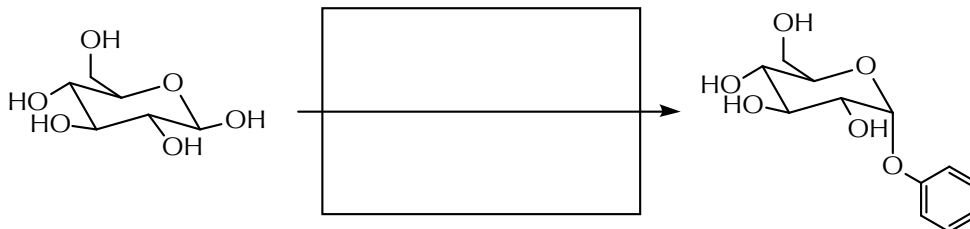
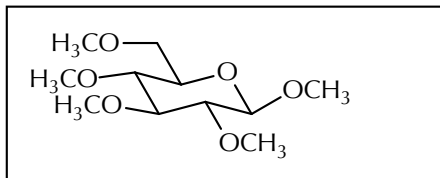


16.31

A. Complete the following.

B. Circle the stereocenter that is partially epimerized upon treatment with acid in CH_3OH .

C. As part of the synthesis of the antibiotic aplasmomycin, the sugar mannose (A) was converted to ketal D using cat. TsOH and acetone, $(\text{CH}_3)_2\text{C}=\text{O}$. The reaction proceeds through two intermediates, B and C. In the boxes below, provide a stepwise, curved arrow mechanism for the transformation of B to C. Use H-B for the acid and B^\ominus for its conjugate base in your mechanism.

