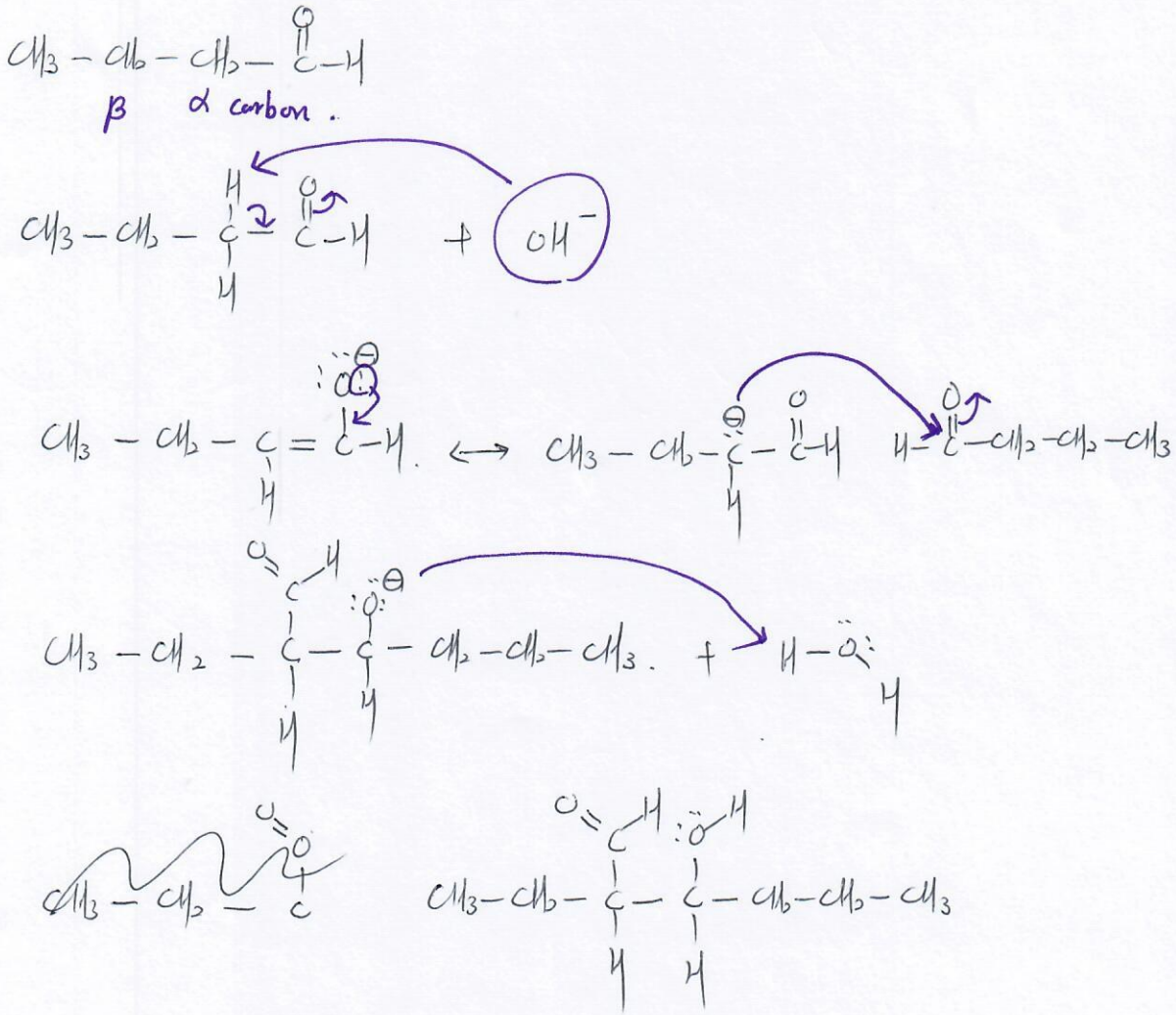
Problem 23-1 -

Aldol rxn = aldehyde + alcohol

Ald + ol = Aldol

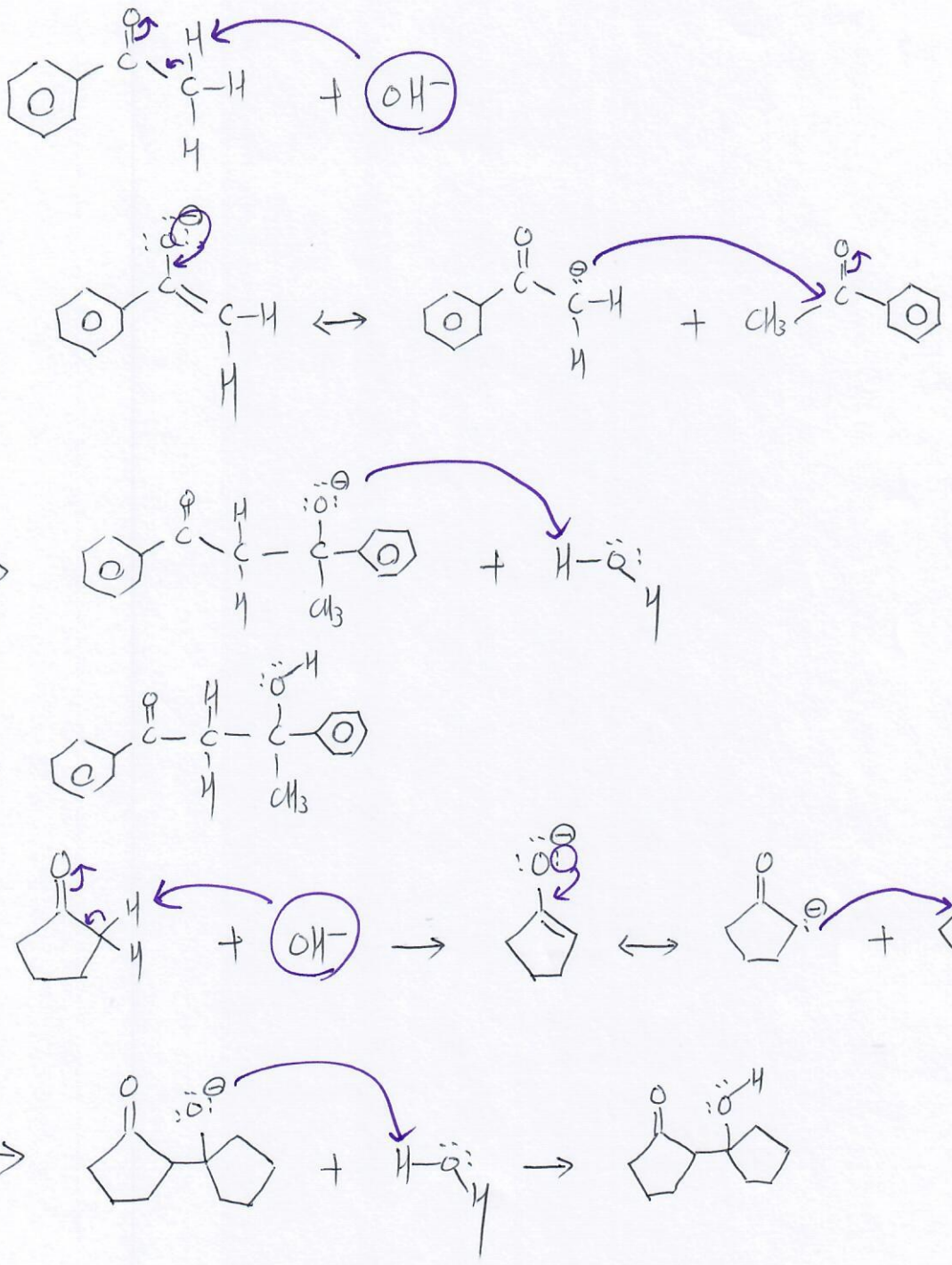
In Aldol rxn, the aldehyde must have a hydrogen at α carbon.

