

The goals of this final laboratory exam are to:

1. Test your ability to name organic compounds
2. Test your general chemistry laboratory knowledge and
3. Test your ability to perform simple qualitative analytical tests in order to determine the identity of an unknown clear liquid sample.

After two full semesters in a college-level Chemistry laboratory course, you should be able to independently answer all of the questions and perform all required tasks.

Three sections: (50 points total)

1. Name three compounds whose models have been built for you (3 points each-9 points total)
 2. Short answer questions (25 points)
 3. Analytical Determination of an unknown compound (16 points)
- In part one you will be randomly presented with three ball and stick type models of organic molecules. You will be asked to provide the correct, complete name of each of these molecules (Common or IUPAC). The types of molecules presented to you will be chosen from any of the families we have discussed this semester.
- Part two will be a written section in which you may have to provide short answers to questions or may have to perform simple laboratory calculations that you performed during the semester. Formulas will NOT be provided and remember to BRING YOUR CALCULATORS – I will NOT have extras for you to use!

You should study the lab handouts and manual that you used in this semester. Questions may be asked from any of the laboratory exercises that were completed this term. Some example questions are provided below:

1. What are indicator solutions? How are they used in the laboratory? Provide the name of two indicators you used in the lab this semester.
2. Why would a chemist perform a titration? Describe exactly how a titration is performed in the laboratory.
3. How does one measure the half-life of a sample?
4. What are the solubility rules for alcohols? Are they all water soluble? If not, explain why some would be insoluble in water.
5. Calculate the pH of a solution given the $[H_3O^+]$ concentration of $4.5 \times 10^{-3} M$.
6. Describe the process of refluxing a sample in organic chemistry. Draw the apparatus.
7. What is a gas chromatograph?
8. What does the term "mechanism" of an organic reaction mean?
9. What volume of 0.1M HCl would you need to add to 75 mL of 1.0M NaOH in order to neutralize the solution?
10. Name the following equipment commonly used in the chemistry lab (pictures will be provided of beaker, Erlenmeyer flask, graduated cylinder, pipet, buret, etc.)

In short, you may be asked any questions about any of the hands-on laboratory exercises you completed this semester. They will be general knowledge type questions but you need to demonstrate an understanding of the concepts, procedures, and theories of the laboratory exercises to be successful in a laboratory-based science course.

- In part three, you will have to identify an unknown clear liquid by performing simple tests that we have performed during the semester. The following information **WILL BE GIVEN TO YOU ON THE EXAM.**

Chemistry Final Exam Review Sheet Spring 2014

RD Boyd



Chemistry Final Exam Review Sheet Spring 2014:

Chemistry Education Javier García-Martínez, Elena Serrano-Torregrosa, 2015-02-23 Winner of the CHOICE Outstanding Academic Title 2017 Award This comprehensive collection of top level contributions provides a thorough review of the vibrant field of chemistry education Highly experienced chemistry professors and education experts cover the latest developments in chemistry learning and teaching as well as the pivotal role of chemistry for shaping a more sustainable future Adopting a practice oriented approach the current challenges and opportunities posed by chemistry education are critically discussed highlighting the pitfalls that can occur in teaching chemistry and how to circumvent them The main topics discussed include best practices project based education blended learning and the role of technology including e learning and science visualization Hands on recommendations on how to optimally implement innovative strategies of teaching chemistry at university and high school levels make this book an essential resource for anybody interested in either teaching or learning chemistry more effectively from experience chemistry professors to secondary school teachers from educators with no formal training in didactics to frustrated chemistry students *Solar Energy Update* ,1980-04 *Journal of Applied Chemistry* ,1955 Vols for 1954 include separately paged section called Abstracts formerly published in British abstracts B I and B II **Journal of the Institute of Metals** Institute of Metals, 1933 Issues for Sept 1951 include the Bulletin *ЕГЭ за 30 дней. Английский язык. Экспресс-репетитор* Елена Музланова, 2014-02-26 30 1 **Books in Print Supplement** ,2002 International Aerospace Abstracts ,1999 *Paperbound Books in Print* ,1984 *Medical Books and Serials in Print* ,1983 *Scientific and Technical Aerospace Reports* ,1966

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Table of Contents Chemistry Final Exam Review Sheet Spring 2014

1. Understanding the eBook Chemistry Final Exam Review Sheet Spring 2014
 - The Rise of Digital Reading Chemistry Final Exam Review Sheet Spring 2014
 - Advantages of eBooks Over Traditional Books
2. Identifying Chemistry Final Exam Review Sheet Spring 2014
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Chemistry Final Exam Review Sheet Spring 2014
 - User-Friendly Interface
4. Exploring eBook Recommendations from Chemistry Final Exam Review Sheet Spring 2014
 - Personalized Recommendations
 - Chemistry Final Exam Review Sheet Spring 2014 User Reviews and Ratings

- Chemistry Final Exam Review Sheet Spring 2014 and Bestseller Lists
- 5. Accessing Chemistry Final Exam Review Sheet Spring 2014 Free and Paid eBooks
 - Chemistry Final Exam Review Sheet Spring 2014 Public Domain eBooks
 - Chemistry Final Exam Review Sheet Spring 2014 eBook Subscription Services
 - Chemistry Final Exam Review Sheet Spring 2014 Budget-Friendly Options
- 6. Navigating Chemistry Final Exam Review Sheet Spring 2014 eBook Formats
 - ePub, PDF, MOBI, and More
 - Chemistry Final Exam Review Sheet Spring 2014 Compatibility with Devices
 - Chemistry Final Exam Review Sheet Spring 2014 Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Chemistry Final Exam Review Sheet Spring 2014
 - Highlighting and Note-Taking Chemistry Final Exam Review Sheet Spring 2014
 - Interactive Elements Chemistry Final Exam Review Sheet Spring 2014
- 8. Staying Engaged with Chemistry Final Exam Review Sheet Spring 2014
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Chemistry Final Exam Review Sheet Spring 2014
- 9. Balancing eBooks and Physical Books Chemistry Final Exam Review Sheet Spring 2014
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Chemistry Final Exam Review Sheet Spring 2014
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Chemistry Final Exam Review Sheet Spring 2014
 - Setting Reading Goals Chemistry Final Exam Review Sheet Spring 2014
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Chemistry Final Exam Review Sheet Spring 2014
 - Fact-Checking eBook Content of Chemistry Final Exam Review Sheet Spring 2014
 - Distinguishing Credible Sources

13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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