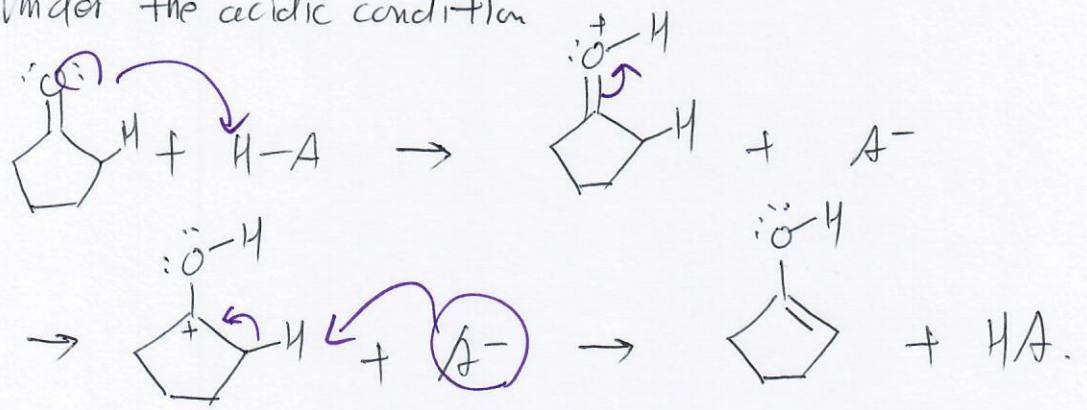
Problem 22-1-1

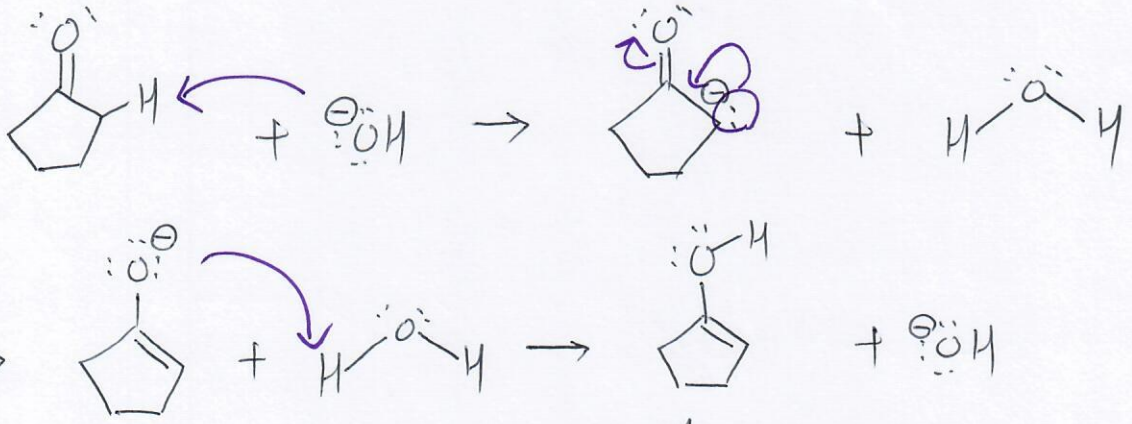
(a)  (keto form)

under the acidic condition

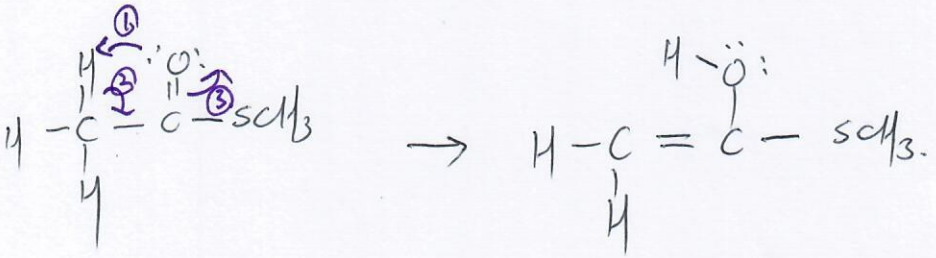


Enol Form.

under the Basic ~~condition~~ condition.



Enol Form.

(b) 

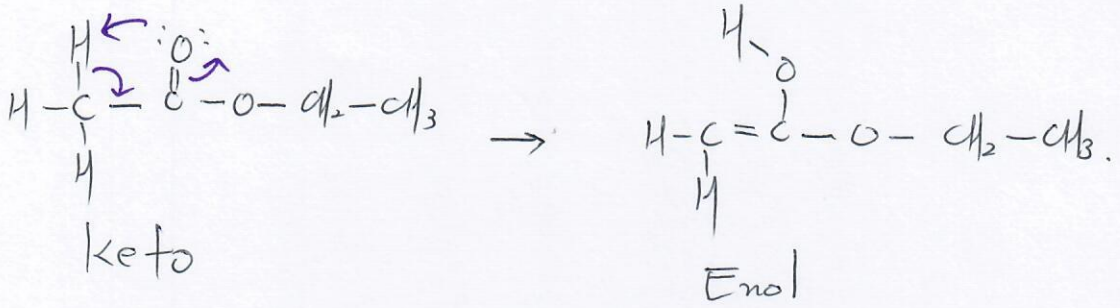
Keto Form Enol Form.

Be carefully.

This is simple mechanism. The proton is ~~comp~~ come from acid or base.

