Carboidratos: Aldoses e cetoses, estrutura e estereoquímica

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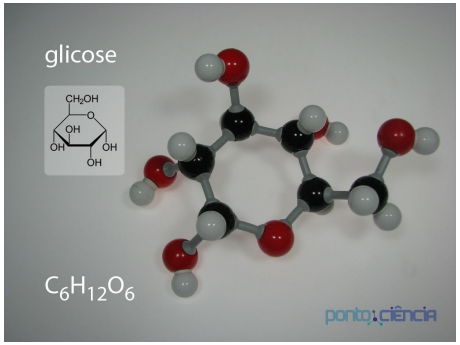
Carboidratos

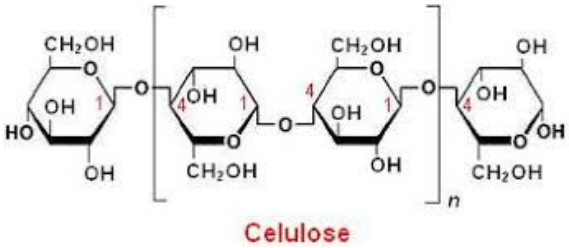
São moléculas de poliidroxialdeídos (aldoses) e poliidroxicetonas (cetoses).

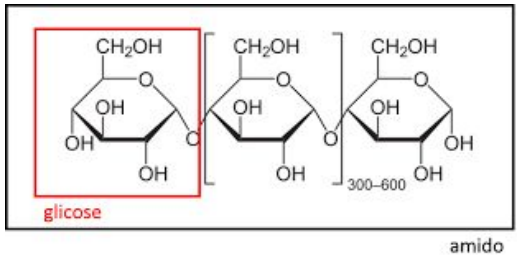
Com diferentes funções:

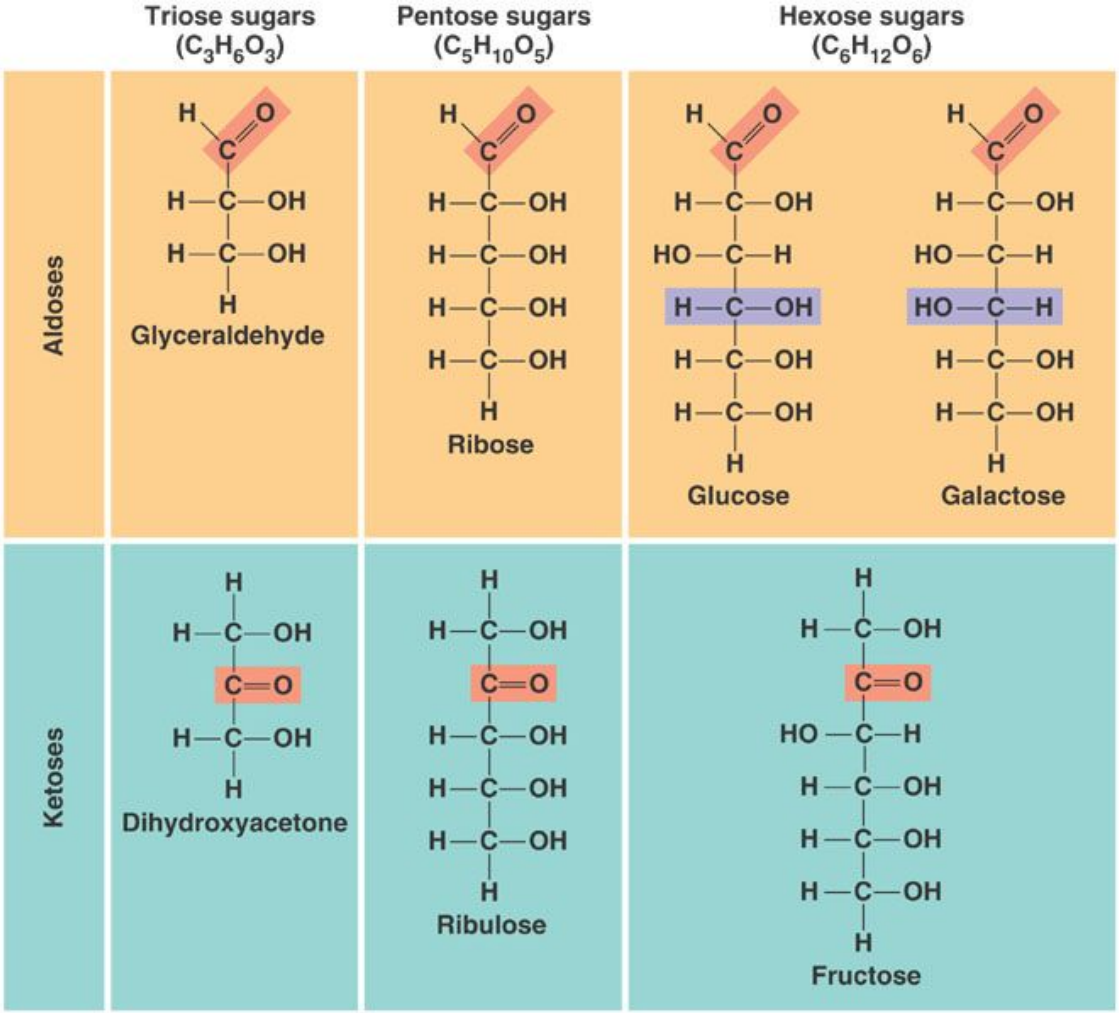
1) Fonte de energia
2) Componentes celulares
3) Reserva de energia

