

reported titration studies of angiotensinamide (Paiva and Paiva, 1962; Paiva *et al.*, 1963).

#### Acknowledgments

We are grateful to Professors R. Schwyzer and B. Riniker, and to Ciba Ltd., Basel, for the generous gift of synthetic angiotensinamide.

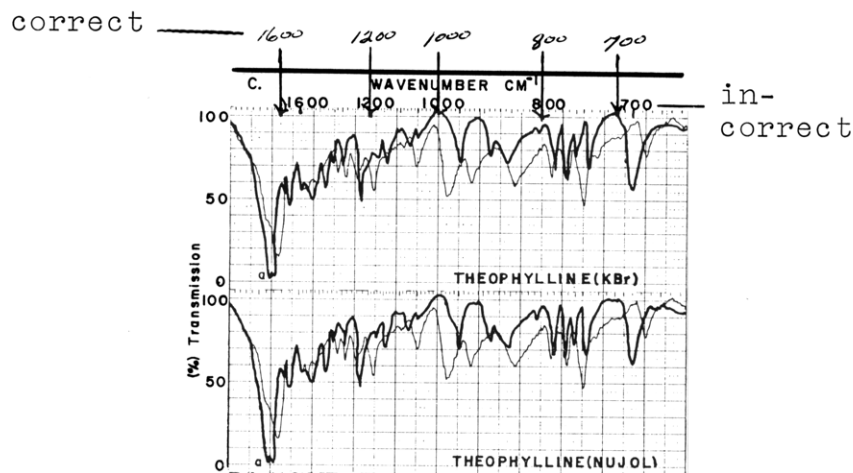
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#### CORRECTIONS

In the paper "Interaction of Copper Ion with Guanosine and Related Compounds," by Anthony T. Tu and Christian G. Friederich, Volume 7, December 1968, p 4367, the C portion

of Figure 4, which deals with the infrared spectra of theophylline, is incorrect; the wavenumber scale ( $\text{cm}^{-1}$ ) should be corrected in the following manner.



In the paper "Minimization of Polypeptide Energy. IV. Further Studies of Gramicidin S," by F. A. Momany, G. Vanderkooi, R. W. Tuttle, and H. A. Scheraga, Volume 8, February 1969, p 744, the following addition should be noted: in the legend of Figure 1, the document number for the ASIS Publication Service is NAPS-00203.

In the paper "The Role of Sulfhydryl Groups in the Catalytic Function of Isocitrate Dehydrogenase. I. Reaction with 5,5'-Dithiobis(2-nitrobenzoic acid)," by Roberta F. Colman,

Volume 8, March 1969, p 888, the following change should be made.

In Table I (p 891) the line referring to the ninth rate constant should read

Substrates or coenzymes alone

$8 \times 10^{-5}$  M *threo*-D<sub>2</sub>-isocitrate 38.3

note 38.3 instead of 8.33.

In the paper "Studies on the Mechanism of Inhibition of Glutamine Synthetase by Methionine Sulfoximine," by Robert

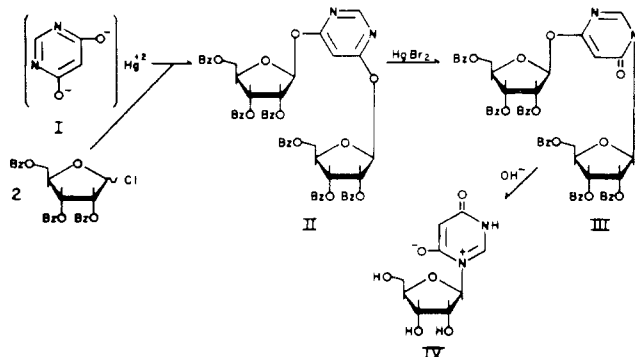
A. Ronzio, W. Bruce Rowe, and Alton Meister. Volume 8, March 1969, p 1066, the abstract should be corrected as follows: line 2 of column 2 should begin diphosphate, rather than triphosphate; thus, . . . "derivative of methionine sulfoximine and adenosine diphosphate, which are tightly bound. . ."

