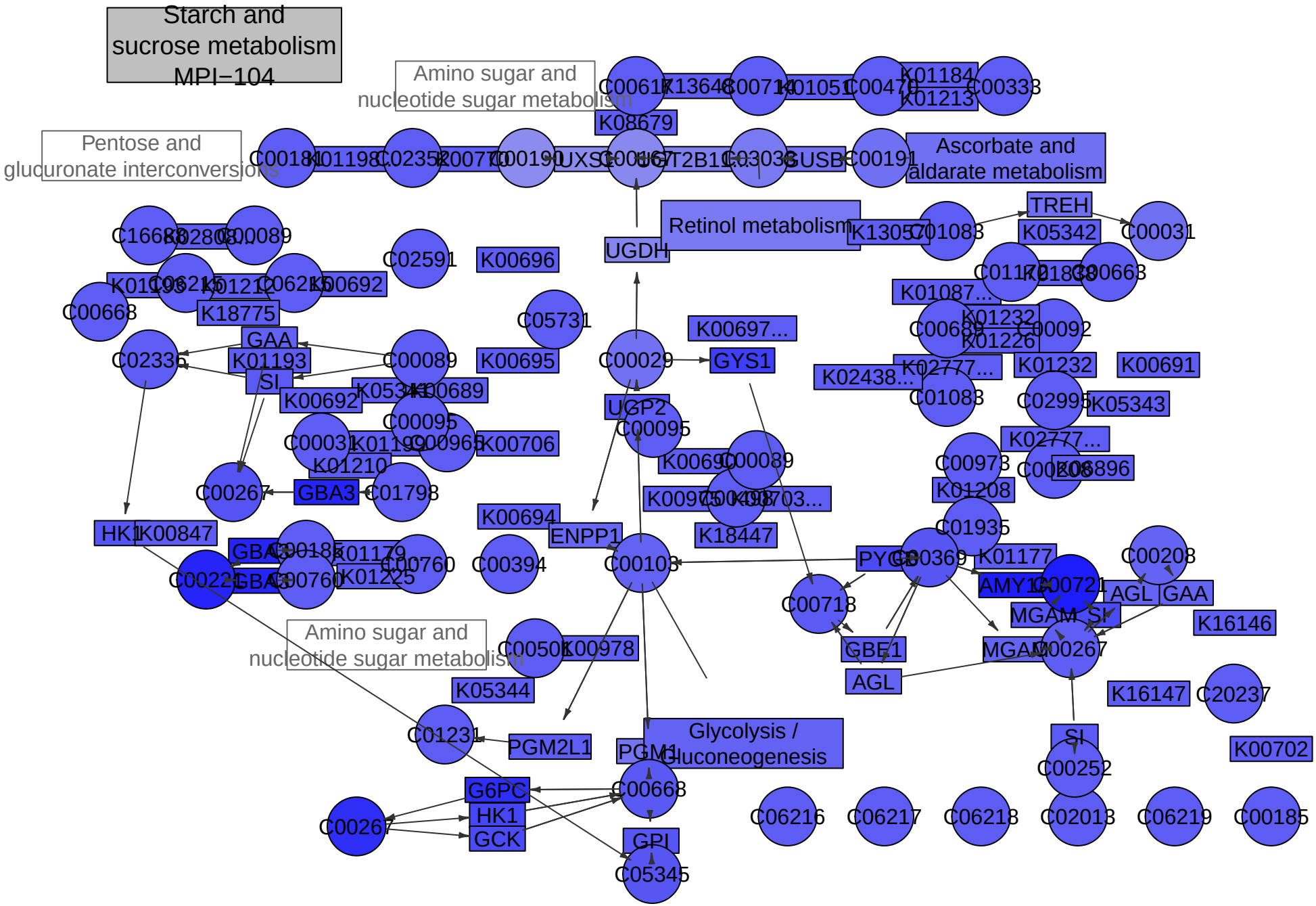
Starch and sucrose metabolism MPI−104
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03036
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C00089
K00695
SI
K00689
K00692
C02336
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
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K01210
K00691
C00089
C00973
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K01208
C00267
GBA3
C01798
K00694
ENPP1
K18447
C01935
HK1
K00847
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K01179
C00760
C00394
C00103
PYGB
C00369
K01177
C00208
C00221
K01225
C00718
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
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K00978
GBE1
MGAM
C00267
AGL
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C01231
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PGM1
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C06217
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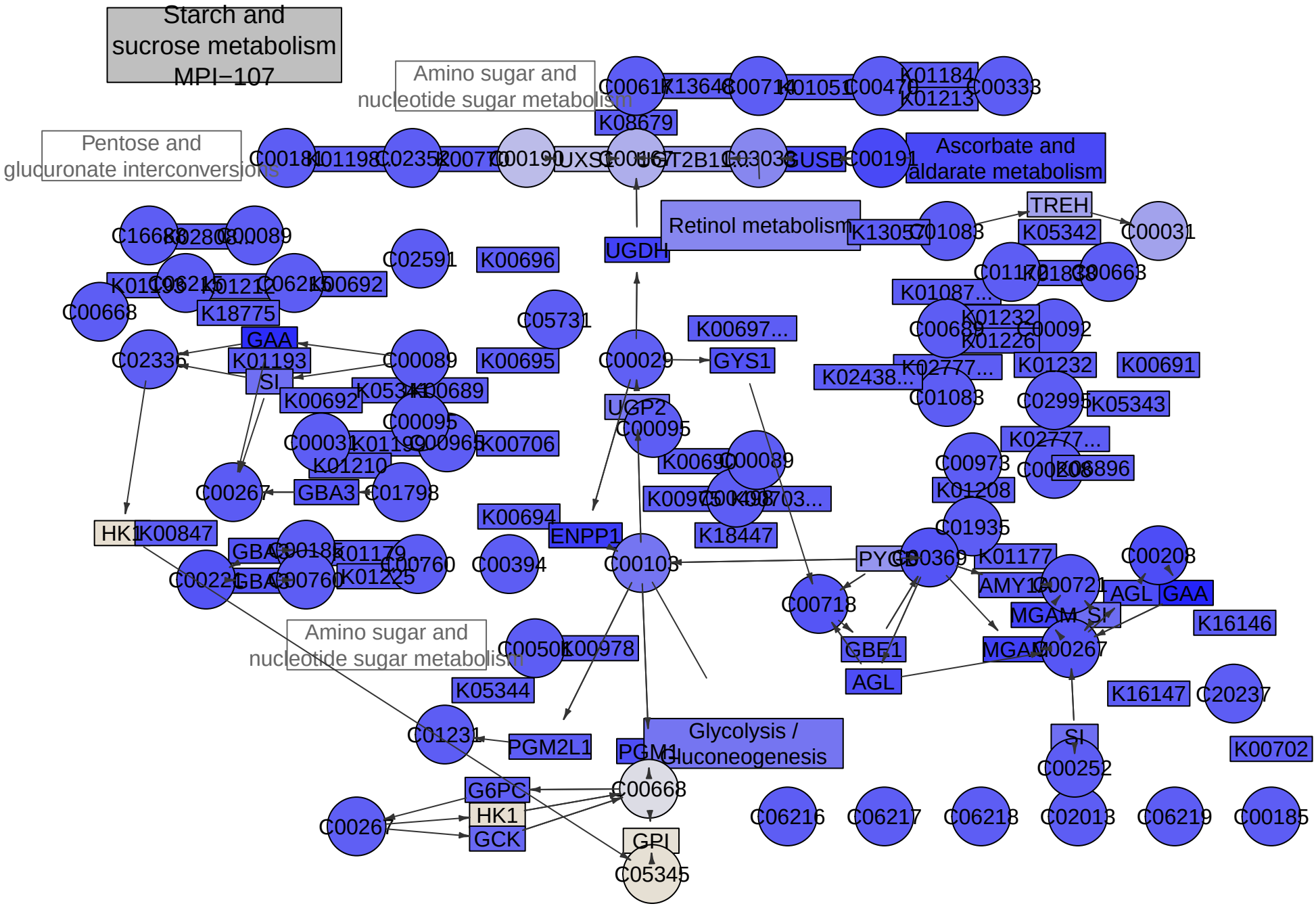
C00185


Starch and sucrose metabolism MPI−107
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00697...
GYS1
C00029
K02438...
K01232
K00691
K05343
C02995
K02777...
K01226
C00092
K01087...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
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C00760
K01225
K18447
K01179
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
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K05344
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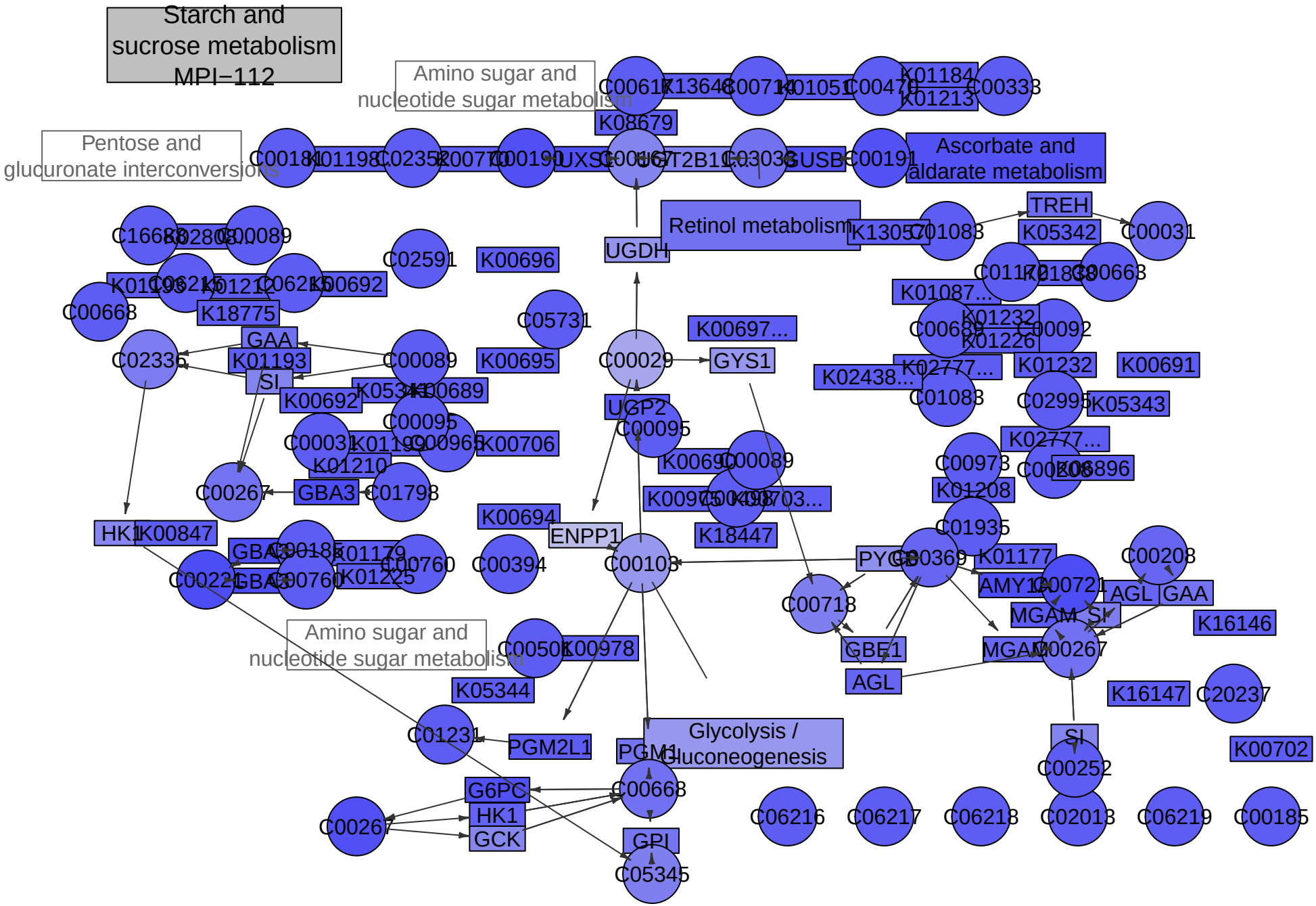
Starch and sucrose metabolism MPI−112
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K18775
GAA
K01193
C02336
SI
K00692
C00668
C05731
K00695
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
C00718
PYGB
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K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
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C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
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C06217
C06218
C02013
C06219
C00185
C00252
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K02777...
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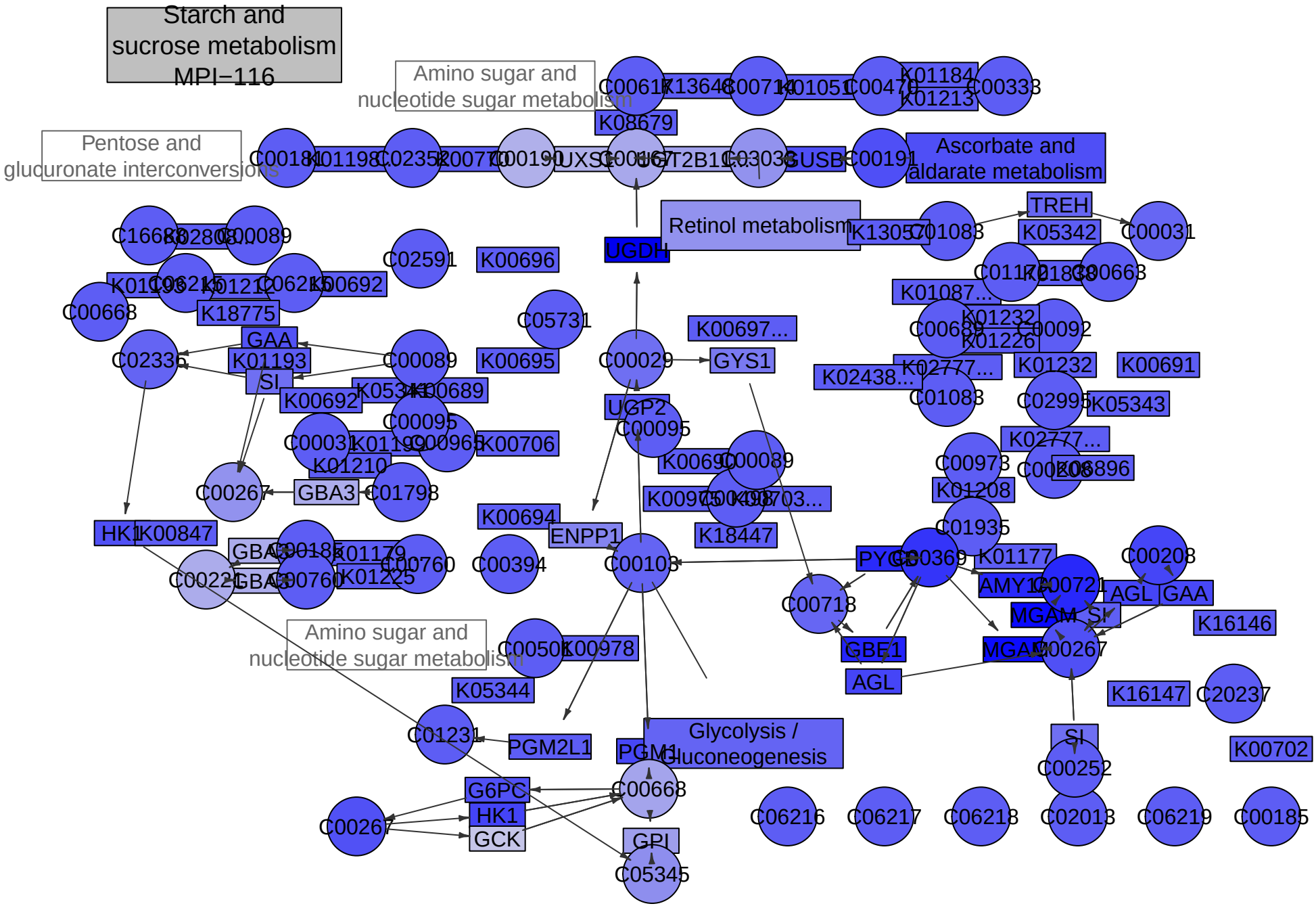
Starch and sucrose metabolism MPI−116
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
TREH
K05342
C00031
K00696
C02591
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00692
K00689
K00697...
GYS1
C00029
UGP2
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K00706
K01210
GBA3
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HK1
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K00694
ENPP1
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K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
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C00718
GBE1
AGL
PYGB
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AMY1A
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MGAM
MGAM
C00267
K16146
K16147
C20237
C00252
K00702
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C06217
C06218
C02013
C06219
C00185
K01087...
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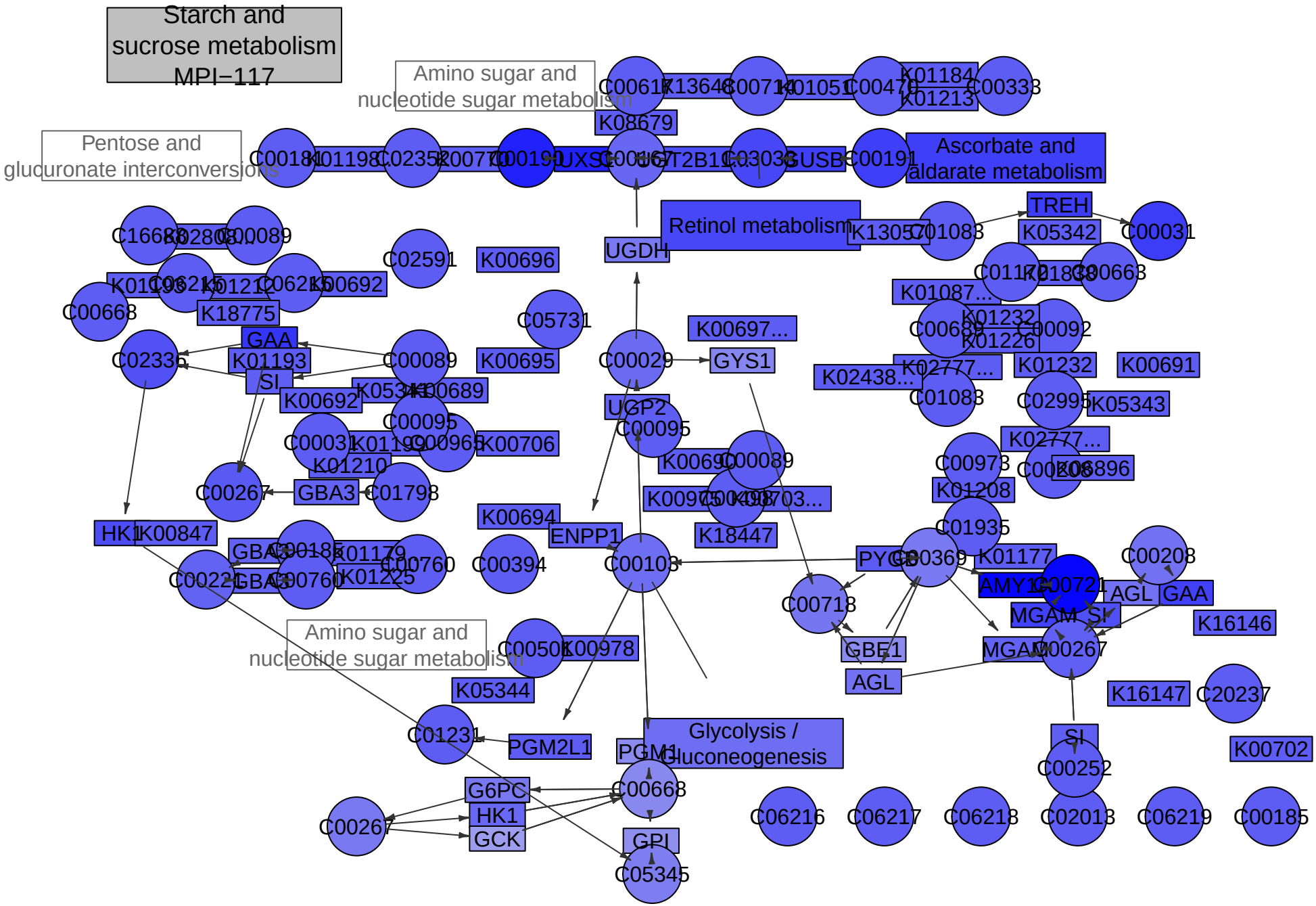
Starch and sucrose metabolism MPI−117
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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C00089
C02591
K00696
C00668
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C00029
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UGP2
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K00706
K01210
C00267
GBA3
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C00394
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K01232
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K02777...
K01232
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MGAM
SI
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AGL
K16147
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PGM1
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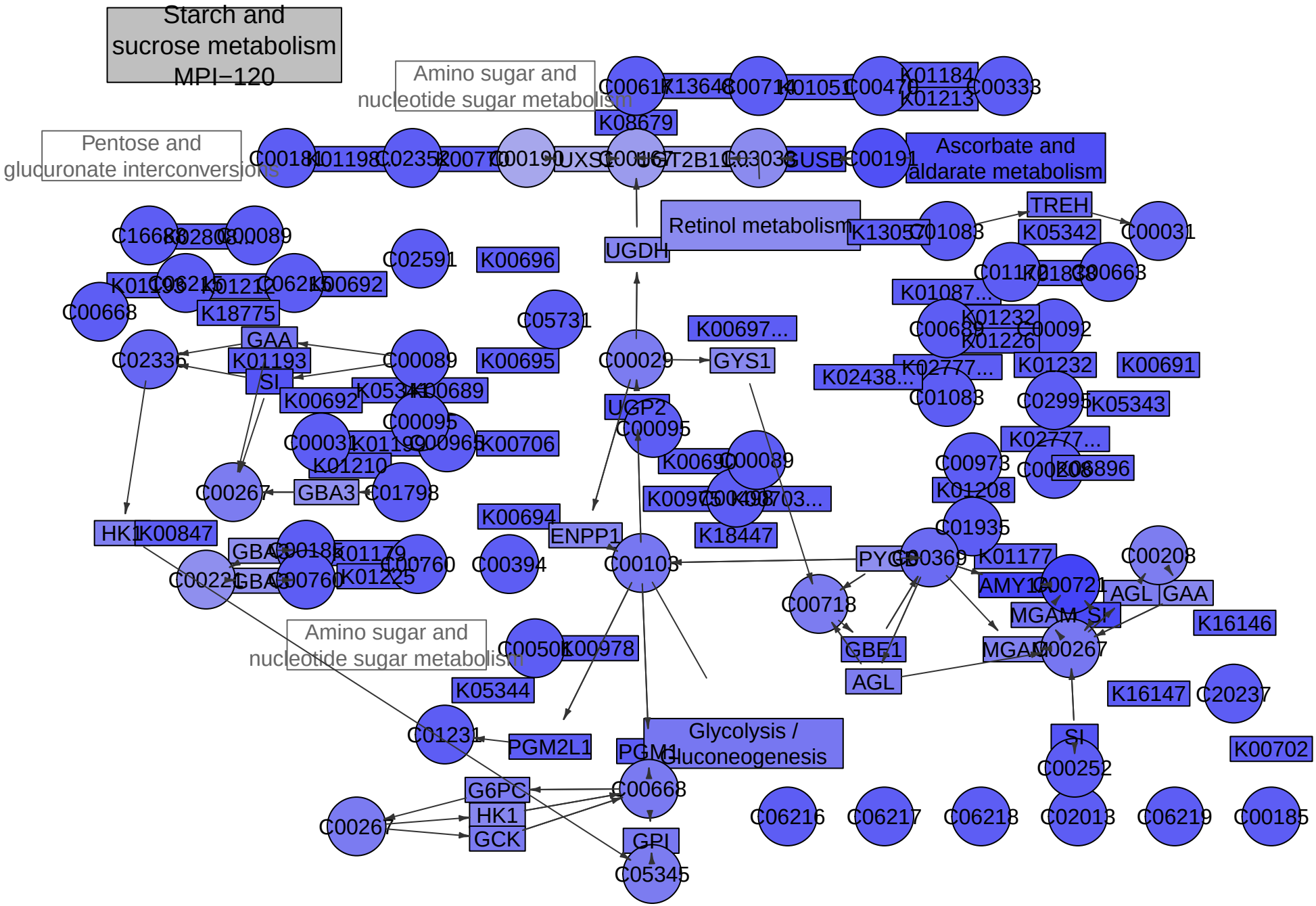
Starch and sucrose metabolism MPI−120
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11...
GUSB
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K01213
C00333
TREH
K05342
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C02591
K00696
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C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
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UGP2
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C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
MGAM
C00267
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
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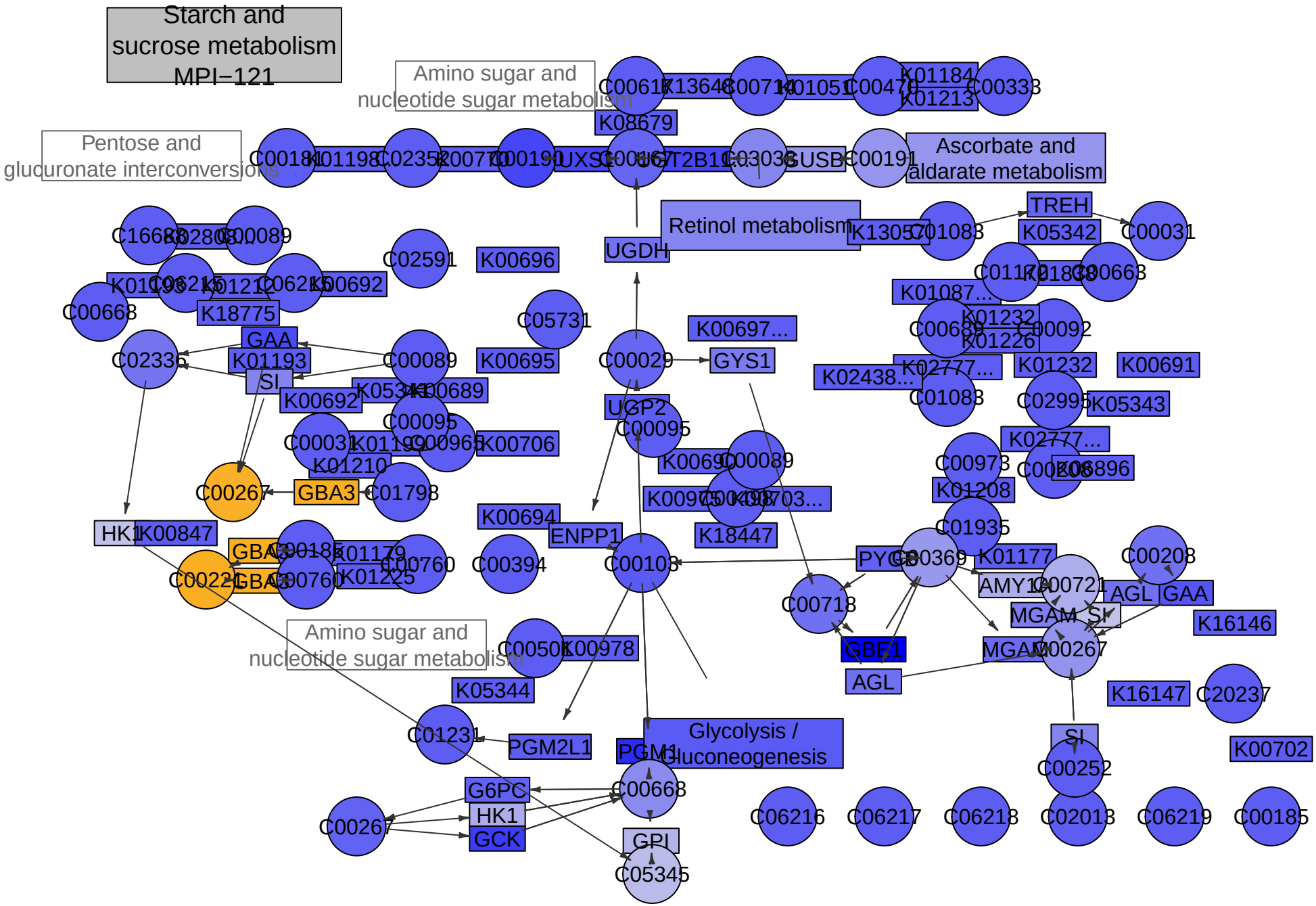
C00185


Starch and sucrose metabolism MPI−121
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UXS
UGT2B11
GUSB
TREH
K05342
C00031
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
K00692
C05731
K00695
C00089
K00697...
GYS1
K01232
K01226
K00691
K02438...
K02777...
C01083
C02995
K05343
UGP2
C00095
K00706
K01210
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GBA3
C01798
HK1
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ENPP1
K18447
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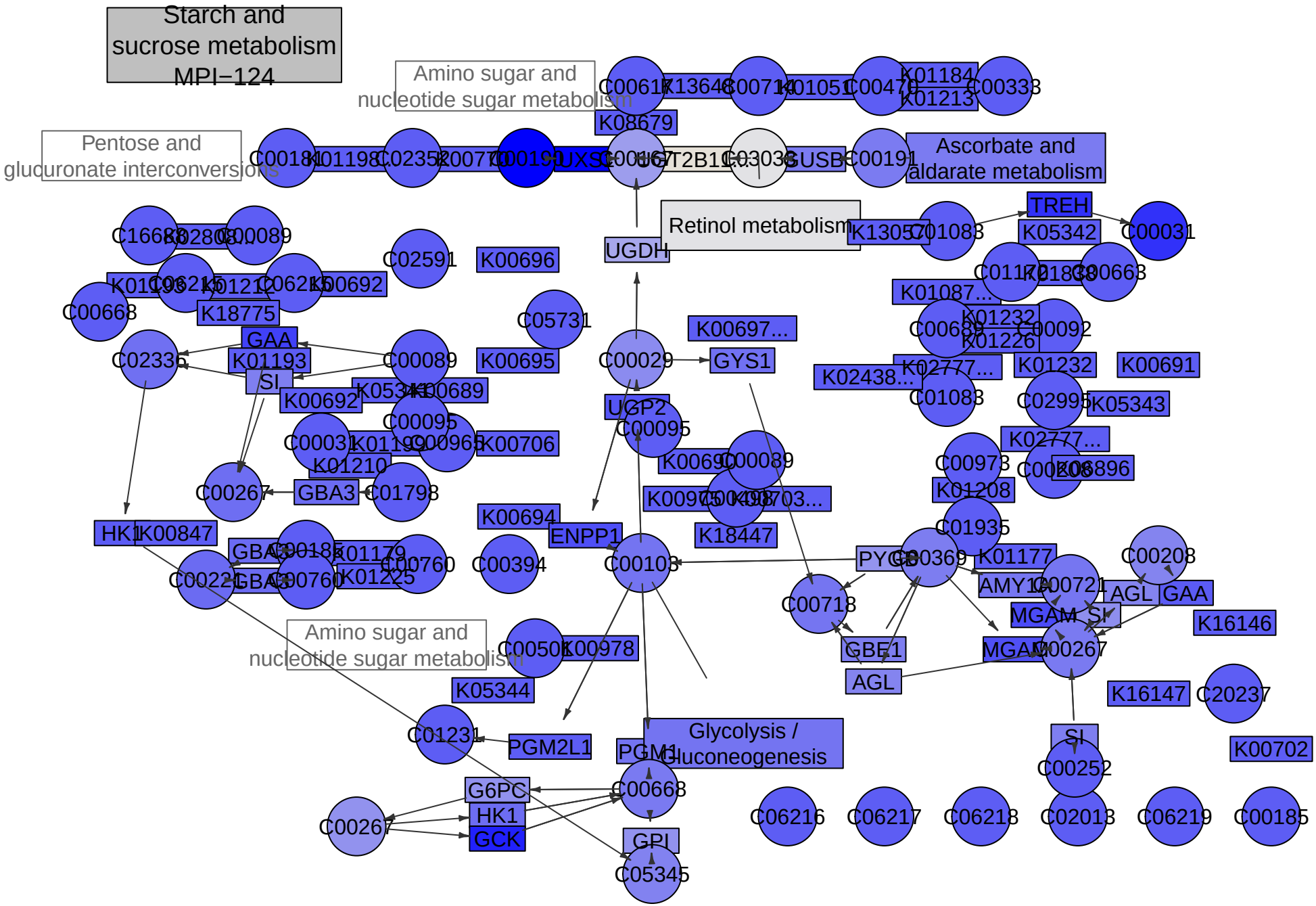
Starch and sucrose metabolism MPI−124
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
K01193
C02336
SI
C00089
K00695
C05731
C00029
GYS1
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GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
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K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00267
GPI
C05345
C00668
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K02777...
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K05343
K02777...
K01208
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MGAM
SI
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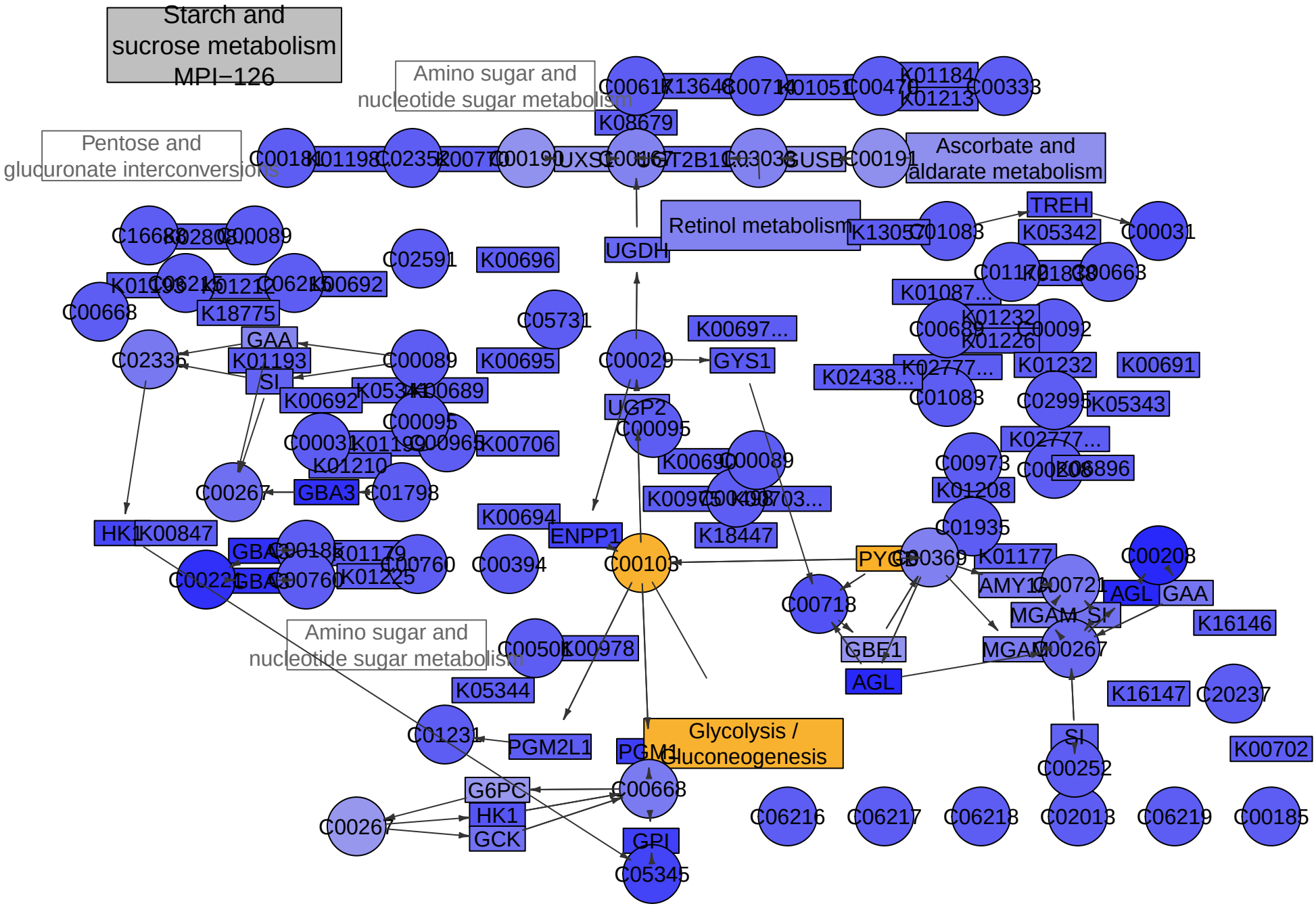
Starch and sucrose metabolism MPI−126
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
SI
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
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K00694
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C00760
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K00692
C00668
C02336
K01193
SI
K00689
C00095
C00031
K01199
C00965
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
GBA
C00185
K01179
C00760
K01225
C00221
GBA
C00760
C00394
C00103
C00718
GBE1
AGL
C00252
C06216
C06217
C06218
C02013
C06219
C00185
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C01231
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C00668
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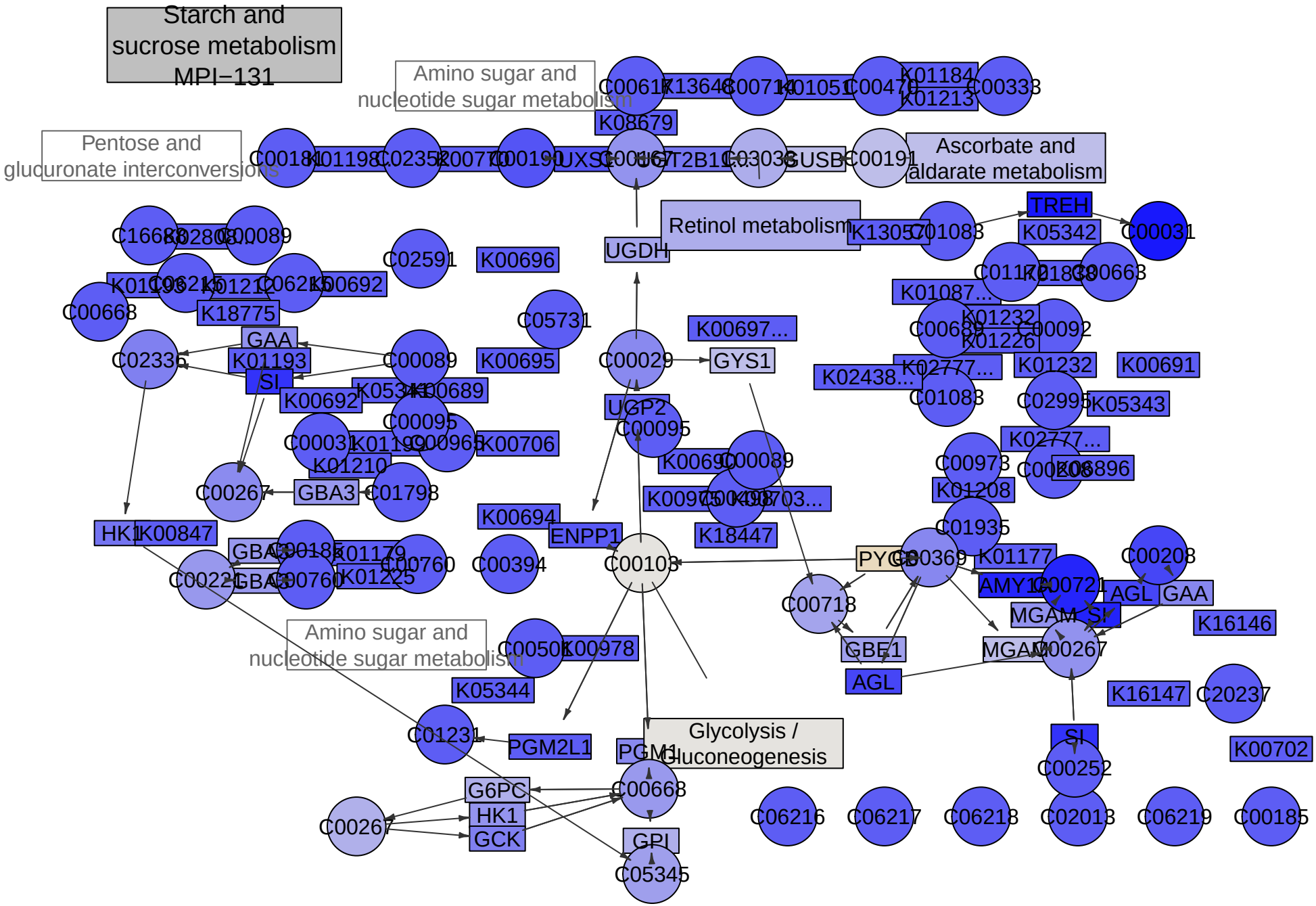
C00668


Starch and sucrose metabolism MPI−131
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01232
K01226
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
K18447
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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HK1
GCK
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GPI
C05345
C06216
C06217
C06218
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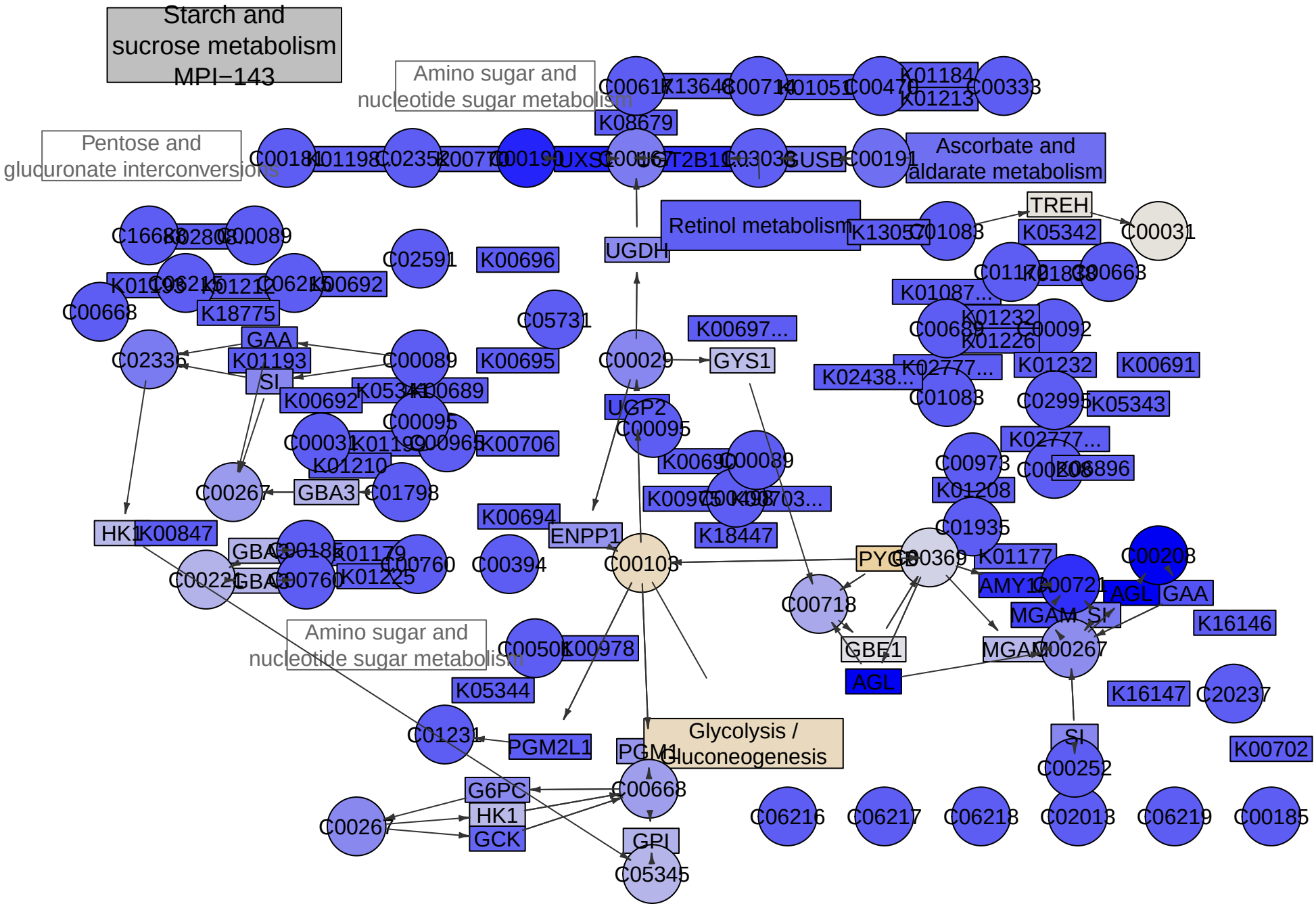
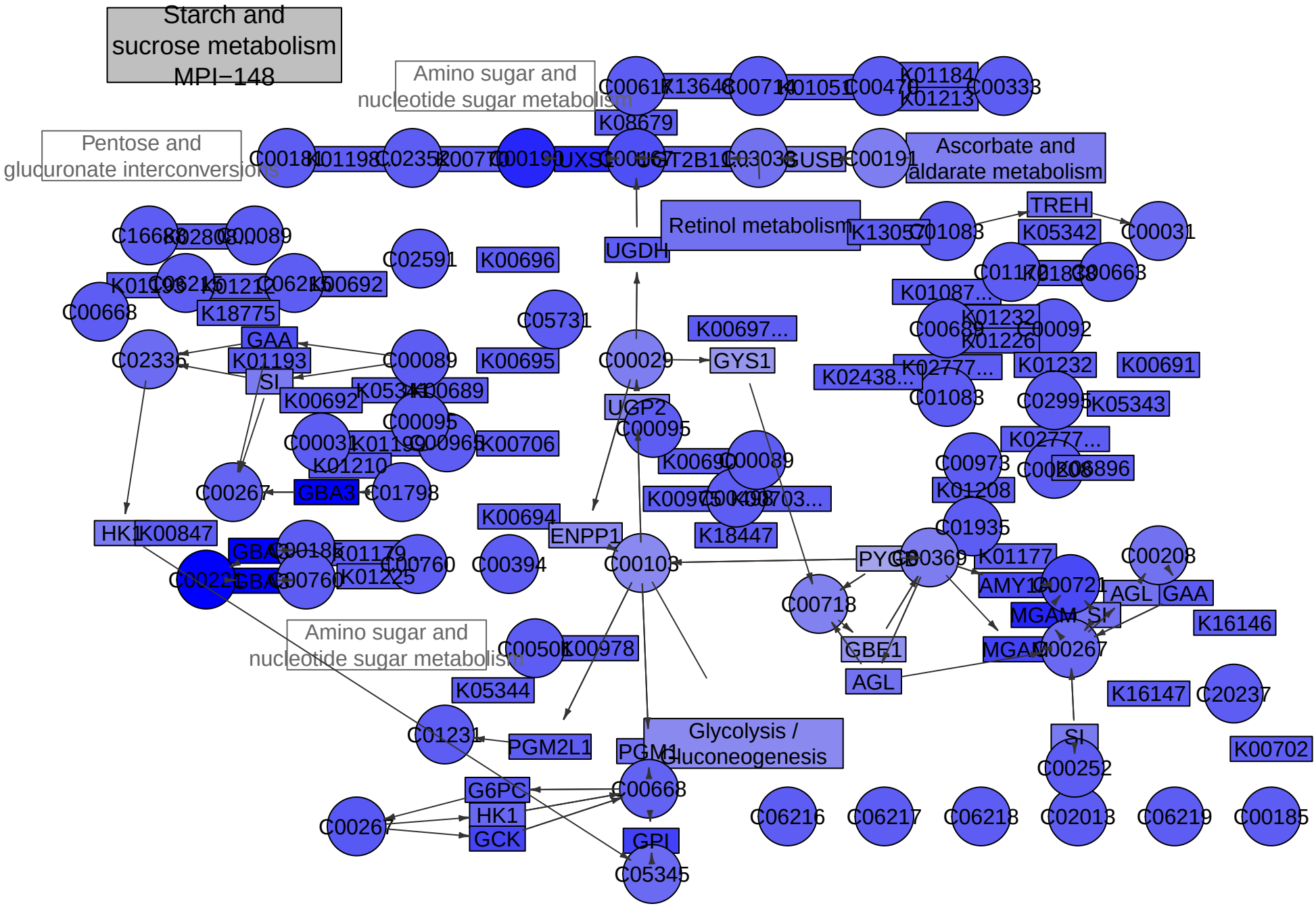
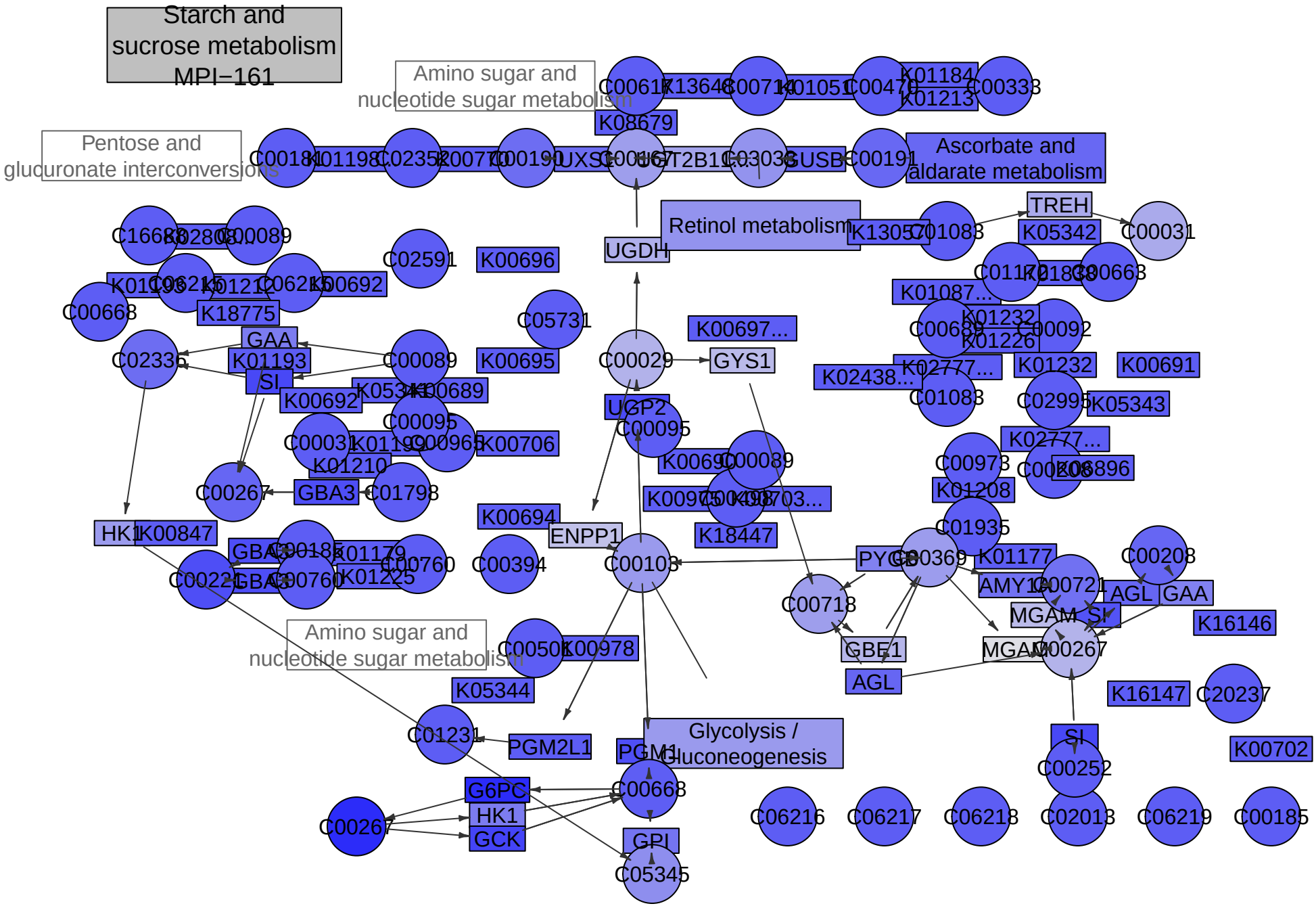
C06219
C00185


Starch and sucrose metabolism MPI−143
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K05343
K16146
K16147
K00702
C00031
C00668
C00267
C00103
C00718
C00252
C05345
C20237
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−148
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
SI
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
C00394
C00760
K01225
C00718
GBE1
AGL
MGAM
K16146
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
C00252
K16147
C20237
K00702


Starch and sucrose metabolism MPI−161
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00029
GYS1
K00697...
K01232
K01226
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
UGP2
C00095
K00692
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
K18447
C01935
K01208
C00208
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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C00267
GPI
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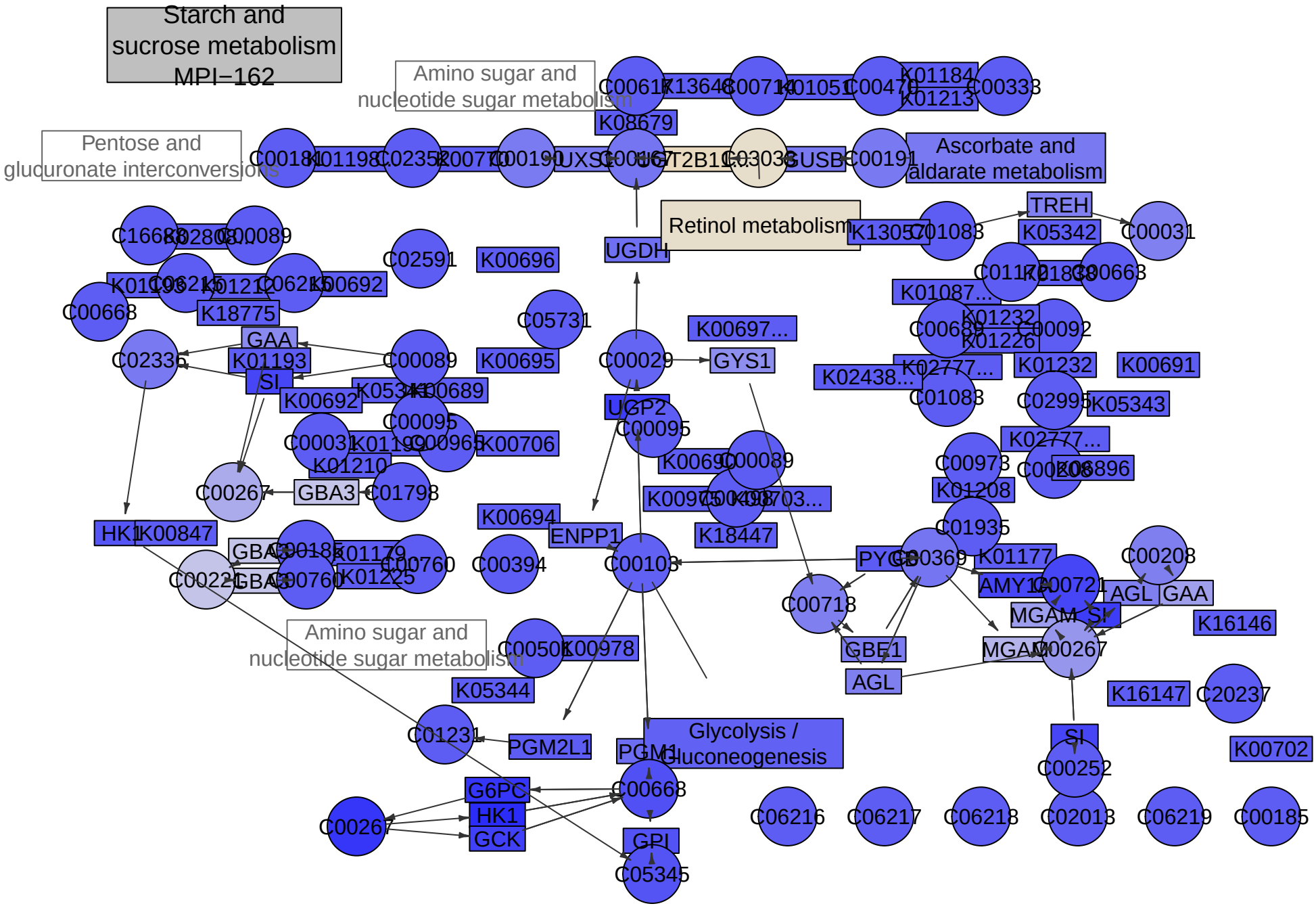
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−162
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C02336
C00668
C05731
K00695
C00089
K00692
K00689
K00697...
GYS1
C00029
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
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GPI
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C06219
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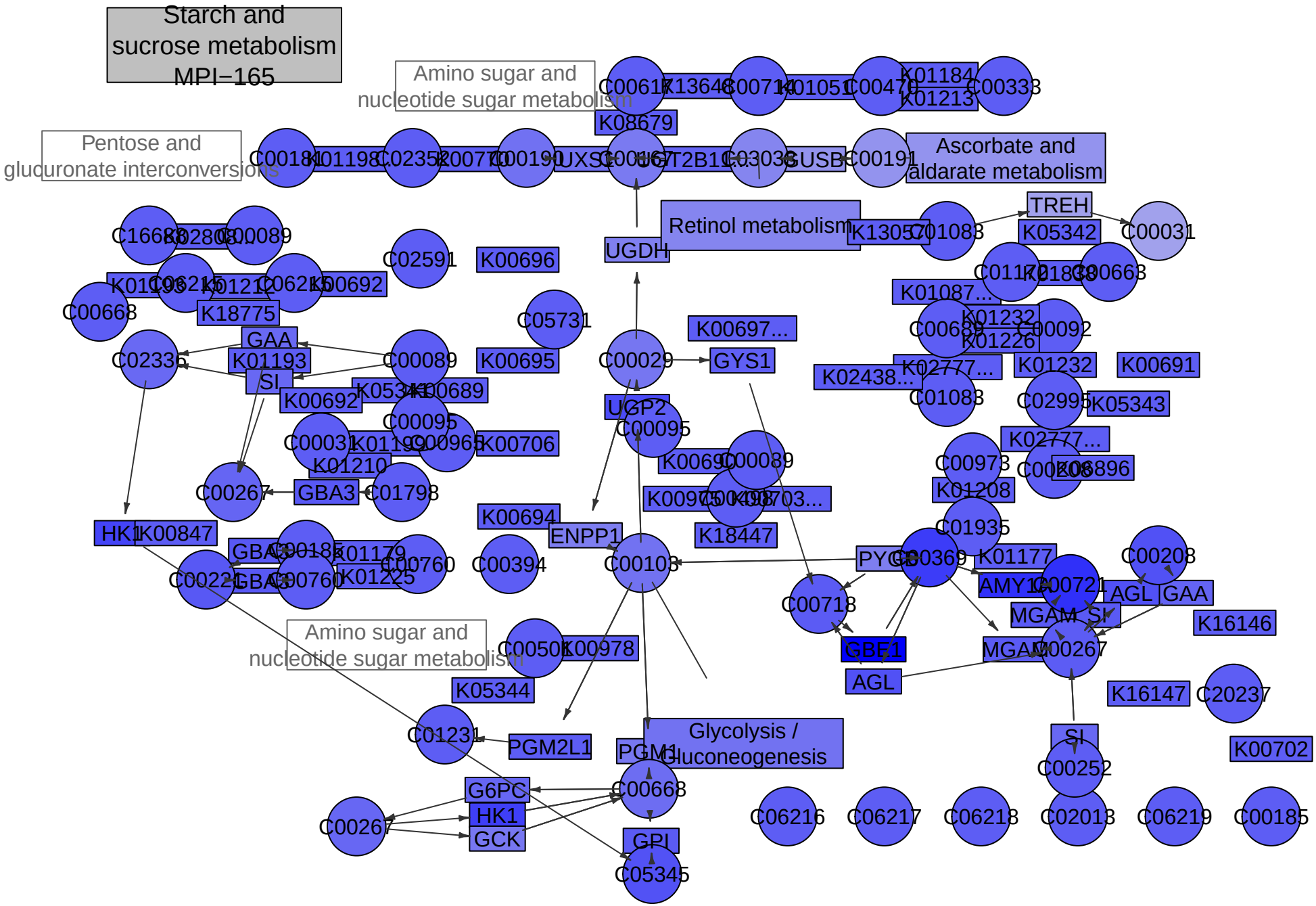
Starch and sucrose metabolism MPI−165
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C00089
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
K18447
C01935
C00973
K01208
K06896
HK1
K00847
C00760
C00394
K01179
K01225
C00718
PYG
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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GPI
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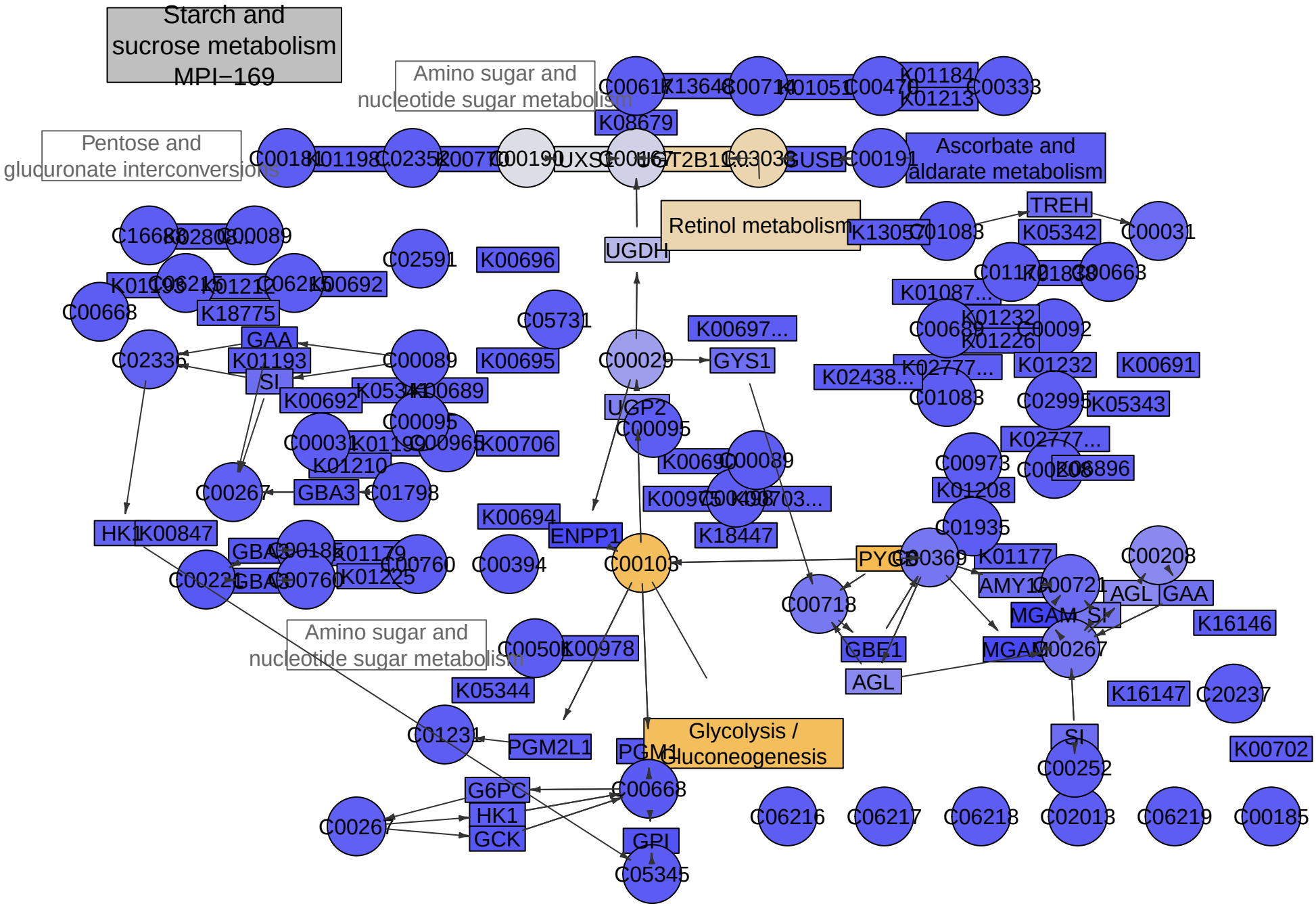
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−169
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K01232
K01226
K01087...
K02777...
K05343
K00691
K01208
K16146
K16147
K00702
C00031
C00668
C00089
C00095
C00029
C00103
C00267
C00718
C00252
C00185
C00208
C20237
C06216
C06217
C06218
C02013
C06219
C05345
C01231
C00394
C00760
C00692
K00696
K00695
K00706
K18775
K01193
K01210
K01179
K01225
K00847
K00694
K00978
K05344
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K01184
K01213
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K00973
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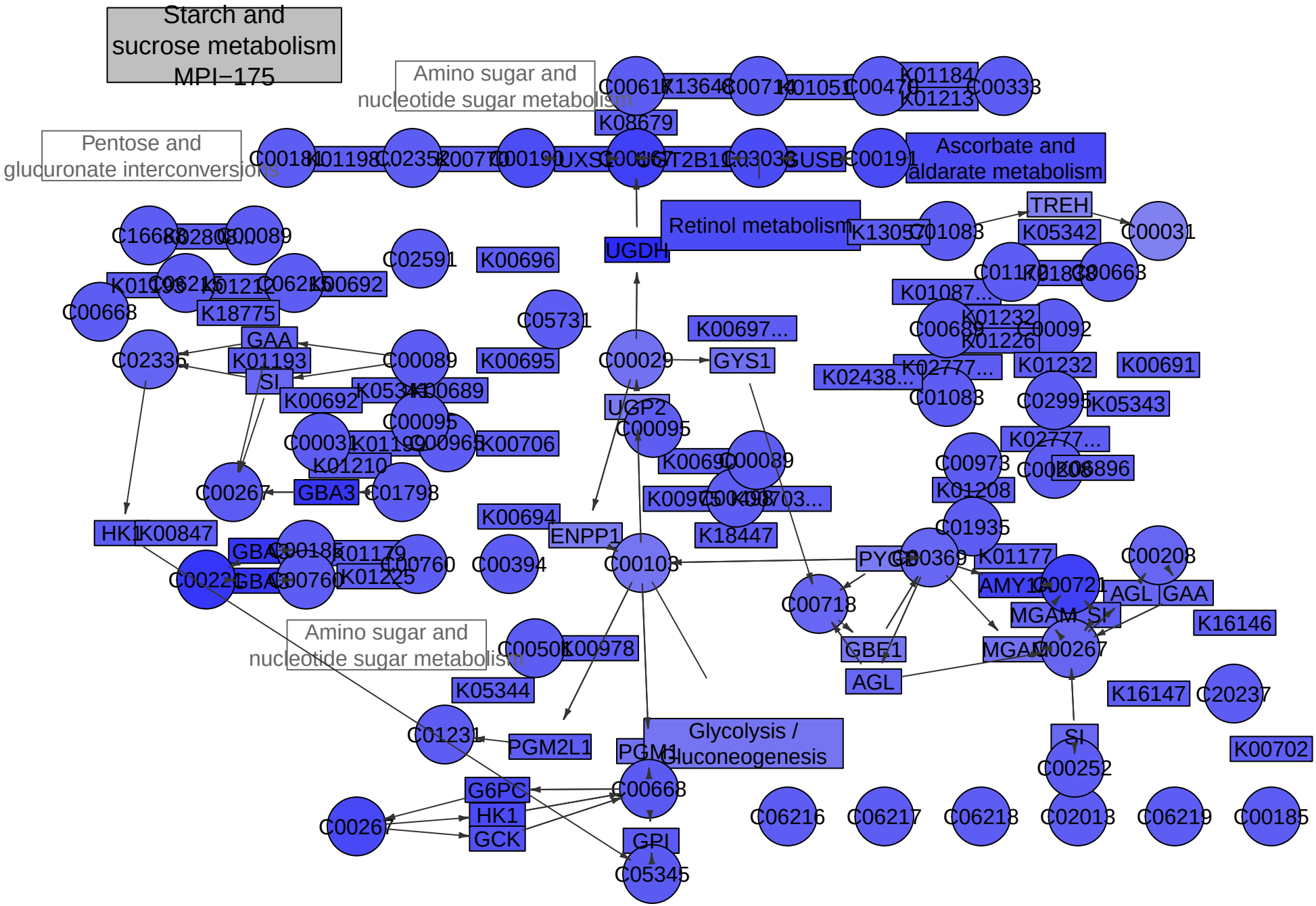
K00267
K00702


Starch and sucrose metabolism MPI−175
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
C02336
K01193
C00089
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00108
C00394
C00760
K01225
K18447
C01935
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
K00978
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
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HK1
GCK
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GPI
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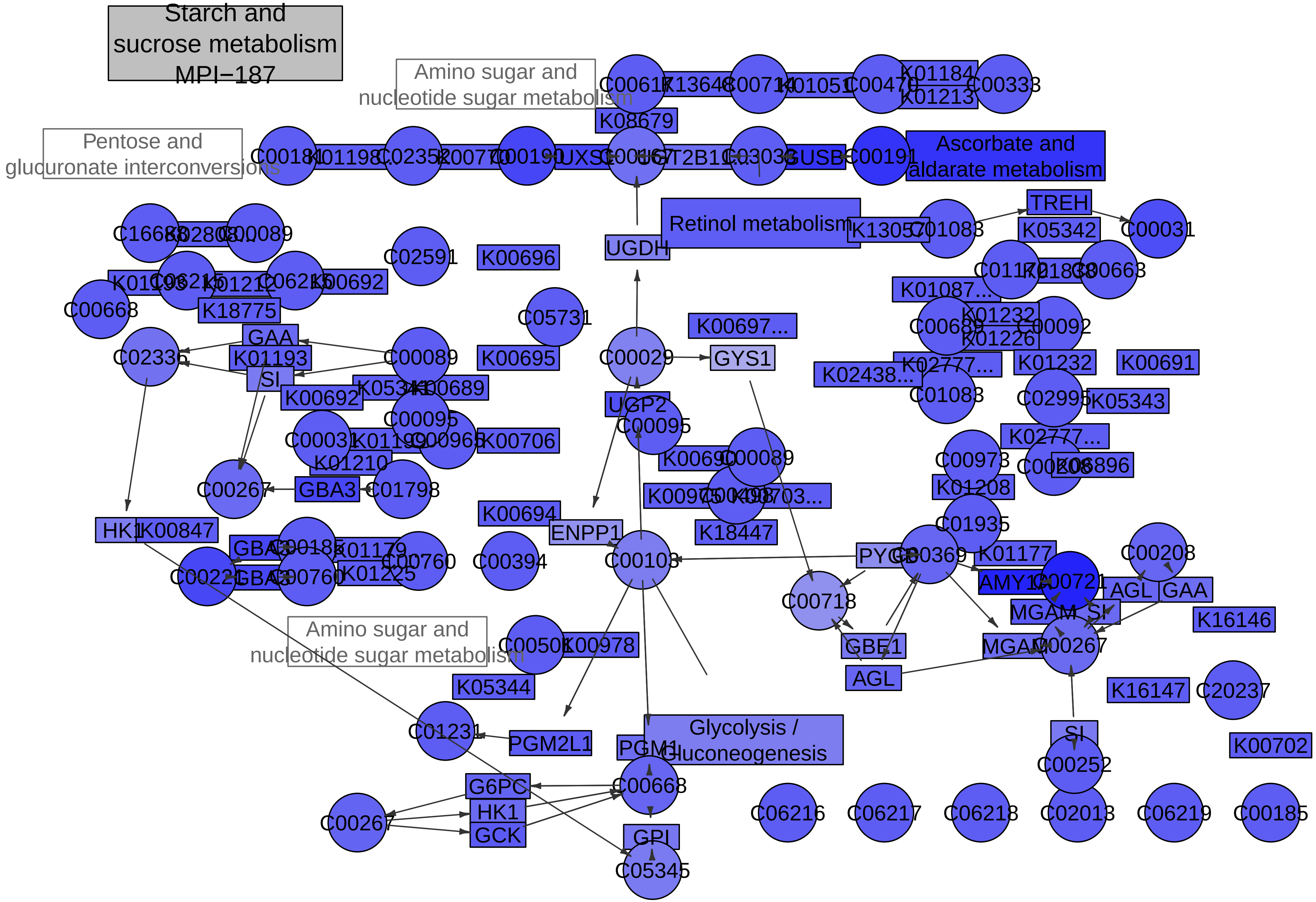
C06217
C06218
C02013
C06219
C00185



Starch and sucrose metabolism MPI−187
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
K08679
UXS1
GUSB
C00191
TREH
K05342
C00031
C01083
K01087...
K00697...
GYS1
C00029
UGDH
UGP2
K00696
K00695
K00691
K01232
K05343
K02438...
K02777...
C02591
C05731
C00668
C02336
GAA
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SI
K00692
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C00089
C00095
K00706
K01210
GBA3
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C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
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K01208
C01935
C00208
PYGB
AMY1
C00721
AGL
MGAM
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K16147
C20237
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K01225
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K00978
K05344
C01231
PGM2L1
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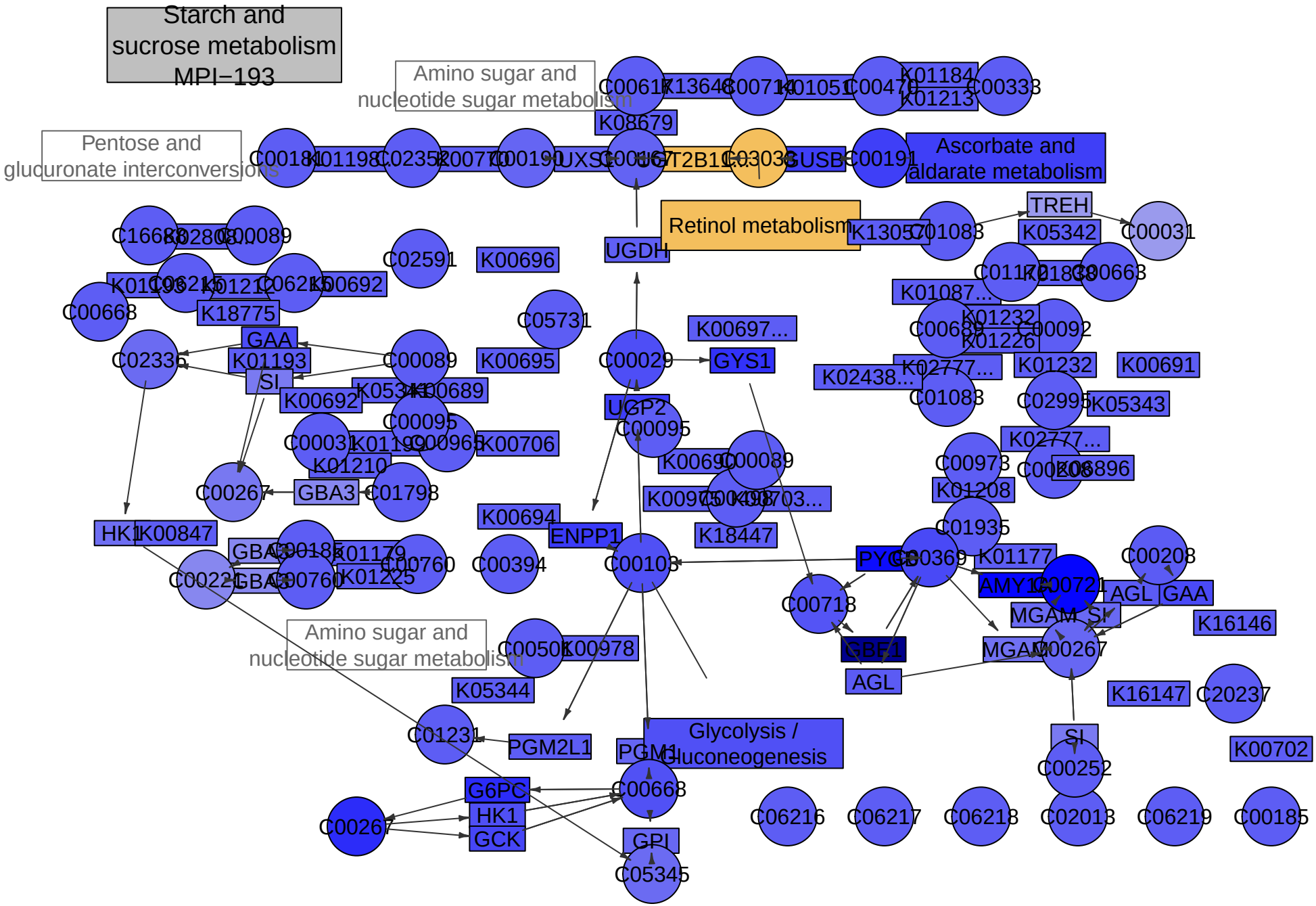
C00185


Starch and sucrose metabolism MPI−193
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K01184
K01213
C00333
C00191
C02591
K00696
C05731
K00697...
GYS1
K01087...
K01232
K01226
C00092
K01232
K00691
K02438...
K02777...
K05343
K18775
GAA
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C00029
SI
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UGP2
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K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00394
C00103
PYGB
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
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GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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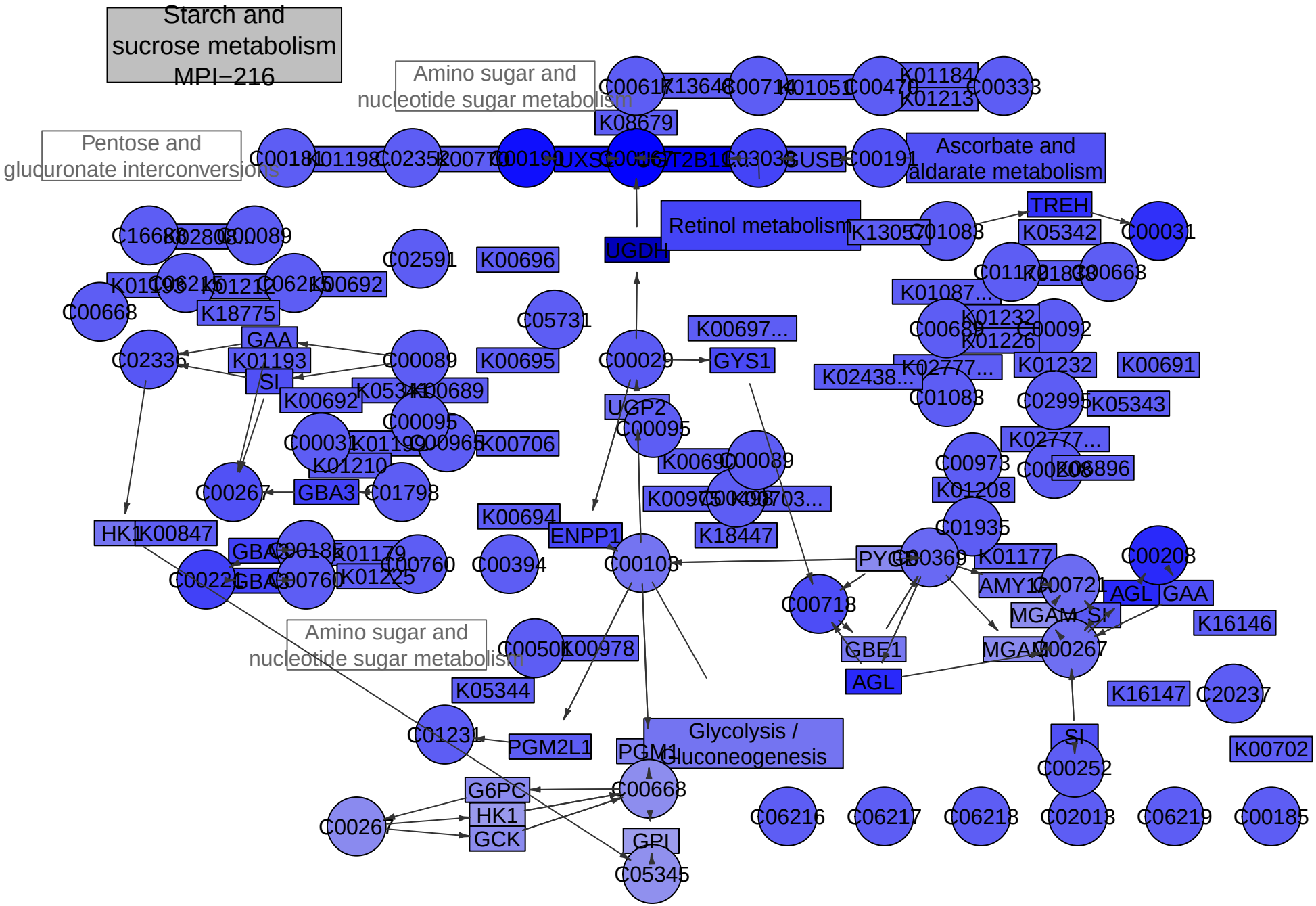
C06219
C00185


