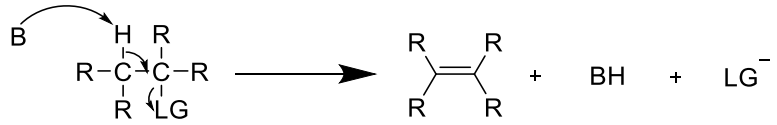
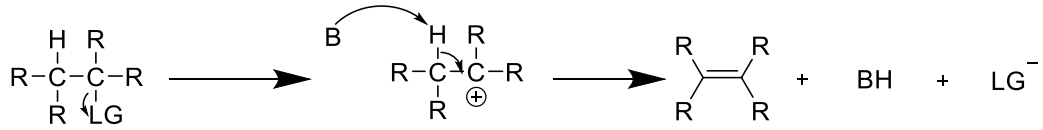
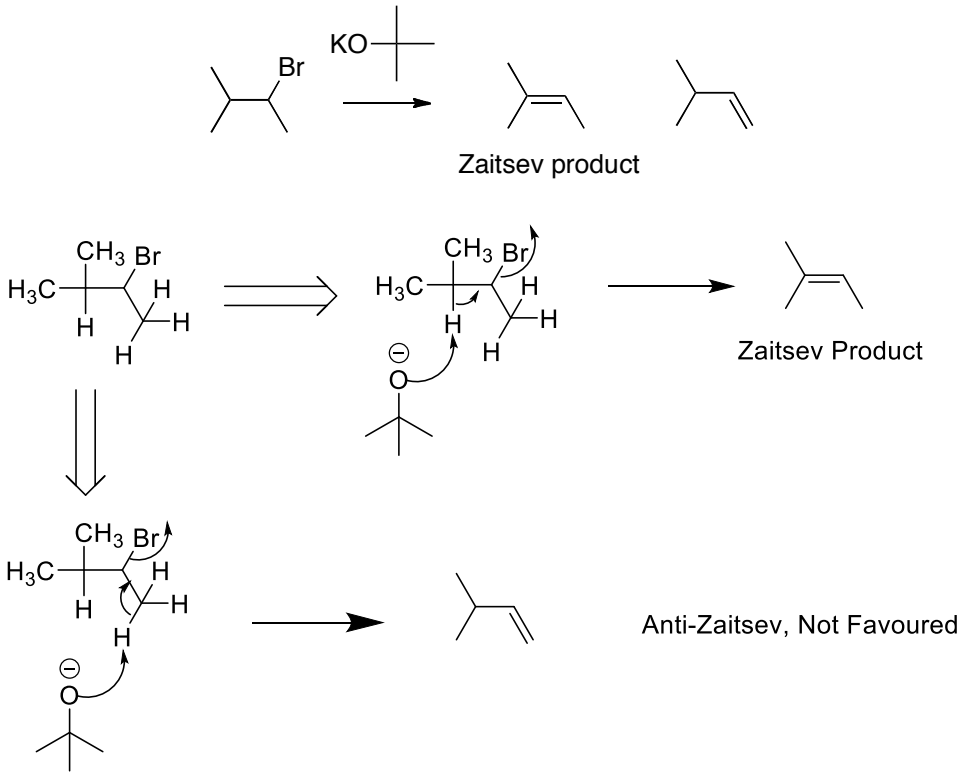
Review: E2



Review: E1



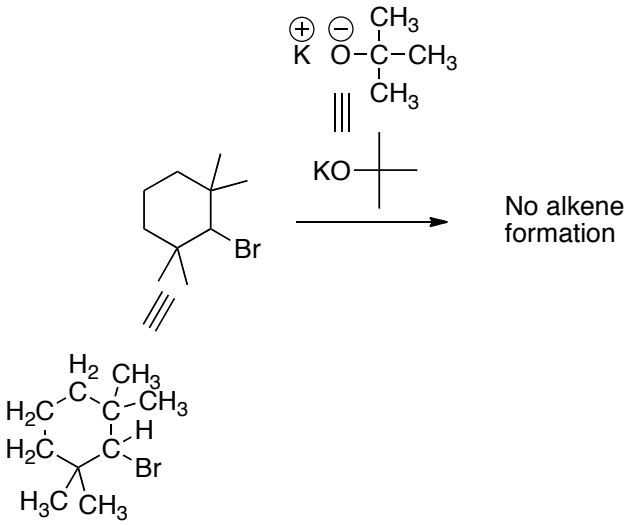
Zaitsev Rule – formation of most substituted double bond favoured in elimination reactions.



