1. Show all fundamental steps of the mechanisms for the following reactions.
   1. 
   2. 
2. Show all fundamental steps of the mechanisms for the following reactions.
   1. 
   2. 
3. Which undergoes decarboxylation more rapidly? How does the mechanism explain this?





1. Show all fundamental steps of the mechanisms for the following reactions.
   1. 
   2. 
2. Show all fundamental steps of the mechanisms for the following reactions
   1. 
   2. 
   3. 
3. Show all fundamental steps of the two mechanisms for the following rearrangement: one basic and the other in acidic solution.



1. Show all fundamental steps of the mechanisms for the following reactions
   1. 
   2. 
2. Show all fundamental steps of the mechanisms for the following reactions
   1. 
   2. 
3. Show all fundamental steps of the mechanism for the following reaction



1. Show all fundamental steps of the mechanisms for the following reactions





1. Circle the positions in the compounds that will exchange deuterium with OD-/D2O.



1. Show all fundamental steps of the mechanisms for the following reactions.



1. Show all fundamental steps of the mechanism for the following reaction and explain the product distribution.



1. What are typical bond energies for Si-C and Si-O? Predict the thermodynamically favored product in (a) and all fundamental steps of the mechanism.
   1. 
   2. Explain the regiochemical results for the following two reactions.



1. Show all fundamental steps of the mechanisms for the following reactions. Explain the difference in results.



1. Show all fundamental steps of the mechanisms for the following reactions



1. Show all fundamental steps of the mechanisms for the following reactions



1. Show all fundamental steps of the mechanism for the following reaction.



1. Show all fundamental steps of the mechanisms for the following reaction



1. Show all fundamental steps of the mechanisms for the following reactions
   1. 
   2. 
2. Show all fundamental steps of the mechanisms for the following reactions.



1. Show all fundamental steps of the mechanism for the following reaction. Hint: the starting material is a -hydroxy-ketone.



1. Show all fundamental steps of the mechanisms for the following reactions.





1. Show all fundamental steps of the mechanism for the following reaction