Problem 22-1-2

(c)

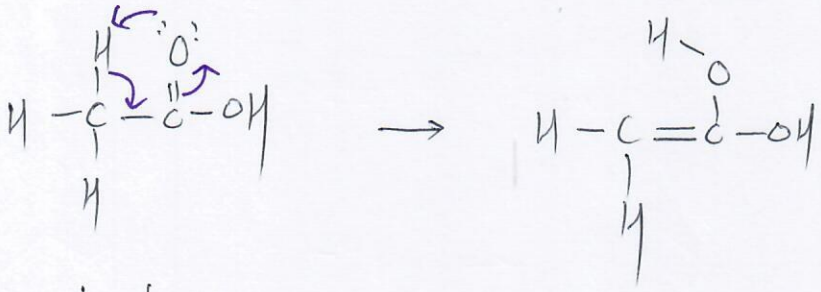


keto → Enol

(d)

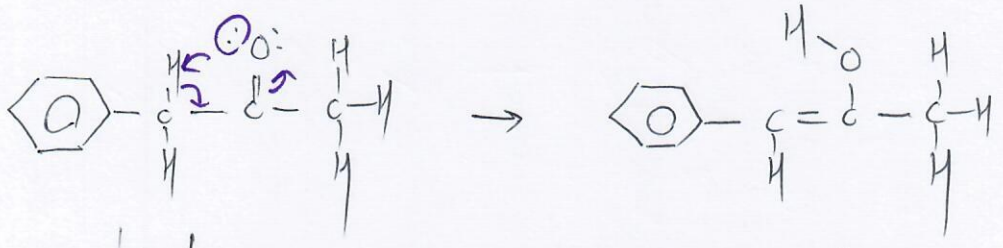
keto → Enol

(e)



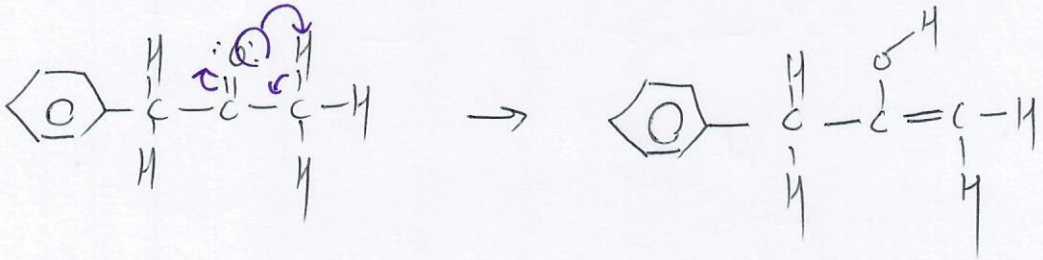
keto → Enol

(f)

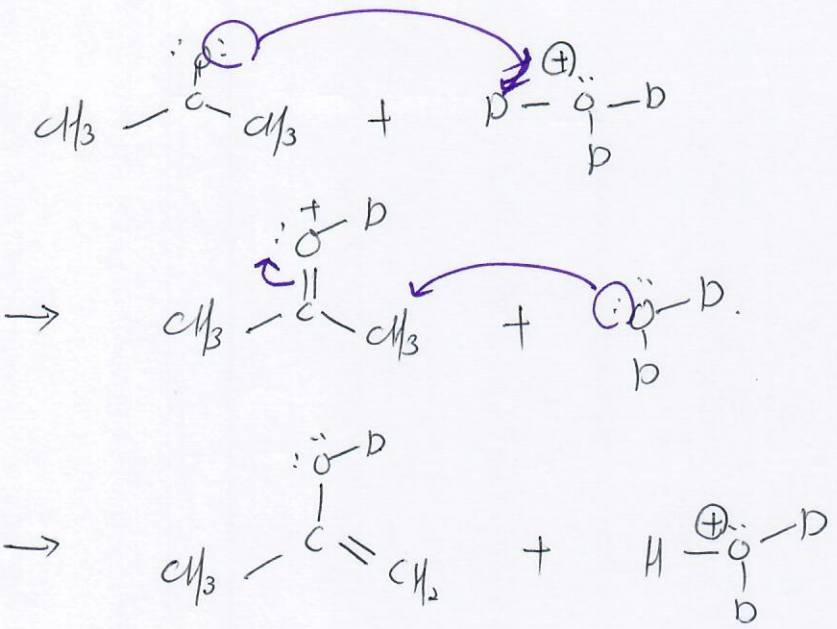


keto → Enol

or

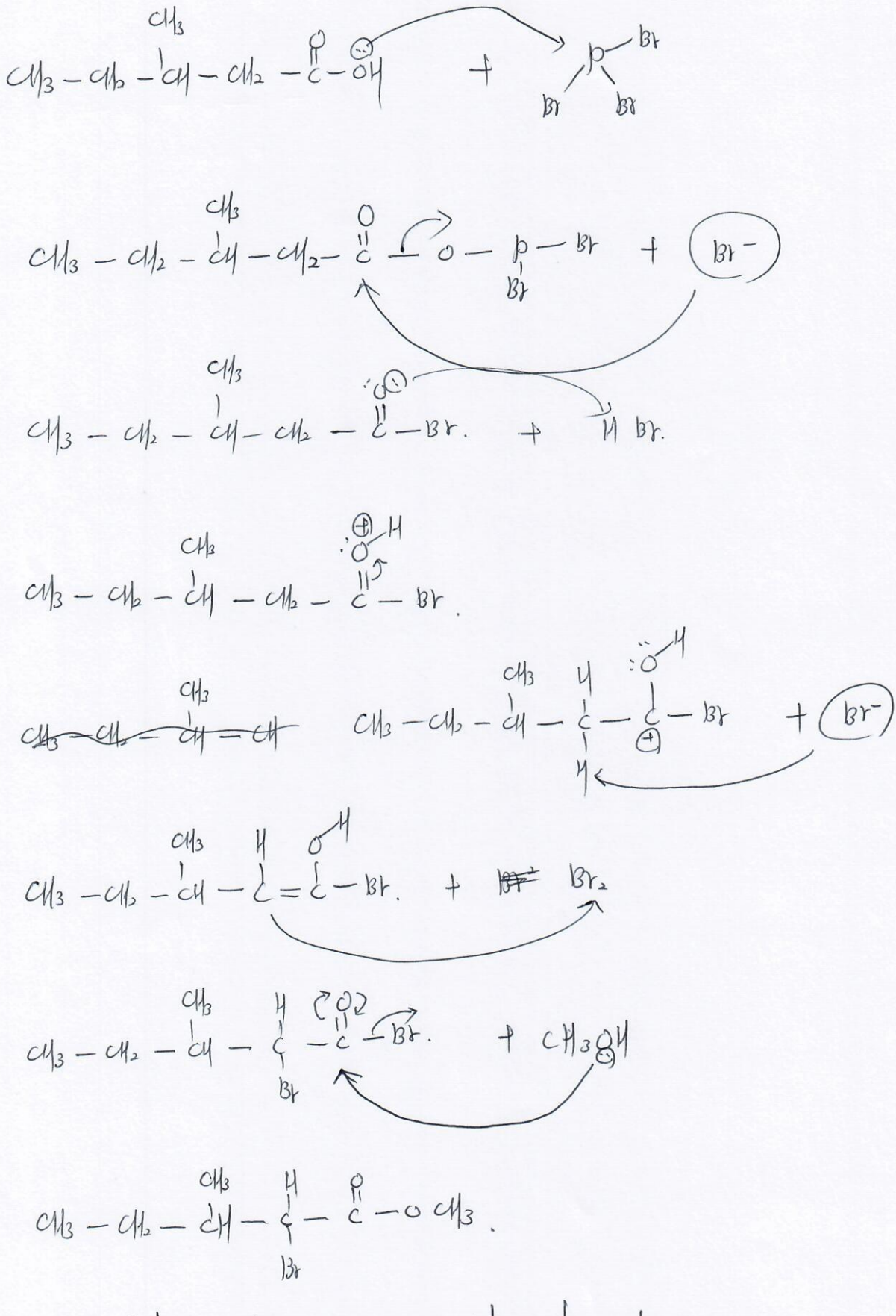


Problem 22-4.



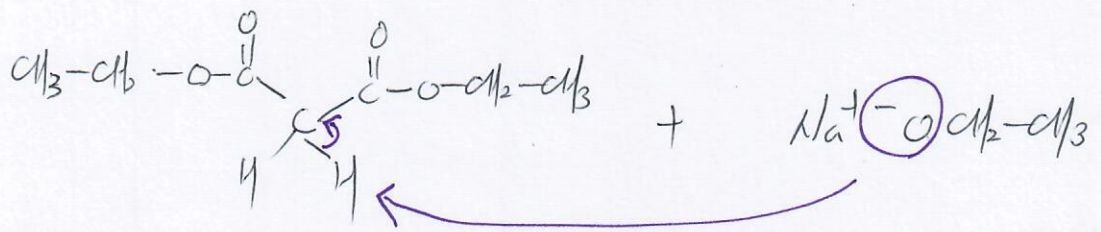
Enol.

Problem 22-6

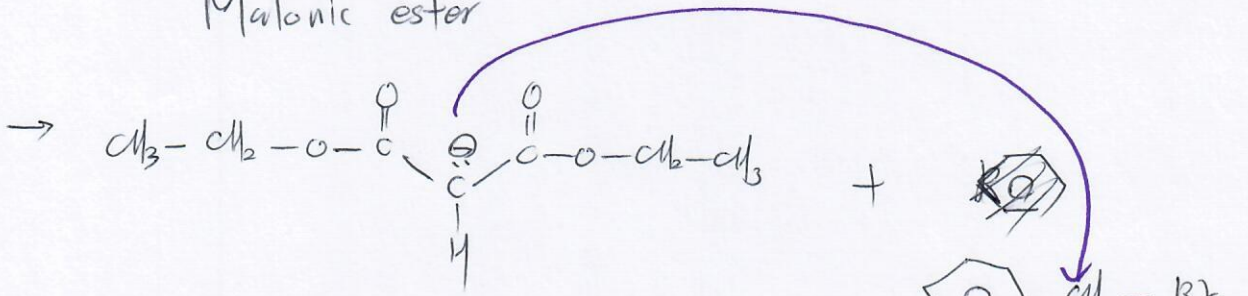


Problem 22-10

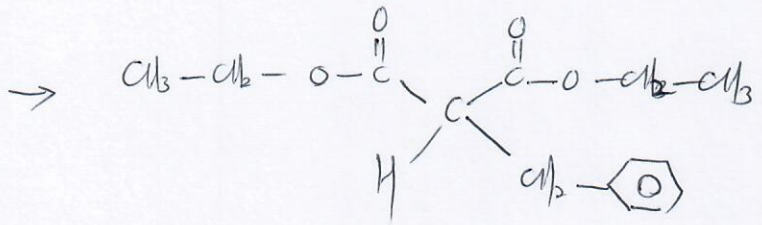
(a)

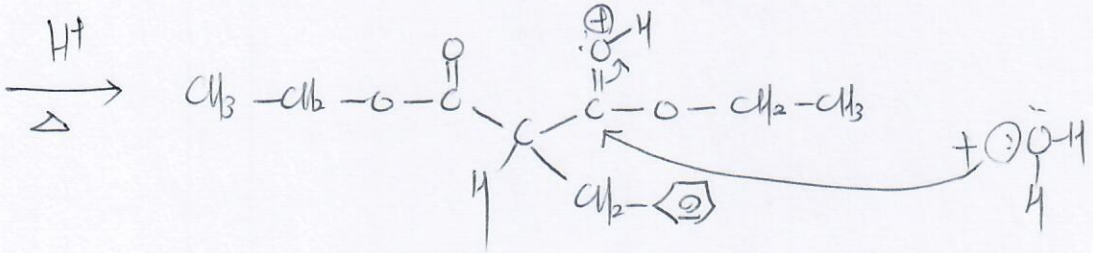


Malonic ester

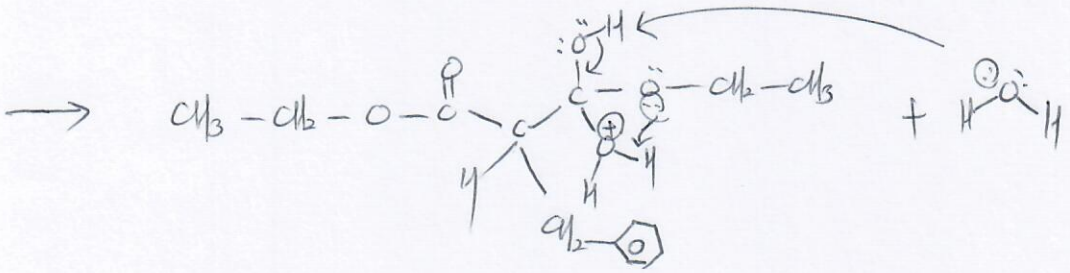


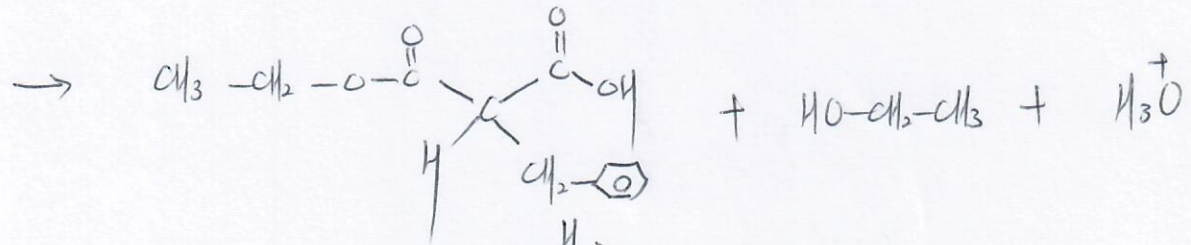
Benzyl bromide.



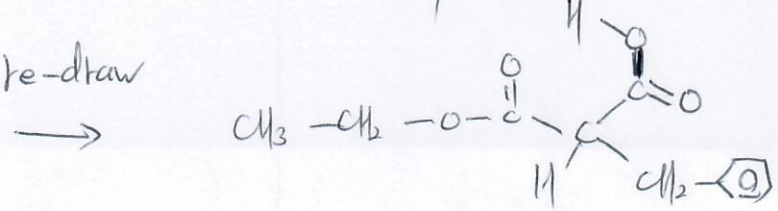


Hydrolysis of Ester under the acid condition

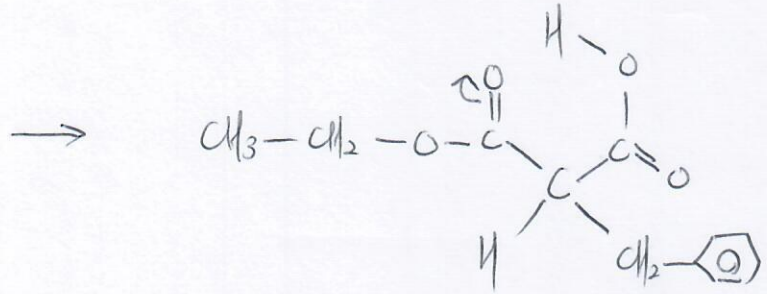


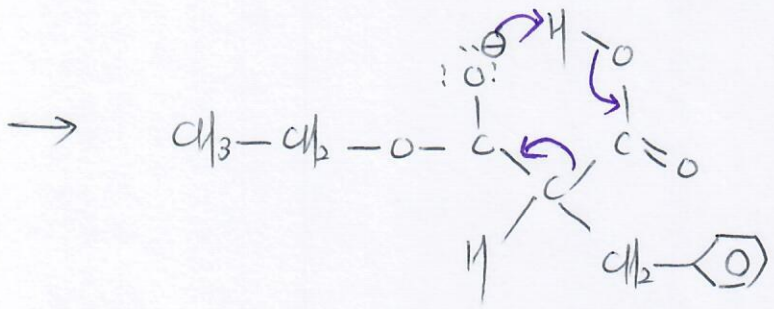


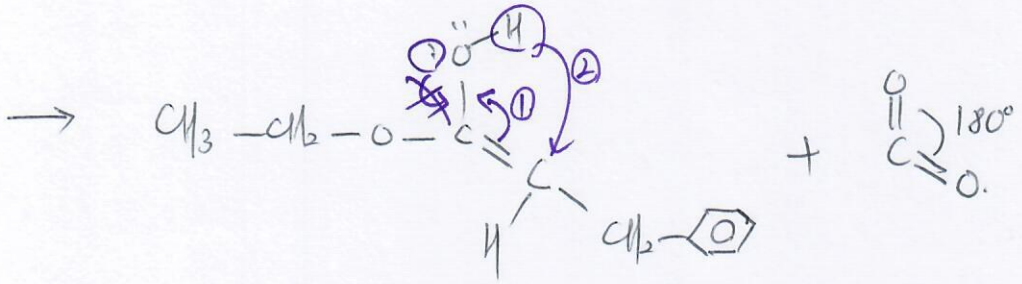
Re-draw



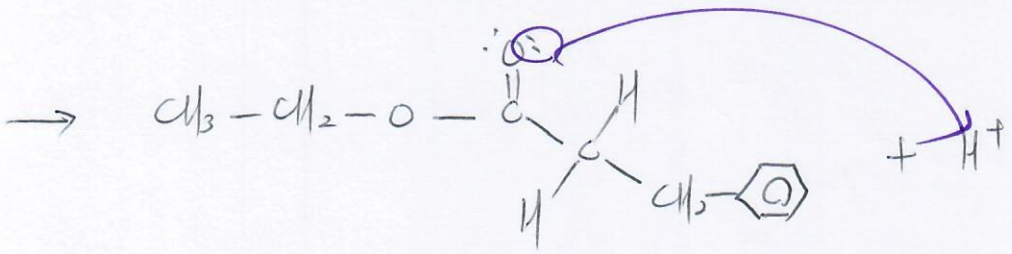
Problem 22-10-2



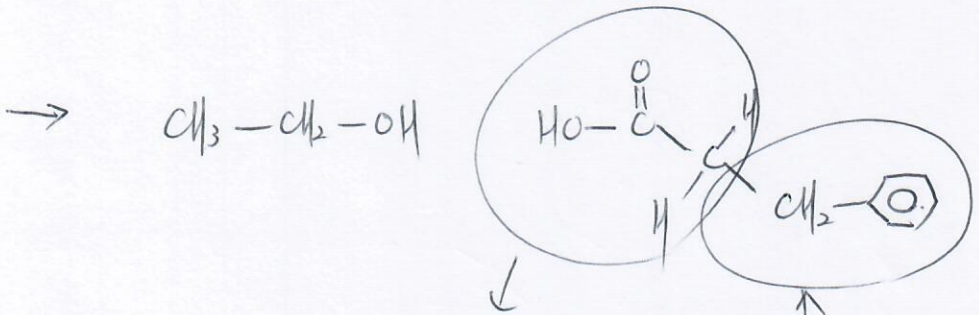




Enol Form



(Hydrolysis)

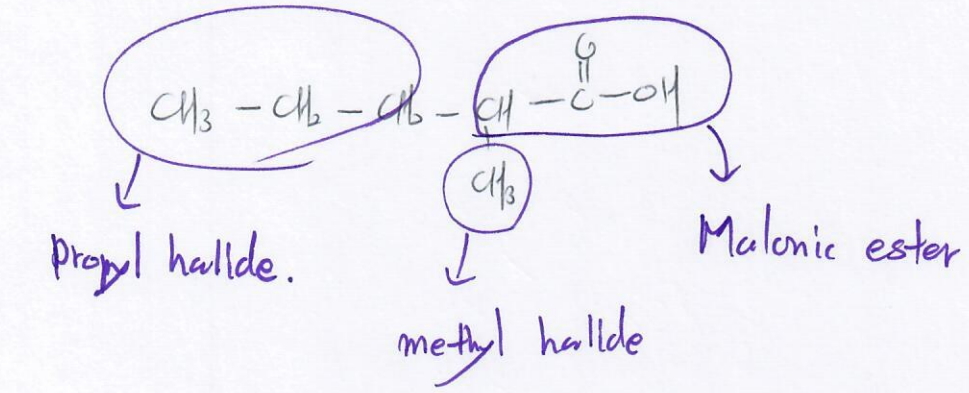


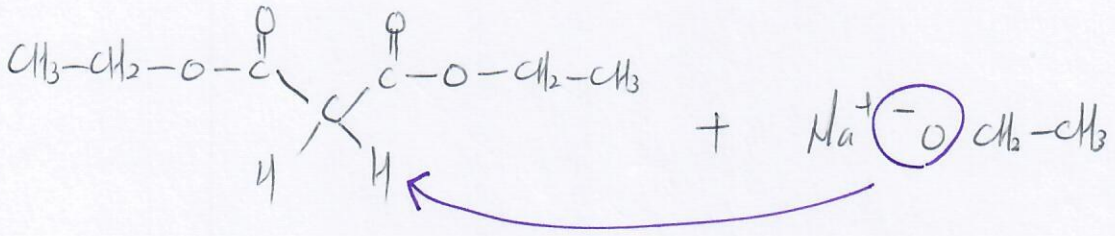
From Malonic ester.

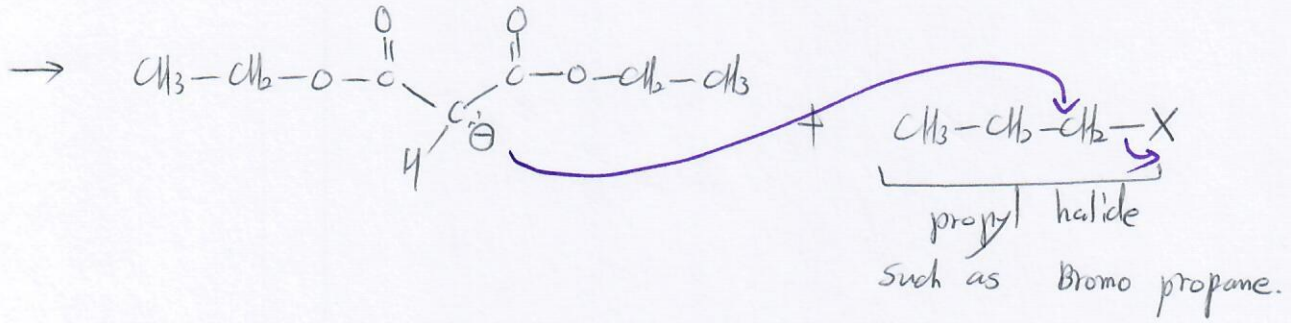
From benzyl bromide

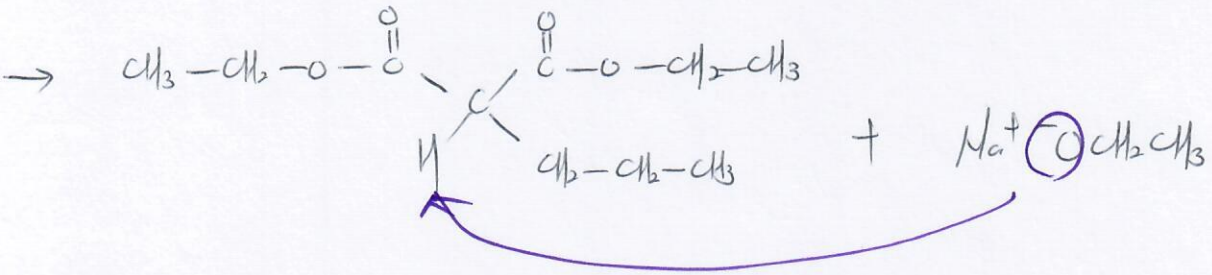
Problem 22-10-3.

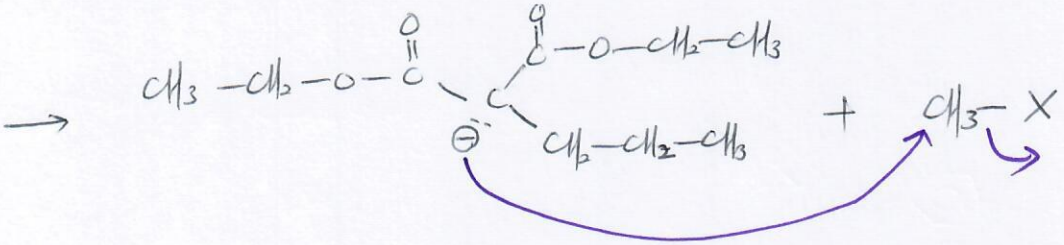
(b)

