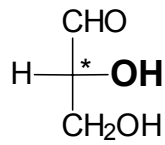
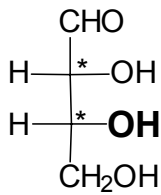


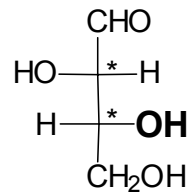
Stammbaum der D-Aldosen



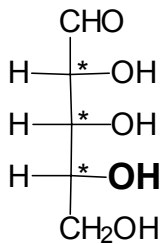
D(+)-
Glycerinaldehyd



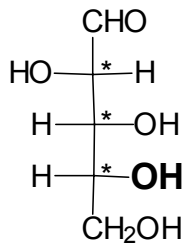
D(-)-
Erythrose



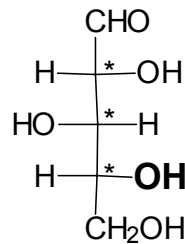
D(-)-
Threose



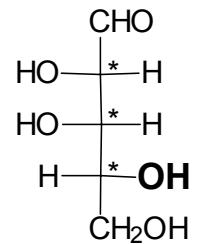
D(-)-
Ribose



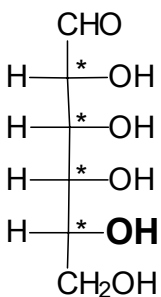
D(-)-
Arabinose



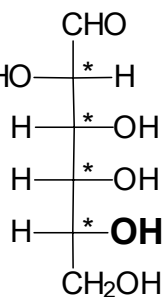
D(+)-
Xylose



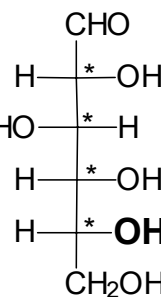
D(-)-
Lyxose



