

Ouellette, 2/e. Errata and notes.

This file records errata and comments for Ouellette, 2/e. It includes errata listed in the handouts, and those discovered afterwards. For some “minor” errors, I may not bother to put them in the handouts, but will record them here for completeness.

Errors in the Study Guide (especially answers to evens) are shown here, but not in the handouts.

## Ch 2

p 62 #1. Model shown is for the wrong compound. The correct compound is pentane,  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ . For a picture of the correct model, see p 95 #5.

## Ch 3

p 82, Problem 3.6. Answer given is incorrect. The ring O is missing. That is, the answer should be the same as the structure given in the question, except for switching the orientation of the two groups at lower left.

p 98, #29b. Answer given is not the most “fully condensed” formula, as was requested. Replace the two methyl groups by simple lines. Note that his answer is a quite proper formula. It is just not the best answer to what was asked.

## Ch 4

p 114, eqn at bottom of page. In structure shown for 5-decyne, the double bond should be a triple bond.

p 136, #39. Answer given in back of book for compound a is garbled. Answer in Study Guide is fine. That answer is:

“Compound a gives a single product because the carbon atoms of the double bond contain different numbers of alkyl groups. Thus the Markovnikov addition product results.”

p 136, #46b.  $=\text{CH}_3$  should be  $=\text{CH}_2$ .

## Ch 5

p 168, #17.

a. Either 1,2- or ortho- is fine. So long as there are exactly two groups on the aromatic ring, those position designators are equivalent.

b. Common name cumene is shown on p 145. I wouldn't consider it important, but some of you noticed it.

c. And since we got started... this compound is mesitylene. I don't think it is in the book.

p 168, #23. Difficult! That it is o,p-directing is easy enough, since it does have lone pair electrons to offer. But S and C have the same electronegativity. S is bigger, and more polarizable. I would be surprised if it deactivates very much; I have not yet found another

discussion of this. In contrast, the S in #24 lacks lone pairs and clearly carries a partial + charge; it will be strongly deactivating and m-directing.

p 169, #31. Answer is missing a CH<sub>2</sub> on side chain. That is, side chain should be propyl, with a Br in the 1 position of the side chain, next to the ring. With that in mind, explanation in terms of 2° C is weak. The better explanation is that the side chain position right next to aromatic ring is particularly reactive (resonance stabilization), as explained at the start of Sect 5.9. The “benzyl” intermediates are more stable than even 3°.

## Ch 6

p 183, Problem 6.2. Answer given is incorrect: the priority order of the middle two groups is reversed.

p 194, # 21-22. It should be “obvious” to you looking at these two questions that there is an error. What is it that is obviously suspect? Email/show me your discovery. (From reading the questions alone, you do not have enough info to figure out what is correct, merely to find that something must be wrong. If you are careful, you can sort this out from the chapter, but that is not important. Discovering the error does not substantively affect answering the questions.)

## Ch 7

p 215, #7.3b. Answer shows a Br, but question asked for a Cl.

p 215, #7.3c. Answer shows the F on the wrong C. After putting the F in the correct place, you will need to re-evaluate the E-ness.

## Ch 8

p 244, #23b. Answer shown is missing one C. (That is, the C-skeleton should not change.)

## Ch 9

p 263, #2. Question asks for four isomers, but there are five. 2-methoxybutane is chiral.

p 263, #11. Question asks about dioxane. The structure of 1,4-dioxane -- the common dioxane -- is on p 253.

p 263 #16. In answer, ring is missing one C. (That is, the question asked about a pyran ring, but the answer shows a furan ring.)

## Ch 10

p 295, #4.b. In the solutions, 2-ethyl should be 2-methyl.

## Ch 11

p 326, #11 part c and all parts of #12. The answer section shows the starting sugar, not the answer.

p 328, #41a. The structure shown is incorrect. The -OH on the glycosidic C should be -H.

## Ch 12

p 339, Table 12.5. Banana and pineapple are misspelled.

p 354, Essay, last par in left column. First sentence is not quite correct; the statement is not true for the esters of mono-phosphoric acid. All subsequent discussion is fine, and should make this clear.

p 361, # 5c. Answer says trans; should be cis.

## Ch 13

p 379, top. The 2nd sentence refers to esterification with choline, but the following structure shows serine. This isn't necessarily an error, but some people notice the inconsistency. Choline is more common in sphingolipids.

p 387 #16. This is a good example why answers without reasons are not so useful. The question can be interpreted more than one way. So, a better version of the question might be...

- a. In what sense might you say that the first oil is more unsaturated?
- b. In what sense might you say that the second oil is more unsaturated?

Now, the second of those (part b) is the approach chemists would generally prefer.

p 387, #30. This question makes use of Table 13.3, p 377. Careful about reading that table. Note that the first entry is water, with the formula H-. Clearly, an OH is "implied". Why is it shown the way it is? Because he is showing you the X group that is attached to the phosphate in the "general structure". This should also be obvious to you for the ethanol derivative. But it may be less obvious for an unfamiliar compound, such as inositol. Inositol has 6 -OH, one at each C. Also note that the name column is labeled "X-OH name", thus reinforcing this point.

p 388, #31. There is an extra H in the formula. The C at the double bond should be CH not CH<sub>2</sub>.

## Ch 14

p 396, in section on "Hydrogen bonding..." (near bottom of page). End of first sentence of that section refers to intramolecular hydrogen bonding. That should be intermolecular -- consistent with the sketch that follows immediately.

p 406, Problem 14.6. Answer given is rather weak. Not only is it not a particularly good reaction, but the only reaction for making amides introduced in the chapter before this point uses the acyl chloride (p 404).

p 414, #8a. Answering this correctly requires knowing that -OH takes precedence in the name. Not sure this was ever presented.

p 416, #26. Answer given is wrong. The answer only considers two of the N -- and fails to consider the N that is really the most basic. The N near upper right is an alkyl amine, and more basic than either N discussed in the answer.

p 418, #41. Answer given violates Fig 12.3.

p 418 #42. In the answer, there is an H missing from C#3 of the acyl chloride. It should read (from the left) CH<sub>3</sub>CH=...

## Ch 15

p 419. Last line says there are peptide hormones as short as 9 amino acids. In fact, hormones as short as 4 amino acids are known -- and are shown in Table 15.4, p 429.

p 439, 3rd par under secondary structure. Says that strands in a  $\beta$ -sheet are antiparallel. They can be either parallel or antiparallel.

p 444, #9-10.

- In "estimating" the isoelectric point, it is sufficient here to answer "near neutral", or acidic, etc.
- Since the question asked for the isoelectric point, it would be better if the answer said pH<sub>i</sub> (often called pI), rather than just pH.
- For 10c, emphasize that histidine is a very weak base. Note the near-neutral pH<sub>i</sub>. Its basicity is physiologically relevant.

p 444, #13-14. Given answers are weak. It would be better to say that there is an excess of basic amino acids (in #13), i.e., more basics than acidics.

p 445, #30b. "Try" should be "Tyr". (This shows why the symbol for tryptophan is Trp. It would be "dangerous" to use Try; too easy to mix it up with Tyr.)

p 446, #42. Answer given is very weak. Almost all of the polar R groups can H-bond. (All except Cys?)

p 446, #44. This is a bit tricky. As we have noted, the classification of the amino acids is not entirely clear-cut. One of the three amino acids listed is reasonably likely to be "inside" the protein. Which one -- if you are forced to choose one?

## Index

p 551. Epoxides. The two entries that say 254 should both be 257.