CHE 102 - Homework - Ch 20b
Reaction - Alkenes/Alkynes/Aromatics   Score: _____/50

Name: _____   Date: _____

[6 pt]   1. Answer the following questions about Addition Reactions:

   (a) How will you recognize the reaction?

   (b) Write a reaction illustrating an addition reaction. Be sure to include the intermediate step.

   (c) What is Markovnikovs's Rule?

   (d) When do you use Markovnikov's Rule? (2 requirements)

   (e) Write a reaction illustrating Markovnikov's Rule. Be sure to circle the most favored product.

   2. What are the 3 steps to completing an Addition Re-   3. What are the 4 types of molecules that can be added.
   action?   Circle the ones that may require Markovnikov's Rule.

   (a)   (a)

                                                          (b)
   (b)
                                                          (c)
   (c)
                                                          (d)

[5 pt]   4. Answer the following questions about Oxidation reactions for alkenes/alkynes:

   (a) How will you recognize the reaction (2 ways)?

   (b) Write a reaction illustrating the Baeyer reaction.
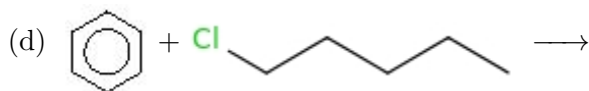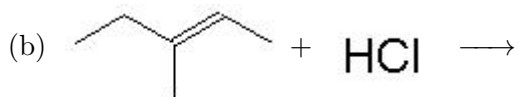
   (c) In addition to the product, what else should you note in the reaction?
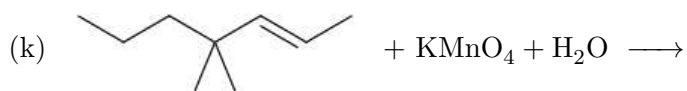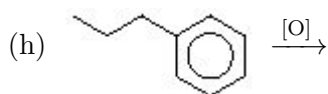
   (d) Why is this reaction an important diagnostic tool?
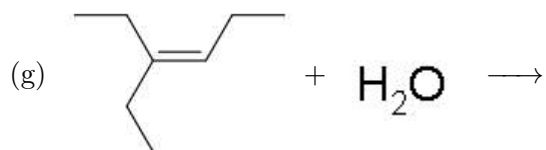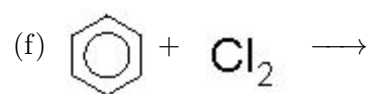
[4 pt]   5. Answer the following questions about the reactions of Aromatic Compounds:

(a) What is the main reaction type for Aromatics **AND** what are the three common groups associated with it?

(b) The (2) other unique reactions you might see for Aromatics are.

(c) How will you recognize them (2 ways)?

(d) Draw an example reaction of each of the two unique reactions for Aromatics

[35 pt]   6. Complete the following reactions by filling in the missing reactant(s) or product(s). You should answer each part in the format the reaction is presented in. Circle the most favored product where required.

(a) $+ \; Cl_2 \; \longrightarrow$

(b) $+ \; HCl \; \longrightarrow$

(c) $+ \; HCl \; \longrightarrow$

(d) $+ \; Cl \; \longrightarrow$

(e) $+ \; Cl_2 \; \longrightarrow$

(f) + Cl$_2$ $\longrightarrow$

(g) + H$_2$O $\longrightarrow$

(h) $\xrightarrow{\text{[O]}}$

(i) + H$_2$ (g) $\longrightarrow$

(j) + HCl $\longrightarrow$

(k) + KMnO$_4$ + H$_2$O $\longrightarrow$

(l) + $\longrightarrow$

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Be sure to print out at least 1 extra practice that mix's all the reactions together from Chapter 19 and 20, just like on the exam.