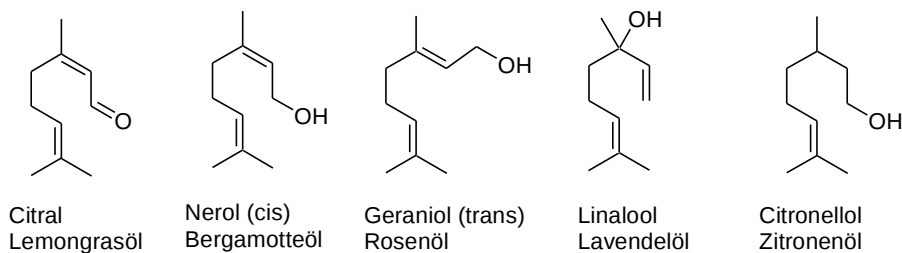


Einige Terpene und Steroide

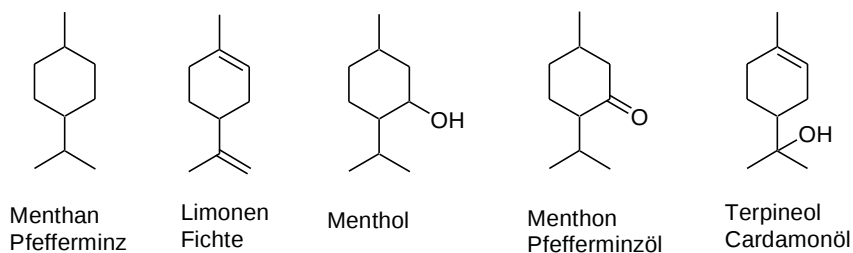
Terpene

- Monoterpene

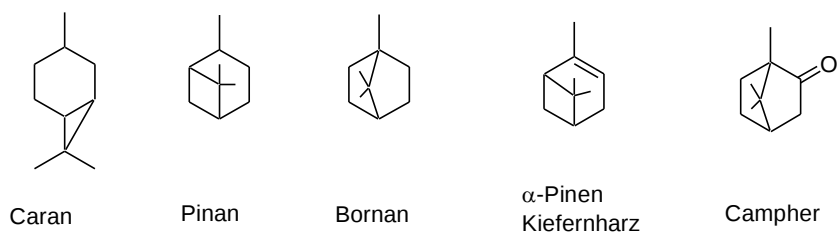
- acyclische



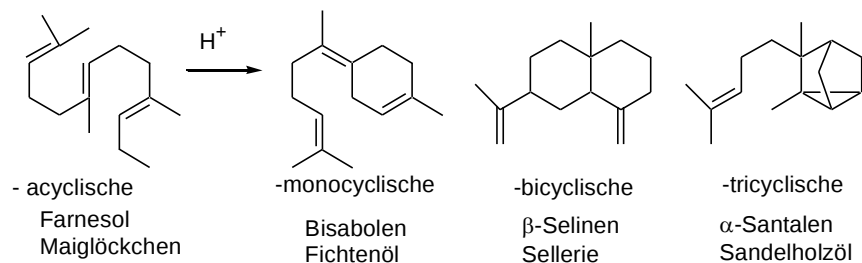
- monocyclische



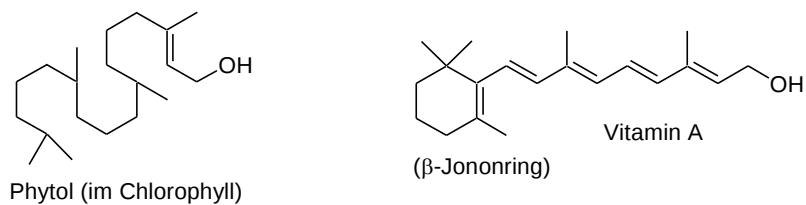
- bicyclische



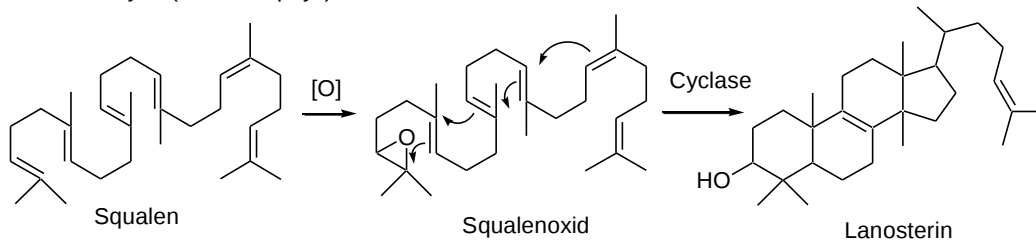
- Sesquiterpene



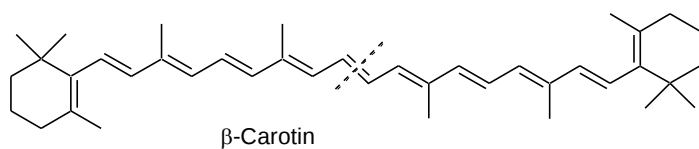
- Diterpene



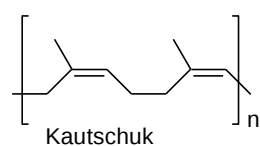
- Triterpene



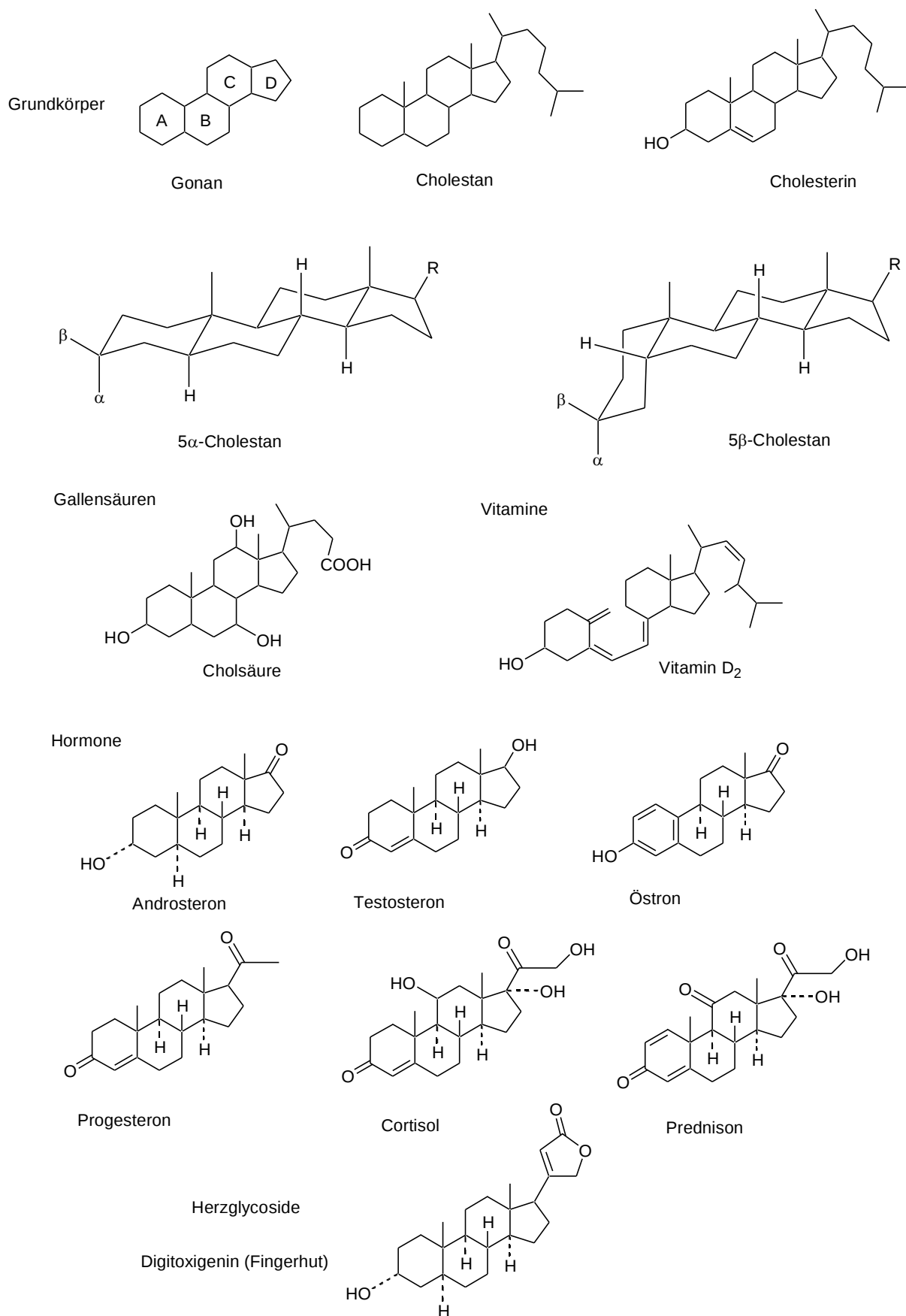
- Tetraterpene

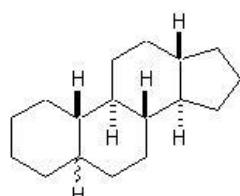


- Polyprylene

