

# PROBLEMS Friday Oct. 28, 2011

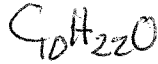
Name: \_\_\_\_\_

Date: June 17, 2008

Dr. M. Nerz

Summer 2008

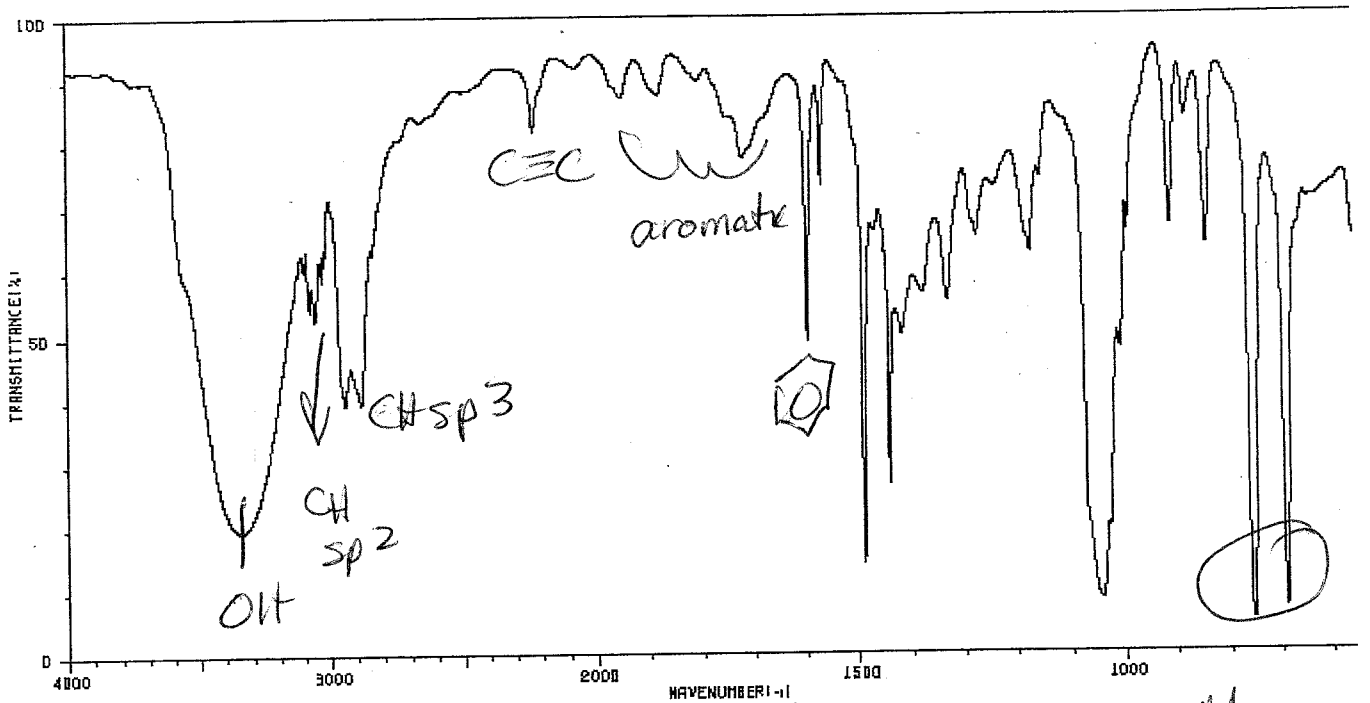
Quiz 5



Unknown compound X has the formula,  $C_{10}H_{10}O$  and gives the following  $^1H$  NMR and IR spectra.

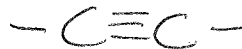
$$12/2 = 6$$

Interpret these spectra and write a reasonable structure for the compound. You may take up to fifteen minutes for your analysis.

