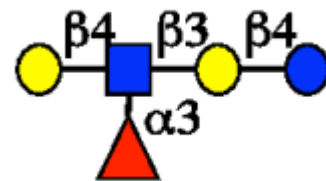
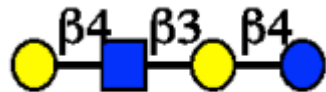
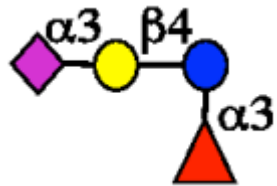
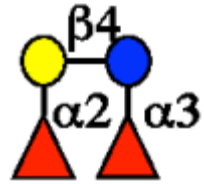
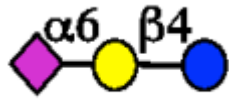


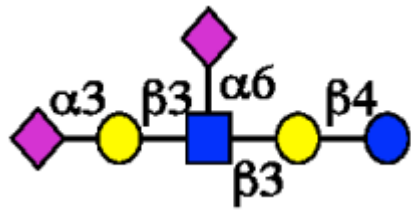
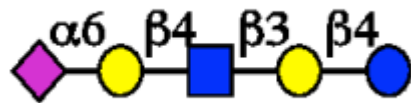
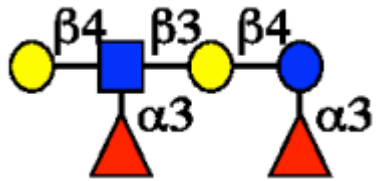
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Prudden, A. R. et al. Synthesis of asymmetrical multiantennary human milk oligosaccharides. *Proc. Natl Acad. Sci. USA* **114**, 6954–6959 (2017).