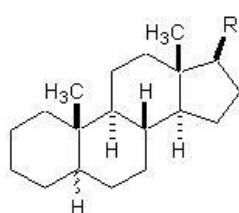


Steroide



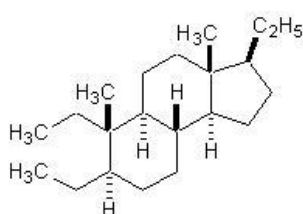


5α-Gonan
5β-Estran



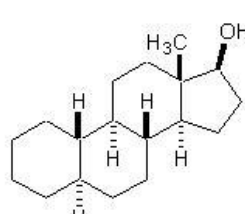
R	Trivialname
H	5ξ-Androstan
C ₂ H ₅	5ξ-Pregnan
CH(CH ₃)CH ₂ CH ₂ CH ₃	5ξ-Cholan
CH(CH ₃)CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂	5ξ-Cholestan
CH(CH ₃)CH ₂ CH ₂ CH(CH ₃)CH(CH ₃) ₂	5ξ-Ergostan
CH(CH ₃)CH ₂ CH ₂ CH(C ₂ H ₅)CH(CH ₃) ₂	5ξ-Stigmastan

Ringspaltung = seco



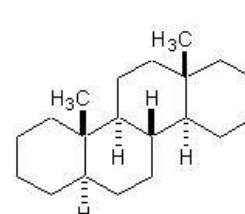
2,3-Seco-5α-Pregnan

ein CH₂ weniger = nor



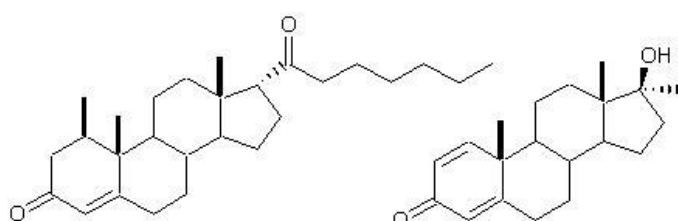
19-Nor-5α-Androstan-17β-ol
5α-Estran-17β-ol