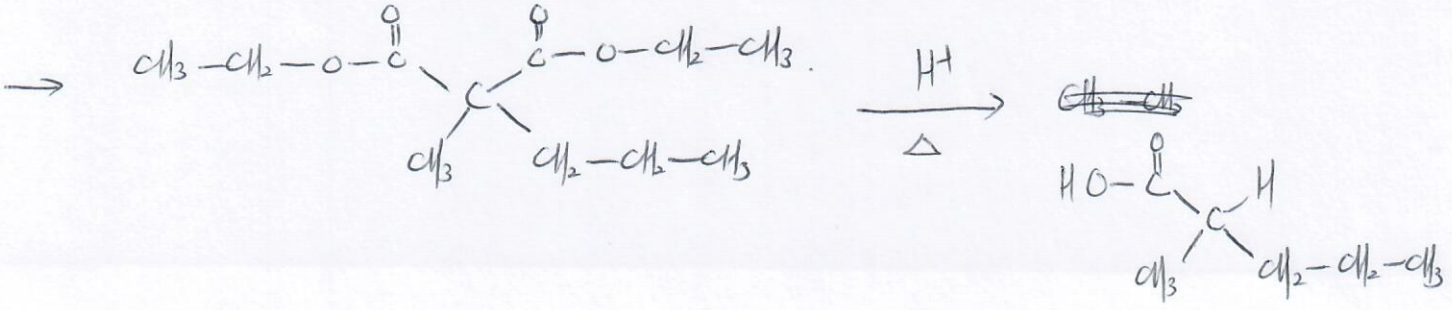






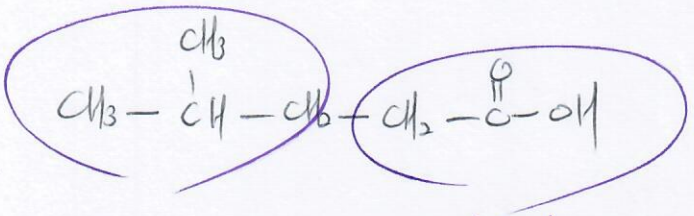




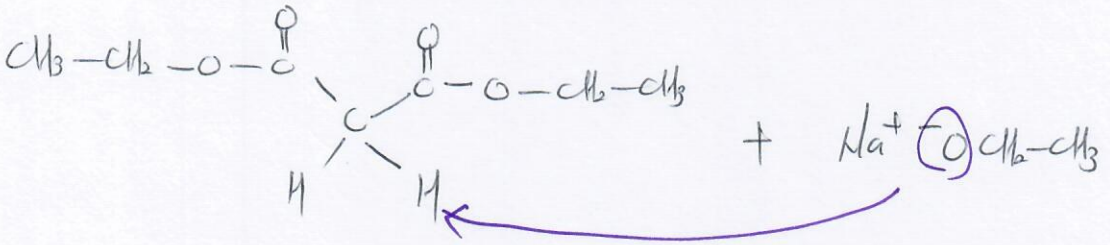


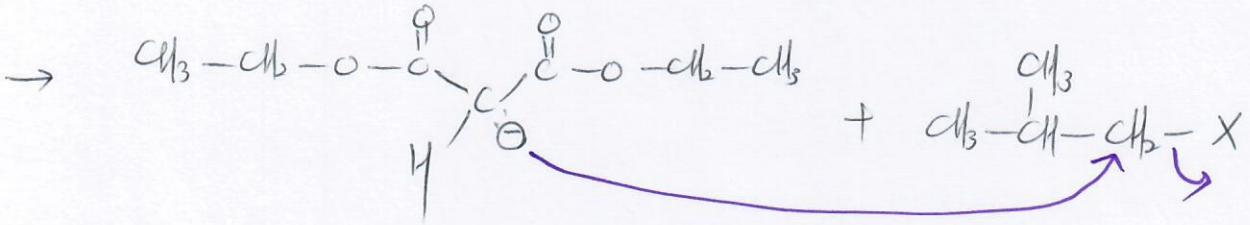
Problem 22-10-4.

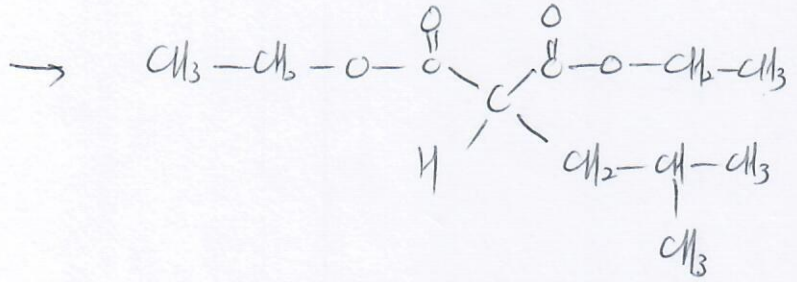
(c)

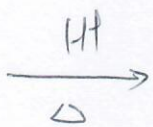


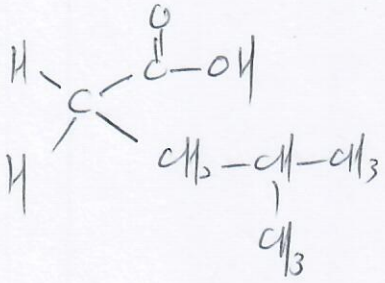
Isobutyl halide. Malonic ester





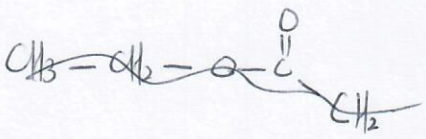


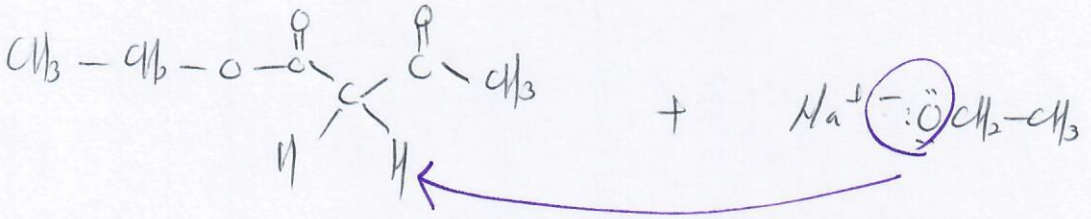




Problem 22 - 13 +

(a)

