

A SYNTHETIC ROUTE TO GLYCOSYLATING AGENTS :  
 SYNTHESIS OF GLUCO $\beta$ (1 $\rightarrow$ 2)FUCCO  
 AND GLUCO $\beta$ (1 $\rightarrow$ 4)RHAMNO DISACCHARIDES

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Several methods are available for preparing carbohydrate disaccharides<sup>1-3</sup>. Most of these involve the generation of bromine at the glycosyl carbon atom. The bromo sugars are coupled with a free hydroxyl group of another monosaccharide to yield  $\alpha$ ,  $\beta$  or a mixture of  $\alpha$ + $\beta$  linked disaccharides. The nature of the linkage depends upon the reaction conditions as well as the type of protecting group at C-2. In this communication we report the generation of a glycosyl bromide by U.V. irradiation of a mixture of 1,2-O benzylidene glucopyranose derivative (1) and bromotrichloro methane in carbon tetrachloride. By adding  $n\text{-Bu}_4\text{N}^+\text{F}^-$  to the resulting mixture we ensured that only the  $\alpha$ -bromide was formed as the sole product. The bromo sugar was condensed under Hanessian conditions<sup>4</sup> with the free hydroxyls at C-2 of methyl 3,4-O isopropylidene - $\alpha$ -L-fucopyranoside and the free hydroxyl at C-4 of methyl 2,3-O-isopropylidene - $\alpha$ -L-rhamnopyranoside to yield the  $\beta$ -linked Gluco(1 $\rightarrow$ 2) fuco and the Gluco (1 $\rightarrow$ 4) rhamno disaccharides in yields of 82% and 88% respectively. Both disaccharides had  $^1\text{H}$  and  $^{13}\text{C}$  NMR consistent with their assigned structures.

## References:

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