

Book Reviews

Inorganic Syntheses, Vol. 29

R.N. Grimes (ed.), Wiley-Interscience, New York, 1992, pp. xi + 427. £43.95
ISBN 0-471-54470-1

This addition to a valuable series has no special theme, but the synthesis are organized under the following chapter headings: Main Group compounds in general; boron compounds; transition metal coordination compounds; transition metal organometallics and ligands; cluster and cage compounds containing transition metals. The first chapter opens with some relatively simple compounds of special interest, *viz.* XeF₂, XeF₄, ClF₅, KrF₂, then goes on mainly to derivatives of Sn, Si, S, P, and ends with some ambient-pressure superconducting synthetic metals such as 2/1 [NBu₄]I₃/bis(bisethylenedithiotetrathiofulvalenium) triiodide. Other chapters deal with a similarly wide spread of compounds. In the final chapter, 20 pages are devoted to the preparations of mixed-metal-gold phosphine complexes; *e.g.* [AuRu(H₂)(CO)(PPh₃)₄]-PF₆.

I read with particular interest the account of the recommended synthesis of (Me₃Si)₂S, since I carried out the first preparation of this compound in 1949. I was sorry to see that among the range of other methods said to be available for its production mine is not mentioned. It involves heating under reflux, with exclusion of moisture by a drying tube, a mixture of Me₃SiI (readily available in most organic chemical laboratories these days) with Ag₂S (either purchased or very easily made) and then distilling off the sole volatile product. I suspect that many people would find this easier, at least for small-scale preparations, than the procedure described in this volume, which involves drying glassware for 140°C for several hours, refluxing a mixture of sulphur, sodium and naphthalene in THF for 12 h to give Na₂S, adding Me₃SiCl (after distillation from CaH₂ under N₂), stirring for 2 h at 0°C and 8 h at room temperature with ¹H NMR and GLC monitoring, and finally fractionally distilling the mixture. The de-

scription of the procedure, however, is a model of thoroughness and clarity, as is often the case in these volumes.

This volume, like its predecessors, should be available in all laboratories concerned with research in inorganic or organometallic chemistry.

C. Eaborn

School of Chemistry and Molecular Sciences
University of Sussex
Brighton BN1 9QJ
UK

Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Organolead Compounds, Part 3
F. Huber, Springer-Verlag, Berlin, 1992, pp. xiii + 246.
DM 1410
ISBN 3-540-93658-0

The first two volumes in this series dealt respectively with PbMe₄ and PbEt₄. The present one presents similar comprehensive coverage of other compounds PbR₄, most pages being devoted to those with R = alkyl (up to hexyl) or Ph (100 pages are devoted to PbPh₄). Briefer sections deal with compounds in which R is a substituted alkyl, substituted aryl, alkenyl, alkynyl, heteroaryl (*e.g.* 2-furyl), or cyclopentadienyl. Methods of preparation, reactions, physical properties, and cases, and biological effects are concisely described. The literature has been covered up to 1991.

There is a helpful 4–5 page list of reviews of aspects of organolead chemistry that appeared in the period 1987–1992, and a comprehensive empirical formula index.

C. Eaborn

School of Chemistry & Molecular Sciences
University of Sussex
Brighton BN1 9QJ
UK