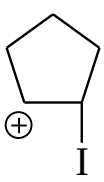
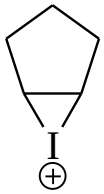
2012 Mechanisms Quiz #4 20 points NAME:_____

1) (5pts) For the below two cations:



and



- Draw all the lone pairs on the following chemical species.
- Which has more ring strain ?
- Which has more chemical bonds ?
- Draw curly arrows to show how these species interconvert.
- Which is the more stable cation ?

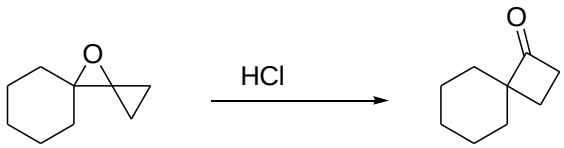
(There is a bonus point if you can explain how you can provide experimental support for your selection of the most stable cation).

Answer 3 of the following 4 mechanism questions, each worth 5 points.

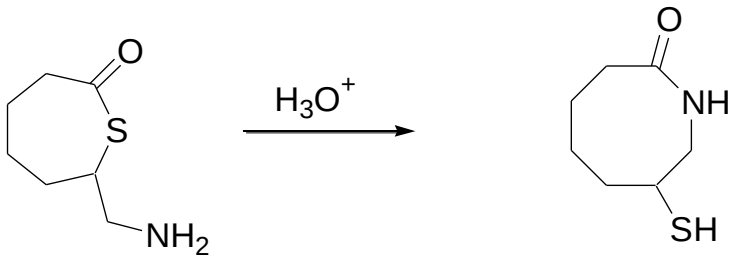
3 x 5 = 15 points

2) Write the mechanism for a Baeyer Villager oxidation of a cyclic ketone.

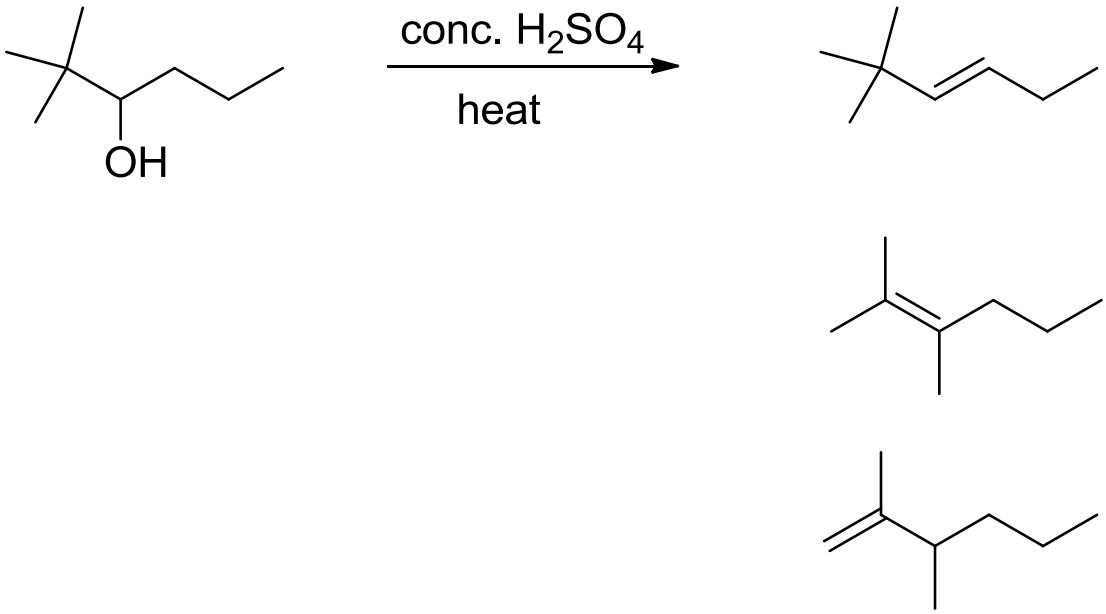
3) Draw the mechanism for the following transformation.



4) Write the correct acid catalyzed mechanism for this rearrangement.



