

## ADDITIONS AND CORRECTIONS

1945, VOL. 67

Elmer J. Badin and Eugene Pacsu. Kinetics and Mechanism of the Acid Catalyzed Racemization of (+)-2-Methylbutanal-1.

Page 1354. The Arrhenius activation energy was inadvertently substituted for the  $\Delta H^\ddagger$  quantity in Table II. Accordingly, Table II should be replaced by the revised Table II given below. References (page 1356, col. 2, lines 26-29) to the values of this table are to be numerically adjusted to agree with the revised figures.

TABLE II

THERMAL AND ENTROPY DATA FOR THE ACID CATALYZED RACEMIZATION OF (+)-2-METHYLBUTANAL-1 IN WATER-DIOXANE MIXTURES

Molarity or normality of HCl = 0.139-0.140

| Mole fr. dioxane | Activation energy, <sup>a</sup> kcal./mole | $\Delta H^\ddagger$ , heat of activation, <sup>b</sup> kcal./mole | $\Delta S^\ddagger$ , entropy of activation, <sup>c</sup> entropy units |
|------------------|--|---|---|
| 0.274            | 16.6                                       | 16.0  | -29   |
| 0.649            | 26.6                                       | 26.0  | + 8.7   |
| 0.960            | 2.73                                       | 2.14  | -66   |

<sup>a</sup> Calculated from the integrated form of the Arrhenius equation. <sup>b</sup> Calculated using  $\Delta H^\ddagger = E_a - RT$  with  $T$  equal to 298°K. <sup>c</sup> Calculated from equation (1).

Page 1355. In col. 2, line 1, the remainder of the paragraph from the sentence starting on this line is to be deleted, and for it substituted: "This represents an approximation since, on the basis of the limited amount of data in Table I, the constant  $k$  is not directly proportional to the acid concentration nor is  $\log k$  proportional to the logarithm of the acid concentration. Use of either the steady-state method or the Christiansen formulation<sup>8</sup> indicates the rate constant should be proportional to the acid concentration if the reaction steps are considered as consecutive reactions rather than as simple acid catalysis. Results reported by Braude<sup>9</sup> for the acid catalyzed rearrangement of propenylethynyl carbinol also showed the specific rate constant was not proportional to the acid concentration."

(NOTE: Relatively recent results by E. A. Braude [*J. Chem. Soc.*, 1971 (1948)] show that the acidity function, the ability of a solvated proton to transfer a proton to a neutral base such as an aldehyde, varies linearly with the logarithm of the acid concentration in pure dioxane but does not vary linearly in the same fashion in pure water. This supplies an explanation for the non-linear variation of  $k$  with the acid concentration.)

Page 1355. In col. 2, line 23, the sentence starting on this line should read: "The basicity of dioxane should permit formation of, and catalysis by, the dioxanonium chloride."

Page 1356. In col. 1, line 16, the sentence starting on this line is to be replaced by: "Therefore, dioxane should be taken as a somewhat stronger base than water with an appreciable rate in anhydrous dioxane as shown by Expt. 12."—ELMER J. BADIN.

1948, VOL. 70

Elmer J. Badin. The Reaction between Atomic Hydrogen and Molecular Oxygen at Low Pressures. Surface Effects.

Page 3652. In Fig. 2, in the label on the vertical axis, read "10<sup>4</sup>" in place of "10<sup>3</sup>."—ELMER J. BADIN

1950, VOL. 72

Elmer J. Badin. The Low Temperature, Low Pressure, Hydrogen Atom Initiated Combustion of Hydrocarbons.

Page 1552. The second and third column headings in Table III should be altered: for the second column heading, read "Av. rate of hydrocarbon oxidn. to carbonyl products,

cc. hydrocarbon/min." For the third column heading, read "Carbonyl products formed."—ELMER J. BADIN.

John T. Edsall, Harold Edelhoch, René Lontie and Peter R. Morrison. Light Scattering in Solutions of Serum Albumin: Effects of Charge and Ionic Strength.

Page 4641 ff. Equations 10 to 13 inclusive, for two component systems, as given on p. 4644, involve the implicit assumption that the solute is un-ionized. Unfortunately this assumption was not explicitly stated. Equation 14 and the subsequent equations are so formulated as not to be subject to this restriction. The general equations for two component systems are given by J. S. Johnson, K. A. Kraus and G. Scatchard, "Activity Coefficients of Silicotungstic Acid; Ultracentrifugation and Light Scattering" (*J. Phys. Chem.*, 64, 1867 (1960)).—JOHN T. EDSALL.

1955, VOL. 77

William Weltner, Jr. The Vibrational Spectrum, Associative and Thermodynamic Properties of Acetic Acid Vapor.

Page 3949.  $\Delta H$  appearing in col. 1, line 9 from the end, should read  $\Delta H_0^\ddagger$ . Professor W. C. Child, Jr., has pointed out that errors were made in the calculation of the free energy of formation of acetic acid monomer (Table XI, column 7) and acetic acid dimer (Table XII, column 7). These columns should read:

| $T$ , °K. | Monomer<br>$-\Delta F_1^\circ$ | Dimer<br>$-\Delta F_2^\circ$ |
|-----------|--------------------------------|------------------------------|
| 298.15    | 90.63                          | 184.95                       |
| 300       | 90.54                          | 184.70                       |
| 400       | 85.85                          | 171.26                       |
| 600       | 75.88                          | 143.67                       |
| 800       | 65.76                          | 115.72                       |
| 1000      | 55.36                          | 87.63                        |
| 1200      | 44.84                          | 59.55                        |
| 1500      | 29.10                          | 17.85                        |

Page 3950. Dr. J. H. Jensen has noted that a 3 should appear in the exponent of eq. 3 in the Appendix, the equation then reads

$$(\partial n_M^\circ / \partial T) = -2(n_M^\circ)^2 K_2 P \Delta H_2 / RT^2$$

WILLIAM WELTNER, JR.

1958, VOL. 80

J. J. Fritz and R. G. Taylor. Magnetic and Thermodynamic Properties of Copper(II) Acetylacetonate.

Page 4484 ff. Correct the title to read ". . . of Copper(II) Acetylacetonate." Replace "acetylacetonate" by "acetylacetonone" throughout the text.—J. J. FRITZ

1959, VOL. 81

Jack Hine. Polar Effects on Rates and Equilibria.

Page 1127. In col. 1, the left side of Eq. (3) should read  $\log K^{x_P - Y_1} / K^{x_P - Y_2}$

JACK HINE.

R. H. Snyder, H. J. Shine, K. A. Leibbrand and P. O. Tawney. The Oxidation of Hydrocarbons. Part II. The Oxidation of Cyclopentene, 3-Methylcyclohexene and Tetralin in Acetic Anhydride Solution.

Page 4299. In col. 1, line 2, for "cyclohexane" read "cyclohexene."—HENRY J. SHINE.

Pietro de Ruggieri. 17-Hydroxypregnanes from Androstane Compounds.

Page 5727. In col. 2, last line, for " $(\alpha)_D - 73^\circ$ " read " $(\alpha)_D + 73^\circ$ ."

Werner Herz, R. B. Mitra and P. Jayaraman. Constituents of Helenium Species. VIII. Isolation and Structure of Balduilin