ein CH₂ mehr = homo



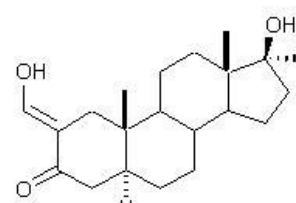
D-Homo-5α-Androstan

Anabole Steroide

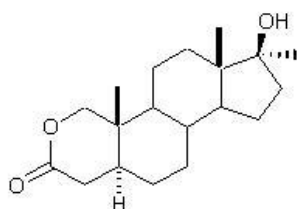


Primobolan

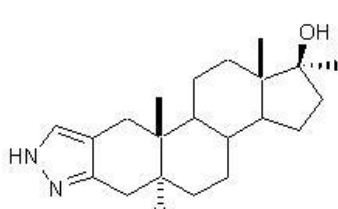
Dinabol



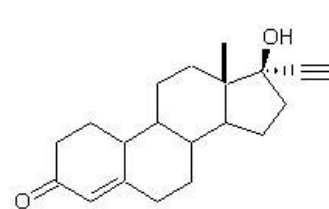
Anadrol



Oxandrolon



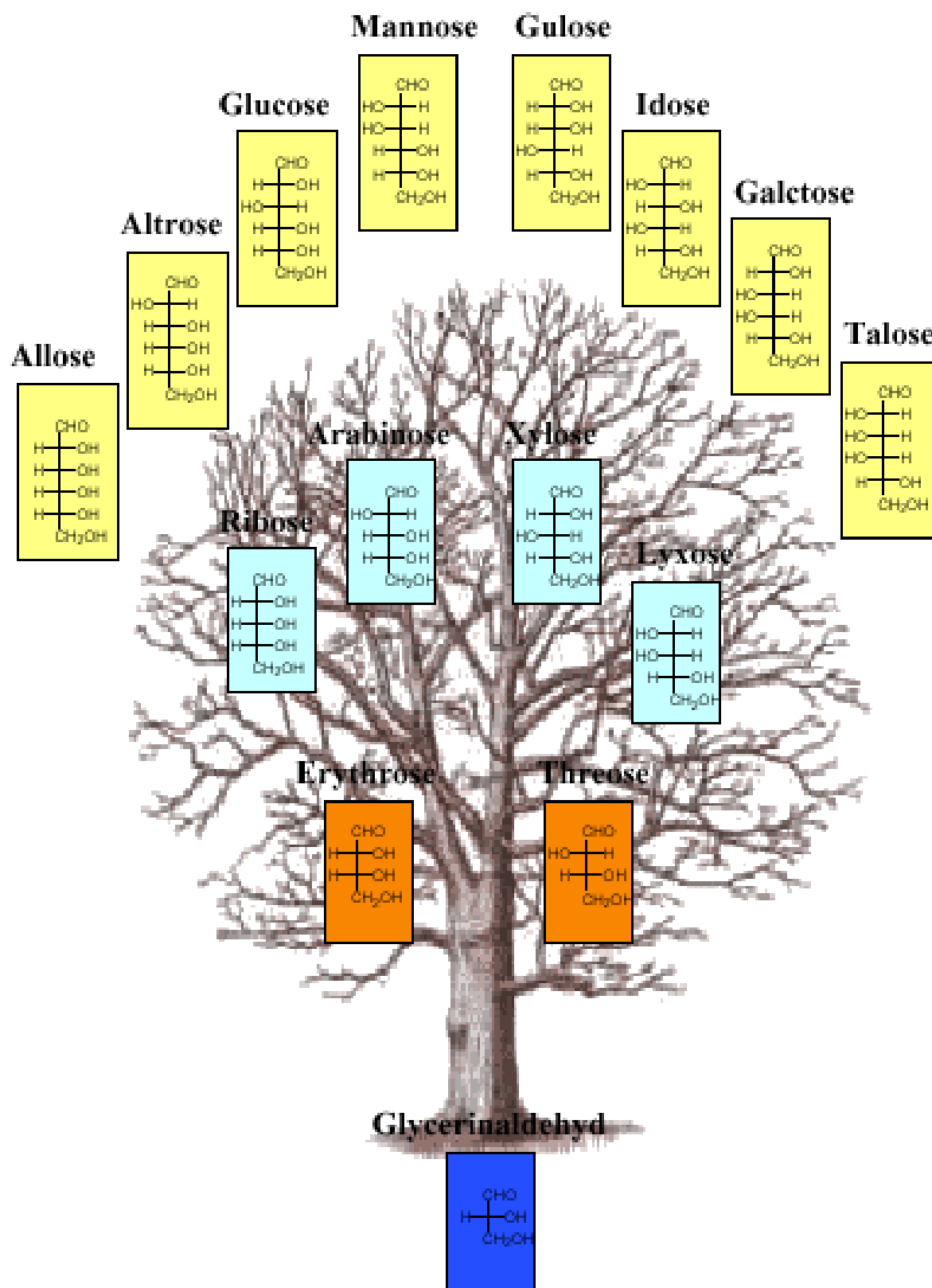
Stanozolol



Tetrahydrogestrinol (THG)

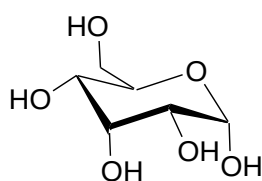
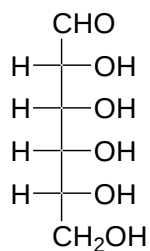
2.7 Zucker

2.7.1 Monosaccharide, Disaccharide

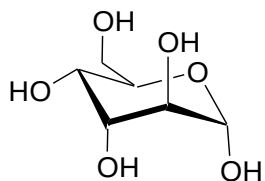
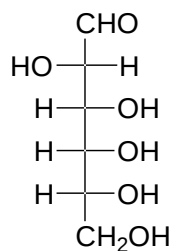


Hexosen

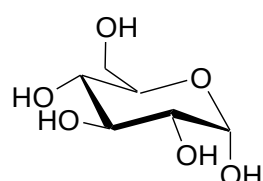
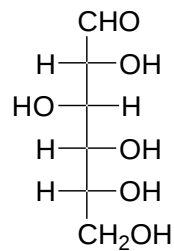
D-Allose



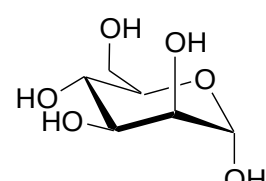
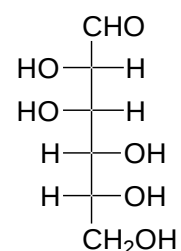
D-Altrose



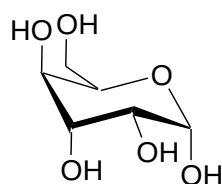
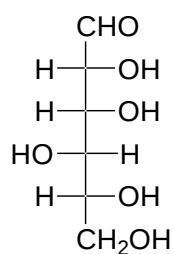
D-Glucose



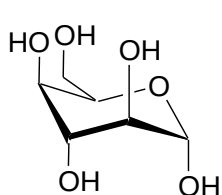
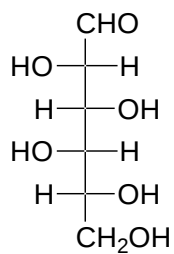
D-Mannose