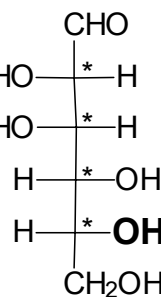
D(+)-
Allose



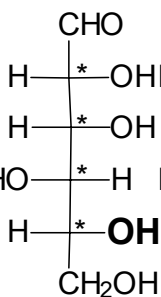
D(+)-
Altrose



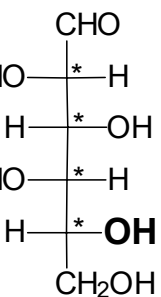
D(+)-
Glucose



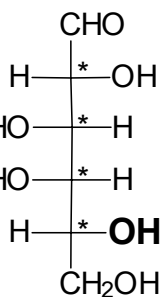
D(+)-
Mannose



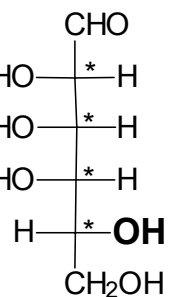
D(-)-
Gulose



D(-)-
Idose



D(+)-
Galactose

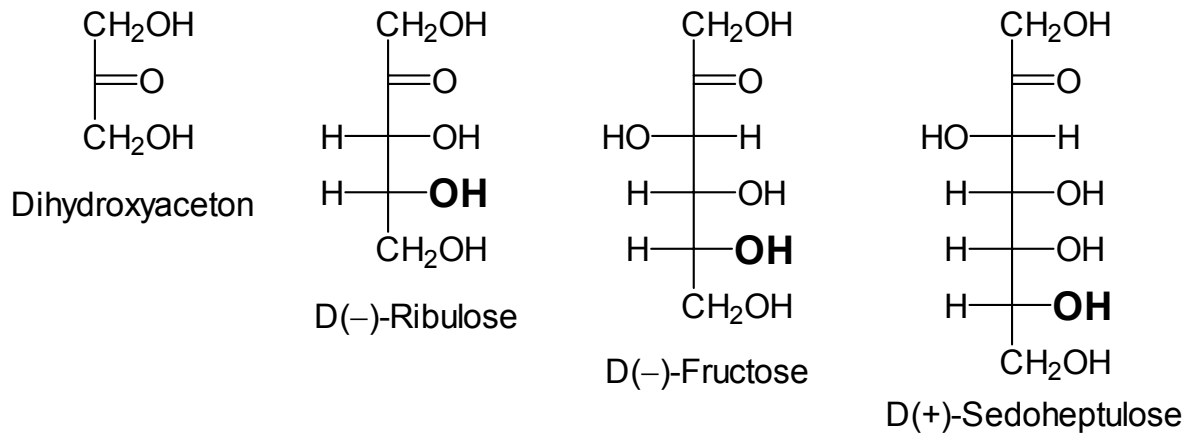


D(+)-
Talose

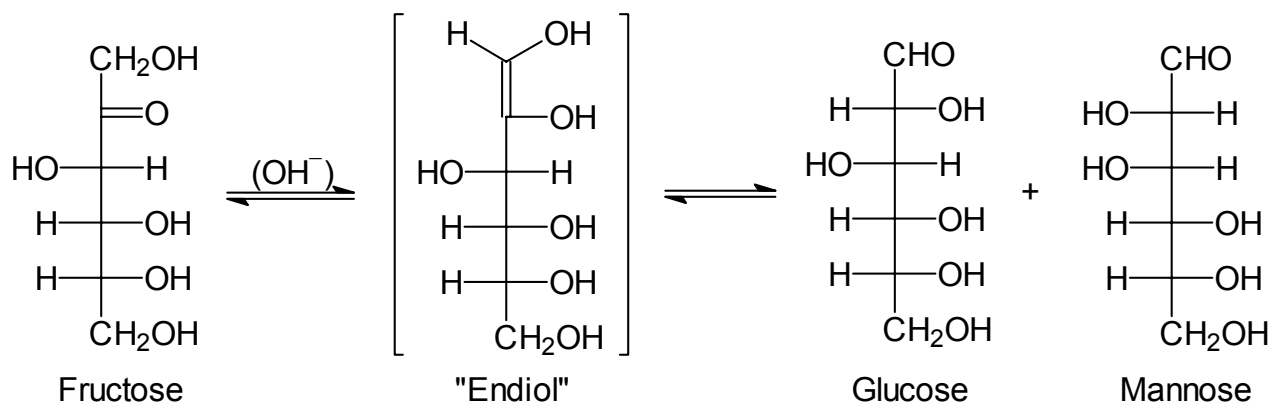
Die Asymmetrie-Zentren (Chiralitätszentren) sind mit * markiert.

Die Drehrichtung für polarisiertes Licht ist mit (+) bzw. (-) angegeben.

