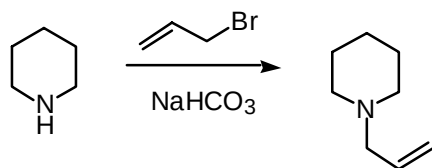
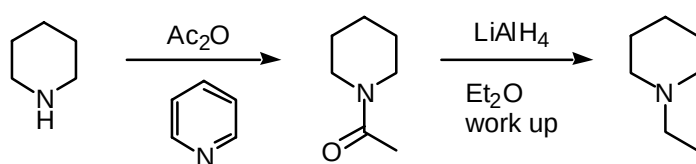


Answer Key for Problem Set 10

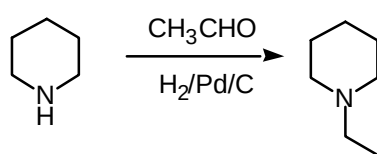
1. a)



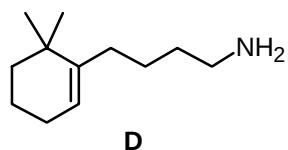
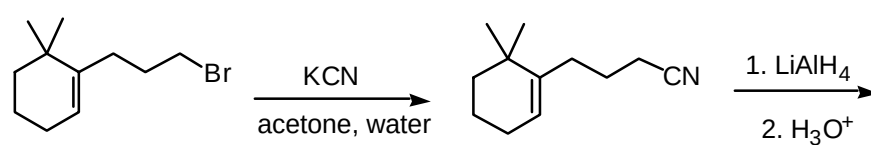
b)



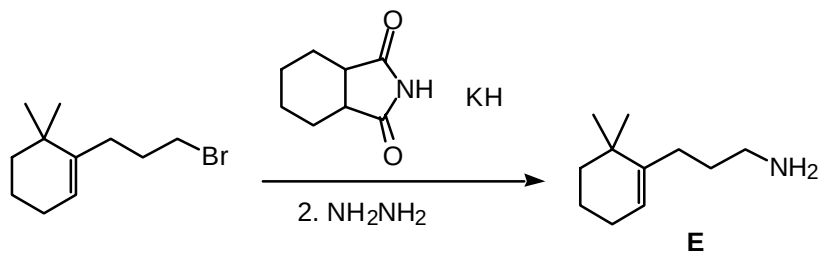
c)



d)

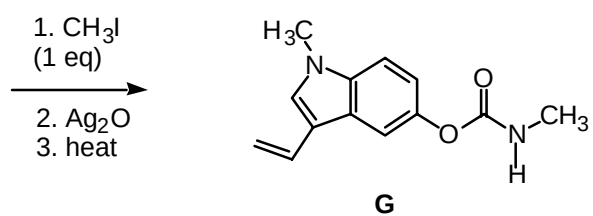
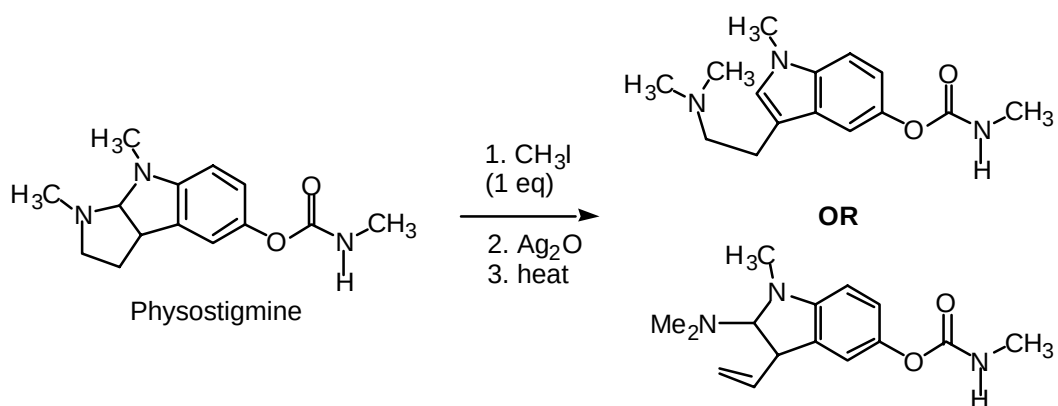


e)

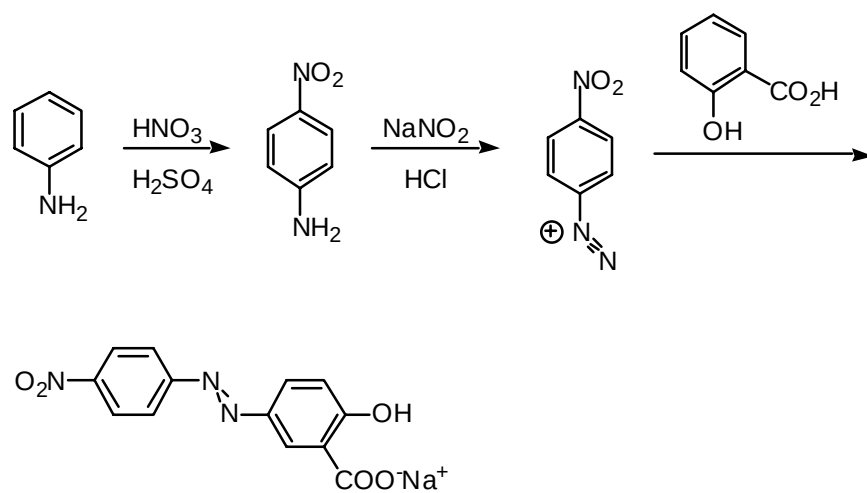


f) The ^1H NMR spectrum for D, contains one more methylene peak than that of E, and the splitting pattern will be changed due to this additional methylene.

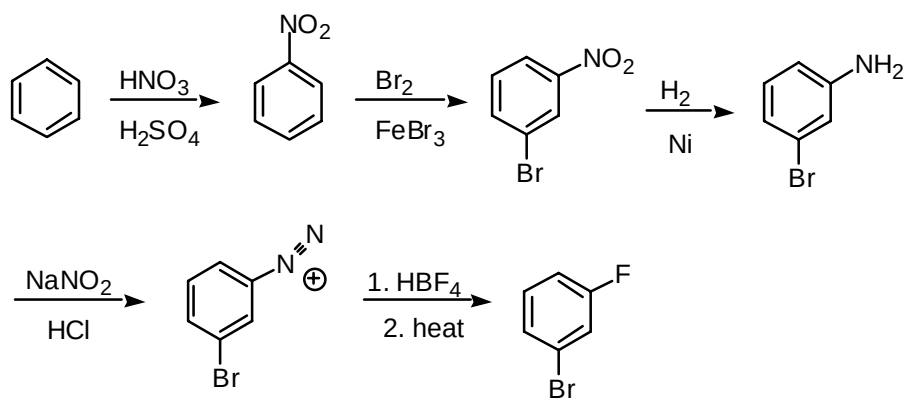
2.



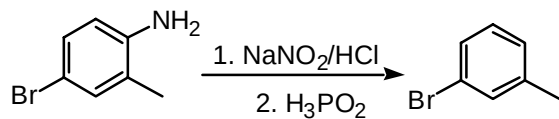
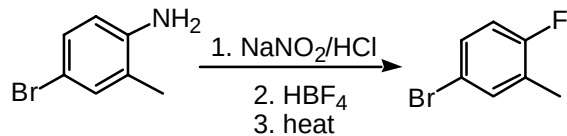
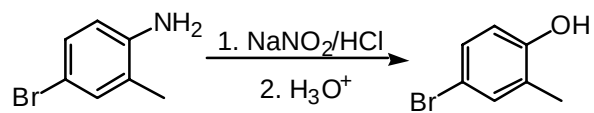
3.



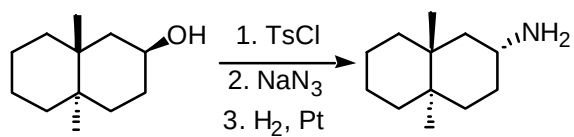
4.



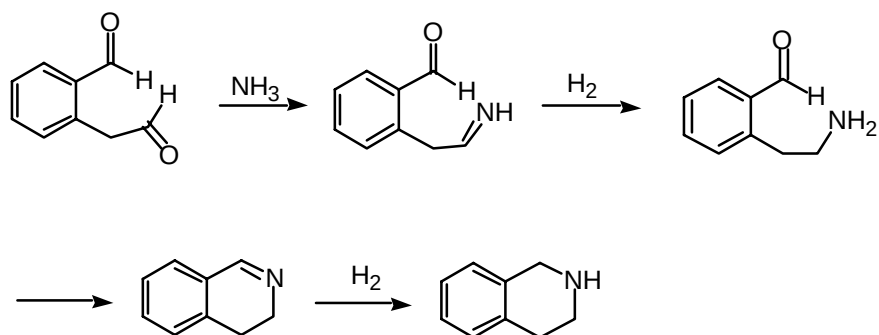
5.a)



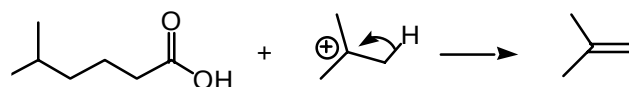
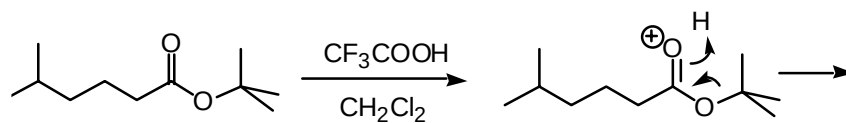
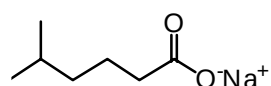
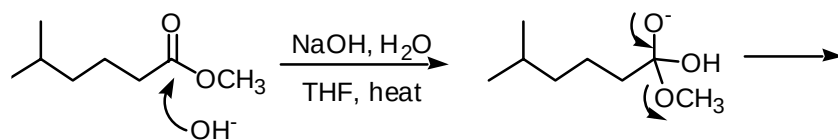
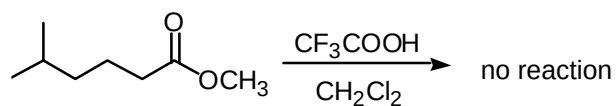
b)



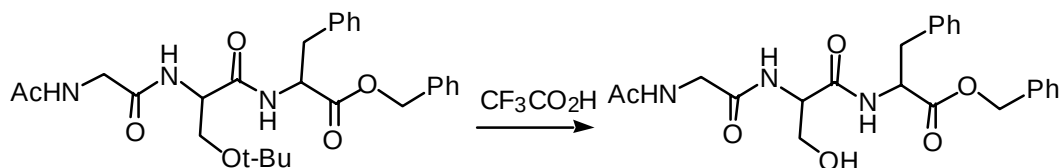
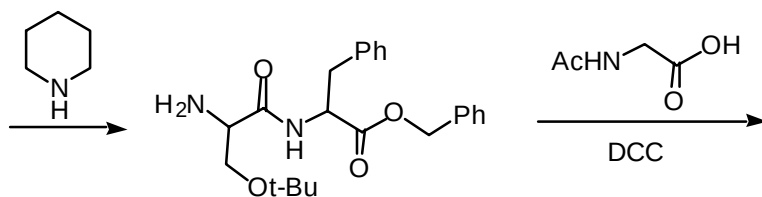
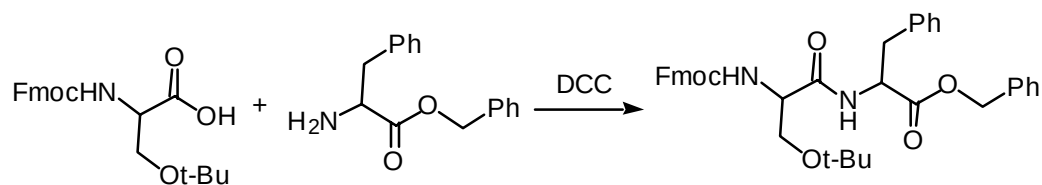
c)



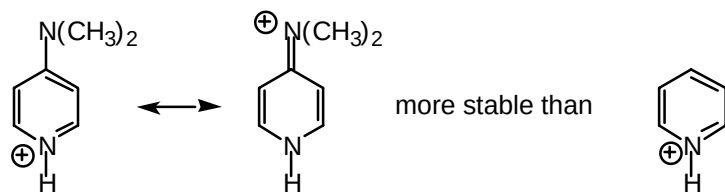
6.



