









**TABLE 8.2** GUIDELINES FOR DETERMINING THE REGIOCHEMICAL AND STEREOCHEMICAL OUTCOME OF SUBSTITUTION AND ELIMINATION REACTIONS

	REGIOCHEMICAL OUTCOME	STEREOCHEMICAL OUTCOME
<b>S<sub>N</sub>2</b>	The nucleophile attacks the $\alpha$ position, where the leaving group is connected.	The nucleophile replaces the leaving group with inversion of configuration.
<b>S<sub>N</sub>1</b>	The nucleophile attacks the carbocation, which is where the leaving group was originally connected, unless a carbocation rearrangement takes place.	The nucleophile replaces the leaving group with racemization.
<b>E2</b>	The Zaitsev product is generally favored over the Hofmann product, unless a sterically hindered base is used, in which case the Hofmann product will be favored.	This process is both stereoselective and stereospecific. When applicable, a <i>trans</i> disubstituted alkene will be favored over a <i>cis</i> disubstituted alkene. When the $\beta$ position of the substrate has only one proton, the stereoisomeric alkene resulting from <i>anti</i> -periplanar elimination will be obtained (exclusively, in most cases).
<b>E1</b>	The Zaitsev product is always favored over the Hofmann product.	The process is stereoselective. When applicable, a <i>trans</i> disubstituted alkene will be favored over a <i>cis</i> disubstituted alkene.