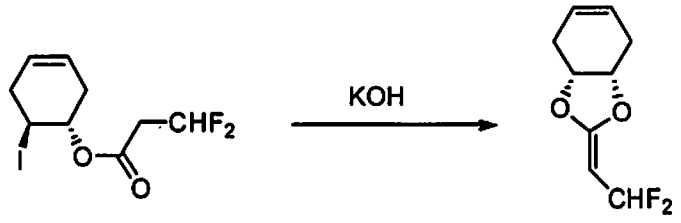
2012 Mechanisms Quiz #2 20 points NAME:_____

1-10) For the following cyclization which is performed in a polar, aprotic solvent:

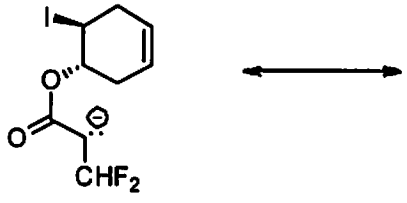


1) Write a balanced equation for this reaction.

2) Is this reaction performed under ACIDIC, BASIC or NEUTRAL conditions ?

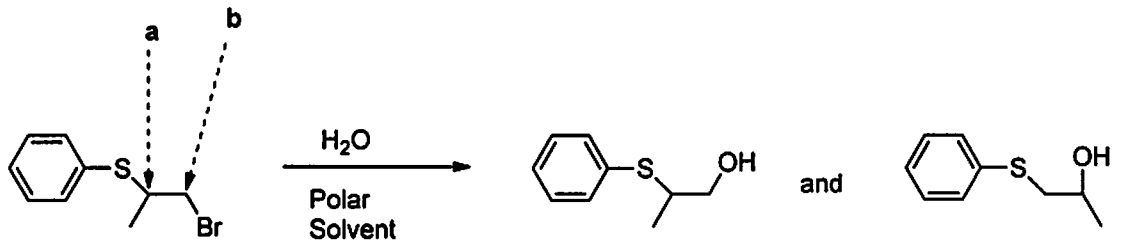
3) Name or draw an appropriate solvent for this reaction.

4-6) This reaction proceeds through the below anion (which happens to be resonance stabilized), draw the other resonance structure for the below anion, and then draw the curly arrow(s) which produce(s) the resonance structure.



7-10) Using curly arrows, write the FULL mechanism for this reaction.

11-18) For the following substitution reaction that involves a rearrangement:



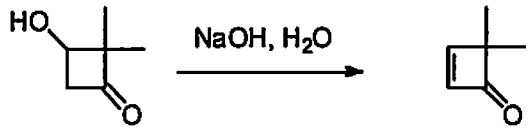
11-12) indicate in BOTH of the products, where you believe carbons **a** and **b** are located.

13-18) write a mechanism (using curly arrows) that accounts for the formation of both of the products.

BONUS POINT

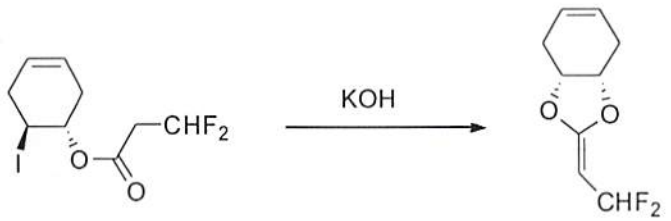
What scientific name is given to describe the role of the Sulphur in this rearrangement?

19-20) For the following reaction, bearing in mind the reaction conditions, write a correct mechanism for this dehydration.

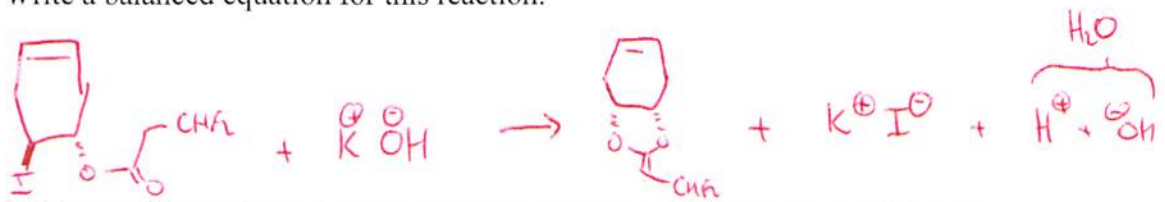


2012 Mechanisms Quiz #2 20 points NAME:_____

1-10) For the following cyclization which is performed in a polar, aprotic solvent:



1) Write a balanced equation for this reaction.



