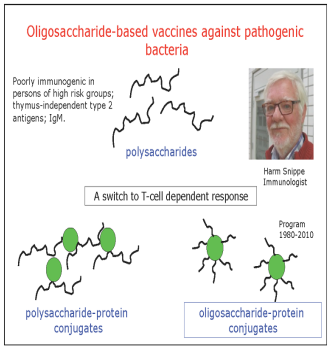
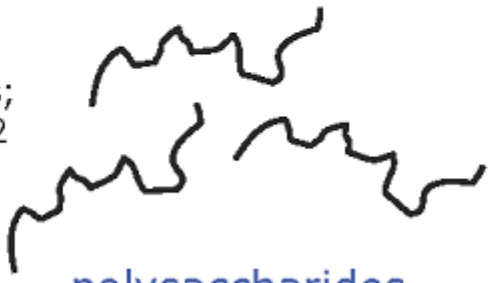


Oligosaccharide-based Vaccines

Description

Oligosaccharide-based vaccines against pathog bacteria

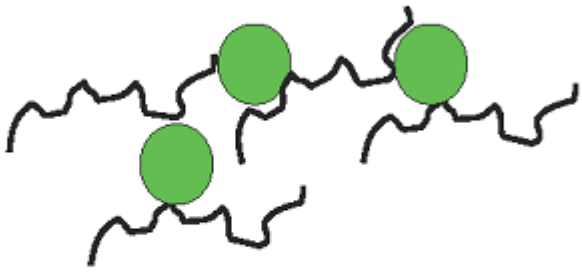
Poorly immunogenic in persons of high risk groups; thymus-independent type 2 antigens; IgM.



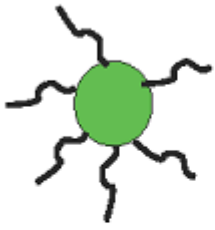
polysaccharides

Harm
Immu

A switch to T-cell dependent response



polysaccharide-protein conjugates

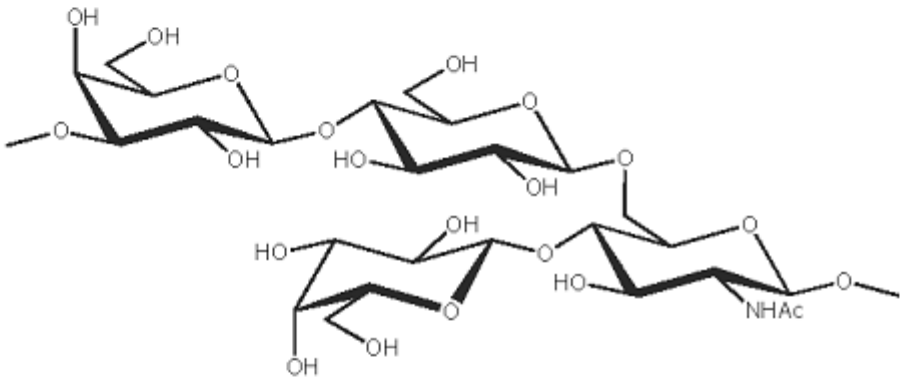


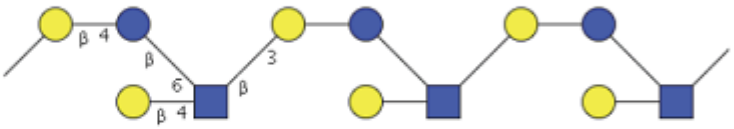
oligosaccharide-pr
conjugates

CPS of *S. pneumoniae* serotype 14 (Pn14PS

[3)-β-D-Gal*p*-(1→4)-β-D-Glc*p*-(1→6)-β-D-Glc*p*NAc-(1→]$_n$

β-D-Gal*p*-(1→4)