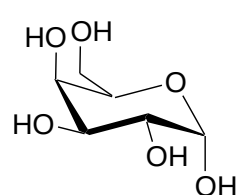
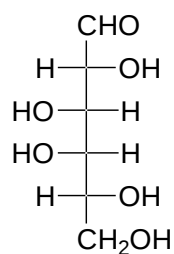
D-Gulose



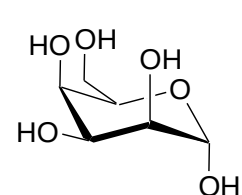
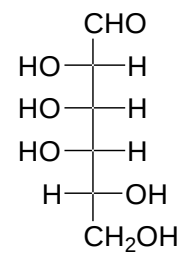
D-Idose



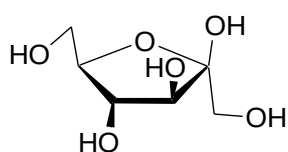
D-Galactose



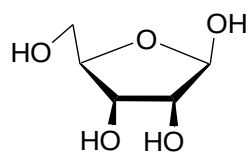
D-Talose



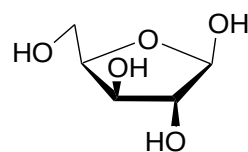
Furanosen



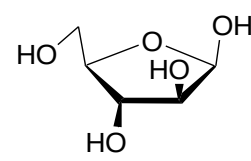
Fructose



Ribose



Xylose



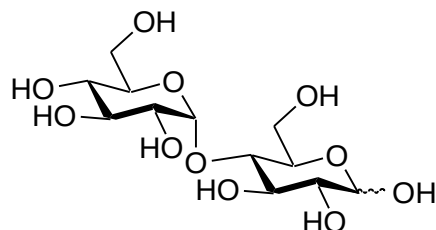
Arabinose

Wichtige Disaccharide

zu 2.1.4 Disaccharide, Oligosaccharide

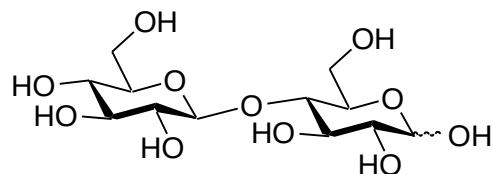
Maltose

4-O-(α -D-Glucopyranosyl)-D-glucopyranose



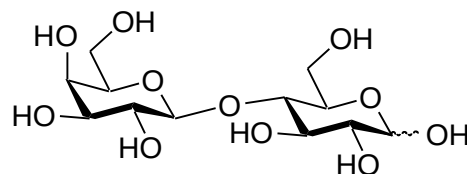
Cellobiose

4-O-(β -D-Glucopyranosyl)-D-glucopyranose

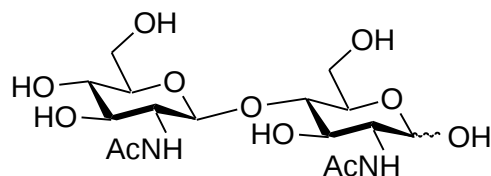


Lactose (Milchzucker)

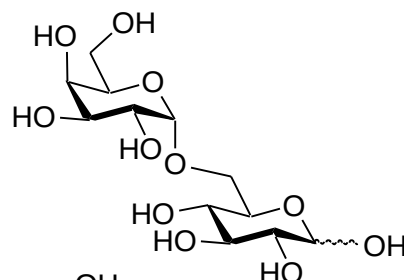
4-O-(β -D-Galactopyranosyl)-D-glucopyranose



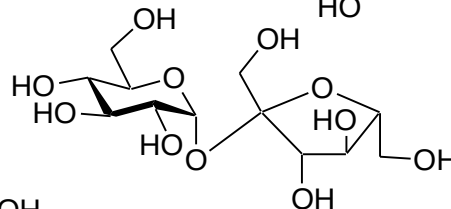
Chitobiose (Chitin)



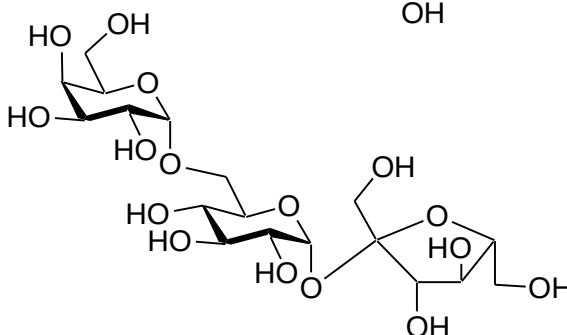
Melibiose



Saccharose (Rohrzucker)

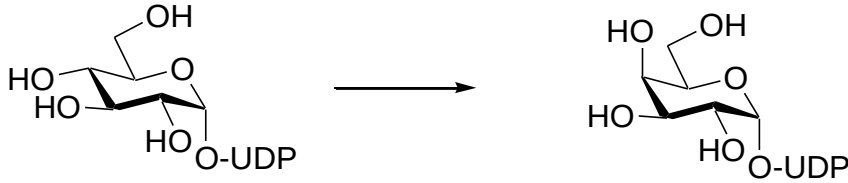


Raffinose (Rübenzucker)

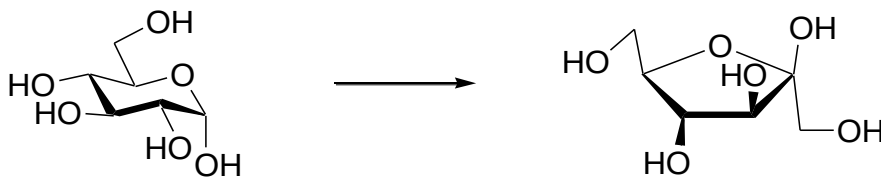


Biosynthese von Monosacchariden

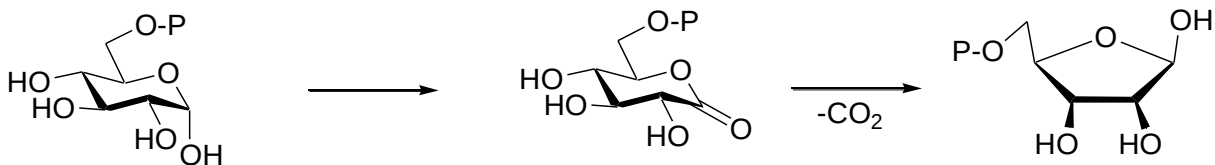
1. Epimerisierung: UDP-Glc $\rightarrow$ UDP-Gal (Epimerase epimerisiert OH-4)