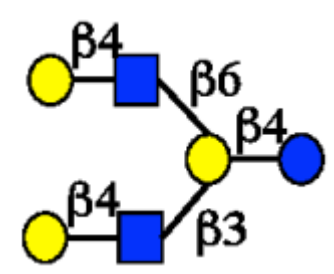
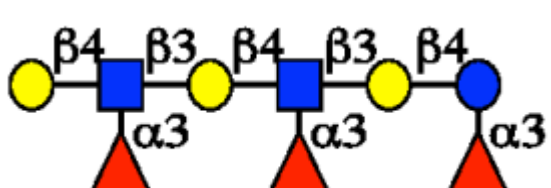
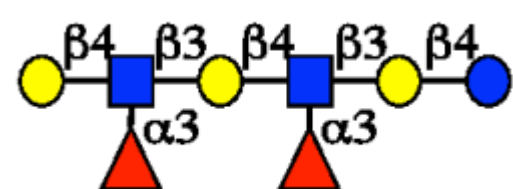
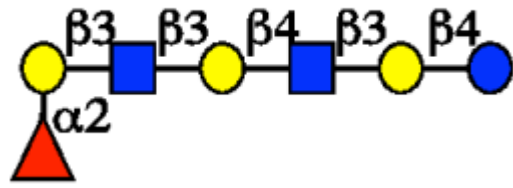
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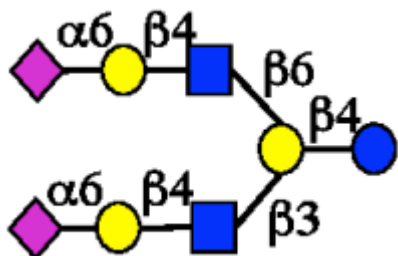
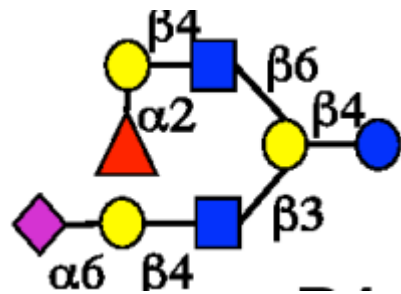
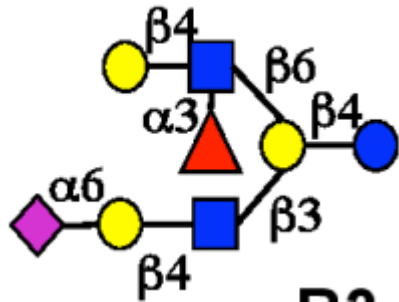
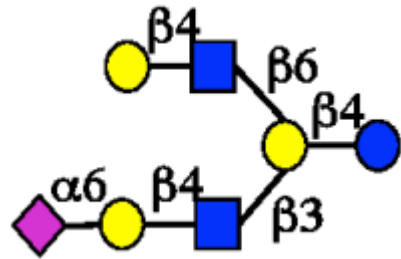
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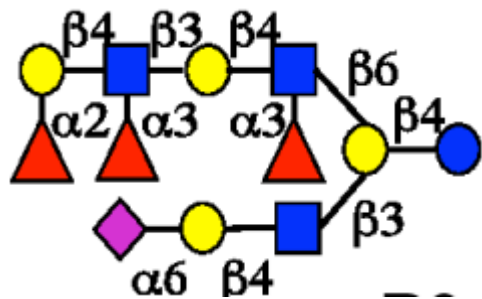
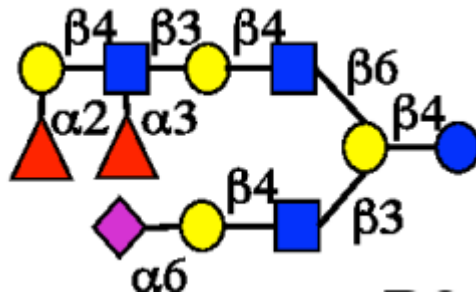
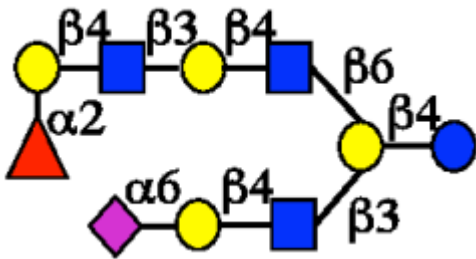
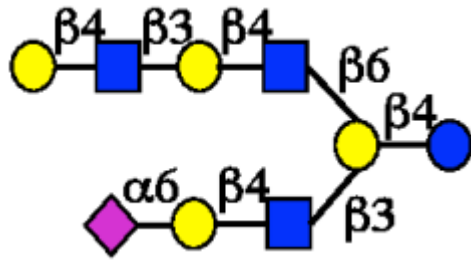
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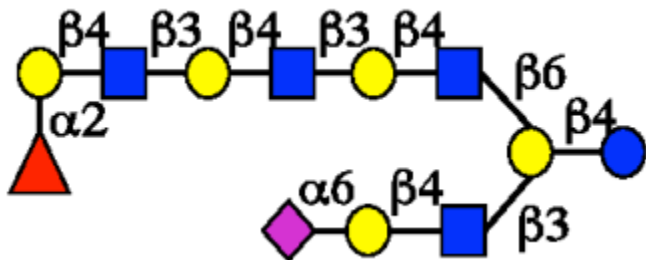
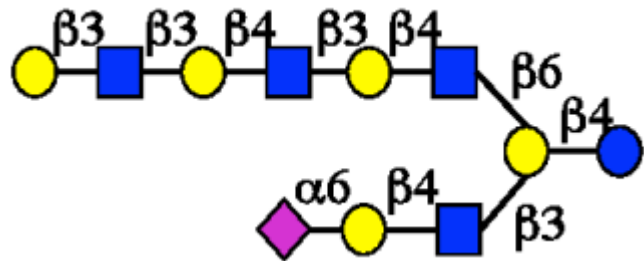
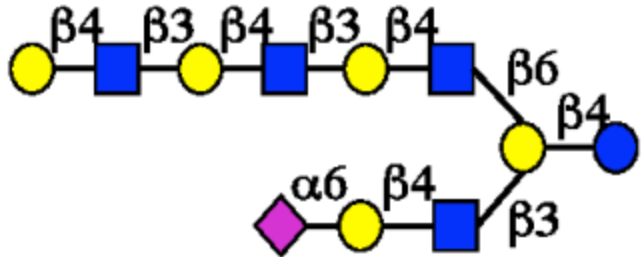
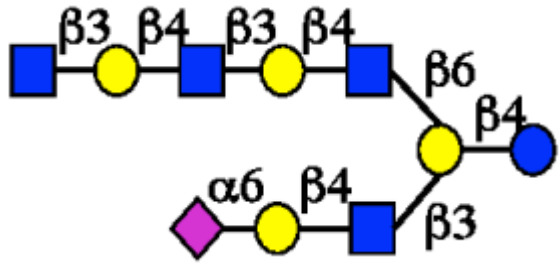
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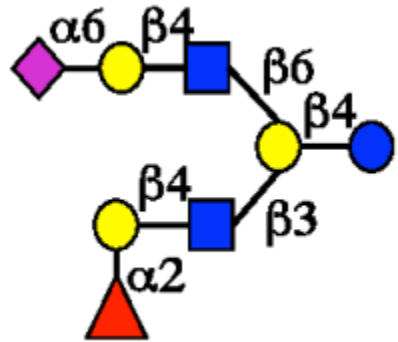
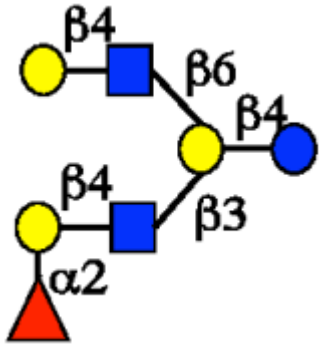
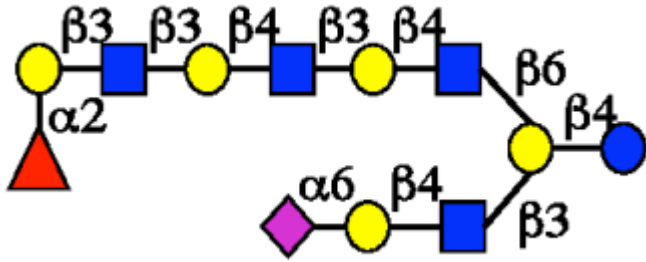
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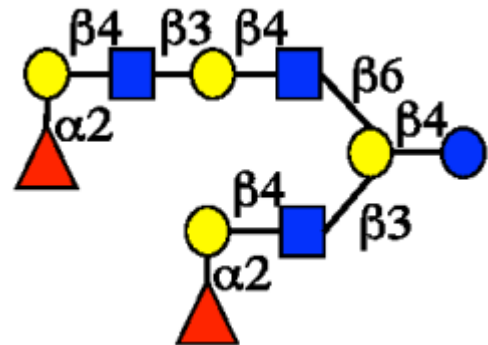
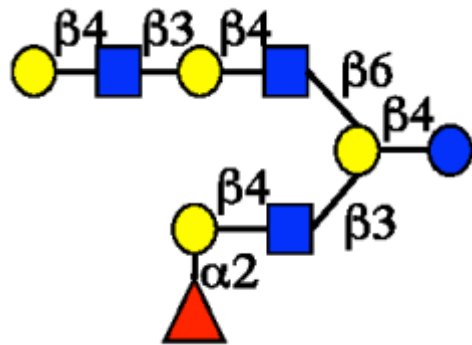
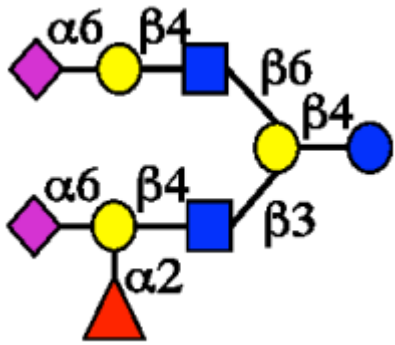
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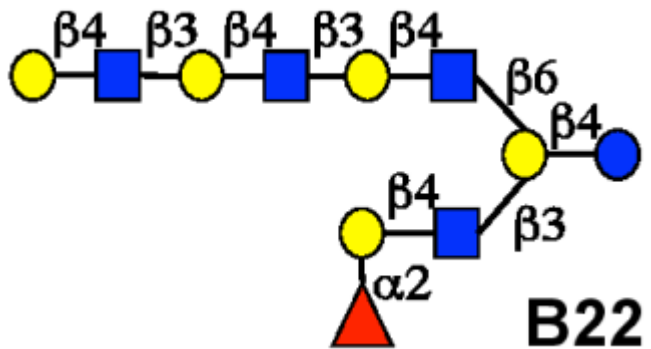
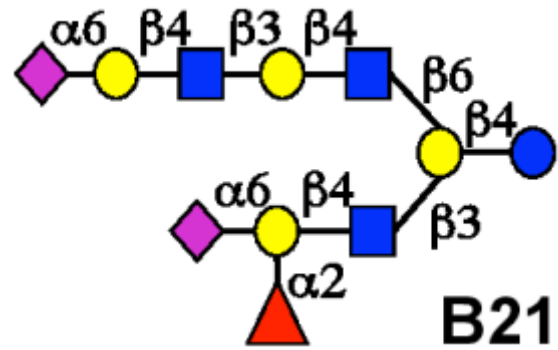
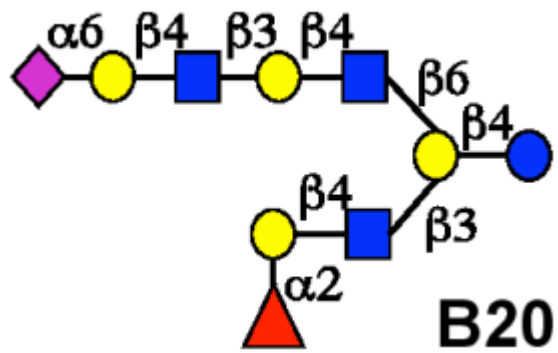
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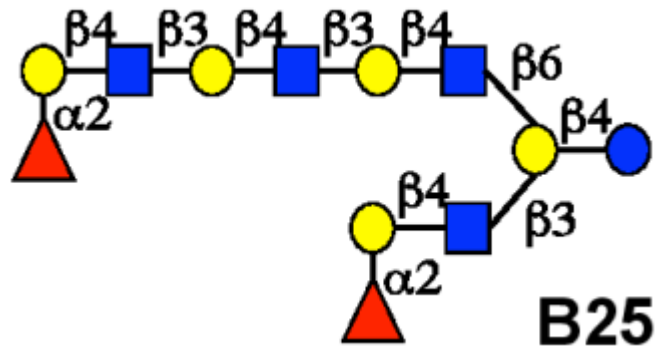
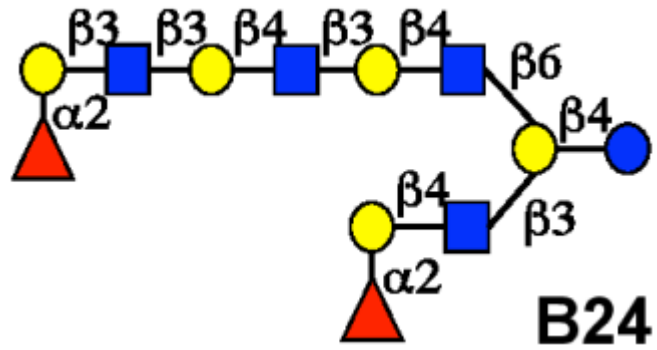
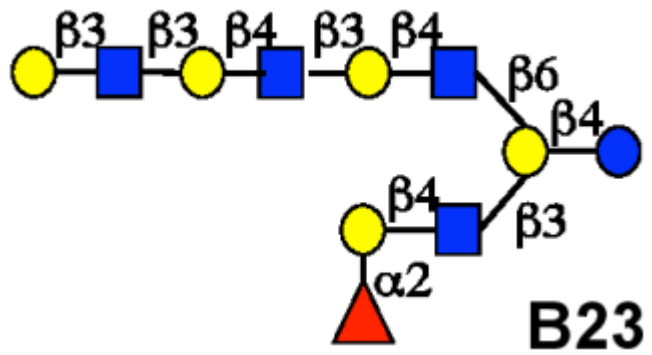
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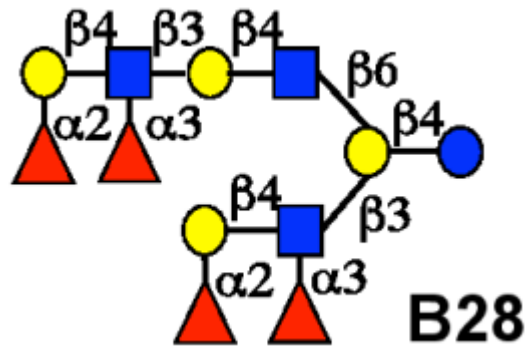