Starch and sucrose metabolism MPI−216
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
K01193
C02336
SI
K00692
C05731
K00695
C00029
GYS1
K00697...
UGP2
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K00706
K01210
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GBA3
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HK1
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K00694
ENPP1
C00103
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K18447
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AGL
GAA
MGAM
SI
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C00718
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
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C06216
C06217
C06218
C02013
C06219
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K01232
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PYGB
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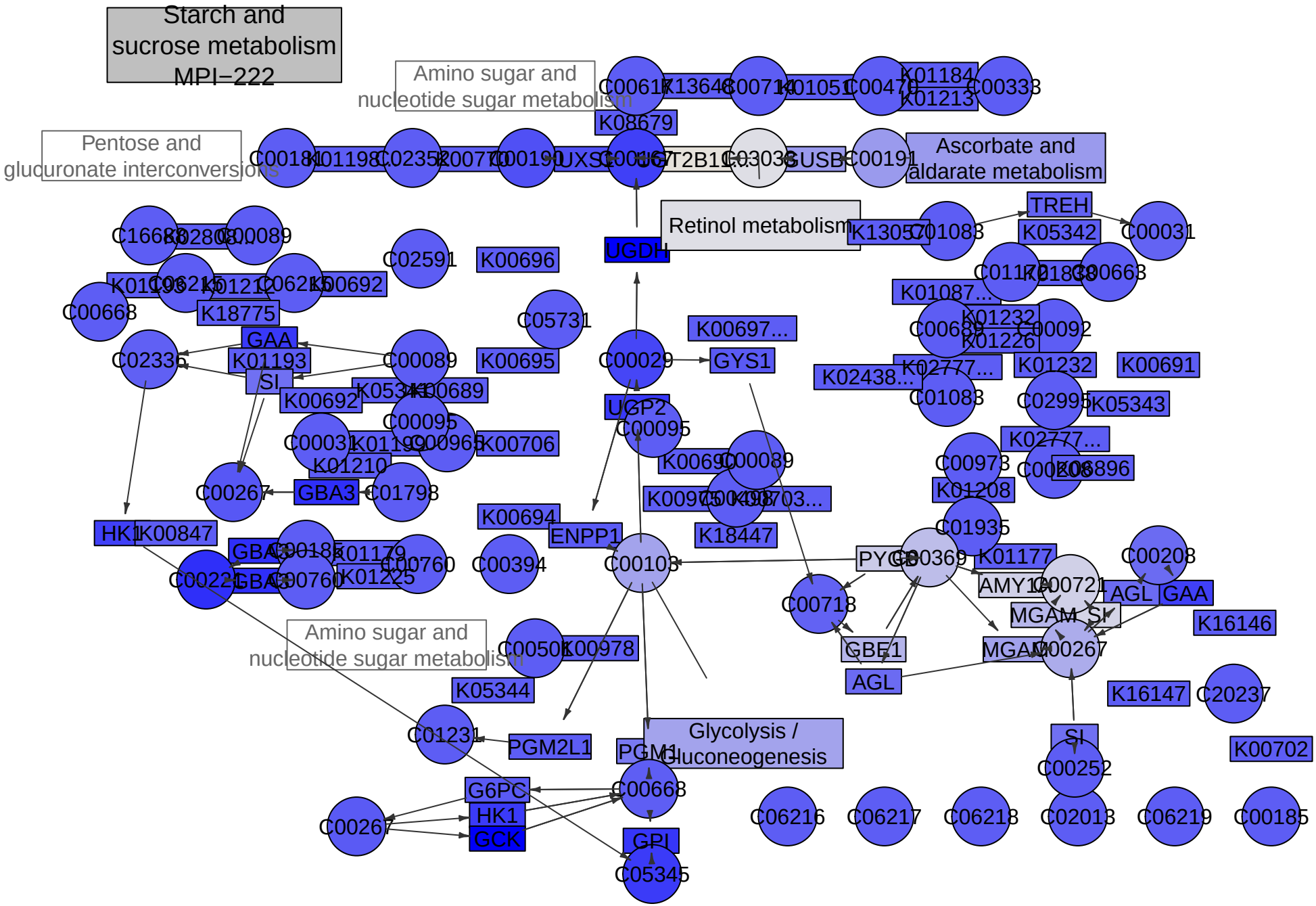
C00267


Starch and sucrose metabolism MPI−222
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C02336
C00089
K00695
SI
K00692
K00689
C00095
C00031
K00965
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
GBA
C00185
K01179
C00760
K01225
C00224
C00394
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ENPP1
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PGM2L1
PGM1
G6PC
C00668
HK1
GCK
C00267
GPI
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GYS1
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UGP2
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K18447
K01087...
K01232
C00689
C00092
K01226
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
C00208
K06896
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
SI
C00252
K00702
C06216
C06217
C06218
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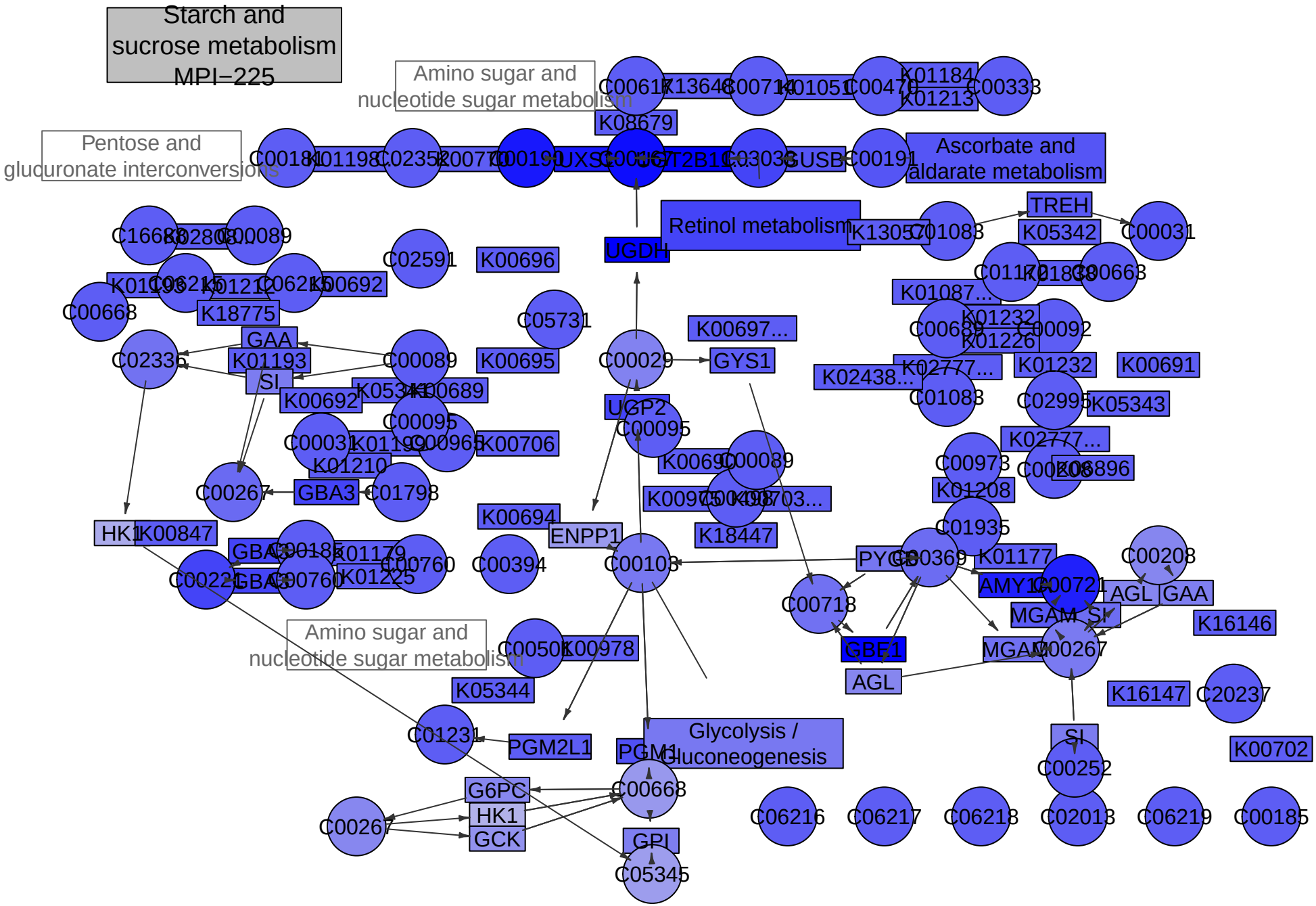
C00185


Starch and sucrose metabolism MPI−225
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K05343
K01232
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K16147
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K00697...
K00703...
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K01051
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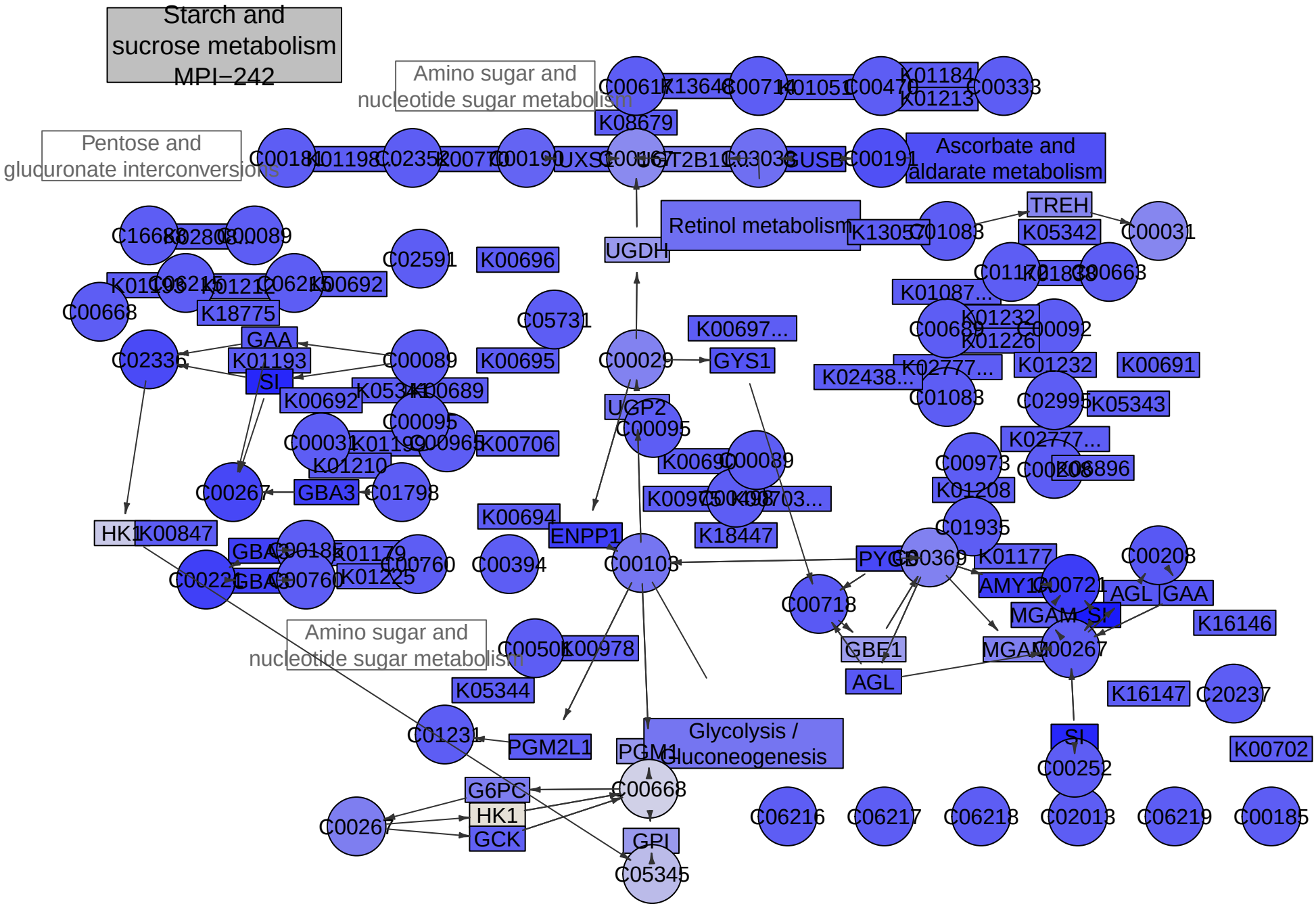
Starch and sucrose metabolism MPI−242
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
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C00029
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SI
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UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
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C00108
C00394
C00760
K01225
K01179
K18447
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PYGB
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C00208
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C00721
AGL
GAA
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SI
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GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
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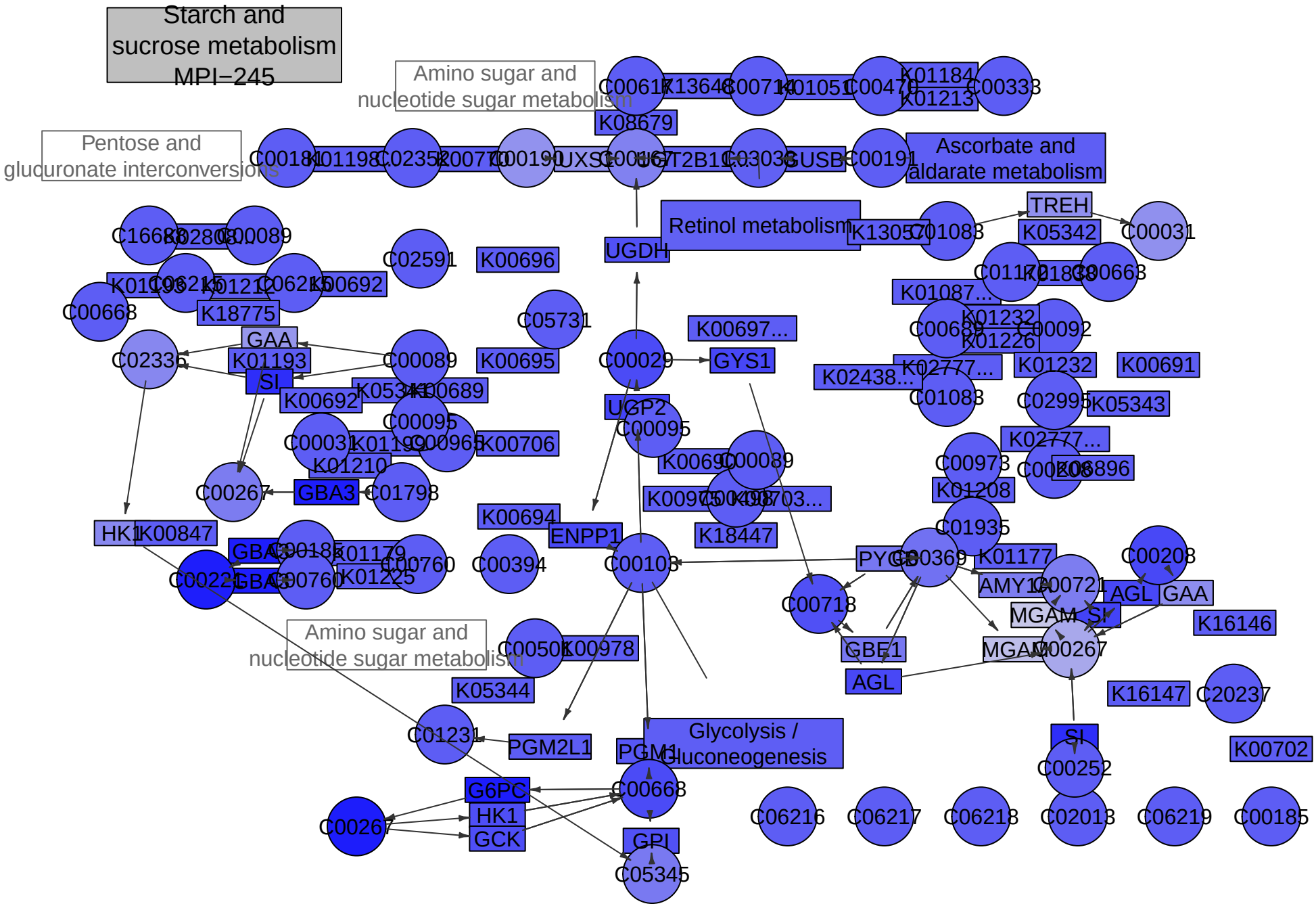
Starch and sucrose metabolism MPI−245
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
SI
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
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K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
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PGM1
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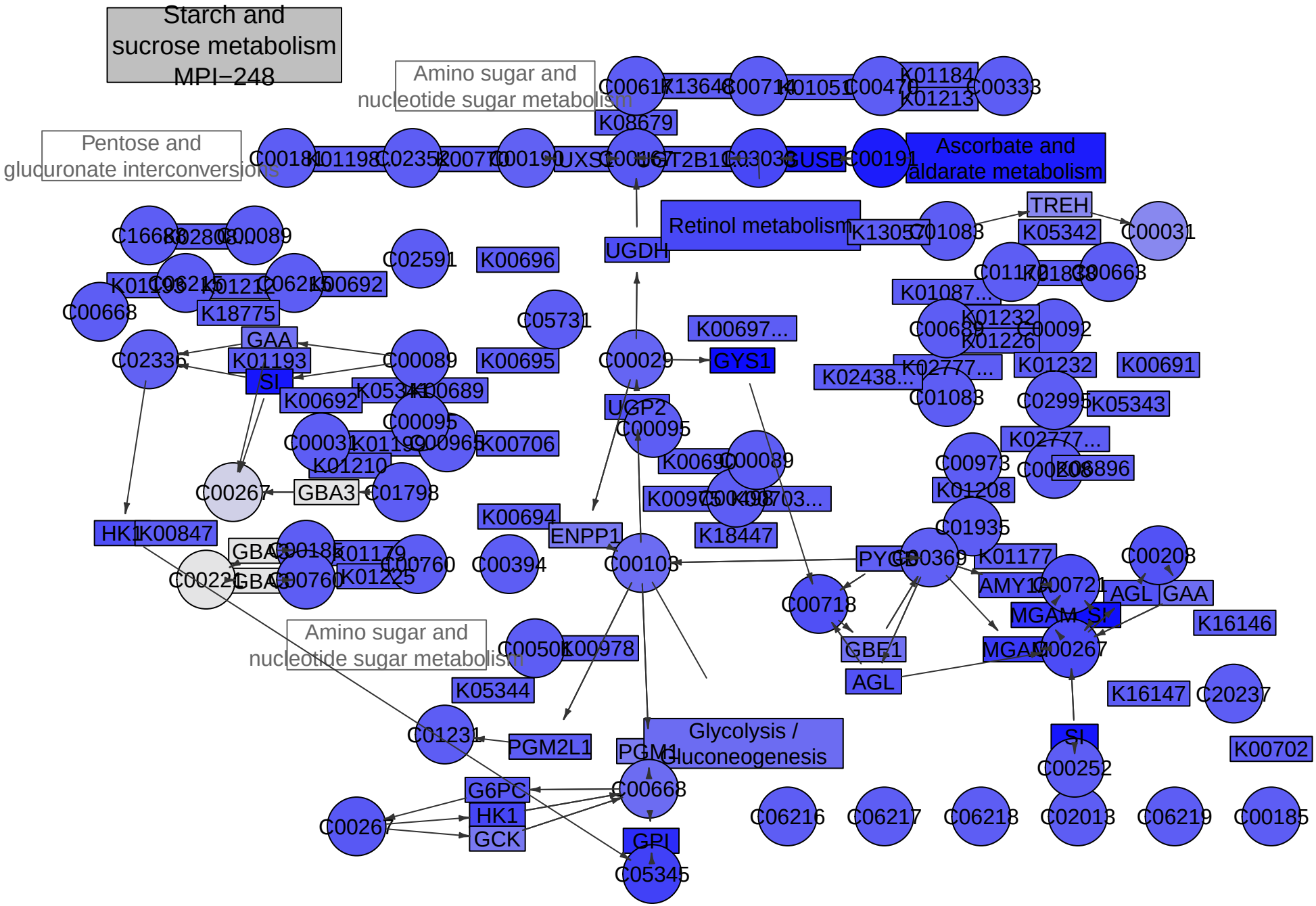
Starch and sucrose metabolism MPI−248
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C00668
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K00695
C00029
GYS1
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K00691
K00692
K00689
UGP2
C00095
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C00267
GBA3
C01798
HK1
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ENPP1
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PYGB
C00369
K01177
C00208
C00718
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C00721
AGL
GAA
MGAM
SI
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GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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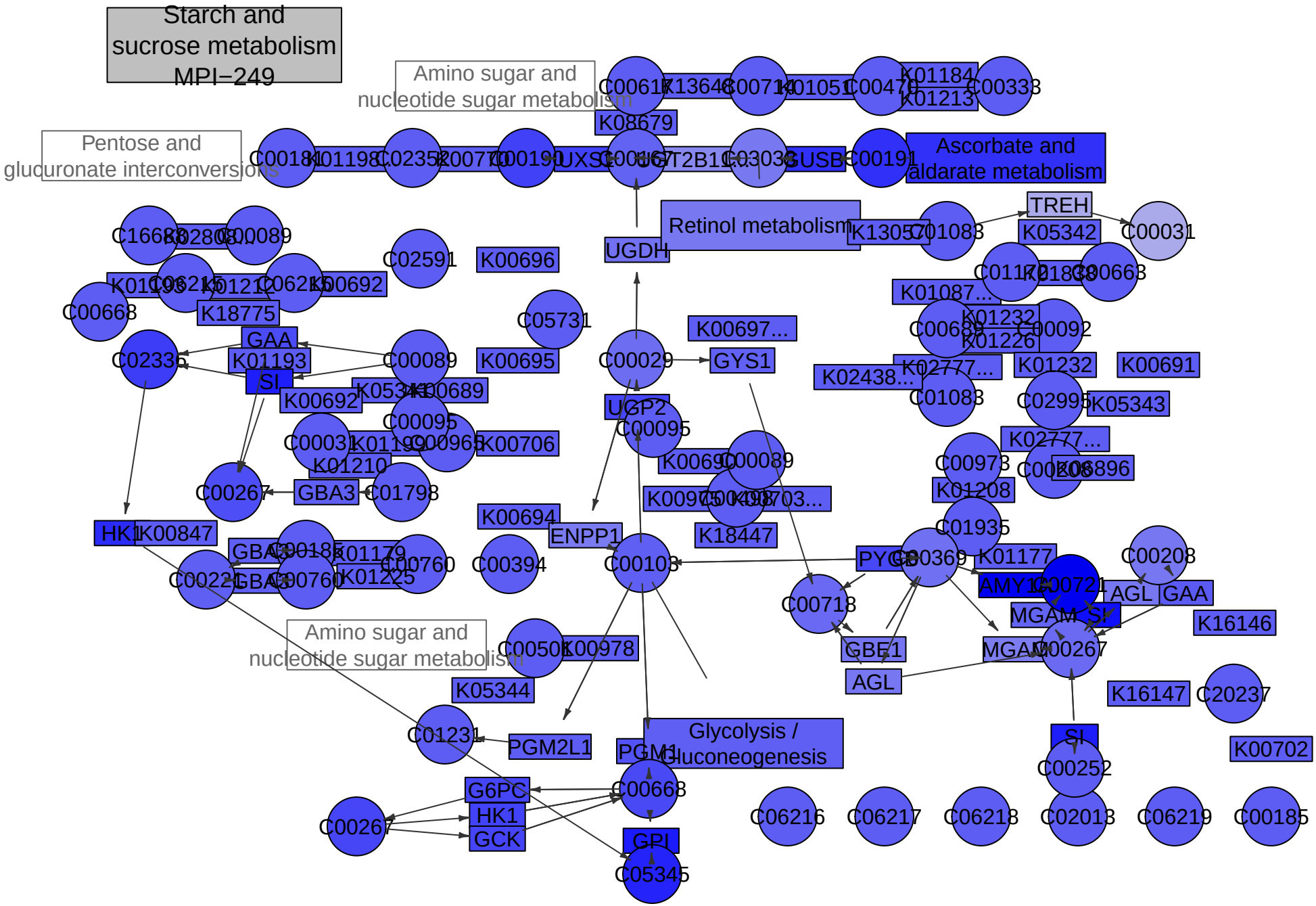
Starch and sucrose metabolism MPI−249
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
SI
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
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C00103
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
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GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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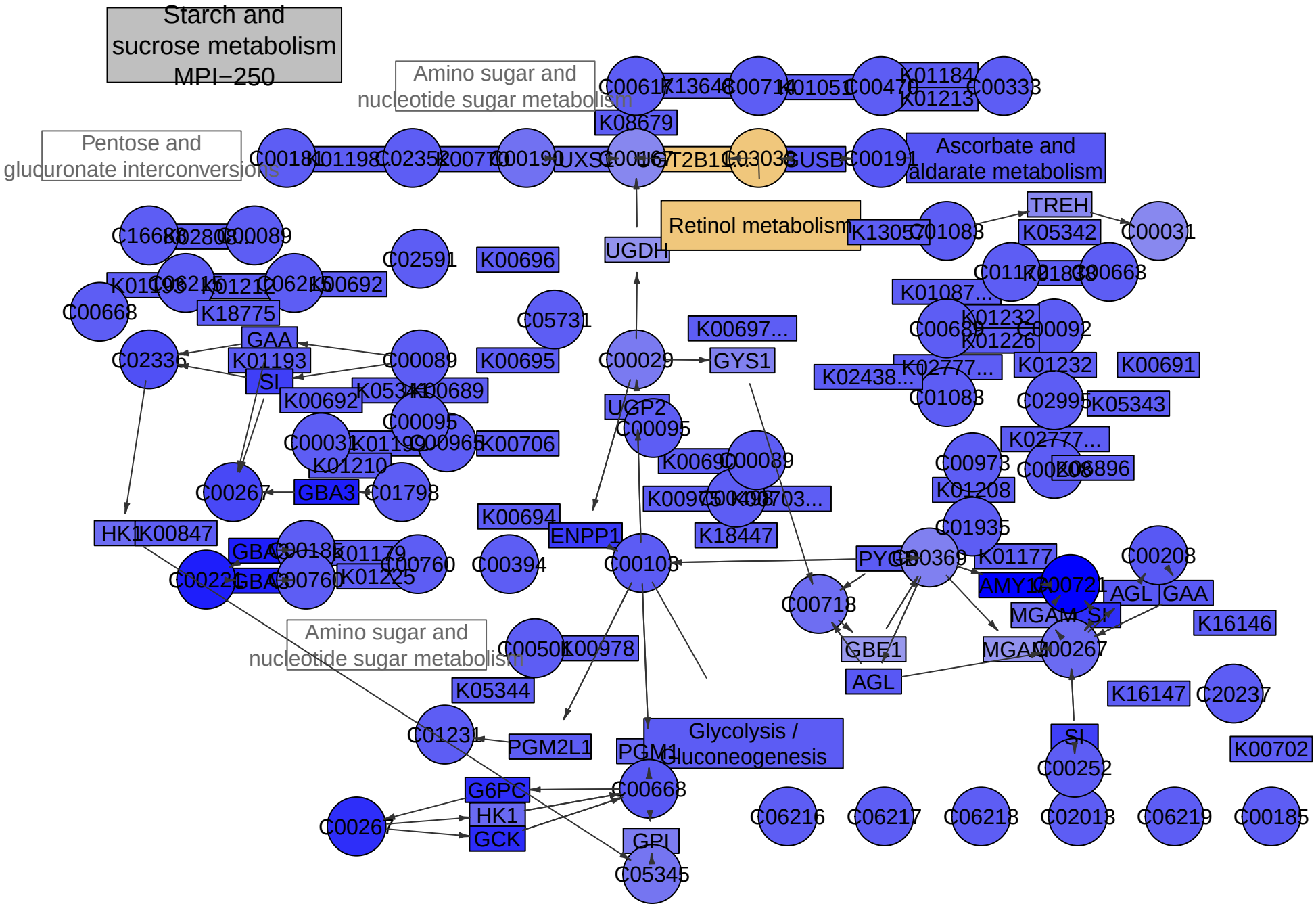
C00185


Starch and sucrose metabolism MPI−250
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS1
C00167
T2B1
C03036
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
C00089
K00695
C00029
GYS1
K00697...
C05731
K01087...
K01232
K01226
C00092
K01232
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K02777...
K02438...
C01083
C02995
K05343
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C00095
K00706
K01210
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GBA3
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ENPP1
K18447
C01935
K01208
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GAA
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GBE1
MGAM
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AGL
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PGM2L1
PGM1
SI
C00252
K00702
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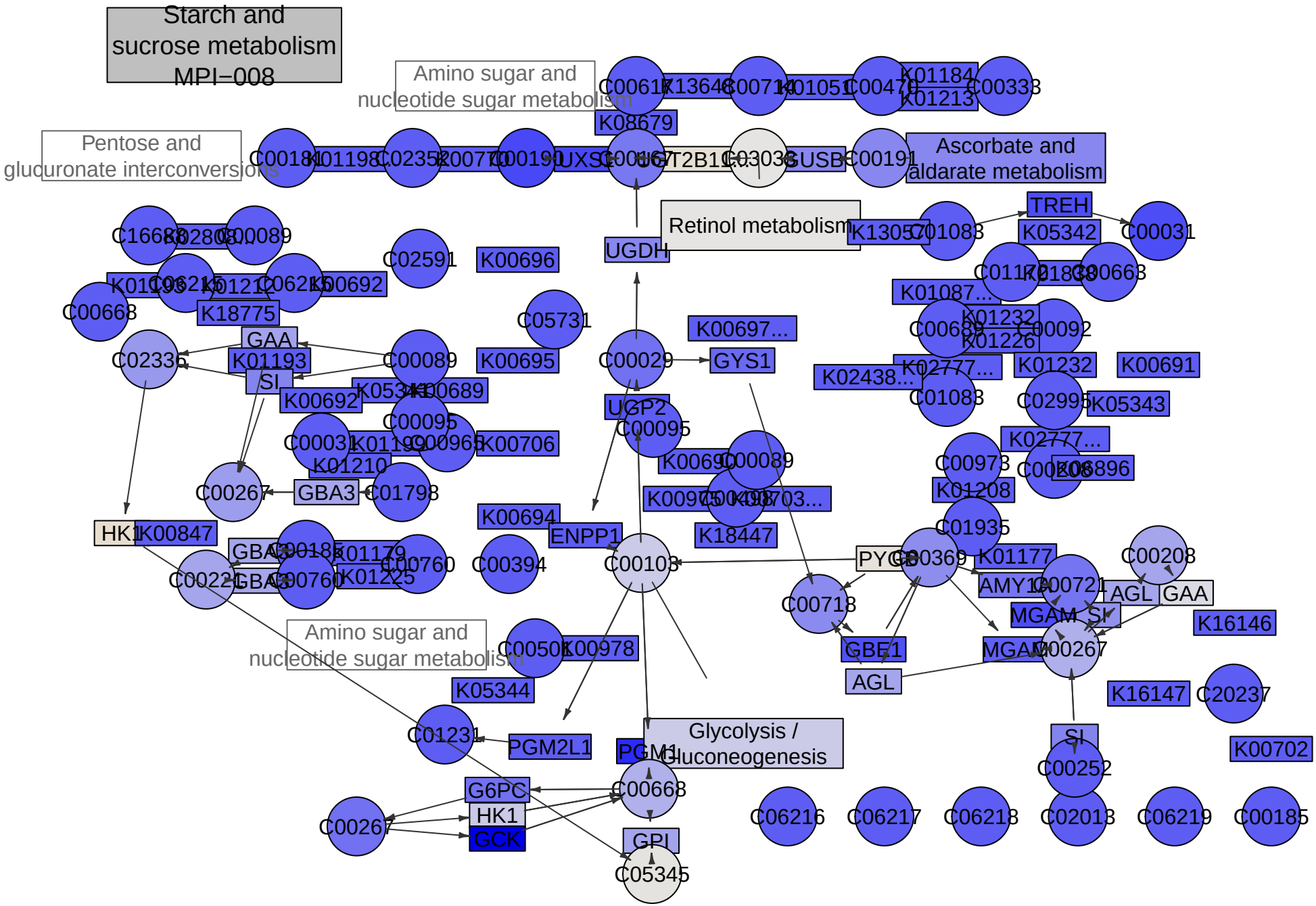
Starch and sucrose metabolism MPI−008
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
TREH
K05342
K00696
K00692
K00695
K00706
K18775
K01193
K00847
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PGM2L1
PGM1
G6PC
HK1
GCK
GPI
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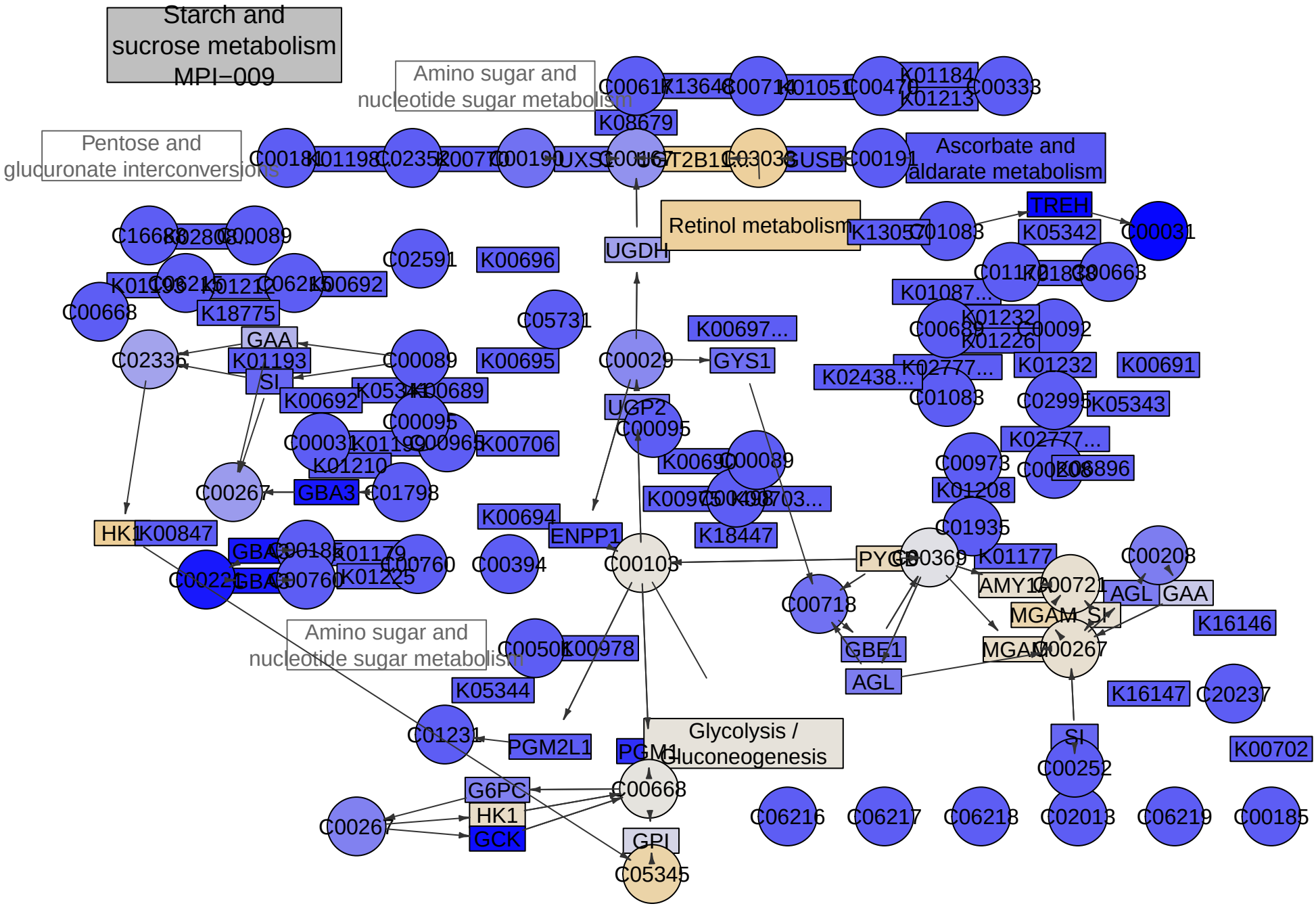
Starch and sucrose metabolism MPI−009
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00103
PYGB
C00369
C00718
GBE1
AGL
MGAM
SI
C00267
C00252
C05345
GPI
GCK
HK1
G6PC
C00668
PGM1
PGM2L1
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K05344
K00978
C00501
C00394
ENPP1
K18447
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K00695
K00692
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K00696
C02591
C05731
C02336
GAA
K01193
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C00031
K01210
GBA3
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K01179
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C06217
C06218
C02013
C06219
C00185
TREH
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K05343
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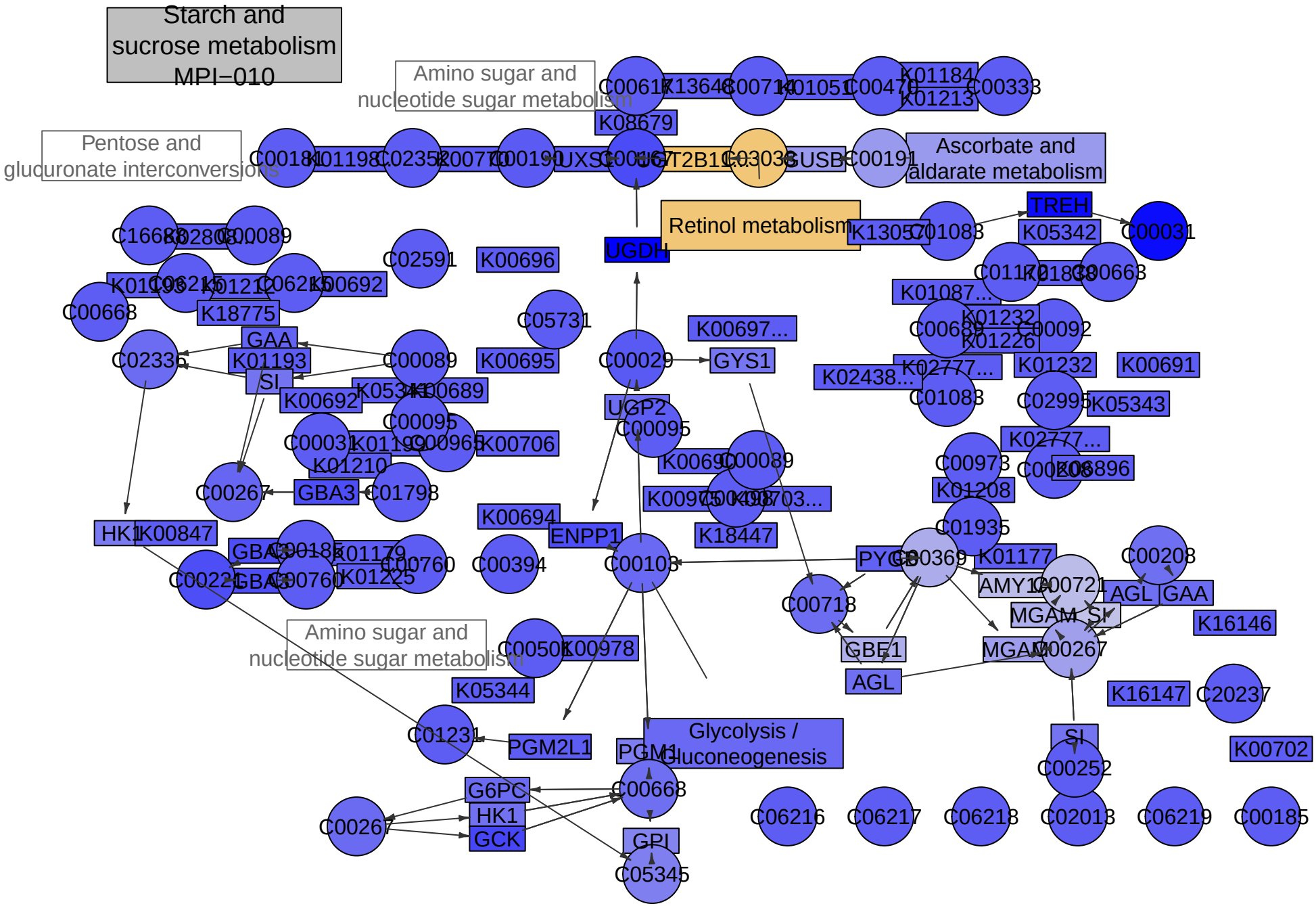
Starch and sucrose metabolism MPI−010
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
C00031
K05342
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
C00718
PYGB
C00369
K01177
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C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
C00252
K00702
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
C00092
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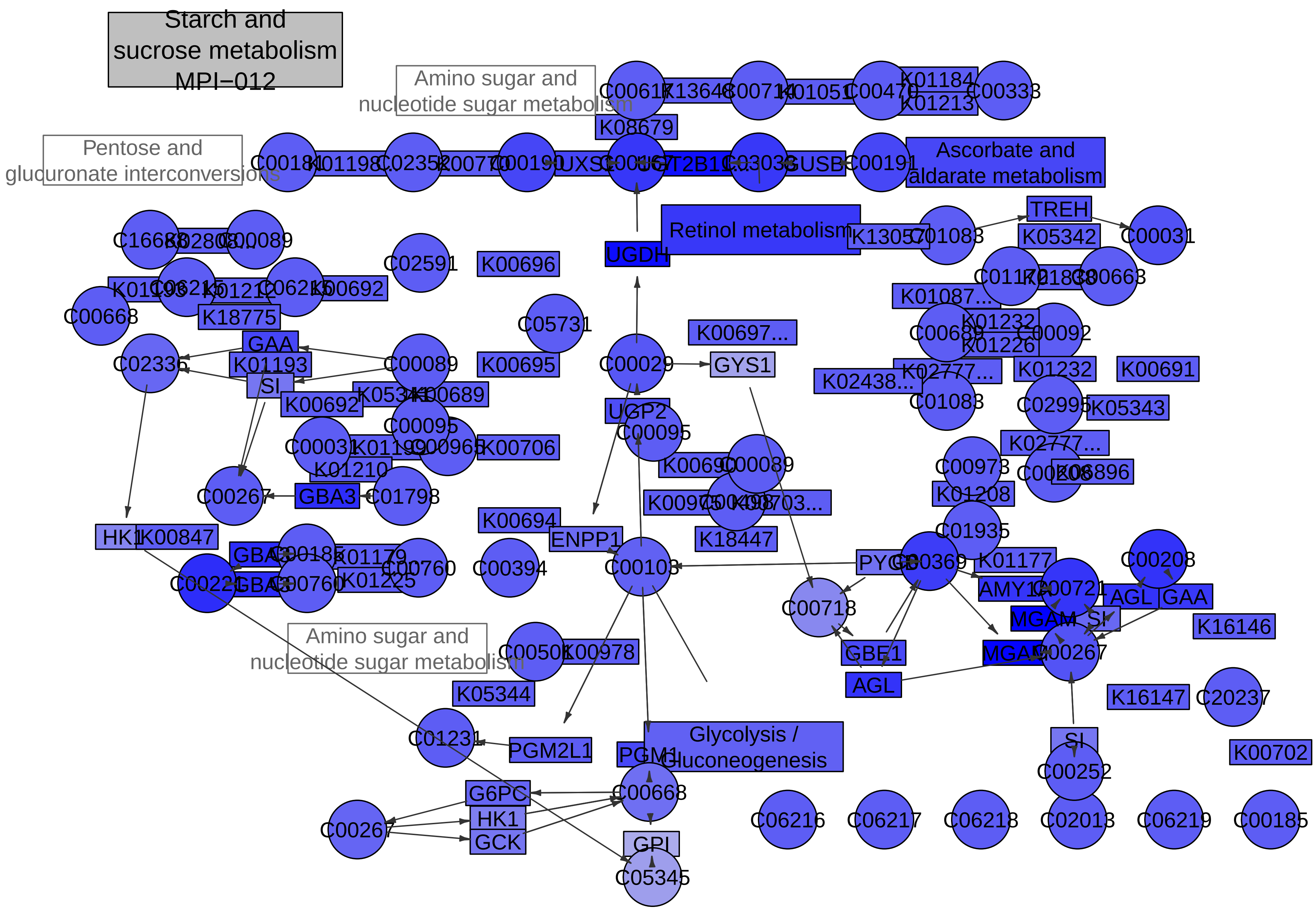
Starch and sucrose metabolism MPI−012
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
C00333
K01184
K01213
K08679
C00191
GUSB
UXS1
UGDH
TREH
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C00031
C01083
C00663
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C00092
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K01226
K02777...
K01232
K00691
K02438...
C02995
K05343
K02777...
C00973
K08896
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C01935
C00369
K01177
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AGL
GAA
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MGAM
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MGAM
C00267
AGL
GBE1
C00718
PYGB
K16147
C20237
SI
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K00692
K18775
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C02591
HK1
K00847
C00221
C00501
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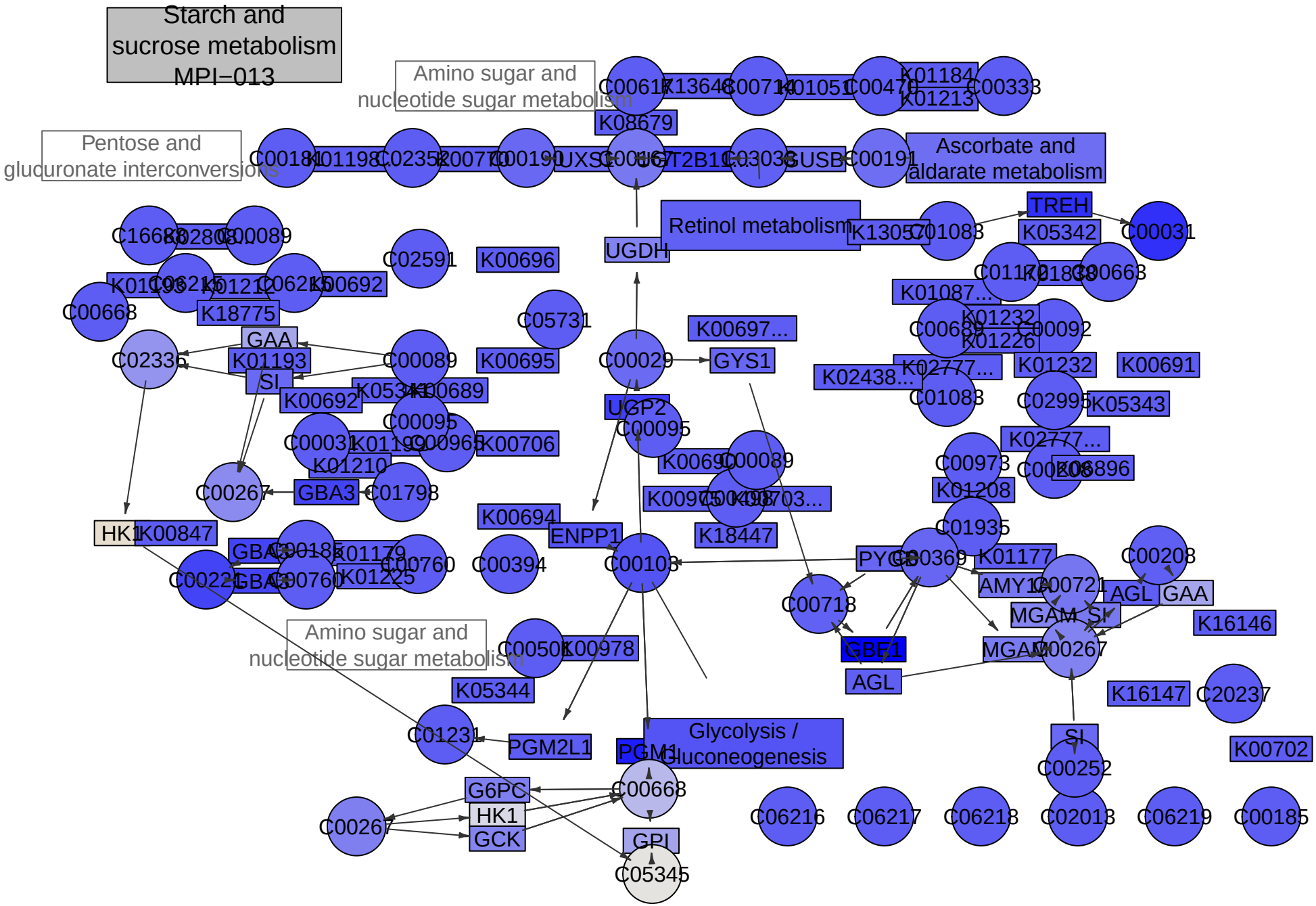
Starch and sucrose metabolism MPI−013
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01232
K01226
C00092
K01087...
K02438...
K02777...
K01232
K00691
K05343
C02995
C01083
K00689
K00692
UGP2
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K00706
K01210
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GBA3
C01798
HK1
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K00694
ENPP1
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K01225
K18447
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K01177
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GBE1
AGL
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C20237
K05344
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PGM1
SI
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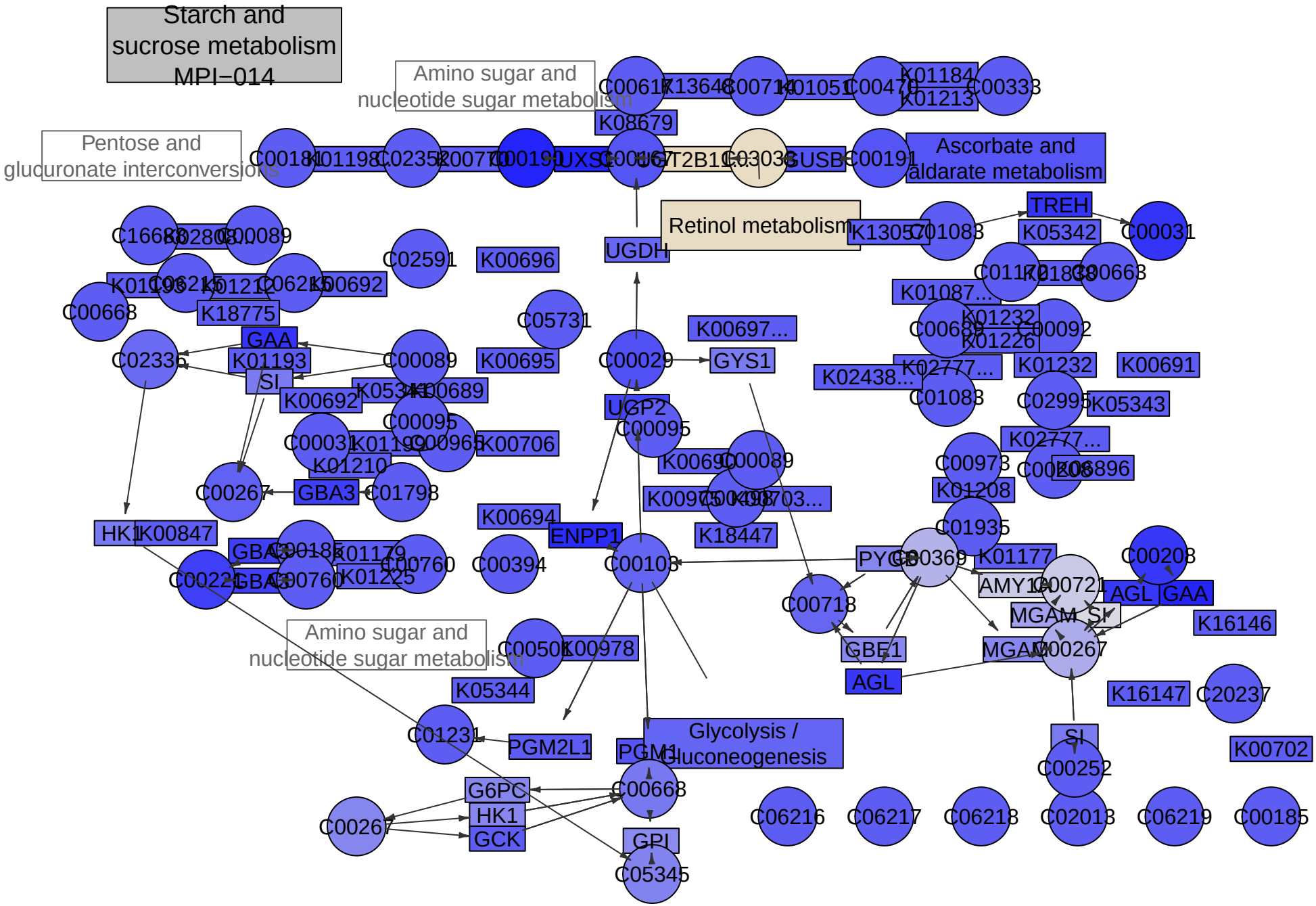
C00185


