

−3316 ± 450 cal. (g.-ion)<sup>−1</sup>, compared with the earlier −3216 ± 400 cal. (g. ion)<sup>−1</sup>. Similarly, from the apparent temperature dependence of  $\Delta H_3$ , the value of  $\Delta C_p$  is 34.6 cal. deg.<sup>−1</sup> (g.-ion)<sup>−1</sup> (previously, 34.2).

In assessing the *next principal stage* in the further complex ion formation in these solutions it is again found that  $K_5$  (for  $I_5^-$ ) is markedly varied by changing from 1 *M* to 0.1 *M* KI solutions, whereas  $K_6$  (for  $I_6^{2-}$ ) remains reasonably constant. A fuller evaluation of  $\Delta H_6$  than was previously made does not change its value, −7176 ± 550 cal. (g.-ion)<sup>−1</sup> (previously, −7150) but with the new  $\Delta H_3$  the new  $\Delta H_6'$  (for  $I_3^- + I_3^- = I_6^{2-}$ ) is −544 cal. (g.-ion)<sup>−1</sup> rather than −718 cal. (g.-ion)<sup>−1</sup>.

The authors will willingly send further numerical details to those interested, and they wish to thank Dr. Ramette for bringing this matter to their attention.—MANSEL DAVIES.

1956, Volume 78

**A. A. Miller and Frank R. Mayo:** Oxidation of Unsaturated Compounds. I.

Page 1017. In line 4 of the Abstract, for 38 read 5.

Page 1019. In Table III, the units for the second column should be moles/liter.

Page 1020. Equation 1 should read  $d[C_3H_6]/d[O_2]$  etc.

Page 1021. In Fig. 1, the ordinate units are tenths of a mole per liter.

Page 1023. Column 1, paragraph 1, lines 9–16 should read: In the absence of oxygen, the thermal rate at 50° (0.0031 mole/l./hr.)<sup>25</sup> is 0.028 the rate at 0.01 *M* ADBN (0.11 mole/l./hr.)<sup>12,26</sup> In spite of the low concentration of oxygen at a pressure of 1 atm., the thermal initiation rate in the presence of oxygen is (0.062/0.028)<sup>2</sup> or five times the rate in the absence of oxygen. [Reference 25 above was corrected in *J. Am. Chem. Soc.*, **80**, 6697 (1958)].—FRANK R. MAYO.

1957, Volume 79

**H. K. Hall, Jr.:** Correlation of the Base Strengths of Amines.

Page 5443. In Table I, the sixth entry under primary amines should be isobutylamine instead of *n*-butylamine.—H. K. HALL, JR.

1960, Volume 82

**F. A. L. Anet:** The Configuration of Deuterio-*L*-malic Acid Produced Enzymatically. Synthesis of *threo*-3-Deuterio-DL-malic Acid.

Page 995. In column 2, line 5, change I to II.—F. A. L. ANET.

1962, Volume 84

**Calvin M. Lee and W. D. Kumler:** Dipole Moments and Structure of Semicyclic Imides.

Page 573. Table IV should read

	Hexa- chloro- butadiene pastes <sup>a</sup>	KBr, 0.5%	CCl <sub>4</sub> , 2%	Dioxane, 2%	Benzene, 2%	Heptane, 0.2%
>C=O	1734	1735	1750	1740	1750	1750
	1700	1700	1725	1725	1720	1730
		1650	1700	1700	1700	1700
			1655			1650
			3420	3435	3385	3420
>N—H	3270	3270	3280	3280	3280	3275
	3245	3210	3230	3220	3225	3220
	3190	3150	3175		3175	3165

Column 1, paragraph 1, for the last three sentences read: In CCl<sub>4</sub> and heptane there are bands at 3420 cm.<sup>−1</sup>, due to free >N—H, which increase in intensity on dilution. In dioxane there is a much weaker band at 3435 cm.<sup>−1</sup>. The intensity of the free >N—H band here is probably less, due to most of the molecules hydrogen bonding with the solvent. In benzene there is no band at 3420–3435 cm.<sup>−1</sup> but one at 3385 cm.<sup>−1</sup>, probably arising from the >N—H hydrogen bonding with the  $\pi$ -system of the benzene. A band at 1650 cm.<sup>−1</sup> is present in KBr and heptane and one at 1655 cm.<sup>−1</sup> in CCl<sub>4</sub>, which suggest strong hydrogen bond-

ing with the >C=O in these solvents, while no band is present in this region in dioxane and benzene, presumably because of competition for hydrogen bonding by the solvents. This evidence suggests less hydrogen bonding of diacetamide with itself in dioxane and benzene in agreement with the dipole moment data.

