A $C_{11}H_{11}$ Cation of Unusual Structure [*J. Am. Chem. Soc.* **1973**, *95*, 935]. M. J. GOLDSTEIN* and STANLEY A. KLINE, Department of Chemistry, Cornell University, Ithaca, New York 14853.

Redetermination of the cation ^{13}C NMR spectrum, by J. P. Dinnocenzo in this laboratory, has uncovered errors of numerical transcription that arose when the original data were transferred into Table I. Most notably, δ_{CS2} (CH_2Cl_2, internal) = 139 ppm, not 103 ppm as cited in the original footnote *b*. We take this opportunity also to replace the previously used ^1H NMR (τ) and ^{13}C NMR (δ_{CS2}) conventions by δ_{TMS}. In the interest of historical accuracy, both the original experimental data and the original models are retained in the revised Table I (below); redetermined values differ insignificantly from the original ones.

Table I. Estimated and Observed NMR Chemical Shifts of 3[a]

nucleus	assigned location	model estimates 5-ring	model estimates 6-ring	mean 5-ring	mean 6-ring	obsd[b]
^1H	A_1	11.26[c,g]	10.25			
	A_2	5.65	6.00	7.62	7.20	8.09
	A_3	2.31[d]	2.31[d]			
	B_1	8.65[c,g]	8.32[c]	7.47	7.31	7.59
	B_2	6.29[d]	6.29[d]			
	C_1	2.70[d]	2.70[d]			
	C_2	4.23[c,g]	3.81[c]	3.01	2.84	2.69
	C_3	1.95[d]	1.95[d]			
^{13}C	A_1	217[c]	238[c]			
	A_2	130[e]	126[e]	143	153	161
	A_3	9[f]	9[f]			
	B_1	136[c]	145[c]	133	136	139
	B_2	130[e]	126[e]			
	C_1	28[f]	28[f]			
	C_2	48[c]	33[c]	28	22	52
	C_3	9[f]	9[f]			

[a] δ_{TMS} (ppm). [b] Internal reference $CHDCl_2$; ^1H NMR $\delta = 5.30$ ppm, ^{13}C NMR $\delta = 52.9$ ppm. [c] Cyclopentenyl and cyclohexenyl cations relative to external Me_4Si; G. A. Olah, G. Liang, and Y. K. Mo, *J. Am. Chem. Soc.* 94, 3544 (1972). [d] Ketone 4, Table II. [e] Cyclopentene and cyclohexenes: D. E. Dorman, M. J. Jautelet, and J. D. Roberts, *J. Org. Chem.*, 36, 2757 (1971). [f] Nortricyclane: G. A. Olah and A. M. White, *J. Am. Chem. Soc.*, 91, 3955 (1969). [g] Unimportant differences in the 5-ring means (7.49, 7.38, 2.98) result from the cyclopentenyl δ values of M. Saunders and R. Berger, *J. Am. Chem. Soc.*, 94, 4049 (1972).

As a result of these corrections, the observed ^{13}C NMR peaks still appear at lower field than do the estimated ones, but the discrepancies are much less.

Electronic Control of Stereoselectivity. 4. Effects of Neighboring Fused Bicyclic Frameworks on the Stereochemical Outcome of Diels–Alder Cycloadditions to Cyclopentadiene Rings [*J. Am. Chem. Soc.*, **102**, 7218 (1980)]. MICHAEL C. BOHM, RICHARD V. C. CARR, ROLF GLEITER,* and LEO A. PAQUETTE,* Evans Chemical Laboratories, The Ohio State University, Columbus, Ohio 43210, Institut für Organische Chemie der Technischen Hochschule Darmstadt, D-6100 Darmstadt, West Germany, and Institut für Organische Chemie der Universität, D-6900 Heidelberg, West Germany

Page 7220, second column: The following sequence was omitted after line 15: A lesser amount (ca. 10%) of adduct **4** was also isolated.

Page 7226, second column, line 56: The ^{13}C NMR spectral data given are for compound **20**. The corresponding data for **19** are: ($CDCl_3$) 180.04, 154.14, 50.66, 48.11, 47.00, 46.58, 42.77, and 25.46 ppm.

Page 7226, second column, line 61: The ^{13}C NMR spectral data given are for adduct **4**, but with an additional peak at 52.82. The correct data for **20** are given above on line 56.

*Book Reviews**

Industrial Organic Chemicals In Perspective. Parts I and II. By Harold A. Wittcoff (Koor Chemicals Ltd., Beer-Sheeva, Israel) and Bryan G. Reuben (Polytechnic of the South Bank, London). John Wiley and Sons, New York, Chichester, Brisbane, Toronto. 1980. Part I: 298 pp, $27.50. Part II: 502 pp, $45.00.

This two-volume set is intended to bridge the gap between academic organic chemistry and finished products resulting from this chemistry and to show the place of the chemical industry in our modern economy. It is organized as a text for chemists and engineers who are planning to work in industrial chemistry. However, it also provides a very valuable general reference for those who are already in industry.

Part I presents an overview of the chemical industry and its place in the national economy including a description of the large volume organic chemicals and the major chemical companies. Following are detailed discussions of the prime sources of chemical raw materials for various industries. Chapter 2 discusses chemicals from natural gas and petroleum, Chapter 3 describes other raw material sources such as coal, fats and oils, carbohydrates, and fermentation. Chapter 4 presents detail on polymer synthesis, properties, and uses, followed by a chapter on industrial catalysts. The final chapter is a thought-provoking discussion of the future of the chemical industry.

Part II starts with a presentation as to who uses various chemicals, and is followed by more detailed chapters on plastics, fibers, elastomers, surface coatings, adhesives, surface active agents, pharmaceuticals, solvents, lubricating oils, plasticizers, agrochemicals, food chemicals, and dyes and pigments.

Both volumes are very readable and put together provide a concise as well as a detailed look into the total chemical industry. Each chapter contains an excellent annotated bibliography where the reader can find more information on the various subjects from both general and more detailed sources.

These books do provide the basis for the much needed communication between academic and industrial chemistry and will be useful as textbooks for both undergraduate and graduate courses in colleges and universities. Because of the clarity of presentation and the economic and descriptive discussions, as well as detailed examples of chemistry involved, these books will also provide a good reference for industrial training courses for middle managers and a refresher for practicing technical people in the various fields. Industrial chemists and engineers can profit by seeing the interrelationships between raw material availability and the technology necessary to create successful products. As a general reference, this will be a valuable addition to any technical library.

Donald R. Baer, *E. I. du Pont de Nemours & Co.*

Residue Reviews. Volume 74. Edited by F. A. Gunther and J. D. Gunther. Springer-Verlag, New York. 1980. viii + 138 pp. $26.80.

There are three contributed chapters in this book: Molybdenum in the Environment; Fate of Polychlorinated Biphenyls in Soil-Plant Systems, and Fungicides for Gray-Mold Control. The first one reviews natural occurrences of molybdenum, discusses the role of molybdenum in animal and plant nutrition (it is an essential element), and then reviews the sources of environmental molybdenum enrichment (coal, sewage sludges, smelters). Although "the potential for Mo toxicity to human beings and nonruminant animals appears to be quite low", there is a potential hazard for ruminants, and control of the release of molybdenum from geological storage is needed. The second reviews contamination of the environment with chlorinated biphenyls, with particular emphasis on their potential for degradation. The many members of this group vary considerably in stability, and much important information remains to be learned, but it appears that degradation by soil microorganisms is the most promising means for their removal. The third chapter reviews the wide variety of substances that are used to treat fruit crops in order to

* Unsigned book reviews are by the Book Review Editor