Starch and sucrose metabolism MPI−014
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
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T2B1
C03036
USB
C00191
TREH
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K01193
SI
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C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
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K00689
UGP2
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K01210
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C00721
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GAA
MGAM
SI
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C00718
GBE1
AGL
MGAM
C00267
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K16147
C20237
C01231
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PGM1
SI
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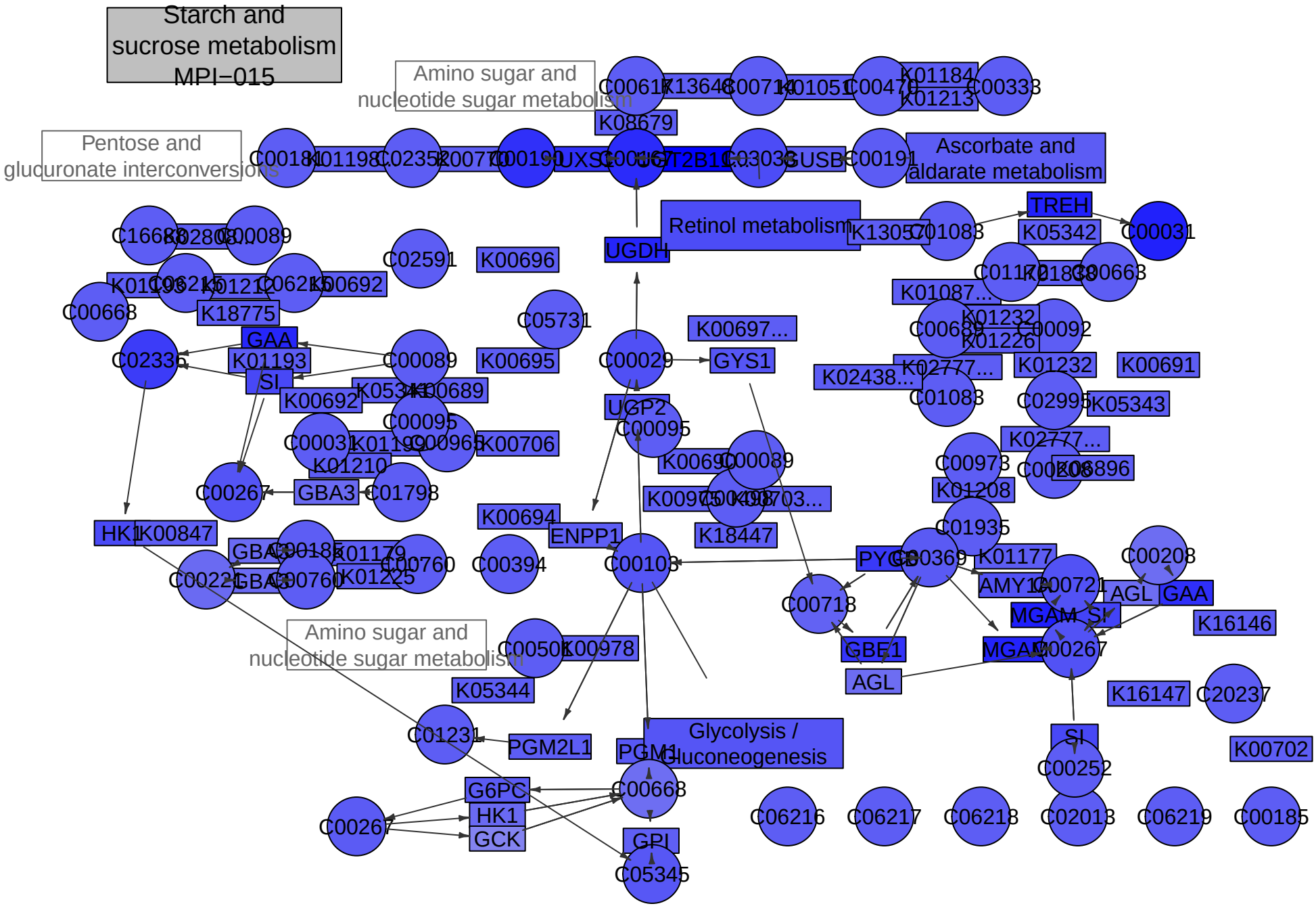
Starch and sucrose metabolism MPI−015
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
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AGL
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MGAM
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GBE1
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C20237
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SI
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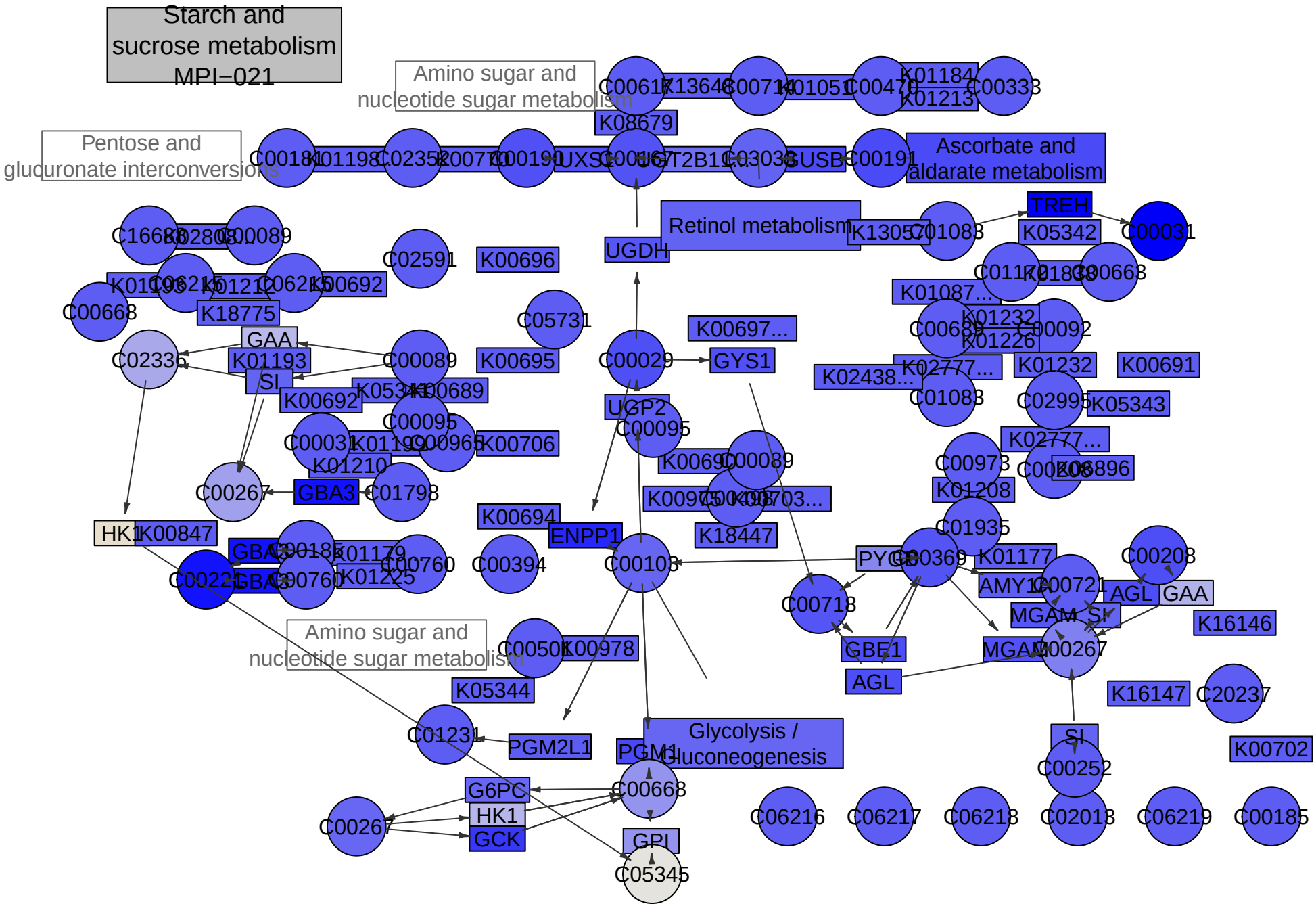
Starch and sucrose metabolism MPI−021
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
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K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
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GUSB
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K02777...
K01232
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K05343
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K00692
K00689
UGP2
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GAA
MGAM
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GBE1
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K05344
C01231
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PGM1
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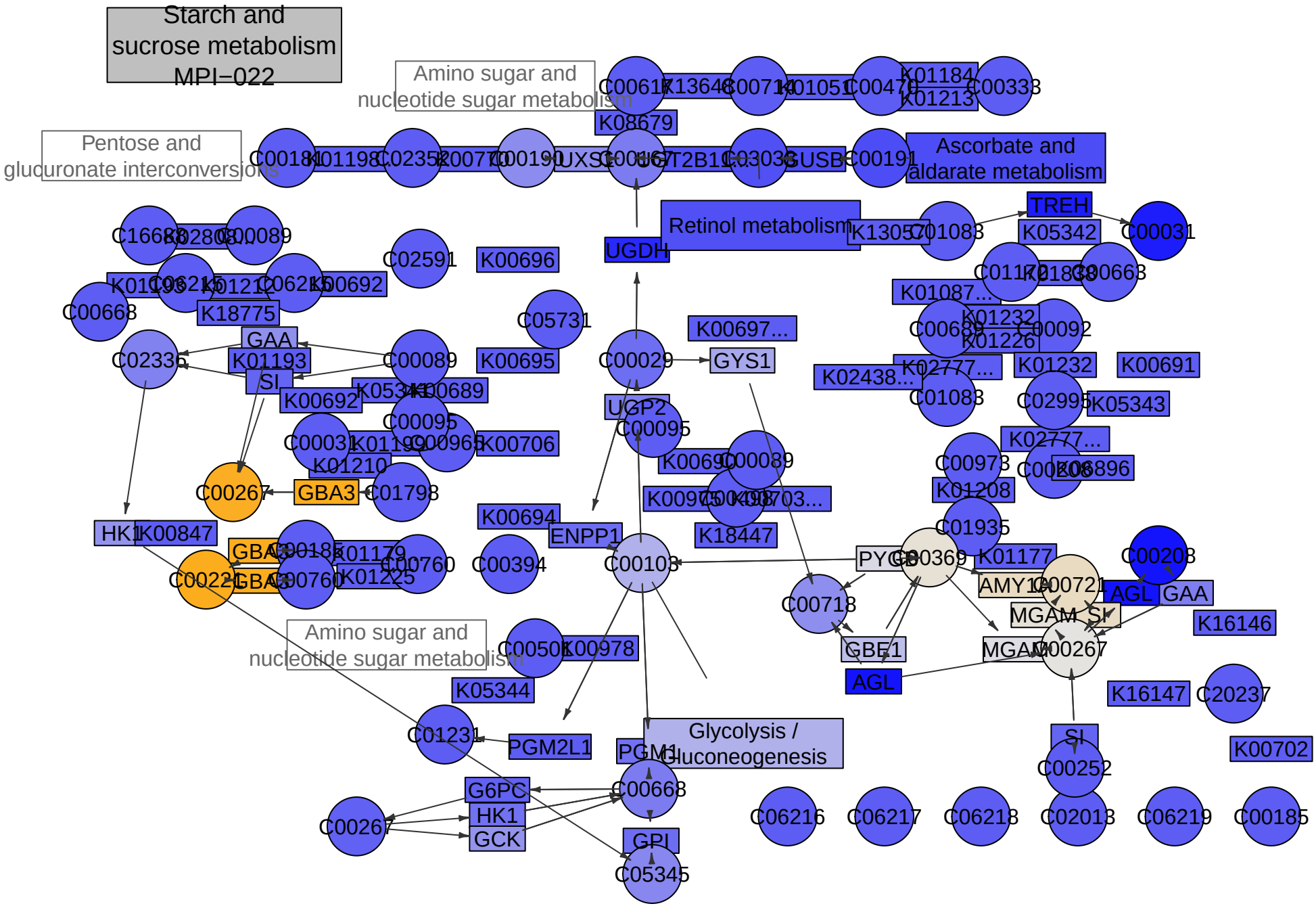
Starch and sucrose metabolism MPI−022
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Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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C00470
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K01213
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K08679
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TREH
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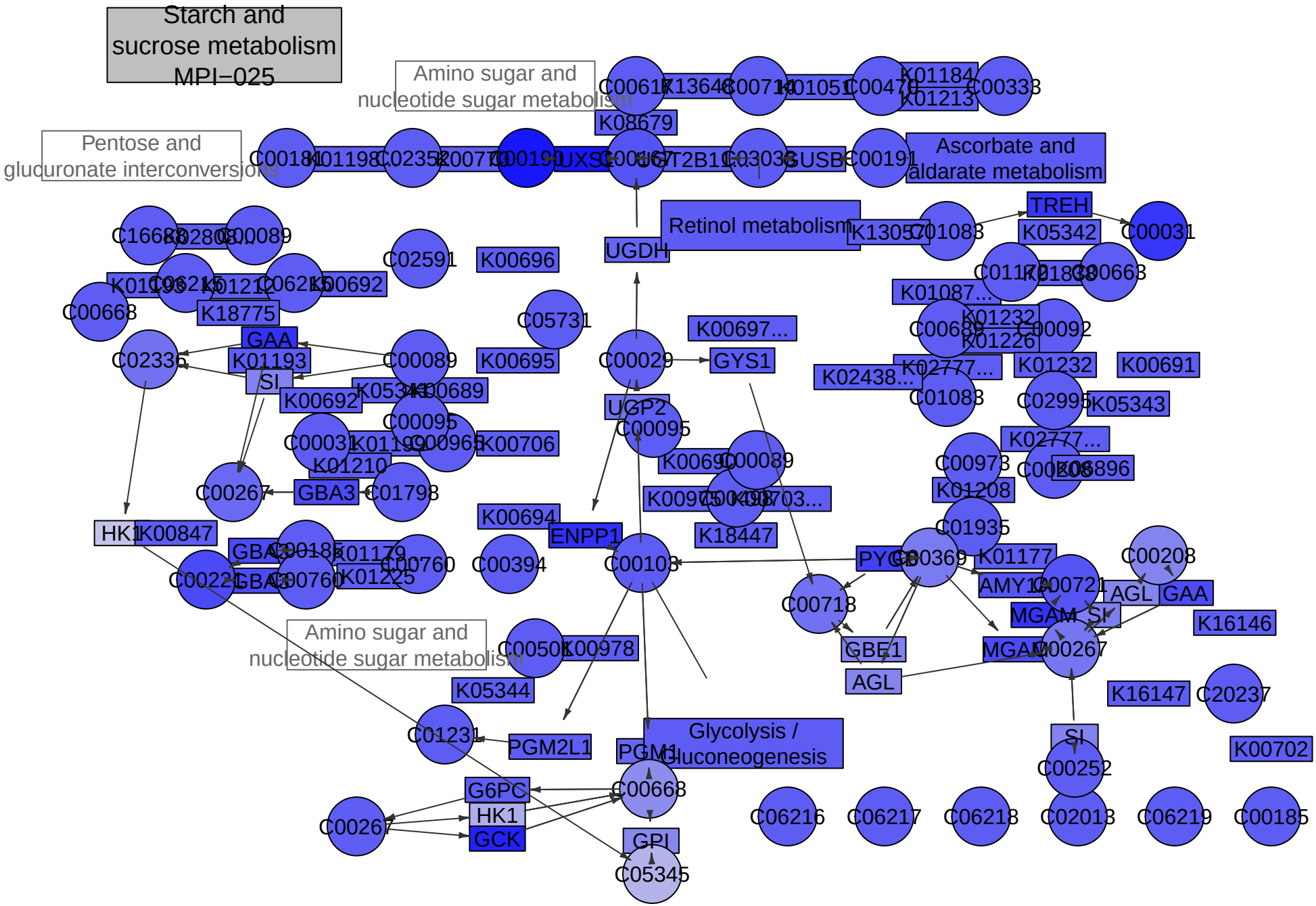
Starch and sucrose metabolism MPI−025
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
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C02591
K00696
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GAA
K01193
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K00695
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UGP2
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K00706
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HK1
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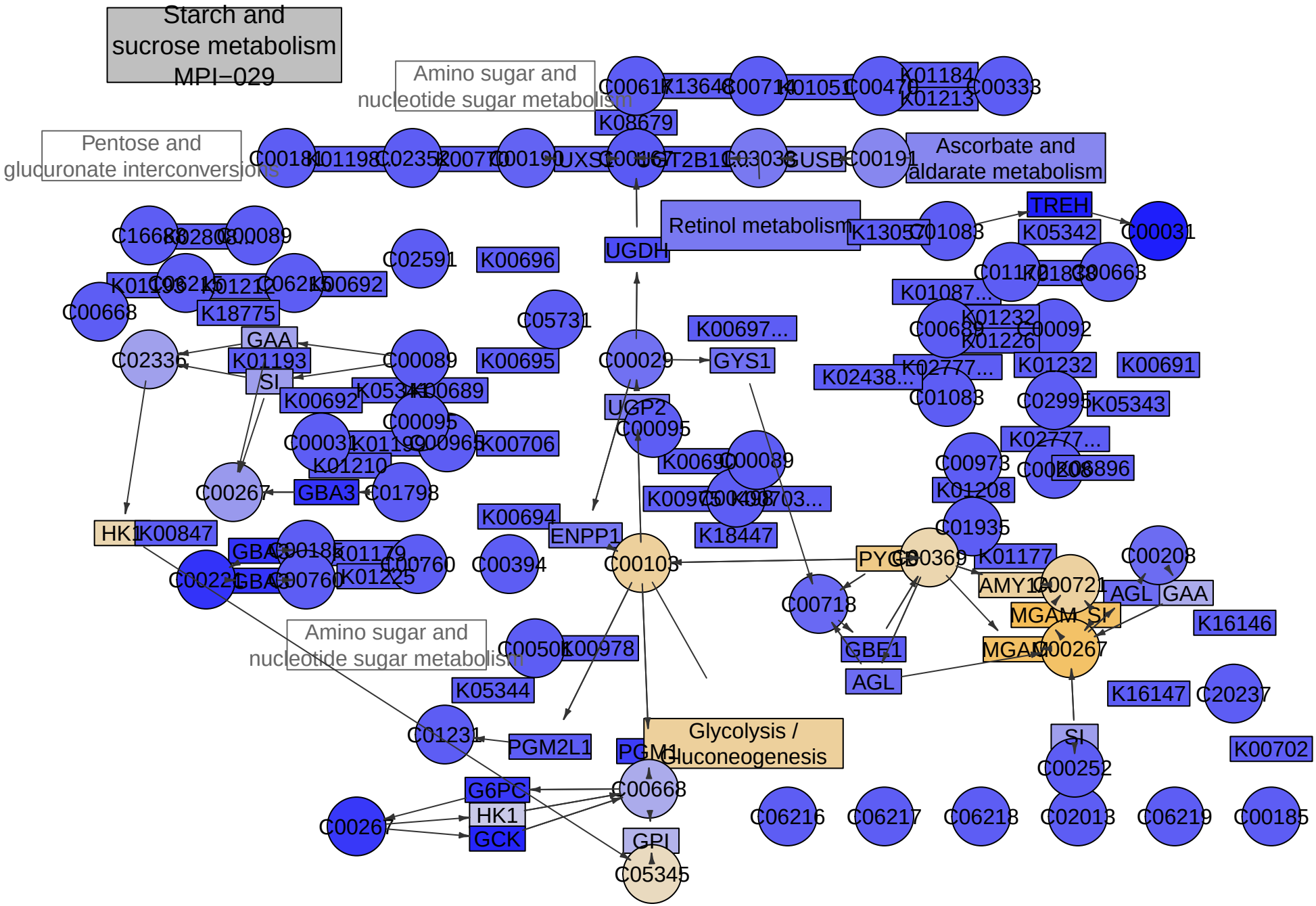
Starch and sucrose metabolism MPI−029
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
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GYS1
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UGP2
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PGM1
G6PC
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HK1
GCK
GPI
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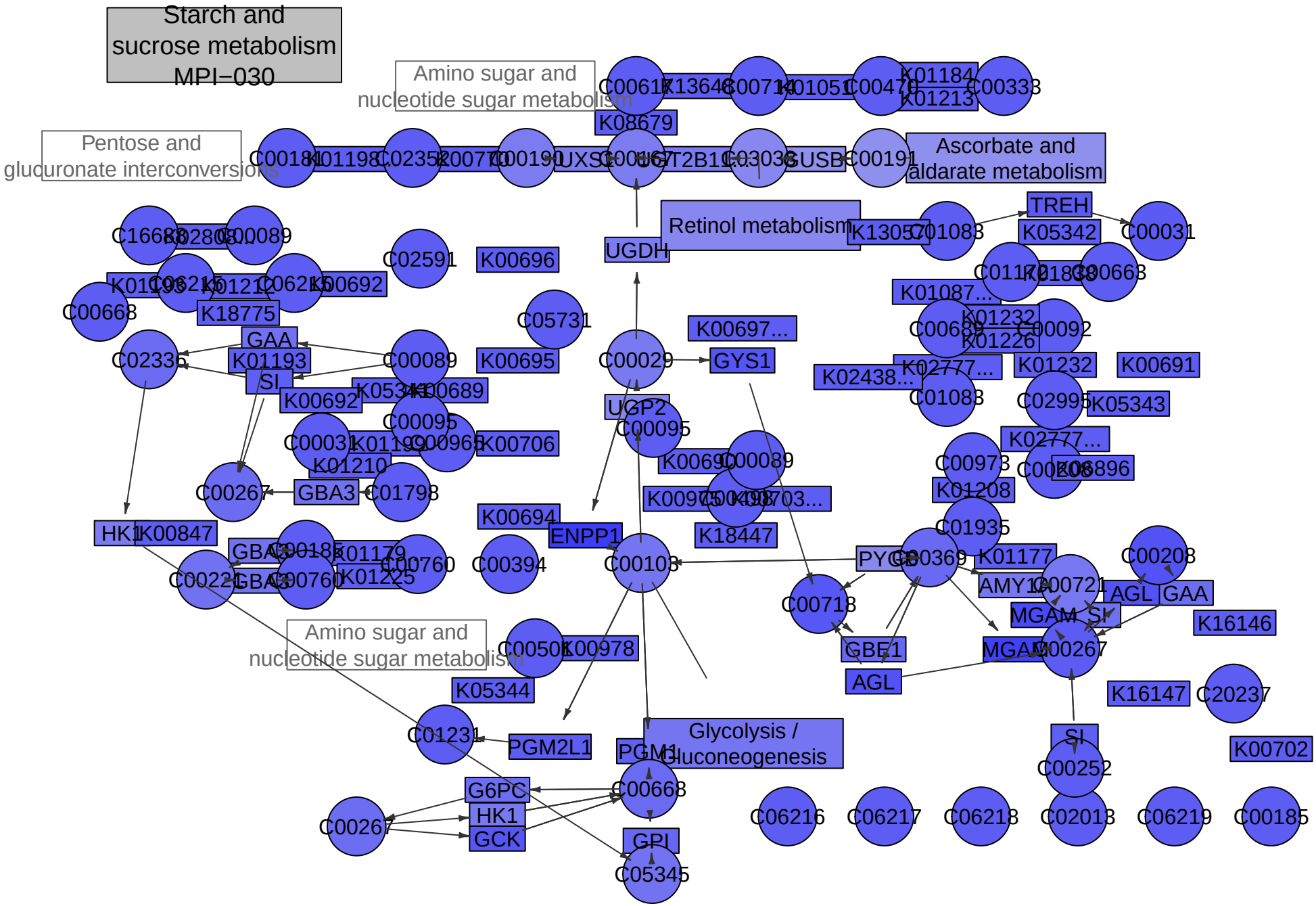
Starch and sucrose metabolism MPI−030
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C02336
C00089
K00695
SI
K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
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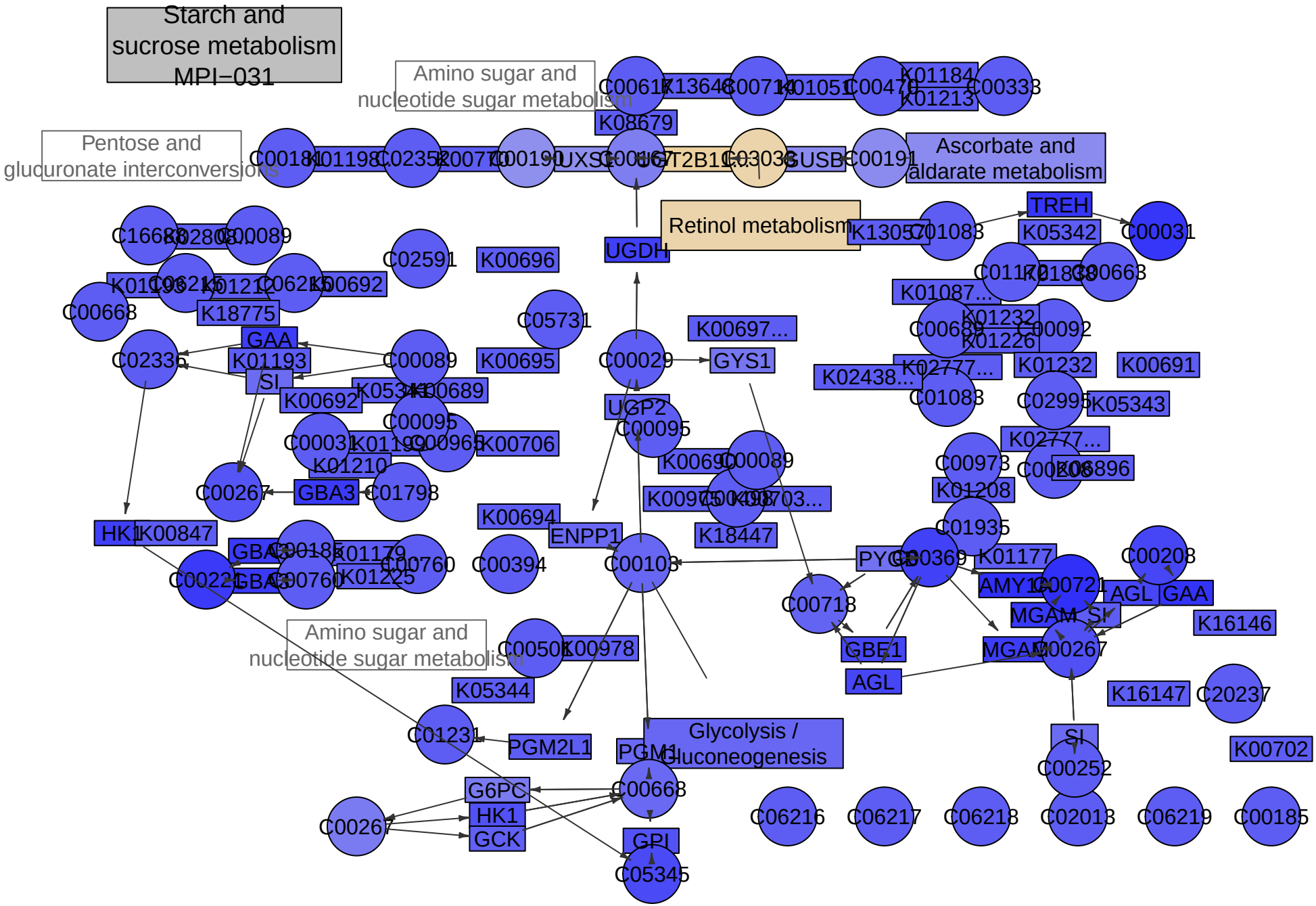
Starch and sucrose metabolism MPI−031
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
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GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K05343
K01232
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C00668
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C00095
C00029
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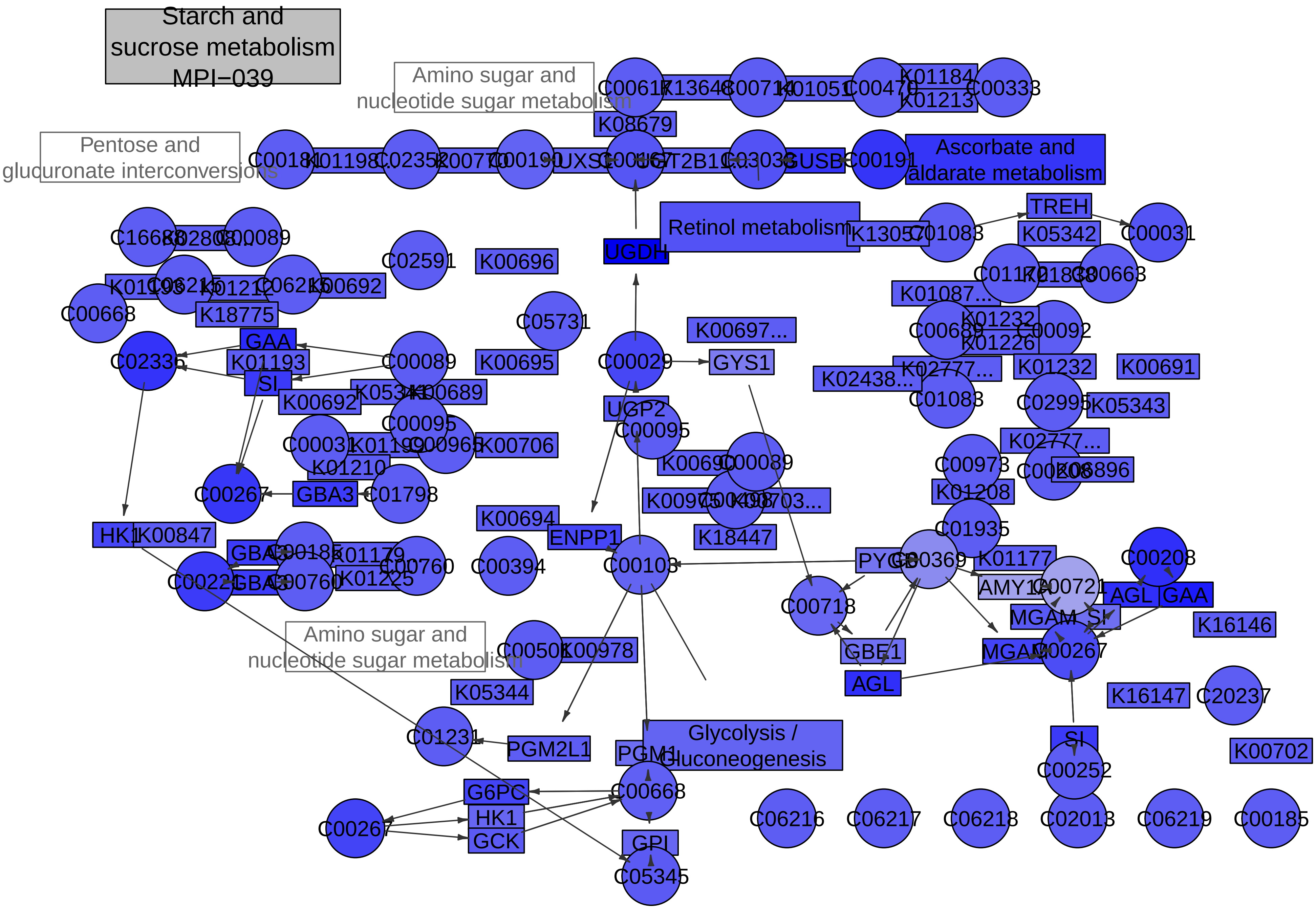
Starch and sucrose metabolism MPI−039
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
K08679
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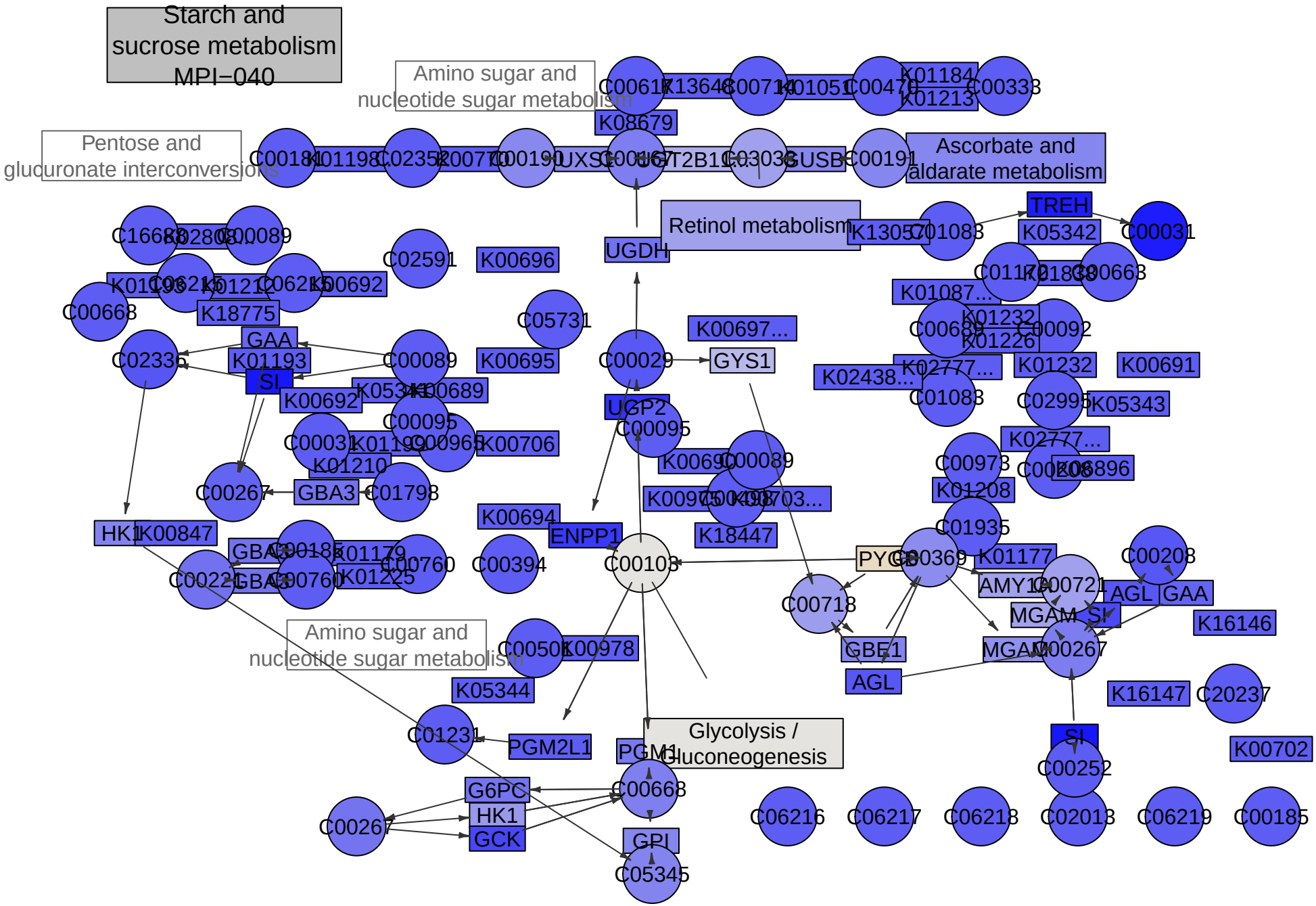
Starch and sucrose metabolism MPI−040
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
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ENPP1
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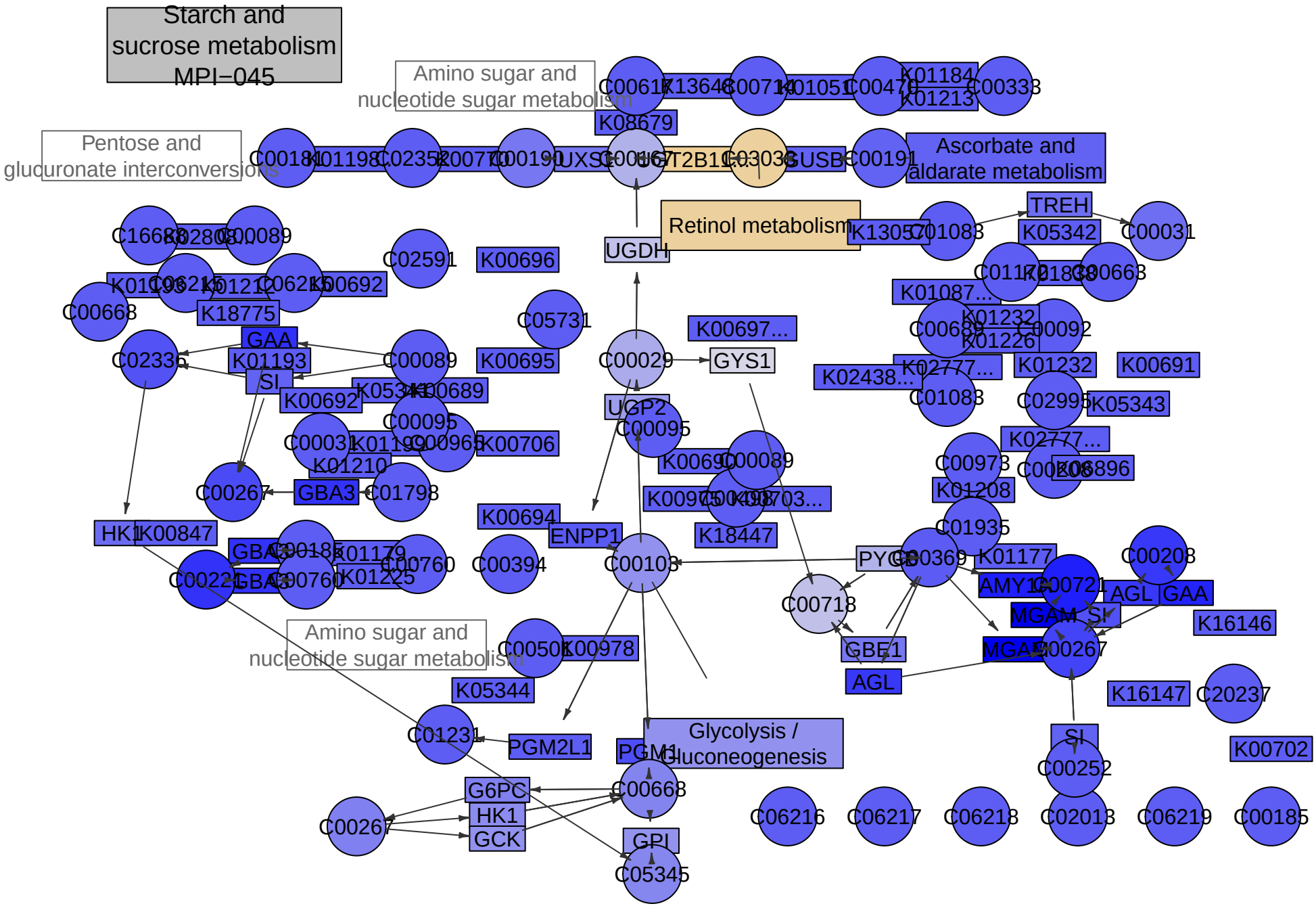
Starch and sucrose metabolism MPI−045
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
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PYGB
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GPI
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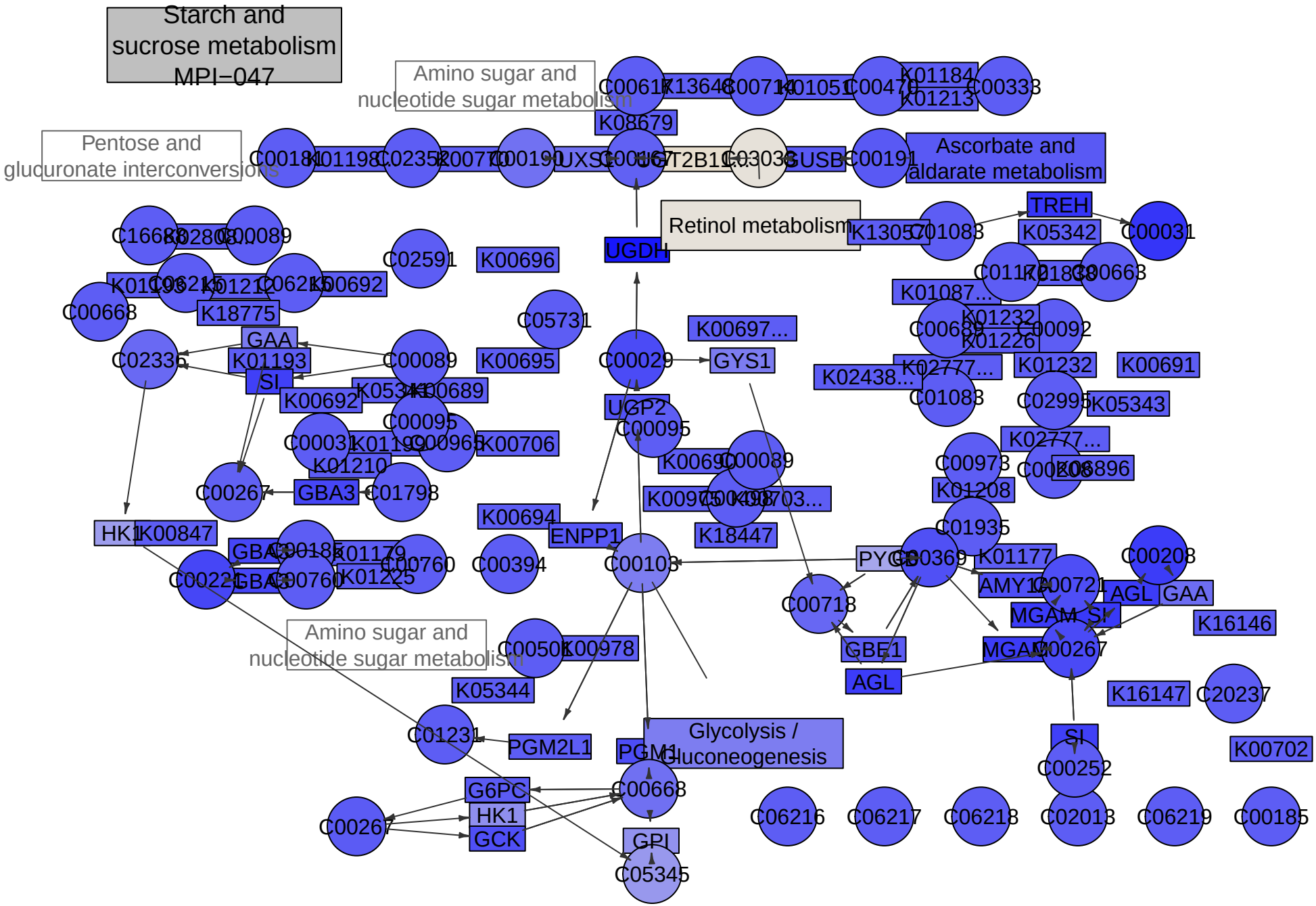
Starch and sucrose metabolism MPI−047
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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TREH
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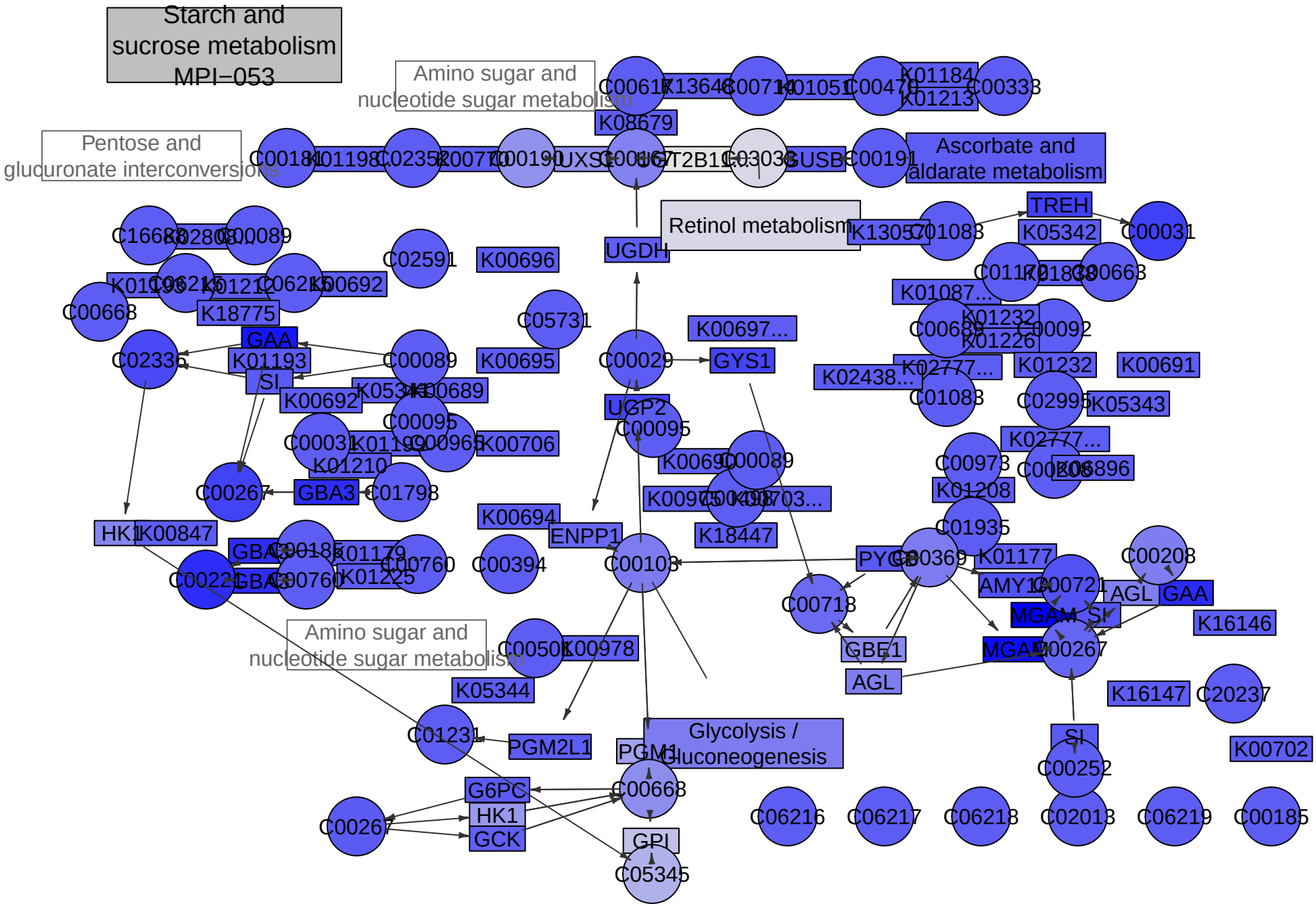
Starch and sucrose metabolism MPI−053
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
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K00696
C02591
C00668
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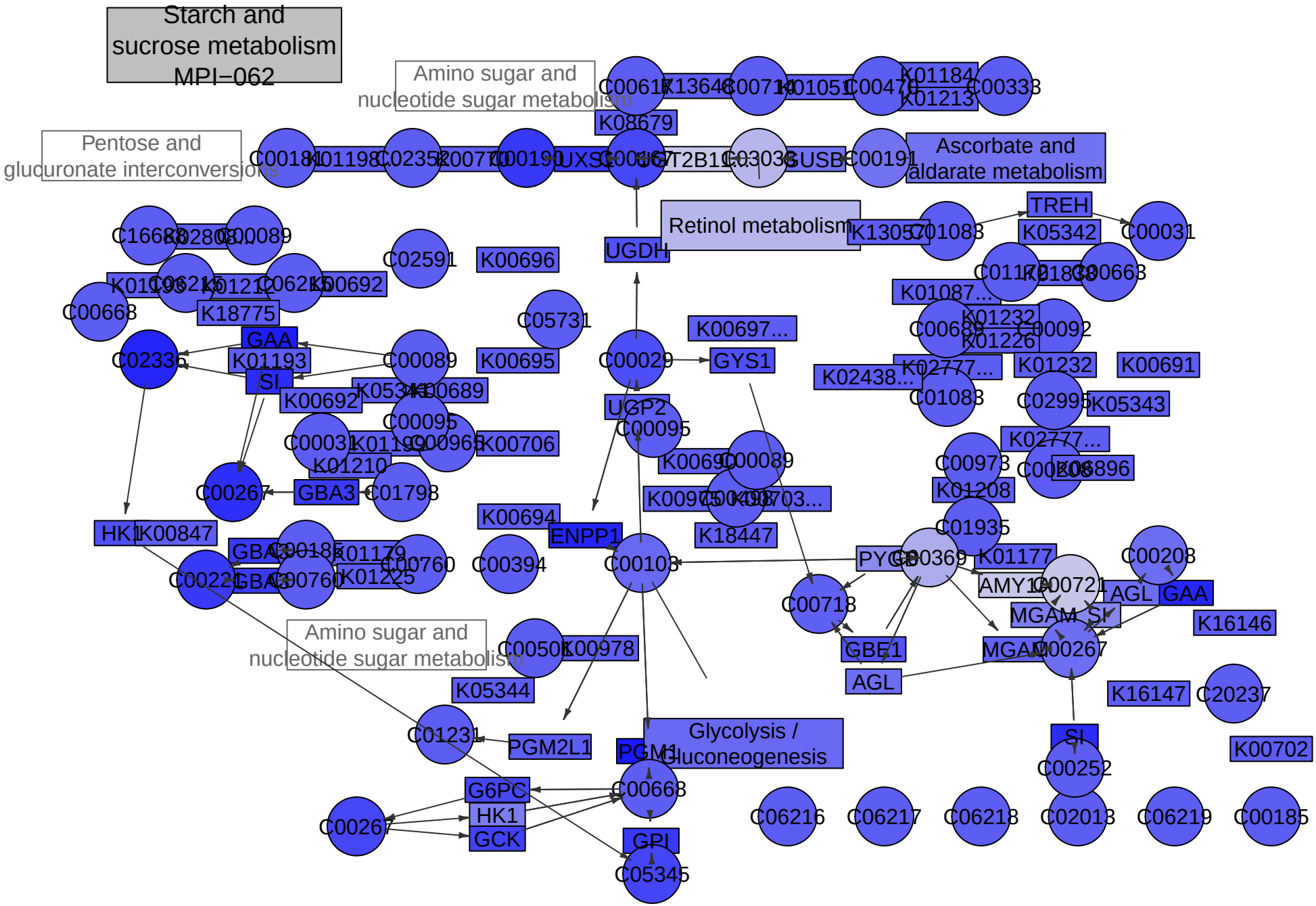
Starch and sucrose metabolism MPI−062
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGP2
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GAA
SI
GBA3
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ENPP1
PYGB
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MGAM
GBE1
AGL
PGM2L1
PGM1
G6PC
GCK
GPI
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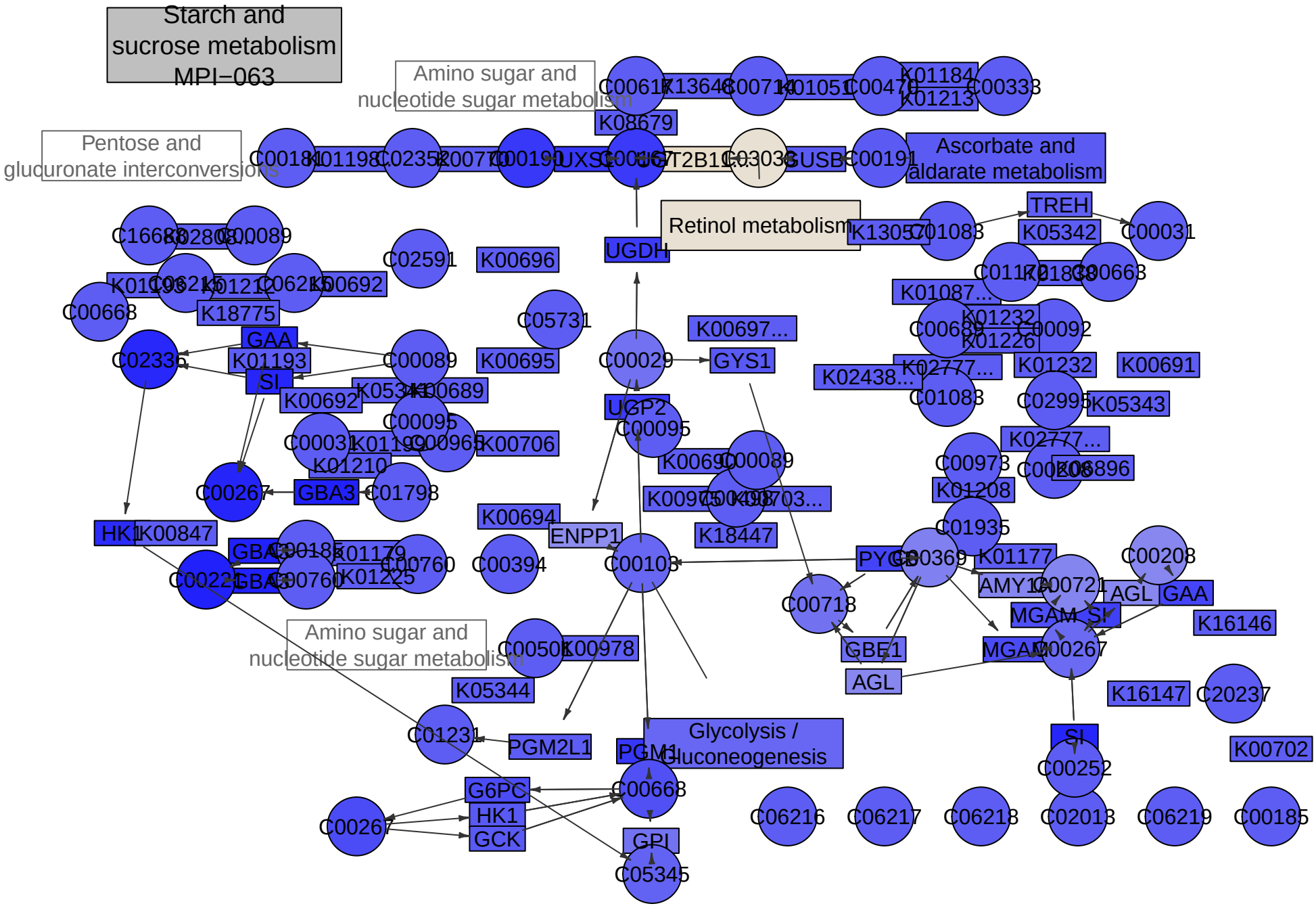
Starch and sucrose metabolism MPI−063
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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TREH
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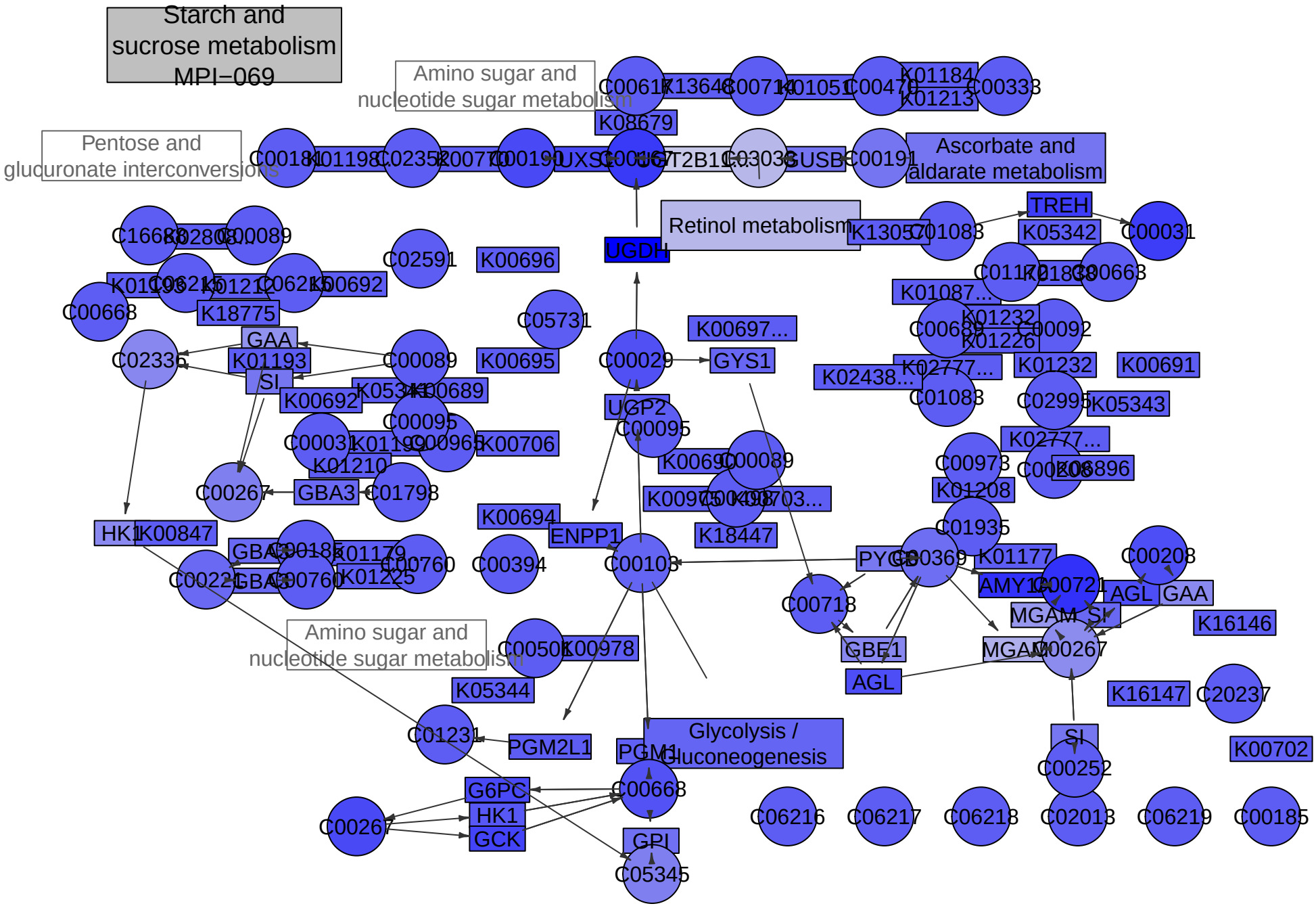
Starch and sucrose metabolism MPI−069
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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UGDH
TREH
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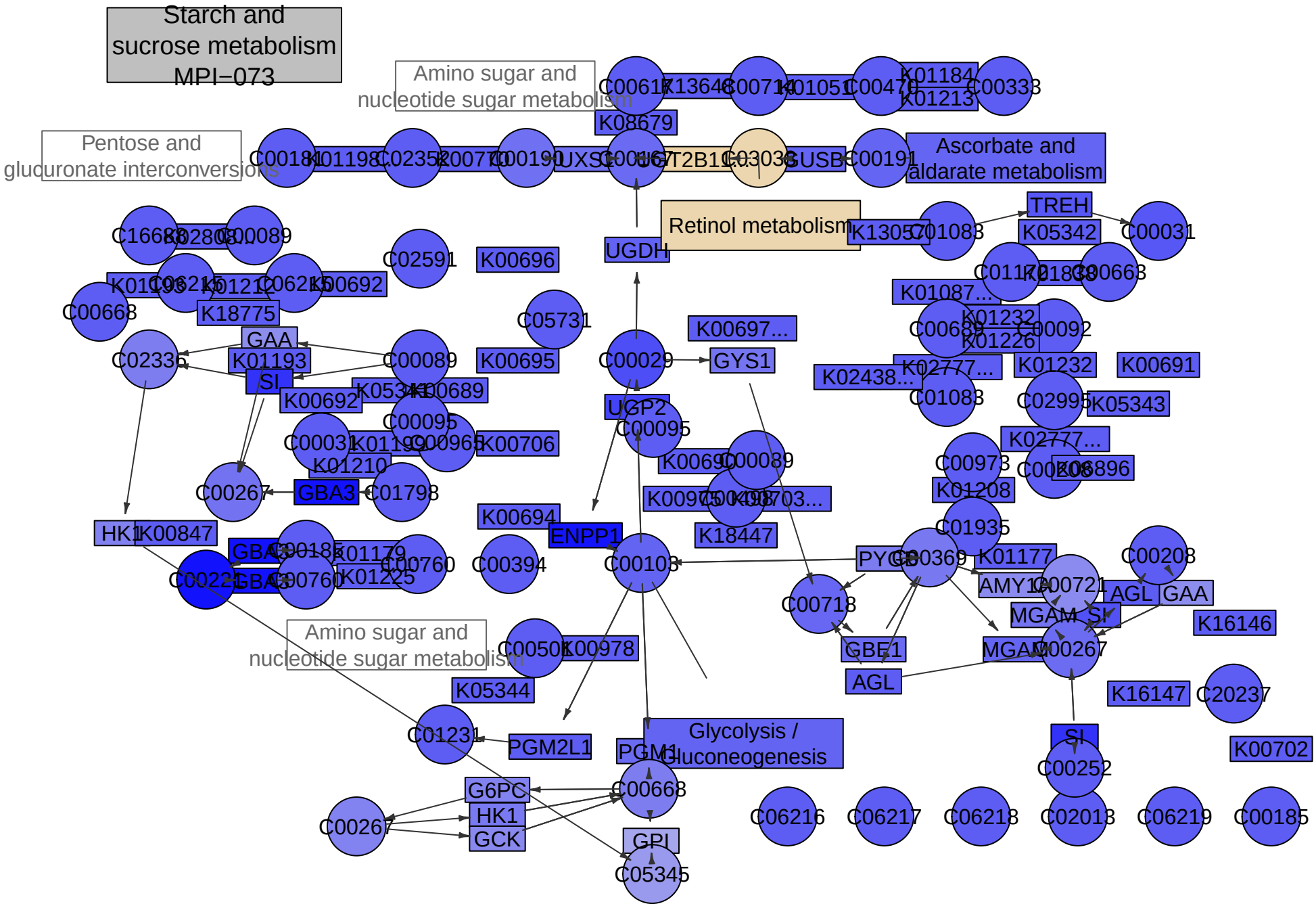
Starch and sucrose metabolism MPI−073
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
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K01198
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K00770
C00190
UXS1
C00167
UGT2B11
C03036
GUSB
C00191
TREH
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PYGB
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C00221
K01225
AMY1A
C00721
AGL
GAA
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MGAM
SI
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K00978
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MGAM
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AGL
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K16147
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C01231
PGM2L1
PGM1
SI
K00702
C00252
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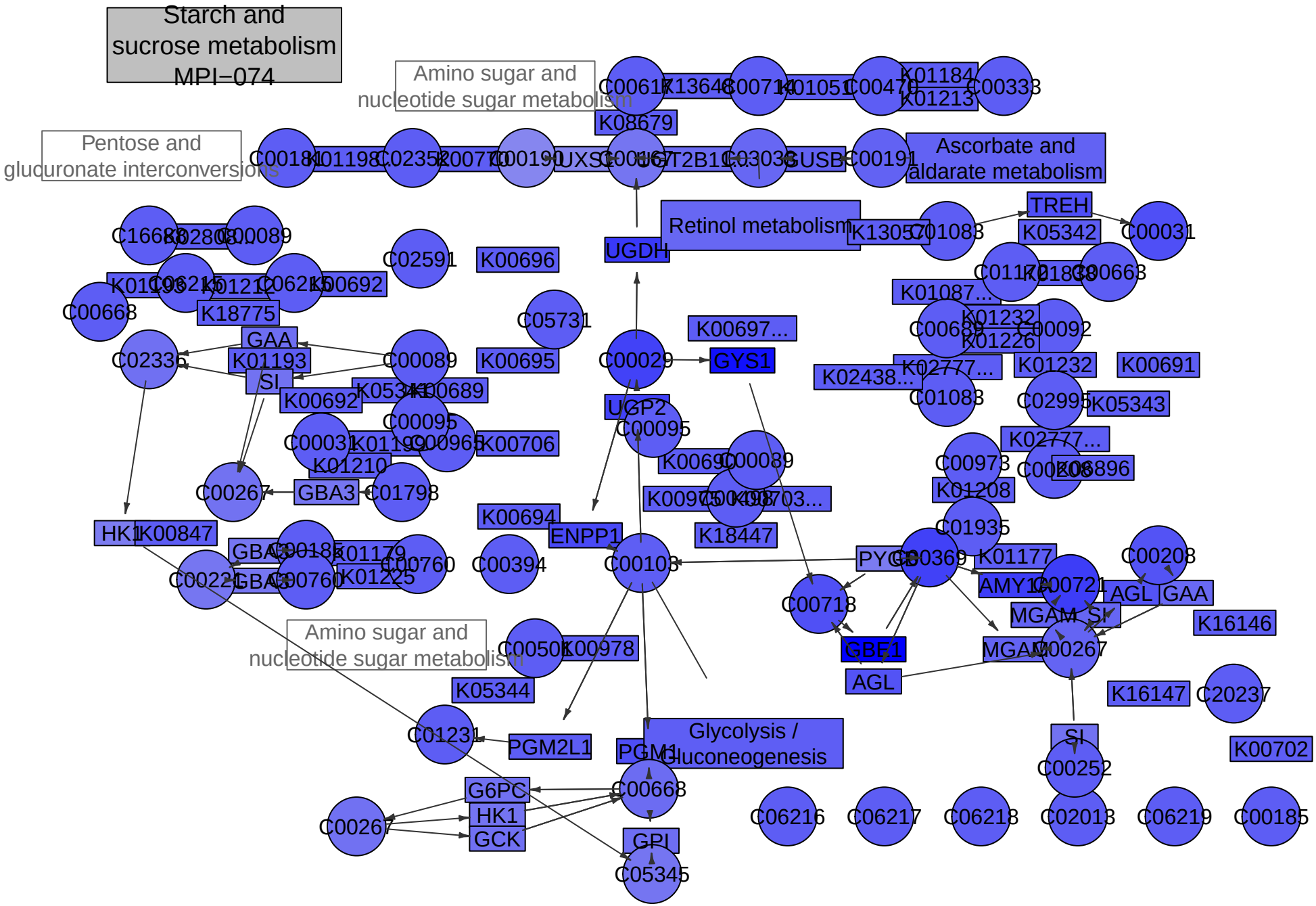
Starch and sucrose metabolism MPI−074
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00668
C02336
C05731
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K01232
K01226
C00092
K01087...
K02438...
K02777...
K01232
K00691
K05343
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K00689
UGP2
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GBA3
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ENPP1
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C00394
K00847
HK1
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K01225
C00760
C00718
GBE1
AGL
PYGB
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C00721
MGAM
C00208
K16146
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
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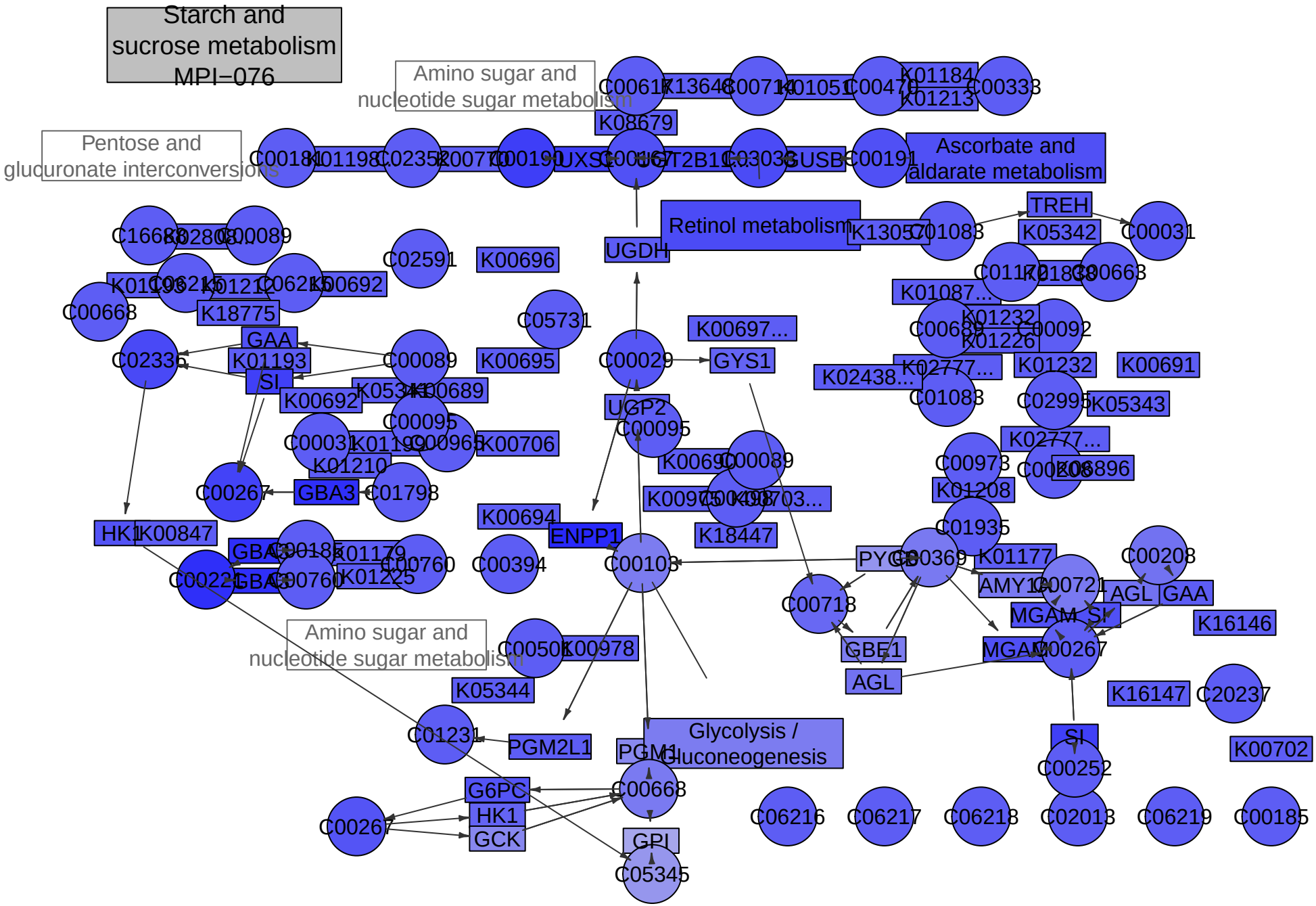
C00252


Starch and sucrose metabolism MPI−076
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K01232
K00691
K00692
K05343
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
C00108
C00394
C00760
K01225
C00718
PYGB
C00208
K16146
K05344
C01231
PGM2L1
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C00668
HK1
GCK
GPI
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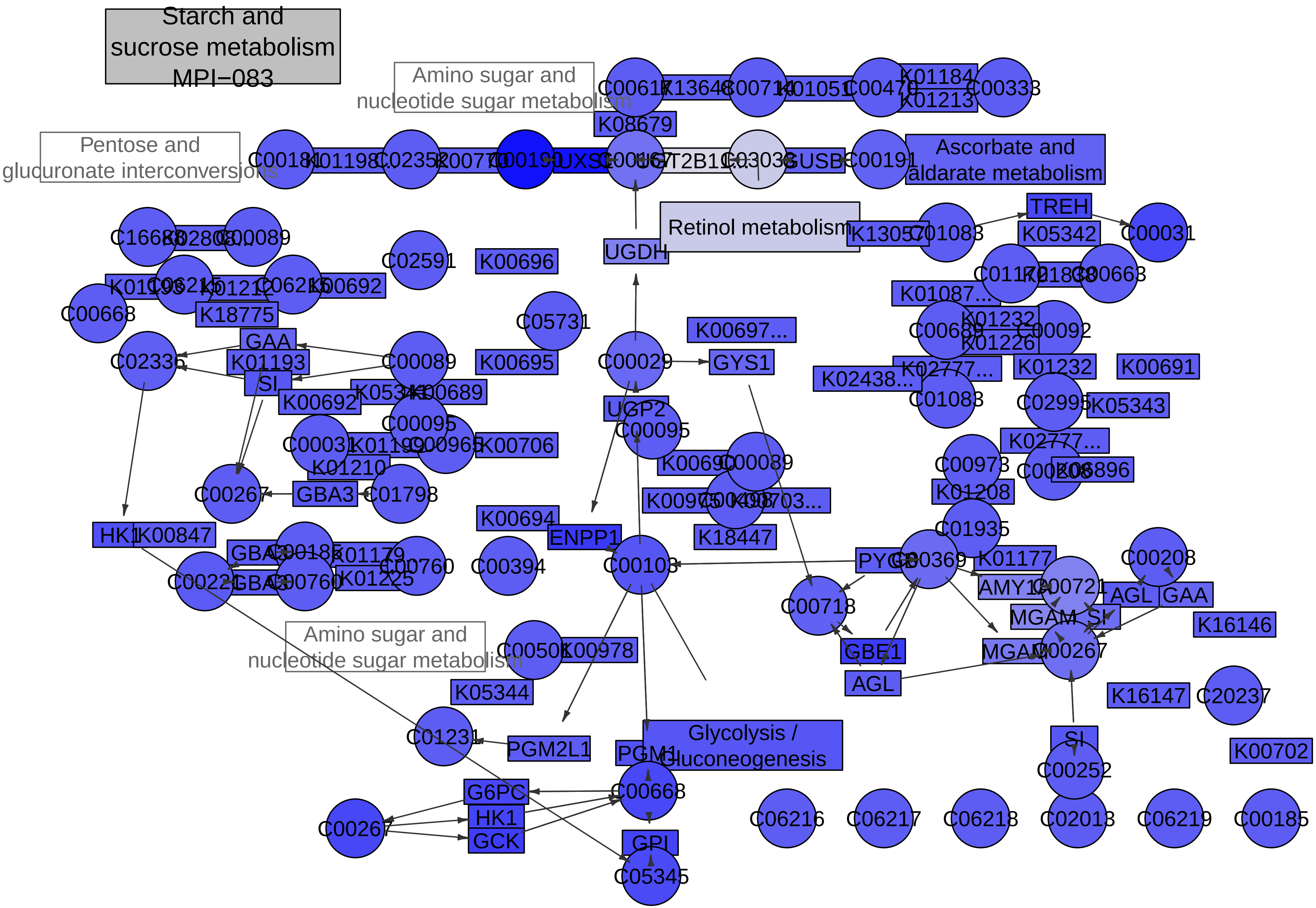
C00252



Starch and sucrose metabolism MPI−083
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
K01184
K01213
C00333
K08679
C00191
TREH
K05342
C00031
K01087...
K01232
K01226
C00092
K00691
K01232
K05343
K02777...
K02438...
C01083
C00973
K01208
C01935
K00697...
GYS1
UGDH
C00029
UGP2
C00095
C02591
K00696
C05731
K00695
K18775
GAA
K01193
C00089
SI
C02336
C00668
K00692
C00267
GBA3
C01798
K01210
K00706
K00694
ENPP1
C00103
K18447
HK1
K00847
C00760
K01225
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PYGB
K01177
C00718
GBE1
AGL
AMY1A
MGAM
C00721
AGL
GAA
SI
K16146
C00208
C00267
K16147
C20237
SI
C00252
K00702
C00501
K00978
K05344
C01231
PGM2L1
PGM1
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GCK
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GPI
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C06216
C06217
C06218
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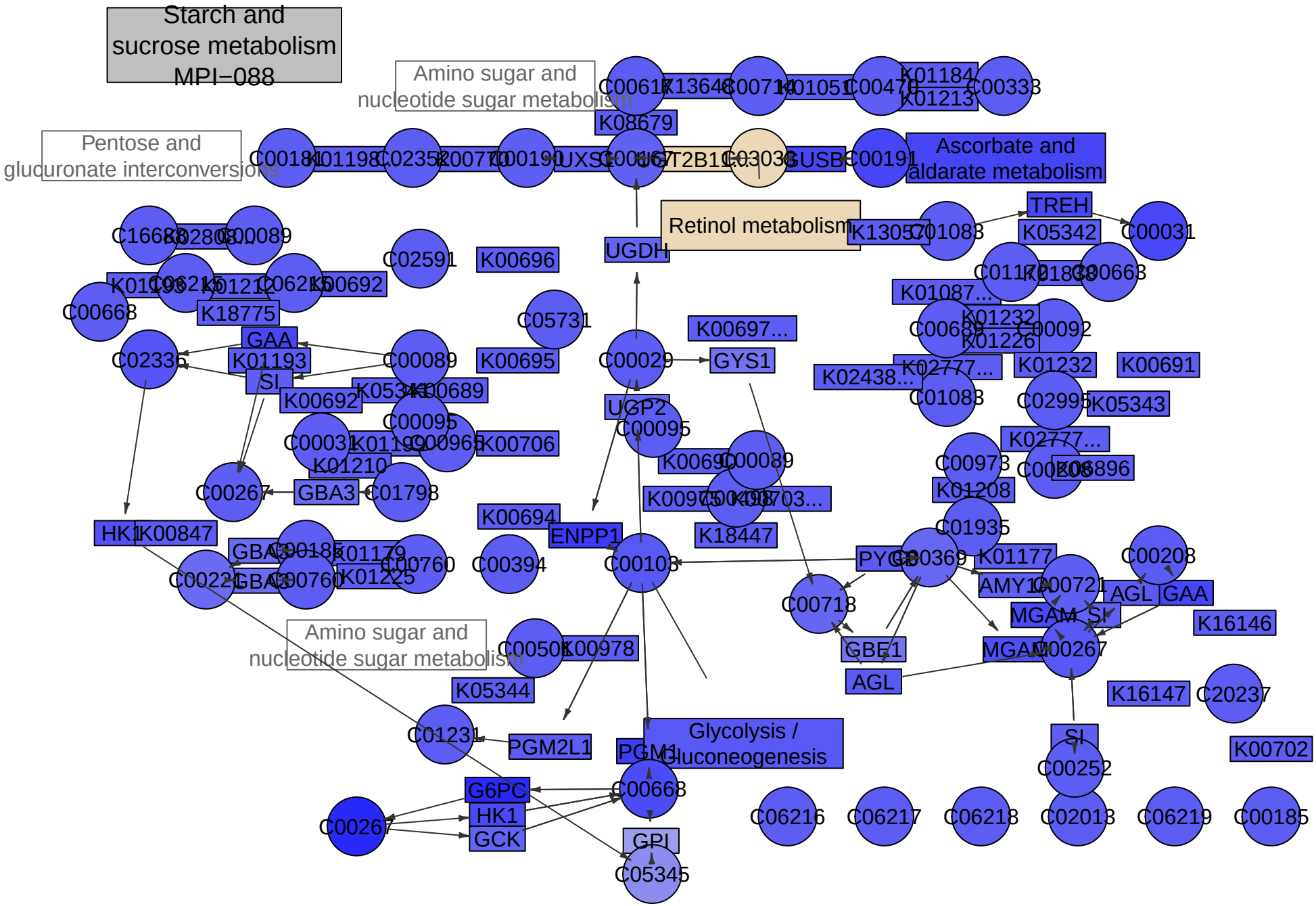
C06219
C00185


Starch and sucrose metabolism MPI−088
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03036
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
C00089
K00695
C00029
GYS1
K00697...
C05731
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
C00394
C00760
K01225
K01179
HK1
K00847
K18447
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
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C00718
GBE1
AGL
K00978
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
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GCK
C00668
GPI
C05345
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C06217
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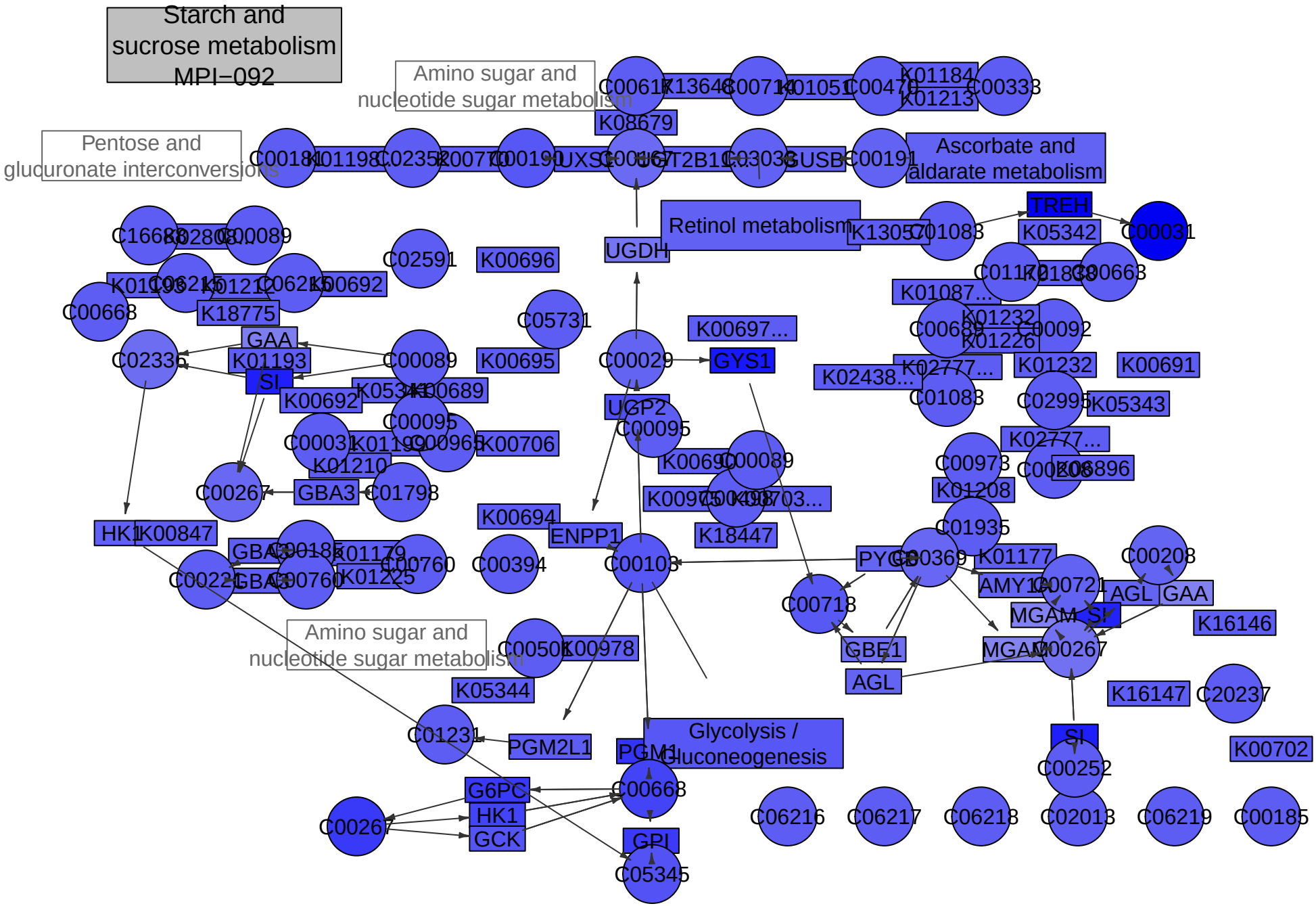
C00185


Starch and sucrose metabolism MPI−092
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
C00031
K05342
C00668
K18775
GAA
SI
K01193
C02336
C00089
K00695
C00029
GYS1
K00697...
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
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PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00668
C00267
C06216
C06217
C06218
C02013
C06219
C00185
PYGB
C00369
C00718
GBE1
AGL
MGAM
C00267
K16146
K16147
C20237
C00252
K00702
C00208
C00721
K01177
K01232
K01226
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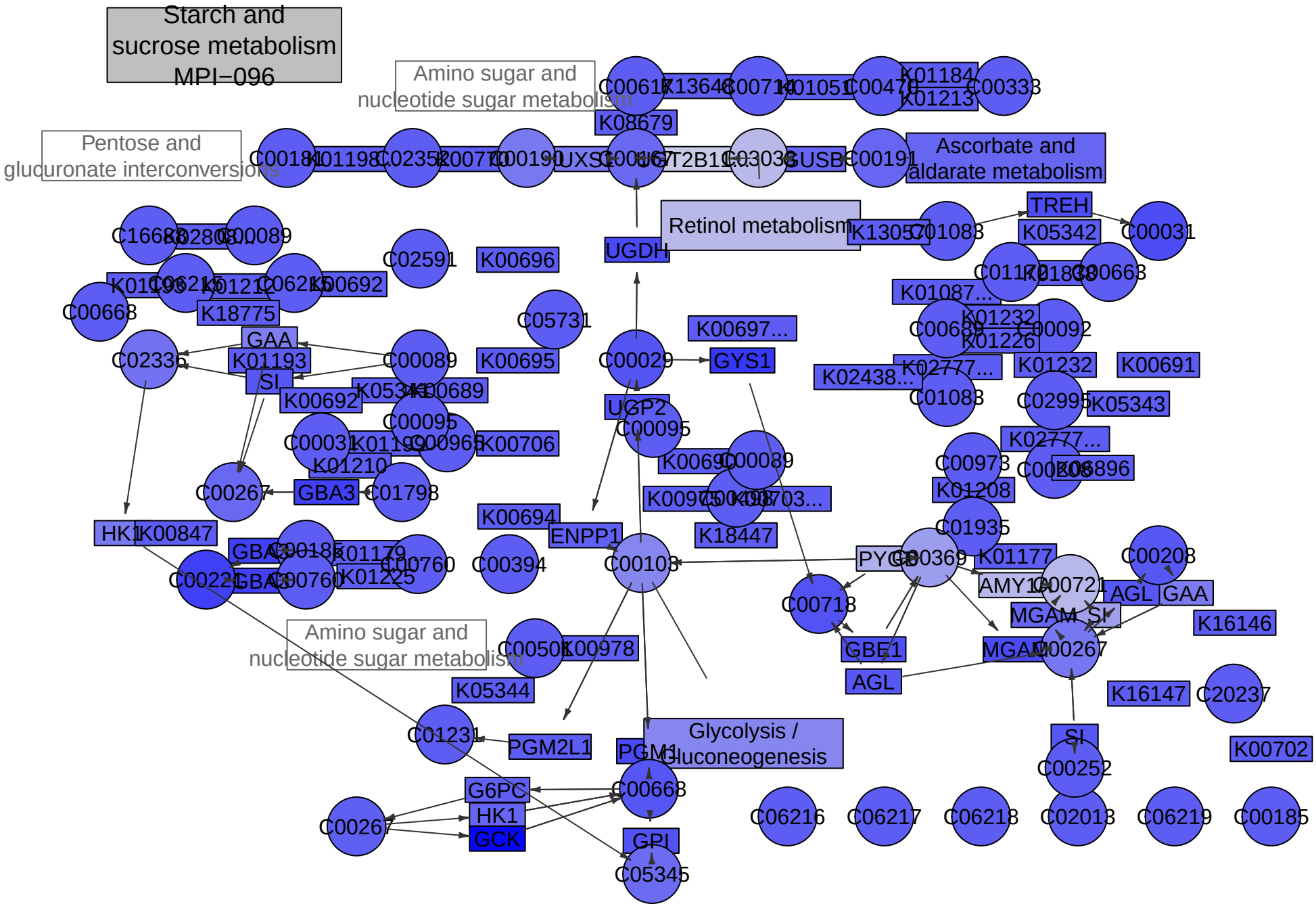
Starch and sucrose metabolism MPI−096
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GYS1
GAA
K01193
SI
K00692
K00695
UGP2
C00095
K00706
K01210
GBA3
C01798
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00668
C06216
C06217
C06218
C02013
C06219
C00185
K16147
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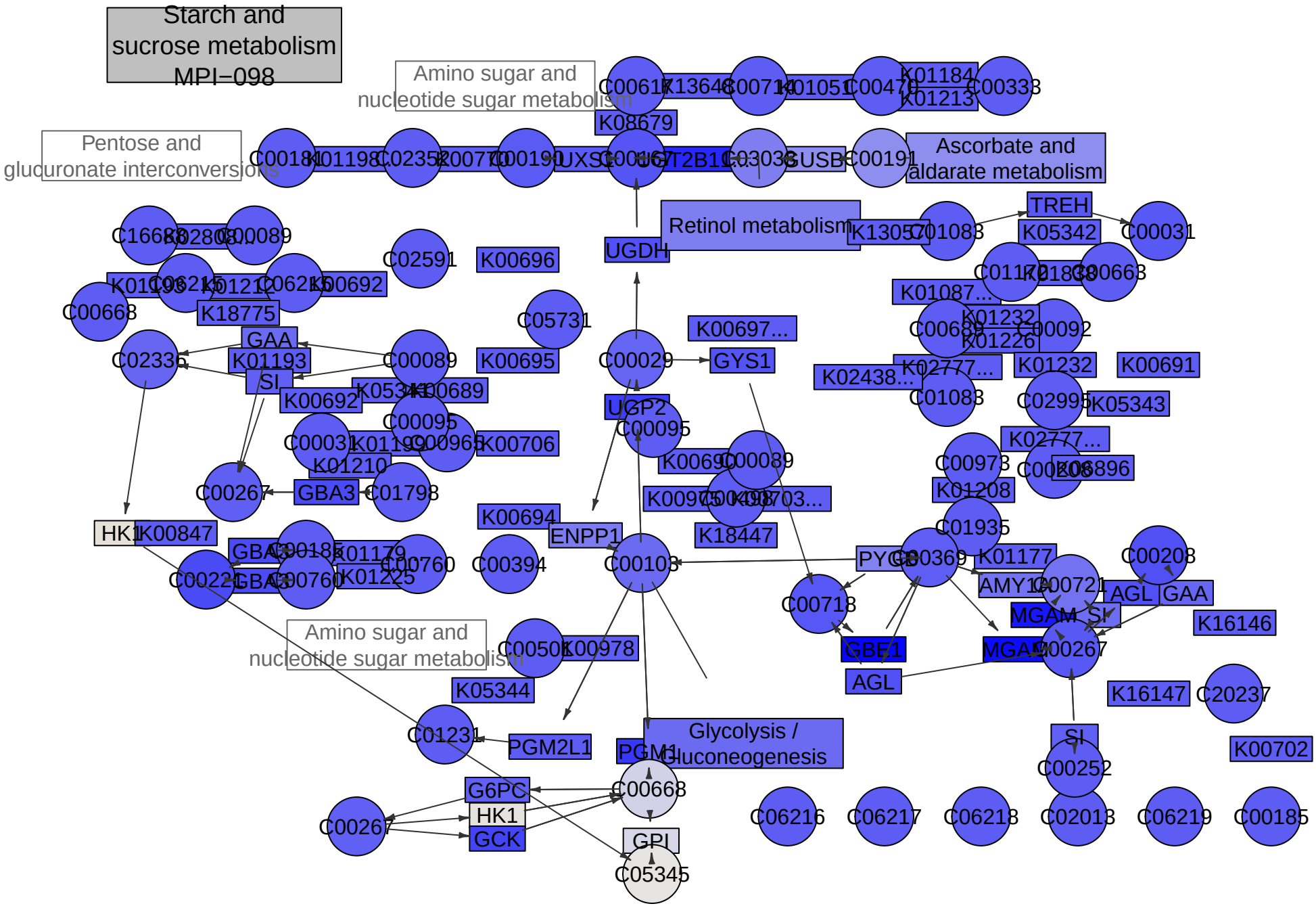
Starch and sucrose metabolism MPI−098
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00689
K00692
UGP2
C00095
K00706
K01210
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GBA3
C01798
HK1
K00847
K00694
ENPP1
C00108
C00394
C00760
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K01232
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K02438...
K02777...
K01232
K00691
C01083
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K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
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AGL
GAA
MGAM
SI
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GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
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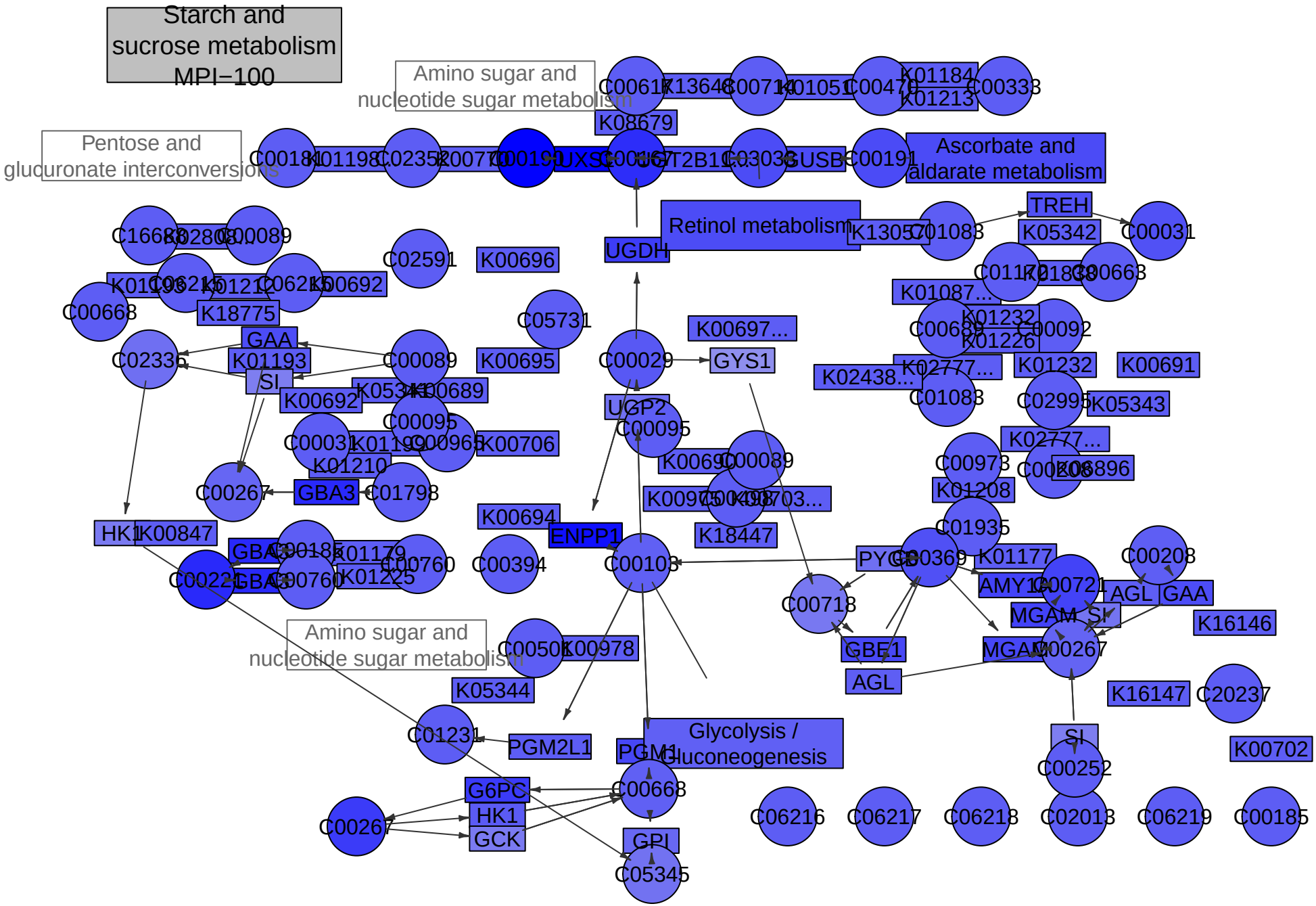
Starch and sucrose metabolism MPI−100
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K00696
K00692
K00695
K00706
K00694
K16146
K16147
K00702
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C00089
C00095
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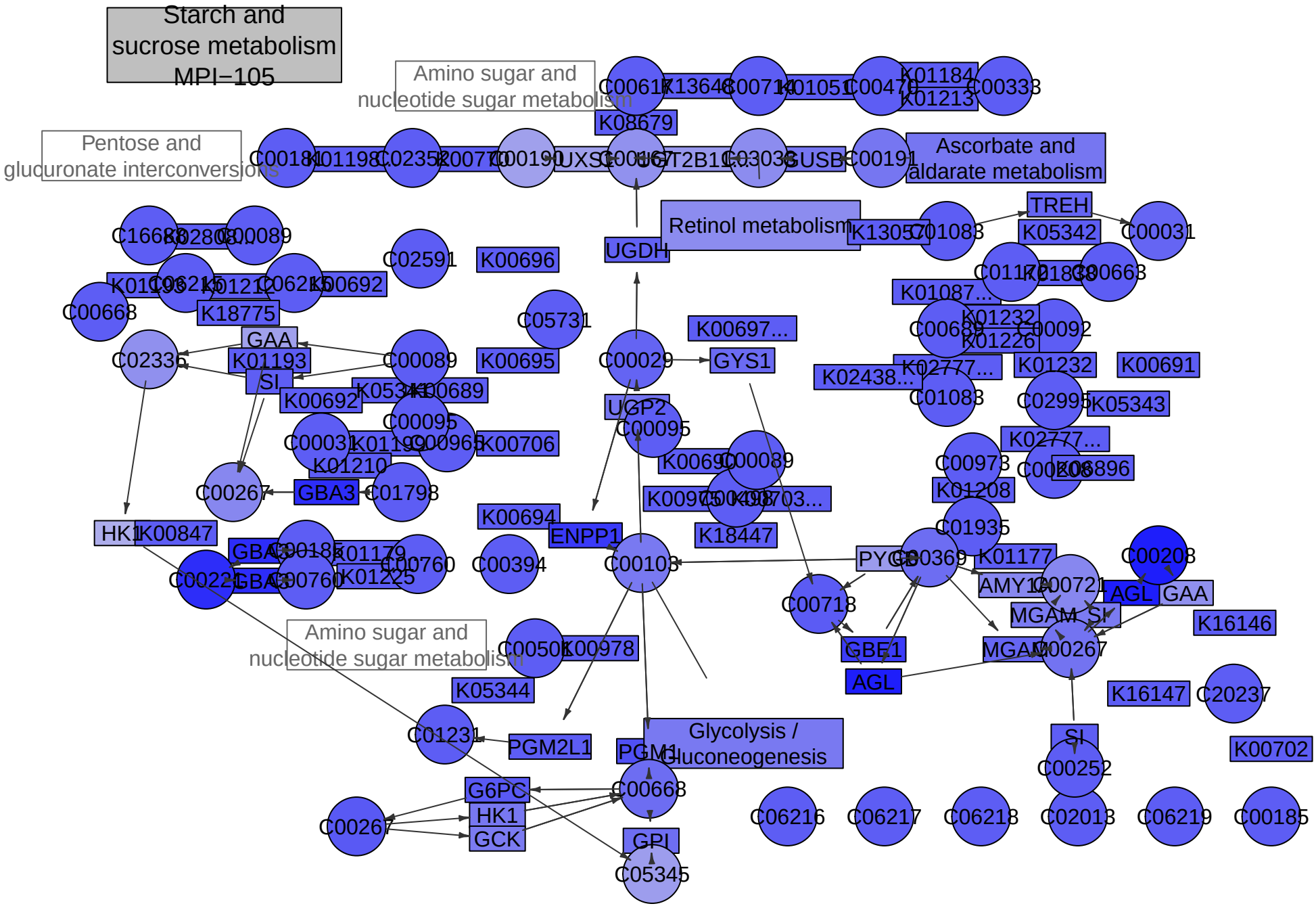
C05345


Starch and sucrose metabolism MPI−105
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
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GBA3
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K00694
ENPP1
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AGL
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MGAM
SI
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USB
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GBA3
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K00847
K00694
ENPP1
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C00394
C00760
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PYGB
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AMY1A
C00721
AGL
GAA
MGAM
SI
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AGL
MGAM
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C20237
K05344
C01231
PGM2L1
PGM1
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HK1
GCK
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GPI
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C06217
C06218
C02013
C06219
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C00470
K01184
K01213
C00333
K08679
C00185
K01198
C02352
K00770
C00190
UXS
C00667
UGT2B11
C03038
USB
C00191
Ascorbate and aldarate metabolism
Retinol metabolism
K13054
C01083
TREH
K05342
C00031
C01170
K01183
C00663
K01087...
K01232
K01226
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K02777...
K01232
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C02995
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K02777...
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AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
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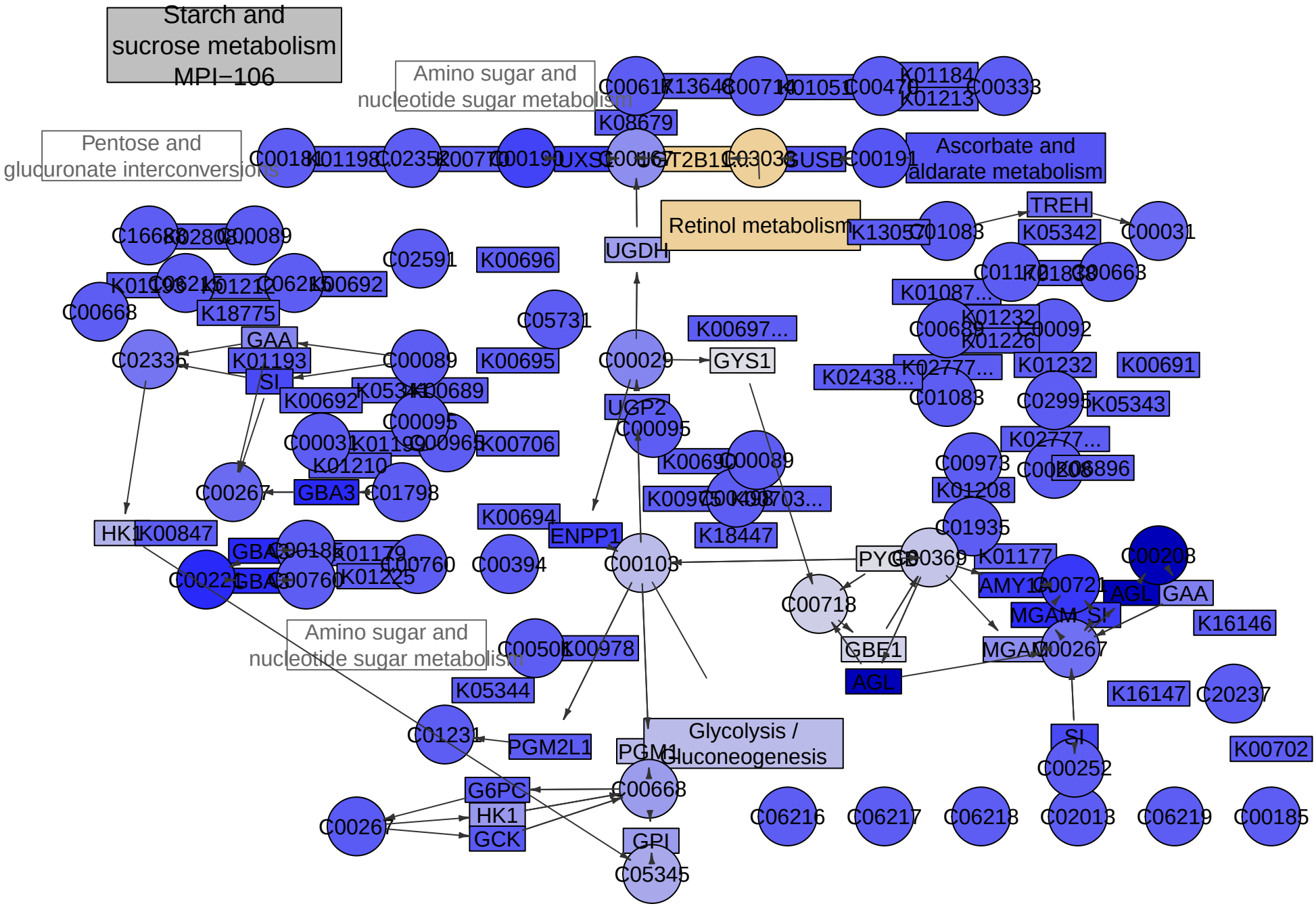
C06219
C00185


