

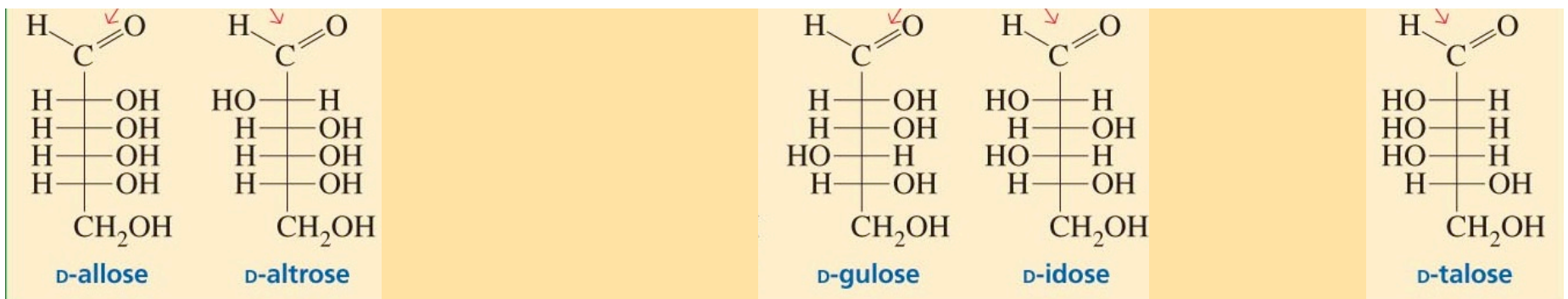
Chem 109 C

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Chapter 21 Practice Problems set 2

Practice problem 1

Predict whether L-altrose exists preferentially as a pyranose or a furanose. (Hint: in the most stable arrangement for a ring, all the adjacent substituents are trans)



Practice problem 2

Disaccharide **X** is hydrolyzed to D-hexoses **A** and **B**. All sugars (**X**, **A**, **B**) give a positive Tollens test (oxidized with Ag_2O). **A** reacts with Br_2 (decolorizes), and **B** does not. Under aqueous basic conditions, **A** gives some amount of **B**. When **A** is treated with NaBH_4 , an optically inactive product is formed. Wohl degradation of **A** followed by reduction with NaBH_4 gives an optically active product.

When **X** is treated with excess CH_3I , Ag_2O and an α -glycosidase, **A** methylated at positions 2,3,4, and 6 is formed, along with **B** methylated at positions 1, 3, and 4.

Provide the structure of **X**