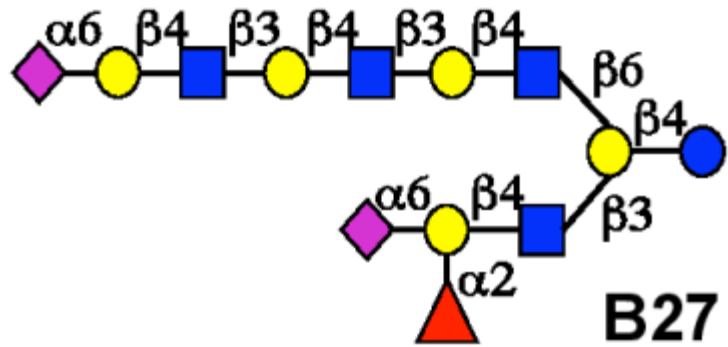
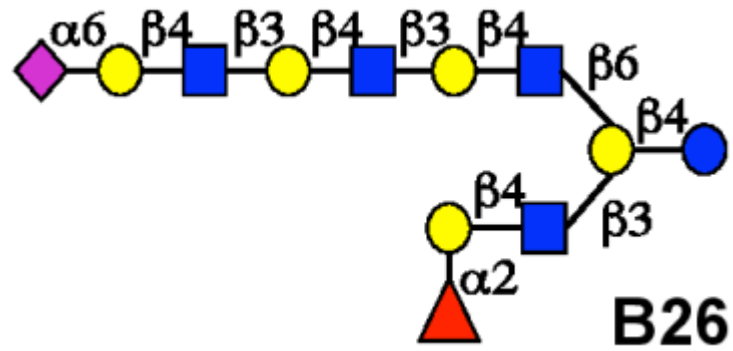
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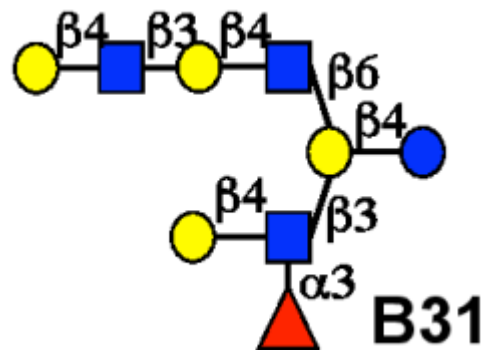
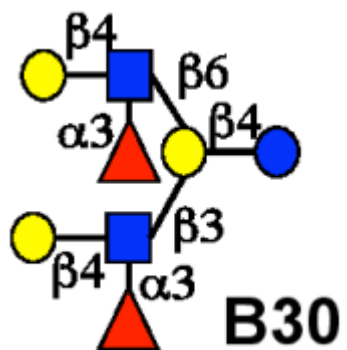
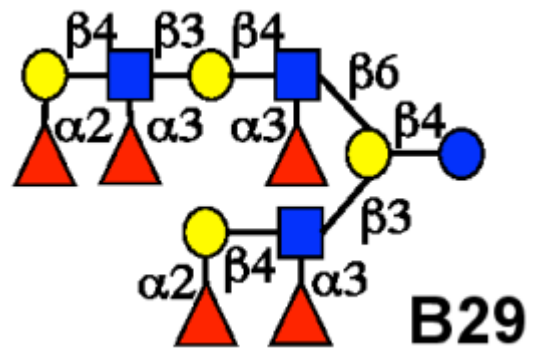
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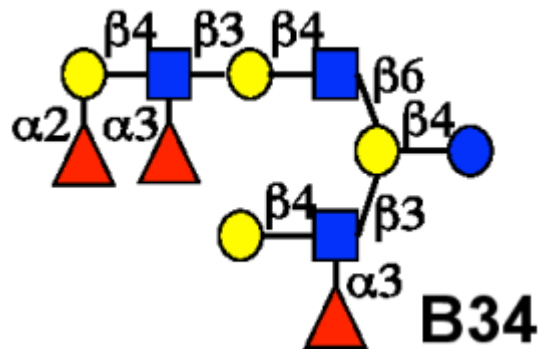
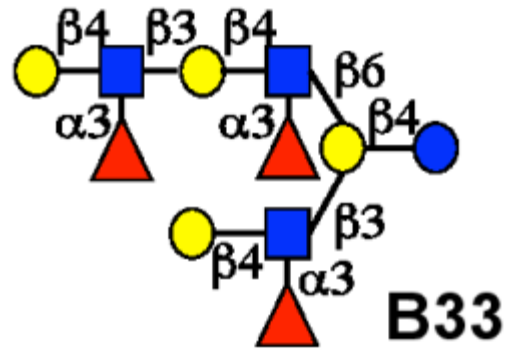
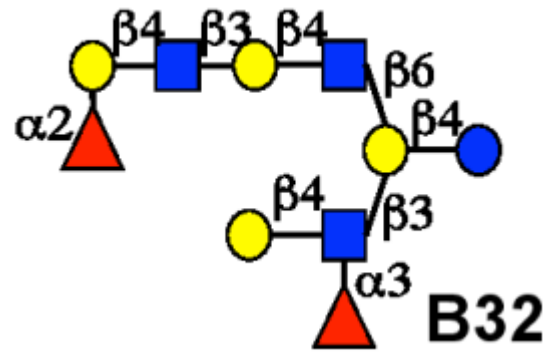
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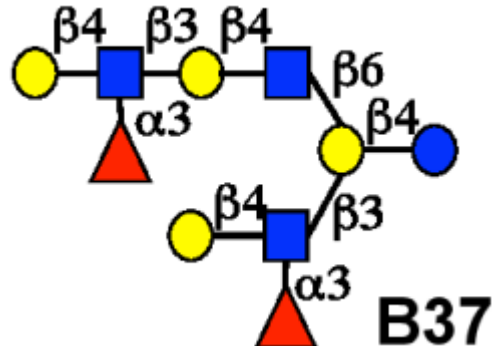
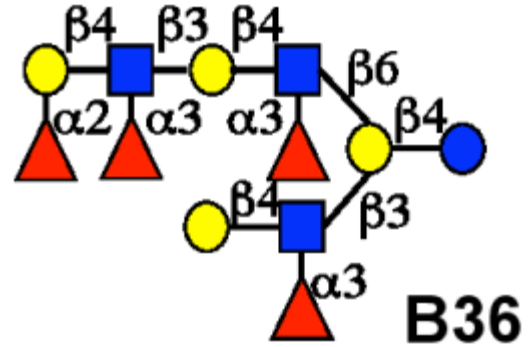
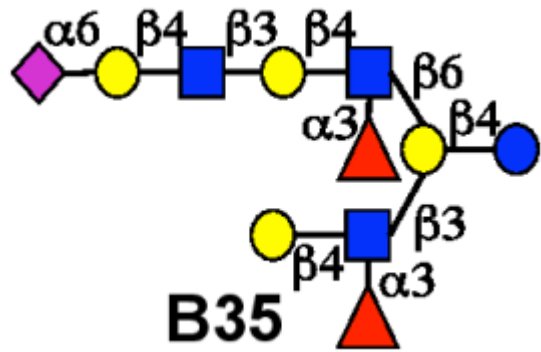
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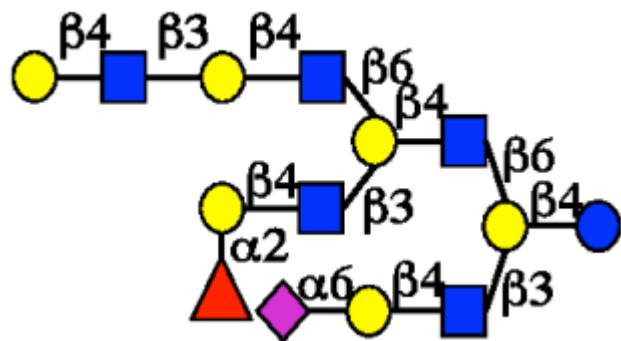
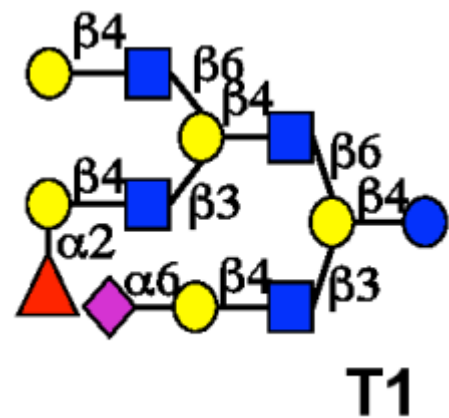
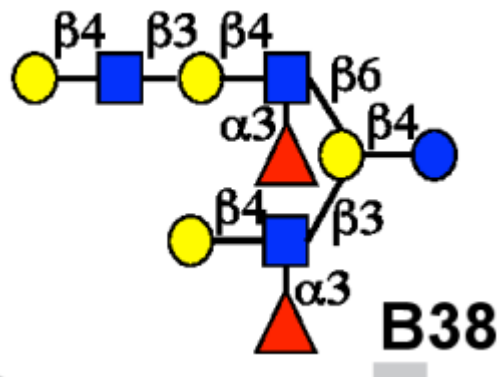
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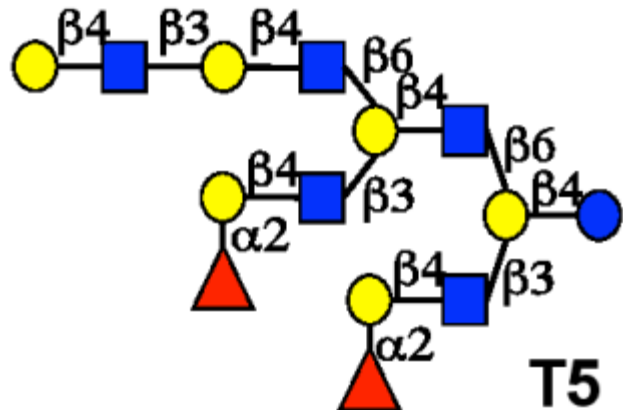
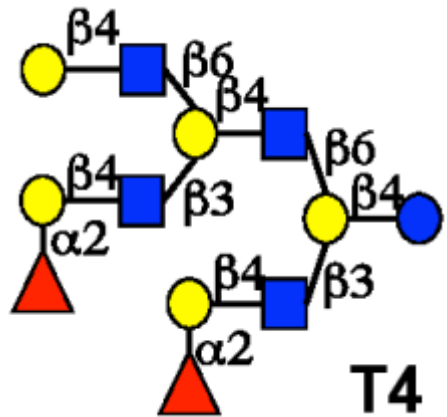
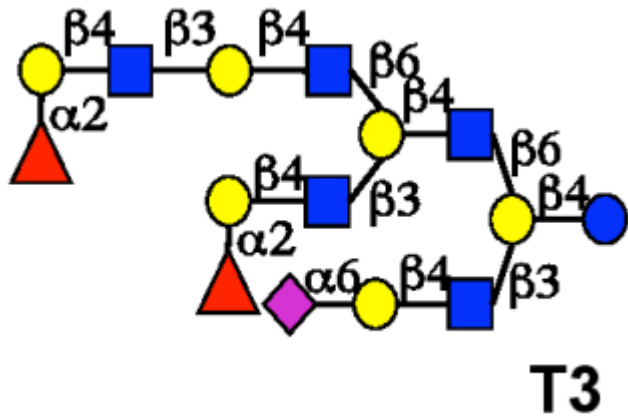
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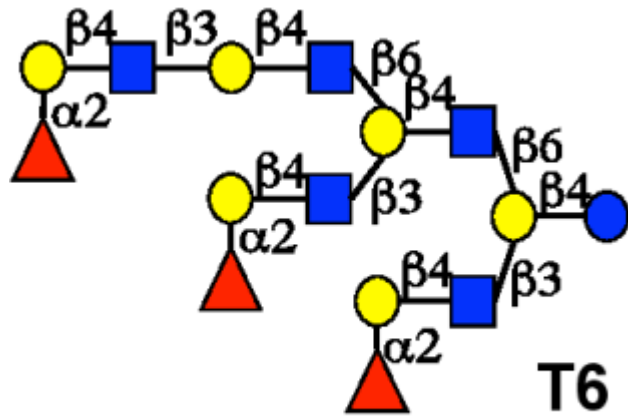
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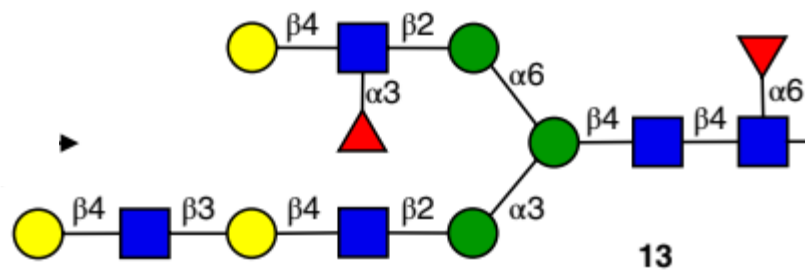
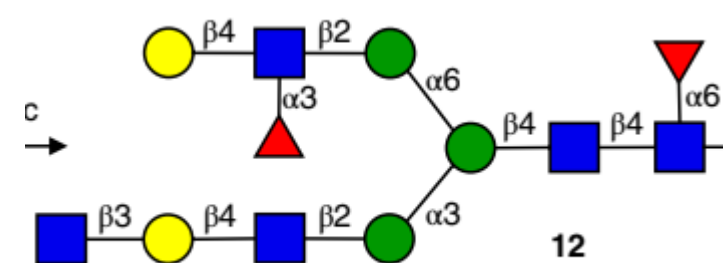
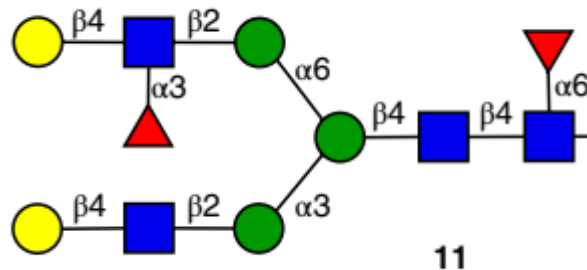
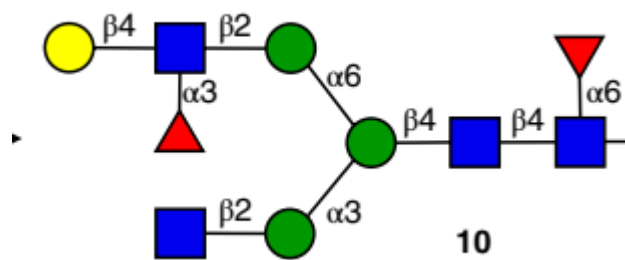
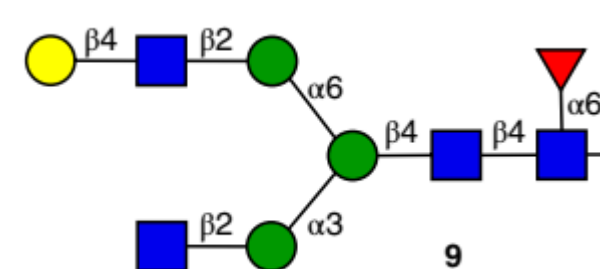
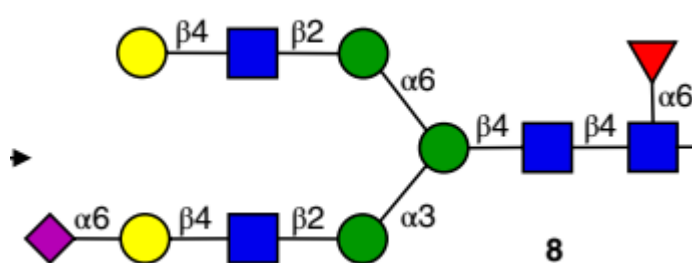
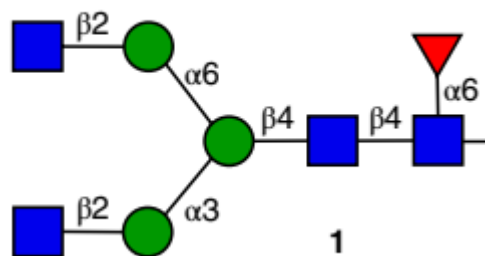
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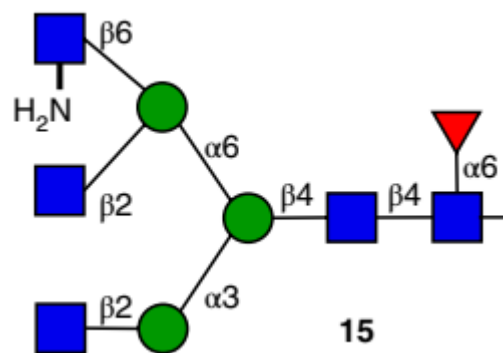
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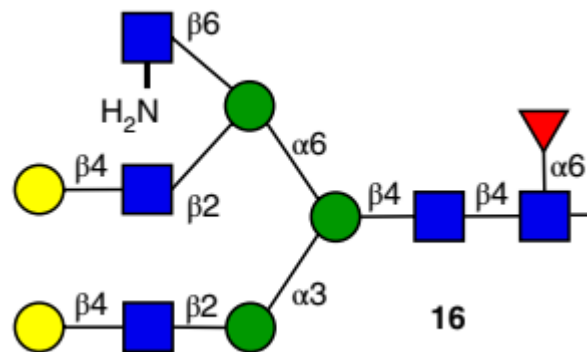