Starch and sucrose metabolism MPI−106
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
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K02777...
K05343
K00691
K01208
K16146
K16147
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C00252
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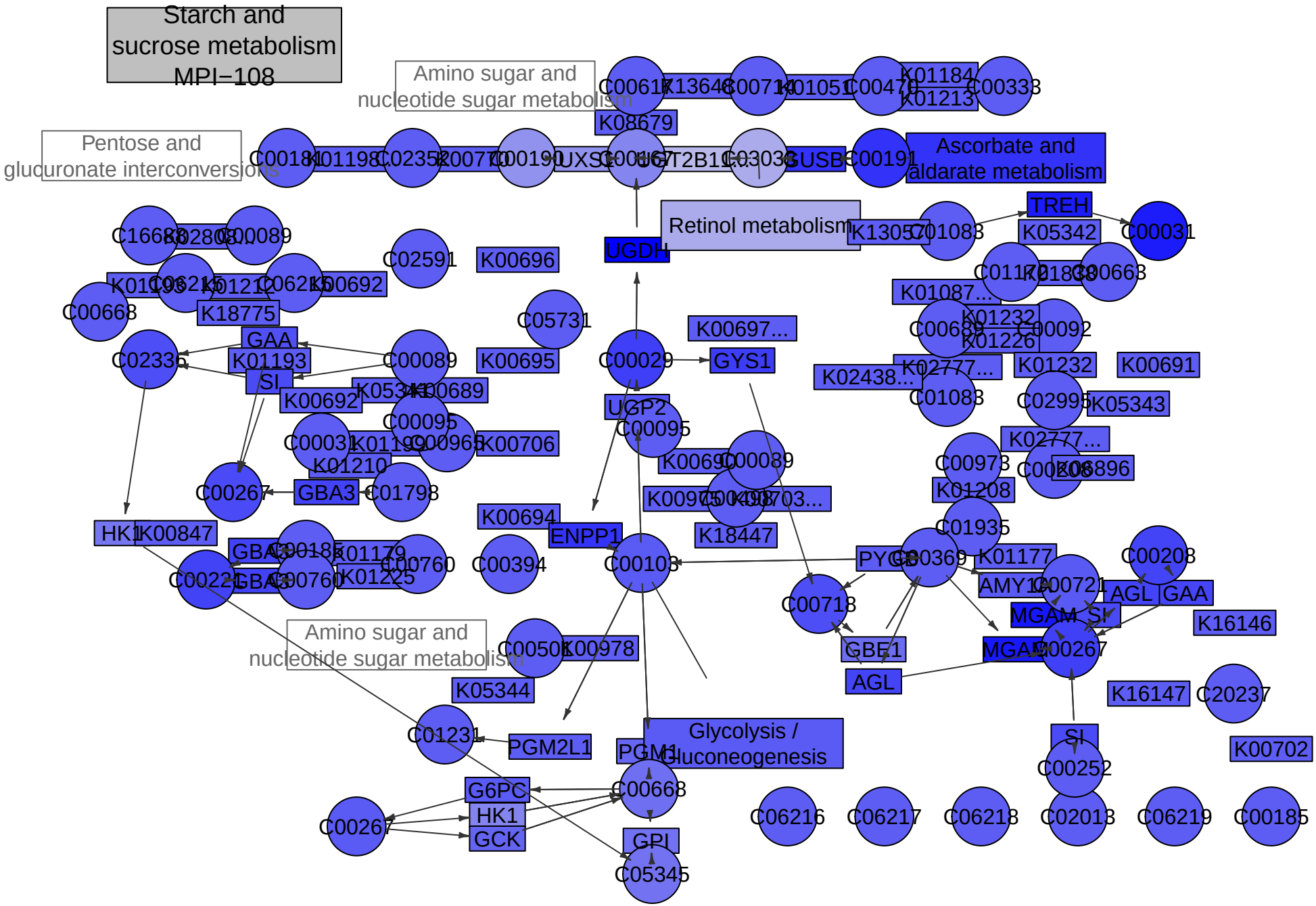
Starch and sucrose metabolism MPI−108
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
GUSB
C00191
UGDH
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
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K00695
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C00029
GYS1
K00697...
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UGP2
C00095
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GBA3
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C20237
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PGM1
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GCK
GPI
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C06219
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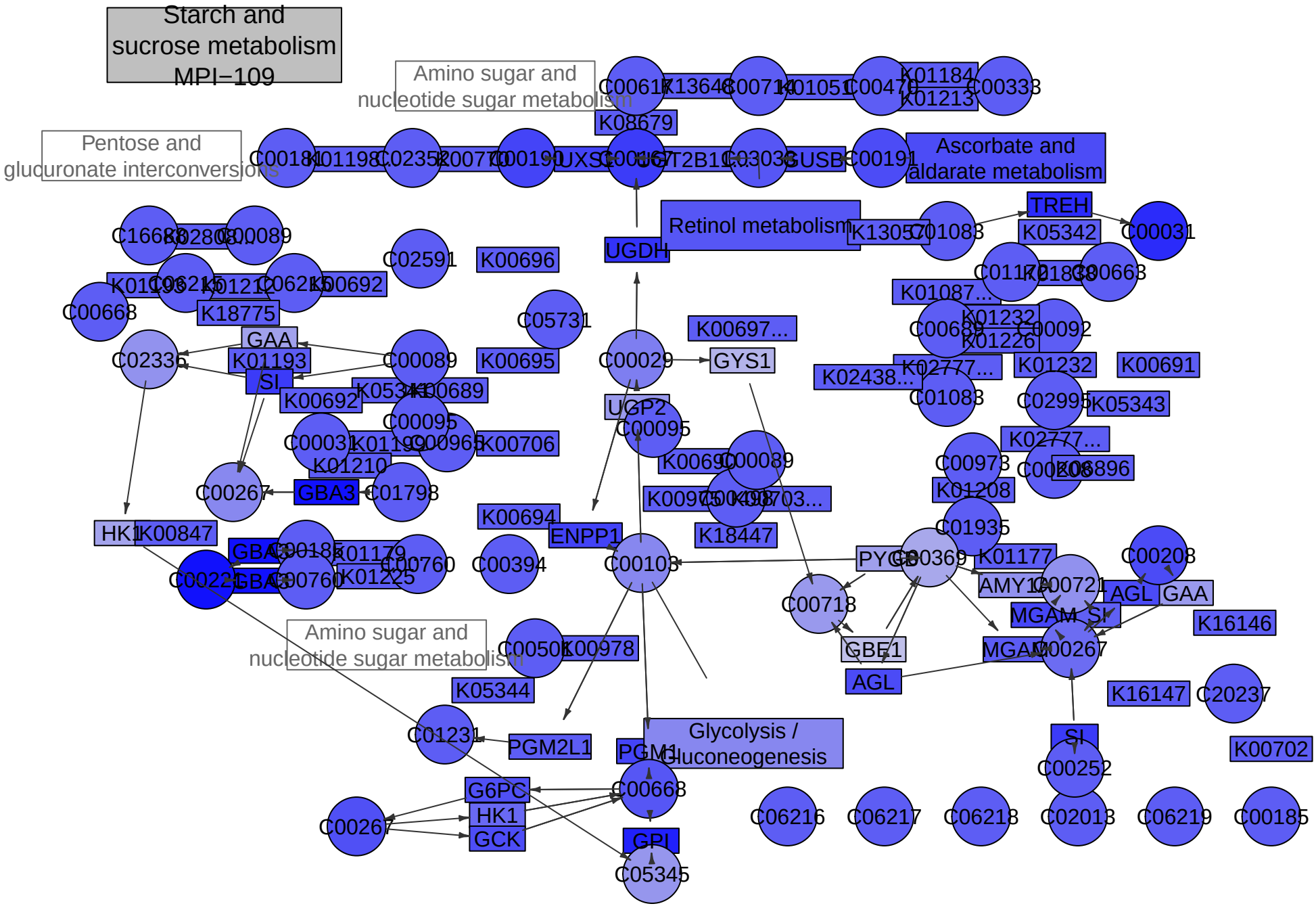
Starch and sucrose metabolism MPI−109
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
SI
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K00978
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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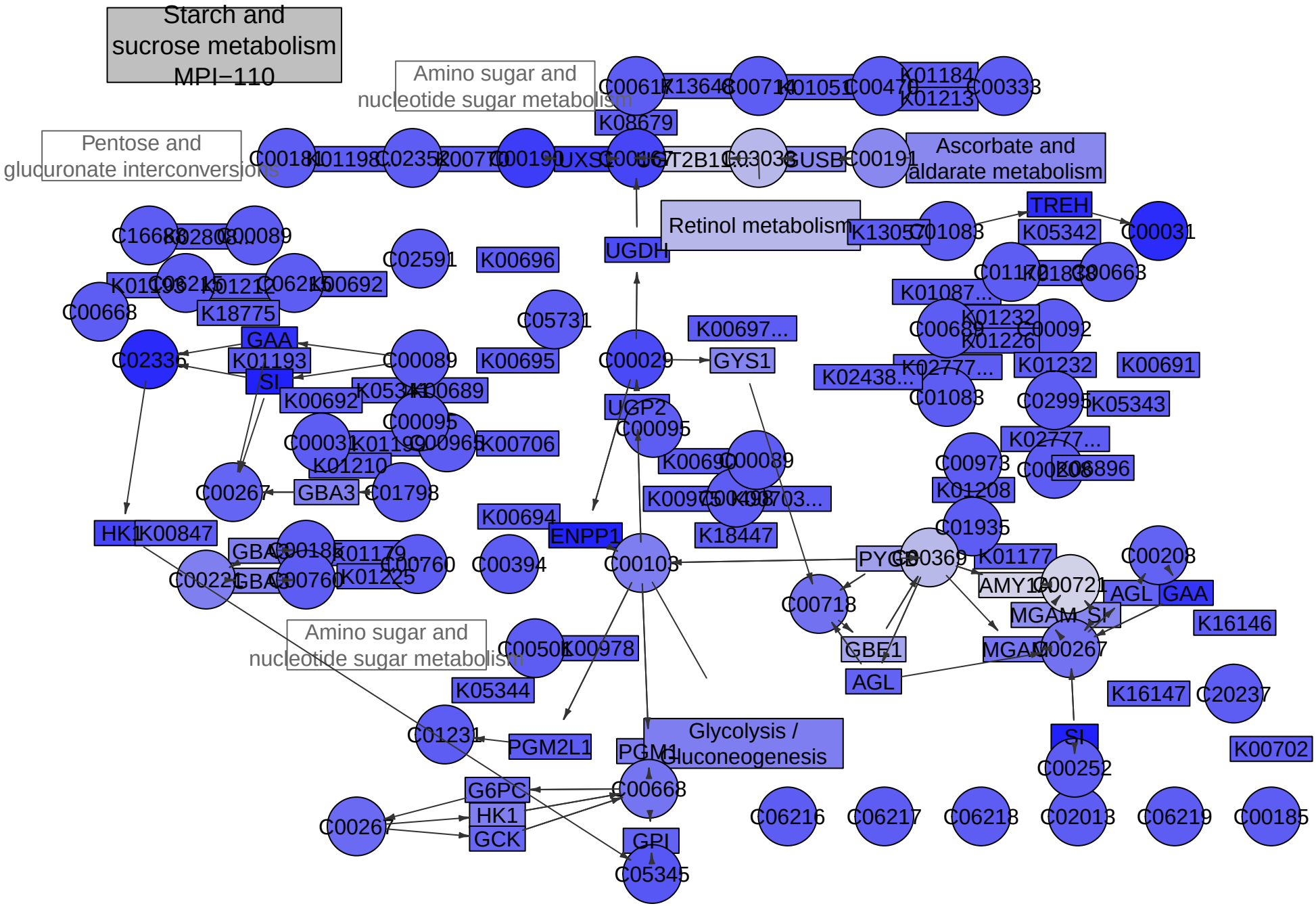
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−110
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
TREH
K05342
C00031
C01083
K13057
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00221
K01179
K01225
C00760
C00394
C00718
PYGB
C00369
K01177
AMY1A
C00721
C00208
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
AGL
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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HK1
GCK
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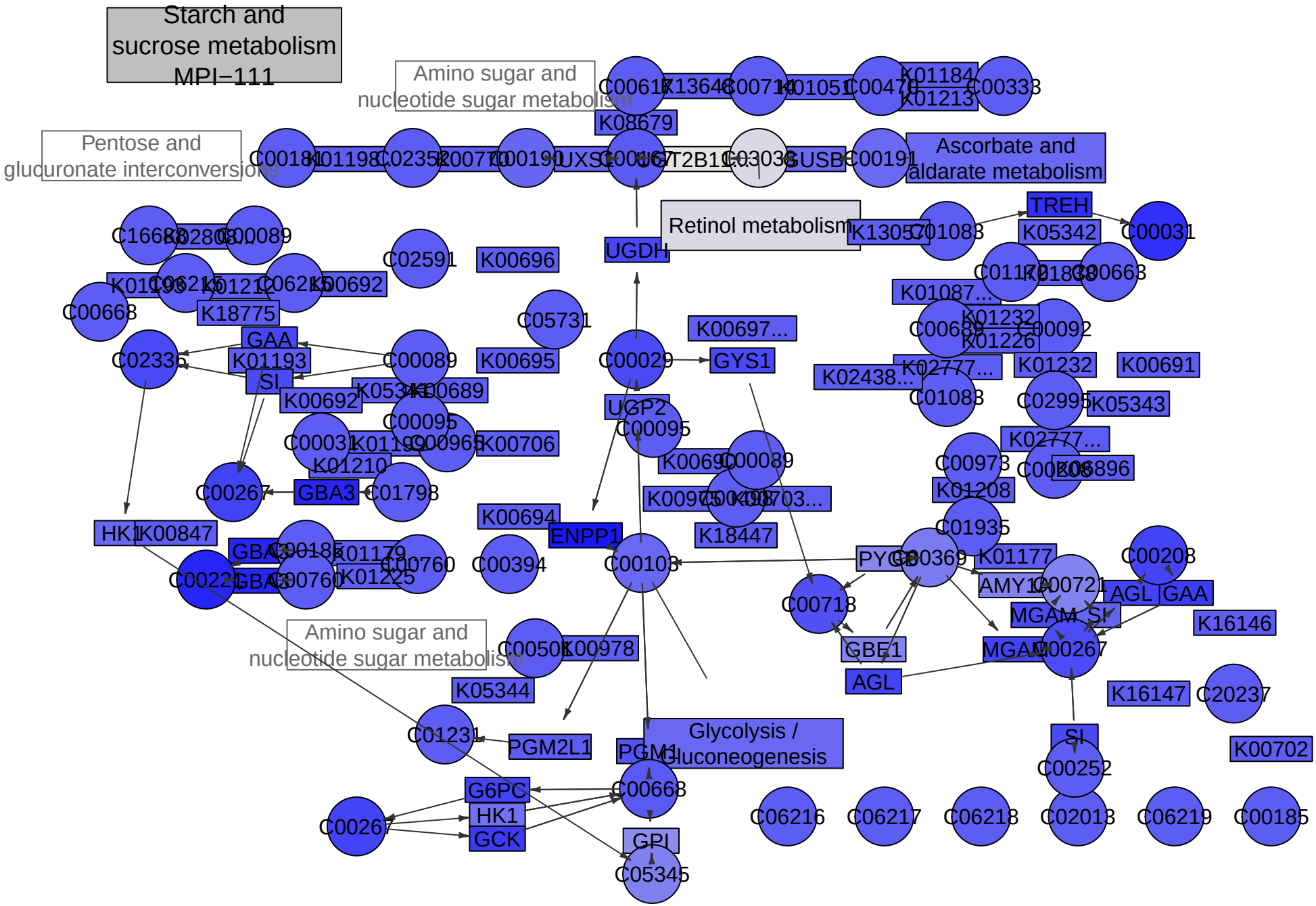
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−111
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K00702
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00252
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
K01232
K00691
K02438...
K02777...
C01083
C02995
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C00973
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C01935
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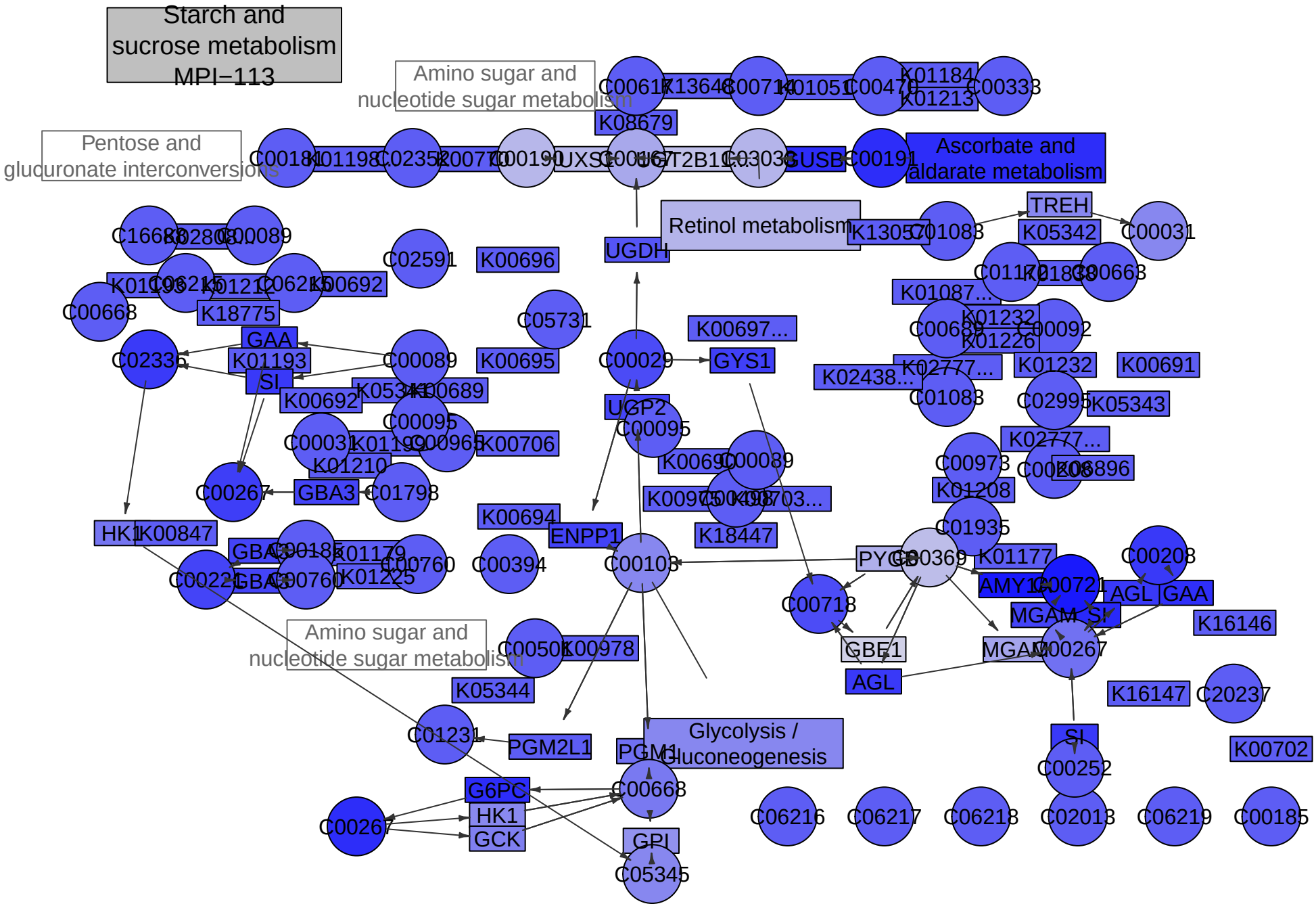
K00978
K05344


Starch and sucrose metabolism MPI−113
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01232
K01226
C00092
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00394
C00760
K01179
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
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GPI
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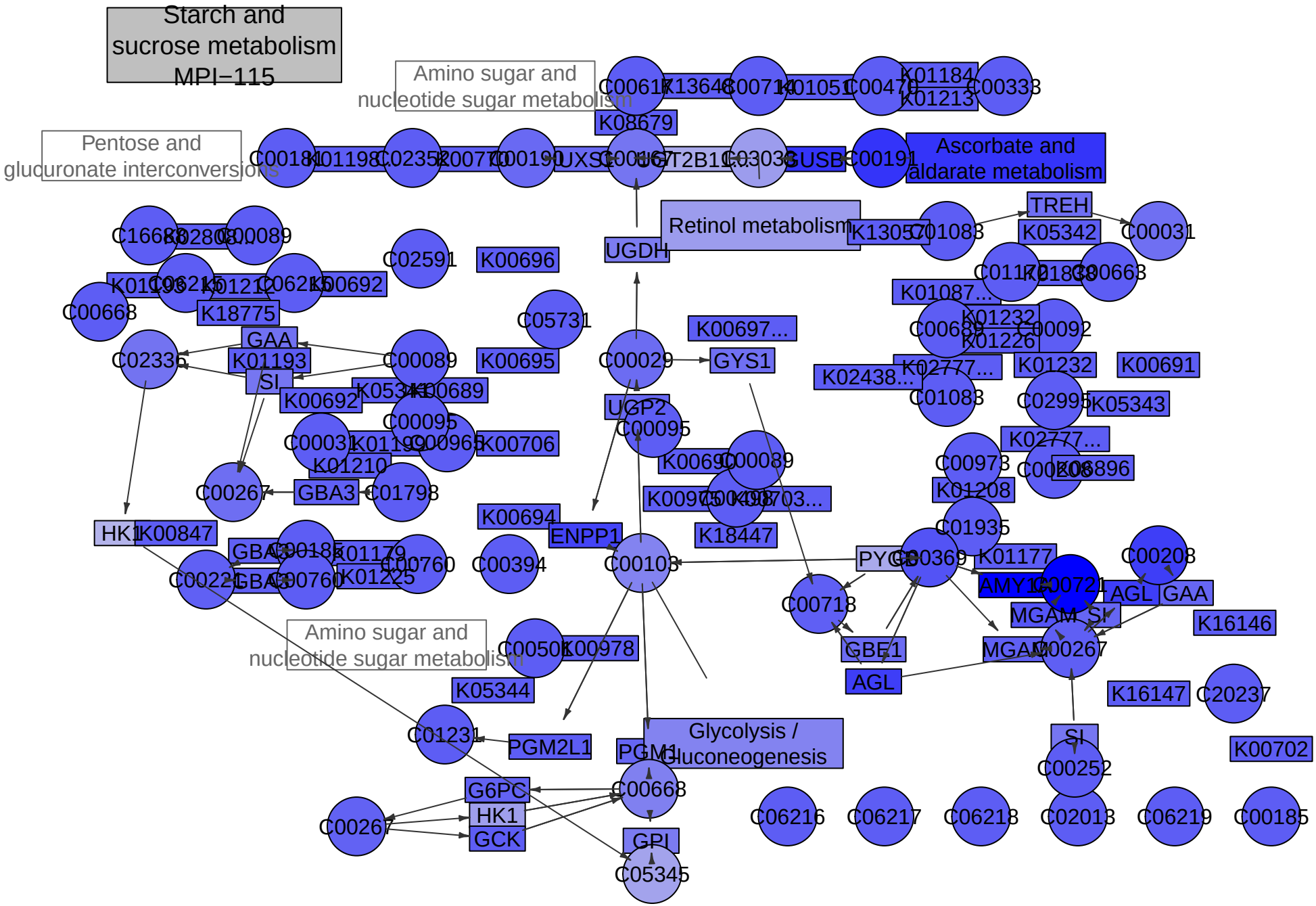
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−115
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00697...
GYS1
K00695
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
C00103
C00394
C00760
K01225
C00718
GBE1
AGL
K16146
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
C00252
K01232
K00691
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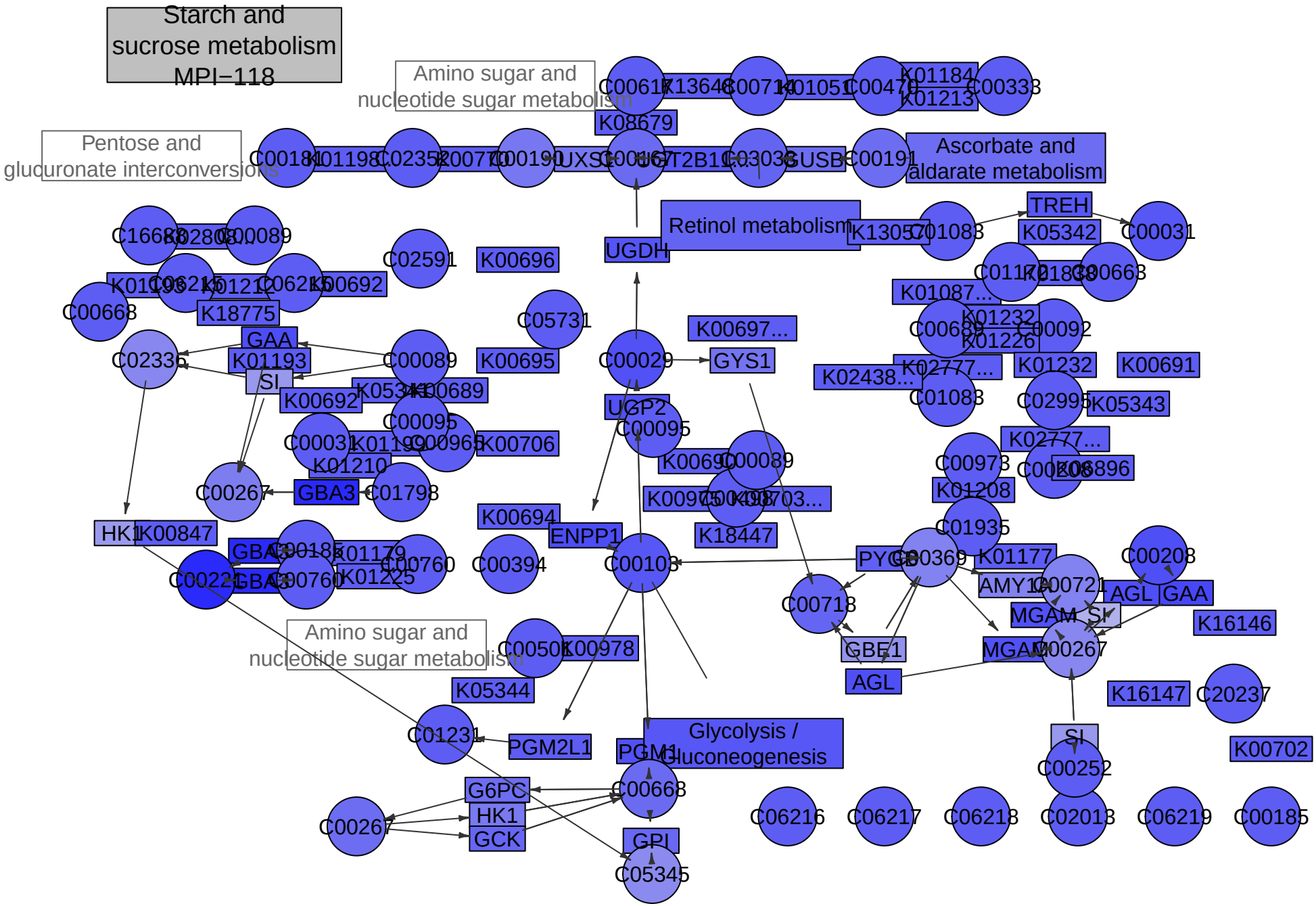
Starch and sucrose metabolism MPI−118
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00692
K00697...
GYS1
C00029
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
C00252
K00702
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
K01935
K01184
K01213
C00333
K01051
C00470
C00617
K13648
K00714
K01198
C00191
C00089
C00668
K01232
K01226
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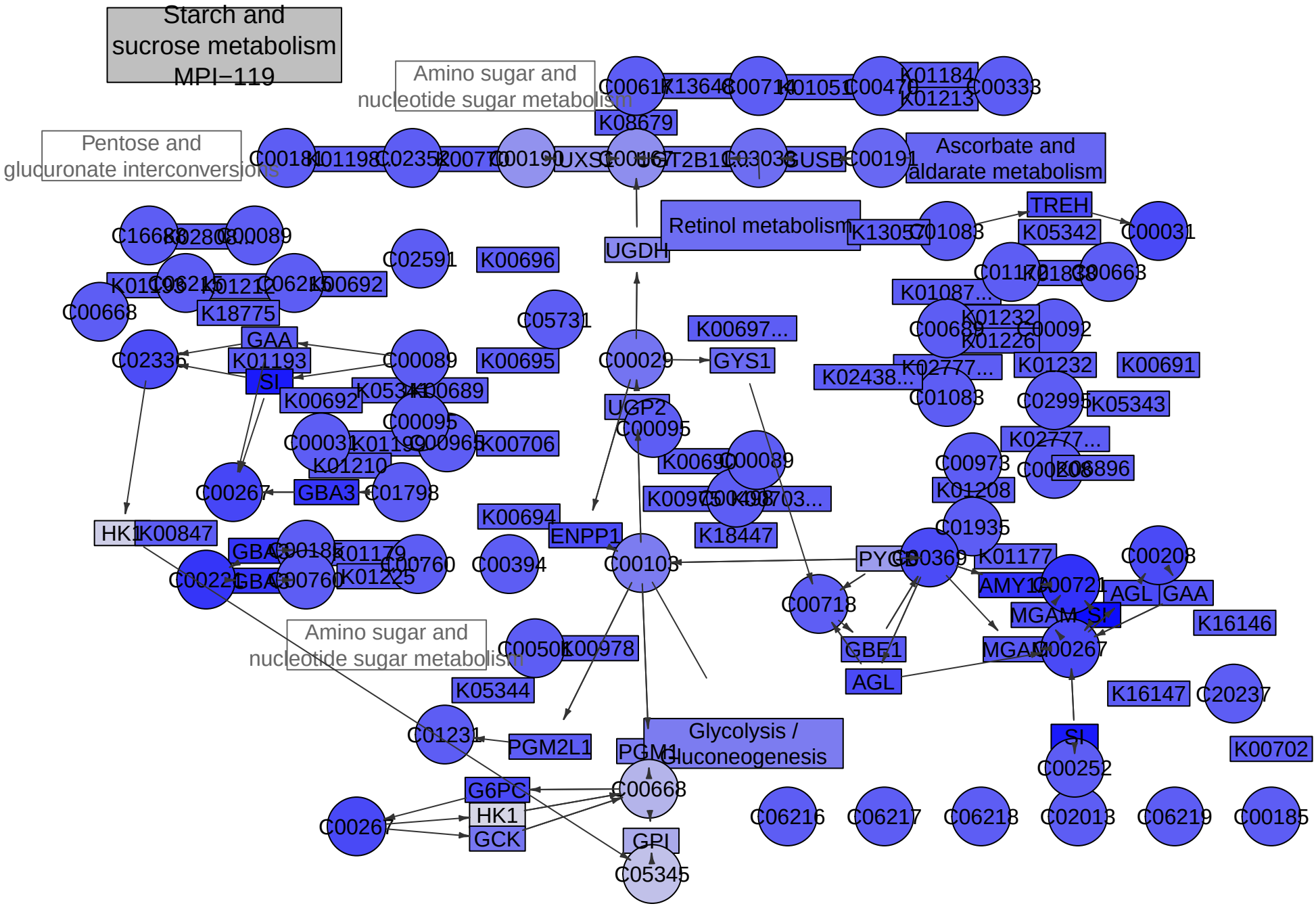
Starch and sucrose metabolism MPI−119
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
SI
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
C00108
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K00978
C01231
PGM2L1
PGM1
K16147
C20237
SI
C00252
K00702
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
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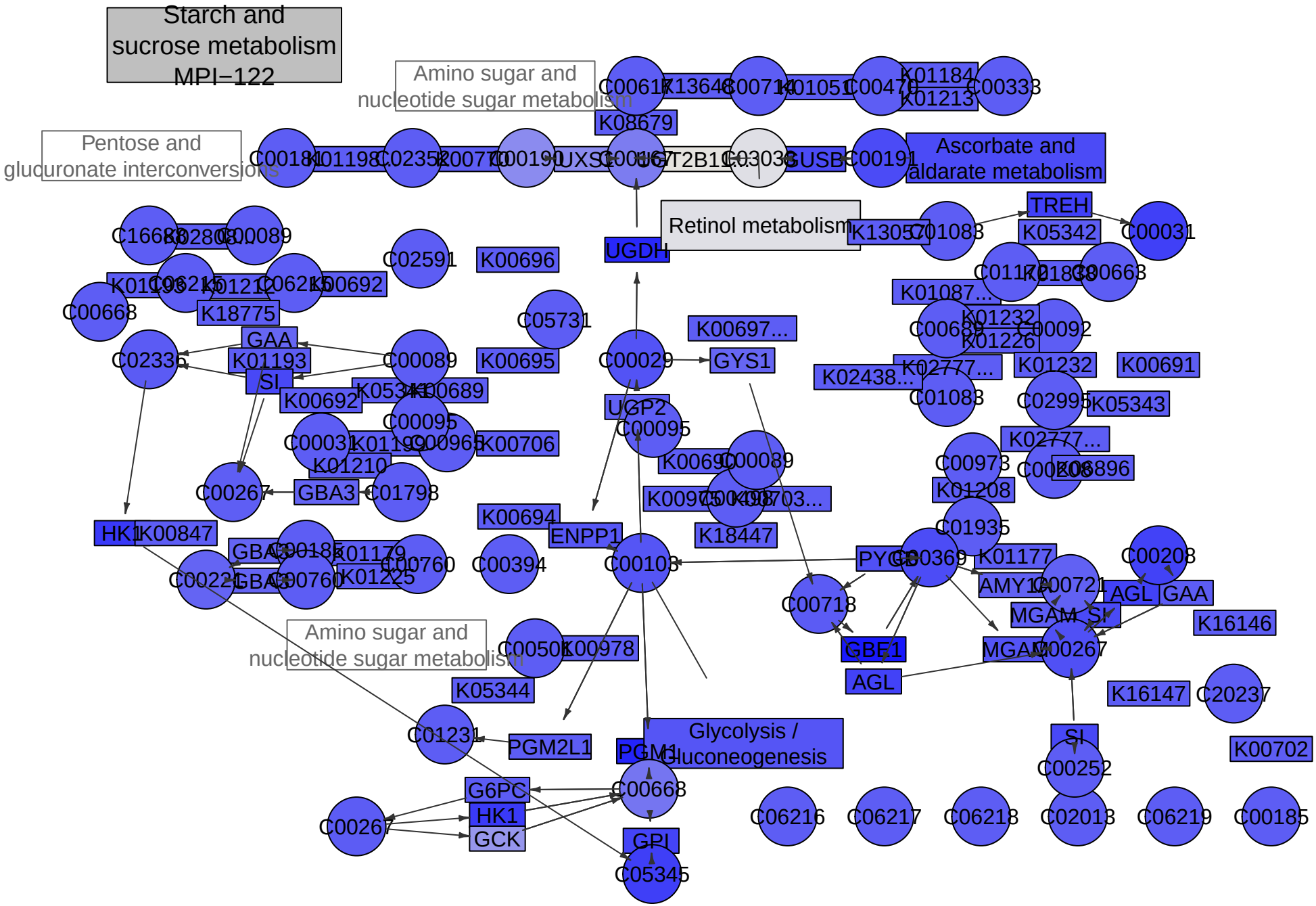
Starch and sucrose metabolism MPI−122
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K05343
K02777...
K01232
K00691
K00696
K00692
K00695
K00706
K00694
K18447
K16146
K16147
K00702
C00668
C02336
C02591
C05731
C00029
C00095
C00089
C00267
C00718
C00208
C00721
C20237
C06216
C06217
C06218
C02013
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C05345
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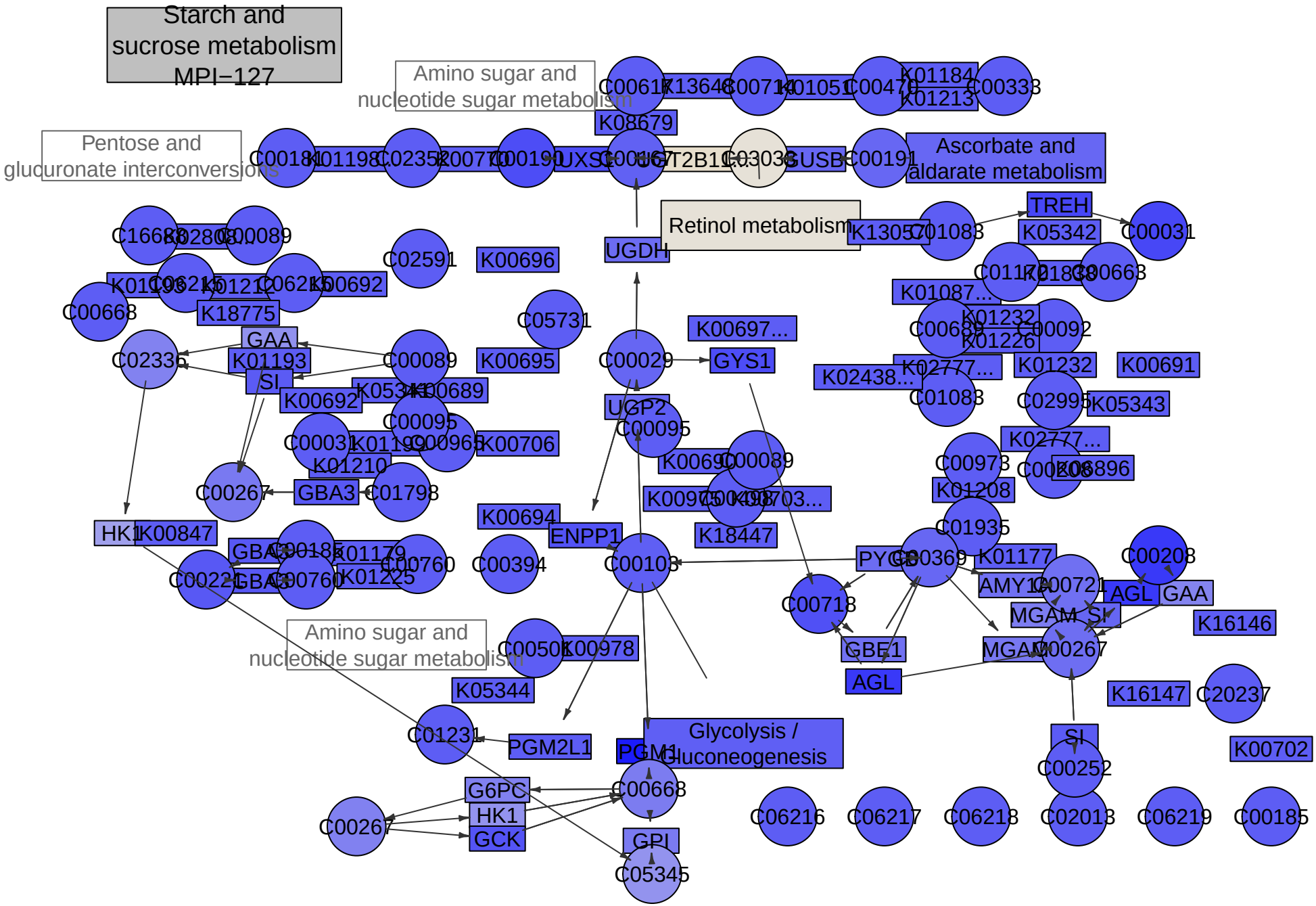
C00191
C00668


Starch and sucrose metabolism MPI−127
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS1
C00167
UGT2B11
C03036
GUSB
C00191
UGDH
TREH
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K00692
K18775
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C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
SI
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
K00847
K01179
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C00394
K01225
C00718
GBE1
AGL
PYGB
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K01177
AMY1A
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MGAM
SI
GAA
K16146
C00208
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K01232
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K01232
K00691
K02438...
K02777...
C01083
C02995
K05343
K02777...
C00973
K01208
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K16147
C20237
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C00252
C01231
PGM2L1
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GCK
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C06217
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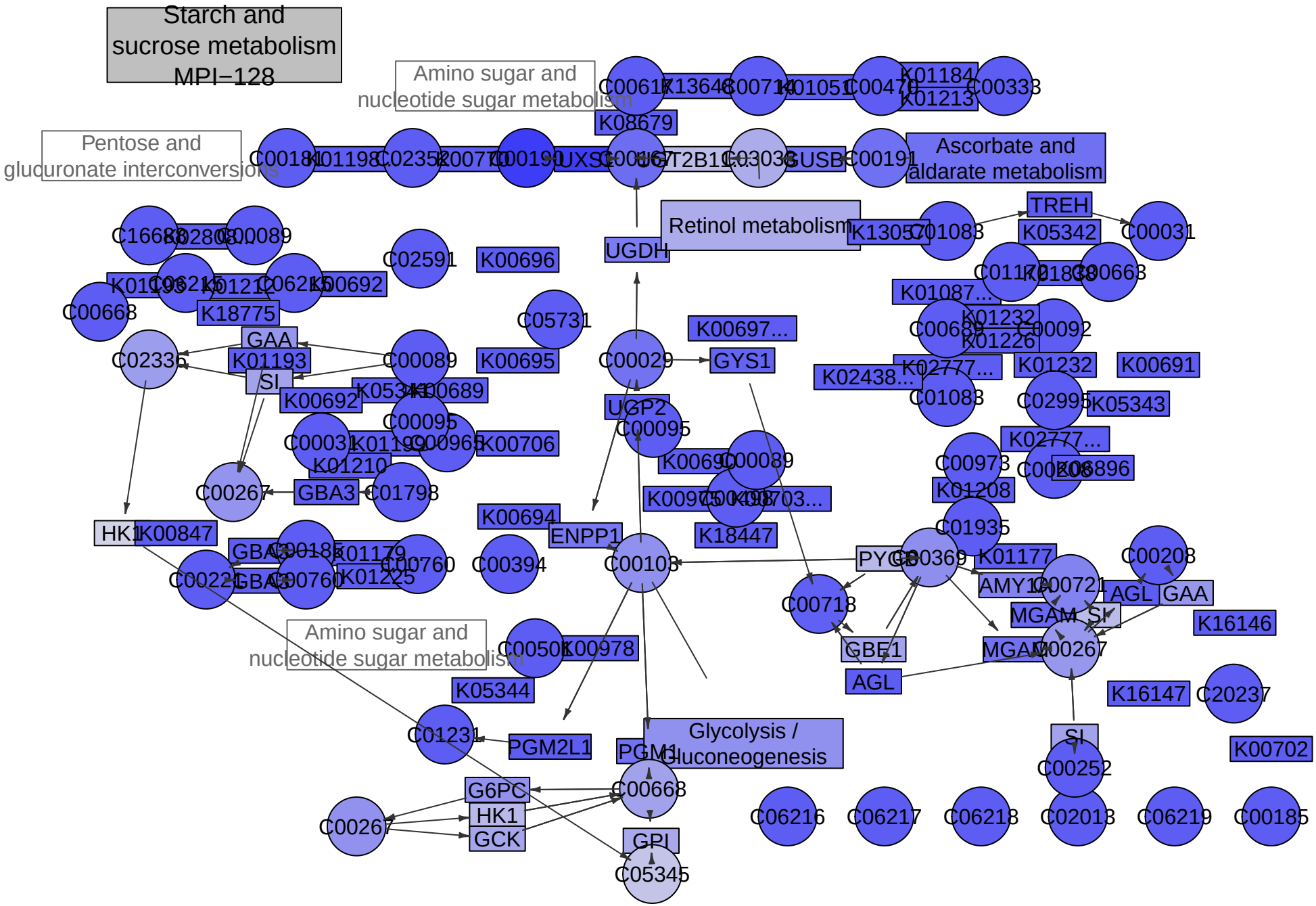
C00185


Starch and sucrose metabolism MPI−128
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C02336
C00668
C05731
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00692
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
K00847
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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GCK
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C06217
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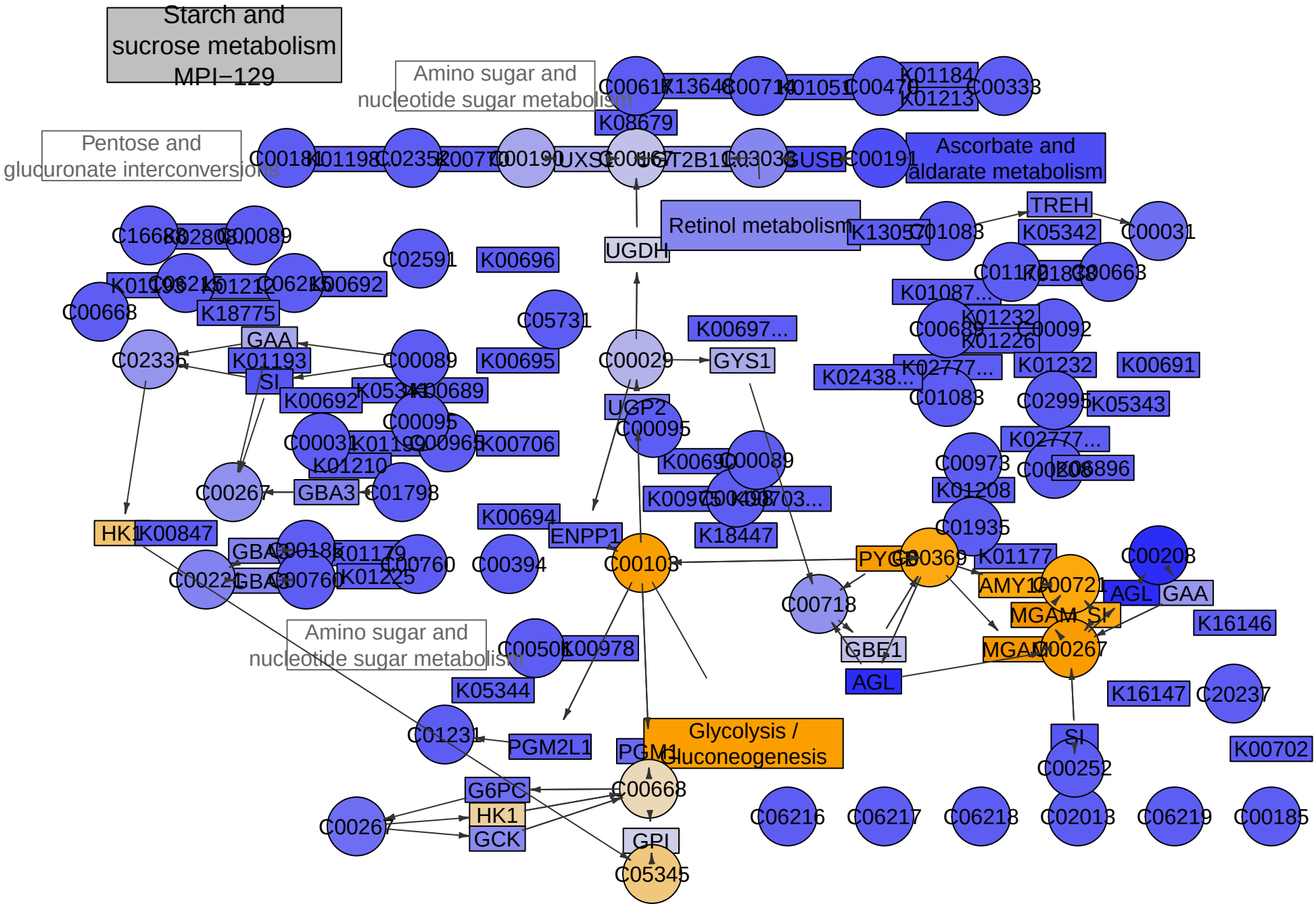
C06219
C00185


Starch and sucrose metabolism MPI−129
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
GUSB
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
K00692
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GYS1
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UGP2
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K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
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PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C00718
GBE1
AGL
PYGB
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K01177
AMY1A
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MGAM
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K16146
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K00702
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C06218
C02013
C06219
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K02438...
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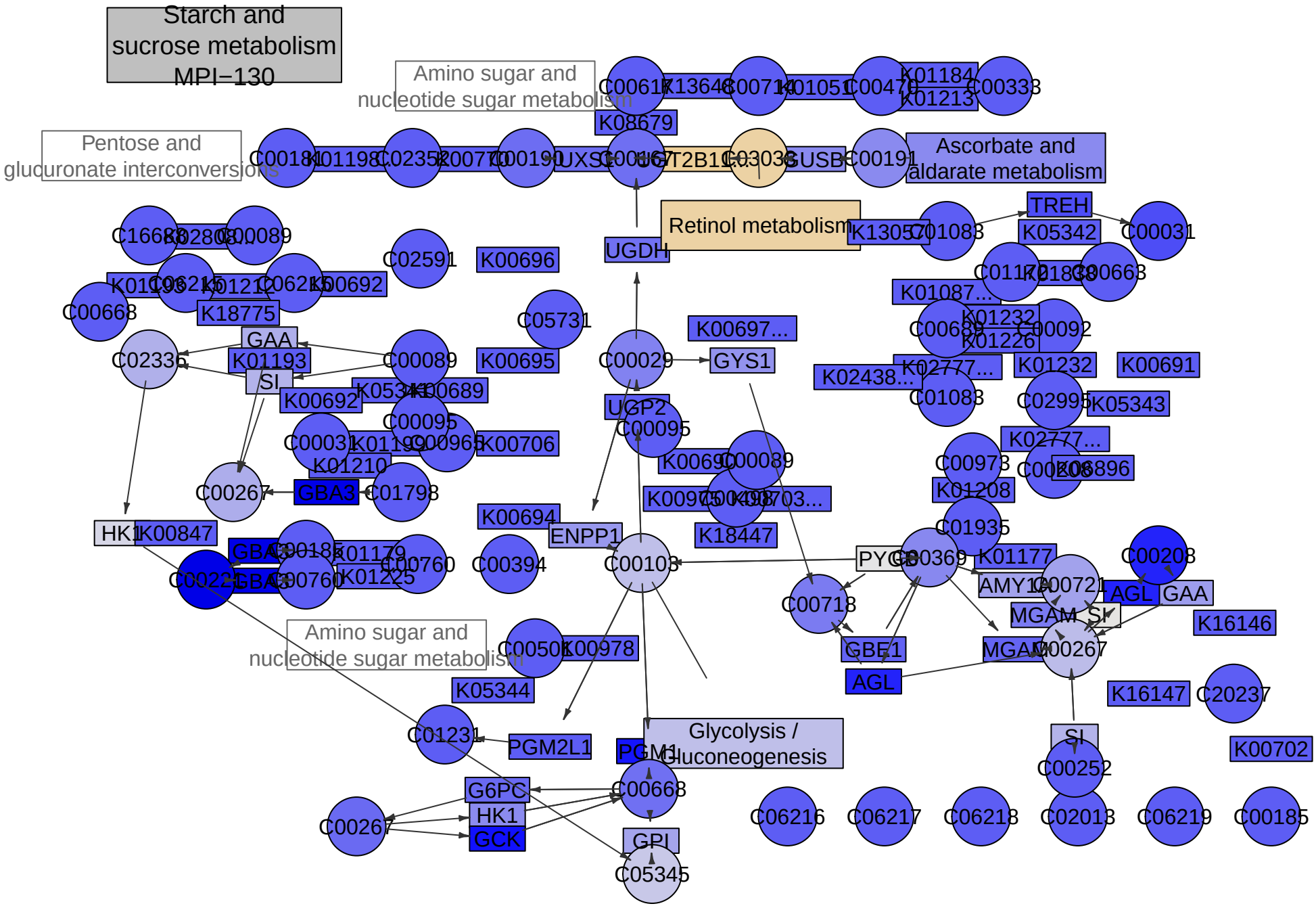
Starch and sucrose metabolism MPI−130
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00103
ENPP1
K00694
K18447
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
SI
C00267
K16146
K16147
C20237
K00702
C00252
C06216
C06217
C06218
C02013
C06219
C00185
C00668
G6PC
HK1
GCK
GPI
C05345
PGM2L1
PGM1
C01231
K05344
C00501
K00978
C00760
K01225
K01179
C00394
GBA3
C01798
C00267
K00706
K00695
K00692
K00696
C02591
C05731
K18775
GAA
K01193
SI
C02336
C00089
K00689
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K01232
K01226
K02438...
K02777...
C01083
C02995
K05343
K06896
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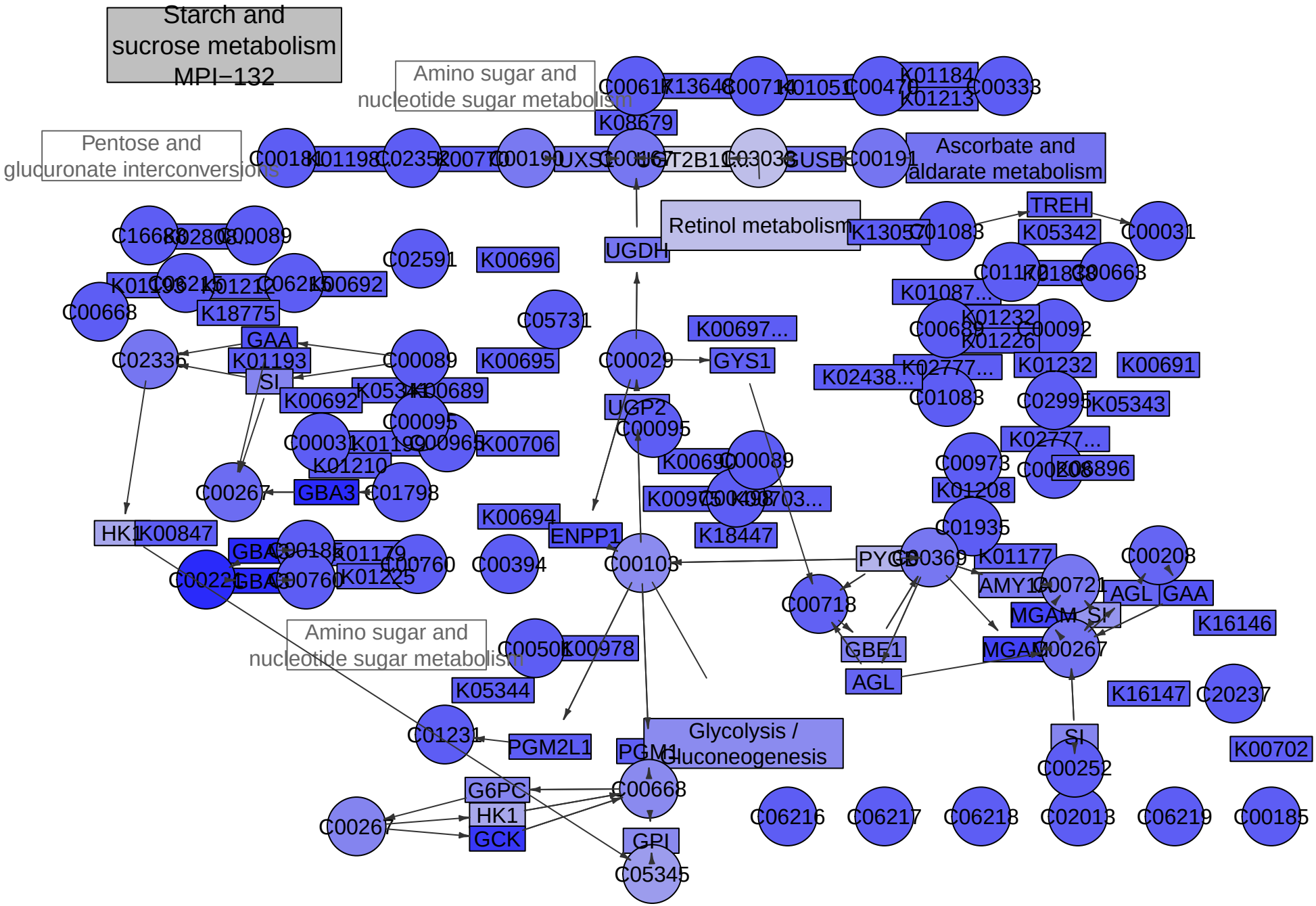
Starch and sucrose metabolism MPI−132
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
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C05731
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K01226
K02438...
K02777...
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K00692
UGP2
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C00760
C00394
C00103
PYGB
C00369
K01177
C00208
C00221
K01225
AMY1A
C00721
AGL
GAA
C00718
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
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GPI
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C06218
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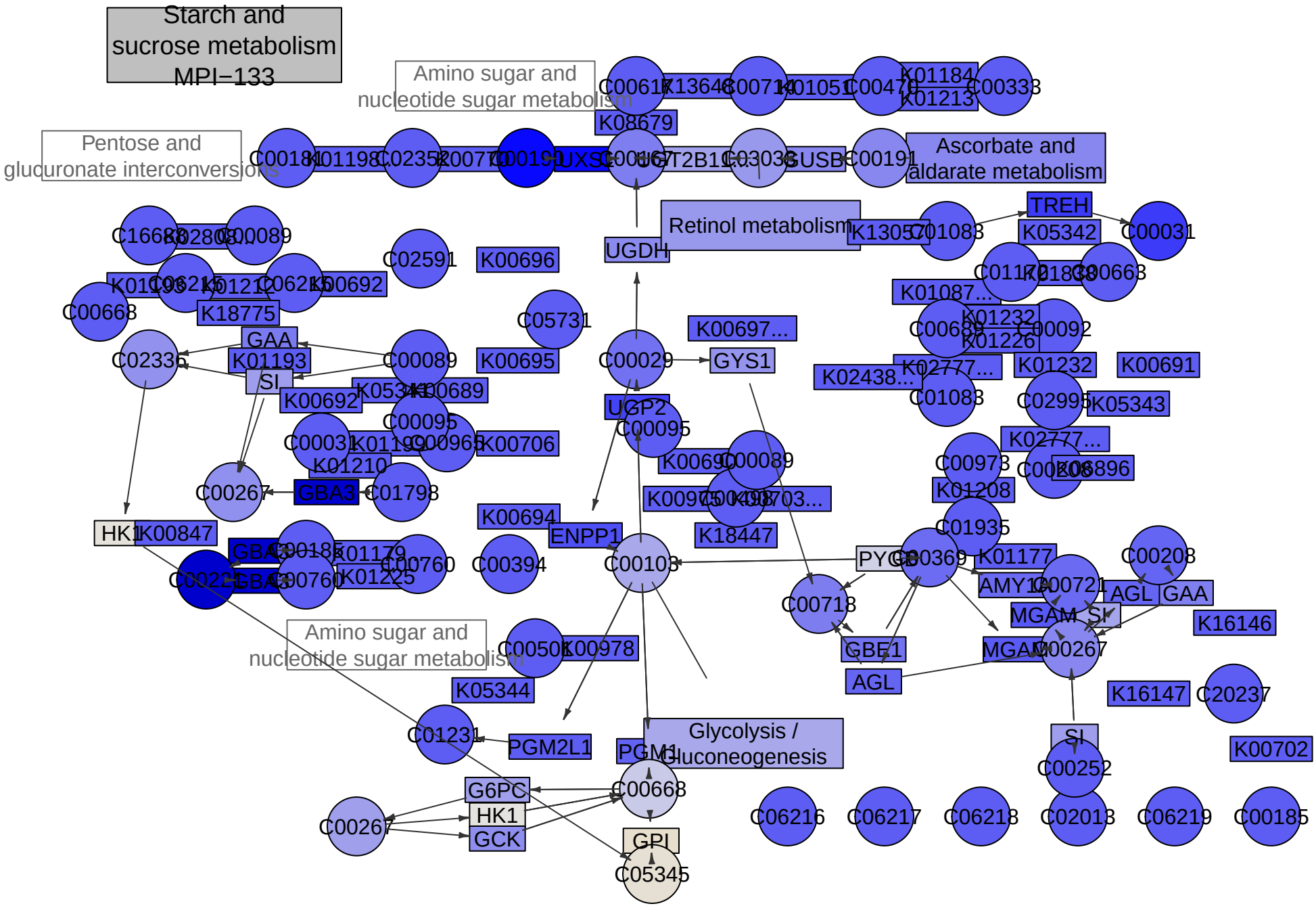
C00185


Starch and sucrose metabolism MPI−133
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00697...
GYS1
K00695
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
C00103
C00394
C00760
K01225
C00718
PYGB
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
C00252
K01087...
K01232
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K00691
K02438...
K02777...
K05343
K02777...
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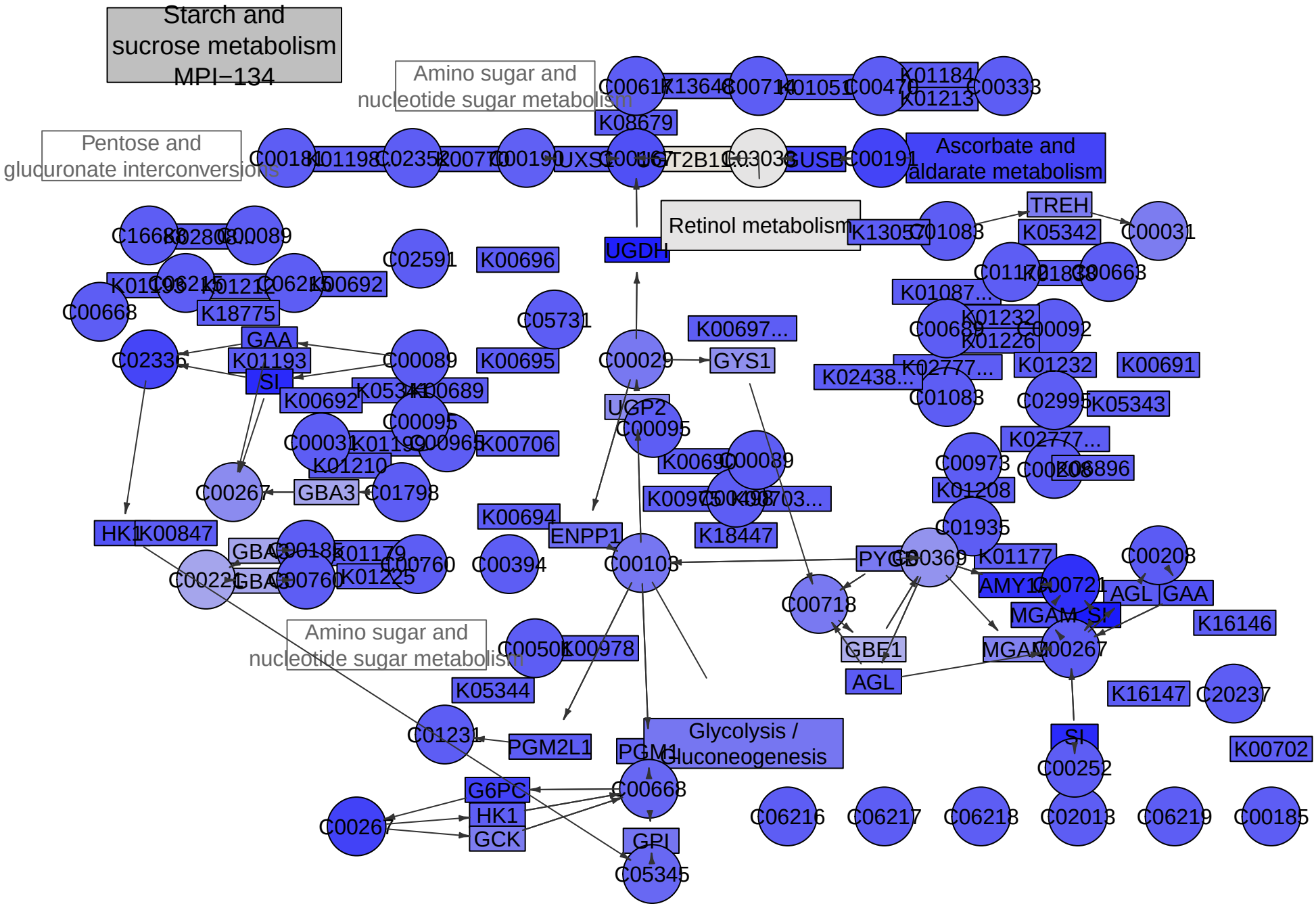
K01935
C00208
K16896


Starch and sucrose metabolism MPI−134
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
SI
C02336
C00089
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
C00394
C00760
K01179
K01225
HK1
K00847
K18447
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
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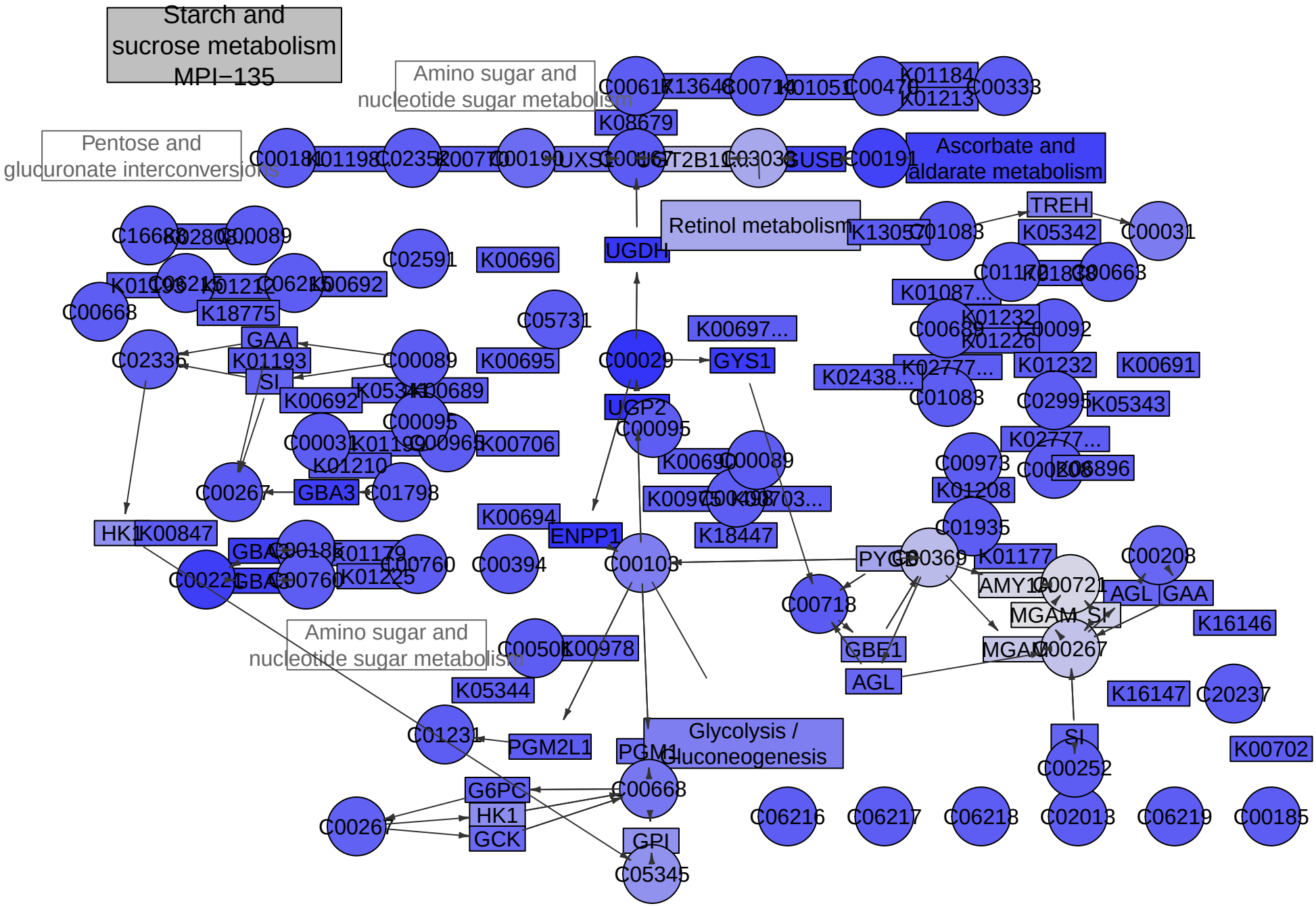
K01208
C00973
K06896


Starch and sucrose metabolism MPI−135
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C02336
C00089
K00695
SI
K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
C00031
K01210
K00965
K00706
K02777...
C00267
GBA3
C01798
K00694
ENPP1
K18447
C01935
HK1
K00847
C00108
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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GPI
C05345
C06216
C06217
C06218
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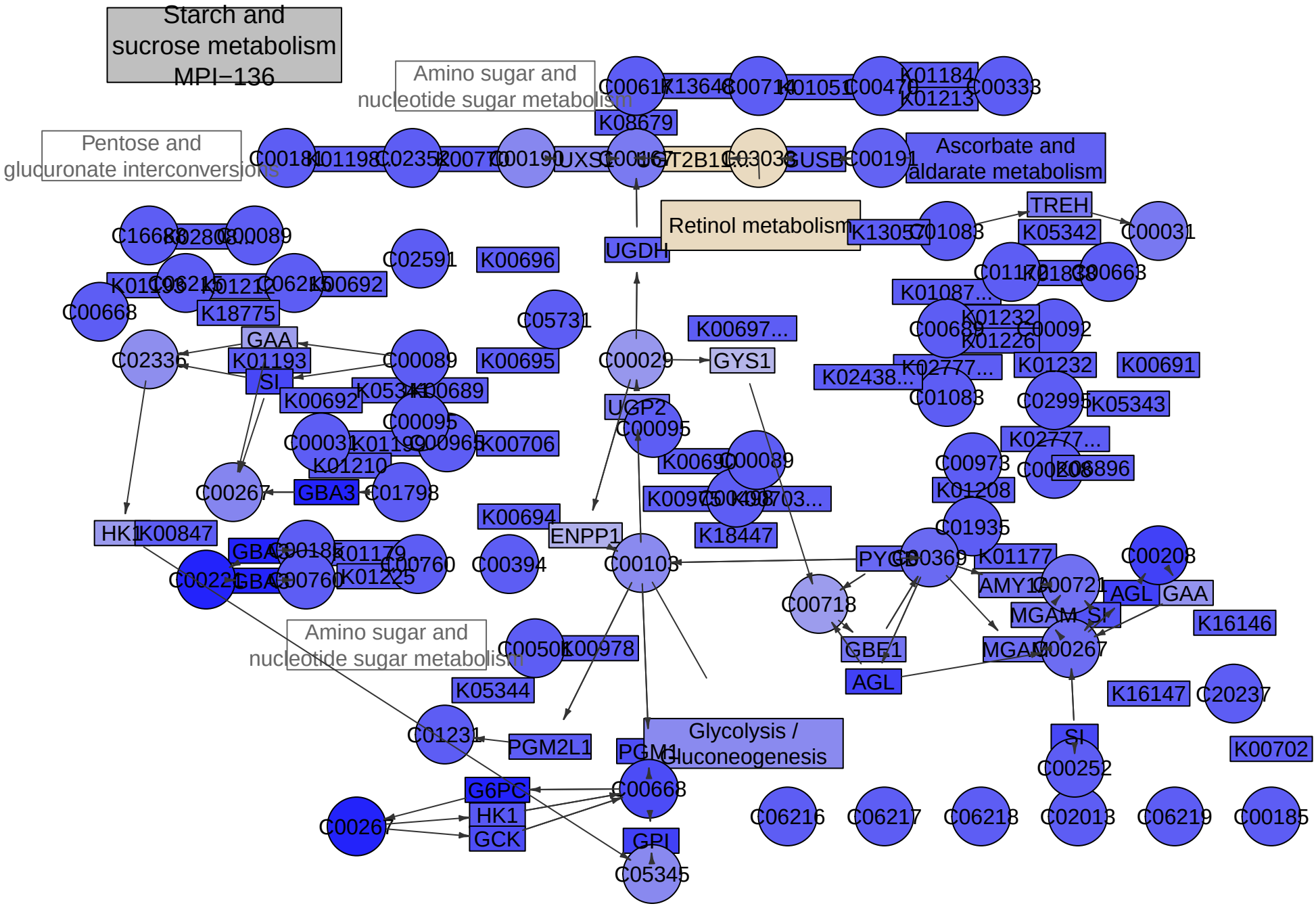
C00185


Starch and sucrose metabolism MPI−136
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03036
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
C02336
K01193
C00089
K00695
SI
K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
K01210
K00694
ENPP1
C00267
GBA3
C01798
HK1
K00847
K18447
C00103
C00718
PYGB
C00369
K01177
C00208
C01935
K01208
C00973
K06896
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
MGAM
C00267
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
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C06217
C06218
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K16147
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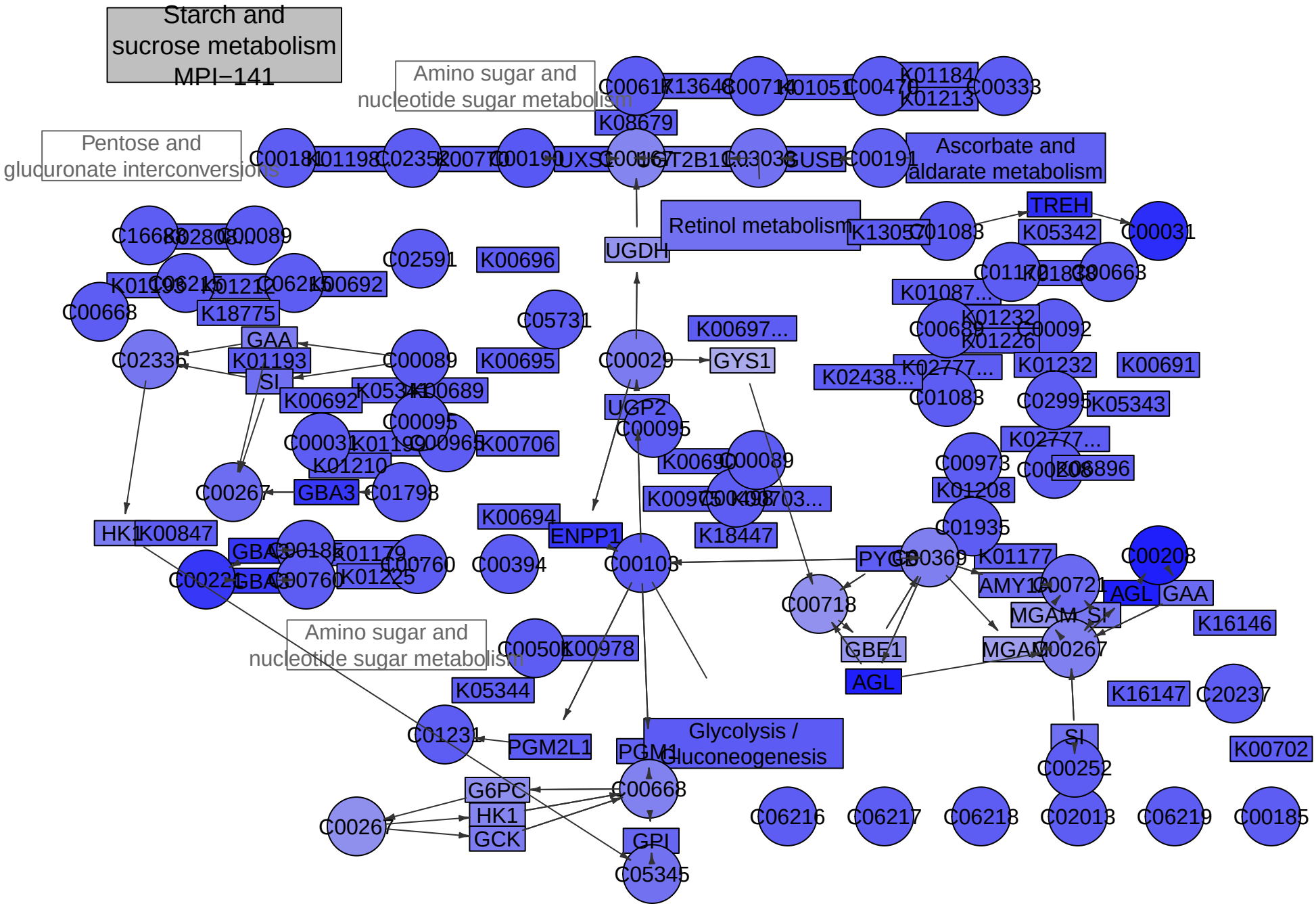
K00702


