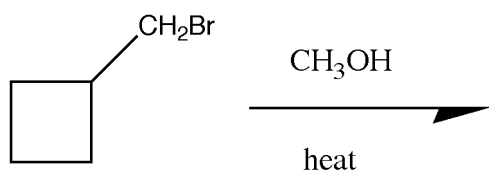


Exercise 5: Elimination reactions

1. Give **two** likely E1-mechanism products of:

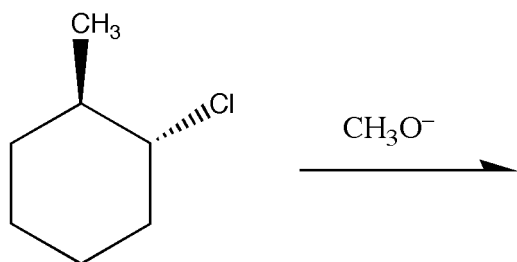


Show mechanisms for each.

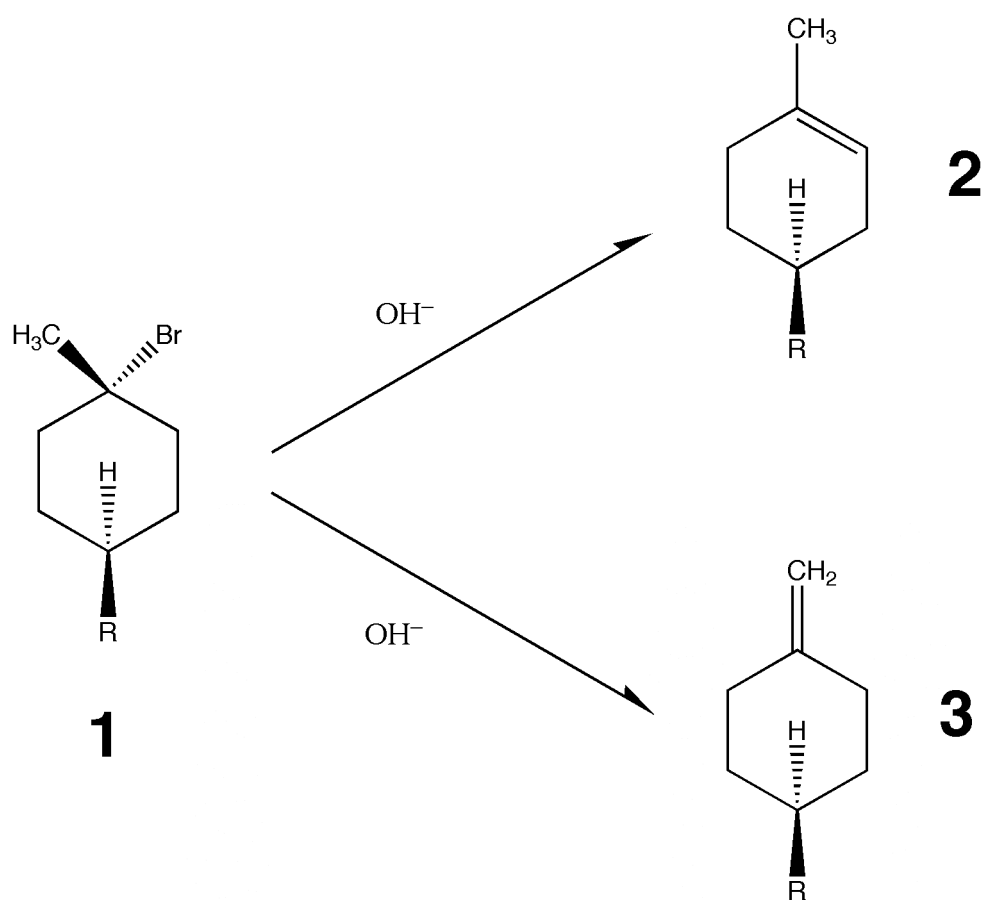
2. a. Draw (1*S*, 2*S*)-1,2-dibromo-1,2-diphenylethane. You may use the abbreviation Ph for the phenyl group.

b. The molecule above undergoes an E2 elimination. Draw the product, paying attention to any stereochemical concerns.

3. Predict the major product for the following:



4. Consider the cyclohexyl bromides 1a and 1b. Upon E2 elimination of HBr with base, 1a resulted in 2a as the major product and 1b resulted in 3b as the major product.



a. $\text{R} = \text{H}$

b. $\text{R} = \text{C}(\text{CH}_3)_3$

Give a concise illustrated explanation for the above observations.