Podendo ser classificadas como: monossacarídeos, polissacarídeos e oligossacarídeos.

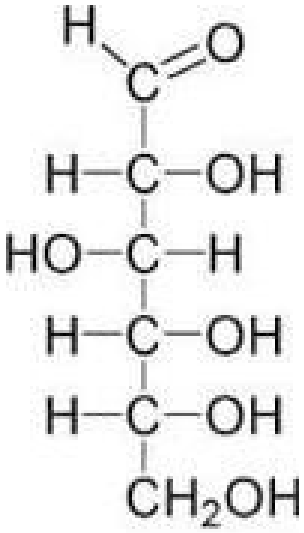




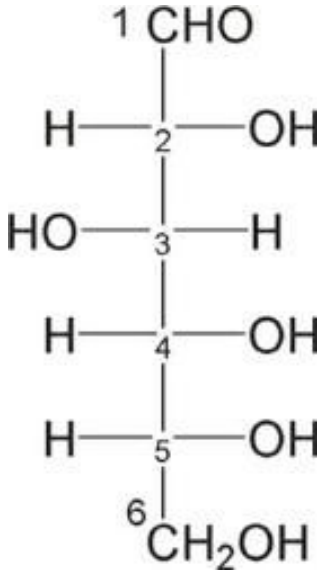


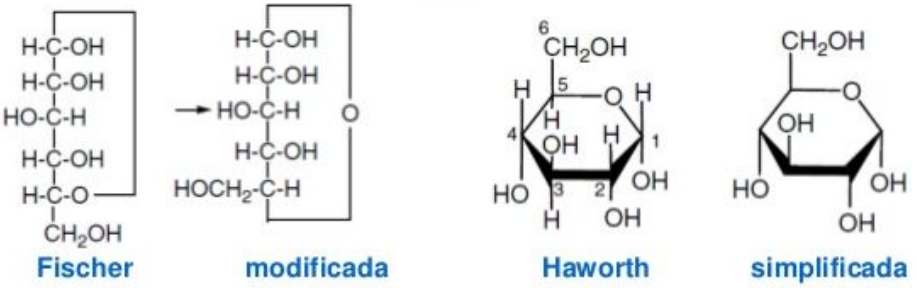

Triose sugars ($C_3H_6O_3$)
Pentose sugars ($C_5H_{10}O_5$)
Hexose sugars ($C_6H_{12}O_6$)
Aldoses
Ketoses
Glyceraldehyde
Ribose
Glucose
Galactose
Dihydroxyacetone
Ribulose
Fructose