Starch and sucrose metabolism MPI−141
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00668
K18775
GAA
K01193
SI
C02336
C02591
K00696
C05731
K00695
C00089
K00692
K00689
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K01179
K18447
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C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
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K16147
C20237
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C00252
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
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GPI
C05345
C06216
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C06218
C02013
C06219
C00185
K01087...
K01232
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K02777...
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C00973
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K01213
C00333
K01051
C00471
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K13648
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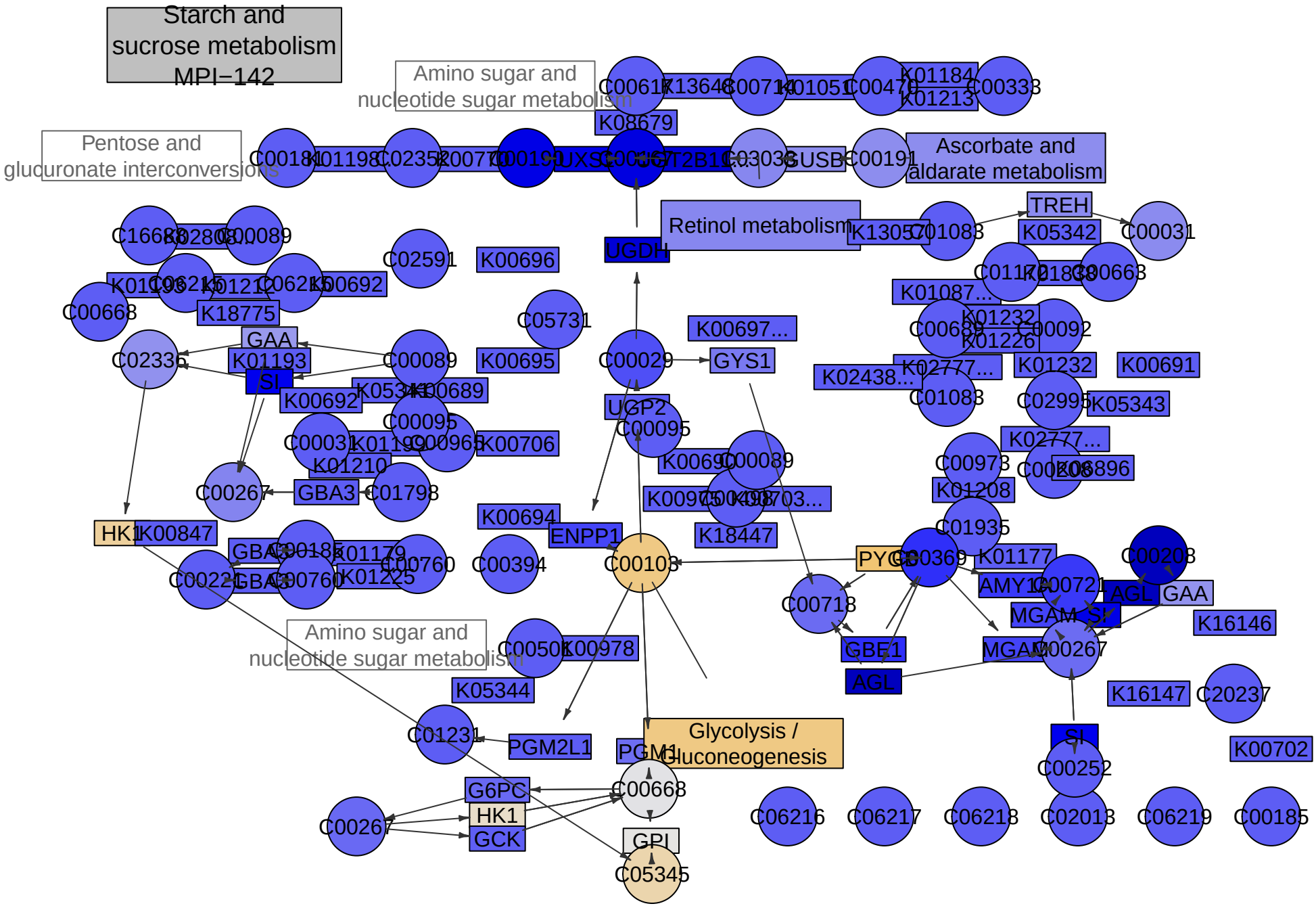
Starch and sucrose metabolism MPI−142
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K02438...
K01232
K00691
K05343
K02777...
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
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MGAM
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PGM1
G6PC
HK1
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GPI
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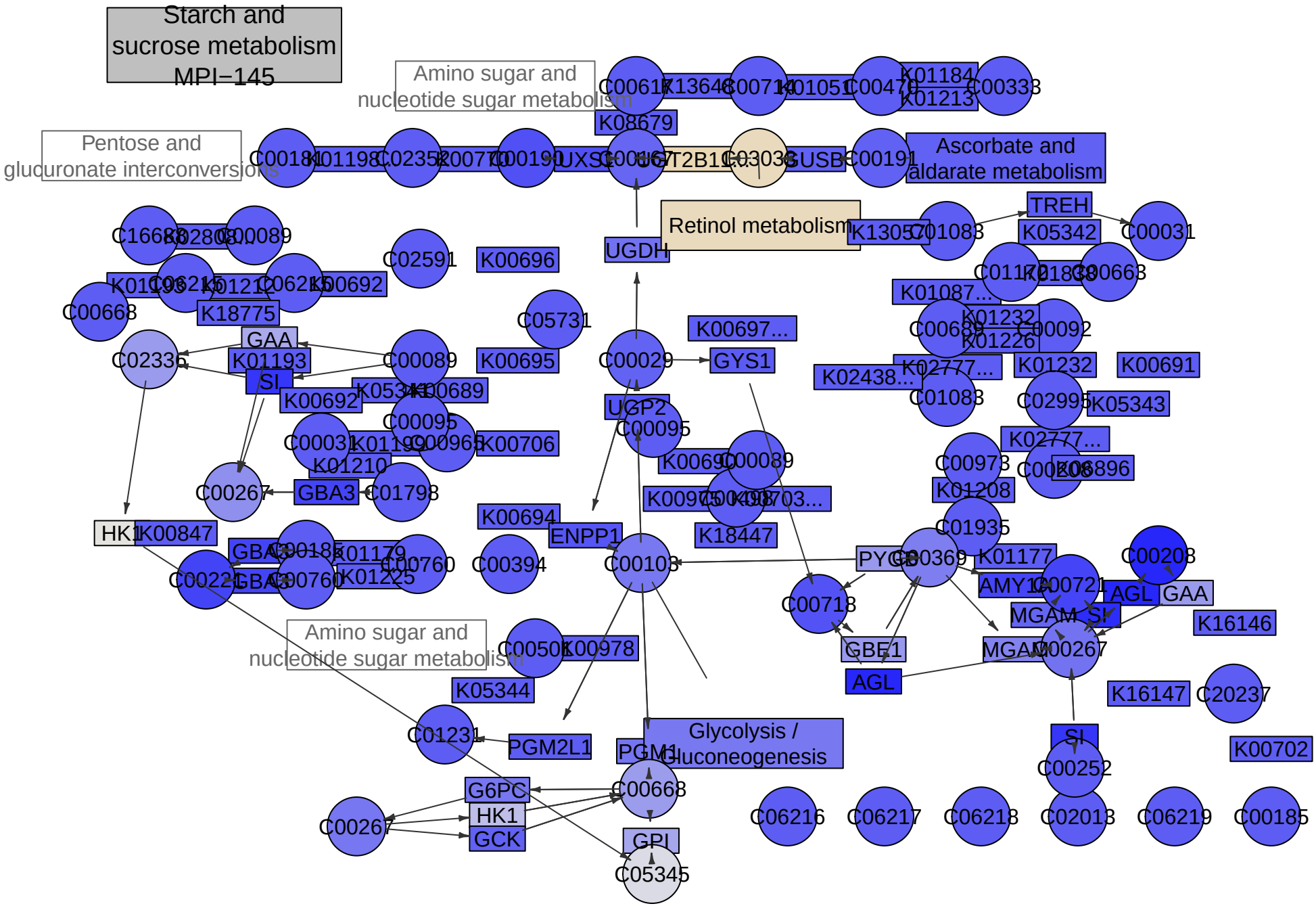
Starch and sucrose metabolism MPI−145
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS1
C00167
T2B1
C03036
USB
C00191
UGDH
K13057
C01083
TREH
K05342
C00031
C02591
K00696
C00668
K18775
C05731
K00697...
GAA
C02336
K01193
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
SI
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00394
C00108
PYGB
C00369
K01177
C00208
C00718
AMY1A
C00721
AGL
GAA
MGAM
K16146
GBE1
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
C00252
K00702
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HK1
GCK
GPI
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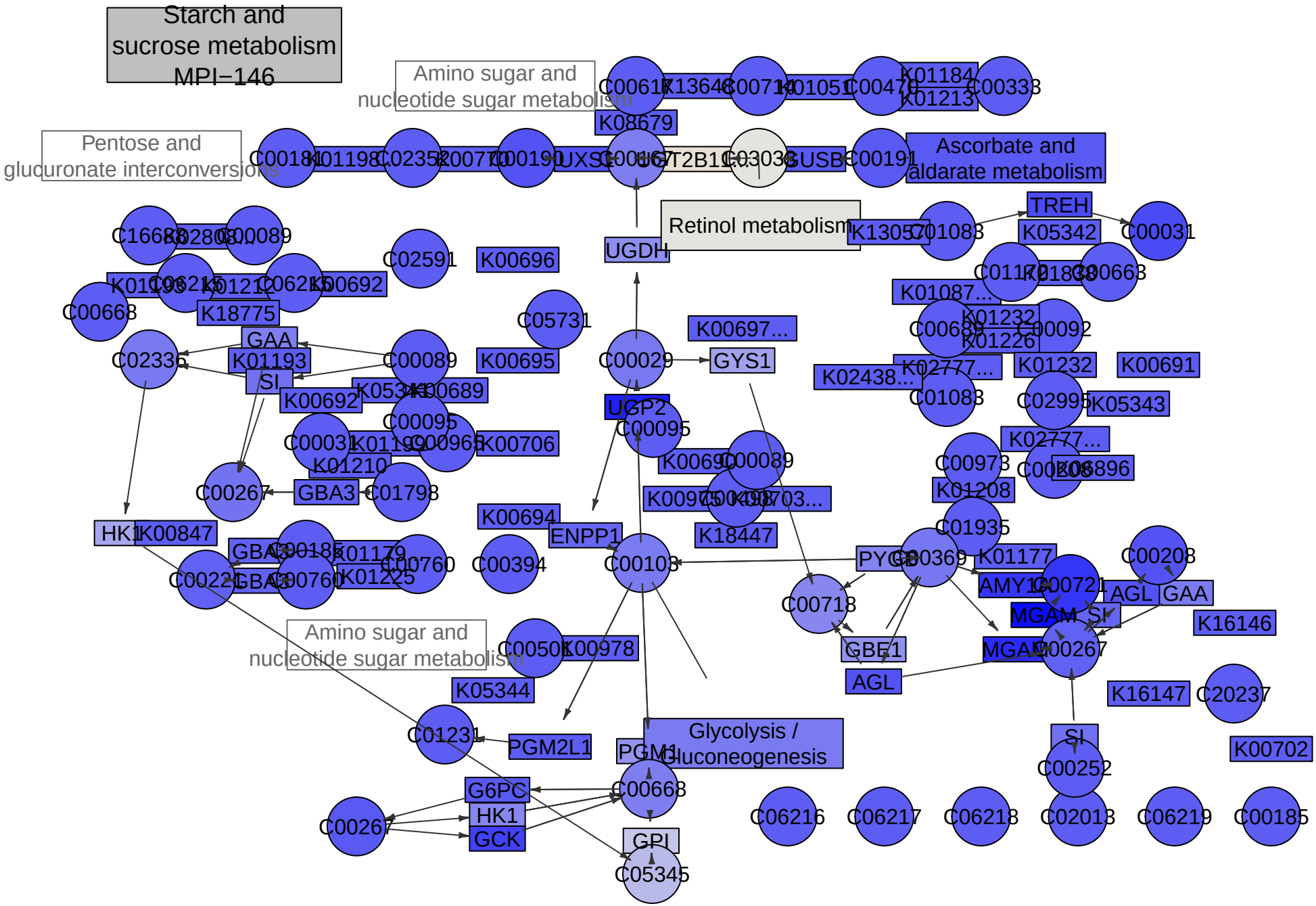
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−146
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11
C03038
GUSB
C00191
UGDH
TREH
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C02591
K00696
K18775
GAA
K01193
C02336
C00089
K00695
C05731
K00697...
C00029
GYS1
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
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HK1
K00847
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PYGB
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AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
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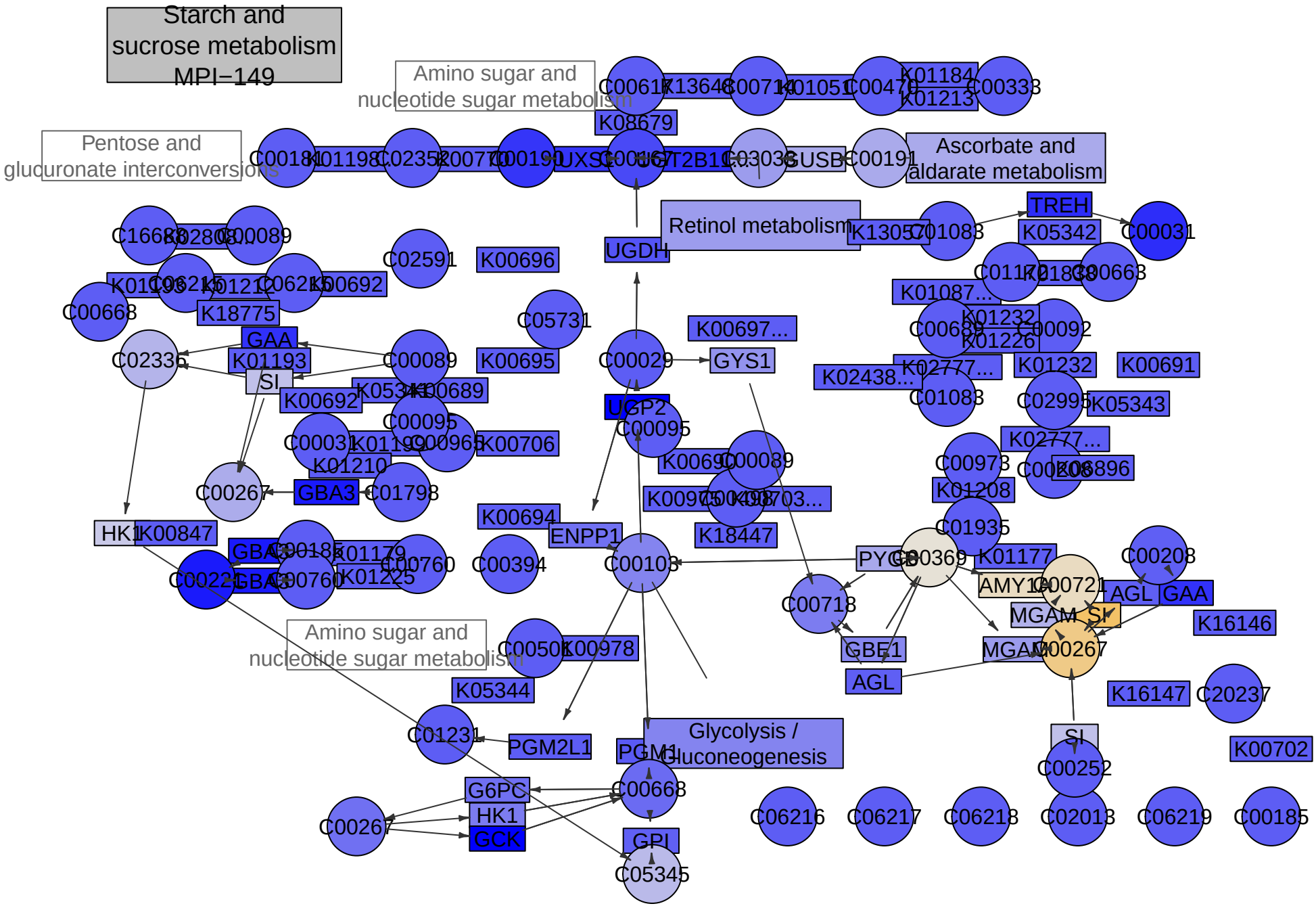
K00978


Starch and sucrose metabolism MPI−149
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K18775
GAA
K01193
C02336
SI
C00668
C05731
K00695
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00668
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
K01232
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K02438...
K02777...
C01083
C02995
K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
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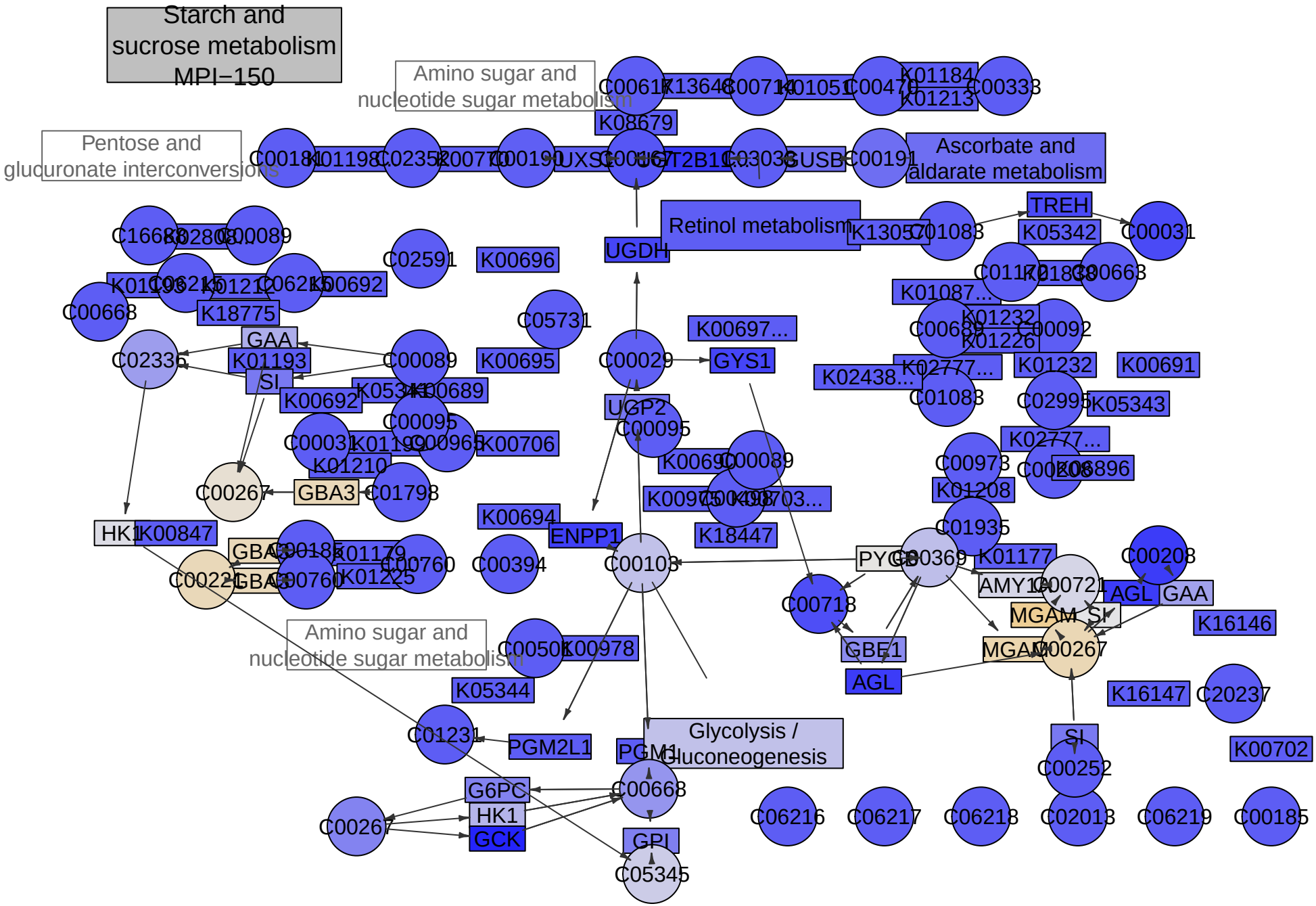
K00702


Starch and sucrose metabolism MPI−150
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
K00697...
GAA
K01193
SI
C02336
C00089
K00695
C00029
GYS1
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
HK1
K00847
K18447
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C00394
C00760
K01225
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PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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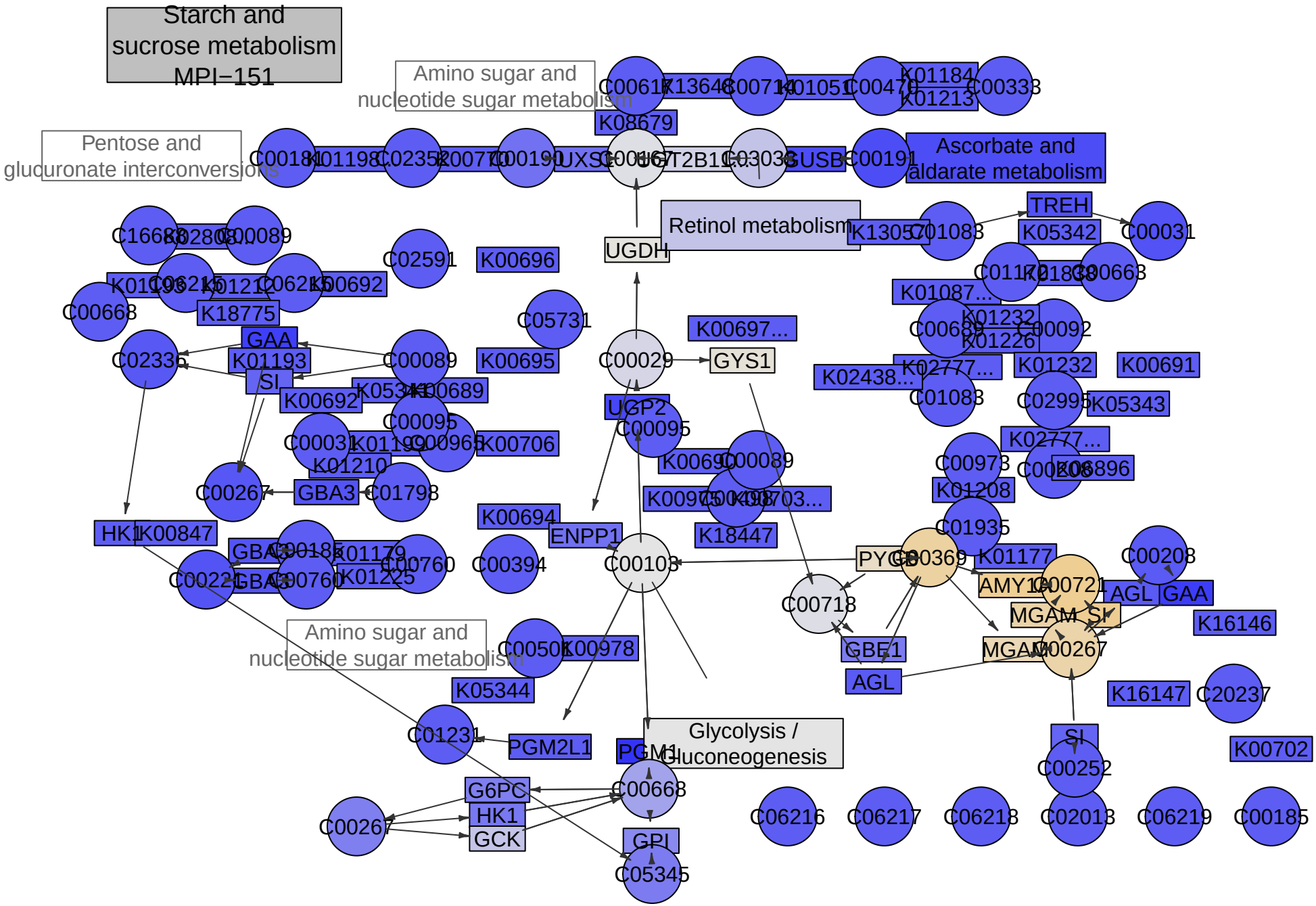
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−151
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UXS
UGT2B11...
GUSB
TREH
K05342
K00696
K00692
K18775
GAA
K01193
SI
K00695
K00689
K00692
UGP2
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K00706
K01210
GBA3
C01798
K00694
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K18447
K00847
HK1
K01179
K01225
C00760
C00394
C00103
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C00029
GYS1
K00697...
K02438...
K01087...
K01232
K01226
K01232
K00691
K05343
K02777...
K01208
K01935
PYGB
K01177
AMY1A
AGL
GAA
MGAM
SI
K16146
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C06216
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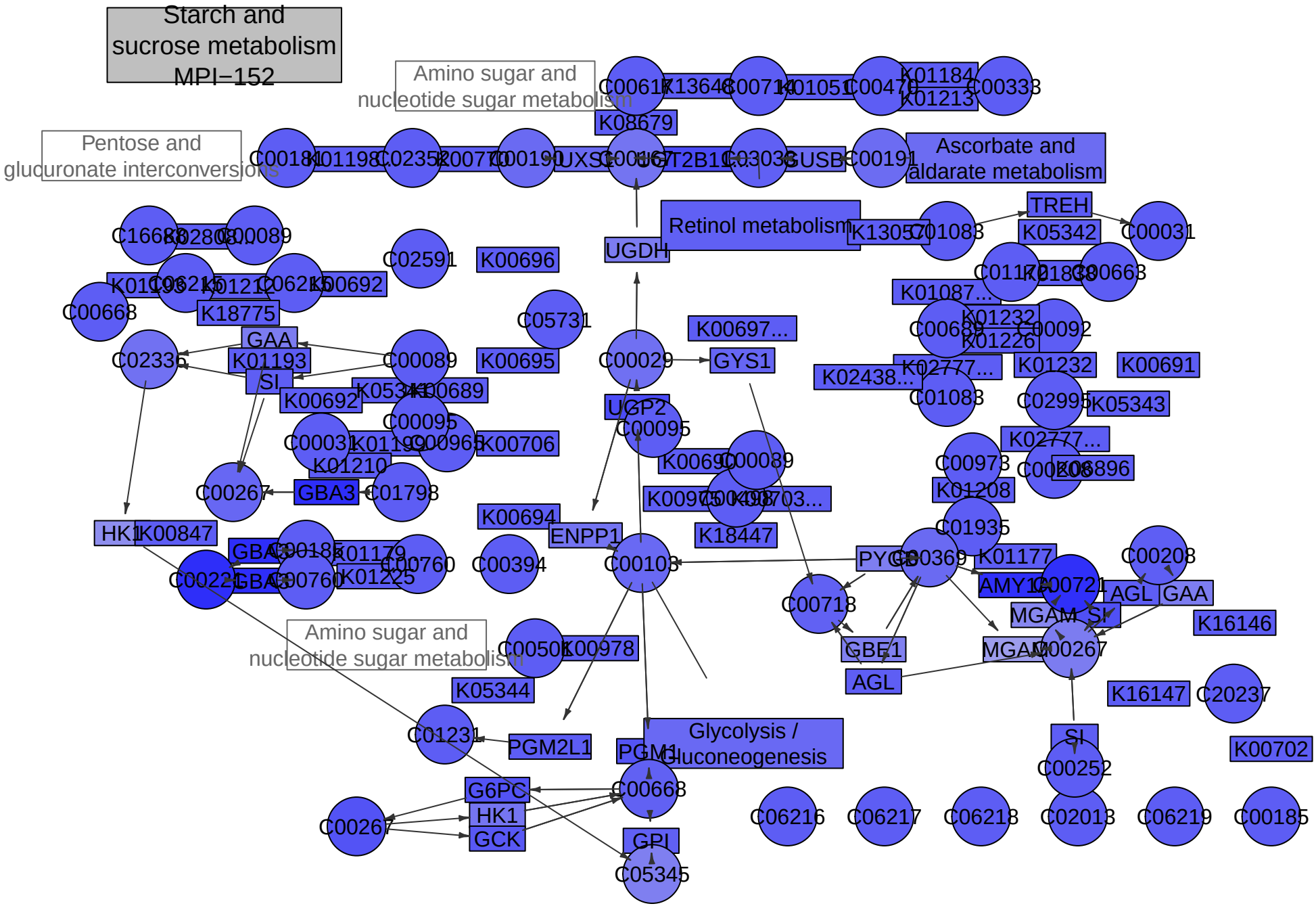
C00185


Starch and sucrose metabolism MPI−152
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
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C02995
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K00965
K01210
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ENPP1
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K01208
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GBA3
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K00847
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PYGB
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K01177
C00208
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AGL
GAA
MGAM
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K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
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K16147
C20237
C01231
PGM2L1
PGM1
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K00702
C00252
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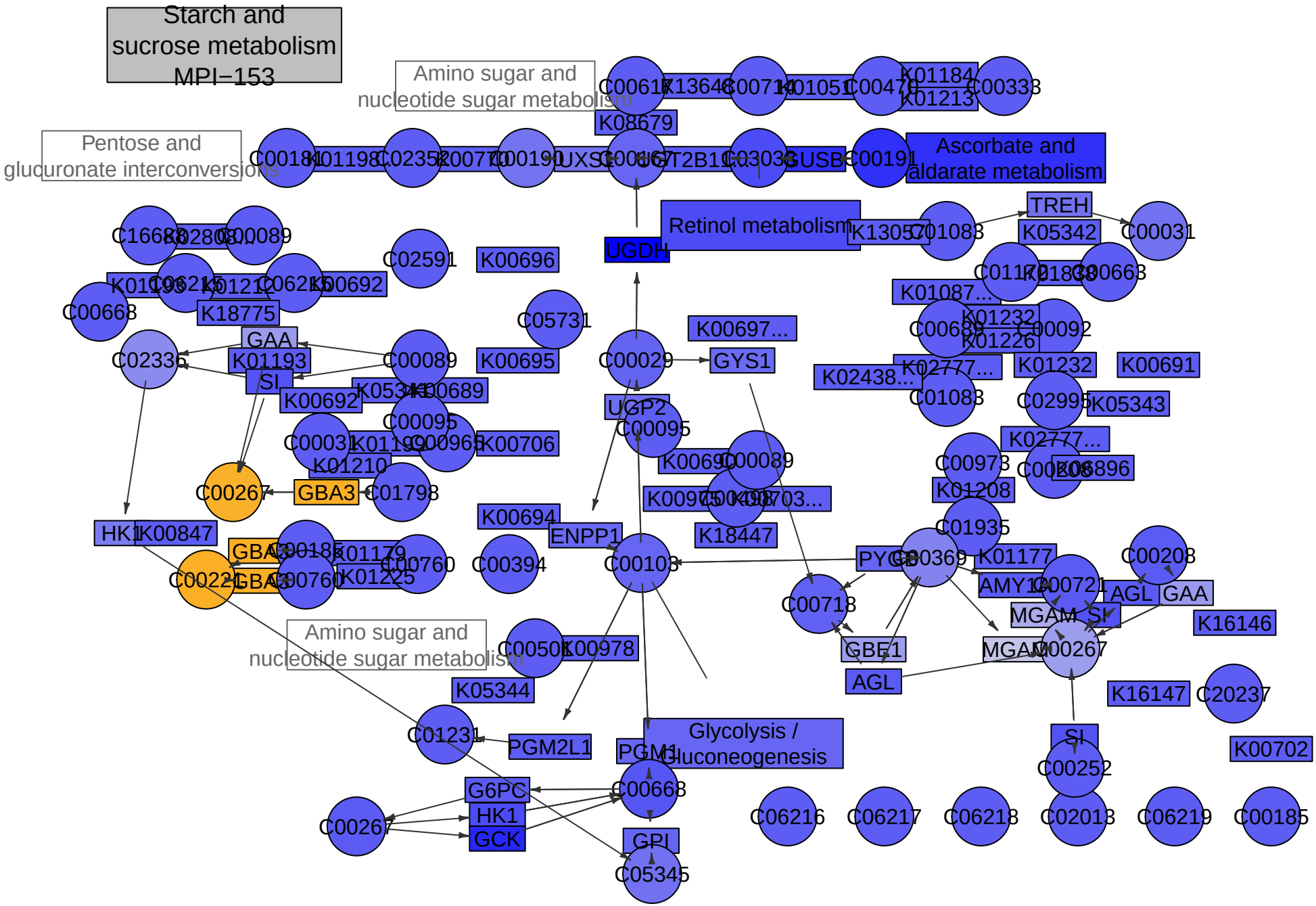
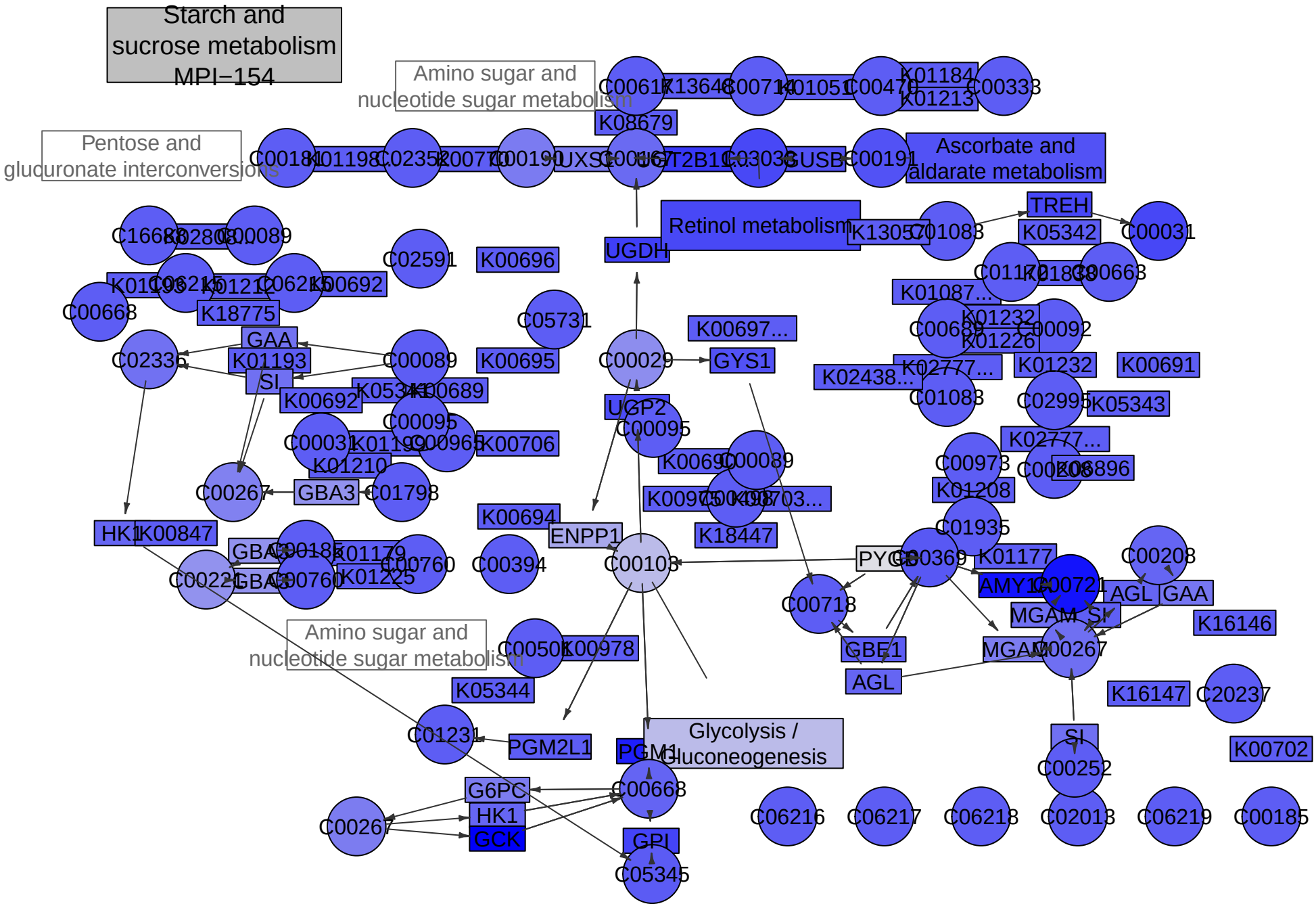
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−153
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UXS1
UGT2B11...
GUSB
C00191
C00618
K13648
K00714
K01051
C00470
K01184
K01213
C00333
C00181
K01198
C02358
K00770
C00190
C02591
K00696
C05731
K00697...
GYS1
C00029
UGP2
C00095
K00695
K00692
K00689
K00706
K00694
ENPP1
C00103
C00394
C00760
K01179
K01225
C00221
GBA3
C01798
C00267
HK1
K00847
K18775
GAA
K01193
SI
C02336
C00668
C00089
K01210
K18447
K00703...
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
C00208
K16146
K16147
C20237
K00702
C00252
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
TREH
K05342
C00031
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
K01935
K01177
K00721
K16146
K16147
C20237
K00702
C00252
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−154
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K05343
K16146
K16147
K00702
K00691
K00692
K00695
K00696
K00706
K00694
K18775
K01193
K01210
K01179
K01225
K01232
K01226
K01208
K01177
K01087...
K02777...
K02438...
K00697...
K18447
K00978
K05344
K00847
K01231
K00668
K00667
K00029
K00095
K00089
K00031
K00267
K00718
K00721
K00208
K00252
K00185
K00760
K00394
K00501
K01935
K01051
K01213
K01184
K00333
K00191
K00190
K00197
K00771
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K00965
K00896
K00973
K01083
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K02336
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K02591
K00668
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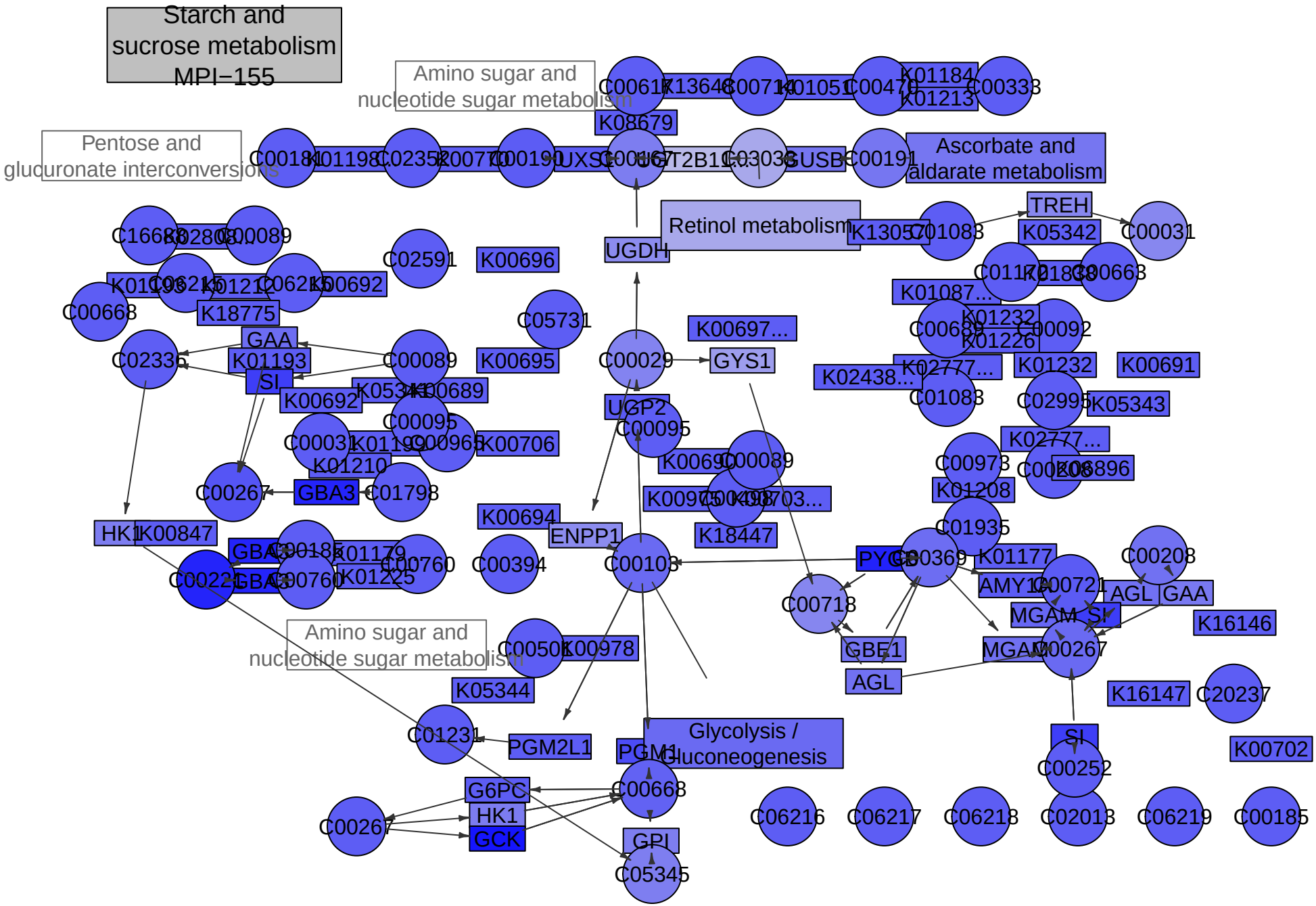
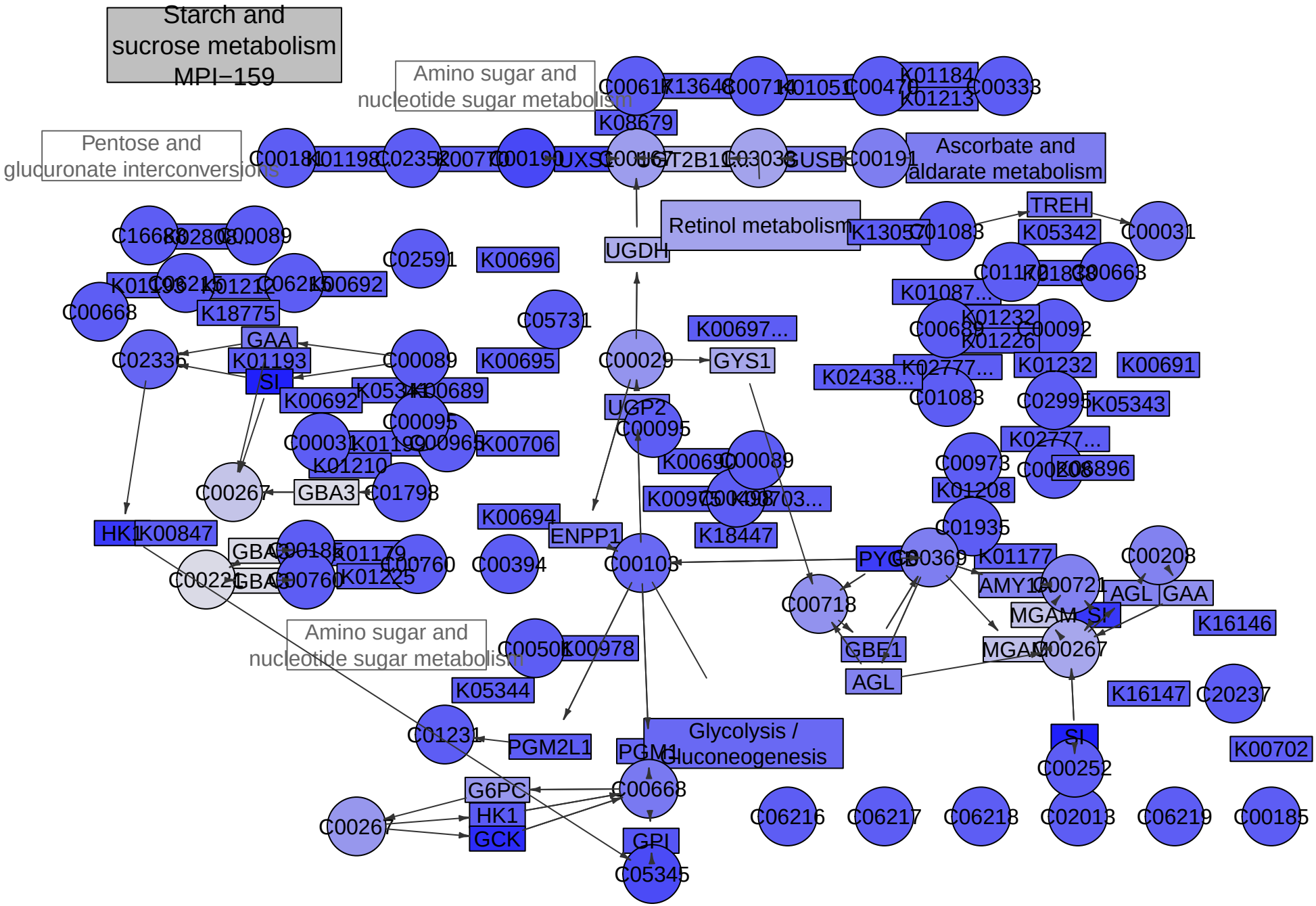
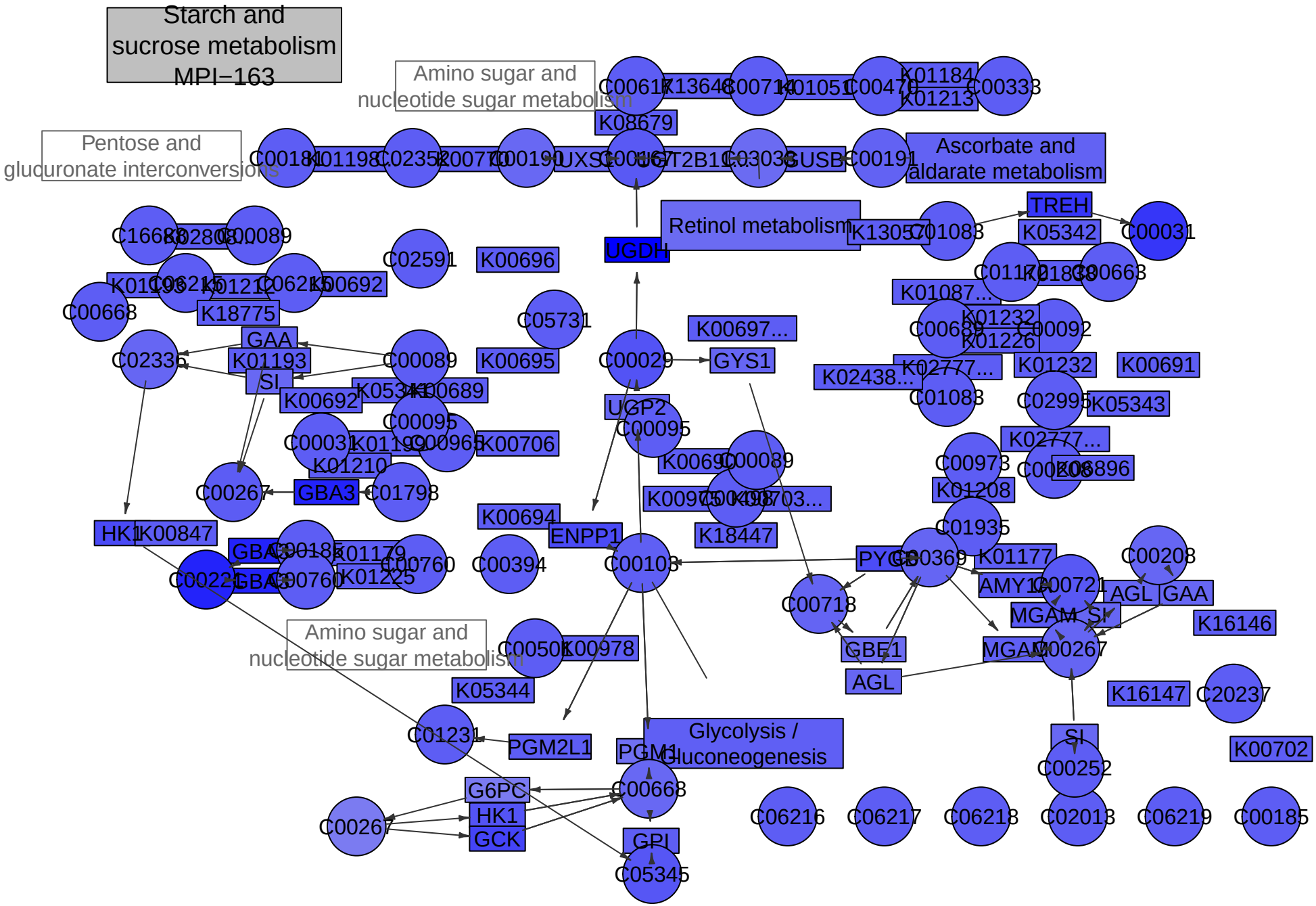
K06217
K06218
K02013
K06219
K20237


Starch and sucrose metabolism MPI−155
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS1
C00167
UGT2B11...
C03036
GUSB
C00191
TREH
K05342
C00031
K13305
C01083
UGDH
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
K00692
K00689
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
K18447
HK1
K00847
C00394
C00760
K01225
C00718
GBE1
AGL
C00369
PYGB
K01177
AMY1A
C00721
MGAM
C00267
C00208
K16146
K16147
C20237
K00702
C00252
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C02995
K05343
K02777...
C00973
K01208
K01935
K01177
K00721
K16147


Starch and sucrose metabolism MPI−159
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11...
C03038
GUSB
C00191
TREH
C00031
K05342
K01083
K13057
C02591
K00696
UGDH
C00668
K18775
GAA
K01193
SI
C02336
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00394
C00760
K01179
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
C00252
K00702
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−163
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
K01193
C02336
SI
K00692
C05731
K00695
C00089
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01087...
K01232
K01226
C00092
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K02777...
C00973
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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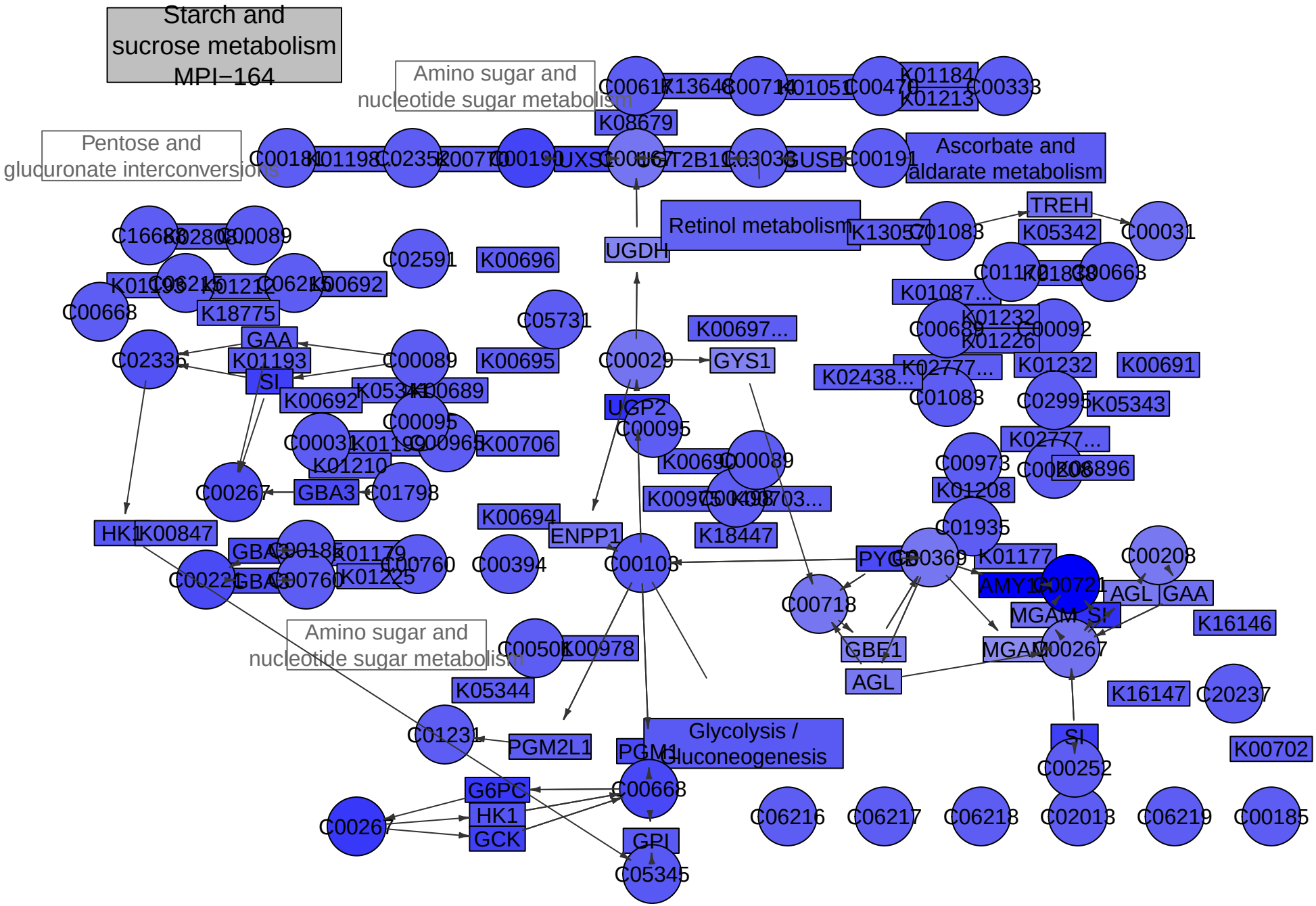
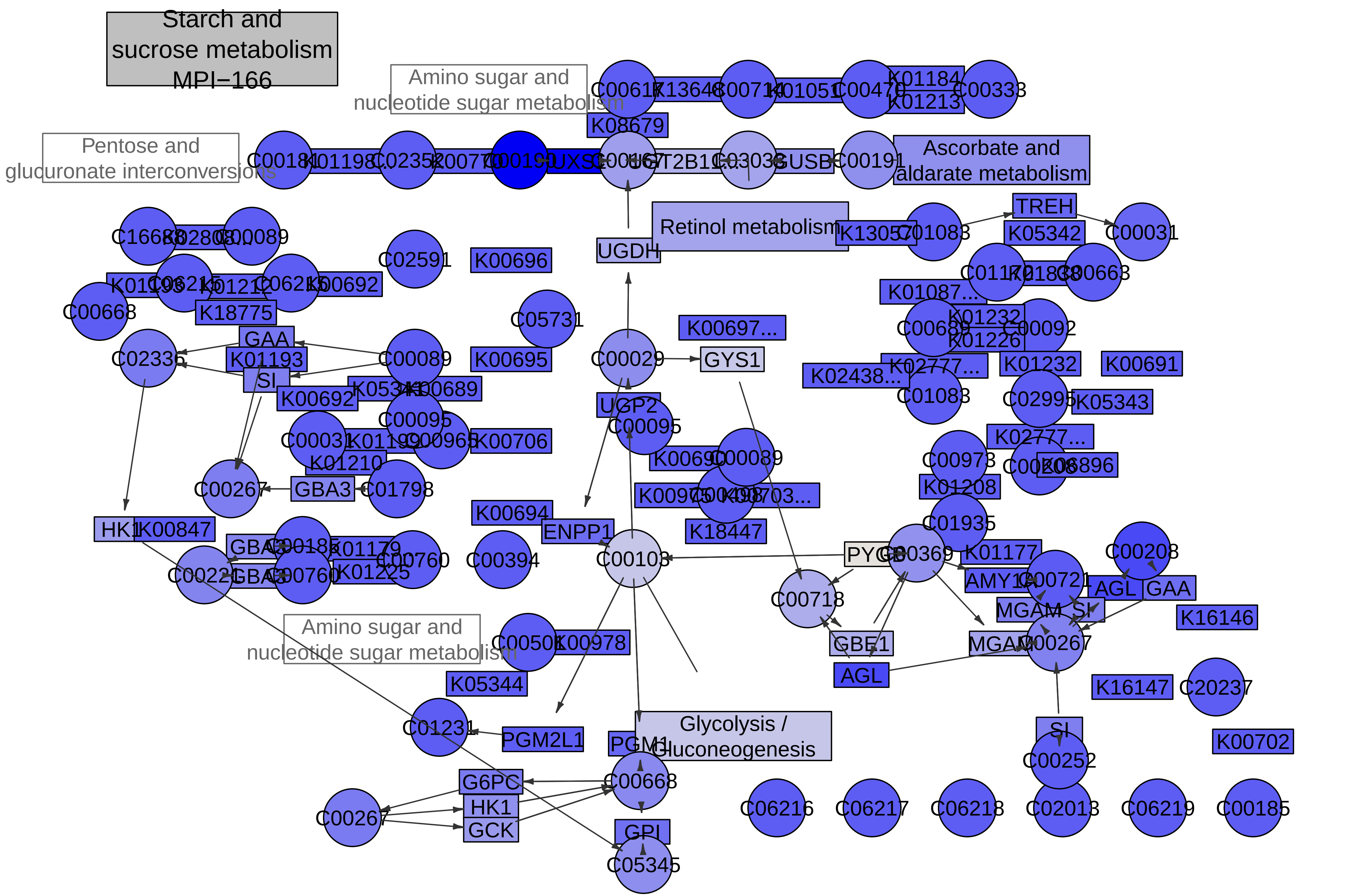
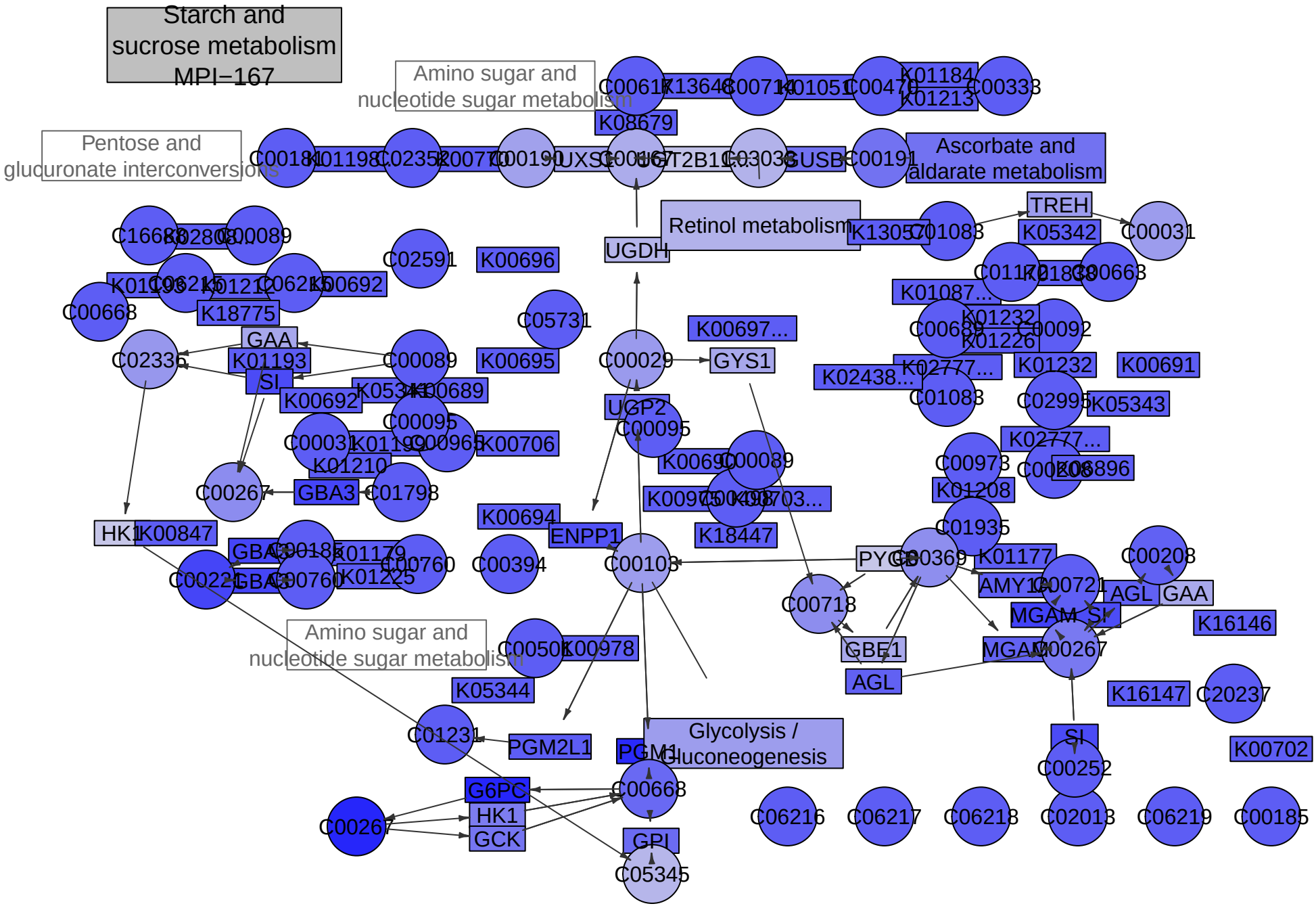
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−164
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
SI
K00695
C00029
GYS1
K02438...
K01232
K00691
K05343
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00394
C00103
PYGB
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
C00718
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185



Starch and sucrose metabolism MPI−166
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
UXS1
UGDH
UGP2
GYS1
ENPP1
PYGB
GBE1
AGL
AMY1A
MGAM
SI
GAA
TREH
GBA3
HK1
GCK
G6PC
PGM1
PGM2L1
GPI
K08679
K00696
K00695
K00694
K00706
K00847
K00978
K05344
K18775
K01193
K00692
K05343
K05342
K01208
K01232
K00691
K16146
K16147
K00702
K18447
K01177
C00029
C00103
C00089
C00095
C00031
C00267
C00668
C05345
C01231
C00718
C00369
C00252
C00208
C02591
C05731
C00394
C00760
C01935
C00973
C01083
C00092
C02995
C00333
C00191
C06216
C06217
C06218
C02013
C06219
C00185
C20237
C02336
C01798
C00221
C00663
C00668


Starch and sucrose metabolism MPI−167
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
USB
UGDH
TREH
K05342
C00031
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
K00692
C05731
K00695
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
C00252
K01232
K01226
C00092
K02438...
K02777...
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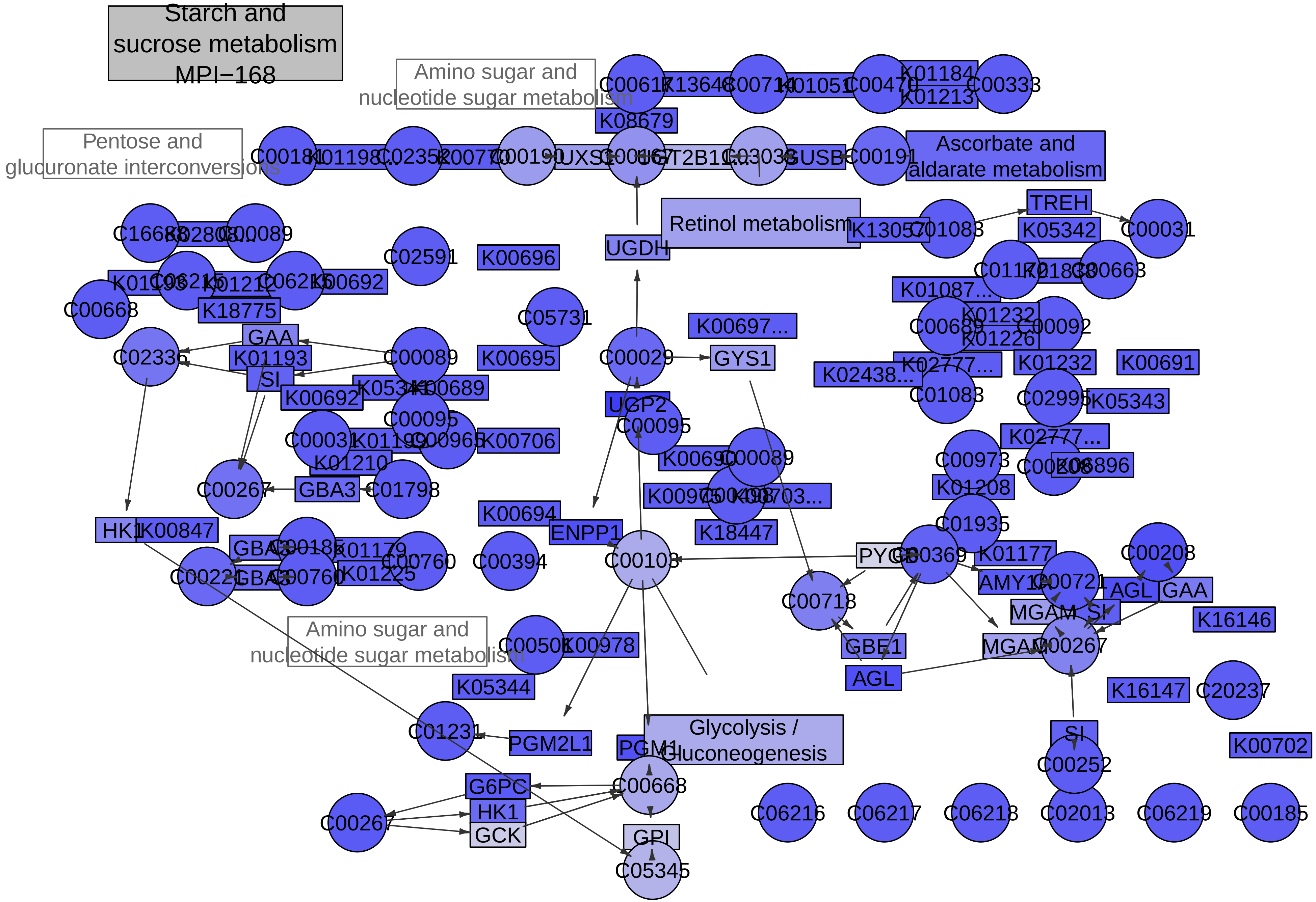
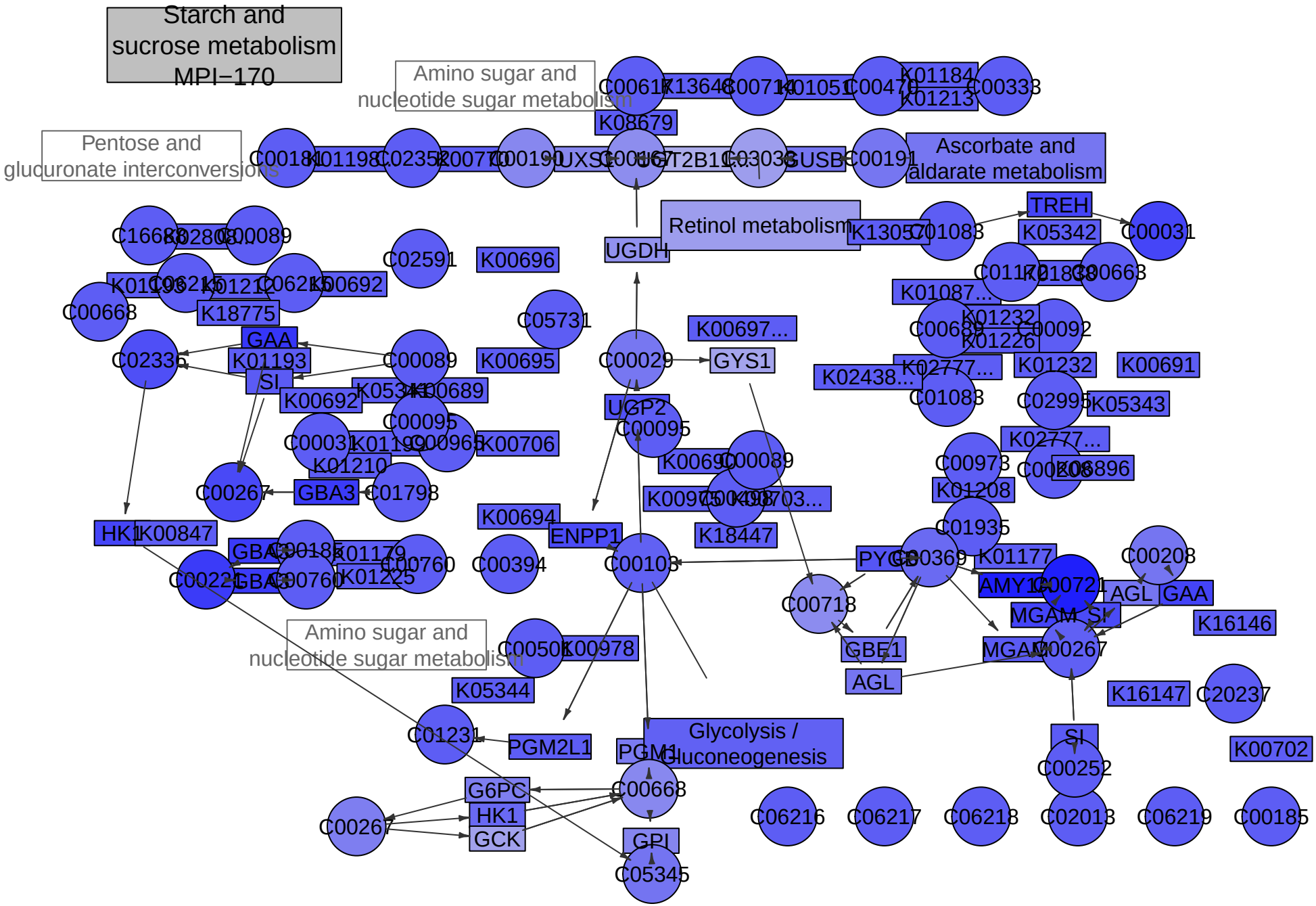
C01083
C02995
K05343
K02777...
C00973
K01208
K01935
K01087...
C00663



Starch and sucrose metabolism MPI−168
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
UGDH
UXS1
GUSB
UGP2
GYS1
TREH
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
C00029
C00103
C00668
C05345
C00267
C00031
C00089
C00095
C00208
C00252
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−170
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
UGT2B11
C03038
GUSB
C00191
TREH
K05342
C00031
C01083
K13057
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K01179
C00221
C00718
C00369
PYGB
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
C00252
K01087...
K01232
K01226
C00092
K02438...
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K02777...
C00973
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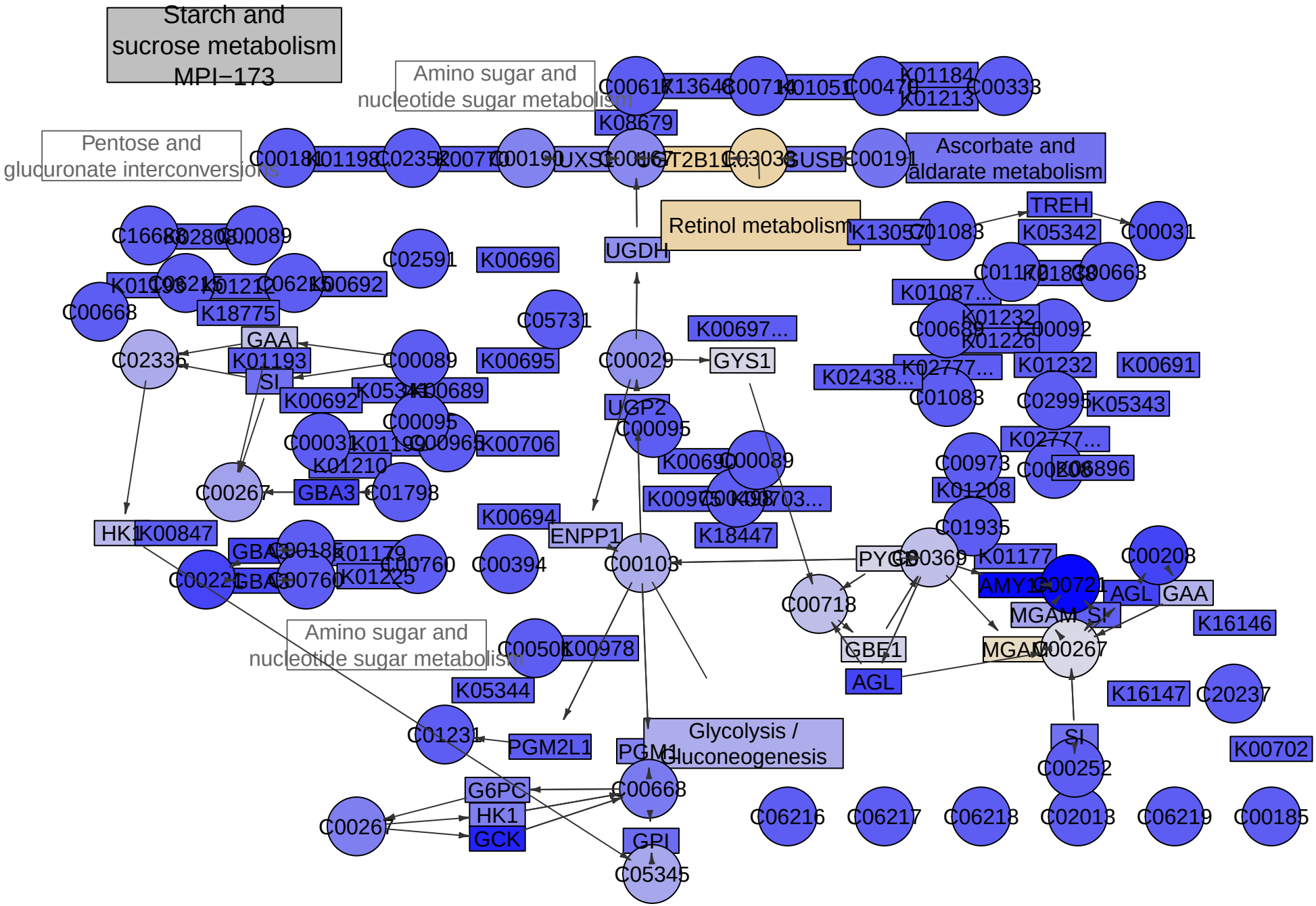
Starch and sucrose metabolism MPI−173
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00103
ENPP1
K00694
K18447
K00706
K00695
K00696
C02591
C05731
K18775
GAA
SI
K01193
C02336
C00089
K00692
K00689
C00267
GBA3
C01798
HK1
K00847
C00221
C00760
C00394
K01179
K01225
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1
C00721
MGAM
C00208
K16146
K16147
C20237
C00252
K00702
C06216
C06217
C06218
C02013
C06219
C00185
C00668
G6PC
HK1
GCK
GPI
C05345
C01231
PGM2L1
PGM1
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K05344
C00031
K01210
K01199
C00965
K00706
K01087...
K01232
K01226
K01232
K00691
K02438...
K02777...
C01083
C02995
K05343
K02777...
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TREH
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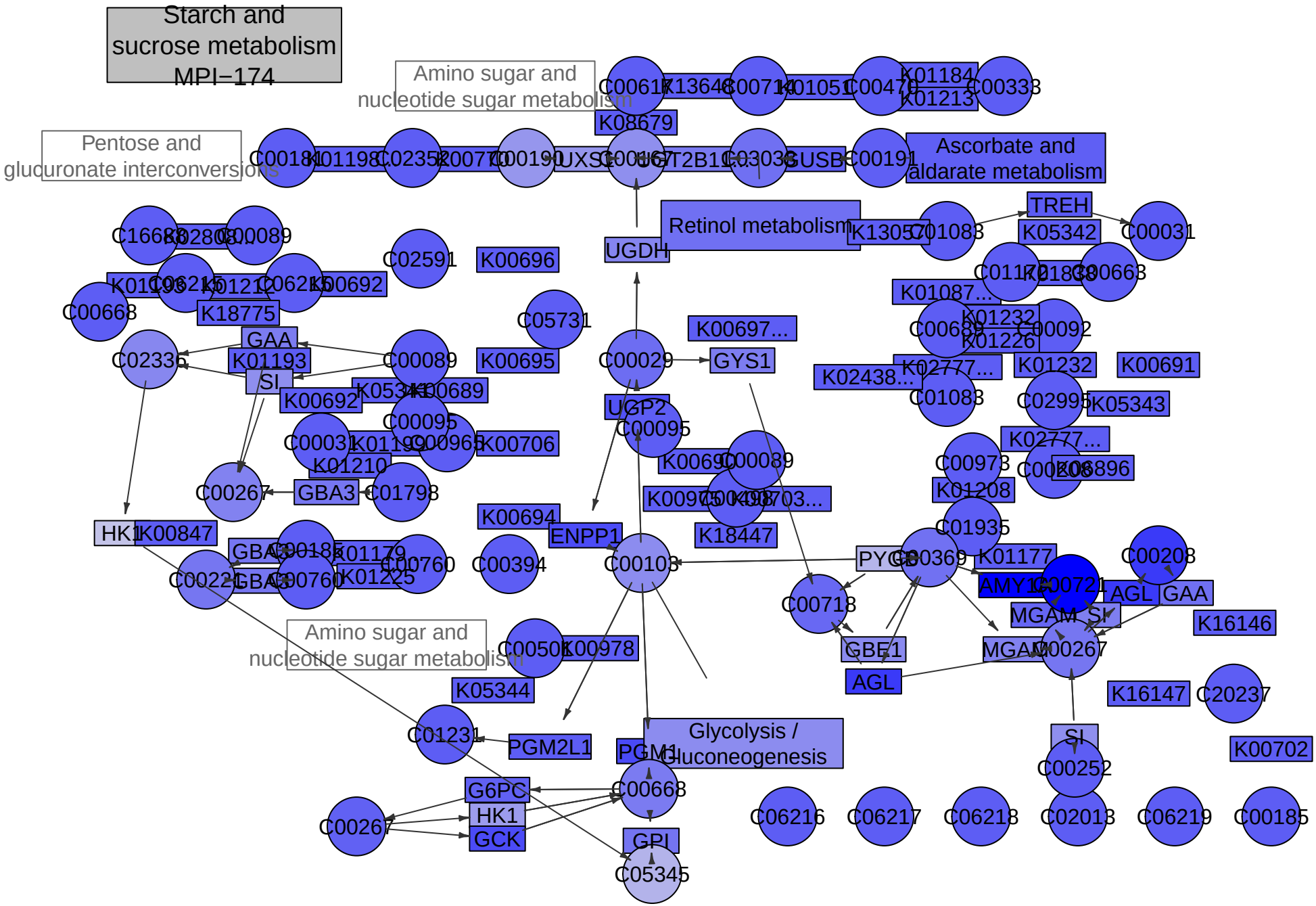
C00092
K02777...
K06896


Starch and sucrose metabolism MPI−174
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11...
GUSB
UGDH
TREH
K05342
K00696
K00692
K18775
GAA
K01193
SI
K00695
K00689
K00692
K00697...
GYS1
K02438...
K01232
K00691
K05343
K02777...
UGP2
K00706
K00965
K01210
GBA3
K01798
K00847
HK1
K00694
ENPP1
K18447
K01179
K01225
K00760
K00394
K01177
AMY1
AGL
GAA
MGAM
SI
K16146
K00978
K05344
GBE1
AGL
K16147
K20237
K00702
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
K00668
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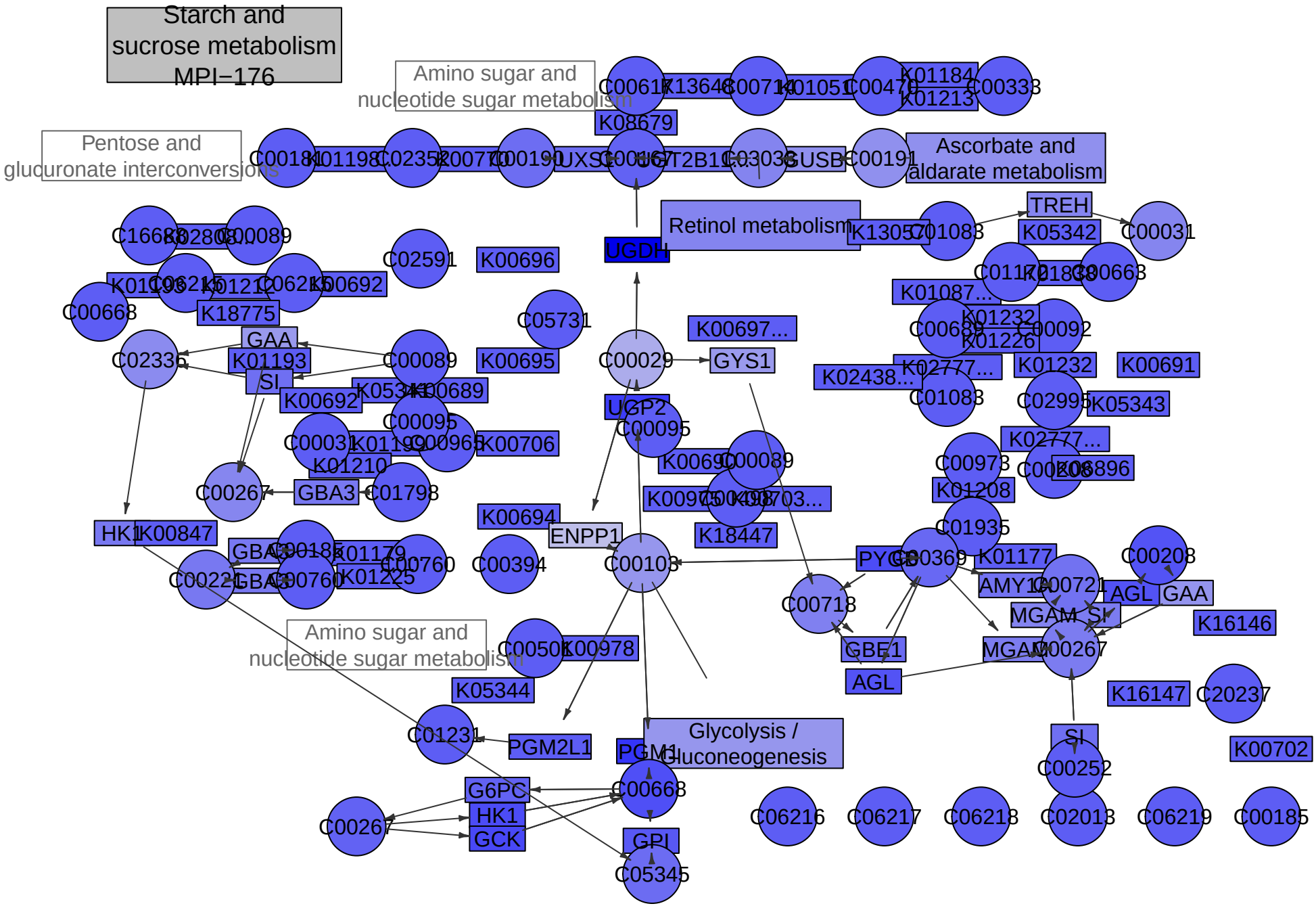
K06217
K06218
K02013
K06219
K00185


