

Isotopes in Organic Chemistry, Vol. 7. Secondary and Solvent Isotope Effects; edited by E. Buncl and C.C. Lee. Elsevier, Amsterdam etc. 1987. xiii + 485 pages. ISBN 3-540-93560-6.

This monograph is the latest in a series of volumes that has gained a high reputation in its field, and once again the editors have managed to persuade acknowledged experts to make contributions.

The first chapter, entitled "Mechanistic deductions from solvent isotope effects" by F.J. Alvarez and R.C. Schowen, is an update of the excellent and much cited review by Schowen that appeared in 1972, and is of the same high quality as that review; the background theory is briefly outlined, and its applications illustrated for a range of reactions, including base cleavages of carbon-silicon, carbon-tin, and silicon-hydrogen bonds.

Other chapters deal with (i) secondary isotope effects on enzymatic reactions (by W.W. Cleland); (ii) hydrogen isotope effects in thermal pericyclic reactions (by J.J. Gajewski); (iii) solvent isotope effects, fractionation factors and mechanisms of proton transfer reactions (an impressively authoritative account by A.J. Kresge, R.A. More-O'Ferrall, and M.F. Powell); (iv) secondary hydrogen-deuterium isotope effects and transition state structure in S_N2 processes (by K.C. Westaway); and (v) model calculations of secondary isotope effects (by D.J. McLennan).

The types of mechanistic analyses described have been little used yet in organometallic chemistry, but they will be applied as the study of mechanisms of reaction of organometallic compounds become more detailed and refined. The small number of examples in the first chapter give a hint of what can be expected.

The book is produced from camera-ready typescript, with the usual range of readability. It should be in the library of any organization involved in research into reaction mechanisms.

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Corrigendum

Re: **Complexes of dimethyldihalotin(IV) with imidazole and pyrazole: the crystal structure of dibromobis(pyrazole)dimethyltin(IV)**; by B. Alberte, A. Sánchez González, E. García, J.S. Casas, J. Sordo and E.E. Castellano (*J. Organomet. Chem.*, 338 (1988) 187-193),

Page 192, in Table 5 the data for compound $\text{Me}_2\text{SnBr}_2(\text{HPz})_2$ in $\text{DMSO-}d_6$ should read:

$\text{Me}_2\text{SnBr}_2(\text{HPz})_2$	$\text{DMSO-}d_6$	1.28	108.3/113.3	6.25(H_4, t) 7.60($\text{H}_3, \text{H}_5, \text{d}$)
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