



Universiteit  
Leiden  
The Netherlands

## Semisynthetic glycopeptide antibiotics

Groesen, E. van

### Citation

Groesen, E. van. (2022, October 12). *Semisynthetic glycopeptide antibiotics*. Retrieved from <https://hdl.handle.net/1887/3480199>

Version: Publisher's Version

[Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

License: <https://hdl.handle.net/1887/3480199>

**Note:** To cite this publication please use the final published version (if applicable).

# **Semisynthetic Glycopeptide Antibiotics**

Emma van Groesen

The work in this thesis was financially supported by  
the European Research Council

The printing of this thesis was financially supported by  
Universiteit Leiden  
Shimadzu Benelux BV

The cover art is made by  
Wim van Groesen  
'Steiger Lysvik Zweden'  
1986  
Houtskool op papier (75x100 cm)

This thesis was printed by  
Ipskamp

# Semisynthetic Glycopeptide Antibiotics

Proefschrift

ter verkrijging van  
de graad van doctor aan de Universiteit Leiden,  
op gezag van rector magnificus prof.dr.ir. H. Bijl,  
volgens besluit van het college voor promoties  
te verdedigen op woensdag 12 oktober 2022

klokke 15:00 uur

door

Emma van Groesen  
geboren te Goirle  
in 1994

**Promotores:**

Prof. dr. N.I. Martin  
Prof. dr. M. van der Stelt

**Promotiecommissie:**

Prof. dr. G.P. van Wezel  
Prof. dr. A. Briegel  
Prof dr. H.S. Overkleef  
Dr. M.H Weingarth (Utrecht University)  
Dr. D-J. Scheffers (University of Groningen)

## **Table of Contents**

<b>Chapter 1</b>	7
Recent advances in therapeutic semisynthetic glycopeptide antibiotics (2014-2022)	
<b>Chapter 2</b>	55
The guanidino lipoglycopeptides – the development and potent <i>in vitro</i> antibacterial activity	
<b>Chapter 3</b>	85
The guanidino lipoglycopeptides – properties, mechanism of action, and <i>in</i> <i>vivo</i> efficacy	
<b>Chapter 4</b>	137
Vancomyxins: Vancomycin-Polymyxin Nonapeptide Conjugates	
<b>Chapter 5</b>	167
Vancomycin-trihydroxamate sideromycins – a Trojan-horse approach	
<b>Chapter 6</b>	201
Summary	
<b>Appendices</b>	207
Nederlandse Samenvatting	
List of abbreviations	
List of publications	
Curriculum vitae	

