

## Book review

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*The Chemistry of Organic Silicon Compounds, Parts 1 and 2.* Edited by S. Patai and Z. Rappoport, 1668 pages (Parts 1 and 2), John Wiley, Chichester 1989. Part 1 £185, ISBN 0 471 91441 X, Part 2 £165, ISBN 0 471 91992 6.

These two volumes appear in the highly regarded "The Chemistry of The Functional Groups" series edited overall by Saul Patai. Those familiar with earlier volumes in this series can be assured that the usual high quality of authors, content, and production is maintained.

The 25 Chapters have been selected to cover almost all of the areas of current interest to organosilicon chemists and have often been written by authors who have made a considerable impact on the subject about which they write. Topics covered and authors are as follows; historical overview (J.Y. Corey); theoretical aspects (Y. Apeloig); structural chemistry (W.S. Sheldrick); dynamic stereochemistry (R.J.P. Corriu, C. Guerin, and J.J. E. Moreau); thermochemistry (R. Walsh); analysis of silicon compounds (T.R.C. Crompton); positive and negative ion chemistry in the gas phase (H. Schwarz); NMR spectroscopy (E.A. Williams); photoelectron spectroscopy (H. Bock and B. Solouki); general synthetic pathways (L. Birkofer and O. Stuhl); synthetic applications (G.L. Larson); acidity, basicity and complex formation, reaction mechanisms of nucleophilic attack, and activating and directing effects (A.R. Bassindale and P.G. Taylor); photochemistry (A.G. Brook); trivalent silyl ions (J.B. Lambert and W.J. Schulz Jr.); multiple bonds to silicon (G. Raabe and J. Michl); bioorganosilicon chemistry (R. Tacke and H. Linoh); polysilanes (R. West); hypervalent silicon compounds (R.J.P. Corriu and J.C. Young); siloxane polymers and copolymers (T.C. Kendrick, B. Parbhoo, and J.W. White); organosilicon derivatives of phosphorus, arsenic, antimony, and bismuth and compounds with Si–S, Si–Se, or Si–Te bonds (D.A. (Fred) Armitage); transition metal silyl derivatives (T.D. Tilley); and hydrosilylation (I. Ojima). There is also an author index and a subject index.

The publication of volumes such as these with a wide coverage of organosilicon chemistry is long overdue, and those already with a knowledge of organosilicon chemistry will want to know whether these books can be regarded as an up to date substitute for Colin Eaborn's "Organosilicon Compounds" (Butterworths, 1960). Unfortunately, the answer is that they cannot be completely so. Although the topics here are of great variety there is no systematic coverage of several subjects of interest both to those already in the field and to the increasing numbers of chemists from other fields who are finding new uses for silicon chemistry. For example, there is no mention in the subject index of methods for the synthesis of halosilanes or silicon hydrides (two classes of compounds of great general synthetic interest) and they do not appear as synthetic targets in the "General Synthetic Pathways to Organosilicon Compounds" chapter. Also, although the preparation of a wide variety of alkylsilanes is covered, there is very little mention of the reactions that the

Si–C bond can undergo. This is ironic when one considers that about 35 pages of the excellent 128 page chapter on “Multiple Bonds to Silicon” deal with the chemistry of the Si=C bond.

There are approximately 6000 references given in the whole work, many from 1987, so that coverage is as up to date as can reasonably be expected for such books. The overall scope of these volumes together with the quality of the individual contributions mean that they are an essential purchase for any chemistry library and for any laboratory where research into organosilicon chemistry is carried out. Unfortunately, at £350 for the pair, these books will be bought by few of the many individual readers of this journal with an interest in organosilicon compounds.

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## Errata

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Re: The synthesis of heteronuclear cluster compounds containing  $M(PR_3)$  ( $M = Cu, Ag, \text{ or } Au$ ;  $R = \text{alkyl or aryl}$ ) units via Group IB metal exchange reactions; by S.S.D. Brown and I.D. Salter (*J. Organomet. Chem.*, 377 (1989) C31–C34)

p. C32, line 4 underneath structural graph should read:

(IV,  $M = Cu, M' = Au$ ;

p. C34 line 14–16 should read:

Hz), 2.34–2.65 (m, 4 H,  $P(CH_2)_2P$ ), and 7.35–7.62m, 20 H, Ph);  $^{31}P\{-^1H\}$  ( $CD_2Cl_2/CH_2Cl_2$ ) at  $-80^\circ C$ .  $\delta$  69.6 (s, 1 P, PAu) and 4.5 ppm (s br, 1 P, PCu). For compound V,  $\nu_{max}(CO)$  at 2069s, 2034vs, 2020s, 2008(s), 1970m(br), and 1939w(br)  $cm^{-1}$  ( $CH_2Cl_2$ ). NMR:  $^1H$  ( $CD_2Cl_2$ ).  $\delta$  -17.66

Re: Synthesis and X-ray structure analysis of the mixed-metal cluster compound  $[Cu_2Ru_4(\mu_3-H)_2(CO)_{12}\{P(CH_2Ph)_3\}_2]$ ; by P.J. McCarthy, I.D. Salter, K.P. Armstrong, M. McPartlin and H.R. Powell (*J. Organomet. Chem.*, 377 (1989) C73–C76)

p. C74, the first line of the footnote should read:

\* Selected spectroscopic data for compound III:  $\nu_{max}(CO)$  at 2065m, 2034vs, 2003vs(br), 1947m(br), 1930w(br).