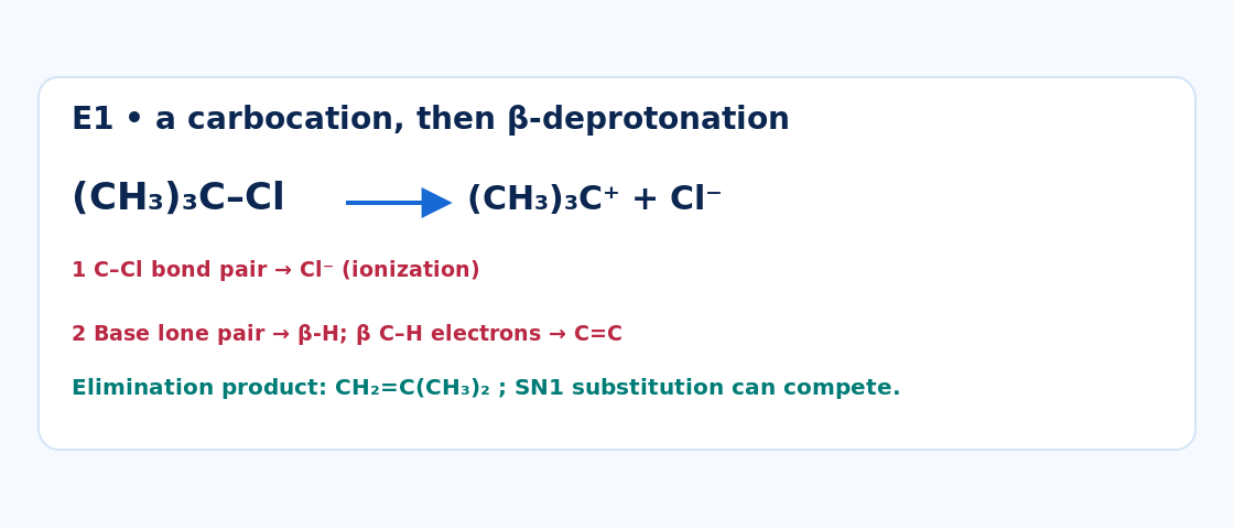
E1 Mechanism Practice

STUDENT WORKSHEET · Mechanism reasoning and curved-arrow practice

Name: _____ Date: _____

Learning target: Trace ionization and beta deprotonation, predict plausible alkene products, and recognize the inevitable possibility of SN1 competition.



Reference illustration: schematic electron-flow map. The exercises below require your own structures and arrows.

1. 2-Chloro-2-methylpropane with Aqueous ethanol, elevated temperature: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

2. 2-Bromo-2-methylbutane with Aqueous ethanol, elevated temperature: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

3. 1-Bromo-1-methylcyclohexane with Aqueous ethanol, elevated temperature: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

4. 2-Methylbutan-2-ol with Catalytic H_3PO_4, heat (dehydration): identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

5. What must occur before dehydration of a tertiary alcohol under acid catalysis?

6. Contrast E1 and E2 kinetic/mechanistic steps and SN1 competition.

Practice note: Mechanism selection is evidence-based. Solvent, substrate, temperature, and competing reactions influence outcomes.