

Chem 360 Lecture 5c

Today: Writing a Scientific Paper
(ACS 1-17)

Monday: Guest presentation on
Posters by Dr. Nicholaisen

Today

- Turn in homework : Exers 4.1, 4.2, 4.5
- Turn in database search list (with abstracts)
- Go over Chapt 1 of Style guide "Writing a Scientific Paper".
- Do Group Exercises 4.3, 4.4, 4.25, 4.26

Starting a scientific paper

- Getting started:
 - clarify the purpose and nature of the paper
 - Determine best place for publishing paper
 - Clarify who the audience is.

Style and Word usage

- Short declarative sentences
- Choose correct word or phrase:
- E.g. "The sample was heated and dried until the weight stayed constant"
- "the sample was heated to constant weight."
- Avoid double negatives
- E.g. "This result is not seldom observed."
- "This result is often observed."

Avoid ambiguity (This/that)

- The NO-mediated oxidation reaction was the recurring topic of discussion at the conference. This stems from the ease of electron transfer of the sample.
- The NO-mediated oxidation reaction was the recurring topic of discussion at the conference. This reaction stems from the ease of electron transfer of the sample.

Split infinitives

- Infinitive = "to + verb"
- "The results suggest the need to develop completely new procedures."
- "to *develop completely*" or "*completely new procedures*"?
- If the former, then it's better to write:
- "The results suggest the need to *completely develop* new procedures."

Be careful of position of “only”

- Only the largest molecules can react with nitric acid by oxidation.
- The largest molecules can only react with nitric acid by oxidation.
- The largest molecules can react only with nitric acid by oxidation.
- The largest molecules can react with nitric acid only by oxidation.
- The largest molecules can react with nitric acid by oxidation only.

Know how to use key words

- “while”, “since”
- “respectively”
- “greater than”
- “fewer” vs “less”
- “between” vs “among”
- “assure”, “ensure”, “insure”

“While”, “since”

- Avoid them if you can use: although, because, whereas.
- Since nitrates are oxidants, ...
- Because nitrates are oxidants...
- While carbonates are insoluble...
- Although carbonates are insoluble...

“respectively”

“greater than”, “more than” better than “in excess of”, “over”.

- Instead of : “...in excess of 100 mg...”
- Better: “...greater than 100 mg...”
- Instead of : “...over 100 mg...”
- Better: “...more than 100 mg...”

“fewer” and “less”

- “fewer” = refers to number (plural)
- “less” = refers to quantity or unit of measure (singular)
- “fewer than 30 samples”
- “fewer sample” ? Use: “less sample”
- “fewer than 4 g” ? Use: “less than 4 g”

“between”, “among”

- “Between” : used with only two objects
- “Among” : used with more than two objects
- The debate **between** four scientists...?
- The debate **among** four scientists...

Different meanings: assure, ensure, insure.

- Assure = to affirm
- Ensure = to make certain, to make sure
- Insure = to provide insurance for

Comparisons: “different from”, “similar to”

- If comparison, do not split these:
- E.g. “Process A was carried out under **similar** conditions **to** process B.”
- Better “Process A was carried out under conditions **similar to** process B.”

Articles: *a* and *an*

- *a/an* apple *a/an* unicorn
- *a/an* hour *a/an* house
- *a /an* mRNA *a/an* LCD
- *a/an* European
- Use “an” for words starting with vowel sound.

Group Exercises -in chapt 4

- Do exercises 4.3 4.4 4.25 4.26