

# Open Textbook Collaborative

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A New Jersey Higher Education OER Project funded in 2020 through the Fund for the Improvement of Postsecondary Education for the Open Textbooks Pilot Program, U.S. Department of Education



## Open Textbook Collaborative Review<sup>1</sup>

**OTC Title Under Review:** *Organic Chemistry I* by Eugene de Silva

**OTC Title URL:** <https://opennj.net/organic-chemistry>

**Review Date and Author:** June 2023 by Allison Lucci of Rowan College of South Jersey

OER projects are rated for each criterion on a scale of 1 to 5 (1 = very poor and 5 = excellent), generating a total score out of 55 with a brief explanation of the rating.

1. Comprehensiveness – 5

- The text covers all areas and ideas of the subject appropriately and can be easily navigated.
- How do you rate the book's overall comprehensiveness?

I teach general chemistry for the most part, but I have tutored organic quite a bit. Compared to other textbooks used, this text seems like a comprehensive, appropriate, and easily navigated resource. I appreciate the reminders to review topics from general chemistry. This presents less work for an instructor to remind students that organic chemistry builds on topics from general chemistry. For example, on p.16 of the pdf there is a suggestion to review the significance of  $K_a$ ,  $pK_a$ ,  $K_b$ ,  $pK_b$ , and  $K_w$ .

2. Content Accuracy - 4

- Content, including diagrams and other supplementary material, is accurate, error-free, and unbiased.
- Overall, how do you rate the accuracy of the content?

I found a few content errors within the first two chapters. For example, on p.6, the first page of chapter 0, the electron configuration for Carbon is given as  $1s^2, 2s^2 2p^4$ , when it should read  $1s^2, 2s^2 2p^2$ . Another small error is noted on p. 24 of the pdf. Ethylene has  $sp^2$  hybridization, the text designates the hybridization as  $sp^3$ . The diagrams provided are simple but accurate.

While the content is accurate, errors may present confusion to students. I found myself second-guessing my knowledge at times, or rereading statements to gain clarity due to this.

3. Relevance/Longevity - 5

- Content is up-to-date, but not in a way that will quickly make the text obsolete within a short period of time. The text is written and/or arranged in such a way that necessary updates will be relatively easy and straightforward to implement.
- Overall, how do you rate the relevance/longevity of the book?

The content of the text is relevant for organic chemistry 1. It seems up to date and should not become obsolete any time soon. It may be challenging to apply updates, as the text has no page numbers, but I do not foresee much need for updates anytime soon. This text was given a high

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<sup>1</sup> N.B. This review was completed prior to a complete copyediting and reformatting of the *Organic Chemistry I* textbook, which addressed a number of the concerns raised herein.

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rating for relevance and longevity because organic chemistry at this level is not foreseen to change very often.

## 4. Clarity - 4

- The text is written in lucid, accessible prose, and provides adequate context for any jargon/technical terminology used.
- Overall, how do you rate the clarity of the book?

There is a definite assumption that students have taken general chemistry before taking organic chemistry. This is the case with all organic textbooks I have encountered. I appreciate the textbook's review of some material in Chapter 0, and the mention of certain topics that should be reviewed outside of the course from general chemistry. Also, this text has a great breakdown of isomerism in chapter 3.

Overall, the text is clear and limits jargon. The wording is simple for the most part. When more advanced terminology is used, thorough explanations are provided. There were a few times that I had to reread statements to understand their meaning due to word order. For example, p. 45 of the text states "possible two cyanide structures" instead of two possible cyanide structures. In addition to this, I was not sure what the notation "N.B." on pages 49, 54, 57, 60, 94, and 99 meant.

## 5. Consistency - 5

- The text is internally consistent in terms of terminology and framework.
- How do you rate the overall consistency of the text?

The textbook is consistent in both terminology and framework. I appreciate the definitions and slow introduction of the IUPAC naming conventions toward the end of chapter 2. The tables provided will come in handy when teaching nomenclature. I do not recall other textbooks going into as much detail as this book does when presenting naming standards. This terminology may be a little overwhelming for some students, but I, as an instructor, do appreciate the explanations that I am unfamiliar with or have forgotten.

This textbook is very consistent. The chapters are numbered in a way that is easy to follow. The diagrams are also numbered in an easily referenced way.

## 6. Modularity – 2

- The text is easily and readily divisible into smaller reading sections that can be assigned at different points within the course (i.e., enormous blocks of text without subheadings should be avoided). The text should not be overly self-referential, and should be easily reorganized, and realigned with various subunits of a course without presenting much disruption to the reader.
- Overall, how do you rate the modularity of the text?

Since the pdf does not have any page numbers, I feel it would be difficult to assign certain chapters or topics. Students would have to scroll through 200+ pages to find what they are looking for toward the end of the text.

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I rate this text lower on the 1-5 scale for modularity due to the lack of page numbers. If an instructor provided the starting page numbers for chapters or specific pages to review from the pdf then this could be a way to make the text more modular.

## 7. Organization/Structure/Flow -5

- The topics in the text are presented in a logical, clear fashion.
- Overall, how do you rate the organization/structure/flow of the text?

The organization is appealing. The review of hybridization and reduction/oxidation of carbon will be very helpful for students. The list provided of reducing and oxidizing agents will be helpful for students in a laboratory setting.

Overall, the organization, structure, and flow of the text are appealing. Students will likely appreciate the simplicity of the structure. Each topic is presented in a simple manner. Then subsequent material is built upon previous topics.

## 8. Interface - 5

- The text is free of significant interface issues, including navigation problems, distortion of images/charts, and any other display features that may distract or confuse the reader.
- Overall, how do you rate the textbook's interface?

I did not notice any navigation problems, distortion of images/charts, and other display features which may just try to confuse the reader.

## 9. Grammatical/Spelling Errors - 3

- The text contains no grammatical or spelling errors.
- How do you rate the grammar and spelling of the text?

There were many small errors noted. Specifically in the first two chapters, I found numerous small errors that may pose confusion to students taking organic chemistry for the first time. Since I am familiar with most of the material, I was able to figure out what was being conveyed. I circled errors when found in the pdf. This was submitted with this review. The issues with grammar are mainly what prompted my rating for this section.

## 10. Diversity and Inclusion - 5

- The text reflects diversity and inclusion regarding culture, gender, ethnicity, national origin, age, disability, sexual orientation, education, religion. It does not include insensitive or offensive language in these areas.
- Overall, how do you rate the diversity and inclusion of the text?

I did not read anything that I feel someone would find offensive or insensitive based on culture, gender, ethnicity, national origin, age, disability, sexual orientation, education, or religion.

In my opinion, this textbook is appealing to a diverse student body and instructors alike. The text does a great job of presenting material step by step while using visual representations of what is being said.

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## 11. Recommendation

- a. Do you recommend this book?

Yes, I would recommend this textbook after some proofreading and grammatical improvements. As is, it may be too much for an instructor to make corrections as they are teaching the course. I was pleased with the simplicity of the explanations, the concise images used, and the step by step instructions for nomenclature to name a few things.

Rating: 48/55