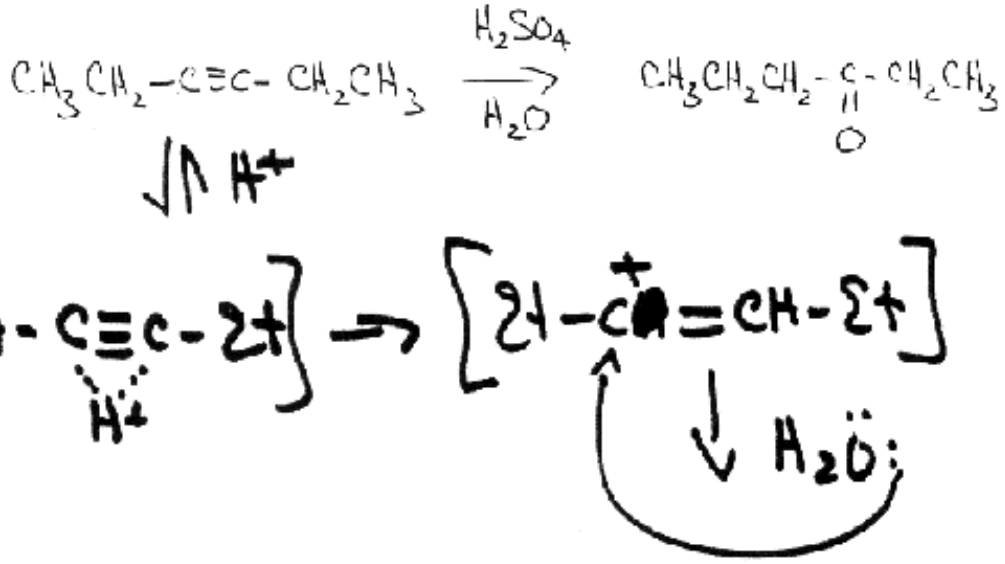
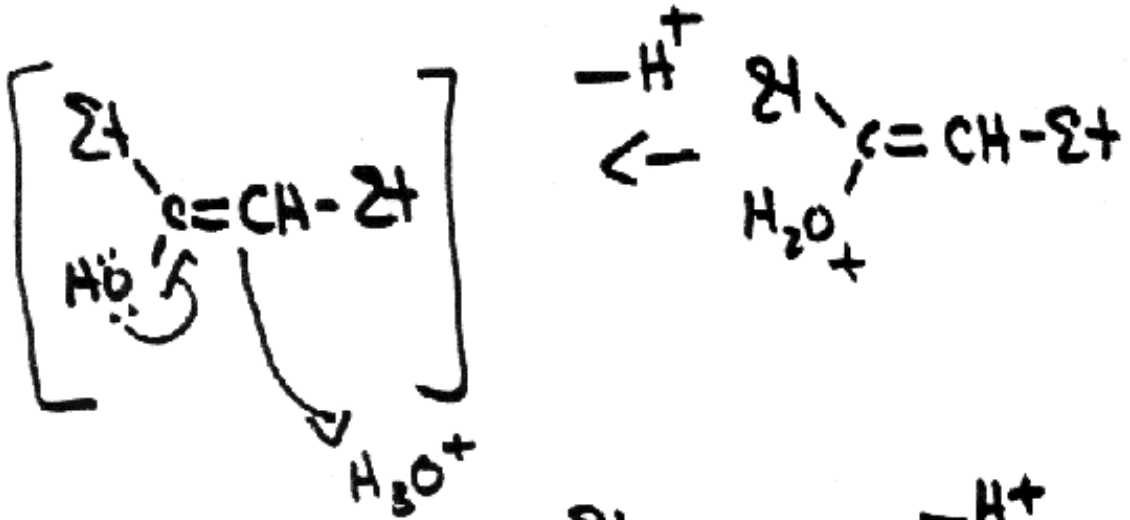
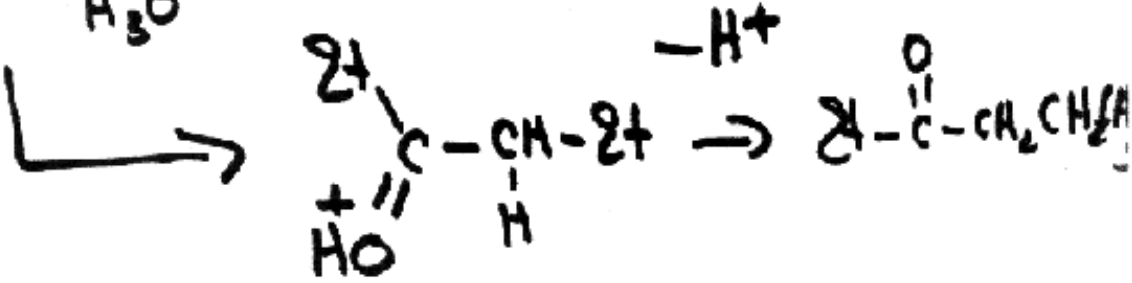
Chemistry 3311-100
Organic Chemistry/Dr. Barney Ellison
25.IV.96 **Thurs @ 19:00 → 20:30/3rd Exam**

Name: Key (please print)

1 (10 pts) Write out the mechanism for the following transformation.

