one disubstituted benzene plus a cyclopentadienyl – there are 283 compounds in this class. Reactions are also discussed briefly, and the references (numbering 141) are gathered together at the end of the section. Compounds with a trisubstituted benzene and a cyclopentadienyl (88 in all) come next, similarly treated. The logical presentation then carries on through hexasubstituted benzenes to larger rings using six carbon atoms to bond to iron, and all with an additional C_5 ligand. Finally, compounds with two six-carbon-donor ligands are categorised.

As usual, there is an extensive empirical formula index and a full ligand formula index, which enable rapid identification of the discussion of any particular compounds.

The authors and the editor are to be congratulated on another invaluable addition to the Gmelin corpus. These volumes are unlikely ever to be surpassed.

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Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Organogermanium Compounds, Part 5, Compounds with Germanium–Oxygen Bonds,
F. Glockling, Springer-Verlag, Berlin, 1993, pp. xv + 546. DM 3150
ISBN 3-540-93660-2

This is a further excellent volume in the series on organogermanium compounds written by Professor Glockling. It is focused on mononuclear compounds containing Ge–O bonds, but compounds containing more than one germanium atom are considered when chemical logic demands it. Thus the first chapter is concerned with the species R_3GeOH (where the R groups may be all the same or differ), $(R_3Ge)_2O$, R_3GeOR^1 (R = alkyl or substituted alkyl, or aryl), R_3GeOOR^1, R_3GeOX in which X is not linked to oxygen through carbon (*e.g.* $X = SO_2Cl$, SO_2Me, N=CHPh, NO_2, $POPh_2$, $SiMe_3$, $SnEt_3$, Li), and revant anionic five-coordinate germanium compounds. The subsequent chapters deal mainly with the corresponding R_2Ge and RGe derivatives (*e.g.* $R_2Ge(OR^1)_2$, $RGe(OR^1)_3$, $[(RGeO)_2O]_n$), but there arc also briefer sections on compounds containing Ge–H or Ge–Hal or Ge–Transition Metal bonds along with Ge–O bonds, and on peroxides (*e.g.* R_3GeOOR^1) organogermanium-oxygen radicals (*e.g.* $Me_3GeOCPh_2$, $Me_3GeON(O)Ph$), organogermylenes with a Ge–O bond, and complexes between Ge–O compounds and Lewis bases. The literature was searched systematically up to the end of 1990 but there are some more recent entries.

The volume also contains (a) a very useful list of reviews of organogermanium compounds that appeared in 1986–1990; (b) an empirical formula index, and a ligand formula index. The account is very well organized, with much clearly-presented information packed into each page. Professor Glockling is to be congratulated on his work, and thanked by all those active in or interested in organogermanium chemistry, who will look forward to the appearance of the remaining volumes in the series.

As is usual with Gmelin volumes, this one is expensive (*ca.* £1260 or US$1875 at the time this review was written), but in the right surroundings such purchases well repay their cost.

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Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, In Organoindium Compounds, Part 1
J. Weidlein and W. Petz, Springer-Verlag, Berlin, 1991, pp. xiii + 442. DM 2400
ISBN 3-540-93641-6

The organometallic chemistry of indium has received so little attention over the years that this one volume suffices to deal with all the organoindium compounds reported up to Spring 1991 (and a few reported later). However, there has been some increase in activity in such compounds in recent years because of their actual or potential use in the production of semi-conducting films by vapour deposition.

Some 72 pages are devoted to the chemistry of $InMe_3$ – its preparation, physical properties, reactions, applications and its adducts, and a further 16 pages provide a similar treatment of $InEt_3$. Other InR_3 (or InR_2R) species, with R = alkyl, substituted-alkyl, cycloalkyl, alkenyl, cycloalkenyl, or aryl, then take up a total of 43 pages. Most of the remainder of the volume is devoted to compounds containing, in addition to at least one In–C bond, bonds from In to halogen, oxygen (including hydroxides, carboxylates, and peroxides), sulphur, nitrogen, phosphorus, arsenic, antimony, boron, or a transition metal. Only one page is needed

to cover compounds containing organoindium cations, but 28 are taken up by those containing organoindium anions. The final sections deal with organoindium(I) and organoindium(II) species, indium(I) arene complexes, and indium(0) π-complexes. About 100 X-ray structures are displayed.

As is usual in Gmelin volumes these days there is a (very helpful) ligand index in addition to a comprehensive formula index. The content and the presentation are of the first-class quality expected for Gmelin. As also expected the price is high (*ca.* £960 or US$1500) on the date on which this review was written), but since the volume summarizes all known organoindium chemistry it could profitably be purchased by institutions that cannot afford to subscribe to the whole series. I am certainly very pleased to have it available.

It is puzzling that this book carries a publication date of 1991 on the cover and title page when there are some references to papers appearing up to September of that year and the authors' preface is dated November 1991. It did not, in fact, appear until 1993.

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