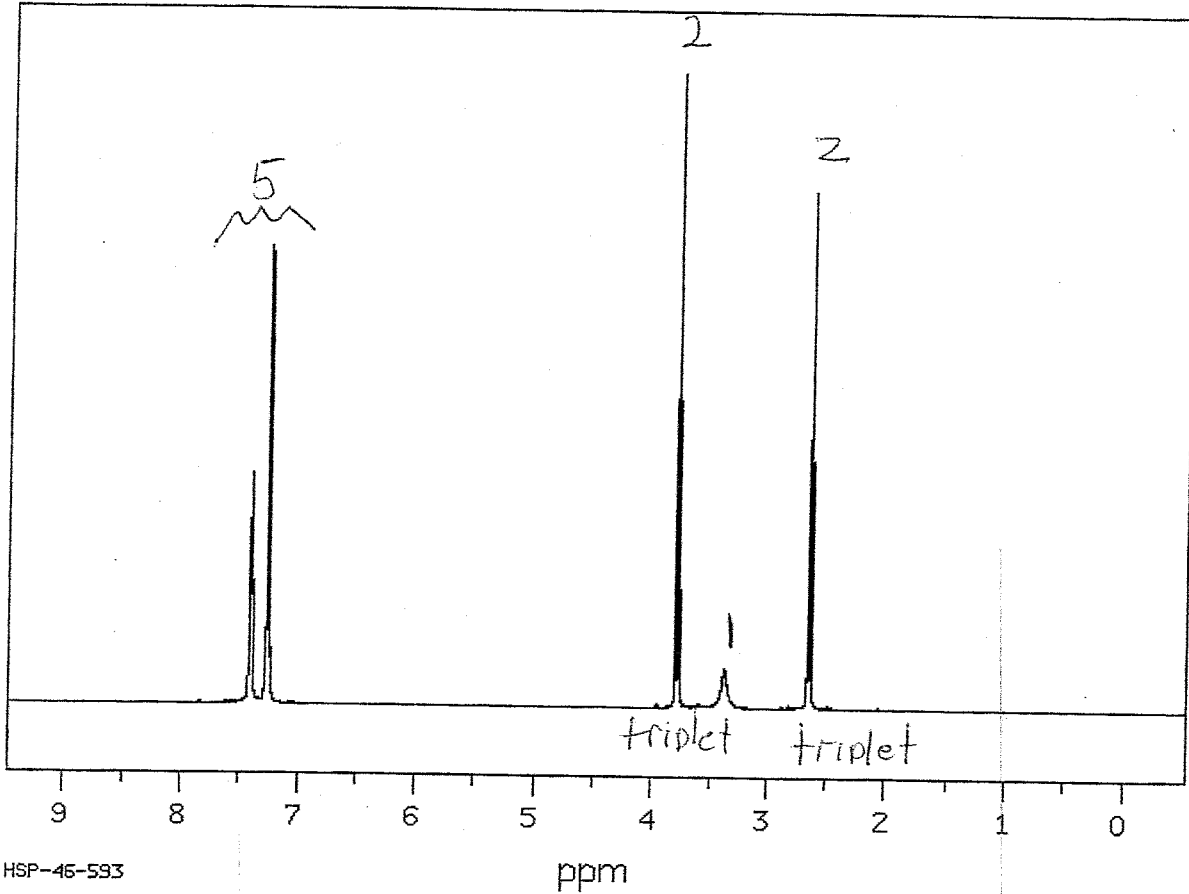


Mono substituted


Just with what is written



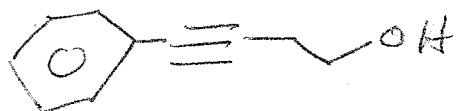
C<sub>10</sub>H<sub>10</sub>



HSP-46-593

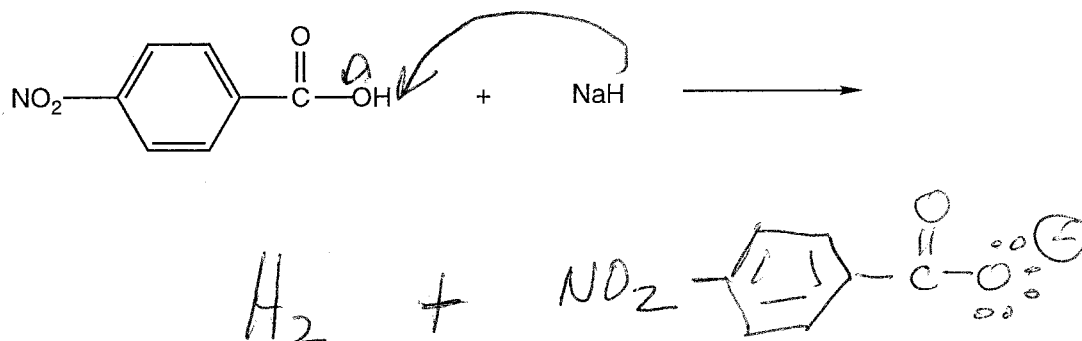
$\delta$	$\delta$	splitting	Comp
2.6	2	<del>CH<sub>2</sub>-CH<sub>2</sub></del> triplet	-CH <sub>2</sub> -CH <sub>2</sub>
3.3	1	singlet	OH
3.8	2	triplet	O-CH <sub>2</sub> -CH <sub>2</sub>
7.3	5	-	