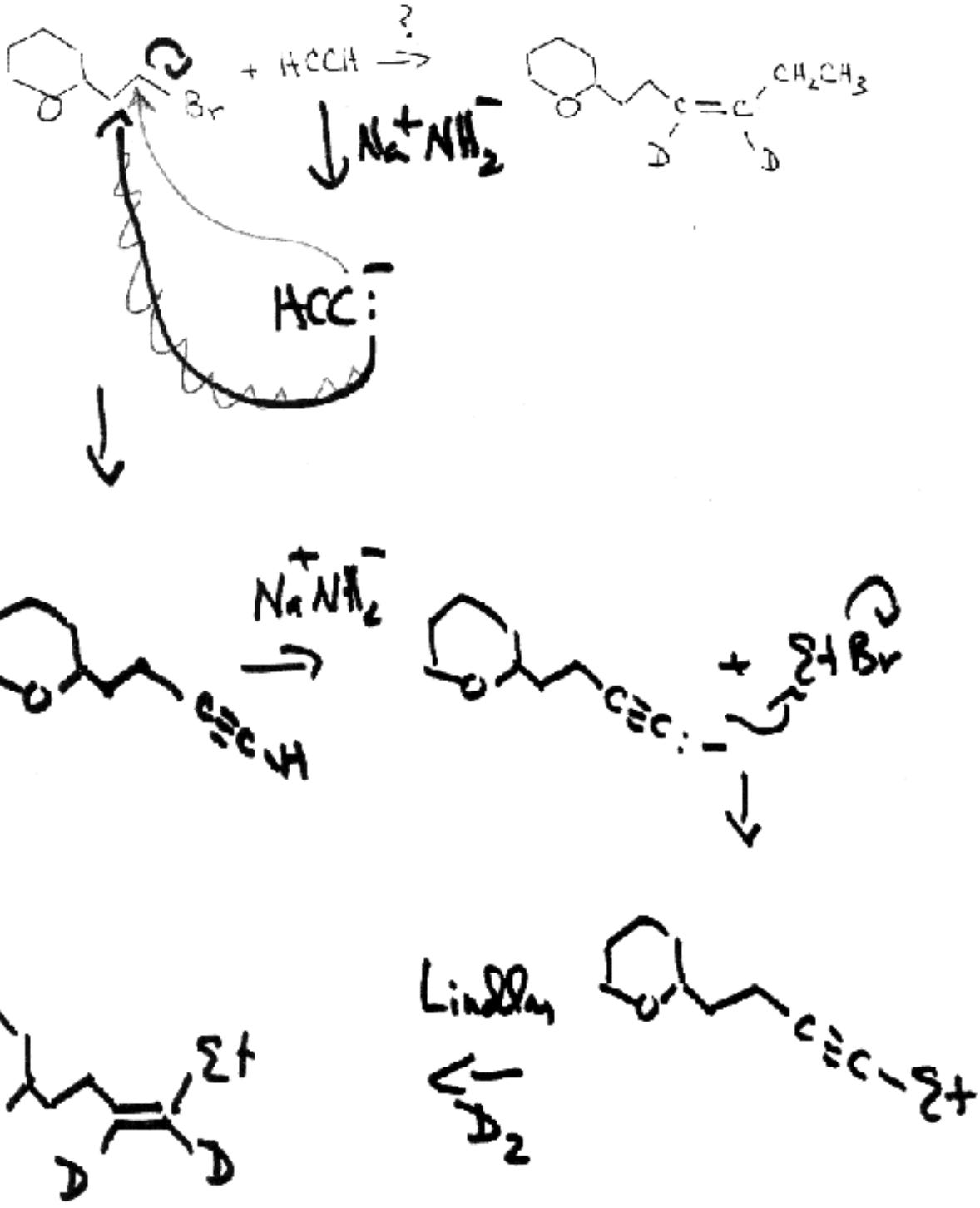




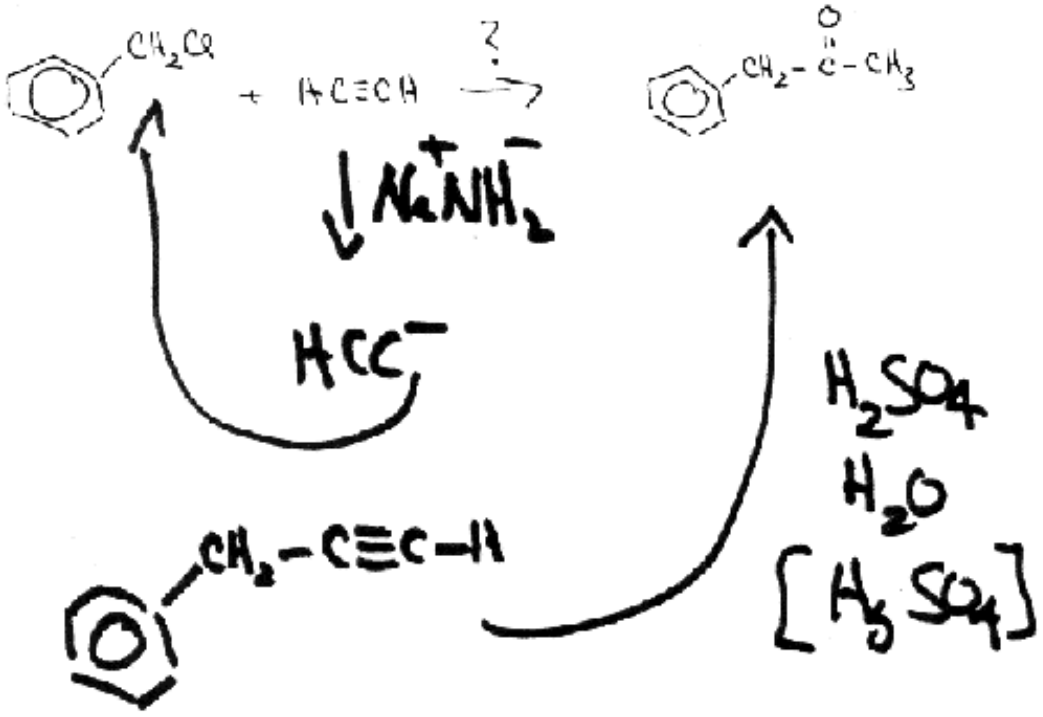


2. (10 pts) Carry out the following transformations. Use any reagents you like.