(a)



Problem 23-1-2

(b)



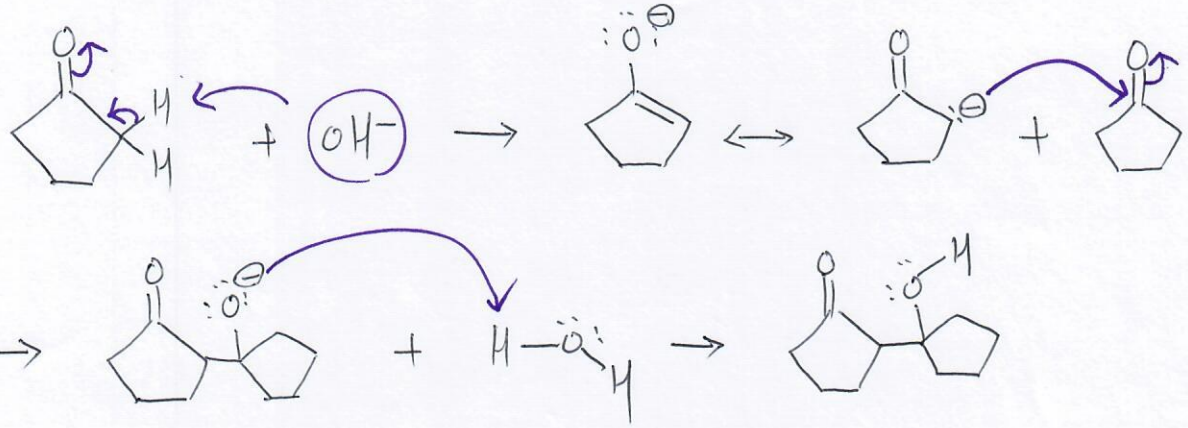
(c)

Problem 23-3 ㄱ

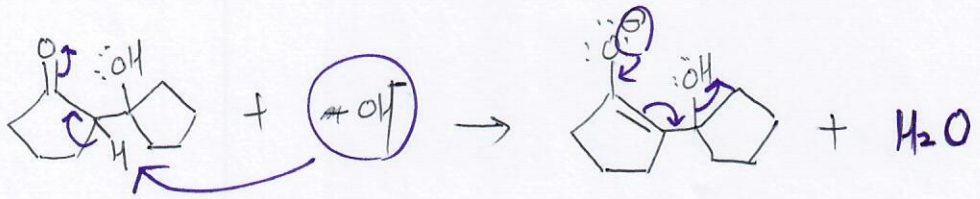
Aldol condensation.

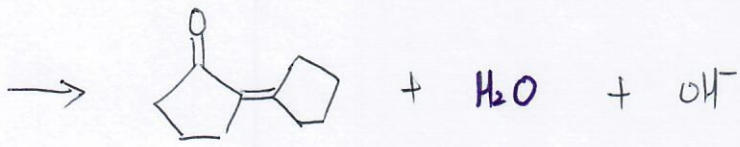
⇒ aldehyde + alcohol + H_2O.

(a)

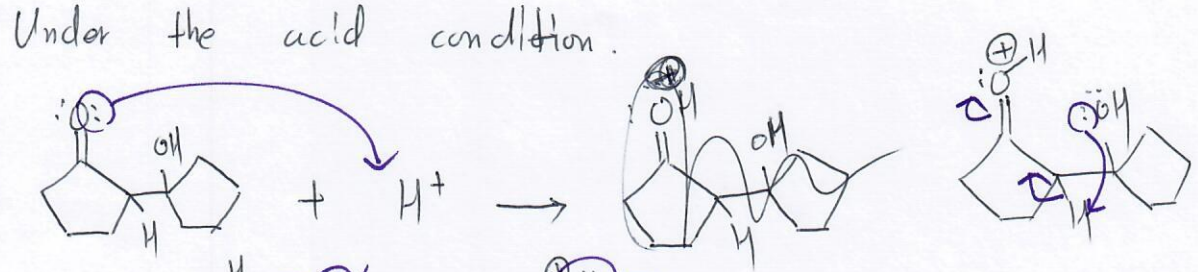


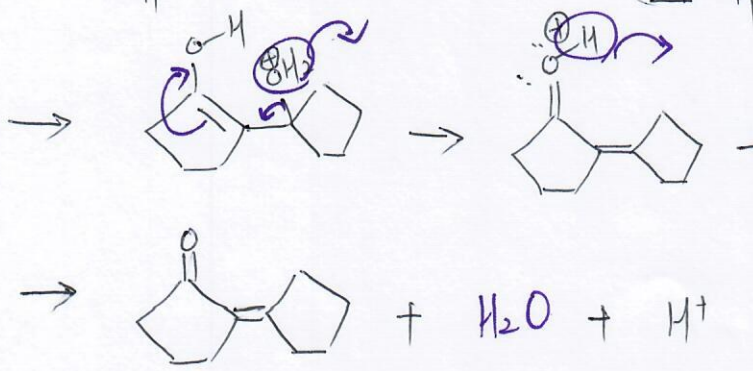
under the basic condition.





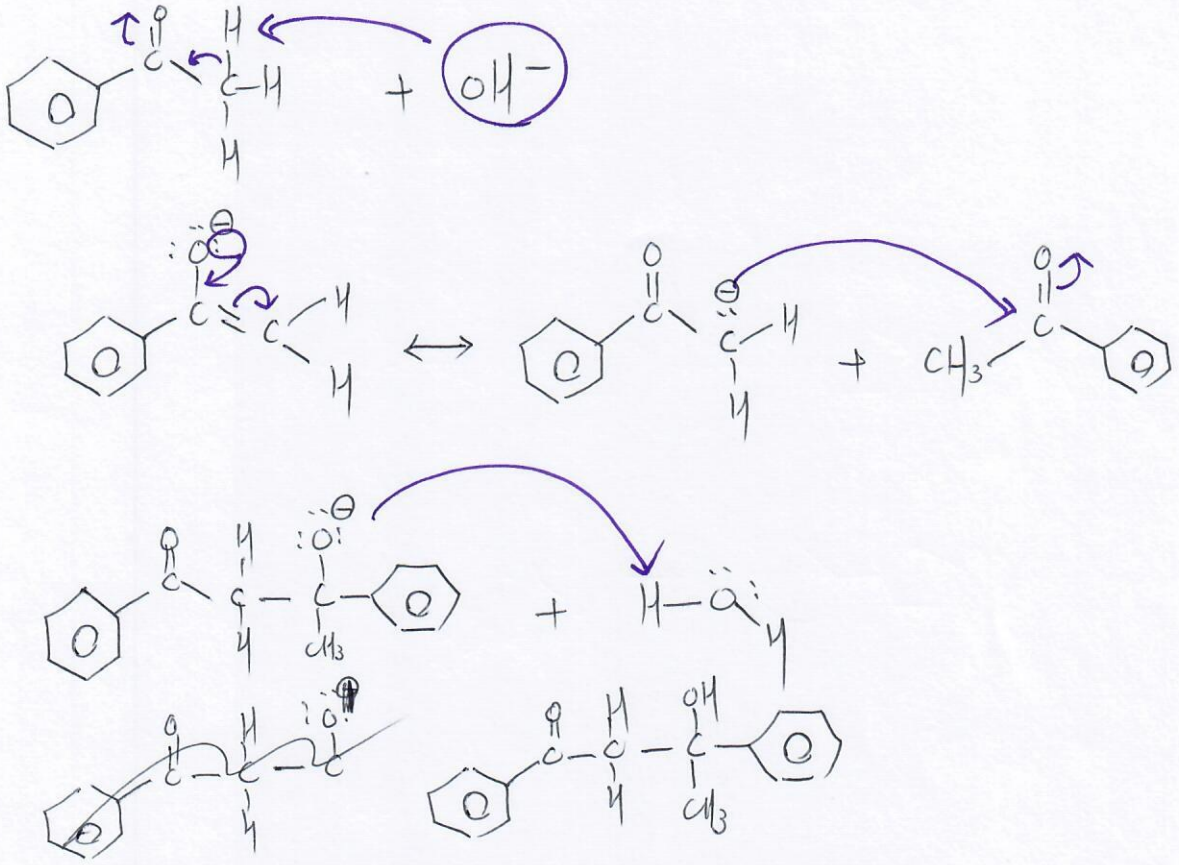
Under the acid condition.



