

## SugarFun2: carbohydrate functionalized carbohydrates

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The use of biopolymers from renewable resources for the fabrication of novel and sophisticated materials for technological as well as medicinal applications is an important research field today. As a matter of fact, carbohydrates are amongst the most abundant class of biomolecules, mostly biodegradable as well as non toxic which makes them highly versatile raw materials to be used in this respect. Derivatisation of polysaccharides is the most important path to impart further functionalities into the biopolymers and to tailor properties of the biopolymers.[1] In the field of cellulose chemistry, many derivatives have been developed and some are even produced in industrial scale.[2]. In order to tailor the properties of biobased materials and systems, chemical modification of oligo- and polysaccharides to introduce customised functionalisation is an expedient approach.

We have functionalized cellulose with different monosaccharides by azide-alkyne click chemistry approach. [3] Depending on the monosaccharide scaffold different properties can be introduced to the polymeric backbone. For example, if the decorating sugar entity presents the *D-manno* configuration, the obtained mannose-modified cellulose derivatives are potential ligands for *manno*-spezific lectins such as FimH of 1-fimbriated bacteria. Details on synthetic approaches and biological evaluation will be presented.

### Bibliographic references:

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