2. Isomerisierung: Glucose $\rightarrow$ Fructose (Isomerase)



3. Oxidativer Abbau: Glc-6-P $\rightarrow$ GlcU-6-P $\rightarrow$ Ribose-5-P

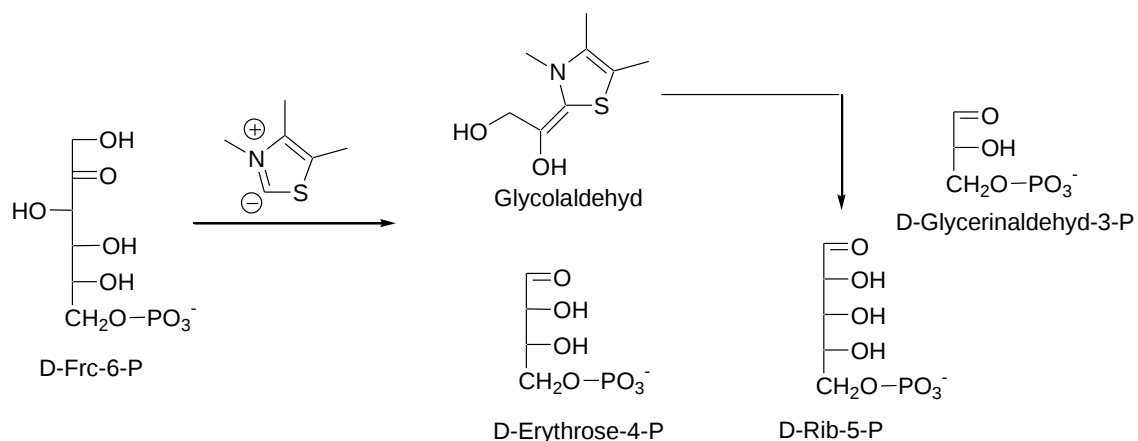


4. Carboxylierung: siehe Photosynthese!

Lichtreaktion: $2\text{H}_2\text{O} + 2\text{NADP}^+ + \text{ADP} + \text{P} \rightarrow \text{O}_2 + 2\text{NADPH} + \text{ATP} + \text{H}^+$

Dunkelreaktion: $3\text{CO}_2 + 9\text{ATP} + 6\text{NAPH} + 6\text{H}^+ \rightarrow \text{Triose-P} + 9\text{ADP} + 8\text{P} + 6\text{NAPH}^+$

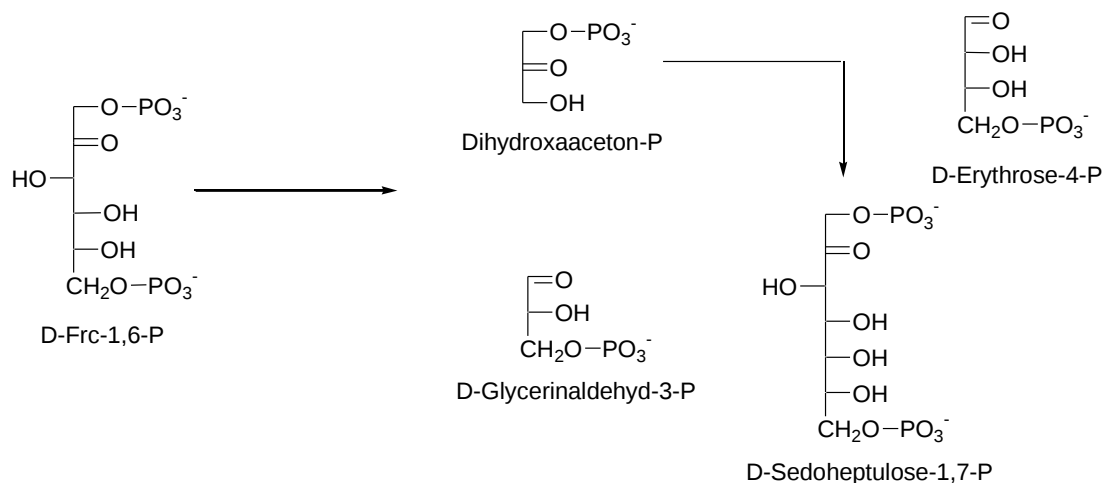
5. Transfer von C₂ oder C₃-Bausteinen: Transferase-Reaktion



Transketolase-Reaktion:

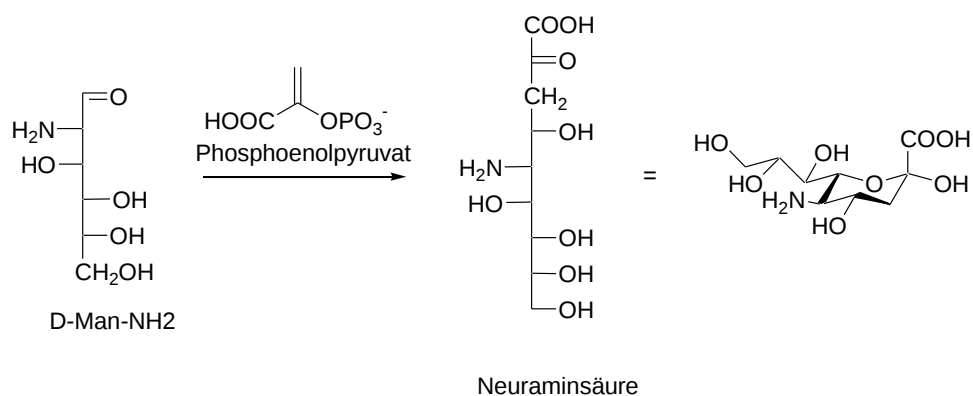
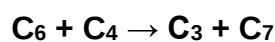
C2-Übertragung

C₆ + C₃ $\rightarrow$ C₄ + C₅



Aldolase-Reaktion:

C3-Übertragung



Neuraminsäure-Synthase:

C3-Übertragung

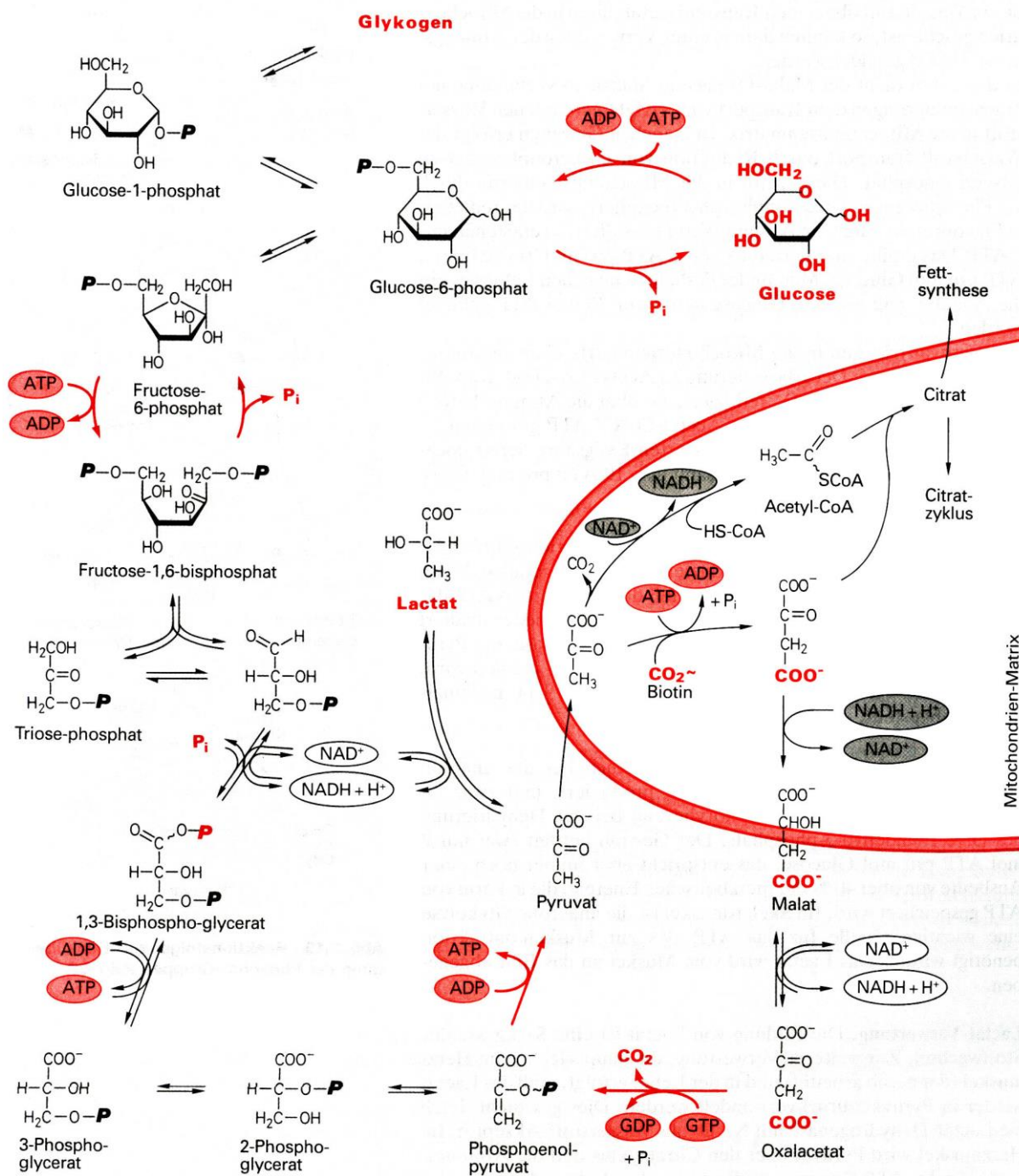


Abbau von Kohlenhydraten

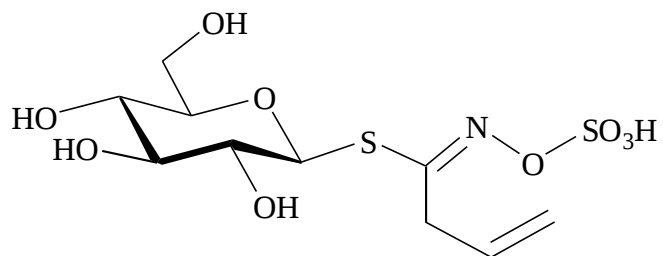
Glycolyse: anaerob: Glucose $\rightarrow$ Pyruvat $\rightarrow$ 2 Milchsäuren + 200 kJ/mol
(Energiegewinnung ohne Verbrennung)

