

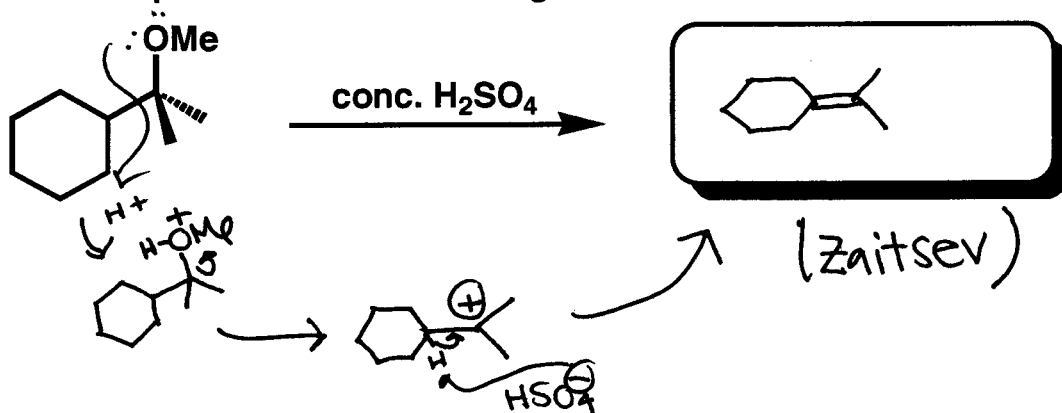
- KEY -

Chem 30A – Week 10

1. Fill in the table.

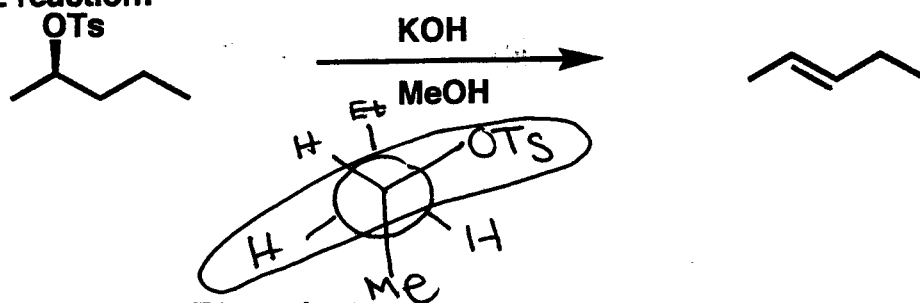
	S_N1	S_N2	E1	E2
Number of Steps	2	1	2	1
General Mechanism	step-wise	concerted	same as S_N1	same as S_N2
Kinetics	$r = k[R-LG]$ (1st order)	$r = k[R-LG][nuc]$ (2nd order)	S_N1	$r = k[R-LG][base]$
Stereochemistry	(product: mixed)	(product: inverted)	(S.M.:) none	(S.M.:) anti periplanar
Substrate	$3^\circ > 2^\circ > 1^\circ$	$1^\circ > 2^\circ > 3^\circ$	S_N1	S_N2
Solvent	polar protic	polar aprotic	both	both
Competing Reactions	E1	E2	S_N1	S_N2

2. Predict the product of the following E1 reaction.

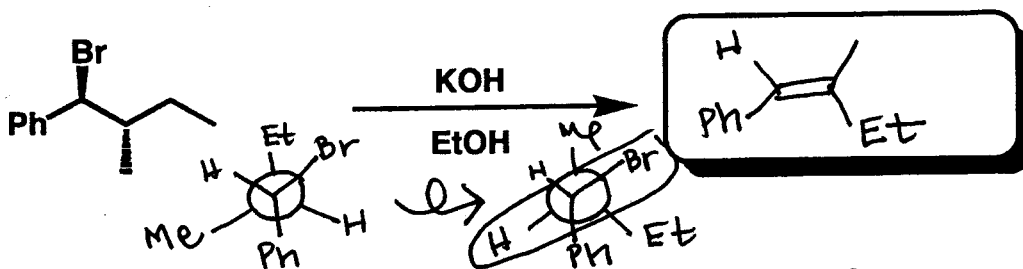


3. E2- Newmans or Chairs

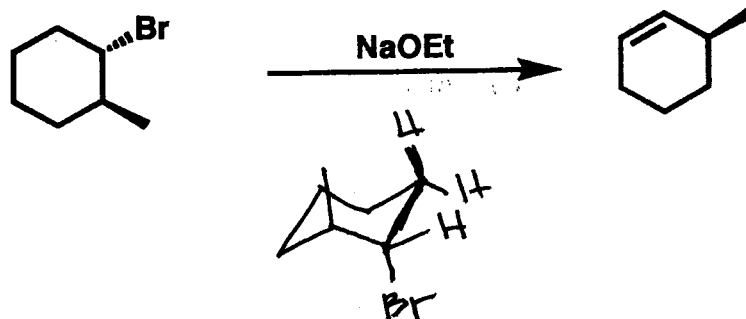
(a) Draw the Newman projection for the conformation required for the E2 reaction:



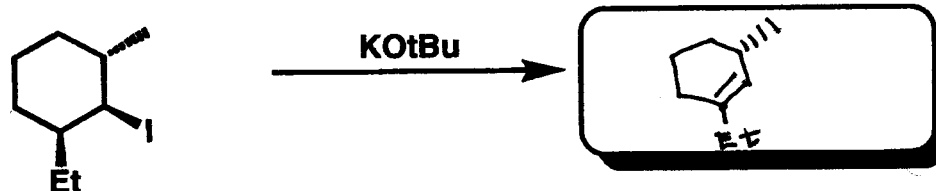
(b) Predict the E2 product:



(c) Draw the chair conformation required for the E2 reaction :



(d) Predict the E2 product:



4. Combined Problems- Substitution and Elimination