Starch and sucrose metabolism MPI−176
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
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K00706
K00694
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K05344
K00702
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C00095
C00089
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C00394
C00760
C00252
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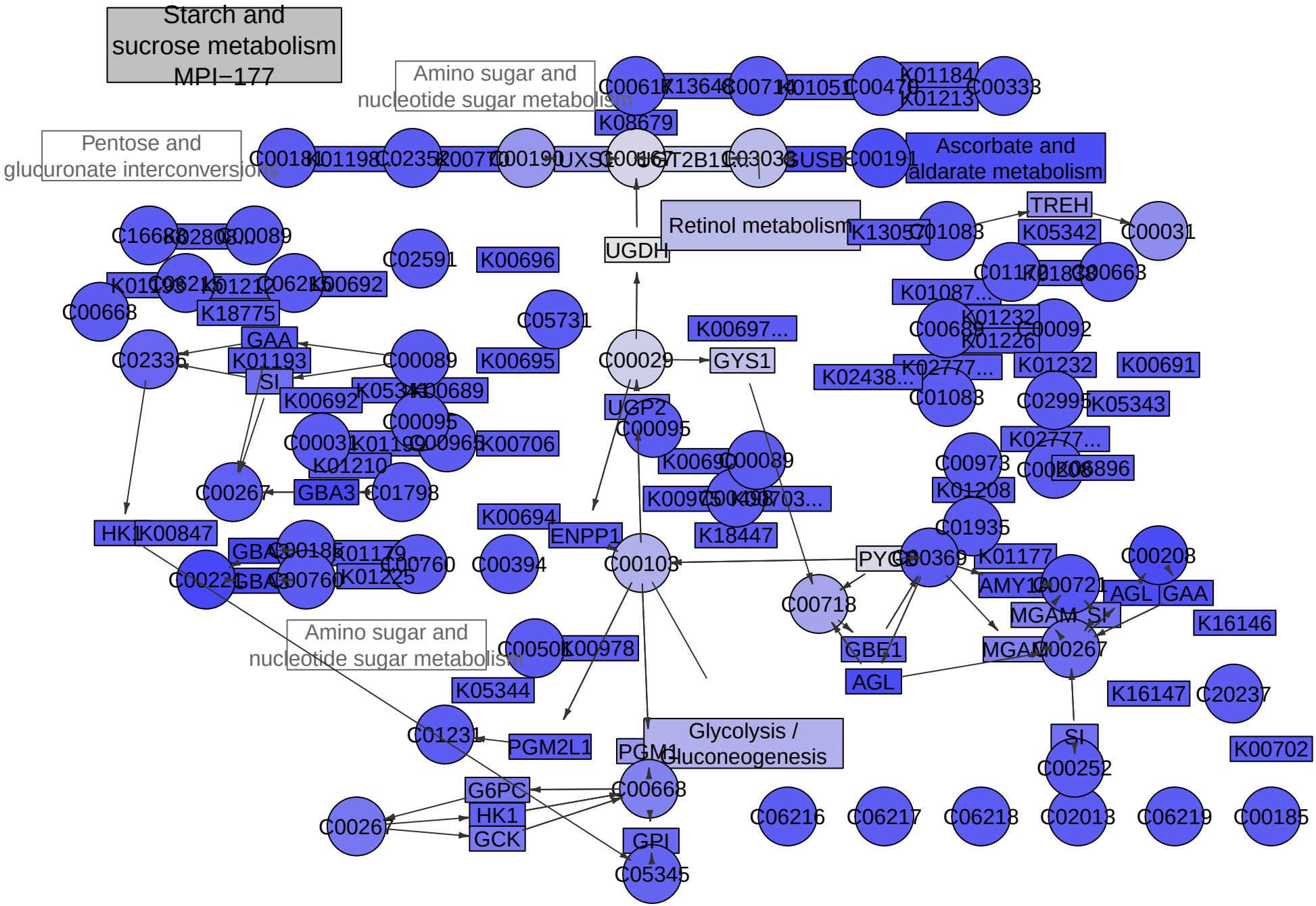
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−177
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11...
GUSB
UGDH
TREH
K05342
K00696
K18775
GAA
K01193
SI
K00692
K00695
K00689
K00706
K01210
GBA3
HK1
K00847
K01179
K01225
K00760
K00394
K00694
ENPP1
K18447
K00978
K05344
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
K00697...
GYS1
UGP2
K01232
K01226
K01232
K00691
K02438...
K02777...
K05343
K02777...
K01208
K01935
K01177
AMY1A
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
K16147
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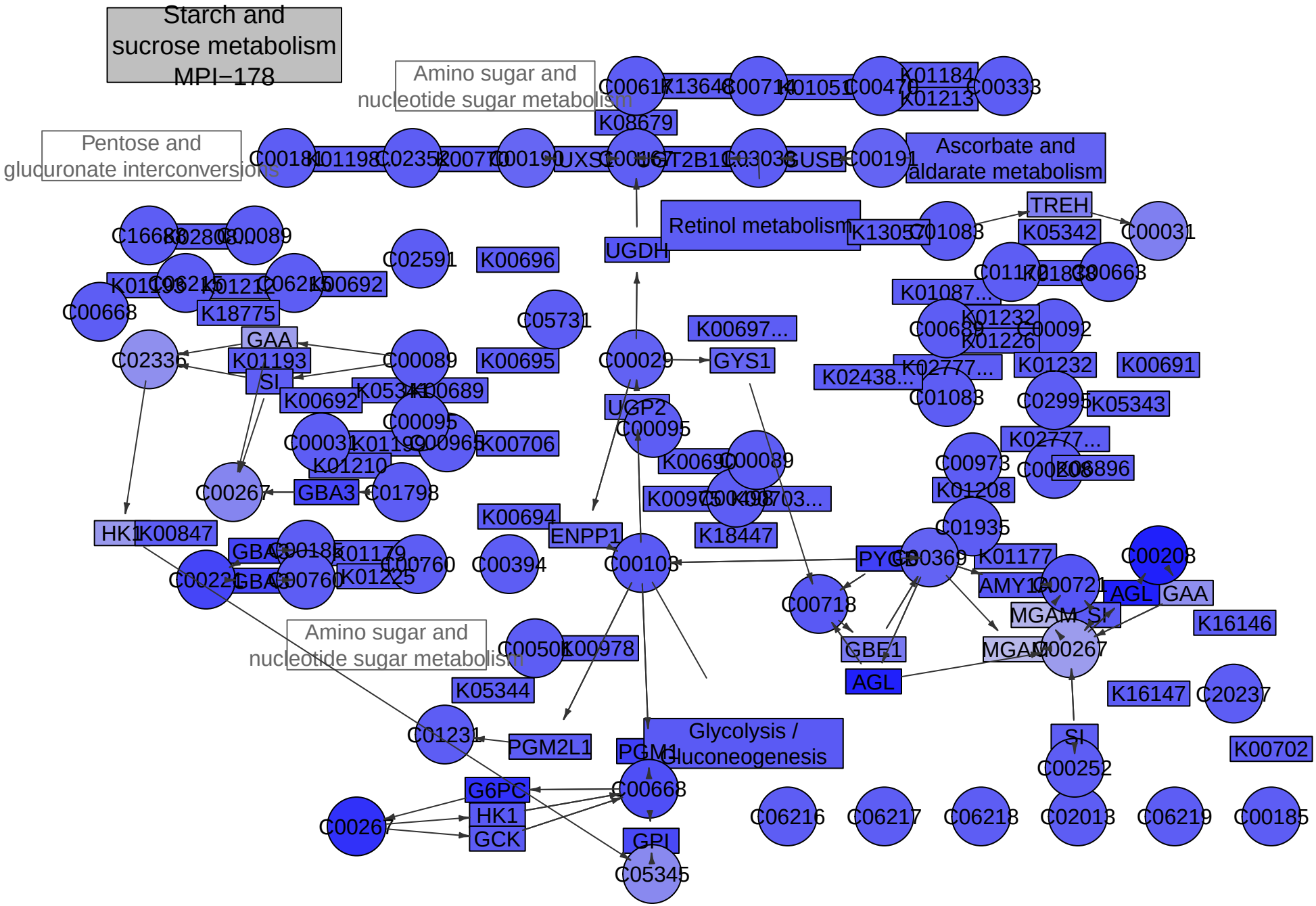
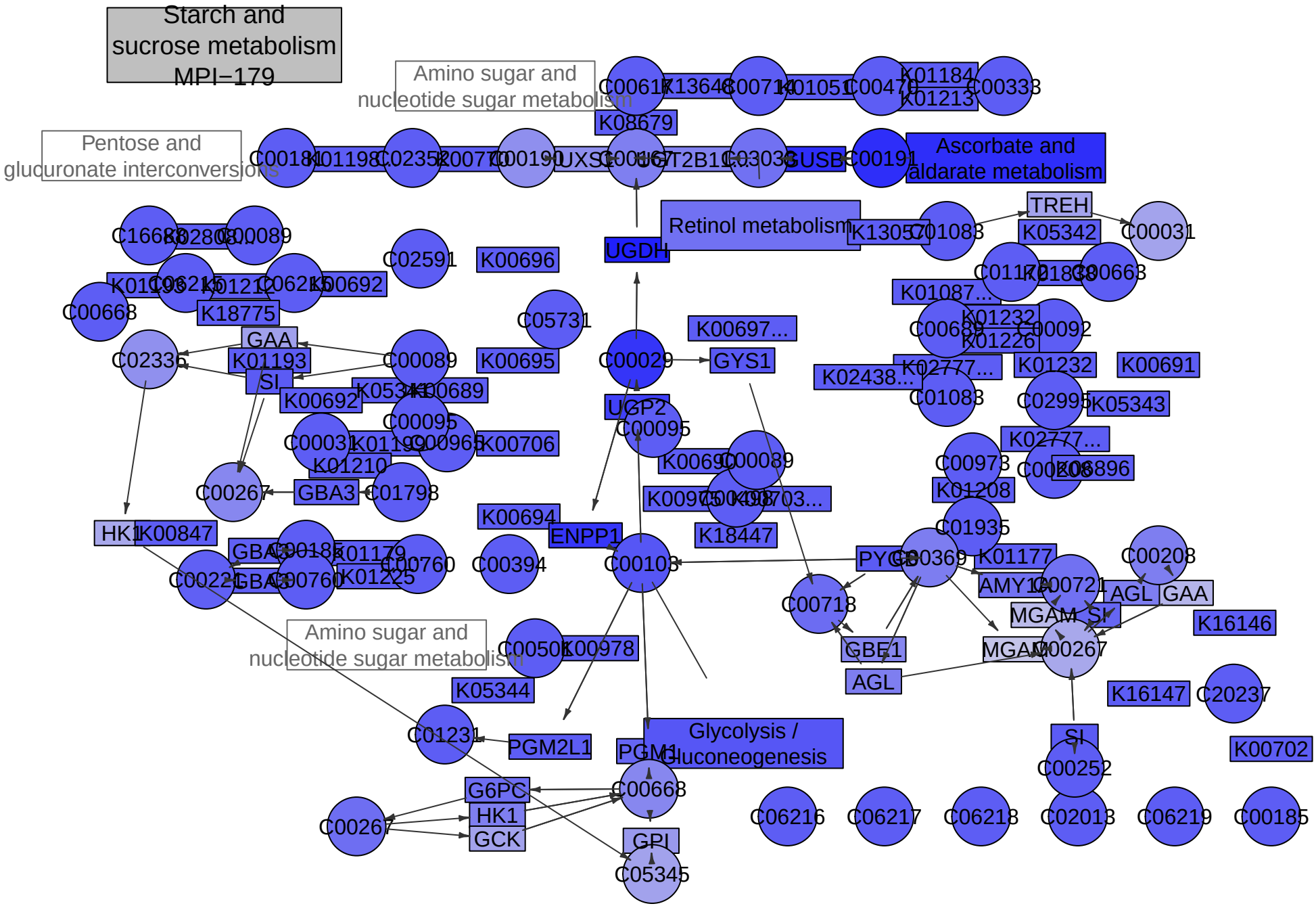
SI
K06216
K06217
K06218
K02013
K06219
K00185


Starch and sucrose metabolism MPI−178
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
C02336
K01193
C00089
K00695
SI
K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00221
K01179
K01225
C00760
C00394
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−179
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K18447
ENPP1
C00103
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K00702
C00252
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
K06896
K01208
C01935
K01184
K01213
C00333
K01051
C00470
K13648
C00617
K00714
K01198
C02352
K00770
C00190
UXS1
UGT2B11
C03038
GUSB
C00191
C16688
K02803...
C00089
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K01193
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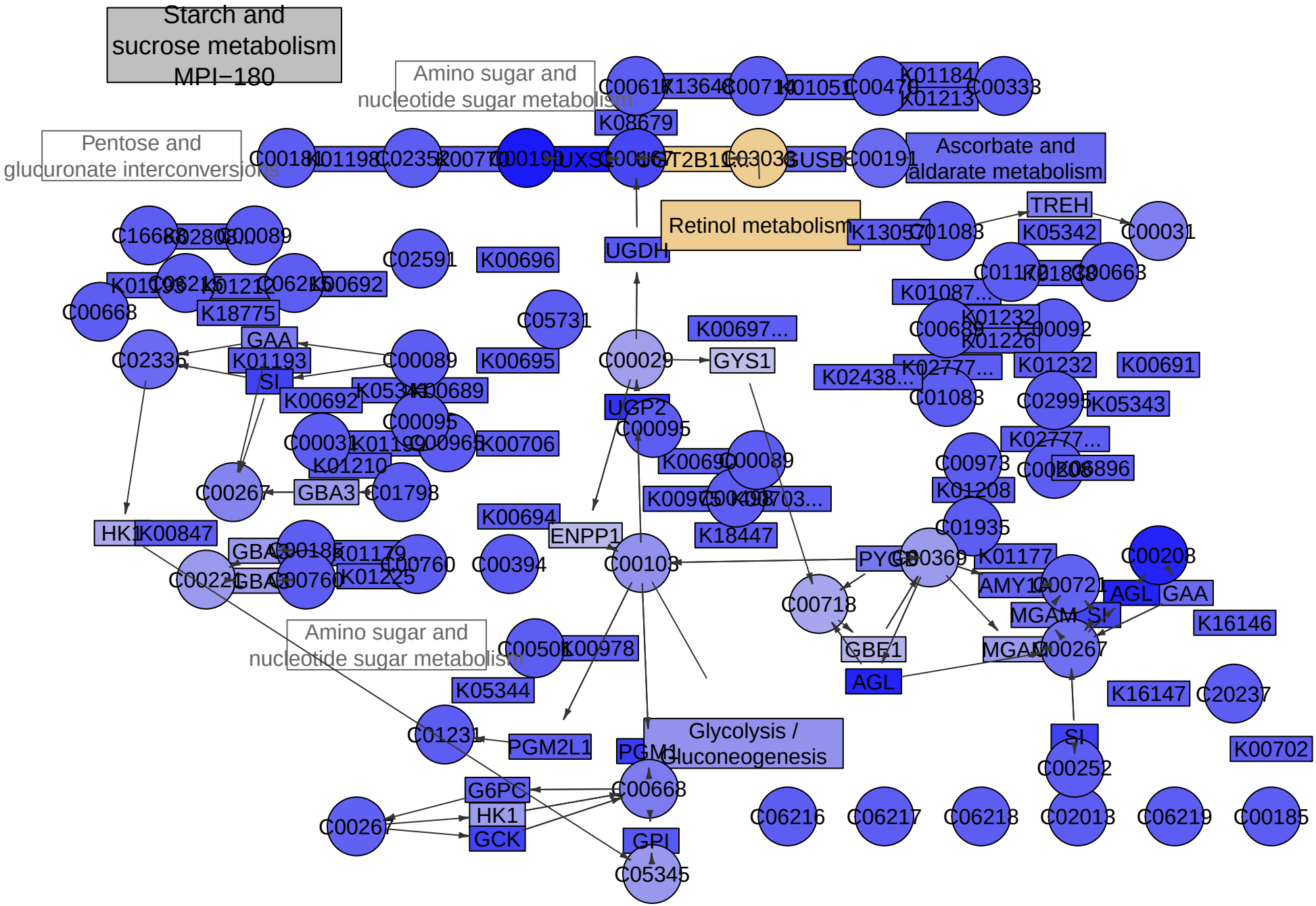
K00706
K00965
K01179
K01225
K00978
K05344
K00702


Starch and sucrose metabolism MPI−180
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K05343
K16146
K16147
K00702
K00691
K00696
K00695
K00706
K00694
K18775
K01193
K01232
K01226
K01208
K01177
K01179
K01225
K01210
K00847
K18447
K05344
K00978
C00029
C00095
C00089
C00031
C00668
C00267
C00718
C00103
C00394
C00760
C00185
C00221
C02591
C05731
C02336
C01231
C05345
C00252
C20237
C06216
C06217
C06218
C02013
C06219
C00185
C00208
C01935
C01083
C00031
C00333
C00191
C00092
C00689
C00973
C00721
C00663
C02995
K02438...
K02777...
K01087...
K00697...
K00699...
K00970...
K01184
K01213
K13305
K13648
K01051
K01198
K02357
K00770
K00692
K00689
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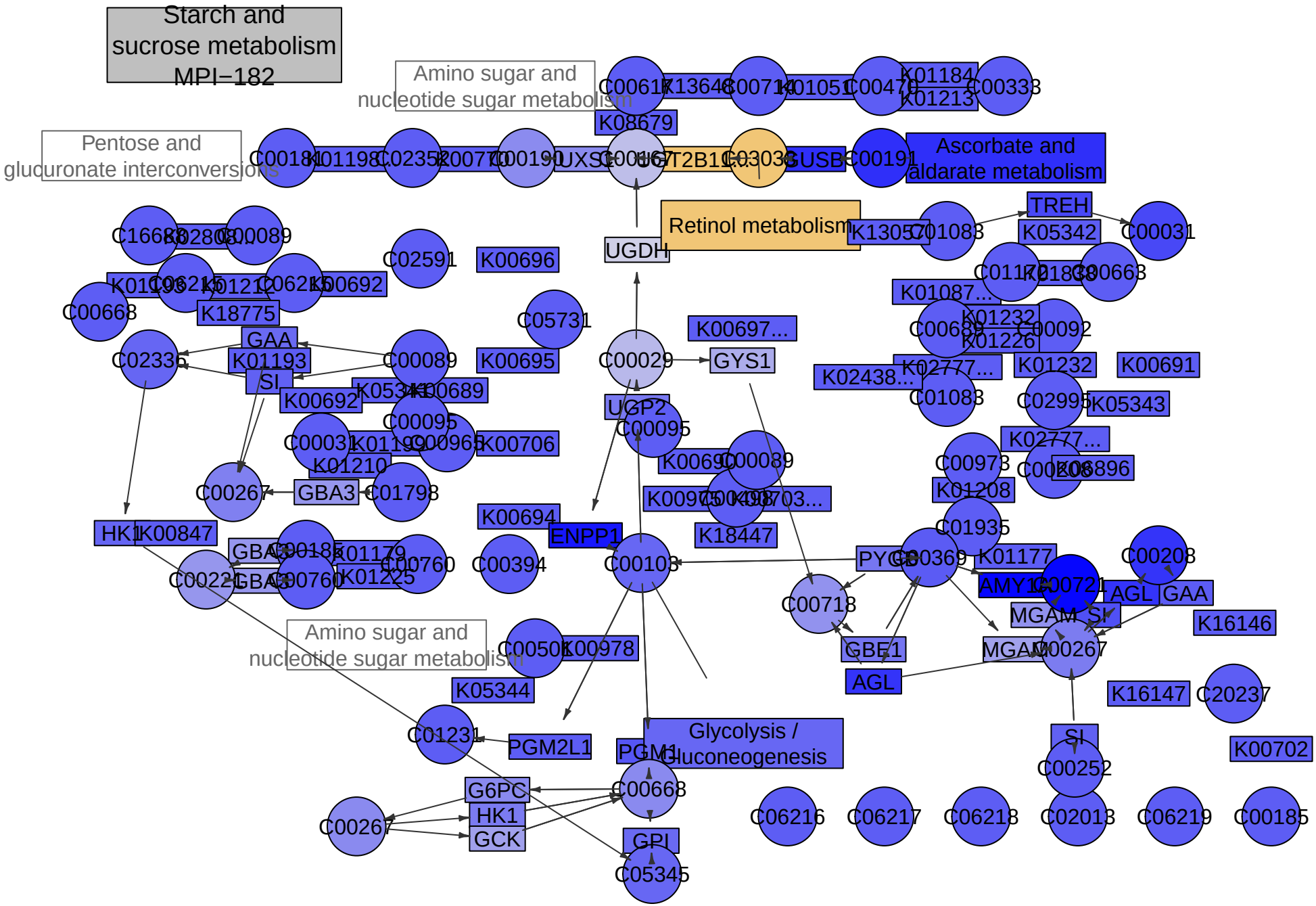
K01198
K01198


Starch and sucrose metabolism
MPI−182
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K00696
K00692
K18775
K01193
K00695
K00706
K01210
K00847
K01179
K01225
K00394
K00978
K05344
K18447
K01177
AMY1
AGL
MGAM
K16146
K16147
K00702
K05343
K01208
K01232
K01226
K00691
K02438...
K02777...
K00697...
K01087...
K00689
K00695
K00703...
K00718
K00721
K00208
K00252
K06216
K06217
K06218
K02013
K06219
K00185
K00668
K00089
K00092
K00095
K00267
K00029
K00031
K00333
K01213
K01184
K00191
K00197
K00190
K00198
K00185
K00760
K00501
K05345
K01231
K20237
K01083
K00973
K06896
K00369
K00394
K00760
K00185
K00221
K02591
K05731
K02335
K00668
K00667
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K00978
K01179
K01193
K01210
K01225
K01232
K01226
K01208
K01177
K01087...
K02438...
K02777...
K00697...
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K00721
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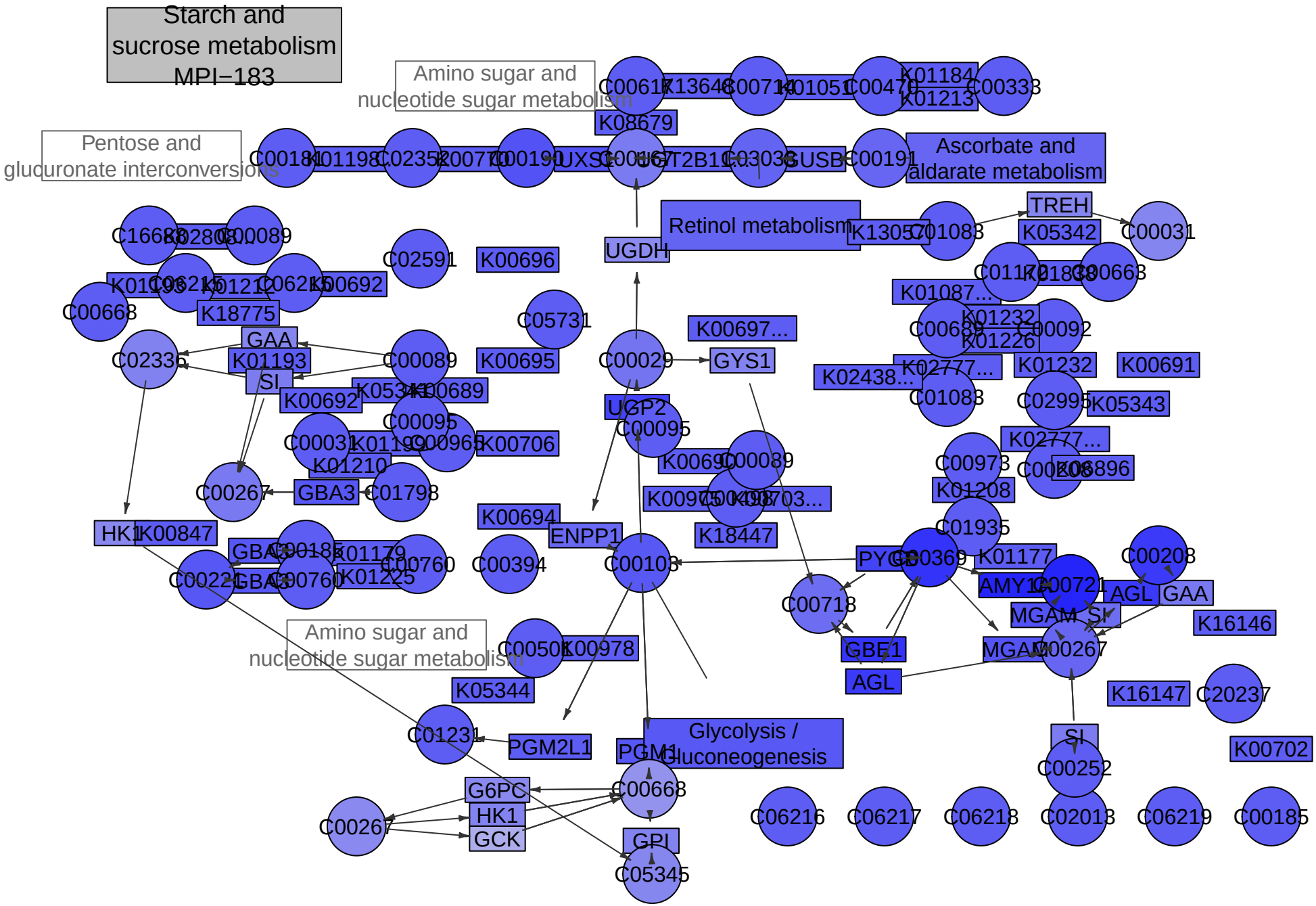
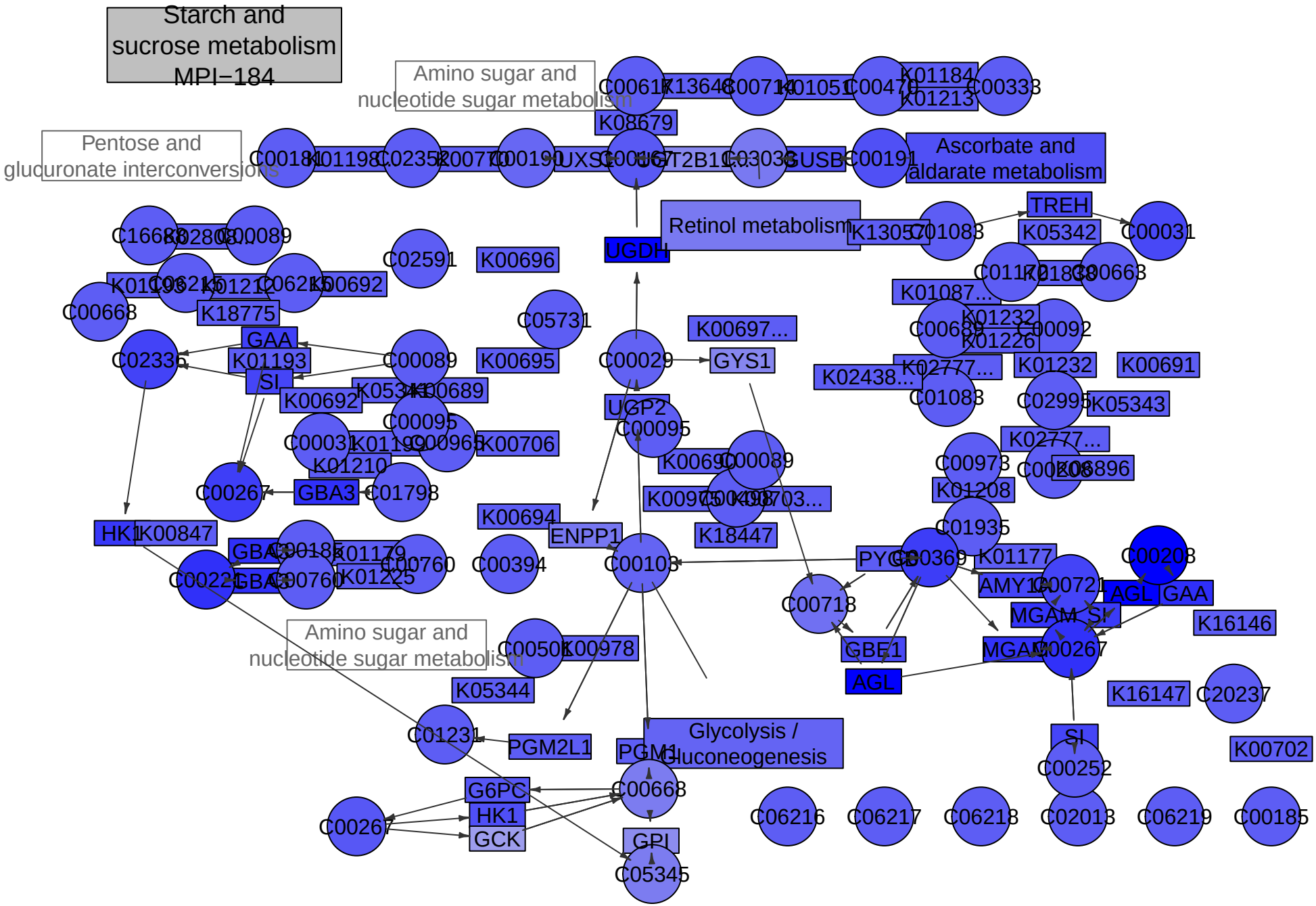
K16147
K20237


Starch and sucrose metabolism MPI−183
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11...
C03038
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K01087...
K01232
K01226
C00668
K18775
C05731
K00697...
C00092
GAA
K01193
C00089
K00695
C00029
GYS1
K02438...
K02777...
K01232
K00691
SI
K00692
K00689
UGP2
C01083
C02995
K05343
C00095
C00031
K01199
C00965
K00706
K02777...
K01210
K00690
C00089
C00973
C00208
K06896
C00267
GBA3
C01798
K01208
K00694
K18447
C01935
HK1
K00847
ENPP1
C00103
PYGB
C00369
K01177
C00208
C00221
K01179
C00760
C00394
C00718
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
C00668
C00267
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−184
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
C00668
K18775
GAA
C02335
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
SI
C00252
K00702
K02438...
K02777...
K01232
K00691
C01083
C02995
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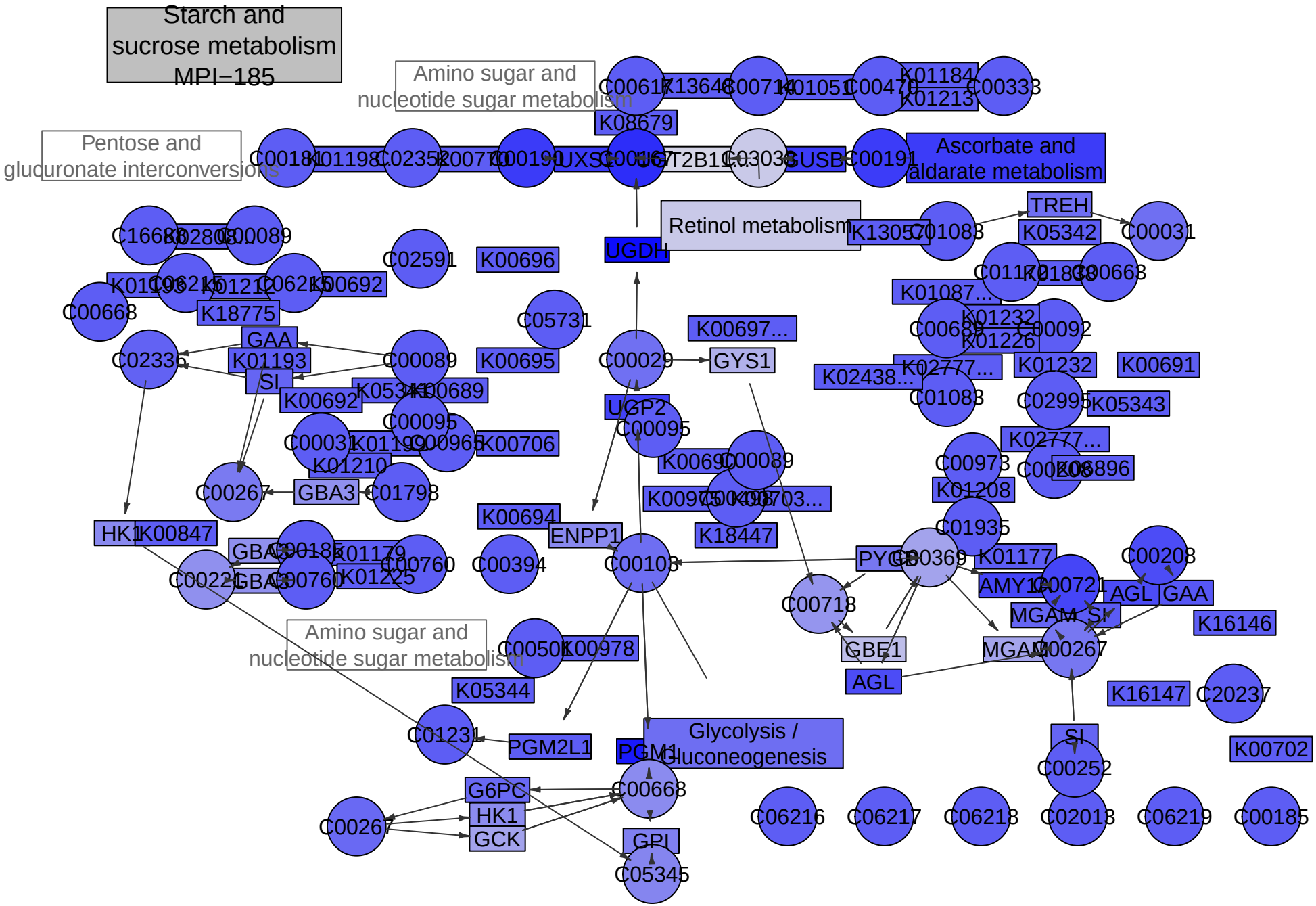
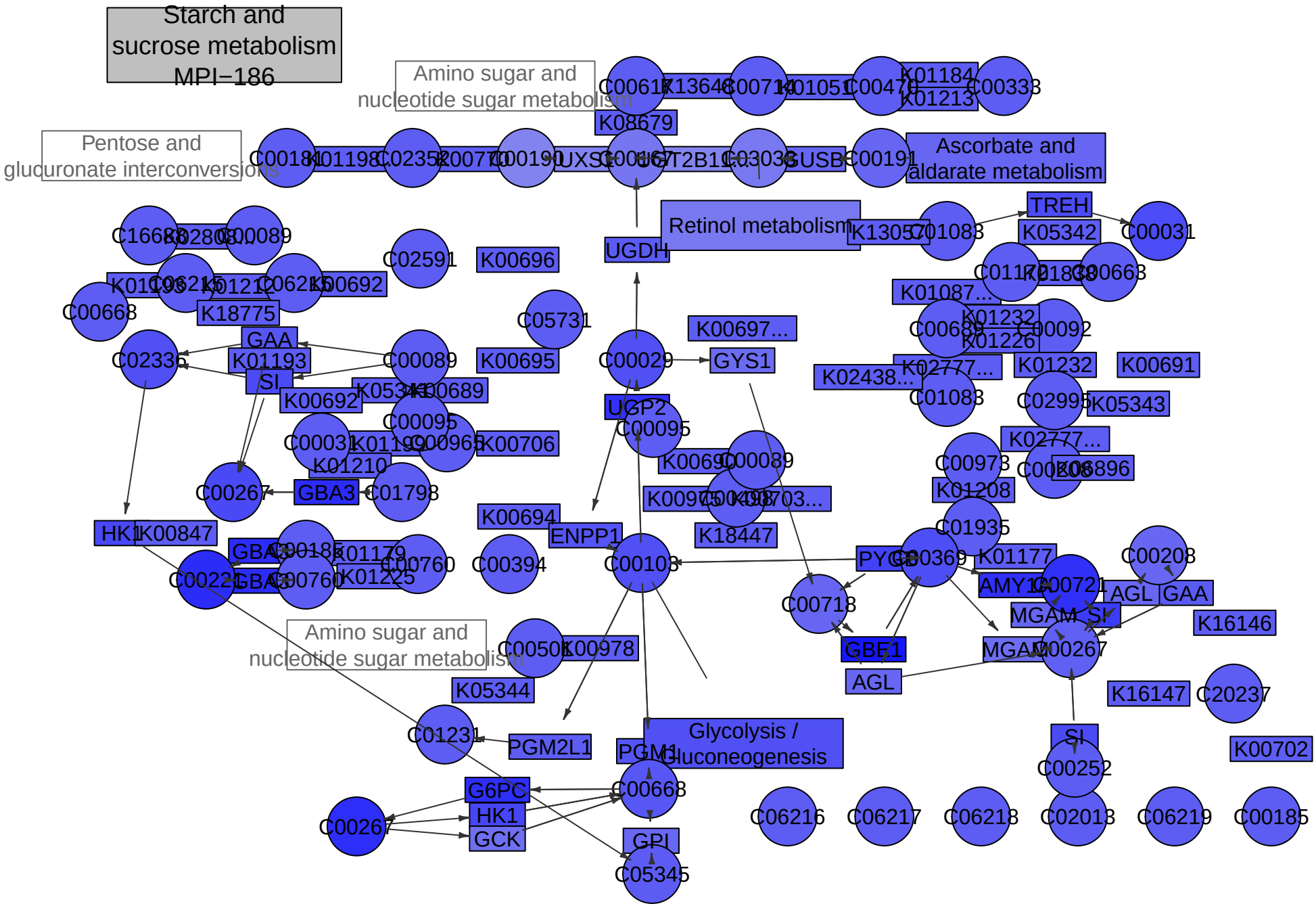
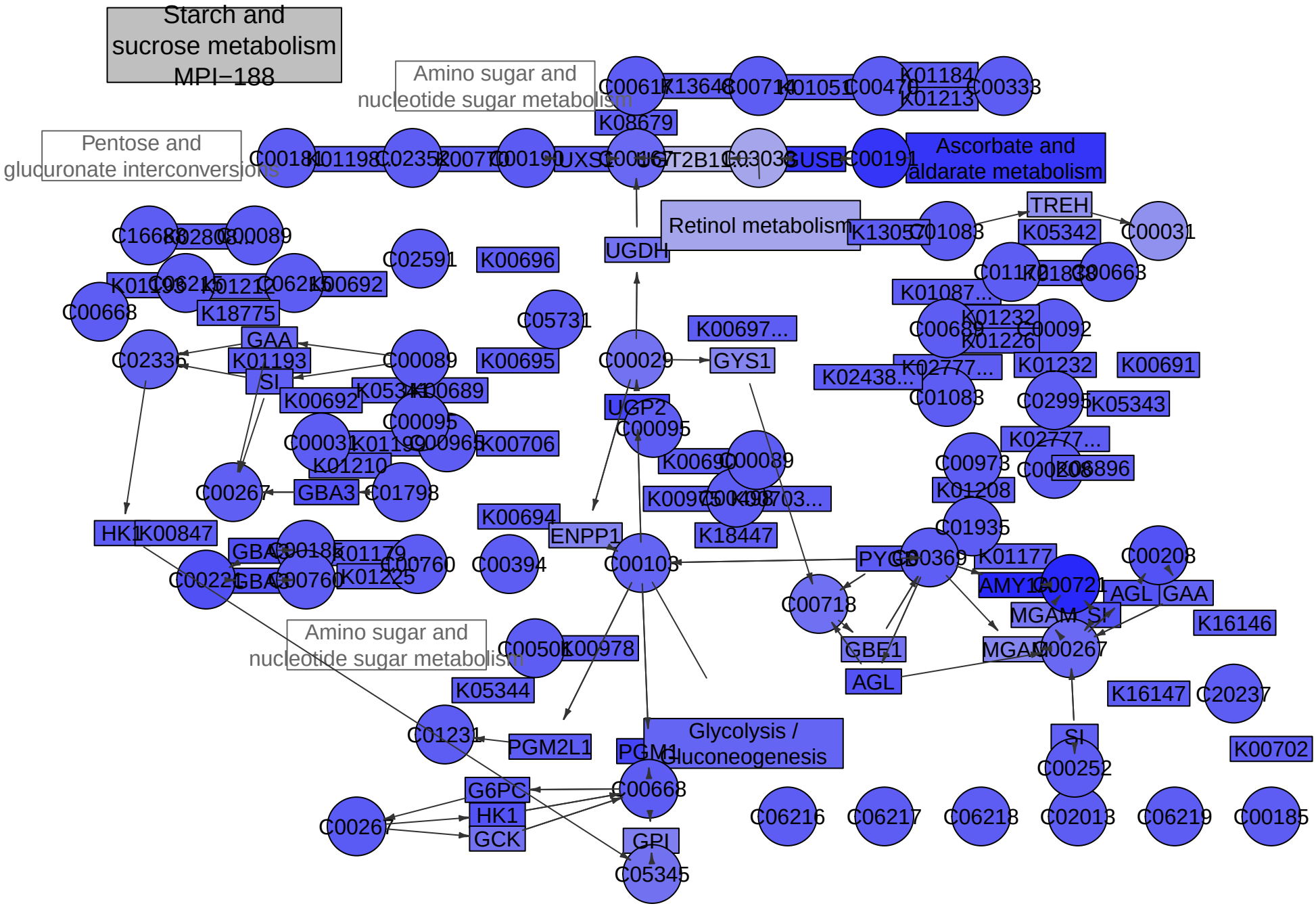
K01087...
K01226
C00092
K01208
C01935


Starch and sucrose metabolism MPI−185
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K05343
K16146
K16147
K00702
C00031
C00668
C00267
C00103
C00718
C00252
C20237
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−186
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01232
K01226
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K00689
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01179
K01225
K18447
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
MGAM
C00267
AGL
K05344
K00978
C01231
PGM2L1
PGM1
K16147
C20237
K00702
C00252
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−188
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11...
C03038
GUSB
C00191
TREH
K05342
C00031
C01083
K13057
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00394
C00760
K01179
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
AGL
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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GPI
C05345
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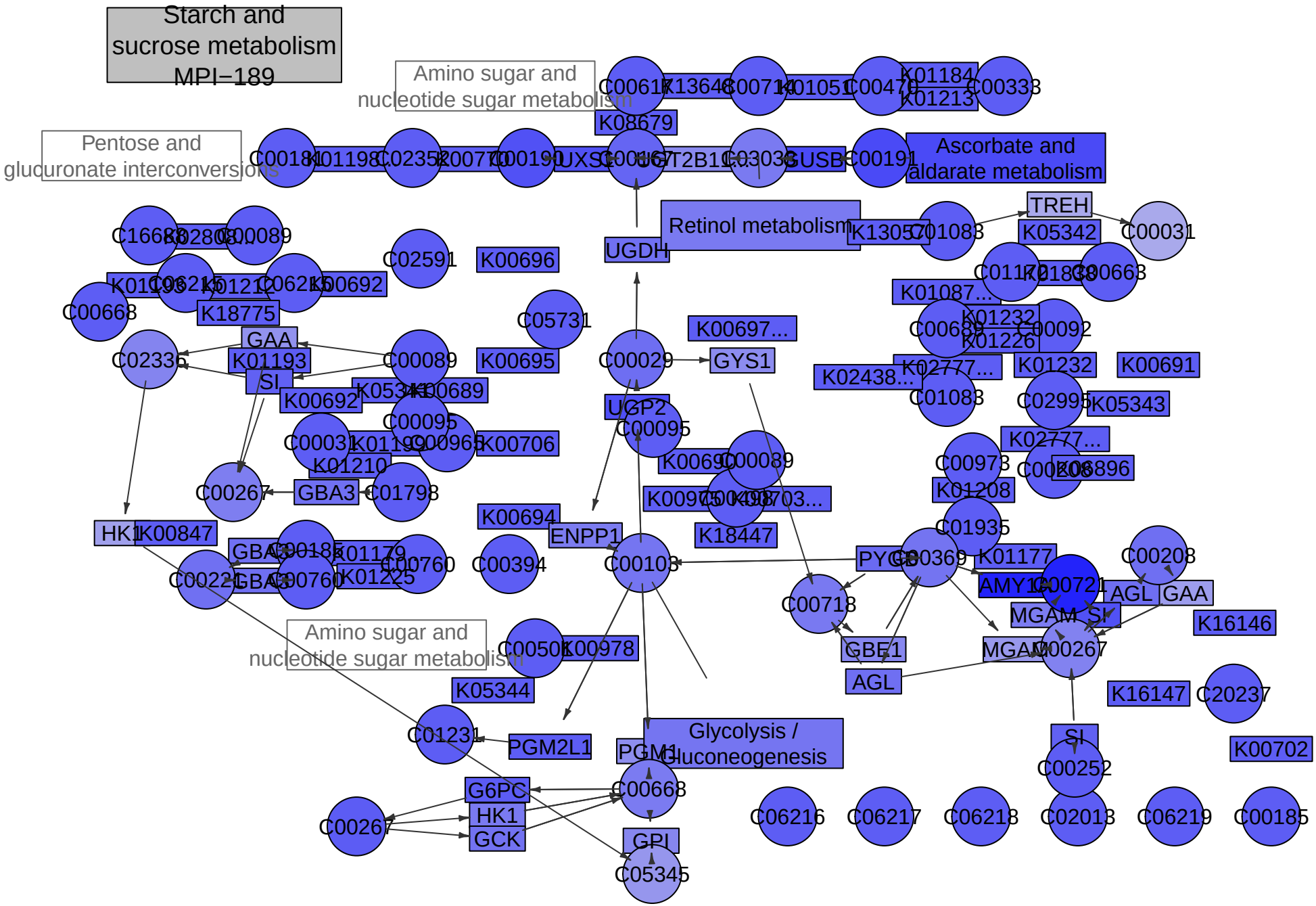
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−189
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K01232
K00691
K02438...
K02777...
K00692
K05343
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K01208
HK1
K00847
K18447
ENPP1
C00108
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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GCK
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GPI
C05345
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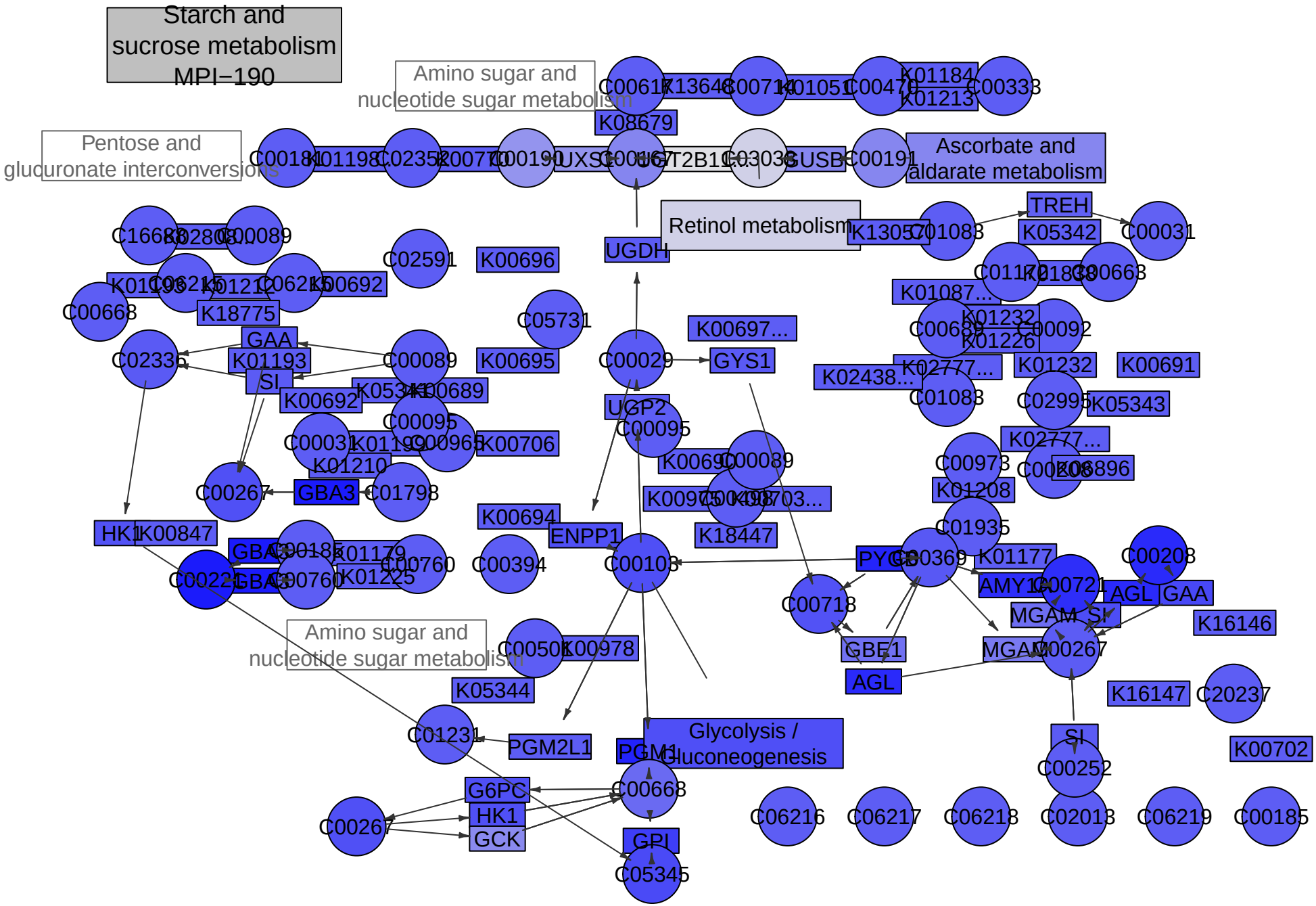
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−190
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C00089
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00689
K00692
UGP2
C00095
K00706
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C01798
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PYGB
C00369
K01177
C00208
C00718
AMY1A
C00721
AGL
GAA
MGAM
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GBE1
MGAM
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PGM2L1
PGM1
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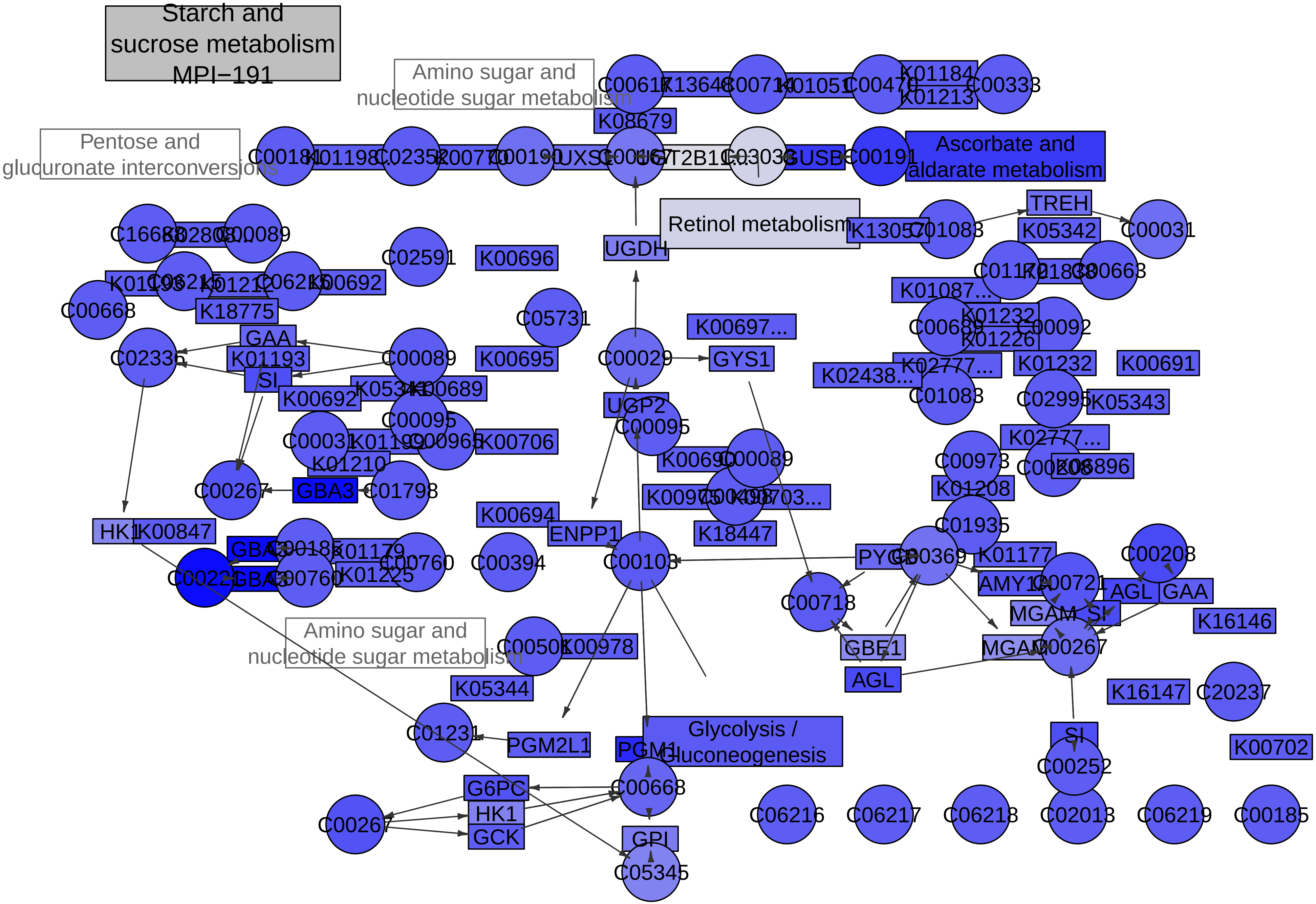
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185



Starch and sucrose metabolism MPI−191
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Glycolysis / Gluconeogenesis
Amino sugar and nucleotide sugar metabolism
C00181
C02352
C00190
UXS1
UGT2B11...
C03033
GUSB
C00191
K01184
K01213
C00333
C00470
K01051
K13648
K08679
TREH
K05342
C00031
C01083
K13057
UGDH
C16688
C00089
K01193
K01212
C06215
K00692
K18775
C00668
C02591
K00696
C05731
K00697...
K01087...
C00689
K01232
K01226
C00092
K00691
K02777...
K02438...
C01083
C02995
K05343
GAA
C00089
C02336
K00695
C00029
GYS1
SI
K00692
K00689
UGP2
C00095
C00031
K01210
K00706
K00975
C00498
K18447
C00973
K01208
K06896
C00267
GBA3
C01798
K00694
ENPP1
C01935
HK1
K00847
C00185
K01179
C00760
K01225
C00221
C00394
C00103
PYGB
C00369
K01177
AMY1A
C00721
C00208
AGL
GAA
K16146
C00718
MGAM
SI
GBE1
AGL
C00267
C00501
K00978
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
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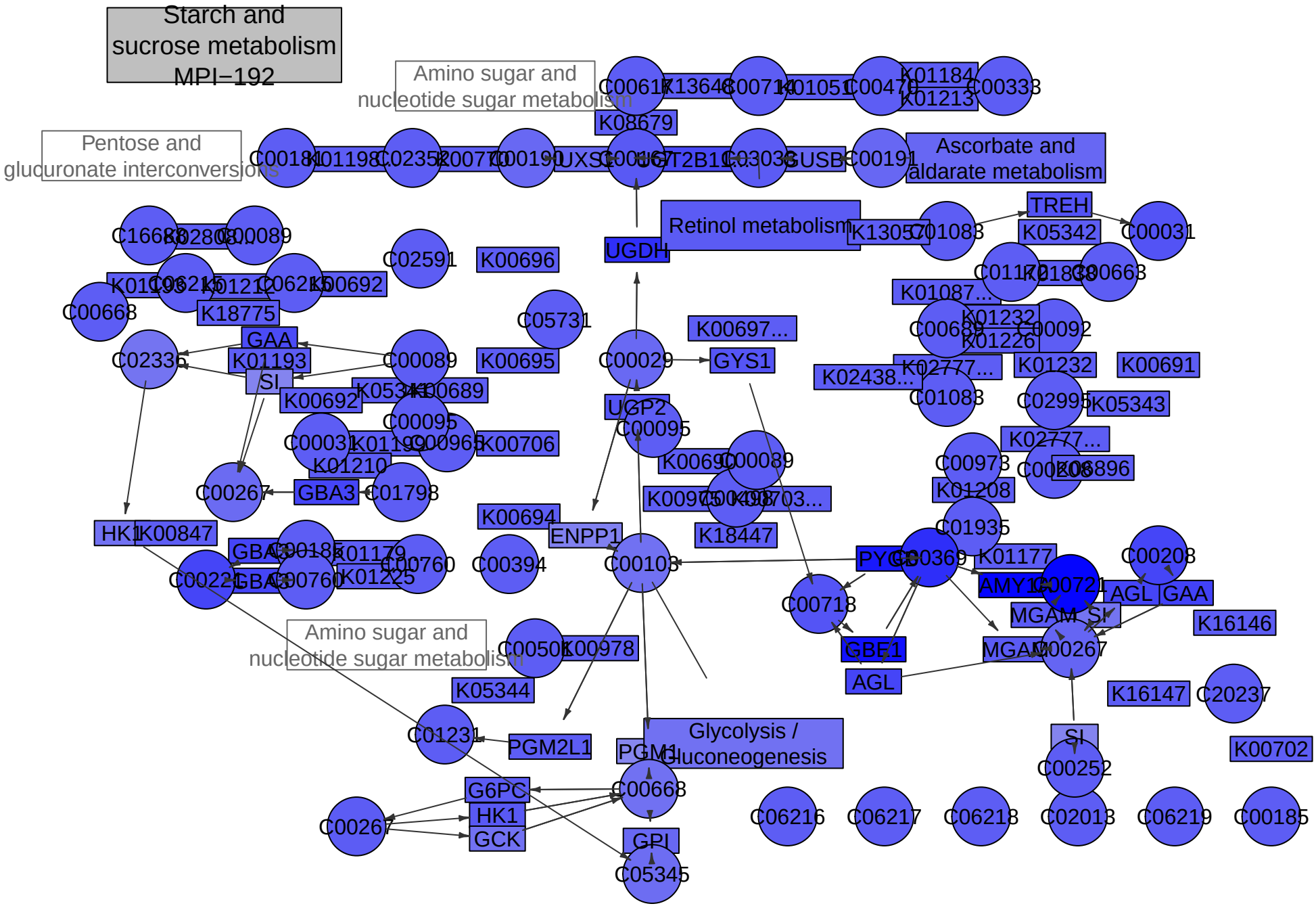
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−192
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00697...
GYS1
K01087...
K01232
K01226
C00092
K01232
K00691
K02438...
K02777...
C01083
C02995
K05343
K00689
K00692
UGP2
C00095
K00706
K01210
K02777...
C00973
K01208
C00267
GBA3
C01798
K00694
ENPP1
K18447
C01935
HK1
K00847
C00394
C00103
PYGB
C00369
K01177
C00208
C00718
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
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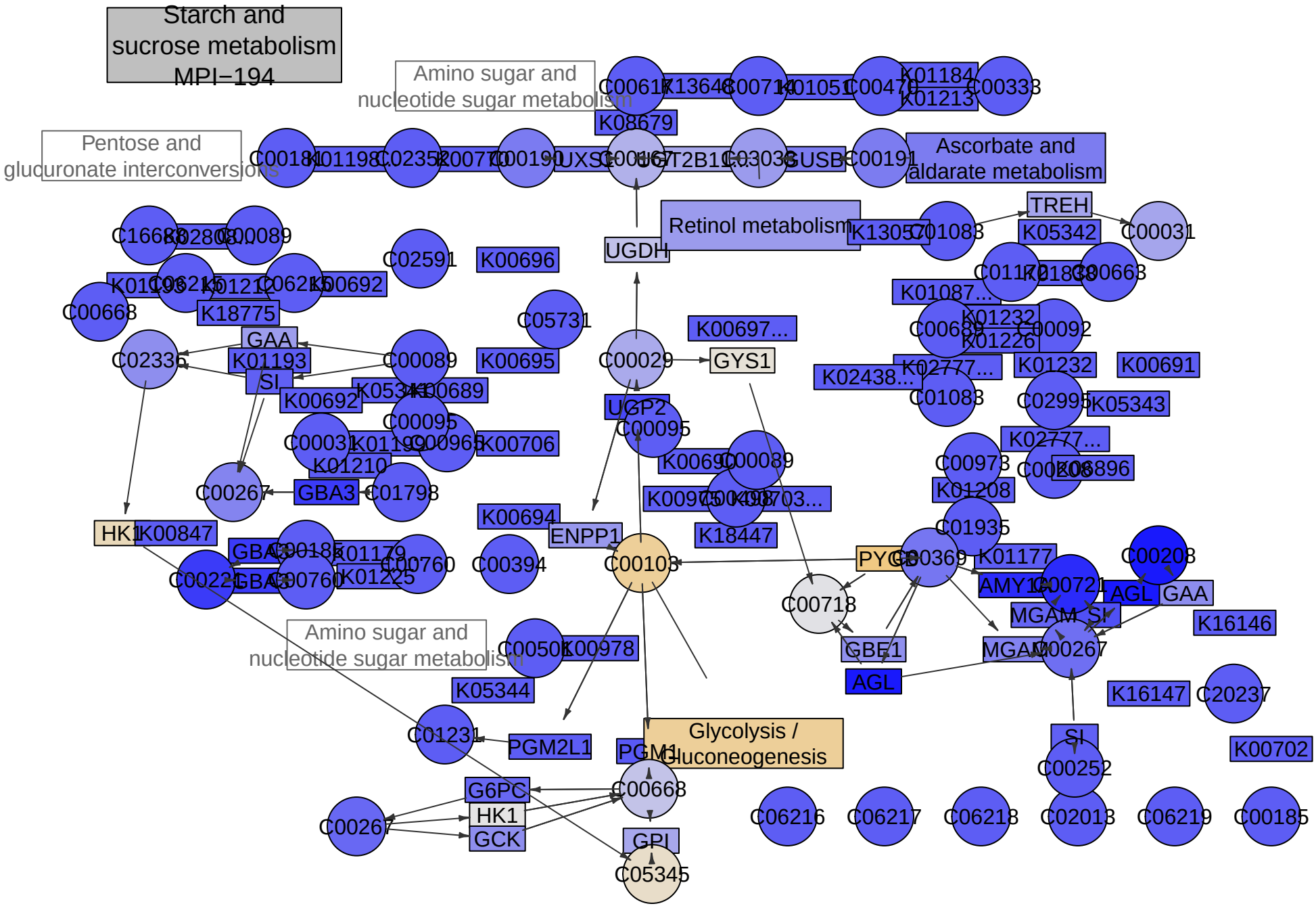
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−194
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C02336
C00668
C05731
K00695
C00089
K00692
K00689
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
K00697...
GYS1
UGP2
C00029
K00691
K05343
K02777...
K01232
K01226
K01087...
C00092
K02438...
C01083
C02995
K01208
C01935
K01177
C00369
PYGB
C00718
GBE1
AGL
MGAM
SI
C00267
C00721
C00208
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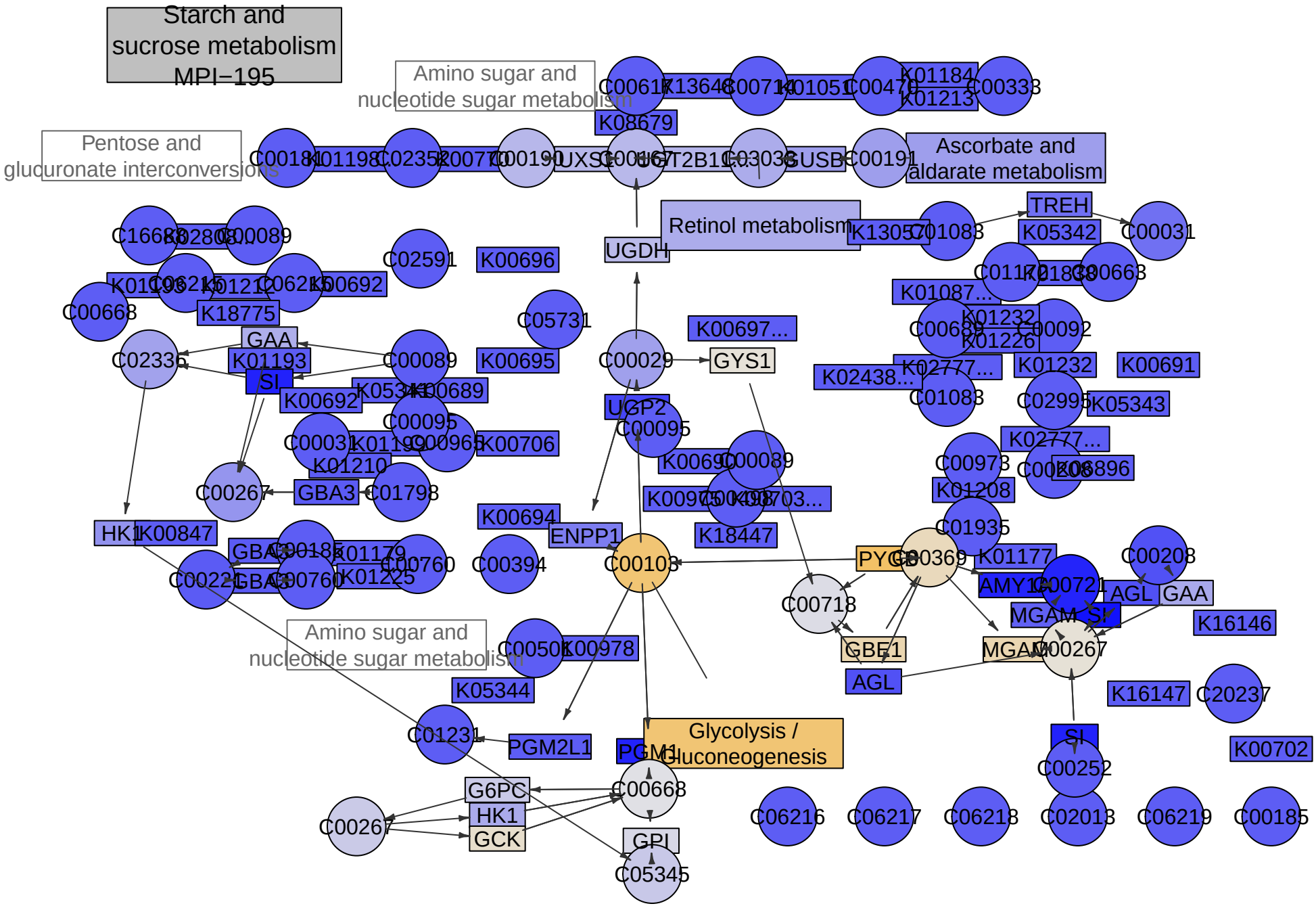
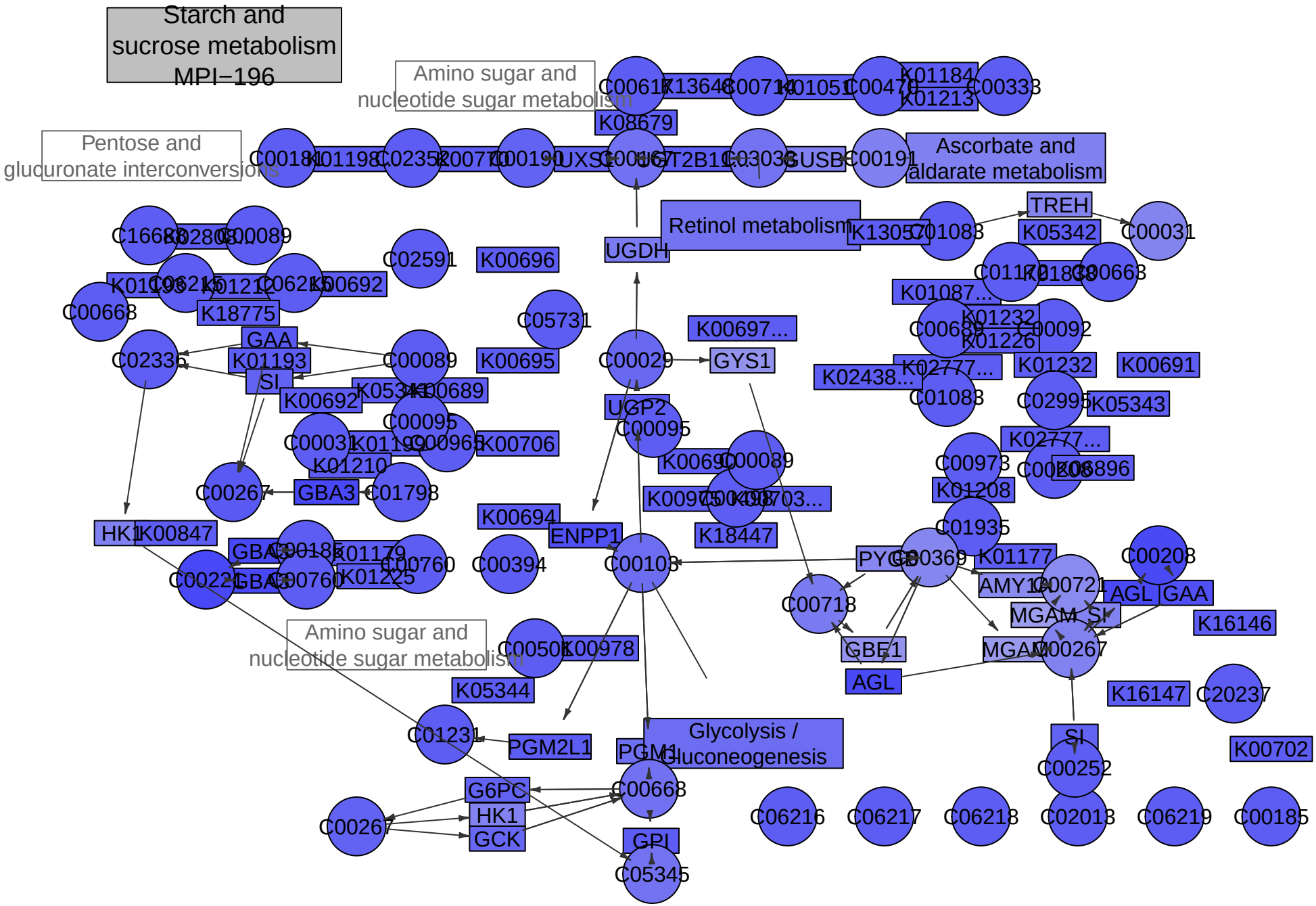
K16147
C20237
K00702
C00252
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−195
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
USB
UGDH
TREH
K05342
C00031
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
K01179
K01225
C00760
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−196
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00029
GYS1
K00697...
K01232
K01226
K00691
K02777...
K05343
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01179
K01225
K18447
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C00267
GPI
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C06217
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C02013
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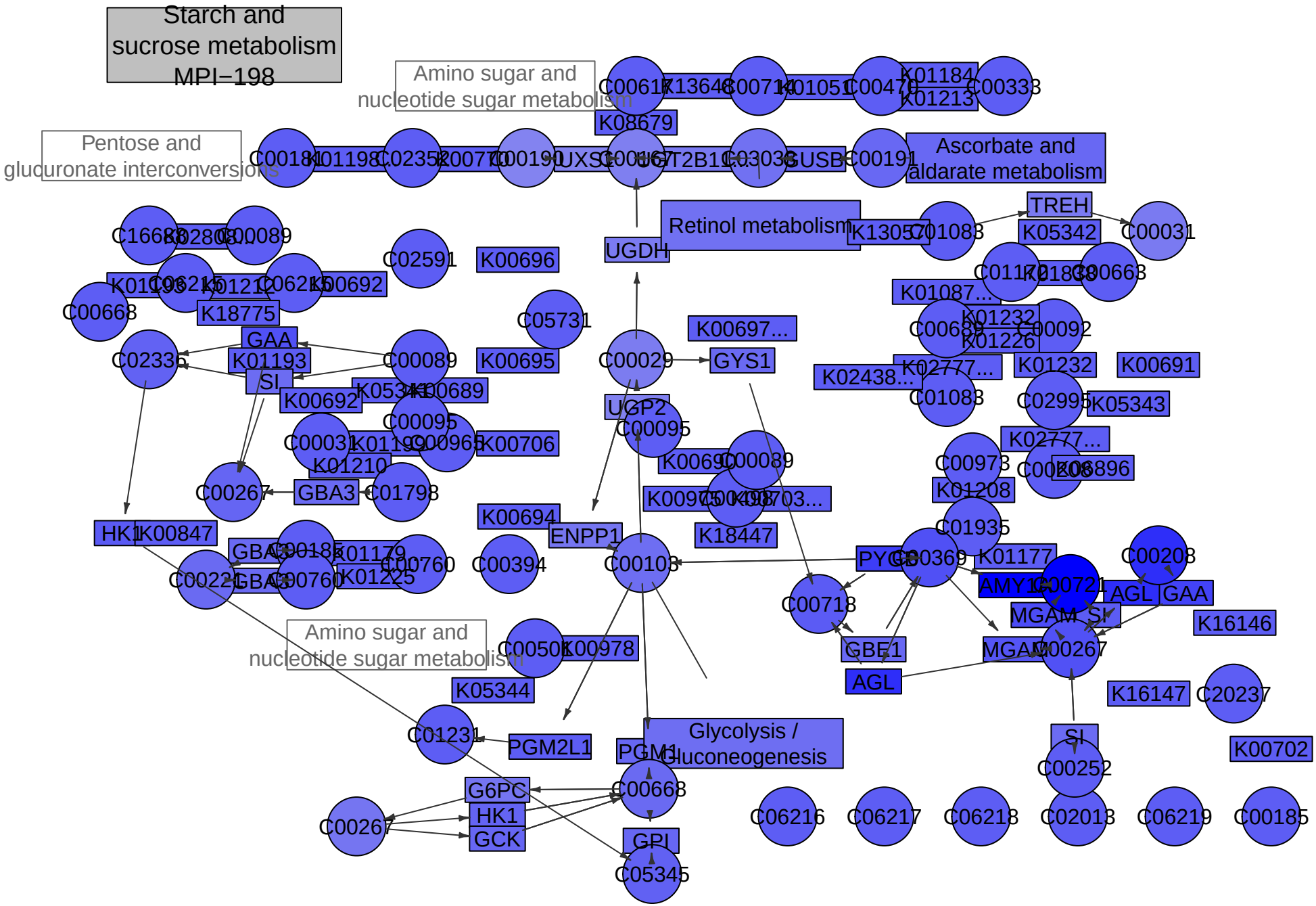
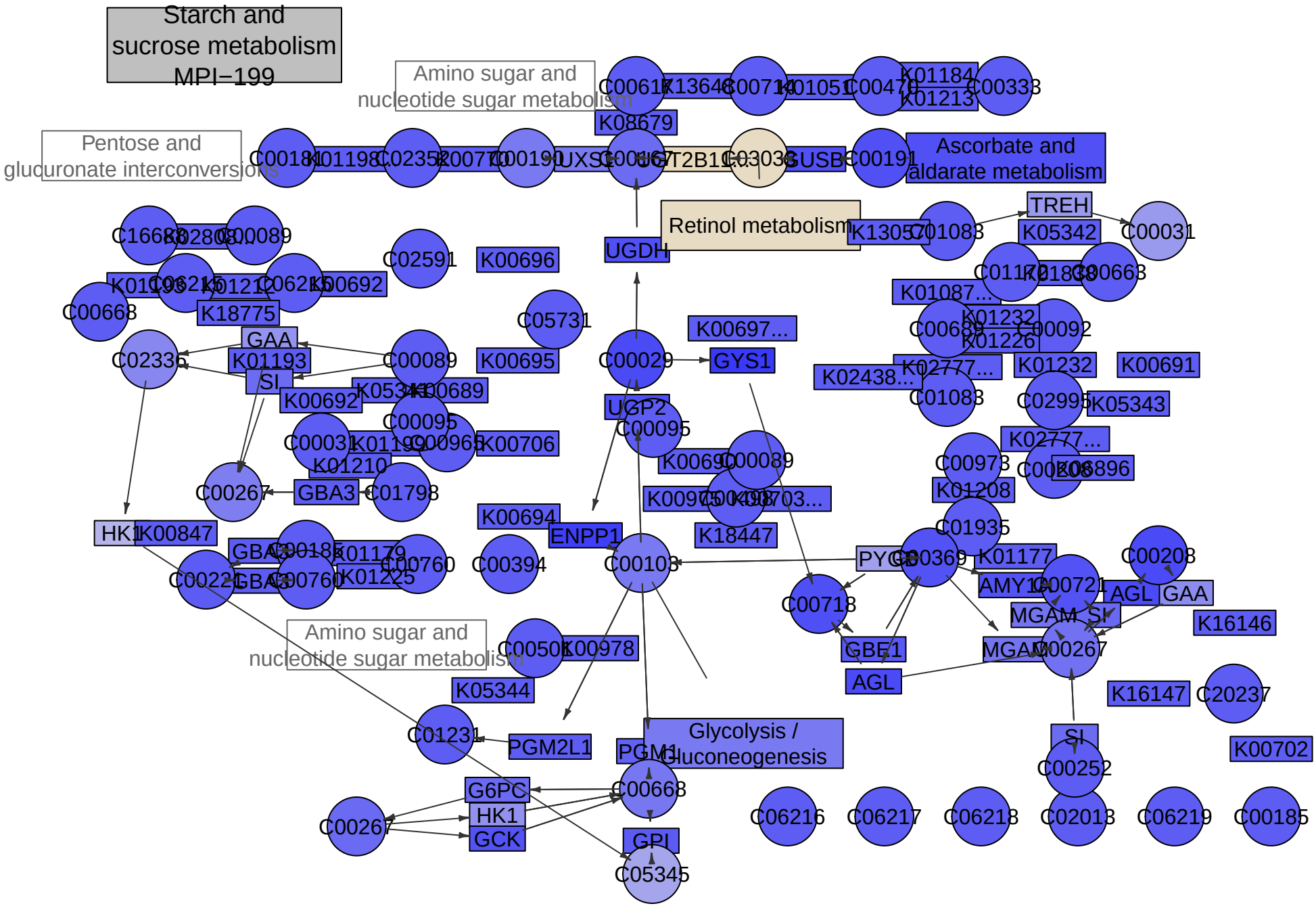
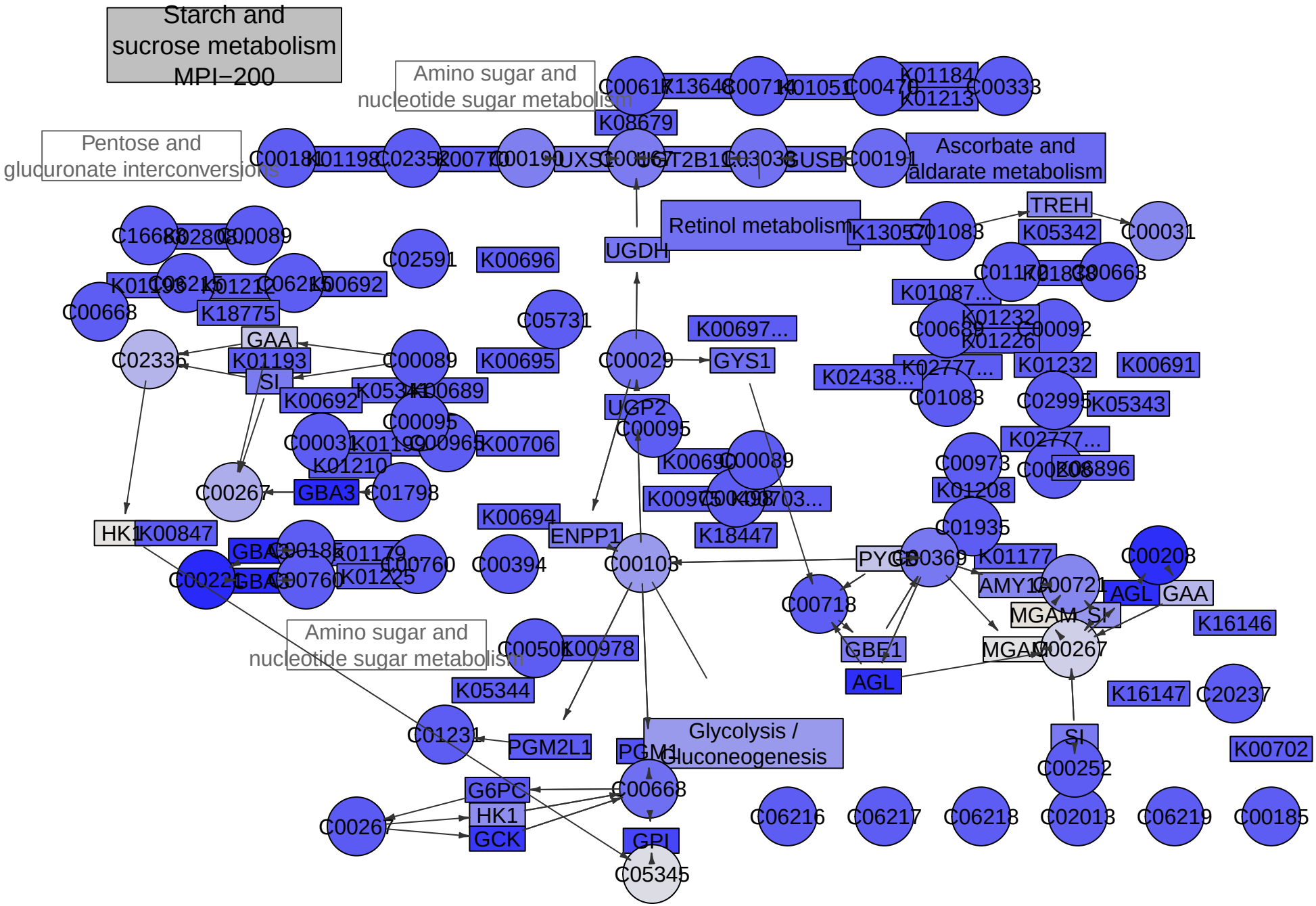
SI
C00252
K00702


