

ure to welcome in its pages this latest tribute to his great contributions to chemistry.

*School of Chemistry and Molecular Sciences,
University of Sussex, Brighton BN1 9QJ (Great Britain)*

COLIN EABORN

Carbanion Chemistry; by R.B. Bates and C.A. Ogle, Springer-Verlag, Berlin etc., 1983, viii + 117 pages, DM 48.

This slim monograph is Vol. 17 in the series "Reactivity and Structure, Concepts in Organic Chemistry".

The authors' stated intention was that "of collecting some of the multitudinous new literature on carbanions and presenting it along with the fundamentals of carbanion chemistry", and to this end about 400 references from the period 1976–1982 have been incorporated along with a rather similar number from earlier years. This compulsion to mention so many recent publications in so short an account leads to a treatment more akin to an Annual Report type of survey rather than to a rounded treatment one expects from a textbook, and in many places the text is mainly a source of references rather than of direct information; for example, the very important metal–halogen interchange method of forming organolithium compounds is dealt with in 18 lines of text and 7 equations with 15 references, and the style is nicely illustrated by the following passage which takes up 10 of the 18 lines on this subject: "Metal–halogen interchanges are used primarily to prepare organolithium compounds from alkyl and aryl halides; they often give better yields than reactions of the halides with metal due to less side reactions [133]. In general the rates decrease in the series $I > Br > Cl \gg F$. The reactions are equilibrium processes favouring the more stable carbanion [134]. They are performed at or below room temperature in hydrocarbon solvents or (more rapidly) in ethers [135]. Concerted mechanisms have been postulated due to the observed second order kinetics and salt effect [134]. CIDNP experiments on the reaction of alkylolithiums with alkyl and aryl halides indicate the presence of radical intermediates [136,137]."

Some points of detail I noticed are as follows: (a) Values for acidities of carbon acids are given only for DMSO solutions; no direct mention is made of the more comprehensive, and I suspect more generally useful, data available for cyclohexylamine solutions. (b) Amazingly the section on structures of non-delocalized carbanions gives no reference to Schleyer's fine work (and there is only meagre reference to his work elsewhere) and there is no mention of compounds with more than one metal at a single carbon centre. (c) The book is essentially about organic derivatives of Group IA and IIA metals, aluminium, zinc and cadmium rather than about carbanions as such (though carbanions with quaternary ammonium counter ions are referred to briefly); thus the topic of kinetic acidity of carbon acids is dismissed in a few lines with reference to a 1973 review, and there is no mention of the important kinetic studies by Kreevoy, Kresge, and Streitwieser among others, or of the studies of carbanions generated in MeOH by addition of NaOMe to suitable fluoro-

olefins (the first class work of H.F. Koch) or by base cleavage of suitable RSiMe_3 species. (d) The account of the reactions of the carbanions is written essentially from the organic chemist viewpoint; there is virtually no mention of their use to make other interesting organometallic derivatives, including those of transition metals. (e) The choice of references on specific topics is occasionally somewhat arbitrary; for example, the brief mention of the stabilization of a carbanion by three $\alpha\text{-Me}_3\text{Si}$ groups is accompanied by a reference to a 1974 paper on work in which $(\text{Me}_3\text{Si})_3\text{CLi}$ was used only incidentally, and there is no mention of the first (and standard) preparation of this species (1970) or of the demonstration that $(\text{Me}_3\text{Si})_3\text{CH}$ has a higher kinetic acidity than Ph_3CH (1975).

Although most of the comments above are somewhat adversely critical, this book is nevertheless of considerable value. In particular the organization of material into sections and sub-sections is excellent, so that a newcomer to carbanion chemistry could very profitably read through the account to form an overall impression of the nature and scope of organic aspects of the chemistry of organic derivatives of lithium and some other strongly electropositive metals before turning to more detailed texts, while the experienced worker in the field can use it to seek out some important references with very little effort. It would, however, have appeared more appropriately as a chapter in a review journal rather than as a separate book.

Readers of this journal may like to give thought to the statement, in the Summary at the end of the book, that the reactions of carbanions "lead to bonds from carbon to every element except the noble gases". Is this known to be the case, I wonder?

*School of Chemistry and Molecular Sciences,
University of Sussex, Brighton BN1 9QJ (Great Britain)*

COLIN EABORN

Tables of Spectral Data for Structure Determination of Organic Compounds;
by E.O. Pretsch, T. Clerc, J. Seibl and W. Simon, Springer-Verlag, Berlin, etc.,
1983, ix + 360 pages, DM 32.

This is a translation by K. Biemann of the second (1981) German edition of this compilation of ^{13}C NMR, ^1H NMR, mass, IR and UV-Vis spectral data for use in identification of organic compounds. The data are well chosen and very clearly presented, and the book will be of great value to students and research workers. It does not attempt to describe the relevant theory or experiment, but can be used to good effect by those with even a minimum grounding in those aspects. It is moderately priced (ca. £8.10 or \$ 11.70) and should be available in any laboratory concerned with establishing the identities of organic compounds. A limited amount of information is given for organo-silicon, -boron, and -phosphorus compounds, but the value of the book for organometallic chemists will be in identifying organic groups present in organometallic compounds or organic compounds produced by use of organometallics.

The book is available only in soft-cover form; this no doubt keeps the price