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Synthesis, structure and epitope mapping of well-defined *Staphylococcus aureus* capsular polysaccharides

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**Synthesis, structure and epitope mapping of well-defined
Staphylococcus aureus capsular polysaccharides**

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Table of contents

List of abbreviations	4
Chapter 1	7
General introduction and outline	
Chapter 2	27
Long, synthetic <i>Staphylococcus aureus</i> type 8 capsular oligosaccharides reveal structural epitopes for effective immune recognition	
Chapter 3	87
Synthesis, conformational analysis and antibody binding of <i>Staphylococcus aureus</i> capsular polysaccharide type 5 oligosaccharides	
Chapter 4	137
Investigation of trisaccharide repeating unit frameshifts of <i>Staphylococcus aureus</i> capsular polysaccharide type 5 and 8 to define the minimal binding epitope for antibody recognition	
Chapter 5	177
Synthesis of a set of <i>Staphylococcus aureus</i> capsular polysaccharide type 1 oligosaccharides carrying taurine esters	
Chapter 6	223
Summary and future prospects	
Samenvatting in het Nederlands	239
Resume på dansk	242
List of publications	245
Curriculum vitae	246
Acknowledgement	247

List of Abbreviations

Å	Ångström	ELISA	enzyme-linked immunosorbent assay
Ac	acetyl	equiv.	equivalent
Alloc	<i>N</i> -allyloxycarbonyl	Et	ethyl
AMR	antimicrobial resistance	Fuc	fucose
Aq.	aqueous	Gal	galactose
Ar	aryl	GalA	galacturonic acid
BAIB	(diacetoxyiodo)benzene	Glc	glucose
BCR	B-cell receptor	GlcA	glucuronic acid
Bn	benzyl	h	hour(s)
BSP	1-benzenesulfinyl piperidine	HATU	hexafluorophosphate azabenzotriazole tetramethyl uronium
Bu	butyl	HEPES	4-(2-hydroxyethyl)-1-pipera- zineethanesulfonic acid
Bz	benzoyl	HFIP	hexafluoroisopropa-1-ol
C	chair	HMBC	heteronuclear multiple bond cor- relation
cat.	catalytic	HPLC	high-performance liquid chro- matography
Cbz	benzoyloxycarbonyl	HSQC	heteronuclear single quantum coherence
COSY	homonuclear correlation spec- troscopy	Hz	hertz
CP	capsular polysaccharide	<i>J</i>	coupling constant
C _q	quaternary carbon atom	K	kelvin
CRM ₁₉₇	cross-reactive material 197	Lev	levulinoyl
CSA	camphore-10-sulfonic acid	LTA	lipoteichoic acid
d	doublet	M	molar or mega
DCE	1,2-dichloroethane	m	multiplet
DCM	dichloromethane	m/z	mass over charge ratio
dd	double of doublet	mAb	monoclonal antibody
ddd	doublet of double doublets	MALDI	matrix assisted laser desorp- tion/ionization
dddd	double doublet of double dou- blets	Man	mannose
DDQ	2,3-dichloro-5,6-dicyano-1,4- benzoquinone	ManA	mannuronic acid
ddt	doublet of double triplets	Me	methyl
DIC	<i>N,N'</i> -diisopropylcarbodiimide	MHC II	major histocompatibility com- plex II
DIPEA	<i>N,N</i> -diisopropylethylamine	min	minute(s)
DMAP	4-dimethylaminopyridine	MM	molecular mechanics
DMF	dimethylformamide	MRSA	methicillin-resistant <i>Staphylo- coccus aureus</i>
DMSO	dimethyl sulfoxide		
DP	degree of polymerization		
DPS	diphenylsulfoxide		
dq	double quartet		
dt	double triplets		
DTBS	di- <i>tert</i> -butylsilylidene		
dtd	double of triple doublets		

MurA	muramic Acid	STD	saturation transfer difference
Nap	2-methylnaphthyl	t	triplet
NBS	<i>N</i> -bromosuccinimide	TBAF	tetra-butylammonium fluoride
NIS	<i>N</i> -iodosuccinimide	TBDPS	<i>tert</i> -butyldiphenylsilyl
NMR	nuclear magnetic resonance	TBS	<i>tert</i> -butyldimethylsilyl
NOE	nuclear Overhauser effect	TCA	trichloroacetyl
NOESY	nuclear Overhauser enhance- ment spectroscopy	td	triple doublet
OS	oligosaccharide	Temp	temperature
<i>p</i>	para	TEMPO	2,2,6,6-tetramethyl-1-piperidi- nyloxy
p	pentet	TES	triethylsilane
pAb	polyclonal antibody	Tf	trifyl: trifluoromethanesulfonyl
PBS	phosphate-buffered saline	TFA	trifluoroacetic acid
Ph	phenyl	THF	tetrahydrofuran
Pico	picoloyl	TLC	thin layer chromatography
PMB	4-methoxybenzyl	TMS	trimethylsilyl
PMP	4-methoxyphenyl	TOCSY	total correlation spectroscopy
ppm	parts per million	Troc	trichloroethyl carbamate
Pr	propyl	tt	triple triplet
PS	polysaccharide	TTBP	2,4,6-tri- <i>tert</i> -butylpyrimidine
q	quartet	UDP	uridine diphosphate
qd	quartet of doublets	UV	ultraviolet
ROESY	rotating frame Overhauser effect spectroscopy	VA-044	2,2'-azobis[2-(2-imidazolin-2- yl)propane] dihydrochloride
rt	room temperature	VRSA	vancomycin-resistant <i>Staphylo- coccus aureus</i>
RU	repeating Unit	WTA	wall teichoic acid
s	singlet	δ	chemical shift
<i>S. aureus</i>	<i>Staphylococcus aureus</i>		
sat.	saturated		