**CHE 381 Chemistry Seminar: Searching and Citing Scientific Literature Homework**

**Submit via D2L dropbox, due Fri 9/2**

**Name:**

**Accessing SciFinder**

Go to [www.mountunion.edu/library](http://www.mountunion.edu/library) and click on the “Subject Research” link under the Research and Reference heading on the lower right. Click “Chemistry”, navigate to “CAS SciFinder, and the SciFinder Registration” [link](https://umu.libguides.com/az.php?a=c&s=191627) under **C** and follow the directions there (only fill out the required \* information). Go back to the library’s Chemistry Subject Research page, click “SciFinder”, sign in, and you are ready to use SciFinder.

Note: We share a relatively small number of active connections to SciFinder, so you may, at some point, not be able to log in. **Don’t wait until the last minute!**

**Reference Manager**

To cite the articles you find, it is strongly recommended you use a reference manager. I recommend Zotero (see the [website](https://munano.org/lit/) from class). If you use Zotero, use the Zotero word plug-in to add citations (using the Zotero tab > Add/Edit citation button) and create the ACS style bibliography at the end of the assignment (Zotero > Add/Edit bibliography button under the **References** section).

Text

Description automatically generated with medium confidence

1. Determine the following information for the steroid dexamethasone (In SciFinder, Searching for… **Substances** is a good place to start).
   1. What is the CAS registry number?
   2. What is the chemical formula?
   3. What is the molecular weight?
   4. What is the compound’s IUPAC name?
   5. What is the chemical structure? (paste a picture)
2. After you have found the structure using the substance identifier, notice the “References” link above the structure of dexamethasone. Click this link and Filter the results by Substance Role > “Biological Study.” How many are there?

Using the Author, Organization, and Publication Name sections in the Filter pane, what author has published the most papers on dexamethasone? What company has done the most research? What journal has published the most papers?

1. Search within the references (filtering by biological study still) for “COVID-19”.

Graphical user interface, text, application, chat or text message

Description automatically generated

* 1. How many results are there?
  2. Which article has been cited the most? (Sort by Times Cited Graphical user interface, text, application

     Description automatically generated ) Write a sentence about the article and **cite** it here.

1. **Searching by topic and combining answer sets:** Use SciFinder to search for articles (**References**) on the role of aerosols in coronavirus transmission (or how much aerosols contribute to coronavirus transmission). Search using whatever phrasing you prefer.
   1. Save one set of answers using Save and Alert button. Give it a useful title. How many references did you find?
   2. Try another phrasing of your search. How many references did you find?
   3. **These were two different searches but looking for the same results, so let’s combine our answer sets in some way. Using your result from b,** choose combine answer sets (Graphical user interface, text, application, chat or text message

      Description automatically generated) and add or interest your results (depending on whether you want fewer or more results!), and select your saved answers from A and the combine option. how many total results do you have now?
   4. Choose an article from the combined results that looks interesting and **cite** it here in a sentence.

**Combining, intersecting, and excluding answer sets from can be invaluable as you investigate your research topic.**

1. **References: Author Name.** How many journal publications does Dr. Frances H. Arnold have?

Name one university at which Dr. Arnold has performed research.

What is the title of Dr. Arnold’s most recent publication? **Cite** the article here.

1. **Finding specific journal articles:** Locate the following article in SciFinder:

Kolpin, et al. Pharmaceuticals, Hormones, and Other Wastewater Organic Contaminants in U.S. Streams, 1999-2000: A National Reconnaissance. *Environ. Sci. Technol*. **2002**, *36*, 1202.

You can try (1) Searching the title in SciFinder (2) Google the citation and find the DOI number, then paste that into SciFinder’s search.(3)If you cannot find the article from Google, try pasting the citation into <https://search.crossref.org/>.

Once you have the journal article in SciFinder, click on “View PDF” (or Full Text > DOI) This will open a new link for the website of this journal. **How many times has the article been viewed?**

Back in SciFinder, use the “Citing” button (Graphical user interface, text, application, chat or text message

Description automatically generated) to find papers that have referenced this article since it was published. (This “forward literature search” feature will be very useful when you are writing your literature review).

Of the *many* articles that cite this article, **cite** the one that has been cited the most (include its title below).

1. What is the CAS number, molecular formula, and structure of caffeine?
2. Search the caffeine references for adverse effects. Find the first reference dealing with the organism “Daphnia”. **Cite** the paper here:

Who was the first author of this paper? Which year was this study published?

1. **Searching chemical reactions:** Using the CAS draw feature (Application

   Description automatically generated with low confidence), retrieve references converting methane to chloroform.

**A picture containing diagram

Description automatically generated** Choose Structure Match > “As Drawn”, but note the tremendous number of reactions that have a “substructure match.” How many reactions did you retrieve?

1. Go to [www.pubmed.gov](http://www.pubmed.gov). Search for articles published by William Wallace Cleland by searching ‘Cleland WW’ in the search box. How many articles has Cleland published?

When and in which journal was Cleland’s first article published?

1. [**Web of science**](https://www-webofscience-com.mt.opal-libraries.org/wos/woscc/basic-search)**:**  Search for “environmental impact\* perovskite solar cell\* ” (The asterisks are to match both non-plural and plural forms of the words impact/impacts and cell/cells). Web of Science searches do not use natural language like SciFinder. Sort the results by *relevance* (an option only occasionally available in SciFinder) and **cite** the top result.
2. Include the bibliography (in ACS format) below (Zotero tab > Add Bibliograph). You should have 6 references.

**References**