*CHEM 242 – Intro & Lecture 1 05/01/2014*

Handouts: - Questionnaire

- Course Outline

- Objectives & Expectations

- Reaction Review Sheets

Overheads: - Outline

1) Introductions

2) Course Outline & Expectations

2) Fill out questionnaire

3) Lab Schedule

4) Review Topics / Questions

1. What is an Electrophile?

* Loves electrons
* Electron acceptor; aka acid (Bronsted or Lewis)
* H+, Br+, BH3

1. What is a Nucleophile?

* Loves nucleus (H+)
* Electron donor; aka base
* OH-, Br-, H2O, C=C

1. What makes a C+ (carbocation) stable?

* More substituted = more stable (3°>2°>1°)
* Resonance!



1. What does  mean?

* Movement of electrons (2)



1. What is a stereospecific reaction?

* Stereoselective: one stereoisomer preferred
* Stereospecific: each isomer of reactant gives different isomer(s) of product

e.g. E → RR + SS

Z → RS + SR

or S → R = inversion

R → S

Recap CHEM 241 Reactions:

C+ intermediate:



Radical: atom with unpaired electron



Or make a bond:



Radical Reactions:

1) Reaction of Alkenes with HBr under radical conditions



2) Reaction of Alkanes







Mechanism: several steps!



Next up: How does radical react with the alkane?