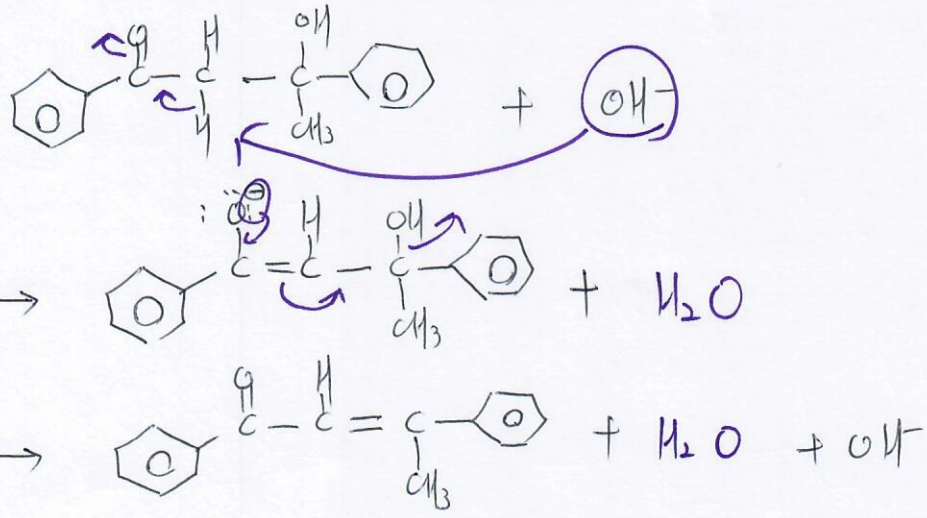


Problem 23-3-2.

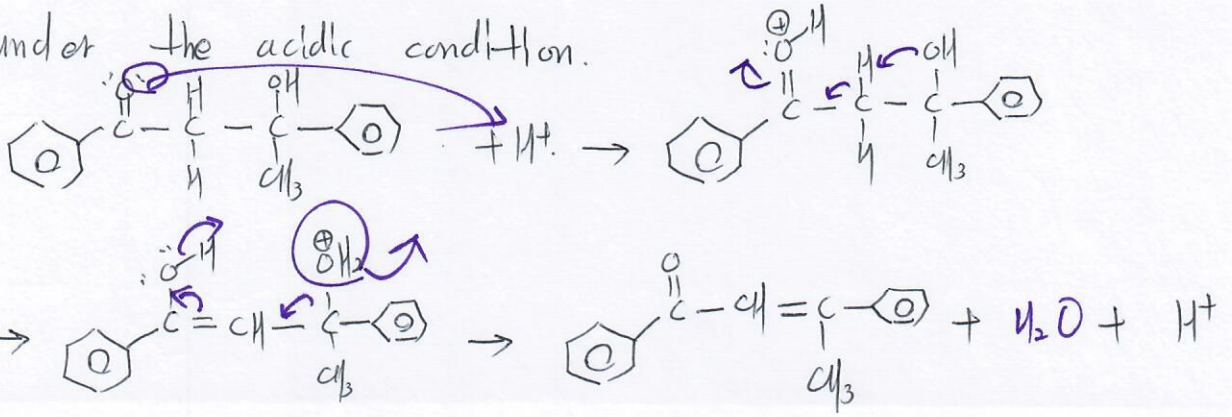
(b)



Under the basic condition.

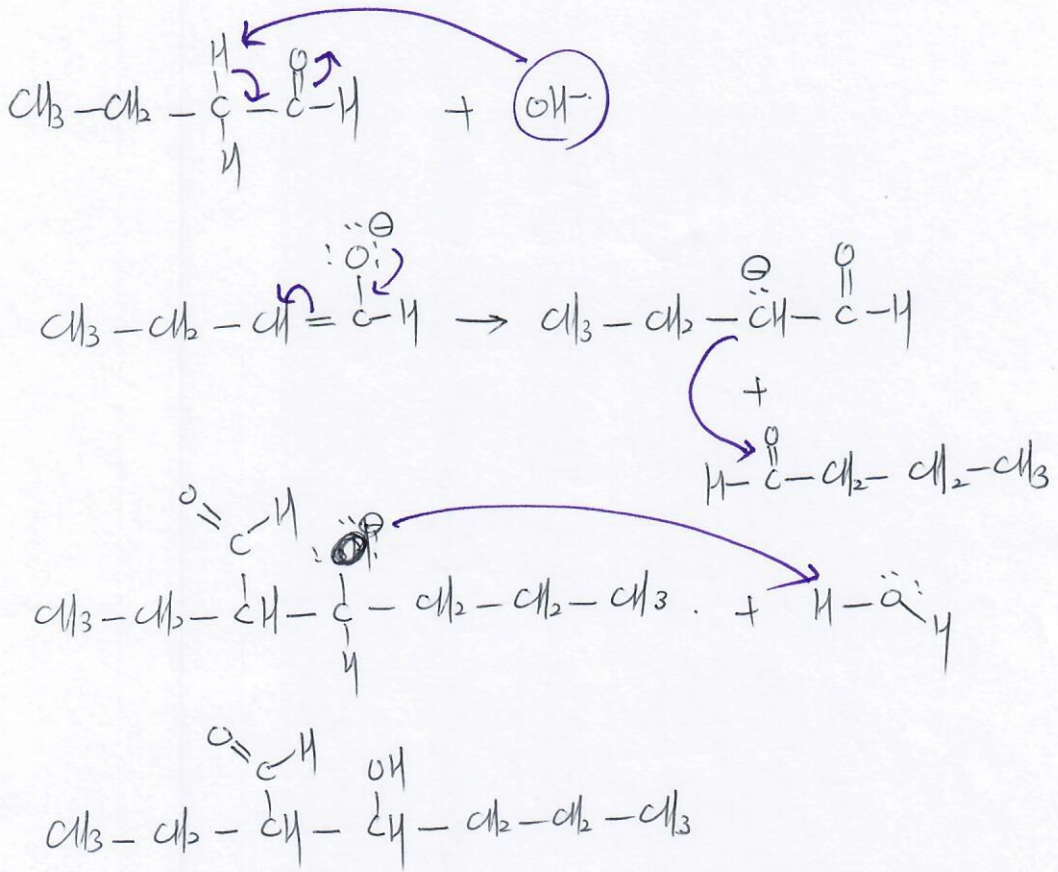


Under the acidic condition.

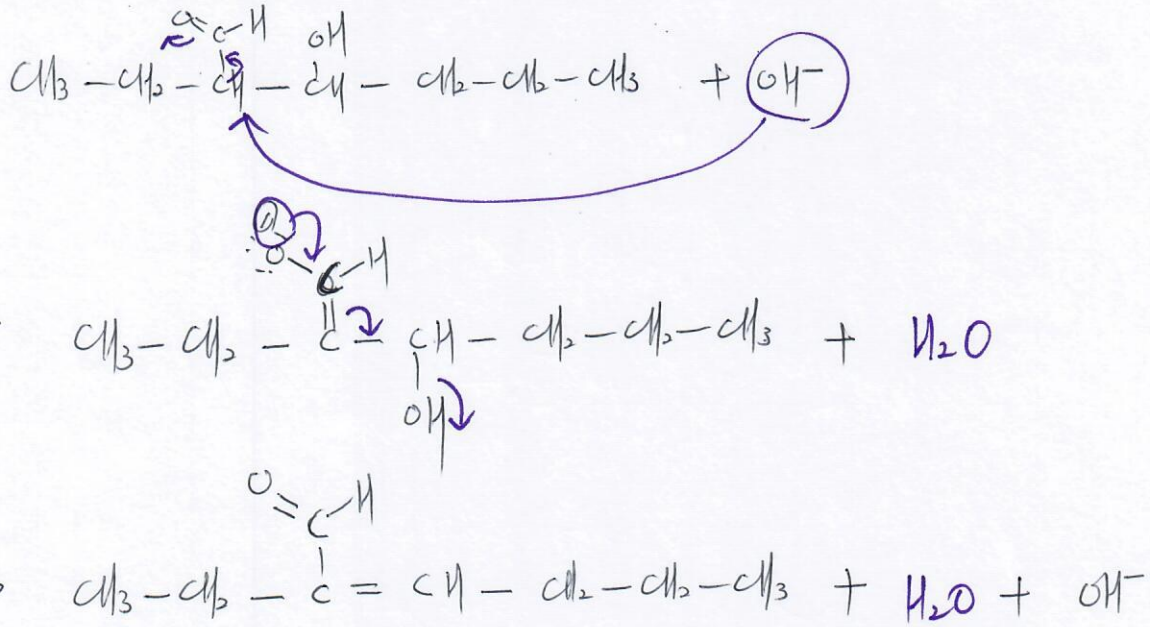


Problem 23-3-3.

