

Daskhan, G. C.; Giri, M.; Jayaraman, N., 2017, “[3, 3]-Sigmatropic Rearrangement as a Powerful Synthetic Tool on Skeletal Modification of Unsaturated Sugars”, in *Coupling and Decoupling of Diverse Molecular Units in Glycosciences*, Eds.: Witczak, Z.; Bielski, R., Springer International Publishing AG, Heidelberg, Germany, pp. 133 – 154.

This review provides an account on carbon-carbon and carbon-heteroatom bond formation as a skeleton modification on monosaccharides, through [3,3]-sigmatropic rearrangement reactions on unsaturated sugar synthons, the generality of the reaction conditions and synthetic utilization of the resulting functionalized sugar building blocks. Major emphasis is laid on thermal rearrangement reactions, namely, Claisen, Ireland-Claisen, aza-Claisen and Johnson-Claisen rearrangements on carbohydrate-derived allyl vinyl ethers, silyl ketene acetals, allylic tri-chloroacetamides and allylic orthoesters, and these reactions offer a very promising prospect to access a large variety of biologically important, densely-functionalized and novel carbohydrate mimetics.