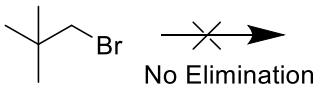
Limitations

Must have H on adjacent carbon – reaction below does NOT work due to lack of H that can be removed

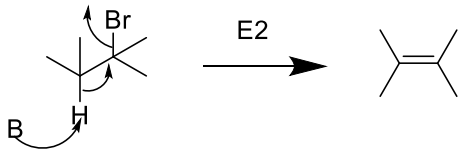
Eg. 1)



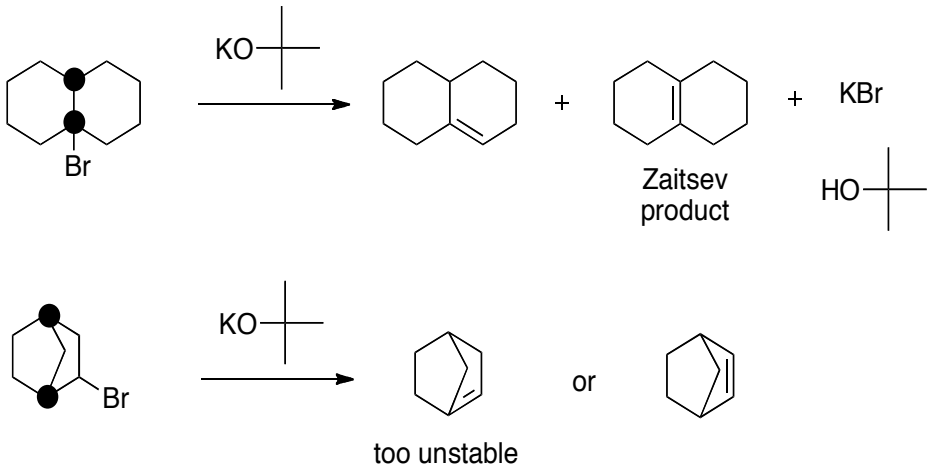
Eg. 2)



Eg. 3)

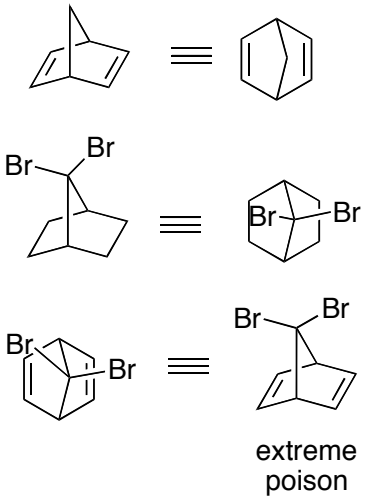


Bicyclic Systems – require special attention:



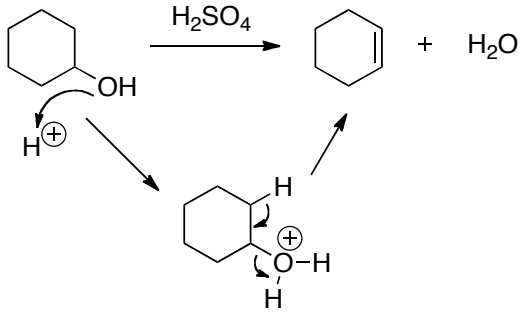
● Bridgehead

Bredt's rule – in bicyclic molecules no alkene to a brigehead carbon, if all bridges have ≥ 1 carbon and small rings (< 7). In top example one bridge has 0 carbons and alkene formation works.



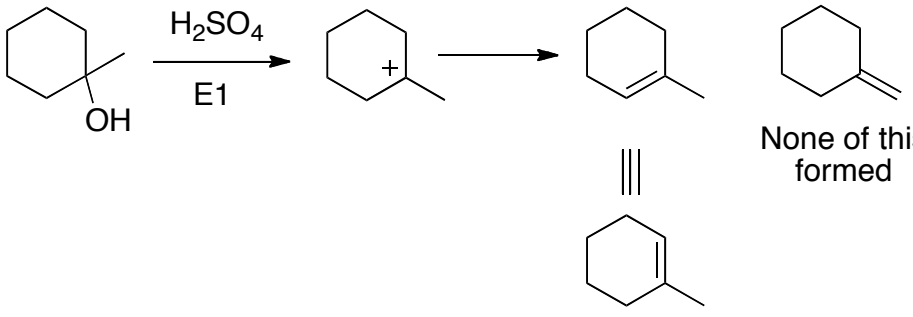
Elimination of H-OH or H-OR (generally requires acid eg. H_2SO_4)

Eg.1) **E1: Elimination**

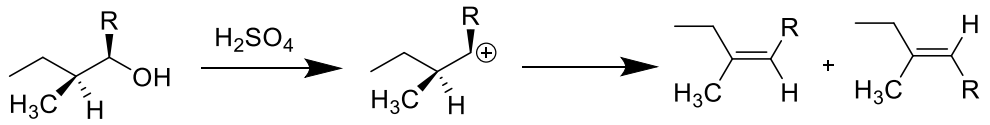


HO^- or RO^- are bad leaving groups however HO-H or RO-H are good leaving groups

Eg.2) **E1: Elimination**



Other examples:



Both products are formed due to free rotation of the single bond of the carbocation.

Summary E1, S_N1, E2 and S_N2

Particulars		**E1**	**S_N1**	**E2**	**S_N2**
Stereospecific		x	x	*	*
Concerted		x	x	*	*
Order of Reaction		1	1	2	2
		[c-c]	[c-c]	[c-c][B]	[c-c][Nuc]
Strength of Nuc./Base		Weak Base	Weak Nuc.	Strong Base	Strong Nuc.
Substrate	Me	x	x	x	*
	1^o	x	x	*	*
	2^o	~	~	*	~
	3^o	*	*	*	x

*-Yes X-No