(c)

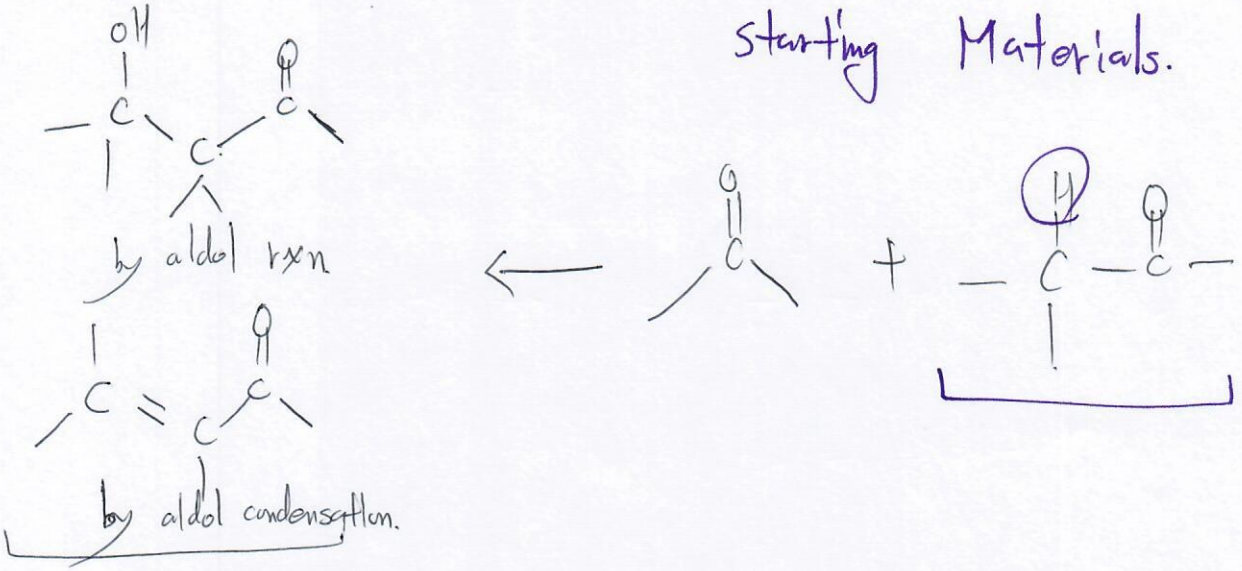


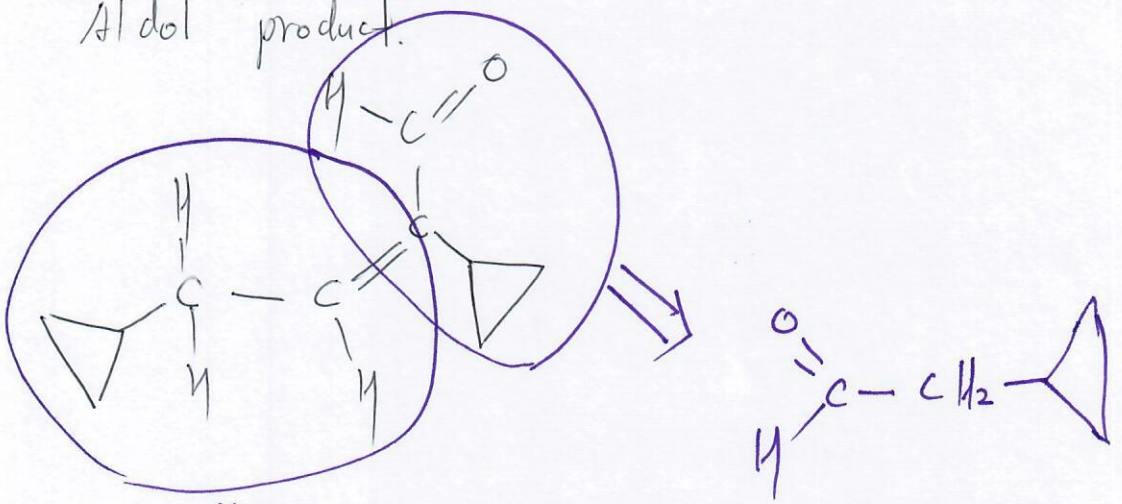
Under the basic condition.

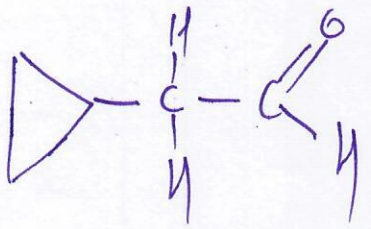


Think about aldol condensation under the acidic condition.

Problem 23-7.

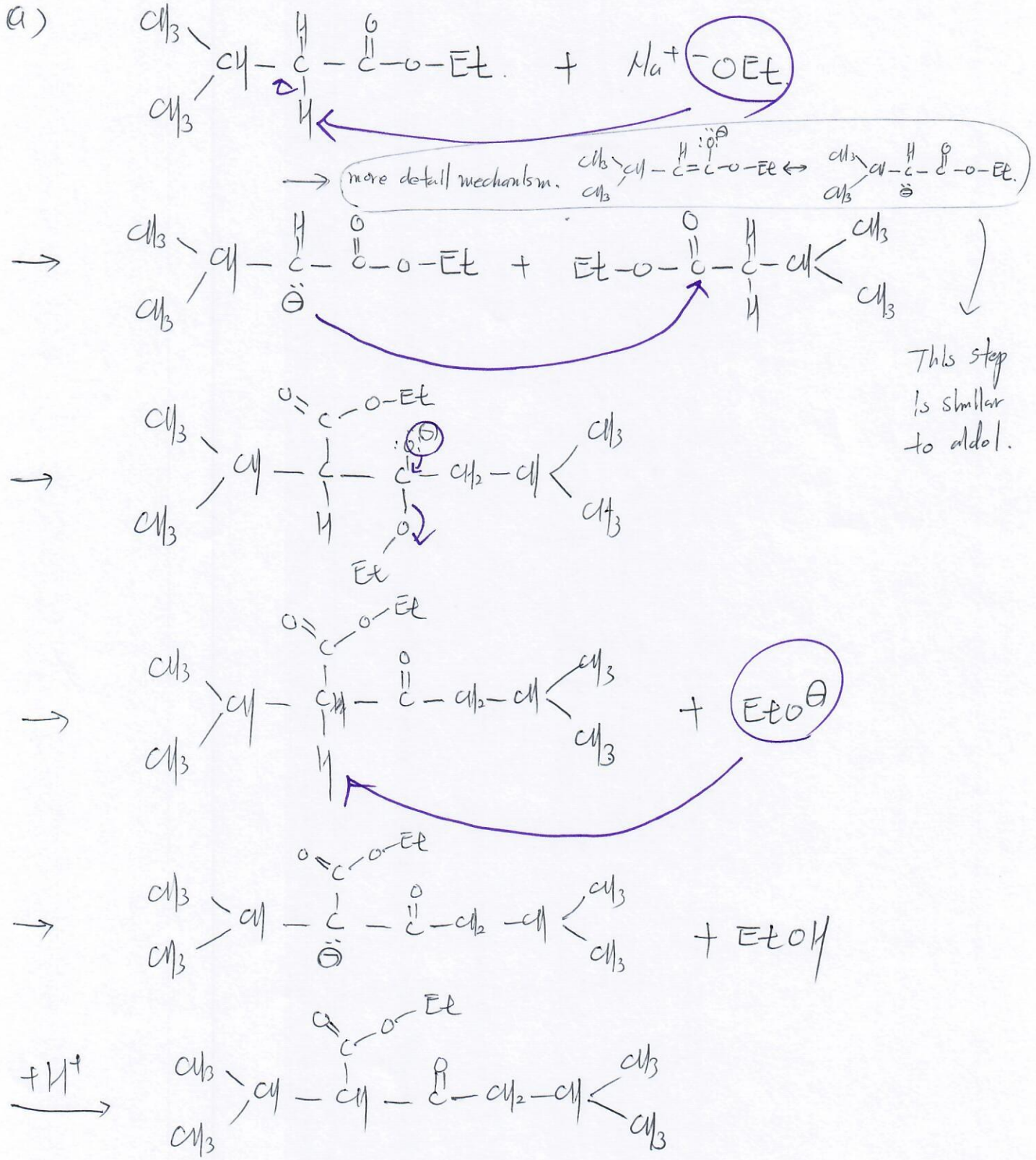

Starting Materials.
by aldol rxn
by aldol condensation.
Aldol product.





