

Lithium – Current Applications in Science, Medicine, and Technology; edited by R.O. Bach, Wiley-Interscience, New York, Chichester, Brisbane, Toronto, Singapore, 1985 xvii + 422 pages, £92.50. ISBN 0-471-80073-2.

The contents of this book are based upon the sessions of the 35th South-eastern Regional Meeting of the American Chemical Society at Charlotte, North Carolina, held in November 1983, and they are truly interdisciplinary. The twenty-eight chapters describe lithium separation by ion exchange, separation of lithium ions by chromatography, the structure and operation of Dow's new lithium selective ion exchange resin, lithium crown ether complexes, recovery of lithium from crystallized salts in the solar evaporation of Salar de Atacama brines, recovery of lithium from clay by a roast-leach-precipitation process, lithium fast ion conductors based upon $\text{LiZr}_2(\text{PO}_4)_3$ and $\text{LiTi}_2(\text{PO}_4)_3$, ionic conduction and water diffusion in $\text{Li}\beta$ -alumina, high energy lithium batteries, high temperature lithium alloy/iron sulfide batteries, ambient temperature secondary lithium cells, the reactions of metal oxides with liquid lithium, preparation, characterization and XPS studies of LiC_8 and LiC_{18} , kinetics of the reaction of hydrogen and nitrogen with molten lithium, the analysis of lithium for oxygen, nitrogen and carbon, Auger spectroscopy as a technique for the analysis of lithium compounds, an XPS study of the exposure of lithium to low levels of O_2 , H_2O , CO , CO_2 and SO_2 , organolithium compounds, the structure and dynamic behaviour of organolithium compounds in solution by ^{13}C , ^6Li and ^7Li NMR spectroscopy, new developments in the chemistry of polyolithium compounds, amide directed lithiations, difunctional lithium polymerization, amide directed lithiations, difunctional lithium polymerization initiators, butyl/ethyl lithium complexes as solution polymerization initiators, the early history of lithium therapy, lithium in psychiatry, lithium toxicology, the role of lithium in cancer chemotherapy and lithium in the control of herpesvirus infections.

The above articles fall into five major categories: hydrometallurgy, electrochemistry, metals and alloys, organolithium chemistry and the medical applications of lithium. It is the last two categories which will be of major interest to the readers of *J. Organomet. Chem.*, and the medical applications which were (at least to me) the most fascinating. Indeed, the selection of organolithium compounds is somewhat eccentric, and this section falls a little flat. However, the book taken as a whole represents an interesting snapshot of lithium chemistry in the early '80's. The conference upon which this book was based was supported by the Lithium Corporation of America, and it is rather a shame that this support did not extend to the production of this volume, which is almost twice the current cost per page for books of this kind. It is too expensive, given its contents, to recommend for purchase by university libraries and too shallow for most industrial libraries. The flyleaf suggests that the volume is aimed inter alia at R&D executives and market development managers. Maybe they can afford it!

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