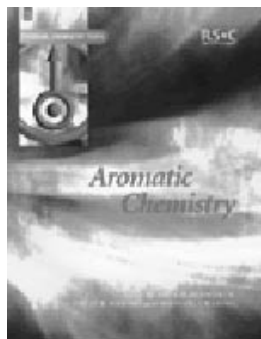


Pi Electrons in Brief

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Aromatic Chemistry

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Somewhere around 1960 the approach to the teaching of organic chemistry changed from memorizing a collection of (apparently) unrelated facts to a more mechanistically driven one, requiring more understanding. It spread rapidly, with the help of a number of widely adopted texts, most notably those of Cram and Hammond, Roberts and Caserio, and Morrison and Boyd. Each comprised a rather weighty hardback publication, which summarized all the organic chemistry undergraduate majors needed to know (and an awful lot they didn't). Publishers were not slow to appreciate that classes in organic chemistry were large, and if their text was also large this was an unmissable marketing opportunity. Subsequently, the number of texts competing for this market escalated dramatically. All bore the title *Organic Chemistry* or something similar, and most were written by professors at US universities that had large undergraduate classes. Over the ensuing 40 years the works slowly increased in size from about 800 pages to in some cases well in excess of 1200. Just as in the car industry, where an increase in size creates an opportunity for a smaller model with similar features, publishers began to offer smaller alternatives from the same author(s) with slightly modified titles, intended for students with either a lower carrying capacity or less commitment to the subject.

Why am I telling you this? Because there has been a trend in recent years towards further downsizing. An increasing number of institutions, especially non-American ones, are teaching their chemistry in modules, opting for a general introductory course followed by a more limited selection of topics covered in greater depth. This is a natural response to the increased organic chemistry content available, but the result has been that large sections of the current standard texts become superfluous to requirements while the coverage of the relevant content may be insufficient. The recent effort of Clayden, Greeves, Warren, and Wothers represents a one-volume attempt to address this problem, but one outcome of this is that amazon.com have elected to place a surcharge on its shipping cost. The obvious alternative is for students to buy only the material they need. The first attempt to grasp this opportunity was the 'Oxford Primer' series, published by OUP, with the cost subsidized by ICI (now Zeneca). The series offered a fixed format, with a maximum length of 96 pages,

and were deemed equivalent to 8–10 lectures on a topic. Initial volumes were mainly organic but, with growing success, coverage became greatly extended, and currently about 100 volumes have been or are about to be published. However success in a market with low entry barriers will bring competition: The RSC has stepped in with its 'Tutorial Chemistry Texts' series; *Aromatic Chemistry* is one of these volumes.

In order to differentiate themselves from the 'Oxford Primer' series, the RSC have chosen to include problems, both in the form of worked examples and at the ends of chapters. They also increased the page limit to 200 pages. (In the Oxford series, 96 pages proved clearly insufficient in many cases and, rather than a procrustean approach, some authors resorted to extensive explanatory notes in small print alongside the text.) If the particular 'Tutorial Text' under review is representative (it may not be), 200 pages may sometimes be too much. *Aromatic Chemistry* is only 168 pages, of which the last 20 are answers to problems. However, I will disregard any differences in the philosophies of the two series, and consider *Aromatic Chemistry* on a stand-alone basis. I think it is fair to say that the coverage of the area and its treatment is much what one would expect from that found in a current full-length organic chemistry text, so in that regard it can be considered as a realistic, low-cost alternative source of this material. One cannot fault the coverage of important concepts such as the concept of aromaticity, aromatic substitution, and polycyclics. I am less happy about the more than 60 pages being devoted to chapter-by-chapter functional group chemistry; this frequently leads to some double coverage of material, in that one group's synthesis is often another group's reaction. However they are far from alone in adopting such an approach, and in a tutorial text this may not be a disadvantage. There is a useful chapter on organometallic reactions including coverage of relatively new reactions such as the Stille, Suzuki, and Heck couplings. The work's major deficiency to my mind is the authors' (or publisher's) decision not to include any coverage of aromatic heterocycles, excusing this with the comment that this is because heterocyclic compounds are covered in another volume of the series. I do not consider this excuse to be valid: A chapter on five- and six-membered rings containing one heteroatom, covering electrophilic and nucleophilic substitution and perhaps some core reactions, would not have come amiss or trod on too many toes.

To me *Aromatic Chemistry* seems rather like a typical lecture course, excellent in parts but less satisfying in others. I would not hesitate to recommend that students consult it for revision purposes or work through the problems at the end of the chapters. However I have grave doubts about the claim of the publishers on the back cover that it is 'ideal for industrial chemists seeking to update their knowledge of this important aspect of chemistry'.

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