

*Gmelin handbook of inorganic chemistry*. 8th Edition. *Tc — Technetium, Supplement Volume 2. Metal. Alloys. Compounds. Chemistry in solution*; by I. Baptista de Alleluia, J. Burgess, C. Keller, S. Möbius, R.D. Peacock, S. Ruprecht, and K. Schwochau; edited by H.K. Kugler and C. Keller. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, xvi + 307 pages, DM 993.

The chemistry of technetium has, of course, been hampered by the fact that it is a radioactive element and large quantities of the long-lived  $^{99}\text{Tc}$  only became available in the mid-50's from nuclear wastes. The handling of compounds derived from this isotope presents some problems, even though  $^{99}\text{Tc}$  is only a weak  $\beta$  emitter. In consequence, the amount of organometallic chemistry known for these elements is rather small, and is dealt with in three pages devoted to cyclopentadienyl derivatives or  $\eta^6$ -arenes. Additionally, there is a significant amount of information available on carbonyls, and this aspect is covered in four pages.

The organometallic aspects of Tc chemistry are clearly ripe for further exploration and the present text is obviously a good basis for further study.

*School of Chemistry & Molecular Sciences,  
University of Sussex, Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT

*Gmelin handbook of inorganic chemistry*. 8th Edition. *Fe — Organoiron compounds. Part B11: Mononuclear compounds 11*; by K. Holzapfel, W. Petz, C. Siebert, and B. Wöbke; chief editor U. Krüerke. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, xii + 447 pages, DM 1240.

This volume is of considerable interest to organometallic chemists. It deals with organic ligands bonded to iron through five carbon atoms, referred to here as " $^5\text{L}$  ligands". In particular, the volume deals with monocyclopentadienyliron compounds, which contain ligands of the "D" and "X" type and, additionally, " $^1\text{L}$ " ligands. The reader will recognise typical "Gmelin" nomenclature; " $^2\text{D}$ " represents phosphine or any Group 5 or 6 donor; " $^2\text{D}-^2\text{D}$ " stands for a diphosphine, bipy, or related ligand; "X" represents a monoanionic ligand and " $^1\text{L}$ " may represent carbon monoxide.

The literature is covered to the end of 1979, although there are references as late as 1981. A very useful feature is the Empirical Formula Index (21 pages) and the Ligand Formula Index (47 pages), both of which provide cross-references to page numbers, table numbers, and compound numbers, respectively.

As is usual in this series, there is a wealth of information, although the degree of systematisation makes it quite hard work to come to terms with the methodology.

*School of Chemistry & Molecular Sciences,  
University of Sussex, Brighton BN1 9QJ (Great Britain)*

MICHAEL F. LAPPERT