aerob: Pyruvat + CoA + NAD $\rightarrow$ AcCoA + CO₂ + NADH

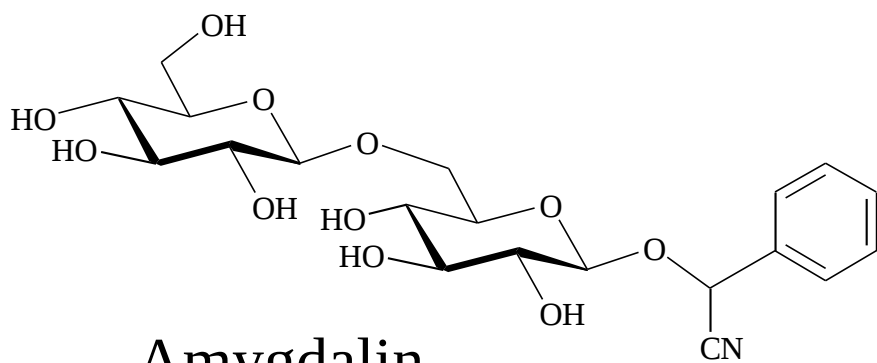
Glycolyse



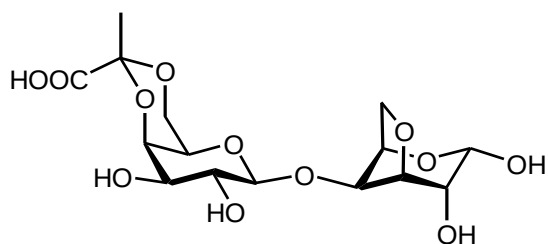
„PK“



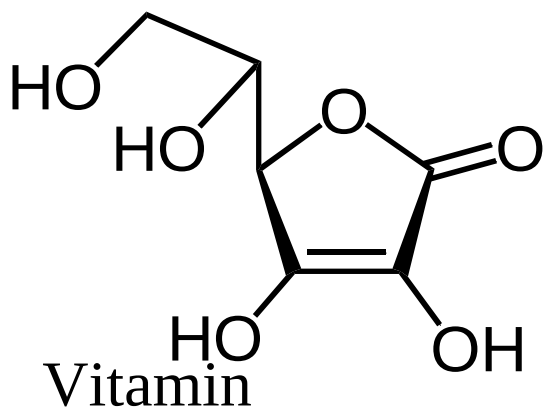
Sinigrin



Amygdalin

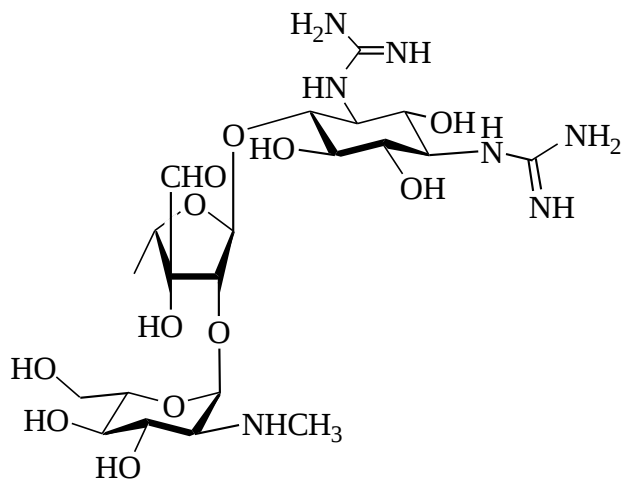


Agar-Agar

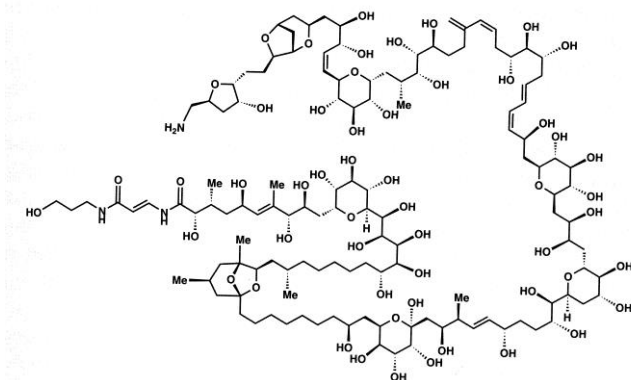


Vitamin

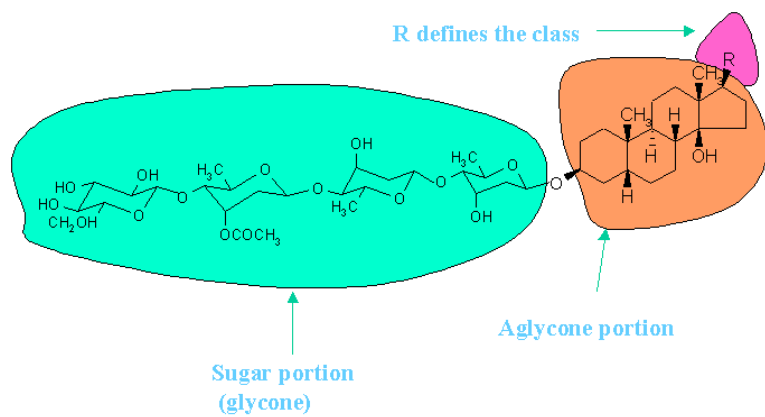




Streptomycin



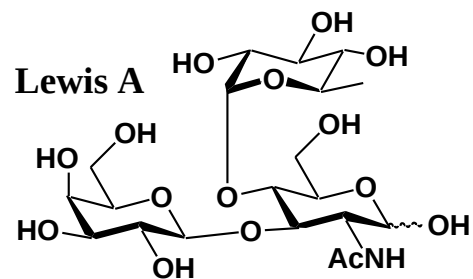
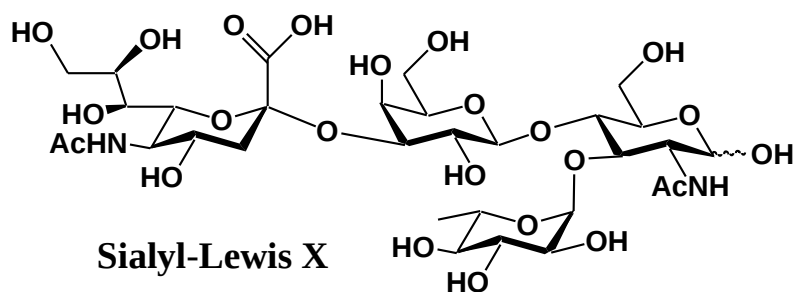
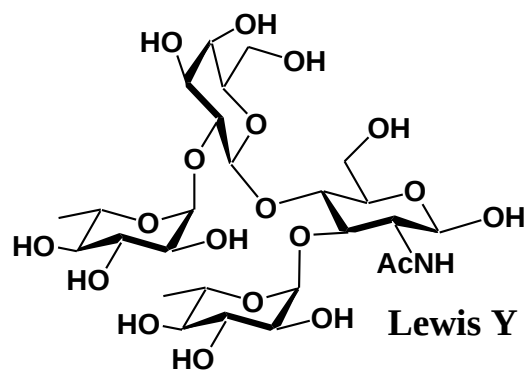
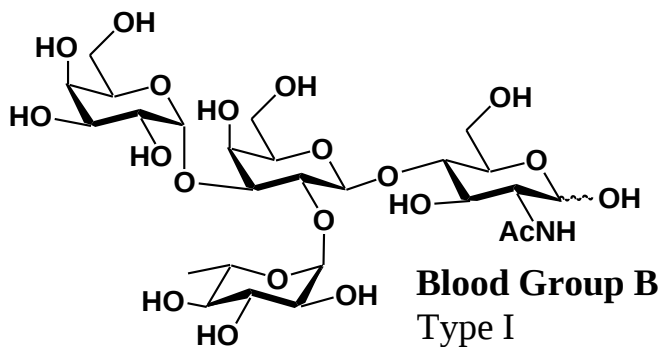
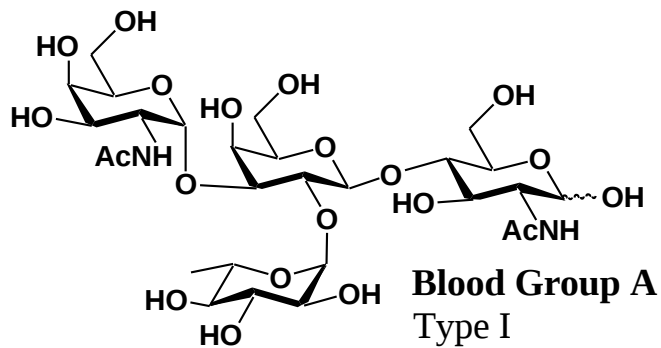
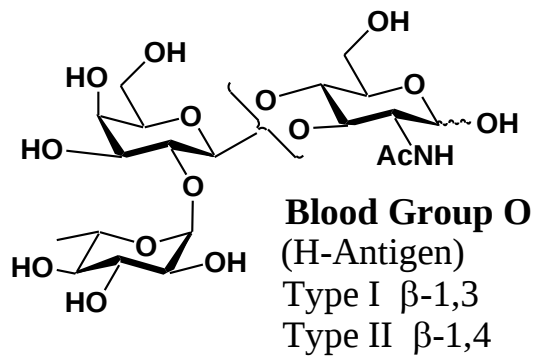
Palytoxin

