Science of Synthesis, Volume 8b: Organometallics: Compounds of Group 1 (Li ... Cs); edited by M. Majewski and V. Snieckus; Georg Thieme Verlag: Stuttgart, **2005**, hardcover, 753 pp, € 2200, ISBN 3-13-142921-6 (RoW) / US$ 2640, ISBN 1-58890-458-X (US)

Volume 8b deals with sodium, potassium, rubidium, and cesium compounds in synthesis. The Editors give a very good introduction to typical reactions of the heavier alkalimetal compounds and the differences in reactivity and selectivities caused by the cation (16 pp). Further chapters, entitled 'Sodium Metal and Sodium–Potassium Alloy' (12 pp), 'Alkylsodium Compounds' (5pp), 'Alkenylsodium Compounds' (5 pp), 'Sodium Acetylides' (5 pp), 'Allylsodium Compounds' (3 pp), 'Arylsodium Compounds and Sodium Cyclopentadienide' (4 pp), and 'Benzylsodium Compounds' (2 pp) are also short; their limited number of pages demonstrate that 'true' organosodium compounds play only a minor rule in this volume.

Longer chapters are found for heteroatom-stabilized sodium compounds, such as enolates, and related compounds. As it is found similarly for the corresponding lithium compounds in Vol. 8a, these anions exhibiting nucleophilicity at the carbon atom are classified as C–Na derivatives. For the sodium salts of nitro compounds and sulfoxides, in chapter 8.2.13 (pp 1241–1257) the formulae are even drawn with a C–Na bond; certainly, ionic formulations were the better solution for keeping the idea of the applied classification.

Much space (250 pp) was allowed for simple and 'inorganic' salts, for example sodium halides, sodium hydride, sodium amides, sodium cyanide, sodium hydroxide, and alkoxides.These chapters cover most of the classical reactions, which are induced by stoichiometric or catalytic amounts of base or sodium salts. The individual sub-topics are held very briefly, but an extensive bibliography is included. Curiously, even palladium-catalyzed coupling reactions, for which the addition of sodium hydroxide or halide was found to be benificial, are collected in these chapters. Here the disadvantage of the chosen classification in these vlumes becomes clearly visible.

The part on potassium compounds (180 pp) has a similar organization. The most interesting chapters for the metallorganic chemist are 'Potassium Metal' (16 pp) and 'Organometallic Compounds of Potassium' (38 pp), holding very condensed information on allylpotassium compounds and deprotonation reactions with LICKOR superbases prepared from mixtures of alkyllithium/potassium alkoxides. Again, the chemistry of simple salts and bases takes up much space. Usually, it does not make a difference to many reactions, whether sodium or potassium hydroxide is applied. Fortunately, authors and editors were able to avoid many possible repetitions which simply arise from the accidential utilization of either one of the two bases.

The last part on rubidium and cesium (40 pp) highlights nicely the special features originating from the high electropositive potential of these elements and the large size of the corresponding cations.

The formula schemes are, in order to save space, arranged less spaciously than those in the lithium volume (Vol. 8a). In general, only the starting material, the reagents, reaction conditions, and the final product are mentioned here, resulting in the presentation of several multi-step reactions that render the processes less perceivable to the reader.

Condensing the vast amount of published material to less than 900 pages was an extremely demanding task to both authors and editors. This, obviously, could only be done by strict selection and omitting much material (this reviewer did not find a couple of heterosubstituted enolate-type reagents, invented during the seventies and eighties, which he remembers) and by applying a very dense style of writing. Hense, this volume is less suited for browsing through than the lithium volume, because in many cases calling to original literature and the cited reviews for better understanding is required.

Nevertheless, consulting this handbook will help to rapidly find solutions by applying 'carbanion chemistry' for a given synthetic problem. Extensive indexes of author names, starting materials, and products are a great help. This volume should not be missing from the library of any chemistry department.

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