

# NOVEL SYNTHESIS OF NEOGLYCOPOLYMERS BY A COMBINATION OF “CLICK CHEMISTRY” AND LIVING RADICAL POLYMERIZATION

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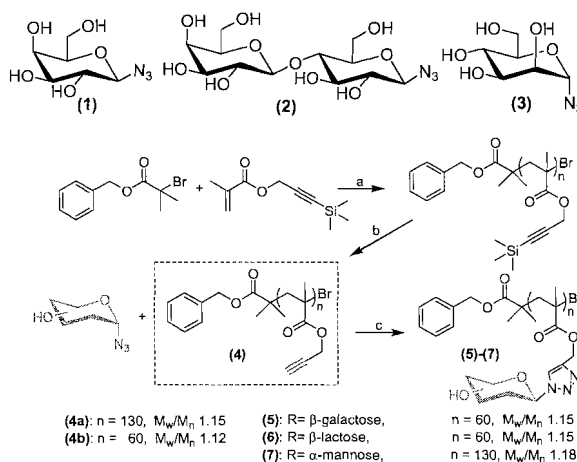
“Click chemistry” is a term used to describe a several classes of chemical transformations where a species is clicked onto another. An example of this reaction, the Huisgen 1,3-dipolar cycloaddition,<sup>1,2</sup> has been receiving increasing interest following the emergence of enormous improvement in regioselectivity and yields in the presence of copper(I) catalysts. It has a number of attractive features including high efficiency and stereoselectivity are coupled with excellent functional group compatibility.<sup>3,4</sup>

We recently reported that synthetic neoglycopolymers could be obtained by combining two very powerful technique such as Cu(I)-catalysed Huisgen 1,3-dipolar cycloaddition and transition metal mediated living radical polymerization (TMM LRP), also known as ATRP.

Synthetic glycochemicals have attracted increasing interest as carbohydrates are involved in a number of important biological processes involving highly specific events in cell-cell recognition, cell-proteins interactions and the targeting of hormones, antibodies and toxins.<sup>5-9</sup>

Lectins are proteins that are used in Nature as decoders for deciphering the complex information contained in protein-binding oligosaccharides. Some lectins do not discriminate between  $\alpha$  and  $\beta$  anomers, while others require not only the correct anomeric structure but also a specific sequence of sugars for binding.

In the present work we designed a new class of neoglycopolymers in which the carbohydrate moieties are bound to a macromolecular scaffold through a 1,4-triazole ring directly connected to the sugar anomeric carbon atoms.



## Reference

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