[D ≡ deuterium, ^2H isotope of ^1H]



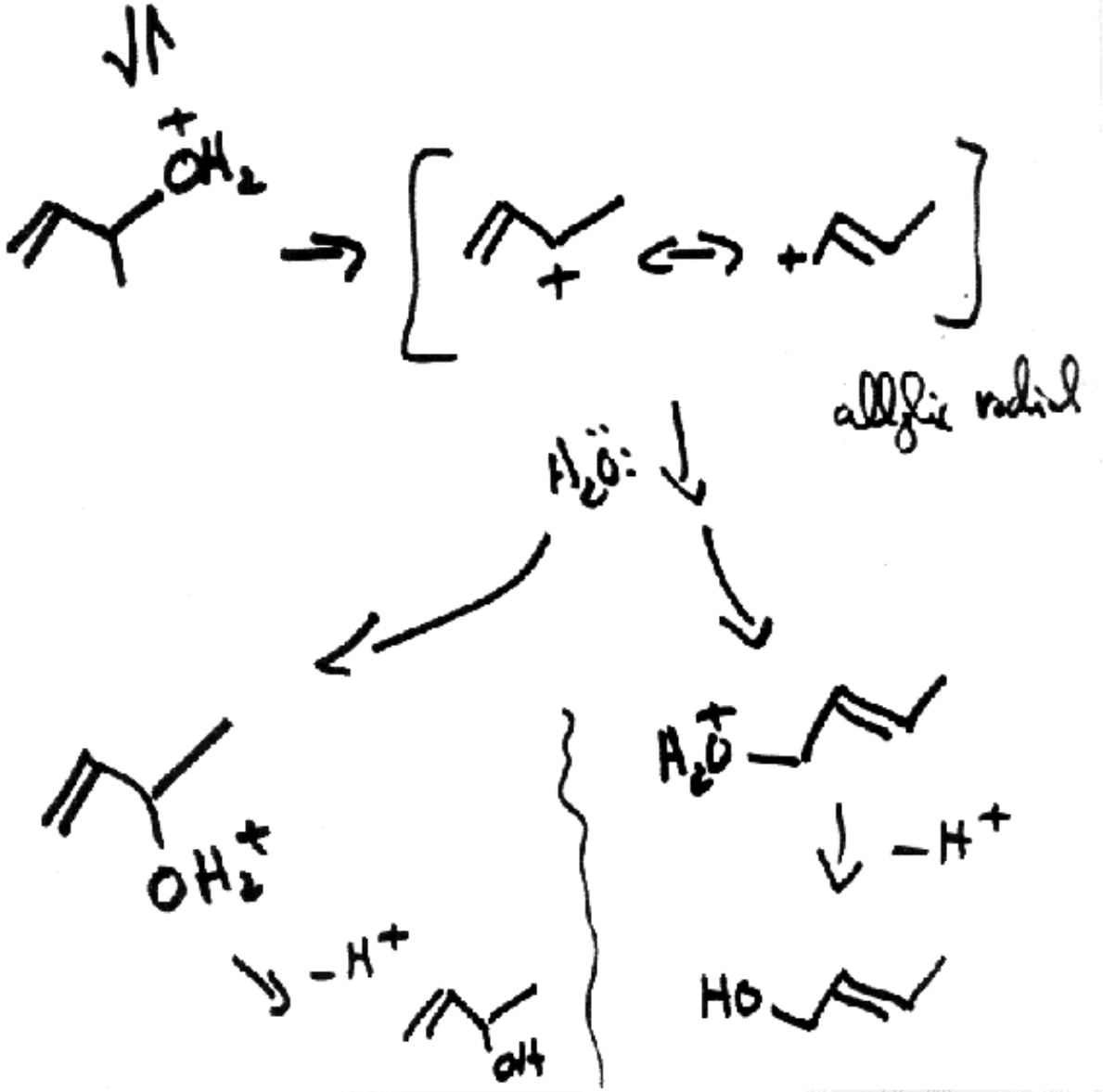
3. (10 pts) Carry out the following transformations. Use any reagents you like.



