

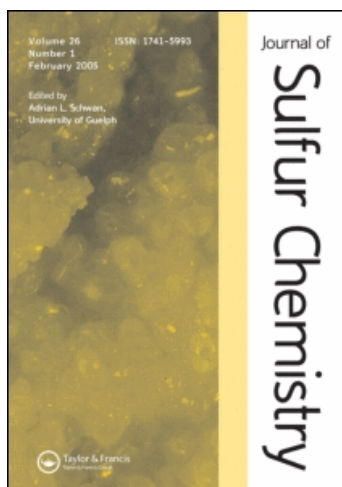
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### A review of: "Compilation of Reported $^{77}\text{Se}$ NMR Chemical Shifts - up to the Year 1994"

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## BOOK REVIEW

Thomas M. Klapötke and Matthias Broschag, *Compilation of Reported  $^{77}\text{Se}$  NMR Chemical Shifts – up to the Year 1994*, 134 pp., John Wiley & Sons, New York, 1996, ISBN 0-471-96722X, £50.

$^{77}\text{Se}$  NMR spectroscopy is a powerful tool for the analysis of selenium-containing compounds. The requirements with respect to the amount of material needed and the acquisition time are roughly comparable to what is necessary for the recording of  $^{13}\text{C}$  NMR spectra. The  $^{77}\text{Se}$  chemical shift range covers more than 2500 ppm, the spectra contain no more than one or a few resonance lines per species and common solvents do not interfere. Accordingly, well resolved spectra can be recorded directly in reaction mixtures and this spectroscopic technique can with advantage be applied not only to the study of organoselenium compounds, but also in the more general case where a selenium-containing reagent or control function is used in a preparative sequence. For such purposes a reference library of reported  $^{77}\text{Se}$  NMR chemical shifts is a useful tool.

As indicated by the title the present text is primarily a table of recorded chemical shifts and gives no evaluation nor discussion of these data. The main body of the text refers to literature up to 1994 while the year 1995 and part of 1996 are covered in two addenda. The coverage of the literature is not comprehensive. Obviously it is an almost impossible task to unearth unindexed data only stated as analytical facts in experimental sections of papers. The text mentions a total of 2100 compounds and gives 316 literature references.

The table entries in the main body of the text are organized on three levels: according to the group number of the Se ligand, according to the identity of this ligand, and (applicable only to C, N, P, and S) according to the type of structure. This organization makes it relatively easy to

locate a given type of compound. The only area where such a search becomes cumbersome is that of less usual carbon compounds which are presented in two subsections (14.1.29 and 14.1.30, both headlined "additional compounds"). In the former, the compounds are arranged by structural relationships, in the latter by molecular formula. In the addenda, the entries are only arranged according to increasing chemical shift values.

Each entry of a table contains seven columns giving, respectively, (1) the molecular formula, (2) a reference to a drawn structure, where necessary, (3) the chemical shift in ppm relative to dimethyl selenide, (4) the original shift reference compound, (5) the solvent, (6) the temperature, and (7) the literature reference.

With its large number of structure types and individual compounds the present text constitutes a useful handbook for analytical  $^{77}\text{Se}$  NMR spectroscopy.

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