

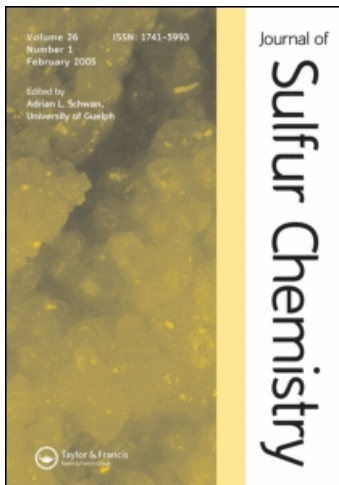
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A Review of: "Jürgen Jacob, *Sulfur analogues of polycyclic aromatic hydrocarbons (thiaarenes)*, Cambridge University Press, Cambridge, 1990, ISBN 0 521 30120 3, xiv 281 pp., £55, US\$110."

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BOOK REVIEW

Jürgen Jacob, *Sulfur analogues of polycyclic aromatic hydrocarbons (thiaarenes)*, Cambridge University Press, Cambridge, 1990, ISBN 0 521 30120 3, xiv + 281 pp., £55, US\$110.

Polycyclic aromatic sulfur hydrocarbons (PASH, thiaarenes) are potentially carcinogenic and mutagenic substances. They have been found in fossil raw materials such as crude oils, shale oils, and coals and are produced in the processing of these products and in the combustion of products containing sulfur or sulfur compounds.

The monograph by Jacob gives a survey of PASH in two sections.

In the first section (94 pp.) are discussed:

- nomenclature
- UV, fluorescence, phosphorescence, IR, NMR spectra, and MS
- methods for the separation (especially from polycyclic aromatic hydrocarbons = PAH) and identification of PASH (oxidation, CC, HPLC, GC, MS, GC/MS, sulfur specific detectors)
- occurrence and formation
- principles for synthesis
- biological activity (mutagenicity, carcinogenicity)
- metabolism, bioaccumulation.

In the second section (132 pp.) 227 PASH with 2–7 annellated rings and 9 more highly condensed PASH are presented with numbered constitution formulas, molecular formulas, Chemical Abstracts names as well as other names, molecular weights, and, in some cases, melting points. References are given for occurrence, analysis, synthesis, reactivity, toxicology, degradation, also by microorganisms, and for physical data. Hydroaromatic systems, bridged systems, and systems with substituents attached are included in the discussion.

The coverage of the literature is incomplete, the work cited is not always presented correctly; for instance on pp. 152 and 153. Dihydrodiindeno[*b,d*]thiophenes have been synthesized and the reduction of 5,7-dihydrobisindeno[2,1-*b*:1',2'-*d*]-thiophene-5,7-dione with $\text{LiAlH}_4/\text{AlCl}_3$ gives 5,7-dihydrodiindeno[2,1-*b*:1',2'-*d*]-thiophene and not compound 122.

The book gives a survey of thiaarenes and is a source of references (about 800) for chemists, biologists, and toxicologists.

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