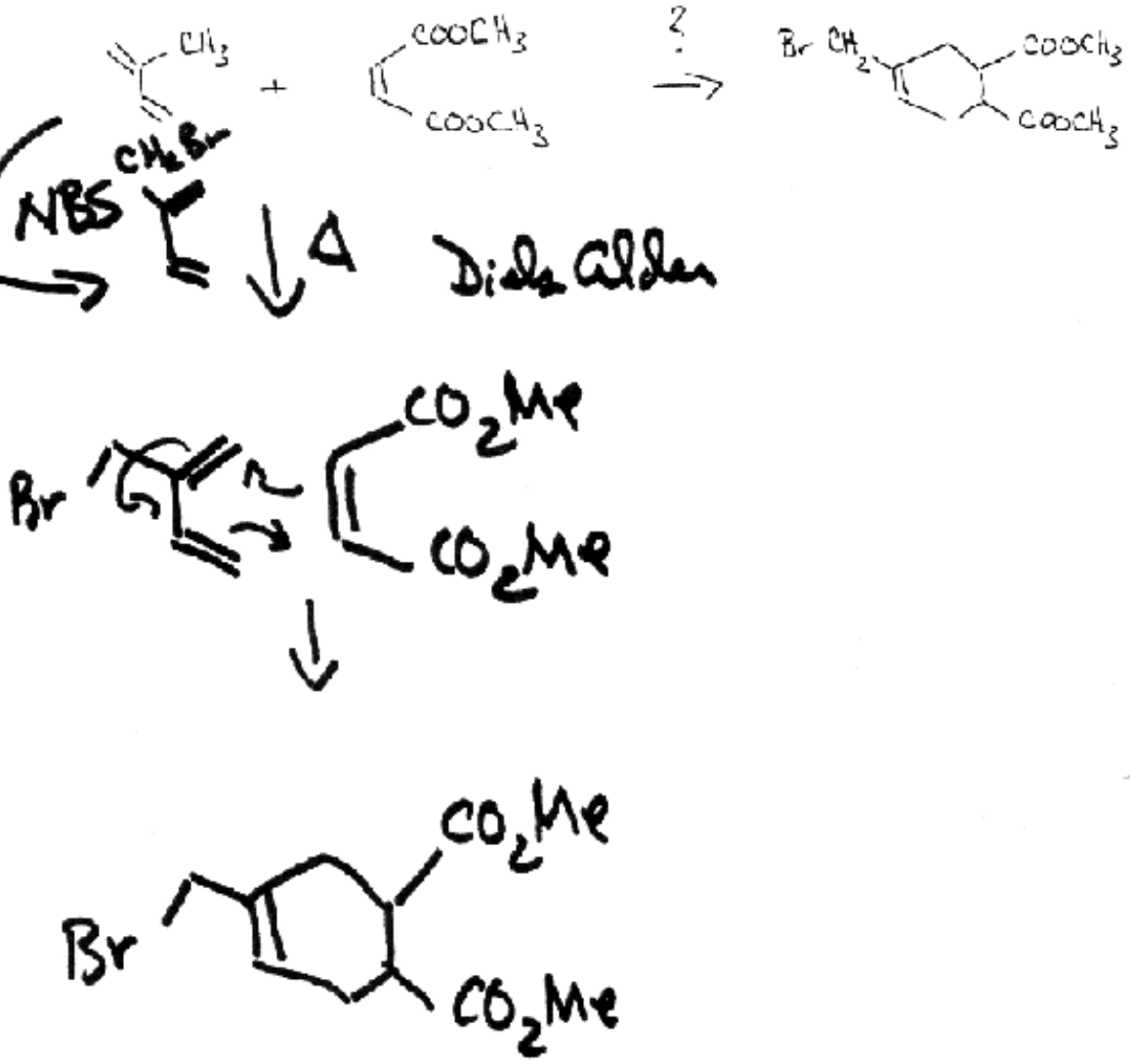
4. (10 pts) Write out the mechanism for the following transformation

If a sample of $CH_2=CH-\underset{\underset{OH}{|}}{CH}-CH_3$ is left to stand in H_3O^+/H_2O, a mixture of isomers results.