In the paper "The Mercuric Bromide Rearrangement and 1- $\beta$ -D-Ribofuranosyl-4,6-pyrimidinedione, an Isomer of Uridine," by Paul W. Wigler and Hyun-J. Lee, Volume 8, April 1969, p 1344, Schemes I and II (pp 1345 and 1346) were omitted by the printer. The schemes are reproduced in full below, with a few explanatory paragraphs.

## Results

Condensation of 4,6-pyrimidinedione-mercury (I) with 2 moles of 2',3',5'-tri-*O*-benzoyl-1-D-ribofuranosyl chloride in dry acetonitrile gives a 4,6-di-*O*-(ribose)-4,6-dioxypyrimidine (II). If HgBr<sub>2</sub> is added to this mixture under anhydrous conditions, the di-*O*-glycosidic pyrimidine is converted into a 1,4-di(ribose)-4-oxy-6-pyrimidinone (III). When the latter compound is treated with dilute sodium methoxide in dry methanol the *N*-glycosyl bond is preserved but the *O*-glycosidic bond at position 4 of the pyrimidine is cleaved. In addition, the benzoyl-blocking groups on the ribosyl moiety are removed by the mild alkaline degradation. The dipolar ionic structure of isouridine (IV) is shown in Scheme I.

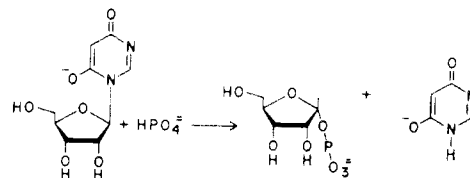
SCHEME I



The reaction of isouridine with inorganic phosphate, catalyzed by rabbit liver uridine phosphorylase, is shown in Scheme II. The substrates and products are represented in the predominant ionic forms for a pH of 7.4, based on the ionization constants and electrophoretic mobility of the compounds. The products of the enzymatic reaction were identified by paper chromatography.

An examination of the molecular model of 1- $\beta$ -D-ribo-

SCHEME II



furanosyl-4,6-pyrimidinedione (isouridine) reveals that the rotation of the glycosyl bond is hindered by the proximity of the C-6 oxygen atom and the C-2' hydrogen atom. Thus, the conformation of the pyrimidine ring of this nonrigid molecule is rotated 180° in comparison with the preferred orientation of uridine. The chemical synthesis of isouridine was attempted to provide a compound with an ultraviolet spectrum similar to that of uridine, but a pyrimidine ring conformation opposite to that of uridine. A comparison of uridine with the new ribonucleoside may show the effect of molecular conformation on the physical, chemical, and biochemical properties of the ribofuranosylpyrimidinediones.

In the paper "Catalytic Mechanism of Pig Heart Mitochondrial Malate Dehydrogenase Studied by Kinetics at Equilibrium," by Emanuel Silverstein and Guruprasad Sulebele, Volume 8, June 1969, p 2543, the following changes should be made.

On p 2546, the legend to Figure 4 should include: ●, oxalacetate  $\rightleftharpoons$  malate; ○, NAD  $\rightleftharpoons$  NADH. On p 2546, column 2, 15 lines from the bottom, NAD-NADH should read NAD  $\rightleftharpoons$  NADH. On p 2547, in Table II under the column heading Initial, there should be arrows between Oxalacetate malate and between Malate oxalacetate, to read Oxalacetate  $\rightarrow$  malate, Malate  $\rightarrow$  oxalacetate.

In the paper "Limitations Inherent in the  $\Delta$ pH Method of Determining Binding Isotherms of Bovine Serum Albumin," by James M. Cassel and Jacinto Steinhardt, Volume 8, June 1969, p 2603, the following corrections should be made.

In the abstract,  $\omega$  should be  $w$ , as in eq 1 and 2. In eq 1 (p 2604) the term

$$\log \frac{\bar{r}}{n - r}$$

should be

$$\log \frac{\bar{r}}{n - \bar{r}}$$

In eq 2 (p 2604) the left-hand side should read  $\Delta$ pH rather than pH.