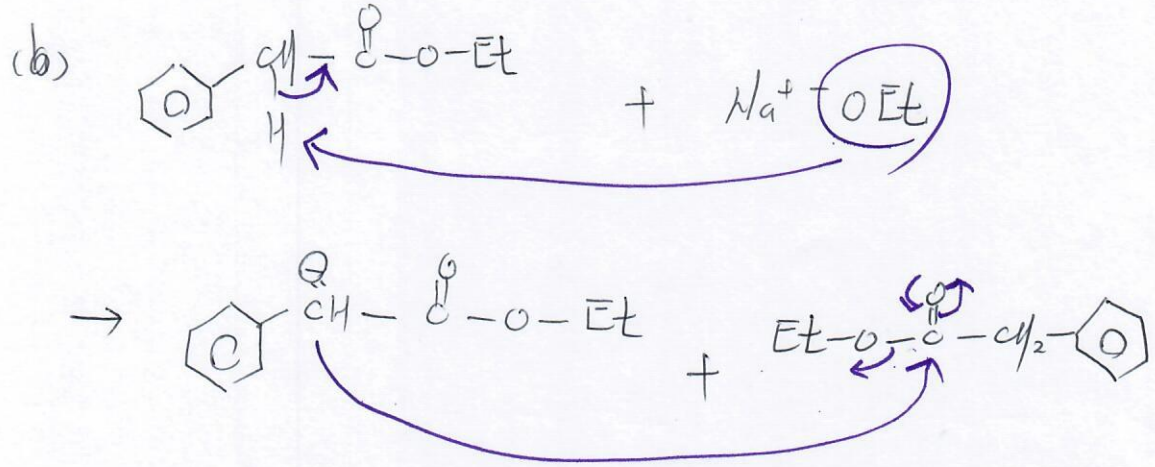
Problem 23-11-1

a)

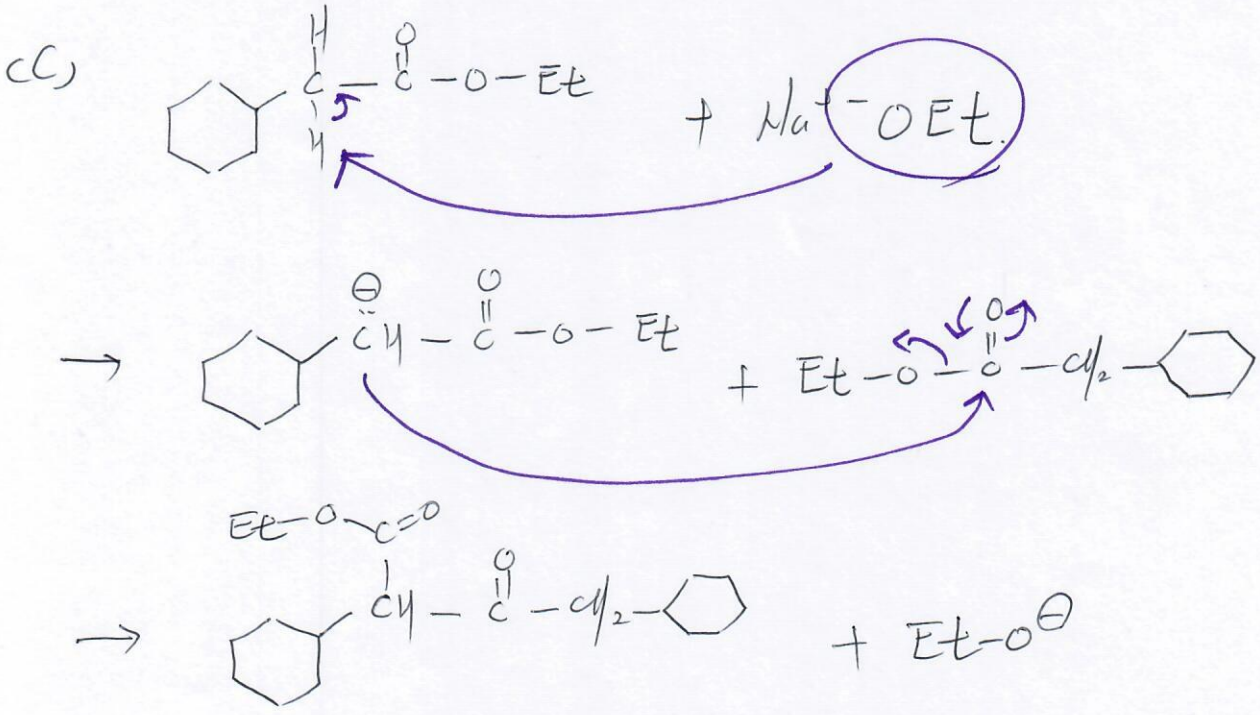


Problem 23-11-2.

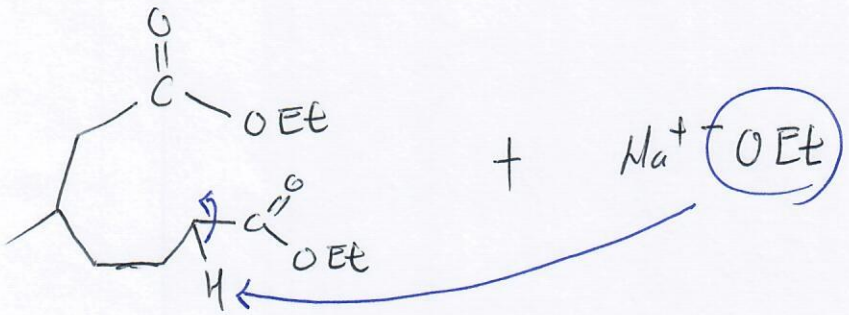
(b)

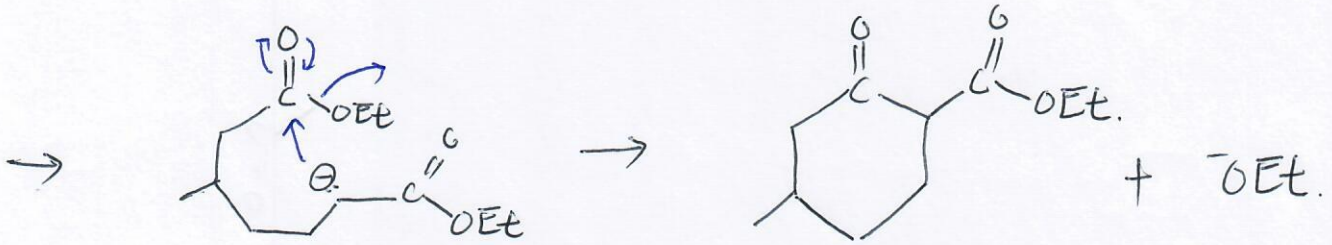


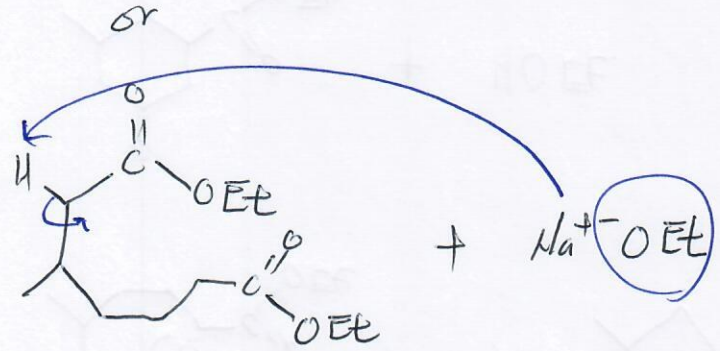
(c)

