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Book review

Journal of Organometallic Chemistry Library 12: Organometallic Chemistry Reviews [D. Seyferth (coordinating editor), A.G. Davies, E.O. Fischer, J.F. Normant, and O.A. Reutov (editors)] : Elsevier, Amsterdam, 1981, 376 pages. Price Dfl. 275.00, US$ 128.00

The twelfth volume in this well-established series is entirely concerned with the organometallic chemistry of Main Group IV elements, and is divided into two parts of roughly equal size. The first consists of four general reviews, while the second provides edited versions of eight plenary lectures given at the Third International Conference on the Organometallic and Coordination Chemistry of Germanium, Tin and Lead, held at Dortmund in July, 1980.

Two of the reviews come from the Toulouse school: the first, on compounds with silicon—carbon double bonds, by Bertrand, Trinquier and Mazerolles (52 pages, 167 refs.), provides a welcome survey of this exciting area up to early 1980. Inevitably, in such a rapidly-developing subject, some recent important discoveries such as Brook's stable adamantyl-substituted Si=C derivatives are not included. The second, by Dubac and Mazerolles (30 pages, 75 refs.) is a detailed account of the ways in which Group IV metallacycloalkane derivatives can serve as model compounds for the stereochemical analysis of reactions in optically inactive systems. A comprehensive review of cyano-, isocyanato-, and isothiocyanato-silanes by Pike and Mangano (44 pages, 282 refs.) includes extensive tabulation of their physical properties. The fourth contribution is a most useful bibliography of X-ray crystal structure determinations of organotin compounds by Smith, based on surveys undertaken by the International Tin Research Institute. References to over 250 compounds are given, together with a brief description of the structure and the coordination about tin. Coverage extends from 1949 to early 1980.

In the second half of the volume, there are first-hand accounts of work in progress on radicals containing Ge, Sn and Pb (Davies), the preparation, resolution, and dynamic stereochemistry of chiral organo-tin compounds (Gielen and Vanden Eynde), stereochemistry of the Sn—C bond and the use of stannyl anions (Pereyre, Quintard and Rahm), organo-derivatives of germanium with Main Group metals, transition metals, and lanthanides (Razuvaev and Bochkarev), a detailed study of organogermyl radicals (Sakurai), pentacoordinate cyclic organotin compounds with additional N→Sn interactions (Tzschach, Weichmann, and Jurkschat), novel Sn^{II}—N compounds with cyclic and cage-like structures (Veith), and a discussion of environmental aspects of organotin chemistry (Brinckman).

The whole volume, although reproduced from typescript, is well laid out and easy to read. It obviously provide a mine of information and happy browsing for all Main Group organometallic enthusiasts.

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