Organic Chemistry: The Name Game – Modern Coined Terms and their Origins

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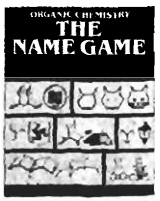

Organic Chemistry: The Name Game – Modern Coined Terms and their Origins
Alex Nickon and E F Silversmith,
Pergamon Press, New York, 1987.

It is perhaps time to disclose an important classified information. Many of the questions in the Chemistry quizzes conducted by me as well as by my colleagues during the last decade have been taken from a book named *Chemistry – The Name Game*. The book is not just a catalogue of names of chemicals or a collection of trivia. It is full of highly racy accounts of molecules and reactions. There is a great deal of useful, interesting and exciting chemical information packed in this rather easy to read book. The book has twenty chapters, but the main theme is about the origin of names associated with molecules and reactions. And what kind of names? You name it, the book has it! Thus, there are examples like felicene, pterodactyladiene, crown and lariat ethers, propellanes, rotaxanes, molecular tweezers, calixarene, basketene, kekulene, bullvalene, betweenanenes, pagodanes, cryptates, cryptophanes, Srilankine, sydnones, NIH shift, fredericamycin A, bolaamphiphiles, just to name a few, and, of course, Buckminsterfullerene. For most examples, the authors have provided not only interesting anecdotes behind the naming process, but have also provided appropriate references. Here are a few examples of unusual natural product names: megaphone comes from the roots of a plant *Aniba megaphylla* mez., complicatic acid comes from *Stereum complicatum*, and betaine ($Me_3N^+CH_2COO^-$) comes from sugar beets, *Beta vulgaris*.

Apart from the origin of names, there are other kinds of useful information which you will probably not find anywhere else! Did you know that there is a chemistry paper with 49 authors? Or for that matter did you know that Thiruvenkatanathapuram Ramanathapuram Balasubramanian is the longest name in a chemistry paper? Or that the longest run of chemistry papers on a *single theme* has been on 'Synthesis of heterocyclic compounds and natural products', by the Japanese chemist T Kametani (publication no. 1000 came out in the *Journal of Organic Chemistry* in 1983)? One can find many such examples in the book – the bactericidal properties of *Penicillium glaucum* was noticed in 1896 by a French medical student, many years before it was reported by Alexander Fleming. A classical organic reaction which is commonly taught in the first year undergraduate chemistry course is the Hunsdicker reaction. But how many of us actually know that this reaction was originally discovered by Borodin, and subsequently refined by the Hunsdickers (husband and wife team)? Nickon and Silversmith also tell us about the involvement of two Karl Ludwig Reimers in the discovery of the famous Reimer–Tiemann reaction.

At the end of chapter eleven you will find information like (these may not be true today): the compound with most elements (10), the longest CA index name (1578 characters), the longest single-ring parent (288 carbons), the largest ring system (61 rings), the longest aliphatic chain (384 carbons), and so on.

Finally, there are a number of add-ons at the end of the book in the form of appendices, of which the most useful ones are on brief etymology of some traditional chemical names (over 300 entries), origin of element names, and Nobel Prizes in science from 1901 to 1986.

A final word on this book which we often ignore while teaching: a lot of chemistry is described with good humor. In fact, the authors make a statement in this book which may be somewhat relevant here: *"actually, chemists do have a good sense of humor but lose it when they serve as referees"*.

I recommend the book to everyone.

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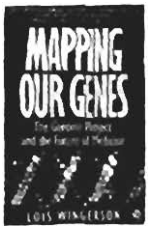
The Trail of Genetic Detectives

Vani Brahmachari



Mapping our Genes; the Human Genome Project & the Future of Medicine
by Lois Wingerson. Price $ 12.95

In 1986–87 a major worldwide project in biology was conceived namely the human genome project which is often compared with the Manhattan project in terms of its magnitude and financial investment. This raised a lot of debate on its utility and need. But taking a stock after 10 years one begins to realise the impact of the project not only in terms of the information on genome and genetic disorders that is acquired in a worldwide effort but equally significant are the techniques and technology that were developed as a means to achieve the goals of the project. The book *Mapping our Genes; the Human Genome Project and the Future of Medicine* by Lois Wingerson is a lucid narration of the story of human genome project. As the title suggests, the book highlights the efforts at gene mapping rather than genome sequencing. The two differ in that mapping is like finding an address for a house while sequencing is like identifying every brick that makes up the house. One of the premises that is explicit throughout the narration is that the first step in curing a disease is to know what the disease is and to find out the cause of the disease. This requires enormous time and effort to understand aspects related to the disease which sometimes may be very remotely related to the cure; almost beyond the comprehension of a non-scientist. But Wingerson makes it comprehensible by an optimum mix of scientific details and the personal stories of families afflicted with a certain genetic disorder. Each of the chapters