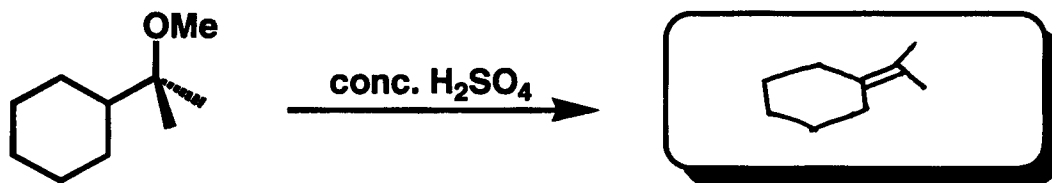


Handout VI – Elimination Reactions – KEY –

1. Fill in the table.

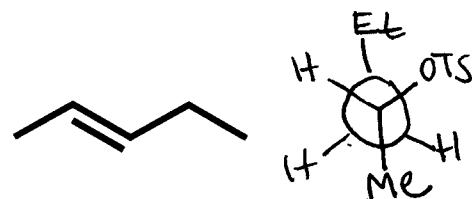
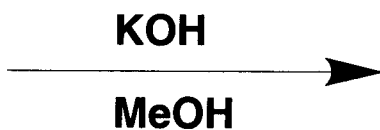
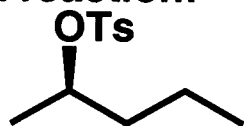
	E1	E2
Number of Steps	2	1
General Mechanism	step-wise	concerted
Kinetics	rate = $k[R-LG]$ (1st order)	rate = $k[R-LG][Base]$ (2nd order)
Stereochemistry	NONE	anti-periplanar
Substrate	$3^\circ > 2^\circ > 1^\circ$	$1^\circ > 2^\circ > 3^\circ$ (but less selective than S_N2)
Solvent	polar protic	both polar aprotic & polar protic
Competing Reactions	S_N1	S_N2

2. Predict the product of the following E1 reaction.

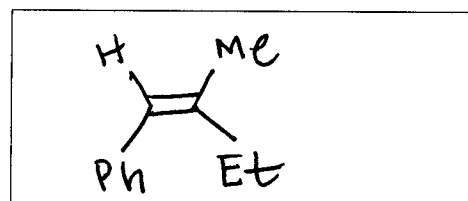
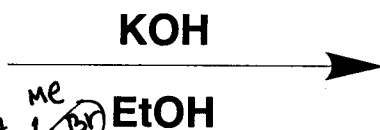
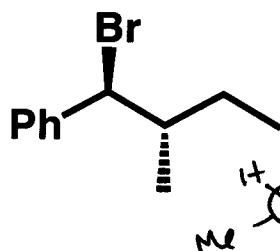


3. E2 Reactions

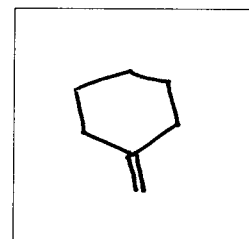
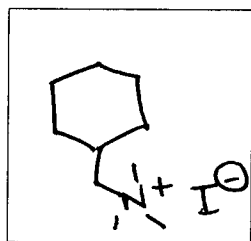
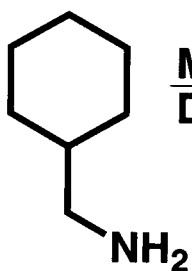
(a) Draw the Newman projection for the conformation required for the E2 reaction:



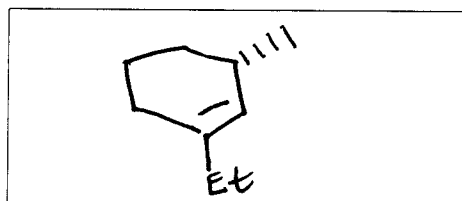
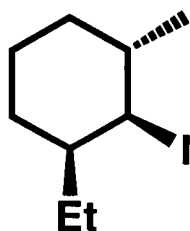
(b) Predict the E2 product:



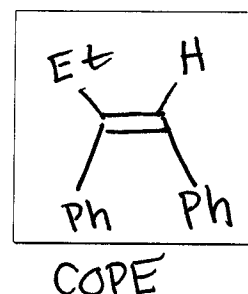
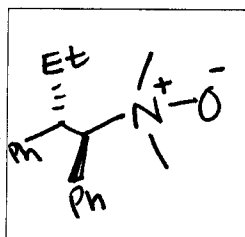
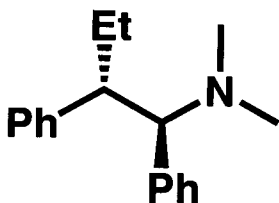
(c) Predict the products of each step.



