Carbohydrate
RESEARCH

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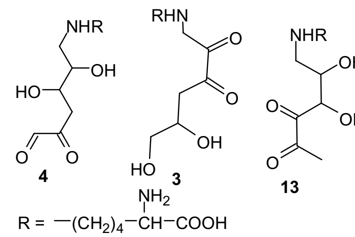
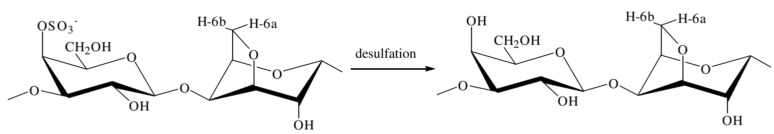
Contents



The formation pathway of the dideoxyosone **4** was established and syntheses for the quinoxalines of the dideoxyosones **3** and **13** are described.



κ-carrageenan β-carrageenan

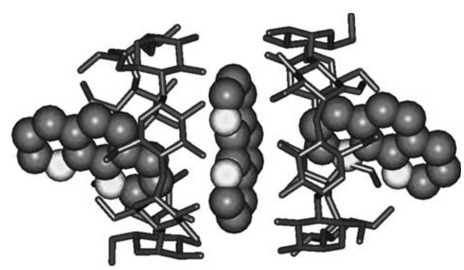
OAc (70%)
↓
6
→3)-α-D-Man*p*-(1→3)-β-D-Xyl*p*-(1→3)-α-D-Glc*p*A-(1→
4 4
↑ ↑
β-D-Glc*p*-(1 α-D-Man*p*-(1

β-Ara4N-(1-*P*-6)-α-GlcN-(1-4)-α-Kdo-(2-4)┐
α-Gal-(1-2)-α-Man-(1-4)-α-Man-(1-5)-α-Kdo-(2-6)-β-GlcN-(1-6)-α-GlcN1*P*
R-3)-α-Gal-(1-2)-α-Man-(1-6)┘ └(3-2)-α-Kdo

where R is H or 4-O-Me-α-L-Fuc-(1-2)-4-O-Me-β-Hep-(1-3)-α-GlcNAc-(1-2)-β-Man-(1-3)-β-ManNAc-(1-4)-α-Gal-(1-4)-β-Hep-(1-3)-β-GalNAc-(1- where Hep is a residue of D-*glycero*-D-*galacto*-heptose.

```
      α-Glc-(1→3)┐
         R→4)-β-Man-(1→-4)-α-Man-(1→5)-Kdo-(2→6)-β-GlcN-(1→6)-GlcN
α-GalNAc-(1→2)┘ β-Glc-(1→2)┘
        α-Glc-(1→2)┘
```

where R is an O-chain, linked via a β-bacillosamine residue.



NOTE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→3)-β-D-GalpNAc-(1→4)-β-D-GlcpA-(1→3)-β-D-GalpNAc-(1→2)-α-D-GalpA-(1→
                                                          6
                                                          |
                                                    2S,8S-AlaLys
```

OTHER CONTENTS

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COVER

Well-defined glycoforms of glycoproteins can easily be obtained by oxidative coupling of synthetic thioaldoses with proteins that have a cysteine moiety in lieu of an asparagine residue carrying natural N-linked oligosaccharides. In vitro glycosylation offers several advantages such as quantitative conjugation, incorporation of oligosaccharides that display high bioactivities and the possibility of using convenient bacterial or yeast protein expression systems. The figure is related to Geert-Jan Boons' *Carbohydrate Research Award* paper, Carbohydr. Res., **2004**, *339*, 181–193.

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