Best

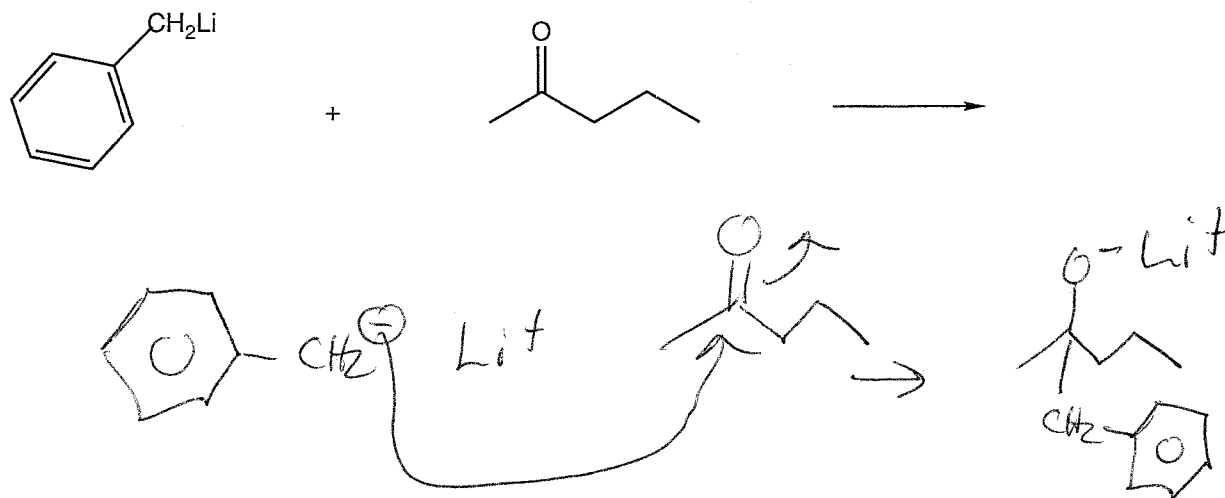


Write a mechanism (arrow formalism) leading to a major product(s) for each of the following reactions. If you do not believe a reaction is possible in the direction written, simply write "no reaction". This is open book and untimed. It is due by 6/13. I am looking for logical answers here.

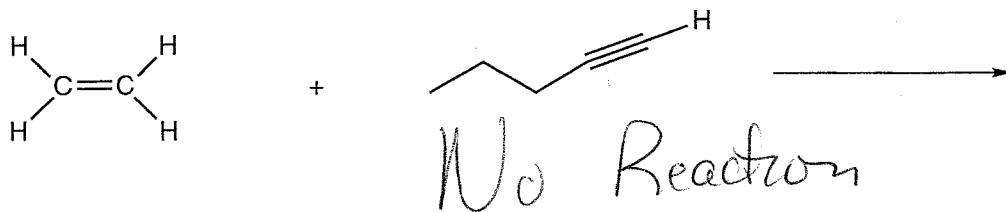
a)



b)



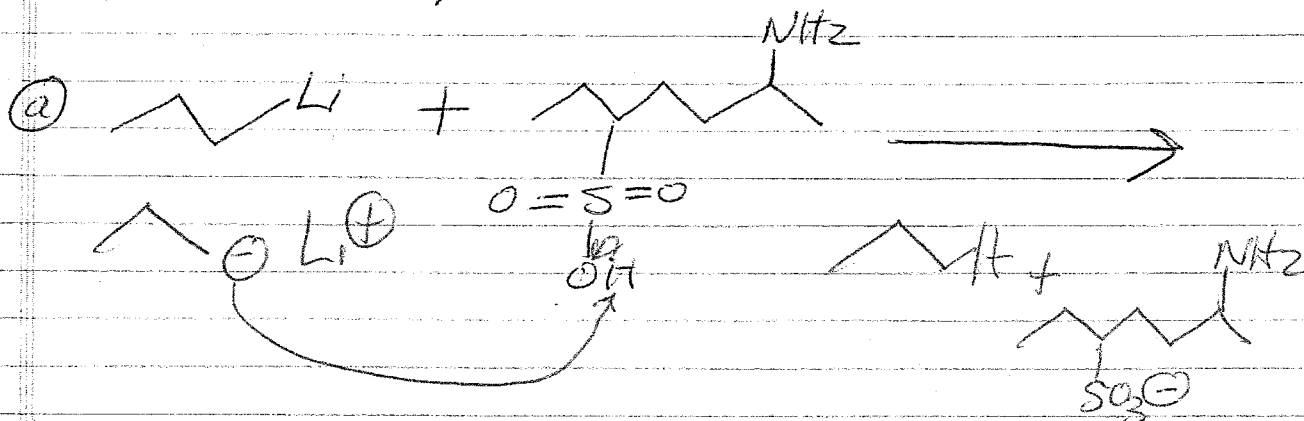
c)