Starch and sucrose metabolism MPI−198
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
SI
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
C00394
C00760
K01179
K01225
HK1
K00847
K18447
C00718
PYGB
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
K00978
C01231
PGM2L1
PGM1
K16147
C20237
K00702
C00252
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−199
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03036
USB
C00191
UGDH
TREH
K05342
C00031
K13305
C01083
C02591
K00696
C00668
K18775
C05731
K00697...
GAA
C02336
K01193
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
SI
K00692
K00689
UGP2
C00095
K02777...
C01083
C02995
K05343
C00031
K01199
C00965
K00706
K01210
K00691
C00089
C00973
K06896
C00267
GBA3
C01798
K00694
K01208
HK1
K00847
ENPP1
K18447
C01935
C00185
K01179
C00760
C00394
C00108
PYGB
C00369
K01177
C00208
C00221
K01225
AMY1A
C00721
AGL
GAA
C00718
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
C00668
C00267
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−200
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
SI
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
K00689
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
K18447
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
K05344
K00978
C01231
PGM2L1
PGM1
G6PC
C00668
HK1
GCK
GPI
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C06216
C06217
C06218
C02013
C06219
C00185
K16147
C20237
K00702
C00252
C01083
K01087...
K01226
K02995
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K01225
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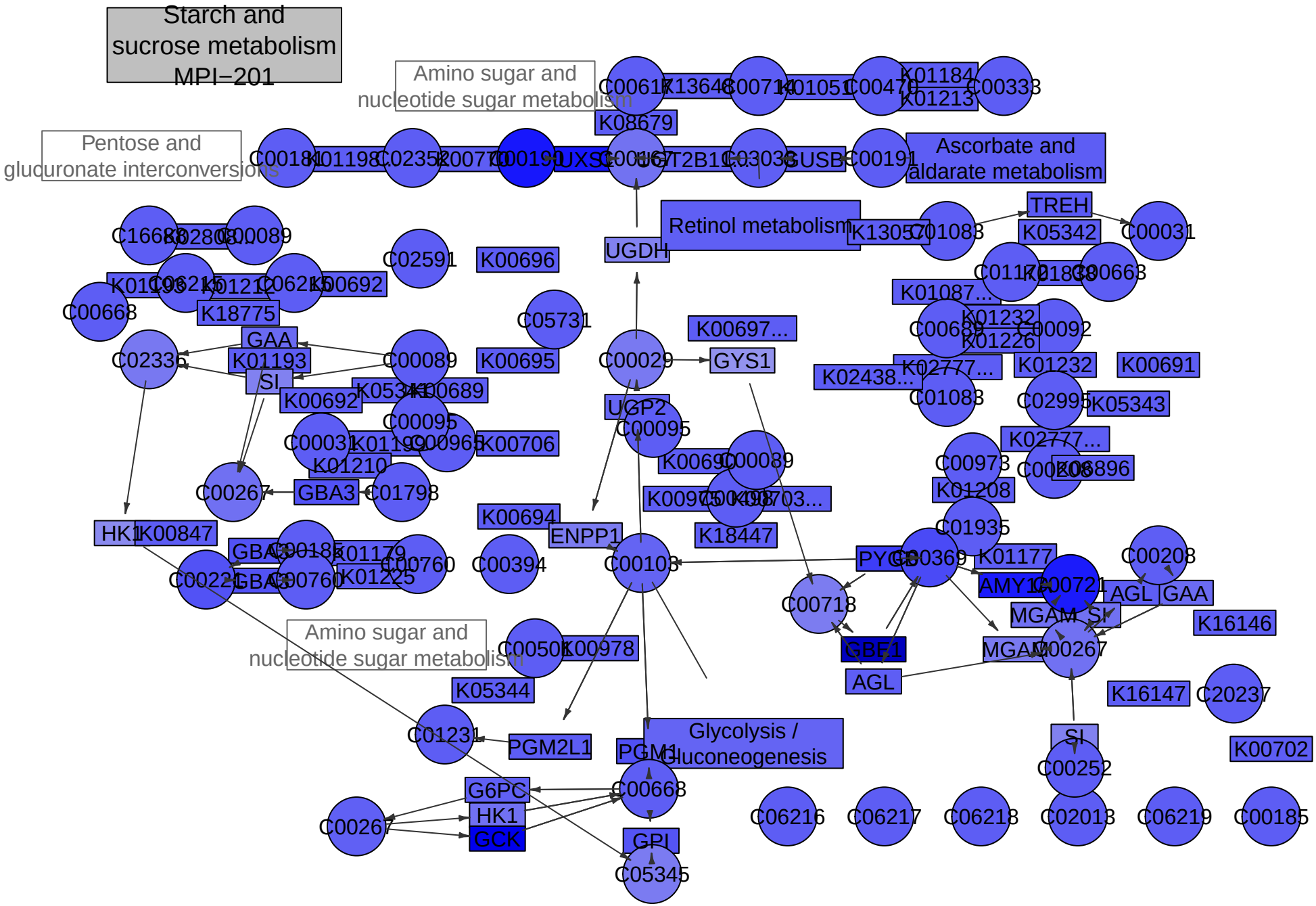
K00702


Starch and sucrose metabolism MPI−201
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
K05342
K05343
K16146
K16147
K00702
C00031
C00668
C00267
C00089
C00095
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C00718
C00252
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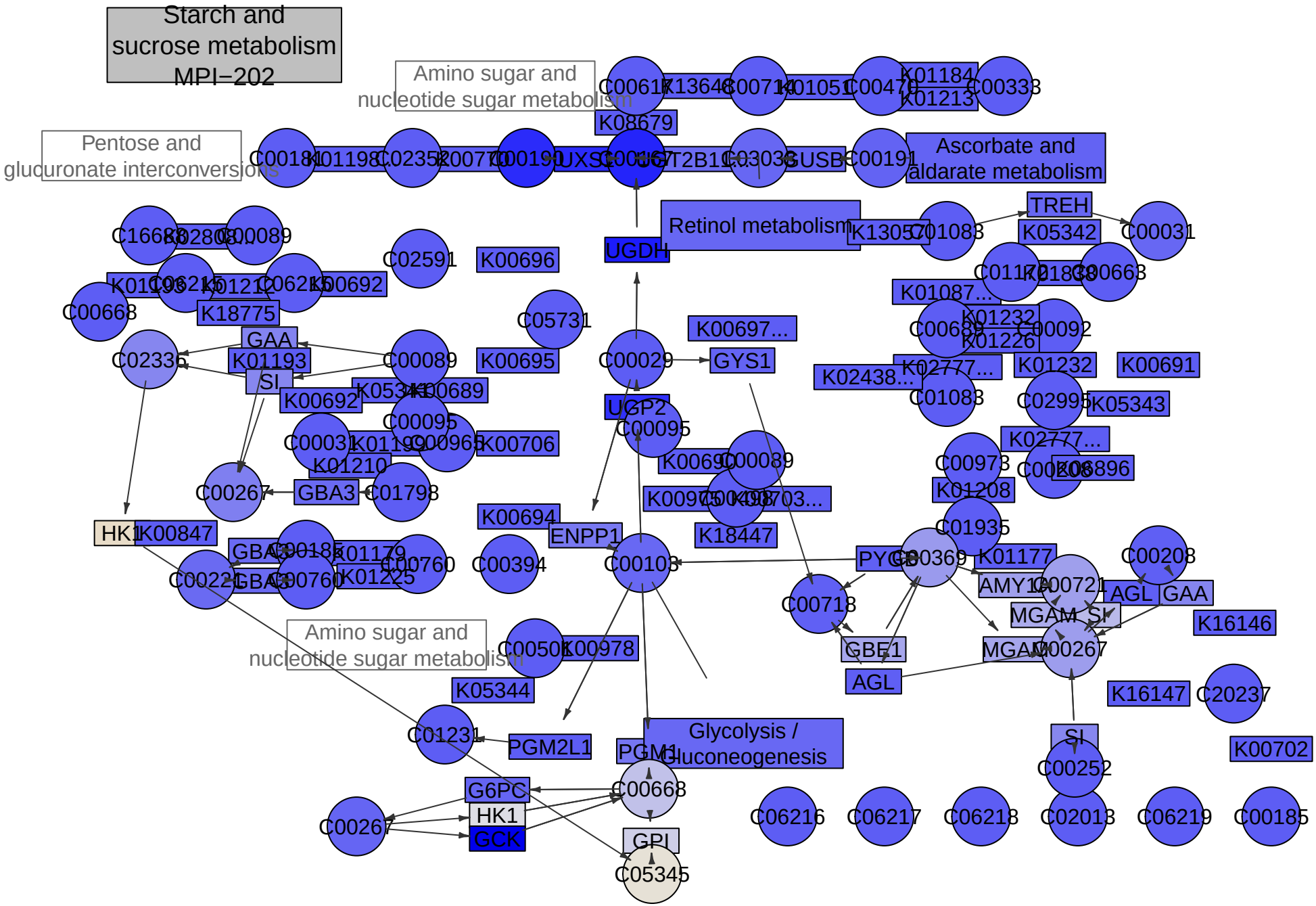
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−202
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
AMY1A
MGAM
GBE1
AGL
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
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C00089
C00095
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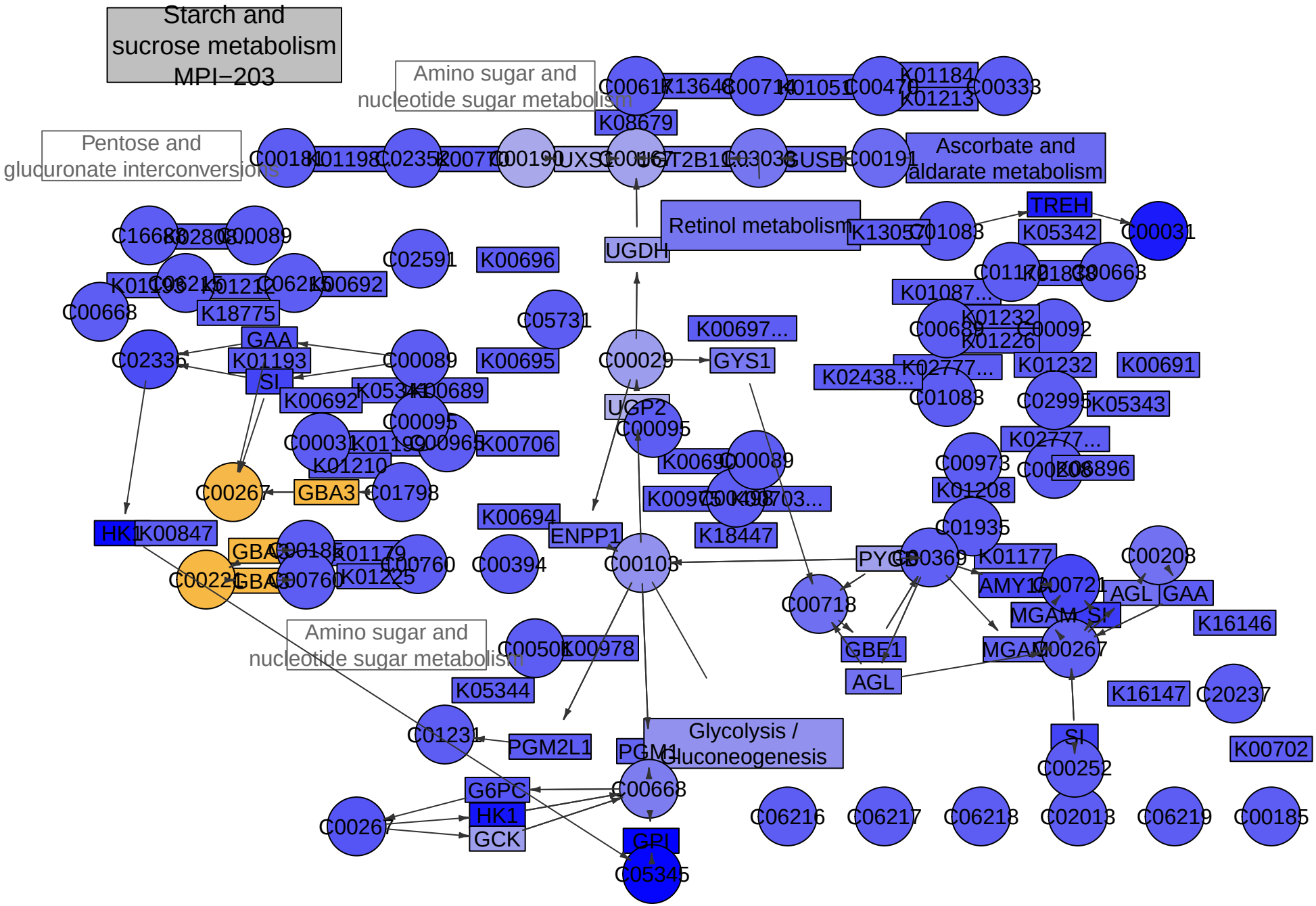
C00029
C00108
C00718
C00252
C05345


Starch and sucrose metabolism MPI−203
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
K01193
C02336
SI
K00692
C05731
K00695
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
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C00394
K18447
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
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C20237
K00702
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K01226
K02438...
K02777...
K01232
K00691
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C02995
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K02777...
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K01208
C01935
PYGB
C00369
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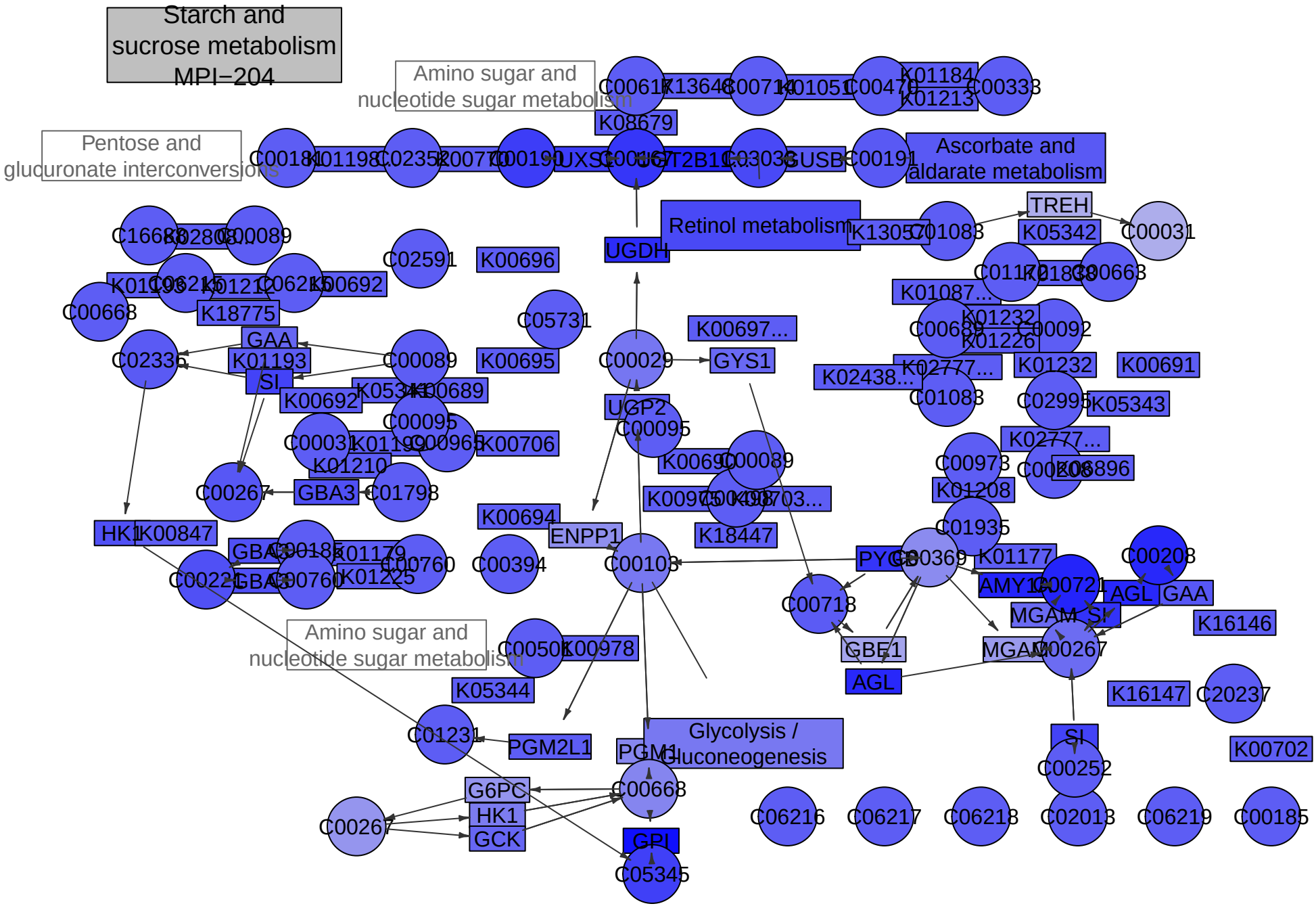
Starch and sucrose metabolism MPI−204
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
C00031
K05342
C01083
K13305
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
K00692
K00689
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
K00965
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C00394
C00760
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HK1
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GBA3
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PYG
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
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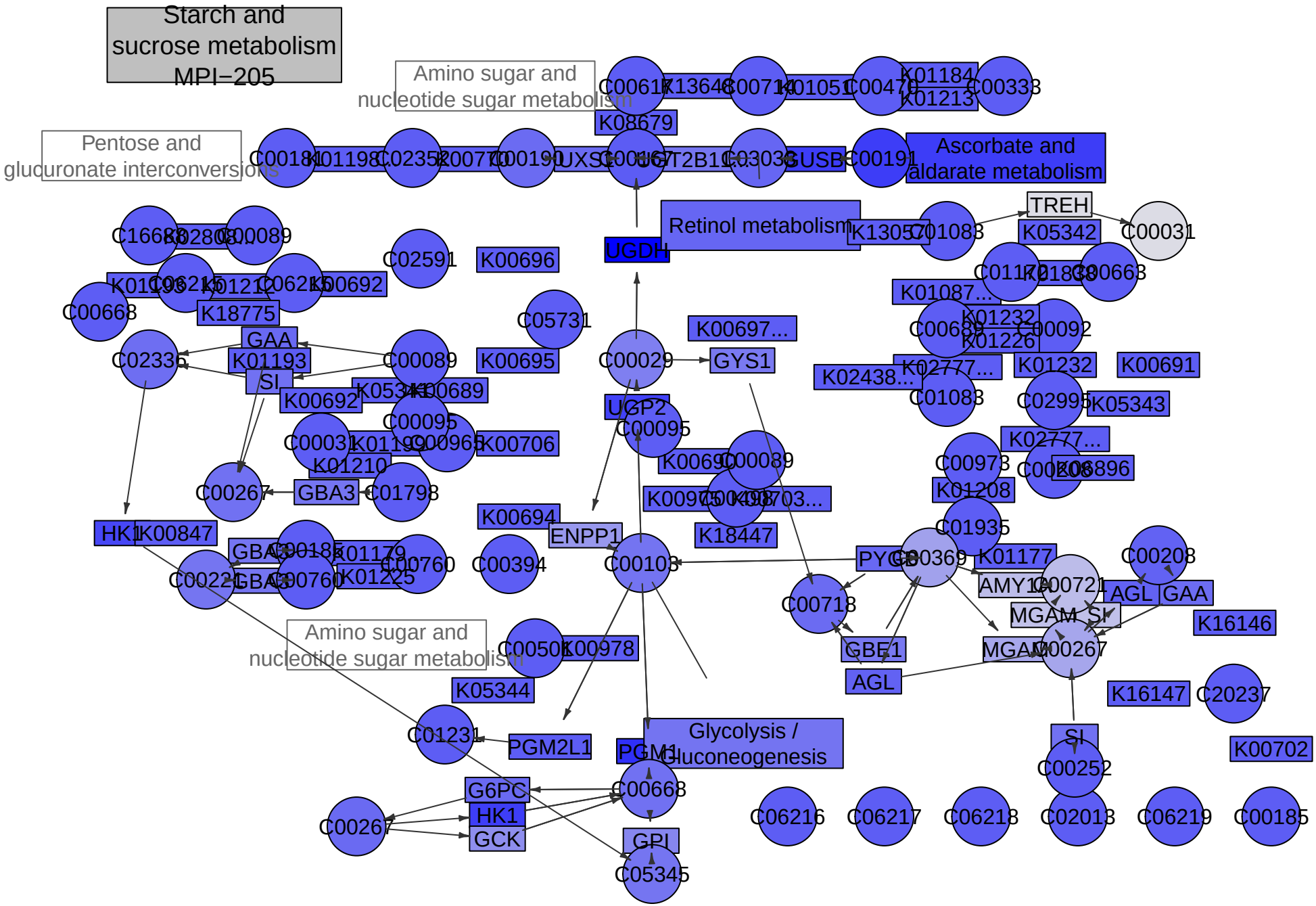
Starch and sucrose metabolism MPI−205
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
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C00092
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C00267
C00668
C00718
C00721
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C00208
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C00191
C02591
C05731
C02336
C00029
C01083
C01935
C00369
C00394
C00760
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C05345
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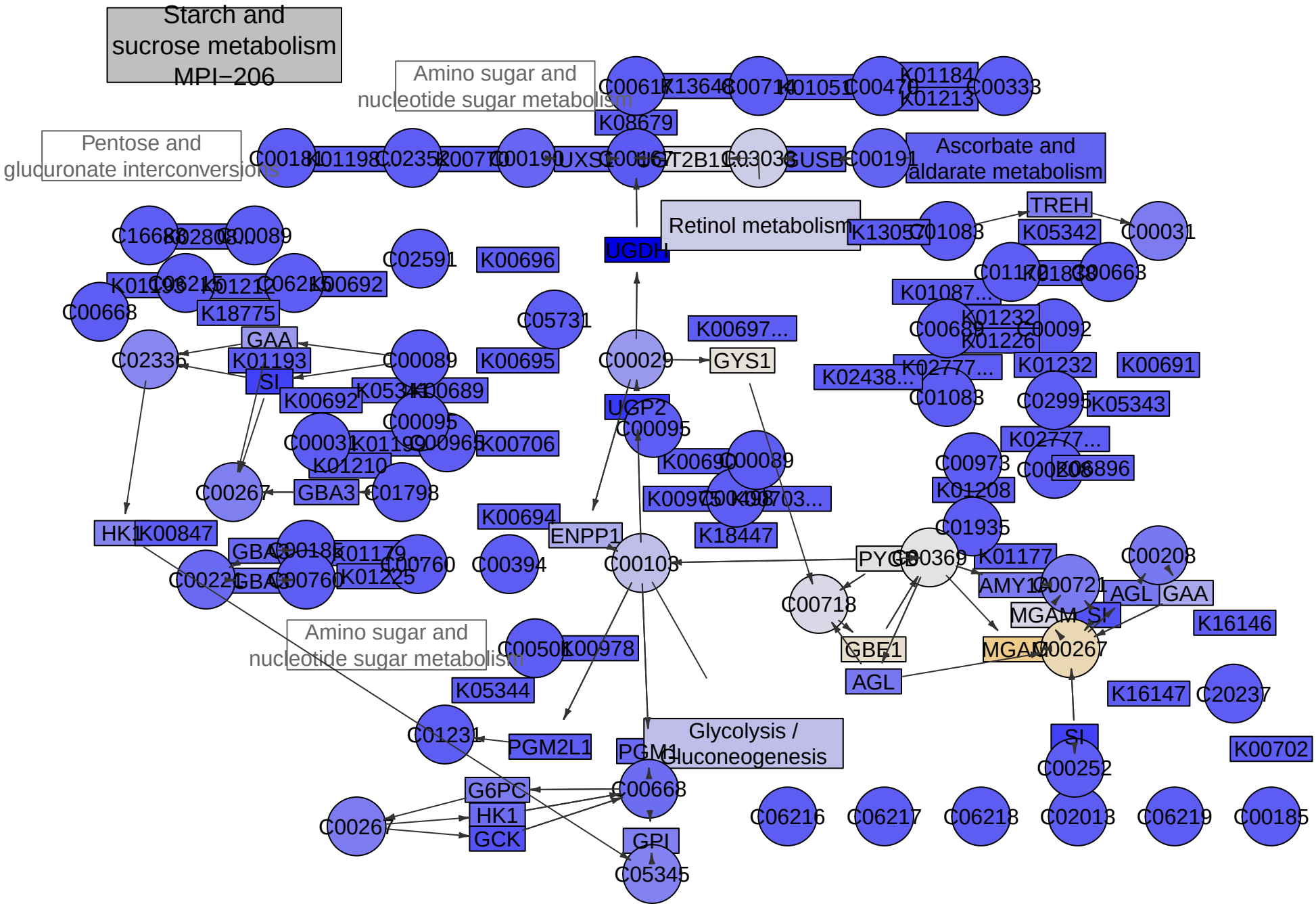
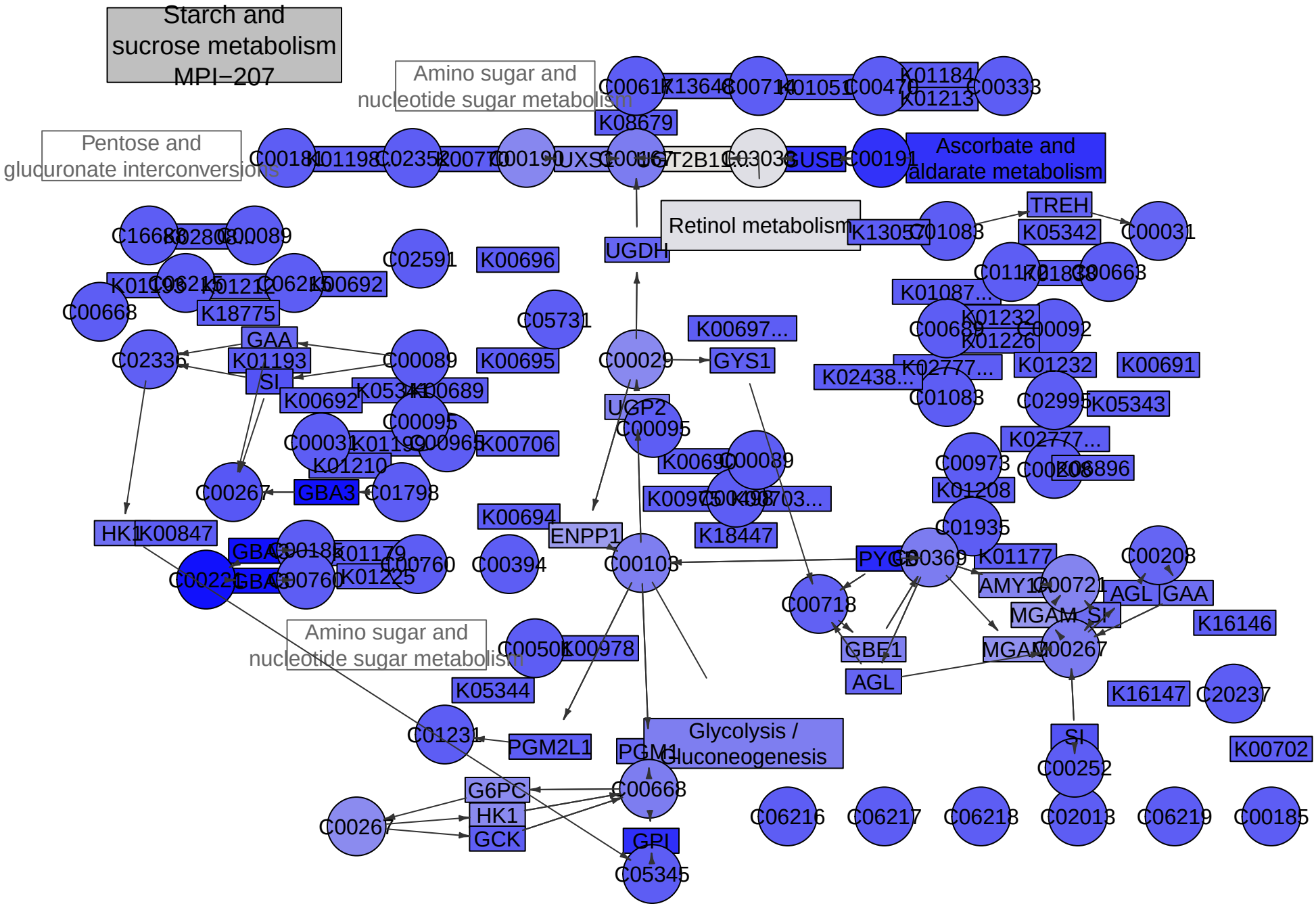
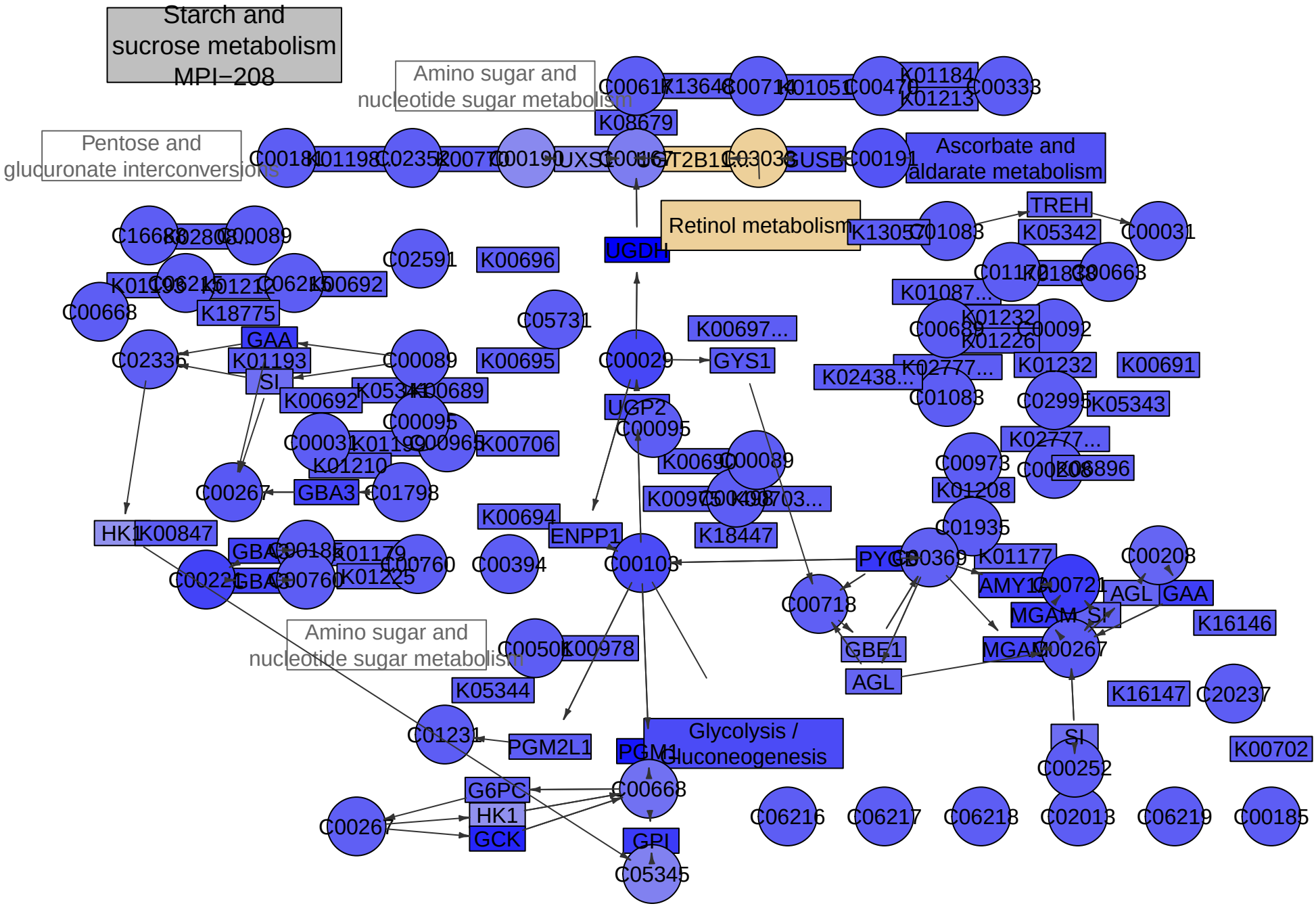
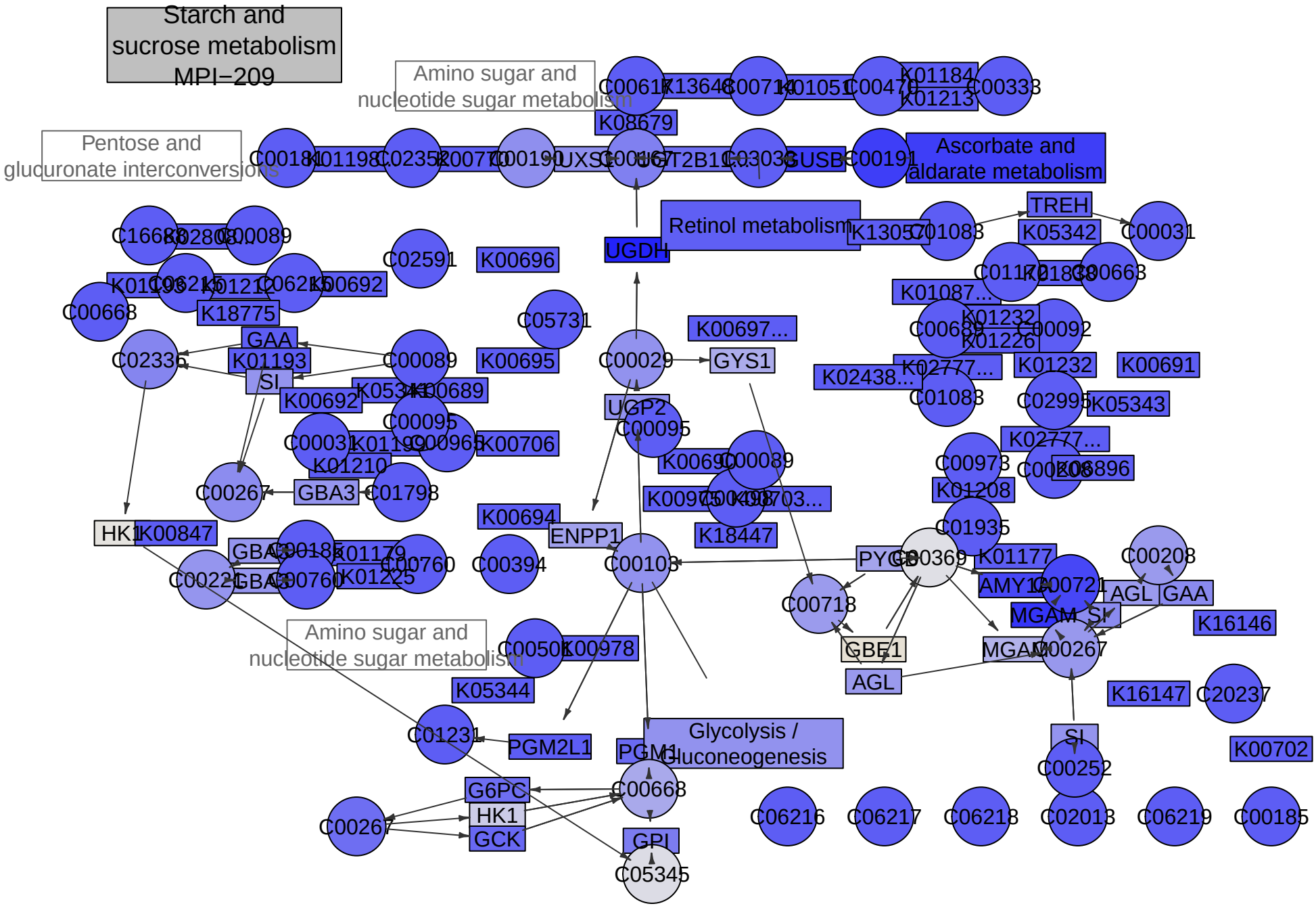
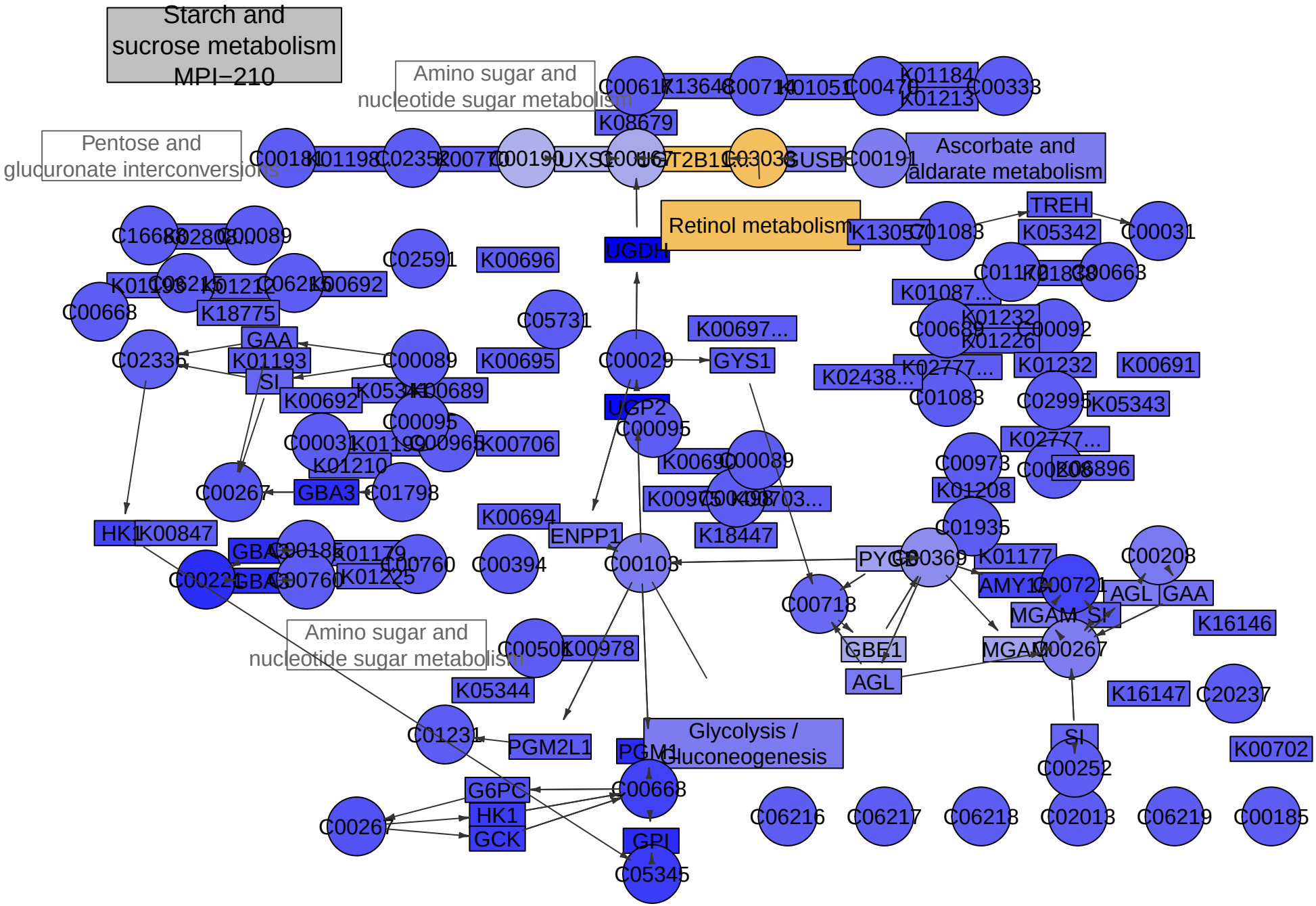

Starch and sucrose metabolism MPI−206
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
AMY1A
MGAM
GBE1
AGL
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K08679
K00696
K00692
K18775
K00695
K00706
K00694
K18447
K05342
K05343
K16146
K16147
K00702
C00031
C00089
C00092
C00095
C00103
C00267
C00668
C00718
C00721
C00208
C00252
C01231
C01935
C02591
C02336
C05731
C05345
C06216
C06217
C06218
C06219
C02013
C20237
C00185


Starch and sucrose metabolism MPI−207
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
UGT2B11
C03038
GUSB
C00191
TREH
K05342
C00031
K13305
C01083
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
K00847
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
C00689
C00092
K01226
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K02777...
C00973
K01208
K00896
K01179
K01225
K00978
C00501
K00702


Starch and sucrose metabolism MPI−208
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
GAA
K01193
C00089
C05731
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
C00973
K01208
C01935
HK1
K00847
C00185
K01179
C00760
C00394
C00103
PYGB
C00369
K01177
C00208
C00718
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−209
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C00089
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
C01935
K01208
C00973
K06896
HK1
K00847
C00221
K01179
K01225
C00760
C00394
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−210
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGDH
T2B1
USB
TREH
K05342
K01087...
K01232
K01226
K02777...
K01232
K00691
K05343
K02777...
K06896
K01208
K01935
K01177
AMY1A
AGL
GAA
MGAM
SI
K16146
K16147
C20237
K00702
C00252
C06216
C06217
C06218
C02013
C06219
C00185
K00696
C02591
C05731
K00697...
GYS1
K00695
K00692
K00689
K00706
K00965
K01210
K01179
K01225
K00760
K00394
K00694
ENPP1
K18447
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00267
C00668
C02336
K01193
SI
GAA
K18775
K00847
HK1
GBA3
C01798
C00267
C00668
C00029
GYS1
UGP2
C00095
C00103
PYGB
C00718
GBE1
AGL
C00208
C00721
C00267
C00333
K01184
K01213
C00191
C00089
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C00031
C00089
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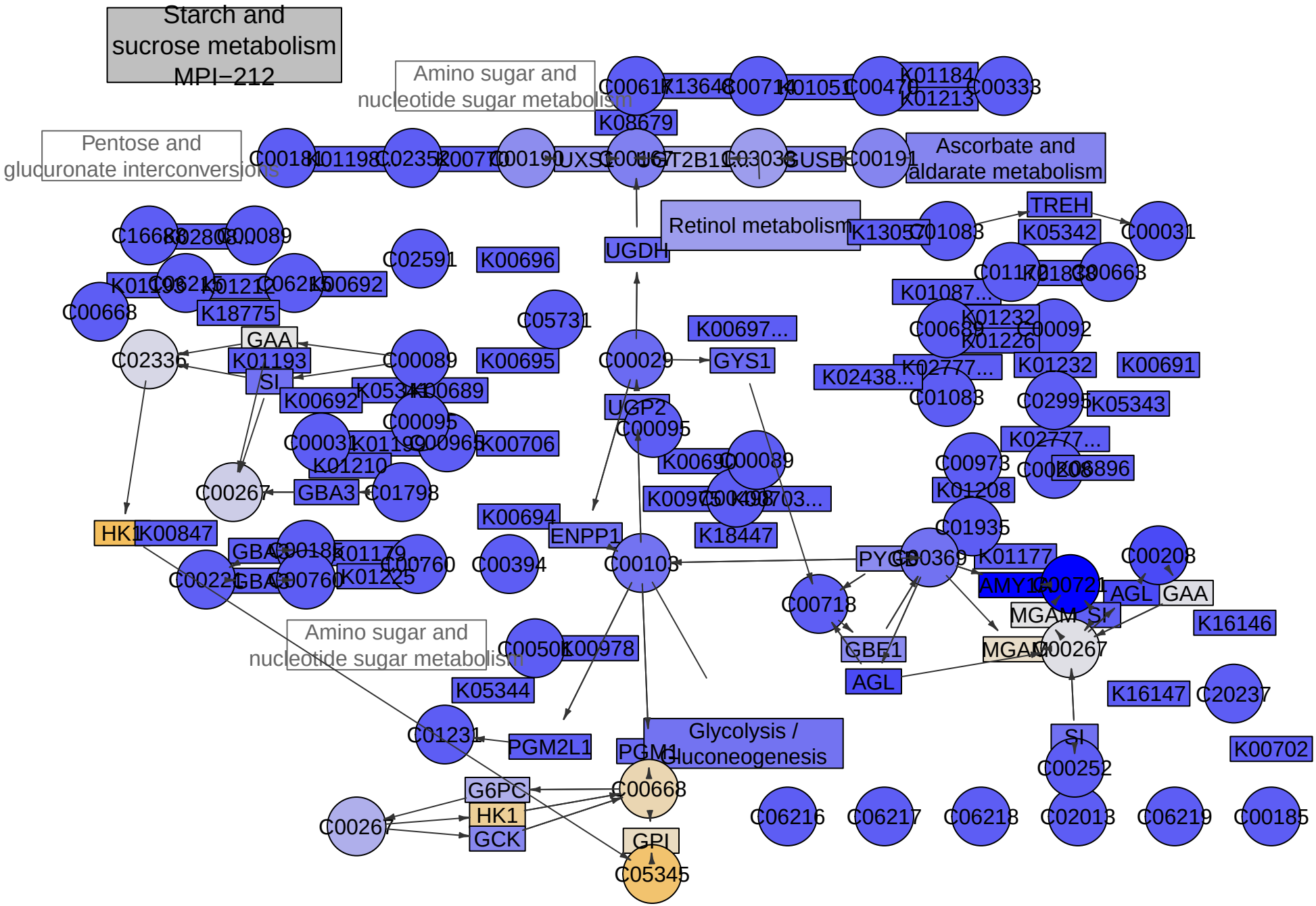
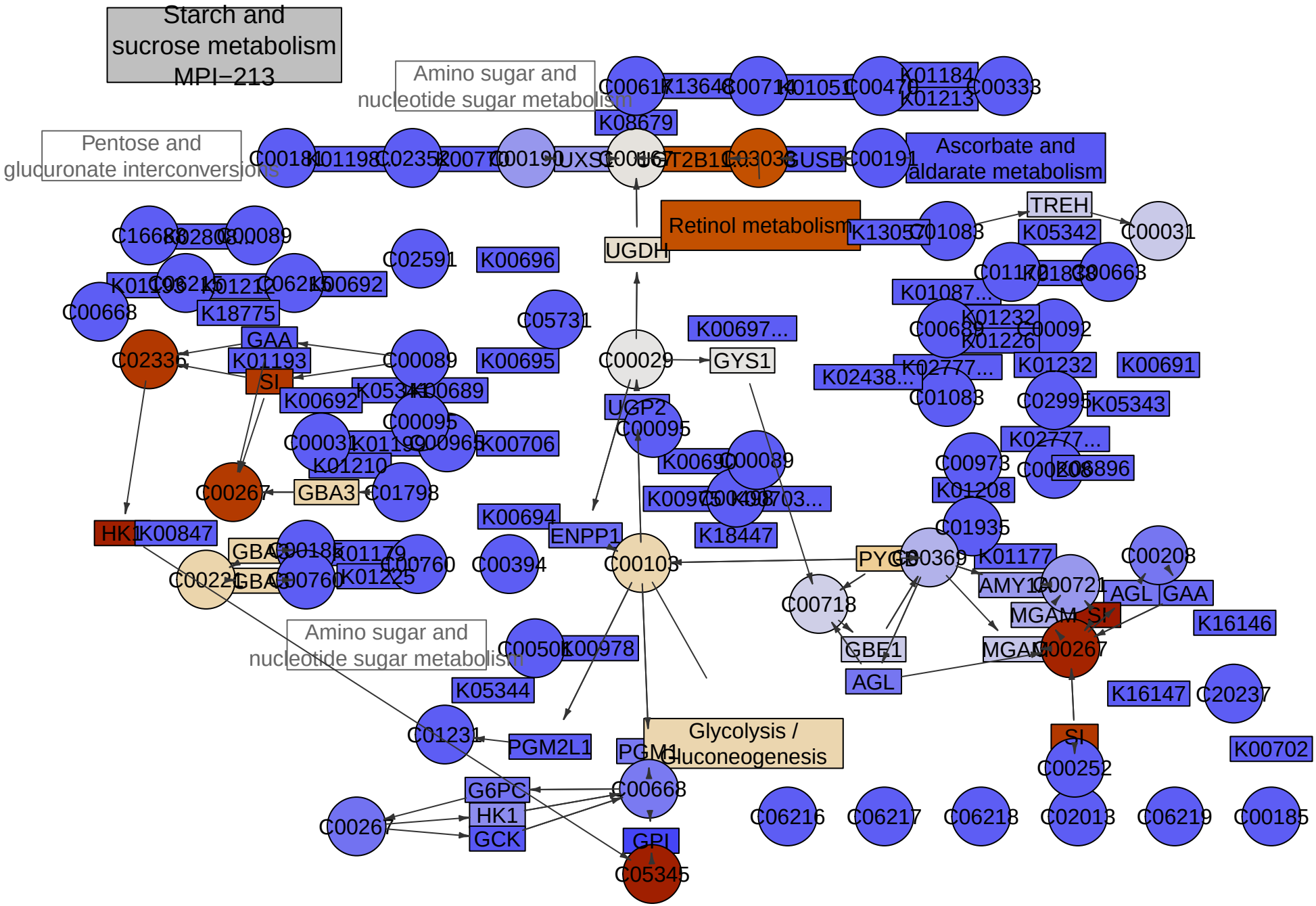
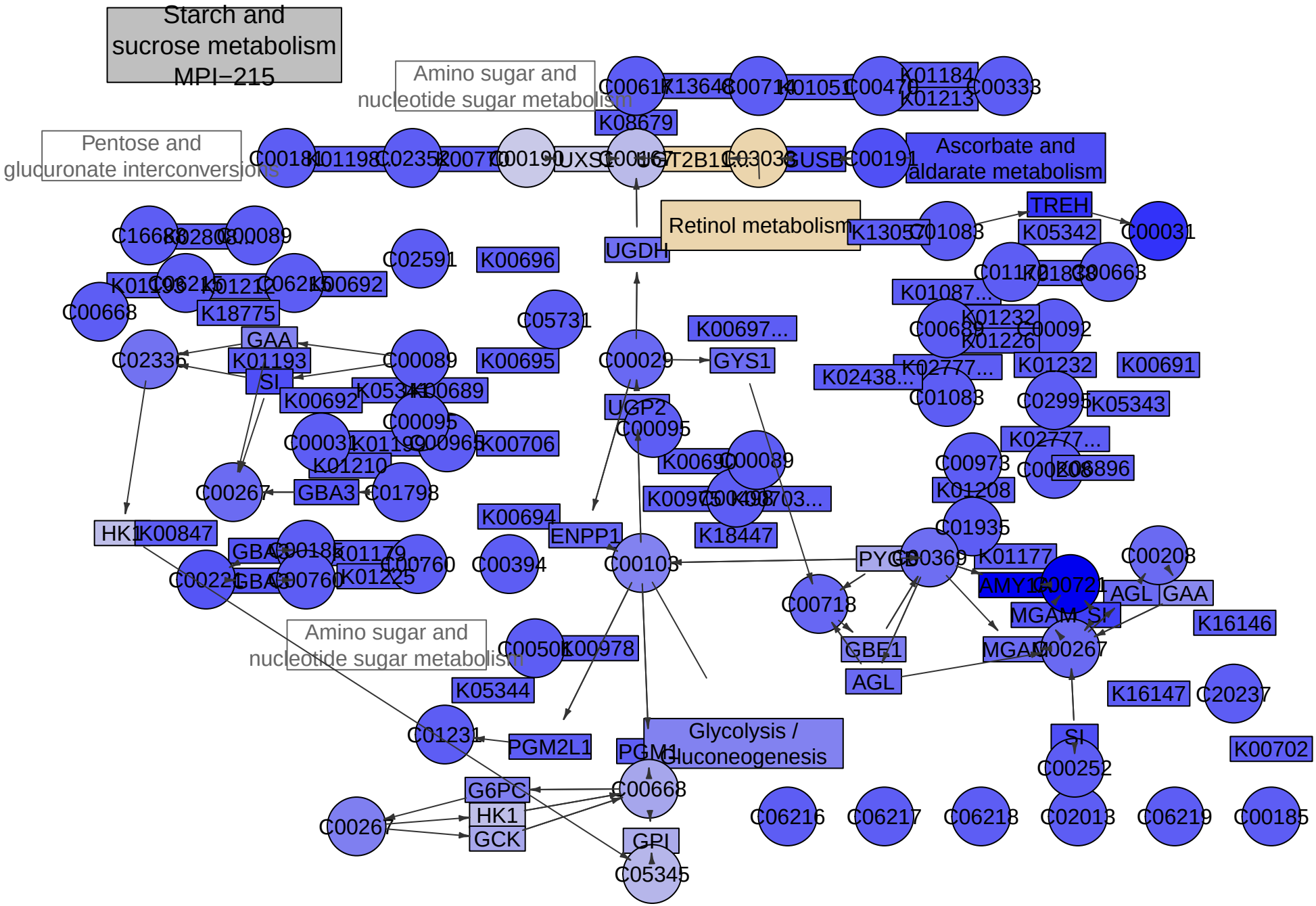
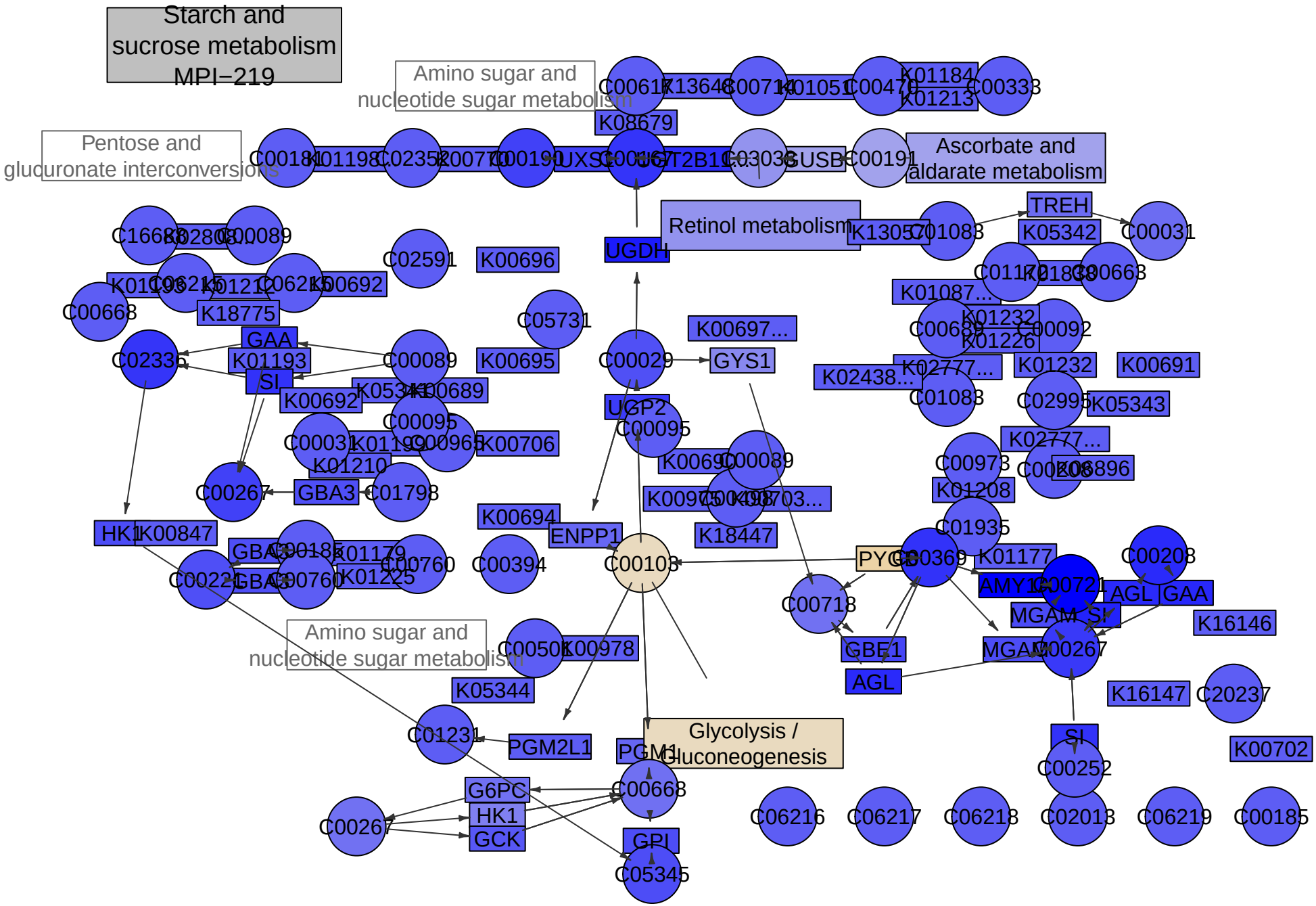
C00089
C00973
C00103
C00103
C00103


Starch and sucrose metabolism MPI−212
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C00668
C05731
K00697...
GAA
C02336
K01193
C00089
K00695
C00029
GYS1
SI
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00394
C00108
K01179
K01225
C00760
C00718
PYGB
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−213
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B10
GUSB
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02335
K01193
SI
K00692
K00695
C05731
C00089
C00029
GYS1
K00697...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
K16147
C20237
K05344
C01231
PGM2L1
PGM1
C00252
K00702
G6PC
HK1
GCK
C00668
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−215
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11
C03038
GUSB
C00191
TREH
K05342
C00031
K13305
C01083
C02591
K00696
UGDH
K00697...
C00029
GYS1
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K02777...
C00668
K18775
GAA
C02336
K01193
C00089
K00695
C05731
SI
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
K18447
C01935
K01177
C00208
C00718
GBE1
AGL
GAA
MGAM
SI
K16146
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−219
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
TREH
K05342
K01232
K01226
K01087...
K02777...
K05343
K00691
K00696
K00692
K00695
K00706
K00694
K18775
K01193
K01210
K01179
K01225
K01177
K16146
K16147
K05344
K00702
C00103
C00029
C00095
C00089
C00668
C00267
C00718
C00252
C00185
C06216
C06217
C06218
C02013
C06219
C20237
C05345
C01231
C00394
C00760
C00208
C00031
C00092
C01083
C02995
C00973
C01935
C01208
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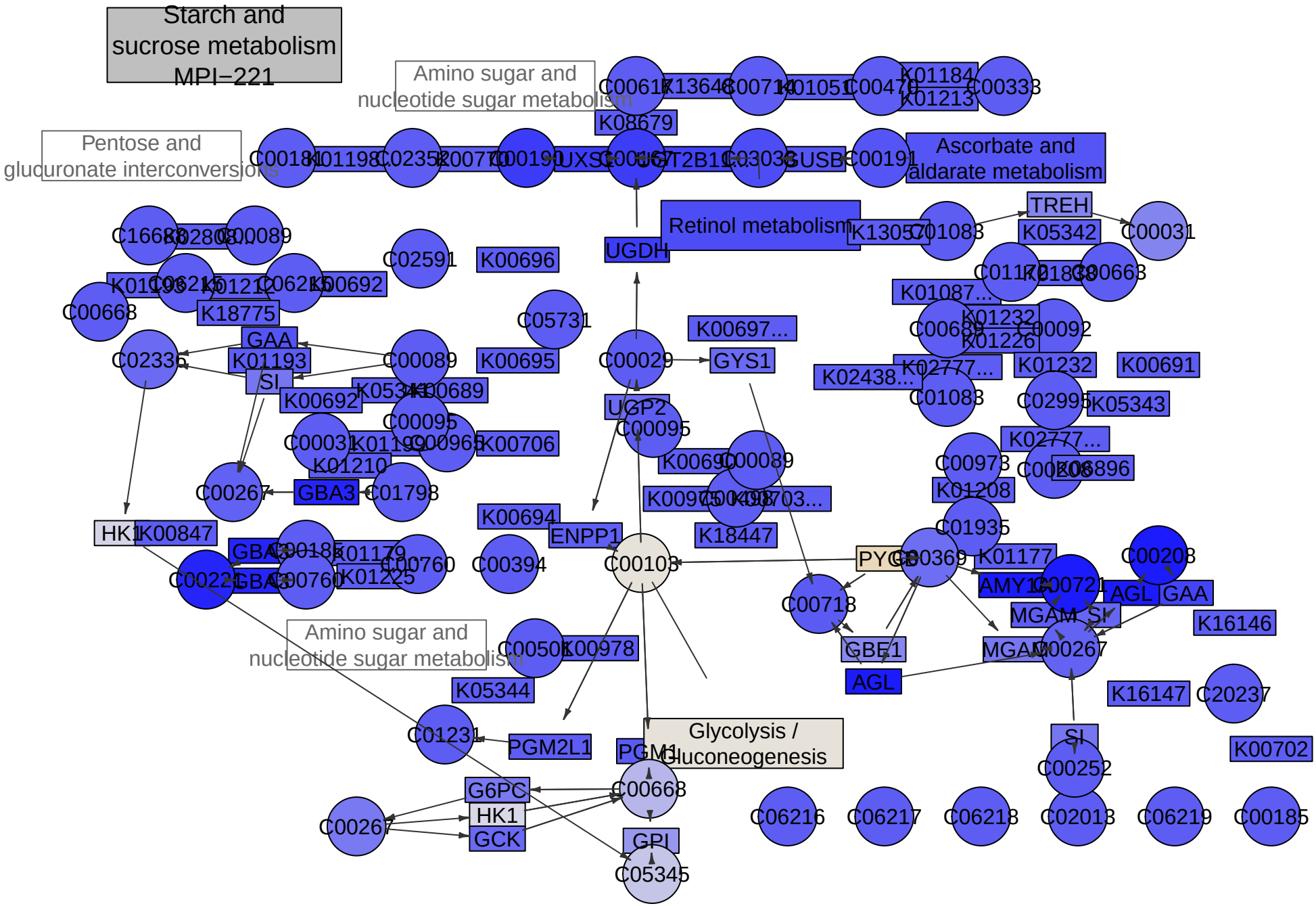
C02335
C00224
C00267


Starch and sucrose metabolism MPI−221
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
C00031
K05342
C01083
K13305
C02591
K00696
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
C00092
K01226
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
C01935
K01208
C00973
C00208
HK1
K00847
C00221
K01179
K01225
C00760
C00394
PYGB
C00369
K01177
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
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HK1
GCK
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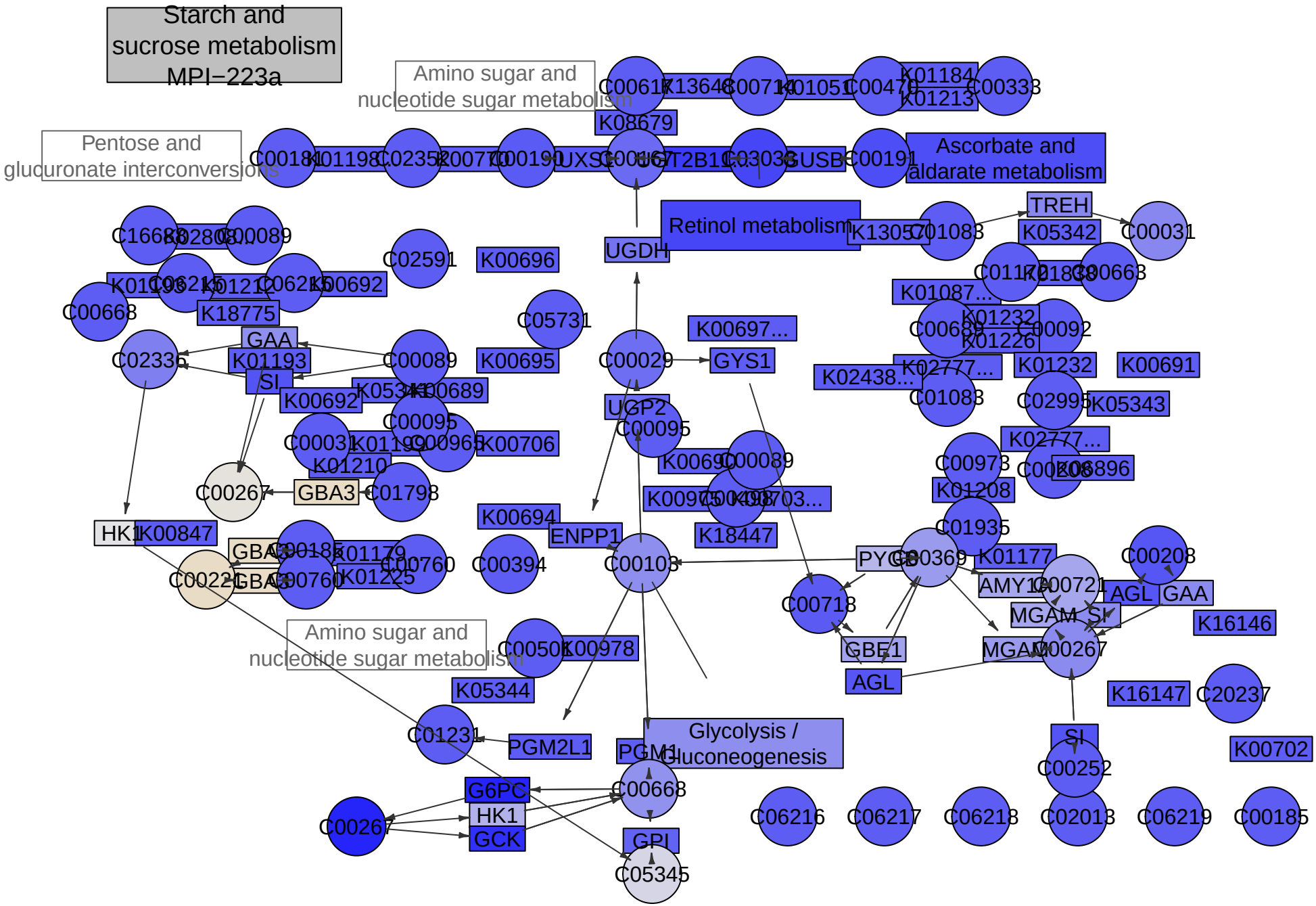
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−223a
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
K00694
ENPP1
K18447
K01208
K01935
C00267
GBA3
C01798
HK1
K00847
C00108
C00394
C00760
K01179
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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HK1
GCK
GPI
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C06216
C06217
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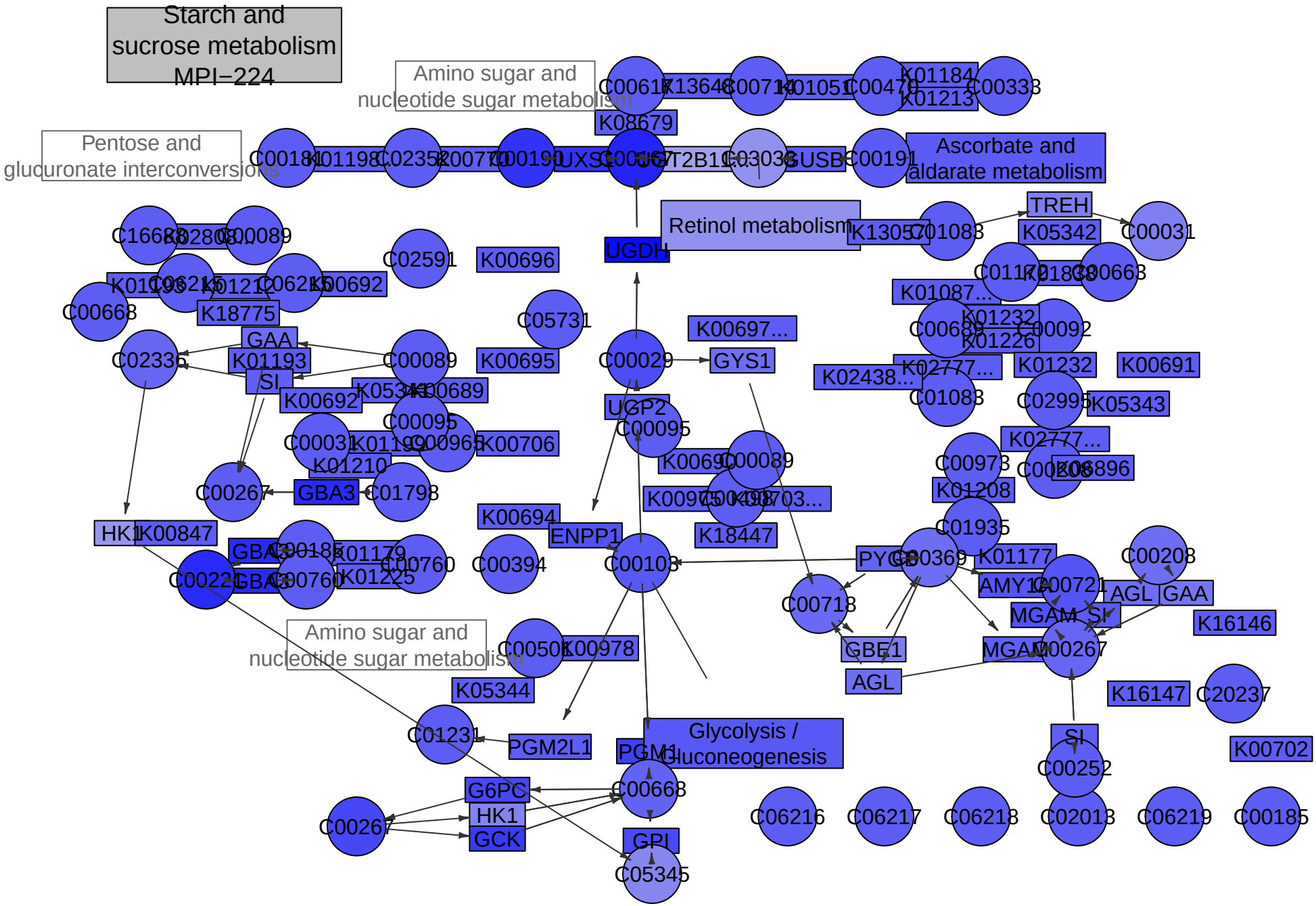
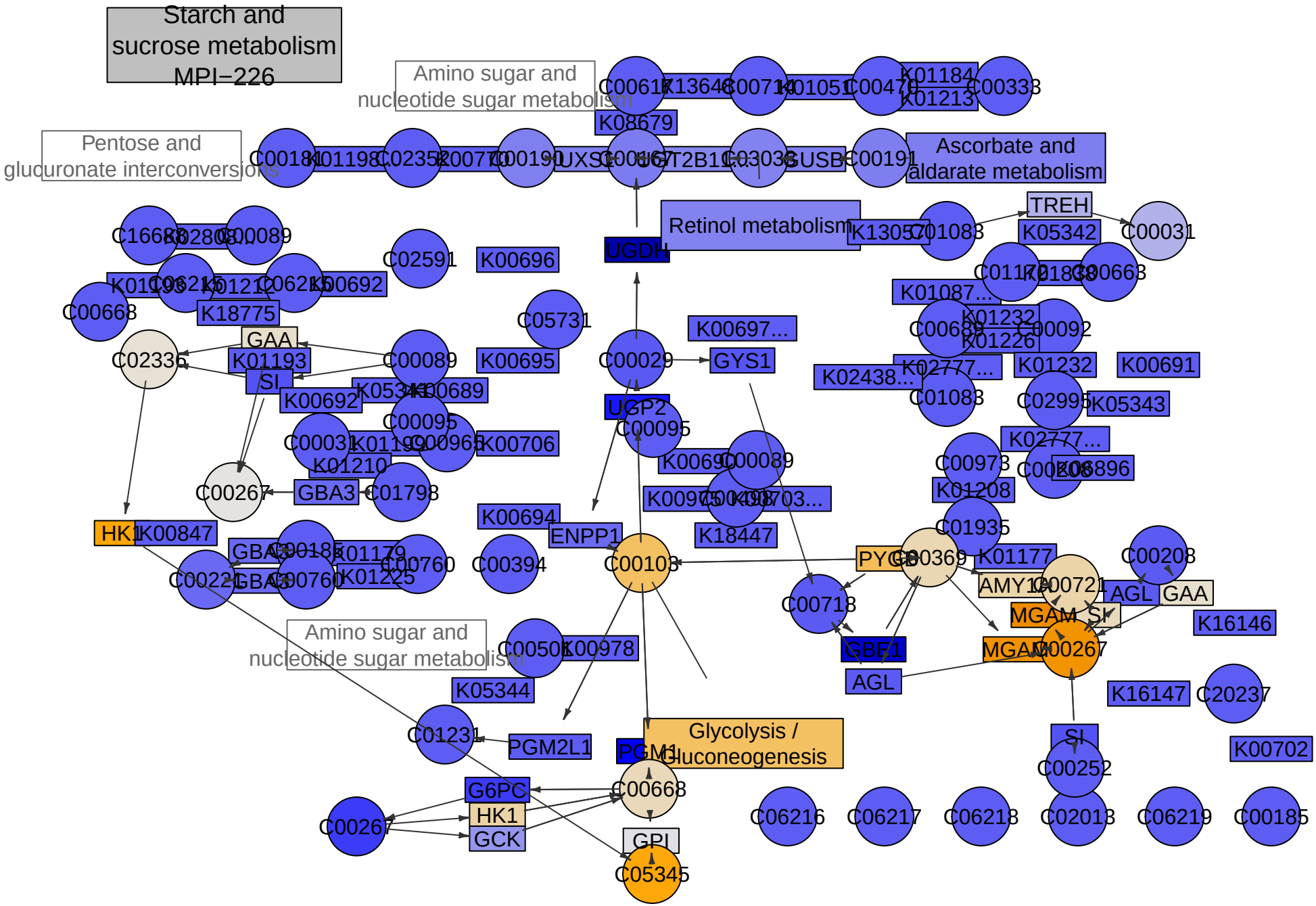
C00185


Starch and sucrose metabolism MPI−224
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00089
C00103
ENPP1
K00694
K18447
K00706
K00695
K00696
C02591
C05731
K00692
K18775
GAA
K01193
SI
C02336
C00668
GBA3
C01798
C00267
HK1
K00847
K01210
K01179
K01225
C00760
C00394
C00221
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05342
TREH
C00031
K01087...
K01232
K01226
C00092
K01232
K00691
K02777...
K05343
K02777...
K01208
K01935
K00702
C00252
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
C00208


Starch and sucrose metabolism MPI−226
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
C02336
K01193
SI
K00692
C05731
K00695
C00089
K00697...
GYS1
C00029
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
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K18447
K01177
C00208
AGL
K16146
C00718
GBF1
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
C00252
K16147
C20237
K00702
K02777...
K01232
K00691
K05343
K01208
K01935
K01087...
K01226
K02438...
K01184
K01213
C00333
K01051
C00470
K13648
C00617
C00191
C00089
C00092
C00663
C01083
C02995
C00973
C00369
C00721
MGAM
SI
AMY1A
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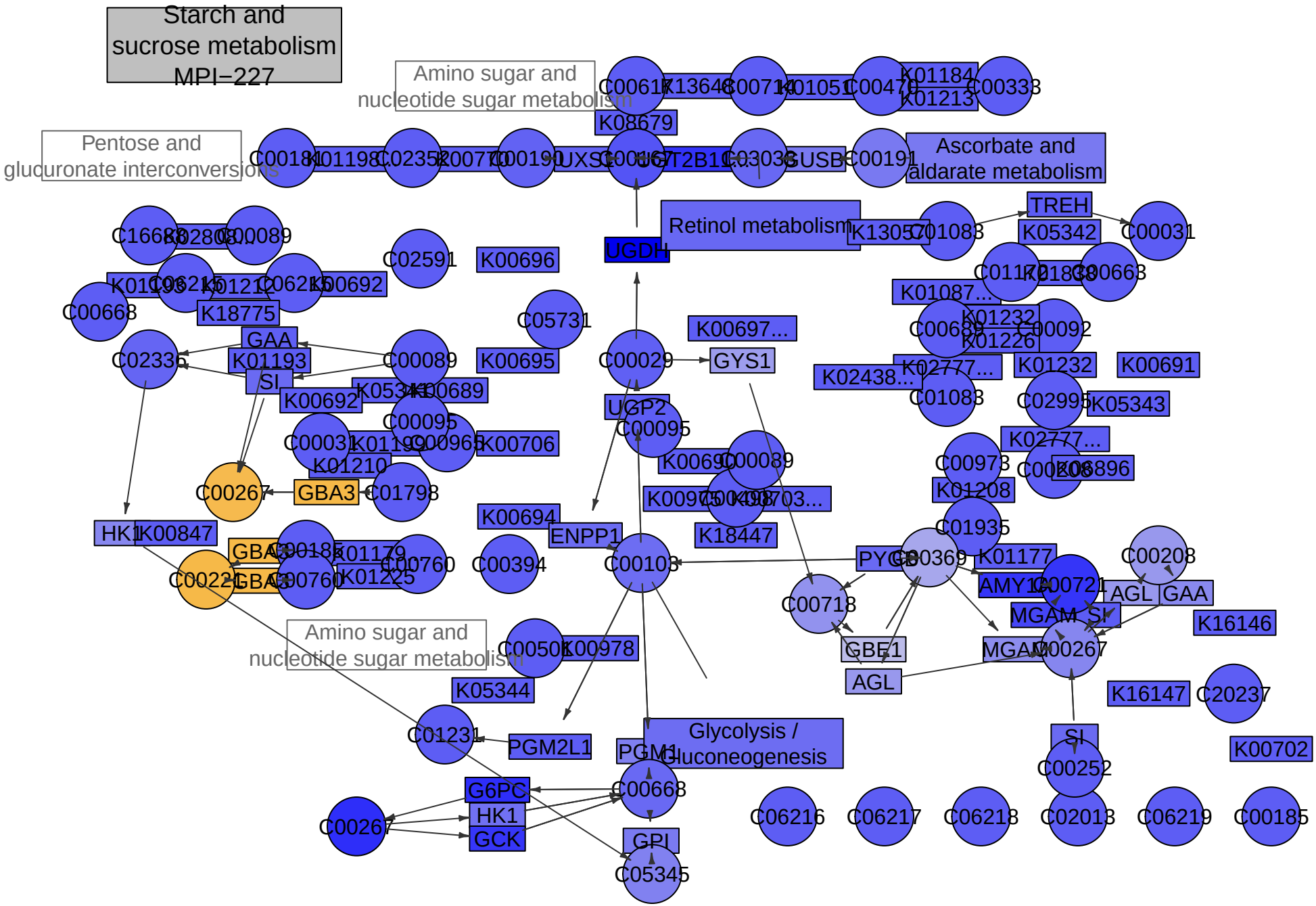
K06896