$CH_2=CH-\underset{\underset{OH}{|}}{CH}-CH_3$ (100%) $\xrightarrow{H_3O^+}$ $CH_2=CH-\underset{\underset{OH}{|}}{CH}-CH_3 + HO\,CH_2-CH=CH-CH_3$ (mixture)

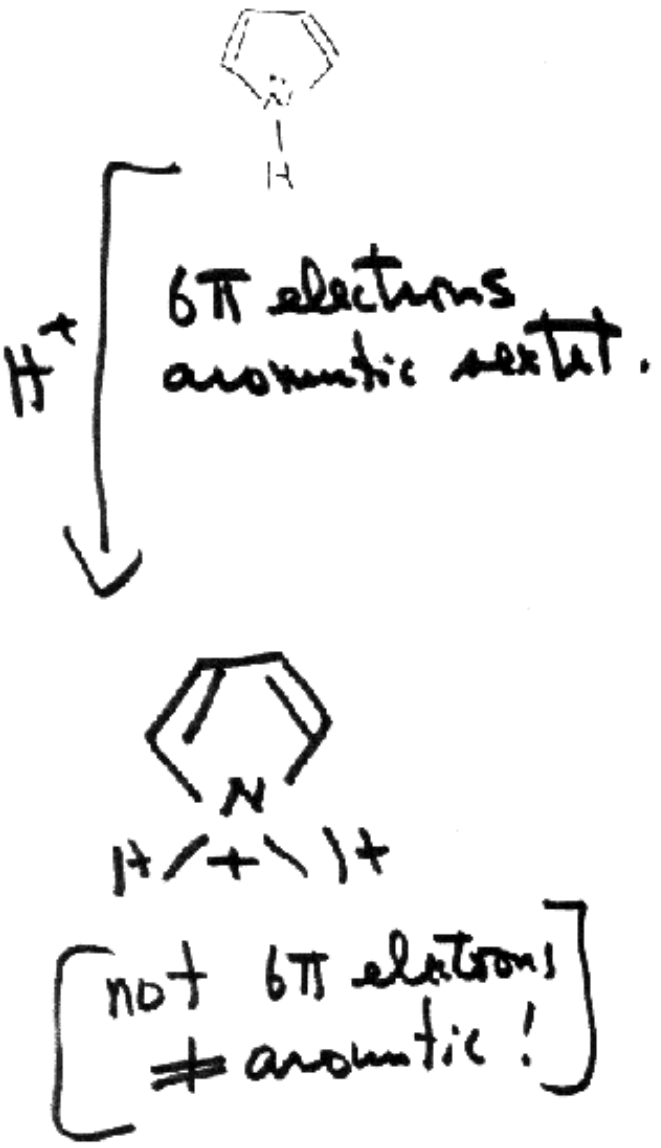


5 (10 pts) Carry out the following transformations. Use any reagents you like.

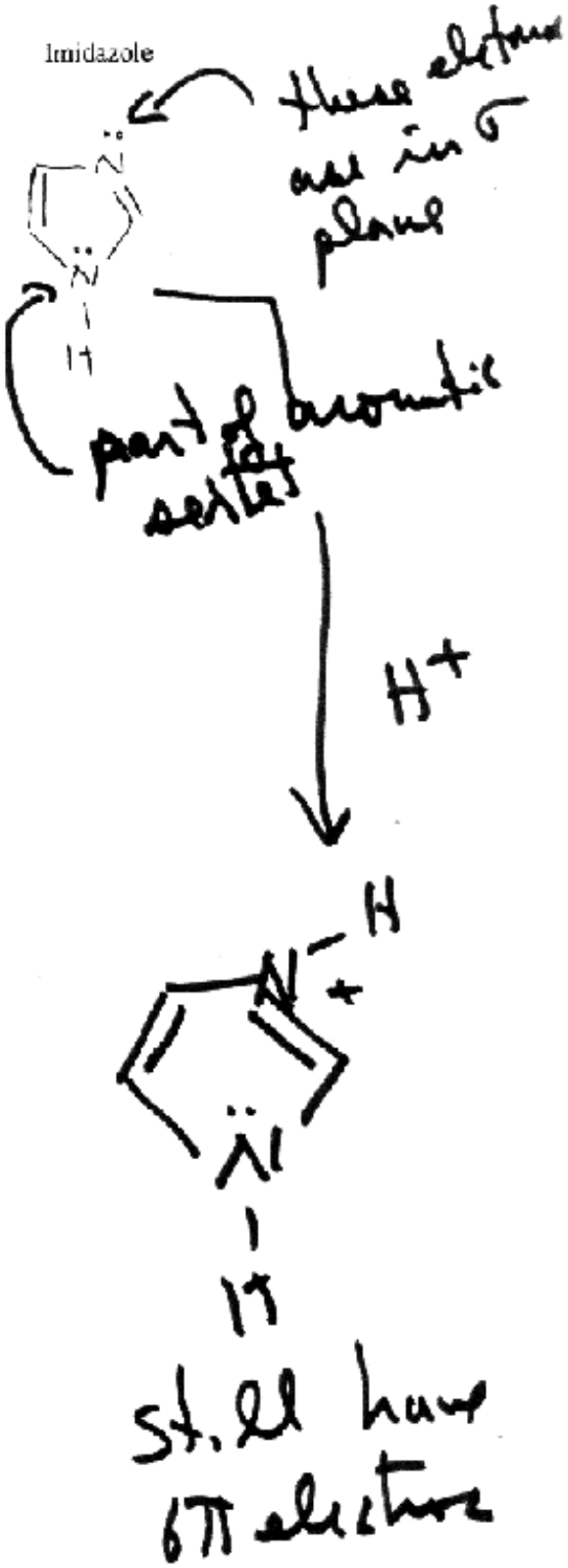


6. (10 pts) Which is the stronger base? Why!?

