

CHEM 4115

Inorganic Chemistry Laboratory
Spring, 2002

Coordinator: Dr. A. Guloy

Instructor: Laura Castro

lcastro3@mail.uh.edu

Office hours: Monday 10 -11 a.m.

Room 108 A, S&R I

Textbook: There is no textbook. Material will be provided.

Procedures: Section will meet at assigned time, room 23 F. Punctuality is essential. You must sign-in once you enter the lab. Anyone arriving 10 minutes late or more will not be allowed to perform the experiment. There will be a quiz, a brief overview of the experiment and safety instructions before anyone is allowed to begin working in the experiment. Laboratory coat and goggles (with side shields) must be used while working in the experiment. Safety will be enforced. Once you have finished the experiment and cleaned your area, you must notify the TA, sign-out and leave the room.

A scientific report must be presented one week after all parts of the experiment have been completed. Points will be deducted if your lab report is late. Most of the experiments will be performed in pairs. Lab reports must be written individually (cheating will not be allowed). Accuracy of the information presented in the lab reports will be checked carefully (nobody will be allowed to "fix" data at home). As many labs will take more than one week, 100% attendance is required. There are no make-up labs.

Grading Scheme: This class contains six experiments. Your final score will be based on your scientific reports, quizzes and final exam as explained bellow.

6 lab reports	60%
6 quizzes	15%
Final Exam	25%

Lab reports will have the format of the journal "*Inorganic Chemistry*" and must contain the following sections:

Title: Must be descriptive.

Abstract: A brief explanation of the experiment and its importance or main achievements.

Introduction: Explains the background of the experiment, any particular basic concept that must be understood in order to follow the ideas illustrated in the experiment and should include the motivation or main reason to explain why this particular experiment is worth doing.

Experimental Section: It should describe with precise scientific language the procedures used during the experiment. It should not be too extensive, but it must include all of the important details. It should not be a transcription of the procedure as describe in your textbook.

Results: In this section you present the particular findings or data of your experiment. It may include tables or figures as necessary. Tables and figures must have a title and a number according to the format of *Inorganic Chemistry*.

Discussion: This is probably the most important part of your lab report. You are supposed to make sense of your results using scientific arguments.

Conclusions: Closing statements that explain any general or new affirmation that can be made with regard of the system under study and the data presented in a previous section.

Bibliography: All references must appear using the format described by *Inorganic Chemistry*. You should include the reference of your textbook and any other information source consulted while preparing your report.

Templates are available at the web site of *Inorganic Chemistry*, but you may opt not to use them (this is really optional):

http://pubs.acs.org/cgi-bin/submission_gen/template.pl?Journal=inocaj

Typing your lab report is strongly encouraged.

Day	Experiment
1- Jan. 18	Check-in
2- Jan. 25	Exp. 1: Symmetry of Inorganic Molecules and Applications ¹
3- Feb. 1	Exp. 2: Synthesis of $[\text{PCl}_4][\text{SbCl}_6]$ and $[\text{P}(\text{C}_6\text{H}_5)_3\text{Cl}][\text{SbCl}_6]$ ²
4- Feb. 8	Exp. 3: Metal Complexes of Dimethyl Sulfoxide ³
5- Feb. 15	Exp. 3: continuation
6- Feb. 22	Exp. 4: Metal Containing Liquid Crystals ¹
7- Mar. 1	Exp. 4: continuation
8- Mar. 8	Spring Break
9- Mar. 15	Exp. 5: Structural and Magnetic Properties of Perovskite Ceramics ¹
10- Mar. 22	Exp. 5: continuation
11- Mar. 29	Exp. 5: continuation
12- Apr. 5	Exp. 6: Synthesis of Copper (II) tetraphenylporphirin ⁴
13- Apr. 12	Exp. 6: continuation
14- Apr. 19	Check out
15- Apr. 26	Final Exam
16- May 3	Grades

¹ Woolins, D. (ed.) *Inorganic Experiments*, 1st ed.; Verlag: New York, 1994; p 160.

² Angelici, R. J. *Synthesis and Technique in Inorganic Chemistry*, 2nd ed.; University Science Books: California, 1986; p 81.

³ Szafran, Z.; Pike, R. M.; Singh, M. M. *Microscale Inorganic Chemistry*, John Wiley & Sons: New York, 1991; p. 220.

⁴ (a) Longo, F. R.; Finarelli, J. D.; Assour, J.; Korsakoff, L. J. *Org.* **1967**
32 Dorough, G. D.; Miller, J. R.; **1951** 73