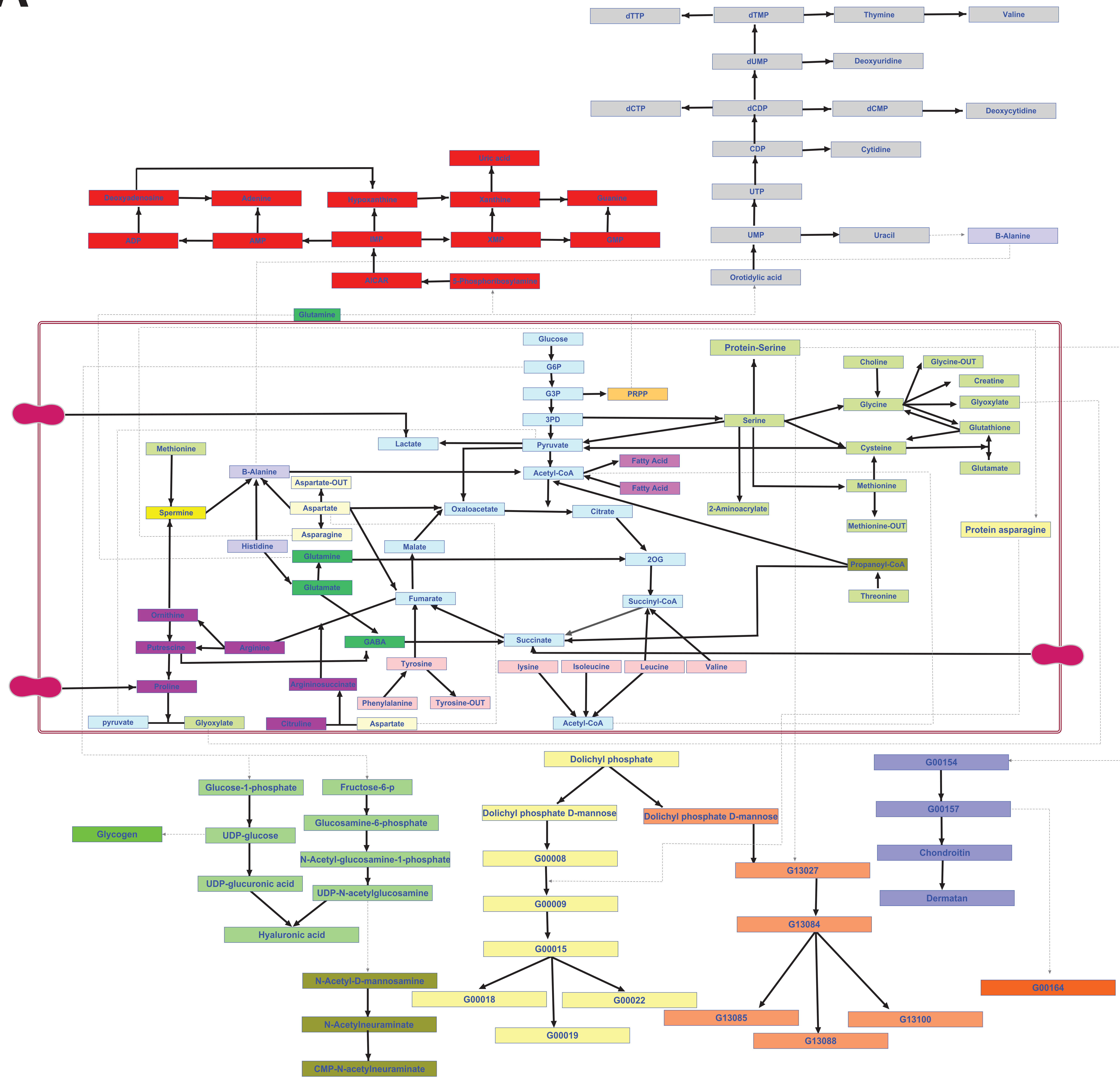


A

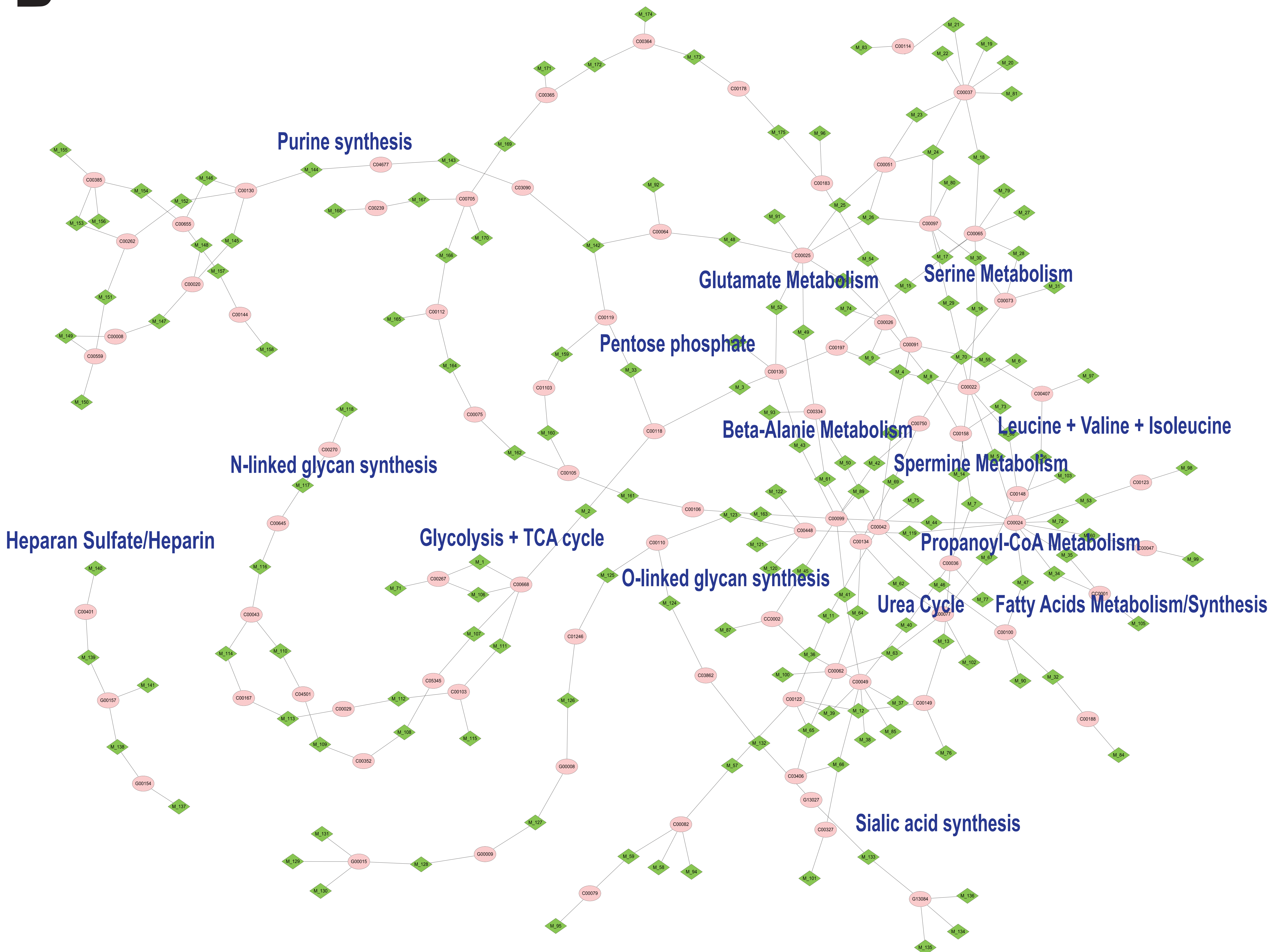


- Color Super Module class**
- Glycolysis + TCA cycle
 - Serine Metabolism
 - Pentose phosphate
 - Fatty Acids Metabolism/Synthesis
 - Aspartate Metabolism
 - Beta-Alanine Metabolism
 - Propanoyl-CoA Metabolism
 - Glutamate Metabolism
 - Leucine + Valine + Isoleucine
 - Urea Cycle
 - Spermine Metabolism
 - Transporters
 - Hyaluronic acid synthesis
 - Glycogen synthesis
 - N-linked glycan synthesis
 - O-linked glycan synthesis
 - Sialic acid synthesis
 - Chondroitin Sulfate/Dermatan Sulf
 - Heparan Sulfate/Heparin
 - Purine synthesis
 - Pyrimidine synthesis

→	Direct reaction form of each module
- - - - ->	Distant metabolite exchange
-----	Same metabolite
G00154	(Xyl)1 (Ser)1
G00157	(Gal)2 (GlcA)1 (Xyl)1 (Ser)1
G00164	(Gal)2 (GlcA)2 (GlcNAc)2 (Xyl)1 (Ser)1
G13027	(Man)1 (Ser/Thr)1
G13084	(Gal)1 (GlcNAc)1 (Man)1 (Ser/Thr)1
G13100	(Gal)1 (GlcNAc)1 (LFuc)1 (Man)1 (Ser/Thr)1
G13088	(Gal)1 (GlcA)1 (GlcNAc)1 (Man)1 (S)1 (Ser/Thr)1
G13085	(Gal)1 (GlcNAc)1 (Man)1 (Neu5Ac)1 (Ser/Thr)1
G00008	(Glc)3 (GlcNAc)2 (Man)9 (RBo)1
G00009	(Glc)3 (GlcNAc)2 (Man)9 (Asn)1
G00015	(GlcNAc)4 (Man)3 (Asn)1
G00022	(GlcNAc)7 (Man)3 (Asn)1

** Only part of the transporters is illustrated

B



C

