Email log for Fall 2022
Whenever I send an email to everyone in the class, I will post a copy here. Sometimes emails seem to go astray or to the wrong email address, so having a record here will allow you to track anything that may have been missed.
Dave

14 November 2022
Hi All in Chem362
The end is nigh! Just one final push.
The report for round 7 is due on Monday 21st/ Tuesday 22nd November. The report is an X-style for this B experiment. This includes all the usual tables of data and calculations to make up the core component. In addition, a summary of the provided literature focused on the theme of your experiment is required. There is a maximum limit of 750 words for this (all papers combined), which is quite restrictive. Use your presentation of the data tables to avoid repetition and diagrams to cover material without increasing your word count.

You can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

If you haven’t already, please remember to hand in any remaining solids from this experiment and to complete the checkout form with your instructor.

As always, I am happy to answer your questions.
cheers
Dave

1 November 2022
Hi All in Chem362
The relentless pace marches on! The report for round 6 is a W style report and is due on Monday/Tuesday November 7th/8th.

A W-style report (page 3) is the same tabulation of data that you have done for the previous A experiments but also includes writing a letter! You are to write a letter (max 300 words) to a non-scientist, explaining the purpose of your experiment in easy-to-understand terms. You may find it easier to do if you have a recipient in mind as you write. Past students have even sent the letter in one case, included the reply in their report!

This will be followed by the usual Q & A session with an instructor.

As always, you can see a blank copy of the marking guide by going to
Please remember to hand in any remaining solids from this experiment and to complete the checkout form with your instructor this week.

I am going to send a separate email today with the schedule of Presentations for the last experiment. Please let me know immediately, if there is a scheduling conflict for you.

Questions? Send me an email.

cheers
Dave

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25 October 2022

Hi Chem362 Students
The report for round 5 is due on Monday 31st October / Tuesday 1st November by the start of your class. Please aim to record any IR spectra in the early part of the week as Chem260 students are using the instruments all day Thursday.

The report is a Y-style for this B experiment. This includes all the usual tables of data and calculations followed by a discussion of your data in the context of the literature. There is a maximum limit of 1200 words for the discussion. This is the same as in round 3, so you might want to check your feedback for that experiment in case you had any formatting issues. It should arrive in your in-box in the next day or two, if not already.

By this stage of the term, you should be well aware that you should be doing the following:
1. Balancing the equations!
2. Including all the raw spectra in your appendices.
3. Including all the literature values mentioned in the listed references.
4. Keeping a decent lab notebook!

As always, you can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

This week, please remember to hand in any remaining solids from this experiment and to complete the checkout form with your instructor before the due date.

I am always happy to answer any questions.
cheers
Dave
14 October 2022

Hi All
The report for round 4 is due on Thursday 20th / Friday 21st October. As always, I will acknowledge receipt of your emailed report.

The report is a V-style for this A experiment. This includes all the usual tables of data and calculations followed by a one-on-one Q&A session with the marking instructor. In addition, you must include in the report a detailed procedure of one of the steps of synthesis. See below for the specific step for your experiment. Remember, it is the exact procedure that you followed that you must present - not the procedure that you should have followed (I have written that one for you!).

A2: Please write up the exact procedure you used to make the K₅[CoW₁₂O₄₀]·20H₂O. Please bring your model to the class on the due date.
A4: Please write up the exact procedure that you used to make the deprotonated compound from [PdCl₂(Ph₂P(CH₂)₂PPh₂)]₂.
A9: Please write up the exact procedure that you used to make the chromium(II) hydrazine sulfate from chromium(II) acetate.
A12: Please write up the exact procedure that you used to make MeCpMn(CO)₂(PPh₃).
A14: Please write up the exact procedure that you used to make the polyethylene.
A15: Please write up the exact procedure that you used to make the [Co(acac)₃].
A20: Please write up the exact procedure that you used to do the catalytic reaction.

As always, you can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

Please remember to hand in any remaining solids from this experiment and to complete the checkout form with your instructor the next time you are in the lab.

Always happy to answer any questions.

cheers
Dave

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4 October 2022

Hi All
The report for round 3 is due on Thursday 13th / Friday 14th October. There will be no Chem362
lab class on Monday 10\textsuperscript{th} (Thanksgiving) and Tuesday 11\textsuperscript{th} October.

