Additions and Corrections

Selectively ^{13}C-Enriched DNA: ^{13}C and ^{1}H Assignments of the Lac Operator by Two-Dimensional Relayed HMQC Experiments [*J. Am. Chem. Soc.* **1993**, *115*, 1599–1600]. GÉRARD LANCELOT,* LUC CHANTELOUP, JEAN-MARIE BEAU, AND NGUYEN T. THUONG

Page 1599: The following legends identify Figures 1 and 2.

Figure 1. 500-MHz two-dimensional pure phase absorption ^{13}C-^{1}H HMQC spectrum of the $^{13}C1'$-labeled duplex

5′ d-(C G C T C A C A A T T*)

0 1 2 3 4 5 6 7 8 9 10

3′ d-(G*C G A G T G T T A A)

using a 0.6 mM sample, 0.1 M NaCl in D_2O at 17 °C. The spectrum was recorded on a Bruker AM-X500 spectrometer with 1024 complex data points in the t_2 domain. The evolution delay in the t_1 dimension was incremented in 128 equal steps of 248 μs, resulting in a width of 1006 Hz. A GARP broad-band ^{13}C decoupling[19] was applied during the acquisition period. The t_1 dimension was zero-filled to 256 points prior to the Fourier transform. G* and T* are unlabeled residues in the sugar moiety. The delay $1/2J$ was optimized for a coupling constant of 168 Hz.

Figure 2. 500-MHz two-dimensional pure phase absorption $^{13}C1'$-^{1}H relayed HMQC-NOESY spectrum of the $^{13}C1'$-labeled duplex

5′ d-(C G C T C A C A A T T*)

0 1 2 3 4 5 6 7 8 9 10

3′ d-(G*C G A G T G T T A A)

using a 0.6 mM sample, 0.1 M in D_2O at 17 °C. The spectrum was recorded with 1024 complex data points in the t_2 domain and 128 increments in t_1. A GARP broad-band ^{13}C decoupling was applied during the acquisition period in order to vanish the ^{13}C–^{1}H scalar coupling. The mixing time was 250 ms. $^{13}C1'(i)$–$^{1}H8(i)$ or H6(i) and $^{13}C1'(i)$–$^{1}H8(i+1)$ or H6(i+1) connectivities for the strand 5′ d-(CGCTCACAAT) [$^{13}C1'(i)$–H8(i–1) or H6-(i–1) connectivities for the strand 3′ d-(GCGAGTGTTAA)] are show. The sequential assignment of the $^{13}C1'$ carbons and aromatic protons is show by solid lines. G^*_0 and T^*_{10} were not ^{13}C-labeled and present only the connectivities $^{13}C1'(C_1)$–$^{1}H8$-(G^*_0) and $^{13}C1'(T_9)$–$^{1}H6(T^*_{10})$.

Is the Structure of Selenoformamide Similar to Those of Formamide and Thioformamide? [*J. Am. Chem. Soc.* **1992**, *114*, 10089–10091]. JERZY LESZCZYŃSKI,* JOZEF S. KWIATKOWSKI,* AND DANUTA LESZCZYŃSKA

Due to an error which arose during generation of the basis sets the predicted relative energies of selenoformamides contain serious computational errors. The following data should replace reported relative stabilities of selenoformamides (Table I):

	SeF–SeFA
ΔE^{el}	
SCF	61.1
CISD	51.9 (52.5)
MP2	60.3 (60.7)
MP3	52.0 (52.9)
MP4(SDQ)	52.5 (53.2)
MP4(SDTQ)	56.0 (56.6)
ΔZPE	−11.8
$\Delta H(0)$	44.2 (43.8)
$\int_0^T \Delta C_p\, dT$	−0.2
$-T\Delta S$	0.3
$\Delta G(T) - \Delta G(0)$	0.1

Table II (Energies of the Core MOs vs the Number of Frozen MOs) should be disregarded. Selenoformamide follows the relative stability patterns observed and predicted for formamide and thioformamide and our conclusion about the essential role of the core electrons in stabilization of the SeFA tautomer is erroneous. We apologize for any confusion this may have caused.

We would like to acknowledge Professor Gernot Frenking for disclosing his results for selenoformamide prior to publication and for sending us a preprint of his paper [Dapprich, S.; Frenking, G. On the Keto/Enol Tautomerism of Selenoformamide and Telluroformamide. (*Chem. Phys. Lett.* In press)].

Book Reviews

Homogeneous Catalysis: The Applications and Chemistry of Catalysis by Soluble Transition Metal Complexes. By George W. Parshall and Steven D. Ittel (E. I. du Pont de Nemours and Company). Wiley-Interscience: New York. 1992. 315 pp. $49.95. ISBN 0-471-53829-9.

Homogeneous catalysis has evolved considerably since the appearance of the first edition of this book twelve years ago. The pace of industrial applications, particularly in fine chemicals, has accelerated, and a generation of chemists has been trained in the basic tenets of organometallic chemistry and homogeneous catalysis. As a consequence, the authors have chosen to put less emphasis on the fundamental concepts (e.g. mechanisms are often represented simply in a schematic form) in order to include many examples of actual (or potential) industrial applications. Furthermore, along with the description of the catalyzed synthesis of certain well-known large scale chemical intermediates, there are many (perhaps, less well-known) up-to-date examples of applications in pharmaceuticals, agrochemicals, and fragrances as well as in the production of high performance materials. In particular, the numerous examples given to enantioselective synthesis illustrate the increasingly important role of homogeneous catalysis in this area.

Of the twelve chapters, five are concerned with olefin and diene chemistry. Chapters on isomerization, hydrogenation (and other HX additions), polymerization, oligomerization, and metathesis are illustrated not only with detailed discussions of classical processes such as adiponitrile manufacture (a Du Pont in-house success), the dimerization and polymerization of olefins, or the Shell Higher Olefin Process but also with very topical sections on fine chemical syntheses such as those of *l*-menthol, geraniol, *l*-dopa, and naproxen.

The importance of metal–carbene chemistry in catalytic cyclopropanation and metathesis is illustrated by several examples such as in ROMP polymerization or in the synthesis of imipenem (antibiotic) or permethric acid (insecticide). The chapter on oxidation of olefins shows the gradual shift in interest from Wacker chemistry toward Mo and Ti based processes using hydroperoxides. The enantioselective epoxidation and dihydroxylation of olefins is also seen to be of growing importance.

A major chapter is dedicated to carbon monoxide as a building block. Although a growth chemical in the production of certain large scale intermediates (e.g. oxo alcohols, acetic acid and anhydride), further possible developments are seen in other areas such as adipic acid or isocyanate manufacture. The applications in lower volume products (butanediol, dialkyl oxalates or carbonates) or growing specialty uses (CO/α-olefin copolymers) are also discussed.