

## Book review

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"Inorganic Syntheses", Volume XVII, A. G. MacDiarmid, editor-in-chief, McGraw-Hill, New York, 1977, xii + 223 pages, \$23.95.

The latest volume of this useful, well-established series provides a good balance between main group and transition metal chemistry. Its opening chapter deals with hydrides derived from both main group and transition metals. Included are "simple" hydrides ( $MgH_2$  and  $ZnH_2$ ), "complex" hydrides (e.g.,  $LiZnH_3$ ,  $Ca(BH_4)_2$ ,  $[Ph_3MeP]BH_4$ ,  $NaGaH_4$ ),  $Me_3AlH_3$  and diethylaminoaluminum hydrides in the main group series and complex, ligand-stabilized hydrides of molybdenum, iron, ruthenium, rhenium, nickel and palladium, as well as  $(n^5-C_5H_5)_2TiBH_4$ , in the transition metal series.

A chapter devoted to carbene, carbonyl, phosphine and related complexes of transition metals follows. Provided in this chapter are preparations of Group VI pentacarbonyl carbene compounds, phosphine complexes of rhenium,  $\pi$ -cyclooctenyl- $\pi$ -1,5-cyclooctadienecobalt,  $Rh_4(CO)_{12}$ , various nickel(0) complexes, carboxylato(tri-phenylphosphine) complexes of the platinum metals, thiocarbonyls of iron and  $SiH_3$  derivatives of the Group VI metals. The third chapter brings transition metal miscellany: the preparation of Fe(II) and Co(III) clathrochelates derived from dioximes, some oxalato and carbonato complexes and  $Te_2O_7$ .

Main group preparations are the subject of the final chapter: various boron-nitrogen compounds, gallium trichloride, cyclopentadienyl compounds of the Group IV elements,  $(Me_3Sn)_2O$ , some phosphine oxides,  $Ph_2PLi$  and  $Ph_2PSiMe_3$ , and  $S_5N_5^+$  salts.

As usual, "Inorganic Syntheses" has brought a fine potpourri of inorganic preparations, many of which will be of interest and benefit to the organometallic chemist.

All of the chemistry described with such care has been checked, so, hopefully, it will be reproducible. The novice is alerted by appropriate warnings whenever potentially dangerous reagents or operations are involved. The editor, as well as the submitters and the checkers, have done their jobs well.

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