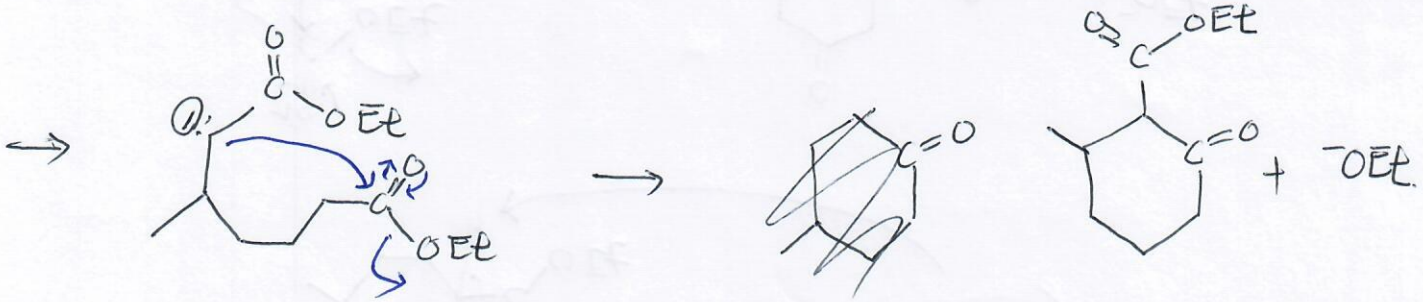


Problem 23-14



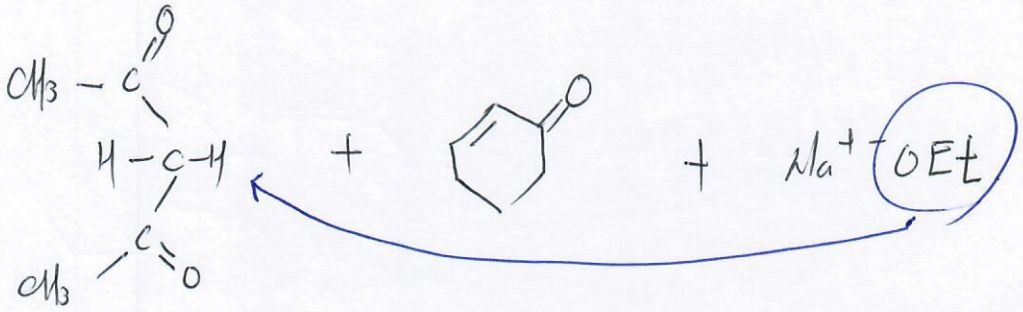




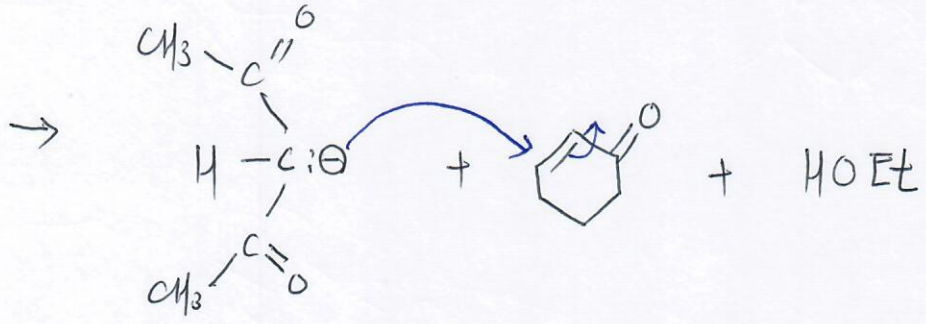


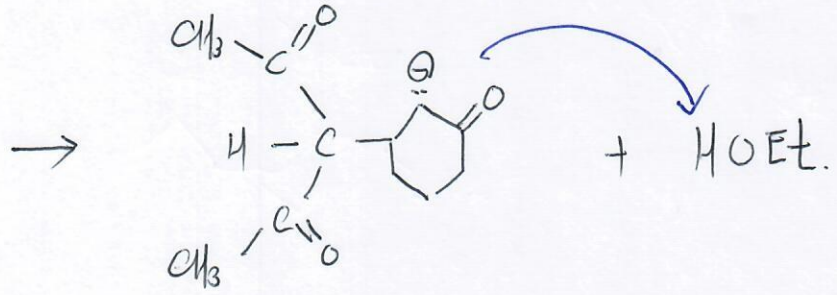
Problem 23-16.-1

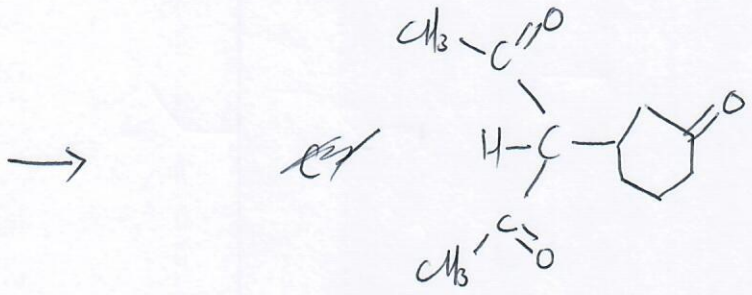
(a)



Michael Donor Acceptor.

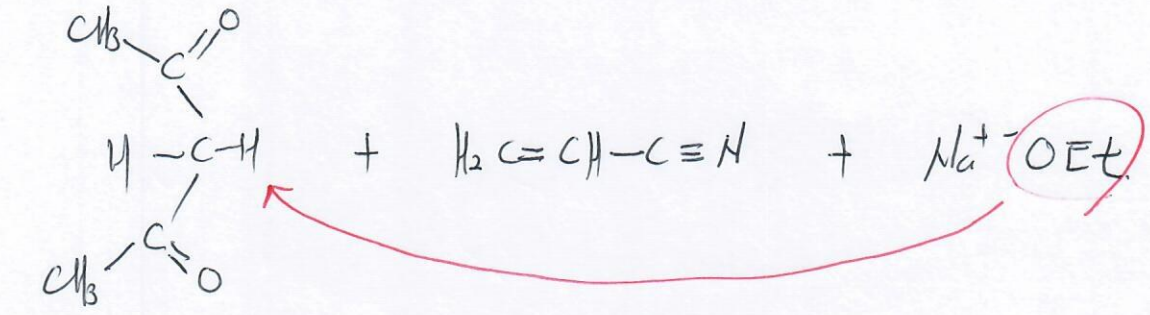


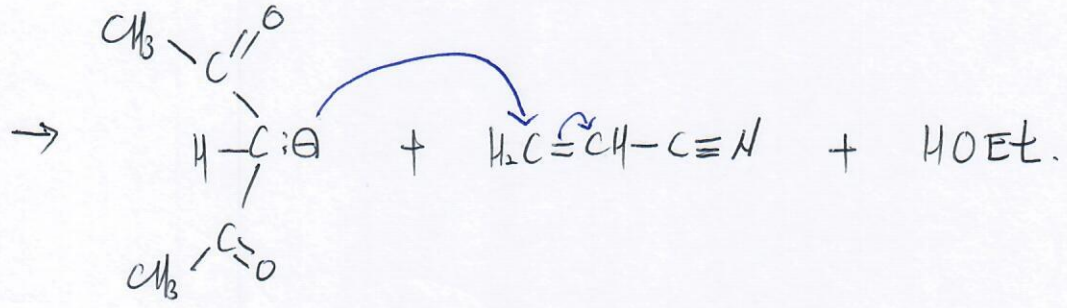


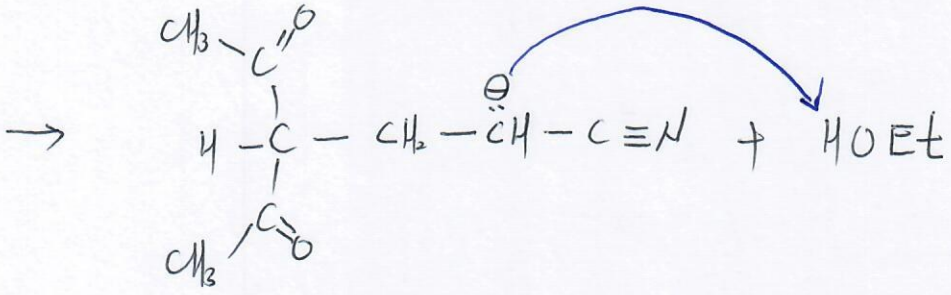


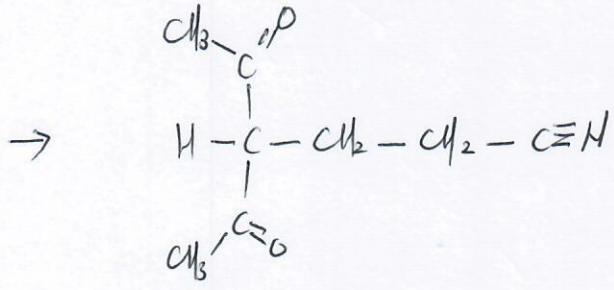
Problem 23-16-2

(b)



