

CHEM 242 STUDY GUIDE for the FINAL EXAM

Dates: 1 pm section: Monday, March 23 from 1-3 pm in IB 3322

9 am section: Wednesday, March 25 from 10:30-12:30 pm in AS 1614

Extra office hours: On Monday, March 23 from 7-9 am at **“Zokas”** on Blakeley st (near u-village) and from 11-1 pm at **my office IB 2421B**

The exam will be cumulative The cumulative material (chapters 8-11) will be about 40% of the exam and 60% will be on Chapters 14 and 15.

The Chart with Sn2/Sn1/E1/E2 mechanism will be provided

What will completely be omitted: NMR IR & Mass spec (Lucky you!)

Chap 8, 9, 10. The most important sections for the chapters 8 and 9 are: 8.2, 8.3, 8.5, 8.7, 8.8, 8.9, 9.1, 9.2, 9.3, 9.6 (Sn2, Sn1, E2 and E1 reactions). For chapter 10 the most important section is 10.1 & 10.4

-Be able to depict the reaction coordinate diagrams of each reaction.

-Be able to draw the mechanism, products and the stereochemical results of the Sn2, Sn1, E2 and E1 mechanism

-Know how the incorporation of conjugated carbocations effect the mechanism/outcome of the Sn1/E1 reaction

-Know how alcohol undergo substitution reactions-when are they Sn2 when are they Sn1

-Know how alcohols dehydrate (mechanism)

Chapter 11, The most important sections are: 11.2, 11.3, 11.5, 11.8, 11.10

-Radial halogenation reaction) Stability of Radicals intermediates. Predict what would be a stable radical/antioxidant.

For chap 14 and 15

The most important sections for chap 14 and 15 are: 14.1, 14.2, 14.3, 14.4, 15.5 14.8, 14.9, 14.10, 14.11, 14.12 14.14, 14.15 15.2, 15.3, 15.4,

Aromaticity:--Know when a compound or intermediate is aromatic and antiaromatic

Nomenclature: Know the structures for: phenol, toluene, aniline, and Benzene

For electrophilic aromatic substitution reactions:

--Be able draw the arrow pushing mechanism for these reactions-

--Be able to draw the products of these reactions

--Be able to depict the intermediates of these reactions

--Know the electrophiles generated from:Halogenation, nitration, Friedel-Crafts reactions (acylation and alkylation).

--Understand the chart on pg 684—what makes a substituent activating? decactivating? Ortho/para directing? Meta directing?