From mammalian

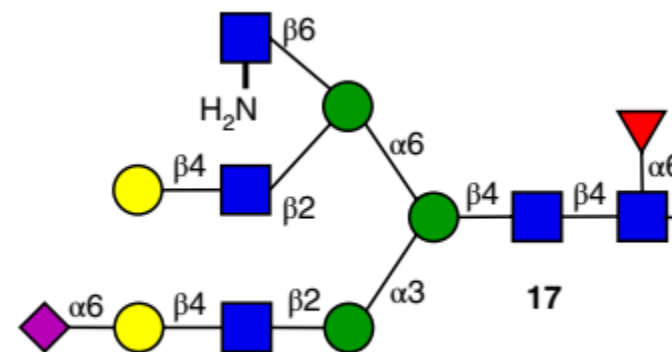
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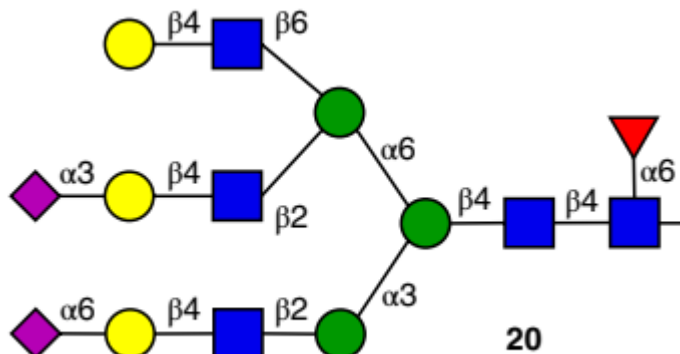
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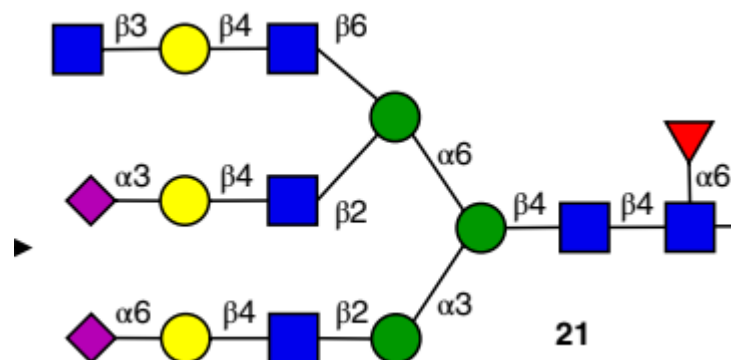
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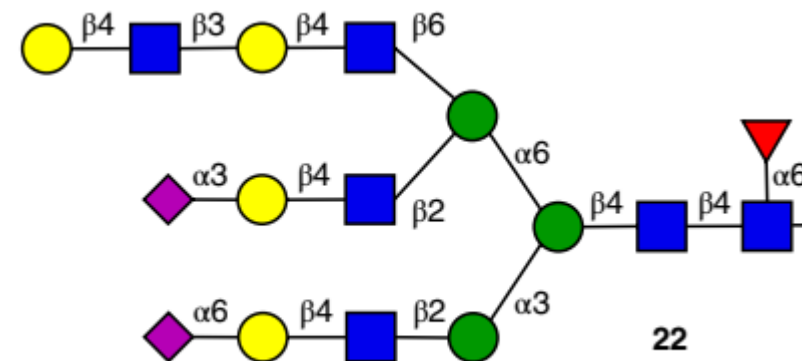
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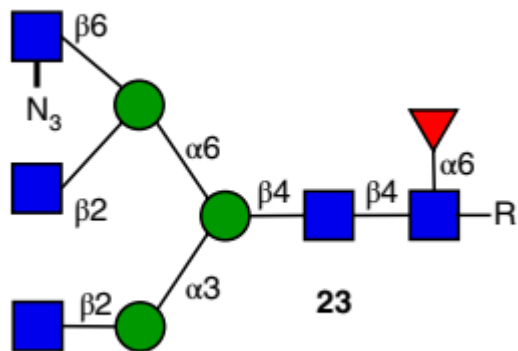
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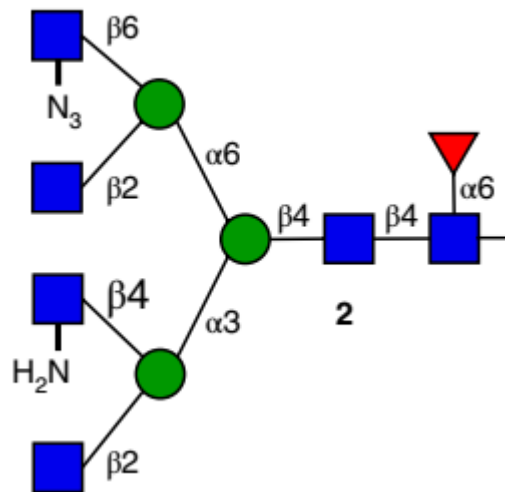
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From mammalian