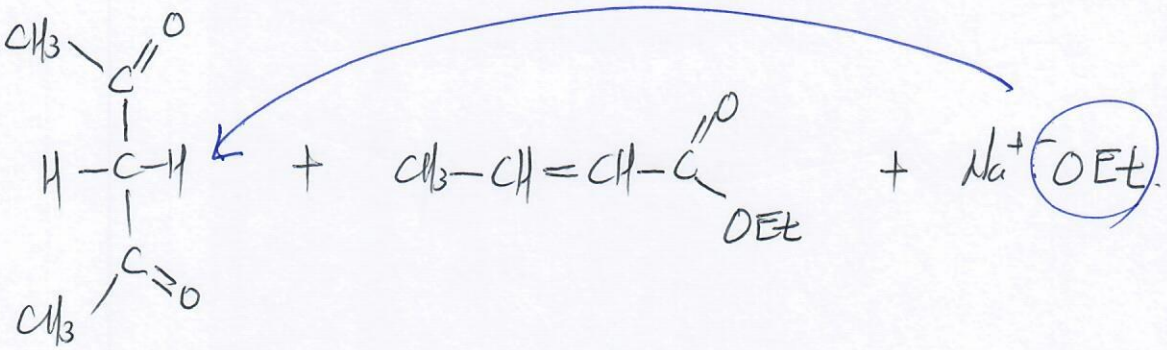


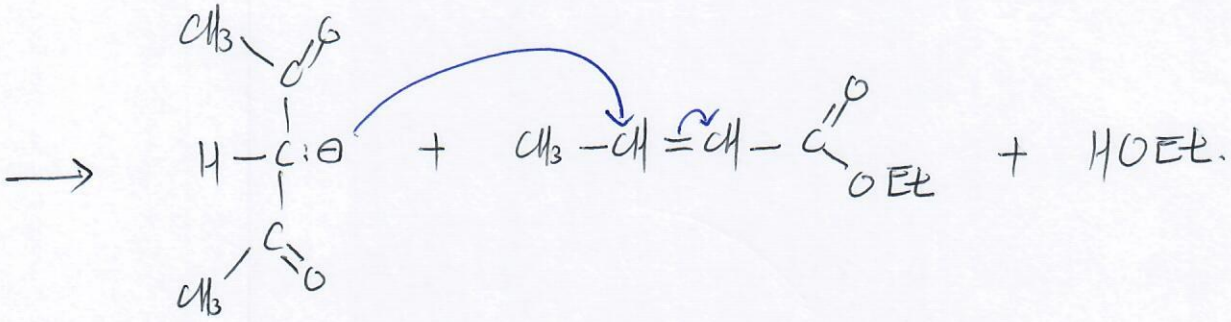


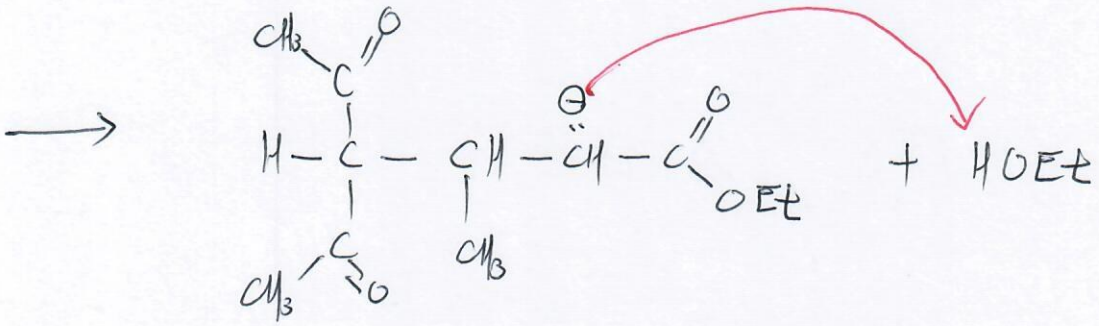


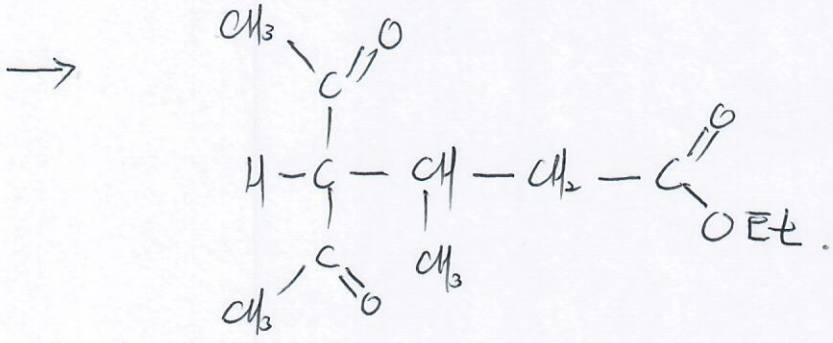
Problem 23-16-3

(c)