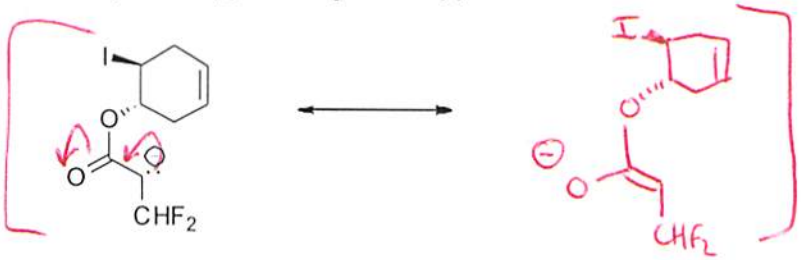
2) Is this reaction performed under ACIDIC, BASIC or NEUTRAL conditions ?

Basic

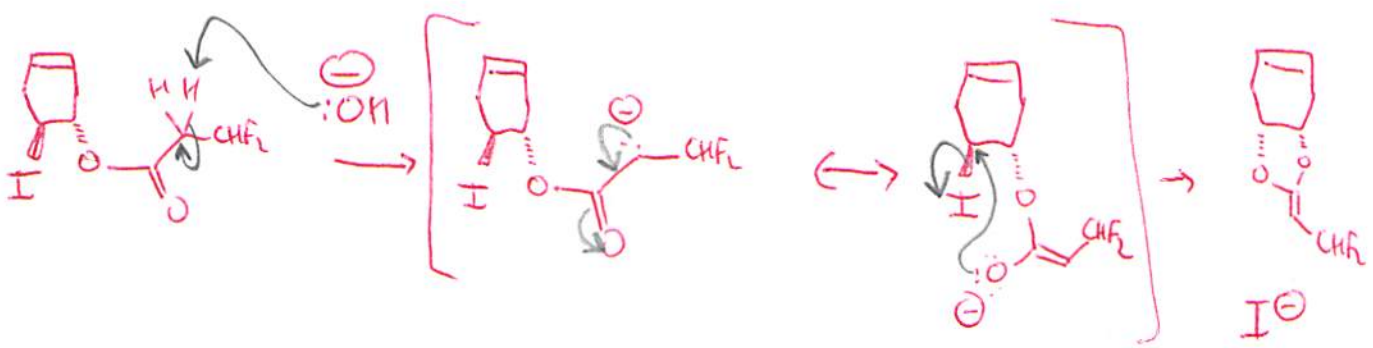
3) Name or draw an appropriate solvent for this reaction.

Any polar, aprotic solvent such as  DMF, DMA, etc ....

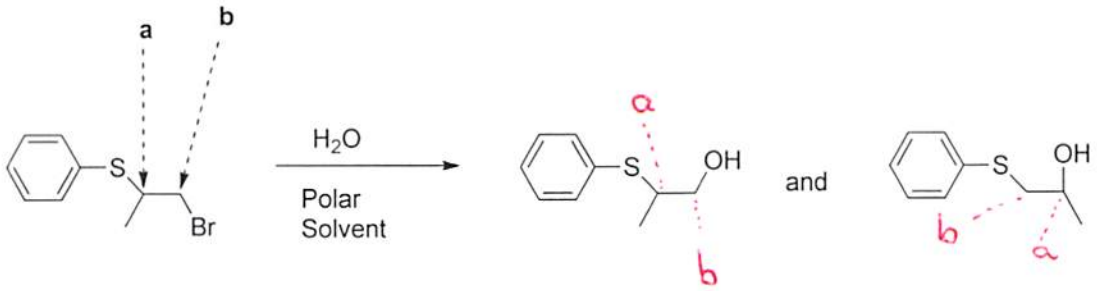
4-6) This reaction proceeds through the below anion (which happens to be resonance stabilized), draw the other resonance structure for the below anion, and then draw the curly arrow(s) which produce(s) the resonance structure.



7-10) Using curly arrows, write the FULL mechanism for this reaction.

