

Carbohydrates (Chapter 22)

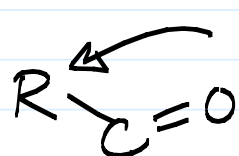
Note Title

5/6/2014

Carbohydrates = Sugars = Saccharides

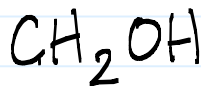
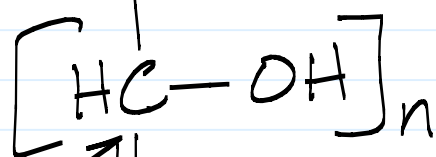
Formula $C_nH_{2n}O_n = C_n(H_2O)_n$ ← Look like "hydrates of carbon"

Structure.



$R = H$ or CH_2OH

↑ aldose (aldehyde) ketose (ketone)



← smallest sugar, $n=1$ triose

$n=2$ → tetraose

$n=3$ pentose

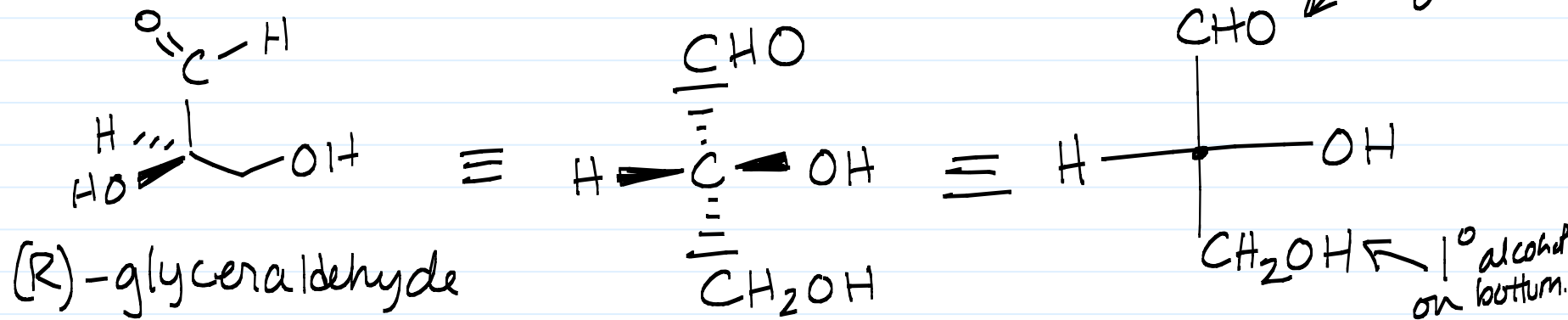
$n=4$ hexose

Stereochem matters!
(can be R or S at each C)

New convention for drawing sugars → Fisher Projections

→ Easier to draw, but you have to get used to them.

ex:

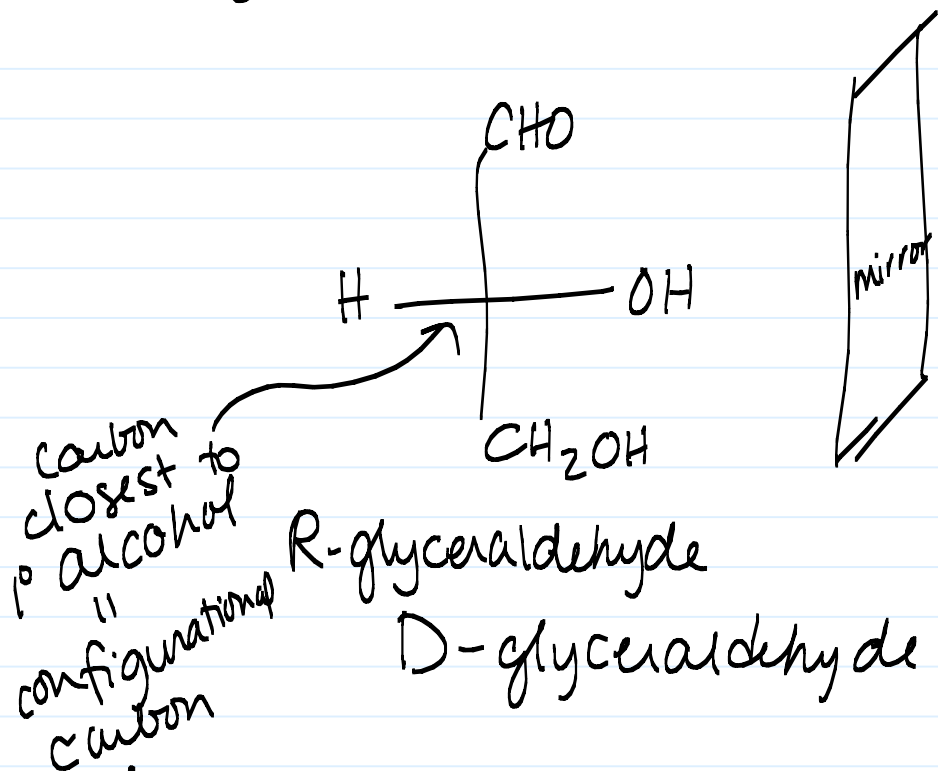


This is us.

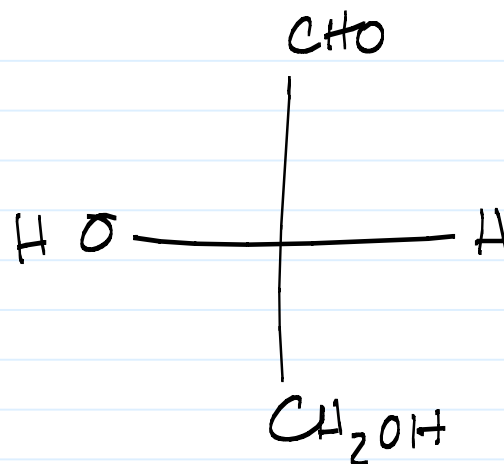
vertical lines = going back
horizontal lines = coming forward

This is them.
Fisher Projection.

Easy to draw Enantiomers:



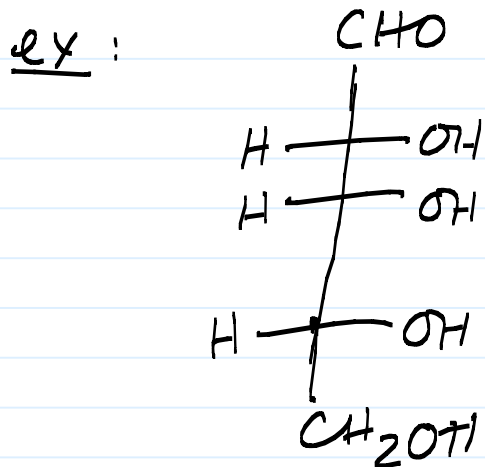
↳ If OH is on right: D-sugar
if on left: L-sugar



S-glyceraldehyde
L-glyceraldehyde

In nature: D-sugars

Going Fisher \rightarrow Lines + Wedges (3D)



D-ribose

Twist 90°
+ wrap it
around
an imaginary
cylinder

