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SUGAR-TRIAZOLE CONJUGATES VIA GLUCOSE C(3) MODIFICATION

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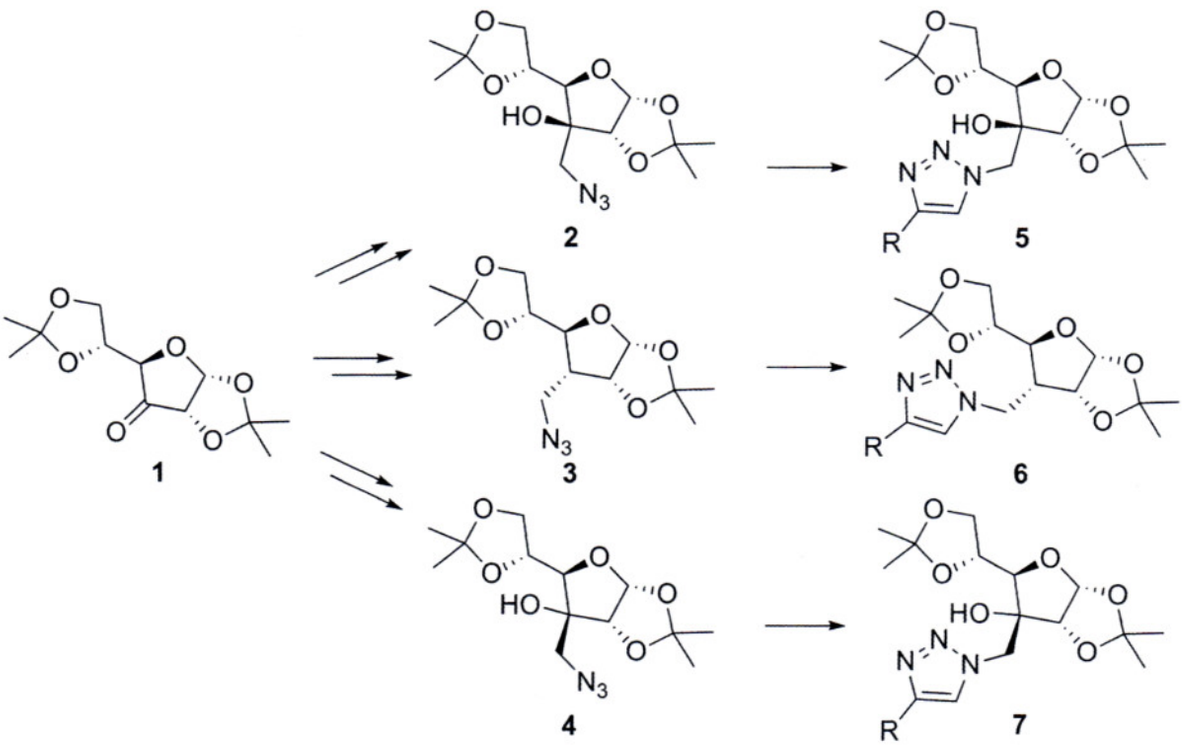
Carbohydrates play important role in many biochemical processes that are essential for life. Combination of carbohydrate and 1,2,3-triazole structural motifs has led to the conjugates that have proved to possess various biological activities.[1] Thus, among others sugar-triazole conjugates were synthesized and tested for glycosidase,[2] trans-sialidase[3] and glycogen phosphorylase[4] inhibiting activities, antitubercular activity,[5] and as nucleoside mimetics.[6]

In the field of triazolyl monosaccharides dominate compounds which contain the triazole moiety either at glycosidic position or at the terminal exocyclic carbon; namely at C(5) for furanoses and C(6) for pyranoses. Thus, we have elaborated possibilities to modify readily available D-glucose at C(3) position via incorporation of -CH_2- link between an azide and the sugar core in order to synthesize potentially biologically active sugar-triazole conjugates.



Starting with ketone **1** three out of four possible C(3) modified azides **2**, **3**, and **4** were synthesized and further converted to 1,4-disubstituted 1,2,3-triazoles via CuAAC.

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