The report is a Y-style for this first B experiment. This includes all the usual tables of data and calculations along with a written discussion. Your aim should be to write about your results in the context of what was reported in the supplied literature. Try to avoid giving us the data tables in words, because that does not add any value beyond what you have already done in the tabulation section (where you should be comparing your data points with those in the literature). There is a 1200 word limit on the discussion section.

Check out the on-line \textit{Course Notes} for a more complete list of items to include in the reports. Note that when tabulating repetitive spectra, just analyze the first and the last spectra. Report the positions of the changing peaks and add a descriptive comment in another column.

You can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

Although further research would normally be a laudable endeavour, we are trying to limit the amount of time and effort that you expend on these reports. You will gain no extra credit for finding other references not listed, so please use your time wisely.

As always, I am happy to answer any questions. Have a good Thanksgiving weekend.

cheers
Dave

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\textbf{29\textsuperscript{th} September 2022}

Important typo in the manual

Please note if you have B106 as an assigned experiment. I have just found a serious typo about half way down page B106-4.
“If the desired product is seen in the $^1$H spectrum assay, proceed with a quantitative extraction. In a fumehood WITHOUT a source of ignition, add diethylether (10 mL) to the dried rb flask and stir vigorously.”

Please correct in your manual. Hopefully everyone will have noticed the mistake. Ether is very flammable and you cannot afford to have a spark close by.

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27 September 2022

Hi All in Chem362

I hope things are going well and that you have settled down to a good pace of work. Certainly everyone appears to be more confident and comfortable in the lab.

The second report (U style) is due Monday/Tuesday 3rd/4th October by email to me before the start of your class. Your report should include, among other things, your raw spectra as printed from the spectrometer (IR and NMR) and your processed spectra (NMR). Don’t forget to tabulate the data for the starting materials too (NMR spectra are linked to the Excel file of reagents). Full details of what is required in the report are in the Course Notes. No later than the session before the report is due (i.e. (Tuesday (today) or Thursday this week), you are expected to hand in any remaining solid samples and to complete a checklist with your instructor at the end of class. If you did A2, then you can bring the model to class and I will pick it up from you there.

In this report, you are expected to present your tabulated data and to write a literature summary of all the papers referenced. There are two ways to access the references. The easiest and best way (by far) is to use the pink box at the top of the Course information for this term page of the web site. Alternatively, you can go to the electronic manual and hit the link on the individual article at the end of each experiment. This takes you to the original journal so you will need to be on VPN with UVic. Since not all references can be found digitally, you are better off using the former route through the pink box. Please note that there is no extra credit for finding more papers than are listed, so be conservative with your time. I have not set a word limit on the summary, but aim to be concise. Bear in mind any feedback you will have received from your A6 report.

There is also a one-on-one face-to-face interview associated with this report. The marker will email you about booking your interview for a mutually convenient time (ideally) during the week after the report was received.

You can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

This report is worth 10% of the final grade for this term.
If you have any questions, please do not hesitate to ask.

cheers
Dave

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14 September 2022

Hi All in Chem 362
As you are probably all aware, the Province of British Columbia announced last night that Monday 19th September would be considered a holiday and post-secondary institutions will be closed for the day.

Consequently, I have revised some dates in your schedule for the course. All of us will be affected, but mostly those in sections B01 and B02.

Since B01 and B02 will miss session 4 on Monday 19th, it will be moved to Thursday 29th September. That day had previously been listed as ‘no class’ for our course as it precedes Truth & Reconciliation Day. Obviously, the colour coding on your personalized schedule will change. I will not be handing out new schedules but I have revised the copy on the web site.

The Round 1 report was originally due at the start of class on Monday 19th for B01 and B02. It will now be due at 8:30 on Tuesday 20th September for both sections. The deadline for B03 does not change.

The Round 2 reports will now become due at the start of class on Monday/Tuesday Oct 3 & 4. The remaining due dates will not be affected.

I think this covers everything but if you have a question, please email me.
Cheers
Dave

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13 September 2022

Hi All in Chem 362
I hope things have started well for you and that you are already feeling a little less apprehensive in the lab. We do recognize that it is a steep learning curve at the start of the term - even in non-COVID times.