Estruturas

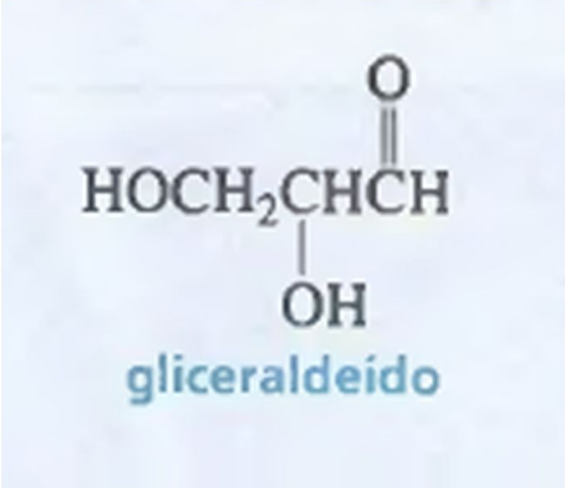


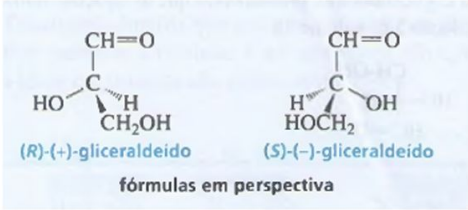
Glicose

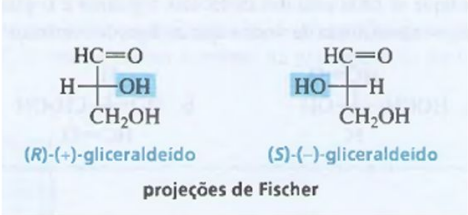


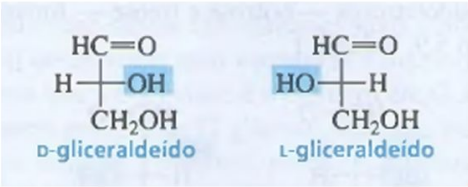


Nomenclatura: As notações D e L