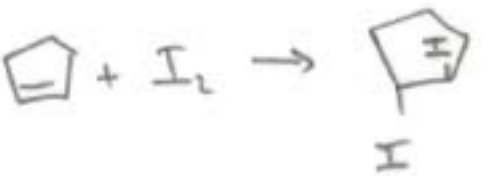
5) Write a mechanism to explain the formation of all three alkene products.



2012 Mechanisms Quiz #4 20 points NAME: TWQ 4

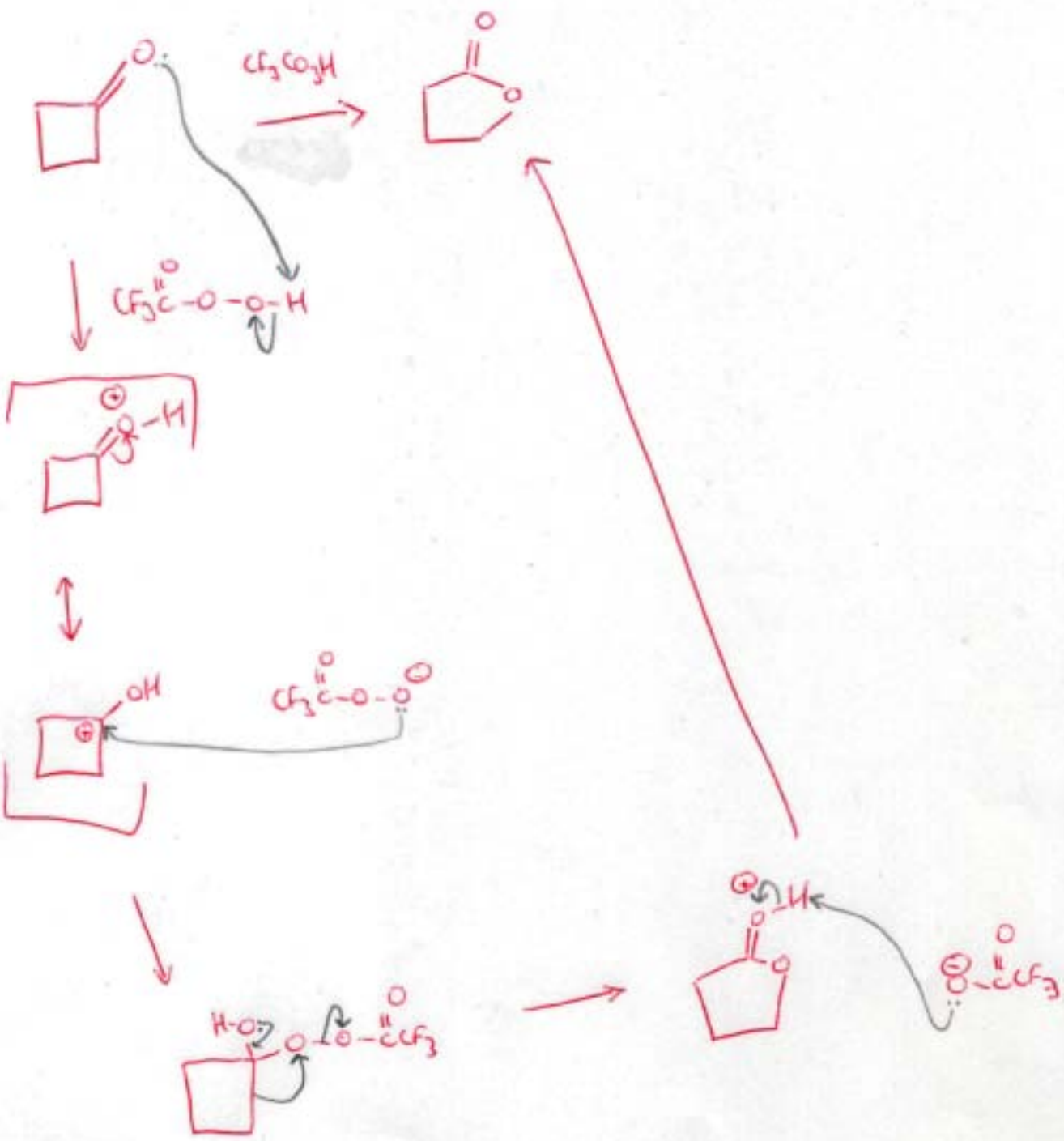
1) (5pts) For the below two cations:

- Draw all the lone pairs on the following chemical species.
- Which has more ring strain ? Right hand side
- Which has more chemical bonds ? Right hand side
- Draw curly arrows to show how these species interconvert.
- Which is the more stable cation ? Right hand side

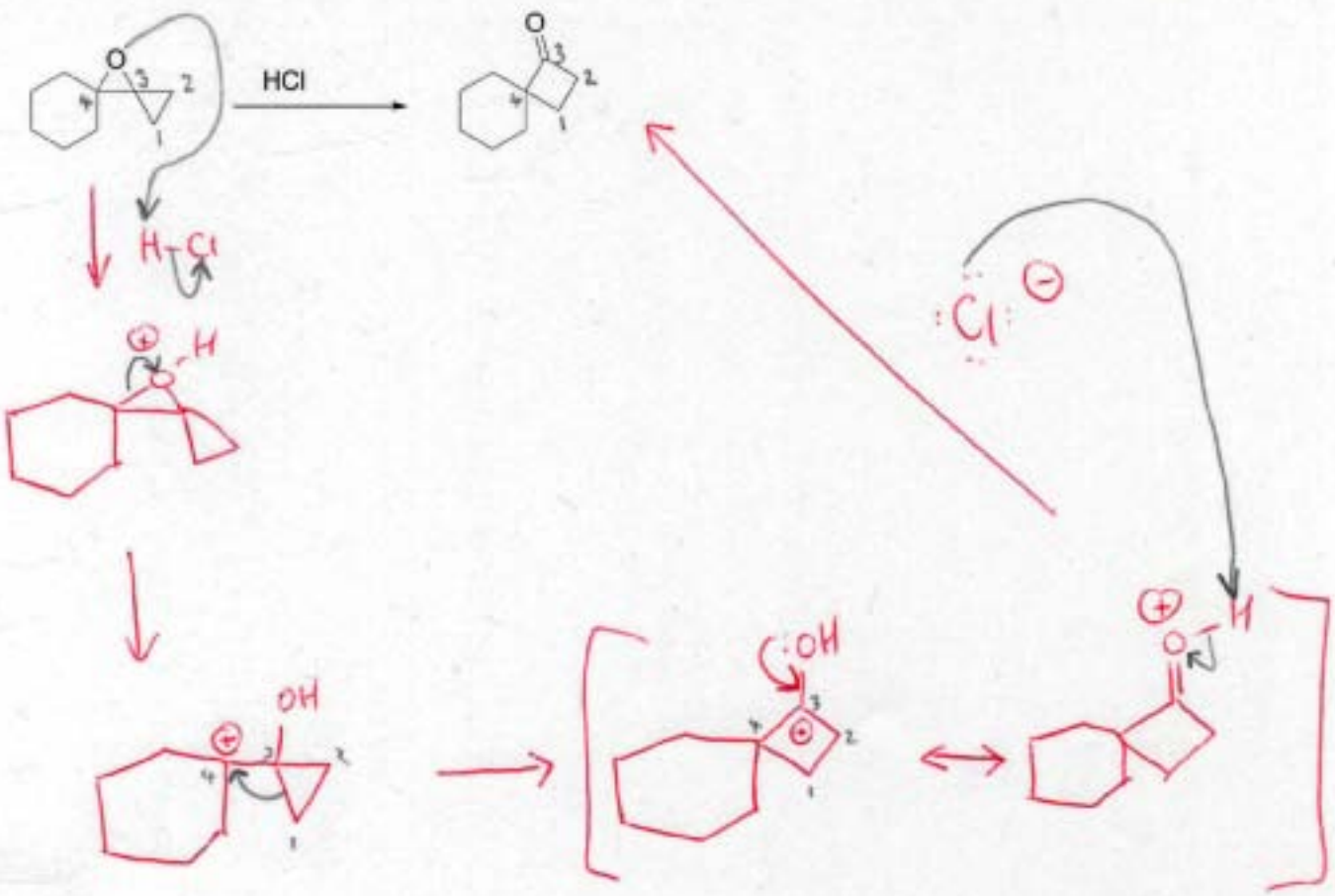
Because  and the ANTI di-iodide can exclusively be only produced via backside attack on the iodonium intermediate.

