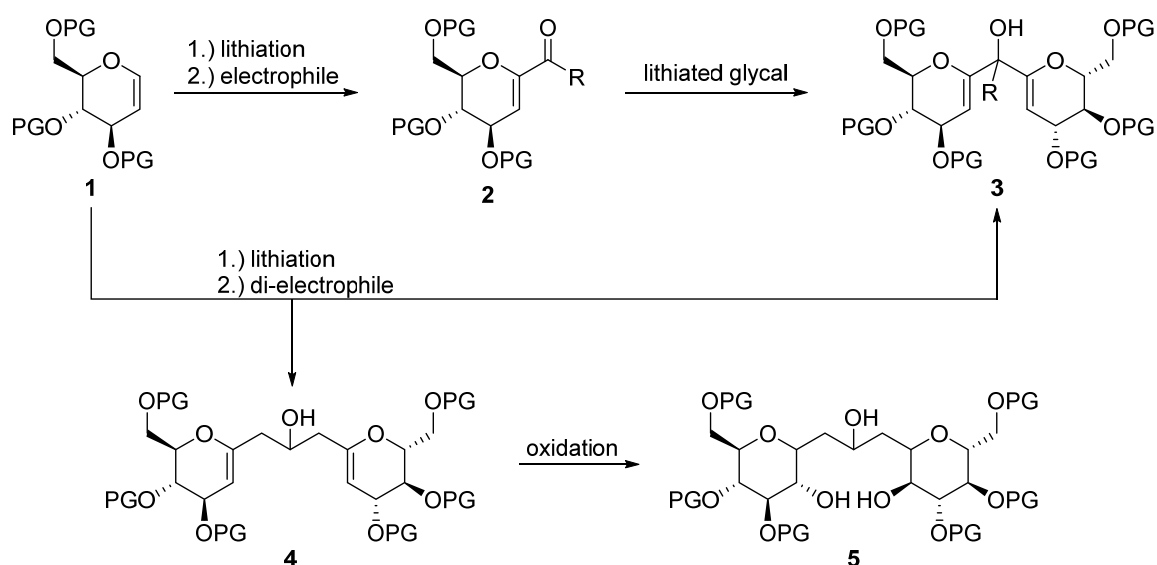


# THE SYNTHESIS OF CARBON BRIDGED C-DISACCHARIDES VIA LITHIATED GLYCALS

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Carbon bridged disaccharides have been reported to possess various medical applications, such as the reversible inhibition of glycosidases or disaccharidases [1-3]. Unlike in natural disaccharides, the glycosidic oxygen atom is replaced with a carbon atom or chain, displaying varying functional groups. Here, we extend the established use of lithiated glycals [4] for a convenient approach to functionalized carbohydrates and C-disaccharides.



Starting from readily available glycal **1**, a carbohydrate-electrophile **2** is generated in the presence of a strong lithium base and consecutive addition of a suitable carbonyl-derivative. The carbon bridged disaccharide **3** is then obtained with further use of a lithiated glycal as the nucleophile. In order to avoid the intermediate step, a di-electrophile is employed which also allows for introducing longer carbon bridges in C-glycosid **4**. This in return allows for a less sterically strained C2-position in following oxidations to C-disaccharide **5**.

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