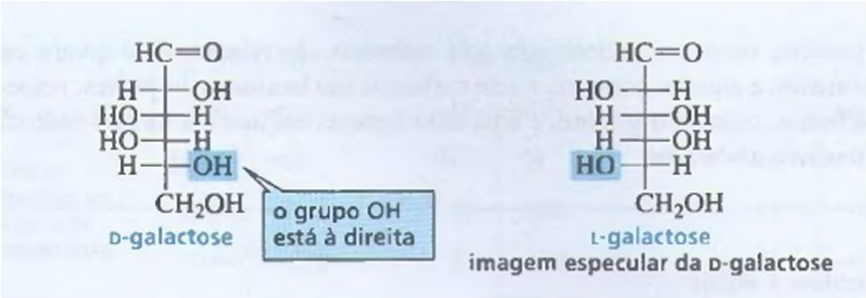


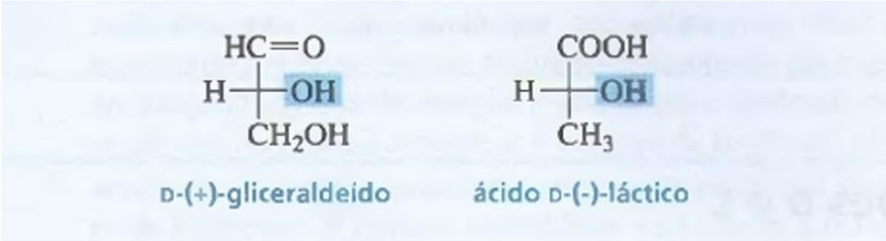




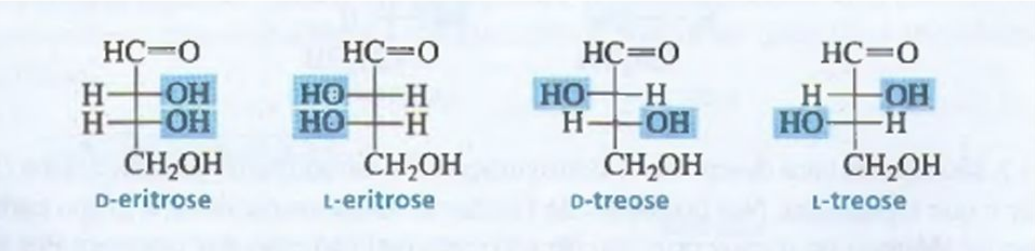


As notações D e L

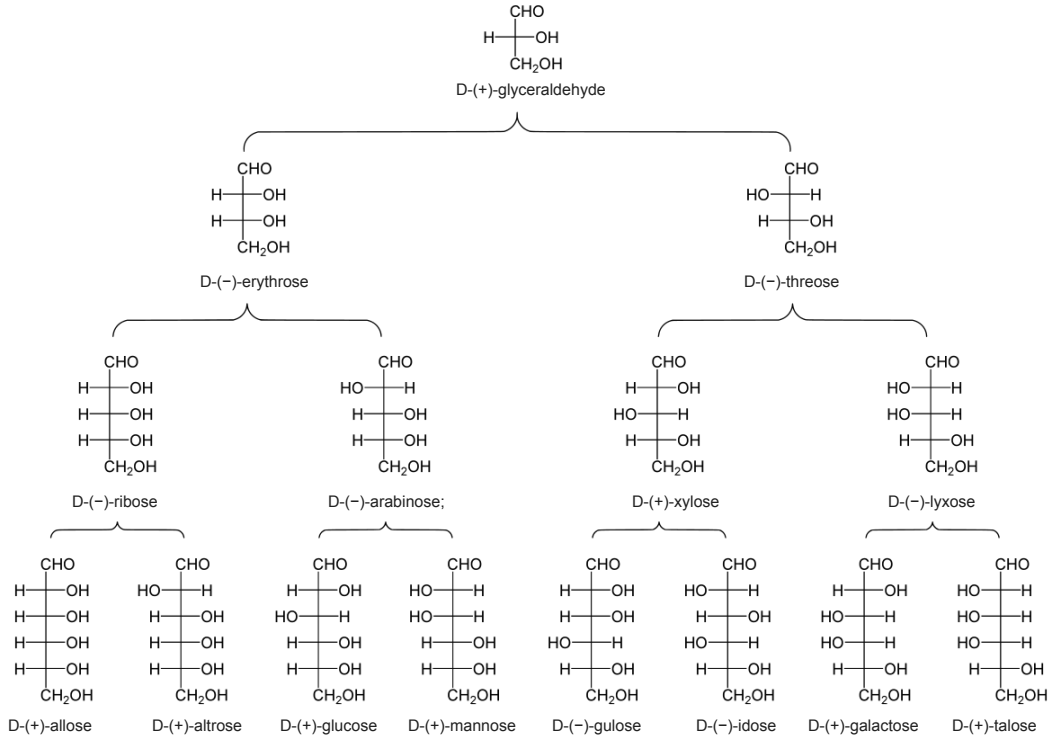




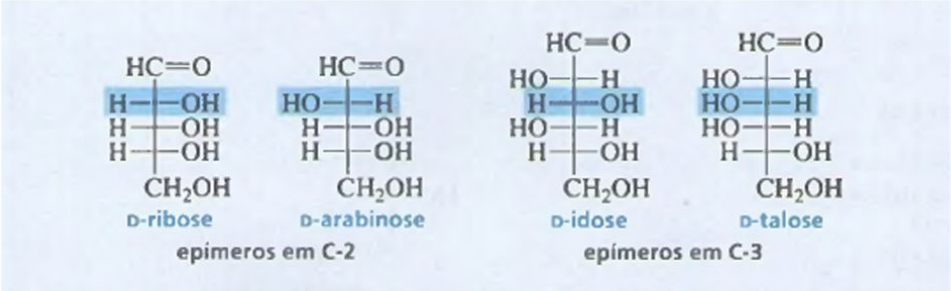