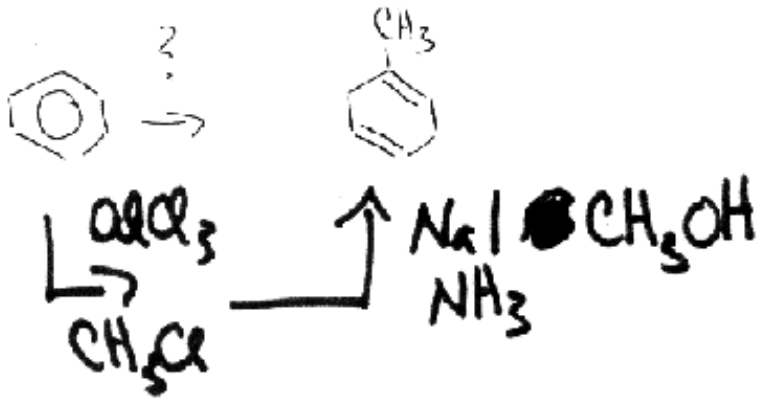
Pyrrole

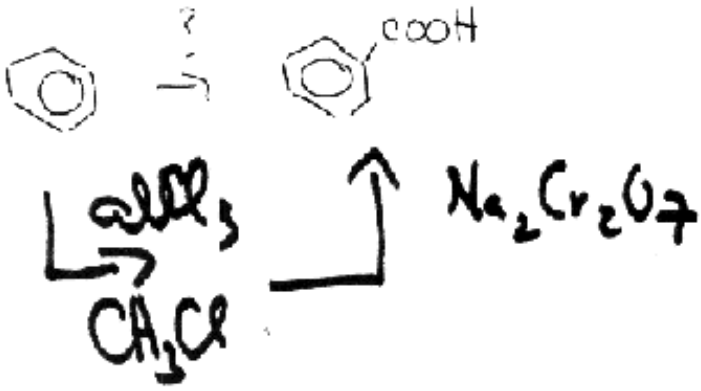


Imidazole

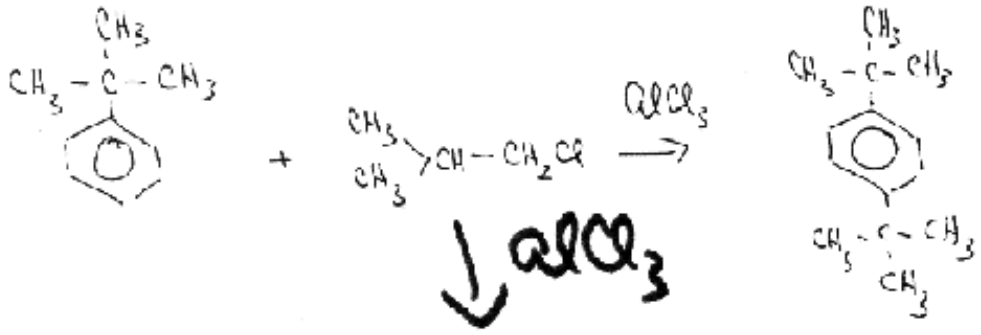


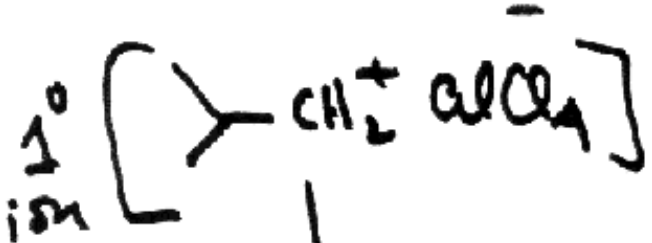
7. (5 + 5 pts) Carry out the following transformations. Use any reagents you like.