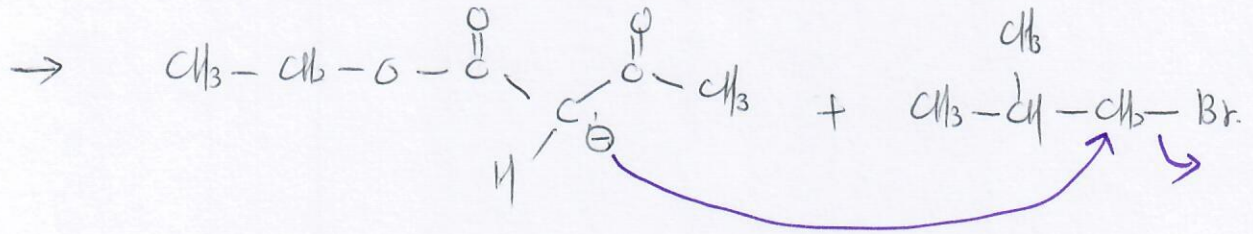


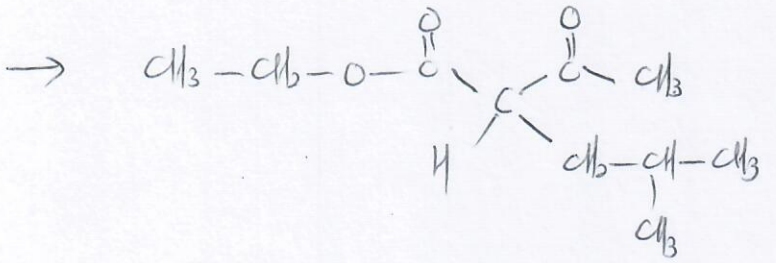


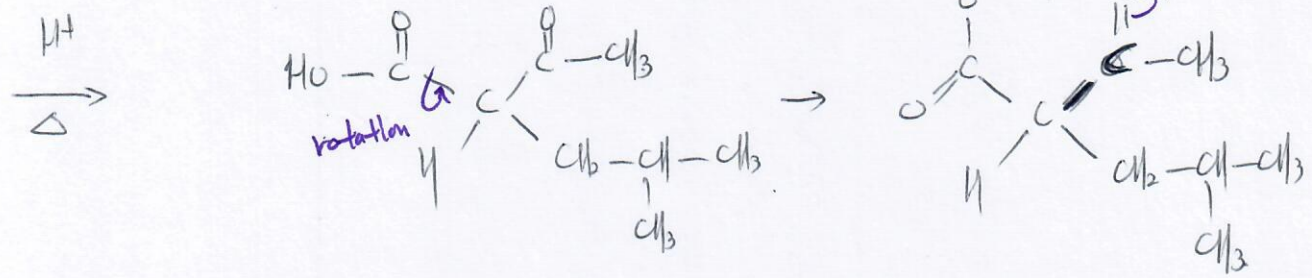
Ethyl acetoacetate

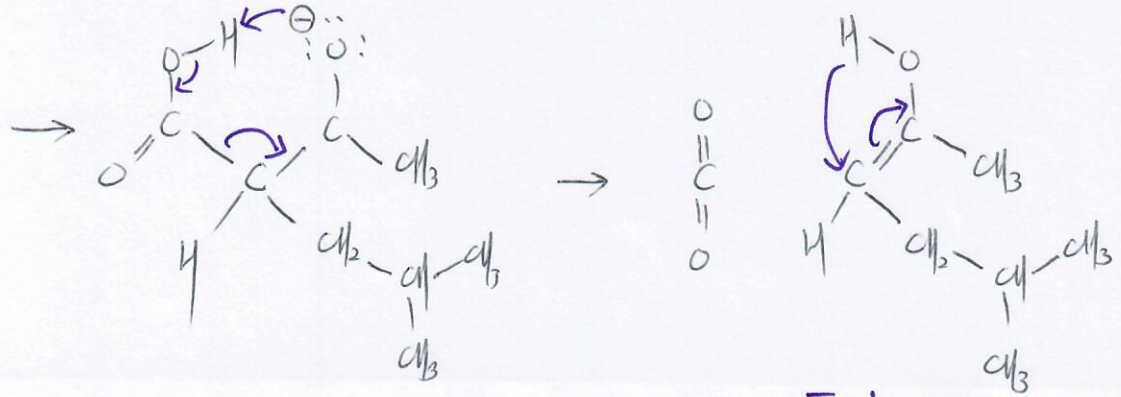
or

Acetoacetic ester.



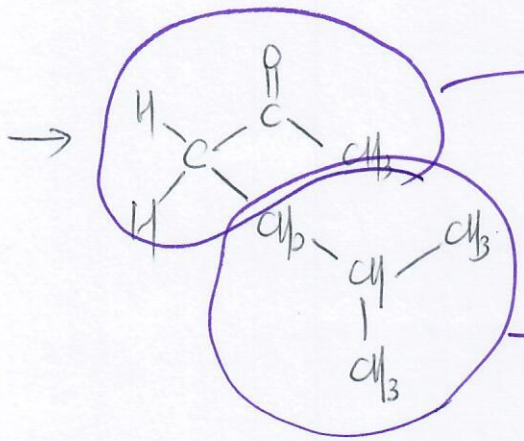






Enol Form

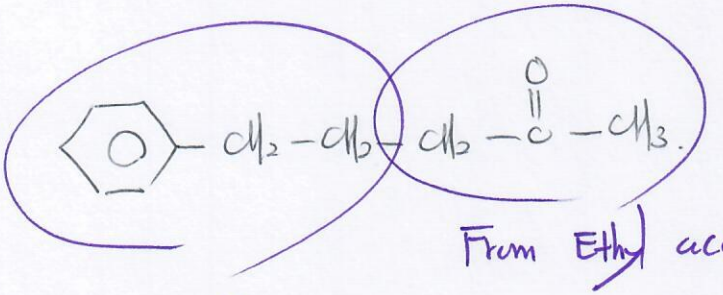
Problem 22-13-2



→ From Ethyl acetoacetate

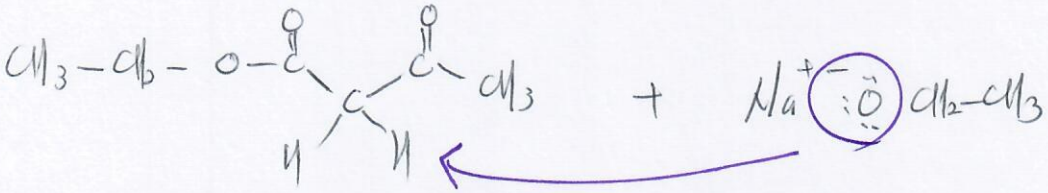
→ From Isobutyl halide.

(b)

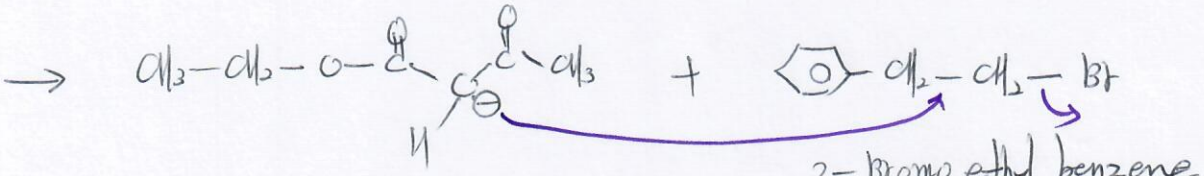


From Ethyl acetoacetate

From ethyl benzene halide



Ethyl acetoacetate



2-Bromo ethyl benzene