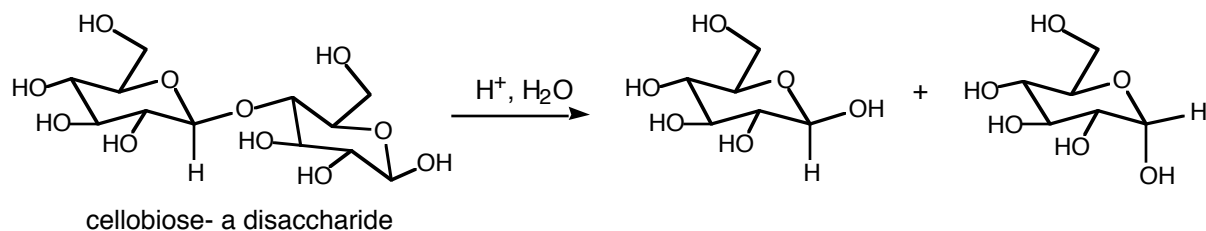


Use Table 24-2 of Vollhardt and Schore to answer questions 1 and 2.

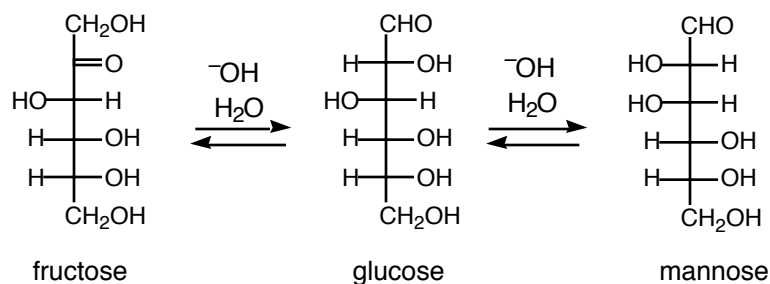
1. An aldopentose is oxidized by HNO_3 to give an optically active diacid. Wohl degradation of that same aldopentose gives an aldotetrose. This aldotetrose provides an optically inactive diacid upon HNO_3 oxidation. Identify the aldopentose.

2. An aldopentose is oxidized by HNO_3 to give an optically inactive diacid. Kiliani-Fischer synthesis on that same aldopentose gives two aldohexoses. Oxidation of the aldohexoses with HNO_3 gives two diacids, only one of which is optically active. Identify the aldopentose.

3. Provide a mechanism for the following transformation

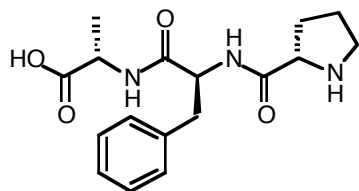


4. Provide a mechanism for interconversion of glucose with fructose and mannose.



5. Identify each of the stereocenters of fructose as either (R) or (S)

6. Provide a synthesis of the following tripeptide using Merrifield solid phase synthesis and BOC protecting group strategies.



7. Provide a mechanism for the formation of **B**, which occurs through the intermediacy of structure **A**.