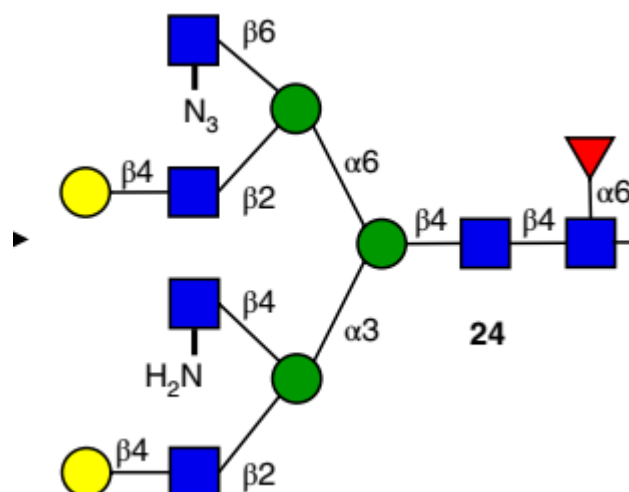
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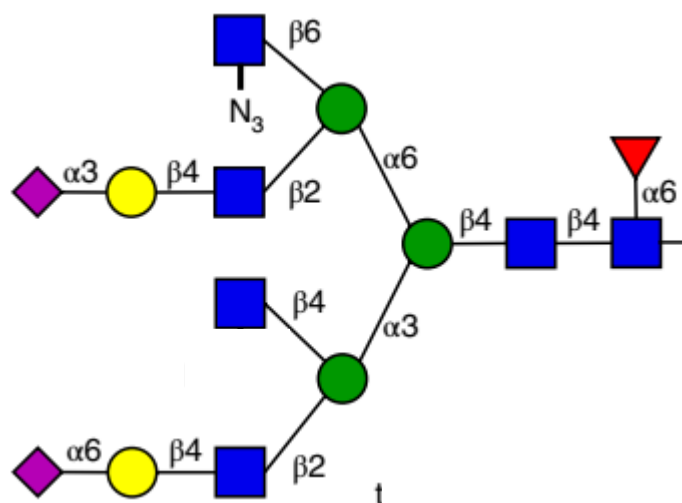
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unnatural intermediate

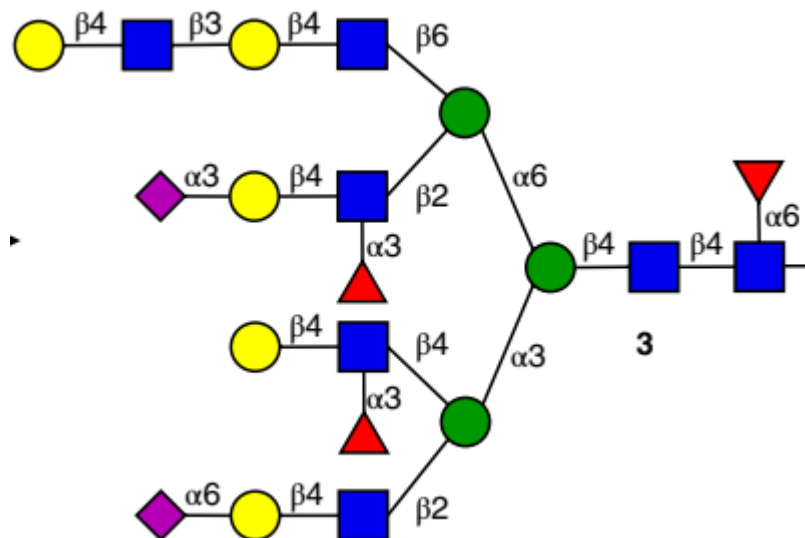
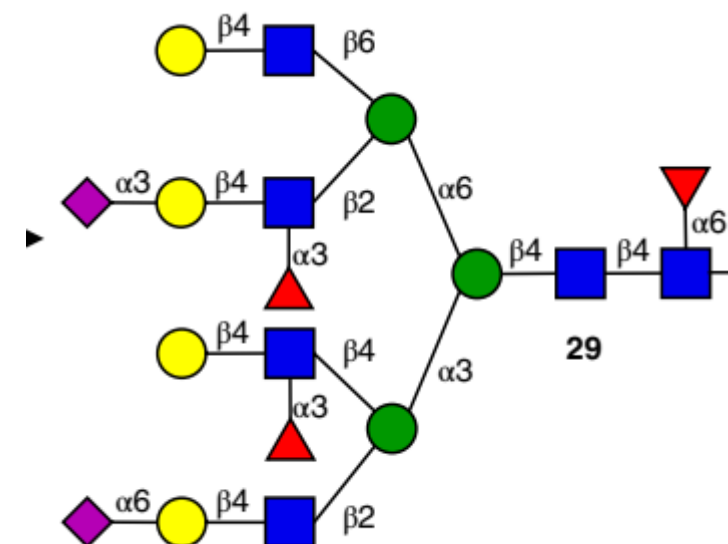
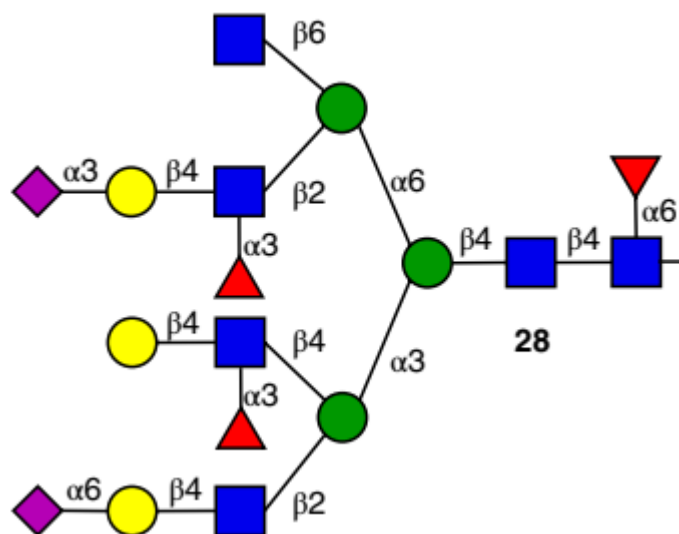
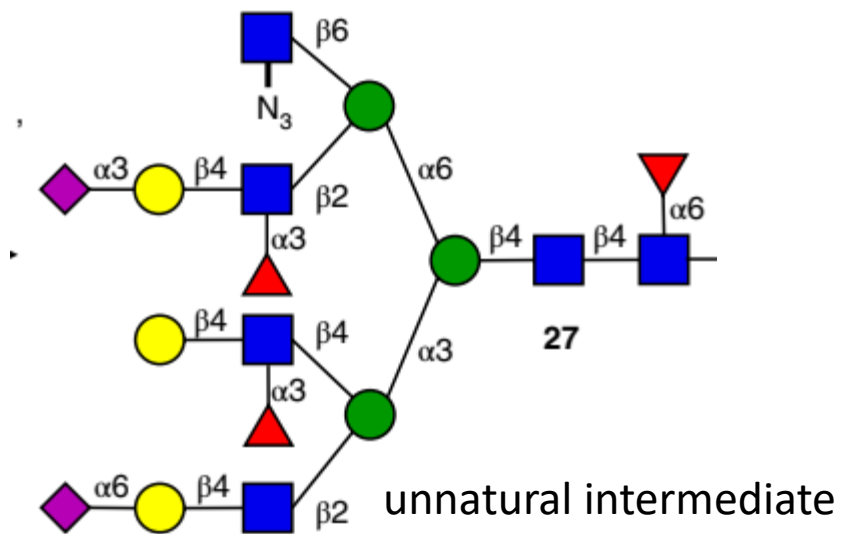


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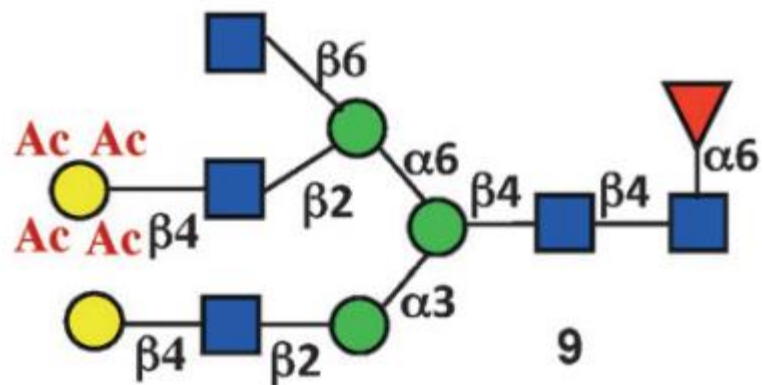
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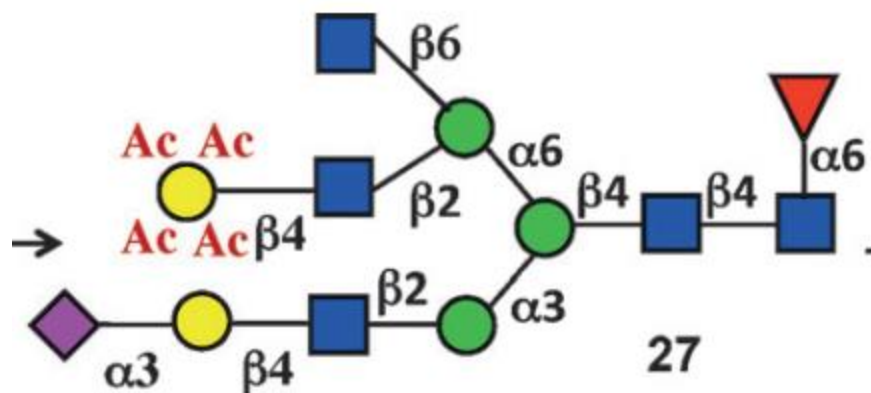


