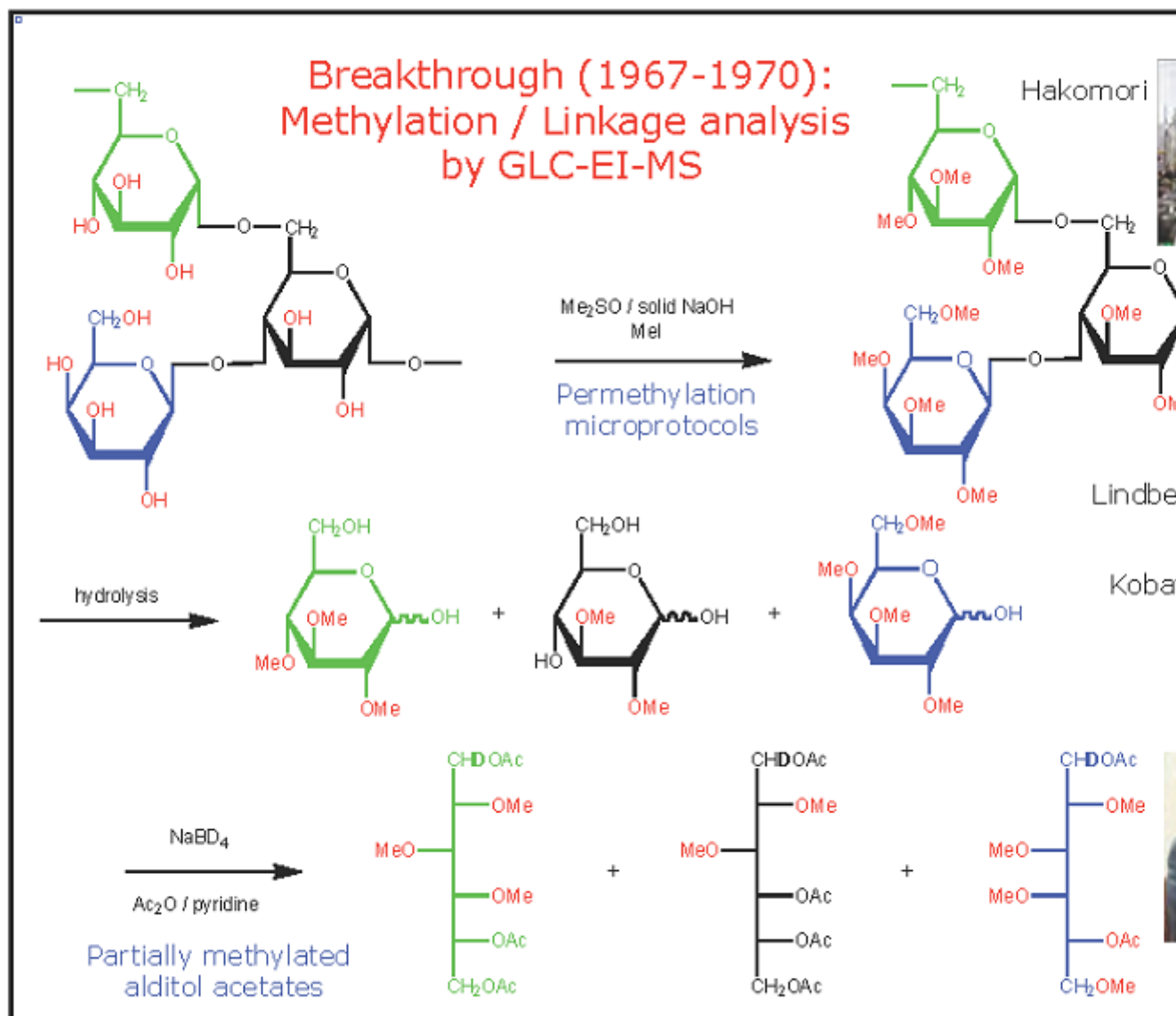


Glycosidic Linkage Analysis

Description

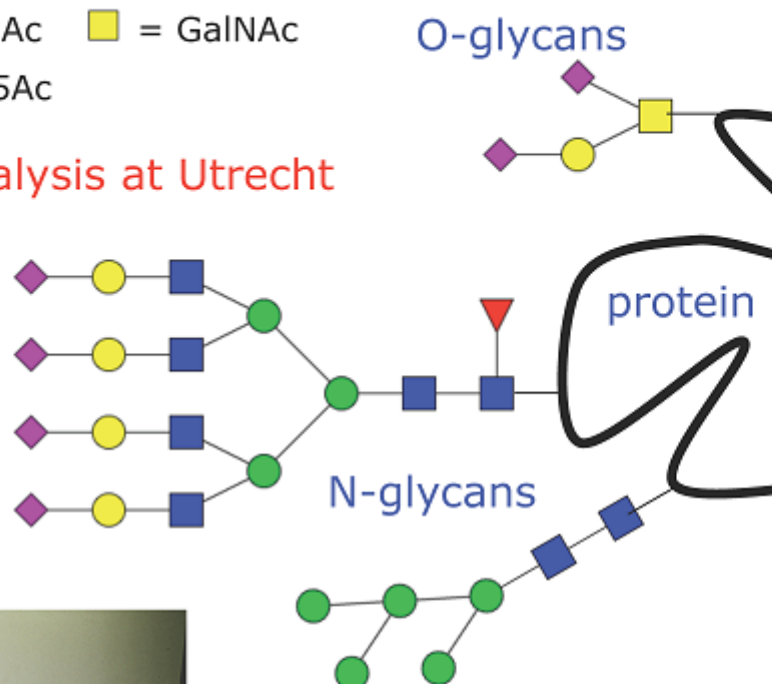
Methylation – Glycan -Polysaccharides



● = Gal ● = Glc ■ = GlcNAc ■ = GalNAc
 ● = Man ▲ = Fuc ◆ = Neu5Ac

Glycoprotein glycan analysis at Utrecht University

360 MHz ^1H NMR
 spectroscopy.
 First instrument in
 Europe / National
 facility.
 1974



Development of 1D ^1H
 structural-reporter-gro
 concept (library), base
 typical chemical shifts
 the bulk proton region

