the structural assignment. The product reacts with oxygen in the matrix to give acenaphthoquinone (**9**)[8] identified by IR comparison with an authentic sample. Warming to room temperature gives decacylene (**10**) which can be detected in the crude product and which has been isolated by HPLC and identified by comparison with authentic decacyclene (mass spectrum, UV spectrum, and HPLC retention). Trace amounts of water trap acenaphthyne giving acenaphthenone (**11**) which was isolated by HLPC and identified by comparison (mass spectrum, UV spectrum, and HPLC retention) with the authentic material and another compound (*m/e* 318) which corresponds to the hydrated dimer. The dimer of benzyne can be trapped in similar fashion with methanol.[9] Larger amounts of water increase the yield of acenaphthenone and the hydrated dimer but also lead to premature reaction with cyclopropenone **7** giving the acid (**12a**, identified by its mass spectrum). Similar experiments with methanol (0.7% in argon) give the ester **12b** (mass spectrum) and a trace (M^+, 6% of the ester, base peak) of a product with *m/e* 182 corresponding to acenaphthyne plus methanol.

Acknowledgment. This research was supported by Grant CHE 79-00964 from the National Science Foundation and Grant GM-24427 from the National Institutes of Health.

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[8] Krebs, H.; Kimling, H. *Angew. Chem., Int. Ed. Engl.* **1971**, *10*, 509. *Tetrahedron Lett.* **1970**, 761. Leupin, W.; Wirz, J. *Helv. Chim. Acta* **1978**, *61*, 1663.

[9] Chapman, O. L. *Pure Appl. Chem.* **1974**, *40*, 511.

Additions and Corrections

Radical Anion and Radical Trianion of 1,4-Bis(dimethylphosphino)benzene [*J. Am. Chem. Soc.* **1978**, *100*, 6504]. W. KAIM and H. BOCK,* Institute of Inorganic Chemistry, University of Frankfurt, Frankfurt, West Germany.

The ESR spectra reported have been reassigned according to recent investigations:

i. The first species is not the radical anion of the title compound, but of its oxide $R_2P(O)-C_6H_4-P(O)R_2$, as has been proven by comparison:[1] phosphane oxides, even if present in only minimal amounts, are more easily reduced than the corresponding phosphanes.[2] The ESR spectrum of the unoxidized 1,4-bis(dimethylphosphino)benzene radical anion actually had been recorded and exhibits an unusual line width effect.[3] Therefore, the correct interpretation could only be achieved by comparison with the ESR spectra of closely related radical anions.[3]

ii. The "radical trianion" of 1,4-bis(dimethylphosphino)benzene is in fact the radical anion of 4,4′-bis(dimethylphosphino)biphenyl, which is formed via P-aryl cleavage.[4] The assignment has been confirmed by comparison with the ESR spectrum of the authentic species.[3] The misinterpretation has been facilitated by the missing ESR coupling constant $a_{H(3,3')}$ which must be smaller than 0.003 mT, and especially by the fact that different ESR data for this radical anion had been reported previously.[5] That latter species,[5] however, may be recognized as the corresponding phosphane oxide radical anion $R_2P(O)-C_6H_4-C_6H_4-P(O)R_2^{-\cdot}$.[3] A literature search[6] suggests further confusion between radical anions of phosphanes and their oxides.[3]

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[1] W. Kaim, *Z. Naturforsch., B*, **36**, 150 (1981).

[2] Cf. K. S. V. Santhanam and A. J. Bard, *J. Am. Chem. Soc.*, **90**, 1118 (1968).

[3] W. Kaim and H. Bock, *Chem. Ber.*, **114**, 1576 (1981).

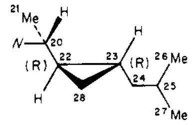
[4] Cf. K. Issleib and H. O. Fröhlich, *Z. Naturforsch., B*, **14**, 349 (1959).

[5] A. H. Cowley and M. H. Hnoosh, *J. Am. Chem. Soc.*, **88**, 2595 (1966).

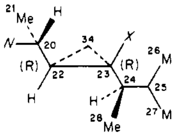
[6] P. Schipper, E. H. J. M. Jansen, and H. M. Buck, *Top. Phosphorus Chem.*, **9**, 407 (1977).

Isolation and Structure Elucidation of 22(*S*),23(*S*)-Methylenecholesterol. Evidence for Direct Bioalkylation of 22-Dehydrocholesterol [*J. Am. Chem. Soc.* **1980**, *102*, 7113–4]. PIERRE-ALAIN BLANC and CARL DJERASSI,* Department of Chemistry, Stanford University, Stanford, California 94305.