Configurações de aldoses



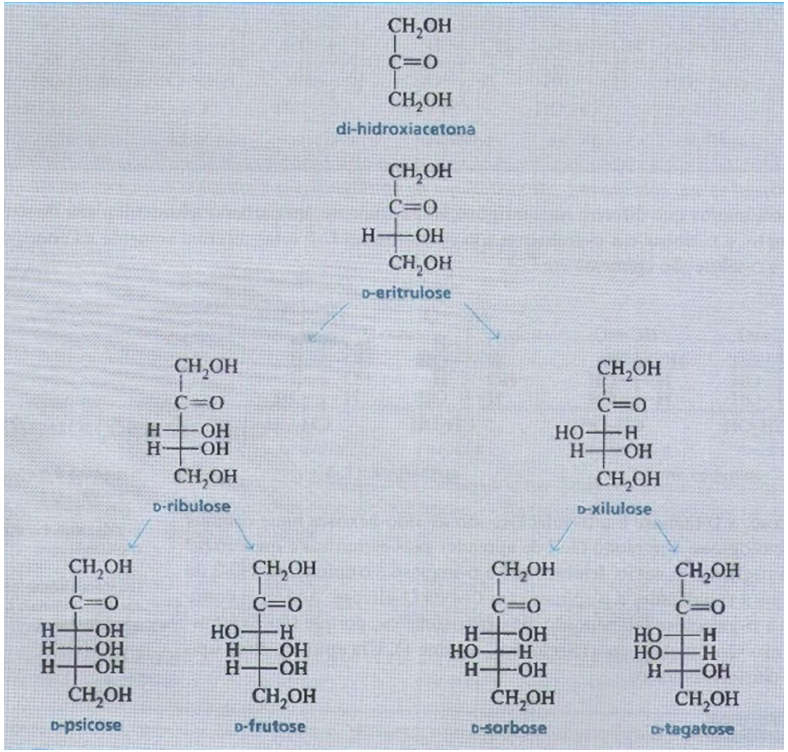
Configurações de aldoses



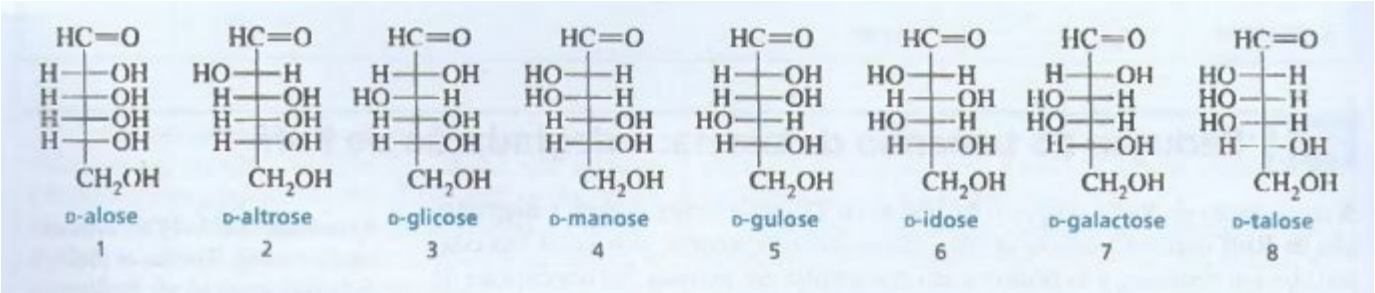
Configurações de aldoses



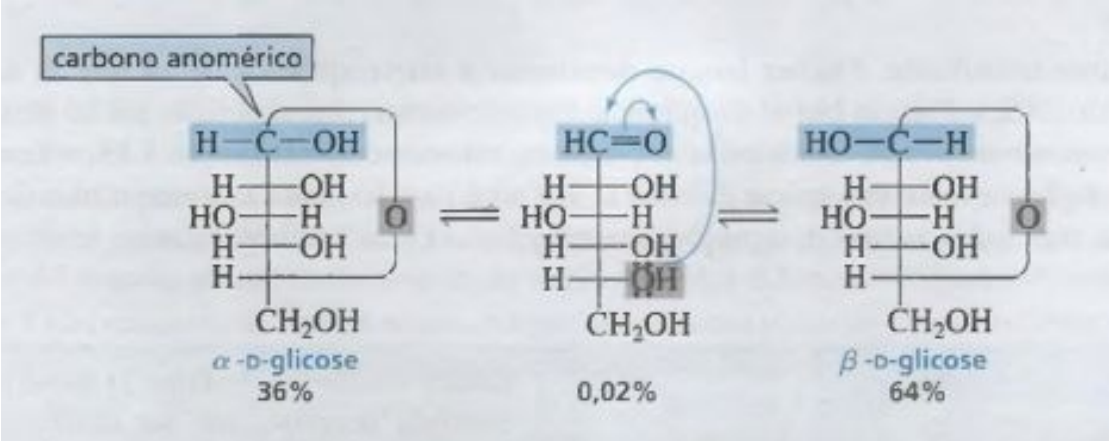