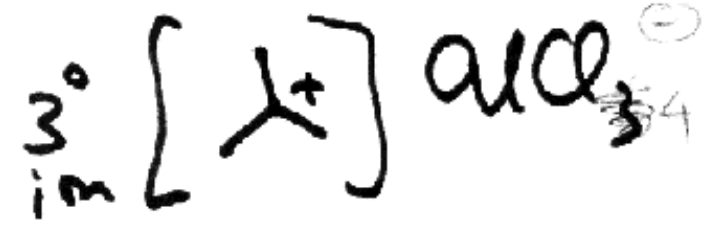


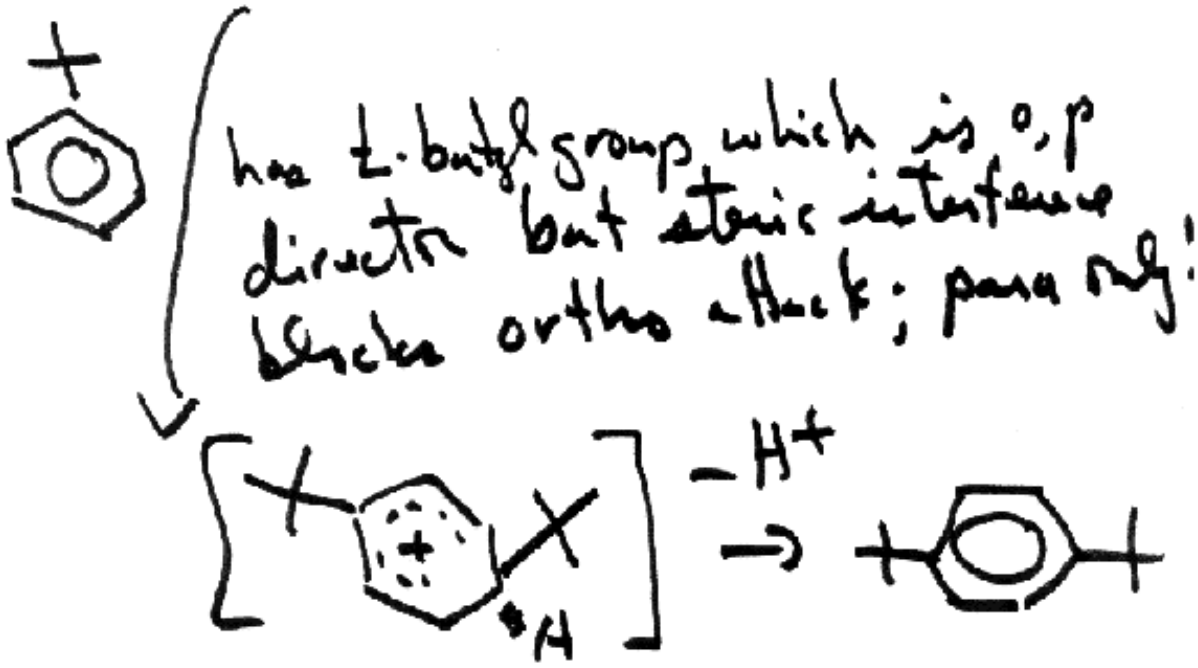


8. (10 pts) Write out the mechanism for the following transformation



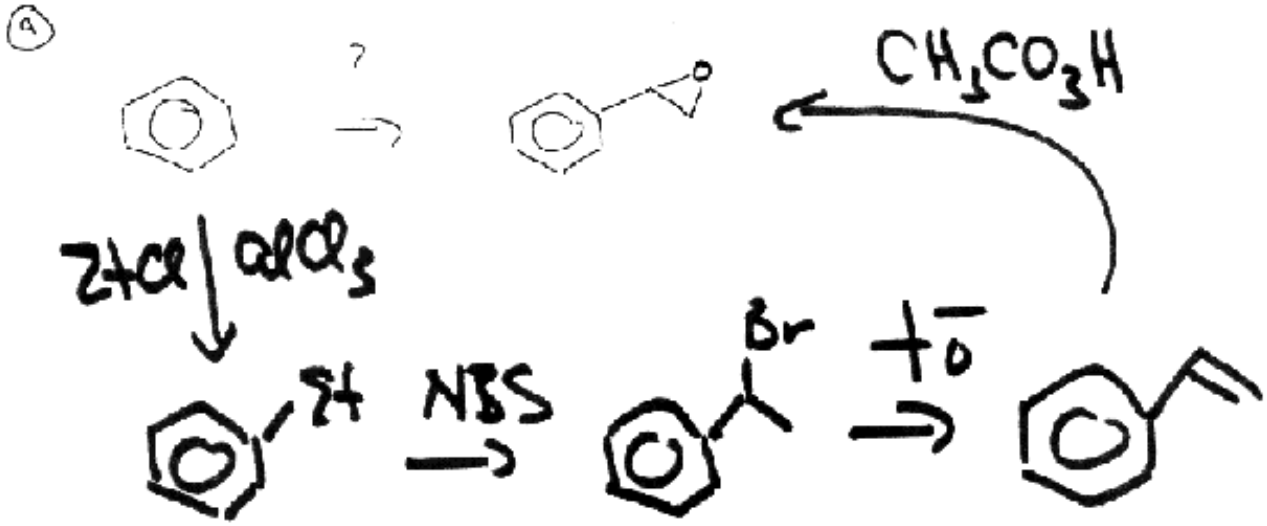