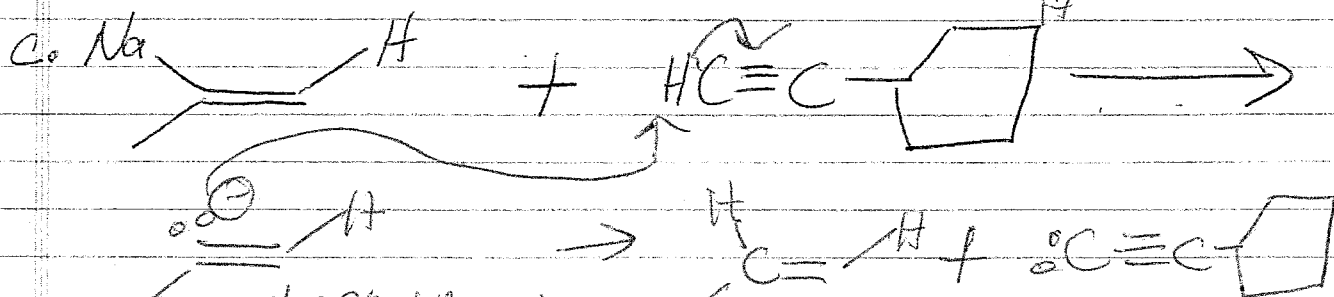
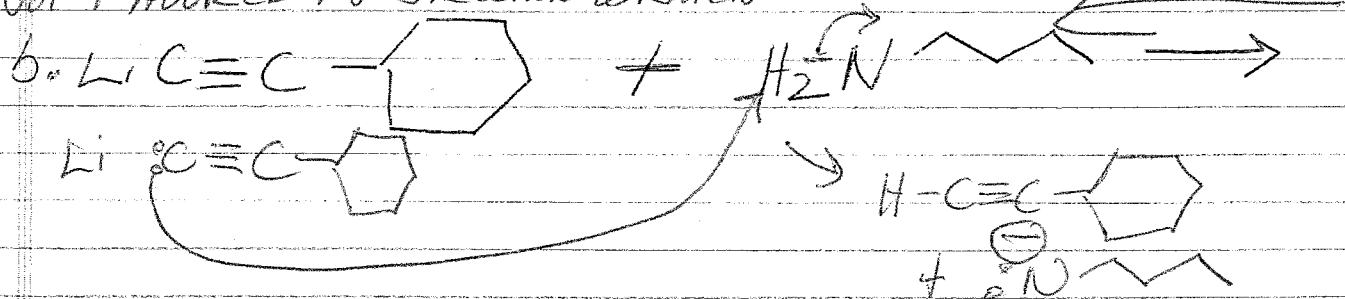
November 12, 2010

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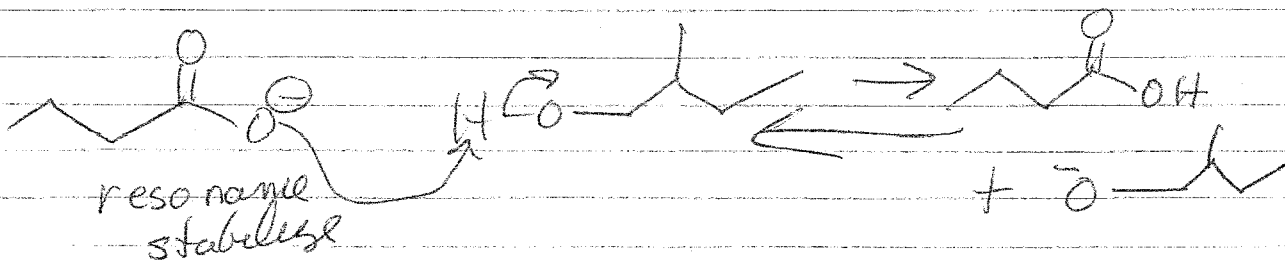
1. Draw arrow formalism leading to major products for the following reactions. Include all resonance forms for reactants and products.



NOT FAVORED IN DIRECTION WRITTEN:



d. Will not go in direction written



Practice Quiz  
Nerz

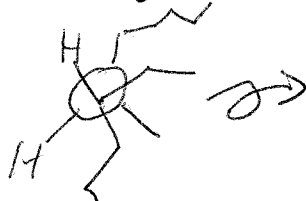
Please take fifteen minutes for the following quiz.

