

Vijayaganesh, N.; Jayaraman, N., 2009, "Synthesis of aryl, glycosyl and azido-septanosides through ring expansion of 1,2-cyclopropanated sugars", *J. Org Chem.* 74, 739 – 746.

In this Note, we report the synthesis of several new seven-membered cyclic monosaccharides, namely, the septanosides, bearing an aryl group as the aglycan. This study follows our previous report on establishing a new route to the synthesis of septanosides, through a ring expansion reaction on pyranosides. A cyclopropanation of the oxyglycals with alkoxy nucleophiles led to the formation of septanosides, with complete stereoselectivities for the addition of the nucleophiles at the anomeric center. Expanding the strategy of ring expansion, we undertook preparation of aryl septanosides. Interestingly, aryl septanosides are not known commonly in literature. When the phenoxides were utilized in the ring expansion, the aryl septanosides formed, although as anomeric mixtures, as opposed to the high stereoselectivities observed for the alkoxy nucleophiles. Further important observation was that the α -anomers do not induce diastereoselectivities in subsequent reactions, whereas the β -anomers of the septanosides continued to maintain high diastereoselectivities in the subsequent reactions.