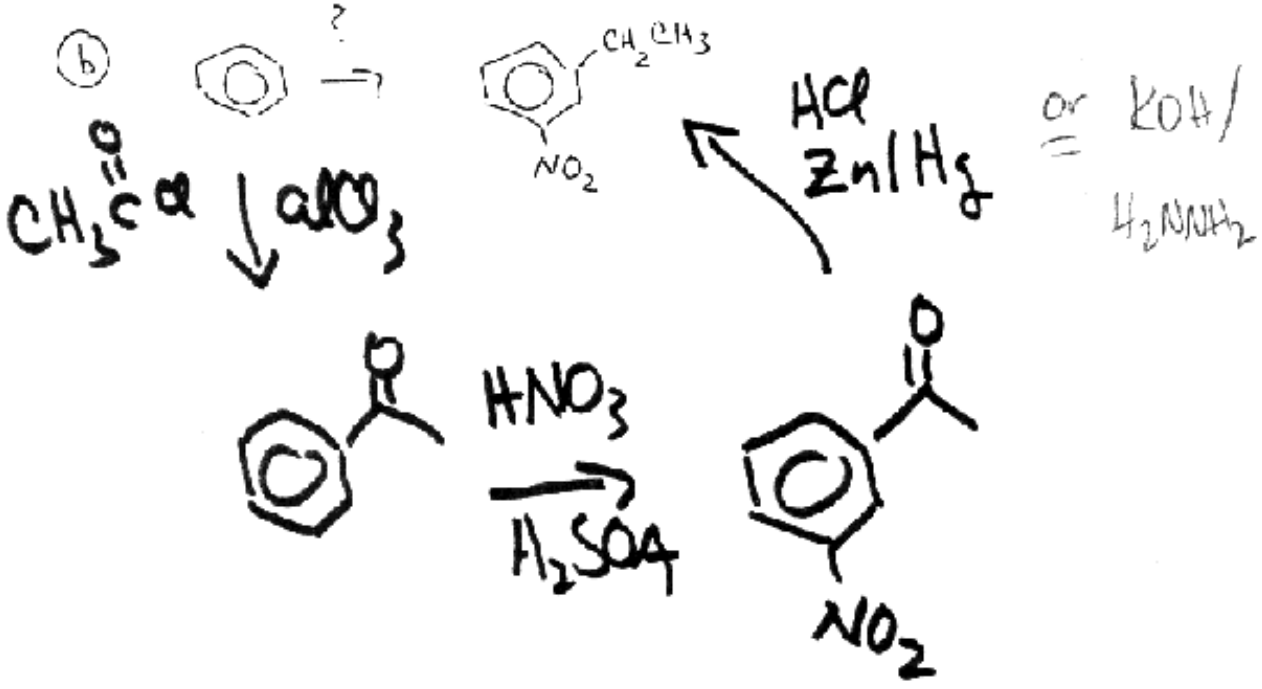


9 (5 + 5+ 5 + 5 pts) Carry out the following transformations. Use any reagents you like.

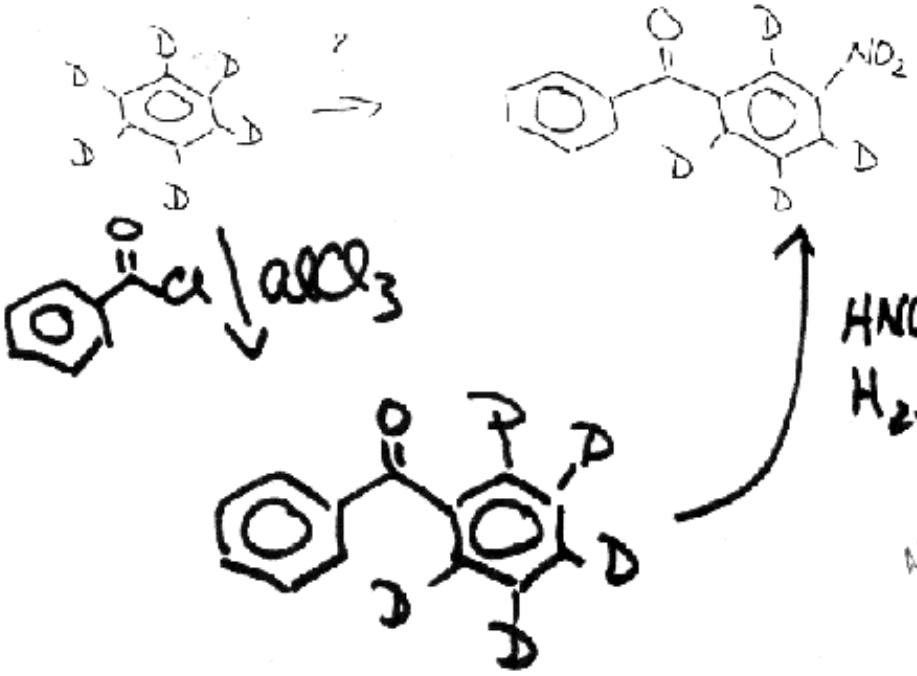
(a)



(b)



c) use deuterated benzene here



d)