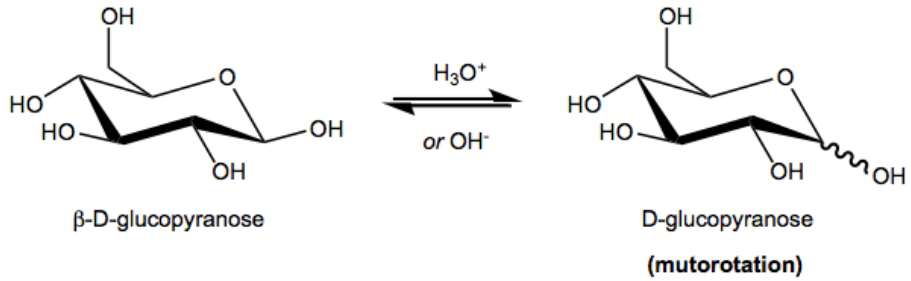
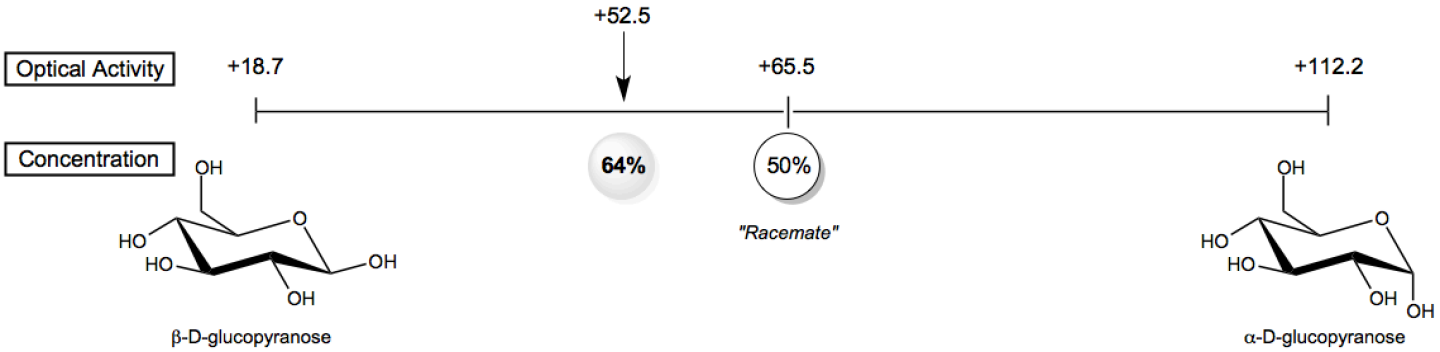
CONCEPT: MONOSACCHARIDES – MUTOROTATION

Pyranose and furanose rings are constantly hydrolyzing back and forth between cyclic and straight-chain forms.

- ***Mutorotation:*** The process by which the anomeric position interconverts between α and β forms



- Anomers always differ in optical activity. e.g. α-D-glucopyranose = +112.2°; β-D-glucopyranose = +18.7°
  - □ They are NOT enantiomers of each other. Hence the unrelated activities
  - □ In solution, any D-glucopyranose will *always* equilibrate to +52.5°, indicating *mutorotation*



Acid-Catalyzed Mechanism: