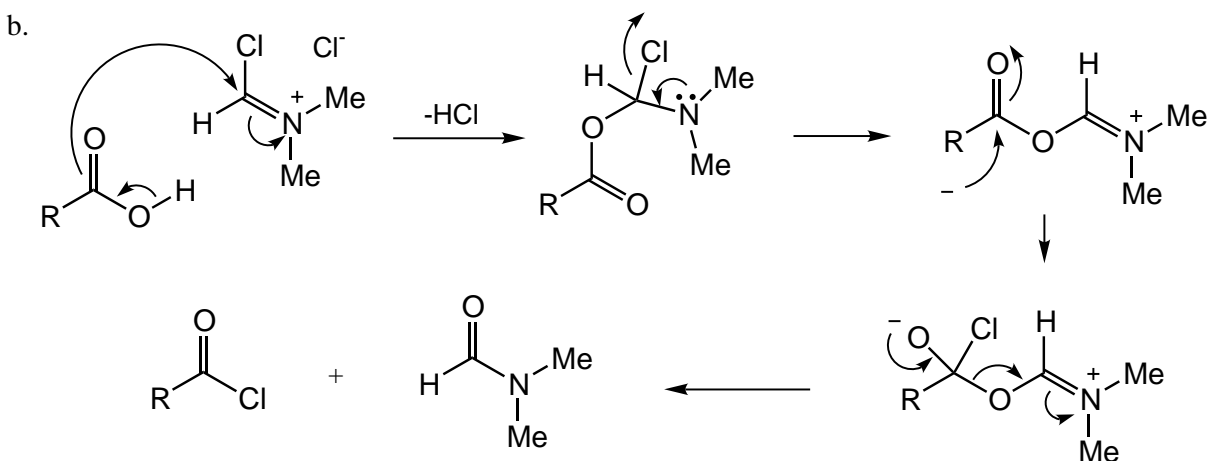
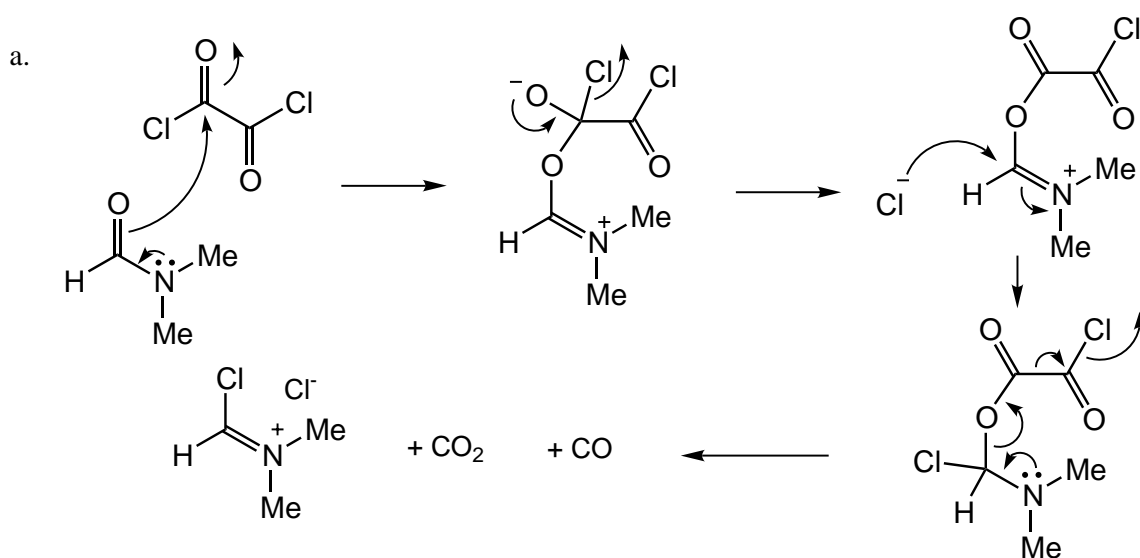
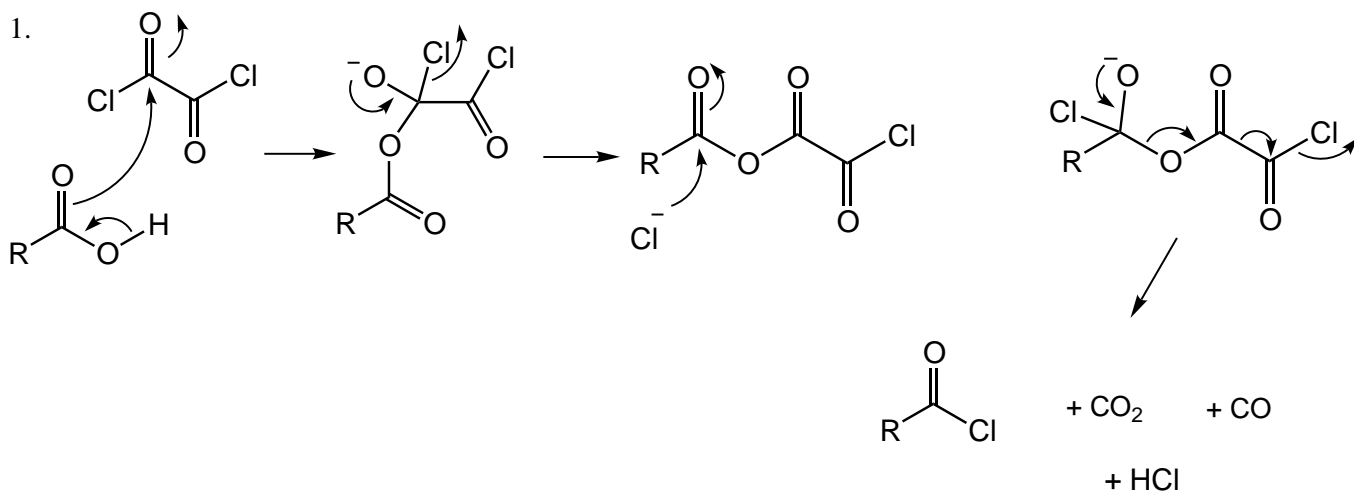
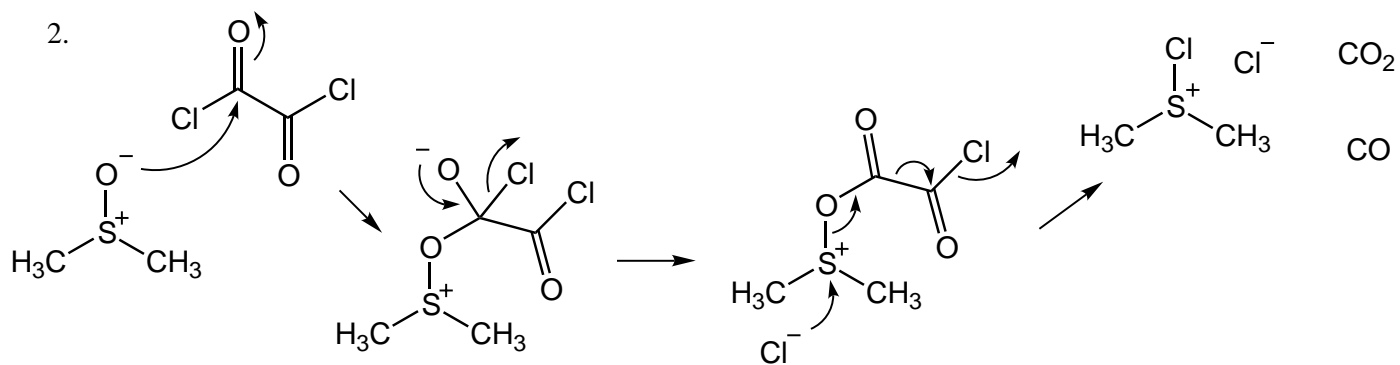
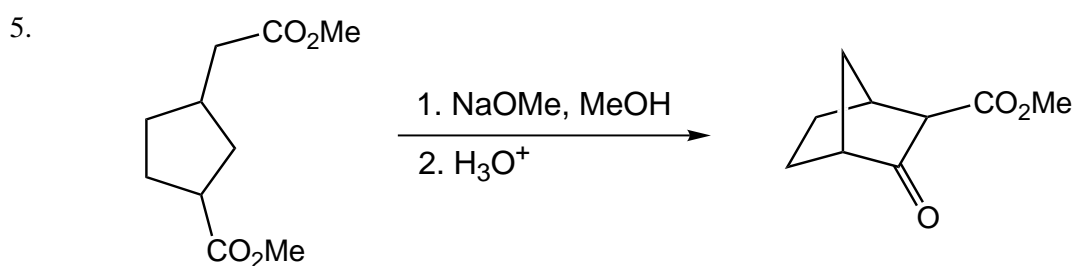
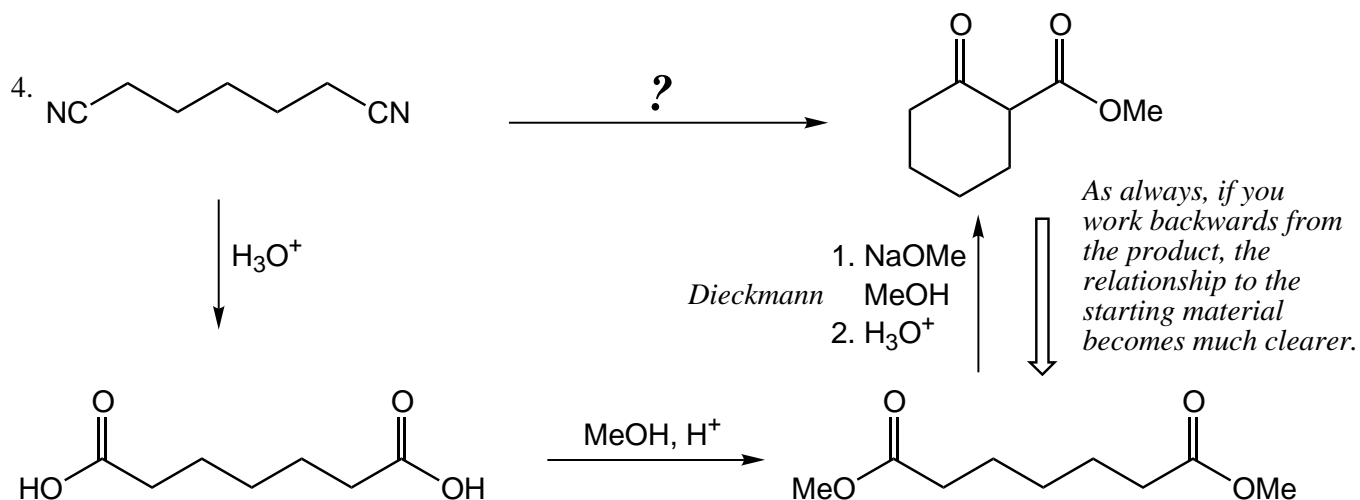
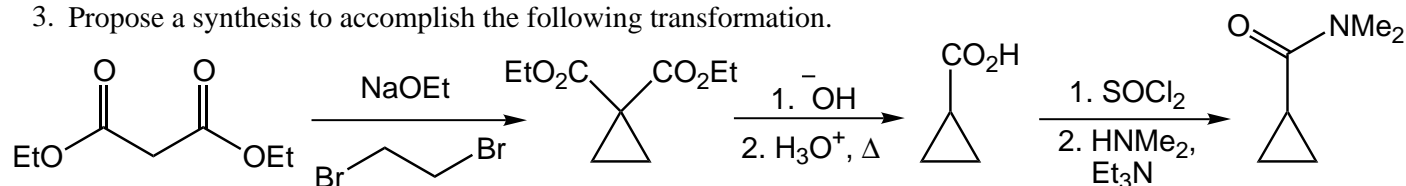