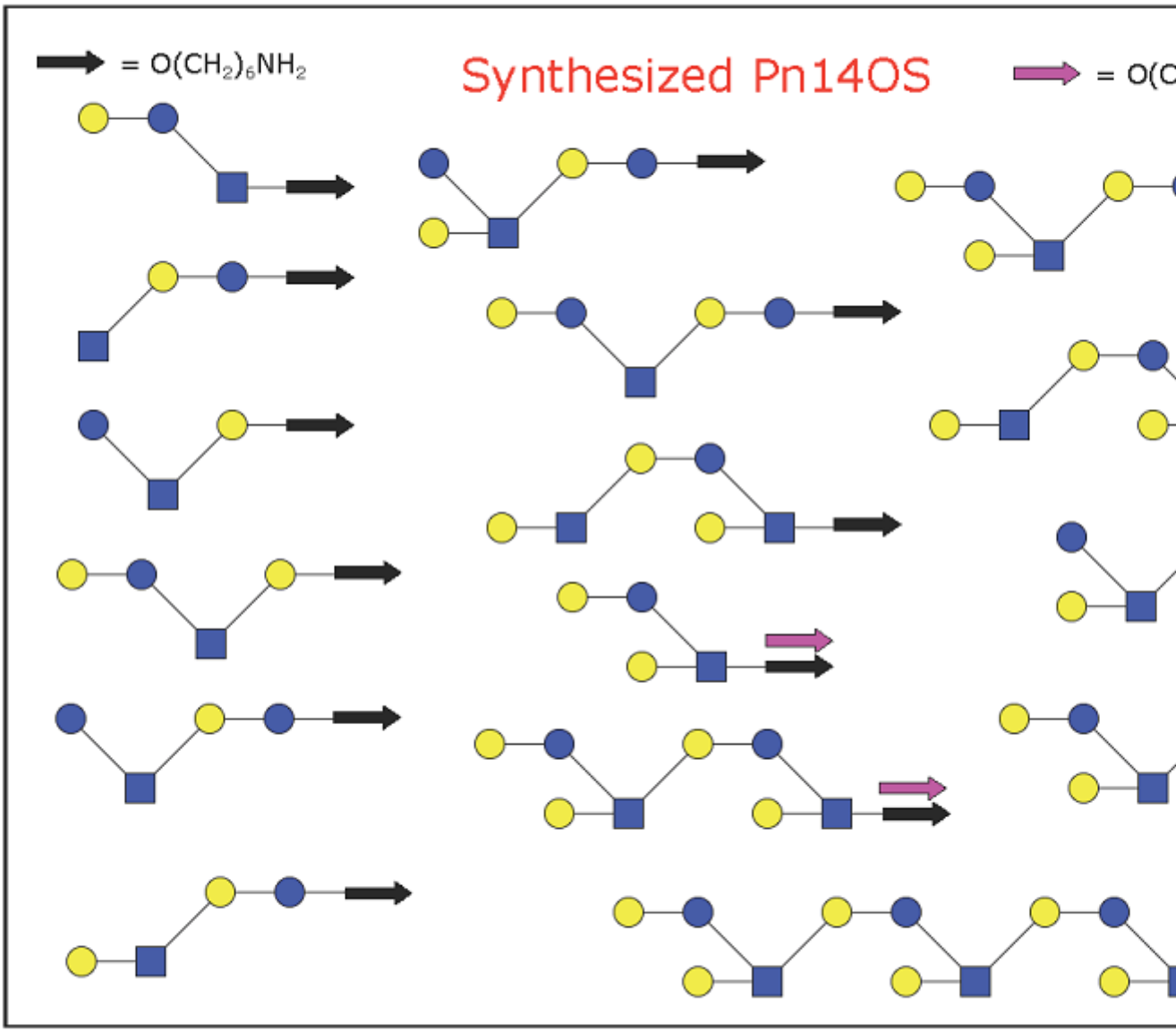
= Gal = Glc = GlcNAc