(There is a bonus point if you can explain how you can <u>experimentally</u> verify your selection of the most stable cation).

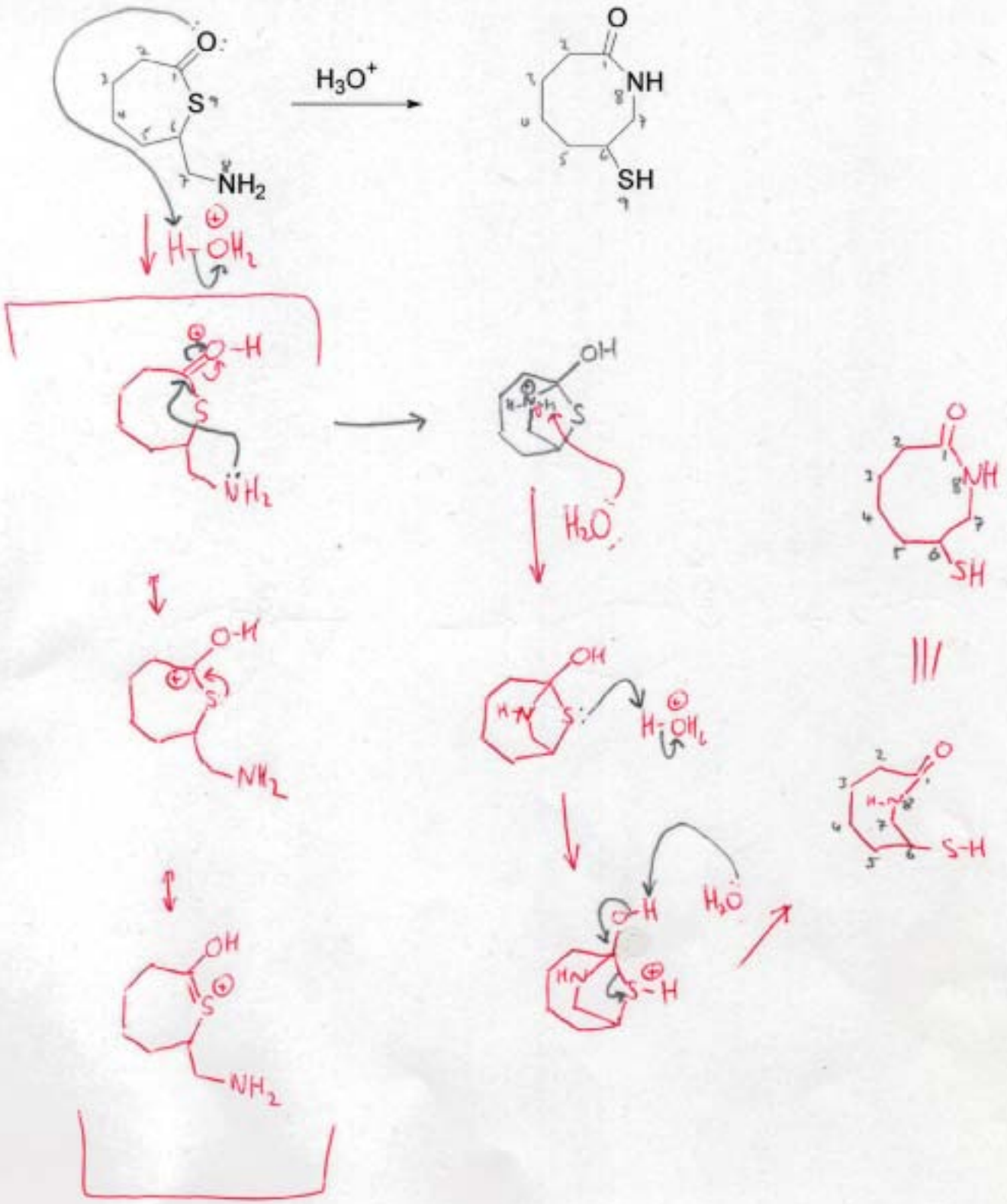
2) Write the mechanism for a Baeyer Villager oxidation of a cyclic ketone.



3) Draw the mechanism for the following transformation.



4) Write the correct acid catalyzed mechanism for this rearrangement.



5) Write a mechanism to explain the formation of all three alkene products.