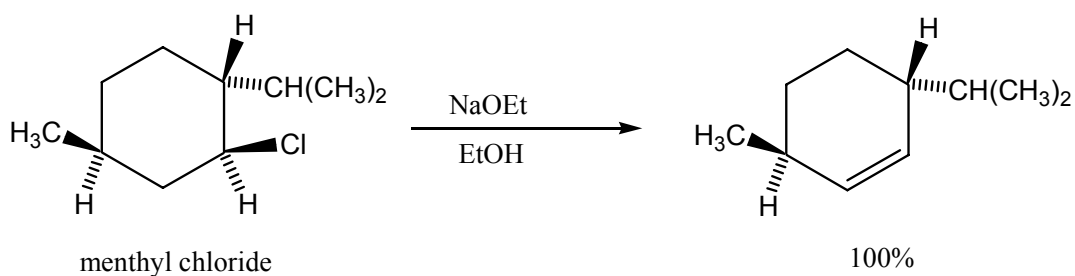
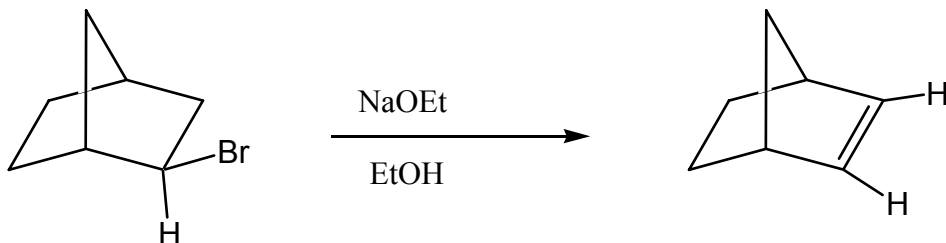


1. 0.01 M $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Br}$ reacts with 0.01 M NaCN in ethanol to yield primarily $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CN}$, while 0.01 M $(\text{CH}_3)_3\text{CBr}$ reacts under the same conditions to give primarily $(\text{CH}_3)_3\text{COCH}_2\text{CH}_3$. Explain concisely.

2. Explain the following observation. Why is there only the one product?



3. Why is the Saytzeff product not formed in the following reaction?



4. Provide a reasonable mechanism to explain the following observation.