Page 575. In Table V: the last column heading should read ( $\Delta\nu_{1/2}$  state B)/( $\Delta\nu_{1/2}$  state A); wave number 1684 for III, *N*-methylformamide, should read 1694; second line from bottom, second column, 1689 should read 1694; third line from bottom, second column, 0.2% should read 0.1%; tenth line from bottom, second column, 1611 should read 1664.—W. D. KUMLER.

**F. A. L. Anet:** The N.m.r. Spectra of Cyclic and Acyclic 2,3-Disubstituted Butanes.

Page 749. Column 2, line 7 from bottom, change 2 to  $\sqrt{2}$ .—F. A. L. ANET.

**F. A. L. Anet:** The Use of Remote Deuteration for the Determination of Coupling Constants and Conformational Equilibria in Cyclohexane Derivatives.

Page 1054. In Fig. 1, instead of 100 c.p.s., read 90 c.p.s.—F. A. L. ANET.

**R. Bruce Martin:** Mechanisms of Acid Hydrolysis of Carboxylic Acid Esters and Amides.

Page 4130. The appearance of water as a nucleophile in a pre-equilibrium step is incorrectly treated in this paper. Inferred  $\omega$ -values do depend upon which step is rate limiting in ester hydrolyses. The discussion given for the  $\gamma$ -butyrolactone enigma is valid only if the first step in ester hydrolysis is rate limiting. Nucleophilic water should not appear explicitly in eq. III-3 and IV-2. The section on values of  $\omega$  from mechanism should be correspondingly modified. The  $p$  term should be deleted from eq. IV-3 and IV-4. Other changes are minor and no general arguments are significantly altered. Two different correct ways for handling nucleophilic water in a pre-equilibrium step are presented in eq. 7 and 11 of a paper by R. Bruce Martin in *J. Phys. Chem.*, **68**, 1369 (1964).

Page 4131. In footnote 4, line 10, for naphthyl read phenyl.—R. BRUCE MARTIN.

1963, Volume 85

**K. G. Untch and Robert J. Kurland:** The Conformational Equilibration of *cis,cis,cis*-1,4,7-Cyclononatriene; a Determination of Activation Energy and Entropy by N.M.R. II.

Page 347. In column 1, last line, the expression for  $\alpha$  is  $1 - \Delta^4/\delta^4$  instead of  $1 - \Delta^2/\delta^2$ .

Page 347. In column 2, first paragraph, the activation energy,  $\Delta E^\ddagger$ , quoted was rather the Arrhenius activation energy,  $E_a$ , as defined by the equation  $k = A \exp(-E_a/RT)$ . Read instead: The Arrhenius activation energy,  $E_a$ , as determined from a linear plot of  $\ln k$  vs.  $1/T$  over the temperature range −4.5 to 31.8°, is 9.69 kcal./mole; the frequency factor,  $A$ , is given by  $\log A = 9.24 \pm 0.02$ . The activation parameters,  $\Delta E^\ddagger$ ,  $\Delta S^\ddagger$ , and  $\Delta A^\ddagger$ , as defined by the Eyring equation,<sup>7</sup> are 9.12 kcal./mole, −18.2 ± 0.1 cal./°K./mole, and 14.6 ± 0.03 kcal./mole at 27.0°, respectively.

Page 347. In the legend for Fig. 1 read: A, −40°; B, −16.8°; C, 83.5°.—K. G. UNTCH.

**Adam Allerhand and Paul von R. Schleyer:** Solvent Effects in Infrared Spectroscopic Studies of Hydrogen Bonding.

Page 372. Column 2, second line from bottom, for  $m\mu$  read  $m$ .

Page 373. Table IV, the column headed mole % dioxane should read mole % ether. The last three columns headed methanol-dioxane system should read methanol-ether system. Column 2, second line from bottom, for proton donor read proton acceptor.

Page 374. Column 1, fifth line from top, for proton donor read proton acceptor.

Page 376. Figure 5a, the ordinate should read  $[(\epsilon - 1)/(2\epsilon + 1)] \times 10^2$ . Equation 5 should read  $(\nu^0 - \nu^s)/\nu^0 = \alpha G$ .

Page 379. Column 2, 16th line from bottom,  $\dots OC(CH_3)_2$  should read  $\dots OS(CH_3)_2$ .—PAUL SCHLEYER.