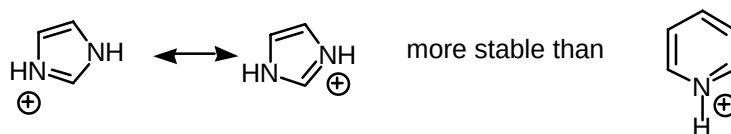
7.



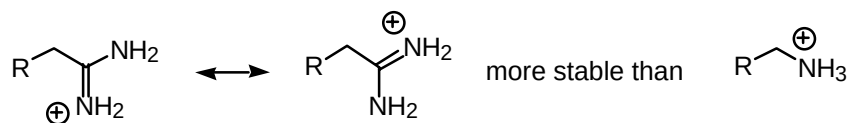
8. a)



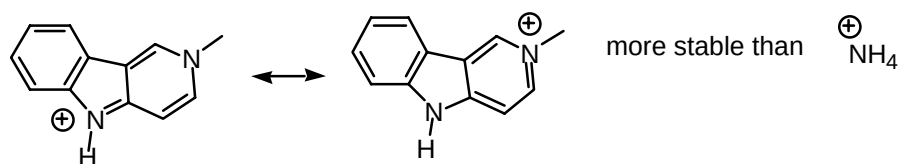
b)



c)

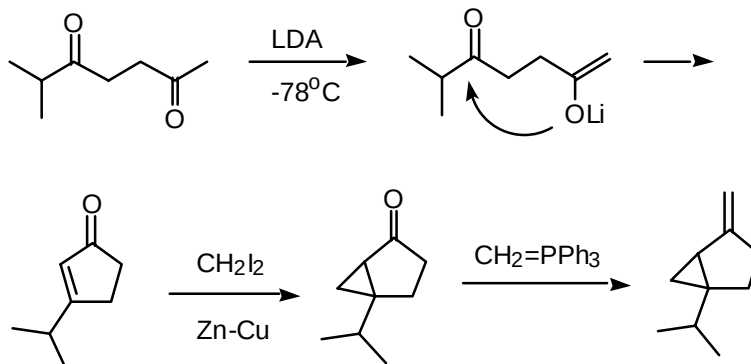


d)

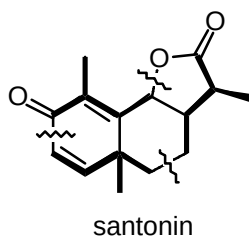


Comprehensive problems

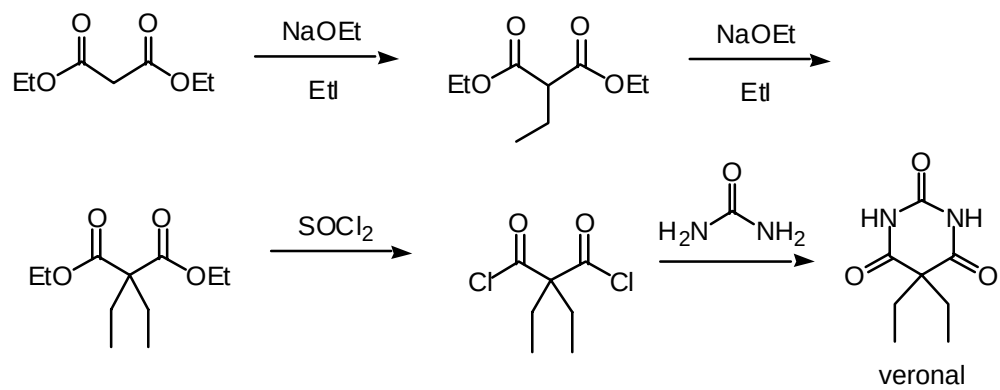
8.



9..



10.



11.

