p. 509-510
and 525-526

CHE 102 - Homework - Ch 20d
Reaction - Alkenes/Alkynes/Aromatics

Score: _____/43

Name: _____ Date: _____

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

(a) How will you recognize the reaction?

(b) Write a reaction illustrating an elimination 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 reaction?

(a)

(b)

(c)

3. What are the 4 types of molecules that can be Eliminated. Circle the ones that may require Markovnikov's Rule.

(a)

(b)

(c)

(d)

[4 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?

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[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?

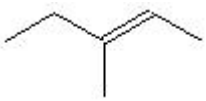
(b) The other reaction you might see for Aromatics.

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

(d) What product is always formed (name it **and** draw it)?

[30 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 $\longrightarrow$

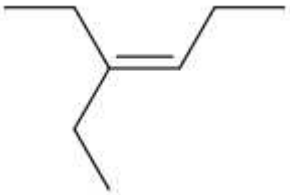
(b)  + HCl $\longrightarrow$

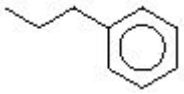
(c)  + HCl $\longrightarrow$

(d)  + Cl_2 $\longrightarrow$

(e)  + 2 Cl_2 $\longrightarrow$

(f)  + Cl_2 $\longrightarrow$

(g)  + H_2O $\longrightarrow$

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

(i)  + $H_2\,(g)$ $\longrightarrow$

(j)  + $KMnO_4$ $\longrightarrow$

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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.