Starch and sucrose metabolism MPI−227
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
C00029
GYS1
K00697...
C00095
C00089
C00103
ENPP1
K00694
K18447
K00706
K00695
K00696
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K18775
GAA
K01193
SI
C02336
C00668
C00267
GBA3
C01798
HK1
K00847
C00221
C00760
C00394
K01179
K01225
C00501
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
C00267
C00208
K16146
K16147
C20237
K00702
C00252
TREH
K05342
C00031
C01083
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K02777...
C00973
K01208
C01935
K01184
K01213
C00333
C00470
K01051
K13648
C00617
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C00190
UXS1
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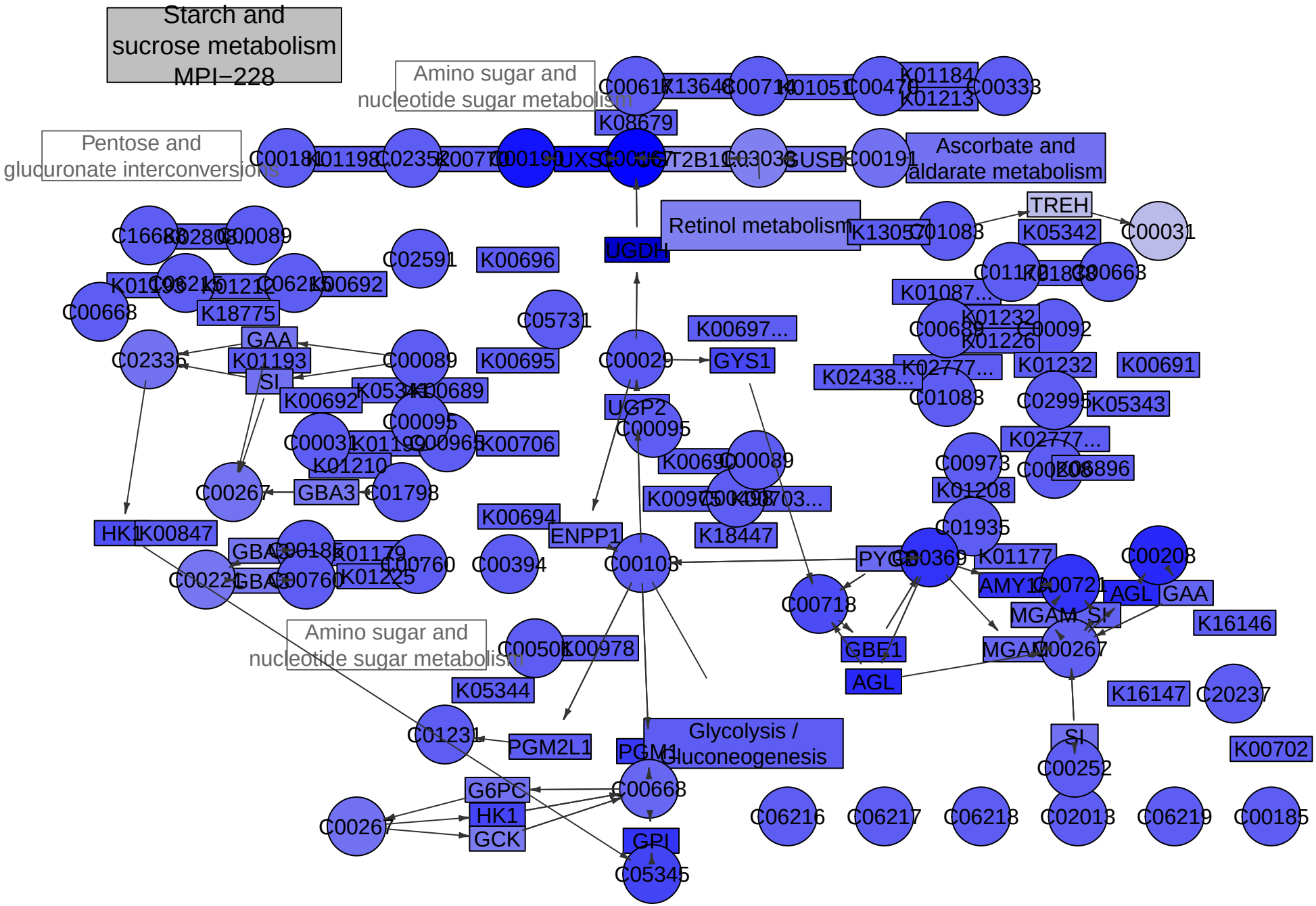
C03038
GUSB


Starch and sucrose metabolism MPI−228
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
C00089
K00695
C00029
GYS1
K01232
K00691
K02438...
K02777...
K01226
C00092
K05343
K00689
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
K00847
HK1
K00694
ENPP1
K18447
C00103
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
K00702
C00252
G6PC
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HK1
GCK
C00267
GPI
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C06217
C06218
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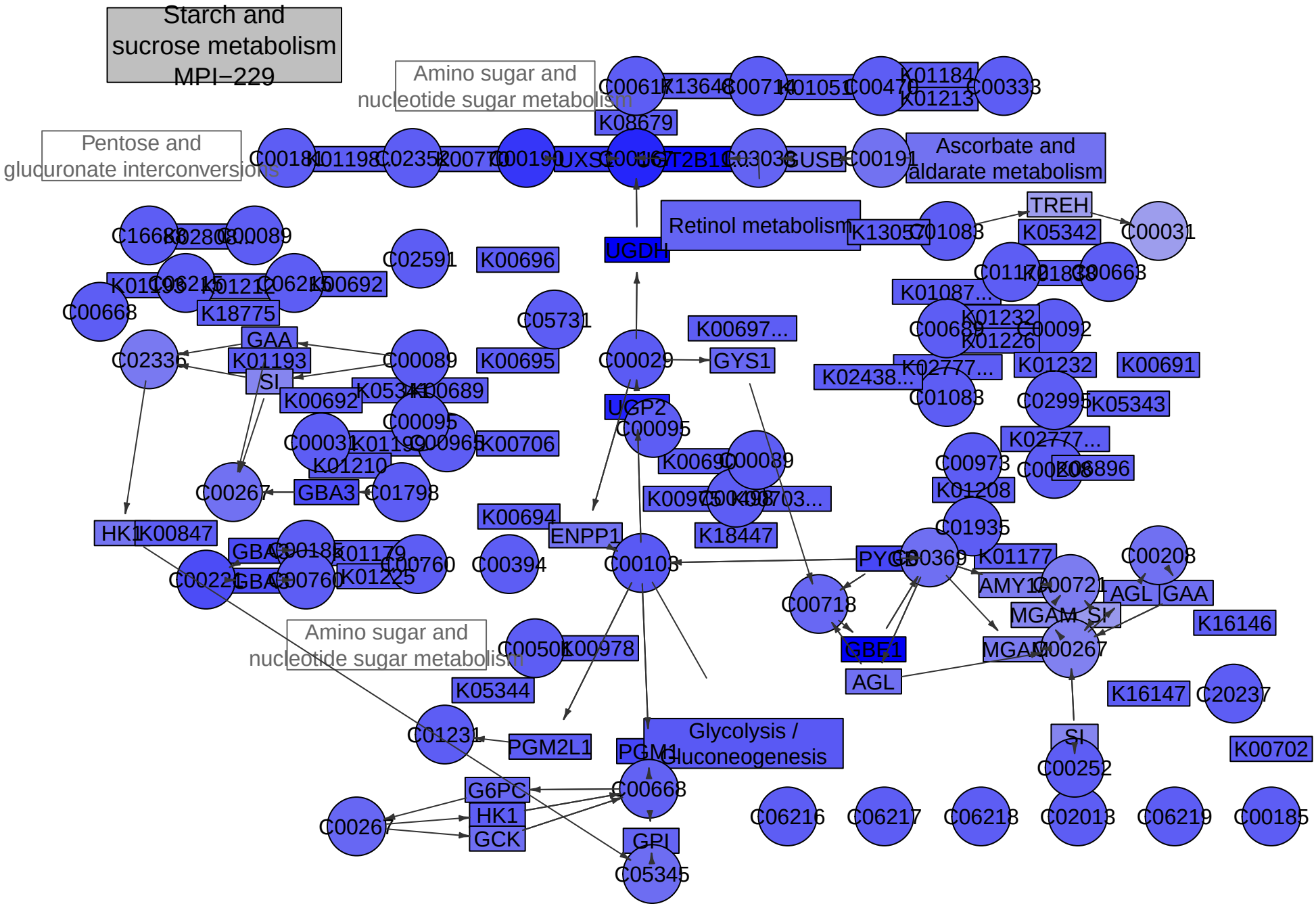
C06219
C00185


Starch and sucrose metabolism MPI−229
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
TREH
K05342
C00031
K00696
C02591
C00668
K18775
GAA
K01193
C02336
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
K00689
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
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C00718
GBE1
AGL
PYGB
C00369
K01177
AMY1A
C00721
MGAM
C00208
K16146
C00267
K16147
C20237
K00702
C00252
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K02777...
C00973
K01208
K01935
K01184
K01213
C00333
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K13648
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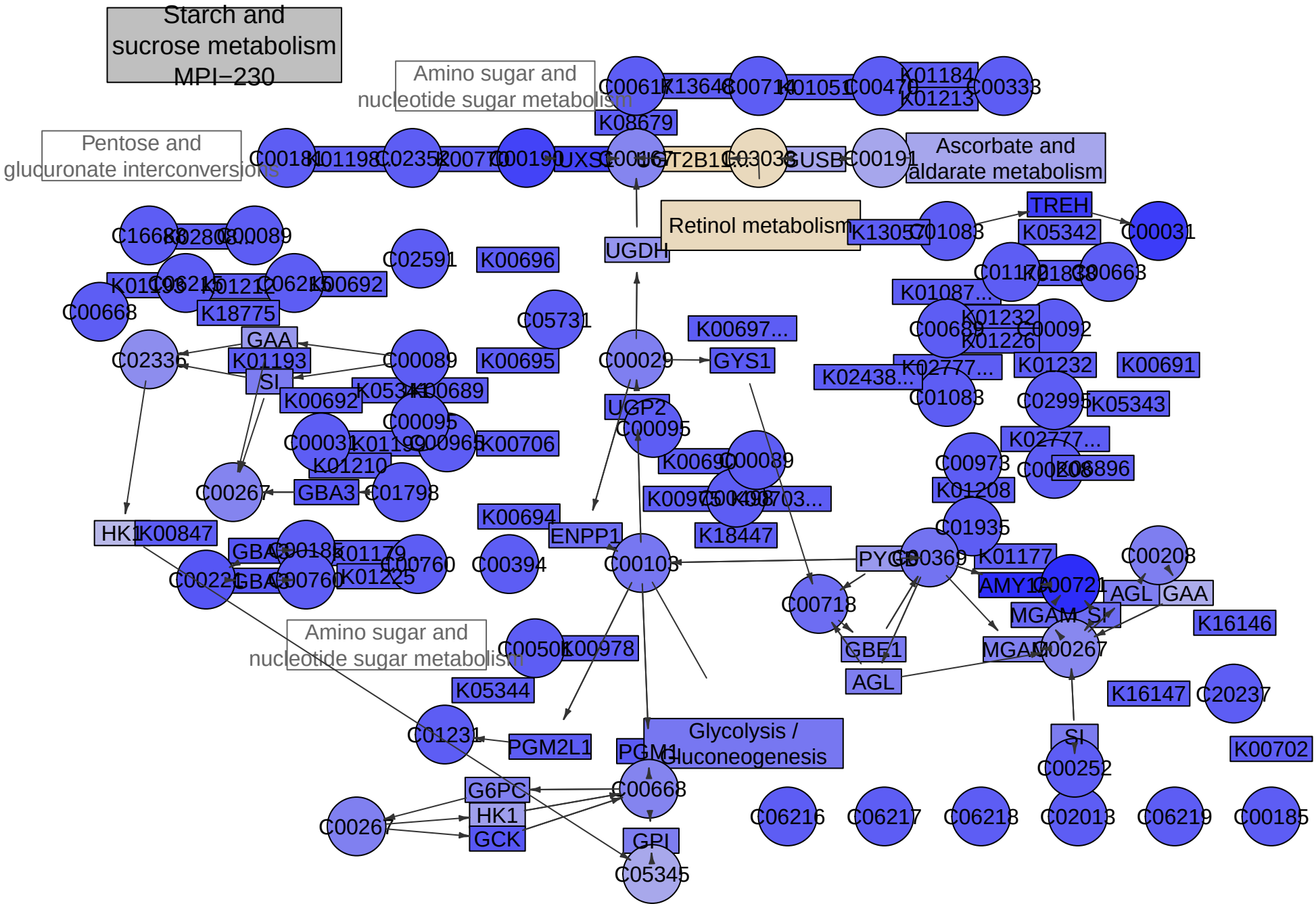
USB


Starch and sucrose metabolism MPI−230
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
TREH
K05342
C00031
K13305
C01083
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
C00394
C00760
K01225
K01179
HK1
K00847
C00718
PYG
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
C00267
AGL
K05344
C00501
K00978
C01231
PGM2L1
PGM1
G6PC
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HK1
GCK
GPI
C05345
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C06217
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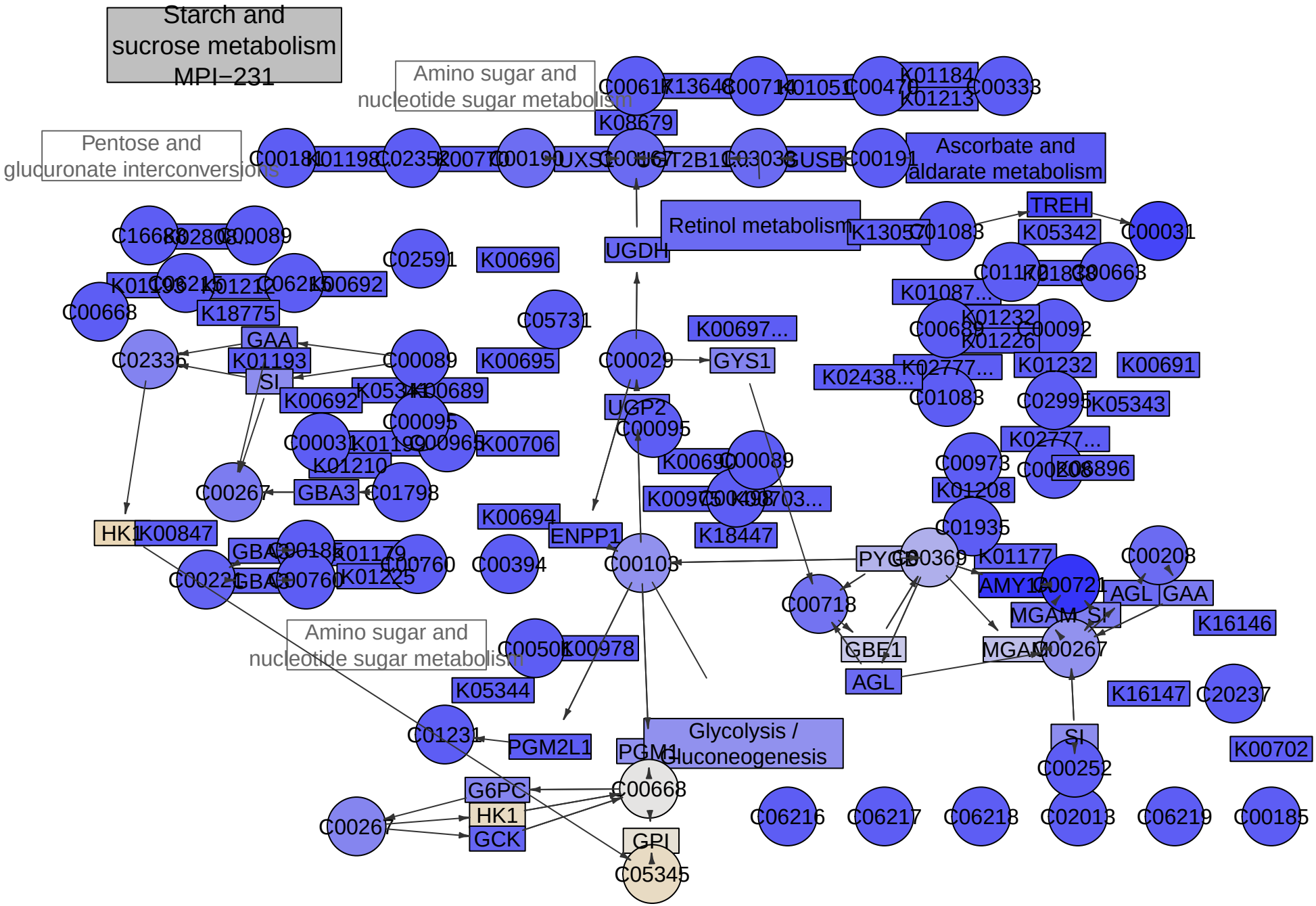
Starch and sucrose metabolism MPI−231
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00089
K00697...
GYS1
C00029
K02438...
K01232
K00691
K05343
C02995
K02777...
K01226
C00092
K01087...
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
K18447
C01935
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
G6PC
C00668
HK1
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GPI
C05345
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C06217
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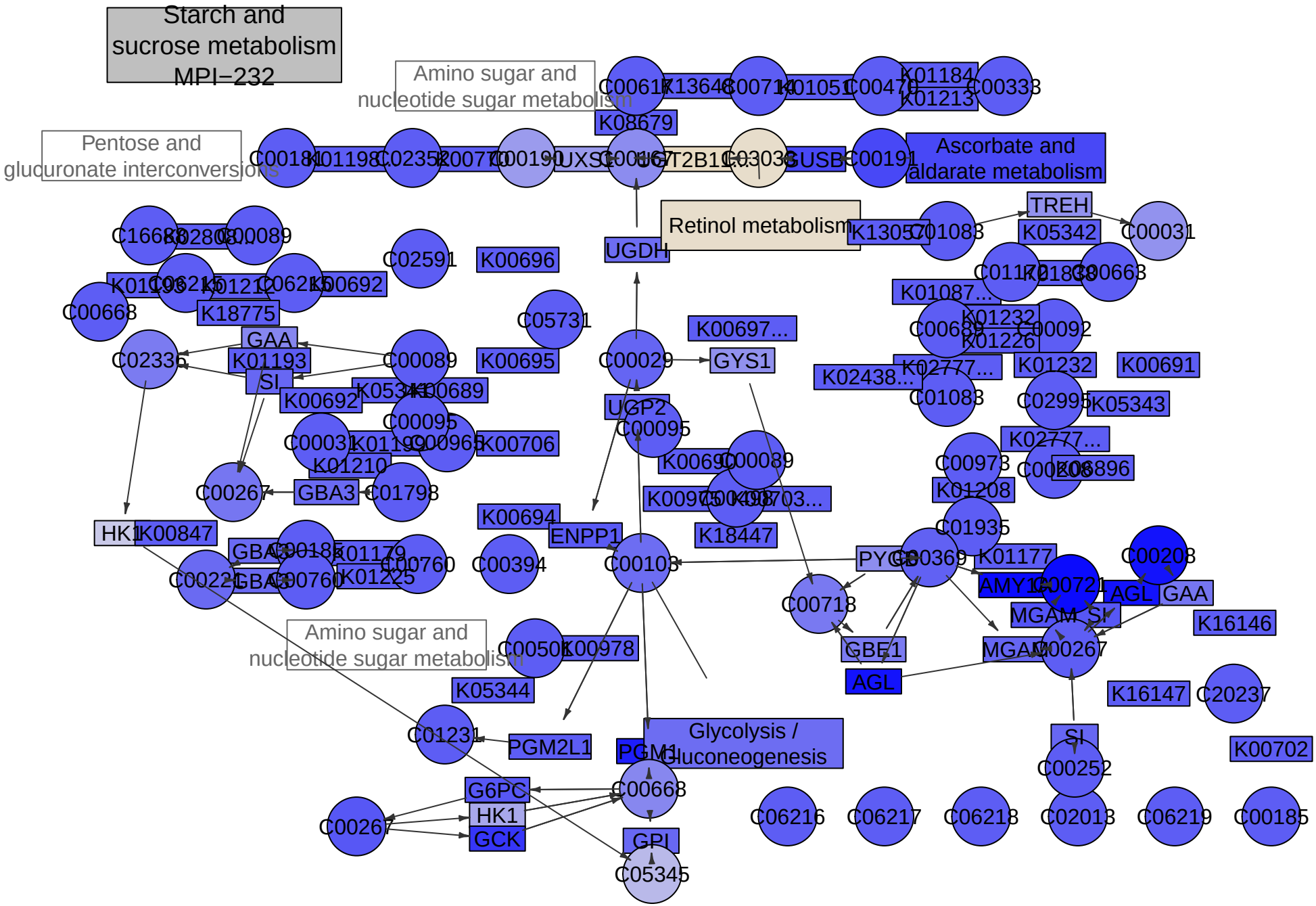
C00252


Starch and sucrose metabolism MPI−232
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UXS
UGT2B11
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01232
K01226
C00092
K01087...
K02438...
K02777...
K01232
K00691
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
K00965
K00694
ENPP1
C00108
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C01798
HK1
K00847
K18447
K01208
C01935
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
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C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
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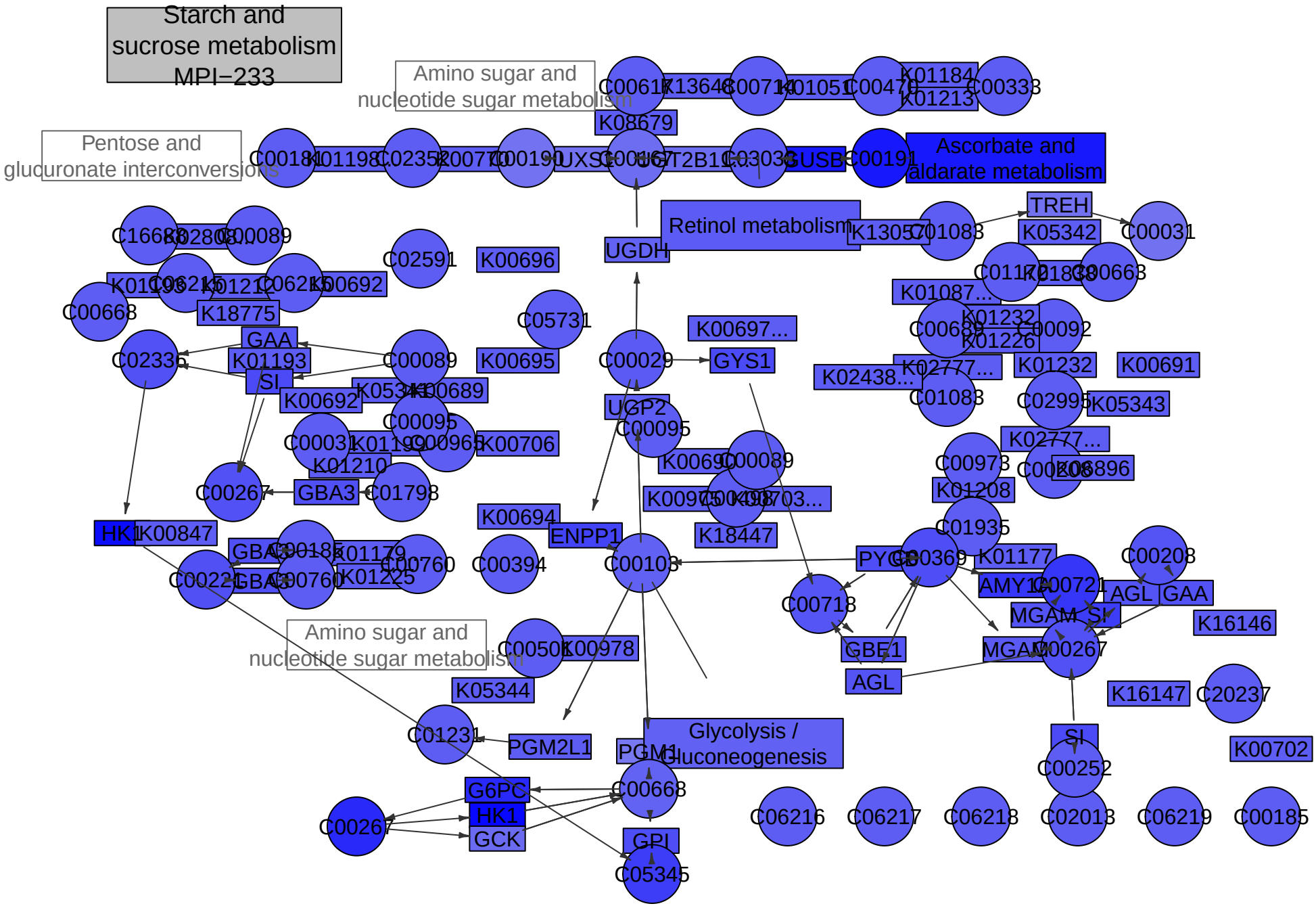
Starch and sucrose metabolism MPI−233
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UGP2
GYS1
GAA
SI
GBA3
HK1
ENPP1
PYGB
GBE1
AGL
MGAM
AMY1A
PGM2L1
PGM1
G6PC
GCK
GPI
TREH
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K05343
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K01226
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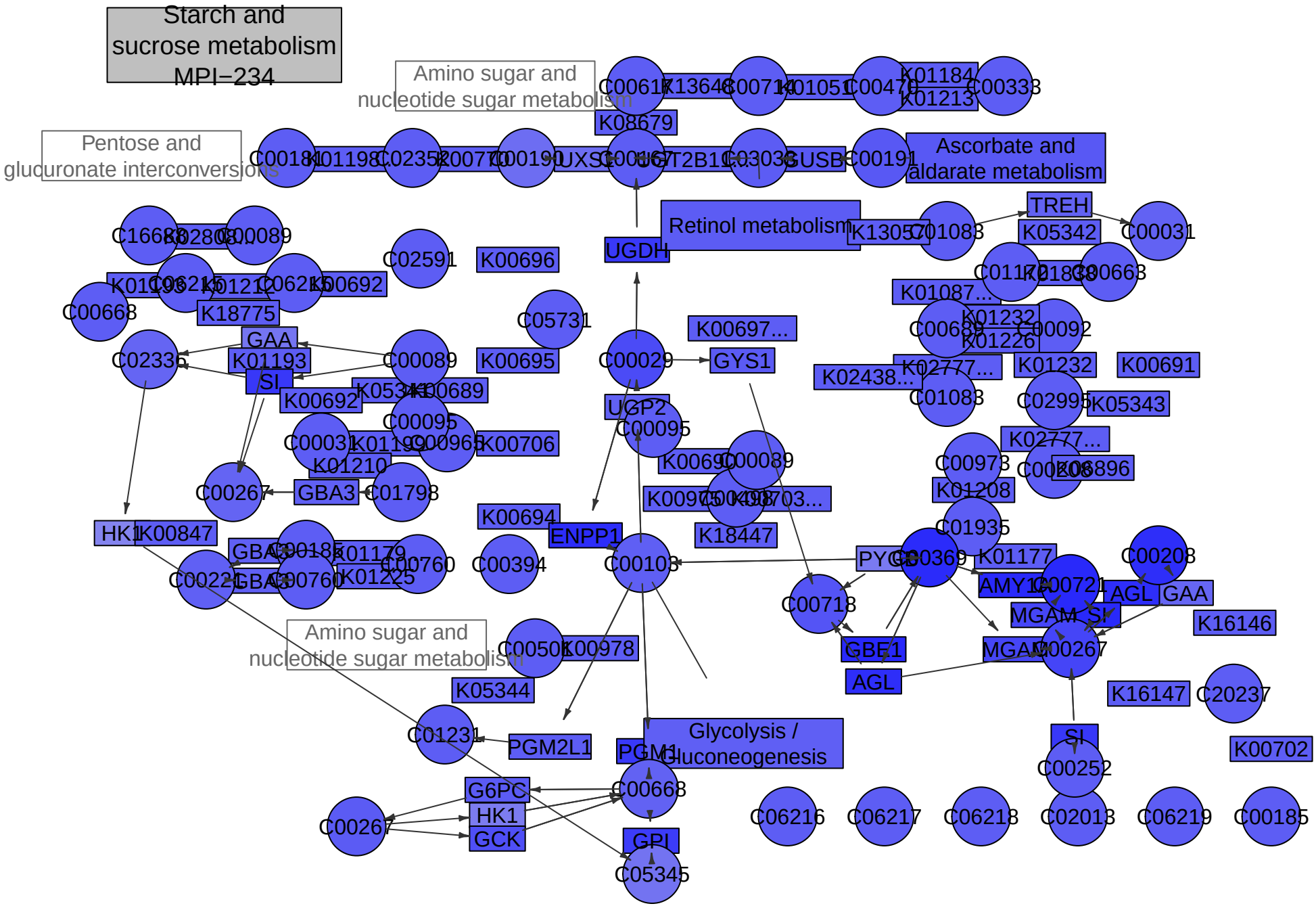
Starch and sucrose metabolism MPI−234
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C00089
K00695
SI
K00692
K00689
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K01179
C00760
K01225
C00394
K00694
ENPP1
C00103
K18447
K00697...
GYS1
UGP2
C00095
K00698
C00089
K00703...
C00718
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AGL
PYG
C00369
K01177
AMY1
C00721
MGAM
SI
MGAM
C00267
C00208
AGL
GAA
K16146
K16147
C20237
K00702
C00252
C01935
K01208
C00973
K02777...
K01232
K00691
K05343
C02995
K01087...
K01232
K01226
C00092
K02438...
K02777...
C01083
C01231
PGM2L1
PGM1
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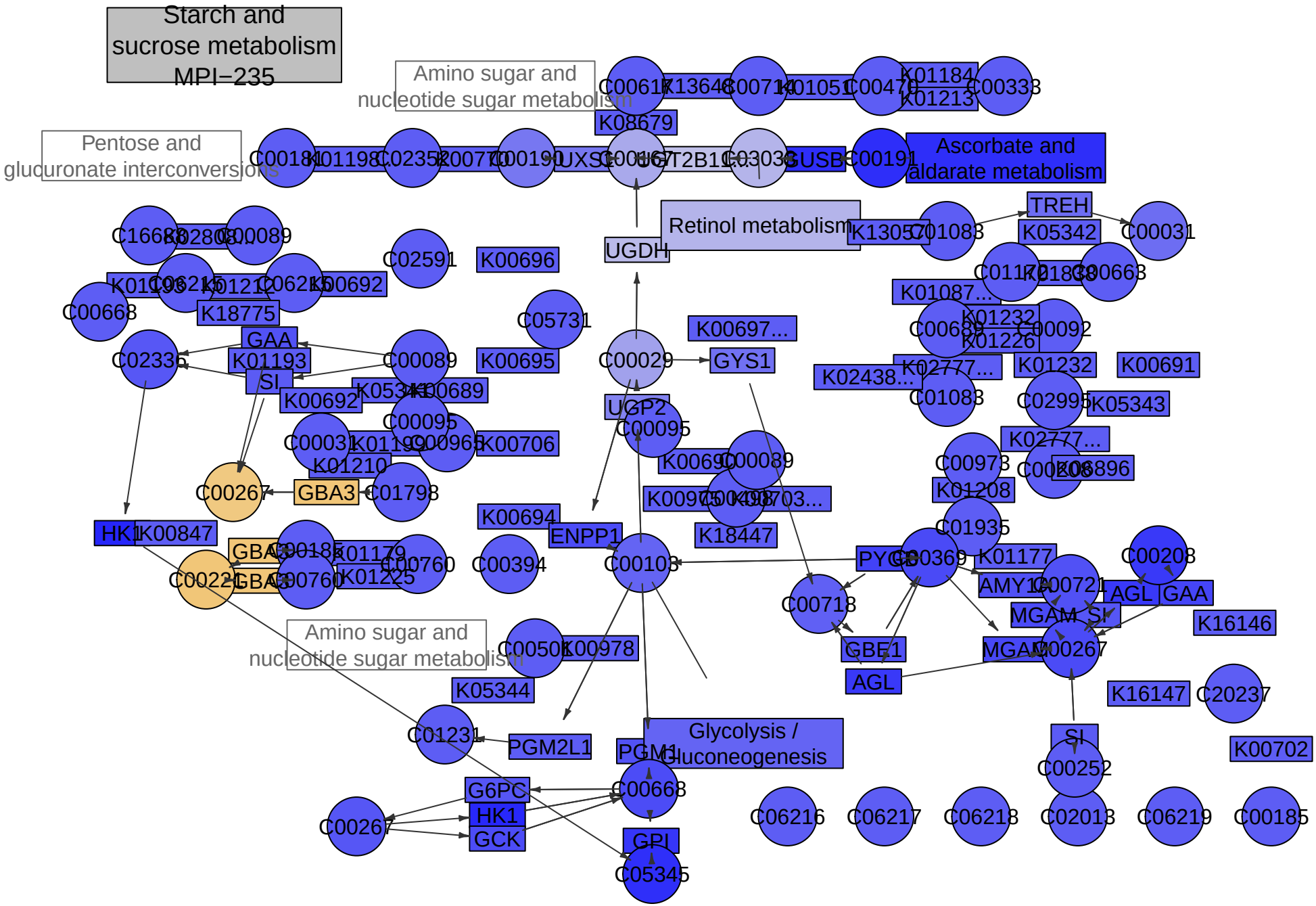
C02013
C06219
C00185


Starch and sucrose metabolism MPI−235
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00029
GYS1
K00697...
K01232
K01226
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
K18447
C01935
K01177
C00208
C00718
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
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GCK
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C06217
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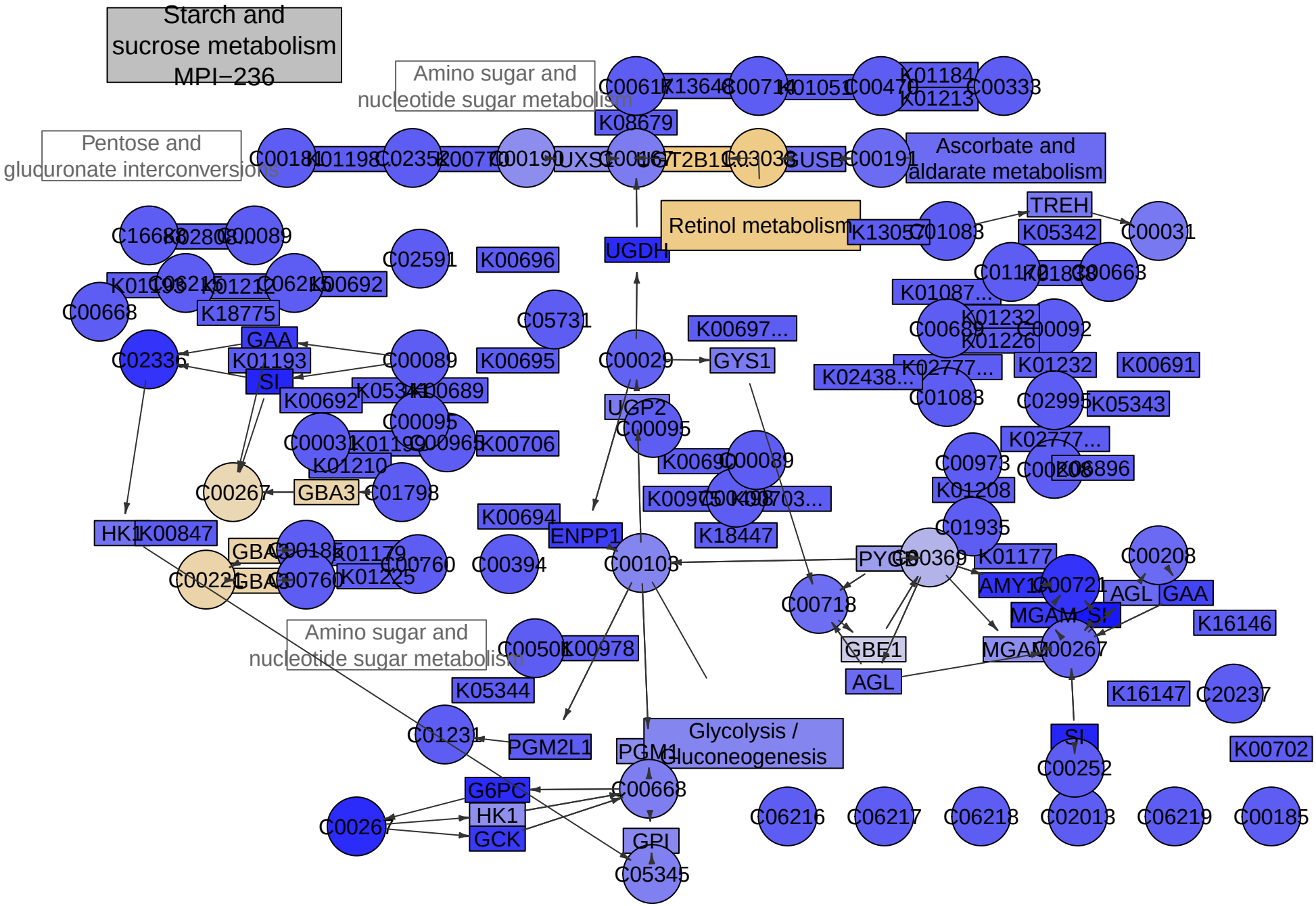
C02013
C06219
C00185


Starch and sucrose metabolism MPI−236
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03036
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C00089
K00695
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
C00394
C00760
K01179
K01225
HK1
K00847
K18447
K01208
C01935
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
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GCK
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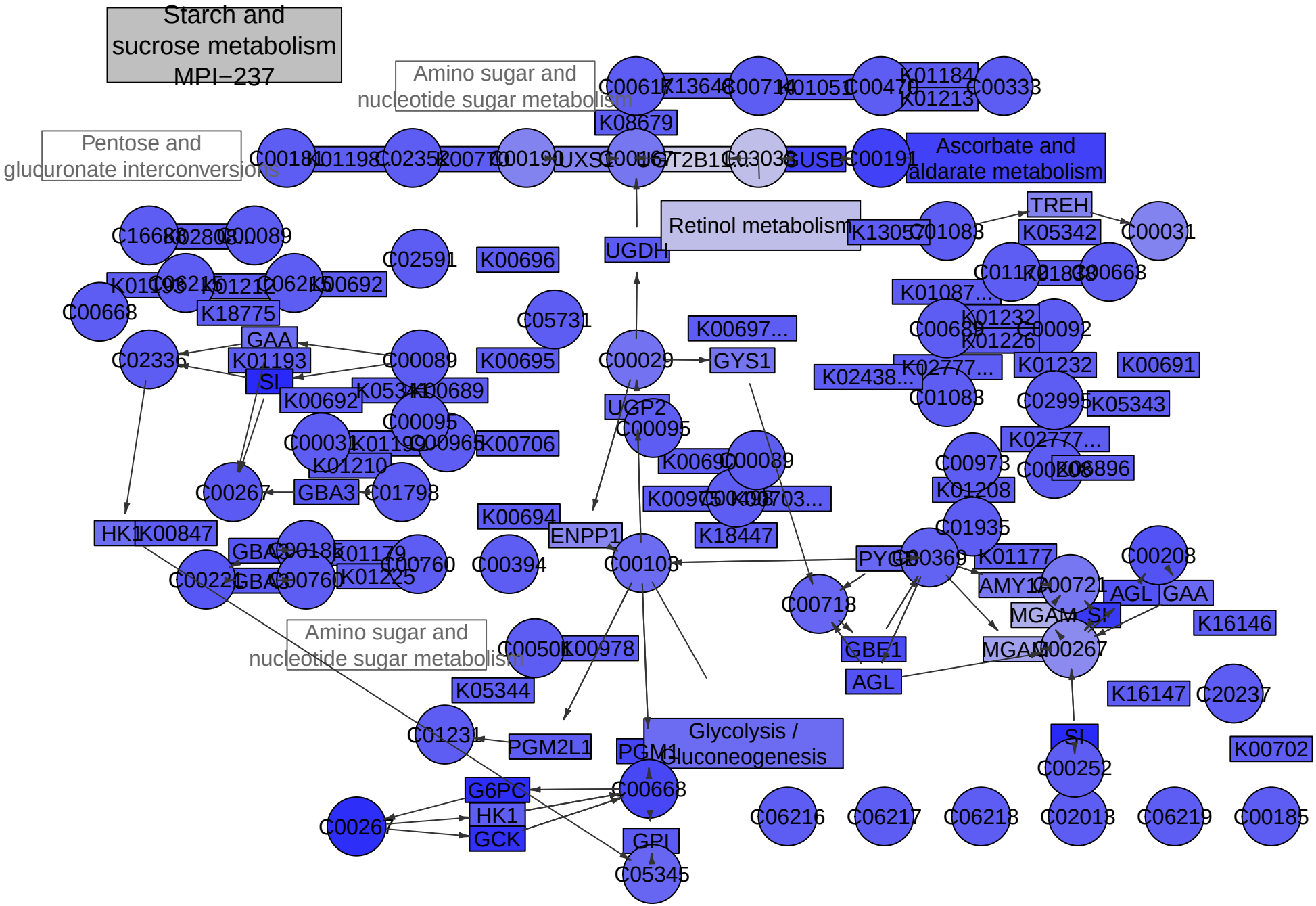
C06219
C00185


Starch and sucrose metabolism MPI−237
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
C00167
T2B1
C03038
USB
C00191
TREH
K05342
C00031
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UGDH
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GAA
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K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
K05343
C02995
K00692
K00689
UGP2
C00095
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K01210
C00267
GBA3
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K00694
ENPP1
C00108
K18447
C01935
C00973
K01208
HK1
K00847
C00394
C00760
K01179
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
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AGL
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C01231
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SI
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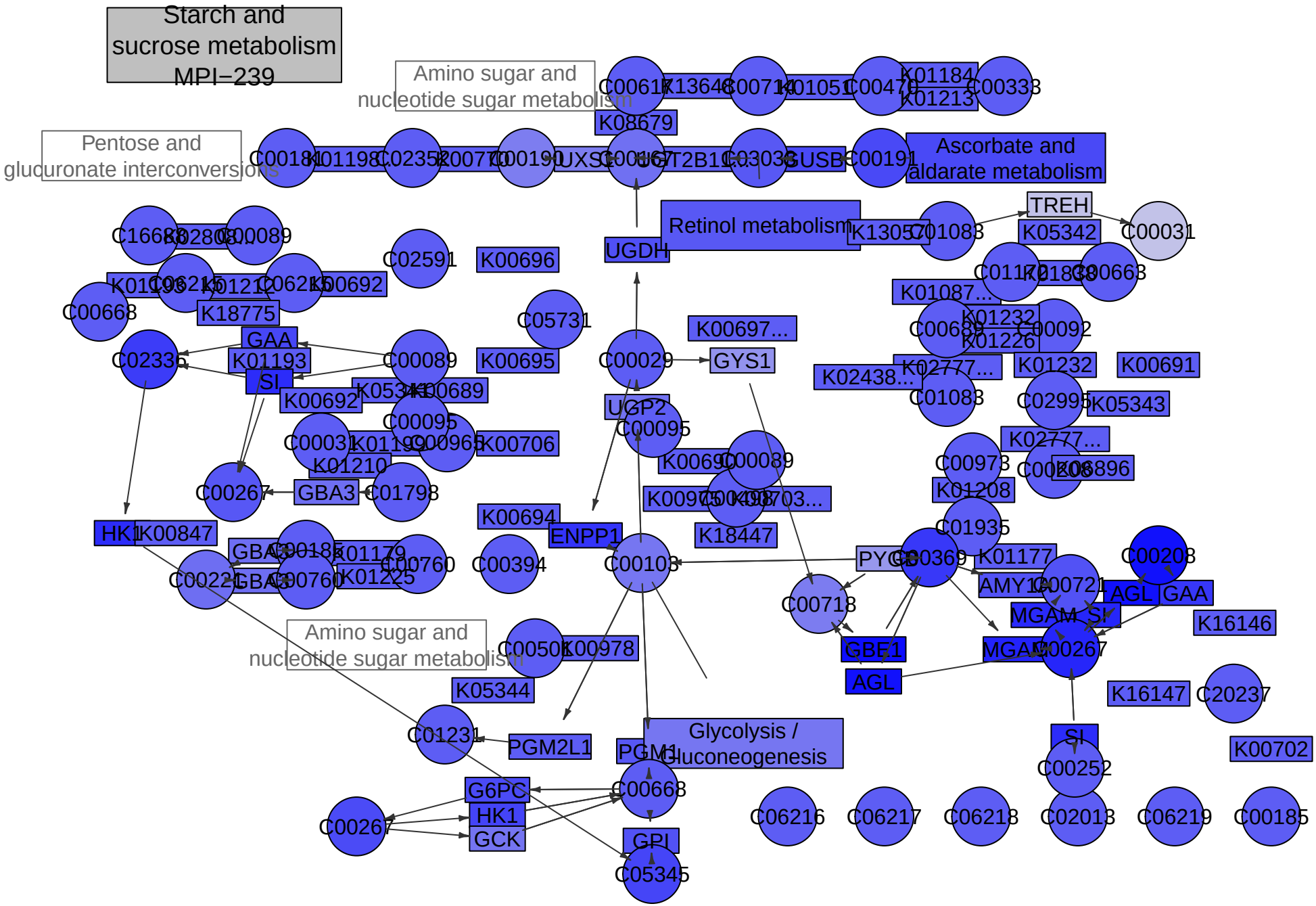
Starch and sucrose metabolism MPI−239
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
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UXS
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T2B1
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USB
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TREH
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C01083
K13057
UGDH
C02591
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C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K01087...
K01232
C00092
K01226
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
C00394
C00760
K01179
K01225
HK1
K00847
K18447
K00703...
C00973
K01208
C01935
PYG
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
MGAM
C00267
K16147
C20237
C00501
K00978
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
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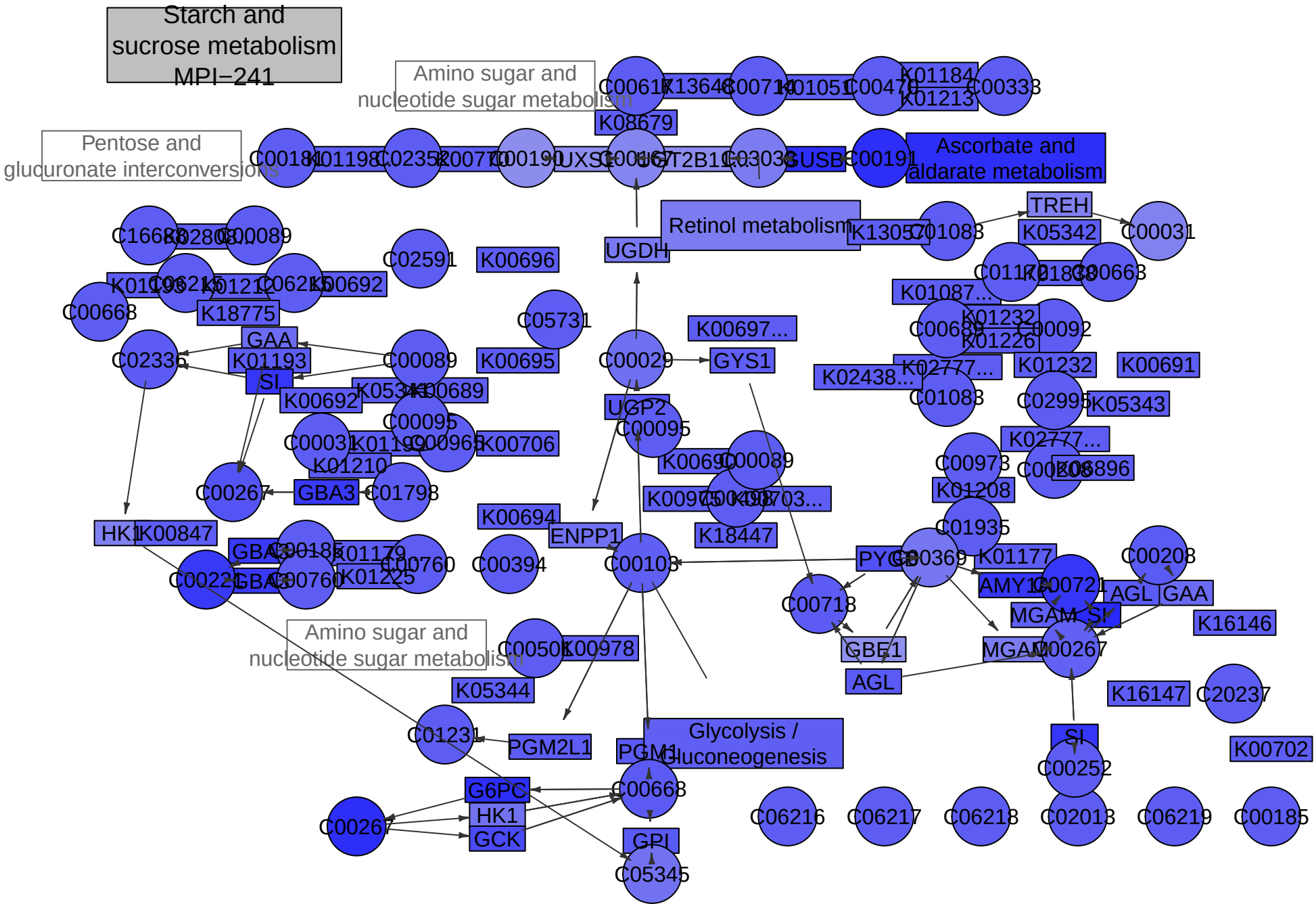
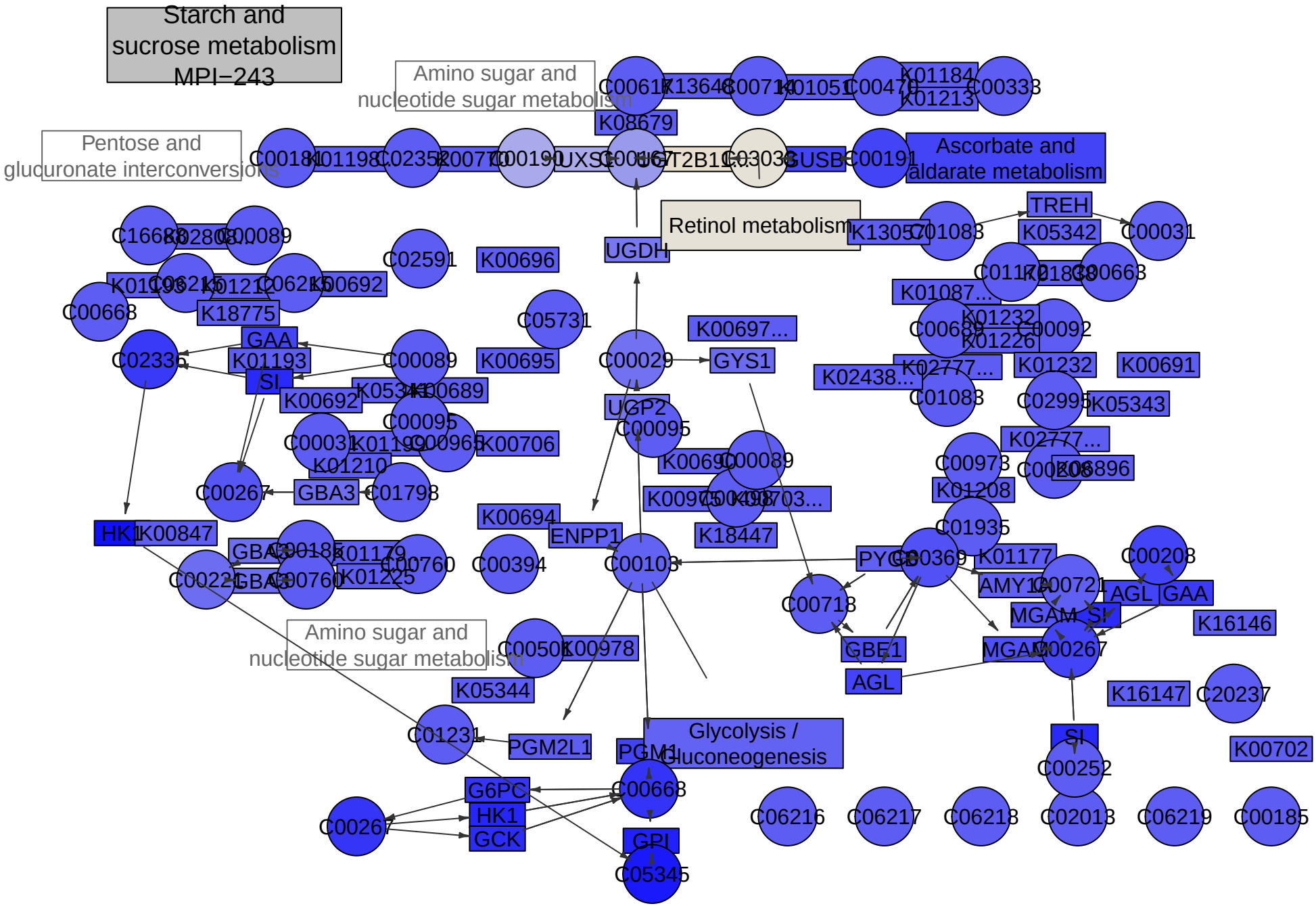
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−241
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
GAA
K01193
SI
C00668
C02336
C05731
K00695
C00029
GYS1
K00697...
K02438...
K01232
K00691
K05343
UGP2
C00095
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
K18447
C01935
C00208
AGL
GAA
K16146
C00718
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
GPI
C05345
C00252
K16147
C20237
K00702
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−243
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS1
C00167
UGT2B11
C03038
GUSB
C00191
TREH
K05342
C00031
C01083
K13057
C00089
C02591
K00696
UGDH
C00668
K18775
GAA
C02336
K01193
SI
C00089
K00695
C05731
C00029
GYS1
K00697...
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00103
K18447
HK1
K00847
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
HK1
GCK
C00668
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C02995
K05343
K02777...
C00973
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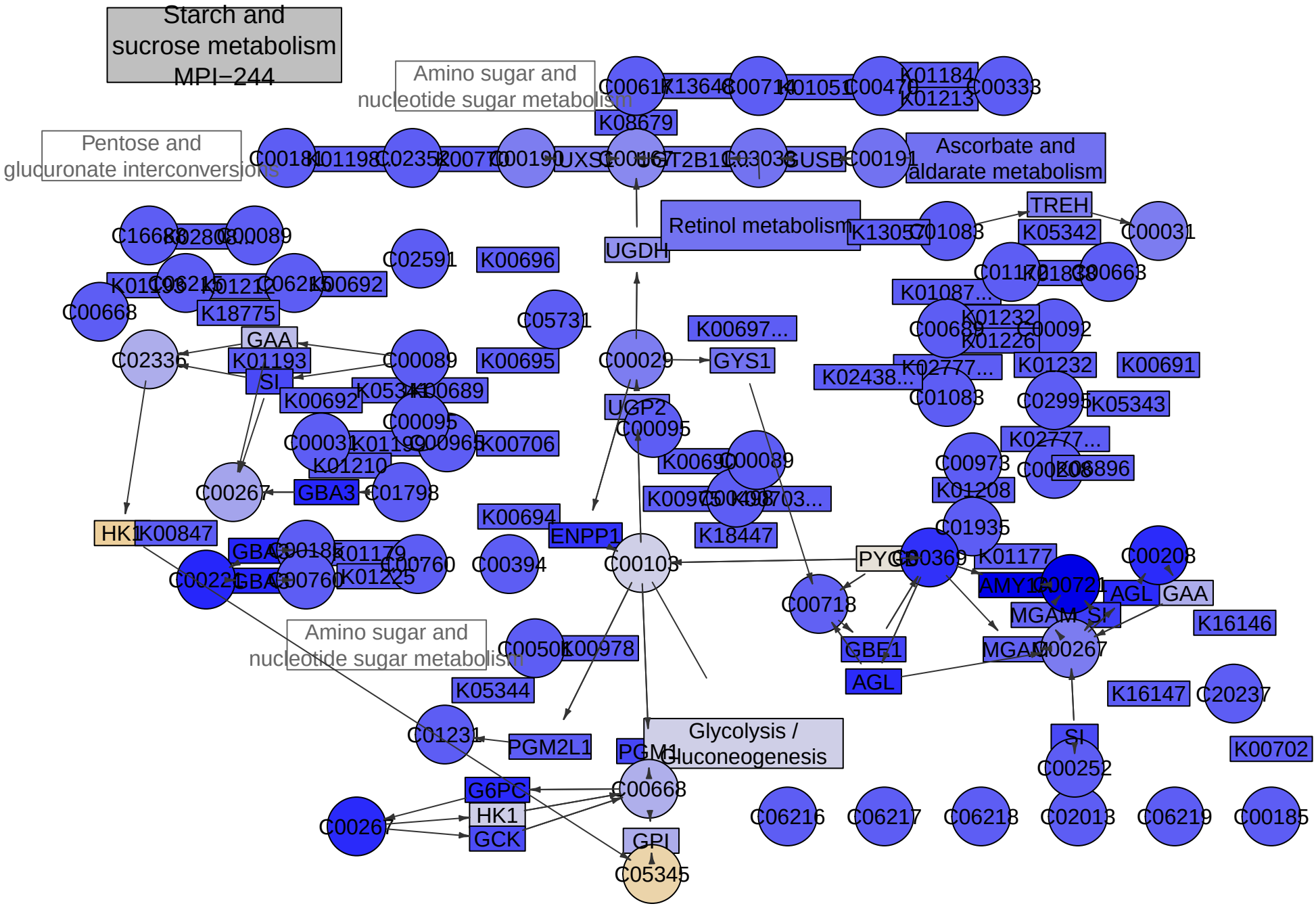
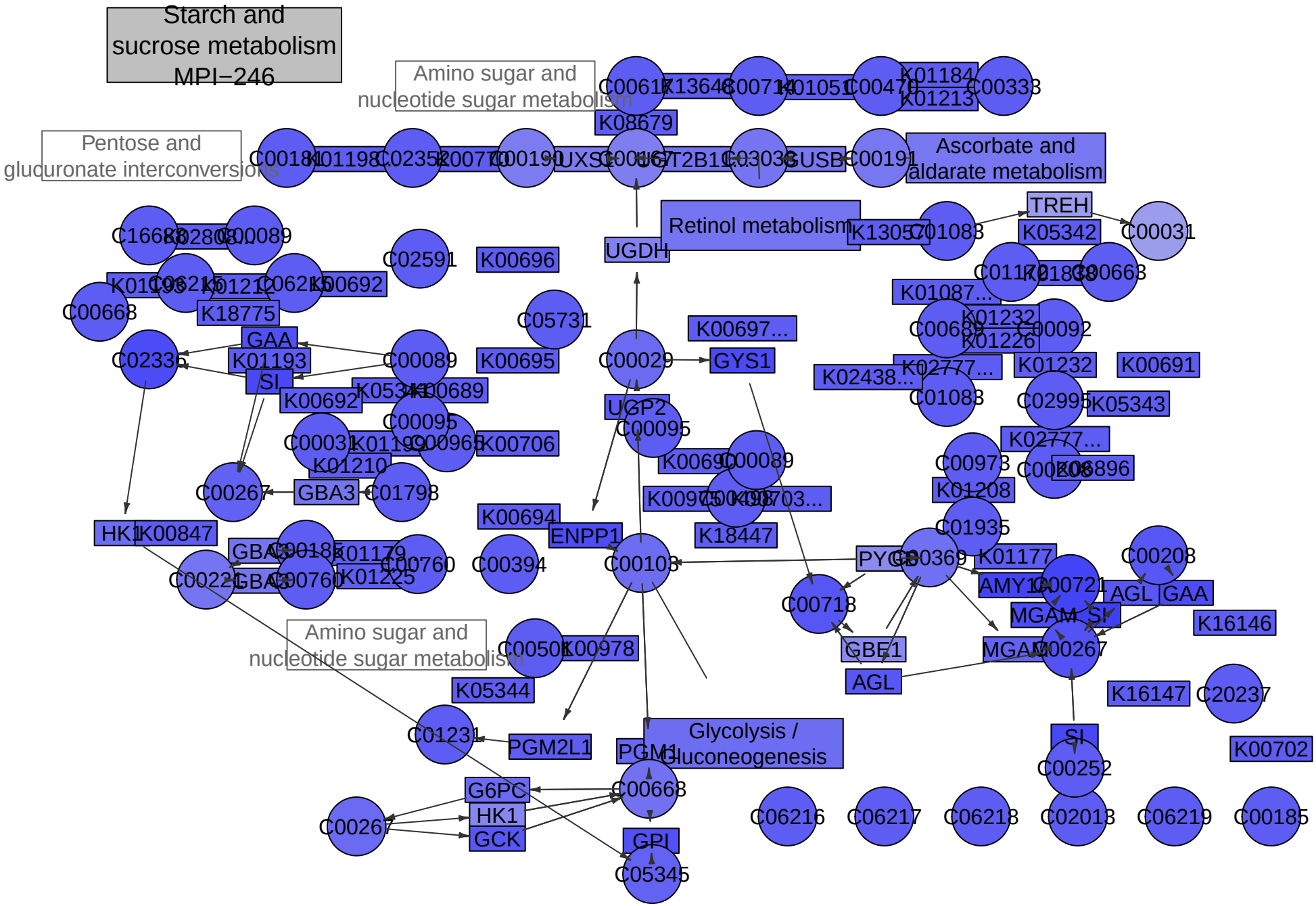
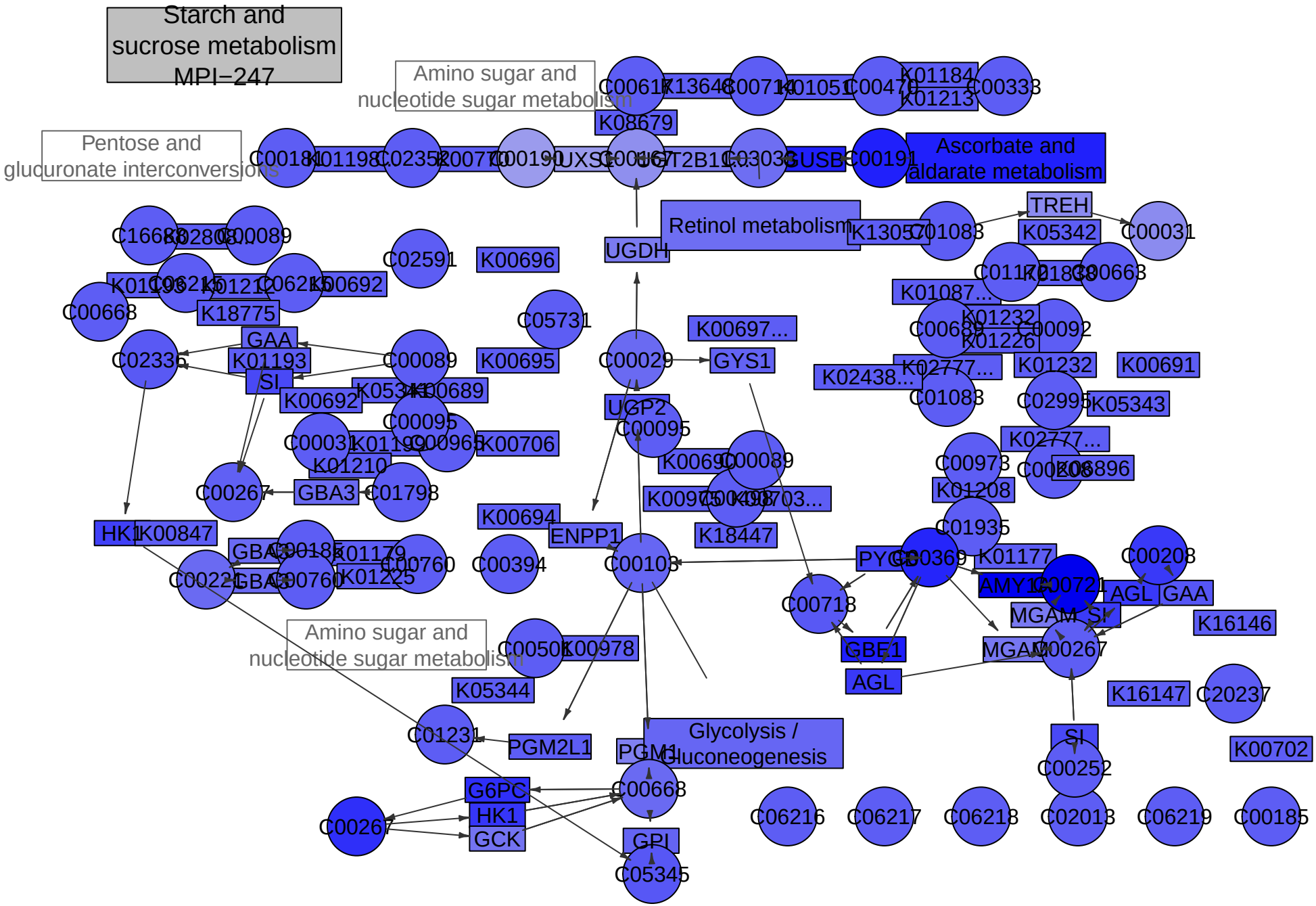
C00208
K16146


Starch and sucrose metabolism MPI−244
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
K00697...
GAA
K01193
SI
C00089
K00695
C00029
GYS1
K02438...
K01232
K00691
K00689
K00692
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
HK1
K00847
C00103
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1
C00721
AGL
GAA
MGAM
SI
K16146
C00501
K00978
GBE1
MGAM
C00267
K05344
K16147
C20237
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−246
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
C00071
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02352
K00770
C00190
UXS
C00167
T2B1
C03036
USB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C00668
C05731
GAA
K01193
C02336
SI
C00089
K00695
K00689
K00692
C00029
GYS1
K00697...
K01087...
K01232
K01226
C00092
K02438...
K02777...
K01232
K00691
C01083
C02995
K05343
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
C00108
K18447
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−247
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
UXS
UGT2B11...
GUSB
C00191
C00618
K13648
K00714
K01051
C00470
K01184
K01213
C00333
TREH
K05342
C00031
C01083
K13057
C02591
K00696
C05731
K00697...
GYS1
C00029
UGP2
C00095
K00695
K00692
K18775
GAA
K01193
SI
C02336
C00668
K00706
K01210
GBA3
C01798
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K01179
K18447
K00978
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
C05345
C00267
K01087...
K01232
K01226
C00092
K02777...
K01232
K00691
K02438...
C02995
K05343
K02777...
K06896
K01208
C01935
K01177
C00369
PYGB
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
MGAM
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K00702
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C06217
C06218
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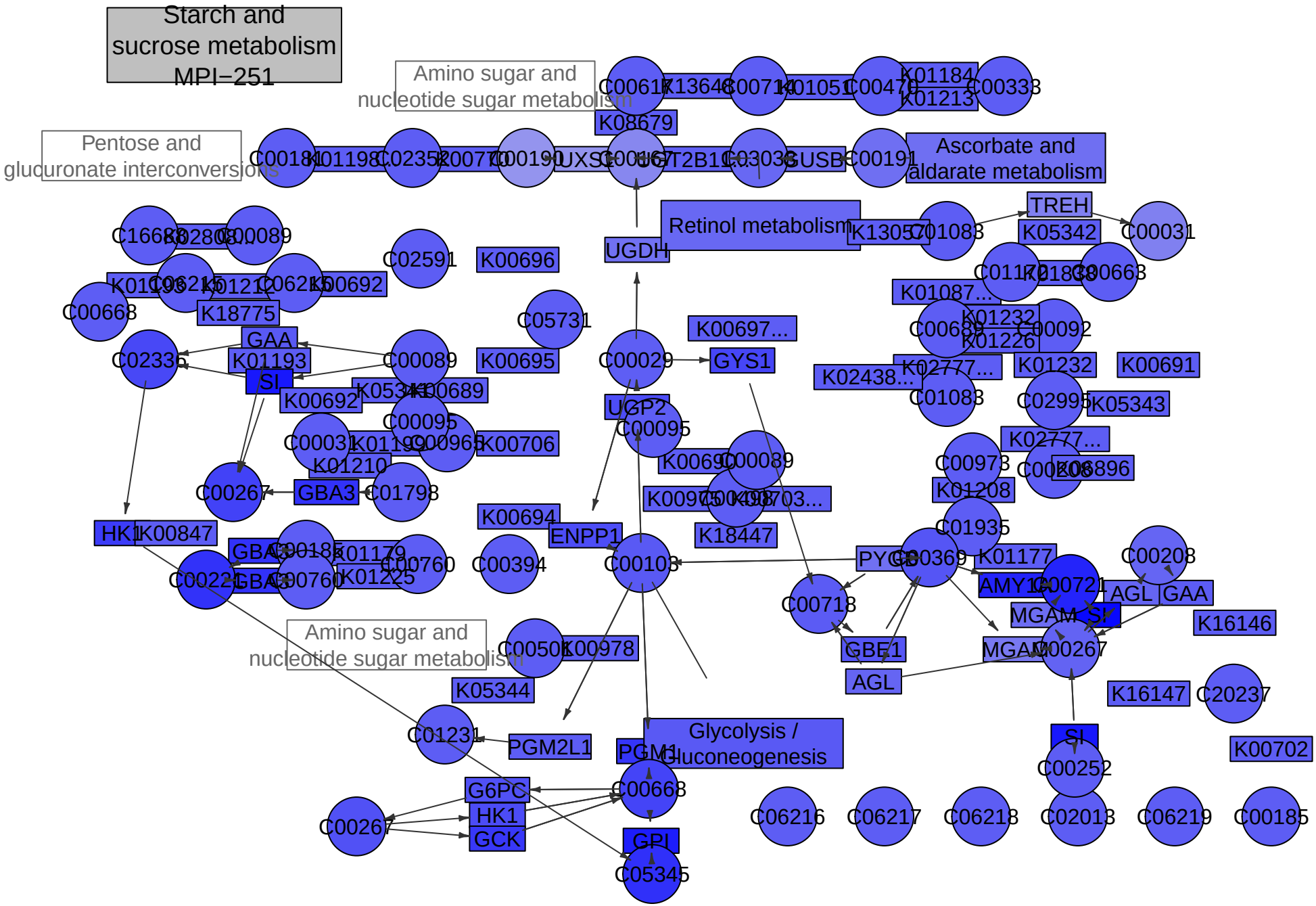
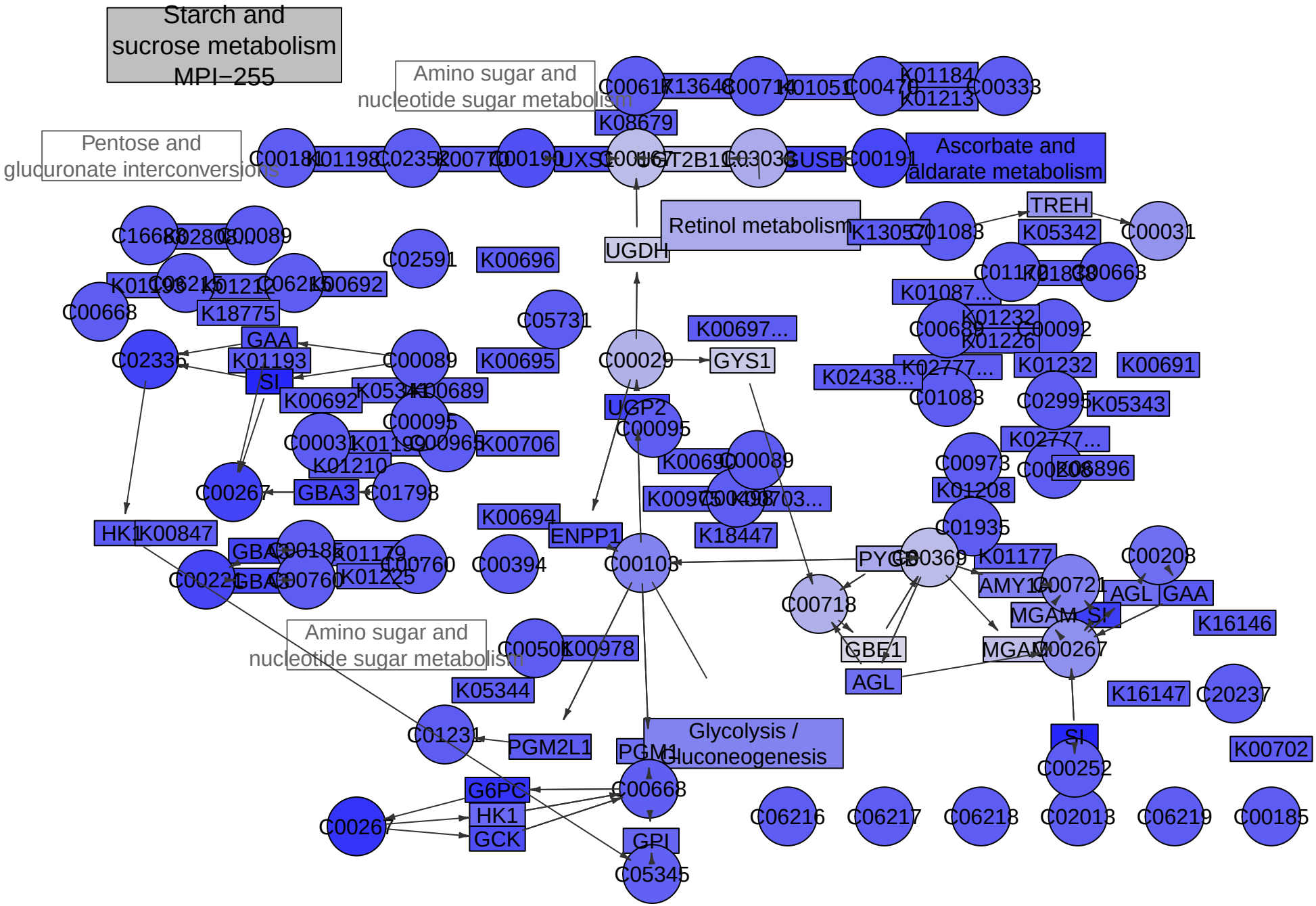
C06219
C00185


Starch and sucrose metabolism MPI−251
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
C02591
K00696
K00692
K18775
C05731
GAA
K01193
SI
K00695
C00029
GYS1
K00697...
K01232
K01226
K01087...
K02777...
K01232
K00691
K02438...
C01083
C02995
K05343
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
HK1
K00847
K00694
ENPP1
C00103
K18447
C01935
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
SI
C00252
K00702
G6PC
C00668
HK1
GCK
C00267
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−255
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
K08679
UGDH
TREH
K05342
C00031
K00696
C02591
C05731
K00697...
GYS1
C00029
UGP2
C00095
K00695
K00692
K18775
GAA
SI
K01193
C02335
C00668
K00706
K01210
GBA3
C00267
HK1
K00847
K00694
ENPP1
C00103
C00394
C00760
K01225
K18447
K01208
C01935
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
C00718
GBE1
AGL
K05344
C01231
PGM2L1
PGM1
G6PC
HK1
GCK
C00668
GPI
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C00252
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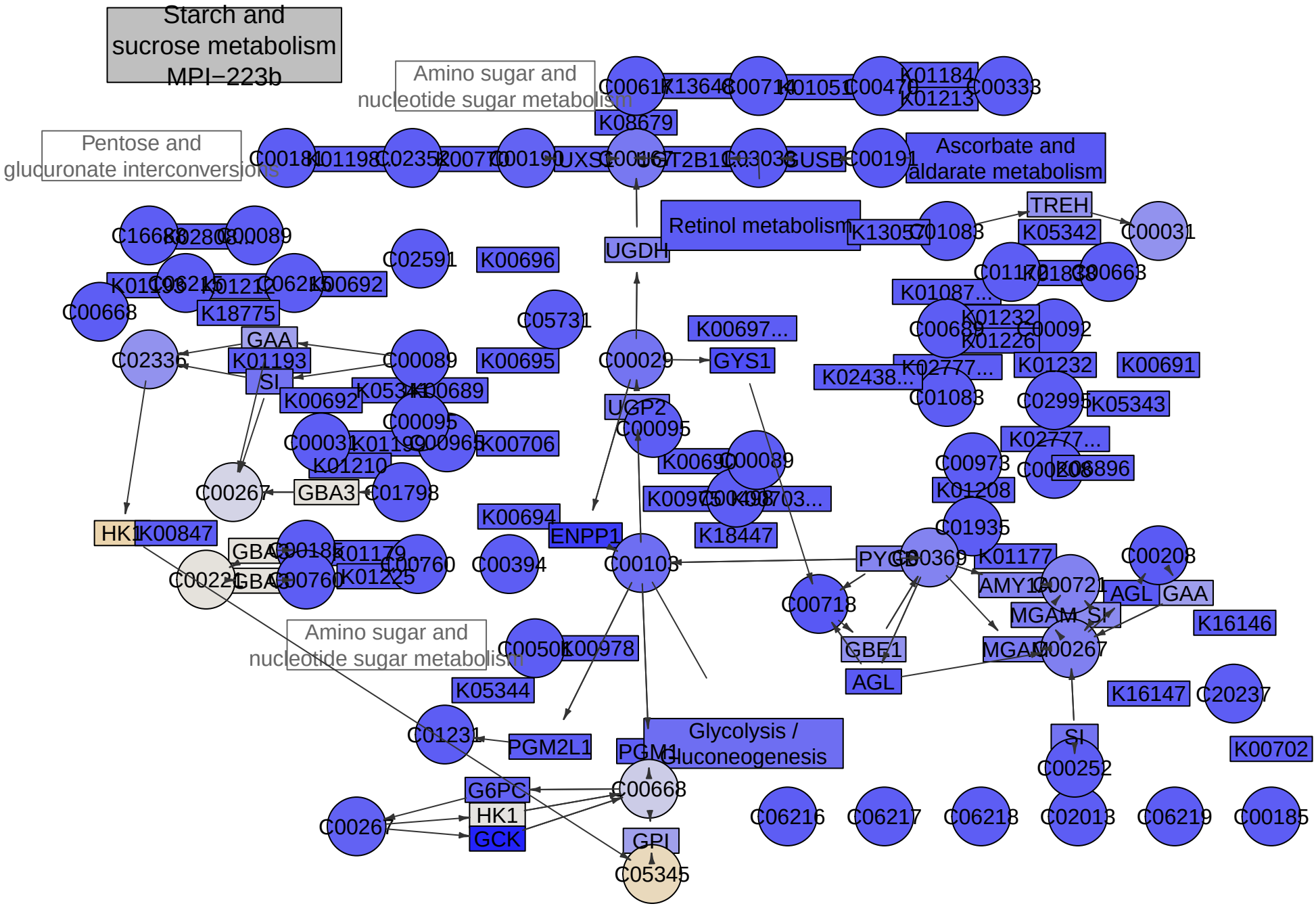
K00702
C06216
C06217
C06218
C02013
C06219
C00185


Starch and sucrose metabolism MPI−223b
Amino sugar and nucleotide sugar metabolism
Pentose and glucuronate interconversions
Ascorbate and aldarate metabolism
Retinol metabolism
Amino sugar and nucleotide sugar metabolism
Glycolysis / Gluconeogenesis
C00617
K13648
K00714
K01051
C00470
K01184
K01213
C00333
K08679
C00181
K01198
C02358
K00770
C00190
UXS
UGT2B11
C03038
GUSB
C00191
UGDH
TREH
K05342
C00031
C02591
K00696
K18775
C05731
K00697...
C00029
GYS1
K01087...
K01232
K01226
C00092
K01232
K00691
K02438...
K02777...
C01083
C02995
K05343
K00692
K00689
UGP2
C00095
K00706
K01210
C00267
GBA3
C01798
K00694
ENPP1
K18447
K01208
C01935
HK1
K00847
C00108
C00394
C00760
K01225
C00718
PYGB
C00369
K01177
C00208
AMY1A
C00721
AGL
GAA
MGAM
SI
K16146
GBE1
AGL
C00267
K16147
C20237
K05344
C01231
PGM2L1
PGM1
C00252
K00702
G6PC
C00668
HK1
GCK
GPI
C05345
C06216
C06217
C06218
C02013
C06219
C00185