Configurações de cetoses



Estereoquímica da glicose



Estrutura cíclica dos monossacarídeos



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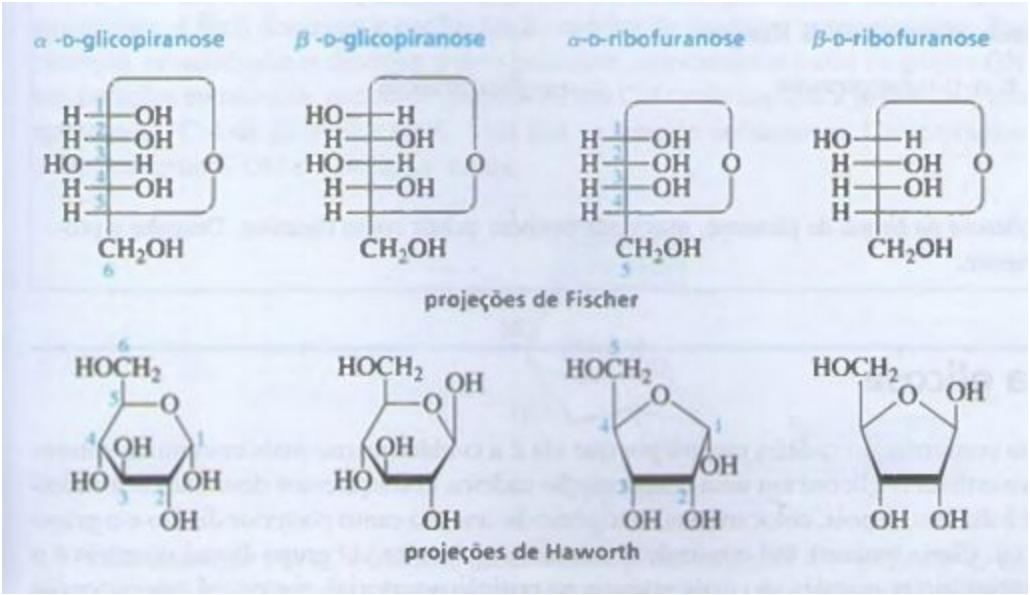
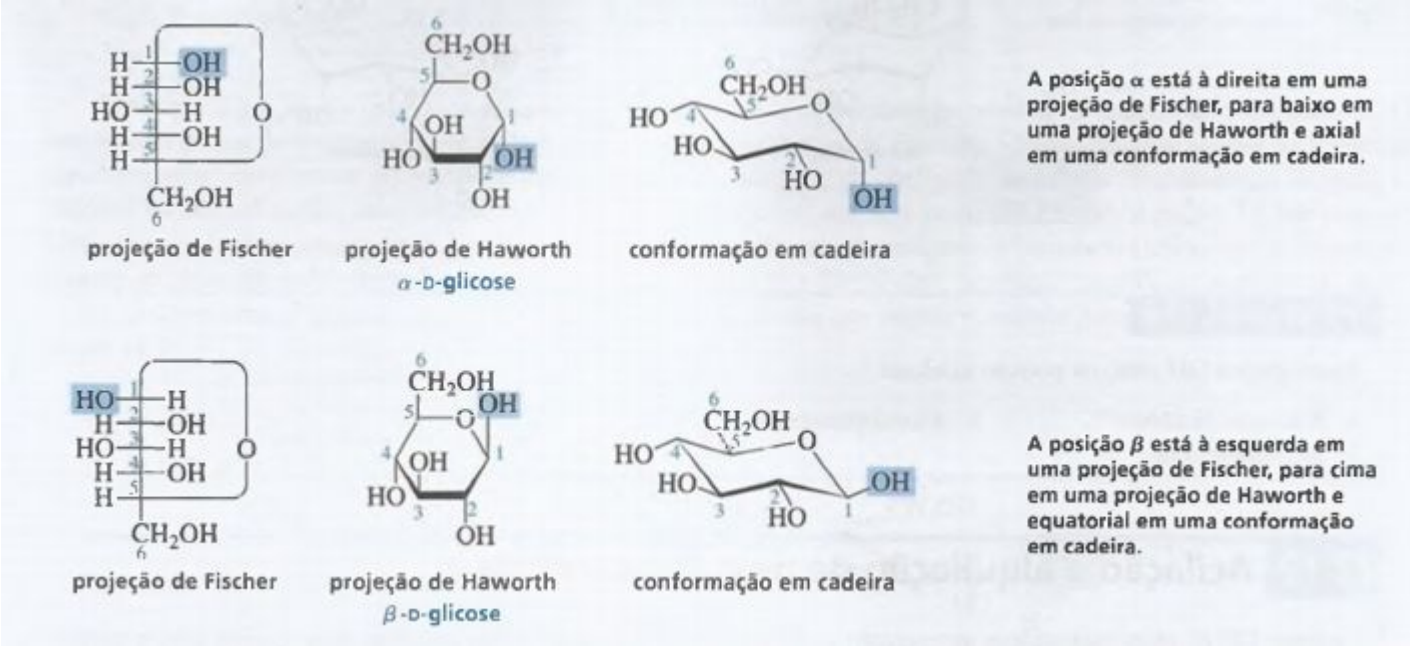