I hope that you have all practiced using ACD with processing the $^{13}$C spectrum that we ran on Mo(CO)$_6$. I have been impressed by how much you retained from the brief exposure to this in Chem260. It gets quicker and easier with frequent use but the instructions on how to use ACD can always be found in Appendix VII in the manual and on-line at
Each class has been sent a copy of all the IR spectra collected on the crude products in their section. Please use that to compare/contrast the pattern of peaks with the symmetry expected in the molecule. By now you will have acquired IR and NMR spectra on your product. All the IR processing is done in the lab at the time of acquisition. The NMR will need to be processed by the same method that you have just practiced for \([\text{Mo(CO)}_6]\). Expansion, peak picking and integration (the latter just for protons) will be needed. NMR spectra that run overnight can be picked up from the folder outside of the undergrad NMR room (Ell346).

Next session (#3) you will be starting your next A experiment. Please refer to the coloured schedule that I gave you, or the schedule sheet outside the north door of Ell331 or on the website (under Course Information for this Term).

Before you can start your next experiment, you will need to do some pre-lab work, using the literature provided. There are two ways to access the literature, but by far the best method is to click on the first pink/purple box on the protected web page.

Once you have completed your prelab prep, email a copy to your TA(s) no later than 12 hours before you plan to start the experiment. The preparation for the next experiment should include all of your procedural planning and a tabulation of relevant data from the literature. Don’t forget that there is a Reagents Excel file on the web site for your use. It also has links to relevant nmr spectra of starting materials (but not IR spectra).

The first report (A6) is due by the start of class on Monday*/Tuesday 19/20 September. It is a T style report. The group (3-4 persons) interviews will be conducted by your instructor (Ayesha for B01, Vanessa for B02 and Alivia for B03) during class time on Thurs/Fri 22/23 September. I will be in the lab with the remaining students.

Your report should include (among other things) your raw spectra as printed from the spectrometer (IR and NMR) and your processed spectra (NMR).

Your report requires equations, % yields, structures and tables of data for both products and starting materials. Recall that nmr data of starting materials can be found on the Excel file on the web site. Please hand in any remaining solid samples to your instructor.

A summary of the Stiddard paper is also required in your A6 report. Keep it concise and focused on the theme of our experiment. The complete details are given in the updated Course Notes on the web site.

Please submit your report by email to me (berryde@uvic.ca) no later than the start of your class on the due date. If you convert it to pdf format, it is less likely to be corrupted. Please try to present everything in one file, if you can. Early submissions are also welcome, of course. Put your name on the report but don’t use your V number. It is wise to keep it (somewhat) confidential.
You can see a blank copy of the marking guide by going to https://web.uvic.ca/~berryde/chem362/general/term%20full%20course.html and clicking on the relevant report style.

The report and interview will earn you a maximum of 20 marks, which represents 10% of the course grade.

*Since I prepared this email, Monday 19th September has been declared a public holiday and there will be no classes that day. The due date for B01 and B02 A6 report will be 8:30 on Tuesday 20 September. I will send you a further email tomorrow with details of rescheduling lab work. *

If you have any questions, please do not hesitate to ask. If you haven’t asked them by the time the interview happens, ask them then.

Have a good rest of the week

cheers
Dave

2 September 2022
Hello Chem362 Students,
Welcome back to school and the fall edition of Chem362. I hope you had a great summer and feel fired up and ready for another term.

As always in the chemistry lab, there are important safety issues to consider. In addition, we still have some COVID related requirements such as wearing a mask in the lab. We all move around the lab and do not always have the option about having someone else close by. For the comfort of all, masks are still needed. If you feel sick, please do not come to class but email me and we will set up a plan to keep you on track. Of course, we also encourage you to take advantage of all the vaccinations that you are eligible to receive. Needless to say, your actions both inside and outside of the lab may have a big impact on those around you.

The course web site https://web.uvic.ca/~berryde/chem362/index.html is up to date and to access the protected parts of it, you will need to put in your netlink id and password. If you get an error message, clear your history and re-boot your computer. That usually solves the majority of issues. You should be able to access everything, but if you continue to run into problems, please let me know, and tell me your netlink id (but not your password!). I have to enter the netlink ids individually, so typos are always possible. The course web site is your main resource, so I do recommend that you spend some time looking through it now.

You should find most of what you need on the web site. The printed manual is available for purchase from the Bookstore. I have also posted the manual on-line, as there are some distinct advantages for you to have access to an electronic version.
I have spotted a couple of typos in experiment B106. On page B106-3 under the Preparation of [NiBr(mesityl)(dppe)], it should read “Convert half of the of [NiX(mesityl)(dppe)] product prepared above .... That product gives a mixture of X = Cl and X = Br.

