

Topic: Carbohydrates; Structure

B.Sc. Botany Hons. III

Paper: VI Group: A

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Enantiomers and epimers

If two sugars are identical except for having one hydroxyl configured differently (such as images glucose and galactose, they are diastereomers known as epimers.

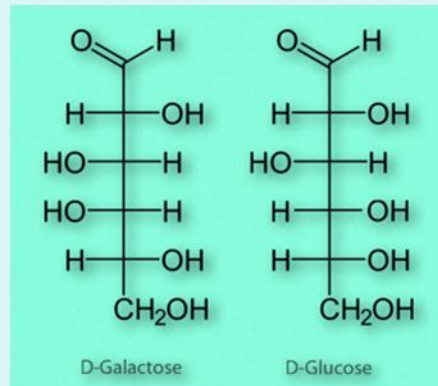


Fig 1. Epimers - D-Galactose and D-Glucose differ only in the configuration of carbon #4

If the configuration of all of the hydroxyls of one sugar is exactly the opposite of their configuration in another sugar, the two sugars are mirror images of each other. Mirror images of sugars are known as enantiomers.

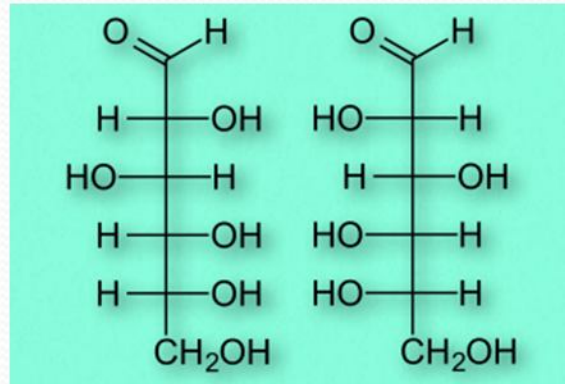


Fig 2. Enantiomers - D-Glucose (left) and L-Glucose (right) are mirror

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If the configuration of all of the hydroxyls of one sugar is exactly the opposite of their configuration in another sugar, the two sugars are mirror images of each other. Mirror images of sugars are known as enantiomers. Please note that due to the way sugars are named, L-glucose is the mirror image of Dglucose.