

研究论文

## 几丁寡糖结构类似物的化学合成

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**摘要** 合成了两个结构新颖的几丁寡糖结构类似物:  $\beta$ -1,3连接的乙酰氨基葡聚二糖和 $\beta$ -1,3连接的乙酰氨基葡聚三糖, 并通过核磁共振和质谱分析确证了其化学结构. 与天然的几丁寡糖不同, 本文所合成的葡聚二糖和葡聚三糖均采取了1 $\rightarrow$ 3糖苷键的连接方式, 为研究几丁寡糖诱导植物抗病活性与寡糖区域异构体之间的关系提供有用材料.

**关键词** [几丁寡糖类似物](#)  [\$\beta\$ -1,3-\*N\*-乙酰氨基葡聚二糖](#)  [\$\beta\$ -1,3-\*N\*-乙酰氨基葡聚三糖](#)

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## Chemical Synthesis of *N*-Acetylchitooligosaccharide Analogues

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**Abstract** It has been reported that *N*-acetylchitooligosaccharides can act as the chemical signals in the plant induced resistance. In order to study the mechanisms and search new compounds with a high biological activity, utilizing *N*-phthalic acyle group as the protective group of amine, and thioethyl as the leaving group at the reducing terminal, two novel *N*-acetylchitooligosaccharide analogues,  $\beta$ -1,3-*N*-acetamido-gluco-disaccharide and  $\beta$ -1,3-*N*-acetamido-gluco-trisaccharide, were designed and synthesized by amino glucose as the starting material. All synthesized compounds were characterized by <sup>1</sup>H NMR, <sup>13</sup>C NMR and HRMS. Being different with the natural *N*-acetylchitooligosaccharides, the two synthesized analogues have a backbone of 1 $\rightarrow$ 3 linked structure, and they can be applied to study of the relationship between the induced resistance of plants to diseases by *N*-acetylchitooligosaccharides and the backbone structures.

**Key words** [N-Acetylchitooligosaccharide analogues](#)  [\$\beta\$ -1,3-\*N\*-Acetamido-gluco-disaccharide](#)  [\$\beta\$ -1,3-\*N\*-Acetamido-gluco-trisaccharide](#)

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