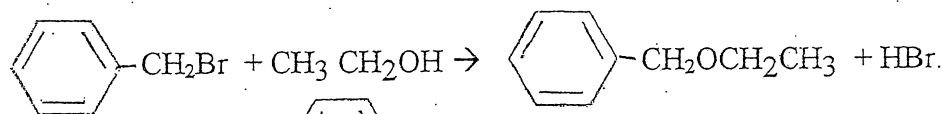
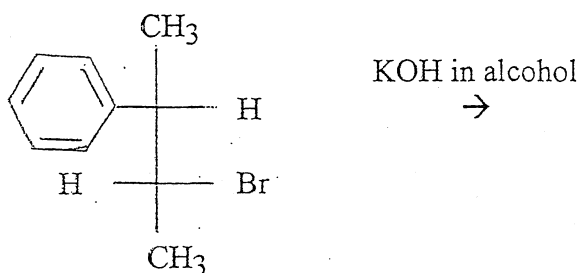


Consider the reaction :



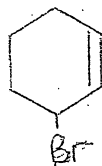
If the concentration of $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$ is tripled, the reaction rate triples. If the concentration of $\text{CH}_3\text{CH}_2\text{OH}$ is doubled, the rate stays the same. Write a rate expression for this reaction and show the mechanism to explain this information. Include a discussion of reaction intermediate stability.

Predict the E2 product indicating proper stereochemistry for the following reaction. Explain your prediction by indicating the mechanism by which this reaction occurs:



Design syntheses for the following products. Use the starting materials that are indicated and any other reagents that you might need.

b. 3-bromocyclohexene,



, from cyclohexane.