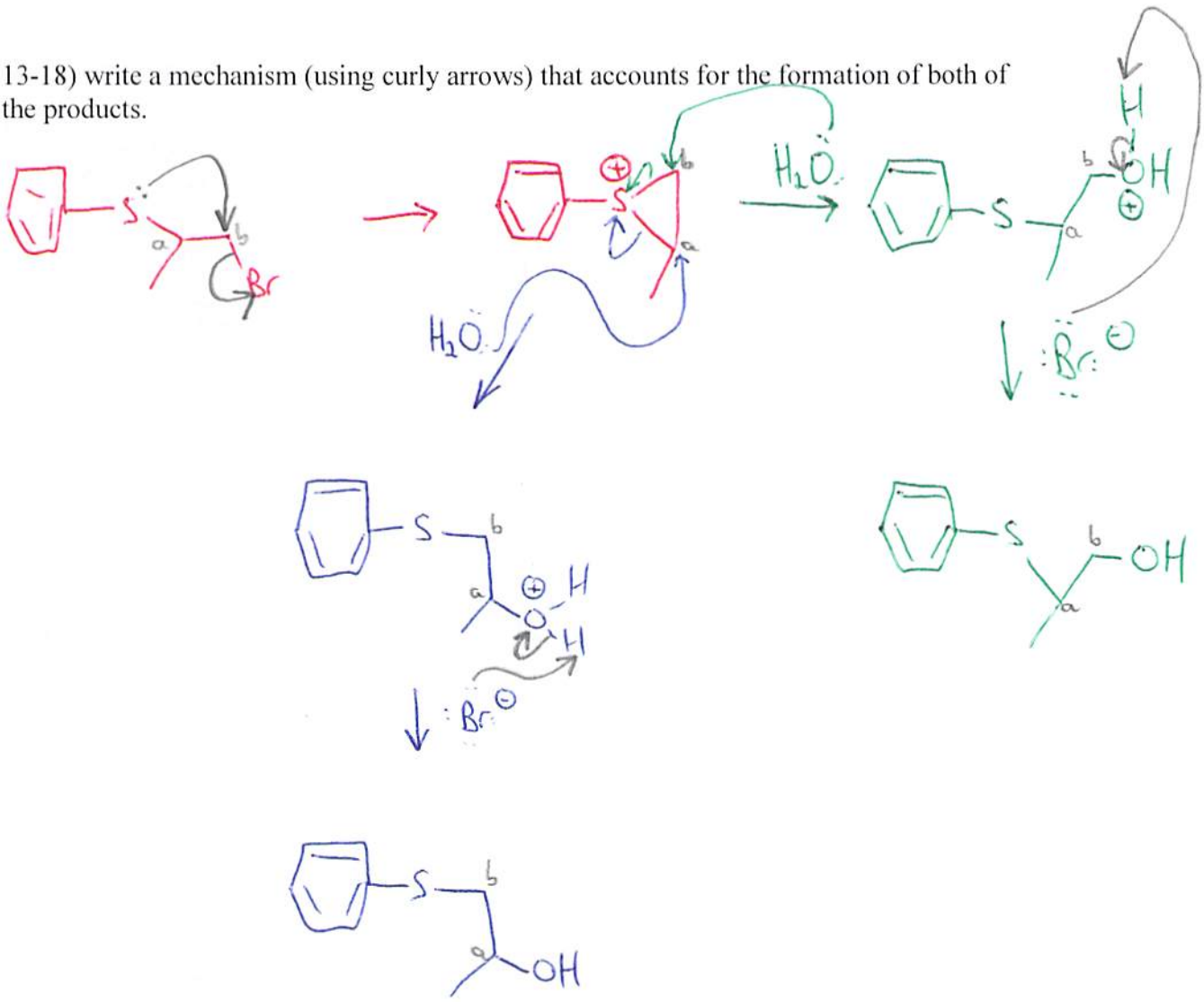


11-18) For the following substitution reaction that involves a rearrangement:



11-12) indicate in BOTH of the products, where you believe carbons **a** and **b** are located.

13-18) write a mechanism (using curly arrows) that accounts for the formation of both of the products.

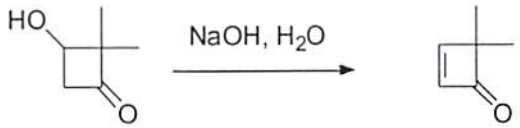


BONUS POINT

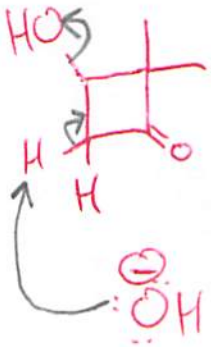
What scientific name is given to describe the role of the Sulphur in this rearrangement?

ANCHIMERIC ASSISTANCE (or NEIGHBORING GROUP PARTICIPATION)

19-20) For the following reaction, bearing in mind the reaction conditions, write a correct mechanism for this dehydration.



basic – so $\bar{O}H$ is the basic species & $\bar{O}H$ is an allowed leaving group.



(or E1-cB version)