Organic Chemistry c3444y
Problem Set 6 - Answer Key

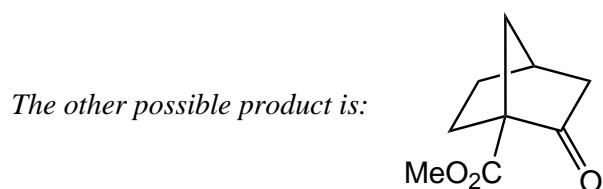




3. Propose a synthesis to accomplish the following transformation.

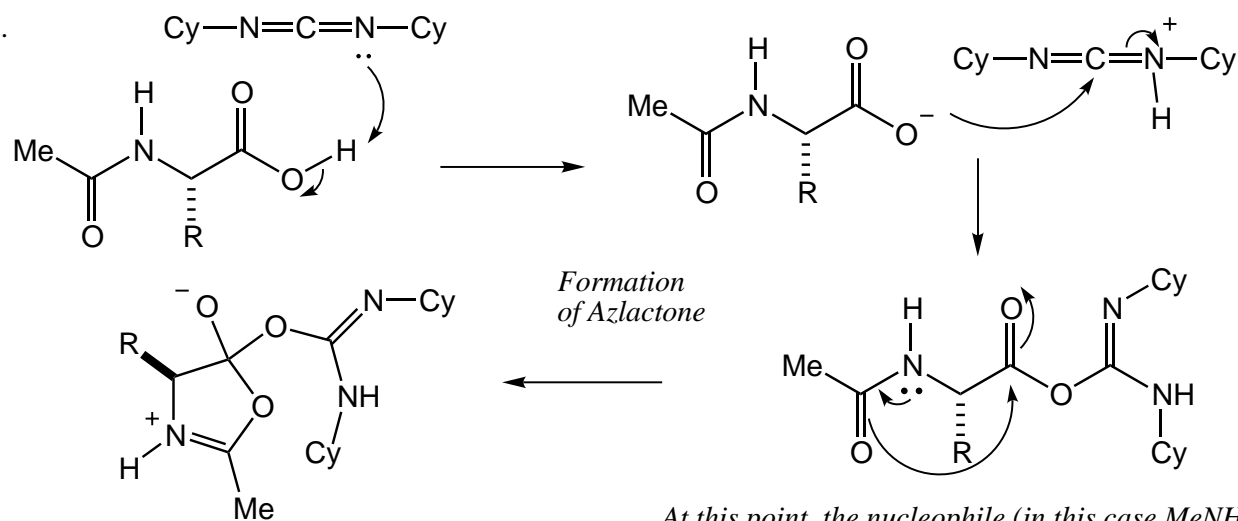


This is another Dieckmann Cond. We have two possible sites of enolization, but only one will lead to a product that has an enolizable proton between the carbonyls.



But even if this is formed, it will just reverse because the final deprotonation, which is the driving force for the reaction, is not possible here.

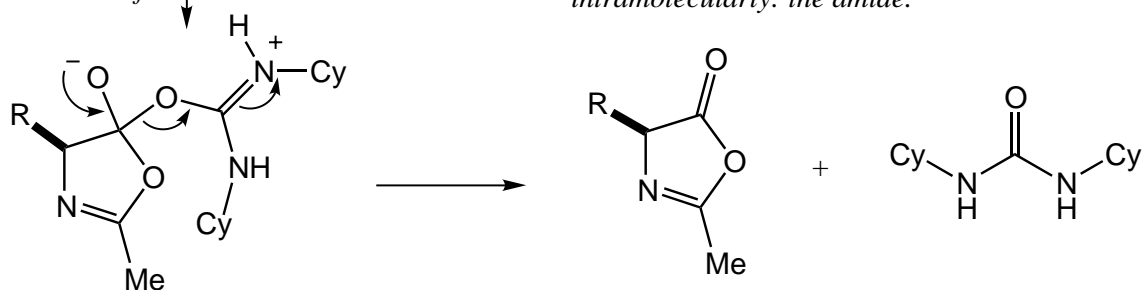
6.



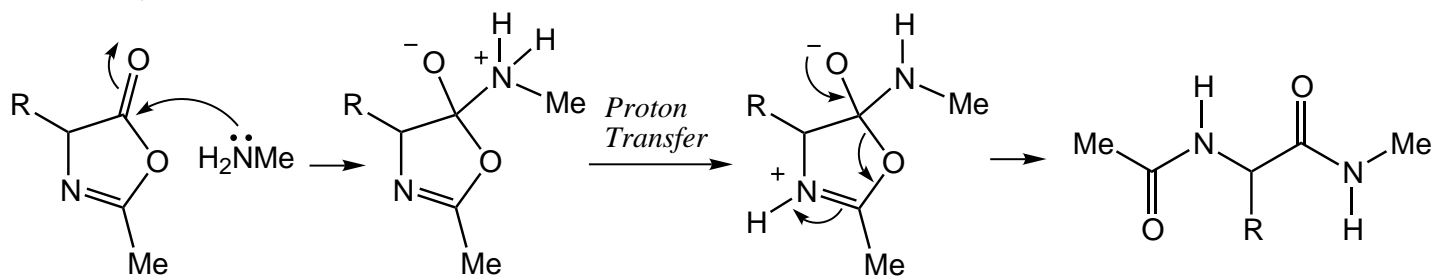
Formation
of Azlactone

At this point, the nucleophile (in this case MeNH₂) would normally attack. However, there is a reasonably good nucleophile already present which can attack intramolecularly: the amide.

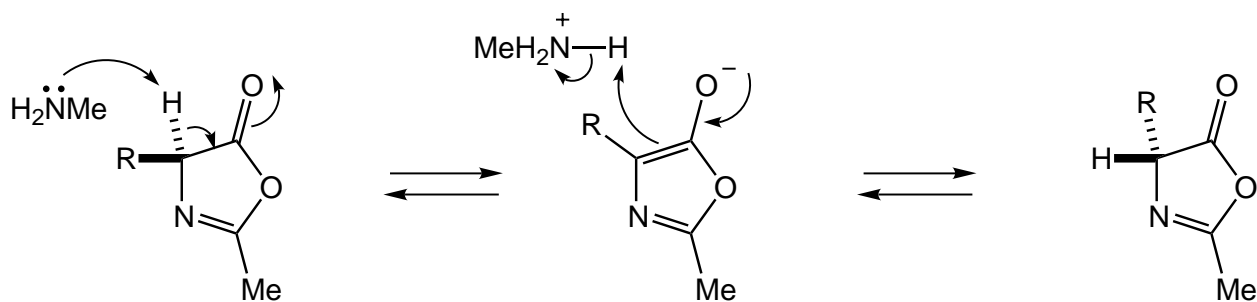
Proton
Transfer



Reaction of Azlactone with amine:



Racemization of Azlactone using the amine:



The simplest way to racemize is simply enolization. The question is why is this particular enolate so easily formed? Look closely at it - it's aromatic!