Simple alkenes do not react with hydroxide ion to give alcohols.

Which of the following alkenes will react with hydroxide ion to give the alcohol? Why?

A  \( \text{CH}_2=\text{CH} - \text{OH} \)

B  \( \text{CH}_3\text{CH} = \text{CH} - \cdot \text{H} \)

What structural feature is common among the following compounds?

Which is the best solvent for dissolving 1-bromohexane? Why?

A  \( \text{Br} - \text{CH} - \text{CH} - \text{CH} - \text{CH} - \text{CH} - \text{CH} - \text{Br} \)

B  \( \text{CH}_3\text{CH} = \text{CH} - \cdot \text{H} \)

C  \( \text{CH}_3\text{CH} = \text{CH} - \cdot \text{H} \)
Which is the best solvent for dissolving potassium cyanide? Why?

**A. Cyanide ion does not react with 1° alkyl bromides.**

**B. Potassium cyanide is insoluble in acetonitrile.**

**C. Acetonitrile forms strong hydrogen bonds with cyanide ion.**

Why does the following reaction proceed very slow?

**Very slow reaction**

**A. Cyanide ion does not react with 1° alkyl bromides.**

**B. Potassium cyanide is insoluble in acetonitrile.**

**C. Acetonitrile forms strong hydrogen bonds with cyanide ion.**
Why does the above reaction succeed?

A. Complexes $\overset{\ominus}{\text{C}}\equiv\text{N}$: allowing KCN to be soluble in acetonitrile.

B. Complexes $\overset{\oplus}{\text{K}}$ allowing KCN to be soluble in acetonitrile.

C. The crown ether more polar than water.

Why doesn't the second reaction result in rearrangement?

1° carbocations are unstable!

What is the mechanism of the following reactions?

A. $\text{SN}_1$

B. $\text{SN}_2$

Can this reaction occur without forming a 1° cation?

1° carbocation character resonance structures
Can this reaction occur without forming a 1° cation?

1° carbocation character

3° carbocation very stable

SN2

3° carbocation very stable

What is the major product of the following reaction?

How does this reaction occur?

Which of the following compounds would you predict to react faster?

A

B

pKa

-14

4.76
Which of the following compounds would you predict to react faster?

A

B