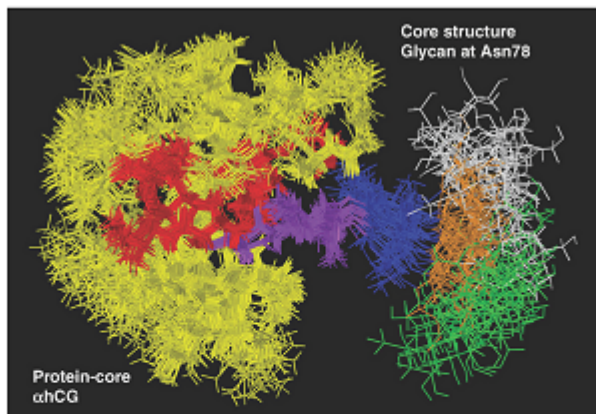
(International) collabor

A time of structure revisions and finding new elements

Glycoproteins from physiological body fluids and plants.

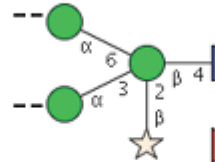
Rec. therapeutic glycoproteins (e.g. EPO, antibodies, FSH, α -glucosidase).

Urinary oligosaccharides from patients with lysosomal diseases. First sialidosis patient in Netherlands.

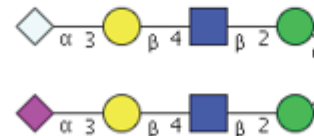


NMR of intact glycoproteins, e.g. structure of α -hCG

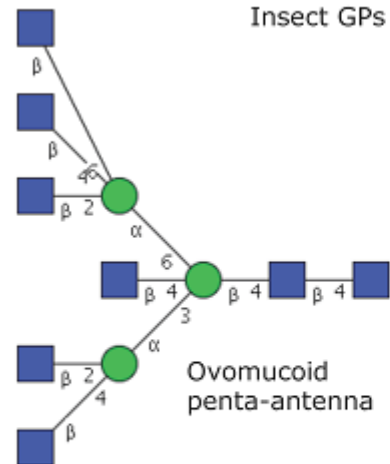
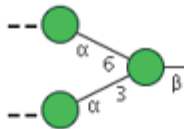
Plant GPs and hemocyanins



Rec. GPs Neu5Gc



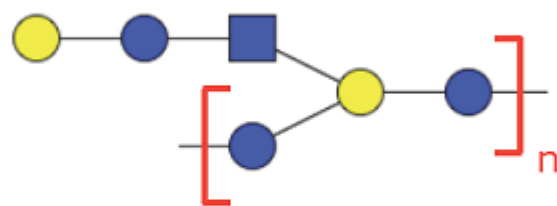
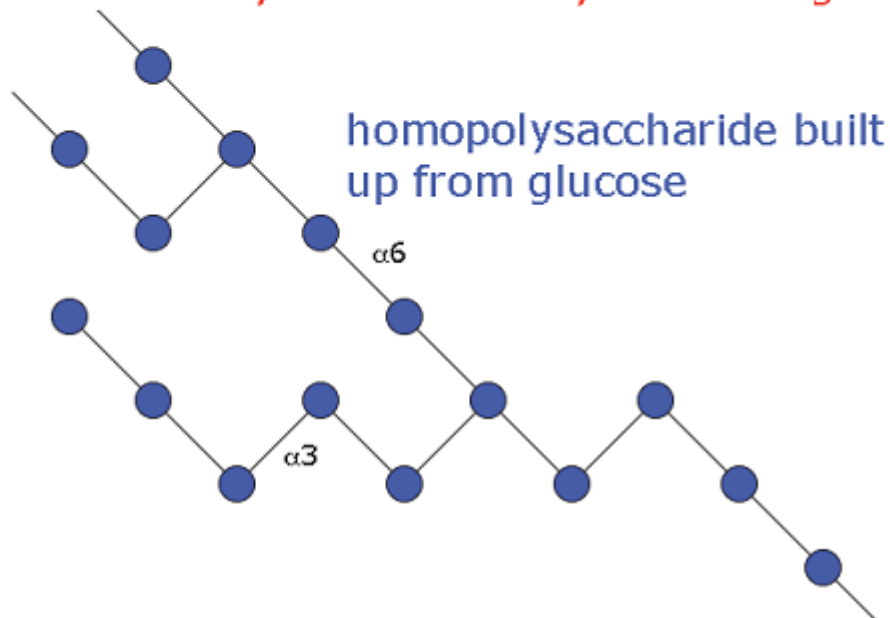
Insect GPs



Ovomucoid penta-antenna



Polysaccharide analysis at Utrecht University and University of Groningen



heteropolysaccharide built up from repeating hexasaccharide

Development of ^1H NMR structural-reporter-group concepts (libraries)

Bacterial polysaccharides (with repeating units and CPS).

Bacterial polysaccharides (with non-repeating units) (EPS).

Plant polysaccharides (with non-repeating units).

Arabinoxylans, AX
 α - and β -Glucans.
 Galactans, GOS and sialylated GOS.

Applications

Polysaccharide engineering

Category

1. News