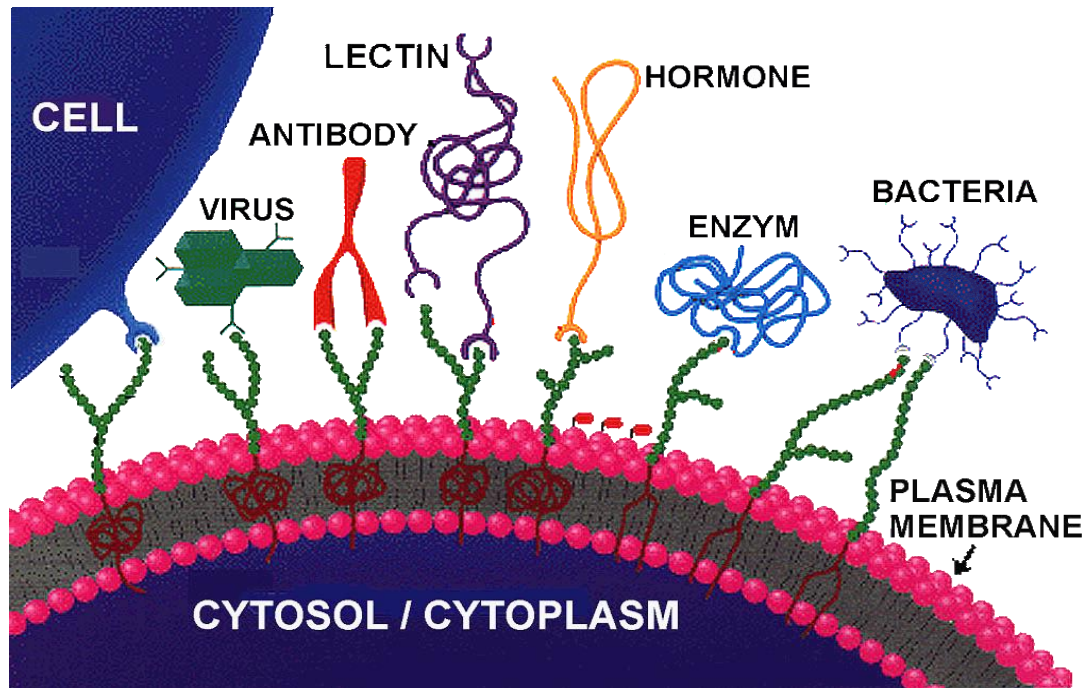


Herzglycoside

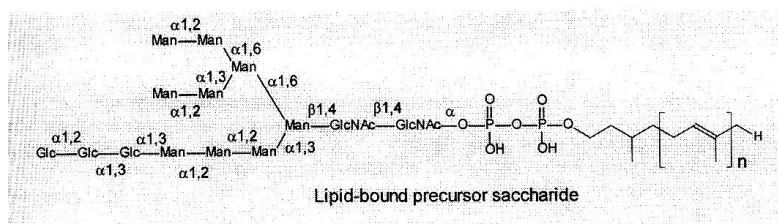
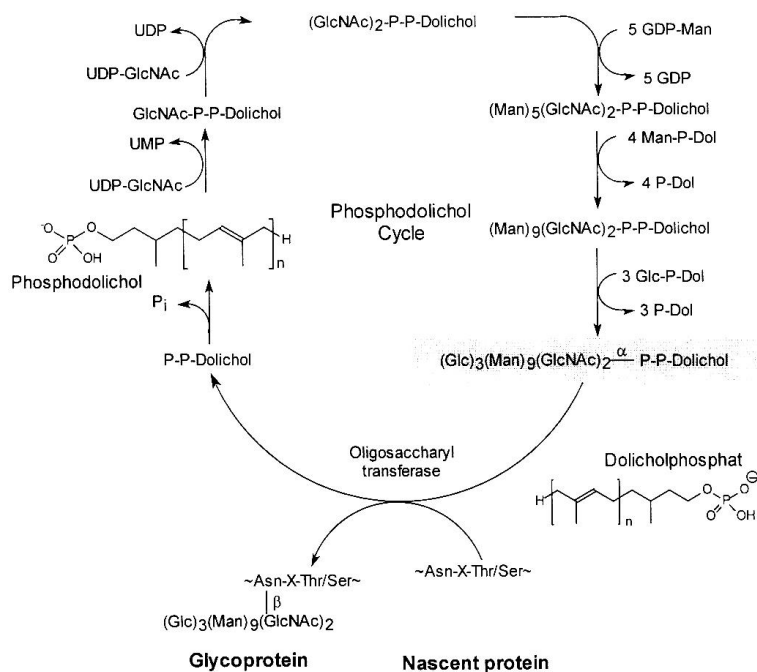


Blutgruppensubstanzen





Biosynthese komplexer Saccharidstrukturen



„PK“