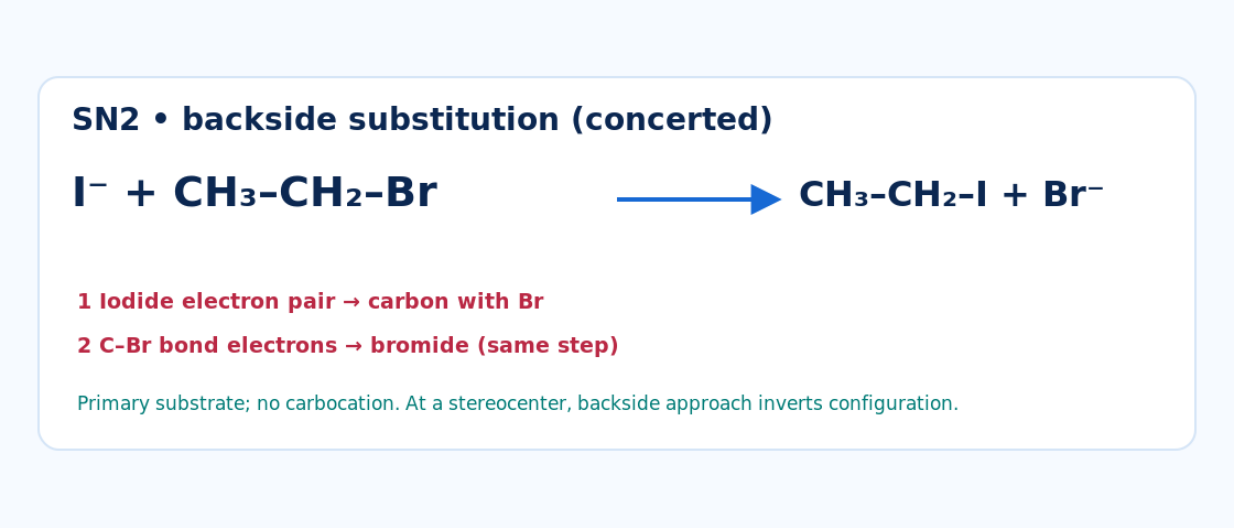
SN2 Mechanism Practice

STUDENT WORKSHEET · Mechanism reasoning and curved-arrow practice

Name: _____ Date: _____

Learning target: Predict when backside substitution is favored, draw the two simultaneous arrows, and describe stereochemical inversion.



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

1. Bromoethane with NaI in acetone: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

2. 1-Bromopropane with NaCN in DMSO: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

3. 1-Bromobutane with NaOCH3 in methanol, moderate temperature: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

4. (R)-2-Bromobutane with NaN3 in DMSO, mild temperature: identify the likely pathway, draw the elementary arrow(s), predict relevant product(s), and name one competing outcome or limitation.

5. Explain the two curved arrows in an SN2 reaction. Why is there no carbocation?

6. What happens to geometry at an SN2 stereocenter? Explain why R/S may not be an automatic letter flip.

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