

## Information for CHEM 3410 Final

**Time:** This final will be given during the specified time for our final: Monday, April 27 and Friday, May 1

### Information that we will have at your disposal:

-Periodic table, scratch paper

### Material on tests:

Ch. 1, 2, 3, 7, and 22

The make-up of the test: long discussion and long problems (no multi-match)

**Previous tests:** You may stop by and examine your old tests as long as you stay in the near vicinity of my office.

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### Chapter Outlines for the test Material...

Please see the review sheets for test1, test2, and test3 in addition to the information below.

### Chapter 22 (Kinetics) Remainder of Material since Test 3 Updated 2009

Free-Radical Polymerization Kinetics

Steady State approximation (what is it? How is it used in this particular situation? Why is it needed?)

Gel effect (what is it? How is it used in this particular situation? Why is it needed?)

### Chapter 7 (Equilibrium) Outline for Test Preparation Updated 2009

Suggested problems: Problems on the "Sugg'd Prob" sheet under Ch. 7.

Genchem review notes, every little detail, especially...

Terms and definitions

Relationship between  $K_p$  and  $K_c$

Relationship between  $K'$ ,  $K''$ , and  $K_{\text{overall}}$  and how to find

7.1 The Gibbs energy minimum

Figure 7.1 (Know and describe)

Chemical potential

7.2 The description of equilibrium (relationship to thermo)

$$\Delta G = \Delta H - T\Delta S$$

$$\Delta G = \Delta G^0 + RT \ln(Q)$$

What do the following mean?  $Q > K$ ,  $Q < K$ ,  $Q = K$

How to determine  $K$  for (1) ideal gases, (2) real gases

7.3 & 7.4 Le Chatelier's principle

Application of the following stresses to a system and the shift in reaction that occurs

Concentration, temperature, pressure (or volume)

Only variable that causes a shift in  $K$  is  $T$ . Why?