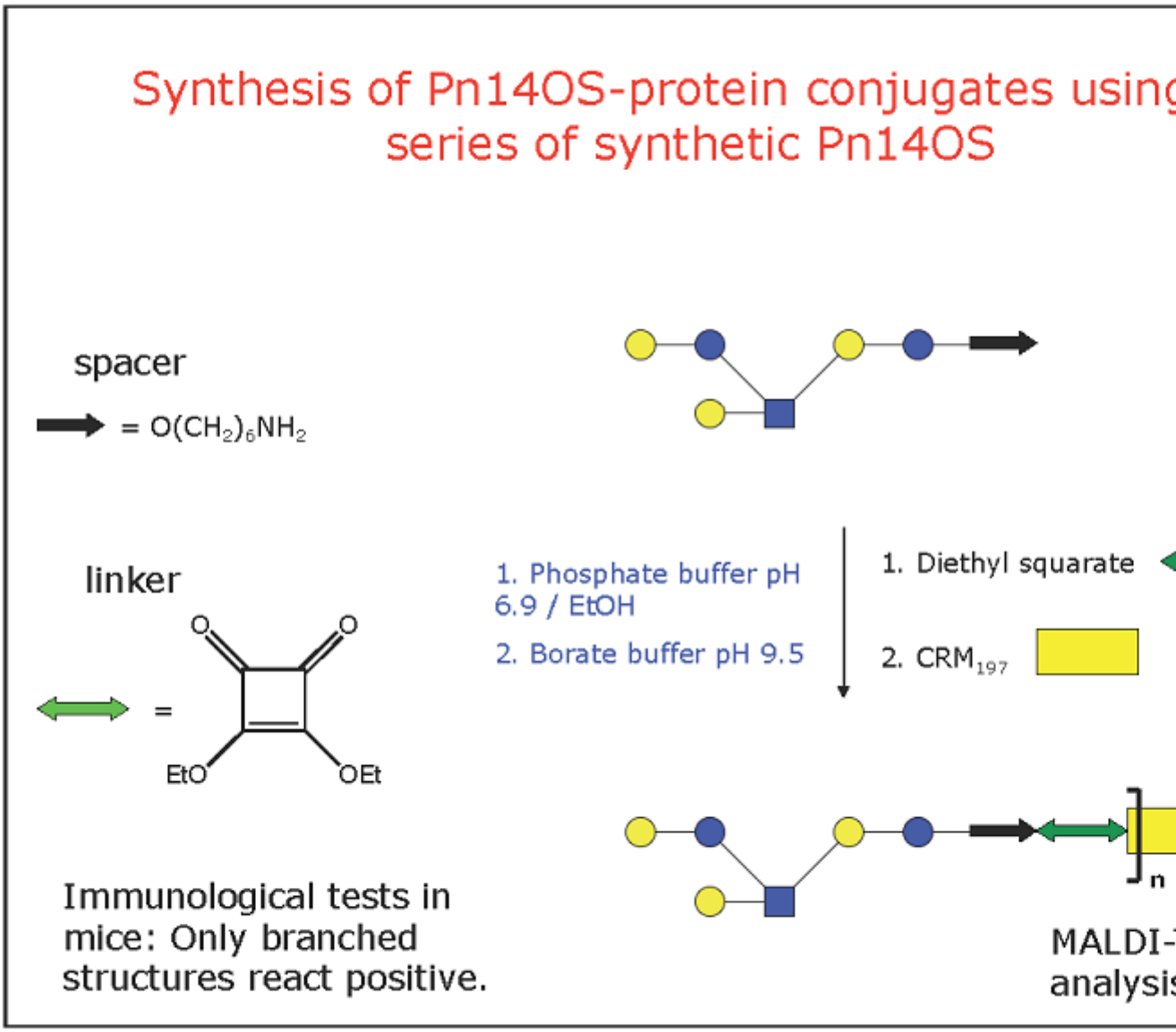
Oligosaccharide approach:

