Chemistry 220,
Chapter 8-I:
Reactions of Alkenes Part A (Sections 8-3 to 8-7)

Complete the following reactions indicating stereochemistry where necessary.

1. \[
\begin{align*}
\text{HBr} & \\
\end{align*}
\]

2. \[
\begin{align*}
\text{BH}_3 & \quad \text{THF} & \quad \text{H}_2\text{O}_2 & \quad \text{H}_2\text{O}, \text{OH}^- \\
\end{align*}
\]

3. \[
\begin{align*}
\text{H}^+ & \quad \text{EtOH} \\
\end{align*}
\]

4. \[
\begin{align*}
\text{HBr} & \\
\end{align*}
\]

5. Write a mechanism to account for the following reactions. Show each step clearly using curved arrows to show the movement of electrons.

\[
\begin{align*}
\text{HCl} & \quad \text{Cl} \\
\end{align*}
\]

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6. (1) Write a mechanism to account for the following reactions. Show each step clearly using curved arrows to show the movement of electrons.

(2) What stereoisomers do you expect to get from the above reaction?

7. (a) Write a mechanism using curved arrows to show the movement of electrons.

8. }
9. \[ \text{HBr} \]

10. Write a full mechanism for the reaction using curved arrows to show the movement of electrons and indicating appropriate stereochemistry.

11. What are the reactants here?

12. Write a full mechanism for the reaction using curved arrows to show the movement of electrons and indicating appropriate stereochemistry.

13. Write a full mechanism for the reaction using curved arrows to show the movement of electrons and indicating appropriate stereochemistry. You can exclude the second peroxide step mechanism for this one.