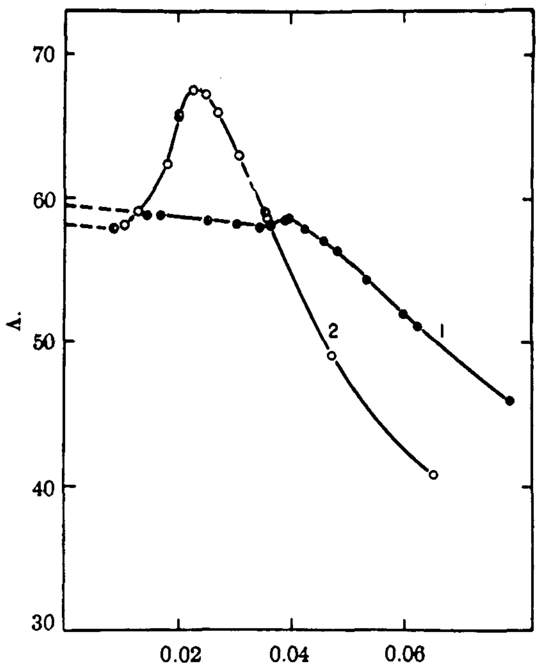

Fig. 1.—Conductance curves in water at 25°: (1) *n*-hexadecylpyridonium iodate; (2) *n*-octadecylpyridonium iodate.

While the addition of methanol in suitable amounts to water solutions of certain paraffin-chain salts gives rise to a maximum in Λ, the addition is not indispensable in some instances, nor is it sufficient to produce a maximum in others. It is evident that the phenomenon is closely related to the nature of the "gegenion."

Sufficient results have now been obtained to permit of formulating a fairly general description of the electrical conductance of solutions of paraffin-chain electrolytes in water–organic solvent mixtures; the details of this work will be presented in the near future.

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RECEIVED JUNE 12, 1947

CUPRAMMONIUM-2,3-BUTANEDIOL COMPLEXES

Sir:

In connection with a study of the properties of cuprammonium-glucoside complexes the behavior of the optically active 2,3-butanediols in cuprammonium hydroxide solution has been observed.

In Table I are given the specific rotations for the D-(−)- and L-(+)-forms of the two butanediols in water (approx. 1% glycol concn.) and in cuprammonium (approx. 0.6%). The rotations were measured at 25°. The cuprammonium contained 15 g. of copper and 240 g. of ammonia per liter. The rotations on this solvent are calculated on the weight of glycol, not on the glycol-copper complex.

The magnitude of the optical rotations (1200°) in cuprammonium is striking. The sign and magnitude of the rotations indicate that the L-(+)-form may be oriented as are the 2- and 3-hydroxyl groups of substituted methyl glycoside and the D-(−)- form as are the 3- and 4-hydroxyl groups of substituted methyl glucoside. And such a condition is distinctly possible in view of the configurations which have been assigned to these two butanediols by Morell and Auernheimer.[1]

Specific rotations for the appropriately substituted methyl glucosides in cuprammonium have been reported.[2] They were +985° (436 mμ) for methyl 2-methyl-β-glucoside, and −1008° (436 mμ) for methyl 4-methyl-β-glucoside.

TABLE I

SPECIFIC ROTATION OF 2,3-BUTANEDIOL

Solvent and light source	L-(+)-form	D-(−)-form
Water, D-line	+ 11.8°	− 11.1°
Water, Hg blue line (436 mμ)	+ 20.6°	− 19.2°
Cuprammonium, Hg blue line	−1200°	+1200°

The samples of optically pure butanediols used in the investigation were supplied by Dr. Robert D. Coghill, formerly head of the fermentation division of the Northern Regional Research Laboratory.

(1) S. A. Morell and A. H. Auernheimer, THIS JOURNAL, 66, 792–796 (1944).

(2) R. E. Reeves, *J. Biol. Chem.*, 154, 49–55 (1944).

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RICHARD E. REEVES

RECEIVED APRIL 14, 1947

AN ALBUMIN FRACTION ISOLATED FROM HUMAN PLASMA AS A CRYSTALLINE MERCURIC SALT

Sir:

Following the addition of mercuric chloride to a solution of human serum albumin, a fraction of the albumin crystallized. The best yield was obtained when approximately one-third mole mercuric chloride per mole albumin was added to a 15% solution of Fraction V[1] or to human serum albumin crystallized with decanol,[2] in 15% ethanol at −5°, at *p*H 5.2, Γ/2 = 0.02. More than half the serum albumin separated after prolonged standing, or within a few days following seeding, in the form of rhombic or hexagonal plates. Sparingly soluble in water, the crystals dissolved readily in 0.02 *M* sodium chloride and could be recrystallized by the addition of ethanol.

(1) E. J. Cohn, L. E. Strong, W. L. Hughes, Jr., D. J. Mulford, J. N. Ashworth, M. Melin and H. L. Taylor, THIS JOURNAL, 68, 459 (1946).

(2) These observations, which will presently be reported in full, followed upon, and are closely related to, the methods for the crystallization of serum albumins described elsewhere in this issue, Cohn, Hughes and Weare, *ibid.*, 69, 1753 (1947).