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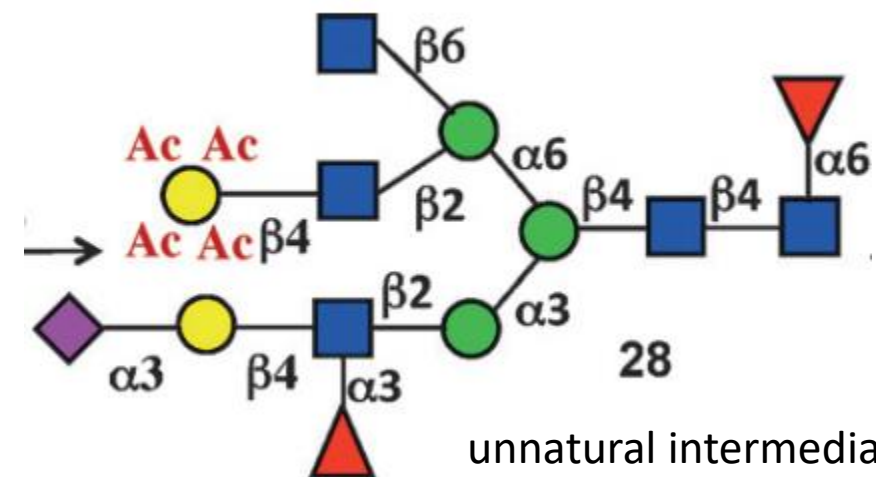
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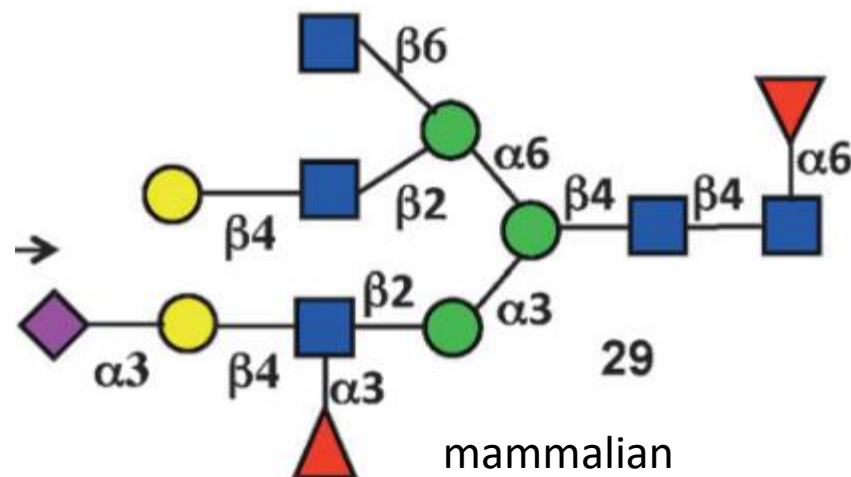
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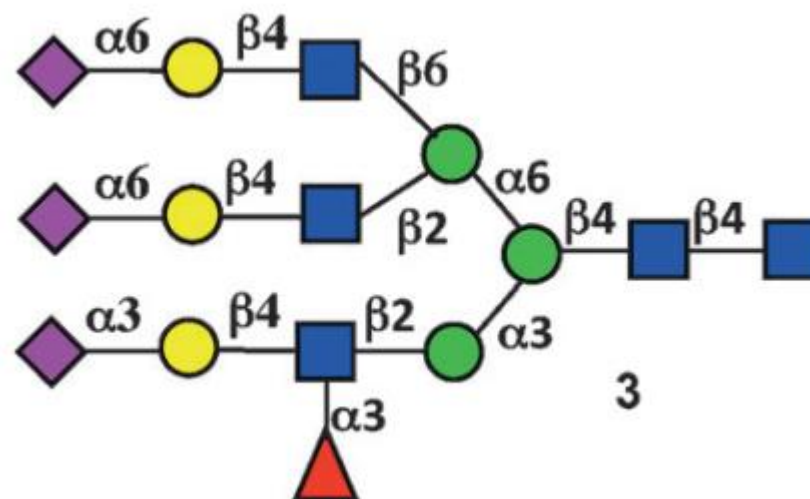
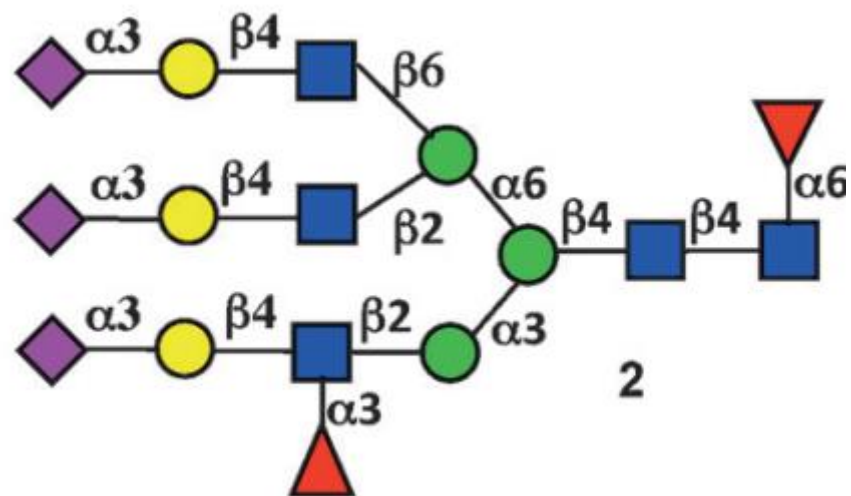
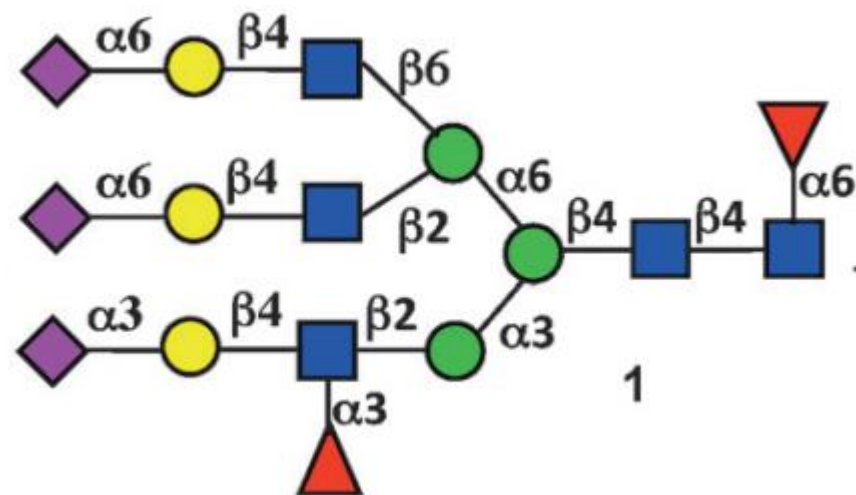
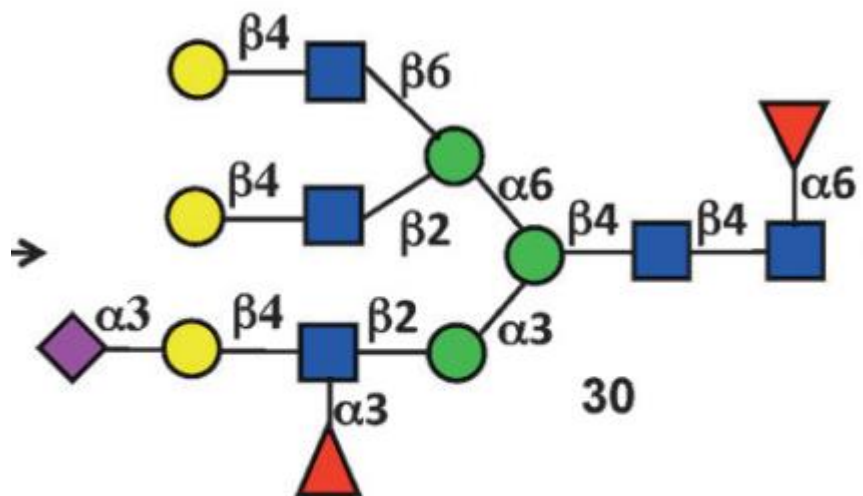
unnatural intermediate



