

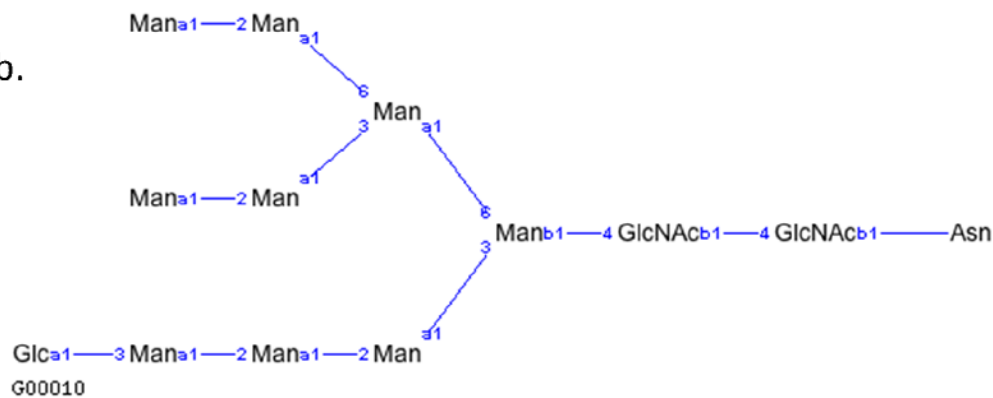
Figures

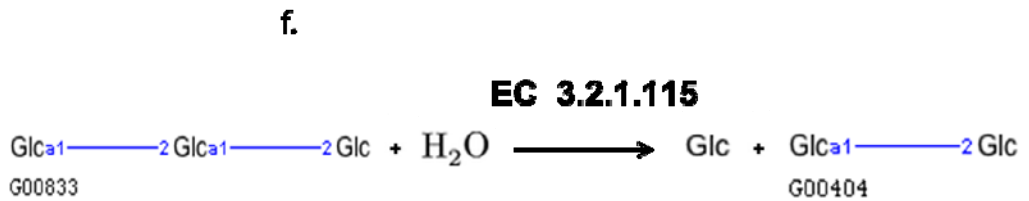
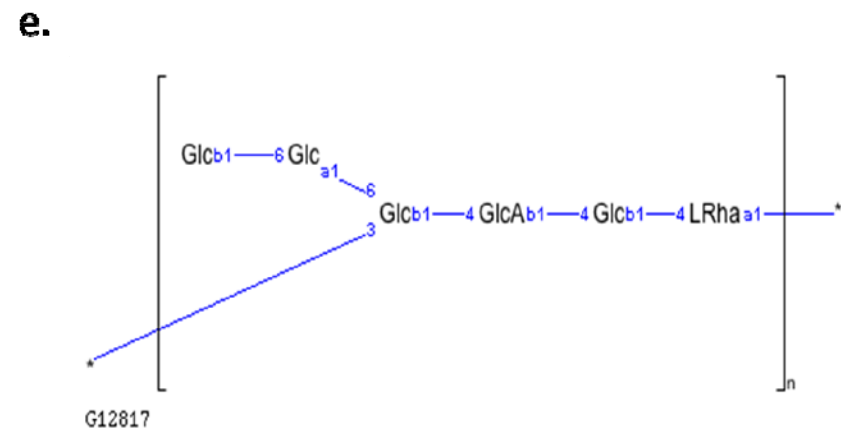
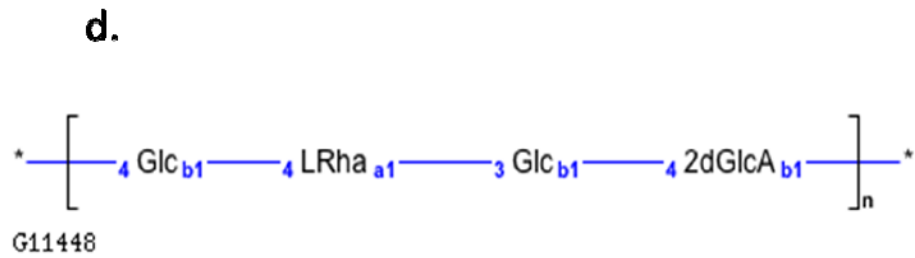
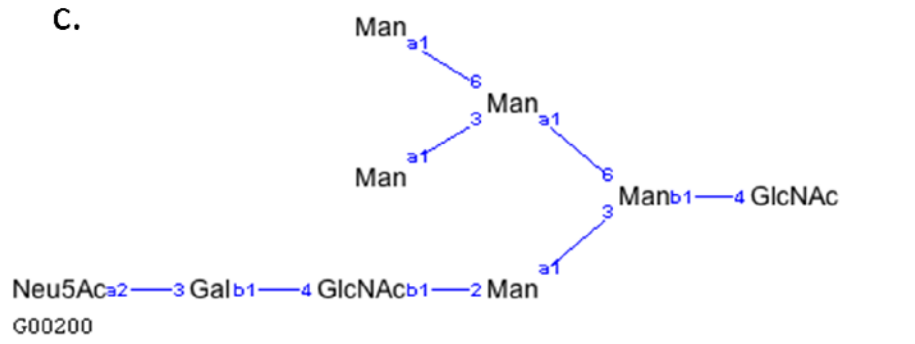
a.

ENTRY	G00010			Glycan
NODE	13			
1	Asn	27	-2	
2	GlcNAc	18	-2	
3	GlcNAc	9	-2	
4	Man	1	-2	
5	Man	-6	5	
6	Man	-6	-9	
7	Man	-13	10	
8	Man	-13	0	
9	Man	-13	-9	
10	Man	-20	10	
11	Man	-20	0	
12	Man	-20	-9	
13	Glc	-27	-9	
EDGE	12			
1	2:b1	1		
2	3:b1	2:4		
3	4:b1	3:4		
4	5:a1	4:6		
5	6:a1	4:3		
6	7:a1	5:6		
7	8:a1	5:3		
8	9:a1	6:2		
9	10:a1	7:2		
10	11:a1	8:2		
11	12:a1	9:2		
12	13:a1	12:3		

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b.





Supplementary Figure 1: KEGG Glycans. a-e: Examples of different types of glycans found in the KEGG Glycans database. (a) A textual representation of the KCF graph for glycan G00010. (b) A visual representation of the KCF graph for glycan G00010. (c) A regular glycan. (d) A Linear repeating

glycan. (e) A non linear repeating glycan. (f) Reconstruction of GlyDeR reactions. The GlyDeR algorithm receives a glycan graph structure and an EC number as input and generates the appropriate glycan products, while considering the following rules: Glycosidic linkages hydrolyzed, Endo vs. exo acting enzyme, Degree of polymerization preference, Reducing vs. non-reducing end preference, Contained sub-glycan, Glycan Released. In the example depicted in the figure, these fields had the following values respectively: Glc a1-2 Glc, exo, 10+, non-reducing, unknown, TAU00015 (the glycan ID of glucose).