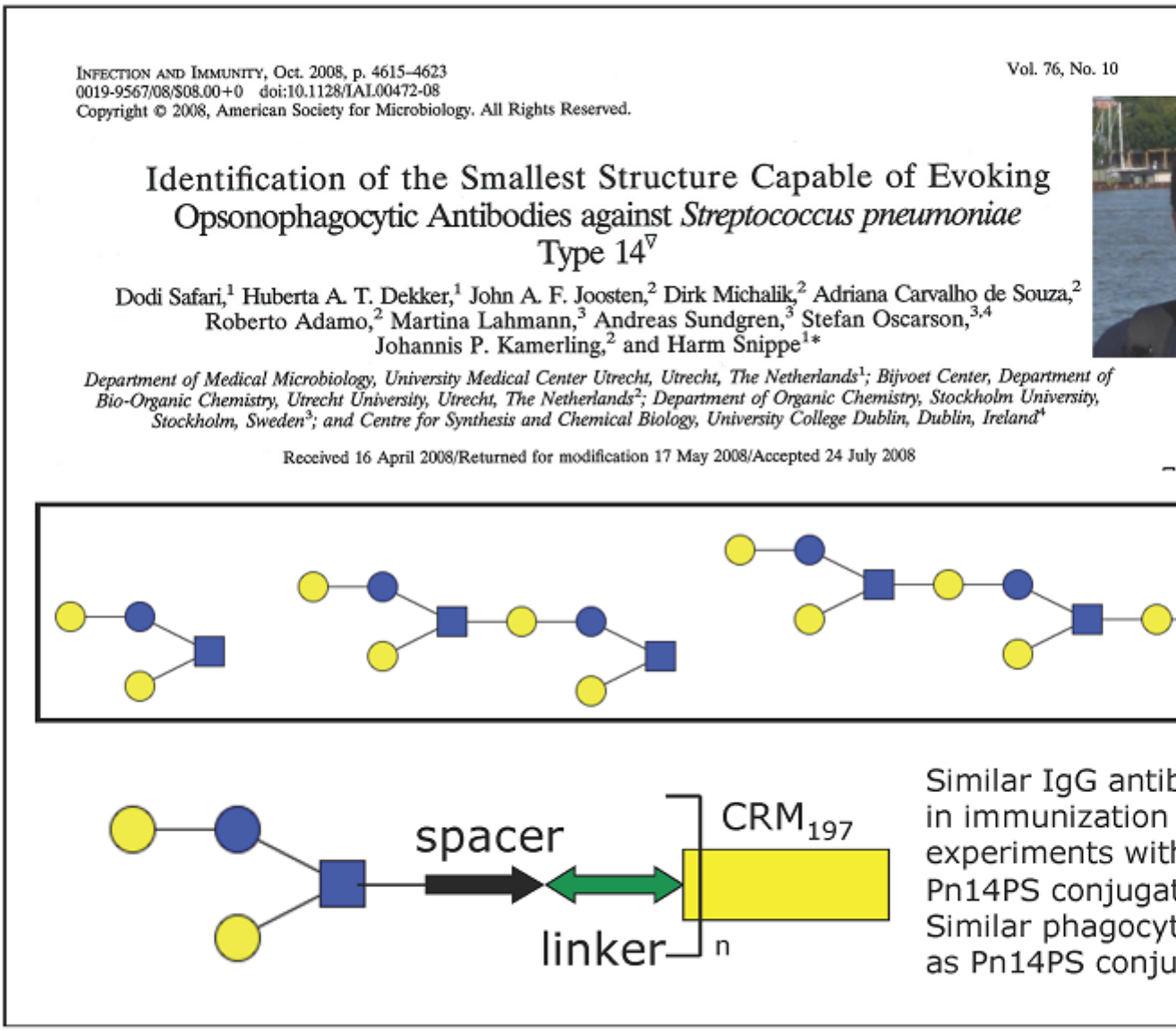
From CPS: Hydroly
mixtures of oligosa
with respect to cha
and presented epit
conjugation.

From CPS: Isolatio
specific fragments
hydrolysis mixture
conjugation.

Our approach: Via
synthesis (eventua
combined with enz
synthesis) of
oligosaccharides fr
monosaccharides.


= O(CH2)6NH2
Synthesized Pn14OS
= O(C


Synthesis of Pn14OS-protein conjugates using
series of synthetic Pn14OS
spacer
= O(CH2)6NH2
linker
=
EtO
OEt
1. Phosphate buffer pH 6.9 / EtOH
2. Borate buffer pH 9.5
1. Diethyl squarate
2. CRM197
n
Immunological tests in mice: Only branched structures react positive.
MALDI-
analysis



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Identification of the Smallest Structure Capable of Evoking Opsonophagocytic Antibodies against *Streptococcus pneumoniae* Type 14[▽]

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Similar IgG antib
in immunization
experiments with
Pn14PS conjugat
Similar phagocyt
as Pn14PS conju

Category

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