1. Using Newman projections carry out a complete conformational analysis of

~~3R-2,3-3-isopropyl-2-methylheptane~~

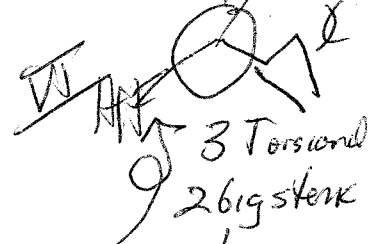
*BAD Question sorry*

*3R, 4R*  
~~3R, 4R~~ *4-ethyl-3-methylheptane*



*see attached  
see below*

*MOST STABLE III > I > V > II > IV > VI*



2. Which of the following samples will give a net optical rotation.

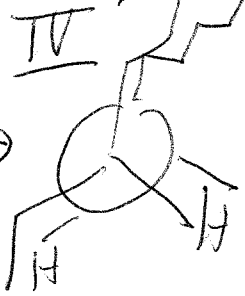
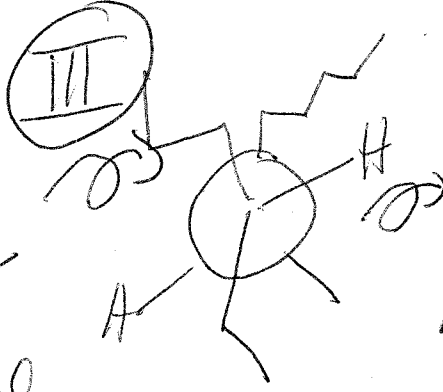
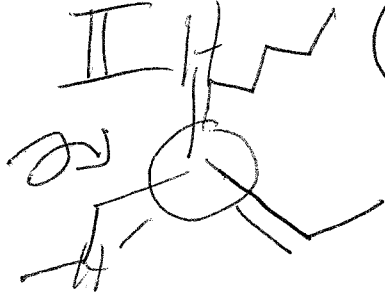
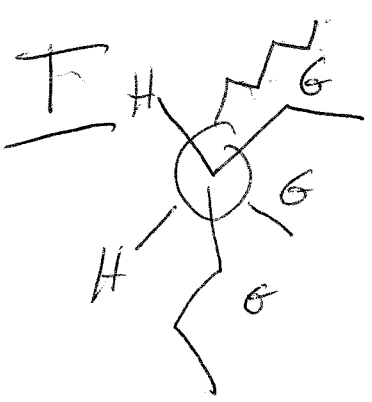
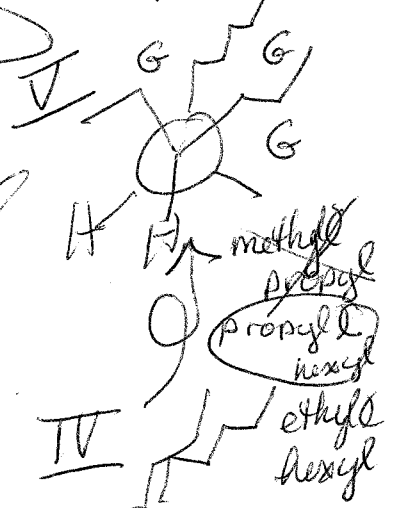
a. a 50:50 mixture of 1R, 3S-1,3-dichlorocyclohexane and 1R, 3R-1,3-dichlorocyclohexane.

b. a 50:50 mixture of R-2-chlorobutane and S-2-chlorobutane.

c. a solution of glucose in water.

*if natural  
Glucose*

d. 2R, 3-S - 2, 3-butanediol.



