

Book Reviews

Salt Effects in Organic and Organometallic Chemistry
by A. Loupy and B. Tchoubar, VCH, Weinheim, 1992,
pp. xvi + 322. DM164.00; £62.00. ISBN 3-527-28025-1

I approached this book with little enthusiasm, since I imagined that it would, like so many accounts of salt effects, consist of page after page of mathematical equations with occasional rather general conclusions. I was very mistaken, and I soon found myself reading virtually every line of every chapter, for the book is, in fact, a very well organized qualitative survey (with ample illustrative quantitative data) that describes clearly the various types of salt effects and presents a wealth of information in a very readable form. Like all the best textbooks it offers a creative analysis and synthesis not just a compilation of factual material.

After an excellent brief introduction to the various types of salt effects, the authors deal with the effects of salts on: (a) C–X and C–H bond cleavages (largely nucleophilic aliphatic and aromatic substitution); (b) additions to multiple bonds; (c) regioselectivity; (d) stereochemistry; (e) equilibria; and (f) reactions of organometallic compounds. There is a helpful appendix in which various important terms and concepts are concisely defined. The chapter on organometallic compounds is to my mind the least successful (perhaps because relevant information in this area is more fragmented and not yet amenable to generalization) but even so it is very useful. The section on Main Group elements (14 pages) deals only with organo-lithium and -magnesium compounds, although reactions of organo-silicon, -germanium, and -tin compounds are mentioned frequently in other chapters. The section on transition metals (29 pages) provides an effective outline of the separate effects of anions and cations on the structure and reactivity of complexes.

The book first appeared in French in 1988, and I am annoyed that I did not know of the existence of that version, which would have been of considerable help to me in the past four years. It has been very well translated by Dr. W.E. Douglas, and in consequence is easy and pleasant to read. (However, I suspect that in a few places brackets or commas are misplaced. For example, on page 14 part of the statement “the salt is more effective as a catalyst in aprotic solvents, which are only slightly polar, than in protic ones, should, I think, read” ... in aprotic solvents that are only slightly polar than it is in protic ones”.) Some additions have been made to the 1988 version, and there is a supplementary list of relevant publications that appeared in 1989.

There is a rather ineffectual subject index, of an increasingly common type; for example, (i) ‘bond breaking’ is shown to appear on just one page, whereas reactions involving bond breaking appear on many pages, and (ii) there is a pointless entry ‘hydrogen’, which refers just to one page in which α -H abstraction is mentioned. Fortunately, the excellent organization of the text makes it easy to find what one wants without recourse to the index.

This book can be thoroughly recommended. The statement in the publisher’s press release that it is “a veritable gold mine of information” is wholly justified. It is written with the authority that one would expect from authors who made major contributions to the field, and will serve well as a reminder of the impressive achievements of the late Dr. Tchoubar.

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Inorganic reactions and methods, Vol. 5 The Formation of Bonds to Group VIB (O, S, Se, Te, Po) Elements (Part 1)

A.P. Hagen (ed.), VCH, New York, 1991, xxx + 567 pages. DM308, £119. ISBN 0-89573-255-6

There can be few, if any, readers of this journal who are not familiar with this series of volumes, and detailed description of its form and style would be inappropriate. This part of Vol. 5 deals with formation of bonds between O, S, Se, Te, or Po and (i) O, S, Se, Te, Po; (ii) N, P, As, Sb, Bi; C, Si, Ge, Sn, Pb; (iii) B, Al, Ga, In, Tl; (iv) Li, Na, K, Rb, Cs, Fr; (v) Be, Mg, Ca, Sr, Ba, Ra. It will be of particular interest to many organometallic chemists because a substantial portion of it is concerned with alkoxides of a range of elements.

Of the 567 pages, 214 are taken up with rather inefficiently presented author and formulae indexes.

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