

“Microwaves in Organic and Medicinal Chemistry” offers a large view on a relatively new field in organic chemistry that allows more rapid synthesis and screening of chemical substances to identify compounds with functional qualities. The book explains with clarity a microwaves-assisted heating under controlled conditions that can be a good tool in medicinal chemistry, since it often dramatically reduces reaction times. With this heating, it is possible to skip a number of conventional heating steps and the reaction becomes faster and easier. “Microwaves in Organic and Medicinal Chemistry” also emphasizes the possibility to build compound libraries throughout mw technology and to discover novel reaction pathways.

The “philosophy” of the book can be summarized by the phrase: “while failure could cost a few minutes, success would gain many hours or even days”, which underlines the utility and advantages of mw.

After the introductory chapter, a useful and simple discussion of microwave (mw) theory and mw effects is presented, so as to give also to beginners a basic knowledge of the underlining principles of mw-matter interactions.

The third chapter widely describes the currently available instrumentation for performing MAOS, highlighting the features of every mw reactor type.

From the point of view of a beginner, perhaps it would have been better to proceed with the “instructions” to start with mw chemistry (Chapter 5), first discussing the choice of vessels, solvent, temperature, time and safety aspects. This would have made knowing about mw processing techniques more useful (Chapter 4).

The final chapters are dedicated to several recent applications of controlled mw heating technology in organic synthesis and in combinatorial chemistry and high-throughput organic synthesis. This collection of examples can become a good point of reference for chemists who use mw technology (L. Giurato).

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Accepted 22 November 2005

Available online 06 March 2006

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The Art of Scientific Writing. From Student Reports to Professional Publications in Chemistry and Related Fields. Hans F. Ebel, Claus Bliefert, William E. Russey. Second, Completely Revised Edition, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, 2004 (ISBN: 3-527-29829)

The advices the three authors provide in this book are essential for young scientists, as well as for the experienced scientists who need to improve their communication skills. Each chapter is a concise overview of an important professional skill. I appreciate that the authors devoted more space to electronic publishing, and how the scientific literature is being transformed by the Internet. In the first years of their careers young scientists can certainly get a very big advantage from this book. The book makes the presentation of the results more friendly giving it the character of a tool to be exploited at best to have better chances in the spreading of their findings as communications and/or papers. Young people are highly motivated instead of getting frightened. Overall the judgment of a nowadays Ph.D. student (*see below*) reflects the one of mine during my Ph.D. course for the previous version dated 1987.

The book systematically discusses many of the important professional skills and could also be used in a professional skills course for graduate students or even in a senior seminar for undergraduates (Salvatore Guccione).

“The Art of Scientific Writing” is a very detailed book which could serve as a guide both for students and teachers. It is written in a clear and simple language, and it is divided in two parts, the first (chapters 1–4) is on “Goals and Forms in Scientific Writing”, the second (chapters 5–9), “Materials, Tools and Methods in Scientific Writing”, is more technical.

The first chapter is about writing a report, correctly defined by the three authors as “a ‘personal representative’ of its author”. Here the authors underline the importance of the references and suggest to write periodic reports so that you will have an accurate record of what you did and why. In a similar way, it should be written a “laboratory notebook” for every research project: in truth, this kind of “experimental scientist’s diary” is spontaneously kept by each “orderly” researcher, even by one who is learning the ropes!

The dissertations usefulness and characteristics are dealt in the second chapter, in which are also listed and described all elements of theirs (title page, abstract, etc.). Some of the most interesting suggestions regard: the title length, which has to be concise and might contain at most 10 words; the appropriate use of “decimal classification”, so that there would be to the more three hierarchical levels, “to ensure that section numbers are easily scanned, readily interpreted, and conveniently articulated”; the obligation to read every literature source with a significant bearing on your own project; few literature citations are required in the dissertation “Result Section”. Finally, a nice suggestion is given to start writing a dissertation: the use of “idea cards”, which every good mentor is usual to suggest to his/her students (but if you do not have such a good guide, or you are not a teacher, you have necessarily to read this book!).

The third chapter affirms that “publications are usually taken to be the surest sign of productivity”, so it widely deals with journal articles, explaining how to write them (title has to contain at most eight words; it is suggested to begin to write from the experimental part—the simplest one; etc.) and how they have to be: reliable, meaningful and new. Much information seems to be taken for granted also by a beginner, but it could be useful when you start to write an article. The same is true for the fourth chapter, in which all that regards book is treated: the major types of scientific books; scientific publishing houses (a bit boring for a student!); book planning and preparation, and so on.

The second part of the book deals with “Materials, Tools and Methods in Scientific Writing”, starting with writing techniques, in which an overview of all computer devices is given to supply to the reader a general understanding of the way a Personal Computer (PC) works, and all that is important to know (page layout, formatting, ...) to write an electronic manuscript. The paragraph “Writing and Formatting with a Computer” can be considered a good guide for persons who never tried to use a Word-Processing Software.

The following three chapters (from sixth to eighth) are, respectively, about formulas, figures, and tables. The former gives many useful suggestions to write formulas in a correct and aesthetically acceptable way, underlining that “professional-quality presentation of formulas and equations is truly an art”. Many details are underlined (just to give an example: “...in English unit names that are derived from the names of persons are not capitalized!”), so that it is a good idea to read this chapter only when you need this kind of information (otherwise, you risk to forget it!).

In the seventh and eighth chapters, how to obtain “correct” figures and tables is explained, even if a lot of general considerations are well known also by beginners.

“Collecting and Citing Literature” (ninth chapter) highlights the importance of references, aiming on the acquisition of information, the downloading of literature sources and the distinction between two citation systems (numerical and name–date, respectively).

At the end of the book, there is also place for four Appendixes, of which Appendix C deserves attention for its nice content: 20 guidelines to prepare electronic manuscript for publication.

The whole book is well written and despite its authors are three chemists, there are only a few arguments belonging to the “chemical field” (for example, “Special Units in Chemistry, par. 6.3”; “Structural Formulas in Chemistry”, par. 7.2.5), so it could easily be read by everyone interested to scientific writing.

The best way to take from this book all that you need, is not simply to read the book, but to use it, that is to follow its suggestions when you think they have to be applied, and you do not know how to do it. Besides being useless, the immediate total reading of the book could discourage a beginner, who could think he/she will never be able to give so much attention to every detail and get a perfect writing! (Laura Giurato).

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Accepted 23 November 2005

Available online 15 March 2006

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doi:10.1016/j.ejmech.2005.11.015