*3 Gauche interactions  
hexyl & ethyl  
ethyl & methyl  
methyl & propyl ✓*

*3 torsional interactions  
Gauche  
hexyl & H  
propyl & H  
ethyl & methyl*

*2 Gauche  
ethyl & methyl  
hexyl & propyl*

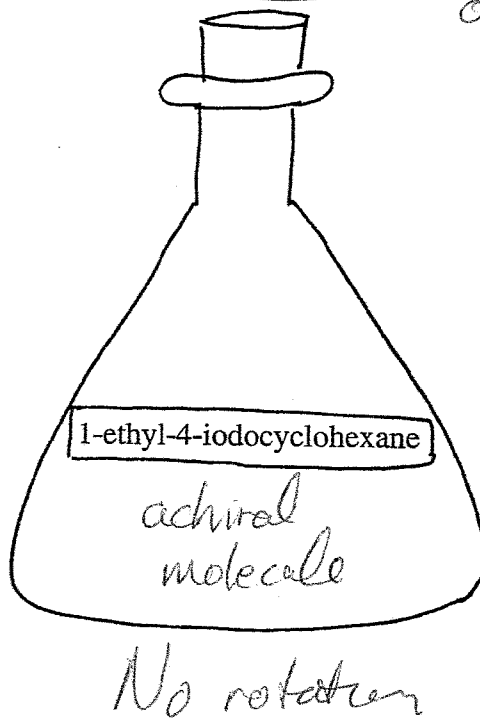
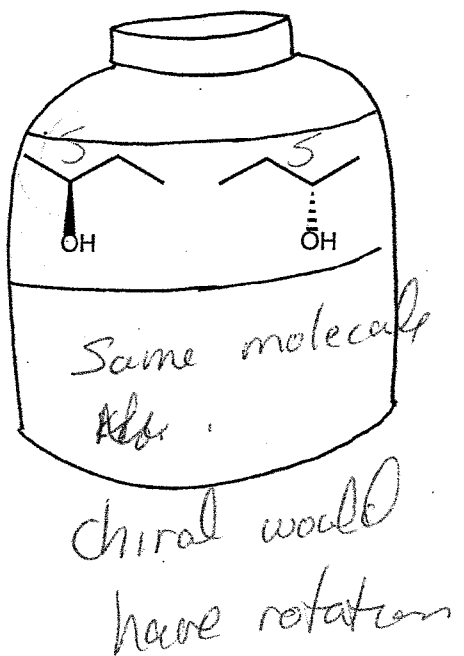
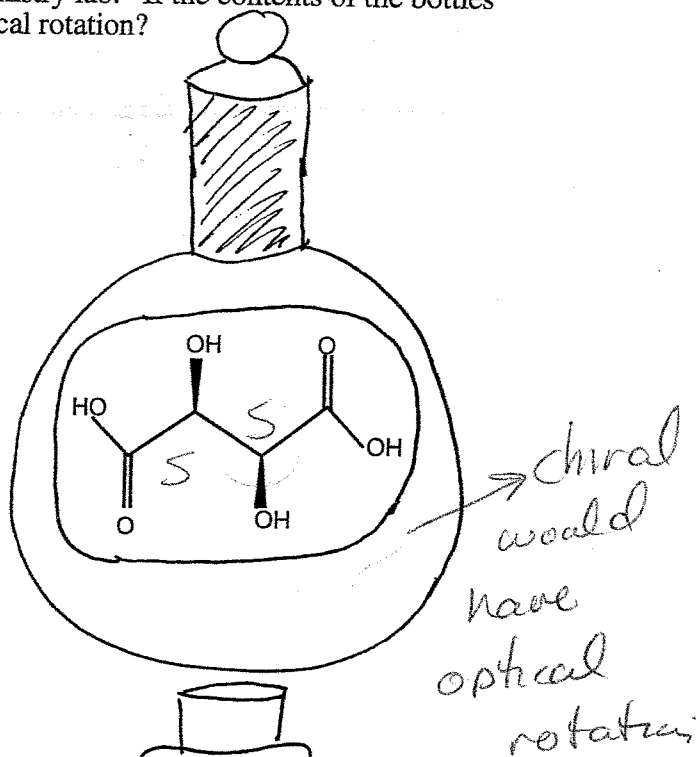
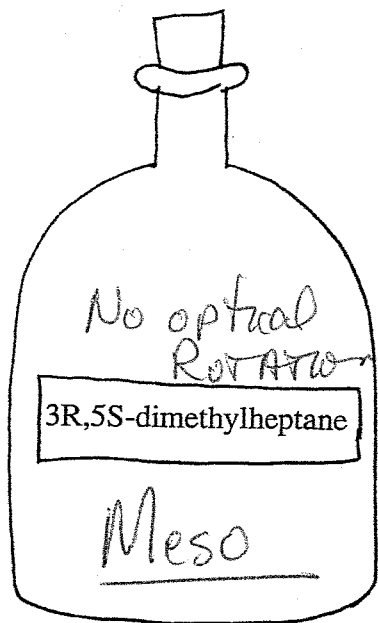
*3 torsional  
ethyl & H  
methyl & H  
hexyl & propyl*

Chemistry 211  
Quiz no. 4  
Fall 1995  
Dr. M. Nerz

Name: \_\_\_\_\_

Date: October 11, 1995

The following labeled bottles were found in a chemistry lab. If the contents of the bottles are studied by polarimetry, which should give optical rotation?