At the bottom of the same page, it should read “If you are doing this experiment in rounds 7 & 8”

Safety and preparation for the first class

1. The course Brightspace page has been activated. I plan to only use Brightspace for showing longer videos. There are two videos I would like you to watch before your first class. One is of a fire that we had in the senior inorganic lab in 1997. It should provoke some thoughts and questions about good housekeeping practice around the lab. The other video is an overview of how to run the undergraduate NMR. It is a useful introduction to this instrument if you have not used the one in Ell346 before. We will, of course, give you more detailed guidance when you put your first sample on in the second class.

2. In addition to the above, please look at two modules within a lab safety course that is on-line. This is a course that all workers in the research labs are expected to take, but for our purposes in Chem362, modules 1 and 5 are all that is needed. The full course would take 2 hours, but the two modules will be about 40 and 15 minutes respectively and they are mostly videos. In order to access this Lab Safety for Lab Workers course, please go to https://www.uvic.ca/ohse/training/research-safety/laboratory-safety/index.php and click on the on-line version of the Lab Safety for Lab Workers course. Then hit Click to Register via Learning Central. Once you are there, enter your netlink id and password. It will ask you for a department (Science is the answer) and Dave Berry is the supervisor. This will then place the course into your Brightspace site and you can proceed whenever you wish. (To get to module 5, you can just quickly click through the other modules, without reading.) Once you have looked at modules 1 and 5, please begin the quiz that is attached to this email (no marks allocated but this is essential information to absorb).

If you know that you will soon be working in one of the research labs (Chem 298, 398, 399, 498, 499) and want to take the full version of the course now, please go ahead (the certificate will not expire), but it is not necessary for Chem362. Similarly, WHMIS is a mandatory certification course not needed for Chem362 but needed for use in the research labs. It has a 3-year expiry. Check out https://www.uvic.ca/ohse/training/research-safety/index.php

3. In addition to the above videos, I want you to look at a short article on plagiarism (attached and also found at https://web.uvic.ca/~berryde/chem362/plagiarism%20example.pdf). Once you have done this, you will be in a position to complete the quiz to give to your instructor in-person at the first class.

There is no pre-lab literature work for your first experiment, A6. Your list of assigned
experiments (and the order in which you will do them) is posted on the web site as students’ experiments on the page accessed from the pale-blue box marked course information for this term. Please be sure to refer to this schedule frequently, just in case it should change.

Lab reports must be submitted as email attachments to me by the posted deadline. It is best if you can submit everything in a single pdf file. This will minimize the chance of file corruption or content loss.

Labs will be starting on the Thursday/Friday (depending on your section) following Labour Day ie September 8th or 9th. You will be doing lab work for your first experiment A6 that day, so please wear a face mask and bring your labcoat, clothing that fully covers your legs and feet, safety glasses (everyone needs a pair) and wear shoes that cover your feet entirely (including the tops) and are not slip-on/off. The room (Ell331) will be open ~ 15 minutes before class time. Each person will be doing experiment A6 individually, using the assigned ligand as below.

B01
2,2’-bipyridyl: Jenna, Andrew
4,4’-ditertbutyl-2,2’bipyridyl: Wil, Bragi
1,10-phenanthroline: Shotaro
bis(diphenylphosphino)methane: Zhengyang
bis(diphenylphosphino)ethane: Alisha

B02
2,2’-bipyridyl: Nelson, Starlight
4,4’-ditertbutyl-2,2’bipyridyl: Megan
1,10-phenanthroline: Monique, James
bis(diphenylphosphino)methane: Eric, Macy
bis(diphenylphosphino)ethane: Jesse, Ciaran

B03
2,2’-bipyridyl: Jared
4,4’-ditertbutyl-2,2’bipyridyl: Keegan
1,10-phenanthroline: Isabelle, Saryosha
bis(diphenylphosphino)methane: Aaron, Max
bis(diphenylphosphino)ethane: Kevin

If you have a preferred name or email address which I should use, please let me know. I am using the information that was designated as preferred on your registration when I last downloaded the list. The web site contains a log of emails sent to the class, so that you can check to see if a message has gone astray.

I hope you enjoy the coming term and that this course turns out to be one of your best learning experiences. Feel free to contact me at any time with questions or concerns. I look forward to seeing you next week.
cheers
Dave
on behalf of the whole 362 team of Alivia, Ayesha, Harrison, Kelli and Vanessa.