unnatural intermediate

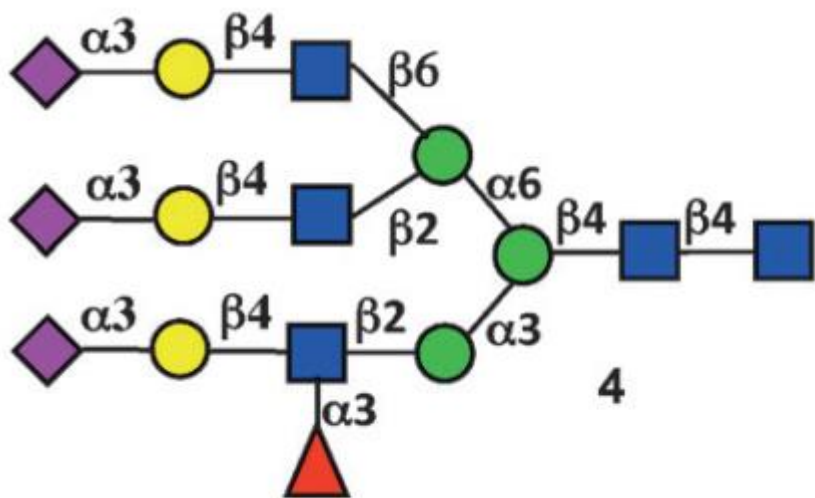


mammalian



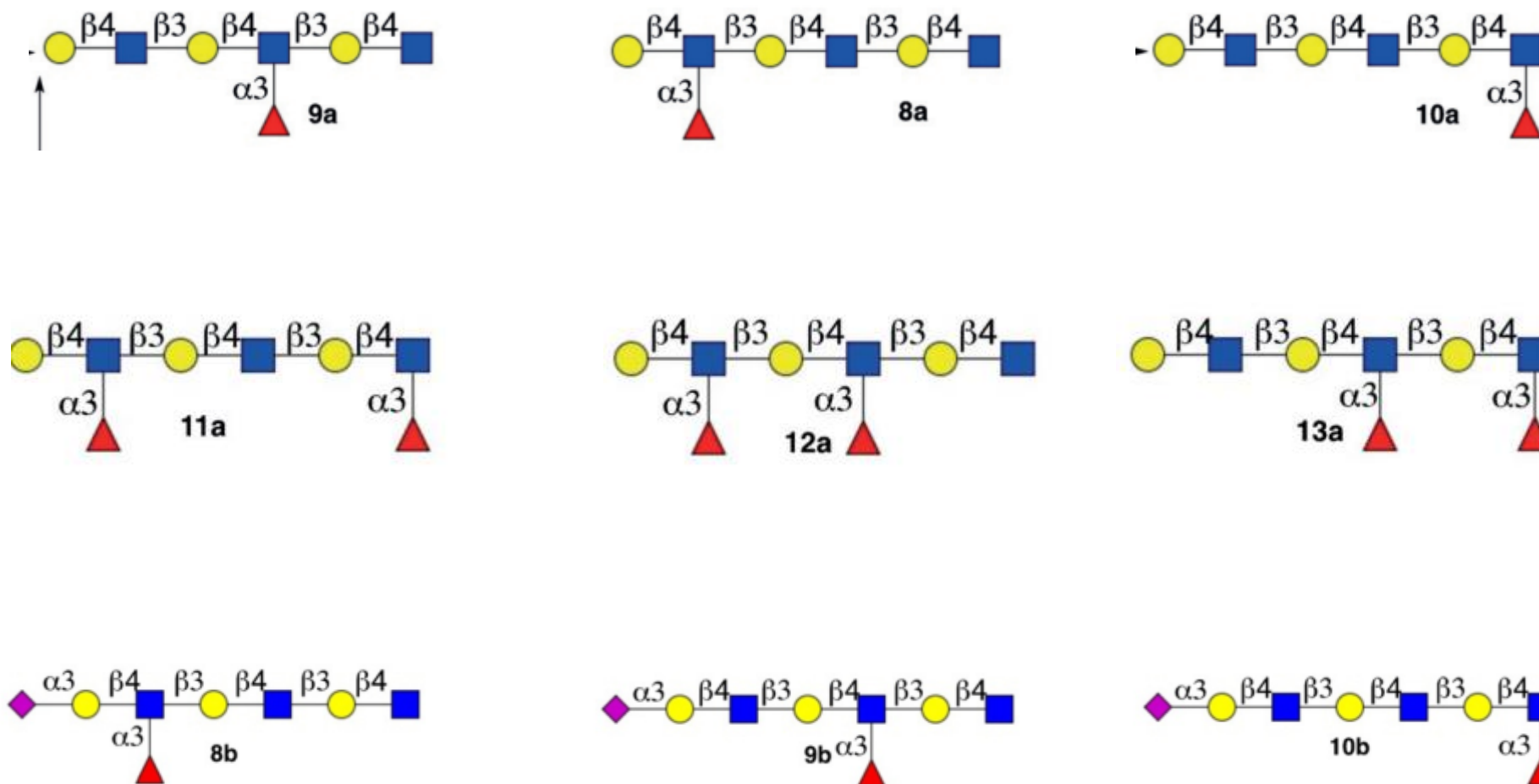
From: mammalian

Ref: Li, Tiehai; Huang, Min; Liu, Lin; Wang, Shuo; Moremen, Kelley; Boons, Geert-Jan *Chemistry A European Journal*, **2016**, 22, 18742-18746.



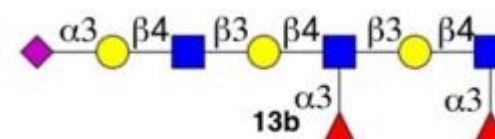
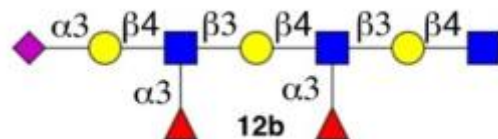
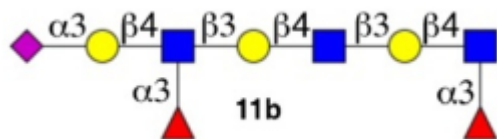
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Ref: Li, Tiehai; Huang, Min; Liu, Lin; Wang, Shuo; Moremen, Kelley; Boons, Geert-Jan *Chemistry A European Journal*, **2016**, 22, 18742-18746.



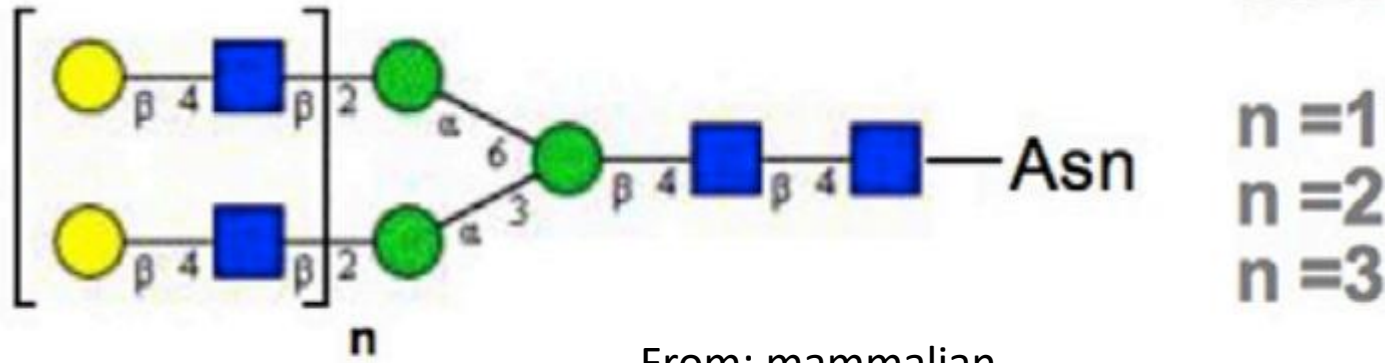
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Ref: I. A. Gagarinov, T. Li, N. Wei, J. Sastre Toraño, R. P. de Vries, M. A. Wolfert, G.-J. Boons, *Angew. Chem. Int. Ed.* **2019**, 58, 10547.

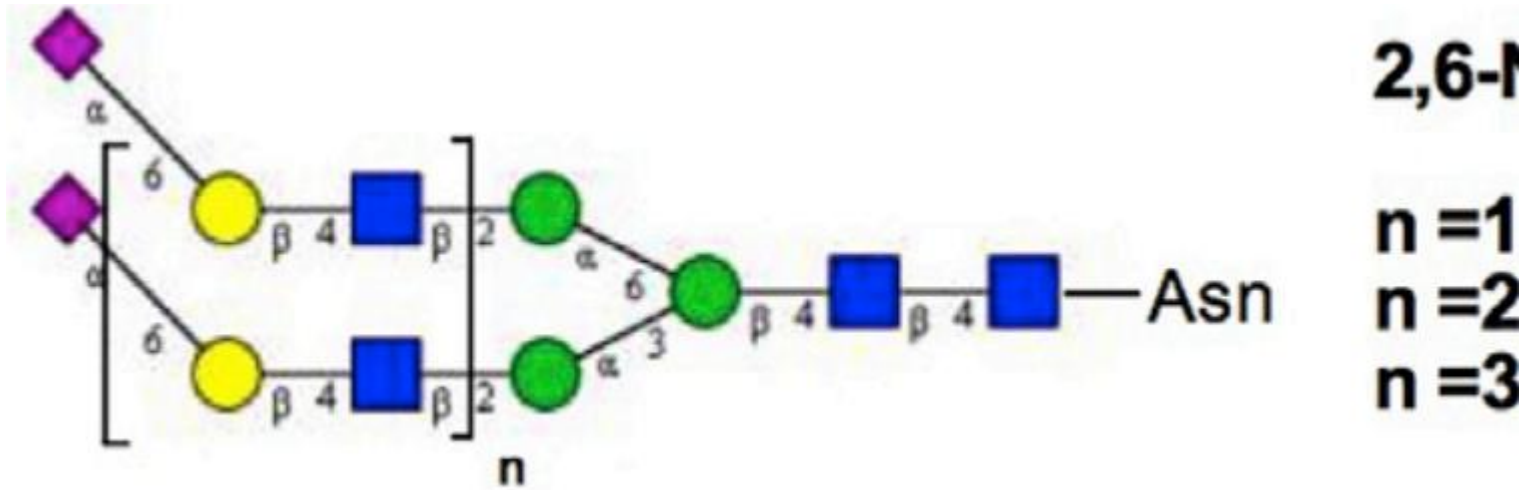


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Ref: I. A. Gagarinov, T. Li, N. Wei, J. Sastre Toraño, R. P. de Vries, M. A. Wolfert, G.-J. Boons, *Angew. Chem. Int. Ed.* **2019**, 58, 10547.

