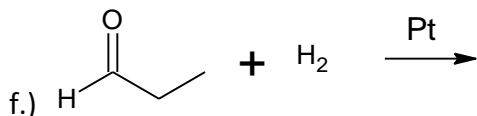
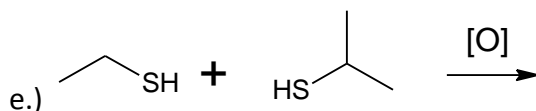
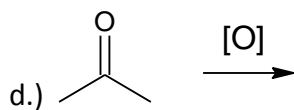
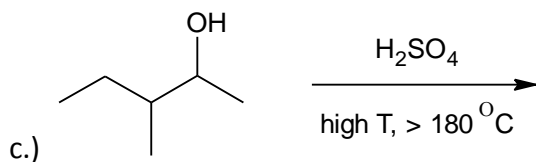
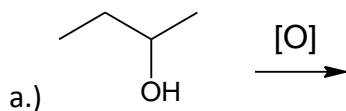


PRACTICE EXAM #2 (Ch. 2-4)

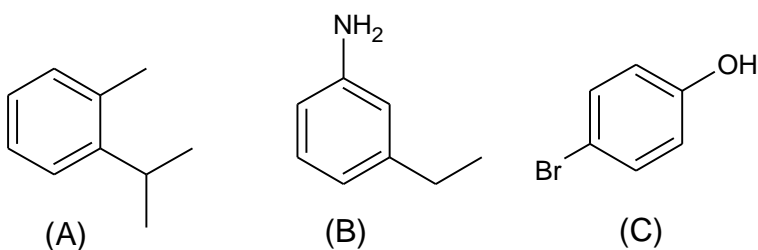
Chem21, Introduction to Organic and Biochemistry

Instructions: Don't panic. There are three (3) total pages for this exam. For every question, read all given directions and follow them completely. Clearly and logically show all your work and reasoning where applicable. Box all final answers.

1.) Draw the structures of the major products formed from the following reactions. If no reaction occurs, write "NO REACTION". (Hint: there is one no reaction; 48 pts, 8 pts ea)



2.) Name the following compounds. (18 pts, 6 pts ea)

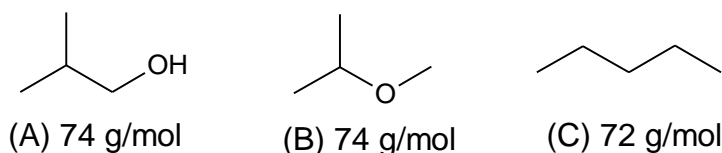


(A) _____

(B) _____

(C) _____

3.) Consider the following compounds to answer the questions below. (30 pts)



a.) Name each of the compounds.

(A) _____

(B) _____

(C) _____

b.) Which of the above (A-C) has the *strongest* intermolecular forces? _____

c.) Which of the above (A-C) has the *weakest* intermolecular forces? _____

d.) Arrange the above compounds (A-C) by *increasing* boiling point, starting with the lowest.

4.) Explain why tertiary alcohols do not oxidize, though primary and secondary do. (10 pts)

5.) Draw the line-angle structures for the following compounds. (21 pts)

a.) 3-hexanone

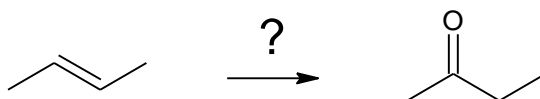
b.) 4-methylpentanal

c.) Which of the above (a-b) are hydrogen bond **donors**? _____

d.) Which of the above (a-b) are hydrogen bond **acceptors**? _____

e.) Are (a-b) *isomers* or *different compounds*? _____

6.) Propose a synthesis with two steps to convert the reactant below to the indicated product. (24 pts)



7.) The following compounds were prepared via oxidation of alcohols. Show the structure of the original alcohol that was used to produce the compound depicted below. (14 pts, 7 pt ea)