Our continuing studies on steroidal cyclopropanes confirm that in this paper we correctly showed the absolute configuration of naturally occurring 22,23-methylenecholesterol (i) to be opposite to that (22(*R*),23(*R*),24(*R*)) of gorgosterol (ii, X = CH_3; N = cholesterol nucleus). Therefore, we referred to the natural material as the 22(*S*),23(*S*)-isomer. In fact this is a misapplication of the Cahn–Ingold–Prelog rules (*Angew. Chem., Int. Ed. Engl.* **1966**, *5*, 385–415): even though of opposite absolute configuration, the natural 22,23-methylenecholesterol (i) should also be referred to as 22(*R*),23(*R*). This is so because the 22(*R*) indication in the related sterols gorgosterol (ii, X = CH_3) and demethylgorgosterol (ii, X = H) is based on a higher priority of C-23 over C-20, which is for demethylgorgosterol due to methyl substitution on C-24; 23(*R*) then results from the priority of C-22 over C-24. However, lack of the C-28 methyl group in 22,23-methylenecholesterol (i) leads to an inversion of the sequences around C-22 and C-23. Regarding the 22-carbon atom, C-20 now assumes priority over C-23, while the sequence around C-23 is H < C-24 < C-28 < C-22.



i



ii

Complete Thermodynamic Analysis of the Hydration of Thirteen Pyridines and Pyridinium Ions. The Special Case of 2,6-Di-*tert*-butylpyridine [*J. Am. Chem. Soc.* **1979**, *101*, 7141]. EDWARD M. ARNETT* and B. CHAWLA, Department of Chemistry, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.

Page 7144: The values for di-*tert*-butylpyridine (2,6-DTBP) in Table IV should be corrected as follows:

	reads	should read
$\Delta G^{g\rightarrow H_2O}$ (B)	3.87	0.40
$\delta\Delta G^{g\rightarrow H_2O}$ (B)	4.29	0.82
$\delta\Delta G^{g\rightarrow H_2O}$ (BH^+)	15.00	11.50
$\delta(T\Delta S_s^\circ)$ (B)	−5.99	−2.52
$\delta(T\Delta S_s^\circ)$ BH^+	−8.33	−4.8

Chiral Perturbation of Olefins by Deuterium Substitution. The Optical Activity and Circular Dichroism Behavior of (1*S*)-[2-^{2}H]Norbornene and Deuterated Apobornenes [*J. Am. Chem. Soc.* **1980**, *102*, 7228]. LEO A. PAQUETTE,* CHRISTOPHER W. DOECKE, FRANCIS R. KEARNEY, ALEX F. DRAKE, and STEPHEN F. MASON, Department of Chemistry, The Ohio State University, Columbus, Ohio 43210 (L.A.P., C.W.D., and F.R.K.), and King's College, London WC2R 2LS, England (A.F.D. and S.F.M.).

Although the title and introduction to this paper carry the correct absolute configurational descriptors for the deuterated olefins, six examples of inadvertent transposition of the *R*/*S* notation can be found later in the text:

Page 7229, column 2, lines 23 and 38 below Table I; page 7230, second line of caption to Figure 1; page 7232, the bold face names for compounds **11**, **13**, and **16**: In each of these instances, (1*R*) should be changed to (1*S*).

These errors, called to our attention by Dr. Frank Huddle of Chemical Abstracts Service, do not at all affect the conclusions reached in the article.

Reversed Micelles of Aerosol-OT in Benzene. 3. Dynamics of the Solubilization of Picric Acid [*J. Am. Chem. Soc.* **1981**, *103*, 1018]. KIYOSHI TAMURA and Z. A. SCHELLY,* Department of Chemistry, The University of Texas at Arlington, Arlington, Texas 76019.

Page 1019, column 2, line 15 from the bottom: "ϕ_i" should read "ϕ_1".

Page 1022, column 1: the expression for a_{11} in eq 8 should read:

$$a_{11} = K_{01}K_1\{[A_6](1 + K_{02}[HP])/(1 + s) + [HP]\} + k_{-1}$$

Evaluation and Prediction of the Stability of Bridgehead Olefins [*J. Am. Chem. Soc.* **1981**, *103*, 1891]. WILHELM F. MAIER* and PAUL VON RAGUÉ SCHLEYER,* Institut für Organische Chemie der Friedrich-Alexander-Universität Erlangen-Nürnberg, D-8520 Erlangen, Federal Republic of Germany.

Page 1893, right column, the 4th and 5th sentences of the third paragraph should read as follows: Comparison of OS values (20.6 vs. 27.2 kcal/mol for **23a** and **16a**, respectively) leads to a different interpretation. The value for **16a** is about 7 kcal/mol greater than that of **23a**; the latter olefin, but not **16a**, has been observed.

Pentaprismane [*J. Am. Chem. Soc.* **1981**, *103*, 2134]. PHILIP E. EATON,* YAT SUN OR, and STEPHEN J. BRANCA, Searle Chemistry Laboratory, Department of Chemistry, The University of Chicago, Chicago, Illinois 60637.

The systematic name given for pentaprismane in footnote 1 should be changed to read: Hexacyclo[4.4.0.$0^{2,5}$.$0^{3,9}$.$0^{4,8}$.$0^{7,10}$]-decane.