Estabilidade da glicose



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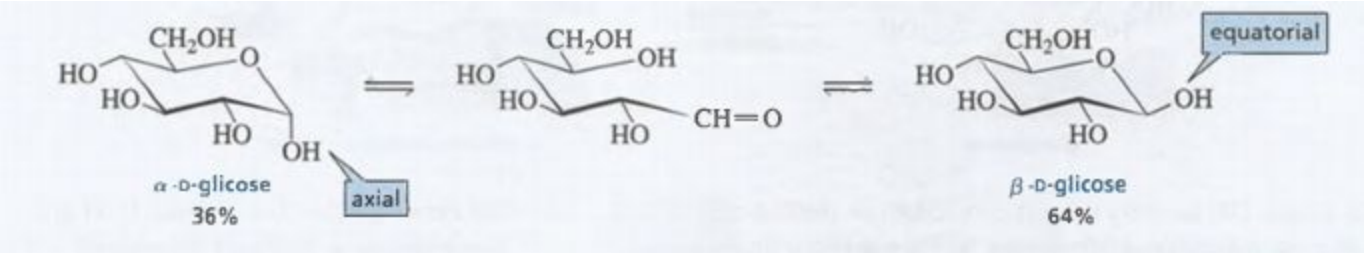

Referências bibliográficas

1) VOLLHARDT, KURT PETER CSCHORE, NEIL E. Organic chemistry. 3. ed. New York [u.a.]: Freeman, 2011. P. 1117-1119

2) BRUICE, P. Organic chemistry. Traducao . 4. ed. São Paulo: Pearson Education, 2006. p. 335-340, 346-352