Stammbaum der Ketosen



Isomerisierung der Ketosen

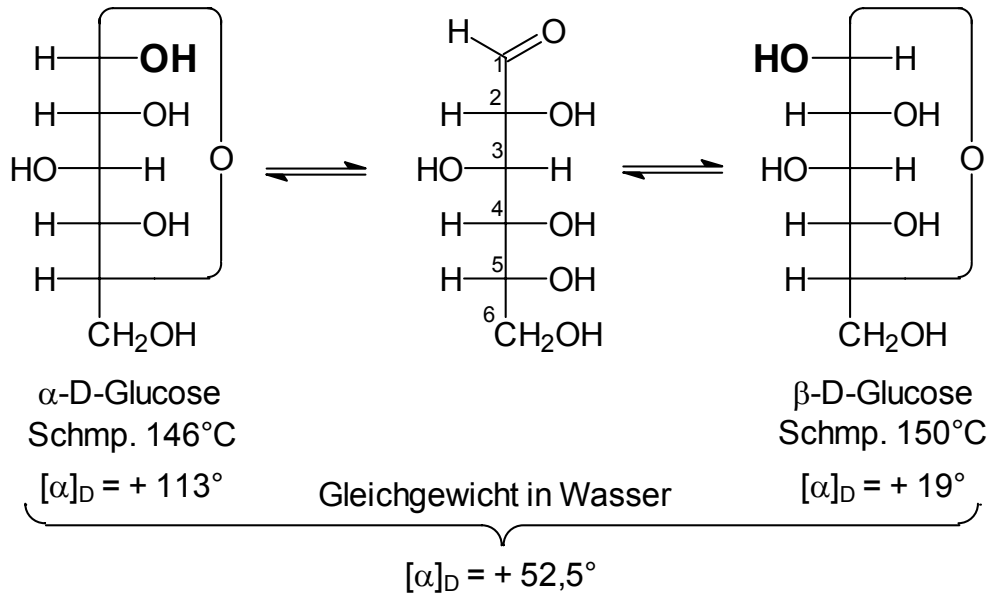


Cyclische Zucker und Mutarotation

1. Tollens-Ringformel

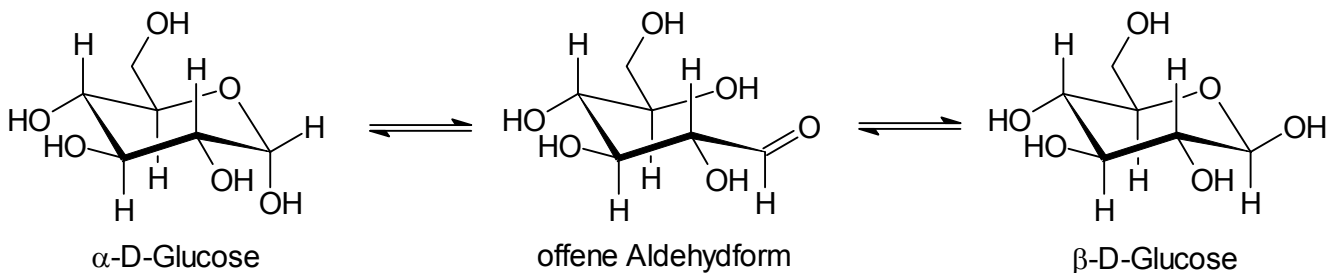
D-Reihe: OH-Gruppe zeigt nach rechts: α , OH-Gruppe weist nach links: β .

Bsp. Glucose:

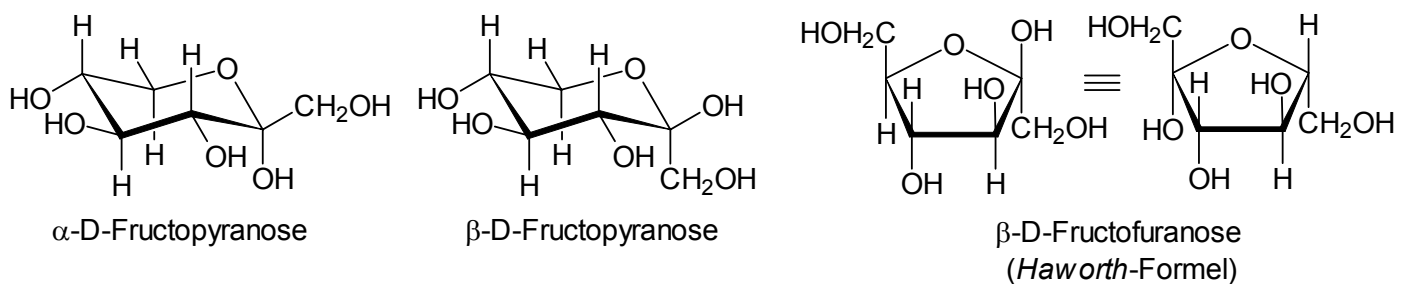


2. Konformationsformel

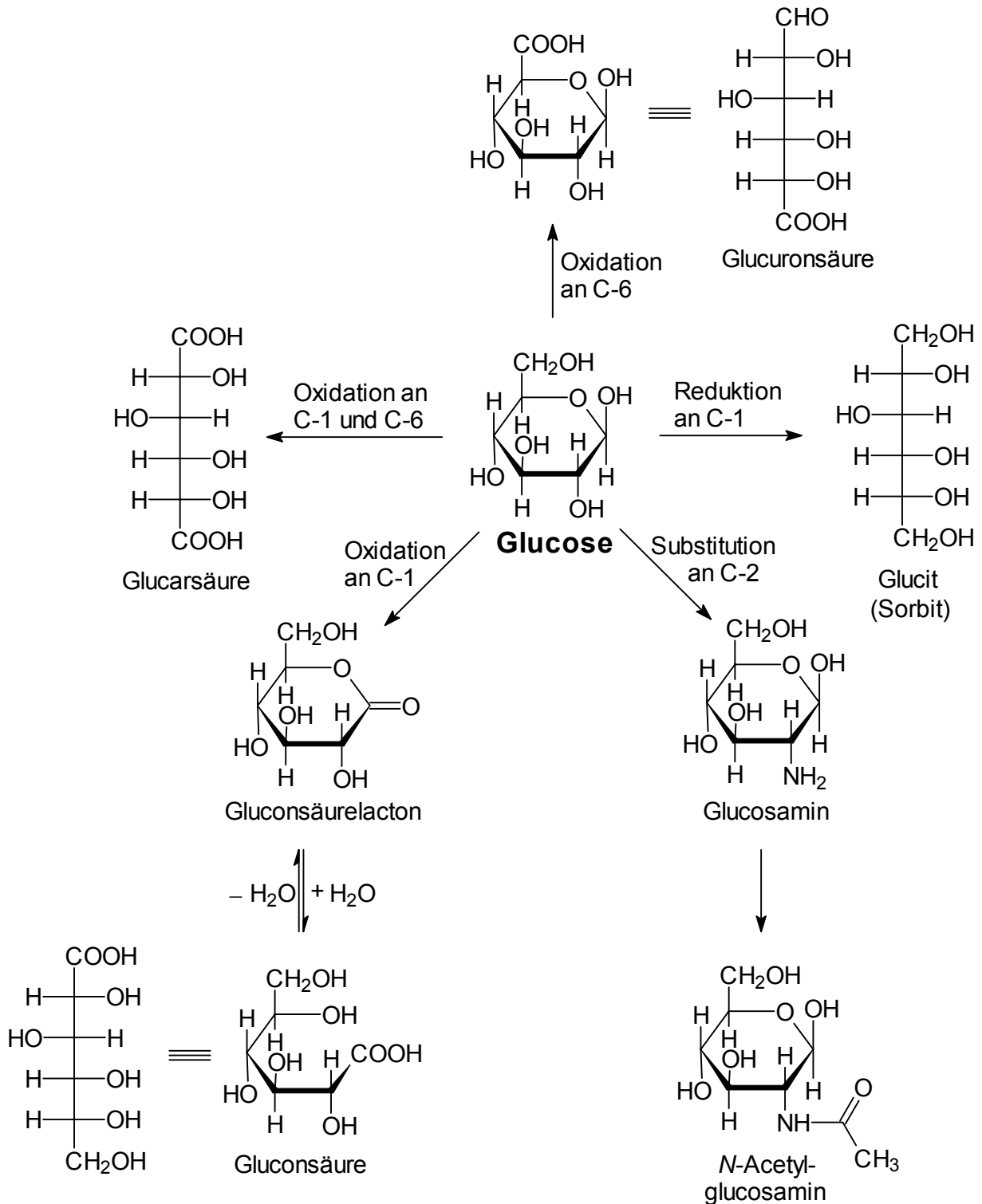
Bei der α -Form steht die anomere OH-Gruppe axial, bei der β -Form äquatorial.



Bsp. Fructose



Oxidationen von Glucose



Nachweis der Oxidationseigenschaften z.B. mit

Fehlingscher Lösung: $\text{Cu}^{\text{II}} \rightarrow \text{Cu}^{\text{I}}$ fällt als Cu_2O aus → roter Niederschlag

Tollens Reagenz: $\text{Ag}^{\text{I}} \rightarrow \text{Ag}^{\text{0}}$ bildet Silberspiegel!

→ **Oxidation des Aldehyds zur Säure**