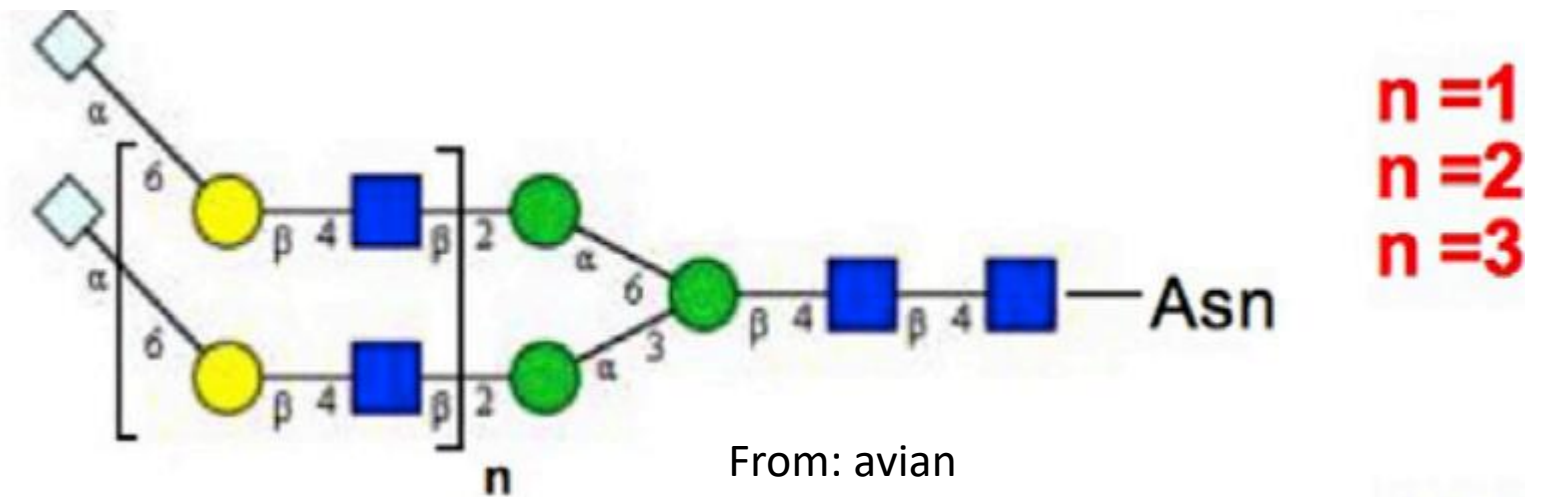
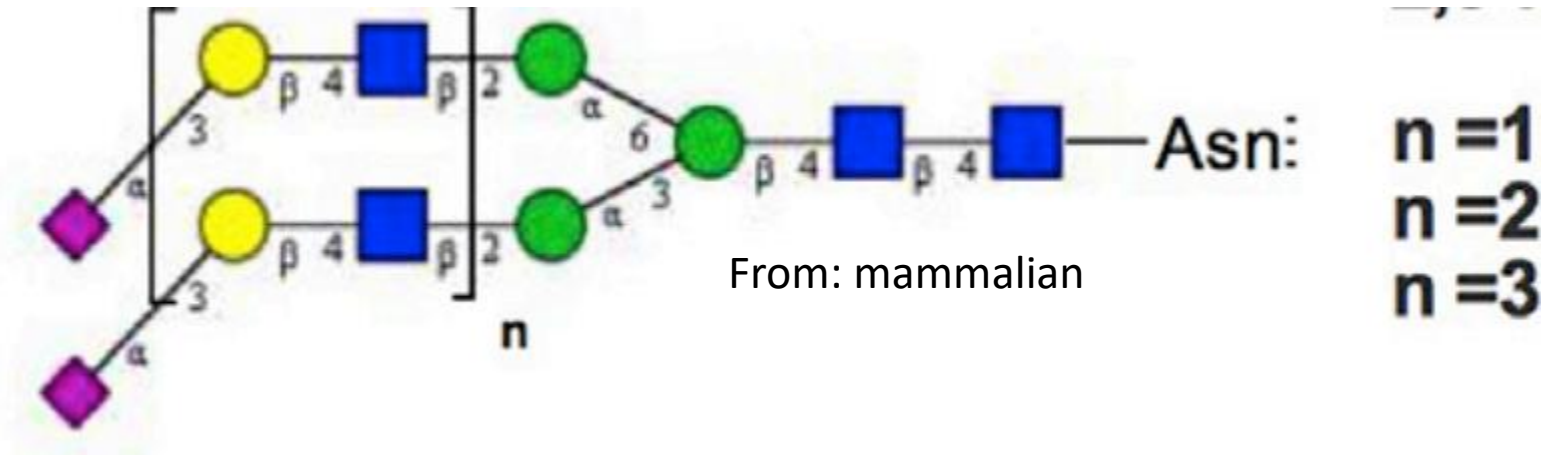


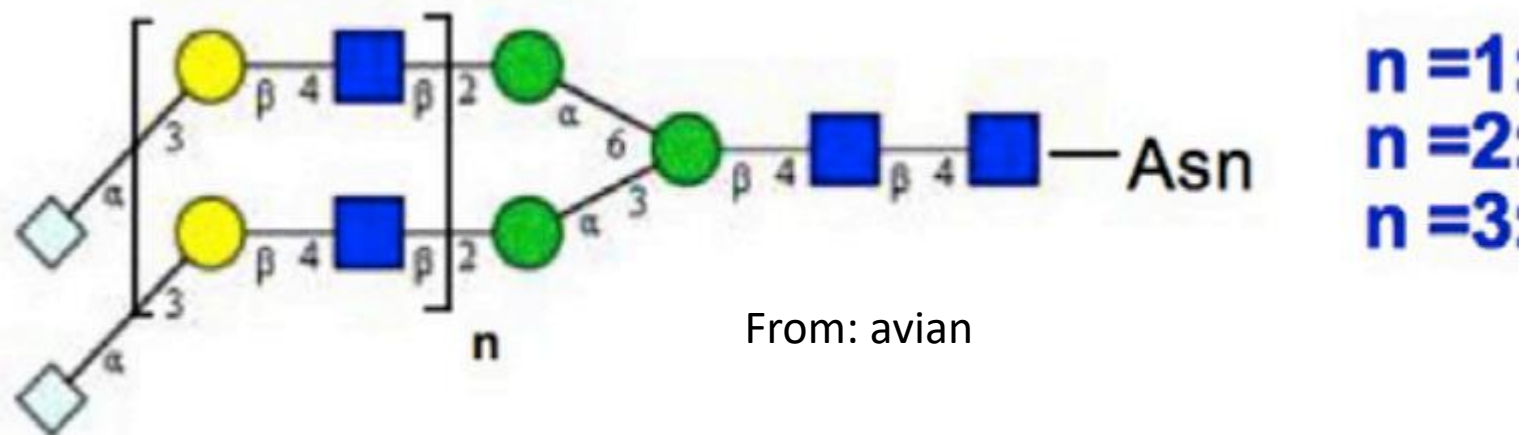
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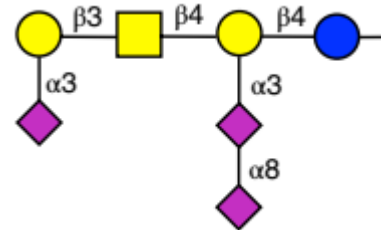
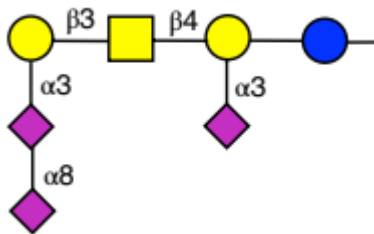
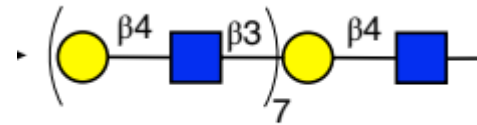
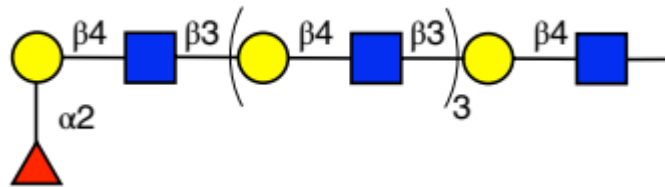
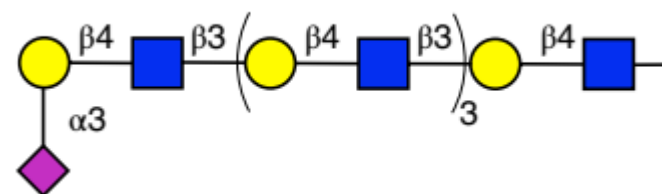
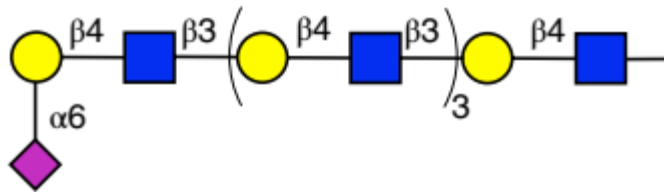
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Ref: Broszeit, Frederik etc, *Cell Reports*, **2019**, 27, 3284-3294.e6



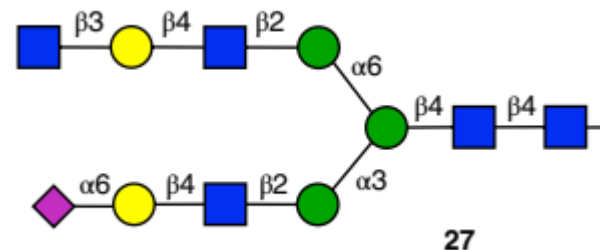
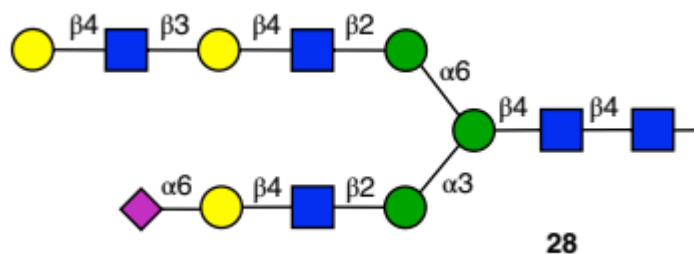
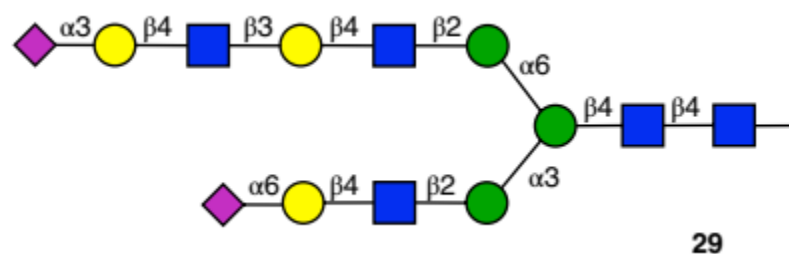
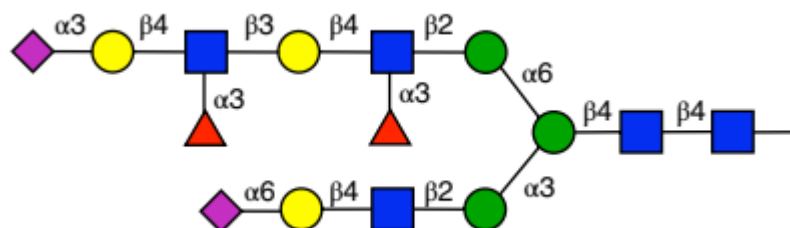


Ref: Broszeit, Frederik etc, *Cell Reports*, **2019**, 27, 3284-3294.e6



From: mammalian

Ref: Li, Tiehai; Liu, Lin; Wei, Na; Jeong-Yeh, Yang; Chapla, Digantkumar; Moremen, Kelley; Boons, Geert-Jan, *Nature Chemistry*, **2019**, 11, 229–236.



From: mammalian

Ref: Li, Tiehai; Liu, Lin; Wei, Na; Jeong-Yeh, Yang; Chapla, Digantkumar; Moremen, Kelley; Boons, Geert-Jan, *Nature Chemistry*, **2019**, 11, 229–236.