Book Review

The Chemistry of the Actinide Elements. Vol. 1 and Vol. 2, 2nd Edition. Edited by J. J. Katz, G. T. Seaborg and L. R. Morss, Chapman and Hall, London/New York, 1986, pp. 1674.

This work, composed of two volumes, is the second edition of 'The Chemistry of the Actinide Elements' first edited in 1957. It has been completely rewritten and now current research and chemical physics in the areas of actinide chemistry are incorporated.

Actinium, thorium, protactinium, uranium and the first eleven transuranium elements chemistry and their related properties are extensively treated.

The work is divided into two parts, the first volume deals with history, technology, physicochemical properties, solid state and solution chemistry of 5f elements. It is composed by thirteen chapters each containing an authoritative exposition of one f-element, the thirteenth chapter treats transeinsteinium elements whilst the superheavy elements, 'the future elements', are reported at the end of the second volume.

The first volume represents an easy and exhaustive exposition of the properties of the actinide elements and certainly fills a gap within the literature devoted to students and postdoctoral students of inorganic chemistry. Actinides are often neglected in the textbooks on inorganic chemistry. On the other hand, the large amount of data, the richness of the references and the quality of the information also renders this part a useful instrument for all those who work in the field of actinide chemistry.

The second volume contains eleven chapters dealing with spectroscopy, magnetochemistry, thermodynamics, solids, metallic state, solution chemistry and organometallic compounds of actinides. Special sections on biochemistry, radioisotope safety and waste management are also reported.

This second part, written in the form of comprehensive reviews, goes deep into specific arguments, this makes the work especially recommendable to researchers in the chemistry of the actinide elements.

The only thing lacking is a specific chapter dealing with coordination chemistry, which is spread throughout the work; this is the only small negative remark which I can make.

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