

**CHEM 116: HOMEWORK SHEET**  
**HOUR EXAM IV (Fall 2011-Dr. Babb)**

**Chapter 15:**  
(5<sup>th</sup> McMurry/Fay Text)

- A. pH of Buffer Solution After Addition of Strong Acid/Base (pg. 601-604)

*Other Homework: 15.7, 15.8, 15.68, 15.69*  
*Chapter 18 (Problem Book) 22-25, 26-30*

- B. Titrations and Titration Curves (pg. 607-618)

- C. Indicators (pg. 553-554)

**Graded Online Homework: 116-titration**

*Other Homework: 15.13-15.17, 15.42, 15.44, 15.48, 15.78-15.84 (even), 15.85, 15.124*  
*Chapter 22 (Problem Book) 13-15, 1-11*

- E. Solubility Product ( $K_{sp}$ ) and Factors Affecting Solubility (pg. 618-624)

**Graded Online Homework: 116-Ksp**

*Other Homework: 15.20-15.26, 15.40, 15.90-15.104 (even), 15.128*  
*Chapter 19 (Problem Book) 1-7, 8-17*

- F. Ion Product, Separations via Pptn. and Qualitative Analysis (pg. 629-633)

- G. Calculations Involving Complex Formation (pg. 624-629; Prob. Bk. 309-314)

**Graded Online Homework: 116-qualanal**

*Other Homework: 15.27-15.31, 15.106-15.118 (even), 15.132*  
*Chapter 19 (Problem Book) 18-25*  
*Chapter 23 (Problem Book) 1-2, 4-10, 15, 17, 20*  
*Chapter 19 (Problem Book) 26-34*

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**Chapter 16:**

- A. Spontaneity and Entropy (pg. 647-661)

**Graded Online Homework: 116-entropy**

*Other Homework: 16.1-16.6, 16.30, 16.36, 16.38, 16.40, 16.44-16.56 (even)*  
*Chapter 15 (Problem Book) 7-10, 14, 15*

- B. Free Energy and Equilibrium (pg. 662-677)

**Graded Online Homework: 116-gibbsfe**

*Other Homework: 16.7-16.17, 16.22, 16.24, 16.28, 16.62-16.92 (even), 16.96, 16.104, 16.110*  
*Chapter 15 (Problem Book) 16-20*

**NOTE: Exam IV is Wednesday, Nov. 16 (in lab)** and will cover most of the topics listed on this sheet. You are responsible for material covered in lecture, reading material in text and material covered in homework problems. **Please bring the following items to the exam: #2 pencil, non-programmable calculator (cover removed), and photo ID.** Sample backtests can be found on the Chem 116 website at <http://www.as.wvu.edu/~mbabb> and on ecampus.