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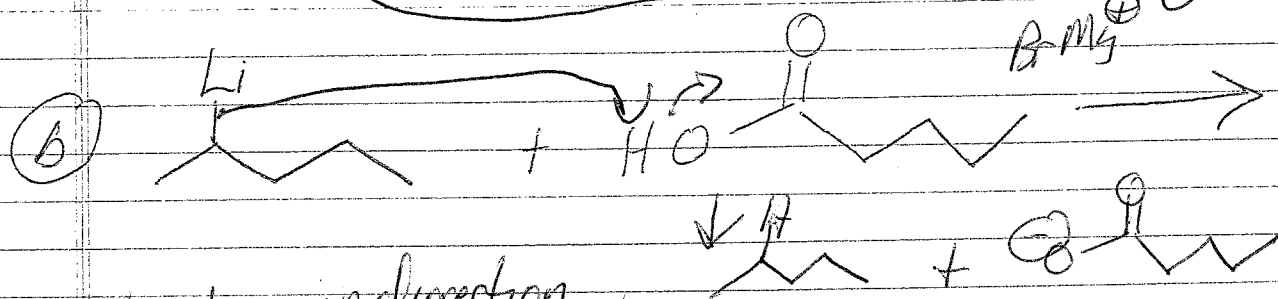
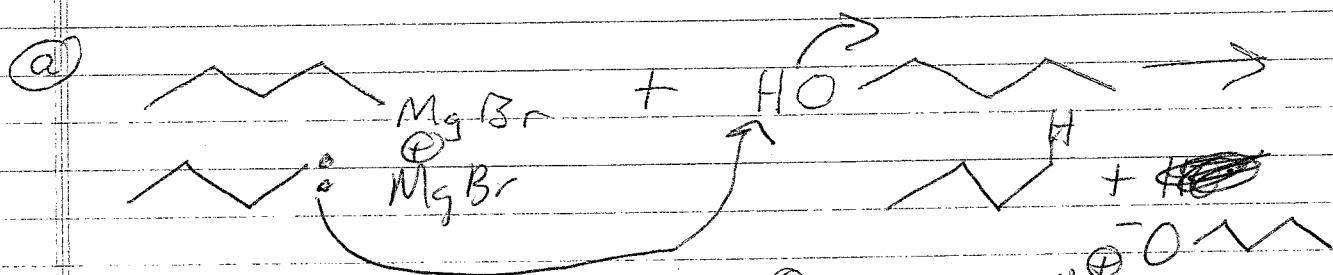
November 5, 2010

M. Nerz

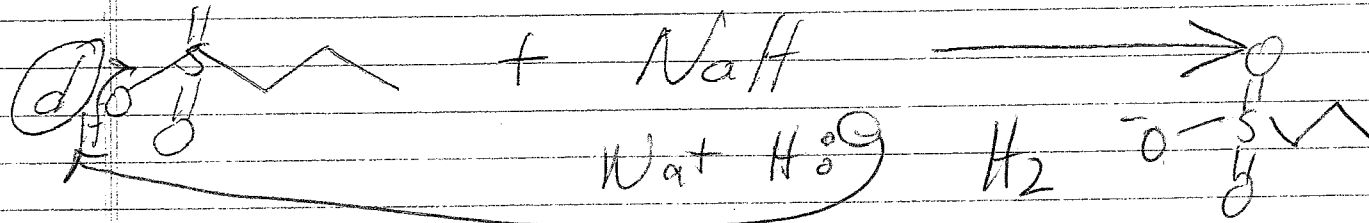
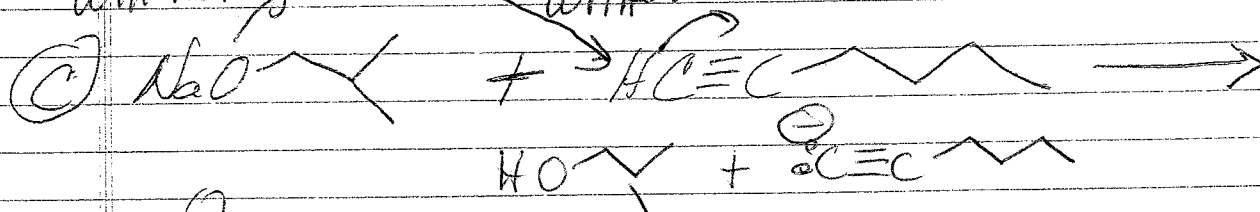
Chem 211