(d) Predict the E2 product:

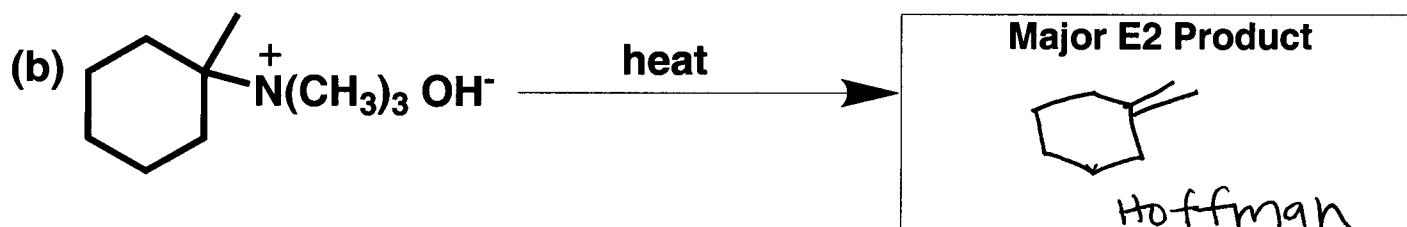
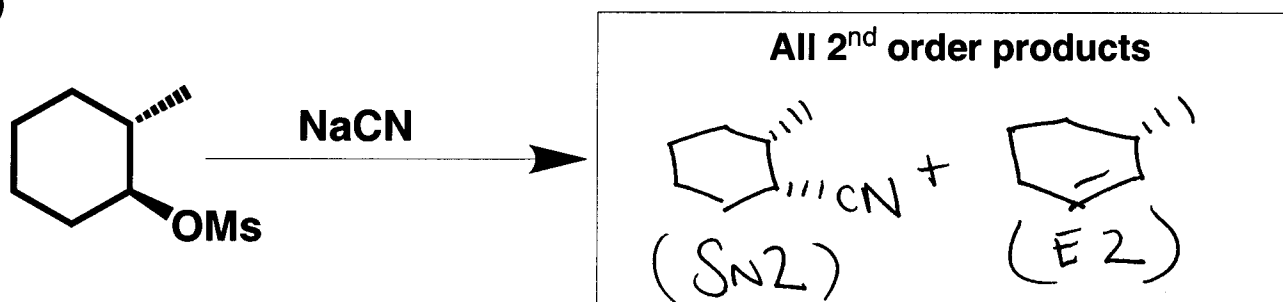


(e) Predict each product.

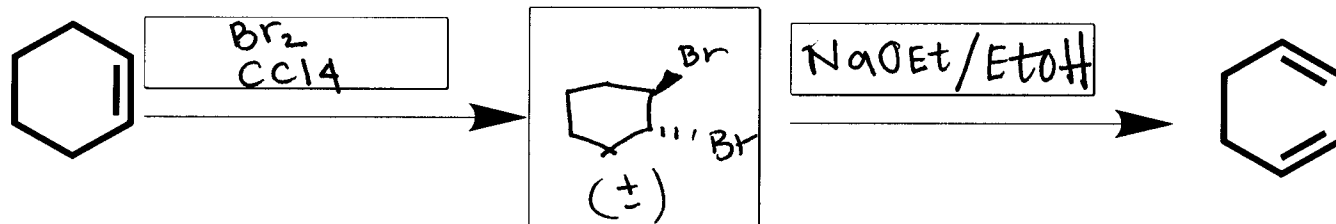


4. Assorted Problems

(a)



(c) Stolen from an old Stu final –



(d)

