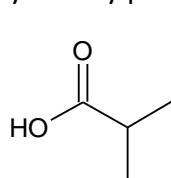


PRACTICE EXAM #3

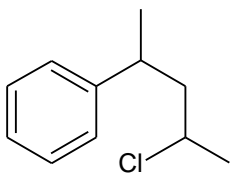
PAGE 1 of 3

CHEMV12B, Organic Chemistry II

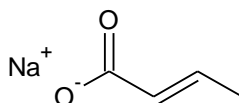
1.) Name the following compounds systematically (IUPAC). If the molecule has a common name, you may provide it in addition for extra credit. (30 pts, 6 pts ea)



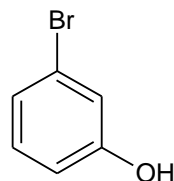
(A)



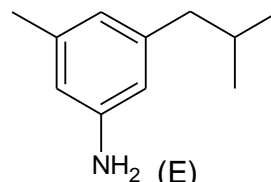
(B)



(C)



(D)



(E)

(A) _____

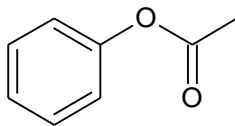
(B) _____

(C) _____

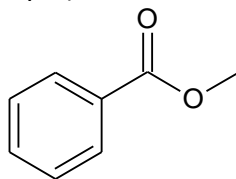
(D) _____

(E) _____

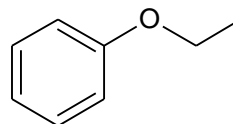
2.) Consider the following structures. (40 pts)



(A)



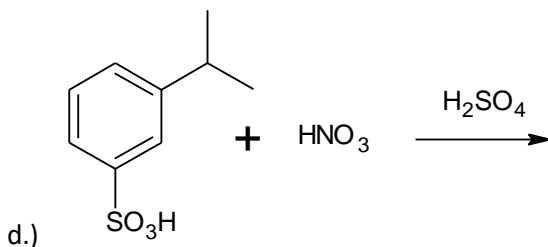
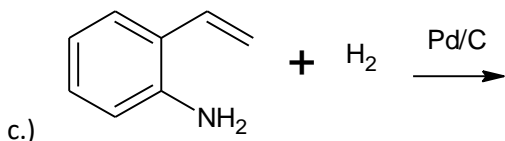
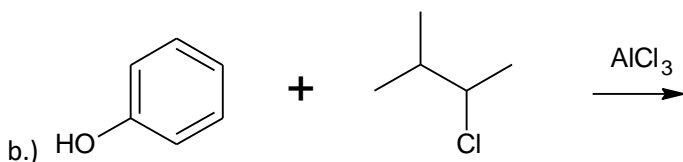
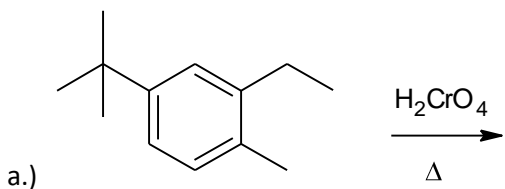
(B)



(C)

- a.) Which structure (A-C) is *most* reactive? _____
- b.) Which structure(s) (A-C) are meta directors? _____
- c.) Which structure(s) (A-C) are ortho/para directors? _____
- d.) For structure (A) ONLY, show all relevant resonance structures to explain your answers in (a-c).

3.) Give the structure of the **major product(s)** formed by each reaction. If more than one product can be formed in approximately equal ratios, show *both*. (48 pts, 12 pts ea)



4.) Consider the molecule *o*-bromoanisole. (22 pts)

a.) Draw the structure for *o*-bromoanisole.

b.) A sample of *o*-bromoanisole is mixed with Cl_2 . Will a reaction occur? If so, draw the **structure** of the product and **explain**.

c.) A second sample of *o*-bromoanisole is mixed with NaOH . Will a reaction occur? If so, draw the **structure** of the product and **explain**.

5.) Design multistep syntheses to convert the following reactants into the indicated products. Include all reagents and reaction conditions necessary. Show each step individually. (60 pts, 30 pts ea)