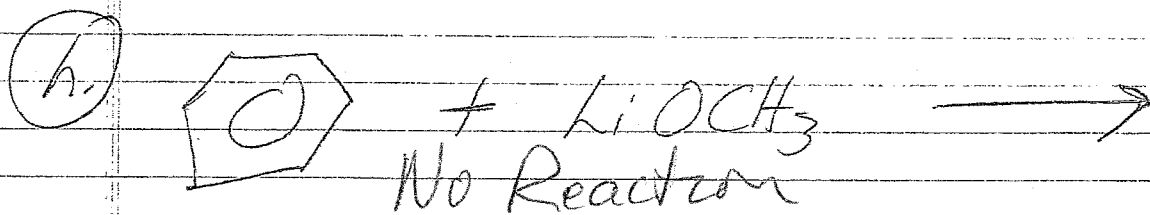
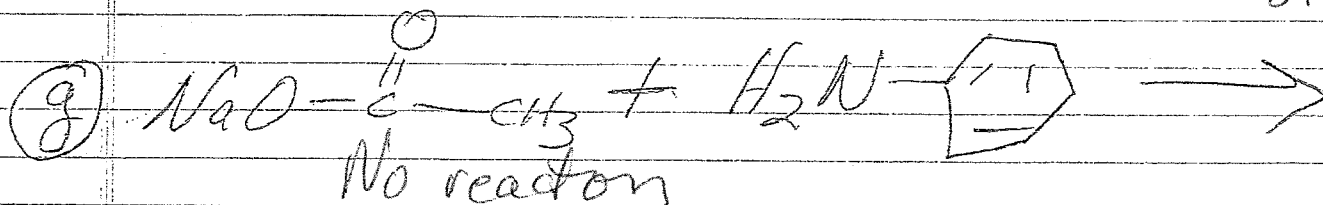
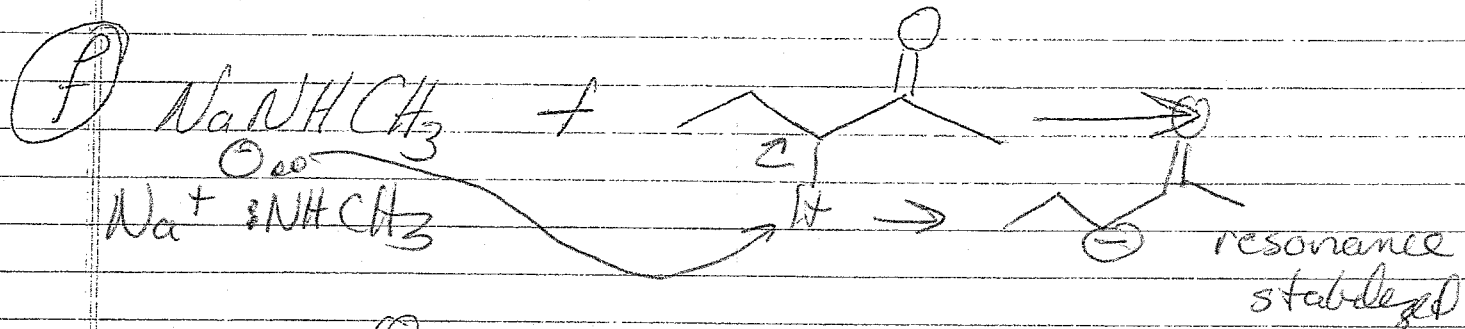
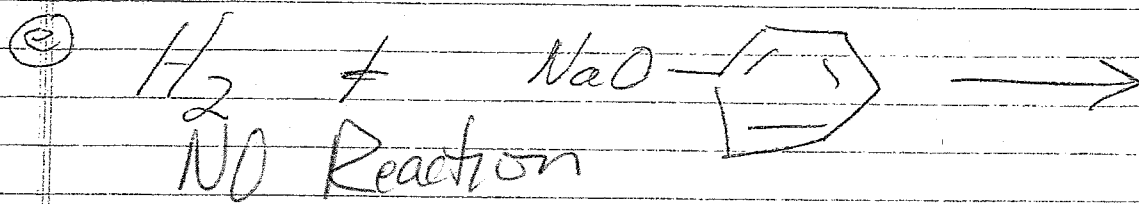
Solutions will be posted 5 bonus pts for printing & turning in first page of solution.

① Write mechanism (arrow formalism) leading to major products for each of the following reactions. If you do not believe a reaction will occur, simply write no reaction.



Will not go in direction written





2. For any of the above structures where resonance of an anion is relevant, write resonance forms

Not relevant

Yes

Will be covered in class