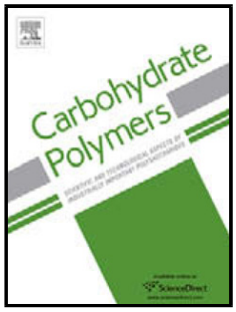

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Controlled Rapid Synthesis and *In Vivo* Immunomodulatory Effects of LM α(1,6) Mannan with an Amine Linker

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Highlights:

- LM glycans with amine linker rapidly prepared by size stereo regiocontrolled method.
- Incorporation of a linker and polymerization are done in a single step.
- The size of the glycan is controlled through the concentration of linker.
- A versatile amine linker facilitates protein conjugation.
- Glycan conjugation improves *in vivo* immune responses of the vaccine tetanus toxoid.

Abstract

The synthetic lipomannan (LM) α(1,6)mannans, already equipped with an amine linker on the reducing end, are rapidly synthesized in a size-, regio-, and stereocontrolled reaction. The size of the mannans is regulated through the concentration of the linker, applied during the controlled ring-opening polymerization reaction. The versatile amine linker enables a