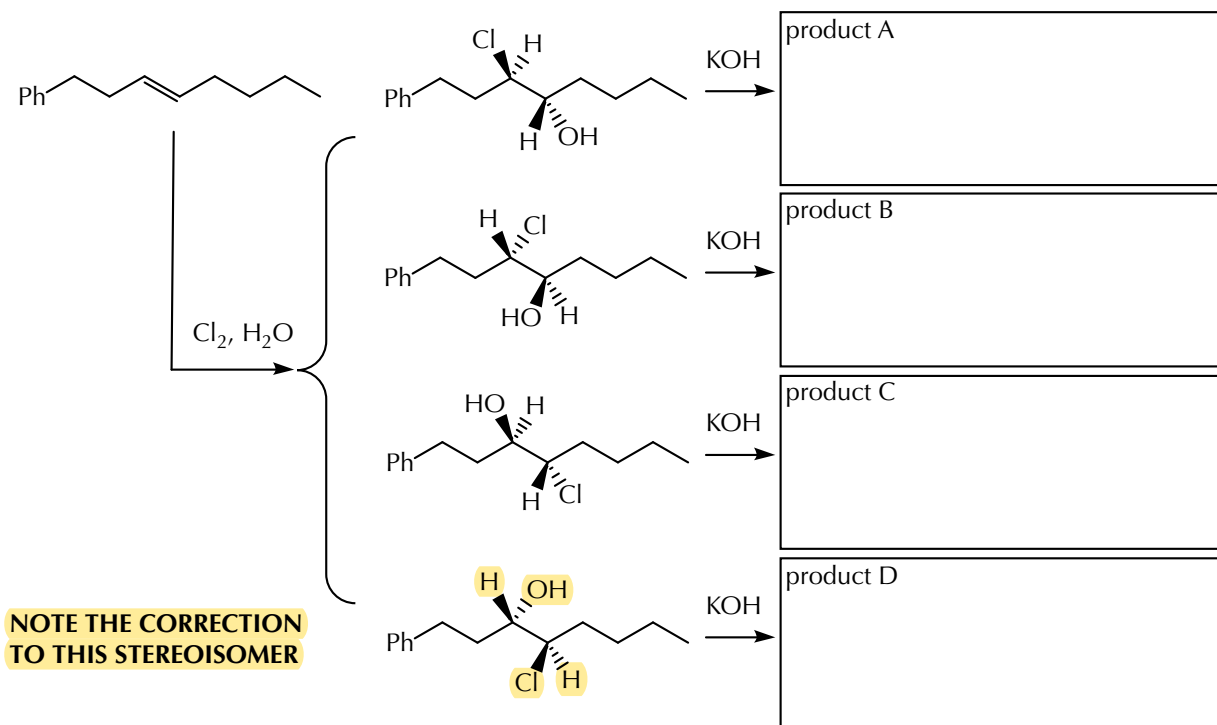
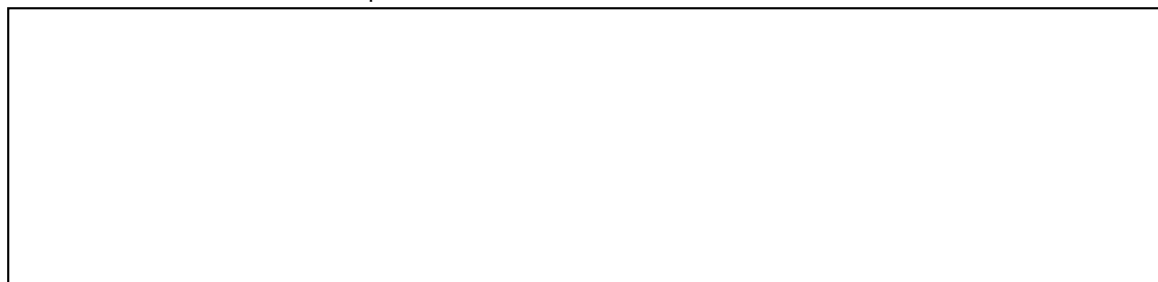


- 11.21 The following addition reaction results in four different regioisomeric and/or stereoisomeric products. All four of them, when treated with potassium hydroxide (KOH), give intramolecular substitution reactions.
- (a) Draw the result from each of the four compounds, giving products A-D.



- (b) Which of these products (A-D) are the same compounds, which are different, and for the ones that are different, what is their relationship?



- (c) In each case, potassium hydroxide deprotonates the hydroxyl group in the organic molecule, and the resulting conjugate base undergoes the intramolecular substitution reaction. In the case of the molecule that gives product D, draw the Newman projection for the conformation of the conjugate base that is required for the intramolecular reaction. Include the curved arrows needed for the mechanism that gives product D.