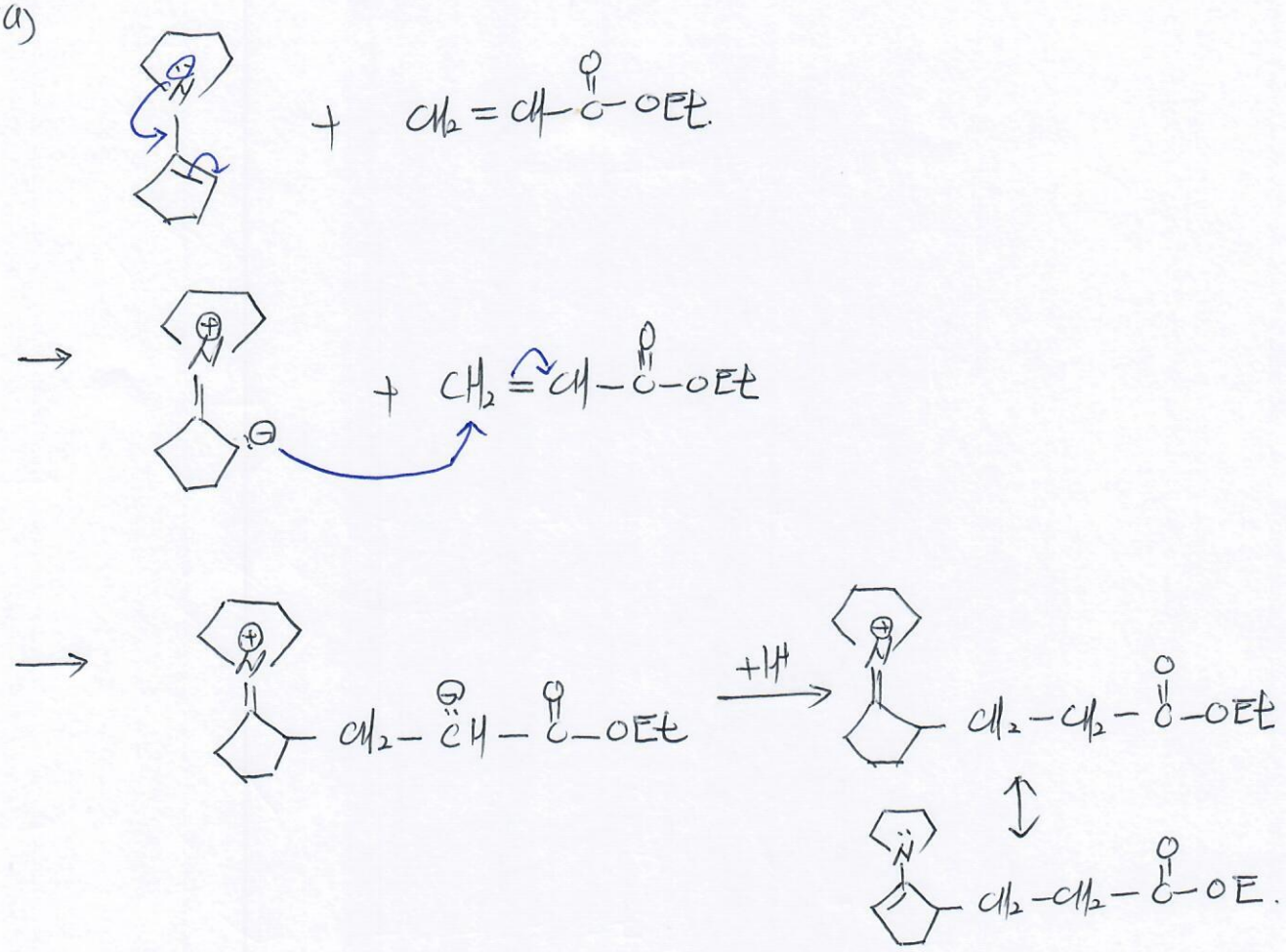




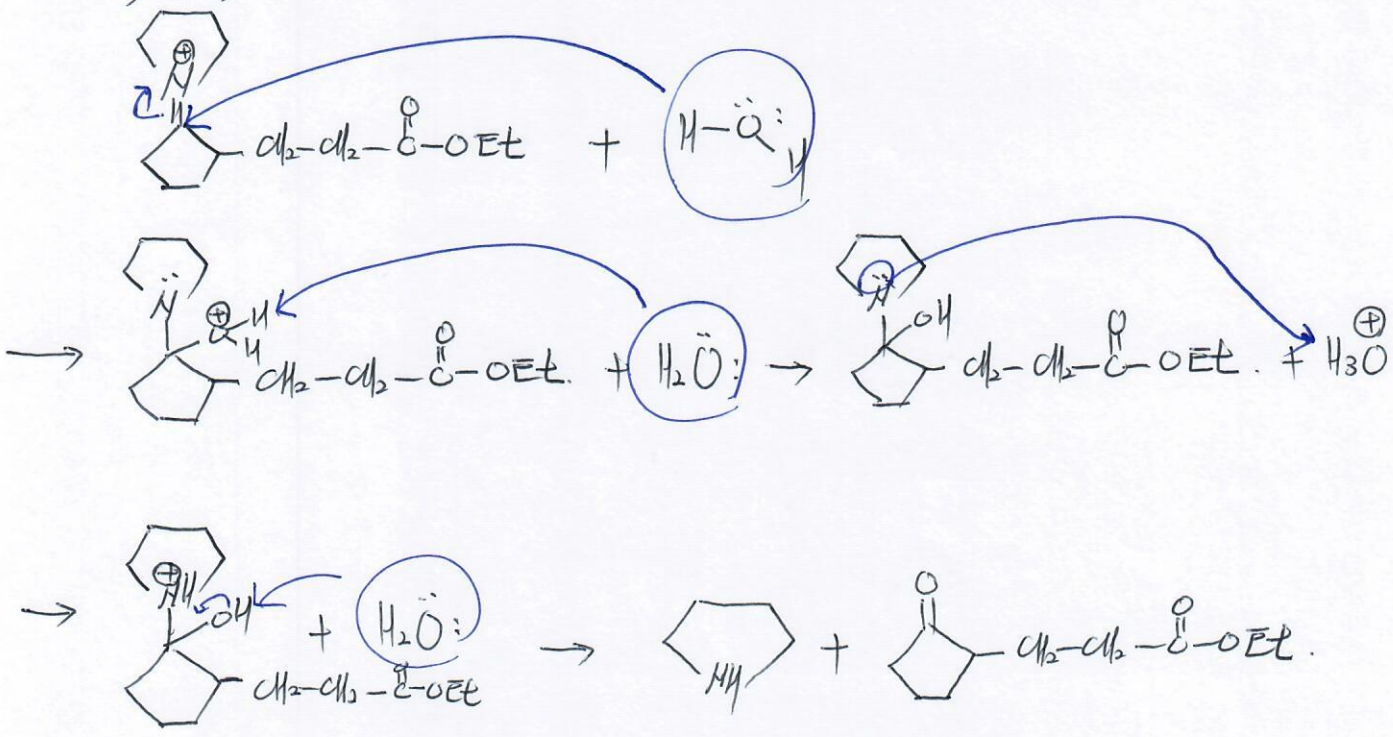


Problem 23-19-1

(a)

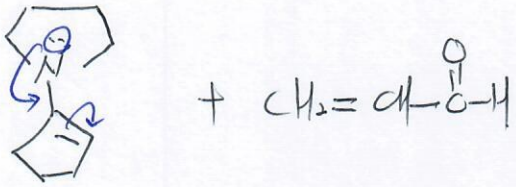


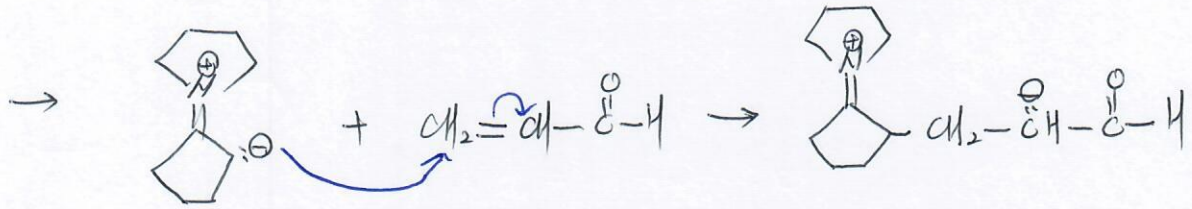
Hydrolysis

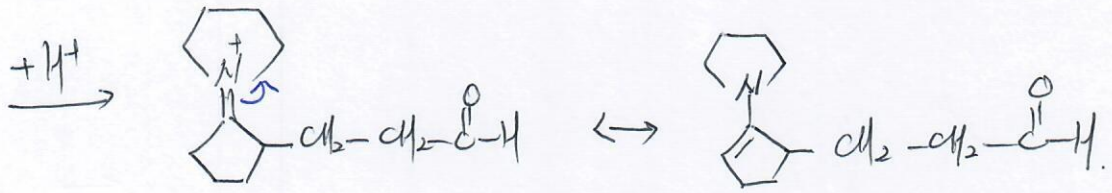


Problem 23-19-2

(b)



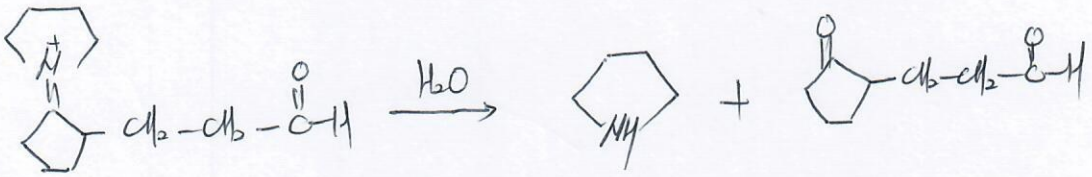




Imine

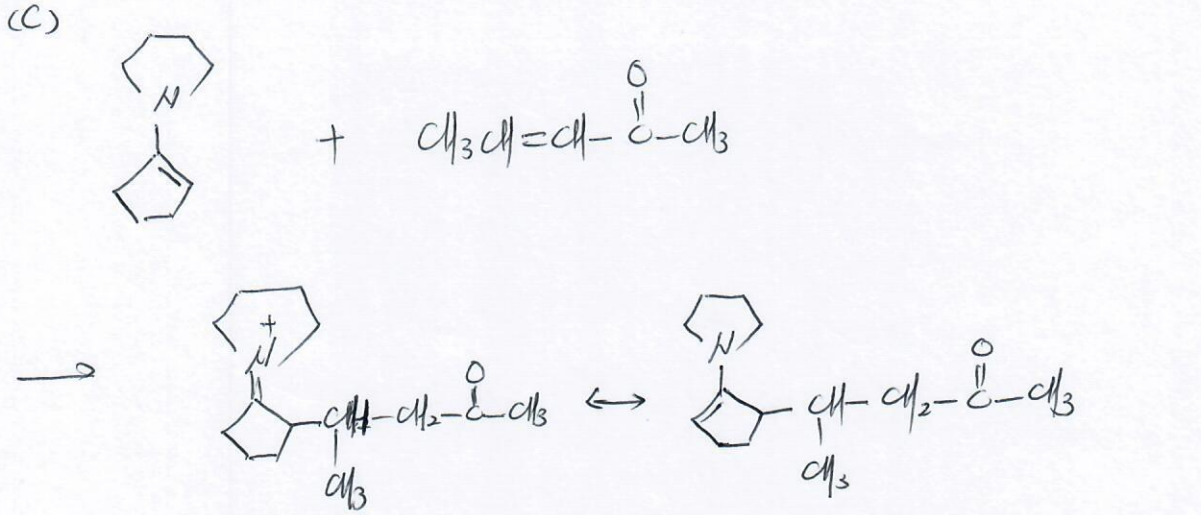
Enamine.

Hydrolysis



Problem 23-19-3

(c)



Hydrolysis