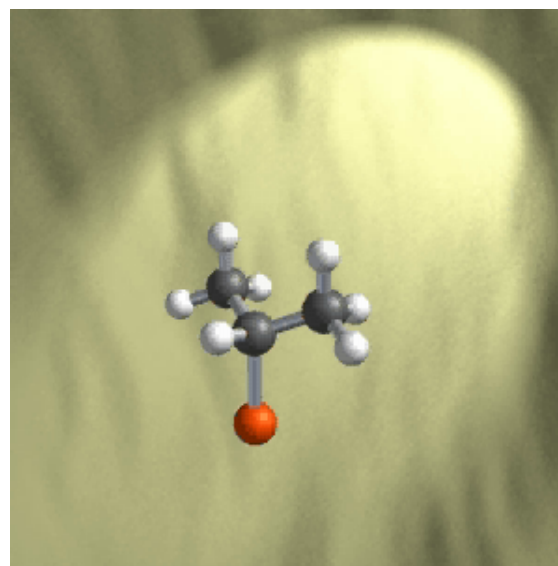
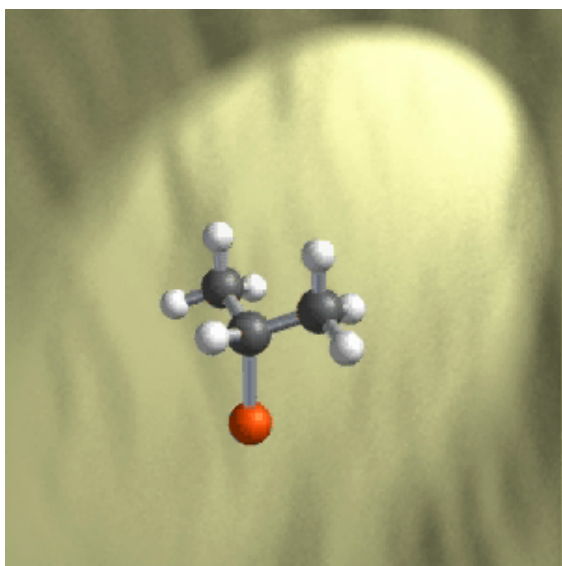
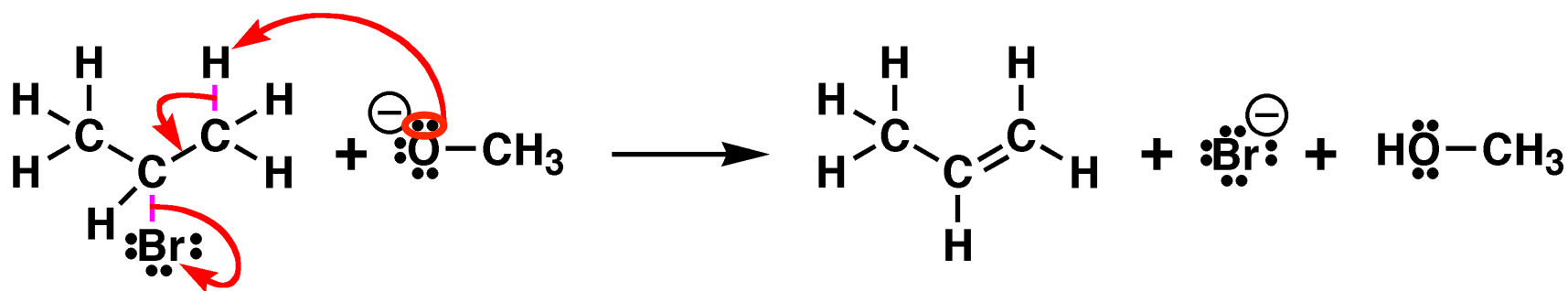


# Stereochemistry of the [E2] Pathway

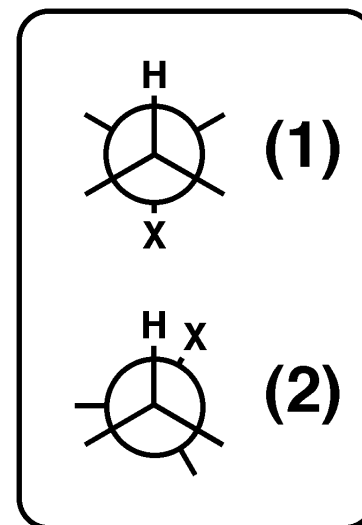
The [E2] reaction pathway has very specific requirements: There must be continuous overlap among the orbitals in which  $\sigma$  bonds are made/broken and  $\pi$  bonds are made.



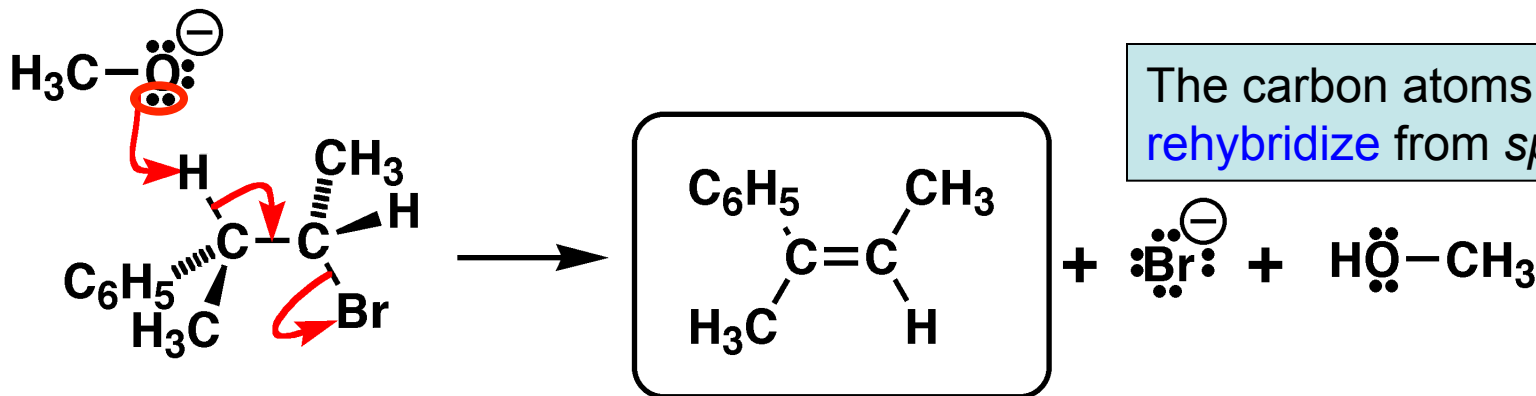
# Conformational Requirements of [E2] Elimination

(1)  $-X$  and  $-H$  oriented **anti-periplanar**

(2)  $-X$  and  $-H$  oriented **syn-periplanar**



For steric reasons, the preferred pathway for [E2] elimination is through (1). The double bond geometry depends on which pathway is followed. Consider the following example:



Elimination	E2 bimolecular examples	E2 to form diene
Electrophilic aromatic substitution	E1 unimolecular	E2 Stereoselective for E
Enols and Enolates as nucleophiles	E1cb unimolecular conjugate base	E2 Stereospecific Acyclic
		E2 Cyclohexyl Diast A
		E2 Cyclohexyl Diast B

Here's another example:

<http://www.chemtube3d.com/EliminationE2stereospecific.html>