Structure and Properties of Transition-Metal Ylide Complexes. 2. Organometallic Complexes of Gold(III) [*J. Am. Chem. Soc.* **1981**, *103*, 2192–2198]. JUDITH STEIN, JOHN P. FACKLER, JR.,* C. PAPARIZOS, and H.-W. CHEN, Department of Chemistry, Case Western Reserve University, Cleveland, Ohio 44106.

Page 2195, Table II. The correct coordinate for C_{122} is x/a = 0.2494 (13). The correct coordinates for Au_2 are x/a = 0.1165 (6), y/b = 0.9781 (7), z/c = 0.7937 (8).

Chelation of the Sodium Cation by Polyamines: A Novel Approach to Preferential Solvation, and to the Understanding of Sodium-23 Chemical Shifts and Quadrupolar Coupling Constants [*J. Am. Chem. Soc.* **1980**, *102*, 6558–9]. ALFRED DELVILLE, CHRISTIAN DETELLIER, ANDRÉ GERSTMANS, and PIERRE LASZLO,* Institute de Chimie et de Biochimie, Universitè de Liège, Sart-Tilman, 4000 Liège, Belgium.

The caption to Figure 1 should read: Hill plots of ln $Y/(1 - Y)$ vs. ln $[L_A]/[L_B]$ for $NaClO_4$ etc.—instead of: vs. ln $[L_A][L_B]$).

Spectroscopic Studies on Plastocyanin Single Crystals: A Detailed Electronic Structure Determination of the Blue Copper Active Site [*J. Am. Chem. Soc.* **1981**, *103*, 4382–8]. K. W. PENFIELD, R. R. GAY, R. S. HIMMELWRIGHT, N. C. EICKMAN, V. A. NORRIS, H. C. FREEMAN, and E. I. SOLOMON,* Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139 (E.I.S.), and Department of Inorganic Chemistry, University of Sydney, Sydney 2006, Australia

Page 4382, line 14, right column: estimated standard deviations are 0.05 Å.

Page 4383, upper portion of Figure 2: x axis is vertical, y and z axes are in directions away from the observer.

Page 4386, first equation, right column: in the integral, $Y_{lm}(\sigma,\phi)$ should be $Y_{lm}(\theta,\phi)$.

On the Question of Ground-State Perpendicular Olefins. Rehybridization of Twisted Olefins [*J. Am. Chem. Soc.*, **1981**, *103*, 1584–6]. PHILIP WARNER* and RICHARD F. PALMER, Department of Chemistry, Iowa State University, Ames, Iowa 50011.

Page 1586, left column, lines 2 and 3: **22b** and **22a** should be interchanged.

Absorption and Circular Dichroism Spectra of Chiral Triquinacenes [*J. Am. Chem. Soc.* **1981**, *103*, 5064]. L. A. PAQUETTE,* F. R. KEARNEY, A. F. DRAKE, and S. F. MASON,* Evans Chemical Laboratories, The Ohio State University, Columbus, Ohio 43210 (L.A.P. and F.R.K.), and Chemistry Department, King's College, London WC2R 2LS, England (A.F.D. and S.F.M).

Page 5066, Table II: the ^{13}C chemical shifts for carbon 2 of **11a** and **11b** should read 35.100, 34.129, 33.158 and 35.149, 34.178, 33.207, respectively. The shift for carbon 4 of **11b** should read 50.490.

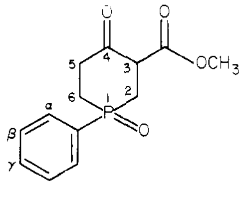
Synthesis of the Left-Hand Segment of the Antitumor Agent CC-1065 [*J. Am. Chem. Soc.* **1981**, *103*, 5621–5623]. WENDELL WIERENGA, Experimental Chemistry Research, The Upjohn Company, Kalamazoo, Michigan 49001.

Page 5623, line 7, right column: Compound **6** should be replaced by **8**.

Page 5623: The following should be included—**Acknowledgment.** The author thanks S. Mizsak and R. J. Wnuk for helpful NMR and MS assistance and Dr. J. B. Hester for helpful discussions.

Carbon–Phosphorus Heterocycles. Synthesis of Phosphorus-Containing Cannabinoid Precursors and a Single-Crystal Analysis of 1,2,3,4-Tetrahydro-10-hydroxy-8-*n*-pentyl-5*H*-phosphorus-[3,4-c][1]benzopyran-5-one 3-Oxide [*J. Am. Chem. Soc.* **1981**, *103*, 2032]. JANG B. RAMPAL, K. DARRELL BERLIN,* NANTELLE S. PANTALEO,* ANN MCGUFFY, and DICK VAN DER HELM,* Departments of Chemistry, Oklahoma State University, Stillwater, Oklahoma 74074 (K.D.B.), University of Tulsa, Tulsa, Oklahoma 74104 (N.S.P.), and University of Oklahoma, Norman, Oklahoma 73109 (D.v.d.H.).

Structure **4** should be:



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