**Chem 3514: Organic I In-Class Exam REVIEW SHEET FALL 2013**

**50 pts total Exam date: Wed 11 Dec**

**Coverage: Reactions to and From Alkenes**

**Exercises 15-18**

**Homework 10**

**Powerpoint drill and practice: “Drill and Practice with E1, E2”**

**“Reactions of Alkenes Round Robin**

**Supplements 12-15**

**Text Reading**

Alkenes I *Naming, reactivity of π bonds,* **180-194;**

*Preparation via E1 alcohol dehydration* **213-214; 515-518**

Alkenes II *Reactions of >C=C< : additions* **214-234; 237-249**

*oxidation, substitutions, polymers* **234-6; 239-244;283-5**

*Introduction to synthesis* **251-252; 269-274**

**Snapshots of Exam section titles, point distributions, sample problems**

**3.1. Nomenclature of Alkenes (4 pts)**

Name or draw the compounds below using IUPAC rules unless otherwise indicated. If necessary, make sure to indicate whether the structure is E or Z. example:



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.2. Match-Maker Chemistry (8 pts)**

Match the items on the left with the most pertinent descriptor in the list on the right

1)Anti-markovnikoff HBr addition \_\_\_\_

a)H2O2/formic acid

b) peroxides + HBr in acetic acid solvent

c) halonium (bridgehead) mechanism

2)anti addition of Br \_\_\_\_

3) anti addition to make diols \_\_\_\_

**3.3** **Eliminating Snacks (12 pts/ 2 pt per completely correct line)**

CIRCLE for both the dehydration and dehydrohalogenation *menus*, the effect of the listed variations on the rates on these two reaction types. **(n/a** means **n**ot **a**pplicable)

**variation effect on dehydration rate effect on dehydrohalogenation rate**

1) substrate concentration down ***up n/a down up n/a down***

2) H+ concentration increased ***up n/a down up n/a down***

**3.4 Soothsaying (7 pts)**

Predict all the possible (=can form) alkenes possible from the reaction shown below and **CIRCLE** the **major** **product**

(3 pts)



Predict all the possible alkenes possible (= can form) from the reaction below and **CIRCLE** the **major** **product**: (**4** pts)



* 1. **BOXES, LITTLE BOXES (19 points total/ 1 pt each)**

Fill in the reagents, products, solvents and/or conditions missing in the reactions below:



1)

peroxides